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 ..... MaineDOT Legal Loads

HYDROLOGIC DATA

Drainage Area	9.27 sq mi
Design Discharge (Q50)	995 cfs
Check Discharge (Q100)	1145 cfs
Headwater Elevation (Q1.1)	51.29 ft
Headwater Elevation (Q25)	55.49 ft
Headwater Elevation (Q50)	56.45 ft
Headwater Elevation (Q100)	57.16 ft
Discharge Velocity (Q1.1)	3.43 fps
Discharge Velocity (Q50)	9.11 fps
Discharge Velocity (Q100)	9.79 fps

MATERIALS

Concrete:	
Curbs	Class "LP"
All Other	Class "A"
Reinforcing:	
Plain Reinforcing Steel	ASTM A615, Grade 60
Structural Steel:	
All Material (except as noted)	ASTM A709, Grade 50 (HDG)
High Strength Bolts	ASTM F3125, Grade A325, Type 1 (Galvanized)

BASIC DESIGN STRESSES

Concrete:	
Class "A"	f 'c = 4000 psi
Class "LP"	f 'c = 5000 psi
Reinforcing:	
Plain Reinforcing Steel	f y = 60,000 psi
Structural Steel:	
ASTM A709, Grade 50	F y = 50,000 psi
ASTM F3125, Grade A325	F μ = 120,000 psi

WOOLWICH-WISCASSET
SAGADAHOC-LINCOLN COUNTY
NEW BRIDGE
OVER
MONTSWEAG BROOK
OLD STAGE ROAD
FEDERAL PROJECT NO. 2530500
PROJECT LENGTH 0.053 mi.
BRIDGE NO. 0627

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UTILITIES

Lincolnville Telephone

TRAFFIC DATA

Current (2021) AADT	410
Future (2041) AADT	450
DHV - % of AADT	20%
Design Hour Volume	86
Heavy Trucks (% of AADT)	6%
Heavy Trucks (% of DHV)	2%
Directional Distribution (% of DHV)	63%
18 kip Equivalent P 2.0	15
18 kip Equivalent P 2.5	14
Design Speed (mph)	30

MAINTENANCE OF TRAFFIC

Bridge will be closed to traffic during Construction with traffic detoured.

PROJECT LOCATION	On Old Stage Road Over Montsweag Brook Lat./Long. 43°59'38.0" N 69°42'27.3" W
PROGRAM AREA	Bridge Program
OUTLINE OF WORK	Superstructure Replacement

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED	DATE
COMMISSIONER:	8-4-23
CHIEF ENGINEER: Jorge Vad Taylor	8-3-2023

STATE OF MAINE ★ REBECCA FREIN 15120 LICENSED PROFESSIONAL ENGINEER ★

SIGNATURE
15120 P.E. NUMBER
7/31/2023 DATE

PROJECT INFORMATION

PROGRAM	BRIDGE PROGRAM
PROJECT MANAGER	DEVAN EATON, PE
DESIGNER	REBECCA FREIN, PE
CONSULTANT	HARDESTY & HANOVER
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

WIN 25305.00
2530500

WOOLWICH-WISCASSET
NEW BRIDGE

TITLE SHEET

SHEET NUMBER
1
OF 29

Date:7/31/2023
Username: common
Division: BRIDGE
Filename:\BRIDGE\001_Title.dgn

Filename: ...\BRIDGE\002_Estimate.dgn Division: BRIDGE Username: common Date:8/2/2023

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.10	Rem Exist Superstr (Prop of Con) (Timber: 38 CY ~Steel: 18,200 LBS)	1	LS
202.12	Removing Existing Structural Concrete	8	CY
202.202	Removing Pavement Surface	70	SY
203.20	Common Excavation	450	CY
203.2318	Disposal of Special Waste	20	T
203.24	Common Borrow	75	CY
204.201	Add Shoulder Aggregate to Existing Shoulder	60	SY
206.082	Structural Earth Excavation - Major Structures	5	CY
304.10	Aggregate Subbase Course - Gravel	340	CY
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	55	T
403.213	Hot Mix Asphalt 12.5 mm Nominal Maximum Size, Base	70	T
409.15	Bituminous Tack Coat, Applied	20	G
502.219	Structural Concrete, Abutments and Retaining Walls (7 CY)	1	LS
502.26	Structural Concrete Roadway & Sidewalk Slab on Steel Bridges (27 CY)	1	LS
502.291	Saw Cut Grooving (770 SF)	1	LS
502.49	Structural Concrete Curbs and Sidewalks (4 CY)	1	LS
503.12	Reinforcing Steel, Fabricated and Delivered	9500	LB
503.13	Reinforcing Steel, Placing	9500	LB
504.701	Structural Steel, Fabricated and Delivered, Rolled (13,400 LBS)	1	LS
504.71	Structural Steel, Erection (13,400 LBS)	1	LS
505.08	Shear Connectors (350 EA)	1	LS
506.9103	Galvanizing	1	LS
511.07	Cofferdam: Abutment No. 1	1	LS
511.07	Cofferdam: Abutment No. 2	1	LS
515.21	Protective Coating for Concrete Surfaces (140 SY)	1	LS
518.60	Repair of Vertical Surfaces < 8in	7	SF
523.52	Bearing Installation	10	EA
523.5303	Steel Bearing, Fixed, Rocker	10	EA
524.301	Temporary Structural Support	1	LS
526.301	Portable Concrete Barrier Type 1 (60 LF)	1	LS
606.1301	31" W-Beam Guardrail - Mid-Way Splice - Single Faced	125	LF
606.1305	31" W-Beam Guardrail - Mid-Way Splice Flared Terminal	3	EA
606.1307	Bridge Transition - Type 1A	3	EA
606.353	Reflectorized Flexible Guardrail Marker	7	EA
606.66	Terminal End Thrie Beam	1	EA
606.71	Guardrail Thrie Beam - 15' Radius & Less	25	LF
606.73	Guardrail Thrie Beam - Single Rail Bridge Mounted	75	LF
610.18	Stone Ditch Protection	5	CY
610.214	Void Filled Heavy Riprap	30	CY
610.216	Existing Heavy Riprap Void Fill	20	CY
613.319	Erosion Control Blanket	165	SY
615.07	Loam	10	CY
618.141	Seeding Method Number 3	2	U
619.12	Mulch	1	U
619.14	Erosion Control Mix	20	CY
620.58	Erosion Control Geotextile	15	SY
627.733	4" White or Yellow Painted Pavement Marking Line	400	LF
631.12	All Purpose Excavator	10	HR
631.172	Truck-Large (Including Operator)	10	HR
639.19	Field Office Type B	1	EA
652.312	Type III Barricade	6	EA
652.33	Drum	20	EA
652.34	Cone	20	EA
652.35	Construction Signs	500	SF
652.361	Maintenance of Traffic Control Devices	1	LS
652.38	Flagger	40	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. All utility facilities shall be adjusted by the respective utilities unless otherwise noted. Utilities involved in this project are as follows: Lincoln Telephone. Locations of existing utilities shown are approximate and should be verified in the field by the Contractor.

2. Locations of existing permanent signage shown on the plans are approximate and should be verified in the field by the Contractor. Existing signs within the Project limits shall be removed and reset as noted on the General Plan and 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.

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

4. Heavy Riprap shall be placed to the limits shown on the general plan, where existing rocks/boulders aren't already in place (see Sheet 17 for more details for riprap requirements in front of the abutments where there are existing rocks/boulders). Heavy Riprap shall be placed at the ends of each abutment to the top of embankment as shown on the general plan. The top of riprap elevation shall slope from the top of riprap elevation at the embankment to the top of existing rocks/boulders in front of the abutment.

5. Stones which cannot be rolled or compacted into the surface of the shoulder shall be removed by hand raking. Payment for hand raking will be considered incidental to Pay Item 304.10, Aggregate Subbase Course - Gravel.

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

7. Place a 24 inch wide strip of Erosion Control Blanket on the sideslopes along the top of the riprap and behind the wingwalls.

8. Guardrail posts as shown in the Standard Details shall be modified from the indicated length of 7 feet to a length of 8 feet, see Guardrail Detail Sheets for embedment. Payment will be considered incidental to the guardrail pay items.

9. 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.

10. Protective Coating for Concrete Surfaces shall be applied to the following areas:
    - All exposed surfaces of concrete curbs,
    - Fascias down to the drip notch,
    - Concrete wearing surfaces,
    - Top of abutment backwalls and wingwalls, and
    - To one foot below the ground on vertical walls against earth.

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

12. 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.

13. Quantities included for pay items measured and paid for by Lump Sum are estimated quantities and are provided by MaineDOT for informational purposes only. Lump Sum pay items will be paid for at the Contract Bid amount, with no addition or reduction in payment to the Contractor if the actual final quantities are different from the MaineDOT provided estimated quantities, except as follows:

    a. If a Lump Sum pay item is eliminated, the requirements of Standard Specifications Section 109.2, Elimination of Items, will take precedence.

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

    c. If a design change results in changes to estimated quantities for Lump Sum pay items, price adjustments will be made in accordance with Standard Specifications Section 109.7, Equitable Adjustments to Compensation and Time.

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

15. Removal of individual trees, permanent signs, and boulders, as noted on the plans, will be incidental to the project. Existing trees for removal shall be located and flagged by the Contractor, and approved by the Resident, in the field prior to starting work. All tree removal and/or clearing necessary to construct the new roadway slopes will be incidental to the project.

16. Provide double yellow line at centerline of roadway, within the project limits. Payment will be made using Item 627.733 - 4" White or Yellow Painted Pavement Marking Line.

17. When grading for 31" Mid-Way Splice Flared Terminal Ends, the slopes and dimensions shown on the cross sections shall be used in an effort to minimize slope impacts. The end of the flared terminals shall be offset 4 feet from the edge of pavement to face of guardrail, with a 3 feet berm width from the face of guardrail to slope break behind guardrail.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

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BRIDGE PLANS

BRIDGE NO. 0627

	DATE	BY
PROJ. MANAGER		
DESIGN-DETAILED	JUL 2023	CNJ
CHECKED-REVIEWED	JUL 2023	RF
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

DEVAN EATON

SIGNATURE

P.E. NUMBER

DATE

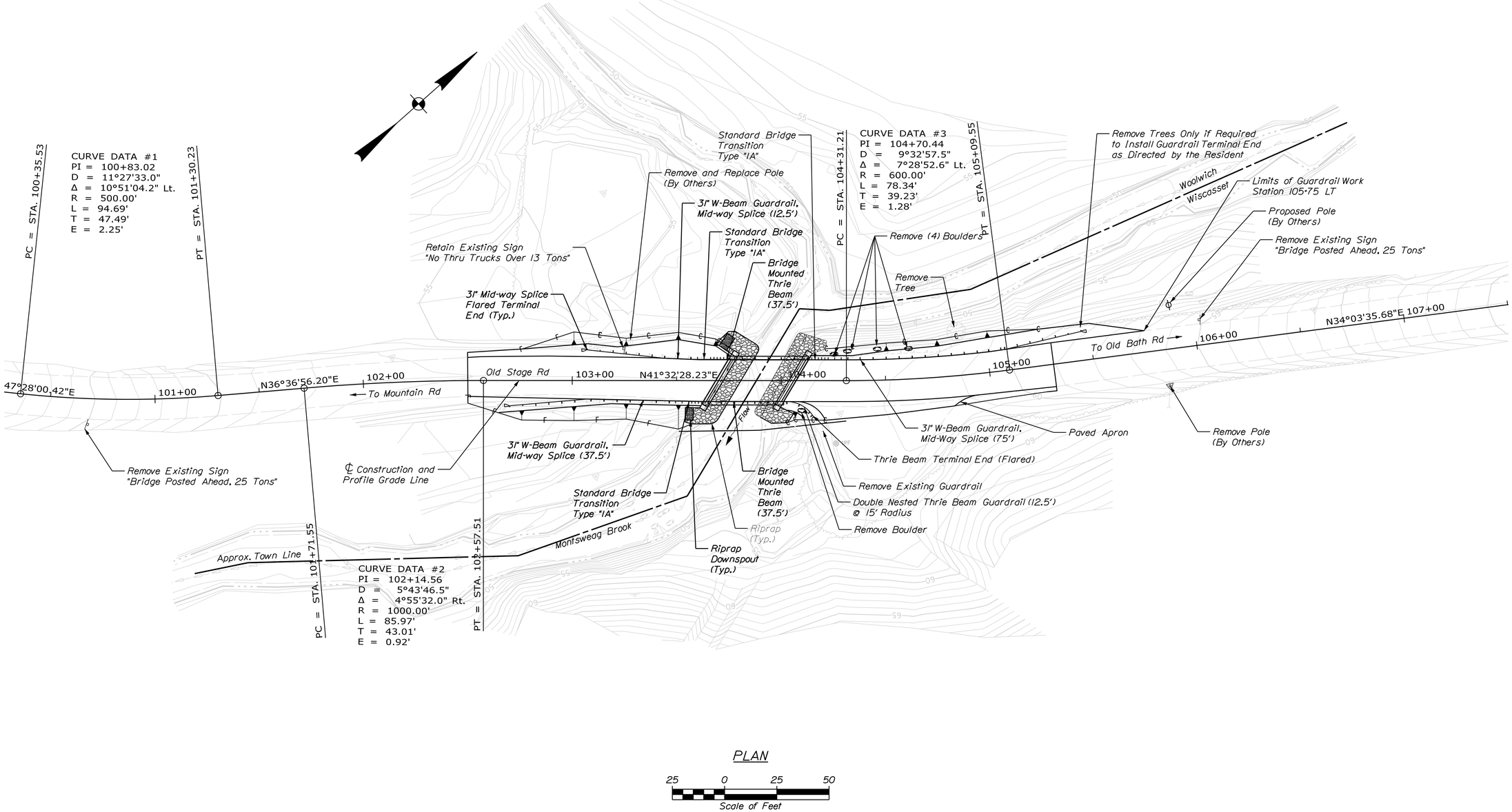
NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

ESTIMATED QUANTITIES & GENERAL NOTES

SHEET NUMBER

2

OF 29



PLAN

25 0 25 50

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

WIN 25305.00

BRIDGE NO. 0627

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	DEVAN EATON	
DESIGN-DETAILED	SLM	Jun. 2023
CHECKED-REVIEWED	GRS	Jul. 2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

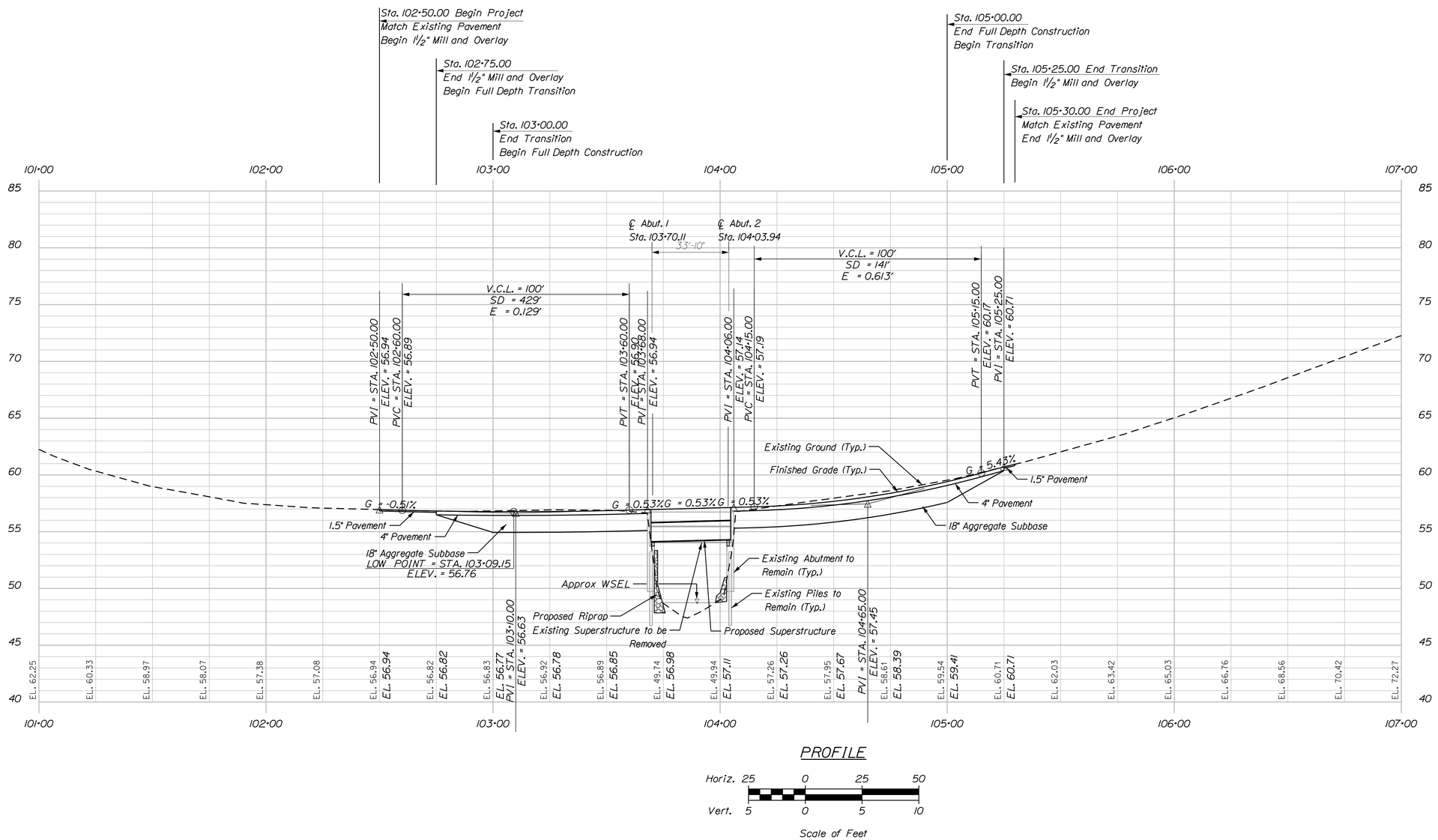
GENERAL PLAN

SHEET NUMBER

3

OF 29

Filename: ...\BRIDGE\003_BOPlan.dgn Division: BRIDGE Username: common Date:7/27/2023



PROFILE

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

Filename: ...\BRIDGE\004_Profile.dgn Division: BRIDGE Username: common Date:7/27/2023

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

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BRIDGE NO. 0627 BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	DEVAN EATON		
DESIGN-DETAILED	LNH	CNJ	JUL 2023
CHECKED-REVIEWED	RF	RF	JUL 2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

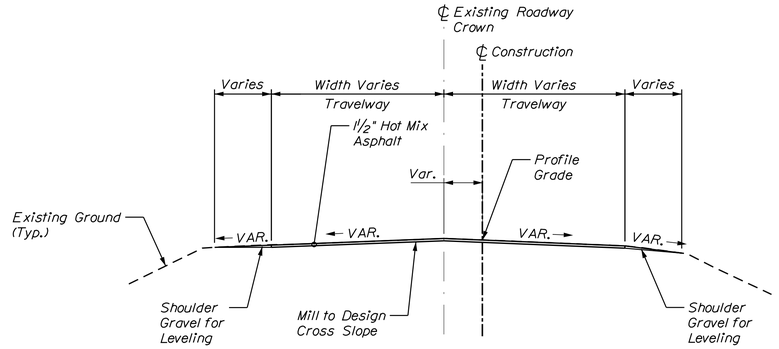
NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

PROFILE

SHEET NUMBER

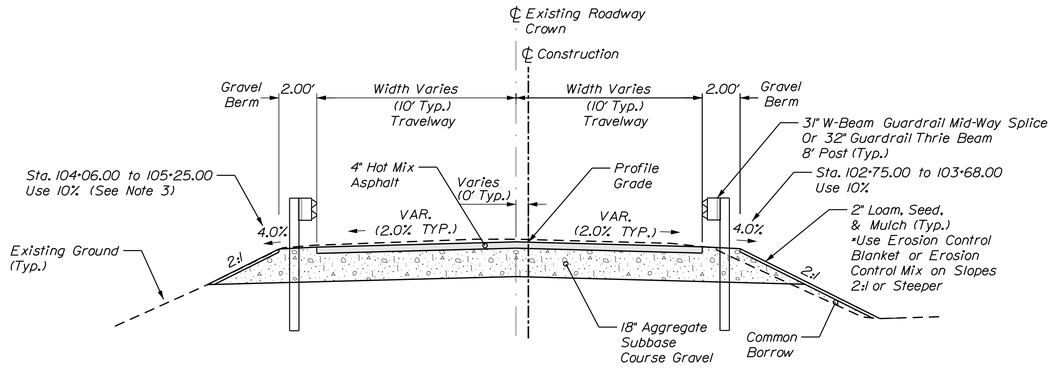
4

OF 29



1½" MILL AND OVERLAY APPROACH TYPICAL SECTION

STA. 102+50.00 to 102.75.00
STA. 105+25.00 to 105+30.00



FULL DEPTH CONSTRUCTION APPROACH TYPICAL SECTION

STA. 103+00.00 to 103+68.00
STA. 104+06.00 to 105+00.00

NOTES:

1. See Profile and Cross Sections for transition areas from the mill and overlay to full depth construction.

2. Shoulder gravel for leveling to be paid for under Item 204.201 - Add Shoulder Aggregate to Existing Shoulder.

3. Guardrail limit of work extends to Sta. 105+75 Left, beyond the mill and overlay limits of work. See General Plan and Cross Sections for more information.

