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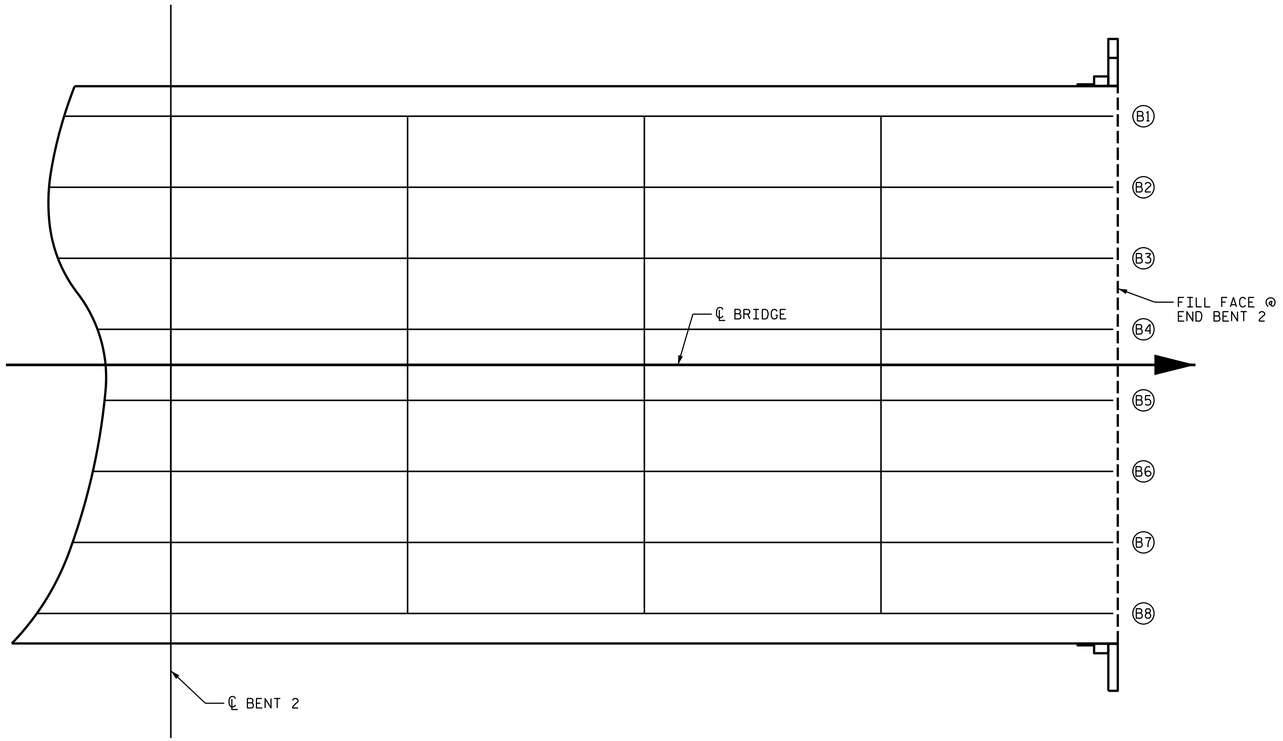

SPAN C

AS-BUILT REPAIR QUANTITY TABLE

UNDERSIDE OF DECK REPAIRS - SPAN C

	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
BENT DIAPHRAGM	0.0	0.0		
OVERHANG	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
BENT DIAPHRAGM	0.0	0.0		
OVERHANG	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
UNDERSIDE OF DECK		0.0		
BENT DIAPHRAGM		0.0		
OVERHANG		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 "OVERHANG, DIAPHRAGM AND BRIDGE RAIL 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 REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

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

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

FOR UNDERSIDE DECK REPAIR, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

(B1) BEAM NUMBER

SHOTCRETE REPAIR AREA

EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280171

SHEET 3 OF 3

07/25/2022
NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI
Docusigned by: Krishna P. Sedai
EA6F794150BF4B7...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DECK UNDERSIDE REPAIR SPAN C

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S9-08
1			3			TOTAL SHEETS
2			4			15

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CHECKED BY : H.A. LOCKLEAR DATE : 04/2022

7/25/2022
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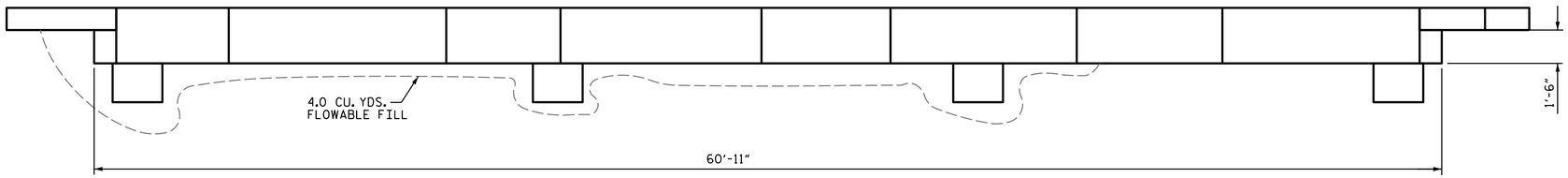
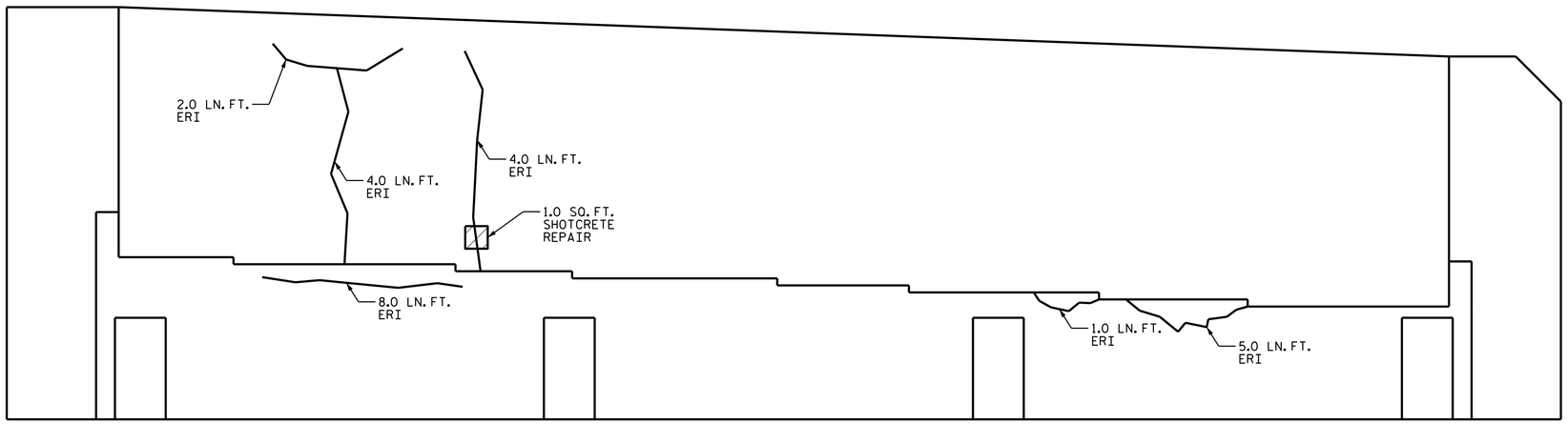


PLAN



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	1.0	0.5		
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.	
CURTAIN WALL		10.0		
CAP		14.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
TOP OF END BENT CAP		91.4		
FLOWABLE FILL		CU. YDS.	CU. YDS.	
FRONT OF END BENT CAP		4.0		

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 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.

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

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR FLOWABLE FILL, SEE SPECIAL PROVISIONS.

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

CONCRETE REPAIR

SHOTCRETE REPAIR

EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280171

07/25/2022

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

Krishna P. Sedai

EA6F794150BF4B7...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

END BENT 1

DRAWN BY : CRUIZ DATE : 09/2021

CHECKED BY : H.A. LOCKLEAR DATE : 04/2022

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1			3			TOTAL SHEETS
2			4			15

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ksedai

SHOTCRETE REPAIR

CONCRETE REPAIR

EPOXY RESIN INJECTION - ERI

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 REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

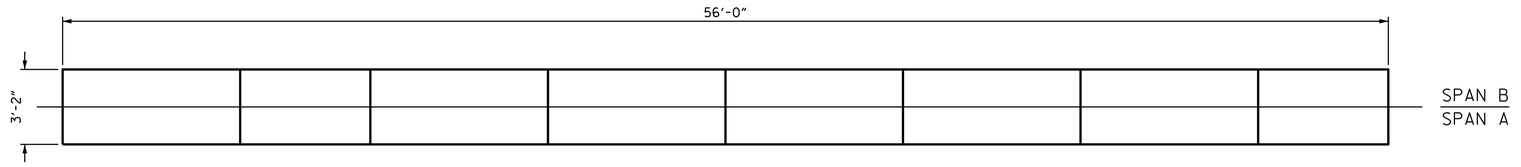
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

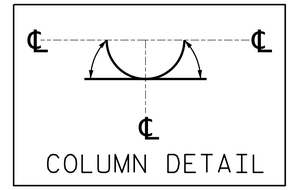
AS-BUILT REPAIR QUANTITY TABLE

BENT 1 SPAN A FACE	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		AREA SF		AREA SF
TOP OF BENT CAP		177.0		0.0

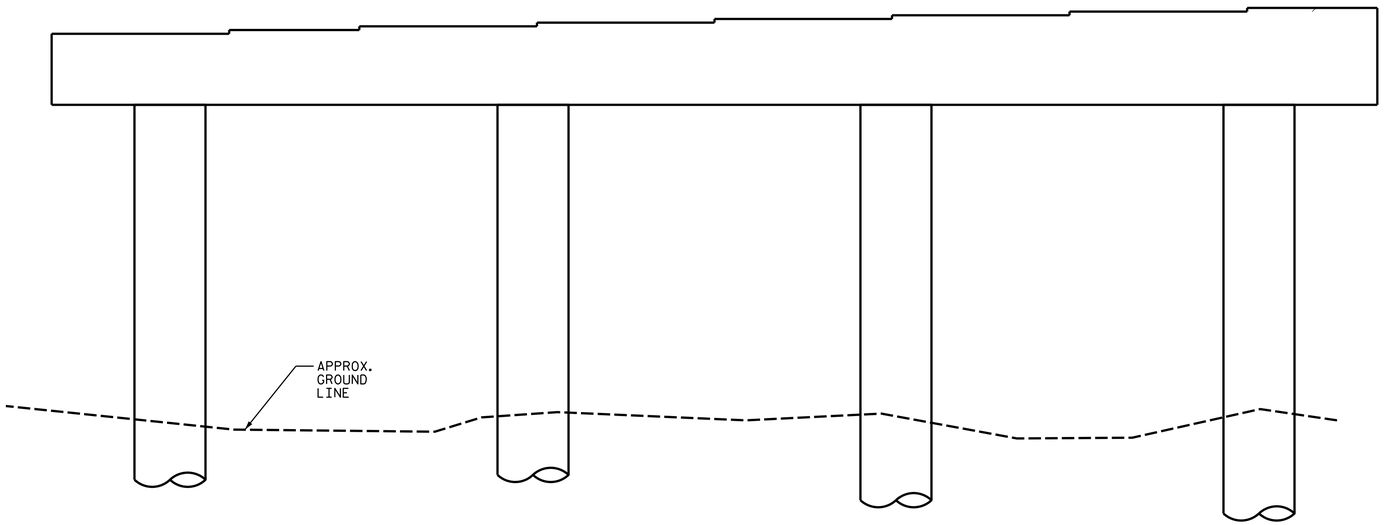
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1"BEHIND REBAR AND MINIMUM 2"CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.



TOP OF CAP



COLUMN DETAIL



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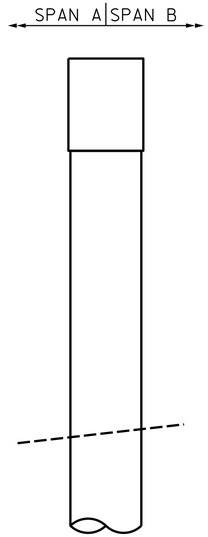

END VIEW

07/25/2022

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

Kirishna P. Sedai

EA6F794150BF4B7...

