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 (2022) AADT	600
Future (2042) AADT	720
DHV - % of AADT	19
Design Hour Volume	137
Heavy Trucks (% of AADT)	5
Heavy Trucks (% of DHV)	3
Directional Distribution (% of DHV)	54
18 kip Equivalent P 2.0	9
18 kip Equivalent P 2.5	9
Design Speed (mph)	25

HYDROLOGIC DATA

Drainage Area	2.6 sq mi
Design Discharge (Q50)	688 cfs
Check Discharge (Q100)	799 cfs
Headwater Elevation (Q1.1)	43.8 ft
Headwater Elevation (Q25)	45.5 ft
Headwater Elevation (Q50)	46.1 ft
Headwater Elevation (Q100)	46.5 ft
Discharge Velocity (Q1.1)	6.3 fps
Discharge Velocity (Q50)	5.4 fps
Discharge Velocity (Q100)	5.5 fps

MATERIALS

Concrete:	
Abutment Seal Concrete	Class "S"
Curbs	Class "LP"
Precast	Class "P"
All Other	Class "A"
Reinforcing Steel	
Plain	ASTM A 615/A 615M, Grade 60
Low-Carbon Chromium Steel	ASTM A 1035, Type CS, Grade 100
Prestressing Strands	AASHTO M 203 (ASTM A416), Grade 270, Low Relaxation
Structural Steel:	
All Material (except as noted)	ASTM A 709, Grade 50 (Galvanized)
High Strength Bolts	ASTM F3125, Grade A325, Type 1 (Galvanized)

BASIC DESIGN STRESSES

Concrete:	
Class "S"	f 'c = 3,000 psi
Class "A"	f 'c = 4,000 psi
Class "LP"	f 'c = 5,000 psi
Class "P" Beams	f 'c = 6,500 psi f 'ci = 4,500 psi
Class "P" Deck Panels	f 'ci = 5,000 psi
Reinforcing Steel:	
ASTM A615, Grade 60	Fy = 60,000 psi
ASTM A 1035, Type CS, Grade 100	Fy = 100,000 psi
Presstressing Strands:	Fμ = 270,000 psi
Structural Steel:	
ASTM A709, Grade 50	Fy = 50,000 psi
ASTM F3125, Grade A325	Fμ = 120,000 psi

BAR HARBOR
HANCOCK COUNTY
CROMWELL BROOK BRIDGE #3
OVER
CROMWELL BROOK
LEDGELAWN AVENUE
FEDERAL AID PROJECT NO. 2657400
PROJECT LENGTH 0.085 mi.
BRIDGE NO. 0452

LIST OF DRAWINGS

UTILITIES

Versant Power
Consolidated Communications
Charter Communications
Bar Harbor Wastewater District
Bar Harbor Water District

MAINTENANCE OF TRAFFIC

Maintain one lane of alternating one-way traffic using on-site special detour with temporary traffic signals.

PROJECT LOCATION	Cromwell Brook #3 Bridge (#0452) over Cromwell Brook. Located 0.03 of a mile north of White Spruce Road. Lat./Long. 44°22'41.8" N 68°12'24.4" W
OUTLINE OF WORK	Bridge Construction: Bridge replacement and related approach work.

WIN026574.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED — DATE 1-6-25
COMMISSIONER: [signature]
CHIEF ENGINEER: [signature] for DATE 1/6/2025

STATE OF MAINE * REGISTERED PROFESSIONAL ENGINEER * CARL T. AYERS No 13255

[signature]

SIGNATURE	P.E. NUMBER	DATE
13255		11/22/24

PROJECT INFORMATION			
PROGRAM	BRIDGE		
PROJECT MANAGER	ANDREW LATHE		
DESIGNER	CTAYERS		
CONSULTANT	VHB		
PROJECT RESIDENT			
CONTRACTOR			
PROJECT COMPLETION DATE			

BAR HARBOR
CROMWELL BROOK BRIDGE #3

TITLE SHEET

SHEET NUMBER
1
OF 31

Date:11/22/2024
Username:
Division: BRIDGE
Filename:\BRIDGE\MSTA\001_Title.dgn

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.19	Removing Existing Bridge (Concrete = 35 CY, Stone Masonry = 73 CY)	1	LS
203.20	Common Excavation	560	CY
203.25	Granular Borrow	460	CY
206.082	Structural Earth Excavation - Major Structures, Plan Quantity	630	CY
206.092	Structural Rock Excavation - Major Structures	37	CY
304.10	Aggregate Subbase Course-Gravel	650	CY
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	120	T
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course)	200	T
409.15	Bituminous Tack Coat, Applied	43	G
461.131	Temporary Pavement	81	T
502.21	Structural Concrete, Abutments and Retaining Walls	100	CY
502.22	Structural Concrete, Abutments and Retaining Walls (Placed Under Water)	95	CY
502.291	Saw Cut Grooving (1280 SF)	1	LS
502.49	Structural Concrete Curbs and Sidewalks (6 CY)	1	LS
503.12	Reinforcing Steel, Fabricated and Delivered	11500	LB
503.13	Reinforcing Steel, Placing	11500	LB
507.0821	Steel Bridge Railing, 3 Bar (115 LF)	1	LS
507.0822	Steel Approach Railing, 3 Bar	4	EA
510.10	Special Detour, 14 foot Roadway Width Vehicular and Pedestrian Traffic Not Separated	1	LS
511.07	Cofferdam: Abut No. 1	1	LS
511.07	Cofferdam: Abut No. 2	1	LS
512.081	French Drains (98 LF)	1	LS
515.21	Protective Coating for Concrete Surfaces (210 SY)	1	LS
524.301	Temporary Structural Support	1	LS
527.34	Work Zone Crash Cushions	4	UN
531.511	Bridge Superstructure - Detail Build	1	LS
604.18	Adjust Manhole or Catch Basin to Grade	1	EA
606.1301	31" W-Beam Guardrail - Mid-Way Splice, Single Faced	50	LF
606.1305	31" W-Beam Guardrail - Mid-Way Splice Flared Terminal	2	EA
606.1306	31" W-Beam Guardrail - Mid-Way Splice Tangent Terminal	2	EA
606.1721	Bridge Transition - Type 1	4	EA
608.07	Plain Concrete Sidewalk	140	SY
609.11	Vertical Curb Type 1	80	LF
609.238	Terminal Curb Type 1 - 8 foot	2	EA
610.213	Void-Filled Riprap	200	CY
613.319	Erosion Control Blanket	34	SY
615.07	Loam	32	CY
618.14	Seeding Method Number 2	6	UN
619.12	Mulch	6	UN
619.14	Erosion Control Mix	64	CY
620.58	Erosion Control Geotextile	200	SY
627.18	12 inch Solid White Pavement Marking Line	32	LF
627.733	4" White or Yellow Painted Pavement Marking Line	450	LF
627.77	Removing Existing Pavement Markings	32	SF
627.78	Temporary 4 Inch Painted Pavement Marking Line, White or Yellow	780	LF
629.05	Hand Labor, Straight Time	10	HR
631.12	All Purpose Excavator (Including Operator)	10	HR
631.131	Small Bulldozer-Grader (Including Operator)	10	HR
639.19	Field Office Type B	1	EA
643.72	Temporary Traffic Signal	1	LS
645.103	Demount Guide Sign	2	EA
645.106	Demount Regulatory, Warning, Confirmation, and Route Marker Assembly Sign	6	EA
645.116	Reinstall Regulatory, Warning, Confirmation, and Route Marker Assembly Sign	3	EA
645.251	Roadside Guide Sign, Type 1	8	SF
645.271	Regulatory, Warning, Confirmation, and Route Assembly Sign, Type 1	4	SF
652.312	Type III Barricade	4	EA
652.33	Drum	25	EA
652.34	Cone	25	EA
652.35	Construction Signs	60	SF
652.361	Maintenance of Traffic Control Devices	1	LS
652.38	Flaggers	360	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

1. For easements, construction limits and right of way lines, refer to the 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 except as indicated in the Contract Documents.

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

5. 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.

6. All embankment material, except as otherwise shown, placed below EL. 46.1 shall be Granular Borrow meeting the requirements of Subsection 703.19, Material for Underwater Backfill.

7. Place loam 2 inches deep on all new or reconstructed sideslopes or as directed by the Resident.

8. 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.

9. A MASH compliant guardrail end treatment shall be installed concurrently with the placement of each section of beam guardrail.

10. 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.

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

All exposed surfaces of concrete curbs, and sidewalks.
Fascias down to the drip notch.
Concrete wearing surfaces.
Top of wingwalls, and to one foot below the ground on vertical walls against earth.

12. Project information referred to below may be accessed at the following MaineDOT web address: http://www.maine.gov/mdot/contractors/.

13. The hydrologic report of the bridge site may be accessed at the MaineDOT web address. The hydrologic report is based on MaineDOT's interpretation of the information obtained for the subject site. No assurance is given that the information or the conclusions of the report will be representative of actual conditions at the time of construction.

14. The project geotechnical report titled: "Geotechnical Design Report Cromwell Brook No. 3 Bridge No. 0452," dated 11/7/2024, may be accessed at the MaineDOT web address.

15. 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.

16. 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.

17. The Contractor shall be fully responsible for designing and detailing the bridge superstructure in accordance with the requirements set forth in Special Provision 531. The superstructure details included on these plans are conceptual only.

18. Excavation between the limits of structural earth excavation and the back face of the existing abutment shall be paid for under Item No. 203.20 Common Excavation.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE · CARL T. AYERS No 13255 · REGISTERED PROFESSIONAL ENGINEER

	SIGNATURE
	13255
	P.E. NUMBER
	11/22/24
	DATE

	BY	DATE
DESIGN-DETAILED	JAH/KDW	11/22/24
CHECKED-REVIEWED	CTAYERS	11/22/24
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PROJ. MANAGER A. LATHE
DESIGN-DETAILED JAH
CHECKED-REVIEWED ELW

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

ESTIMATED QUANTITIES AND GENERAL CONSTRUCTION NOTES

SHEET NUMBER
2
OF 31

CURVE DATA #1
PI = 11+31.32
D = 28°38'52.4"
Δ = 17°20'18.7" Lt.
R = 200.00'
L = 60.52'
T = 30.49'
E = 2.31'

POB = STA. 10+00.00
Sta. 11+25.00
Begin Project 26574.00
Begin 1.5" Mill & Overlay
Match Existing
PC = STA. 11+00.83
PT = STA. 11+61.35
10+00
N7°56'06.19"E
To Loop Road
11+00
12+00
13+00
N9°24'12.48"W
14+00
15+00
N7°07'06.24"E
16+00
N7°18'31.07"E
To Bar Harbor
17+00
POE = STA. 17+00.00
Maintain Existing Curb
8' Tipdown
Remove Pole By Others
Rebuild Sidewalk
Install Pole By Others
Sta. 12+85.00, 25' LT
W-Beam Guardrail Mid-Way Splice Tangent Terminal (TL-2)
Cromwell Brook
Flow
Temporary Excavation Support
Remove Pole By Others
℄ Brg., (Exp.) Abut. No. 1 Sta. 13+55.83
℄ Brg., (Fixed) Abut. No. 2 Sta. 14+05.83
Span = 50'-0"
20°0'0" Skew (Typ.)
Pedestrian Bridge to Remain in Current Location
Protect Existing Sewer Pipe
Void-Filled Riprap (Typ.)
Steel Approach Railing, 3-Bar (Typ.)
Bridge Rail Transition Type 1 (Typ.)
Relocate Pole By Others Sta. 14+38.00, 20' LT
W-Beam Guardrail Mid-Way Splice Tangent Terminal (TL-2)
8' Tipdown
Rebuild Sidewalk
Sta. 15+50.00
End Full Construction
Begin Transition
Match Existing Curb and Sidewalk
Remove Sign (Typ.)
Paved Apron 3' Wide
Sta. 11+25.00 to 12+25.00, Rt
Shoulder Reconstruction
Sta. 11+30.00
End 1.5" Mill & Overlay
Begin Variable Depth Construction
W-Beam Guardrail Mid-Way Splice Flared Terminal
Sta. 12+75.00
End Transition
Begin Full Construction
Sta. 12+25.00
End Variable Depth Construction
Begin Transition
Proposed New Hydrant
Exact Location Unknown
PC = STA. 14+19.43
W-Beam Guardrail Mid-Way Splice Flared Terminal
Approx. Proposed Waterline Relocation
Exact Location Unknown
PT = STA. 15+20.35
PI = STA. 16+00.00
Sta. 15+95.00
End Transition
Begin 1.5" Mill & Overlay
Sta. 16+00.00
End Project 26574.00
End 1.5" Mill & Overlay
Match Existing

CURVE DATA #2
PI = 14+70.24
D = 16°22'12.8"
Δ = 16°31'18.7" Rt.
R = 350.00'
L = 100.93'
T = 50.82'
E = 3.67'

CURVE DATA #3
PI = 16+00.00
Δ = 0°11'24.8" Rt.

PLAN
25 0 25 50
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE
CARL T. AYERS
No. 13255
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE
13255
P.E. NUMBER
11/22/24
DATE

PROJ. MANAGER	A. LATHE		
DESIGN-DETAILED	JAH	JAH/KDW	11/22/24
CHECKED-REVIEWED	ELW	CTAYERS	11/22/24
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

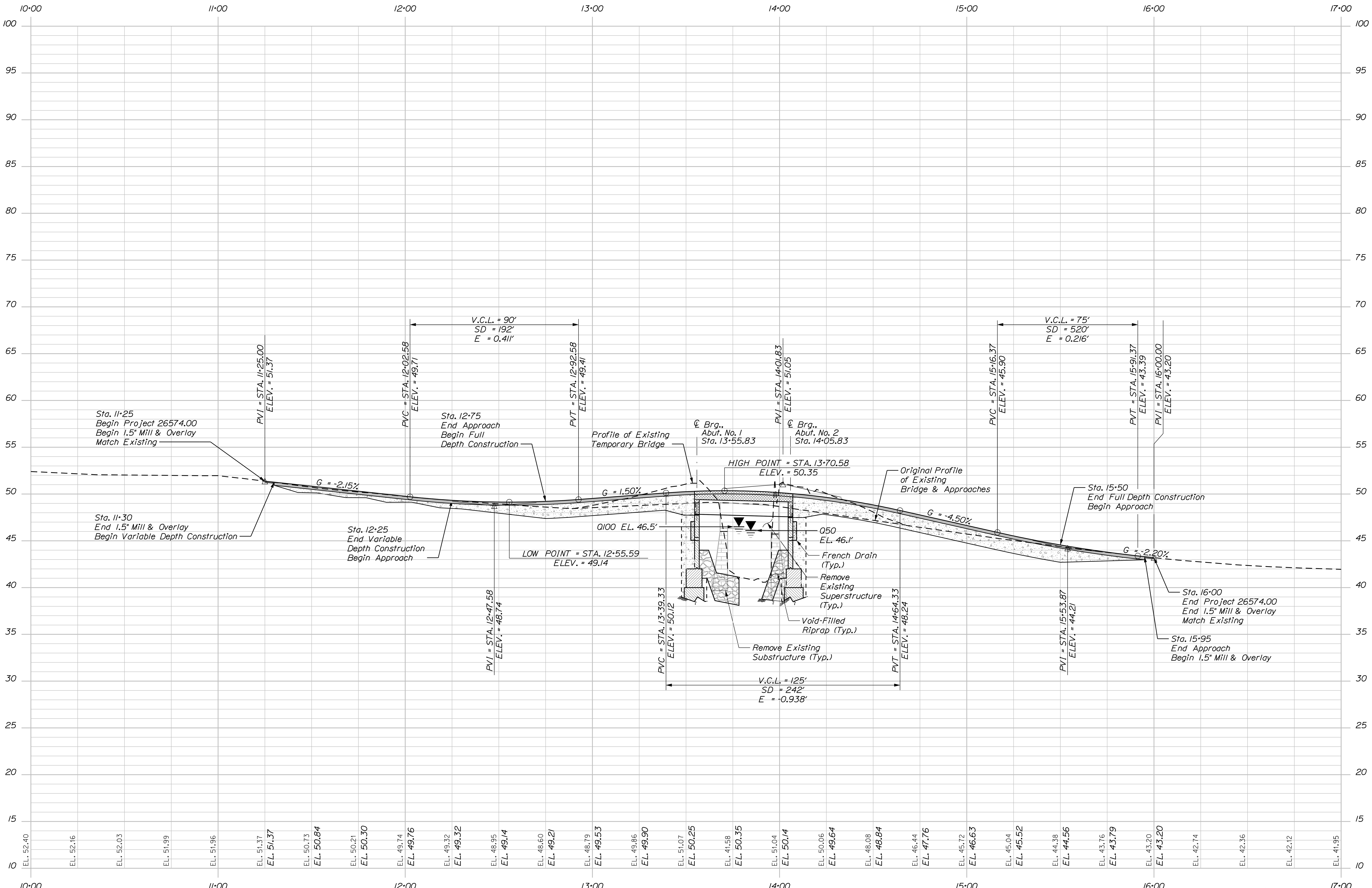
GENERAL PLAN

SHEET NUMBER
3
OF 31

vhb

Date:11/22/2024
Username:
Division: BRIDGE
Filename: ...\BRIDGE\MSTA\003_BDPlan.dgn

Date:11/22/2024 Username: Division: BRIDGE Filename: ...\BRIDGE\MSTA\004_Profile.dgn



PROFILE

Horiz. 25 0 25 50
Vert. 5 0 5 10
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

CARL T. AYERS No 13255 STATE OF MAINE LICENSED PROFESSIONAL ENGINEER

SIGNATURE 13255
P.E. NUMBER 11/22/24
DATE

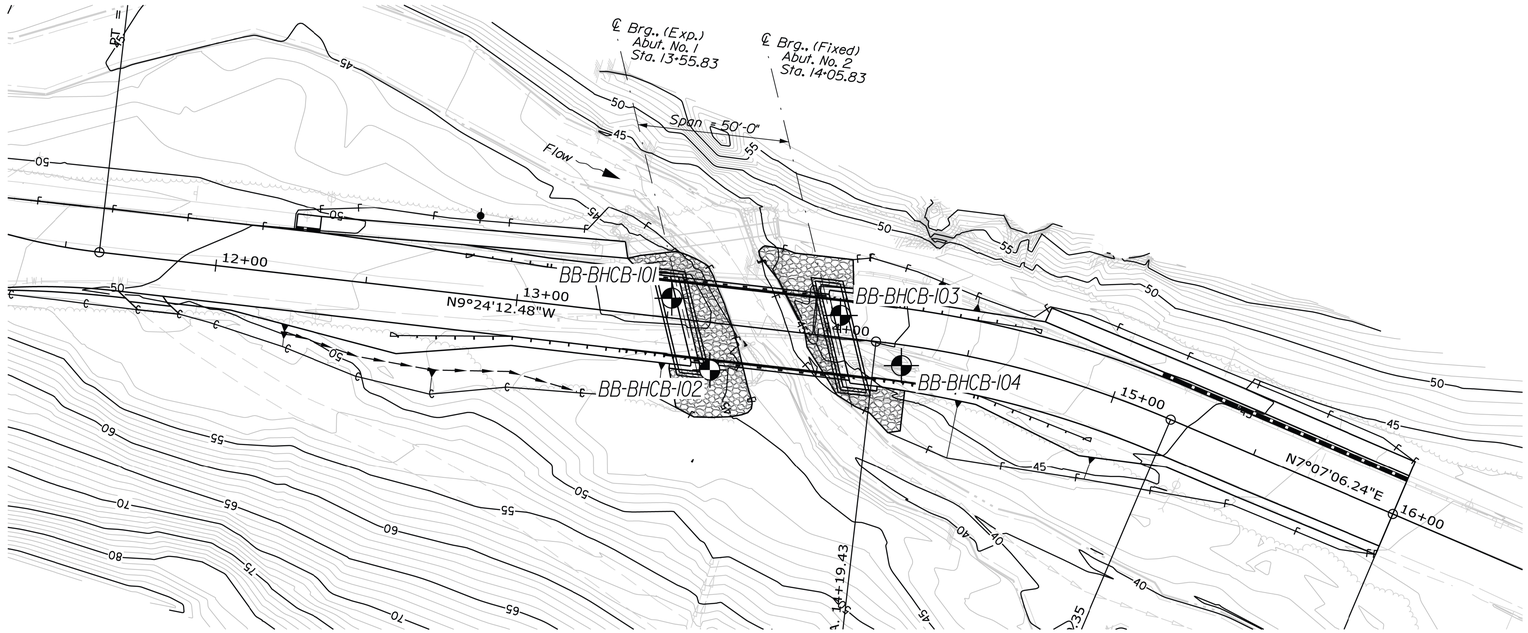
		BY	DATE
PROJ. MANAGER	A. LATHE		
DESIGN-DETAILED	BMD	BMD	11/22/24
CHECKED-REVIEWED	ECF	CTAYERS	11/22/24
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK

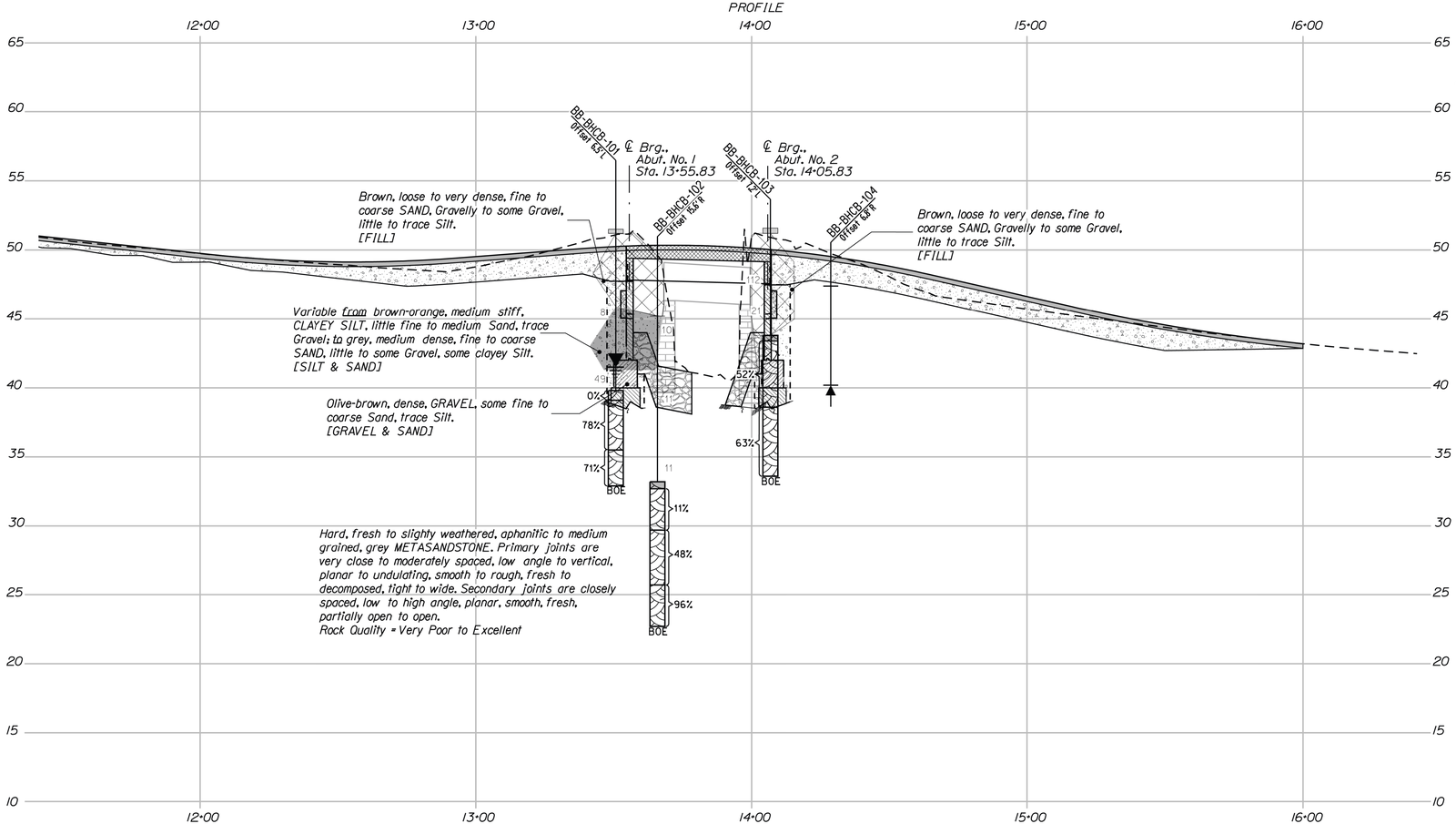
BAR HARBOR HANCOCK COUNTY

PROFILE

SHEET NUMBER
4
OF 31



PROFILE



NOTES

1) Base map developed from electronic files provided by VHB on November 7, 2024 (Files included Alignments.dgn, Borings_10.6.22.dgn, BRIDGE.dgn, Highway.dgn, Contours.dgn, and Topo.dgn).

2) Profile developed from electronic file Profile.dgn and z-Bridge_Profile.dgn provided by VHB on November 7, 2024.

3) The as-drilled locations of the test borings were surveyed by a MaineDOT survey crew and supplied to GZA.

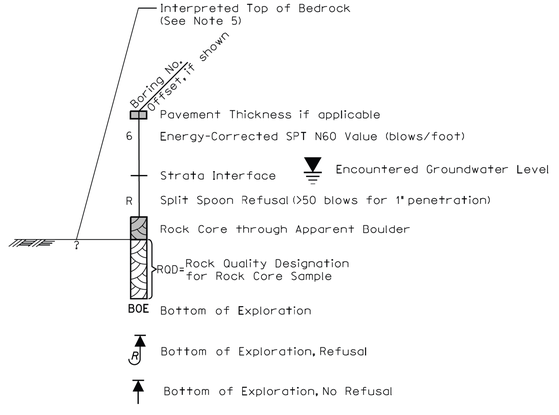
4) BB-BHCB-100 series borings were performed by New England Boring Contractors and observed by GZA personnel between July 13 and August 11, 2022.