4. See cross sections for construction of paved apron from Sta. 104+10 to 104+95 Right.

STATE OF MAINE
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BRIDGE NO. 0627

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER DEVAN EATON		
DESIGN-DETAILED	SM	Jun. 2023
CHECKED-REVIEWED	GRS	Jul. 2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

APPROACH TYPICAL SECTIONS

SHEET NUMBER

5

OF 29

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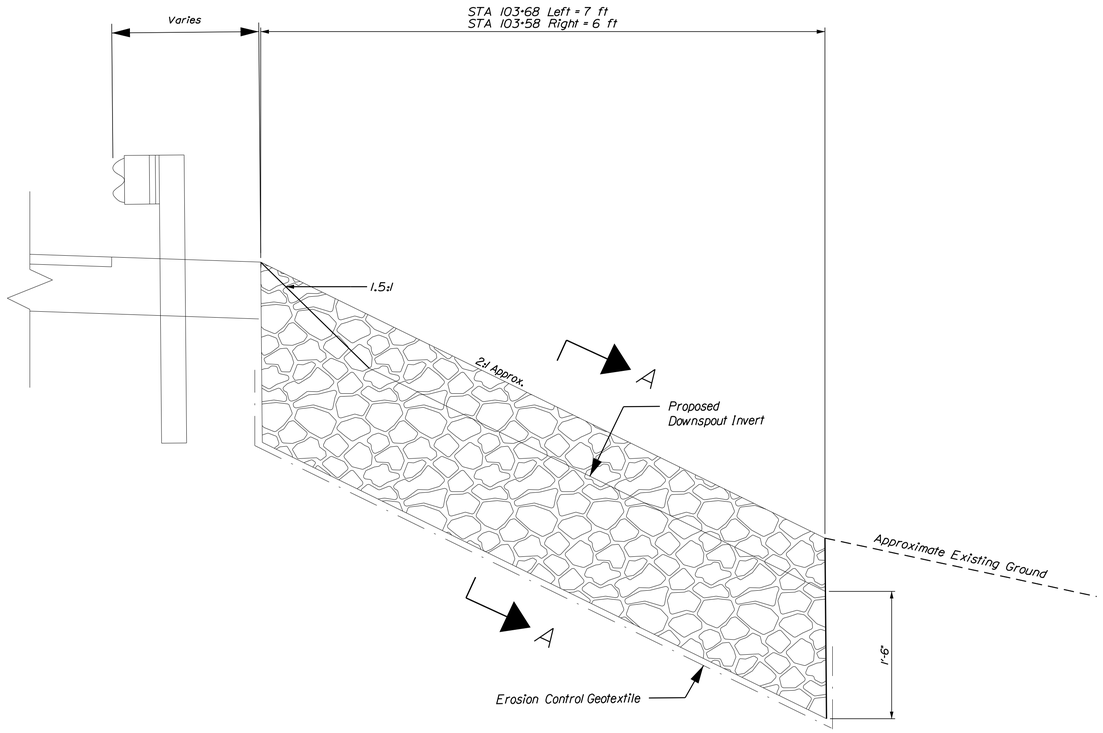
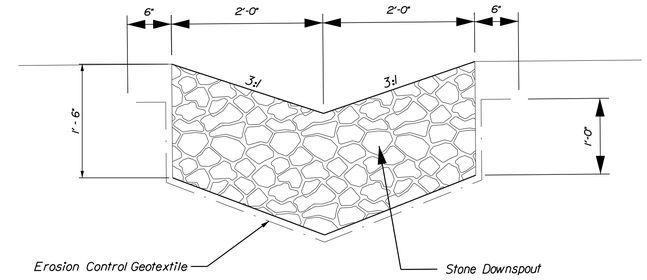
Filename: ...\PlanSheets\006_Drainage.dgn Division: BRIDGE Username: common Date:7/27/2023



RIPRAP DOWNSPOUT ELEVATION

SCALE: 1" = 1'



SECTION A-A

SCALE: 1" = 1'

NOTES:

1. Stone for riprap downspouts shall meet the requirements of MaineDOT Specification 703.29, and will be paid for under Item 610.18 - Stone Ditch Protection.
2. Riprap downspouts should be located at the end of the bridge transition curb, and the center of ditch line should be located between guardrail posts to the extent possible. Field adjust location of downspouts as needed and as directed by the Resident.

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BRIDGE NO. 0627 BRIDGE PLANS

PROJ. MANAGER	DEVAN EATON		
DESIGN-DETAILED	GRS	Jun, 2023	SIGNATURE
CHECKED-REVIEWED	SM	Jul, 2023	
DESIGN2-DETAILED2			P.E. NUMBER
DESIGN3-DETAILED3			
REVISIONS 1			DATE
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

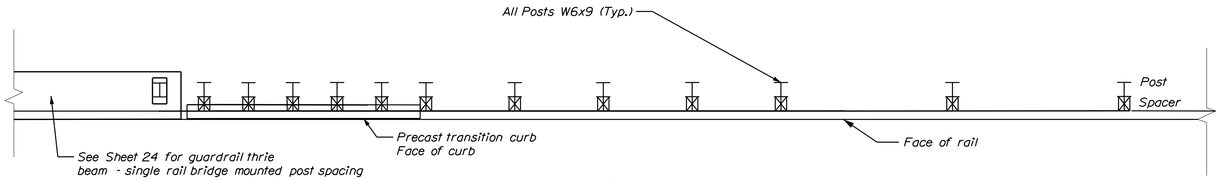
NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

DRAINAGE DETAILS

SHEET NUMBER

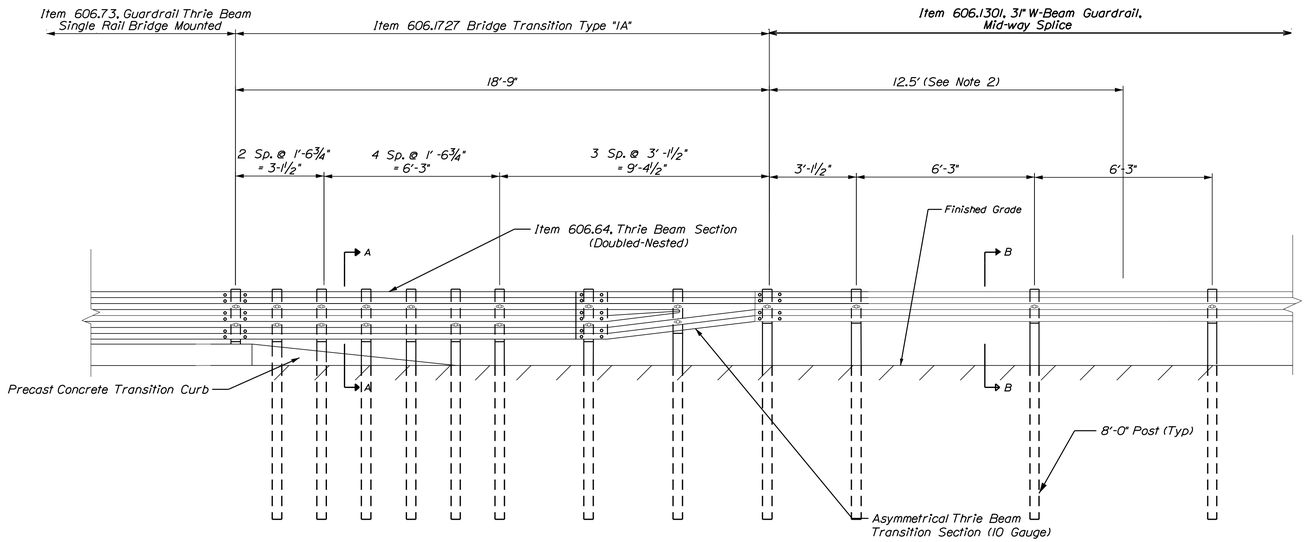
6

OF 29



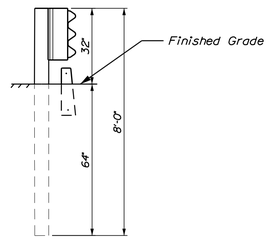
PLAN VIEW

3/8" = 1'-0"

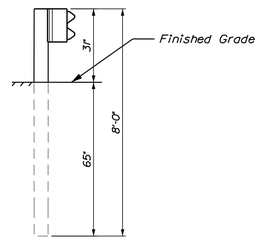


GUARDRAIL TRANSITION

3/8" = 1'-0"



SECTION A-A



SECTION B-B

GUARDRAIL TRANSITION NOTES:

1. Thrie beam face of rail shall be directly above the curb face.

2. Thrie beam should be installed at a 32" top of rail height. W-beam, Mid-way splice guardrail should be installed at a 31" top of rail height. Taper from 32" thrie beam rail height to 31" w-beam guardrail height over 12.5' of the w-beam rail.

3. Guardrail transition detail is in accordance with Standard Detail 606(24), Bridge Transition Type "1A", but excludes the thrie beam terminal connector.

4. Transition rail as detailed, including transition curb and all items shown, will be paid for using Item 606.1727 - Bridge Transition - Type 1A.

STATE OF MAINE
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2530500

WIN 25305.00

BRIDGE NO. 0627

BRIDGE PLANS

PROJ. MANAGER	DEVAN EATON		
DESIGN-DETAILED	GRS	Jun. 2023	SIGNATURE
CHECKED-REVIEWED	SM	Jul. 2023	
DESIGN2-DETAILED2			P.E. NUMBER
DESIGN3-DETAILED3			
REVISIONS 1			DATE
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

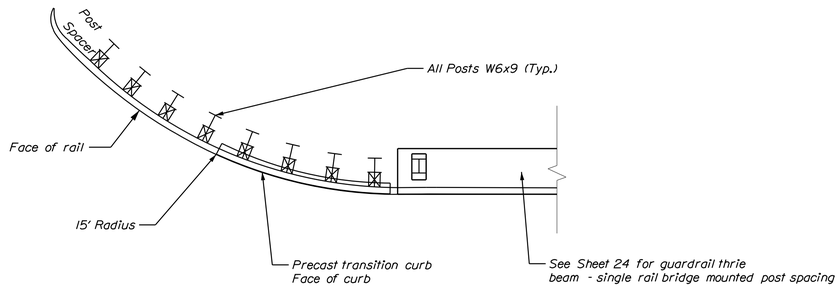
GUARDRAIL DETAILS 1

SHEET NUMBER

7

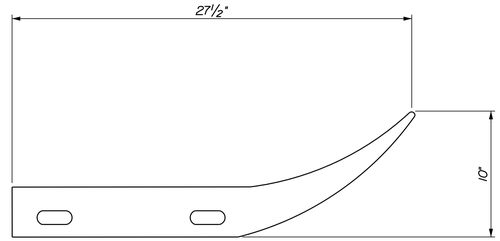
OF 29

Filename: ...\PlanSheets\007_Guardrail.dgn Division: BRIDGE Username: common Date:7/27/2023



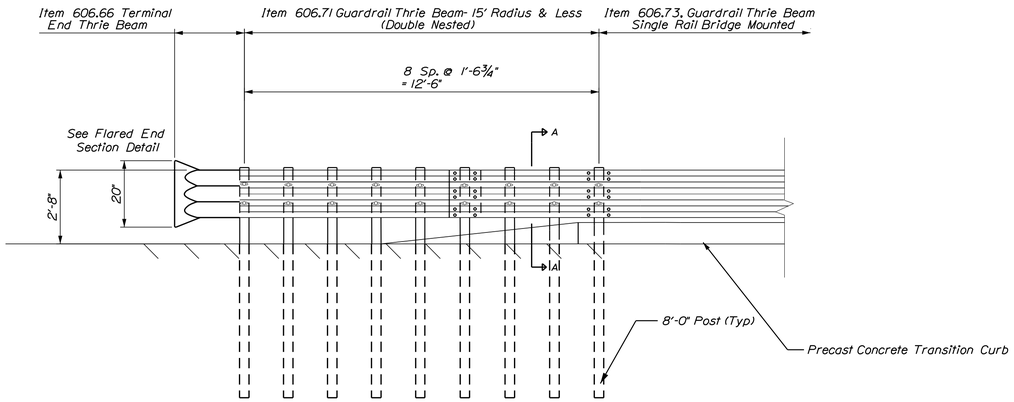
PLAN VIEW

3/8" = 1'-0"



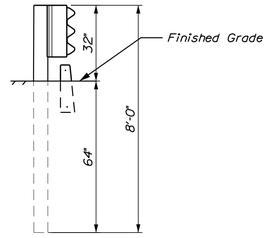
FLARED END SECTION DETAIL

2" = 1'-0"



GUARDRAIL TRANSITION

3/8" = 1'-0"



SECTION A-A

GUARDRAIL TRANSITION NOTES:

1. Thrie beam face of rail shall be directly above the curb face.
2. Precast Concrete Transition Curb shall meet the requirements of Standard Detail 609(08) and shall be installed at the same radius as the thrie beam, as shown on the Plan View.
3. Payment for the precast transition curb will be incidental to the thrie beam installation. No separate payment will be made.
4. Flared end section shall be installed per manufacturer specifications.
5. Flared end section shall be installed between nested thrie beams as instructed by manufacturer.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

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BRIDGE NO. 0627

BRIDGE PLANS

PROJ. MANAGER	DEVAN EATON	BY	DATE
DESIGN-DETAILED	GRS	GRS	Jun. 2023
CHECKED-REVIEWED	SM	SM	Jul. 2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

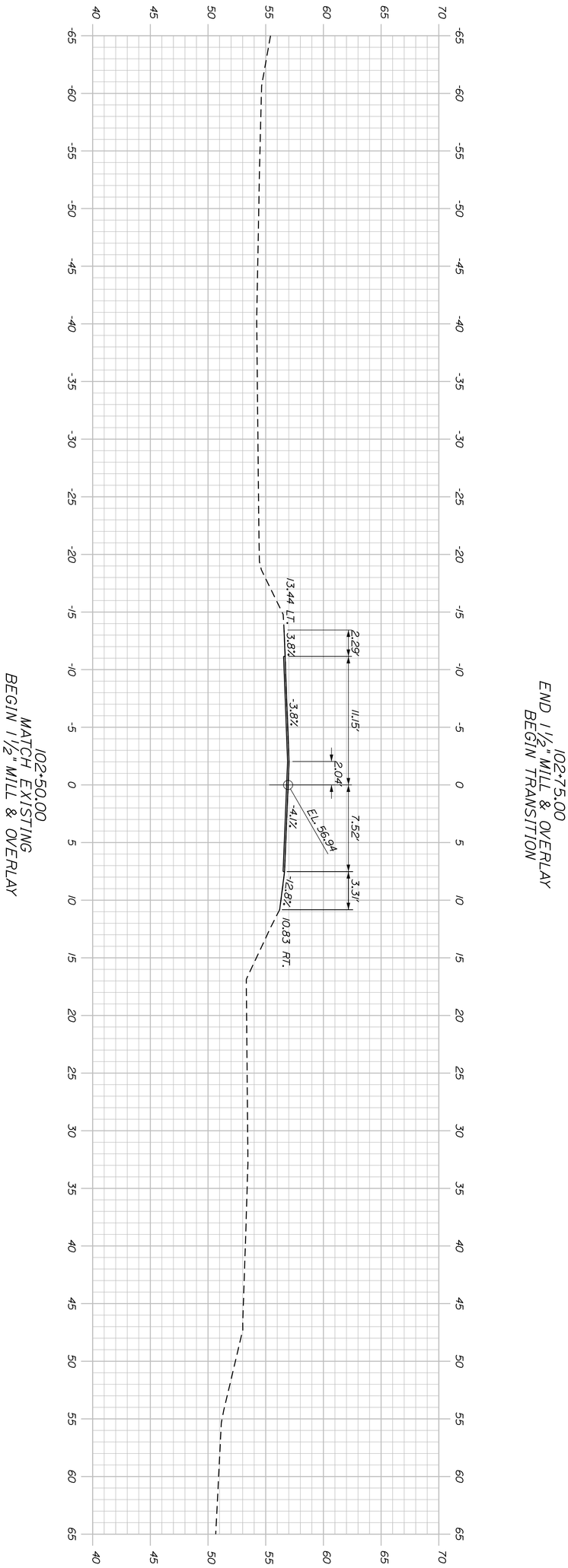
GUARDRAIL DETAILS 2

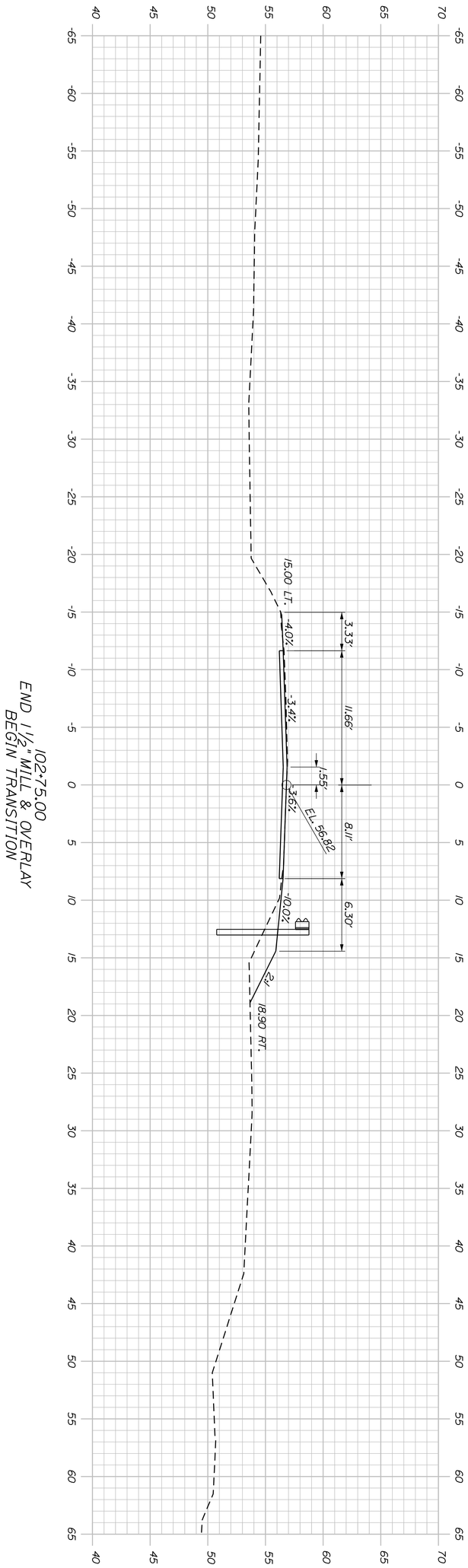
SHEET NUMBER

8

OF 29

Filename: ...\PlanSheets\008_Guardrail.dgn Division: BRIDGE Username: common Date:7/27/2023





