

8/17/99

I-77 NBL /SBL FROM MM 99  
TO MM 101.3 (I-74)



I-5830  
I-77 FROM MM 99 TO MM 101.3 (I-74)  
NORTH AND SOUTH BOUND LANES  
IN SURRY COUNTY

DIVISION II

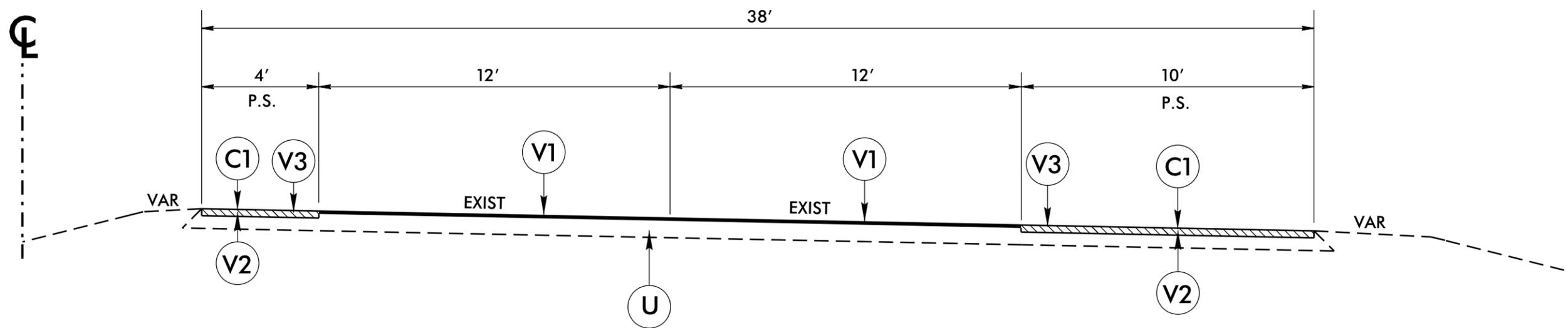
REVISIONS	INIT.	DATE

N.C. DEPARTMENT of TRANSPORTATION  
DIVISION of HIGHWAYS  
DIVISION ELEVEN

SCALE: N/A    DATE: 06/2017

PREPARED BY: R.A. SHAW  
REVIEWED BY: J.L. LAWS  
REVIEWED BY:

8/17/99



# TYPICAL SECTION NO. 1

I-77 NBL /SBL FROM MM 99 TO MM 101.3 (I-74)

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. (MILL AND FILL)
U	EXISTING PAVEMENT
V1	DIAMOND GRINDING PCC PAVEMENT
V2	MILLING OF EXISTING ASPHALT PAVEMENT AT DEPTH OF 1 1/2"
V3	MILLED RUMBLE STRIPS

I-5830  
I-77 FROM MM 99 TO MM 101.3 (I-74)  
NORTH AND SOUTH BOUND LANES  
IN SURRY COUNTY

DIVISION II

REVISIONS	INIT.	DATE

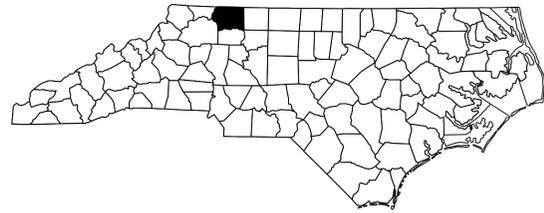
N.C. DEPARTMENT of TRANSPORTATION  
DIVISION of HIGHWAYS  
DIVISION ELEVEN

SCALE: N/A    DATE: 06/2017

PREPARED BY: R.A. SHAW  
REVIEWED BY: J.L. LAWS  
REVIEWED BY:

PROJECT: I-5830

CONTRACT: DK00214



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**SURRY COUNTY**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5830	1	
WBS NO.	F.A. PROJ. NO.	DESCRIPTION	
53036.1.1	NHPIM-0077(12)	P.E.	
53036.3.1	NHPIM-0077(12)	CONST.	

LOCATION:

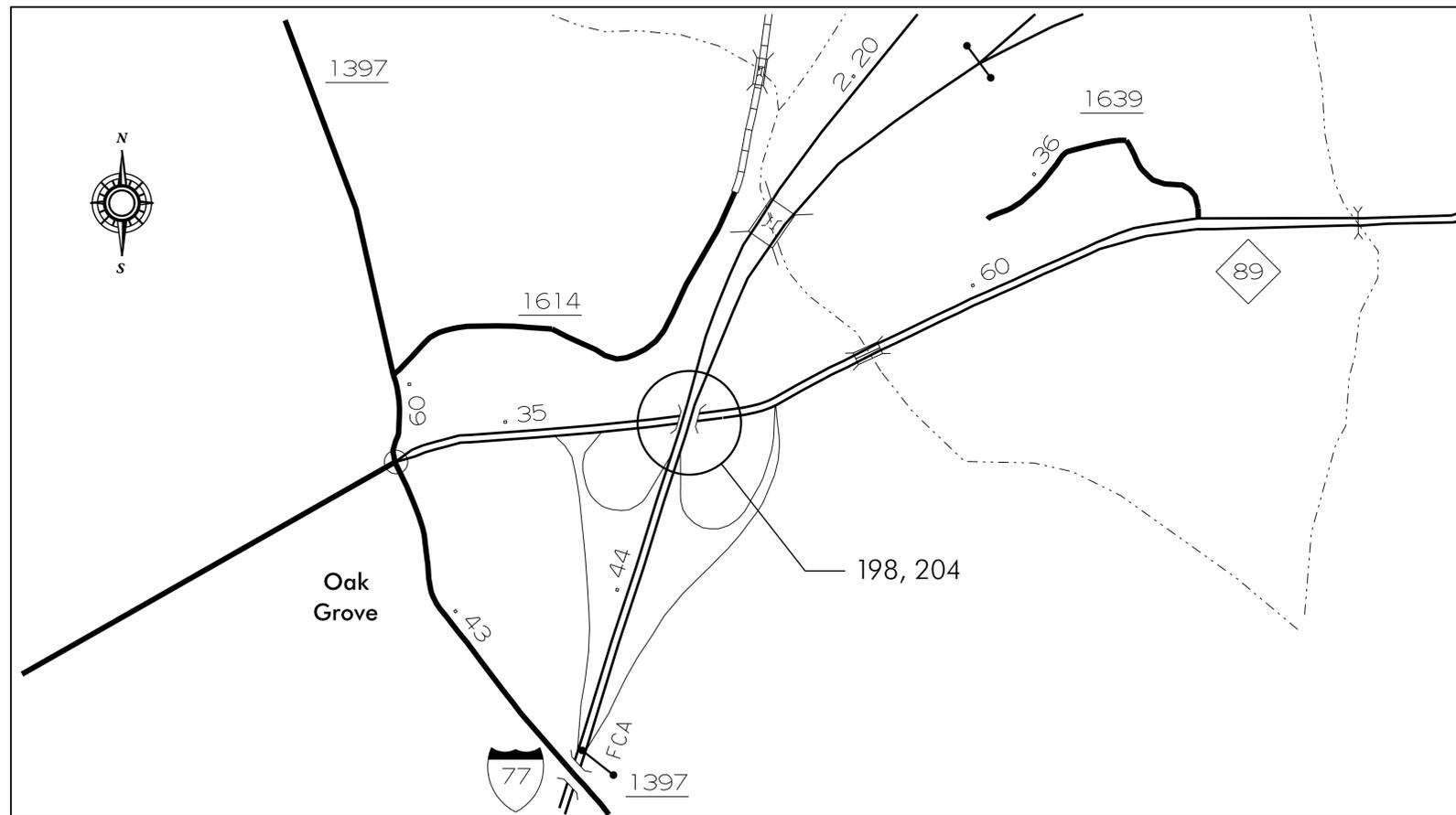
SURRY COUNTY:

BRIDGE #198 ON INTERSTATE 77 NORTHBOUND OVER NC 89

BRIDGE #204 ON INTERSTATE 77 SOUTHBOUND OVER NC 89

TYPE OF WORK:

BRIDGE PRESERVATION - POLYESTER POLYMER CONCRETE OVERLAY,  
DECK REPAIR, JOINT REPLACEMENT AND SUBSTRUCTURE REPAIR



VICINITY MAP - SURRY CO.



DESIGN DATA

SURRY COUNTY  
#198 ADT 1993 = 15,200  
#204 ADT 1993 = 15,200

PROJECT LENGTH

SURRY COUNTY  
#198 = 0.055 MILE  
#204 = 0.055 MILE

Prepared in the Office of:  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
STRUCTURES MANAGEMENT UNIT - PRESERVATION & REPAIR GROUP  
1000 BIRCH RIDGE DR. RALEIGH, N.C. 27610

**A. KEITH PASCHAL, P.E.**  
PROJECT ENGINEER

2012 STANDARD SPECIFICATIONS

LETTING DATE:  
JULY 20, 2017

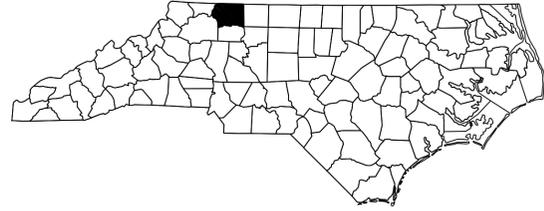


DocuSigned by:  
Amber M. Lee  
6/20/2017 6/20/2017

**AMBER M. LEE**  
PROJECT DESIGN ENGINEER

**PROJECT: I-5830**

**CONTRACT: DK00214**



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**SURRY COUNTY**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5830	1A	
WB NO.	F.A. PROJ. NO.	DESCRIPTION	
53036.1.1	NHPIM-0077(12)	P.E.	
53036.3.1	NHPIM-0077(12)	CONST.	

**LOCATION:** **SURRY COUNTY:**  
*BRIDGE #198 ON INTERSTATE 77 NORTHBOUND OVER NC 89*  
*BRIDGE #204 ON INTERSTATE 77 SOUTHBOUND OVER NC 89*

**TYPE OF WORK:** *BRIDGE PRESERVATION - POLYESTER POLYMER CONCRETE OVERLAY,  
DECK REPAIR, JOINT REPLACEMENT AND SUBSTRUCTURE REPAIR*

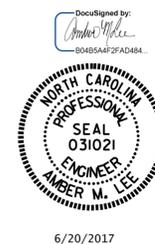
**INDEX OF SHEETS**

<i>I</i>	<i>TITLE SHEET</i>
<i>1A</i>	<i>INDEX OF SHEETS</i>
<i>S-1</i>	<i>TOTAL BILL OF MATERIAL</i>
<i>S-2 THRU S-10</i>	<i>STRUCTURAL PLANS - BRIDGE NO. 198</i>
<i>S-11 THRU S-19</i>	<i>STRUCTURAL PLANS - BRIDGE NO. 204</i>
<i>S-20</i>	<i>OVERHANG &amp; DIAPHRAGM REPAIR DETAILS</i>
<i>S-21</i>	<i>TYPICAL CAP, PEDESTAL AND COLUMN REPAIR DETAILS</i>
<i>S-22</i>	<i>JACKING DETAILS</i>
<i>SN</i>	<i>STANDARD NOTES</i>

TOTAL BILL OF MATERIAL													
BRIDGE NO.	GROOVING BRIDGE FLOORS	CLASS II. SURFACE PREPARATION	◆ CONCRETE REPAIRS	SHOTCRETE REPAIRS	EPOXY RESIN INJECTION	FOAM JOINT SEALS	POLYESTER POLYMER CONCRETE MATERIALS	CONCRETE FOR DECK REPAIR	EPOXY COATING	PLACING & FINISHING PPC OVERLAY	SCARIFYING BRIDGE DECK	SHOTBLASTING BRIDGE DECK	BRIDGE JACKING
	SO. FT.	SO. YDS.	CU. FT.	CU. FT.	LIN. FT.	LUMP SUM	CU. YD.	CU. FT.	SO. FT.	SO. YDS.	SO. YDS.	SO. YDS.	EA.
198	11,165	0.3	79.0	118.4	13.0	LUMP SUM	37.0	1.4	704.2	1,339	1,339	1,339	8
204	9,995	2.6	91.5	76.3	13.0	LUMP SUM	33.3	11.7	554.4	1,200	1,200	1,200	7
TOTAL	21,160	2.9	170.5	194.7	26.0	LUMP SUM	70.3	13.1	1258.6	2,539	2,539	2,539	15

◆ QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

PROJECT NO. I-5830  
SURRY COUNTY  
BRIDGE NO. 198, 204



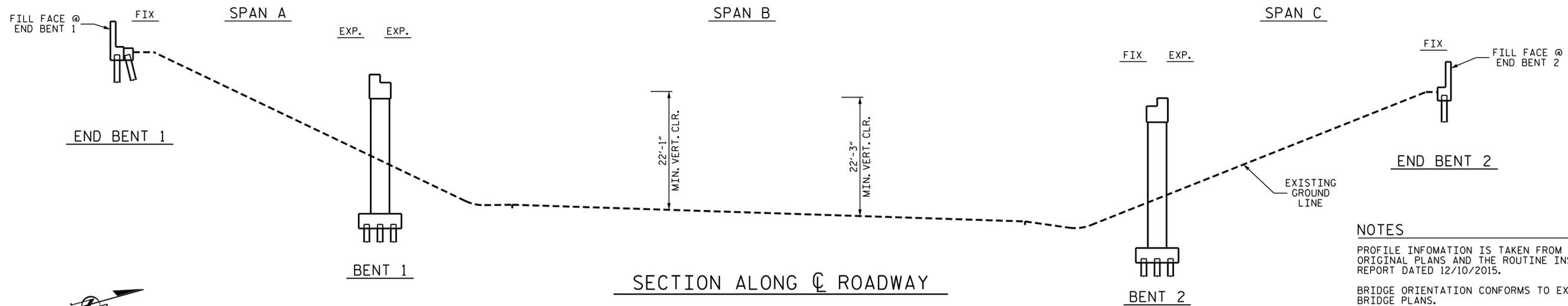
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**TOTAL BILL OF MATERIAL**

DRAWN BY : A. SORSENGINH DATE : 4/2017  
CHECKED BY : A. M. LEE DATE : 6/2017

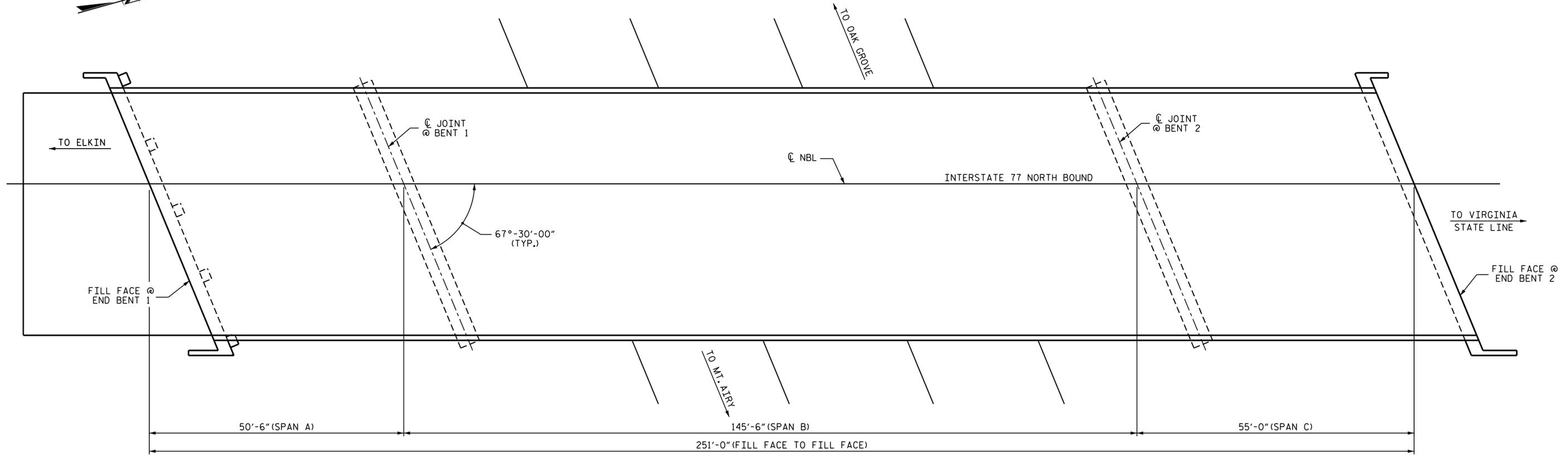
DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

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



**NOTES**  
 PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 12/10/2015.  
 BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

**SECTION ALONG  $\phi$  ROADWAY**



**PLAN**

PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE NO. 198

SHEET 1 OF 2

**SCOPE OF WORK**

- EPOXY INJECT CONCRETE CRACKS.
- PERFORM CONCRETE REPAIRS IN PREPARED AREAS.
- REMOVE DEBRIS FROM TOP OF BENT CAPS AND APPLY EPOXY COATING.
- PARTIALLY REMOVE BRIDGE DECK CONCRETE USING SCARIFICATION.
- REPAIR CONCRETE DECK AREAS.
- PREPARE CONCRETE DECK SURFACE BY SHOTBLASTING.
- OVERLAY PREPARED BRIDGE DECK WITH POLYESTER POLYMER CONCRETE OVERLAY SYSTEM.
- PREPARE BRIDGE JOINTS AND INSTALL JOINT SEALS.

