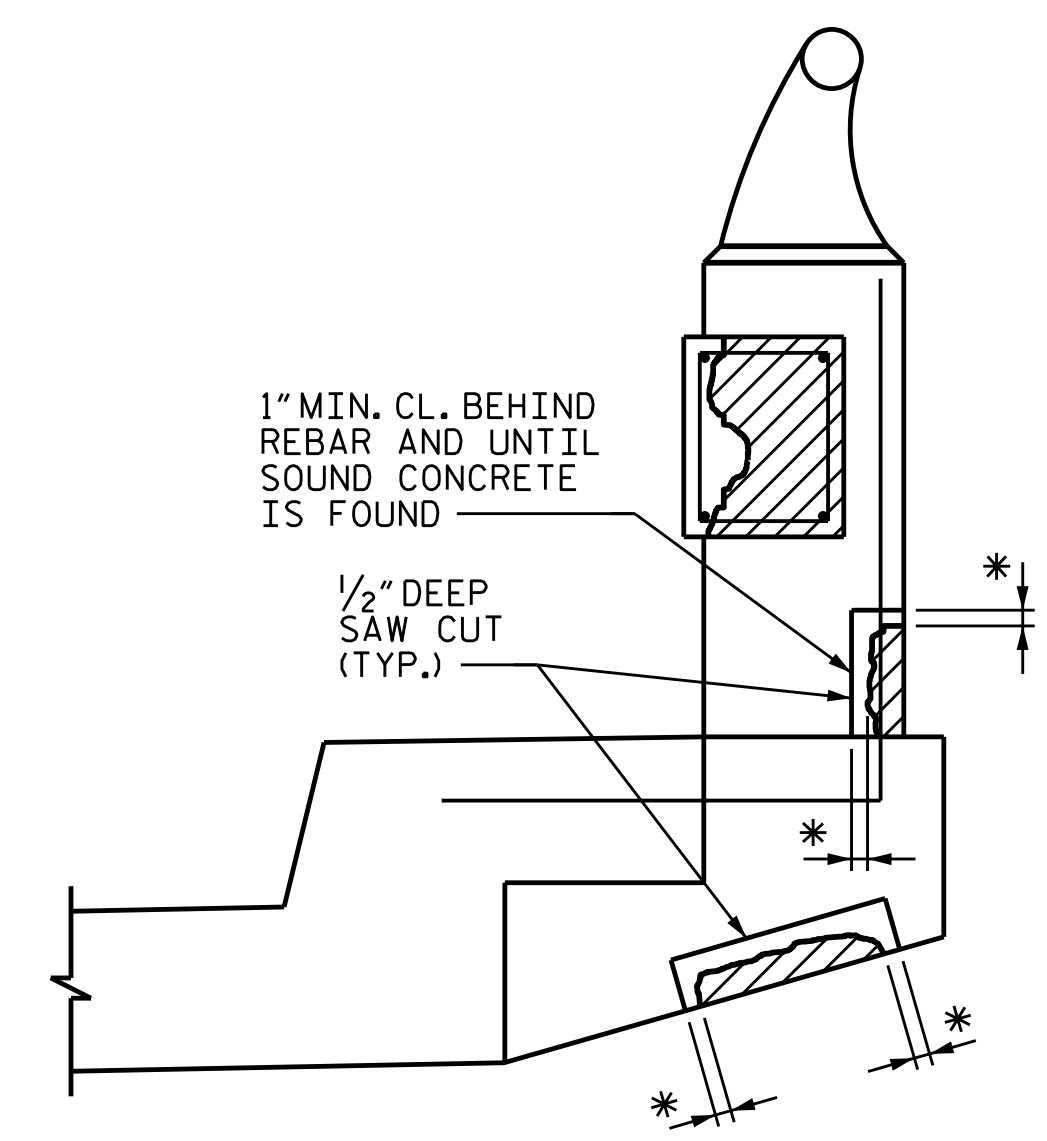
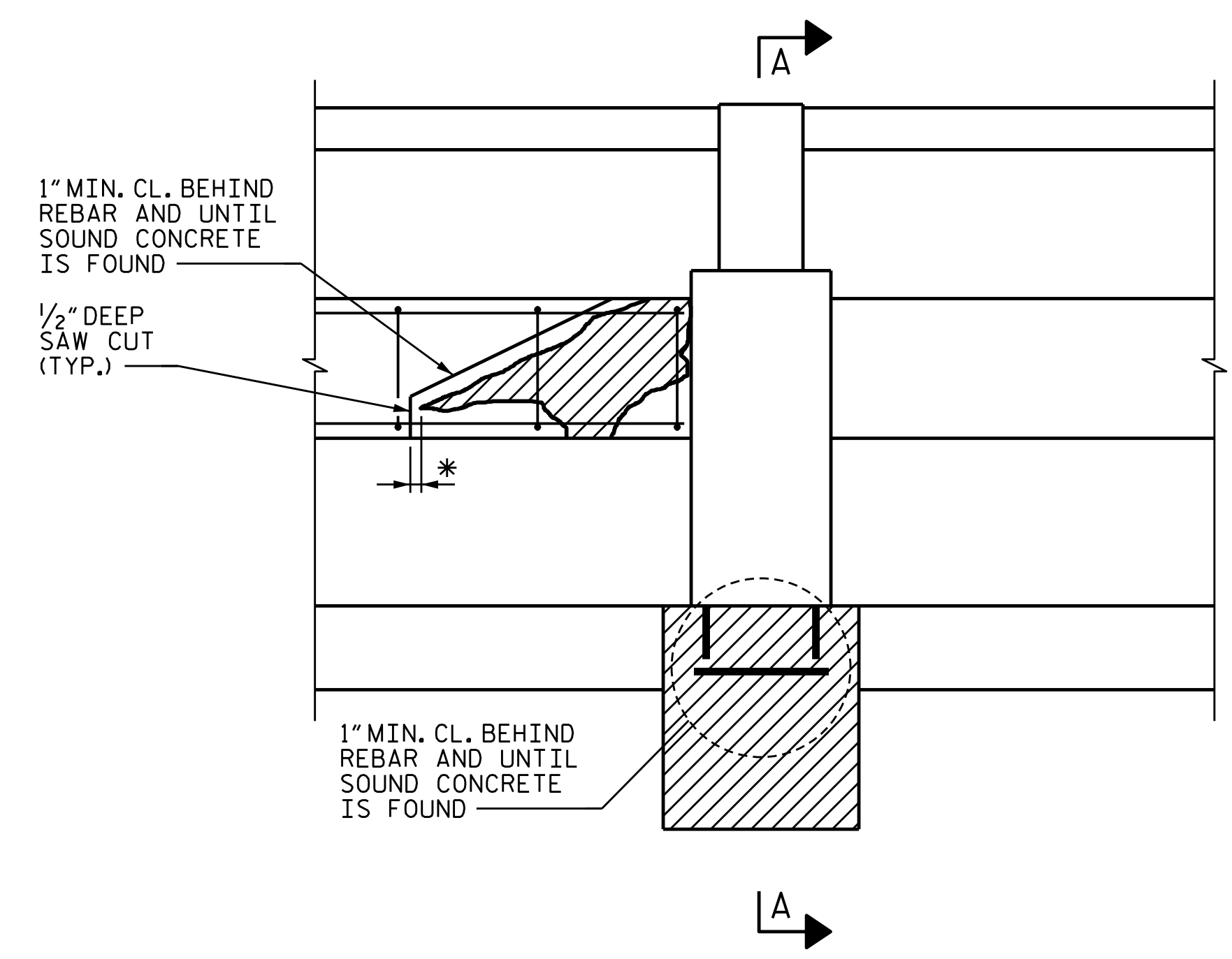


NOTES

THE CONTRACTOR SHALL PROVIDE ADEQUATE ANCHORAGE FOR CONCRETE REPAIRS. IN THE ABSENCE OF EXISTING REINFORCEMENT: FOR REMOVAL DEPTHS UP TO 3", USE CONCRETE SCREW ANCHORS; FOR REMOVAL DEPTHS GREATER THAN 3", USE DRILLED-IN ADHESIVE DOWELS OR ANCHORS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER'S APPROVAL PRIOR TO ORDERING MATERIALS. ALL MATERIALS SHALL BE CONSIDERED INCIDENTAL TO THE WORK FOR CONCRETE REPAIRS AND AT NO ADDITIONAL COST TO THE DEPARTMENT.



BACK FACE ELEVATION

SECTION A-A

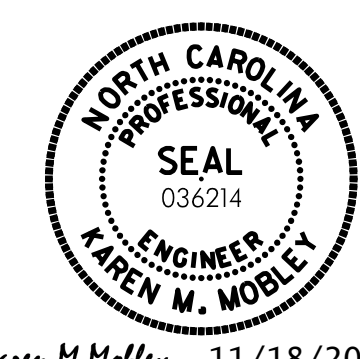
 CONCRETE REPAIR (FORM AND POUR)

NOTE:
EXISTING REBAR TO REMAIN IN PLACE.
CLEAN AND REPAIR AS NECESSARY.

RAIL REPAIR DETAILS

* REMOVE CONCRETE UNTIL SOUND CONCRETE IS FOUND (2" MIN. CL.)

PROJECT NO. 15BPR.38
ANSON COUNTY
BRIDGE NO: 030078



Karen M Mobley 11/18/2021

STATE OF NORTH CAROLINA
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RALEIGH

RAIL REPAIR DETAILS

REVISIONS						SHEET NO. S2-66 TOTAL SHEETS 97
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



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DWG BY:	D. CARTER	DATE :	01/19
CHK BY:	K. MOBLEY	DATE :	01/19

JOINT REPAIR QUANTITY TABLE		
	ESTIMATED	ACTUAL
FOAM JOINT SEALS FOR PRESERVATION	863.2 LIN. FT.	

NOTES

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

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN THE DETAILS BY MORE THAN 1/4", NOTIFY THE ENGINEER.

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

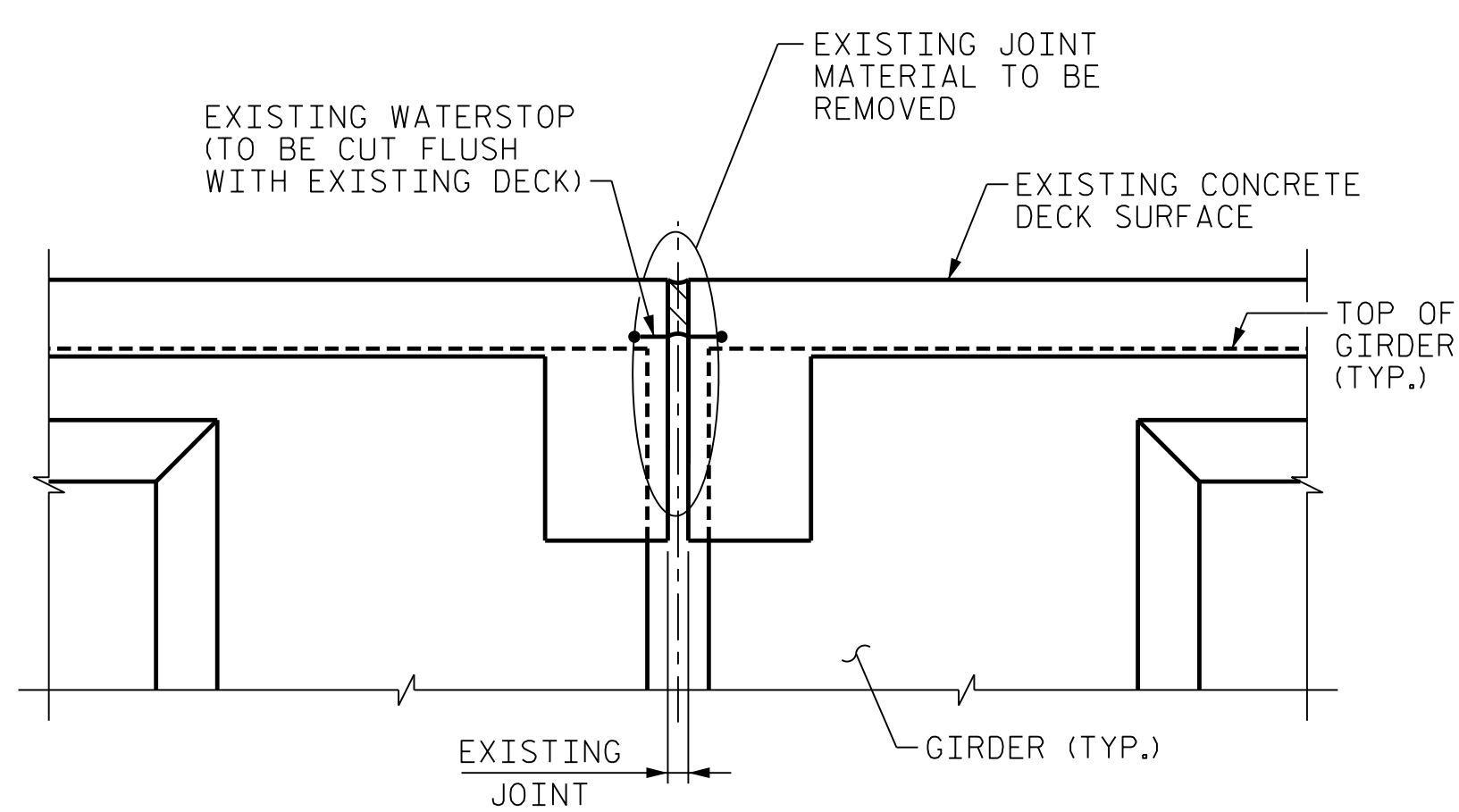
FOAM JOINTS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.

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.

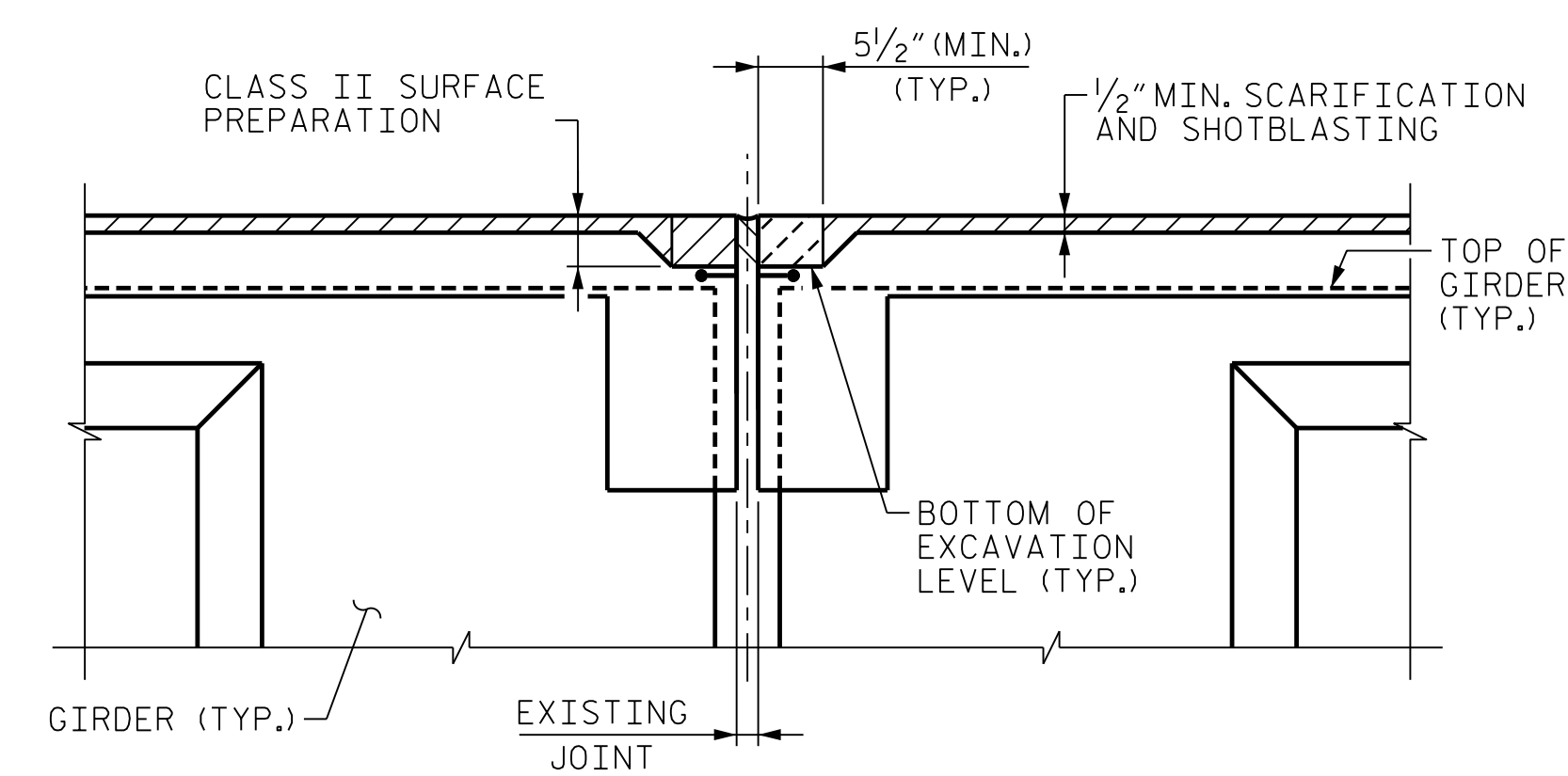
THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.

THE INSTALLED FOAM JOINTS SHALL BE WATER TIGHT.

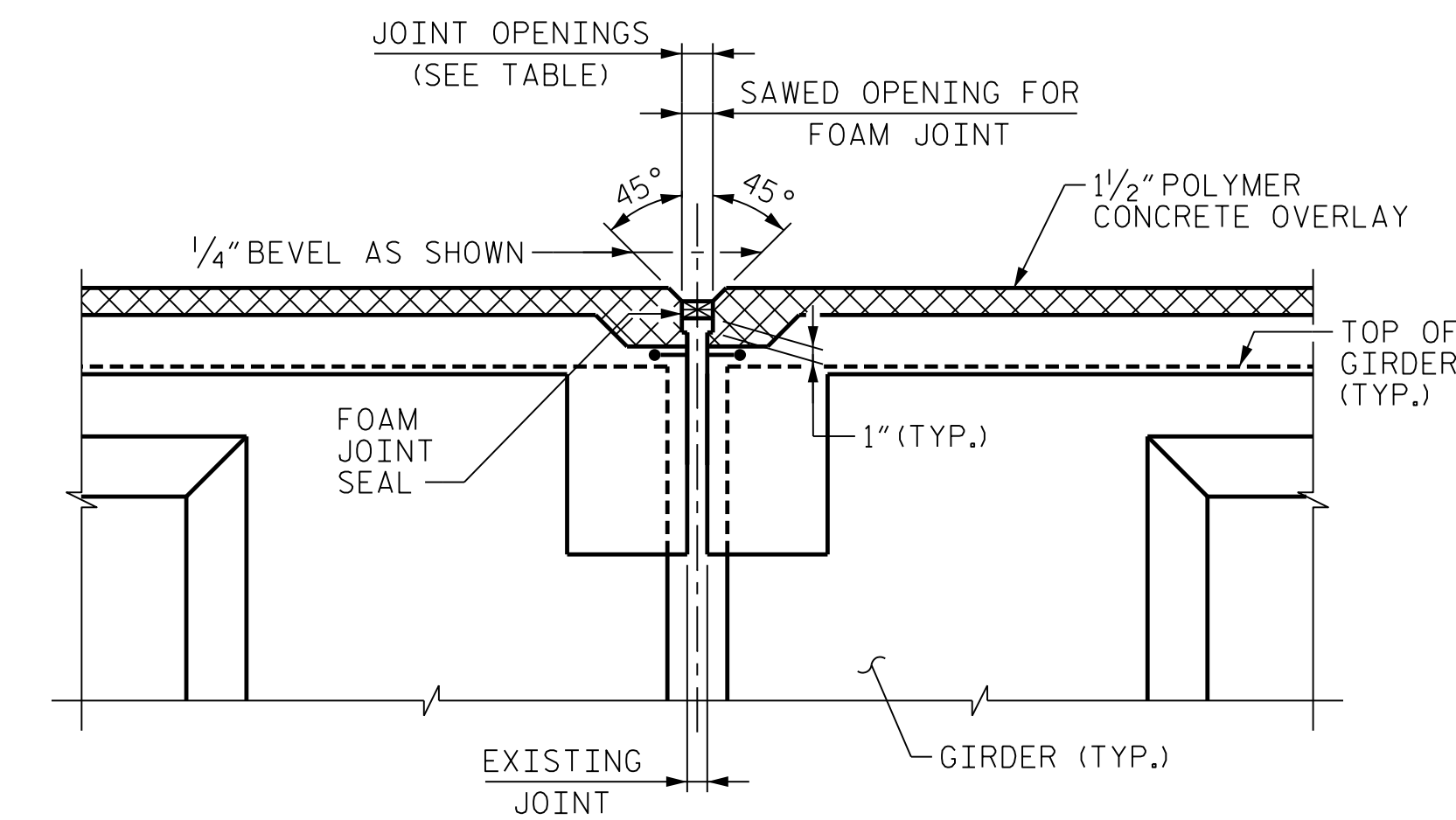
FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.



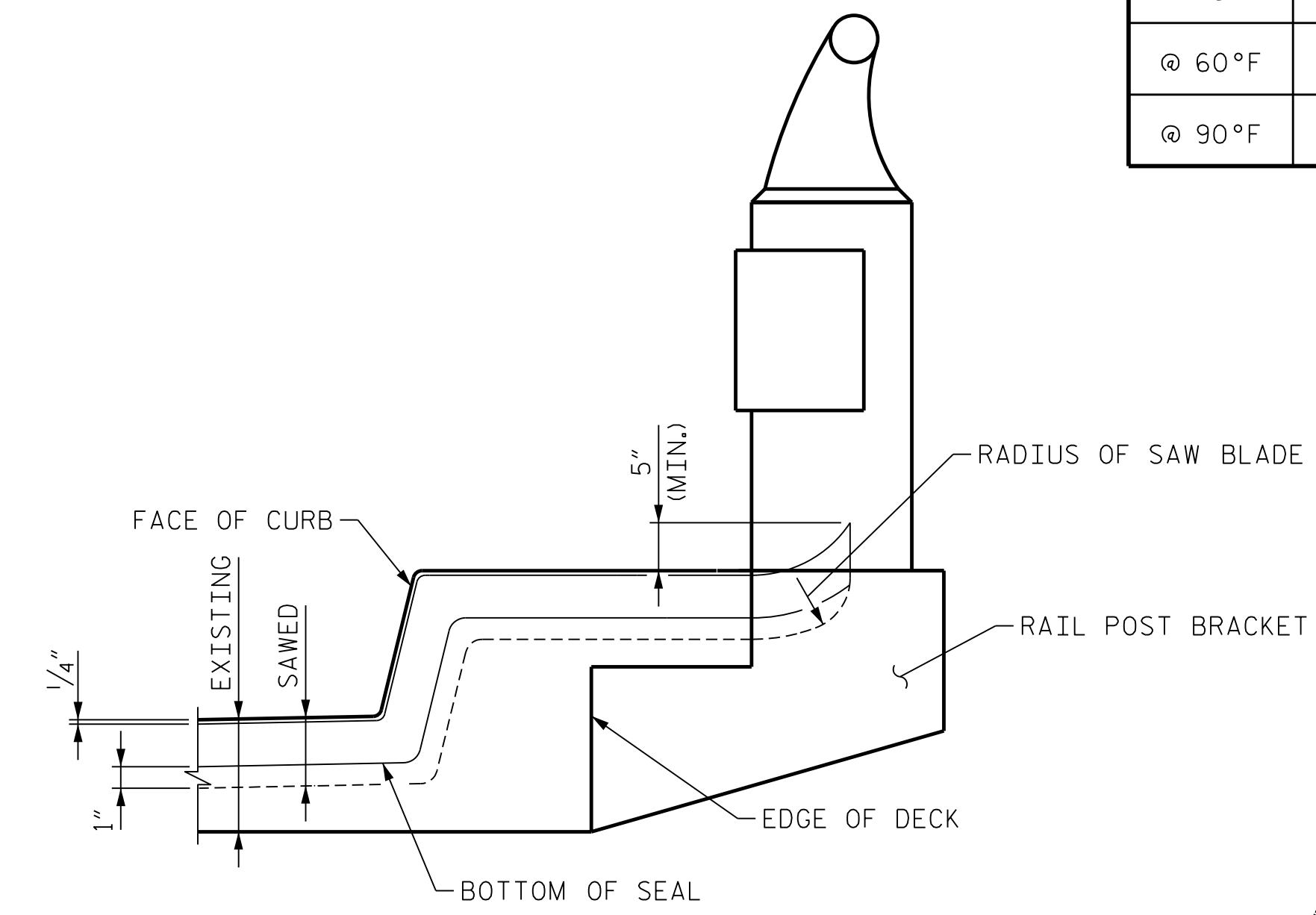
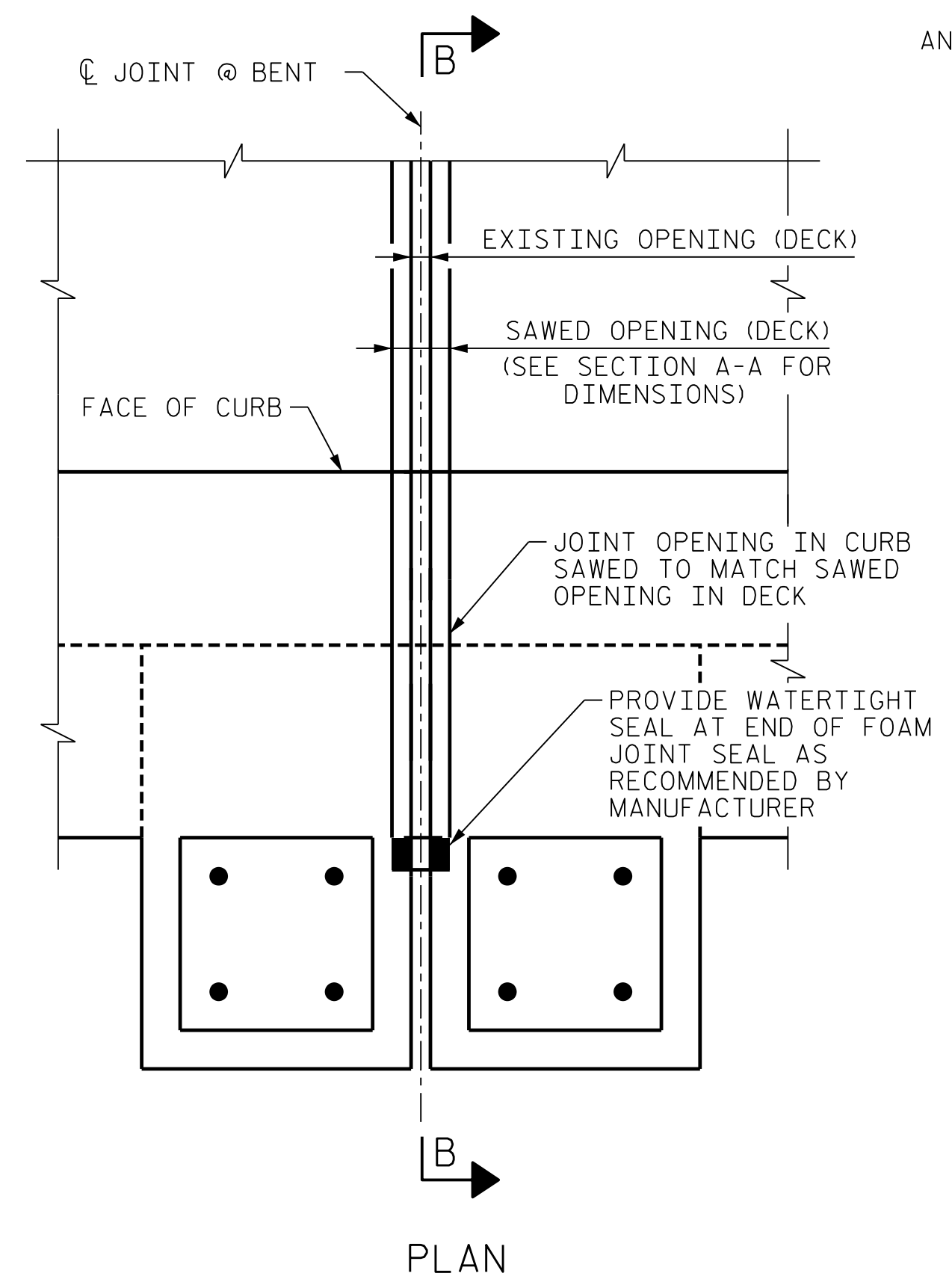
SECTION A-A
(ASSUMED EXISTING JOINT)



SECTION A-A
(JOINT AFTER 1/2" SCARIFICATION AND CLASS II SURFACE PREPARATION)



SECTION A-A
(PROPOSED JOINT)



SECTION B-B
FOAM JOINT SEAL SHALL BE FACTORY FORMED OR CUT, HEAT WELDED AND TURNED UP PARALLEL TO FACE OF CURB.

	BENTS 1-11, 23-25	BENTS 12 AND 22	BENTS 13-21	BENT 26
@ 45°F	1 1/16"	1 5/8"	1 5/8"	1 5/8"
@ 60°F	1 1/16"	1 1/16"	1 1/16"	1 1/16"
@ 90°F	1 1/16"	1 1/16"	1 3/8"	1 5/16"

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078



Karen M Mobley 11/18/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

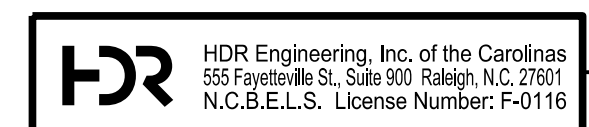
FOAM JOINT DETAILS

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

SHEET NO. S2-67
 TOTAL SHEETS 97

JOINT SEAL DETAILS

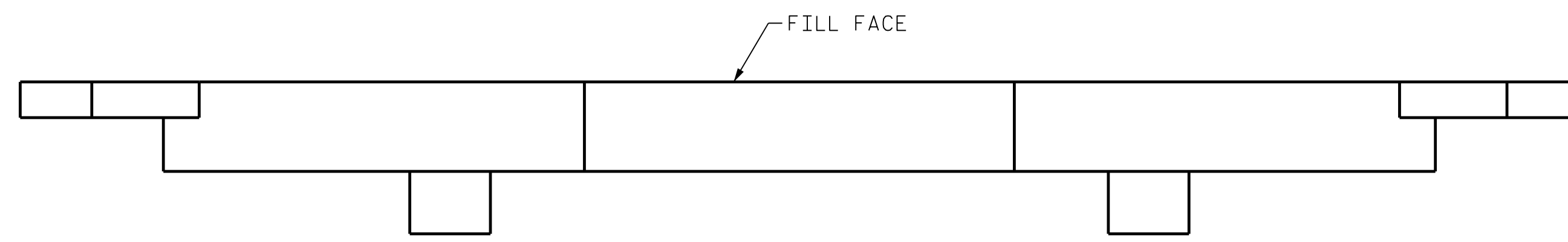
DWG BY: M. SELLS DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



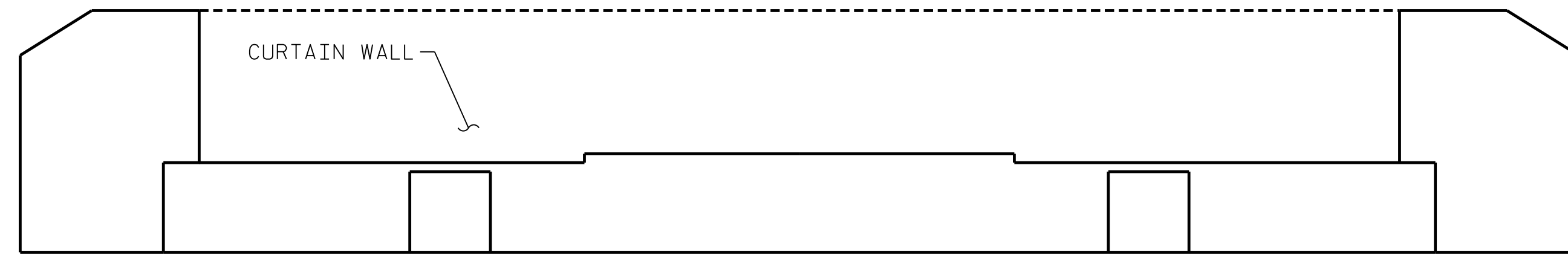
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PLAN



ELEVATION

AS-BUILT REPAIR QUANTITY TABLE

END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
CURTAIN WALL		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
CAP		53.6		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

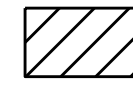
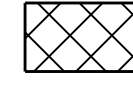

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIR AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

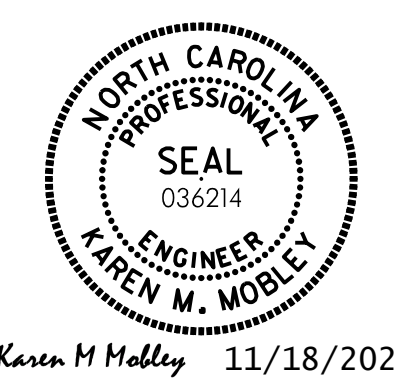
CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH APPROVAL OF THE ENGINEER.

EPOXY COATING QUANTITIES INCLUDE TOP OF PILE CAPS.

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
BRIDGE NO: 030078

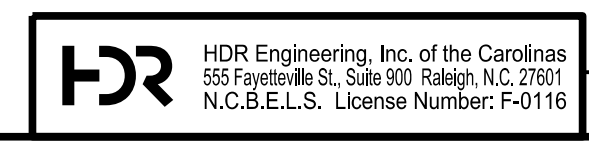
SHEET 1 OF 28



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

END BENT 1

DWG BY: <u>D. CURTIS</u>	DATE: <u>01/19</u>
CHK BY: <u>K. MOBLEY</u>	DATE: <u>01/19</u>



REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
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2			4		

SHEET NO. <u>S2-68</u>
TOTAL SHEETS <u>97</u>

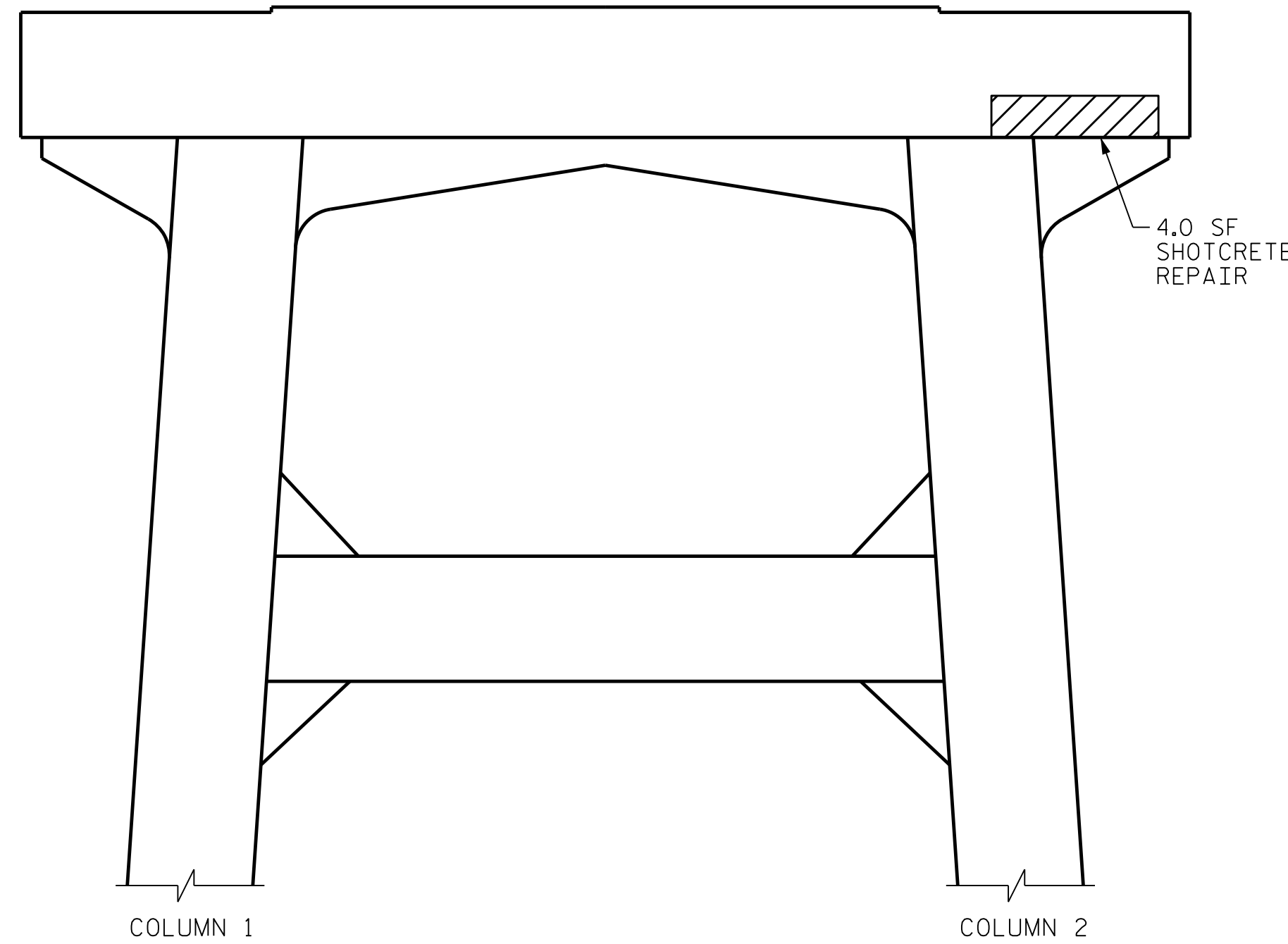
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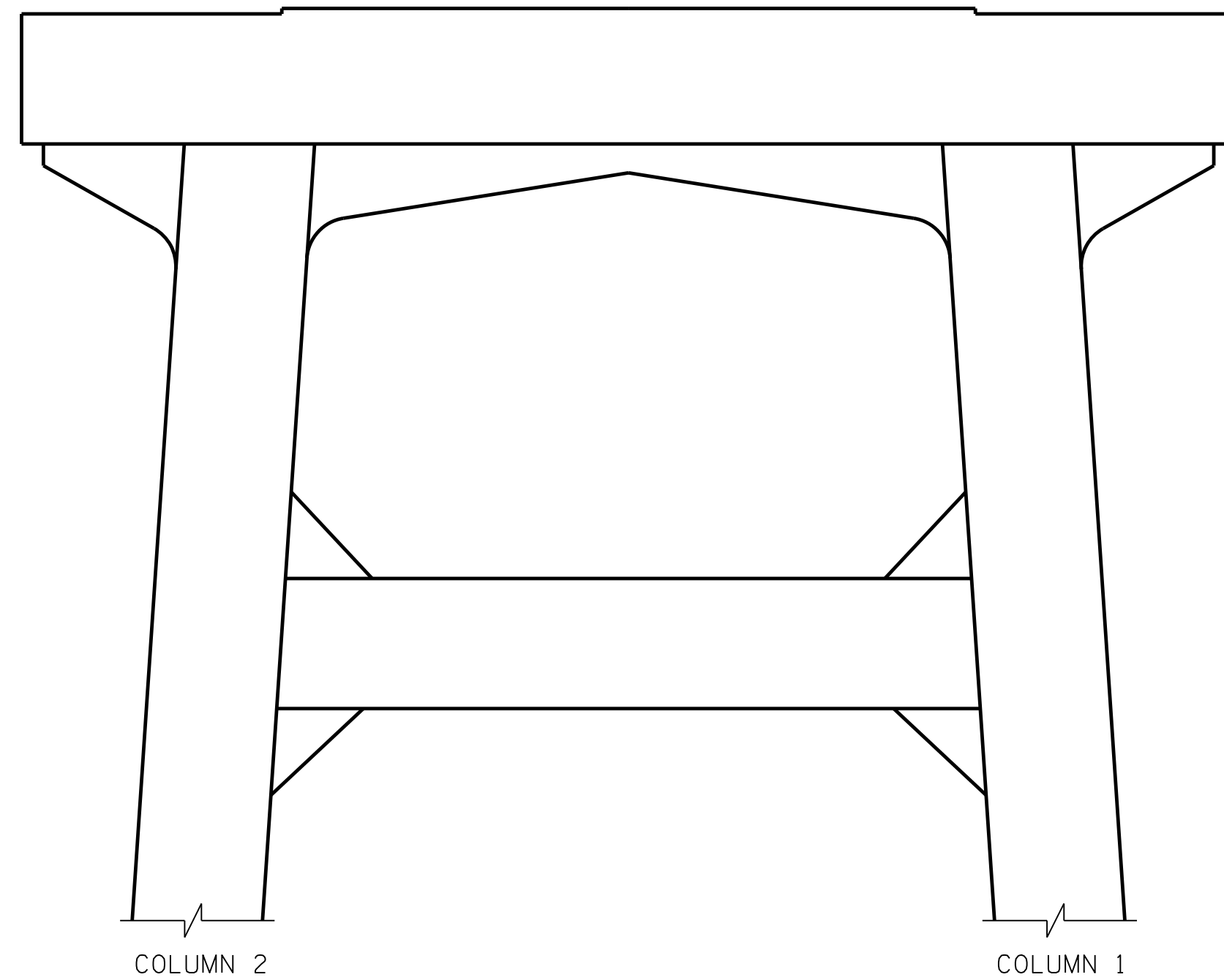


SPAN B
SPAN A

TOP OF CAP



ELEVATION (SPAN A FACE)



ELEVATION (SPAN B FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	4.0	0.8		
COLUMN AND STRUT	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	75.9			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIR AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 2 OF 28



Karen M. Mobley 11/18/2021

STATE OF NORTH CAROLINA
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RALEIGH

BENT 1

REVISIONS						SHEET NO. S2-69 TOTAL SHEETS 97
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

DWG BY: D. CURTIS DATE : 01/19
 CHK BY: K. MOBLEY DATE : 01/19



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AS-BUILT REPAIR QUANTITY TABLE

BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	3.0	0.8		
COLUMN AND STRUT	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	75.9			

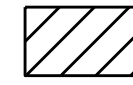
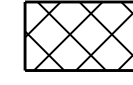

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIR AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

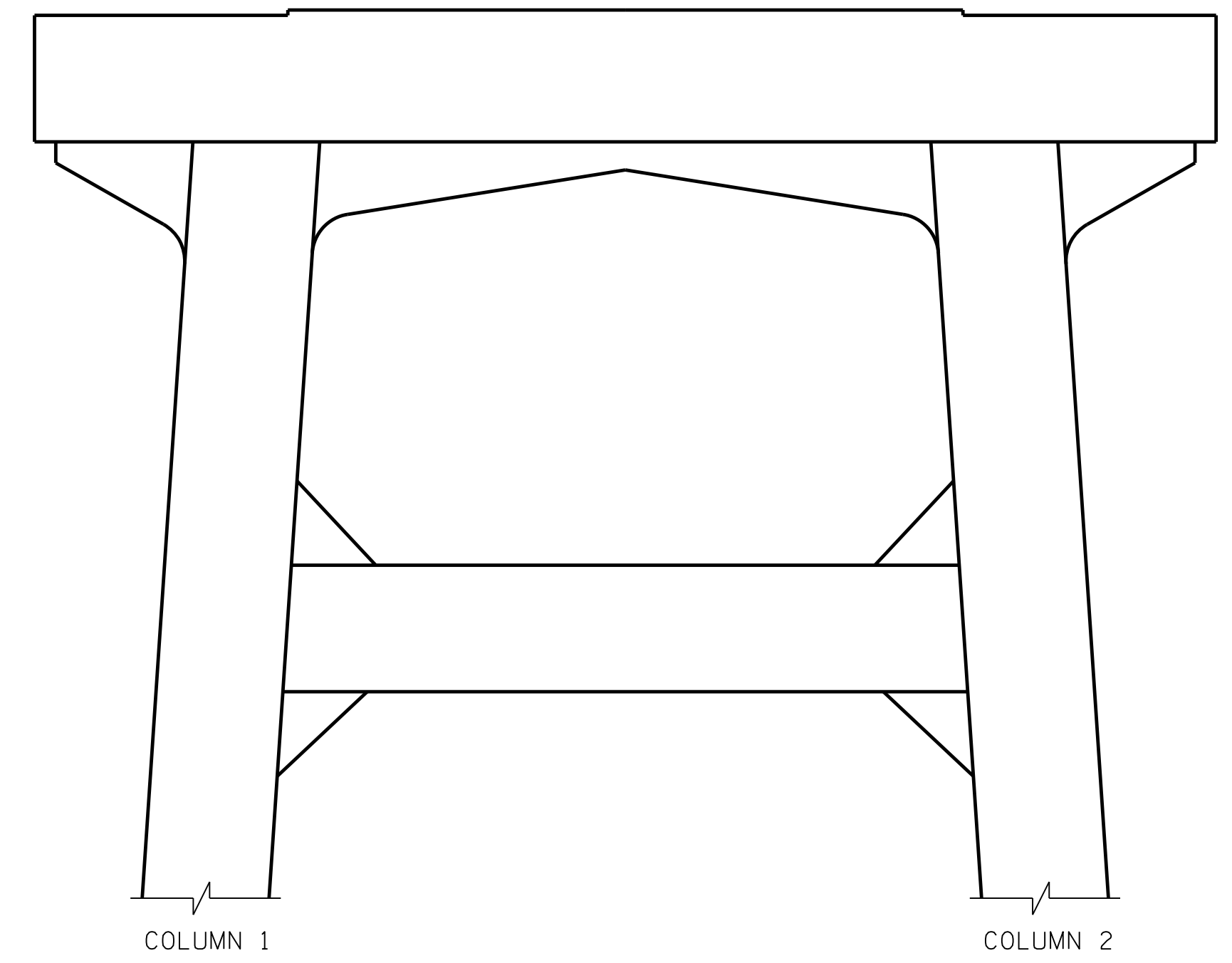
CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH APPROVAL OF THE ENGINEER.

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION



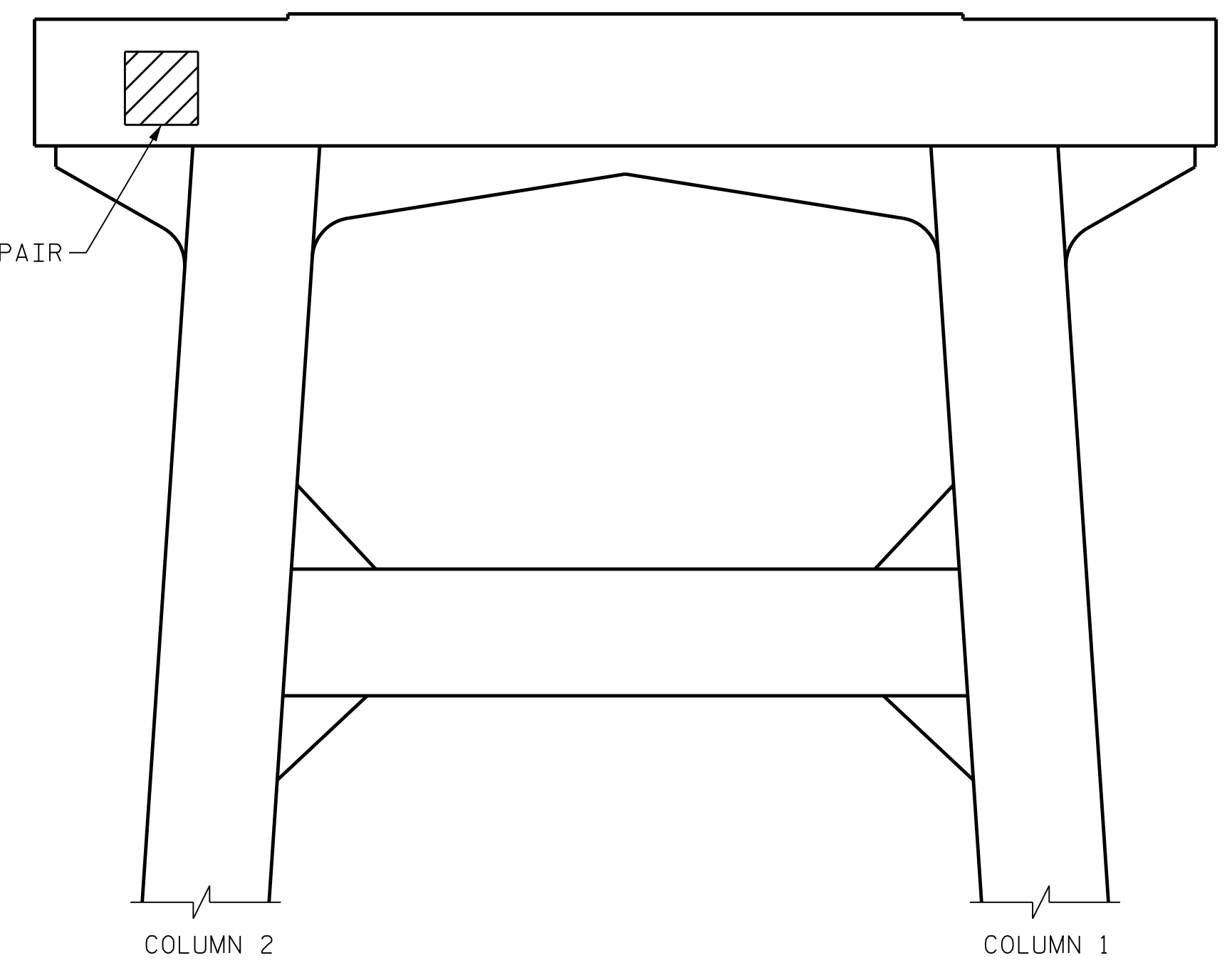
SPAN C
SPAN B

TOP OF CAP



ELEVATION (SPAN B FACE)

3.0 SF SHOTCRETE REPAIR



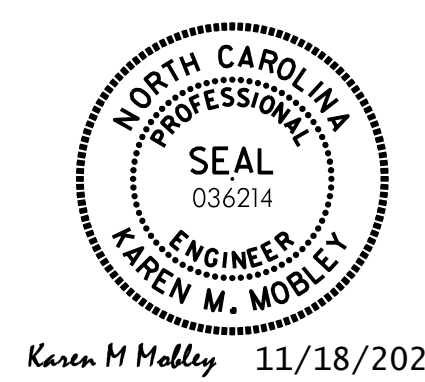
ELEVATION (SPAN C FACE)

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

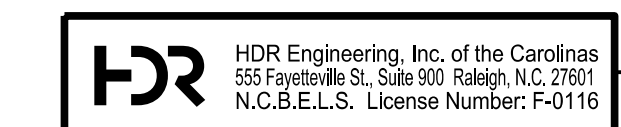
SHEET 3 OF 28

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 2



REVISIONS						SHEET NO. S2-70 TOTAL SHEETS 97
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



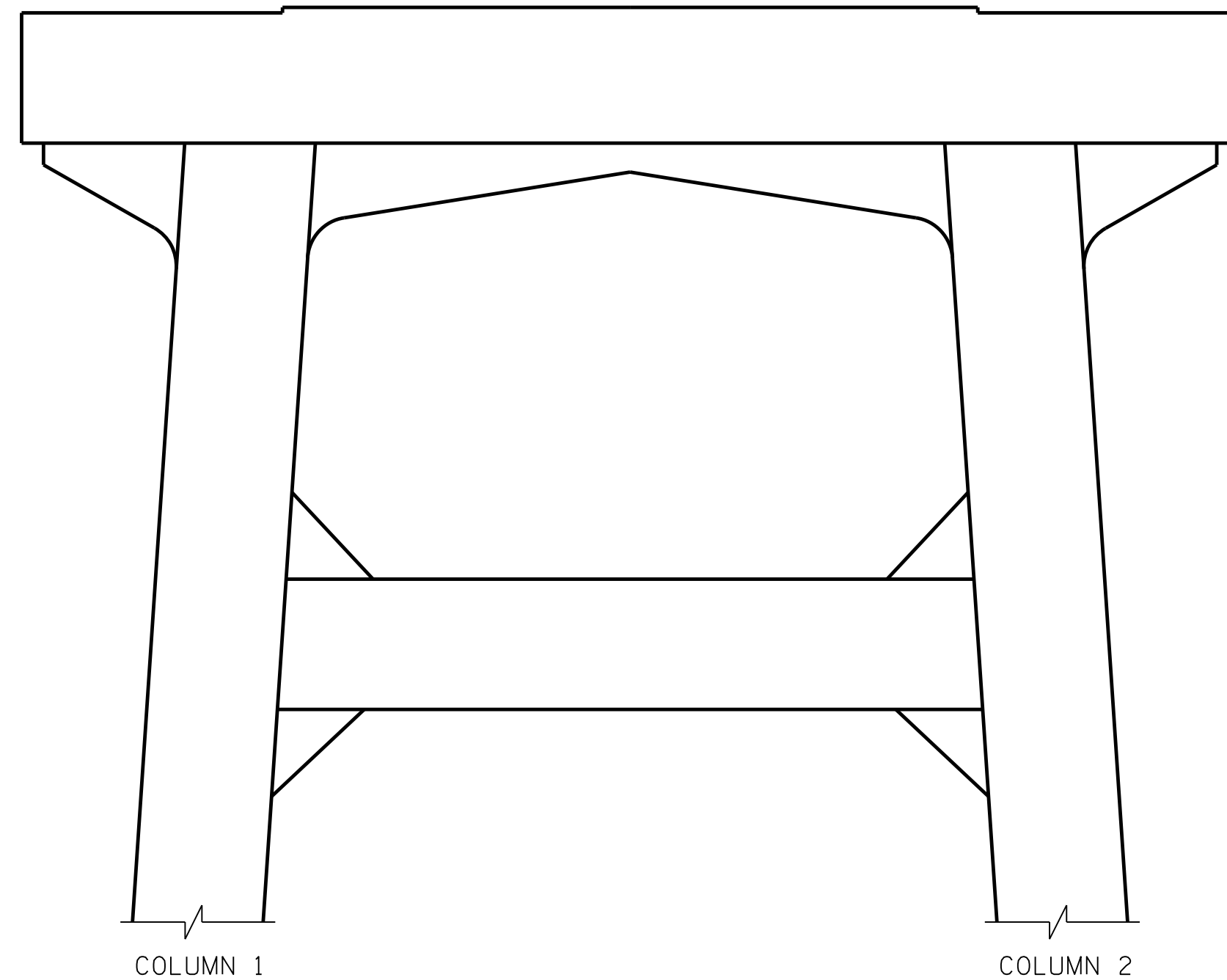
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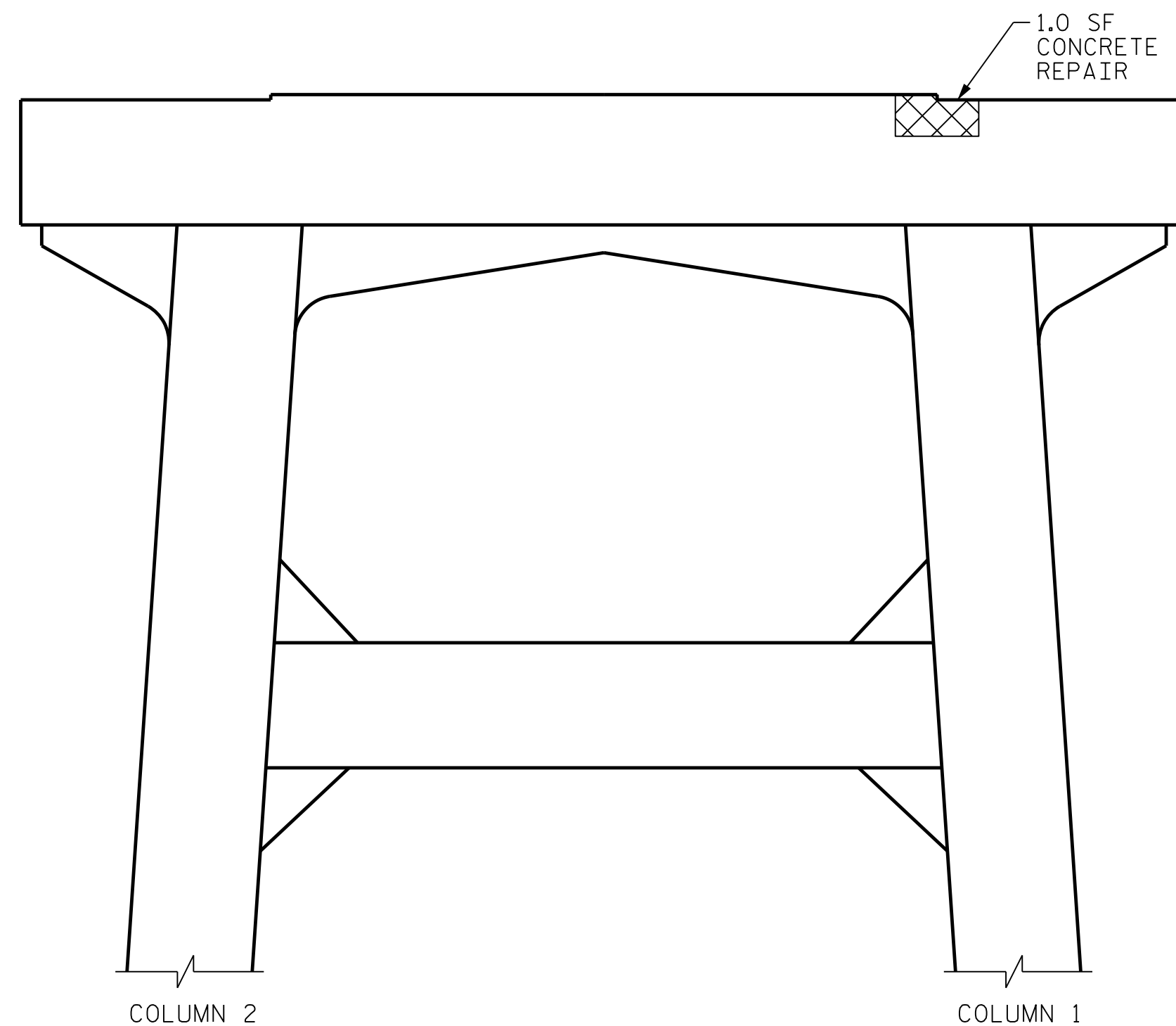
DWG BY: <u>D. CURTIS</u>	DATE: <u>01/19</u>
CHK BY: <u>K. MOBLEY</u>	DATE: <u>01/19</u>



TOP OF CAP



ELEVATION (SPAN C FACE)



ELEVATION (SPAN D FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 3	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	2.0	0.3		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	75.9			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIR AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 4 OF 28

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 3



Karen M. Mobley 11/18/2021

REVISIONS						SHEET NO. S2-71 TOTAL SHEETS 97
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



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DWG BY: D. CURTIS	DATE: 01/19
CHK BY: K. MOBLEY	DATE: 01/19

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AS-BUILT REPAIR QUANTITY TABLE

BENT 4	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	2.0	0.1		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	75.9			

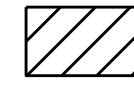
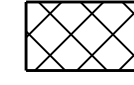

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

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CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

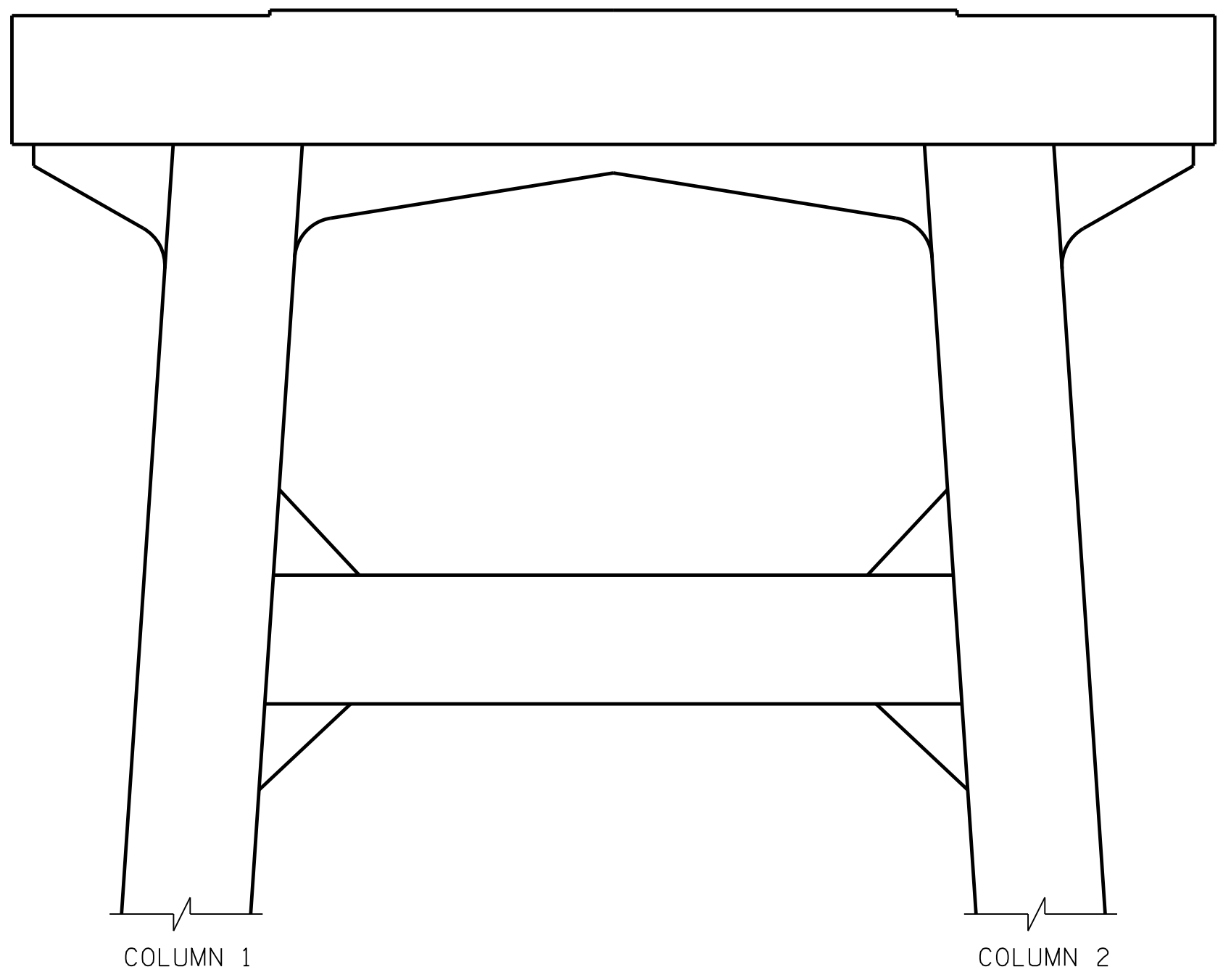
CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH APPROVAL OF THE ENGINEER.