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PROJECT NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280171

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 1
SPAN A FACE

REVISIONS						SHEET NO.
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DRAWN BY : C. RUIZ DATE : 09/2020

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BENT 1

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SHOTCRETE REPAIR

CONCRETE REPAIR

EPOXY RESIN INJECTION - ERI

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 REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

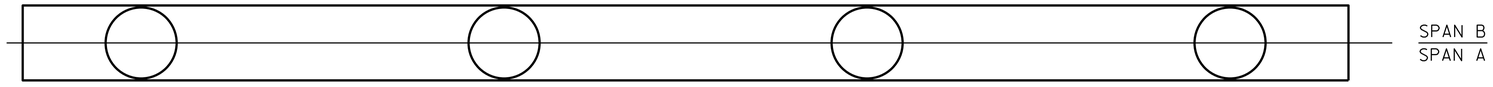
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

AS-BUILT REPAIR QUANTITY TABLE

BENT 1 SPAN B FACE	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		

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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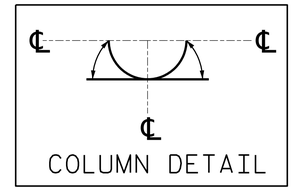
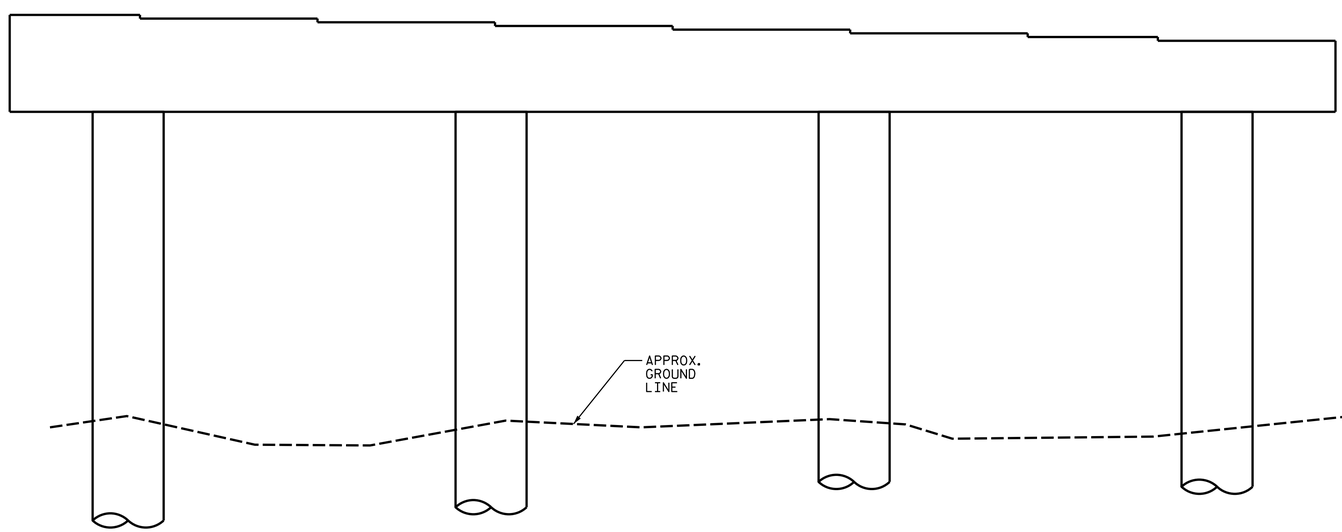


COLUMN DETAIL



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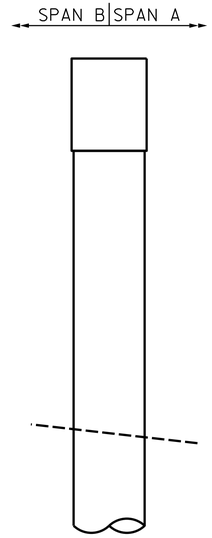

END VIEW

07/25/2022

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

Krishna P. Sedai

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PROJECT NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280171

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 1
SPAN B FACE

DRAWN BY : C. RUIZ DATE : 09/2020

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BENT 1

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2			4			15

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SHOTCRETE REPAIR

CONCRETE REPAIR

EPOXY RESIN INJECTION - ERI

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 REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

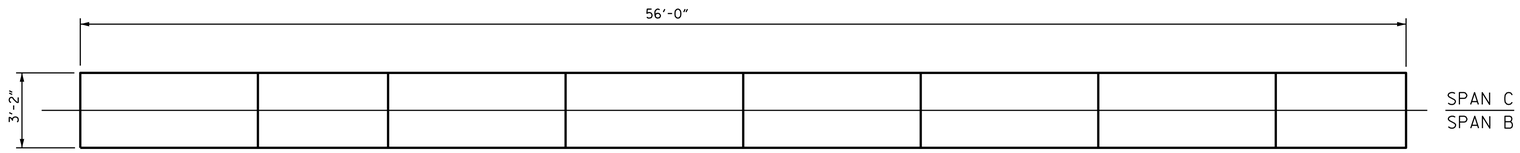
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

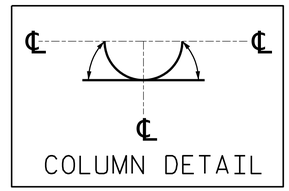
AS-BUILT REPAIR QUANTITY TABLE

BENT 2 SPAN B FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	1.4	0.7		
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		AREA SF		AREA SF
TOP OF BENT CAP		177.0		0.0

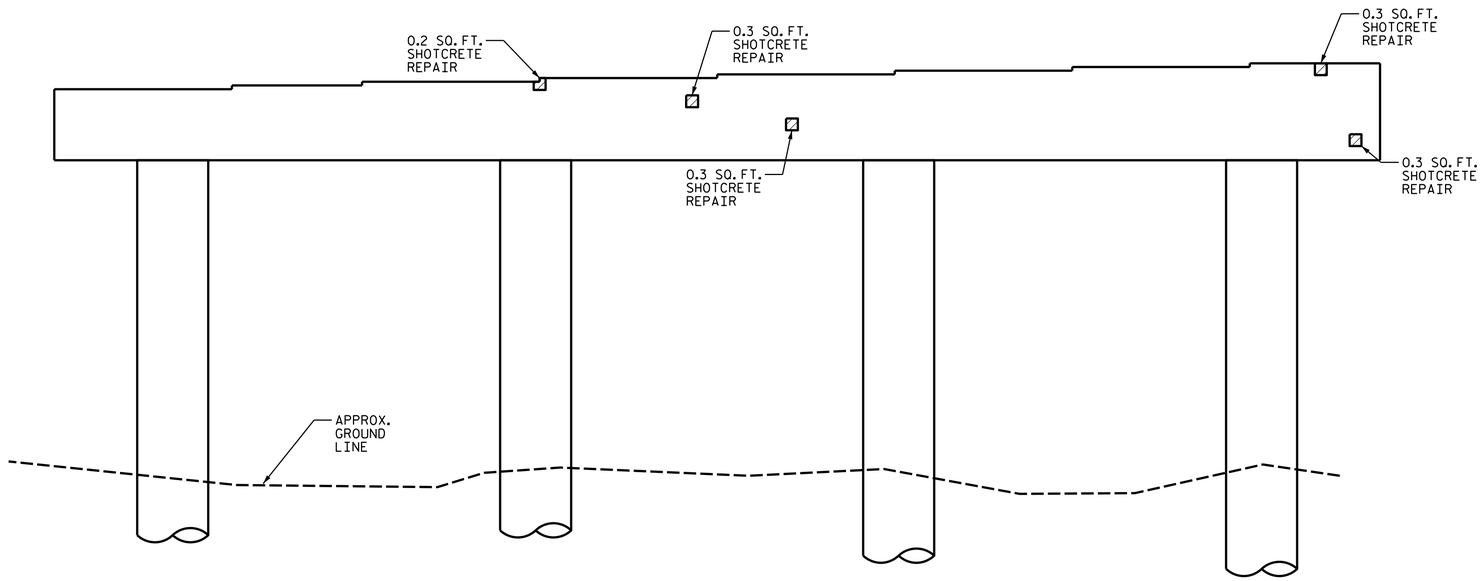
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.



TOP OF CAP



COLUMN DETAIL



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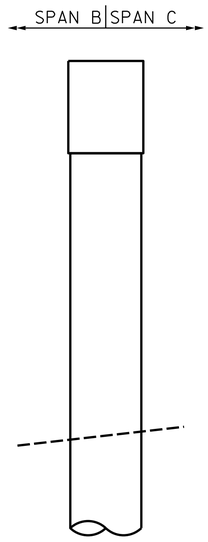

END VIEW

07/25/2022
NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI
Krishna P. Sedai
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PROJECT NO. I-5950
DAVIDSON COUNTY
BRIDGE NO. 280171

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 2
SPAN B FACE

DRAWN BY : C. RUIZ DATE : 09/2020
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BENT 2

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1			3			TOTAL SHEETS
2			4			15

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SHOTCRETE REPAIR

CONCRETE REPAIR

EPOXY RESIN INJECTION - ERI

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 REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

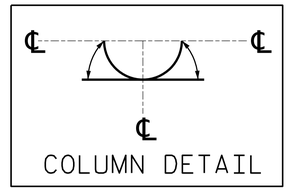
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

AS-BUILT REPAIR QUANTITY TABLE

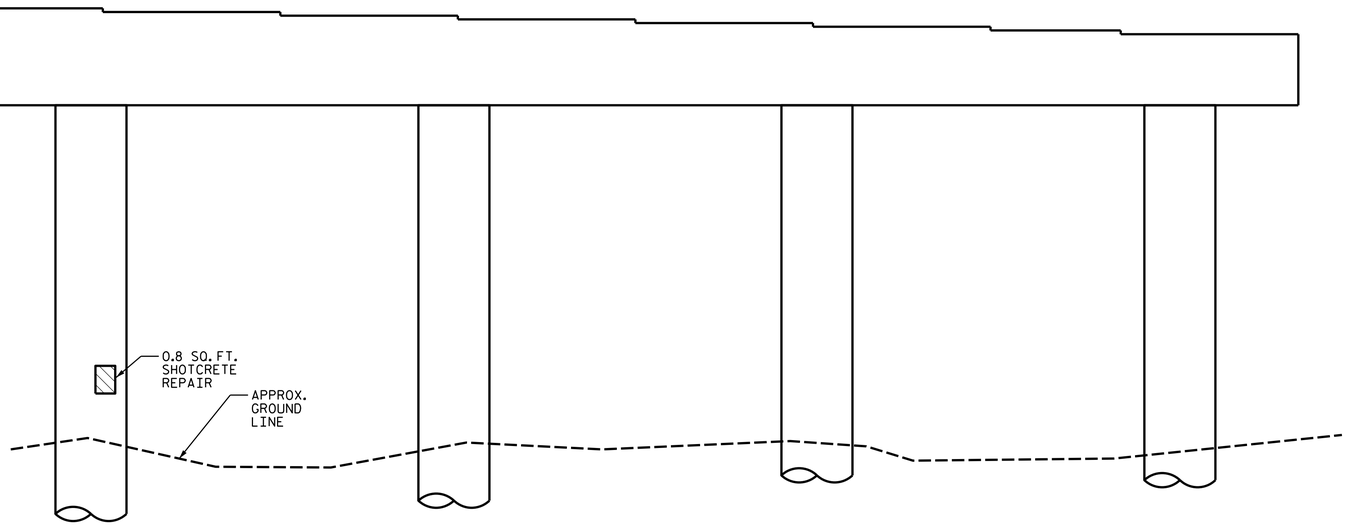
BENT 2 SPAN C FACE	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.8	0.4		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.		LIN. FT.
CAP		0.0		
COLUMN		0.0		

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.

BOTTOM OF CAP



COLUMN DETAIL



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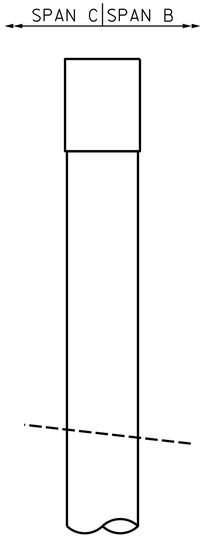

END VIEW

BENT 2

07/25/2022

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

Krishna P. Sedai

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PROJECT NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280171

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 2
SPAN C FACE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S9-13
1			3			TOTAL SHEETS
2			4			15

DRAWN BY : C. RUIZ DATE : 09/2020

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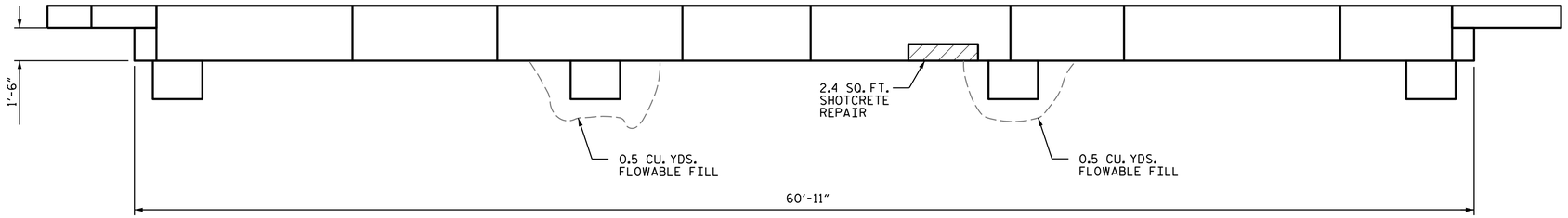
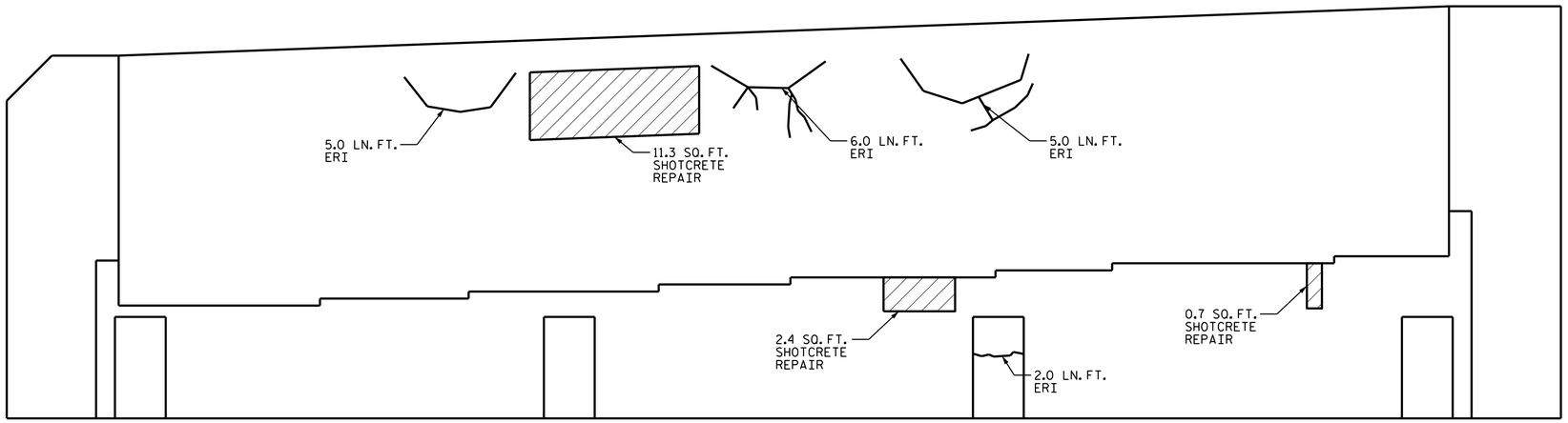


PLAN



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	5.5	2.8		
CURTAIN WALL	11.3	5.7		
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.	
CURTAIN WALL		16.0		
CAP		2.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
TOP OF END BENT CAP		91.4		
FLOWABLE FILL		CU. YDS.	CU. YDS.	
FRONT OF END BENT CAP		1.0		

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 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.

