

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION



MATERIALS

Concrete (Unless noted otherwise)..... Class "A"  
Concrete (Joint Replacements, Curbs & Transition Barriers)..... Class "LP"  
Reinforcing Steel..... ASTM A 615/A 615M, Grade 60  
Structural Steel: All Material..... ASTM A 36/A 36M

BASIC DESIGN STRESSES

Concrete..... f'c = 4,350 psi  
Reinforcing Steel..... fy = 60,000 psi

MAINTENANCE OF TRAFFIC

One lane of traffic will be maintained during phased construction.

TRAFFIC DATA

Current (2013) AADT (Bridges 6100, 6099).....1,050  
Current (2013) AADT (Bridges 6097, 6096, 6091).....2,260  
Current (2013) AADT (Bridges 6086, 6085, 6083).....2,350  
Current (2013) AADT (Bridge 6083).....1,790  
% Heavy Trucks (AADT) (All Bridges).....11

LIST OF DRAWINGS

Title Sheet.....	1
Estimated Bridge Quantities.....	2
General Notes.....	3
Plan and Transverse Section.....	
I-95 Southbound, Foxcroft Road, Bridge #6100.....	4
I-95 Southbound, Meduxnekeag River, Bridge #6099.....	5
I-95 Southbound, Bangor & Aroostook Railroad, Bridge #6097.....	6
I-95 Southbound, B Stream, Bridge #6096.....	7
I-95 Southbound, Smyrna Town Line Road, Bridge #6091.....	8
I-95 Southbound, Timoney Lake Road, Bridge #6086.....	9
I-95 Southbound, Bangor & Aroostook Railroad, Bridge #6085.....	10
I-95 Southbound, East Branch Mattawamkeag, Bridge #6084.....	11
I-95 Southbound, Oakfield - Smyrna Road, Bridge #6083.....	12
Joint Modification Details I.....	13
Joint Modification Details II.....	14
Joint Modification Details III.....	15

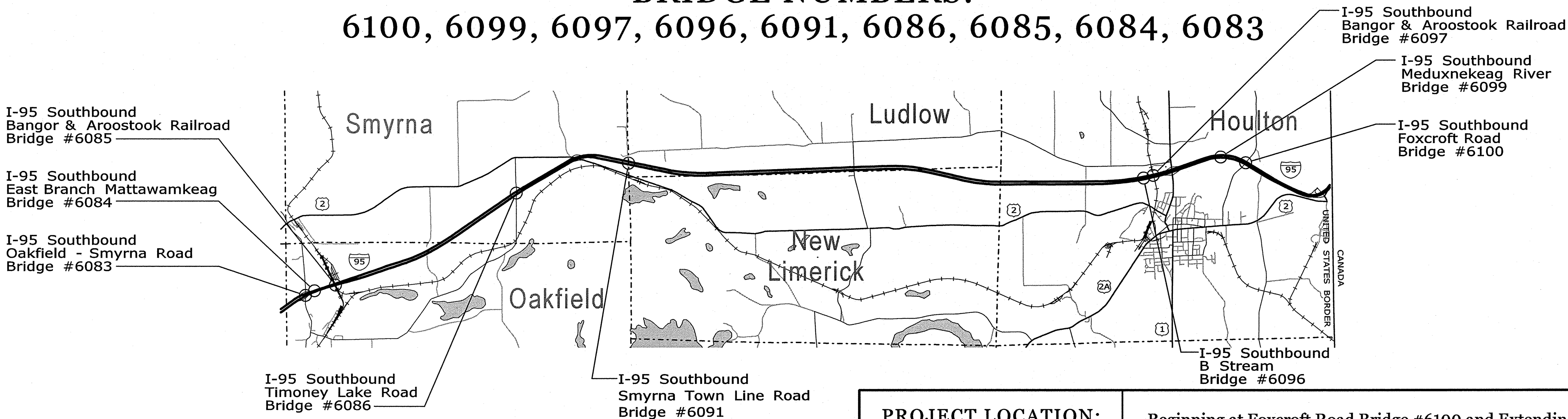
HOULTON TO OAKFIELD  
AROOSTOOK COUNTY  
INTERSTATE 95 SOUTHBOUND  
BRIDGE REHABILITATION PROJECTS

NHPP-2263(700)

PROJECT LENGTH 17.5 mi.

BRIDGE NUMBERS:

6100, 6099, 6097, 6096, 6091, 6086, 6085, 6084, 6083



PROJECT LOCATION:	Beginning at Foxcroft Road Bridge #6100 and Extending Southerly 17.5 Miles to Smyrna Oakfield Road Bridge #6083
PROGRAM AREA:	Bridge Preservation
OUTLINE OF WORK:	Wearing Surface Replacements, Deck Rehabilitations and Joint Modifications

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
		2/20/15
	COMMISSIONER:	
	CHIEF ENGINEER:	2-20-15

	SIGNATURE	P.E. NUMBER	DATE
		6452	2/17/15

PROJECT INFORMATION	PROGRAM	HIGHWAY
	PROJECT MANAGER	THOMAS STEVENS
	DESIGNER	TM COTE
	CONSULTANT	HNIB
	PROJECT RESIDENT	
	CONTRACTOR	

INTERSTATE 95 SOUTHBOUND HOULTON TO OAKFIELD AROOSTOOK COUNTY	TITLE SHEET

SHEET NUMBER
1
OF 15

Date: 2/17/2015

Username:

Division:

Filename: 001\_Title.dgn

NHPP-2263(700) WIN 22637.00

ESTIMATED BRIDGE QUANTITIES												
ITEM NO.	DESCRIPTION	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	TOTAL	UNIT
		<i>Foxcroft Road Br. No. 6100</i>	<i>Meduxnekeag River Br. No. 6099</i>	<i>Bangor &amp; Aroostook Railroad Br. No. 6097</i>	<i>B Stream Br. No. 6096</i>	<i>Smyrna Town Line Road Br. No. 6091</i>	<i>Timoney Lake Road Br. No. 6086</i>	<i>Bangor &amp; Aroostook Railroad Br. No. 6085</i>	<i>East Branch Mattawamkeag Br. No. 6084</i>	<i>Oakfield - Smyrna Road Br. No. 6083</i>		
508.14	HIGH PERFORMANCE WATERPROOFING MEMBRANE							1340			1340	SY
518.391	REPAIRING GRANITE CURB JOINT AND BEDDING MORTAR							300			300	LF
518.50	REPAIR OF UPWARD FACING SURFACES - TO REINFORCING STEEL <7.9 IN.							980			980	SF
518.51	REPAIR OF UPWARD FACING SURFACES - BELOW REINFORCING STEEL <7.9 IN.							220			220	SF
520.2421	BRIDGE JOINT MODIFICATION TYPE 2A	2	1	1	1	1	1		1		8	EA
520.24	BRIDGE JOINT MODIFICATION ASPHALTIC PLUG JOINT			1	1	1	1	3	1	1	9	EA
520.245	BRIDGE JOINT MODIFICATION TYPE 5		1					1		1	3	EA
526.301	TEMPORARY CONCRETE BARRIER - TYPE 1		200					200		200	600	LF
527.34	WORK ZONE CRASH CUSHIONS		1					1		1	3	EA
631.112	WELDING MACHINE (Including operator)	8		8		8			8		32	HR

Notes:  
1. Estimated Quantities for each bridge are provided here for reference purposes only.

INTERSTATE 95 SOUTHBOUND  
HOULTON TO OAKFIELD  
AROOSTOOK COUNTY

ESTIMATED BRIDGE QUANTITIES

PROJ. MGR.	BY	DATE	
DESIGN-DETAILED	DB	02/15	SIGNATURE
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DESIGN-DETAILED3	-	-	
REVISIONS 1	-	-	DATE
REVISIONS 2	-	-	
REVISIONS 3	-	-	
REVISIONS 4	-	-	
FIELD CHANGES	-	-	



Date:2/17/2015

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Division:

Filename: 003\_GeneralNotes.dgn

GENERAL

1. Where deemed necessary by the Resident, winter sand (outside paved areas) shall be removed from the edges of shoulders and placed in designated areas or disposed of. Payment will be made under the appropriate hourly rental items. The disposal of all waste (including but not limited to obtaining waste permits, grading, mulching and seeding) shall be considered incidental to the related rental items.
2. A temporary ramp shall be constructed with HMA at the ends of the roadway section paved or milled each day. The use of millings or RAP will not allowed, but cold patch may be temporarily utilized until HMA plants are open for the season.
- For Interstate Highways or roadways with speed limits exceeding 50 mph, temporary ramps shall be constructed with one foot of length for every 1/8" of transition depth on the leading end, and one foot of length for every 1/4" of transition depth on the trailing end.
- For all other roadways with speed limits less than 50 mph, temporary ramps shall be constructed with one foot of length for every 1/4" of transition depth on the leading and the trailing end.
- Materials, placement, maintenance, and removal shall be incidental to contract items.
3. All joints between existing and proposed hot mix asphalt shall be butted. Payment shall be made under Item 202.202.
4. Any damage to the slopes caused by the Contractor's equipment, personnel, or operation shall be repaired to the satisfaction of the Resident. All work, equipment and materials required to make repairs shall be at the Contractor's expense.
5. Any necessary cleaning of existing pavement prior to paving or milling shall be incidental to the related items.
6. All spoils, HMA & millings shall be cleaned daily from project to the satisfaction of the Resident prior to the contractor leaving for the shift.
7. When milling the lane adjacent to the newly placed pavement, the milling machine shall mill into the newly placed pavement by 3"+/- or as directed by the Resident. See Special Provision 400 if wedge joint method is being used.
8. As directed by the Resident, all existing Underdrain Outlets shall be located, cleaned out, and ditched as required or replaced as necessary. Payment will be made under appropriate hourly contract items.
9. All guardrail which is removed and not reused on the project shall become property of the Contractor.
10. Holes created by Guardrail removal will be filled and compacted with approved materials as directed by the Resident. Payment to be considered incidental to the guardrail items.
11. Connections for proposed guardrail to existing guardrail will be considered incidental to Item 606.
12. "Undetermined Locations" shall be determined by the Resident.
13. Stations referenced are approximate.
14. All work shall be done in accordance with the Maine Department of Transportation's Best Management Practices for Erosion & Sedimentation Control, February, 2006.
15. Reference to left or right is in the direction of stationing which runs south to north.
16. Milling widths & depths may be adjusted by the Resident.
17. The paved gore areas between the on/off ramps and the mainline shall have an edge line of 12 inch white pavement marking line, Item 627.18, as directed by the Resident.
18. No separate payment for superintendent or foreman will be made for the supervision of work paid under equipment rental items, however supervision is required.
19. Cleaning of the pavement following rental work will be considered incidental to the rental items. Cleaning will be done daily and to the satisfaction of the Resident prior to the Contractor leaving the project for the shift.
20. Temporary erosion control blanket is estimated for use in ditching areas. When used in other areas to conform to Special Provision 656, blanket will not be measured.
21. All pipe and rental work to be completed in the area prior to the contractor commencing milling and paving operations in that area unless otherwise authorized by the Resident.
22. Existing culverts and catch basins will be cleaned as directed by the Resident under the appropriate Pay Items.
23. The following shall be incidental to the 603/604 item(s):
- Any cutting of existing culverts and or connectors necessary to install new culvert replacements or extensions
  - All pipe excavation including any cutting and removal of pavement
  - All ditching at pipe ends
  - Furnishing, placing, grading, and compacting of any new gravel and/or fill material. This also includes Granular Borrow used under pipes and for temporary detours to maintain traffic during pipe installation (excavation is also incidental).
  - Granular Borrow under the pipe shall meet the requirements for Underwater Backfill
  - All work necessary to connect to existing pipes
  - Flow lines may be changed by 0.5M [1 1/2 ft]
  - Any necessary clearing of brush and small trees at culvert ends
  - An 18" wide strip of non woven geotextile meeting the requirements of Item 620.58 shall be placed over all pipe joints
24. Existing culverts and catch basins will be cleaned as directed by the Resident under the appropriate Pay Items.
25. All ditches that are regraded/excavated must receive erosion control immediately, as directed by the Resident.
26. The Department will retain 100% of the millings/grindings. The Contractor shall deliver and stockpile the millings/grindings at the MaineDOT Maintenance Lot on the Spring Road in Pittsfield, unless otherwise directed by the Resident. The Payment for delivery and stockpiling will be incidental to Item 202.202. Stockpiling shall include all equipment, personnel, and all other necessary incidentals required to construct stockpiles as per normal construction practices.

GENERAL (CONT.)

27. Bidders and Contractors may obtain a copy of the existing bridge plans by faxing a request for information to the bid contact person. Existing bridge plans may also be accessed at the web address below. The plans are reproductions of the original drawings as prepared for the construction of the bridges. It is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge. <http://www.maine.gov/mdot/comprehensive-list-projects/project-information.php>
28. All dimensions, angles and stationing shown on existing plans are taken from as-built construction drawings from 1964 through 1992, supplemented by limited field measurements and are not guaranteed to be correct. All existing bridge information shall be verified in the field by the Contractor prior to commencing any work.
29. Contractor shall note that a U.S.G.S. survey disk exists on Bridge #6100, located on the departure travel side end post (SW corner). Contractor shall not disturb the U.S.G.S. survey disk.
- CONSTRUCTION PHASING
1. All traffic control shall be in accordance with the Manual for Uniform Traffic Control Devices for Streets and Highways, USDOT, FHWA, Latest Edition
2. Contractor shall submit traffic control plans for all bridges in accordance with the Special Provisions 105 & 652 and the Manual of Uniform Traffic Control Devices, latest edition.
3. Contractor shall provide one 12 foot travel lane minimum and two 1 foot shoulders in all work zones, unless otherwise noted on the plans or in the specifications.
4. All lanes in long term lane closures and work zones shall be delineated with temporary paint lines or temporary raised pavement markings. Temporary paint lines will not be permitted on the surface course of new pavement. Temporary raised pavement markings shall only be used when approved by the Resident.
5. Contractor shall avoid lane widths in excess of 15'-0" unless approved by the Resident.
6. Contractor shall install longitudinal pavement joints at crown lines or lane lines.
7. Placement of the high performance membrane shall be in accordance with standard specifications and manufacturers published recommendations. Contractor shall submit proposed membrane overlap details at the longitudinal joints to the Resident for review and approval. Details shall include proposed methodology for bond breaker for the overlaps between construction phases as well as procedures for infilling and removal of bituminous material without damage to the membrane.
8. Contractor is responsible for all maintenance of traffic required for all work including ramp traffic control.
9. Long term lane closures required for bridge work shall be protected with temporary concrete barrier at the work zones.

UTILITIES

1. Utilities in this contract are listed in Special Provision Section 104, Utilities.
2. All utility facilities shall be adjusted by the respective utilities unless otherwise noted. No utility adjustment is anticipated.
3. The locations of the existing utilities, bridge wiring and monitoring instruments (i.e. Utilities and Special Equipment) shown on these plans are based on the best available information and are approximate. The Contractor shall verify the location of all existing utilities and special equipment prior to starting work. The Contractor shall protect existing utilities and special equipment during construction and shall provide temporary supports where required by his operations. Temporary supports shall be approved by the utility or special equipment owner prior to their installation and use. The cost of this work shall be considered incidental to the work required under Item 659.10 Mobilization.

