

NOTES
REPAIR LOCATIONS AND ESTIMATE OF 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 QUANTITY TABLE.

FOR PRESTRESSED GIRDER AND BENT DIAPHRAGM REPAIR DETAILS, SEE ``TYPICAL GIRDER AND DIAPHRAGM REPAIR DETAILS'' SHEET SD-4.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

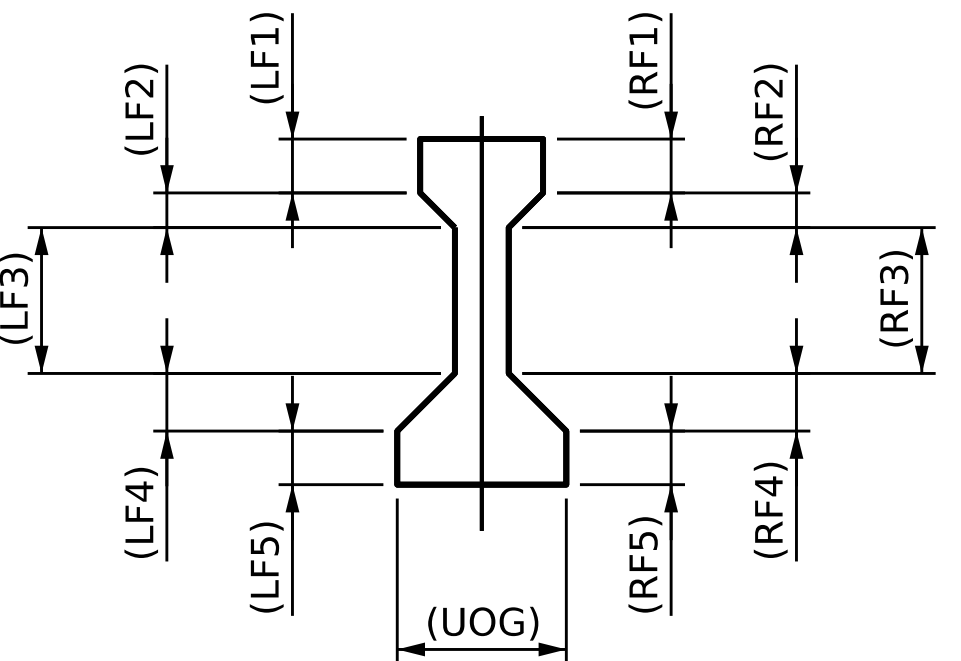
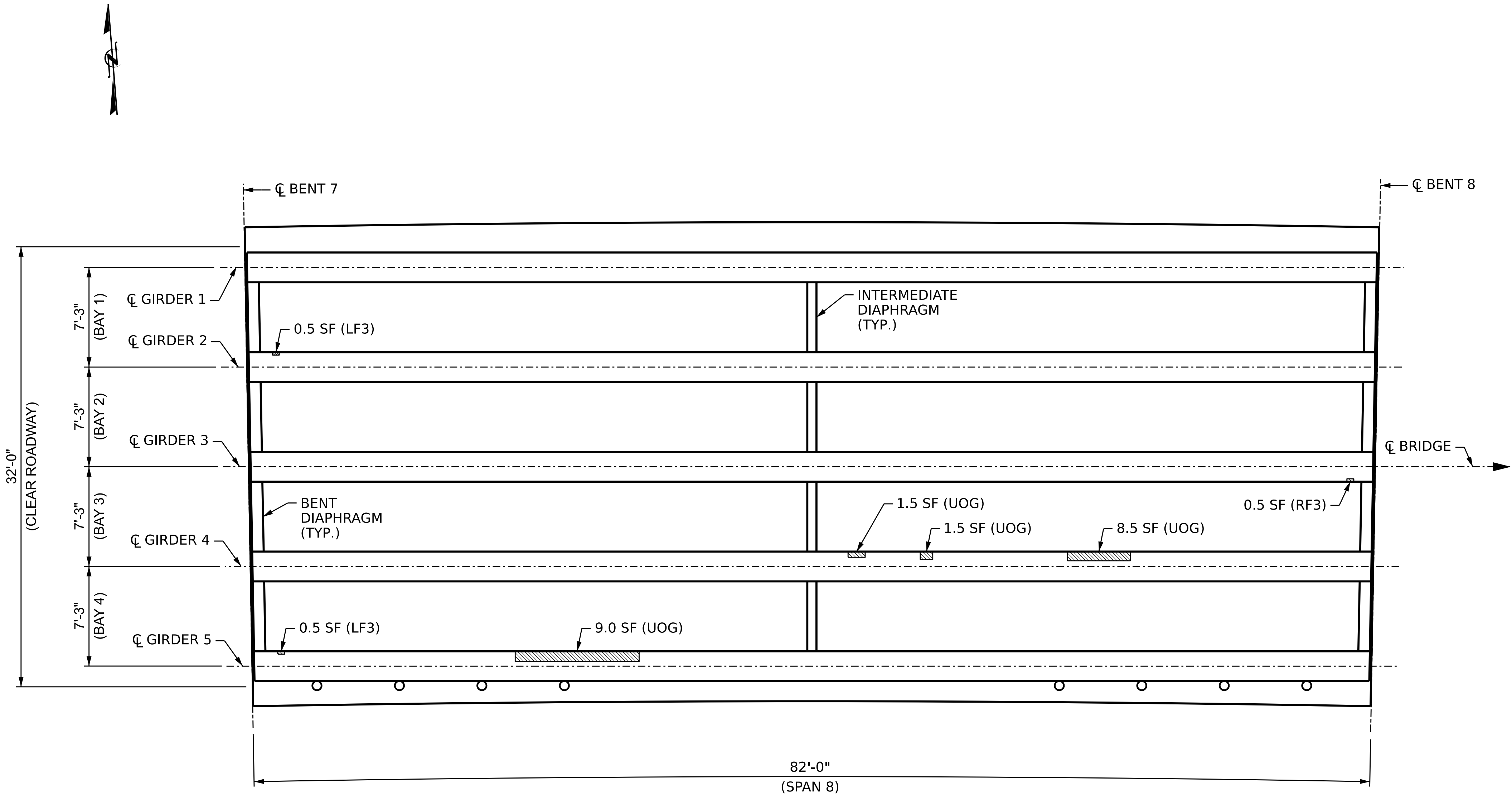
FOR REPAIRS TO PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE				
UNDERSIDE OF DECK	QUANTITIES			
	ESTIMATE		ACTUAL	
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK AND OVERHANG				
BENT DIAPHRAGMS				
GIRDER REPAIRS				
REPAIRS TO PRESTRESSED CONCRETE GIRDERS	22.0	6.5		

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

QUANTITIES ASSUME ALL SPALLS AND DELAMINATIONS TO BE 3.5" DEEP.

LEGEND			
SF	SQUARE FEET		DIAPHRAGM REPAIR
(UOD)	UNDERSIDE OF DECK		GIRDER REPAIR
(BOH)	BOTTOM OF OVERHANG		DECK REPAIR
(UOG)	UNDERSIDE OF GIRDER		



TYPICAL GIRDER SECTION
DAMAGE OF GIRDER LOCATIONS

PROJECT NO. 15BPR.131
CARTERET COUNTY
BRIDGE NO. 150045

SHEET 8 OF 18

PLAN OF SPANS
(UNDERSIDE, VERTICAL PROJECTION)

DRAWN BY : B. K. JACKSON DATE : APR 2026
CHECKED BY : M. PEARSON DATE : APR 2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

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LICENSE NO. F-0165

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
GIRDER AND DIAPHRAGM
REPAIRS
SPAN 8

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-19
1			3			TOTAL SHEETS
2			4			112

NOTES
REPAIR LOCATIONS AND ESTIMATE OF 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 QUANTITY TABLE.

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR REPAIRS TO PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

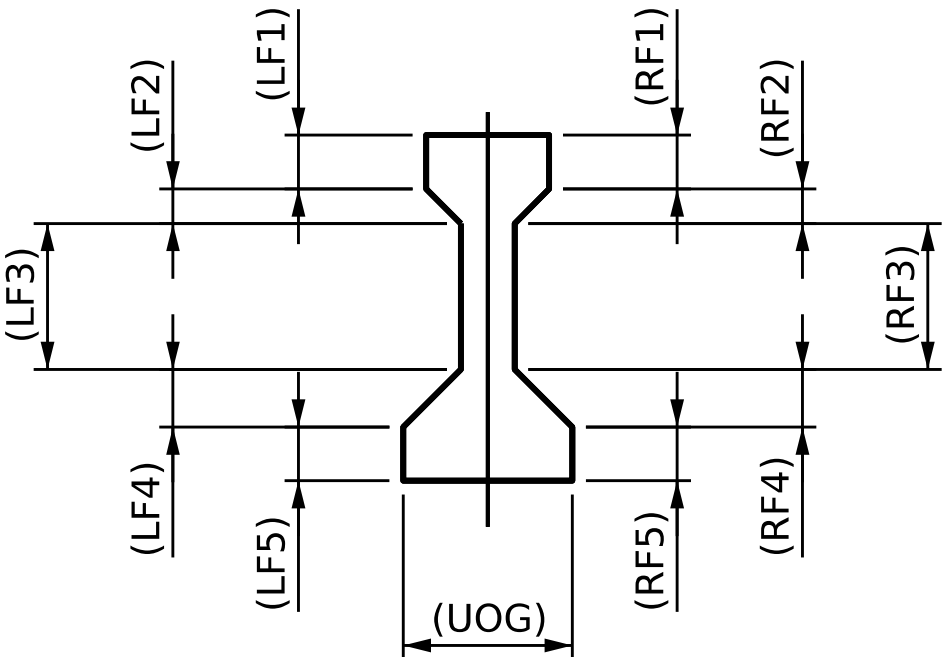
UNDERSIDE OF DECK	QUANTITIES			
	ESTIMATE		ACTUAL	
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK AND OVERHANG				
BENT DIAPHRAGMS				
GIRDER REPAIRS				
REPAIRS TO PRESTRESSED CONCRETE GIRDERS	4.0	1.5		

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

QUANTITIES ASSUME ALL SPALLS AND DELAMINATIONS TO BE 3.5" DEEP.

LEGEND

SF	SQUARE FEET		DIAPHRAGM REPAIR
(UOD)	UNDERSIDE OF DECK		GIRDER REPAIR
(BOH)	BOTTOM OF OVERHANG		DECK REPAIR
(UOG)	UNDERSIDE OF GIRDER		



TYPICAL GIRDER SECTION

DAMAGE OF GIRDER LOCATIONS

PROJECT NO. 15BPR.131
CARTERET COUNTY
BRIDGE NO. 150045

SHEET 9 OF 18

PLAN OF SPANS

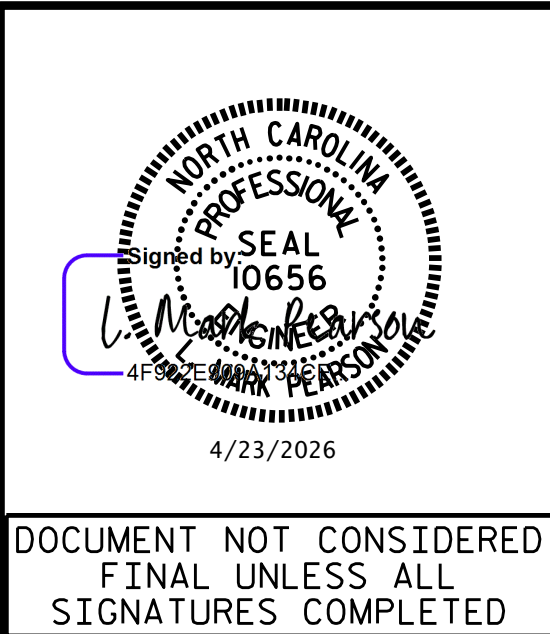
(UNDERSIDE, VERTICAL PROJECTION)

DRAWN BY : B. K. JACKSON DATE : APR 2026
CHECKED BY : M. PEARSON DATE : APR 2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

4/22/2026
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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE GIRDER AND DIAPHRAGM REPAIRS SPAN 9						SHEET NO. S2-20	
REVISIONS						TOTAL SHEETS 112	
NO.	BY:	DATE:	NO.	BY:	DATE:		
1			3				
2			4				

NOTES

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

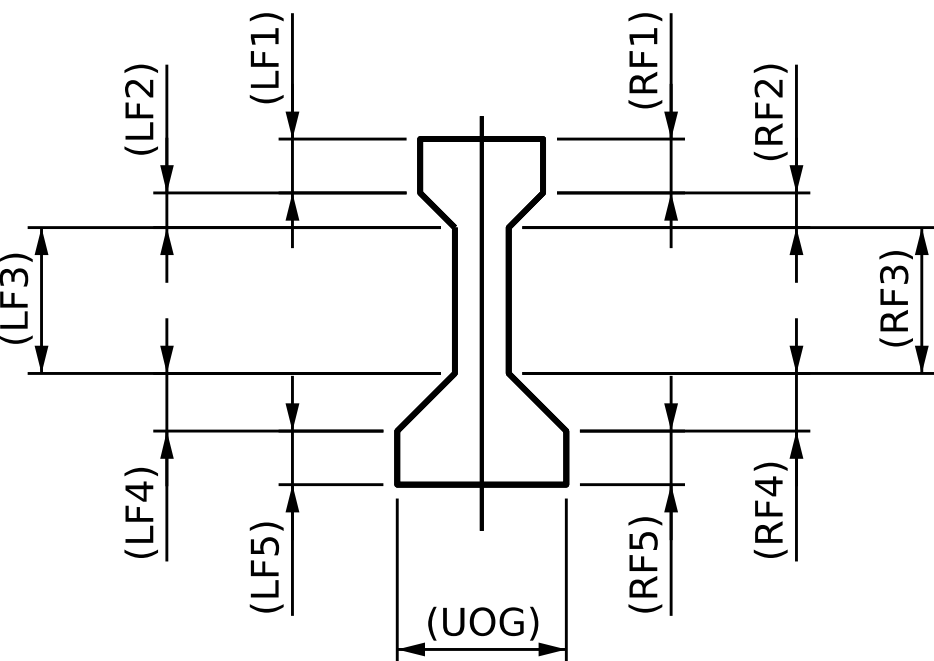
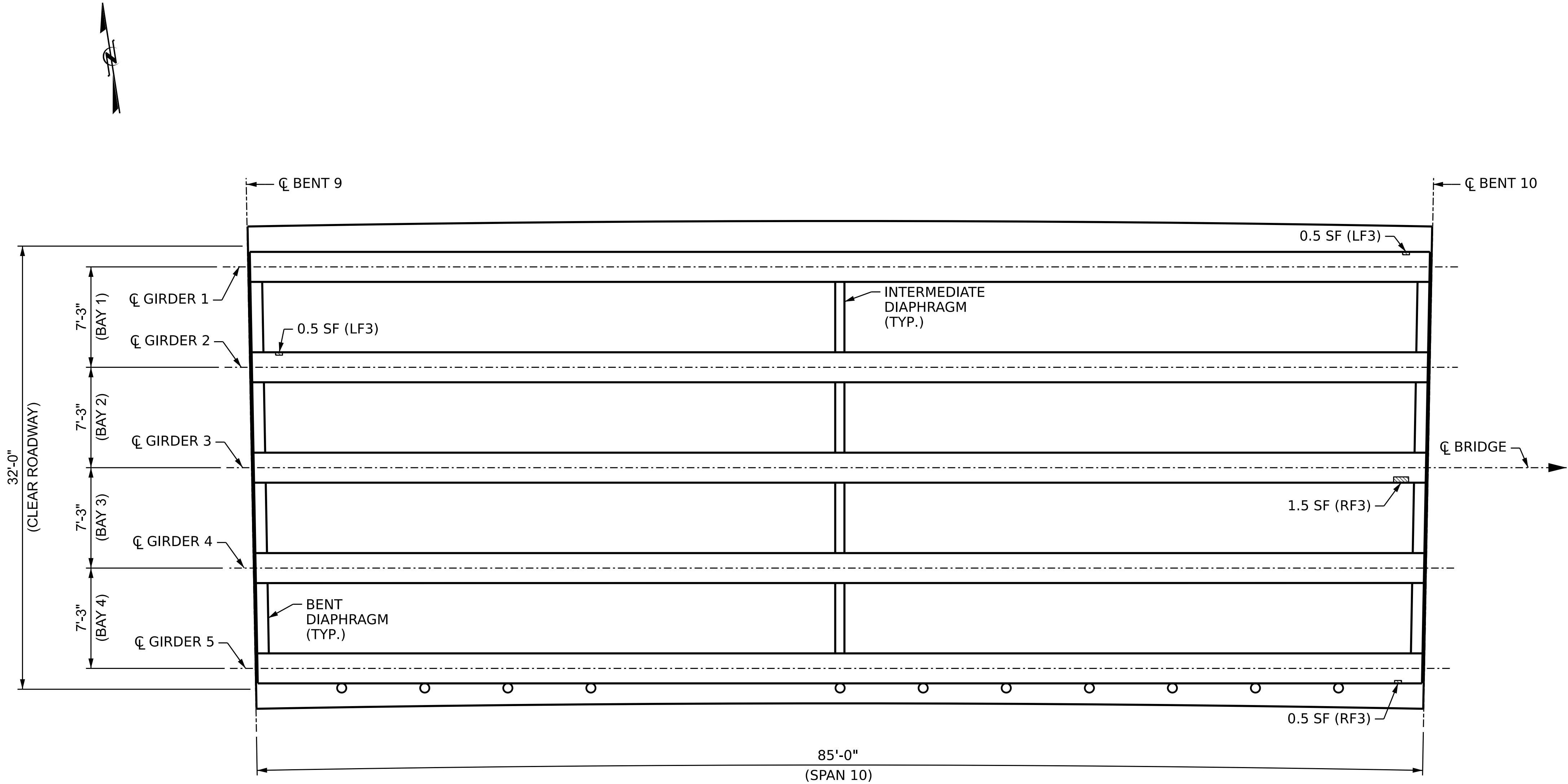
FOR REPAIRS TO PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE				
UNDERSIDE OF DECK	QUANTITIES			
	ESTIMATE		ACTUAL	
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK AND OVERHANG				
BENT DIAPHRAGMS				
GIRDER REPAIRS				
REPAIRS TO PRESTRESSED CONCRETE GIRDERS	3.0	1.0		

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

QUANTITIES ASSUME ALL SPALLS AND DELAMINATIONS TO BE 3.5" DEEP.

LEGEND			
SF	SQUARE FEET		DIAPHRAGM REPAIR
(UOD)	UNDERSIDE OF DECK		GIRDER REPAIR
(BOH)	BOTTOM OF OVERHANG		DECK REPAIR
(UOG)	UNDERSIDE OF GIRDER		



TYPICAL GIRDER SECTION

DAMAGE OF GIRDER LOCATIONS

PROJECT NO. 15BPR.131

CARTERET COUNTY

BRIDGE NO. 150045

SHEET 10 OF 18

PLAN OF SPANS

(UNDERSIDE, VERTICAL PROJECTION)

DRAWN BY : B. K. JACKSON DATE : APR 2026

CHECKED BY : M. PEARSON DATE : APR 2026

DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

4/22/2026

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USMA128682

WSP

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STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

SUPERSTRUCTURE

GIRDER AND DIAPHRAGM

REPAIRS

SPAN 10

4/23/2026

10656

MARK PEARSON

DESIGNED BY

SEAL

10656

APPROVED

MARK PEARSON

4/23/2026

DOCUMENT NOT CONSIDERED

FINAL UNLESS ALL

SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S2-21
2			4			TOTAL SHEETS 112

NOTES
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REPAIR QUANTITY TABLE

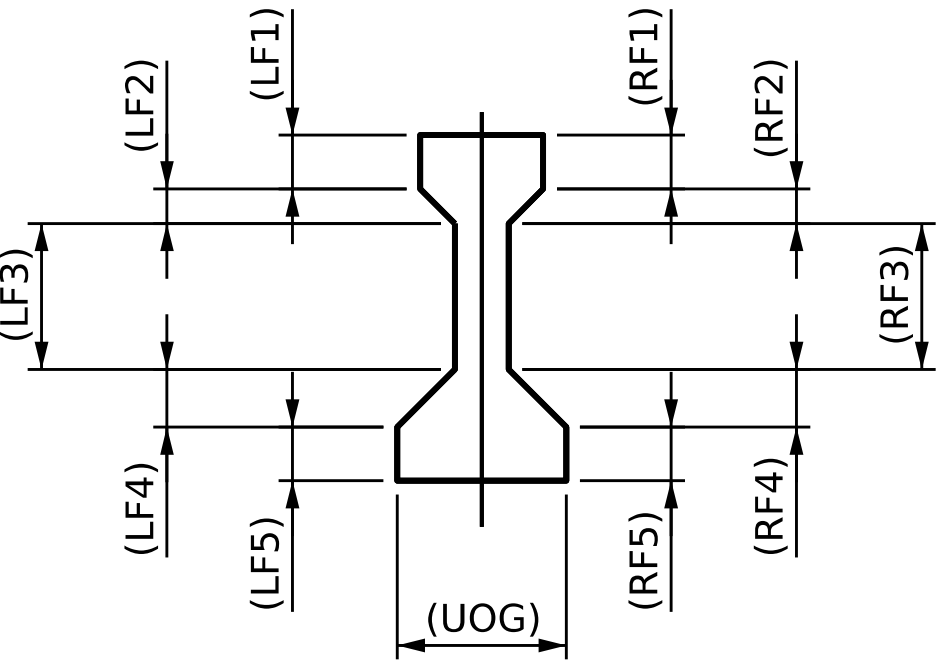
UNDERSIDE OF DECK	QUANTITIES			
	ESTIMATE		ACTUAL	
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK AND OVERHANG				
BENT DIAPHRAGMS				
GIRDER REPAIRS				
REPAIRS TO PRESTRESSED CONCRETE GIRDERS	27.0	8.0		

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

QUANTITIES ASSUME ALL SPALLS AND DELAMINATIONS TO BE 3.5" DEEP.

LEGEND

SF	SQUARE FEET		DIAPHRAGM REPAIR
(UOD)	UNDERSIDE OF DECK		GIRDER REPAIR
(BOH)	BOTTOM OF OVERHANG		DECK REPAIR
(UOG)	UNDERSIDE OF GIRDER		



TYPICAL GIRDER SECTION

DAMAGE OF GIRDER LOCATIONS

PROJECT NO. 15BPR.131
CARTERET COUNTY
BRIDGE NO. 150045

SHEET 11 OF 18

PLAN OF SPANS

(UNDERSIDE, VERTICAL PROJECTION)

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
GIRDER AND DIAPHRAGM
REPAIRS
SPAN 11



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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S2-22 TOTAL SHEETS 112
2			4			

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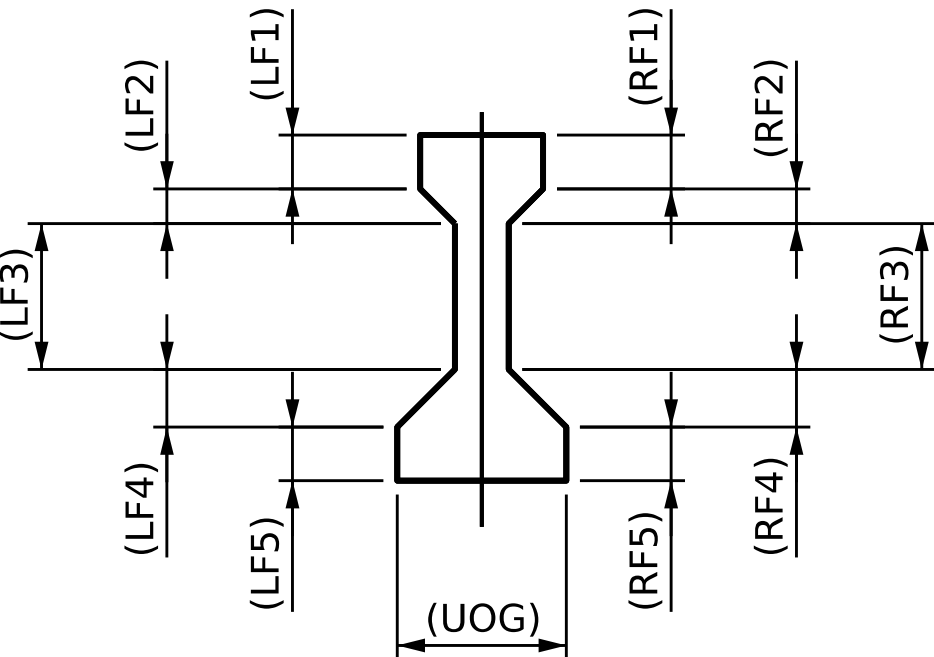
FOR REPAIRS TO PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE				
UNDERSIDE OF DECK	QUANTITIES			
	ESTIMATE		ACTUAL	
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK AND OVERHANG				
BENT DIAPHRAGMS				
GIRDER REPAIRS				
REPAIRS TO PRESTRESSED CONCRETE GIRDERS	2.5	1.0		

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

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LEGEND			
SF	SQUARE FEET		DIAPHRAGM REPAIR
(UOD)	UNDERSIDE OF DECK		GIRDER REPAIR
(BOH)	BOTTOM OF OVERHANG		DECK REPAIR
(UOG)	UNDERSIDE OF GIRDER		



TYPICAL GIRDER SECTION

DAMAGE OF GIRDER LOCATIONS

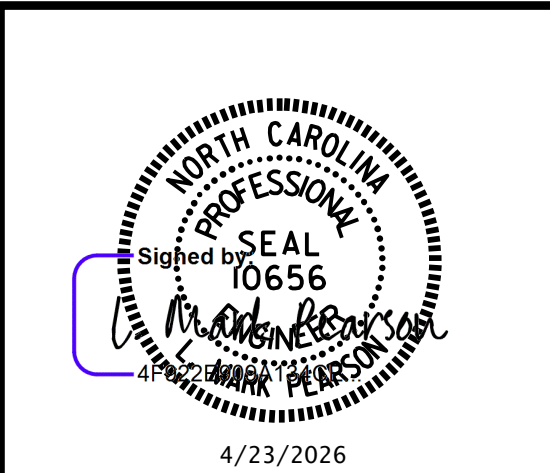
PROJECT NO. 15BPR.131
CARTERET COUNTY
BRIDGE NO. 150045

SHEET 12 OF 18

PLAN OF SPANS
(UNDERSIDE, VERTICAL PROJECTION)

DRAWN BY : B. K. JACKSON DATE : APR 2026
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DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

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STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

SUPERSTRUCTURE

GIRDER AND DIAPHRAGM

REPAIRS

SPAN 12

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-23
1			3			TOTAL SHEETS 112
2			4			

NOTES
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FOR REPAIRS TO PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE

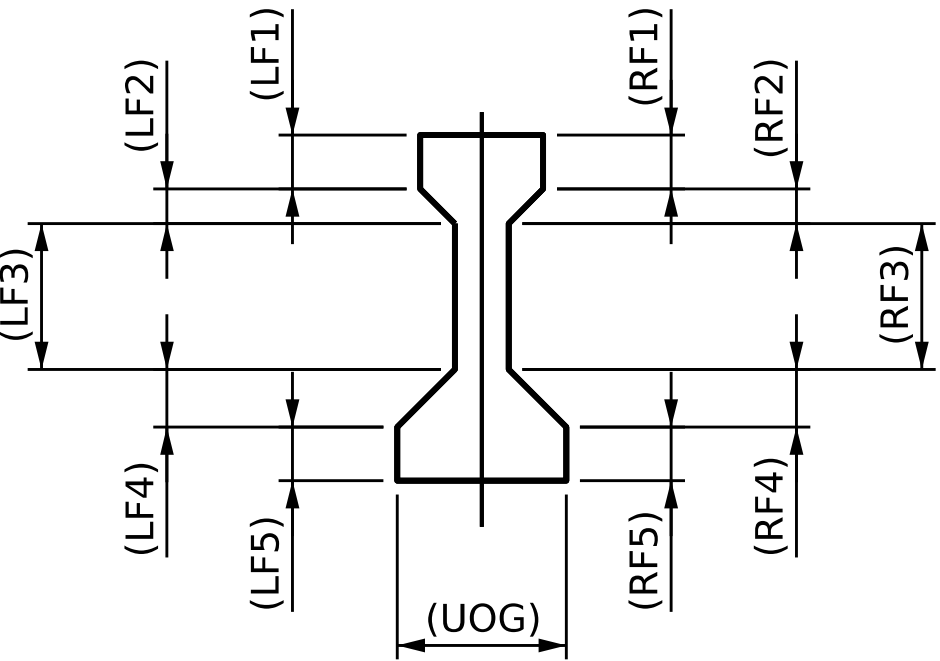
UNDERSIDE OF DECK	QUANTITIES			
	ESTIMATE		ACTUAL	
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK AND OVERHANG				
BENT DIAPHRAGMS				
GIRDER REPAIRS				
REPAIRS TO PRESTRESSED CONCRETE GIRDERS	6.0	2.0		

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

QUANTITIES ASSUME ALL SPALLS AND DELAMINATIONS TO BE 3.5" DEEP.

LEGEND

SF	SQUARE FEET		DIAPHRAGM REPAIR
(UOD)	UNDERSIDE OF DECK		GIRDER REPAIR
(BOH)	BOTTOM OF OVERHANG		DECK REPAIR
(UOG)	UNDERSIDE OF GIRDER		



TYPICAL GIRDER SECTION

DAMAGE OF GIRDER LOCATIONS

PROJECT NO. 15BPR.131
CARTERET COUNTY
BRIDGE NO. 150045

SHEET 13 OF 18

PLAN OF SPANS

(UNDERSIDE, VERTICAL PROJECTION)

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH				SUPERSTRUCTURE GIRDER AND DIAPHRAGM REPAIRS SPAN 13			
REVISIONS						SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE	S2-24	
1			3			TOTAL SHEETS	
2			4			112	



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4/22/2026
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USMA128682

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REPAIR QUANTITY TABLE

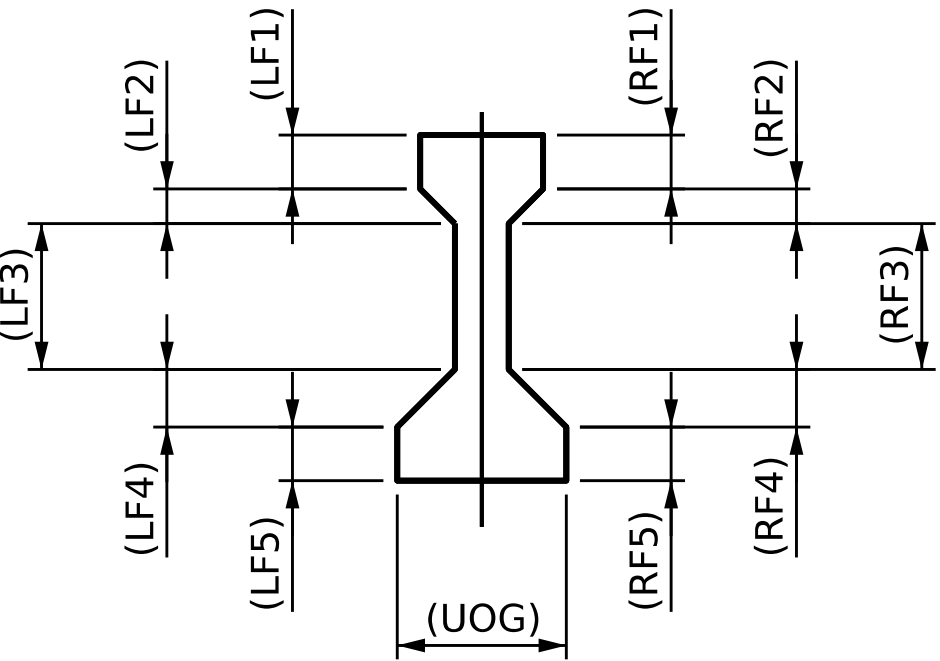
UNDERSIDE OF DECK	QUANTITIES			
	ESTIMATE		ACTUAL	
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK AND OVERHANG				
BENT DIAPHRAGMS				
GIRDER REPAIRS				
REPAIRS TO PRESTRESSED CONCRETE GIRDERS	24.5	7.5		

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

QUANTITIES ASSUME ALL SPALLS AND DELAMINATIONS TO BE 3.5" DEEP.