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

BORING LOCATION PLAN LEGEND

BB-BHCB-104 Location and designation of borings and roller probes

INTERPRETIVE SUBSURFACE PROFILE LEGEND



PLAN

25 0 25 50
Scale In Feet

PROFILE

Horiz. 25 0 25 50
Vert. 5 0 5 10
Scale In Feet

PREPARED BY: GZA

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 026574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE · Andrew R Blaisdell 10957 · LICENSED PROFESSIONAL ENGINEER

	SIGNATURE	P.E. NUMBER	DATE
	10957	10957	11/7/2024

	DATE	BY
PROJ. MANAGER	SEPT. 2024	ANDREW LATHE
DESIGN-DETAILED		BMC
CHECKED-REVIEWED		CLS
DESIGN2-DETAILED2		ARB
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

BORING LOCATION PLAN & INTERPRETIVE SUBSURFACE PROFILE

SHEET NUMBER 5 OF 31

Filename: ...\005_Cromwell_BLP.JSP_09_12_2024.dgn Division: HIGHWAY Username: common Date:11/7/2024

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Cromwell Brook #3 Bridge #0452
Location: Bar Harbor, Maine
Boring No.: BB-BHCB-101
WIN: 26574.00

Driller:	New England Boring Contractors	Elevation (ft.)	51.5	Auger ID/OD:	4.5"
Operator:	G. McDougal	Datum:	NAVD88	Sampler:	Standard Splitspoon
Logged By:	E. Tome	Rig Type:	ATV-Mounted B53 Mobile Drill	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	8/11/22-8/11/22	Drilling Method:	Drive & Wash	Core Barrel:	NX
Boring Location:	13+50.8, 6.5 LT	Casing ID/OD:	3.0/3.5"	Water Level *:	10'
Hammer Efficiency Factor:	0.92	Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WO1P = Weight of One Person
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
T_v = Pocket Torvane Shear Strength (psf)
WC = Water Content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA	51.2	0'-0.3': Temporary Asphalt. (0.3)	
5	1D	24/17	5.0 - 7.0	8-3-2-1	5	8		45.9	Top 7": Brown, dry, fine to coarse SAND, some gravel, trace silt, (Fill). (5.6) Bottom 10": Brown/orange, moist, medium stiff, CLAYEY SILT, little fine to medium sand, trace gravel,(Silt and Sand).	22-S-3203 A-4(0), ML WC=35%
								43.0	(8.5)	
10	2D	20/11	10.0 - 11.7	6-14-18-50/2"	32	49	R/C		Olive-brown, wet, dense, GRAVEL, some fine to coarse sand, trace silt, (Gravel and Sand).	22-S-3204 A-1-a, GW-GM WC=10.2%
	R1	11/3	11.5 - 12.4	RQD = 0%			NX	39.8	Spoon refusal at 11.7' on probable bedrock. Highly fractured rock indicated by RC advancement. Advanced RC to 12.5' and set up to core. Fractured rock caved to 11.5', began core at 11.5'. R1: Three rounded gravel pieces. (11.7)	22-S-3228 q_p=3819 ksf
	R2	43/38	12.4 - 16.0	RQD = 78%					R2: Hard, fresh, aphanitic, grey, METASANDSTONE, with some calcite stringers. Joints are close to moderately spaced, moderately dipping with one vertical joint, undulating, rough, fresh, partially open to open. Rock Quality = Good Recovery = 88% Rock Core Times (min:sec): 12.4-13.4' (2:21), 13.4-14.4' (3:19), 14.4-15.4' (4:00), 15.4-16.0' (5:13)	
15	R3	31/31	16.0 - 18.6	RQD = 71%				32.9	R3: Hard, fresh, aphanitic, grey, METASANDSTONE, with calcite stringers. Joints are very close to moderately spaced, low angle with one vertical joint, undulating, rough, fresh, tight to open. Rock Quality = Fair Recovery = 100% Rock Core Times (min:sec): 16.0-17.0' (1:53), 17.0-18.0' (2:11), 18.0-18.6' (2:28) (18.6)	
20									Bottom of Exploration at 18.6 feet below ground surface.	
25										

Remarks:

1. Fine grained soil descriptions on this log are based on plasticity estimated using visual-manual classification techniques or laboratory Atterberg Limit tests if available, rather than the MaineDOT Standard-based percentages passing specific grain sizes.
2. Automatic Hammer NEBC #28 Energy Transfer Ratio = 0.92.
3. Water level measurements were taken immediately after removal of casing.
4. As-drilled boring locations were surveyed by MaineDOT in the field (N198802.78, E2209863.10).

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1 Boring No.: BB-BHCB-101

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Cromwell Brook #3 Bridge #0452
Location: Bar Harbor, Maine
Boring No.: BB-BHCB-102
WIN: 26574.00

Driller:	New England Boring Contractors	Elevation (ft.)	45.2	Auger ID/OD:	4.5"
Operator:	T. Schaefer	Datum:	NAVD88	Sampler:	Standard Splitspoon
Logged By:	E. Tombaugh	Rig Type:	ATV-Mounted B53 Mobile Drill	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	7/13/22-7/13/22	Drilling Method:	Drive & Wash	Core Barrel:	NX
Boring Location:	13+66.0, 15.6 RT	Casing ID/OD:	4.0/4.5"	Water Level *:	3.2'
Hammer Efficiency Factor:	0.86	Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions: D = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; MU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test, PP = Pocket Penetrometer; MV = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOR/C = Weight of Rods or Casing; WO1P = Weight of One Person; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf); q_p = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected; T_v = Pocket Torvane Shear Strength (psf); WC = Water Content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/4	0.0 - 2.0	WOH-1-6-10	7	10	SSA	44.9	Dark brown, dry, loose, Silty fine SAND, some gravel, with roots, (Topsoil). (0.3)	
5	2D	24/11	5.0 - 7.0	WOH-1-7-12	8	11			Grey, wet, medium dense, fine to coarse SAND, some silt, little gravel, (Silt and Sand).	
							35			
							58			
							57			
							28			
10	3D	24/19	10.0 - 12.0	6-4-4-6	8	11	25		Grey, wet, medium dense, fine to coarse SAND, some gravel, some clayey Silt, (Silt and Sand). Casing refusal at 12.0' on probable bedrock. Advanced roller cone to 12.5' and set up to core.	22-S-3205 A-2-4(0), SM WC=7.5%
							44	33.2	(12.0)	
	R1	36/36	12.5 - 15.5	RQD = 11%					R1: Hard, fresh, medium grained, grey, METASANDSTONE. Primary joints are closely spaced, low angle to moderately dipping, planar, smooth, fresh, partially open to open. Secondary joints are closely spaced, high angle, planar, smooth, fresh, partially open. Rock Quality = Very Poor Recovery = 100% Rock Core Times (min:sec): 12.5-13.5' (2:54), 13.5-14.5' (2:00), 14.5-15.5' (2:22)	22-S-3225 PLD=33.7 ksf PLA=43.6 ksf
15	R2	48/48	15.5 - 19.5	RQD = 48%					R2: Hard, fresh, medium grained, grey, METASANDSTONE, with calcite stringers. Primary joints are closely spaced, high angle, planar, smooth, decomposed, open to moderately wide. Secondary joints are closely spaced, low angle, planar, smooth, fresh, partially open to open. Rock Quality = Poor Recovery = 100% Rock Core Times (min:sec): 15.5-16.5' (1:56), 16.5-17.5' (1:39), 17.5-18.5' (1:53), 18.5-19.5' (1:46)	
	R3	36/36	19.5 - 22.5	RQD = 96%				23.2	R3: Hard, fresh, medium grained, grey, METASANDSTONE, with calcite stringers. Joints are close to moderately spaced, high angle, planar, smooth, discolored, partially open to open. Rock Quality = Excellent Recovery = 100% Rock Core Times (min:sec): 19.5-20.5' (2:10), 20.5-21.5' (1:52), 21.5-22.5' (2:22) (22.0)	
20									Bottom of Exploration at 22.0 feet below ground surface.	
25										

Remarks:

1. Fine grained soil descriptions on this log are based on plasticity estimated using visual-manual classification techniques or laboratory Atterberg Limit tests if available, rather than the MaineDOT Standard-based percentages passing specific grain sizes.
2. Automatic Hammer NEBC #1 Energy Transfer Ratio = 0.86.
3. Water level measurements were taken immediately after removal of casing.
4. As-drilled boring locations were surveyed by MaineDOT in the field (N198821.33, E2209882.41).

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Cromwell Brook #3 Bridge #0452
Location: Bar Harbor, Maine
Boring No.: BB-BHCB-103
WIN: 26574.00

Driller:	New England Boring Contractors	Elevation (ft.)	51.6	Auger ID/OD:	4.5"
Operator:	G. McDougal	Datum:	NAVD88	Sampler:	Standard Splitspoon
Logged By:	E. Tome	Rig Type:	ATV-Mounted B53 Mobile Drill	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	8/11/22-8/11/22	Drilling Method:	Drive & Wash	Core Barrel:	NX
Boring Location:	14+06.8, 7.2 LT	Casing ID/OD:	3.0/3.5"	Water Level *:	Dry at 8.0'
Hammer Efficiency Factor:	0.92	Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions: D = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; MU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test, PP = Pocket Penetrometer; MV = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOR/C = Weight of Rods or Casing; WO1P = Weight of One Person; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf); q_p = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected; T_v = Pocket Torvane Shear Strength (psf); WC = Water Content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA	51.2	0'-0.4': Temporary Asphalt. (0.4)	
	1D	18/14	3.0 - 4.5	23-23-50	73	112			Brown, dry, very dense, Gravelly fine to coarse SAND, (Fill). Asphalt in spoon tip at 4.3'. Hydrocarbon odor. (4.5)	
								47.1 46.9	4.5'-4.7': Asphalt. (4.7)	
5	2D	24/11	5.0 - 7.0	12-8-6-1	14	21			Fill observed on auger flights at 4.7'. Brown, dry, medium dense, Gravelly fine to coarse SAND, little silt, (Fill). Strong Hydrocarbon odor. Increase in auger resistance during advancement from 7.8'-7.9'. Advanced 3" casing and roller cone to 8.0' and set up to core.	22-S-3206 A-1-b, SM WC=6.8%
								43.8	(7.8)	22-S-3226 q_p=1494 ksf
	R1	60/60	8.0 - 13.0	RQD = 52%			NX		R1: Hard, fresh to slightly weathered, aphanitic, grey, METASANDSTONE, with calcite stringers. Joints are very close to close, low angle with two vertical joints, undulating, rough, fresh to discolored, open to moderately wide. Rock Quality = Fair Recovery = 100% Rock Core Times (min:sec): 8.0-9.0' (3:48), 9.0-10.0' (3:07), 10.0-11.0' (1:37), 11.0-12.0' (1:44), 12.0-13.0' (1:41)	22-S-3227 PLD=326.3 ksf PLA=261.1 ksf
10										
	R2	60/48	13.0 - 18.0	RQD = 63%					R2: Hard, fresh to slightly weathered, aphanitic, grey, METASANDSTONE, with calcite stringers. Joints are very close to close, low angle with one vertical joint, undulating, rough, fresh to discolored, partially open to wide. Diorite intrusions at 16.0'-18.0'. Rock Quality = Fair Recovery = 80% Rock Core Times (min:sec): 13.0-14.0' (1:50), 14.0-15.0' (1:54), 15.0-16.0' (3:51), 16.0-17.0' (4:04), 17.0-18.0' (5:32)	
15								33.6	(18.0) Bottom of Exploration at 18.0 feet below ground surface.	
20										
25										

Remarks:

1. Fine grained soil descriptions on this log are based on plasticity estimated using visual-manual classification techniques or laboratory Atterberg Limit tests if available, rather than the MaineDOT Standard-based percentages passing specific grain sizes.
2. Automatic Hammer NEBC #1 Energy Transfer Ratio = 0.92.
3. Water level measurements were taken immediately after removal of casing.
4. Bottom 12" of R2 fell out of core barrel upon retrieval, could not recover.
5. Hole collapsed at 8.0' upon removal of casing, no water observed.
6. As-drilled boring locations were surveyed by MaineDOT in the field (N198857.90, E2209853.25).

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1 Boring No.: BB-BHCB-103

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Cromwell Brook #3 Bridge #0452
Location: Bar Harbor, Maine
Boring No.: BB-BHCB-104
WIN: 26574.00

Driller:	New England Boring Contractors	Elevation (ft.)	47.4	Auger ID/OD:	4.5"
Operator:	T. Schaefer	Datum:	NAVD88	Sampler:	Standard Splitspoon
Logged By:	E. Tombaugh	Rig Type:	ATV-Mounted B53 Mobile Drill	Hammer Wt./Fall:	140#/30"
Date Start/Finish:	7/13/22-7/13/22	Drilling Method:	SSA	Core Barrel:	--
Boring Location:	14+28.8, 6.8 RT	Casing ID/OD:	3.0/3.5"	Water Level *:	Unknown
Hammer Efficiency Factor:	0.86	Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions: D = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; MU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test, PP = Pocket Penetrometer; MV = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOR/C = Weight of Rods or Casing; WO1P = Weight of One Person; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf); q_p = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected; T_v = Pocket Torvane Shear Strength (psf); WC = Water Content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA		Auger encountered rip rap.	
5									Water flowing up out of hole at 7.4'; at 1430 the water tested positive for chlorine and the wter department concluded the flow was coming from a water line. Water department directed termination of the boring, likely nicked side of pipe.	
								40.2	(7.2) Bottom of Exploration at 7.2 feet below ground surface.	
10										
15										
20										
25										

Remarks:

1. Automatic Hammer NEBC #1 Energy Transfer Ratio = 0.86.
2. Bar Harbor Water Department abandoned exploration after GZA left the site.
3. As-drilled boring locations were surveyed by MaineDOT in the field (N198881.79, E2209863.62).

Stratification lines represent approximate boundaries between soil types; transitions may be gradual.
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

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

PREPARED BY: GZA

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
2657400
BRIDGE PLANS
WIN 026574.00
BRIDGE NO. 0452

STATE OF MAINE Andrew R. Blaisdell 10957 LICENSED PROFESSIONAL ENGINEER

SIGNATURE
P.E. NUMBER 10957
DATE 11/7/2024

		BY	DATE
PROJ. MANAGER	ANDREW LATHE		
DESIGN-DETAILED	ENT	BMC	SEPT. 2024
CHECKED-REVIEWED	ARB	CLS	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

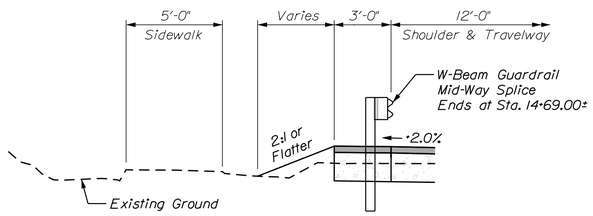
BORING LOGS

NOTES

1. When the superelevation exceeds the slope of the low side shoulder, the low side shoulder shall have the same slope as the travelway.

2. Crowns for both normal and superelevation sections for all courses of subbase and pavement shall be straight.

3. The stationing shown under each typical is approximate.



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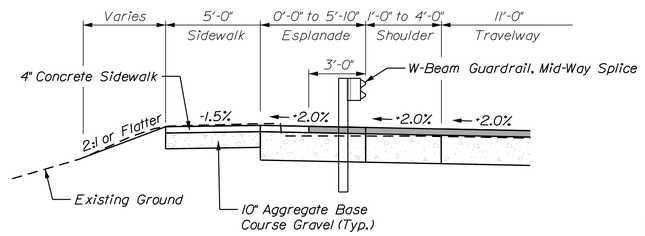
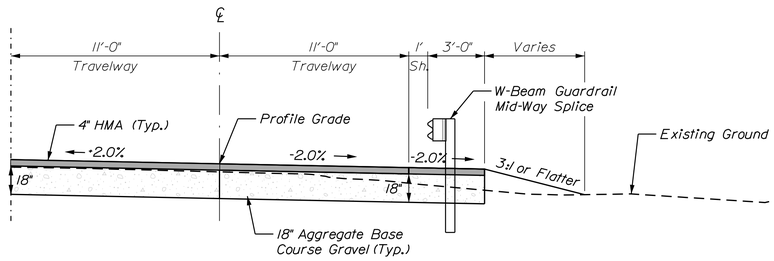
With Guardrail
Sta. 14+05.00 to 14+72.00



Left Shoulder
With Sidewalk Reconstruction
Sta. 12+25.00 to 13+35.00±



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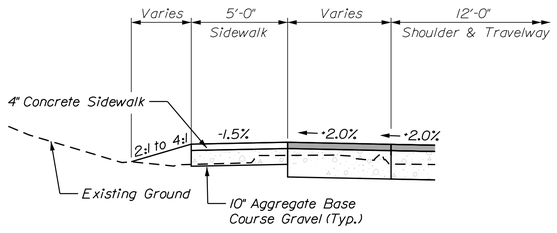
Full Construction
Sta. 12+75.00 to 15+50.00

Right Shoulder
With Guardrail
Sta. 12+62.50 to 14+94.00



Left Shoulder
With Sidewalk Reconstruction
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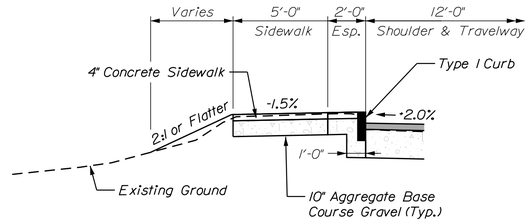

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With Curb, Esplanade & Sidewalk
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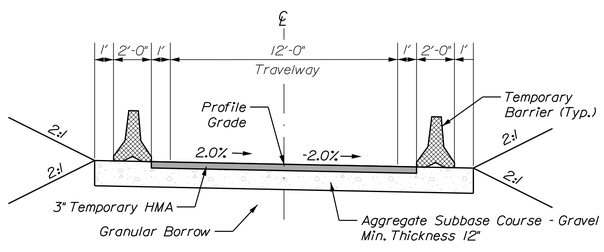

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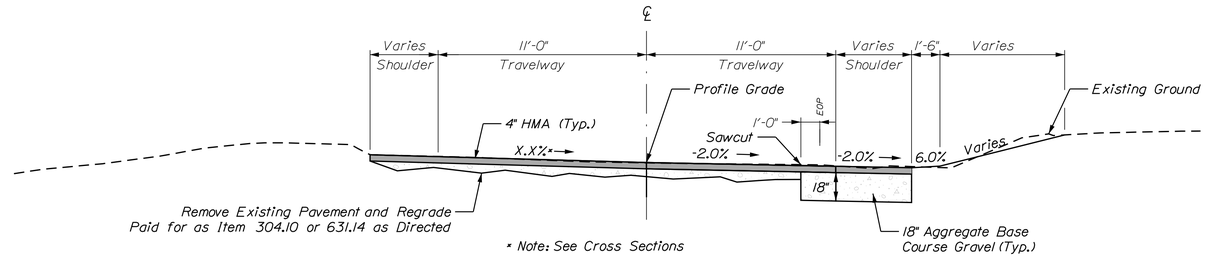

Ledgelawn Avenue
Full Depth Pavement Removal
Sta. 11+25.00 to 12+25.00

Right Shoulder
Reconstruction
Sta. 11+25.00 to 12+25.00

NOT TO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE
CARL T. AYERS
No 13255
REGISTERED PROFESSIONAL ENGINEER

	SIGNATURE	P.E. NUMBER	DATE
	13255	11/22/24	

	BY	DATE
PROJ. MANAGER	A. LATHE	
DESIGN-DETAILED	BMD	11/22/24
CHECKED-REVIEWED	ECF	11/22/24
DESIGN2-DETAILED2	C1AYERS	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

TYPICAL SECTIONS

SHEET NUMBER
7
OF 31

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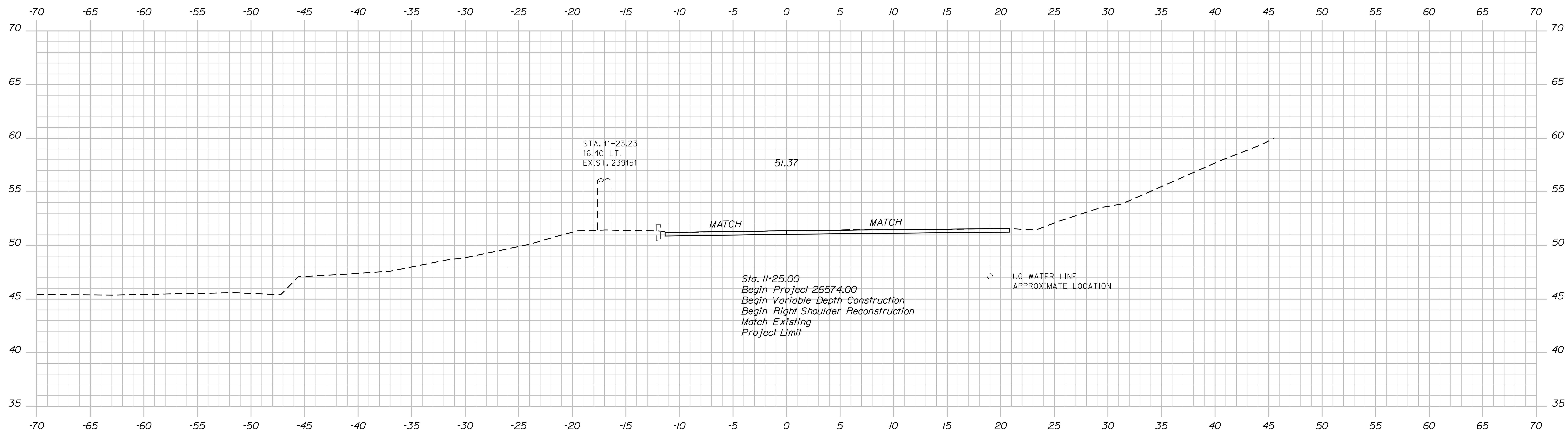

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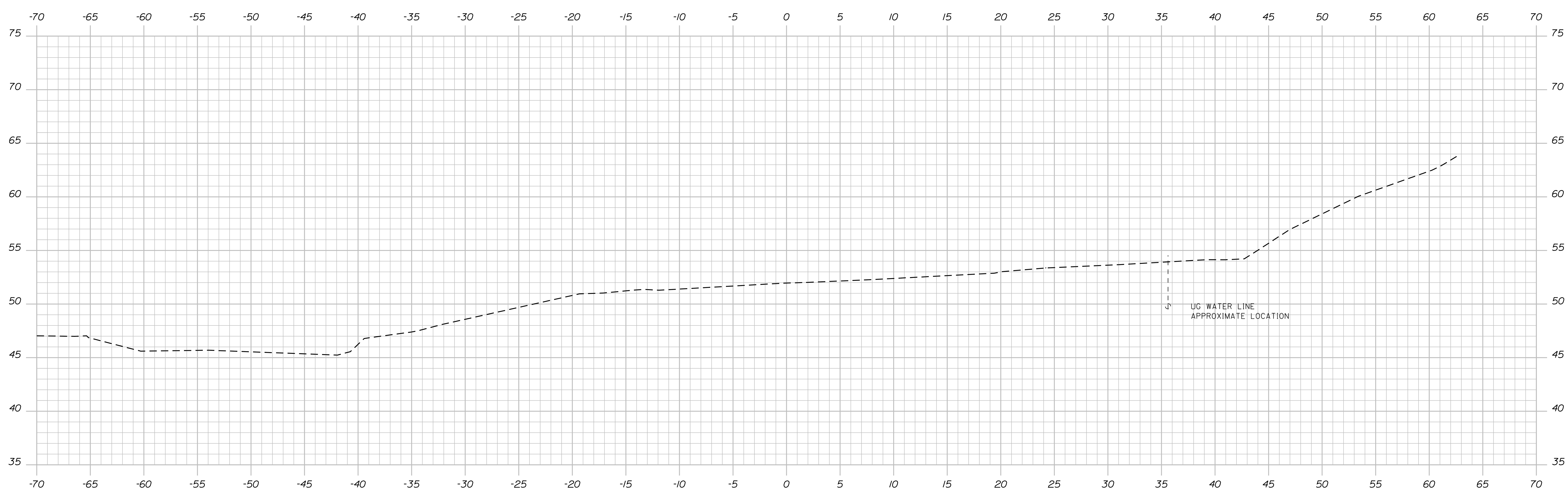

11+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

CARL T. AYERS No 13255 STATE OF MAINE LICENSED PROFESSIONAL ENGINEER

SIGNATURE	P.E. NUMBER 13255	DATE 11/22/24

	A. LATHE	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	BMD	BMD	11/22/24
CHECKED-REVIEWED	ECF	CTAYERS	11/22/24
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

CROSS SECTIONS

SHEET NUMBER
8
OF 31

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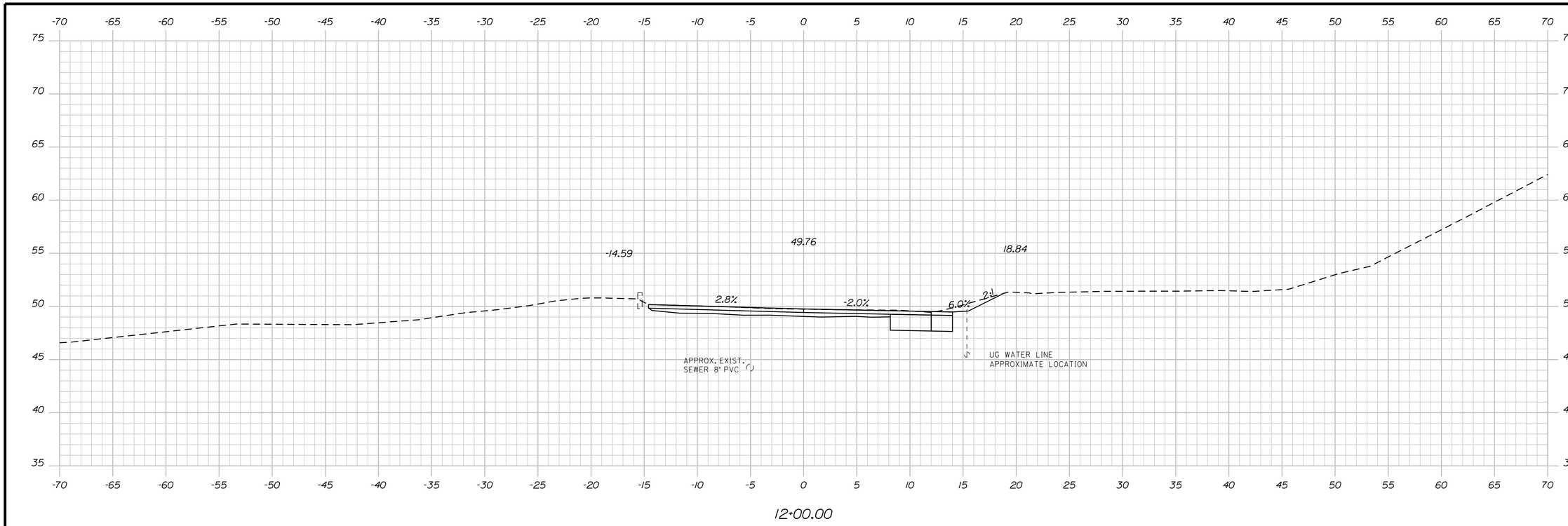

