

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



WATERVILLE
KENNEBEC COUNTY
SPECIALIST WADE A SLACK
MEMORIAL BRIDGE
OVER
MAIN STREET (ROUTE 104)
INTERSTATE 95 (SOUTHBOUND)
BRIDGE NO. 1457

MATERIALS

Structural Steel:
All Material (except as noted)..... ASTM A709, Grade 36

BASIC DESIGN STRESSES

Structural Steel:
ASTM A709, Grade 36..... f y = 36,000 psi

LIST OF DRAWINGS

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UTILITIES

Central Maine Power Company
Charter Communications, Inc.
Consolidated Communications/Fidium Fiber
Kennebec Water District
MDOT - Electrical

MAINTENANCE OF TRAFFIC

Maintain one lane of traffic on I-95 Southbound, with traffic restricted to the left lane, during heat straightening and steel repair work.

Maintain one lane of traffic in each direction on Main Street during steel repair work.

Full closure of Main Street for heat straightening, as approved by the Resident.

PROJECT LOCATION	Specialist Wade A. Slack Memorial Bridge (#1457) in Waterville carrying Interstate 95 Southbound over Main Street. Lat./Long 44° 34' 19.3" N/ 69° 38' 27.7" W
OUTLINE OF WORK	Repair of damaged north fascia girder in Span No. 2.



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED

COMMISSIONER:

CHIEF ENGINEER:

DATE
9/2/26
9-2-2026

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

SIGNATURE
JOSHUA K. O'NEIL
P.E. NO. 12130

P.E. NUMBER
12130

DATE
9/2/26

PROJECT INFORMATION

PROGRAM
BRIDGE PROGRAM

PROJECT MANAGER
WAYNE FRANKHAUSER, P.E.

DESIGNER
JOSH O'NEIL, P.E.

CONSULTANT
HNTB

PROJECT RESIDENT
CONTRACTOR

PROJECT COMPLETION DATE

WATERVILLE
SPECIALIST WADE A SLACK
MEMORIAL BRIDGE

TITLE SHEET

SHEET NUMBER

1

OF 9

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
504.7111	Heat Straightening of Damaged Structural Steel (Girder No. 6)	1	EA
504.8120	Structural Steel Repair (630 LB)	1	LS
506.1775	Field Painting, New and Existing Steel with Zinc Rich Coating System	1	LS
524.301	Temporary Structural Support	1	LS
526.301	Portable Concrete Barrier, Type I (230 LF)	1	LS
527.34	Work Zone Crash Cushions	2	UN
627.733	4" White or Yellow Painted Pavement Marking Line	1,750	LF
627.744	6" White or Yellow Painted Pavement Marking Line	3,850	LF
627.75	White or Yellow Pavement & Curb Marking	370	SF
627.77	Removing Existing Pavement Marking	700	SF
627.78	Temporary 4" Painted Pavement Marking Line, White or Yellow	2,100	LF
627.781	Temporary 6" Painted Pavement Marking Line, White or Yellow	4,350	LF
652.30	Flashing Arrow	2	EA
652.312	Type III Barricades	3	EA
652.33	Drum	110	EA
652.34	Cone	110	EA
652.35	Construction Signs	630	SF
652.361	Maintenance of Traffic Control Devices	1	LS
652.38	Flaggers	300	HR
652.41	Portable-Changeable Message Sign	2	EA
659.10	Mobilization	1	LS

GENERAL CONSTRUCTION NOTES:

1. No utility adjustments are anticipated to be required to complete the work under this Contract.

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

3. 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.

4. A Special Inspection Report, dated May 7, 2026, documenting damage to the bridge may be accessed at the MaineDOT web address.

5. All dimensions, elevations, and other information shown on the Plans that define the structure are based upon the original bridge plans and are not guaranteed to represent as-built dimensions. The Contractor shall verify all conditions and dimensions in the field as necessary and as required for the completion of the work under the Contract. The Contractor shall be responsible for the accuracy and for the correct fit of all construction.

6. Due to the nature of repair projects, the exact extent of repair work cannot always be accurately determined prior to commencement of work. These Contract Documents have been prepared based on limited field inspection and other information available at the time of contract development. Actual field conditions may require modification to the construction details, dimensions, and work quantities. The work shall be performed in accordance with field conditions and as directed by the Resident.

7. 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.

8. Steel portions of the existing bridge shall be assumed to be coated with a lead based paint system unless Contractor testing proves otherwise. The Contractor is responsible for the containment, proper management and disposal of all lead-containment hazardous waste generated by their work. The Contractor is responsible for implementing appropriate OSHA mandated personal protection standards related to this process. Payment for this work shall be made in accordance with Special Provision 506 - Field Painting, New and Existing Steel with Zinc Rich Coating System.

9. At no time may the Contractor store material or park equipment on the I-95 Southbound bridge.

STATE OF MAINE

DEPARTMENT OF TRANSPORTATION

WIN 030326.00

PROJ. MANAGER: WANE FRANKHAUSER-PE
DESIGN-DETAILED: D. GUZZI
CHECKED-REVIEWED: K. BELUSE
DESIGN-DETAILED: J. WAUGH
DESIGN-DETAILED: T. POLJIN
DESIGN-DETAILED: J. WAUGH
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

DATE: 08/2026
08/2026

BY: J. WAUGH

SIGNATURE: P.E. NUMBER: DATE:

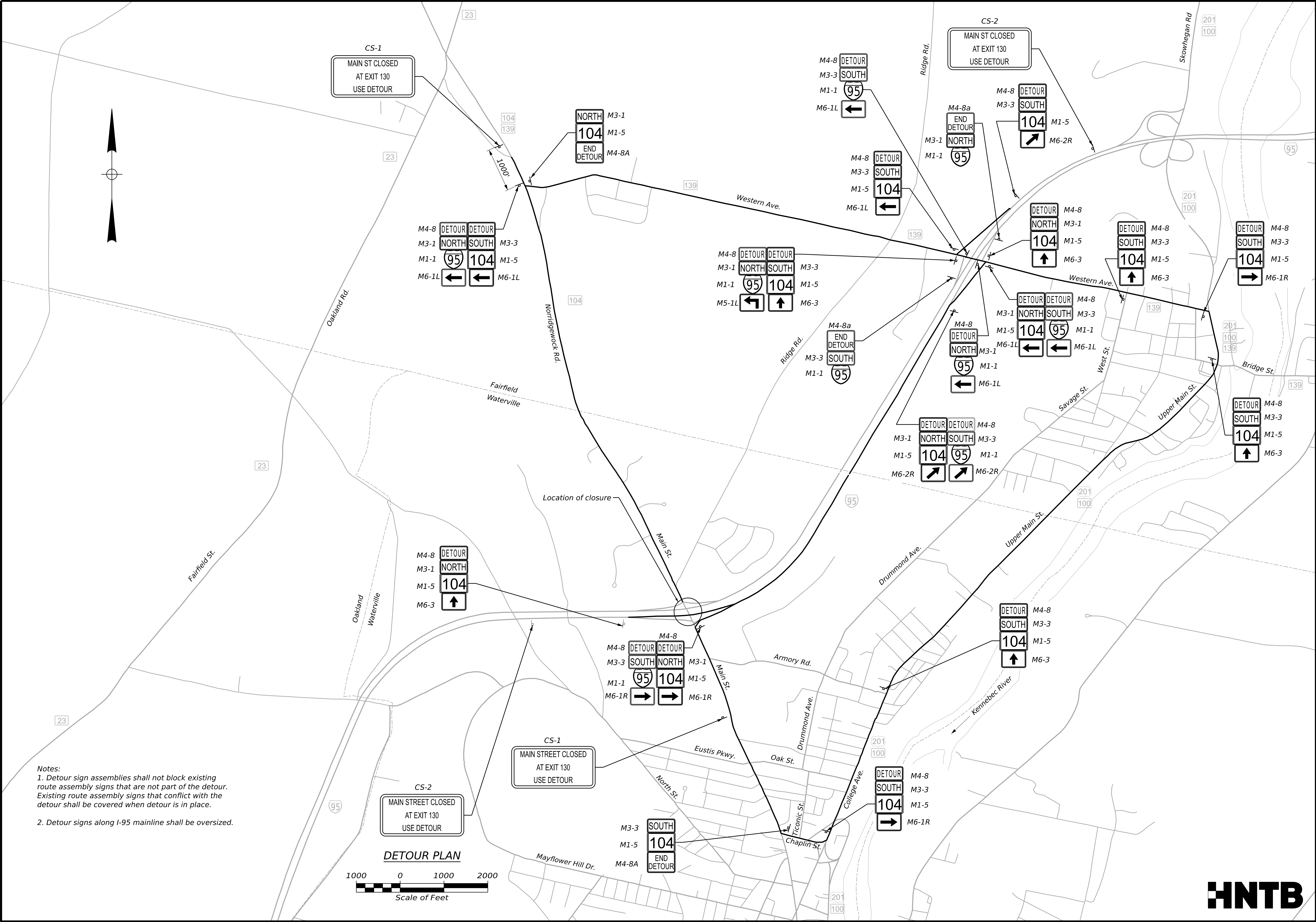
SPECIALIST WADE A SLACK MEMORIAL BRIDGE
BRIDGE NO. 1457 CROSSING MAIN STREET
WATERVILLE

ESTIMATED QUANTITIES
& GENERAL NOTES

SHEET NUMBER

2
OF 9

Filename: Quantities_and_Notes.dgn



Notes:
1. Detour sign assemblies shall not block existing route assembly signs that are not part of the detour. Existing route assembly signs that conflict with the detour shall be covered when detour is in place.
2. Detour signs along I-95 mainline shall be oversized.