STRUCTURAL

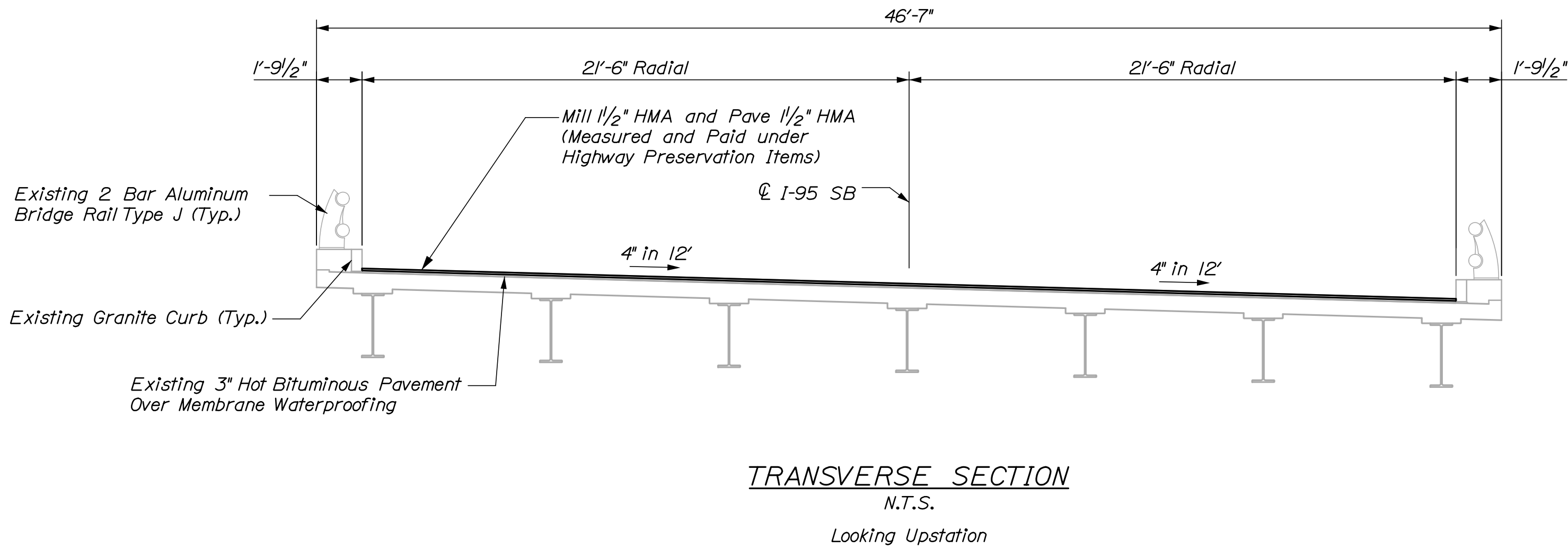
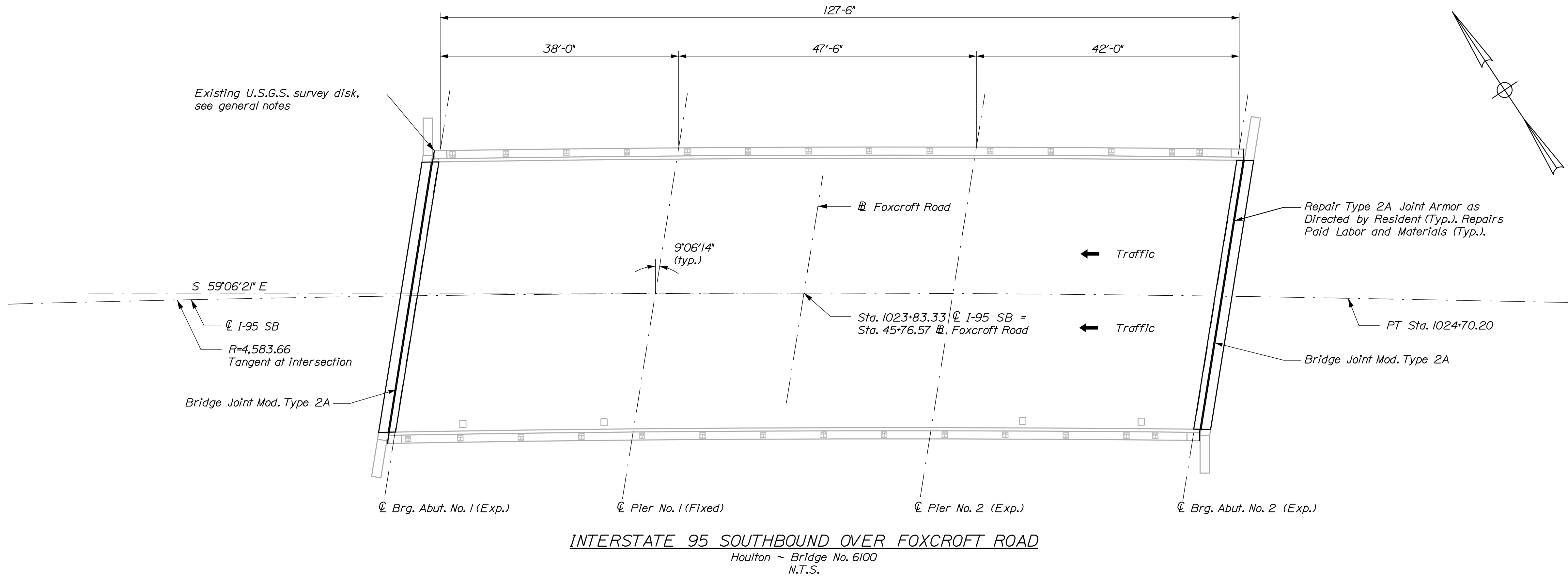
1. Payment for the selective demolition and recasting of existing concrete end posts, approach curbs, and bridge curbs will be considered incidental to item 520.245.
2. Reinforcing steel schedules will be the responsibility of the Contractor. Refer to Subsection 503.03 of the Standard Specifications for more information. Payment for all work associated with developing reinforcing steel schedules will be considered incidental to related Contract items.
3. An NCHRP350 compliant impact attenuation system shall be installed concurrently with the placement of each run of concrete barrier.
4. Any damage to existing concrete or reinforcing steel resulting from the work performed, shall be repaired or replaced by a method approved by the Resident at no cost to the Department.
5. All reinforcing steel that is to be exposed and reused shall be cleaned by a method approved by the Resident. Payment shall be incidental to related contract items.
6. The integrity of existing approach pavement and subbase gravel shall be maintained during removal of backwall concrete. Payment for any repair or damages shall be incidental to related contract items.
7. Type 5 seal(s) or compression seal(s) shall be approved by the Resident prior to installation of joint armor.
8. All expansion joints shall be fabricated so the expansion joints construction joints align with the bridge phasing. New seals shall be installed full length after all sections of the joint armor have been installed.
9. All existing materials which are removed from the work area shall be removed from the site and properly disposed of by the Contractor in a manner approved by the Resident. These existing materials include, but are not limited to, concrete, metal casing, reinforcing steel, pavement, silt and other debris on or attached to the structure within the work areas. The cost of removal and disposal shall be incidental to the cost of the work items for which these removals are required.
10. Contractor shall form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.
11. Reinforcing steel shall have a 2 inch minimum cover unless otherwise noted.
12. Mortar for bedding and for joints in the granite curb shall contain an approved non-shrink additive.
13. The Contractor is advised Bridge 6085 bridge deck is not to be scarified. Only the existing pavement, membrane, and pavement shim (if applicable) are to be removed. See Section 202.031 of the Specifications for additional information.
14. If the depth of the deteriorated concrete is below the reinforcing steel then remove the concrete to a minimum depth of 1 inch below the bars.
15. Where bridge rail posts are required to be relocated new hot dip galvanized anchor rods conforming to ASTM F1554 Grade 50 shall be furnished and drilled and anchored into the proposed curb. The depth of embedment shall be sufficient to develop an ultimate tension capacity of 33 kips per anchor rod. This work may also require replacement or repair of rail clamp bars, and replacement of bolts, where the bolt or clamp bar threads are damaged during the rail disassembly process. Where the Contractor elects to repair the damaged mounting bars the existing threads shall be repaired through the use of a stainless steel hell-coil insert. The proposed repair shall be completed in a manner which maintains the original fastener size and diameter. Payment for bridge rail post relocation and associated materials, equipment, labor and incidentals necessary to complete the work will be considered incidental to Item 520.245, Bridge Joint Modification Type 5.
16. All transverse reinforcing steel in the deck and backwall shall run continuously along the full width of the bridge. Payment for lap splices and threaded couplers will not be paid for directly, but shall be considered incidental to the related contract items.
17. The reinforcing steel and anchor rod anchoring material shall be selected from Maine DOT's Qualified Products List. The Contractor shall submit the proposed system to the resident for approval. The selected anchoring material shall be installed in strict accordance with the manufacturer's recommendations. Reinforcing steel and anchor rods, drilled and anchored into existing concrete, shall be embedded to develop 125% of the yield strength of the bar.
18. All proposed anchor rods shall be hot dip galvanized.
19. When a new joint is being installed or an existing joint is being substantially modified, and field conditions permit, the approach side of the joint shall be set 1/8" - 1/4" higher than the departure side of the joint. Under no circumstances shall the departing side of the joint be higher than the approach side of the joint.
20. Where provided, nominal joint openings are measured perpendicular to the joint opening. Adjustments provided in the seal adjustment charts shall be measured along the centerline of the bridge, not perpendicular to the joint opening.
21. Deck or backwall repairs located below areas of elastomeric concrete shall be filled with Class LP concrete and allowed to cure prior to placing elastomeric concrete. The concrete repairs shall be completed to provide an elastomeric concrete thickness of 3". The depth of elastomeric concrete may be increased to 4" maximum only in cases where doing so eliminates the need for patching with Class LP concrete.
22. The Contractor is required to have on-site a copy of the Technical Guideline No. 03732 or latest version published by the International Concrete Repair Institute as well as a set of nine molded replicas of surfaces textures, for use on this project. All associated costs considered incidental to pay item 508.14.
23. An elastomeric concrete manufacturer's representative is required to be on site for initial installation of the selected elastomeric concrete product in order to provide the Contractor instruction on proper substrate preparation, mixing of materials, and application of the elastomeric concrete. This requirement is for the initial elastomeric concrete installation for each bridge project.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	NHP-2263(700)		WIN 022637.00		BRIDGE NO. Varies		BRIDGE PLANS	
<div>INTERSTATE 95 SOUTHBOUND HOULTON TO OAKFIELD AROOSTOOK COUNTY GENERAL NOTES</div>								
SHEET NUMBER								
3								
OF 15								

Date:2/17/2015

Username:

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 Division:

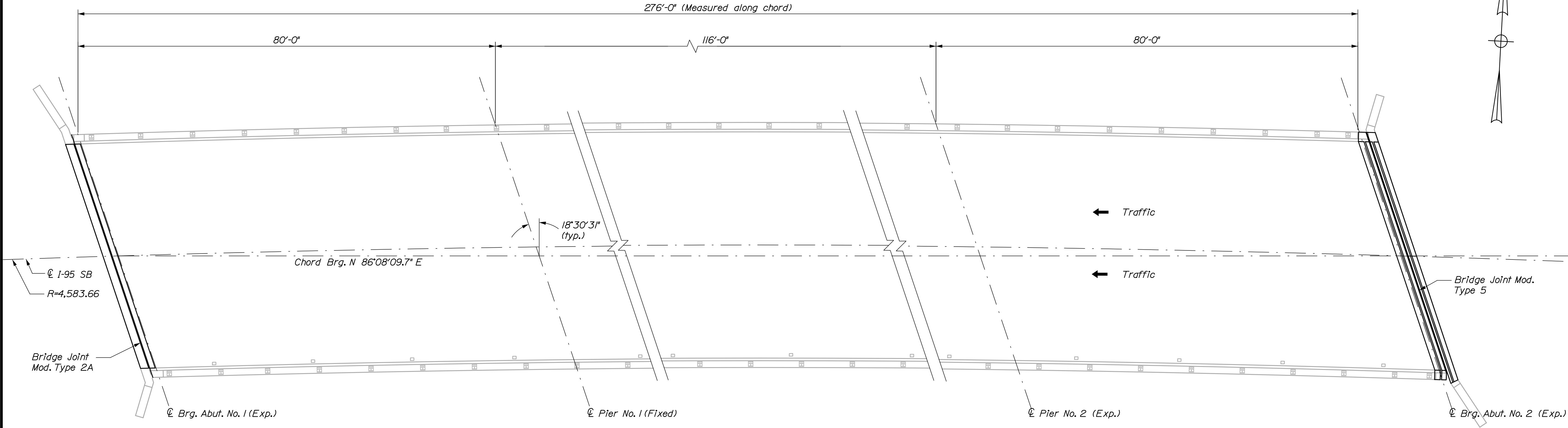


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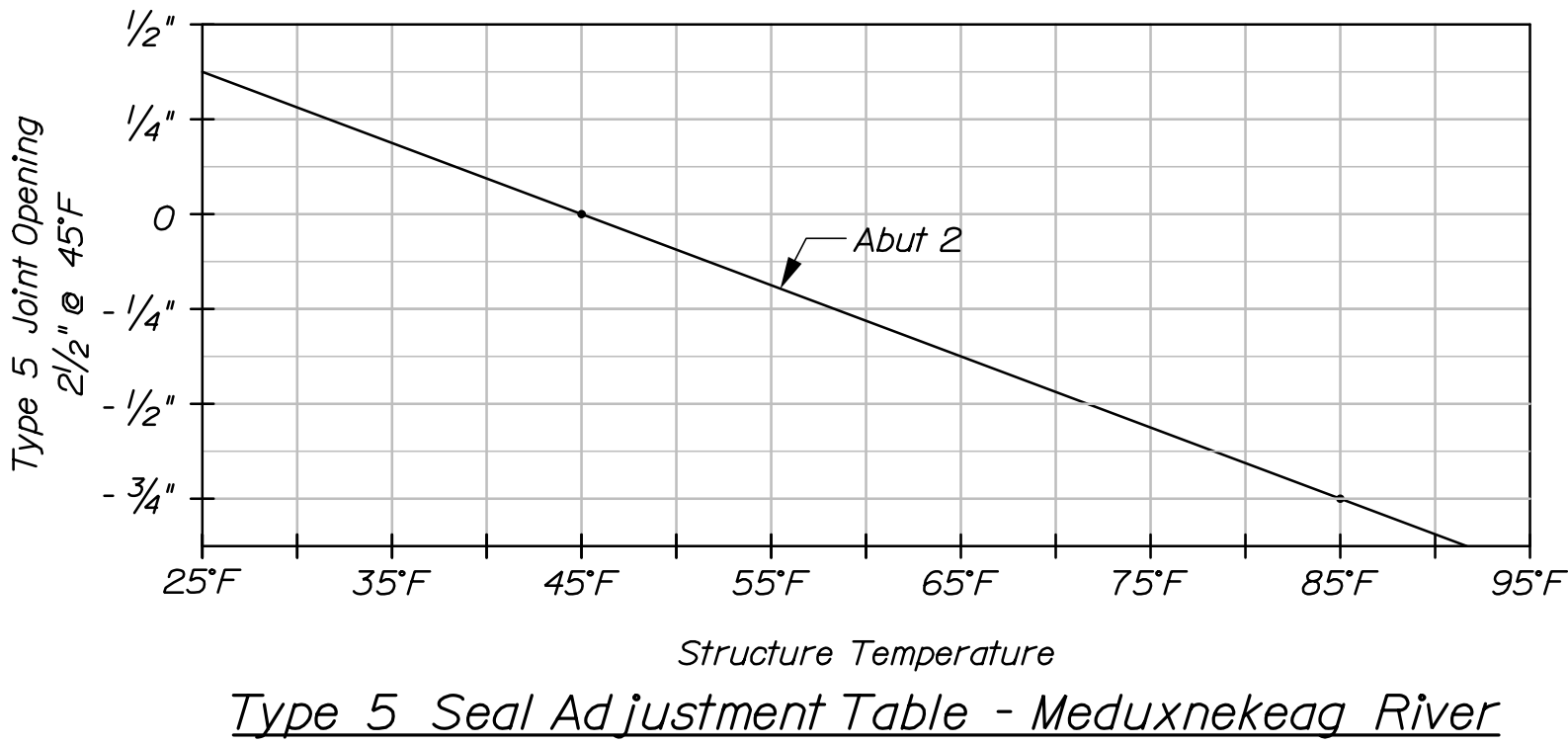
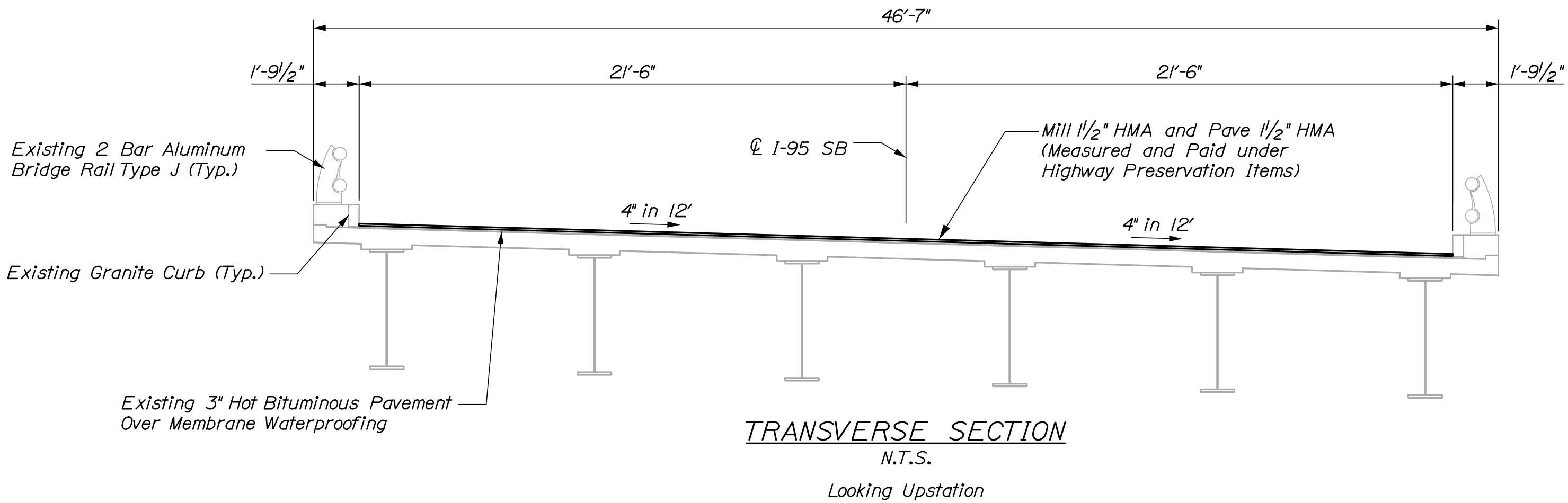
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INTERSTATE 95 SOUTHBOUND OVER MEDUXNEKEAG RIVER  
Houlton ~ Bridge No. 6099  
N.T.S.