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION

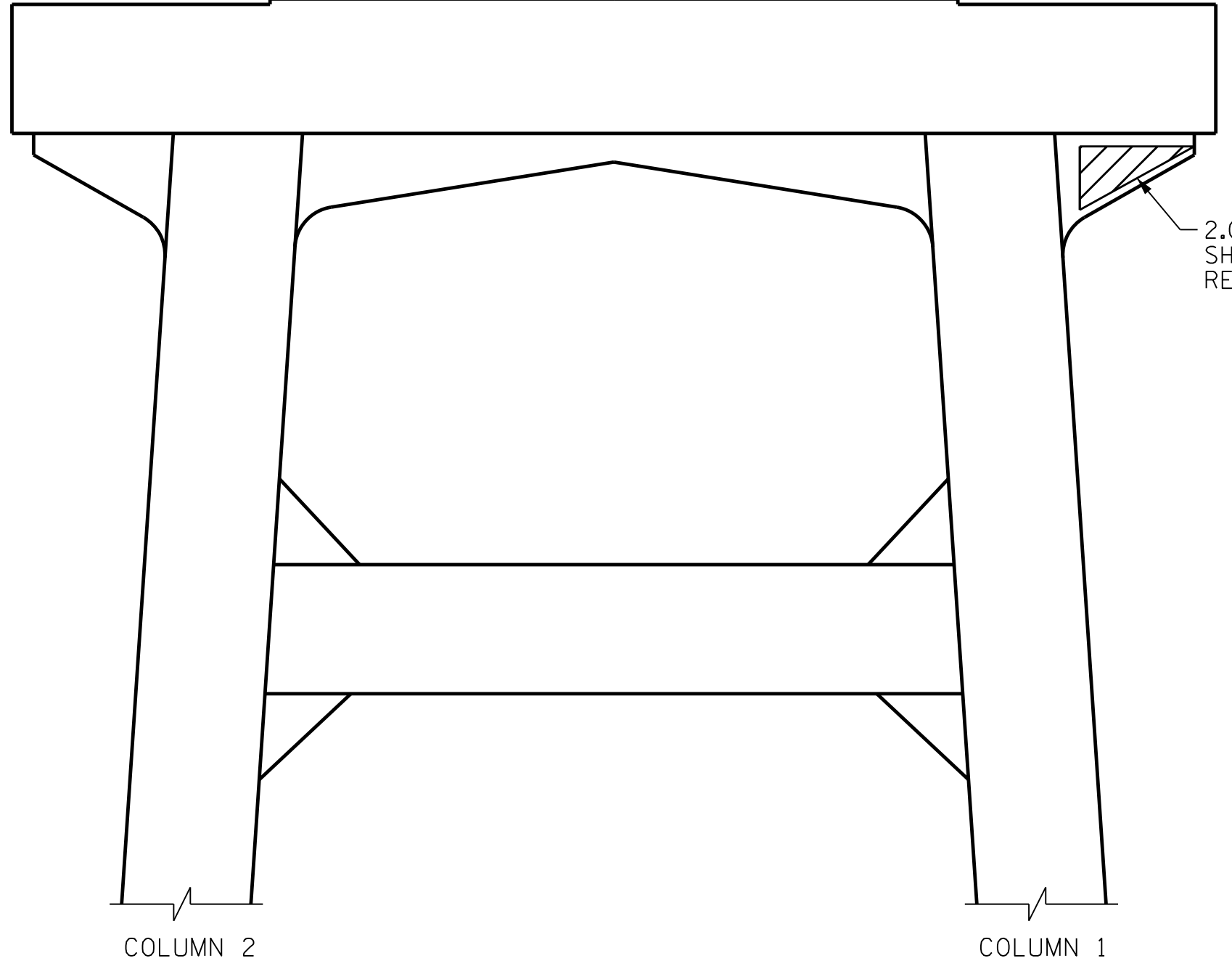


SPAN E
SPAN D

TOP OF CAP



ELEVATION (SPAN D FACE)



ELEVATION (SPAN E FACE)

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 5 OF 28

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 4



REVISIONS						SHEET NO. S2-72
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 97
2			4			



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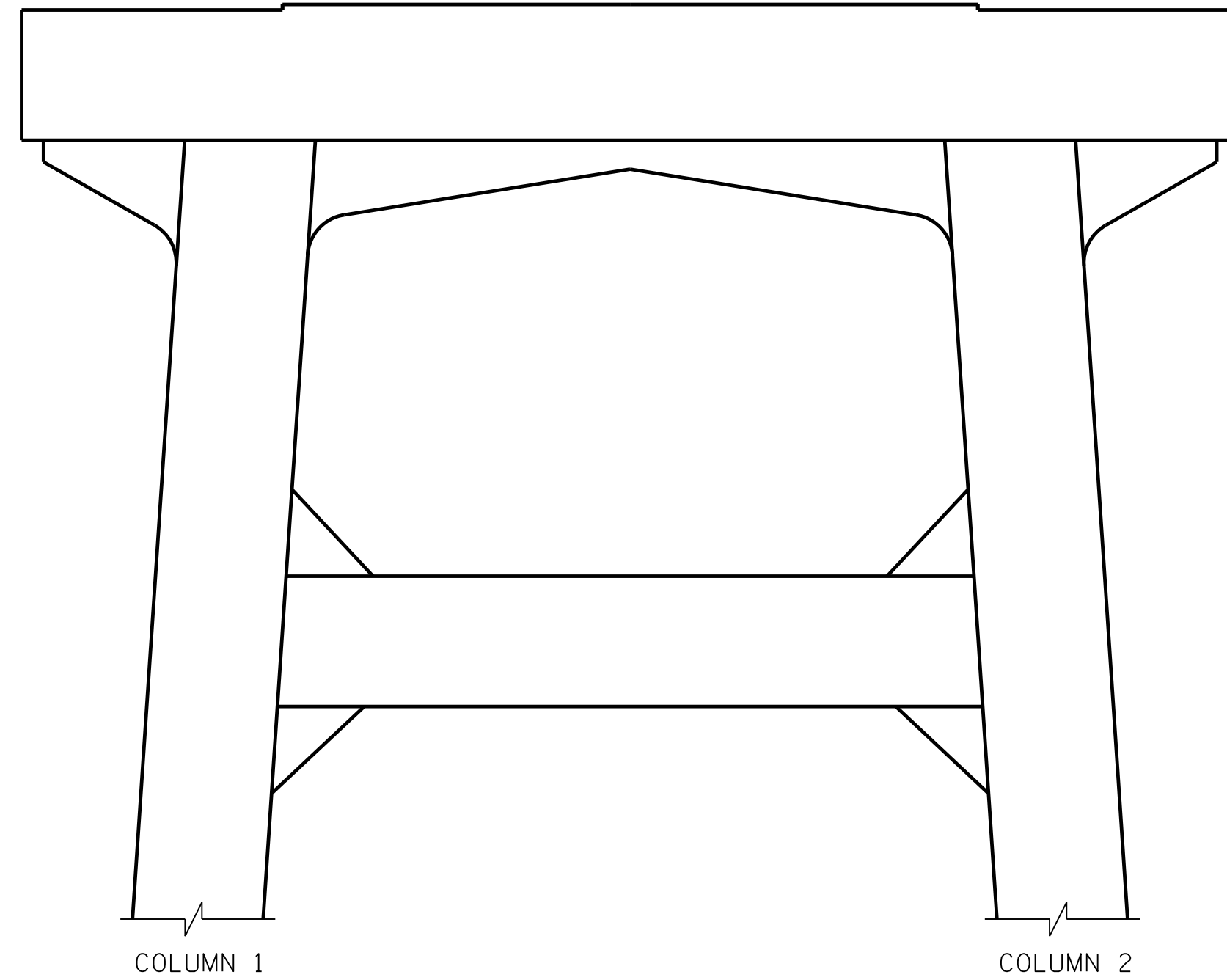
DWG BY: <u>D. CURTIS</u>	DATE: <u>01/19</u>
CHK BY: <u>K. MOBLEY</u>	DATE: <u>01/19</u>

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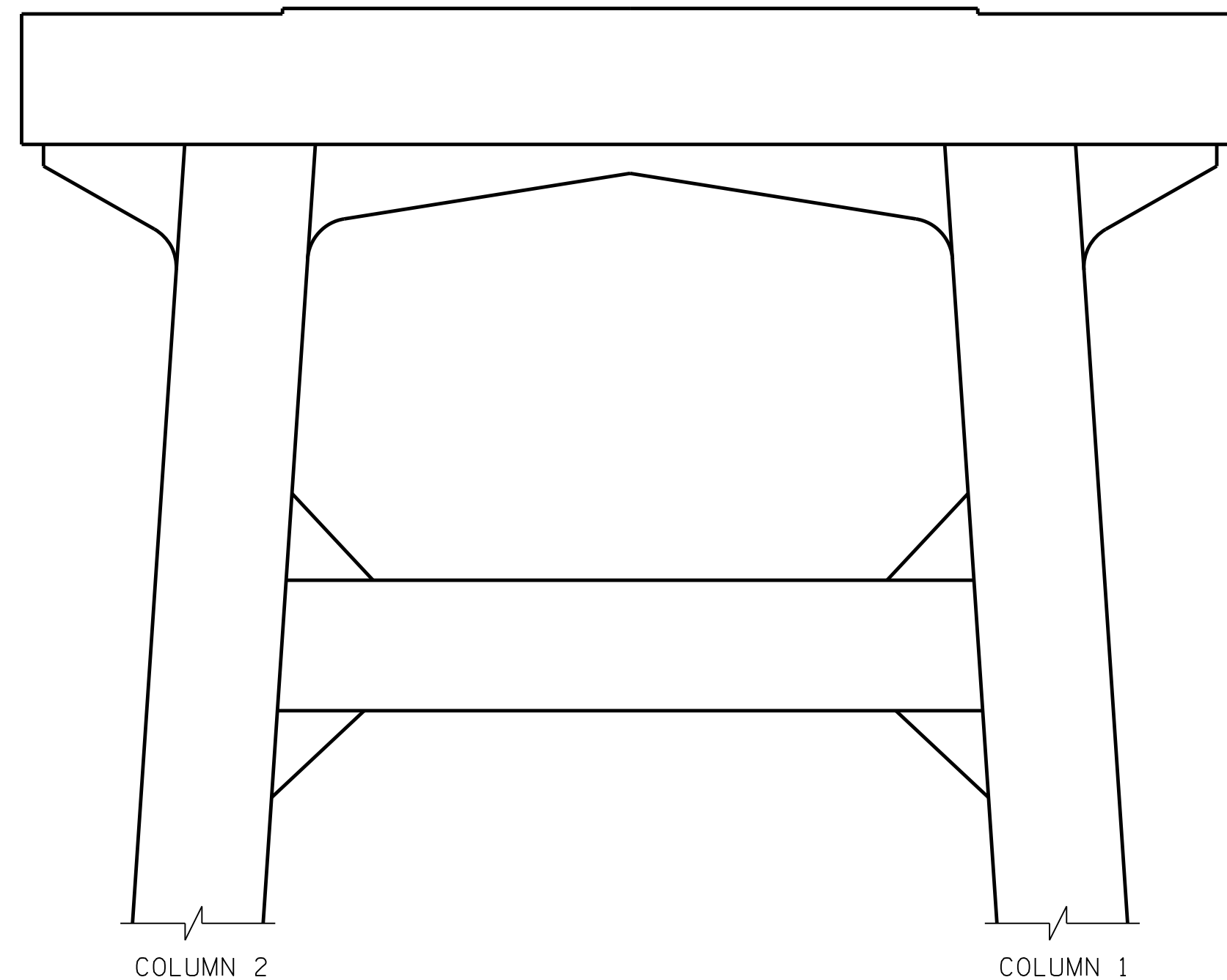


SPAN F
SPAN E

TOP OF CAP



ELEVATION (SPAN E FACE)



ELEVATION (SPAN F FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 5	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
COLUMN AND STRUT		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
CAP		75.9		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 6 OF 28

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 5



Karen M. Mobley 11/18/2021

DWG BY: D. CURTIS DATE : 01/19
 CHK BY: K. MOBLEY DATE : 01/19



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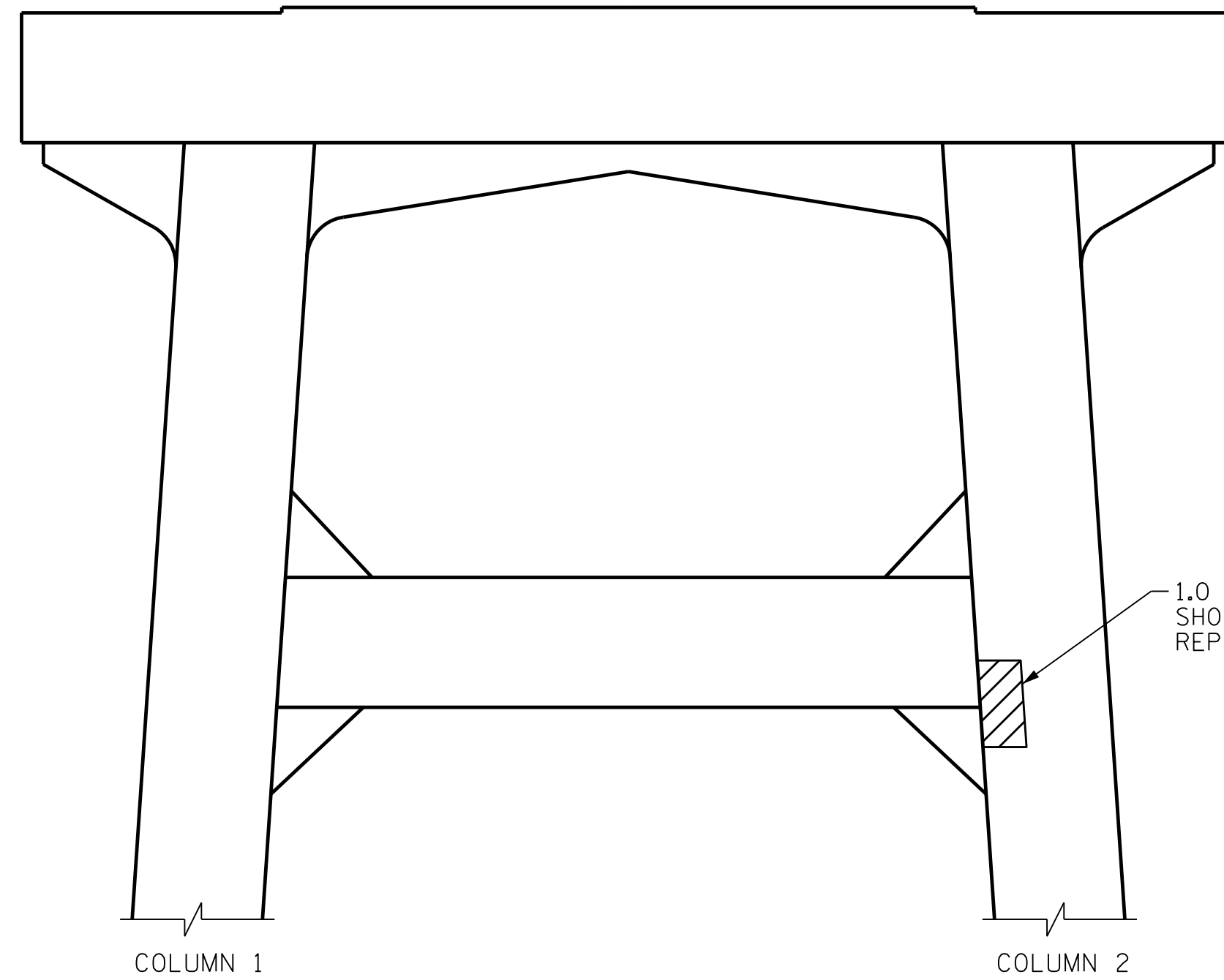
REVISIONS						SHEET NO. S2-73 TOTAL SHEETS 97
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1			3			
2			4			

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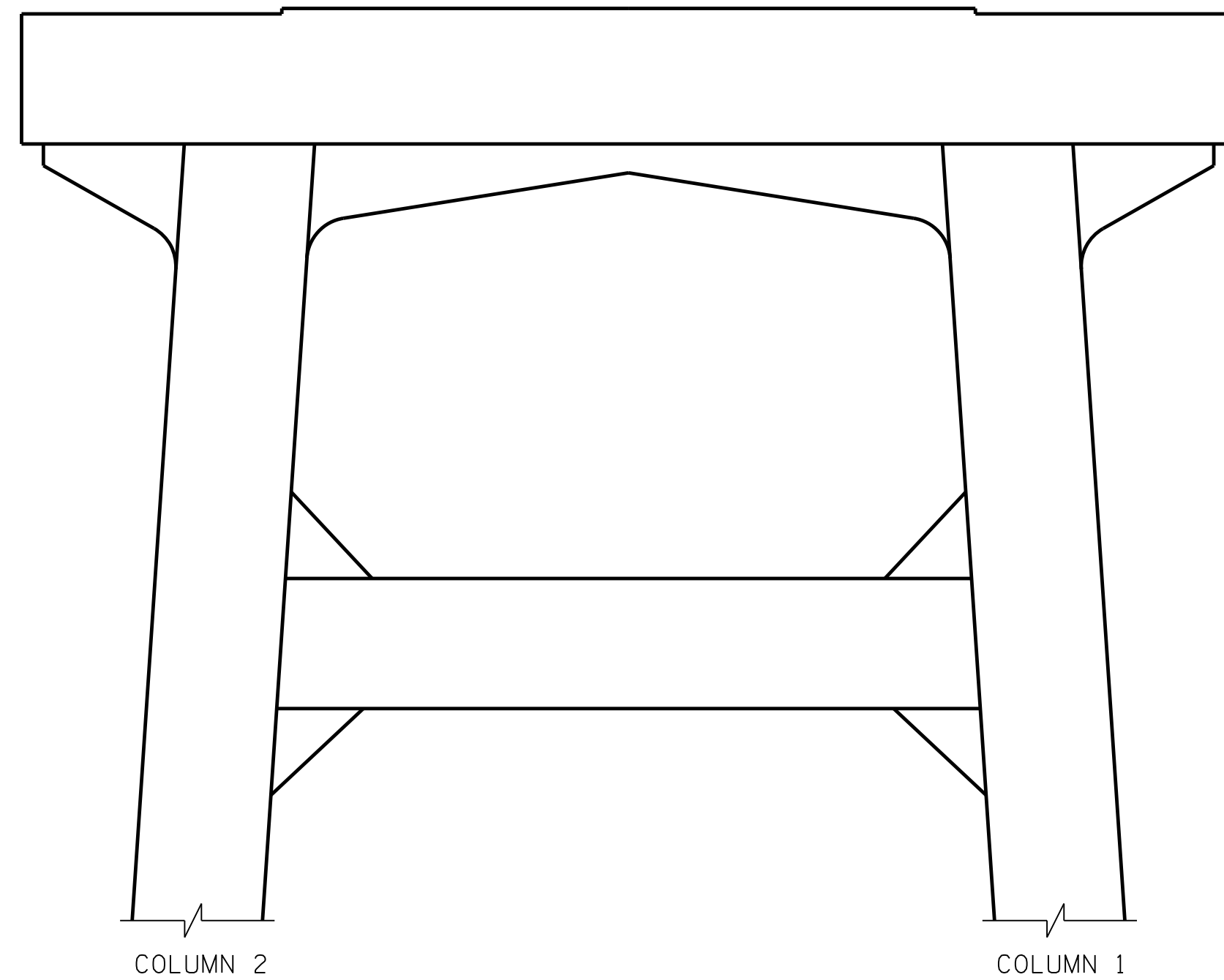


SPAN G
SPAN F

TOP OF CAP



ELEVATION (SPAN F FACE)



ELEVATION (SPAN G FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 6	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	1.0	0.3		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	75.9			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 7 OF 28

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 6



Karen M Mobley 11/18/2021

DWG BY: D. CURTIS DATE : 01/19
 CHK BY: K. MOBLEY DATE : 01/19



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REVISIONS						SHEET NO. S2-74 TOTAL SHEETS 97
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

AS-BUILT REPAIR QUANTITY TABLE

BENT 7	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	75.9			




VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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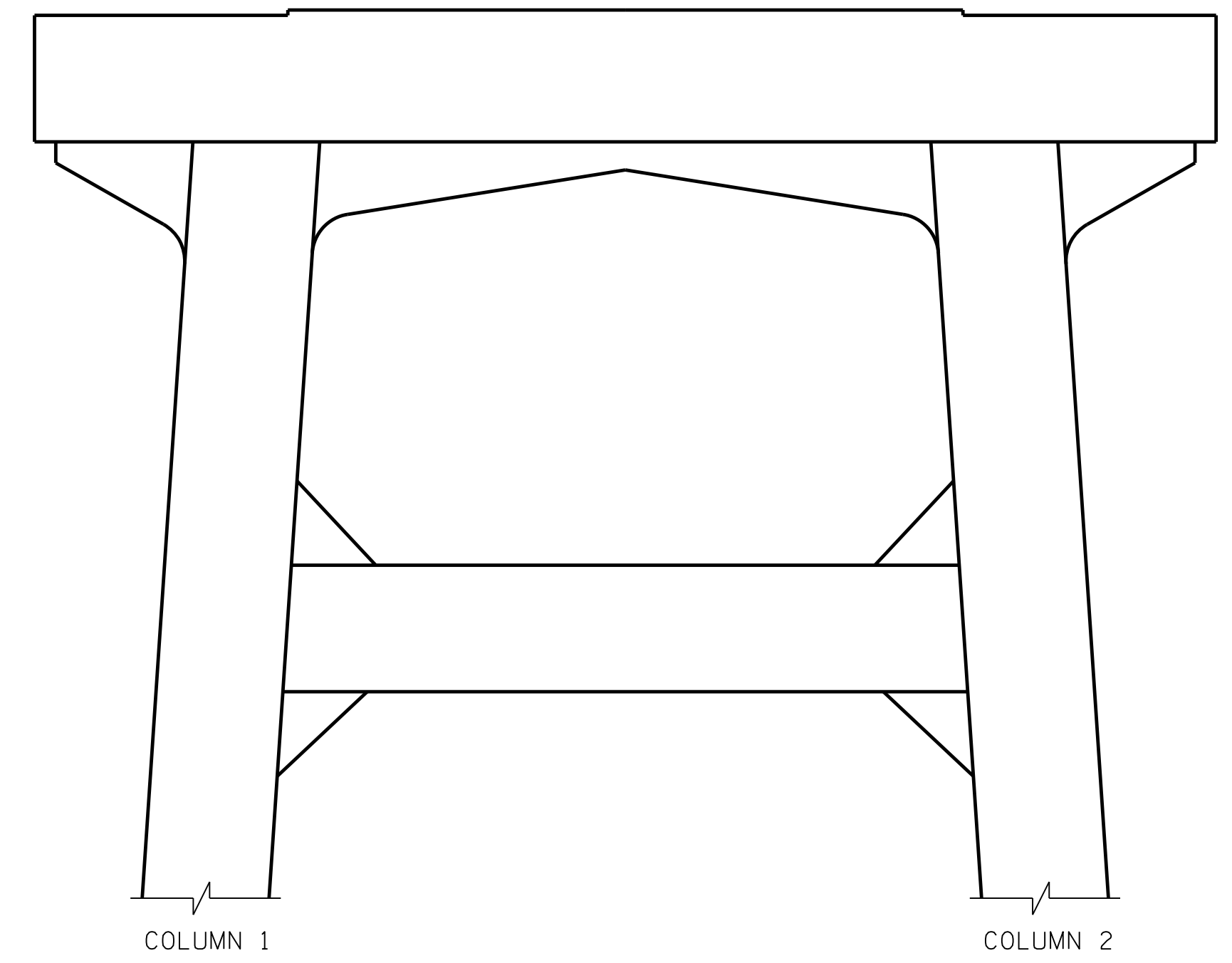
CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH APPROVAL OF THE ENGINEER.

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION

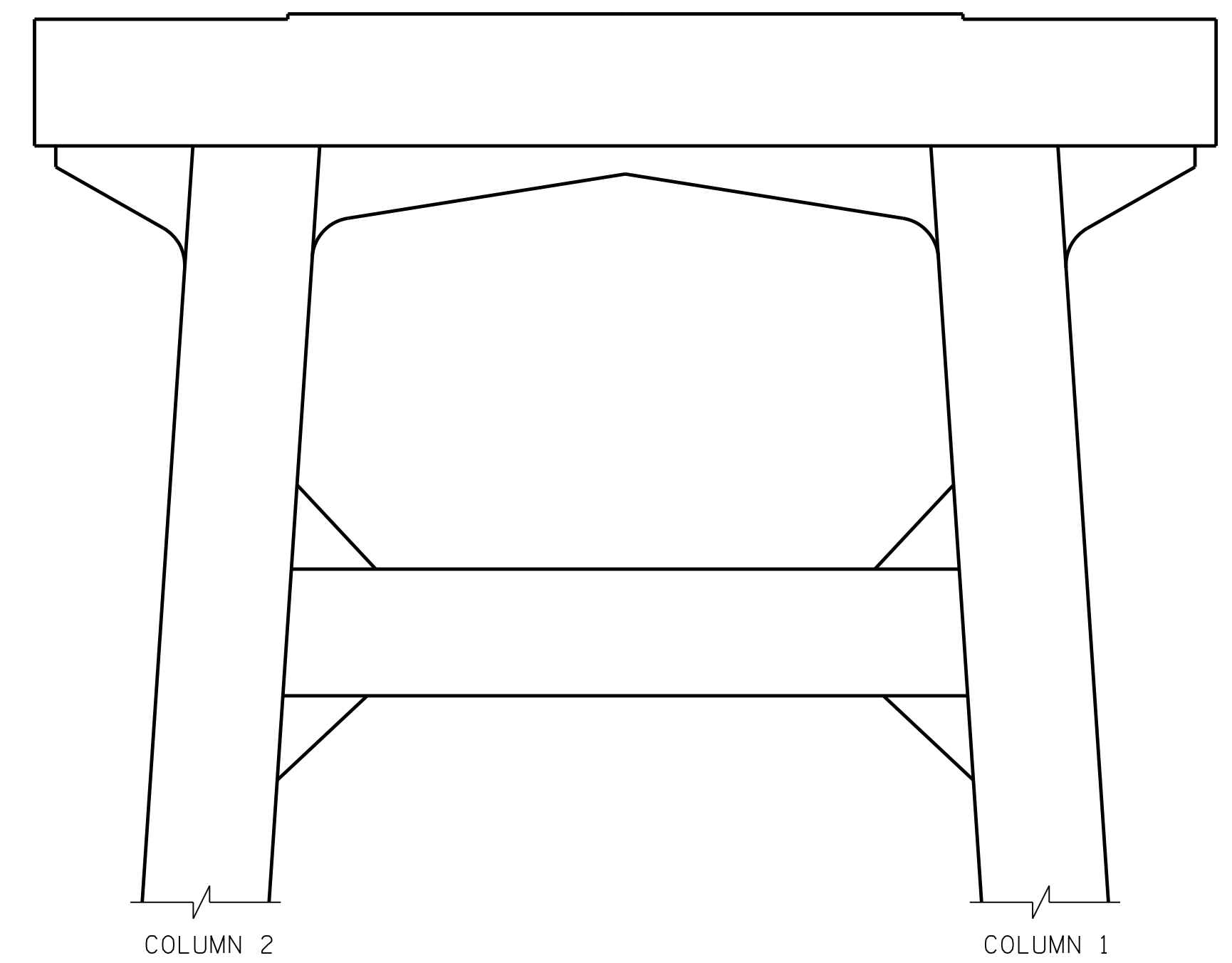


SPAN H
SPAN G

TOP OF CAP



ELEVATION (SPAN G FACE)



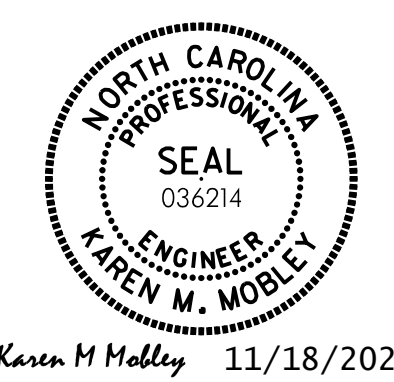
ELEVATION (SPAN H FACE)

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 8 OF 28

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 7



REVISIONS						SHEET NO. S2-75 TOTAL SHEETS 97
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



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DWG BY: <u>D. CURTIS</u>	DATE: <u>01/19</u>
CHK BY: <u>K. MOBLEY</u>	DATE: <u>01/19</u>

AS-BUILT REPAIR QUANTITY TABLE

BENT 8	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	1.0	0.2		
COLUMN AND STRUT	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	6.0	1.2		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
COLUMN AND STRUT		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
CAP		75.9		

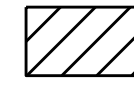
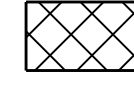

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

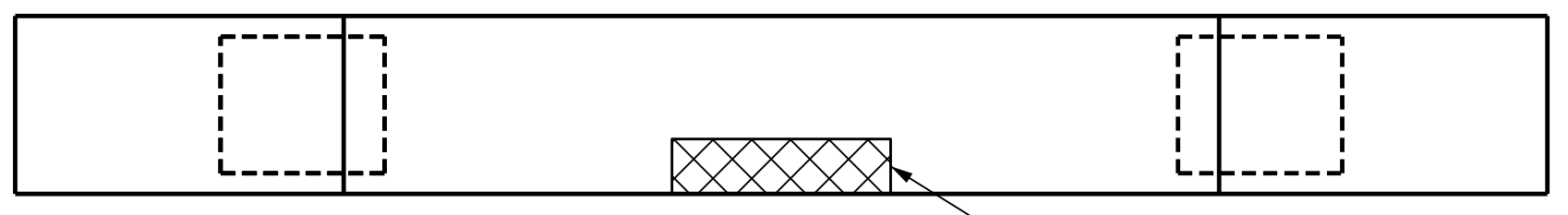
NOTES

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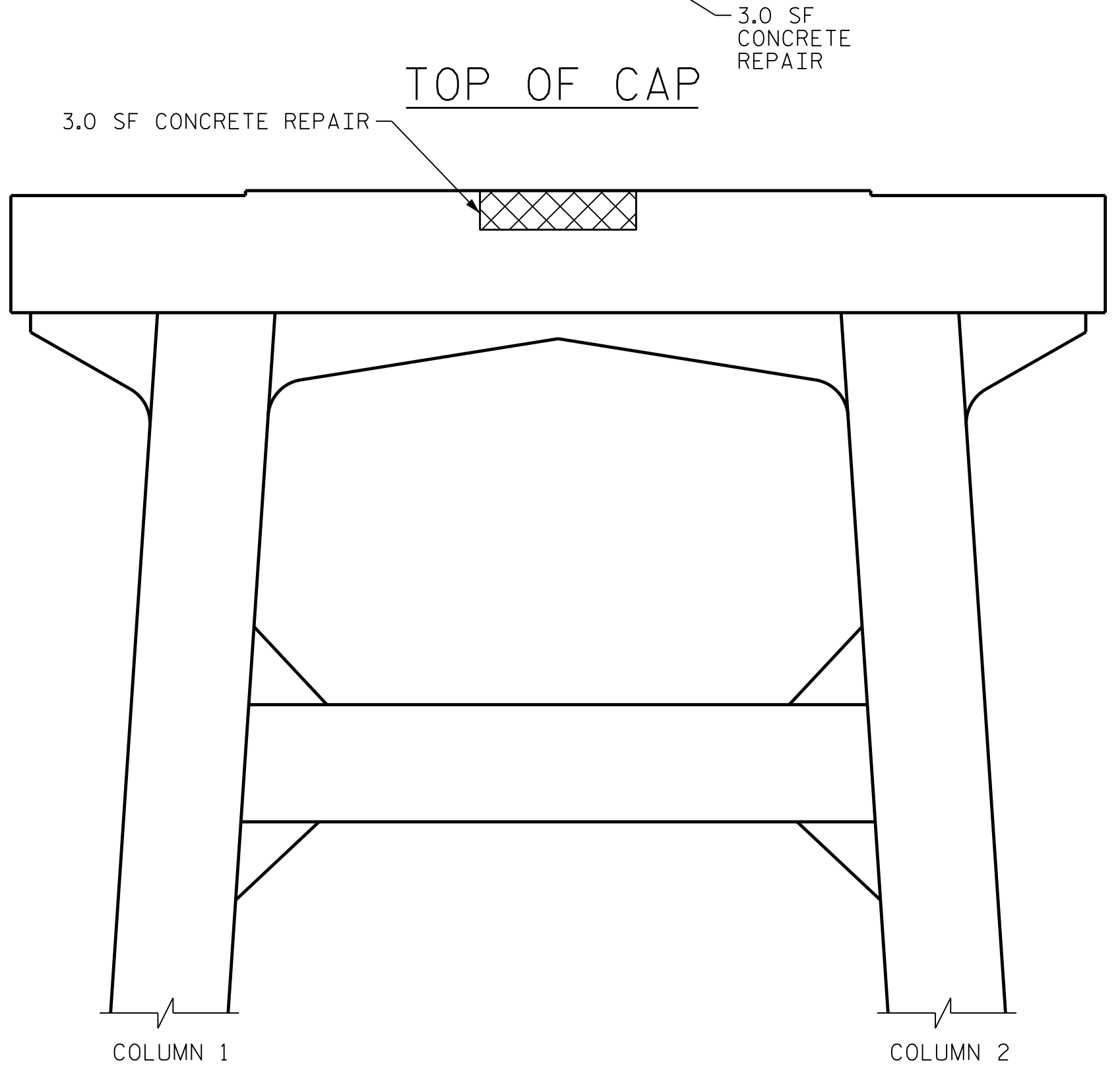
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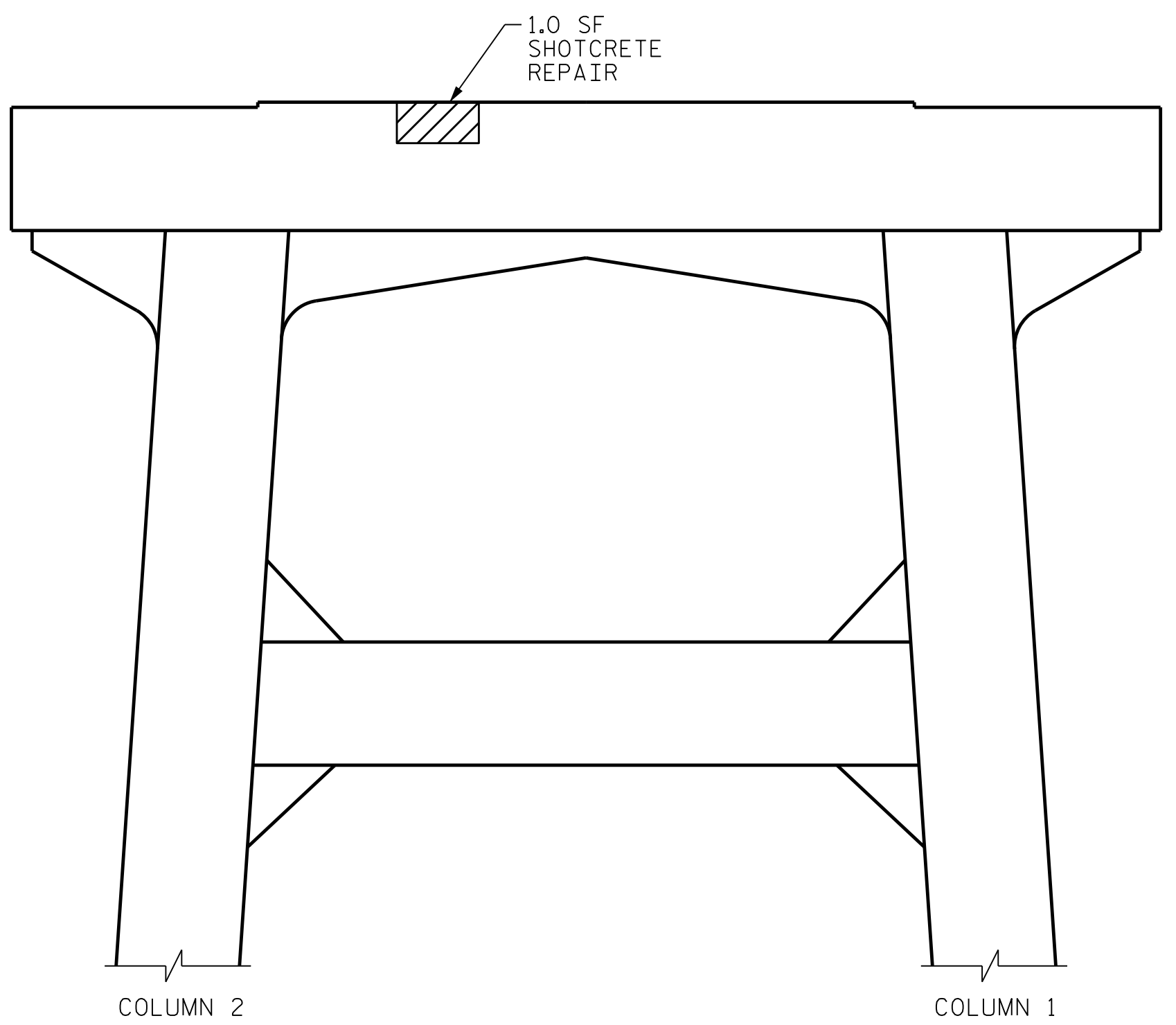
-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION



SPAN I
SPAN H



ELEVATION (SPAN H FACE)



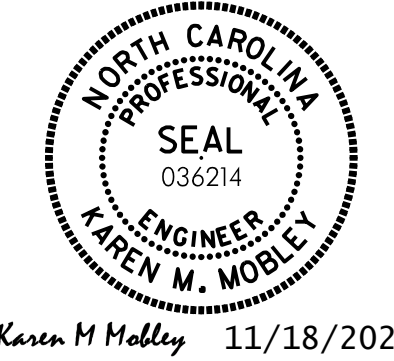
ELEVATION (SPAN I FACE)

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 9 OF 28

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 8



Karen M. Mobley 11/18/2021

REVISIONS						SHEET NO. S2-76
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 97
2			4			

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DWG BY: <u>D. CURTIS</u>	DATE: <u>01/19</u>
CHK BY: <u>K. MOBLEY</u>	DATE: <u>01/19</u>



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AS-BUILT REPAIR QUANTITY TABLE

BENT 9	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
COLUMN AND STRUT		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
CAP		75.9		

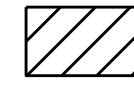
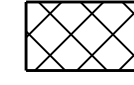

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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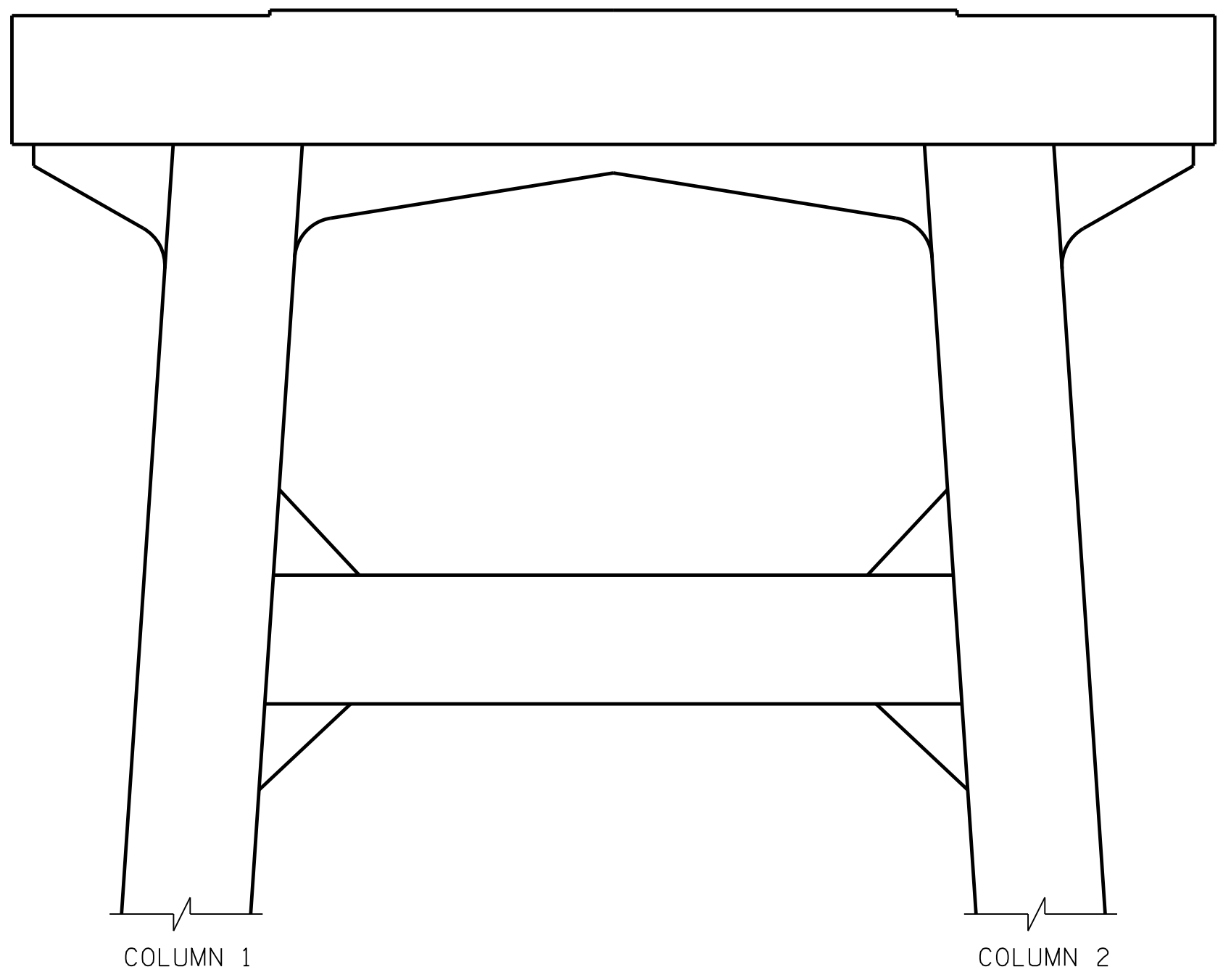
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-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION

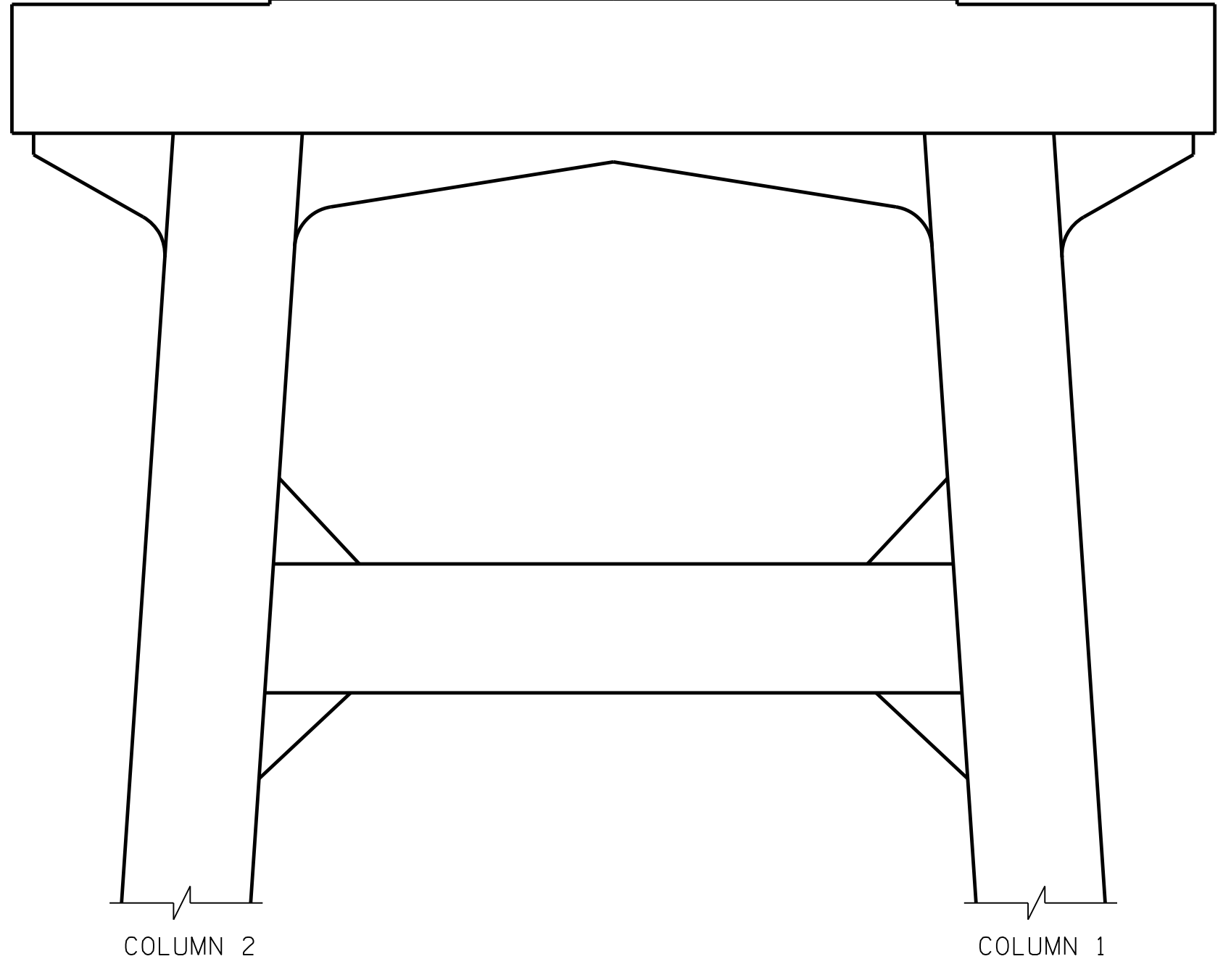


TOP OF CAP

SPAN J
SPAN I



ELEVATION (SPAN I FACE)



ELEVATION (SPAN J FACE)

PROJECT NO. 15BPR.38

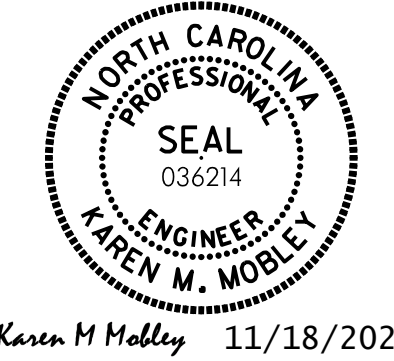
ANSON COUNTY

BRIDGE NO: 030078

SHEET 10 OF 28

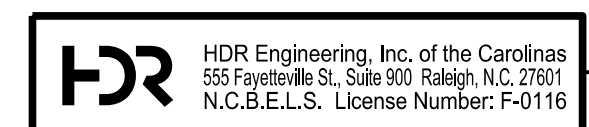
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 9



Karen M. Mobley 11/18/2021

REVISIONS						SHEET NO. S2-77
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 97
2			4			



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DWG BY:	D. CURTIS	DATE :	01/19
CHK BY:	K. MOBLEY	DATE :	01/19

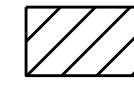
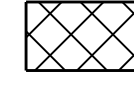

AS-BUILT REPAIR QUANTITY TABLE				
BENT 10	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	5.0	1.1		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	75.9			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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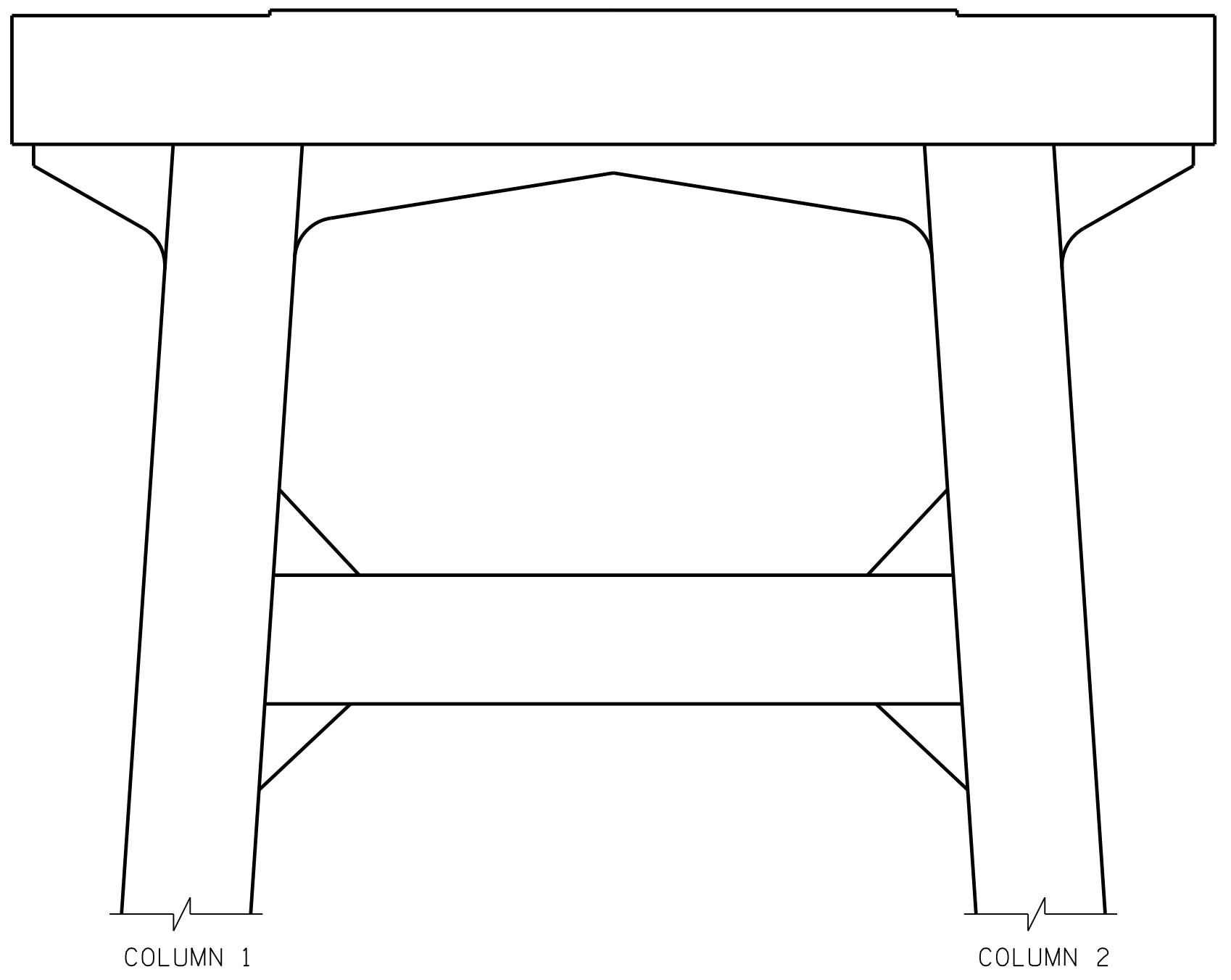
CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH APPROVAL OF THE ENGINEER.

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION

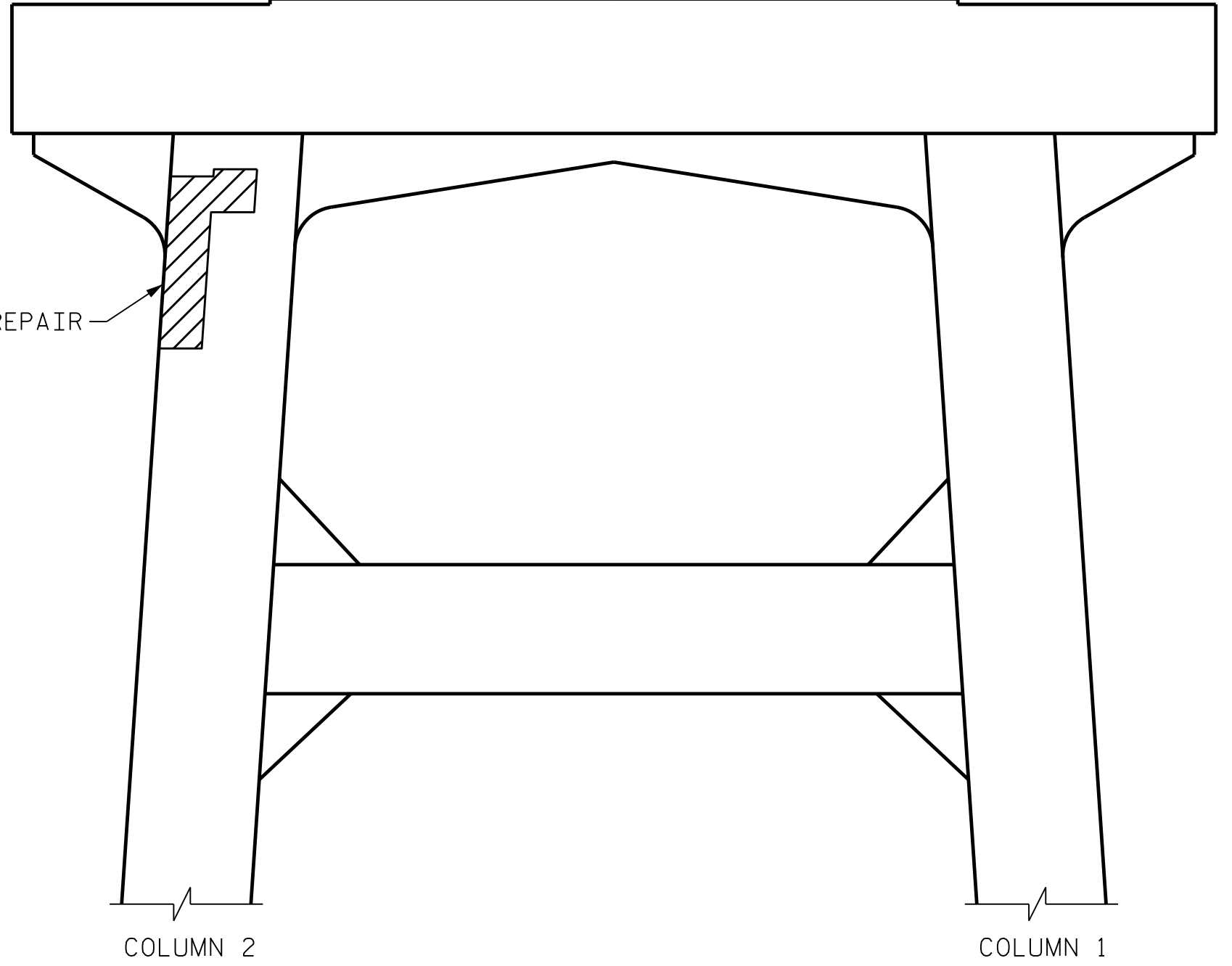


TOP OF CAP

SPAN K
SPAN J



ELEVATION (SPAN J FACE)



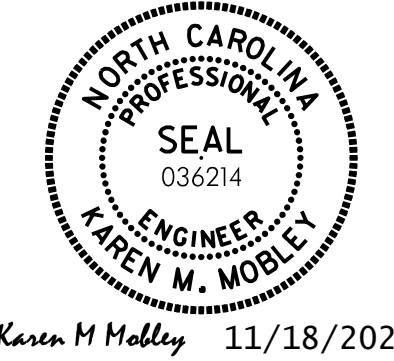
ELEVATION (SPAN K FACE)

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

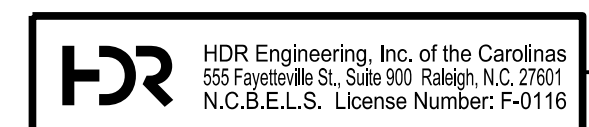
SHEET 11 OF 28

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 10



REVISIONS						SHEET NO. S2-78 TOTAL SHEETS 97
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



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DWG BY: <u>D. CURTIS</u>	DATE: <u>01/19</u>
CHK BY: <u>K. MOBLEY</u>	DATE: <u>01/19</u>

AS-BUILT REPAIR QUANTITY TABLE

BENT 11	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	3.0	0.7		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	75.9			

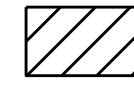
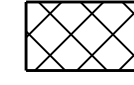

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIR AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

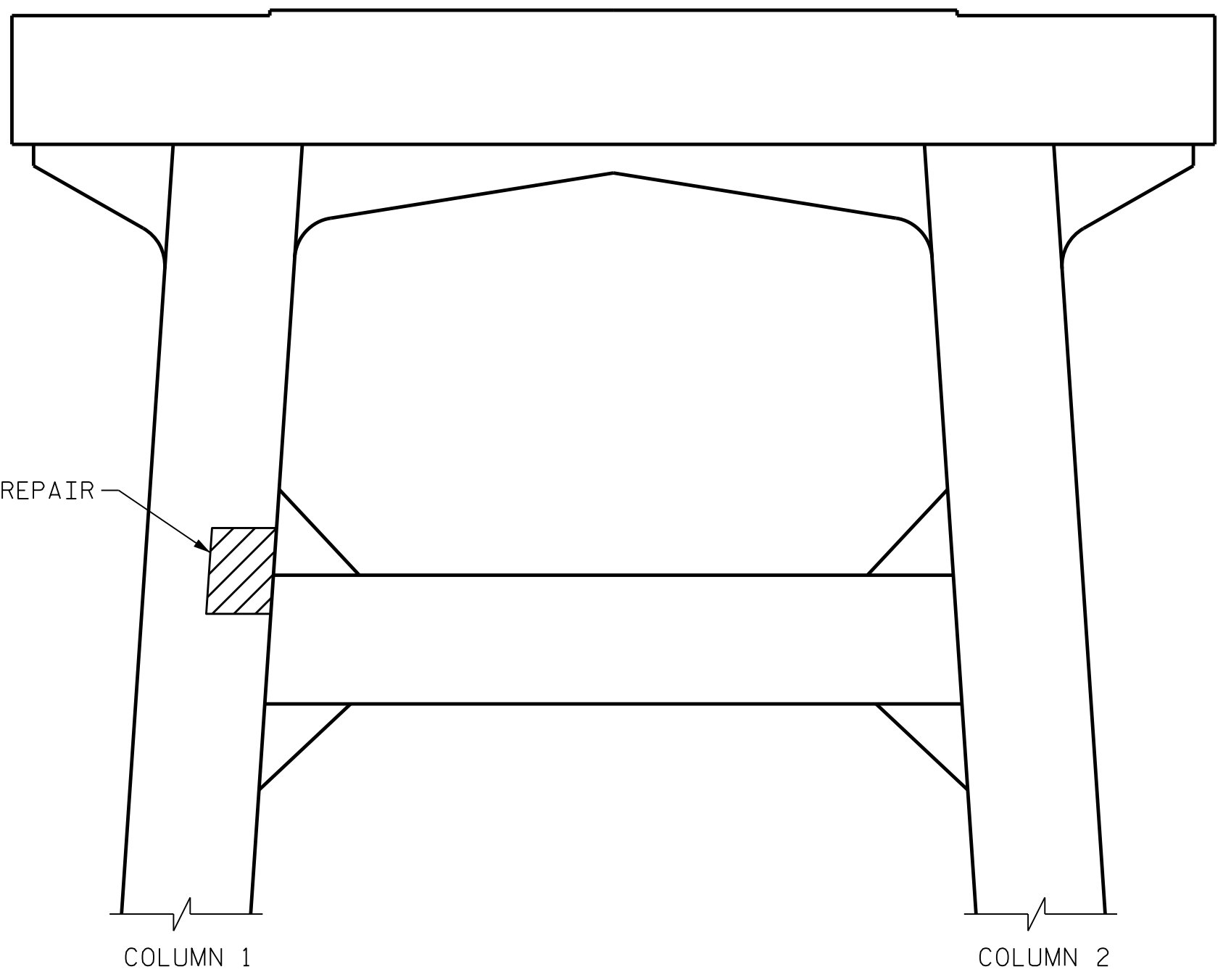
CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH APPROVAL OF THE ENGINEER.

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION



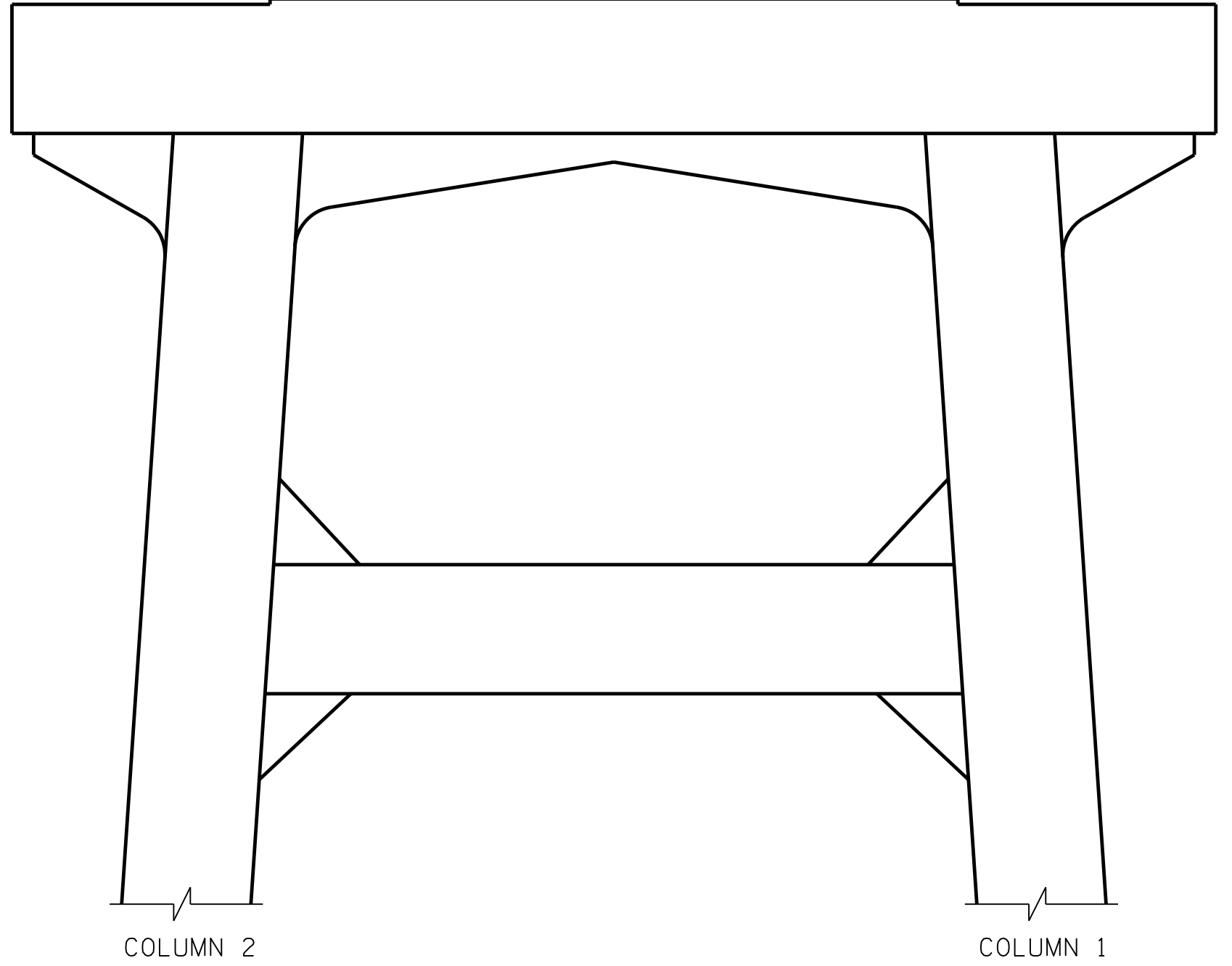
SPAN L
SPAN K

TOP OF CAP



3.0 SF SHOTCRETE REPAIR

ELEVATION (SPAN K FACE)



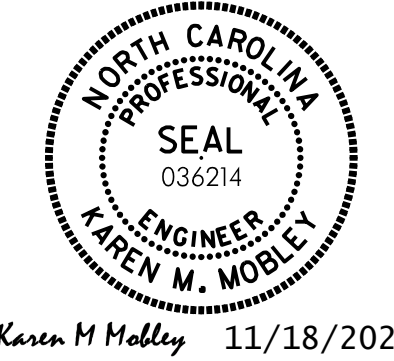
ELEVATION (SPAN L FACE)

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 12 OF 28

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 11



Karen M. Mobley 11/18/2021

REVISIONS						SHEET NO. S2-79 TOTAL SHEETS 97
NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			



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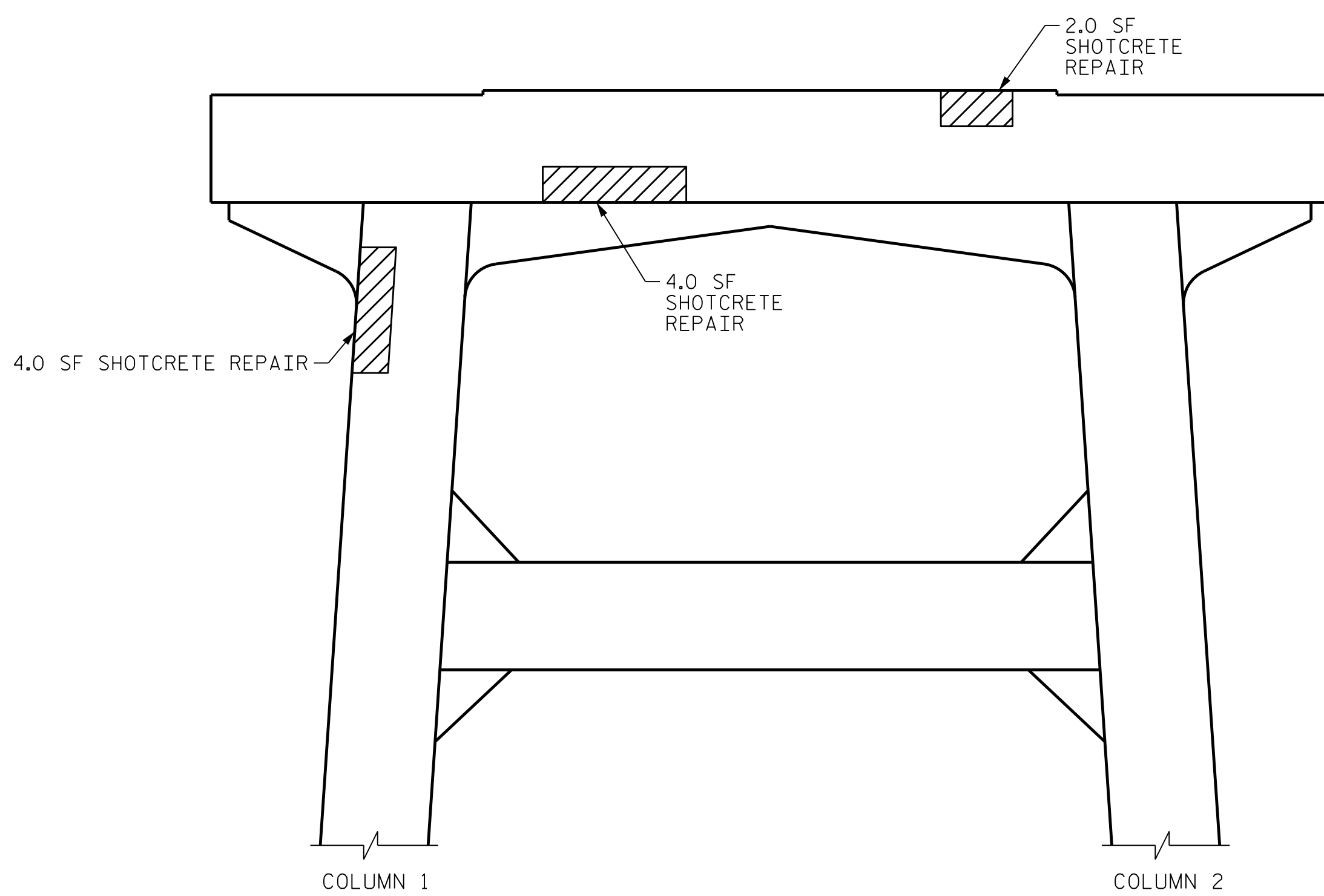
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DWG BY:	D. CURTIS	DATE :	01/19
CHK BY:	K. MOBLEY	DATE :	01/19

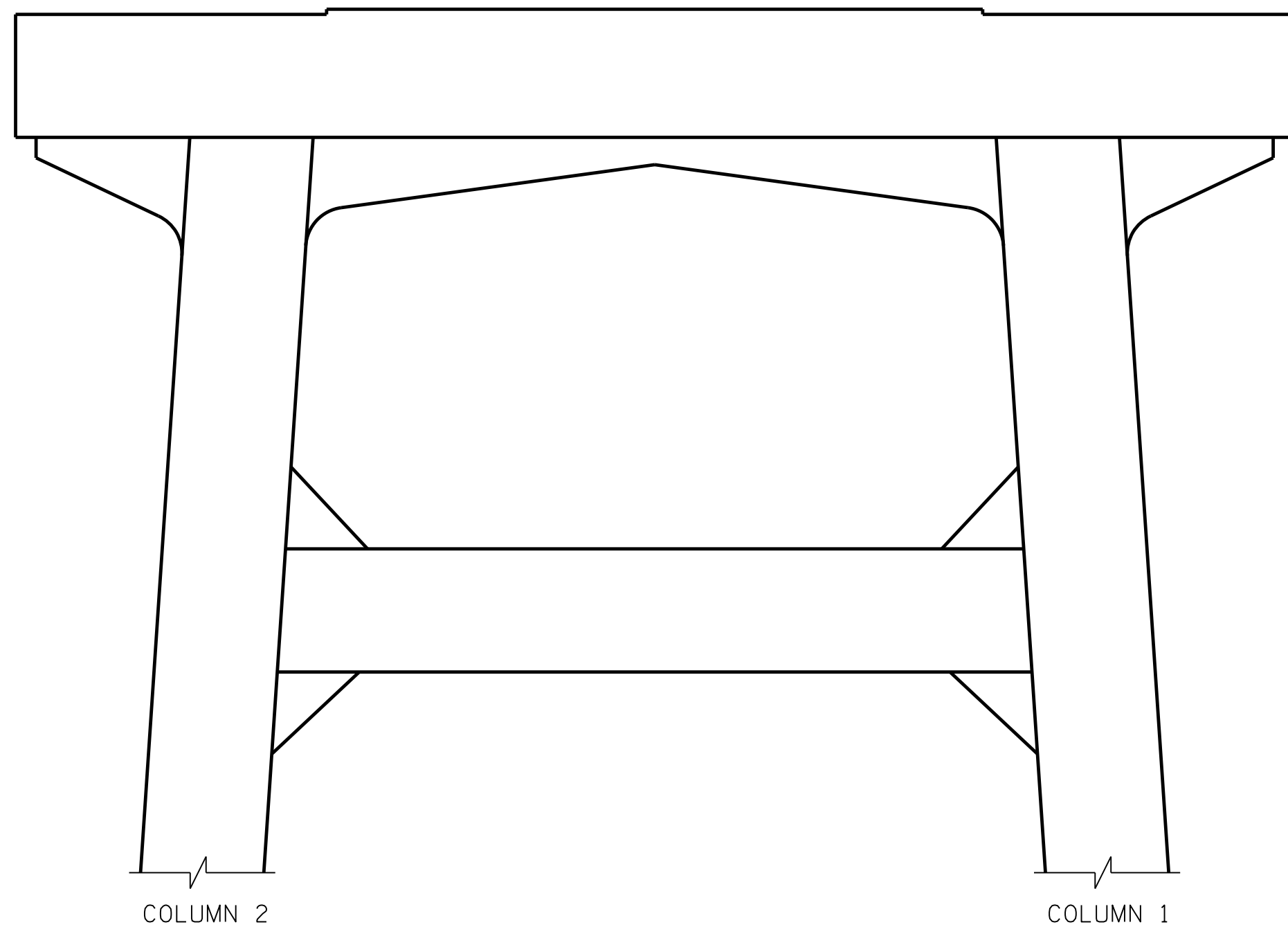


SPAN M
SPAN L

TOP OF CAP



ELEVATION (SPAN L FACE)



ELEVATION (SPAN M FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 12	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	6.0	1.0		
COLUMN AND STRUT	4.0	0.9		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	82.5			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIR AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

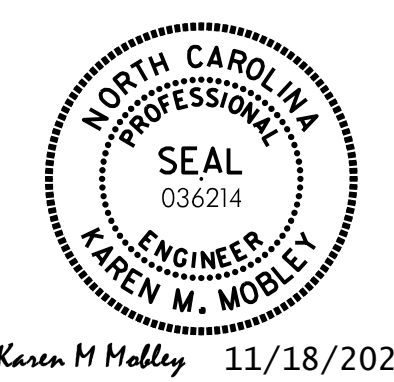
CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 13 OF 28



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 12

REVISIONS						SHEET NO. S2-80 TOTAL SHEETS 97
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2			4			

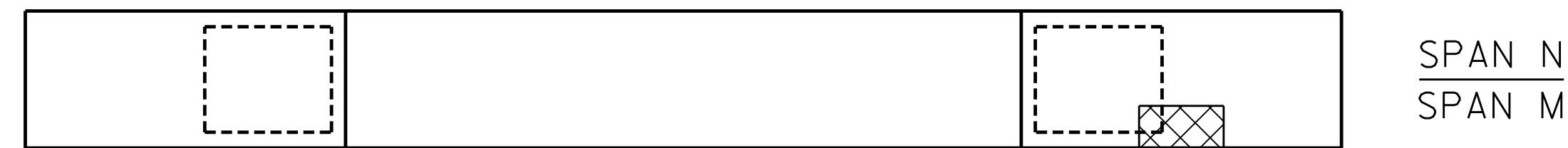
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DWG BY: D. CURTIS DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19

