

# 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 (Stage 1A) ..... All Maine legal Trucks  
 Live Load (All Other stages) ..... HL - 93 Modified for Strength I

## MATERIALS

Concrete:  
 Barriers, Curbs, Sidewalks & Transition Barriers ..... Class "LP"  
 All Other ..... Class "A"  
 Reinforcing:  
 Plain Reinforcing Steel ..... ASTM A615, Grade 60

## BASIC DESIGN STRESSES

Concrete:  
 Class "A" .....  $f'c = 4,000$  psi  
 Class "LP" .....  $f'c = 5,000$  psi  
 Reinforcing:  
 Plain Reinforcing Steel .....  $f_y = 60,000$  psi

## ALBANY TWP OXFORD COUNTY CROOKED RIVER BRIDGE OVER CROOKED RIVER ROUTE 5 - MAIN STREET STATE PROJECT NO. 026122.00 PROJECT LENGTH 0.038 mi. BRIDGE NO. 5079

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## UTILITIES

Central Maine Power  
 Consolidated Communications

## TRAFFIC DATA

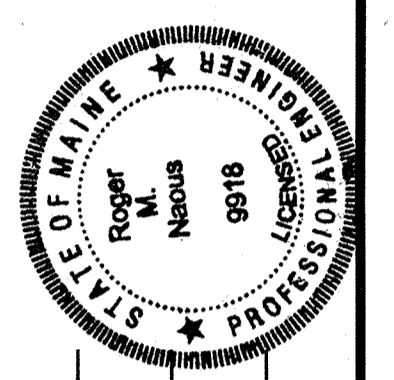
Current (2023) AADT .....	1,370
Future (2035) AADT .....	1,450
DHV - % of AADT .....	11
Design Hour Volume .....	160
Heavy Trucks (% of AADT) .....	11
Heavy Trucks (% of DHV) .....	11
Directional Distribution (% of DHV) .....	51
18 kip Equivalent P 2.0 .....	100
18 kip Equivalent P 2.5 .....	96
Design Speed (mph) .....	50

## MAINTENANCE OF TRAFFIC

Maintain alternating one - way traffic using traffic signals.

<u>PROJECT LOCATION</u>	Crooked River Bridge (#5079) over Crooked River. Located 0.08 of a mile northwest of Route 35. Lat./Long. 44°14'41.0" N 70°12'00.0" W
<u>PROGRAM AREA</u>	Highway Bridges-Traditional
<u>OUTLINE OF WORK</u>	Bridge Deck Replacement

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
APPROVED: *[Signature]* DATE: 0-23-23  
COMMISSIONER: *[Signature]*  
CHIEF ENGINEER: *[Signature]*



SIGNATURE: *[Signature]*  
P.E. NUMBER: 9918  
DATE: AUG 16 2023

PROGRAM	BRIDGE
PROJECT MANAGER	BRIAN NICHOLS
DESIGNER	ROGER NAPOS
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

26122.00 WIN 26122.00  
ALBANY TWP  
CROOKED RIVER BRIDGE  
TITLE SHEET

SHEET NUMBER  
**1**  
OF 10

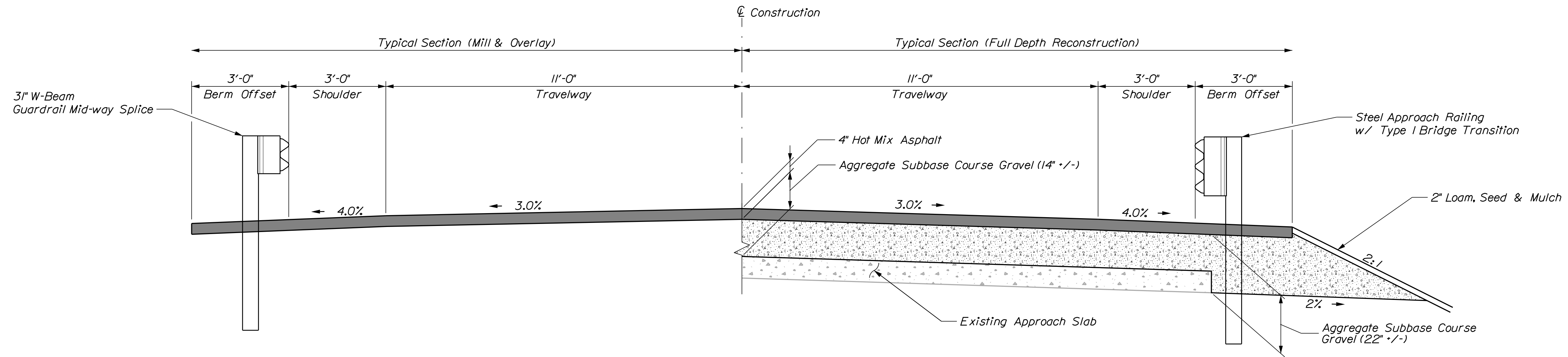
ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.10	REMOVING EXISTING SUPERSTRUCTURE (PROPERTY OF CONTRACTOR) (52 CY)	1	LS
202.202	REMOVING PAVEMENT SURFACE	570	SY
202.31	PROFILE MILLING CONCRETE WEARING SURFACE	150	SY
203.20	COMMON EXCAVATION	25	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	20	CY
403.208	HOT MIX ASPHALT 12.5 MM HMA SURFACE	50	T
403.213	HOT MIX ASPHALT 12.5 MM BASE	80	T
409.15	BITUMINOUS TACK COAT - APPLIED	50	G
424.304	HIGH MOLECULAR WEIGHT METHACRYLATE CRACK SEALER	15	G
502.26	STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLABS ON STEEL BRIDGES (52 CY)	1	LS
502.49	STRUCTURAL CONCRETE CURBS AND SIDEWALKS (5 CY)	1	LS
502.77	FIBER REINFORCED POLYMER BRIDGE DRAIN - TYPE B	2	EA
503.12	REINFORCING STEEL, FABRICATED AND DELIVERED	13300	LB
503.13	REINFORCING STEEL, PLACING	13300	LB
503.17	MECHANICAL/WELDED SPLICE	183	EA
505.08	SHEAR CONNECTORS (510 EA)	1	LS
507.0821	STEEL BRIDGE RAILING, 3 BAR (109 LF)	1	LS
507.0822	STEEL APPROACH RAILING, 3-BAR	4	EA
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (50 SY)	1	LS
526.301	PORTABLE CONCRETE BARRIER, TYPE 1 (200 LF)	1	LS
526.304	PORTABLE CONCRETE BARRIER, ANCHORED TYPE 1 (60 LF)	1	LS
527.34	WORK ZONE CRASH CUSHIONS	2	UN
606.1301	3" W-BM GR, MID-WAY SPLICE-SGL FACED	275	LF
606.1303	3" W-BM GR, MID-WAY SPLICE-15' RAD AND LESS	50	LF
606.1305	3" W-BM GR, MID-WAY SPLICE FLARED TERMINAL	2	EA
606.1721	BRIDGE TRANSITION - TYPE 1	4	EA
606.265	TERMINAL END - SINGLE RAIL - GALVANIZED STEEL	2	EA
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	8	EA
613.319	EROSION CONTROL BLANKET	70	SY
615.07	LOAM	2	CY
618.14	SEEDING METHOD NUMBER 2	1	UN
619.12	MULCH	1	UN
619.14	EROSION CONTROL MIX	3	CY
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	600	LF
627.77	REMOVING PAVEMENT MARKINGS	350	SF
627.78	TEMPORARY 4 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YEL LOW	1040	LF
629.05	HAND LABOR, STRAIGHT TIME	40	HR
631.122	MINI ALL-PURPOSE EXCAVATOR (INCLUDING OPERATOR)	20	HR
631.133	SKID STEER (INCLUDING OPERATOR)	20	HR
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	20	HR
639.19	FIELD OFFICE TYPE B	1	EA
643.72	TEMPORARY TRAFFIC SIGNAL	1	LS
652.31	TYPE 1 BARRICADE	10	EA
652.33	DRUM	20	EA
652.34	CONE	50	EA
652.35	CONSTRUCTION SIGNS	300	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	1	LS
652.38	FLAGGER	240	HR
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS