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
NHPP-2263(700)
BRIDGE NO. 6099
WIN 022637.00
BRIDGE PLANS

PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGN-DETAILED	DB	02/15			
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REVISIONS 4					
FIELD CHANGES					

INTERSTATE 95 SOUTHBOUND
MEDUXNEKEAG RIVER
HOULTON
AROOSTOOK
PLAN AND TRANS. SECTION

SHEET NUMBER
5
OF 15

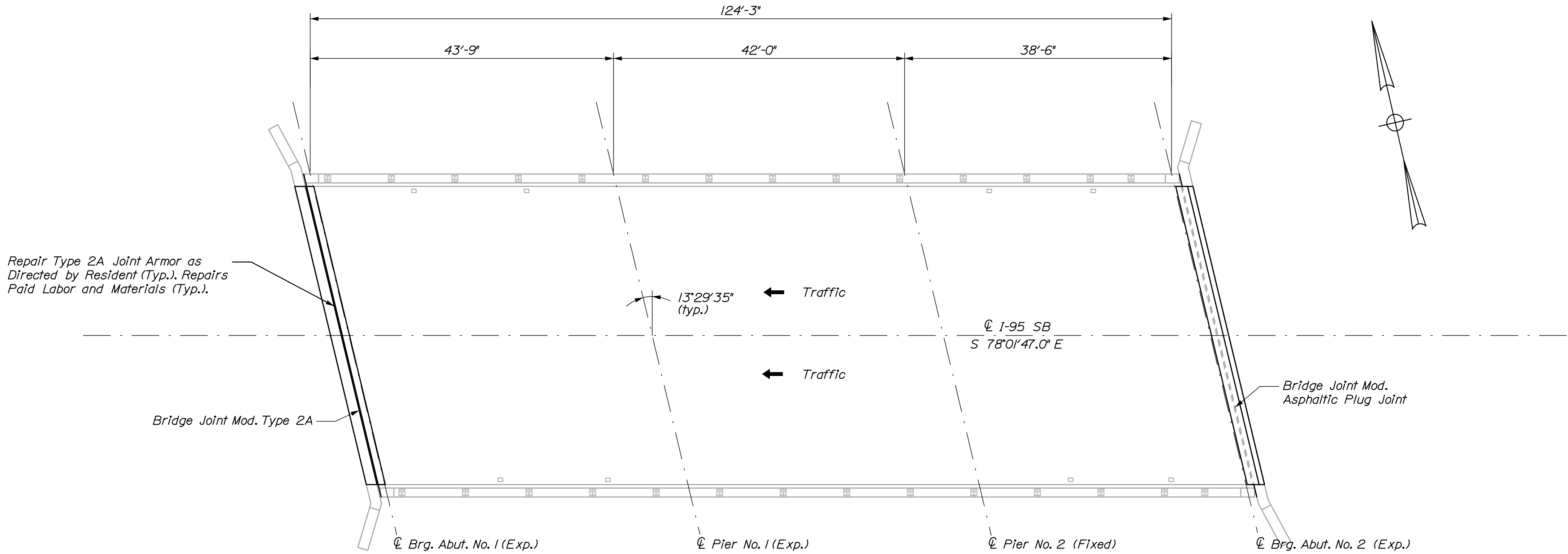


<div>6</div> <div>OF 15</div>		SHEET NUMBER	INTERSTATE 95 SOUTHBOUND BANGOR & AROOSTOOK RAILROAD HOULTON AROOSTOOK		PROJ. MANAGER		-	BY	DATE
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		REVISIONS 3		-	-	-	DATE		
		REVISIONS 4		-	-	-			
		FIELD CHANGES		-	-	-			
							STATE OF MAINE		
							DEPARTMENT OF TRANSPORTATION		
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							BRIDGE NO. 6097		BRIDGE PLANS

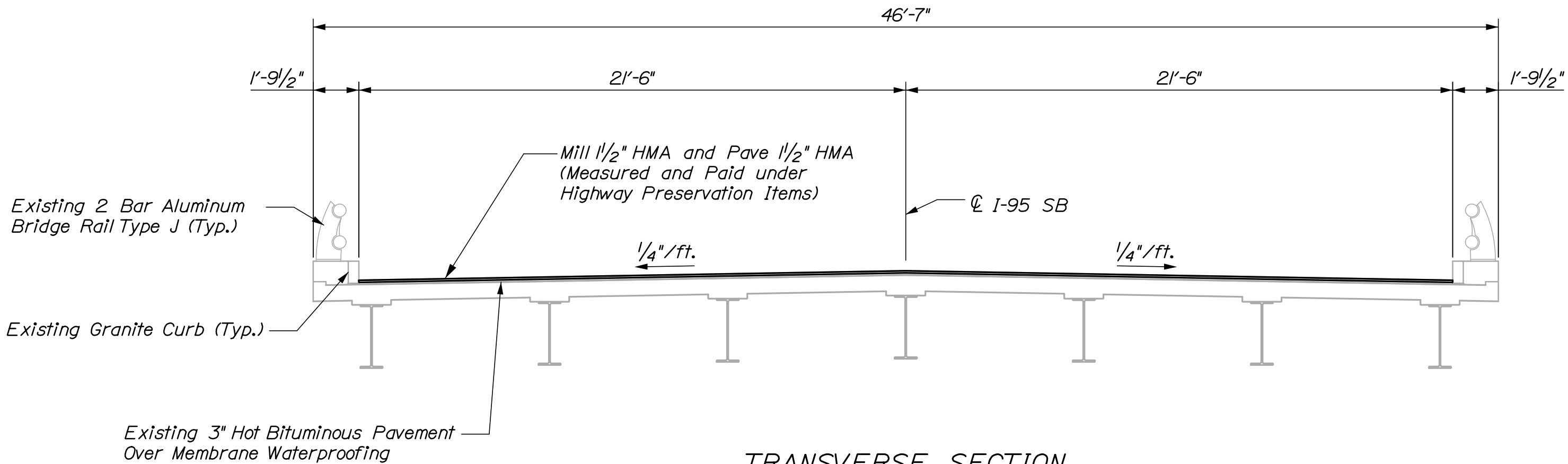




<div>OF 15</div> <div>2</div> <div>SHEET NUMBER</div>	INTERSTATE 95 SOUTHBOUND B STREAM				PROJ. MANAGER		-	BY	DATE
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STATE OF MAINE DEPARTMENT OF TRANSPORTATION  NHPP-2263(700)   BRIDGE NO. 6096WIN022637.00BRIDGE PLANS									



INTERSTATE 95 SOUTHBOUND OVER SMYRNA TOWN LINE ROAD  
Smyrna - Ludlow ~ Bridge No. 6091  
N.T.S.



TRANSVERSE SECTION  
N.T.S.  
Looking Upstation

<div> <div>INTERSTATE 95 SOUTHBOUND</div> <div>SMYRNA TOWN LINE ROAD</div> <div>SMYRNA-LUDLOW AROOSTOOK</div> </div>	<div>STATE OF MAINE</div> <div>DEPARTMENT OF TRANSPORTATION</div>		<div>BRIDGE NO. 6091</div> <div>WIN 022637.00</div> <div>BRIDGE PLANS</div>	
	<div>NHPP-2263(700)</div>		<div>SIGNATURE</div> <div>P.E. NUMBER</div> <div>DATE</div>	
	<div>SHEET NUMBER</div> <div>08</div> <div>OF 15</div>		<div>PROJ. MANAGER</div> <div>DESIGN-DETAILED</div> <div>CHECKED-REVIEWED</div> <div>DESIGN-DETAILED</div> <div>DESIGN-DETAILED</div> <div>REVISIONS 1</div> <div>REVISIONS 2</div> <div>REVISIONS 3</div> <div>REVISIONS 4</div> <div>FIELD CHANGES</div>	





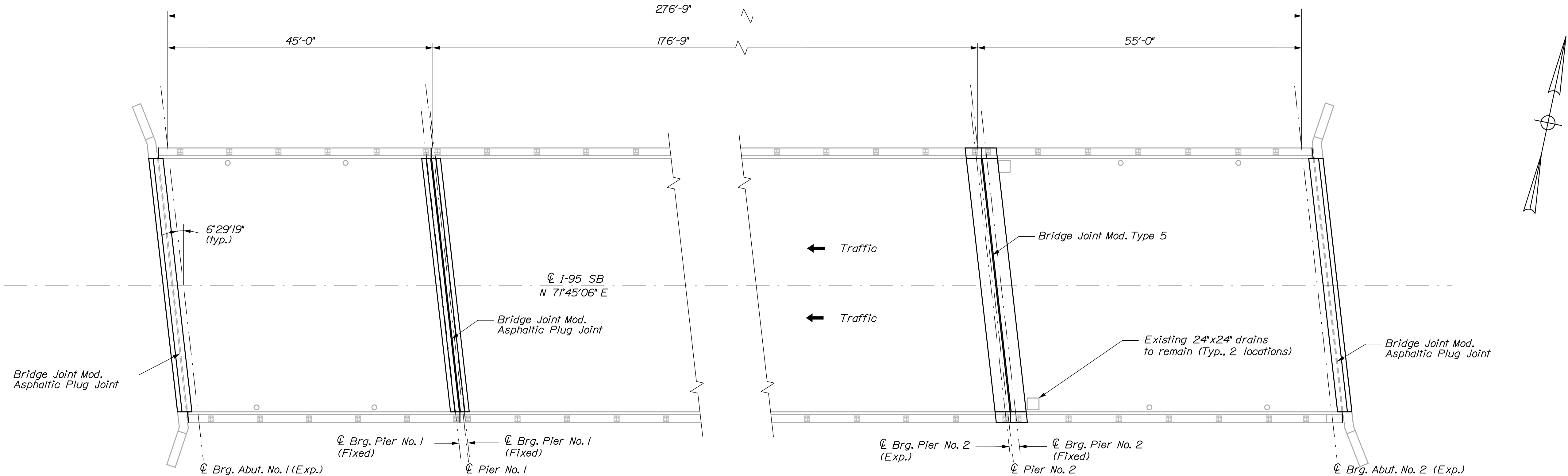
9 OF 15	SHEET NUMBER	INTERSTATE 95 SOUTHBOUND TIMONEY LAKE ROAD  SMYRNA AROOSTOOK				PROJ. MANAGER		-	BY	DATE
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Date:2/17/2015

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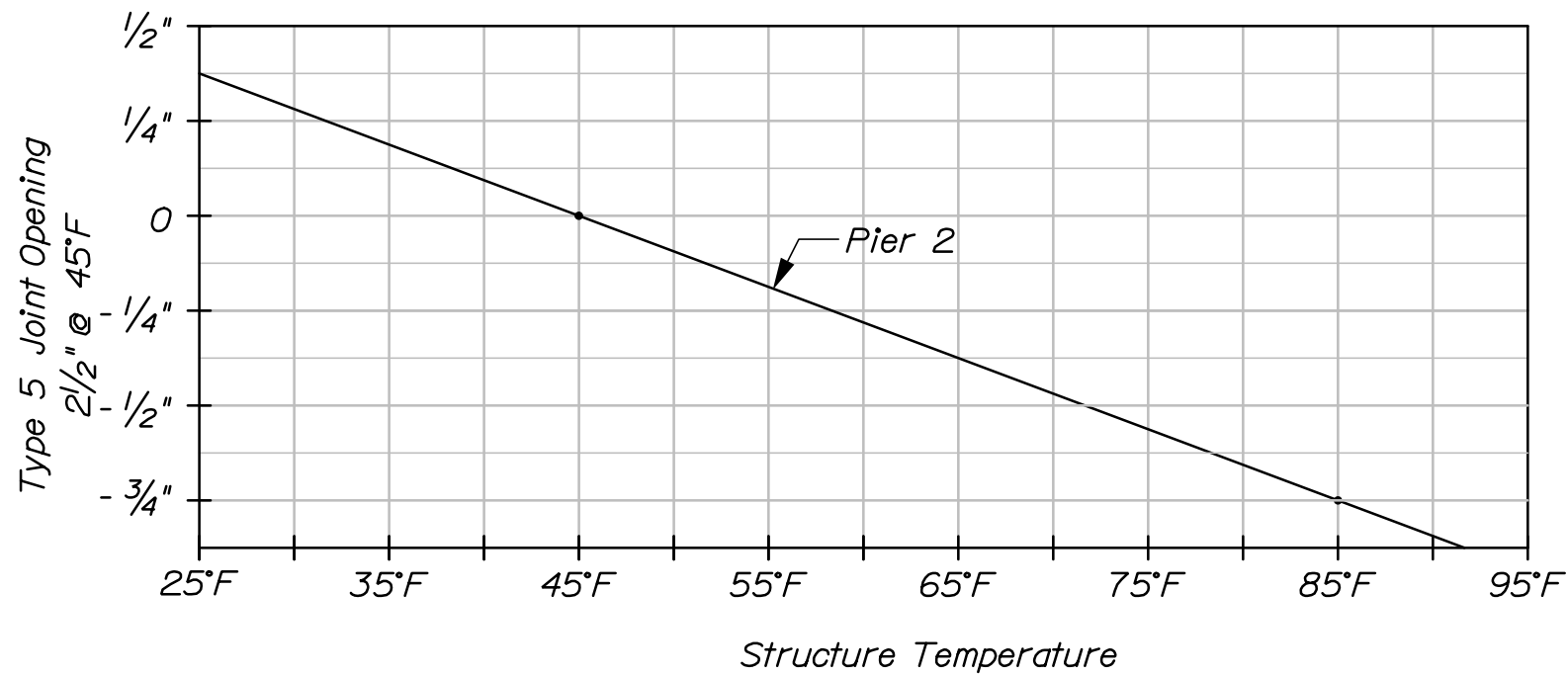
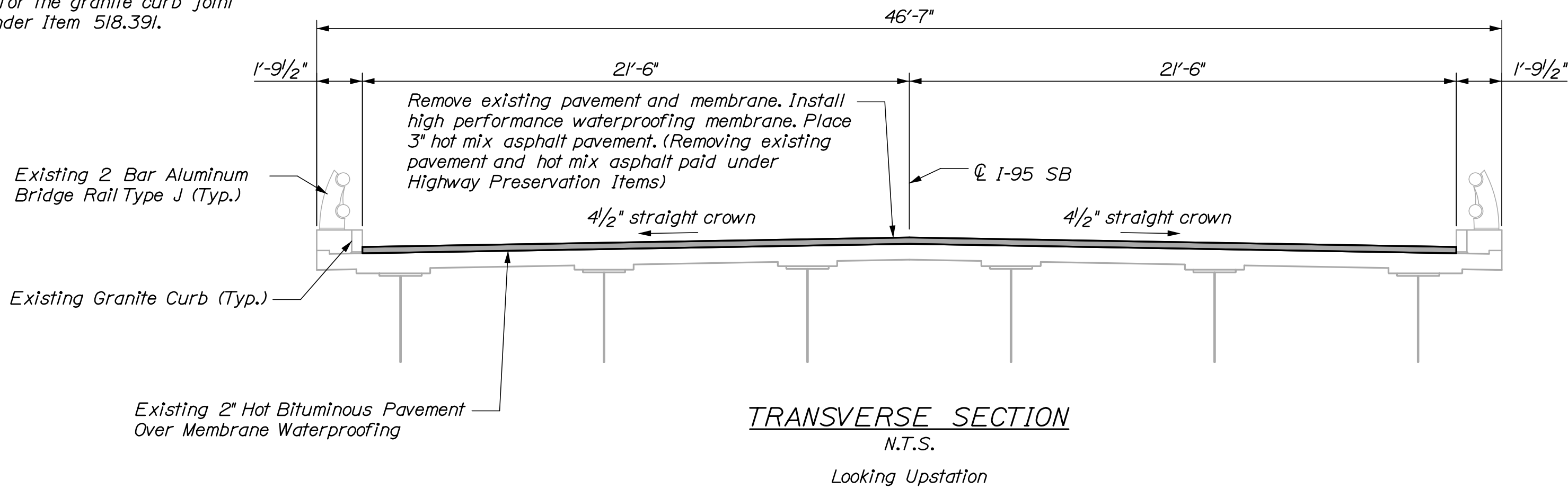
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INTERSTATE 95 SOUTHBOUND OVER BANGOR & AROOSTOOK RAILROAD  
Oakfield ~ Bridge No. 6085  
N.T.S.