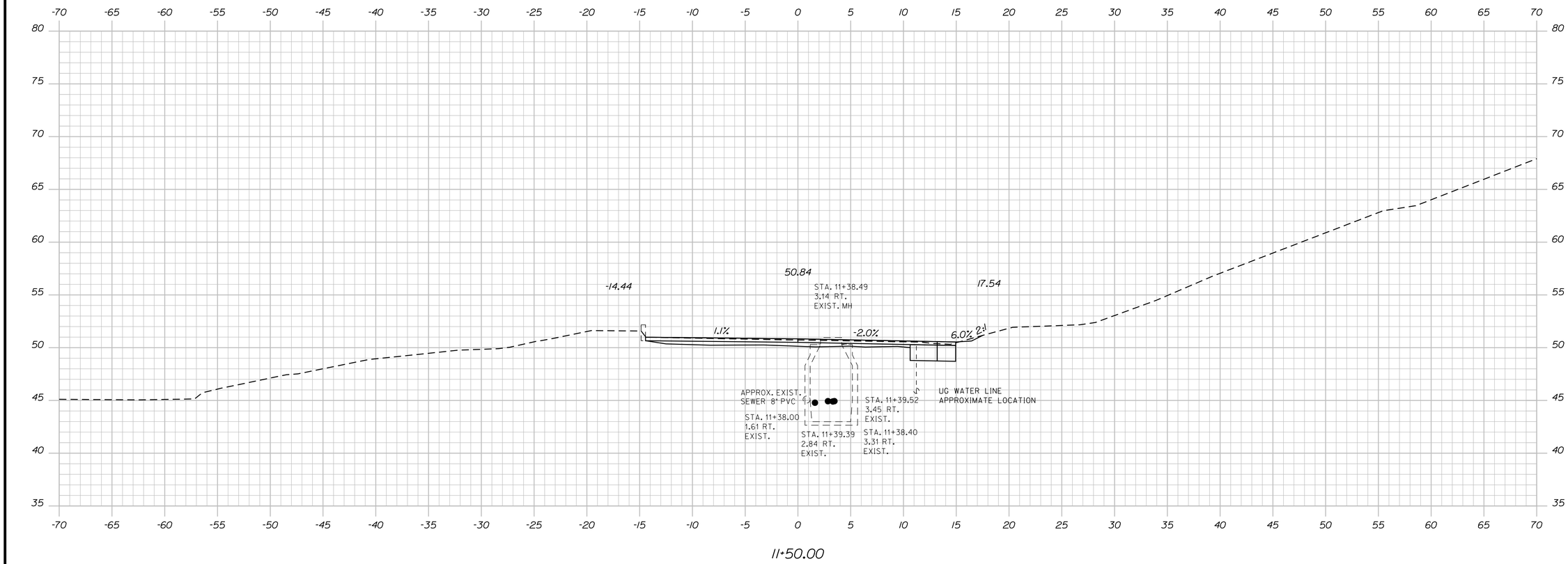

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN
26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE
CARL T. AYERS
No 13255
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE
13255
P.E. NUMBER
11/22/24
DATE

	BY	DATE
PROJ. MANAGER	A. LATHE	
DESIGN-DETAILED	BMD	11/22/24
CHECKED-REVIEWED	ECF	11/22/24
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

CROSS SECTIONS

SHEET NUMBER

9

OF 31

Sta. 11+50.00 to Sta. 12+00.00

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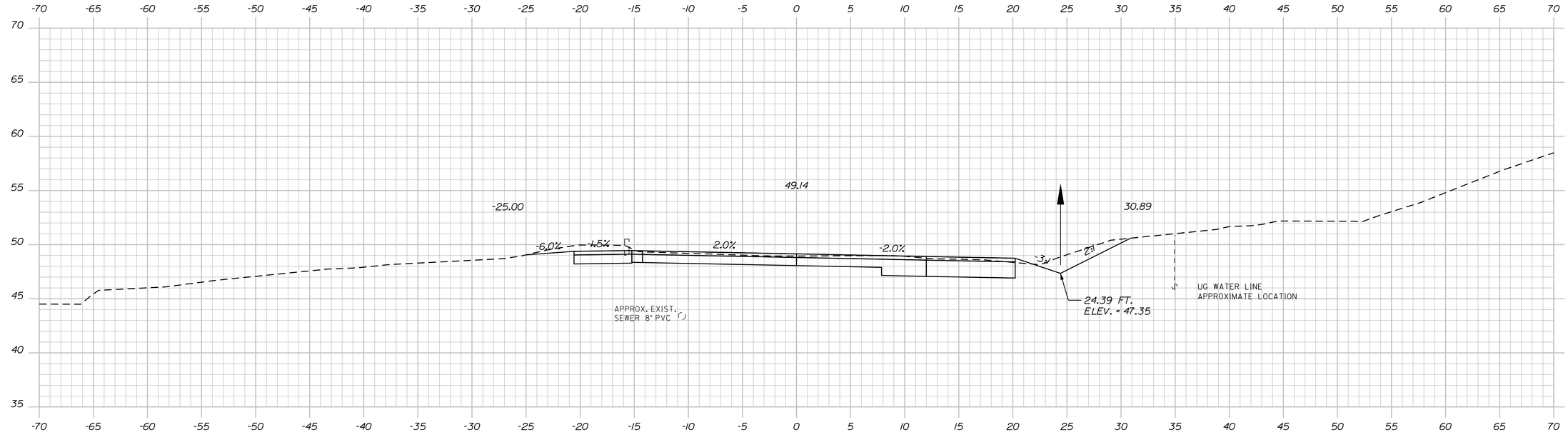

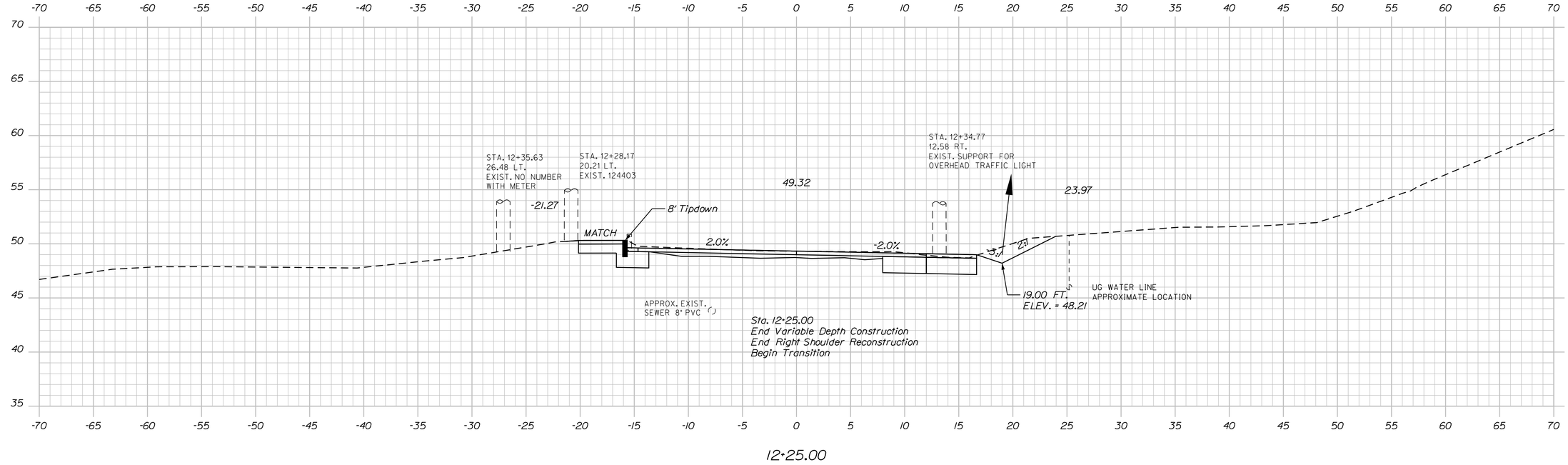

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN
26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE
CARL T. AYERS
No 13255
REGISTERED PROFESSIONAL ENGINEER

	SIGNATURE	P.E. NUMBER	DATE
	13255	11/22/24	

	A. LATHE	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	BMD	BMD	11/22/24
CHECKED-REVIEWED	ECF	CTAYERS	11/22/24
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

CROSS SECTIONS

SHEET NUMBER

10

OF 31

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Sta. 12+25.00 to Sta. 12+50.00

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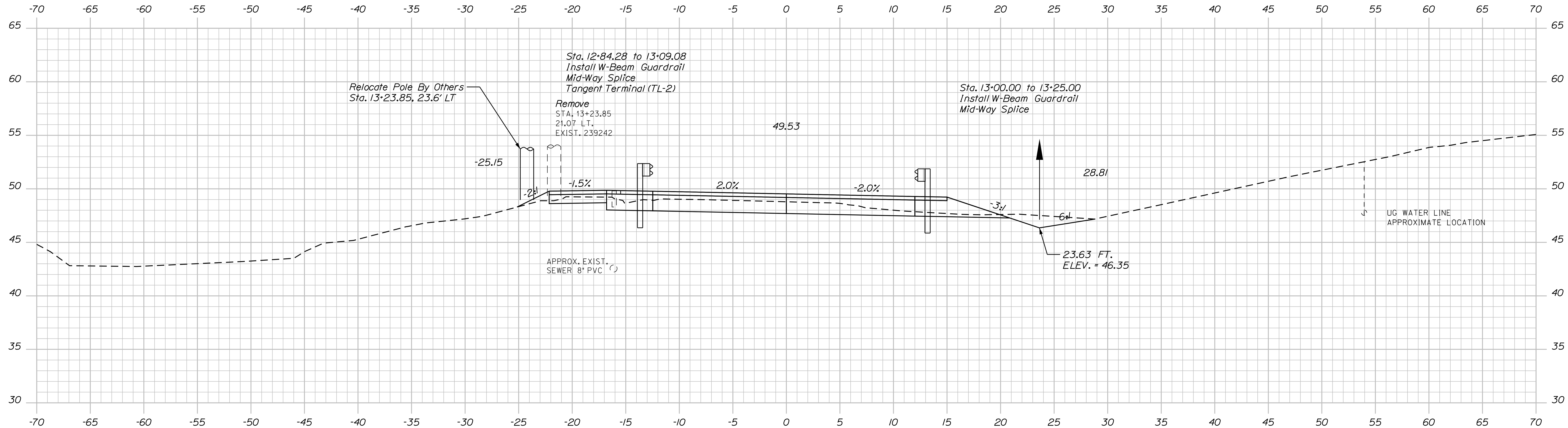
Username: ewalton
Date:11/22/2024



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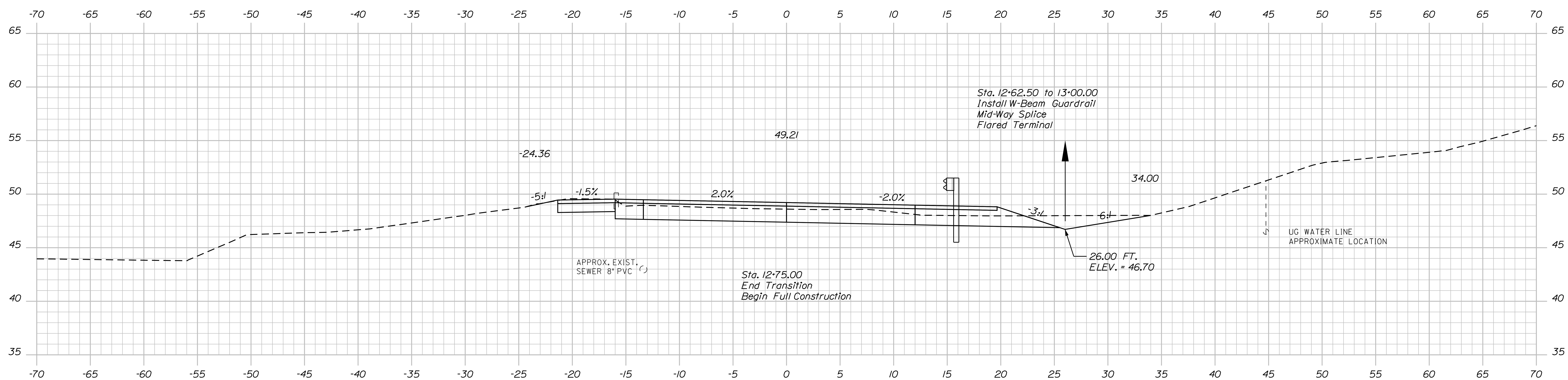


12+75.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE * CARL T. AYERS No 13255 LICENSED PROFESSIONAL ENGINEER *

SIGNATURE 13255
P.E. NUMBER
11/22/24
DATE

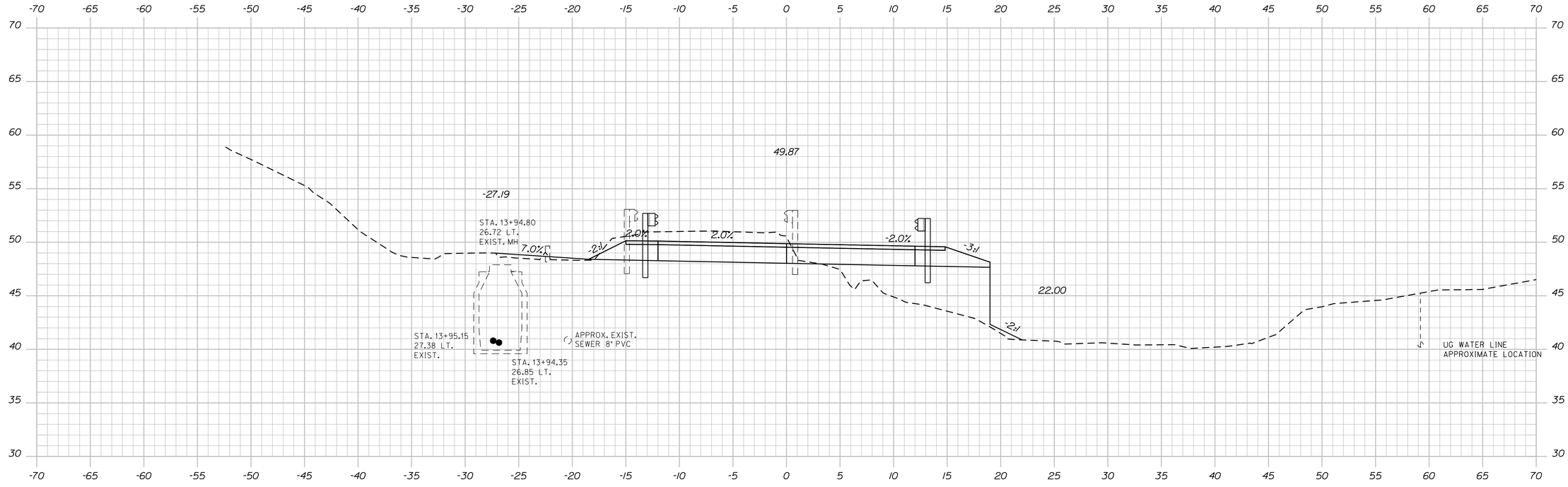
		BY	DATE
PROJ. MANAGER	A. LATHE		
DESIGN-DETAILED	BMD	BMD	11/22/24
CHECKED-REVIEWED	ECF	CTAYERS	11/22/24
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

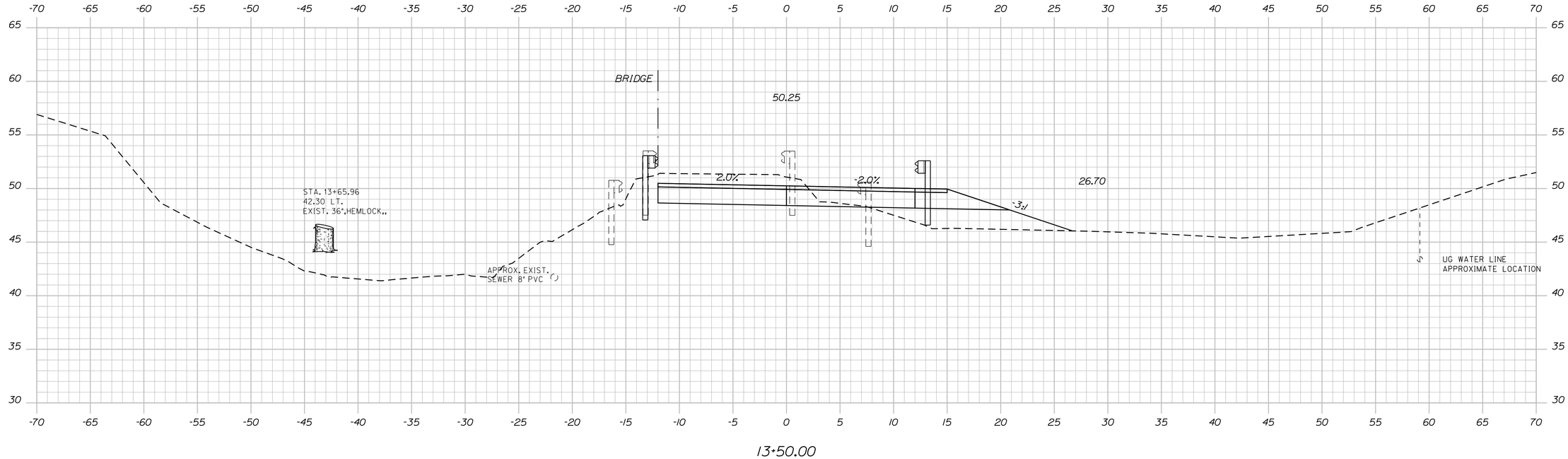
CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

CROSS SECTIONS

SHEET NUMBER
11
OF 31

Sta. 12+75.00 to Sta. 13+00.00





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE
CARL T. AYERS
No 13255
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE
13255
P.E. NUMBER
11/22/24
DATE

	BY	DATE
A. LATHE		
PROJ. MANAGER		
DESIGN-DETAILED	BMD	11/22/24
CHECKED-REVIEWED	ECF	11/22/24
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
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FIELD CHANGES		

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
HANCOCK COUNTY
BAR HARBOR

CROSS SECTIONS

SHEET NUMBER
12
OF 31

Filename: ...\HIGHWAY\MSTA\030_Xsect.dgn Division: BRIDGE Username: ewalton Date:11/22/2024

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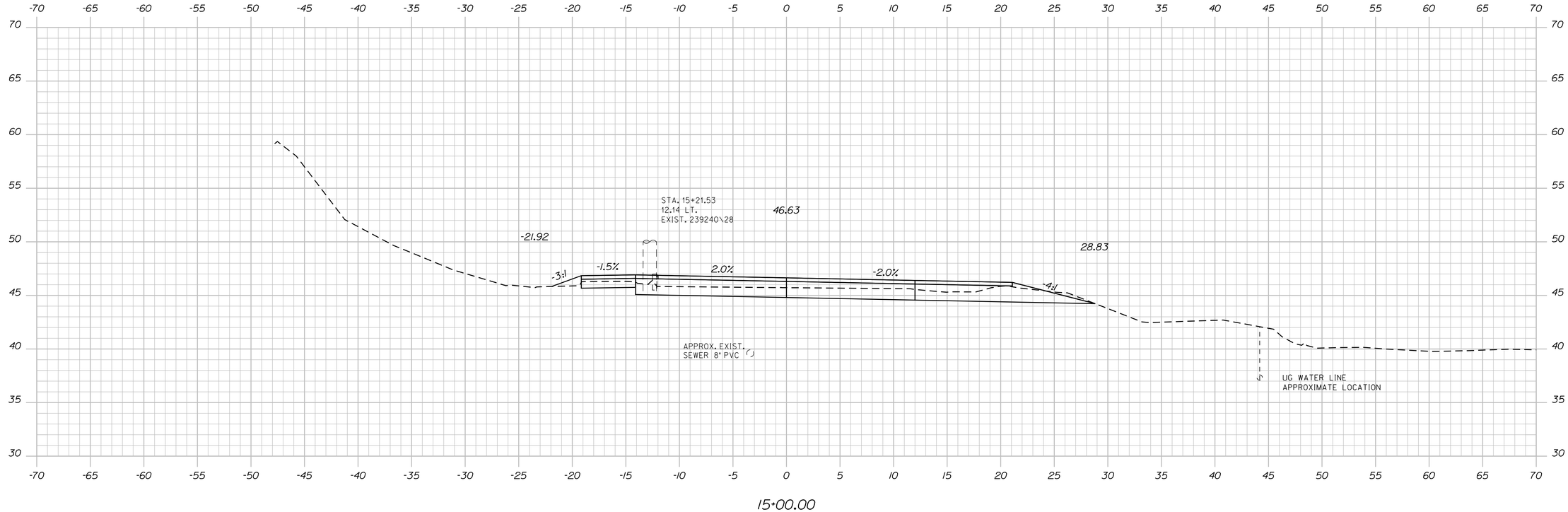

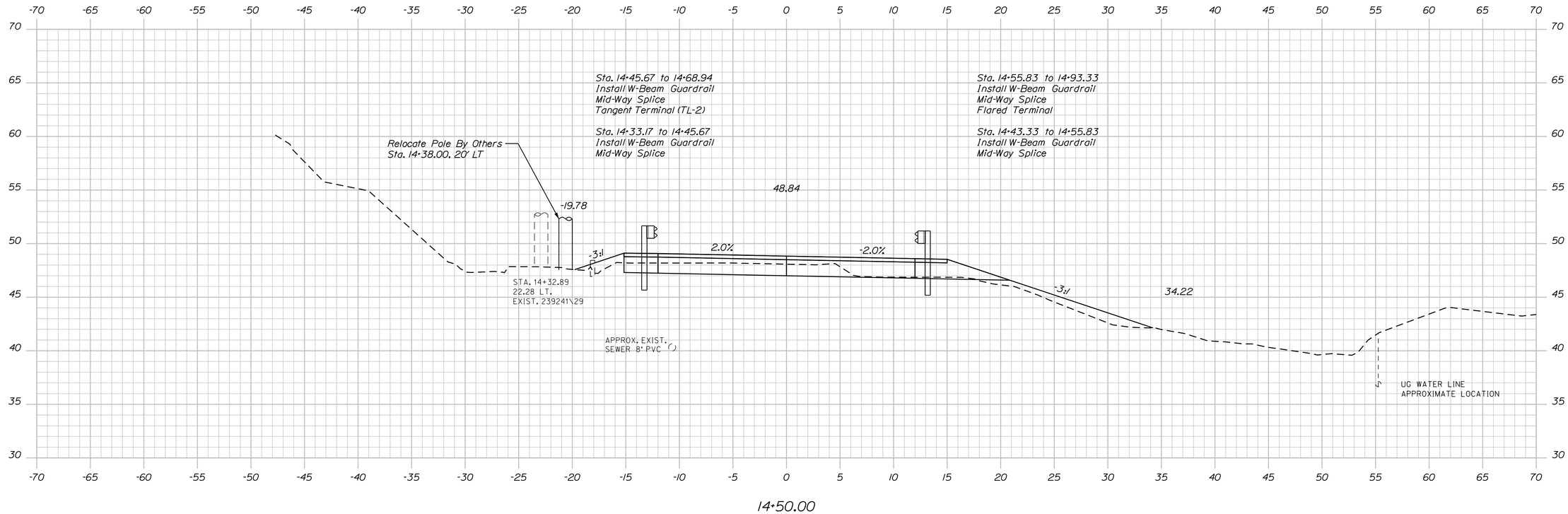

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE · CARL T. AYERS No 13255 · REGISTERED PROFESSIONAL ENGINEER

SIGNATURE

13255
P.E. NUMBER

11/22/24
DATE

	BY	DATE
PROJ. MANAGER A. LATHE		
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DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

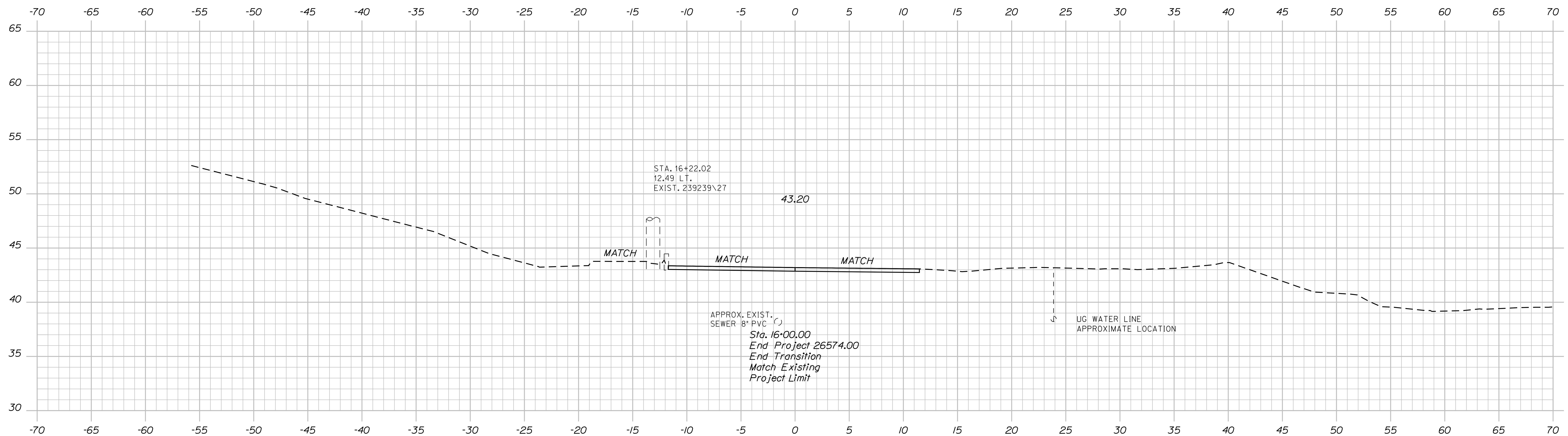
CROSS SECTIONS

SHEET NUMBER

13

OF 31

Username: ewalton Date:11/22/2024
Division: BRIDGE
Filename: ...\HIGHWAY\MSTA\030_Xsect.dgn