LEGEND

SF	SQUARE FEET		DIAPHRAGM REPAIR
(UOD)	UNDERSIDE OF DECK		GIRDER REPAIR
(BOH)	BOTTOM OF OVERHANG		DECK REPAIR
(UOG)	UNDERSIDE OF GIRDER		



TYPICAL GIRDER SECTION

DAMAGE OF GIRDER LOCATIONS

PROJECT NO. 15BPR.131
CARTERET COUNTY
BRIDGE NO. 150045

SHEET 14 OF 18

PLAN OF SPANS

(UNDERSIDE, VERTICAL PROJECTION)

DRAWN BY : B. K. JACKSON DATE : APR 2026
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DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

4/22/2026
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
GIRDER AND DIAPHRAGM
REPAIRS
SPAN 14

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S2-25
2			4			TOTAL SHEETS 112

NOTES

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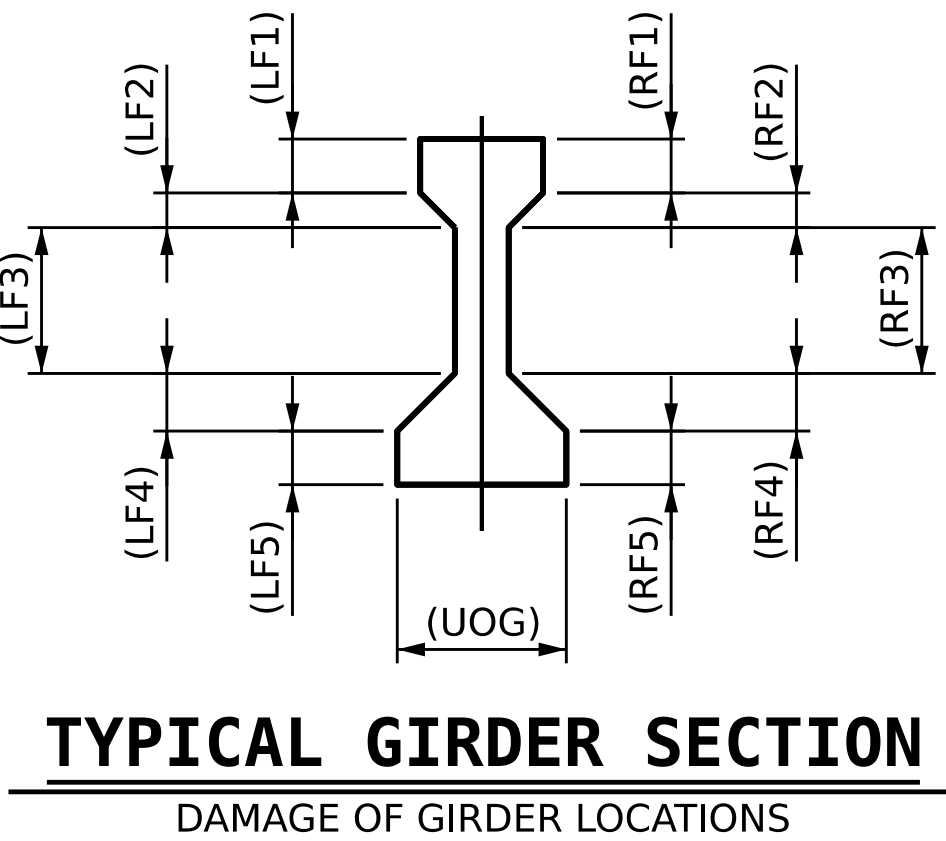
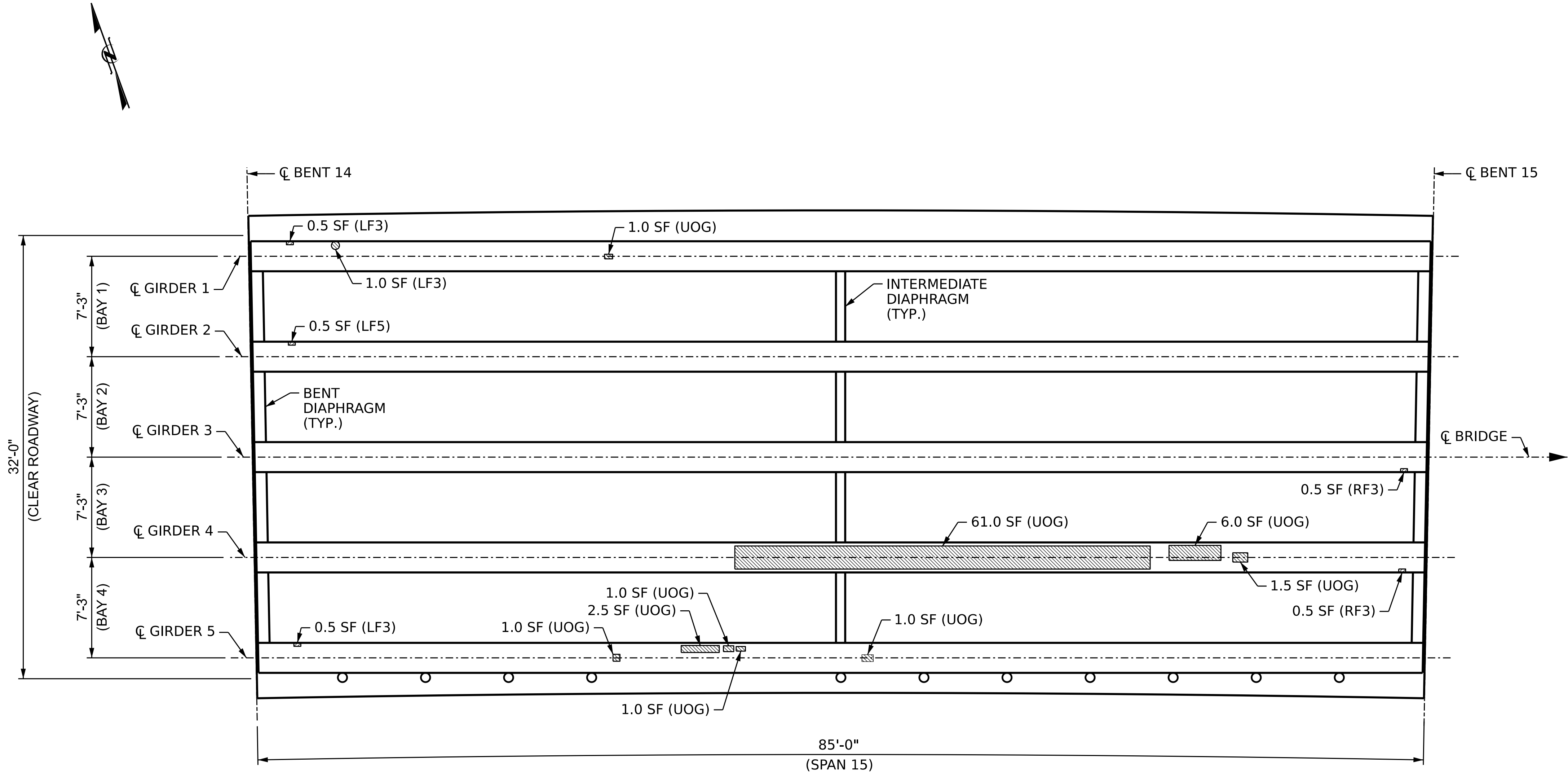
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REPAIR QUANTITY TABLE				
UNDERSIDE OF DECK	QUANTITIES			
	ESTIMATE		ACTUAL	
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK AND OVERHANG				
BENT DIAPHRAGMS				
GIRDER REPAIRS				
REPAIRS TO PRESTRESSED CONCRETE GIRDERS	78.5	23.0		

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

QUANTITIES ASSUME ALL SPALLS AND DELAMINATIONS TO BE 3.5" DEEP.

LEGEND			
SF	SQUARE FEET		DIAPHRAGM REPAIR
(UOD)	UNDERSIDE OF DECK		GIRDER REPAIR
(BOH)	BOTTOM OF OVERHANG		DECK REPAIR
(UOG)	UNDERSIDE OF GIRDER		



PROJECT NO. 15BPR.131
CARTERET COUNTY
BRIDGE NO. 150045

SHEET 15 OF 18

PLAN OF SPANS
(UNDERSIDE, VERTICAL PROJECTION)

DRAWN BY : B. K. JACKSON DATE : APR 2026
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DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

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DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
GIRDER AND DIAPHRAGM
REPAIRS
SPAN 15
4/23/2026
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SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S2-26
2			4			TOTAL SHEETS 112

NOTES

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FOR PRESTRESSED GIRDER AND BENT DIAPHRAGM REPAIR DETAILS, SEE ``TYPICAL GIRDER AND DIAPHRAGM REPAIR DETAILS'' SHEET SD-4.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

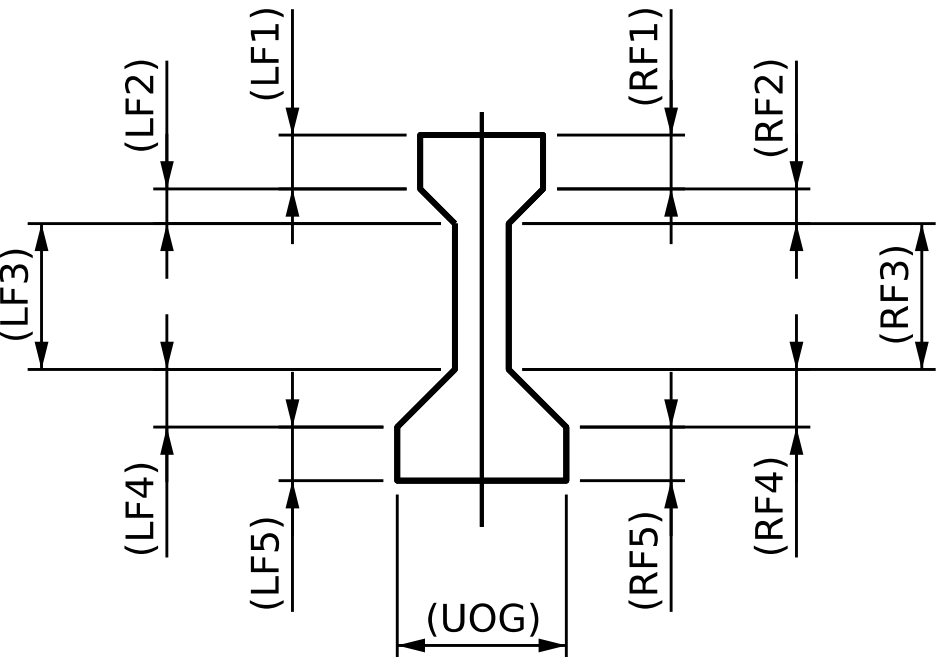
FOR REPAIRS TO PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE				
UNDERSIDE OF DECK	QUANTITIES			
	ESTIMATE		ACTUAL	
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK AND OVERHANG				
BENT DIAPHRAGMS				
GIRDER REPAIRS				
REPAIRS TO PRESTRESSED CONCRETE GIRDERS	3.5	1.5		

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

QUANTITIES ASSUME ALL SPALLS AND DELAMINATIONS TO BE 3.5" DEEP.

LEGEND			
SF	SQUARE FEET		DIAPHRAGM REPAIR
(UOD)	UNDERSIDE OF DECK		GIRDER REPAIR
(BOH)	BOTTOM OF OVERHANG		DECK REPAIR
(UOG)	UNDERSIDE OF GIRDER		



TYPICAL GIRDER SECTION

DAMAGE OF GIRDER LOCATIONS

PROJECT NO. 15BPR.131
CARTERET COUNTY
BRIDGE NO. 150045

SHEET 16 OF 18

PLAN OF SPANS
(UNDERSIDE, VERTICAL PROJECTION)

DRAWN BY : B. K. JACKSON DATE : APR 2026
CHECKED BY : M. PEARSON DATE : APR 2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

WSP USA Inc.
1001 WADE AVENUE
SUITE 400
RALEIGH, NC 27601
TEL: 919.836.4040
LICENSE NO. F-0165



DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE GIRDER AND DIAPHRAGM REPAIRS SPAN 16						SHEET NO. S2-27	
REVISIONS						TOTAL SHEETS 112	
NO.	BY:	DATE:	NO.	BY:	DATE:		
1			3				
2			4				

NOTES

REPAIR LOCATIONS AND ESTIMATE OF 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 QUANTITY TABLE.

FOR PRESTRESSED GIRDER AND BENT DIAPHRAGM REPAIR DETAILS, SEE ``TYPICAL GIRDER AND DIAPHRAGM REPAIR DETAILS'' SHEET SD-4.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

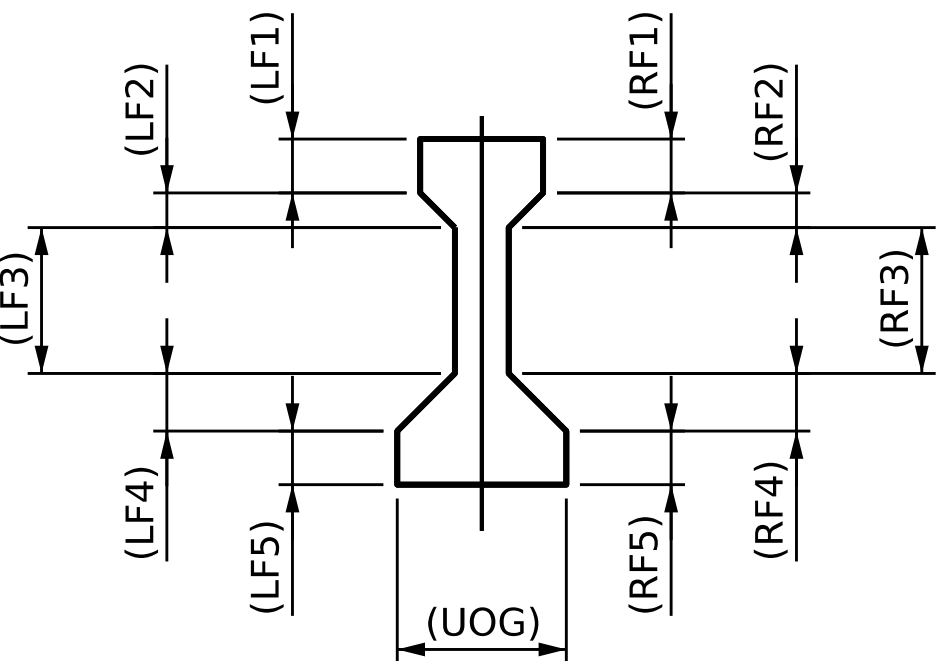
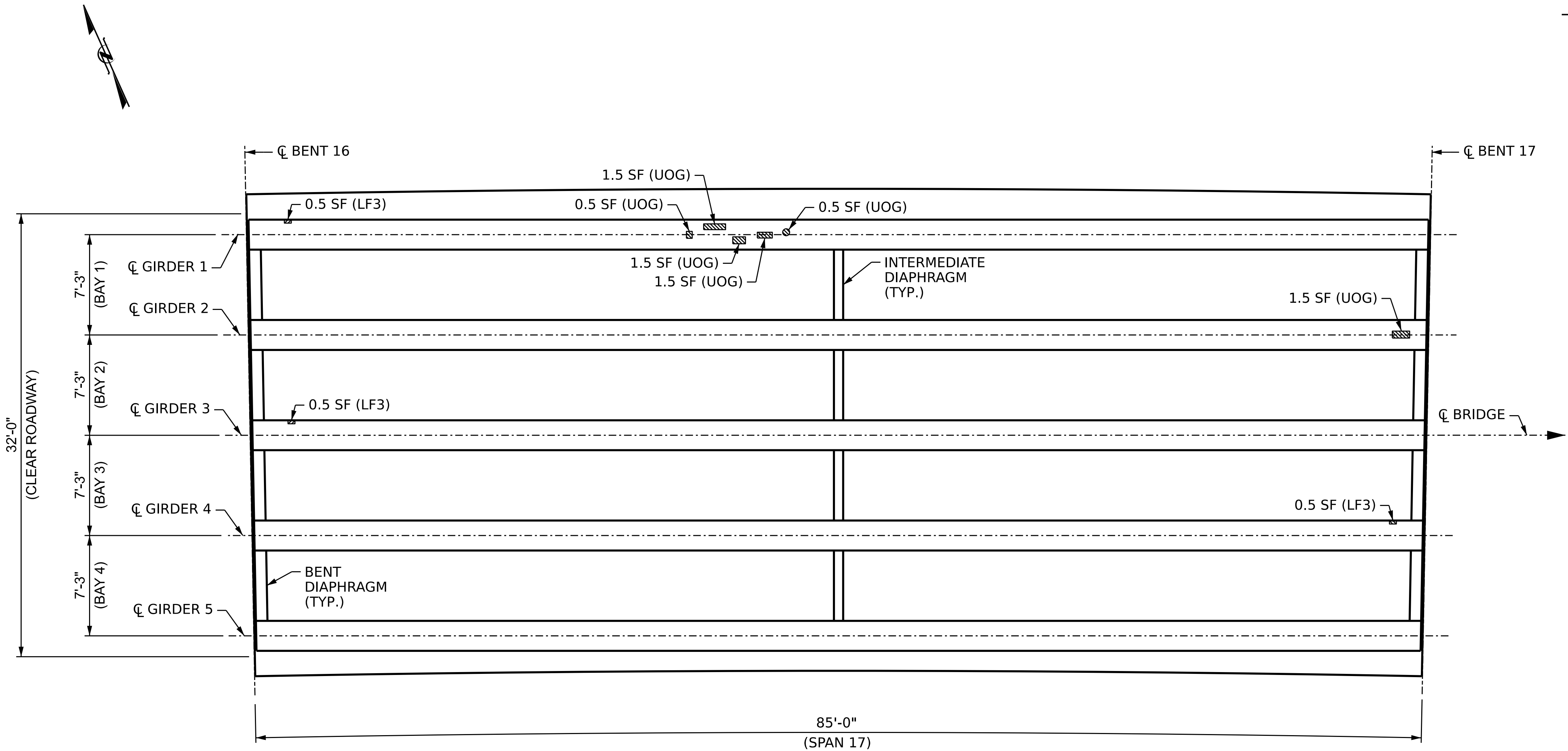
FOR REPAIRS TO PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE				
UNDERSIDE OF DECK	QUANTITIES			
	ESTIMATE		ACTUAL	
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK AND OVERHANG				
BENT DIAPHRAGMS				
GIRDER REPAIRS				
REPAIRS TO PRESTRESSED CONCRETE GIRDERS	8.5	2.5		

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

QUANTITIES ASSUME ALL SPALLS AND DELAMINATIONS TO BE 3.5" DEEP.

LEGEND			
SF	SQUARE FEET		DIAPHRAGM REPAIR
(UOD)	UNDERSIDE OF DECK		GIRDER REPAIR
(BOH)	BOTTOM OF OVERHANG		DECK REPAIR
(UOG)	UNDERSIDE OF GIRDER		



TYPICAL GIRDER SECTION
DAMAGE OF GIRDER LOCATIONS

PROJECT NO. 15BPR.131
CARTERET COUNTY
BRIDGE NO. 150045

SHEET 17 OF 18

PLAN OF SPANS
(UNDERSIDE, VERTICAL PROJECTION)

DRAWN BY : B. K. JACKSON DATE : APR 2026
CHECKED BY : M. PEARSON DATE : APR 2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

4/22/2026
c:\bms\wsp-us-pw-nc\dms11737\402.055.15BPR131.SMU.GRD17_S228.150045.dgn
USMA128682

WSP USA Inc.
1001 WADE AVENUE
SUITE 400
RALEIGH, NC 27601
TEL: 919.836.4040
LICENSE NO. F-0165

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
GIRDER AND DIAPHRAGM
REPAIRS
SPAN 17
4/23/2026
DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S2-28
2			4			TOTAL SHEETS 112

NOTES

REPAIR LOCATIONS AND ESTIMATE OF 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 QUANTITY TABLE.

FOR PRESTRESSED GIRDER AND BENT DIAPHRAGM REPAIR DETAILS, SEE ``TYPICAL GIRDER AND DIAPHRAGM REPAIR DETAILS'' SHEET SD-4.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

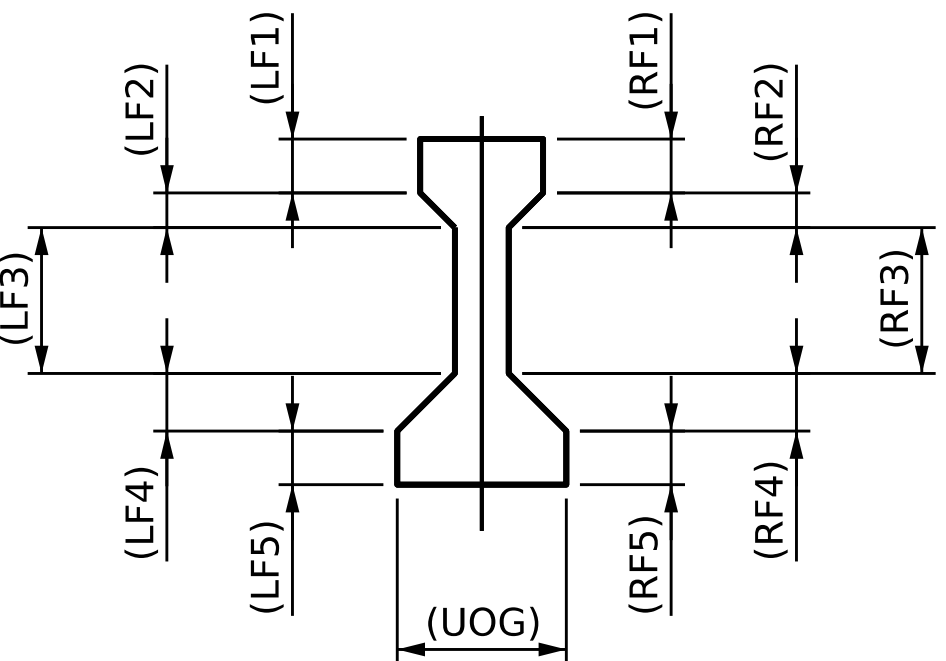
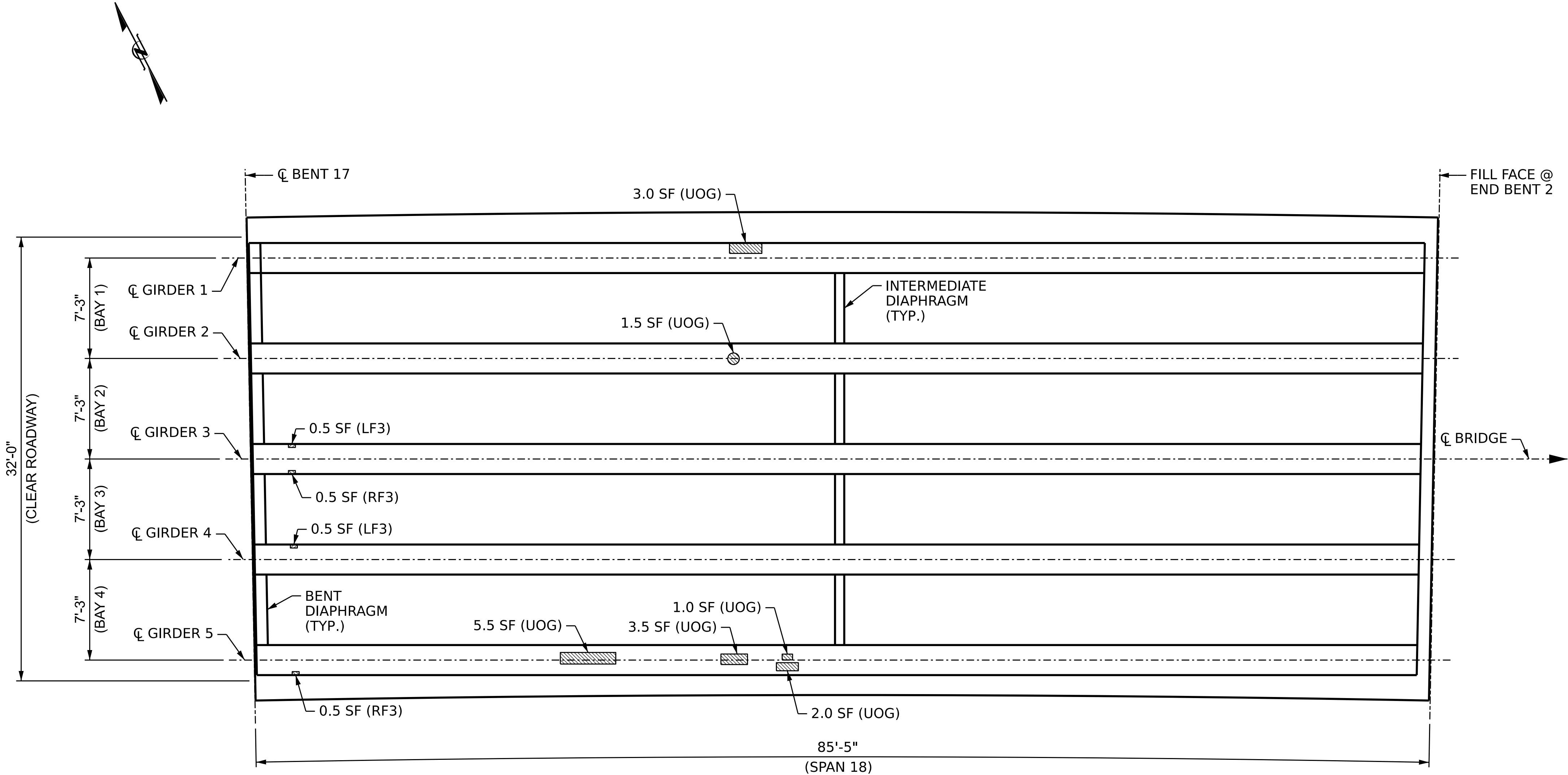
FOR REPAIRS TO PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

REPAIR QUANTITY TABLE				
UNDERSIDE OF DECK	QUANTITIES			
	ESTIMATE		ACTUAL	
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK AND OVERHANG				
BENT DIAPHRAGMS				
GIRDER REPAIRS				
REPAIRS TO PRESTRESSED CONCRETE GIRDERS	18.5	5.5		

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

QUANTITIES ASSUME ALL SPALLS AND DELAMINATIONS TO BE 3.5" DEEP.

LEGEND			
SF	SQUARE FEET		DIAPHRAGM REPAIR
(UOD)	UNDERSIDE OF DECK		GIRDER REPAIR
(BOH)	BOTTOM OF OVERHANG		DECK REPAIR
(UOG)	UNDERSIDE OF GIRDER		



TYPICAL GIRDER SECTION
DAMAGE OF GIRDER LOCATIONS

PROJECT NO. 15BPR.131
CARTERET COUNTY
BRIDGE NO. 150045

SHEET 18 OF 18

PLAN OF SPANS
(UNDERSIDE, VERTICAL PROJECTION)

DRAWN BY : B. K. JACKSON DATE : APR 2026
CHECKED BY : M. PEARSON DATE : APR 2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

4/22/2026
c:\bms\wsp-us-pw-nc\dms11737\402.057.15BPR131.SMU.GRD18.S229.150045.dgn
USMA128682

WSP USA Inc.
1001 WADE AVENUE
SUITE 400
RALEIGH, NC 27601
TEL: 919.836.4040
LICENSE NO. F-0165

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
GIRDER AND DIAPHRAGM
REPAIRS
SPAN 18
4/23/2026
DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S2-29
2			4			TOTAL SHEETS 112



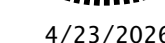
FOR CAP AND PILE REPAIR DETAILS, SEE "TYPICAL CAP
AND PILE REPAIR DETAILS" SHEET.

QUANTITIES ASSUME ALL SPALLS AND DELAMINATIONS TO BE 3.5" DEEP.