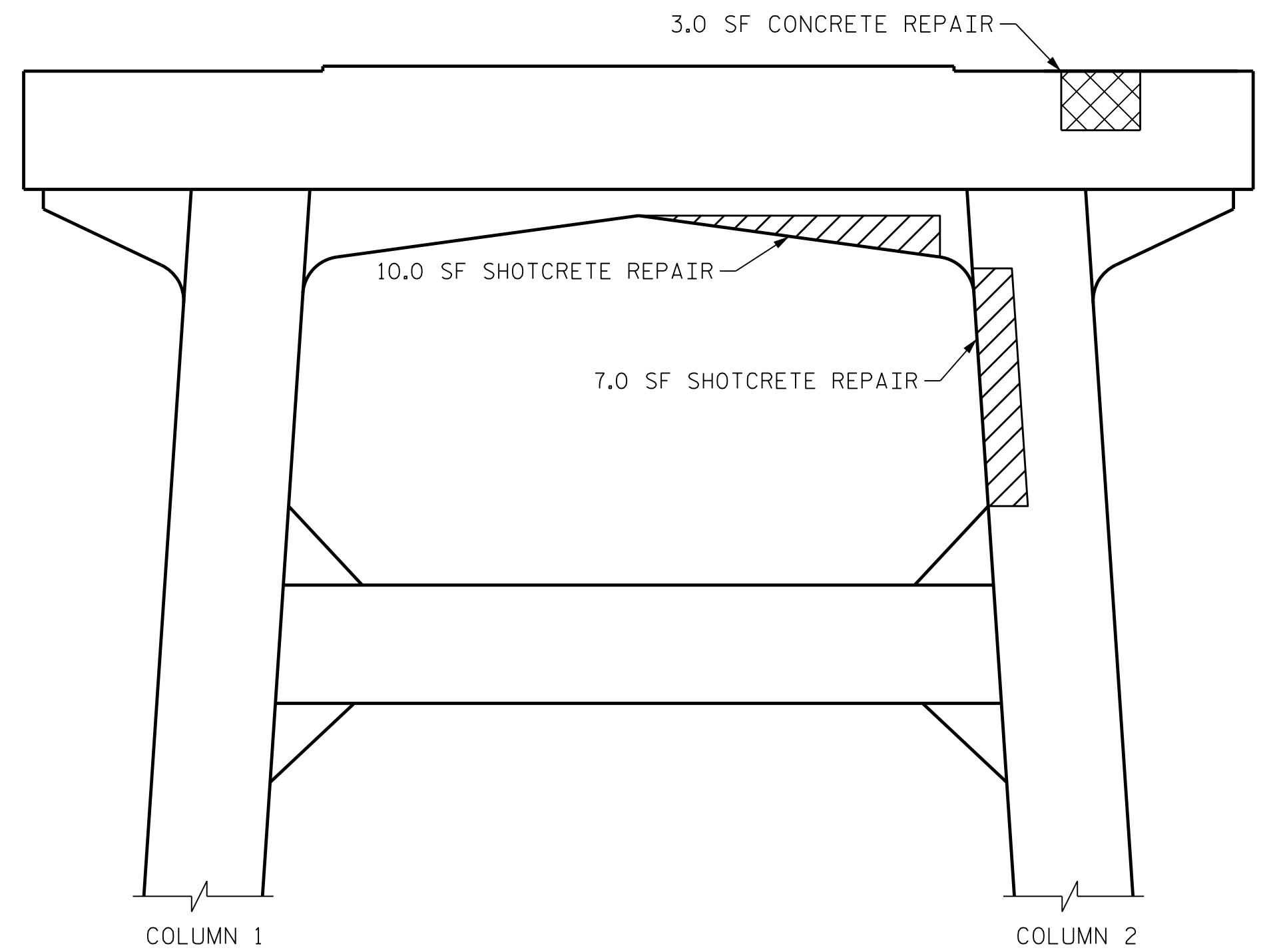


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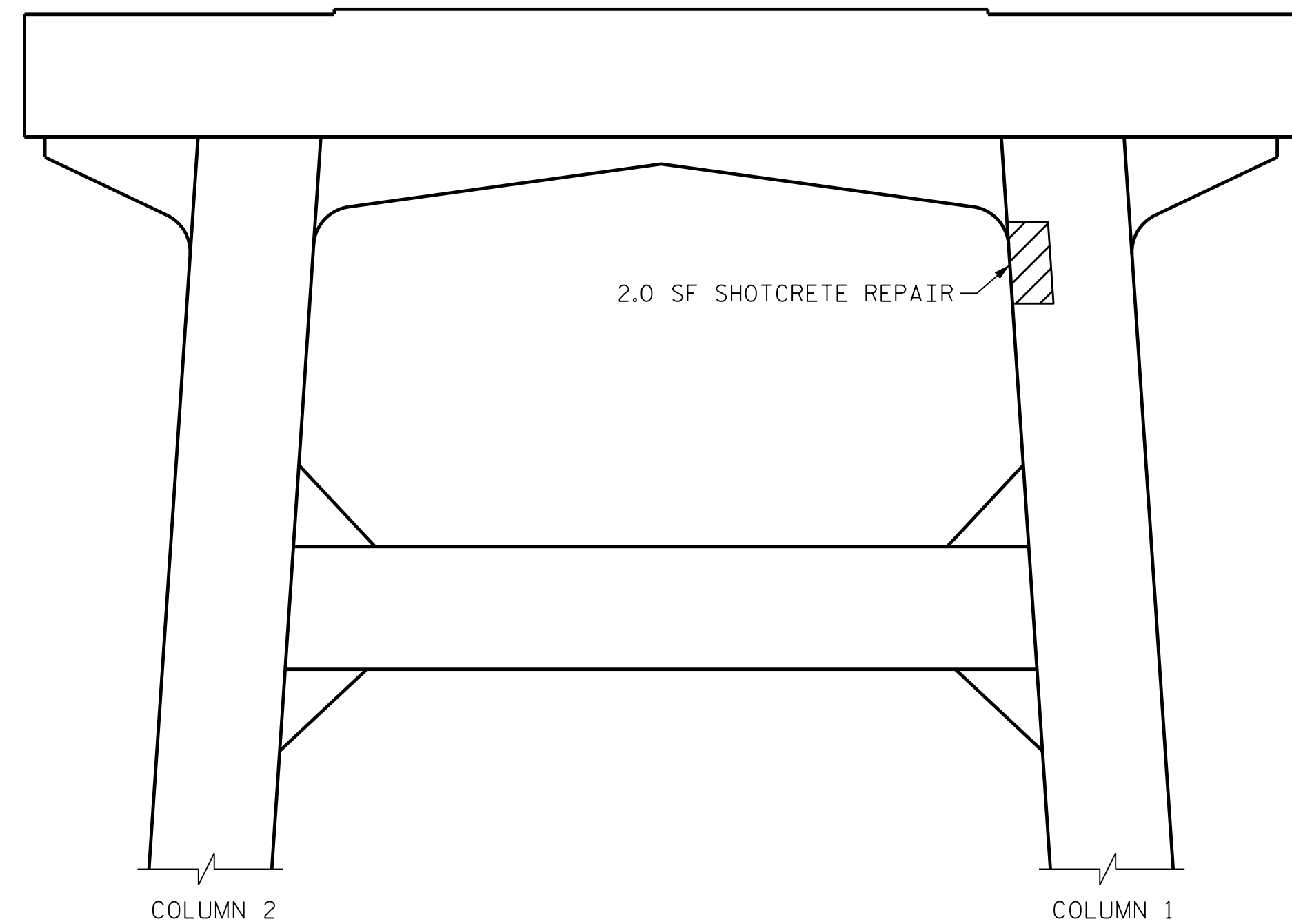
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TOP OF CAP



ELEVATION (SPAN M FACE)



ELEVATION (SPAN N FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 13	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	19.0	4.5		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	5.0	1.2		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	78.7			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 14 OF 28



Karen M Mobley 11/18/2021

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 13

REVISIONS						SHEET NO. S2-81 TOTAL SHEETS 97
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

DWG BY: D. CURTIS DATE : 01/19
 CHK BY: K. MOBLEY DATE : 01/19



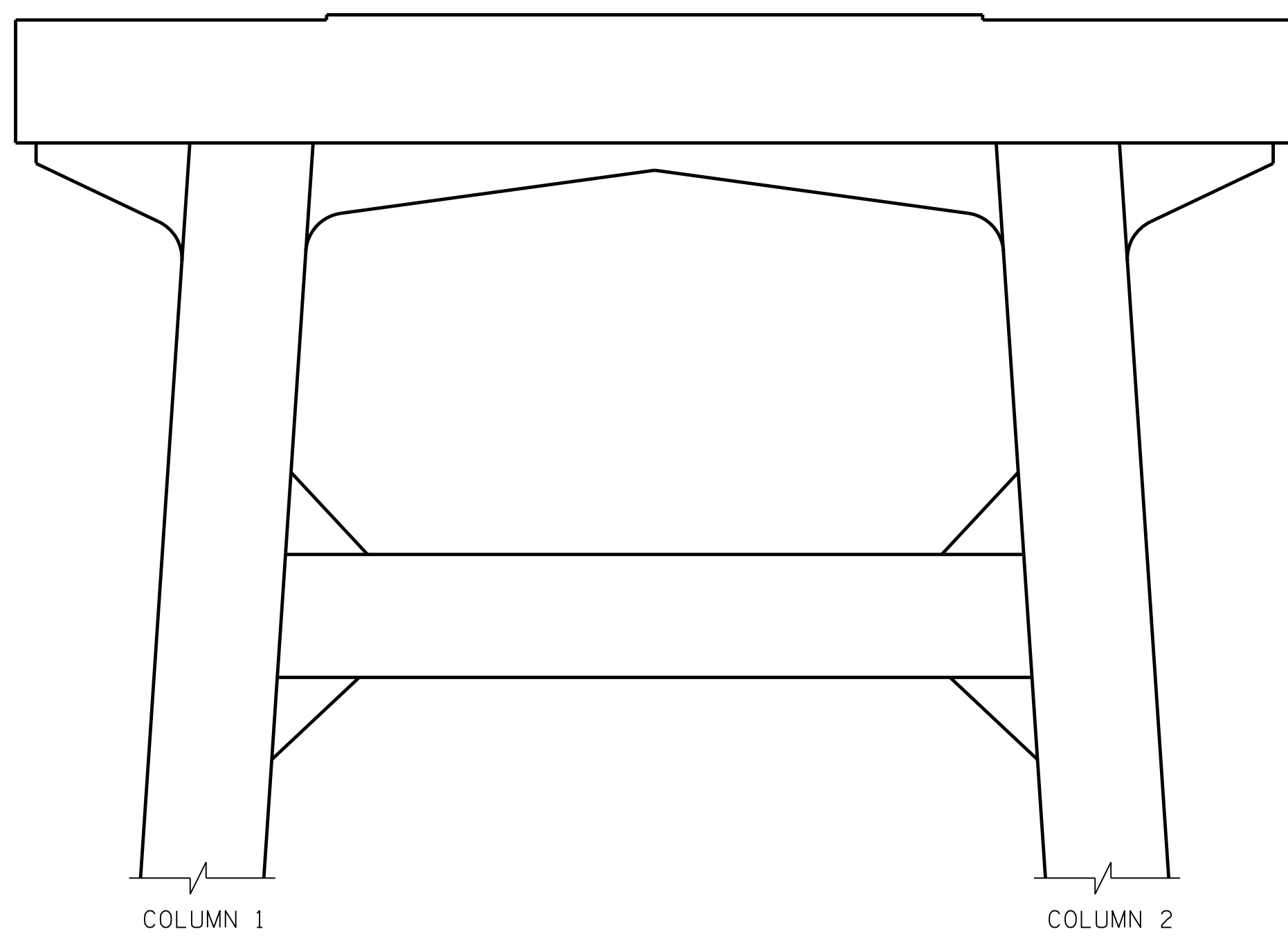
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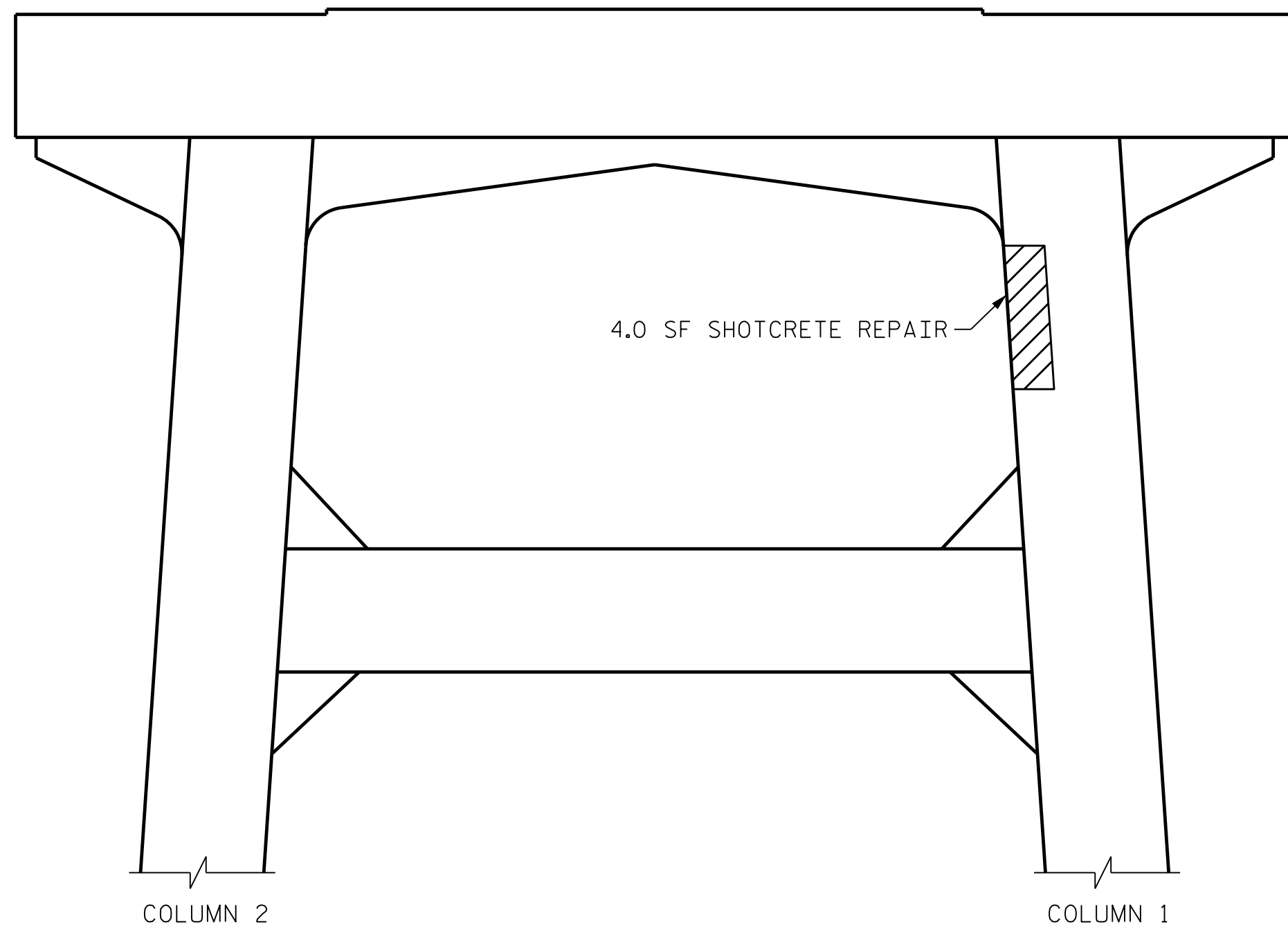


SPAN O
SPAN N

TOP OF CAP



ELEVATION (SPAN N FACE)



ELEVATION (SPAN O FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 14	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	4.0	0.9		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	78.7			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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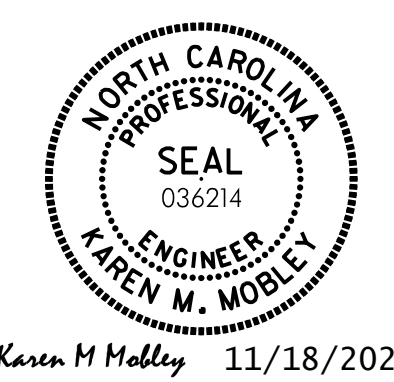
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CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH APPROVAL OF THE ENGINEER.

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 15 OF 28

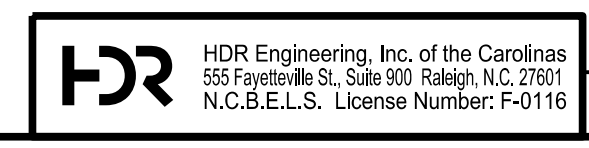


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 14

REVISIONS						SHEET NO. S2-82 TOTAL SHEETS 97
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1			3			
2			4			

DWG BY: D. CURTIS DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



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AS-BUILT REPAIR QUANTITY TABLE

BENT 15	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	1.0	0.1		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	78.7			

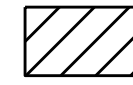
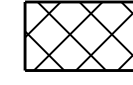

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CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

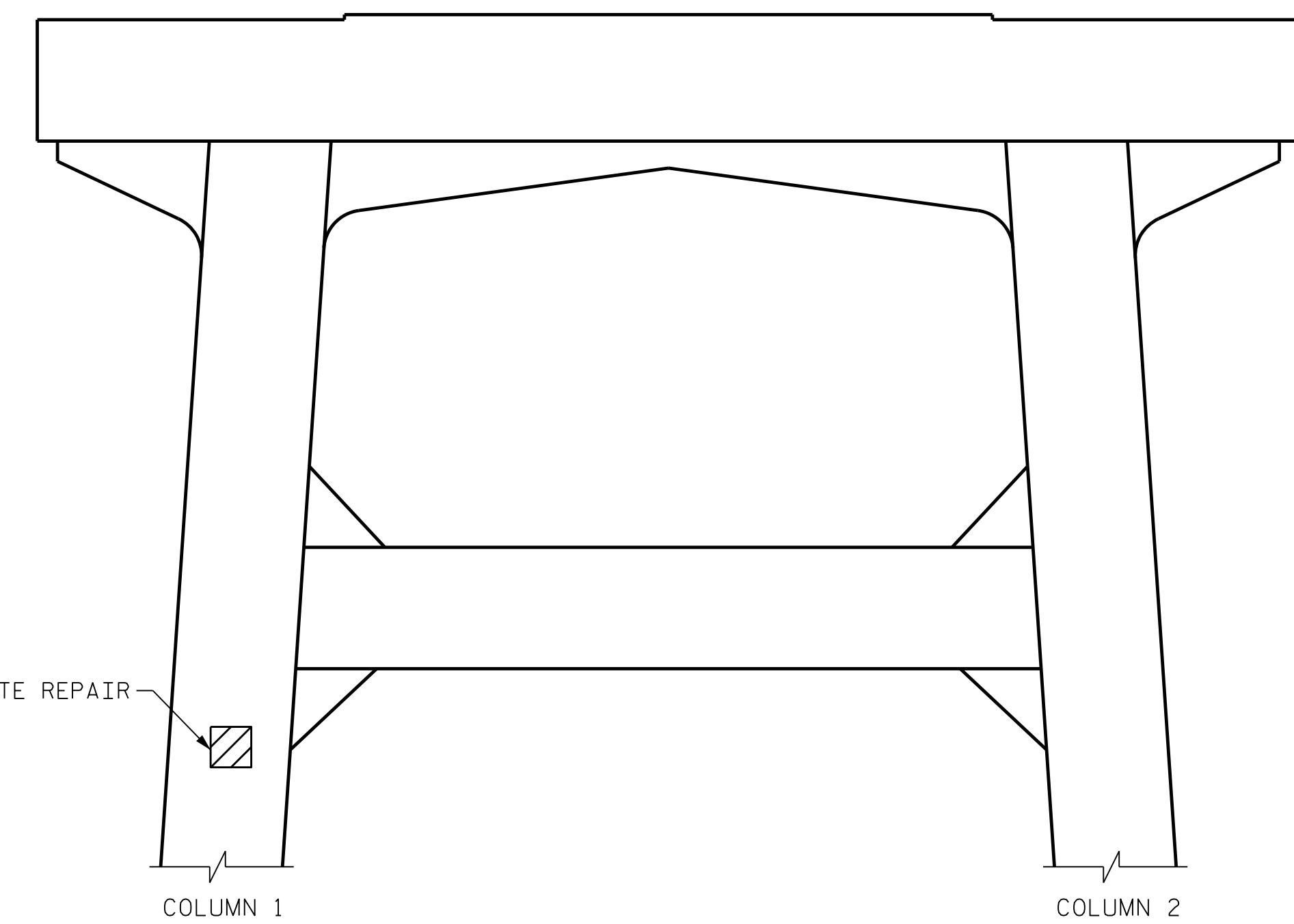
CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH APPROVAL OF THE ENGINEER.

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION



SPAN P
SPAN O

TOP OF CAP

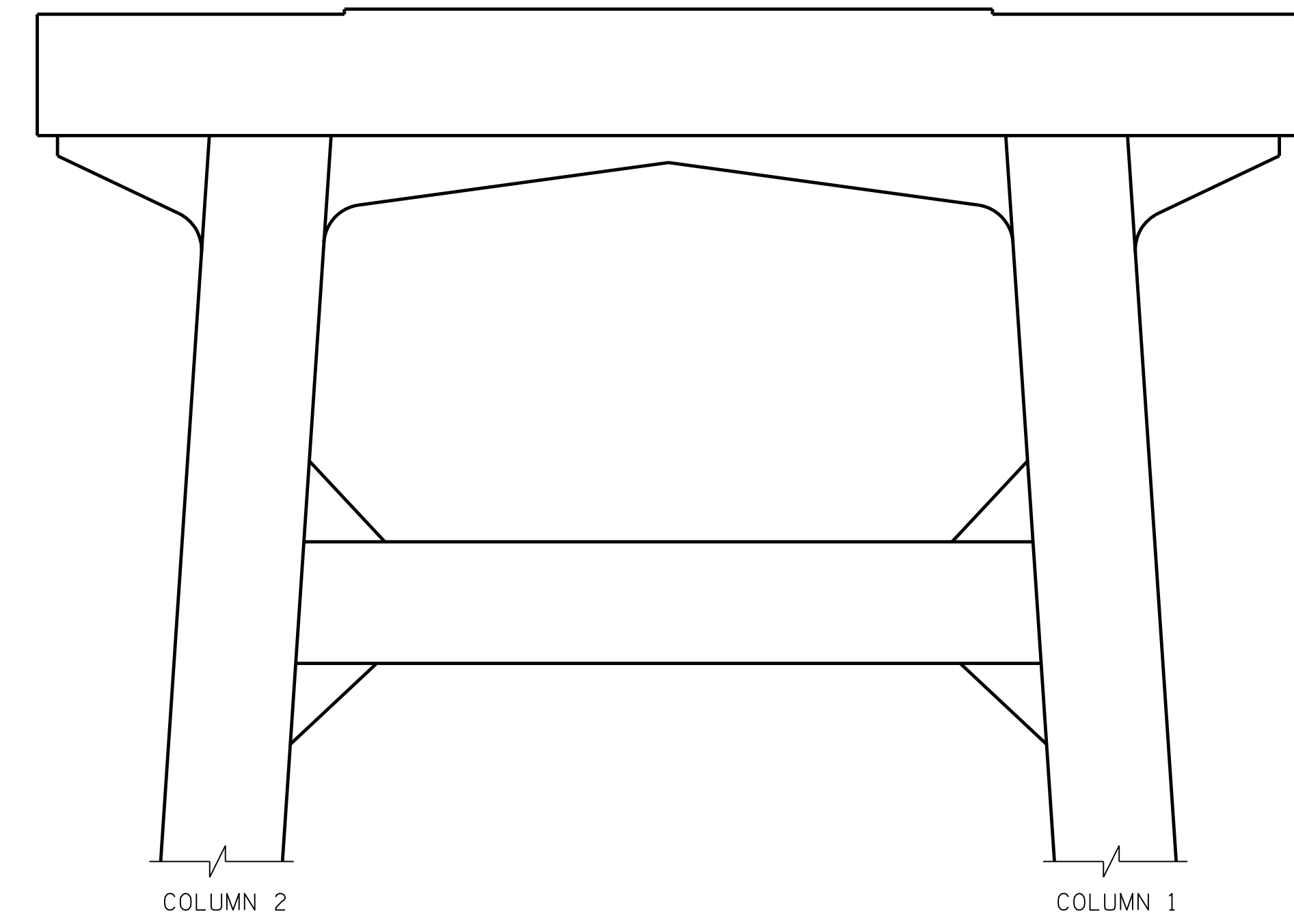


1.0 SF SHOTCRETE REPAIR

COLUMN 1

COLUMN 2

ELEVATION (SPAN O FACE)



COLUMN 2

COLUMN 1

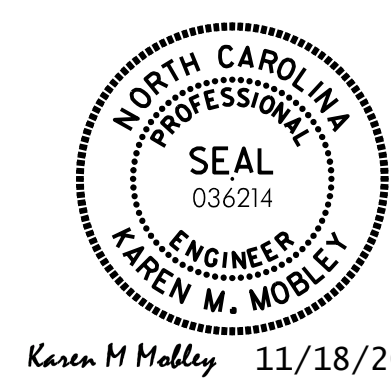
ELEVATION (SPAN P FACE)

PROJECT NO. 15BPR.38

ANSON COUNTY

BRIDGE NO: 030078

SHEET 16 OF 28



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 15

REVISIONS						SHEET NO. S2-83 TOTAL SHEETS 97
NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			

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DWG BY: <u>D. CURTIS</u>	DATE: <u>01/19</u>
CHK BY: <u>K. MOBLEY</u>	DATE: <u>01/19</u>

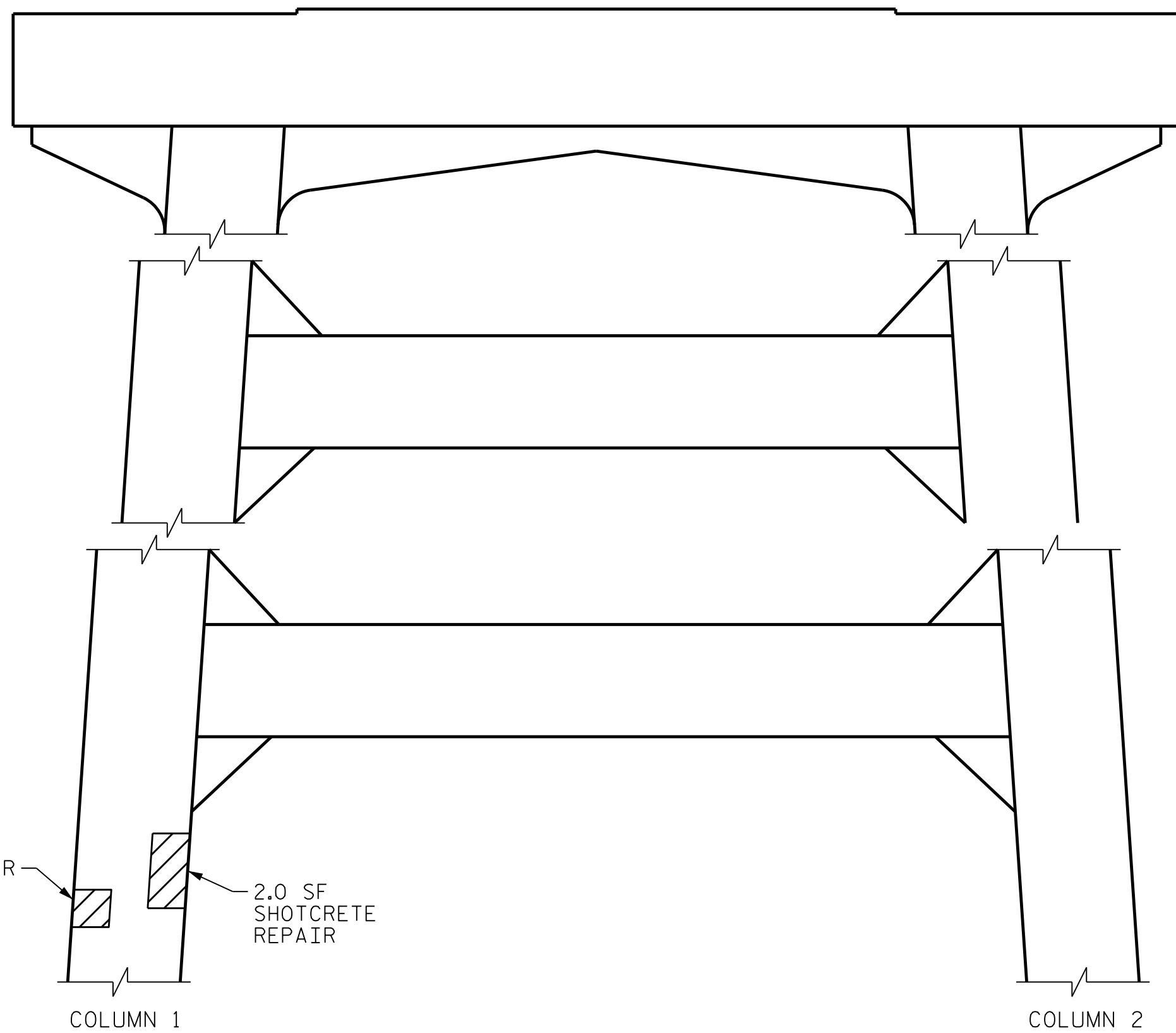


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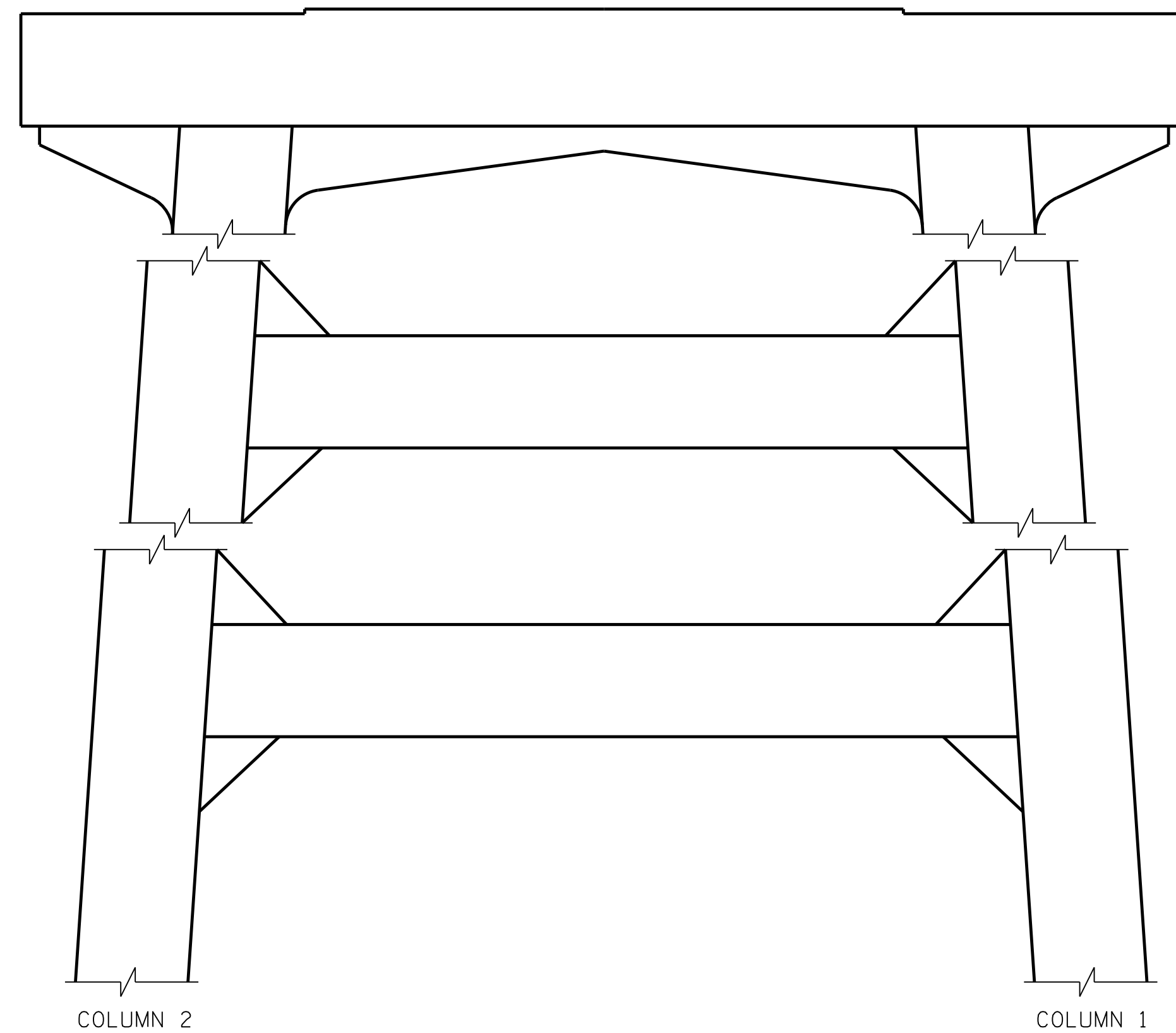


SPAN Q
SPAN P

TOP OF CAP



ELEVATION (SPAN P FACE)



ELEVATION (SPAN Q FACE)

BENT 16	QUANTITIES			
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
SHOTCRETE REPAIRS				
CAP	0.0	0.0		
COLUMN AND STRUT	3.0	0.7		
CONCRETE REPAIRS				
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION				
CAP		0.0		
COLUMN AND STRUT		0.0		
EPOXY COATING				
CAP		78.7		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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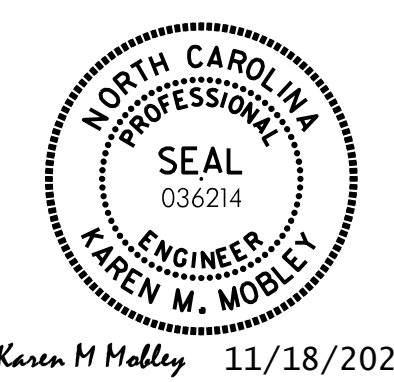
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CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH APPROVAL OF THE ENGINEER.

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 17 OF 28



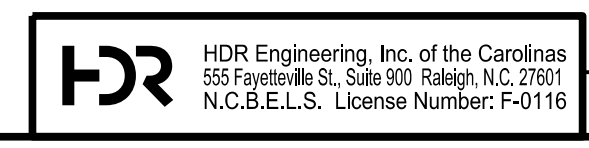
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 16

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

SHEET NO. S2-84
TOTAL SHEETS 97

DWG BY: D. CURTIS DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



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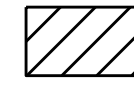
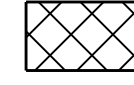

AS-BUILT REPAIR QUANTITY TABLE				
BENT 17	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	11.0	1.2		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	1.0	0.1		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	2.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	78.7			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES
 REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIR AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

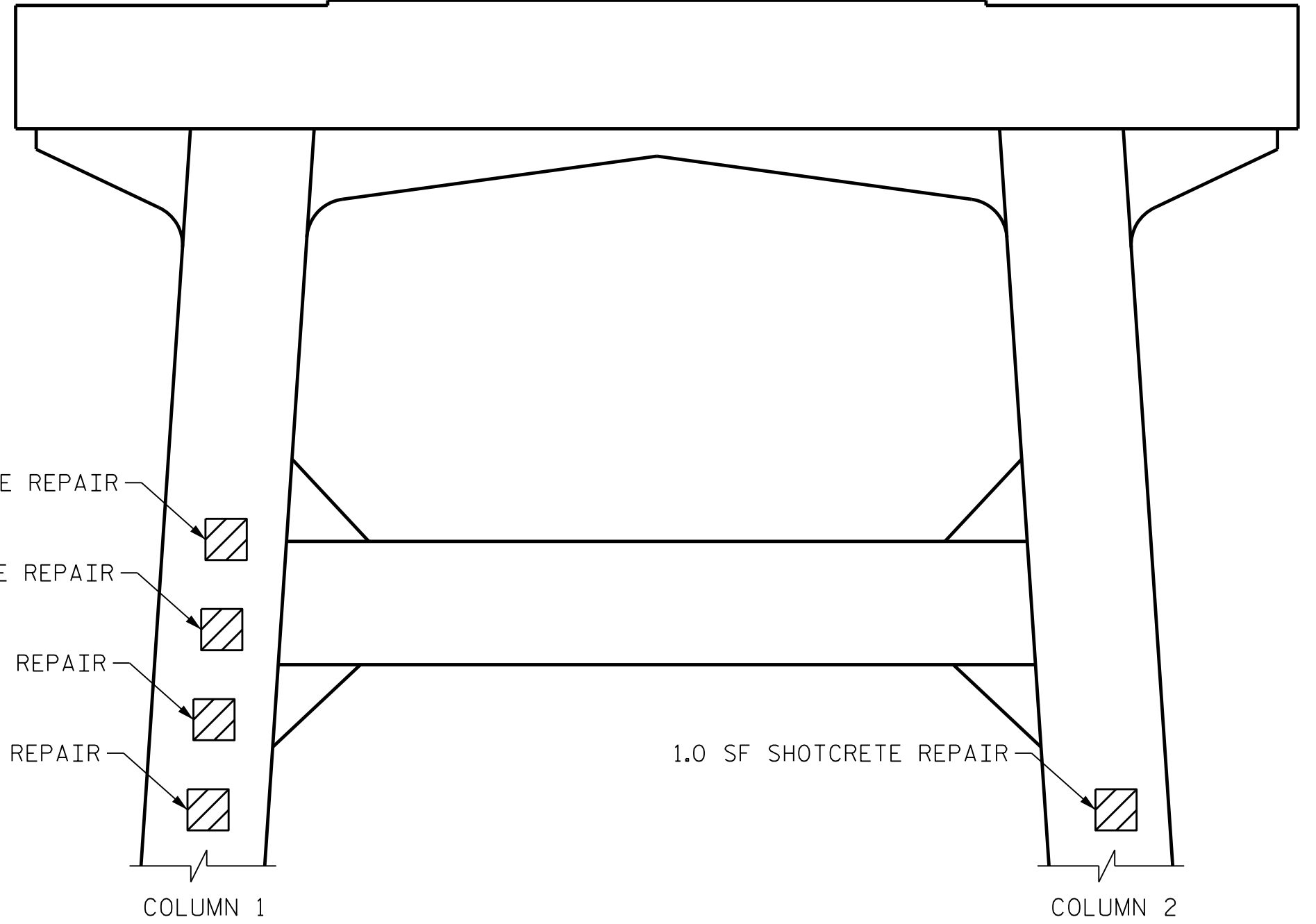
-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION



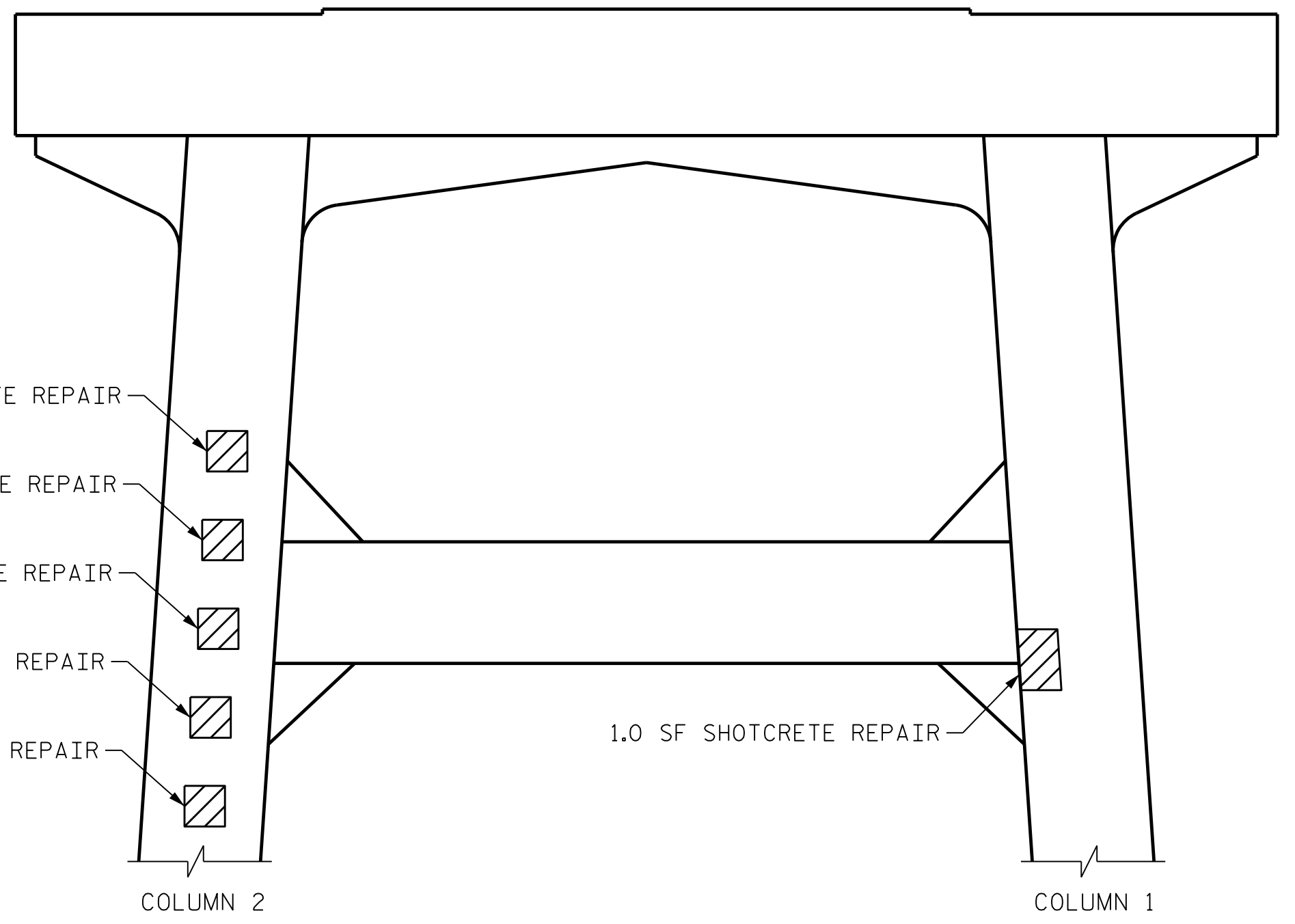
SPAN R
SPAN Q

TOP OF CAP

2.0 LF ERI AND 1.0 SF CONCRETE REPAIR



ELEVATION (SPAN Q FACE)



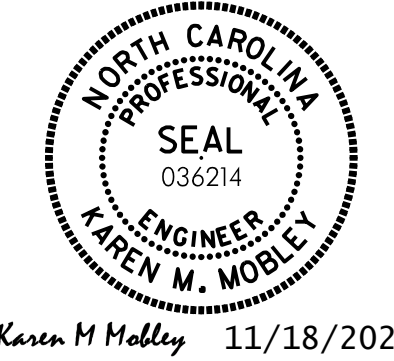
ELEVATION (SPAN R FACE)

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 18 OF 28

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 17



Karen M Mobley 11/18/2021

REVISIONS						SHEET NO. S2-85 TOTAL SHEETS 97
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



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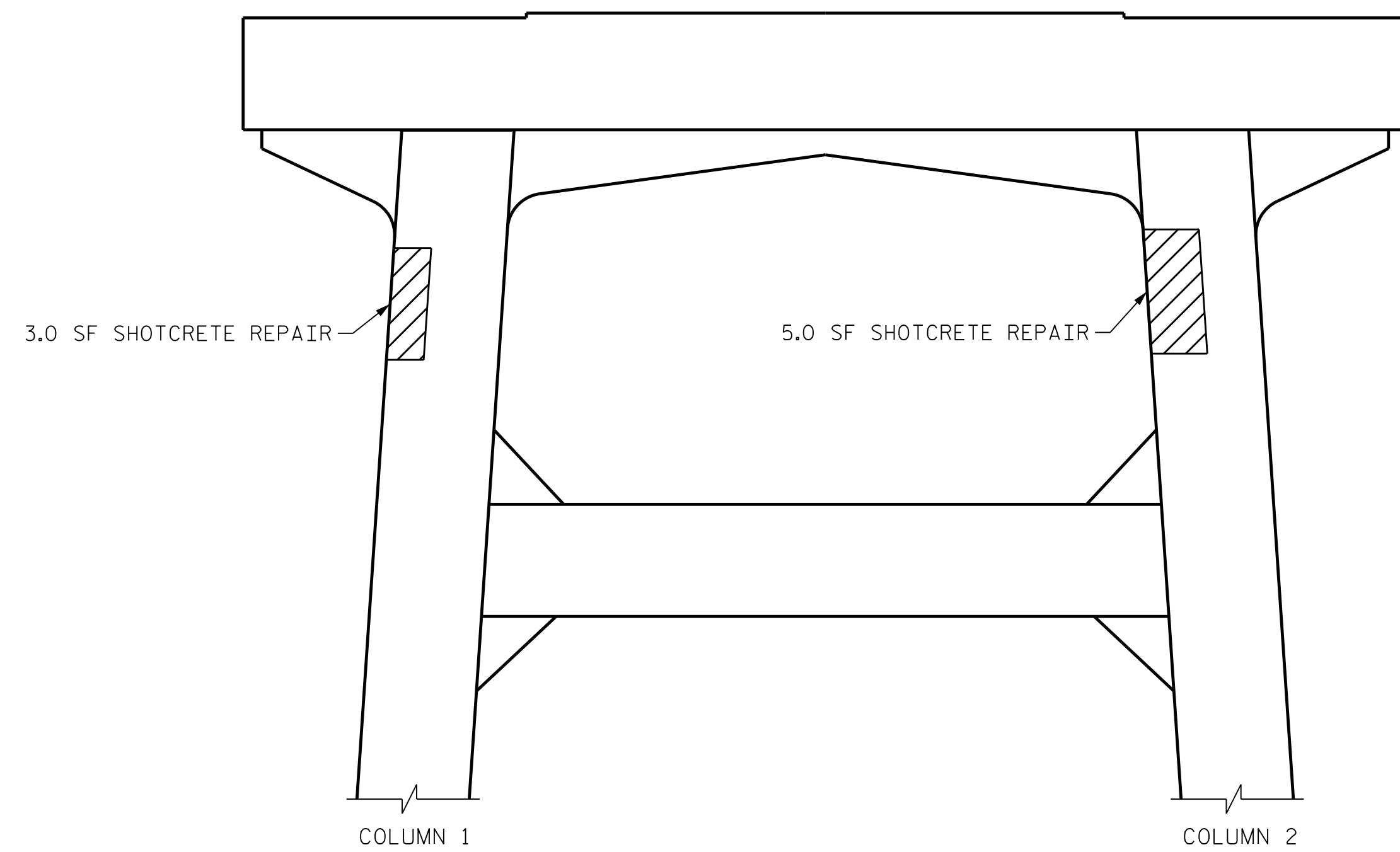
DWG BY: <u>D. CURTIS</u>	DATE: <u>01/19</u>
CHK BY: <u>K. MOBLEY</u>	DATE: <u>01/19</u>

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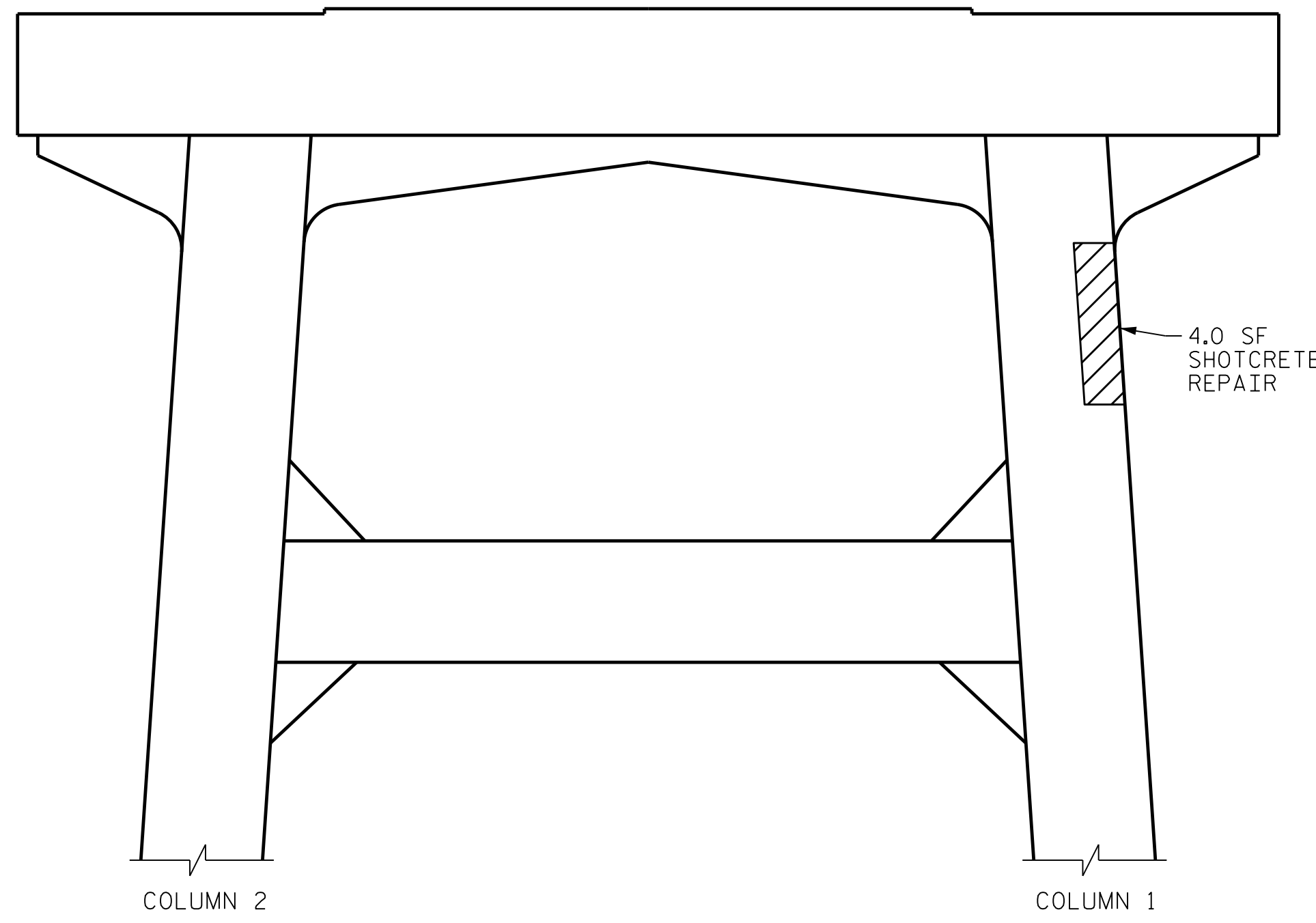


SPAN S
SPAN R

TOP OF CAP



ELEVATION (SPAN R FACE)



ELEVATION (SPAN S FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 18	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	12.0	2.6		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	78.7			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIR AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

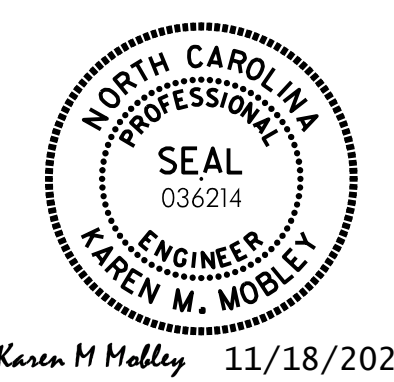
CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 19 OF 28

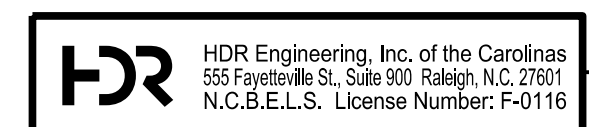


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 18

REVISIONS						SHEET NO. S2-86 TOTAL SHEETS 97
NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			

DWG BY: D. CURTIS DATE : 01/19
 CHK BY: K. MOBLEY DATE : 01/19

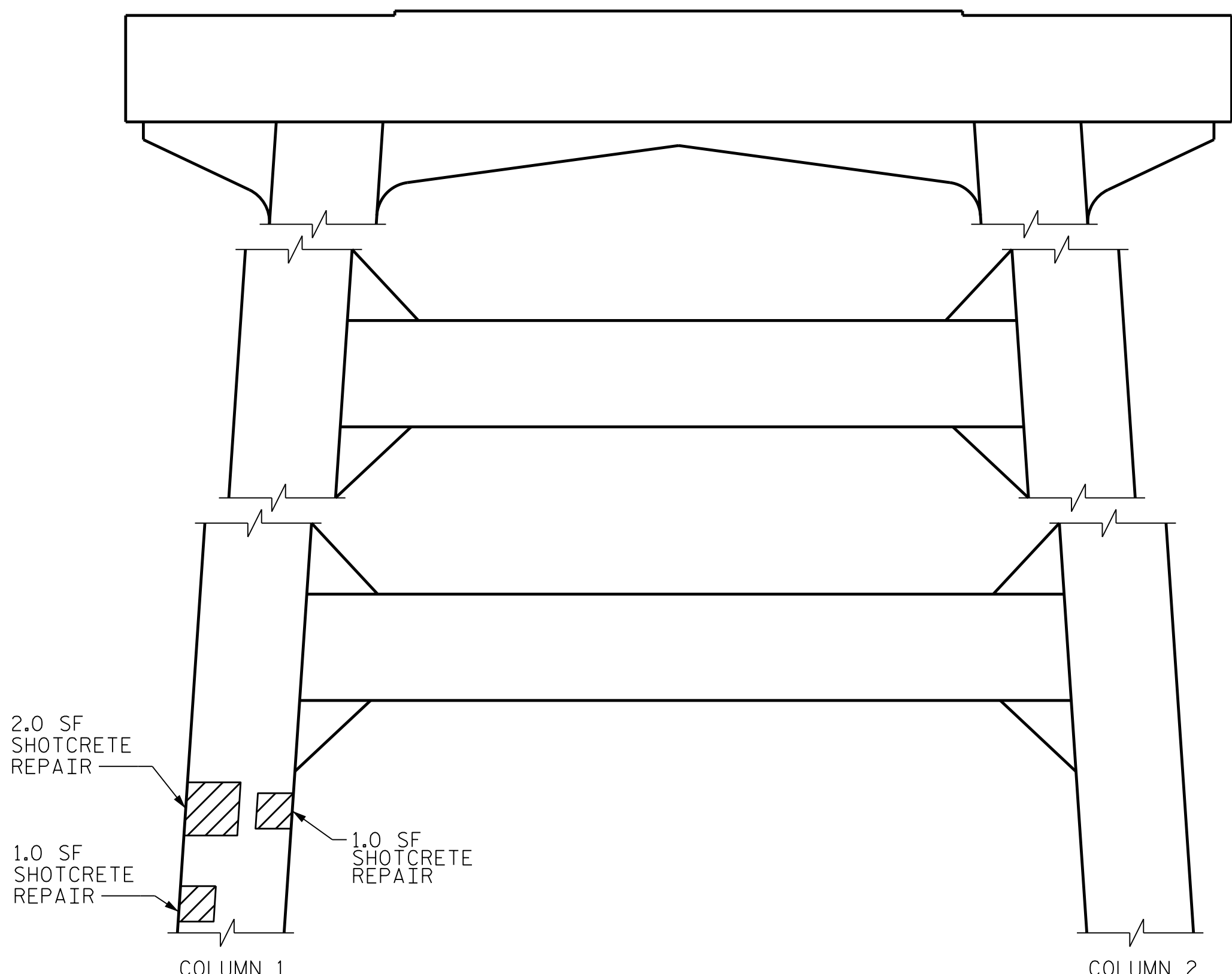


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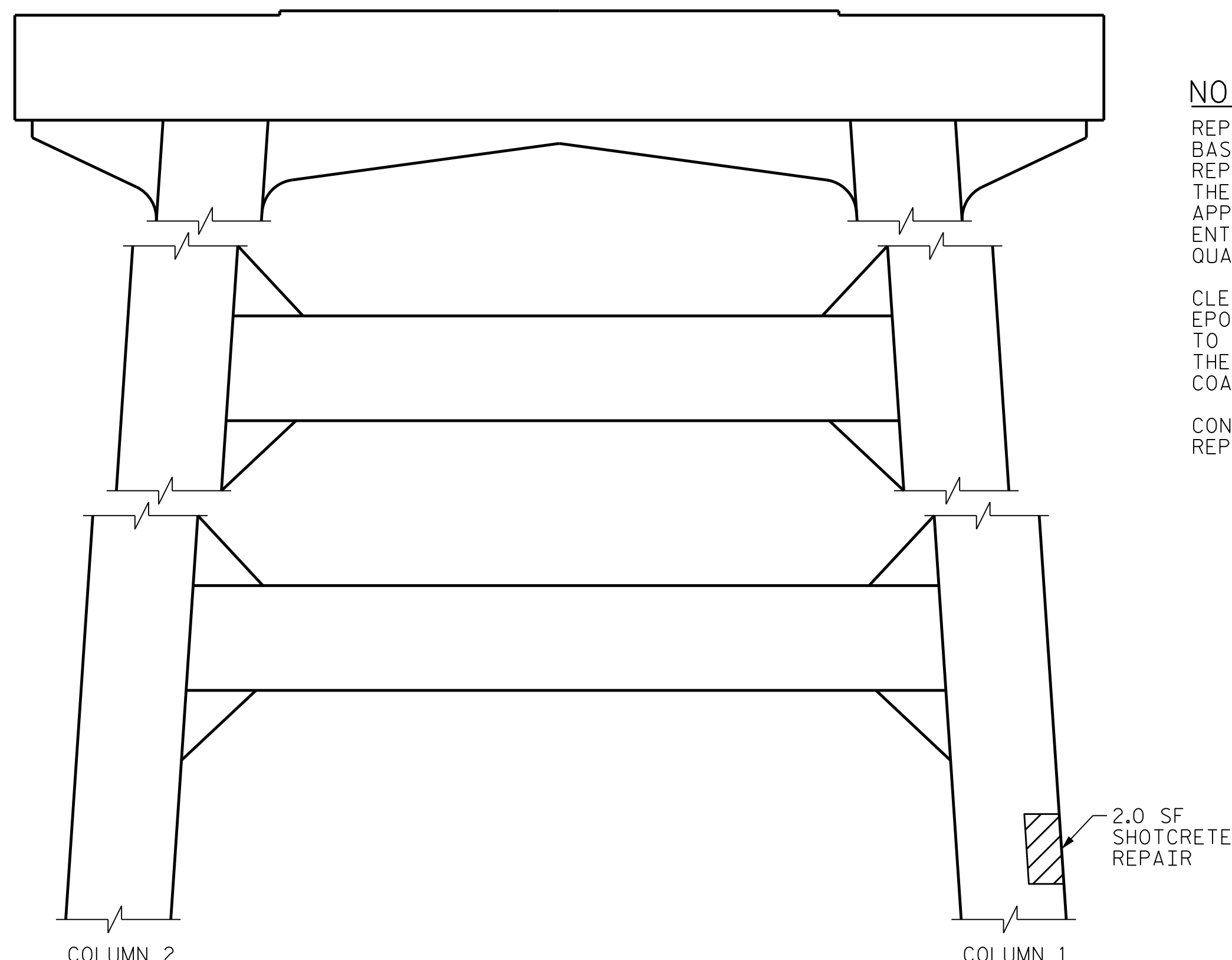


SPAN T
SPAN S

TOP OF CAP



ELEVATION (SPAN S FACE)



ELEVATION (SPAN T FACE)

2.0 SF SHOTCRETE REPAIR
1.0 SF SHOTCRETE REPAIR
1.0 SF SHOTCRETE REPAIR

2.0 SF SHOTCRETE REPAIR

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

BENT 19	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	6.0	1.7		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	78.7			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

PROJECT NO. 15BPR.38

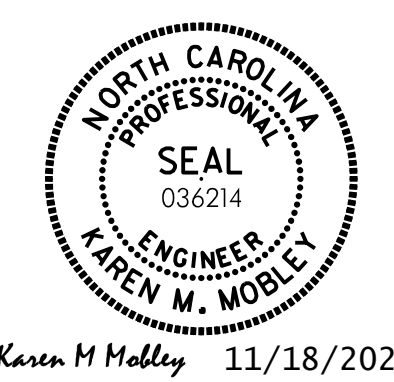
ANSON COUNTY

BRIDGE NO: 030078

SHEET 20 OF 28

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

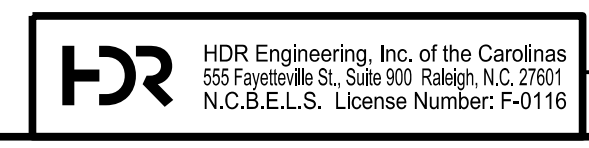
BENT 19



Karen M. Mobley 11/18/2021

REVISIONS						SHEET NO. S2-87
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 97
2			4			

DWG BY: D. CURTIS DATE: 01/19
CHK BY: K. MOBLEY DATE: 01/19



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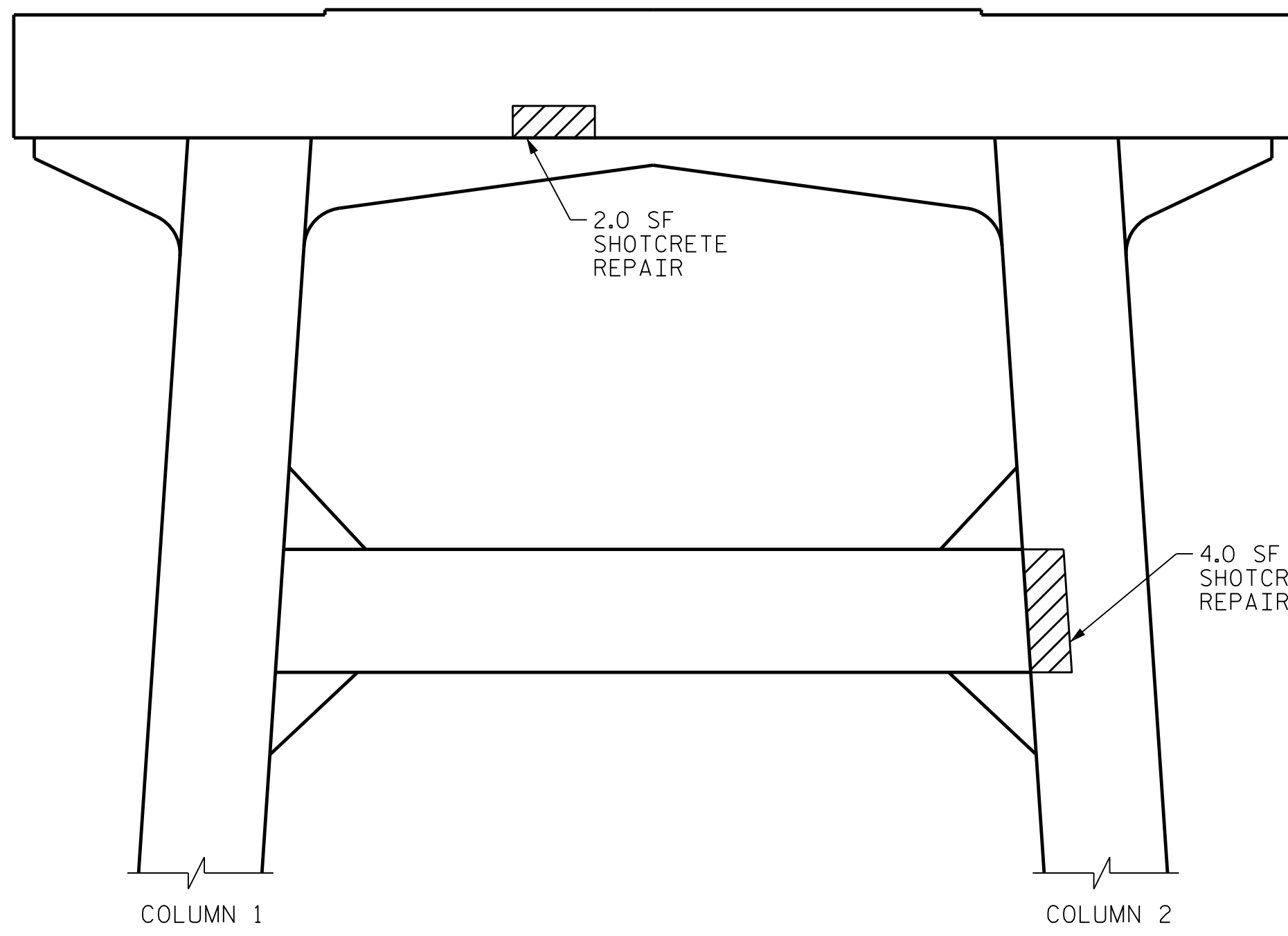
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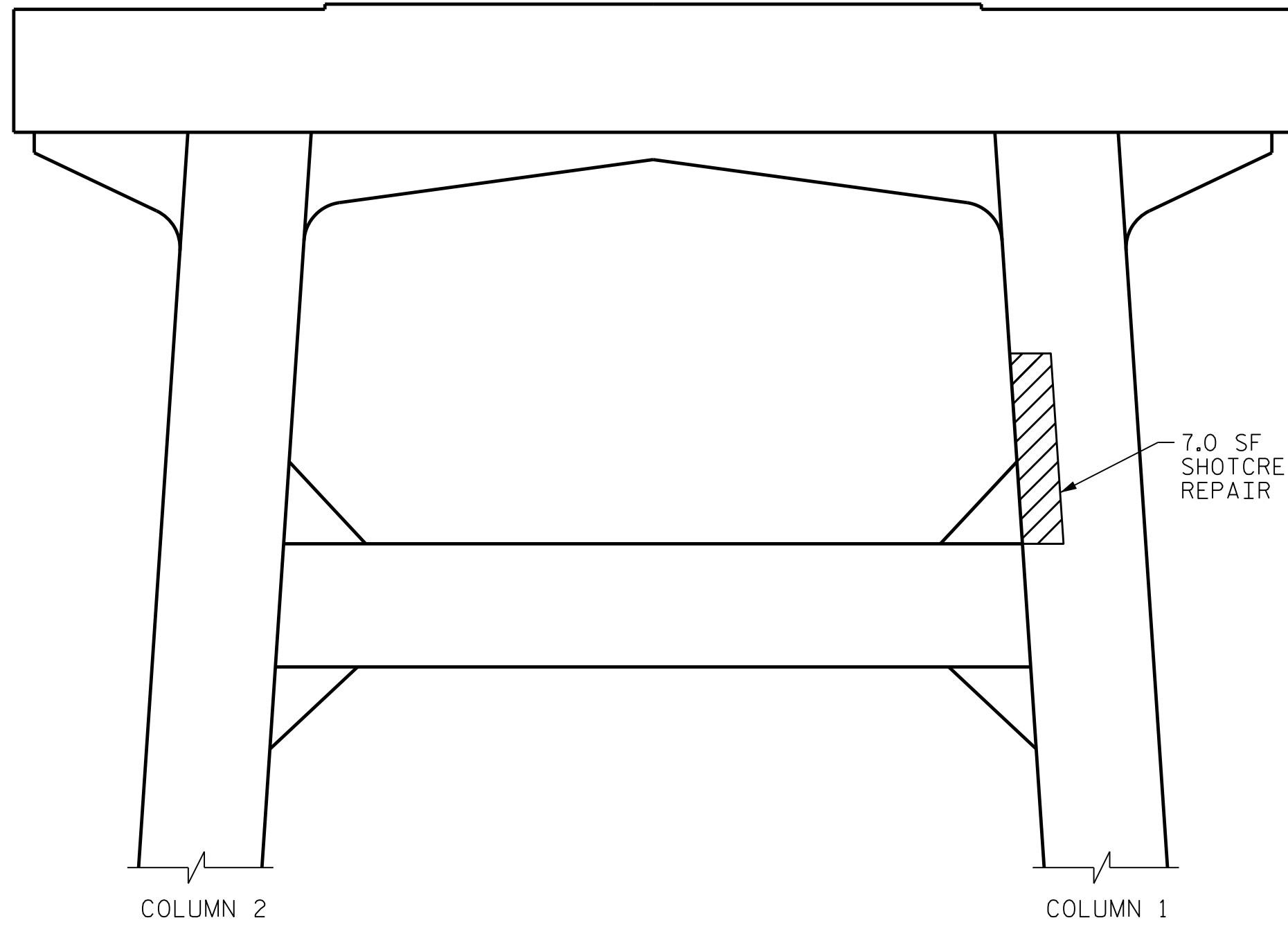


SPAN U
SPAN T

TOP OF CAP



ELEVATION (SPAN T FACE)



ELEVATION (SPAN U FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 20	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	2.0	0.5		
COLUMN AND STRUT	11.0	2.7		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	78.7			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

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CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 21 OF 28

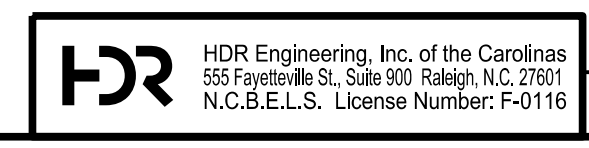


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 20

REVISIONS						SHEET NO. S2-88
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 97
2			4			

DWG BY: D. CURTIS DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



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UNLESS ALL SIGNATURES COMPLETED**

AS-BUILT REPAIR QUANTITY TABLE

BENT 21	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	5.0	0.9		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	82.5			

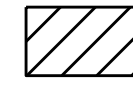
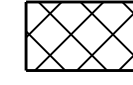

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

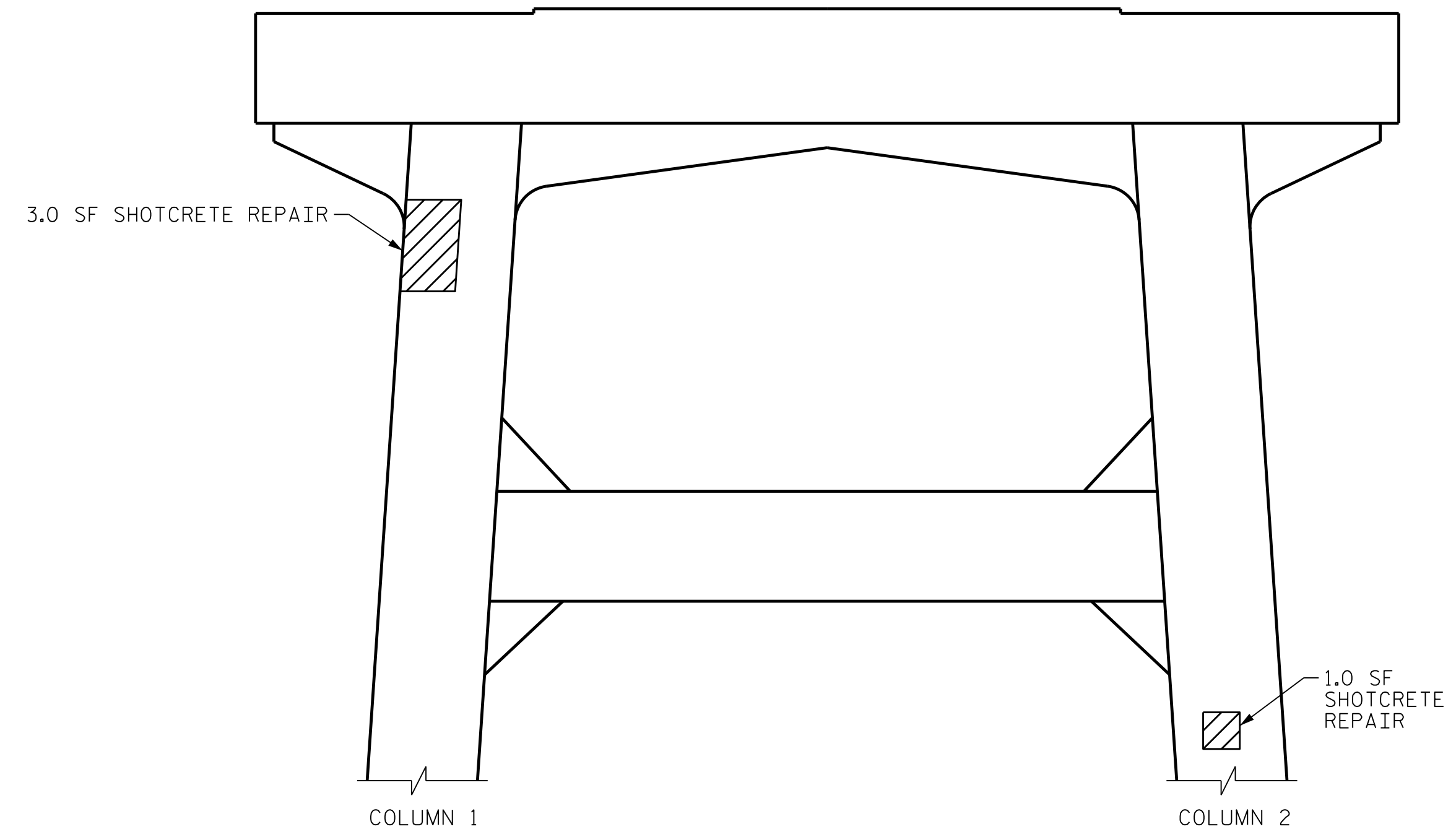
CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH APPROVAL OF THE ENGINEER.