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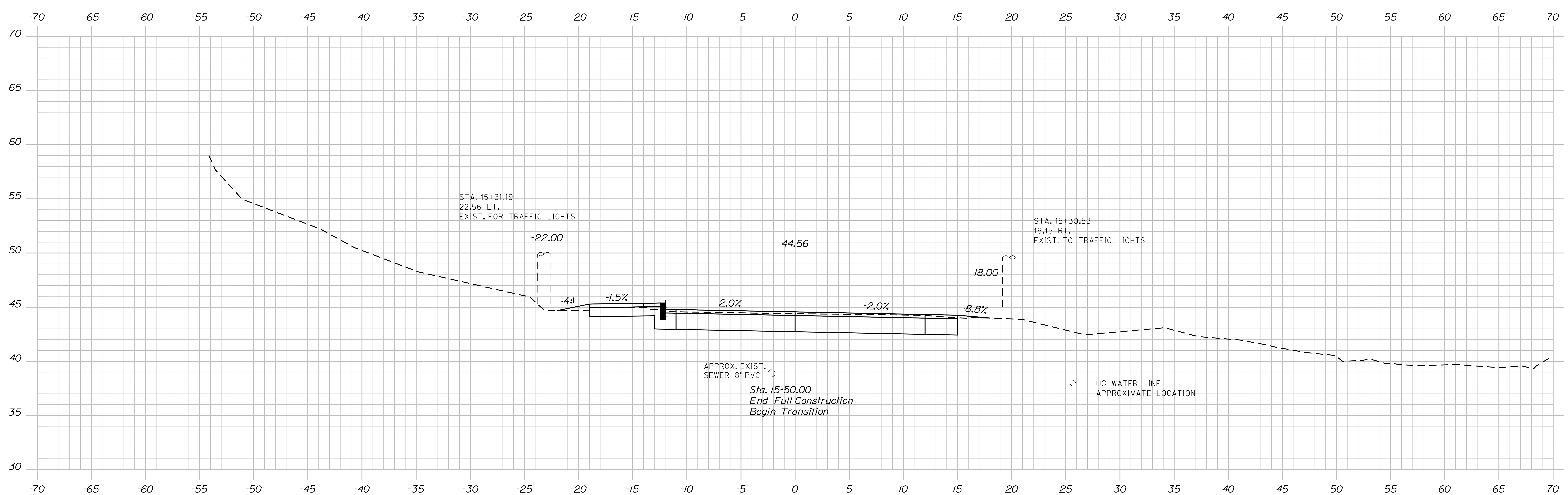

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
2657400
WIN 26574.00
BRIDGE PLANS
BRIDGE NO. 0452

CARL T. AYERS No 13255 STATE OF MAINE LICENSED PROFESSIONAL ENGINEER

SIGNATURE 13255
P.E. NUMBER 11/22/24
DATE

		BY	DATE
PROJ. MANAGER	A. LATHE		
DESIGN-DETAILED	BMD	BMD	11/22/24
CHECKED-REVIEWED	ECF	CTAYERS	11/22/24
DESIGN2-DETAILED2			
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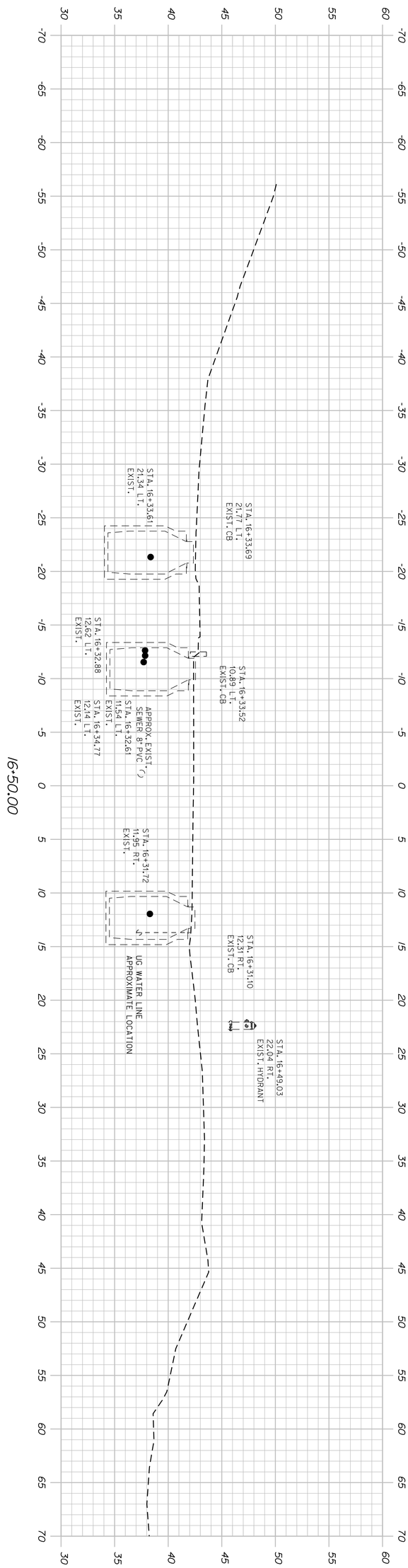
FIELD CHANGES			

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

CROSS SECTIONS

SHEET NUMBER
14
OF 31

Sta. 15+50.00 to Sta. 16+00.00



PROJ. MANAGER	A. LATHE	BY	DATE	
DESIGN-DETAILED	BMD	BMD	11/22/24	
CHECKED-REVIEWED	ECF	CTAYERS	11/22/24	
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
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REVISIONS 4				
FIELD CHANGES				

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STATE OF MAINE
CARL T. AYERS
No 13255
LICENSED
PROFESSIONAL ENGINEER

SHEET NUMBER 15 OF 31

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

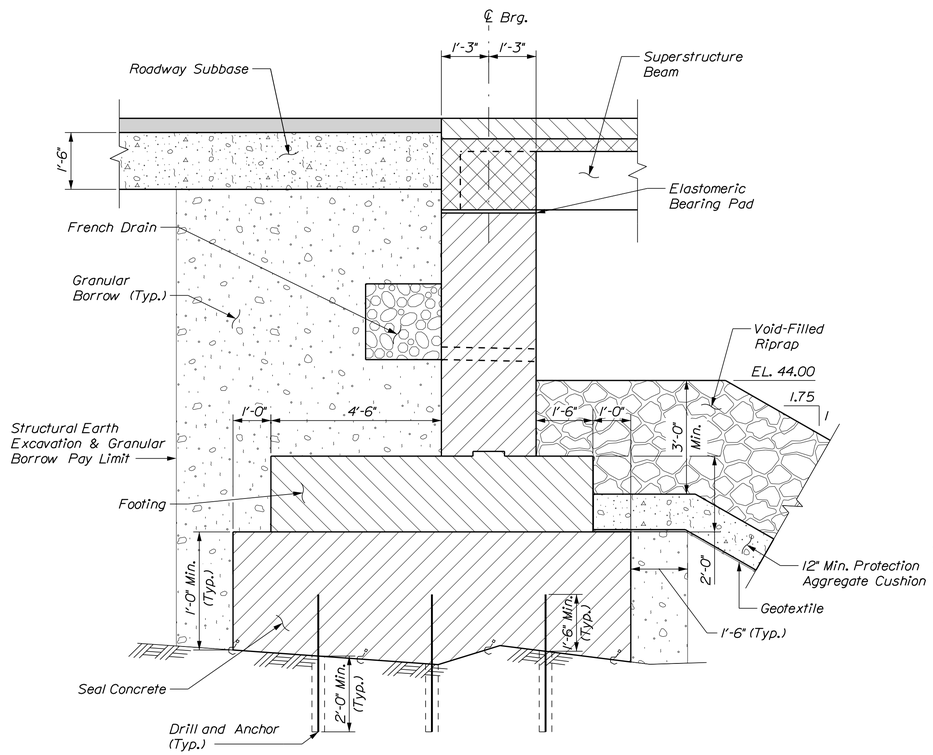
CROSS SECTIONS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

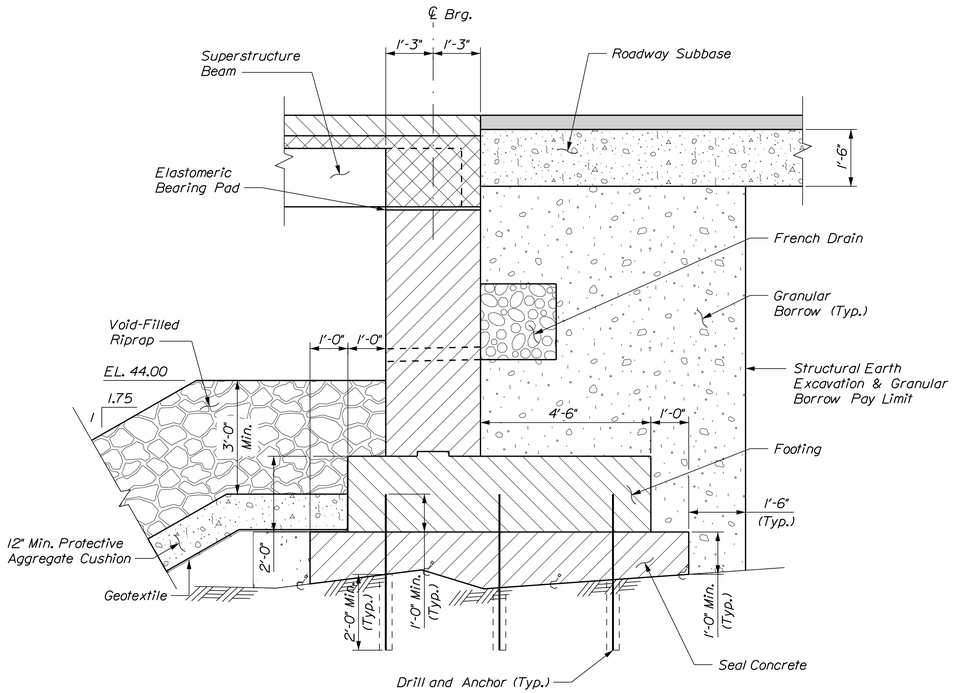
2657400

BRIDGE NO. 0452 WIN 26574.00 BRIDGE PLANS

Sta. 16+50.00



ABUTMENT 1 SECTION



ABUTMENT 2 SECTION

ABUTMENT NOTES

1. The maximum factored applied footing pressure is 15 ksf at the Strength Limit State.

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

3. Place drains with a 4-inch diameter in the breastwall at 10 feet maximum spacing. The exact location will be determined by the Resident.

4. Cover joints where waterstops are not required in accordance with Standard Details Section 502(01).

5. If the contractor elects to use precast concrete superstructure beams under Special Provision 531, the parapet portions of the wingwalls shall be placed after erection of the precast units to ensure an accurate match with the superstructure.

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

7. With the approval of the Resident, the seal concrete and the footing may be raised or lowered and stepped and the vertical reinforcing may be cut in the field. The Abutment 1 bottom of footing elevation shall not be lowered below Elevation 38.00 feet and Abutment 2 bottom of footing elevation shall not be lowered below Elevation 40.00 feet without prior approval of the Resident. Payment for adjusting the footing elevations and reinforcing steel will be considered incidental to the related Contract Items. No separate payment will be made.

8. At the option of the Resident, bedrock that protrudes above the proposed bottom of the seal may be removed. Payment for bedrock removal shall be made under Item No. 206.092 Structural Rock Excavation - Major Structures.

9. The Contractor shall calculate the required abutment seat elevations based on the chosen superstructure alternative and submit the calculated elevations to the Resident a minimum of 2 weeks prior to constructing the formwork for the abutments.

10. The Contractor shall adjust the abutment reinforcing steel as necessary to accommodate the chosen superstructure alternative.

11. Abutment stem dowel bars required for the NEXT Beam and Slab Beam alternatives are not shown. Should the Contractor select one of these alternatives, the Contractor is responsible for installing these in accordance with the Contract Plans and manufacturer design.

12. Dowels shall be grouted a minimum of 2 feet into intact bedrock in 3 inch diameter holes and embedded at least 1'-6" into concrete. Dowels shall be grouted with a cementitious grout on the MaineDOT Qualified Products List of Grout Materials for Keyways and Anchoring. Epoxy grout shall not be used. Payment for this work will be considered incidental to related Contract Items.

13. In the event that bedrock is underwater such as to prevent the installation of dowels into bedrock, the dowels shall be placed in the seal concrete in a manner approved by the Resident and extended into the footing 1'-6". Dowels shall be located a minimum of 1'-0" from the edge of the footing. Reinforcing will be paid for at the contract unit price for Reinforcing Steel, Fabricated and Delivered. Additional work to install dowels will not be paid for directly, but will be considered incidental to related Contract Items.

SEAL CONCRETE NOTES

1. The horizontal pay limit for seal concrete shall be to the dimensions shown on the plans. No additional payment will be made for concrete placed outside of these limits. Seal concrete shall be paid for under Item 502.22.

2. Seal concrete shall be placed on bedrock cleaned of all weathered rock, loose fractured rock and soil. All unsuitable bedrock shall be excavated as directed by the Resident and paid for under Item No. 206.092 Structural Rock Excavation - Major Structures. The bedrock subgrade shall be confirmed to be relatively level. Where the bedrock slope exceeds 4H:1V, the bedrock surface shall be benched to create level steps or made completely level. The Resident shall approve the bedrock subgrade prior to the placement of the seal concrete. Cofferdam excavation inspection and reporting shall be in accordance with Standard Specification Section 511 - Cofferdams. At a minimum, the inspections shall include bedrock elevation measurements and sediment measurements, taken at a minimum of 20 evenly distributed plan locations.

3. If the seal concrete is being placed on exposed bedrock that is not underwater, prior to placing concrete the bedrock shall be washed with high-pressure water and air.

STATE OF MAINE
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2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE · CARL T. AYERS · No 13255 · REGISTERED PROFESSIONAL ENGINEER

SIGNATURE		
13255		
P.E. NUMBER		
11/22/24		
DATE		

	BY	DATE
PROJ. MANAGER	A. LATHE	
DESIGN-DETAILED	JAH	11/22/24
CHECKED-REVIEWED	ELW	11/22/24
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
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REVISIONS 3		
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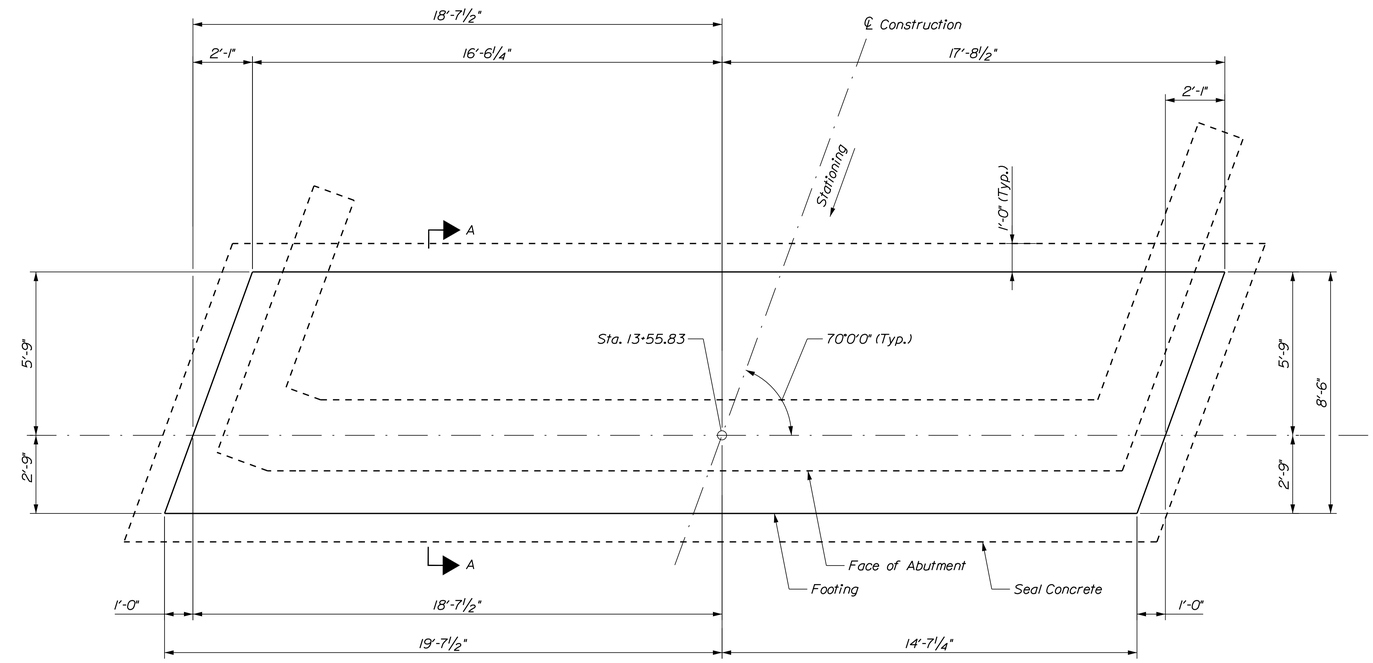
FIELD CHANGES		

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

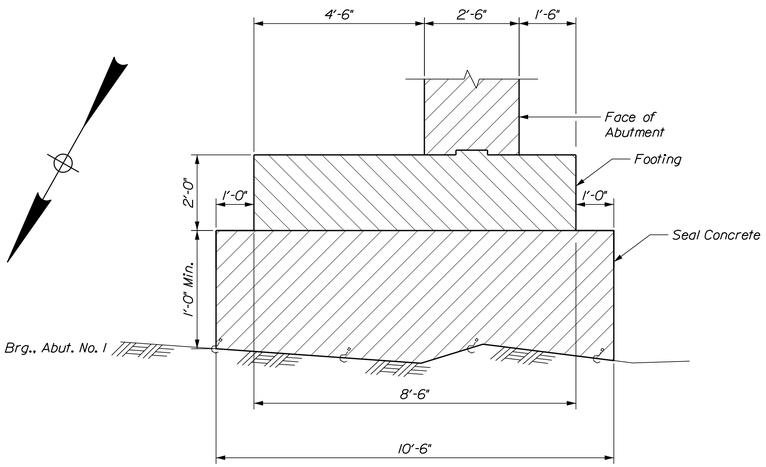
TYPICAL ABUTMENT SECTIONS AND NOTES

SHEET NUMBER
16
OF 31

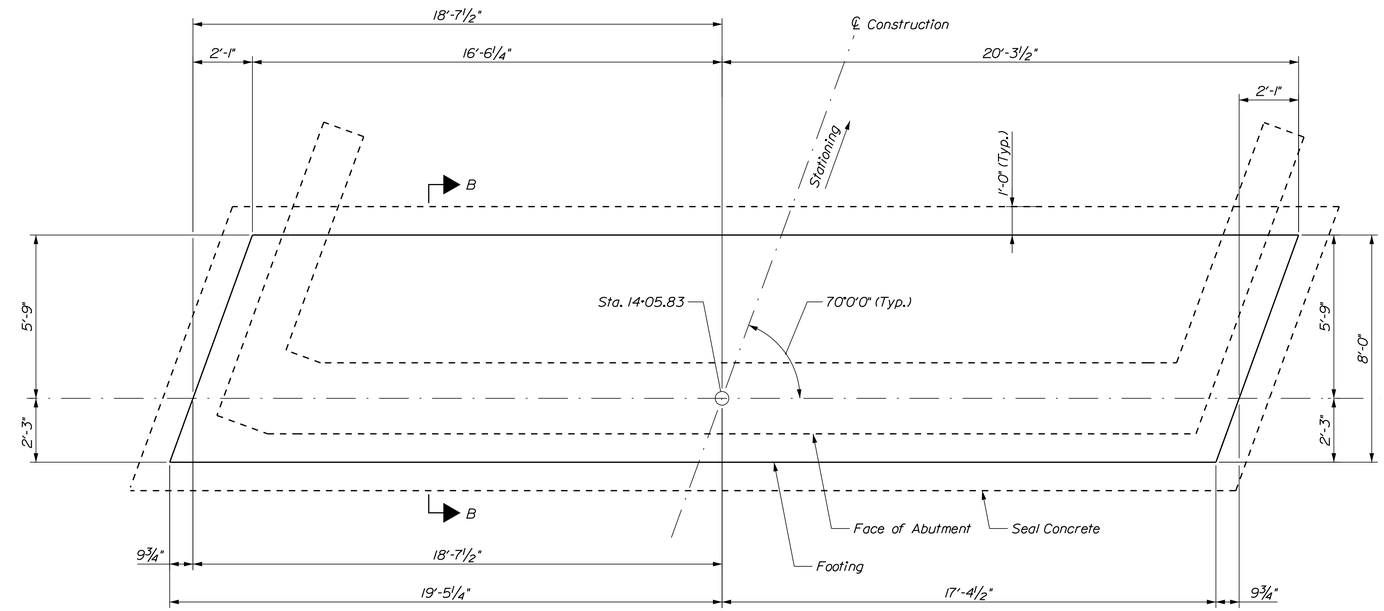
Filename: ...\BRIDGE\MSTA\017_Abut1 sec.dgn Username: Division: BRIDGE Date:11/22/2024



ABUTMENT 1 FOOTING PLAN



SECTION A-A



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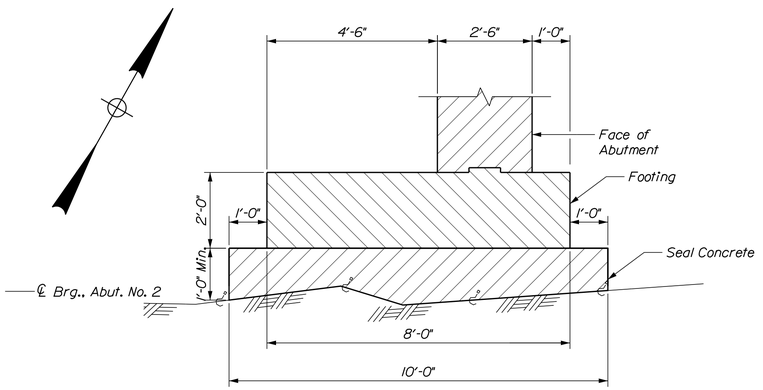

SECTION B-B

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE
CARL T. AYERS
No. 13255
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE	
P.E. NUMBER	13255
DATE	11/22/24

	BY	DATE
A. LATHE		
PROJ. MANAGER		
DESIGN-DETAILED	JAH/KDW	11/22/24
CHECKED-REVIEWED	CTAYERS	11/22/24
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
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FIELD CHANGES		

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

ABUTMENT FOOTING PLAN

SHEET NUMBER
17
OF 31

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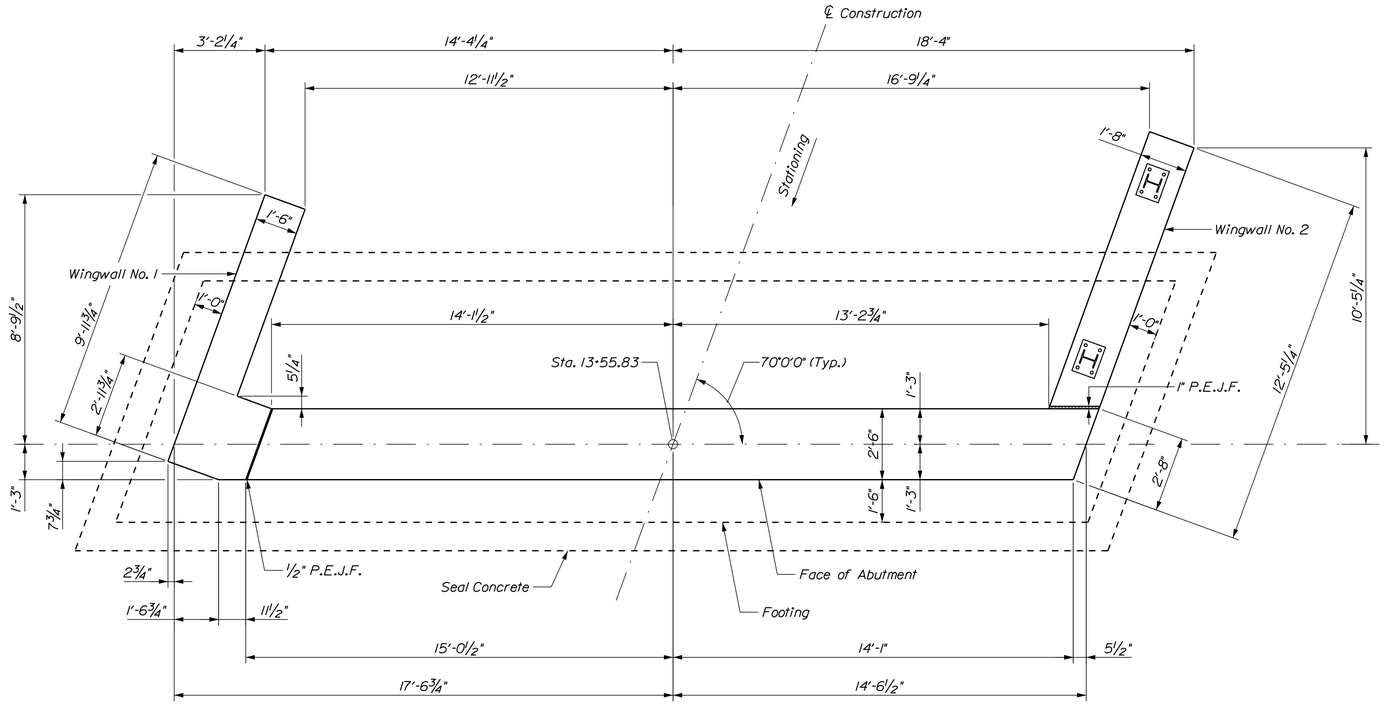
Filename: ...\BRIDGE\MSTA\018_Foot_1.dgn Division: BRIDGE Username: Date:11/22/2024



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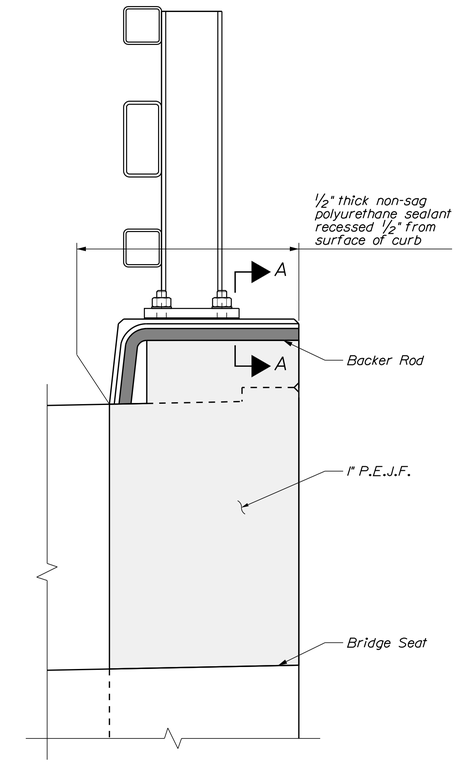

