SBP

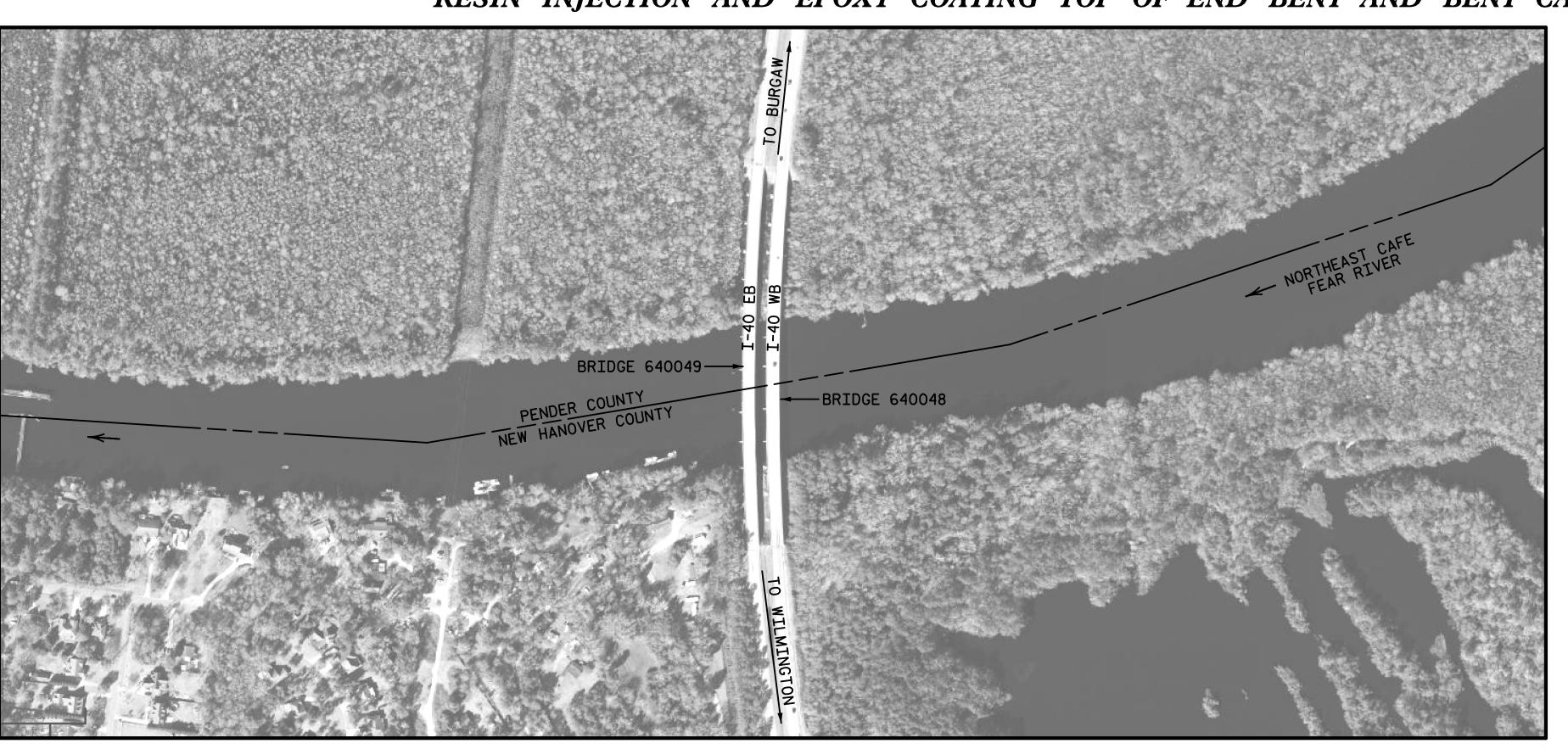
# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

# NEW HANOVER / PENDER COUNTY

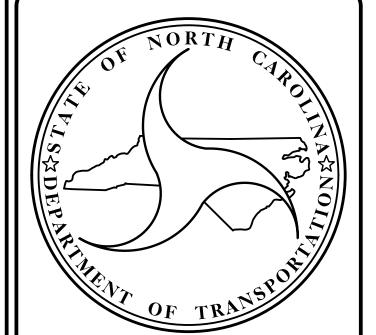
15BPR.26 1ASTATE PROJ. NO. 15BPR.26 P.E. 15BPR.26 CONST.

LOCATION: BRIDGE #48 ON I-40 WBL OVER NORTHEAST CAPE FEAR RIVER. BRIDGE #49 ON I-40 EBL OVER NORTHEAST CAPE FEAR RIVER.

TYPE OF WORK: CONCRETE BRIDGE DECK AND BARRIER RAIL REHABILITATION BY SCARIFICATION, SHOTBLASTING, PLACEMENT OF POLYMER CONCRETE OVERLAY, RECONSTRUCTION OF BRIDGE DECK JOINTS, SHOTCRETE, EPOXY RESIN INJECTION AND SILANE BARRIER RAIL TREATMENT. SUPERSTRUCTURE REHABILITATION BY REPAIRS TO PRESTRESSED CONCRETE GIRDERS, SHOTCRETE, EPOXY RESIN INJECTION, FRP GIRDER STRENGTHENING. SUBSTRUCTURE REHABILITATION BY SHOTCRETE, EPOXY RESIN INJECTION AND EPOXY COATING TOP OF END BENT AND BENT CAPS.



# VICINITY MAP



### DESIGN DATA

BRIDGE #48 ADT 2015 = 13,000 BRIDGE #49 ADT 2015 = 16,000

### PROJECT LENGTH

BRIDGE #48 = 0.217 MILES BRIDGE #49 = 0.219 MILES

### 2018 STANDARD SPECIFICATIONS

LETTING DATE: JANUARY 18, 2022

### Prepared for the Office of: **DIVISION OF HIGHWAYS**

STRUCTURES MANAGEMENT UNIT 1000 BIRCH RIDGE DR. RALEIGH, N.C. 27610





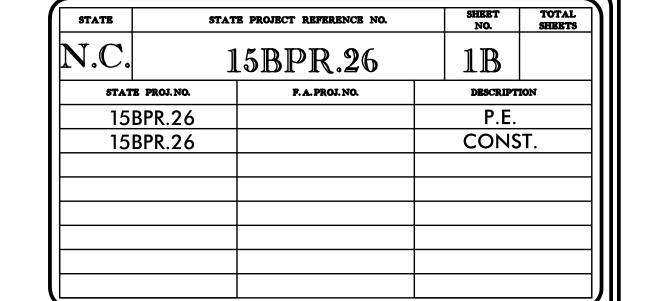


N.J. MABRY PROJECT DESIGN ENGINEER PROJECT: 15BPR.2

# TRACT NO: C204301

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

# NEW HANOVER / PENDER COUNTY



LOCATION: BRIDGE #48 ON I-40 WBL OVER NORTHEAST CAPE FEAR RIVER.
BRIDGE #49 ON I-40 EBL OVER NORTHEAST CAPE FEAR RIVER.

TYPE OF WORK: CONCRETE BRIDGE DECK AND BARRIER RAIL REHABILITATION BY SCARIFICATION, SHOTBLASTING,

PLACEMENT OF POLYMER CONCRETE OVERLAY, RECONSTRUCTION OF BRIDGE DECK JOINTS, SHOTCRETE, EPOXY RESIN INJECTION AND SILANE BARRIER RAIL TREATMENT. SUPERSTRUCTURE REHABILITATION BY REPAIRS TO PRESTRESSED CONCRETE GIRDERS, SHOTCRETE, EPOXY RESIN INJECTION, FRP GIRDER STRENGTHENING. SUBSTRUCTURE REHABILITATION BY SHOTCRETE, EPOXY RESIN INJECTION AND EPOXY COATING TOP OF END BENT AND BENT CAPS.

# INDEX OF SHEETS

1A TITLE SHEET

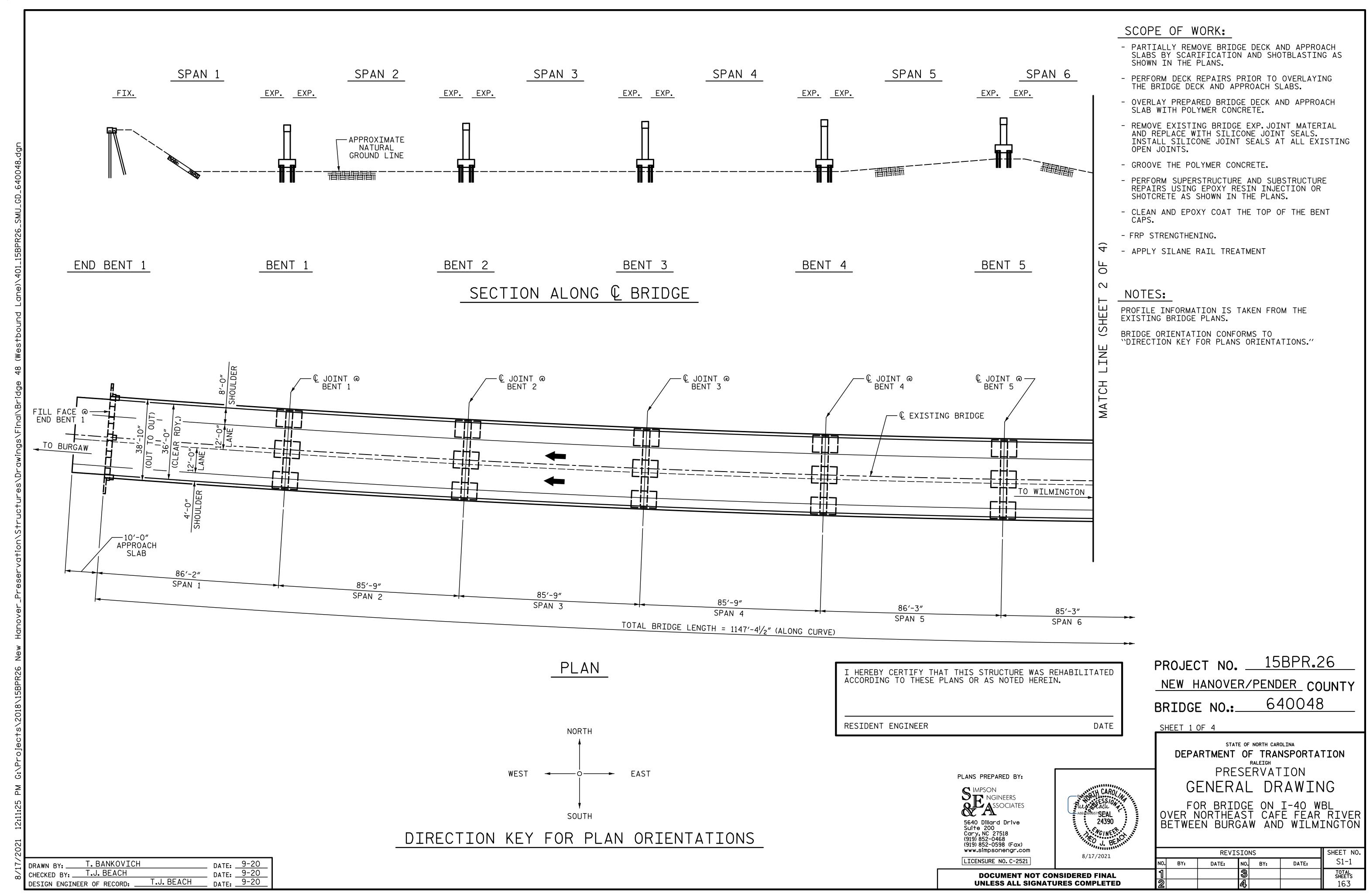
1B INDEX SHEETS

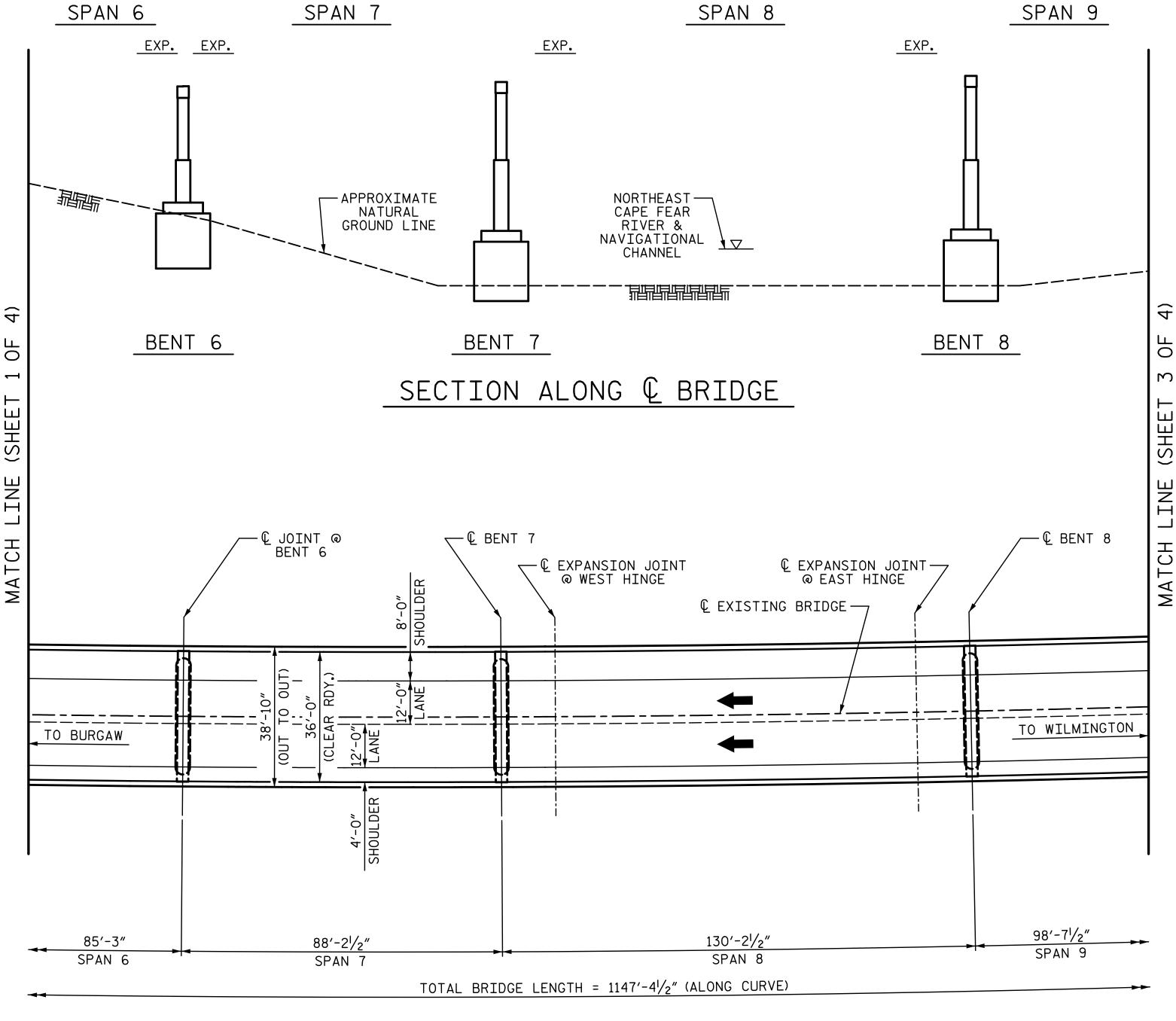
S1–1 THRU S1–163 640048 STRUCTURAL PLANS

S2-1 THRU S2-163 640049 STRUCTURAL PLANS

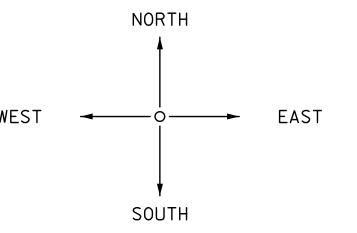
SN STANDARD NOTES

TMP-1 THRU TMP-8 TRAFFIC MANAGEMENT PLANS





PLAN



DIRECTION KEY FOR PLAN ORIENTATIONS

PLANS PREPARED BY: SIMPSON
NGINEERS
ASSOCIATES

5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FOR BRIDGE ON I-40 WBL OVER NORTHEAST CAFE FEAR RIVER BETWEEN BURGAW AND WILMINGTON

PROJECT NO. 15BPR.26

BRIDGE NO .:\_

SHEET 2 OF 4

NEW HANOVER/PENDER COUNTY

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

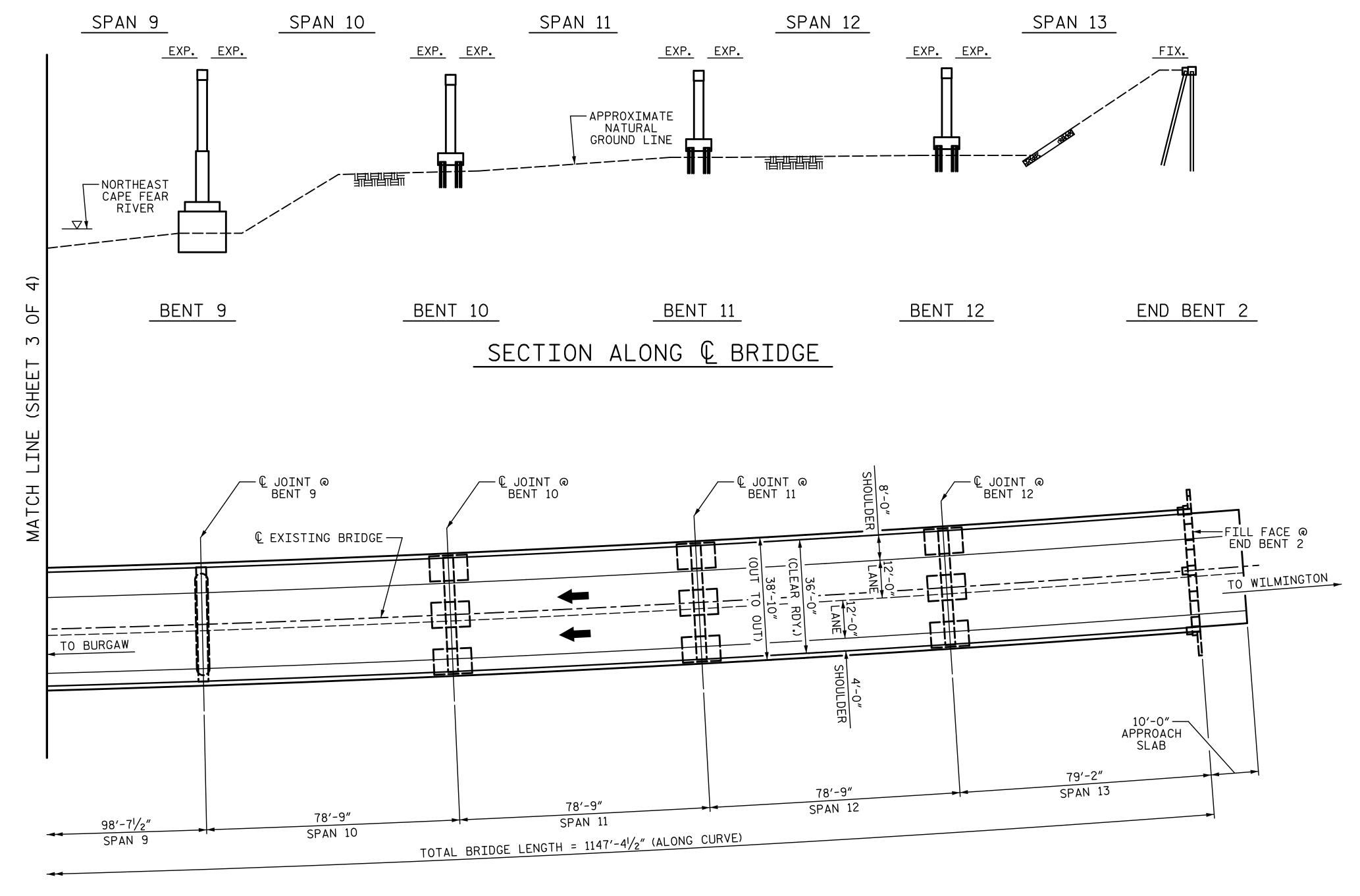
PRESERVATION

GENERAL DRAWING

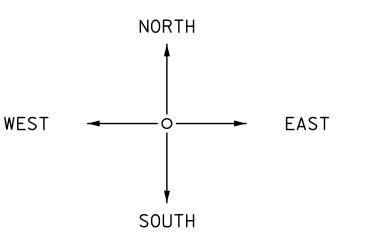
640048

REVISIONS SHEET NO. S1-2 NO. BY: DATE: DATE: BY: TOTAL SHEETS

\_\_ DATE: 9-20 \_\_ DATE: 9-20 \_\_ DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_



PLAN



DIRECTION KEY FOR PLAN ORIENTATIONS

PROJECT NO. 15BPR.26

NEW HANOVER/PENDER COUNTY

BRIDGE NO.: 640048

SHEET 3 OF 4

68 98 857 5468 24390

PLANS PREPARED BY:

SIMPSON
NGINEERS
ASSOCIATES

5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com

LICENSURE NO. C-2521

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

GENERAL DRAWING

FOR BRIDGE ON I-40 WBL OVER NORTHEAST CAFE FEAR RIVER BETWEEN BURGAW AND WILMINGTON

REVISIONS

BY: DATE: NO. BY: DATE: S1-3

TOTAL SHEETS
163

DRAWN BY: \_\_\_\_\_T.BANKOVICH DATE: 9-20
CHECKED BY: \_\_\_\_\_T.J. BEACH DATE: 9-20
DESIGN ENGINEER OF RECORD: \_\_\_\_\_T.J. BEACH DATE: 9-20

LOCATION SKETCH

### NOTES:

EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT TYPE I BRIDGE JACKING WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT TYPE I BRIDGE JACKING, OR OTHER WORK WILL BE NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE PRESERVATION/REHABILITATION WORK. THE CONTRACTOR SHALL BE PREPARED TO PERFORM SUCH WORK IN A TIMELY MANNER, AS DETERMINED IN THE FIELD. SUCH WORK SHALL BE CONSIDERED EXTRA WORK AND SHALL BE ADDRESSED AS PER ARTICLE 104-7 OF THE STANDARD SPECIFICATIONS. PROJECT SPECIAL PROVISIONS THAT OUTLINE REQUIREMENTS FOR THESE POTENTIAL ADDITIONAL WORK ITEMS HAVE BEEN PROVIDED IN THE PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITITES, AND COST WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATION OF BRIDGE

LONGITUDINAL CONTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLAN.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY. SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CONCRETE DECK REPAIR FOR PC OVERLAY, PC MATERIALS, PLACING AND FINISHING PC OVERLAY, SEE "POLYMER CONCRETE BRIDGE DECK OVERLAY" SPECIAL PROVISION.

FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK, AND CLASS II SURFACE PROTECTION, SEE "OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE" SPECIAL PROVISION.

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR REPAIRS TO PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SILANE RAIL TREATMENT, SEE SPECIAL PROVISIONS.

FOR SECURING VESSELS, SEE SPECIAL PROVISIONS.

FOR MAINTENANCE OF WATER TRAFFIC, SEE SPECIAL PROVISIONS.

FOR WORK IN, OVER, OR ADJACENT TO NAVIGABLE WATERS, SEE SPECIAL PROVISIONS.

FOR FRP REPAIRS, SEE "FIBER REINFORCED POLYMER (FRP) STRENGTHENING" SPECIAL PROVISION.

NORTH, SOUTH, EAST AND WEST INDICATED ON THE PLANS ARE BASED ON I-40 HIGHWAY BEING AN EAST-WEST INTERSTATE AND NOT NECESSARILY ON GEODETIC DIRECTIONS

9B575**S/EAL** 24390

FOR OTHER DESIGN DATA AND GENERAL NOTES. SEE SPECIAL PROVISIONS.

BRIDGE NO.	GROOVING BRIDGE FLOORS	CLASS II SURFACE PREPARATION	SHOTCRETE REPAIRS	EPOXY RESIN INJECTION	POURABLE SILICONE JOINT SEALANT	POLYESTER POLYMER CONCRETE MATERIALS	EPOXY POLYMER CONCRETE MATERIALS (ALTERNATE)	REPAIRS TO PRESTRESSED CONCRETE GIRDERS	EPOXY COATING	FIBER REINFORCED POLYMER STRENGTHENING SYSTEM	SURFACE PREPARATION FOR CONCRETE BARRIER	SILANE BARRIER RAIL TREATMENT	CONCRETE DECK REPAIR FOR POLYMER CONCRETE OVERLAY	PLACING AND FINISHING POLYMER CONCRETE OVERLAY	SCARIFYING BRIDGE DECK	SHOTBLASTING BRIDGE DECK
	SF	SY	CF	LF	LF	CY	CY	CF	SF	SF	SF	SF	SY	SY	SY	SY
640048	38,292.5	56.00	21.80	560.80	518.00	128.90	128.90	13.60	1,320.00	1,469	14,160.2	14,160.2	56.00	4,669.50	4,669.50	4,669.50
TOTAL	38,292.5	56.00	21.80	560.80	518.00	128.90	128.90	13.60	1,320.00	1,469	14,160.2	14,160.2	56.00	4,669.50	4,669.50	4,669.50

AND COMPLETE THE PROJECT.

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .: \_

SHEET 4 OF 4

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION GENERAL DRAWING

FOR BRIDGE ON I-40 WBL OVER NORTHEAST CAFE FEAR RIVER BETWEEN BURGAW AND WILMINGTON

REVISIONS SHEET NO. S1-4 NO. BY: BY: DATE: DATE: TOTAL SHEETS

PLANS PREPARED BY: NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com

LICENSURE NO. C-2521

8/17/2021 **DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** 

T. BANKOVICH CHECKED BY: T.J. BEACH DATE: 9-20 DATE: 9-20 T.J. BEACH DESIGN ENGINEER OF RECORD: \_

EXISTING PROPOSED 1"SCARIFICATION AND SHOTBLASTING EXISTING DECK — SURFACE FINISHED DECK SURFACE 1" POLYMER — CONCRETE (PC) OVERLAY

DECK SURFACE—— AFTER SCARIFICATION AND SHOTBLASTING

DETAIL OF POLYMER CONCRETE OVERLAY

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_\_

PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

DOCUMENT NOT CONSIDERED FINAL

**UNLESS ALL SIGNATURES COMPLETED** 

8/17/2021

DEPARTMENT OF TRANSPORTATION PRESERVATION SURFACE PREPARATION TYPICAL SECTION & DETAILS

STATE OF NORTH CAROLINA

	SHEET NO.				
BY:	DATE:	NO. BY:		DATE:	S1-5
		3			TOTAL SHEETS
		4			163

\_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

TYPICAL SECTION

LOOKING EAST

SECTION 1 QUANTITIES ESTIMATE ACTUAL SCARIFICATION, SHOTBLASTING, AND POLYMER CONCRETE OVERLAY 727.7 SY SCARIFYING BRIDGE DECK CLASS II SURFACE PREPARATION 10.0 SY CONCRETE DECK REPAIR FOR PC OVERLAY 10.0 SY CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY SHOTBLASTING BRIDGE DECK 727**.**7 SY 20.2 CY PC MATERIALS 727.7 SY PLACING AND FINISHING PC OVERLAY GROOVING BRIDGE FLOORS 5962.0 SF NOTES: FOR SECTIONS A-A AND B-B, SEE "JOINT REPAIR DETAILS" SHEET. 181'-11" (SECTION 1) 10'-0" 86'-2" 85′-9″ APPROACH SLAB SPAN 1 SPAN 2 EXP.JOINT MAT'L. @ END BENT 1 © OPEN JOINT @ BENT 2 ---└── © OPEN JOINT @ BENT 1 - CONCRETE BARRIER RAIL (TYP.) └─ GUTTERLINE 18.0 SF ──► 18.0 SF ──► 18.0 SF ——18**.**0 SF 18.0 SF ──► --- GUTTERLINE APPROACH SLAB LIMITS OF SCARIFICATIONS, SHOTBLASTING, CONCRETE DECK REPAIRS AND PC OVERLAY (SECTION 1) SPAN 1 SPAN 2 PLAN OF SPANS PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_\_\_ SHEET 1 OF 8 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION PLANS PREPARED BY: SIMPSON
NGINEERS
ASSOCIATES SURFACE PREPARATION (SPANS 1 AND 2) 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com REVISIONS SHEET NO. 8/17/2021 \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> LICENSURE NO. C-2521 S1-6 NO. BY: T. BANKOVICH DATE: DATE: BY:

TOTAL SHEETS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CHECKED BY: T.J. BEACH

DESIGN ENGINEER OF RECORD: \_\_\_

T.J. BEACH

SECTION 2 QUANTITIES ESTIMATE ACTUAL SCARIFICATION, SHOTBLASTING, AND POLYMER CONCRETE OVERLAY SCARIFYING BRIDGE DECK 686.0 SY CLASS II SURFACE PREPARATION 8.0 SY CONCRETE DECK REPAIR FOR PC OVERLAY 8.0 SY CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY SHOTBLASTING BRIDGE DECK 686.0 SY PC MATERIALS 19**.**1 CY PLACING AND FINISHING PC OVERLAY 686.0 SY GROOVING BRIDGE FLOORS 5626.5 SF NOTES: FOR SECTIONS B-B, SEE "JOINT REPAIR DETAILS" SHEET. 171'-6" (SECTION 2) 85′-9″ 85′-9″ SPAN 3 SPAN 4 ├── © OPEN JOINT @ BENT 4 © OPEN JOINT @ BENT 3 ← COPEN JOINT @ BENT 2 -CONCRETE BARRIER RAIL (TYP.) └─ GUTTERLINE 18.0 SF — 18.0 SF ---—18.0 SF —18.0 SF --- GUTTERLINE LIMITS OF SCARIFICATIONS, SHOTBLASTING, CONCRETE DECK REPAIRS AND PC OVERLAY (SECTION 2) SPAN 3 SPAN 4 PLAN OF SPANS PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_\_\_ SHEET 2 OF 8 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION PLANS PREPARED BY: SIMPSON
NGINEERS
ASSOCIATES SURFACE PREPARATION (SPANS 3 AND 4) 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com REVISIONS SHEET NO. 8/17/2021 \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> LICENSURE NO. C-2521 S1-7 NO. BY: T. BANKOVICH DATE: DATE: BY: CHECKED BY: T.J. BEACH TOTAL SHEETS DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

SECTION 3 QUANTITIES ESTIMATE ACTUAL SCARIFICATION, SHOTBLASTING, AND POLYMER CONCRETE OVERLAY SCARIFYING BRIDGE DECK 686.0 SY CLASS II SURFACE PREPARATION 8.0 SY CONCRETE DECK REPAIR FOR PC OVERLAY 8.0 SY CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY SHOTBLASTING BRIDGE DECK 686.0 SY PC MATERIALS 19**.**1 CY PLACING AND FINISHING PC OVERLAY 686.0 SY GROOVING BRIDGE FLOORS 5626.5 SF NOTES: FOR SECTIONS B-B, SEE "JOINT REPAIR DETAILS" SHEET. 171'-6"(SECTION 3) 86′-3″ 85′-3″ SPAN 5 SPAN 6 © OPEN JOINT @ BENT 4 © OPEN JOINT @ BENT 6 ├── © OPEN JOINT @ BENT 5 -CONCRETE BARRIER RAIL (TYP.) — GUTTERLINE **←**18.0 SF —18.0 SF 18.0 SF → 18**.**0 SF ──► --- GUTTERLINE LIMITS OF SCARIFICATIONS, SHOTBLASTING, CONCRETE DECK REPAIRS AND PC OVERLAY (SECTION 3) SPAN 5 SPAN 6 PLAN OF SPANS PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_\_\_ SHEET 3 OF 8 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION PLANS PREPARED BY: SIMPSON
NGINEERS
ASSOCIATES SURFACE PREPARATION (SPANS 5 AND 6) 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com REVISIONS SHEET NO. 8/17/2021 \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> LICENSURE NO. C-2521 S1-8 NO. BY: T. BANKOVICH DATE: DATE: BY: CHECKED BY: T.J. BEACH TOTAL SHEETS DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

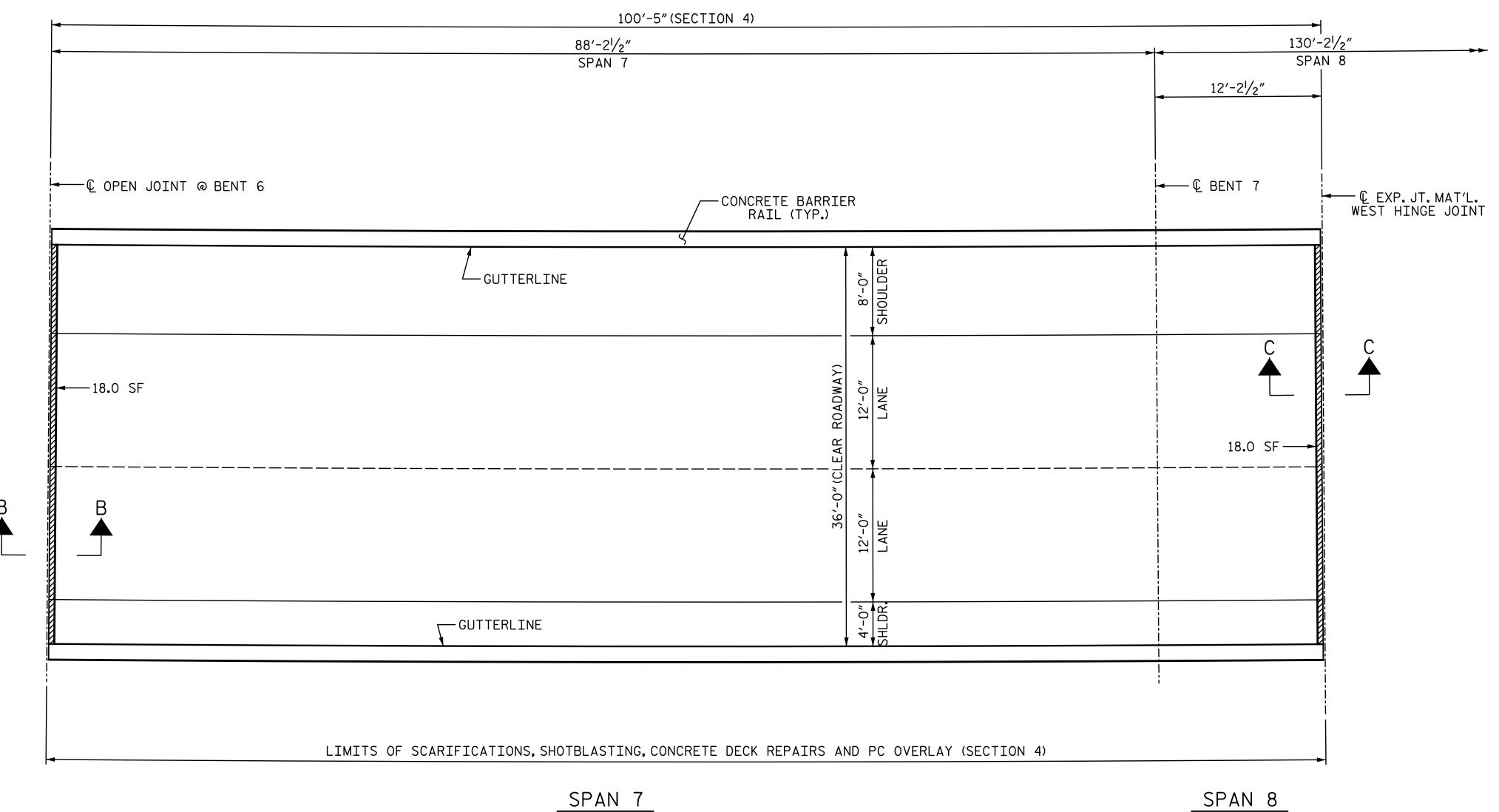
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SCARIFICATION, SHOTBLASTING, AND POLYMER CONCRETE OVERLAY CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY

SECTION 4 QUANTITIES						
ESTIMATE ACTUAL						
SCARIFYING BRIDGE DECK	401 <b>.</b> 7 SY					
CLASS II SURFACE PREPARATION	4.0 SY					
CONCRETE DECK REPAIR FOR PC OVERLAY	4.0 SY					
SHOTBLASTING BRIDGE DECK	401.7 SY					
PC MATERIALS	11 <b>.</b> 2 CY					
PLACING AND FINISHING PC OVERLAY	401.7 SY					
GROOVING BRIDGE FLOORS	3297.3 SF					

### NOTES:

FOR SECTIONS B-B AND C-C, SEE "JOINT REPAIR DETAILS" SHEET.



PLAN OF SPAN

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_\_\_

SHEET 4 OF 8

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

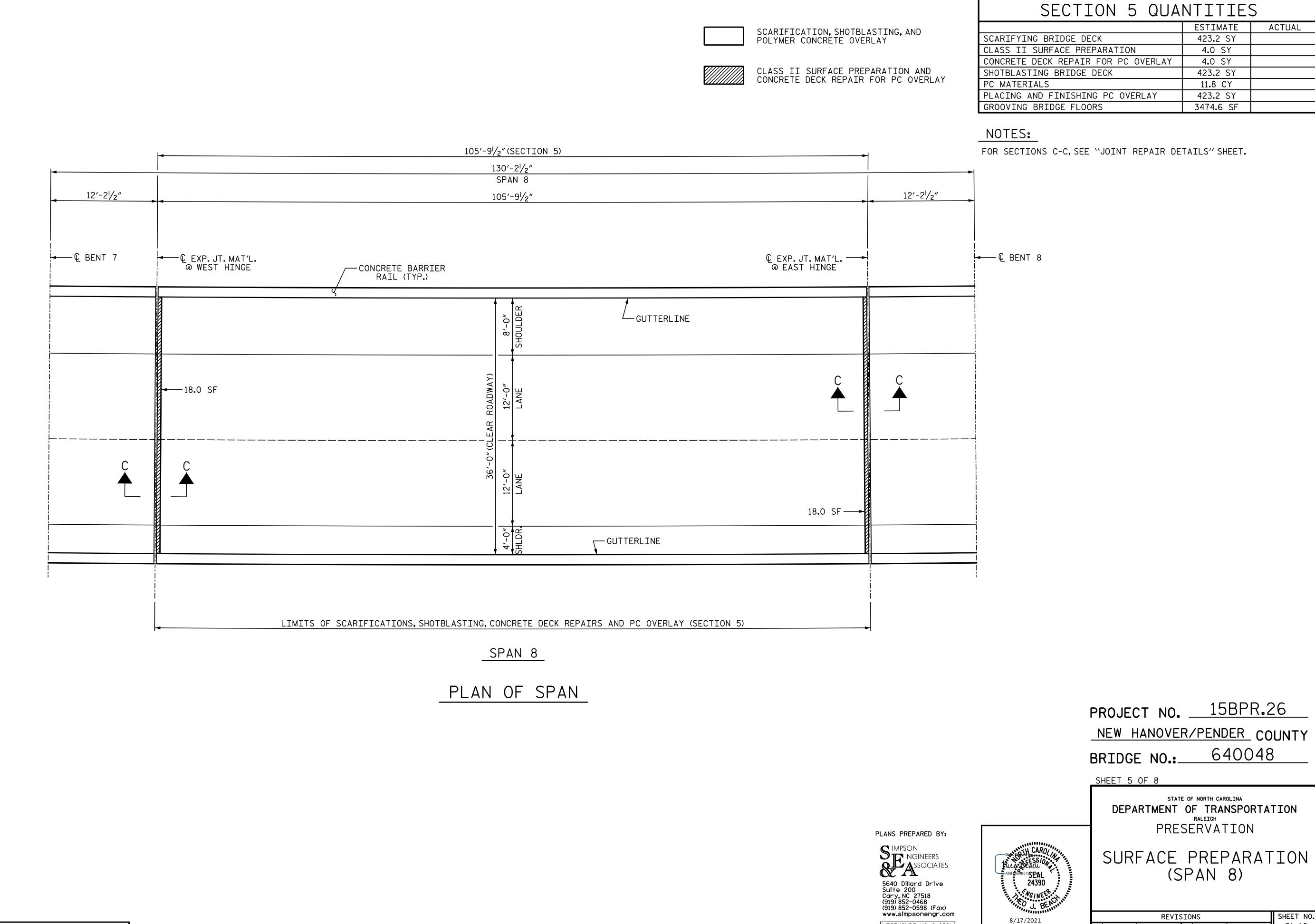
SURFACE PREPARATION (SPANS 7 AND 8)

REVISIONS SHEET NO. 8/17/2021 LICENSURE NO. C-2521 S1-9 NO. BY: DATE: DATE: BY: TOTAL SHEETS DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SIMPSON
NGINEERS
ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com

PLANS PREPARED BY:

\_\_ DATE: 9-20 \_\_ DATE: 9-20 \_\_ DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_



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DRAWN BY: T.BANKOVICH
CHECKED BY: T.J. BEACH
DESIGN ENGINEER OF RECORD: T.J. BEACH
DATE: 9-20
DATE: 9-20
DATE: 9-20

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

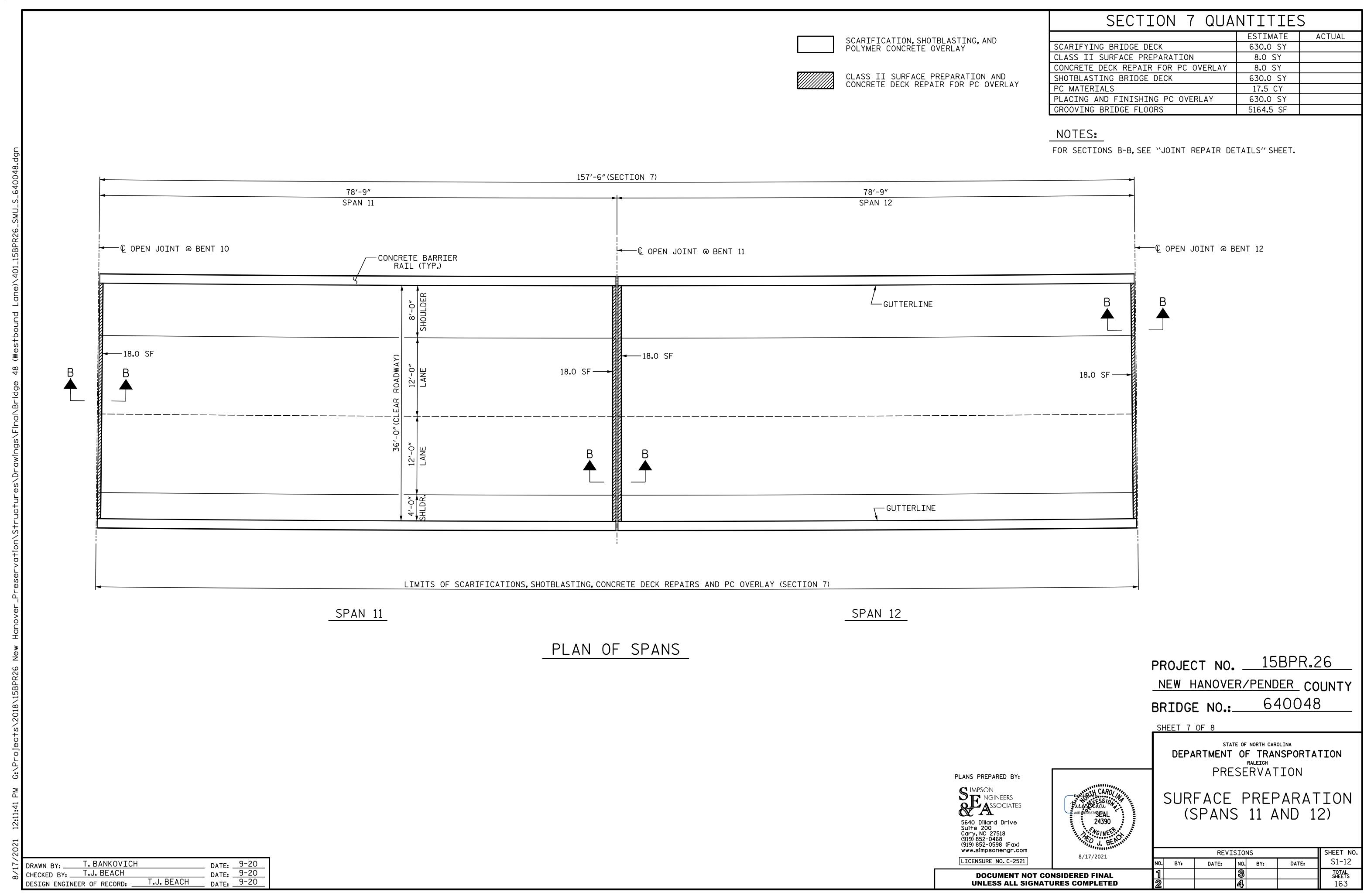
LICENSURE NO. C-2521

REVISIONS
SHEET NO.
S1-10

SHEET NO.
S1-10

TOTAL SHEETS
163

SECTION 6 QUANTITIES ESTIMATE ACTUAL SCARIFICATION, SHOTBLASTING, AND POLYMER CONCRETE OVERLAY 758.3 SY SCARIFYING BRIDGE DECK CLASS II SURFACE PREPARATION 8.0 SY CONCRETE DECK REPAIR FOR PC OVERLAY 8.0 SY CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY SHOTBLASTING BRIDGE DECK 758.3 SY PC MATERIALS 20.1 CY 758.3 SY PLACING AND FINISHING PC OVERLAY GROOVING BRIDGE FLOORS 6223.3 SF NOTES: FOR SECTIONS B-B AND C-C, SEE "JOINT REPAIR DETAILS" SHEET. 189'-7"(SECTION 6) 78′-9″ 98'-71/2" SPAN 9 SPAN 10  $12'-2\frac{1}{2}''$ © EXP.JT.MAT'L. —— © BENT 8 @ EAST HINGE © OPEN JOINT @ BENT 10 → ├── © OPEN JOINT @ BENT 9 -CONCRETE BARRIER RAIL (TYP.) └─ GUTTERLINE 18.0 SF ──► 18.0 SF — 18.0 SF —18.0 SF --- GUTTERLINE LIMITS OF SCARIFICATIONS, SHOTBLASTING, CONCRETE DECK REPAIRS AND PC OVERLAY (SECTION 6) SPAN 10 SPAN 8 SPAN 9 PLAN OF SPANS PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_\_\_ SHEET 6 OF 8 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION PLANS PREPARED BY: SIMPSON
NGINEERS
ASSOCIATES SURFACE PREPARATION (SPANS 8, 9 AND 10) 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com REVISIONS SHEET NO. 8/17/2021 LICENSURE NO. C-2521 \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> S1-11 NO. BY: T. BANKOVICH DATE: DATE: BY: CHECKED BY: T.J. BEACH TOTAL SHEETS DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_



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SCARIFICATION, SHOTBLASTING, AND POLYMER CONCRETE OVERLAY

CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY

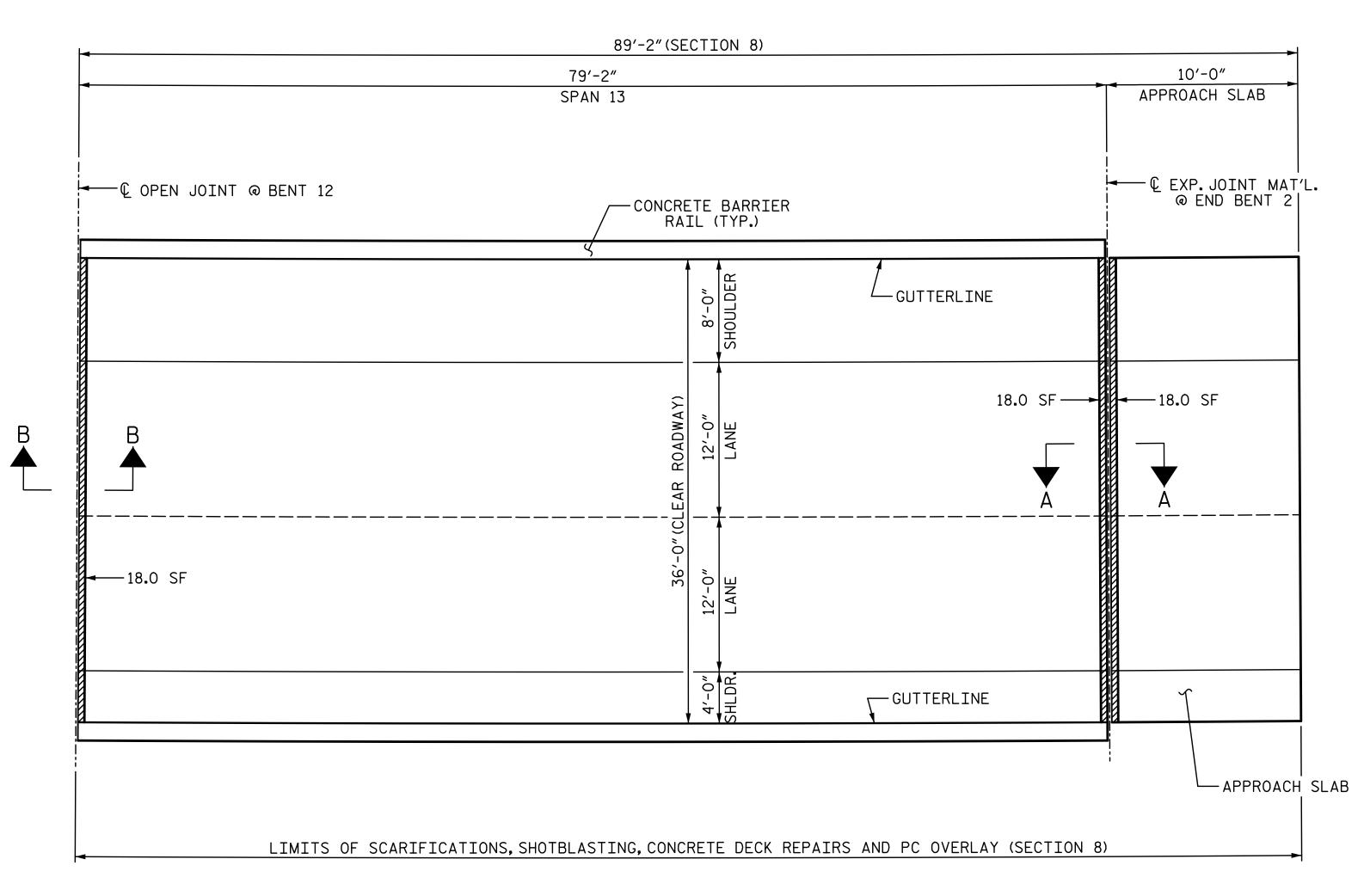
SECTION 8 QUANTITIES ESTIMATE ACTUAL 356.7 SY SCARIFYING BRIDGE DECK 6.0 SY CLASS II SURFACE PREPARATION CONCRETE DECK REPAIR FOR PC OVERLAY 6.0 SY SHOTBLASTING BRIDGE DECK 356.7 SY PC MATERIALS 9.9 CY 356.7 SY PLACING AND FINISHING PC OVERLAY

2917.8 SF

### NOTES:

GROOVING BRIDGE FLOORS

FOR SECTIONS A-A AND B-B, SEE "JOINT REPAIR DETAILS" SHEET.



SPAN 13

PLAN OF SPAN

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_\_\_

SHEET 8 OF 8

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

SURFACE PREPARATION (SPAN 13)

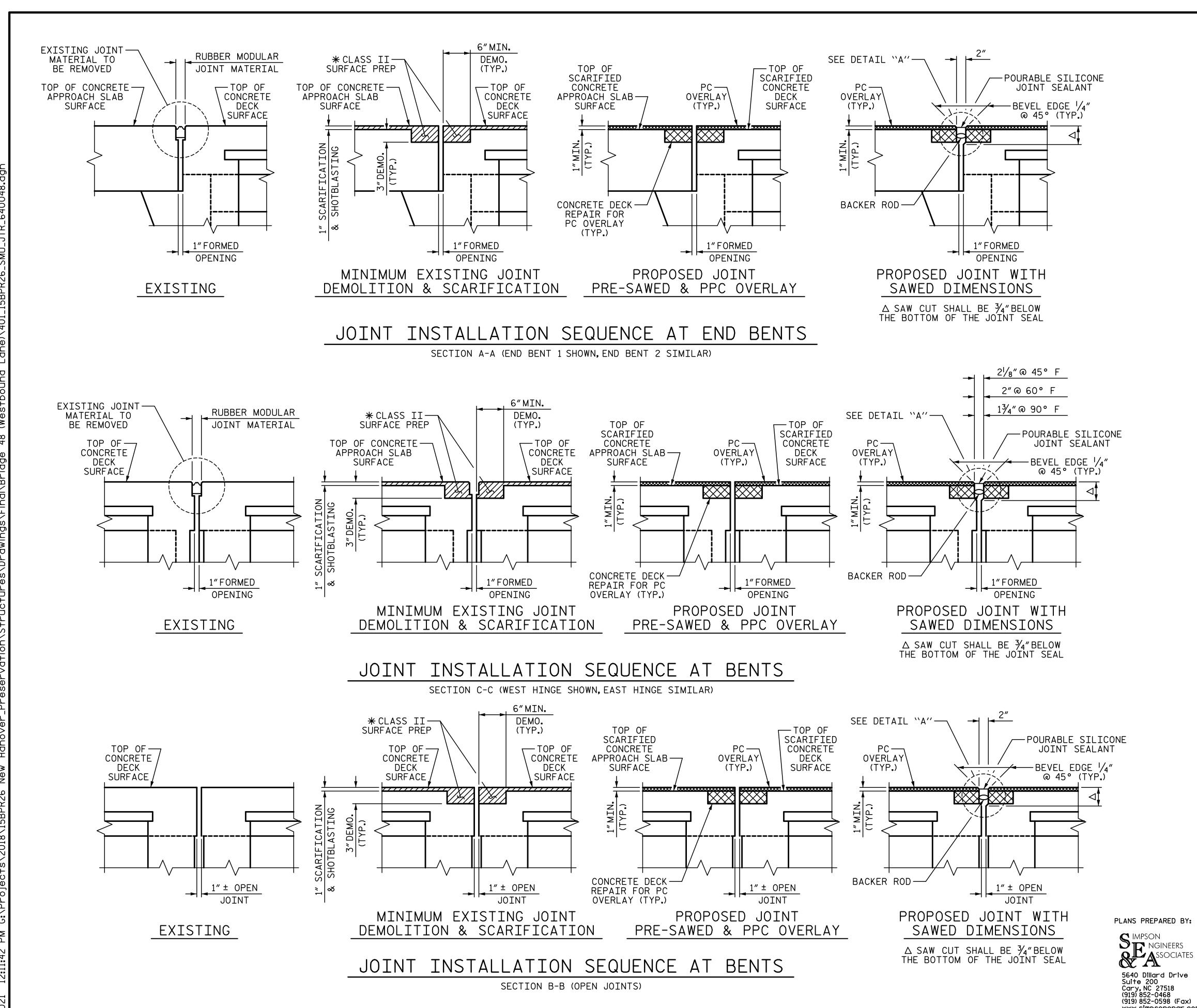
SIMPSON
NGINEERS
ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468

PLANS PREPARED BY:

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CENSURE NO. C-2521	8/17/2021						
9)852-0598 (Fax) ww.simpsonengr.com	SAN J. BERGIN						

		SHEET NO.						
).	BY:	DATE:	NO.	BY:	DATE:	S1-13		
			3			TOTAL SHEETS		
)			4			163		

\_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_



DATE: 9-20
DATE: 9-20
DATE: 9-20

T. BANKOVICH

T.J. BEACH

T.J. BEACH

DESIGN ENGINEER OF RECORD: \_

CHECKED BY: \_

### NOTES:

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN DETAIL BY MORE THAN  $\frac{1}{4}$ , NOTIFY ENGINEER. REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.

FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY IS COMPLETE.

THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT THE PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.

DURING THE JOINT INSTALLATION PROCEDURE, THE JOINT AND SURROUNDING AREA SHALL BE KEPT CLEAN AND FREE OF DEBRIS.

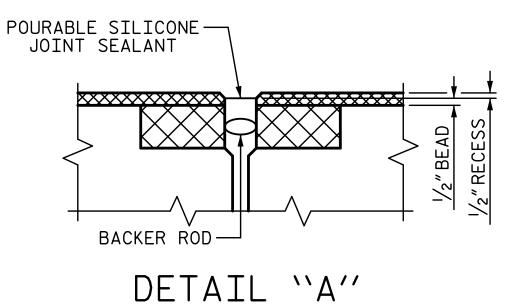
FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE BACKER ROD FOR THE EXISTING JOINT SIZE AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

THE INSTALLATION OF THE JOINT SEAL SHALL BE WATERTIGHT.

FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMEN OF REPAIR CONCRETE.

\*FOR CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY QUANTITIES SEE SURFACE PREPARATION SHEETS 1 THROUGH 8.



15BPR.26 PROJECT NO. \_ NEW HANOVER/PENDER\_ COUNTY 640048 BRIDGE NO .:\_

SHEET 1 OF 2

36857**SEAL** 24390

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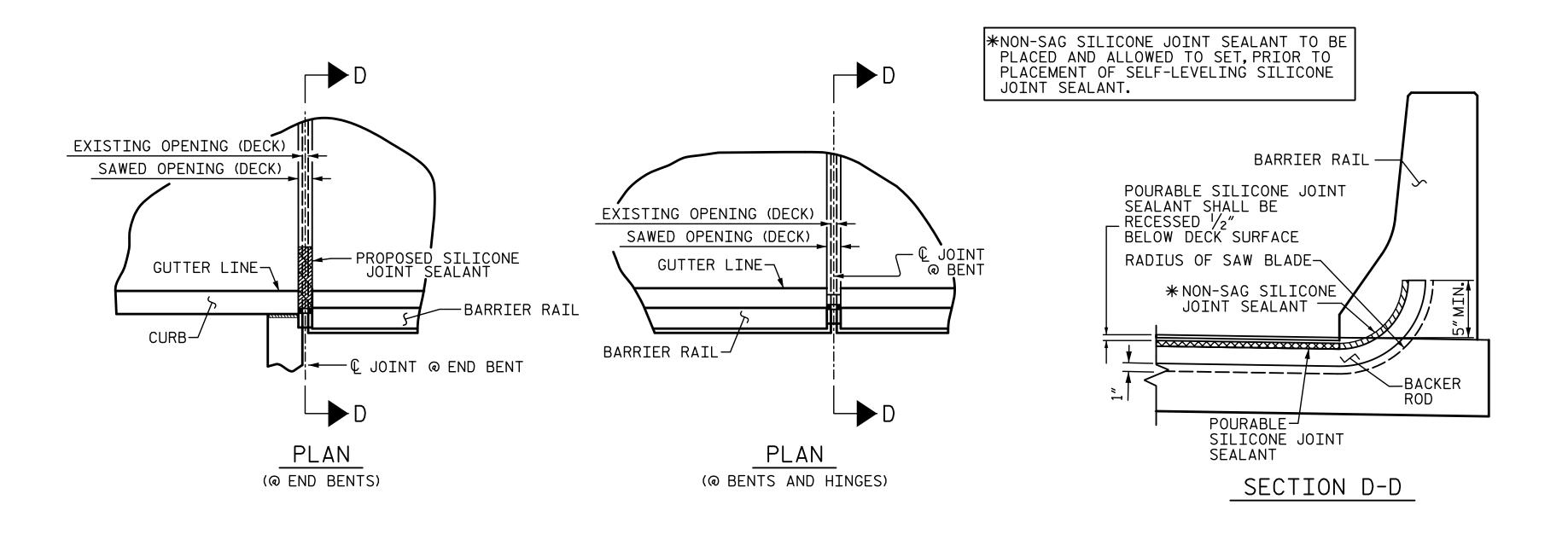
LICENSURE NO. C-2521

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> JOINT REPAIR DETAILS

SHEET NO. REVISIONS 8/17/2021 S1-14 NO. BY: DATE: BY: DATE: TOTAL SHEETS **DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** 163

JOINT REPAIR QUANTITY TABLE						
POURABLE SILICONE JOINT SEALANT	ESTIMATE	ACTUAL				
JOINT SEALANT	LF	LF				
END BENT 1	37.0					
BENT 1	37.0					
BENT 2	37.0					
BENT 3	37.0					
BENT 4	37.0					
BENT 5	37.0					
BENT 6	37.0					
BENT 7	37.0					
BENT 8	37.0					
BENT 9	37.0					
BENT 10	37.0					
BENT 11	37.0					
BENT 12	37.0					
END BENT 2	37.0					



JOINT DETAIL AT BARRIER RAIL

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 2 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

JOINT REPAIR DETAILS

SIMPSON
NGINEERS
ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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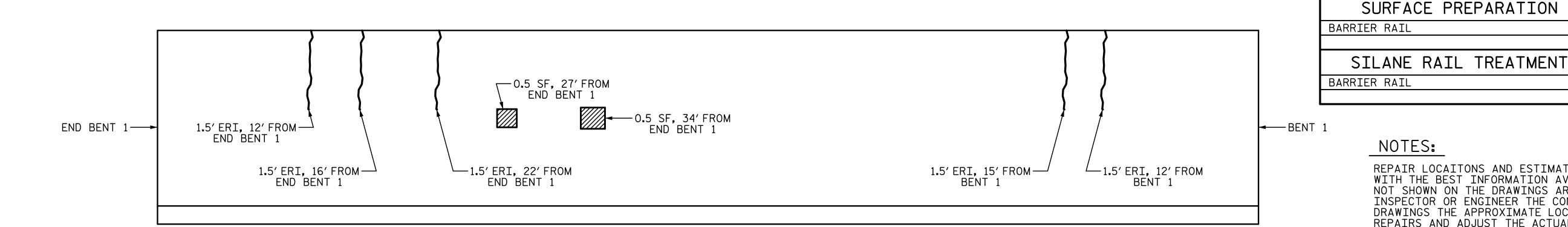
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REVISIONS	<b>)</b>

	SHEET NO.							
BY:	DATE: NO.		BY:	DATE:	S1-15			
		3			TOTAL SHEETS			
		4			163			

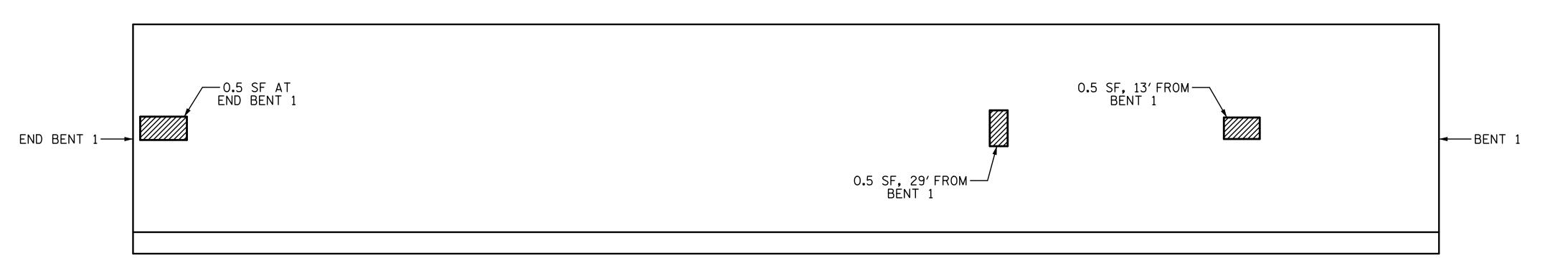
\_\_ DATE: 9-20 \_\_ DATE: 9-20 \_\_ DATE: 9-20 T. BANKOVICH DESIGN ENGINEER OF RECORD: T.J. BEACH



ERI — EPOXY RESIN INJECTION



### LEFT RAIL



## NOTES:

REPAIRS SPAN 1

SHOTCRETE REPAIRS

EPOXY RESIN INJECTION

BARRIER RAIL

BARRIER RAIL

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

REPAIR QUANTITY TABLE

2.5

ESTIMATE

CF

0.3

LF

7.5

SF

1063.4

SF

1063.4

QUANTITIES

AREA VOLUME AREA DEPTH VOLUME

ACTUAL

CF

FΤ

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

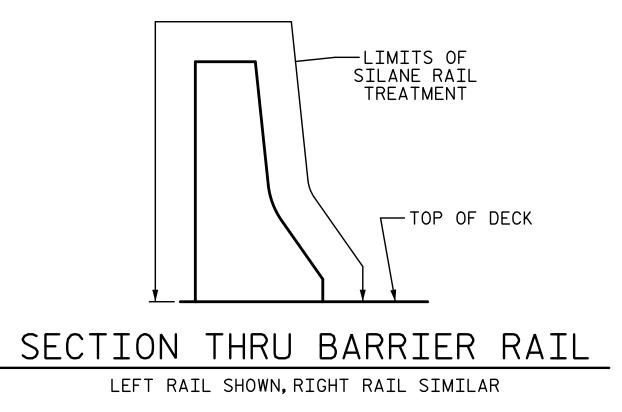
FOR SUPERSTRUCTURE REPAIR DETAILS, SEE "SUPERSTRUCTURE REPAIR DETAIL" SHEET.