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION

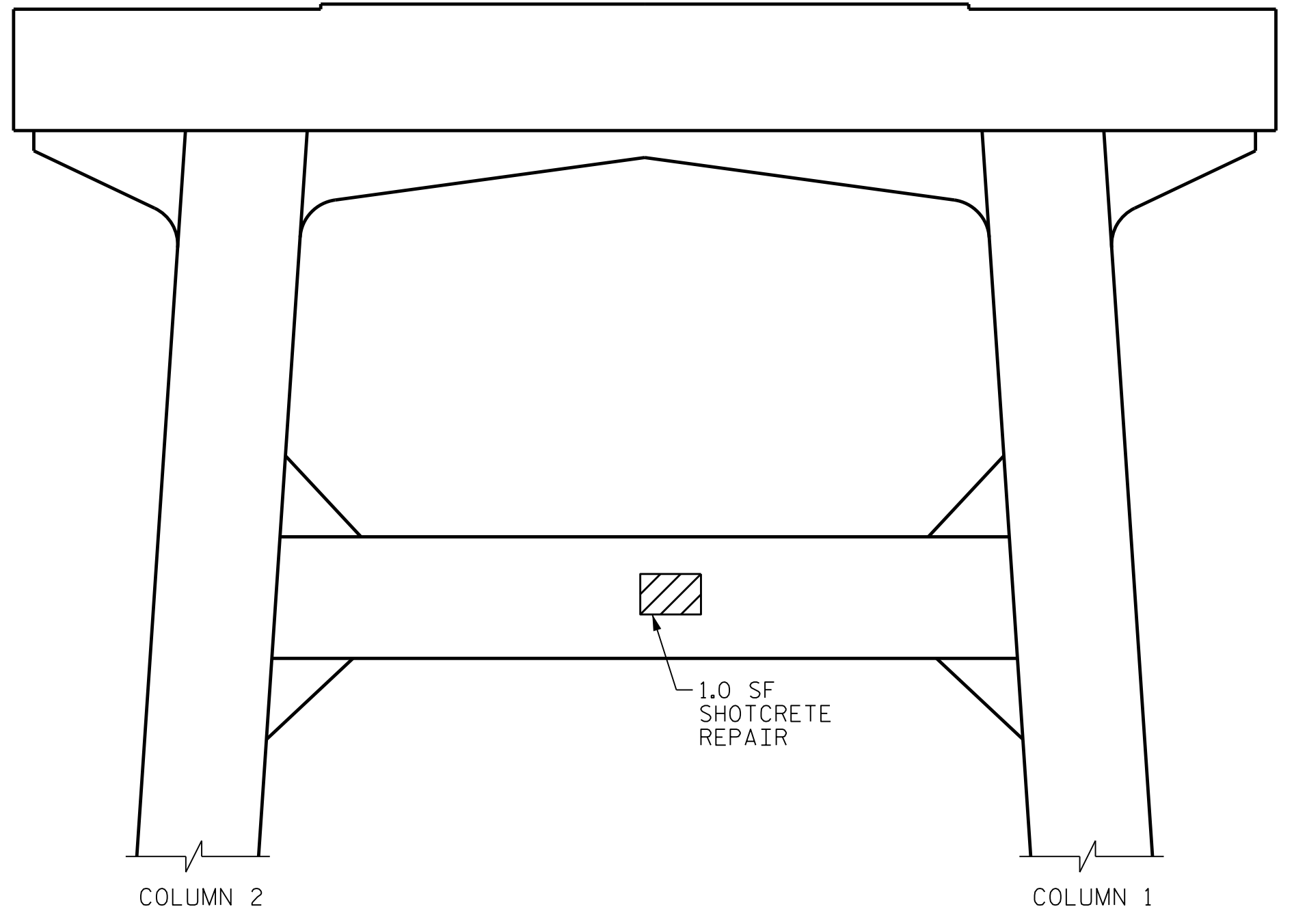


SPAN V
SPAN U

TOP OF CAP



ELEVATION (SPAN U FACE)



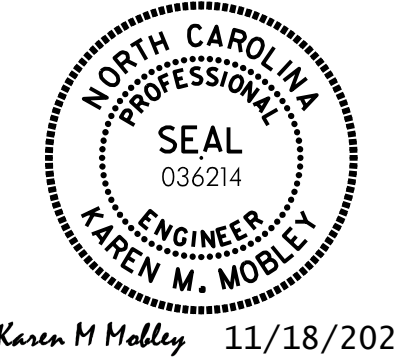
ELEVATION (SPAN V FACE)

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

SHEET 22 OF 28

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 21



Karen M. Mobley 11/18/2021

DWG BY: D. CURTIS	DATE: 01/19
CHK BY: K. MOBLEY	DATE: 01/19



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REVISIONS						SHEET NO. S2-89
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 97
2			4			

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AS-BUILT REPAIR QUANTITY TABLE

BENT 22	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
COLUMN AND STRUT		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
CAP		75.9		

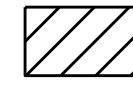
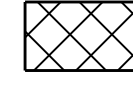

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

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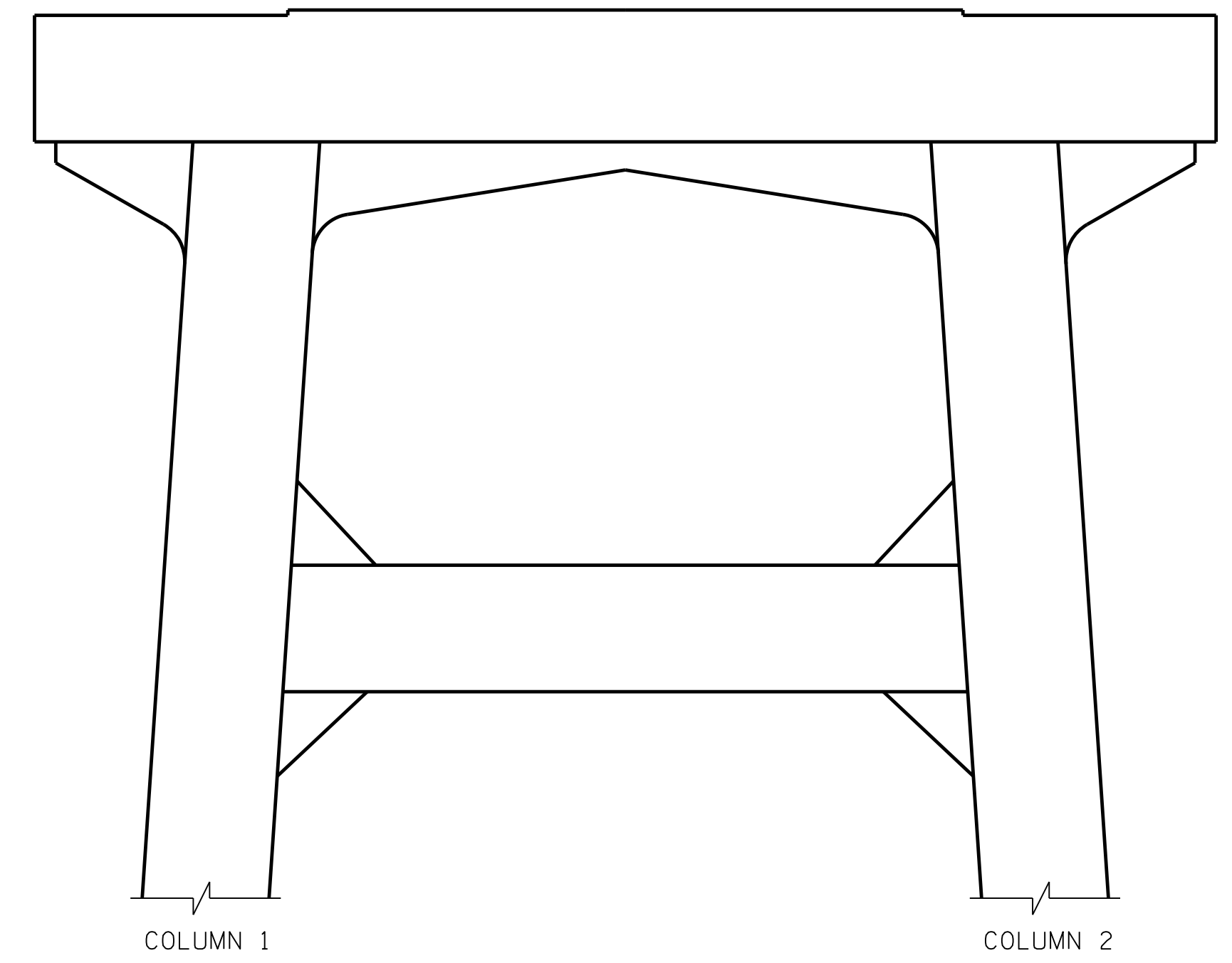
CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH APPROVAL OF THE ENGINEER.

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION

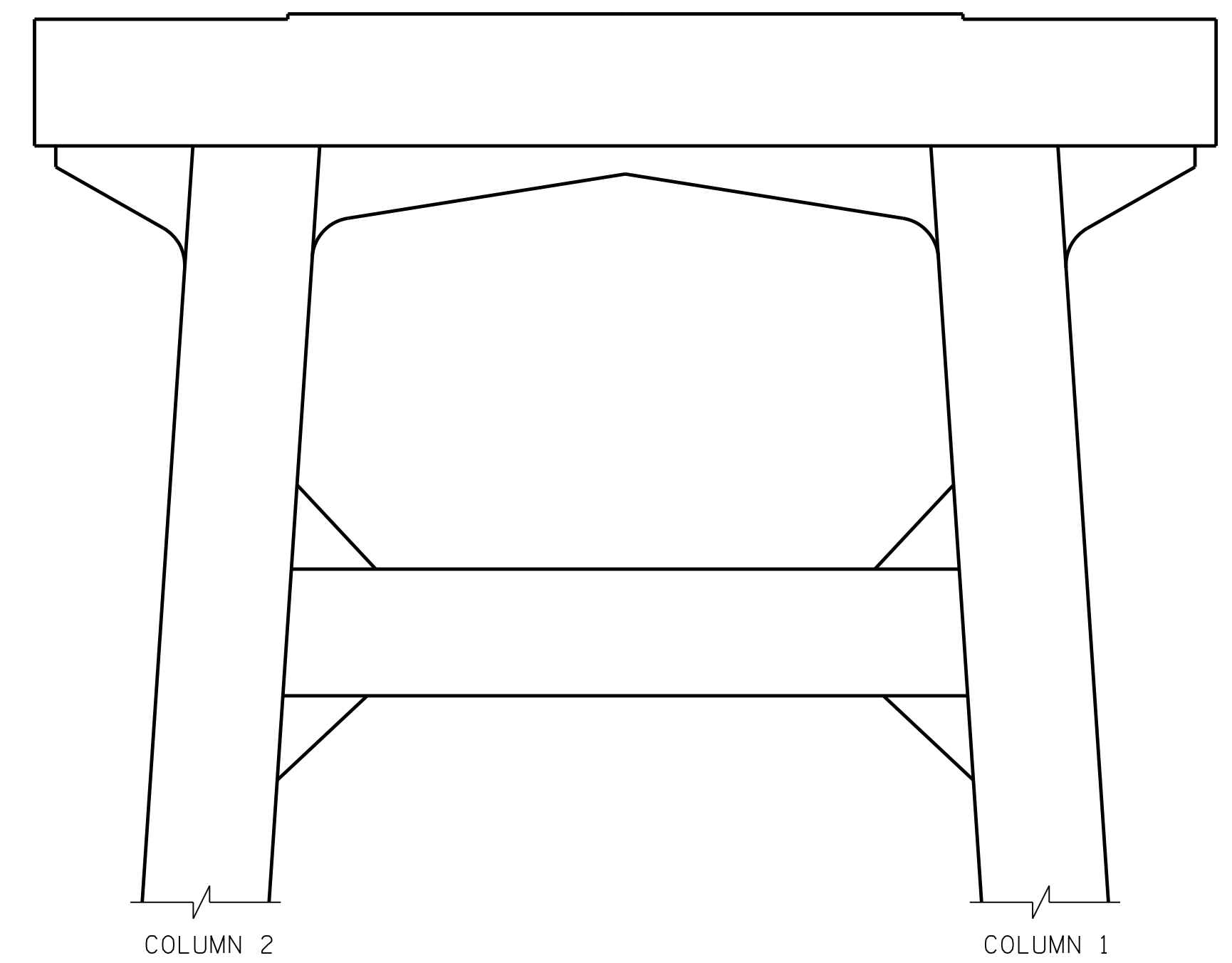


SPAN W
SPAN V

TOP OF CAP



ELEVATION (SPAN V FACE)



ELEVATION (SPAN W FACE)

PROJECT NO. 15BPR.38

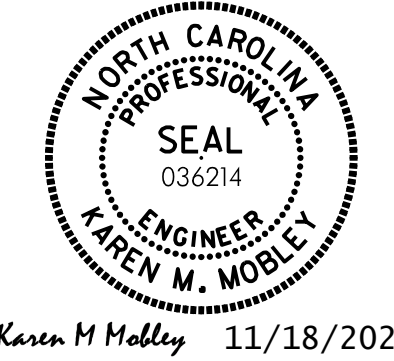
ANSON COUNTY

BRIDGE NO: 030078

SHEET 23 OF 28

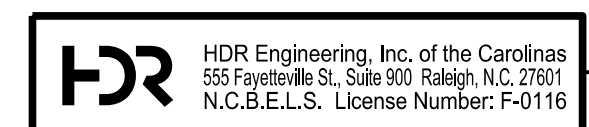
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 22



REVISIONS						SHEET NO. S2-90 TOTAL SHEETS 97
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

DWG BY: <u>D. CURTIS</u>	DATE: <u>01/19</u>
CHK BY: <u>K. MOBLEY</u>	DATE: <u>01/19</u>



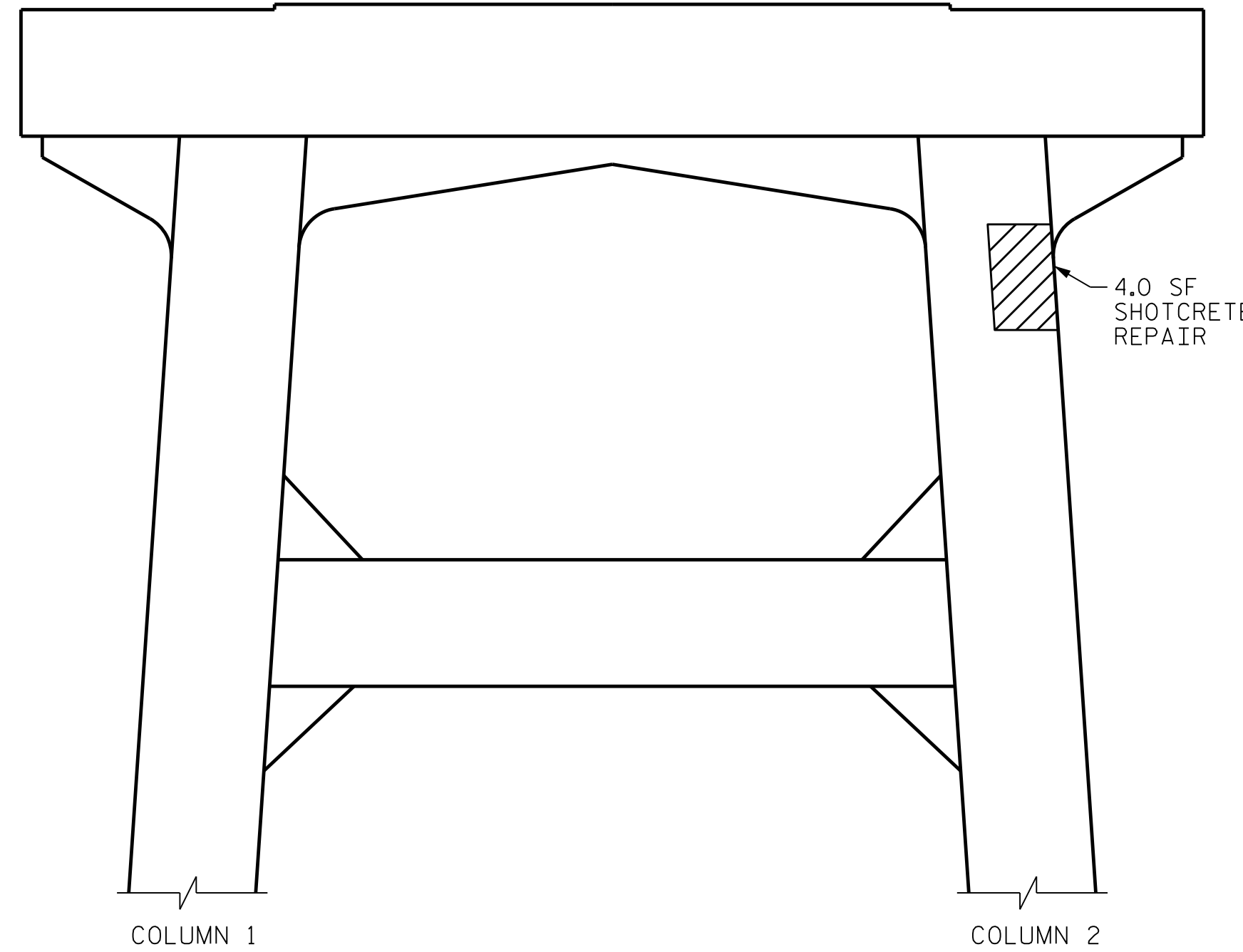
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UNLESS ALL SIGNATURES COMPLETED**

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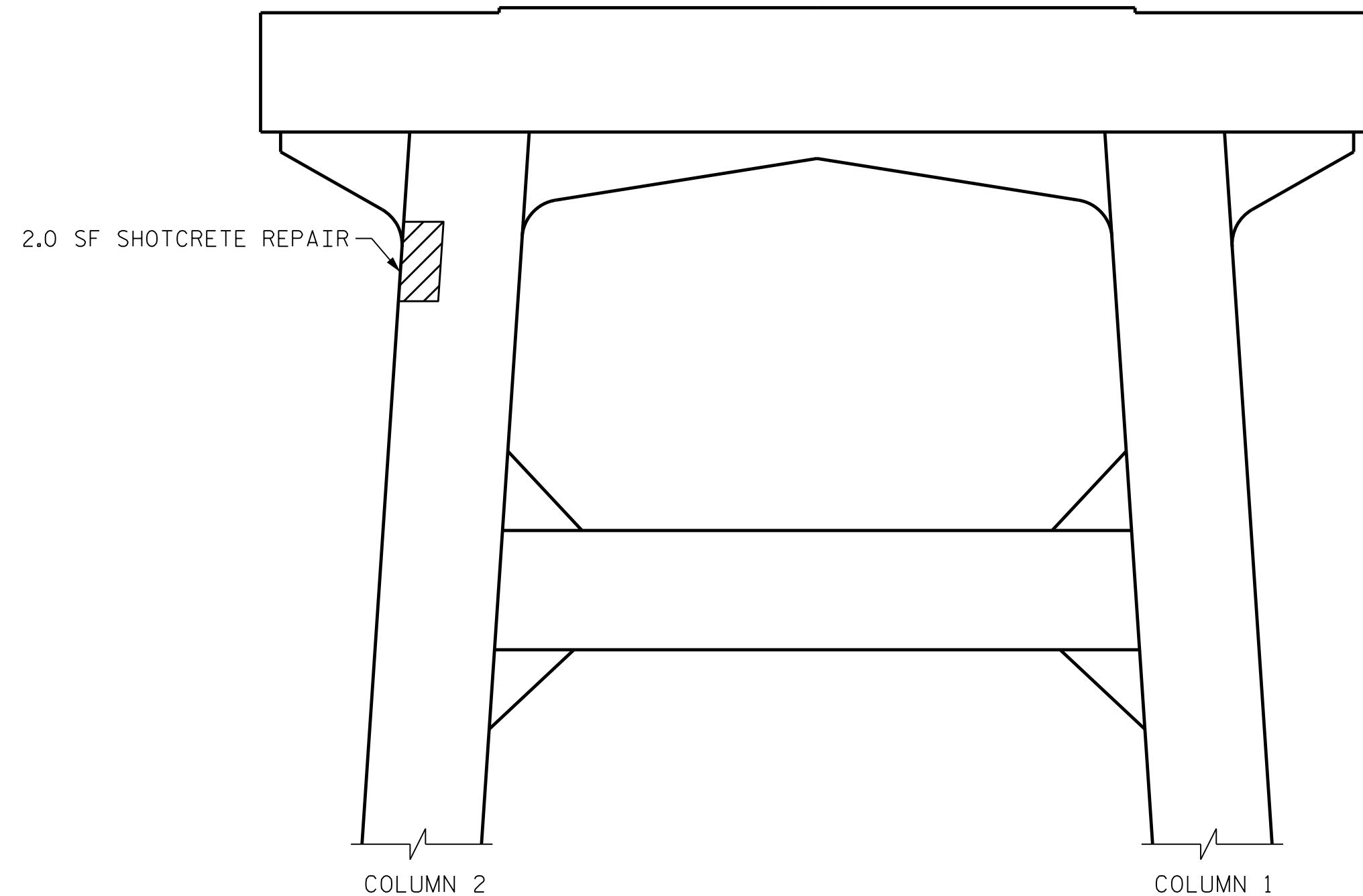


SPAN X
SPAN W

TOP OF CAP



ELEVATION (SPAN W FACE)



ELEVATION (SPAN X FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 23	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	6.0	1.9		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	75.9			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIR AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38

ANSON COUNTY

BRIDGE NO: 030078

SHEET 24 OF 28

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 23



Karen M Mobley 11/18/2021

REVISIONS

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

SHEET NO. S2-91
TOTAL SHEETS 97

DWG BY: D. CURTIS DATE : 01/19
CHK BY: K. MOBLEY DATE : 01/19



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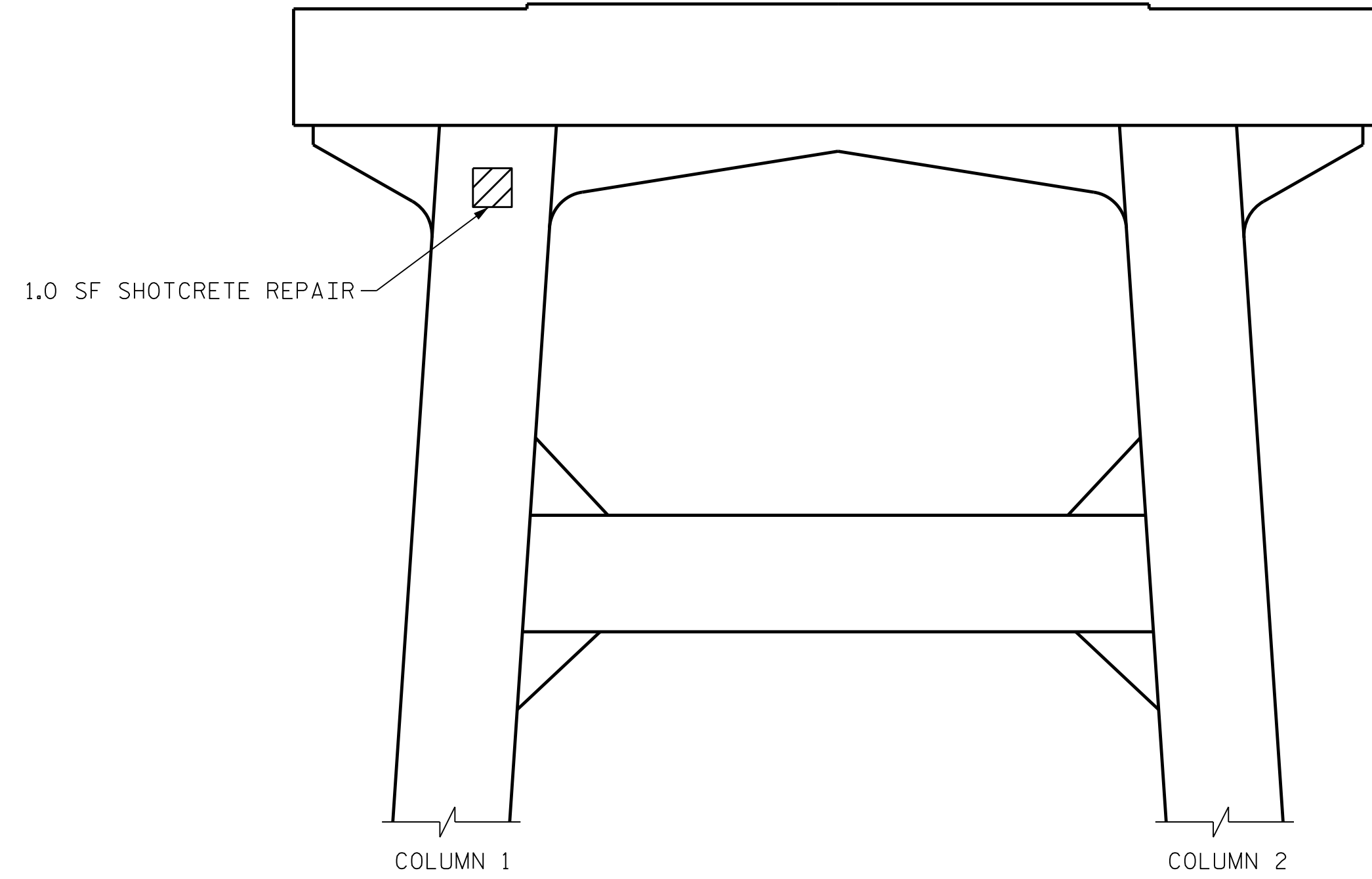
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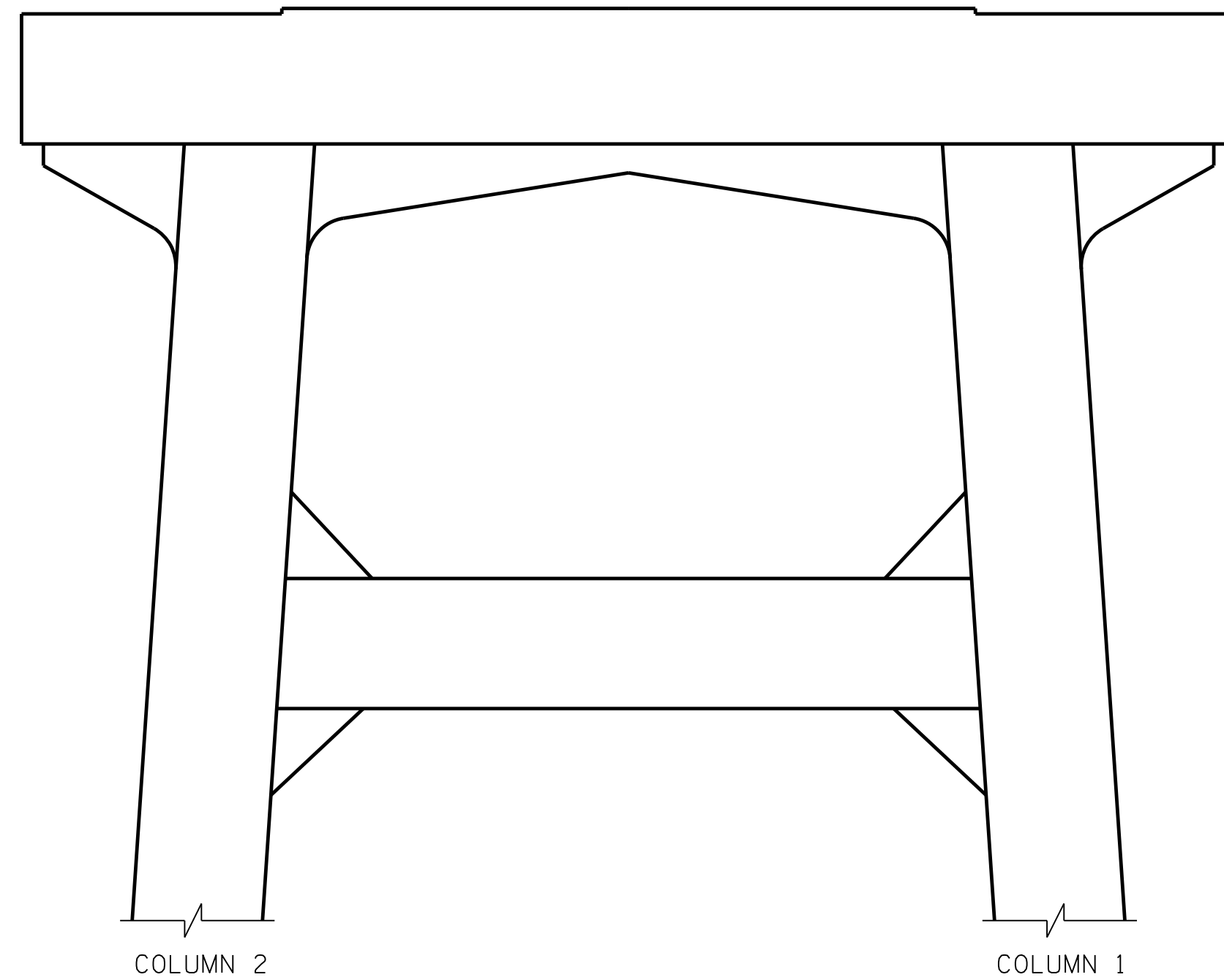


SPAN Y
SPAN X

TOP OF CAP



ELEVATION (SPAN X FACE)



ELEVATION (SPAN Y FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 24	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	1.0	0.1		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	75.9			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

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- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38

ANSON COUNTY

BRIDGE NO: 030078

SHEET 25 OF 28

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 24



Karen M Mobley 11/18/2021

DWG BY: D. CURTIS DATE : 01/19
 CHK BY: K. MOBLEY DATE : 01/19



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1			3			
2			4			

AS-BUILT REPAIR QUANTITY TABLE

BENT 25	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	2.0	0.5		
COLUMN AND STRUT	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	75.9			




VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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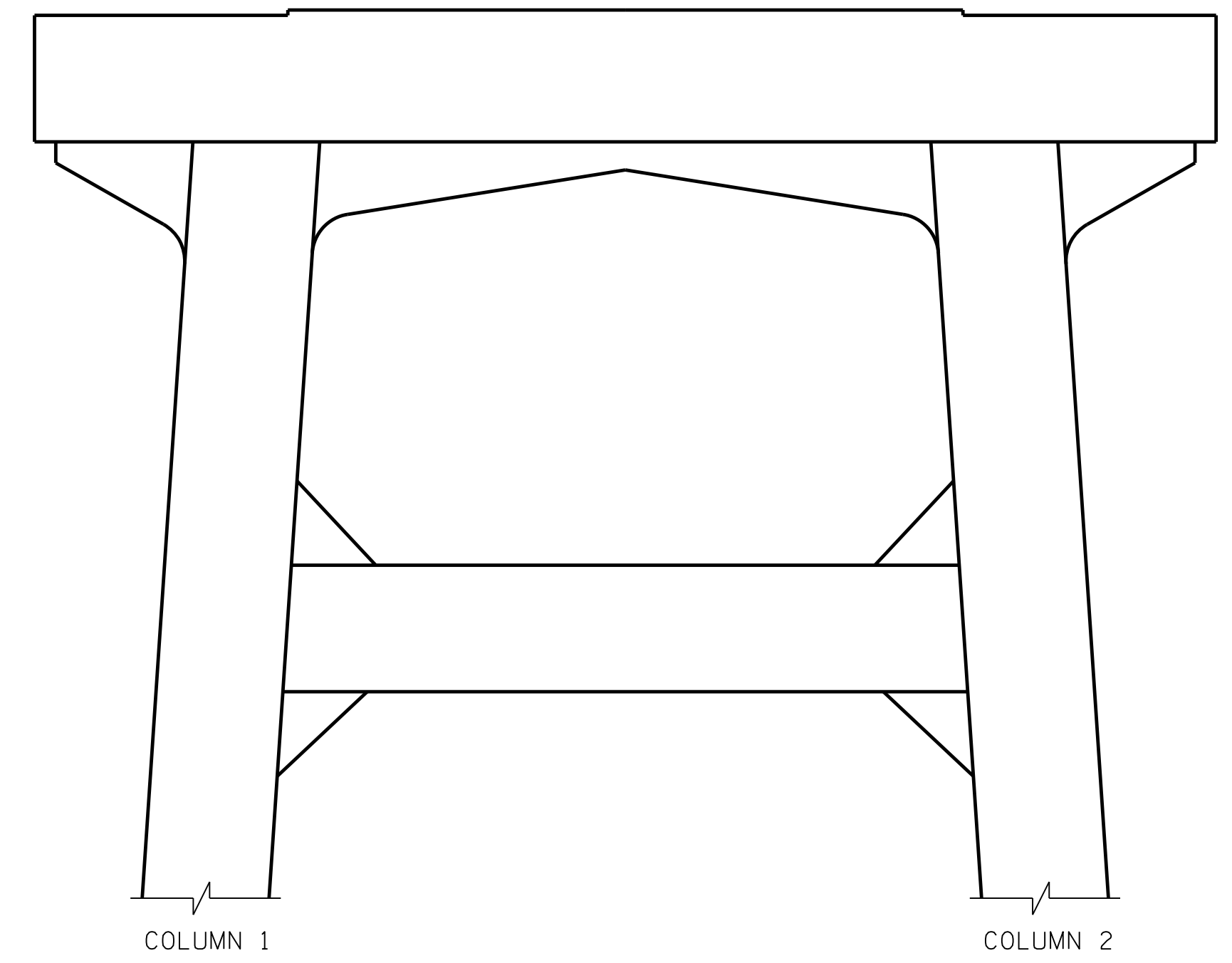
CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH APPROVAL OF THE ENGINEER.

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION

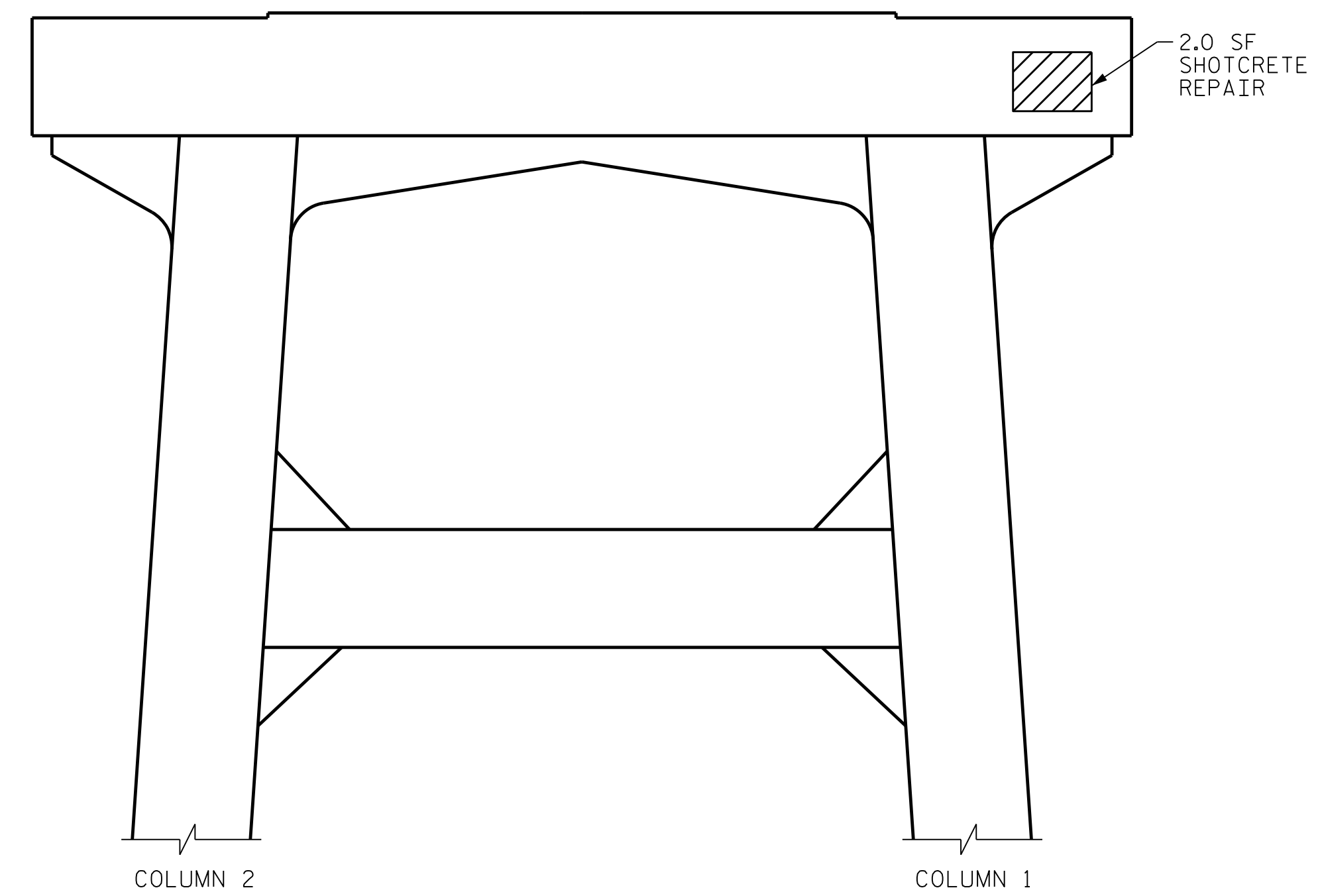


SPAN Z
SPAN Y

TOP OF CAP



ELEVATION (SPAN Y FACE)



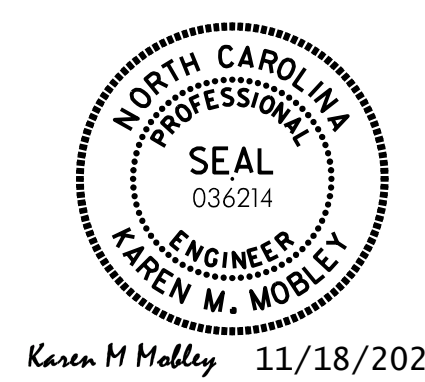
ELEVATION (SPAN Z FACE)

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078

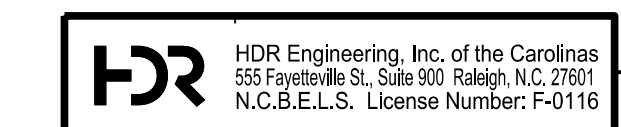
SHEET 26 OF 28

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 25



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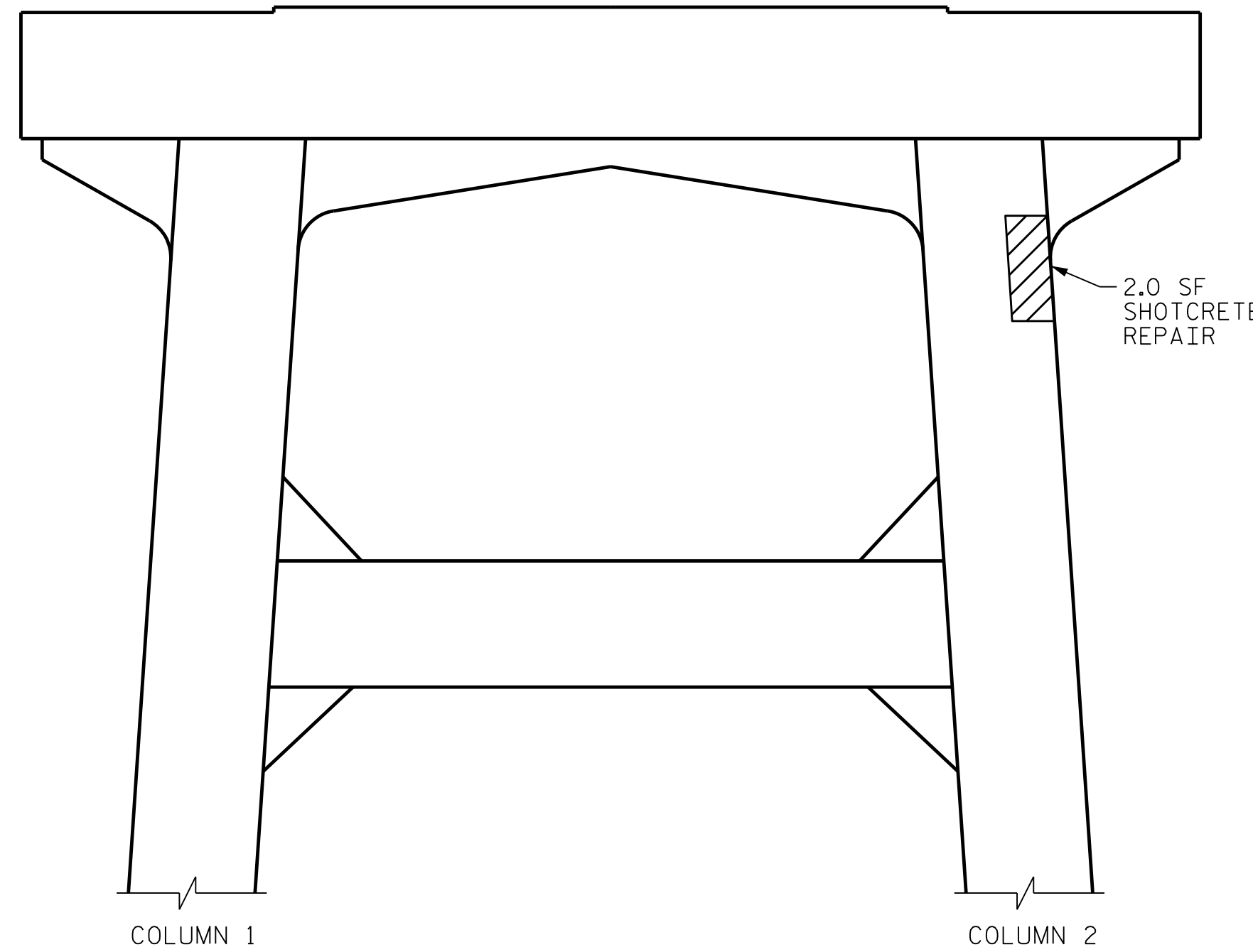
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CHK BY: <u>K. MOBLEY</u>	DATE: <u>01/19</u>

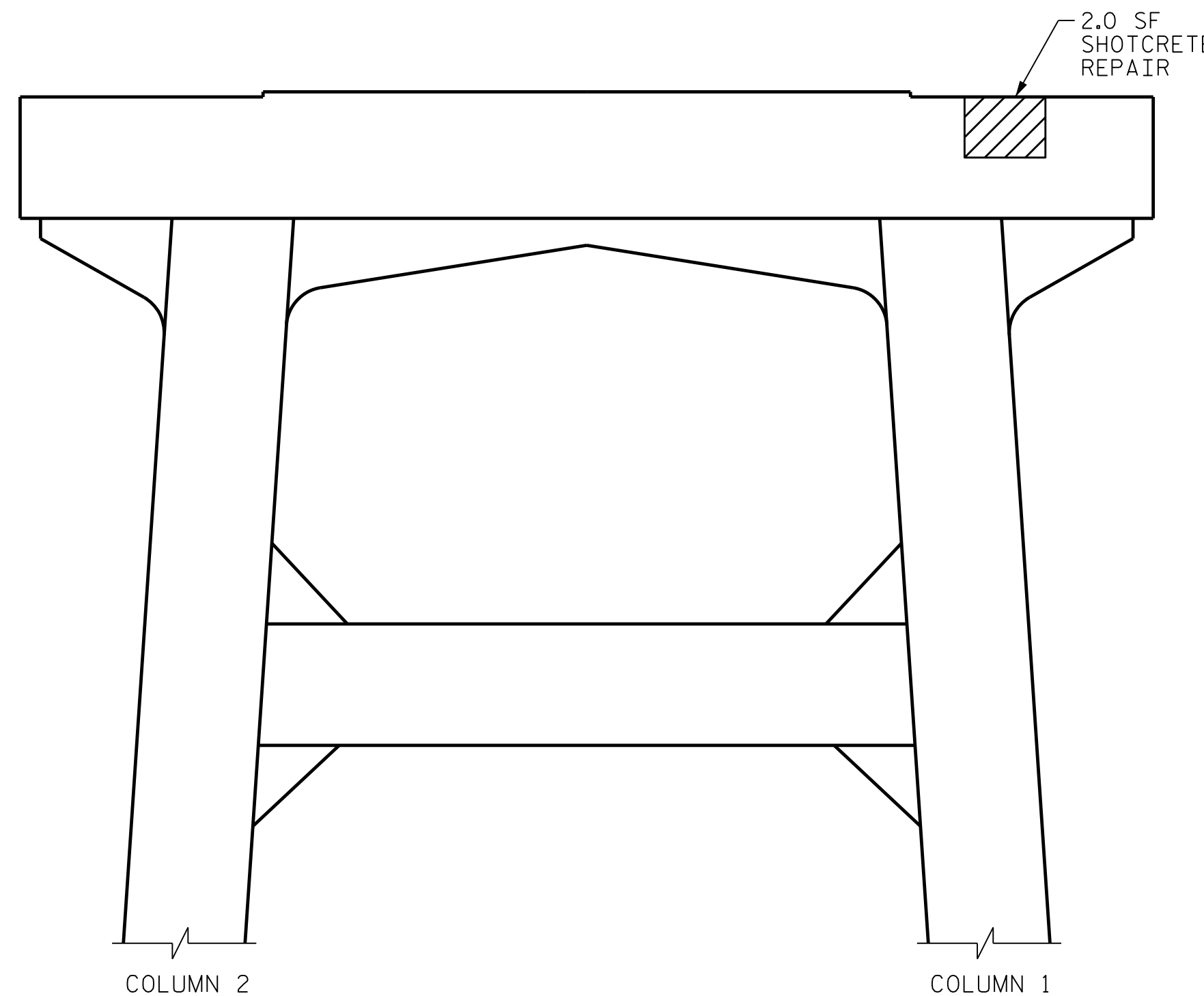


SPAN ZZ
SPAN Z

TOP OF CAP



ELEVATION (SPAN Z FACE)



ELEVATION (SPAN ZZ FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 26	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	2.0	0.3		
COLUMN AND STRUT	2.0	0.5		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN AND STRUT	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN AND STRUT	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	75.9			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38

ANSON COUNTY

BRIDGE NO: 030078

SHEET 27 OF 28

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 26



Karen M Mobley 11/18/2021

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SHEET NO. S2-94
TOTAL SHEETS 97

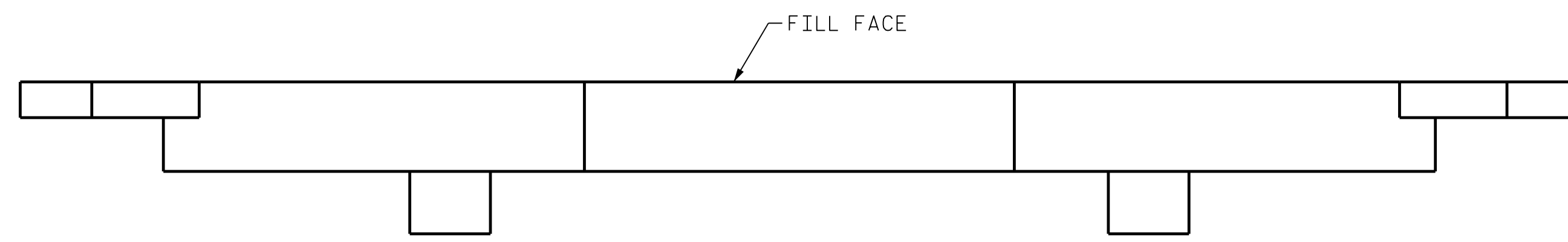
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CHK BY: K. MOBLEY	DATE: 01/19



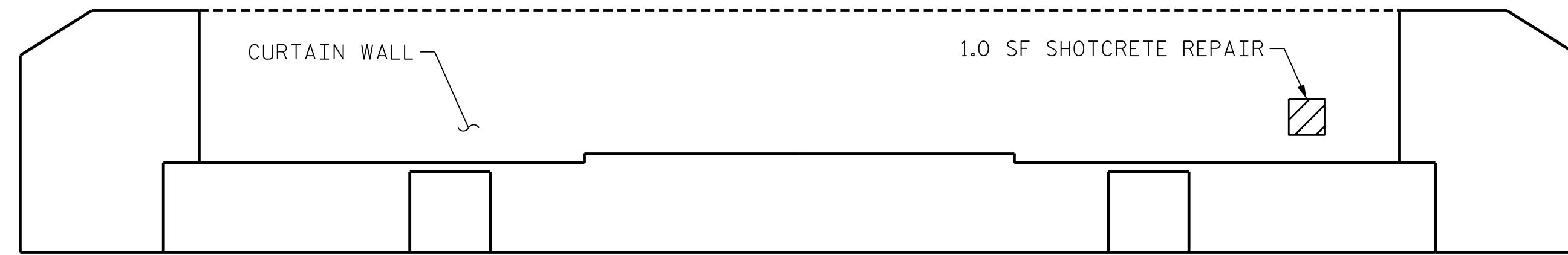
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PLAN



ELEVATION

AS-BUILT REPAIR QUANTITY TABLE

END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	1.0	0.3		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
CURTAIN WALL	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	53.6			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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

EPOXY COATING QUANTITIES INCLUDE TOP OF PILE CAPS.

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38

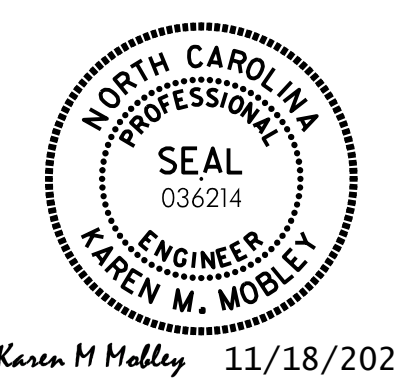
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BRIDGE NO: 030078

SHEET 28 OF 28

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 2

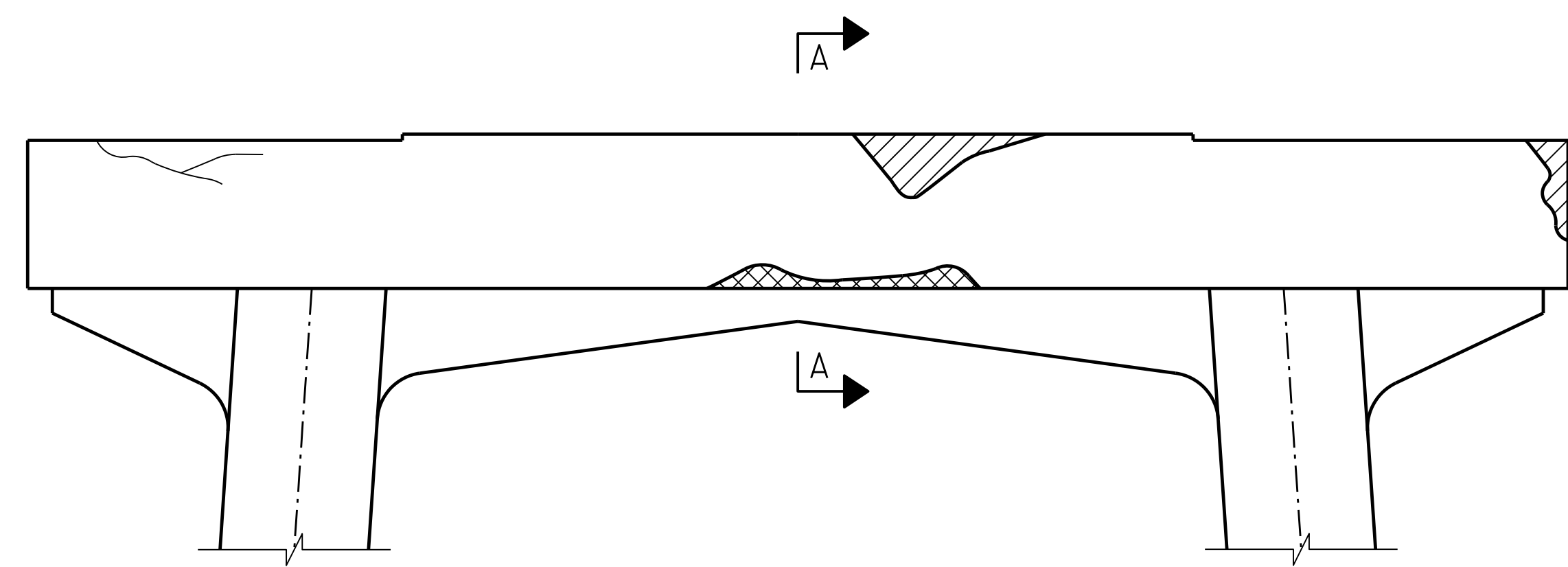


DWG BY: D. CURTIS	DATE: 01/19
CHK BY: K. MOBLEY	DATE: 01/19

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 N.C.B.E.L.S. License Number: F-0116

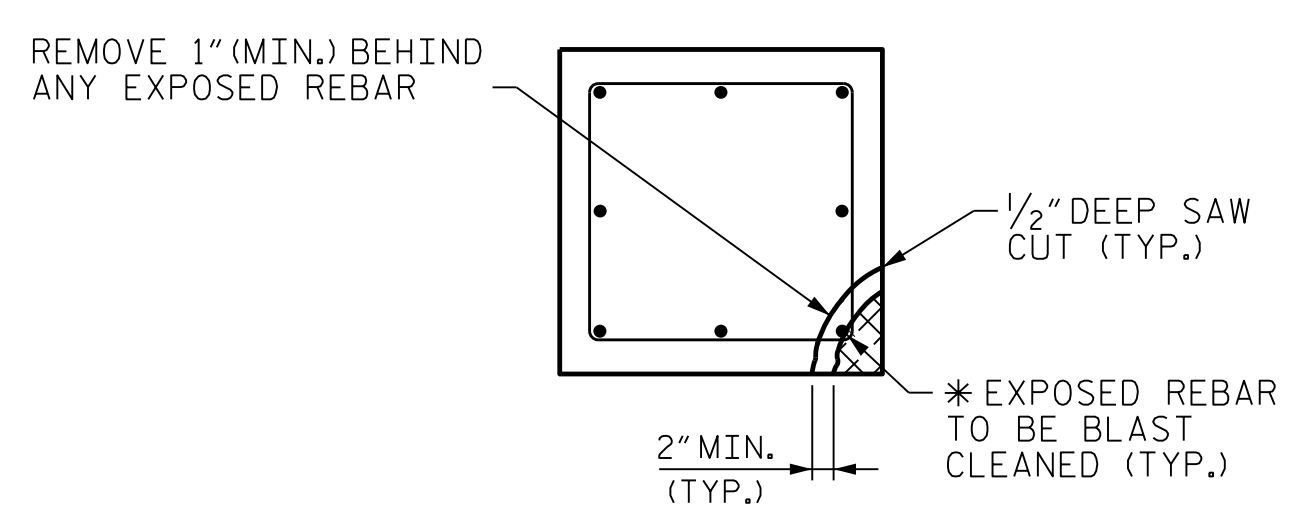
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BENT CAP REPAIRS

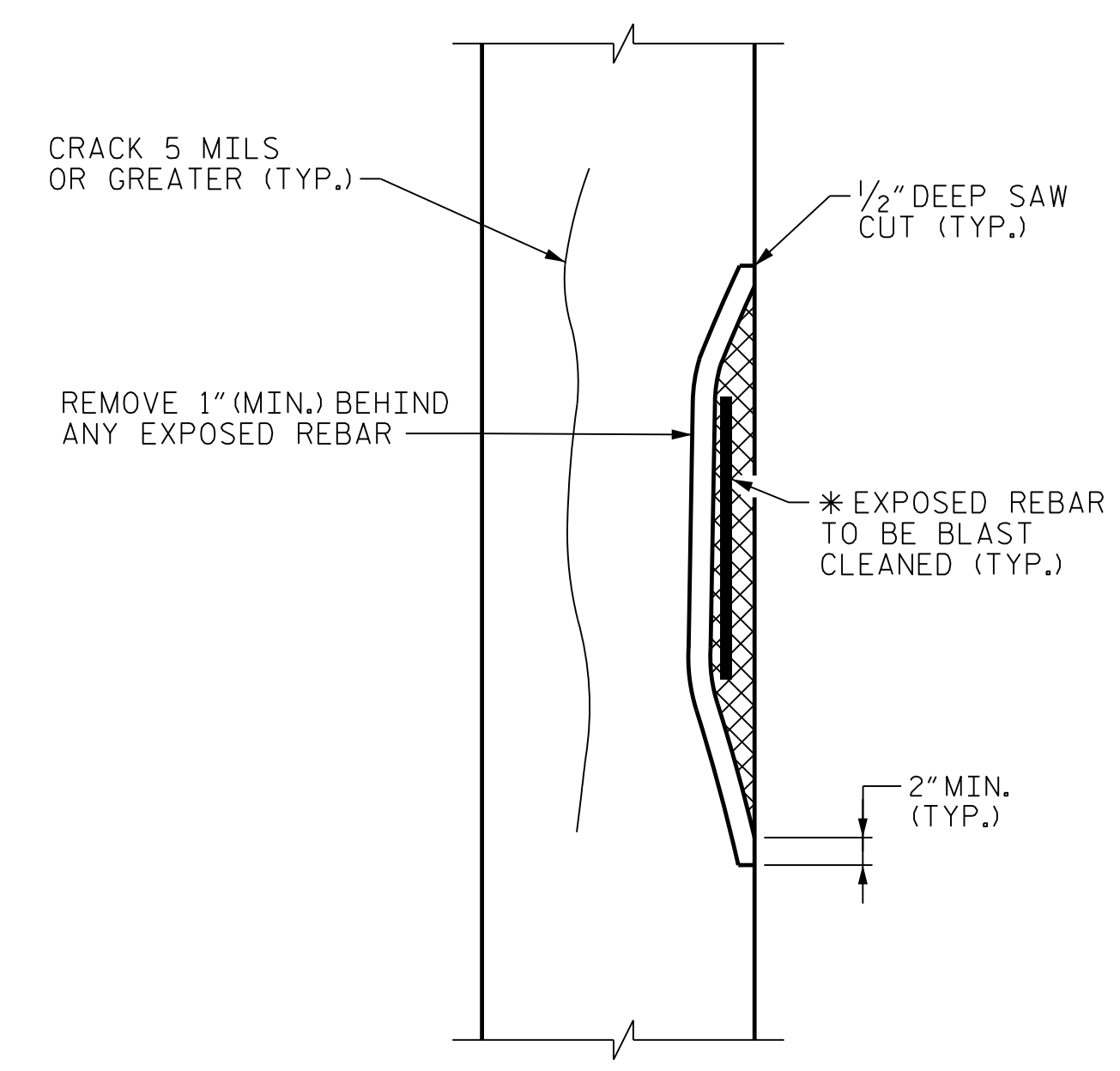
SPALLED, DELAMINATED OR CRACKED CONCRETE (REMOVE UNTIL SOUND CONCRETE IS FOUND AND 1" MIN. BEHIND ANY EXPOSED REBAR) (TYP.)



PLAN OF COLUMN

REPAIR KEY

- CONCRETE REPAIR AREA (FORM AND POUR)
- SHOTCRETE REPAIR AREA
- EPOXY RESIN INJECTION (ERI)

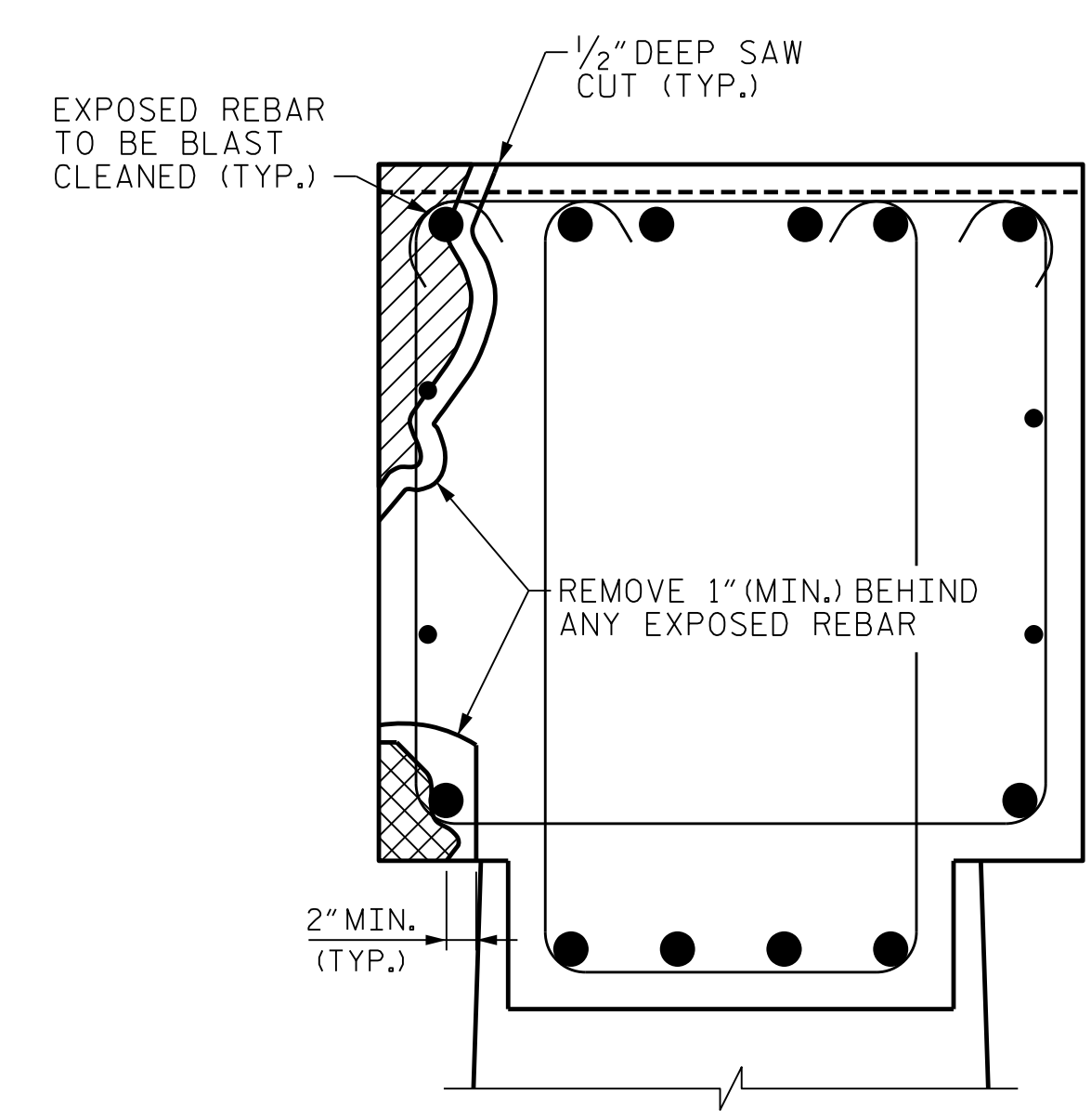


* REPAIR LENGTH SHALL NOT EXCEED 10 FEET.

ELEVATION OF COLUMN

COLUMN REPAIR

SPLICE LENGTH TABLE	
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"



SECTION A-A

CAP 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 THAN 1/2" BEHIND THE MAIN REINFORCING 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.

COAT THE TOP OF CAPS, INCLUDING CHAMFERS, WITH EPOXY PROTECTIVE COATING.

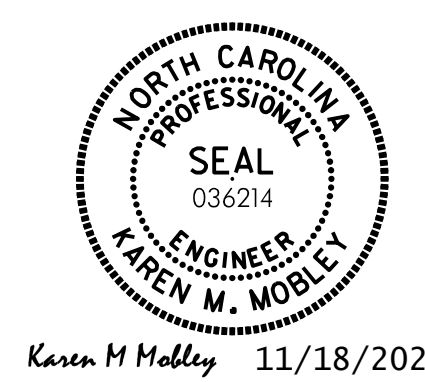
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION (ERI), SEE SPECIAL PROVISIONS.

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

TYPICAL CAP AND COLUMN REPAIR DETAILS

REVISIONS						SHEET NO. S2-96 TOTAL SHEETS 97
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1			3			
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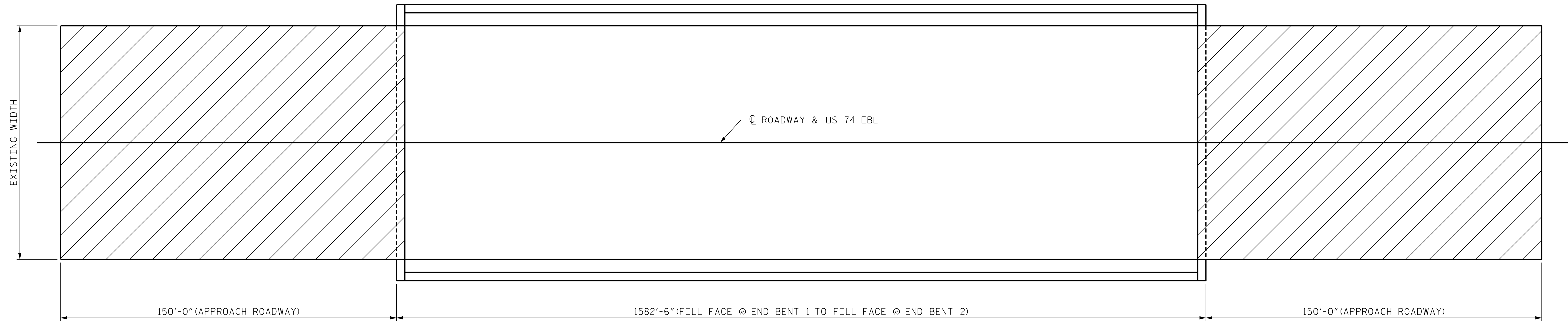
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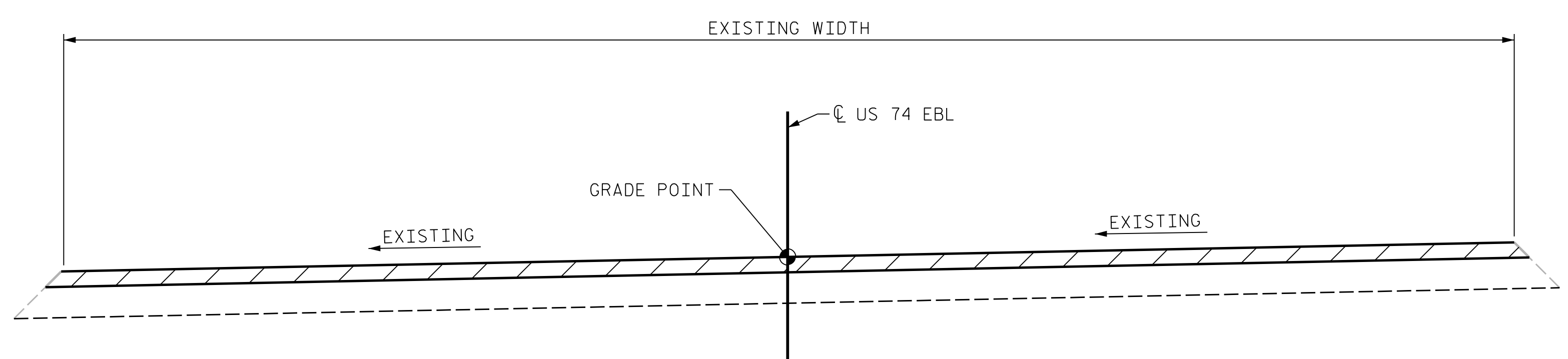
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NOTES

INCIDENTAL MILLING - EXISTING APPROACH ASPHALT PAVING TO BE MILLED AS NECESSARY TO ATTAIN MINIMUM 1/2" DEPTH OF NEW ASPHALT PAVING.
 PROVIDE NEW ASPHALT PAVING THICKNESS TO CREATE A SMOOTH TRANSITION BETWEEN THE ROADWAY AND THE BRIDGE DECK.
 NEW ASPHALT PAVING THICKNESS MAY EXCEED 1/2" DUE TO SETTLEMENT OF THE EXISTING APPROACH ASPHALT PAVING.