**GENERAL CONSTRUCTION NOTES**

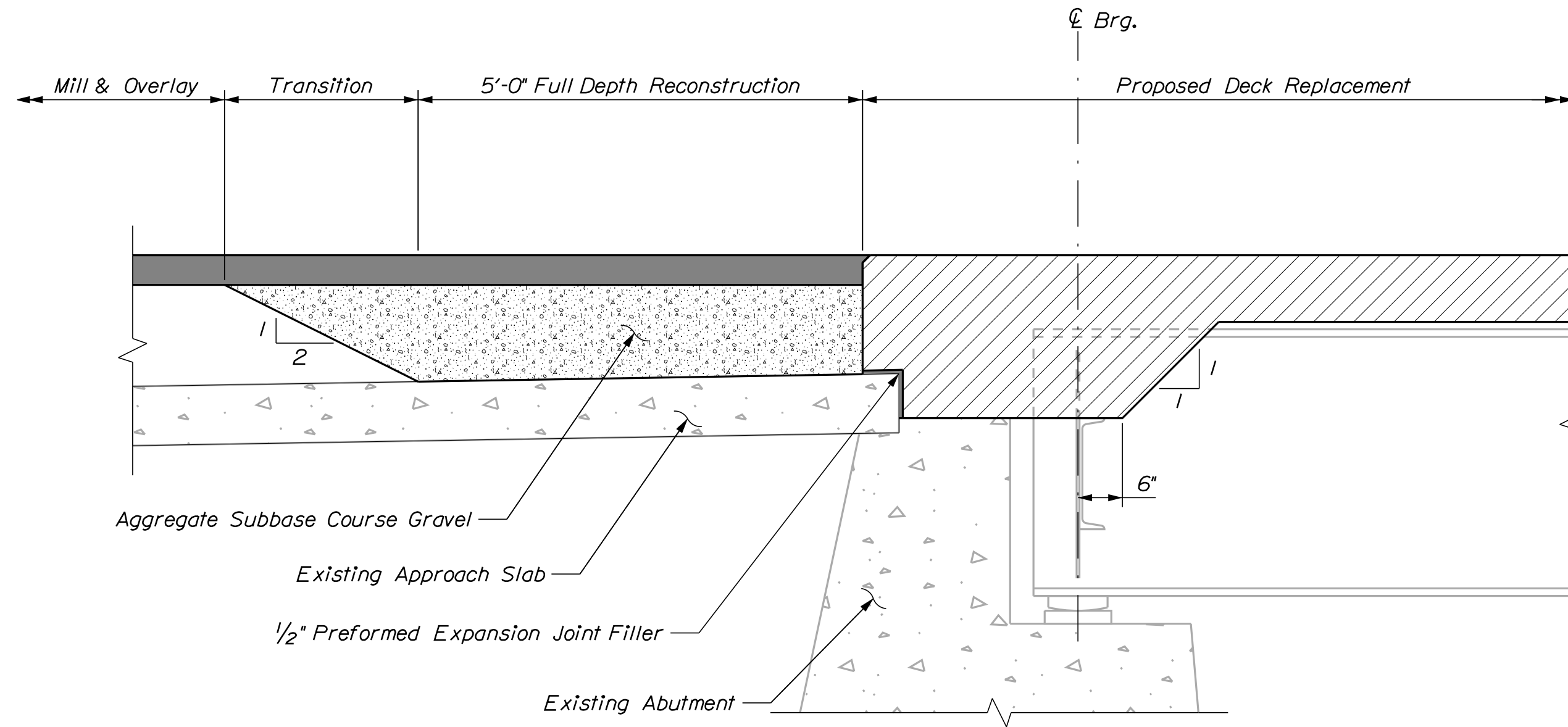
- Payment for any clearing required to perform the Work shall be considered incidental to Contract items.
- All utility facilities shall be adjusted by the respective utilities unless otherwise noted.
- Existing signs within the Project limits shall be removed and reset as directed by the Resident. Payment for removal and reinstallation of existing signs will be considered incidental to the Contract. No separate payment will be made.
- Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.
- In areas where the Resident directs the Contractor not to excavate to the subgrade line shown on the plans, payment for removing existing pavement, grubbing, shaping, ditching, and compacting the existing subbase and layers of new subbase 6 inches or less thick will be made under appropriate equipment rental items.
- Place loam 2 inches deep on all new or reconstructed sideslopes or as directed by the Resident.
- 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 Pay Item 619.14, Erosion Control Mix.
- Place a 24 inch wide strip of Erosion Control Blanket on the sideslopes along the edge of pavement and behind the wingwalls.
- A MASH compliant guardrail end treatment shall be installed concurrently with the placement of each section of beam guardrail.
- Protective Coating for Concrete Surfaces shall be applied to the following areas:  
All exposed surfaces of concrete curbs, Fascias down to the drip notch.
- Apply High Molecular Weight Methacrylate Crack Sealer to concrete curbs and concrete wearing surface. Apply to curb faces with a brush. This work will be paid for under Pay Item No. 424.304, High Molecular Weight Methacrylate Crack Sealer
- Project information referred to below may be accessed at the following MaineDOT web address: <http://www.maine.gov/mdot/contractors/>
- The existing bridge plans may be accessed at the MaineDOT web address. The plans are reproductions of the original drawings as prepared for the construction of the bridge. It is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.
- The existing ROW Map from 1960 may be accessed at the MaineDOT web address.
- 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.
- Payment for equipment, labor and materials needed to access the work, as well as to re-establish original ground, will be considered incidental to related Contract items.
- Variable depth profile mill the concrete wearing surface within 2 feet of each curb and the full length of the bridge to achieve the final bridge profile grade and cross slope. This work will be paid for under Pay Item No. 202.31, Profile Milling Concrete Wearing Surface.

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		26122.00		BRIDGE NO. 5079		BRIDGE PLANS	
CROOKED RIVER BRIDGE		CROOKED RIVER		OXFORD COUNTY		ALBANY TWP		ESTIMATED QUANTITIES AND GENERAL CONSTRUCTION NOTES	
PROJ. MANAGER	DESIGN-DETAILED	RN	EB	DESIGNS DET AILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES
CHECKED-REVIEWED	BY	BAN	MRP	SIGNATURE	P.E. NUMBER	DATE			
DATE	JUL 2023	AUG 2023							
SHEET NUMBER									
2									
OF 10									





**TYPICAL APPROACH SECTION**  
Full Depth and Mill & Overlay sections symmetrical about  $\bar{C}$  Construction



**LONGITUDINAL APPROACH SECTION**  
Abutment No. 1 Shown, Abutment No 2 Similar

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

26122.00

BRIDGE NO. 5079 WIN 26122.00 BRIDGE PLANS

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

BY	DATE
B.N	JUL 2023
MRP	AUG 2023

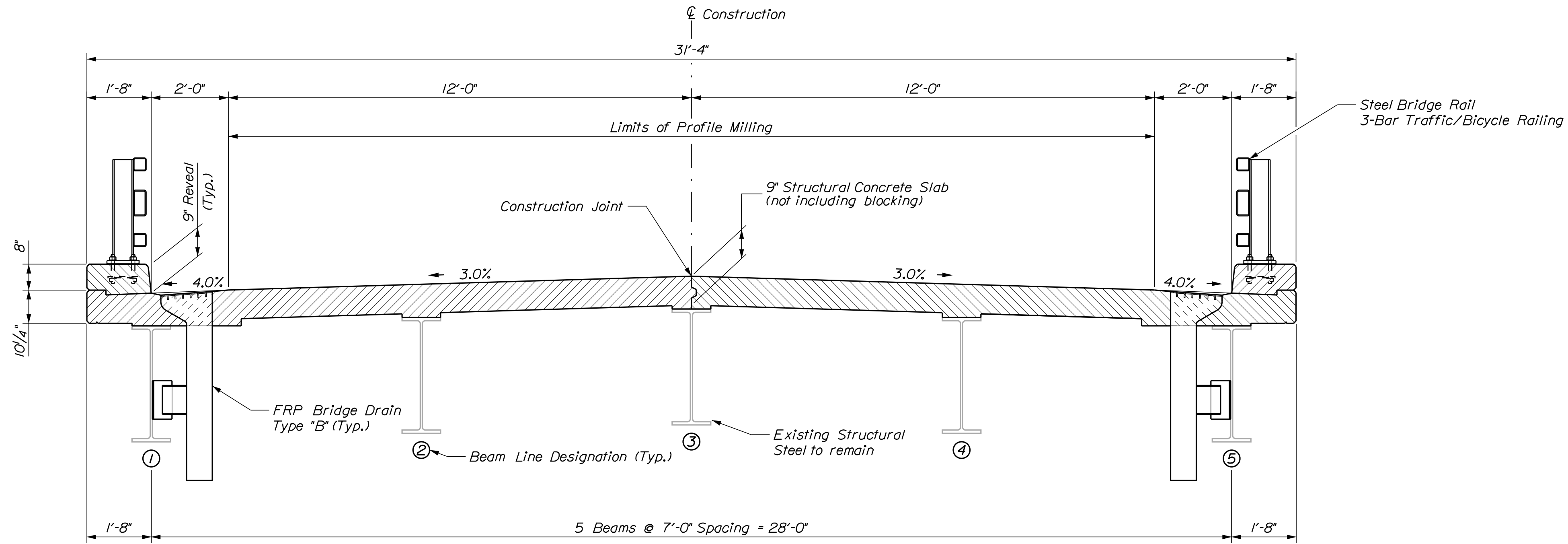
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P.E. NUMBER  
DATE