I HEREBY CERTIFY THAT THIS STRUCTURE WAS REHABILITATED ACCORDING TO THESE PLANS OR AS NOTED HEREIN.  
 \_\_\_\_\_  
 RESIDENT ENGINEER DATE



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**GENERAL DRAWING  
 FOR BRIDGE ON I-77 NBL  
 OVER NC 89**

DRAWN BY : A. SORSENGINH DATE : 4/2017  
 CHECKED BY : A. M. LEE DATE : 6/2017

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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



**LOCATION SKETCH**

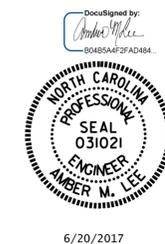
INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAYS, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

**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.
- 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 REPAIR OF BRIDGE DECKS.
- LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.
- AT LOCATIONS INDICATED ON THE PLANS OR AS DETERMINED BY THE ENGINEER, EXISTING BRIDGE CONCRETE DECK SHALL BE REPAIRED AFTER SCARIFICATION, BUT PRIOR TO SHOTBLASTING AND APPLICATION OF POLYESTER POLYMER CONCRETE (PPC) OVERLAY, UNLESS OTHERWISE PERMITTED, REPAIRS SHALL BE COMPLETED WITH PPC.
- FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE SPECIAL PROVISION.
- FOR CONCRETE DECK REPAIR FOR PPC OVERLAY, PPC MATERIALS, AND PLACING AND FINISHING PPC OVERLAY SEE POLYESTER POLYMER CONCRETE BRIDGE DECK OVERLAY SPECIAL PROVISION.
- FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
- FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR EPOXY COATING, SEE EPOXY COATING AND DEBRIS REMOVAL SPECIAL PROVISION.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE NO. 198

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 GENERAL DRAWING  
 FOR BRIDGE ON I-77 NBL  
 OVER NC 89

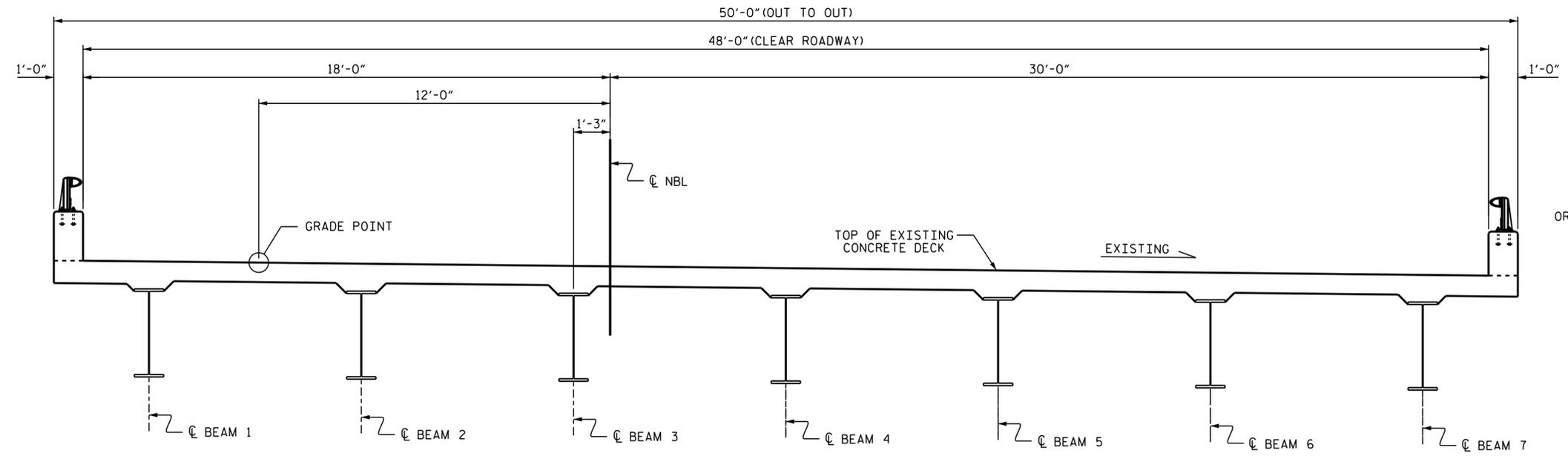
DRAWN BY : A. SORSENGINH DATE : 4/2017  
 CHECKED BY : A. M. LEE DATE : 6/2017

DOCUMENT NOT CONSIDERED  
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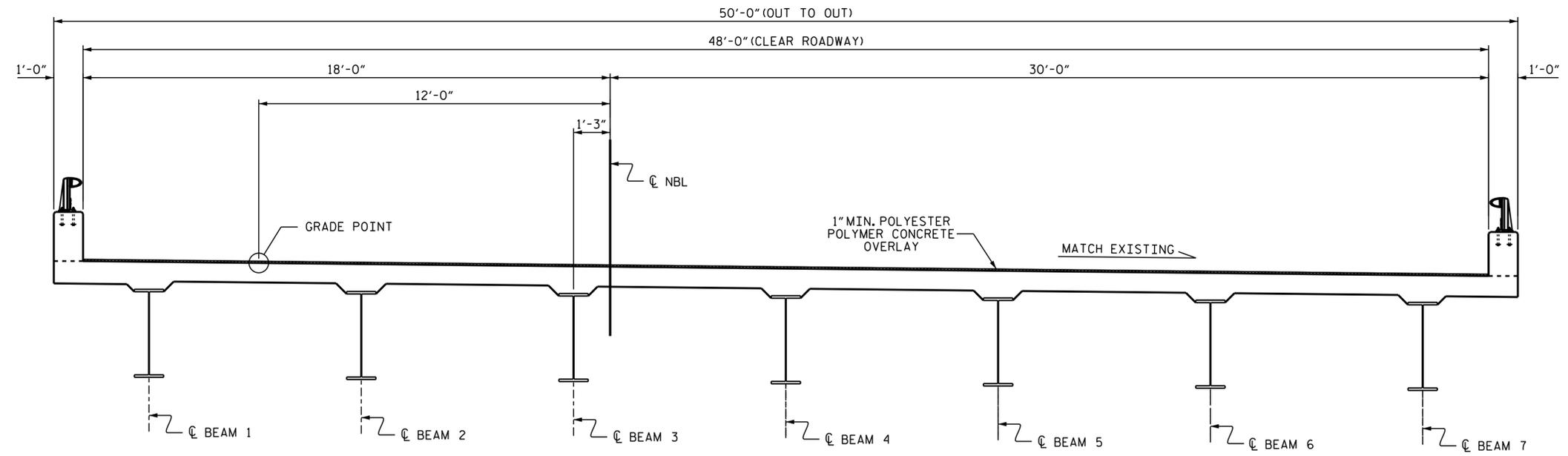
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1			3			TOTAL SHEETS
2			4			22

**NOTE:**

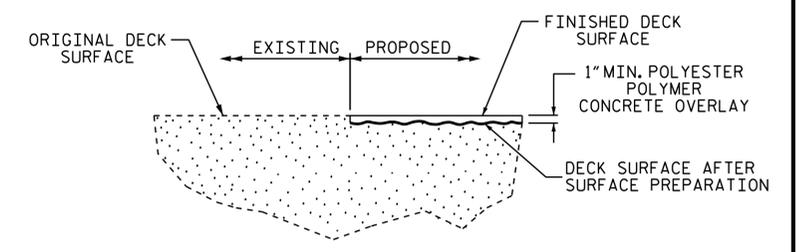
SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF POLYESTER POLYMER CONCRETE OVERLAY SYSTEM AND SURFACE PREPARATION.



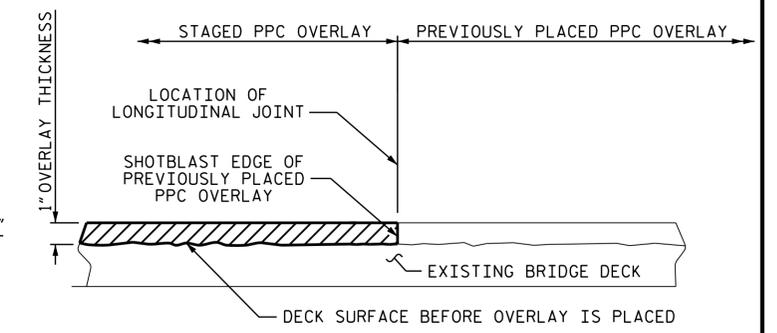
**TYPICAL SECTION**  
(EXISTING)



**TYPICAL SECTION**  
(PROPOSED)



**DETAIL OF POLYESTER POLYMER CONCRETE OVERLAY**



**STAGED PPC OVERLAY JOINT**  
(AS NEEDED)

PROJECT NO. I-5830  
SURRY COUNTY  
BRIDGE NO. 198



6/20/2017

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**TYPICAL SECTION & PPC OVERLAY DETAILS**

DRAWN BY : A. SORSENGINH DATE : 4/2017  
CHECKED BY : A. M. LEE DATE : 6/2017

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			22

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	1,339 SY	
CLASS II SURFACE PREPARATION	0.3 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.3 SY	
SHOTBLASTING BRIDGE DECK	1,339 SY	
PPC MATERIALS	37.0 CY	
PLACING AND FINISHING PPC OVERLAY	1,339 SY	
GROOVING BRIDGE FLOORS	11,165 SF	
EPOXY RESIN INJECTION	0.0 LF	

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

**NOTES:**

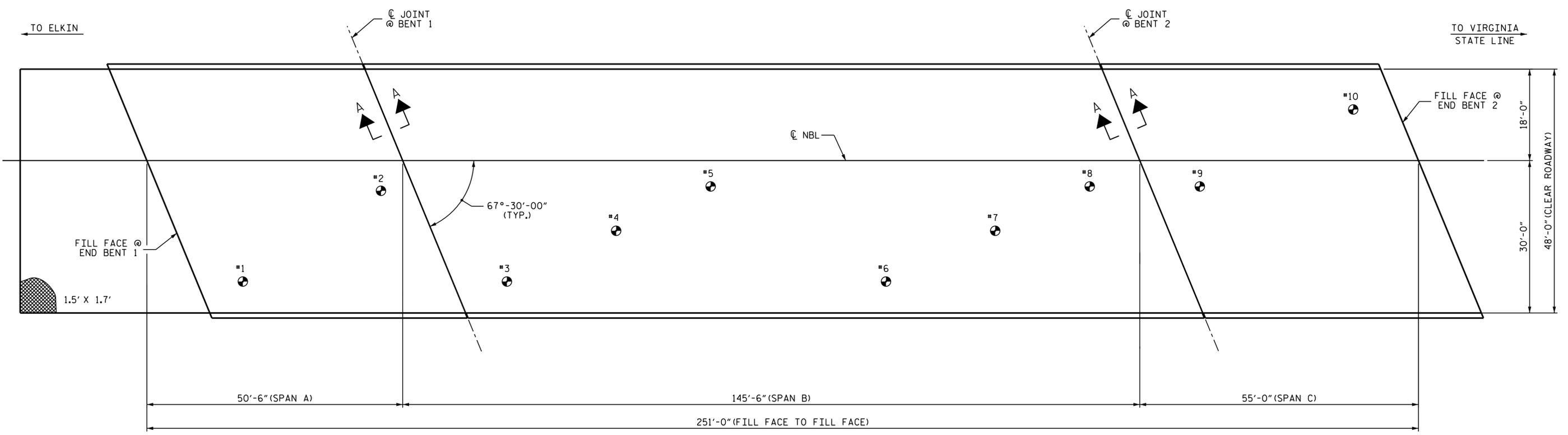
REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES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

FOR SECTION A-A, SEE "JOINT DETAILS" SHEET.

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

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

-  APPROX. CLASS II SURFACE PREPARATION
-  EPOXY RESIN INJECTION (ERI)
-  #1 TEST LOCATION



**PLAN**

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#1	2 3/4"	6,200
#2	2 7/8"	7,110
#3	2 3/8"	4,930
#4	2 1/8"	5,650
#5	2 5/8"	4,760
#6	2 5/8"	4,560
#7	2 1/2"	4,560
#8	2 1/2"	6,050
#9	2 5/8"	5,610
#10	2 5/8"	6,020

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 5/8/2017.

PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE NO. 198



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**PLAN OF SPANS AND APPROACH SLAB**

DRAWN BY : A. SORSENGINH DATE : 4/2017  
 CHECKED BY : A. M. LEE DATE : 6/2017

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			22

AS-BUILT REPAIR QUANTITY TABLE				
UNDERSIDE OF DECK REPAIRS				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	8.8	4.4		
UNDERSIDE OF OVERHANG	5.0	2.5		
INTERIOR DIAPHRAGMS	18.7	9.4		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			

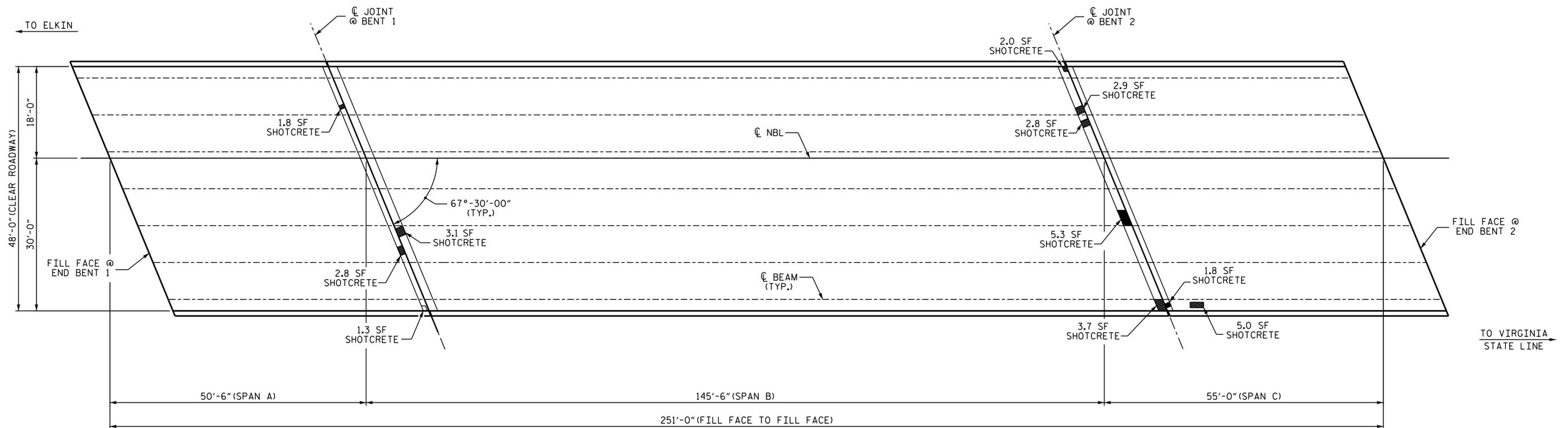
VALUES REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEAR TO SAWCUT. SEE REPAIR DETAILS.

**NOTES:**

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

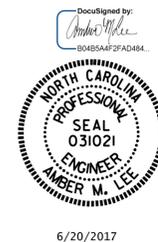
FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE "OVERHANG AND DIAPHRAGM REPAIRS DETAILS" SHEET.

-  UNDERSIDE EPOXY COATING
-  UNDERSIDE REPAIR
-  DIAPHRAGM REPAIR
- ERI EPOXY RESIN INJECTION



PLAN

PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE NO. 198



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

PLAN OF SPANS

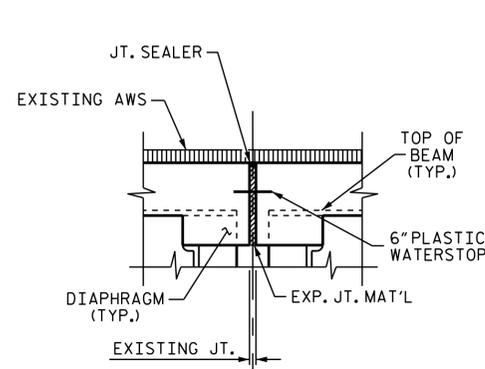
DRAWN BY : A. SORSENGINH DATE : 4/2017  
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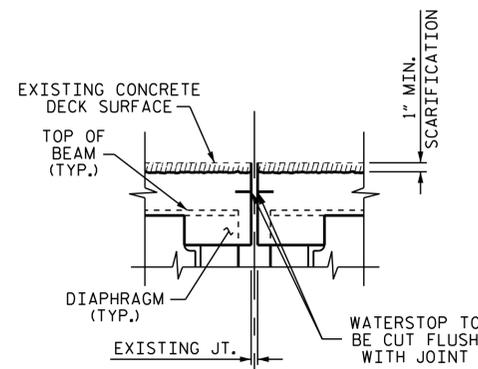
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1			3			TOTAL SHEETS
2			4			22

**NOTES**

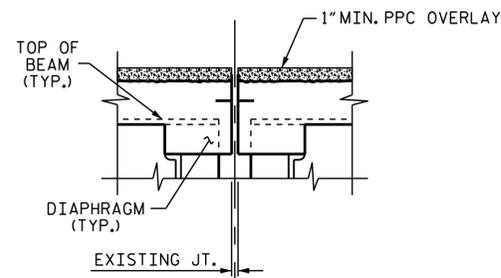
FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.  
 THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.  
 NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL AT BENT 1 SHALL BE 3" AND AT BENT 2 SHALL BE 2".



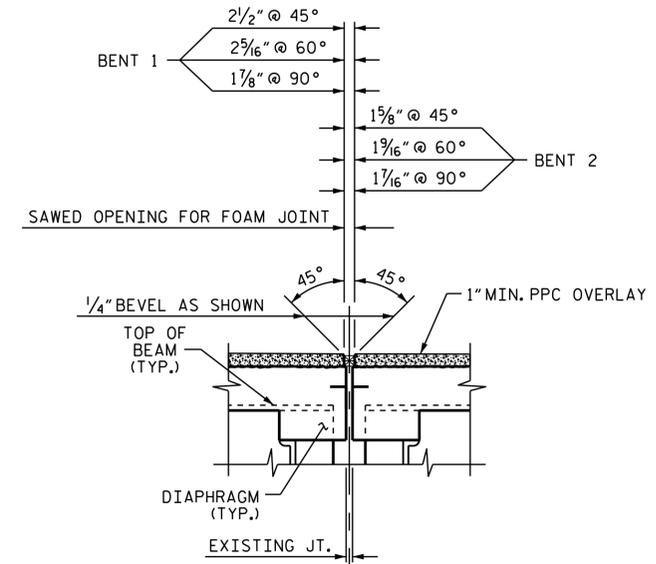
EXISTING JOINT



EXISTING JOINT AFTER DECK SCARIFICATION

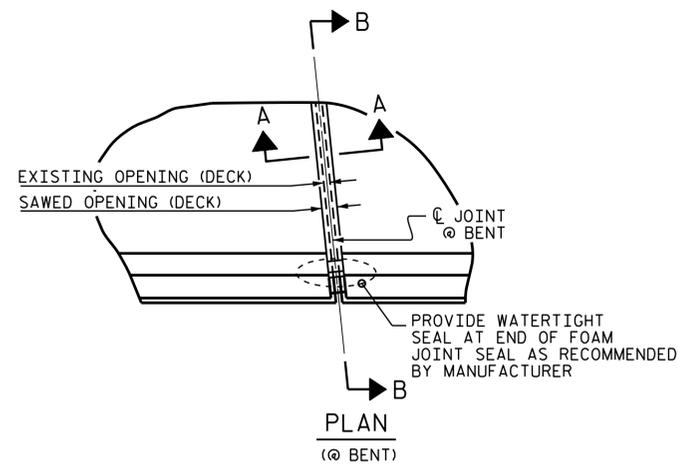


PROPOSED JOINT PRE-SAWED

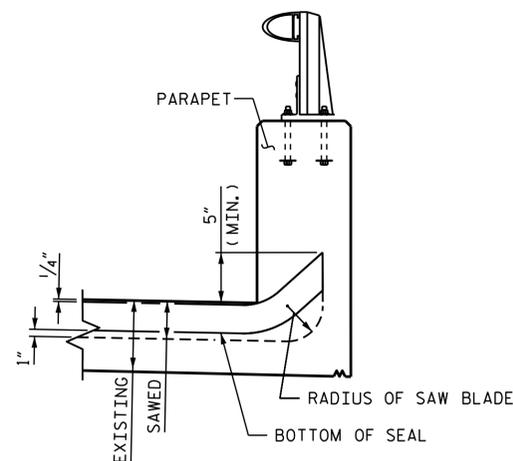


PROPOSED FOAM JOINT SEAL

SECTION A-A

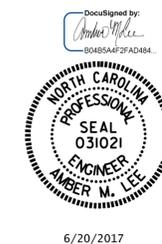


PLAN  
(@ BENT)



SECTION B-B

PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE NO. 198



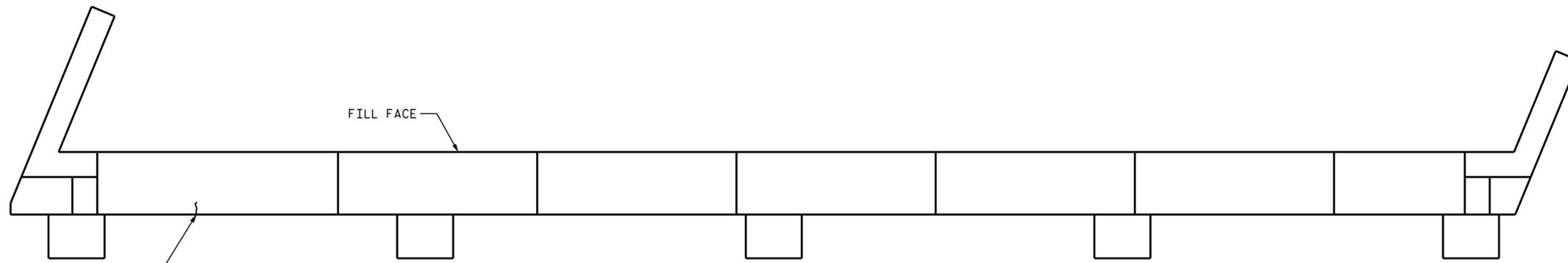
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**JOINT DETAILS**

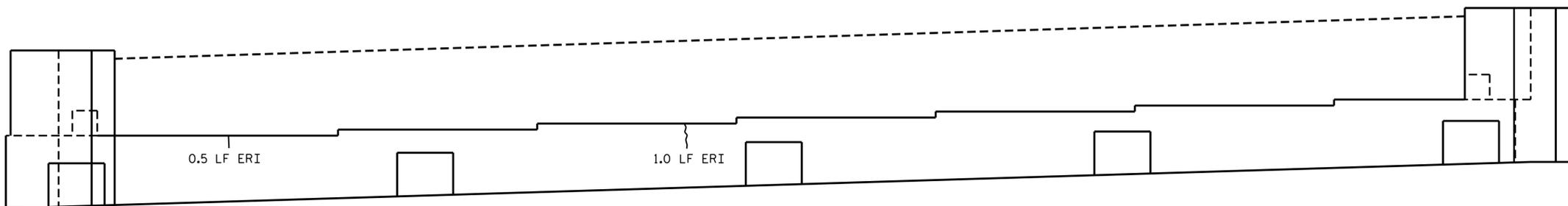
DRAWN BY : A. SORSENGINH DATE : 4/2017  
 CHECKED BY : A. M. LEE DATE : 6/2017

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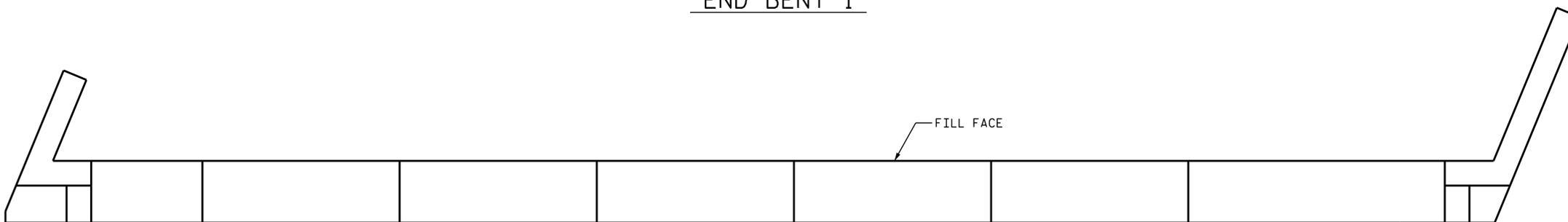
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			22



PLAN



ELEVATION  
END BENT 1



PLAN



ELEVATION  
END BENT 2

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

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	2.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF END BENT CAP	110.6			
CURTAIN WALL	156.7			

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		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CURTAIN WALL	1.0			
CAP	2.5			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF END BENT CAP	90.9			
CURTAIN WALL	0.0			

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 WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

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

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING 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.

PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE: 198



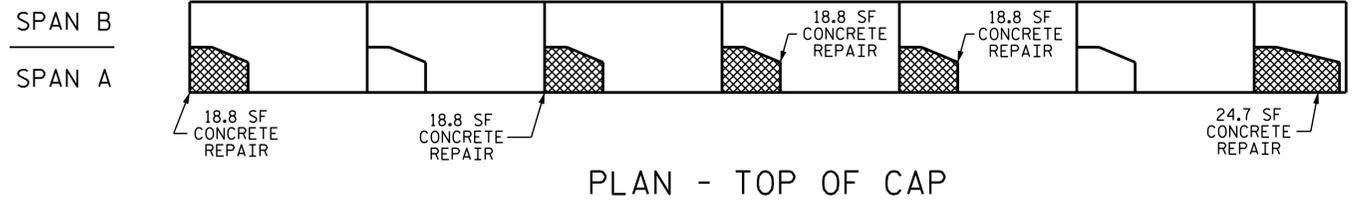
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

END BENTS 1 & 2

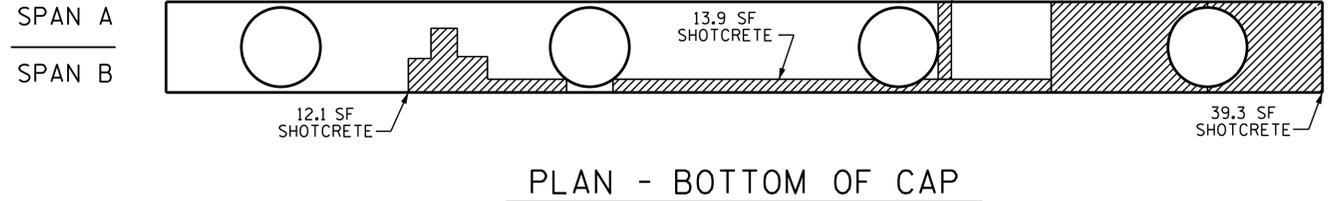
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 CHECKED BY : A. M. LEE DATE : 6/2017

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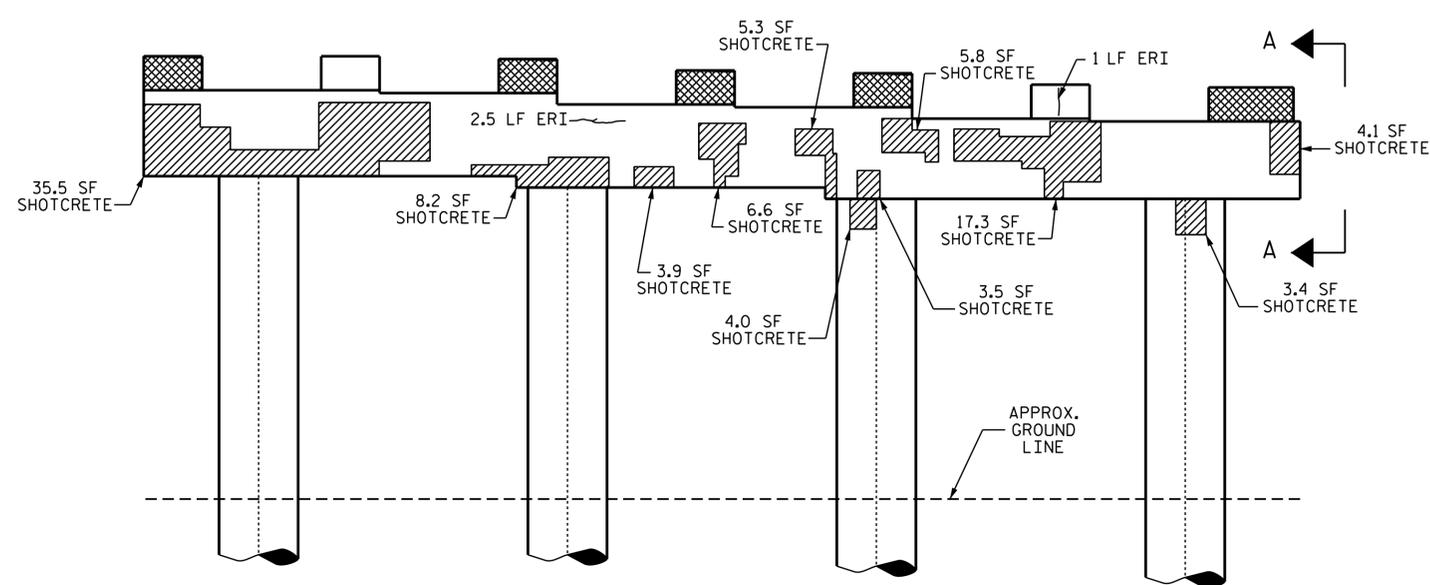
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			22