STATE OF MAINE
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SPECIALIST WADE A SLACK MEMORIAL BRIDGE
BRIDGE NO. 1457 CROSSING MAIN STREET
WATERVILLE

DETOUR PLAN - MAIN ST
CLOSURE

SHEET NUMBER
3
OF 9

WIN 030326.00

PROJ. MANAGER	WANE FRANKHAUSER PE	BY	E. HANDLEY	DATE	08/20/26
DESIGN-DETAILED	E. HANDLEY	CHECKED	L. ZACCINI	SIGNATURE	
DESIGN-DETAILED	C. HELMICK	DATE	08/20/26	P.E. NUMBER	
DESIGN-DETAILED		DATE		DATE	
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

DETOUR SIGN SUMMARY

IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR		TOTAL AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK- GROUND	LEGEND BORDER	
CS-1	48"	30"	MAIN ST CLOSED AT EXIT 130 USE DETOUR	4"C	3"		2	ORANGE	BLACK	10.00 (20.00)
CS-2	96"	48"	MAIN ST CLOSED AT EXIT 130 USE DETOUR	8"D	3"		2	ORANGE	BLACK	32.00 (64.00)
M1-1	24"	24"	INTERSTATE 95	TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"			7	COLORS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"		4.00 (28.00)
M1-1	36"	36"	INTERSTATE 95				1			9.00 (9.00)
M1-5	30"	24"	104				13			5.00 (65.00)
M1-5	45"	36"	104				3			11.25 (33.75)
M3-1	24"	12"	NORTH				7			2.00 (14.00)
M3-1	36"	18"	NORTH				2			4.50 (9.00)
M3-3	24"	12"	SOUTH				13			2.00 (26.00)
M3-3	36"	18"	SOUTH				2			4.50 (9.00)
M4-8	24"	12"	DETOUR				17			2.00 (34.00)
M4-8	30"	15"	DETOUR				4			3.13 (12.50)
M4-8A	24"	18"	END DETOUR				3			3.00 (9.00)
M5-1L	21"	15"	↩				1			2.19 (2.19)
M6-1L	21"	15"	←				7			2.19 (15.33)

IDENTIFI- CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR		TOTAL AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK- GROUND	LEGEND BORDER	
M6-1R	21"	15"	→	TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"			4	COLORS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"		2.19 (8.76)
M6-2R	30"	21"	↗				3			4.38 (13.14)
M6-3	21"	15"	↑				5			2.19 (10.95)
M6-3	30"	21"	↑				1			4.38 (4.38)
W20-2	36"	36"	DETOUR AHEAD				2			9.00 (18.00)



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

SPECIALIST WADE A SLACK MEMORIAL BRIDGE
BRIDGE NO. 1457 CROSSING MAIN STREET
WATERVILLE

SIGN SUMMARY

SHEET NUMBER

5

OF 9

PROJ. MANAGER: WANE FRANKHAUSER-PE
DESIGN-DETAILED: E HANDLEY
CHECKED-REVIEWED: E HELMICK
DESIGN-DETAILED: J
DESIGN-DETAILED: J
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

BY: K BEUSIE
L ZACCINI

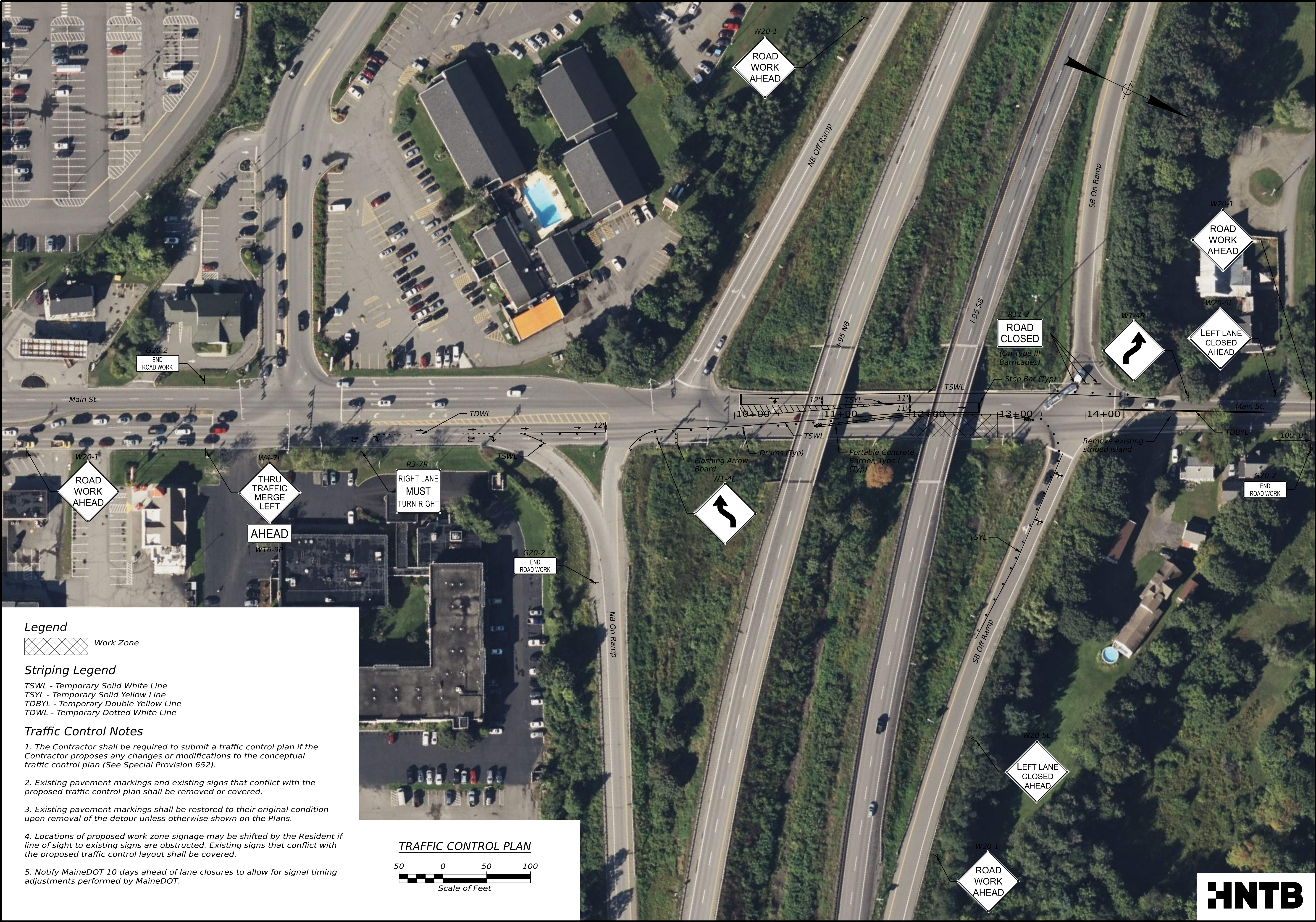
DATE: 08/2026
08/2026

SIGNATURE

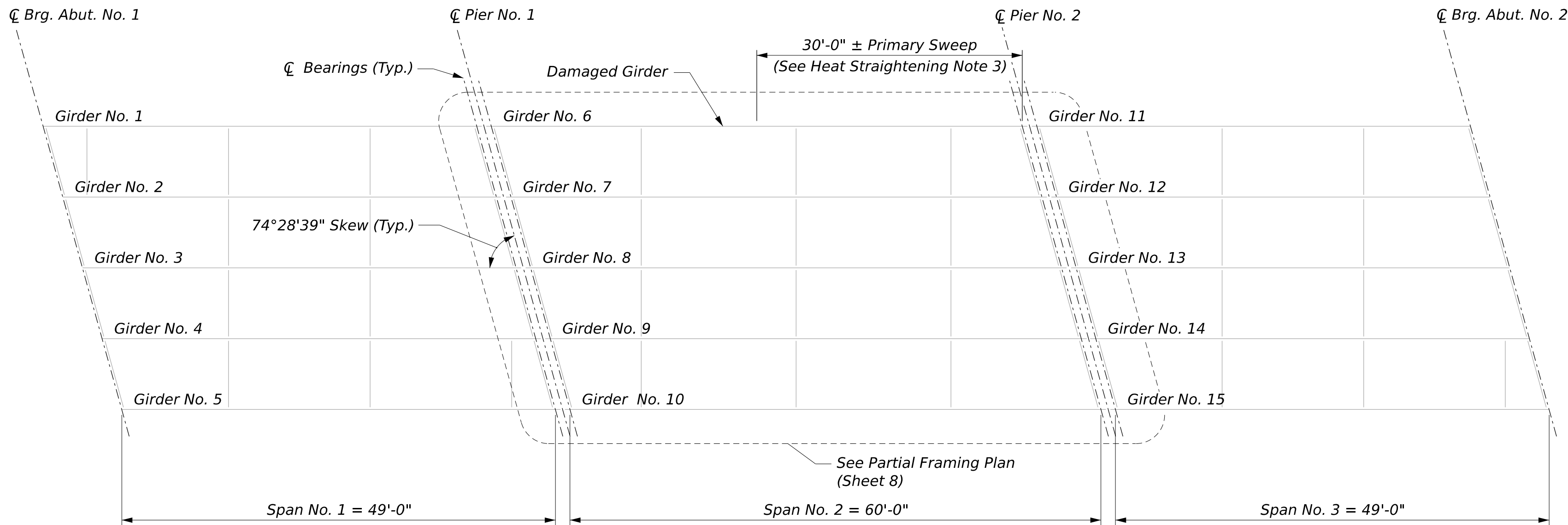
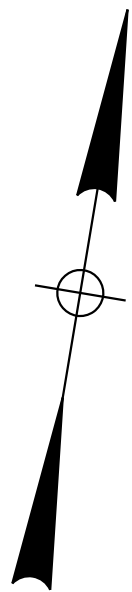
P.E. NUMBER