CROOKED RIVER BRIDGE  
CROOKED RIVER  
ALBANY TWP OXFORD COUNTY  
**TYPICAL SECTIONS**

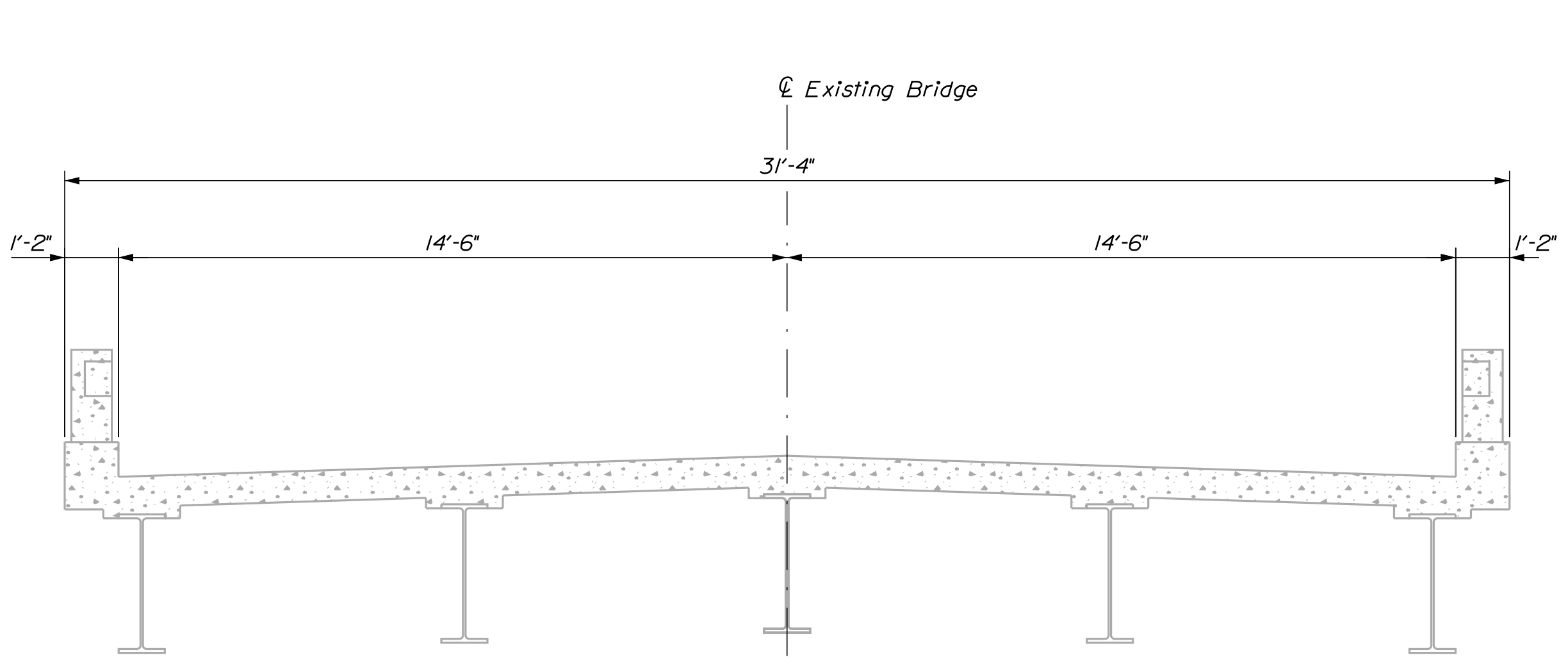
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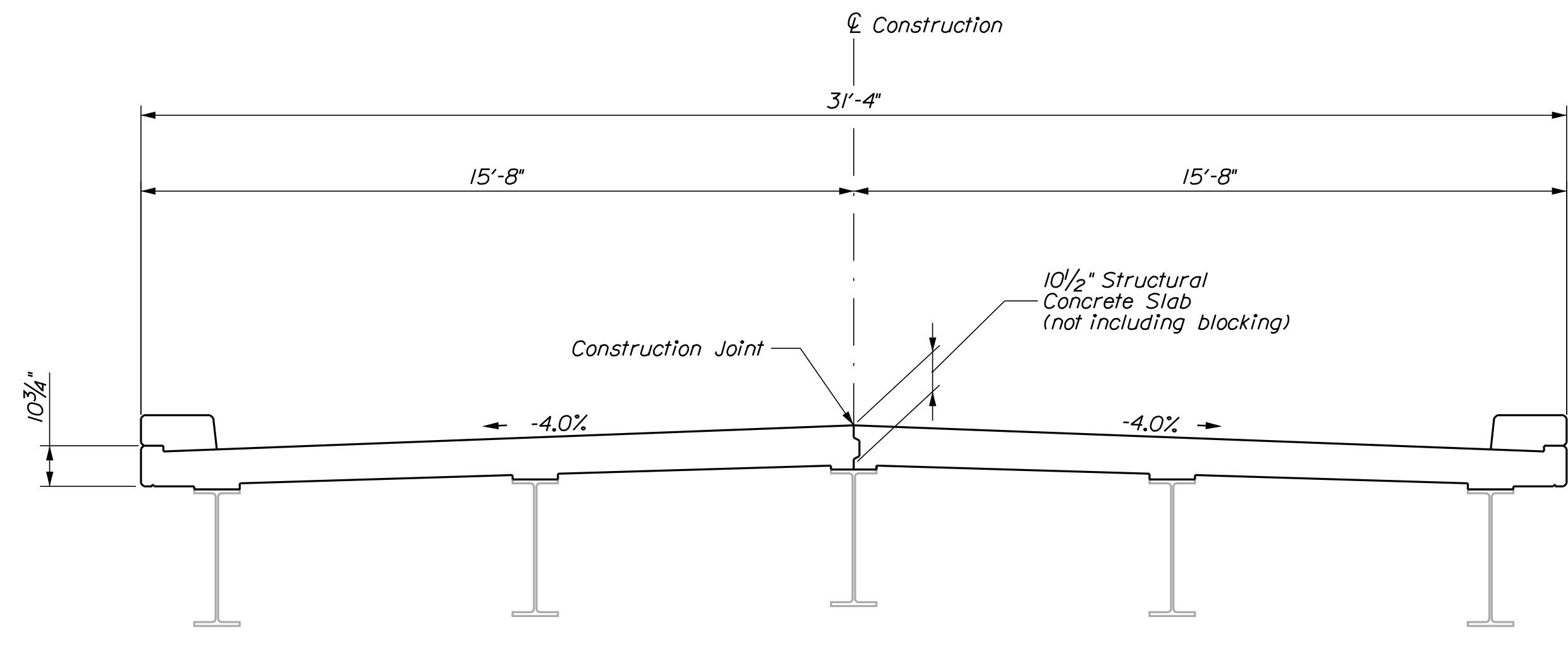
OF 10