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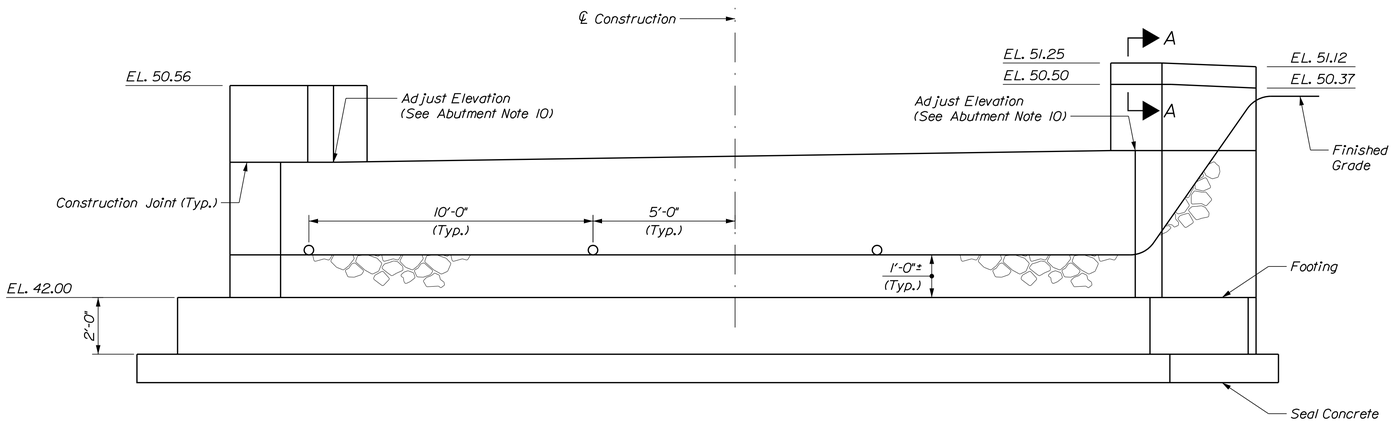

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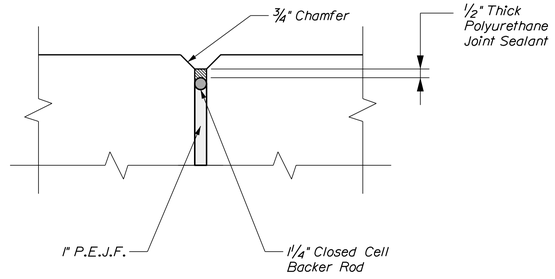

SECTION A-A

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE NO. 0452

BRIDGE PLANS

STATE OF MAINE
CARL T. AYERS
No. 13255
REGISTERED PROFESSIONAL ENGINEER

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13255
P.E. NUMBER
11/22/24
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PROJ. MANAGER			
DESIGN-DETAILED	JAH	JAH/KDW	11/22/24
CHECKED-REVIEWED	ELW	C1AYERS	11/22/24
DESIGN2-DETAILED2			
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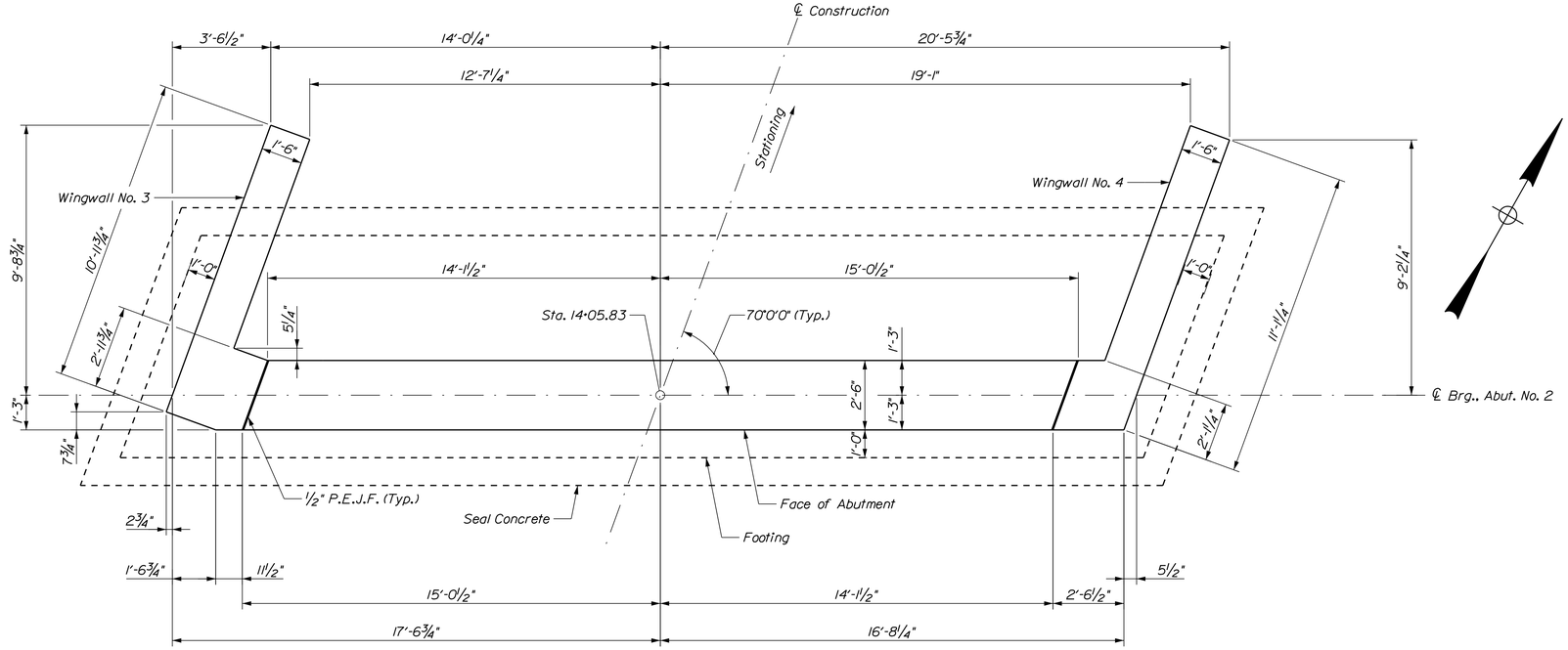
FIELD CHANGES			

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

ABUTMENT NO.1 PLAN AND ELEVATION

SHEET NUMBER
18
OF 31

Date:11/22/2024
Username:
Division: BRIDGE
Filename: ...\BRIDGE\MSTA\019_Abut1_1.dgn



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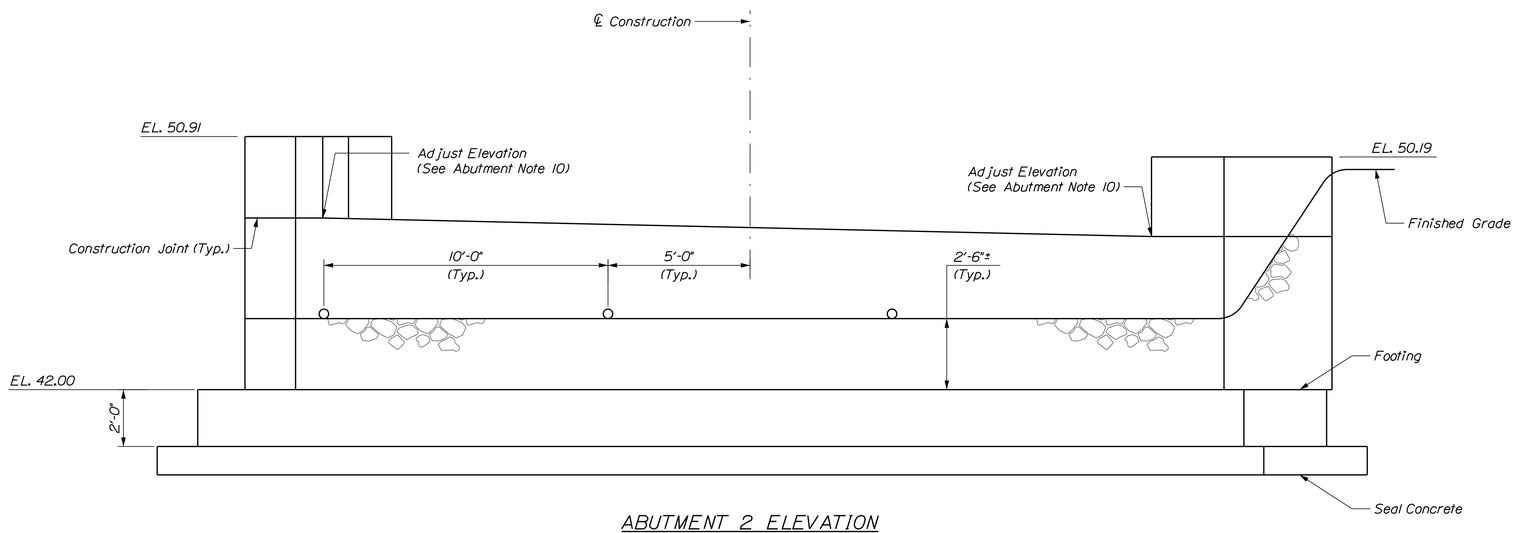

ABUTMENT 2 ELEVATION

STATE OF MAINE
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2657400

WIN 26574.00

BRIDGE NO. 0452

BRIDGE PLANS

STATE OF MAINE
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REGISTERED PROFESSIONAL ENGINEER

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CHECKED-REVIEWED	ELW	CTAYERS	11/22/24
DESIGN2-DETAILED2			
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FIELD CHANGES			

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

ABUTMENT NO. 2 PLAN AND ELEVATION

SHEET NUMBER
19
OF 31

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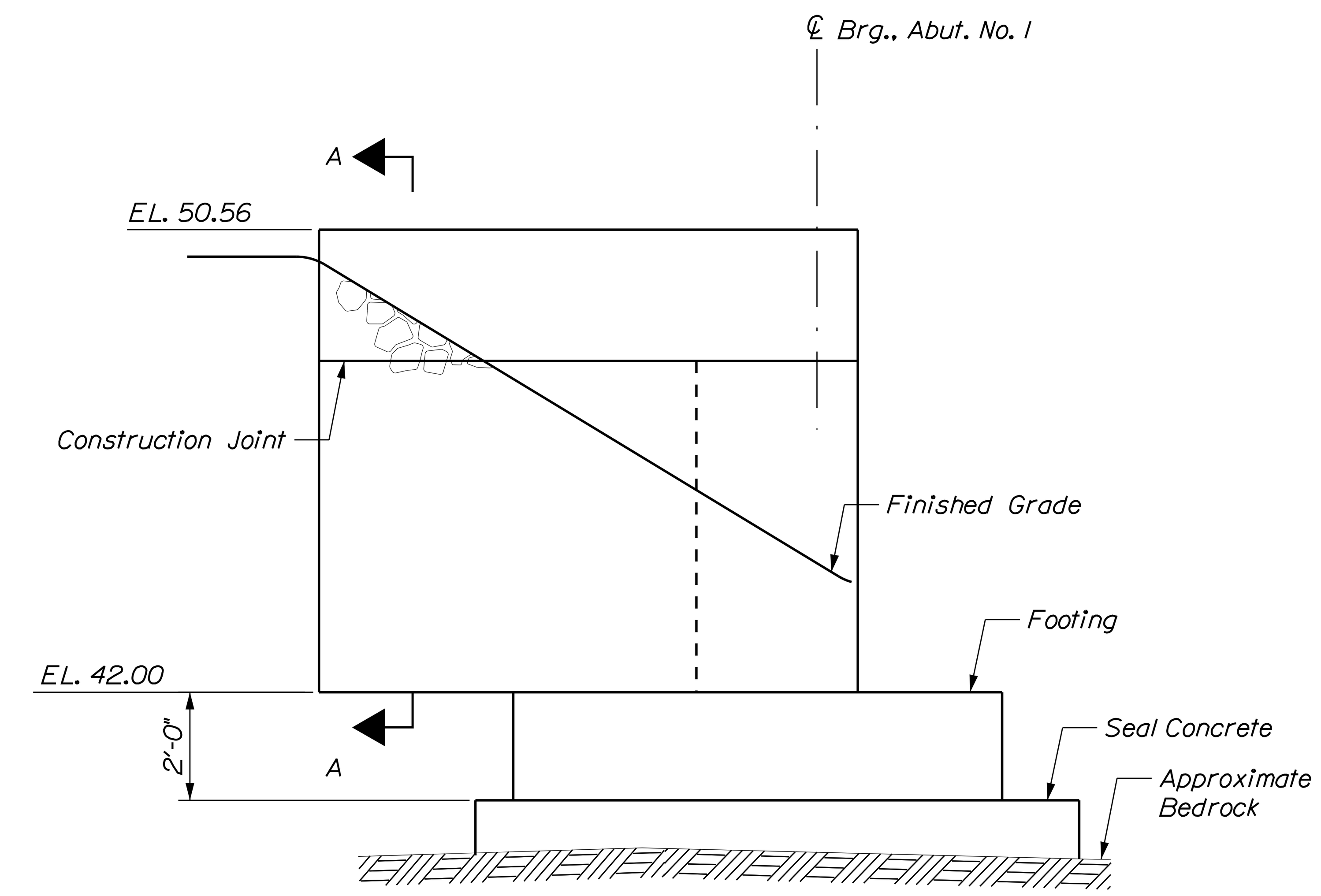
Filename: ...\BRIDGE\MSTA\020_Abut2_1.dgn Division: BRIDGE Username: Date:11/22/2024



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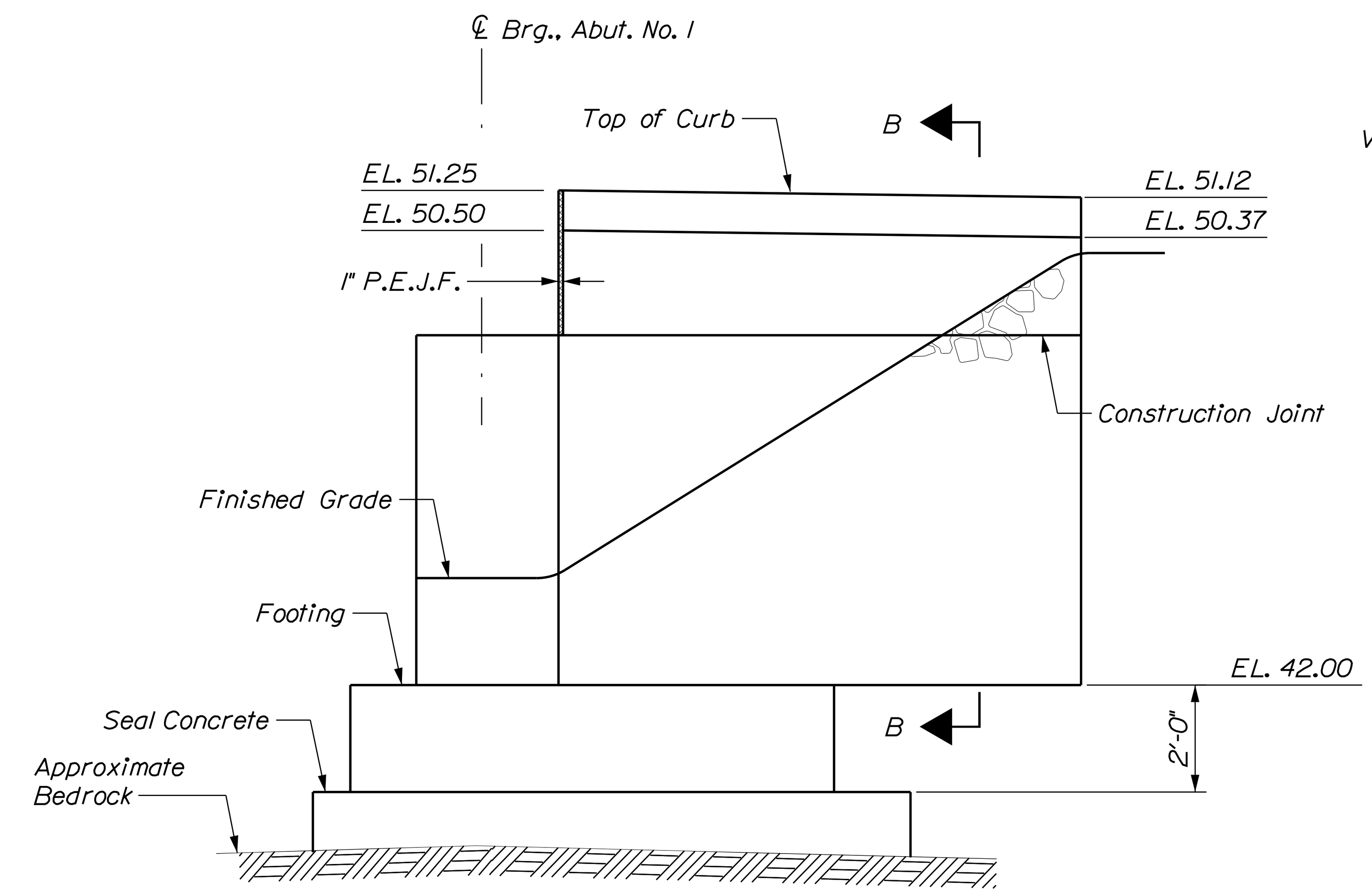

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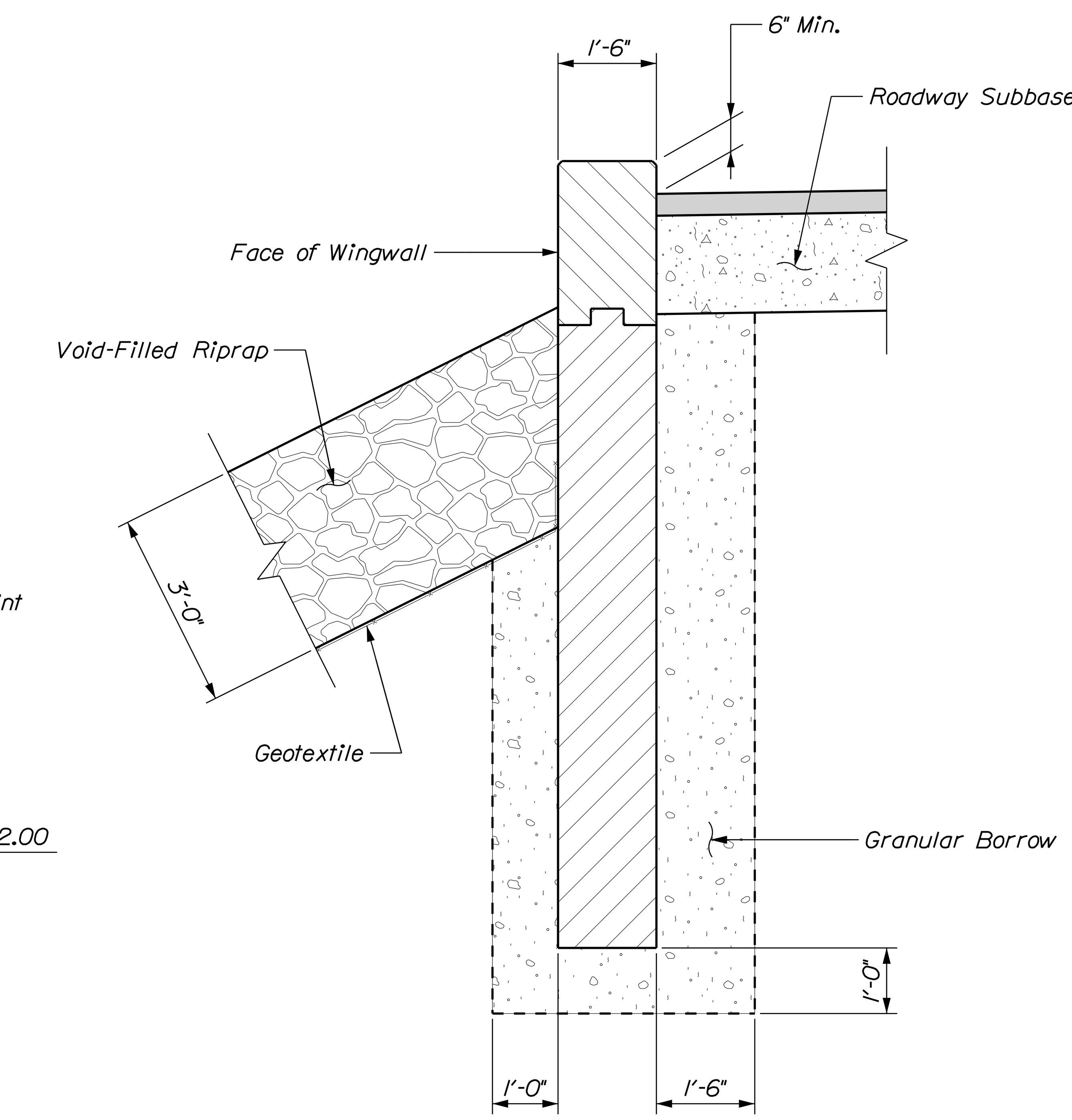
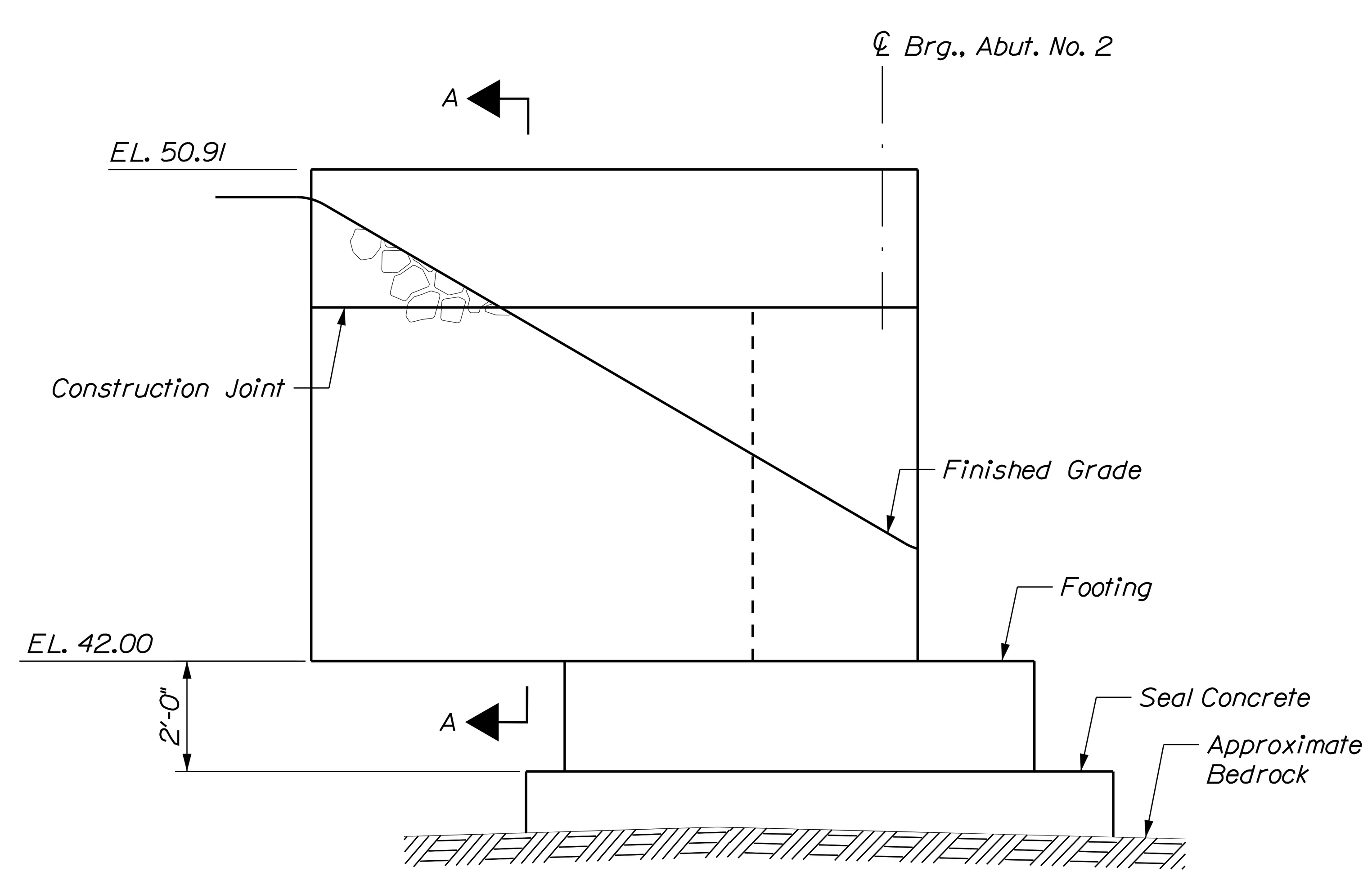