NEW BRIDGE MONTSWEAG BROOK WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY	PROJ. MANAGER DEVAN EATON	BY	DATE
	DESIGN-DETAILED	SM	Jun. 2023
	CHECKED-REVIEWED	GRS	Jul. 2023
	DESIGN2-DETAILED2		
	DESIGN3-DETAILED3		
	REVISIONS 1		
	REVISIONS 2		
	REVISIONS 3		
	REVISIONS 4		
	FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

BRIDGE NO. 0627 WIN 25305.00 BRIDGE PLANS

CROSS SECTIONS 1

SHEET NUMBER 9 OF 29

103+25.00

103+00.00
BEGIN FULL DEPTH CONSTRUCTION

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

WIN 25305.00

BRIDGE NO. 0627

BRIDGE PLANS

PROJ. MANAGER	DEVAN EATON		
DESIGN-DETAILED	SM	Jun. 2023	
CHECKED-REVIEWED	GRS	Jul. 2023	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

BY | DATE

SIGNATURE

P.E. NUMBER

DATE

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

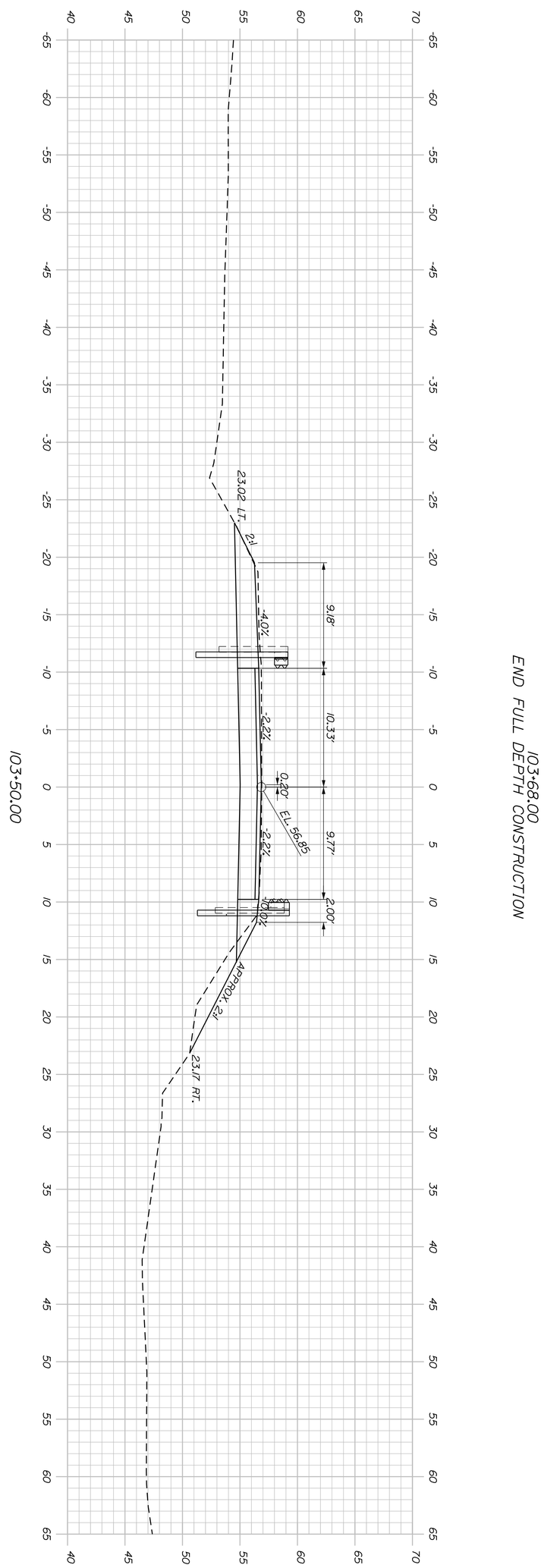
CROSS SECTIONS 2

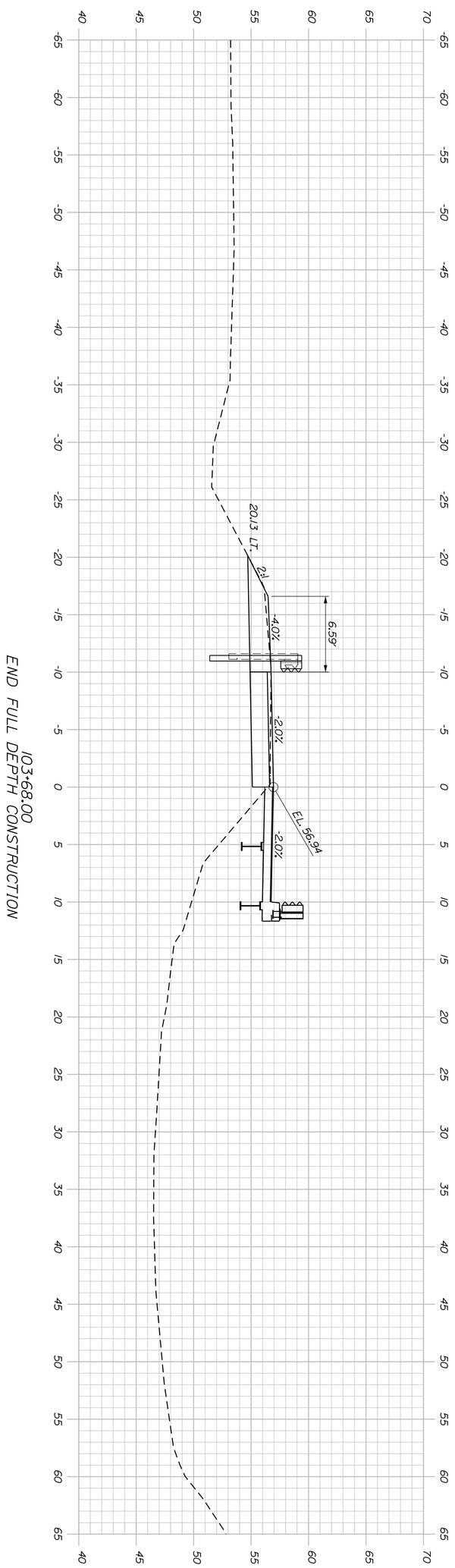
SHEET NUMBER

10

OF 29

Filename: ...\PlanSheets\010_Xsect.dgn Division: BRIDGE Username: common Date:7/27/2023





NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

CROSS SECTIONS 3

PROJ. MANAGER	DEVAN EATON	BY	DATE
DESIGN-DETAILED	SM	SM	Jun. 2023
CHECKED-REVIEWED	GRS	GRS	Jul. 2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

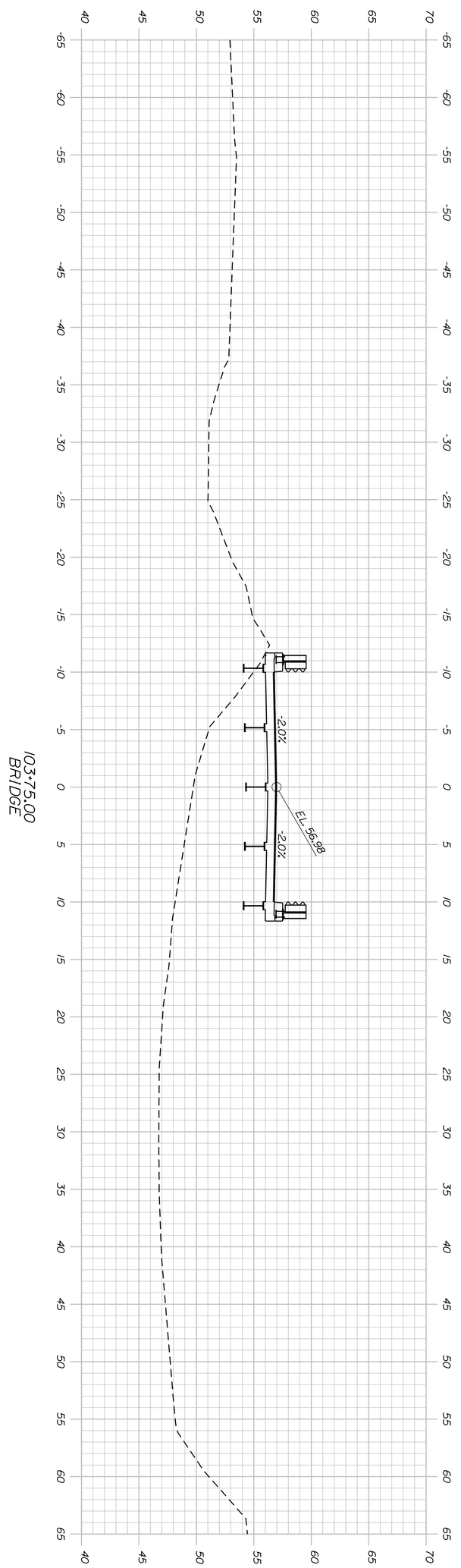
DATE

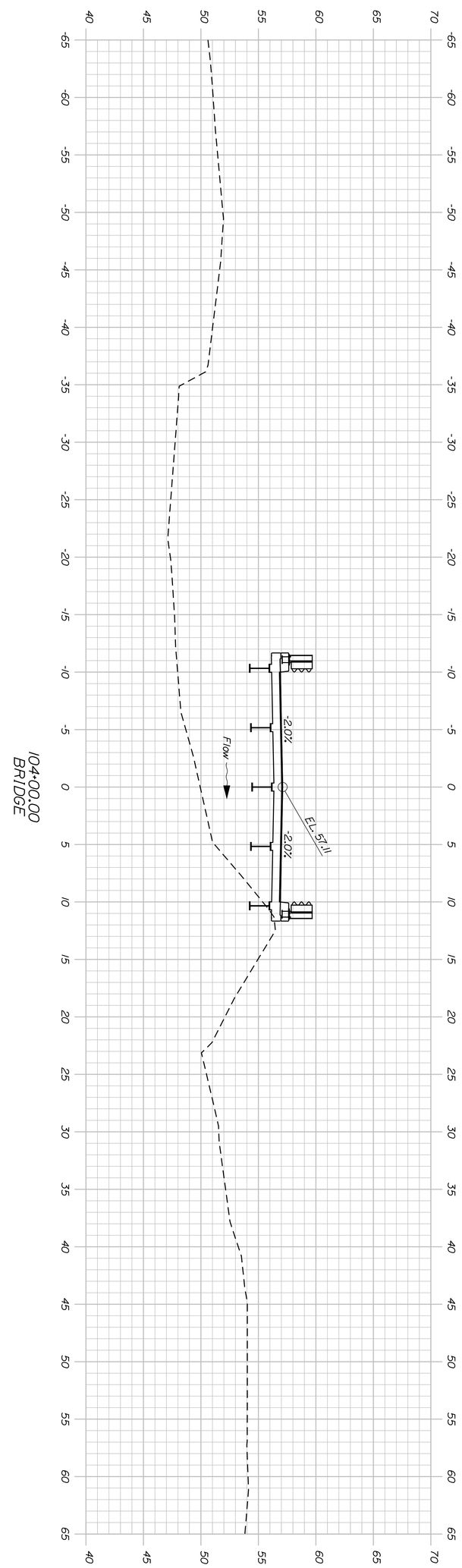
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

BRIDGE NO. 0627 WIN 25305.00 BRIDGE PLANS

SHEET NUMBER 11 OF 29





NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

CROSS SECTIONS 4

PROJ. MANAGER	DEVAN EATON	BY	DATE
DESIGN-DETAILED	SM	SM	Jun. 2023
CHECKED-REVIEWED	GRS	GRS	Jul. 2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

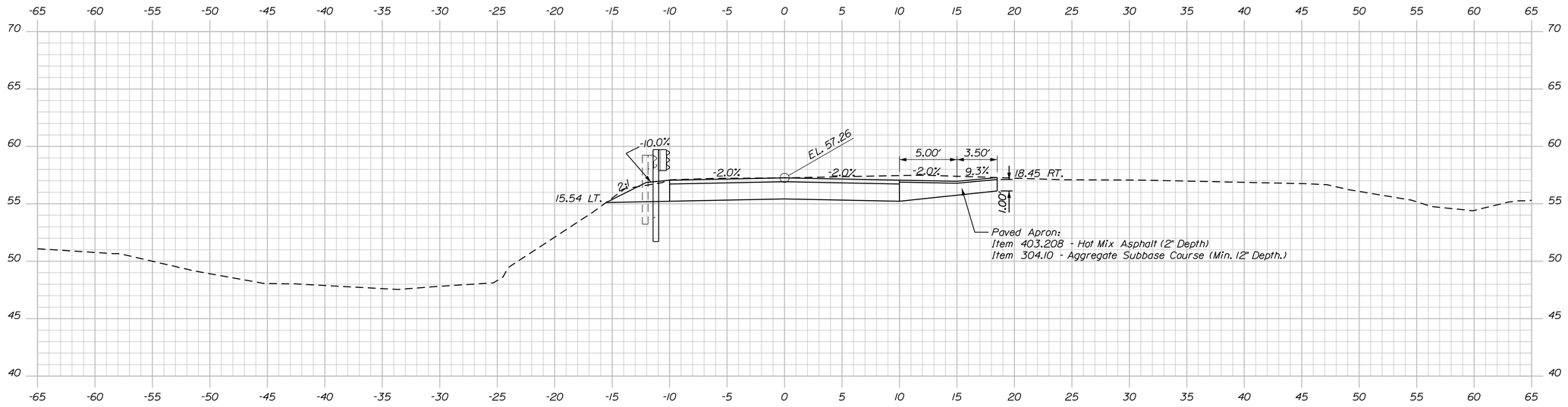
DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

BRIDGE NO. 0627 WIN 25305.00 BRIDGE PLANS

SHEET NUMBER 12 OF 29



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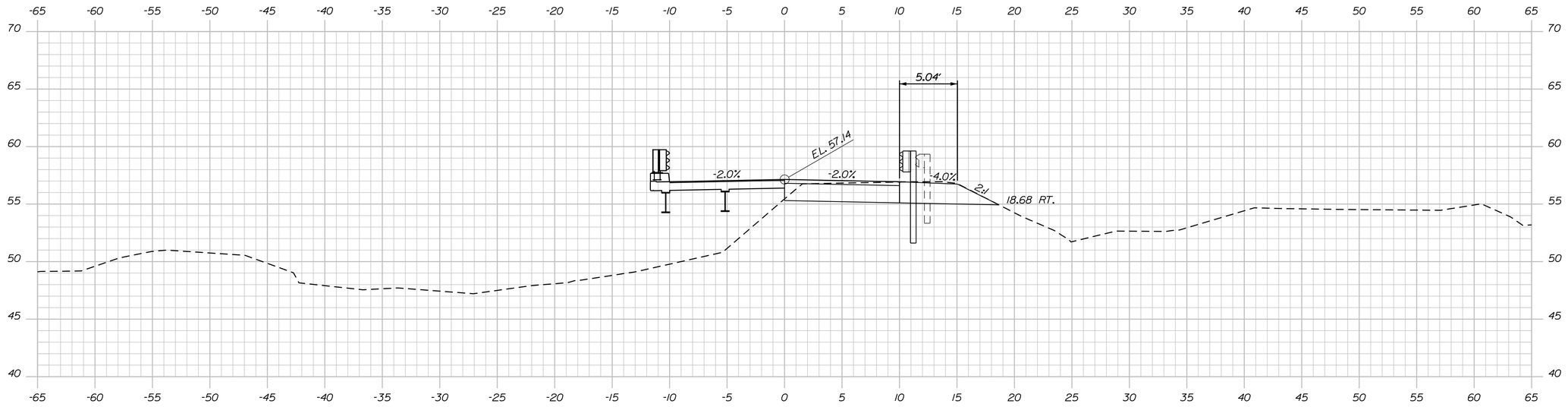
CONSTRUCT PAVED APRON RIGHT



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BEGIN FULL DEPTH CONSTRUCTION