**PROPOSED BRIDGE SECTION**  
Final deck section after profile milling  
Flow →



**EXISTING BRIDGE SECTION**  
Flow →  
See existing bridge plans for more information



**DECK PLACEMENT BRIDGE SECTION PRIOR TO PROFILE MILLING**  
Flow →  
Bridge Rail not shown for clarity

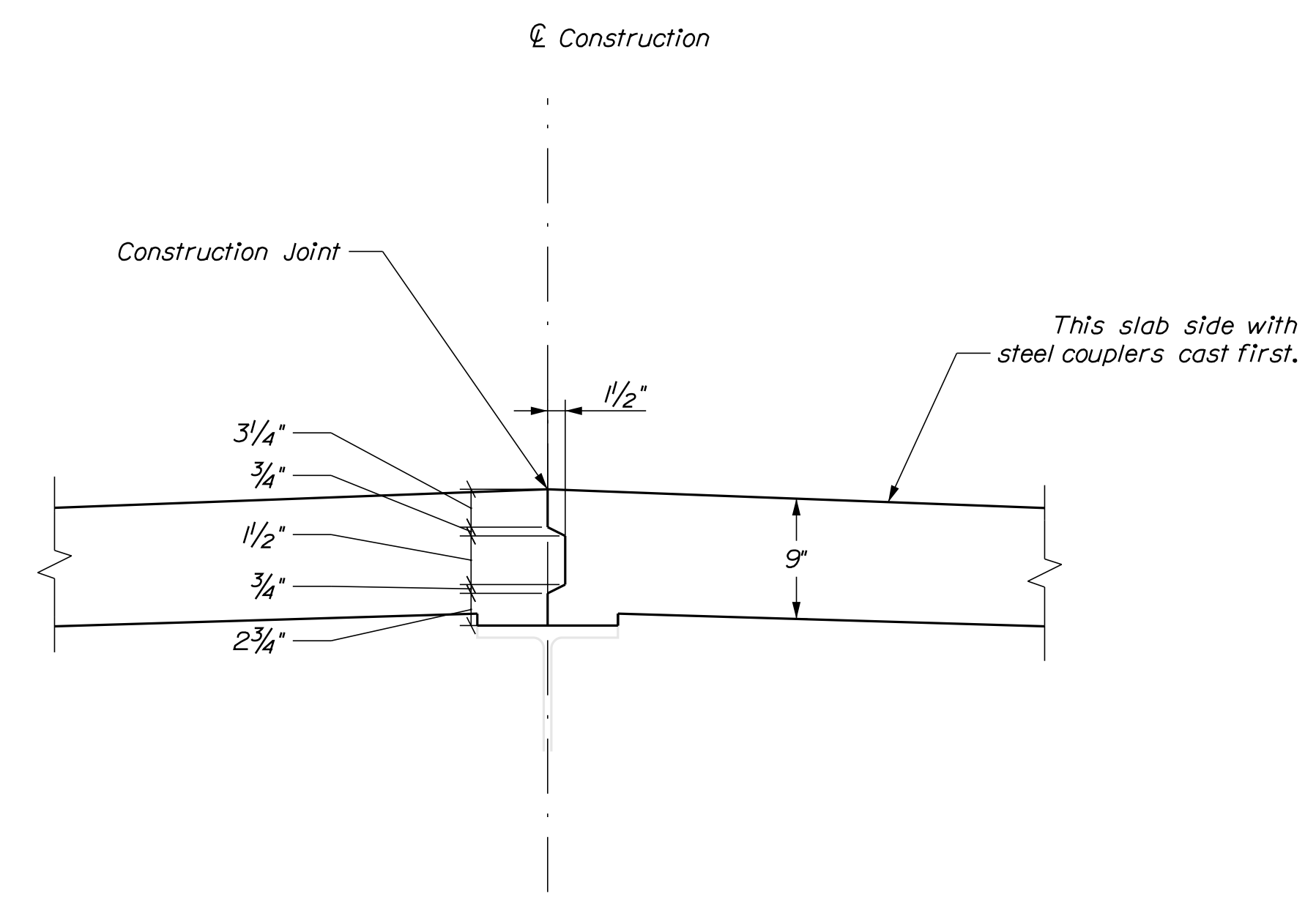
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DESIGNED	AUG 2023	
REVISIONS 1		P.E. NUMBER
REVISIONS 2		DATE
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PROJ. MANAGER	B. NICHOLS	BY	DATE
DESIGN-DETAILED	RN	B.N	JUL 2023
CHECKED-REVIEWED	EB	MRP	AUG 2023
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REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