DATE

WIN 030326.00

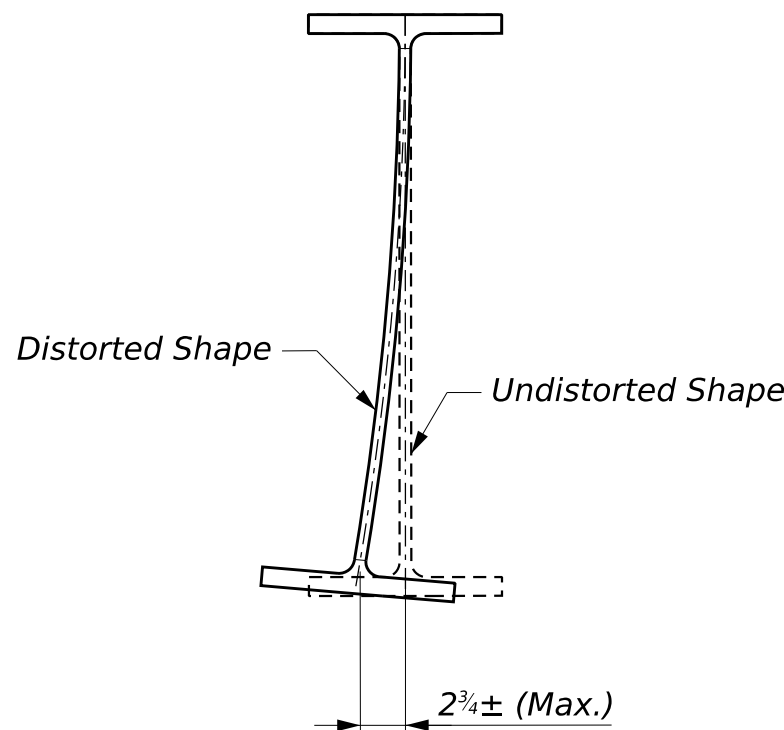


SPECIALIST WADE A SLACK MEMORIAL BRIDGE BRIDGE NO. 1457 CROSSING MAIN STREET WATERVILLE		PROJ. MANAGER WINTERKNEUVE		BY	DATE
		DESIGN-DETAILED CHECKED-REVIEWED	E. HANDLEY C. HELMICK	C. HELMICK L. ZACCHINI	08/2026 08/2026
TRAFFIC CONTROL PLAN - MAIN STREET		DESIGN-DETAILED02			SIGNATURE
		DESIGN-DETAILED03			
		REVISIONS 1			P.E. NUMBER
		REVISIONS 2			
		REVISIONS 3			
		REVISIONS 4			
		FIELD CHANGES			
WIN 030326.00		DATE			
STATE OF MAINE DEPARTMENT OF TRANSPORTATION					

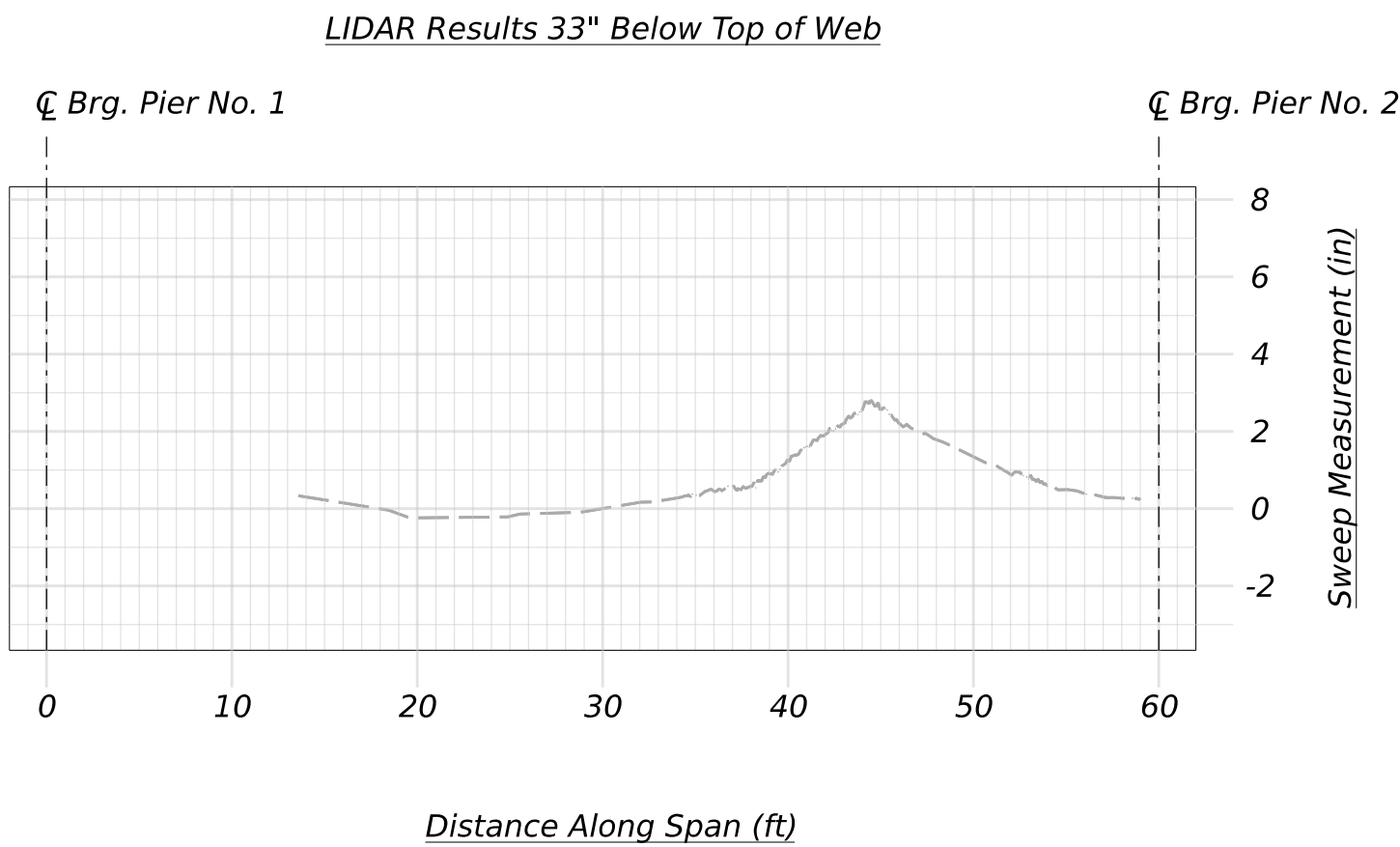


FRAMING PLAN

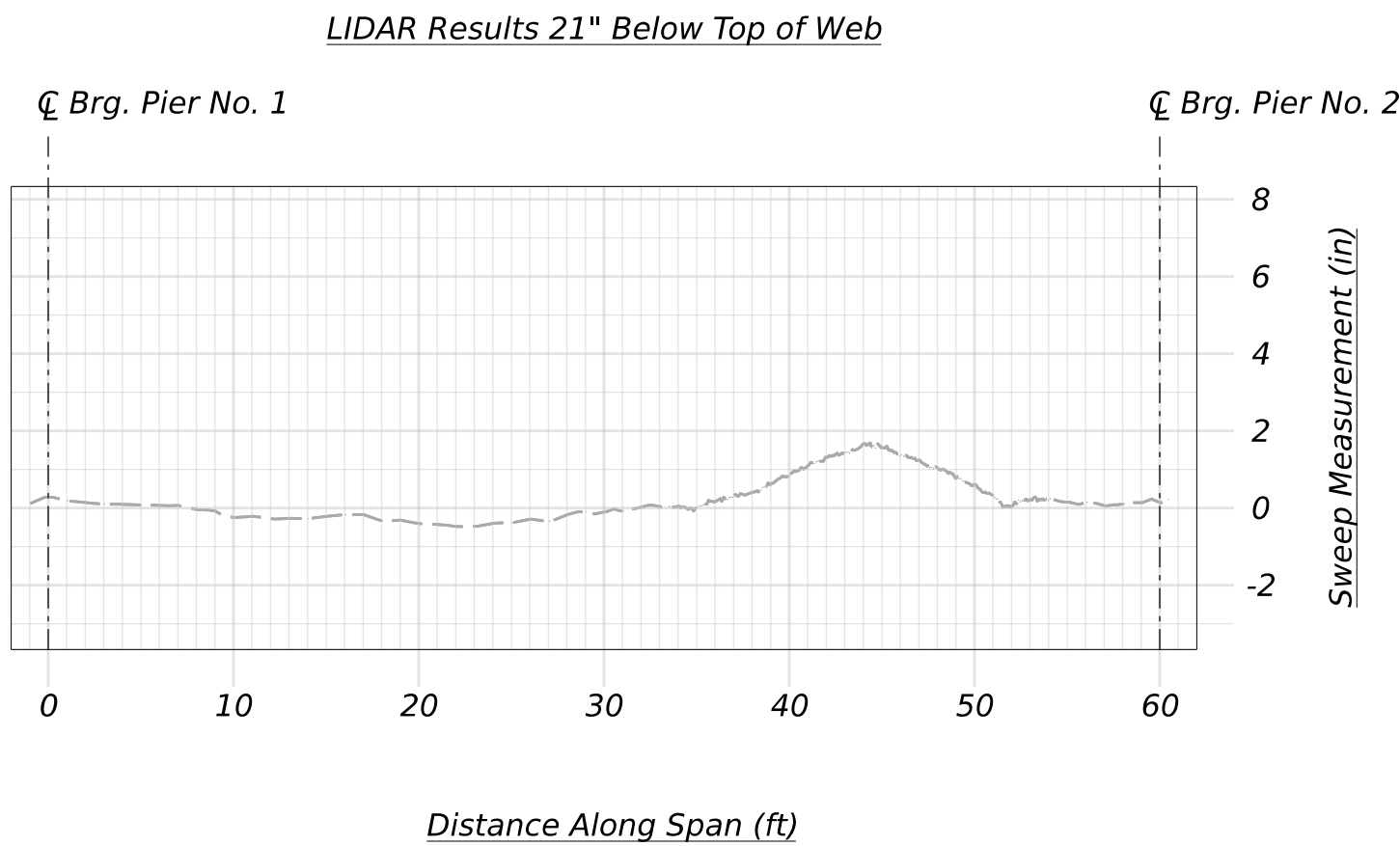
(I-95 Southbound Bridge)



APPROXIMATE SWEEP MEASUREMENTS



LIDAR DATA FOR GIRDER SWEEP



SUGGESTED SEQUENCE OF REPAIRS:

1. Remove existing paint.
2. Heat straighten damaged girder.
3. Determine limits of the crack at Repair Area "A" and the web tear at Repair Area "B" through non-destructive testing.
4. Install temporary structural supports and jack the damaged girder to a neutral (unloaded) state.
5. Drill crack arrest holes.
6. Repeat non-destructive testing to confirm the tips of the crack and tear were entirely captured by the crack arrest holes.
7. Confirm dimensions for the steel plates proposed for Repair Areas "A" and "B", based on final locations of the crack arrest holes.
8. Remove the connection plate at Repair Area "B" from the girder and grind the girder web smooth in the area of the removed weld.
9. Field drill holes for the splice and web plates using the shop fabricated plates as a template.
10. Prepare faying surfaces.
11. Install splice plates, web plates and connection angle.
12. Re-attach diaphragm.
13. Complete gouge repair at Repair Area "C".
14. Complete weld repair at Repair Area "D".
15. Remove temporary structural support.
16. Re-paint steel in areas of removal.