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

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR FLOWABLE FILL, SEE SPECIAL PROVISIONS.

FOR CAP AND COLUMN REPAIR DETAIL, SEE "CAP AND COLUMN REPAIR DETAIL" SHEET.

CONCRETE REPAIR

SHOTCRETE REPAIR

EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280171

07/25/2022

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

Krishna P. Sedai

EA6F794150BF4B7...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

END BENT 2

DRAWN BY : CRUIZ DATE : 09/2021

CHECKED BY : H.A. LOCKLEAR DATE : 04/2022

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1			3			TOTAL SHEETS
2			4			15

7/25/2022
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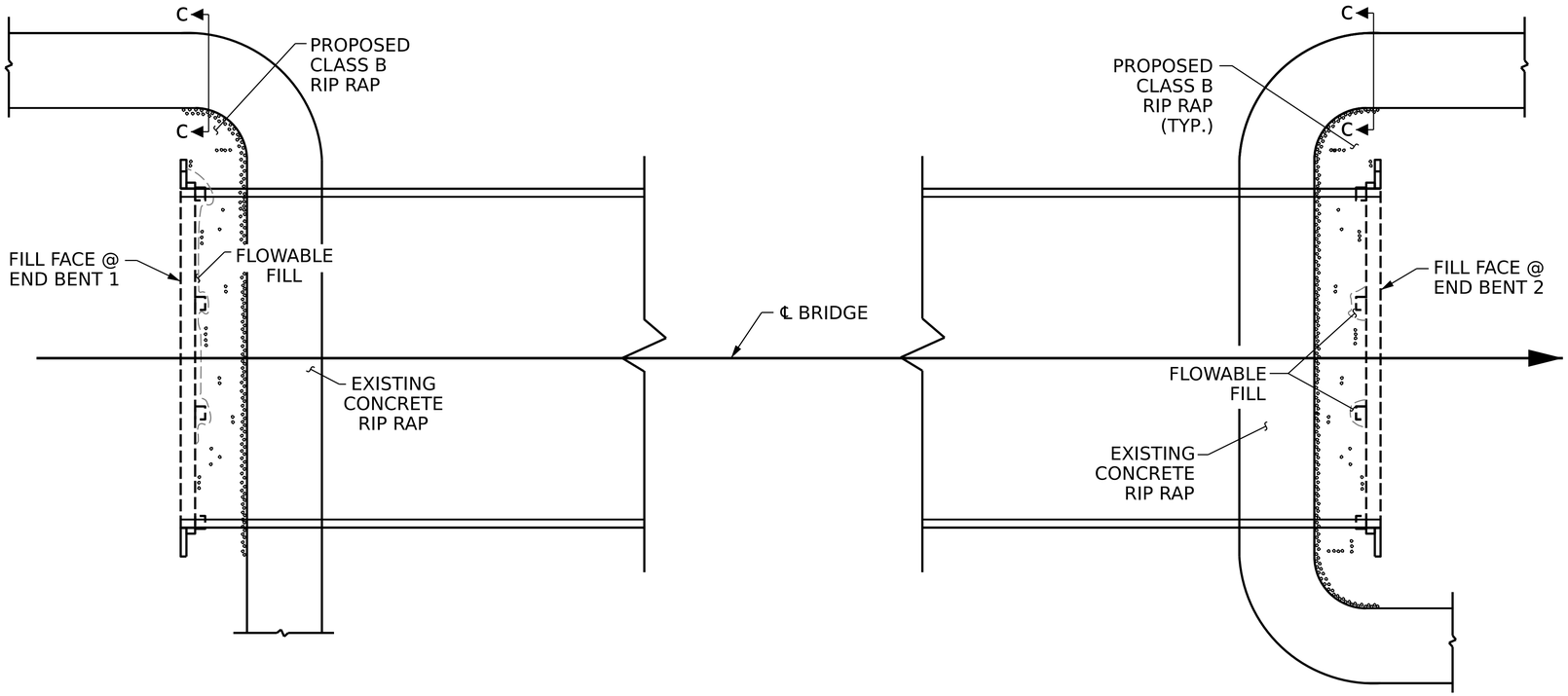
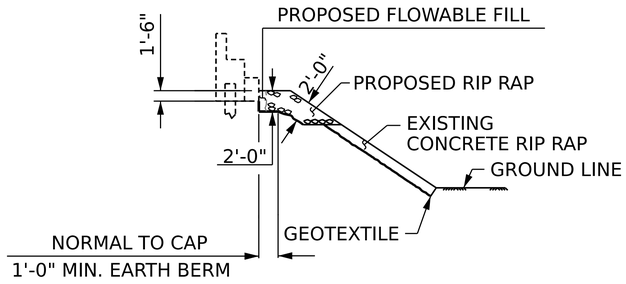
NOTE:
FOR CLASS B RIP RAP, SEE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, 2018



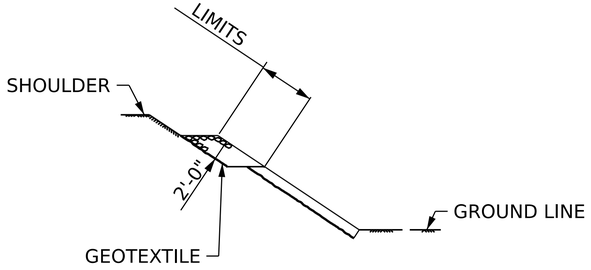
END BENT 1

END BENT 2



℄ SECTION

BERM RIP RAPPED



SECTION C-C

ESTIMATED QUANTITIES

BRIDGE NO. 280171	RIP RAP CLASS B (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE
	TONS	SQUARE YARDS
END BENT 1	80.0	89.0
END BENT 2	75.0	83.0

PROJECT NO. I-5950
DAVIDSON COUNTY
BRIDGE NO. 280171

07/25/2022
NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI
Krishna P. Sedai
EA6F794150BF4B7...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CLASS B RIP RAP DETAILS

REVISIONS						SHEET NO.
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CHECKED BY : K. SEDAI DATE 07/2022

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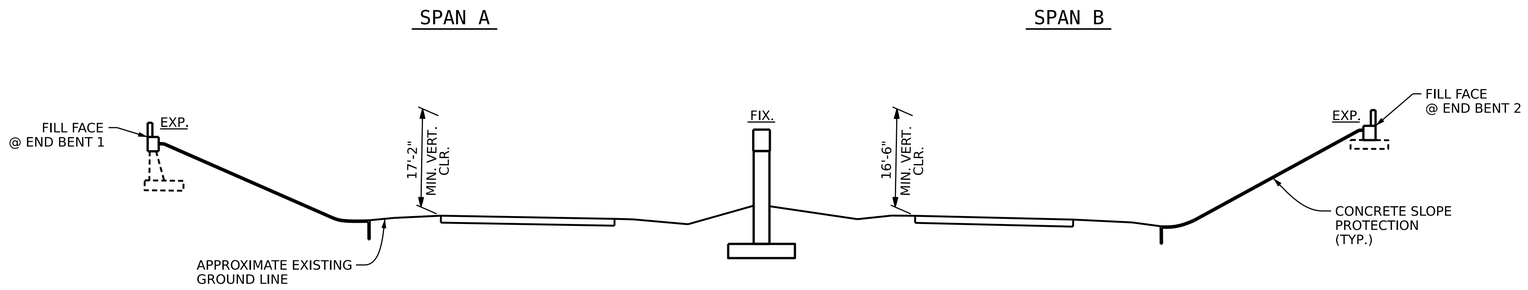
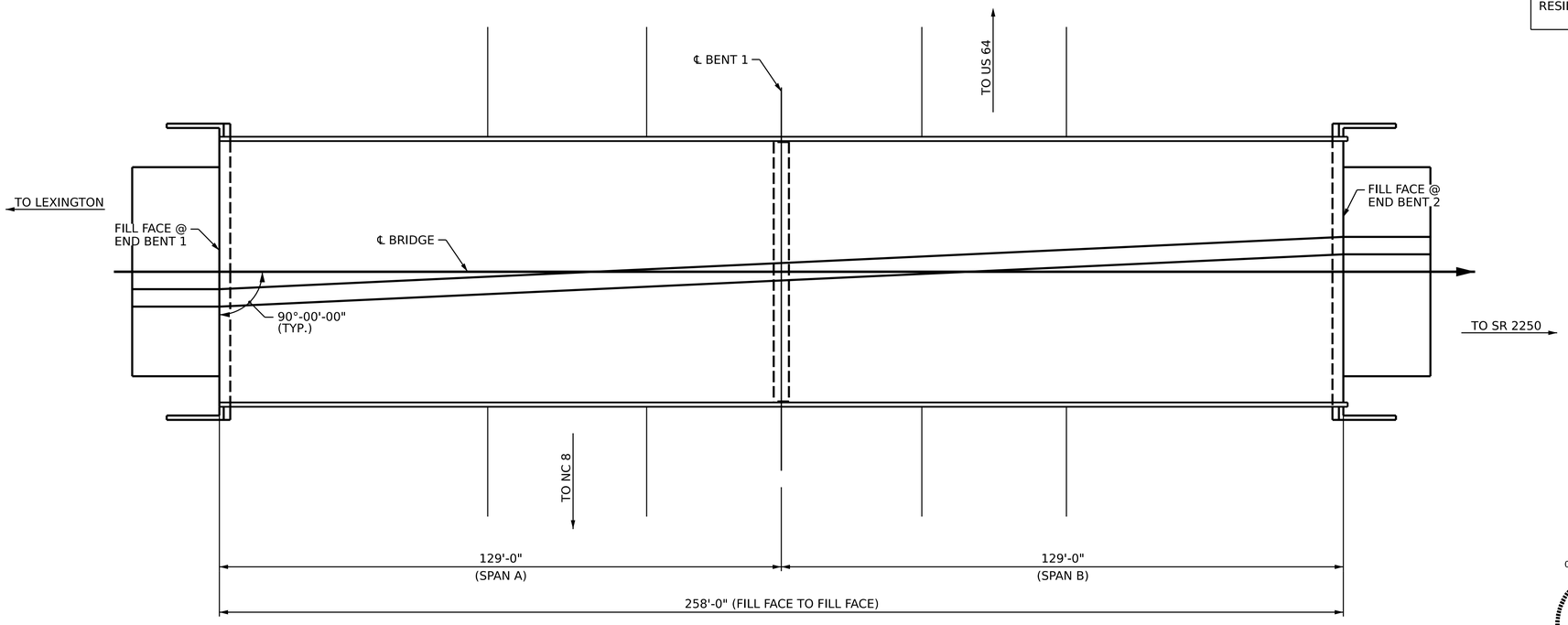
F.A. PROJECT NO.: 0085055



SECTION ALONG ℄ BRIDGE



PLAN

NOTES

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 1/5/2022.

BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS/ROUTINE INSPECTION.

SCOPE OF WORK

PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE USING SCARIFICATION AND SHOTBLASTING METHOD.

OVERLAY PREPARED BRIDGE DECK WITH POLYMER CONCRETE OVERLAY (PC).

REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINT SEALS AT END BENTS.

GROOVE PC BRIDGE DECK.

CLEAN AND PAINT EXISTING STEEL BEARINGS AT END BENTS.

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

EPOXY RESIN INJECTION OF CONCRETE CRACKS.

REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS FOR SHOTCRETE AND CONCRETE REPAIRS.

PROPERLY PREPARE SPALLED AREAS IN EXISTING END BENT AND BENT AND PERFORM SHOTCRETE AND CONCRETE REPAIRS.