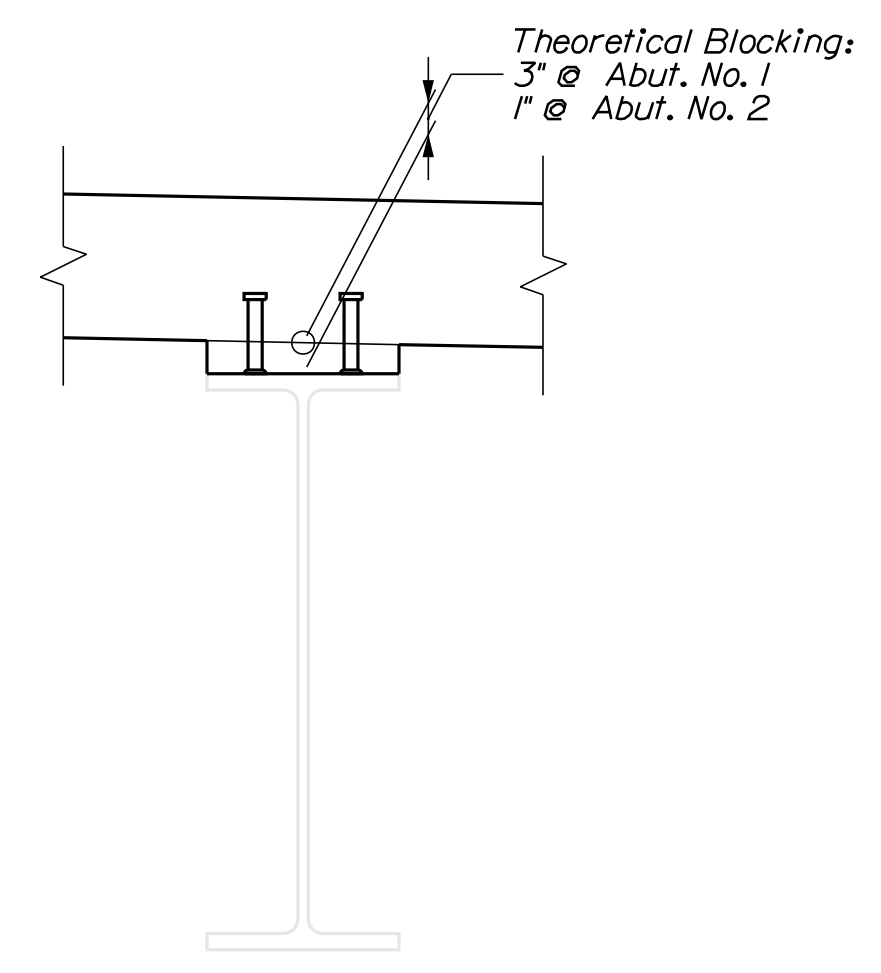


SHEAR STUD LAYOUT

Note: 102 Studs/beam x 5 Beams = 510 Total Studs



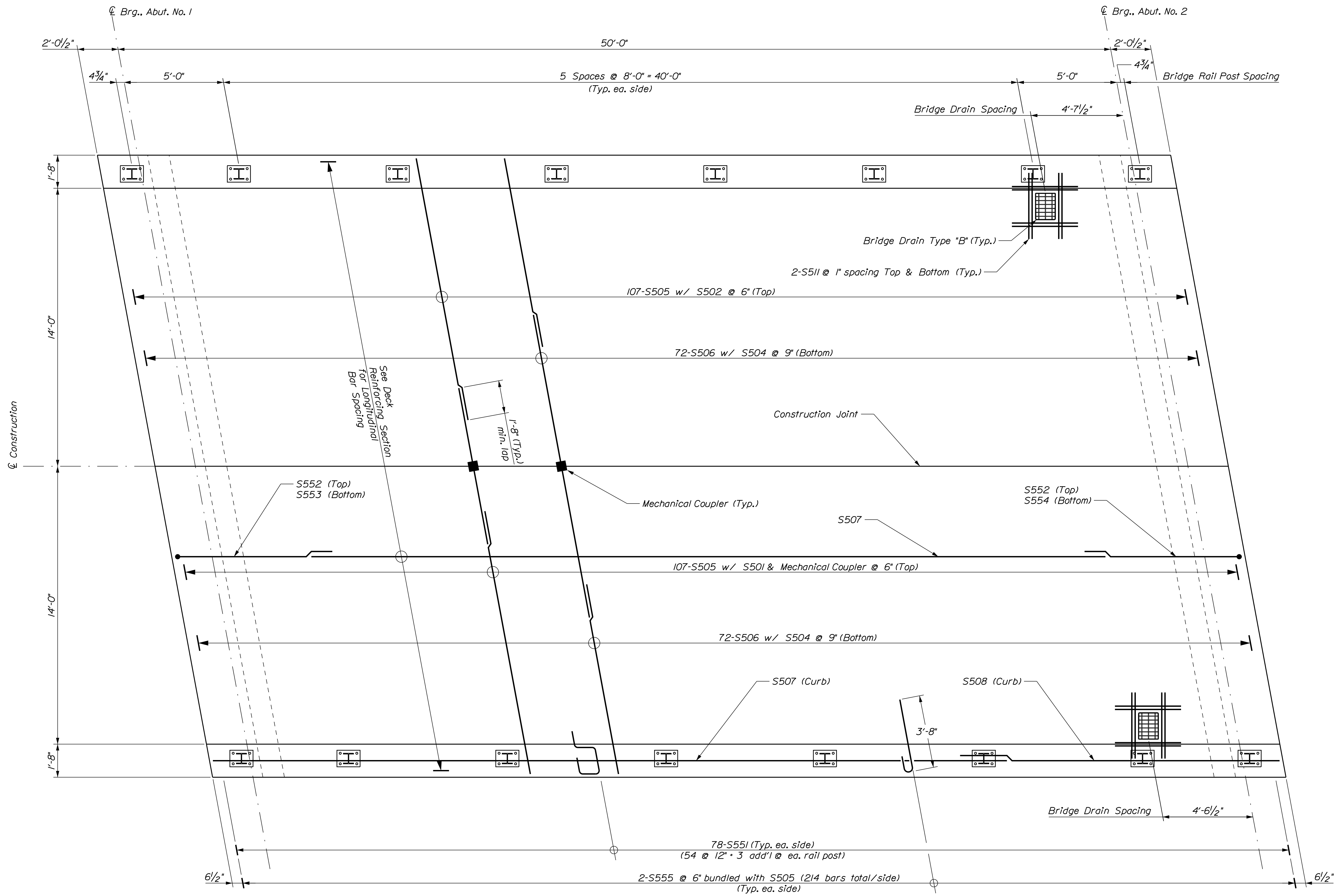
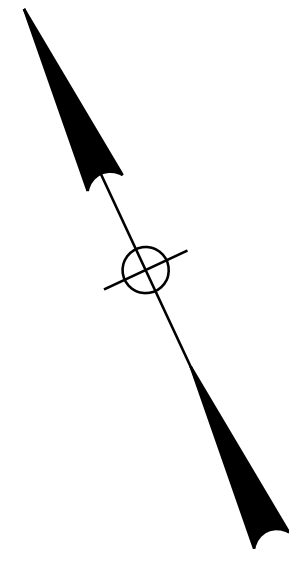
NOTE: Shear key is custom sized to fit with rebar and couplers at the bulkhead.



BOTTOM OF SLAB ELEVATIONS

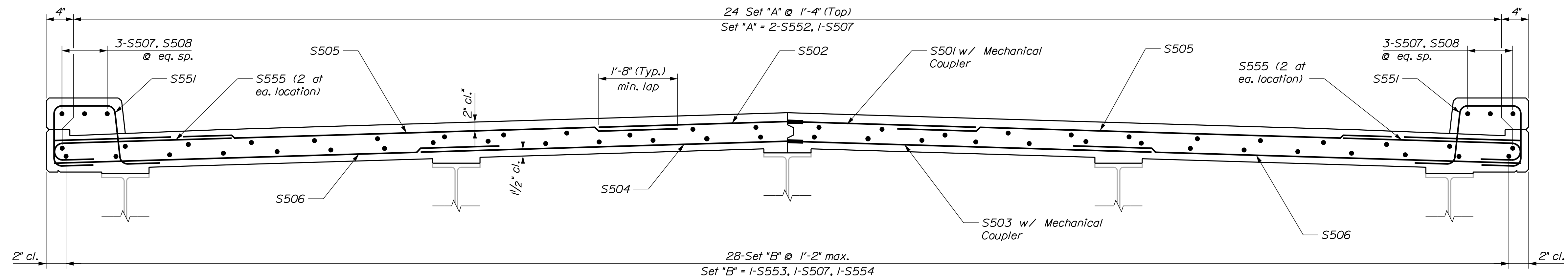
	℄ Brg. Abut 1	+10'	+20'	+30'	+40'	℄ Brg. Abut 2
Beam 1	556.23	556.21	556.19	556.16	556.12	556.08
Beam 2	556.44	556.42	556.40	556.37	556.33	556.29
Beam 3	556.65	556.63	556.61	556.58	556.54	556.50
Beam 4	556.44	556.42	556.40	556.37	556.33	556.29
Beam 5	556.23	556.21	556.19	556.16	556.12	556.08

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		26122.00	
CROOKED RIVER BRIDGE CROOKED RIVER ALBANY TWP OXFORD COUNTY		BRIDGE NO. 5079	
SUPERSTRUCTURE DETAILS		BRIDGE PLANS	
SHEET NUMBER		WIN 26122.00	
6		DATE	
OF 10		SIGNATURE	
FIELD CHANGES		P.E. NUMBER	
DESIGNER		DATE	
CHECKED		DATE	
DESIGNED		DATE	
REVISIONS 1		DATE	
REVISIONS 2		DATE	
REVISIONS 3		DATE	
REVISIONS 4		DATE	
PROJ. MGR		DATE	
B. NICHOLS		DATE	
BY		DATE	
B.N		JUL 2023	
MRP		AUG 2023	



DECK PLAN

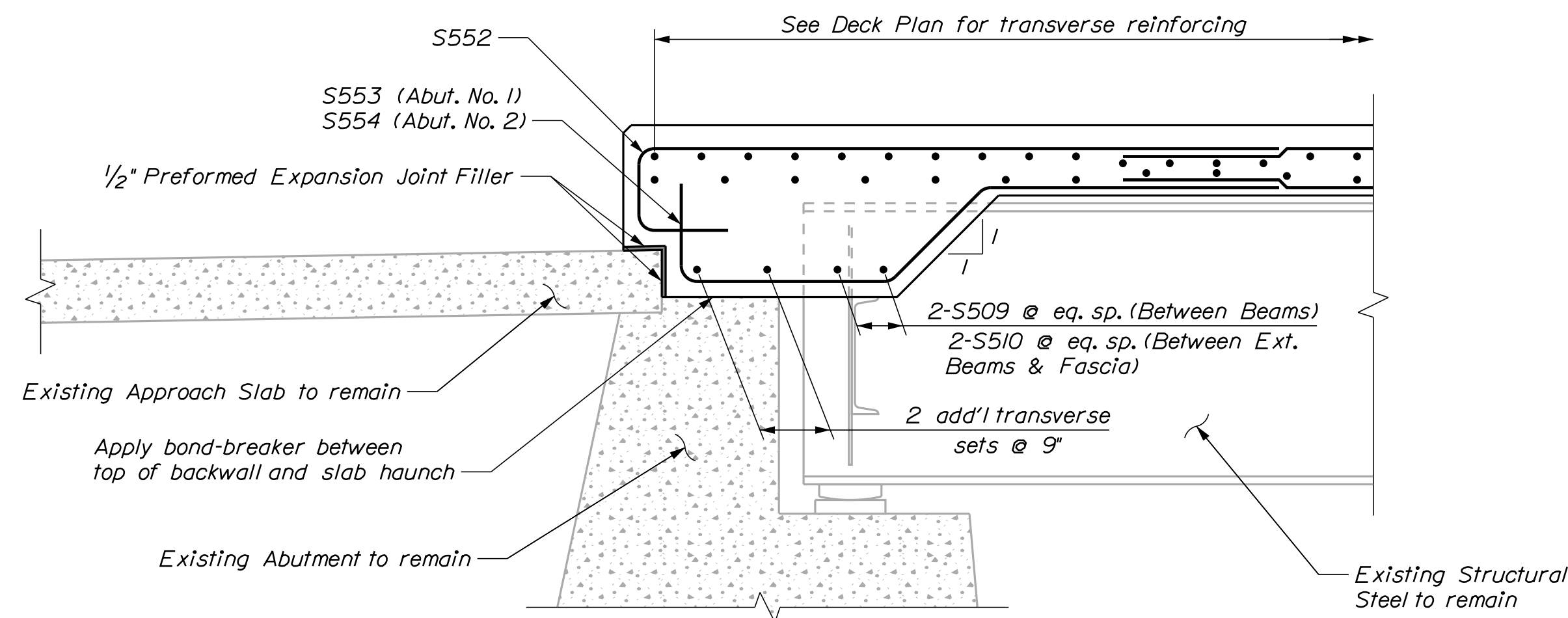
PROJ. MANAGER	B. NICHOLS	BY	DATE
DESIGN DETAILED	RN	B.N	JUL 2023
CHECKED/REVIEWED	EB	M.P	AUG 2023
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			