SHOTCRETE AREA

SHEET 1 OF 3

SUBSTRUCTURE BENT 4 REPAIRS

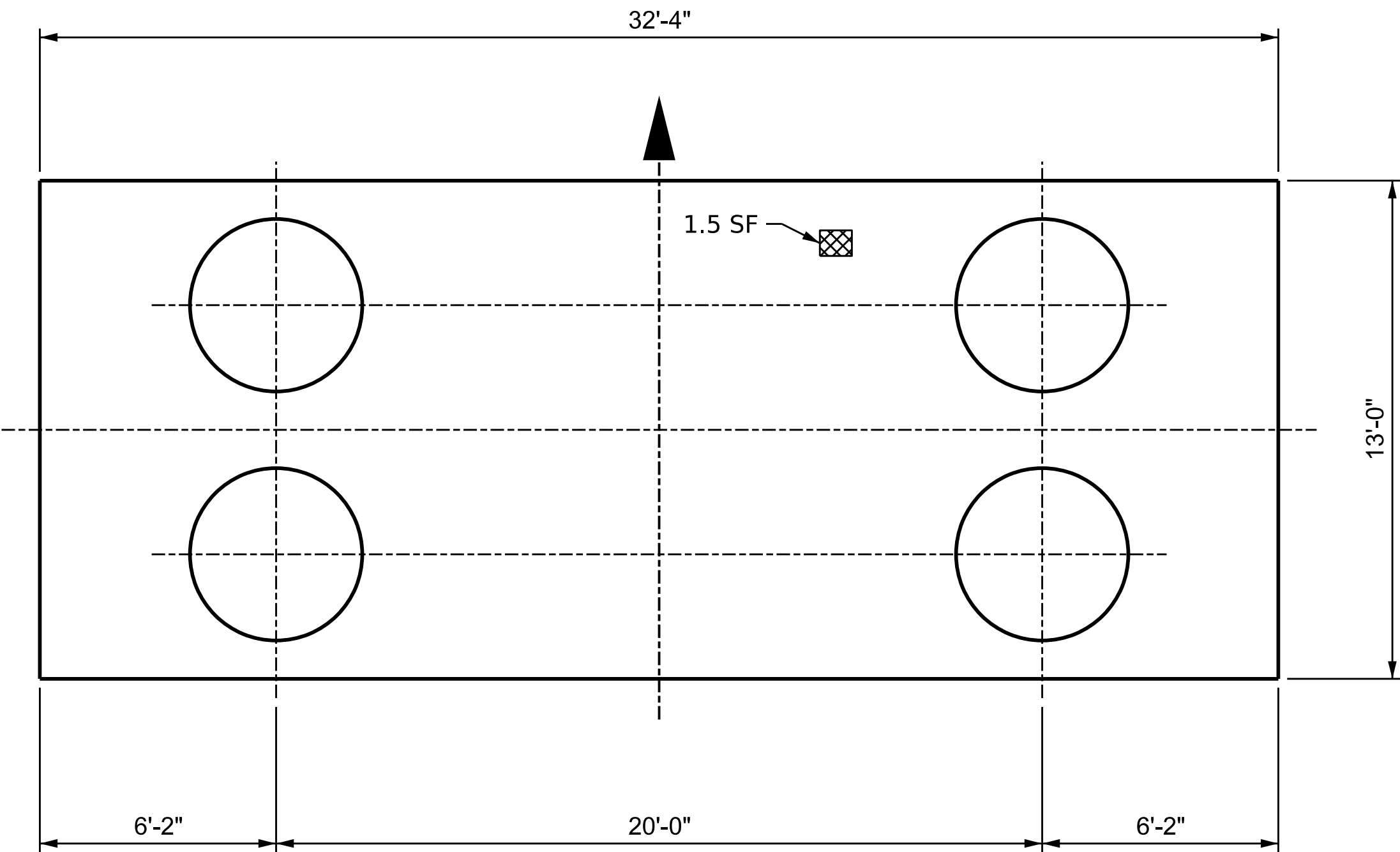


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FINAL UNLESS ALL
SIGNATURES COMPLETED

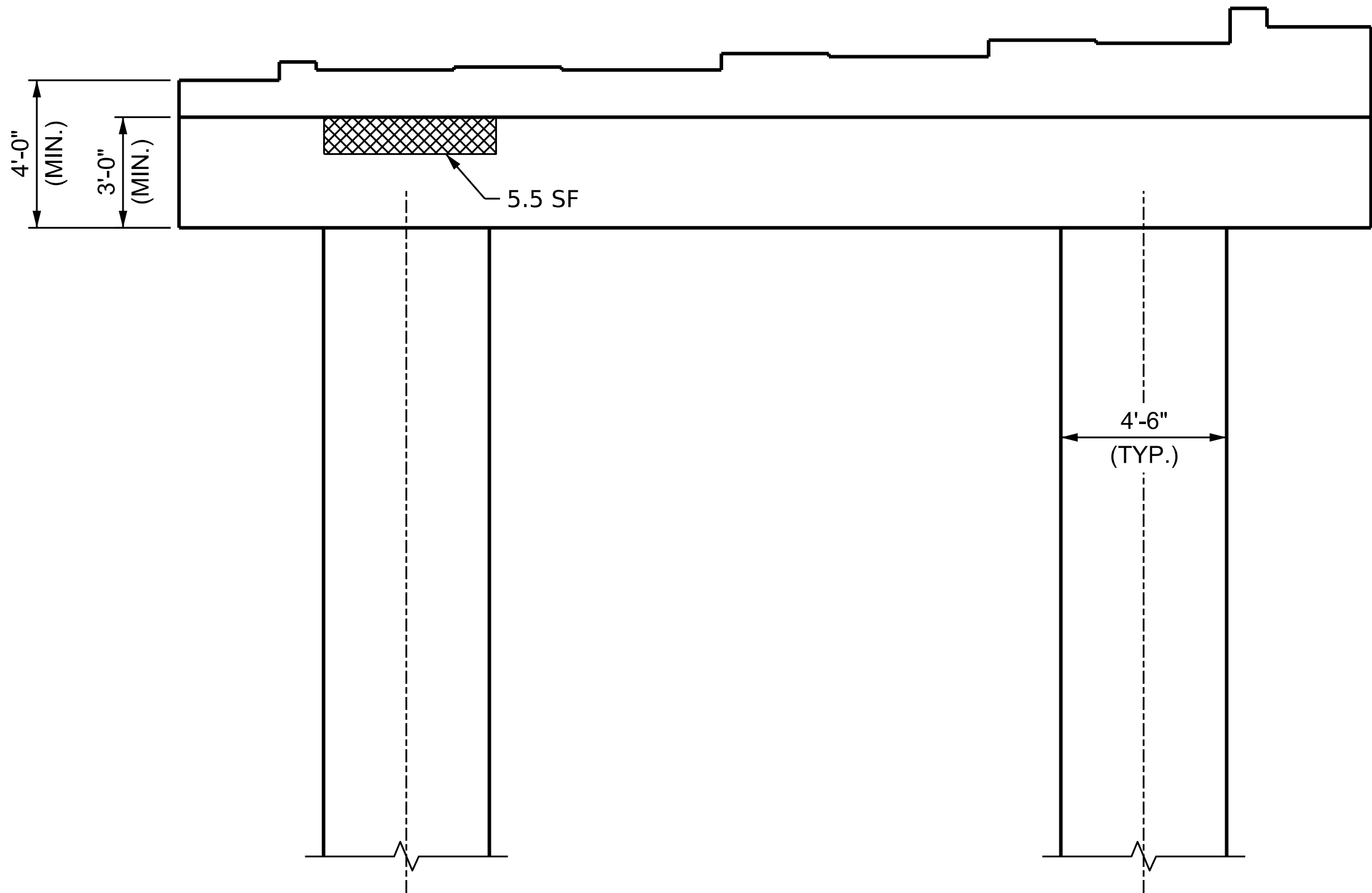
4/22/2026
c:\bms\wsp-us-pw-nc\dms11737\402_059_15BPR131_SMU.SUB19_S230_150045.dgn
USMA128682

WSP WSP USA Inc.
1001 WADE AVENUE
SUITE 400
RALEIGH, NC 27601
TEL:1.919.836.4040

LICENSE NO. F-0165



CAP UNDERSIDE



ELEVATION
(SPAN 13 FACE)

NOTES
REPAIR LOCATIONS AND ESTIMATE OF 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 QUANTITY TABLE.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

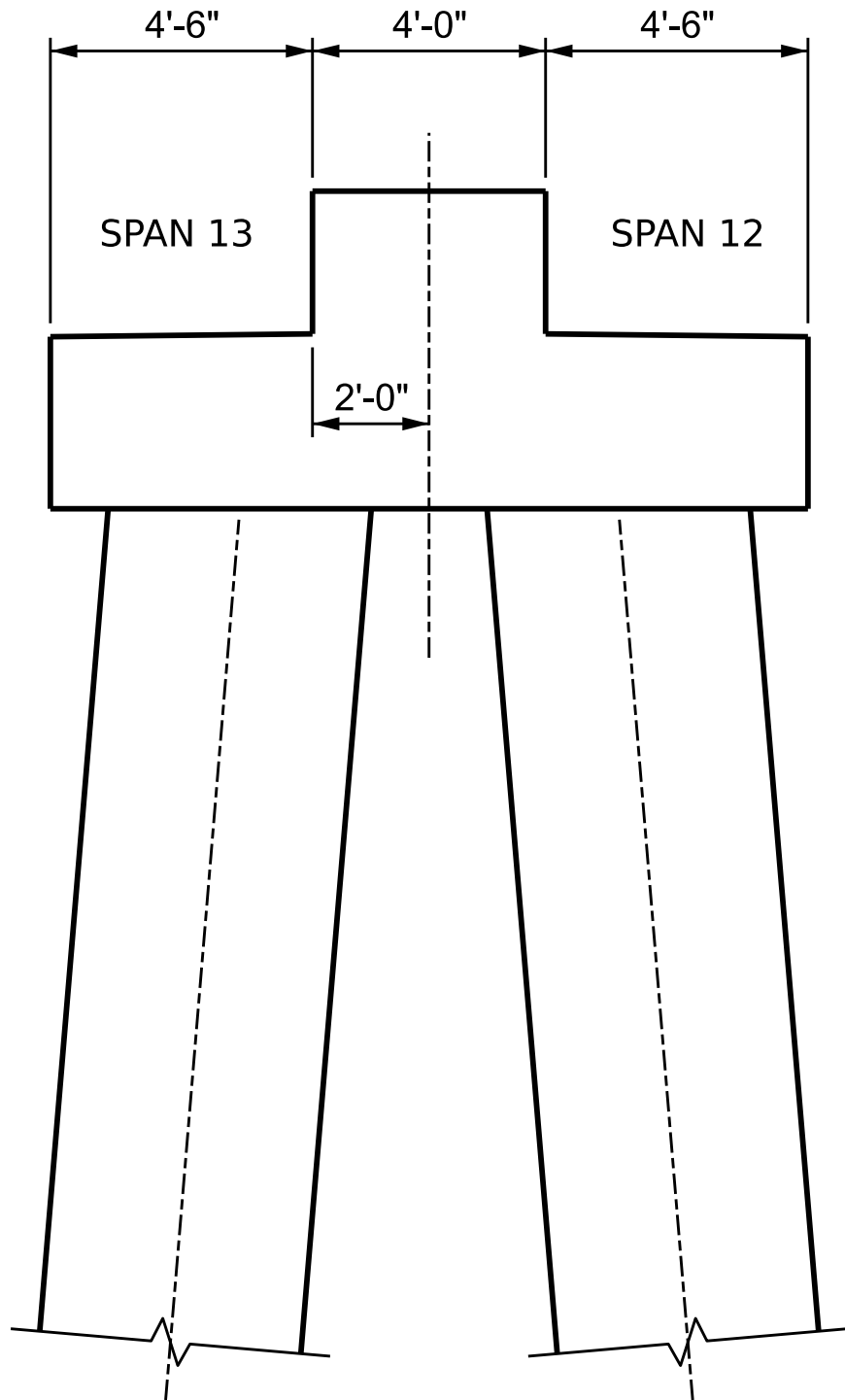
CONTRACTOR SHALL SAW CUT TO A MINIMUM OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

SHOTCRETE REPAIRS MAY BE USED IN LIEU OF CONCRETE REPAIRS WITH APPROVAL OF THE ENGINEER.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CAP AND PILE REPAIR DETAILS, SEE "TYPICAL CAP AND PILE REPAIR DETAILS" SHEET.



END VIEW
(NORTH VIEW)

REPAIR QUANTITY TABLE

BENT 12 REPAIRS	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP				
COLUMN				
CONCRETE REPAIRS				
CAP	7.0	2.5		
COLUMN				

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

QUANTITIES ASSUME ALL SPALLS AND DELAMINATIONS TO BE 3.5" DEEP.

LEGEND

- CONCRETE AREA
- SHOTCRETE AREA

PROJECT NO. 15BPR.131
CARTERET COUNTY
BRIDGE NO. 150045

SHEET 2 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
BENT 12
REPAIRS

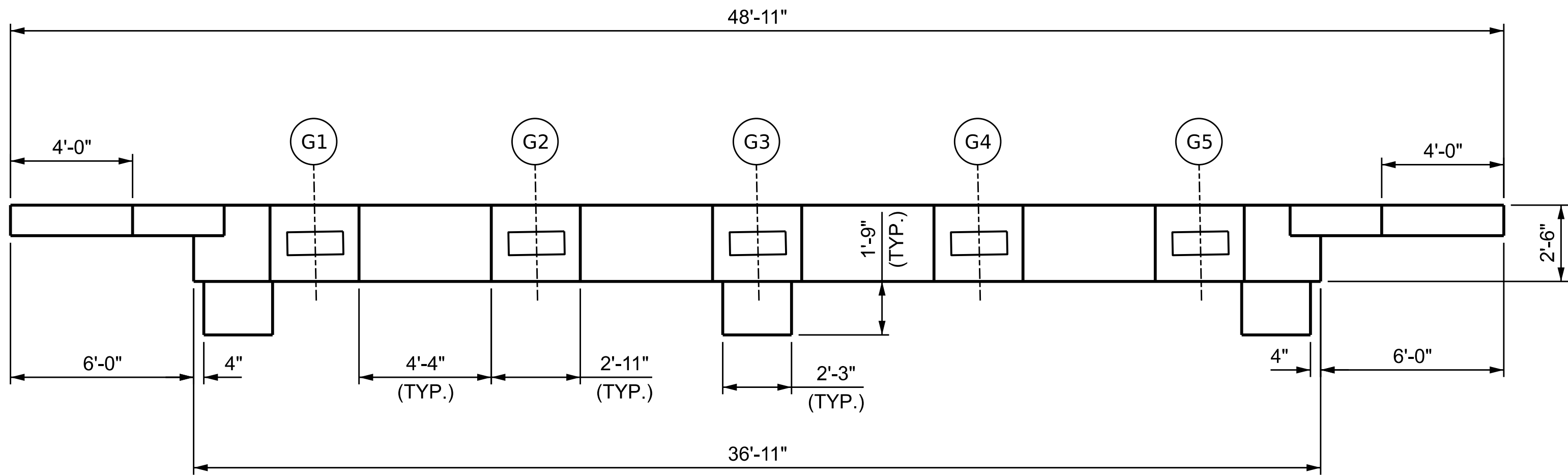
Professional Engineer Seal for L. Mark Pearson, License No. 10656, State of North Carolina. The seal is circular with the text "NORTH CAROLINA PROFESSIONAL ENGINEER" around the perimeter and "L. Mark Pearson 10656" in the center.

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

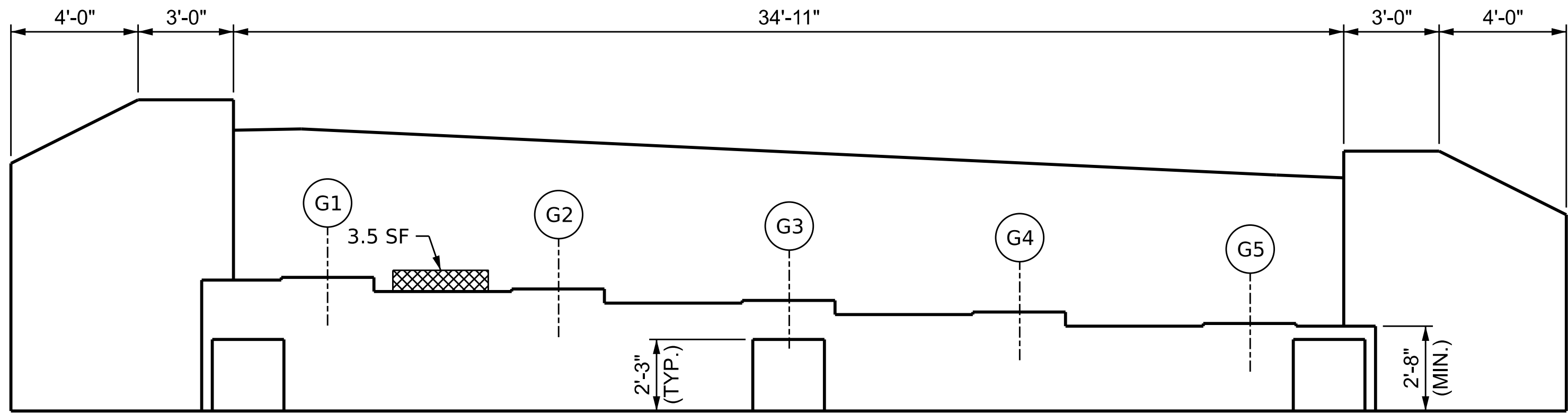
REVISIONS						SHEET NO. S2-31
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 112
2			4			

DRAWN BY : B. K. JACKSON DATE : APR 2026
CHECKED BY : M. PEARSON DATE : APR 2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

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1001 WADE AVENUE
SUITE 400
RALEIGH, NC 27601
TEL: 919.836.4040
LICENSE NO. F-0165



PLAN



ELEVATION

REPAIR QUANTITY TABLE				
END BENT 2 REPAIRS	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
BACKWALL				
WINGWALL				
SEAT				
CONCRETE REPAIRS				
BACKWALL	3.5	1.5		
WINGWALL				
SEAT				

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

QUANTITIES ASSUME ALL SPALLS AND DELAMINATIONS TO BE 3.5" DEEP.

NOTES

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

CONTRACTOR SHALL SAW CUT TO A MINIMUM OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

SHOTCRETE REPAIRS MAY BE USED IN LIEU OF CONCRETE REPAIRS WITH APPROVAL OF THE ENGINEER.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CAP AND PILE REPAIR DETAILS, SEE "TYPICAL CAP AND PILE REPAIR DETAILS" SHEET.

LEGEND

- CONCRETE AREA
- SHOTCRETE AREA

PROJECT NO. 15BPR.131
CARTERET COUNTY
BRIDGE NO. 150045

SHEET 3 OF 3



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
SUBSTRUCTURE END BENT 2 REPAIRS						
REVISIONS						SHEET NO. S2-32
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS 112
1			3			
2			4			

DRAWN BY : B. K. JACKSON DATE : APR 2026
CHECKED BY : M. PEARSON DATE : APR 2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

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WSP USA Inc.
1001 WADE AVENUE
SUITE 400
RALEIGH, NC 27601
TEL: 919.836.4040
LICENSE NO. F-0165

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FINAL UNLESS ALL
SIGNATURES COMPLETED

NOTES

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 10/13/2020.

BRIDGE ORIENTATION CONFORMS TO THE ORIGINAL BRIDGE PLANS AND ROUTINE INSPECTION REPORT.

SCOPE OF WORK

PREPARE TOP OF BRIDGE DECK SURFACE BY SHOTBLASTING METHODS.

CONCRETE DECK REPAIR FOR SILANE TREATMENT.

CONCRETE PARAPET REPAIR FOR SILANE TREATMENT.

APPLY SILANE DECK TREATMENT TO TOP OF BRIDGE DECK.

RE-STRIPE PAVEMENT MARKINGS.

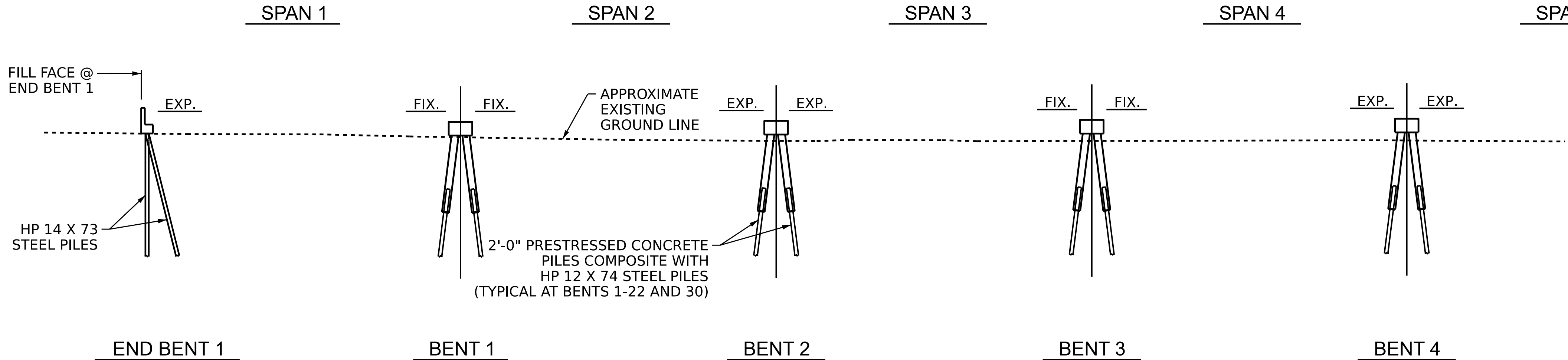
PREPARE TRAFFIC SIDE FACE AND TOP OF BRIDGE RAIL PARAPET BY SHOT BLASTING METHODS.

APPLY SILANE TREATMENT TO CONCRETE BRIDGE RAIL PARAPET

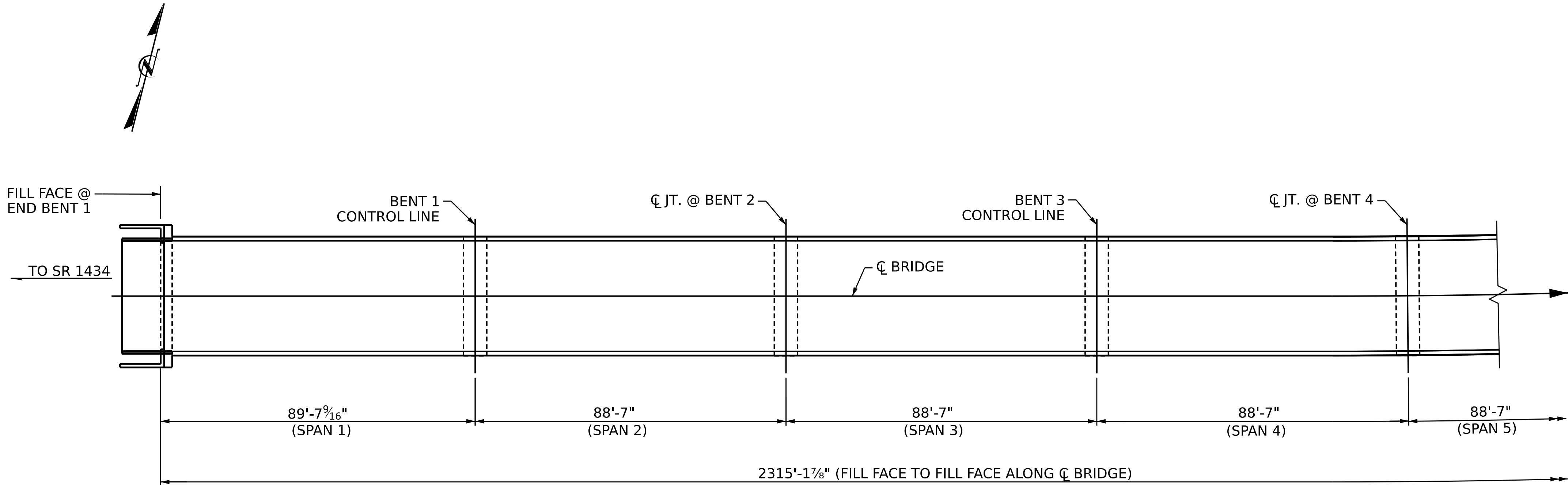
REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINT SEALS FOR PRESERVATION.

CLEAN AND EPOXY COAT EXISTING PRESTRESSED CONCRETE GIRDER ENDS.

REMOVE DEBRIS FROM TOP OF EXISTING END BENT CAPS AND APPLY EPOXY COATING.



SECTION ALONG CL BRIDGE



PLAN

FOR CLARITY, PILES ARE NOT SHOWN IN PLAN VIEW

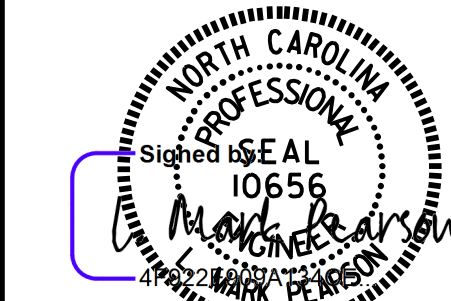
I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

Resident Engineer

Date



WSP USA
128 TALBERT ROAD
SUITE A
MOORESVILLE, NC 28117
TEL: 704.662.0100
LICENSE NO. F-0165



4/23/2026

PROJECT NO. 15BPR.131
CARTERET-ONSLOW COUNTIES
BRIDGE NO. 150049

SHEET 1 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON SR 1101
OVER WHITE OAK RIVER
BETWEEN SR 1434 AND SR 1100

DRAWN BY : B. K. JACKSON DATE : APR 2026
CHECKED BY : M. PEARSON DATE : APR 2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

4/22/2026
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USMA128682

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S3-01
2			4			TOTAL SHEETS 112

NOTES

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 10/13/2020.

BRIDGE ORIENTATION CONFORMS TO THE ORIGINAL BRIDGE PLANS AND ROUTINE INSPECTION REPORT.

SPAN 4

SPAN 5

SPAN 6

SPAN 7

SPAN 8

SPAN 9

EXP. EXP.

FIX. FIX.

EXP. EXP.

FIX. FIX.

EXP. EXP.

BENT 4

BENT 5

BENT 6

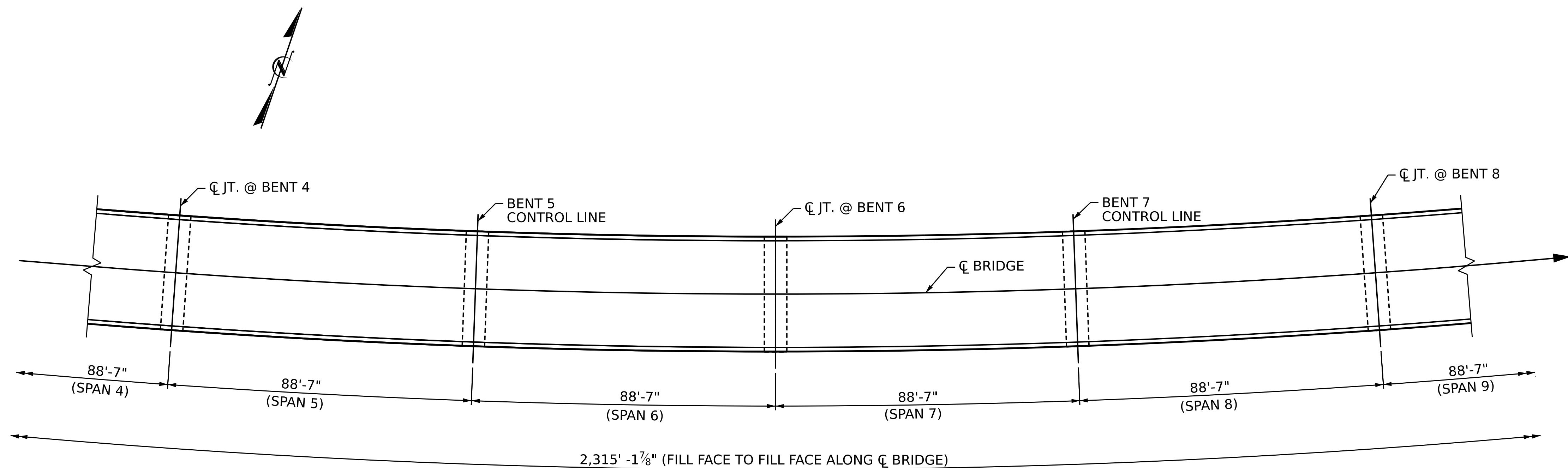
BENT 7

BENT 8

APPROXIMATE
EXISTING GROUND
LINE

2'-0" PRESTRESSED CONCRETE
PILES COMPOSITE WITH
HP 12 X 74 STEEL PILES
(TYPICAL AT BENTS 1-22 & 30)

SECTION ALONG CL BRIDGE



PLAN

FOR CLARITY, PILES ARE NOT SHOWN IN PLAN VIEW

PROJECT NO. 15BPR.131
CARTERET-ON SLOW COUNTRIES

BRIDGE NO. 150049

SHEET 2 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON SR 1101
OVER WHITE OAK RIVER
BETWEEN SR 1434 AND SR 1100

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.

S3-02
TOTAL
SHEETS
112

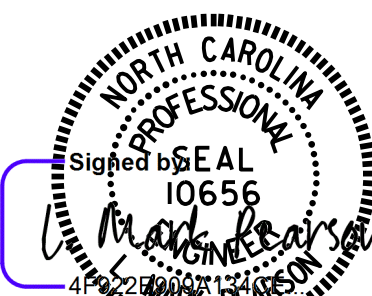
DRAWN BY : B. K. JACKSON DATE : APR 2026
CHECKED BY : M. PEARSON DATE : APR 2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

USMA128682

4/22/2026
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USMA128682

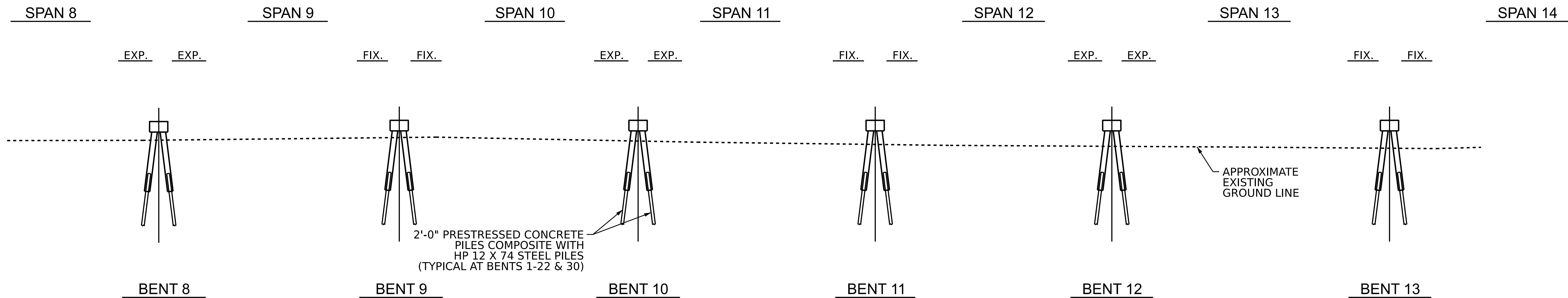
WSP

WSP USA
128 TALBERT ROAD
SUITE A
MOORESVILLE, NC 28117
TEL: 704.662.0100
LICENSE NO. F-0165



4/23/2026

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

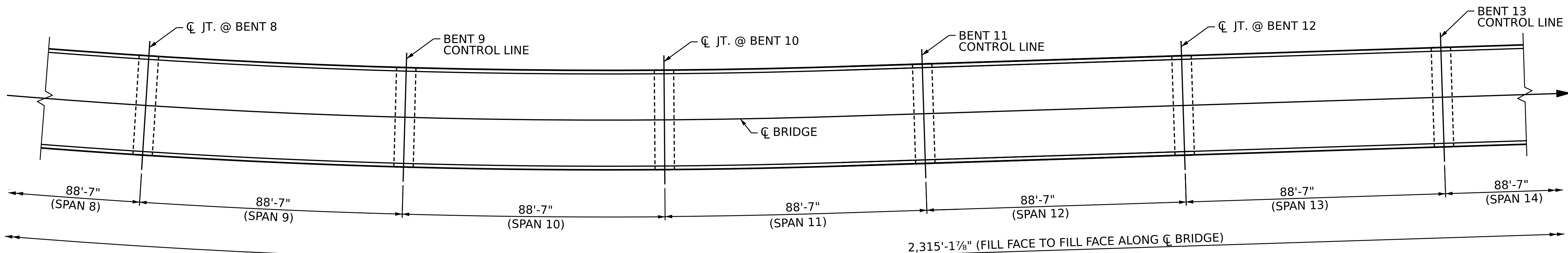


SECTION ALONG ϕ BRIDGE

NOTES

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 10/13/2020.

BRIDGE ORIENTATION CONFORMS TO THE ORIGINAL BRIDGE PLANS AND ROUTINE INSPECTION REPORT.



PLAN

FOR CLARITY, PILES ARE NOT SHOWN IN PLAN VIEW

PROJECT NO. 15BPR.131
CARTERET-ON SLOW COUNTRIES
BRIDGE NO. 150049

SHEET 3 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON SR 1101
OVER WHITE OAK RIVER
BETWEEN SR 1434 AND SR 1100



DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S3-03
1			3			TOTAL SHEETS
2			4			112

DRAWN BY : B. K. JACKSON DATE : APR 2026
CHECKED BY : M. PEARSON DATE : APR 2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

4/22/2026
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USMA128682

wsp
WSP USA
128 TALBERT ROAD
SUITE A
MOORESVILLE, NC 28117
TEL: 704.662.0100
LICENSE NO. F-0165

SPAN 13

SPAN 14

SPAN 15

SPAN 16

SPAN 17

SPAN 18

SPAN 19

FIX.

FIX.

EXP.

EXP.

FIX.

FIX.

EXP.

EXP.

FIX.

FIX.

EXP.

EXP.

BENT 13

BENT 14

BENT 15

BENT 16

BENT 17

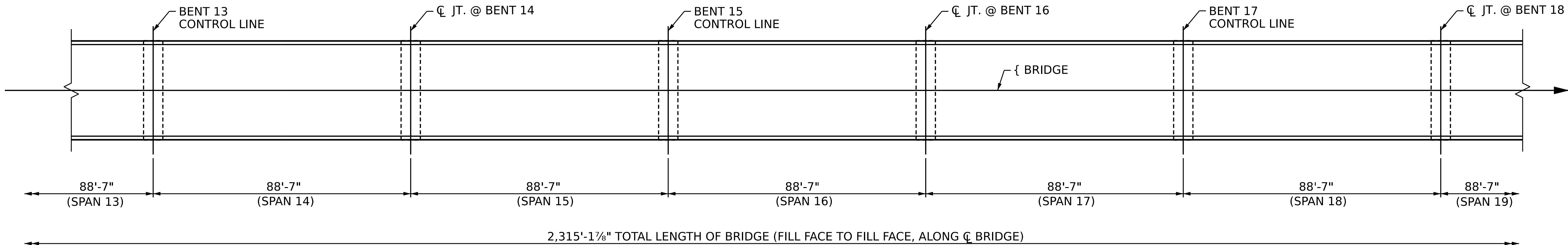
BENT 18

SECTION ALONG ϕ BRIDGE

NOTES

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 10/13/2020.

BRIDGE ORIENTATION CONFORMS TO THE ORIGINAL BRIDGE PLANS AND ROUTINE INSPECTION REPORT.



PLAN

FOR CLARITY, PILES ARE NOT SHOWN IN PLAN VIEW

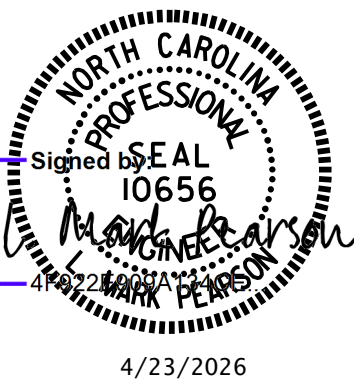
PROJECT NO. 15BPR.131
CARTERET-ON SLOW COUNTRIES
BRIDGE NO. 150049

SHEET 4 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON SR 1101
OVER WHITE OAK RIVER
BETWEEN SR 1434 AND SR 1100



DOCUMENT NOT CONSIDERED
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SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			112
2			4			

DRAWN BY : B. K. JACKSON DATE : APR 2026
CHECKED BY : M. PEARSON DATE : APR 2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

wsp
WSP USA
128 TALBERT ROAD
SUITE A
MOORESVILLE, NC 28117
TEL: 704.662.0100
LICENSE NO. F-0165

SPAN 18

SPAN 19

SPAN 20

SPAN 21

SPAN 22

SPAN 23

SPAN 24

SPAN 25

EXP.

EXP.

FIX.

FIX.

EXP.

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FIX.

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EXP.

EXP.