REMOVE AND REPLACE MEDIAN.

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

RESIDENT ENGINEER DATE

07/25/2022
NORTH CAROLINA PROFESSIONAL SEAL 35647 ENGINEER ADAM A. COLE
Docusigned By: 02EE938FAB674C5...

07/25/2022
NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDH
Docusigned By: EA6F794150BF4B7...

PROJECT NO. I-5950
DAVIDSON COUNTY
BRIDGE NO. 280174

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOR BRIDGE ON E. OLD US-64 (SR 2205) OVER I-85

REVISIONS						SHEET NO.
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DRAWN BY : C. RUIZ DATE : 02/2022
CHECKED BY : K. PUROHIT DATE : 04/2022

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ksedal

8/26/21

LOCATION SKETCH

BRIDGE COORDINATES

LATITUDE: 35°-47'-42.5"
LONGITUDE: - 80°-13'-01.1"

NOTES

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.

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 FOR ANY DELAYS OF ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN WHAT IS 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 CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLANS.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATIONS OF THE BRIDGE DECK. THE CONTRACTOR SHALL TAKE CARE THAT ANY CONSTRUCTION DEBRIS THAT COLLECTS IN THE DRAINS IS CONTAINED. DRAINS IN SHOULDERS OF ADJACENT TRAVEL LANE(S) SHALL BE KEPT FREE AND CLEAR OF DEBRIS.

LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPACIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CONCRETE MEDIAN REPLACEMENT, SEE 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.

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

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.

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

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

THE EXISTING BRIDGE DECK SHALL BE REPAIRED AS SHOWN ON THE PLANS OR AS DETERMINED BY THE ENGINEER AFTER SCARIFICATION AND PRIOR TO THE SURFACE PREPARATION AND APPLICATION OF THE PC OVERLAY. UNLESS OTHERWISE APPROVED, SUCH LOCATIONS SHALL BE REPAIRED WITH POLYMER CONCRETE.

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

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

WORK ON THE 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.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

FOR ANCHOR BOLT NUT REPLACEMENT AND TIGHTENING, SEE SPECIAL PROVISIONS.

FOR CLEANING AND PAINTING EXISTING BEARING PLATES, SEE SPECIAL PROVISIONS.

SAMPLE BAR REPLACEMENT	
#3	6'-2"
#4	7'-4"
#5	8'-6"
#6	9'-8"
#7	10'-10"
#8	12'-0"
#9	13'-2"
#10	14'-6"
#11	15'-10"

TOTAL BILL OF MATERIAL

BRIDGE NO. 280174	GROOVING BRIDGE FLOORS	CLASS II SURFACE PREPARATION	CONCRETE REPAIRS	SHOTCRETE REPAIRS	FOAM JOINT SEALS FOR PRESERVATION	POLYSTER POLYMER CONCRETE MATERIALS	EPOXY POLYMER CONCRETE MATERIALS (ALTERNATE)	CONCRETE MEDIAN REPLACEMENT	EPOXY COATING	CONCRETE FOR DECK REPAIR FOR POLYMER CONCRETE OVERLAY	PLACING & FINISHING POLYMER CONCRETE OVERLAY	SCARIFYING BRIDGE DECK	SHOTBLASTING BRIDGE DECK	CLEANING & PAINTING EXISTING BEARING PLATES
	SQ. FT.	SQ. YDS.	CU. FT.	CU. FT.	LIN. FT.	CU. YDS.	CU. YDS.	SQ. FT.	SQ. FT.	SQ. YDS.	SQ. YDS.	SQ. YDS.	SQ. YDS.	EA.
TOTAL	16198.0	11.5	0.8	11.1	96.0	62.0	62.0	1192.0	937.8	11.5	1788.2	1788.2	1788.2	16

PROJECT NO. I-5950
DAVIDSON COUNTY
BRIDGE NO. 280174

SHEET 2 OF 2

08/03/2022
NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI
Krishna P. Sedai
EA6F794150BF4B7...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE
ON E. OLD US-64 (SR2205)
OVER I-85

DRAWN BY : C.RUIZ DATE : 02/2022
CHECKED BY : K. PUROHIT DATE : 04/2022

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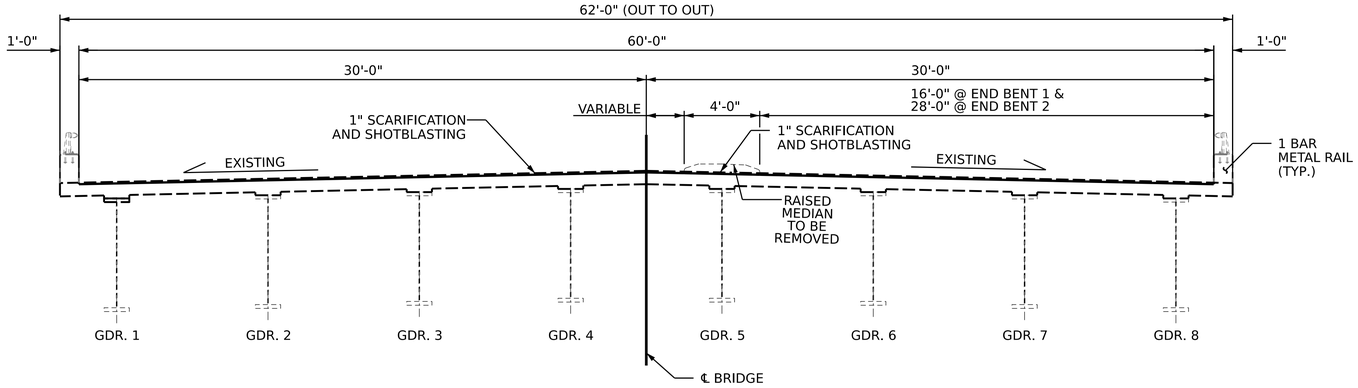
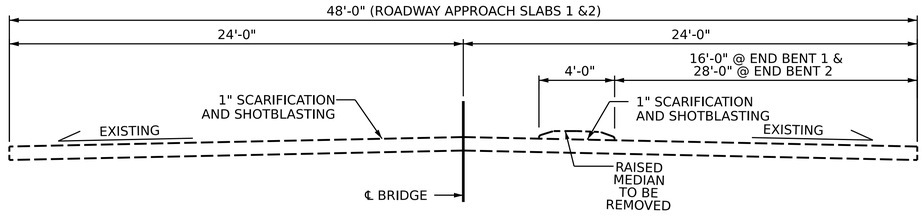


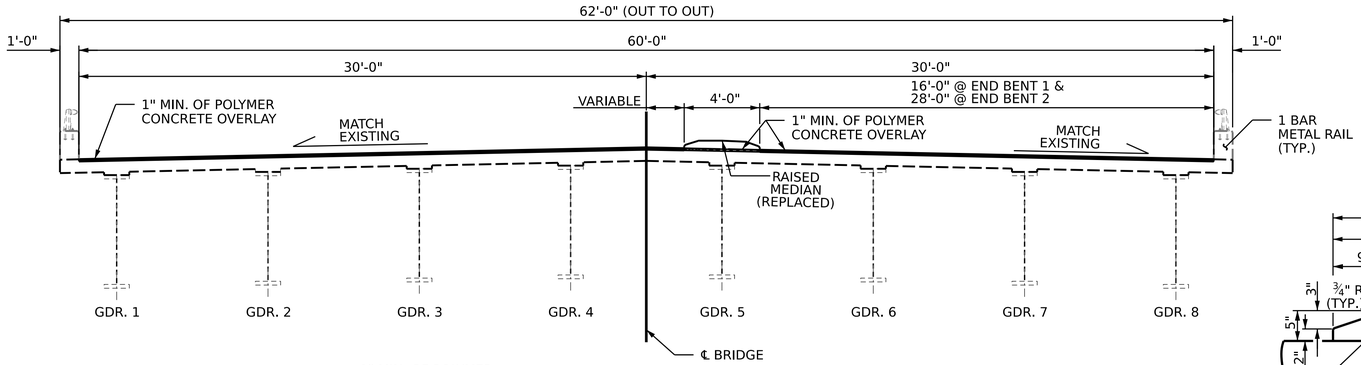
TYPICAL SECTION

(EXISTING)



TYPICAL SECTION- APPROACH SLAB @ END BENT

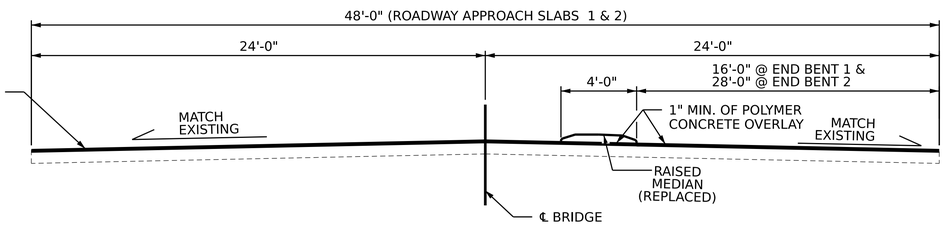
(EXISTING)



1" MIN. OF POLYMER CONCRETE OVERLAY

TYPICAL SECTION

(PROPOSED)



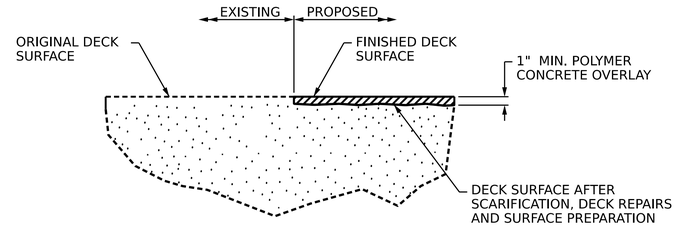
TYPICAL SECTION- APPROACH SLAB @ END BENT

(PROPOSED)

NOTES

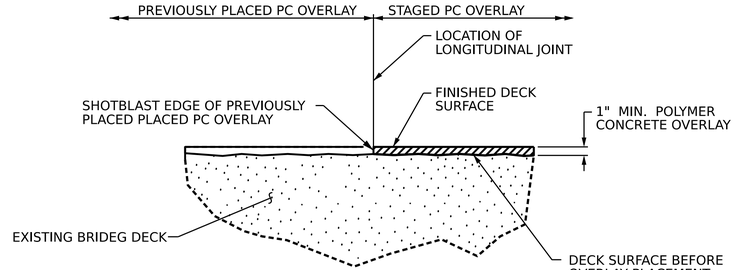
SEE TRANSPORTATION MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF POLYMER CONCRETE (PC) OVERLAY SYSTEM AND SURFACE PREPARATION.

FOR REMOVING AND REPLACING RAISED MEDIAN, SEE DETAIL "A" AND SPECIAL PROVISIONS.

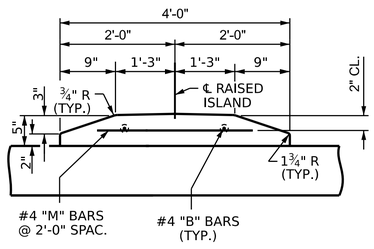


DETAIL FOR POLYMER CONCRETE OVERLAY

FINISHED SURFACE ELEVATION SHALL MATCH EXISTING CONCRETE SURFACE ELEVATION. ACTUAL THICKNESS OF PC OVERLAY MAY VARY.



STAGED PC OVERLAY JOINT



DETAIL "A"

PROJECT NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280174

07/25/2022

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

Docusigned by: Krishna P Sedai

EA6F794150BF4B7...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION & PC OVERLAY DETAIL

DRAWN BY : CRUIZ DATE : 02/2022

CHECKED BY : K. PUROHIT DATE : 04/2022

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NOTES:

REPAIR LOCATIONS AND ESTIMATE OF 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.

TOP OF DECK SURFACE REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAWCUT). SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

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

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

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

THE PAYMENT FOR BROKEN RAIL POST REPAIR IS INCIDENTAL AND CAN BE ADDED TO ANY OTHER PAY ITEMS.