**DECK REINFORCING SECTION**

Notes: 2" top mat reinforcing cover shall be measured from final deck surface after profile milling.

Shear studs not shown for clarity.

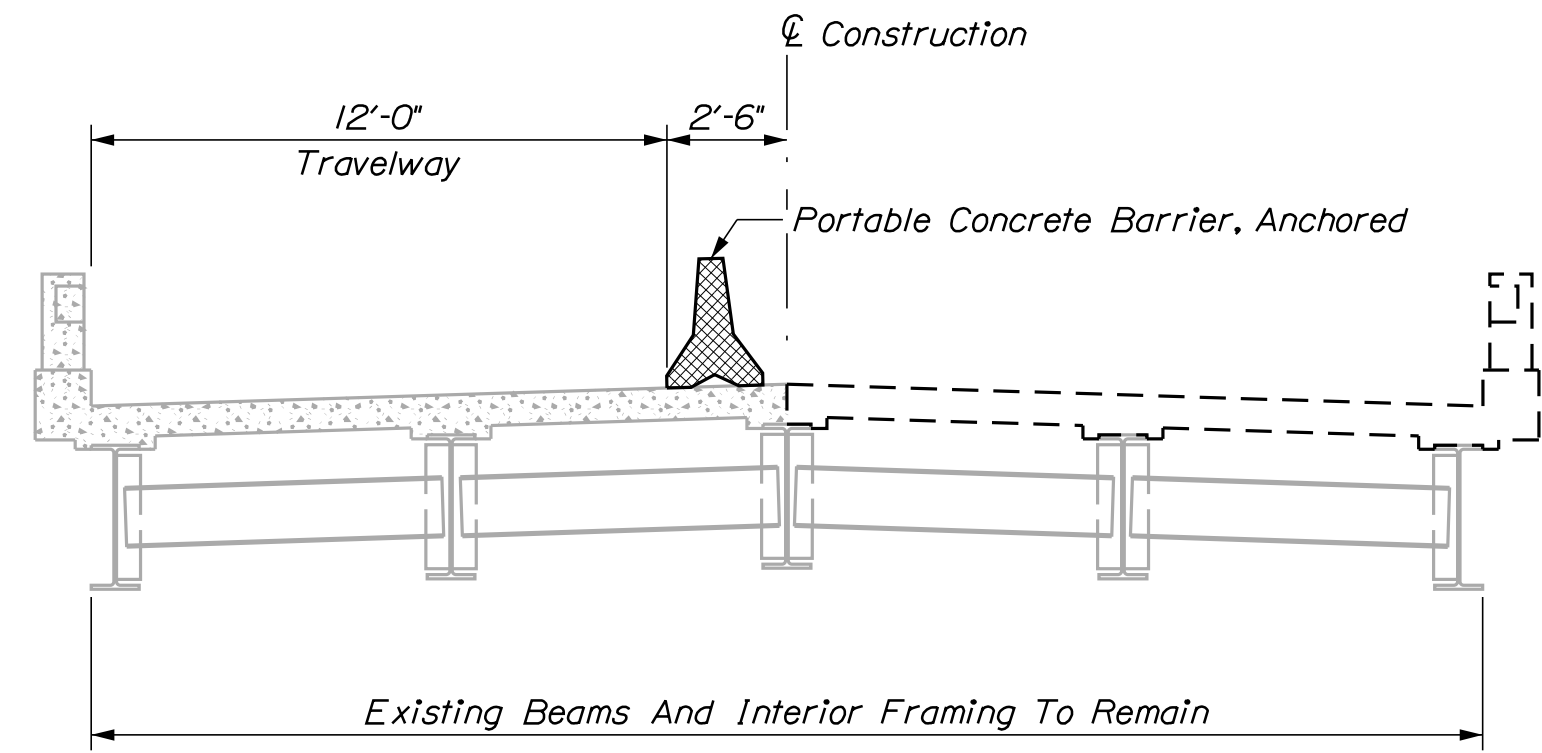


**END OF SLAB DETAIL**

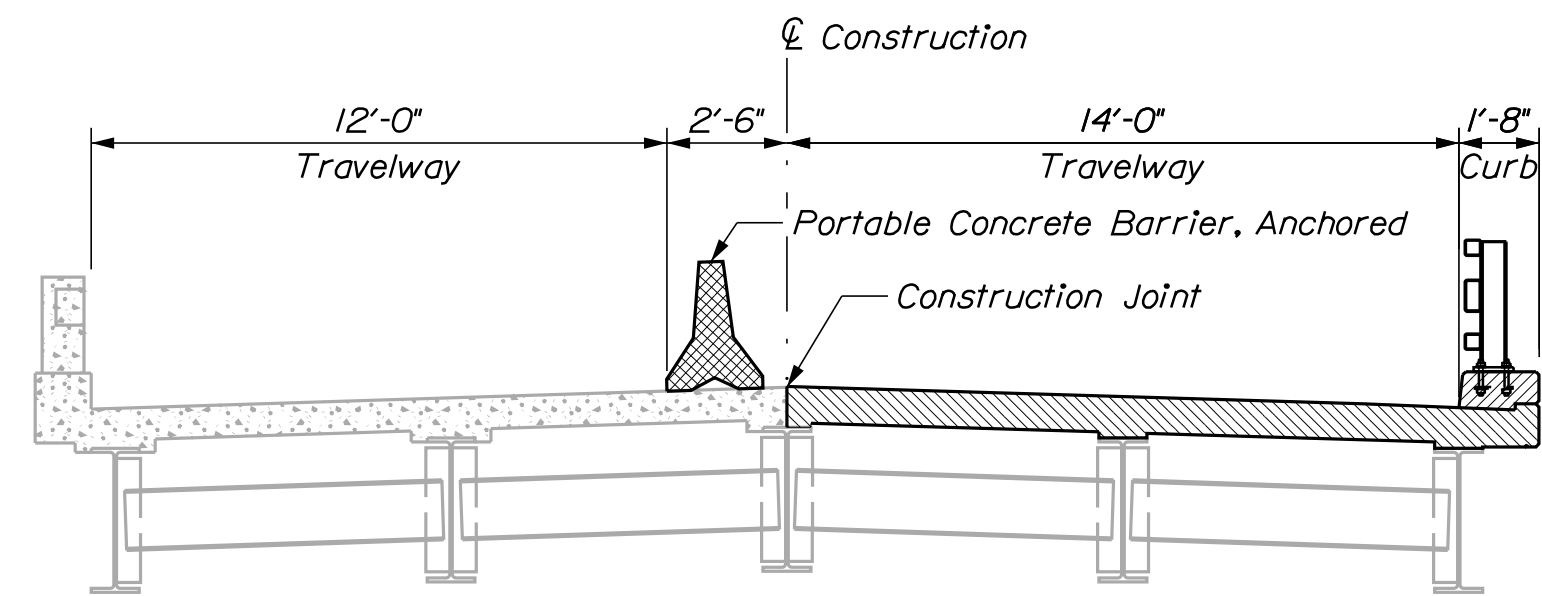
**SUPERSTRUCTURE NOTES**

1. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.
2. Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.
3. Anchor rods for the steel bridge rail posts shall be shortened by 1 inch to provide additional clearance between the top of the deck and bottom of the anchor rod.
4. The superstructure slab concrete for each span shall be placed continuously and shall be kept plastic until the entire placement has been made.
5. Precast Concrete Deck Panels are not allowed on this project.
6. Preformed Expansion Joint Filler shall be considered incidental to Item No. 502.26, Structural Concrete Roadway And Sidewalk Slabs on Steel Bridges.