BENT 18

BENT 19

BENT 20

BENT 21

BENT 22

BENT 23

BENT 24

2'-0" PRESTRESSED CONCRETE
PILES COMPOSITE WITH
HP 12 X 74 STEEL PILES
(TYPICAL AT BENTS 1-22 & 30)

APPROXIMATE
EXISTING
GROUND LINE

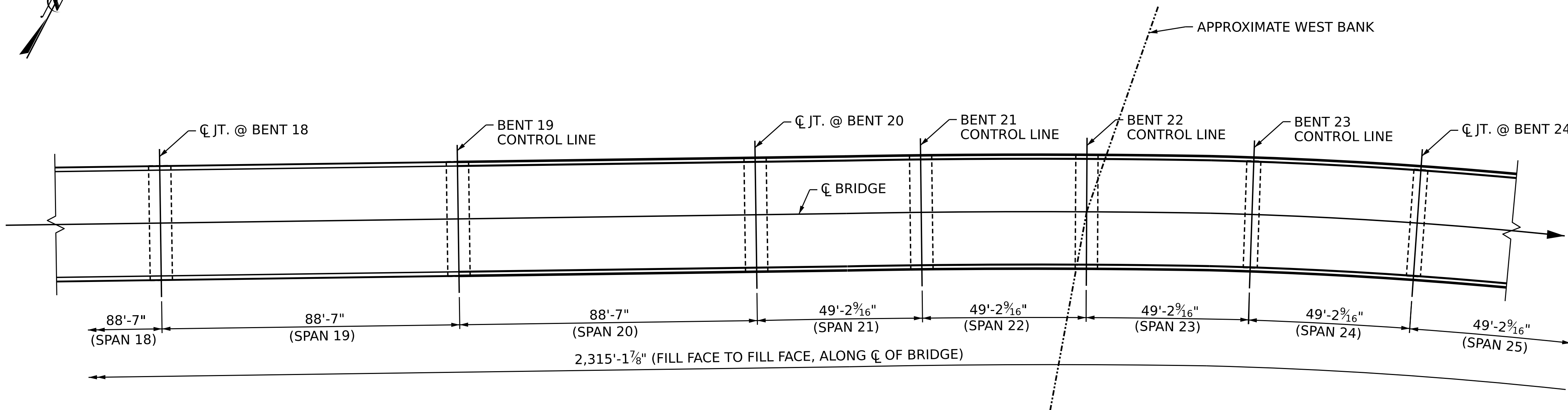
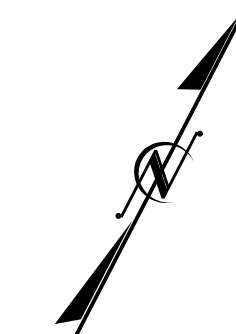
24" STEEL PIPE PILES
(TYPICAL AT BENTS 23 THRU 29)

SECTION ALONG ϕ BRIDGE

NOTES

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 10/13/2020.

BRIDGE ORIENTATION CONFORMS TO THE ORIGINAL BRIDGE PLANS AND ROUTINE INSPECTION REPORT.



PLAN

FOR CLARITY, PILES ARE NOT SHOWN IN PLAN VIEW

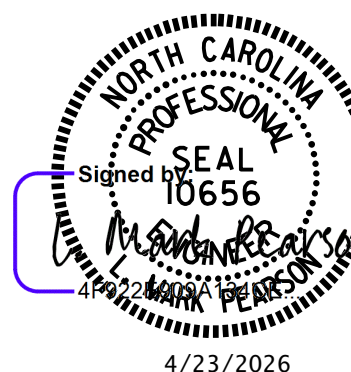
PROJECT NO. 15BPR.131
CARTERET-ON SLOW COUNTRIES
BRIDGE NO. 150049

SHEET 5 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON SR 1101
OVER WHITE OAK RIVER
BETWEEN SR 1434 AND SR 1100



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1			3			
2			4			112

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4/22/2026
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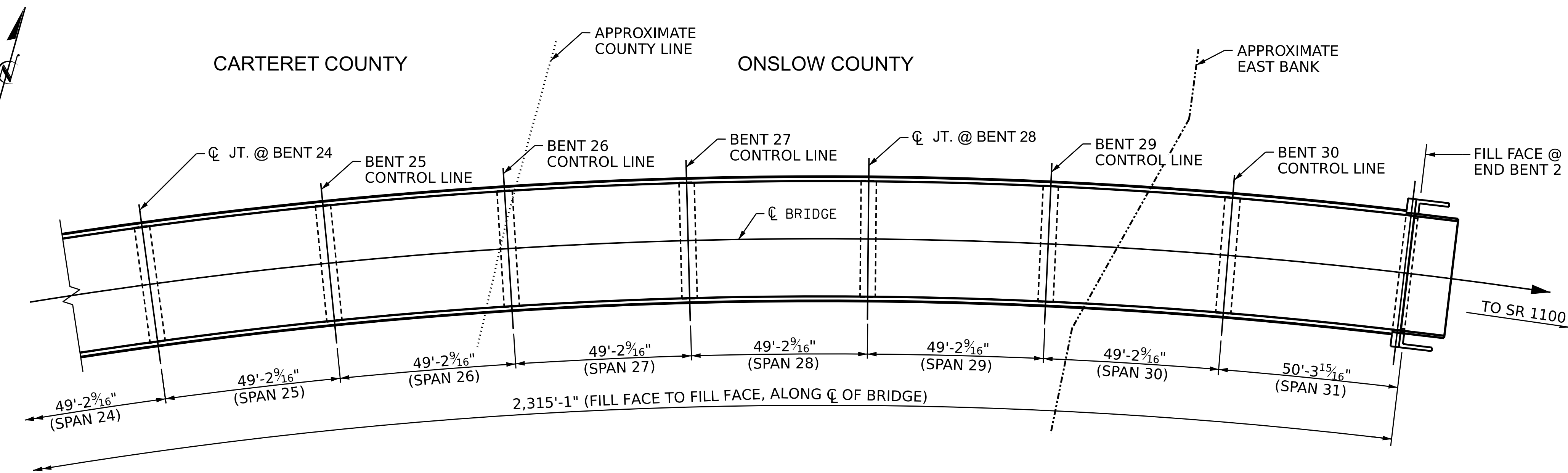
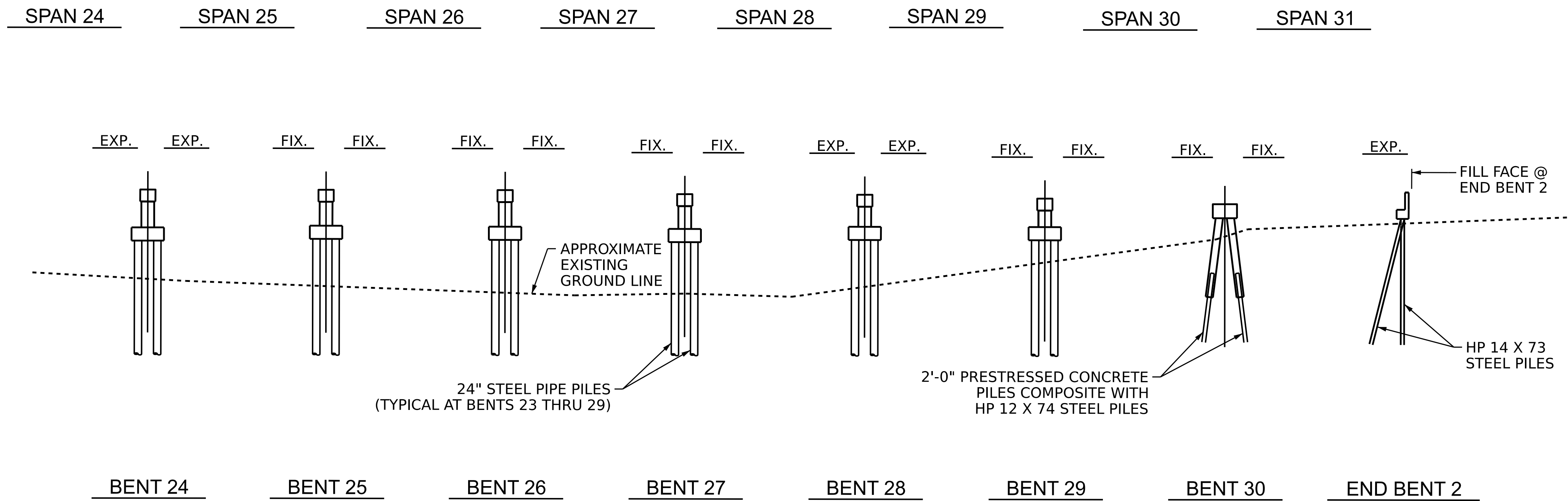


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LICENSE NO. F-0165

NOTES

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BRIDGE ORIENTATION CONFORMS TO THE ORIGINAL BRIDGE PLANS AND ROUTINE INSPECTION REPORT.



PLAN

FOR CLARITY, PILES ARE NOT SHOWN IN PLAN VIEW

PROJECT NO. 15BPR.131
CARTERET-ONSWLOW COUNTIES
BRIDGE NO. 150049

SHEET 6 OF 6

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE ON SR 1101
OVER WHITE OAK RIVER
BETWEEN SR 1434 AND SR 1100



4/23/2026

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S3-06
1			3			TOTAL SHEETS
2			4			112

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DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

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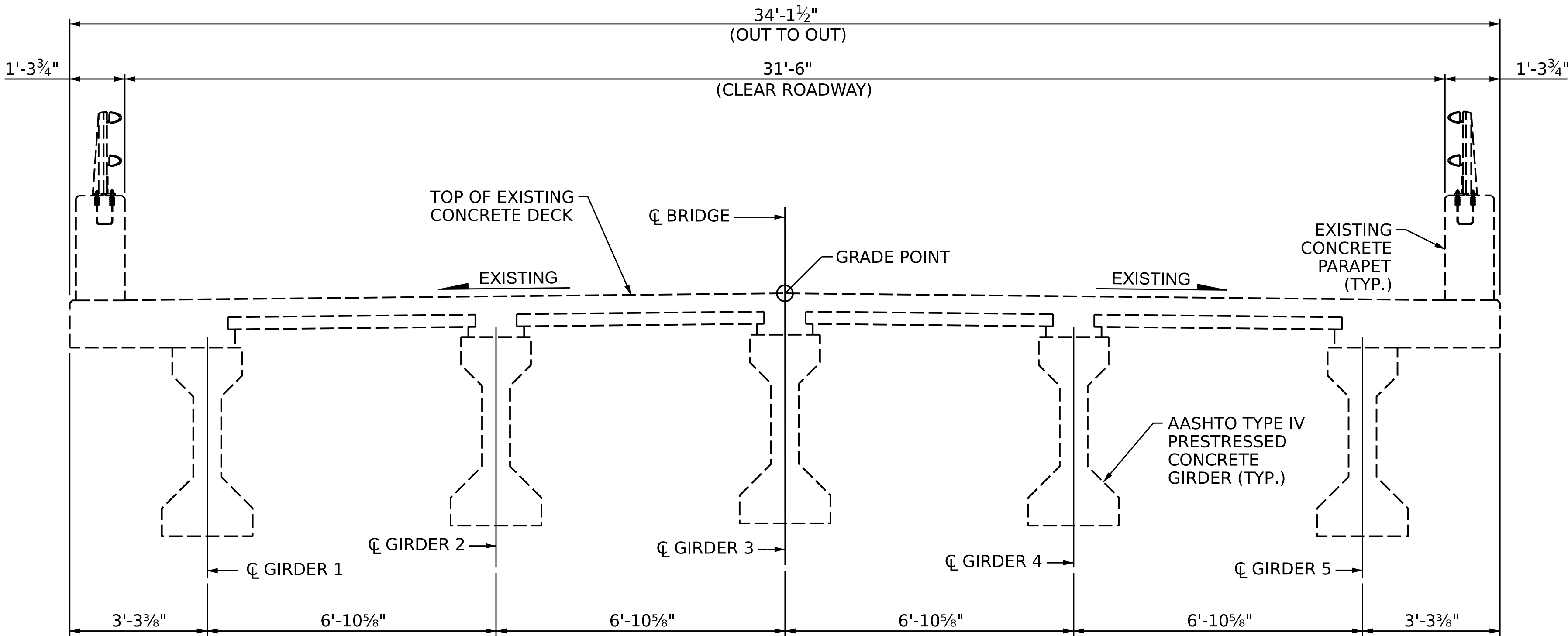
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SEE CONTRACT DOCUMENTS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF DECK AND RAIL SURFACE PREPARATION AND DECK AND RAIL SEAL PLACEMENT.

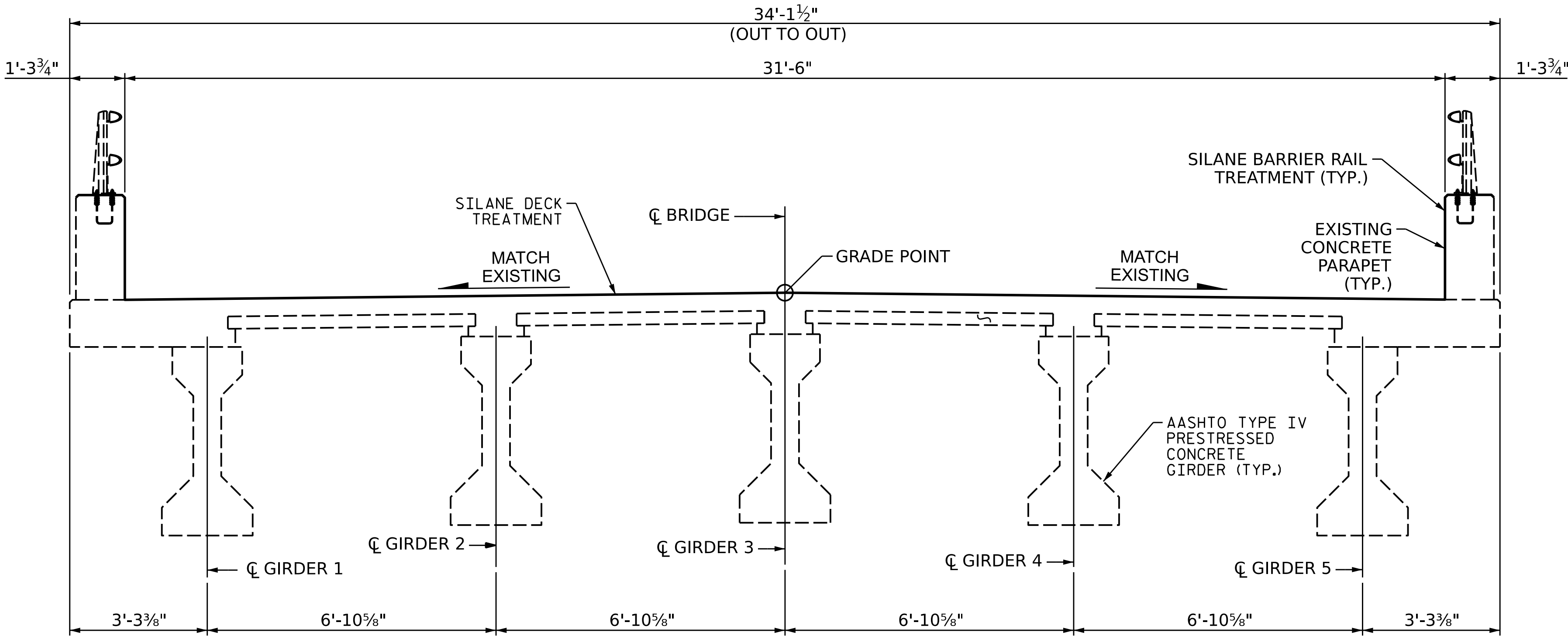
FOR SILANE BARRIER RAIL TREATMENT, SEE SPECIAL PROVISIONS

FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.

FOR CONCRETE DECK REPAIR OF SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.



TYPICAL SECTION
(EXISTING)
SPANS 1 THRU 20 WITH AASHTO TYPE IV PRESTRESSED CONCRETE GIRDERS SHOWN, SPANS 21 THRU 31 SIMILAR BUT USE AASHTO TYPE II PRESTRESSED CONCRETE GIRDERS.



TYPICAL SECTION
(PROPOSED)
SPANS 1 THRU 20 WITH AASHTO TYPE IV PRESTRESSED CONCRETE GIRDERS SHOWN, SPANS 21 THRU 31 SIMILAR BUT USE AASHTO TYPE II PRESTRESSED CONCRETE GIRDERS.

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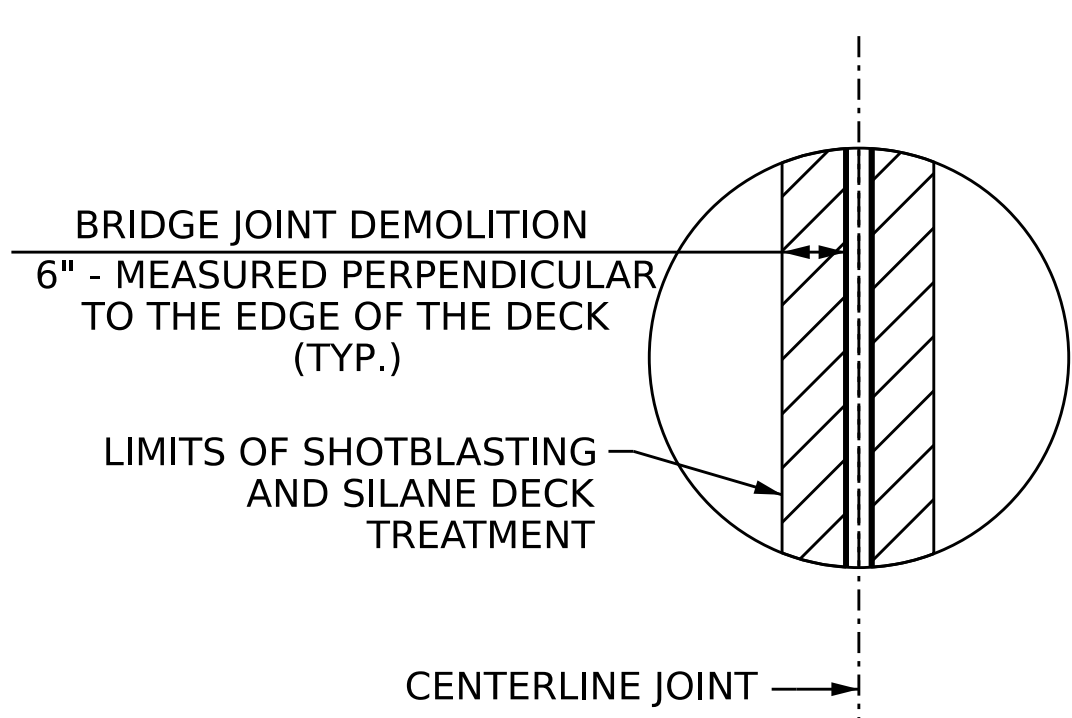
Professional Engineer Seal
NORTH CAROLINA
PROFESSIONAL ENGINEER
Signed and Sealed
10656
M. K. JACKSON
4/23/2026
DOCUMENT NOT CONSIDERED
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PROJECT NO. 15BPR.131
CARTERET-ON SLOW COUNTIES
BRIDGE NO. 150049

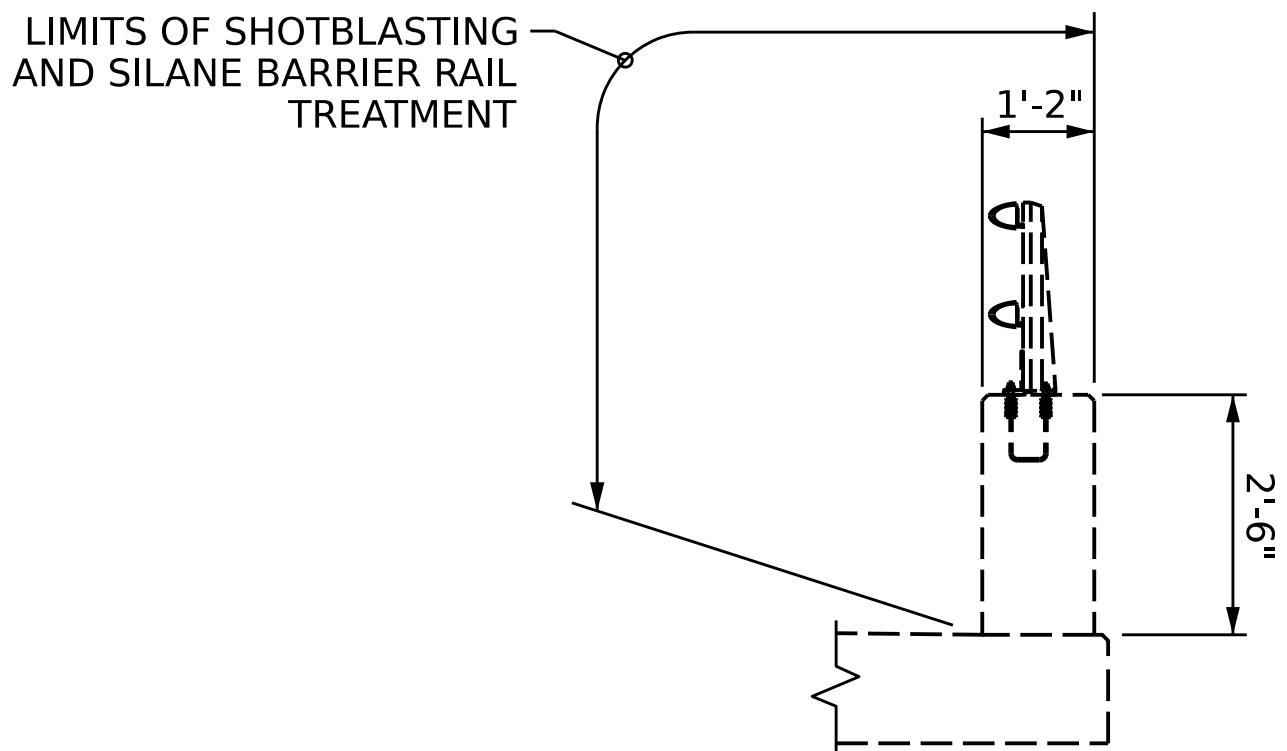
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO.	
TYPICAL SECTION						S3-07	
REVISIONS						TOTAL SHEETS	
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2			4				

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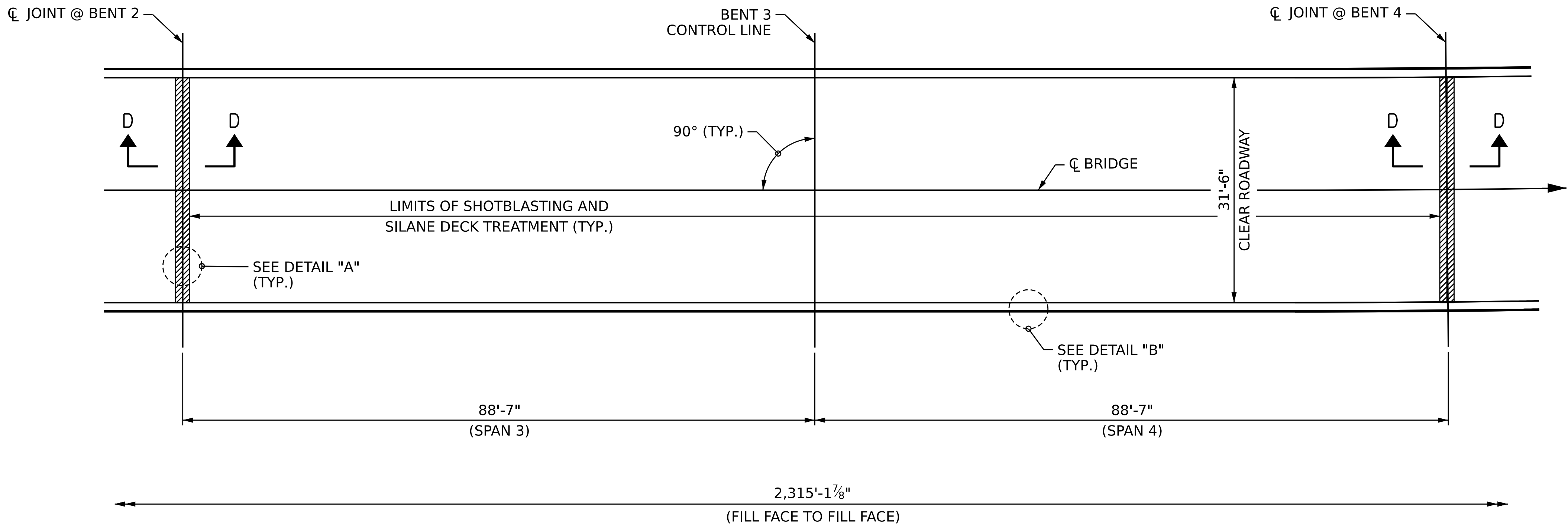
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DETAIL "A"



DETAIL "B"



PLAN - SPANS 3 AND 4

NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR BRIDGE JOINT DEMOLITION, SEE "JOINT DETAILS" SHEET.

FOR SECTION C-C AND D-D, SEE "JOINT DETAILS" SHEET.

CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT SHALL BE COMPLETE PRIOR TO SHOTBLASTING OF ENTIRE DECK SURFACE FOR PREPARATION FOR SILANE DECK TREATMENT APPLICATION.

ONLY INNER SURFACE AND TOP SURFACE OF BARRIER RAIL WILL BE TREATED WITH SILANE PENETRANT SEALER.

BRIDGE QUANTITIES

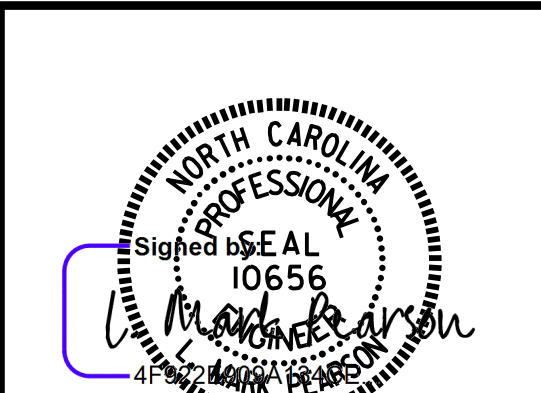
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	630 SQ.YD.	
SURFACE PREPARATION FOR CONCRETE BARRIER RAIL	1248 SQ.FT.	
CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT		
SILANE DECK TREATMENT	630 SQ.YD.	
SILANE BARRIER RAIL TREATMENT	1248 SQ.FT.	
FOAM JOINT SEALS FOR PRESERVATION	34 LIN.FT.	
ELASTOMERIC CONCRETE FOR PRESERVATION	8 CU.FT.	
BRIDGE JOINT DEMOLITION	32 SQ.FT.	

LEGEND

- BRIDGE JOINT DEMOLITION
- CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT
- SHOTBLAST BRIDGE DECK AND SILANE DECK TREATMENT

PROJECT NO. 15BPR.131
CARTERET-ON SLOW COUNTIES
BRIDGE NO. 150049

SHEET 2 OF 7



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE						SHEET NO.	
PLAN OF SPANS REPAIRS PARTIAL SPANS 3 AND 4						S3-09	
REVISIONS						TOTAL SHEETS	
NO.	BY:	DATE:	NO.	BY:	DATE:	112	
1			3				
2			4				

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DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

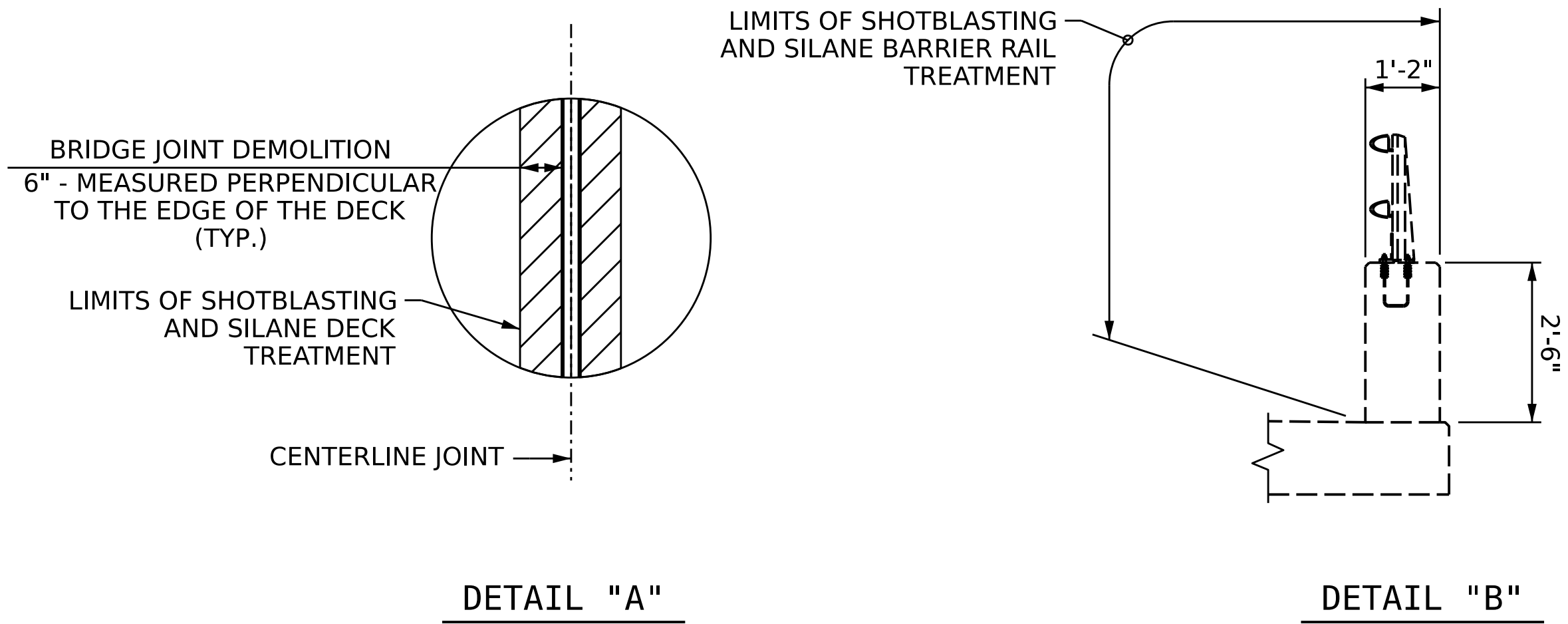
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NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR BRIDGE JOINT DEMOLITION, SEE "JOINT DETAILS" SHEET.

FOR SECTION C-C AND D-D, SEE "JOINT DETAILS" SHEET.

CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT SHALL BE COMPLETE PRIOR TO SHOTBLASTING OF ENTIRE DECK SURFACE FOR PREPARATION FOR SILANE DECK TREATMENT APPLICATION.

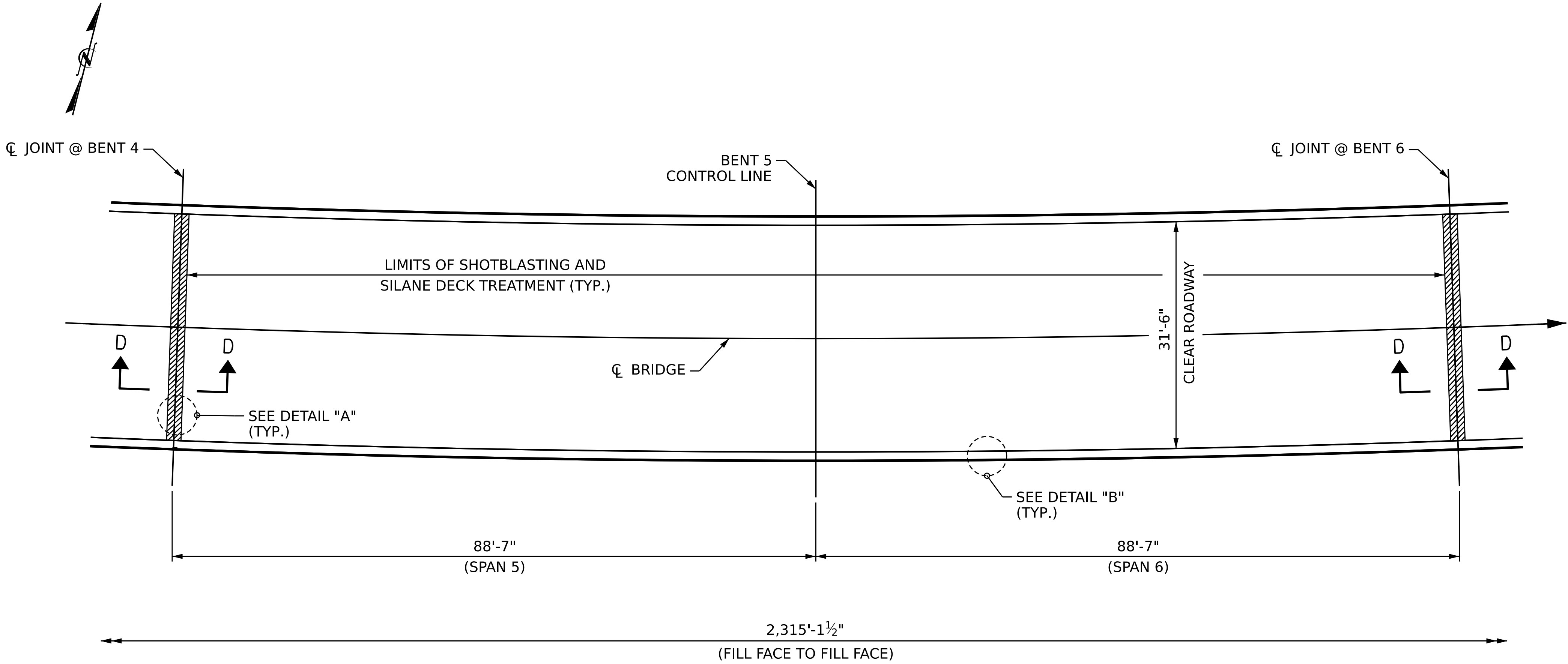
ONLY INNER SURFACE AND TOP SURFACE OF BARRIER RAIL WILL BE TREATED WITH SILANE PENETRANT SEALER.