PAINT REMOVAL NOTES:

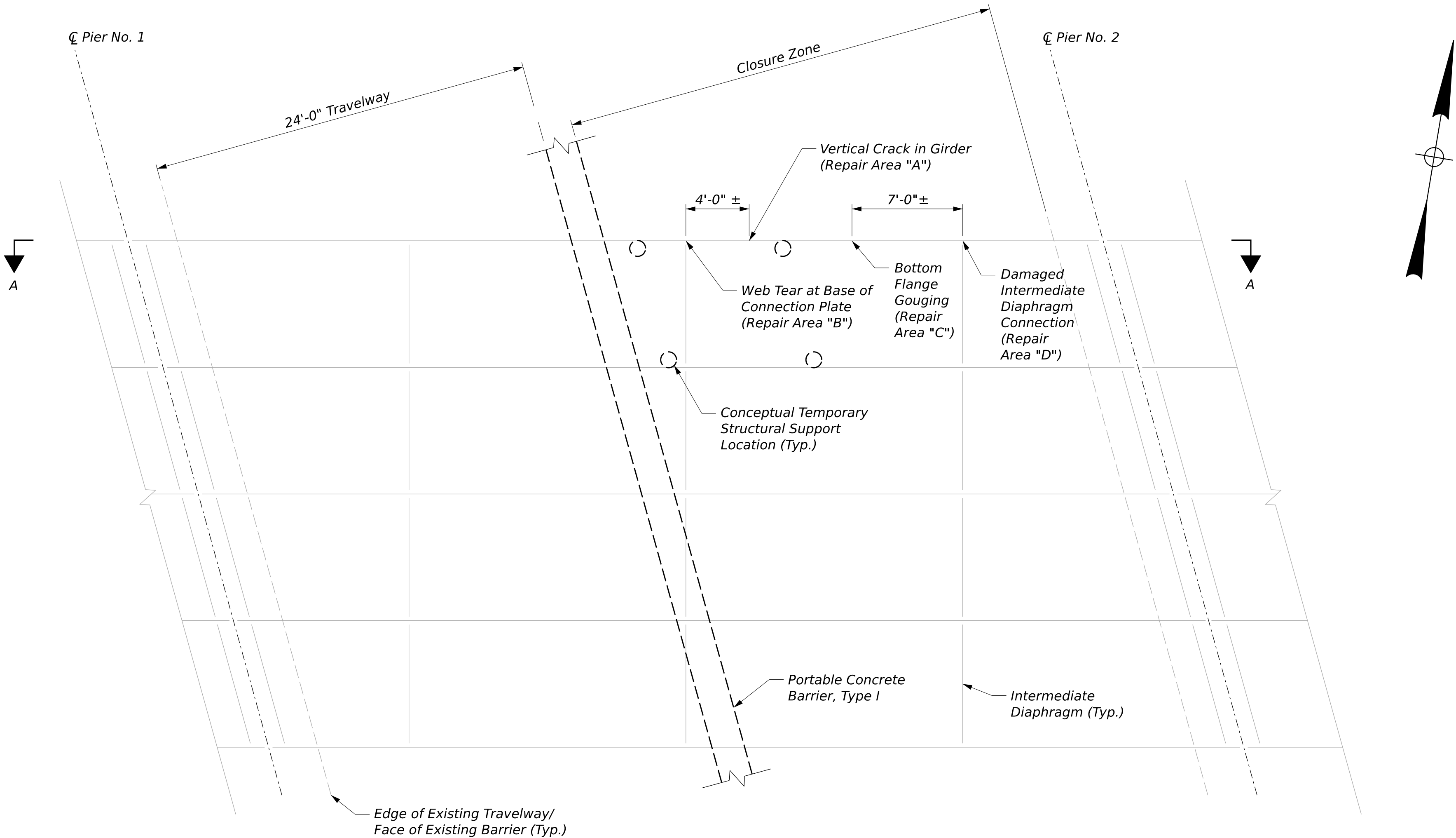
1. Existing paint shall be removed as necessary for heat straightening and repair work. Except as noted, at the Contractor's discretion, paint removal may be performed on either a localized or global basis, as follows:
 - a. Localized Removal - The Contractor shall remove existing paint at repair areas, except as noted, and in all areas subject to direct heat from heat straightening operations. Paint shall be removed to a minimum of 6" beyond the limits of repairs and directly heated areas. Exposed steel surfaces shall be cleaned in accordance with SSPC-SP11, Power Tool Cleaning to Bare Metal.
 - b. Global Removal - In coordination with the Specialty Heat Straightening Subcontractor, the Contractor shall identify the limits along the girder within which heat straightening may be performed. Existing paint shall then be removed from the entire girder cross-section for the full length between those limits, including connection plates and diaphragms, as necessary to perform the repair work. Exposed steel surfaces shall be cleaned in accordance with SSPC-SP10/NACE No. 2, Near-White Metal Blast Cleaning.
2. In all areas where paint was removed, paint shall be reapplied in accordance with Special Provision 506, Field Painting, New and Existing Steel with Zinc Rich Coating System.

HEAT STRAIGHTENING NOTES:

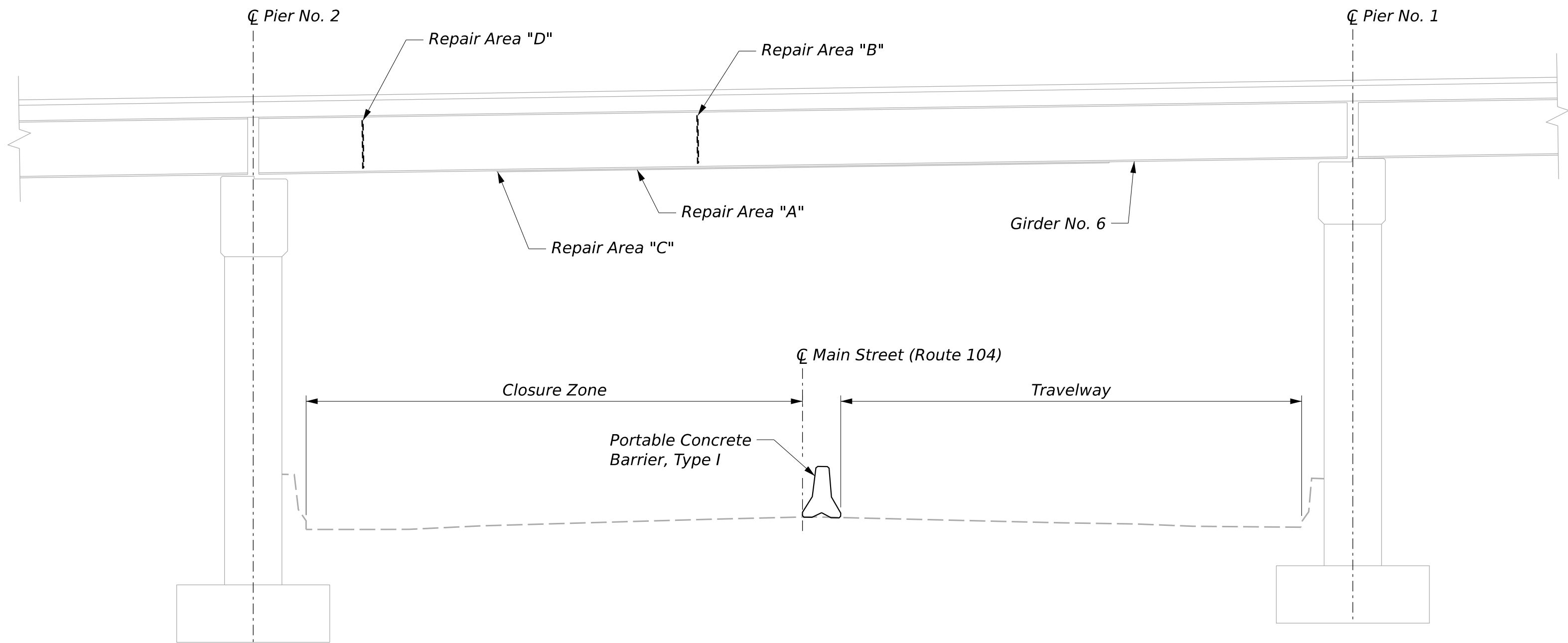
1. Damage measurements and length of sweep are approximate and are based on a limited field assessment and LIDAR data. These are provided for reference only, the exact locations, lengths, and magnitude of distortions shall be determined by Contractor. See Special Inspection Report, dated May 7, 2026 for photos and notes related to the damage areas.
2. Heat straightening shall be completed by one of the prequalified heat straightening subcontractors in Special Provision 504, Heat Straightening Damaged Structural Steel. The Specialty Heat Straightening Subcontractor shall determine limits of yielded flange and submit the proposed heat straightening procedure and patterns to the Resident for approval prior to heat straightening.
3. The length of sweep indicated on the Plans is an approximate measurement of the primary sweep in the beam. The Contractor and Specialty Heat Straightening Subcontractor shall determine the actual limits of sweep and coordinate the length of beam to be heat straightened with the Resident.