SECTION A-A



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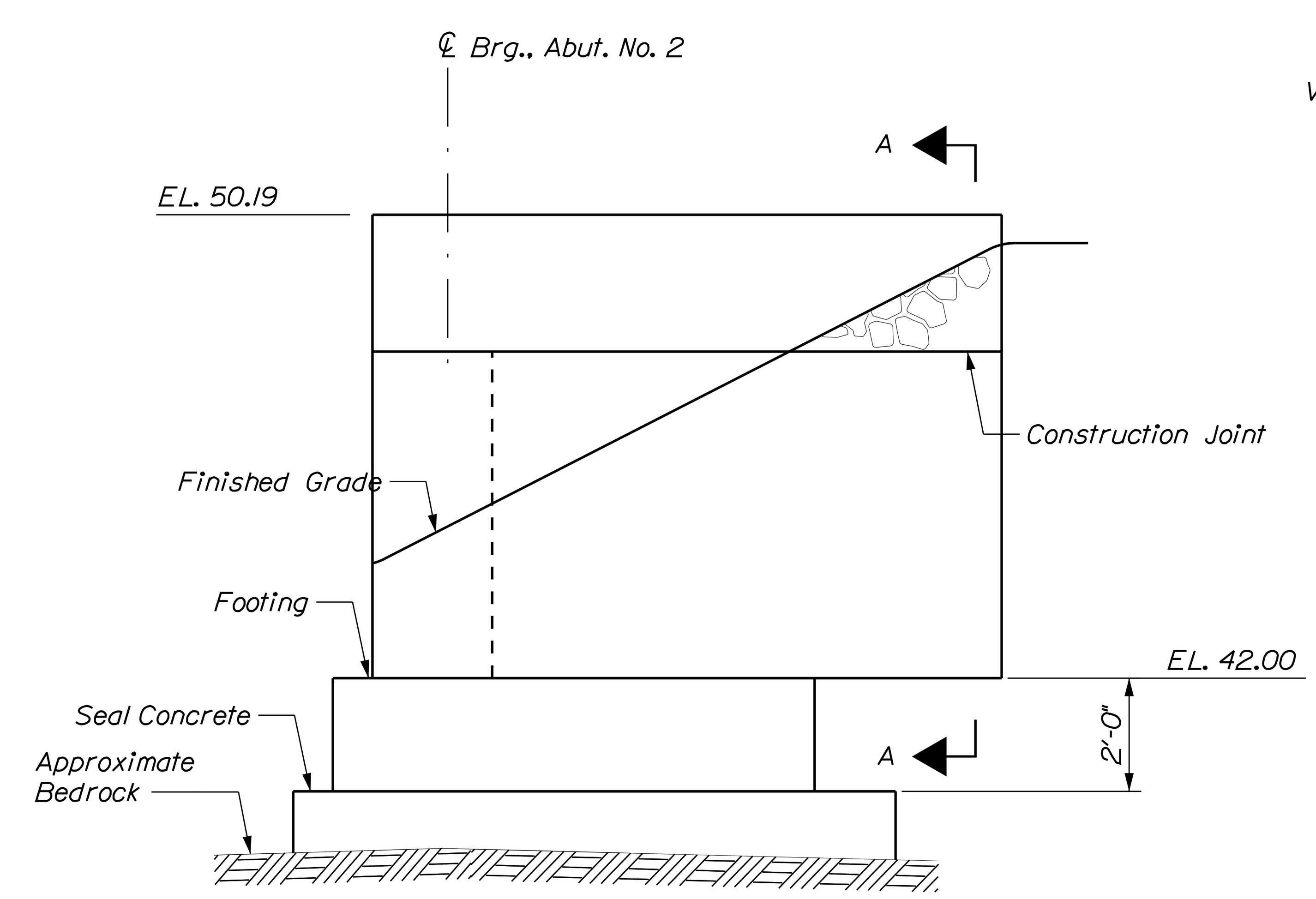

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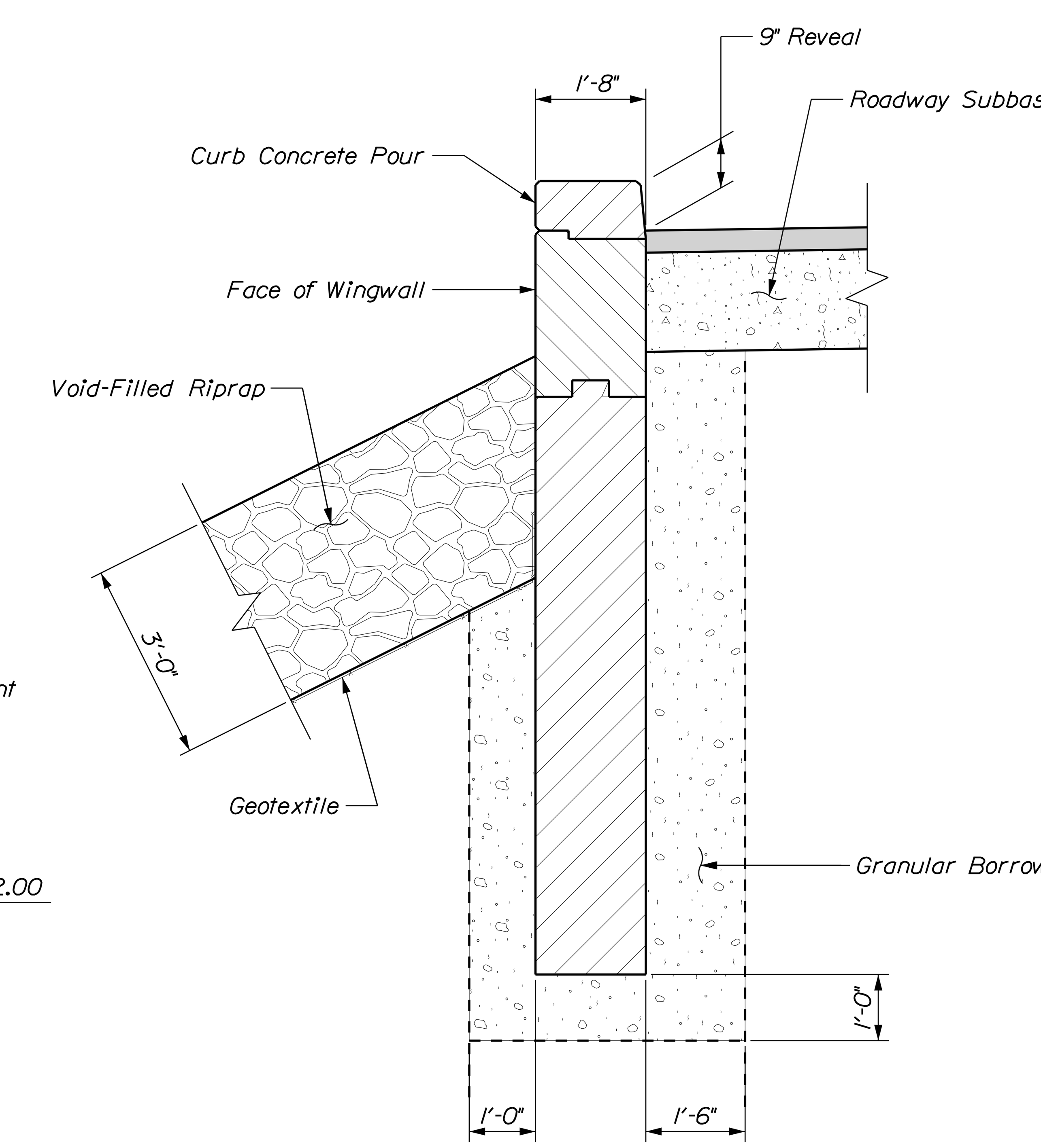

SECTION B-B

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN
26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE
CARL T. AYERS
No 13255
LICENSED
PROFESSIONAL ENGINEER

SIGNATURE
13255
P.E. NUMBER
11/22/24
DATE

	A. LATHE	BY	DATE
PROJ. MANAGER			
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DESIGN2-DETAILED2			
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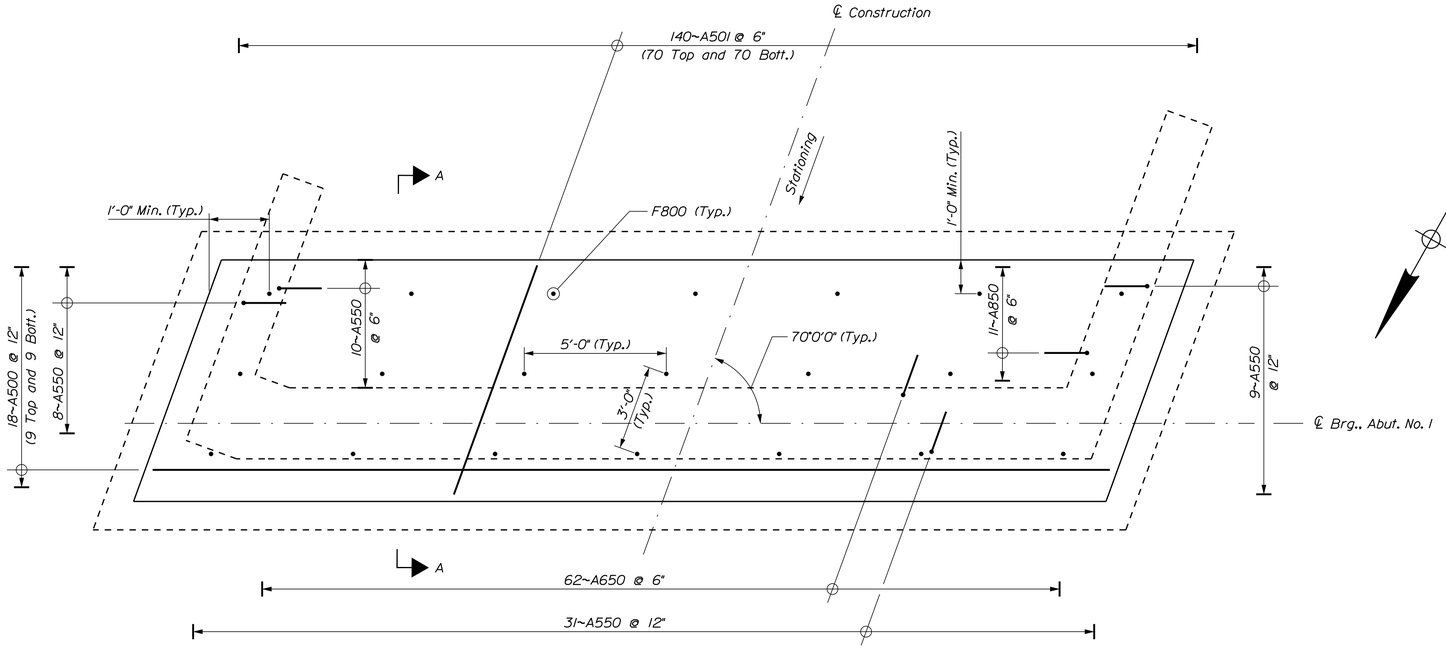
FIELD CHANGES			

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

WINGWALL DETAILS
AND SECTIONS

SHEET NUMBER
20
OF 31

Date:11/22/2024 Username: Division: BRIDGE Filename: ...\BRIDGE\MSTA\021_WW_1.dgn



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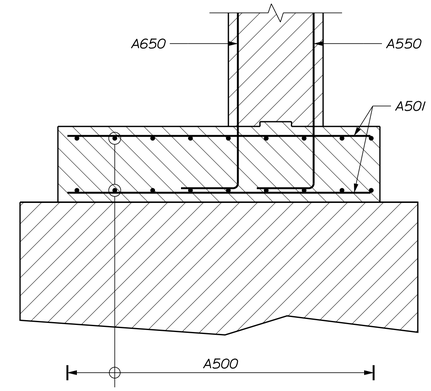

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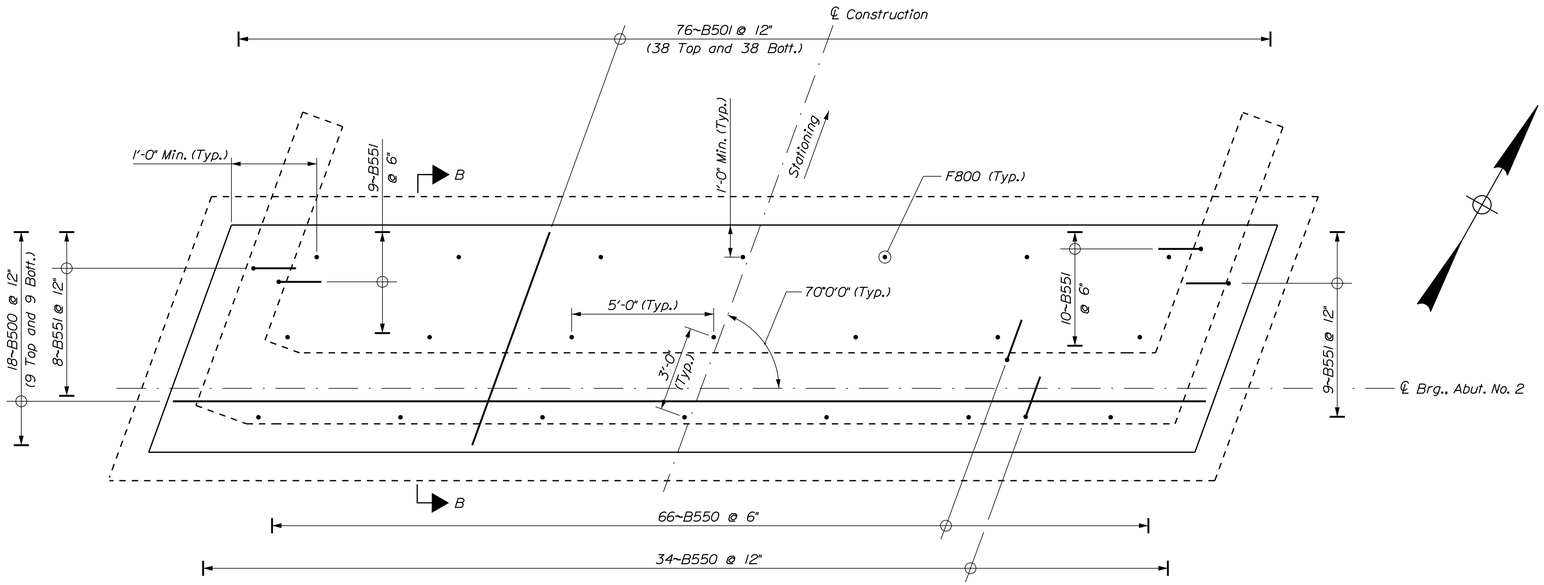

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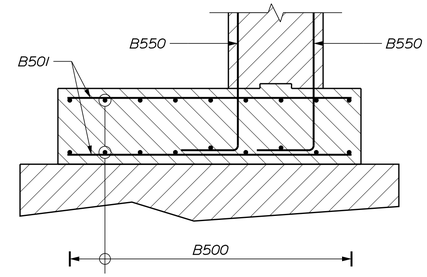

SECTION B-B

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN
26574.00

BRIDGE NO. 0452

BRIDGE PLANS

STATE OF MAINE
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PROJ. MANAGER			
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CHECKED-REVIEWED	ELW	CTAYERS	11/22/24
DESIGN2-DETAILED2			
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FIELD CHANGES			

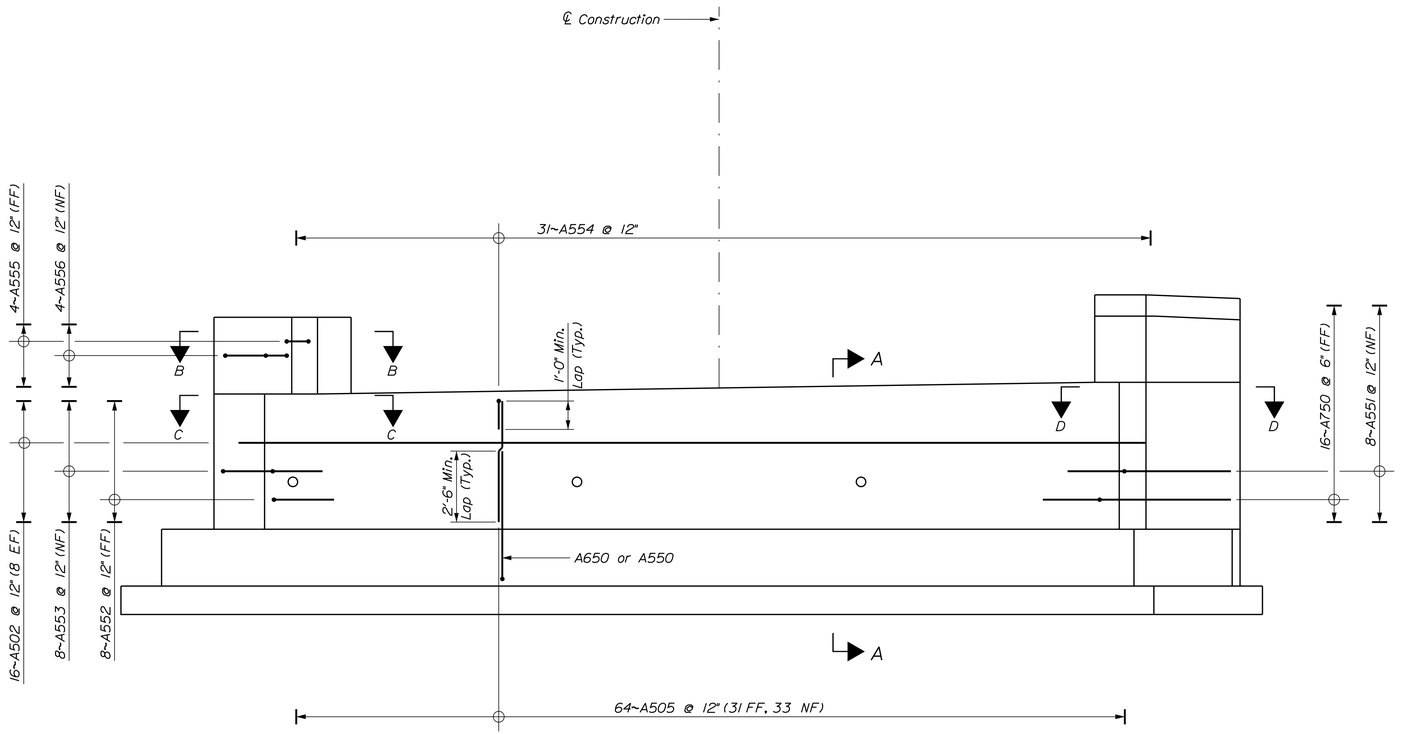
CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

ABUTMENT FOOTING REINFORCING

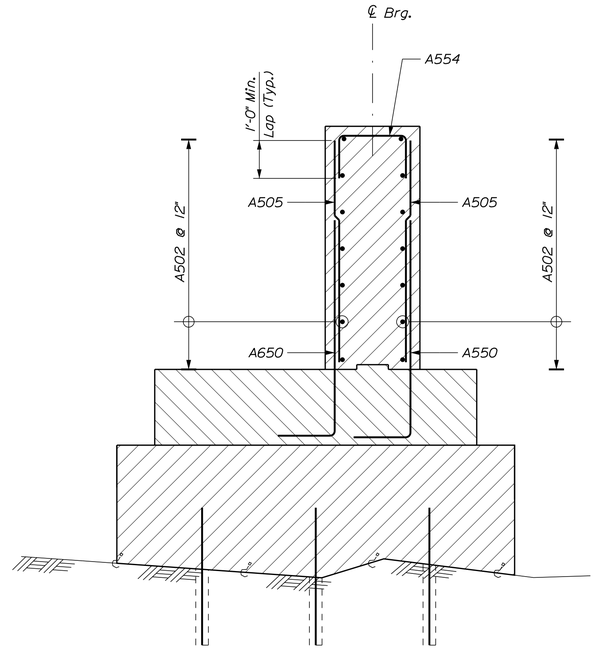
SHEET NUMBER
21
OF 31

vhb

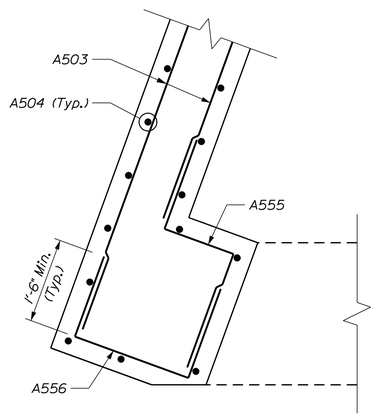
Filename: ...\MSTA\021_Foot_rein_1.dgn Username: Division: BRIDGE Date:11/22/2024



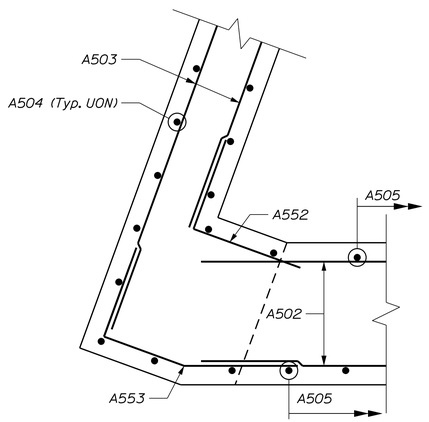
ABUTMENT I ELEVATION



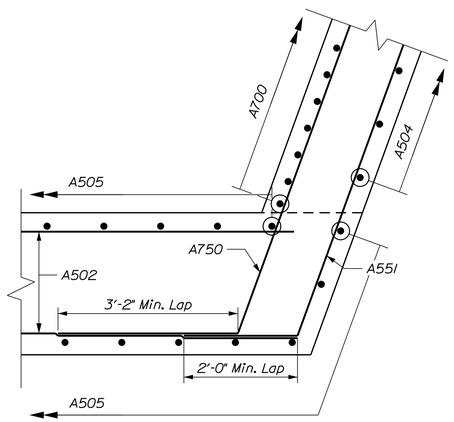
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

REINFORCING KEY

EF = Each Face
NF = Near Face
FF = Far Face
▲ = Cut in Field
UON = Unless Otherwise Noted

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE NO. 0452

BRIDGE PLANS

STATE OF MAINE · CARL T. AYERS · No 13255 · REGISTERED PROFESSIONAL ENGINEER

SIGNATURE
13255
P.E. NUMBER
11/22/24
DATE

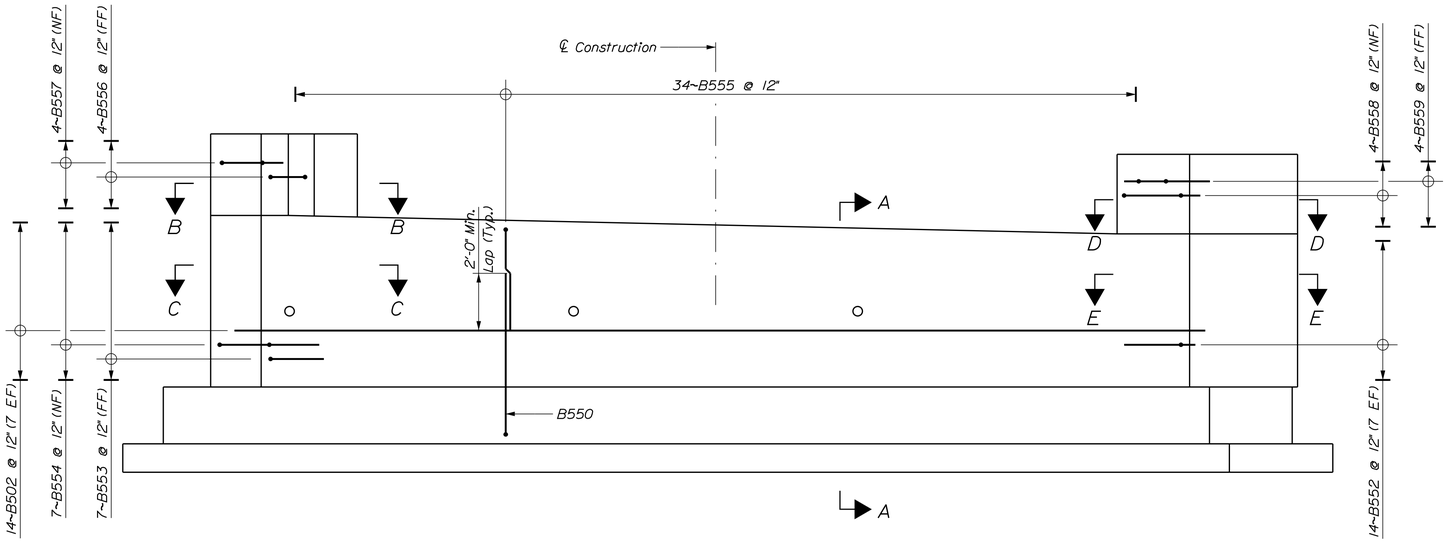
A. LATHE	BY	DATE
DESIGN-DETAILED	JAH/KDW	11/22/24
CHECKED-REVIEWED	CTAYERS	11/22/24
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PROJ. MANAGER JAH
ELW

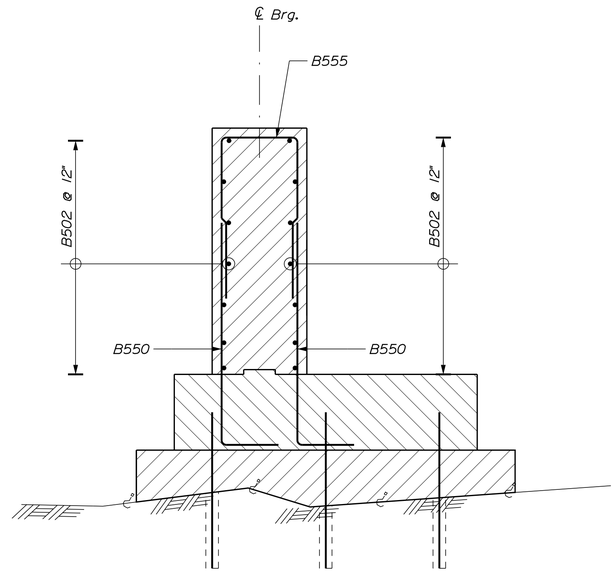
CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

ABUTMENT NO. 1 REINFORCING

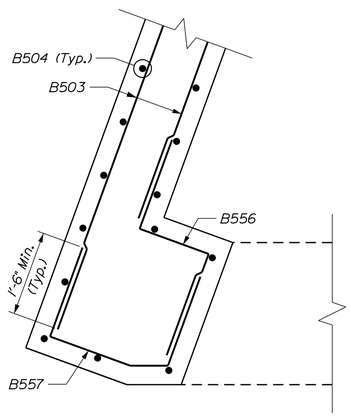
SHEET NUMBER
22
OF 31



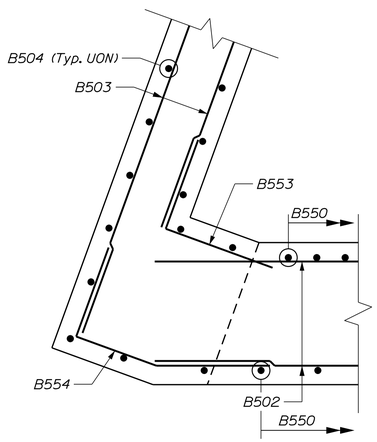
ABUTMENT 2 ELEVATION



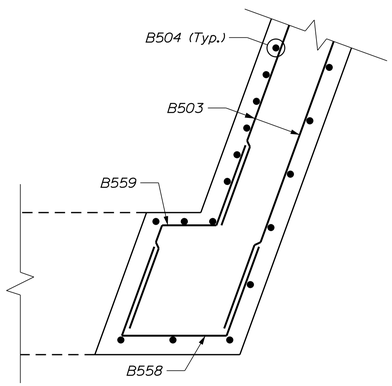
SECTION A-A



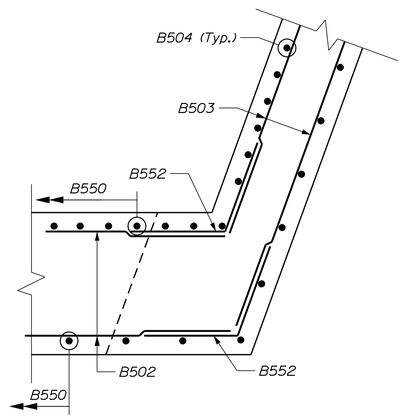
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE NO. 0452