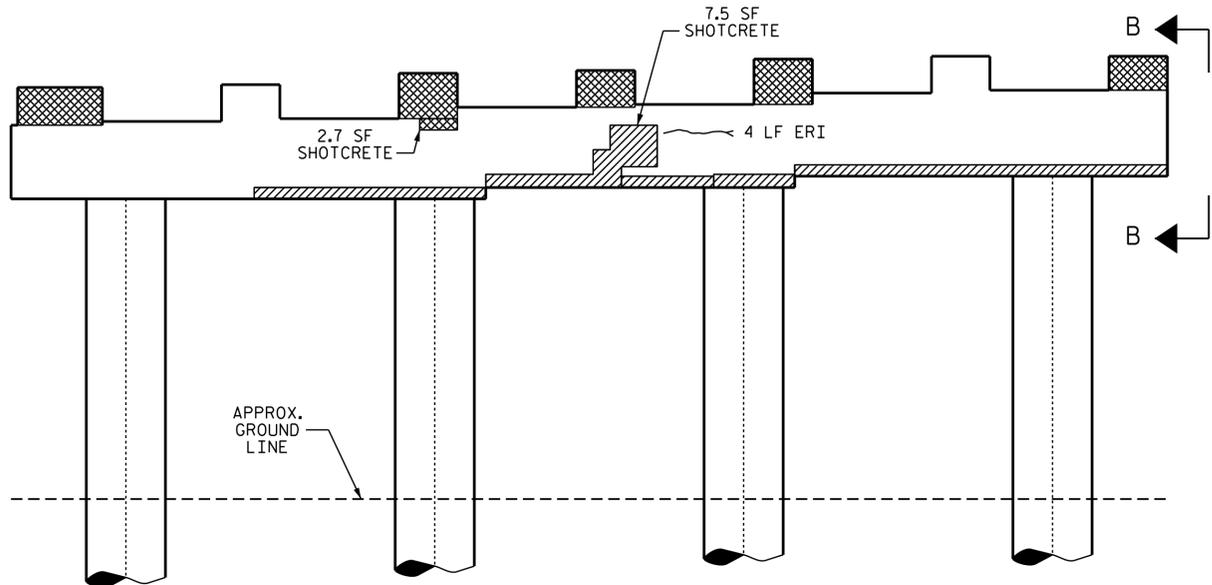
PLAN - TOP OF CAP



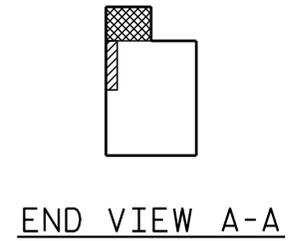
PLAN - BOTTOM OF CAP



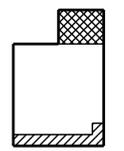
SPAN A VIEW - ELEVATION



SPAN B VIEW - ELEVATION



END VIEW A-A



END VIEW B-B

AS-BUILT REPAIR QUANTITY TABLE				
BENT 1 REPAIRS	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	168.6	84.3		
COLUMN	7.4	3.7		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	99.9	50.0		
EPOXY RESIN INJECTION		LN. FT.		LN. FT.
CAP		7.5		
COLUMN		0.0		
EPOXY COATING		SO. FT.		SO. FT.
TOP OF BENT CAP		173		

SHOTCRETE AREA  
 CONCRETE AREA  
 ERI - EPOXY RESIN INJECTION

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

**NOTES:**  
 REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.  
 CLEAN AND REMOVE DEBRIS FROM TOP OF CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP FACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.  
 FOR REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN AND PEDESTAL REPAIR DETAILS" SHEET.  
 FOR BRIDGE JACKING DETAILS, SEE "JACKING DETAILS" SHEET.



PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE NO. 198

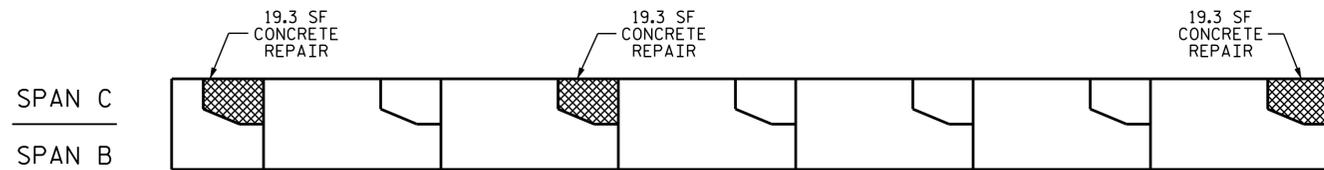
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1**

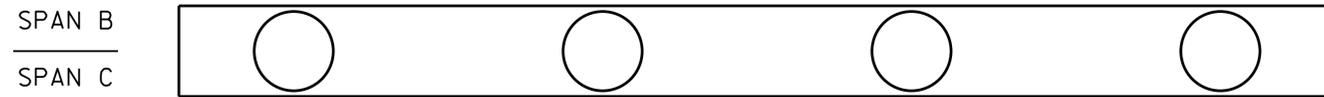
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 CHECKED BY : A. M. LEE DATE : 6/2017

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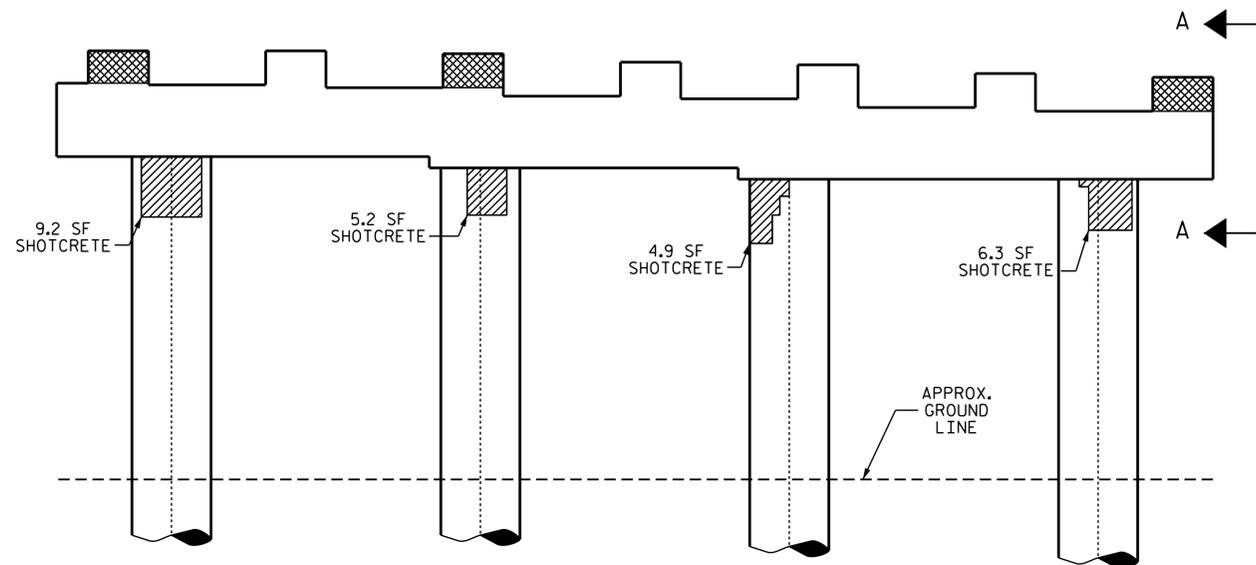
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS 22
2			4			



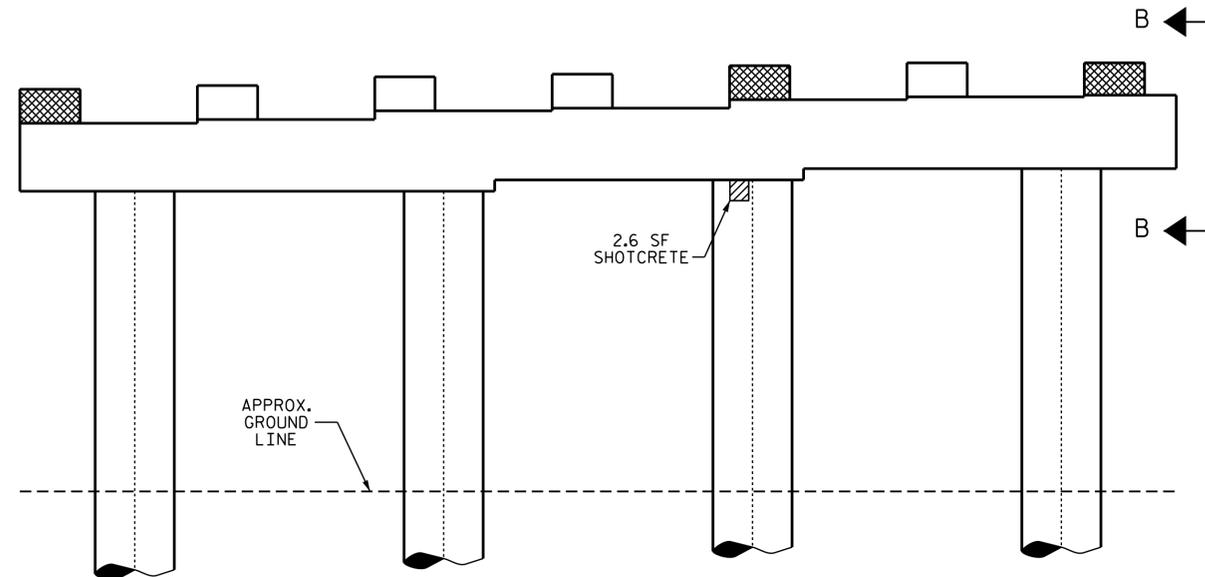
PLAN - TOP OF CAP



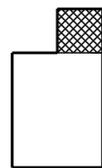
PLAN - BOTTOM OF CAP



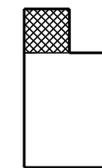
SPAN B VIEW - ELEVATION



SPAN C VIEW - ELEVATION



END VIEW A-A



END VIEW B-B

AS-BUILT REPAIR QUANTITY TABLE				
BENT 2 REPAIRS	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	28.2	14.1		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	57.9	29.0		
EPOXY RESIN INJECTION		LN. FT.		LN. FT.
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		173		

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

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

**NOTES:**

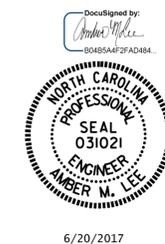
REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES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

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

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

FOR BRIDGE JACKING DETAILS, SEE "JACKING DETAILS" SHEET.

PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE NO. 198



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 2**

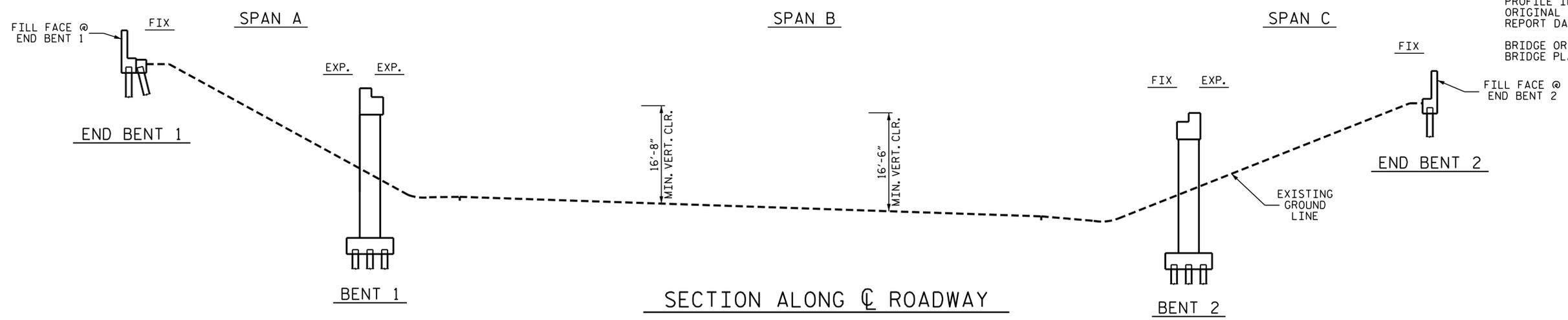
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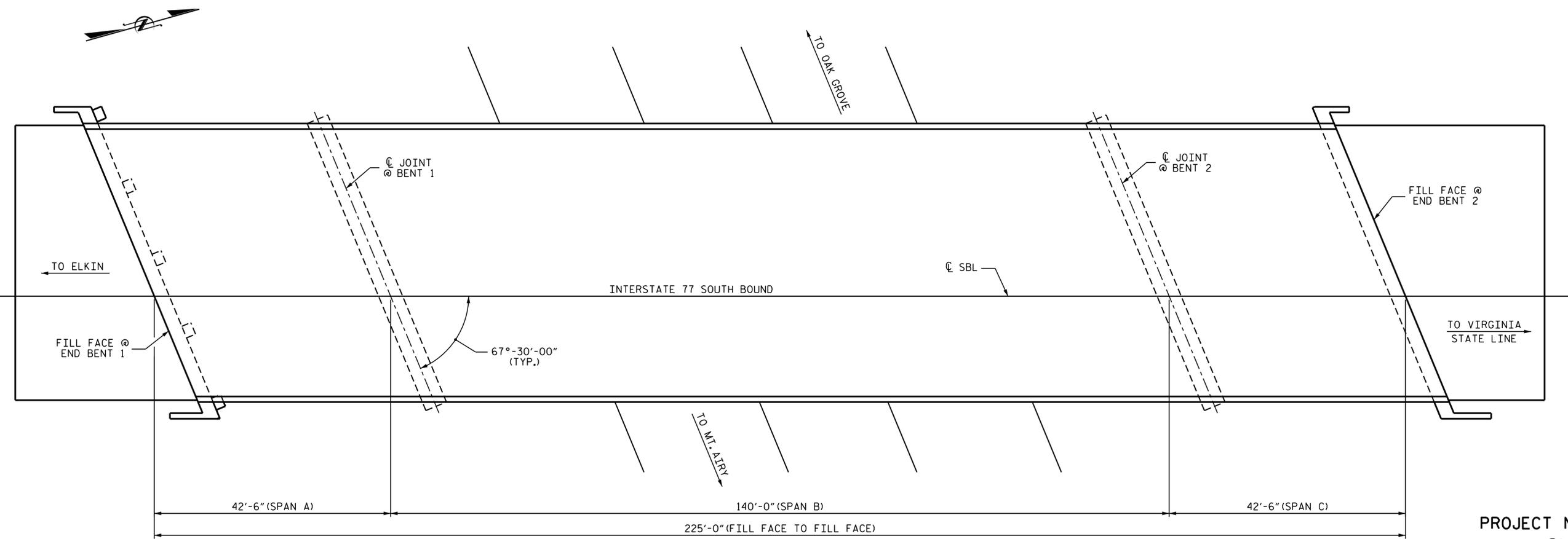
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS
2			4			22

**NOTES**

PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 12/11/2015.  
BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.