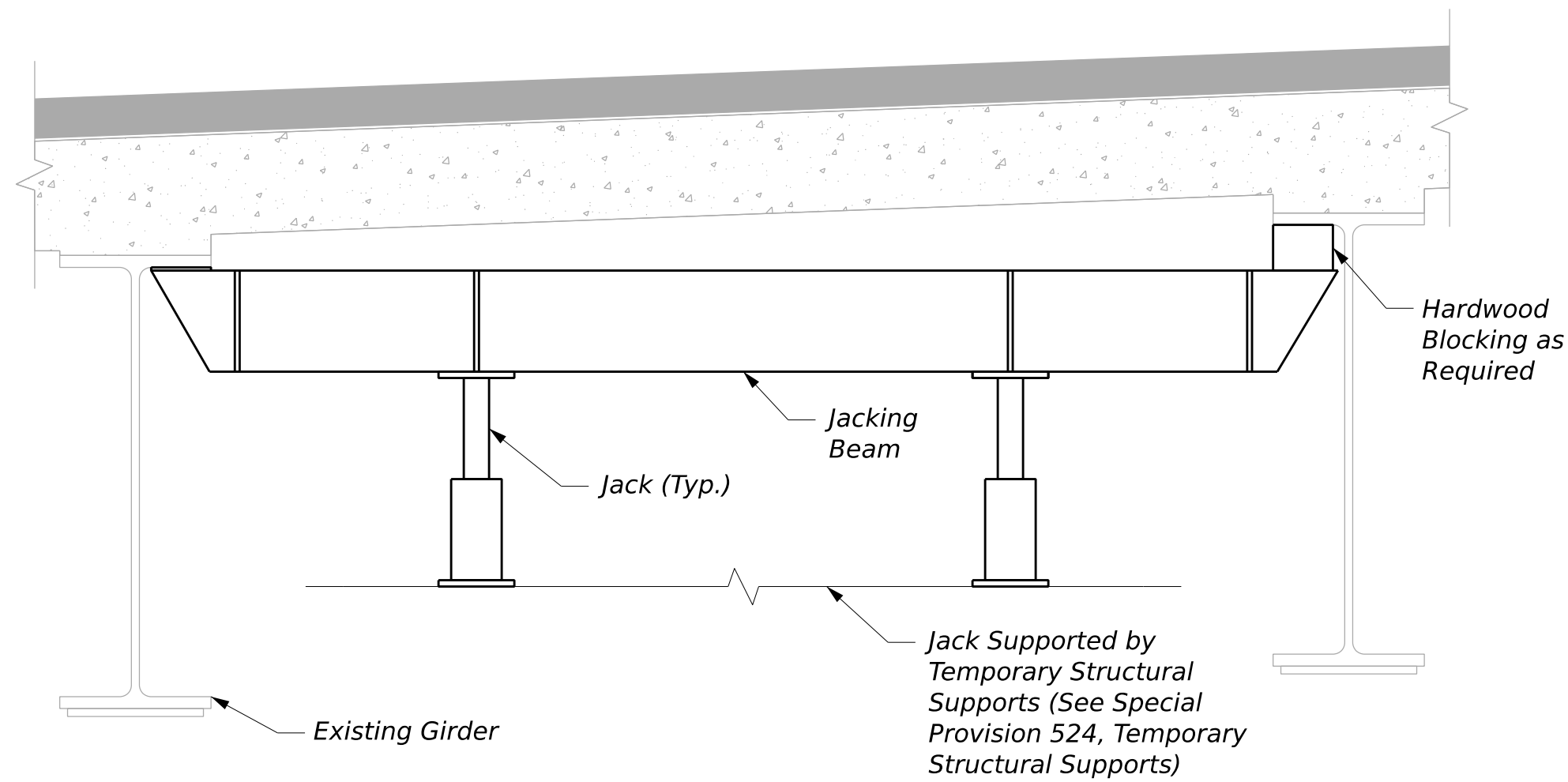
SPECIALIST WADE A SLACK MEMORIAL BRIDGE BRIDGE NO. 1457 CROSSING MAIN STREET WATERVILLE	PROJ. MANAGER WAYNE FRANKHAUSER, P.E.		BY	DATE
	DESIGNED/DATE D.	GLUTZ	K. BELLEF	08/19/06
	CHECKED/REVISED	T. POULIN	J. MAGUIRE	08/19/06
	DESIGN-DETAILS			
	DESIGN-DETAILS			
	REVISIONS 1			
	REVISIONS 2			
	REVISIONS 3			
	REVISIONS 4			
	FIELD CHANGES			
FRAMING PLAN AND HEAT STRAIGHTENING				
SHEET NUMBER				
7				
OF 9				
STATE OF MAINE DEPARTMENT OF TRANSPORTATION				
WIN 030326.00				



PARTIAL FRAMING PLAN
(Temporary Lane Configuration Along Main Street Shown, Refer to Traffic Control Plan - Main Street)



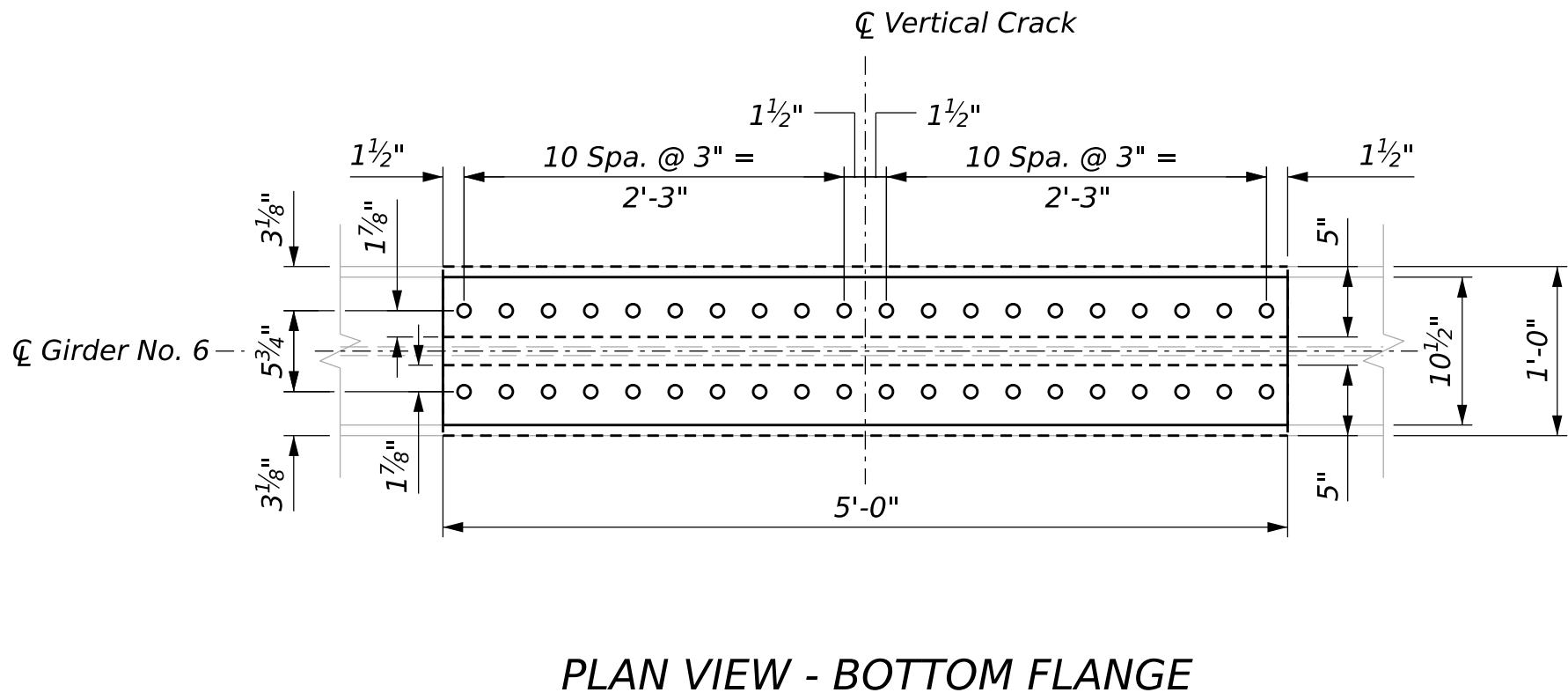
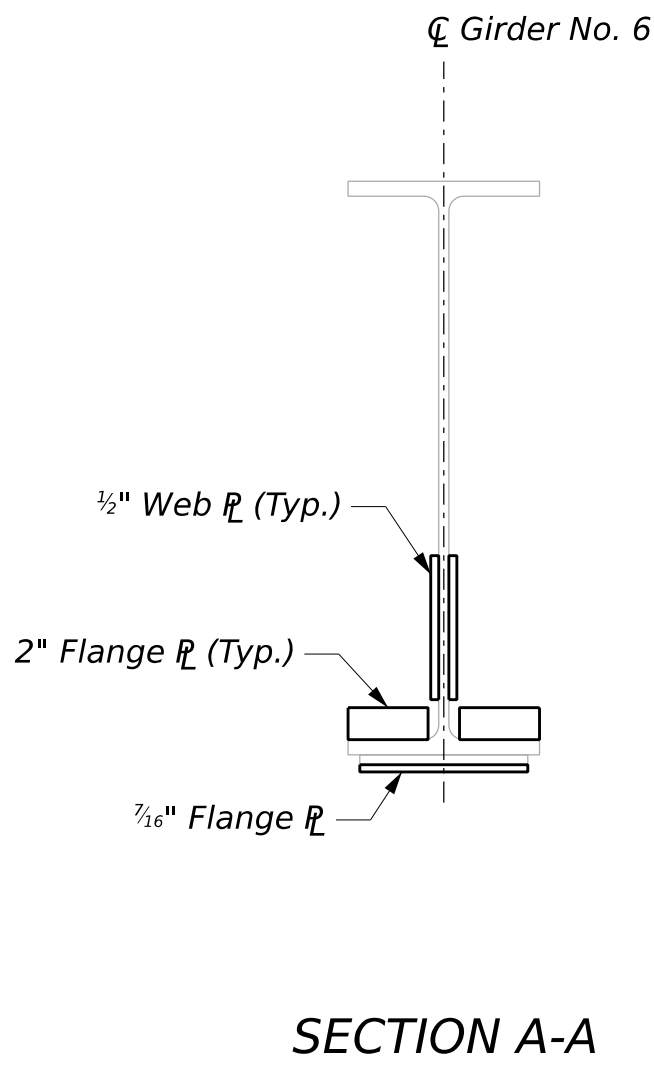
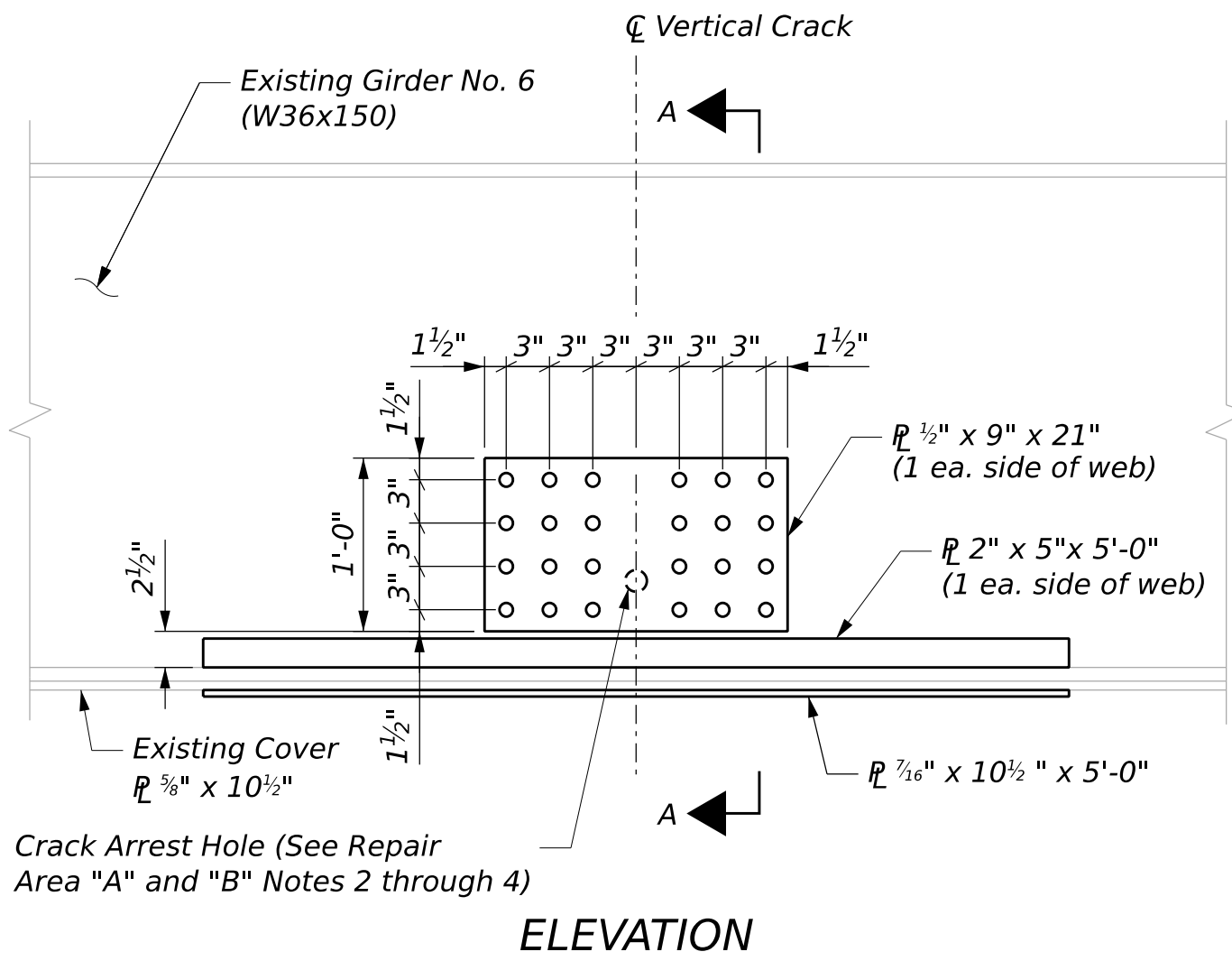
SECTION A-A
(Temporary Lane Configuration Along Main Street Shown, Refer to Traffic Control Plan - Main Street)
(Drawing Not To Scale)