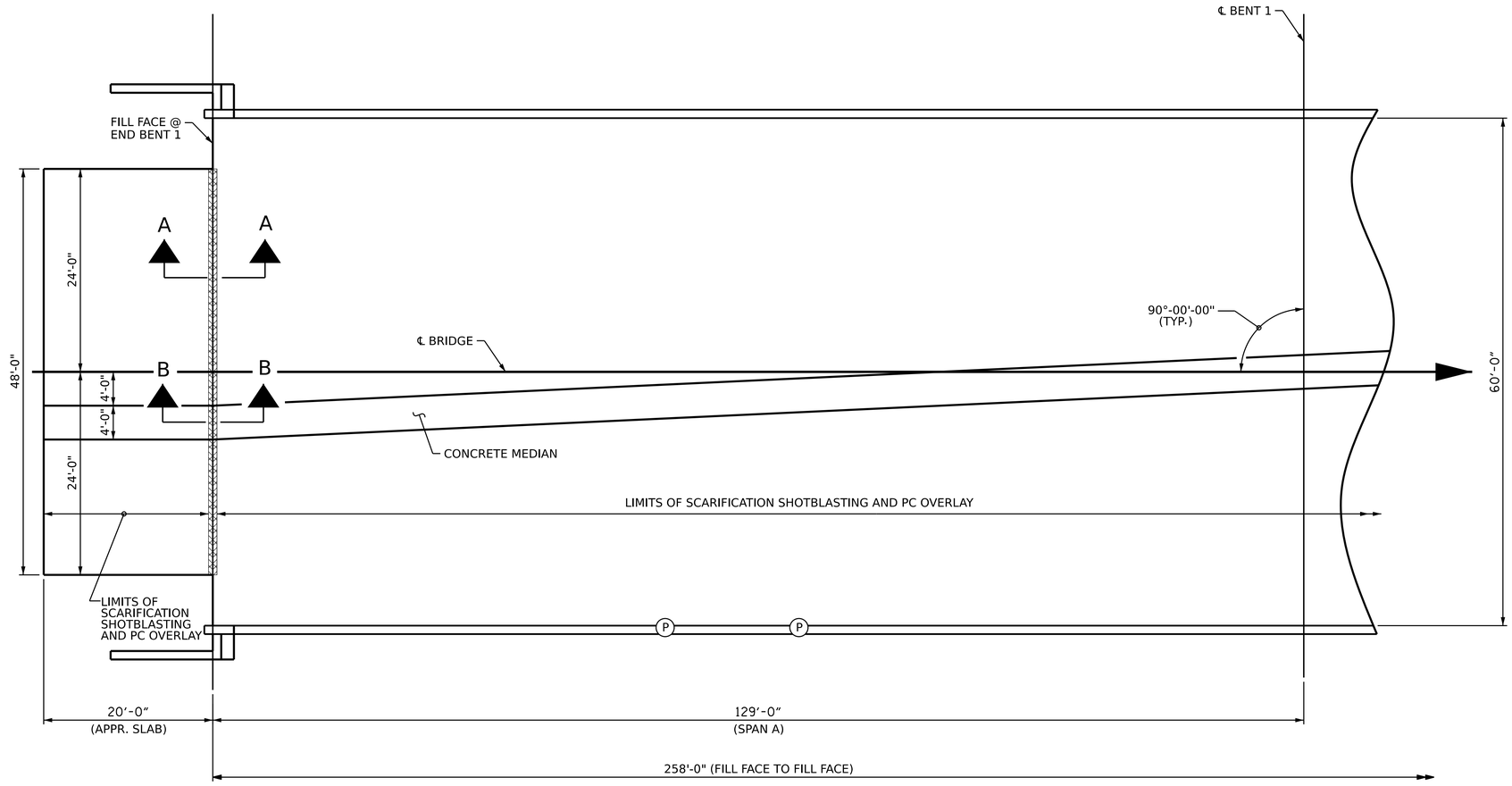
SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

CLASS II SURFACE PREPARATION

EPOXY RESIN INJECTION (ERI)

(P) BROKEN RAIL POST REPAIR



PLAN

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS: SPAN "A"

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	798.8 SQ. YDS.	
CLASS II SURFACE PREPARATION	2.7 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	2.7 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	798.8 SQ. YDS.	
POLYMER CONCRETE MATERIALS	27.7 CU. YDS.	
PLACING & FINISHING PC OVERLAY	798.8 SQ. YDS.	
GROOVING BRIDGE FLOORS	7210.0 SQ. FT.	
EPOXY RESIN INJECTION	0.0 LIN. FT.	

SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CONCRETE PARAPET	0.0	0.0		

APPROACH SLAB 1 REPAIRS

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	95.3 SQ. YDS.	
CLASS II SURFACE PREPARATION	2.7 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	2.7 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	95.3 SQ. YDS.	
POLYMER CONCRETE MATERIALS	3.3 CU. YDS.	
PLACING & FINISHING PC OVERLAY	95.3 SQ. YDS.	
GROOVING BRIDGE FLOORS	889.0 SQ. FT.	
EPOXY RESIN INJECTION	0.0 LIN. FT.	

PROJECT NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280174

SHEET 1 OF 2

07/25/2022

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

Docusigned by: Krishna P. Sedai

EA6F794150BF4B7...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DECK SURFACE REPAIR APPROACH SLAB AND SPAN A

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NOTES:

REPAIR LOCATIONS AND ESTIMATE OF 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.

TOP OF DECK SURFACE REPAIR QUANTITIES REPRESENT ESTIMATED VALUES OF CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY AFTER REMOVAL OF UNSOUND CONCRETE (MIN. 2" CLEAR TO SAWCUT). SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

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

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

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

THE PAYMENT FOR BROKEN RAIL POST REPAIR IS INCIDENTAL AND CAN BE ADDED TO ANY OTHER PAY ITEMS.

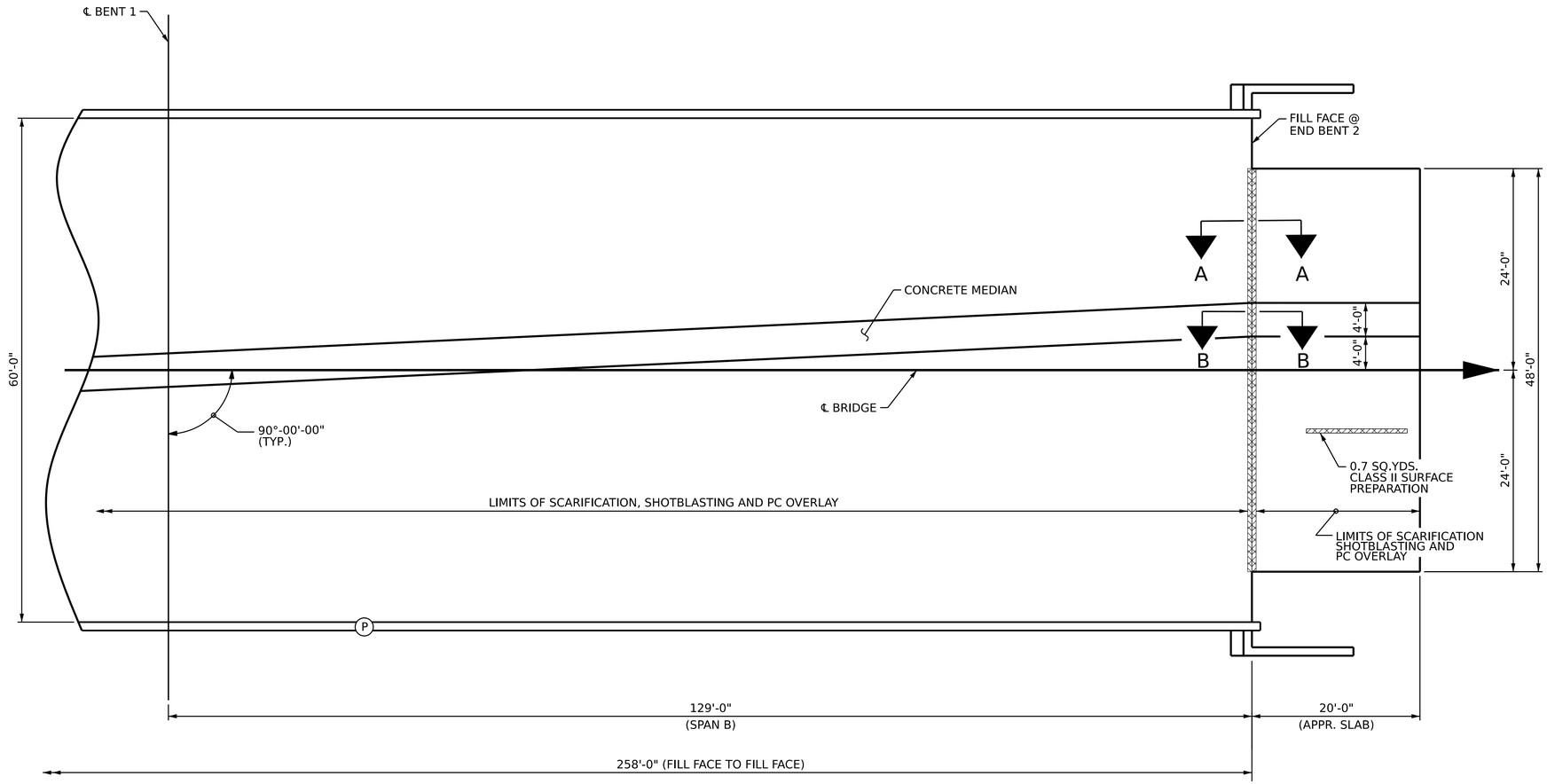
SHOTCRETE REPAIR AREA

CONCRETE REPAIR AREA

CLASS II SURFACE PREPARATION

EPOXY RESIN INJECTION (ERI)

(P) BROKEN RAIL POST REPAIR



PLAN

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS: SPAN "B"

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	798.8 SQ. YDS.	
CLASS II SURFACE PREPARATION	2.7 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	2.7 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	798.8 SQ. YDS.	
POLYMER CONCRETE MATERIALS	27.7 CU. YDS.	
PLACING & FINISHING PC OVERLAY	798.8 SQ. YDS.	
GROOVING BRIDGE FLOORS	7210 SQ. FT.	
EPOXY RESIN INJECTION	0.0 LIN. FT.	

SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CONCRETE PARAPET	0.0	0.0		

APPROACH SLAB 2 REPAIRS

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	95.3 SQ. YDS.	
CLASS II SURFACE PREPARATION	3.4 SQ. YDS.	
CONCRETE DECK REPAIR FOR PC OVERLAY	3.4 SQ. YDS.	
SHOTBLASTING BRIDGE DECK	95.3 SQ. YDS.	
POLYMER CONCRETE MATERIALS	3.3 CU. YDS.	
PLACING & FINISHING PC OVERLAY	95.3 SQ. YDS.	
GROOVING BRIDGE FLOORS	889.0 SQ. FT.	
EPOXY RESIN INJECTION	0.0 LN. FT.	

PROJECT NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280174

SHEET 2 OF 2

07/25/2022

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

Docusigned by: Krishna P Sedai

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DECK SURFACE REPAIR SPAN B AND APPROACH SLAB

DRAWN BY : CRUIZ DATE : 09/2021

CHECKED BY : K. PUROHIT DATE : 04/2022

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7/25/2022
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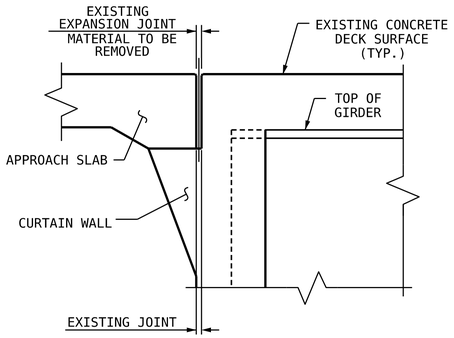
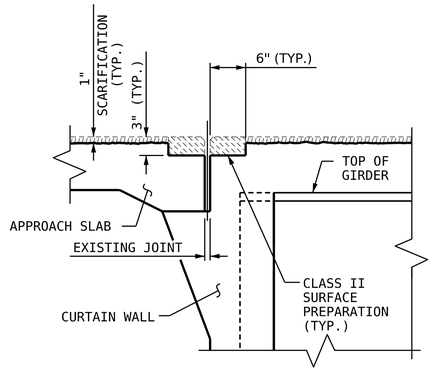
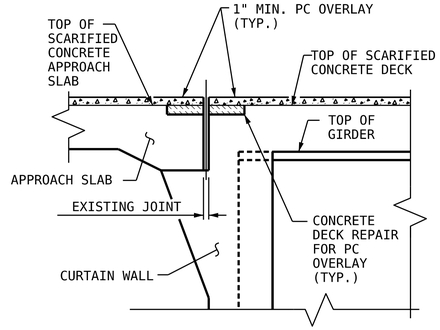


EXISTING JOINT



MINIMUM EXISTING JOINT
DEMOLITION & SCARIFICATION



PROPOSED JOINT PRE-SAWED
& PC OVERLAY

NOTE

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN DETAIL BY MORE THAN ¼", NOTIFY ENGINEER. REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.

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

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

THE INSTALLATION OF THE JOINT SEAL SHALL BE WATERTIGHT.

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

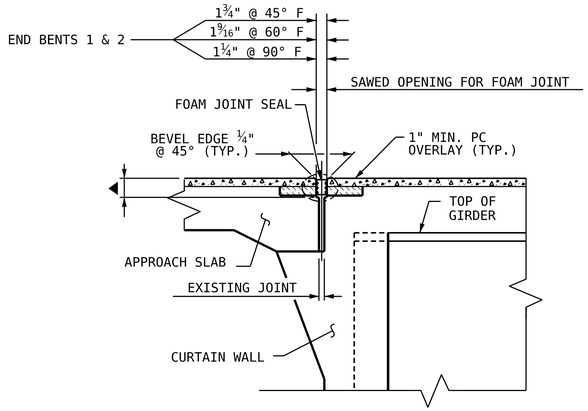
THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL FOR THE SIZE OF THE OPENING ON THE PLANS AND THAT ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

A MANUFACTURER'S CERTIFIED TRAINED REPRESENTATIVE SHALL BE PRESENT DURING THE INSTALLATION OF THE FIRST JOINT OF THE PROJECT, OR UNTIL THE ENGINEER IS SATISFIED WITH THE INSTALL PROCESS.