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

WIN 25305.00

BRIDGE PLANS

BRIDGE NO. 0627

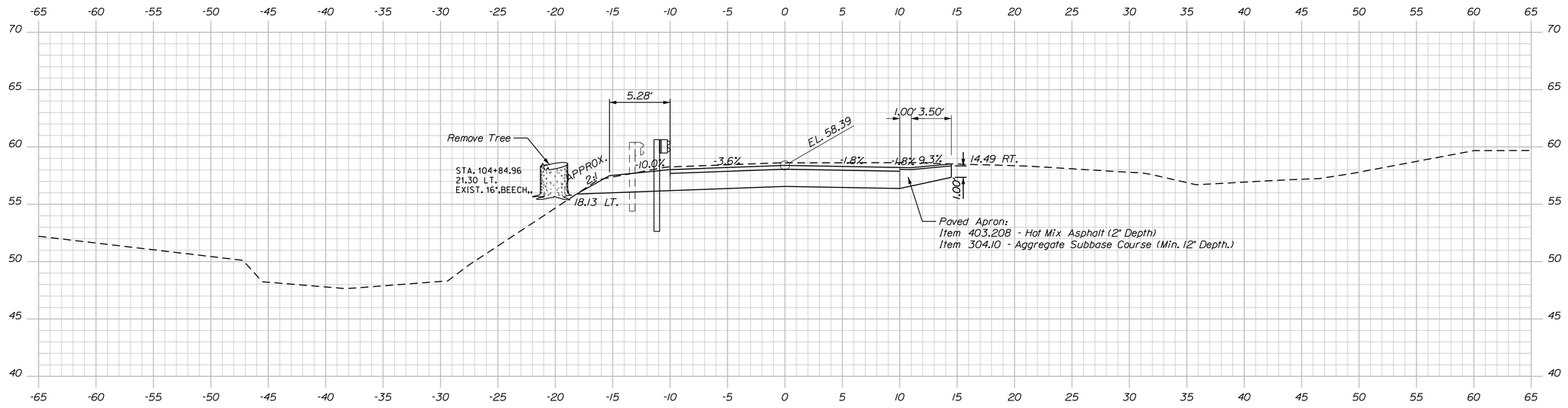
PROJ. MANAGER	DEVAN EATON		
DESIGN-DETAILED	SM	Jun. 2023	SIGNATURE
CHECKED-REVIEWED	GRS	Jul. 2023	
DESIGN2-DETAILED2			P.E. NUMBER
DESIGN3-DETAILED3			
REVISIONS 1			DATE
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

CROSS SECTIONS 5

SHEET NUMBER
13
OF 29

Filename: ...\PlanSheets\013_Xsect.dgn Division: BRIDGE Username: common Date:7/27/2023



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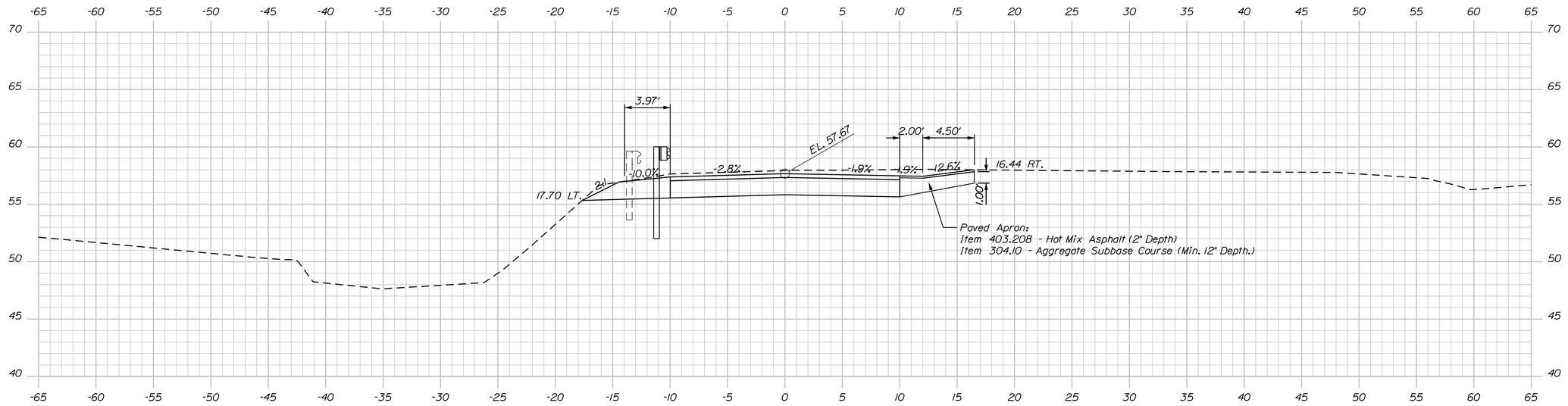

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CONSTRUCT PAVED APRON RIGHT

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

WIN 25305.00

BRIDGE NO. 0627

BRIDGE PLANS

	BY	DATE
DESIGNED	SM	Jun. 2023
DRAWN	GRS	Jul. 2023
CHECKED		
QUALITY CONTROL		
TRANSPORTATION		
PROJECT MANAGER		

SIGNATURE

P.E. NUMBER

DATE

	BY
PROJ. MANAGER	DEVAN EATON
DESIGN-DETAILED	SM
CHECKED-REVIEWED	GRS
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

CROSS SECTIONS 6

SHEET NUMBER

14

OF 29

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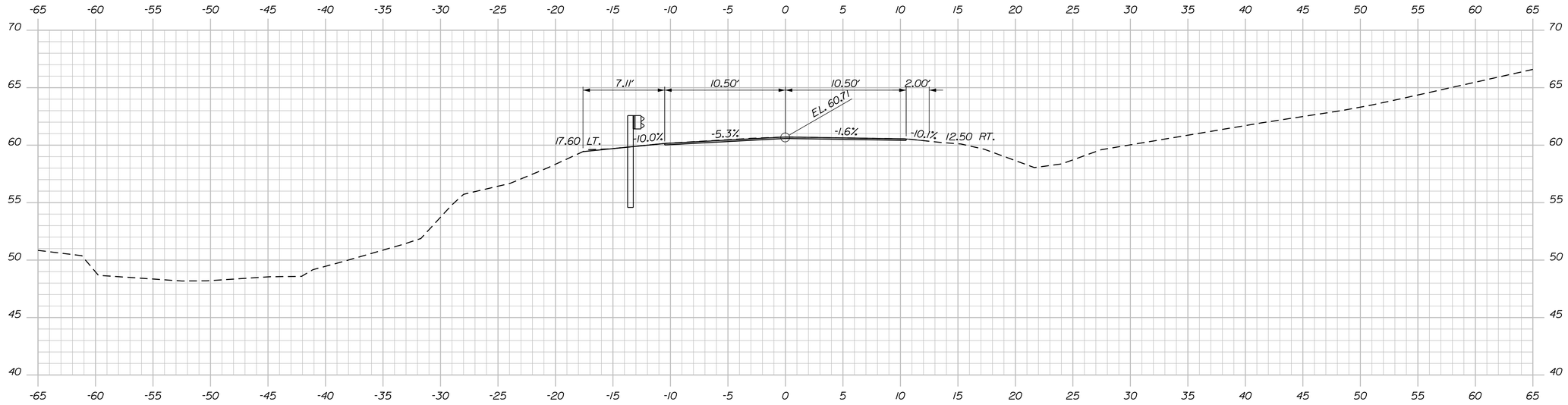

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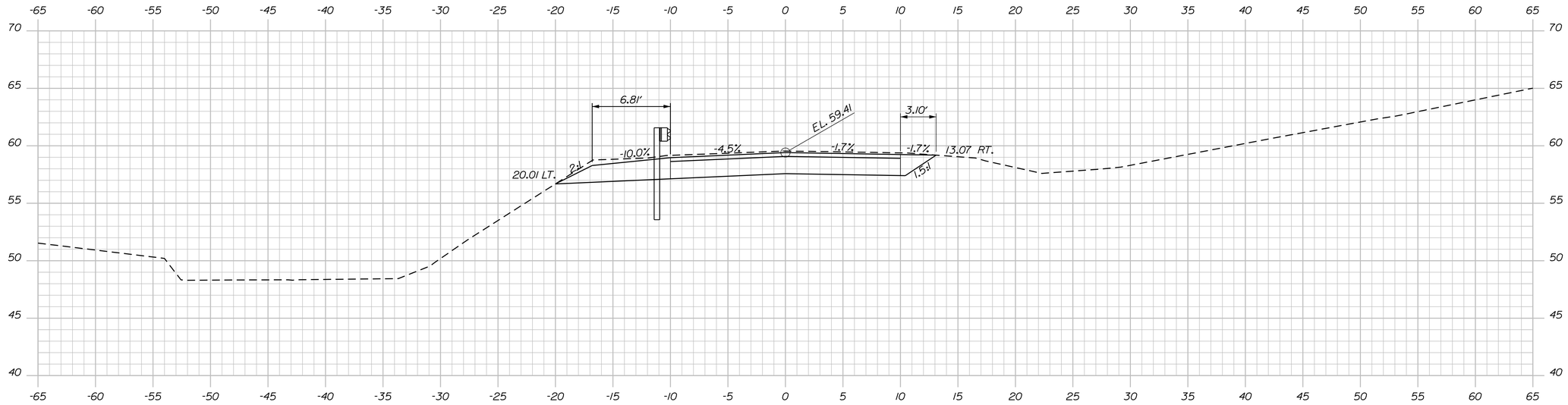
BEGIN 1½" MILL & OVERLAY
MATCH EXISTING



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END FULL DEPTH CONSTRUCTION
BEGIN TRANSITION

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

WIN 25305.00

BRIDGE PLANS

BRIDGE NO. 0627

	BY	DATE
PROJ. MANAGER	DEVAN EATON	
DESIGN-DETAILED	SM	Jun. 2023
CHECKED-REVIEWED	GRS	Jul. 2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

CROSS SECTIONS 7

SHEET NUMBER

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OF 29

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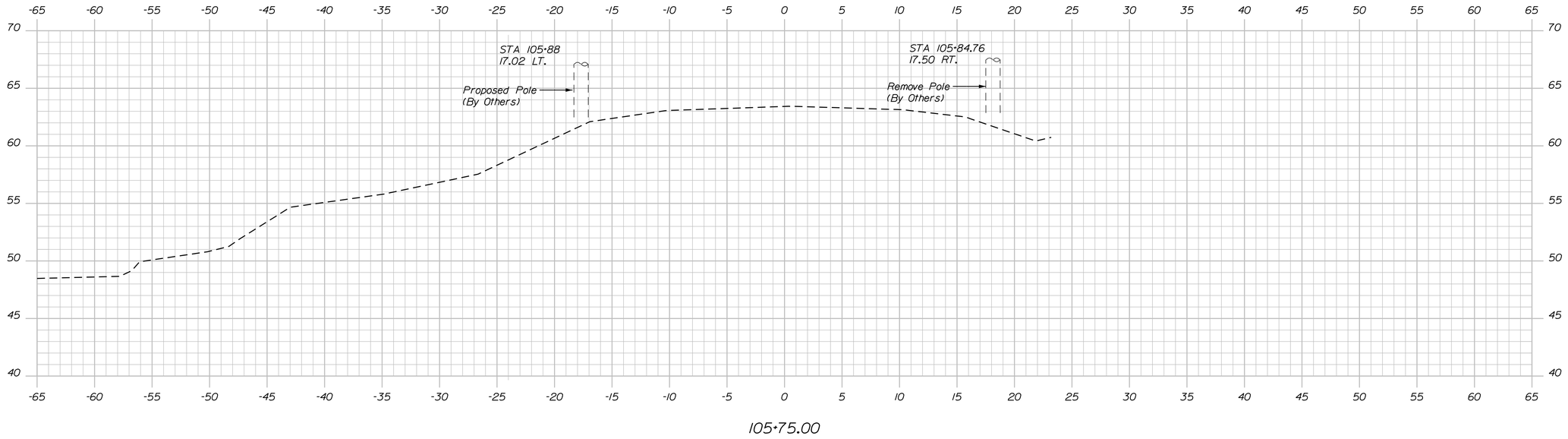

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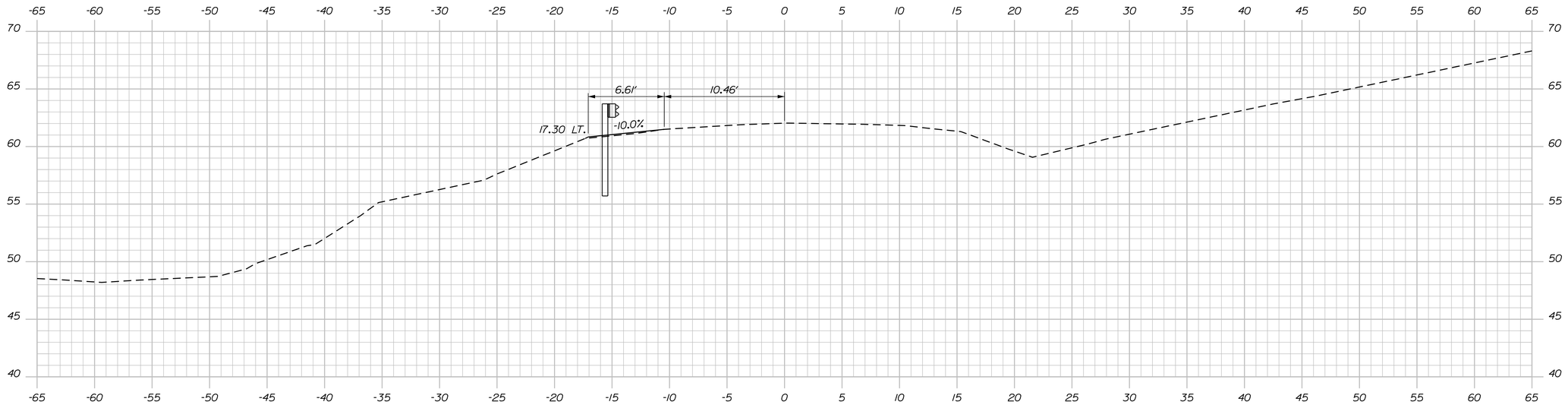

105+50.00
CONSTRUCT PLATFORM FOR
GUARDRAIL END TERMINAL LEFT

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

WIN 25305.00

BRIDGE NO. 0627

BRIDGE PLANS

PROJ. MANAGER	DEVAN EATON	BY	DATE
DESIGN-DETAILED	SM	SM	Jun. 2023
CHECKED-REVIEWED	GRS	GRS	Jul. 2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

CROSS SECTIONS 8

SHEET NUMBER

16

OF 29

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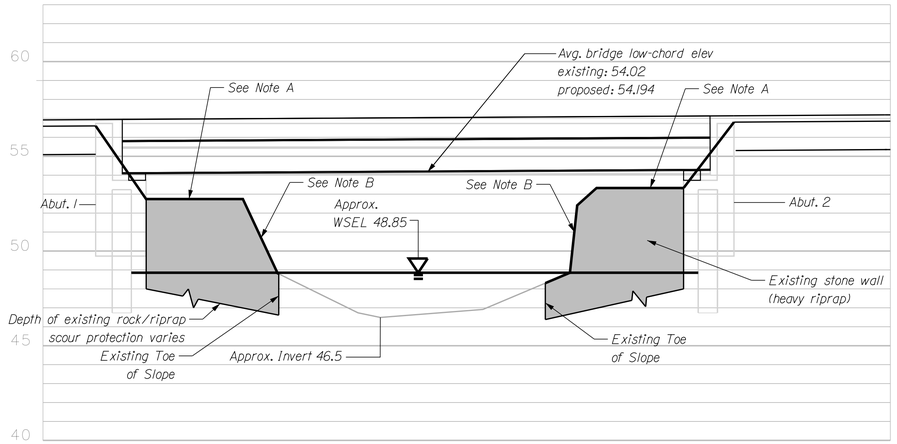


NORTH FASCIA HYDRAULIC WIDTH

Scale 1"=4'

NOTES

1. Bridge cross-sections at north and south fascia represent hydraulic width, perpendicular to flow.

2. Limit of existing rock/boulder walls is based on field measurements taken from face of abutment. Channel bottom elevation is based on field measurements from bottom of existing fascia beams. Existing field measurements were taken in June 2023.

3. Water surface elevation is based on measurements taken June 20, 2023.

4. Work for Filling Voids in Existing RipRap shall include placing riprap to the limits shown on the general plan, where the existing rock/boulder wall is in front of the face of the abutment. The work shown on this page shall be completed within those limits. Any rock/boulders from the wall that have fallen into the brook shall be replaced back onto the wall and shall be incidental to Filling Voids in Existing RipRap.

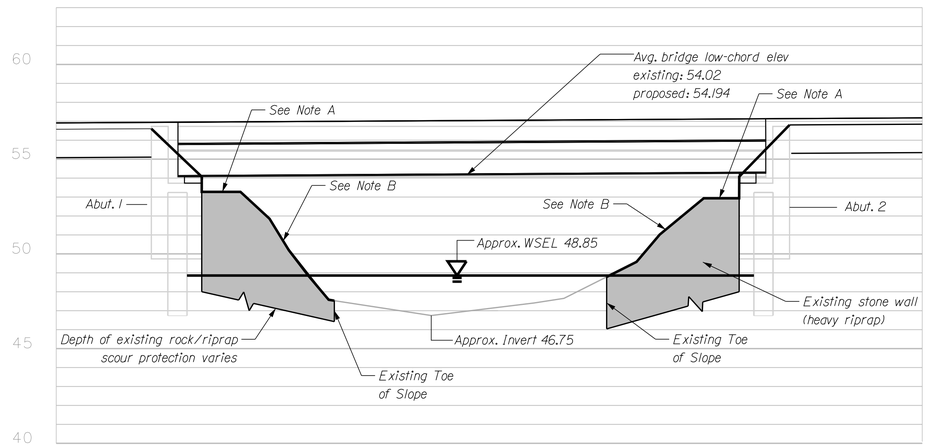
5. Repair of existing heavy riprap scour countermeasures shall be performed in dry conditions. Temporary cofferdams, stream diversions, and dewatering shall be performed in accordance with MaineDOT standards and the Maine Erosion and Sediment Control Best Management Practices.

6. All work shown on this sheet shall be incidental to item Filling Voids in Existing RipRap.

7. Void Filled Heavy RipRap shall be provided to the limits shown on the general plan where there is no existing rock/boulder wall, which is in the general area of the ends of the abutments at all 4 corners of the bridge.