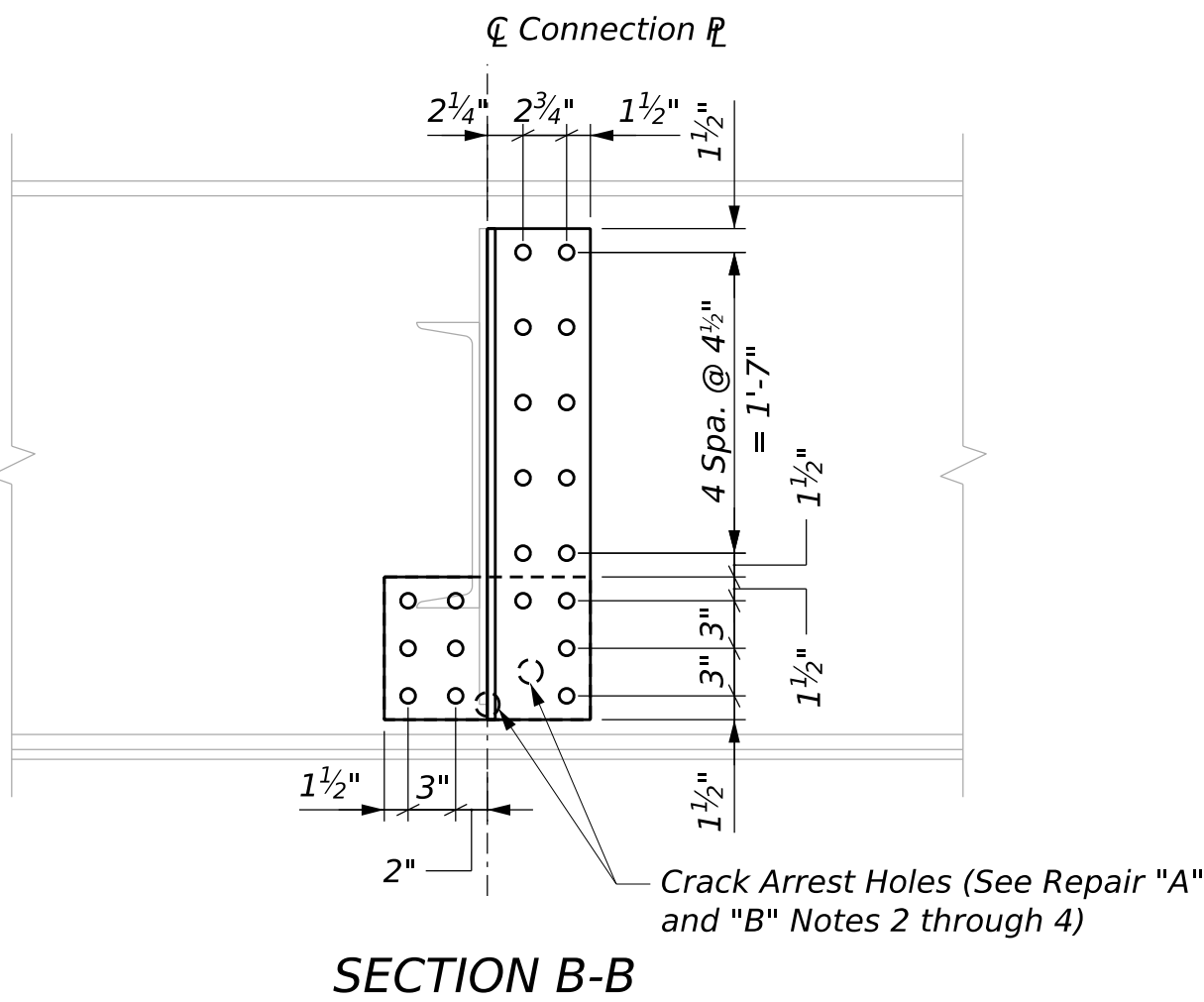
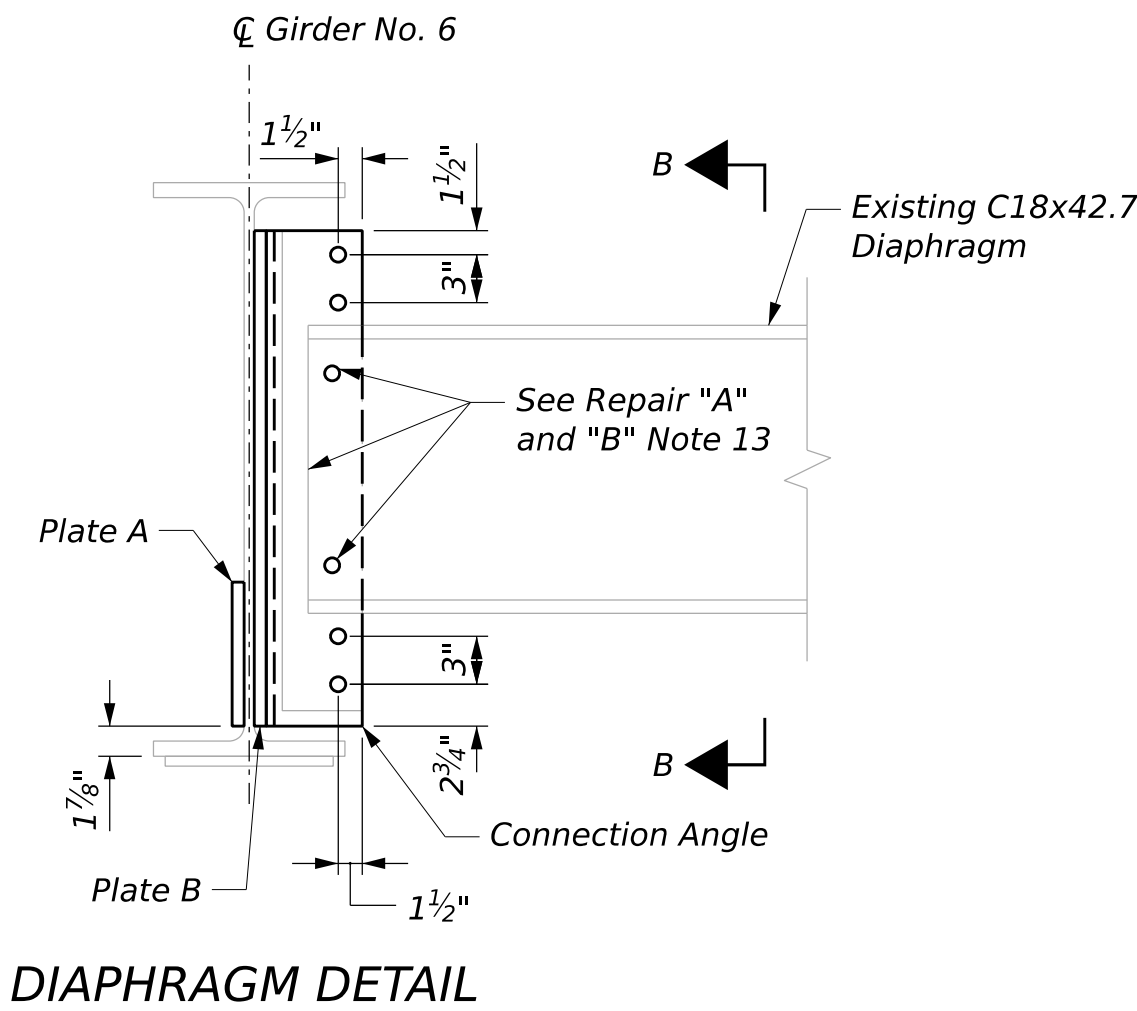
CONCEPTUAL JACKING DETAILS