BRIDGE QUANTITIES

	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	1861 SQ.YD.	
SURFACE PREPARATION FOR CONCRETE BARRIER RAIL	3721 SQ.FT.	
CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT		
SILANE DECK TREATMENT	1861 SQ.YD.	
SILANE BARRIER RAIL TREATMENT	3721 SQ.FT.	
FOAM JOINT SEALS FOR PRESERVATION	102 LIN.FT.	
ELASTOMERIC CONCRETE FOR PRESERVATION	24 CU.FT.	
BRIDGE JOINT DEMOLITION	95 SQ.FT.	

LEGEND

- BRIDGE JOINT DEMOLITION
- CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT
- SHOTBLAST BRIDGE DECK AND SILANE DECK TREATMENT



PLAN - SPANS 5 THRU 10

SPANS 5 & 6 SHOWN
SPANS 7 THRU 10 SIMILAR

PROJECT NO. 15BPR.131
CARTERET-ONSLOW COUNTIES
BRIDGE NO. 150049

SHEET 3 OF 7

DRAWN BY : B. K. JACKSON DATE : APR 2026
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SUITE A
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TEL: 704.662.0100
LICENSE NO. F-0165



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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S3-10
2			4			TOTAL SHEETS 112



REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR SECTION C-C AND D-D, SEE "JOINT DETAILS" SHEET.

ONLY INNER SURFACE AND TOP SURFACE OF BARRIER RAIL
WILL BE TREATED WITH SILANE PENETRANT SEALER.

LEGEND

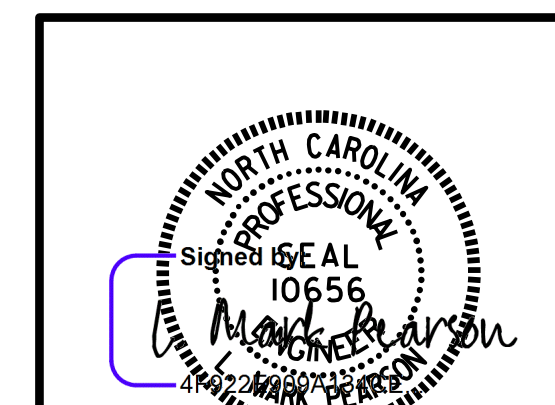
- PLAN - SPANS 11 THRU 19

DRAWN BY : B. K. JACKSON DATE : APR 2026
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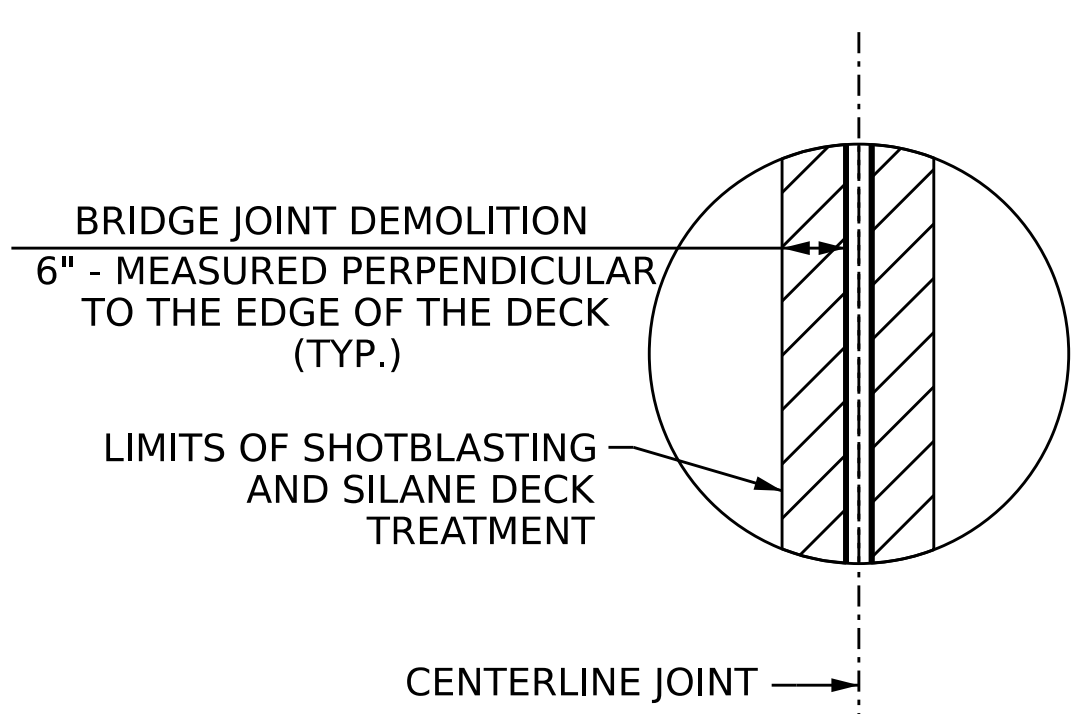
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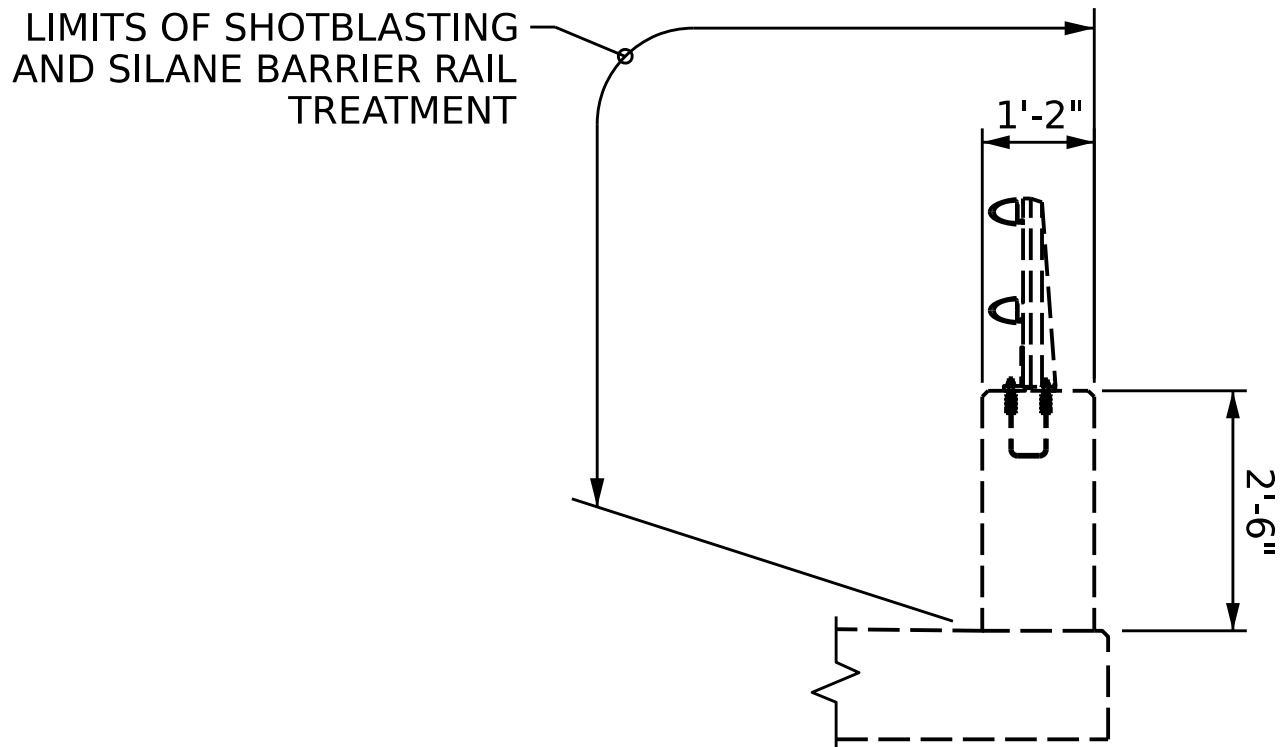
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 PLAN OF SPANS REPAIRS
 PARTIAL SPANS 11 THRU 19

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DETAIL "A"



DETAIL "B"

NOTES

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FOR BRIDGE JOINT DEMOLITION, SEE "JOINT DETAILS" SHEET.

FOR SECTION C-C AND D-D, SEE "JOINT DETAILS" SHEET.

CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT SHALL BE COMPLETE PRIOR TO SHOTBLASTING OF ENTIRE DECK SURFACE FOR PREPARATION FOR SILANE DECK TREATMENT APPLICATION.

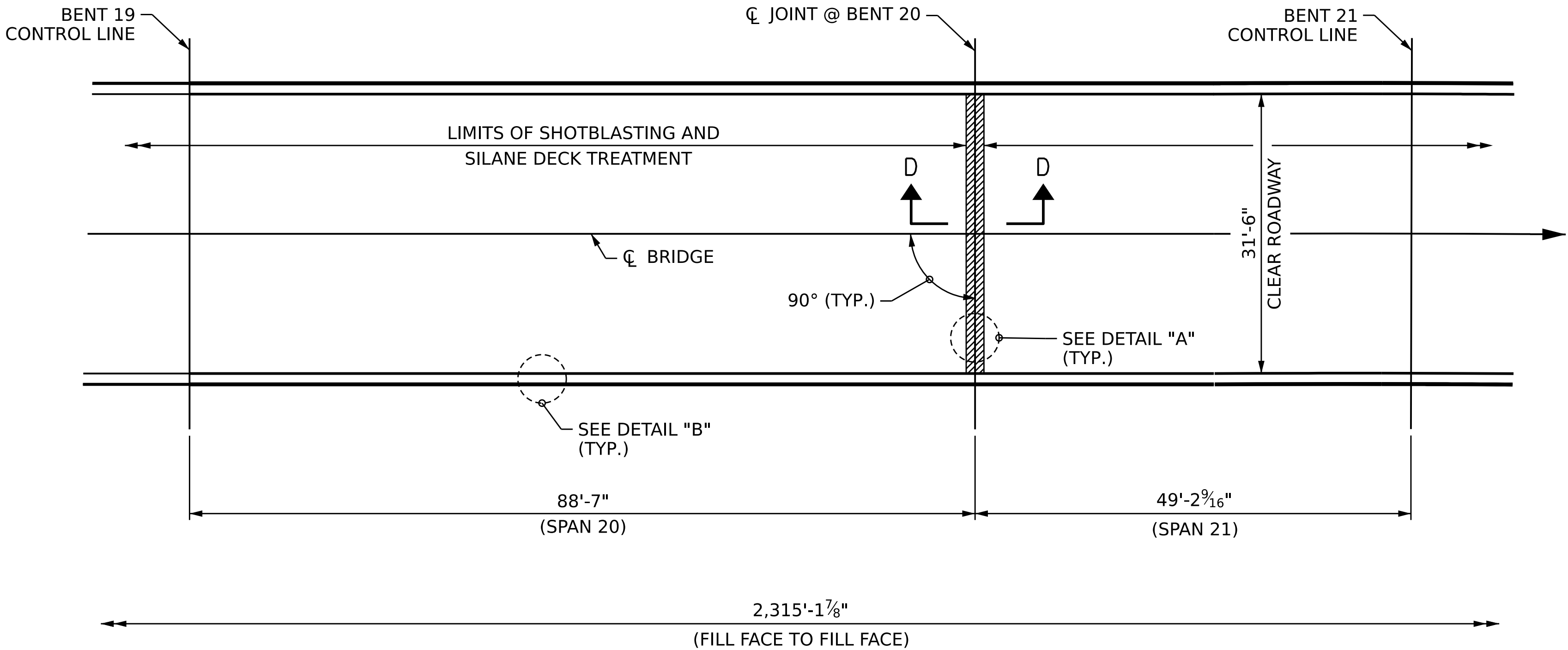
ONLY INNER SURFACE AND TOP SURFACE OF BARRIER RAIL WILL BE TREATED WITH SILANE PENETRANT SEALER.

BRIDGE QUANTITIES

	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	491 SQ.YD.	
SURFACE PREPARATION FOR CONCRETE BARRIER RAIL	971 SQ.FT.	
CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT		
SILANE DECK TREATMENT	491 SQ.YD.	
SILANE BARRIER RAIL TREATMENT	971 SQ.FT.	
FOAM JOINT SEALS FOR PRESERVATION	34 LIN.FT.	
ELASTOMERIC CONCRETE FOR PRESERVATION	8 CU.FT.	
BRIDGE JOINT DEMOLITION	32 SQ.FT.	

LEGEND

- BRIDGE JOINT DEMOLITION
- CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT
- SHOTBLAST BRIDGE DECK AND SILANE DECK TREATMENT



PLAN - SPANS 20 AND 21

PROJECT NO. 15BPR.131
CARTERET-ON SLOW COUNTIES
BRIDGE NO. 150049

SHEET 5 OF 7



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE						SHEET NO.	
PLAN OF SPANS REPAIRS PARTIAL SPANS 20 AND 21						S3-12	
REVISIONS						TOTAL SHEETS	
NO.	BY:	DATE:	NO.	BY:	DATE:	112	
1			3				
2			4				

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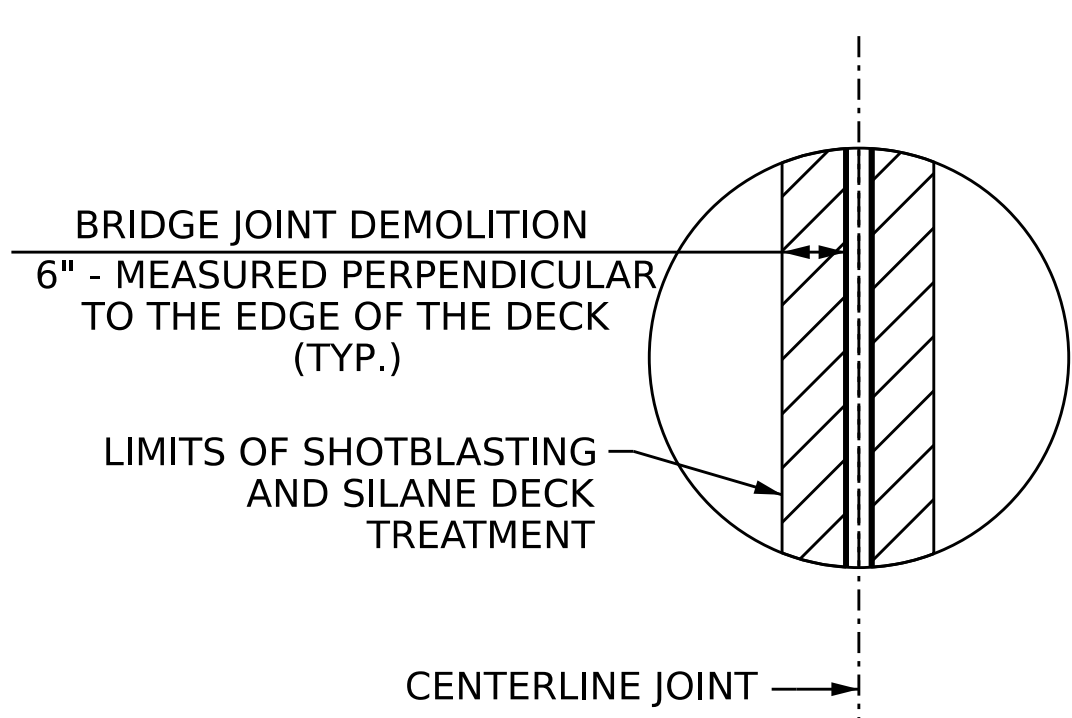
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128 TALBERT ROAD
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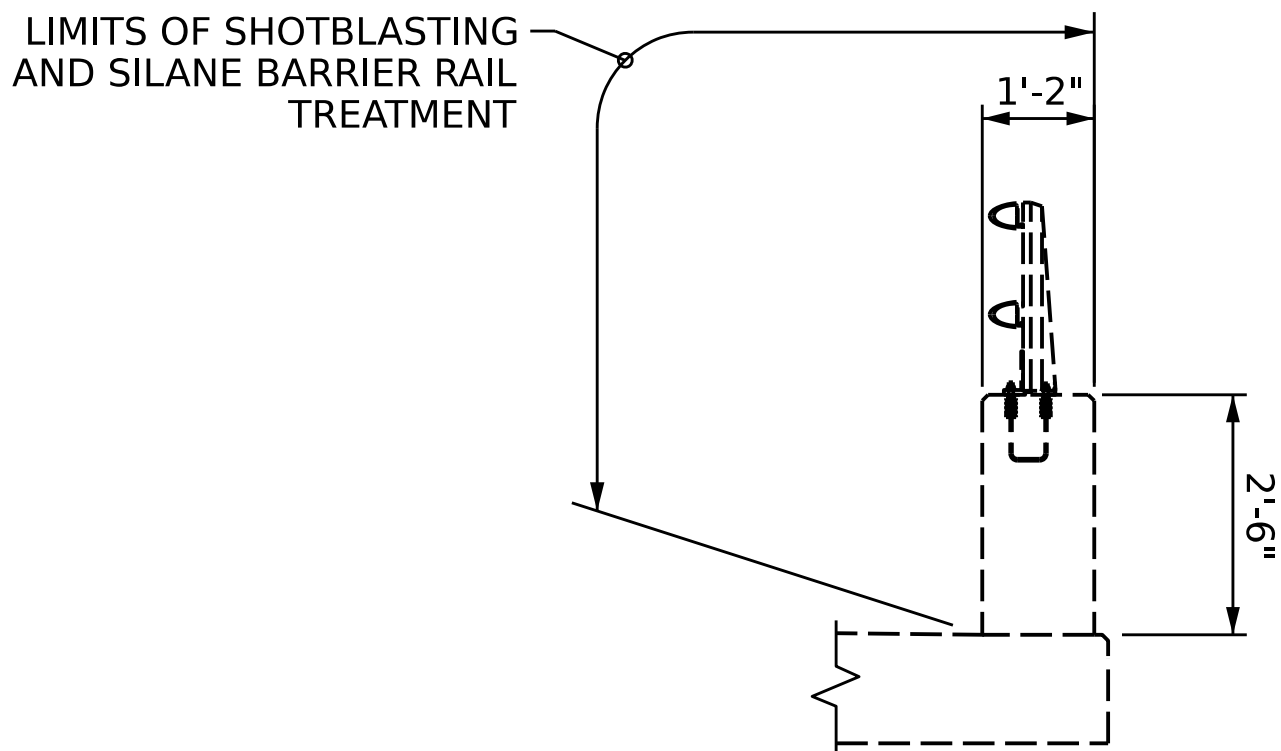
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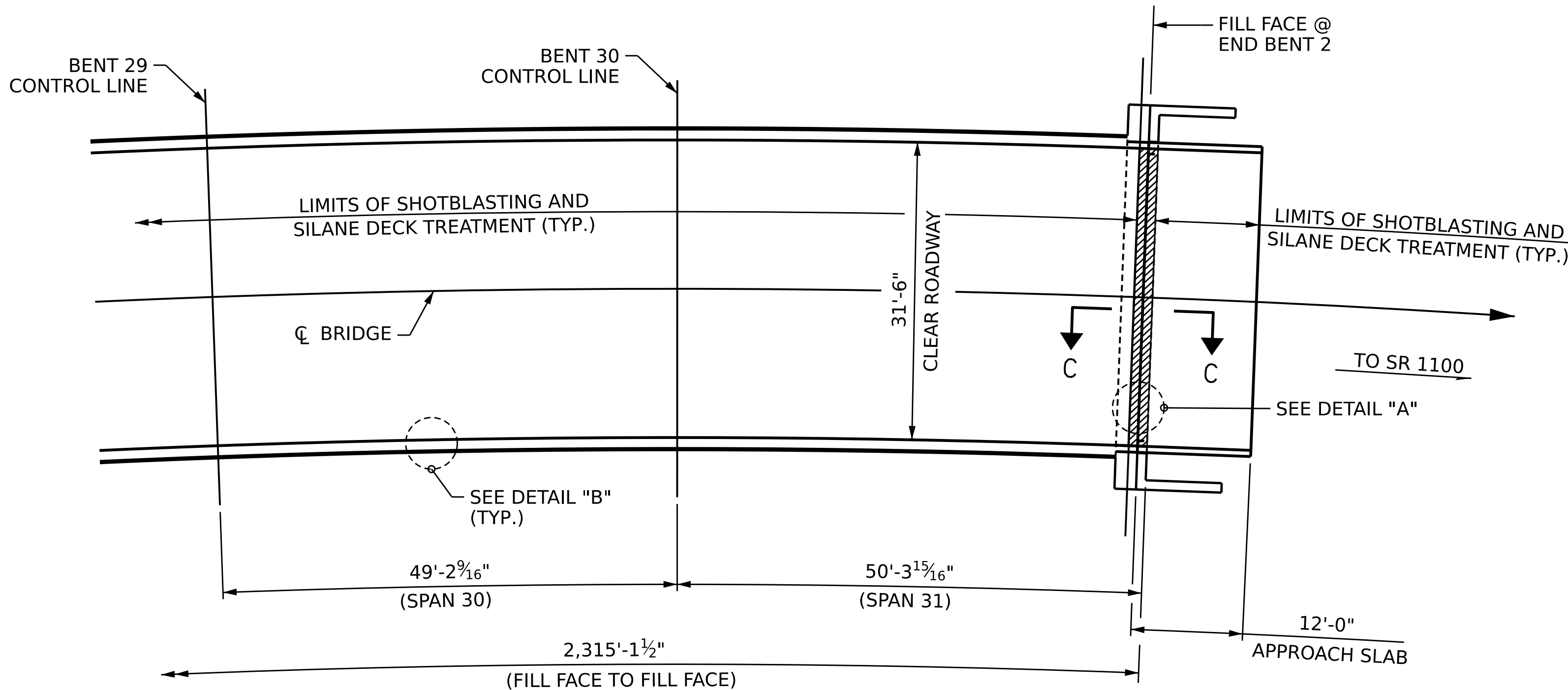
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DETAIL "A"



DETAIL "B"



PLAN - SPANS 30 AND 31

NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR BRIDGE JOINT DEMOLITION, SEE "JOINT DETAILS" SHEET.

FOR SECTION C-C AND D-D, SEE "JOINT DETAILS" SHEET.

CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT SHALL BE COMPLETE PRIOR TO SHOTBLASTING OF ENTIRE DECK SURFACE FOR PREPARATION FOR SILANE DECK TREATMENT APPLICATION.

ONLY INNER SURFACE AND TOP SURFACE OF BARRIER RAIL WILL BE TREATED WITH SILANE PENETRANT SEALER.

BRIDGE QUANTITIES

	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	433 SQ.YD.	
SURFACE PREPARATION FOR CONCRETE BARRIER RAIL	702 SQ.FT.	
CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT		
SILANE DECK TREATMENT	433 SQ.YD.	
SILANE BARRIER RAIL TREATMENT	702 SQ.FT.	
FOAM JOINT SEALS FOR PRESERVATION	34 LIN.FT.	
ELASTOMERIC CONCRETE FOR PRESERVATION	8 CU.FT.	
BRIDGE JOINT DEMOLITION	32 SQ.FT.	

* QUANTITIES FOR SHOTBLASTING BRIDGE DECK AND SILANE DECK TREATMENT INCLUDE APPROACH SLAB

LEGEND

- BRIDGE JOINT DEMOLITION
- CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT
- SHOTBLAST BRIDGE DECK AND SILANE DECK TREATMENT

PROJECT NO. 15BPR.131
CARTERET-ONSLOW COUNTIES
BRIDGE NO. 150049

SHEET 7 OF 7



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S3-14 TOTAL SHEETS 112
2			4			

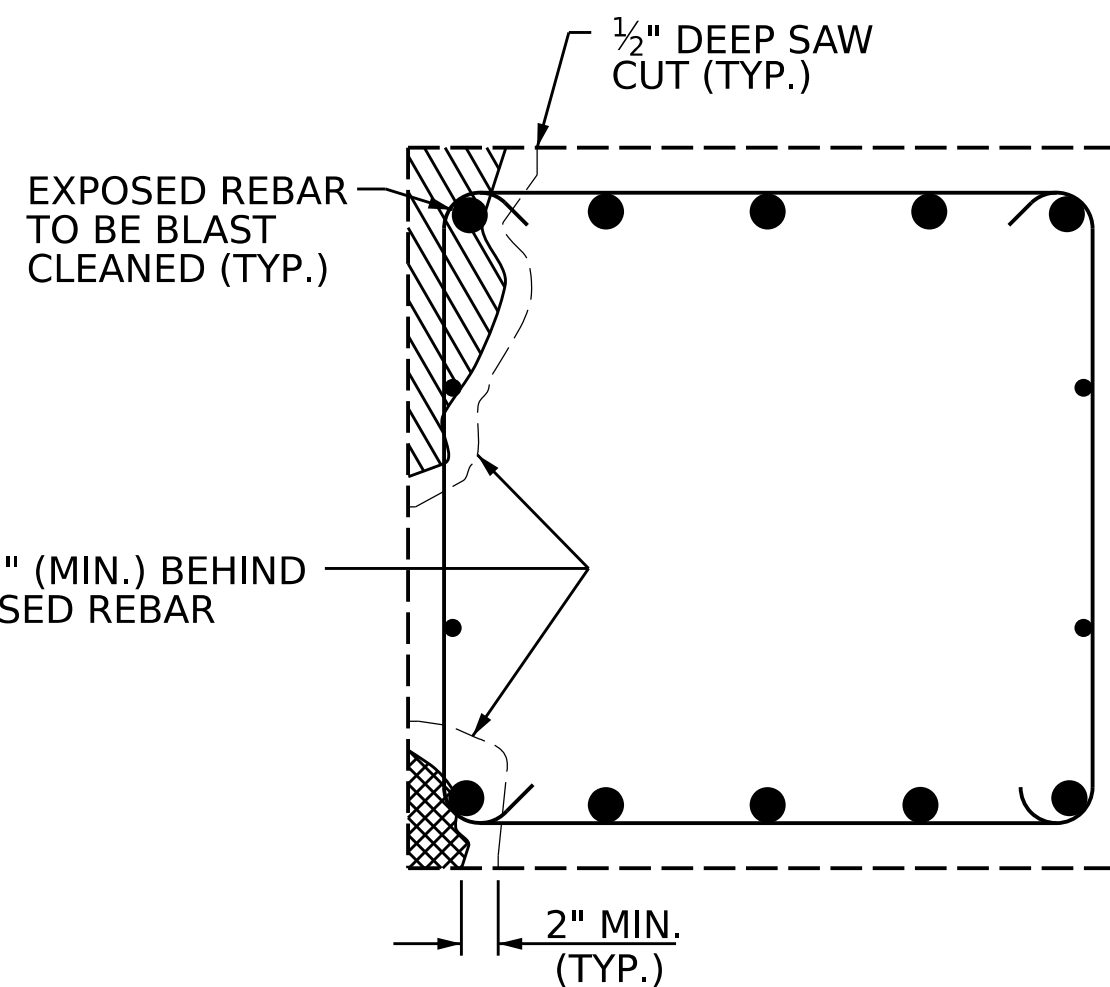
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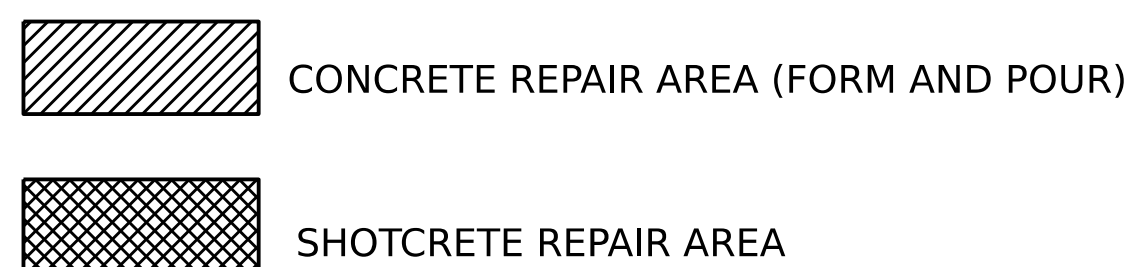
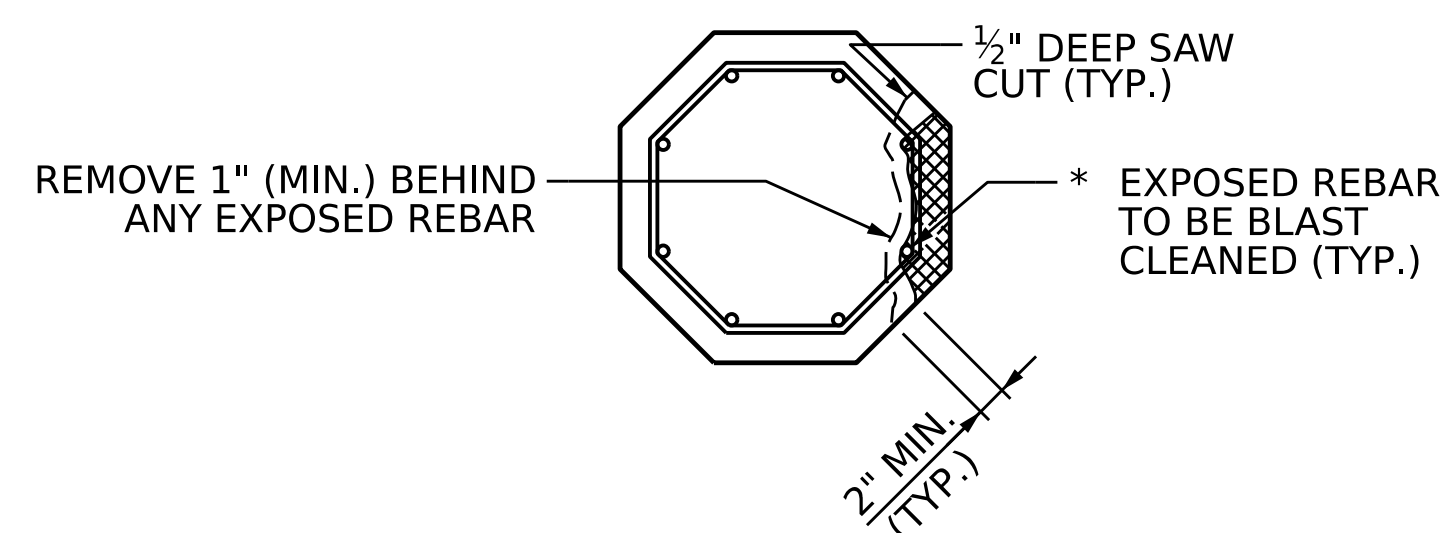