PLAN

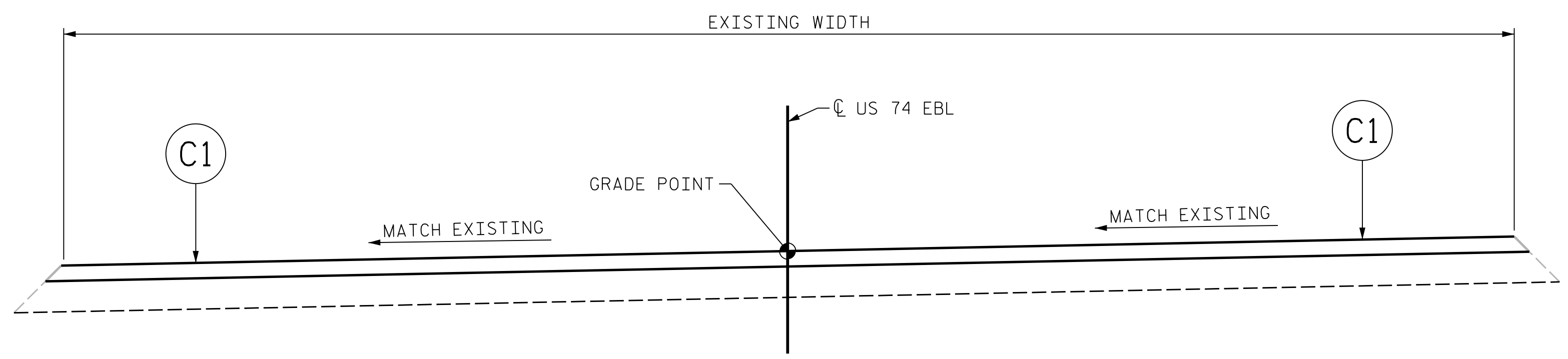


TYPICAL ROADWAY MILLING SECTION

C1	PROPOSED VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1/2" IN DEPTH OR GREATER THAN 2" IN DEPTH.
----	--

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
INCIDENTAL MILLING	1000 SQ. YD.	
ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C	90 TONS	
ASPHALT BINDER FOR PLANT MIX	10 TONS	

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030078



TYPICAL PROPOSED ROADWAY SECTION



Karen M Mobley 11/18/2021

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**APPROACH MILLING
 AND TYPICAL ROADWAY
 SECTIONS**

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NO.	BY:	DATE:	NO.	BY:	DATE:	
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CHK BY:	K. MOBLEY	DATE :	12/18

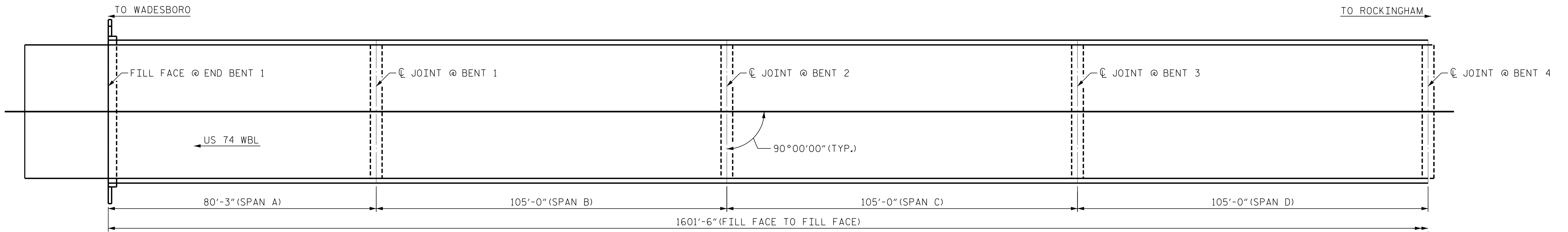
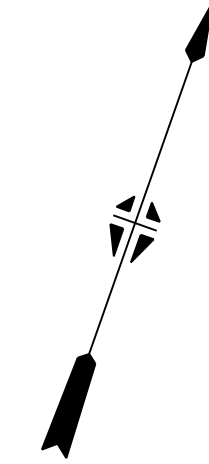
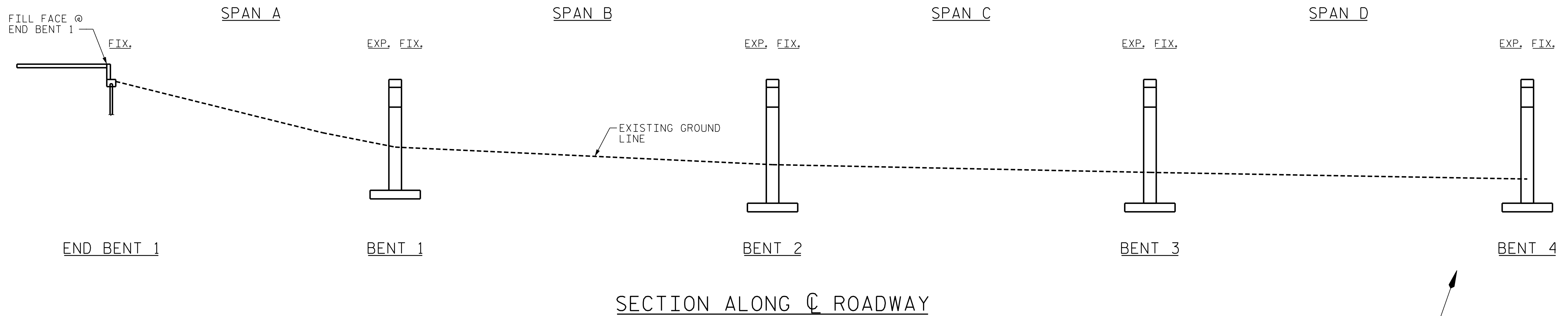
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 N.C.B.E.L.S. License Number: F-0116

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NOTES

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND FIELD SCOPING ON 9/7/2018.

BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.



PROJECT NO. 15BPR.38

ANSON COUNTY

BRIDGE NO: 030081

SHEET 1 OF 5

SCOPE OF WORK

- PREPARE BRIDGE DECK BY SHOTBLASTING METHODS.
- APPLY SILANE DECK TREATMENT TO PREPARED BRIDGE DECK.
- REPLACE JOINT MATERIAL.
- REPAIR DECK DRAINS AS NECESSARY.
- REPAIR CRACKED BEARING ASSEMBLY.
- EPOXY INJECTION OF CONCRETE CRACKS.
- REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE SHOTCRETE AND CONCRETE REPAIR AREAS.
- PERFORM SHOTCRETE AND CONCRETE REPAIRS IN PREPARED AREAS.
- REMOVE DEBRIS FROM TOP OF BENT CAPS AND APPLY EPOXY COATING TO REPAIRED AREAS ON TOP OF CAPS.

I HEREBY CERTIFY THAT THIS STRUCTURE WAS REHABILITATED ACCORDING TO THESE PLANS OR AS NOTED HEREIN.

RESIDENT ENGINEER _____ DATE _____



Karen M Mobley 2/21/2019

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON
 US 74 WBL OVER
 PEE DEE RIVER

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

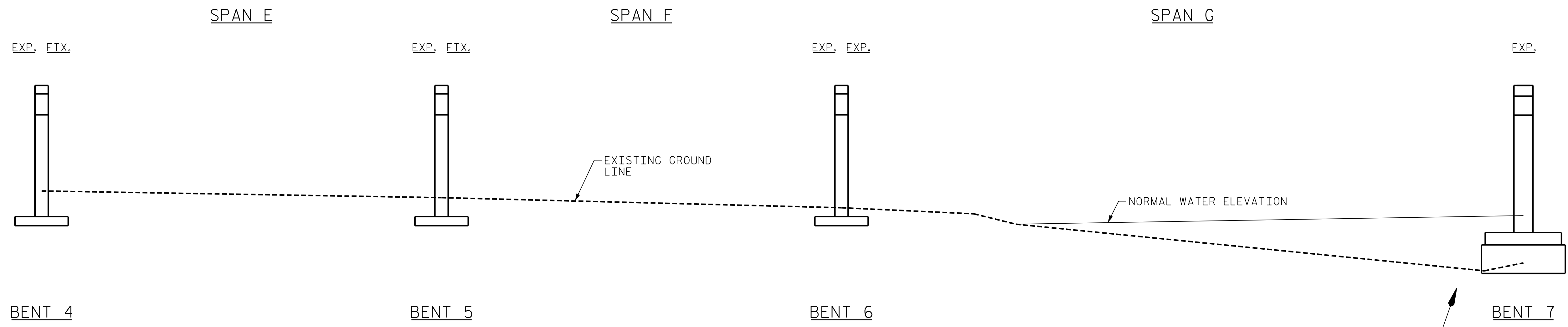
SHEET NO. S3-1
 TOTAL SHEETS 37

DWG BY: F. PAUL DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19

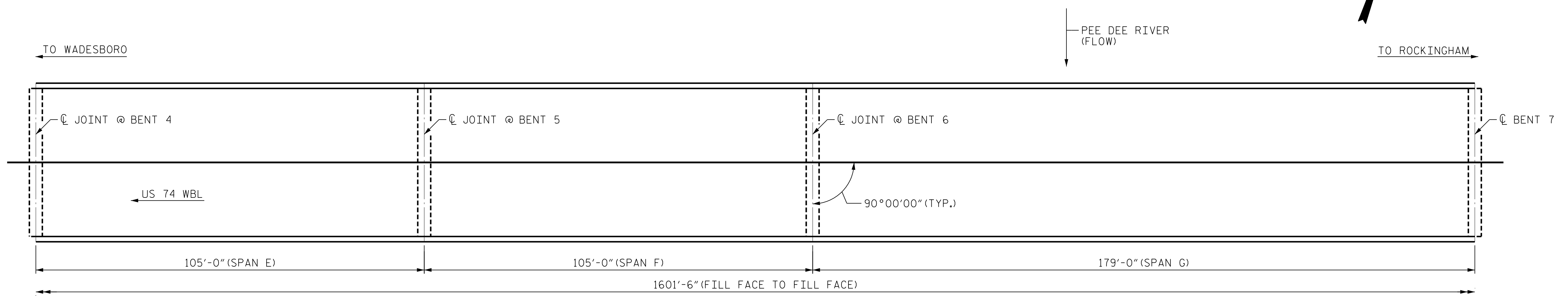
HDR HDR Engineering, Inc. of the Carolinas
 555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
 N.C.B.E.L.S. License Number: F-0116

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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SECTION ALONG \bar{C} ROADWAY



PLAN

PROJECT NO. 15BPR.38

ANSON COUNTY

BRIDGE NO: 030081

SHEET 2 OF 5

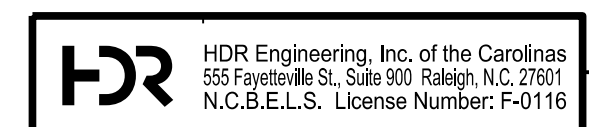


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON
 US 74 WBL OVER
 PEE DEE RIVER

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DWG BY: F. PAUL DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



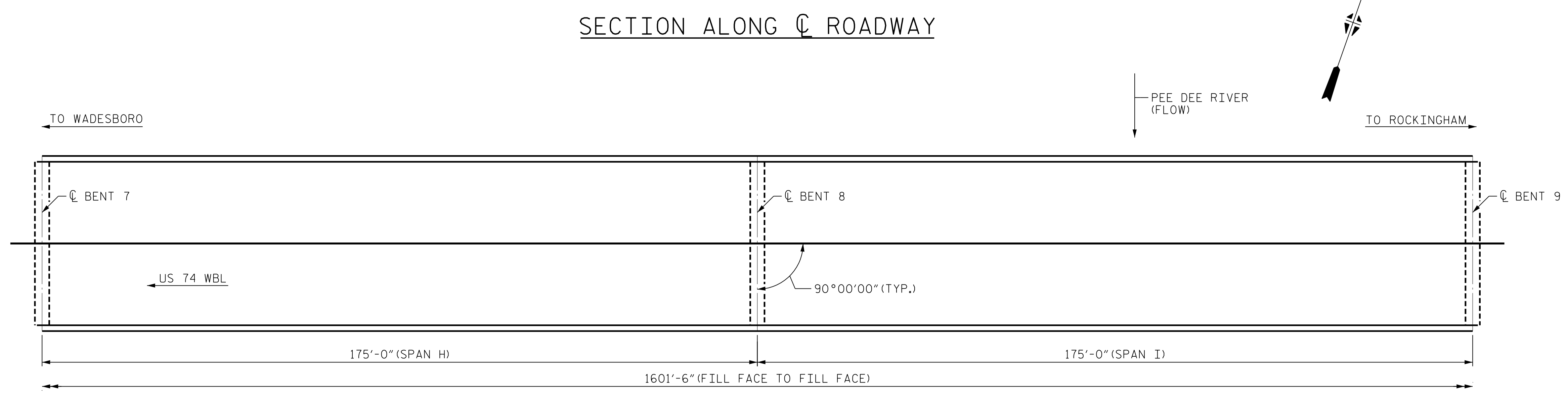
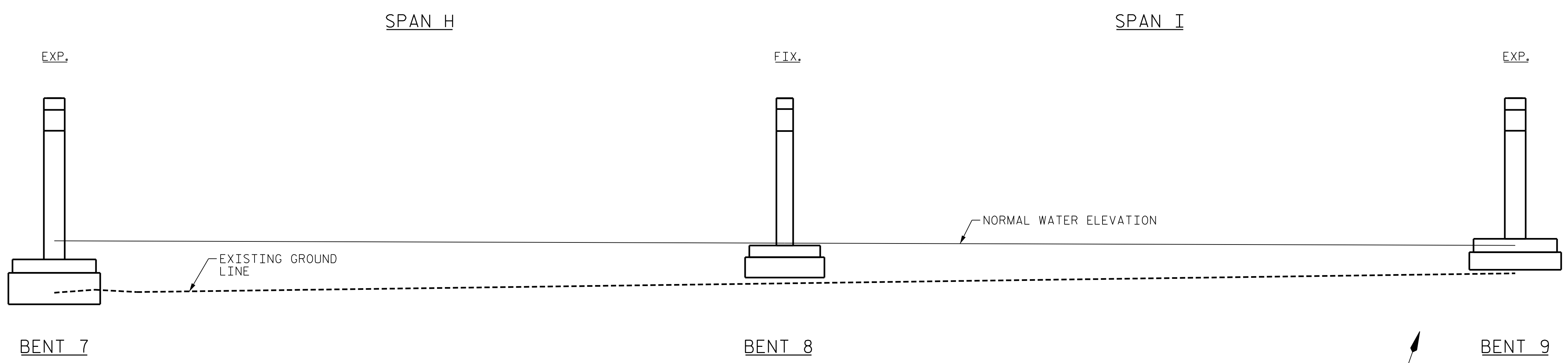
Karen M Mobley 2/21/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS					
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2			4		

SHEET NO. S3-2
 TOTAL SHEETS 37

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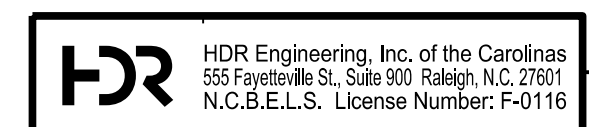
PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081
 SHEET 3 OF 5



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

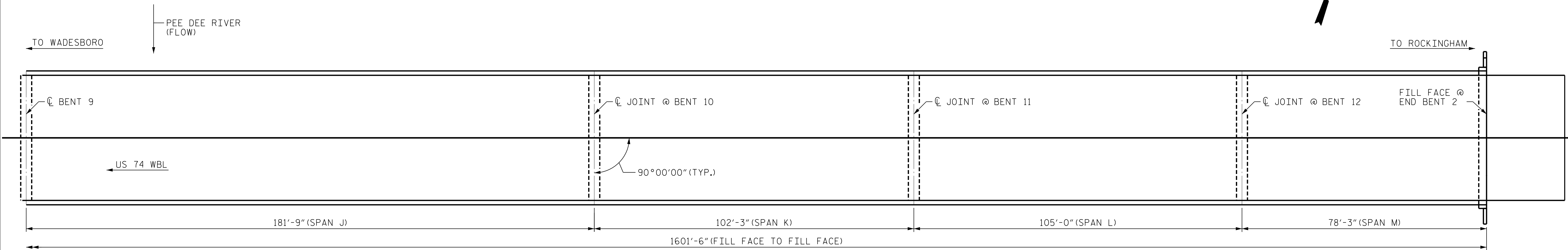
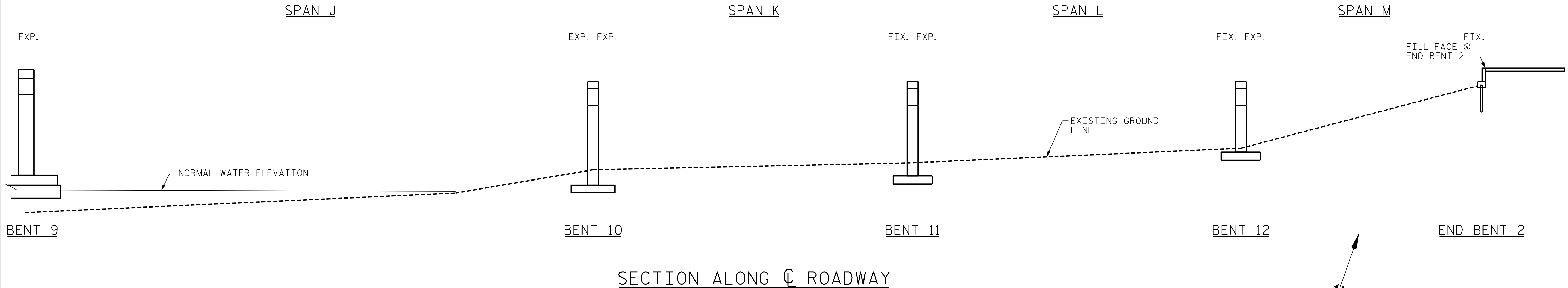
GENERAL DRAWING
 FOR BRIDGE ON
 US 74 WBL OVER
 PEE DEE RIVER

DWG BY: F. PAUL DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



Karen M Mobley 2/21/2019
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REVISIONS						SHEET NO. S3-3 TOTAL SHEETS 37
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081
 SHEET 4 OF 5



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON
 US 74 WBL OVER
 PEE DEE RIVER

DWG BY: F. PAUL DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19

HDR HDR Engineering, Inc. of the Carolinas
 555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
 N.C.B.E.L.S. License Number: F-0116

Karen M. Mobley 2/21/2019

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

REVISIONS						SHEET NO. S3-4 TOTAL SHEETS 37
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

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 FILE: ...\\6.1.Final\Plan_Set_81\0303



LOCATION SKETCH

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAYS, UTILITIES, THE SURROUNDING AREA AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

BRIDGE COORDINATES

LAT: 34.946250
LONG: -79.870733

NOTES

- EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM THE BEST INFORMATION AVAILABLE.
- THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER.
- THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THAT SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.
- FOR TRAFFIC CONTROL AND LIMITS OF PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLANS.
- WORK ON BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.
- ANY DAMAGE TO EXISTING REINFORCING STEEL DURING CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AND PERFORMED AT NO ADDITIONAL COST TO THE DEPARTMENT.
- PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A COMPLETE SEQUENCE OF TASKS FOR EACH OPERATION AFFECTING THE BRIDGE SURFACE AND/OR TRAFFIC.
- 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 REPAIRS, SEE SPECIAL PROVISIONS.
- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR REPAIR OF EXISTING DECK DRAINS, SEE SPECIAL PROVISIONS.
- FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.
- FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.
- FOR PREFORMED SILICONE EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.
- FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.
- FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
- FOR EPOXY COATING, SEE EPOXY COATING AND DEBRIS REMOVAL SPECIAL PROVISIONS.
- FOR SHOTBLASTING BRIDGE DECK AND SILANE DECK TREATMENT, SEE SILANE DECK TREATMENT SPECIAL PROVISIONS.
- FOR METAL REINFORCED EPOXY FILLER, SEE SPECIAL PROVISIONS.
- FOR VOLUMETRIC MIXER, SEE SPECIAL PROVISIONS.
- FOR CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.
- FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS.
- FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

BRIDGE NO. 81	CONCRETE REPAIRS	SHOTCRETE REPAIRS	EPOXY RESIN INJECTION	REPAIR OF EXISTING DECK DRAINS	FOAM JOINT SEALS FOR PRESERVATION	POURABLE SILICONE JOINT SEALANT	PREFORMED SILICONE EXPANSION JOINT SEALS	ELASTOMERIC CONCRETE FOR PRESERVATION	BRIDGE JOINT DEMOLITION	EPOXY COATING	SHOTBLASTING BRIDGE DECK	SILANE DECK TREATMENT
TOTALS	CU. FT. 6.3	CU. FT. 13.9	LIN. FT. 1.0	LUMP SUM LUMP SUM	LIN. FT. 280.0	LIN. FT. 48.0	LIN. FT. 80.0	CU. FT. 20.0	SQ. FT. 80.0	SQ. FT. 20.4	SQ. YDS. 7250.1	SQ. YDS. 7250.1

NOTE:
AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING LISTED ITEM(S), 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 ITEM(S) HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	VOLUMETRIC MIXER	LUMP SUM
2	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CLASS II SURFACE PREPARATION	SQ. YDS.
4	TYPE I BRIDGE JACKING FOR BRIDGE #81	EA.

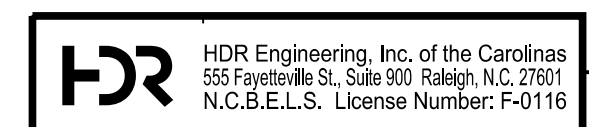
PROJECT NO. 15BPR.38
ANSON COUNTY
BRIDGE NO: 030081

SHEET 5 OF 5



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING
FOR BRIDGE ON
US 74 WBL OVER
PEE DEE RIVER

REVISIONS						SHEET NO. S3-5 TOTAL SHEETS 37
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



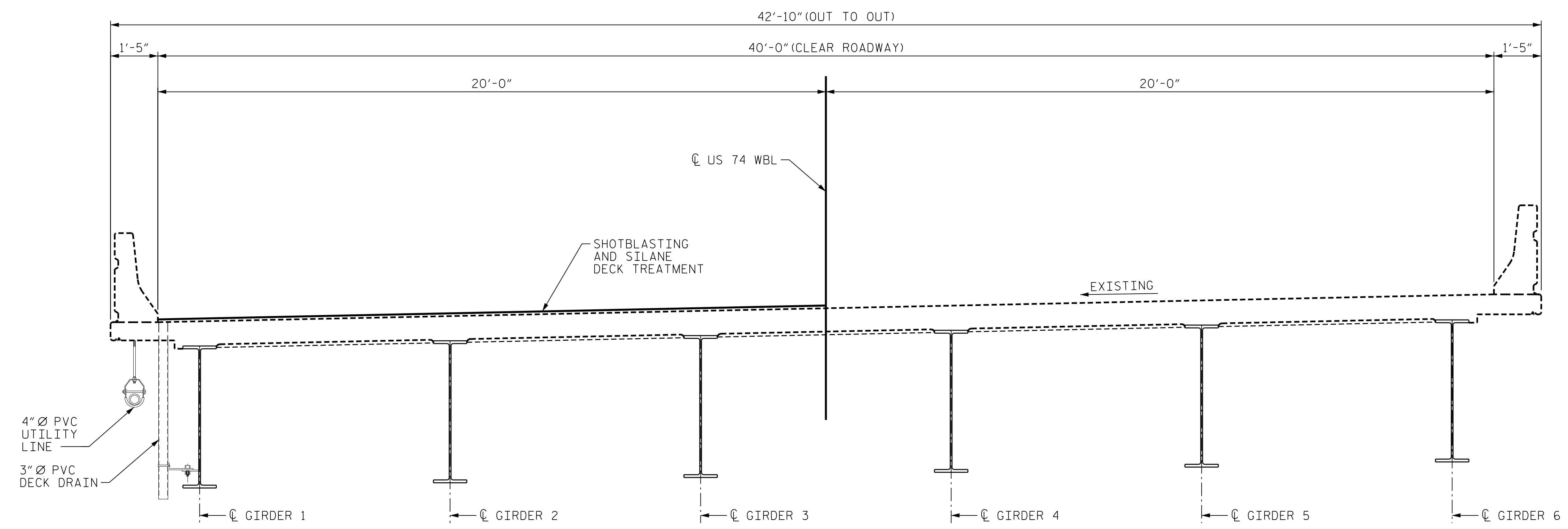
Karen M Mobley 2/21/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

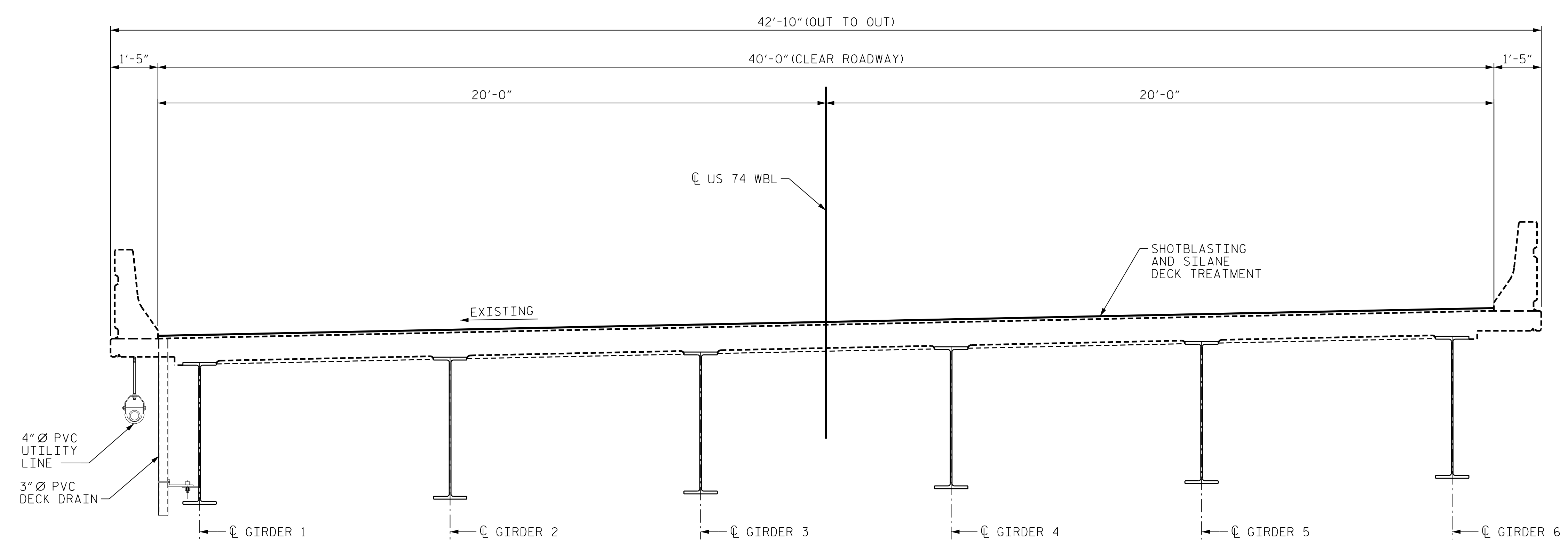
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DWG BY: M. SELLS DATE : 01/19
CHK BY: K. MOBLEY DATE : 01/19

NOTES
 SEE TRANSPORTATION MANAGEMENT PLANS FOR LANE WIDTH, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF SILANE DECK TREATMENT APPLICATION.



TYPICAL SECTION - STAGE I



TYPICAL SECTION - STAGE II

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

TYPICAL SECTION AND STAGING

PLOT DRIVER: NCDOT_STRUCTURES_DEFAULT_PLOTTER.plt PENTABLE: NCDOT_STRUCTURES_DEFAULT_PEN.tbl
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DWG BY: <u>D. CARTER</u>	DATE: <u>01/19</u>
CHK BY: <u>K. MOBLEY</u>	DATE: <u>01/19</u>

HDR HDR Engineering, Inc. of the Carolinas
 555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
 N.C.E.L.S. License Number: F-0116

Karen M. Mobley 2/21/2019
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REVISIONS						SHEET NO. S3-6 TOTAL SHEETS 37
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

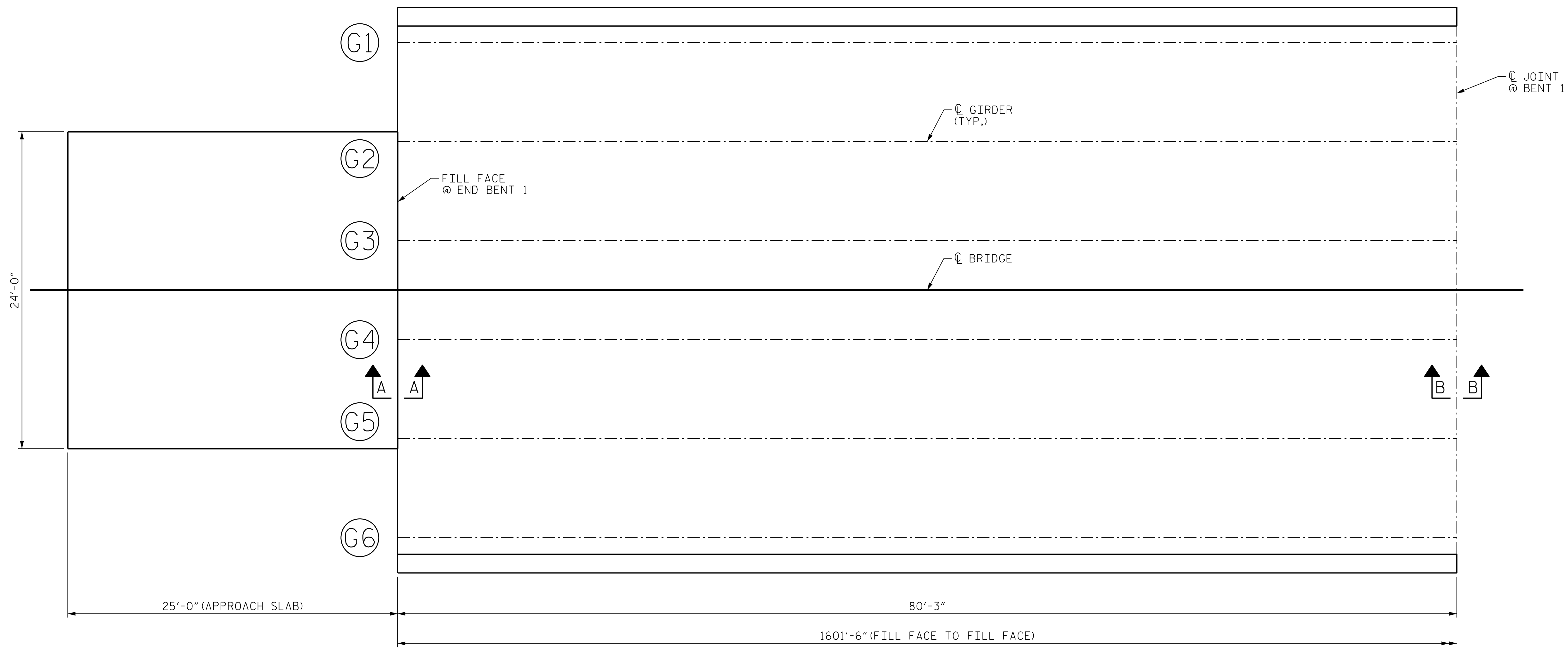
FOR SECTIONS A-A AND B-B, SEE "JOINT DETAILS" SHEET 1 OF 2.

FOR UNDERSIDE OF DECK REPAIRS, SEE "MISCELLANEOUS REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING LISTED ITEM(S), 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 ITEM(S) HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	VOLUMETRIC MIXER	LUMP SUM
2	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CLASS II SURFACE PREPARATION	SQ. YDS.



SHOTCRETE REPAIR AREA
 ① GIRDER NUMBER

SPAN A

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 1 OF 13

APPROACH SLAB REPAIRS			TOP OF DECK REPAIRS SPAN A		
	ESTIMATE	ACTUAL		ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	66.6 SQ. YDS.		SHOTBLASTING BRIDGE DECK	356.6 SQ. YDS.	
SILANE DECK TREATMENT	66.6 SQ. YDS.		SILANE DECK TREATMENT	356.6 SQ. YDS.	
			FOAM JOINT SEAL	40.0 LIN. FT.	
			POURABLE SILICONE JOINT SEALANT	24.0 LIN. FT.	
			BRIDGE JOINT DEMOLITION	0.0 SQ. FT.	
			ELASTOMERIC CONCRETE FOR PRESERVATION	0.0 CU. FT.	

	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG	0.0	0.0		



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 SPAN A**

DWG BY: L. ZAMPETTI DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19

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 555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
 N.C.B.E.L.S. License Number: F-0116

Karen M. Mobley 2/21/2019

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NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

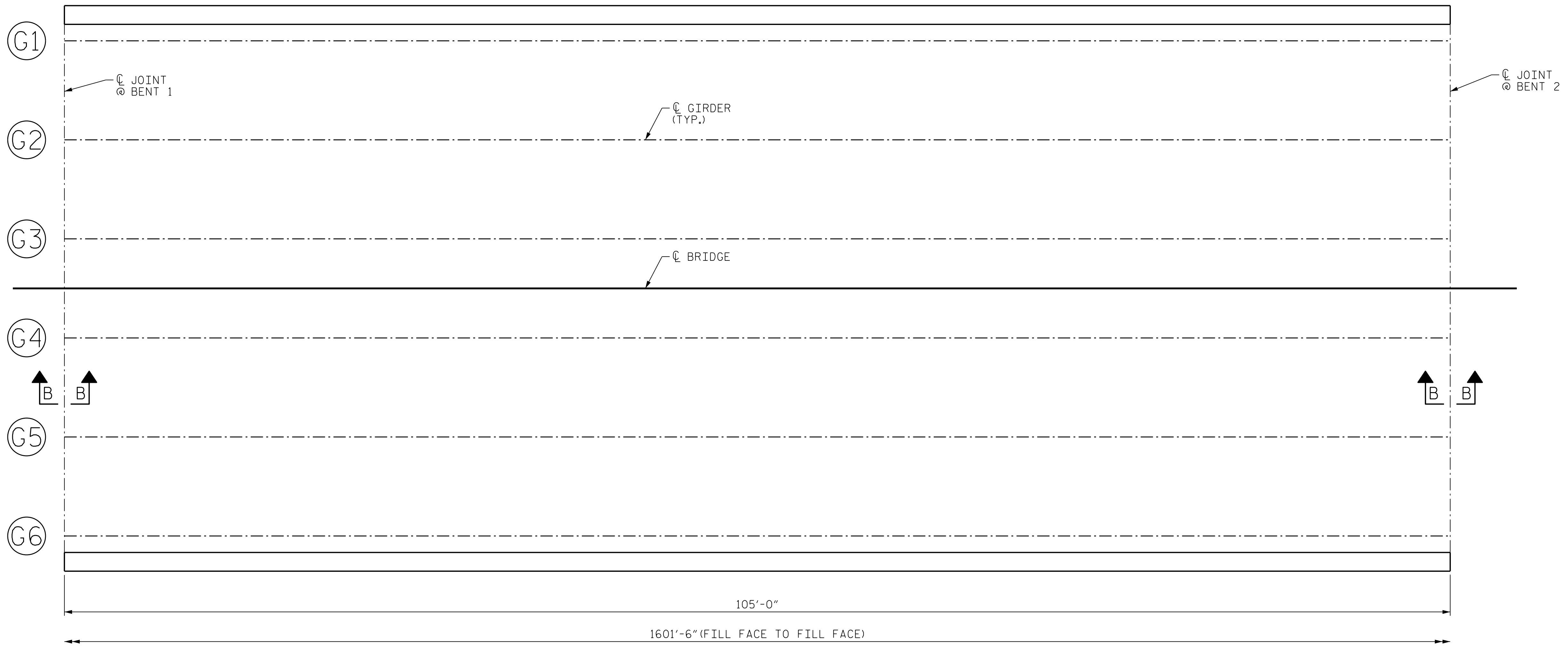
FOR SECTION B-B, SEE "JOINT DETAILS" SHEET 1 OF 2.

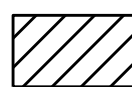

FOR UNDERSIDE OF DECK REPAIRS, SEE "MISCELLANEOUS REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING LISTED ITEM(S), 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 ITEM(S) HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	VOLUMETRIC MIXER	LUMP SUM
2	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CLASS II SURFACE PREPARATION	SQ. YDS.



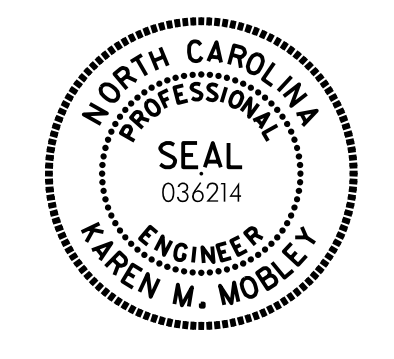
 SHOTCRETE REPAIR AREA
 GIRDER NUMBER

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 2 OF 13

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	466.6 SQ. YDS.	
SILANE DECK TREATMENT	466.6 SQ. YDS.	
FOAM JOINT SEAL	40.0 LIN. FT.	
BRIDGE JOINT DEMOLITION	0.0 SQ. FT.	
ELASTOMERIC CONCRETE FOR PRESERVATION	0.0 CU. FT.	

UNDERSIDE OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG	0.0	0.0		

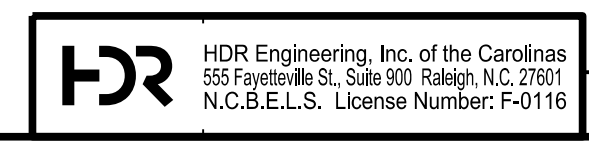


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 SPAN B**

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DWG BY: L. ZAMPETTI DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



Karen M. Mobley 2/21/2019

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

SHEET NO. S3-8
 TOTAL SHEETS 37

NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

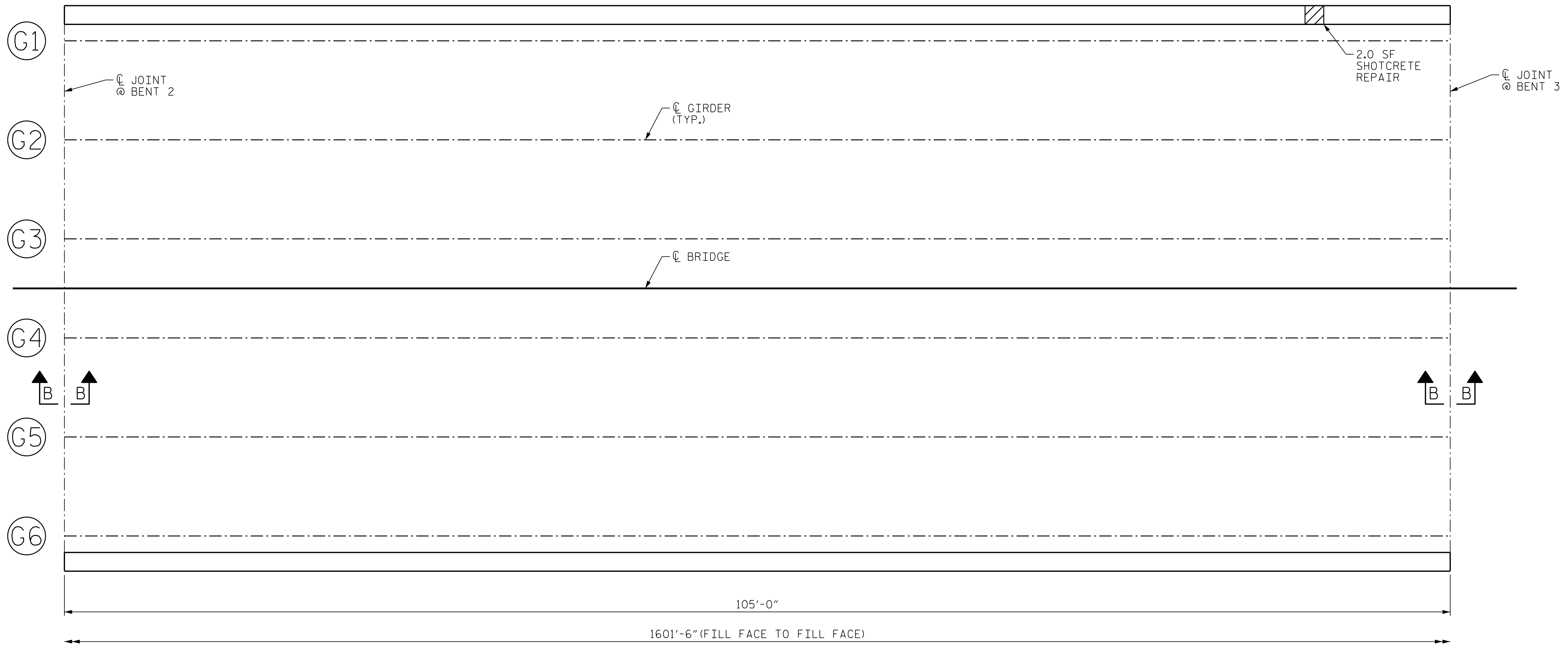
FOR SECTION B-B, SEE "JOINT DETAILS" SHEET 1 OF 2.

FOR UNDERSIDE OF DECK REPAIRS, SEE "MISCELLANEOUS REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING LISTED ITEM(S), 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 ITEM(S) HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	VOLUMETRIC MIXER	LUMP SUM
2	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CLASS II SURFACE PREPARATION	SQ. YDS.



SHOTCRETE REPAIR AREA
 GIRDER NUMBER

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 3 OF 13

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	466.6 SQ. YDS.	
SILANE DECK TREATMENT	466.6 SQ. YDS.	
FOAM JOINT SEAL	40.0 LIN. FT.	
BRIDGE JOINT DEMOLITION	0.0 SQ. FT.	
ELASTOMERIC CONCRETE FOR PRESERVATION	0.0 CU. FT.	

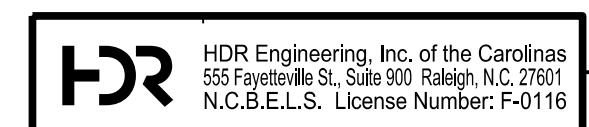
UNDERSIDE OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG	2.0	0.4		



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 SPAN C**

DWG BY: L. ZAMPETTI DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



Karen M. Mobley 2/21/2019

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

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

SHEET NO. S3-9
 TOTAL SHEETS 37

PLOT DRIVER: NCDOT_STRUCTURES_DEFAULT_PLOTTER.plt PENTABLE: NCDOT_STRUCTURES_DEFAULT_PEN.tbl
 USER: KMOBLEY DATE: 2/21/2019 TIME: 9:49:28 AM
 FILE: ...\\6.1.Final\Plan_Set_81\0520.02

NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

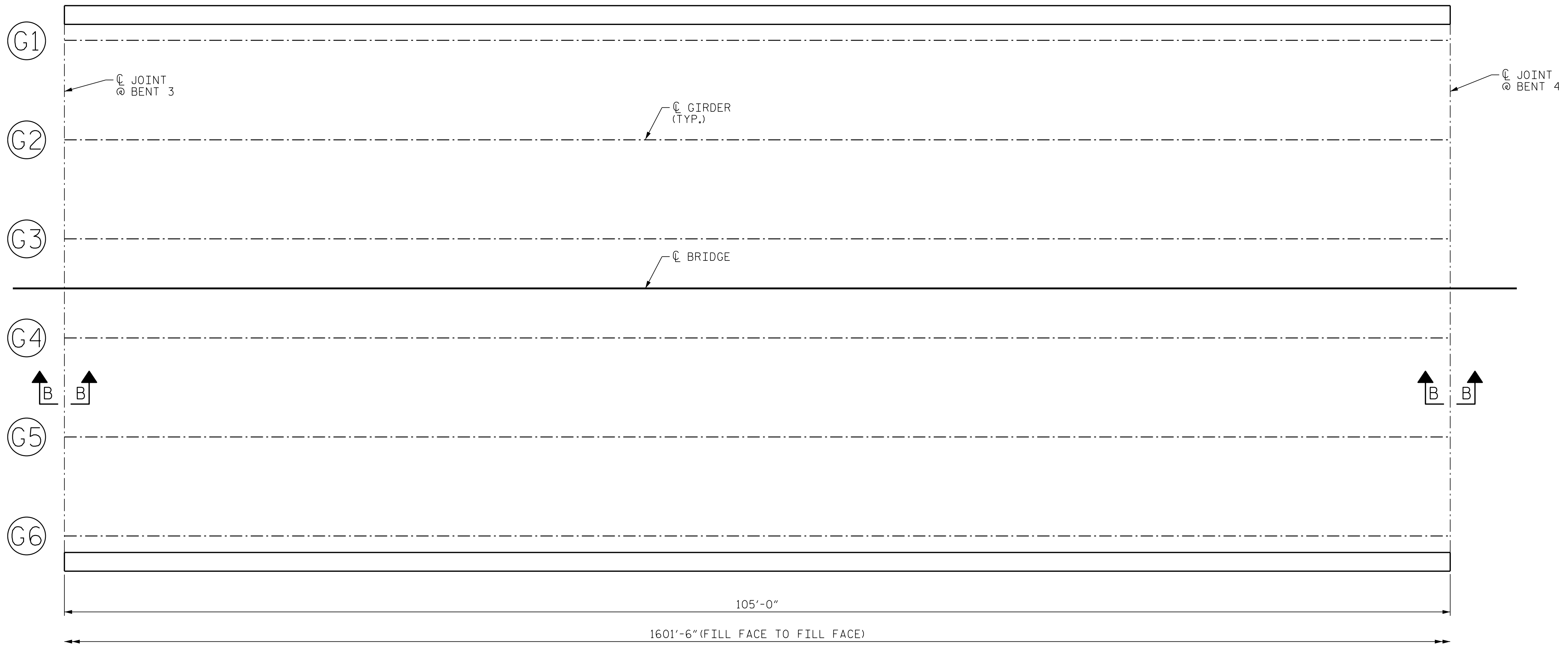
FOR SECTION B-B, SEE "JOINT DETAILS" SHEET 1 OF 2.



FOR UNDERSIDE OF DECK REPAIRS, SEE "MISCELLANEOUS REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING LISTED ITEM(S), 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 ITEM(S) HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	VOLUMETRIC MIXER	LUMP SUM
2	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CLASS II SURFACE PREPARATION	SQ. YDS.



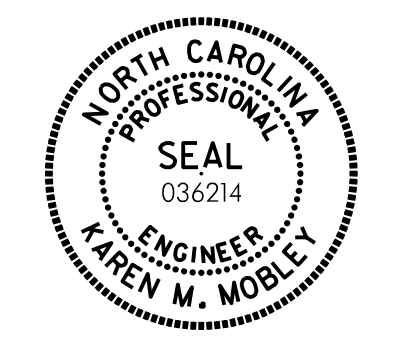
 SHOTCRETE REPAIR AREA
 GIRDER NUMBER

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 4 OF 13

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	466.6 SQ. YDS.	
SILANE DECK TREATMENT	466.6 SQ. YDS.	
FOAM JOINT SEAL	40.0 LIN. FT.	
BRIDGE JOINT DEMOLITION	0.0 SQ. FT.	
ELASTOMERIC CONCRETE FOR PRESERVATION	0.0 CU. FT.	

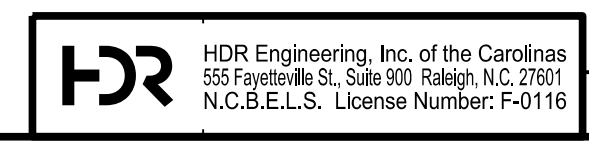
UNDERSIDE OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG	0.0	0.0		



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
PLAN OF SPANS
SPAN D

PLOT DRIVER: NCDOT_STRUCTURES_DEFAULT_PLOTTER.plt PENTABLE: NCDOT_STRUCTURES_DEFAULT_PEN.tbl
 USER: KMOBLEY DATE: 2/21/2019 TIME: 9:49:54 AM
 FILE: ...\\6.1.Final\Plan_Set_81\0520.03

DWG BY: L. ZAMPETTI DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



Karen M Mobley 2/21/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SHEET NO. 53-10
 TOTAL SHEETS 37

NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

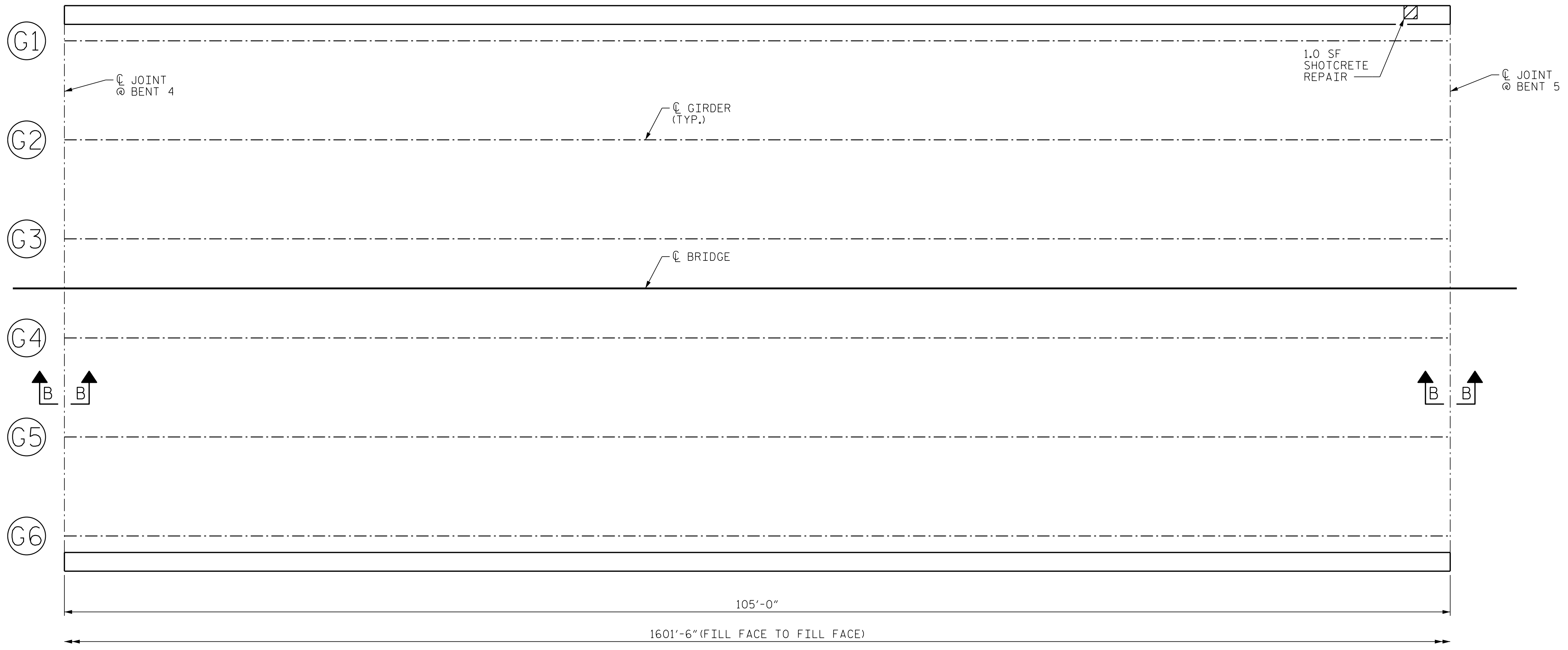
FOR SECTION B-B, SEE "JOINT DETAILS" SHEET 1 OF 2.

FOR UNDERSIDE OF DECK REPAIRS, SEE "MISCELLANEOUS REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING LISTED ITEM(S), 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 ITEM(S) HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	VOLUMETRIC MIXER	LUMP SUM
2	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CLASS II SURFACE PREPARATION	SQ. YDS.



SHOTCRETE REPAIR AREA
 GIRDER NUMBER

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	466.6 SQ. YDS.	
SILANE DECK TREATMENT	466.6 SQ. YDS.	
FOAM JOINT SEAL	40.0 LIN. FT.	
BRIDGE JOINT DEMOLITION	0.0 SQ. FT.	
ELASTOMERIC CONCRETE FOR PRESERVATION	0.0 CU. FT.	

UNDERSIDE OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG	1.0	0.2		

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

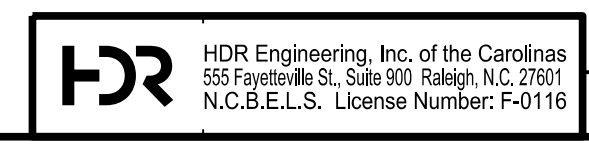
SHEET 5 OF 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 SPAN E**

DWG BY: L. ZAMPETTI DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



Karen M. Mobley 2/21/2019

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

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

SHEET NO. S3-11
 TOTAL SHEETS 37

PLOT DRIVER: NCDOT_STRUCTURES_DEFAULT_PLOTTER.plt PENTABLE: NCDOT_STRUCTURES_DEFAULT_PEN.tbl
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NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

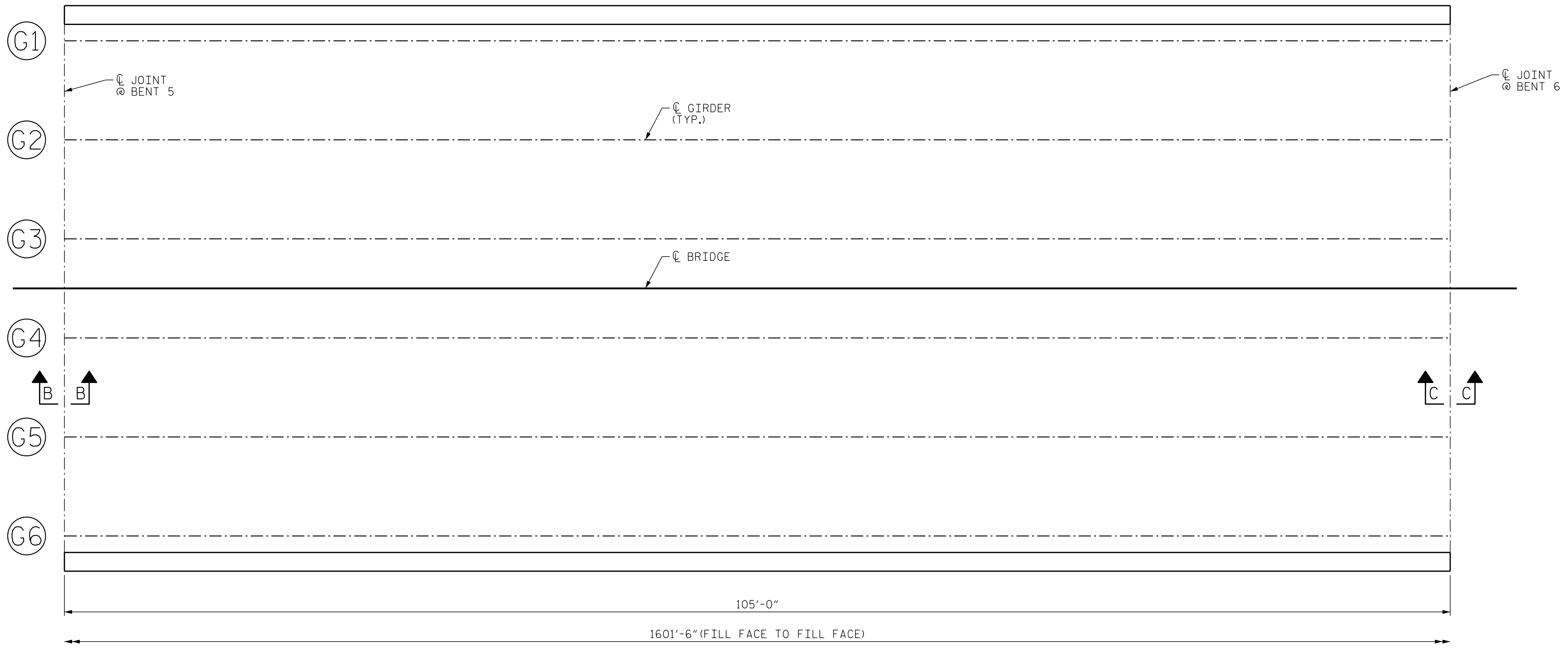
FOR SECTIONS B-B AND C-C, SEE "JOINT DETAILS" SHEETS.

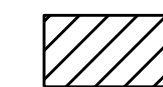

FOR UNDERSIDE OF DECK REPAIRS, SEE "MISCELLANEOUS REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING LISTED ITEM(S), 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 ITEM(S) HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	VOLUMETRIC MIXER	LUMP SUM
2	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CLASS II SURFACE PREPARATION	SQ. YDS.



 SHOTCRETE REPAIR AREA
 GIRDER NUMBER

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 6 OF 13

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	466.6 SQ. YDS.	
SILANE DECK TREATMENT	466.6 SQ. YDS.	
PREFORMED SILICONE EXPANSION JOINT SEAL	40.0 LIN. FT.	
BRIDGE JOINT DEMOLITION	20.0 SQ. FT.	
ELASTOMERIC CONCRETE FOR PRESERVATION	5.0 CU. FT.	

UNDERSIDE OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG	0.0	0.0		

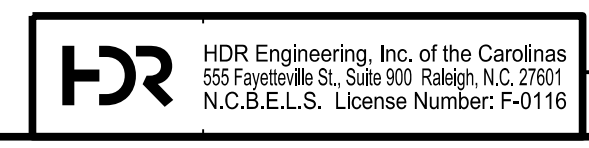


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 SPAN F**

PLOT DRIVER: NCDOT_STRUCTURES_DEFAULT_PLOTTER.plt PENTABLE: NCDOT_STRUCTURES_DEFAULT_PEN.tbl
 USER: KMOBLEY DATE: 2/21/2019 TIME: 9:51:35 AM
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DWG BY: L. ZAMPETTI DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



Karen M. Mobley 2/21/2019

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

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

SHEET NO. 53-12
 TOTAL SHEETS 37

NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

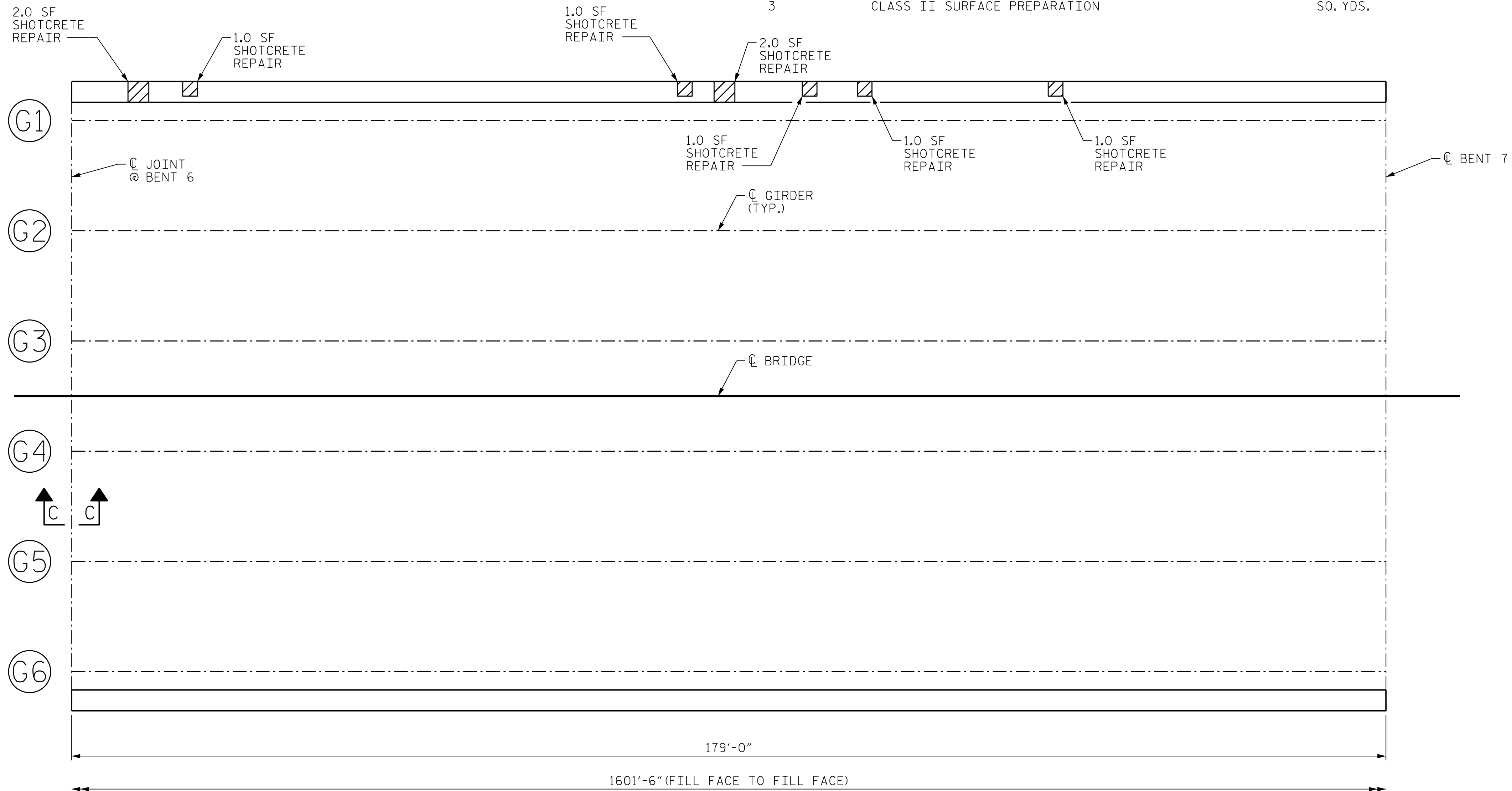
FOR SECTION C-C, SEE "JOINT DETAILS" SHEET 2 OF 2.

FOR UNDERSIDE OF DECK REPAIRS, SEE "MISCELLANEOUS REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING LISTED ITEM(S), 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 ITEM(S) HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	VOLUMETRIC MIXER	LUMP SUM
2	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CLASS II SURFACE PREPARATION	SQ. YDS.



SHOTCRETE REPAIR AREA
 GIRDER NUMBER

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	795.5 SQ. YDS.	
SILANE DECK TREATMENT	795.5 SQ. YDS.	
BRIDGE JOINT DEMOLITION	20.0 SQ. FT.	
ELASTOMERIC CONCRETE FOR PRESERVATION	5.0 CU. FT.	

UNDERSIDE OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK OVERHANG	0.0	0.0		
	9.0	1.9		

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 7 OF 13

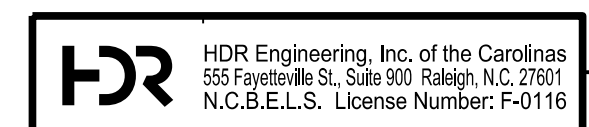


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 SPAN G**

PLOT DRIVER: NCDOT_STRUCTURES_DEFAULT_PLOTTER.plt
 PENTABLE: NCDOT_STRUCTURES_DEFAULT_PEN.tbl
 USER: KMOBLEY
 DATE: 2/21/2019
 TIME: 9:52:19 AM
 FILE: ...\\6.1.Final\Plan_Set_81\0520.06

DWG BY: L. ZAMPETTI DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



Karen M. Mobley 2/21/2019

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

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

SHEET NO. 53-13
 TOTAL SHEETS 37

NOTES

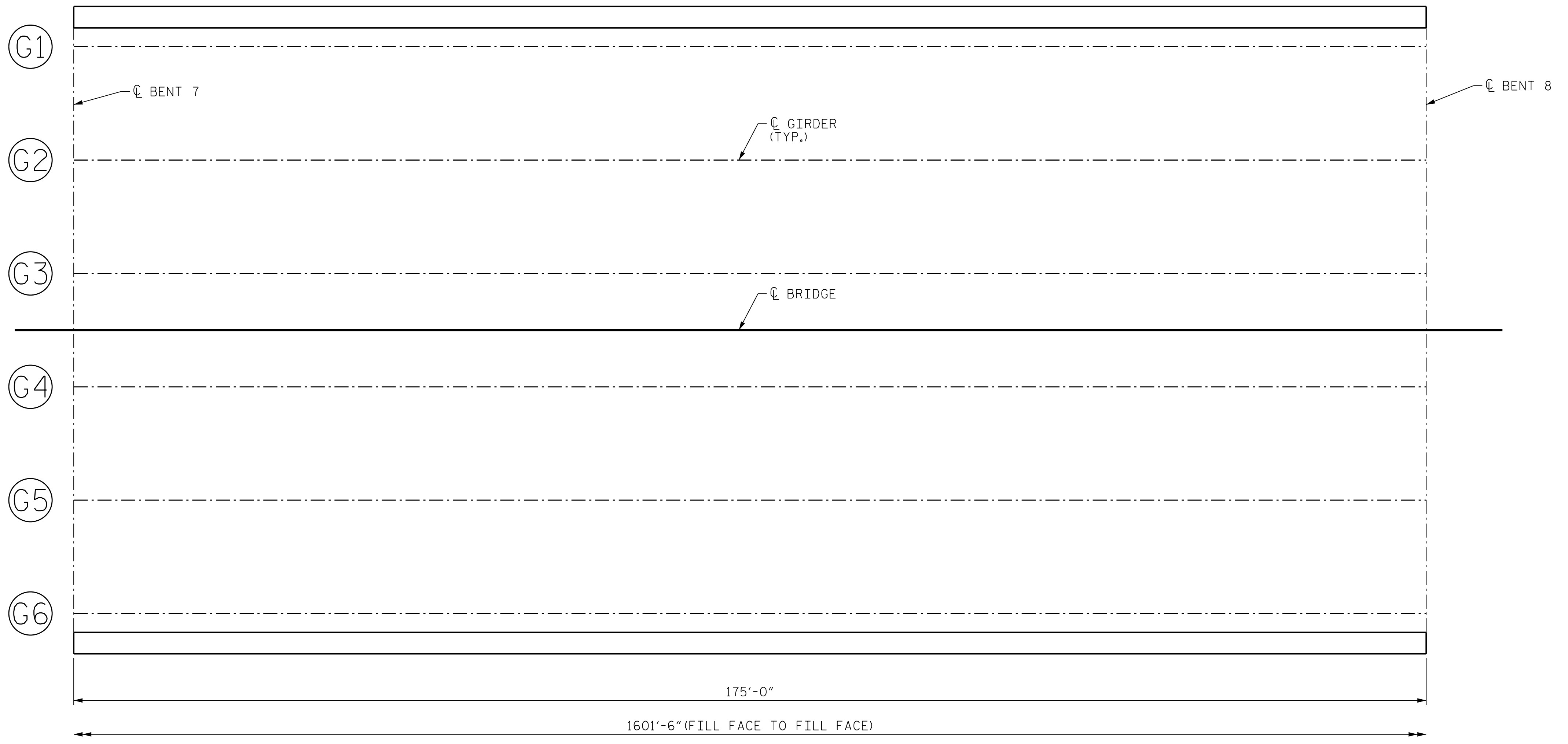
REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES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

FOR UNDERSIDE OF DECK REPAIRS, SEE "MISCELLANEOUS REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING LISTED ITEM(S), 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 ITEM(S) HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	VOLUMETRIC MIXER	LUMP SUM
2	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CLASS II SURFACE PREPARATION	SQ. YDS.



SHOTCRETE REPAIR AREA
 ① GIRDER NUMBER

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	777.7 SQ. YDS.	
SILANE DECK TREATMENT	777.7 SQ. YDS.	

UNDERSIDE OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG	0.0	0.0		

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 8 OF 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 SPAN H**

REVISIONS						SHEET NO. 53-14 TOTAL SHEETS 37
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

PLOT DRIVER: NCDOT_STRUCTURES_DEFAULT_PLOTTER.plt PENTABLE: NCDOT_STRUCTURES_DEFAULT_PEN.tbl
 USER: KMOBLEY DATE: 2/21/2019 TIME: 9:53:19 AM
 FILE: ...\\6.1.Final\Plan_Set_8\1\0520.07

DWG BY: L. ZAMPETTI DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19

HDR HDR Engineering, Inc. of the Carolinas
 555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
 N.C.B.E.L.S. License Number: F-0116

Karen M. Mobley 2/21/2019

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

NOTES

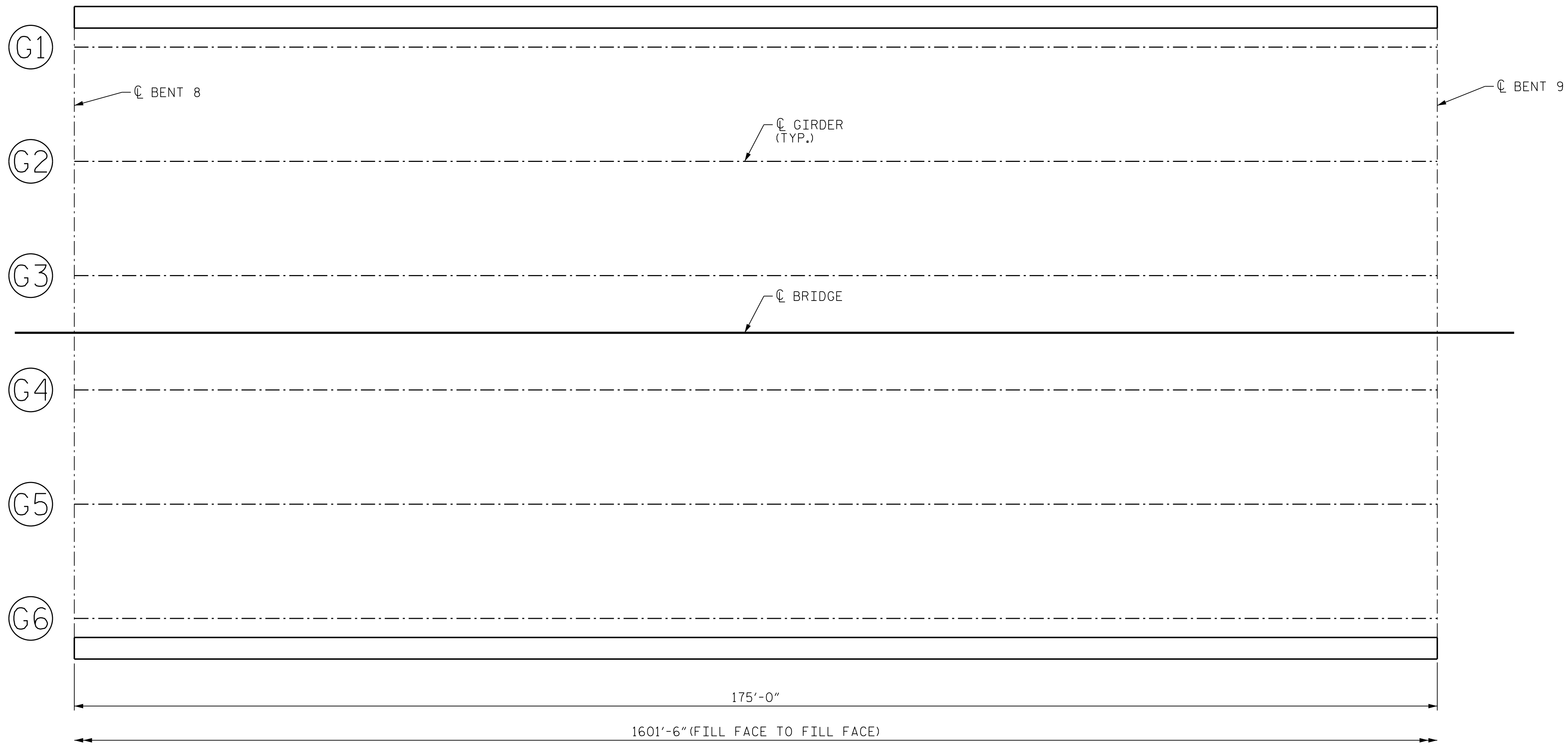
REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES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

FOR UNDERSIDE OF DECK REPAIRS, SEE "MISCELLANEOUS REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING LISTED ITEM(S), 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 ITEM(S) HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	VOLUMETRIC MIXER	LUMP SUM
2	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CLASS II SURFACE PREPARATION	SQ. YDS.



SHOTCRETE REPAIR AREA
 ① GIRDER NUMBER

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	777.7 SQ. YDS.	
SILANE DECK TREATMENT	777.7 SQ. YDS.	