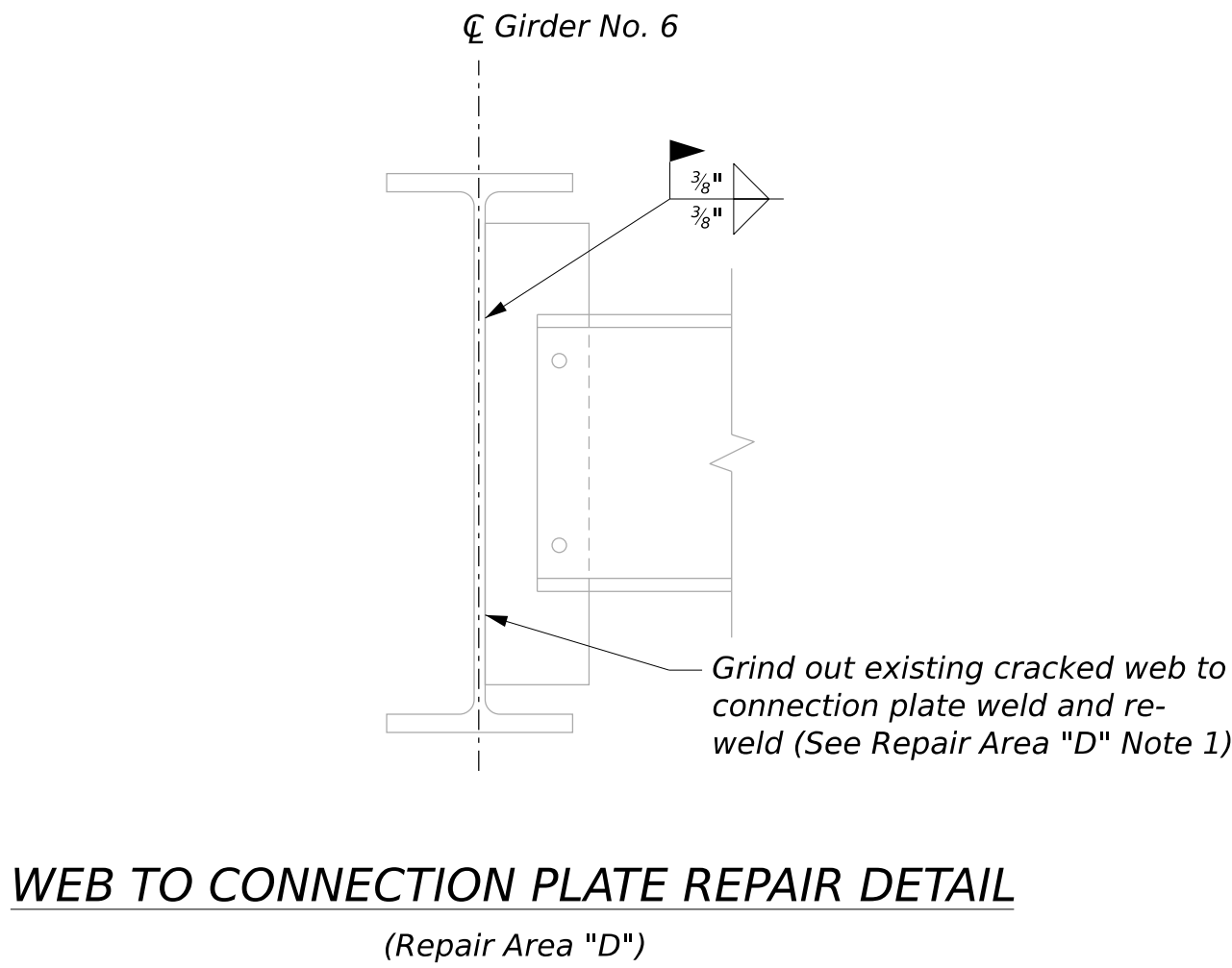
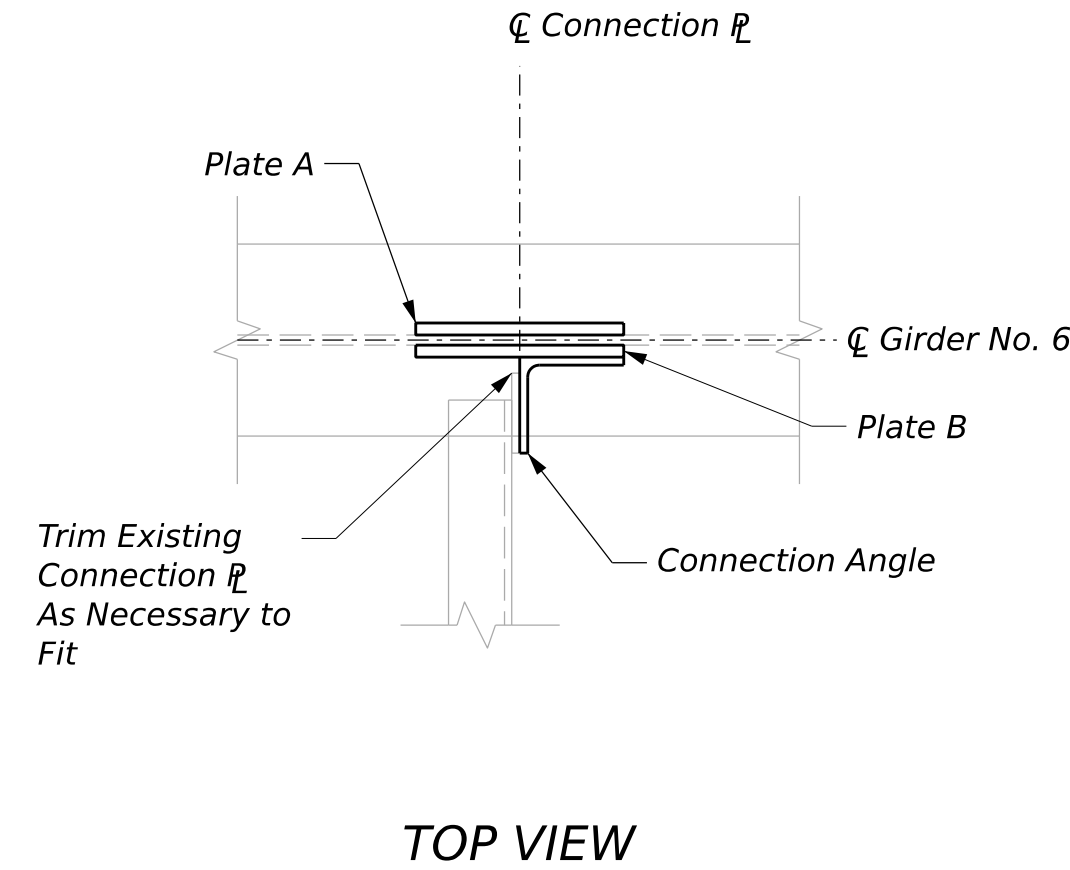
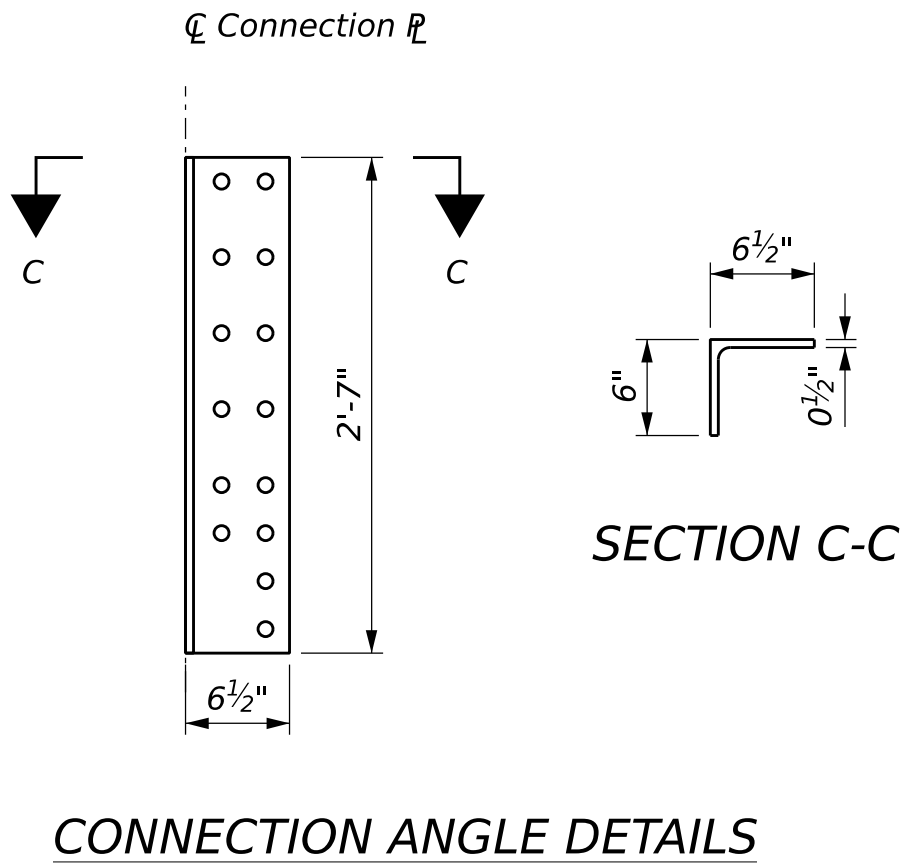
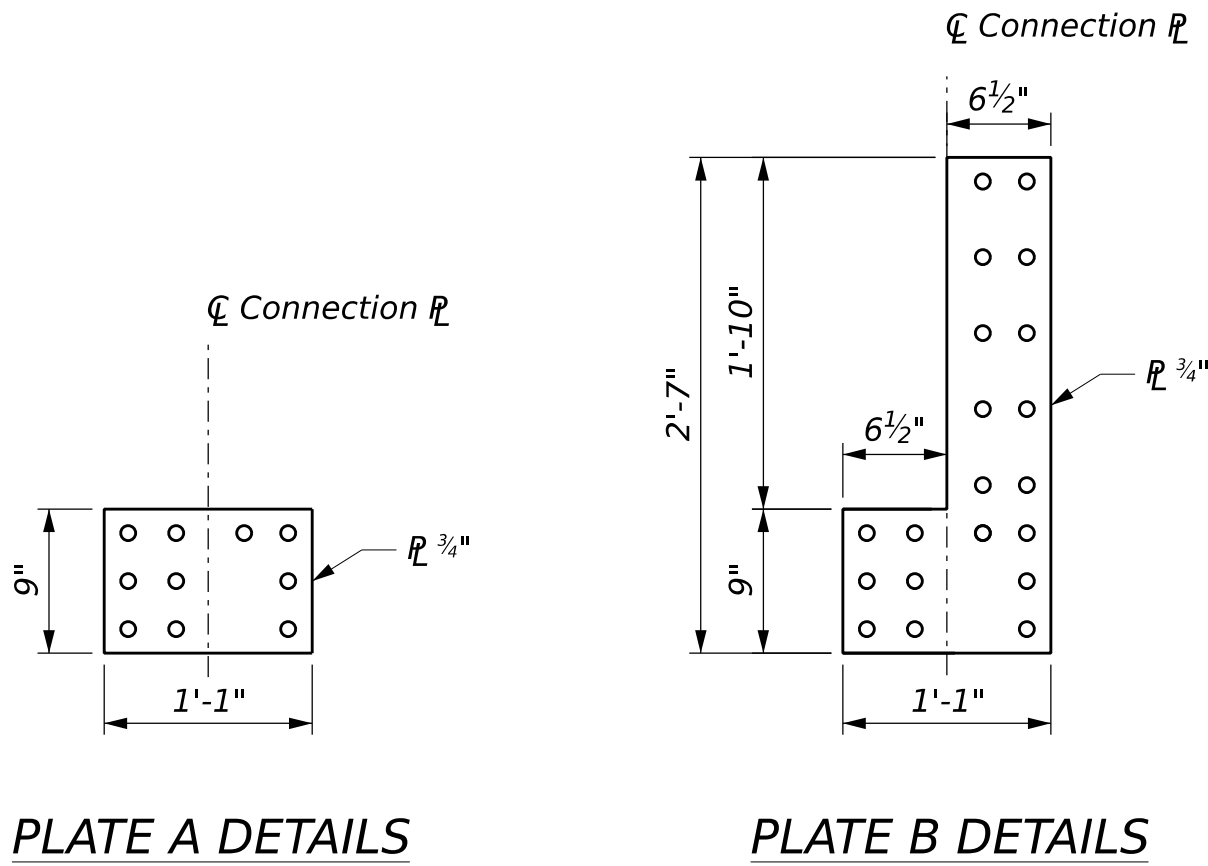
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	SIGNATURE		DATE
	P.E. NUMBER		
	DATE		
PROJECT: SPECIALIST WADE A SLACK MEMORIAL BRIDGE BRIDGE NO. 1457 CROSSING MAIN STREET WATERVILLE			
SHEET NUMBER			
8			
OF 9			