AFTER ALL REPAIRS ARE MADE TO THE BARRIER RAILS, ADD SILANE RAIL TREATMENT TO THE LIMITS SHOWN ON THE PLANS.

FOR SILANE RAIL TREATMENT, SEE SPECIAL PROVISIONS.

RIGHT RAIL

SPAN 1



PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 1 OF 13

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 1 BARRIER RAIL

	SHEET NO.					
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-16
1			3			TOTAL SHEETS
2			4			163

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DATE: 9-20
DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

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PLANS PREPARED BY:

SIMPSON NGINEERS ASSOCIATES

SHOTCRETE REPAIR

ERI — EPOXY RESIN INJECTION

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 2 ESTIMATE ACTUAL AREA VOLUME AREA DEPTH VOLUME SHOTCRETE REPAIRS CF FT CF BARRIER RAIL 2.0 0.3 EPOXY RESIN INJECTION BARRIER RAIL 1.5 SURFACE PREPARATION BARRIER RAIL 1058.2 SILANE RAIL TREATMENT LF BARRIER RAIL 1058.2

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

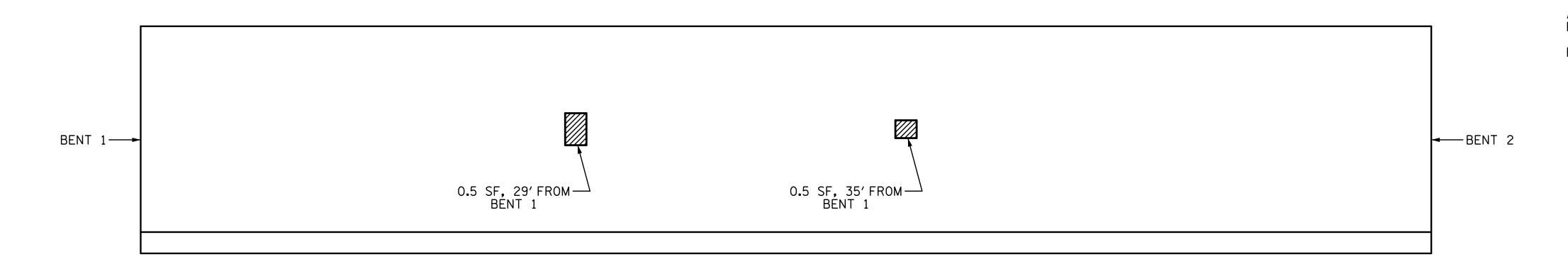
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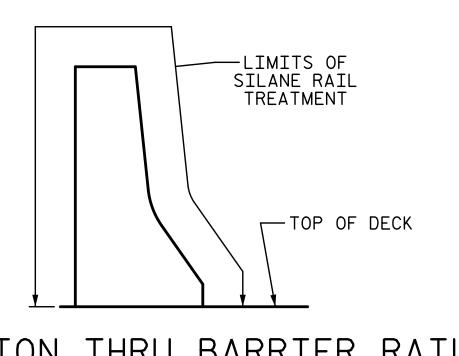
0.5 SF, 35' FROM  $\longrightarrow$ BENT 2 ← BENT 2 0.5 SF, 28' FROM $\longrightarrow$ BÉNT 2

LEFT RAIL



RIGHT RAIL

SPAN 2



SECTION THRU BARRIER RAIL

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_ SHEET 2 OF 13

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 2 BARRIER RAIL

SHEET NO. REVISIONS S1-17 NO. BY: DATE: DATE: BY: TOTAL SHEETS

SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521 **DOCUMENT NOT CONSIDERED FINAL** 

PLANS PREPARED BY:

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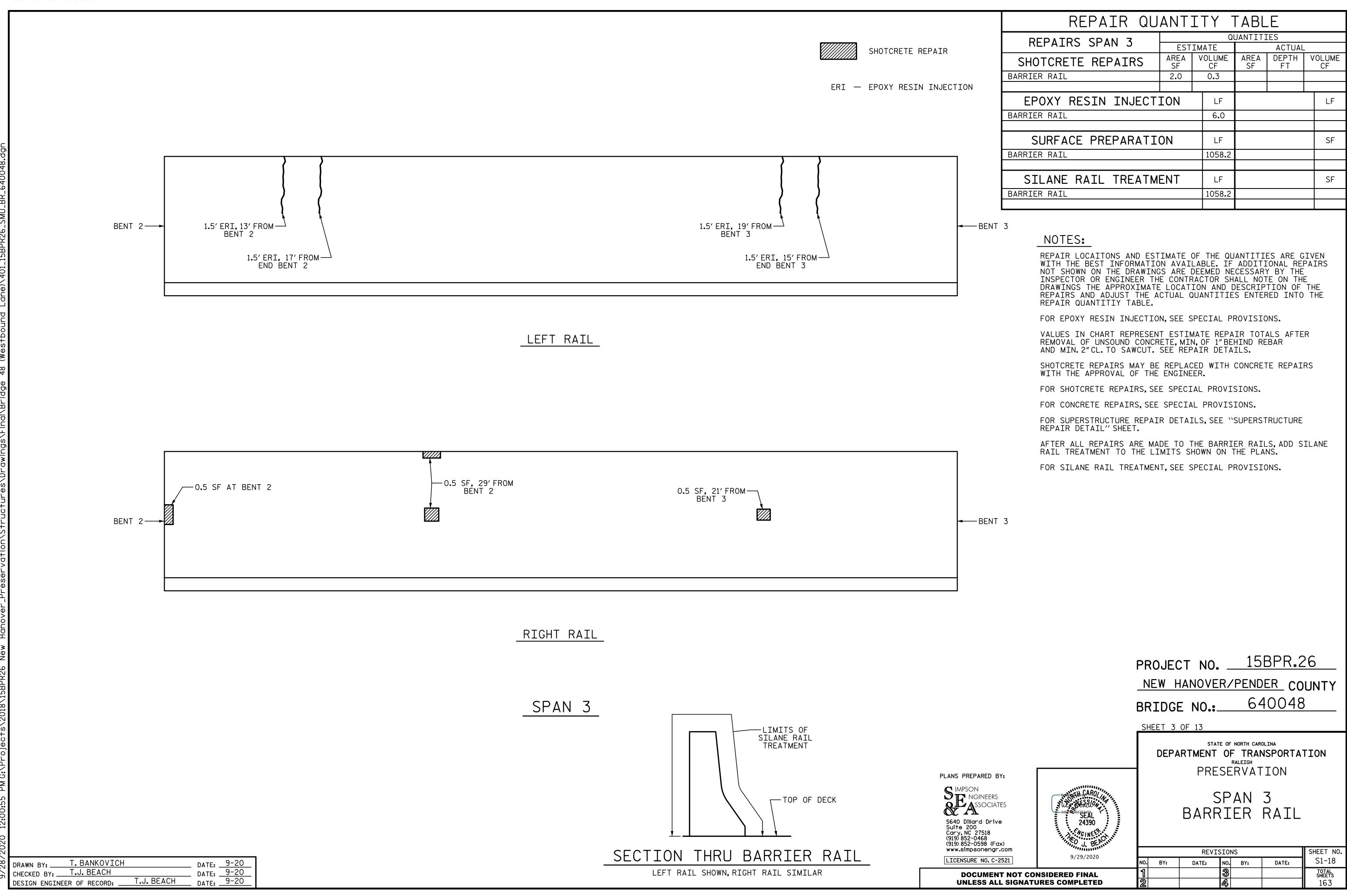
\_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

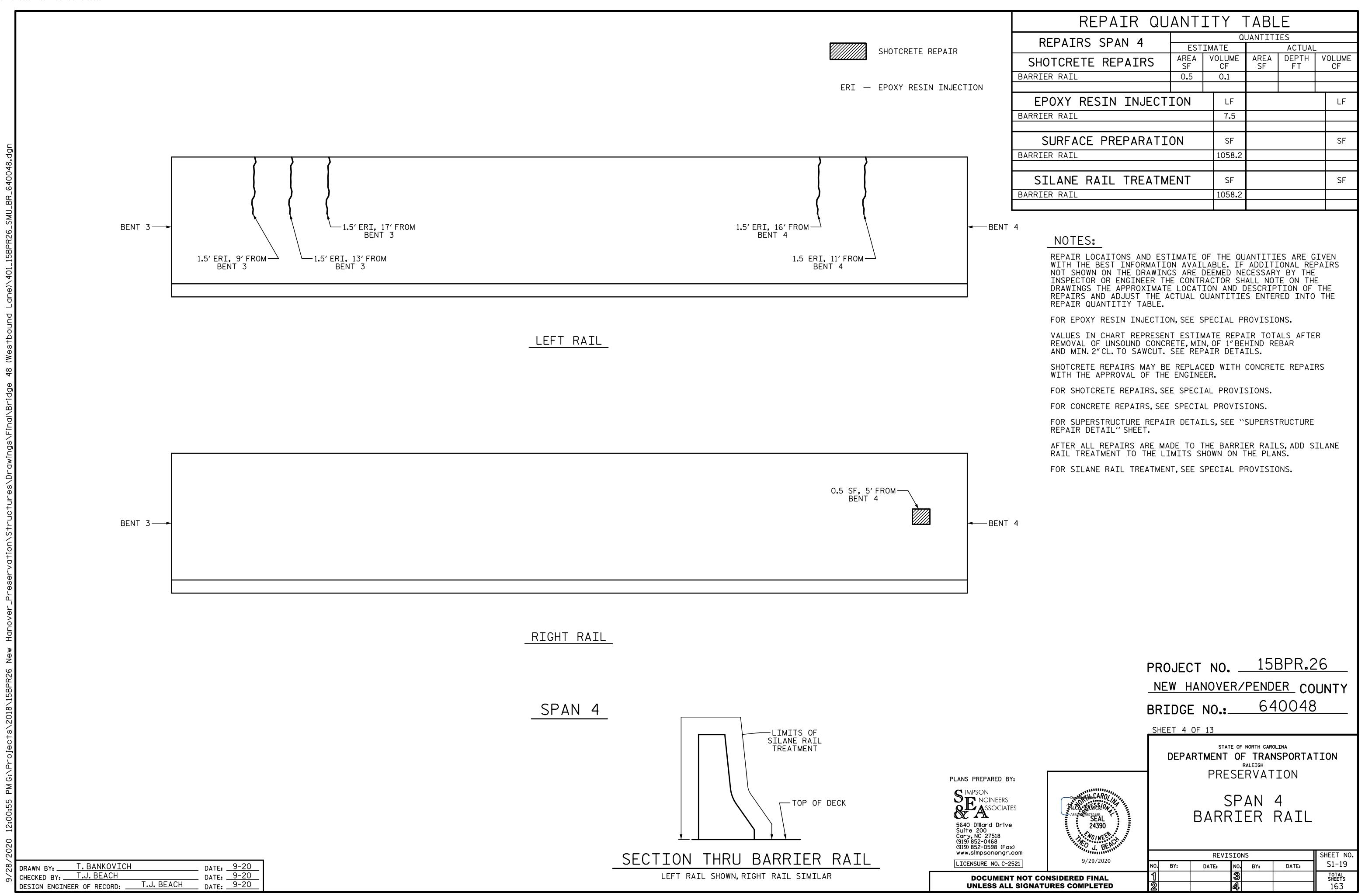
BENT 1 →

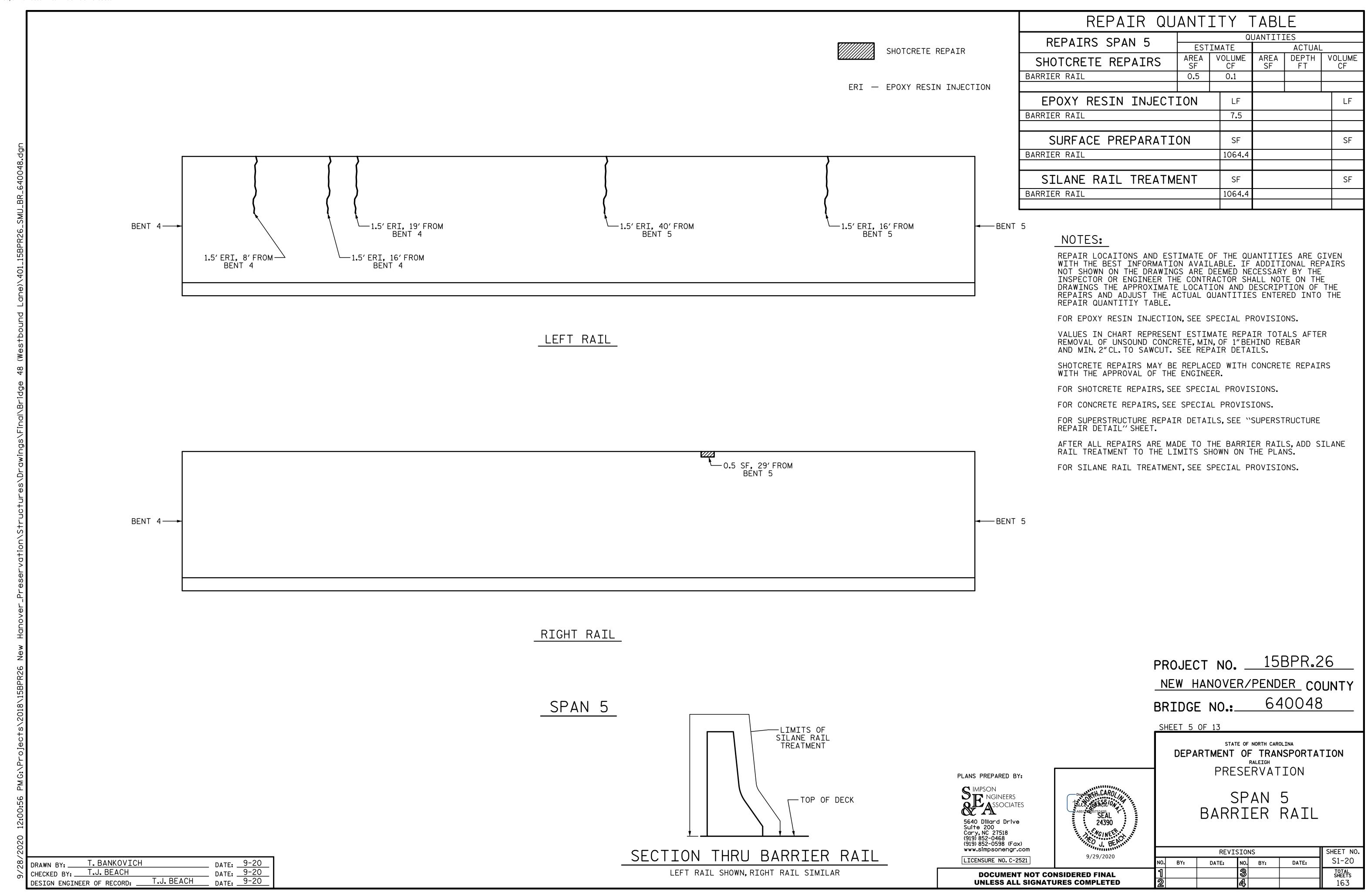
1.5′ ERI, 17′ FROM — \

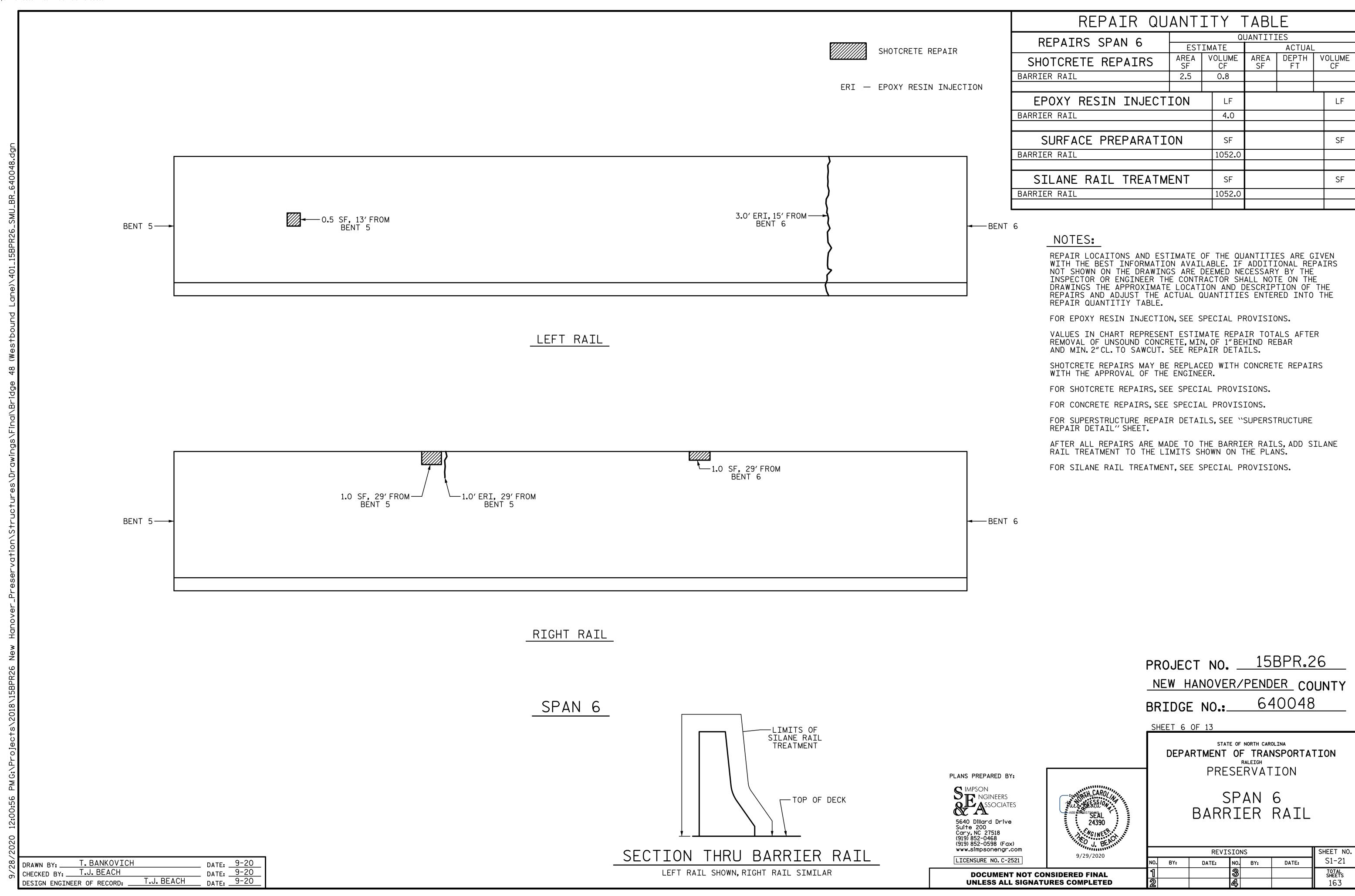
BENT 1

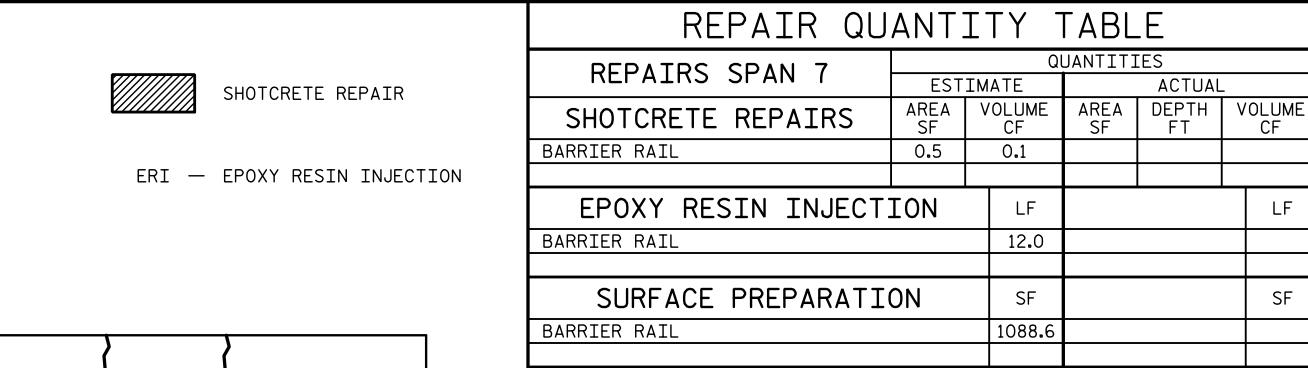
LEFT RAIL SHOWN, RIGHT RAIL SIMILAR











BARRIER RAIL

**←**BENT 7

—BENT 7

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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### NOTES:

SILANE RAIL TREATMENT

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SF

1088.6

ACTUAL

CF

FT

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE "SUPERSTRUCTURE REPAIR DETAIL" SHEET.

AFTER ALL REPAIRS ARE MADE TO THE BARRIER RAILS, ADD SILANE RAIL TREATMENT TO THE LIMITS SHOWN ON THE PLANS.

FOR SILANE RAIL TREATMENT, SEE SPECIAL PROVISIONS.

RIGHT RAIL

----1.5′ ERI, 39′ FROM BENT 6

LEFT RAIL

-1.5' ERI, 36' FROM

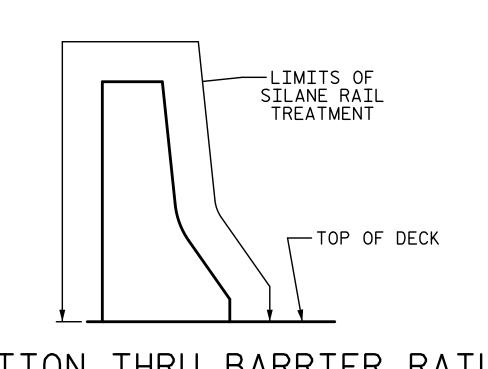
— 3.0' ERI, 32'-6"FROM

└── 0.5 SF, 28′ FROM BENT 6

BENT 6

BENT 6

SPAN 7



PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 7 OF 13

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 7 BARRIER RAIL

SHEET NO. REVISIONS S1-22 NO. BY: DATE: DATE: BY: TOTAL SHEETS

T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

BENT 6 →

BENT 6 →

SECTION THRU BARRIER RAIL LEFT RAIL SHOWN, RIGHT RAIL SIMILAR

1.5 ERI, 16' FROM —\

1.5' ERI, 10' FROM —

BENT 7

BENT 7

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PLANS PREPARED BY:

SIMPSON NGINEERS ASSOCIATES

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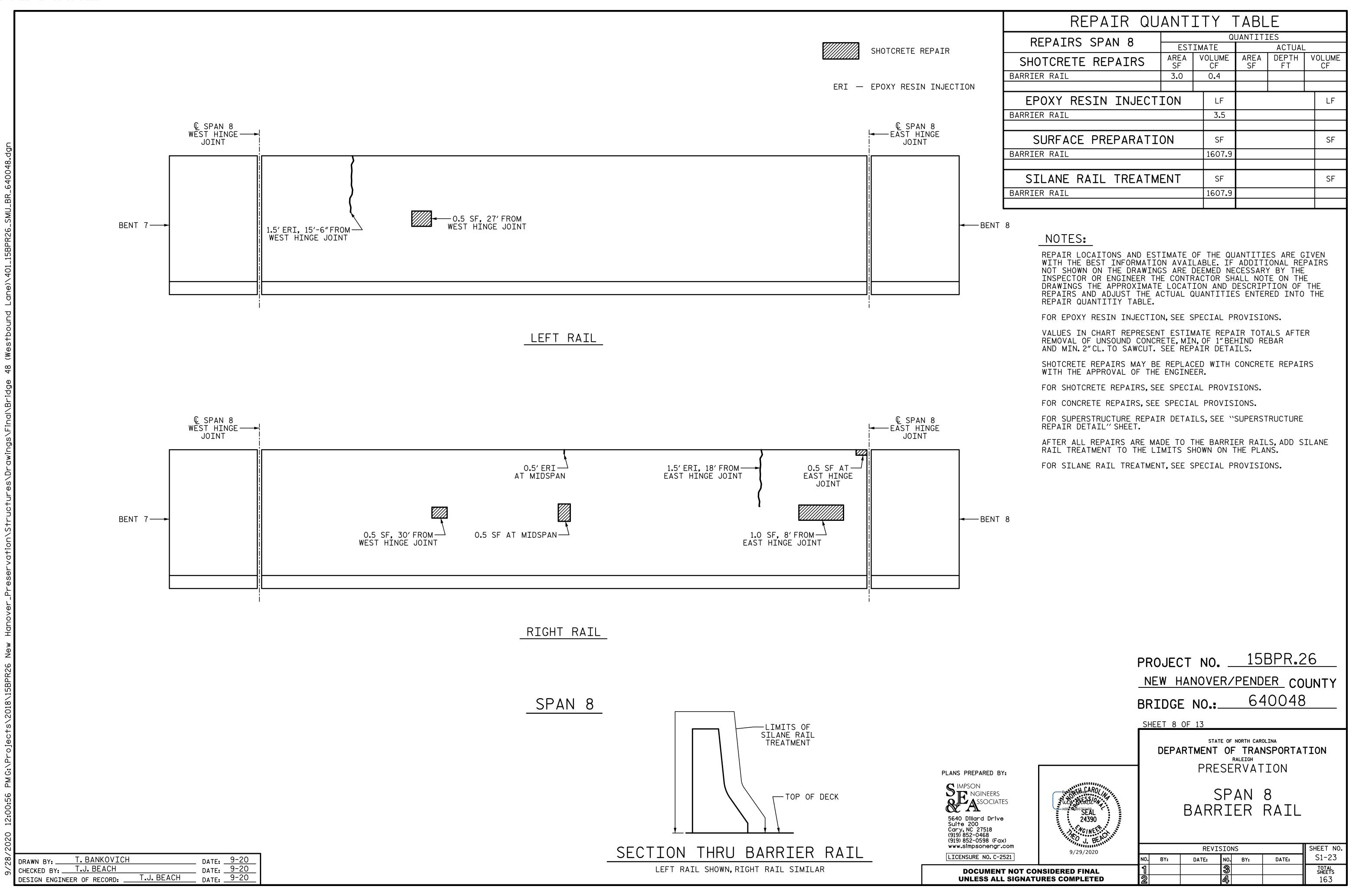
DATE: 9-20
DATE: 9-20
DATE: 9-20

└─1.5′ ERI, 15′-6″ FROM

-1.5' ERI, 11' FROM

BENT 6

BENT 6



BENT 8-

BENT 8 →

T. BANKOVICH

T.J. BEACH

CHECKED BY: T.J. BEACH

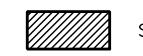
DESIGN ENGINEER OF RECORD: \_\_\_

— 0.5 SF, 13' FROM BENT 8

└──O.5 SF, 14′ FROM BENT 8

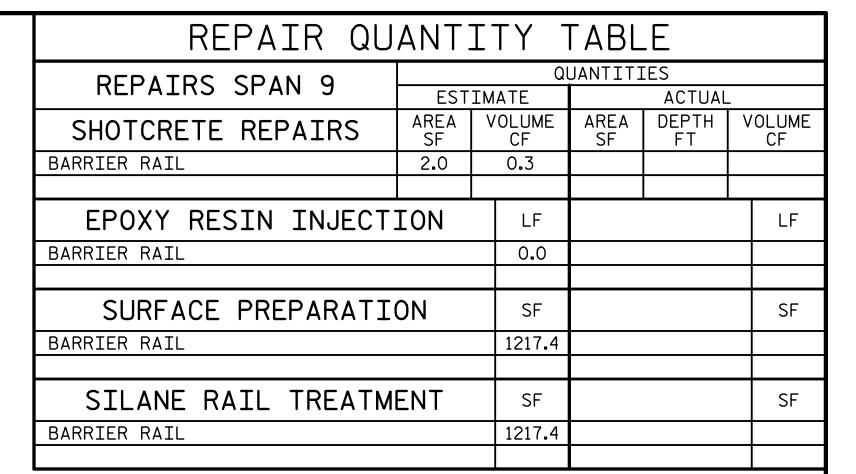
\_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u>

-1.0 SF, 25' FROM BENT 8



SHOTCRETE REPAIR

ERI — EPOXY RESIN INJECTION



NOTES:

← BENT 9

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SILANE RAIL TREATMENT, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE "SUPERSTRUCTURE REPAIR DETAIL" SHEET.

AFTER ALL REPAIRS ARE MADE TO THE BARRIER RAILS, ADD SILANE RAIL TREATMENT TO THE LIMITS SHOWN ON THE PLANS.

BRIDGE NO.:\_

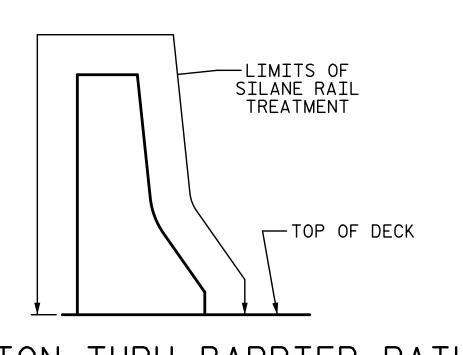
—BENT 9

PLANS PREPARED BY:

RIGHT RAIL

LEFT RAIL

SPAN 9



**UNLESS ALL SIGNATURES COMPLETED** 

SHEET 9 OF 13 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

PROJECT NO. 15BPR.26

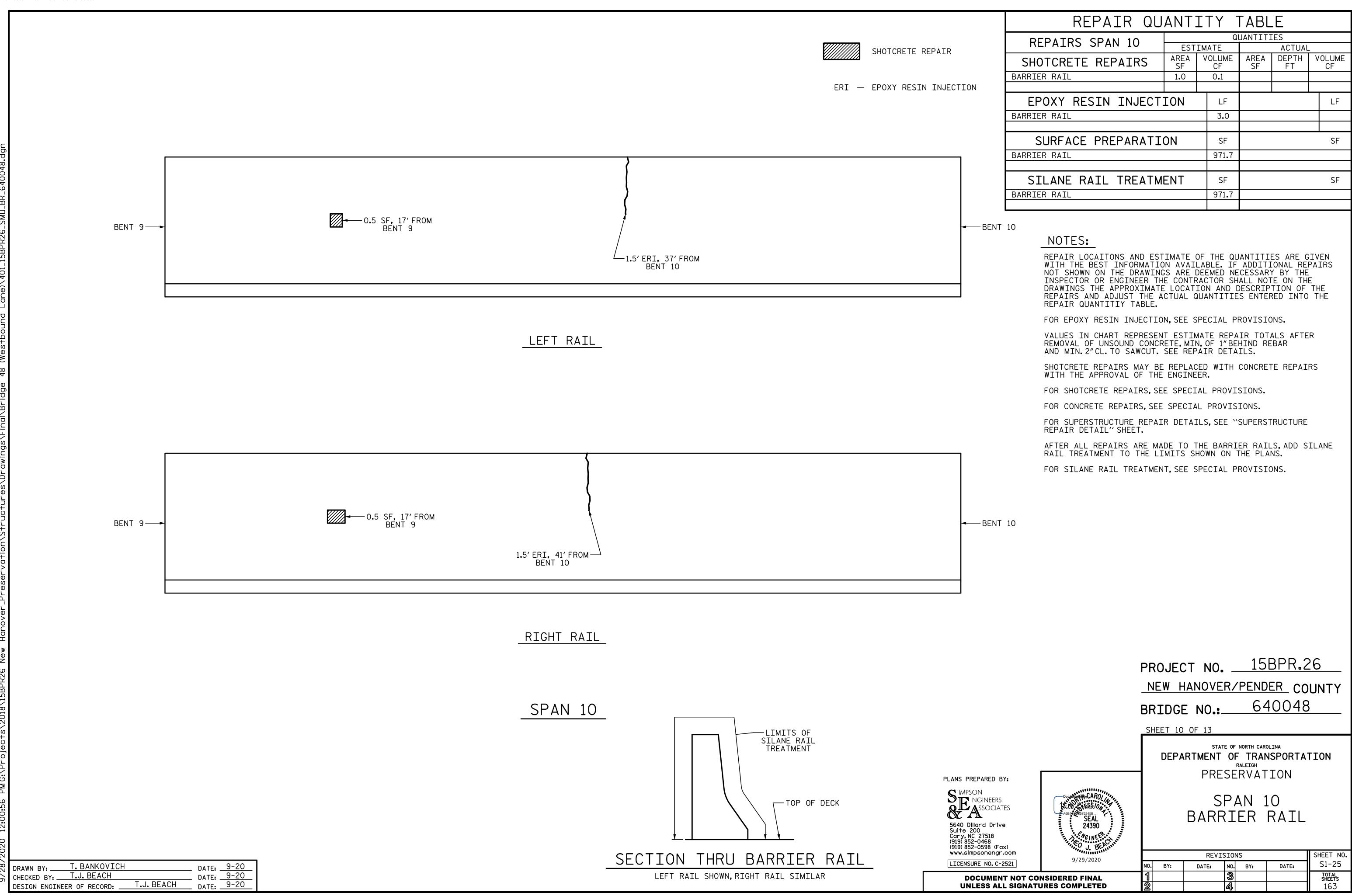
NEW HANOVER/PENDER COUNTY

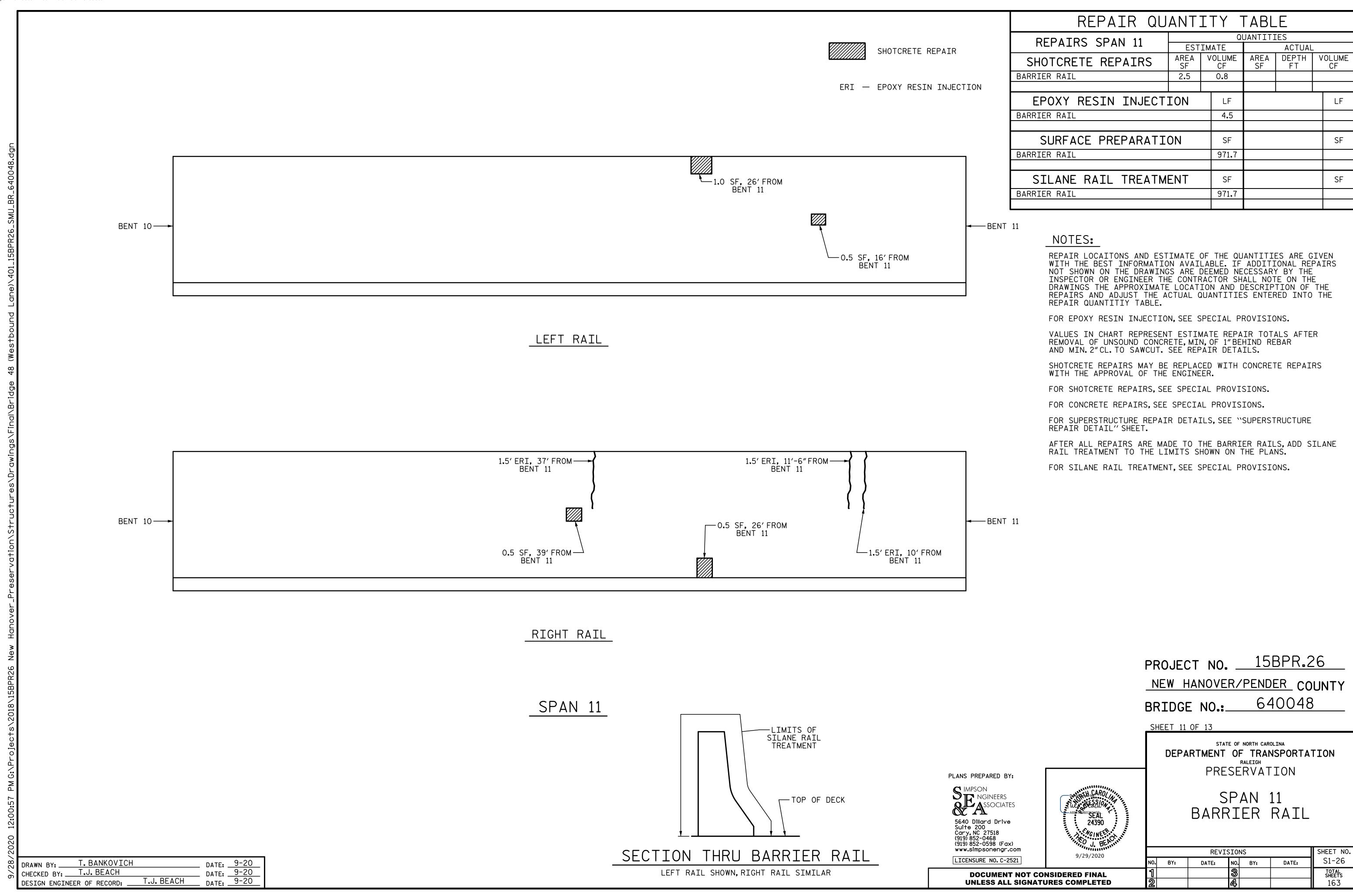
640048

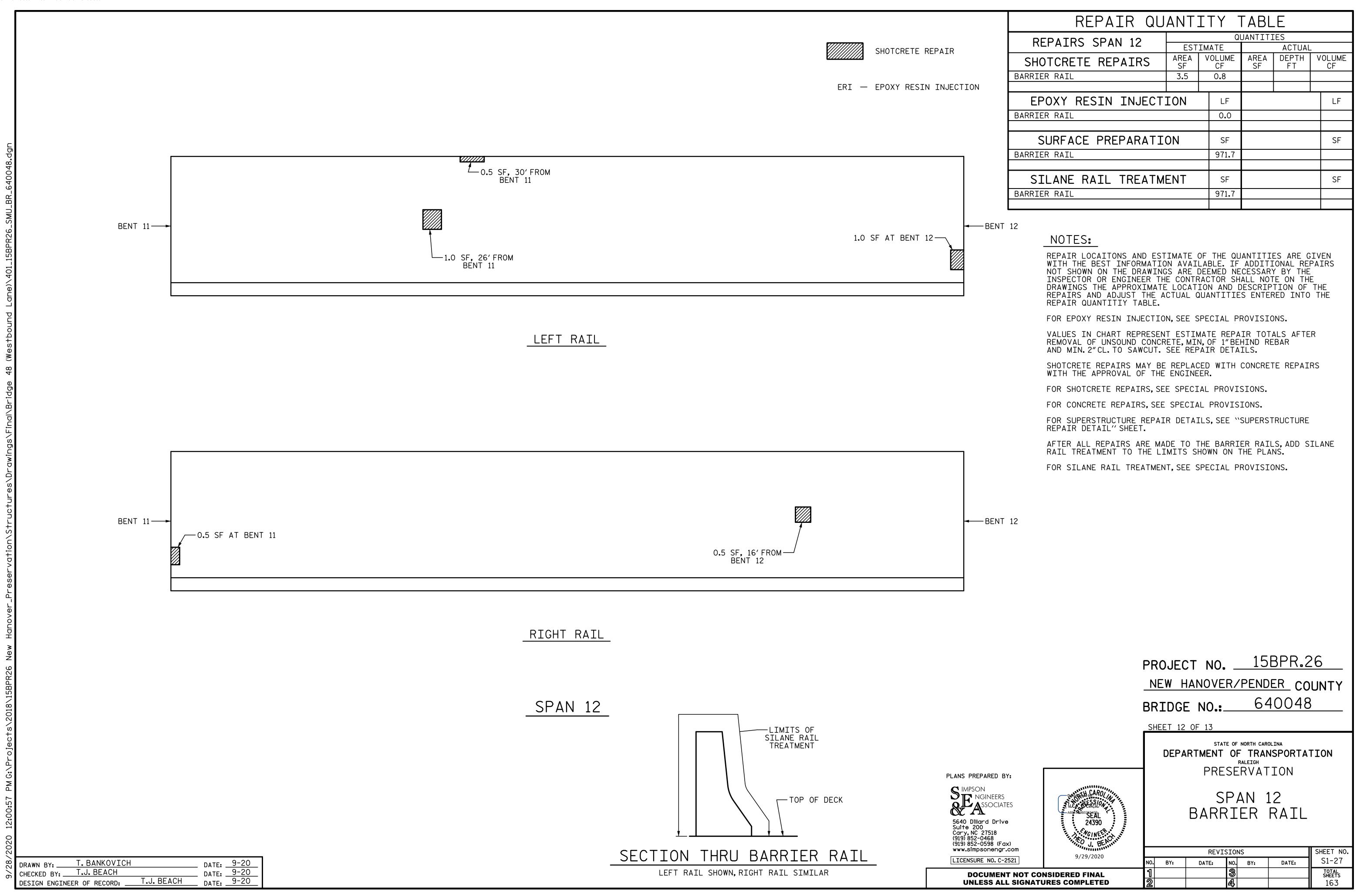
SPAN 9 BARRIER RAIL

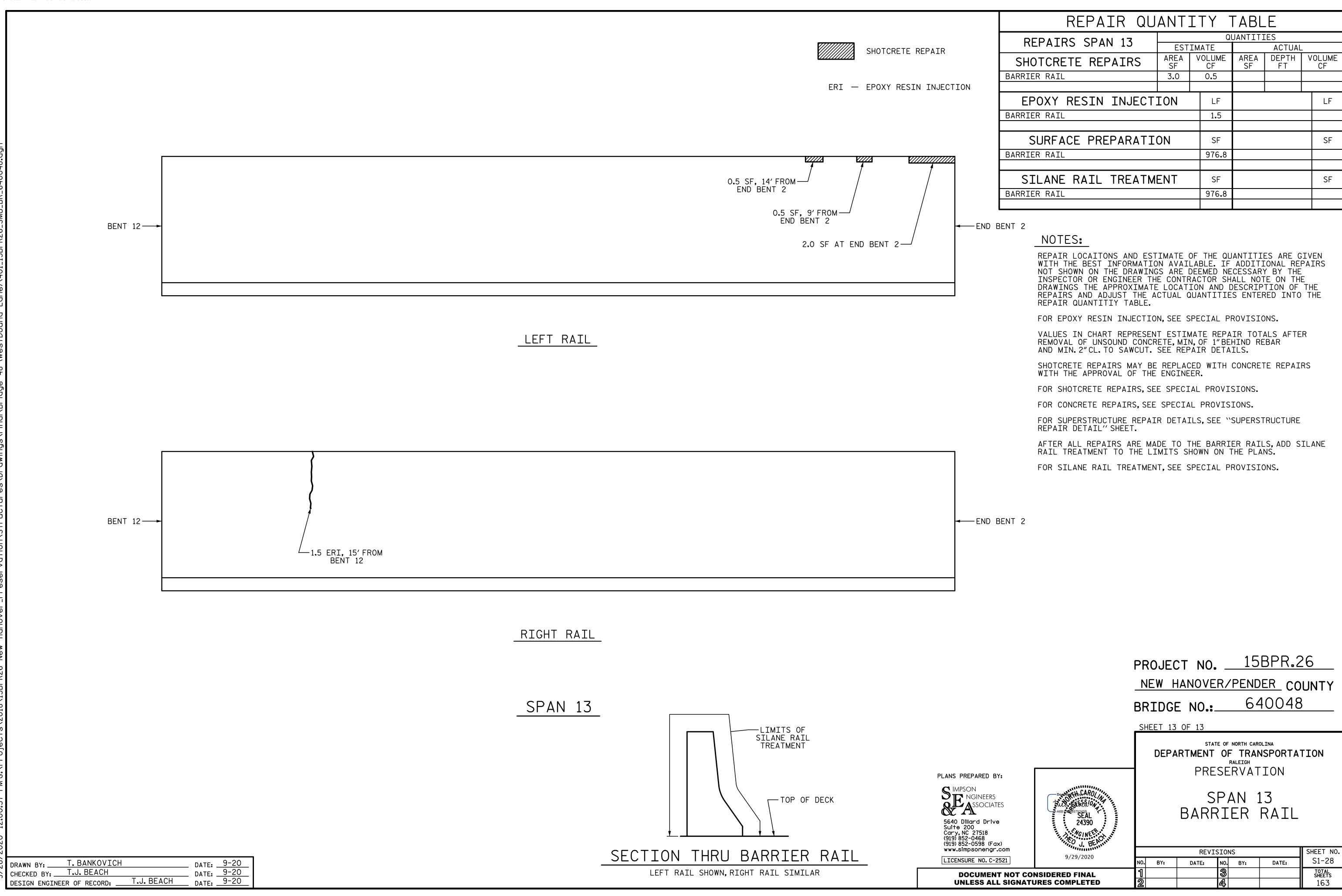
SHEET NO. REVISIONS S1-24 NO. BY: DATE: DATE: BY: TOTAL SHEETS

SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com SECTION THRU BARRIER RAIL LICENSURE NO. C-2521 LEFT RAIL SHOWN, RIGHT RAIL SIMILAR **DOCUMENT NOT CONSIDERED FINAL** 









SHO

SHOTCRETE REPAIR

ERI — EPOXY RESIN INJECTION

		€ JOINT @ BENT 1—		© JOINT @ BENT 2—	
	GIRDER #1			GIRDER #1	
	GIRDER #2		<u> </u>	GIRDER #2	
FACE OF — > CURTAIN WALL		INTERMEDIATE → DIAPHRAGMS (TYP.)	BENT 1DIAPHRAGM (TYP.)	BENT 2 DIAPHRAGM— (TYP.)	
	GIRDER #3			GIRDER #3	
				INTERMEDIATE  → DIAPHRAGMS  (TYP.)	
	GIRDER #4			GIRDER #4	
	GIRDER #5	· · · · · · · · · · · · · · · · · · ·		GIRDER #5	
		SPAN 1	SPAN 2		
	Q JOINT @ BENT 2	© JOINT @ BENT 3—		© JOINT @ BENT 4—	
	GIRDER #1			GIRDER #1	

GIRDER \*1

GIRDER \*1

GIRDER \*2

BENT 2

DIAPHRAGM
(TYP.)

GIRDER \*3

GIRDER \*4

GIRDER \*4

GIRDER \*4

GIRDER \*4

SPAN 3

SPAN 4

UNDERSIDE OF DECK SLAB

FOR GIRDER REPAIRS SEE GIRDER SHEETS

PLANS PREPARED BY:

SIMPSON
NGINEERS
ASSOCIATES

5640 Dillard Drive
Suite 200

5640 Dillard Drive
Suite 200
Cary, NC 27518
(919) 852-0468
(919) 852-0598 (Fax)
www.simpsonengr.com

LICENSURE NO. C-2521

9/29/2020

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REPAIR QUANTITY TABLE								
REPAIRS SPANS 1 - 4		QUANTITIES						
	EST	IMATE	ACTUAL					
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF			
SPAN 1	0.0	0.0						
SPAN 2	0.0	0.0						
SPAN 3	0.0	0.0						
SPAN 4	0.0	0.0						
EPOXY RESIN INJECT:	LF			LF				

### NOTES:

SPAN 1

SPAN 2

SPAN 3

SPAN 4

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0.0

0.0

0.0

0.0

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PROJECT NO. 15BPR.26

NEW HANOVER/PENDER COUNTY

BRIDGE NO.: 640048

SHEET 1 OF 4

DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

UNDERSIDE OF DECK SLAB

SPANS 1 - 4

REVISIONS SHEET NO.
BY: DATE: NO. BY: DATE: S1-29

3 TOTAL SHEETS
163

0,000 Preservation\C+r.intervat Texas

MG:\Projects\2018\15BPR26 New Hanover\_Preservation\Structures\Drawing:

020 12:00:58 PM G:\Pro!

DRAWN BY: \_\_\_\_T.BANKOVICH DATE: 9-20 CHECKED BY: \_\_\_T.J. BEACH DATE: 9-20 DESIGN ENGINEER OF RECORD: \_\_\_\_T.J. BEACH DATE: 9-20

ERI — EPOXY RESIN INJECTION

└── Û JOINT @ BENT 4 © JOINT @ BENT 6 → © JOINT @ BENT 5 → GIRDER #1 GIRDER #1 GIRDER #2 GIRDER #2 INTERMEDIATE INTERMEDIATE -DIAPHRAGMS --DIAPHRAGMS (TYP.) (TYP.) GIRDER #3 GIRDER #3 BENT 4 BENT 6 BENT 5 DIAPHRAGM----- DIAPHRAGM DIAPHRAGM ──► (TYP.) (TYP.) (TYP.) GIRDER #4 GIRDER #4 GIRDER #5 GIRDER #5

SPAN 5

SPAN 6

└── © JOINT @ BENT 6 © BENT 7—→ GIRDER #1 GIRDER #2 BENT 7 DIAPH. ——
(TYP.) GIRDER #3 — BENT 6 DIAPH. (TYP.) GIRDER #4 -INTERMEDIATE DIAPH.2 (TYP.) GIRDER #5 — INTERMEDIATE DIAPH.1 (TYP.) GIRDER #6 GIRDER #7

SPAN 7

UNDERSIDE OF DECK SLAB

FOR GIRDER REPAIRS SEE GIRDER SHEETS

DATE: 9-20
DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

LICENSURE NO. C-2521 **DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** 

PLANS PREPARED BY:

SIMPSON NGINEERS ASSOCIATES

REPAIR QUANTITY TABLE							
REPAIRS SPANS 5 - 7	QUANTITIES						
TEL ATIO SI ANS 5	ESTIMATE		ACTUAL				
SHOTCRETE REPAIRS	AREA VOLUME AREA DEPTH VOLUI		VOLUME CF				
SPAN 5	0.0	0.0					
SPAN 6	0.0	0.0					
SPAN 7	0.0	0.0					
EPOXY RESIN INJECTION					LF		
SPAN 5		0.0					
SPAN 6		0.0					

### NOTES:

SPAN 7

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

0.0

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE "SUPERSTRUCTURE REPAIR DETAIL" SHEET.

> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_\_\_

SHEET 2 OF 4

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> UNDERSIDE OF DECK SLAB

> > SPANS 5 - 7

SHEET NO. REVISIONS S1-30 NO. BY: DATE: DATE: BY: TOTAL SHEETS 163

5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com

SHOTCRETE REPAIR

ERI — EPOXY RESIN INJECTION

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPANS 8 & 9 ESTIMATE ACTUAL AREA VOLUME AREA DEPTH VOLUME SHOTCRETE REPAIRS CF FT CF SPAN 8 0.0 0.0 SPAN 9 0.0 0.0 EPOXY RESIN INJECTION LF LF SPAN 8 0.0 SPAN 9 0.0

### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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FOR SUPERSTRUCTURE REPAIR DETAILS, SEE "SUPERSTRUCTURE REPAIR DETAIL" SHEET.

⊨— © BENT 7 © BENT 8—— EXPANSION JOINT @ EAST HINGE @ WEST HINGE GIRDER #1 GIRDER #1 GIRDER #1 - WEST HINGE DIAPHRAGM (TYP.) GIRDER #2 GIRDER #2 GIRDER #2 GIRDER #3 GIRDER #3 GIRDER #3 - INTERMEDIATE DIAPH. 1 EAST HINGE — (TYP.) WALL 1 GIRDER #4 GIRDER #4 GIRDER #4 INTERMEDIATE DIAPH. 2 ----WEST HINGE WALL 2 (TYP.) GIRDER #5 GIRDER #5 GIRDER #5 EAST HINGE-DIAPHRAGM (TYP.) GIRDER #6 GIRDER #6 GIRDER #6 GIRDER #7 GIRDER #7 GIRDER #7 EAST HINGE-─BENT 8 DIAPH. BENT 7 DIAPH.— -WEST HINGE (TYP.) WALL 1 WALL 2 (TYP.)

SPAN 8

GIRDER #1

GIRDER #2

INTERMEDIATE DIAPH. 1 GIRDER #3

GIRDER #3

GIRDER #4

GIRDER #4

GIRDER #5

GIRDER #5

GIRDER #6

BENT 8 DIAPH.
GIRDER #7

SPAN 5

# UNDERSIDE OF DECK SLAB

FOR GIRDER REPAIRS SEE GIRDER SHEETS

DATE: 9-20
DATE: 9-20
DATE: 9-20

T. BANKOVICH

T.J. BEACH

CHECKED BY: T.J. BEACH

DESIGN ENGINEER OF RECORD: \_\_\_

PLANS PREPARED BY:

SIMPSON
NGINEERS
SSOCIATES

5640 Dillard Drive
Suite 200
Cary, NC 27518
(919) 852-0468
(919) 852-0598 (Fax)
www.simpsonengr.com
LICENSURE NO. C-2521

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9/29/2020

NEW HANOVER/PENDER COUNTY
BRIDGE NO.: 640048

SHEET 3 OF 4

PROJECT NO. 15BPR.26

DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

UNDERSIDE OF DECK SLAB

SPANS 8 & 9

REVISIONS

BY: DATE: NO. BY: DATE: S1-31

TOTAL SHEETS
163

DECK SLAB

SE GIRDER SHEETS

SIMPSO

S

© JOINT @ BENT 10 → └── Û JOINT @ BENT 9 © JOINT @ BENT 11 → GIRDER #1 GIRDER #1 GIRDER #2 GIRDER #2 INTERMEDIATE BENT 10 -- DIAPHRAGMS -DIAPHRAGM (TYP.) (TYP.) GIRDER #3 GIRDER #3 INTERMEDIATE BENT 9 — DIAPHRAGM -DIAPHRAGMS (TYP.) (TYP.) GIRDER #4 GIRDER #4 BENT 11 DIAPHRAGM---(TYP.) GIRDER #5 GIRDER #5 SPAN 11 SPAN 10 € JOINT @ BENT 12—→ └──Û JOINT @ BENT 11 GIRDER #1 GIRDER #1 BENT 11 —DIAPHRAGM (TYP.) GIRDER #2 GIRDER #2 INTERMEDIATE
— DIAPHRAGMS
(TYP.) ← FACE OF CURTAIN WALL GIRDER #3 GIRDER #3 INTERMEDIATE
— DIAPHRAGMS BENT 12 — DIAPHRAGM (TYP.) (TYP.) GIRDER #4 GIRDER #4

UNDERSIDE OF DECK SLAB

FOR GIRDER REPAIRS SEE GIRDER SHEETS

GIRDER #5

SPAN 13

SHOTCRETE REPAIR

ERI — EPOXY RESIN INJECTION

REPAIR QUANTITY TABLE							
REPAIRS SPANS 10 - 13	QUANTITIES						
THE THE STATE TO TO	ESTIMATE		ACTUAL				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
SPAN 10	0.0	0.0					
SPAN 11	0.0	0.0					
SPAN 12	0.0	0.0					
SPAN 13	0.0	0.0					
EPOXY RESIN INJECTION					LF		
SPAN 10		0.0					
SPAN 11							
SPAN 12							
SPAN 13							

### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE "SUPERSTRUCTURE REPAIR DETAIL" SHEET.

PROJECT NO. 15BPR.26

NEW HANOVER/PENDER COUNTY

BRIDGE NO.: 640048

SHEET 4 OF 4

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

UNDERSIDE OF DECK SLAB

SPANS 10 - 13

REVISIONS

NO. BY: DATE: NO. BY: DATE: S1-32

1 3 TOTAL SHEETS
163

PLANS PREPARED BY:

SIMPSON
NGINEERS
SSOCIATES

5640 Dillard Drive
Suite 200
Cary, NC 27518
(919) 852-0468
(919) 852-0468
(919) 852-0598 (Fax)
www.simpsonengr.com

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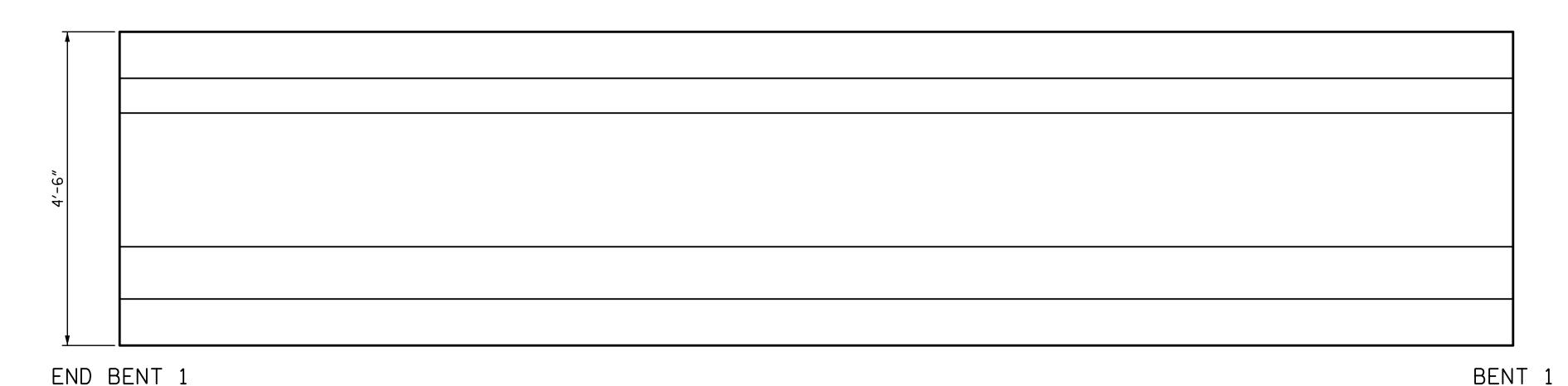
DRAWN BY: \_\_\_\_\_T.BANKOVICH DATE: 9-20
CHECKED BY: \_\_\_\_\_T.J. BEACH DATE: 9-20
DESIGN ENGINEER OF RECORD: \_\_\_\_\_T.J. BEACH DATE: 9-20

GIRDER #5

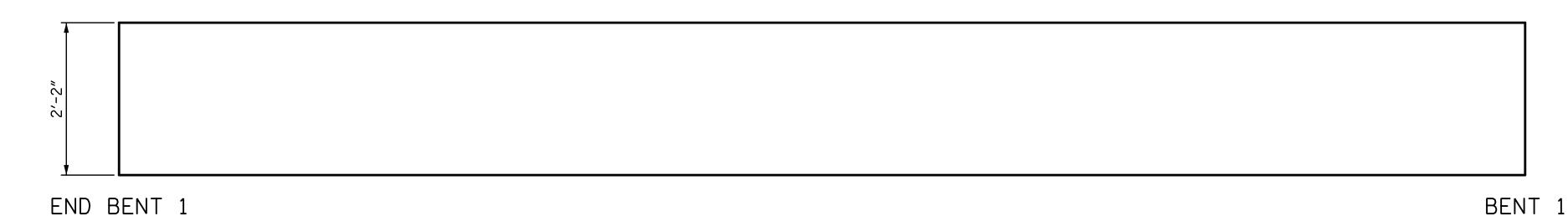
SPAN 12

PRESTRESSED CONCRETE GIRDER REPAIR

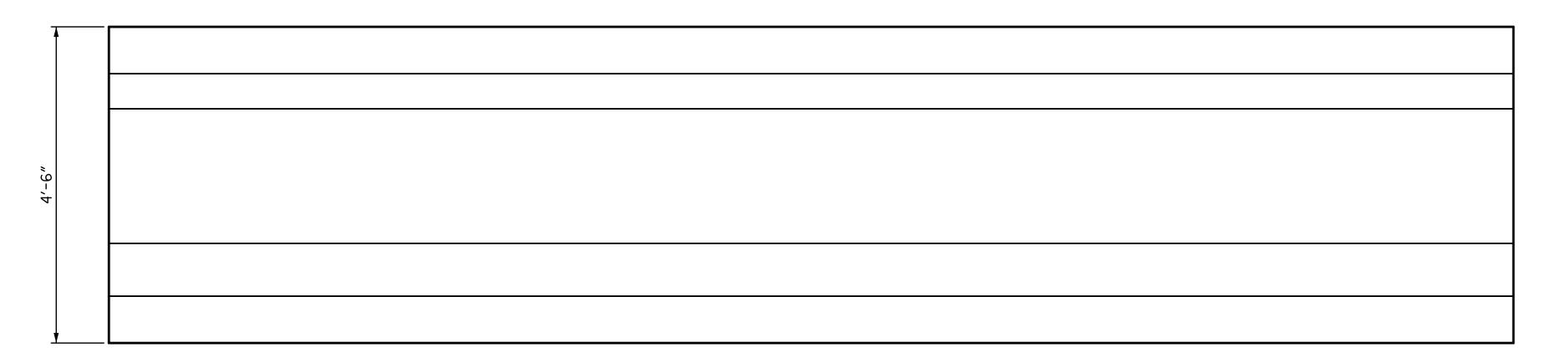
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



BENT 1 ELEVATION

NORTH FACE

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### REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 1 GRD. 1 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF VOLUME AREA VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

### NOTES:

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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF PLANS, IT WAS NOT ANTICIPATED SPLICING OF PRESSTRESSING STRAND, OR OTHER WORK WILL BE NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE PRESERVATION/REHABILITATION WORK. THE CONTRACTOR SHALL BE PREPARED TO PREFORM SUCH WORK IN A TIMELY MANNER, AS DETERMINED IN THE FIELD. SUCH WORK SHALL BE CONSIDERED EXTRA WORK AND SHALL BE ADDRESSED AS PER ARTICLE 104-7 OF THE STANDARD SPECIFICATIONS. WORK ITEMS HAVE BEEN PROVIDED IN THE CONTRACT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COST WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 1 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 1 GIRDER 1

	SHEET NO				
BY:	DATE:	NO.	BY:	DATE:	S1-33
		8			TOTAL SHEETS
		4			163

LICENSURE NO. C-2521

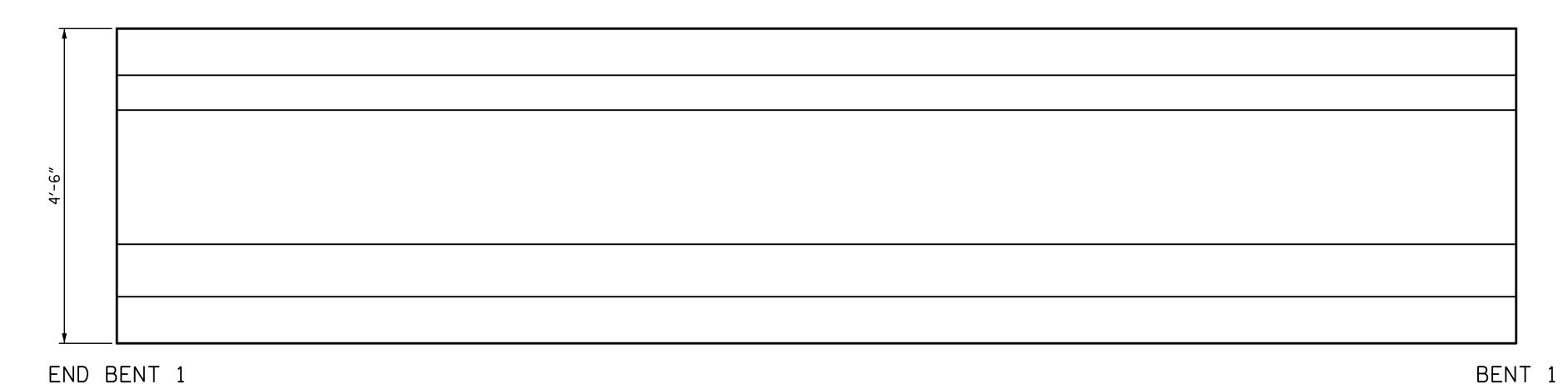
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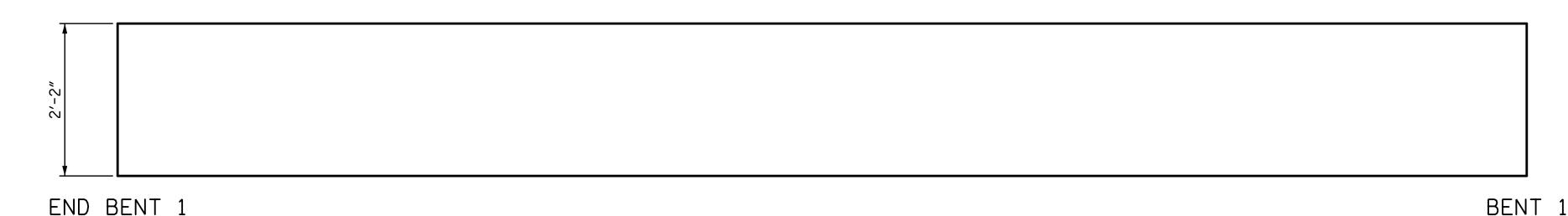
\_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

PRESTRESSED CONCRETE GIRDER REPAIR

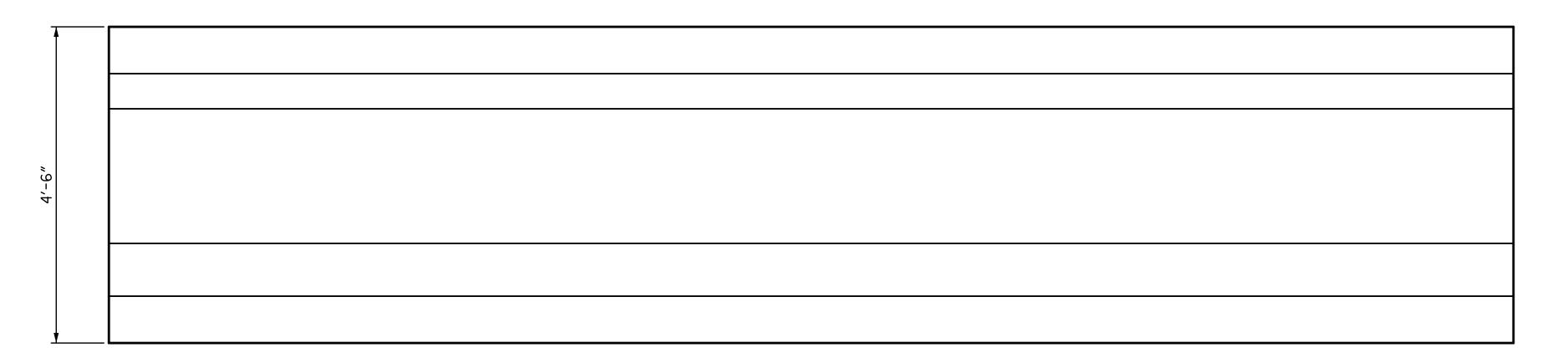
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



BENT 1 ELEVATION

NORTH FACE

PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES

END BENT 1

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 2 OF 5

REPAIR QUANTITY TABLE

AREA SF

0.0

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS

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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE

SPLICING OF PRESSTRESSING STRAND, OR OTHER WORK WILL BE

WORK AND SHALL BE ADDRESSED AS PER ARTICLE 104-7 OF THE STANDARD SPECIFICATIONS. WORK ITEMS HAVE BEEN PROVIDED IN THE CONTRACT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COST WILL BE ESTABLISHED,

PRESERVATION/REHABILITATION WORK. THE CONTRACTOR SHALL BE

AT THE TIME OF PREPARATION OF PLANS, IT WAS NOT ANTICIPATED

DETERMINED IN THE FIELD. SUCH WORK SHALL BE CONSIDERED EXTRA

"PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE

PREPARED TO PREFORM SUCH WORK IN A TIMELY MANNER, AS

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR

AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

ESTIMATE

VOLUME

0.0

LF

0.0

REPAIRS SPAN 1 GRD. 2

REPAIR OF PREST. CONCRETE GIRDERS

NOTES:

PROVISIONS.