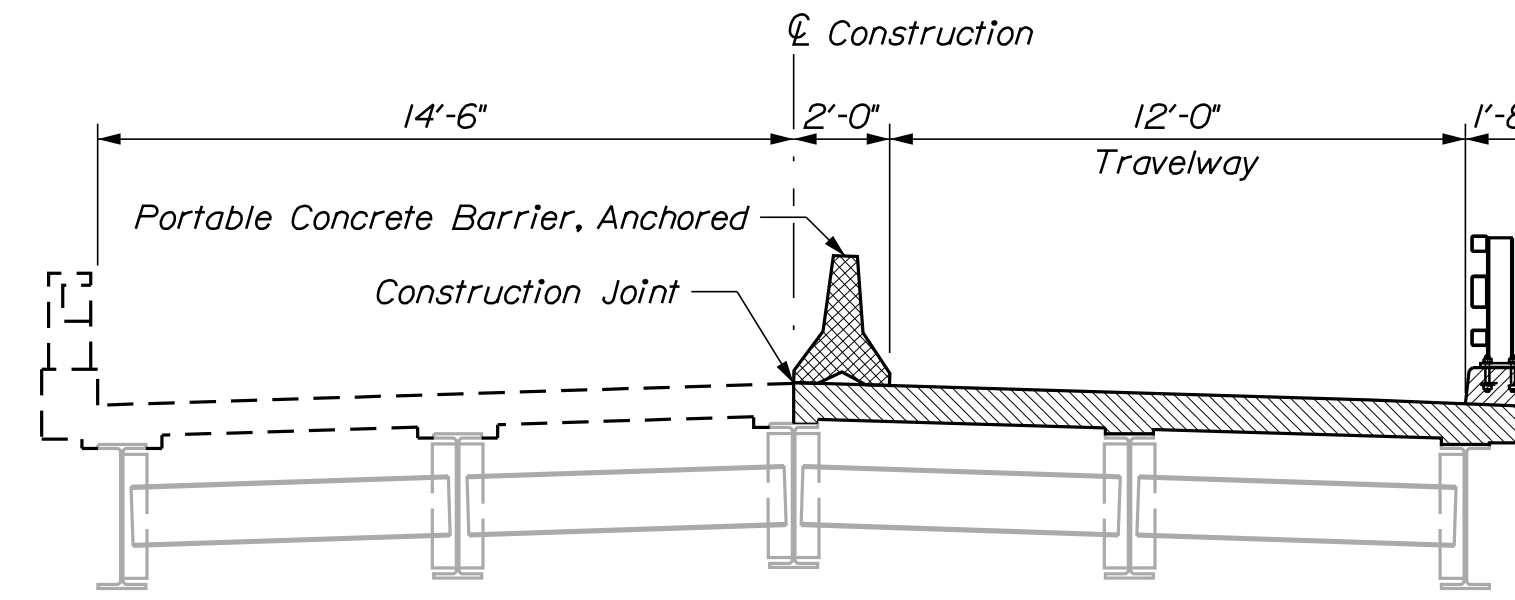
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		26122.00		WIN		26122.00		BRIDGE NO. 5079		BRIDGE PLANS	
CROOKED RIVER BRIDGE		CROOKED RIVER		OXFORD COUNTY		ALBANY TWP		DECK REINFORCING DETAILS		SHEET NUMBER		8	
DESIGN-DETAILED		CHECKED-REVIEWED		DESIGN-DETAILED		REVISIONS 1		REVISIONS 2		REVISIONS 3		REVISIONS 4	
B. NICHOLS		B.N		M.P		JUL 2023		AUG 2023		SIGNATURE		P.E. NUMBER	
DATE		BY		DATE		DATE		DATE		DATE		DATE	
FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES	



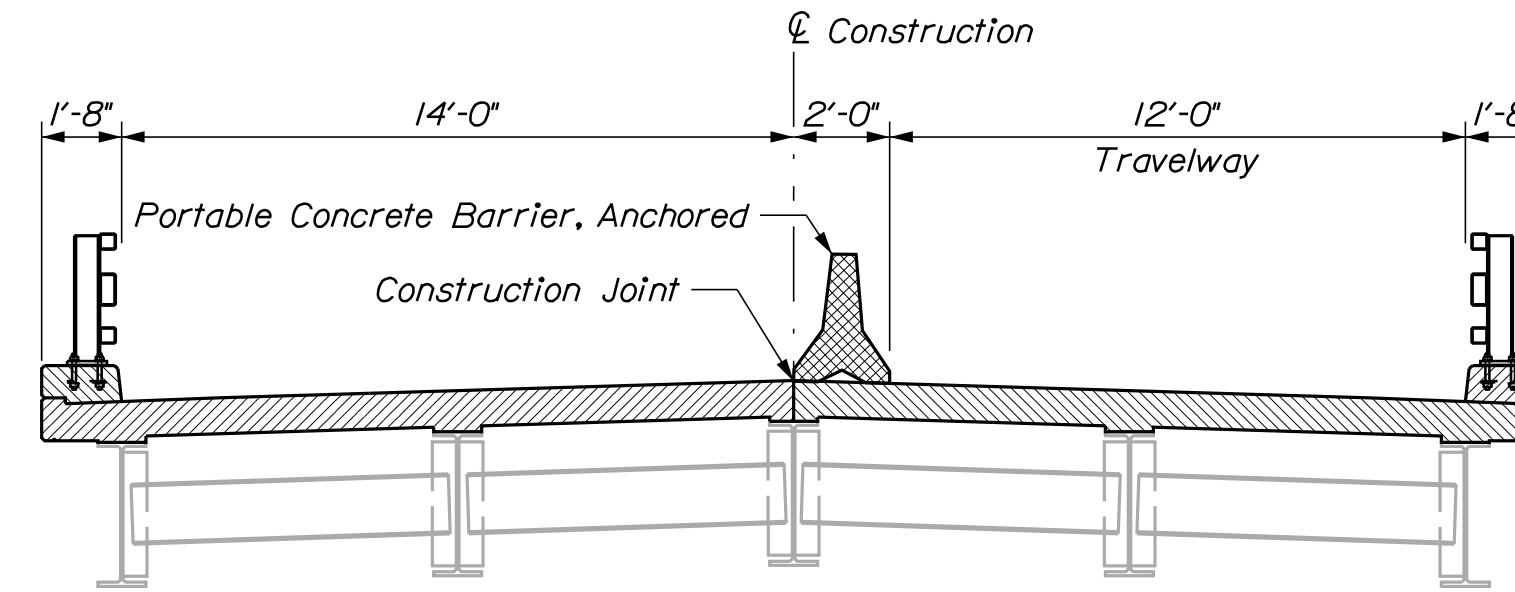
**STAGE 1A**  
Construct the travelway as shown for alternating traffic on One side. Remove the Other side of the deck, wearing surface, and railing.