SPLICE DETAILS
(Repair Area "A")



WEB PLATE DETAILS
(Repair Area "B")



REPAIR AREA "A" AND "B" NOTES:

- All work shall be done in accordance with Standard Specifications Sections 504 and 506.
 - The Contractor shall determine the limits of the following utilizing non-destructive testing methods in accordance with AWS D1.5.
- Repair Area "A": The vertical crack extending up the web from the bottom flange.
- Repair Area "B": The web tear near the bottom of the connection plate.

An inspection plan shall be submitted to and approved by the Resident in accordance with Special Provision 504, Repair of Damaged Girders.

- After locating the limits of the crack and web tear, the Contractor shall drill a 1 $\frac{1}{2}$ " diameter crack arrest hole centered at the tip of each crack or tear with a carbide-tipped or high-speed annular cutter. Flame-cut holes shall not be permitted. After drilling, all hole edges shall be ground smooth to an ANSI roughness of 500 or less.
- The Contractor shall field locate the crack arrest holes relative to the plates detailed on this sheet. If a crack arrest hole is outside the limits of the plates, or are within $\frac{1}{2}$ " of a bolt hole location the Engineer shall be notified before proceeding with fabrication.
- The Contractor shall field measure the location of the existing diaphragm and connection plate at Repair Area "B" and re-installed in the same location. The Contractor shall completely remove the existing connection plate at Girder No. 6, while leaving the diaphragm and connection plate attached at Girder No. 7. The web shall be ground flush in the vicinity of the removed connection plate.
- Structural steel shall meet the requirements of ASTM A709, Grade 36 or better.

7. Bolted connections shall be made using $\frac{7}{8}$ ", ASTM F3125 Grade A325, Type 1 bolts. All holes shall be $\frac{1}{16}$ ". Holes in steel furnished by the Contractor shall be shop drilled, unless noted otherwise. The minimum edge distance shall be 1 $\frac{1}{2}$ " unless noted otherwise. Oversized or short-slotted holes are not permitted. Bolt threads shall be excluded from all shear planes.

8. At the Contractor's option steel furnished by the Contractor may be Thermal Spray Coated or Zinc Rich Coated in accordance with Standard Specification Section 506, Shop Applied Protective Coating. Any field touch-ups required shall be done in accordance with Standard Specification Section 506, Shop Applied Protective Coating.

- All bolts, nuts, and washers shall be hot dip galvanized in accordance with ASTM A153.
- All faying surfaces shall conform to a Class B Surface.

11. After installation of the splice at Repair Area "A" any areas where the crack is exposed shall be sealed with a silicone or polyurethane joint sealant from the MaineDOT Qualified Products List to the satisfaction of the Resident.

12. At the flange splice, all bolts shall be installed with the bolt head on the underside of the bottom splice plate. All bolts through the web shall be installed with the bolt head on the outside face of the web.

13. The existing diaphragm at Repair Area "B" is fillet welded to the connection plate and bolted at two locations. The fillet weld shall remain. The existing bolts shall be removed and the holes re-used as part of the connection to the connection angle. These two holes in the connection angle may be field drilled.

14. The Contractor may substitute a L8x6x $\frac{1}{2}$ for the connection angle.

REPAIR AREA "C" NOTES:

- Nicks, gouges and scrapes shall be ground smooth, with all grinding performed in the longitudinal direction of the beam. Repairs that require removal of more than 1/8" of the thickness of a cross-sectional element requires the Resident's approval.
- Any cracks discovered before or during the repair shall be brought to the attention of the Resident.
- Weld shall be removed by mechanical means such as grinding.

REPAIR AREA "D" NOTES:

- The Contractor shall determine the limits of the cracked web-to-connection plate weld using non-destructive testing methods. An inspection plan shall be submitted to and approved by the Resident. The weld shall be removed a minimum of 3" beyond the limits of the crack. Alternatively, the Contractor may completely remove the existing web-to-connection plate weld, grind the area flush, and re-weld.
- Weld shall be removed by mechanical means such as grinding.
- The Contractor may propose an alternate repair detail to the Resident for approval.



STATE OF MAINE DEPARTMENT OF TRANSPORTATION		DATE		BY		PROJ. MANAGER WYNNE/FAHRI/HERVE DESIGN-DETAILED CHECKED-REVIEWED DESIGNER-DETAILED02 DESIGNER-DETAILED03		SIGNATURE	
WIN 030326.00		DATE				P.E. NUMBER			

SPECIALIST WADE A SLACK MEMORIAL BRIDGE BRIDGE NO. 1457 CROSSING MAIN STREET WATERVILLE		REPAIR DETAILS		SHEET NUMBER	
9				9	