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

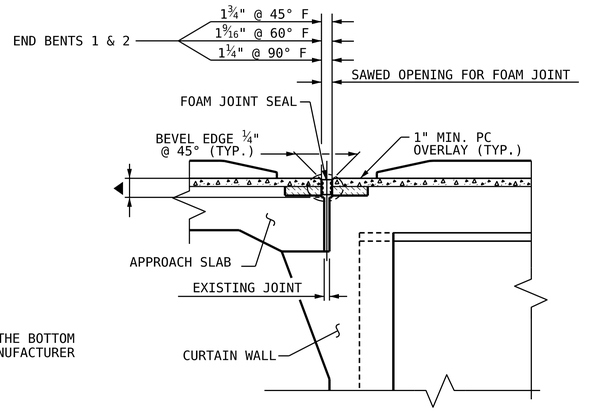
FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

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.



PROPOSED FOAM
JOINT SEAL
SECTION A-A

▲ SAW CUT SHALL BE 1" BELOW THE BOTTOM OF FOAM JOINT SEAL. SEE MANUFACTURER RECOMMENDATIONS



PROPOSED FOAM JOINT
SEAL AT MEDIAN
SECTION B-B

JOINT REPAIR QUANTITY TABLE

	ESTIMATE	ACTUAL
FOAM JOINT SEALS FOR PRESERVATION		
END BENT 1	48.0 LF	
END BENT 2	48.0 LF	
TOTAL	96.0 LF	

JOINT INSTALLATION SEQUENCE AT END BENTS

PROJECT NO. I-5950
DAVIDSON COUNTY
BRIDGE NO. 280174

07/25/2022
NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI
Docusigned by: Krishna P. Sedai
EA6F794150BF4B7...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JOINT DETAILS

DRAWN BY : C. RUIZ DATE : 04/2022
CHECKED BY : K. PUROHIT DATE : 05/2022

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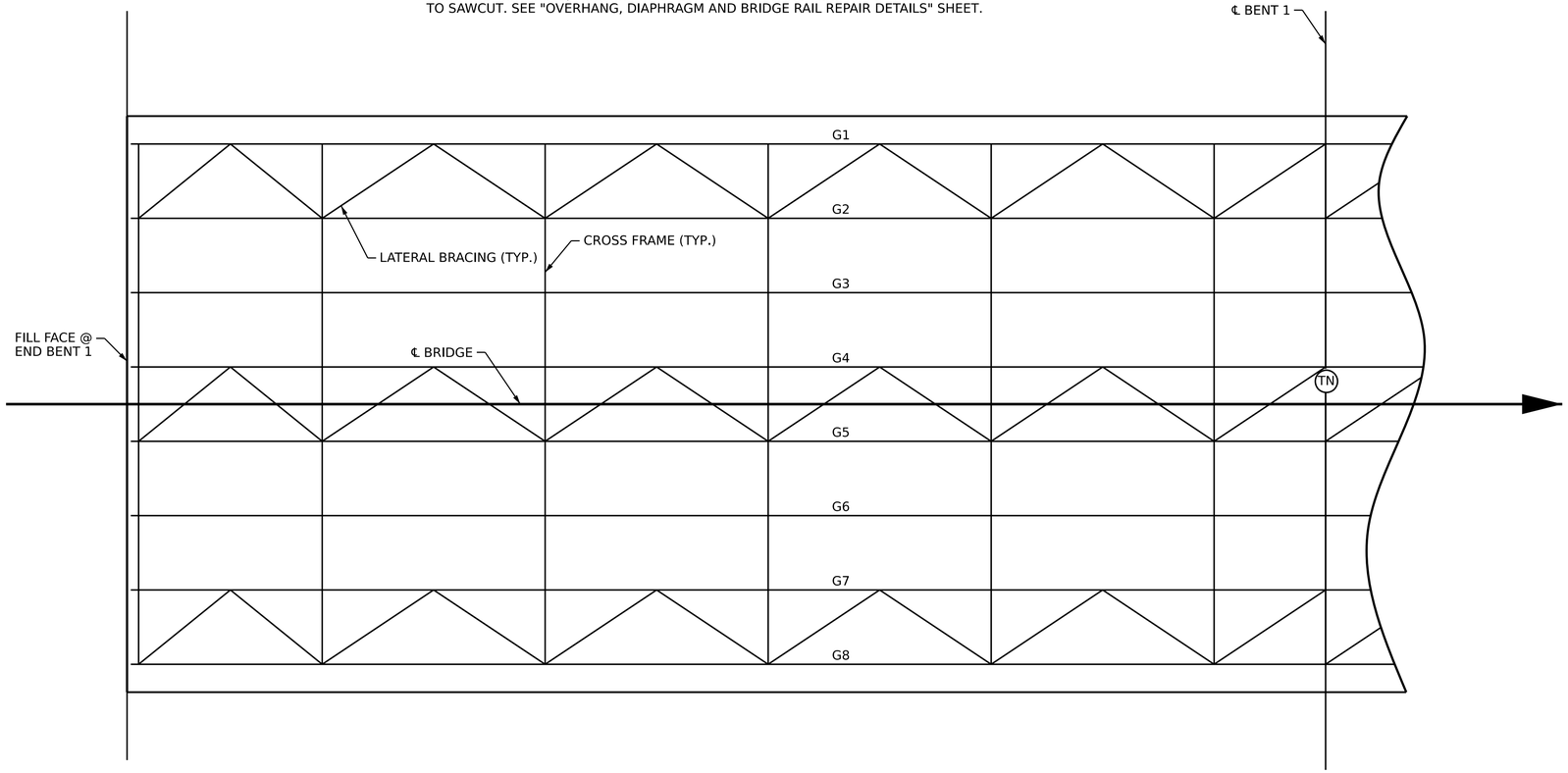
AS-BUILT REPAIR QUANTITY TABLE

DECK UNDERSIDE REPAIR - SPAN A

	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
DIAPHRAGMS	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
DIAPHRAGMS	0.0	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 "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.



PLAN - SPAN A
UNDERSIDE OF DECK

NOTES

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

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF ½" BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

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

FOR UNDERSIDE OF DECK REPAIRS AND OVERHANG REPAIRS, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

PRIOR TO CLEANING AND PAINTING, REPLACE AND /OR TIGHTEN ANCHOR BOLT NUTS. SEE SPECIAL PROVISIONS.

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

TN — TIGHTEN ANCHOR BOLT NUT

SHOTCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5950
DAVIDSON COUNTY
BRIDGE NO. 280174

07/25/2022
NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI
Kirishna P. Sedai
EA6F794150BF4B7...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DECK UNDERSIDE REPAIR SPAN A

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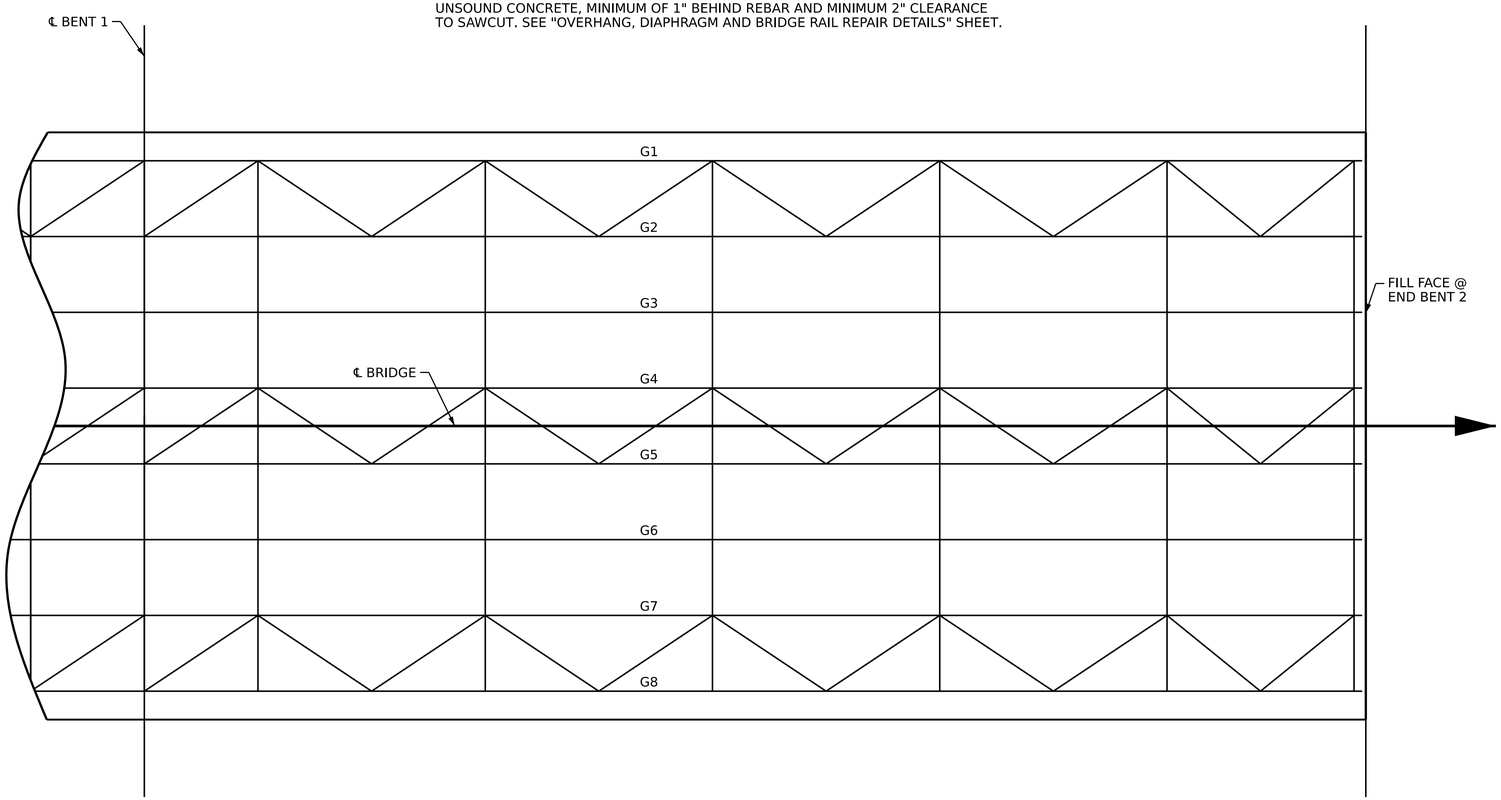
AS-BUILT REPAIR QUANTITY TABLE

DECK UNDERSIDE REPAIR - SPAN B

	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
DIAPHRAGMS	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
DIAPHRAGMS	0.0	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 "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.



PLAN - SPAN B
UNDERSIDE OF DECK

NOTES

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

FOR UNDERSIDE OF DECK REPAIRS AND OVERHANG REPAIRS, SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIR AREA

ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5950
DAVIDSON COUNTY
BRIDGE NO. 280174
SHEET 2 OF 2

07/25/2022
NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI
Docusigned by: Krishna P. Sedai
EA6F794150BF4B7...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DECK UNDERSIDE REPAIR
SPAN B

DRAWN BY : CRUIZ DATE : 03/2022
CHECKED BY : K. PUROHIT DATE : 04/2022

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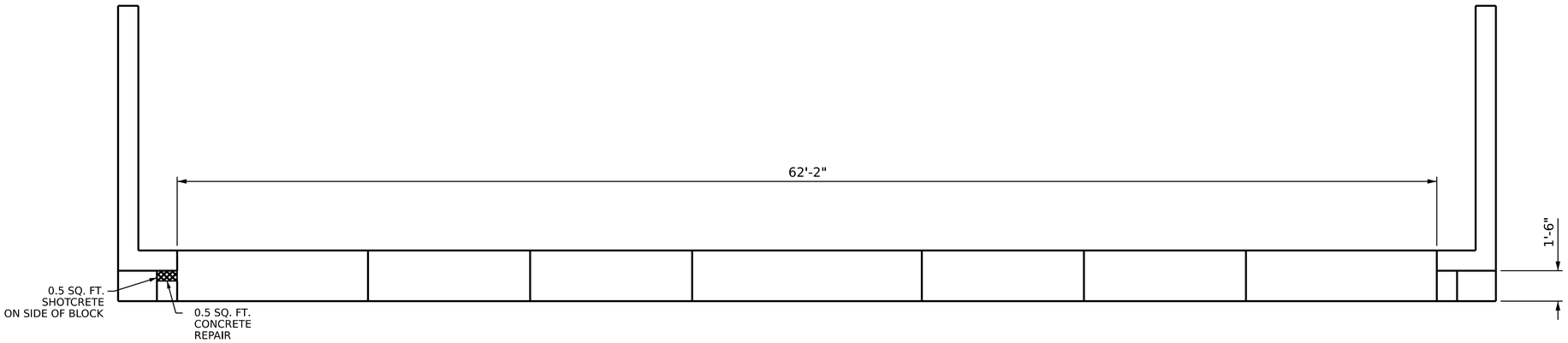
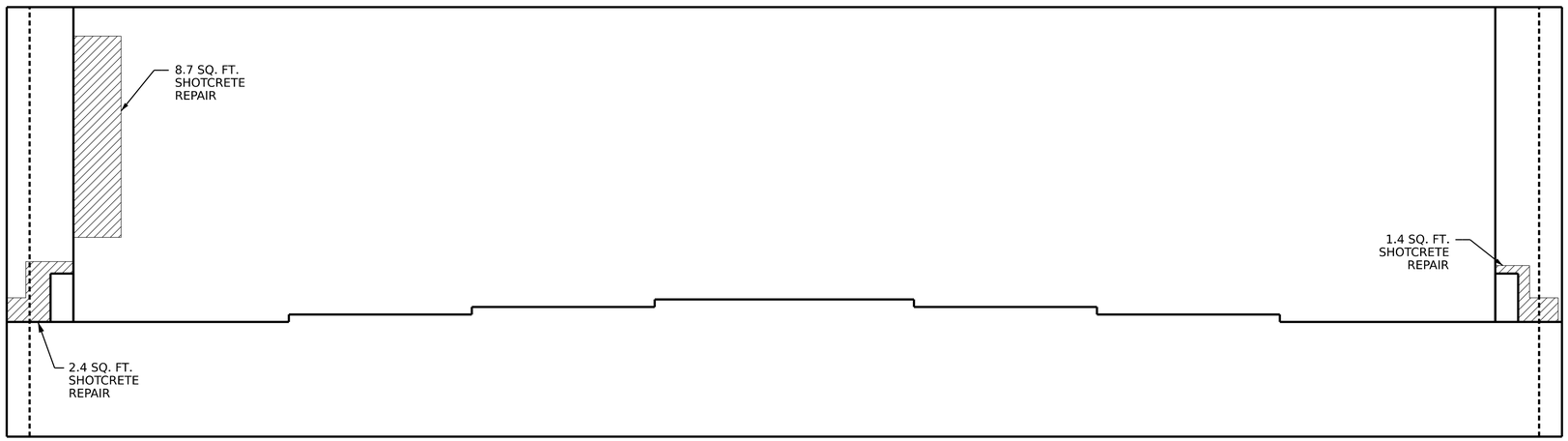