**SECTION ALONG C ROADWAY**



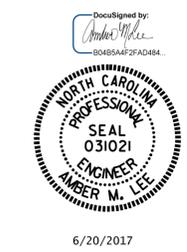
**PLAN**

**SCOPE OF WORK**

- EPOXY INJECT CONCRETE CRACKS.
- PERFORM CONCRETE REPAIRS IN PREPARED AREAS.
- REMOVE DEBRIS FROM TOP OF BENT CAPS AND APPLY EPOXY COATING.
- PARTIALLY REMOVE BRIDGE DECK CONCRETE USING SCARIFICATION.
- REPAIR CONCRETE DECK AREAS.
- PREPARE CONCRETE DECK SURFACE BY SHOTBLASTING.
- OVERLAY PREPARED BRIDGE DECK WITH POLYESTER POLYMER CONCRETE OVERLAY SYSTEM.
- PREPARE BRIDGE JOINTS AND INSTALL JOINT SEALS.

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

RESIDENT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_



PROJECT NO. I-5830  
SURRY COUNTY  
BRIDGE NO. 204

SHEET 1 OF 2

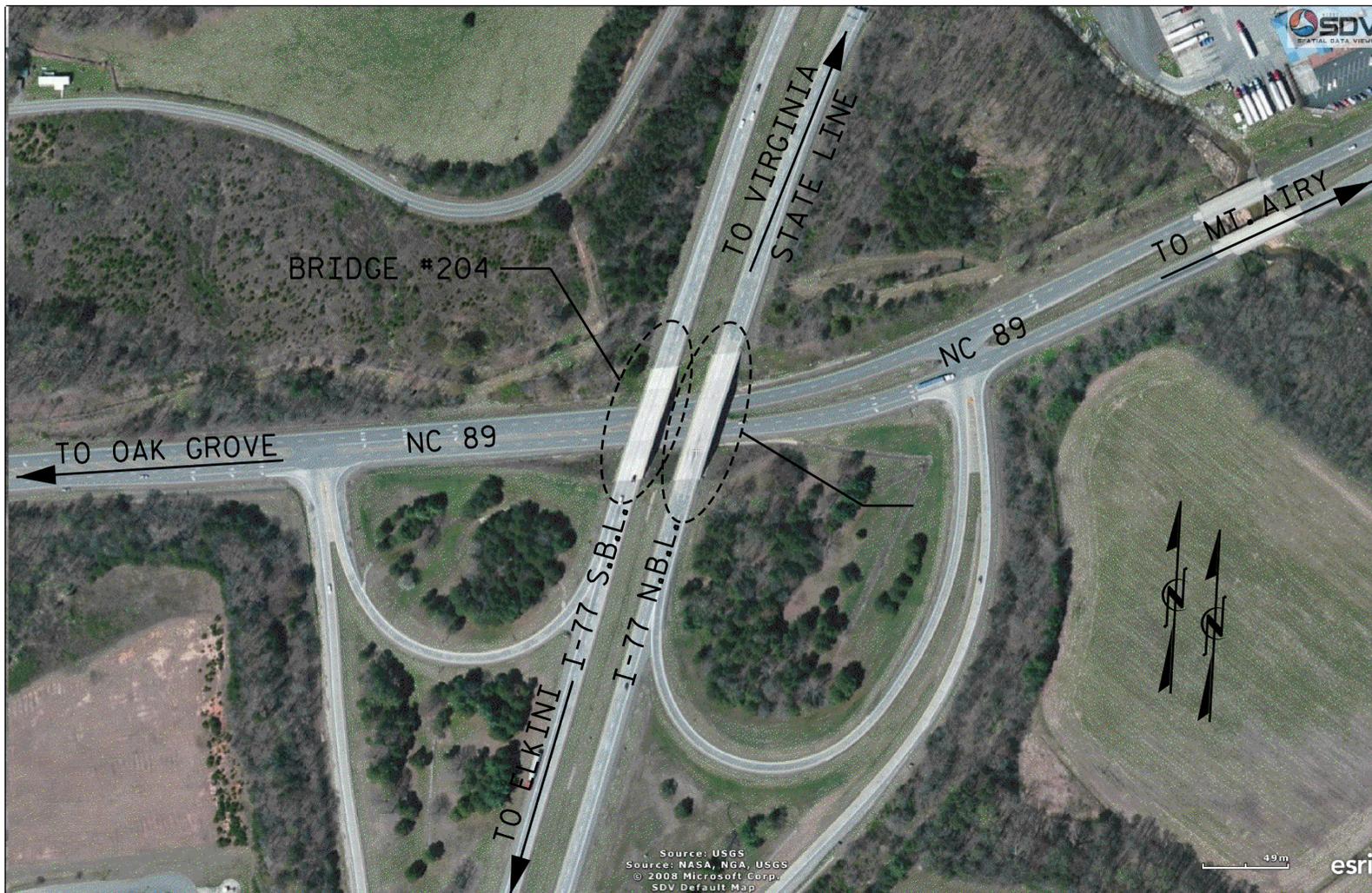
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**GENERAL DRAWING  
FOR BRIDGE ON I-77 SBL  
OVER NC 89**

DRAWN BY : A. SORSENGINH DATE : 4/2017  
CHECKED BY : A. M. LEE DATE : 6/2017

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1			3			TOTAL SHEETS	
2			4			22	



**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.

**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.
- 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 REPAIR OF BRIDGE DECKS.
- LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.
- AT LOCATIONS INDICATED ON THE PLANS OR AS DETERMINED BY THE ENGINEER, EXISTING BRIDGE CONCRETE DECK SHALL BE REPAIRED AFTER SCARIFICATION, BUT PRIOR TO SHOTBLASTING AND APPLICATION OF POLYESTER POLYMER CONCRETE (PPC) OVERLAY, UNLESS OTHERWISE PERMITTED, REPAIRS SHALL BE COMPLETED WITH PPC.
- FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE SPECIAL PROVISION.
- FOR CONCRETE DECK REPAIR FOR PPC OVERLAY, PPC MATERIALS, AND PLACING AND FINISHING PPC OVERLAY SEE POLYESTER POLYMER CONCRETE BRIDGE DECK OVERLAY SPECIAL PROVISION.
- FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
- FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR EPOXY COATING, SEE EPOXY COATING AND DEBRIS REMOVAL SPECIAL PROVISION.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE NO. 204

SHEET 2 OF 2



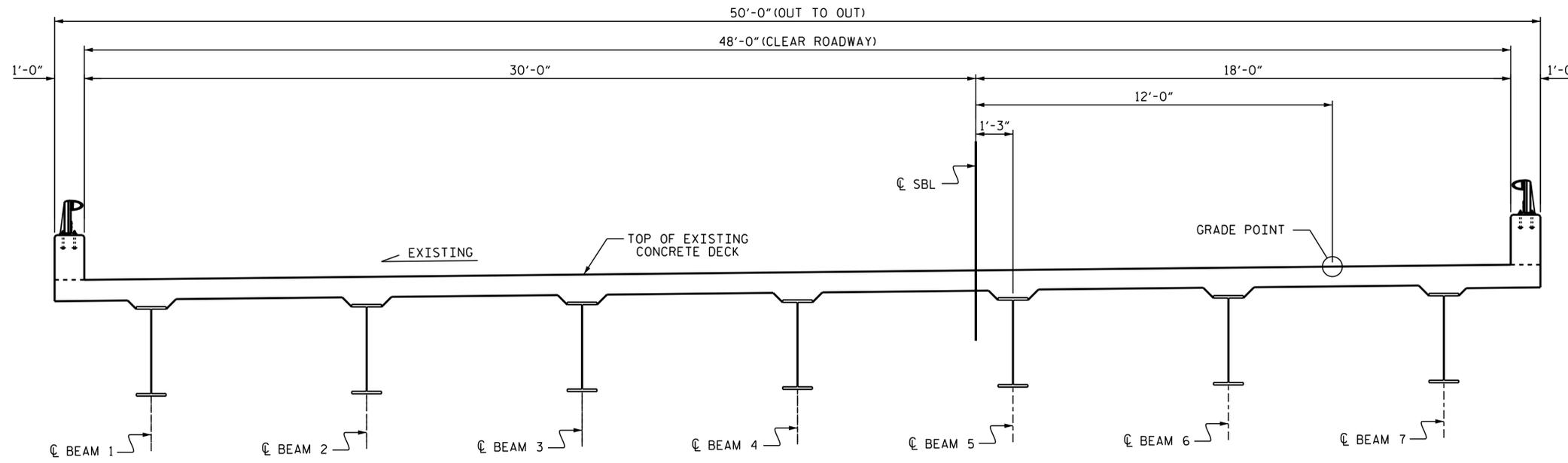
6/20/2017

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
GENERAL DRAWING FOR BRIDGE ON I-77 SBL OVER NC 89					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED					TOTAL SHEETS 22

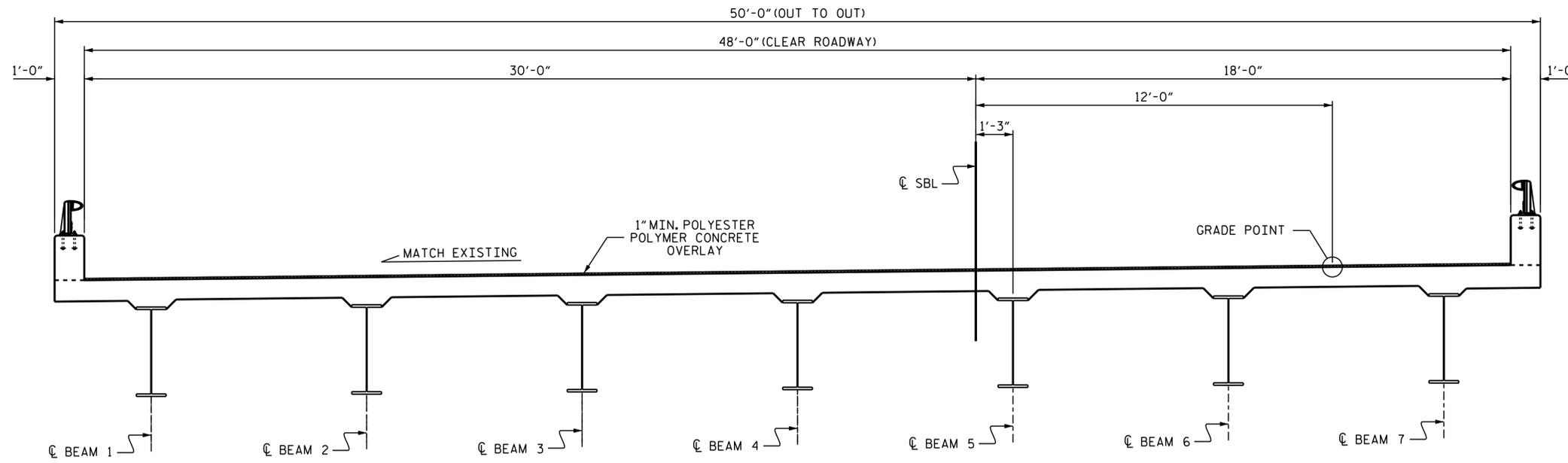
DRAWN BY : A. SORSENGINH DATE : 4/2017  
 CHECKED BY : A. M. LEE DATE : 6/2017

**NOTE:**

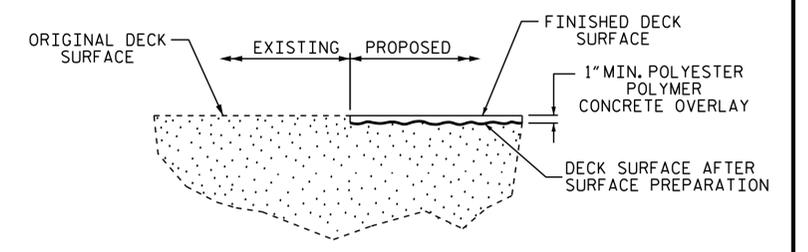
SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF POLYESTER POLYMER CONCRETE OVERLAY SYSTEM AND SURFACE PREPARATION.



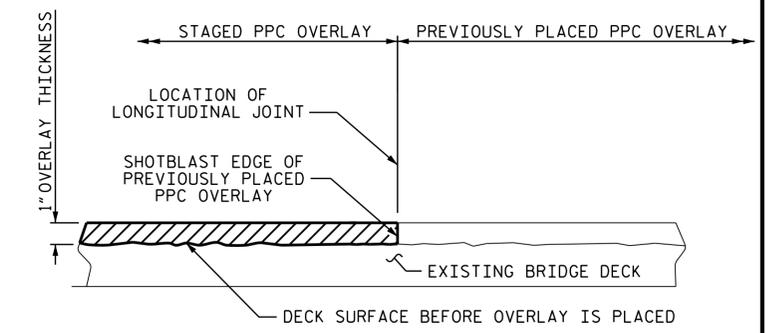
**TYPICAL SECTION**  
(EXISTING)



**TYPICAL SECTION**  
(PROPOSED)



**DETAIL OF POLYESTER POLYMER CONCRETE OVERLAY**



**STAGED PPC OVERLAY JOINT**  
(AS NEEDED)

PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE NO. 204



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**TYPICAL SECTION & EPOXY OVERLAY DETAIL**

DRAWN BY : A. SORSENGINH DATE : 4/2017  
 CHECKED BY : A. M. LEE DATE : 6/2017

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1			3			S-13
2			4			22

AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	1,200 SY	
CLASS II SURFACE PREPARATION	2.6 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	2.6 SY	
SHOTBLASTING BRIDGE DECK	1,200 SY	
PPC MATERIALS	33.3 CY	
PLACING AND FINISHING PPC OVERLAY	1,200 SY	
GROOVING BRIDGE FLOORS	9,995 SF	
EPOXY RESIN INJECTION	0.0 LF	

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

**NOTES:**

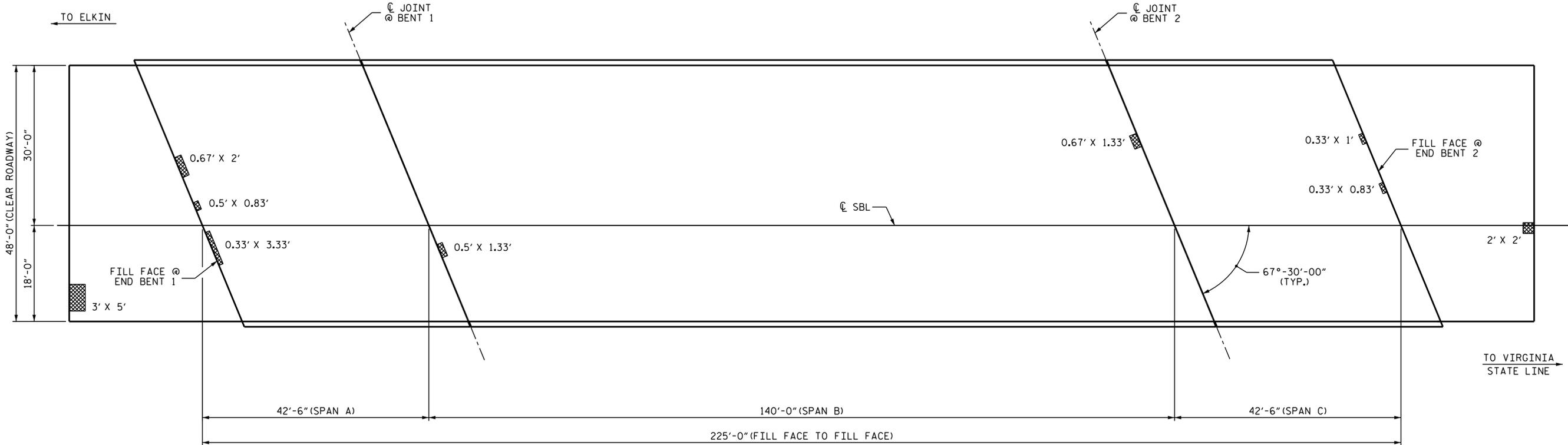
REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES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

FOR SECTION A-A, SEE "JOINT DETAILS" SHEET.