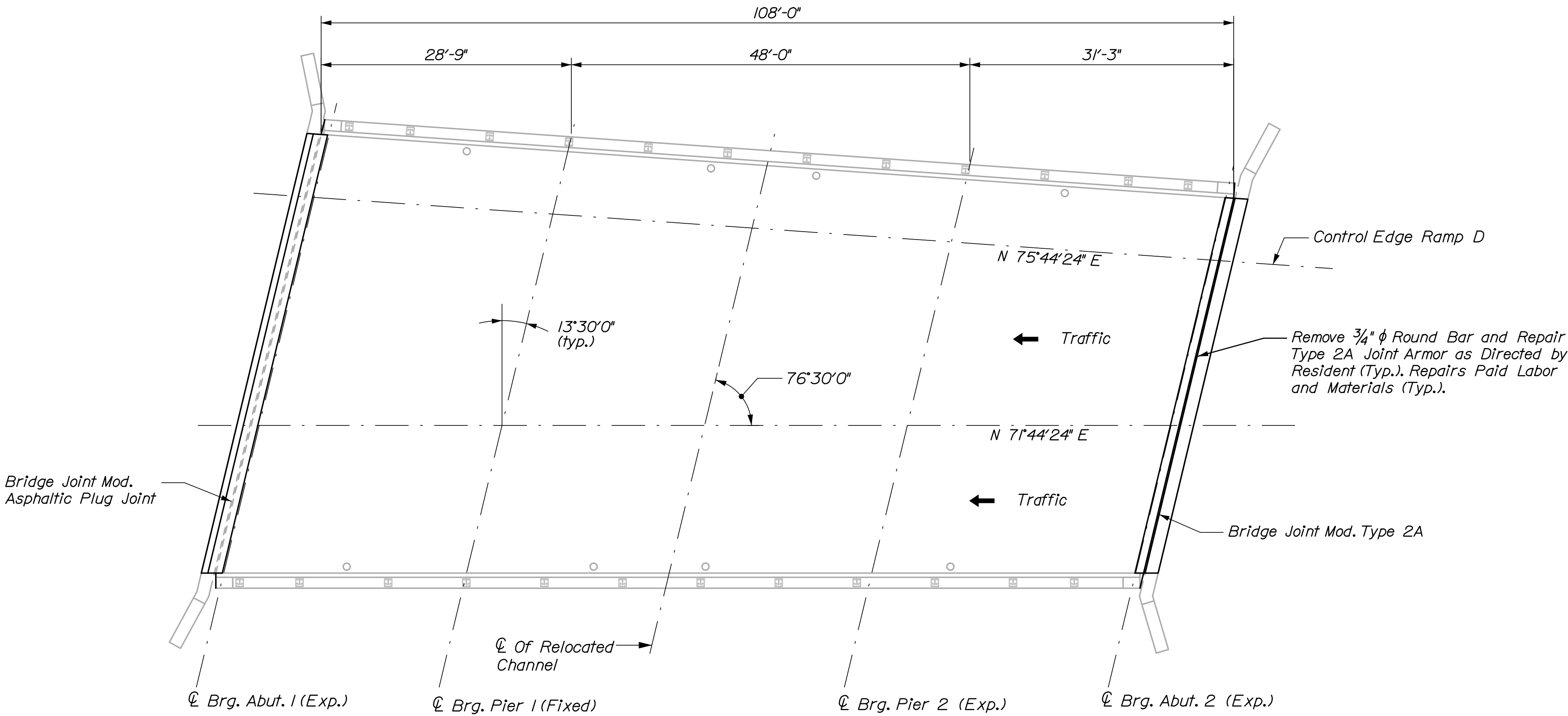
NOTES:

1. Contractor shall repair areas of concrete deck deterioration as directed by the Resident. Locations of deck repairs are undetermined for this bridge. Contractor shall identify and mark areas for deck repair after removing the wearing surface. Coordinate work with Resident. Payment for deck repair work shall be under the 518 pay items.
2. Contractor shall repair areas of deteriorated granite curb bedding mortar on the deck as required. Locations of deteriorated granite curb bedding mortar are undetermined. (Typ.) Payment for the granite curb bedding mortar repair work shall be under Item 518.391.
3. Contractor shall repoint deteriorated portions of exposed granite curb joints as directed by Resident. Locations of joints to be repointed are undetermined. Payment for the granite curb joint repair work shall be under Item 518.391.

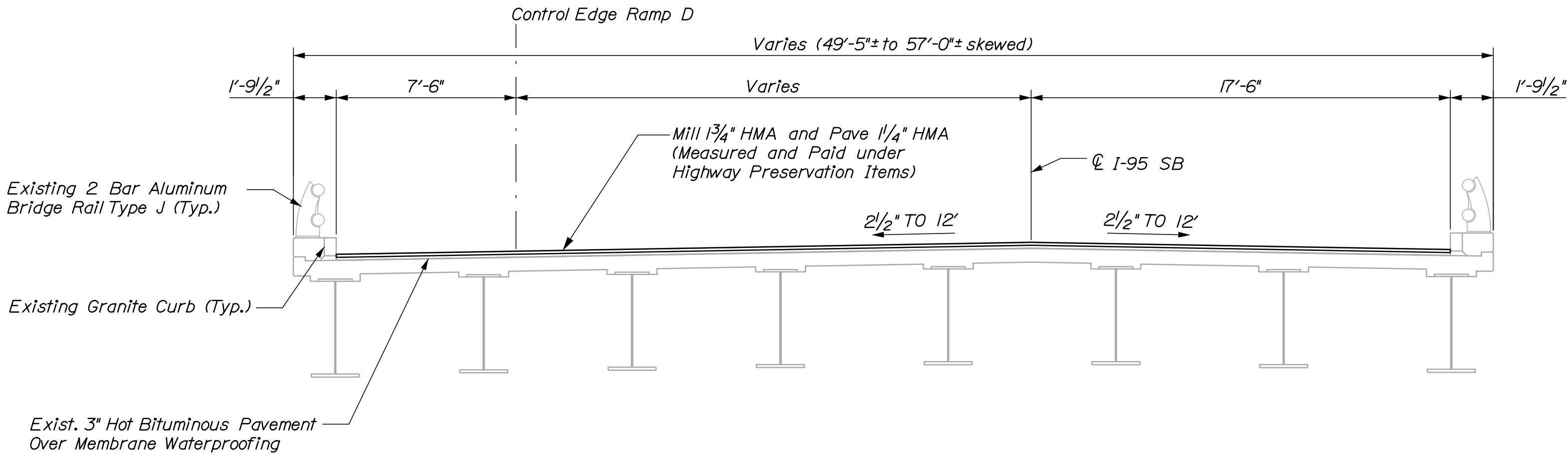


Type 5 Seal Adjustment Table - Bangor & Aroostook Railroad

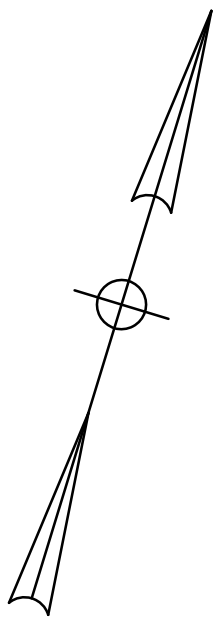
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				CHECKED-REVISED	IRC	-	-	02/15
				DESIGN2-DETAILED2	-	-	-	-
				DESIGN3-DETAILED3	-	-	-	-
				REVISIONS 1	-	-	-	-
				REVISIONS 2	-	-	-	-
				REVISIONS 3	-	-	-	-
				REVISIONS 4	-	-	-	-
				FIELD CHANGES	-	-	-	-
						P.E. NUMBER		
						DATE		
						BRIDGE NO. 6085		WIN 022637.00
						BRIDGE PLANS		



INTERSTATE 95 SOUTHBOUND OVER EAST BRANCH MATTAWAMKEAG RIVER  
Oakfield ~ Bridge No. 6084  
N.T.S.



TRANSVERSE SECTION  
N.T.S.  
Looking Upstation



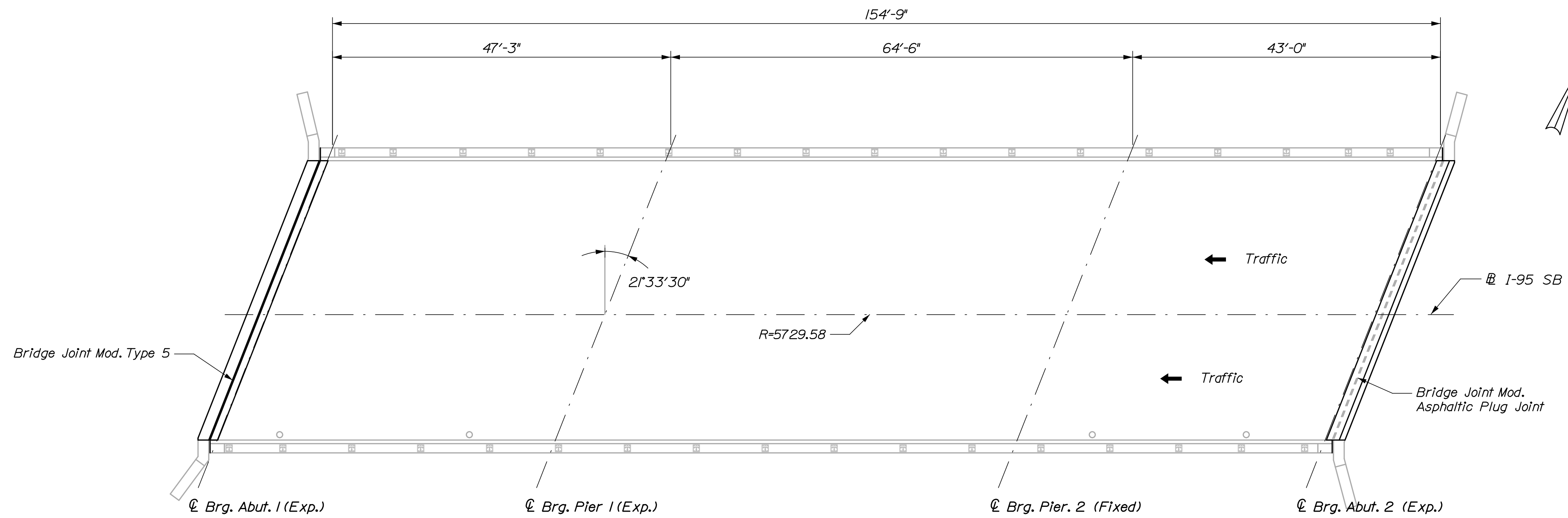
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
NHP-2263(700)		BRIDGE NO. 6084	
WIN		022637.00	
BRIDGE PLANS		BRIDGE PLANS	

PROJ. MANAGER	DESIGN-DETAILED	C&H	BY	DATE	SIGNATURE
CHECKED-REVIEWED	TRC	-	DB	02/15	02/15
DESIGN-DETAILED	-	-	-	-	-
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REVISIONS 1	-	-	-	-	-
REVISIONS 2	-	-	-	-	-
REVISIONS 3	-	-	-	-	-
REVISIONS 4	-	-	-	-	-
FIELD CHANGES	-	-	-	-	-

INTERSTATE 95 SOUTHBOUND	EAST BRANCH MATTAWAMKEAG RIVER	AROOSTOOK	PLAN AND TRANS. SECTION
OAKFIELD			

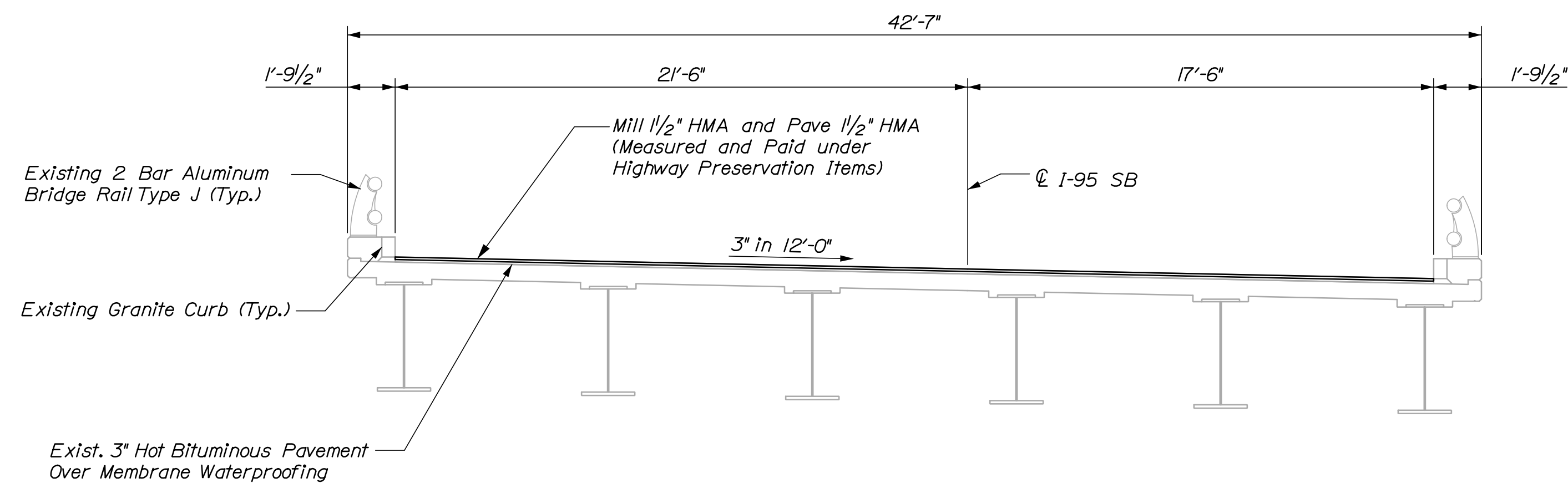
SHEET NUMBER
11
OF 15

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INTERSTATE 95 SOUTHBOUND OVER OAKFIELD- SMYRNA ROAD

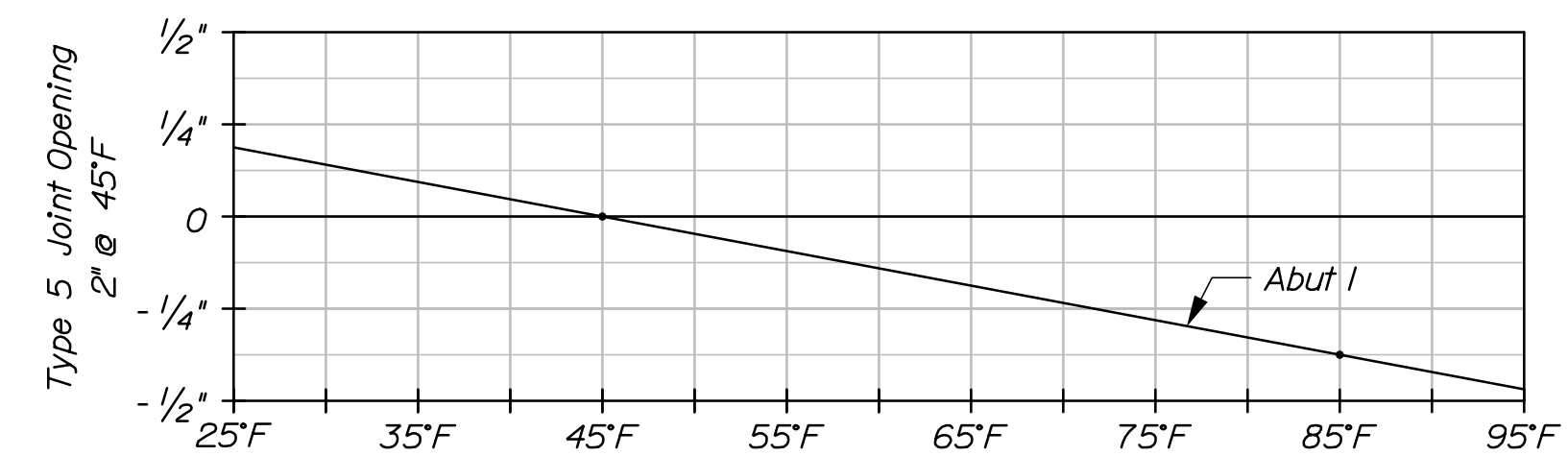
Oakfield ~ Bridge No. 6083  
N.T.S.