PLAN



ELEVATION

END BENT 1

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	0.5	0.3		
CURTAIN WALL	12.5	6.3		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.5	0.3		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CURTAIN WALL		0.0		
CAP		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
TOP OF BENT CAP		93.3		
CURTAIN WALL		375.6		

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 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.

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

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR CAP AND COLUMN REPAIRS, SEE " TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

CONCRETE REPAIR AREA

SHOTCRETE REPAIR AREA

EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280174

07/25/2022

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

Krishna P. Sedai

EA6F794150BF4B7...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

END BENT 1

DRAWN BY : CRUIZ DATE : 02/2022
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2			4			12

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NOTES

REPAIR LOCATIONS AND ESTIMATE OF 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.

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

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

AS-BUILT REPAIR QUANTITY TABLE

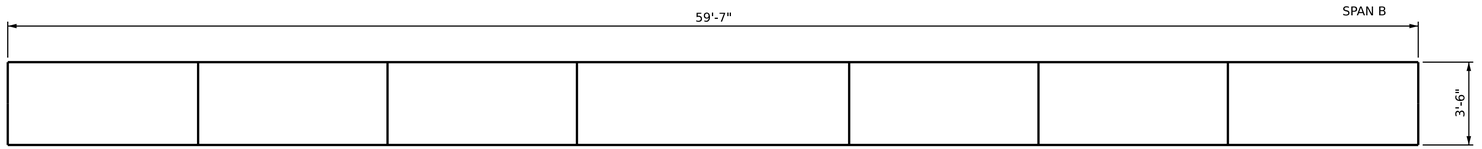
BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CURTAIN WALL		0.0		
CAP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

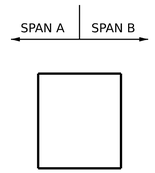
CONCRETE REPAIR AREA

SHOTCRETE REPAIR AREA

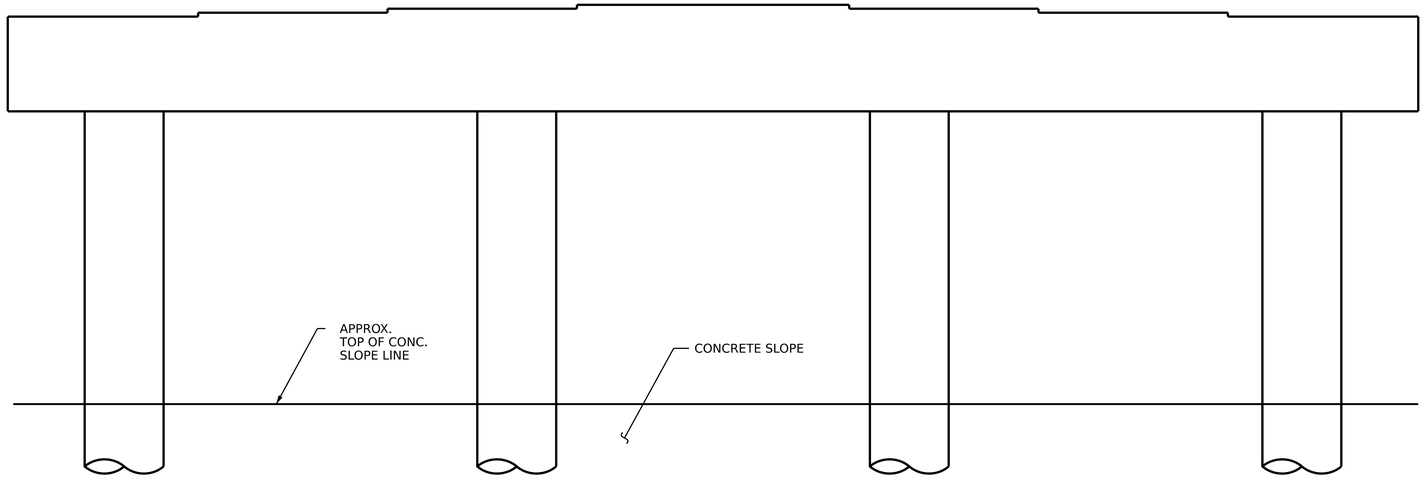
EPOXY RESIN INJECTION (ERI)



PLAN - TOP OF CAP



END VIEW



ELEVATION - SPAN A VIEW

BENT 1

PROJECT NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280174

SHEET 1 OF 2

07/25/2022

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

Krishna P. Sedai

EA6F794150BF4B7...

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE REPAIR BENT 1 SPAN A FACE

REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS
2			4			12

DRAWN BY : C. RUIZ DATE : 02/2022

CHECKED BY : K. PUROHIT DATE : 04/2022

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NOTES

REPAIR LOCATIONS AND ESTIMATE OF 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.

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

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

AS-BUILT REPAIR QUANTITY TABLE

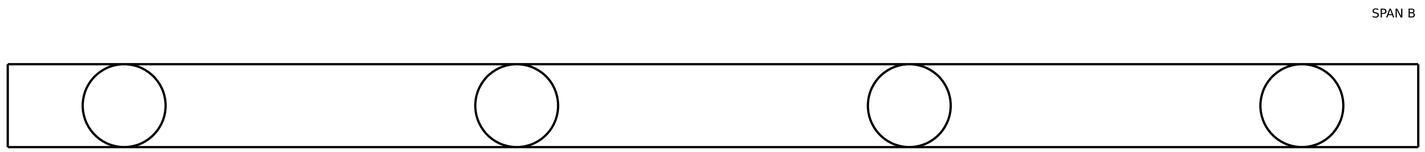
END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CURTAIN WALL		0.0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

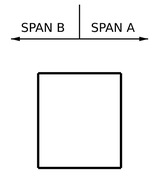
CONCRETE REPAIR AREA

SHOTCRETE REPAIR AREA

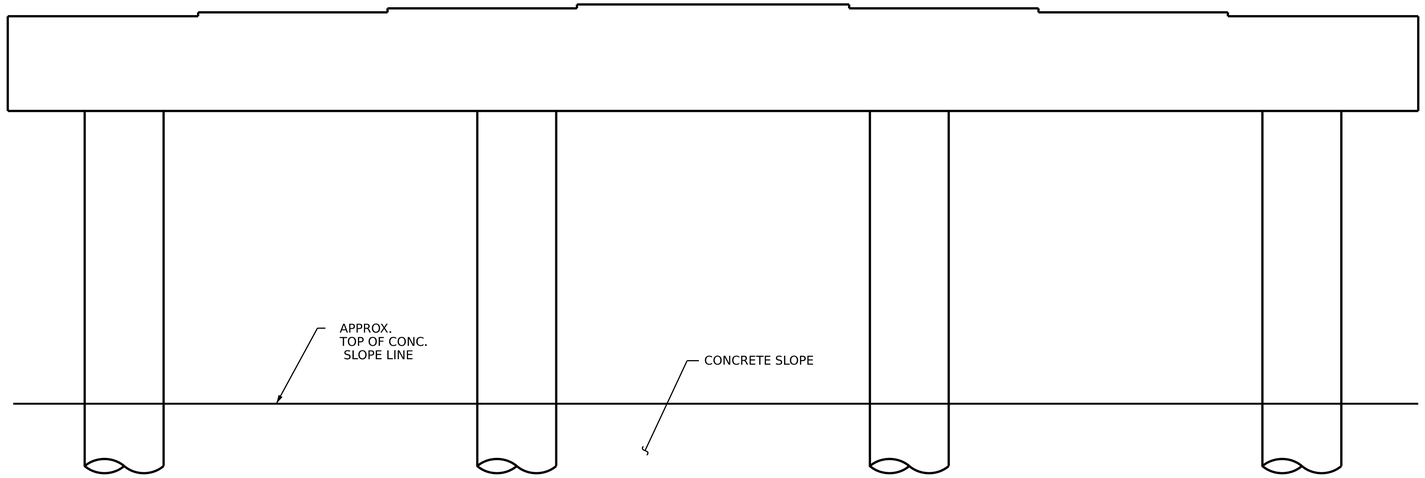
EPOXY RESIN INJECTION (ERI)



PLAN - BOTTOM OF CAP



END VIEW



ELEVATION - SPAN B VIEW

BENT 1

07/25/2022

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

Krishna P. Sedai

EA6F794150BF4B7...

PROJECT NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280174

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE REPAIR BENT 1 SPAN B FACE

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

SHEET NO. S10-11

TOTAL SHEETS 12

DRAWN BY : C. RUIZ DATE : 02/2022

CHECKED BY : K. PUROHIT DATE : 04/2022

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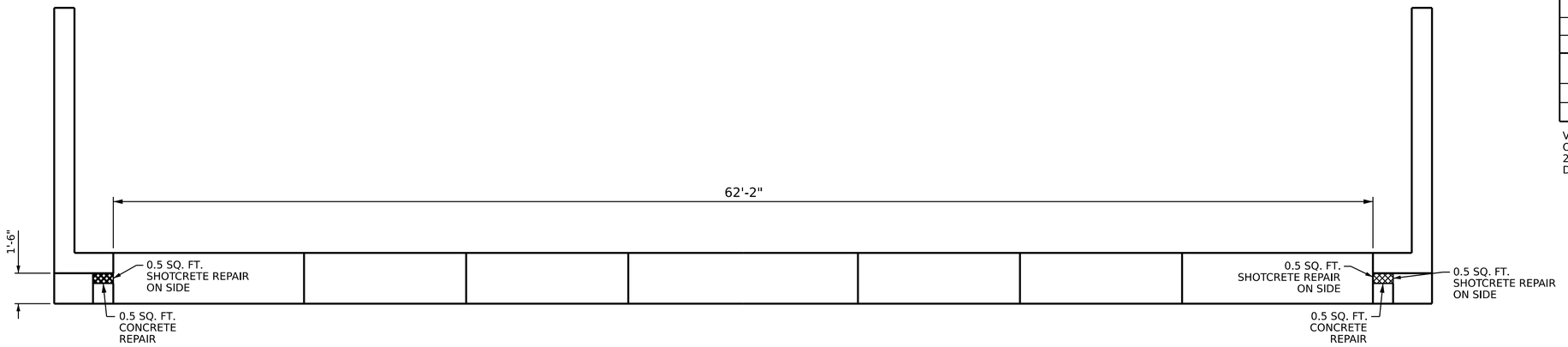
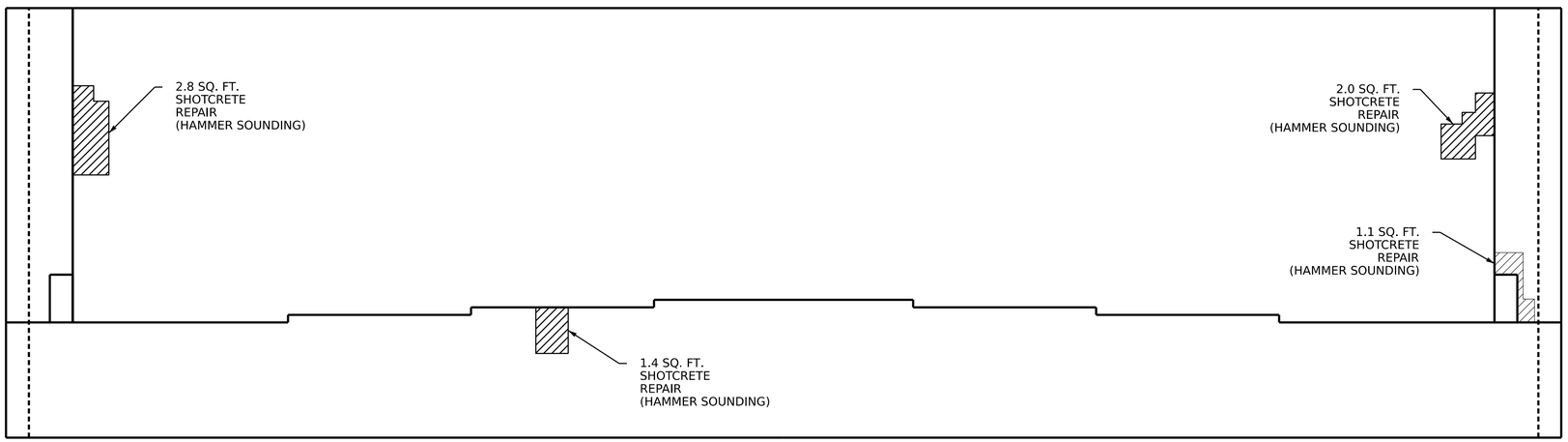


PLAN



ELEVATION

END BENT 2

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	2.9	1.5		
CURTAIN WALL	5.9	3.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	1.0	0.5		
EPOXY RESIN INJECTION		LIN. FT.	LIN. FT.	
CURTAIN WALL		0.0		
CAP		0.0		
EPOXY COATING		SQ. FT.	SQ. FT.	
TOP OF BENT CAP		93.3		
CURTAIN WALL		375.6		

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 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.