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

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

-  APPROX. CLASS II SURFACE PREPARATION
-  EPOXY RESIN INJECTION (ERI)



PLAN

PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE NO. 204



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**PLAN OF SPANS  
 AND  
 APPROACH SLABS**

DRAWN BY : A. SORSENGINH DATE : 4/2017  
 CHECKED BY : A. M. LEE DATE : 6/2017

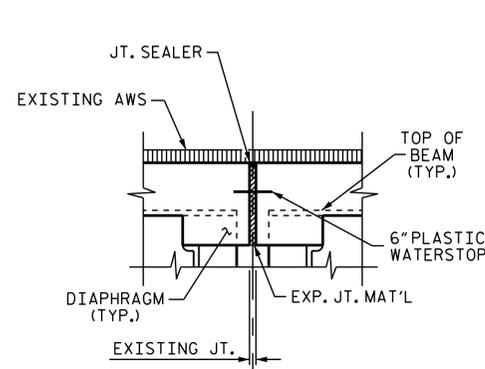
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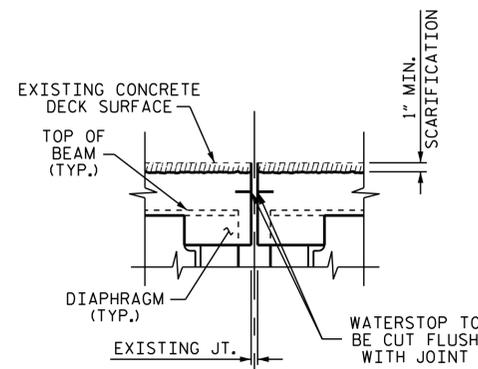


**NOTES**

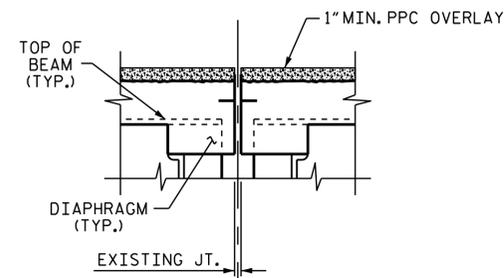
FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.  
 THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.  
 NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL AT BENT 1 SHALL BE 3" AND AT BENT 2 SHALL BE 2".



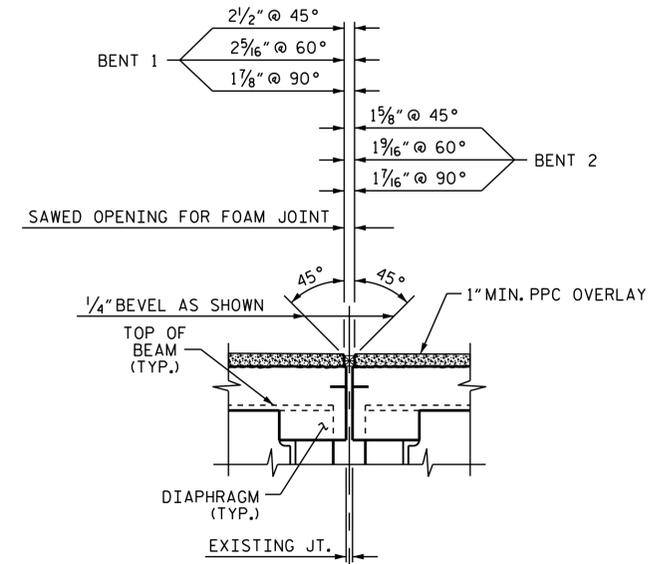
EXISTING JOINT



EXISTING JOINT AFTER DECK SCARIFICATION

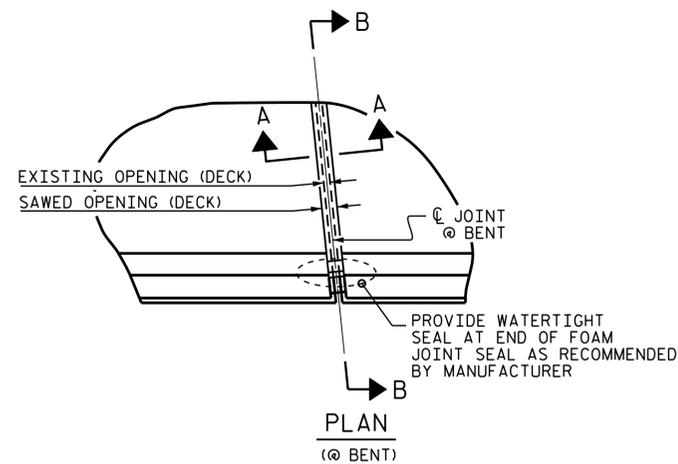


PROPOSED JOINT PRE-SAWED

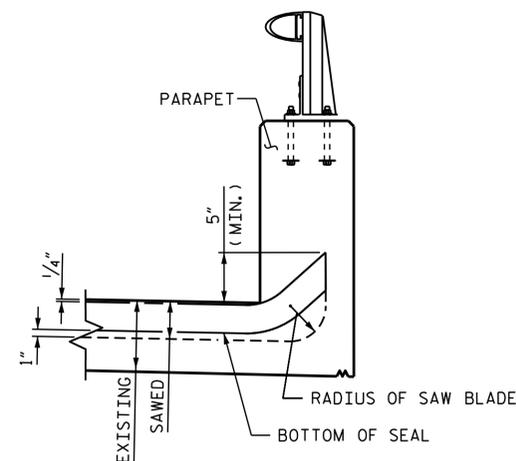


PROPOSED FOAM JOINT SEAL

SECTION A-A

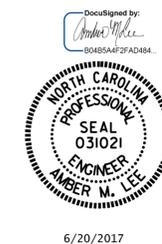


PLAN  
(@ BENT)



SECTION B-B

PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE NO. 204



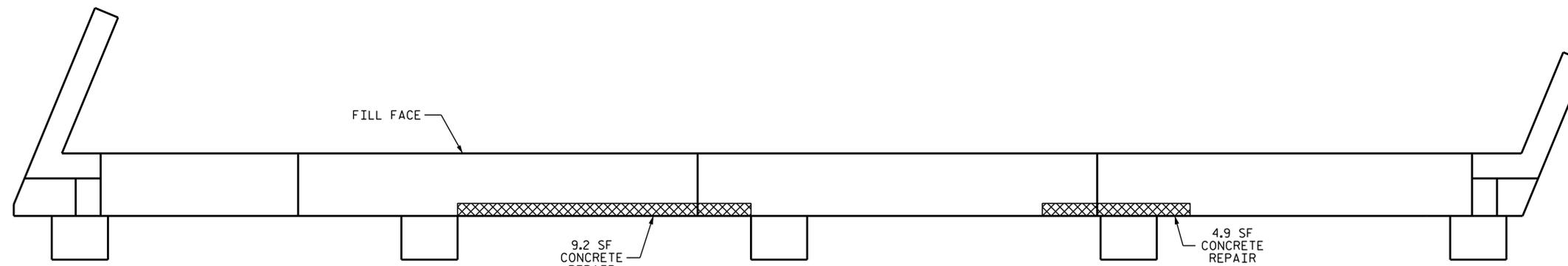
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**JOINT DETAILS**

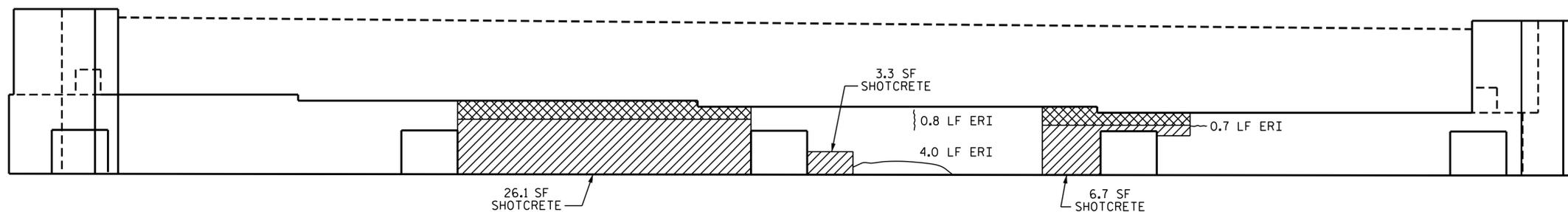
DRAWN BY : A. SORSENGINH DATE : 4/2017  
 CHECKED BY : A. M. LEE DATE : 6/2017

DOCUMENT NOT CONSIDERED  
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 SIGNATURES COMPLETED

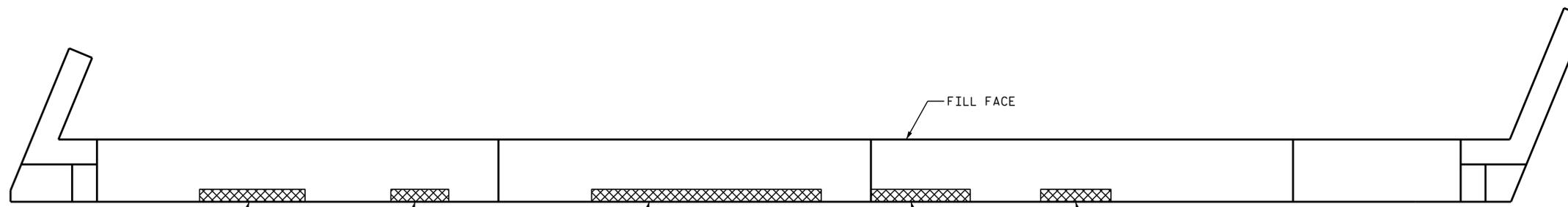
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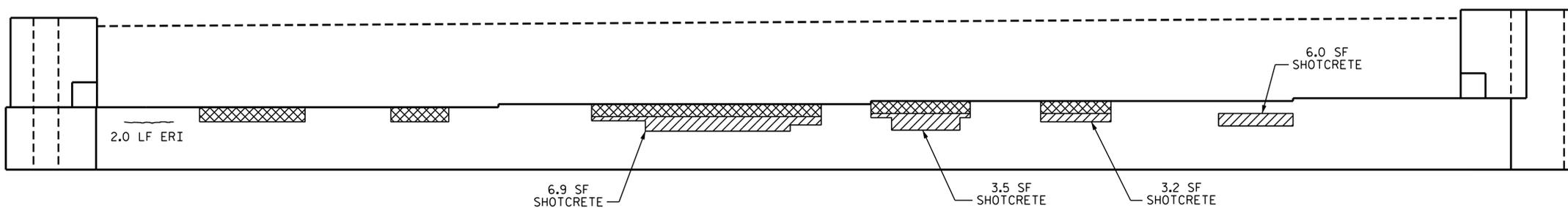
PLAN



ELEVATION  
END BENT 1



PLAN



ELEVATION  
END BENT 2

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

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	36.1	18.1		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	14.1	7.1		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CURTAIN WALL	0.0			
CAP	5.5			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF END BENT CAP	110.6			
CURTAIN WALL	0.0			

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	19.6	9.5		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	21.5	10.8		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CURTAIN WALL	0.0			
CAP	2.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
TOP OF END BENT CAP	90.8			
CURTAIN WALL	0.0			

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 WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

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

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING 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.

PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE: 204



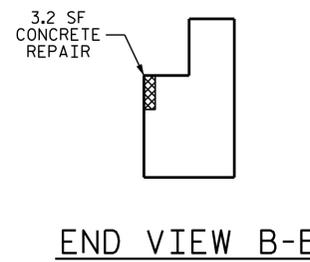
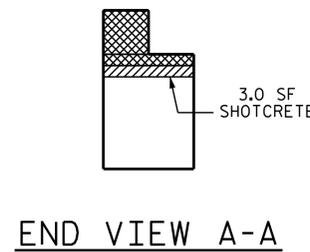
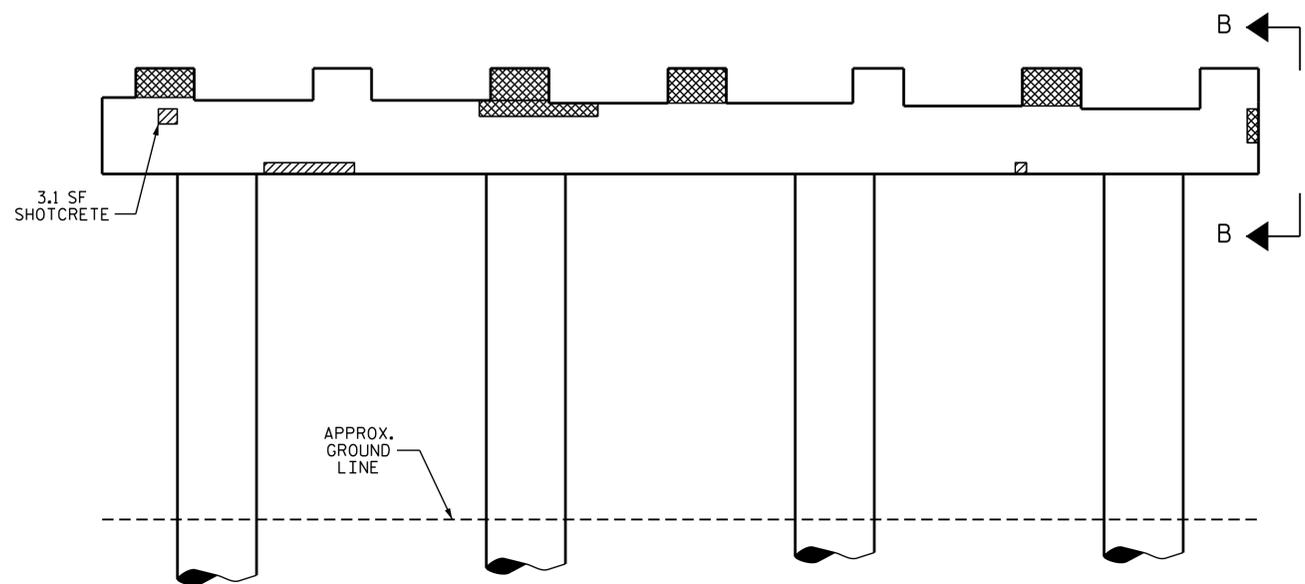
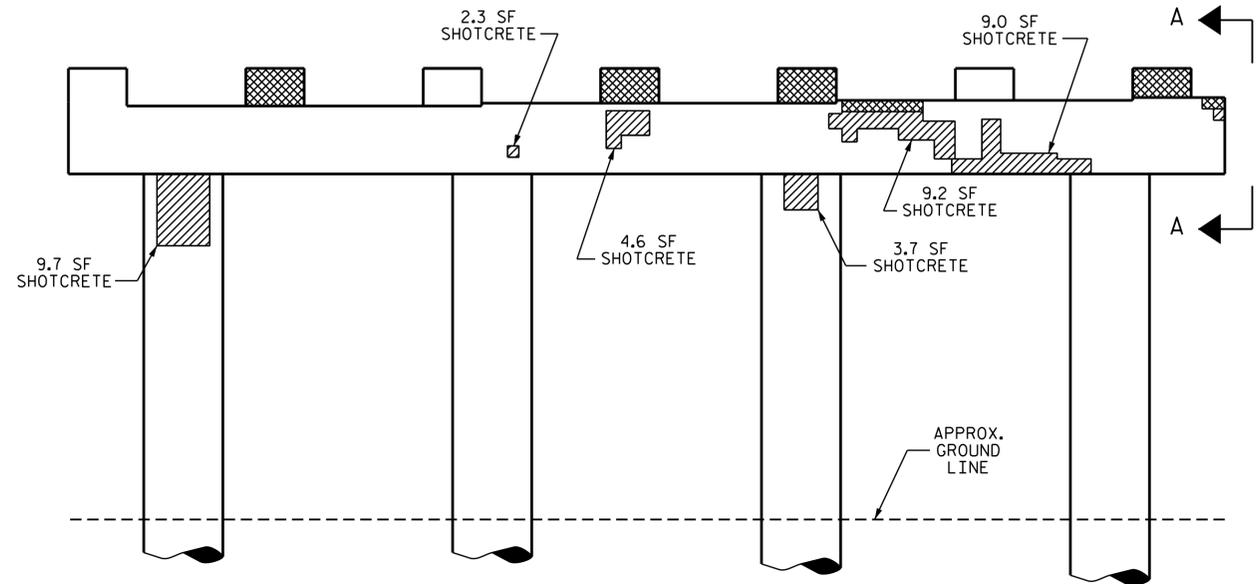
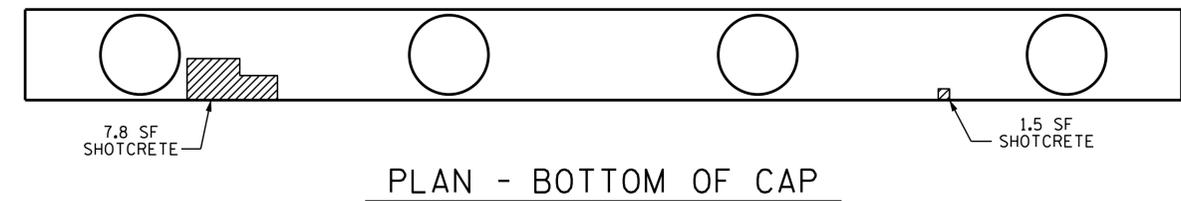
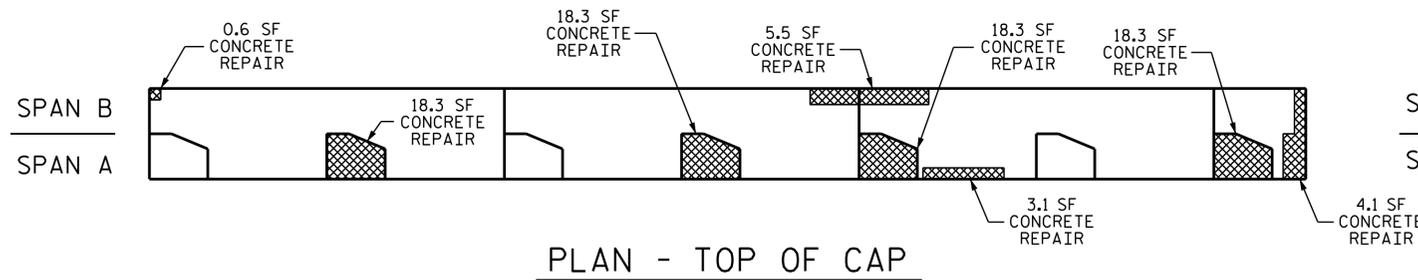
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END BENTS 1 & 2

DRAWN BY : A. SORSENGINH DATE : 4/2017  
 CHECKED BY : A. M. LEE DATE : 6/2017

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AS-BUILT REPAIR QUANTITY TABLE				
BENT 1 REPAIRS	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	40.5	20.3		
COLUMN	13.4	6.7		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	89.7	44.9		
EPOXY RESIN INJECTION		LN. FT.		LN. FT.
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		177		

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

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

**NOTES:**  
 REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.  
 CLEAN AND REMOVE DEBRIS FROM TOP OF CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP FACE OF THE CAP, THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.  
 FOR REPAIR DETAILS, SEE "TYPICAL CAP, COLUMN AND PEDESTAL REPAIR DETAILS" SHEET.  
 FOR BRIDGE JACKING DETAILS, SEE "JACKING DETAILS" SHEET.



PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE NO. 204

SHEET 1 OF 2

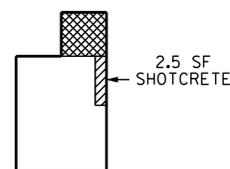
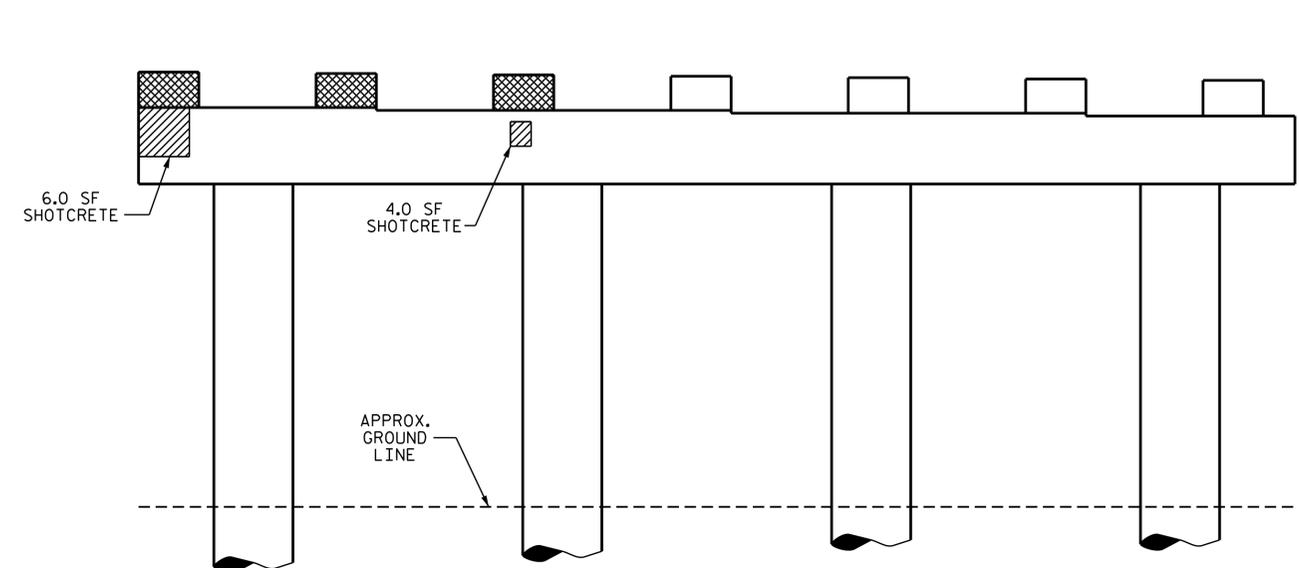
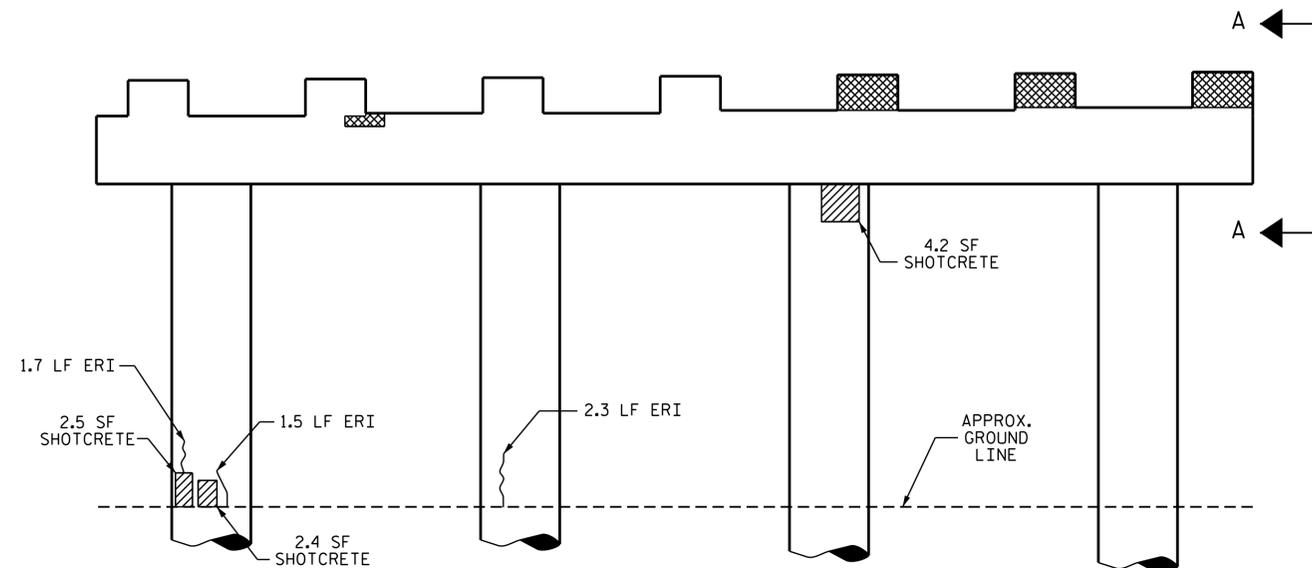
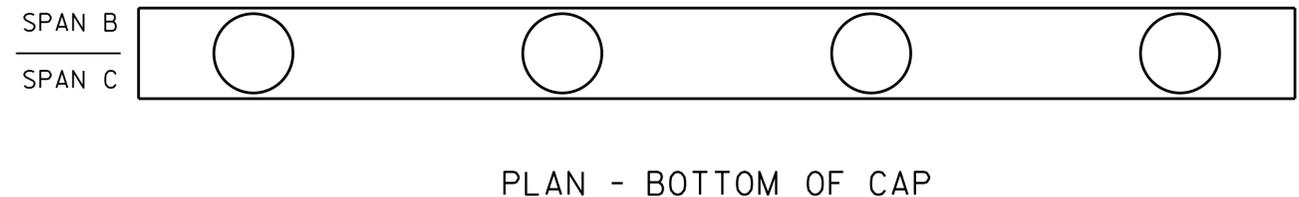
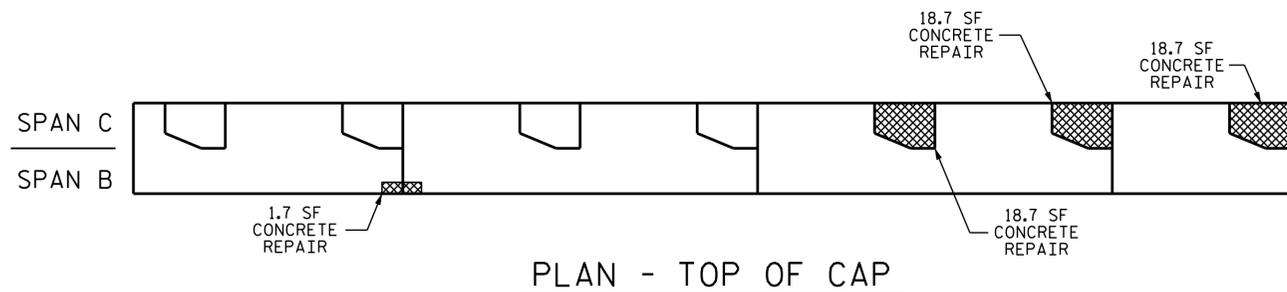
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**BENT 1**

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END VIEW A-A

AS-BUILT REPAIR QUANTITY TABLE				
BENT 2 REPAIRS	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	12.7	6.4		
COLUMN	9.1	4.6		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	57.8	28.9		
EPOXY RESIN INJECTION		LN. FT.		LN. FT.
CAP		0.0		
COLUMN		5.5		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		176		

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

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

**NOTES:**

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

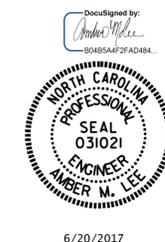
CLEAN AND REMOVE DEBRIS FROM TOP OF CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP FACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

FOR BRIDGE JACKING DETAILS, SEE "JACKING DETAILS" SHEET.

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SURRY COUNTY  
 BRIDGE NO. 204

SHEET 1 OF 2



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**BENT 2**

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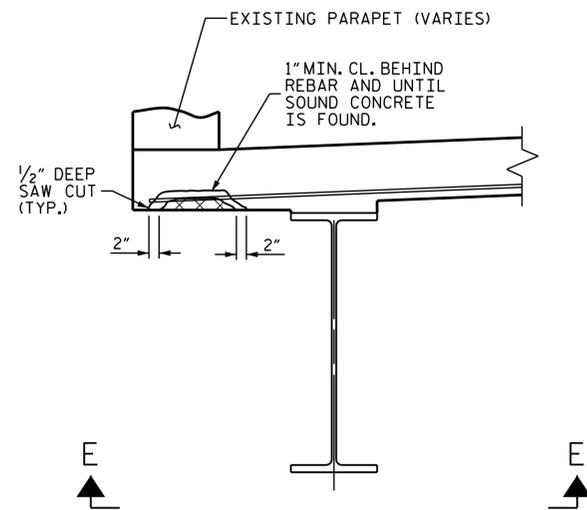
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**NOTES:**

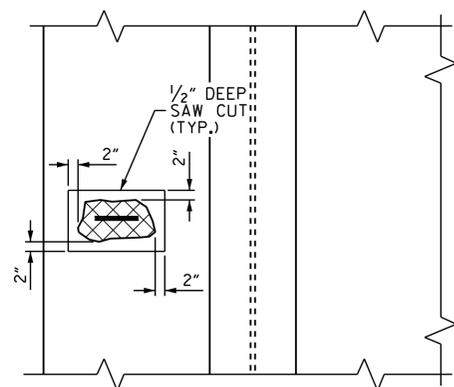
EXISTING REBAR TO REMAIN IN PLACE. CLEAN AND REPAIR AS NECESSARY.