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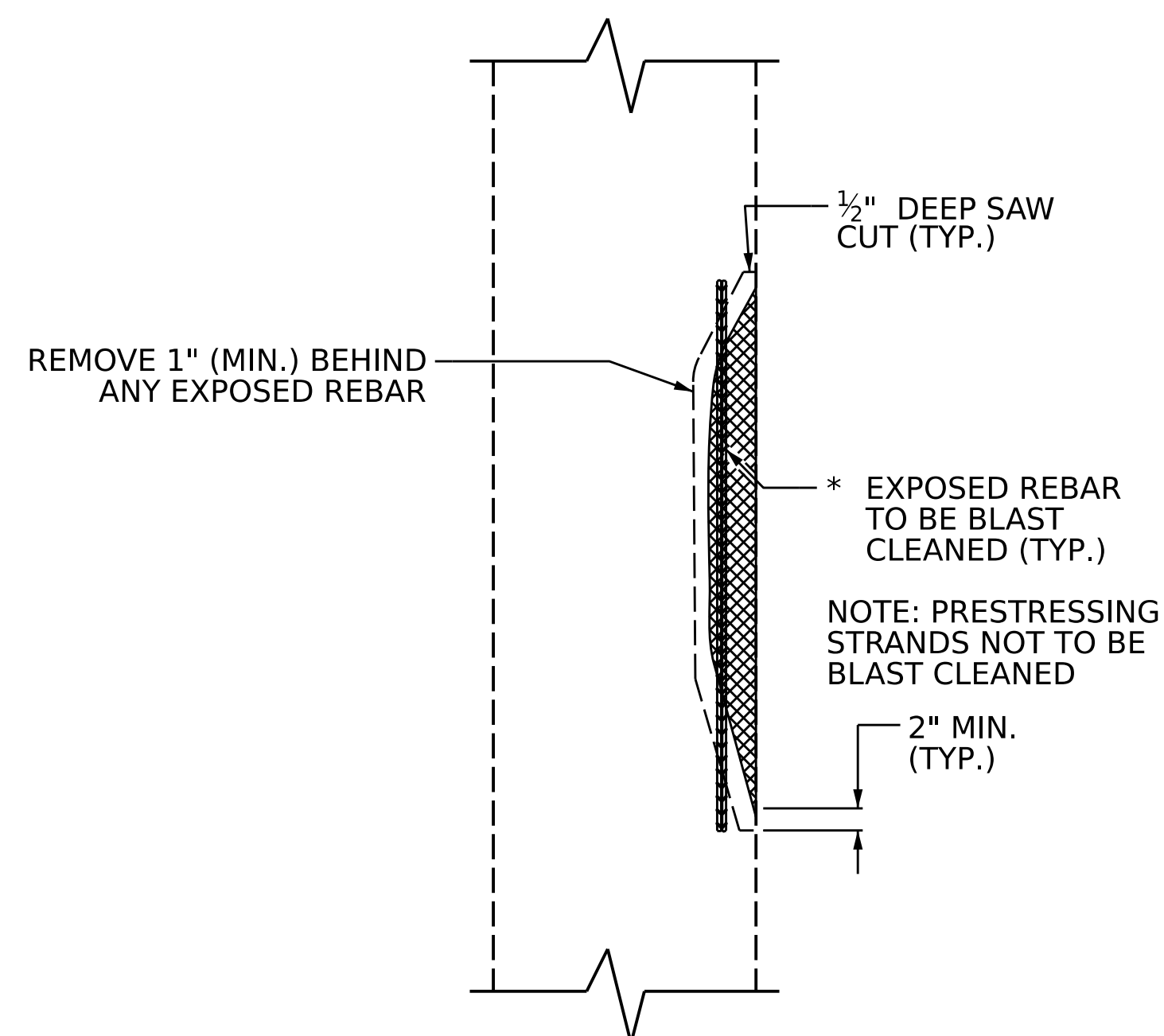
REPAIR KEY



SECTION A-A

CAP REPAIR

PLAN OF PILE

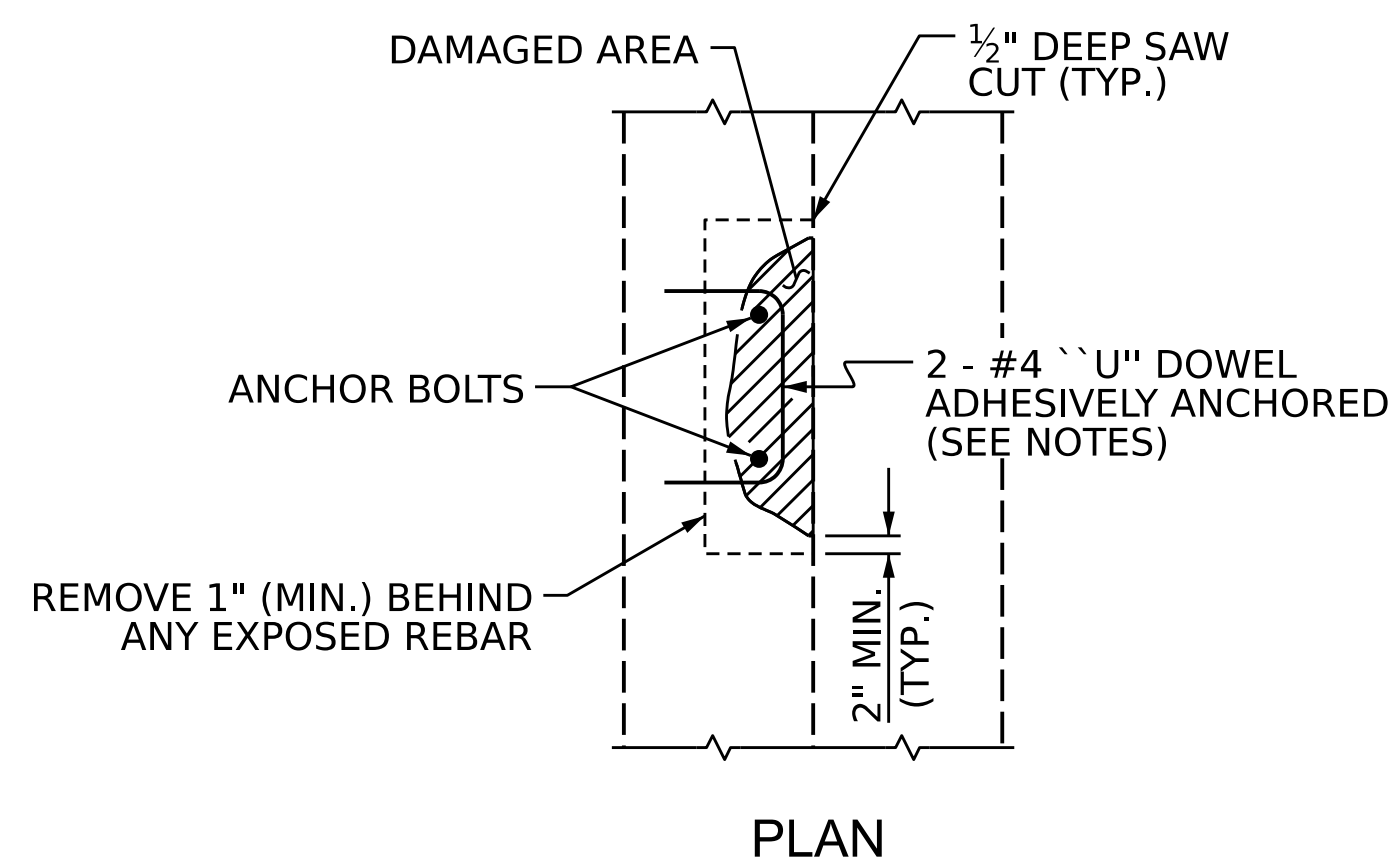


* REPAIR LENGTH SHALL NOT EXCEED 10 FEET.

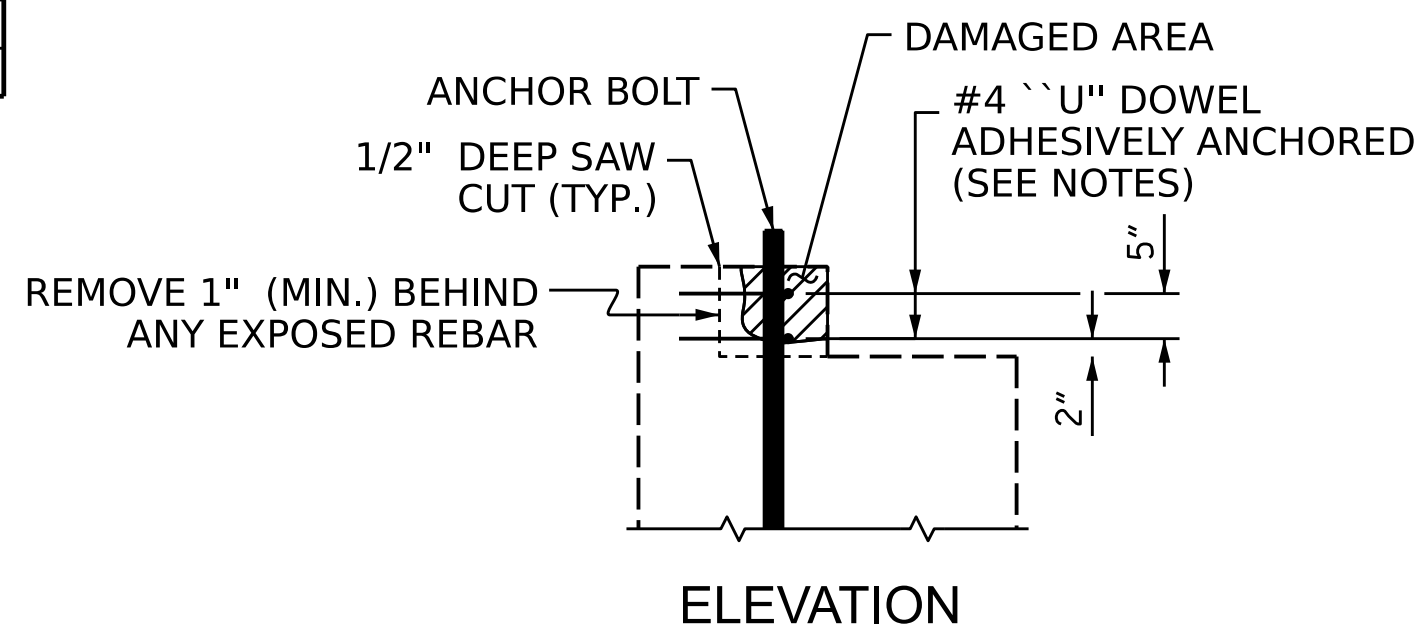
ELEVATION OF PILE

COLUMN REPAIR

BAR SIZE	MIN. SPLICE LENGTH
#4	2'-4"
#5	2'-9"
#6	4'-0"
#7	5'-3"
#8	6'-9"
#9	8'-6"
#10	10'-11"
#11	13'-4"



PEDESTAL WALL REPAIR



NOTES

TYPICAL BENT CAP REPAIRS ARE SHOWN. REPAIR DETAILS SIMILAR FOR END BENT CAPS AND STRUTS.

THE METHOD USED TO DELINEATE THE AREAS OF UNSOUND CONCRETE TO BE REPAIRED SHALL NOT PERMANENTLY MARK THE CONCRETE, LEAVE ANY RESIDUE AFTER REMOVAL OR REQUIRE HARSH CHEMICALS TO REMOVE.

THE CONTRACTOR SHALL REMOVE THE DETERIORATED CONCRETE IN ACCORDANCE WITH THE GUIDELINES SET IN THESE NOTES, IN THE SPECIAL PROVISIONS AND THE STANDARD SPECIFICATIONS.

REMOVE UNSOUND CONCRETE TO THE EXTENT
NECESSARY, MINIMUM OF 1" BEHIND REBAR AND
MINIMUM OF 2" CLEARANCE TO SAWCUT.

NO MORE THAN ONE-THIRD OF THE CAP OR COLUMN CROSS SECTIONAL AREA SHALL BE REMOVED AT ONE TIME. SHOULD IT BECOME NECESSARY TO REMOVE MORE THAN 30% OF A CAP OR COLUMN CROSS SECTIONAL AREA, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

SIMULTANEOUS REMOVAL OF UNSOUND CONCRETE MAY BE PERMITTED ON MORE THAN ONE FACE OF A CAP AND/OR COLUMN, IF THE AREAS OF REMOVAL ARE NOT ADJACENT TO OR DIRECTLY OPPOSITE ONE ANOTHER. IF REMOVAL EXTENDS MORE BARS, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

REINFORCING STEEL WHICH IS DETERMINED BY THE ENGINEER TO BE REPLACED, SHALL BE REMOVED TO A POINT WHERE IT IS SOUND. THE PATCH SHALL EXTEND A SUFFICIENT DISTANCE BEYOND THIS POINT TO DEVELOP A SPLICE LENGTH SPECIFIED IN THE TABLE ON THIS SHEET.

THE #4 ``U" DOWELS ARE REQUIRED ONLY AROUND THE ANCHOR BOLTS. THE EXISTING REINFORCING STEEL IN THE PEDESTAL WALL SHALL BE CLEANED, STRAIGHTENED AND REMAIN IN PLACE.

FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

COAT ALL REPAIR SURFACE AREAS ON THE TOP OF CAPS, INCLUDING CHAMFERS, WITH EPOXY PROTECTIVE COATING, OVERLAPPING THE REPAIR AREA BY A MINIMUM OF 3" ON ALL POSSIBLE SIDES.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

CLEAN ALL EXPOSED REINFORCING BARS IN ACCORDANCE WITH THE APPROPRIATE SPECIAL PROVISIONS AND STANDARD SPECIFICATIONS. FOR BARS WITH MORE THAN 10% SECTION LOSS, SPLICE AND SECURELY TIE SUPPLEMENTAL REINFORCING BARS AS NEEDED.

ON COLUMNS AND PILES, NO MORE THAN 10 VERTICAL FEET MAY BE EXPOSED AT ONE TIME PRIOR TO PLACEMENT OF REPAIR MATERIAL.

PROJECT NO. 15BPR.131
CARTERET-ON SLOW COUNTIES
150014, 150045
BRIDGE NO. 150049



4/23/2026

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REVISIONS						SHEET NO. SD-1
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 112
2			4			

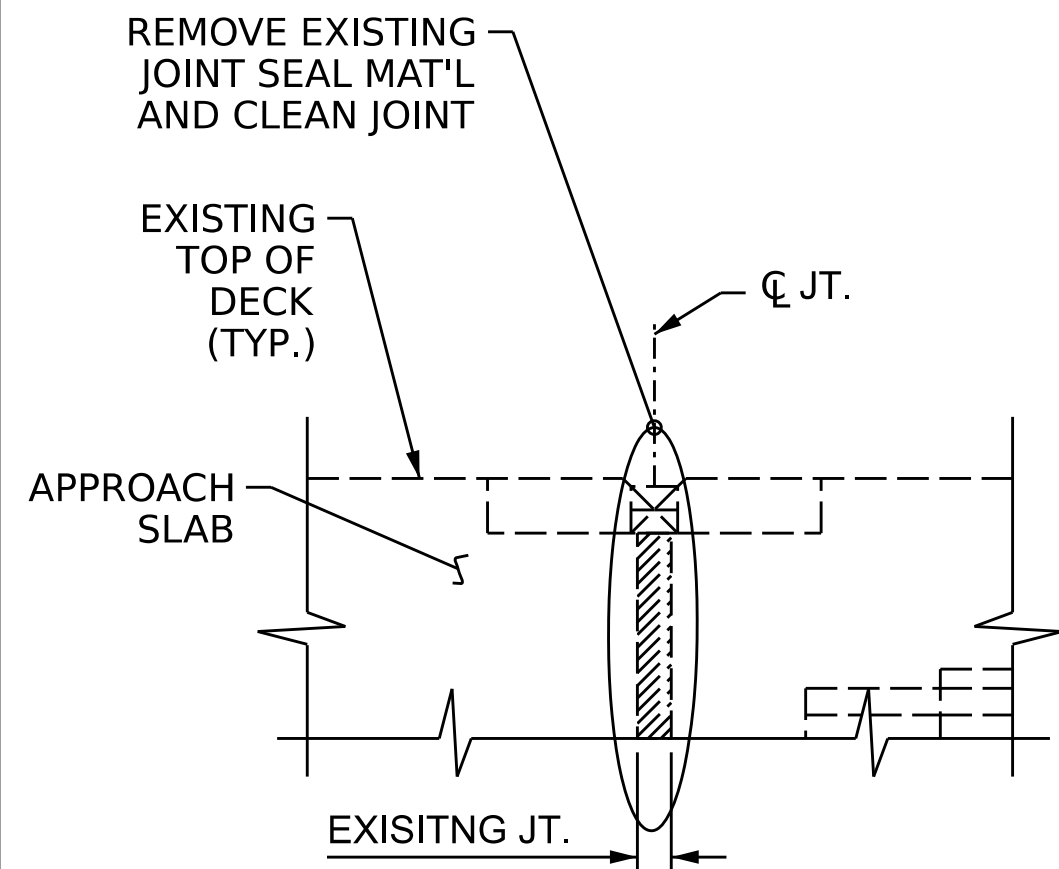
DRAWN BY : B. K. JACKSON DATE : APRIL 2026
 CHECKED BY : M. PEARSON DATE : APRIL 2026
 DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APRIL 2026

4/22/2026
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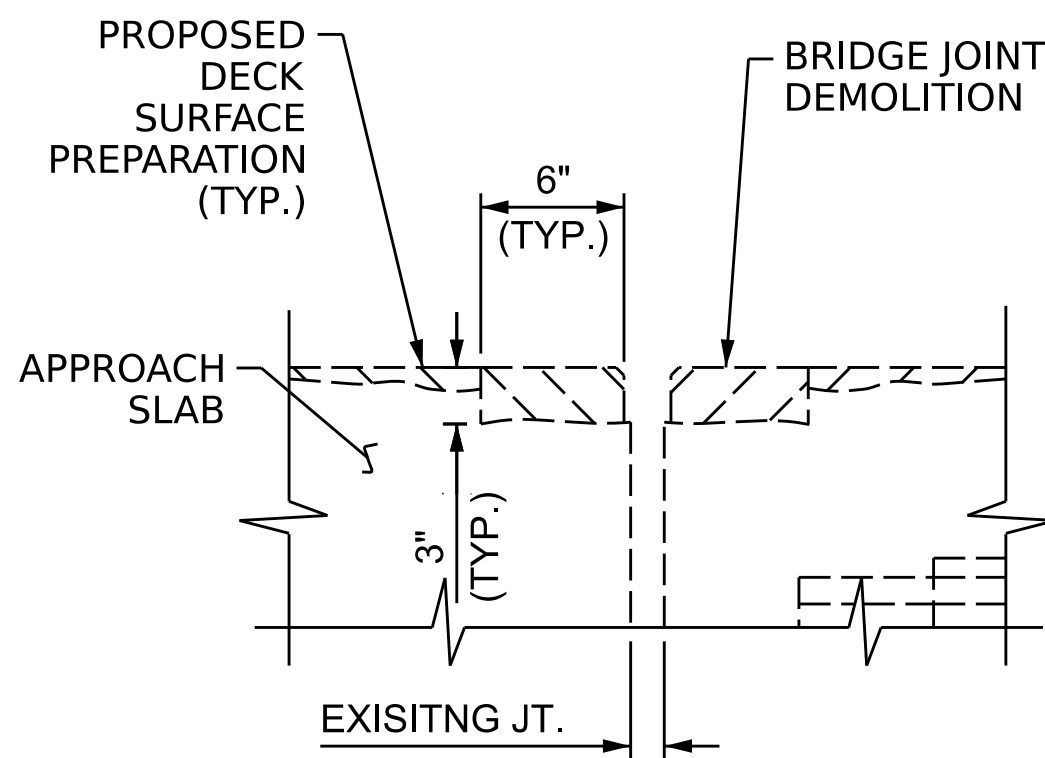
WSP