EPOXY RESIN INJECTION

REPAIR QUANTITIY TABLE.

GIRDER

GIRDER

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 1 GIRDER 2

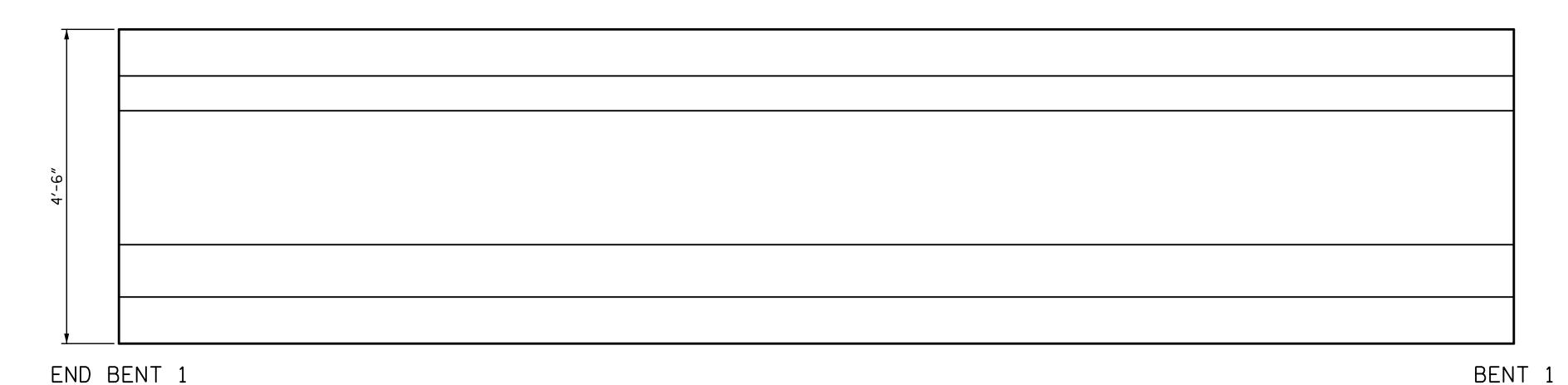
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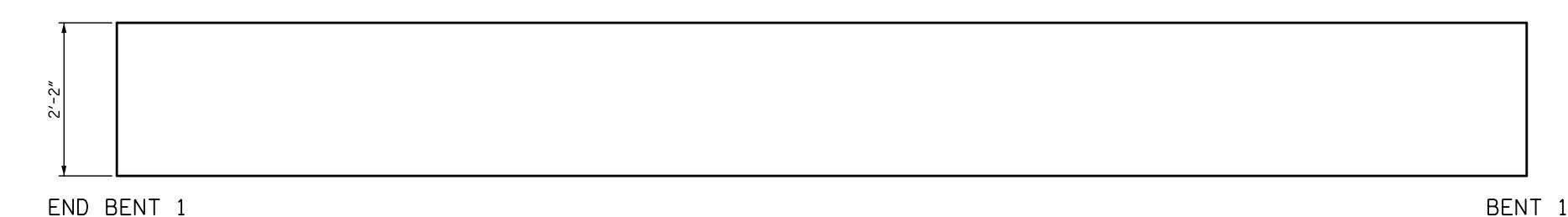
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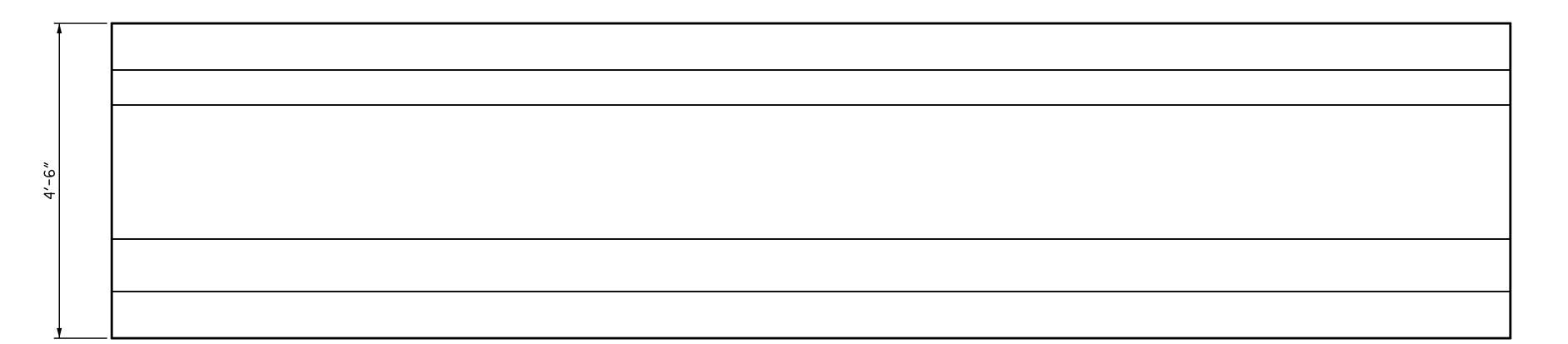
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



BENT 1

ELEVATION NORTH FACE

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END BENT 1

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REPAIR QUANTITY TABLE						
REPAIRS SPAN 1 GRD. 3	QUANTITIES					
INCLIATIOS SLAN I GIVD. S	EST	ESTIMATE		ACTUAL	_	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	0.0	0.0				
EPOXY RESIN INJECTION					LF	
GIRDER						

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 3 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

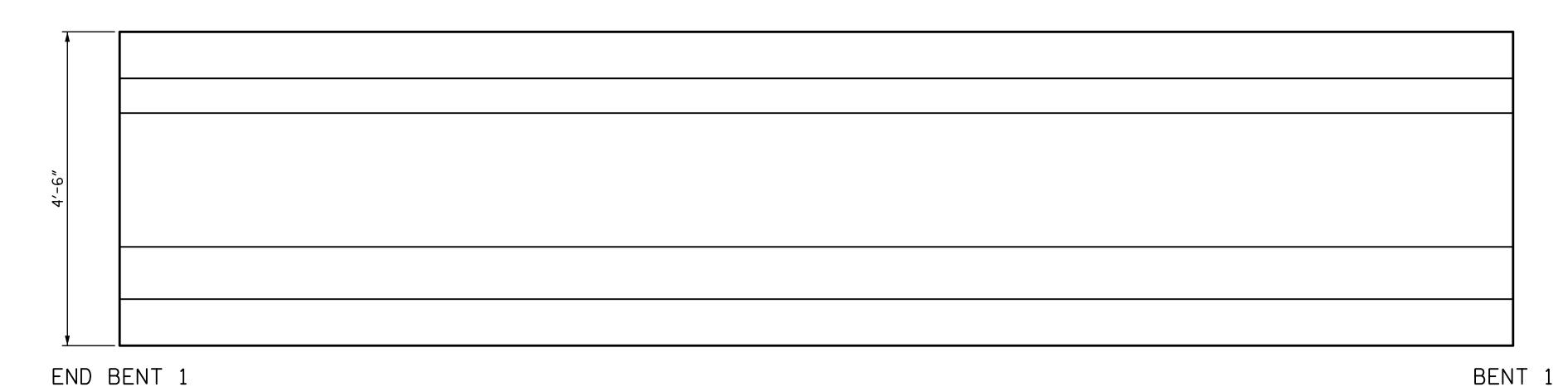
> SPAN 1 GIRDER 3

REVISIONS SHEET NO. S1-35 NO. BY: DATE: DATE: BY: TOTAL SHEETS 163

BENT 1

END BENT 1

ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE

BOTTOM OF BEAM LOOKING UP

BENT 1

ELEVATION NORTH FACE

SIMPSON NGINEERS ASSOCIATES

PLANS PREPARED BY:

5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com

LICENSURE NO. C-2521 DOCUMENT NOT CONSIDERED FINAL **UNLESS ALL SIGNATURES COMPLETED** 

REPAIR QUANTITY TABLE						
REPAIRS SPAN 1 GRD. 4	QUANTITIES					
REPAIRS SPAN I GRU. 4	ESTIMATE		ACTUAL			
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	0.0	0.0				
EPOXY RESIN INJECTION					LF	
GIRDER		0.0				

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 4 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

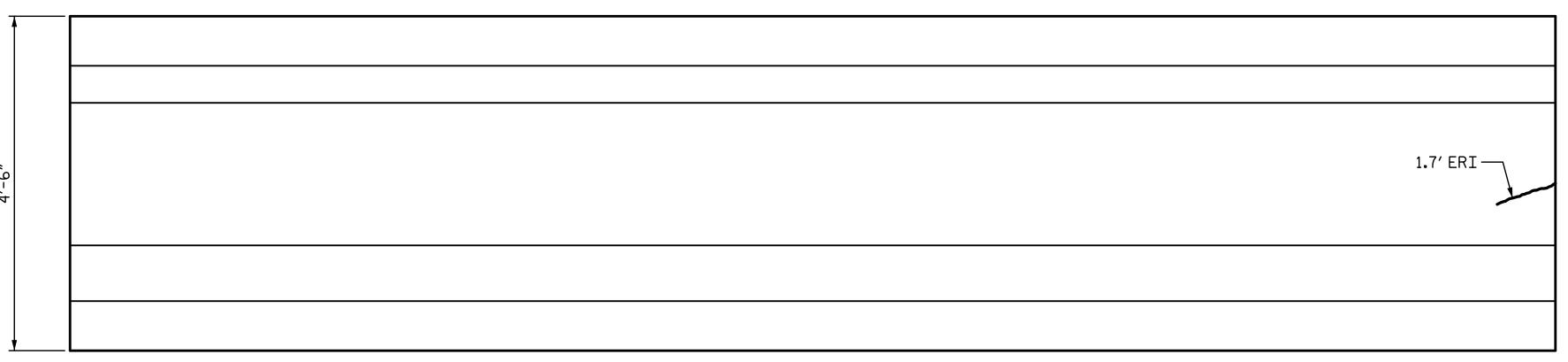
> SPAN 1 GIRDER 4

REVISIONS SHEET NO. S1-36 NO. BY: DATE: DATE: BY: TOTAL SHEETS

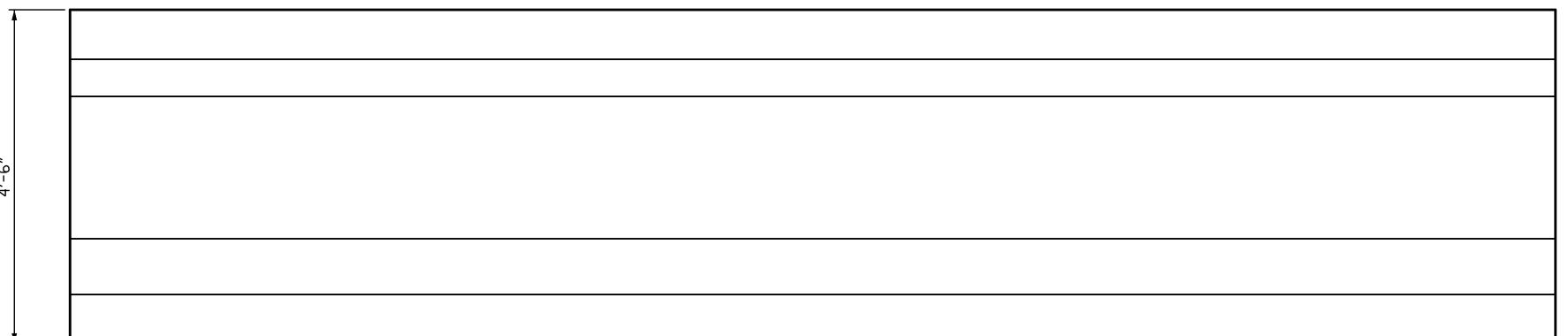
DATE: 9-20
DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

END BENT 1

ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BENT 1 ELEVATION

NORTH FACE

PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES

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REPAIR QUANTITY TABLE						
REPAIRS SPAN 1 GRD. 5	QUANTITIES					
INCLIATIOS SLAN I GIVD. S	ESTIMATE		ACTUAL			
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	0.0	0.0				
EPOXY RESIN INJECTION					LF	
GIRDER		1.7				

#### NOTES:

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FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 5 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 1 GIRDER 5

REVISIONS SHEET NO. S1-37 NO. BY: DATE: DATE: BY: TOTAL SHEETS

DATE: 9-20
DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

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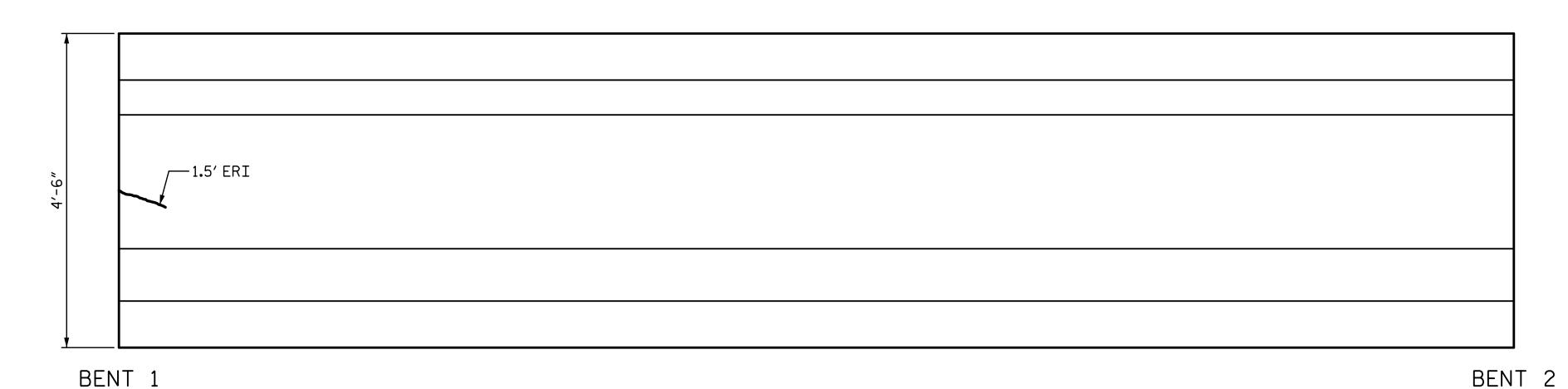
PLAN BOTTOM OF BEAM LOOKING UP BENT 1

BENT 1

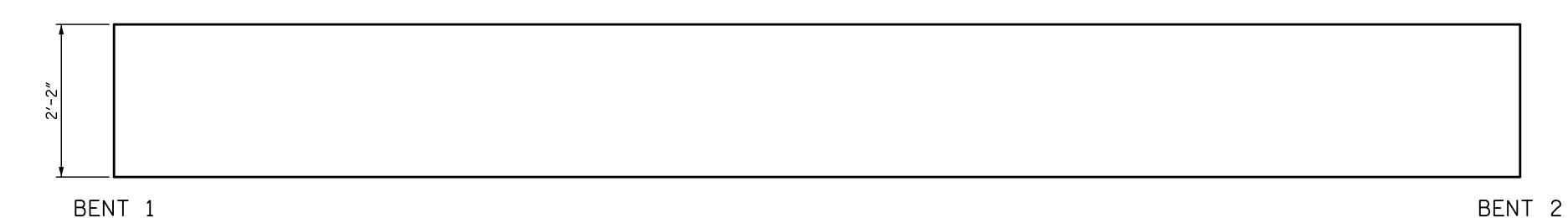
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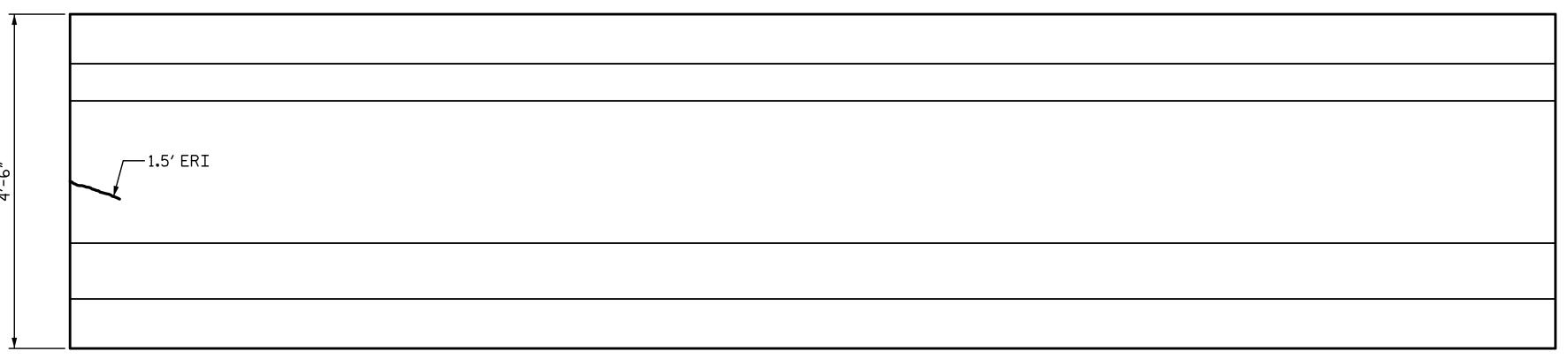
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



ELEVATION

NORTH FACE

REPAIR QUANTITY TABLE						
REPAIRS SPAN 2 GRD.1		Ql	[TITNAL	ES		
REPAIRS SPAN 2 GRU. I	EST	IMATE		ACTUAL	-	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	0.0	0.0				
EPOXY RESIN INJECT:	ION	LF			LF	
GIRDER		3.0				

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 1 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

SPAN 2 GIRDER 1

SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

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	SHEET NO.				
BY:	DATE:	NO.	BY:	DATE:	S1-38
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BENT 2 T. BANKOVICH

CHECKED BY: T.J. BEACH

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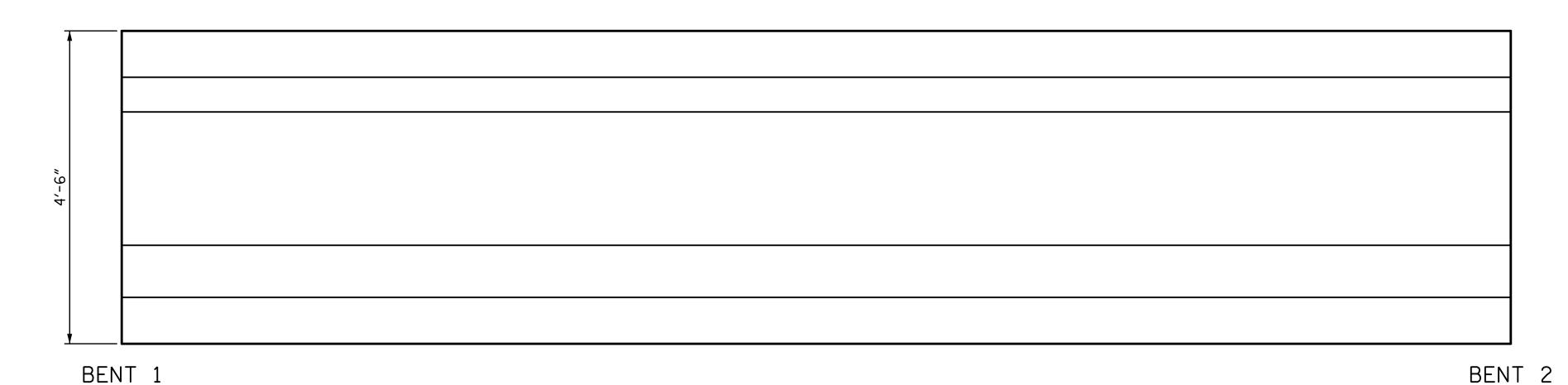
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T.J. BEACH

PLANS PREPARED BY:

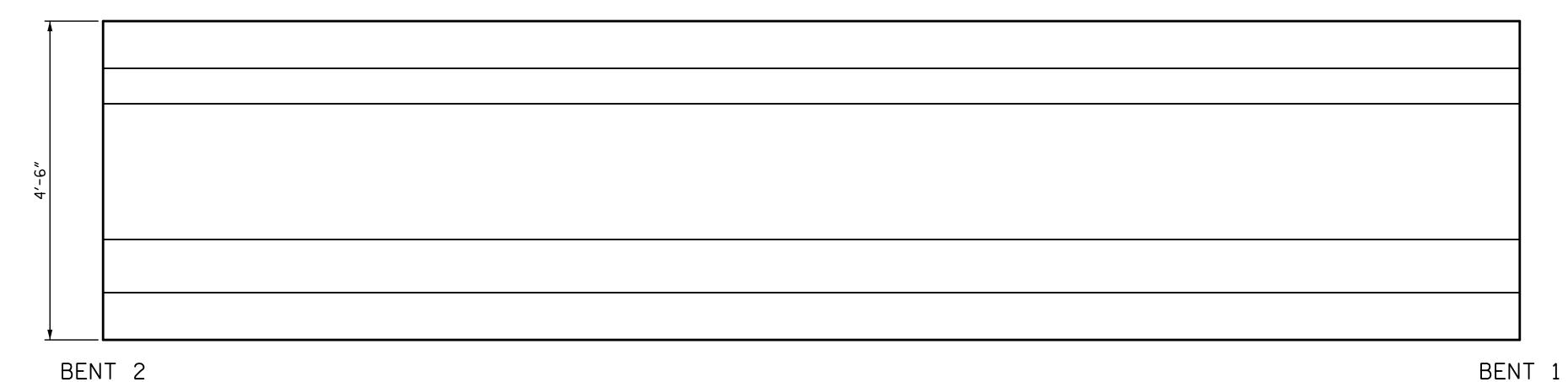
BENT 2

ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE

BOTTOM OF BEAM LOOKING UP



BENT 2 ELEVATION

NORTH FACE

PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

DOCUMENT NOT CONSIDERED FINAL

**UNLESS ALL SIGNATURES COMPLETED** 

REPAIR QUANTITY TABLE						
REPAIRS SPAN 2 GRD. 2	QUANTITIES ESTIMATE ACTUAL					
	E31	TMAIC		ACTUAL	-	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	0.0	0.0				
EPOXY RESIN INJECTION					LF	
GIRDER		0.0				

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 2 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

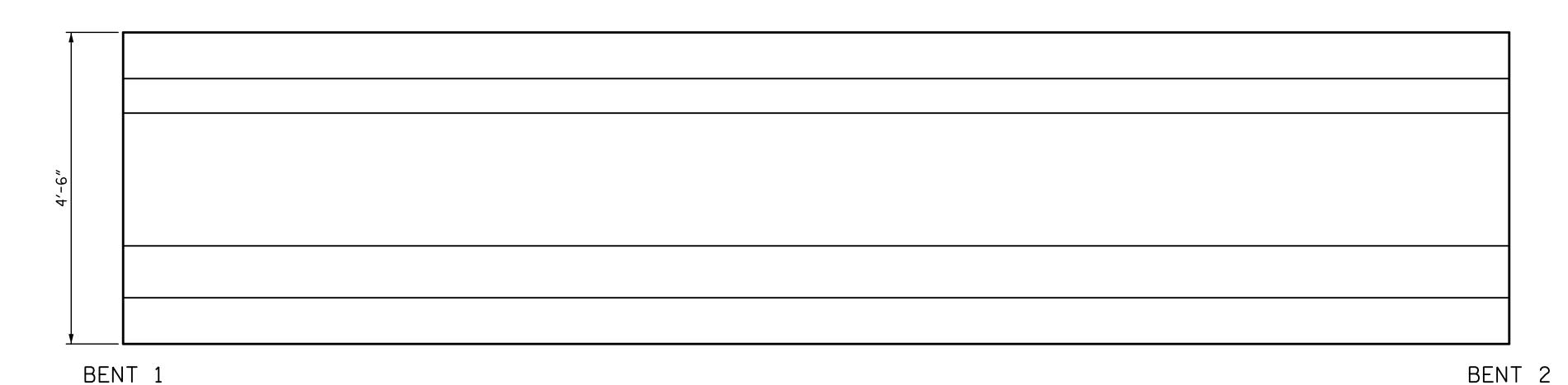
> SPAN 2 GIRDER 2

REVISIONS SHEET NO. S1-39 NO. BY: DATE: DATE: BY: TOTAL SHEETS

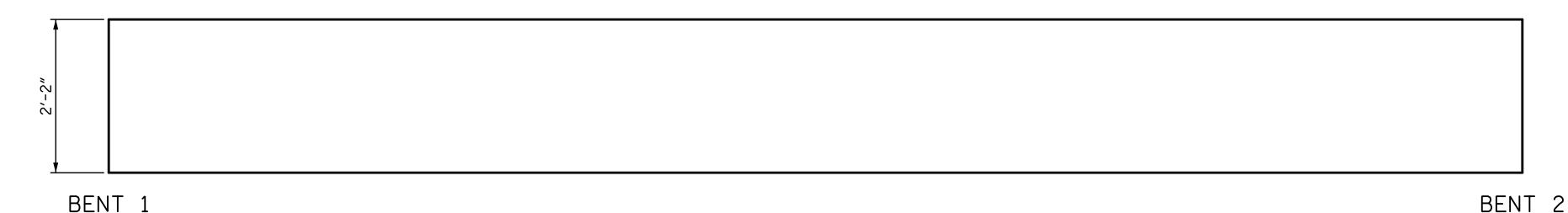
DATE: 9-20
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DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

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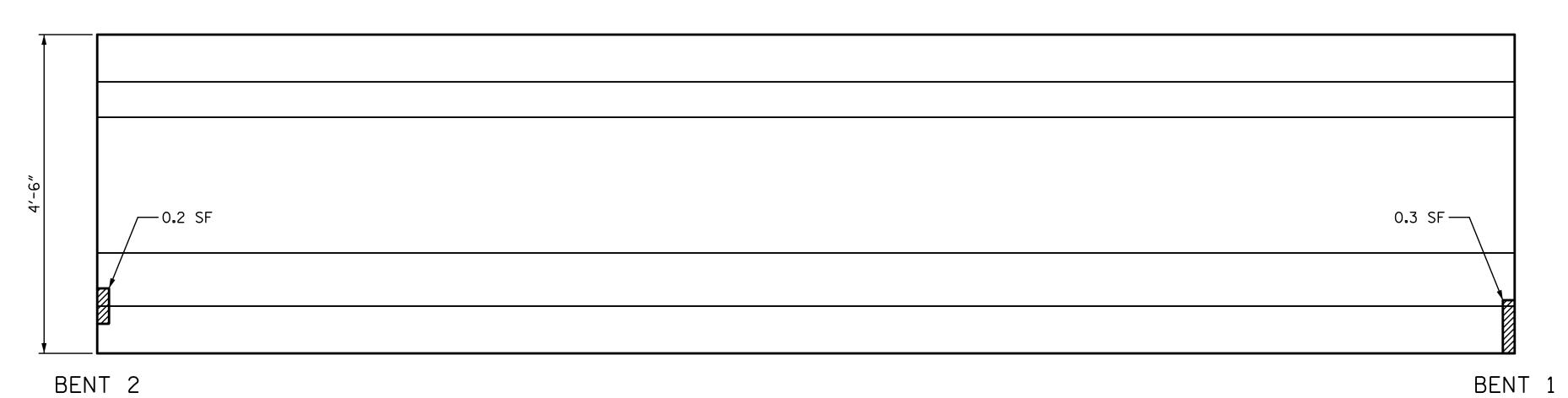
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com 9/29/2020

REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.5 0.2 EPOXY RESIN INJECTION LF GIRDER 0.0

ESTIMATE

QUANTITIES

ACTUAL

REPAIR QUANTITY TABLE

#### NOTES:

REPAIRS SPAN 2 GRD. 3

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 3 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

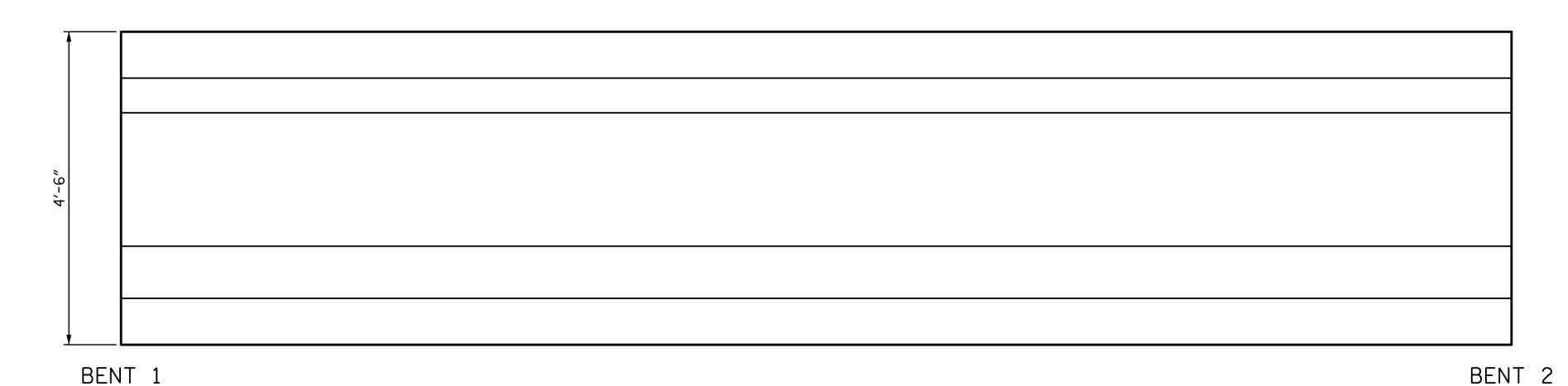
> SPAN 2 GIRDER 3

SHEET NO. REVISIONS S1-40 NO. BY: DATE: DATE: BY: TOTAL SHEETS

LICENSURE NO. C-2521 **DOCUMENT NOT CONSIDERED FINAL** 

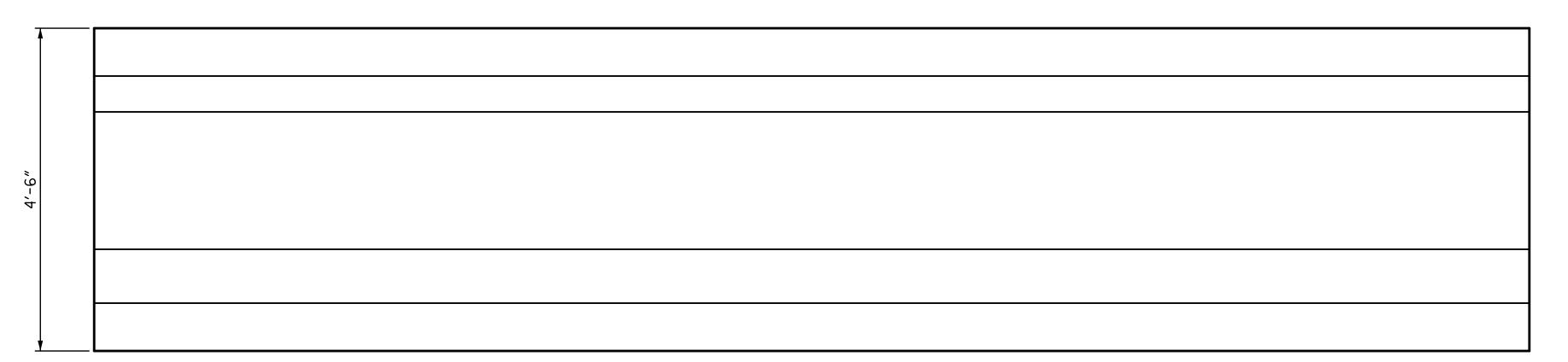
**UNLESS ALL SIGNATURES COMPLETED** 

ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE

BOTTOM OF BEAM LOOKING UP



BENT 2 ELEVATION

NORTH FACE

PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

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FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

AREA SF

0.0

ESTIMATE

VOLUME

0.0

LF

0.0

REPAIRS SPAN 2 GRD. 4

REPAIRS OF PRESTR. CONCRETE GIRDERS

NOTES:

EPOXY RESIN INJECTION

GIRDER

GIRDER

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

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> NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 4 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 2 GIRDER 4

SHEET NO. REVISIONS S1-41 NO. BY: DATE: DATE: BY: TOTAL SHEETS

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** 

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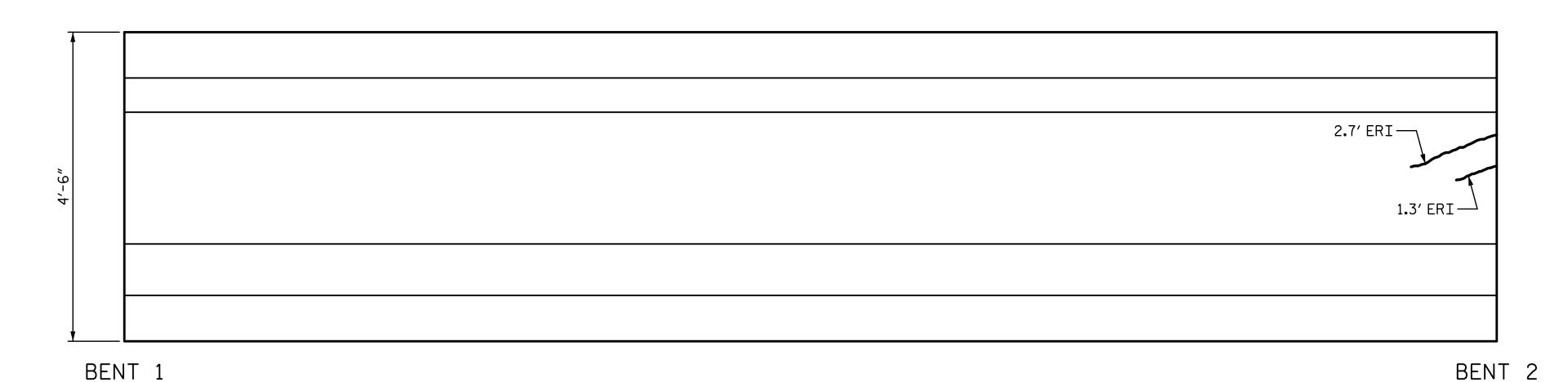
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BENT 2

BENT 1

PROJECT NO. 15BPR.26

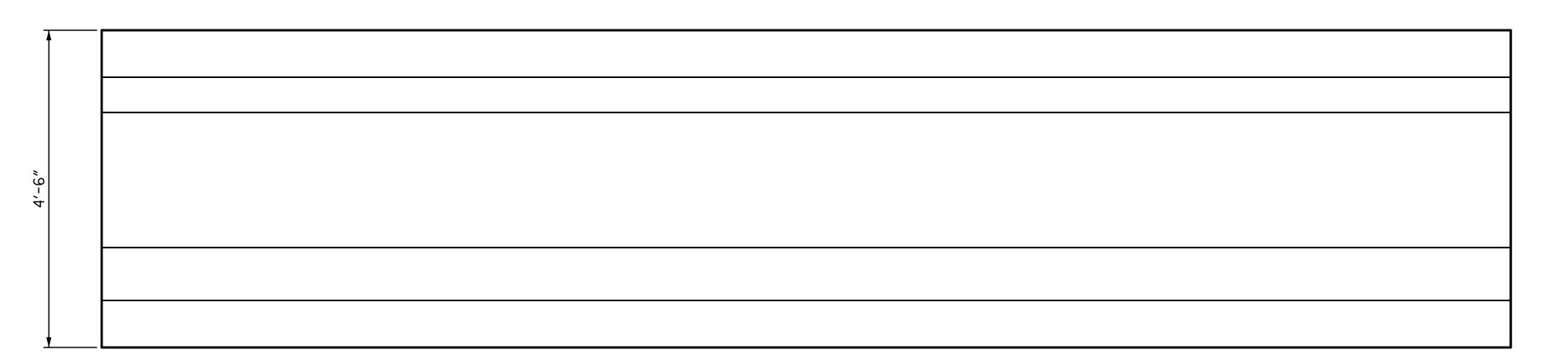
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE

BENT 1 BENT 2

BOTTOM OF BEAM LOOKING UP



BENT 2 ELEVATION

NORTH FACE

PLANS PREPARED BY: SIMPSON
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ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

BENT 1

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 5 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 2 GIRDER 5

SHEET NO. REVISIONS S1-42 NO. BY: DATE: DATE: BY: TOTAL SHEETS

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** 

DATE: 9-20 DATE: 9-20 DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

NOTES:

GIRDER

GIRDER

REPAIRS SPAN 2 GRD. 5

REPAIRS OF PRESTR. CONCRETE GIRDERS

EPOXY RESIN INJECTION

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REPAIR QUANTITY TABLE

AREA SF

0.0

ESTIMATE

VOLUME

0.0

LF

4.0

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

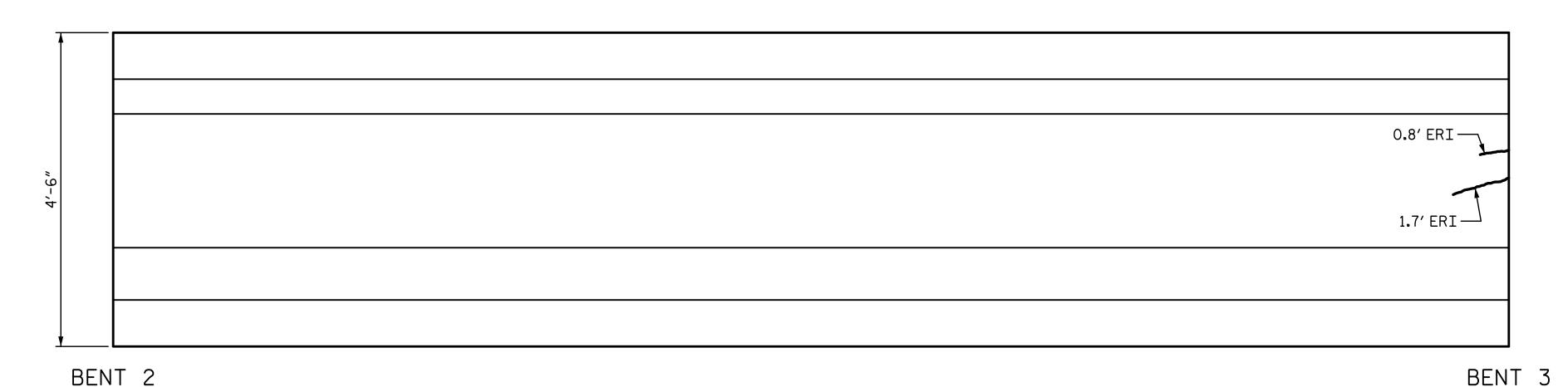
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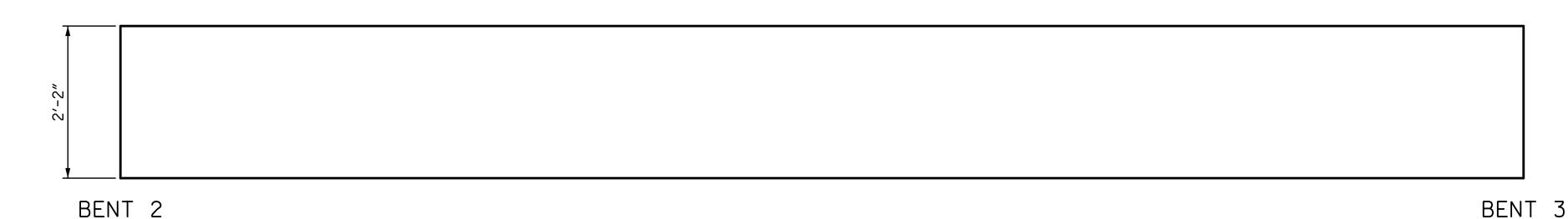
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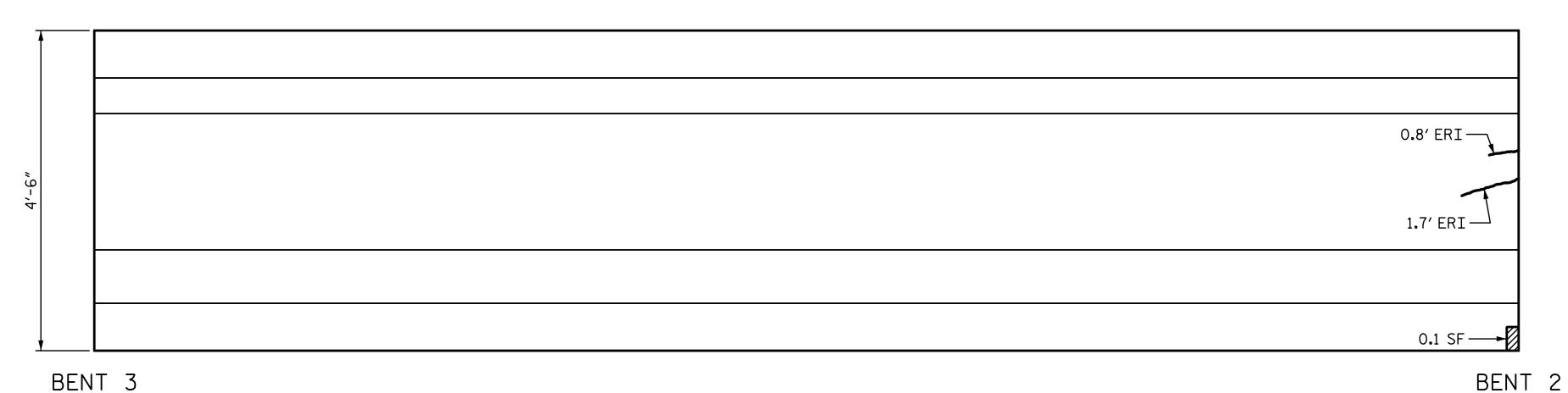
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



ELEVATION

NORTH FACE

PLANS PREPARED BY: SIMPSON
NGINEERS
ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

#### REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 3 GRD. 1 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.1 0.05 EPOXY RESIN INJECTION LF GIRDER 5.0

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 1 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 3 GIRDER 1

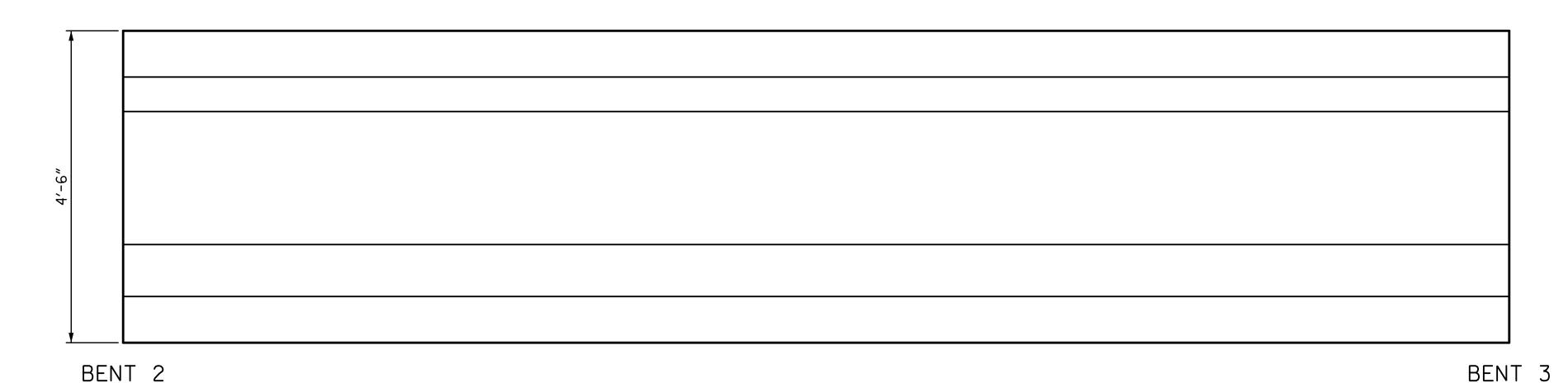
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**UNLESS ALL SIGNATURES COMPLETED** 

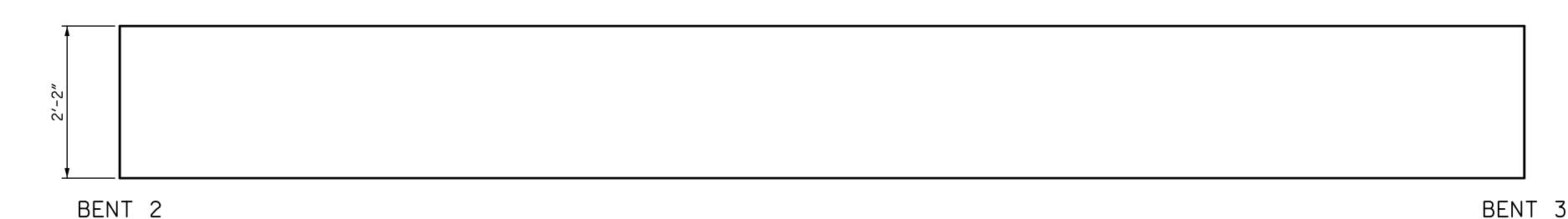
DATE: 9-20
DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

**DOCUMENT NOT CONSIDERED FINAL** 

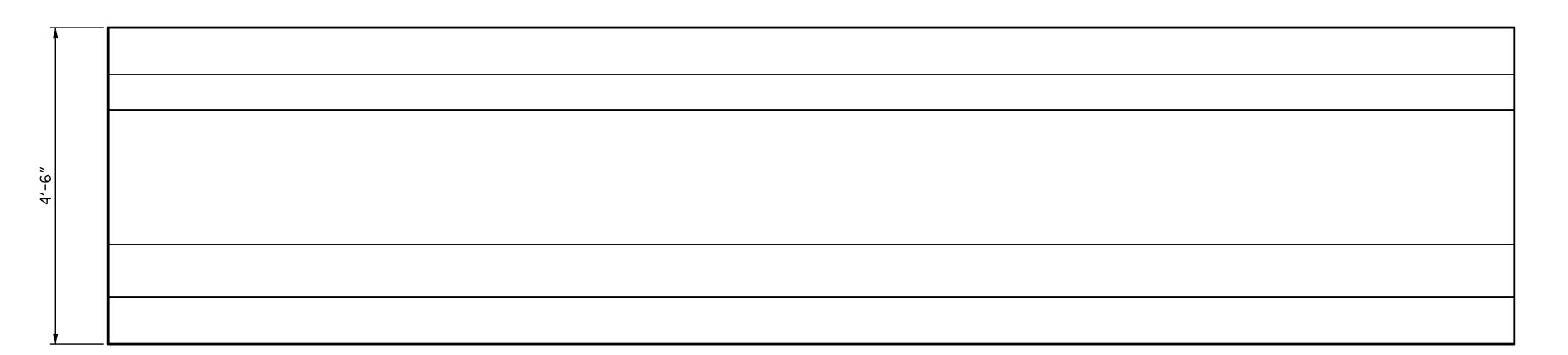
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



BENT 3 ELEVATION

DATE: 9-20
DATE: 9-20
DATE: 9-20

T. BANKOVICH

T.J. BEACH

CHECKED BY: T.J. BEACH

DESIGN ENGINEER OF RECORD: \_\_\_

NORTH FACE

PLANS PREPARED BY: SIMPSON
NGINEERS
ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

BENT 2

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 2 OF 5

REPAIR QUANTITY TABLE

AREA SF

0.0

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FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE

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"PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE

PREPARED TO PREFORM SUCH WORK IN A TIMELY MANNER, AS

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR

AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

ESTIMATE

VOLUME

0.0

LF

0.0

REPAIRS SPAN 3 GRD. 2

REPAIRS OF PRESTR. CONCRETE GIRDERS

NOTES:

PROVISIONS.

EPOXY RESIN INJECTION

REPAIR QUANTITIY TABLE.

GIRDER

GIRDER

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

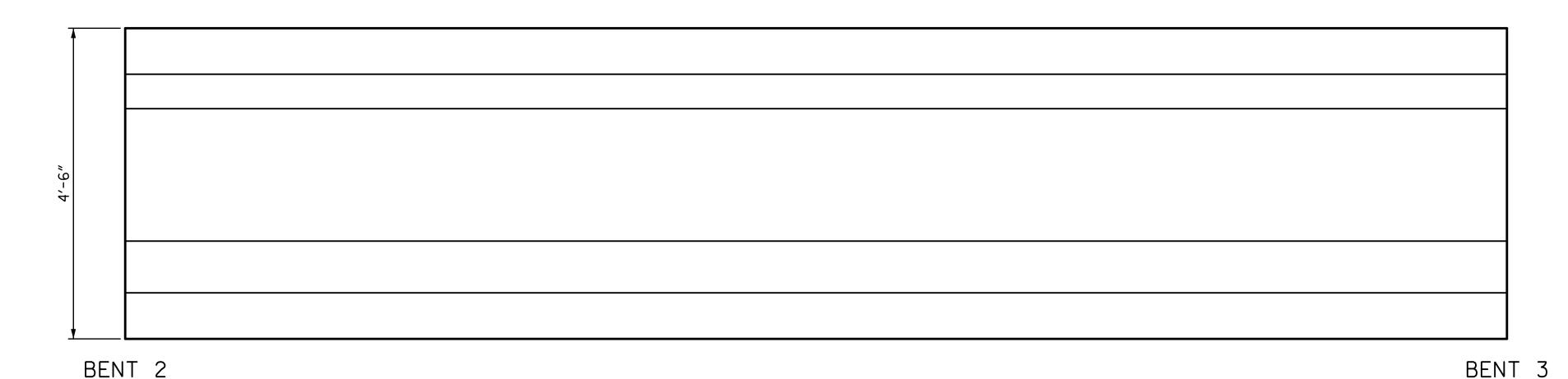
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 3 GIRDER 2

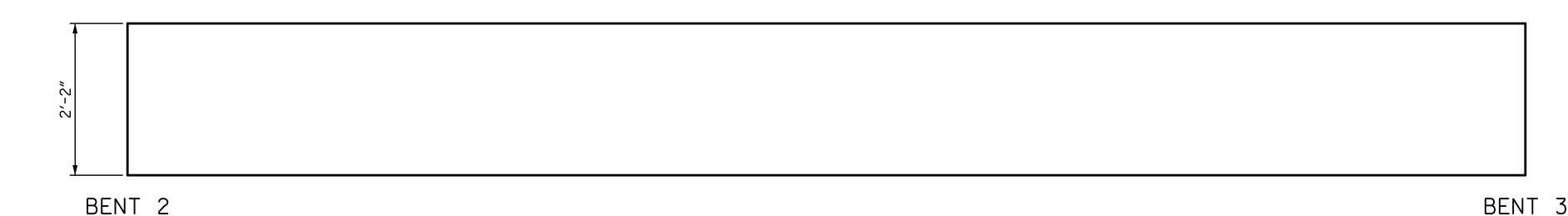
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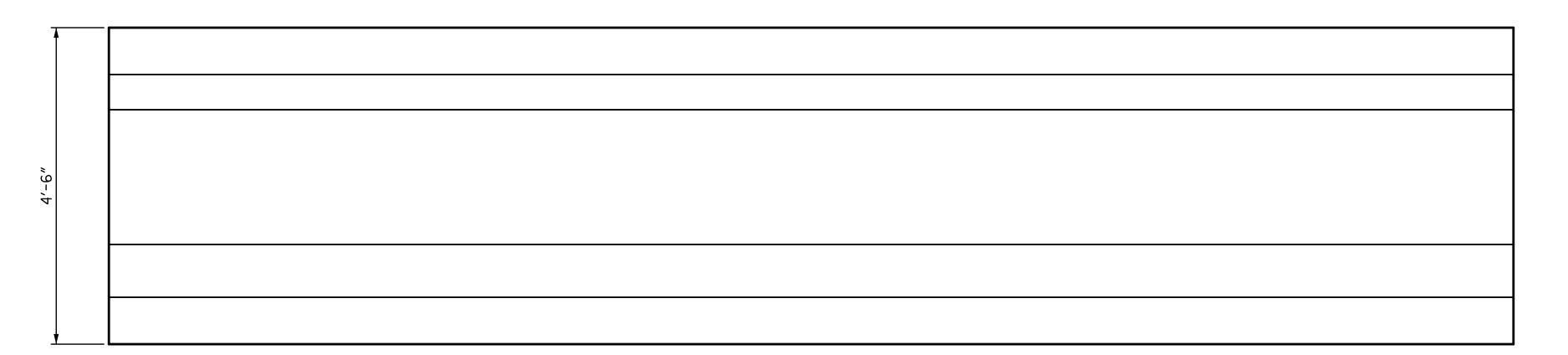
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



BENT 3 ELEVATION

NORTH FACE

PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

REPAIR QUANTITY TABLE

AREA SF

0.0

ESTIMATE

VOLUME

0.0

LF

0.0

REPAIRS SPAN 3 GRD. 3

REPAIRS OF PRESTR. CONCRETE GIRDERS

NOTES:

EPOXY RESIN INJECTION

GIRDER

GIRDER

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 3 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 3 GIRDER 3

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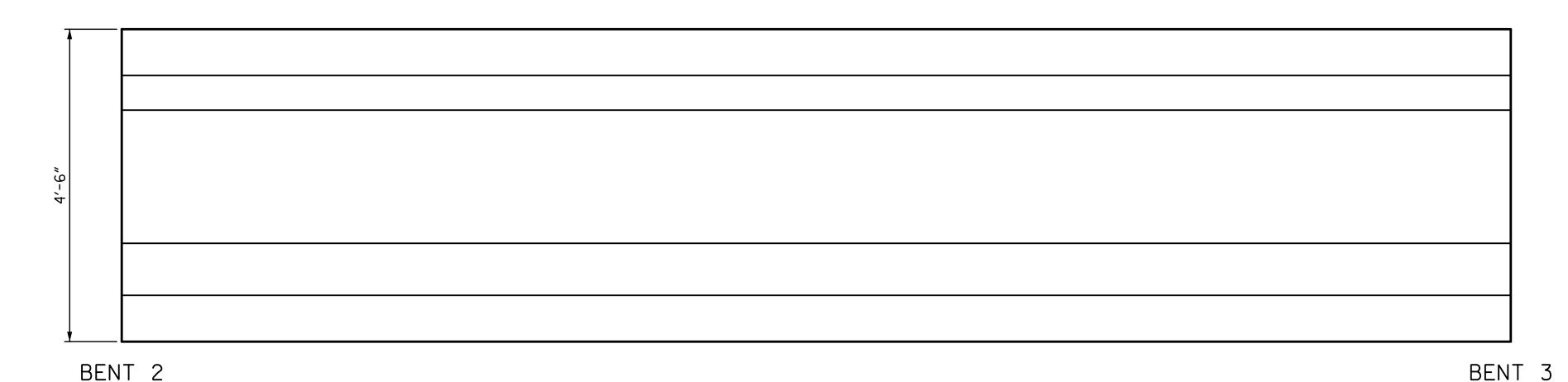
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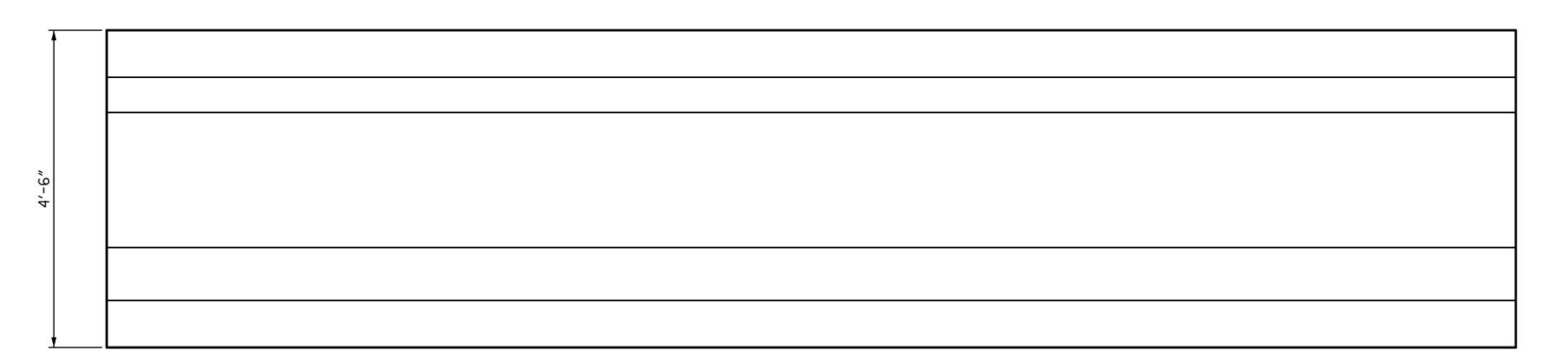
BENT 2

ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE

BOTTOM OF BEAM LOOKING UP



BENT 3 ELEVATION

NORTH FACE

PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

#### REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 3 GRD. 4 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 4 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 3 GIRDER 4