BRIDGE PLANS

STATE OF MAINE
CARL T. AYERS
No 13255
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE
13255
P.E. NUMBER
11/22/24
DATE

	A. LATHE	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	JAH	JAH/KDW	11/22/24
CHECKED-REVIEWED	ELW	CTAYERS	11/22/24
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

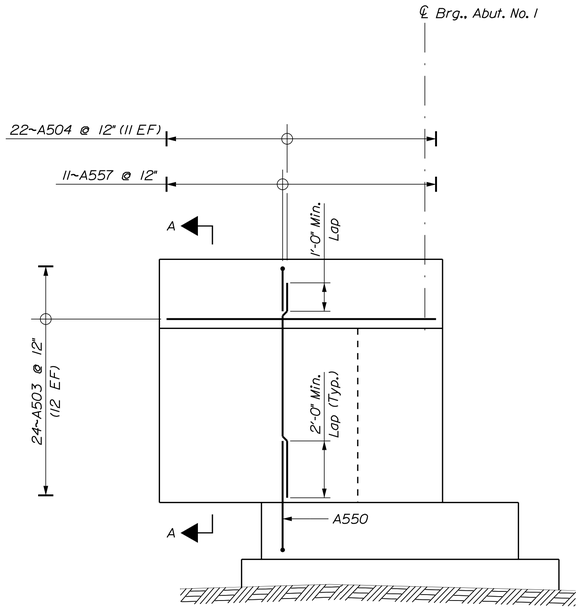
CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

ABUTMENT NO. 2 REINFORCING

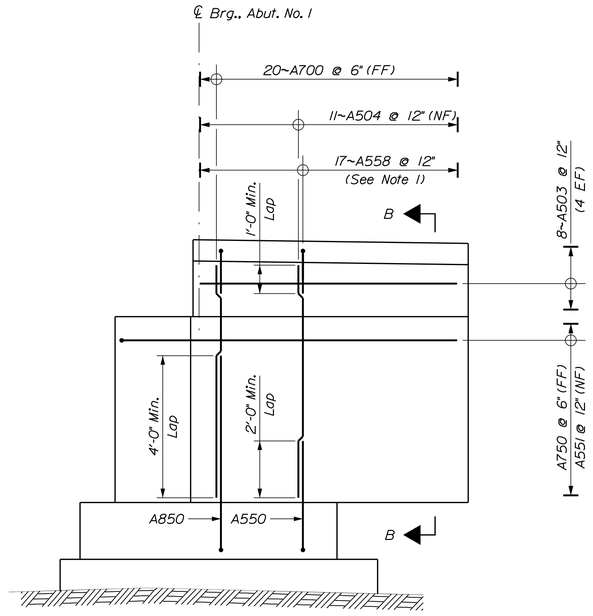
SHEET NUMBER
23
OF 31

vhb

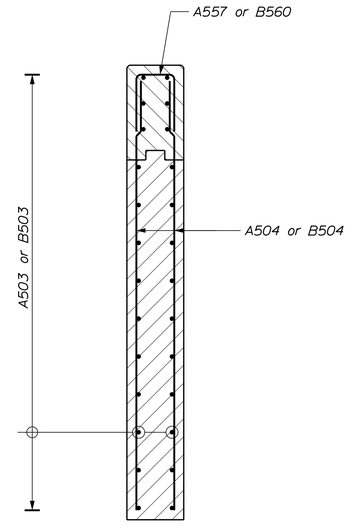
Filename: ...\MSTA\023_Abut2_rein_1.dgn Division: BRIDGE Username: Date:11/22/2024



WINGWALL NO. 1 ELEVATION



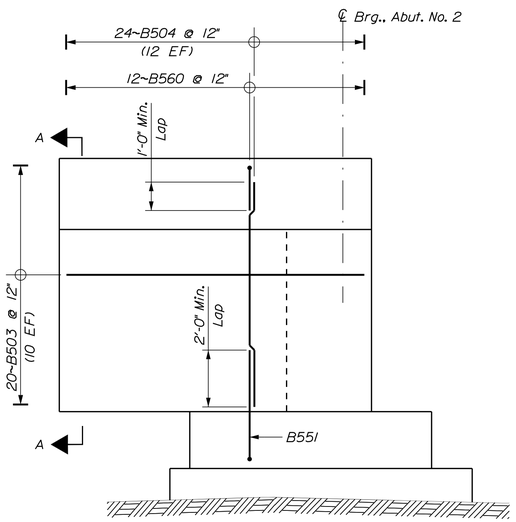
WINGWALL NO. 2 ELEVATION



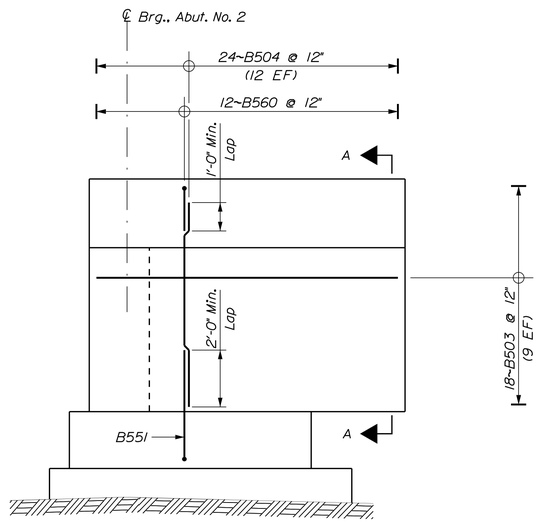
SECTION A-A

NOTES

1. Provide 3 additional stirrups in the curb at each rail post on Wingwall No. 2.



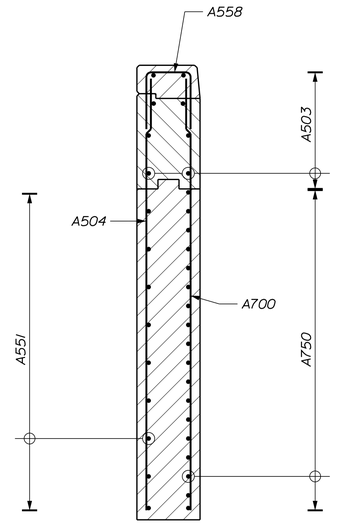
WINGWALL NO. 3 ELEVATION



WINGWALL NO. 4 ELEVATION

REINFORCING KEY

EF = Each Face
NF = Near Face
FF = Far Face
▲ = Cut in Field



SECTION B-B

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE
CARL T. AYERS
No 13255
REGISTERED PROFESSIONAL ENGINEER

SIGNATURE	
P.E. NUMBER	13255
DATE	11/22/24

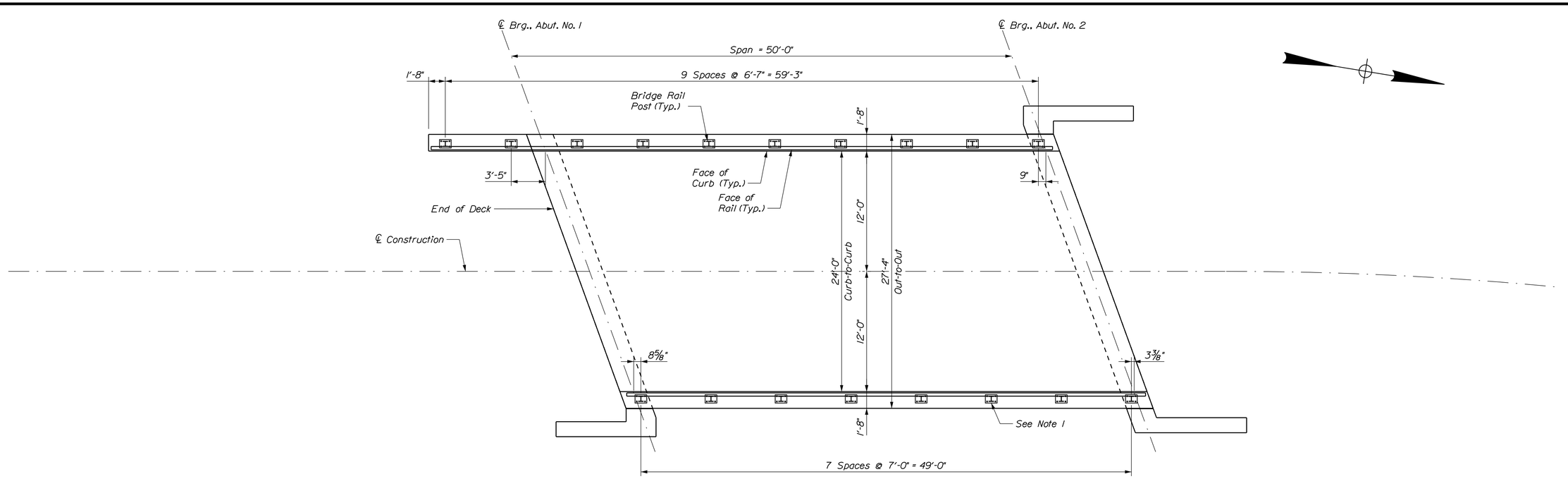
	BY	DATE
A. LATHE		
PROJ. MANAGER		
DESIGN-DETAILED	JAH/KDW	11/22/24
CHECKED-REVIEWED	CTAYERS	11/22/24
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

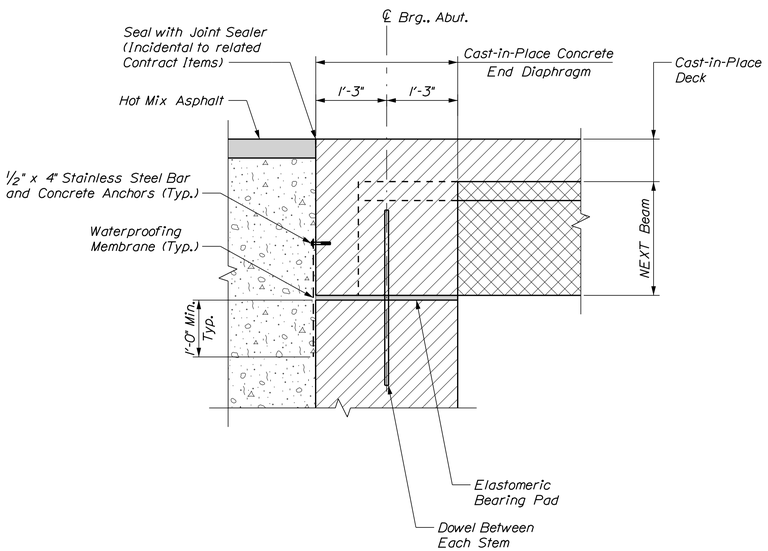
WINGWALL REINFORCING

SHEET NUMBER
24
OF 31

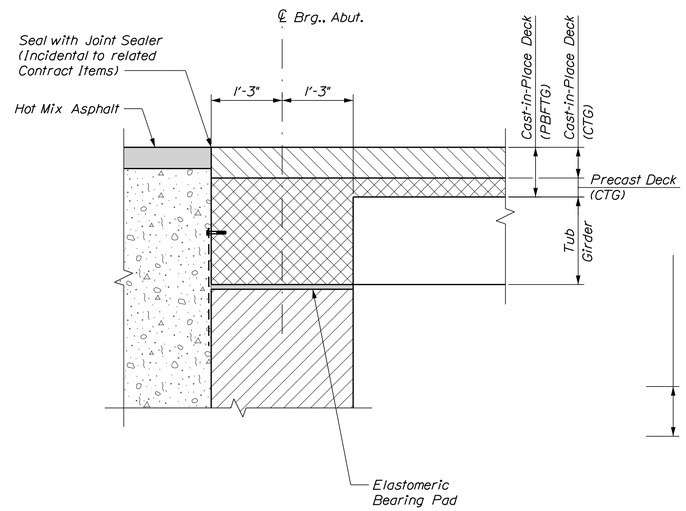
Date:11/22/2024
Username:
Division: BRIDGE
Filename: ...\BRIDGE\MSTA\024_WW_rein_1.dgn



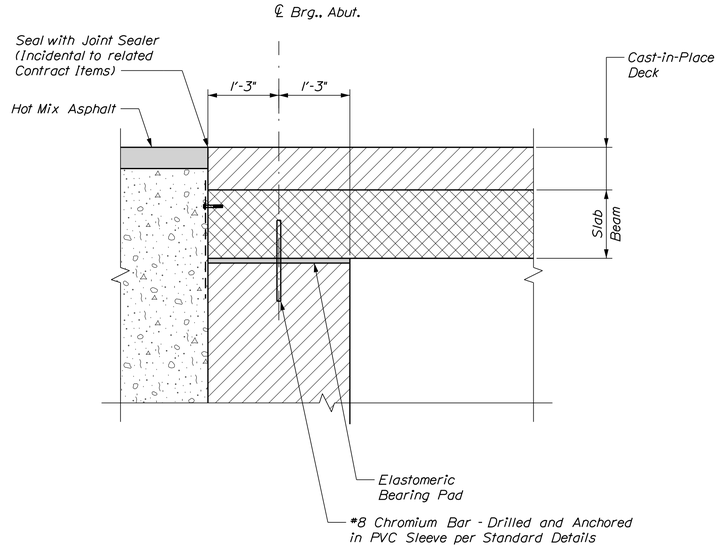
SUPERSTRUCTURE PLAN



NEXT BEAM ALTERNATIVE
END OF DECK SECTION



COMPOSITE TUB GIRDER (CTG) AND PRESS-BRAKE FORMED TUB GIRDER (PBFTG) ALTERNATIVES
END OF DECK SECTION



SLAB BEAM ALTERNATIVE
END OF DECK SECTION

NOTES

1. All curb and railing details shall be in accordance with MaineDOT Standard Details 502(05), 507(05), 507(13) and all other applicable standard details.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE * CARL T. AYERS No 13255 * PROFESSIONAL ENGINEER * LICENSED

SIGNATURE
13255
P.E. NUMBER
11/22/24
DATE

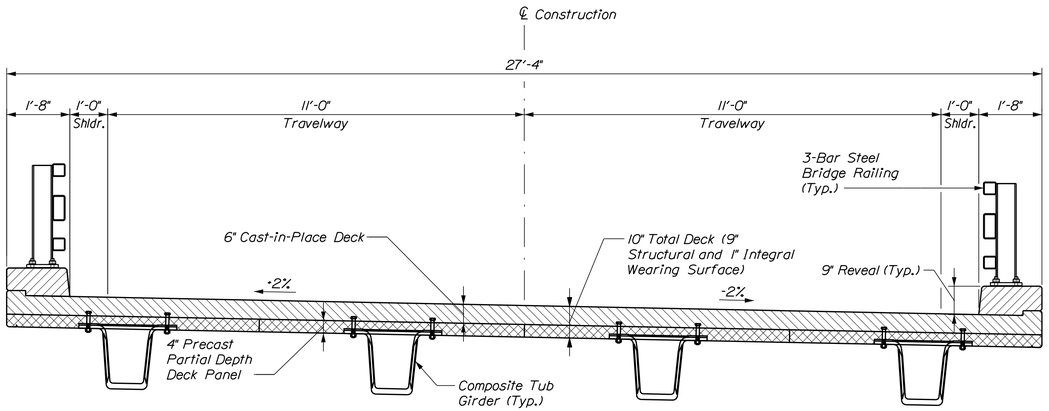
	A. LATHE	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	JAH	JAH/KDW	11/22/24
CHECKED-REVIEWED	ELW	CTAYERS	11/22/24
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

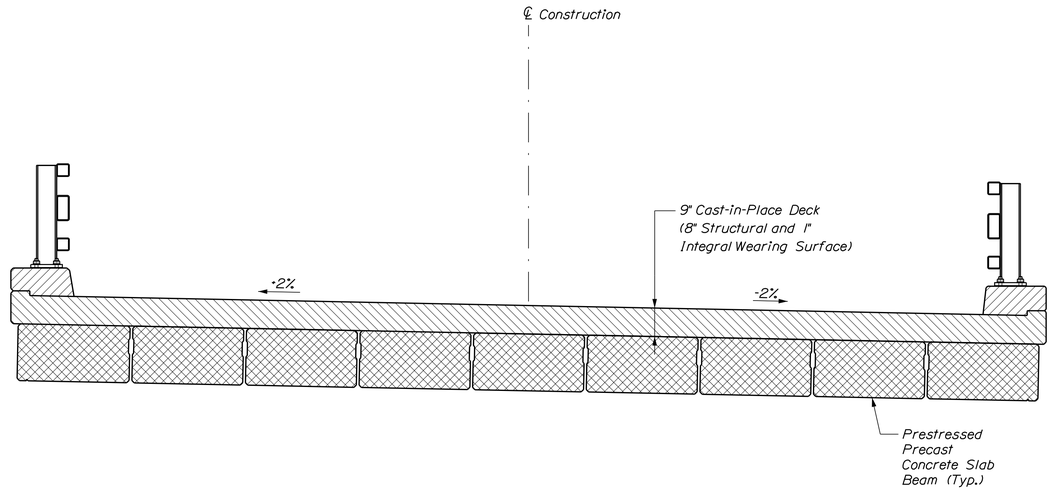
SUPERSTRUCTURE PLAN AND END OF DECK SECTIONS

SHEET NUMBER
25
OF 31

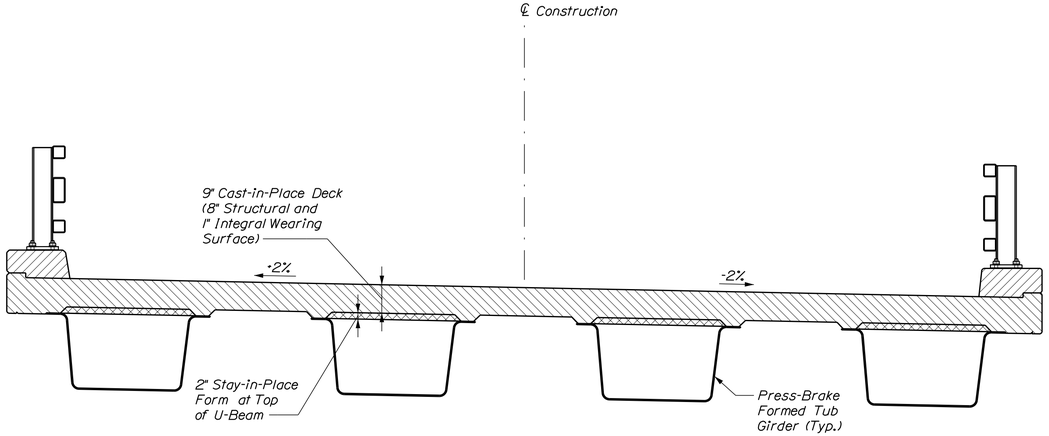
Filename: ...\BRIDGE\MSTA\022_Sections.dgn Division: BRIDGE Username: Date:11/22/2024



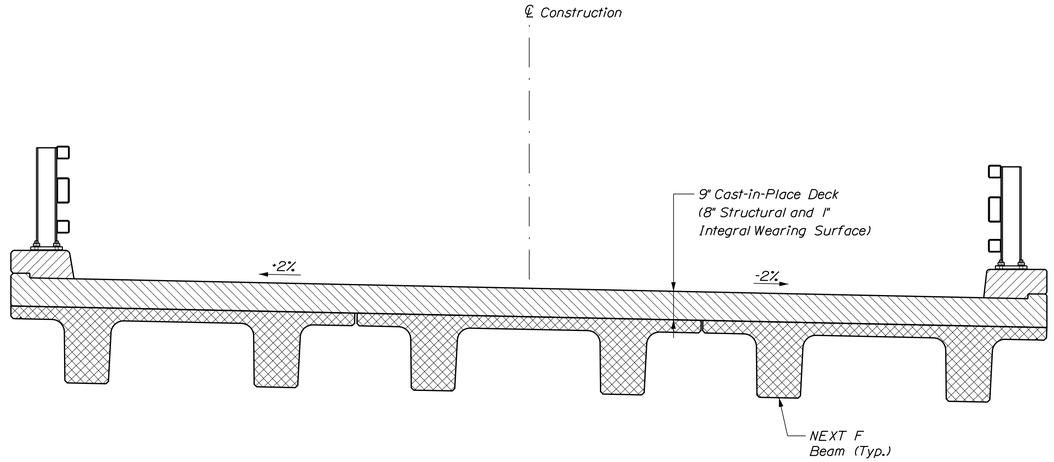
COMPOSITE TUB GIRDER ALTERNATIVE
(See Note 1)



SLAB BEAM ALTERNATIVE



PRESS-BRAKE FORMED TUB GIRDER ALTERNATIVE



NEXT BEAM ALTERNATIVE

NOTES

1. Transverse section dimensions are typical for all alternatives.

vhb

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE CARL T. AYERS No 13255 PROFESSIONAL ENGINEER LICENSED

SIGNATURE
13255
P.E. NUMBER
11/22/24
DATE

	A. LATHE	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	JAH	JAH/KDW	11/22/24
CHECKED-REVIEWED	ELW	CTAYERS	11/22/24
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

TYPICAL BRIDGE SECTIONS

SHEET NUMBER
26
OF 31

Filename: ...\BRIDGE\MSTA\023_Btypical.dgn Username: Division: BRIDGE Date:11/22/2024

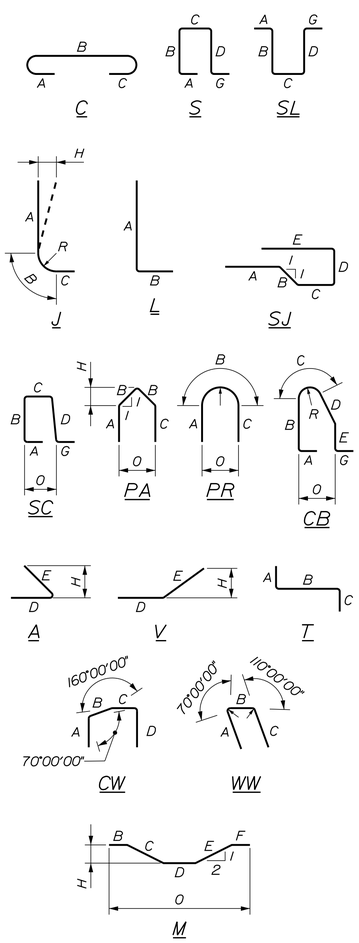
STRAIGHT BARS

MARK	QTY.	LENGTH	LOCATION
Abutment 1			
A500	18	33'-8"	Longitudinal Footing Bar
A501	140	8'-6"	Horizontal Footing Bar
A502	16	29'-9"	Abutment Longitudinal Bars
A503	32	9'-7"	Wingwall Horizontal Bars
A504	33	11'-1"	Wingwall Verticals
A505	64	7'-0"	Abutment Verticals
A700	20	10'-11"	Wingwall 2 Vertical FF
Abutment 2			
B500	18	36'-3"	Longitudinal Footing Bar
B501	76	8'-0"	Horizontal Footing Bar
B502	14	32'-4"	Abutment Longitudinal Bars
B503	38	10'-7"	Wingwall Horizontal Bars
B504	48	8'-8"	Wingwall Verticals
Abutment Footings			
F800	42	5'-0"	Footing Dowels

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
Abutment 1														
A550	58	8'-3"	L	6'-9"	1'-6"									Footing
A551	8	11'-5"	V				2'-0"	9'-5"			8'-11"			Wingwall 4 Horizontal Bar
A552	8	4'-0"	L	2'-0"	2'-0"									Corner Breastwall
A553	8	5'-2"	CW	0'-0"	2'-0"	1'-6"	1'-8"							Corner Breastwall
A554	31	4'-1"	S	0'-0"	1'-0"	2'-1"	1'-0"			0'-0"				Top of Breastwall
A555	4	5'-2"	T	1'-8"	1'-3"	2'-3"								Top of Wingwall 1 Horizontal
A556	4	5'-5"	S	0'-0"	1'-8"	2'-1"	1'-8"			0'-0"				Top of Wingwall 1 Horizontal
A557	11	4'-1"	S	0'-0"	1'-6"	1'-1"	1'-6"			0'-0"				Top of Wingwall 1
A558	17	4'-3"	S	0'-0"	1'-6"	1'-3"	1'-6"			0'-0"				Top of Wingwall 2
A650	62	8'-3"	L	6'-9"	1'-6"									Footing
A750	16	12'-7"	V				3'-2"	9'-5"			8'-10"			Wingwall 4 Horizontal Bar
A850	11	8'-3"	L	6'-9"	1'-6"									Footing
Abutment 2														
B550	100	7'-3"	L	5'-9"	1'-6"									Footing/Abutment Vertical
B551	36	6'-9"	L	5'-3"	1'-6"									Footing/Wingwall Verticals
B552	14	3'-4"	V	1'-8"	1'-8"						1'-6"			Corner Breastwall
B553	7	4'-0"	L	2'-0"	2'-0"									Corner Breastwall
B554	7	5'-2"	CW	0'-0"	2'-0"	1'-6"	1'-8"							Corner Breastwall
B555	34	10'-1"	S	0'-0"	4'-0"	2'-1"	4'-0"			0'-0"				Top of Breastwall
B556	4	4'-11"	T	1'-8"	1'-3"	2'-0"								Top of Wingwall 3 Horizontal
B557	4	5'-6"	CW	1'-8"	0'-8"	1'-6"	1'-8"							Top of Wingwall 3 Horizontal
B558	4	5'-2"	WW	1'-8"	1'-10"	1'-8"								Top of Wingwall 4 Horizontal
B559	4	5'-0"	M		2'-0"	1'-0"	2'-0"	0'-0"	0'-0"		0'-11 1/4"	4'-4"		Top of Wingwall 4 Horizontal
B560	24	4'-1"	S	0'-0"	1'-6"	1'-1"	1'-6"			0'-0"				Top of Wingwall

TYPE - BENDING DIAGRAMS



All dimensions are out-to-out of bar.