TRANSVERSE SECTION I-95 SB

*N.T.S.*

*Looking Upstation*



### Structure Temperature

Type 5 Seal Adjustment Table - Oakfield - Smyrna Road

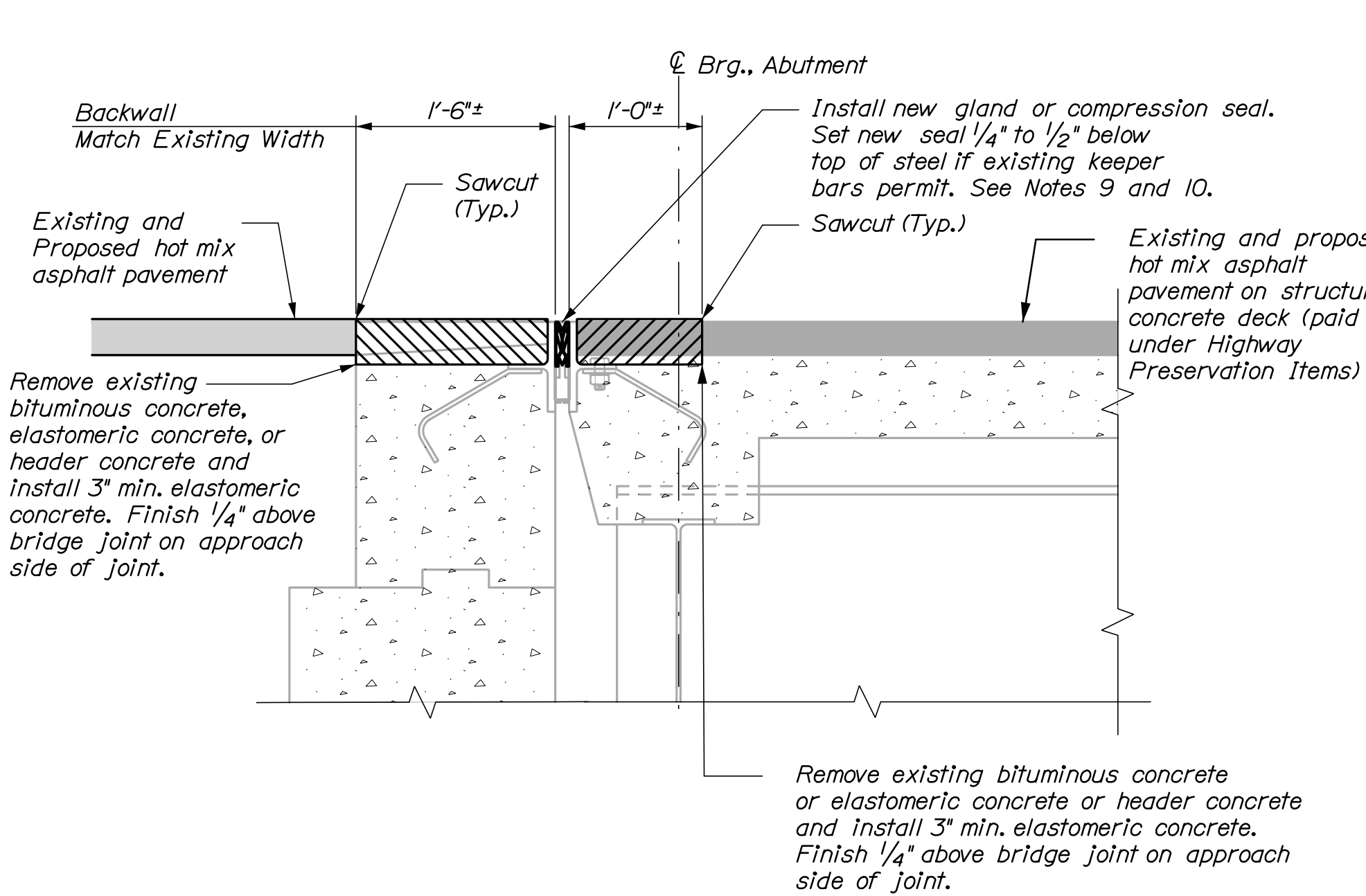
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PLAN AND TRANS. SECTION		REVISIONS 2		-	-	-		P.E. NUMBER		WIN 022637.00	
		REVISIONS 3		-	-	-					
		REVISIONS 4		-	-	-					
		FIELD CHANGES		-	-	-					
		DATE		-	-	-					
								BRIDGE NO. 6083		BRIDGE PLANS	

Date:2/17/2015

Username:

Division:

Filename: 013\_JointDetails1.dgn



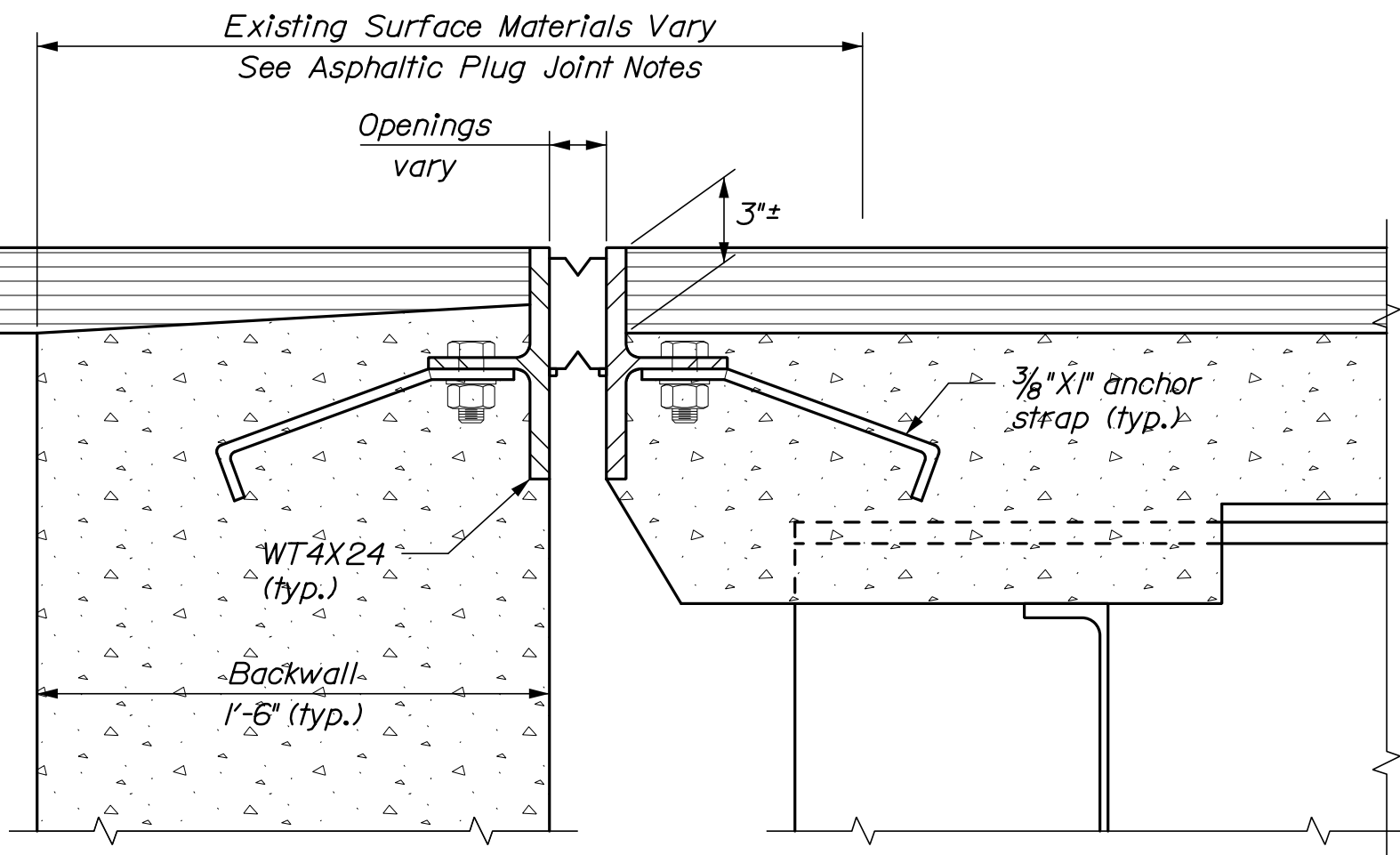
### BRIDGE JOINT MODIFICATION TYPE 2A

1" = 1'-0"

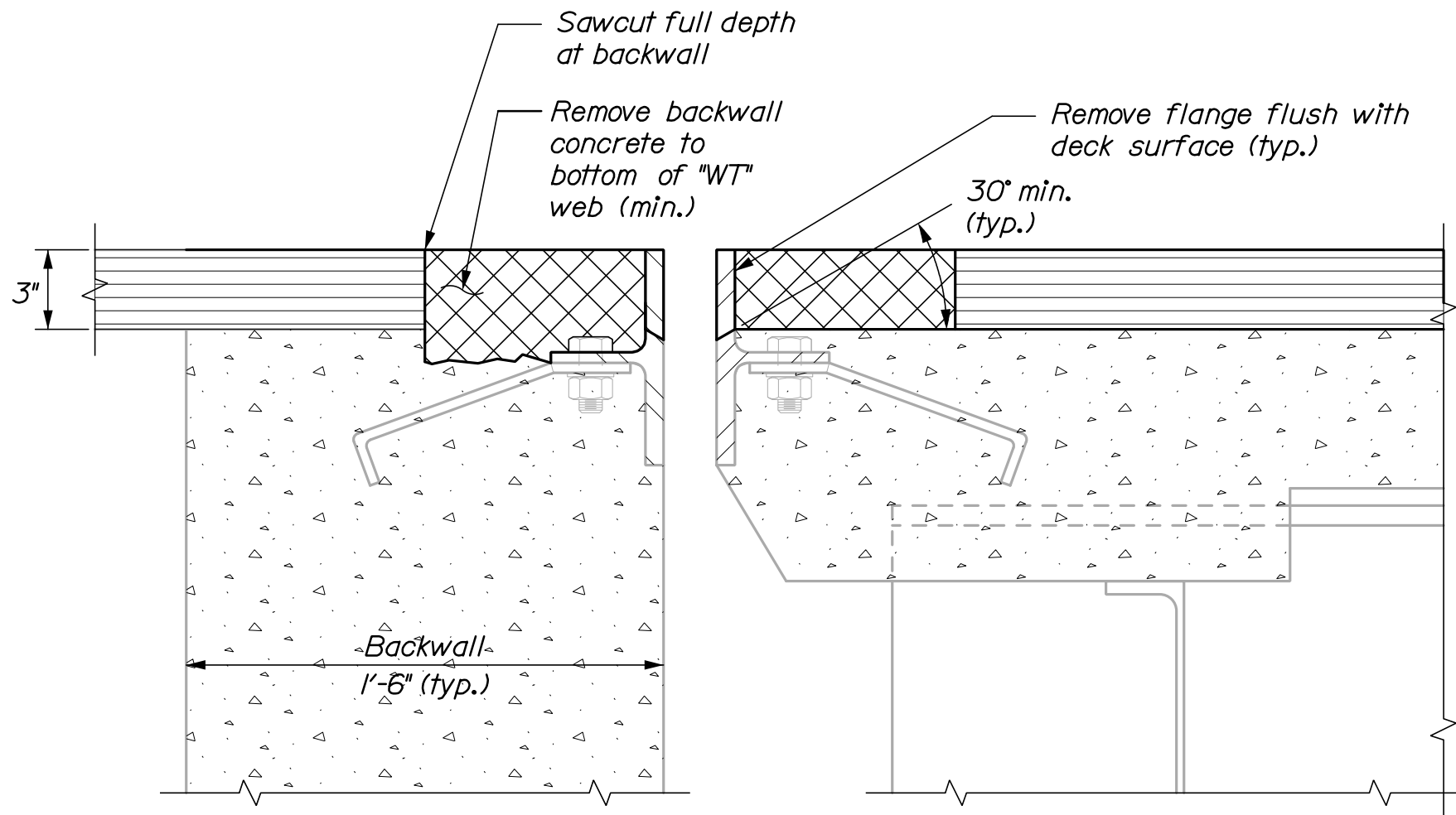
Limits of joint modification:  
Gland or Compression seal - full deck width and completely through raised curbs plus six inch extensions per side;  
Elastomeric concrete - full deck width to face of raised curbs.

#### TYPE 2A JOINT NOTES

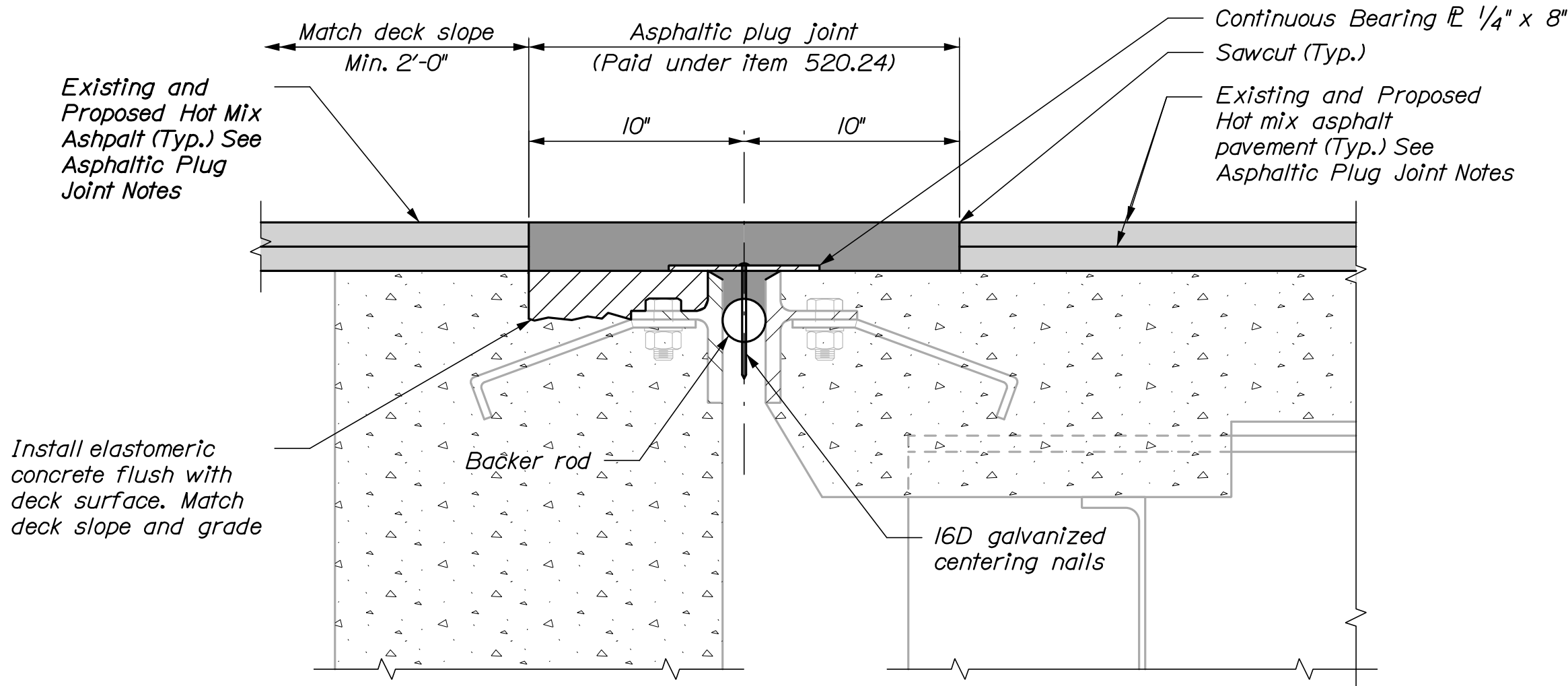
1. Refer to Standard Details Section 520 for details and information not shown.
2. All concrete surfaces where elastomeric concrete is to be applied shall have a 1/4-in. minimum anchor profile or roughened surface.
3. Elastomeric concrete shall be applied according to the manufacturer's recommendations.
4. All new steel supplied for the bridge joint modification shall be uncoated.
5. The Contractor shall be fully responsible for selecting the appropriate seal based on the movement rating from the Qualified Products List.
6. Removal and replacement of existing bituminous, elastomeric, or header concrete shall be completed along the full width of the roadway. Bridge joint armor and extrusion modifications shall extend to the limits described on the respective joint modification details.
7. Welding shall be completed as a series of skip welds to minimize welding distortion.
8. If the base metal temperature falls below 32 degrees Fahrenheit, the base metal shall be heated to a minimum of 80 degrees Fahrenheit before welding. If the base metal temperature falls below 50 degrees Fahrenheit, the base metal shall be heated to remove any moisture. A welding procedure and listing of proposed welding consumables shall be submitted to the Resident for approval.
9. Keeper bars shall be positioned to allow top of compression seal to sit 1/4" to 1/2" below top of armor. If existing keeper bar does not permit the seal to set at the specified depth, Contractor shall notify the Resident.
10. The Bridge 6096 (B Stream) Type 2A seal is a gland seal.