WSP USA Inc.
1001 WADE AVENUE
SUITE 400
RALEIGH, NC 27601
TEL:1.919.836.4040

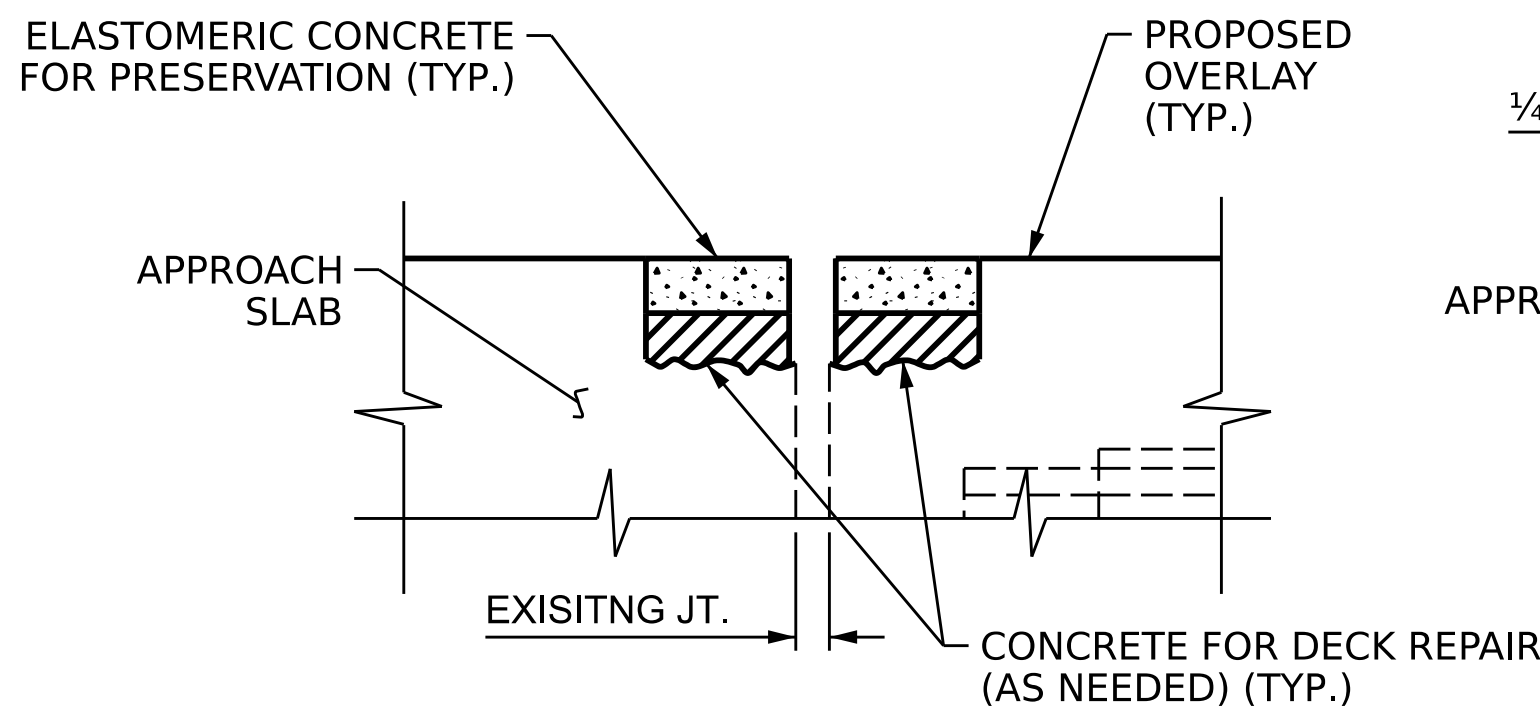
LICENSE NO. F-0165



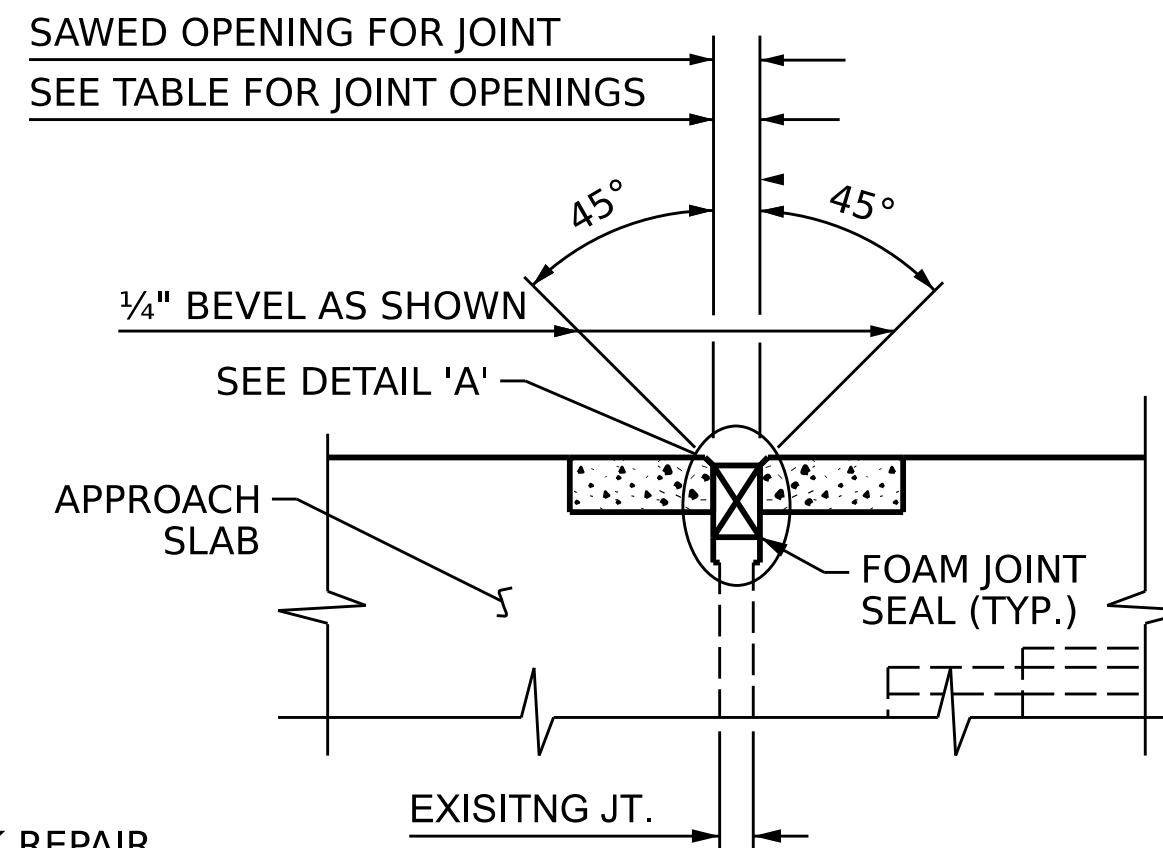
EXISTING JOINT SEAL



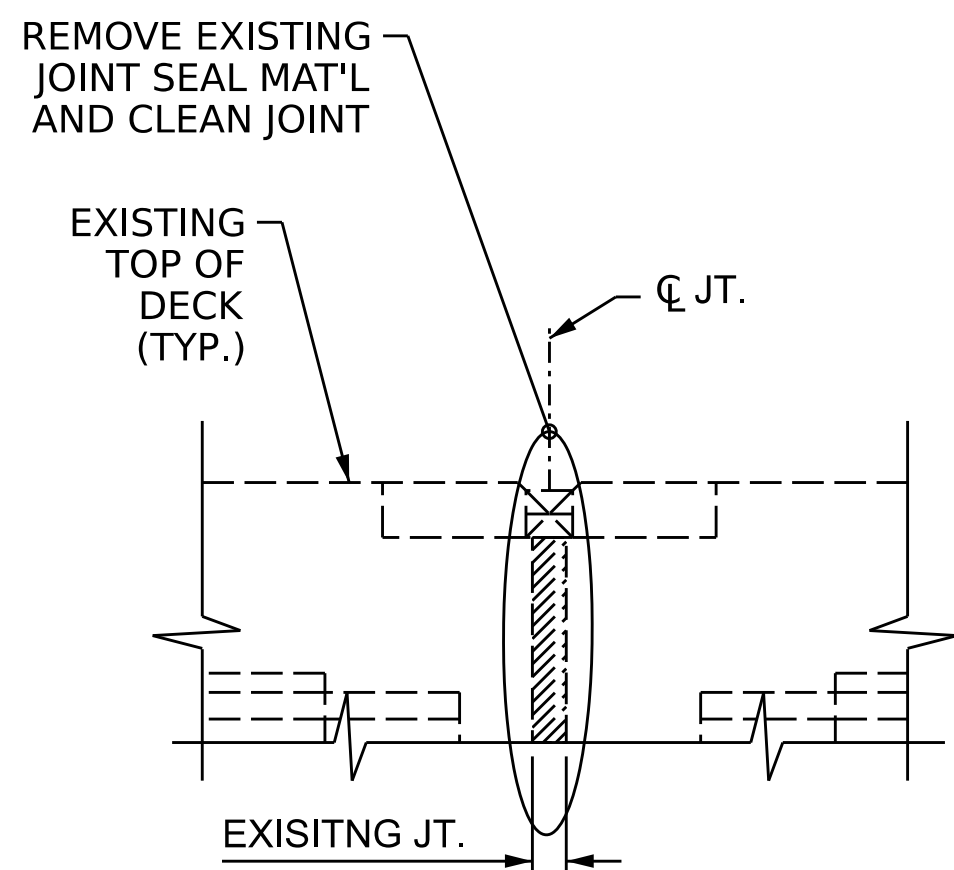
EXISTING JOINT AFTER JOINT DEMOLITION



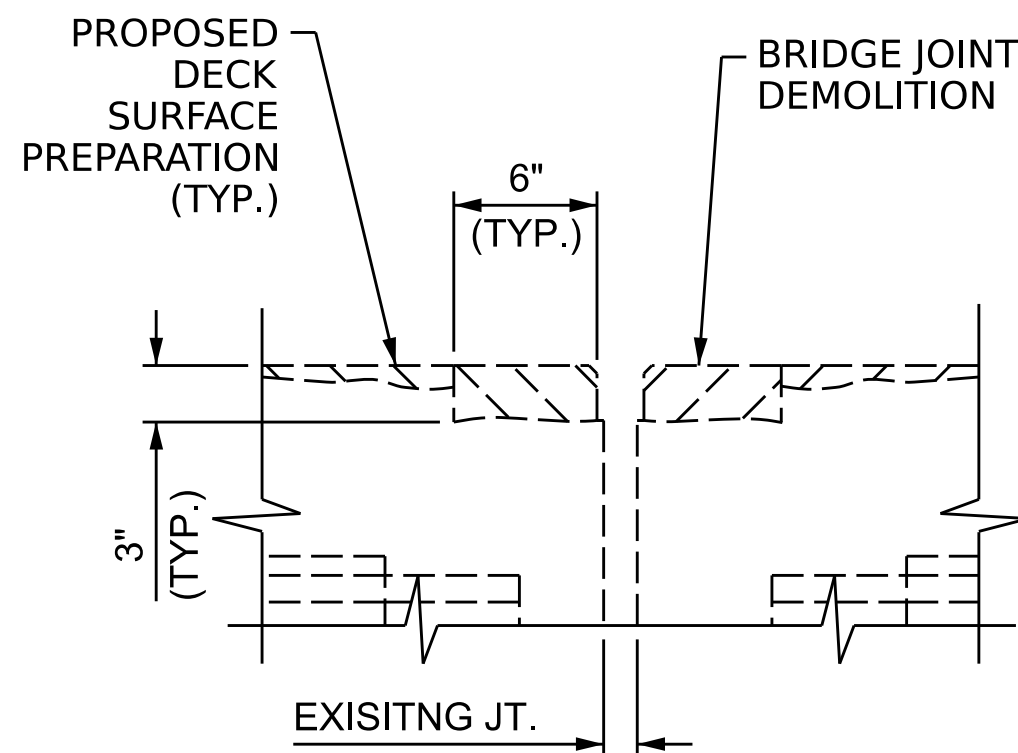
PROPOSED JOINT PRIOR TO SAWING



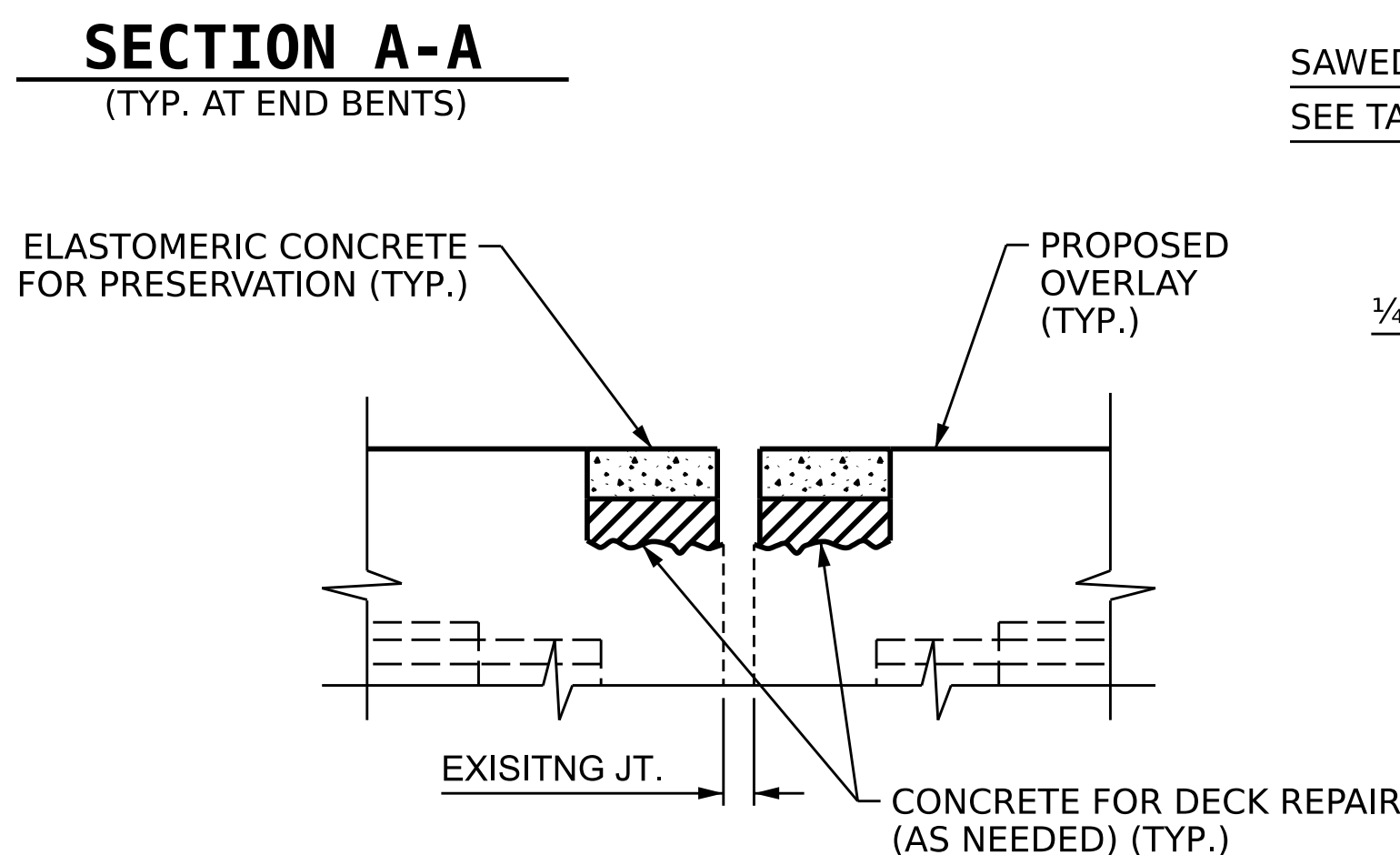
PROPOSED FOAM JOINT SEAL



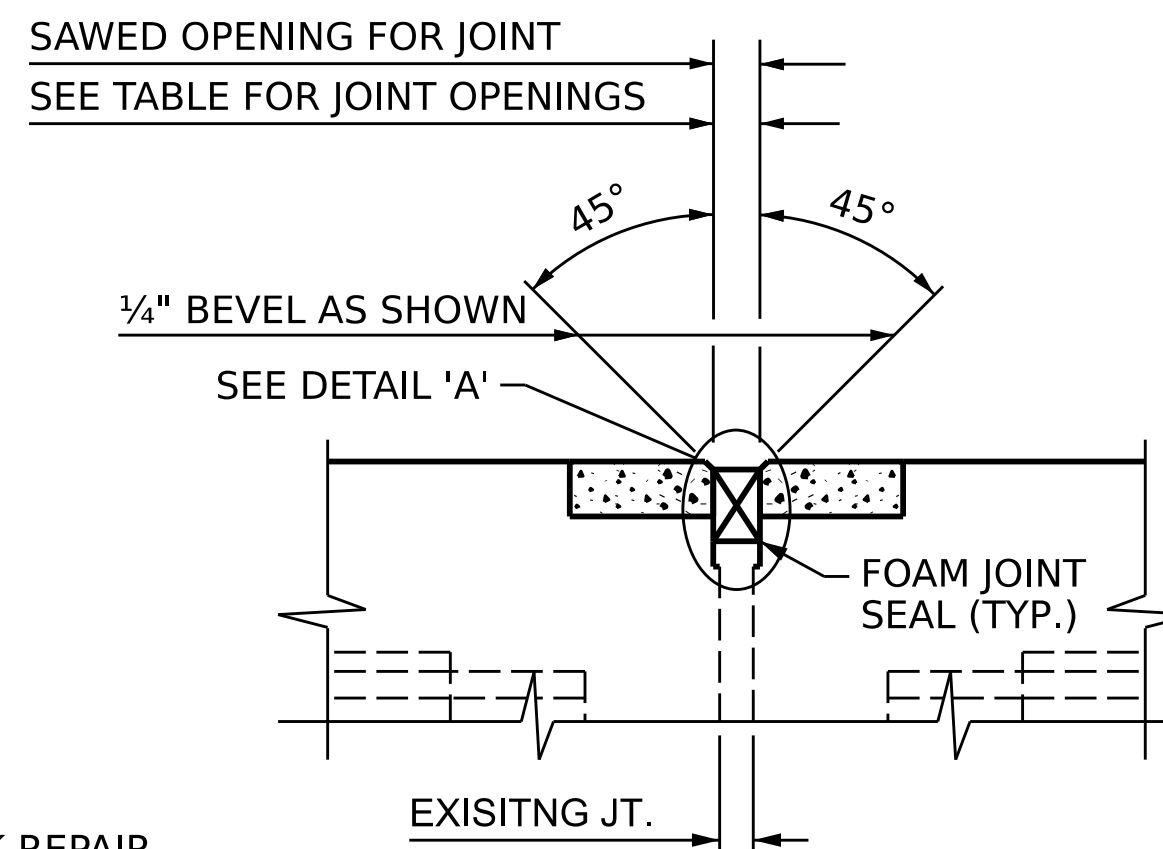
EXISTING JOINT SEAL



EXISTING JOINT AFTER JOINT DEMOLITION



PROPOSED JOINT PRIOR TO SAWING



PROPOSED FOAM JOINT SEAL

THE CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

QUANTITIES SHOWN IN THE ELASTOMERIC CONCRETE FOR PRESERVATION TABLE ARE BASED ON THE MINIMUM JOINT DEMOLITION SHOWN.

FOR EXCAVATION BELOW THE BOTTOM OF PLANNED JOINT DEMOLITION, CONCRETE FOR DECK REPAIR SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT THE BOTTOM OF THE PROPOSED ELASTOMERIC CONCRETE FOR PRESERVATION HEADERS SHOWN.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

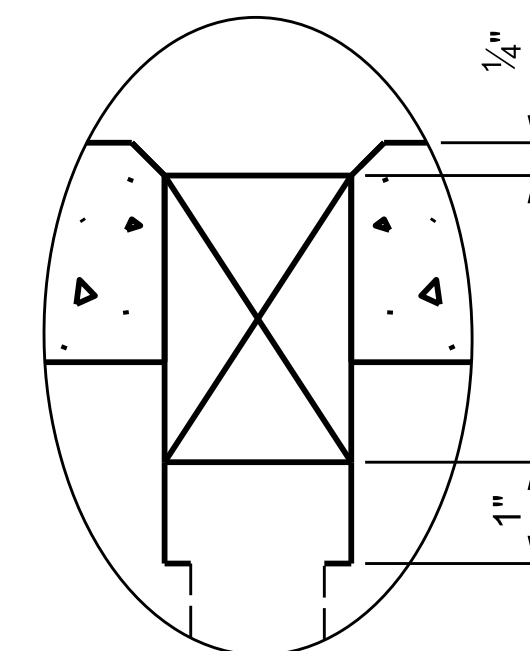
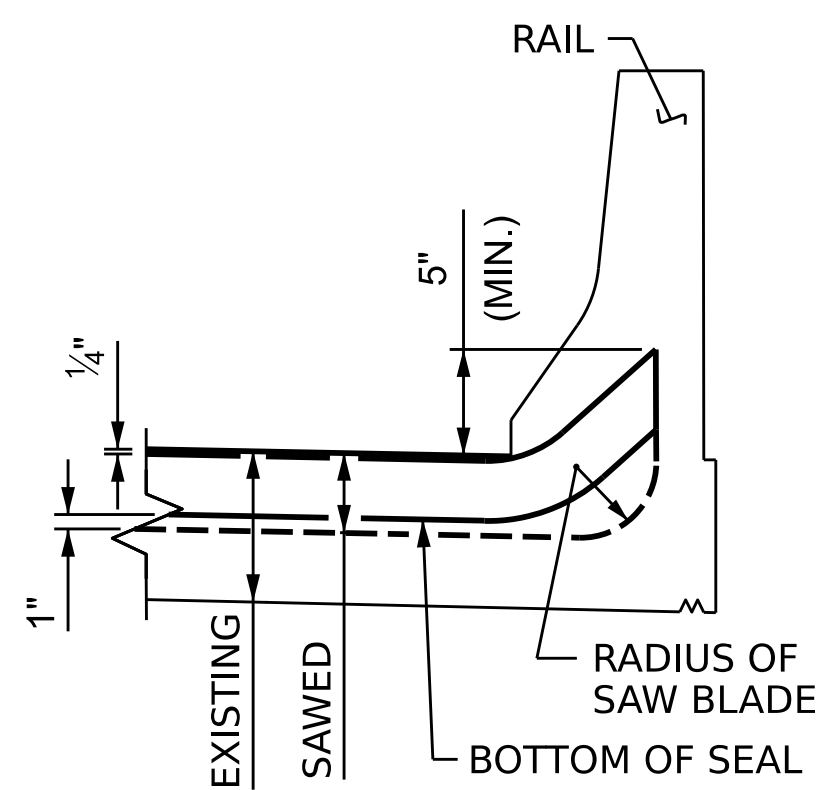
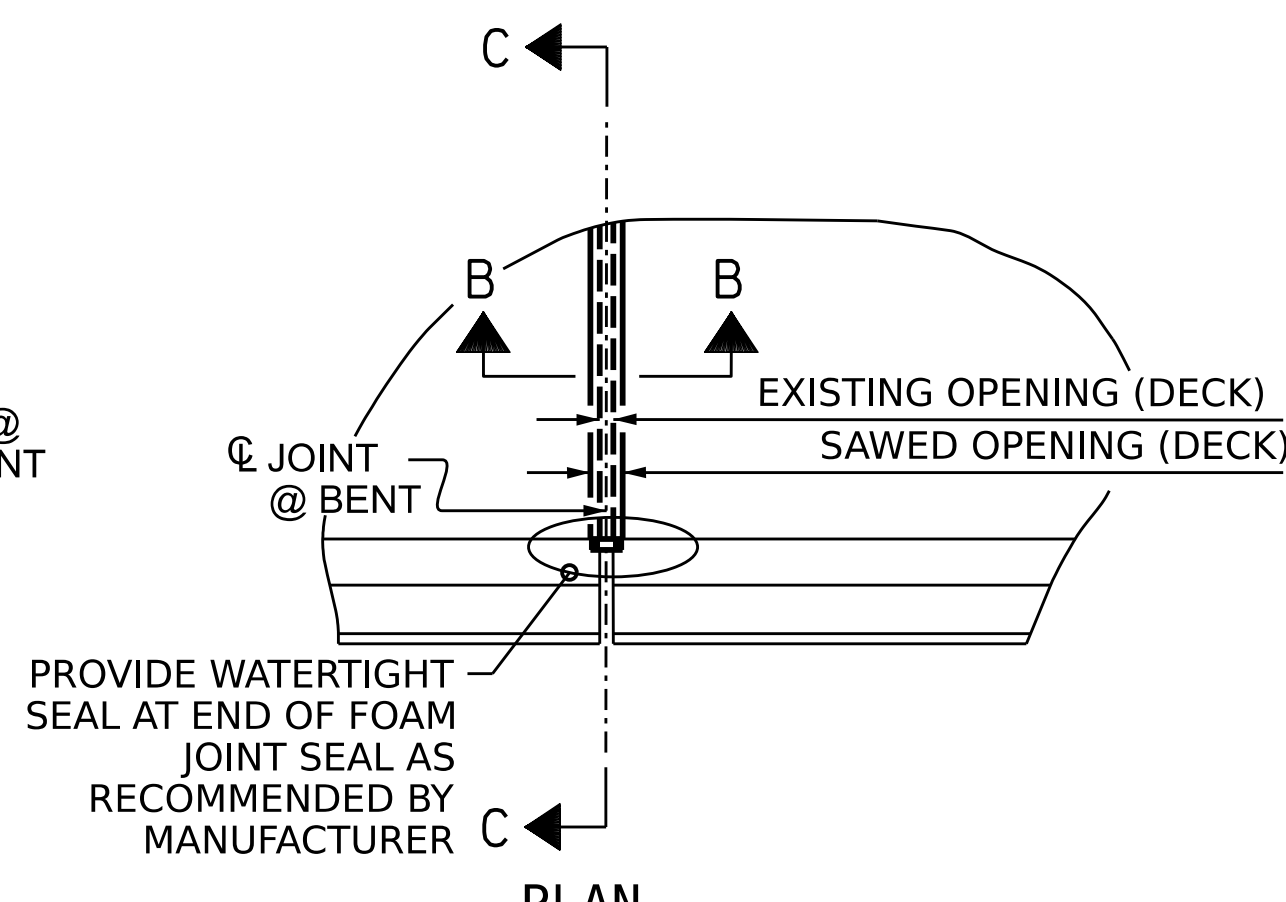
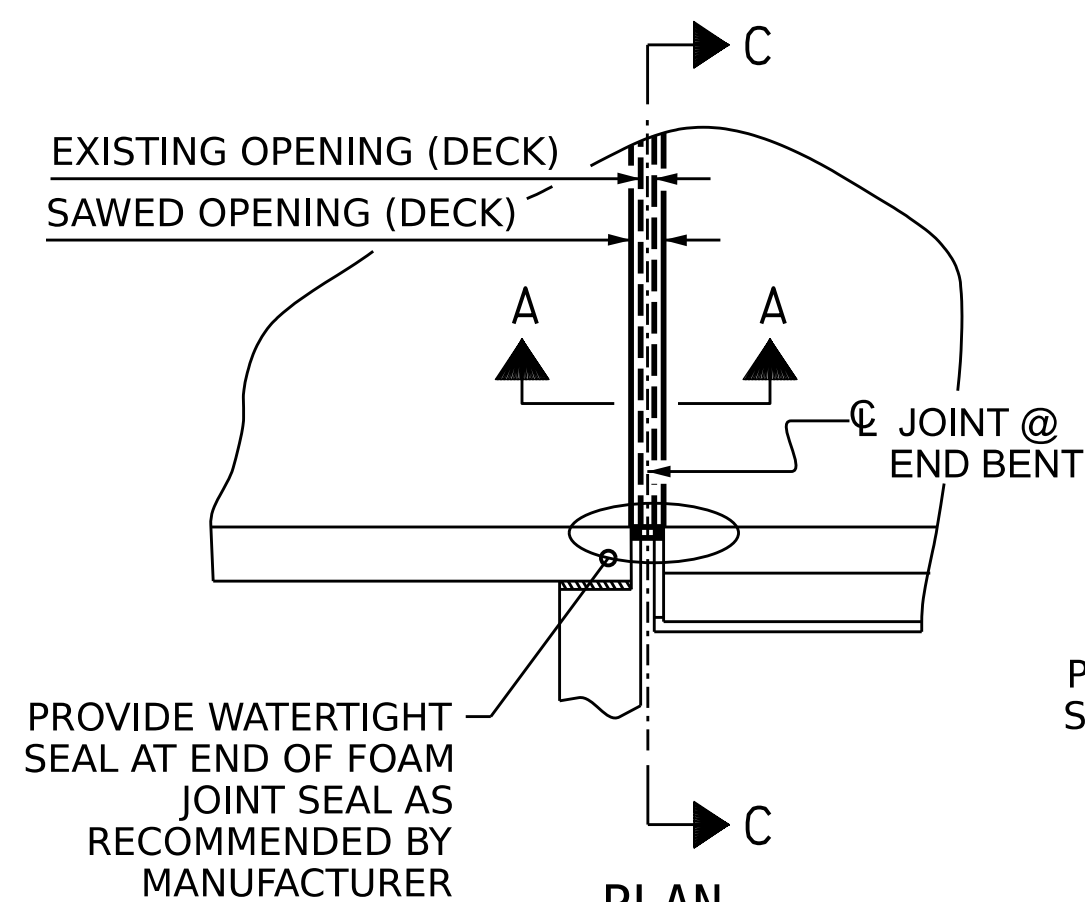
FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS.

SECTION A-A

(TYP. AT END BENTS)

SECTION B-B

(TYP. AT BENTS)



PROJECT NO. 15BPR.131
CARTERET-ONslow COUNTIES
150014, 150045
BRIDGE NO. 150049

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

FOAM JOINT SEALS
FOR PRESERVATION
DETAILS

DRAWN BY : B. K. JACKSON DATE : APRIL 2026
CHECKED BY : M. PEARSON DATE : APRIL 2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APRIL 2026

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USMA128682

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WSP USA Inc.
1001 WADE AVENUE
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			SD-2
2			4			TOTAL SHEETS 112

BRIDGE 150014			
SAWED JOINT OPENING TABLE			
	EXISTING SAWED JOINT OPENING (PERPENDICULAR TO JOINT)		
	AT 45°	AT 60°	AT 90°
END BENTS 1 & 2	2¼"	2"	1¾"
BENTS 1 THRU 3	2¼"	2"	1¾"
BENTS 4, 5, 13, 14	2⅝"	2⅝"	1⅝"
BENTS 6 THRU 12	2¼"	2"	1¾"
BENTS 15 & 17	2⅝"	2⅝"	1⅞"
CANTILEVER SPAN JOINTS	2⅝"	2⅝"	1⅞"
BENTS 19 THRU 30	2¼"	2"	1¾"

* EXISTING JOINTS OVER ALL INTERIOR BENTS
ARE 1" FORMED OPEN JOINTS

BRIDGE 150049			
SAWED JOINT OPENING TABLE			
	EXISTING SAWED JOINT OPENING (PERPENDICULAR TO JOINT)		
	AT 45°	AT 60°	AT 90°
END BENTS 1 & 2	2⅜"	2"	1⅜"
BENTS 2, 4, 6, 8, 10, 12, 14, 16, 18, 28	3⅛"	2¾"	2¼"
BENT 20	3"	2⅛"	2⅜"
BENT 24	3"	2⅛"	2⅞"

BRIDGE 150045			
SAWED JOINT OPENING TABLE			
	EXISTING SAWED JOINT OPENING (PERPENDICULAR TO JOINT)		
	AT 45°	AT 60°	AT 90°
END BENTS 1 & 2	1⅜"	1⅞"	1⅞"
BENTS 1 THRU 17	2⅝"	1⅝"	1⅞"

* EXISTING JOINTS OVER ALL INTERIOR BENTS
ARE 1" FORMED OPEN JOINTS

BRIDGE 150014		
JOINT REPAIR QUANTITY TABLE		
	ESTIMATED	ACTUAL
	LIN. FT	LIN. FT
FOAM JOINTS FOR PRESERVATION	994	

BRIDGE 150045		
JOINT REPAIR QUANTITY TABLE		
	ESTIMATED	ACTUAL
	LIN. FT	LIN. FT
FOAM JOINTS FOR PRESERVATION	665	

BRIDGE 150049		
JOINT REPAIR QUANTITY TABLE		
	ESTIMATED	ACTUAL
	LIN. FT	LIN. FT
FOAM JOINTS FOR PRESERVATION	476	

BRIDGE 150014		
ELASTOMERIC CONCRETE FOR PRESERVATION		
LOCATION	ESTIMATED	ACTUAL
	LIN. FT	LIN. FT
SPAN 1	15	
SPAN 2	7.5	
SPAN 3	7.5	
SPAN 4	7.5	
SPAN 5	8	
SPAN 6	7.5	
SPAN 7	7.5	
SPAN 8	7.5	
SPAN 9	7.5	
SPAN 10	7.5	
SPAN 11	7.5	
SPAN 12	7.5	
SPAN 13	7.5	
SPAN 14	8	
SPAN 15	9	
SPAN 18	9	
SPAN 19	8	
SPAN 20	7.5	
SPAN 21	8	
SPAN 22	7.5	
SPAN 23	7.5	
SPAN 24	7.5	
SPAN 25	7.5	
SPAN 26	8	
SPAN 27	7.5	
SPAN 28	7.5	
SPAN 29	7.5	
SPAN 30	7.5	
SPAN 31	8	

BRIDGE 150045		
ELASTOMERIC CONCRETE FOR PRESERVATION		
LOCATION	ESTIMATED	ACTUAL
	LIN. FT	LIN. FT
SPAN 1-2	24	
SPAN 3-4	16	
SPAN 5-6	16	
SPAN 7-8	16	
SPAN 9-10	16	
SPAN 11-18	64	

BRIDGE 150049		
ELASTOMERIC CONCRETE FOR PRESERVATION		
LOCATION	ESTIMATED	ACTUAL
	LIN. FT	LIN. FT
SPAN 1-2	16	
SPAN 3-4	8	
SPAN 5-10	24	
SPAN 11-19	32	
SPAN 20-21	8	
SPAN 22-29	16	
SPAN 30-31	8	

PROJECT NO. 15BPR.131
CARTERET-ONSLOW COUNTIES
150014, 150045
BRIDGE NO. 150049

SHEET 2 OF 2

DRAWN BY : B. K. JACKSON DATE : APRIL 2026
CHECKED BY : M. PEARSON DATE : APRIL 2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APRIL 2026

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1001 WADE AVENUE
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LICENSE NO. F-0165



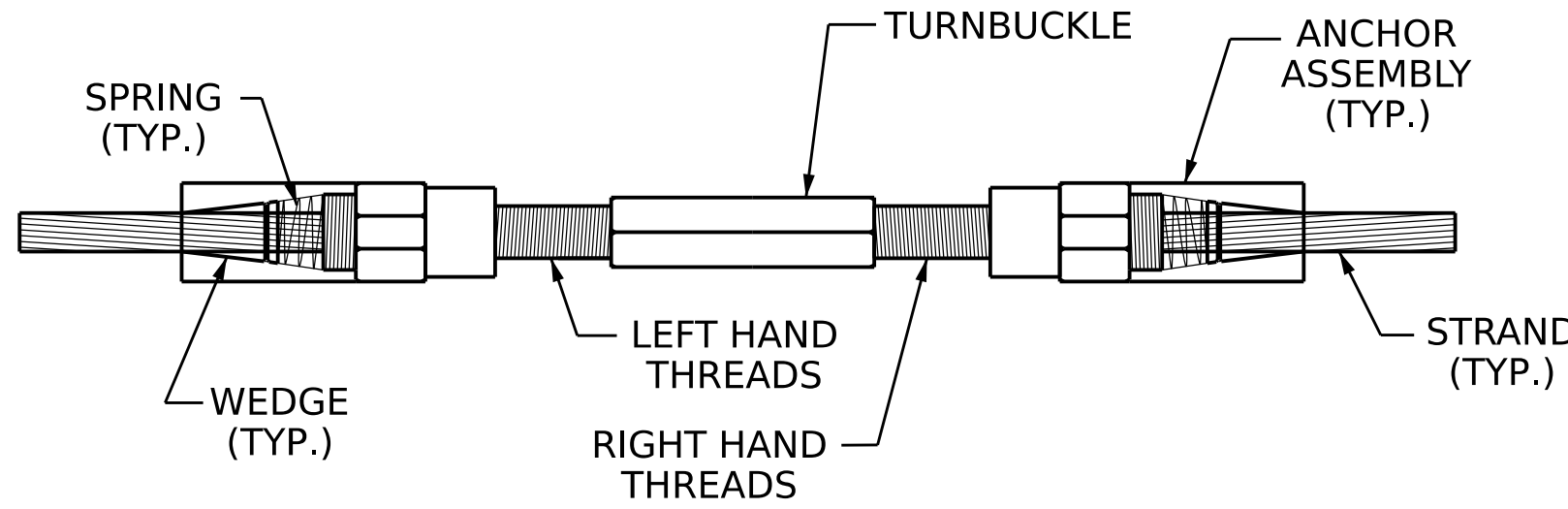
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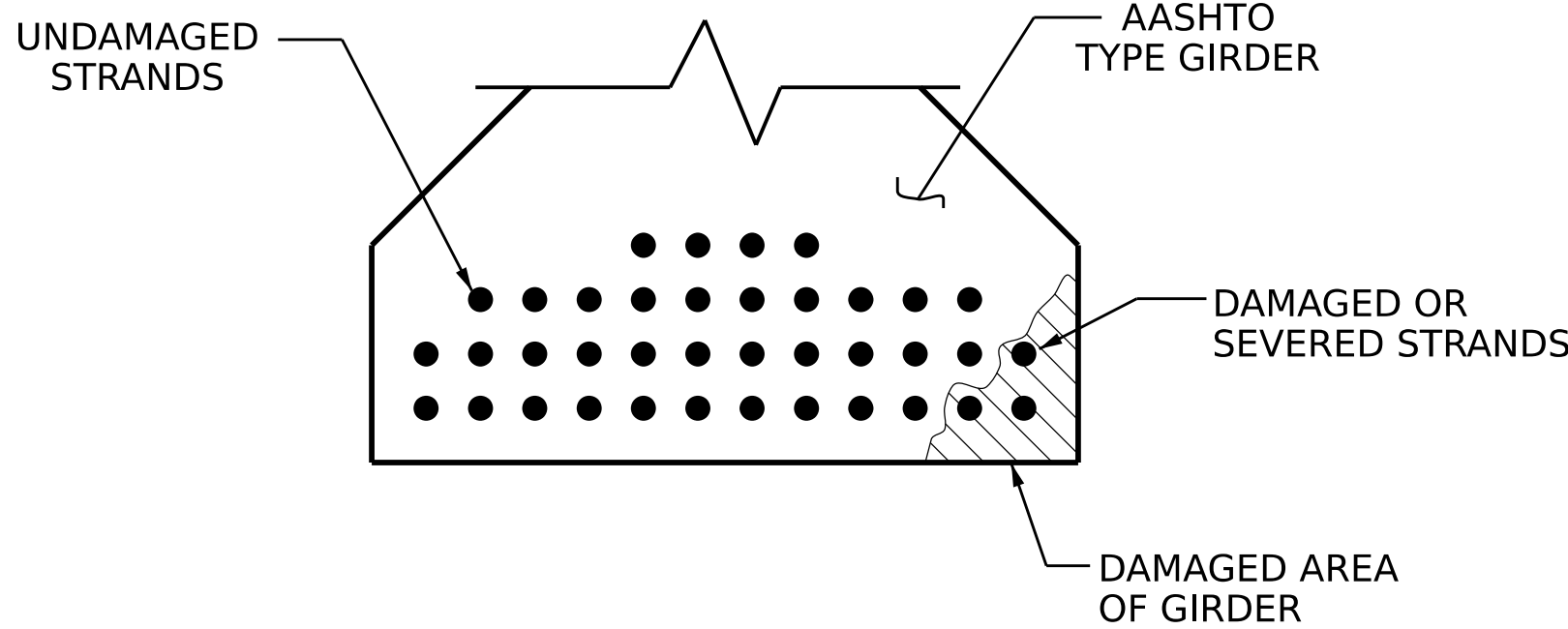
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
FOAM JOINT SEALS FOR PRESERVATION QUANTITIES					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					SD-3
TOTAL SHEETS					112



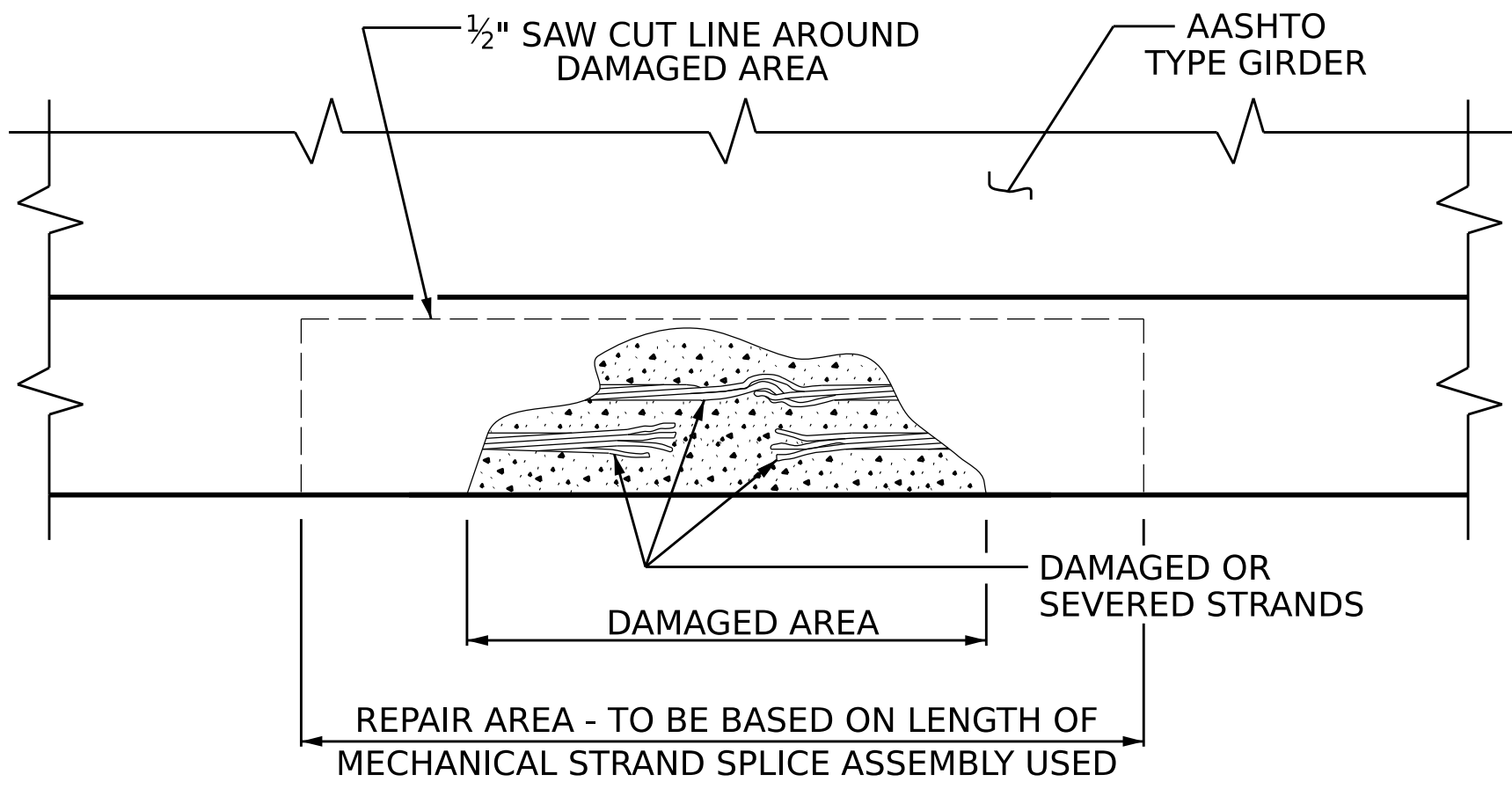
MECHANICAL STRAND SPLICE ASSEMBLY
(ASSEMBLIES MAY VARY DEPENDING ON MANUFACTURER)