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

Reinforcing Bar: ASTM A 615/A 615M, Grade 60

GENERAL NOTES

1. The first two digits following the letter(s) of the mark indicate the size of the bar:

   Mark "A502" = bar size #5
   Mark "P805" = bar size #8
   Mark "S650" = bar size #6

2. Each crank bar, Type B, may be replaced by two (2) straight bars (one top and one bottom) of the same bar size as the crank bar. Payment in either case will be based on crank bars as scheduled on the plans.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE · CARL T. AYERS No 13255 · REGISTERED PROFESSIONAL ENGINEER

SIGNATURE	
13255	P.E. NUMBER
11/22/24	DATE

	BY	DATE
PROJ. MANAGER	A. LATHE	
DESIGN-DETAILED	JAH	11/22/24
CHECKED-REVIEWED	ELW	11/22/24
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
HANCOCK COUNTY
BAR HARBOR

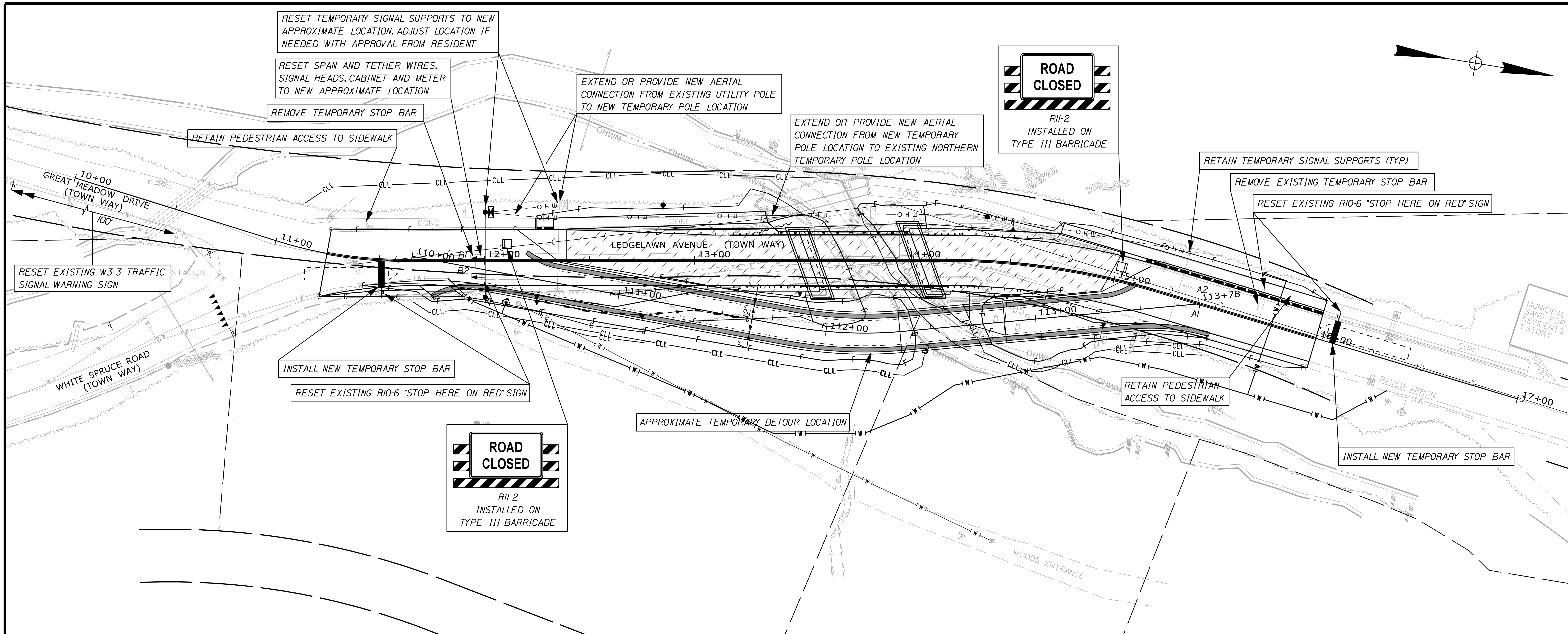
REINFORCING STEEL SCHEDULE

SHEET NUMBER

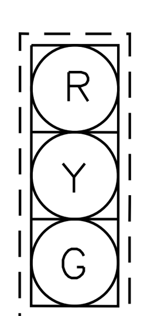
27

OF 31

Filename: ...\BRIDGE\MSTA\028_ReinSch_1.dgn Division: BRIDGE Username: Date:11/22/2024



EXISTING INDICATIONS



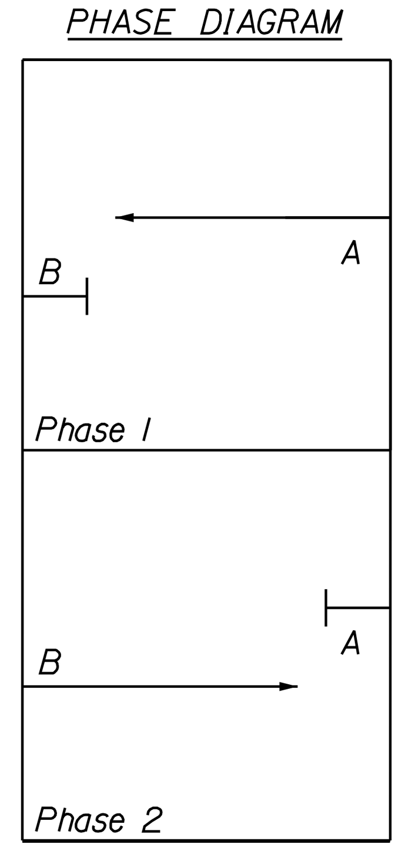
A1,A2
B1,B2

NOTE:
ALL INDICATIONS SHALL BE 12" LIGHT EMITTING DIODES (LED'S) WITH 5" LOUVERED RETROREFLECTIVE BACKPLATES

EXISTING POST MOUNTED SIGNS

R10-6
24"x36"
2-RESET

PHASE DIAGRAM



2024 CONSTRUCTION DESIGN VOLUMES
←35
25→

PLAN

25 0 25 50
Scale of Feet

TEMPORARY NEMA 4 PHASE CONTROLLER SIGNAL PHASING & TIMING

	PHASE 1	PHASE 2
MIN GREEN	10	10
EXTENSION	4	4
MAX 1	20	20
MAX 2	-	-
VEH CLEAR	4	4
RED CLEAR	13	13
WALK	-	-
PED CLEAR	-	-
FLASH	FR	FR
RECALL	OFF	OFF
DETECTOR	NL	NL
PRE-EMPT PRIORITY	-	-

L = LOCKING
NL = NON-LOCKING

THE CONTRACTOR SHALL SET TIMING OF THE TEMPORARY TRAFFIC SIGNAL PER TIMING DATA PROVIDED. SIGNAL TIMING ADJUSTMENTS SHALL BE APPROVED BY THE RESIDENT AND ACCOMPLISHED AS DIRECTED BY THE RESIDENT. PAYMENT FOR ALL SIGNAL TIMING ADJUSTMENTS SHALL BE INCIDENTAL TO THE TRAFFIC SIGNAL SYSTEM.

NOTES:

1. ALL TEMPORARY SIGNAL EQUIPMENT TO BE REMOVED AT THE END OF THE PROJECT. EXISTING TEMPORARY SIGNAL EQUIPMENT SHALL BE RETURNED TO MAINEDOT. ANY NEW SIGNAL EQUIPMENT PROVIDED BY CONTRACTOR SHALL BE SALVAGED TO CONTRACTOR.
2. EXISTING SIGNS RELATED TO THE TEMPORARY SIGNAL SHALL BE SALVAGED BACK TO MAINEDOT AT THE END OF THE PROJECT.

LEGEND

- CONSTRUCTION AREA
- CHANNELIZATION DEVICES
- IMPACT ATTENUATION DEVICE
- VEHICLE DETECTION ZONE
- VEHICULAR HEAD
- TYPE III BARRICADE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
2657400
WIN 26574.00
BRIDGE PLANS
BRIDGE NO. 0452

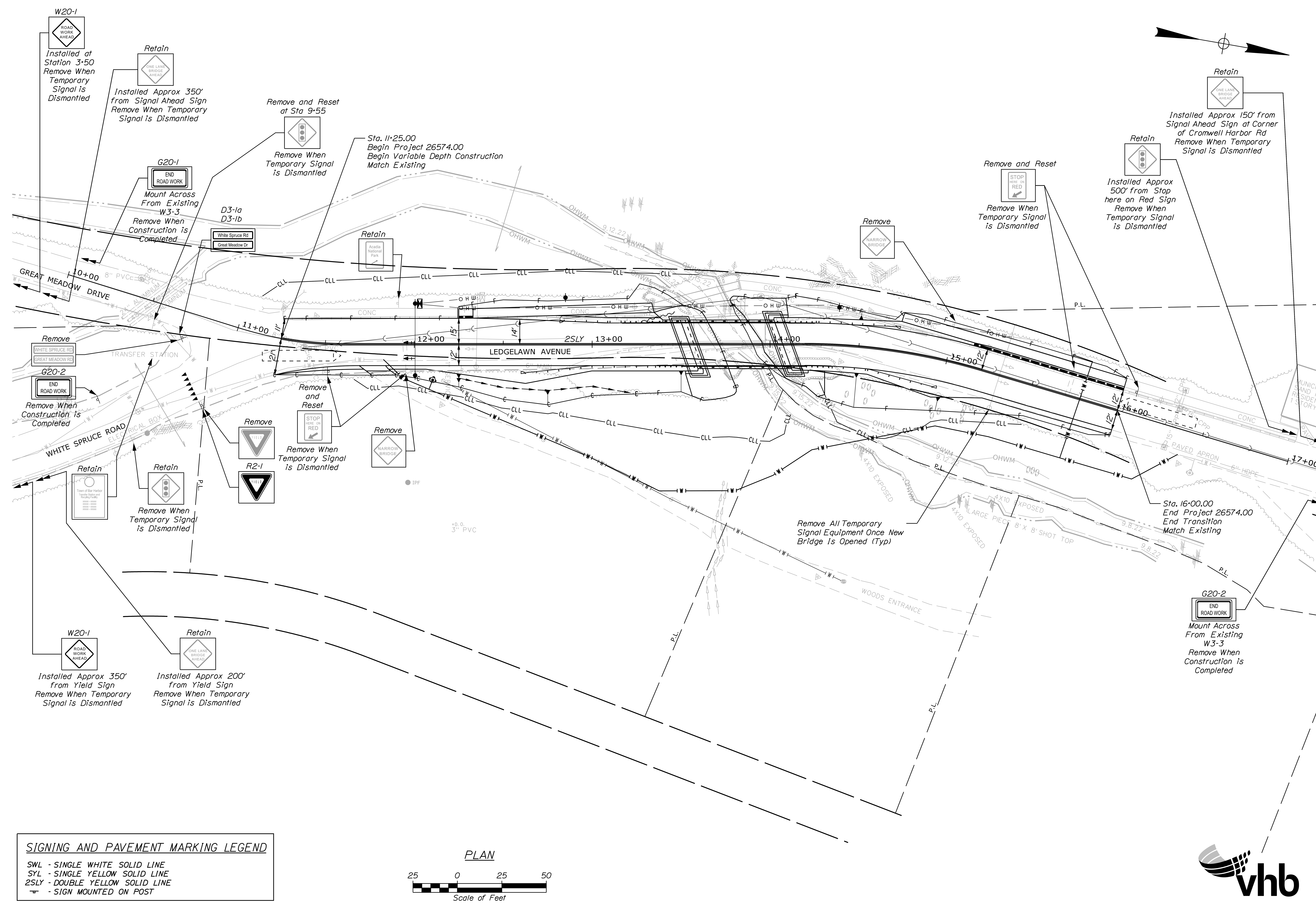
SIGNATURE 13255
P.E. NUMBER
11/22/24
DATE

	BY	DATE
PROJ. MANAGER	A. LATHE	
DESIGN-DETAILED	BMD	11/22/24
CHECKED-REVIEWED	MLG	11/22/24
DESIGN2-DETAILED2	CTAYERS	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

CROMWELL BRIDGE #3 LEDGELAWN AVENUE OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

TEMPORARY SIGNAL PLAN

SHEET NUMBER
28
OF 31



W20-1
ROAD WORK AHEAD
Installed at Station 3+50 Remove When Temporary Signal is Dismantled
Retain
ONE LANE BRIDGE AHEAD
Installed Approx 350' from Signal Ahead Sign Remove When Temporary Signal is Dismantled
Remove and Reset at Sta 9+55
Remove When Temporary Signal is Dismantled
Sta. 11+25.00
Begin Project 26574.00
Begin Variable Depth Construction
Match Existing
G20-1
END ROAD WORK
Mount Across From Existing W3-3 Remove When Construction is Completed
D3-1a
D3-1b
White Spruce Rd
Great Meadow Dr
Retain
Acadia National Park
GREAT MEADOW DRIVE
10+00
11+00
12+00
13+00
14+00
15+00
16+00
17+00
2SLY
LEDGELAWN AVENUE
WHITE SPRUCE ROAD
TRANSFER STATION
Remove
WHITE SPRUCE RD
GREAT MEADOW RD
G20-2
END ROAD WORK
Remove When Construction is Completed
Remove
R2-1
YIELD
Remove and Reset
STOP HERE ON RED
Remove When Temporary Signal is Dismantled
Remove
NARROW BRIDGE
Retain
Town of Bar Harbor Transfer Station and Recycling Facility
Retain
Remove When Temporary Signal is Dismantled
W20-1
ROAD WORK AHEAD
Installed Approx 350' from Yield Sign Remove When Temporary Signal is Dismantled
Retain
ONE LANE BRIDGE AHEAD
Installed Approx 200' from Yield Sign Remove When Temporary Signal is Dismantled
Remove
NARROW BRIDGE
Remove and Reset
STOP HERE ON RED
Remove When Temporary Signal is Dismantled
Retain
Installed Approx 500' from Stop here on Red Sign Remove When Temporary Signal is Dismantled
Retain
ONE LANE BRIDGE AHEAD
Installed Approx 150' from Signal Ahead Sign at Corner of Cromwell Harbor Rd Remove When Temporary Signal is Dismantled
Remove All Temporary Signal Equipment Once New Bridge Is Opened (Typ)
Sta. 16+00.00
End Project 26574.00
End Transition
Match Existing
G20-2
END ROAD WORK
Mount Across From Existing W3-3 Remove When Construction is Completed
MUNICIPAL LAND FOR RESIDENTS HISTORY
PAVED APRON
WOODS ENTRANCE
P.L.
OHWM
CLL
CONC
SIGNING AND PAVEMENT MARKING LEGEND
SWL - SINGLE WHITE SOLID LINE
SYL - SINGLE YELLOW SOLID LINE
2SLY - DOUBLE YELLOW SOLID LINE
- SIGN MOUNTED ON POST
PLAN
25 0 25 50
Scale of Feet

Date:11/22/2024 Username: Division: BRIDGE Filename: ...\MSTA\028_SignPavePlan.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE — CARL T. AYERS — No 13255 — LICENSED PROFESSIONAL ENGINEER

SIGNATURE	
P.E. NUMBER	13255
DATE	11/22/24

	BY	DATE
PROJ. MANAGER	A. LATHE	
DESIGN-DETAILED	BMD	11/22/24
CHECKED-REVIEWED	MLG	11/22/24
DESIGN2-DETAILED2	CTAYERS	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

CROMWELL BRIDGE #3 LEDGELAWN AVENUE OVER CROMWELL BROOK

BAR HARBOR HANCOCK COUNTY

SIGNING AND STRIPING

vhb

SHEET NUMBER

Filename: ...\MSTA\029_SignSummary.dgn Division: BRIDGE Username: Date:11/22/2024

PERMANENT SIGN SUMMARY

Identification Number	Size of Sign Width	Size of Sign Height	Text	Text Dimensions (Inches) Letter Height	Text Dimensions (Inches) Vertical Spacing	Text Dimensions (Inches) Arrow RTE.MKR.	Number of Signs Required	Color Background	Color Legend Border	Border Radius	Area in Square Feet	Post
R1-2	36" x 36" x 36"		YIELD	SHSB	SHSB	SHSB	1	RED	WHITE	SHSB	3.90 (3.90)	U-CHANNEL POST
D3-1a	48"	12"	White Spruce Rd	6B/4B			1	GREEN	WHITE		4.00 (4.00)	2 U-CHANNEL POSTS
D3-1b	48"	12"	Great Meadow Dr	6B/4B			1	GREEN	WHITE		4.00 (4.00)	MOUNT BELOW D3-1a

SHSB - Text Dimensions Shall Conform to "Standard Highway Signs Book" - 2012 Edition.

CONSTRUCTION SIGN SUMMARY

Identification Number	Size of Sign Width	Size of Sign Height	Text	Text Dimensions (Inches) Letter Height	Text Dimensions (Inches) Vertical Spacing	Text Dimensions (Inches) Arrow RTE.MKR.	Number of Signs Required	Color Background	Color Legend Border	Border Radius	Area in Square Feet	Post
G20-2	36"	18"	END ROAD WORK	SHSB	SHSB	SHSB	3	ORANGE	BLACK	SHSB	4.50 (13.50)	U-CHANNEL POST
W20-1	36"	36"	ROAD WORK AHEAD				2	ORANGE	BLACK		9.00 (18.00)	U-CHANNEL POST
R11-2	48"	30"	ROAD CLOSED				2	WHITE	BLACK		10.00 (20.00)	MOUNT ON TYPE III BARRICADE

SHSB - Text Dimensions Shall Conform to "Standard Highway Signs Book" - 2012 Edition.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2657400

WIN 26574.00

BRIDGE PLANS

BRIDGE NO. 0452

STATE OF MAINE CARL T. AYERS No 13255 REGISTERED PROFESSIONAL ENGINEER

SIGNATURE 13255 P.E. NUMBER 11/22/24 DATE

	BY	DATE
A. LATHE		
PROJ. MANAGER	BMD	11/22/24
DESIGN-DETAILED	BMD	11/22/24
CHECKED-REVIEWED	MLG	
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

CROMWELL BRIDGE #3 LEDGELAWN AVENUE
OVER CROMWELL BROOK
BAR HARBOR HANCOCK COUNTY

SIGN SUMMARY SHEET

SHEET NUMBER

30

OF 31

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W		Existing	Proposed		Existing	Proposed
Approx. Property Lines P.L.	Building	Clearing Limit Line	Sanitary Sewer		Traveled Way		
Existing Right of Way	Trees Conifer	Deciduous	Telephone Line		Ditch		
Limits of Wrought Portion L.O.W.P.	Tree Line	Bush Line	Electric Line		Catch Basin		
Control Of Access C.O.A.	Water Edge		Water Line		Manhole		
New Right of Way	Ledge	Rock/Boulder Flag Pole	Underdrain Line		Sewer Manhole		
New Easement	Fence CHAIN LINK	BARB WIRE STOCKADE	Gas Line		Utility Pole		
New Temporary Rights	Sign	Well WELL Mailbox	Guardrail		Fire Hydrant		
New R/W Within Existing R/W			Culvert		Curbing		

Cut Line	Fill Line	Monument	Traverse Point
Stonewall	Retaining Wall	Iron Rod Found IRF	Pipe Found IPF
Baseline 10+00 11+00 12+00		Replacement Pin Set	

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

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____, _____
at _____h _____m _____M and
recorded in Plan Bk _____, Pg. _____
Attest: _____
REGISTER

GRID
MAINE 2000 EAST ZONE
Combined Factor: 0.999987652

CURVE DATA #1
PI = 11+31.32
D = 28°38'52.4"
Δ = 17°20'18.7" Lt.
R = 200.00'
L = 60.52'
T = 30.49'
E = 2.31'

N/F
LEDGELAWN CEMETERY, INCORPORATED

POB = STA. 10+00.00
BEGIN B.L. 10+00.00 N:198456.792 E:2209887.319
PC = STA. 11+00.83 N:198556.653 E:2209901.239
PT = STA. 11+61.35 N:198610.941 E:2209900.466
POE = STA. 17+00.00

CROMWELL BROOK
Flow

LEDGELAWN AVENUE (TOWN WAY)
GREAT MEADOW DRIVE (TOWN WAY)
1/2 MILE± TO PARK LOOP ROAD
N.7°56'06.2"E. 100.83'
N.9°24'12.5"W. 258.08'
N.7°07'06.2"E. 79.65'
N.7°18'31.1"E. 100.00'
400'± TO CROMWELL HARBOR ROAD
N:198598.044 E:2209887.373
N:198905.028 E:2209833.612
N:199069.616 E:2209890.168
N:199150.328 E:2209878.885
TOWN RECORDS VOL. 1, PG. 13 FEB. 24, 1916
PLAN SHOWING PROPERTIES OF J. D. ROCKEFELLER, JR. & TOWN OF BAR HARBOR BY ROBERT RAYNES JANUARY 1953 H.C.R.D. PLAN BOOK 7, PAGE 27
N/F TOWN OF BAR HARBOR
MUNICIPAL SALT SHED 1 STORY
END B.L. 17+00.00 N:199150.328 E:2209878.885

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00
60.52' 482'± 284'± 244'± 197'± 92.27' 100.92' 79.65' 55'±
30.00' 25.00' 30.00' 10.00' 29.65'
L.O.W.P. 0.10± AC. 258.08 EASEMENT 0.07± AC. 427.55' [TOTAL]
925± S.F. TEMPORARY SLOPE EASE. CLL SLOPE LIMITS ROAD
1,740± S.F. 877± S.F. 1,505± S.F. 866± S.F.
+98± +65± +50 +30 +40 +75 +25 +60 +94±

DRAINAGE OUTLET STA. 13+37± RT.
N:198675.776 E:2209925.242

CURVE DATA #2
PI = 14+70.24
D = 16°22'12.8"
Δ = 16°31'18.7" Rt.
R = 350.00'
L = 100.92'
T = 50.82'
E = 3.67'
PC = STA. 14+19.43 N:198871.150 E:2209855.300
PT = STA. 15+20.35 N:198972.108 E:2209856.294
PI = STA. 16+00.00 N:199051.140 E:2209866.164
SEE INSET

PI = 16+00.00
Δ = 0°11'24.8" Rt.

DETAIL / INSET NOT TO SCALE
5'± 14± S.F. 6'± 7'±

N:198432.652 E:2209983.913
WHITE SPRUCE ROAD
N:198664.206 E:2209971.371

DOLLAR ELEVEN CONDOMINIUM OWNERS' ASSOCIATION
BARBARA JEAN SASSAMAN
EZRA RIGEL SASSAMAN
PARCEL NO. (1)
EASE. FOR HIGHWAY PURPOSES = (1) (EX. L.O.W.P.)
EASE. FOR HIGHWAY PURPOSES = 0.10± AC.
SLOPE EASE. = 925± S.F. (1)
DRAIN. EASE. = (1)
TEMP. ROAD RIGHTS = 0.07± AC. (1)
TOTAL LOT AREA = 1.02± AC. (CALC.)

TOWN-BUILT OPTION FOR PROPOSED WATER MAIN SYSTEM (INCLUDES S/O VALVES, GATES, & HYDRANT, AS SHOWN)

DOLLAR ELEVEN CONDOMINIUM OWNERS' ASSOCIATION SHOWING SASSAMAN FAMILY UNITS MADE FOR BARBARA J. SASSAMAN & SUSAN E. SASSAMAN BY JONATHAN STEWART OF PLISGA & DAY LAND SURVEYORS DATED AUGUST 24, 2022 PLAN BOOK 50, PAGE 87

PLAN OF LAND ON STRAWBERRY HILL BY EDGAR I. LORD, C.E. 1909 PLAN BOOK 3, PAGE 46 H.C.R.D.

MATTHEW A. HOCHMAN
AUNGELLA L. J. HOCHMAN
PARCEL NO. (2)
EASE. FOR HIGHWAY PURPOSES = 14± S.F.
TEMP. ROAD RIGHTS = 866± S.F. (1)
TOTAL LOT AREA = 0.69± AC. (TOWN)

PLAN OF LAND ON STRAWBERRY HILL BY EDGAR I. LORD, C.E. 1909 PLAN BOOK 3, PAGE 46 H.C.R.D.

TOWN OF BAR HARBOR
PARCEL NO. (3)
EASE. FOR HIGHWAY PURPOSES = (1) (EX. L.O.W.P.)
EASE. FOR HIGHWAY PURPOSES = 1,740± S.F.
SLOPE EASE. = 877± S.F. (1)
TEMP. ROAD RIGHTS = 1,505± S.F.. (1)
TOTAL LOT AREA = 2.6± AC. (CALC.)

U.S.A
(ACADIA NATIONAL PARK)

STRAWBERRY HILL ROAD (TOWN WAY)
800'± TO CROMWELL HARBOR ROAD

RIGHT OF WAY REFERENCES:

LEDGELAWN AVENUE & GREAT MEADOW DRIVE
50' WIDE
TOWN RECORDS
VOL. 1, PG. 13
FEB. 24, 1916

(FOR LEDGELAWN AVENUE NORTH OF THE ABOVE REF.
SEE TOWN RECORDS
VOL. 7, PG. 83
FEB. 6, 1901
40' WIDE)

STRAWBERRY HILL ROAD
25' WIDE
TOWN RECORDS
VOL. 15, PAGE 339
MARCH 18, 1957

WHITE SPRUCE ROAD:
a/k/a DUMP ROAD
NO TOWN LAYOUT FOUND.
RECORD OF A PRIVATE SHARED, 16 FEET WIDE R/W EXISTS
(SEE DEED IN BOOK 720, PAGE 155, H.C.R.D.)

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

CROMWELL BROOK NO. 3 BRIDGE
OVER
CROMWELL BROOK
BRIDGE NO. 0452 WIN 026574.00

REVISIONS			
NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD

NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

TECH	CHECKED
B.S.	G.L.L.
B.S.	D.G.
B.S.	C.P.

ITEM	
EXISTING CONDITION PLAN	
FINAL RIGHT OF WAY	
AREAS	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - - AUGUSTA, ME 04333-0016 - 207-624-3460
BAR HARBOR
RIGHT OF WAY MAP

LEDGELAWN AVENUE
(TOWN WAY)
BAR HARBOR HANCOCK COUNTY
FEDERAL AID PROJECT NO. 2657400

AUGUST 2024	RIGHT-OF-WAY MAP	D.O.T. FILE NO. 5-321
SCALE 1" = 25'	SHEET 1 OF 1	

SHEET NUMBER
31
OF 31

Date:$date$ Username: $user$ Division: $wkgroup$ Filename: $file$