UNDERSIDE OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG	0.0	0.0		

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 9 OF 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 SPAN I**

DWG BY: L. ZAMPETTI DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



Karen M Mobley 2/21/2019

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

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

SHEET NO. 53-15
 TOTAL SHEETS 37

PLOT DRIVER: NCDOT STRUCTURES DEFAULT PLOTTER.plt PENTABLE: NCDOT STRUCTURES DEFAULT PEN.tbl
 USER: KMOBLEY DATE: 2/21/2019 TIME: 9:53:59 AM
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NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

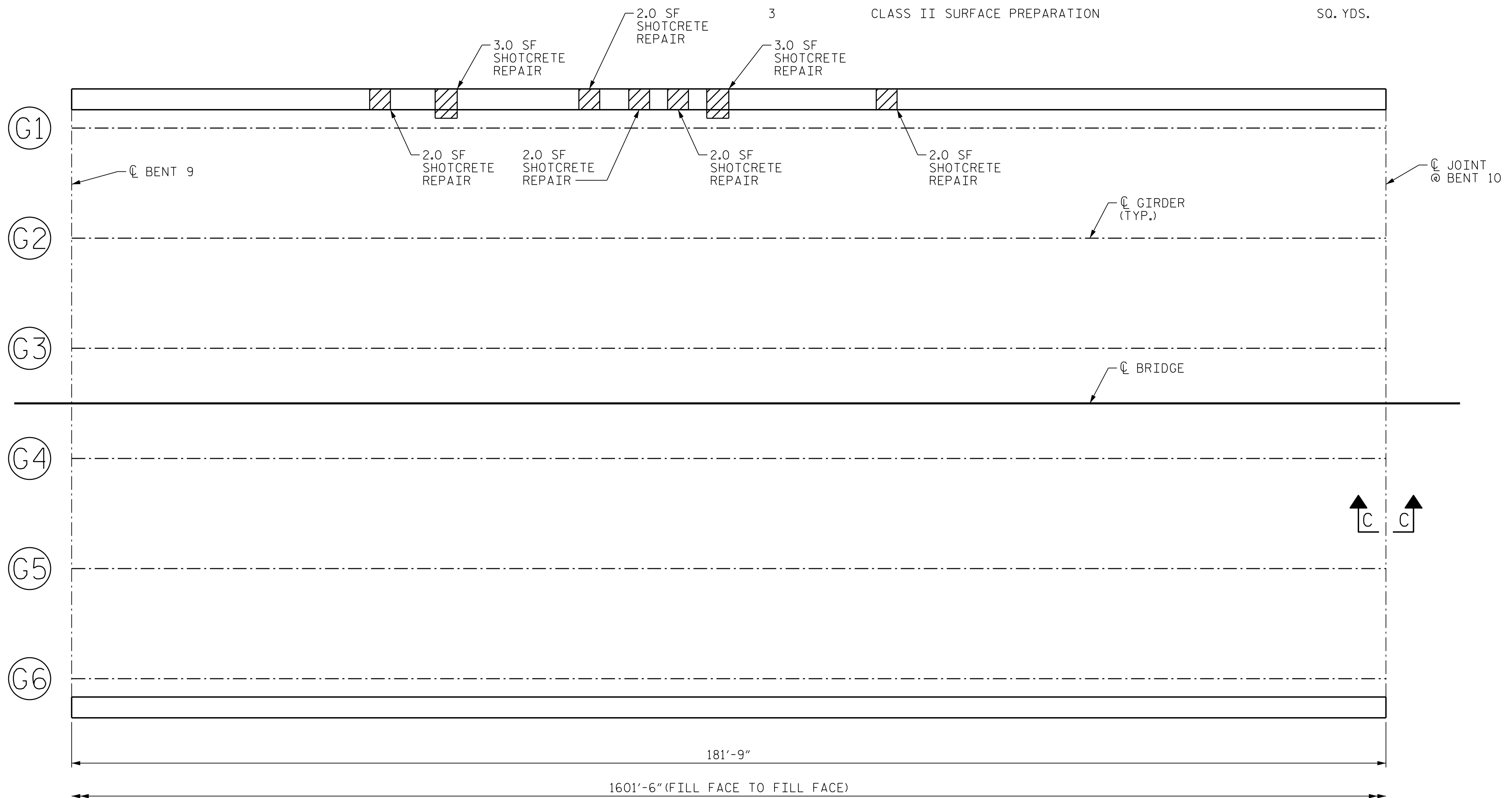
FOR SECTION C-C, SEE "JOINT DETAILS" SHEET 2 OF 2.

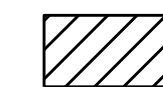

FOR UNDERSIDE OF DECK REPAIRS, SEE "MISCELLANEOUS REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING LISTED ITEM(S), 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 ITEM(S) HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	VOLUMETRIC MIXER	LUMP SUM
2	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CLASS II SURFACE PREPARATION	SQ. YDS.



 SHOTCRETE REPAIR AREA
 GIRDER NUMBER

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 10 OF 13

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	807.7 SQ. YDS.	
SILANE DECK TREATMENT	807.7 SQ. YDS.	
PREFORMED SILICONE EXPANSION JOINT SEAL	40.0 LIN. FT.	
BRIDGE JOINT DEMOLITION	20.0 SQ. FT.	
ELASTOMERIC CONCRETE FOR PRESERVATION	5.0 CU. FT.	

UNDERSIDE OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG	16.0	3.3		

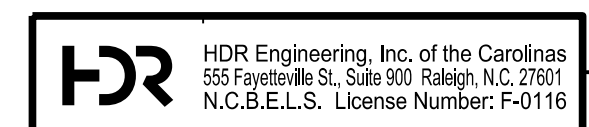


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPANS
SPAN J

PLOT DRIVER: NCDOT_STRUCTURES_DEFAULT_PLOTTER.plt
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DWG BY: L. ZAMPETTI DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



Karen M Mobley 2/21/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

SHEET NO. 33-16
 TOTAL SHEETS 37

NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

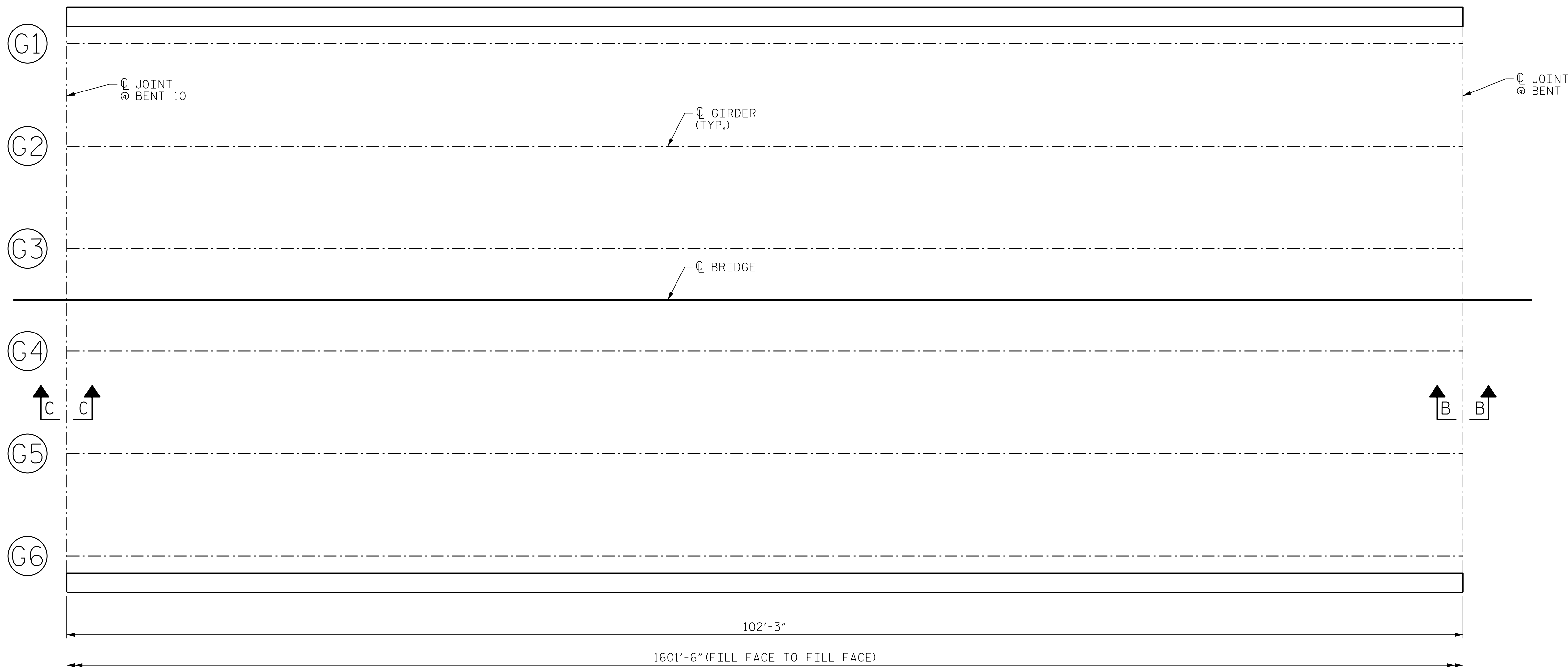
FOR SECTIONS B-B AND C-C, SEE "JOINT DETAILS" SHEETS.



FOR UNDERSIDE OF DECK REPAIRS, SEE "MISCELLANEOUS REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING LISTED ITEM(S), 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 ITEM(S) HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	VOLUMETRIC MIXER	LUMP SUM
2	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CLASS II SURFACE PREPARATION	SQ. YDS.



 SHOTCRETE REPAIR AREA
 GIRDER NUMBER

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 11 OF 13

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	454.4 SQ. YDS.	
SILANE DECK TREATMENT	454.4 SQ. YDS.	
FOAM JOINT SEAL	40.0 LIN. FT.	
BRIDGE JOINT DEMOLITION	20.0 SQ. FT.	
ELASTOMERIC CONCRETE FOR PRESERVATION	5.0 CU. FT.	

UNDERSIDE OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG	0.0	0.0		



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 SPAN K**

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

SHEET NO. 53-17
 TOTAL SHEETS 37

DWG BY: L. ZAMPETTI DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



Karen M. Mobley 2/21/2019

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NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

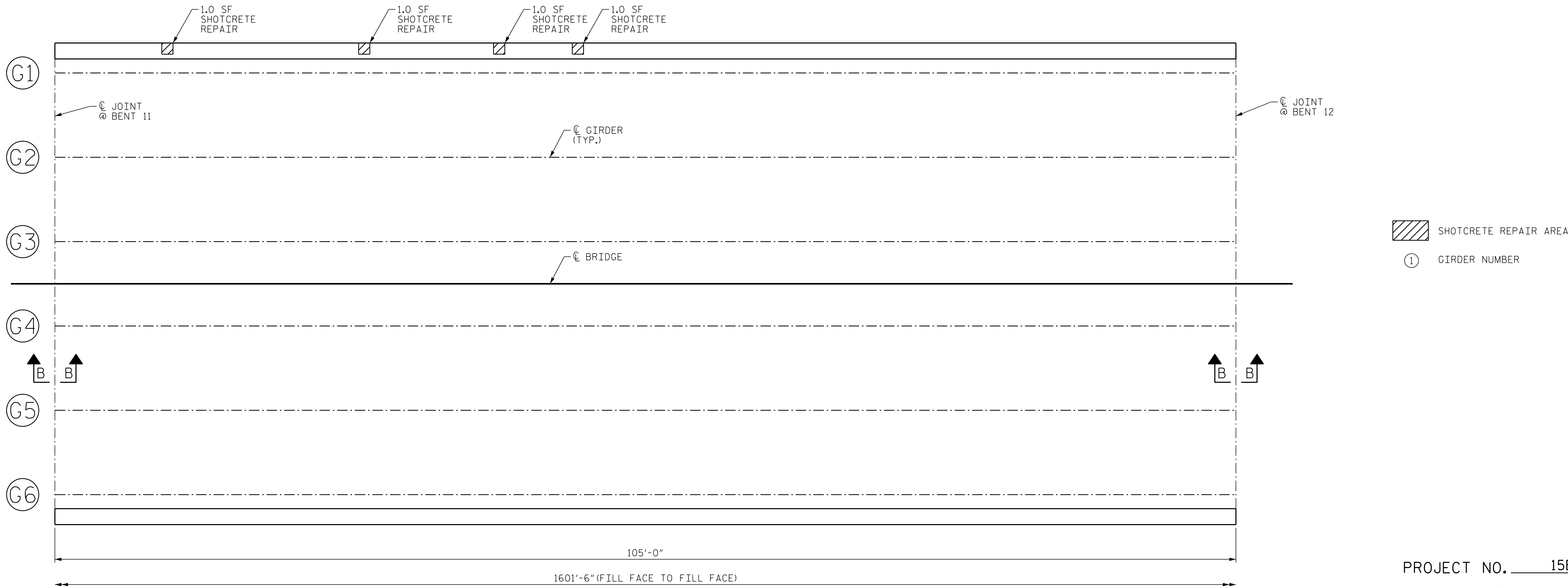
FOR SECTION B-B, SEE "JOINT DETAILS" SHEET 1 OF 2.

FOR UNDERSIDE OF DECK REPAIRS, SEE "MISCELLANEOUS REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING LISTED ITEM(S), 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 ITEM(S) HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	VOLUMETRIC MIXER	LUMP SUM
2	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CLASS II SURFACE PREPARATION	SQ. YDS.



SHOTCRETE REPAIR AREA
 GIRDER NUMBER

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	466.6 SQ. YDS.	
SILANE DECK TREATMENT	466.6 SQ. YDS.	
FOAM JOINT SEAL	40.0 LIN. FT.	
BRIDGE JOINT DEMOLITION	0.0 SQ. FT.	
ELASTOMERIC CONCRETE FOR PRESERVATION	0.0 CU. FT.	

UNDERSIDE OF DECK REPAIRS				
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG	4.0	0.6		

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 12 OF 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
PLAN OF SPANS
SPAN L

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DWG BY: L. ZAMPETTI DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19

HDR Engineering, Inc. of the Carolinas
 555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
 N.C.B.E.L.S. License Number: F-0116
Karen M. Mobley 2/21/2019
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REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 53-18
 TOTAL SHEETS 37

NOTES

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

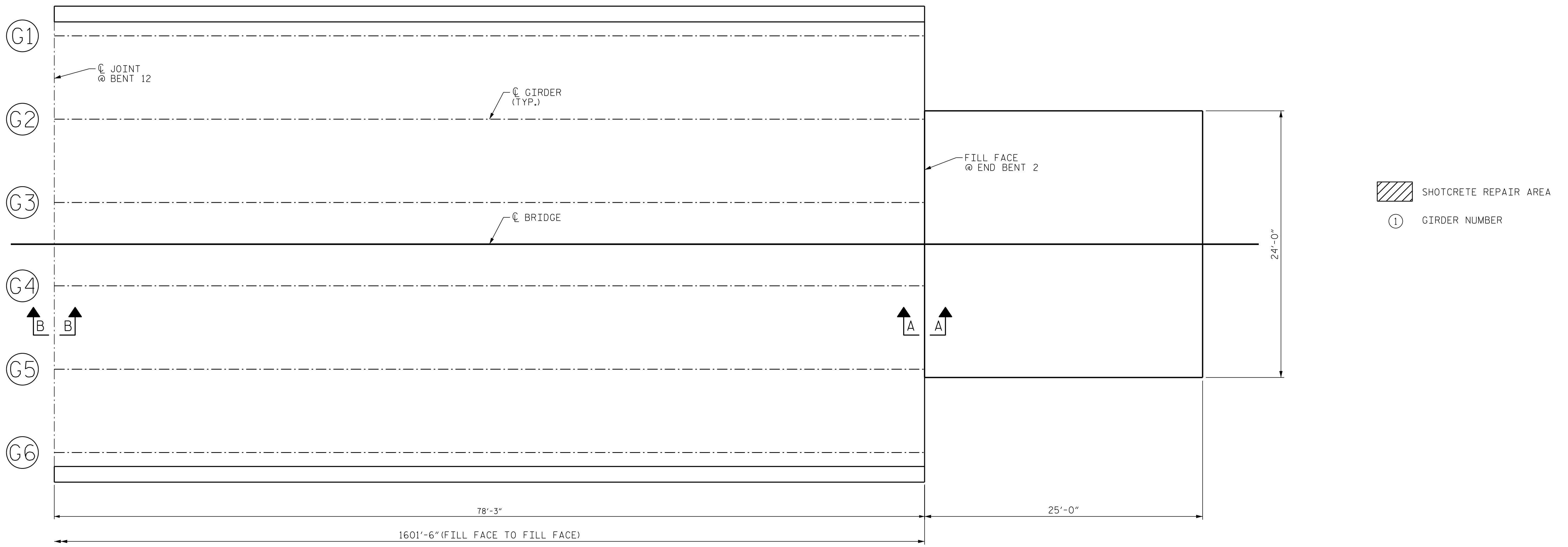
FOR SECTIONS A-A AND B-B, SEE "JOINT DETAILS" SHEET 1 OF 2.

FOR UNDERSIDE OF DECK REPAIRS, SEE "MISCELLANEOUS REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING LISTED ITEM(S), 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 ITEM(S) HAVE BEEN PROVIDED IN PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:

ITEM NO	DESCRIPTION	UNIT
1	VOLUMETRIC MIXER	LUMP SUM
2	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SQ. FT.
3	CLASS II SURFACE PREPARATION	SQ. YDS.



SPAN M

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 13 OF 13

TOP OF DECK REPAIRS SPAN M			APPROACH SLAB REPAIRS		
	ESTIMATE	ACTUAL		ESTIMATE	ACTUAL
SHOTBLASTING BRIDGE DECK	347.7 SQ. YDS.		SHOTBLASTING BRIDGE DECK	66.6 SQ. YDS.	
SILANE DECK TREATMENT	347.7 SQ. YDS.		SILANE DECK TREATMENT	66.6 SQ. YDS.	
POURABLE SILICONE JOINT SEALANT	24.0 LIN. FT.				
BRIDGE JOINT DEMOLITION	0.0 SQ. FT.				
ELASTOMERIC CONCRETE FOR PRESERVATION	0.0 CU. FT.				

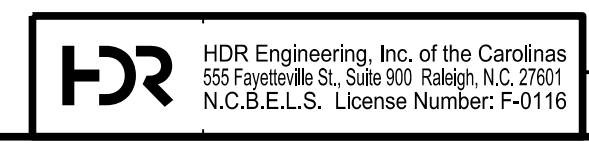
	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG	0.0	0.0		

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 SPAN M**



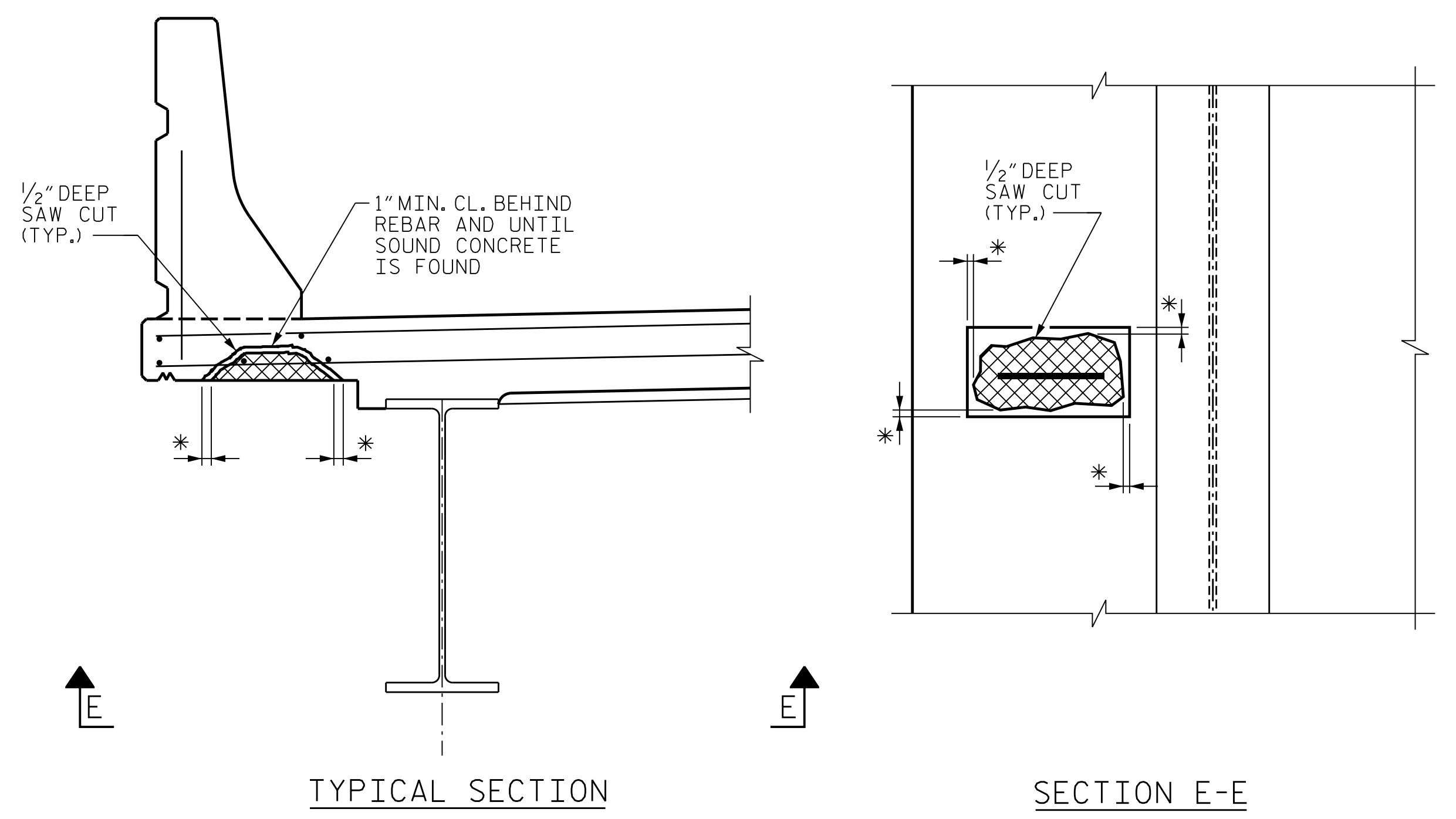
DWG BY: L. ZAMPETTI DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19



Karen M Mobley 2/21/2019
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REVISIONS						SHEET NO. 53-19 TOTAL SHEETS 37
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2			4			

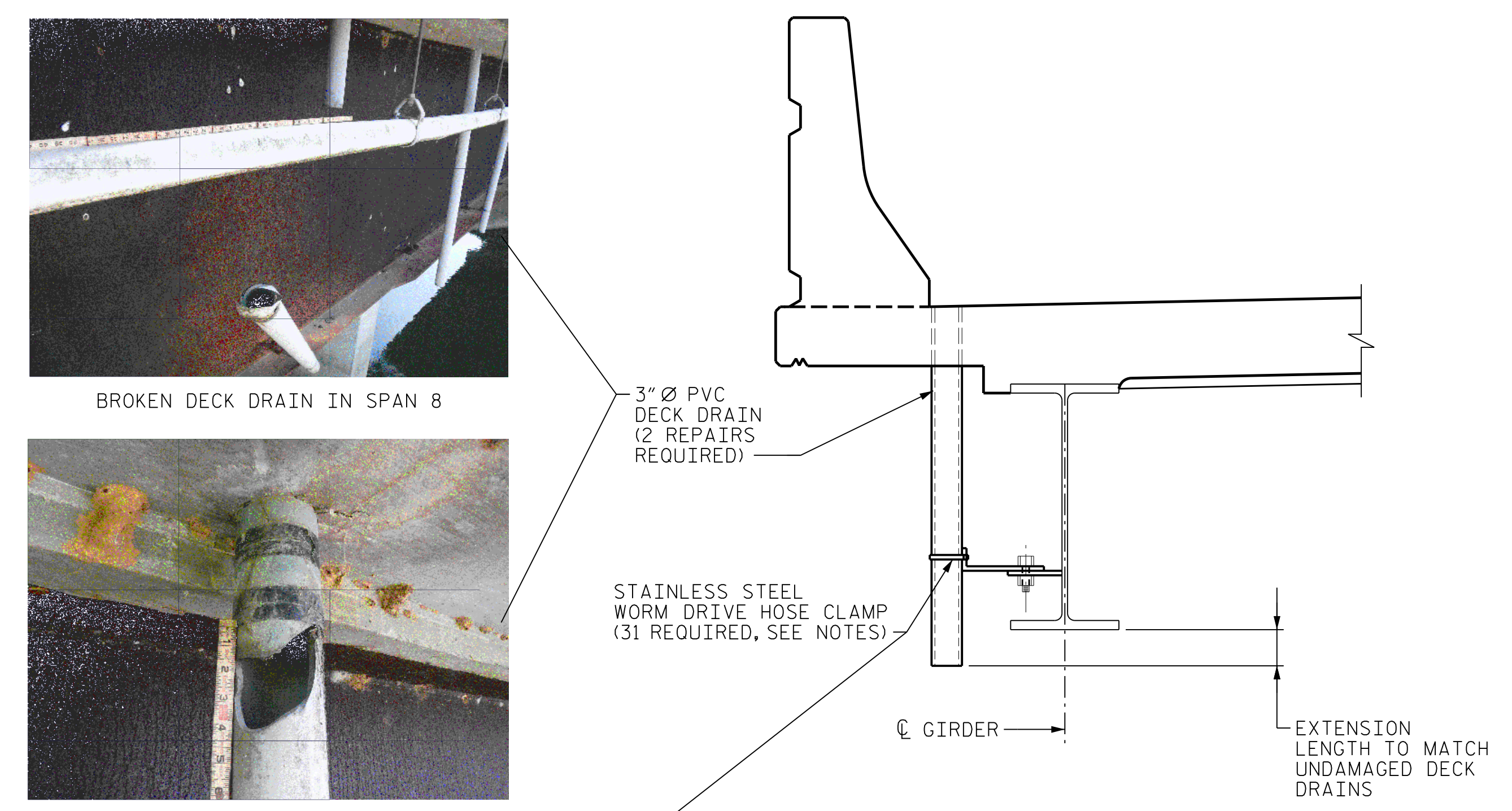
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OVERHANG DETAILS

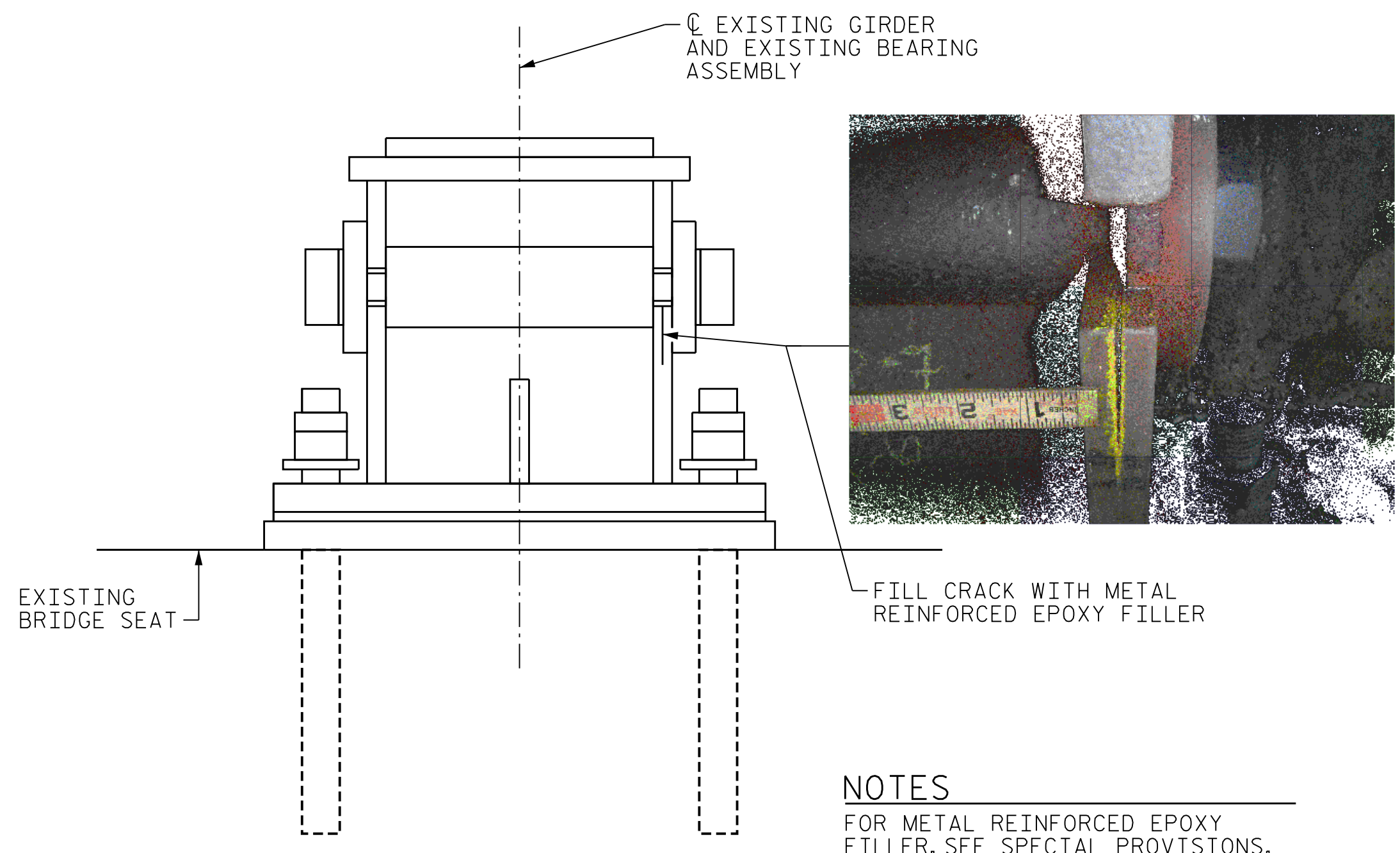
(DECK DRAIN AND UTILITY LINE NOT SHOWN)

* REMOVE CONCRETE UNTIL SOUND CONCRETE IS FOUND (2" MIN. CL.)



DRAIN DETAIL

(UTILITY LINE NOT SHOWN)



BEARING ASSEMBLY REPAIR DETAIL

GIRDER 2 BEARING ASSEMBLY @ BENT 6 IN SPAN 7 (LOOKING BACKSTATION)

NOTES

- CUT AND REMOVE A MINIMUM OF 1" ABOVE THE DAMAGED PORTION OF THE DECK DRAIN.
- REMOVE ANY DEBRIS IN THE PIPE AND CLEAN THE PIPE SURFACE OF DIRT, GREASE, OIL AND OTHER FOREIGN MATERIALS.
- USE A PVC PIPE CLEANER AND CEMENT APPROVED BY THE ENGINEER.
- PREPARE THE PIPE SURFACE AND APPLY APPROVED MATERIAL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
- THE REPLACEMENT PVC DRAIN PIPE SHALL HAVE AN OUTSIDE DIAMETER AS CLOSELY MATCHING THE INSIDE DIAMETER OF THE EXISTING PIPE AS POSSIBLE. INSERT THE REPLACEMENT PVC DRAIN INSIDE THE EXISTING PIPE AND SET THE ENDS OF THE REPLACEMENT PIPE AT THE LIMITS SHOWN ON THE PLANS.
- THE REPLACEMENT DRAIN PIPE SHALL BE PAINTED WITH TWO COATS OF BROWN PRIMER MEETING THE REQUIREMENTS OF ARTICLE 1080-11 OF THE STANDARD SPECIFICATIONS. EACH COAT SHALL BE 2 DRY MILS (0.050 MM) THICK. THE DECK DRAIN SHALL BE ROUGHENED PRIOR TO PAINTING. NO SEPARATE PAYMENT SHALL BE MADE FOR PAINTING THE PVC DECK DRAIN AS THIS IS CONSIDERED INCIDENTAL TO THE PAY ITEM FOR REPAIR OF EXISTING DECK DRAINS.
- COUPLING IN DRAIN PIPE WILL BE PERMITTED AS APPROVED BY THE ENGINEER.
- FOR REPAIR OF EXISTING DECK DRAINS, SEE SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL REPLACE ALL BROKEN HOSE CLAMPS. THE ESTIMATED NUMBER OF HOSE CLAMP REPLACEMENTS IS FROM THE BEST INFORMATION AVAILABLE.

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
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MISCELLANEOUS DETAILS

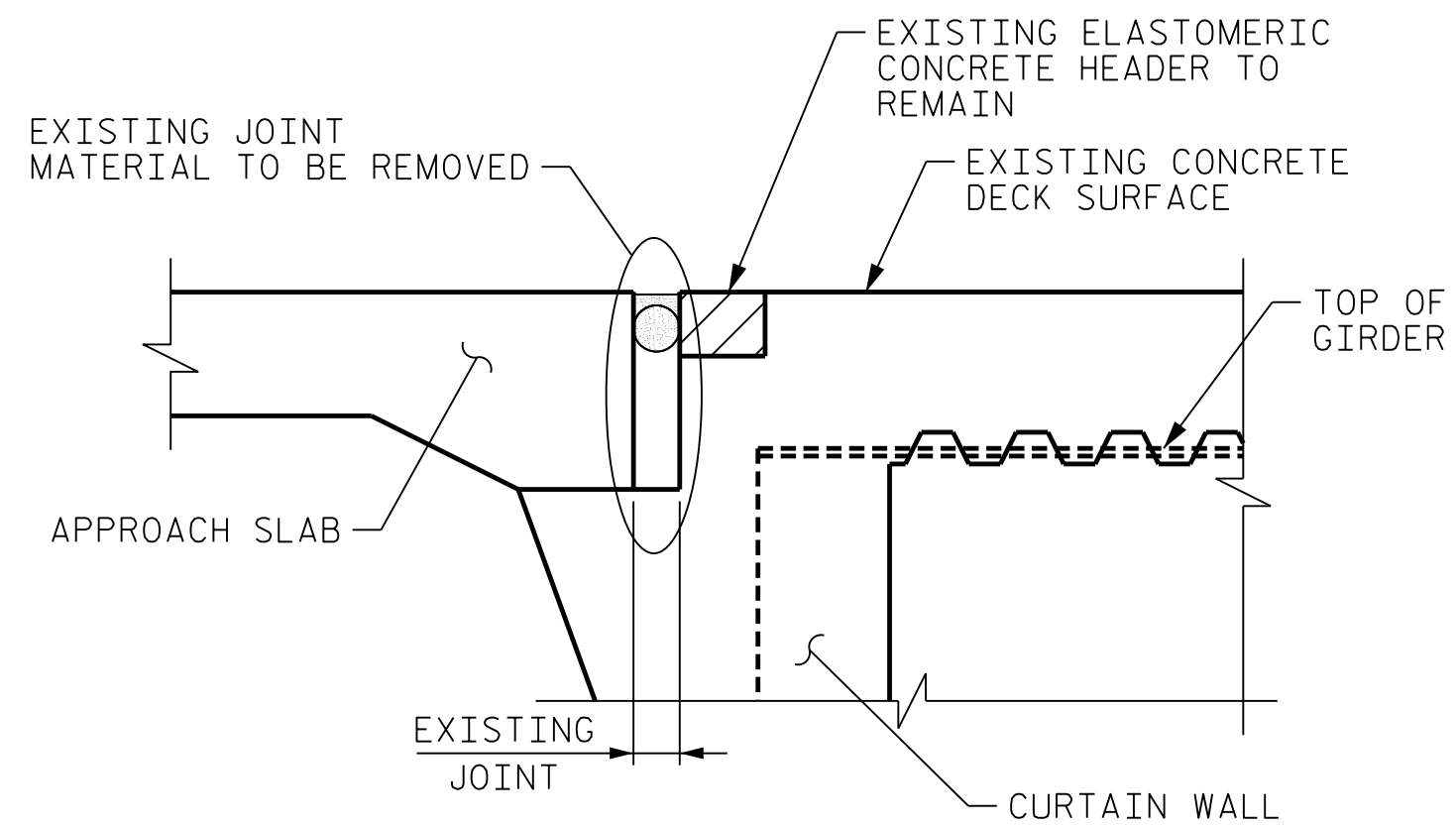
DWG BY: D. CARTER DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19

HDR HDR Engineering, Inc. of the Carolinas
 555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
 N.C.B.E.L.S. License Number: F-0116

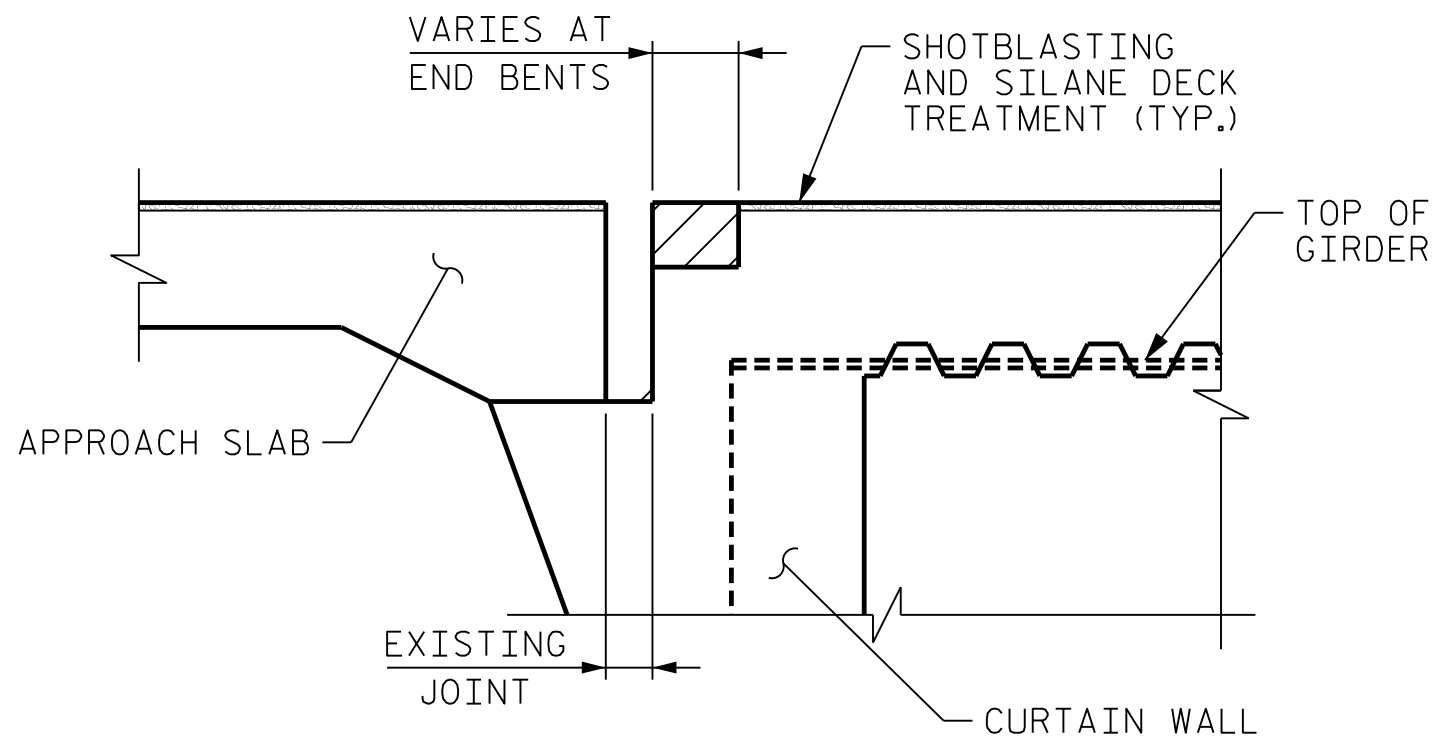
Karen M. Mobley 2/21/2019

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2			4			

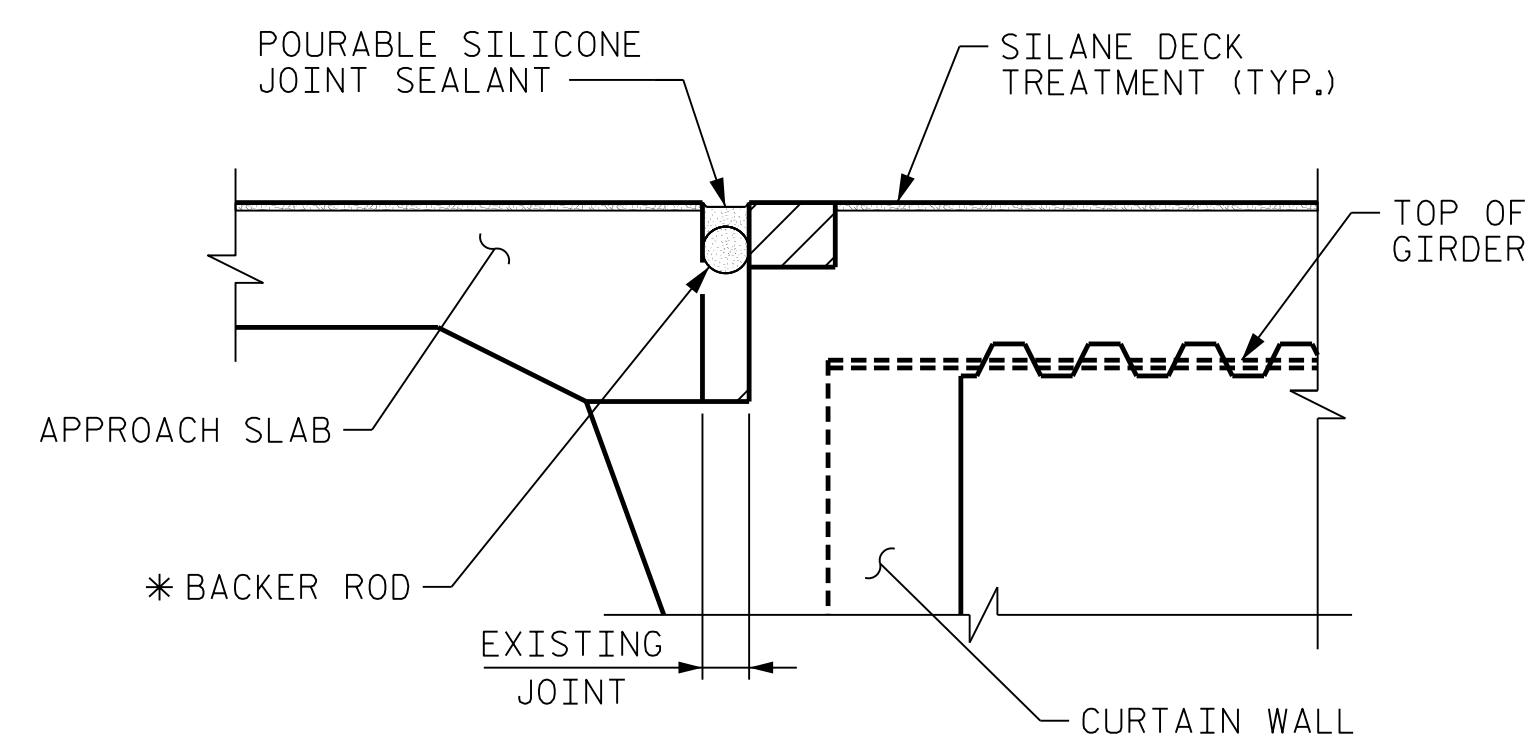


SECTION A-A
(ASSUMED EXISTING JOINT)



SECTION A-A

* CONTRACTOR TO FIELD VERIFY WIDTH OF EXISTING JOINT AT APPROACH SLABS FOR INSTALLATION OF THE PROPER SIZE BACKING ROD.



SECTION A-A
(PROPOSED JOINT)

NOTES

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN THE DETAILS BY MORE THAN 1/4", NOTIFY THE ENGINEER.

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

FOAM JOINTS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.

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.

THE INSTALLED FOAM JOINTS SHALL BE WATER TIGHT.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING THE BACKER ROD.

THE BACKER ROD SHALL MEET THE MANUFACTURER'S RECOMMENDATION FOR THE SIZE OF THE JOINT OPENING.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS.

CONTRACTOR SHALL REPAIR ELASTOMERIC CONCRETE HEADER IF DAMAGED DURING JOINT MATERIAL REPLACEMENT.

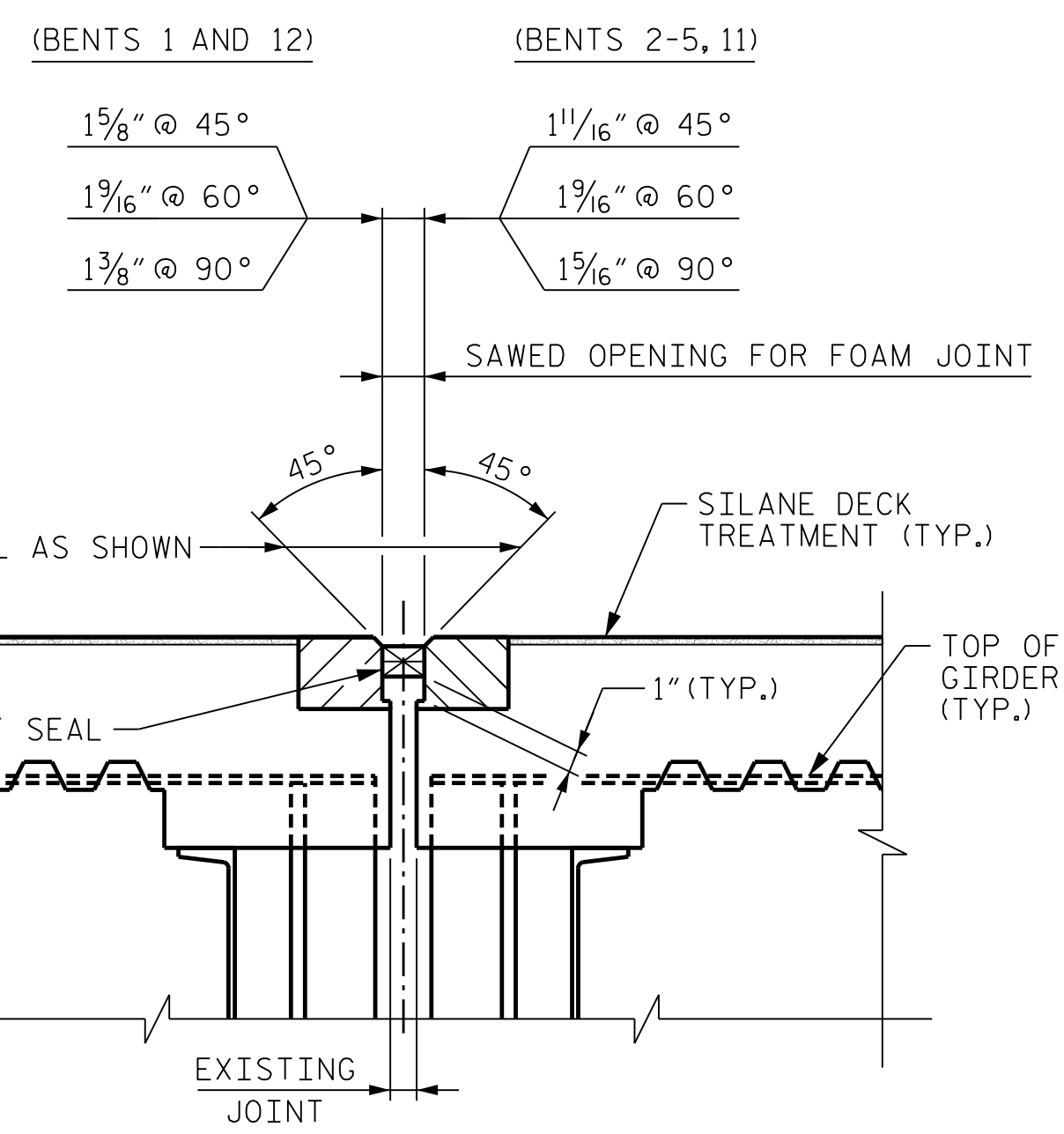
FOR JOINT SEAL DETAILS, SEE "JOINT DETAILS", SHEET 2 OF 2.

CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT IS REQUIRED IF BRIDGE JOINT DEMOLITION GOES BEYOND THE STANDARD REMOVAL OF EXISTING ELASTOMERIC HEADERS AS SHOWN IN DETAIL A.

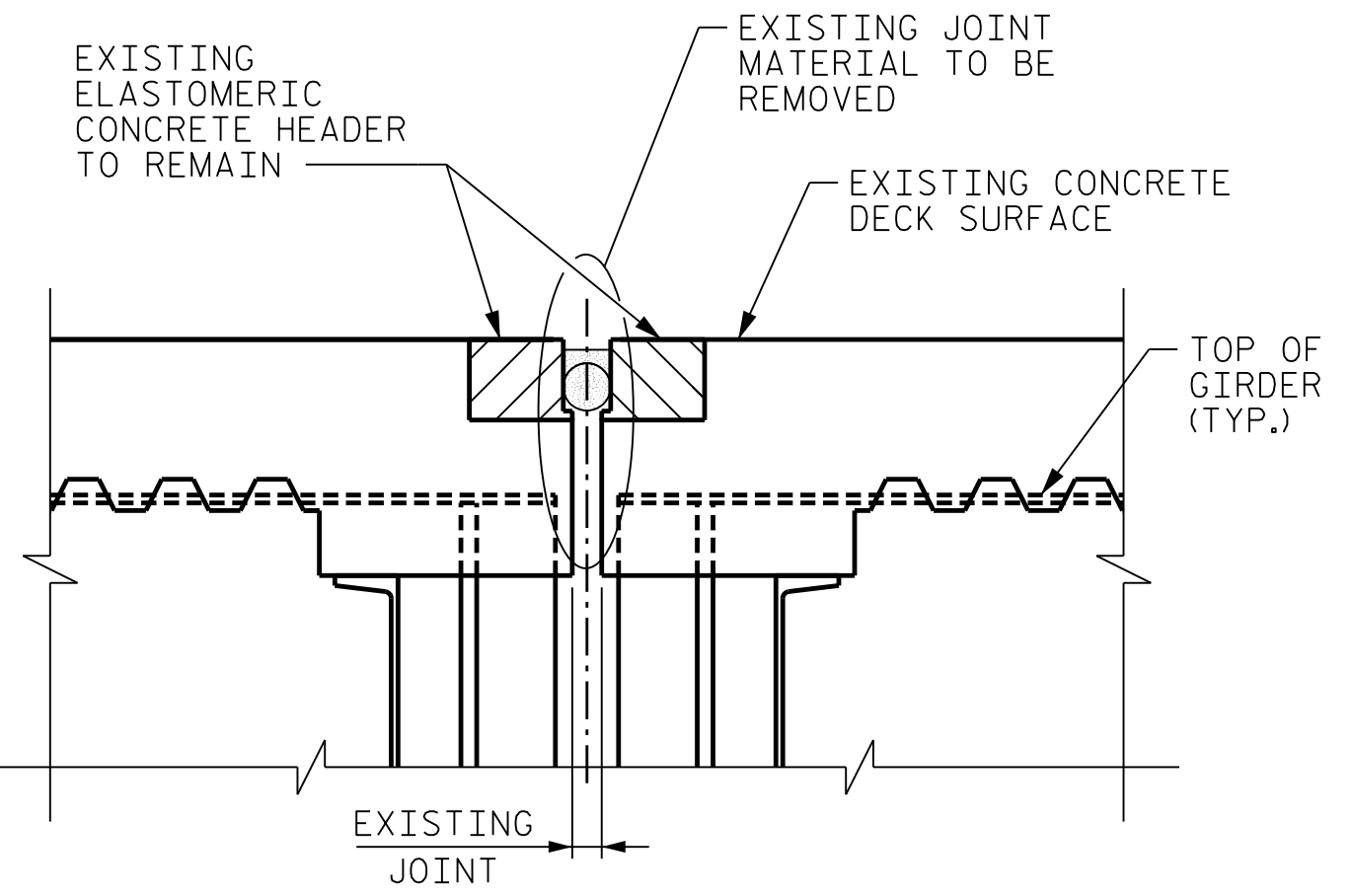
QUANTITIES SHOWN IN THE AS-BUILT REPAIR QUANTITIES TABLES FOR ELASTOMERIC CONCRETE FOR PRESERVATION ARE BASED ON THE MINIMUM JOINT DEMOLITION SHOWN IN DETAIL A.

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

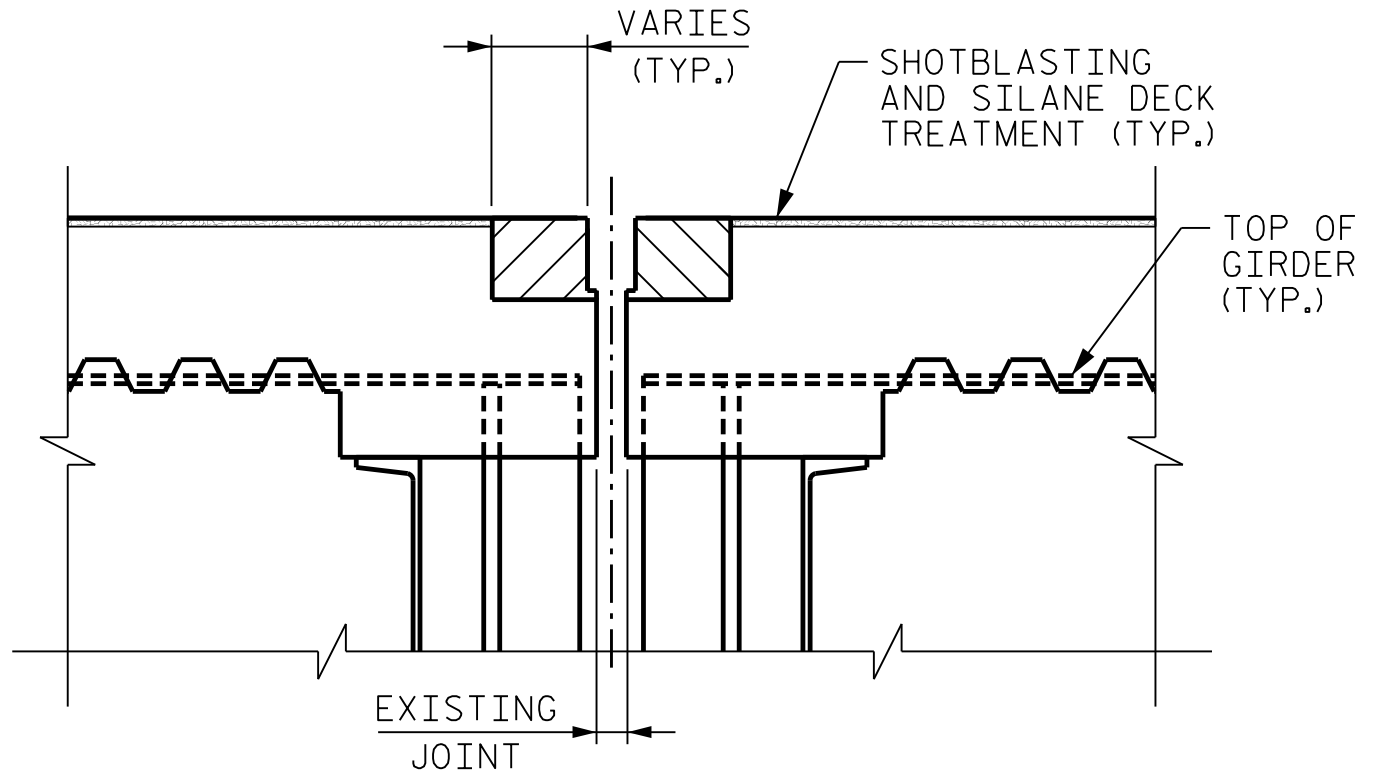
FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.



SECTION B-B
(PROPOSED JOINT)

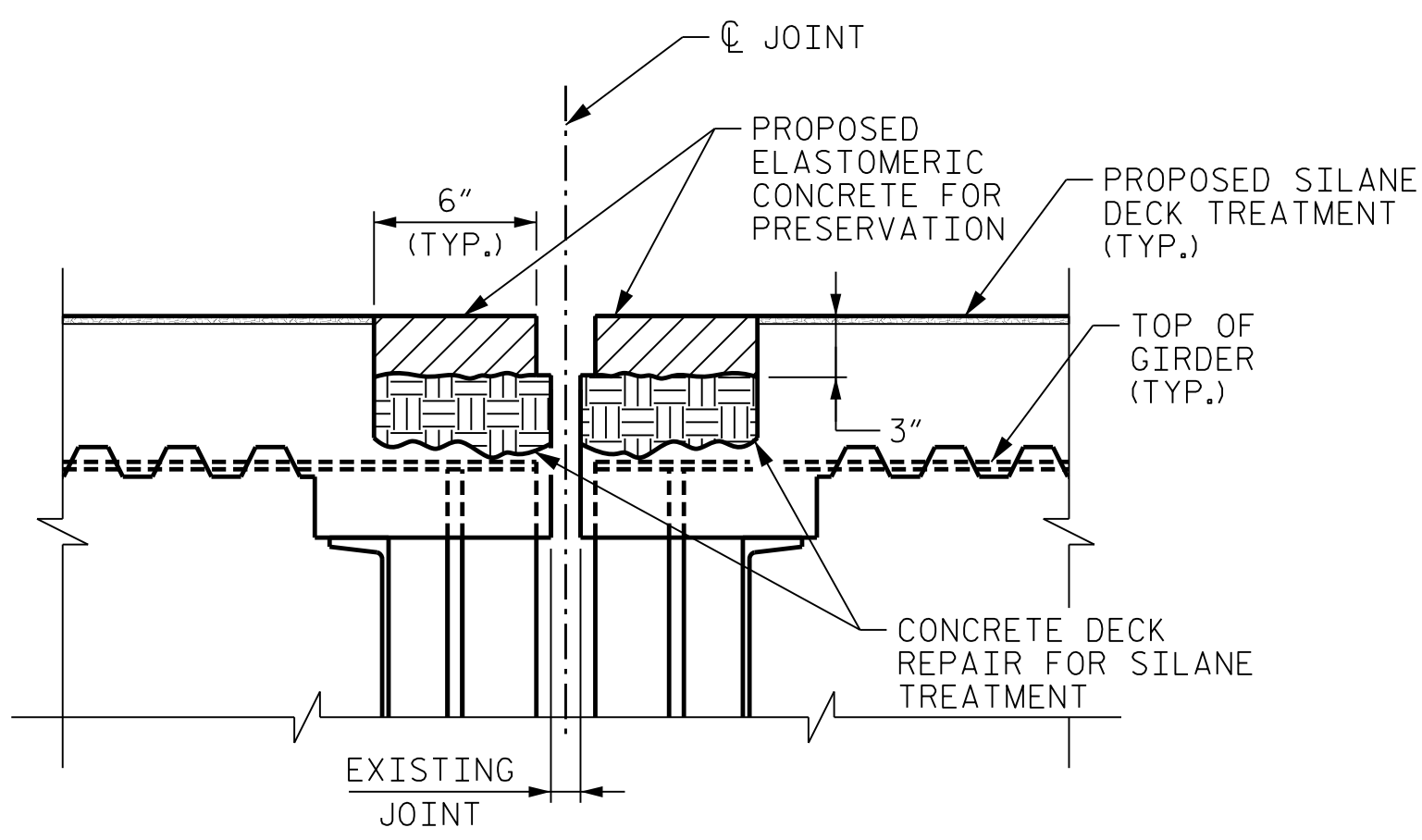


SECTION B-B
(ASSUMED EXISTING JOINT)



SECTION B-B

JOINT REPAIR QUANTITY TABLE		
	ESTIMATED	ACTUAL
FOAM JOINT SEALS FOR PRESERVATION	280.0 LIN. FT.	
POURABLE SILICONE JOINT SEALANT	48.0 LIN. FT.	



DETAIL A

(DETAIL A IS ONLY TO BE USED IF EXISTING ELASTOMERIC CONCRETE HEADERS ARE DAMAGED OR NOT ADEQUATE TO ACCOMMODATE PROPOSED FOAM JOINT SEAL REPLACEMENT)

PROPOSED BRIDGE JOINT DEMOLITION AREA IF REQUIRED

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

JOINT DETAILS



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



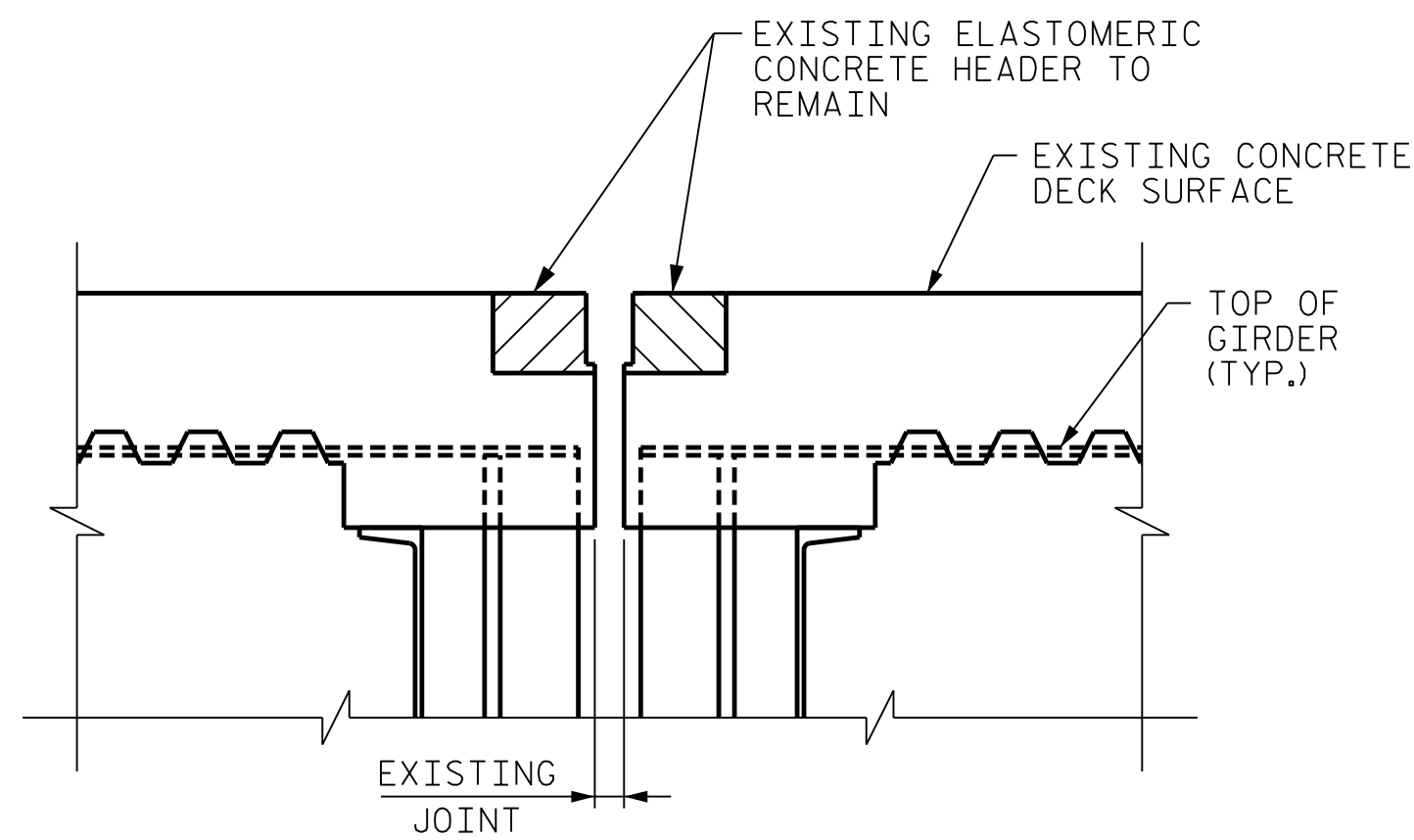
Karen M Mobley 2/21/2019

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

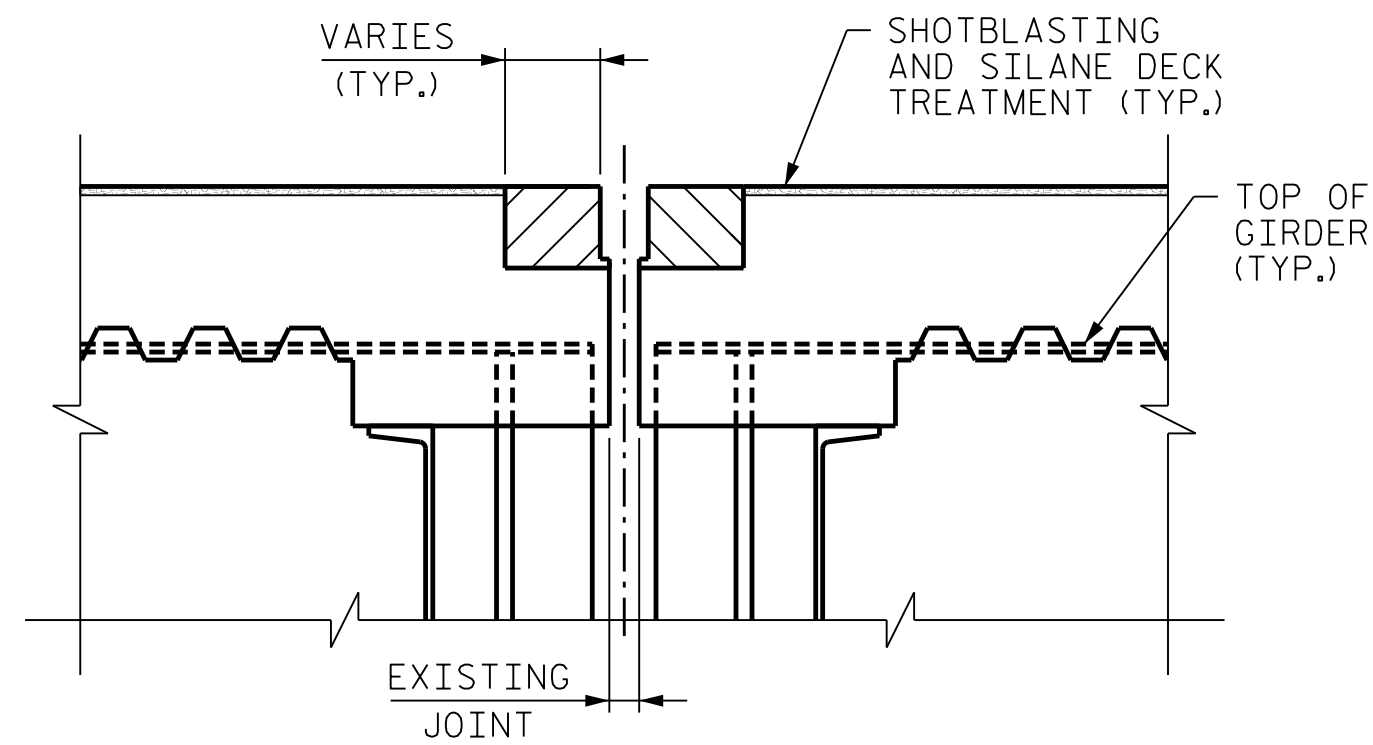
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DWG BY: M. SELLS DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19

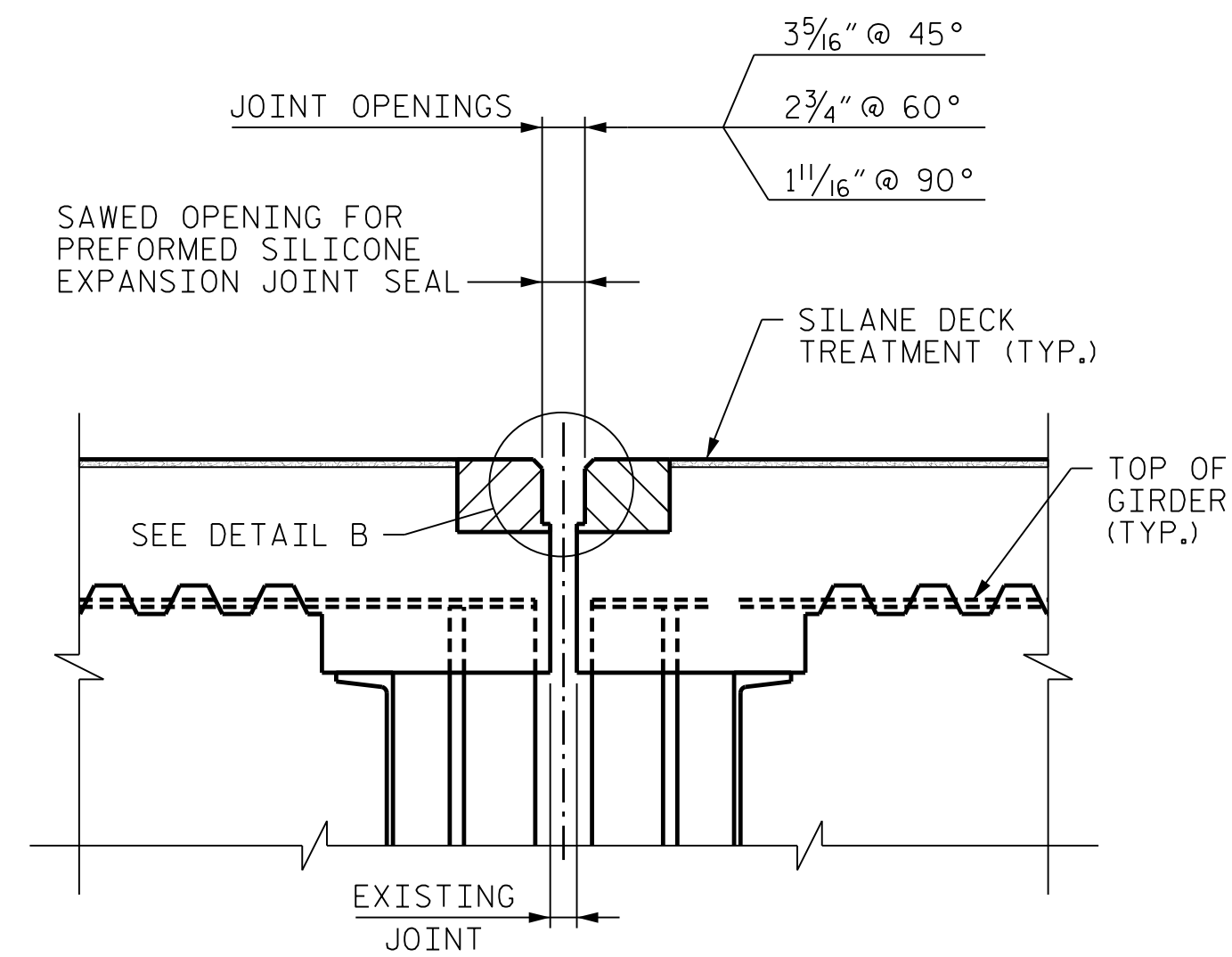
SHEET NO. 53-21
 TOTAL SHEETS 37



SECTION C-C
(ASSUMED EXISTING JOINT)
(JOINT MATERIAL NOT SHOWN)