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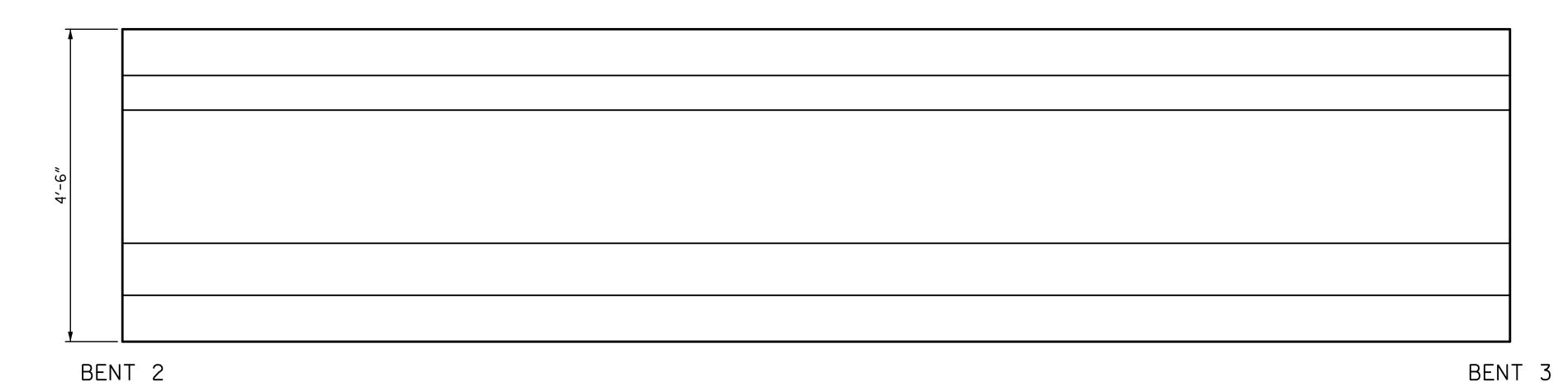
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DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

BENT 2

BENT 3

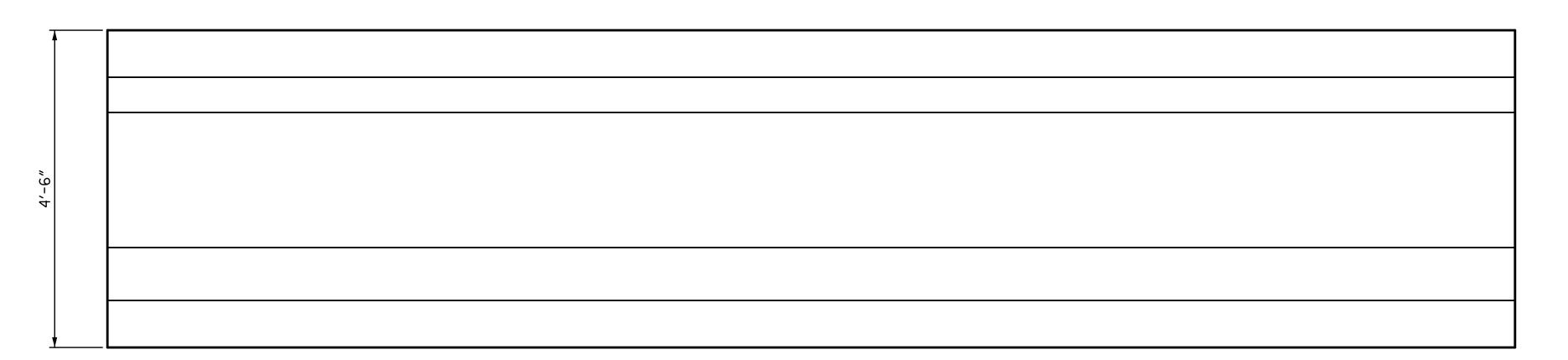
BENT 2

ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE

BOTTOM OF BEAM LOOKING UP



BENT 3 ELEVATION

NORTH FACE

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NOTES:

REPAIRS SPAN 3 GRD. 5

REPAIRS OF PRESTR. CONCRETE GIRDERS

EPOXY RESIN INJECTION

GIRDER

GIRDER

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

REPAIR QUANTITY TABLE

AREA SF

0.0

ESTIMATE

VOLUME

0.0

LF

0.0

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 5 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 3 GIRDER 5

SHEET NO. REVISIONS S1-47 NO. BY: DATE: DATE: BY: TOTAL SHEETS

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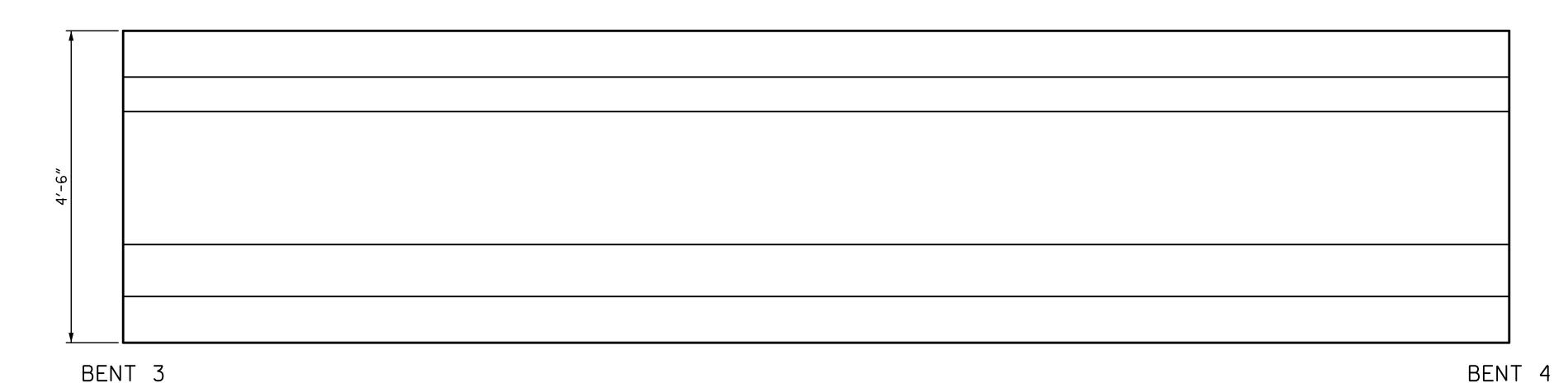
T. BANKOVICH

T.J. BEACH

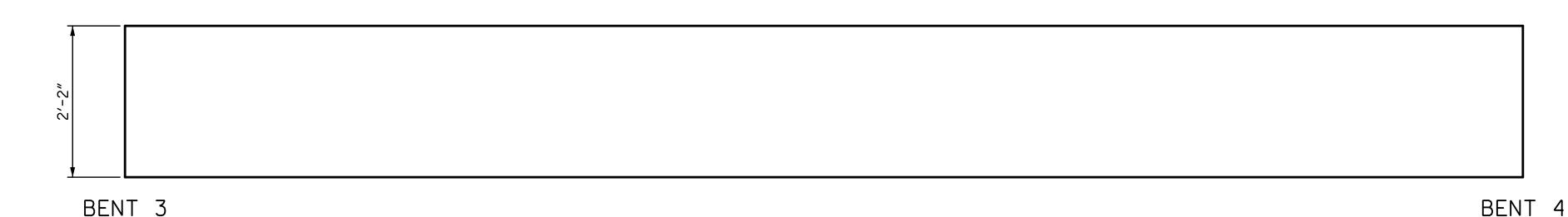
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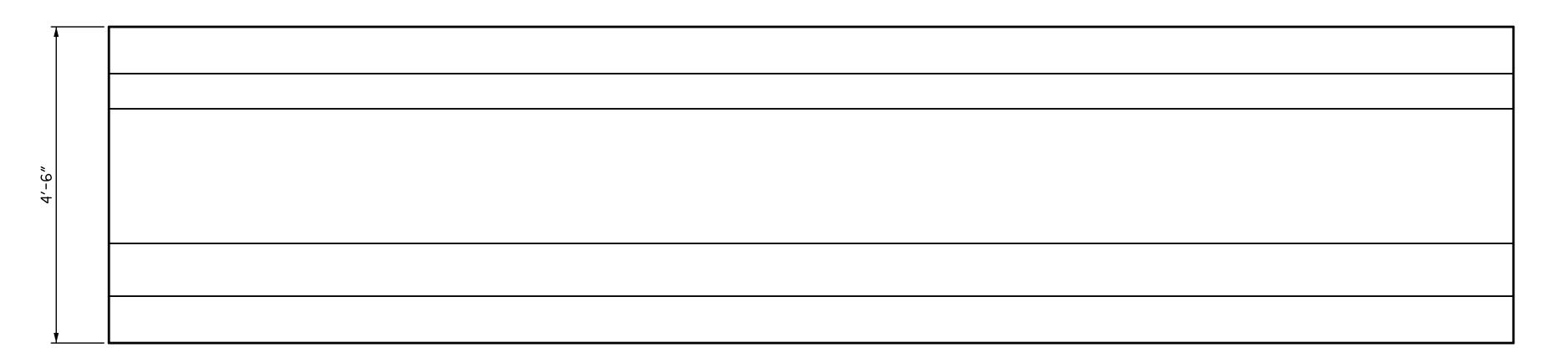
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



BENT 4 ELEVATION

NORTH FACE

PLANS PREPARED BY: SIMPSON
NGINEERS
ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

BENT 3

9/29/2020

#### REPAIRS SPAN 4 GRD. 1 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

REPAIR QUANTITY TABLE

QUANTITIES

## NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 1 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

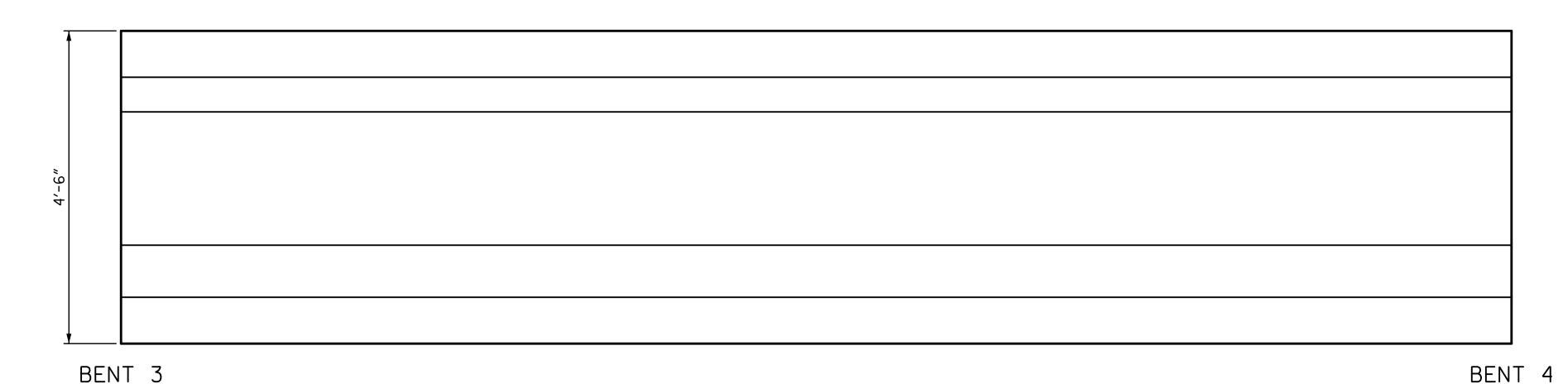
> SPAN 4 GIRDER 1

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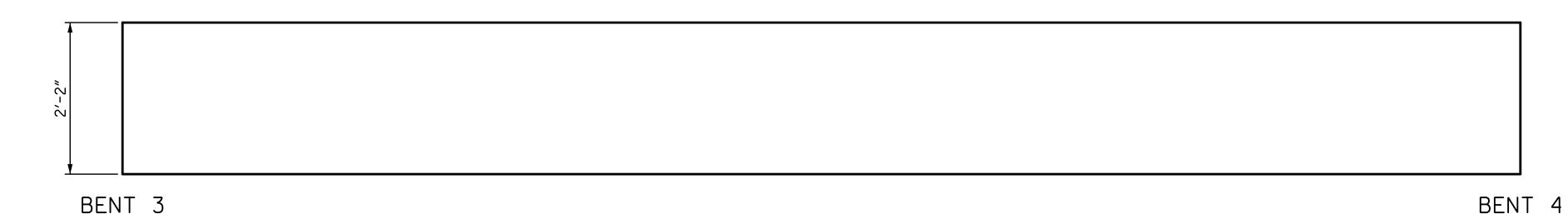
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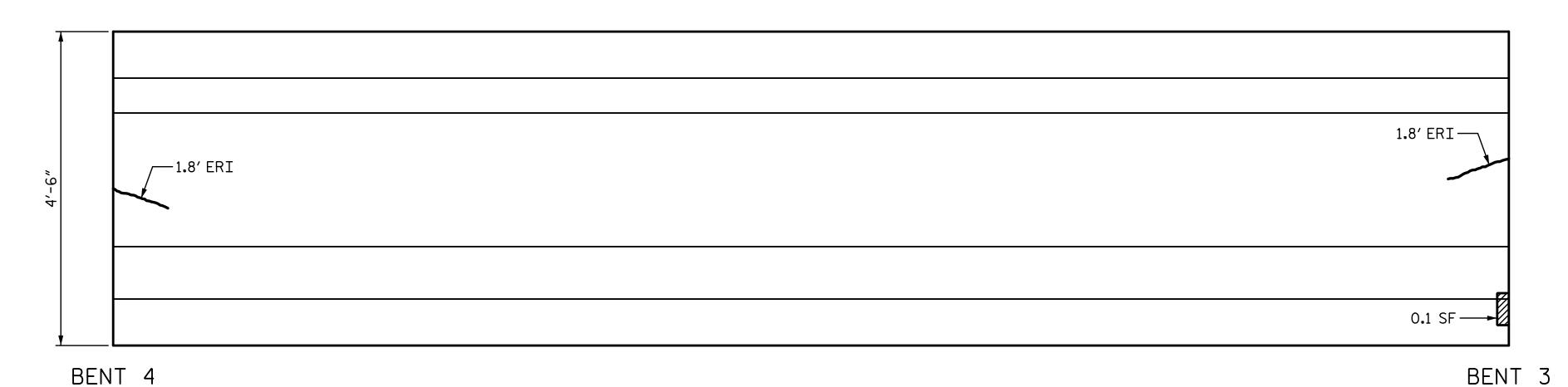
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com

NOTES: REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

REPAIR QUANTITY TABLE

AREA SF

0.1

ESTIMATE

VOLUME

0.05

LF

3.6

REPAIRS SPAN 4 GRD. 2

REPAIRS OF PRESTR. CONCRETE GIRDERS

EPOXY RESIN INJECTION

GIRDER

GIRDER

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 2 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 4 GIRDER 2

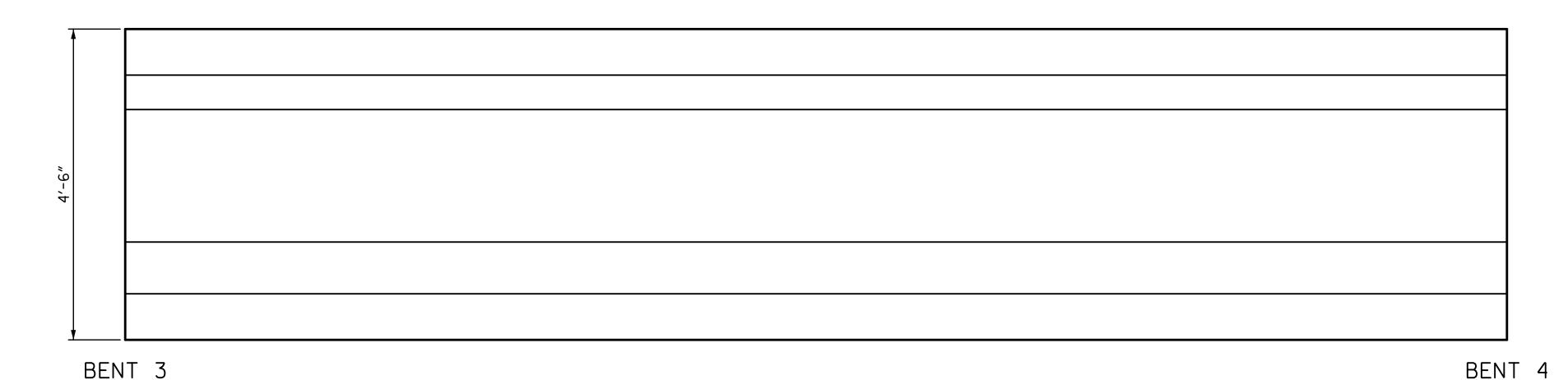
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ERI — EPOXY RESIN INJECTION

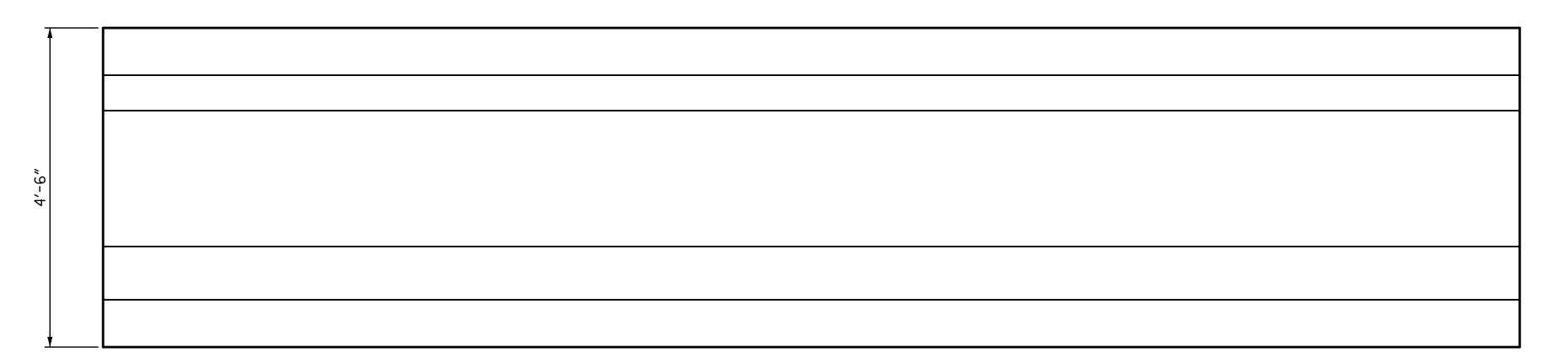


ELEVATION SOUTH FACE

— 0.3 SF **→** 0.3 SF

BENT 3 BENT 4

BOTTOM OF BEAM LOOKING UP



BENT 4

ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 4 GRD. 3 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.6 0.2 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

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FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_\_\_

SHEET 3 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 4 GIRDER 3

SIMPSON NGINEERS ASSOCIATES

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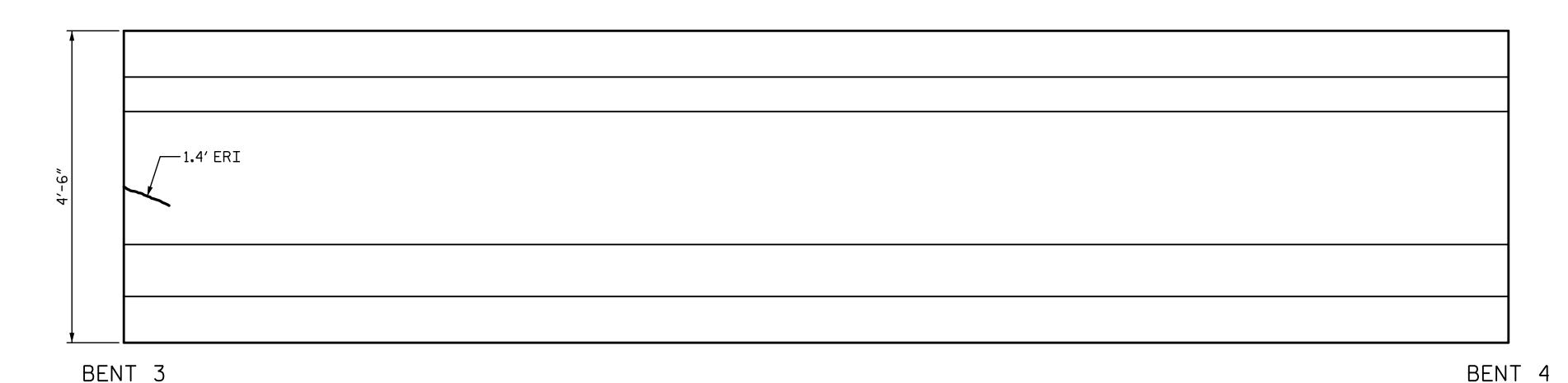
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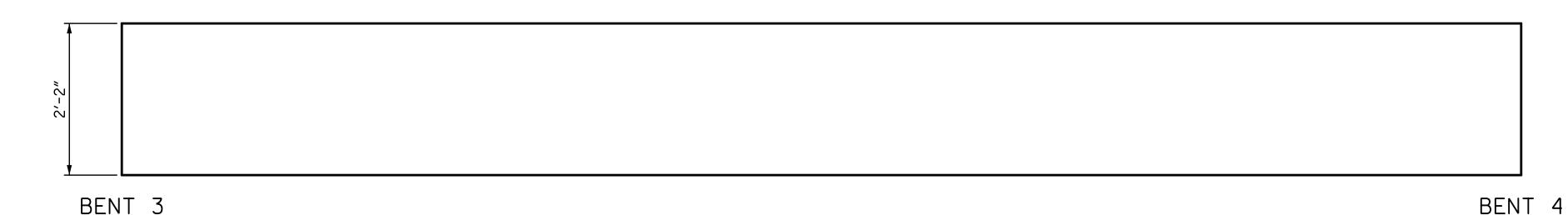
PLANS PREPARED BY:

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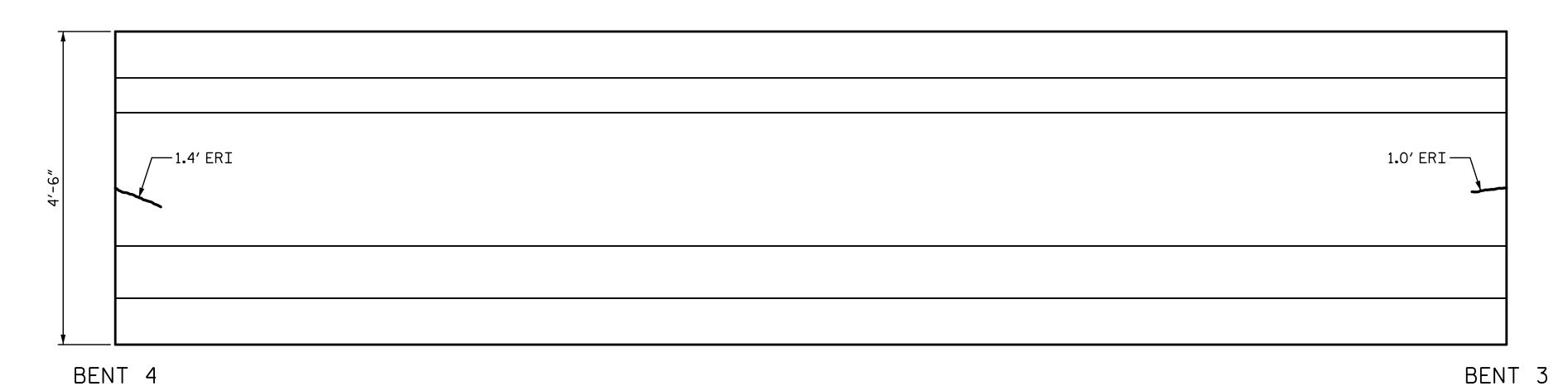
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



ELEVATION

NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 4 GRD. 4 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF 3.8 GIRDER

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 4 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 4 GIRDER 4

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REVISIONS

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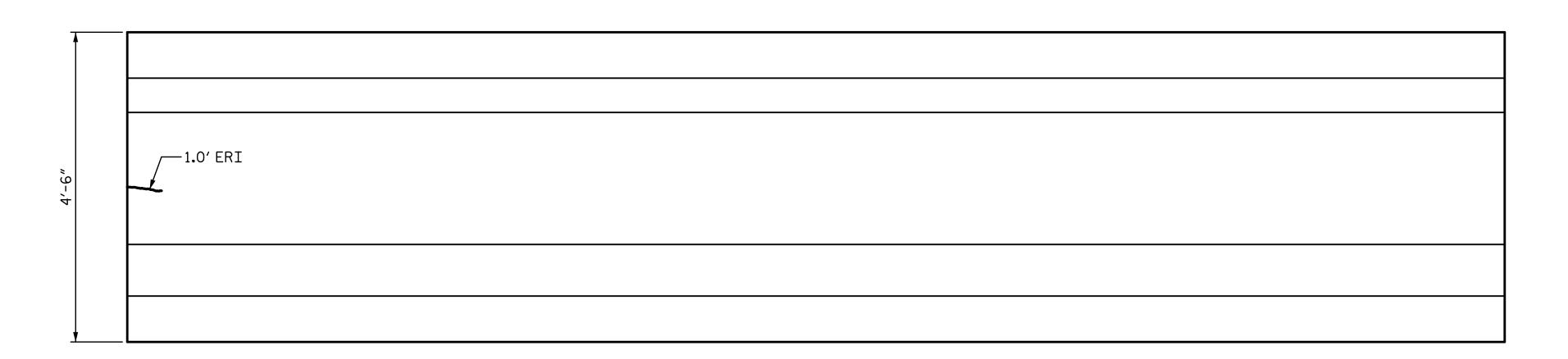
SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521 **DOCUMENT NOT CONSIDERE** 

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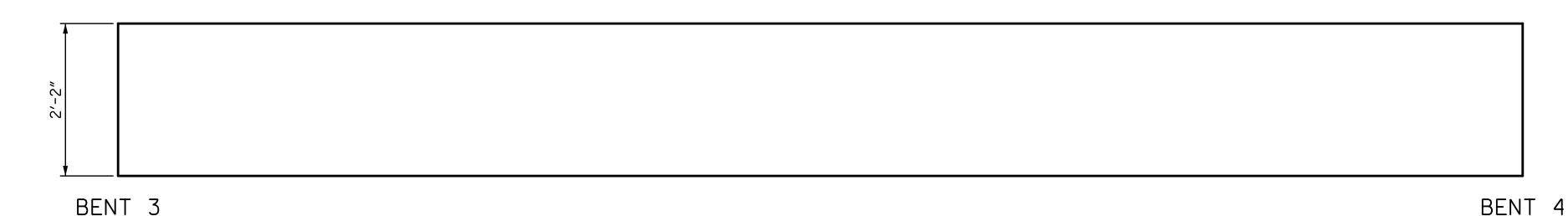
\_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

BENT 4

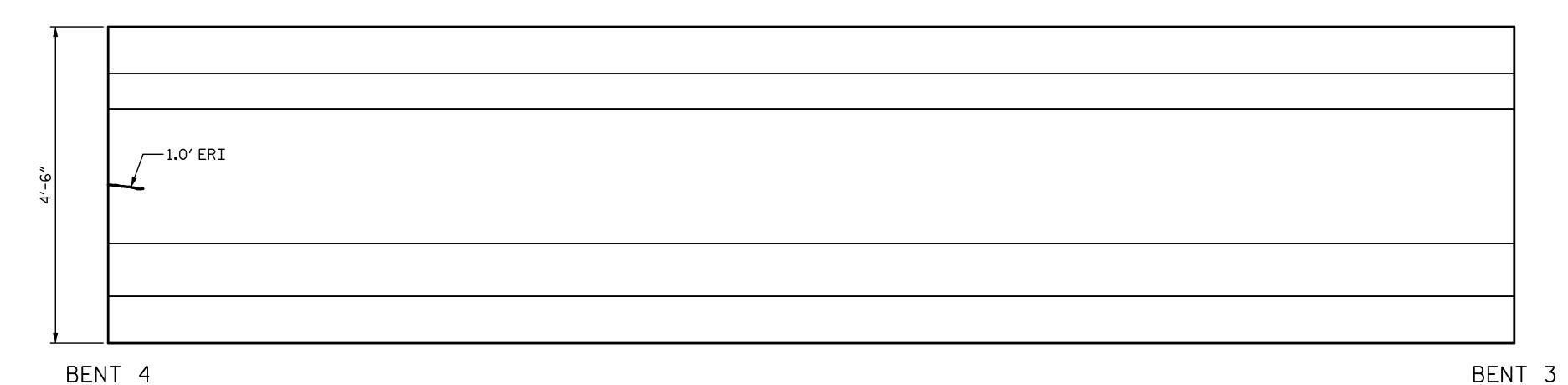
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



ELEVATION

NORTH FACE

SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY

SHEET 5 OF 5

BRIDGE NO.:\_

REPAIR QUANTITY TABLE

AREA SF

0.0

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN

WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS

NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE

SPLICING OF PRESSTRESSING STRAND, OR OTHER WORK WILL BE

WORK AND SHALL BE ADDRESSED AS PER ARTICLE 104-7 OF THE STANDARD SPECIFICATIONS. WORK ITEMS HAVE BEEN PROVIDED IN THE CONTRACT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COST WILL BE ESTABLISHED,

PRESERVATION/REHABILITATION WORK. THE CONTRACTOR SHALL BE

AT THE TIME OF PREPARATION OF PLANS, IT WAS NOT ANTICIPATED

DETERMINED IN THE FIELD. SUCH WORK SHALL BE CONSIDERED EXTRA

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR

"PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE

PREPARED TO PREFORM SUCH WORK IN A TIMELY MANNER, AS

AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

ESTIMATE

VOLUME

0.0

LF

2.0

REPAIRS SPAN 4 GRD. 5

REPAIRS OF PRESTR. CONCRETE GIRDERS

NOTES:

PROVISIONS.

EPOXY RESIN INJECTION

REPAIR QUANTITIY TABLE.

GIRDER

GIRDER

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

640048

SPAN 4 GIRDER 5

BY:

SHEET NO. REVISIONS S1-52 NO. BY: DATE: DATE: TOTAL SHEETS 163

PLANS PREPARED BY:

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** 

BENT 3

DATE: 9-20
DATE: 9-20
DATE: 9-20

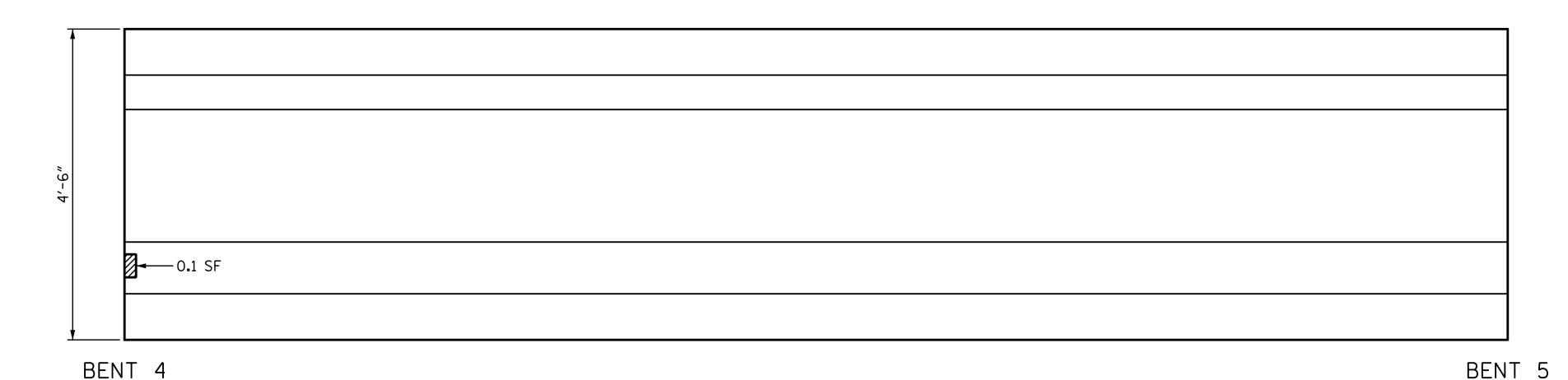
T. BANKOVICH

T.J. BEACH

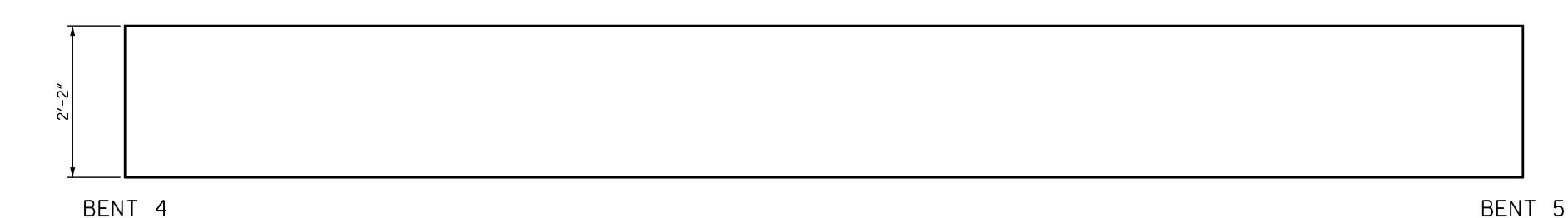
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DESIGN ENGINEER OF RECORD: \_\_\_

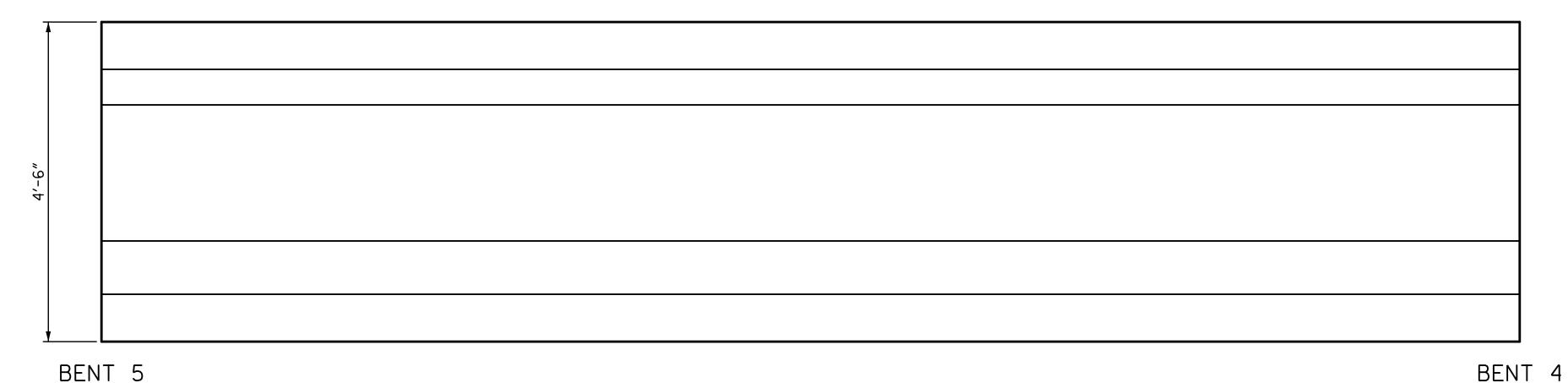
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



BENT 5 ELEVATION

NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 5 GRD. 1 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.1 0.05 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 1 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

SPAN 5

PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES SEAL 24390

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CENSURE NO. C-2521	9/29/2020						
19) 852-0468 19) 852-0598 (Fax) ww.simpsonengr.com	BEAGING.						

GIRDER 1

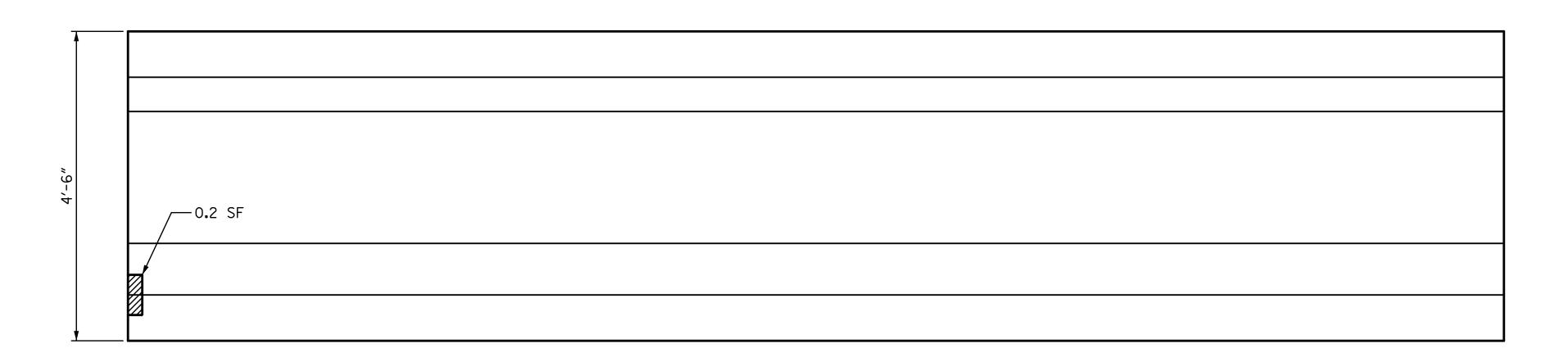
SHEET NO. REVISIONS S1-53 NO. BY: DATE: DATE: BY: TOTAL SHEETS 163

DATE: 9-20
DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

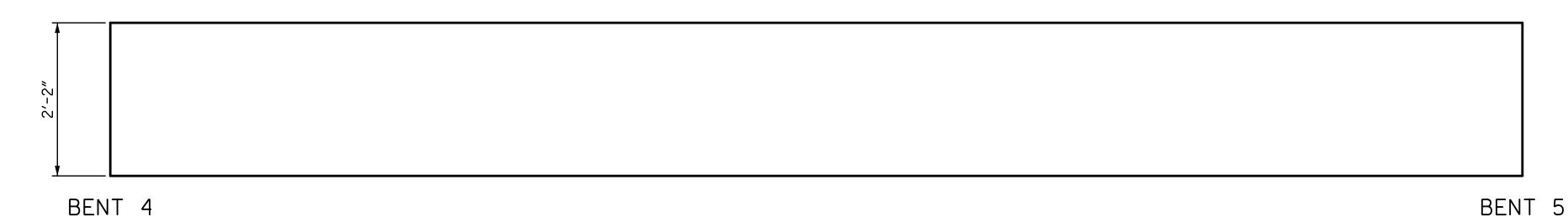
5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

BENT 5

ERI — EPOXY RESIN INJECTION

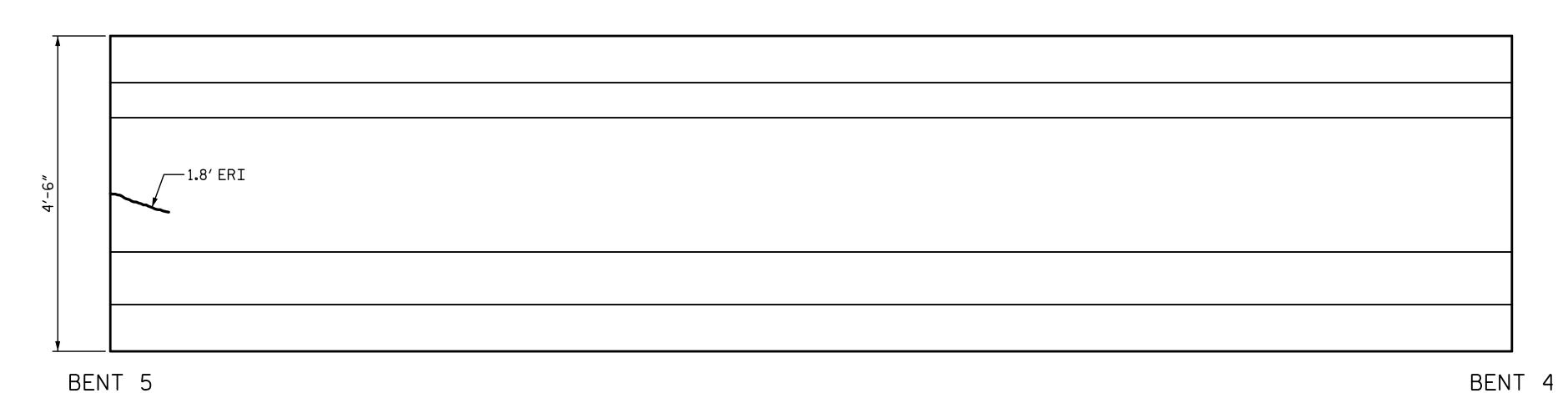


ELEVATION
SOUTH FACE



PLAN

BOTTOM OF BEAM
LOOKING UP



ELEVATION

NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 5 GRD. 2 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.2 0.05 EPOXY RESIN INJECTION LF GIRDER 1.8

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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PROJECT NO. 15BPR.26

NEW HANOVER/PENDER COUNTY

BRIDGE NO.: 640048

SHEET 2 OF 5

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

SPAN 5 GIRDER 2

PLANS PREPARED BY:

SIMPSON
POSITION CAROL

SSOCIATES

5640 Dillard Drive
Suite 200
Cary, NC 27518
(919) 852-0468
(919) 852-0598 (Fax)
www.simpsonengr.com

LICENSURE NO. C-2521

	SHEET NO.				
BY:	DATE:	NO.	BY:	DATE:	S1-54
		3			TOTAL SHEETS
		4			163

DRAWN BY: T.BANKOVICH

CHECKED BY: T.J. BEACH

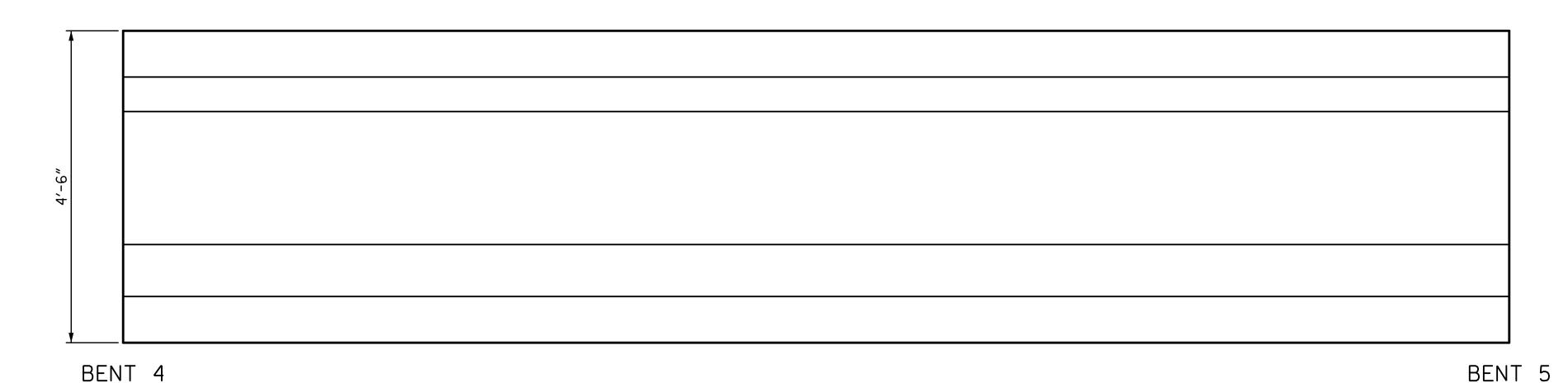
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DATE: 9-20

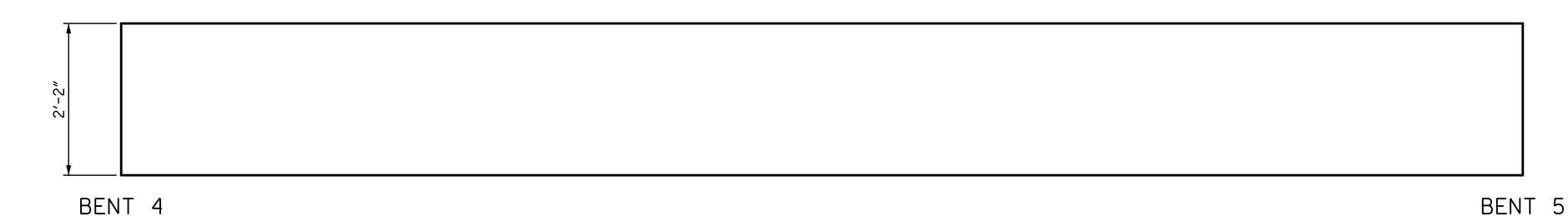
DATE: 9-20

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ERI — EPOXY RESIN INJECTION

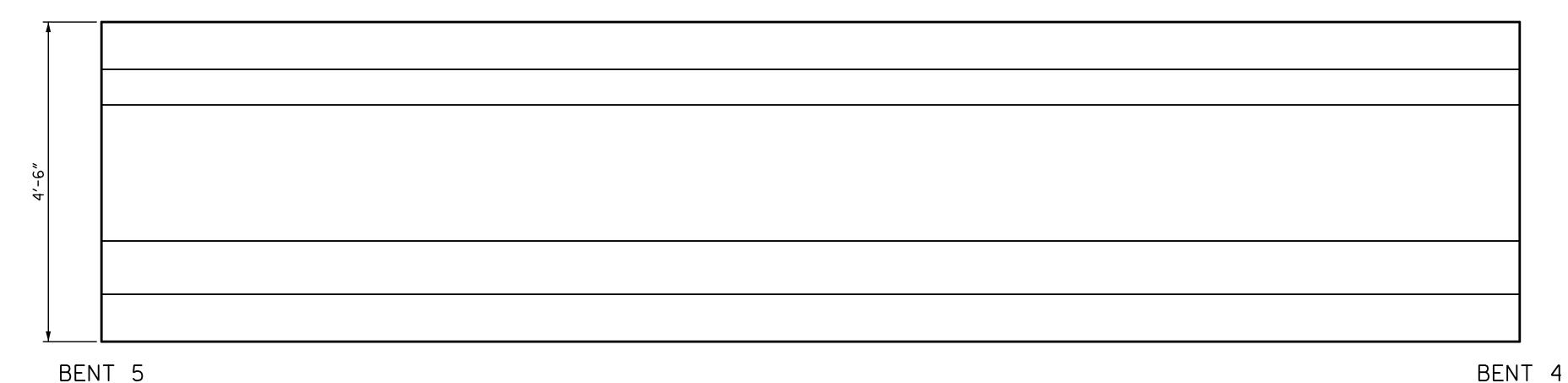


ELEVATION
SOUTH FACE



PLAN

BOTTOM OF BEAM
LOOKING UP



BENT 5

ELEVATION

NORTH FACE

SIMPSON
NGINEERS
SSOCIATES

5640 Dillard Drive
Suite 200
Cary, NC 27518
(919) 852-0468
(919) 852-0468
(919) 852-0598 (Fax)
www.simpsonengr.com

LICENSURE NO. C-2521

PLANS PREPARED BY:

Doors of the CARO/
A6B1 DEST5245B
SEAL
24390

9/29/2020

#### REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 5 GRD. 3 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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PROJECT NO. 15BPR.26

NEW HANOVER/PENDER COUNTY

BRIDGE NO.: 640048

SHEET 3 OF 5

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

SPAN 5 GIRDER 3

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UNLESS ALL SIGNATURES COMPLETED

9/29/2020

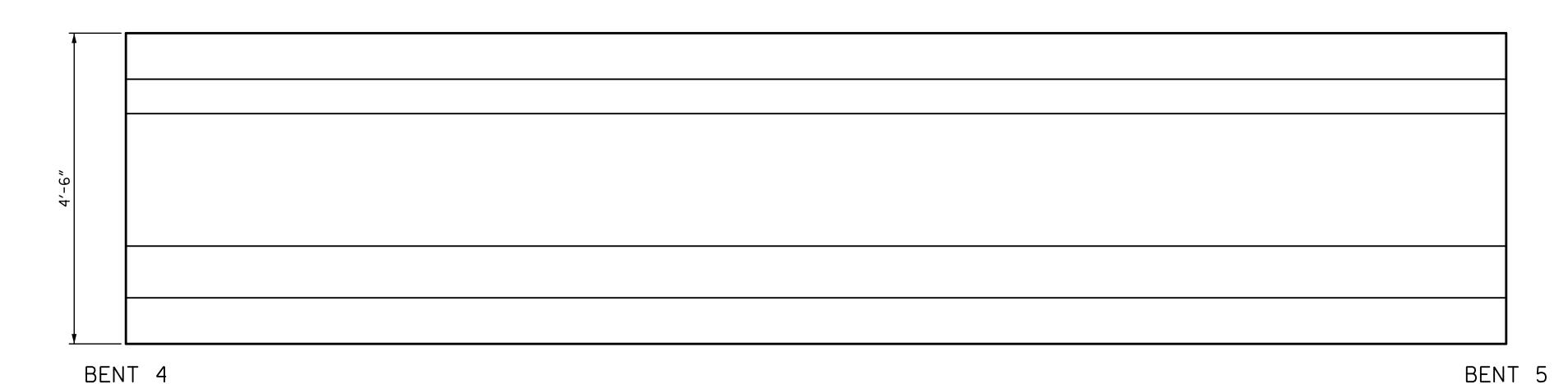
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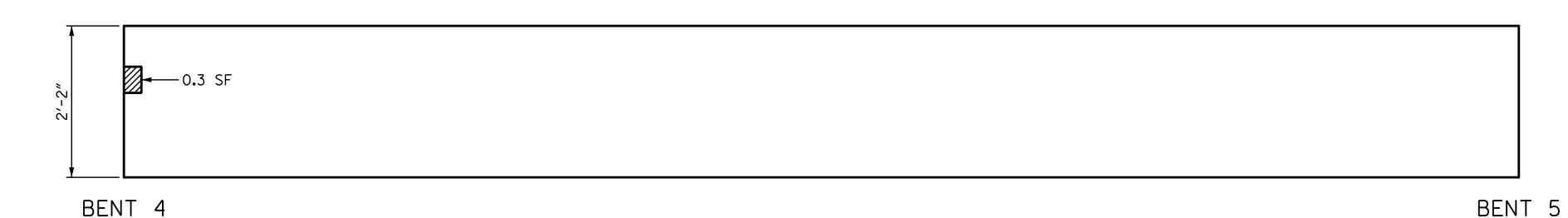
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BY:	DATE:	NO.	BY:	DATE:	S1-55
		8			TOTAL SHEETS
		4			163

DRAWN BY: T.BANKOVICH
CHECKED BY: T.J. BEACH
DESIGN ENGINEER OF RECORD: T.J. BEACH
DATE: 9-20
DATE: 9-20
DATE: 9-20

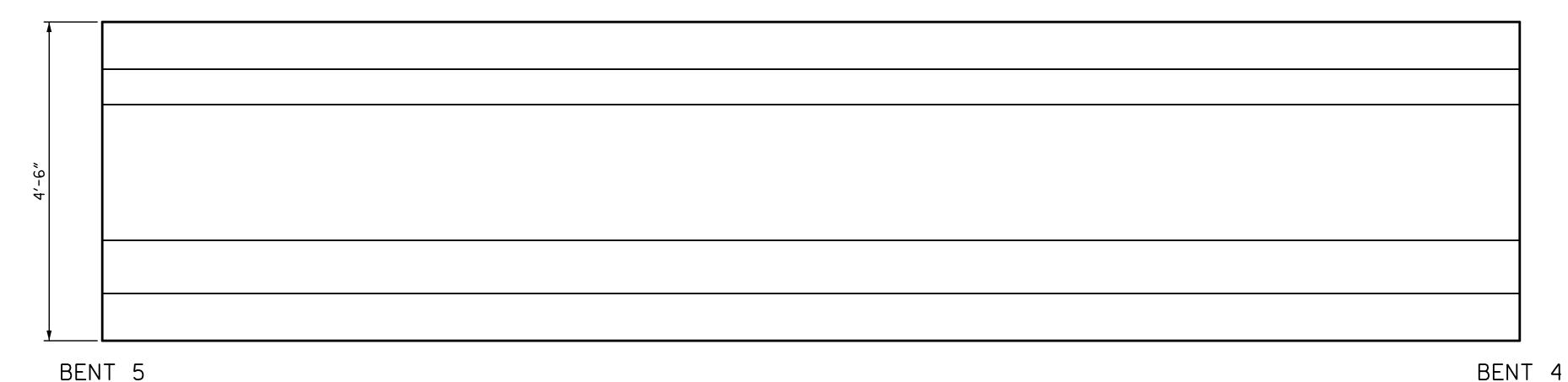
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



BENT 5

ELEVATION NORTH FACE

PLANS PREPARED BY: SIMPSON
NGINEERS
ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 4 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 5 GIRDER 4

SHEET NO. REVISIONS S1-56 NO. BY: DATE: DATE: BY: TOTAL SHEETS

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** 

DATE: 9-20
DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

BENT 4

NOTES:

REPAIRS SPAN 5 GRD. 4

REPAIRS OF PRESTR. CONCRETE GIRDERS

EPOXY RESIN INJECTION

GIRDER

GIRDER

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

REPAIR QUANTITY TABLE

AREA SF

0.3

ESTIMATE

VOLUME

0.1

LF

0.0

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

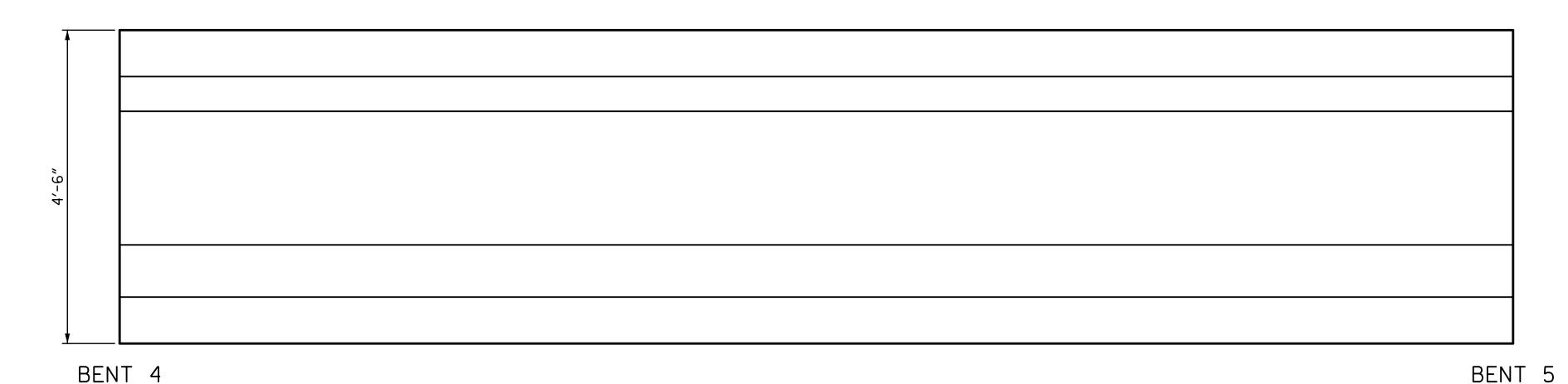
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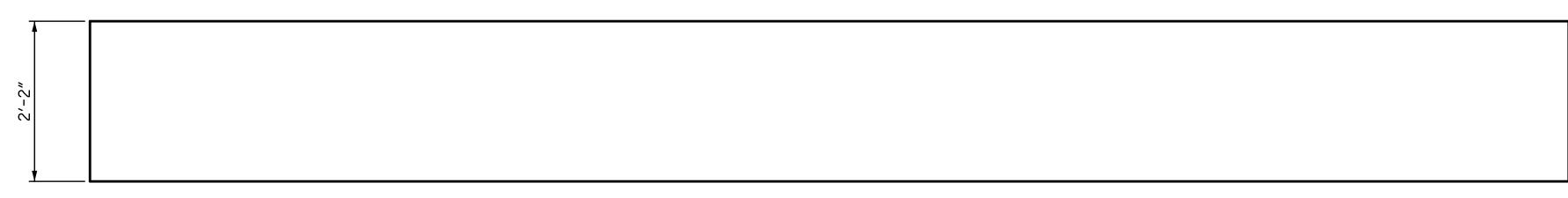
FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

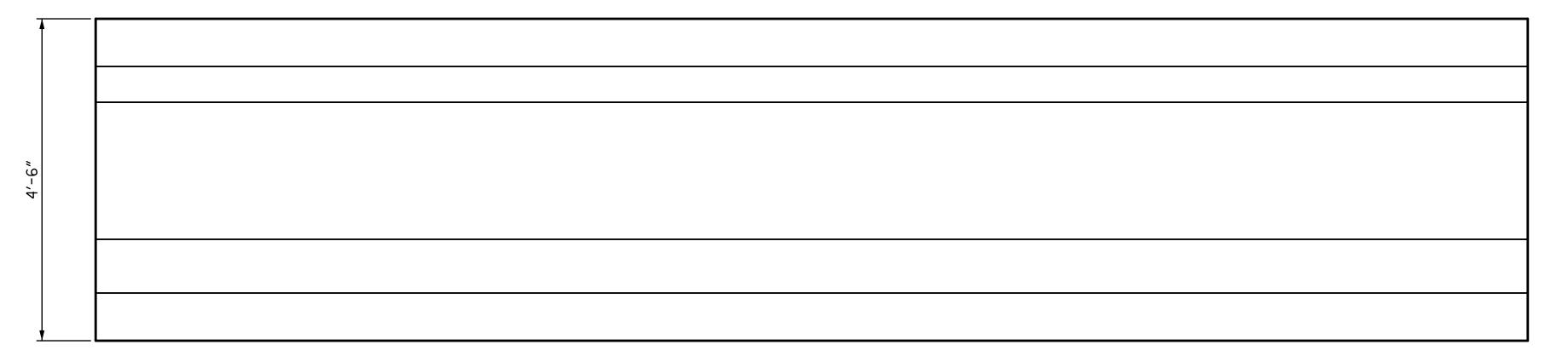
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ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE





BENT 5

ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 5 GRD. 5 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 5 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 5 GIRDER 5

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BY:	DATE:	NO.	BY:
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PLANS PREPARED BY:

SIMPSON NGINEERS ASSOCIATES

LICENSURE NO. C-252

SHEET NO. S1-57 DATE: TOTAL SHEETS

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DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

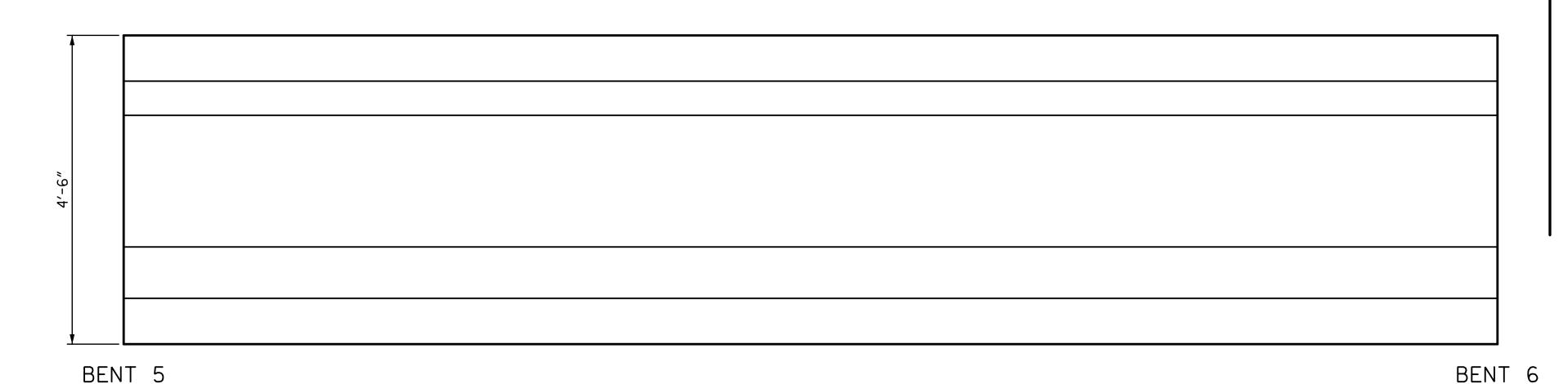
BENT 4 BOTTOM OF BEAM LOOKING UP BENT 5

BENT 4

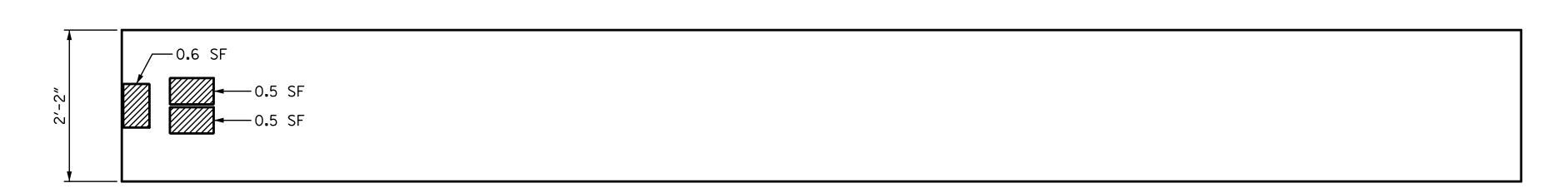
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BENT 5

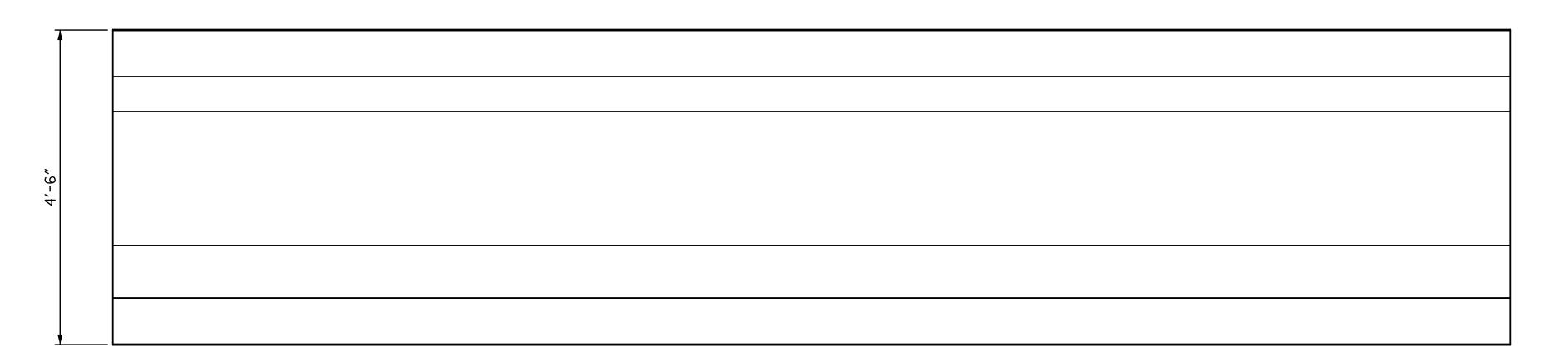
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



BENT 6 ELEVATION

NORTH FACE

DATE: 9-20
DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

BENT 5

SIMPSON
NGINEERS
ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

PLANS PREPARED BY:

## 1.6 0.8 EPOXY RESIN INJECTION LF 0.0

ESTIMATE

VOLUME

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

REPAIR QUANTITY TABLE

AREA SF

#### NOTES:

GIRDER

GIRDER

REPAIRS SPAN 6 GRD. 1

REPAIRS OF PRESTR. CONCRETE GIRDERS

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

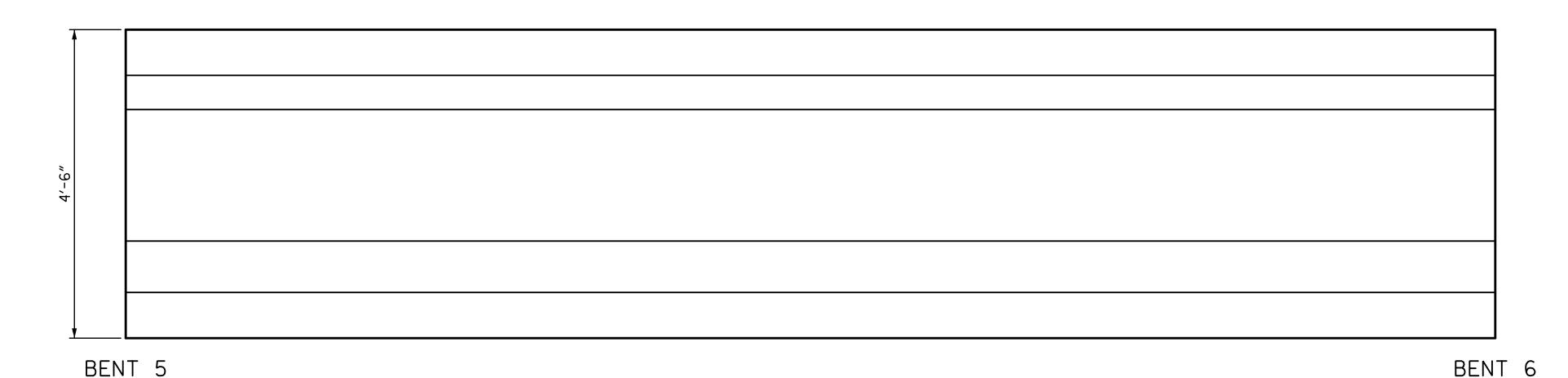
SHEET 1 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 6 GIRDER 1

SHEET NO. REVISIONS S1-58 NO. BY: DATE: DATE: BY: TOTAL SHEETS **DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** 

ERI — EPOXY RESIN INJECTION



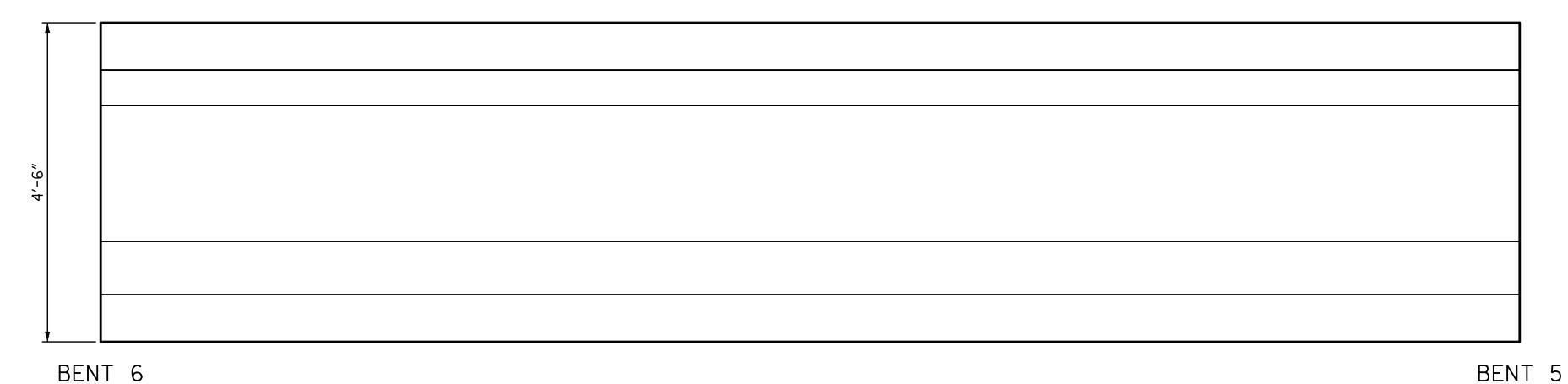
BENT 5 BENT 6

ELEVATION

SOUTH FACE

PLAN

BOTTOM OF BEAM
LOOKING UP



ELEVATION

NORTH FACE

SIMPSON
NGINEERS
SSOCIATES

5640 Dillard Drive
Suite 200
Cary, NC 27518
(919) 852-0468
(919) 852-0598 (Fax)
www.simpsonengr.com

LICENSURE NO. C-2521

PLANS PREPARED BY:

Door Sign of the CARO/ Thus Gas SEAL 24390 9/29/2020

REPAIR QUANTITY TABLE						
REPAIRS SPAN 6 GRD. 2	QUANTITIES ESTIMATE ACTUAL					
	EST	TMAIC		ACTUAL	-	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	V	OLUME CF
GIRDER	0.3	0.15				
EPOXY RESIN INJECTION						LF
GIRDER						
	·					-

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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PROJECT NO. 15BPR.26

NEW HANOVER/PENDER COUNTY

BRIDGE NO.: 640048

SHEET 2 OF 5

DEPARTMENT OF TRANSPORTATION
RALEIGH
PRESERVATION

SPAN 6 GIRDER 2

REVISIONS

BY: DATE: NO. BY: DATE: S1-59

3 TOTAL SHEETS
163

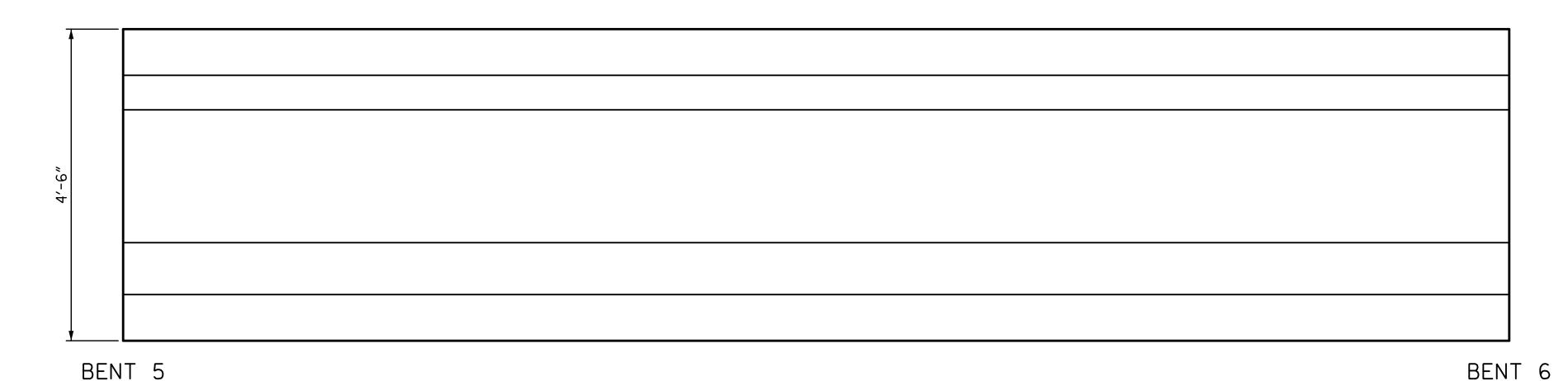
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DRAWN BY: T. BANKOVICH
CHECKED BY: T.J. BEACH
DESIGN ENGINEER OF RECORD: T.J. BEACH
DATE: 9-20
DATE: 9-20

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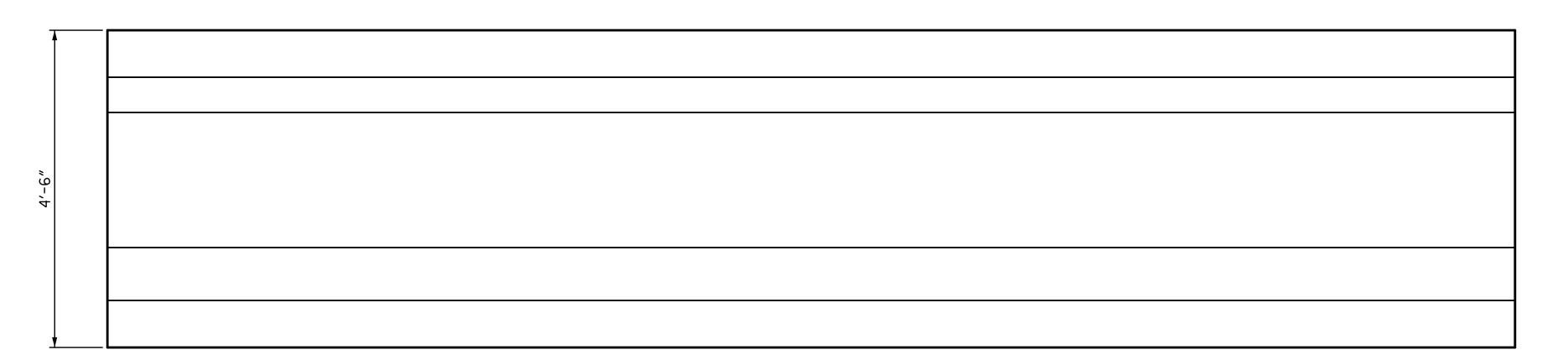
ERI — EPOXY RESIN INJECTION



ELEVATION
SOUTH FACE

5,-5,

PLAN
BOTTOM OF BEAM
LOOKING UP



BENT 6

ELEVATION

NORTH FACE

SIMPSON
NGINEERS
SSOCIATES

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(919) 852-0468
(919) 852-0598 (Fax)
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LICENSURE NO. C-2521

PLANS PREPARED BY:

Door Sign to J. ARO/
Thur Genetical
AGB 1800 B575245B
SEAL
24390

9/29/2020

REPAIR QUANTITY TABLE							
REPAIRS SPAN 6 GRD. 3		QI	UANTIT	[ES			
REPAIRS SPAN & GRU. S	EST	IMATE	ACTUAL				
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLU CF		
GIRDER	0.0	0.0					
EPOXY RESIN INJECTION					L	.F	
GIRDER							

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PROJECT NO. 15BPR.26

NEW HANOVER/PENDER COUNTY

BRIDGE NO.: 640048

SHEET 3 OF 5

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

SPAN 6 GIRDER 3

REVISIONS

NO. BY: DATE: NO. BY: DATE: S1-60

1 3 TOTAL SHEETS
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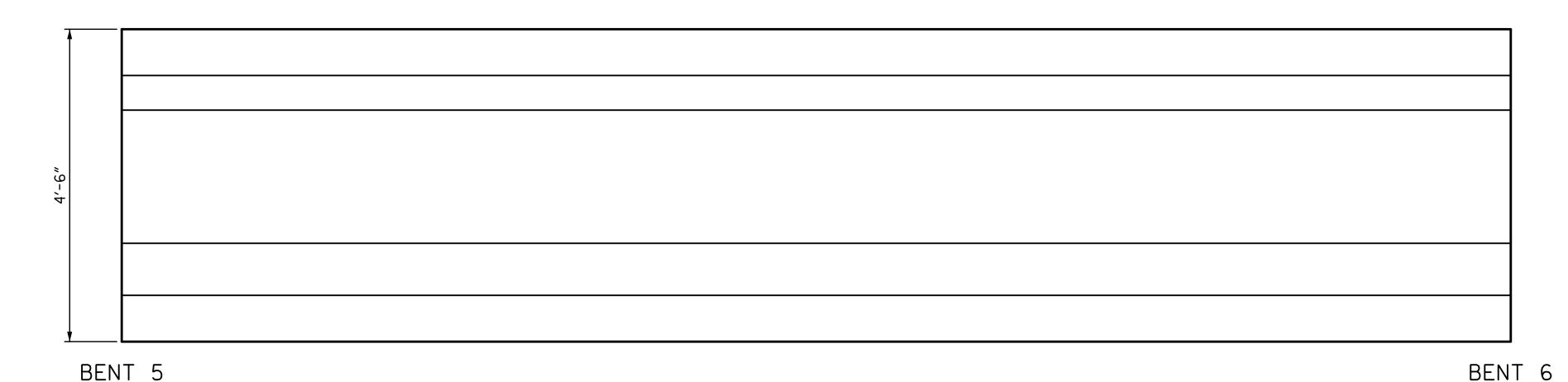
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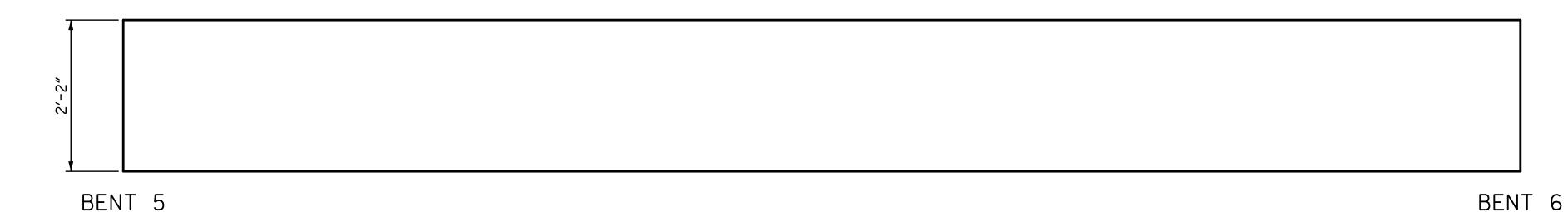
DRAWN BY: T. BANKOVICH
CHECKED BY: T.J. BEACH
DESIGN ENGINEER OF RECORD: T.J. BEACH
DATE: 9-20
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DATE: 9-20

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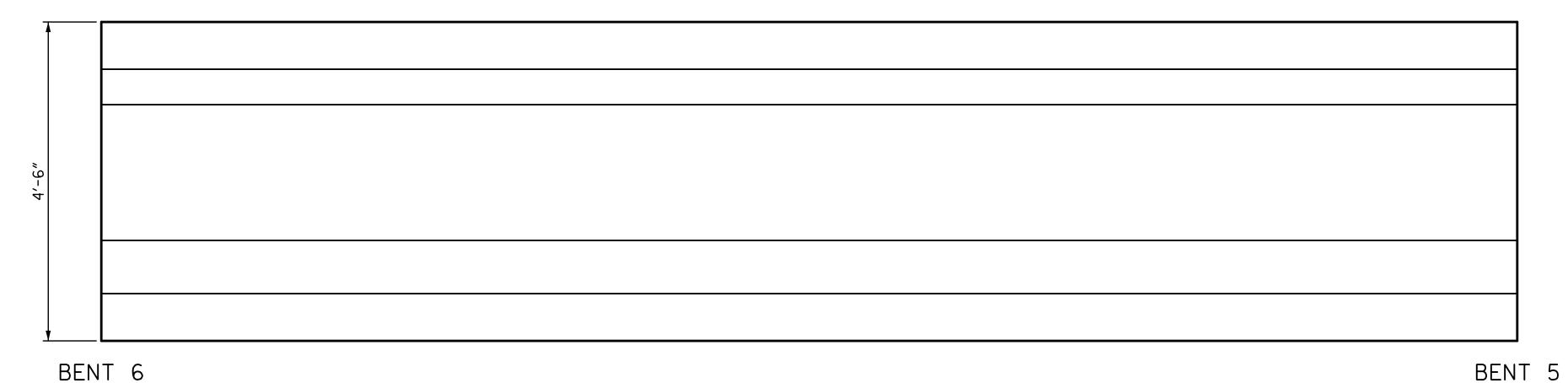
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



BENT 6 ELEVATION

NORTH FACE

\_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> \_\_ DATE: <u>9-20</u> T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

REPAIR QUANTITY TABLE						
REPAIRS SPAN 6 GRD. 4	QUANTITIES					
INCI ATINO OINDS T	EST	IMATE		ACTUAL		
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	V	OLUME CF
GIRDER	0.0	0.0				
EPOXY RESIN INJECTION						LF
GIRDER	_	0.0	_			_
	•		•	•		

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 4 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

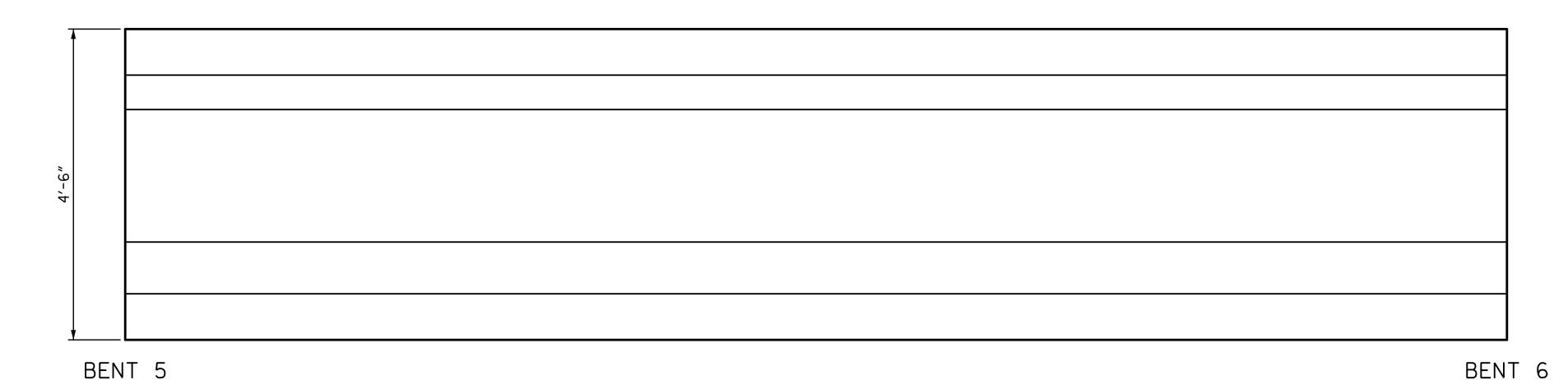
SPAN 6 GIRDER 4

PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

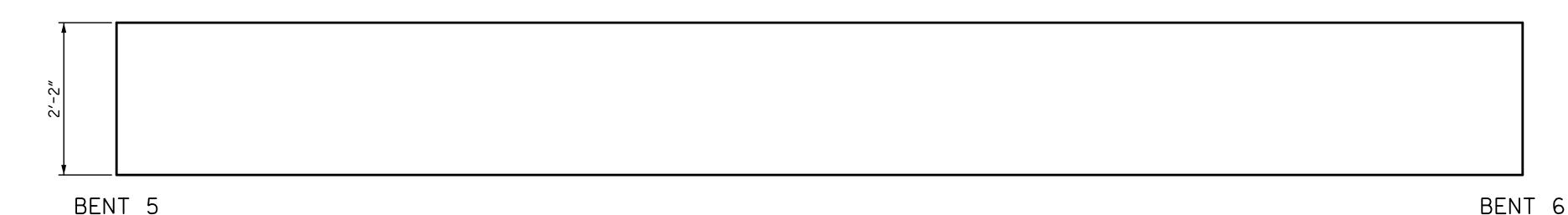
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED				
CENSURE NO. C-2521	9/29/2020			
19)852-0598 (Fax) ww.simpsonengr.com	W. D. BELLIN			

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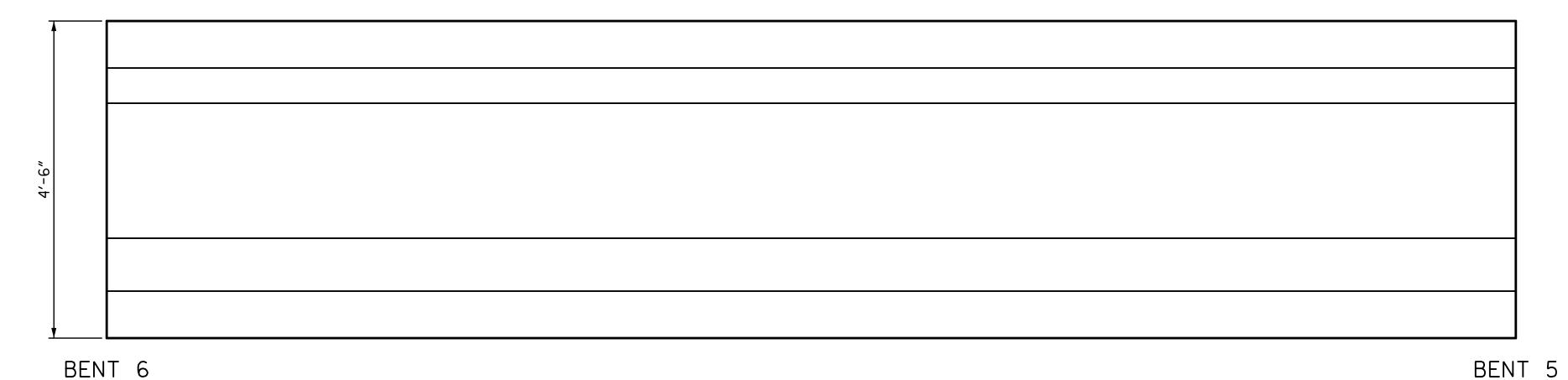
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



BENT 6 ELEVATION

NORTH FACE

PLANS PREPARED BY: SIMPSON
NGINEERS
ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

#### REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH 0.0 0.0 EPOXY RESIN INJECTION LF 0.0

ESTIMATE

QUANTITIES

ACTUAL

REPAIR QUANTITY TABLE

## NOTES:

GIRDER

GIRDER

REPAIRS SPAN 6 GRD. 5

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 5 OF 5

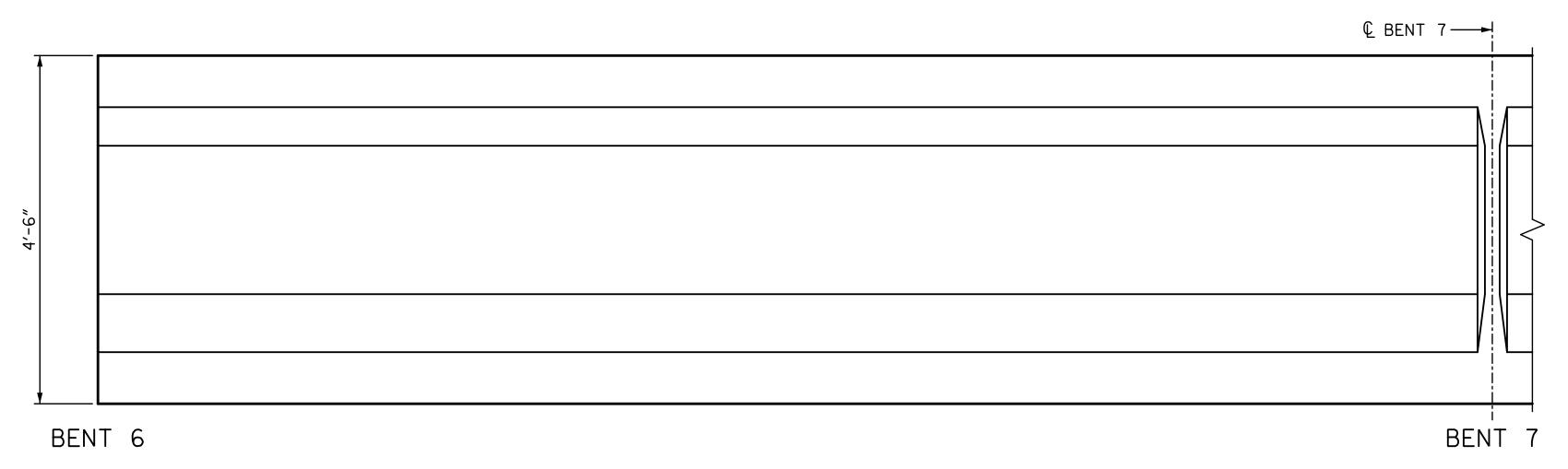
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 6 GIRDER 5

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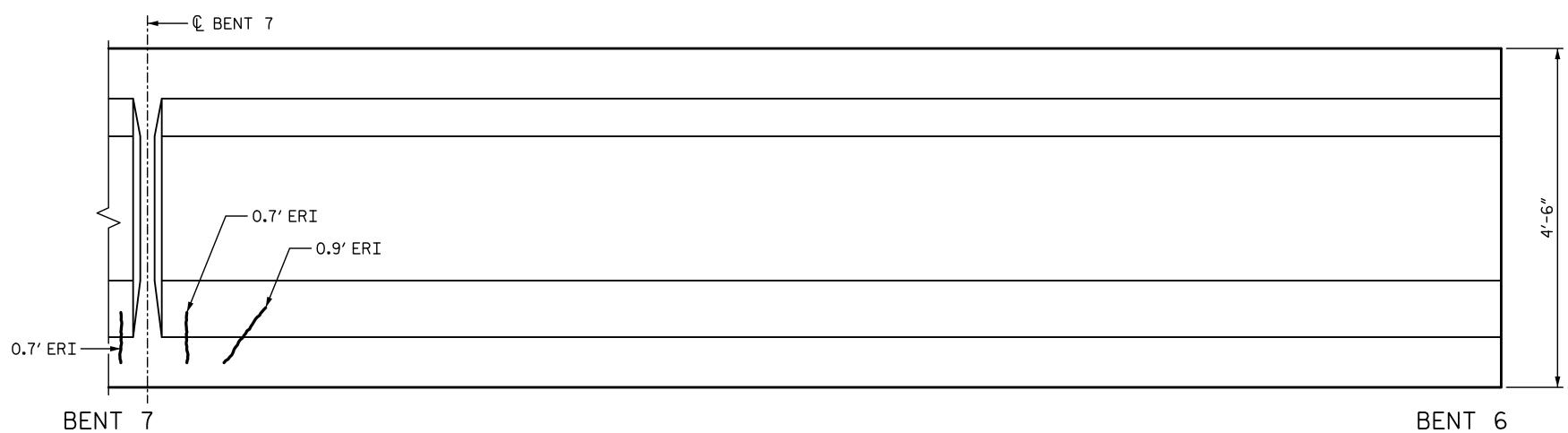
ERI — EPOXY RESIN INJECTION







# PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 7 GRD. 1 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF 2.3 GIRDER

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_\_\_

SHEET 1 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 7 GIRDER 1

ASSOCIATES	A6B1\$ 20B575245B.
Oillard Drive 200	24390
NC 27518 52-0468	MGINEER
52-0598 (Fax) mpsonengr.com	W. J. Berin
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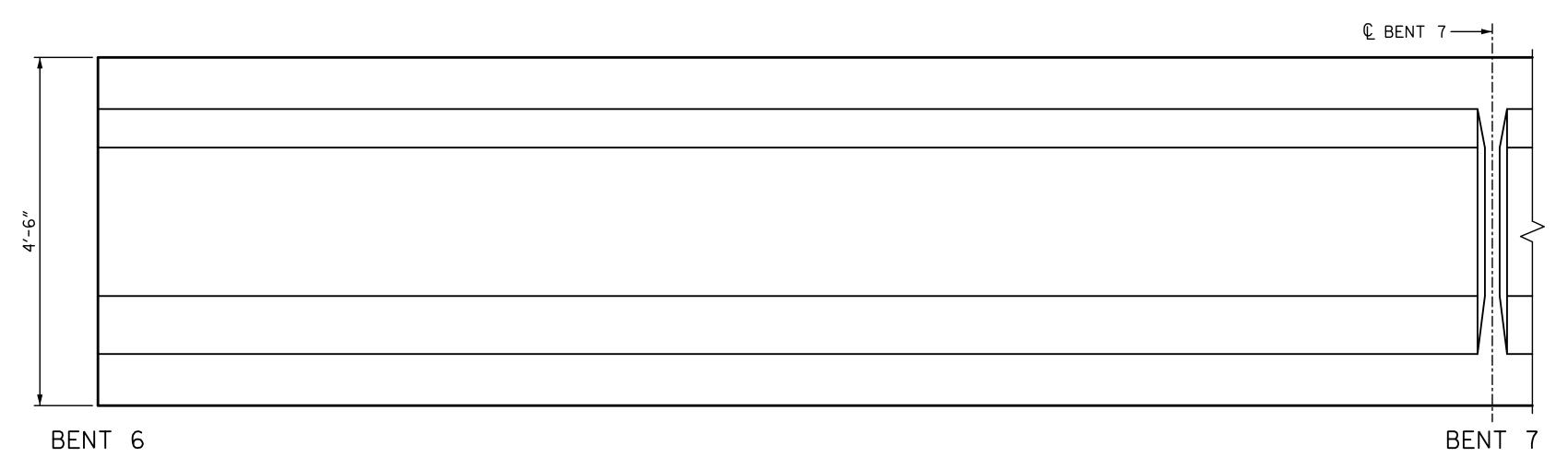
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SIMPSON NGINEERS ASSOCIATES **DOCUMENT NOT CONSIDE** 

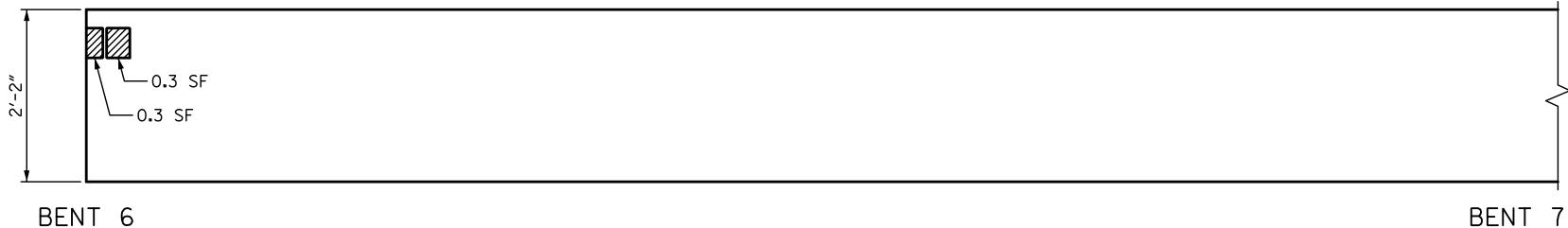
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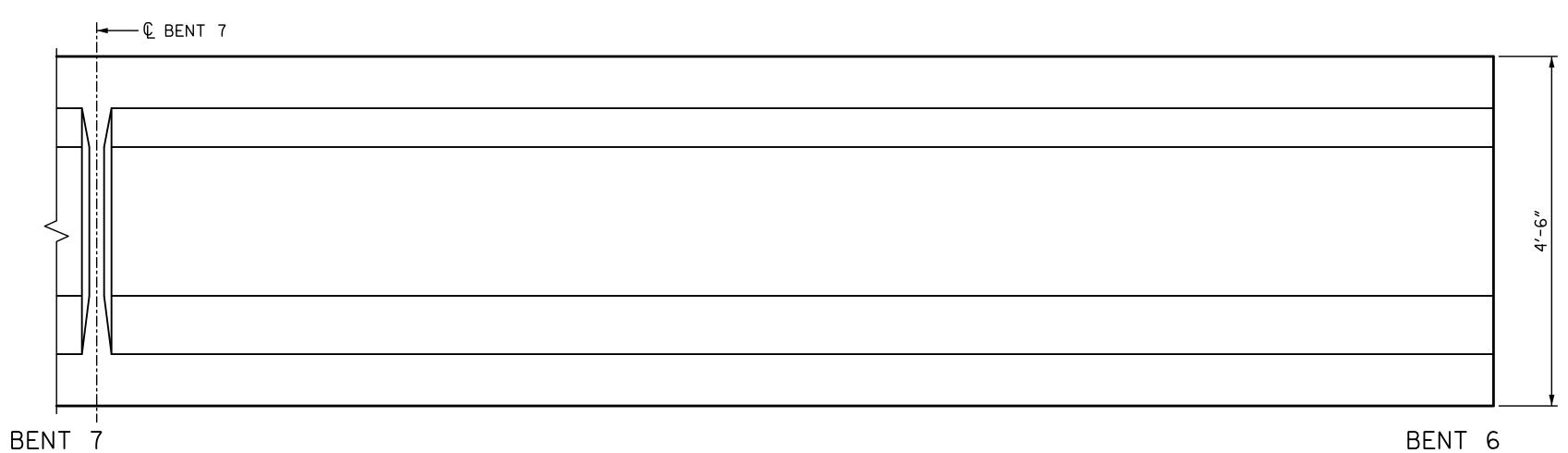
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



PLAN BOTTOM OF BEAM LOOKING UP



REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 7 GRD. 2 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF VOLUME AREA VOLUME DEPTH GIRDER 0.6 0.2 EPOXY RESIN INJECTION LF GIRDER 0.0

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 2 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 7 GIRDER 2

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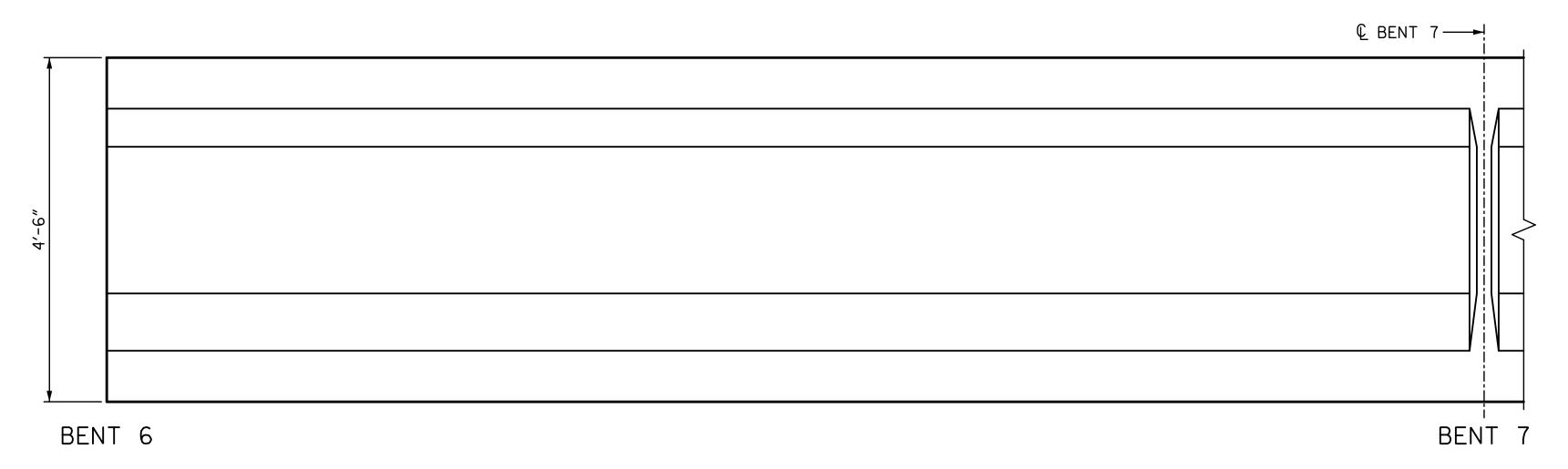
PLANS PREPARED BY:

DATE: 9-20
DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

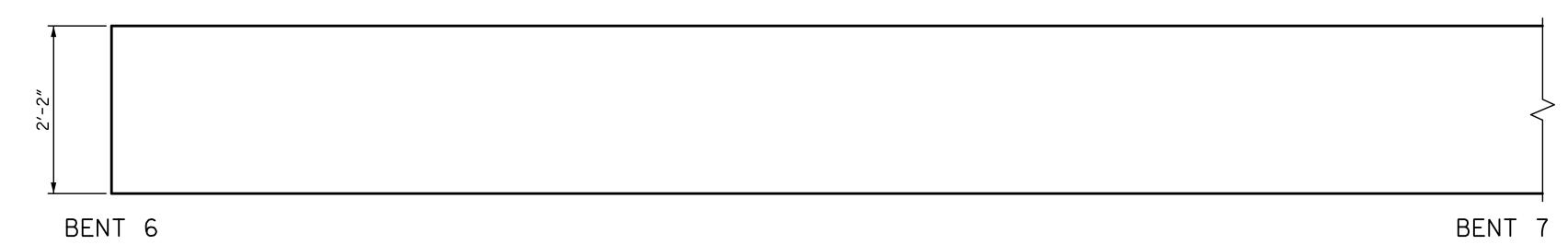
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ELEVATION NORTH FACE

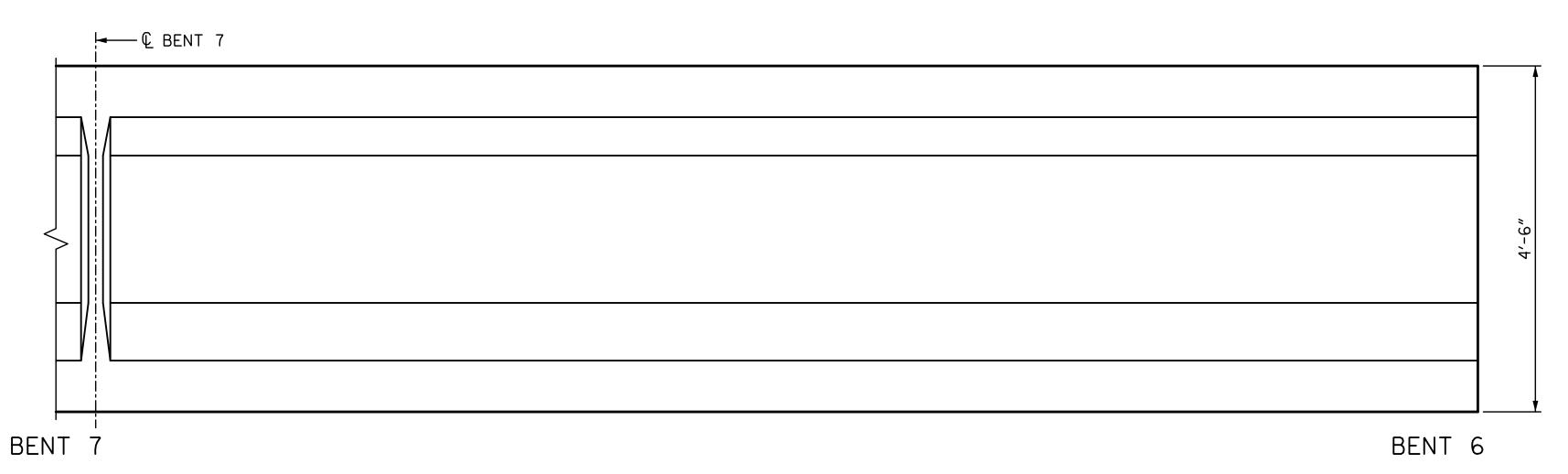
ERI — EPOXY RESIN INJECTION







# PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 7 GRD. 3 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 3 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 7 GIRDER 3

> > SHEET NO.

S1-65

TOTAL SHEETS

DATE:

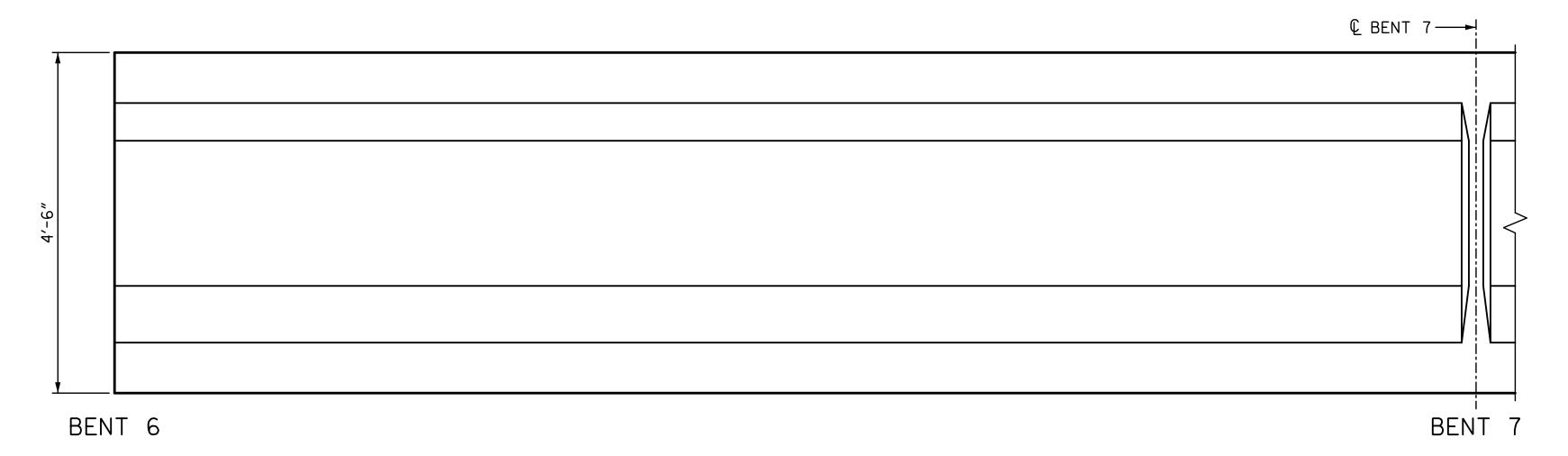
PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES SEAL 24390

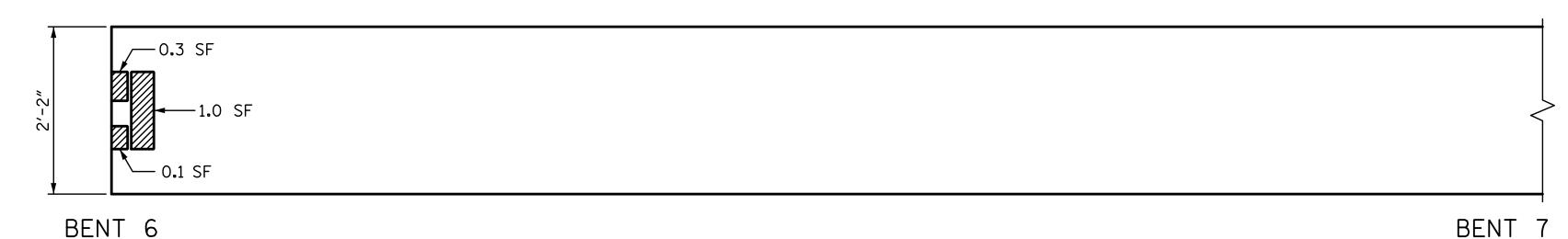
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED					
CENSURE NO. C-2521	9/29/2020				
19)852-0468 19)852-0598 (Fax) ww.simpsonengr.com	JANO J. BERGIA				

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5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.c LICENSURE

ERI — EPOXY RESIN INJECTION



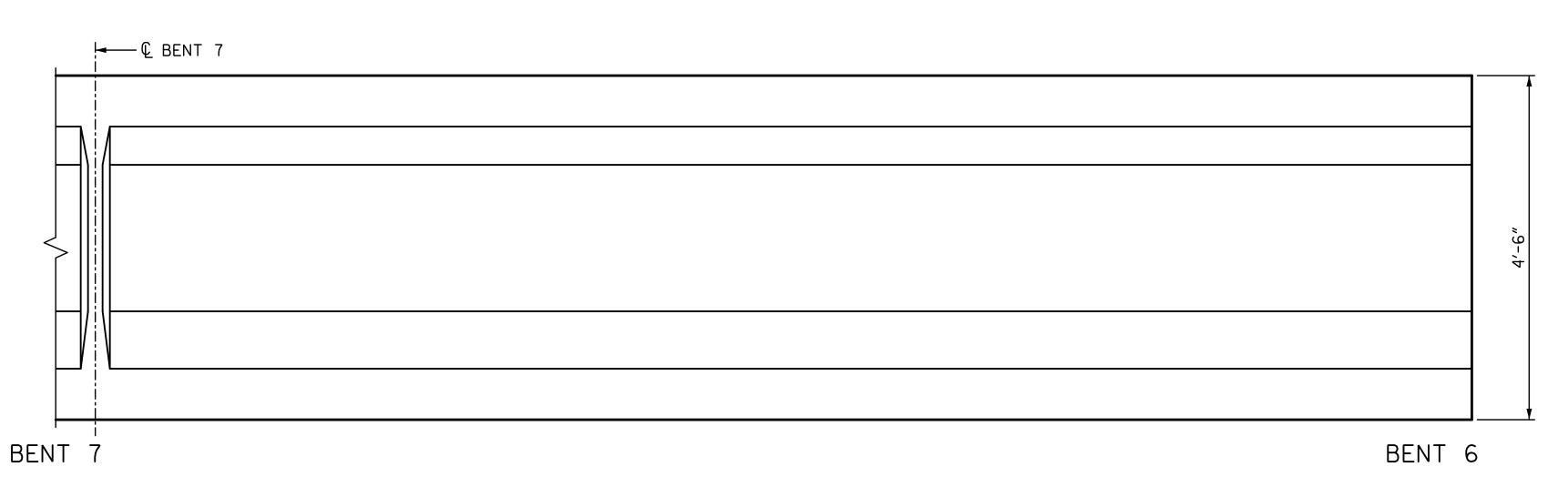


PLAN

BOTTOM OF BEAM
LOOKING UP

ELEVATION

SOUTH FACE



ELEVATION
NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 7 GRD. 4 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 1.4 0.5 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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PROJECT NO. 15BPR.26

NEW HANOVER/PENDER COUNTY

BRIDGE NO.: 640048

SHEET 4 OF 7

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

SPAN 7
GIRDER 4

Fax)
gr.com
C-2521

SI AIN
GIRDEF
OTIVE

REVISIONS

SHEET NO.
S1-66

TOTAL
SHEETS
163

PLANS PREPARED BY:

SIMPSON
NGINEERS
SSOCIATES

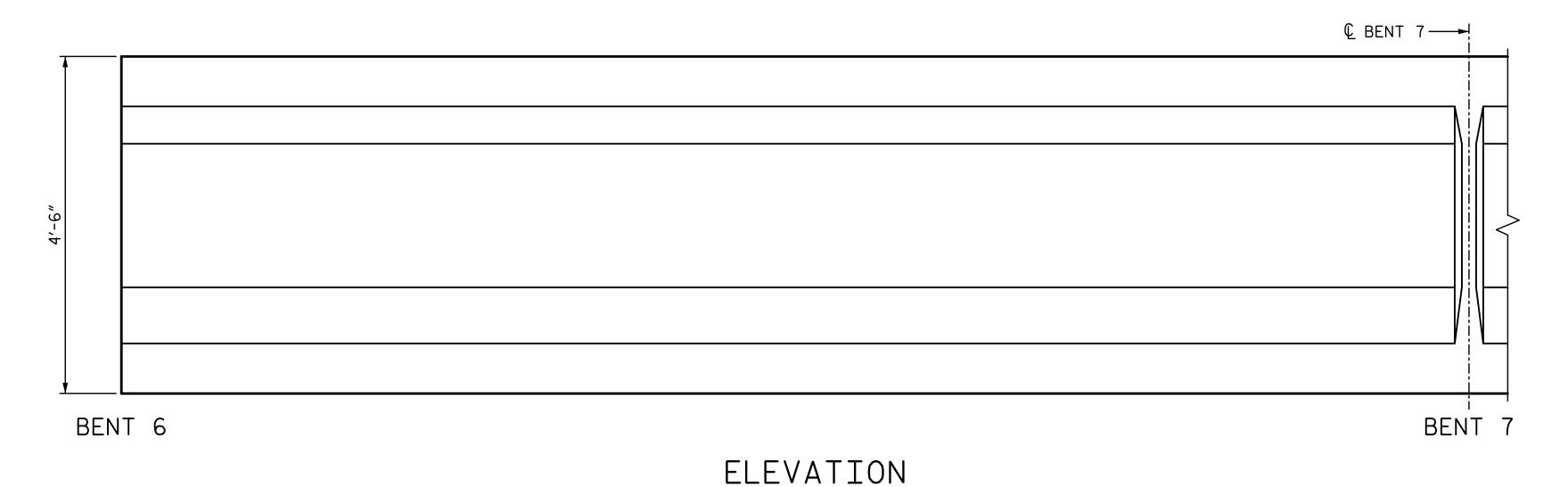
5640 Dillard Drive
Suite 200
Cary, NC 27518
(919) 852-0468
(919) 852-0468
(919) 852-0598 (Fax)
www.simpsonengr.com

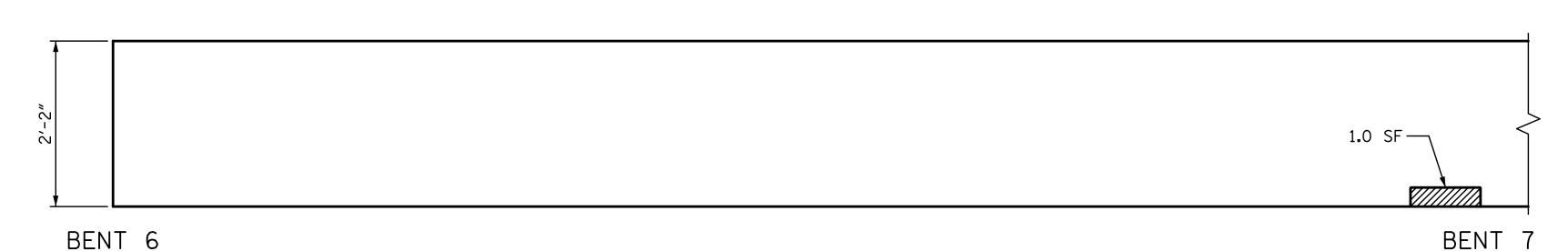
LICENSURE NO. C-2521

DRAWN BY: \_\_\_\_\_T.BANKOVICH DATE: \_\_\_\_9-20 CHECKED BY: \_\_\_\_\_T.J.BEACH DATE: \_\_\_9-20 DESIGN ENGINEER OF RECORD: \_\_\_\_\_T.J.BEACH DATE: \_\_\_9-20

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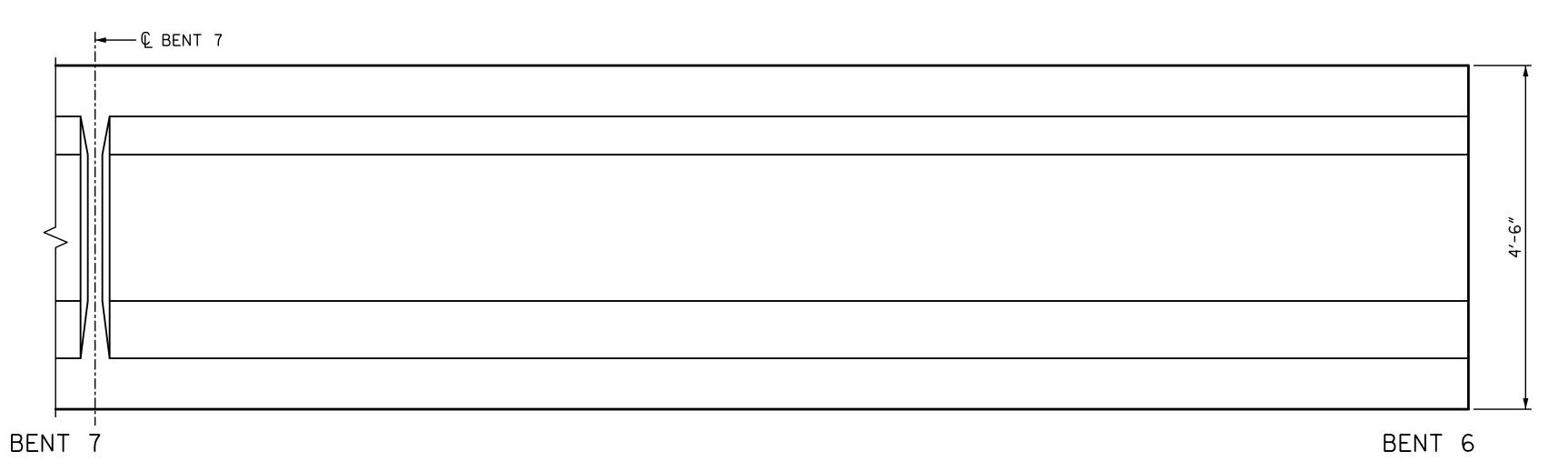
ERI — EPOXY RESIN INJECTION





SOUTH FACE

PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 7 GRD. 5 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 1.0 0.3 EPOXY RESIN INJECTION LF GIRDER 0.0

## NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 5 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

SPAN 7

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GIRDER 5

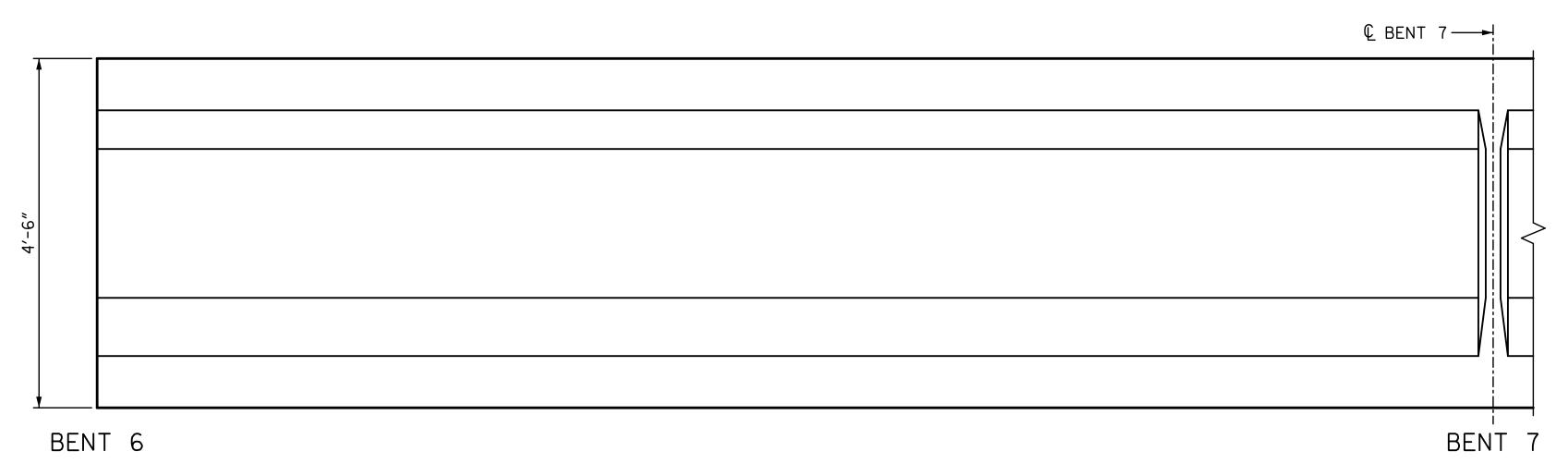
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SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521 DOCUMENT NOT CONSIDERED FINAL

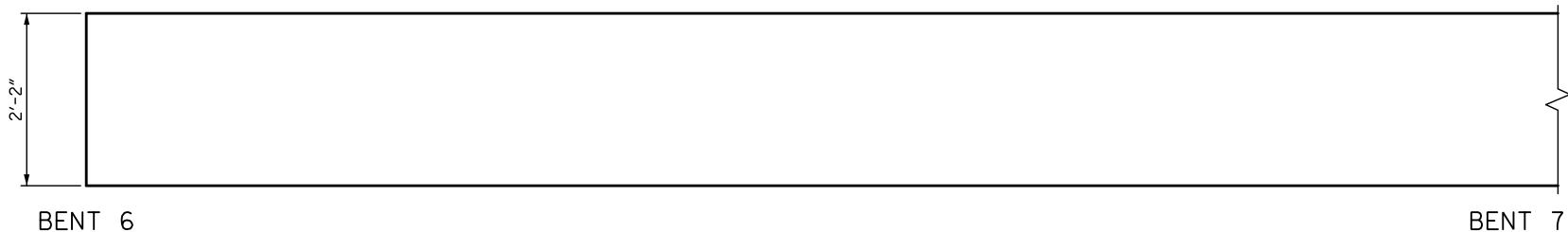
**UNLESS ALL SIGNATURES COMPLETED** 

PLANS PREPARED BY:

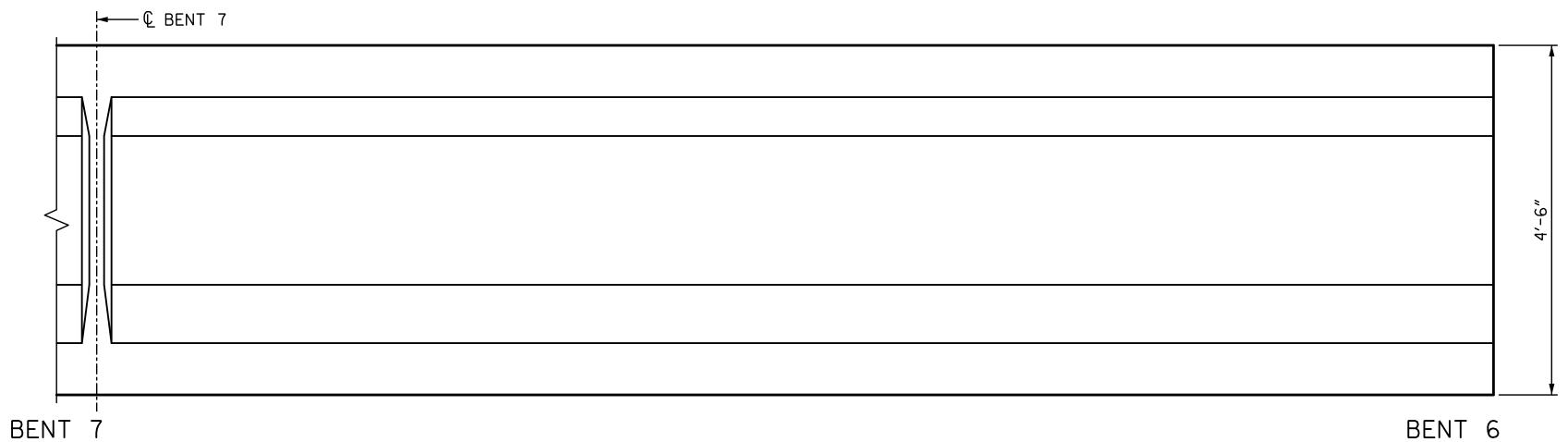
ERI — EPOXY RESIN INJECTION







# PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 7 GRD. 6 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF VOLUME AREA VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .: \_\_

SHEET 6 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 7 GIRDER 6

PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES

19)852-0598 (Fax) ww.simpsonengr.com [CENSURE NO.C-2521]	9/29/2020				
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED					

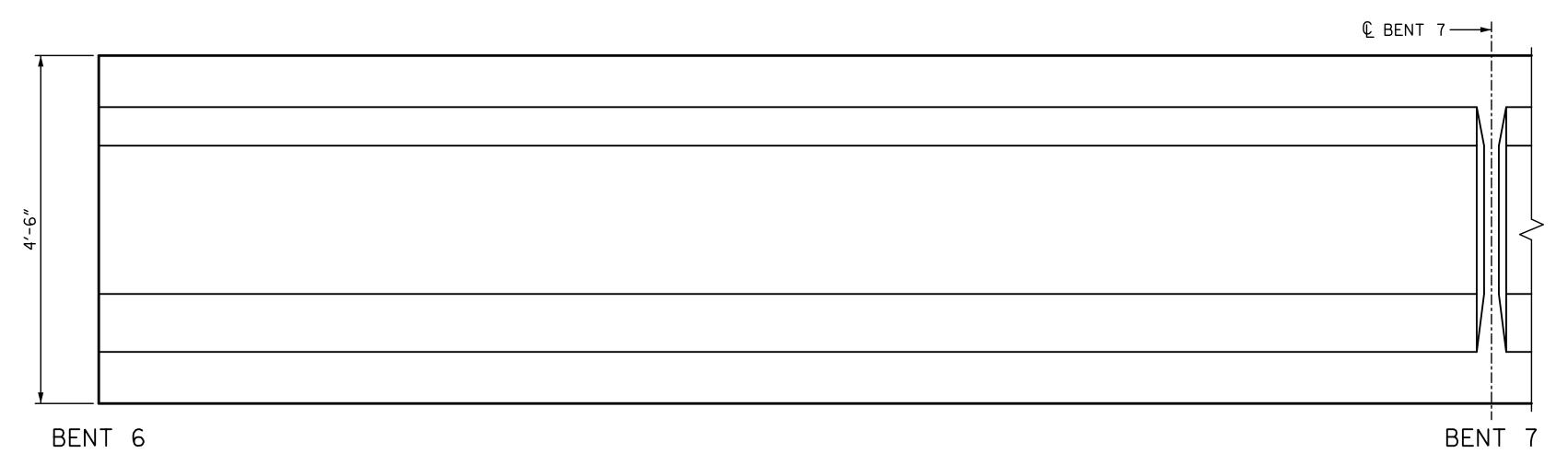
	REVISIONS					SHEET NO.
•	BY:	S1-68				
			3			TOTAL SHEETS
)			4			163

5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.c LICENSURE NO. **DOCUME** 

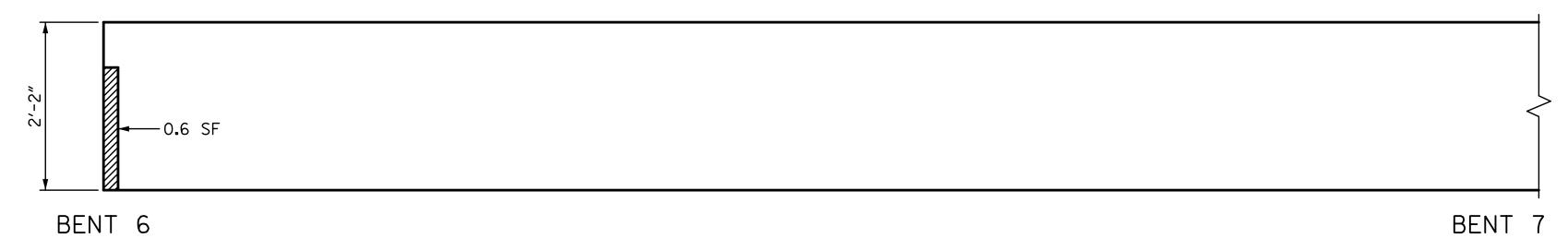
DATE: 9-20
DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

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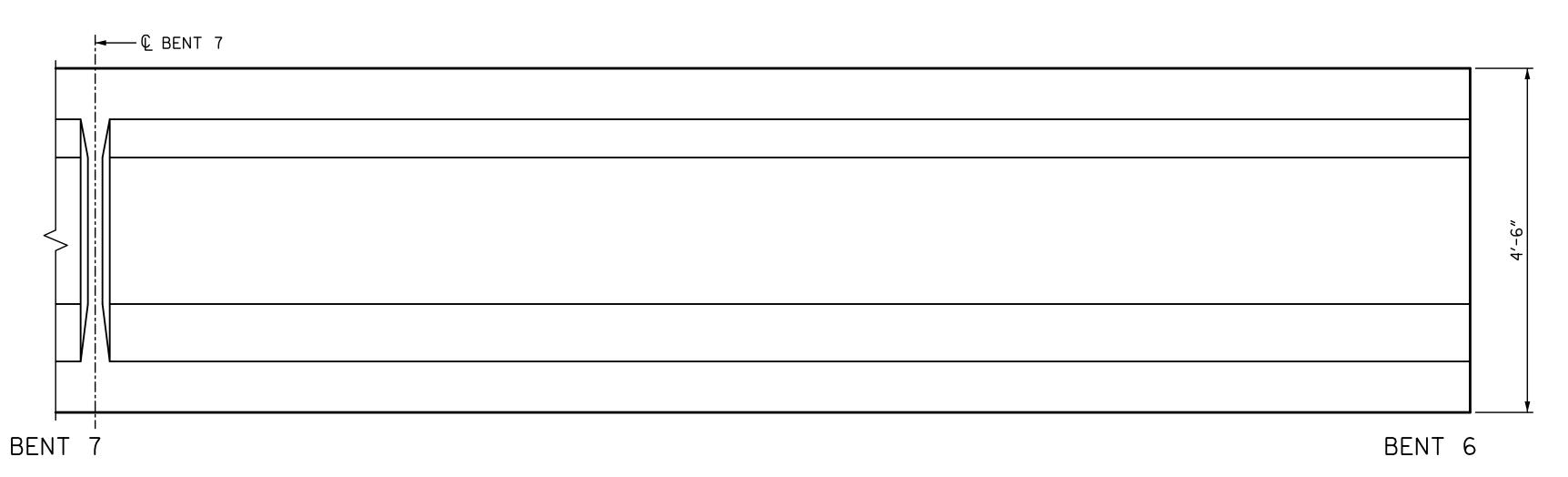
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 7 GRD. 7 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.6 0.2 EPOXY RESIN INJECTION LF GIRDER 0.0