Note A:
Contractor to backfill all void spaces in existing rock/boulder wall with mixture of course gravel and sand backfill, placed from above. Backfill placement and compaction may be facilitated through tamping with iron rod through gaps in wall

Note B:
Gaps at surface of existing riprap to be filled with smaller riprap sizes ranging from 3" diameter to 12" diameter as needed to close gaps and retain gravel backfill



SOUTH FASCIA HYDRAULIC WIDTH

SCALE 1" = 4'

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

WIN 25305.00

BRIDGE NO. 0627

BRIDGE PLANS

PROJ. MANAGER	DEVAN EATON		
DESIGN-DETAILED	LNH	CNJ	JUL 2023
CHECKED-REVIEWED	RF	RF	JUL 2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

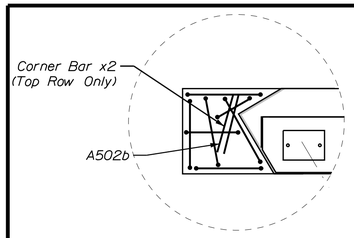
RIP RAP DETAILS

SHEET NUMBER

17

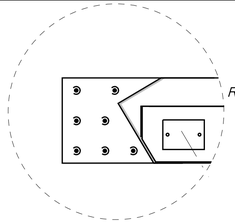
OF 29

Filename: ...\BRIDGE\017_Abutment_riprap.dgn Division: BRIDGE Username: common Date:7/27/2023



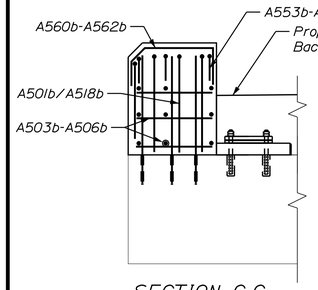
Detail A

Horizontal Bars Shown (Top Row are U-Bars, Others are Straight Bars)
A502b-A515b, A553b-A565b

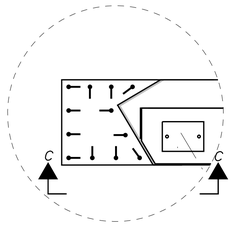


Detail B

Drill and Grout Bars Shown
A501b/A518b Bars



SECTION C-C



Detail C

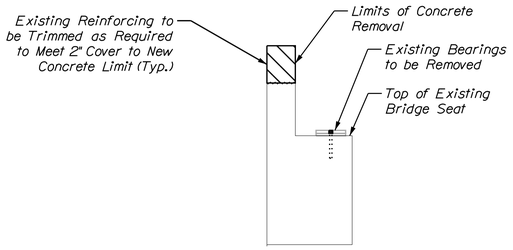
Vertical Bars Shown
A551b, A552b, A566b, A567b

REINFORCEMENT NOTES:

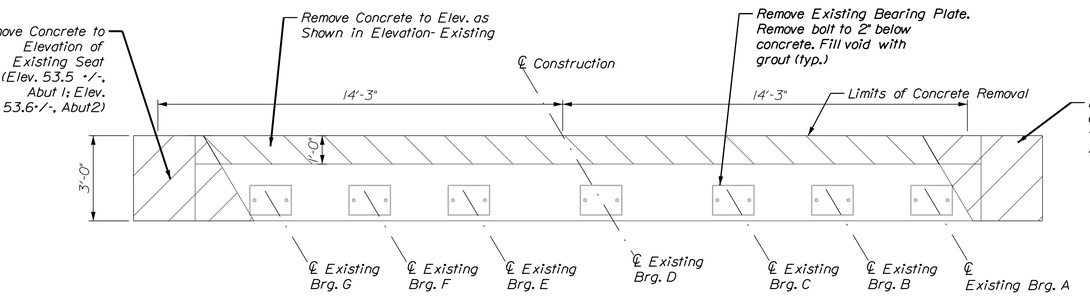
1. Drill and Grout Bars are to be placed as shown and located 6" (min) from face of existing concrete, unless otherwise noted.

2. Drill and Grout Bars shall have 12" (min) embedment, unless otherwise noted.

3. Reinforcing Bars that are not drill and grout bars are to be placed as shown and shall have 2" cover.

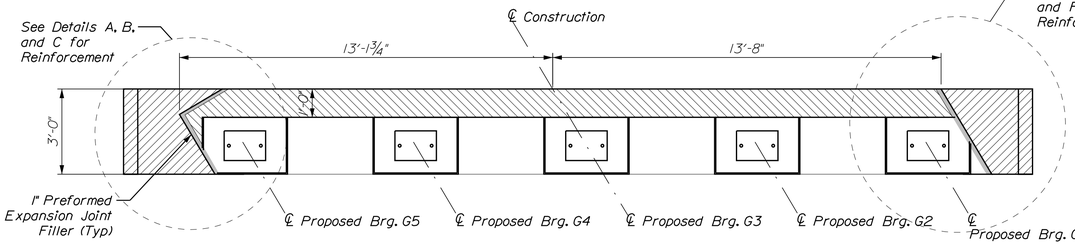


SECTION A-A



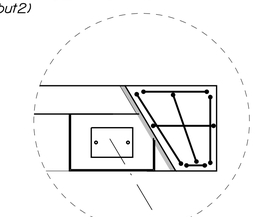
PLAN - EXISTING

Scale: 3/8"=1'-0"
Abutment 1 Shown



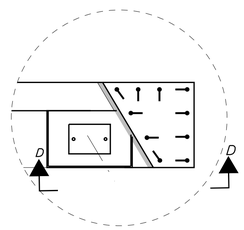
PLAN- PROPOSED

Scale: 3/8"=1'-0"
Abutment 1 Shown



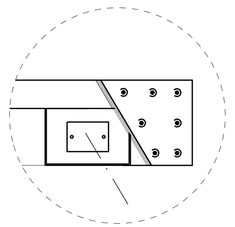
Detail D

Horizontal Bars Shown (Top Row are U-Bars, Other are Straight Bars)



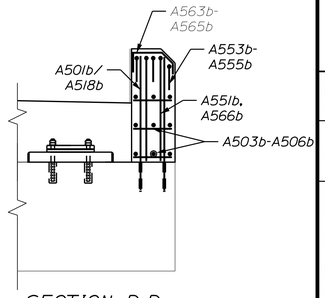
Detail E

Vertical Bars Shown



Detail F

Drill and Grout Bars Shown
A501b/A518b Bars



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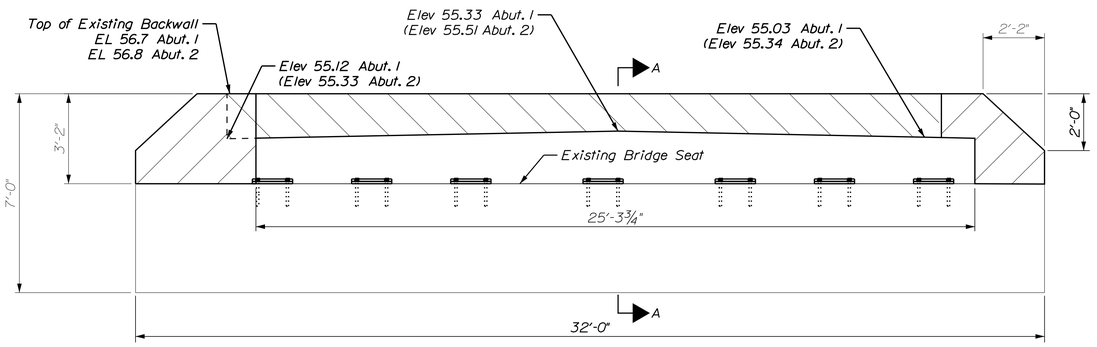
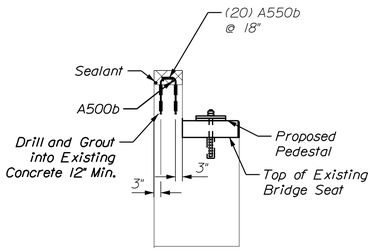


ELEVATION- EXISTING

Scale: 3/8"=1'-0"
Abutment 1 Shown



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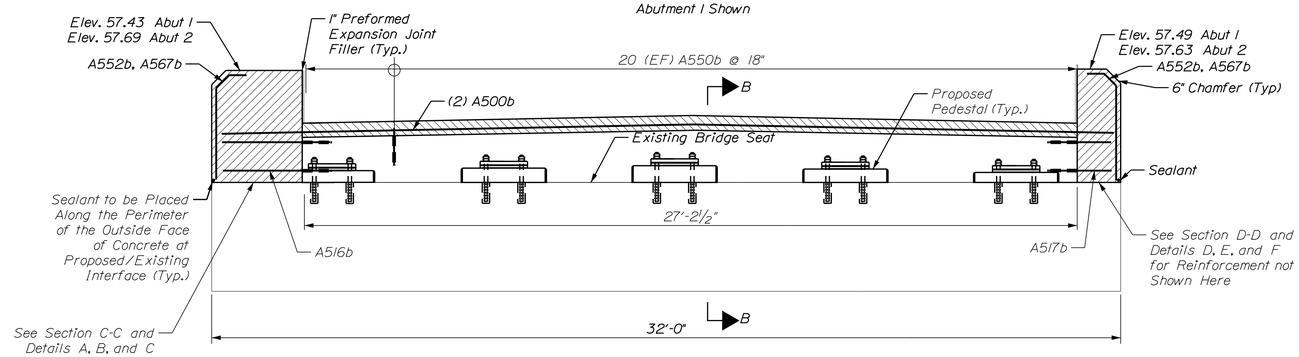

ELEVATION- PROPOSED

Scale: 3/8"=1'-0"
Abutment 1 Shown

Remove Existing Concrete

Proposed Concrete

NOTES:

1. Abutment 1 shown. Abutment 2 similar.

2. The 1" Preformed Expansion Joint Filler is to conform to section 705.01 of the Standard Specifications. 1" Preformed Joint Filler is incidental, no separate payment will be made. The limits for the material are as shown in PLAN-PROPOSED and the height is to be the full height that the superstructure interfaces with the abutment concrete

3. Sealant to be applied immediately before concrete placement 2" +/- from the soil side face of finished concrete, in a continuous bead. Sealant to be Sika Leakmaster LV-Z or equivalent. Install per manufacturer instruction. Bead to be (3/16" x 3/4"). This work is incidental to other contract items.

4. Removal of Existing Bearing Plates and Bearing Plate bolts to limit shown shall be incidental. No separate payment shall be made.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

WIN 25305.00

BRIDGE PLANS

BRIDGE NO. 0627

PROJ. MANAGER	DEVAN EATON		
DESIGN-DETAILED	LNH	CNJ	JUL 2023
CHECKED-REVIEWED	RF	RF	JUL 2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

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SIGNATURE

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

ABUTMENT MODIFICATIONS 1

SHEET NUMBER

18

OF 29

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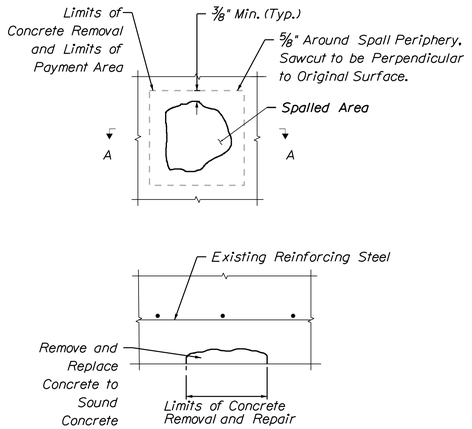
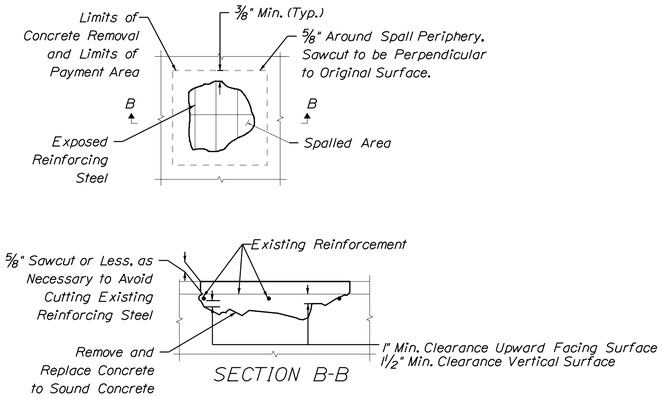


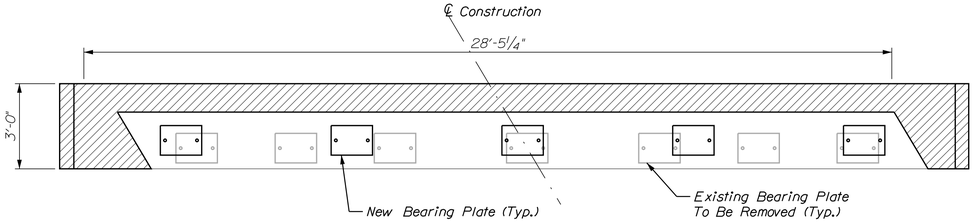
SECTION A-A

REPAIR WITHOUT EXPOSED REBAR



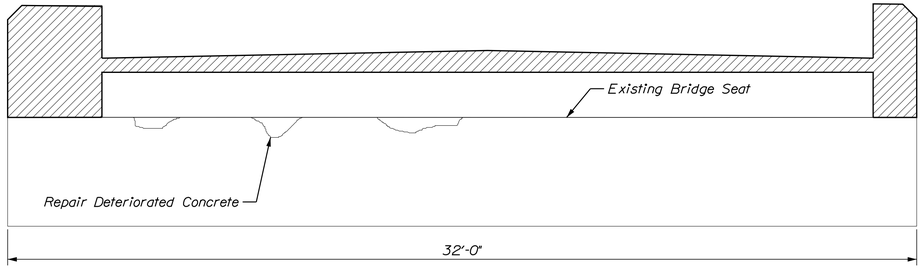
SECTION B-B

REPAIR WITH EXPOSED REBAR



PLAN-ABUTMENT - BEARING PLACEMENT

Scale: 3/8"=1'-0"
Abutment 1 Shown. Abutment 2 Similar.



ELEVATION-ABUTMENT - CONCRETE SPALL REPAIR

Scale: 3/8"=1'-0"
Abutment 1 Shown. Abutment 2 Similar.
Concrete Repair Locations Shown are Schematic - Contractor to Map Areas for Approval by the Resident Before the Start of Work.

CONCRETE REPAIR QUANTITIES

Abutment 1 - 1 location

Location	SF
1	2

Abutment 2 - 3 locations

Location	SF
1	1
2	1
3	3

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

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BRIDGE NO. 0627 BRIDGE PLANS

PROJ. MANAGER	DEVAN EATON		
DESIGN-DETAILED	LNH	CNJ	JUL 2023
CHECKED-REVIEWED	RF	RF	JUL 2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

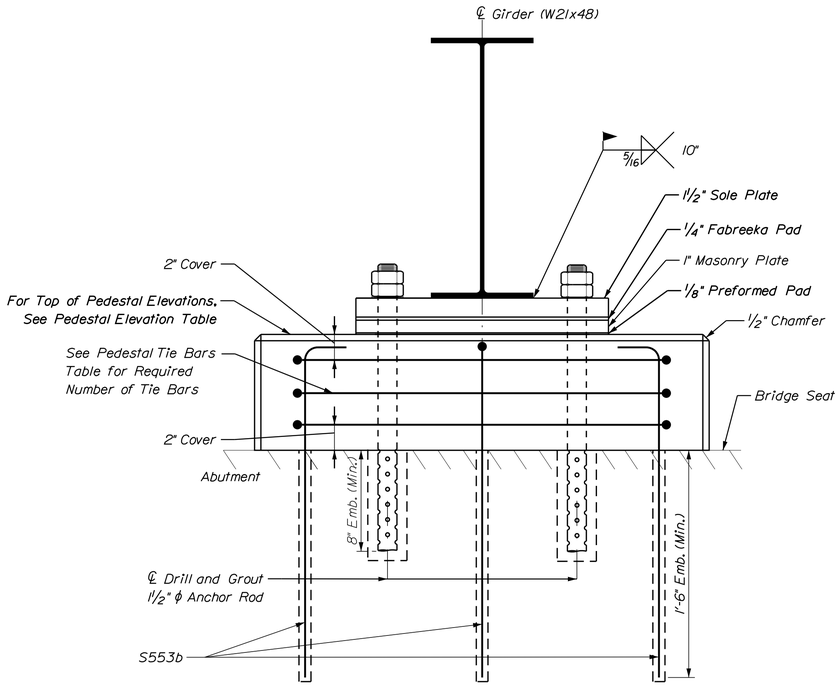
ABUTMENT MODIFICATIONS 2

SHEET NUMBER

19

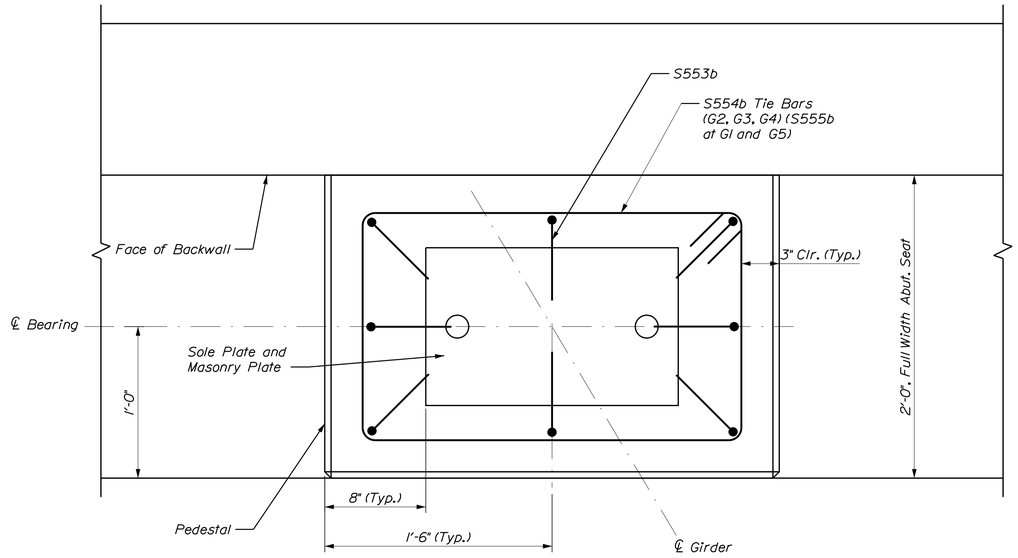
OF 29

Filename: ...\BRIDGE\019_Abutment_2.dgn Division: BRIDGE Username: common Date:7/27/2023



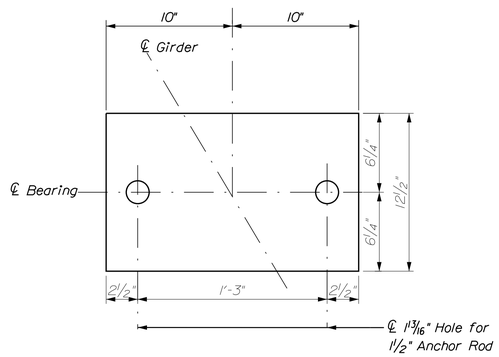
ABUTMENT 1 & ABUTMENT 2 FIXED BEARINGS

Scale: 2"=1'-0"



PEDESTAL PLAN

Scale: 2"=1'-0"



SOLE PLATE AND MASONRY PLATE DETAIL

Scale: 2"=1'-0"

PEDESTAL ELEVATION (ft.)		
Abutment 1	G1	53.904
Abutment 1	G2	53.991
Abutment 1	G3	54.078
Abutment 1	G4	53.959
Abutment 1	G5	53.839
Abutment 2	G1	54.083
Abutment 2	G2	54.171
Abutment 2	G3	54.258
Abutment 2	G4	54.138
Abutment 2	G5	54.018

Top of Existing Seat is 53.5 (Abut. 1), 53.6 (Abut. 2)

PEDESTAL TIE BARS	
PEDESTAL HEIGHT	NUMBER OF TIE BARS
5" to 8"	1
8" to 11"	2
11" to 14"	3

BEARING NOTES:

1. Transverse joints between the sole plate and the girder shall be sealed with an approved caulking material.

2. All materials for the bearing including the preformed pad, the fabreeka pad, the caulking, welding, anchor rods, sole plate and masonry plate are incidental to item Steel Plate Bearing -Fixed. No separate payment will be made.