SECTION C-C

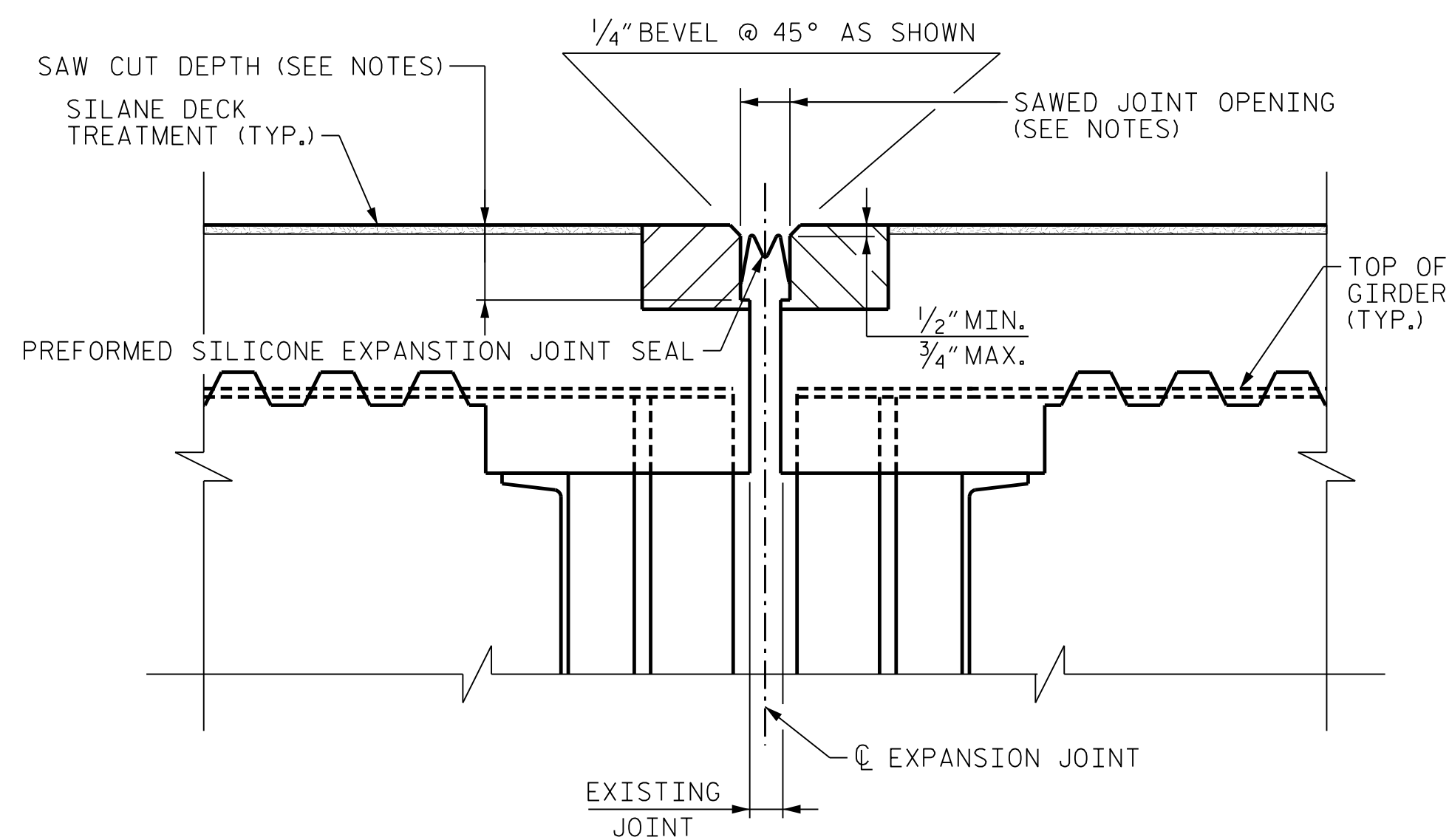


SECTION C-C
(PROPOSED JOINT)

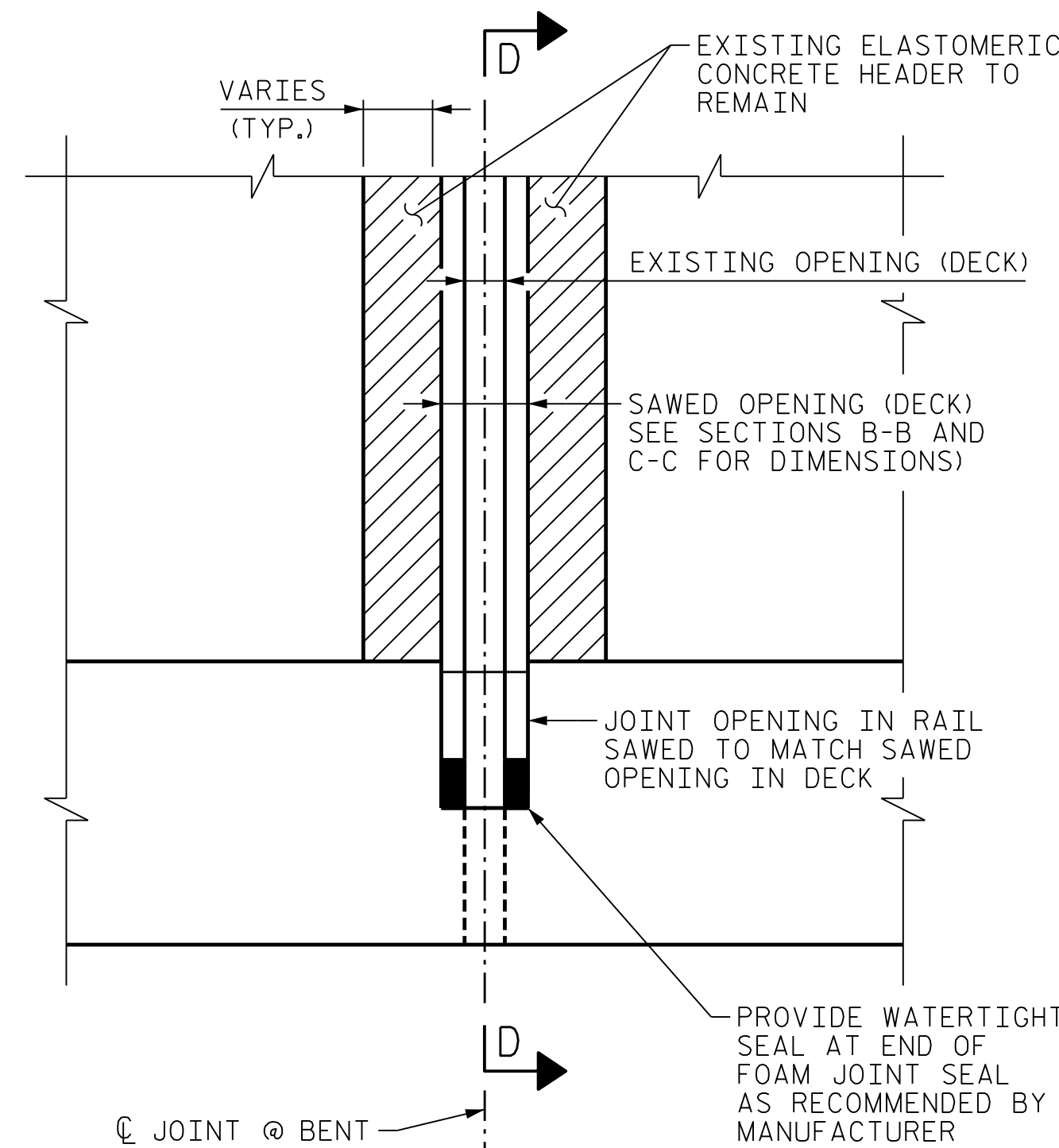
PREFORMED SILICONE EXPANSION JOINT SEAL
(FOR BENTS 6 AND 10)

NOTES

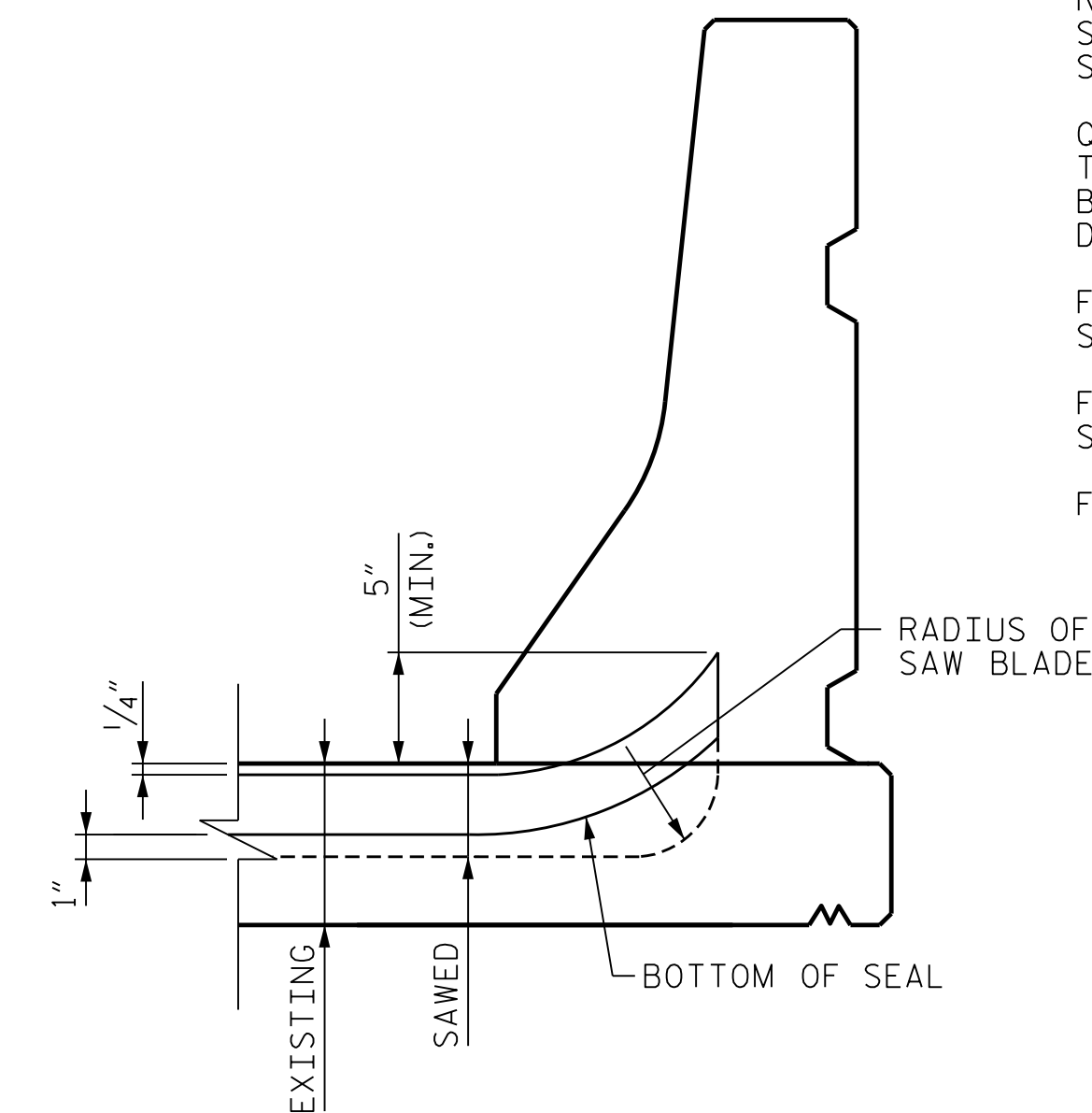
- EXISTING SECTION DETAILS ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF THE ACTUAL CONDITIONS DIFFER.
- THE ENGINEER WILL REVIEW EXISTING DECK CONDITIONS. THE CONTRACTOR SHALL REMOVE UNSOUND CONCRETE IN THE DECK, OR AS DIRECTED BY THE ENGINEER.
- REMOVE BRIDGE DECK CONCRETE TO THE EXTENT NECESSARY TO REMOVE EXISTING JOINT. INTRODUCE A PARTIAL DEPTH SAWCUT NOT EXCEEDING 1" IN DEPTH, FOLLOWED BY CONCRETE REMOVAL WITHOUT DAMAGE TO EXISTING REINFORCING STEEL AND EXISTING GIRDERS.
- RETAIN BRIDGE DECK REINFORCING STEEL. STRAIGHTEN, REPAIR, OR REPLACE REINFORCING STEEL, AS NECESSARY.
- CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF ACTUAL JOINT OPENING VARIES FROM OPENING INDICATED IN DETAIL BY MORE THAN 1/4" NOTIFY ENGINEER. REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.
- THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE JOINT SEAL FOR THE SIZE OF THE OPENING ON THE PLANS AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.
- JOINT SEALS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
- 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.



DETAIL B



PLAN



SECTION D-D

FOAM JOINT SEAL SHALL BE FACTORY FORMED OR CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF BARRIER RAIL

JOINT SEAL DETAILS

JOINT REPAIR QUANTITY TABLE		
	ESTIMATED	ACTUAL
PREFORMED SILICONE EXPANSION JOINT SEALS	80.0 LIN. FT.	

- THE INSTALLED JOINT SEALS SHALL BE WATER TIGHT.
- THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.
- CONTRACTOR SHALL REPAIR ELASTOMERIC CONCRETE HEADER IF DAMAGED DURING JOINT MATERIAL REPLACEMENT.
- REMOVE STEEL PLATE IN BARRIER RAIL DURING JOINT MATERIAL REPLACEMENT. CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO ANY DAMAGE TO STEEL PLATE.
- CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT IS REQUIRED IF BRIDGE JOINT DEMOLITION GOES BEYOND THE STANDARD REMOVAL OF EXISTING ELASTOMERIC HEADERS AS SHOWN IN DETAIL A ON SHEET 1 OF 2.
- QUANTITIES SHOWN IN THE AS-BUILT REPAIR QUANTITIES TABLES FOR ELASTOMERIC CONCRETE FOR PRESERVATION ARE BASED ON THE MINIMUM JOINT DEMOLITION SHOWN IN DETAIL A ON SHEET 1 OF 2.
- FOR PREFORMED SILICONE EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.
- FOR CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT, SEE SPECIAL PROVISIONS.
- FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

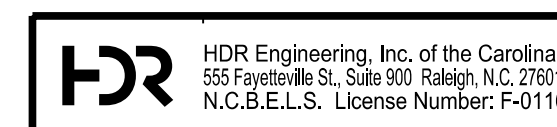
PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 2 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
JOINT DETAILS					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S3-22 TOTAL SHEETS 37



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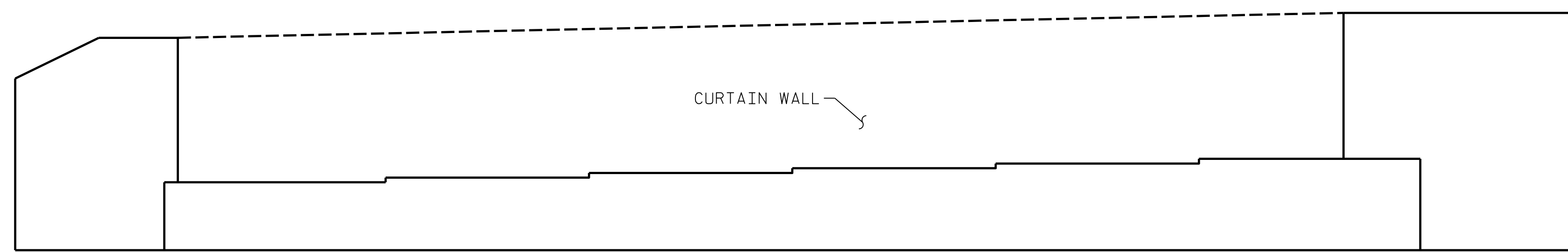
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PLAN



ELEVATION

AS-BUILT REPAIR QUANTITY TABLE

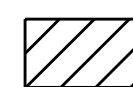
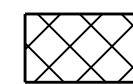

END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
CURTAIN WALL		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
CAP		0.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIR AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

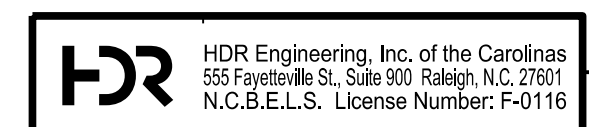
SHEET 1 OF 14



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 1

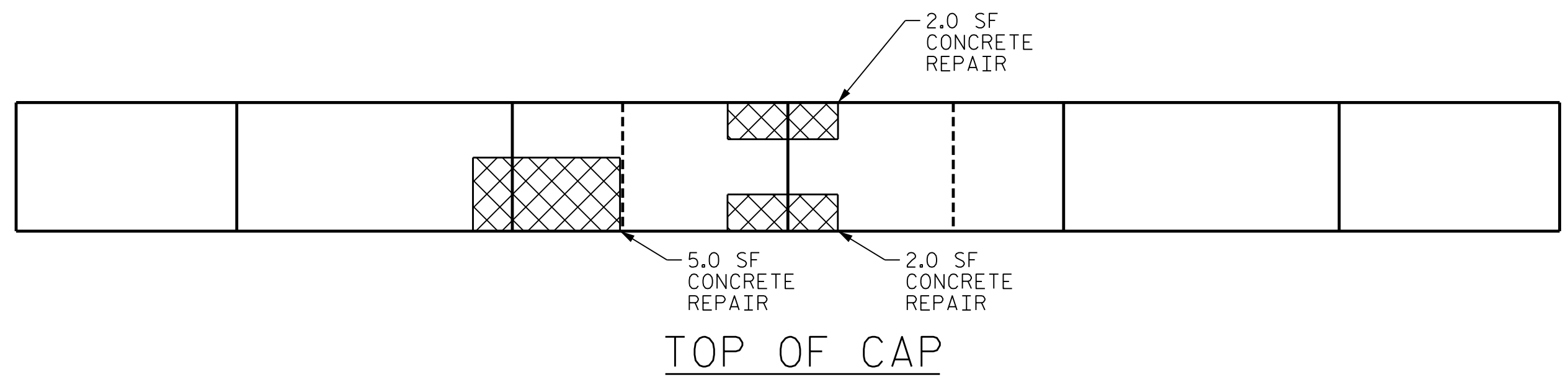
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 CHK BY: K. MOBLEY DATE: 01/19



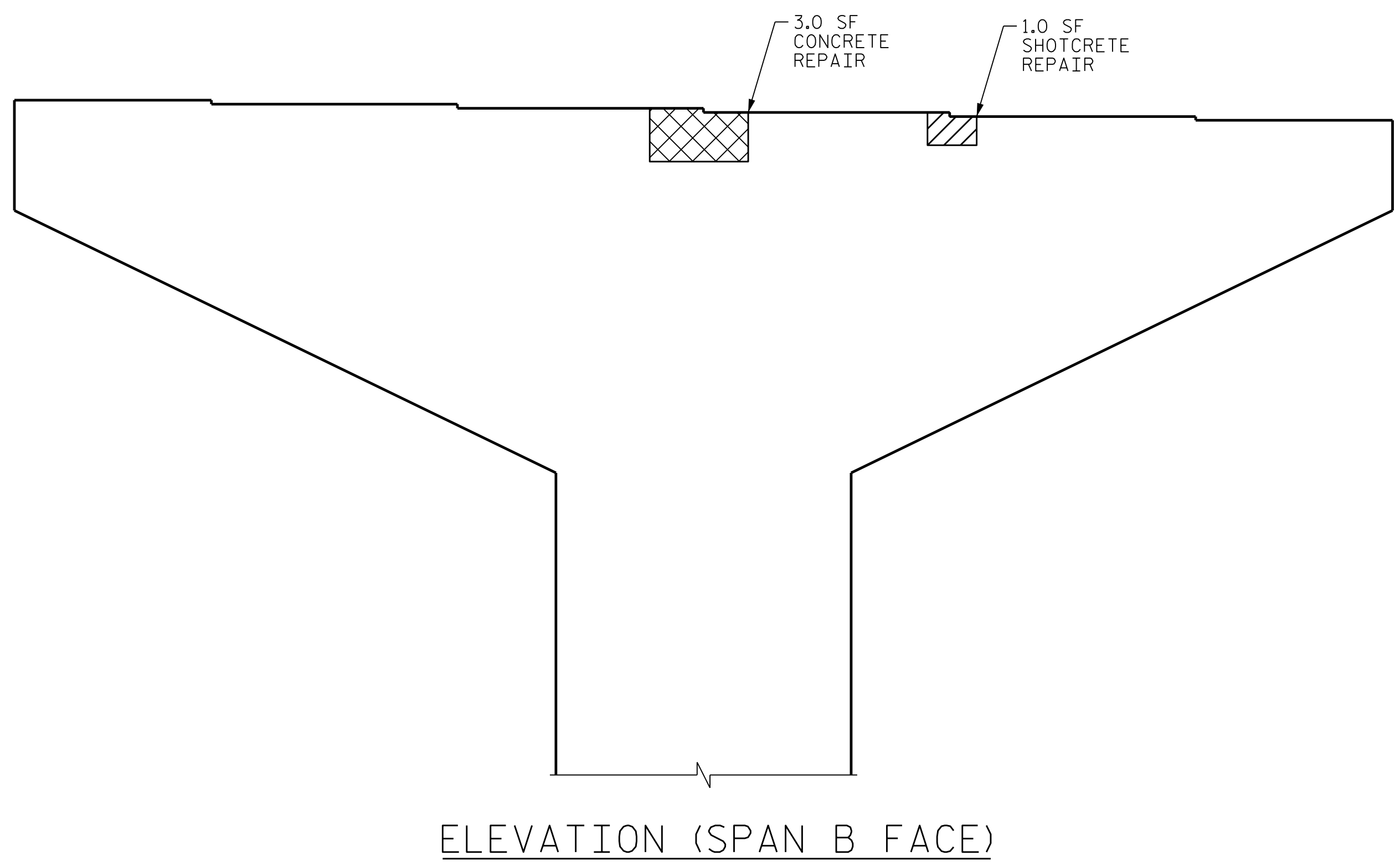
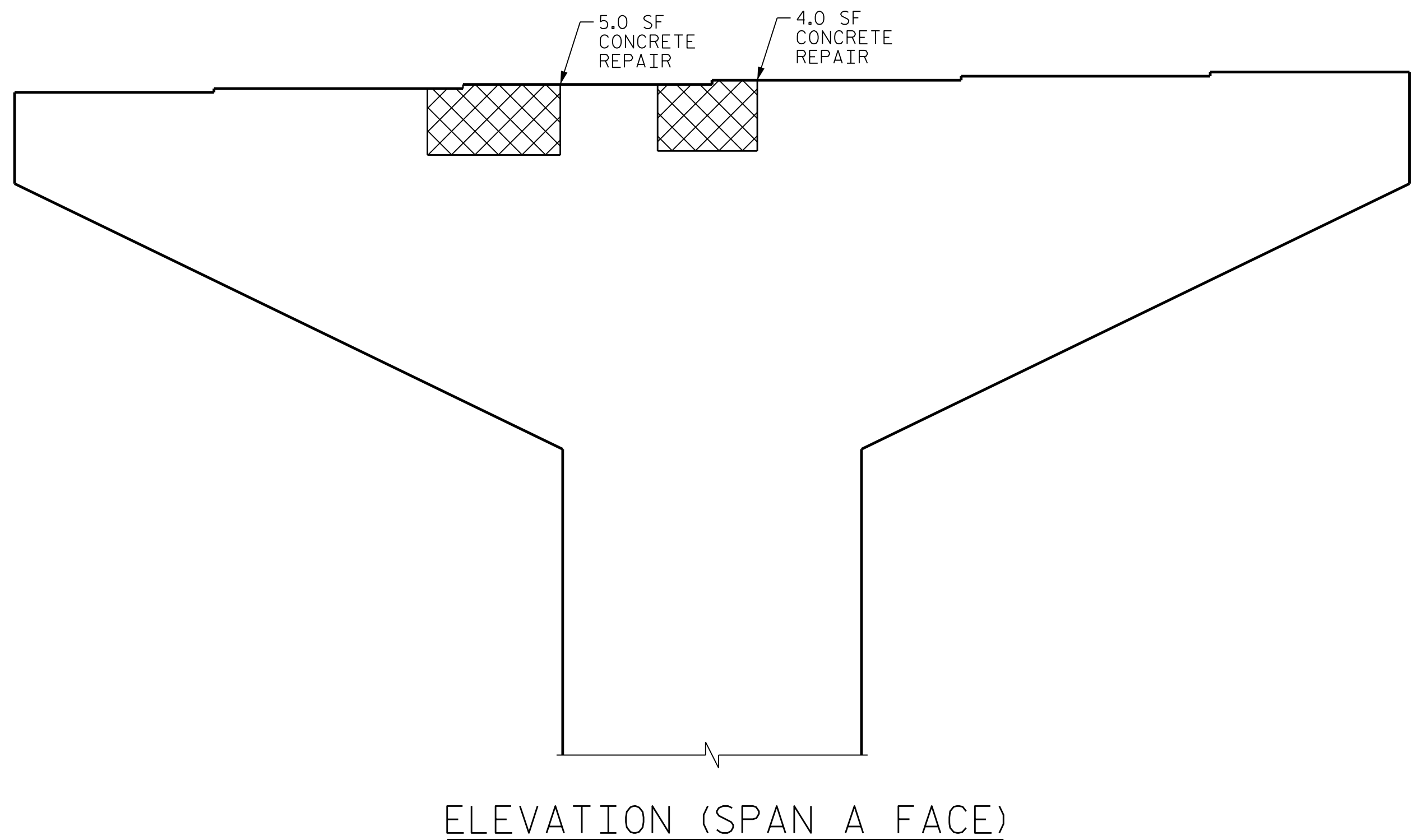
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



SPAN B
SPAN A



AS-BUILT REPAIR QUANTITY TABLE

BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	1.0	0.2		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SO. FT.	VOLUME CU. FT.	AREA SO. FT.	VOLUME CU. FT.
CAP	21.0	5.2		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	14.9			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 2 OF 14

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 1

REVISIONS					
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SHEET NO. S3-24
TOTAL SHEETS 37



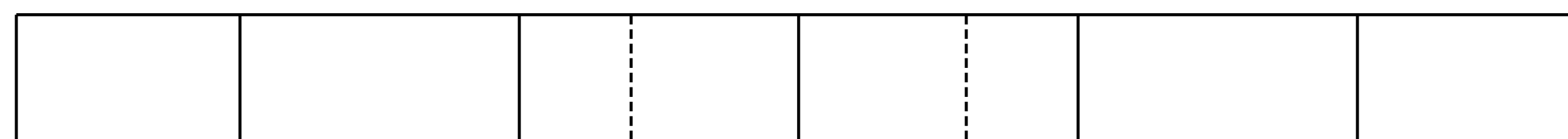
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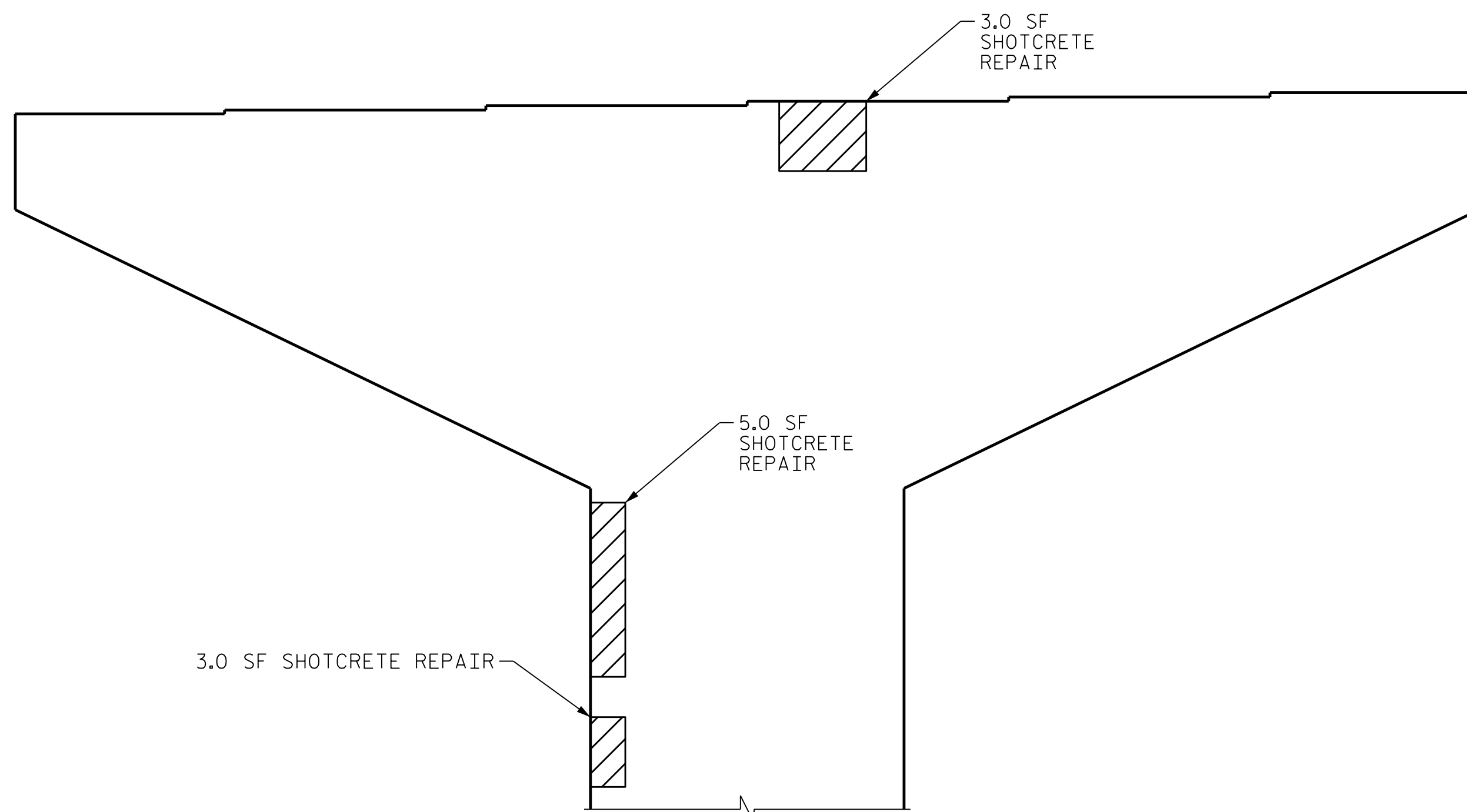
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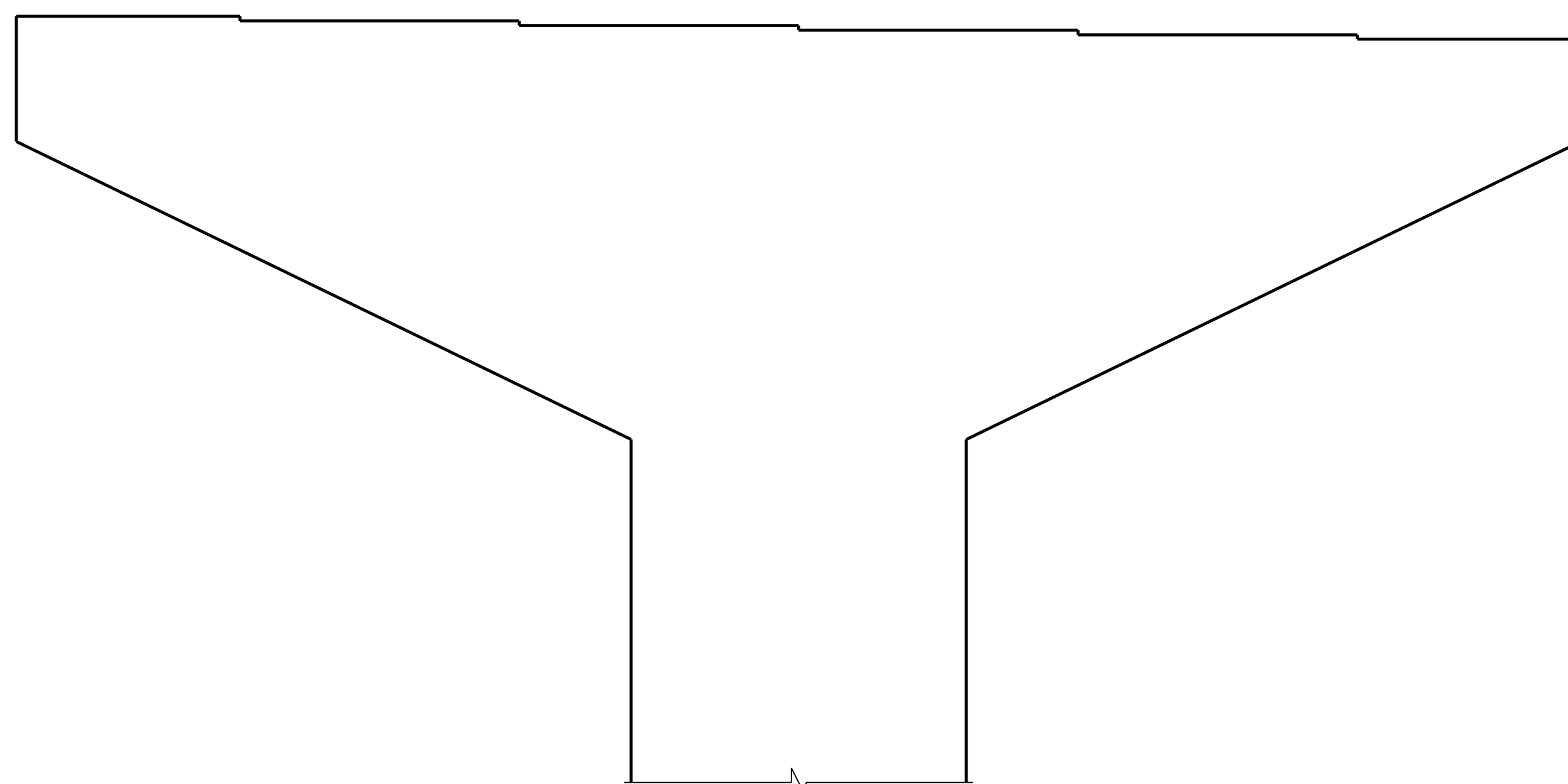


SPAN C
SPAN B

TOP OF CAP



ELEVATION (SPAN B FACE)



ELEVATION (SPAN C FACE)

AS-BUILT REPAIR QUANTITY TABLE

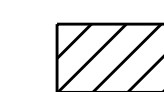
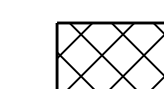

BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	3.0	0.6		
COLUMN	8.0	1.9		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	0.5			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

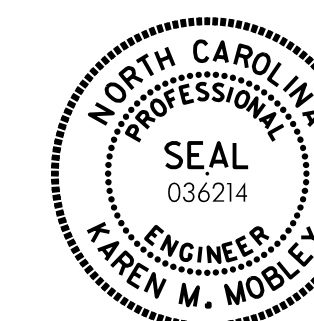
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIR AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 3 OF 14



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 2

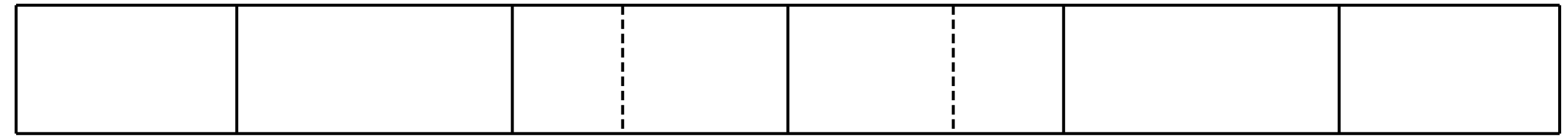
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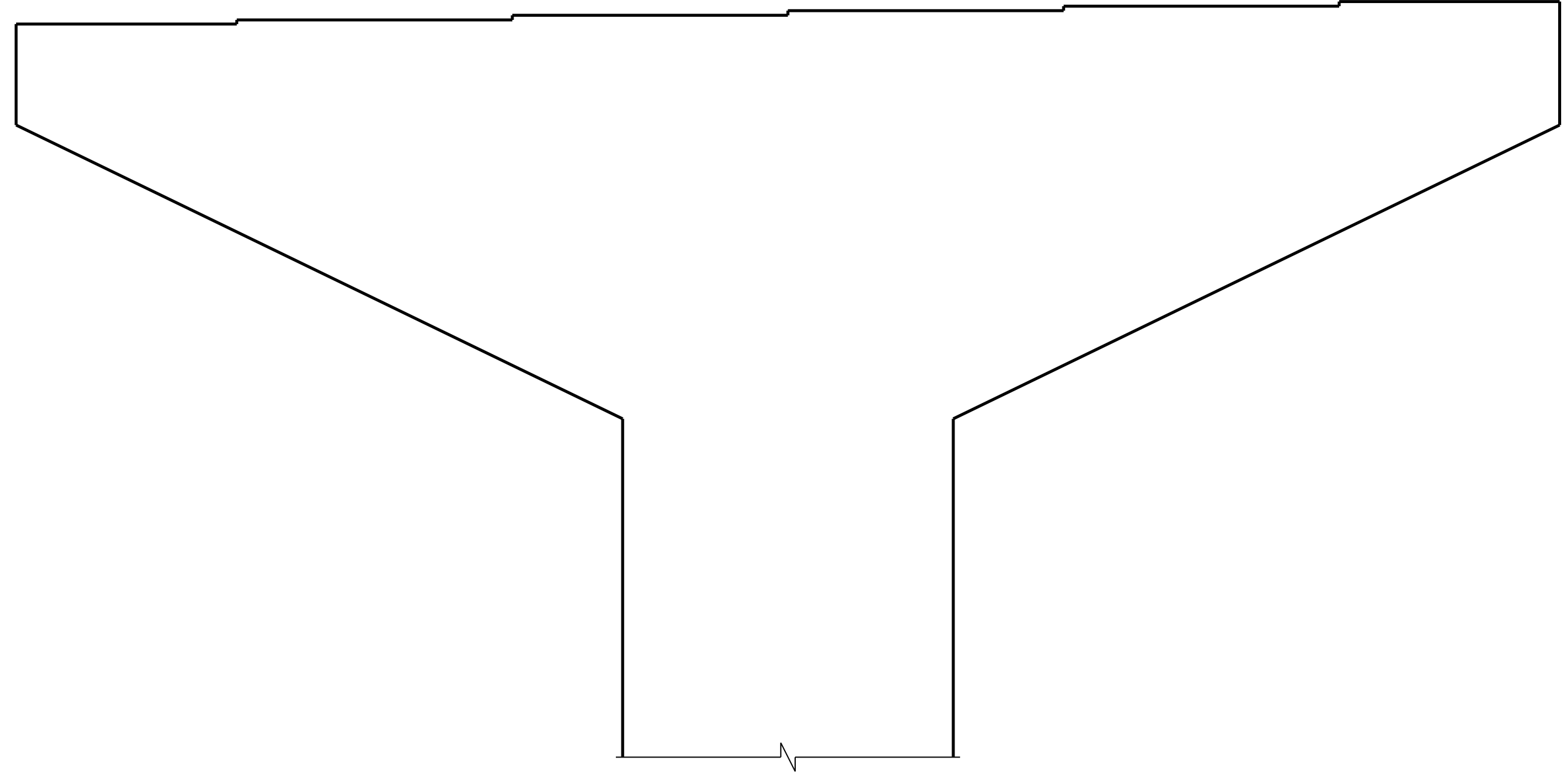
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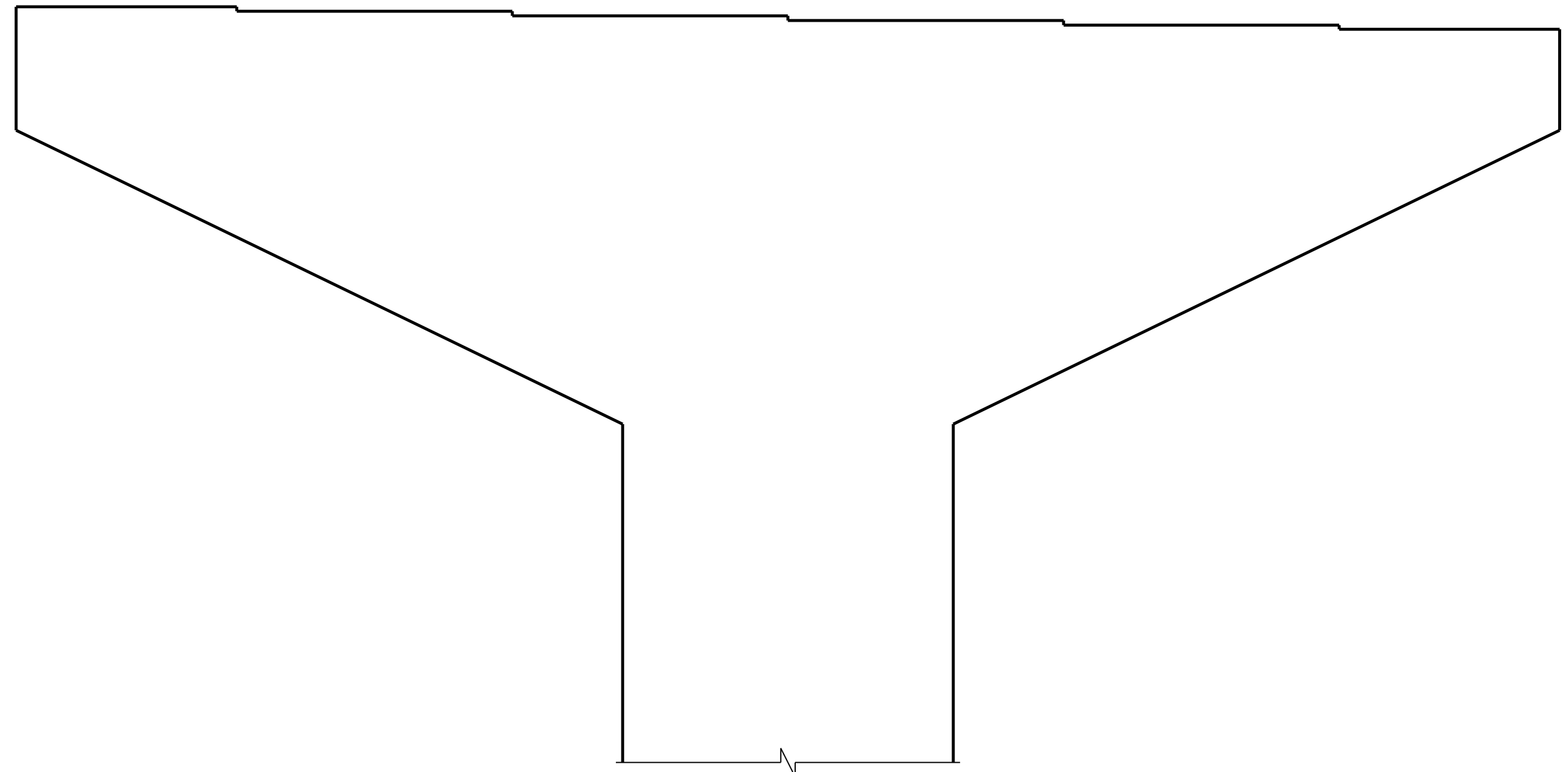


SPAN D
SPAN C

TOP OF CAP



ELEVATION (SPAN C FACE)



ELEVATION (SPAN D FACE)

AS-BUILT REPAIR QUANTITY TABLE

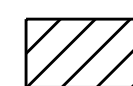
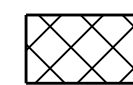

BENT 3	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	0.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38

ANSON COUNTY

BRIDGE NO: 030081

SHEET 4 OF 14

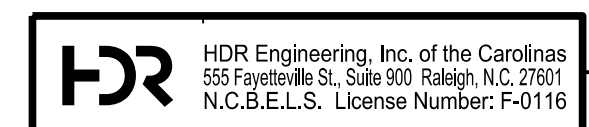
STATE OF NORTH CAROLINA
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RALEIGH

BENT 3



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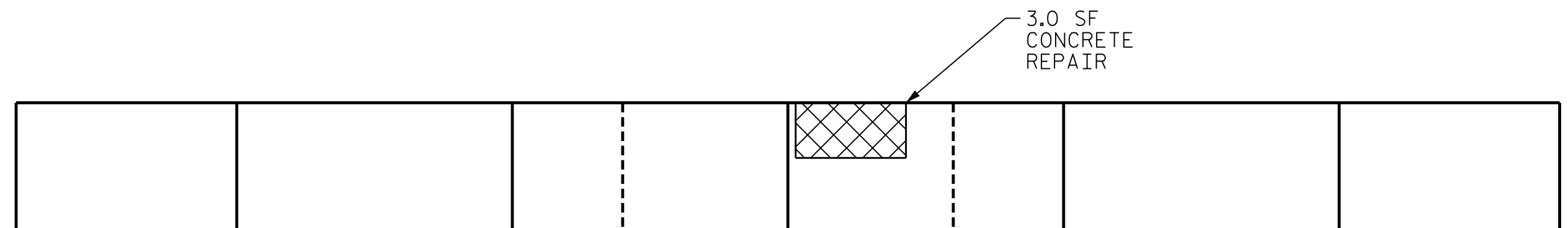
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CHK BY: K. MOBLEY	DATE: 01/19



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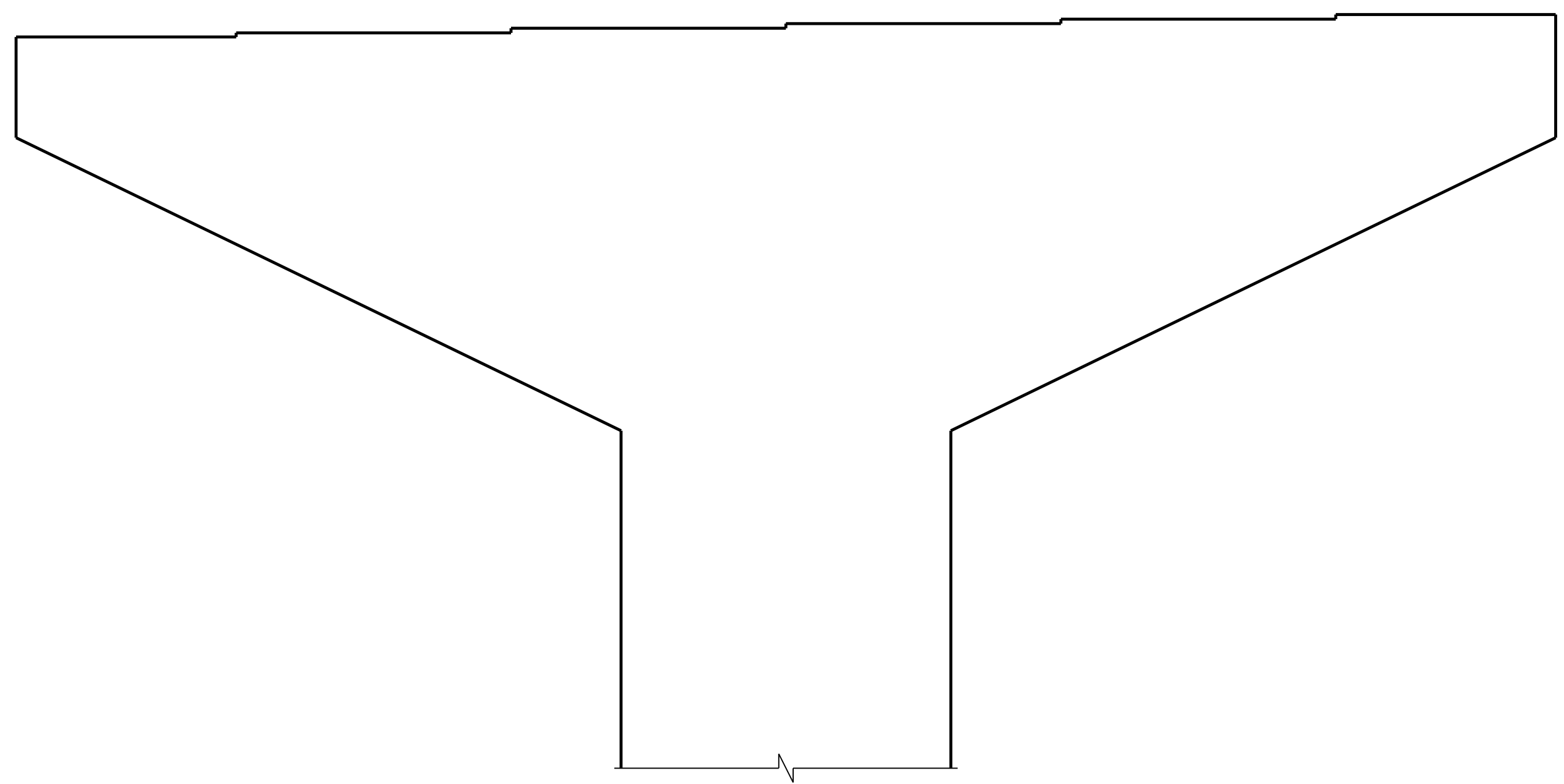
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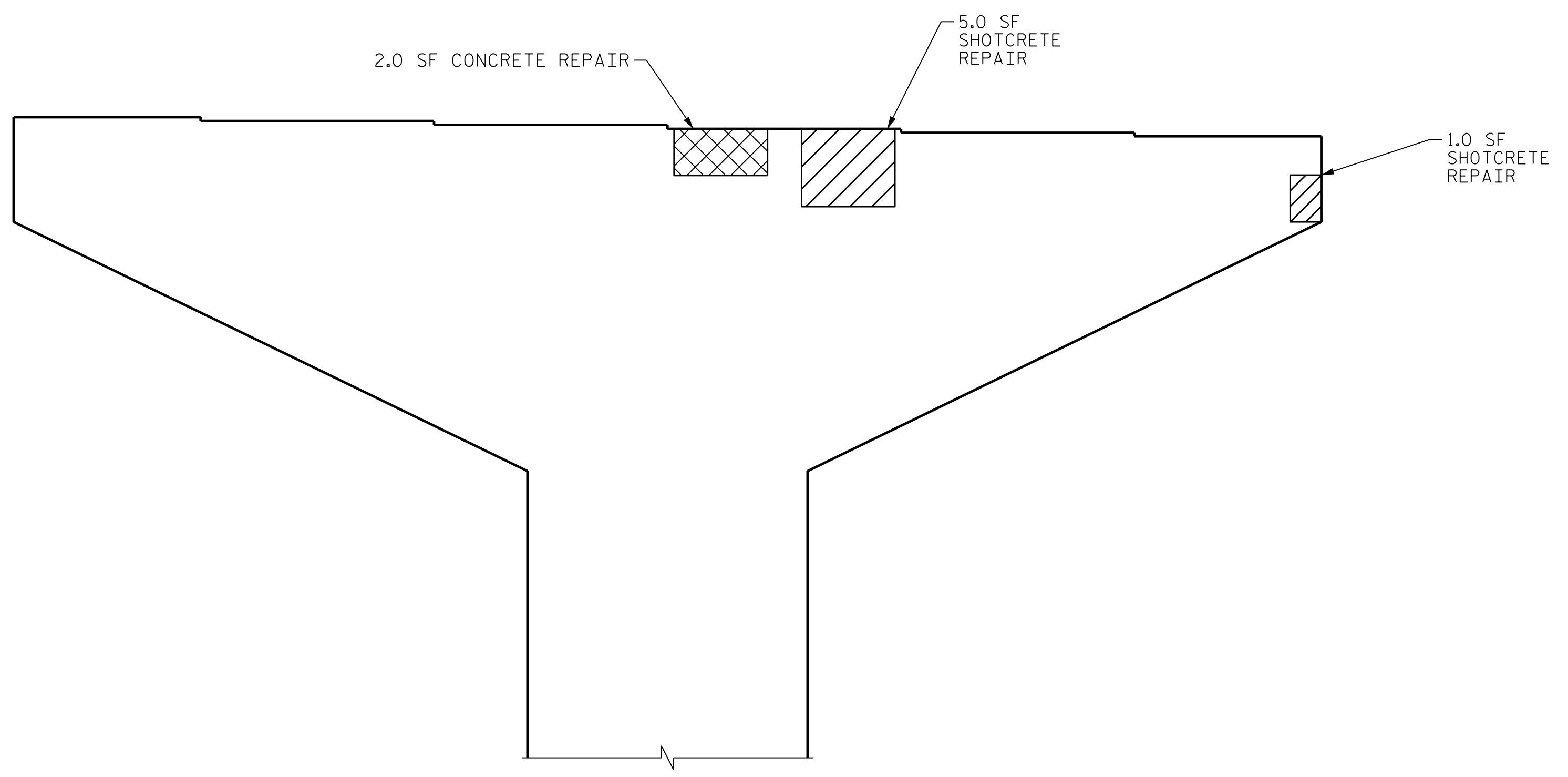


SPAN E
SPAN D

TOP OF CAP



ELEVATION (SPAN D FACE)



ELEVATION (SPAN E FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 4	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	6.0	1.3		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	5.0	1.1		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	4.7			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38

ANSON COUNTY

BRIDGE NO: 030081

SHEET 5 OF 14

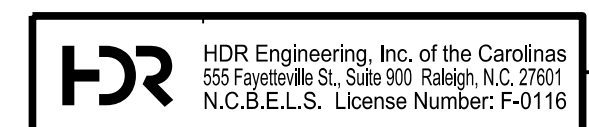
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 4



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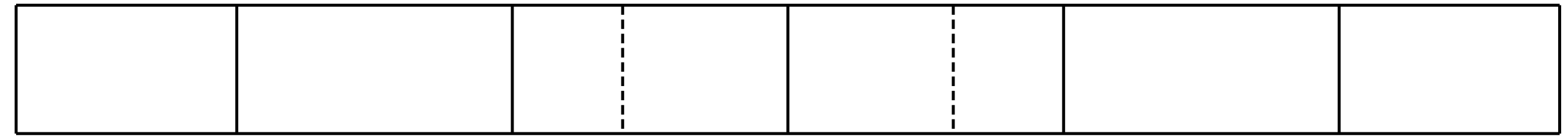
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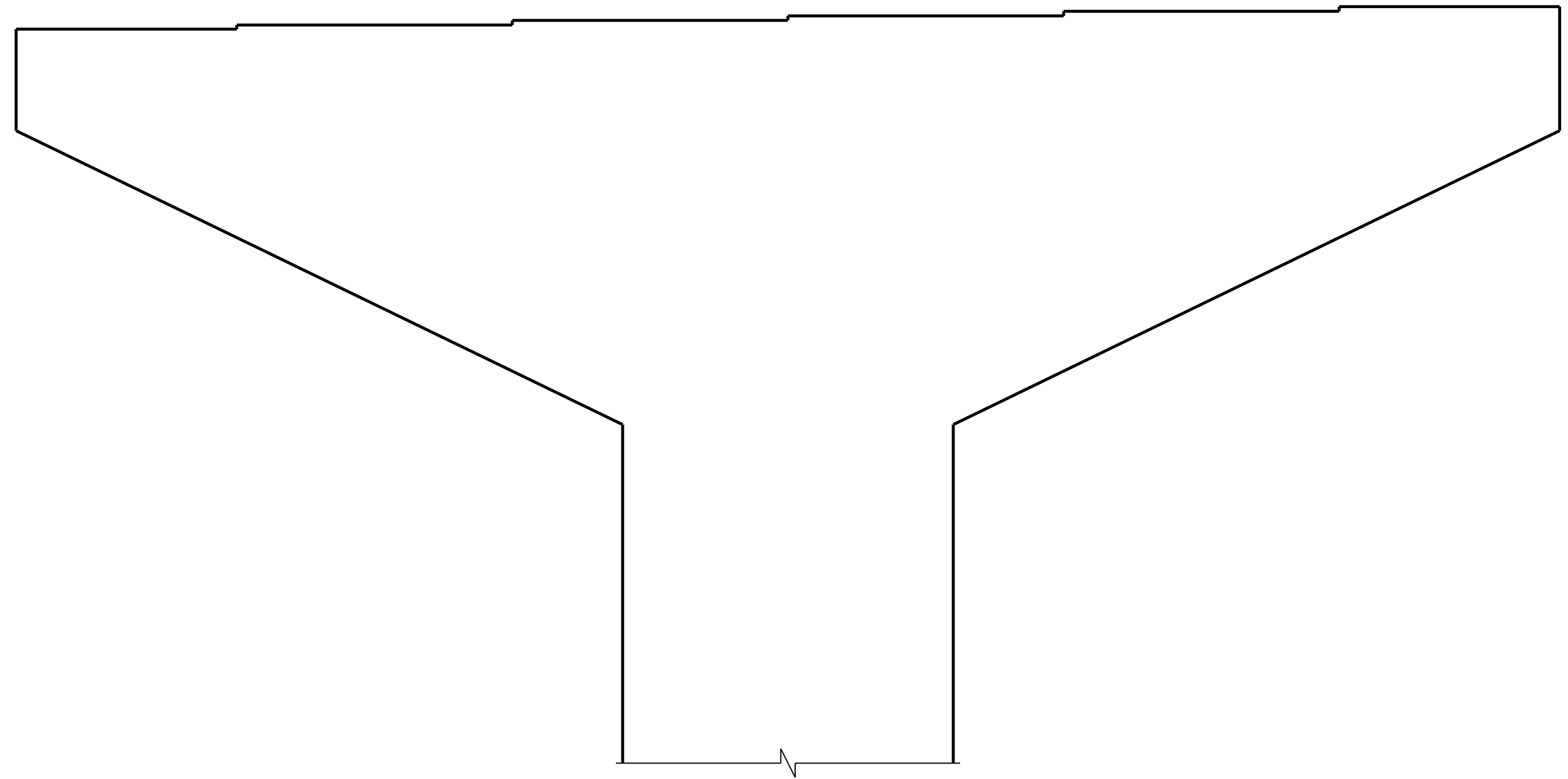
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 CHK BY: K. MOBLEY DATE: 01/19

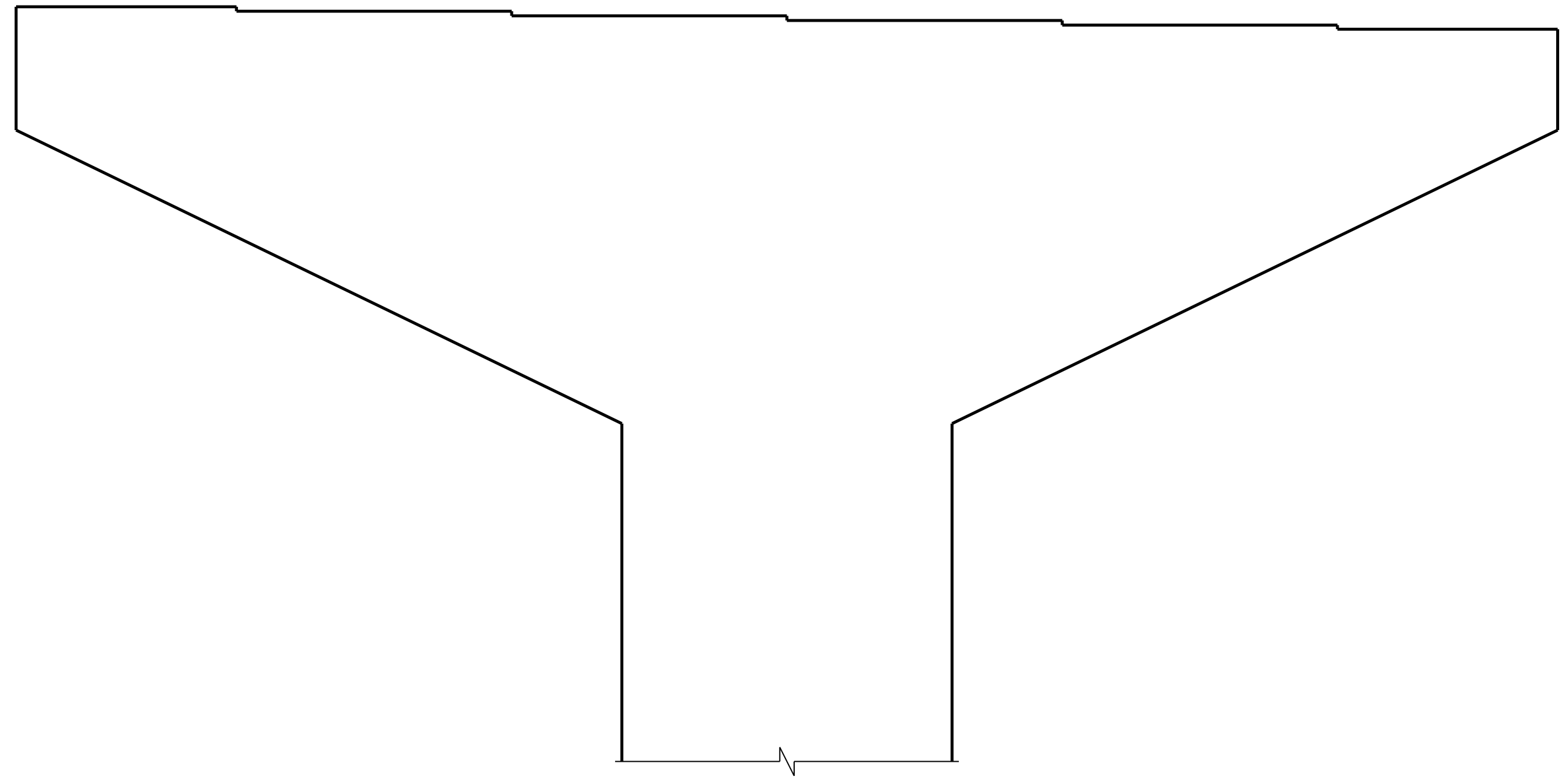


SPAN F
SPAN E

TOP OF CAP



ELEVATION (SPAN E FACE)



ELEVATION (SPAN F FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 5	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	0.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

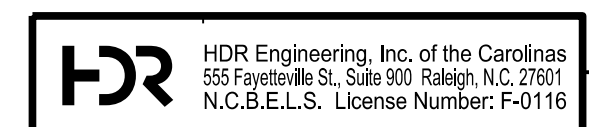
SHEET 6 OF 14



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
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BENT 5

DWG BY: L. ZAMPETTI DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19

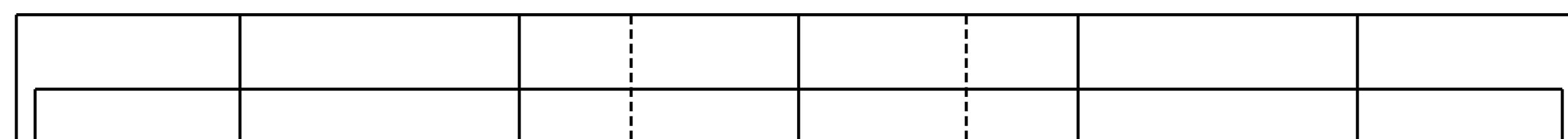


Karen M. Mobley 2/21/2019

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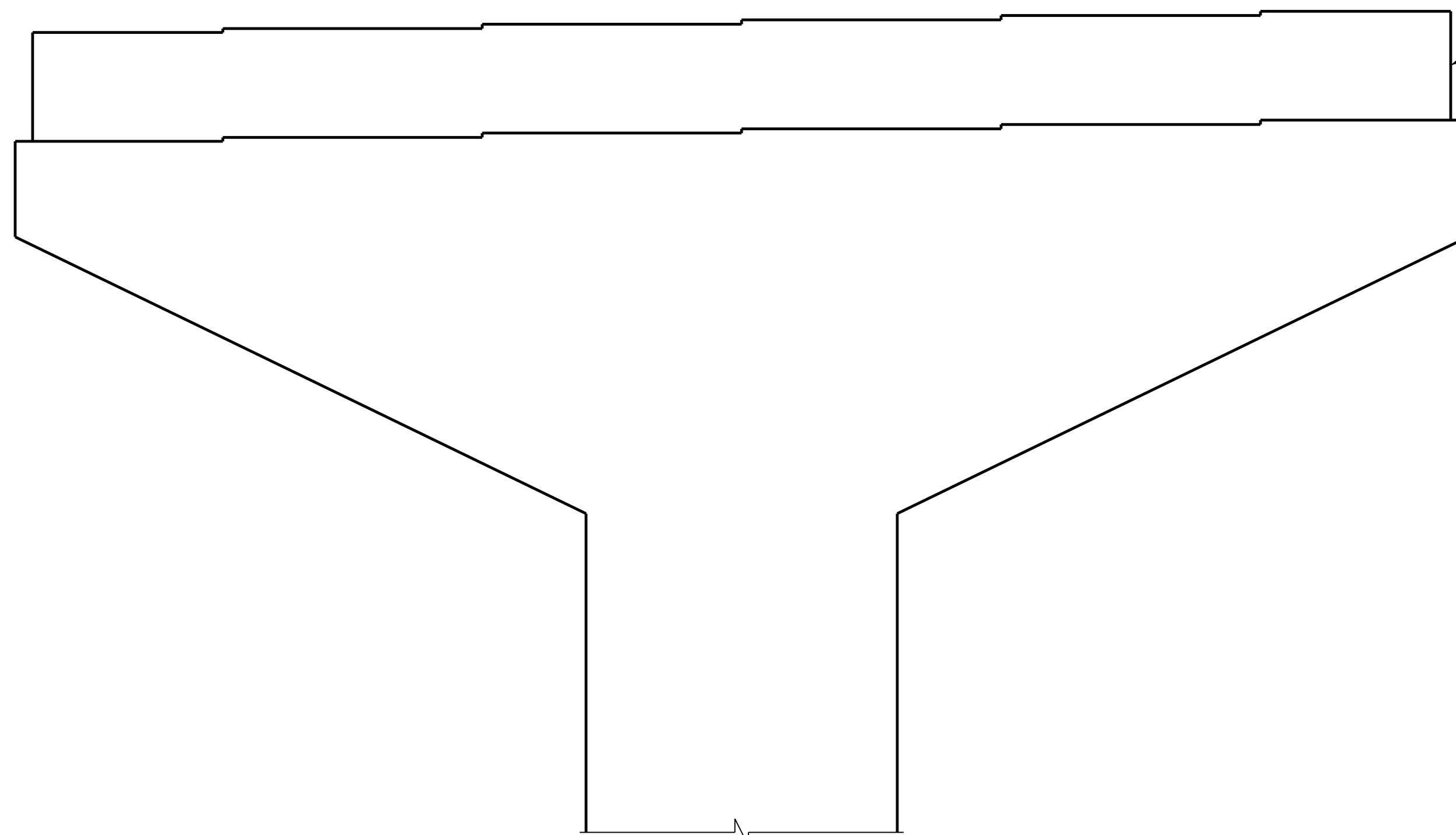
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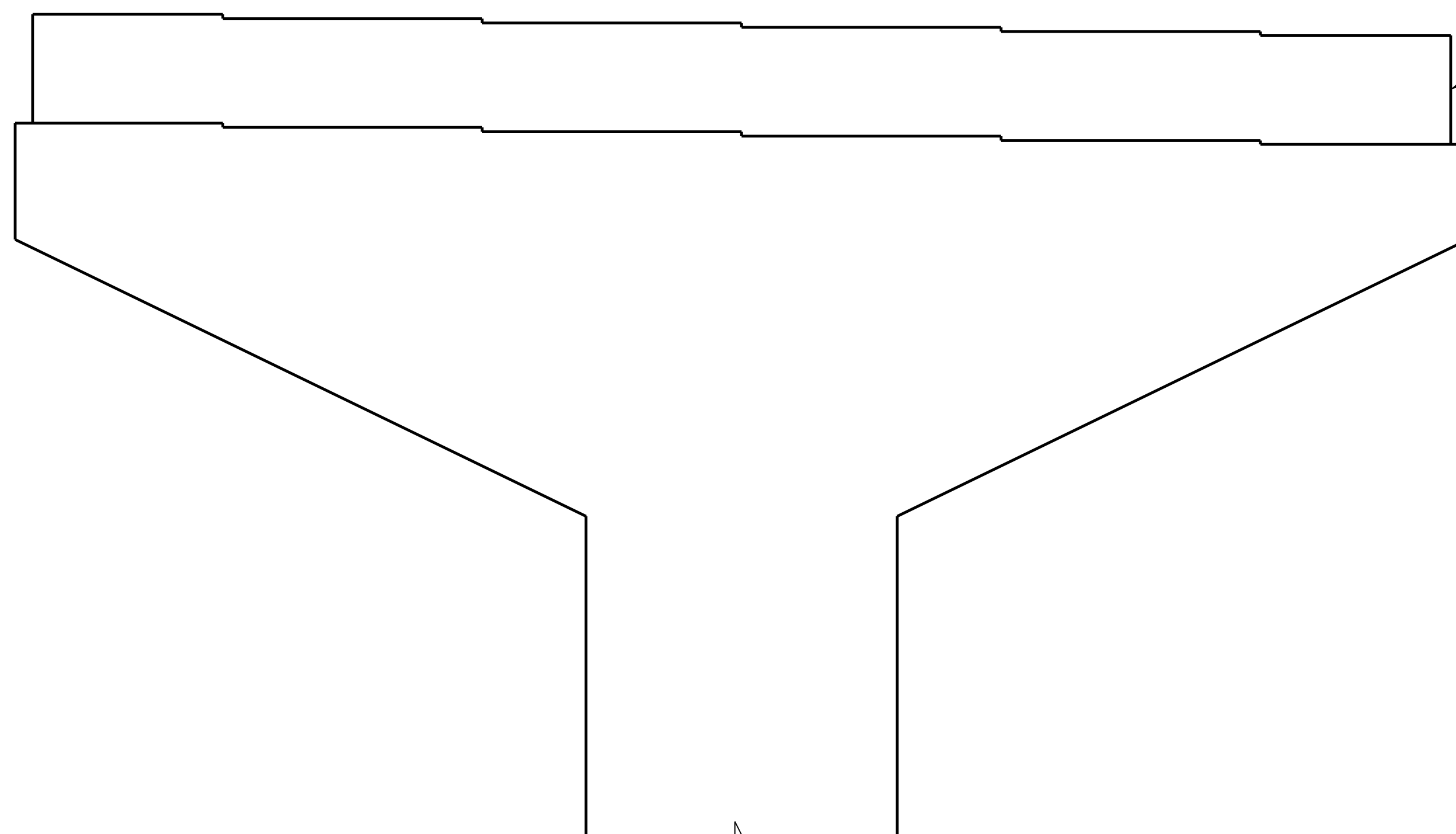