## NOTES:

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FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_\_

SHEET 7 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 7 GIRDER 7

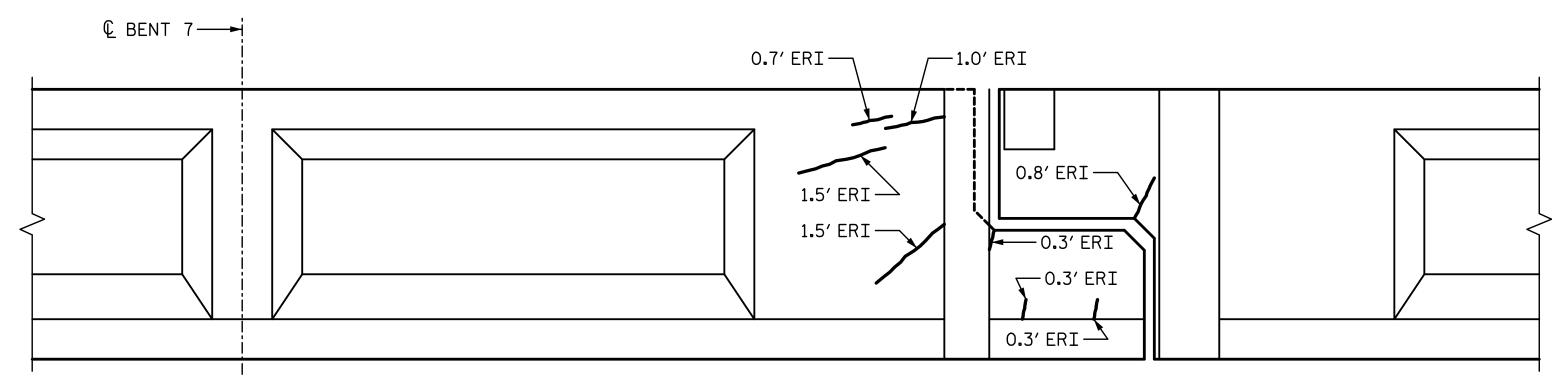
PLANS PREPARED BY:

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CENSURE NO. C-2521	9/29/2020	
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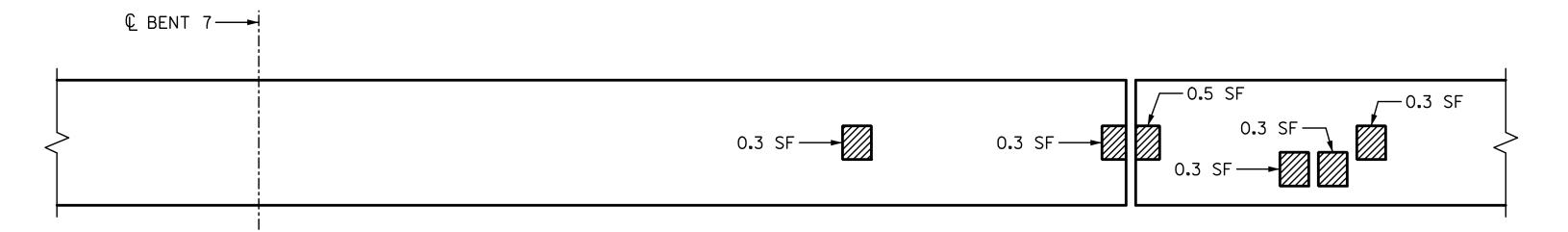
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BY:	DATE:	NO.	BY:	DATE:	S1-69
		<u></u>			TOTAL SHEETS
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NGINEERS
ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)

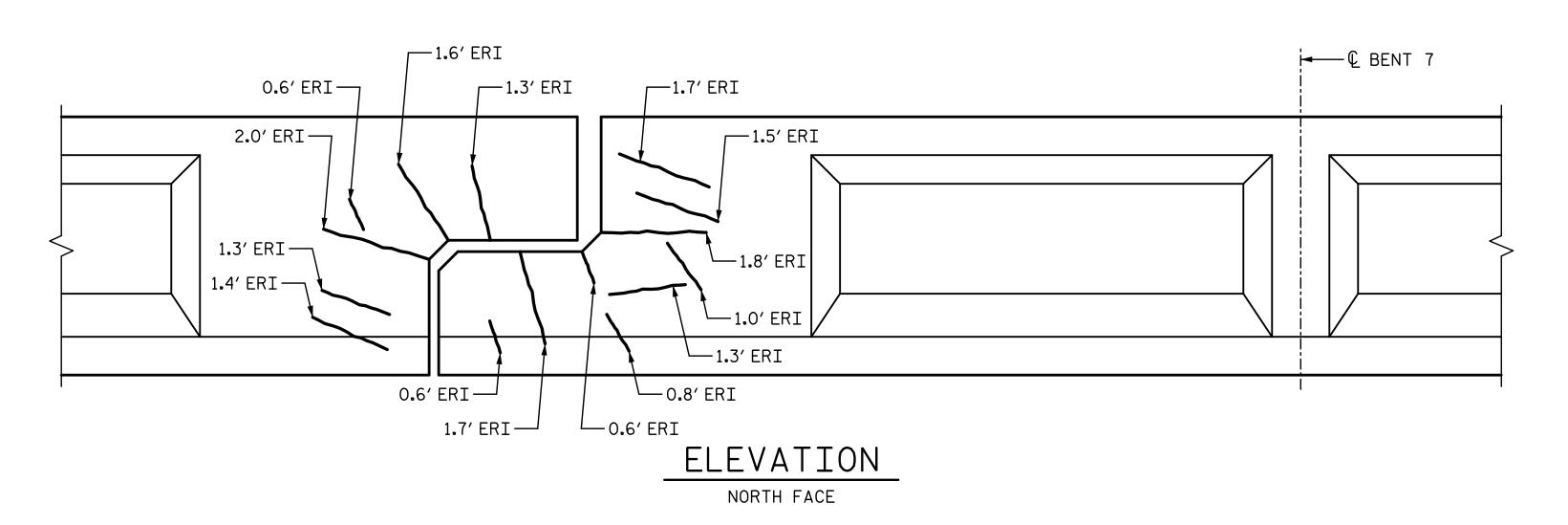
ERI — EPOXY RESIN INJECTION



# ELEVATION SOUTH FACE



# PLAN BOTTOM OF BEAM LOOKING UP



REPAIR QUANTITY TABLE QUANTITIES REPAIRS EAST HINGE ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 2.0 0.5 EPOXY RESIN INJECTION LF 25.3 GIRDER

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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PROJECT NO. 15BPR.26

NEW HANOVER/PENDER COUNTY

BRIDGE NO.: 640048

SHEET 1 OF 7

DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

WEST HINGE DETAILS FOR GIRDER 1

PLANS PREPARED BY:

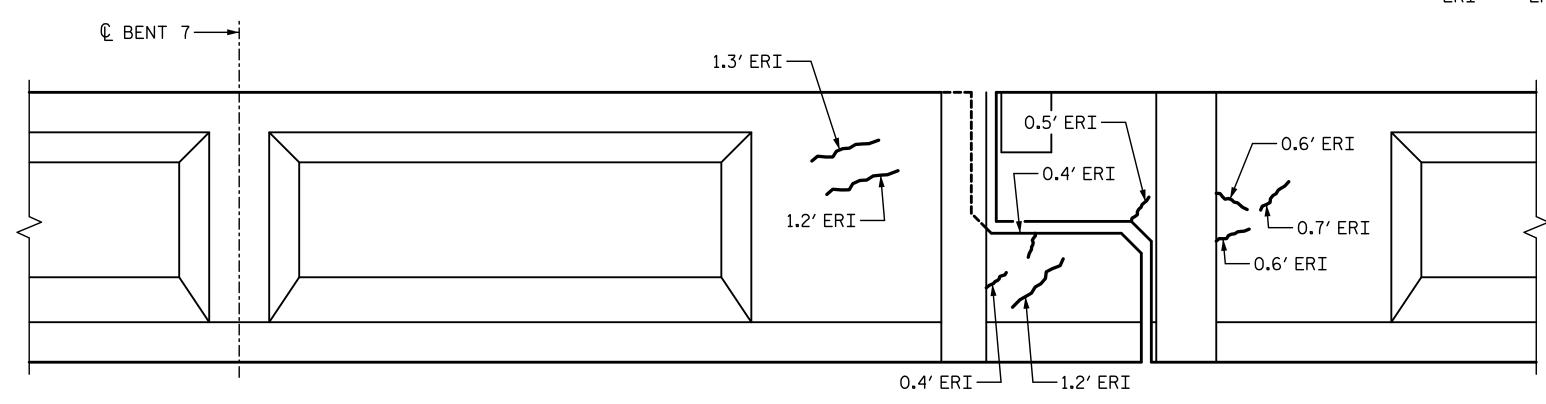
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SSOCIATES

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Suite 200
Cary, NC 27518
(919) 852-0468
(919) 852-0468
(919) 852-0598 (Fax)
www.simpsonengr.com

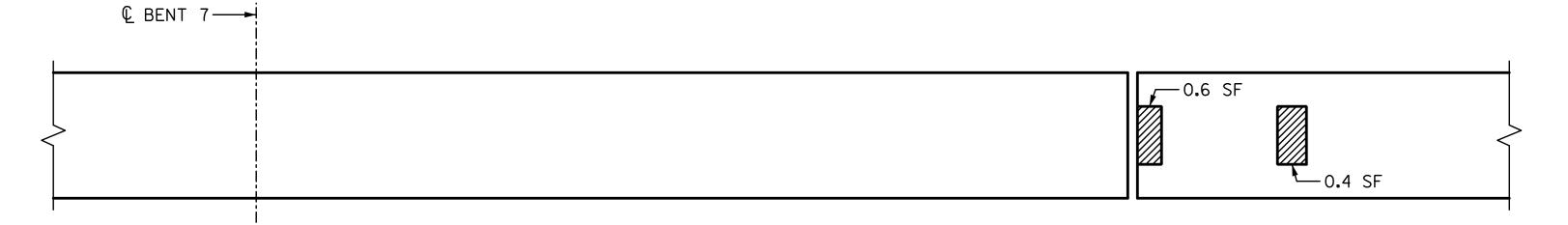
LICENSURE NO. C-2521

DRAWN BY: \_\_\_\_\_\_ DATE: 9-20
CHECKED BY: \_\_\_\_\_\_ T.J. BEACH DATE: 9-20
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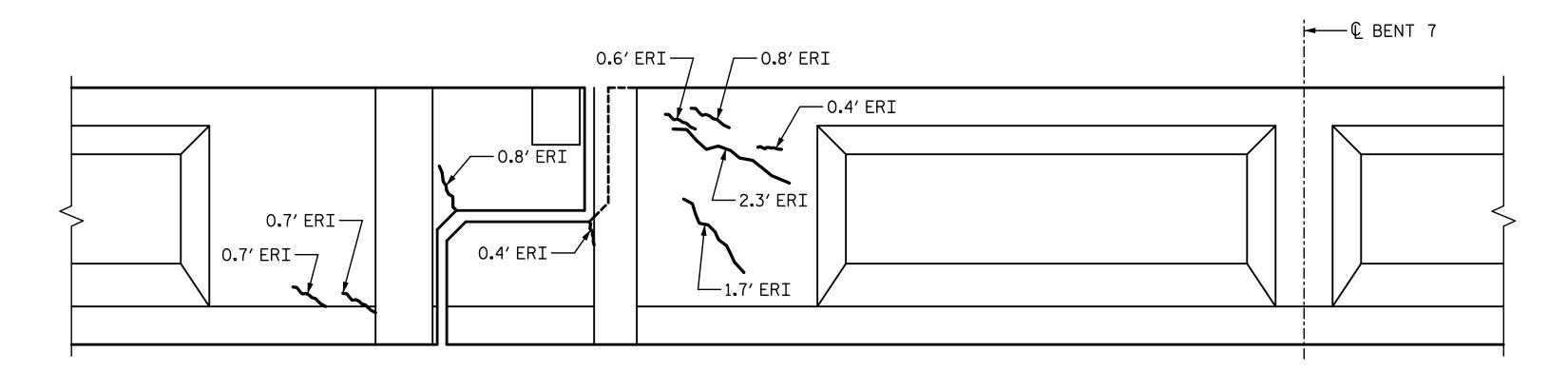
ERI — EPOXY RESIN INJECTION



#### ELEVATION SOUTH FACE



## BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS EAST HINGE ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 1.0 0.5 EPOXY RESIN INJECTION LF 15.3 GIRDER

#### NOTES:

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FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .: \_\_

SHEET 2 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

WEST HINGE DETAILS FOR GIRDER 2

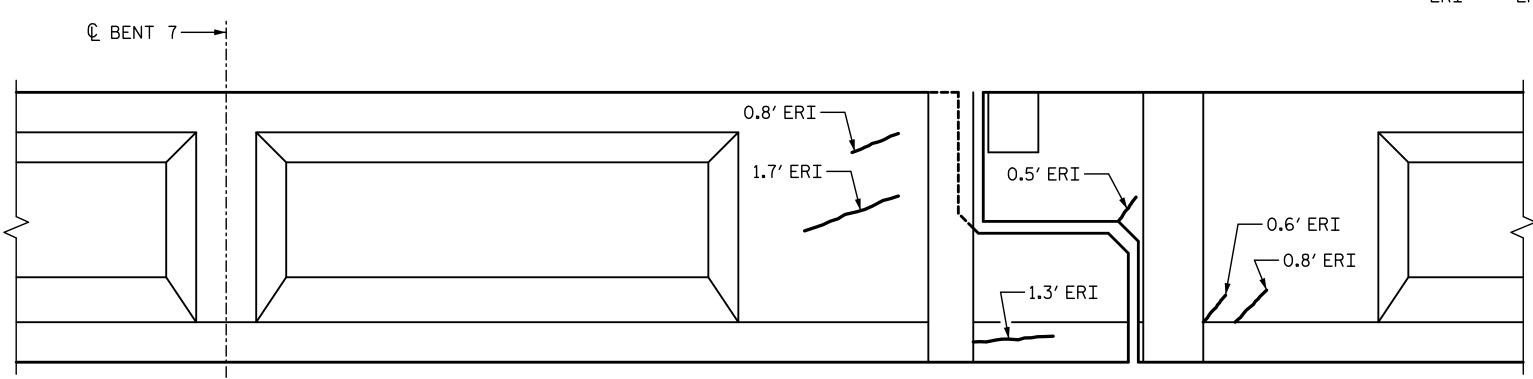
5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521 BY: **DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** 

PLANS PREPARED BY:

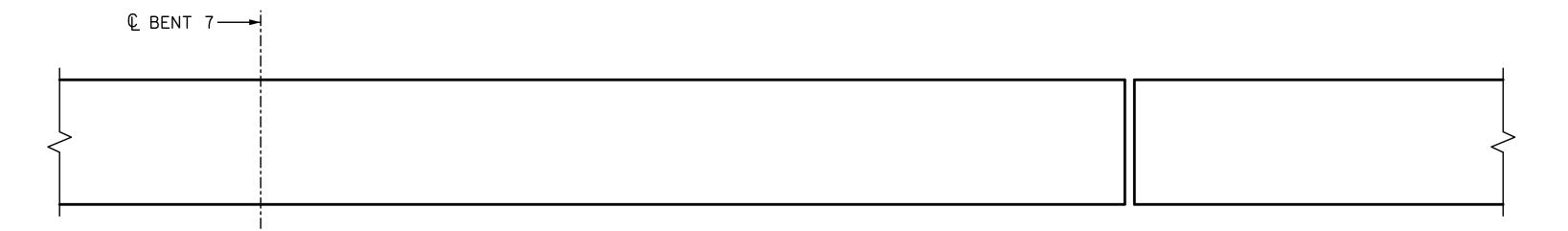
SIMPSON NGINEERS ASSOCIATES

REVISIONS NO. BY: DATE:

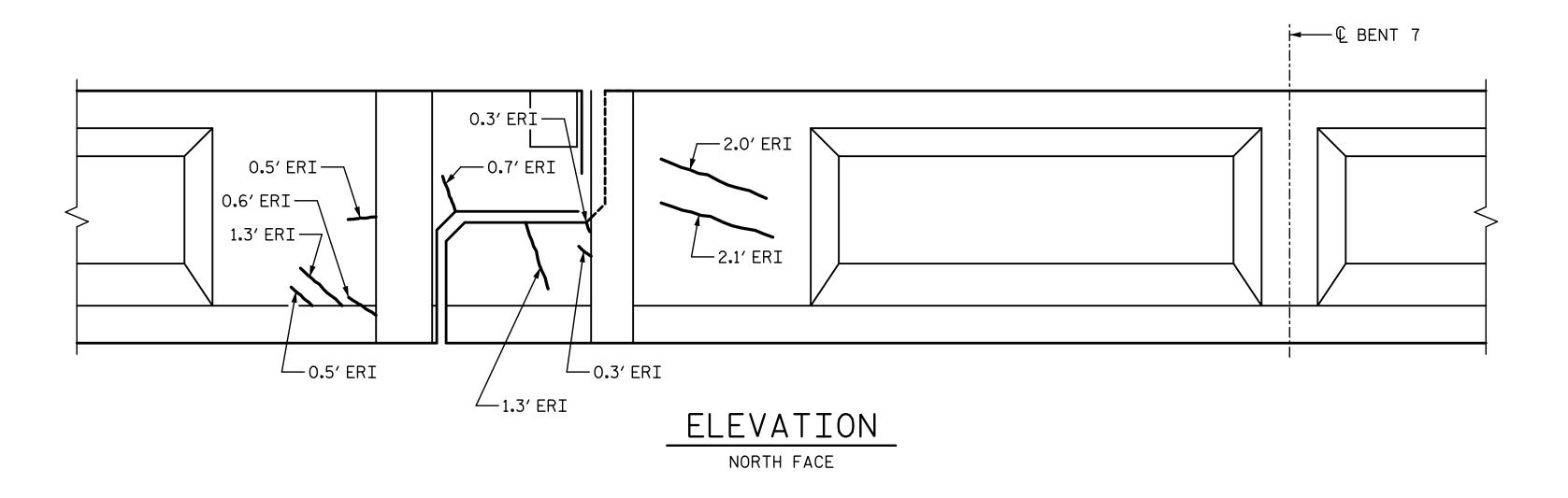
SHEET NO. S1-71 DATE: TOTAL SHEETS 163



#### ELEVATION SOUTH FACE



## BOTTOM OF BEAM LOOKING UP



REPAIR QUANTITY TABLE QUANTITIES REPAIRS EAST HINGE ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF 15.3 GIRDER

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .: \_

SHEET 3 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

WEST HINGE DETAILS FOR GIRDER 3

SHEET NO.

S1-72

TOTAL SHEETS

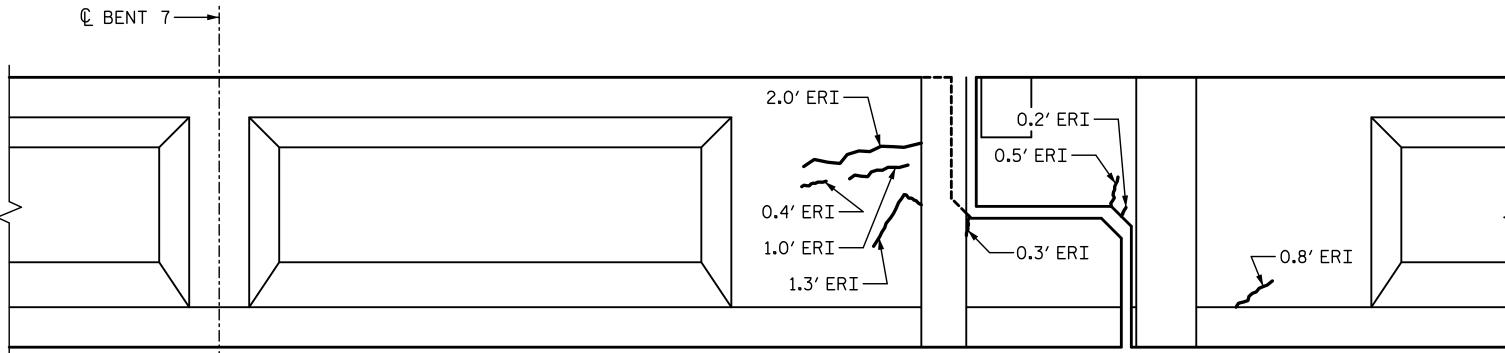
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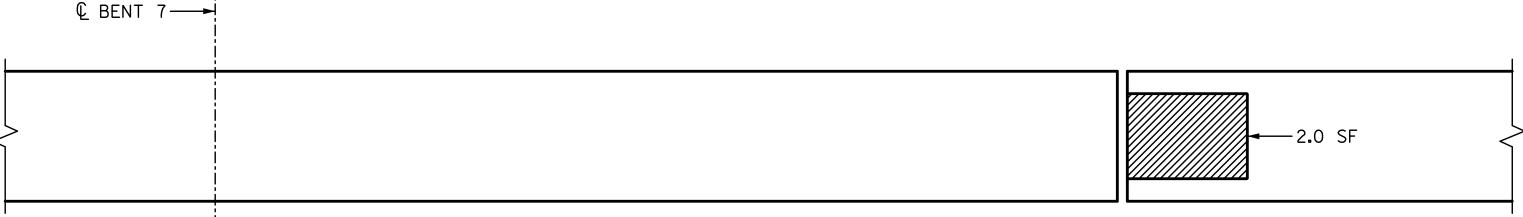
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PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

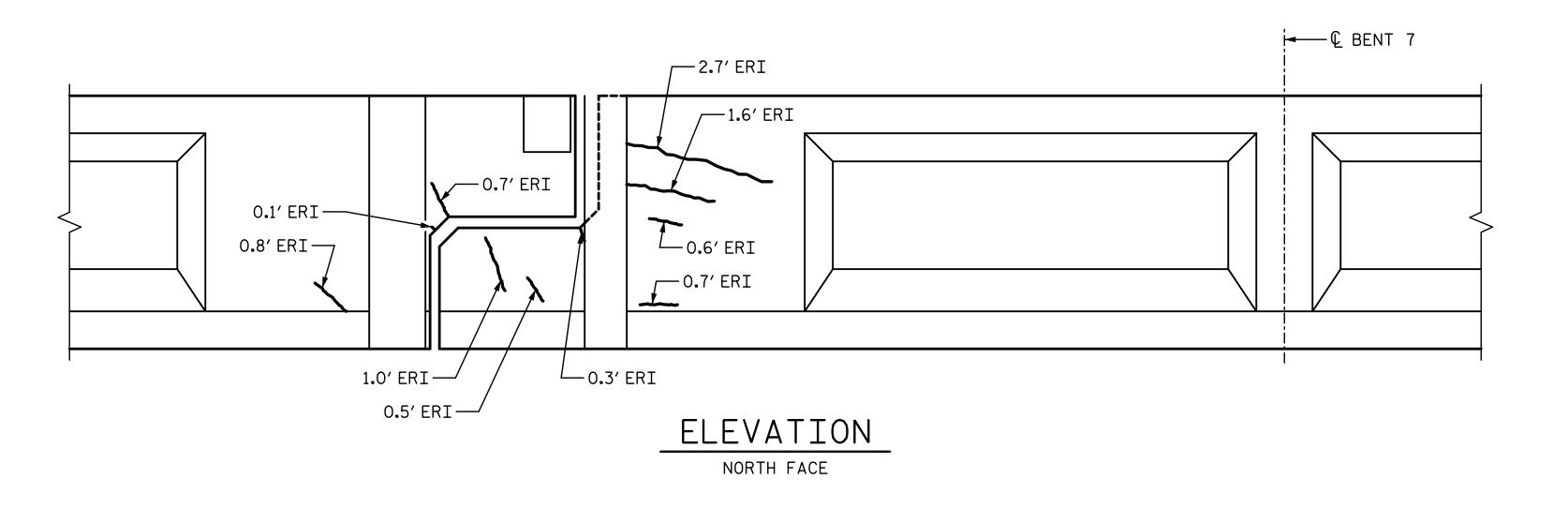
ERI — EPOXY RESIN INJECTION



#### ELEVATION SOUTH FACE



## BOTTOM OF BEAM LOOKING UP



REPAIR QUANTITY TABLE QUANTITIES REPAIRS EAST HINGE ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 2.0 0.8 EPOXY RESIN INJECTION LF 15.5 GIRDER

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048

SHEET 4 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

WEST HINGE DETAILS FOR GIRDER 4

SHEET NO.

S1-73

TOTAL SHEETS

163

REVISIONS 9/29/2020 NO. BY: DATE: DATE: BY: **UNLESS ALL SIGNATURES COMPLETED** 

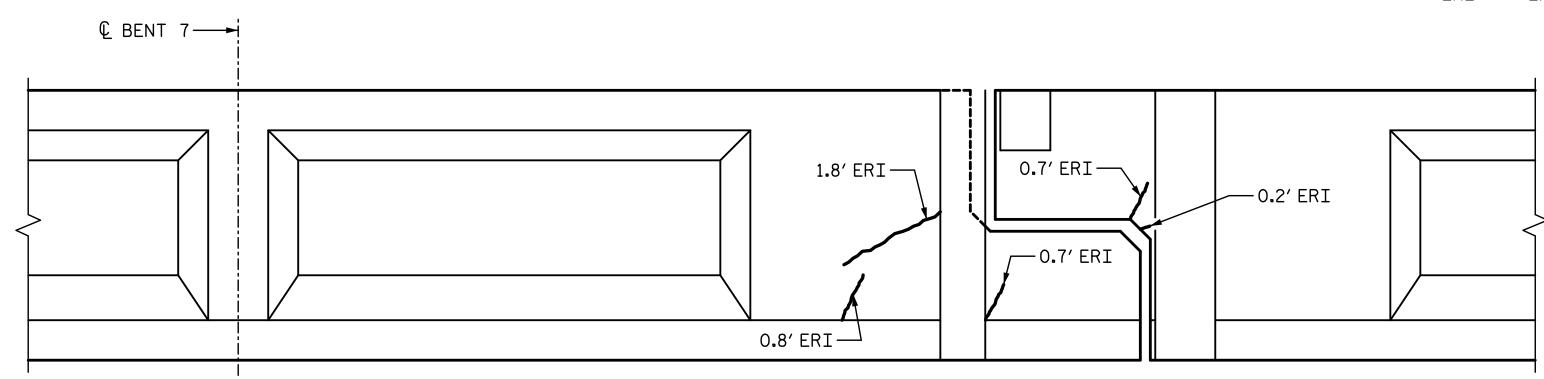
PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

DATE: 9-20
DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

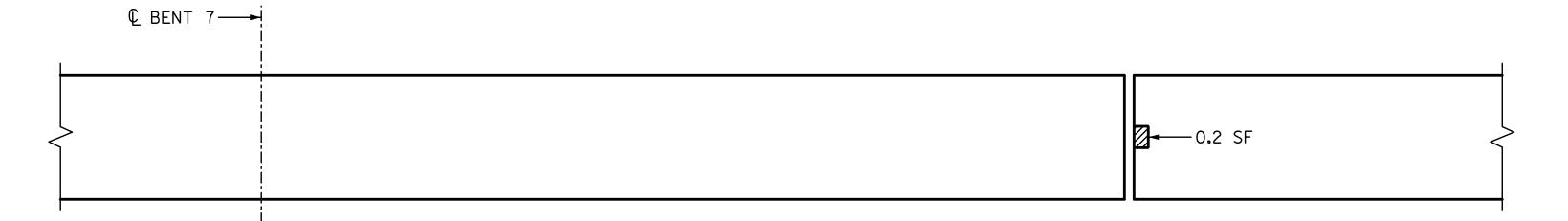
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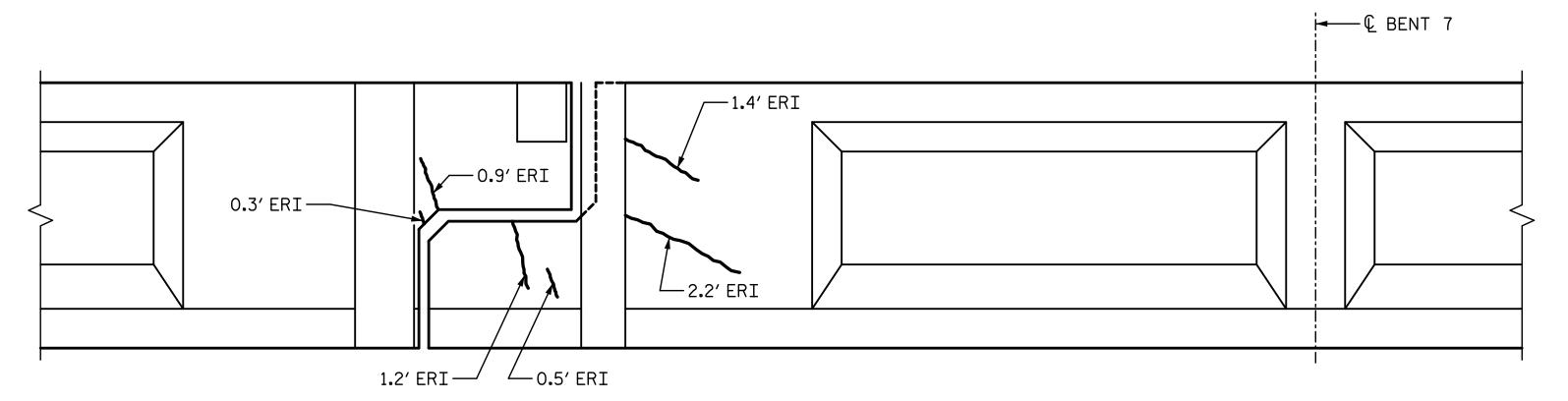
ERI — EPOXY RESIN INJECTION



#### ELEVATION SOUTH FACE



## BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE						
REPAIRS EAST HINGE	QUANTITIES					
REPAIRS EAST HINGE	ESTIMATE			<del>-</del>		
REPAIRS OF PRESTR. AF		VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	0.2	0.1				
EPOXY RESIN INJECT:	ION	LF			LF	
GIRDER		10.7				

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_\_\_

SHEET 5 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

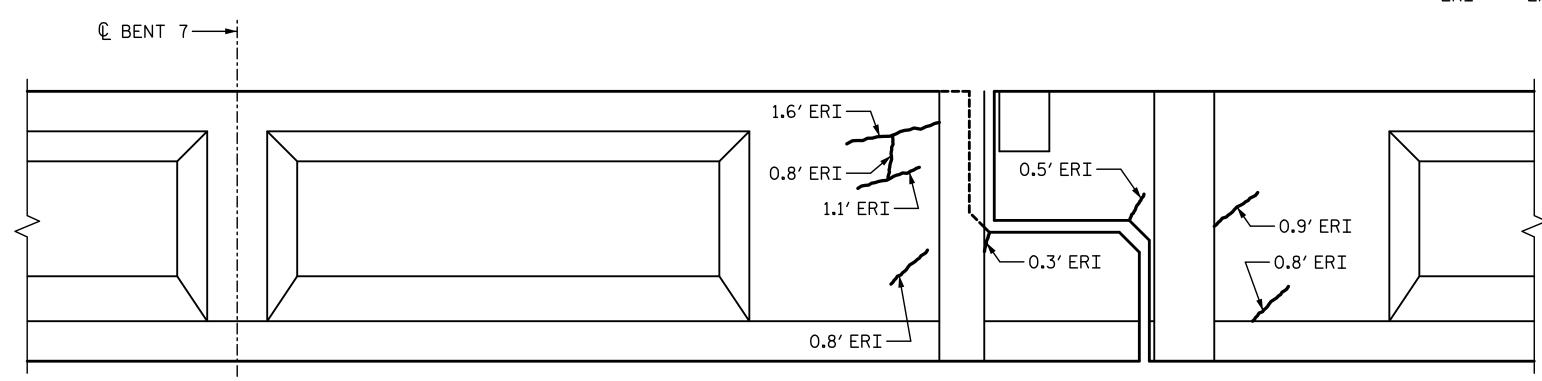
WEST HINGE DETAILS FOR GIRDER 5

PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468

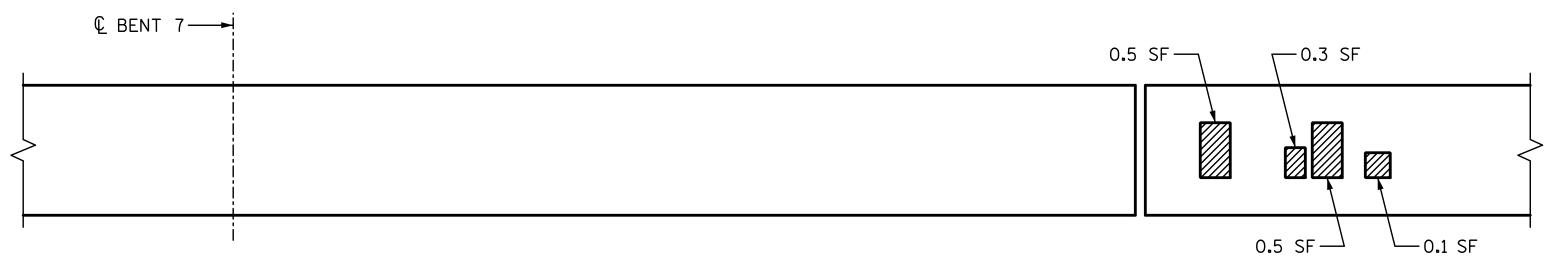
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w.simpsonengr.com	9/29/2020	
9) 852-0598 (Fax)	J. BEKNIN	

REVISIONS SHEET NO. S1-74 NO. BY: DATE: DATE: TOTAL SHEETS

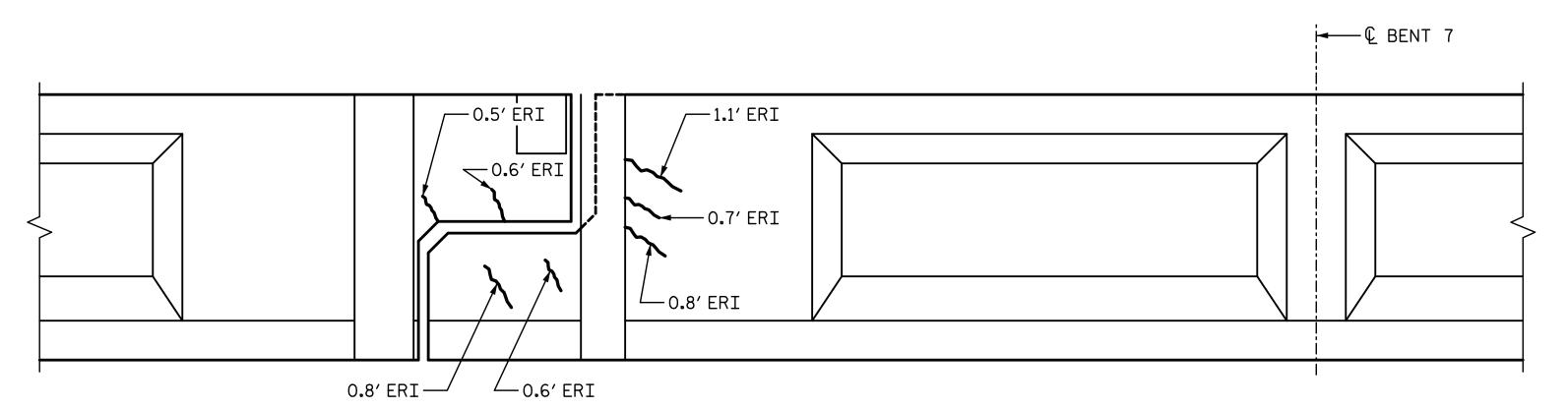
ERI — EPOXY RESIN INJECTION



#### ELEVATION SOUTH FACE



## BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE						
REPAIRS EAST HINGE	QUANTITIES					
INCLIATION LAST TITION	ESTIMATE		ACTUAL			
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	1.4	0.4				
EPOXY RESIN INJECT:	ION	LF			LF	
GIRDER		11.9				

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_\_

SHEET 6 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

WEST HINGE DETAILS FOR GIRDER 6

SHEET NO.

S1-75

TOTAL SHEETS

DATE:

5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com **DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** 

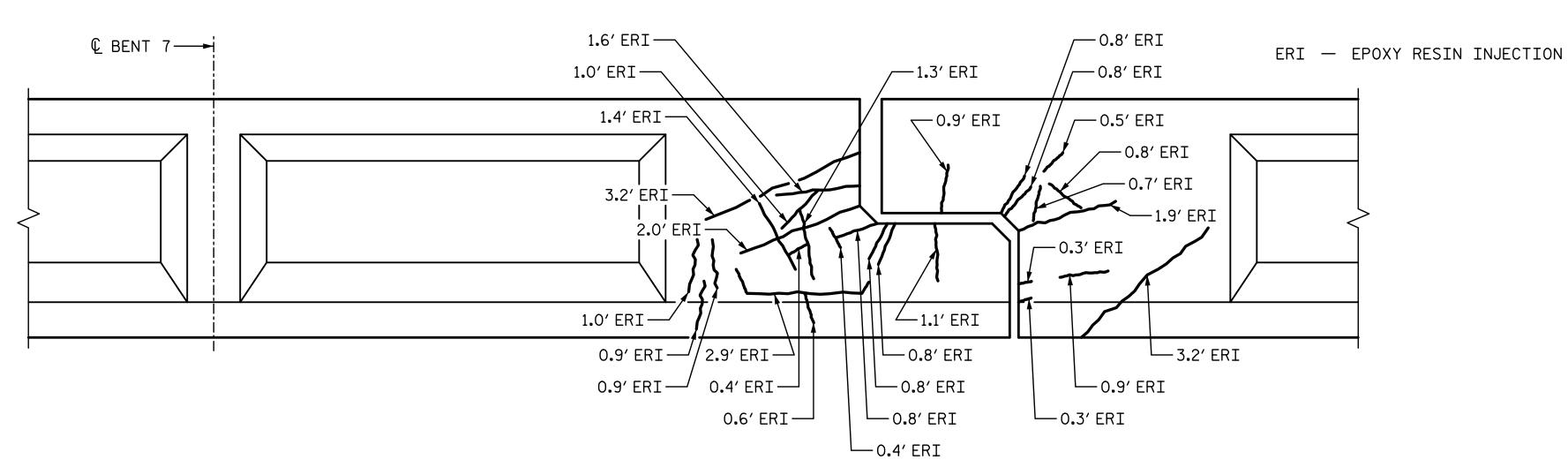
REVISIONS NO. BY: DATE: BY:

DATE: 9-20
DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

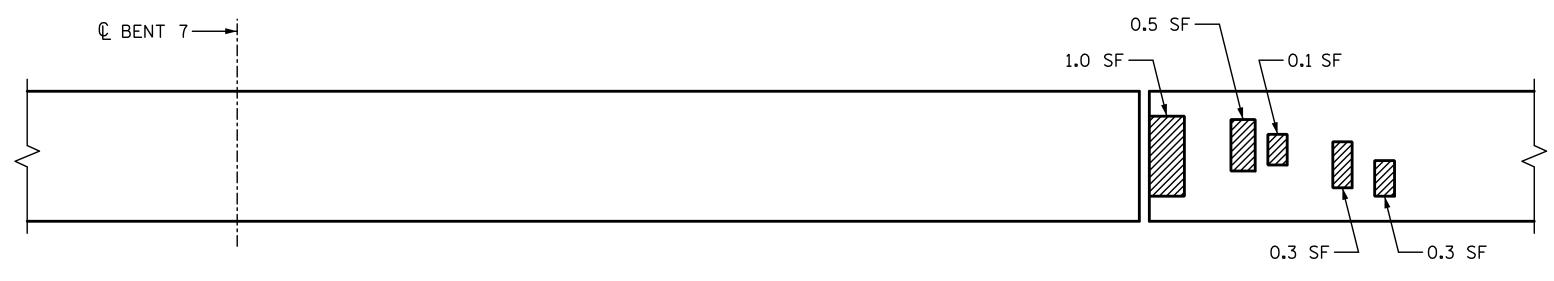
LICENSURE NO. C-2521

PLANS PREPARED BY:

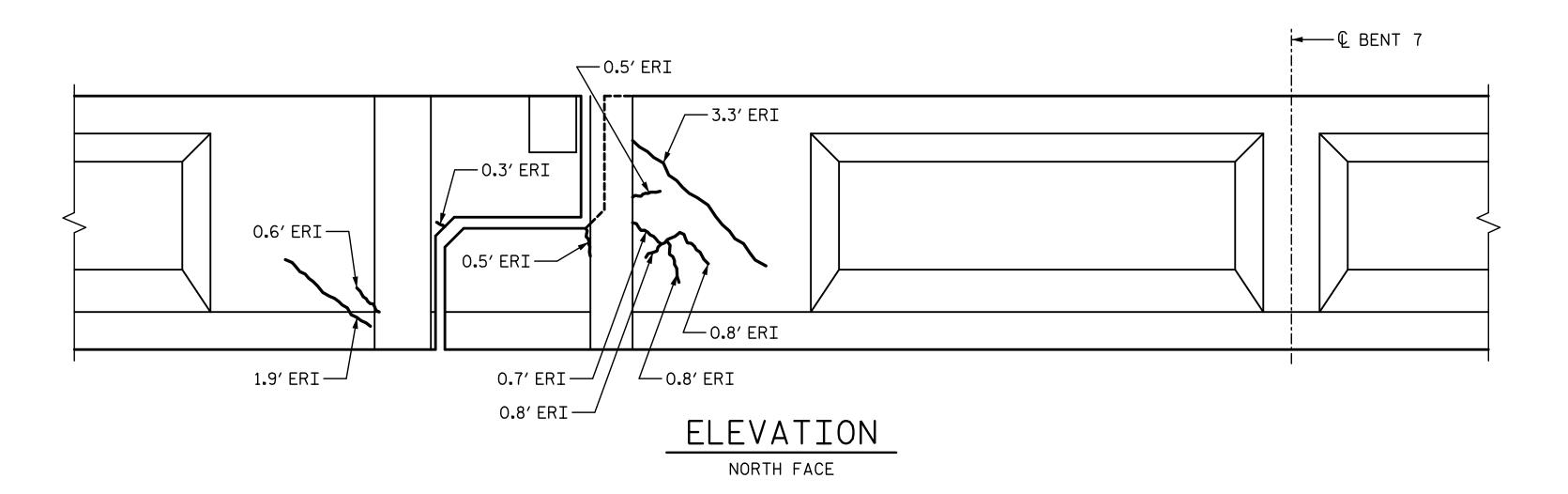
SIMPSON NGINEERS ASSOCIATES



## ELEVATION SOUTH FACE



PLAN
BOTTOM OF BEAM
LOOKING UP



REPAIR QUANTITY TABLE QUANTITIES REPAIRS WEST HINGE ESTIMATE ACTUAL REPAIRS OF PRESTR. AREA SF AREA VOLUME VOLUME DEPTH CONCRETE GIRDERS GIRDER 2.2 1.0 EPOXY RESIN INJECTION LF LF 42.4 GIRDER

#### NOTES:

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PROJECT NO. 15BPR.26

NEW HANOVER/PENDER COUNTY

BRIDGE NO.: 640048

SHEET 7 OF 7

DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

WEST HINGE DETAILS FOR GIRDER 7

REVISIONS

NO. BY: DATE: NO. BY: DATE: S1-76

1 3 TOTAL SHEETS
163

PLANS PREPARED BY:

SIMPSON
NGINEERS
SSOCIATES

5640 Dillard Drive
Suite 200
Cary, NC 27518
(919) 852-0468
(919) 852-0468
(919) 852-0598 (Fax)
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LICENSURE NO. C-2521

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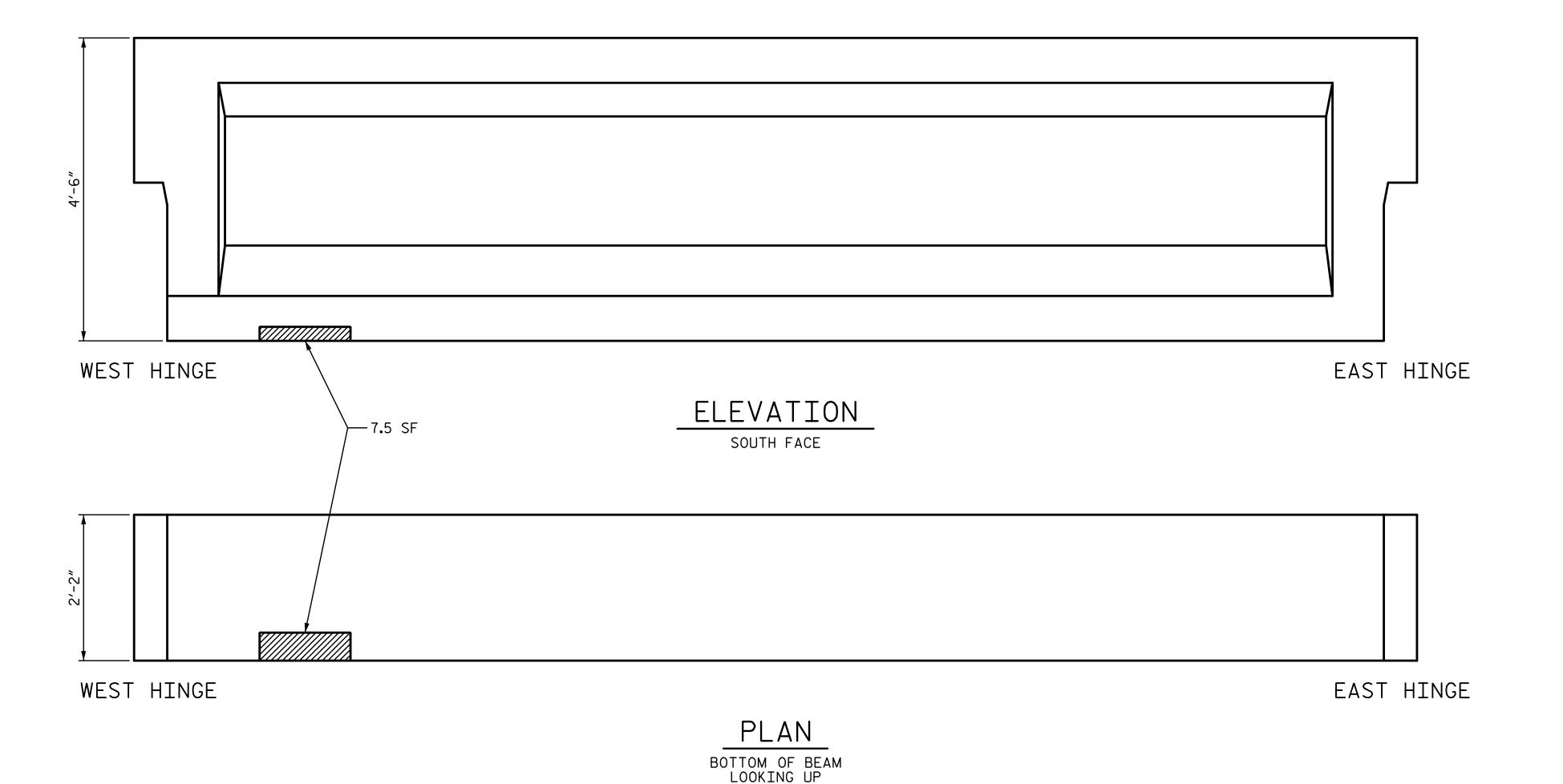
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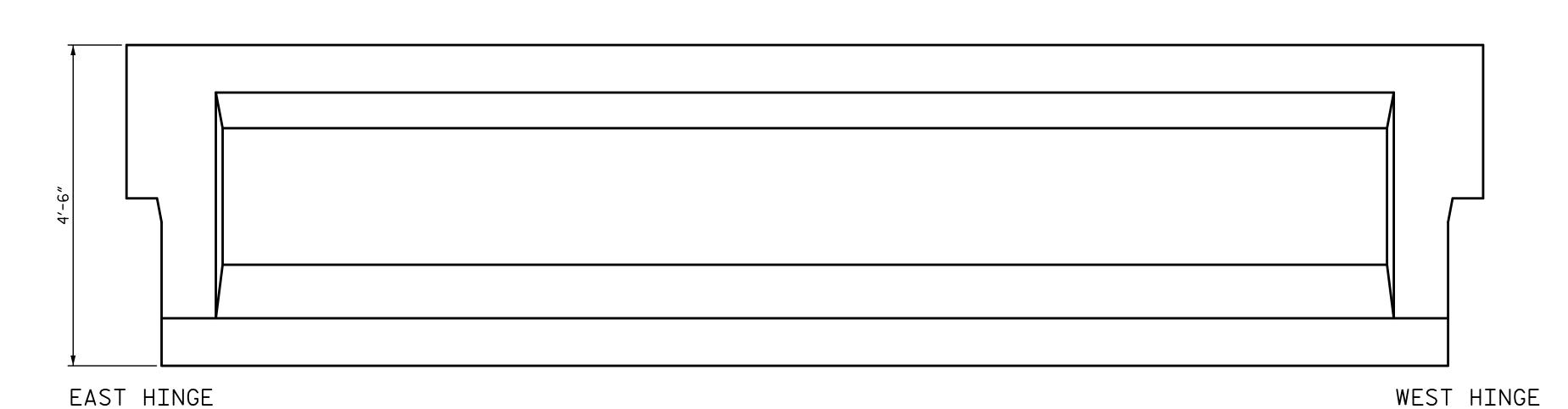
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DRAWN BY: \_\_\_\_T.BANKOVICH DATE: 9-20
CHECKED BY: \_\_\_T.J.BEACH DATE: 9-20
DESIGN ENGINEER OF RECORD: \_\_\_\_T.J.BEACH DATE: 9-20

ERI — EPOXY RESIN INJECTION





ELEVATION

NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 8 GRD. 1 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 7.5 2.0 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 1 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

SPAN 8

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CENSURE NO. C-2521	9/29/2020					
19,652-0468 19)852-0598 (Fax) ww.simpsonengr.com	BEALTINE					

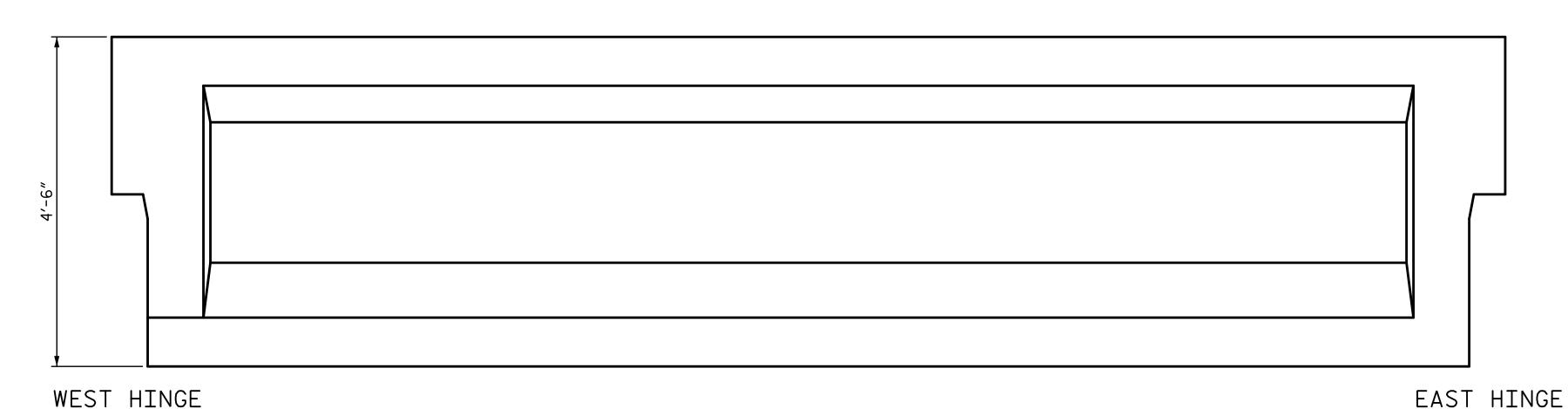
GIRDER 1

SHEET NO. **REVISIONS** S1-77 NO. BY: DATE: DATE: BY: TOTAL SHEETS 163

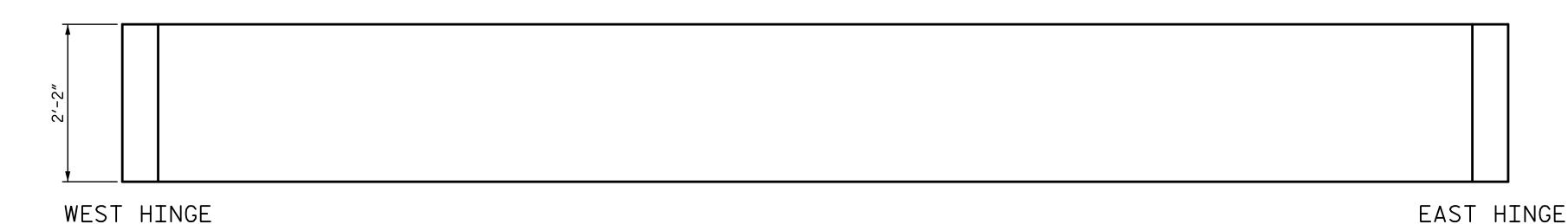
SIMPSON
NGINEERS
ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521 **DOCUMENT NOT COM** 

PLANS PREPARED BY:

ERI — EPOXY RESIN INJECTION

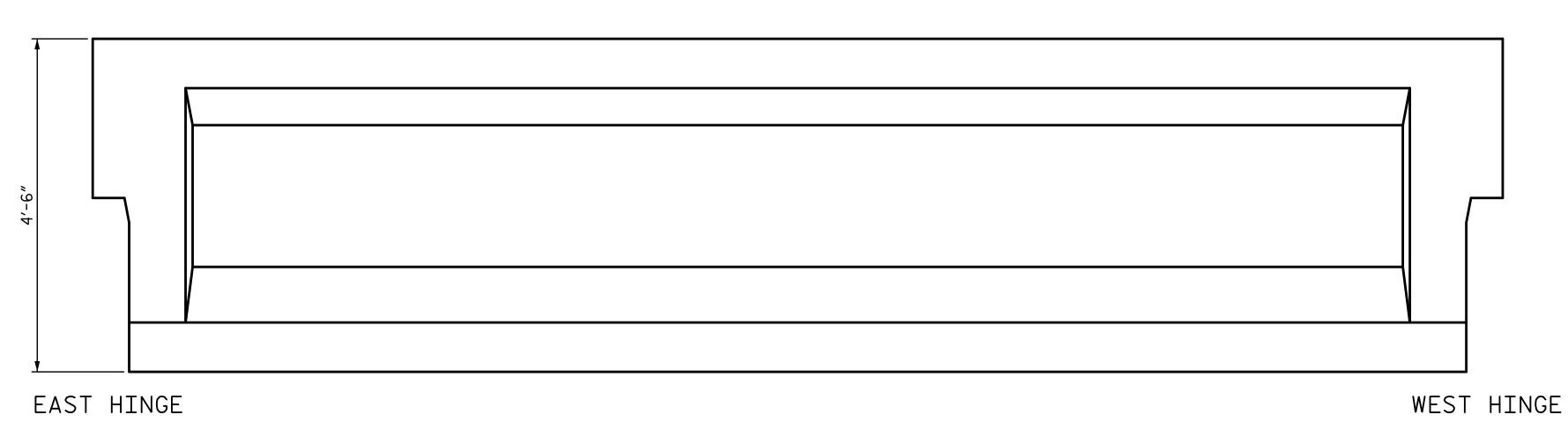


ELEVATION
SOUTH FACE



PLAN

BOTTOM OF BEAM
LOOKING UP



ELEVATION

NORTH FACE

Documents CARO/ Fund Residents
A6B 30 B575245B
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NGINEE
9/29/2020

## NOTES:

GIRDER

GIRDER

REPAIRS SPAN 8 GRD. 2

REPAIRS OF PRESTR. CONCRETE GIRDERS

EPOXY RESIN INJECTION

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

REPAIR QUANTITY TABLE

AREA SF

0.0

ESTIMATE

VOLUME

0.0

LF

0.0

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

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PROJECT NO. 15BPR.26

NEW HANOVER/PENDER COUNTY

BRIDGE NO.: 640048

SHEET 2 OF 7

DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

SPAN 8 GIRDER 2

| REVISIONS | SHEET NO. | SHEET NO. | SHEET NO. | SHEET NO. | STOTAL | SHEET NO. | SHEET NO. | STOTAL | SHEET NO. | SHEET NO. | STOTAL | SHEET NO. | SHEET NO. | SHEET NO. | STOTAL | SHEET SHEE

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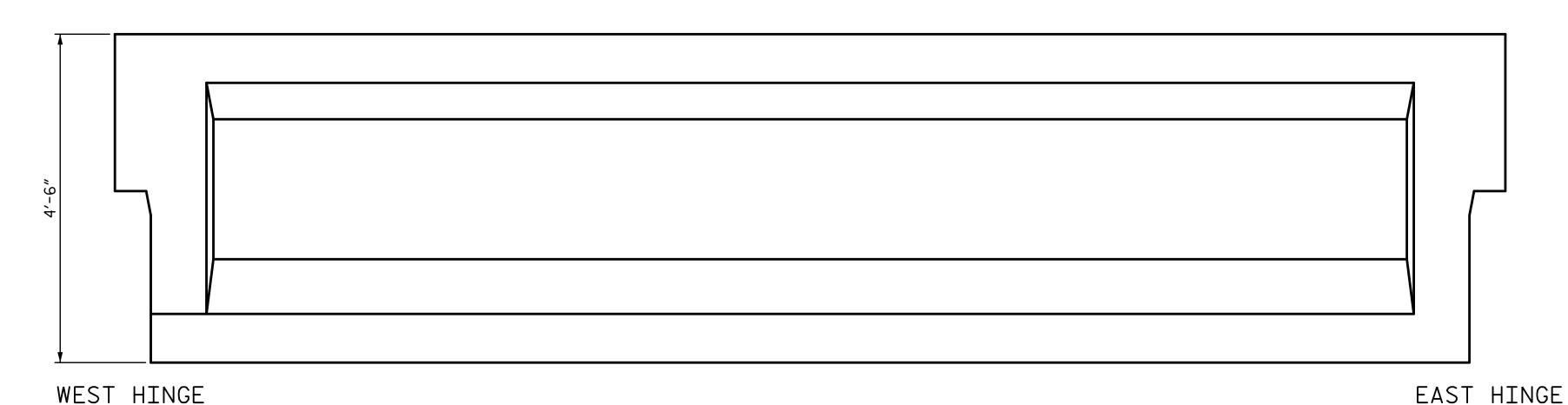
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LICENSURE NO. C-2521

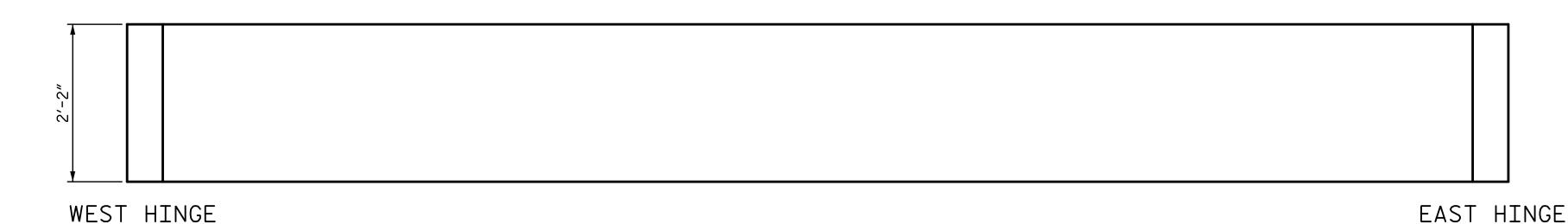
PLANS PREPARED BY:

DRAWN BY: T.BANKOVICH
CHECKED BY: T.J. BEACH
DESIGN ENGINEER OF RECORD: T.J. BEACH
DATE: 9-20
DATE: 9-20

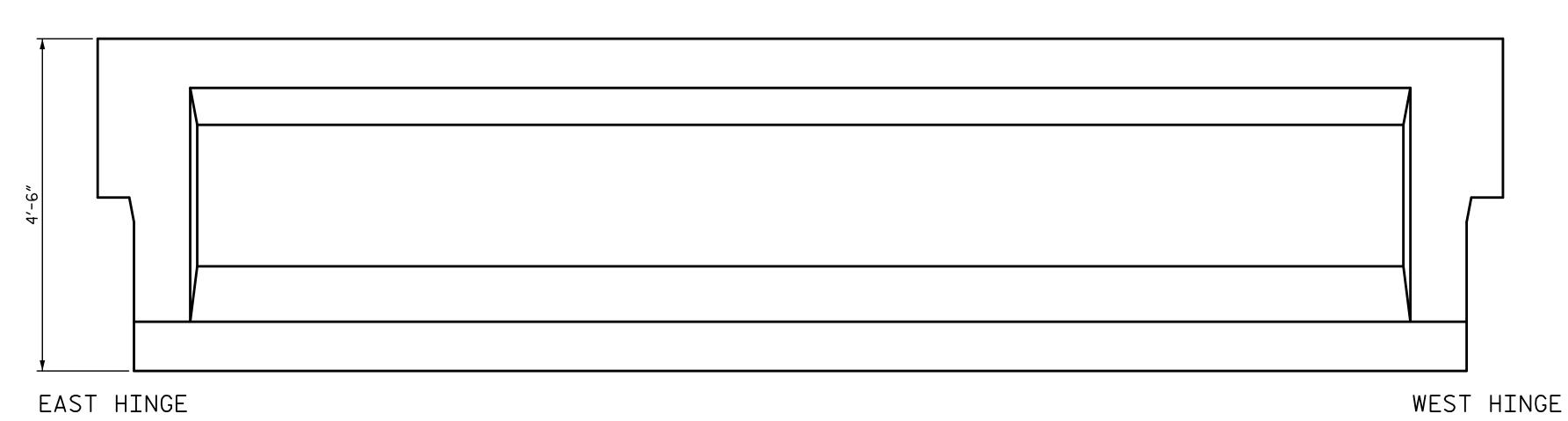
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

PLANS PREPARED BY: S IMPSON
NGINEERS
ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

#### 0.0 0.0 EPOXY RESIN INJECTION LF 0.0

ESTIMATE

VOLUME

REPAIR QUANTITY TABLE

AREA SF

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

#### NOTES:

REPAIRS SPAN 8 GRD. 3

REPAIRS OF PRESTR. CONCRETE GIRDERS

GIRDER

GIRDER

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 3 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