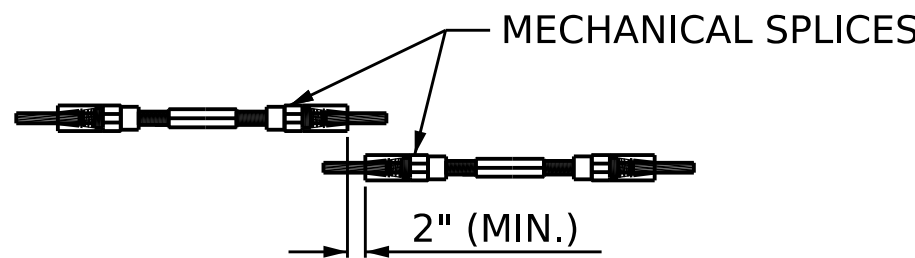
STRAND SPLICE DETAIL



SECTION VIEW OF DAMAGED GIRDER

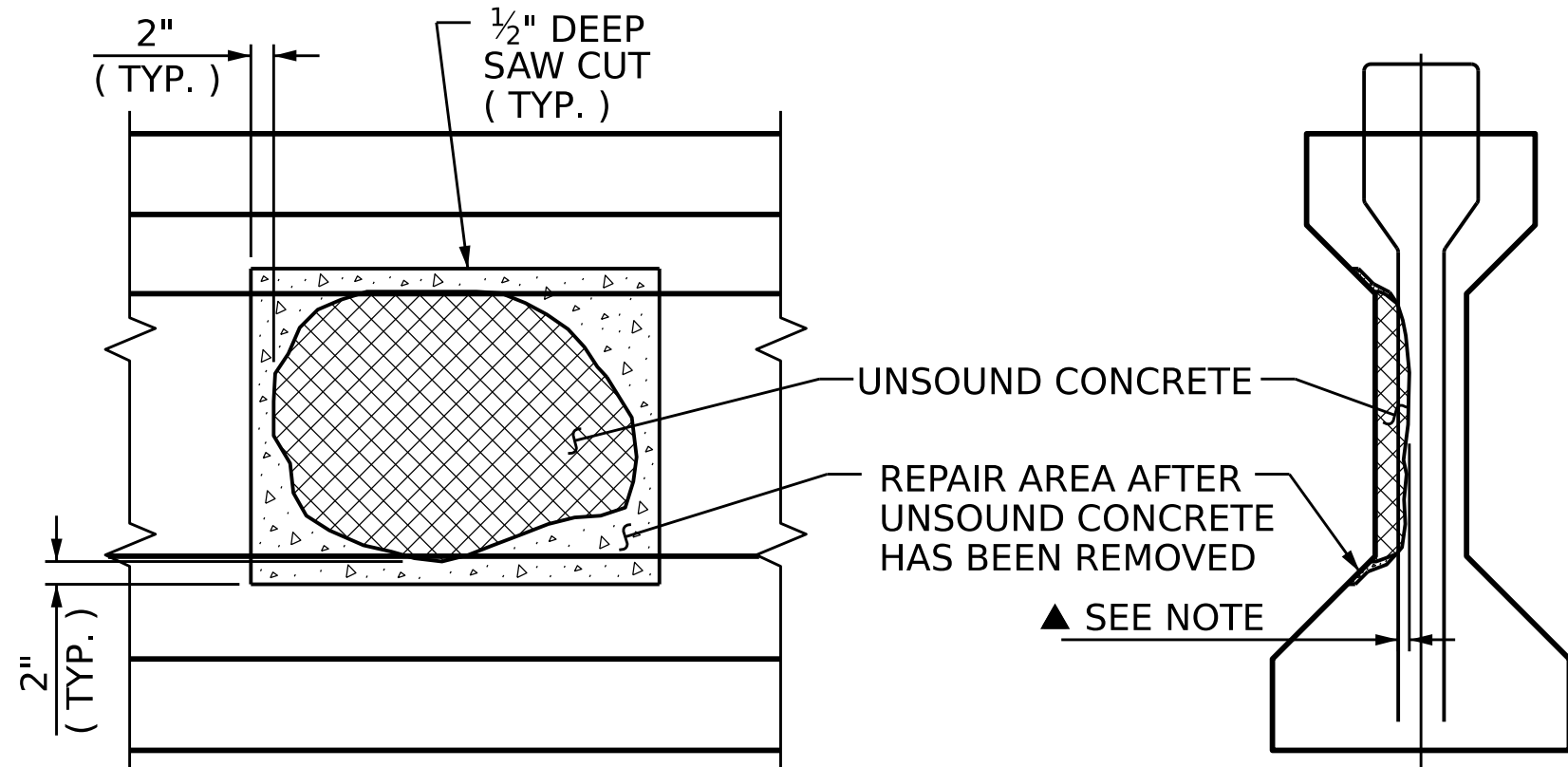


ELEVATION VIEW OF DAMAGED GIRDER



SPLICE OFFSET

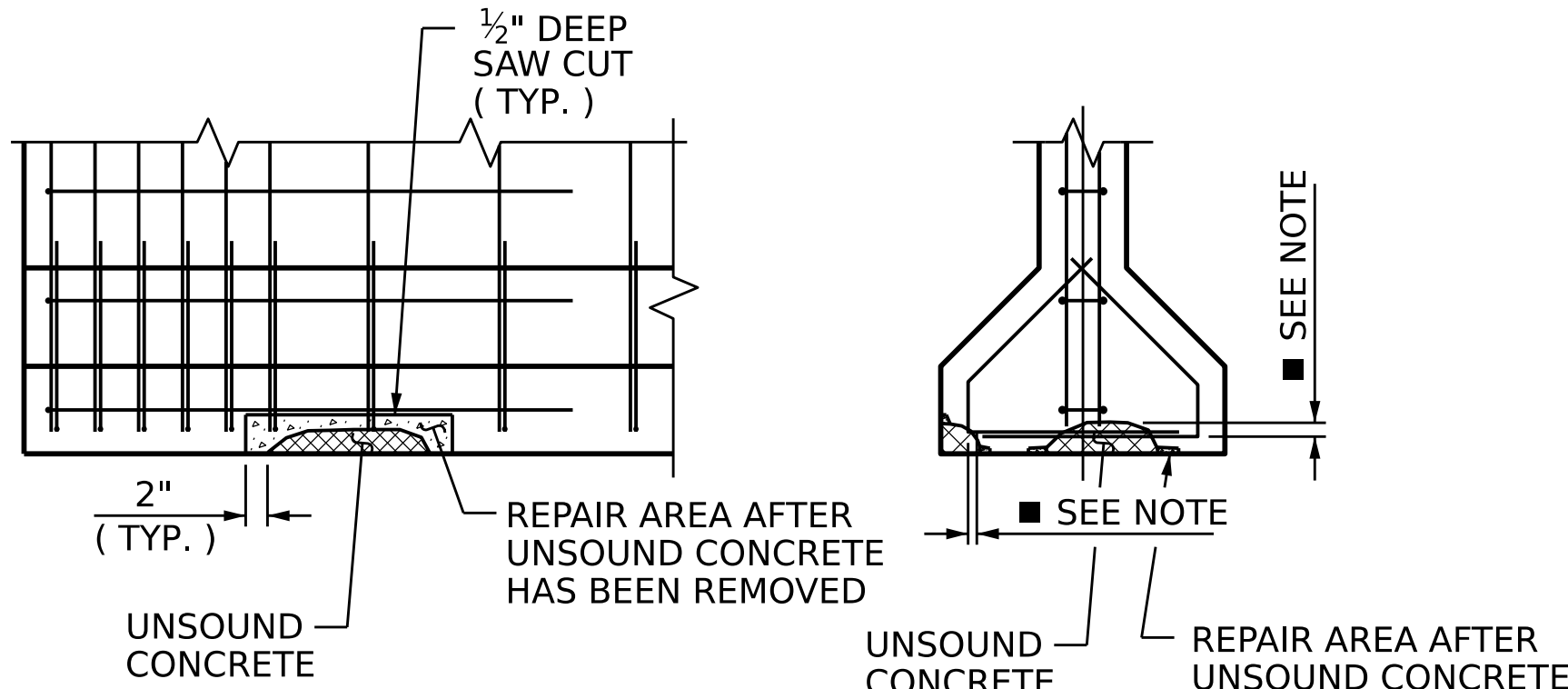
STRAND REPAIR DETAILS



ELEVATION

SECTION

GIRDER WEB REPAIR



ELEVATION

SECTION

GIRDER FLANGE REPAIR

PRESTRESSED GIRDER REPAIR

NOTES:

PREPACKAGED MATERIAL IS REQUIRED.

CONSULT WITH THE ENGINEER TO DETERMINE PRELOADING REQUIREMENTS WHEN REPAIR IS WITHIN THE CENTER REGION OF THE BEAM (0.25L TO 0.75L).

FOR REPAIRS OVER TRAFFIC AND SHALLOW REPAIRS THAT DO NOT ENGAGE REINFORCEMENT, ANCHORED WITH 2" EMBEDMENT. PLACE BOLTS IN A 6" GRID. USE A LATEX OR EPOXY PATCH MATERIAL FOR IMPROVED BOND. USE EXTREME CARE TO NOT DAMAGE STRANDS.

FOR PRESTRESSED CONCRETE GIRDER REPAIRS, SEE SPECIAL PROVISIONS.

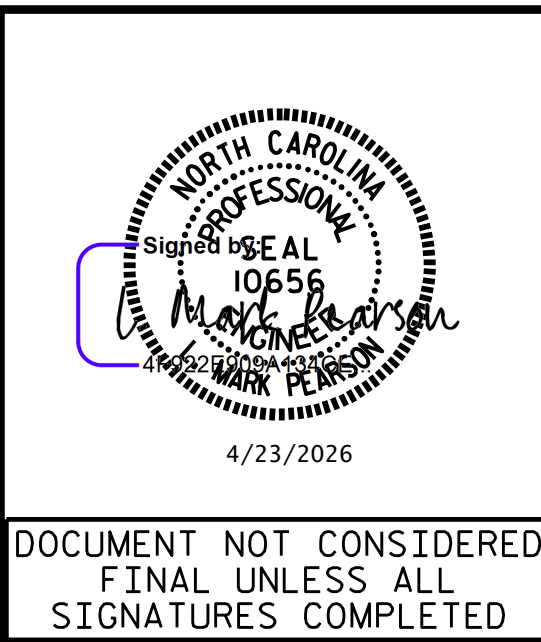
PRESTRESSED GIRDER STRAND REPAIR SEQUENCE:

1. REMOVE LIVE LOAD FROM REPAIR AREA BY EITHER CLOSING BRIDGE TO TRAFFIC OR SHIFTING TRAFFIC AWAY FROM REPAIR AREA.
2. MEASURE OUT THE AREA NEEDED TO HAVE ADEQUATE ROOM TO SPLICE THE BROKEN OR DAMAGED STRAND. IF MULTIPLE STRANDS ARE BROKEN ADJACENT TO ONE ANOTHER THEN THE SPLICES SHALL BE STAGGERED. SEE "SPLICE OFFSET" ABOVE. AFTER YOU HAVE DETERMINED THE REPAIR AREA NEEDED, SAW CUT A MINIMUM OF 1/2" AT RIGHT ANGLES AROUND THE DAMAGED AREA. CHIP OUT REST OF CONCRETE TO A SUFFICIENT REPAIR DEPTH.
3. SPLICE STRANDS USING THE MECHANICAL SPLICE STRAND ASSEMBLY AND TENSION TO REQUIRED FORCE PER THE MANUFACTURER'S GUIDELINES.
4. PATCH REPAIR AREA USING NON SHRINK GROUT. PROFILE OF GIRDER MAY NEED TO BE INCREASED AROUND REPAIR AREA TO PROVIDE PROPER COVER.
5. AFTER GROUT HAS CURED, PLACE TRAFFIC BACK ON BRIDGE OR REPAIRED AREA OF BRIDGE.

PRESTRESSED GIRDER REPAIR SEQUENCE:

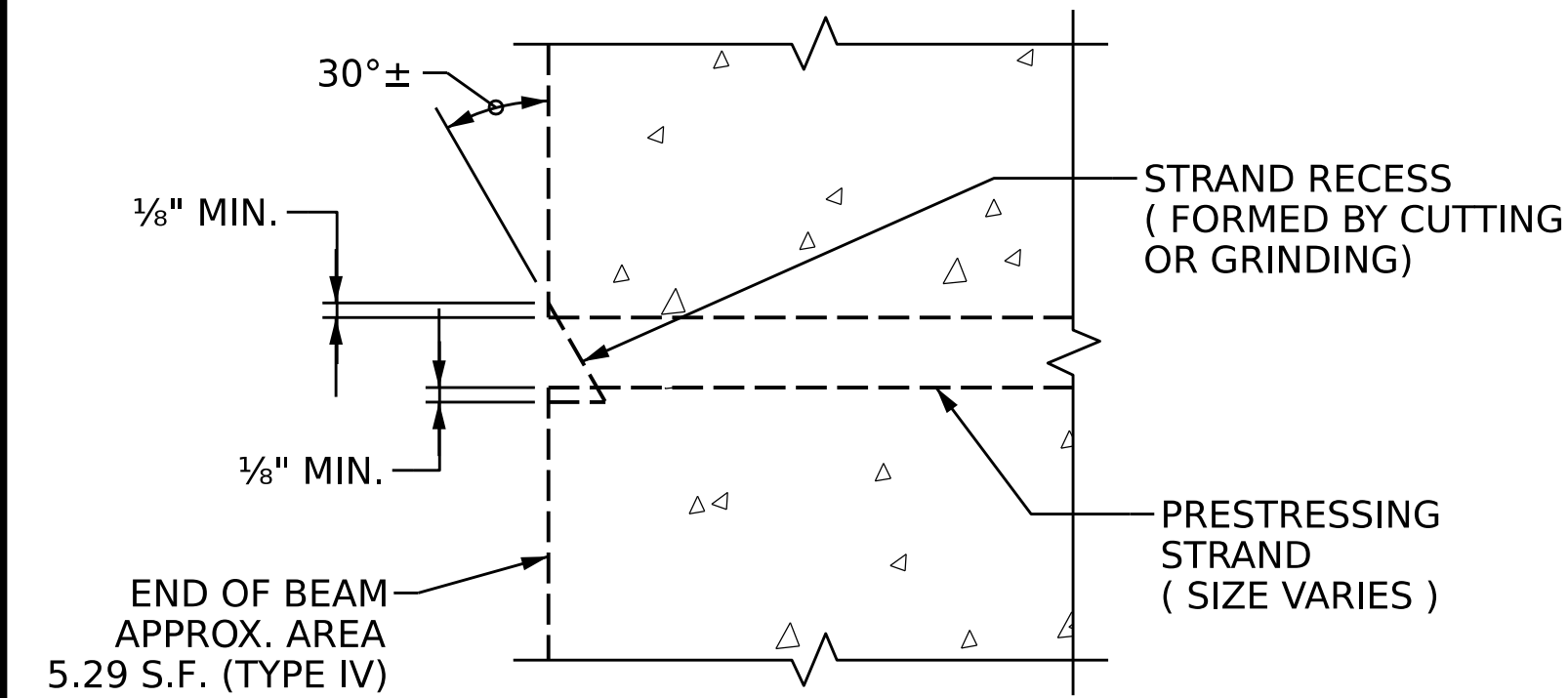
1. SOUND CONCRETE TO DETERMINE EXTENTS OF REPAIR LOCATION.
2. REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL. SAW CUT AROUND REPAIR AREA TO A NOMINAL DEPTH OF 1/2".
3. REMOVE CONCRETE WITHIN SAW CUT AREA TO A MINIMUM OF 1/2" DEPTH. IF CONCRETE IS DAMAGED BEYOND ORIGINAL SAW CUT, A NEW SAW CUT IS REQUIRED.
4. ▲ IF MORE THAN HALF THE CIRCUMFERENCE OF A REINFORCING BAR IS EXPOSED DURING THIS PROCESS, REMOVE ADDITIONAL CONCRETE TO 1" BEHIND THE BAR. THIS DOES NOT APPLY TO PRESTRESSED STRANDS.
5. ■ ALL UNSOUND CONCRETE MUST BE REMOVED, HOWEVER, PRESTRESSED STRANDS SHOULD NOT BE DISTURBED UNLESS ABSOLUTELY NECESSARY. USE EXTREME CARE TO NOT DAMAGE STRANDS.
6. CLEAN ALL EXPOSED REINFORCING BARS AND PRESTRESSING STRANDS IN ACCORDANCE WITH THE "REPAIRS TO PRESTRESSED CONCRETE GIRDERS" SPECIAL PROVISION. FOR BARS WITH MORE THAN 10% SECTION LOSS, SPLICE AND SECURELY TIE SUPPLEMENTAL REINFORCING BARS AS NEEDED. NOTE AND PROVIDE DETAILED DOCUMENTATION, INCLUDING LOCATION AND SEVERITY OF ALL DAMAGE TO PRESTRESSING STRANDS THAT EXCEEDS 10% SECTION LOSS. IF FIVE OR MORE STRANDS ARE DAMAGED, NOTIFY THE ENGINEER PRIOR TO PLACEMENT OF REPAIR MATERIAL.
7. REMOVE ALL LOOSE OR WEAKENED MATERIAL THEN CLEAN THE REPAIR AREA OF DIRT, GREASE, OIL, AND FOREIGN MATTER.
8. PREPARE SURFACE AND PLACE APPROVED REPAIR MATERIAL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. MAXIMUM AGGREGATE SIZE FOR REPAIR MATERIAL SHALL NOT EXCEED 2/3 THE MINIMUM REPAIR DEPTH.

PROJECT NO. 15BPR.131
CARTERET-ONSLOW COUNTIES
BRIDGE NO. 150014, 150045
150049

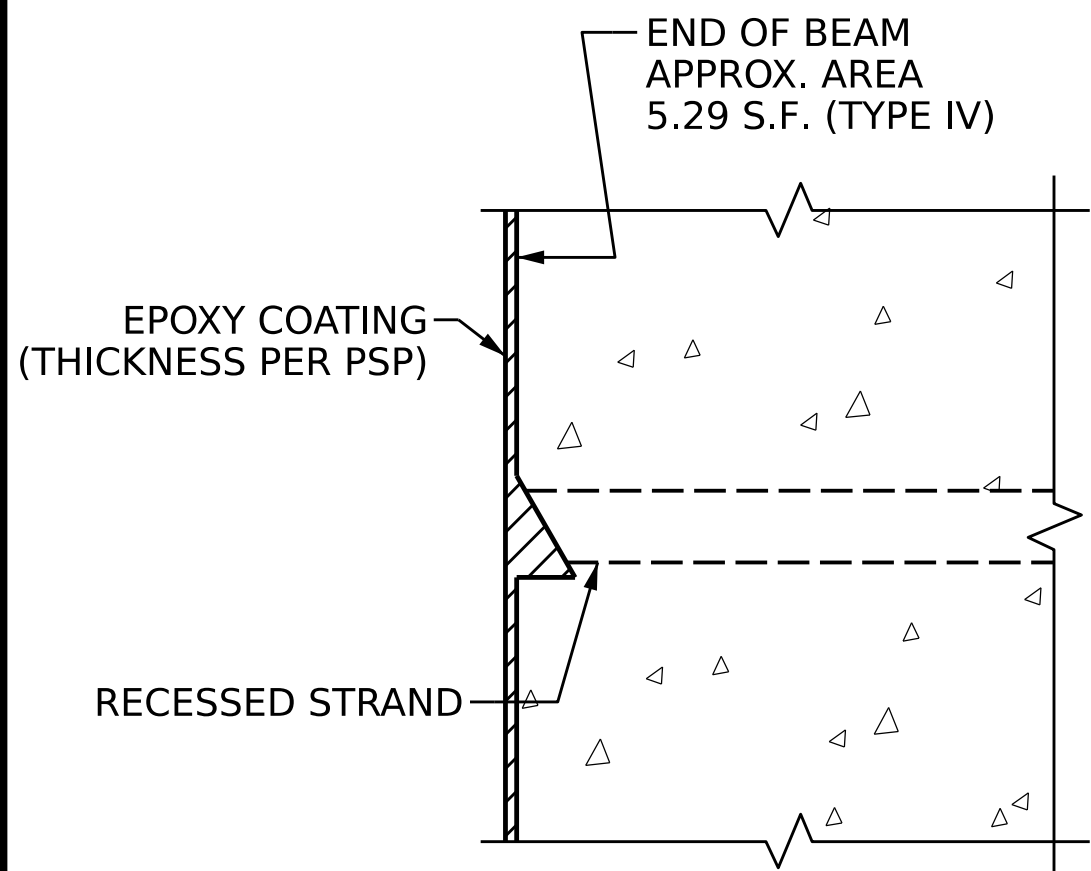


STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO.	
PRESTRESSED CONCRETE GIRDER REPAIR DETAILS						SD-4	
REVISIONS						TOTAL SHEETS	
NO.	BY:	DATE:	NO.	BY:	DATE:	112	
1			3				
2			4				

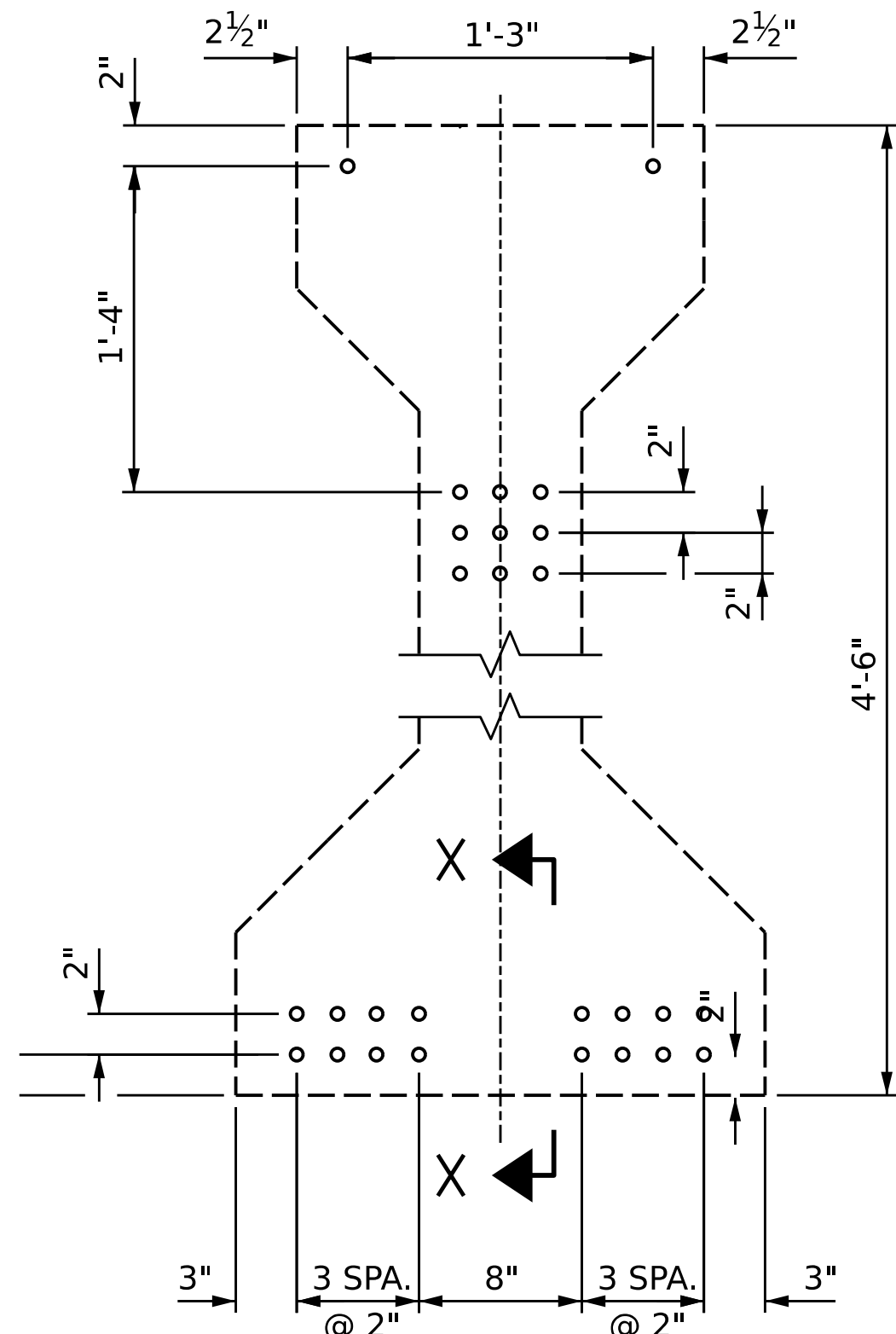
DRAWN BY : B. K. JACKSON DATE : 4/22/2026
CHECKED BY : M. PEARSON DATE : 4/22/2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : 4/22/2026



**TYPICAL STRAND
SECTION X-X
SHOWING CUT
STRAND RECESS LIMITS**

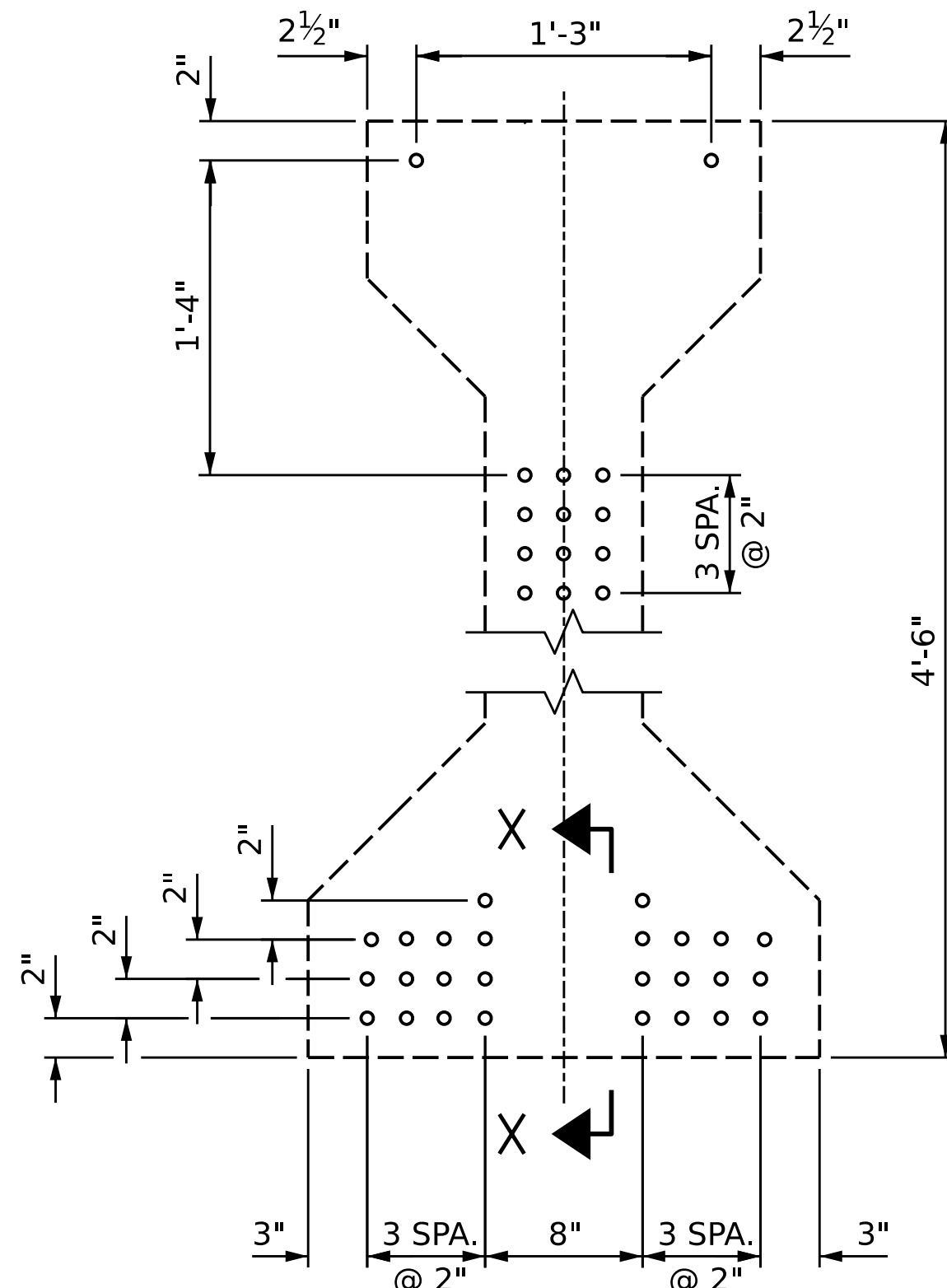


**TYPICAL STRAND
SECTION X-X
AFTER EPOXY
ROTECTIVE COATING**



SPANS 1 AND 2

**STANDARD PATTERN
AT BEAM END (TYPE IV)**
(BRIDGE 150045 N.T.S.)



SPAN 3
(SPANS 4-17 SIMILAR)

NOTES

CLEAN AND COAT THE BEAM ENDS IN ACCORDANCE WITH PROJECT SPECIAL PROVISIONS.

PREPARE BEAM ENDS TO RECEIVE COATING TO A MINIMUM CONCRETE SURFACE PROFILE (CSP) OF CSP 3 PER ICRI GUIDELINES 310.2 CLEAN AND ROUGHEN SURFACES TO MAKE ABSORPTIVE BY MECHANICAL MEANS OR ABRASIVE BLASTING.

UPON COMPLETION OF MECHANICAL/BLASTING SURFACE PREP, WASH THOROUGHLY WITH CLEAN POTABLE WATER AND ALLOW TO DRY. TEST MOISTURE PER PSP PRIOR TO EPOXY APPLICATION.

APPLY TWO LAYERS OF TYPE 4A EPOXY PER SECTION 1081.

ALL BLAST MEDIA AND DEBRIS SHALL BE CONTAINED, REMOVED FROM THE SITE AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

FOR BEAM END EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

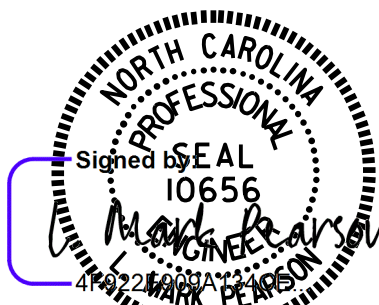
BEAM END EPOXY PROTECTIVE COATING QUANTITIES (BRIDGE 150045)

	PER BENT SF	TOTAL SF
BENTS 1 THRU 17 (10 GIRDER ENDS PER BENT)	53	901

PROJECT NO. 15BPR.131
CARTERET COUNTY
BRIDGE NO. 150045

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BEAM END COATING DETAILS



4/23/2026

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NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO.
SD-5
TOTAL SHEETS
112

DRAWN BY : B. K. JACKSON DATE : APR 2026
CHECKED BY : M. PEARSON DATE : APR 2026
DESIGN ENGINEER OF RECORD: M. PEARSON DATE : APR 2026

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WSP USA Inc.
1001 WADE AVENUE
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RALEIGH, NC 27601
TEL: 919.856.4040
LICENSE NO. F-0165

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	- - - - -	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	- - - - -	SEE PLANS
IMPACT ALLOWANCE	- - - - -	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL		
- AASHTO M270 GRADE 36	- -	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	- -	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	- -	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60	- - -	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	- - - - -	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	- - - - -	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR UNTREATED		
EXTREME FIBER STRESS	- - -	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN		
OF TIMBER	- - - - -	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	- - - - -	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N.C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED ¾" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1½" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH ¼" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A ¼" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

CONCRETE COVER:

UNLESS OTHERWISE NOTED ON THE PLANS OR SPECIAL PROVISIONS, CONCRETE COVER SHALL MATCH THE TABLE BELOW.

MINIMUM CONCRETE COVER TABLE		
	COVER	
	ALL OTHER SITES	CORROSIVE SITES
BRIDGE DECK		
TO TOP OF SLAB	2½" (65MM)	2½" (65MM)
TO BOTTOM OF SLAB	1¼" (32MM)	1¼" (32MM)*
FOOTING AND PILE CAPS		
TO TOP FACE	2" (50MM)	4" (100 MM)
TO ALL OTHER FACES	3" (75MM)	4" (100 MM)
BENT CAPS		
TO TOP OF CAP	3" (75MM)	4" (100MM)
TO ALL OTHER FACES	2" (50MM)	3" (75MM) *
COLUMNS	2" (50MM)	3" (75MM)
DRILLED PIERS	5" (125MM)	6" (150MM)
CULVERTS		
TO BOTTOM SLAB AND FOOTINGS	3" (75MM)	4" (100MM)
TO ALL OTHER FACES	2" (50MM)	3" (75MM)
APPROACH SLABS	2½" (65MM)	2½" (65MM)

* WHEN USING REMOVABLE FORMS, COVER SHALL BE INCREASED TO 2½"

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS, SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSINOS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATED, AND ACTUAL BEAM CAMBERS. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE ⅞" ∅ SHEAR STUDS FOR THE ¾" ∅ STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 -⅞" ∅ STUDS FOR 4 -¾" ∅ STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF ⅞" ∅ STUDS ALONG THE BEAM AS SHOWN FOR ¾" ∅ STUDS BASED ON THE RATIO OF 3 - ⅞" ∅ STUDS FOR 4 - ¾" ∅ STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATESS ARE AT LEAST ⅝" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITBALE MEANS TO A RADIUS OF APPROXIMATELY ⅓" INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

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