3. Masonry Plates and sole plates shall meet the requirements of ASTM A709 Grade 50. Anchor rods shall confirm to ASTM F1554 Grade 105 and shall be swedged on the embedded portion of the rod. Preformed pad to meet requirements of section 713.03 of the standard specifications.

4. Masonry plates shall be galvanized or metalized in accordance with section 506. Sole plates shall be treated in the same manner as the structural steel. Anchor rods, washers, nuts shall be galvanized in accordance with AASHTO M232 or AASHTO M298 Class 50, Type 1.

5. Upset the threads on the anchor rods after assembly of the bearing.

6. The girder shall be in the same temperature condition including sun exposure condition as the temporary bracing for a minimum of 12 hours prior to field welding the girder to the sole plate.

7. The 1/4" fabreeka pad may be replaced with a 1/4" preformed pad meeting the requirements of section 713.03 of the standard specifications, or alternately with two 1/8" preformed pads to achieve the 1/4" thickness. The fabreeka pad or the allowed alternates shall have an ultimate compressive strength of 10,000 psi and shall be incidental to the item Steel Plate Bearing -Fixed.

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BRIDGE NO. 0627

BRIDGE PLANS

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CHECKED-REVIEWED	RF	RF	JUL 2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

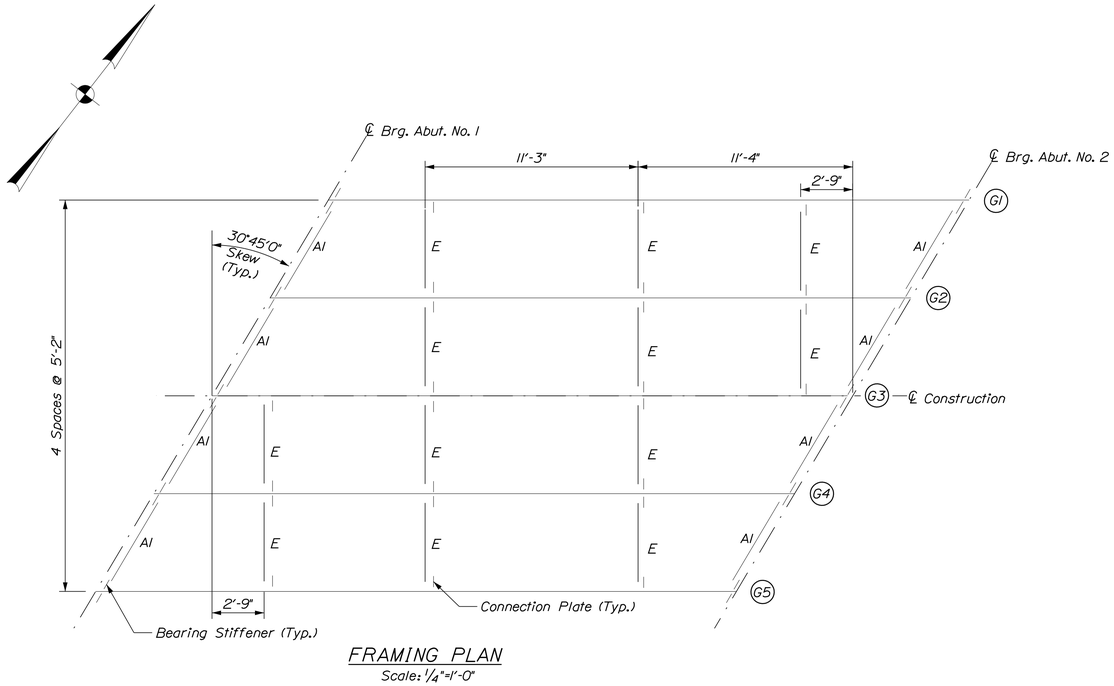
BEARING DETAILS

SHEET NUMBER

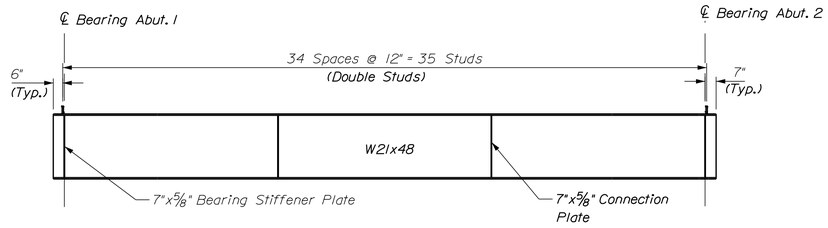
20

OF 29

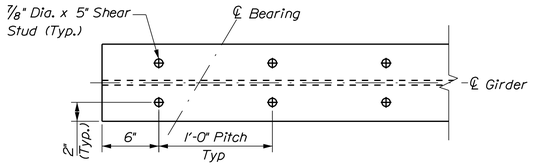
Filename: ...\BRIDGE\020_Bearings.dgn Division: BRIDGE Username: common Date:7/27/2023



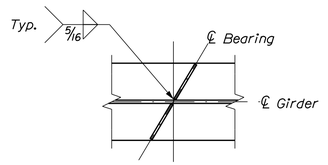
FRAMING PLAN
Scale: 1/4"=1'-0"



BEAM ELEVATION AND STUD LAYOUT
70 Studs per Beam (350 Studs Total)



SHEAR STUD
Scale: 1 1/2"=1'-0"



BEARING STIFFENERS
Scale: 1 1/2"=1'-0"

STRUCTURAL STEEL NOTES

1. Camber ordinates, as shown on Sheet 22, are computed to compensate for all dead load deflections and for the grade of the finished grade profile.

2. Bearing stiffeners shall be plumb after erection and dead loading of the structure.

3. Intermediate diaphragm connection plates may be either plumb or normal to the top flange.

4. Provide a drip bar on the high side of abutment 1 on all girders in accordance with Standard Detail 504(10).

5. Structural steel was designed with a vertical construction load of 50 lb/sf and a lateral wind velocity during construction of 75 mph.

6. All structural steel shall be ASTM A709 grade 50 and hot dip galvanized unless otherwise noted.

7. All bolts, nuts, and washers shall be hot dip galvanized in accordance with ASTM A153.

8. Ends of girder webs shall be vertical under full dead load.

9. Diaphragm A1 shall conform to standard detail 504(01) except that the top of diaphragm A1 shall be installed 2" below top of bearing stiffener plate (instead of 4" as shown on the standard detail.)

10. Diaphragm E shall conform to standard detail 504(02) except that the top of diaphragm E shall be installed 2" below top of bearing stiffener plate (instead of 3 1/2" as shown on the standard detail.)

11. At the Contractor's option, the Diaphragms and Cross Frames may be Metalized (Thermal Spray Coating, Shop Applied) in accordance with Standard Specifications Section 506, Shop Applied Protective Coating, as approved by the Resident. Payment will be considered incidental to item 506.9103, Galvanizing, no separate payment will be made.

12. At the Contractor's option, all Structural Steel may be Metalized (Thermal Spray Coating, Shop Applied) in accordance with Standard Specifications Section 506, Shop Applied Protective Coating, as approved by the Resident. Payment will be considered incidental to item 506.9103, Galvanizing, no separate payment will be made.

STATE OF MAINE
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BRIDGE NO. 0627

BRIDGE PLANS

PROJ. MANAGER	DEVAN EATON		
DESIGN-DETAILED	LNH	CNJ	JUL 2023
CHECKED-REVIEWED	RF	RF	JUL 2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

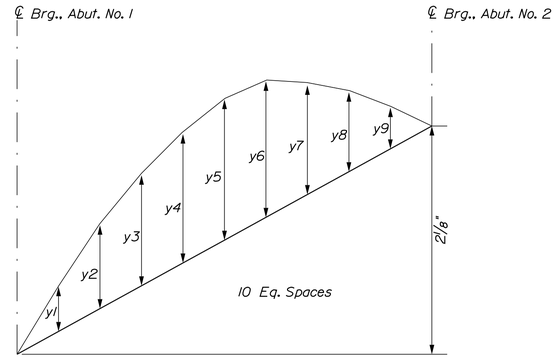
FRAMING PLAN AND GIRDER ELEVATION

SHEET NUMBER

21

OF 29

Username: common Date:7/27/2023
Division: BRIDGE
Filename: ...\BRIDGE\021_Framing.dgn



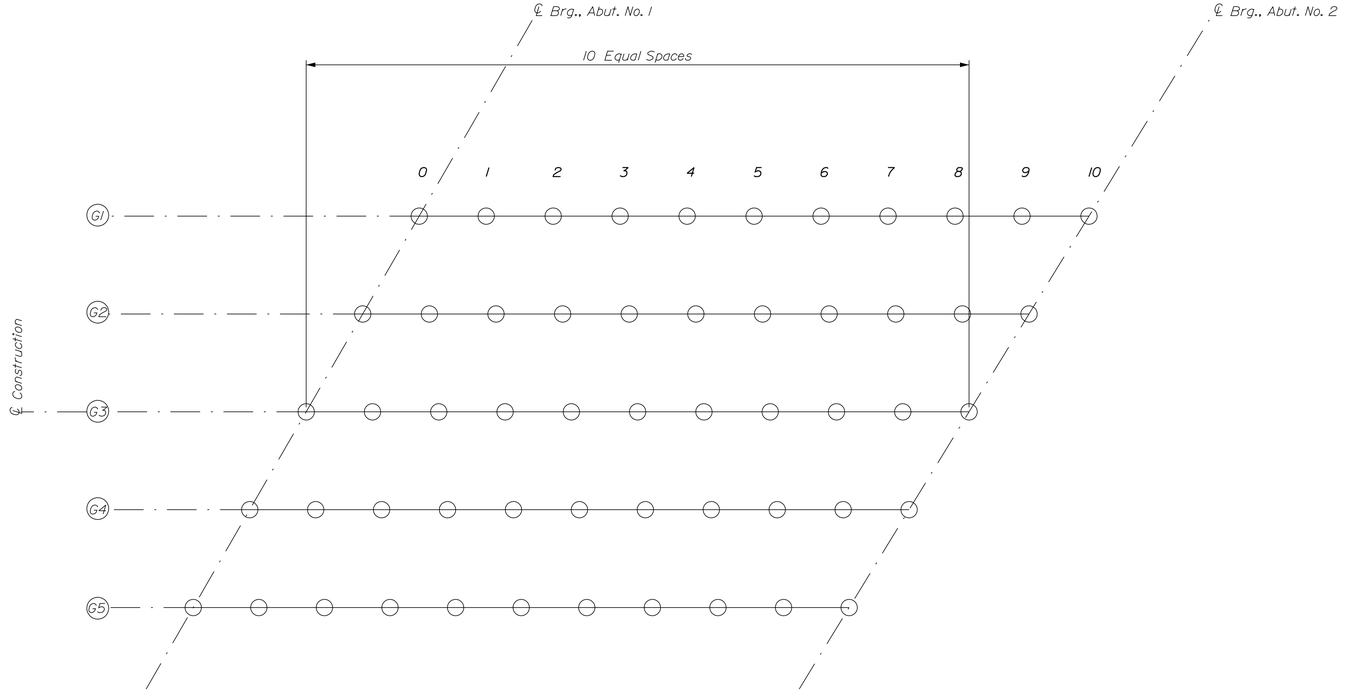
CAMBER DIAGRAM

CAMBER TABLE (in)											
	Abut 1										Abut 2
	CL Brg	y1	y2	y3	y4	y5	y6	y7	y8	y9	CL Brg
G1	0	3/16	3/8	9/16	5/8	11/16	5/8	9/16	3/8	3/16	0
G2	0	1/4	1/2	11/16	13/16	13/16	13/16	11/16	1/2	1/4	0
G3	0	1/4	1/2	11/16	13/16	13/16	13/16	11/16	1/2	1/4	0
G4	0	1/4	1/2	11/16	13/16	13/16	13/16	11/16	1/2	1/4	0
G5	0	3/16	3/8	9/16	5/8	11/16	5/8	9/16	3/8	3/16	0

DEAD LOAD DEFLECTIONS - G2, G3, G4 (in)											
	Abut 1										Abut 2
	0	1	2	3	4	5	6	7	8	9	10
Steel	0.00	-0.02	-0.04	-0.05	-0.06	-0.06	-0.06	-0.05	-0.04	-0.02	0.00
Deck	0.00	-0.23	-0.43	-0.59	-0.69	-0.73	-0.69	-0.59	-0.43	-0.23	0.00
Sup. DL	0.00	-0.01	-0.02	-0.03	-0.04	-0.04	-0.04	-0.03	-0.02	-0.01	0.00

DEAD LOAD DEFLECTIONS - G1, G5 (in)											
	Abut 1										Abut 2
	0	1	2	3	4	5	6	7	8	9	10
Steel	0.00	-0.02	-0.04	-0.05	-0.06	-0.06	-0.06	-0.05	-0.04	-0.02	0.00
Deck	0.00	-0.17	-0.33	-0.45	-0.53	-0.56	-0.53	-0.45	-0.33	-0.17	0.00
Sup. DL	0.00	-0.01	-0.03	-0.04	-0.04	-0.05	-0.04	-0.04	-0.03	-0.01	0.00

BOTTOM OF SLAB ELEVATION TABLE (ft.)											
	Abut 1										Abut 2
	0	1	2	3	4	5	6	7	8	9	10
G1	56.027	56.061	56.093	56.122	56.146	56.167	56.182	56.193	56.200	56.204	56.206
G2	56.114	56.152	56.188	56.220	56.247	56.268	56.283	56.292	56.296	56.296	56.293
G3	56.201	56.239	56.275	56.307	56.334	57.355	57.370	56.379	56.383	56.383	56.380
G4	56.082	56.120	56.155	56.187	56.214	56.235	56.250	56.259	56.263	56.263	56.261
G5	55.962	55.996	56.028	56.056	56.081	56.102	56.117	56.128	56.135	56.139	56.141



BOTTOM OF SLAB ELEVATION LAYOUT PLAN

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

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WIN 25305.00

BRIDGE NO. 0627 BRIDGE PLANS

PROJ. MANAGER	DEVAN EATON	BY	DATE
DESIGN-DETAILED	LNH	CNJ	JUL 2023
CHECKED-REVIEWED	RF	RF	JUL 2023
DESIGN2-DETAILED2			SIGNATURE
DESIGN3-DETAILED3			
REVISIONS 1			P.E. NUMBER
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			DATE
FIELD CHANGES			

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

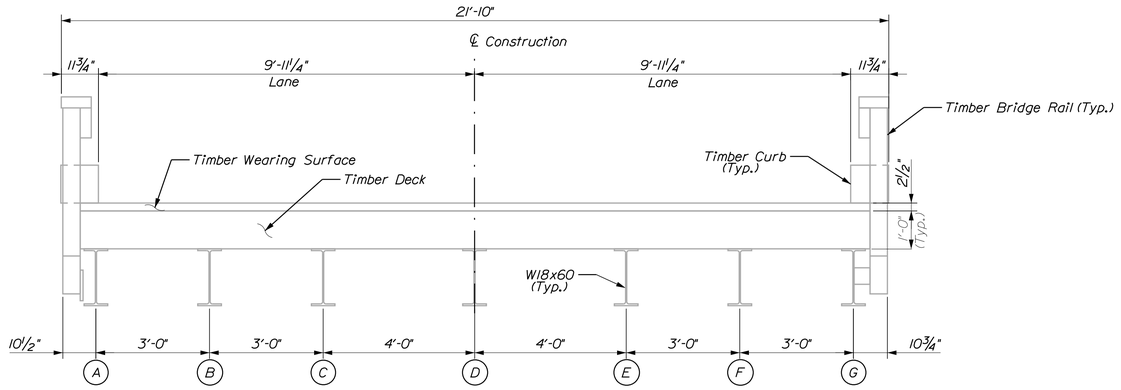
STRUCTURAL STEEL DETAILS

SHEET NUMBER

22

OF 29

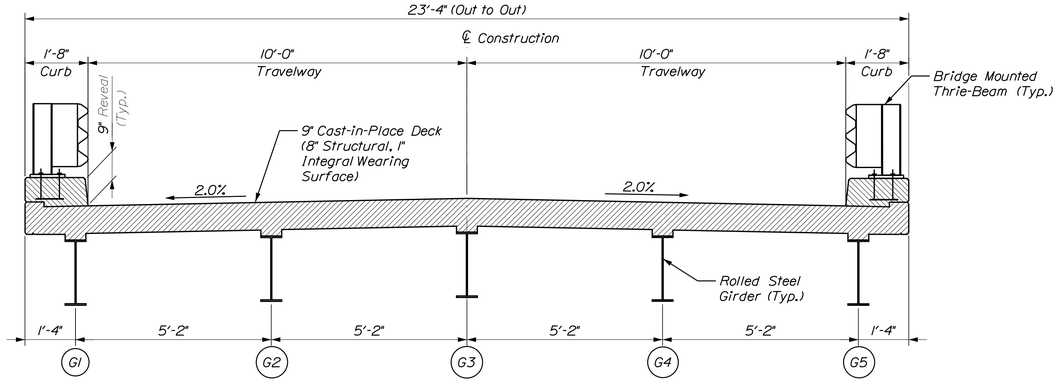
Filename: ...\022_Structurol_Steel.dgn Division: BRIDGE Username: common Date:7/27/2023



EXISTING BRIDGE SECTION

Scale: ½"=1'-0"

All superstructure removal items to be incidental to Removing Existing Superstructure.