### EXISTING COMPRESSION SEAL JOINT



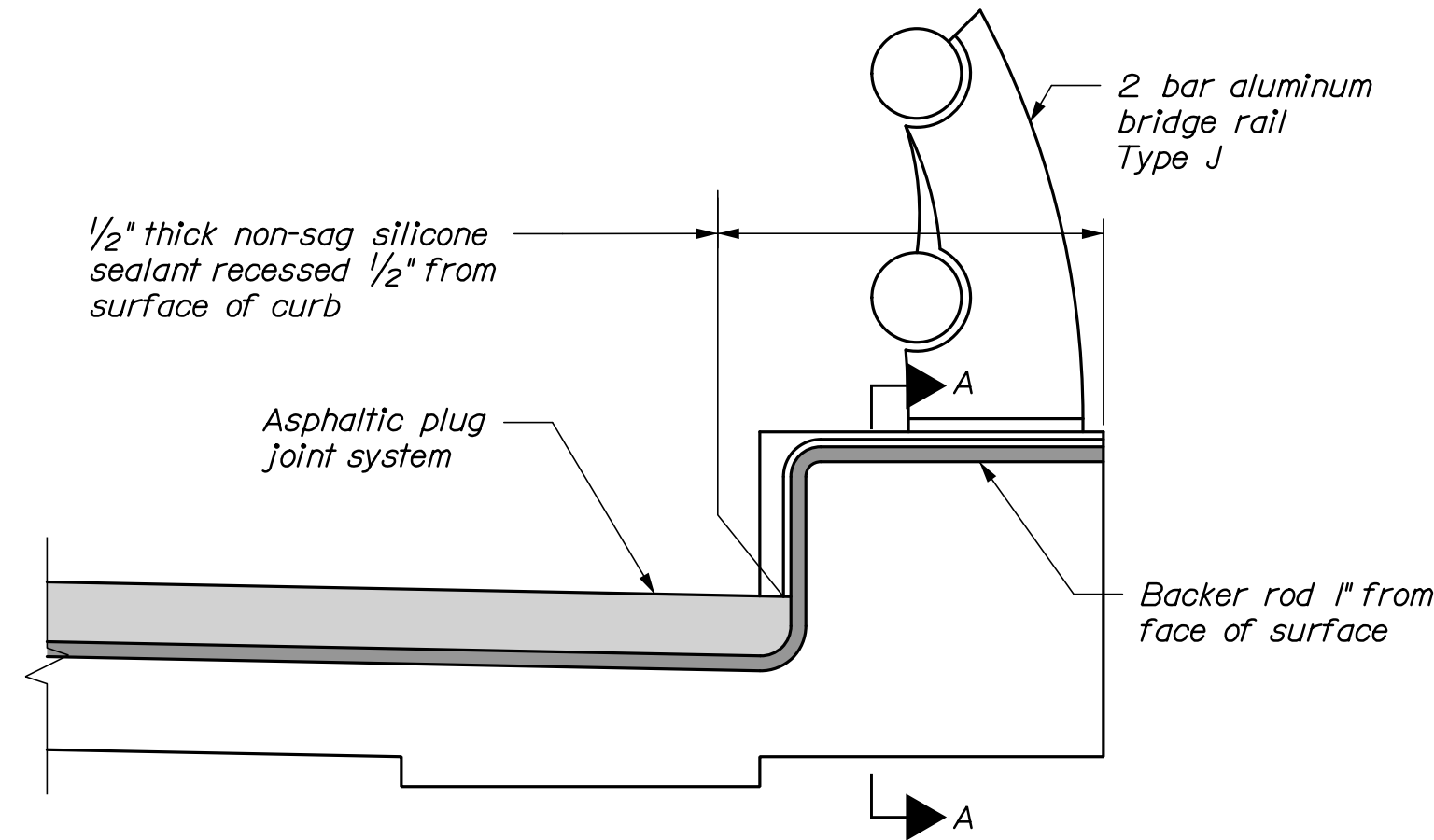
### DEMOLITION



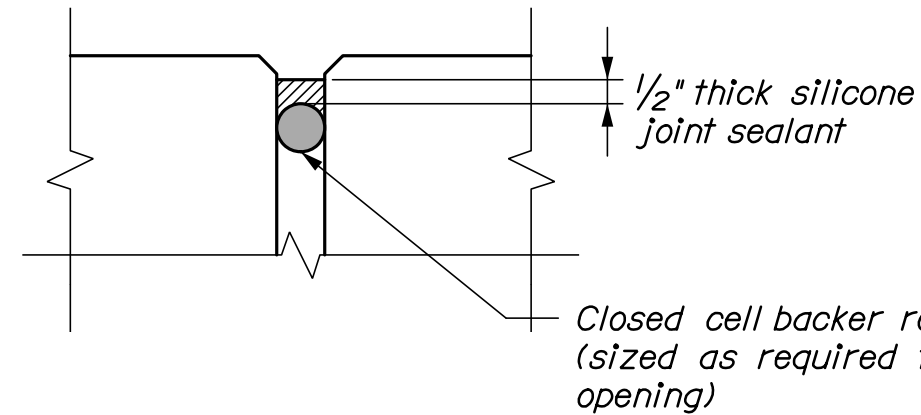
### BRIDGE JOINT MODIFICATION ASPHALTIC PLUG JOINT

Note:  
Total new pavement thickness to match existing pavement thickness U.O.N.

Limits of joint modification:  
Asphaltic plug joint, elastomeric concrete and joint armor modification - full deck width to face of raised curb;  
Elastomeric sealant with backer rod and preparation of existing curb joint armor and structural concrete - full width of raised curbs.



### JOINT TREATMENT AT BRIDGE CURB



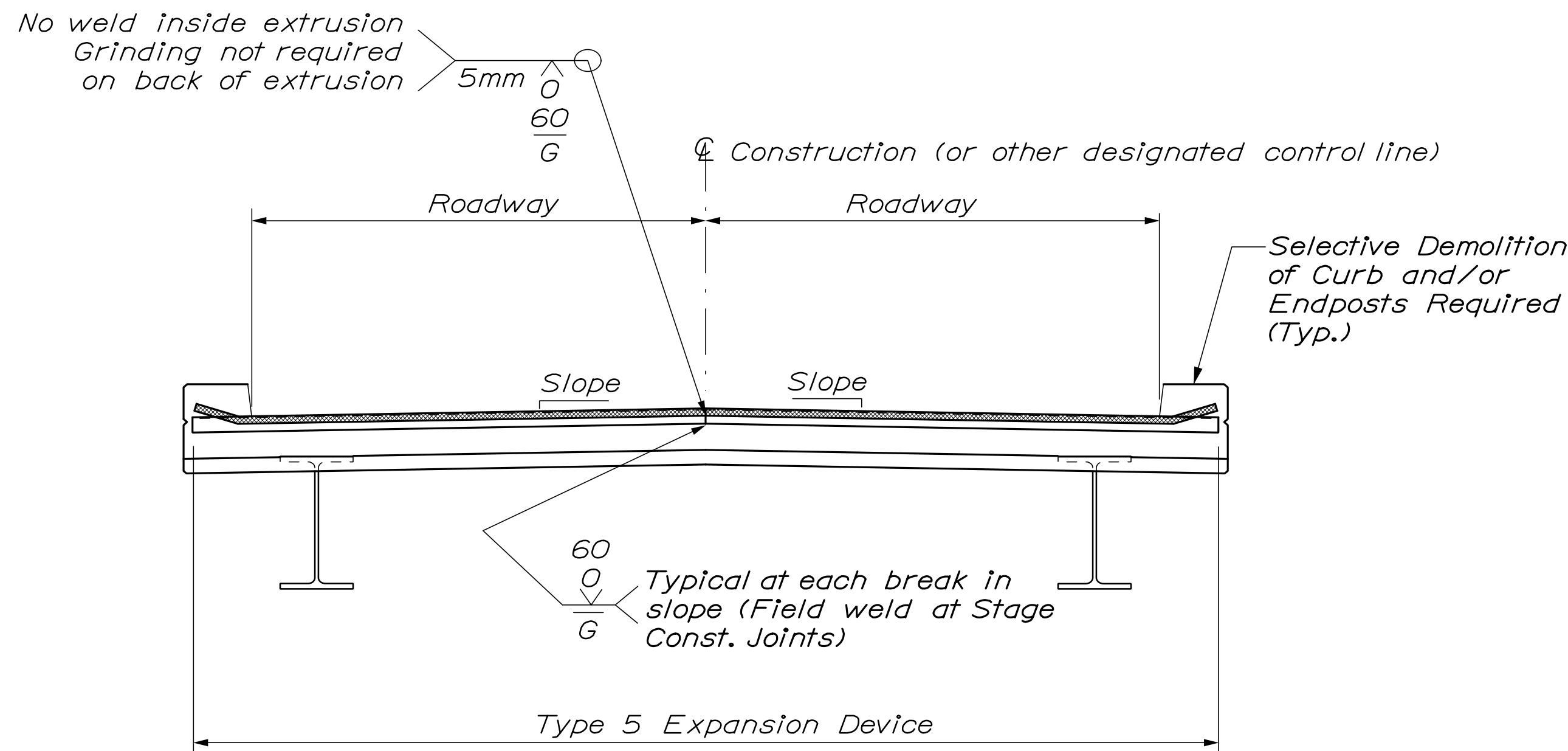
### SECTION A-A

#### ASPHALTIC PLUG JOINT NOTES

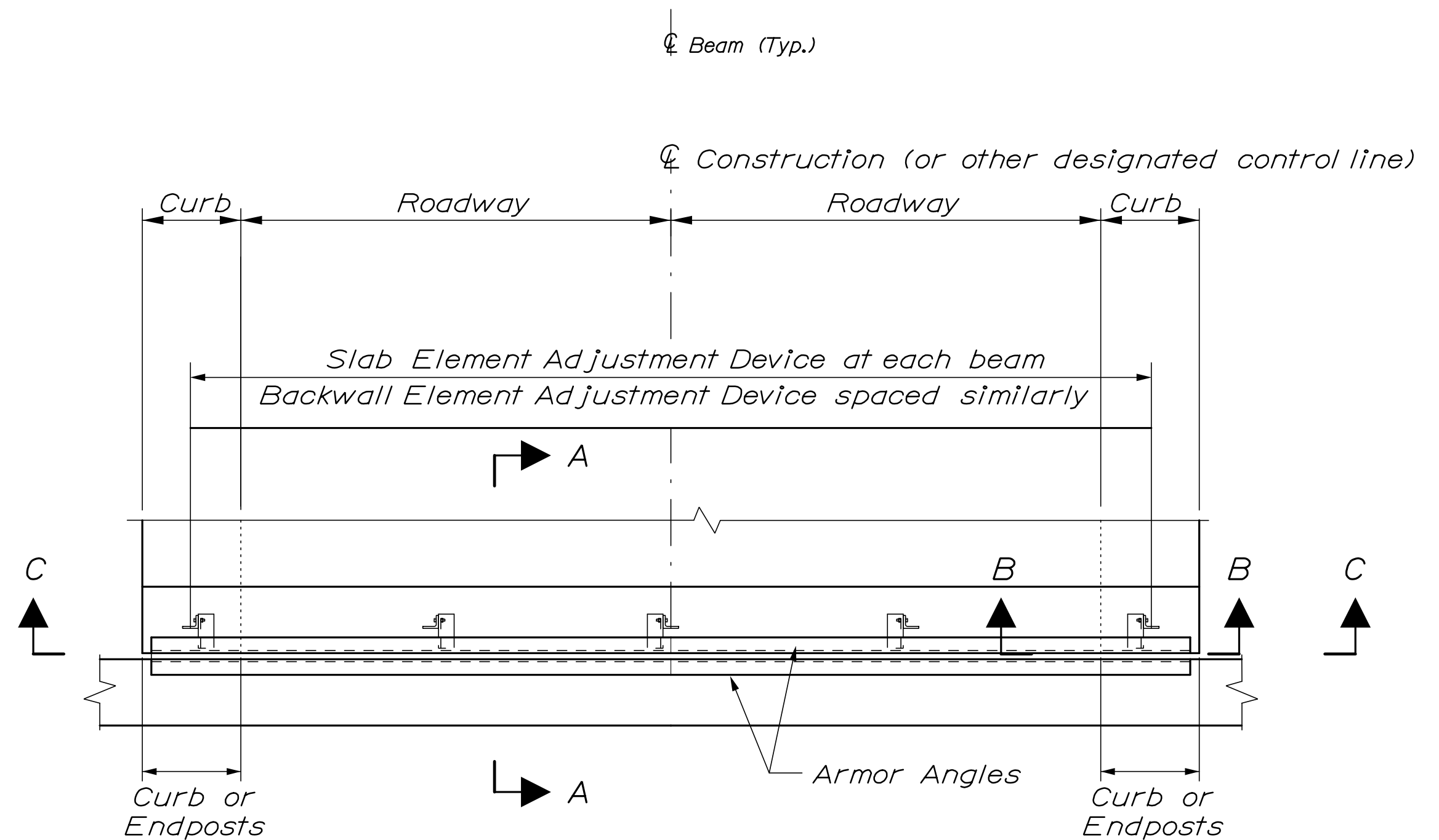
1. Deck and backwall reinforcing not shown for clarity.
2. 16D galvanized centering nails shall be spaced at 12" o.c. maximum and placed 2" from joints in the bearing plates.
3. The bearing plates shall be galvanized steel 1/4" thick and 8" wide. Plates shall fully bear on deck and backwall surfaces without rocking.
4. Asphaltic plug joint materials shall meet the requirements of the project specifications and shall be installed per manufacturer's specifications.
5. Asphaltic plug joints shall be installed after the surface lift of pavement is installed.
6. All concrete surfaces where elastomeric concrete is to be applied shall have a 1/4-in. minimum anchor profile or roughened surface.
7. Elastomeric concrete shall be installed according to the manufacturer's recommendations.
8. Removal of existing bituminous or elastomeric or header concrete shall be completed along the full width of the roadway. Bridge joint armor modifications shall extend to the limits described in the Specifications.
9. The horizontal limit of existing bituminous pavement, elastomeric concrete or header concrete adjacent to the existing compression seal armor on the deck and back wall is dependent on the material(s) present; and the width of those materials. The removal of the existing material shall be at least 10 inches each side of the joint centerline. If the existing elastomeric concrete or header concrete ends within 10 inches of each side of the joint centerline no additional material removal is required. Should the existing elastomeric concrete or header concrete extend beyond the 10 inches of either side of the joint centerline it shall be selectively removed to sound pavement, and the void created shall be in-filled with hot mix asphalt. The deck membrane shall be repaired as directed by the Resident.
10. Depending on the Contractor's phasing of the work, temporary bituminous pavement infilling of the void(s) created to prepare for the APJ installation (removal of the existing bituminous pavement, elastomeric concrete or header concrete, and compression seal WT flange) may be required.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION NHP-2263(700)	BRIDGE NO. Varies		WIN 022637.00		BRIDGE PLANS	
	DATE		SIGNATURE		P.E. NUMBER	
	BY		DATE		DATE	
INTERSTATE 95 SOUTHBOUND HOULTON TO OAKFIELD AROOSTOOK COUNTY	PROJ. MANAGER	DESIGN-DETAILED	CAH	02/15	02/15	
	CHECKED-REVIEWED	TRC	-	-	-	
	DESIGN-DETAILED	-	-	-	-	
	REVISIONS 1	-	-	-	-	
	REVISIONS 2	-	-	-	-	
JOINT MODIFICATION DETAILS I	REVISIONS 3	-	-	-	-	
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	FIELD CHANGES	-	-	-	-	
	SHEET NUMBER					
	13					
	OF 15					