SPAN G
SPAN F

TOP OF CAP



ELEVATION (SPAN F FACE)



ELEVATION (SPAN G FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 6	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	0.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

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

 SHOTCRETE REPAIR AREA

 CONCRETE REPAIR AREA

 ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38

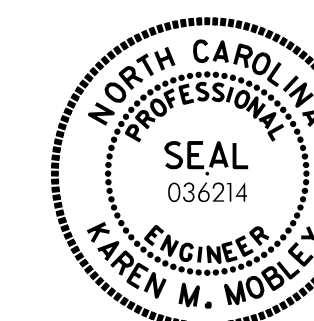
ANSON COUNTY

BRIDGE NO: 030081

SHEET 7 OF 14

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 6



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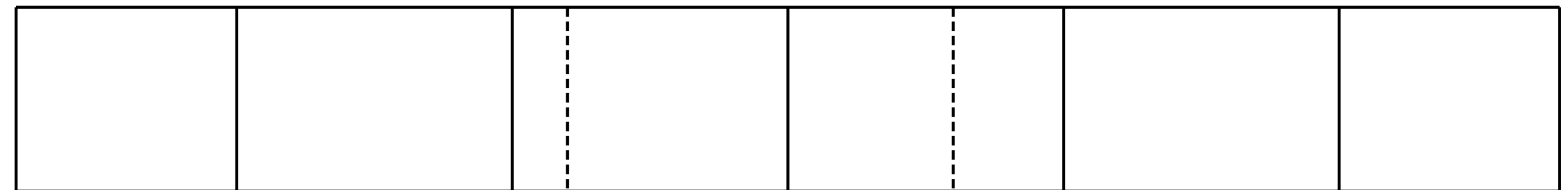
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SHEET NO.
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TOTAL SHEETS
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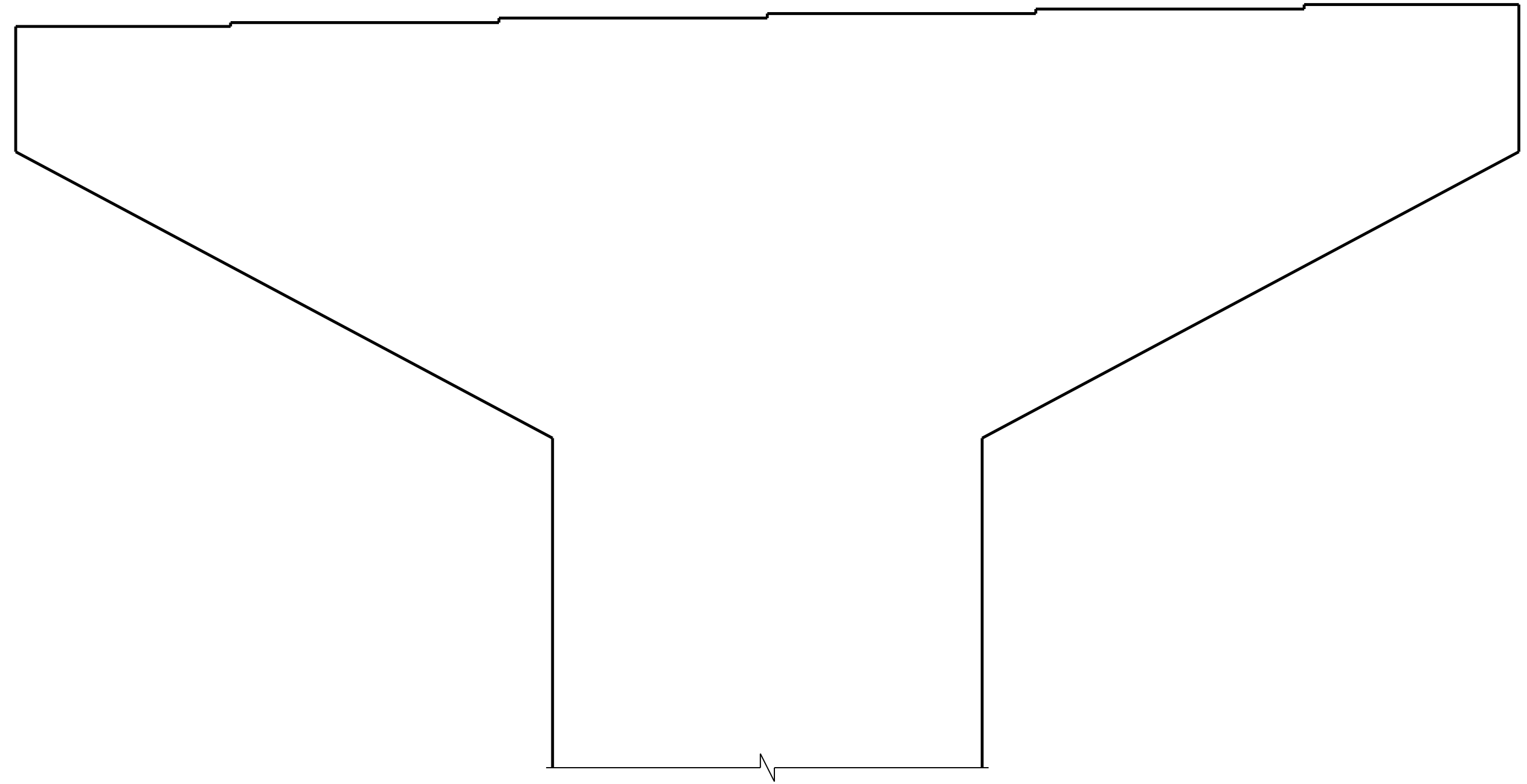


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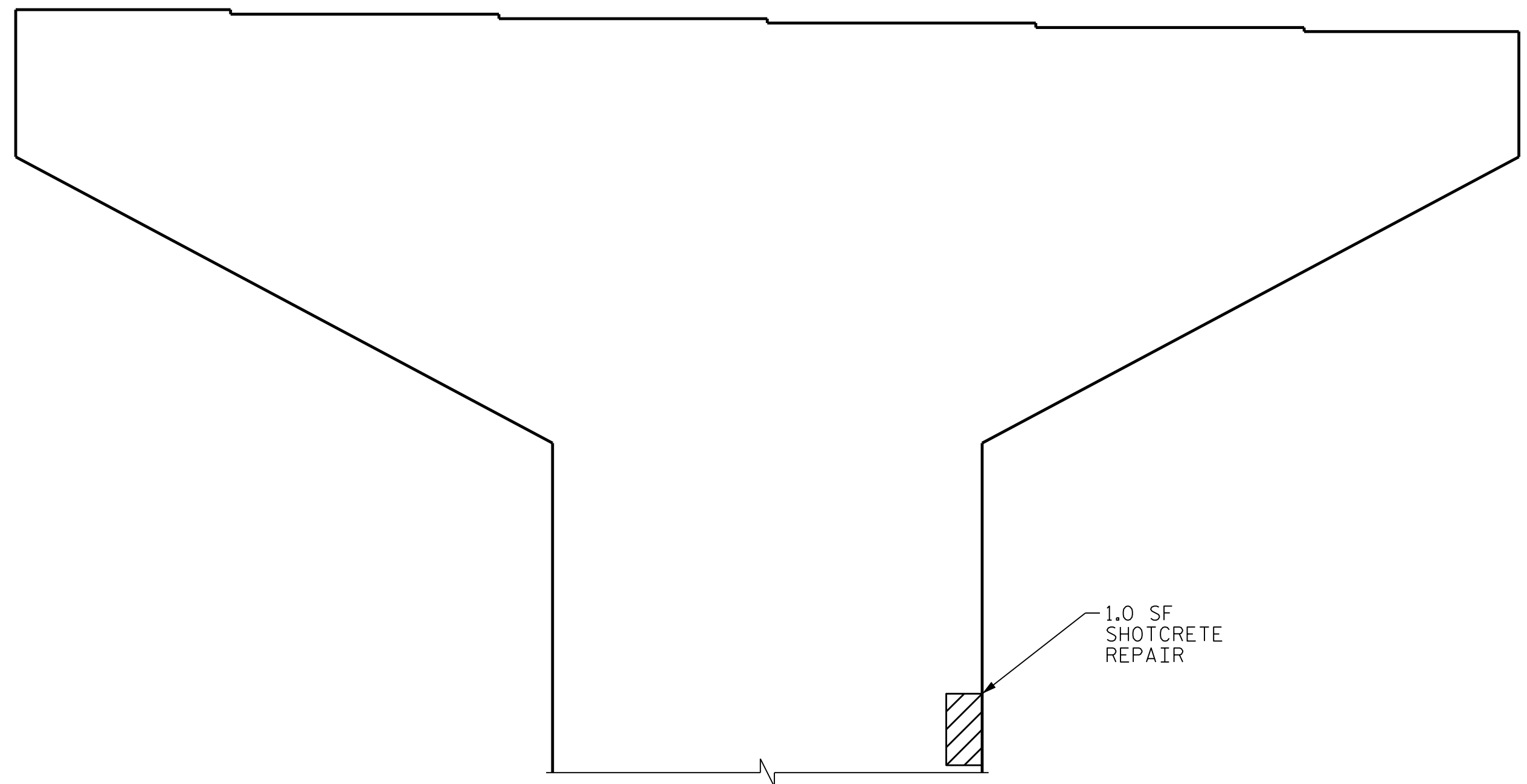


SPAN H
SPAN G

TOP OF CAP



ELEVATION (SPAN G FACE)



ELEVATION (SPAN H FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 7	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	1.0	0.2		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	0.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIR AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 8 OF 14

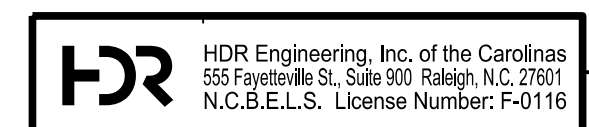
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 7



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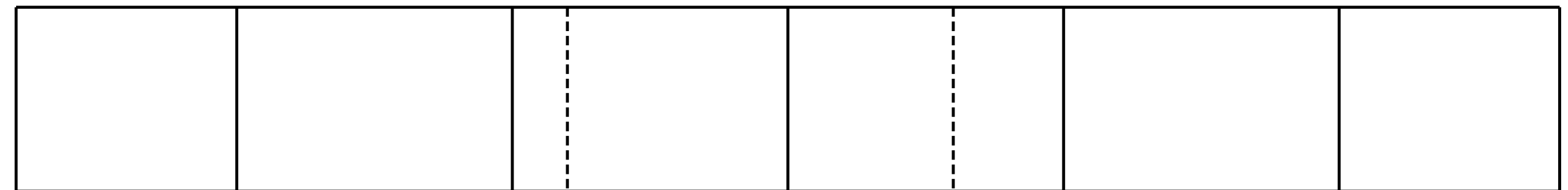
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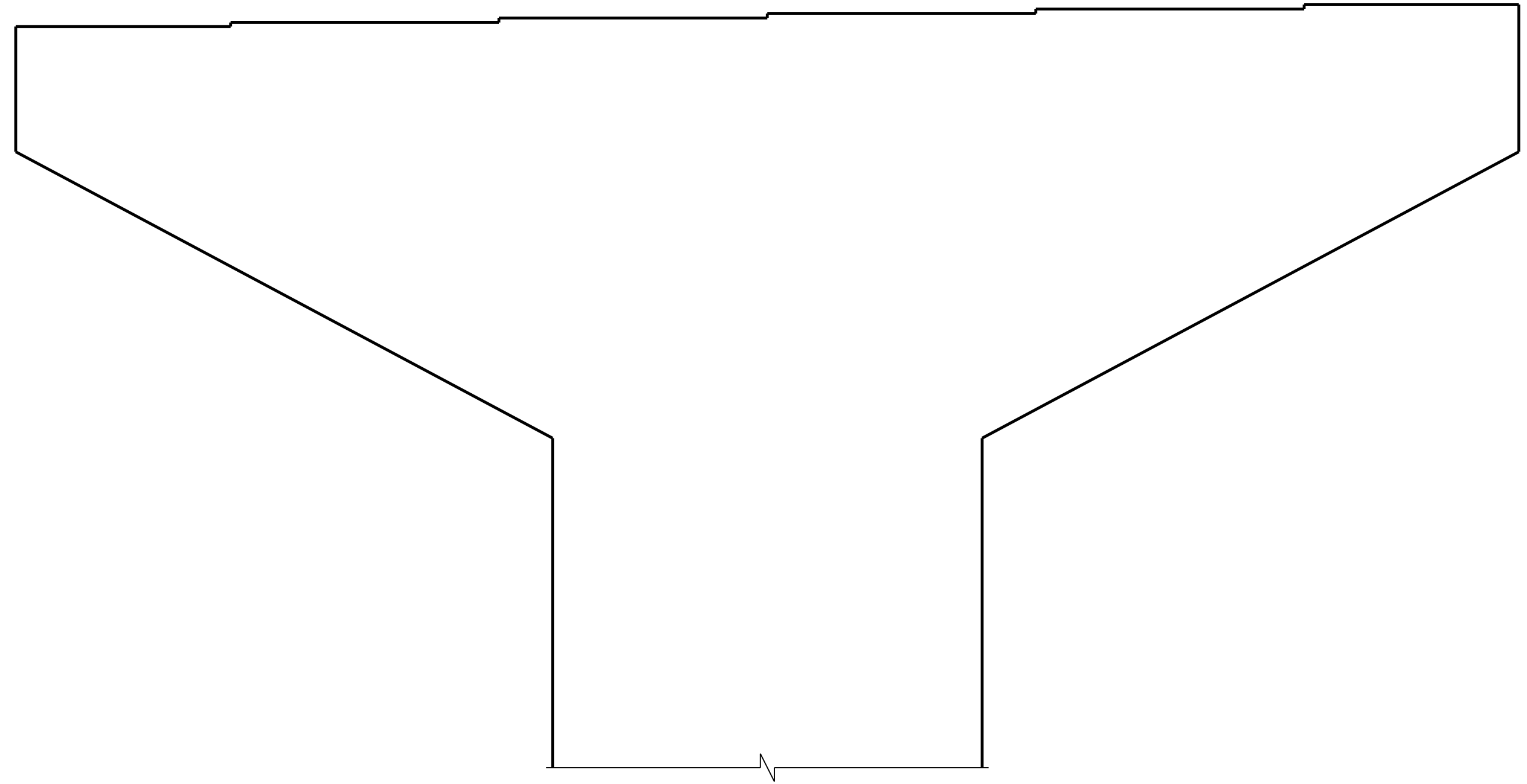
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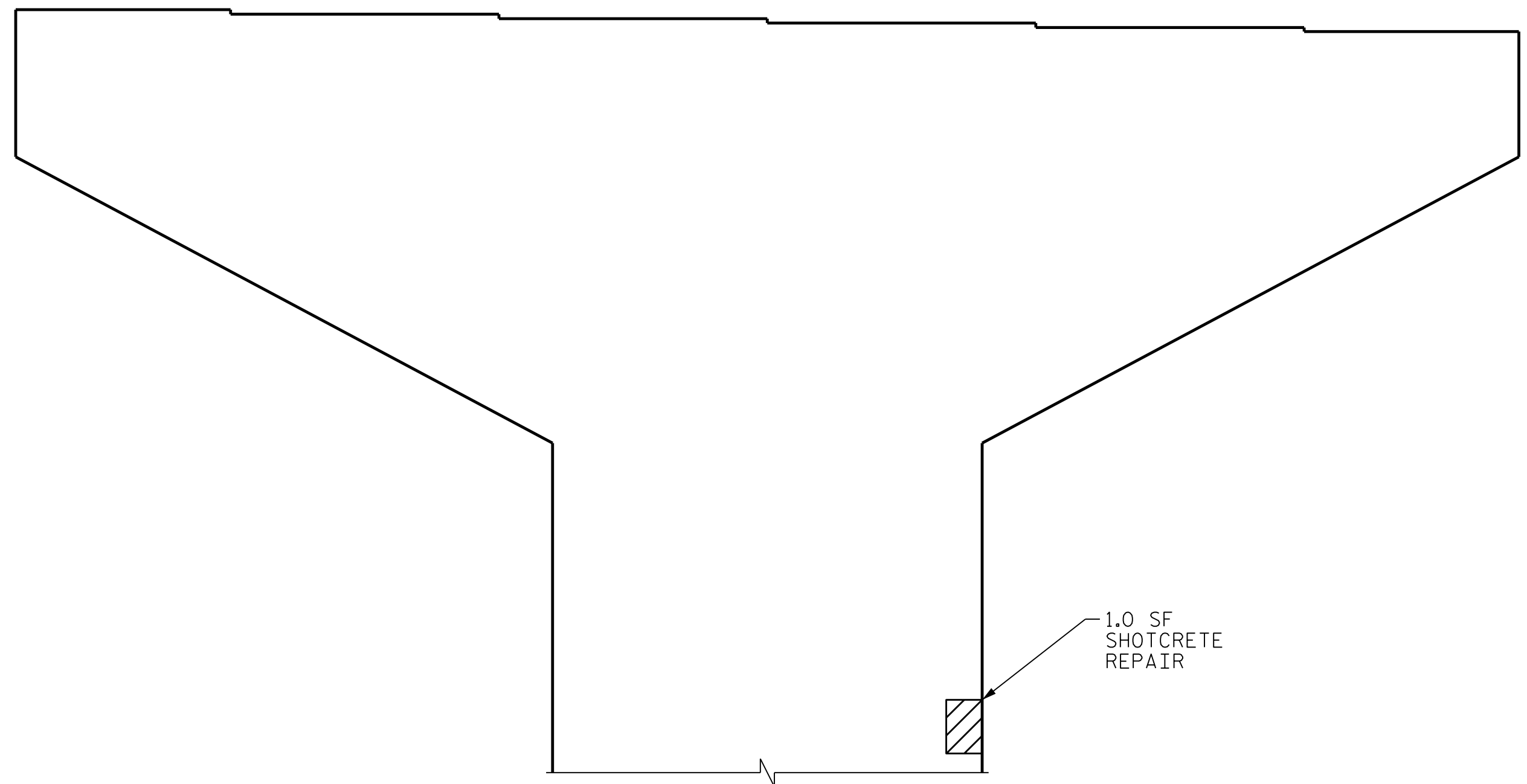


SPAN I
SPAN H

TOP OF CAP



ELEVATION (SPAN H FACE)



ELEVATION (SPAN I FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 8	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	1.0	0.2		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	0.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

SHEET 9 OF 14

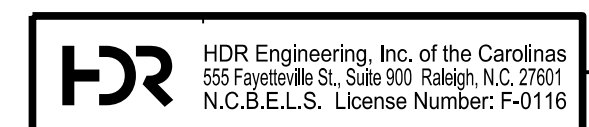
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 8

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2			4			



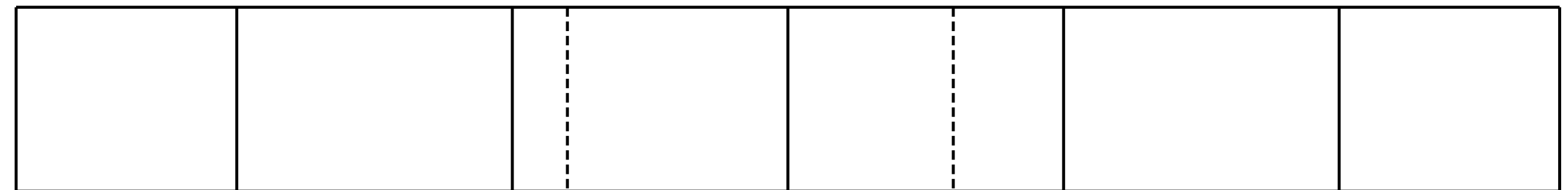
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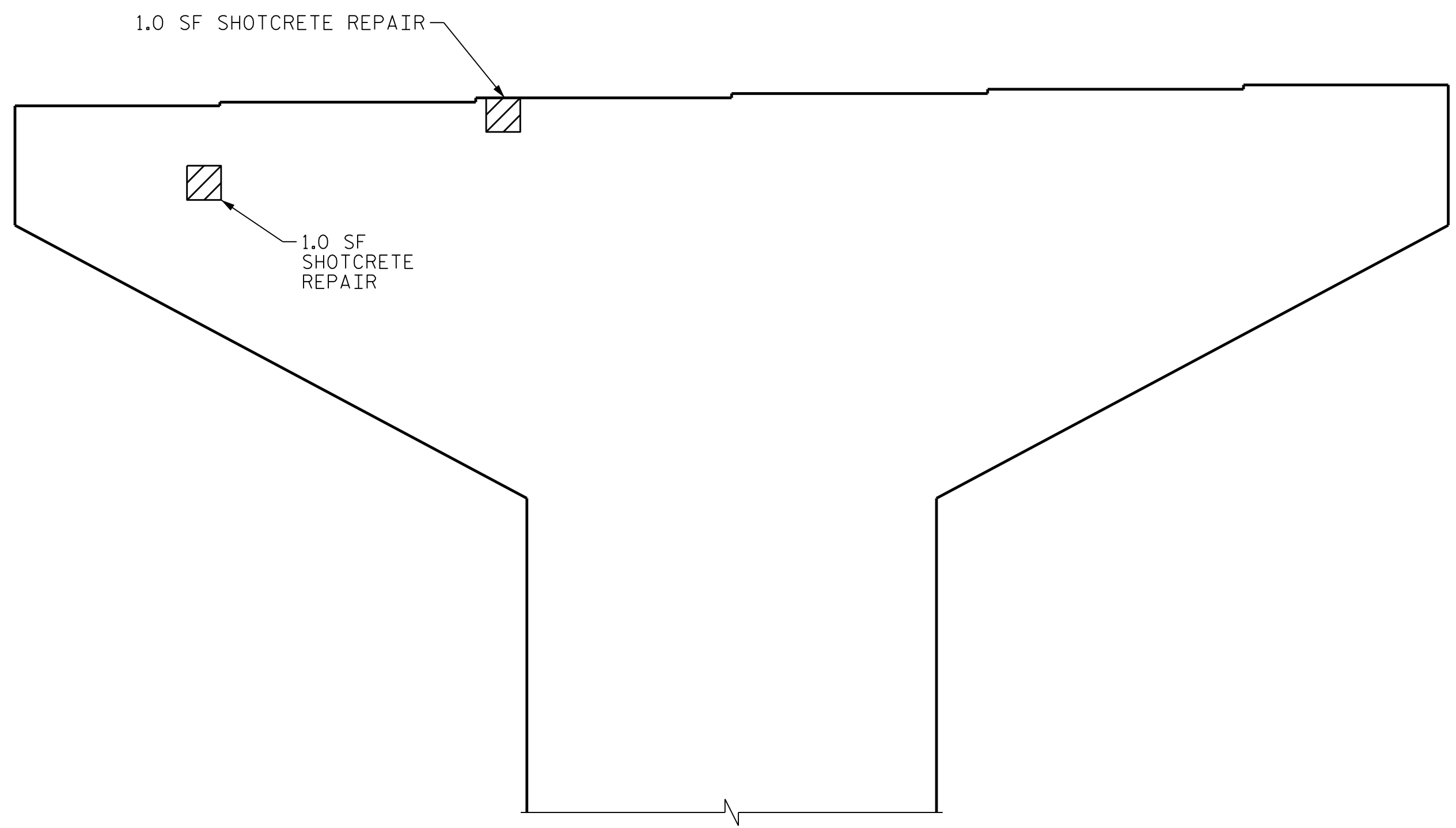
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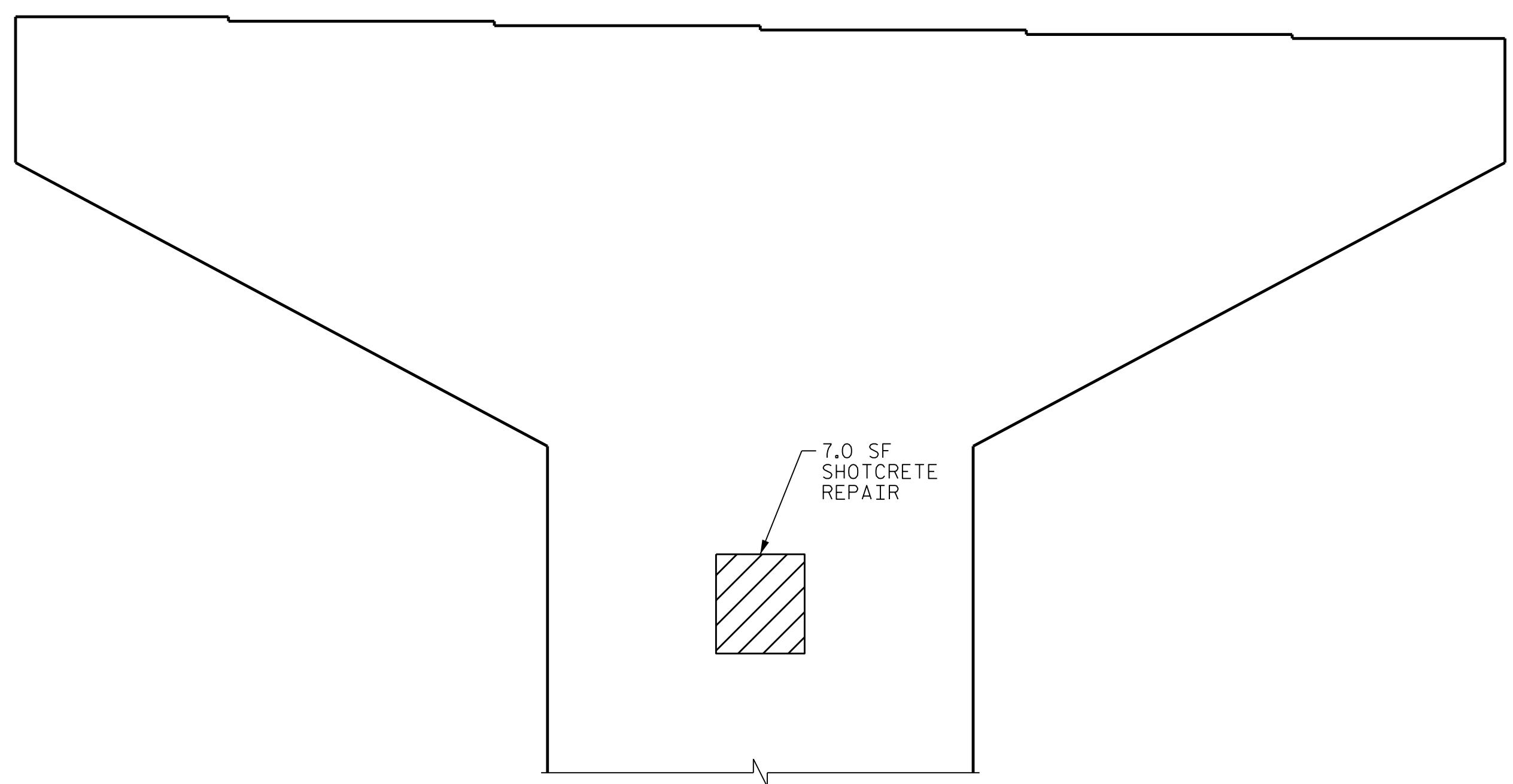


SPAN J
SPAN I

TOP OF CAP



ELEVATION (SPAN I FACE)



ELEVATION (SPAN J FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 9	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	2.0	0.2		
COLUMN	7.0	0.7		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	0.3			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38

ANSON COUNTY

BRIDGE NO: 030081

SHEET 10 OF 14

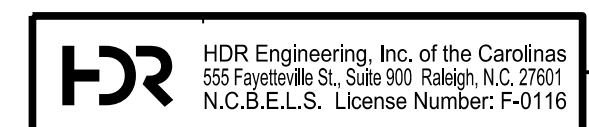
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DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 9



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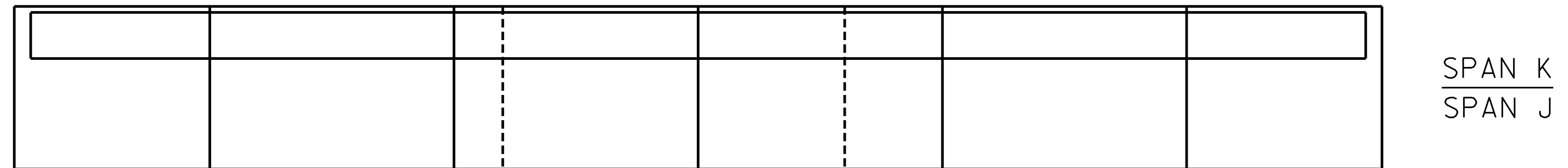
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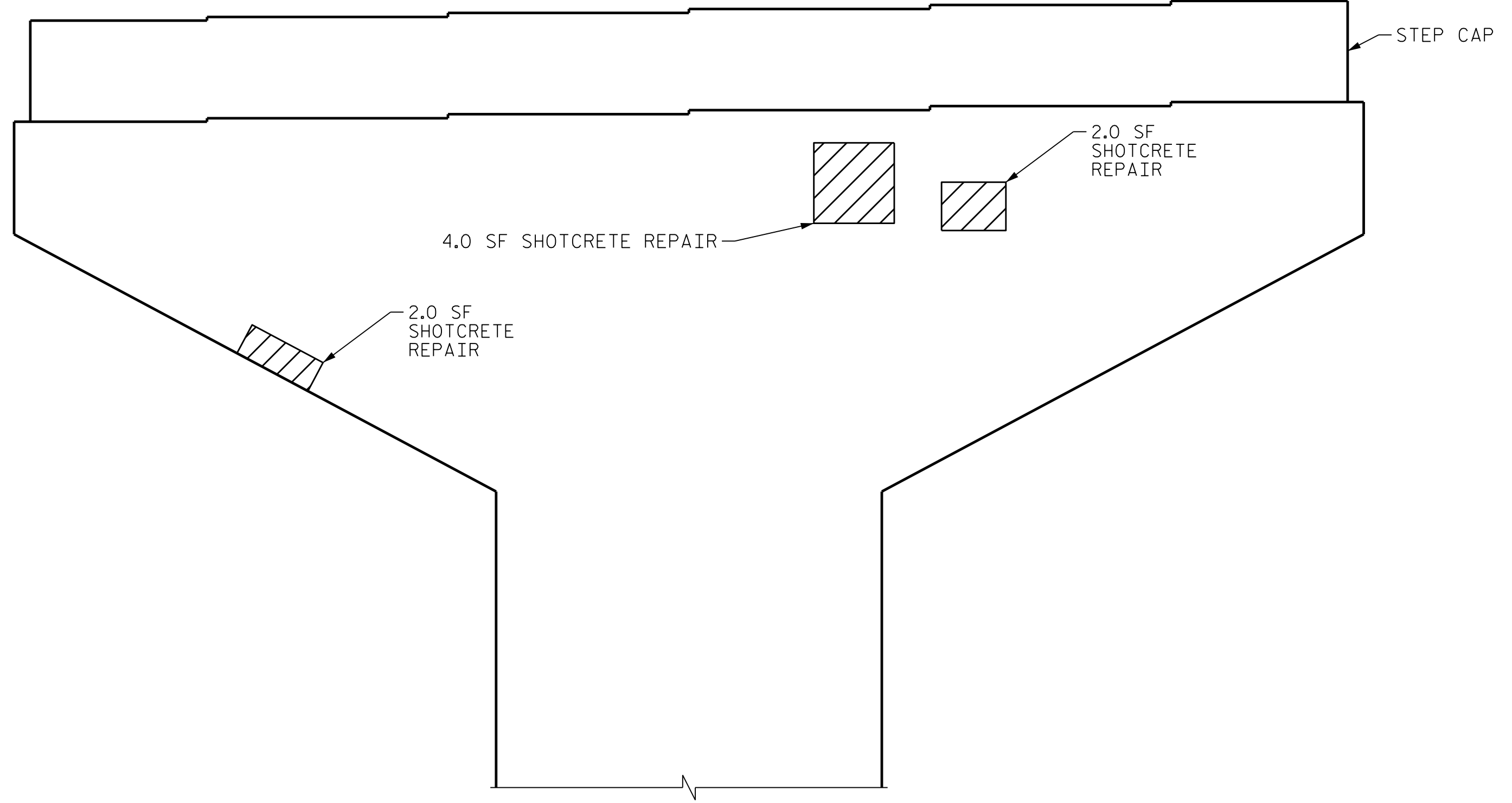
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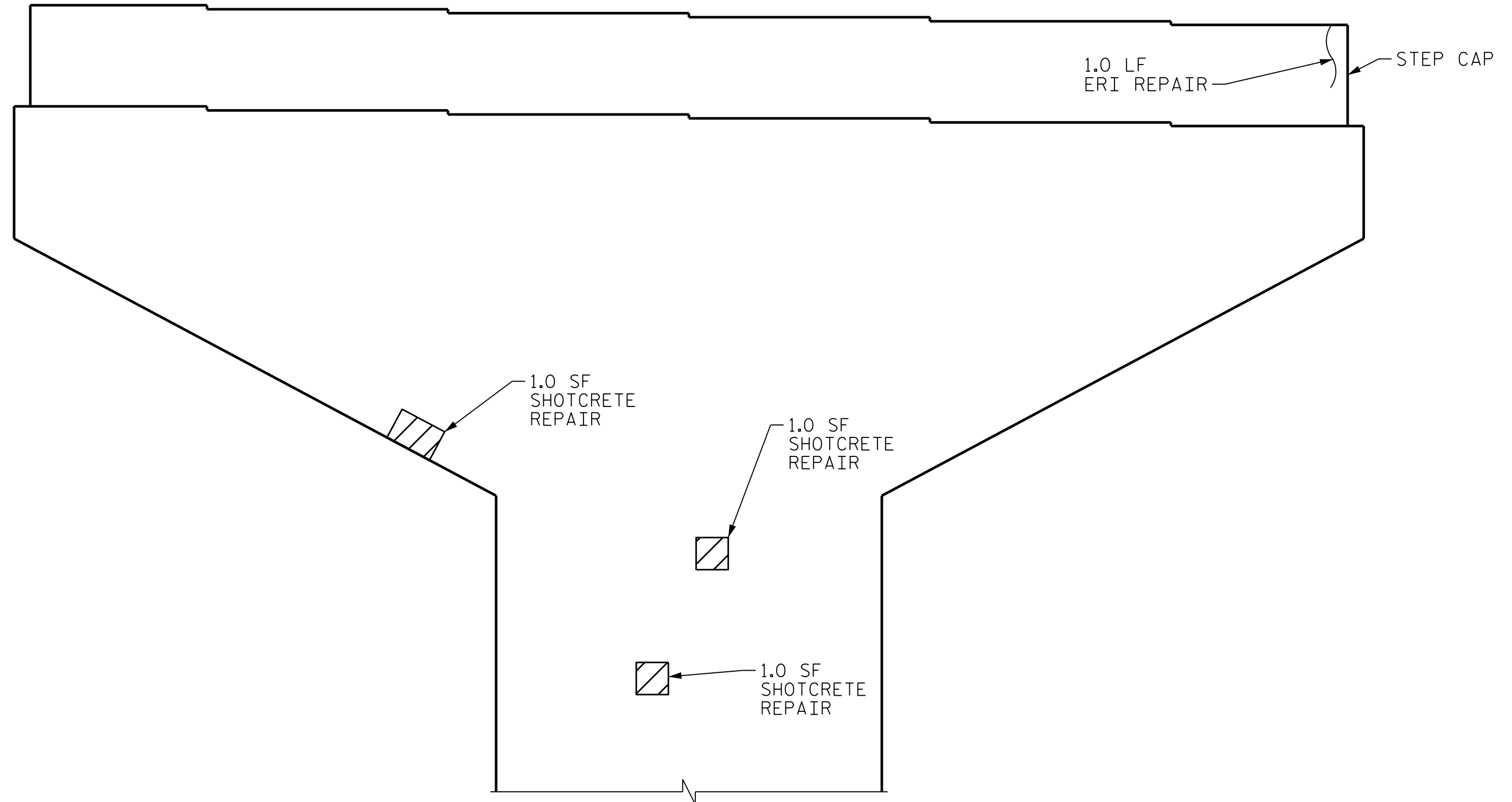
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 CHK BY: K. MOBLEY DATE: 01/19



TOP OF CAP



ELEVATION (SPAN J FACE)



ELEVATION (SPAN K FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 10	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	9.0	1.9		
COLUMN	2.0	0.2		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	1.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	0.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38
ANSON COUNTY
 BRIDGE NO: 030081

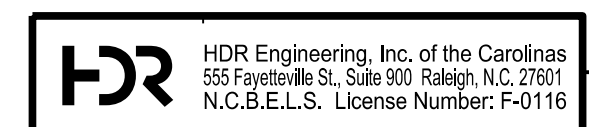
SHEET 11 OF 14



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BENT 10

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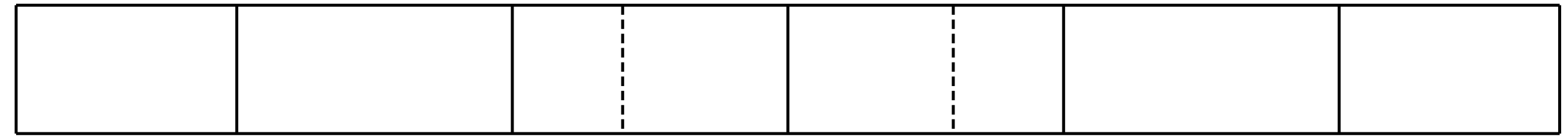


Karen M. Mobley 2/21/2019

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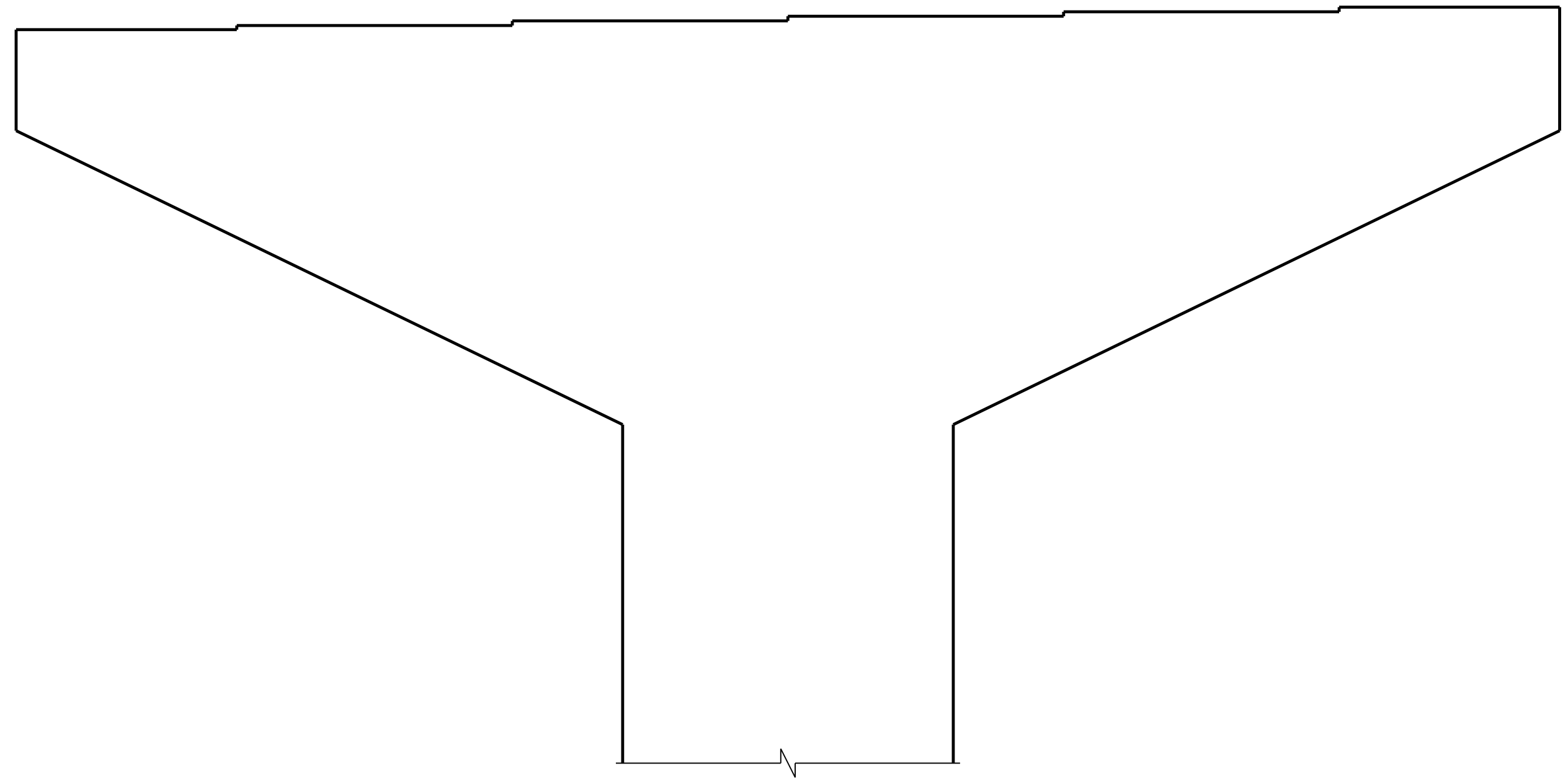
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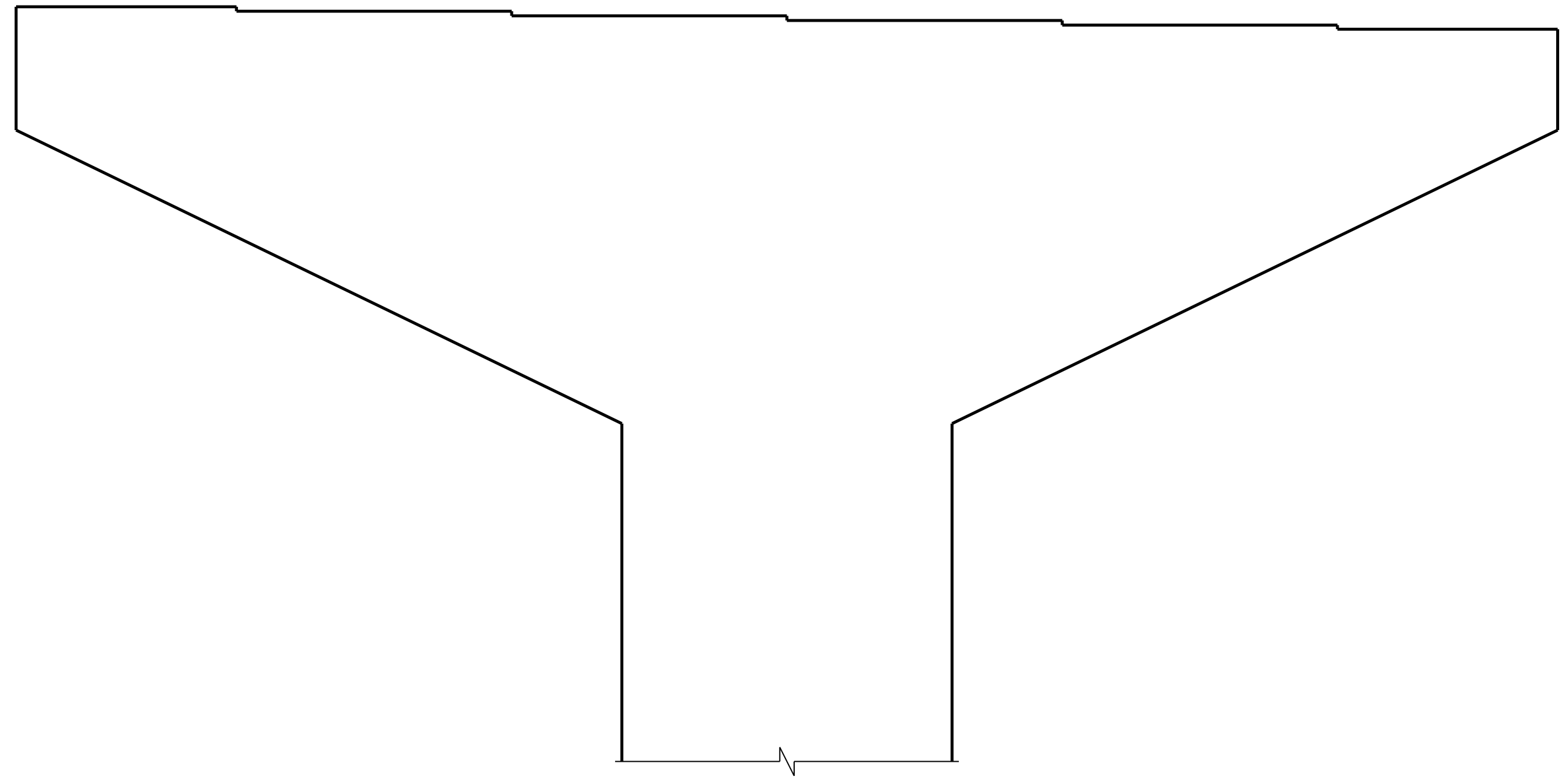


SPAN L
SPAN K

TOP OF CAP



ELEVATION (SPAN K FACE)



ELEVATION (SPAN L FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 11	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	0.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38

ANSON COUNTY

BRIDGE NO: 030081

SHEET 12 OF 14

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 11



Karen M Mobley 2/21/2019

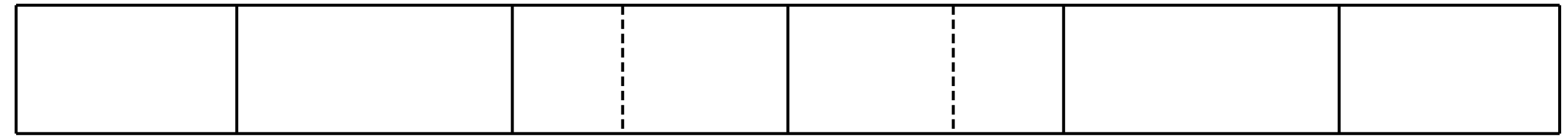
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CHK BY: <u>K. MOBLEY</u>	DATE: <u>01/19</u>

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St., Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

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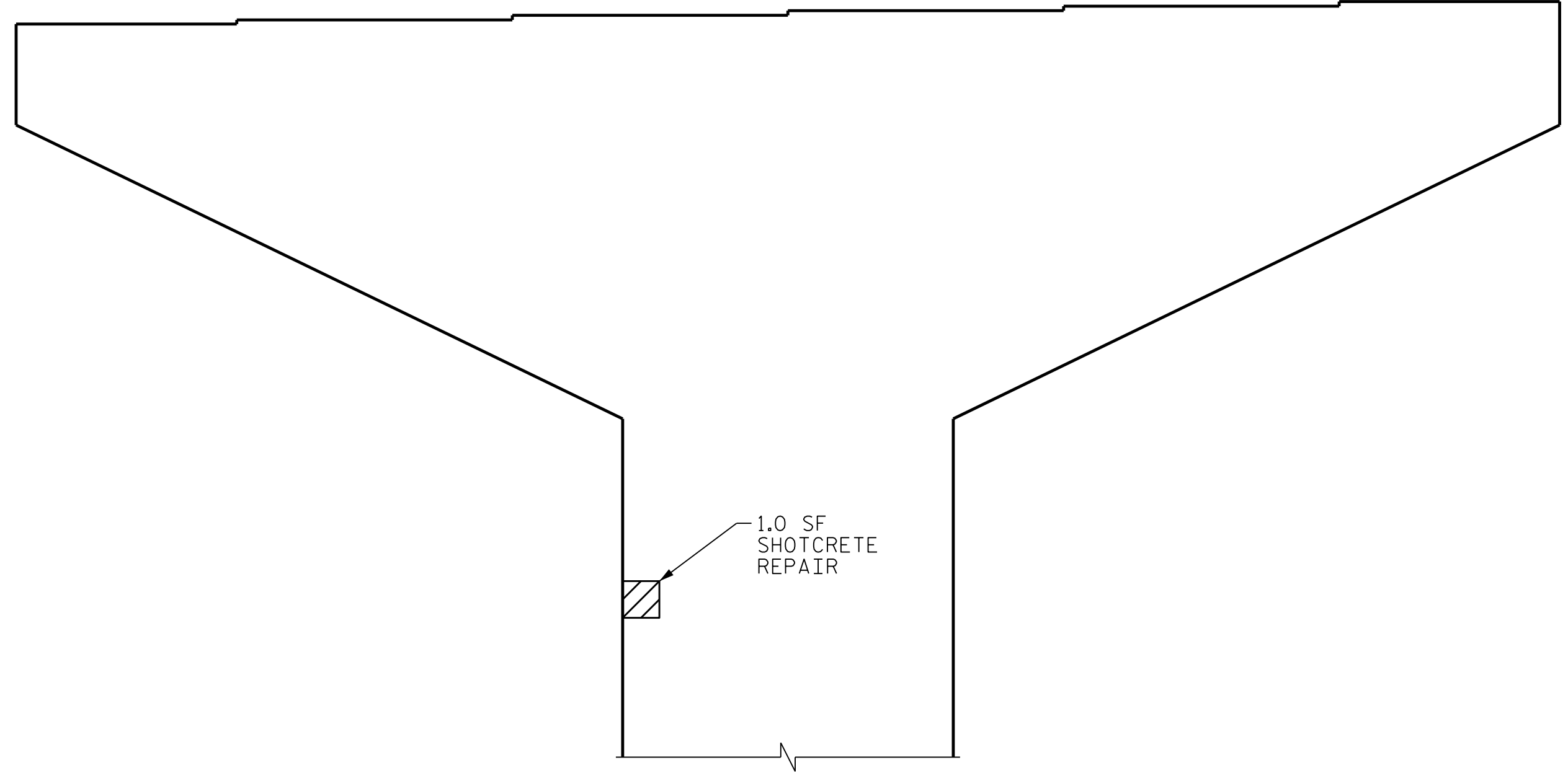
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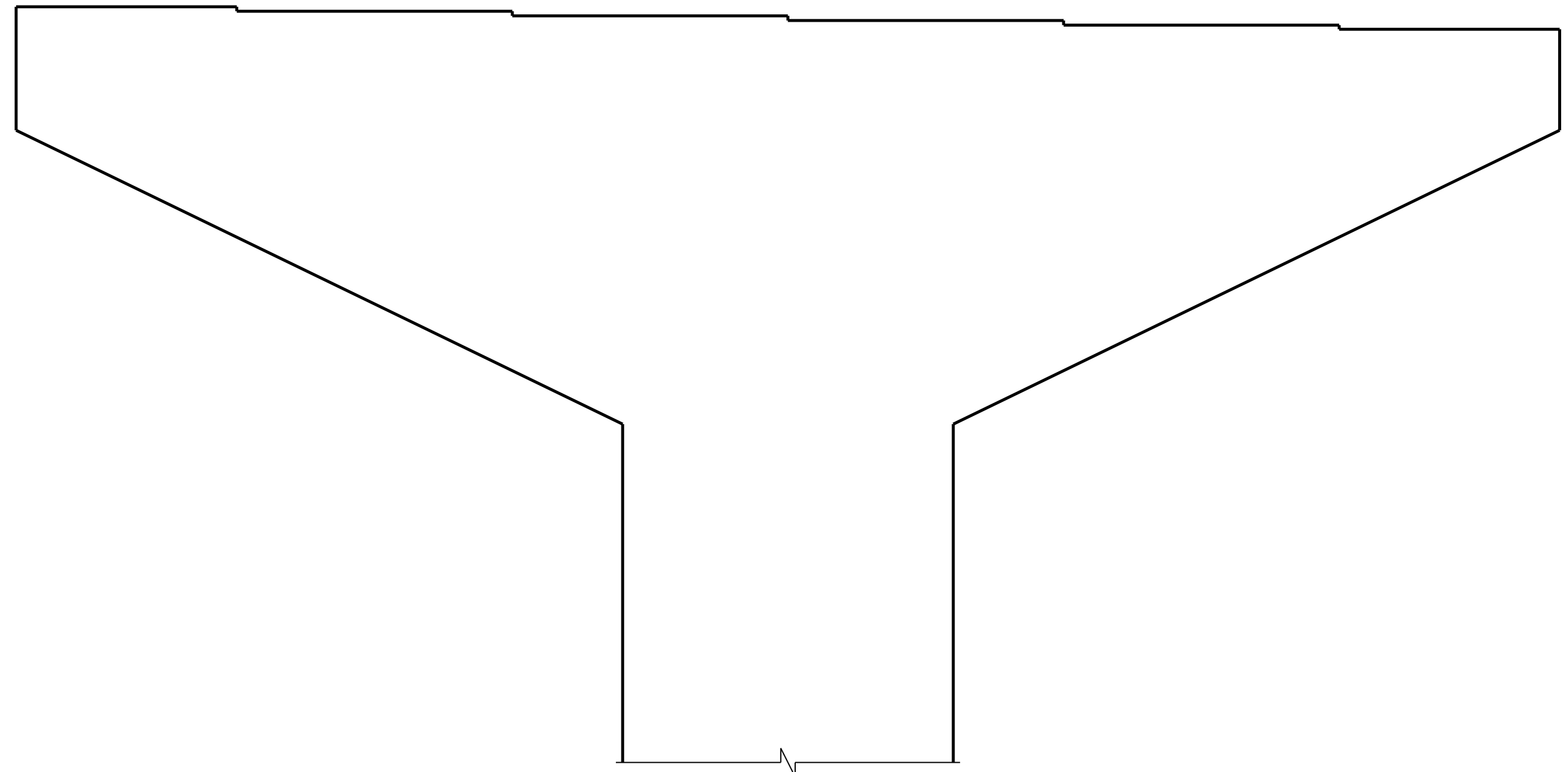


SPAN M
SPAN L

TOP OF CAP



ELEVATION (SPAN L FACE)



ELEVATION (SPAN M FACE)

AS-BUILT REPAIR QUANTITY TABLE

BENT 12	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	1.0	0.1		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	0.0			
COLUMN	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	0.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

PROJECT NO. 15BPR.38

ANSON COUNTY

BRIDGE NO: 030081

SHEET 13 OF 14

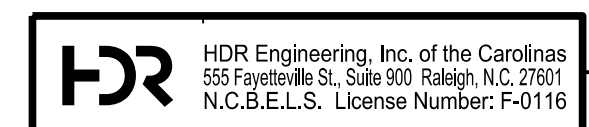
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 12



Karen M Mobley 2/21/2019

DWG BY: <u>L. ZAMPETTI</u>	DATE: <u>01/19</u>
CHK BY: <u>K. MOBLEY</u>	DATE: <u>01/19</u>



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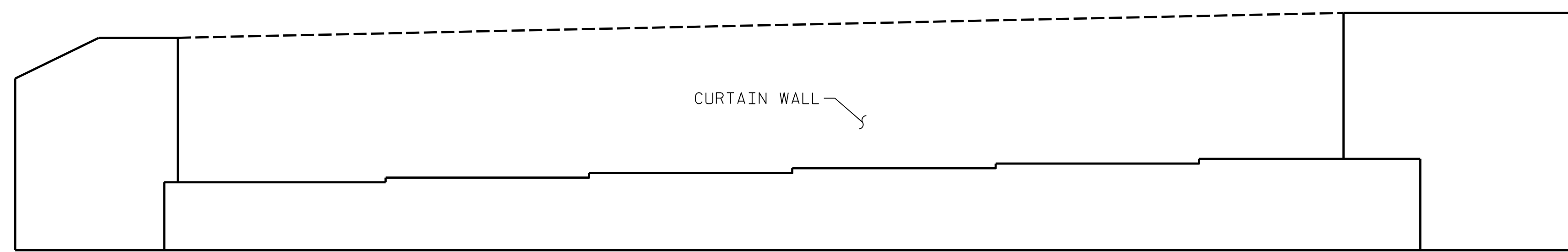
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PLAN



ELEVATION

AS-BUILT REPAIR QUANTITY TABLE

END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CAP		0.0		
CURTAIN WALL		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
CAP		0.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIR AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

- SHOTCRETE REPAIR AREA
- CONCRETE REPAIR AREA
- ERI - EPOXY RESIN INJECTION

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SHEET 14 OF 14



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END BENT 2

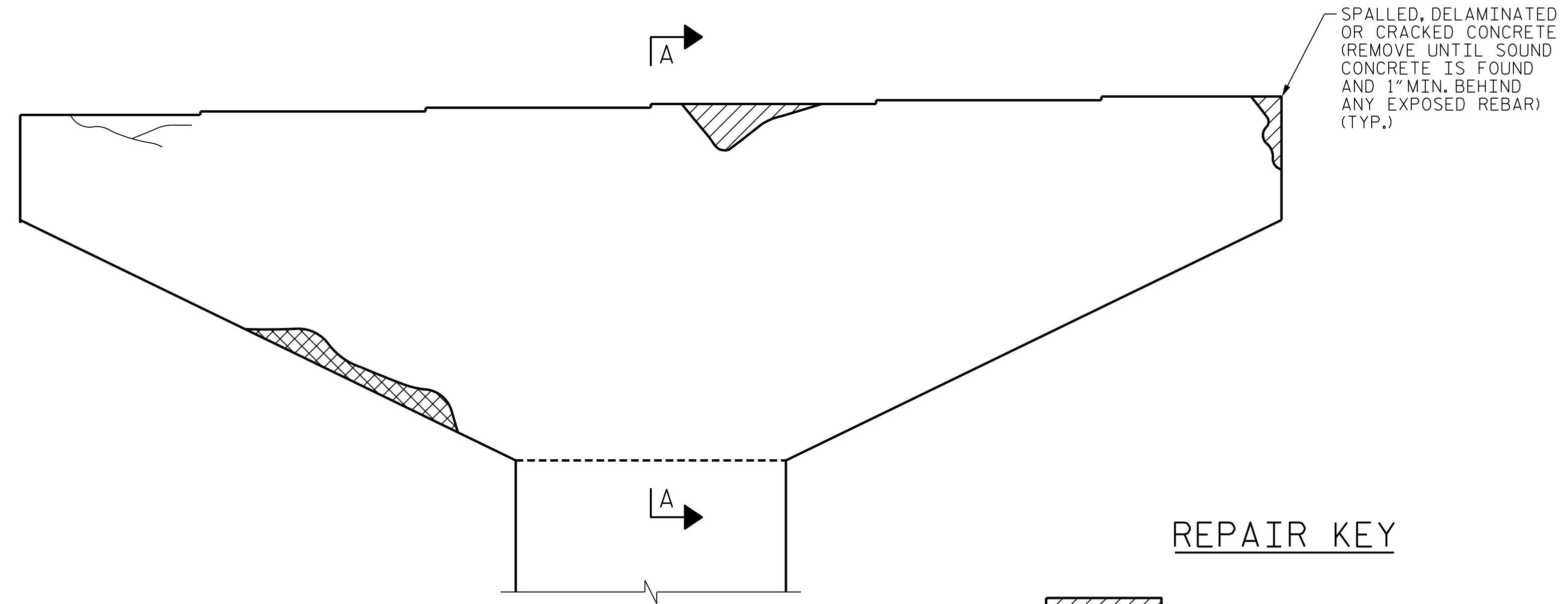
DWG BY: <u>L. ZAMPETTI</u>	DATE: <u>01/19</u>
CHK BY: <u>K. MOBLEY</u>	DATE: <u>01/19</u>

HDR HDR Engineering, Inc. of the Carolinas
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 N.C.B.E.L.S. License Number: F-0116

Karen M. Mobley 2/21/2019

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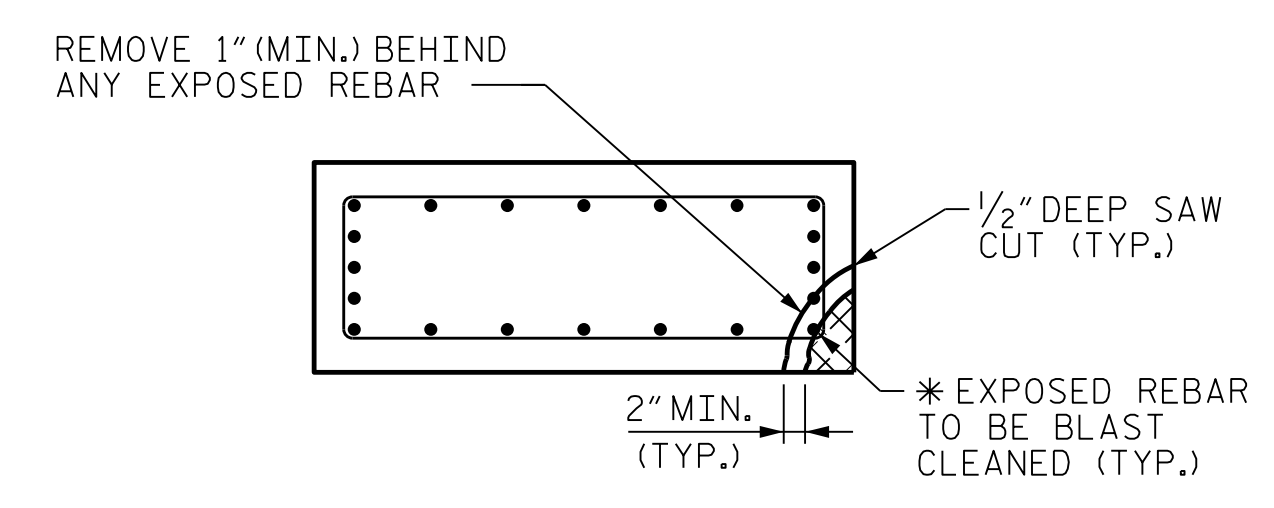
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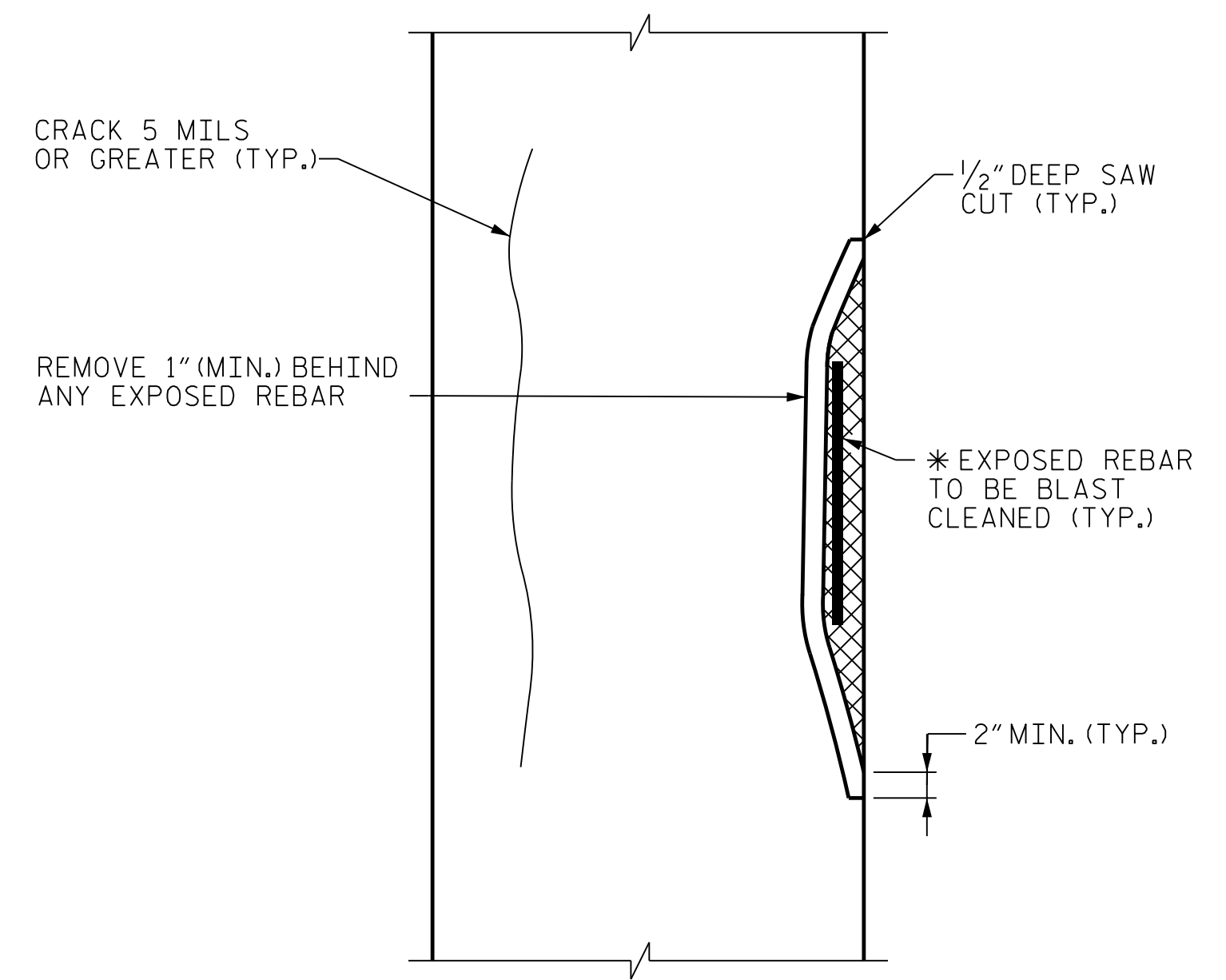
BENT CAP REPAIRS

REPAIR KEY

- CONCRETE REPAIR AREA (FORM AND POUR)
- SHOTCRETE REPAIR AREA
- EPOXY RESIN INJECTION (ERI)



PLAN OF COLUMN

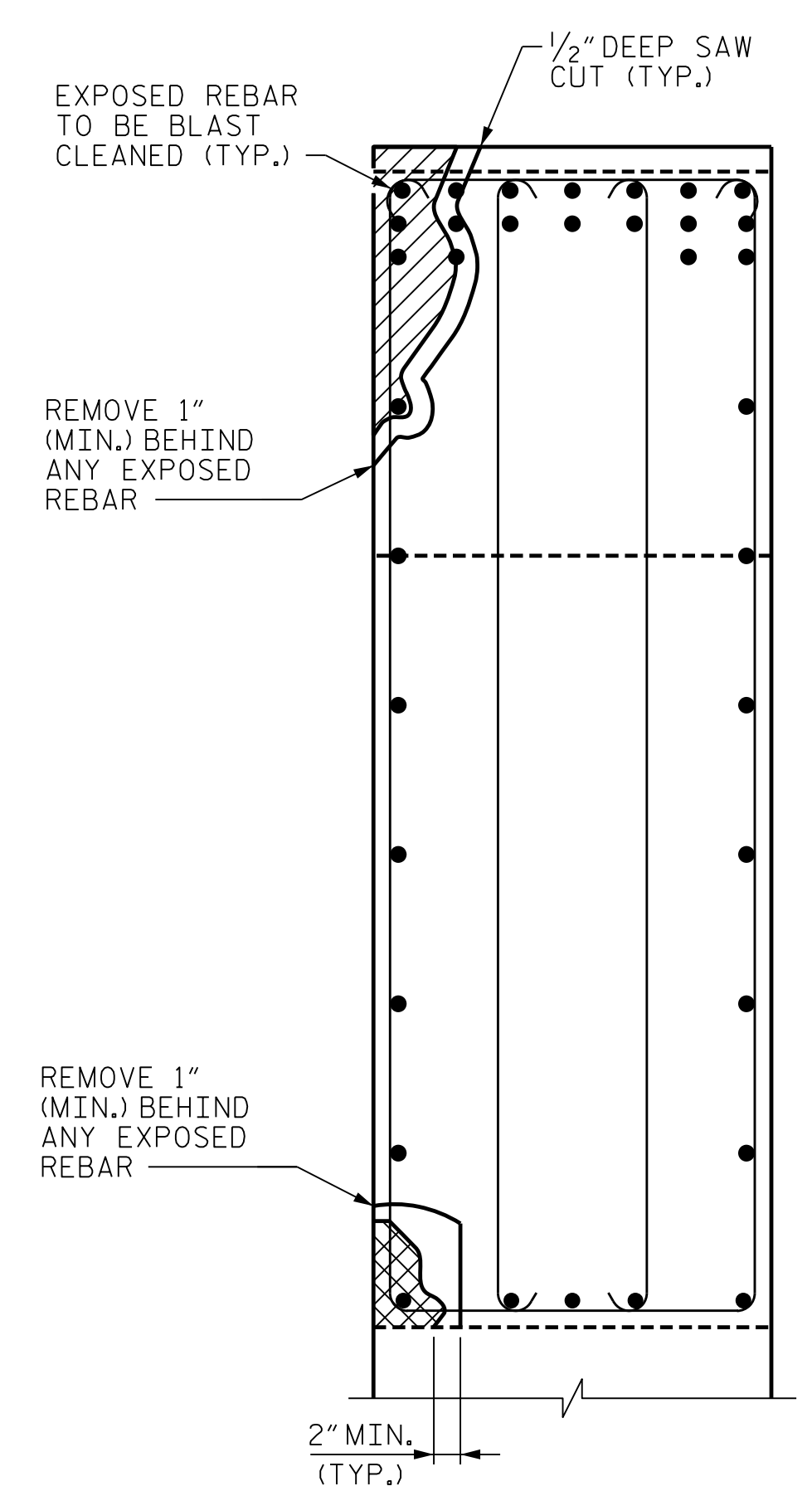


* REPAIR LENGTH SHALL NOT EXCEED 10 FEET

ELEVATION OF COLUMN

COLUMN REPAIR

SPLICE LENGTH TABLE	
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"



SECTION A-A

CAP 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 DETEIORATED 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 THAN 1/2" BEHIND THE MAIN REINFORCING 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.
- 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.
- FOR EPOXY RESIN INJECTION (ERI), SEE SPECIAL PROVISIONS.

PROJECT NO. 15BPR.38
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TYPICAL CAP
 AND COLUMN
 REPAIR DETAILS

REVISIONS						SHEET NO. S3-37 TOTAL SHEETS 37
NO.	BY:	DATE:	NO.	BY:	DATE:	
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DWG BY: D. CARTER DATE: 01/19
 CHK BY: K. MOBLEY DATE: 01/19