REMOVE UNSOUND CONCRETE UNTIL SOUND CONCRETE IS FOUND, 1" MINIMUM DEPTH.



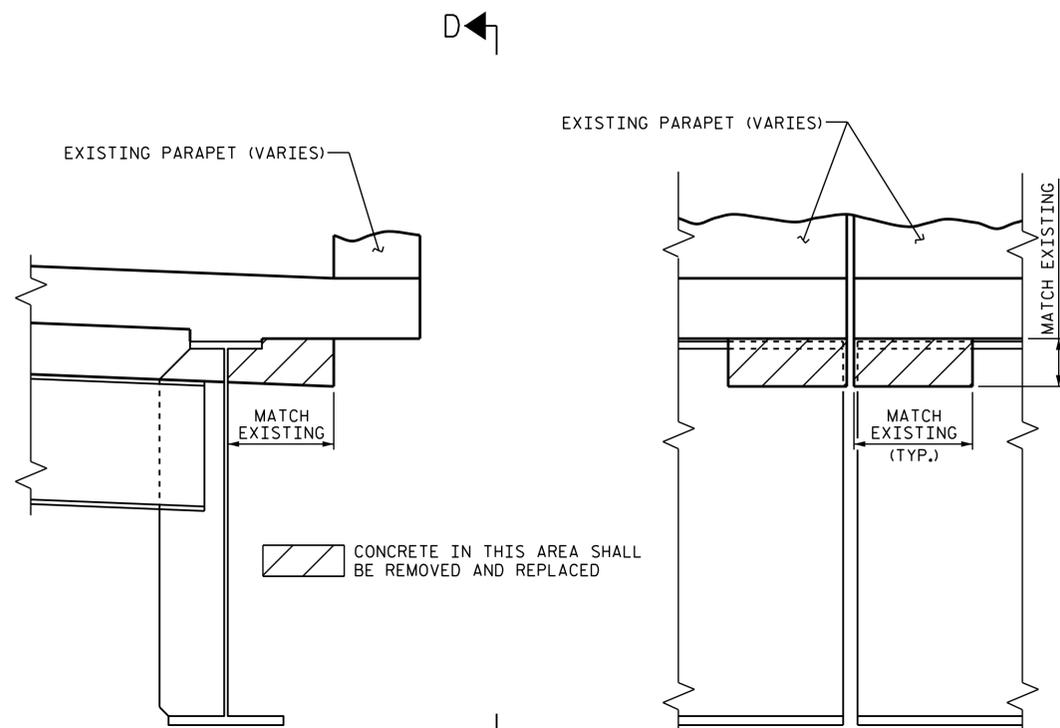
TYPICAL SECTION

DAMAGED AREA



SECTION E-E

OVERHANG DETAILS

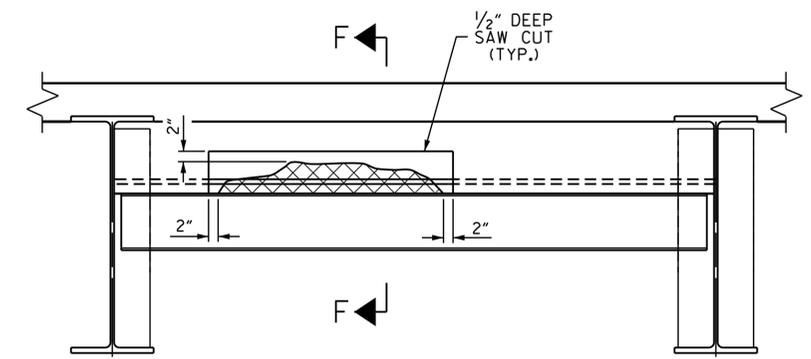


TYPICAL SECTION

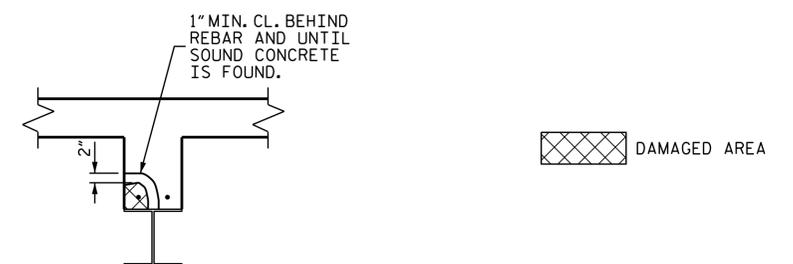
SECTION D-D

OVERHANG DIAPHRAGM REPLACEMENT DETAILS

CONCRETE IN THIS AREA SHALL BE REMOVED AND REPLACED



TYPICAL SECTION



SECTION F-F

INTERIOR DIAPHRAGM REPAIR DETAILS

PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE NO. 198, 204



6/20/2017

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**OVERHANG  
 AND DIAPHRAGM  
 REPAIR DETAILS**

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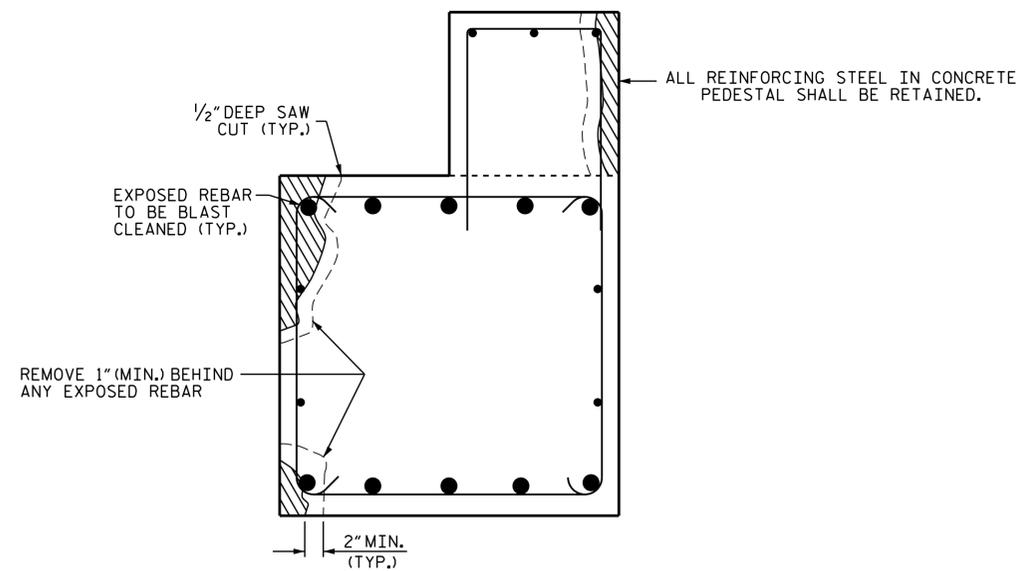
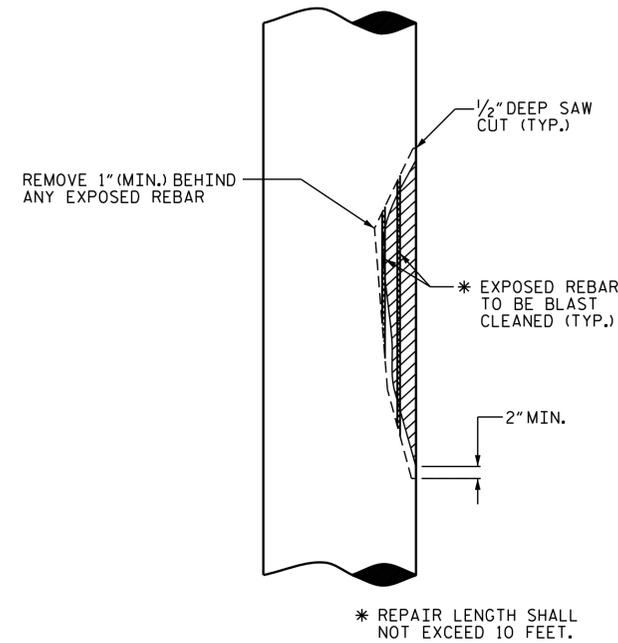
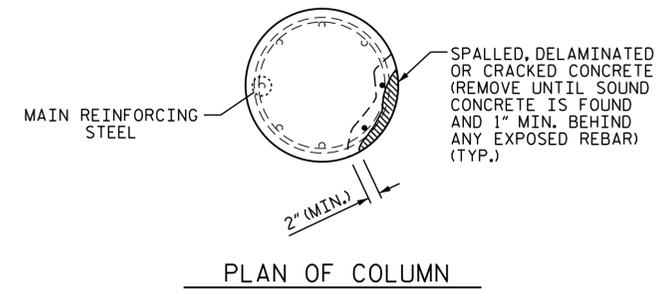
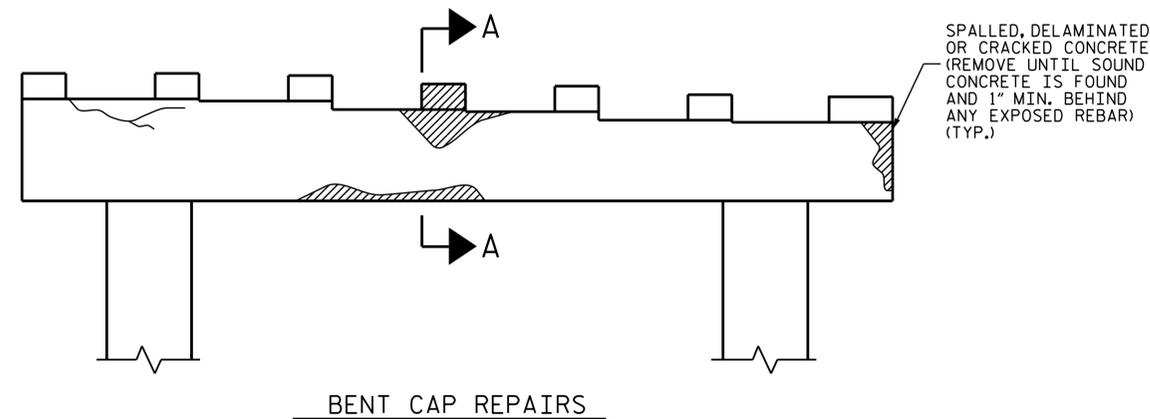
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 22

**NOTE**

TYPICAL REPAIRS FOR ROUND-COLUMNED BENTS ARE SHOWN. REPAIR DETAILS SIMILAR FOR END BENT CAPS AND SQUARE-COLUMNED BENTS.



**ELEVATION OF CAP**

**COLUMN REPAIR**

**SECTION A-A**  
**CAP AND PEDESTAL REPAIR**

PROJECT NO. I-5830  
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STATE OF NORTH CAROLINA  
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**TYPICAL CAP,  
COLUMN AND PEDESTAL  
REPAIR DETAILS**

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2			4			22

### JACKING NOTES:

THE CONTRACTOR SHALL SUBMIT JACKING PLANS AND CALCULATIONS FOR REVIEW AND APPROVAL PRIOR TO MATERIAL PURCHASE OR FABRICATION OF THE JACKING SYSTEM.

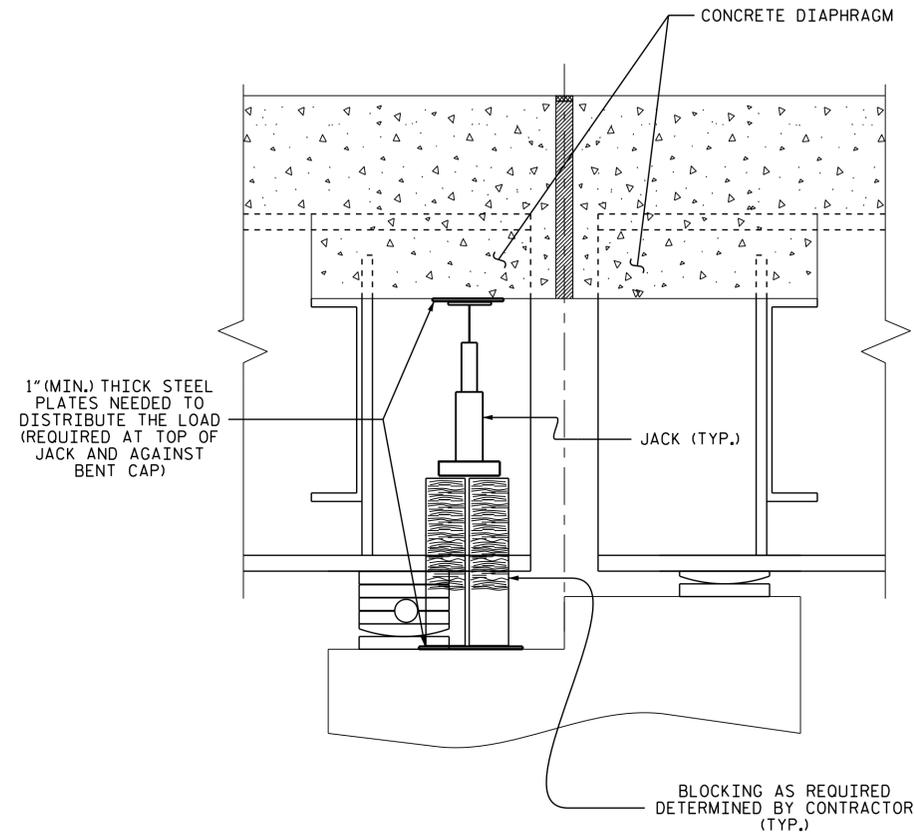
THE BEAM SHALL BE LIFTED ENOUGH THAT THE BEAM CLEAR THE BEARINGS AND ALL LOAD IS SUPPORTED BY THE JACKS. AFTER JACKING IS COMPLETE THE CONTRACTOR SHALL PROVIDE A METHOD TO SUPPORT THE BEAM FOR DEAD AND LIVE LOADS AND REMOVE THE JACKS DURING THE REPAIR OPERATIONS. IF THE JACKS REMAIN IN PLACE DURING THE ENTIRE JACKING AND REPAIR OPERATION, THEY SHALL HAVE MECHANICAL LOCK OFF CAPABILITIES.

IF DURING THE JACKING PROCESS OR WHILE THE BEAM IS BEING SUPPORTED THE BEAM SHIFTS FROM ITS ORIGINAL POSITION, ALL WORK SHALL CEASE AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

PRIOR TO JACKING, THE CONTRACTOR SHALL ENSURE THERE ARE NO OBSTACLES PREVENTING THE BEAM FROM BEING LIFTED.

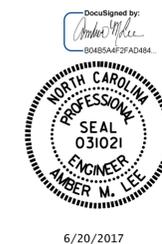
ALL ADJACENT BEARINGS OF BEAMS NOT BEING JACKED MAY BE LOOSENED TO DECREASE THE RESISTANCE OF THE DECK SLAB DURING JACKING. ALL BEARINGS LOOSENED SHALL BE TIGHTENED BACK AFTER REPAIR OPERATIONS ARE COMPLETED AND THE JACKS AND BLOCKING HAVE BEEN REMOVED.

THE MAXIMUM DIFFERENTIAL BETWEEN ADJACENT BEAMS THAT ARE BEING JACKED IS  $\frac{1}{8}$ ".



SECTION THRU DIAPHRAGM

PROJECT NO. I-5830  
SURRY COUNTY  
 BRIDGE NO. 198, 204



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## JACKING DETAILS

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2			4			22