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

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR CAP AND COLUMN REPAIRS, SEE " TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

CONCRETE REPAIR AREA

SHOTCRETE REPAIR AREA

EPOXY RESIN INJECTION (ERI)

PROJECT NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280174

07/25/2022

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

Kirishna P. Sedai

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE REPAIR END BENT 2

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S10-12
1			3			TOTAL SHEETS
2			4			12

DRAWN BY : CRUIZ DATE : 02/2022
CHECKED BY : K. PUROHIT DATE : 04/2022

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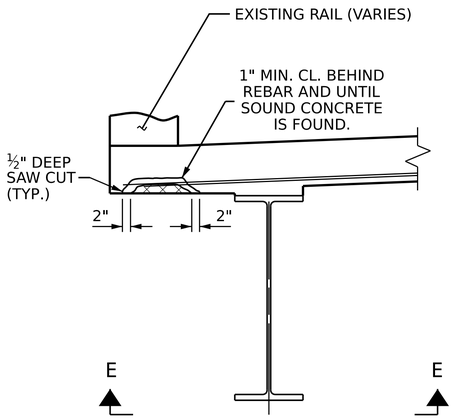
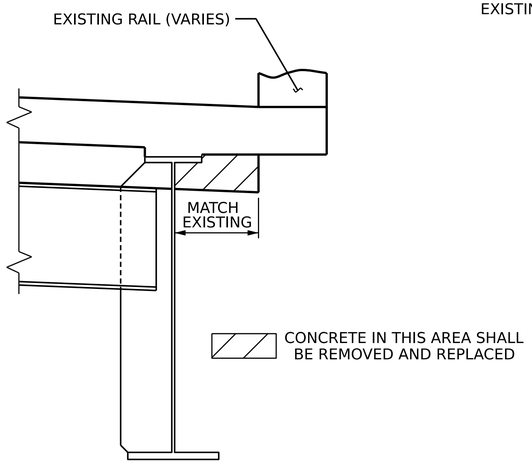
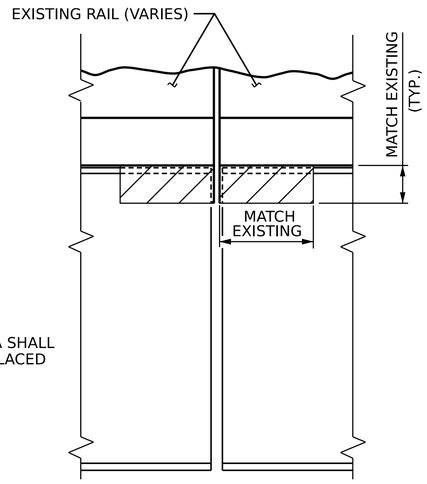


TYPICAL SECTION

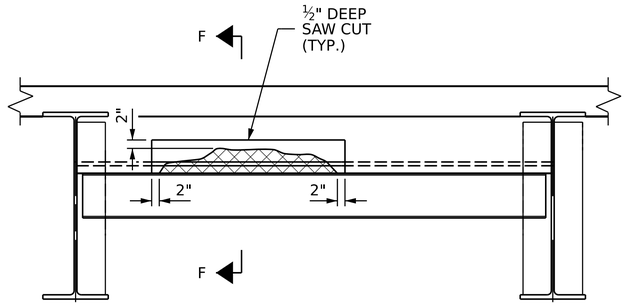


TYPICAL SECTION

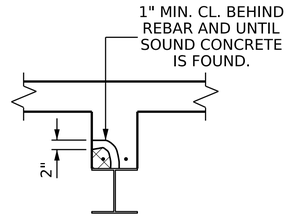


SECTION D-D

OVERHANGE DIAPHRAGM REPLACEMENT DETAILS



TYPICAL SECTION

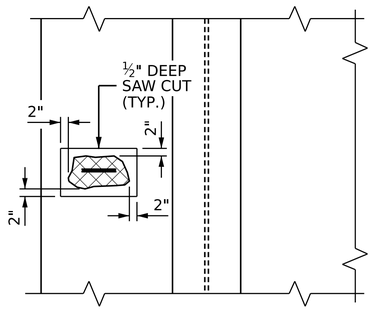


SECTION F-F

DAMAGED AREA

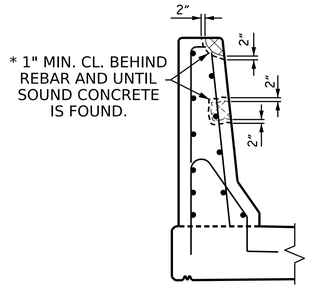
INTERIOR DIAPHRAGM REPAIR DETAILS

DAMAGED AREA

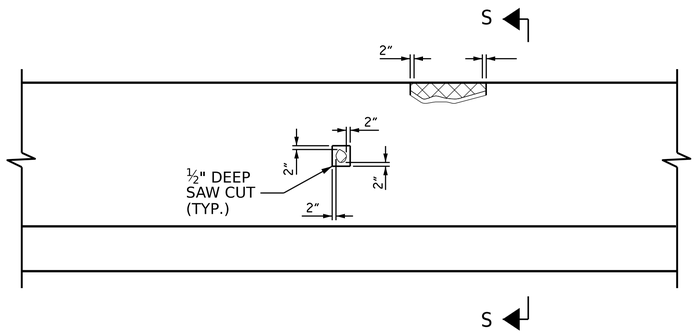


SECTION E-E

OVERHANGE DETAILS



SECTION S-S



BRIDGE RAIL AND CURB REPAIR DETAILS

PROJECT NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280092, 280137, 280146
280147, 280152, 280154,
280157, 280170, 280171, 280174

07/25/2022

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

Krishna P. Sedai

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS

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

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DRAWN BY : E. BAYISSA 05/2022
CHECKED BY : A. SORSENGINH DATE : 05/2022

7/25/2022
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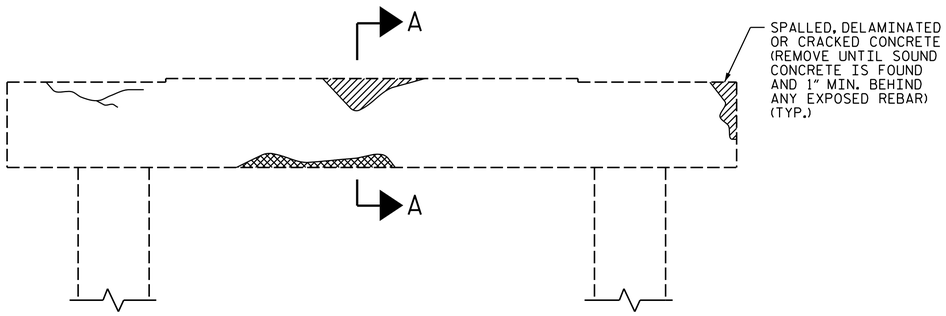
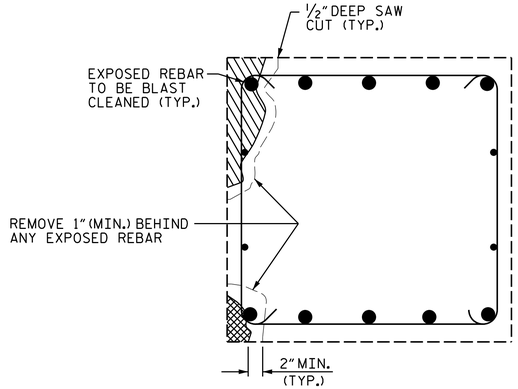
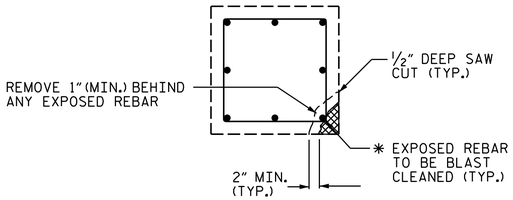


BENT CAP REPAIRS



SECTION A-A

CAP REPAIR



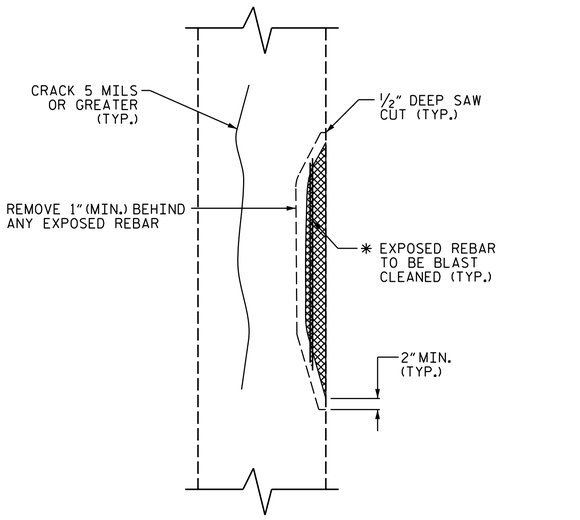
PLAN OF COLUMN

REPAIR KEY

CONCRETE REPAIR AREA (FORM AND POUR)

SHOTCRETE REPAIR AREA

EPOXY RESIN INJECTION (ERI)

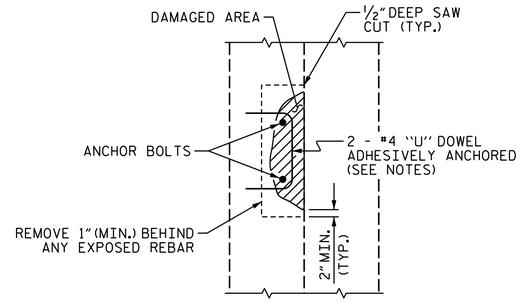


* REPAIR LENGTH SHALL NOT EXCEED 10 FEET.

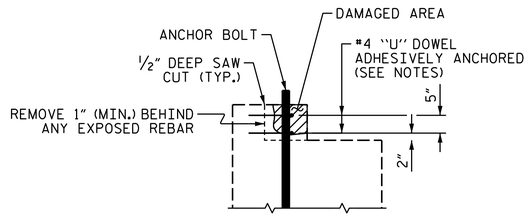
ELEVATION OF COLUMN

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"



PLAN



ELEVATION

PEDESTAL WALL REPAIR

NOTES

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

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

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

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

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

SIMULTANEOUS REMOVAL OF UNSOUND CONCRETE MAY BE PERMITTED ON MORE THAN ONE FACE OF A CAP AND/OR COLUMN, IF THE AREAS OF REMOVAL ARE NOT ADJACENT TO OR DIRECTLY OPPOSITE ONE ANOTHER. IF REMOVAL EXTENDS MORE THAN 1½" 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.

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

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

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

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

PROJ. NO. I-5950

DAVIDSON COUNTY

BRIDGE NO. 280092, 280137, 280146, 280152 280154, 280157, 280170, 280171, 280174

07/25/2022

NORTH CAROLINA PROFESSIONAL SEAL 031583 ENGINEER KRISHNA PRASAD SEDAI

Krishna P. Sedai

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
TYPICAL CAP AND COLUMN REPAIR DETAILS

ASSEMBLED BY : E. BAYISSA	DATE : 05/2022
CHECKED BY : A. SORSENGINH	DATE : 05/2022
DRAWN BY : NAP 8/18	
CHECKED BY :	

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1			3			TOTAL SHEETS
2			4			2

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STANDARD NOTES

DESIGN DATA:

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

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

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

CONCRETE:

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

CONCRETE CHAMFERS:

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

DOWELS:

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

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

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

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

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

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

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

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

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

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

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

SPECIAL NOTES:

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

ENGLISH

JANUARY, 1990

STD. NO. SN

REV. 6-16-95 EEM (/) RGW
REV. 8-16-99 RWW (/) LES
REV. 5-7-03 RWW (/) JTE
REV. 5-1-06 TLA (/) GM
REV. 10-1-11 MAA (/) GM
REV. 12-17 MAA (/) THC

8/3/2022
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