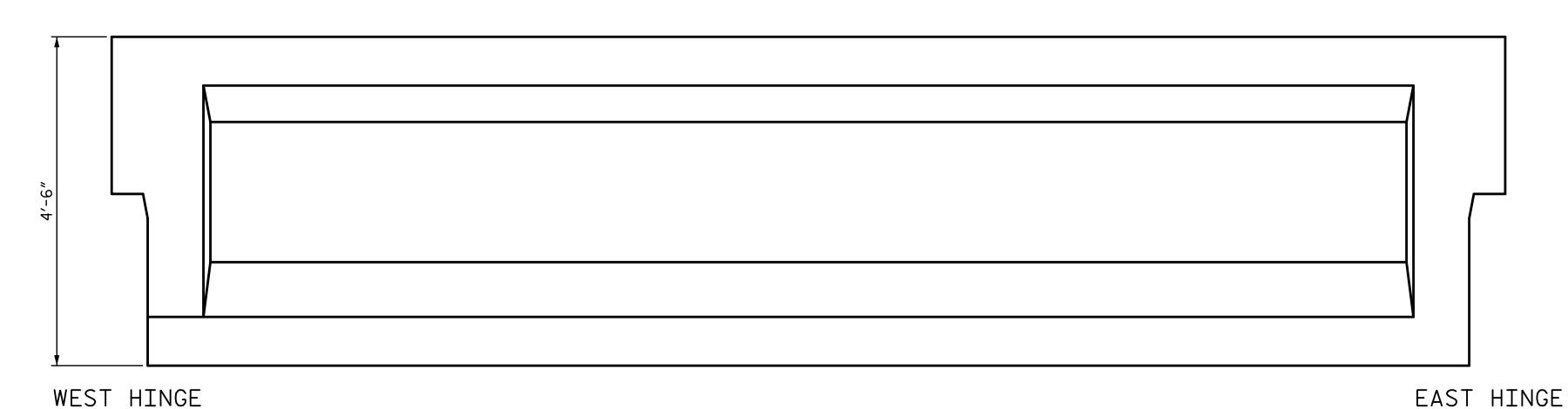
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SHEET NO. **REVISIONS** S1-79 NO. BY: DATE: DATE: BY: TOTAL SHEETS

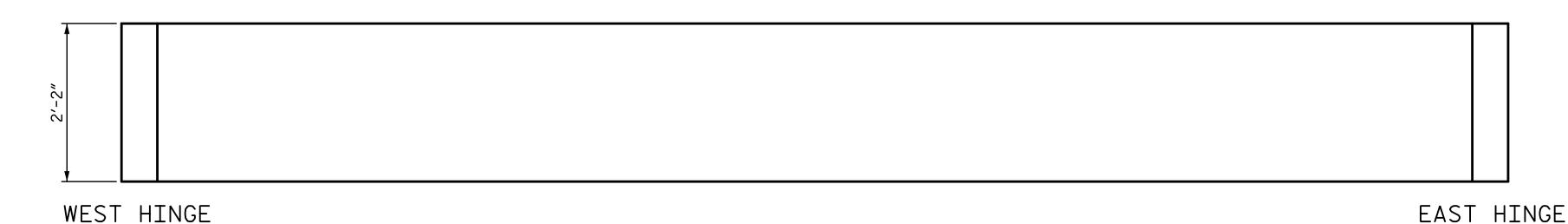
DATE: 9-20
DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

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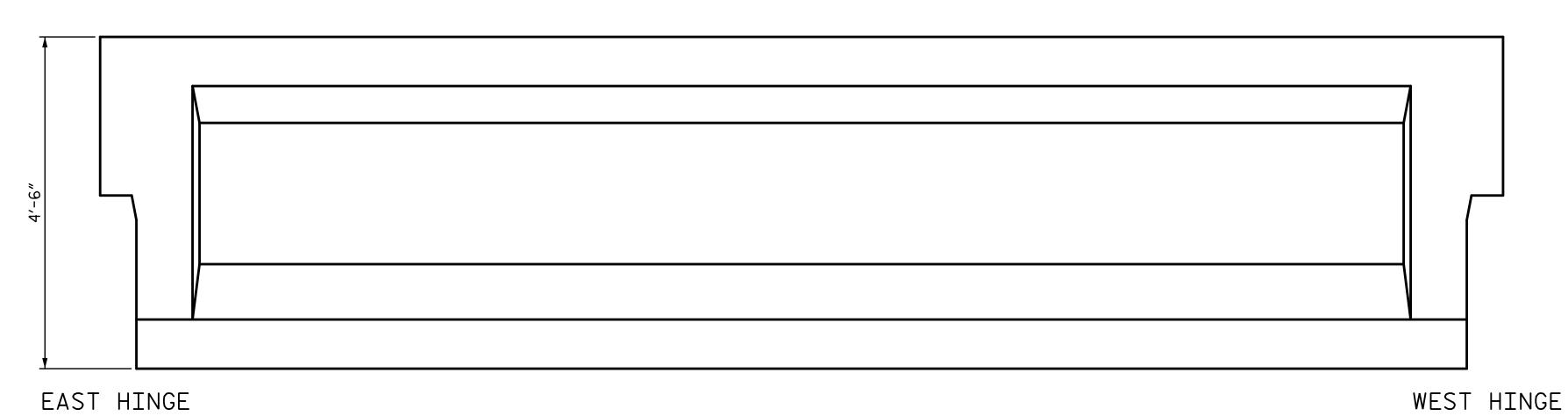
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 8 GRD. 4 ESTIMATE ACTUAL REPAIRA OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

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FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 4 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 8 GIRDER 4

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	24390 ************************************	
	50 J. BEA	
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PLANS PREPARED BY:

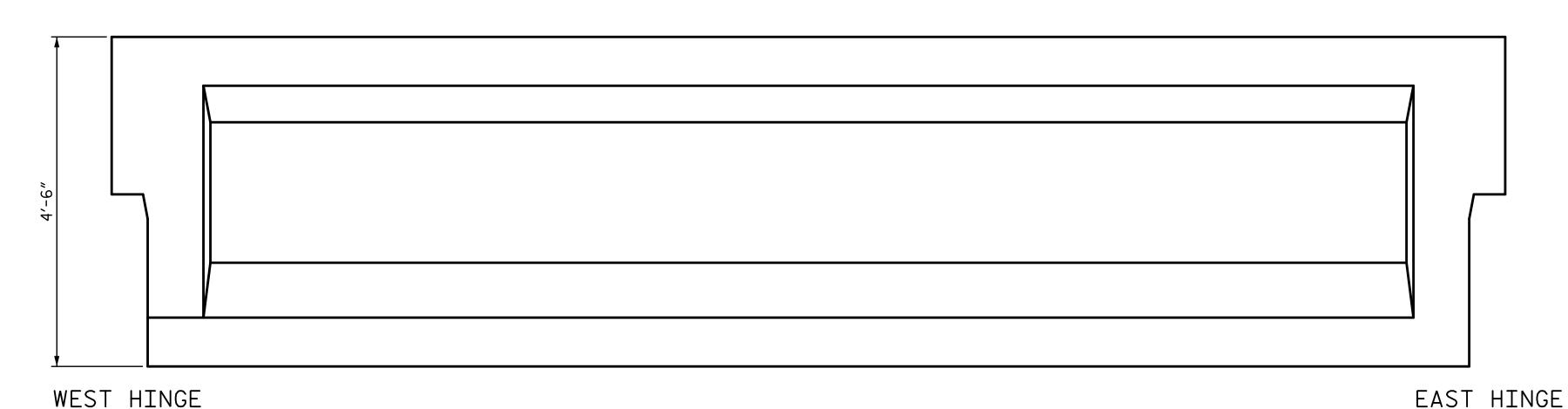
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NGINEERS
ASSOCIATES

5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com

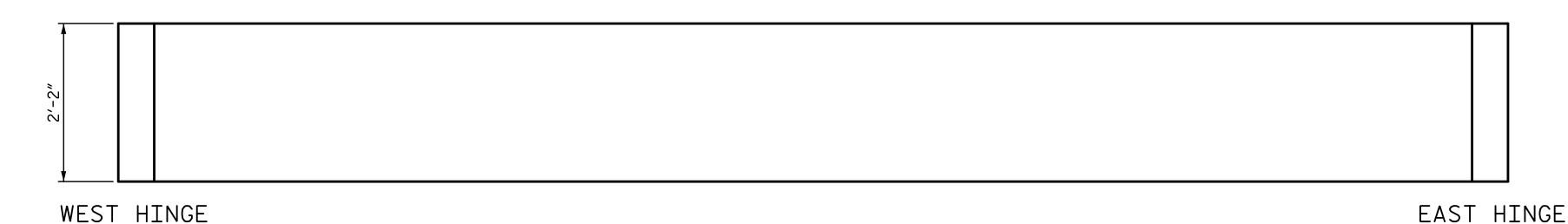
LICENSURE NO. C-2521

\_ DATE: <u>9-20</u> \_ DATE: <u>9-20</u> \_ DATE: <u>9-20</u> T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

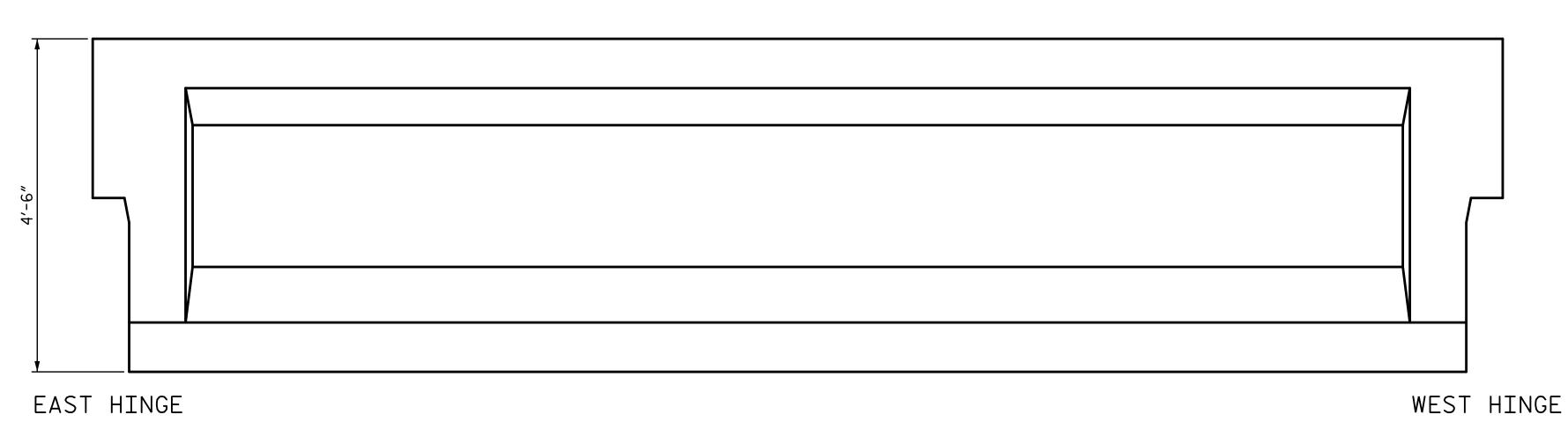
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

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ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

PLANS PREPARED BY:

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 8 GRD. 5 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 5 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

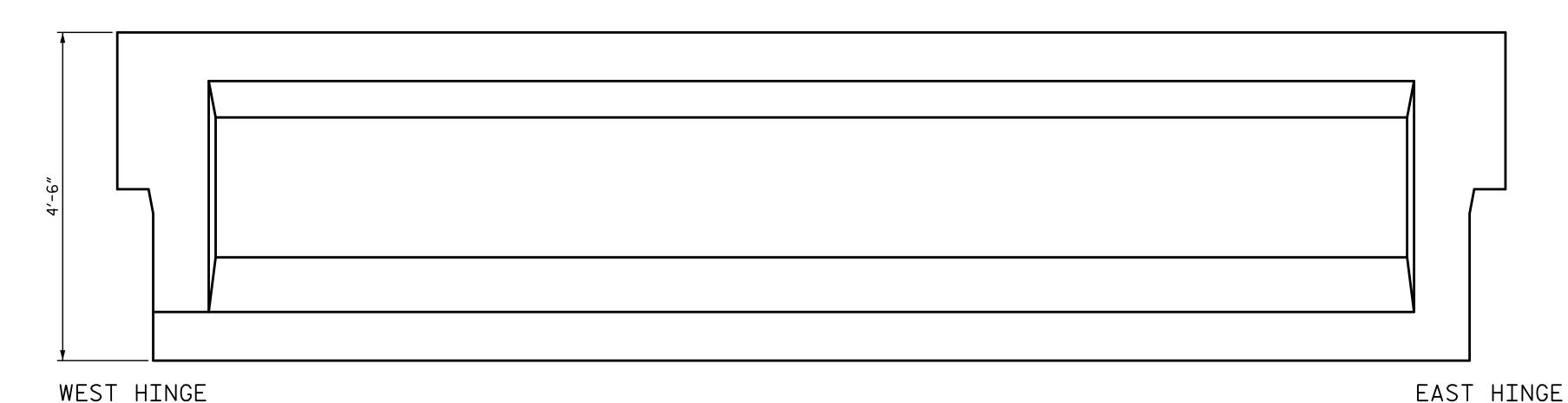
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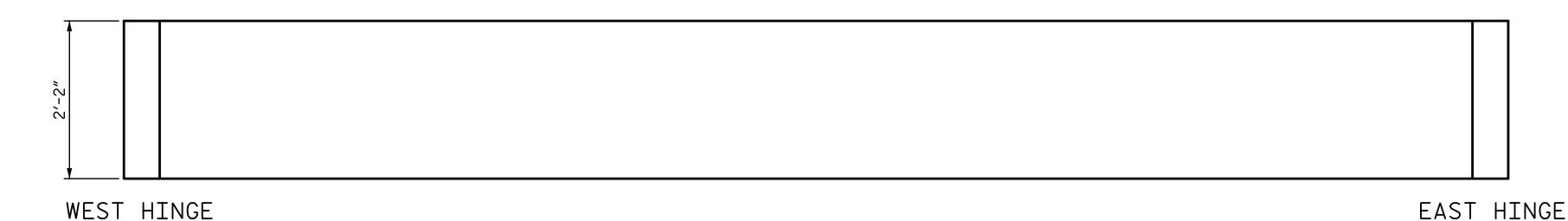
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DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

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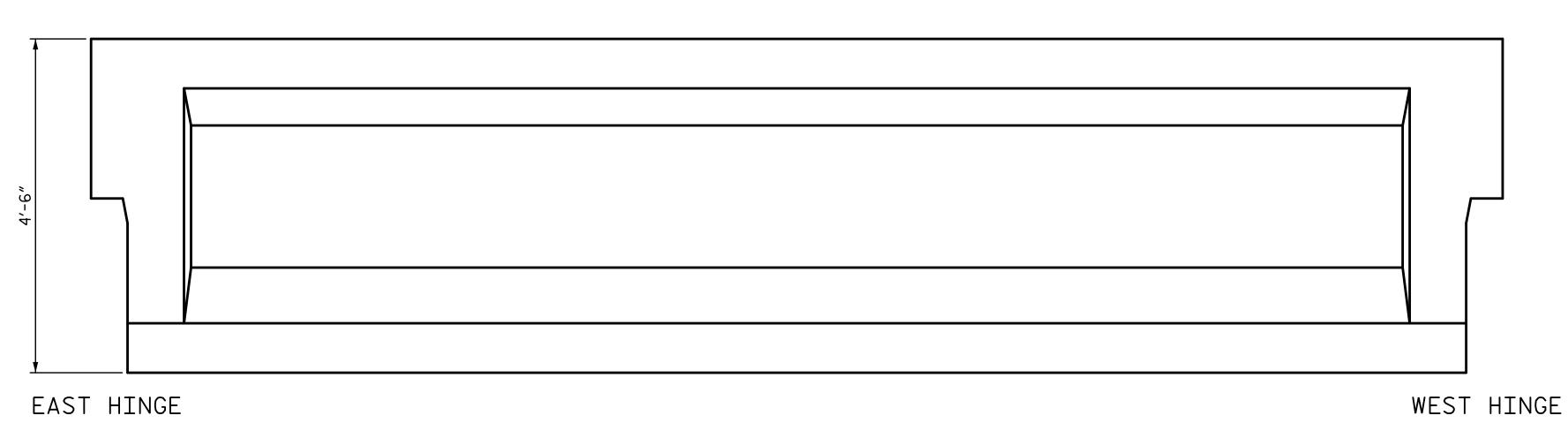
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

PLANS PREPARED BY: S IMPSON
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ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

## NOTES:

GIRDER

GIRDER

REPAIRS SPAN 8 GRD. 6

REPAIRS OF PRESTR. CONCRETE GIRDERS

EPOXY RESIN INJECTION

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

REPAIR QUANTITY TABLE

AREA SF

0.0

ESTIMATE

VOLUME

0.0

LF

0.0

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 6 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

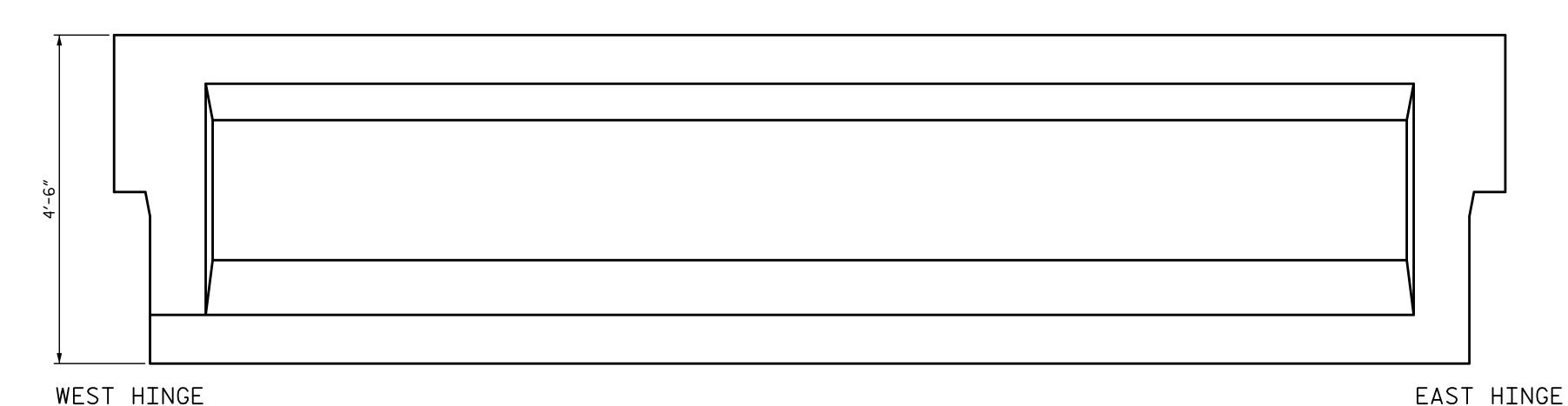
> SPAN 8 GIRDER 6

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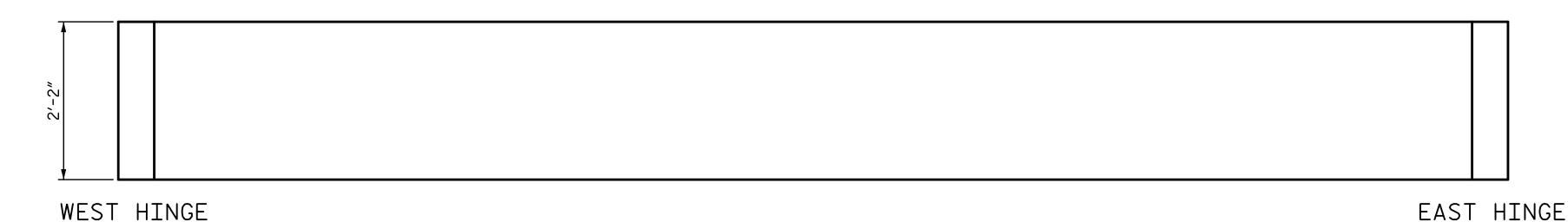
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DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

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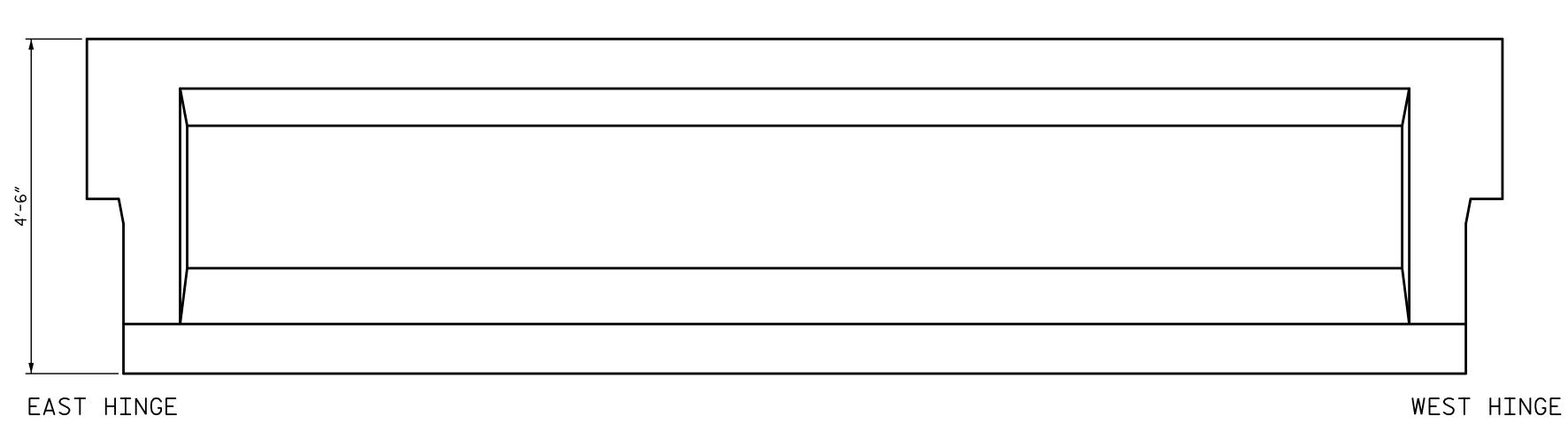
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

PLANS PREPARED BY:

NOTES:

REPAIRS SPAN 8 GRD. 7

REPAIRS OF PRESTR. CONCRETE GIRDERS

EPOXY RESIN INJECTION

GIRDER

GIRDER

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

REPAIR QUANTITY TABLE

AREA SF

0.0

ESTIMATE

VOLUME

0.0

LF

0.0

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 7 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

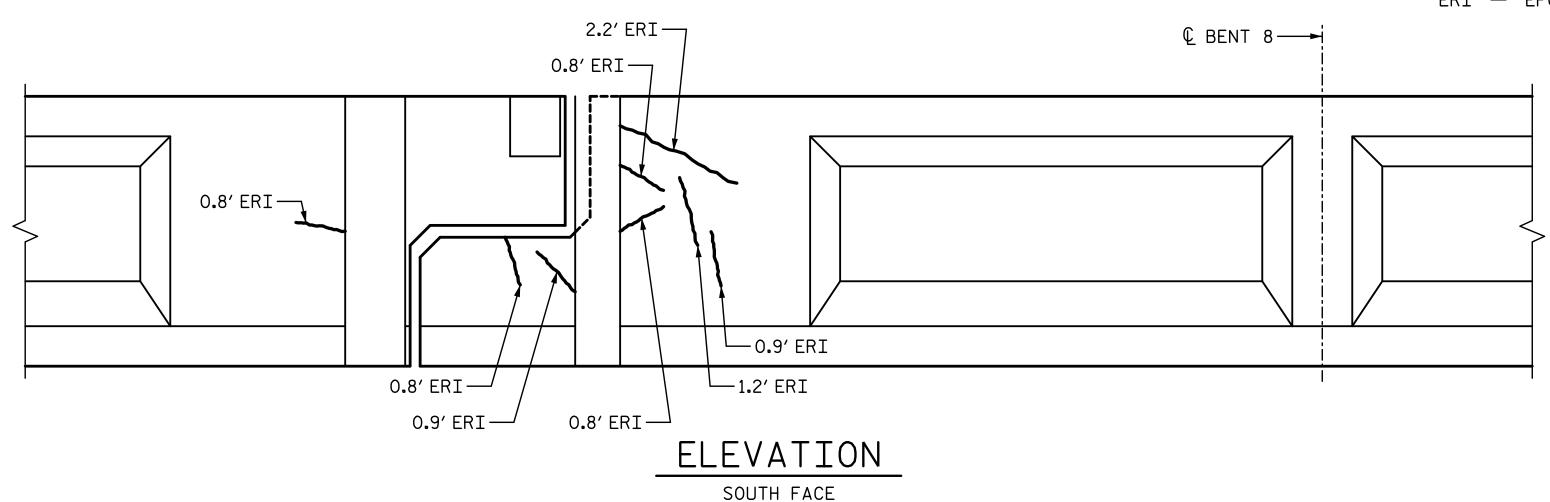
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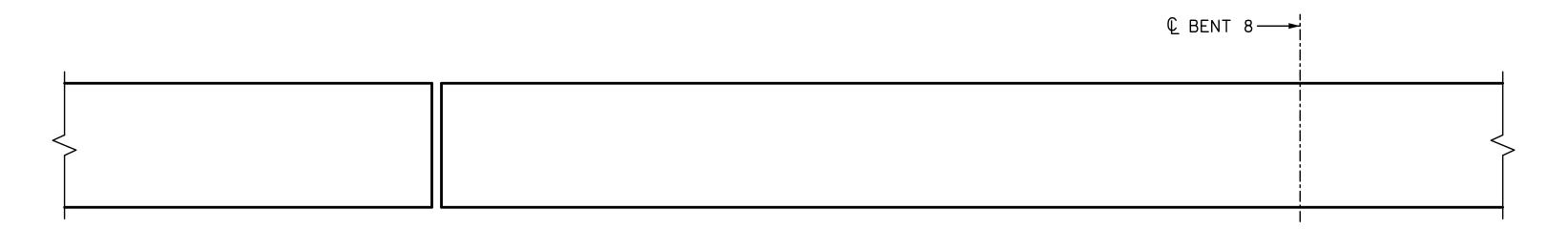
SHEET NO. REVISIONS 9/29/2020 S1-83 NO. BY: DATE: DATE: BY: TOTAL SHEETS

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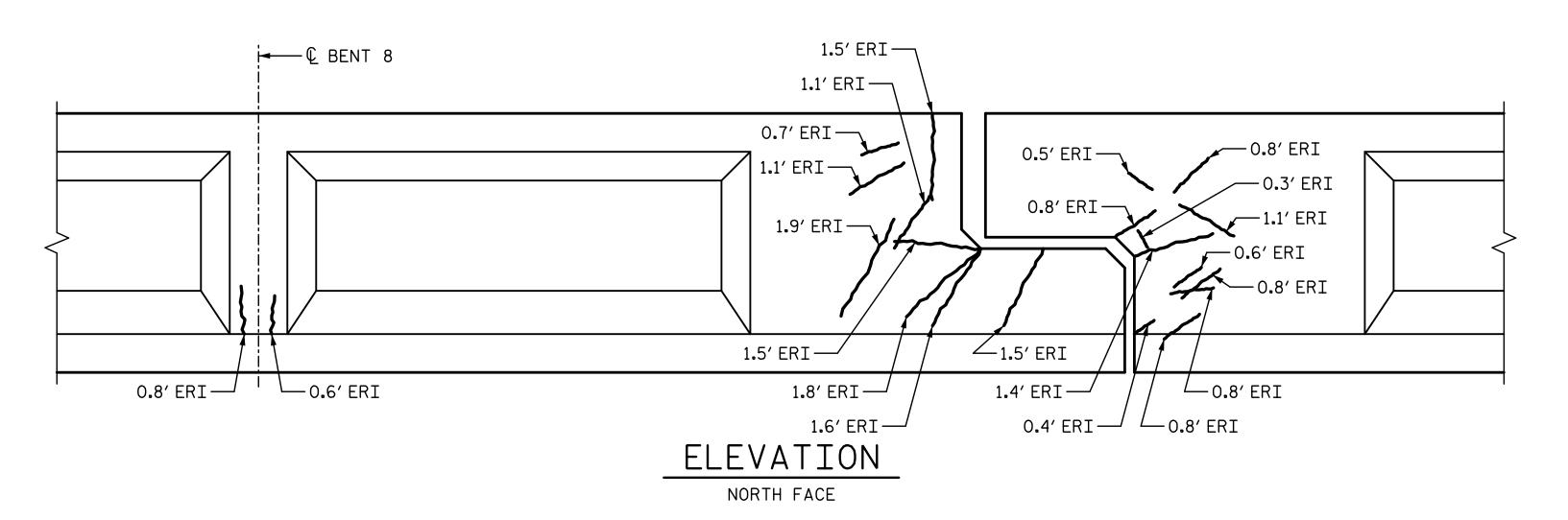
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ERI — EPOXY RESIN INJECTION





## BOTTOM OF BEAM LOOKING UP



REPAIR QUANTITY TABLE QUANTITIES REPAIRS EAST HINGE ESTIMATE ACTUAL REPAIRS OF PRESTR. AREA SF AREA VOLUME VOLUME DEPTH CONCRETE GIRDERS GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF 30.8 GIRDER

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .: \_\_

SHEET 1 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

EAST HINGE DETAILS FOR GIRDER 1

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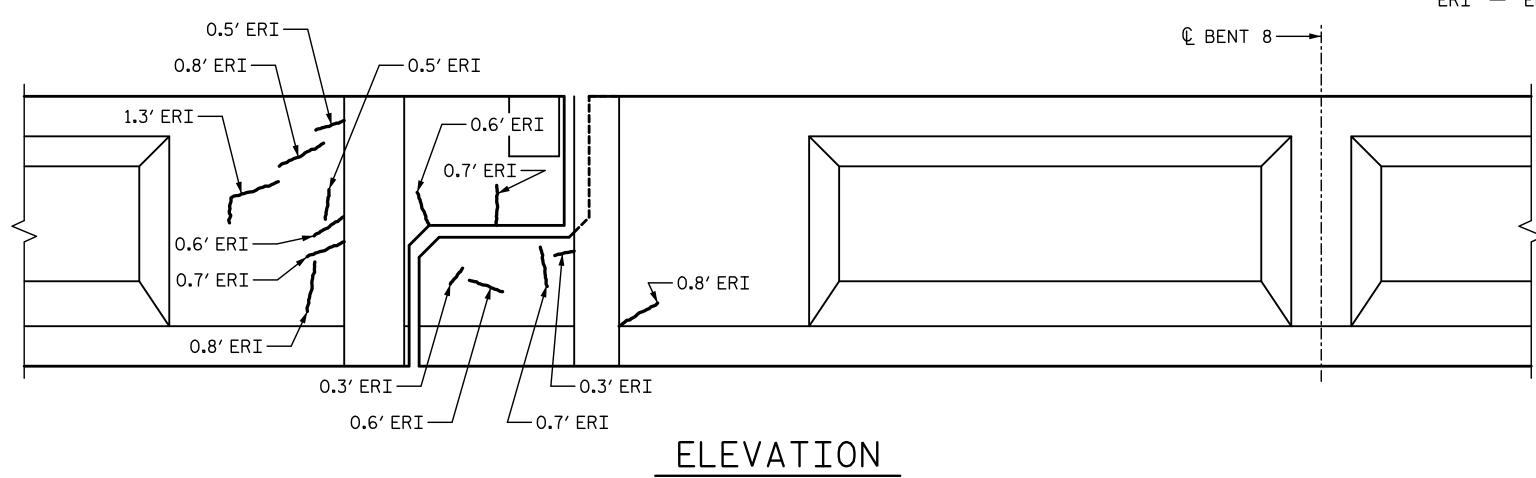
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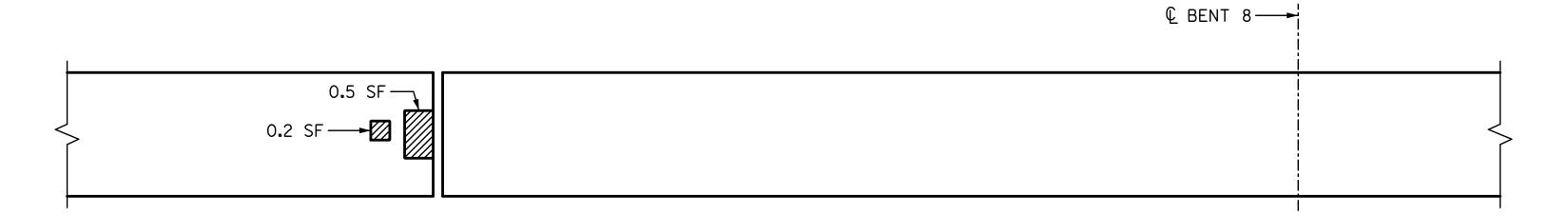
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PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES

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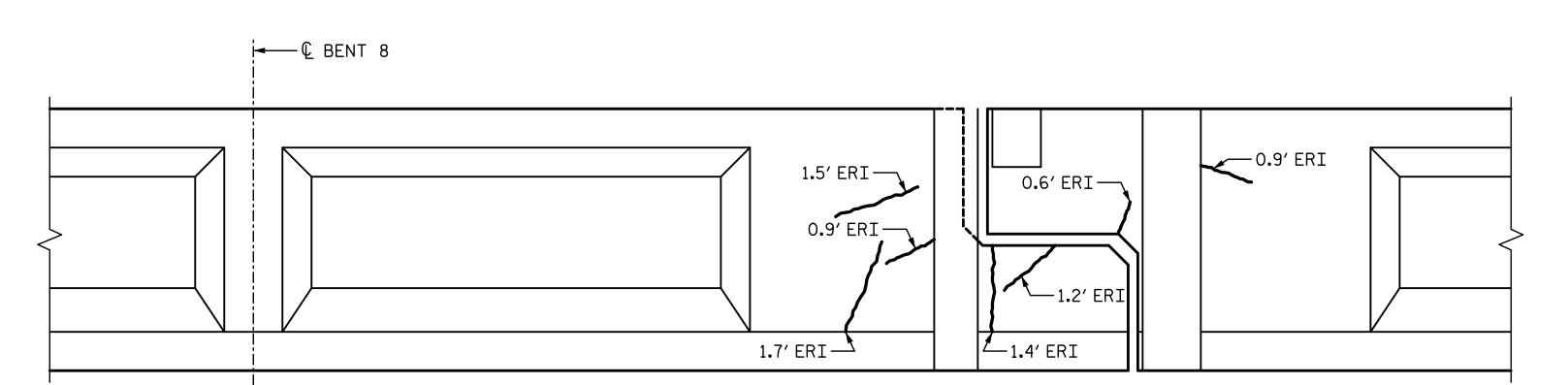
ERI — EPOXY RESIN INJECTION





SOUTH FACE

## BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QU	ANT:	ITY	TABL	.E		
REPAIRS EAST HINGE			UANTIT]			
TELL VILLO ENGI HITTOE	EST	IMATE		ACTUAL	-	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	٧	OLUME CF
GIRDER	0.7	0.2				
EPOXY RESIN INJECT:	ION	LF				LF
GIRDER		17.4				

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_\_

SHEET 2 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

EAST HINGE DETAILS FOR GIRDER 2

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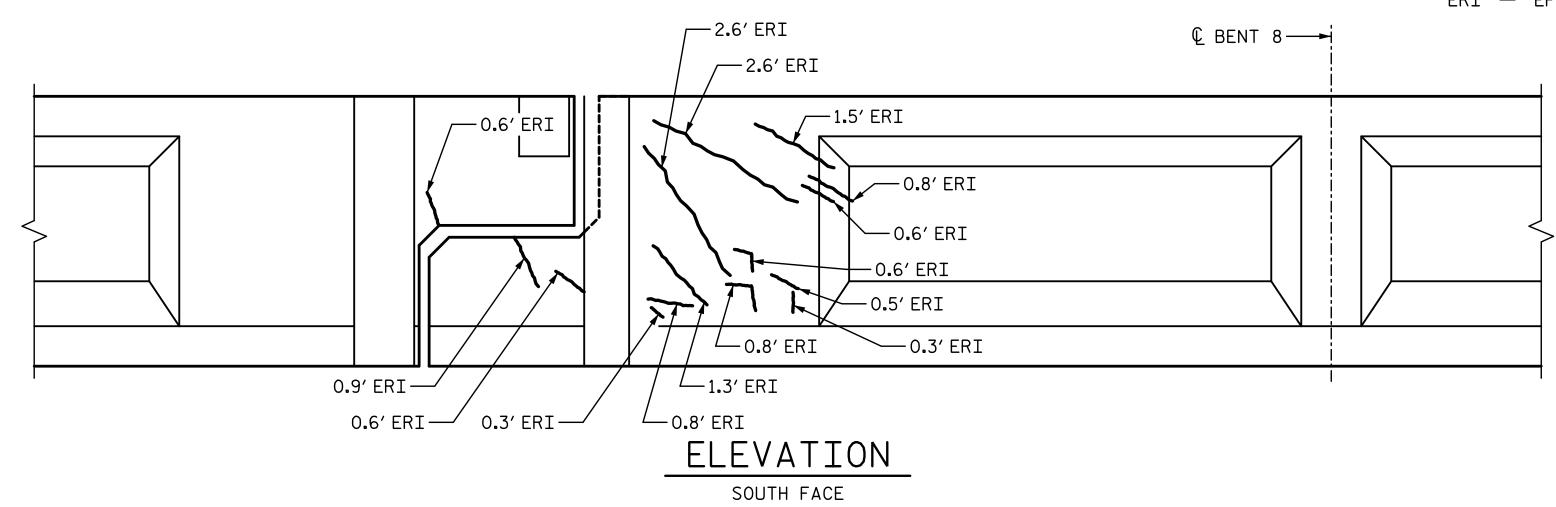
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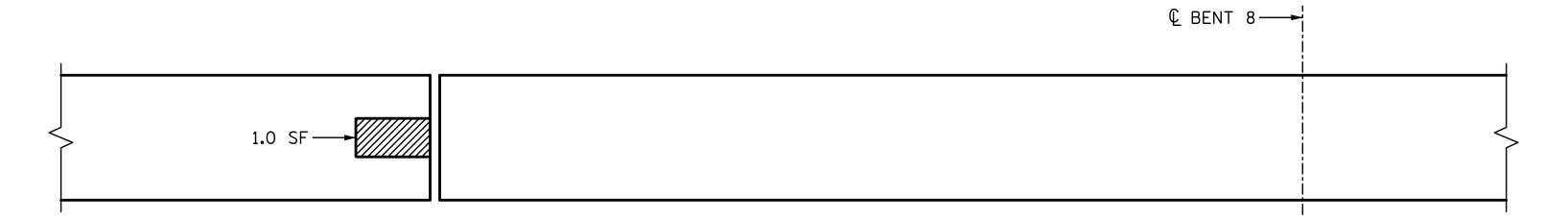
DATE: 9-20
DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

PLANS PREPARED BY:

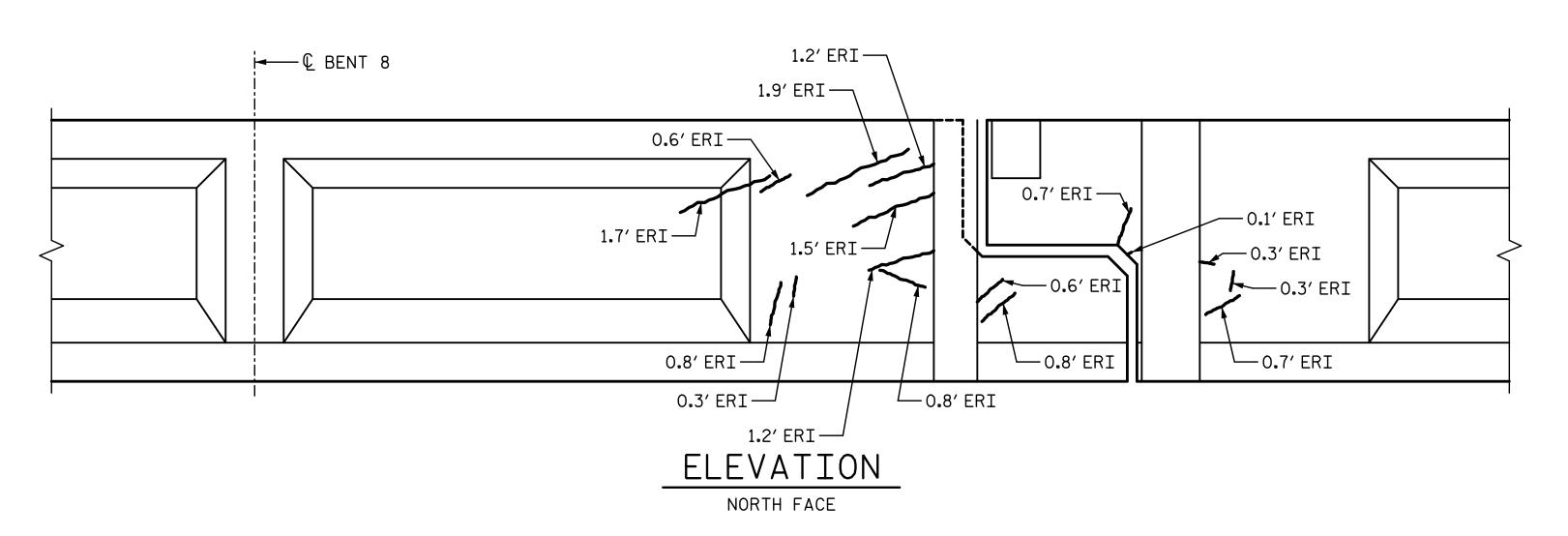
SIMPSON NGINEERS ASSOCIATES

ERI — EPOXY RESIN INJECTION





## BOTTOM OF BEAM LOOKING UP



REPAIR QUANTITY TABLE QUANTITIES REPAIRS EAST HINGE ESTIMATE ACTUAL REPAIRS OF PRESTR. AREA SF VOLUME AREA VOLUME DEPTH CONCRETE GIRDERS GIRDER 1.0 0.3 EPOXY RESIN INJECTION LF 28.3 GIRDER

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 3 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

EAST HINGE DETAILS FOR GIRDER 3

SHEET NO.

S1-86

TOTAL SHEETS

DATE:

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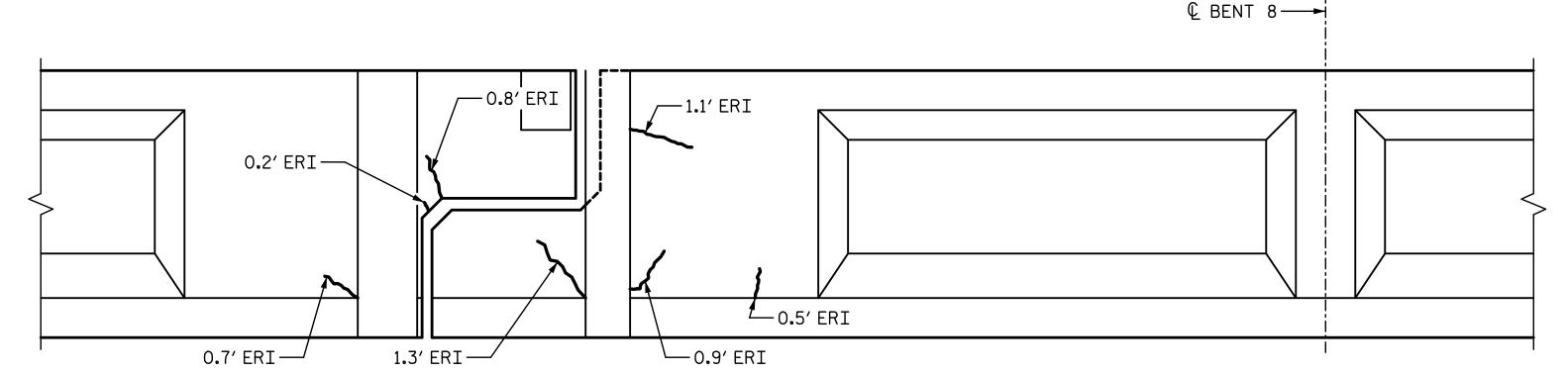
PLANS PREPARED BY: SIMPSON
NGINEERS
ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com

DATE: 9-20 DATE: 9-20 DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH

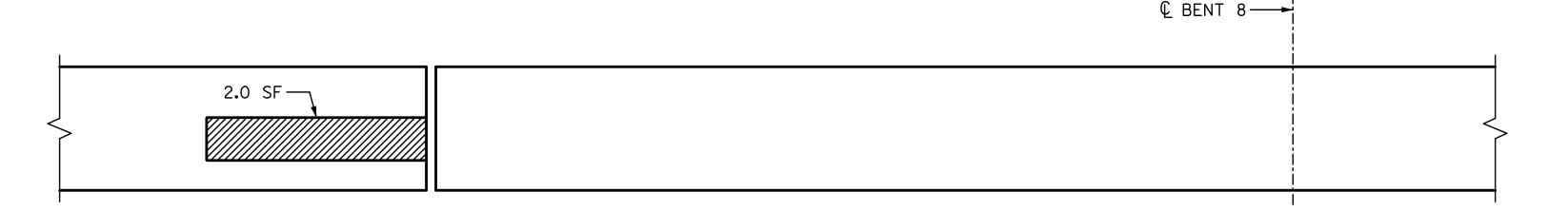
T.J. BEACH

DESIGN ENGINEER OF RECORD: \_\_\_

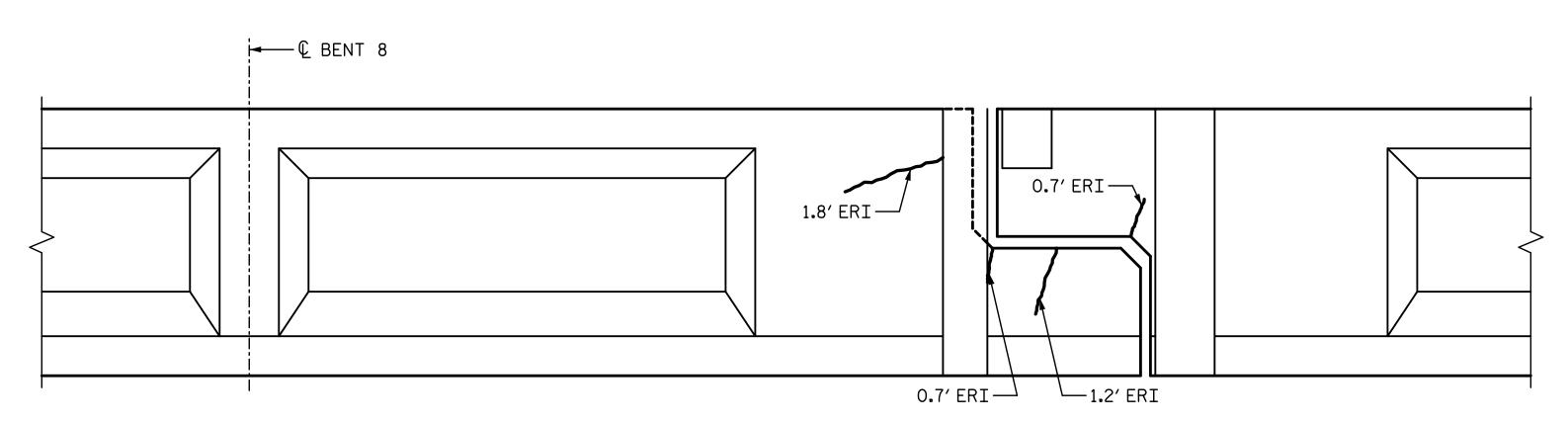
ERI — EPOXY RESIN INJECTION



#### ELEVATION SOUTH FACE



### BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS EAST HINGE ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 2.0 0.6 EPOXY RESIN INJECTION LF 9.9 GIRDER

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_\_

SHEET 4 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

EAST HINGE DETAILS FOR GIRDER 4

SHEET NO.

S1-87

TOTAL SHEETS

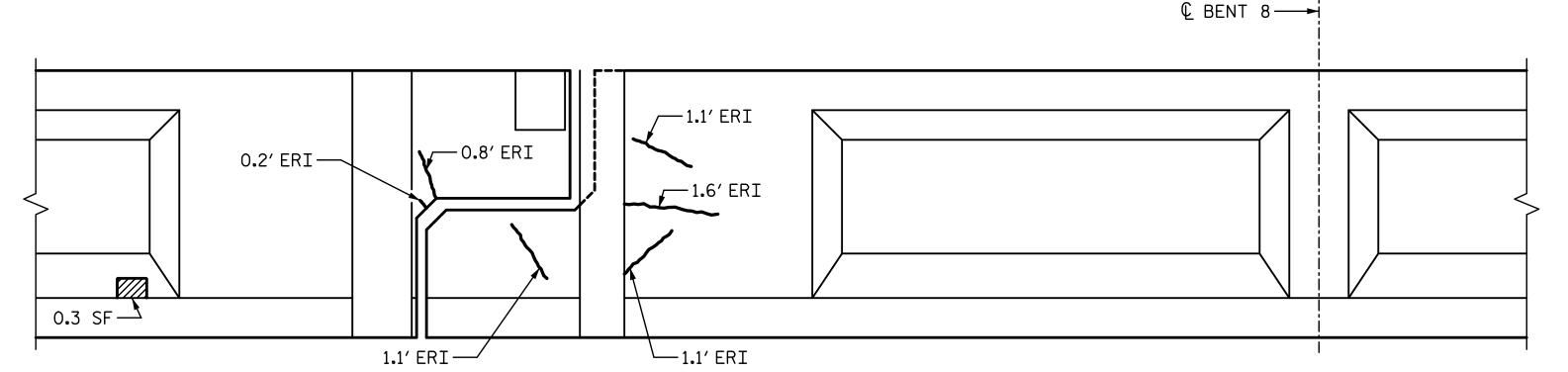
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PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com

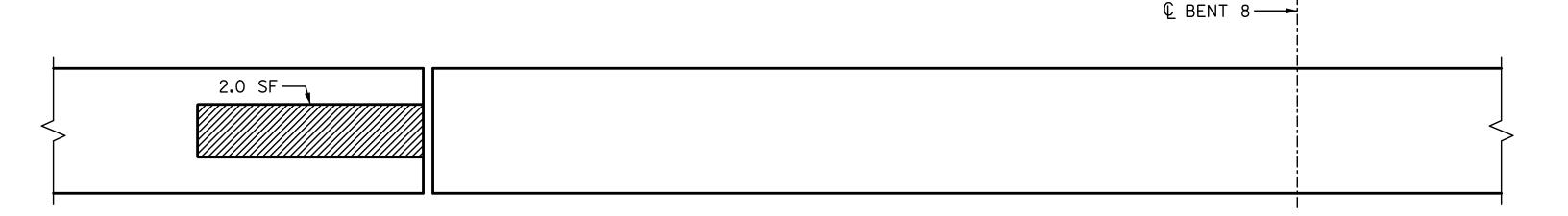
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LICENSURE NO. C-2521 **DOCUMENT NOT CONSIDERED FINAL** 

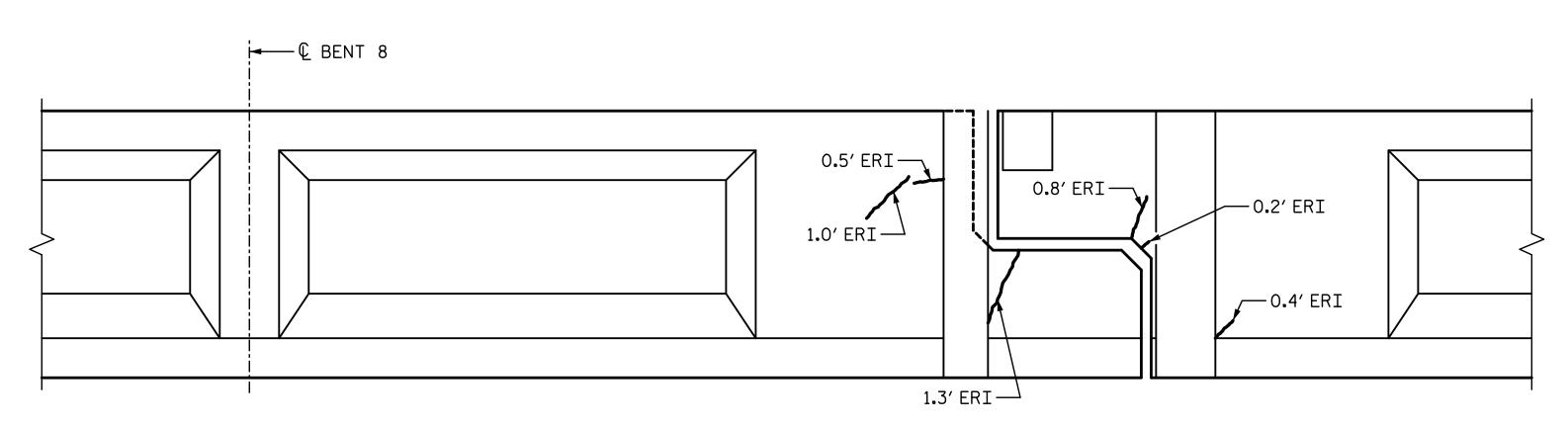
ERI — EPOXY RESIN INJECTION



#### ELEVATION SOUTH FACE



### BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS EAST HINGE ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 2.3 1.3 EPOXY RESIN INJECTION LF 10.1 GIRDER

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_\_

SHEET 5 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

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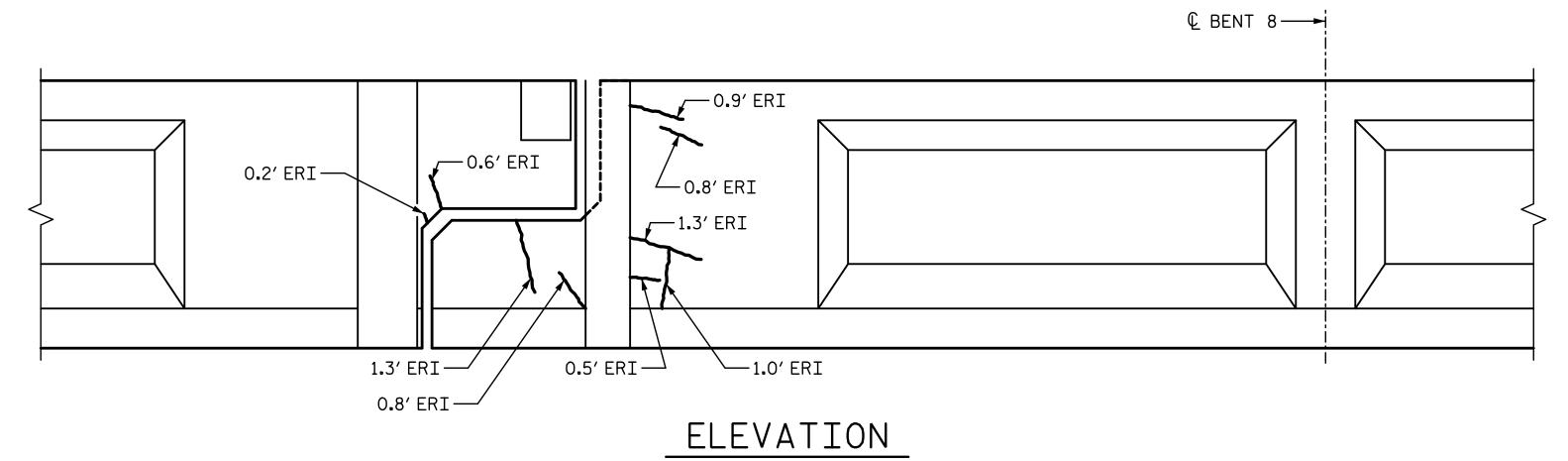
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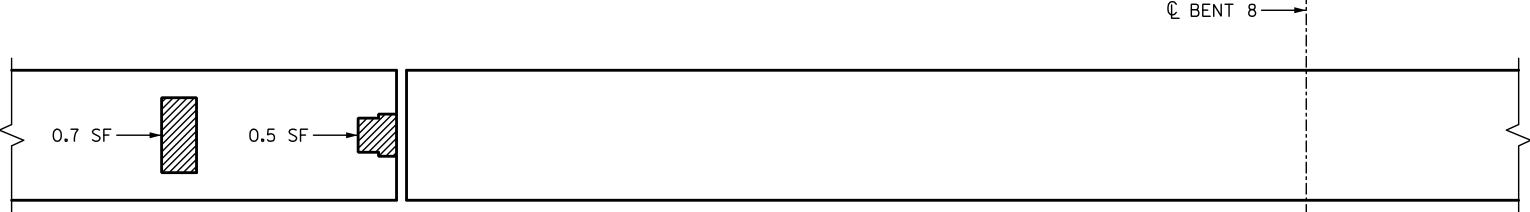
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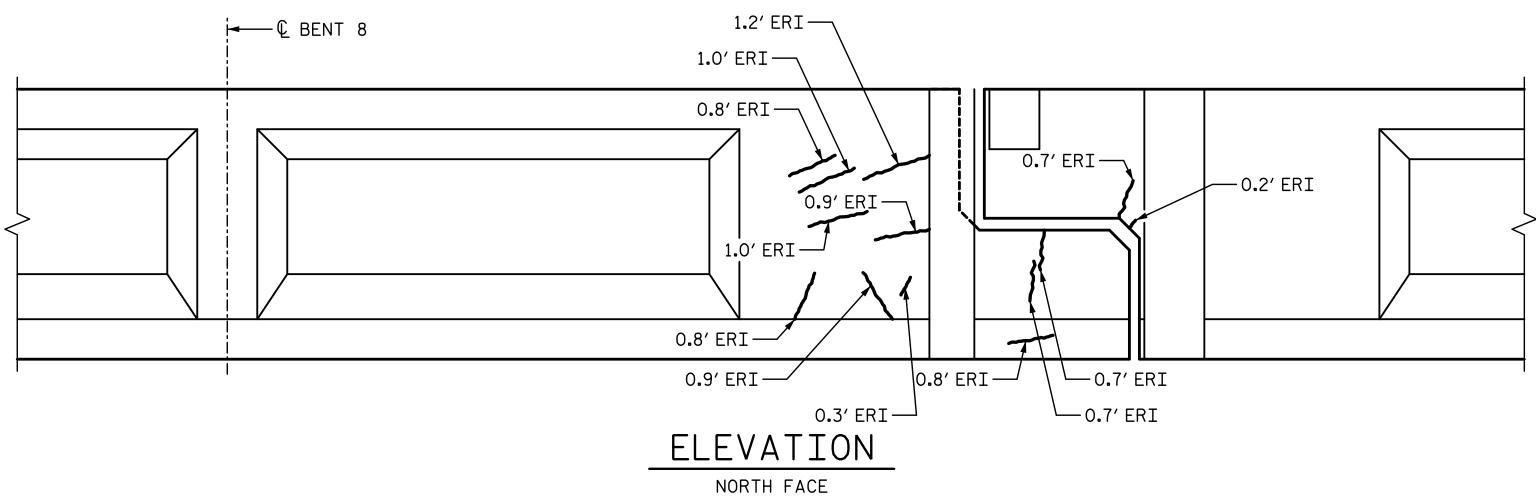
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ERI — EPOXY RESIN INJECTION





SOUTH FACE



REPAIR QUANTITY TABLE QUANTITIES REPAIRS EAST HINGE ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 1.2 0.4 EPOXY RESIN INJECTION LF GIRDER 17.4

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_\_

SHEET 6 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

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PLANS PREPARED BY:

SIMPSON NGINEERS ASSOCIATES

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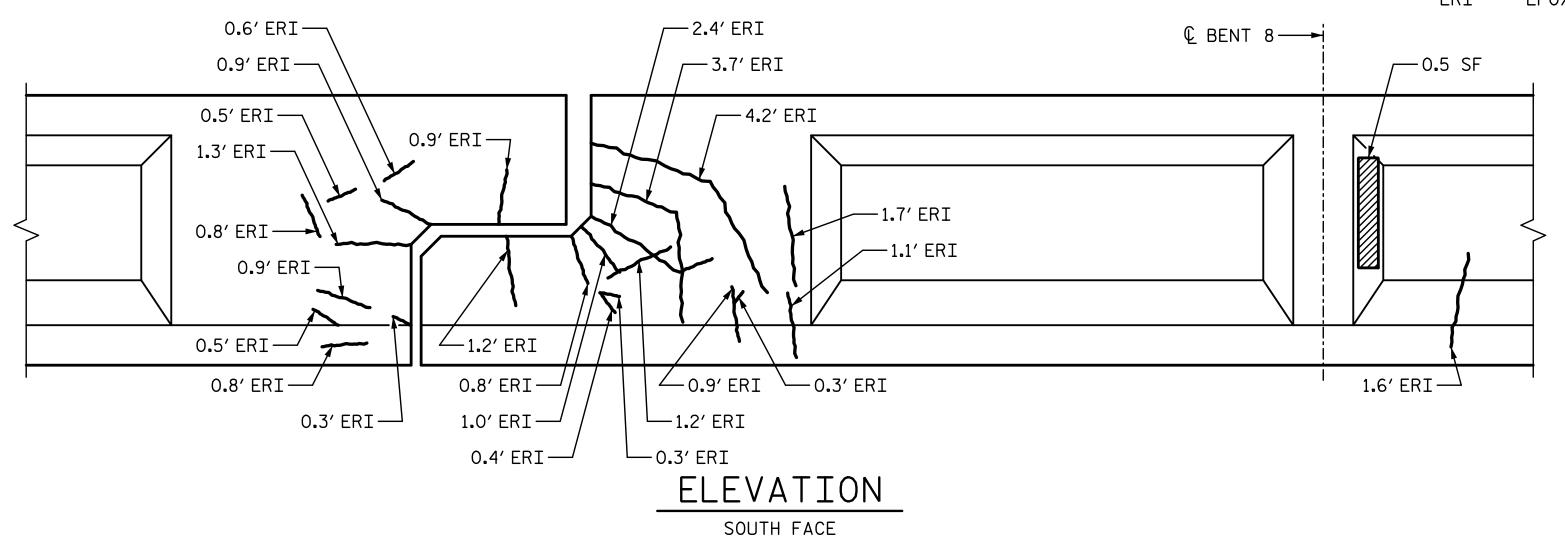
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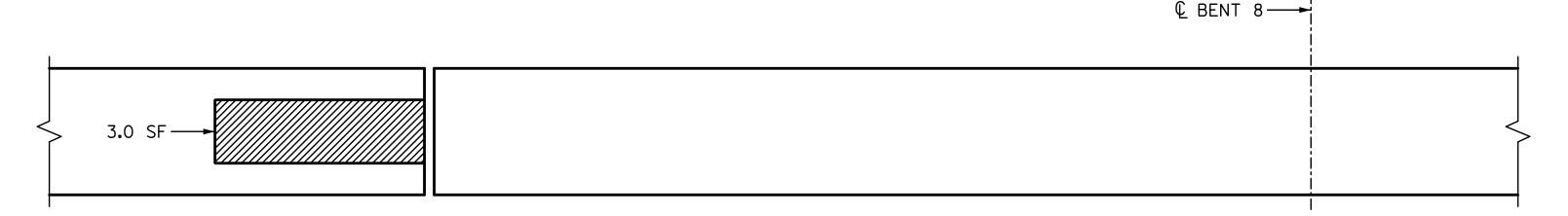
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DATE: 9-20
DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH

BOTTOM OF BEAM LOOKING UP

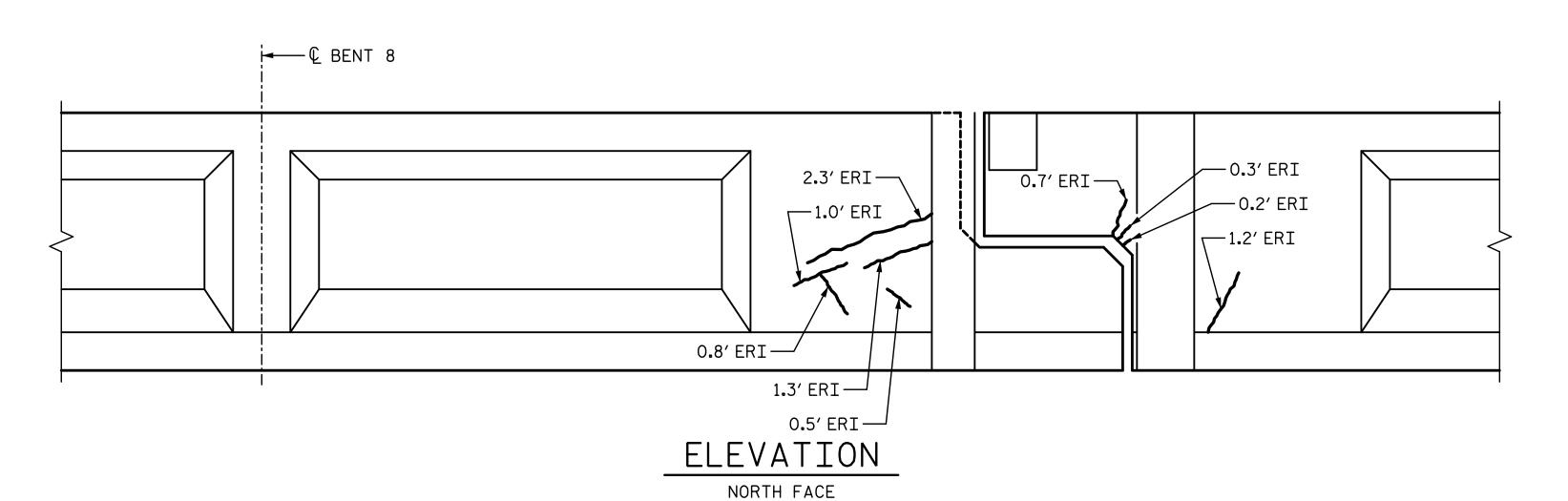
T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

ERI — EPOXY RESIN INJECTION





# PLAN BOTTOM OF BEAM LOOKING UP



REPAIR QUANTITY TABLE QUANTITIES REPAIRS EAST HINGE ESTIMATE ACTUAL REPAIRS OF PRESTR. AREA SF AREA VOLUME VOLUME DEPTH CONCRETE GIRDERS GIRDER 3**.**5 1.0 EPOXY RESIN INJECTION LF 35.0 GIRDER

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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PROJECT NO. 15BPR.26

NEW HANOVER/PENDER COUNTY

BRIDGE NO.: 640048

SHEET 7 OF 7

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

EAST HINGE DETAILS FOR GIRDER 7

SHEET NO.