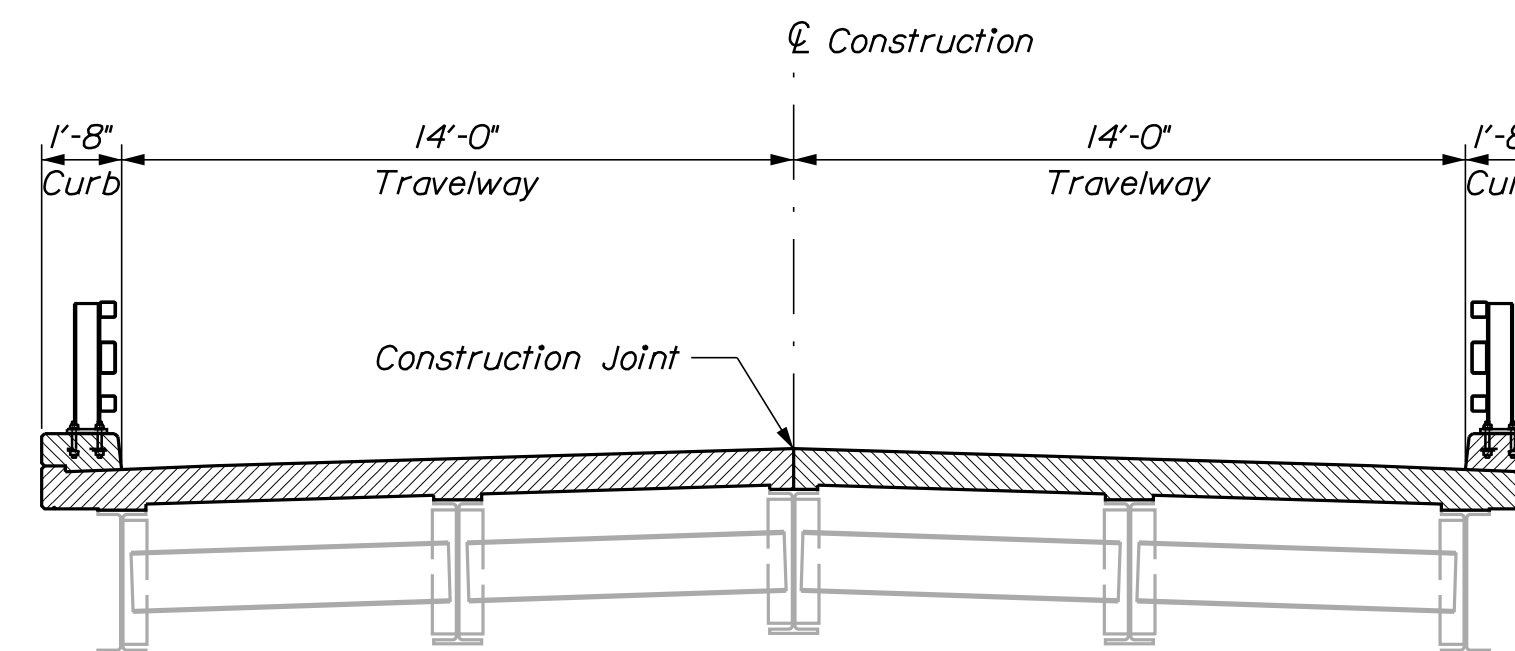
**STAGE 1B**  
Maintain the travelway for alternating traffic on One side. Construct the Other side of the deck, wearing surface, curb, and railing.



**STAGE 2A**  
Construct the travelway as shown for alternating traffic on Other side. Remove the Adjacent side of the deck, wearing surface, and railing.



**STAGE 2B**  
Maintain the travelway for alternating traffic on the Other side. Construct the Adjacent side of the deck, wearing surface, curb, and railing.



**STAGE 2C**  
Perform Profile Milling

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
26122.00  
BRIDGE NO. 5079 WIN 26122.00  
BRIDGE PLANS

DESIGNER: \_\_\_\_\_  
CHECKED: \_\_\_\_\_  
DESIGNED: \_\_\_\_\_  
REVISIONS: \_\_\_\_\_  
DATE: \_\_\_\_\_

PROJ. MANAGER	B. NICHOLS	BY	DATE
DESIGN-DETAILED	RN	B.N	JUL 2023
CHECKED-REVIEWED	EB	MRP	AUG 2023
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CROOKED RIVER BRIDGE  
CROOKED RIVER  
OXFORD COUNTY  
ALBANY TWP  
**STAGED CONSTRUCTION**

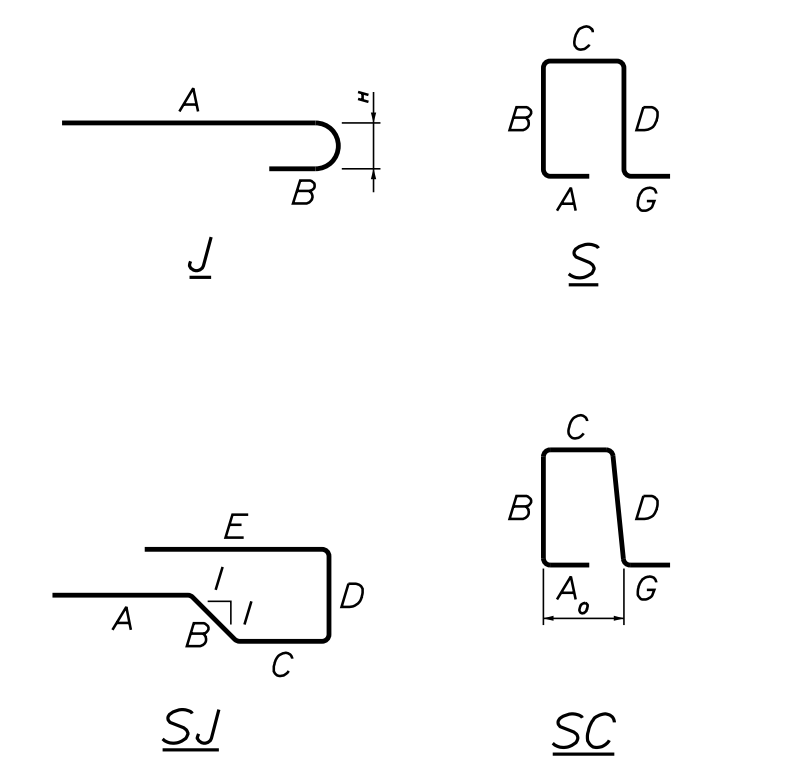
SHEET NUMBER

9

OF 10

STRAIGHT BARS								BENT BARS														
MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
S501	107	4'-0"	Trans. Dowel (w/ Mech Coup.)					S551	156	5'-5"	SC	0'-10	1'-3	1'-3	1'-3	-	-	0'-10"	-	1'-5"	-	Curb Stirrup
S502	107	4'-0"	Transverse Dowel					S552	48	8'-7"	S	0"	6'-10	0'-10	0'-11	-	-	0"	-	-	-	Deck Haunch
S503	76	7'-9"	Trans. Dowel (w/ Mech Coup.)					S553	28	8'-11"	SJ	3'-11	1'-8	2'-3	1'-1	-	-	-	-	-	-	Deck Haunch
S504	76	7'-9"	Transverse Dowel					S554	28	8'-11"	SJ	4'-2	1'-5	2'-3	1'-1	-	-	-	-	-	-	Deck Haunch
S505	214	13'-6"	Transverse					S555	428	4'-6"	J	3'-8"	0'-10"	0'	-	-	-	-	0'-3 3/4	-	-	Deck Overhang
S506	152	9'-9"	Transverse																			
S507	58	40'-0"	Deck & Curb Longitudinal																			
S508	6	16'-2"	Curb Longitudinal																			
S509	16	6'-8"	Deck Haunch																			
S510	8	1'-4"	Deck Haunch																			
S511	32	3'-4"	Bridge Drain																			

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.  
 Plain Reinforcing Steel: ASTM A 615, Grade 60  
 Stainless Steel Reinforcing: ASTM A955, Grade 75  
 Glass Fiber Reinforced Polymer: ASTM D7957  
 Low-Carbon Chromium Steel: ASTM A1035, Type CS, Grade 100

GENERAL NOTES

- The first digit(s) 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  
 Mark "P1404" = bar size #14
- All reinforcement bars shall be Plain (black).

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		26122.00		BRIDGE NO. 5079		BRIDGE PLANS	
CROOKED RIVER RIVER		CROOKED RIVER		OXFORD COUNTY		ALBANY TWP		REINFORCING STEEL SCHEDULE	
PROJ. MANAGER	B. NICHOLS	BY	BAN	DATE	JUL 2023	SIGNATURE		P.E. NUMBER	
DESIGN-DETAILED	RN	CHECKED-REVIEWED	EB	DATE	AUG 2023			DATE	
DESIGN-DETAILED		DESIGN-DETAILED							
REVISIONS 1		REVISIONS 1							
REVISIONS 2		REVISIONS 2							
REVISIONS 3		REVISIONS 3							
REVISIONS 4		REVISIONS 4							
FIELD CHANGES									
SHEET NUMBER		10		OF 10					