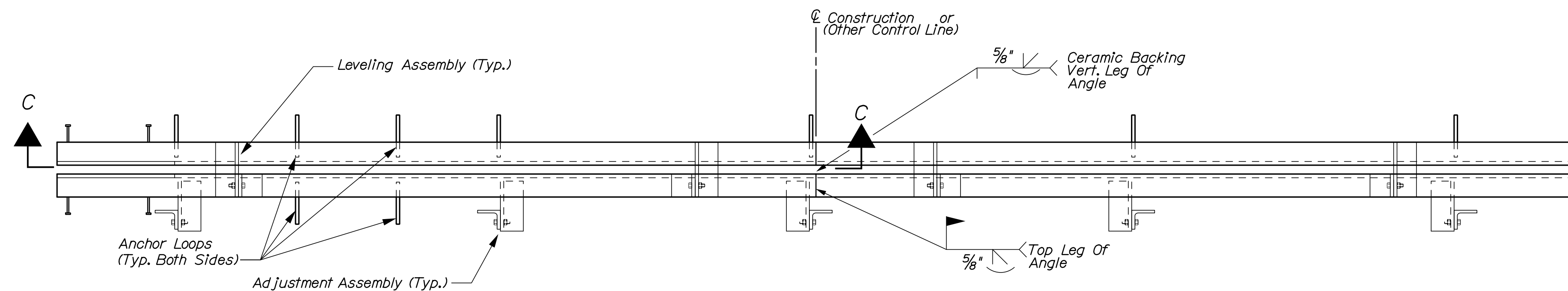




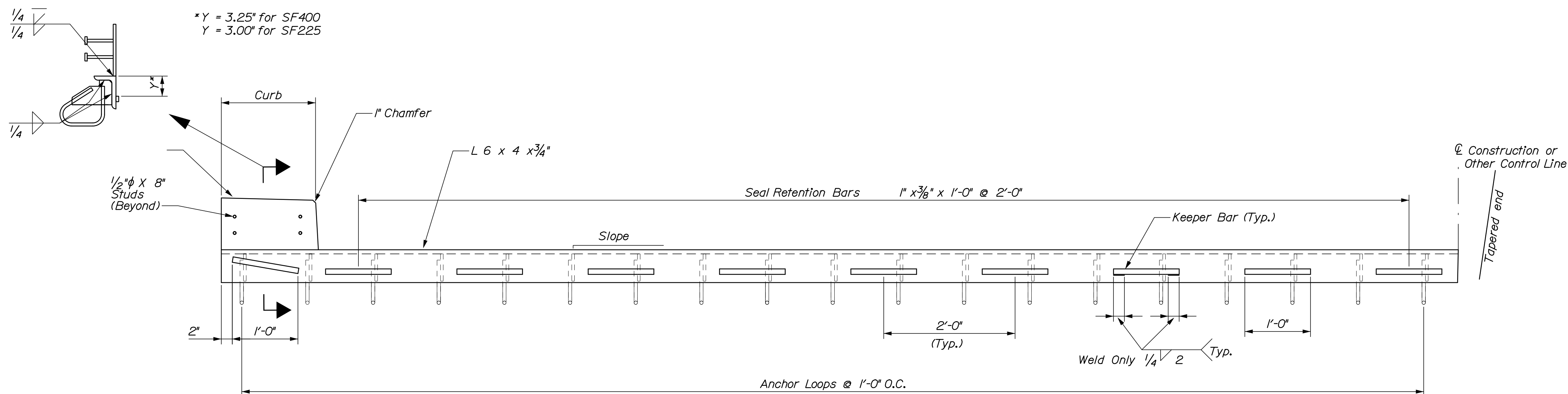
Section C-C



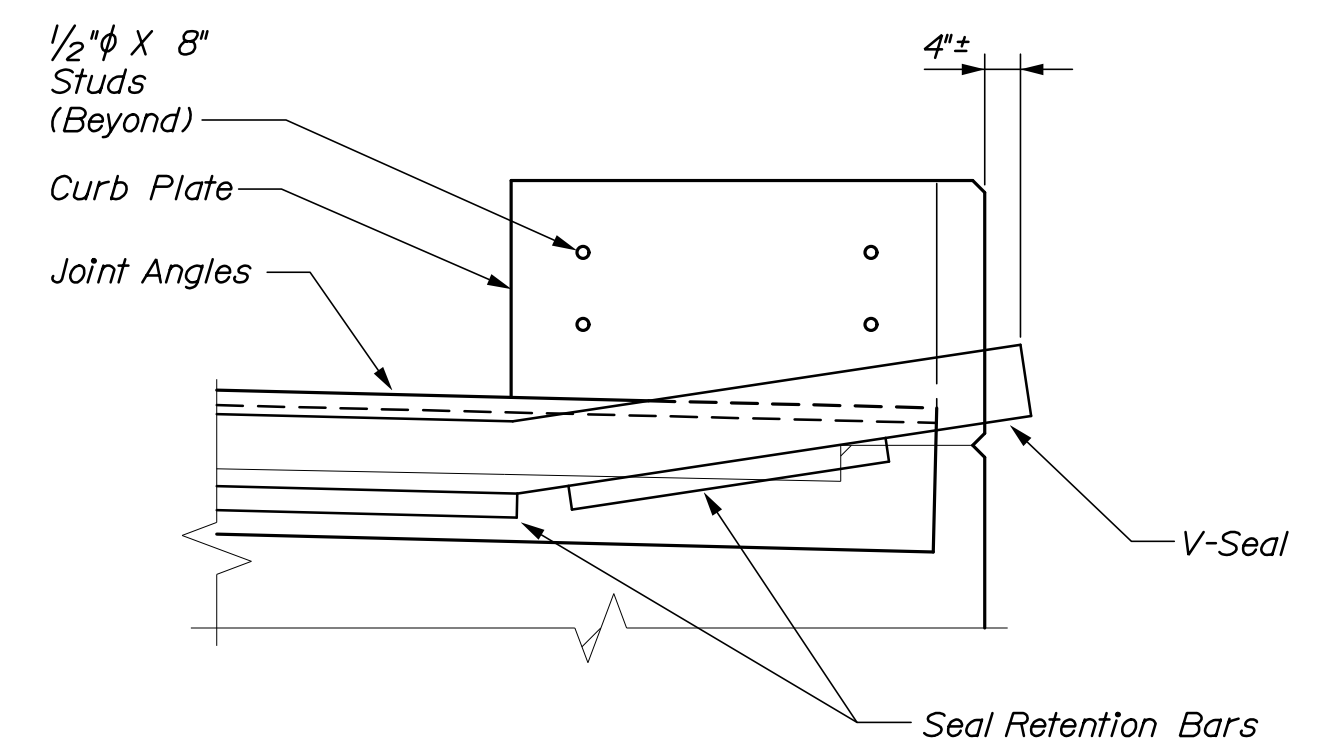
Plan



Joint Steel Plan



Section C-C  
BRIDGE JOINT MODIFICATION TYPE 5

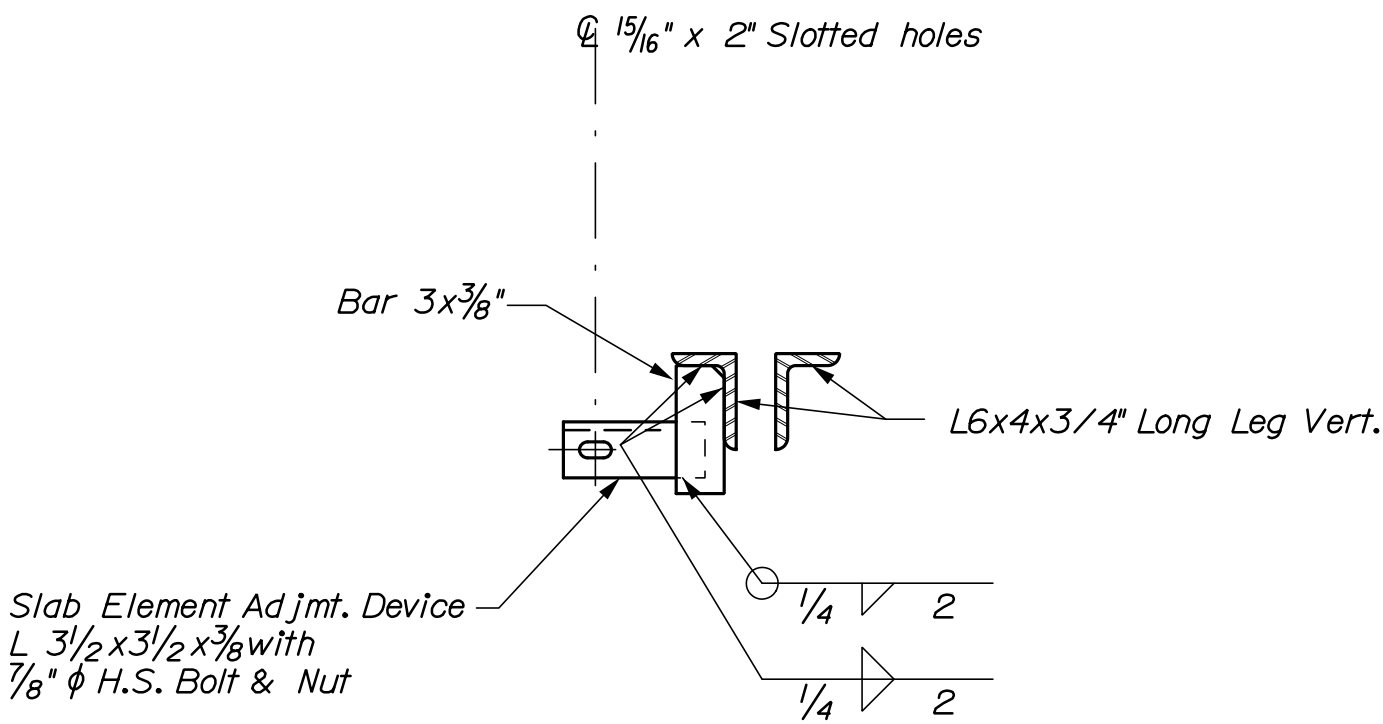


Curb Section B-B

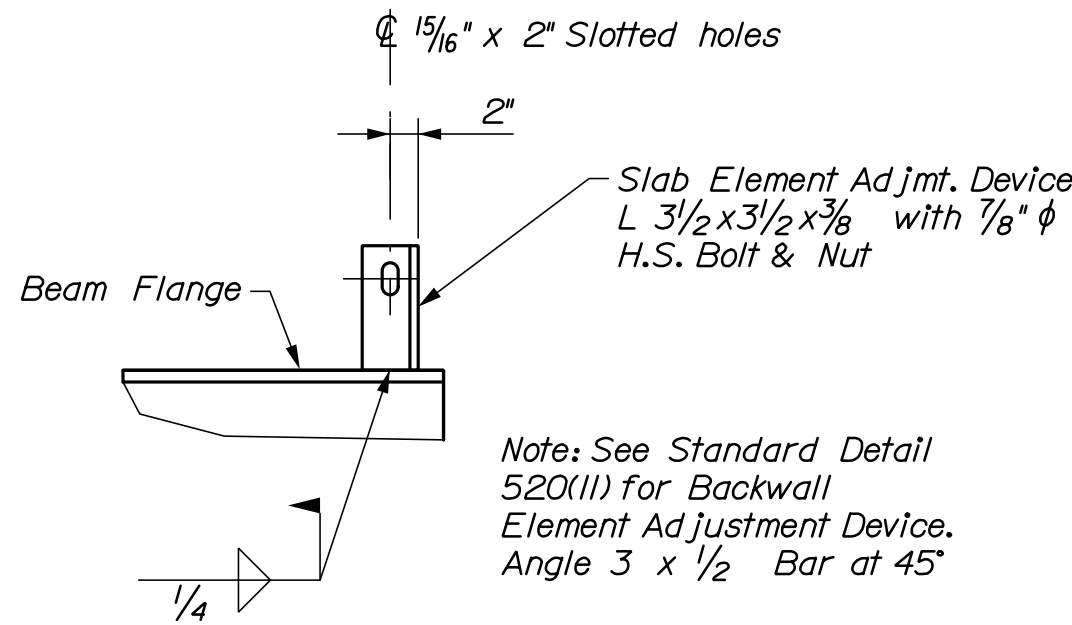
### TYPE 5 JOINT NOTES

1. The Contractor shall field measure the existing deck cross slopes, curb heights and widths, end post widths and clearance, joint heights, and existing pavement depths and adjust the joint shop drawings accordingly. The curb plates shall be flush or slightly recessed from the concrete faces to also avoid catching plows.
2. The Type 5 joint armor shall be furnished and installed ungalvanized.
3. Keeper bars shall be installed at the "Y" dimension shown on the drawings. The depth of the keeper bars is dependent on the Silcoflex seal specified for the joint.
4. The back wall joint positioning / adjustment devices shall be similar to the 3 x 1/2 bar shown on Standard Detail 520 (III). Angle the 3 x 1/2 bar @ 45°.
5. The v-seal shall be installed in one piece full width, from curb to curb with no seams or splices, after the joint armor installation is complete and the roadway is finish paved. The seal installation requires a lane closure with a lane shift, installation of the seal to centerline (+/-), rolling (gathering) of the remaining seal at the centerline, removal of the lane shift (with the lane closure remaining in place) and then continuing the installation of one piece seal across the second lane thru the curb.
6. Prior to the installation of the v-seal the steel surfaces to receive the epoxy adhesive shall be blast cleaned to remove surface rust and solvent washed per the seal manufacturer's instructions.

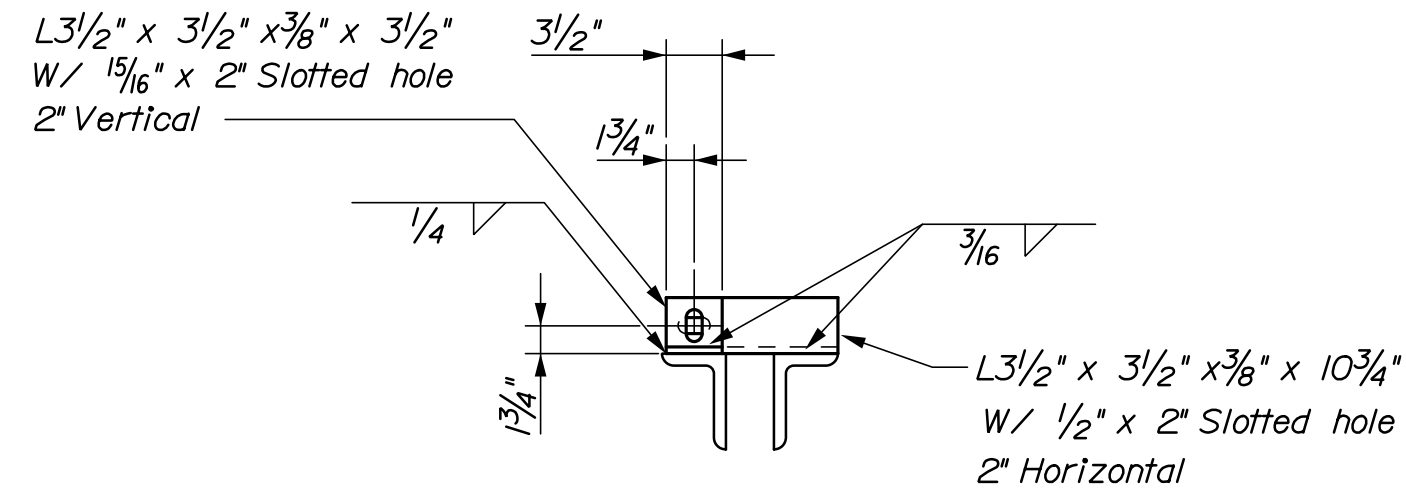
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REVISIONS 3						
REVISIONS 4						
FIELD CHANGES						