PROPOSED BRIDGE SECTION

Scale: ½"=1'-0"

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

WIN 25305.00

BRIDGE NO. 0627

BRIDGE PLANS

PROJ. MANAGER	DEVAN EATON	BY	DATE
DESIGN-DETAILED	LNH	CNJ	JUL 2023
CHECKED-REVIEWED	RF	RF	JUL 2023
DESIGN2-DETAILED2	RF		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

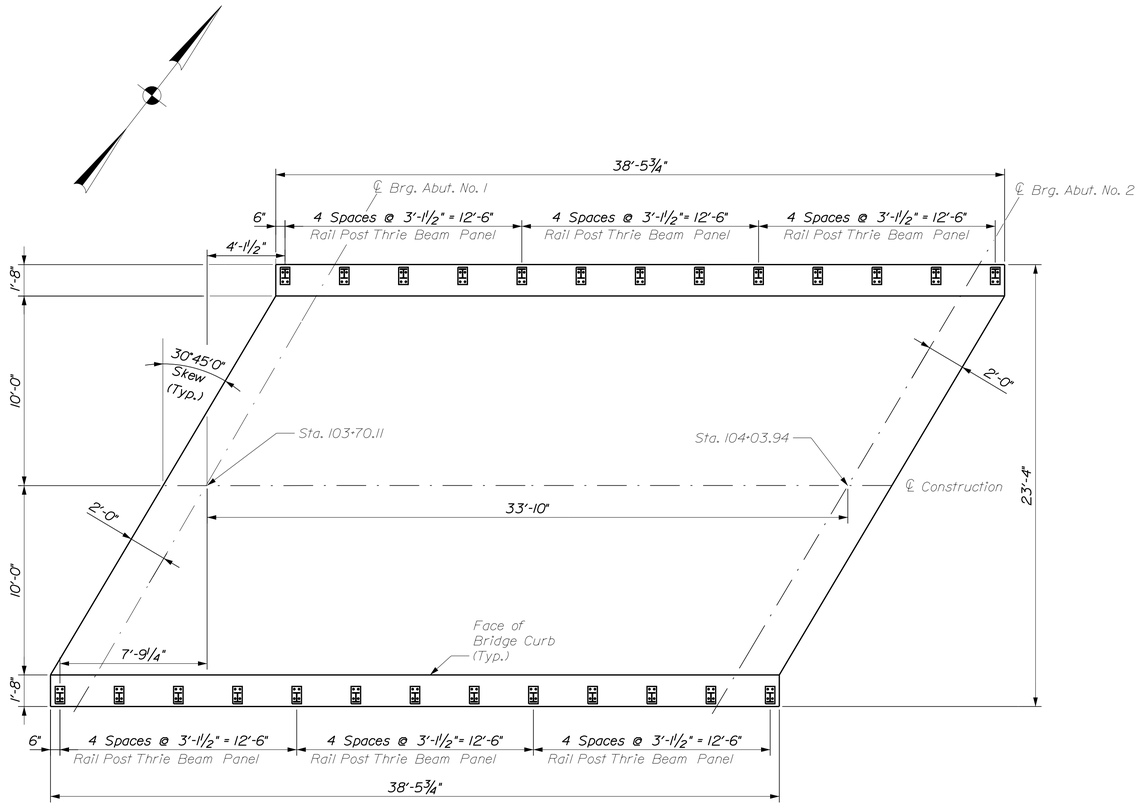
BRIDGE TYPICAL SECTIONS

SHEET NUMBER

23

OF 29

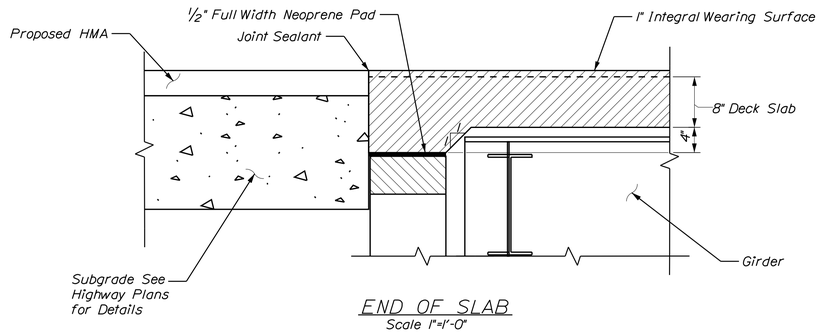
Filename: ...\BRIDGE\023_Btypical.dgn Division: BRIDGE Username: common Date:7/27/2023



SUPERSTRUCTURE PLAN

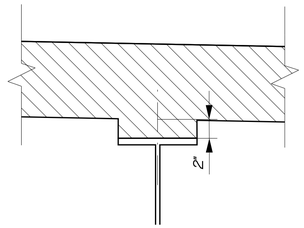
Scale: 1/4"=1'-0"

No Bridge Deck Drains are Required



END OF SLAB

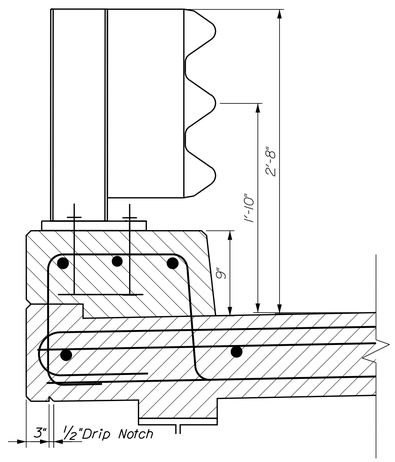
Scale 1"=1'-0"



Theoretical Blocking. (Do Not Use for Setting Formwork.)

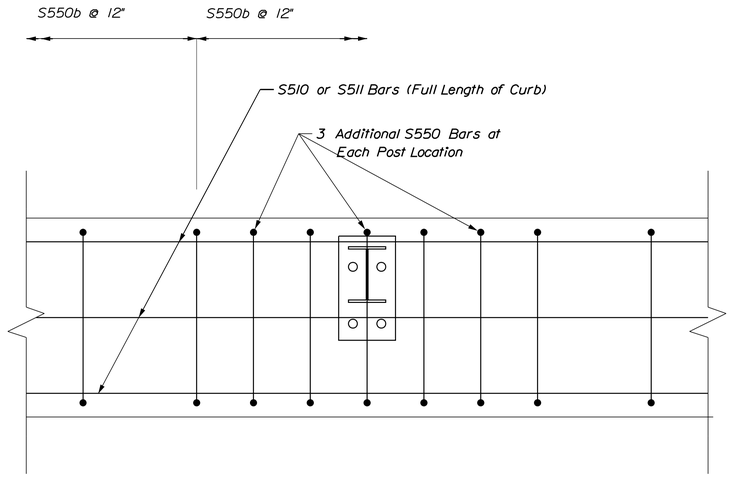
SLAB HAUNCH & BLOCKING DETAIL

Scale 1½"=1'-0"



RAIL SECTION

Scale: 1½"=1'-0"



CURB REINFORCING PLAN

Scale: 1½"=1'-0"

NOTES:

1. Joint sealant to conform to ASTM D6692, Type II Preformed Pad to meet requirements of section 713.03 of the Standard Specifications. Joint Sealant and Preformed Pad shall be incidental to Structural Concrete Superstructure Slab.

2. Neoprene pads shall be either polychloroprene or natural polyisoprene of 50+/- 5 Shore A durometer hardness, and shall conform to the requirements of Division 2, Section 18.2 of AASHTO Standard Specification for Highway Bridges. The pads will have shear modulus of 95-130 psi. Neoprene pads will not be paid for directly but will be considered incidental to related contract items. No separate payment will be made.

STATE OF MAINE
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BRIDGE NO. 0627

BRIDGE PLANS

PROJ. MANAGER	DEVAN EATON		
DESIGN-DETAILED	LNH	CNJ	JUL 2023
CHECKED-REVIEWED	RF	RF	JUL 2023
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

BY | DATE | SIGNATURE

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NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

SUPERSTRUCTURE PLAN

SHEET NUMBER

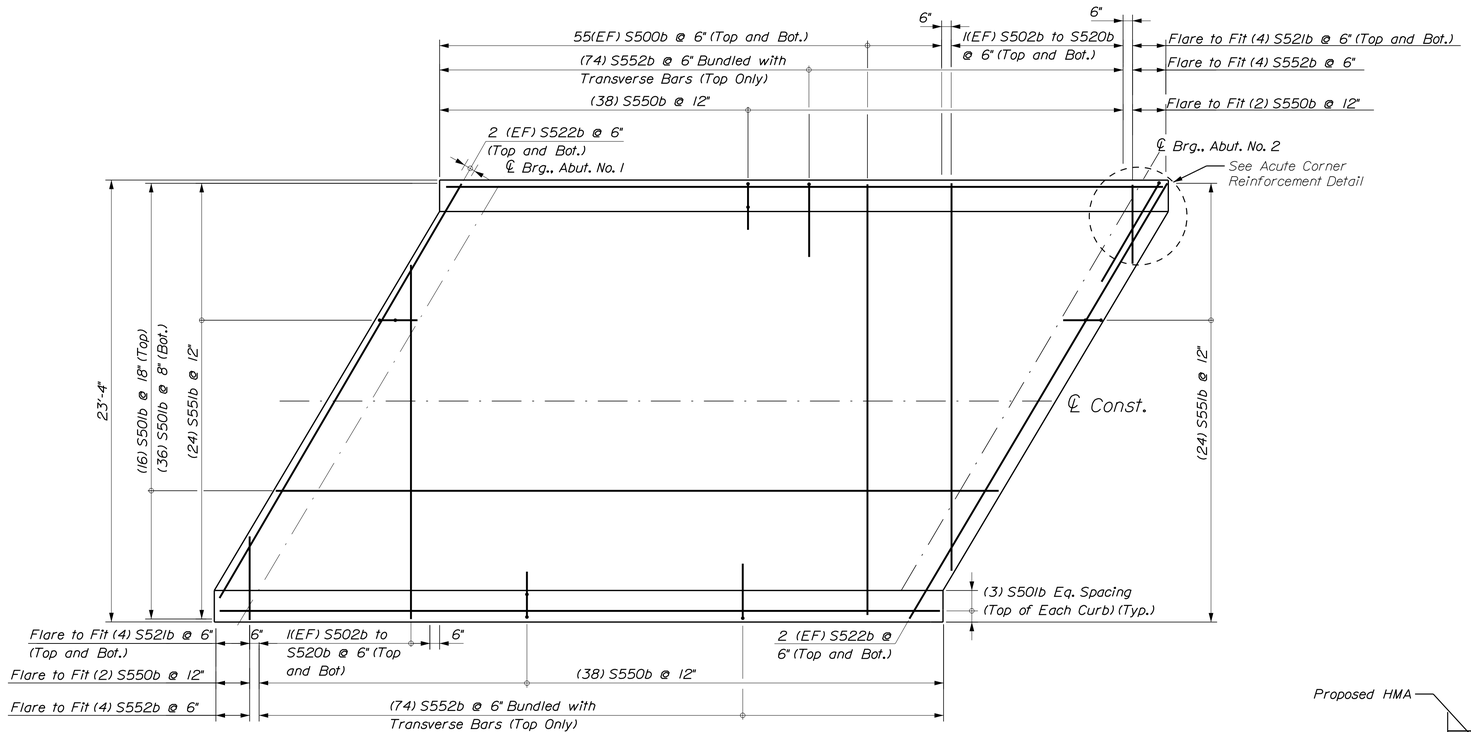
24

OF 29

Username: common Date:7/27/2023

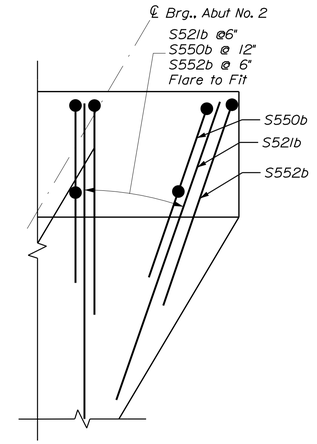
Division: BRIDGE

Filename: ...\BRIDGE\024_Superstructure.dgn



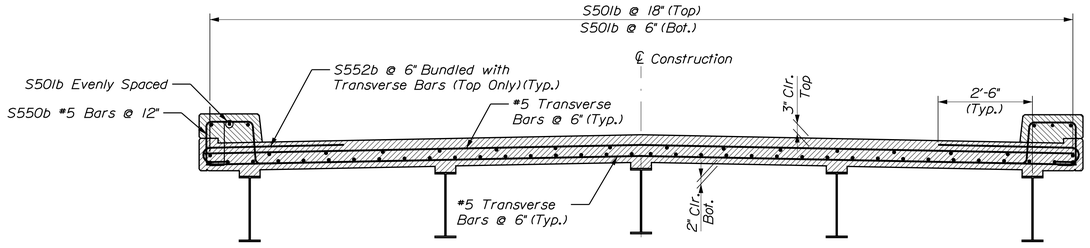
DECK REINFORCING PLAN

Scale 1/4"=1'-0"



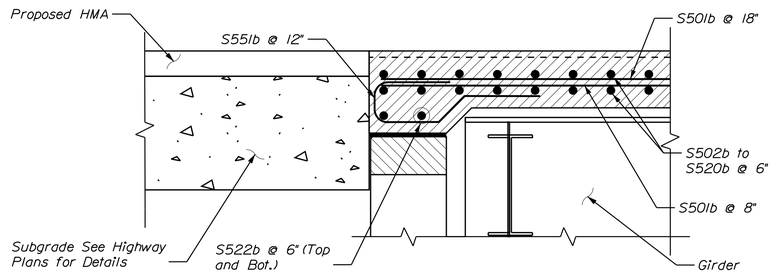
ACUTE CORNER REINFORCEMENT DETAIL

Opposite Corner Similar
Longitudinal and Haunch Bars Omitted for Clarity
Scale 1"=1'-0"



TYPICAL DECK REINFORCING SECTION

Scale: 1/2"=1'-0"



END OF SLAB

Scale 1"=1'-0"

SUPERSTRUCTURE NOTES

1. The theoretical blocking used for design of the structure is 2 inches at the centerline of bearing of the abutments as measured from the top of the girder flange. Refer to blocking details on Sheet 24.

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

3. Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.

4. The Saw Cut Grooving shall be in the longitudinal direction.

5. The superstructure slab concrete for each span shall be placed continuously and shall be kept plastic until the entire placement has been made.

6. Precast Concrete Deck Panels are not allowed on this project.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

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BRIDGE NO. 0627

BRIDGE PLANS

	BY	DATE
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CHECKED-REVIEWED	RF	JUL 2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PROJ. MANAGER: DEVAN EATON

SIGNATURE

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NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

DECK REINFORCING PLAN

SHEET NUMBER

25

OF 29

Filename: ...\025_Superstructure_reinforcing.dgn Division: BRIDGE Username: common Date:7/27/2023

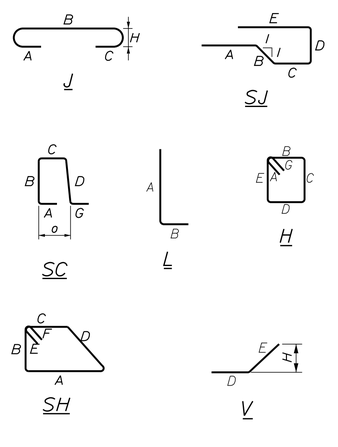
STRAIGHT BARS

MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	LOCATION
			SuperStructure				
S500b	110	23'-0"	Deck-Transverse				
S501b	58	38'-1"	Deck-Longitudinal				
S502b	4	20'-5"	Deck-Transverse				
S503b	4	19'-6"	Deck-Transverse				
S504b	4	18'-8"	Deck-Transverse				
S505b	4	17'-10"	Deck-Transverse				
S506b	4	17'-0"	Deck-Transverse				
S507b	4	16'-2"	Deck-Transverse				
S508b	4	15'-4"	Deck-Transverse				
S509b	4	14'-6"	Deck-Transverse				
S510b	4	13'-8"	Deck-Transverse				
S511b	4	12'-10"	Deck-Transverse				
S512b	4	12'-0"	Deck-Transverse				
S513b	4	11'-2"	Deck-Transverse				
S514b	4	10'-4"	Deck-Transverse				
S515b	4	9'-5"	Deck-Transverse				
S516b	4	8'-7"	Deck-Transverse				
S517b	4	7'-9"	Deck-Transverse				
S518b	4	6'-11"	Deck-Transverse				
S519b	4	6'-1"	Deck-Transverse				
S520b	4	5'-3"	Deck-Transverse				
S521b	16	4'-5"	Deck-Transverse				
S522b	8	26'-8"	Deck-Transverse (at Deck Ends)				
A500b	4	31'-8"	Abutment Backwall				
			Abutment 1				
A501b	14	4'-9 "	Drill and Grout Bars (vert)				
A502b	2	2'-0"	Corner				
A503b	6	2'-8"	Horizontal Bars				
A504b	6	2'-8"	Horizontal Bars				
A505b	6	3'-0"	Horizontal Bars				
A506b	3	1'-6"	Horizontal Bars				
A510b	3	2'-0"	Horizontal Bars				
A511b	3	2'-9"	Horizontal Bars				
A512b	3	2'-10"	Horizontal Bars				
A513b	3	1'-1"	Horizontal Bars				
A514b	3	1'-11"	Horizontal Bars				
A515b	3	2'-9"	Horizontal Bars				
A516b	2	3'-11"	Drill and Grout Bars (horiz)				
A517b	2	2'-4"	Drill and Grout Bars (horiz)				
			Abutment 2				
A518b	14	4'-10 1/2"	Drill and Grout Bars (vert)				
A502b	2	2'-0"	Corner				
A503b	6	2'-8"	Horizontal Bars				
A504b	6	2'-8"	Horizontal Bars				
A505b	6	3'-0"	Horizontal Bars				
A506b	3	1'-6"	Horizontal Bars				
A510b	3	2'-0"	Horizontal Bars				
A511b	3	2'-9"	Horizontal Bars				
A512b	3	2'-10"	Horizontal Bars				
A513b	3	1'-1"	Horizontal Bars				
A514b	3	1'-11"	Horizontal Bars				
A515b	3	2'-9"	Horizontal Bars				
A516b	2	3'-11"	Drill and Grout Bars (horiz)				
A517b	2	2'-4"	Drill and Grout Bars (horiz)				