S1-90

TOTAL SHEETS

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PLANS PREPARED BY:

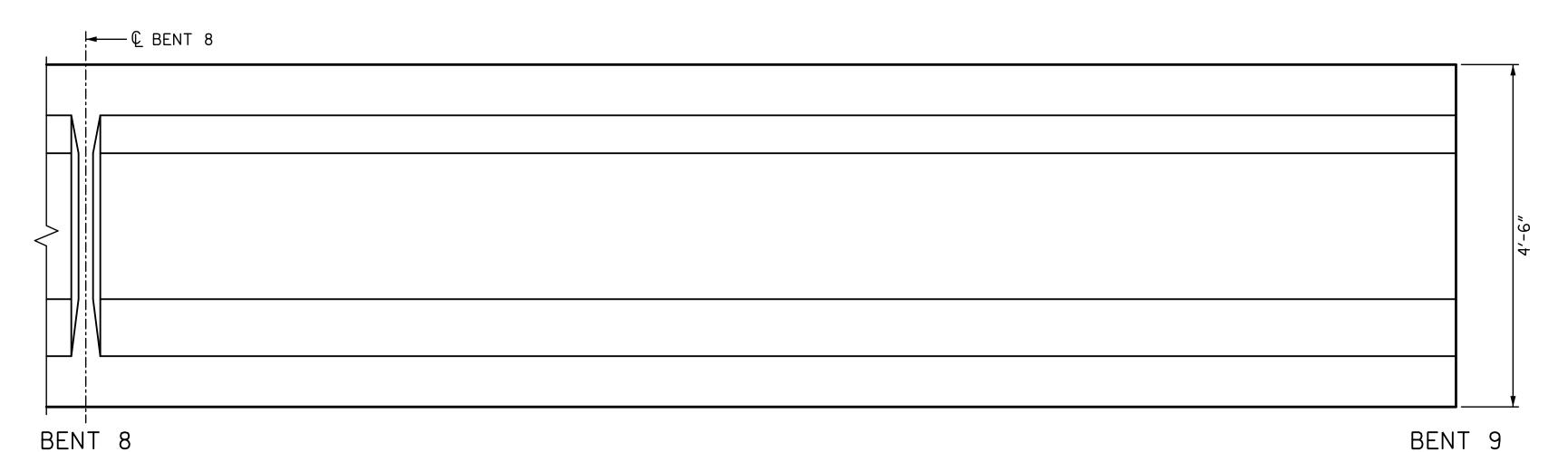
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SSOCIATES

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(919) 852-0468
(919) 852-0468
(919) 852-0598 (Fax)
www.simpsonengr.com

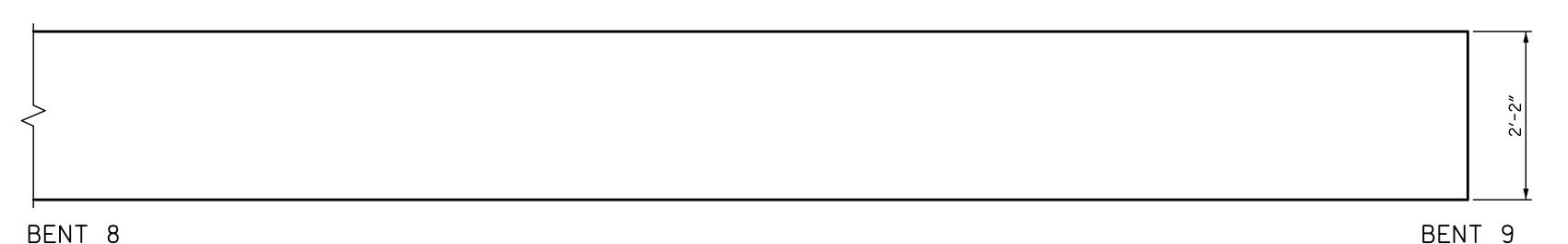
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DRAWN BY: \_\_\_\_T.BANKOVICH DATE: 9-20
CHECKED BY: \_\_\_T.J.BEACH DATE: 9-20
DESIGN ENGINEER OF RECORD: \_\_\_\_T.J.BEACH DATE: 9-20

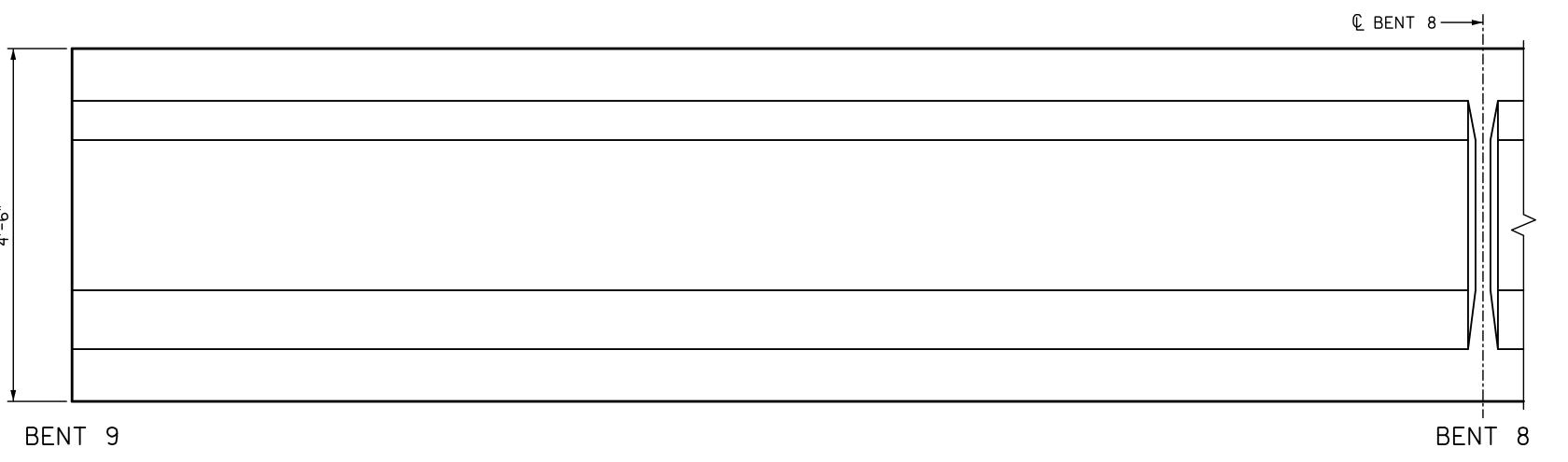
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 9 GRD. 1 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF VOLUME AREA VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_\_\_

SHEET 1 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 9 GIRDER 1

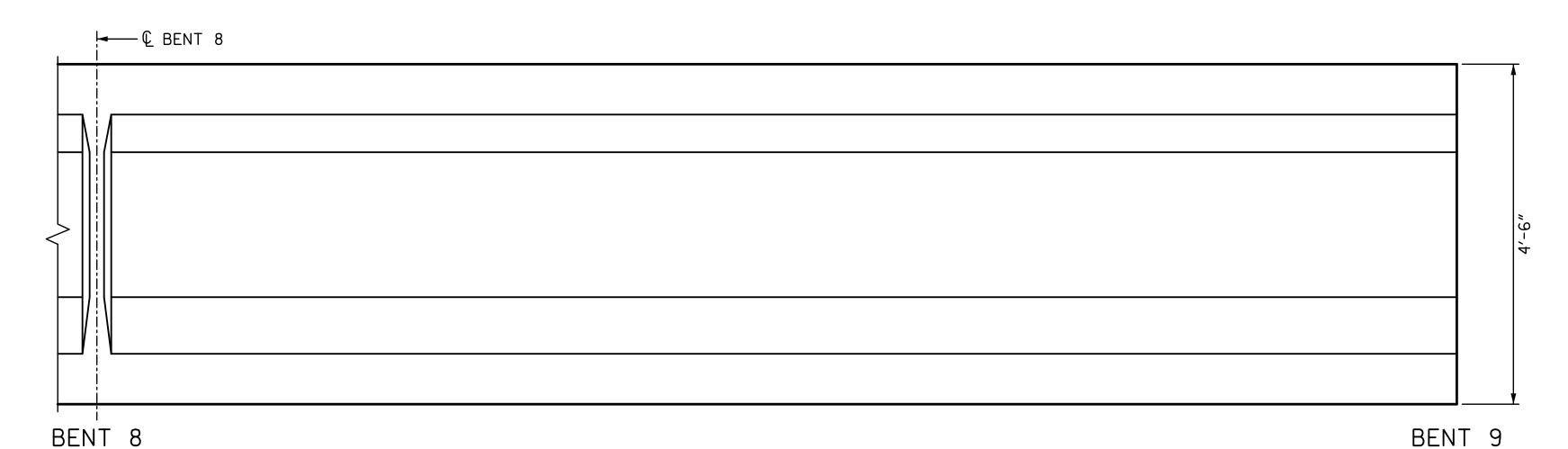
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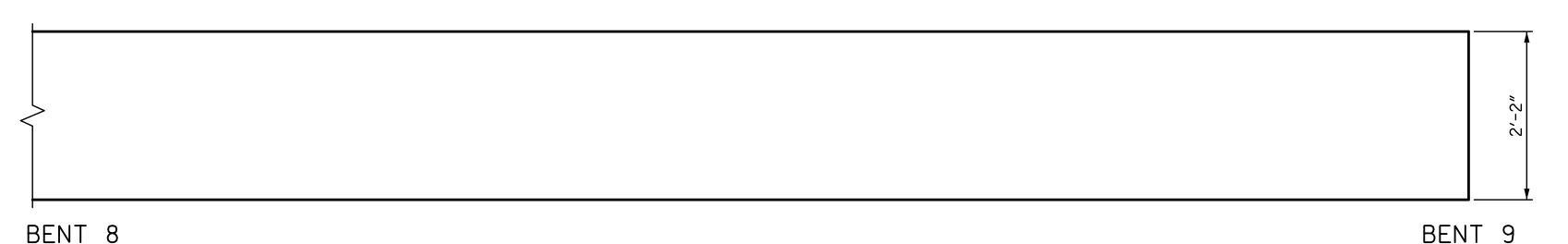
SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)

PLANS PREPARED BY:

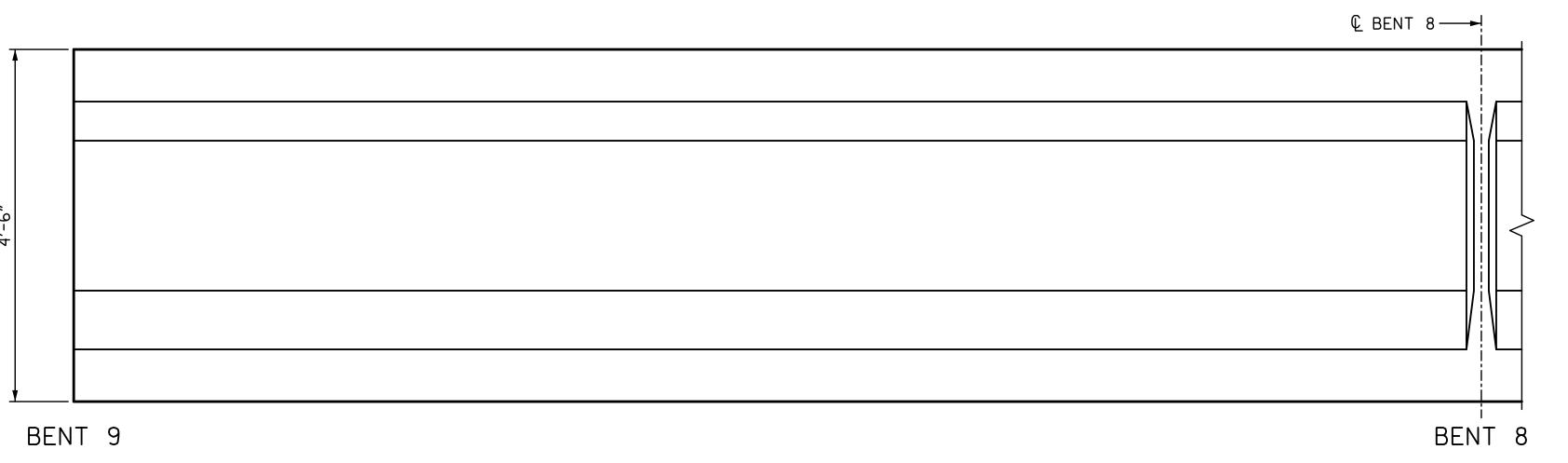
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 9 GRD. 2 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF VOLUME AREA VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_

SHEET 2 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 9 GIRDER 2

NO. C-2521	9/29/2020
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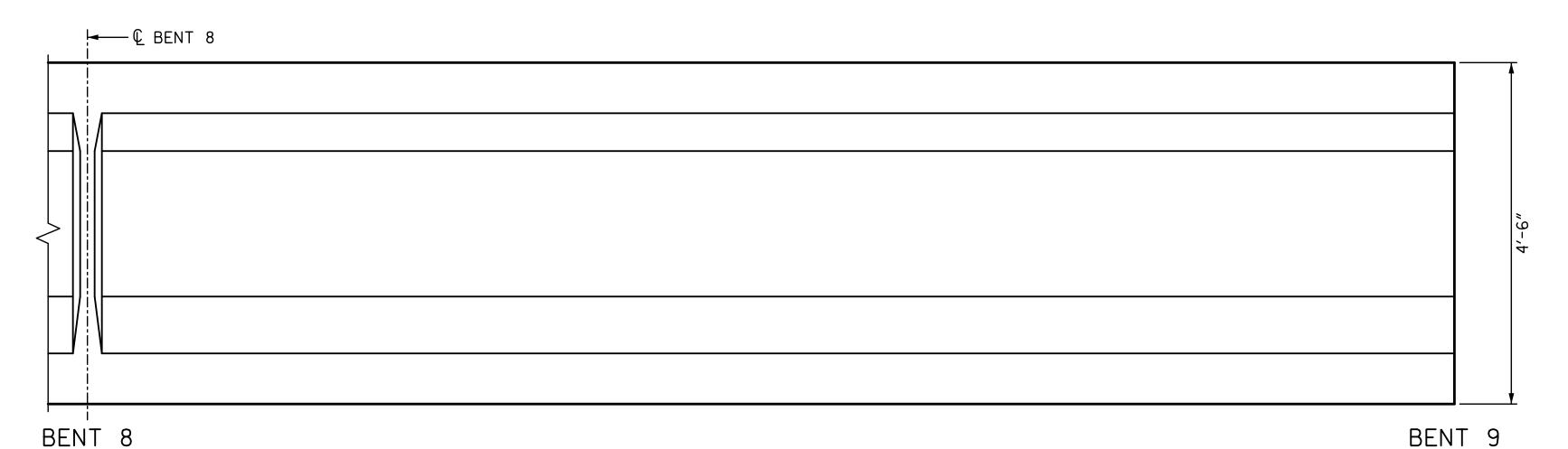
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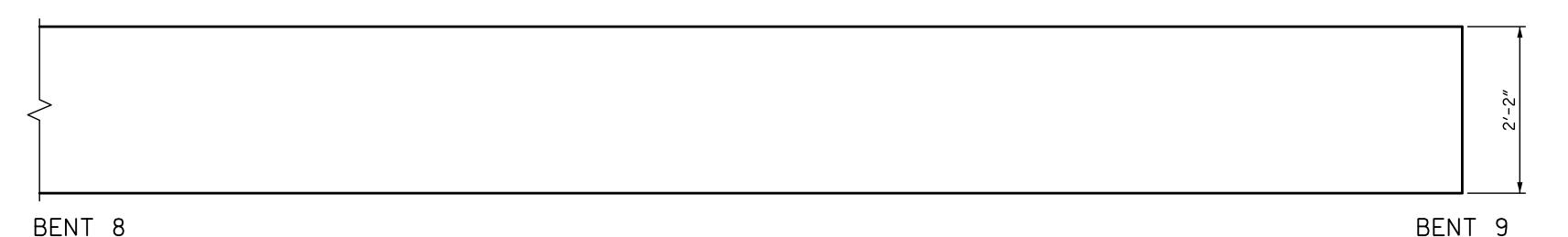
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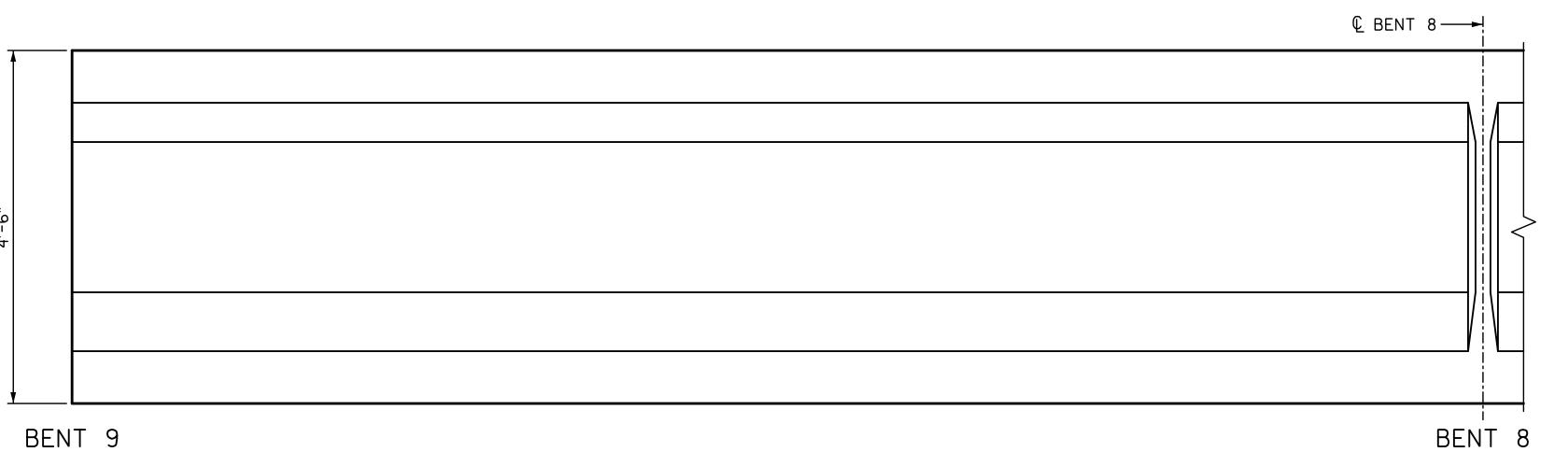
ERI — EPOXY RESIN INJECTION



## ELEVATION SOUTH FACE



# PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION

NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 9 GRD. 3 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF VOLUME AREA VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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PROJECT NO. 15BPR.26

NEW HANOVER/PENDER COUNTY

BRIDGE NO.: 640048

SHEET 3 OF 7

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

SPAN 9 GIRDER 3

SIMPSON
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SSOCIATES

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Cary, NC 27518
(919) 852-0468
(919) 852-0598 (Fax)
www.simpsonengr.com

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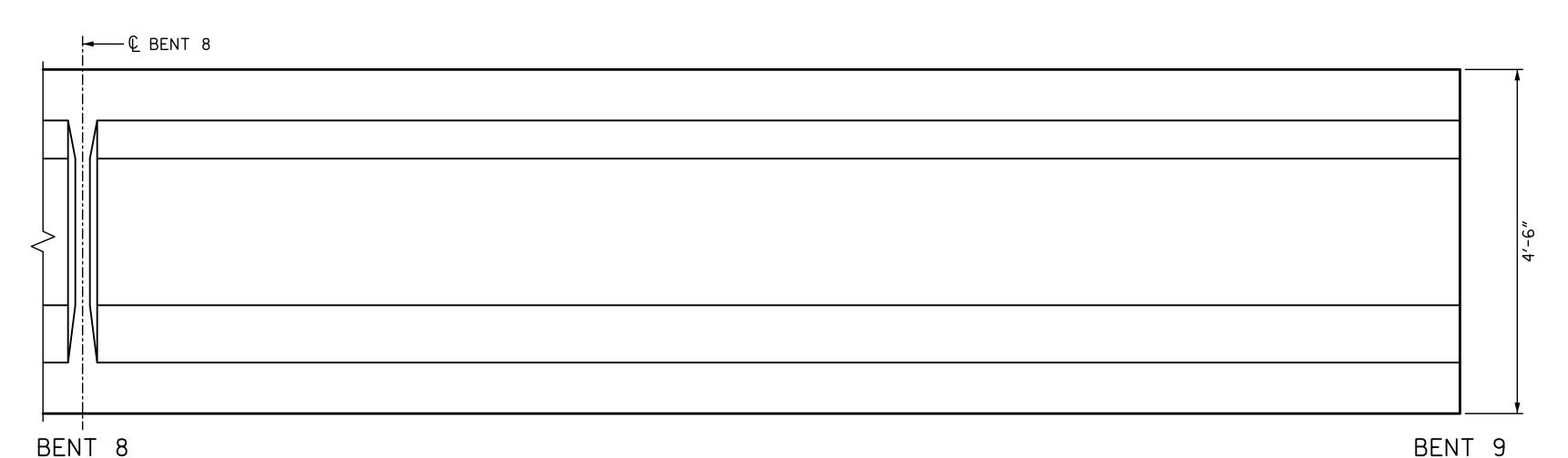
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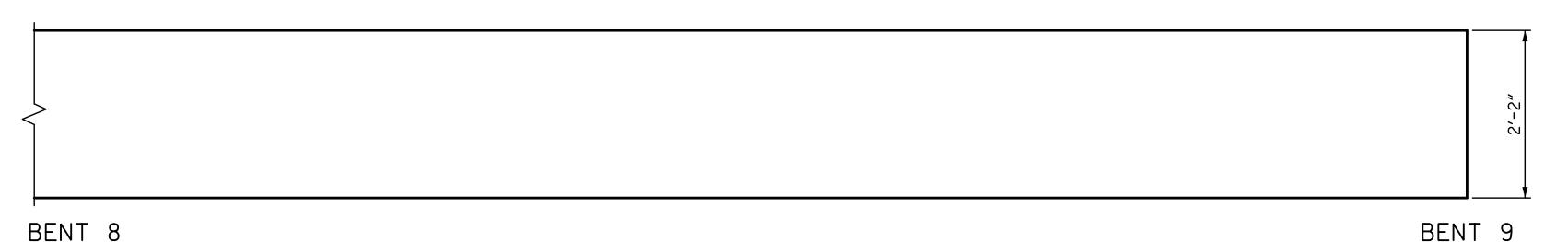
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DRAWN BY: T. BANKOVICH
CHECKED BY: T.J. BEACH
DESIGN ENGINEER OF RECORD: T.J. BEACH
DATE: 9-20
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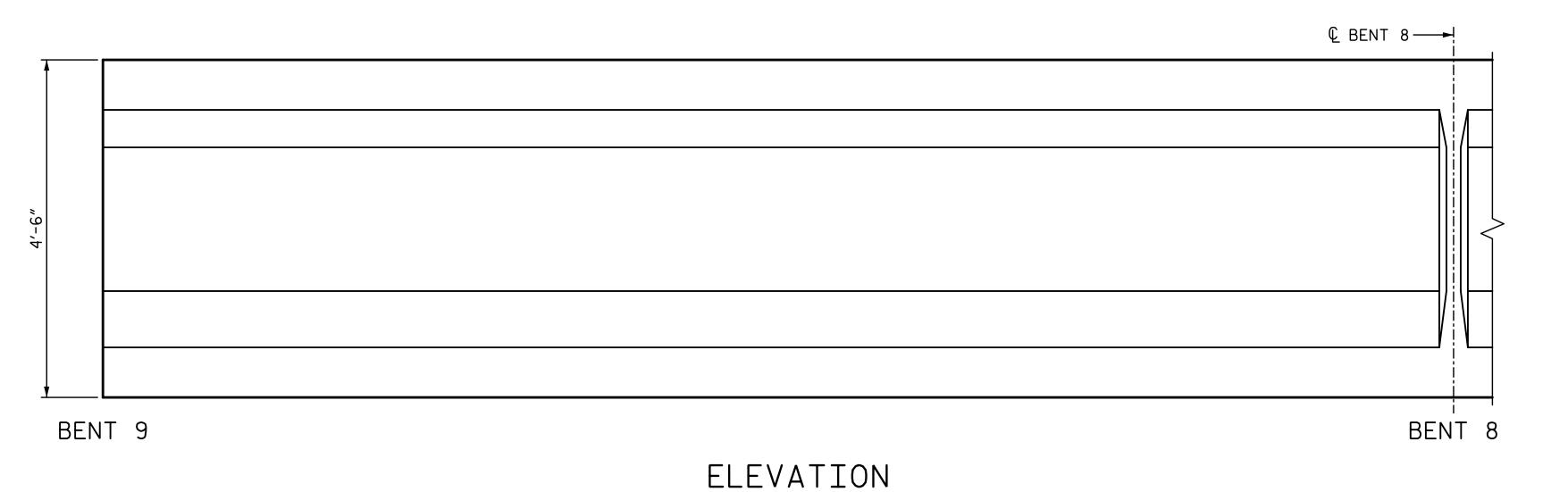
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



PLAN BOTTOM OF BEAM LOOKING UP



NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 9 GRD. 4 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF VOLUME AREA VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

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FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .: \_\_

SHEET 4 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

SPAN 9

	I : SEAL :	
5640 Dillard Drive	24390	
Suite 200 Cary, NC 27518	NGINEER	
(919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com	J. BEACH	
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GIRDER 4

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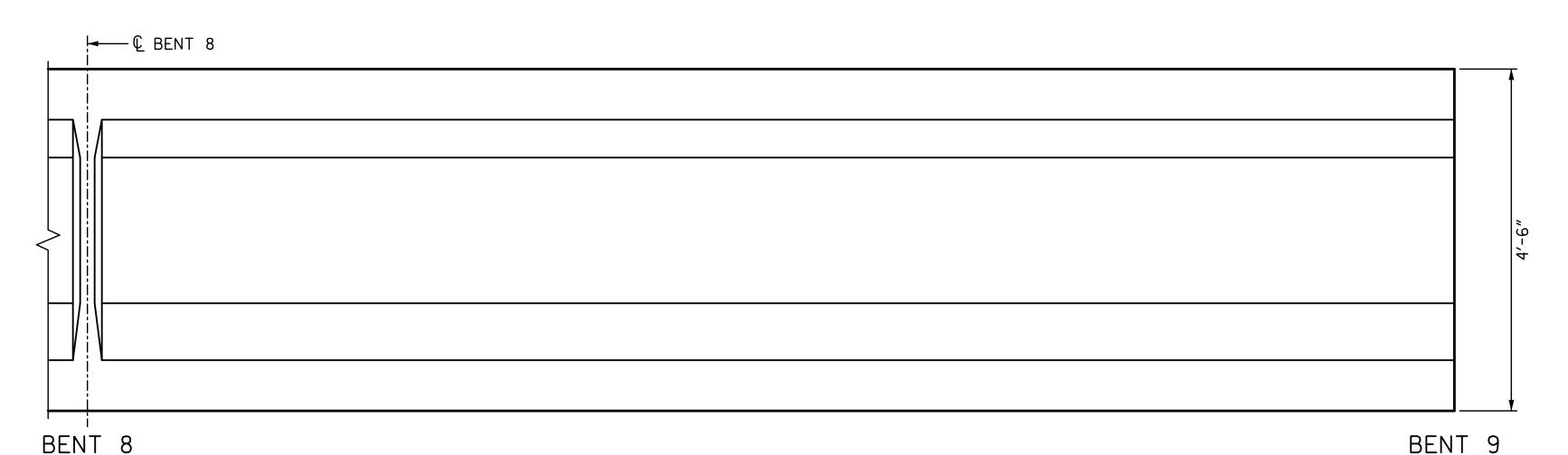
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PLANS PREPARED BY:

SIMPSON NGINEERS ASSOCIATES

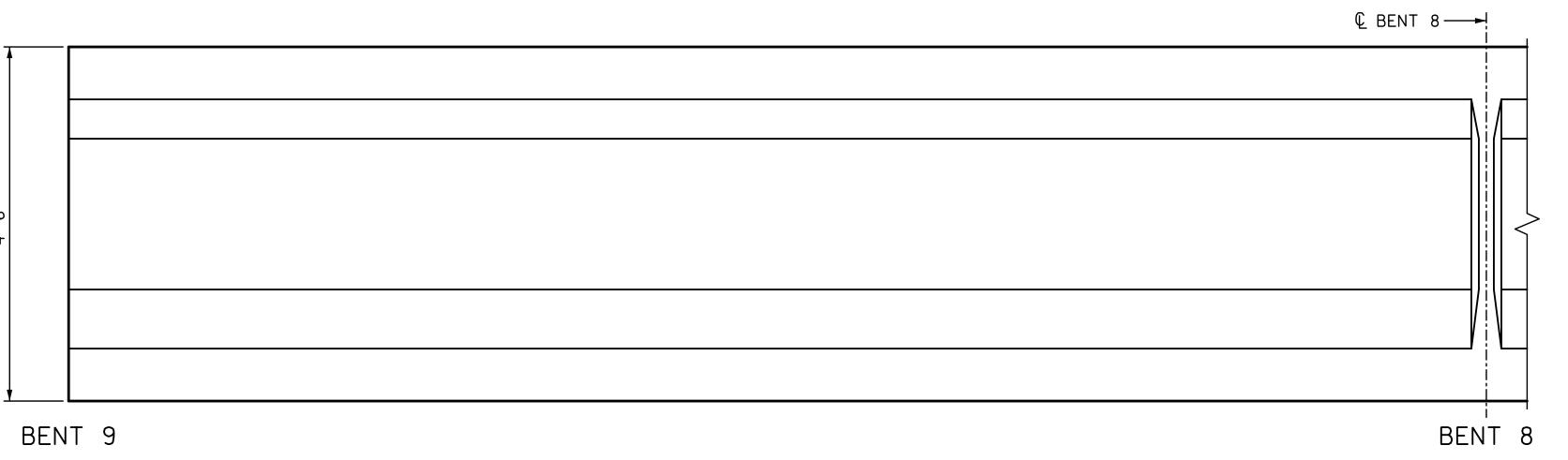
ERI — EPOXY RESIN INJECTION

BENT 9



ELEVATION SOUTH FACE

PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 9 GRD. 5 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 5 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 9 GIRDER 5

SHEET NO. REVISIONS S1-95 NO. BY: DATE: DATE: BY: TOTAL SHEETS

SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521 **DOCUMENT NOT CONSIDERED FINAL** 

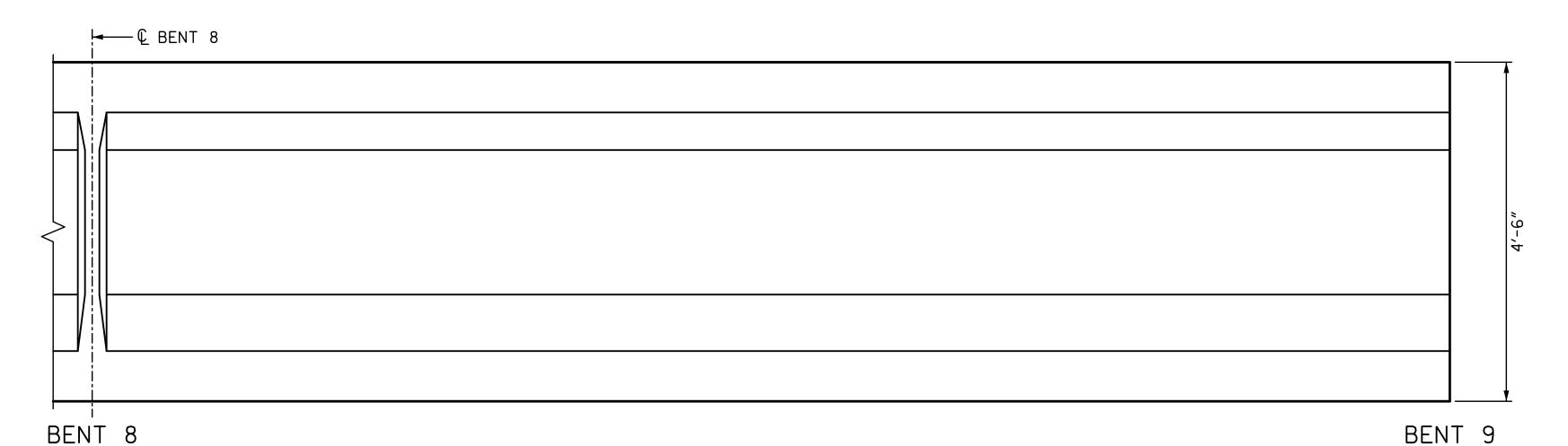
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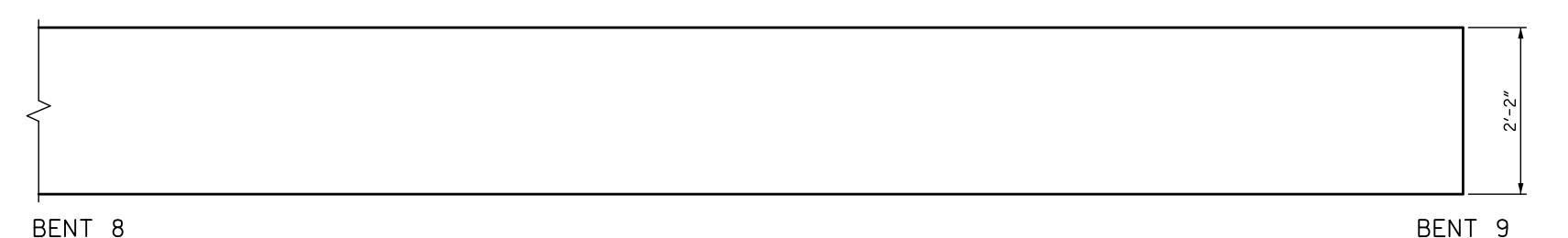
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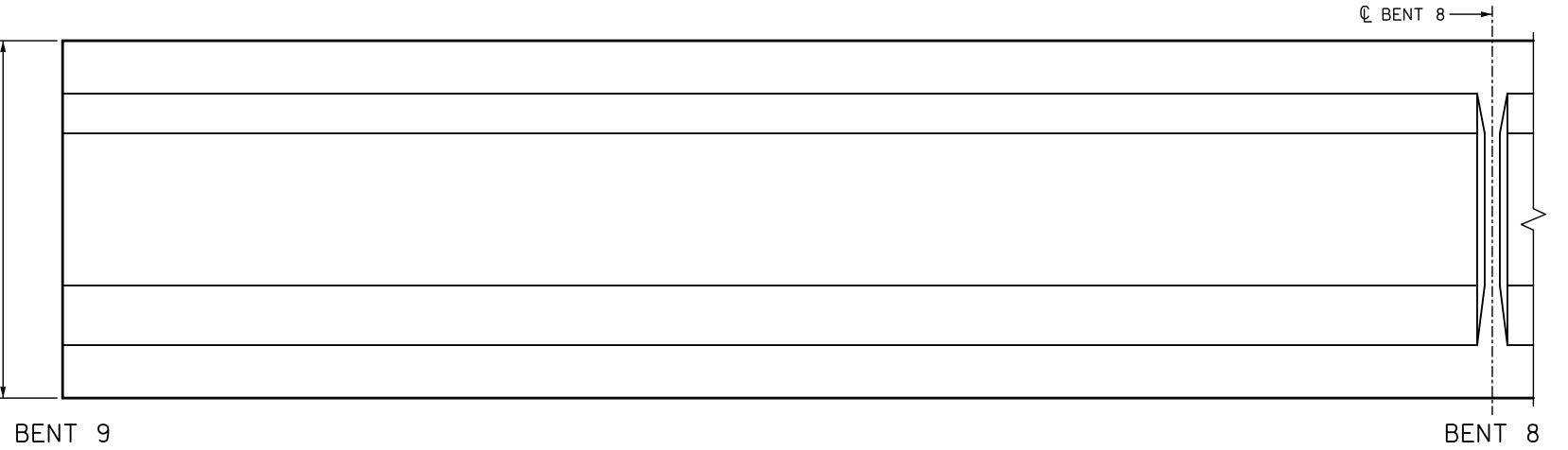
ERI — EPOXY RESIN INJECTION



#### ELEVATION SOUTH FACE



## PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 9 GRD. 6 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF VOLUME AREA VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_\_

SHEET 6 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 9 GIRDER 6

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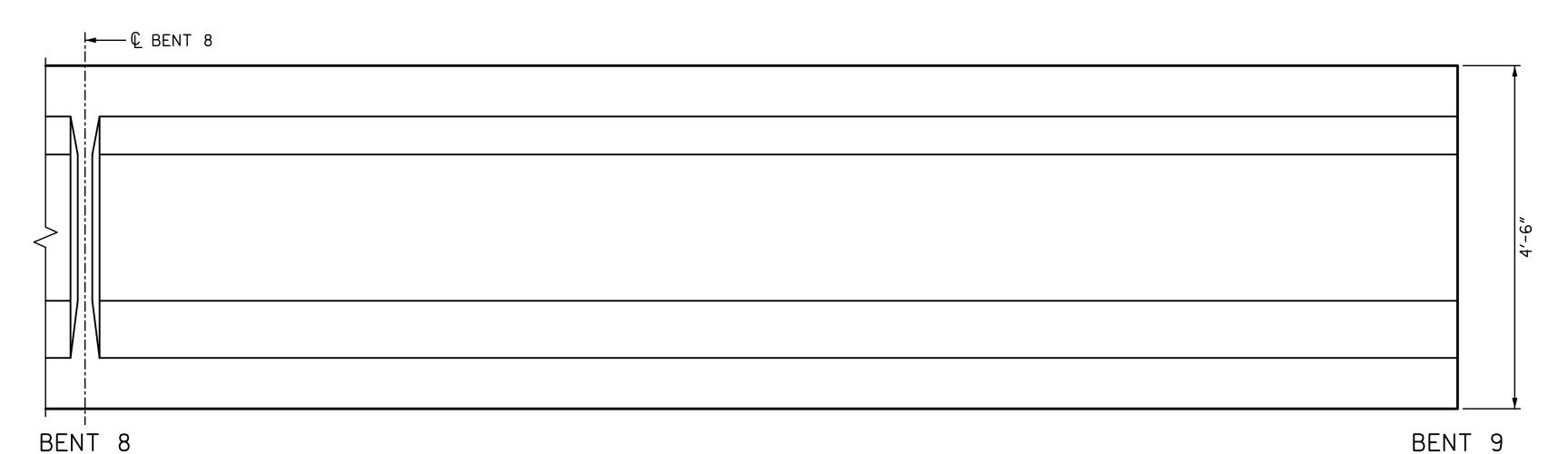
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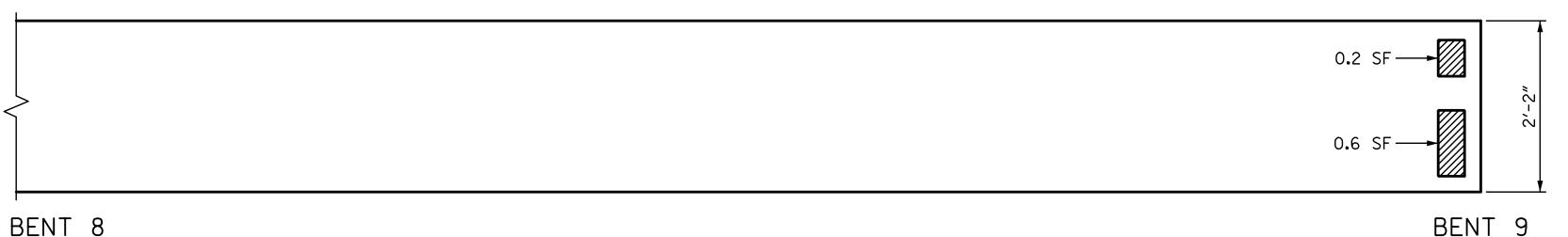
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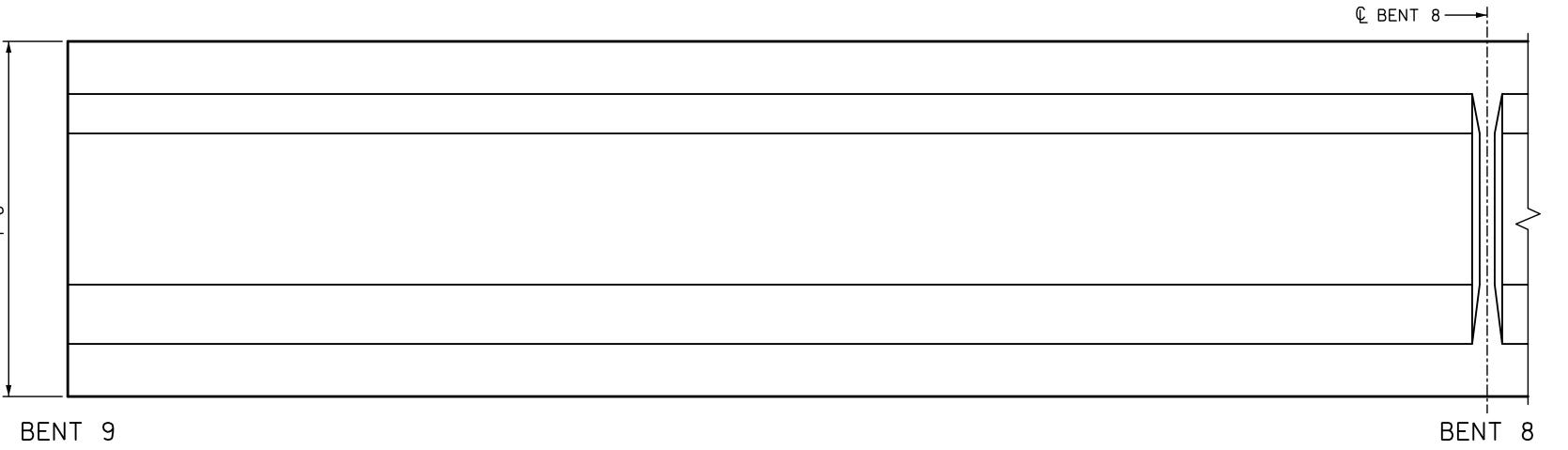
ERI — EPOXY RESIN INJECTION



#### ELEVATION SOUTH FACE



## PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION

NORTH FACE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 9 GRD. 7 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF VOLUME AREA VOLUME DEPTH GIRDER 0.8 0.4 EPOXY RESIN INJECTION LF GIRDER 0.0

#### NOTES:

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:\_\_\_

SHEET 7 OF 7

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 9 GIRDER 7

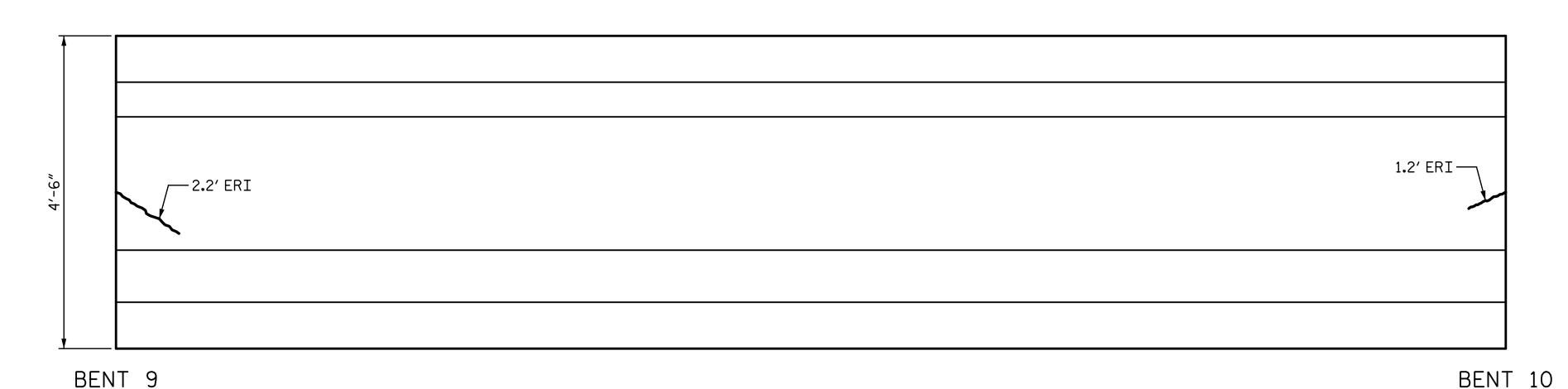
PLANS PREPARED BY:

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CENSURE NO. C-2521	9/29/2020				
19) 852-0468 19) 852-0598 (Fax) vw.simpsonengr.com	J. BEA.				

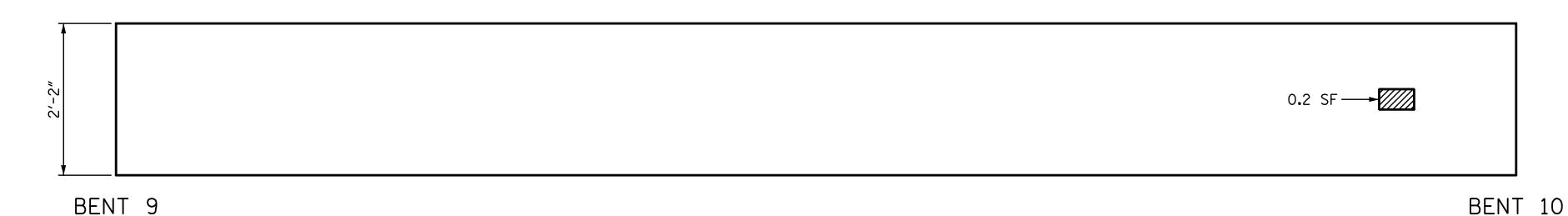
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SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468

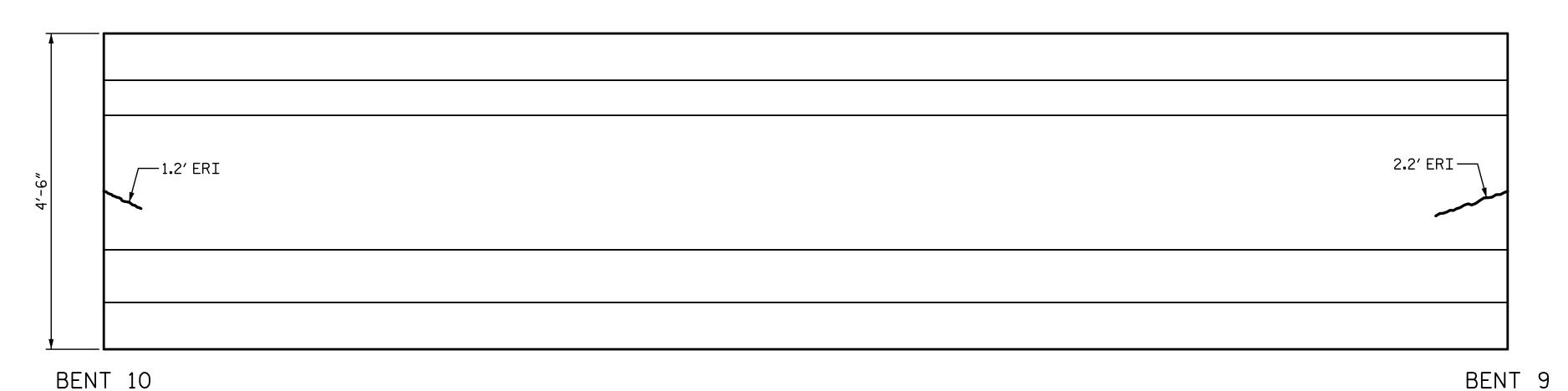
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



PLAN BOTTOM OF BEAM LOOKING UP



ELEVATION NORTH FACE

PLANS PREPARED BY: SIMPSON NGINEERS ASSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE SPLICING OF PRESSTRESSING STRAND, OR OTHER WORK WILL BE NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE PRESERVATION/REHABILITATION WORK. THE CONTRACTOR SHALL BE

REPAIR QUANTITY TABLE QUANTITIES REPAIRS SPAN 10 GRD.1 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.2 0.1 EPOXY RESIN INJECTION LF GIRDER 6.8

#### NOTES:

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"PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET. AT THE TIME OF PREPARATION OF PLANS, IT WAS NOT ANTICIPATED

PREPARED TO PREFORM SUCH WORK IN A TIMELY MANNER, AS

WORK AND SHALL BE ADDRESSED AS PER ARTICLE 104-7 OF THE

DETERMINED IN THE FIELD. SUCH WORK SHALL BE CONSIDERED EXTRA

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 1 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 10 GIRDER 1

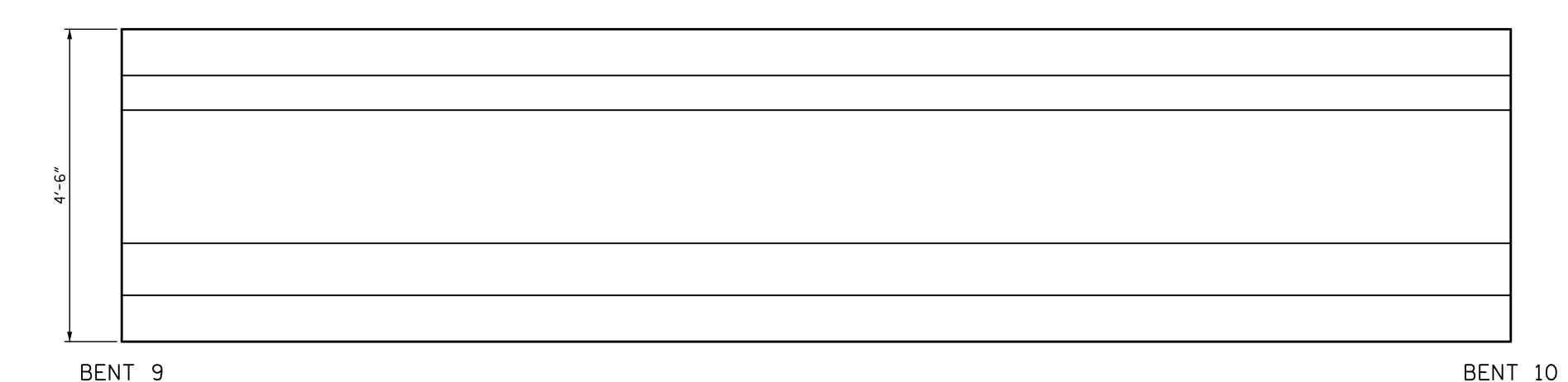
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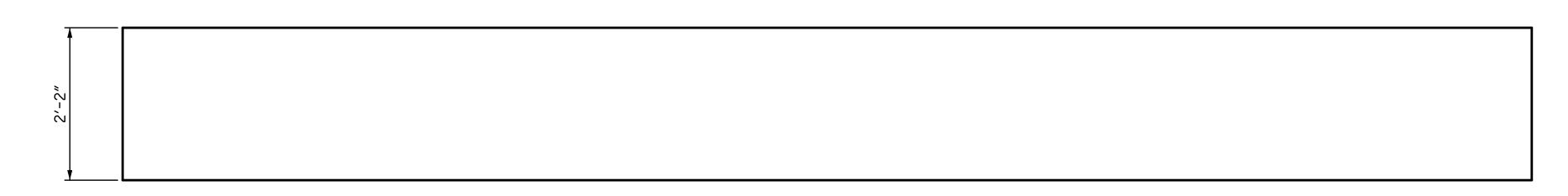
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ERI — EPOXY RESIN INJECTION

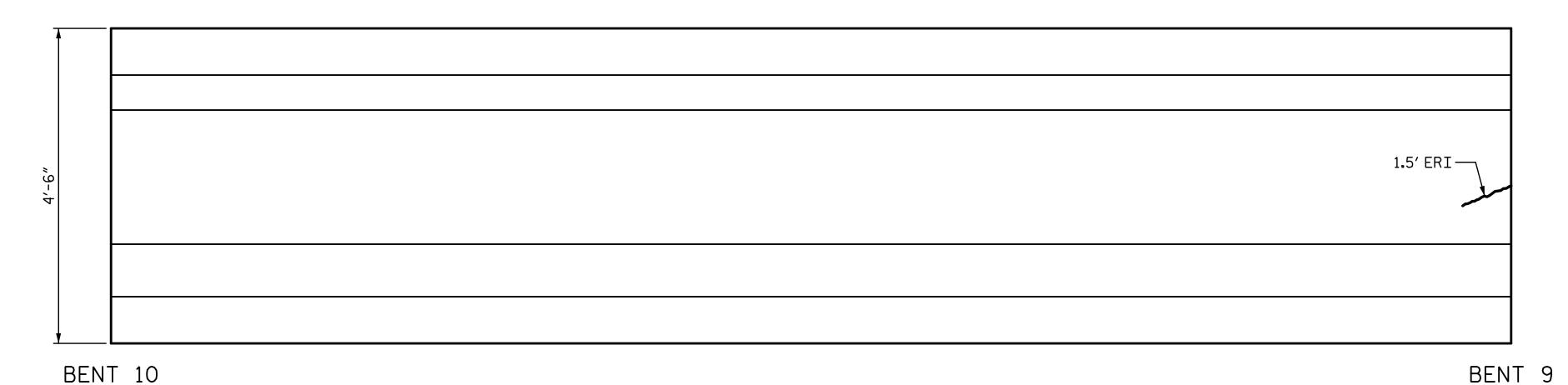


ELEVATION
SOUTH FACE



PLAN

BOTTOM OF BEAM
LOOKING UP



ELEVATION

NORTH FACE

PLANS PREPARED BY:

SIMPSON
NGINEERS
SSOCIATES

5640 Dillard Drive
Suite 200
Cary, NC 27518
(919) 852-0468
(919) 852-0468
(919) 852-0598 (Fax)
www.simpsonengr.com

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INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE

REPAIR QUANTITY TABLE

AREA SF

0.0

ESTIMATE

VOLUME

0.0

LF

1.5

REPAIRS SPAN 10 GRD. 2

REPAIRS OF PRESTR. CONCRETE GIRDERS

NOTES:

EPOXY RESIN INJECTION

GIRDER

GIRDER

QUANTITIES

AREA

ACTUAL

DEPTH

VOLUME

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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PROJECT NO. 15BPR.26

NEW HANOVER/PENDER COUNTY

BRIDGE NO.: 640048

SHEET 2 OF 5

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

PRESERVATION

SPAN 10 GIRDER 2

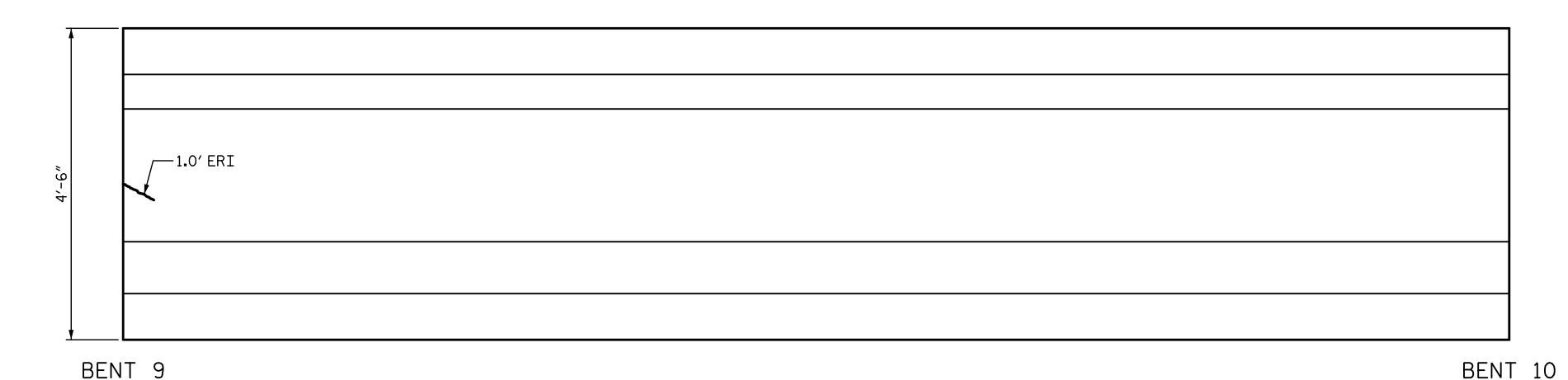
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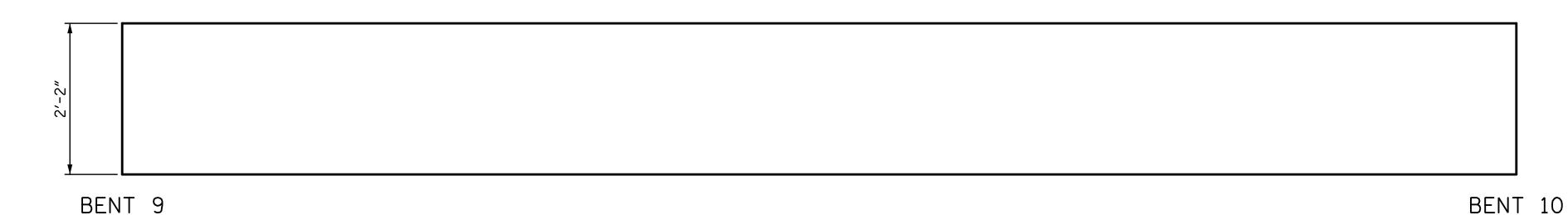
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CHECKED BY: T.J. BEACH
DESIGN ENGINEER OF RECORD: T.J. BEACH
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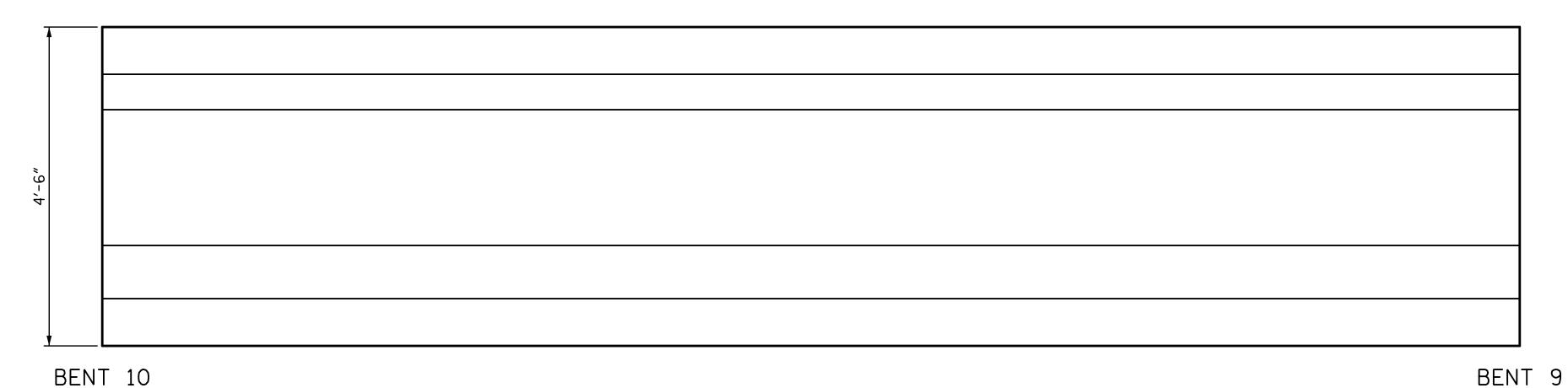
ERI — EPOXY RESIN INJECTION



ELEVATION SOUTH FACE



BOTTOM OF BEAM LOOKING UP



ELEVATION

NORTH FACE

DATE: 9-20 DATE: 9-20 DATE: 9-20 T. BANKOVICH CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: \_\_\_

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PLANS PREPARED BY:

9/29/2020

QUANTITIES REPAIRS SPAN 10 GRD. 3 ESTIMATE ACTUAL REPAIRS OF PRESTR. CONCRETE GIRDERS AREA SF AREA VOLUME VOLUME DEPTH GIRDER 0.0 0.0 EPOXY RESIN INJECTION LF GIRDER 1.0

REPAIR QUANTITY TABLE

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> PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO.:\_

SHEET 3 OF 5

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

> SPAN 10 GIRDER 3

> > SHEET NO.

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REVISIONS LICENSURE NO. C-2521 NO. BY: DATE: BY: **DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**