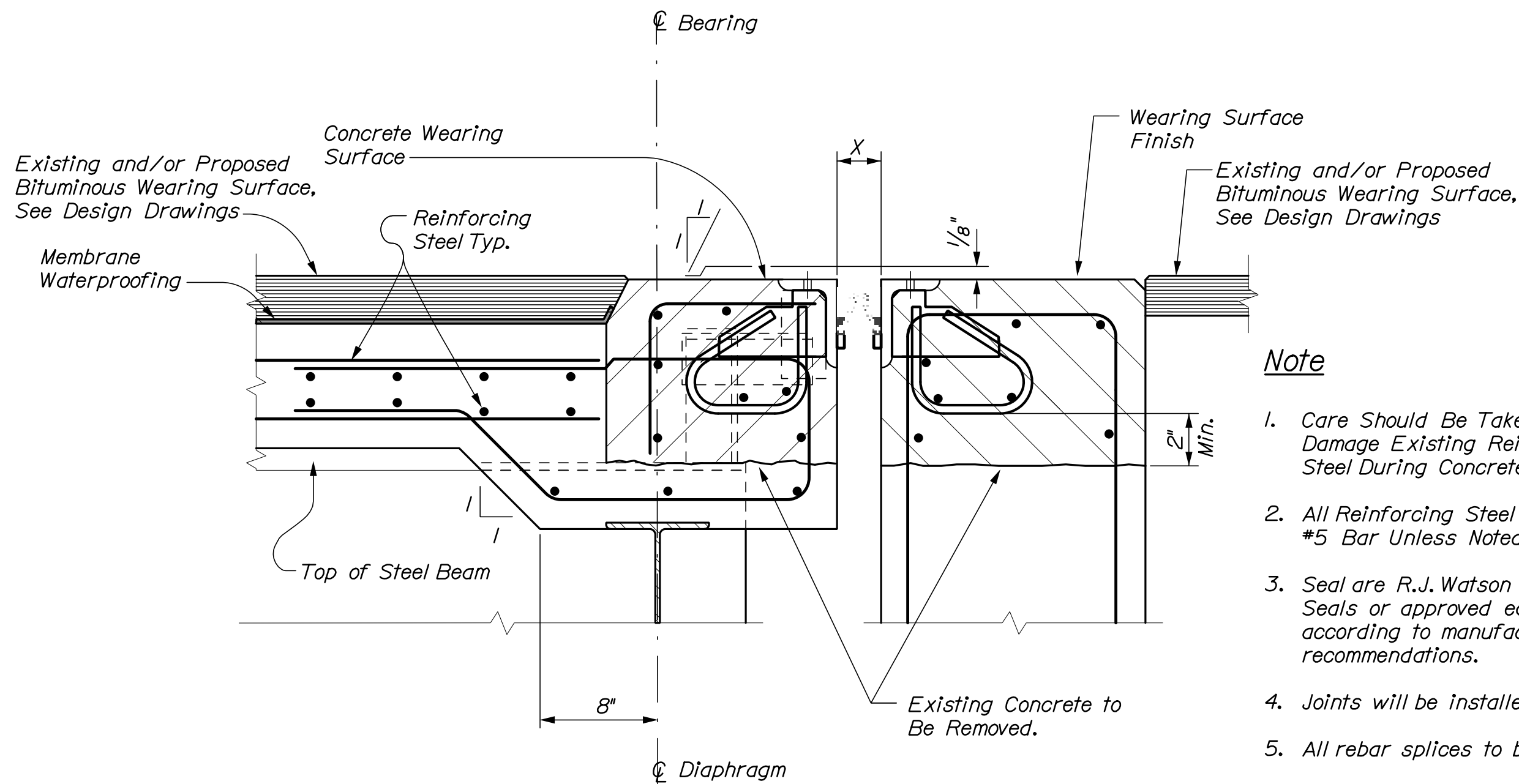
Adjustment Device



Slab Adjustment Device Attachment



Leveling Assembly



Section A-A

The Type 5 Expansion Device shall be set to an opening of X inches in the fabrication shop. The joint opening shall be adjusted for temperature in the field at the time of installation using the following formula:

$$0.00008 \times "D" \times " \Delta T" = \text{Adjustment (in inches)}$$

"D" is the distance in feet between the backwall and the nearest fixed bearing (for joints at abutments) or between the fixed bearings at either side of the expansion joint (for joints at piers).

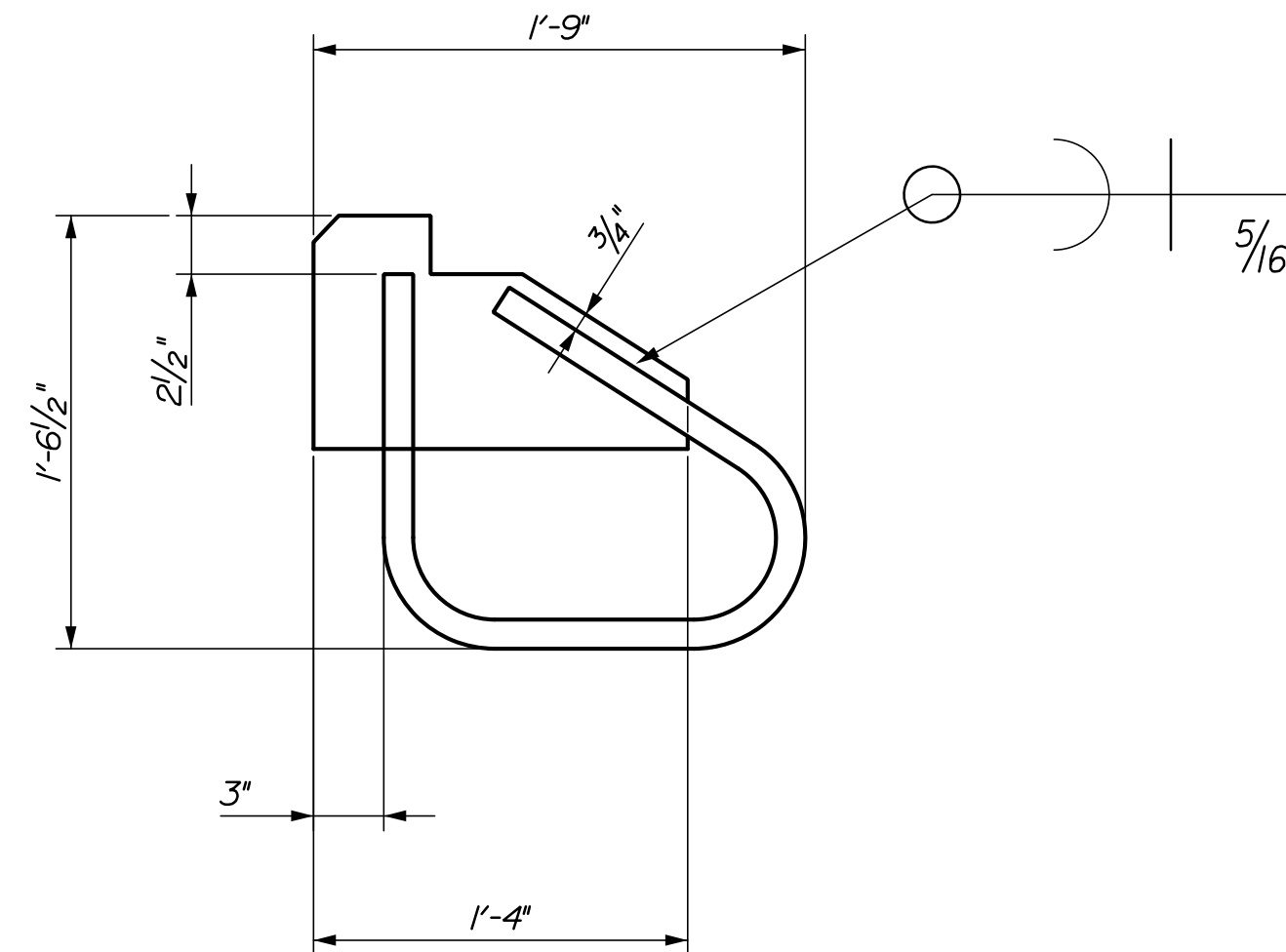
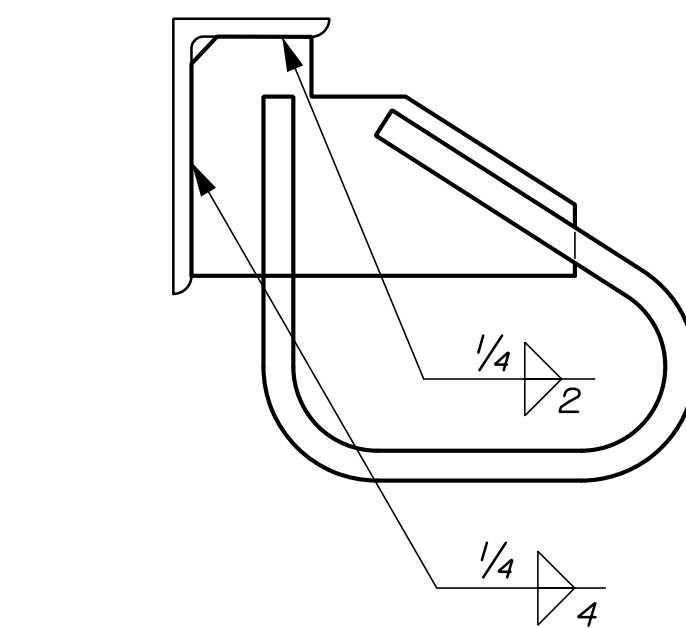
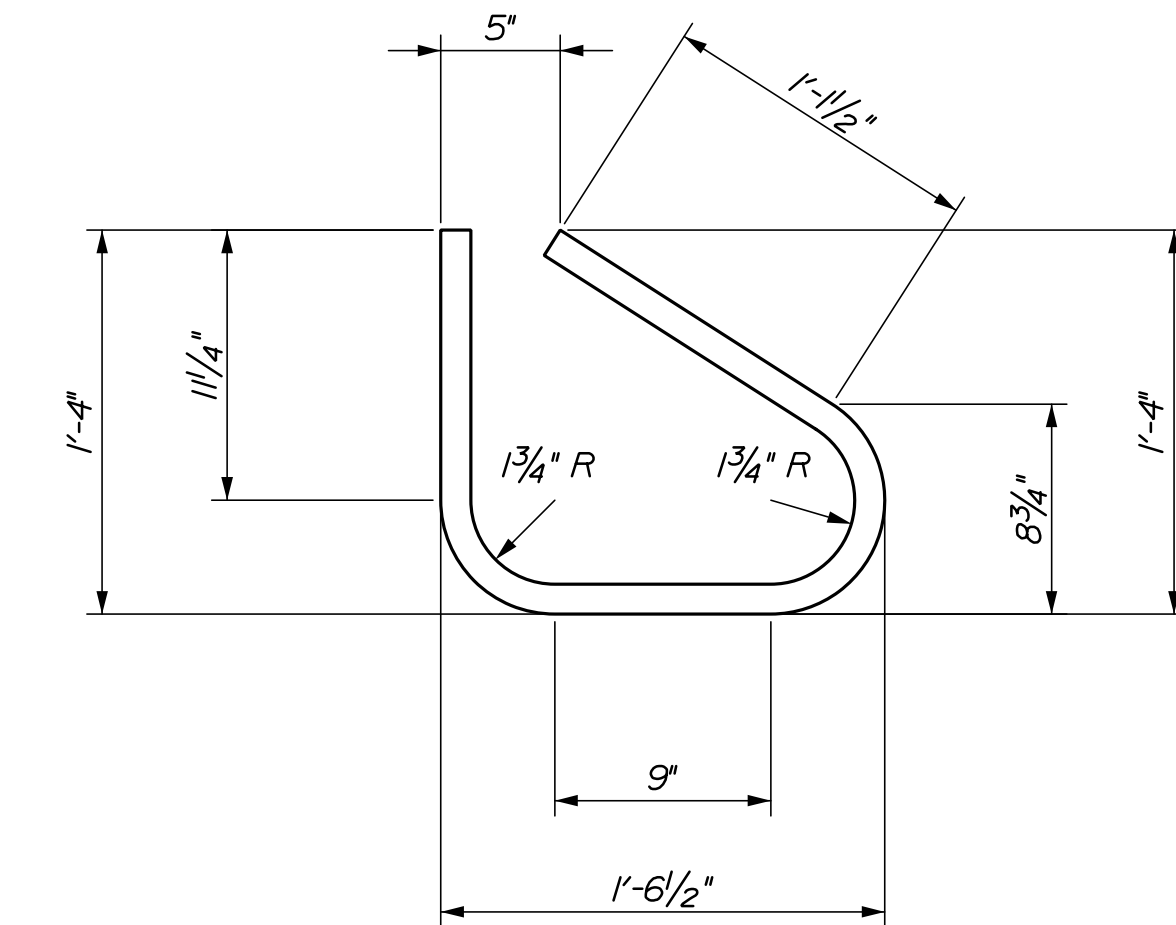
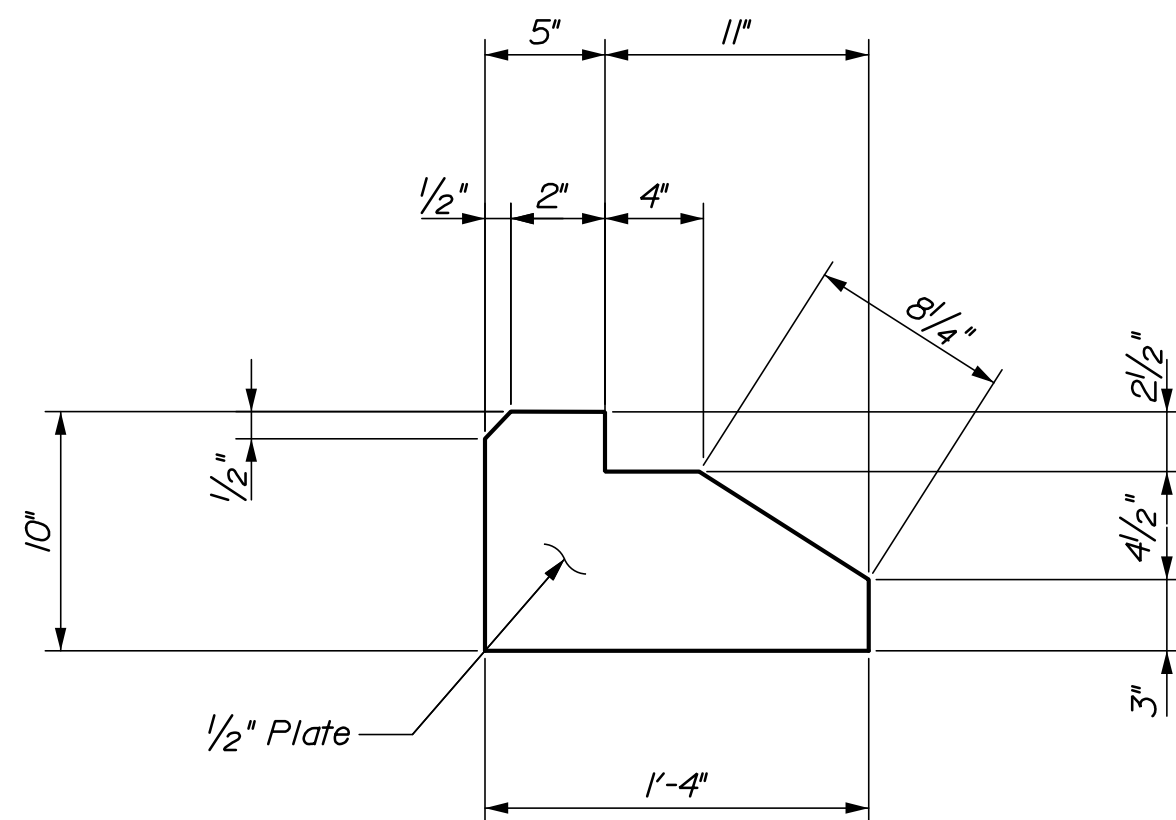
"Δ T" is the difference between the temperature of the bridge girders and 45°F.

A structure temperature above 45°F will result in a smaller joint opening.

"X" @ 45 Degrees		
Silicoflex SF225	2"	(Bridge 6083)
Silicoflex SF400	2 1/2"	(Bridges 6099 & 6085)

**Note**

1. Care Should Be Taken To Not Damage Existing Reinforcing Steel During Concrete Removal.
2. All Reinforcing Steel To Be #5 Bar Unless Noted Otherwise.
3. Seal are R.J. Watson Silicoflex Seals or approved equal, installed according to manufacturers recommendations.
4. Joints will be installed in phases.
5. All rebar splices to be 18" min.
6. All adjustment angles to be welded after final position adjustments are made.



Joint Anchor Loop Details

PROJ. MANAGER	DATE	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
CAR	02/15	DB	02/15			
CHECKED-REVIEWED	TRC					
DESIGN-DETAILED						
DESIGN-DETAILED						
REVISIONS 1						
REVISIONS 2						
REVISIONS 3						
REVISIONS 4						
FIELD CHANGES						