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
S550b	158	5'-4"	SC	0'-10"	1'-2 3/4"	1'-3"	1'-2 3/4"			0'-10"		1'-3 1/2"		SuperStructure
S551b	48	4'-4"	SJ	1'-0"	0'-6"	0'-8"	0'-7"	1'-0"		0'-10"				Curb Stirrup
S552b	156	4'-3"	J	0'-7"	3'-8"	0'-0"					0'-5"			Deck End
														Overhang Hook
S553b	80	2'-11"	L	2'-5"	0'-6"									Pedestal
S554b	13	9'-3"	H	0'-3 3/4"	1'-6"	2'-6"	1'-6"	2'-6"	0'-3 3/4"					Pedestal
S555b	7	9'-10"	SH	3'-0"	1'-6"	2'-0"	1'-7"	0'-3 3/4"	0'-3 3/4"					Pedestal
A550b	80	1'-9"	L	1'-3"	0'-6"									Abutment Backwall
														Abutment 1
A551b	22	4'-4"	L	3"-9"	0'-7"									Abutment Vertical Bar
A552b	6	4'-6 1/2"	SU	0'-0"	3'-3"	0'-8 1/2"	0'-7"							Abutment Vertical Bar
A553b	1	3'-10"	U	0'-7"	2'-8"	0'-7"								Abutment Horizontal Bar
A554b	1	3'-10"	U	0'-7"	2'-8"	0'-7"								Abutment Horizontal Bar
A555b	1	4'-2"	U	0'-7"	3'-0"	0'-7"								Abutment Horizontal Bar
A560b	1	3'-10 1/2"	SU	0'-7"	2'-0"	0'-8 1/2"	0'-7"							Abutment Horizontal Bar
A561b	1	4'-7 1/2"	SU	0'-7"	2'-9"	0'-8 1/2"	0'-7"							Abutment Horizontal Bar
A562b	1	4'-8 1/2"	SU	0'-7"	2'-10"	0'-8 1/2"	0'-7"							Abutment Horizontal Bar
A563b	1	2'-11 1/2"	SU	0'-7"	1'-1"	0'-8 1/2"	0'-7"							Abutment Horizontal Bar
A564b	1	3'-9 1/2"	SU	0'-7"	1'-11"	0'-8 1/2"	0'-7"							Abutment Horizontal Bar
A565b	1	4'-7 1/2"	SU	0'-7"	2'-9"	0'-8 1/2"	0'-7"							Abutment Horizontal Bar
														Abutment 2
A566b	22	4'-5 1/2"	L	3"-10 1/2"	0'-7"									Abutment Vertical Bar
A567b	6	4'-8 "	SU	0'-0"	3'-4 1/2"	0'-8 1/2"	0'-7"							Abutment Vertical Bar
A553b	1	3'-10"	U	0'-7"	2'-8"	0'-7"								Abutment Horizontal Bar
A554b	1	3'-10"	U	0'-7"	2'-8"	0'-7"								Abutment Horizontal Bar
A555b	1	4'-2"	U	0'-7"	3'-0"	0'-7"								Abutment Horizontal Bar
A560b	1	3'-10 1/2"	SU	0'-7"	2'-0"	0'-8 1/2"	0'-7"							Abutment Horizontal Bar
A561b	1	4'-7 1/2"	SU	0'-7"	2'-9"	0'-8 1/2"	0'-7"							Abutment Horizontal Bar
A562b	1	4'-8 1/2"	SU	0'-7"	2'-10"	0'-8 1/2"	0'-7"							Abutment Horizontal Bar
A563b	1	2'-11 1/2"	SU	0'-7"	1'-1"	0'-8 1/2"	0'-7"							Abutment Horizontal Bar
A564b	1	3'-9 1/2"	SU	0'-7"	1'-11"	0'-8 1/2"	0'-7"							Abutment Horizontal Bar
A565b	1	4'-7 1/2"	SU	0'-7"	2'-9"	0'-8 1/2"	0'-7"							Abutment Horizontal Bar

TYPE - BENDING DIAGRAMS



Pedestal Bars S553b may to be Cut in Field prior to drilling and grouting, or may exceed Minimum Embedment.

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. The lower case letter following the bar number indicates the material of the bar:

"A500b", b = (Black) Plain Steel
"A500s", s = Stainless Steel
"S500p", p = Glass Fiber Reinforced Polymer
"P510c", c = Low-Carbon Chromium Steel

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

WIN 25305.00

BRIDGE PLANS

BRIDGE NO. 0627

P.E. NUMBER

SIGNATURE

DATE

PROJ. MANAGER	DEVAN EATON	
DESIGN-DETAILED	LNH	JUL 2023
CHECKED-REVIEWED	RF	JUL 2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

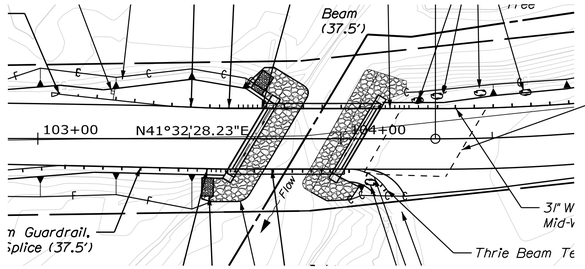
REINFORCING STEEL SCHEDULE

SHEET NUMBER

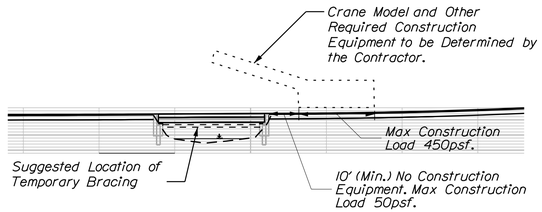
26

OF 29

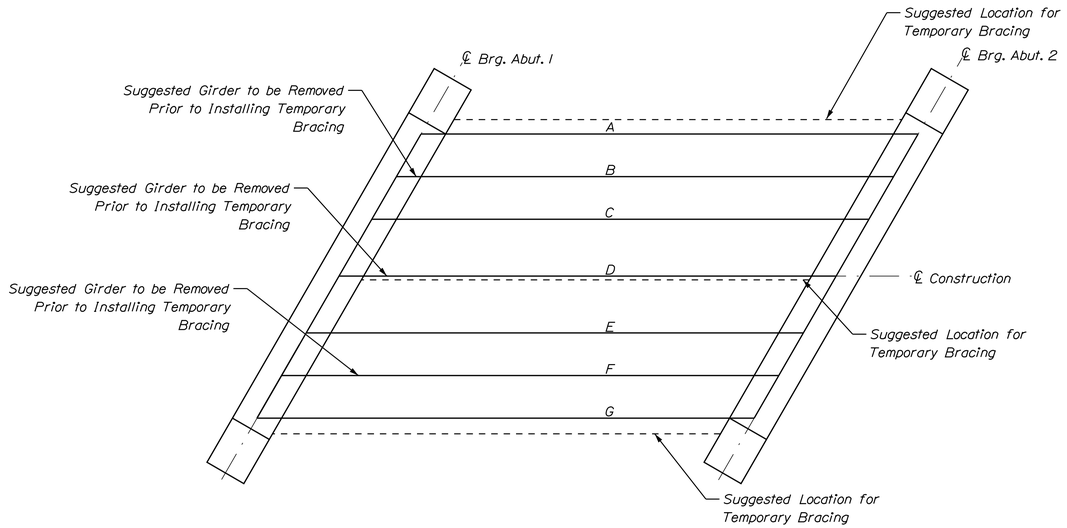
Date:7/27/2023
Username: common
Division: BRIDGE
Filename: ...\BRIDGE\026_Rebar.dgn



PLAN



PROFILE



EXISTING FRAMING PLAN

Diaphragms (Existing, Proposed and Temporary) are Not Shown for Clarity.

Requirement for Field Measurements:

A1. There are no as-built plans for the existing structure. Existing plans are limited to preliminary plans.

A2. The existing survey does not include all elements of the structure.

A3. The Contractor shall field verify all dimensions prior to submitting shop drawings and progressing with superstructure installation.

Construction Loading Limitations During Construction:

B1. Construction Loading shall be limited to a uniform surcharge pressure of 50 psf for 10 feet (along the length of the roadway) from back face of the abutment.

B2. Construction Loading shall be limited to a uniform surcharge pressure of 450 psf beyond the 10 foot restriction length. All construction equipment shall be restricted to remain within the limits of the roadway width.

B3. The Contractor shall submit calculations for all construction equipment to show that the equipment meets these requirements. Calculation shall be stamped by a Professional Engineer licensed in the State of Maine.

Temporary Bracing Construction Notes:

C1. Temporary bracing is required to maintain the distance between the integral abutments during construction. The distance between abutments shall remain constant, except that the distance shall increase or decrease as appropriate to account for the thermal contraction or expansion equivalent to that of the existing steel girders. As such, the bracing material shall be steel.

C2. The temporary bracing shall be designed for a factored load due to earth pressure and surcharge loading acting on the abutment equal to 4.25 klf along the length of the abutment, provided that the construction surcharge loadings meet the requirements stipulated above.

C3. Temporary Bracing shall have a maximum spacing of 12.5 ft and shall be no greater than 5 feet from the end of the abutment.

C4. No more than 3 existing girders may be removed before the temporary bracing is installed. Before the installation of the temporary bracing, the existing girders must meet the same spacing requirement as the temporary bracing (maximum spacing of 12.5 ft and no greater than 5 feet from the abutment end.)

C5. The temporary bracing shall stay in place until at least 4 of the proposed girders are installed. The proposed girders shall meet the same spacing requirement as the temporary bracing (maximum spacing of 12.5 ft and no greater than 5 feet from the abutment end) prior to removal of the temporary bracing.

C6. The Contractor is required to provide the design for the temporary bracing, demolition and erection plan. The suggested construction sequence provided below is not required to be followed and if used, does not change the requirement that the Contractor is to provide the design of such. Design shall be stamped by a Professional Engineer licensed in the State of Maine.

C7 The Contractor shall verify the location of the existing abutments prior to the start of demolition, monitor the location of the abutments during construction and report any changes to the Engineer.

Suggested Construction Sequence:

See note C6 above.

Remove existing Girders B, D, and F.

Adjust the length of those girders to fit between the front face of the 2 abutments. Weld an end plate to each girder end. Use drilled and grouted concrete anchors to connect each end plate to the face of each abutment. Locate those repurposed girders at CL of Construction and 8" outside of each existing fascia girder.

Remove Remaining Girders.

Install proposed girders G1, G2, G4 and G5.

Remove Temporary Bracing.

Install proposed girder G3.

The suggested construction sequence assumes that diaphragms are in place for the existing and proposed girders and temporary diaphragms are used at third points for the temporary bracing or a closer spacing if required by the Contractors design.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

WIN 25305.00

BRIDGE NO. 0627

BRIDGE PLANS

PROJ. MANAGER	DEVAN EATON		
DESIGN-DETAILED	LNH	JUL 2023	
CHECKED-REVIEWED	RF	JUL 2023	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

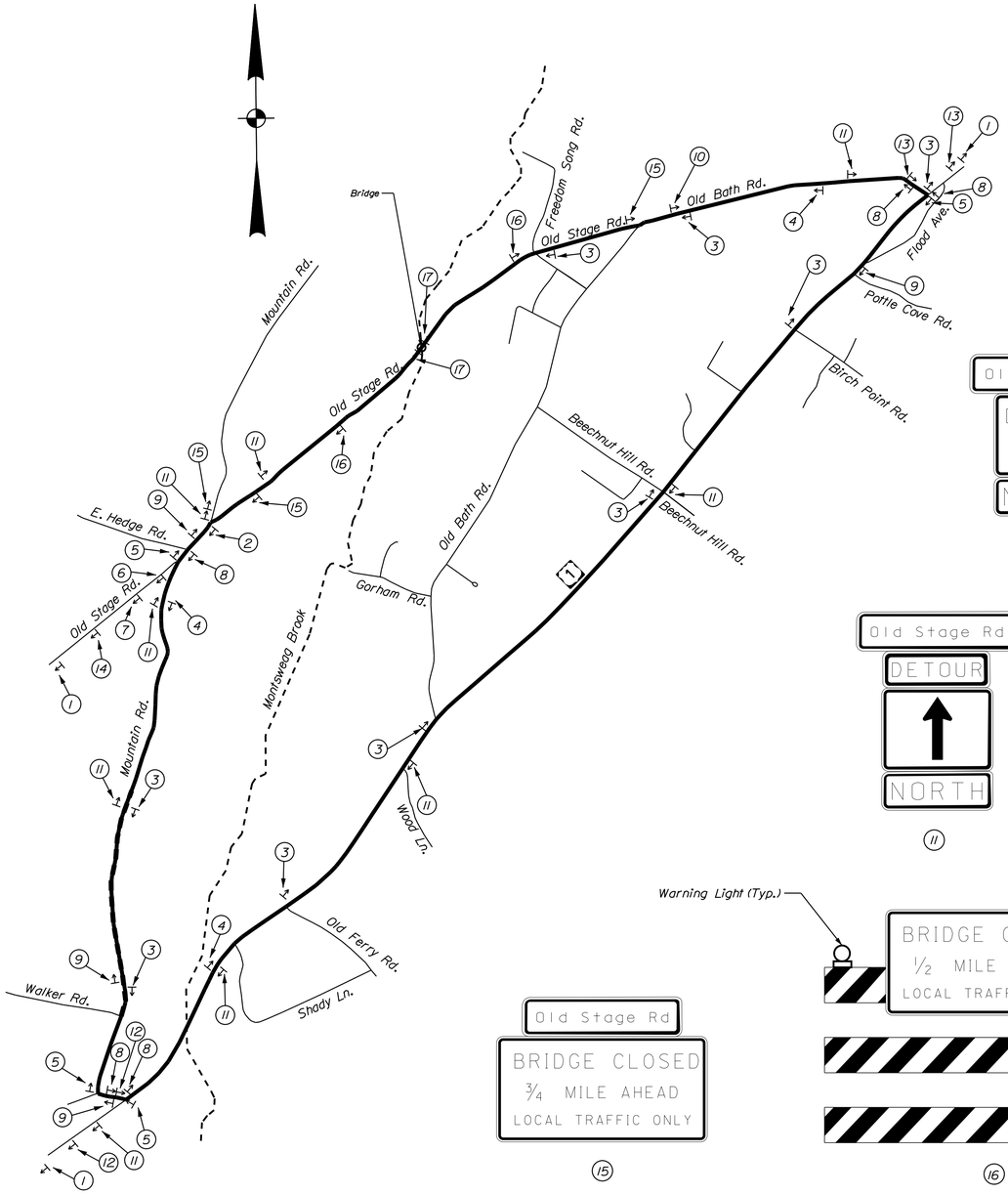
CONSTRUCTION DETAILS

SHEET NUMBER

27

OF 29

Filename: ...\027_Construction Details.dgn Division: BRIDGE Username: common Date:7/27/2023



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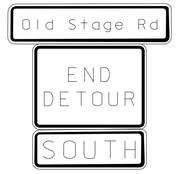

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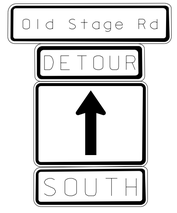

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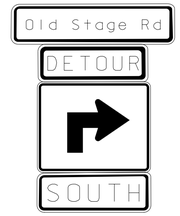

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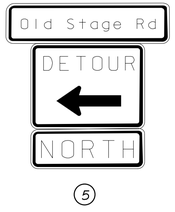

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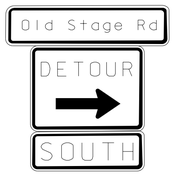
(7)



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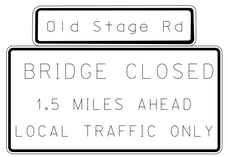

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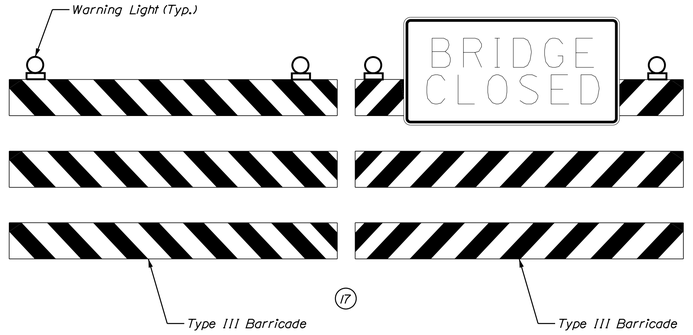

(17)

Note: All signs and devices shown on this sheet shall be installed in accordance with the MUTCD 2009 Edition and as approved by the Resident.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2530500

WIN 25305.00

BRIDGE NO. 0627

BRIDGE PLANS

PROJ. MANAGER	DEVAN EATON	
DESIGN-DETAILED	GRS	Jul. 2023
CHECKED-REVIEWED	RF	JUL 2023
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

BY | DATE

SIGNATURE

P.E. NUMBER

DATE

NEW BRIDGE
MONTSWEAG BROOK
WOOLWICH-WISCASSET SAGADAHOC-LINCOLN COUNTY

DETOUR MAP

SHEET NUMBER

28

OF 29

Filename: ...\PlanSheets\028_DetourPlan.dgn Division: BRIDGE Username: common Date:7/27/2023

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

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	Gas Line		Sewer Manhole	
New Easement	Fence CHAIN LINK	BARB WIRE STOCKADE	Underdrain 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
Stonewall — Retaining Wall
Baseline 10+00 11+00 12+00
Monument — Traverse Point
Iron Rod Found ● IRF — Pipe Found ● IPF
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

CENTRAL MAINE POWER COMPANY

POR 2
WOOLWICH
TAX MAP R10 LOT 34

POR 6
WOOLWICH
TAX MAP R10 LOT 36
CENTRAL MAINE POWER COMPANY

CONTROL INFORMATION:

HORIZONTAL DATUM - US STATE PLANE NAD83 (2011)
ZONE - MAINE 2000 WEST ZONE
VERTICAL DATUM - NAVD 88
COMBINED SCALE FACTOR - 1.00001521415

GRID
MAINE 2000 WEST ZONE

POR 4
WISCASSET
TAX MAP R7 LOT 87

CHEWONKI FOUNDATION, INC.

← TO ROUTE 127
OLD STAGE ROAD (TOWNWAY)

USDA CONSERVATION EASEMENT BOUNDARY

CHEWONKI FOUNDATION, INC.

POR 1
WOOLWICH
TAX MAP R10 LOT 24

CAPPED IRON PIPE
L.O.W.P.
IPF
PLS 1287

USDA CONSERVATION EASEMENT BOUNDARY

CHEWONKI FOUNDATION EASEMENT PLS 1287 CORNER 41 2010

USGS BENCHMARK 1176 HO 1940

CENTRAL MAINE POWER COMPANY

POR 5
WISCASSET
TAX MAP R7 LOT 80

TO ROUTE 1 →
OLD STAGE ROAD (TOWNWAY)

EXISTING RIGHT OF WAY REFERENCES:

LINCOLN COUNTY COMMISSIONERS RECORDS
VOLUME 3, PAGE 266
1804

LINCOLN COUNTY COMMISSIONERS RECORDS
VOLUME 4, PAGE 126
1810 3 RODS (49.5 FEET)

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

NEW BRIDGE
OVER
MONTSWEAG BROOK

BRIDGE NO. 0627 WIN 025305.00

PRELIMINARY PLAN

ITEM	TECH	CHECKED
EXISTING CONDITION PLAN	JDF	
FINAL RIGHT OF WAY	JDF	
AREAS		

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

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

TOWNWAY
OLD STAGE ROAD
WOOLWICH SAGADAHOC COUNTY
WISCASSET LINCOLN COUNTY
FEDERAL AID PROJECT NO. 25305.00

JULY 2023 | RIGHT-OF-WAY MAP | EXISTING RIGHT OF WAY PURPOSES ONLY
SCALE 1" = 25' | SHEET 1 OF 1

SHEET NUMBER
29
OF 29