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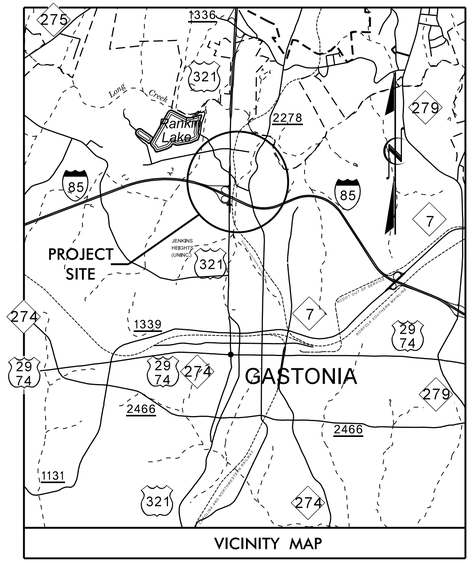
TIP PROJECT: I-5000

CONTRACT: C203846



VICINITY MAP

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

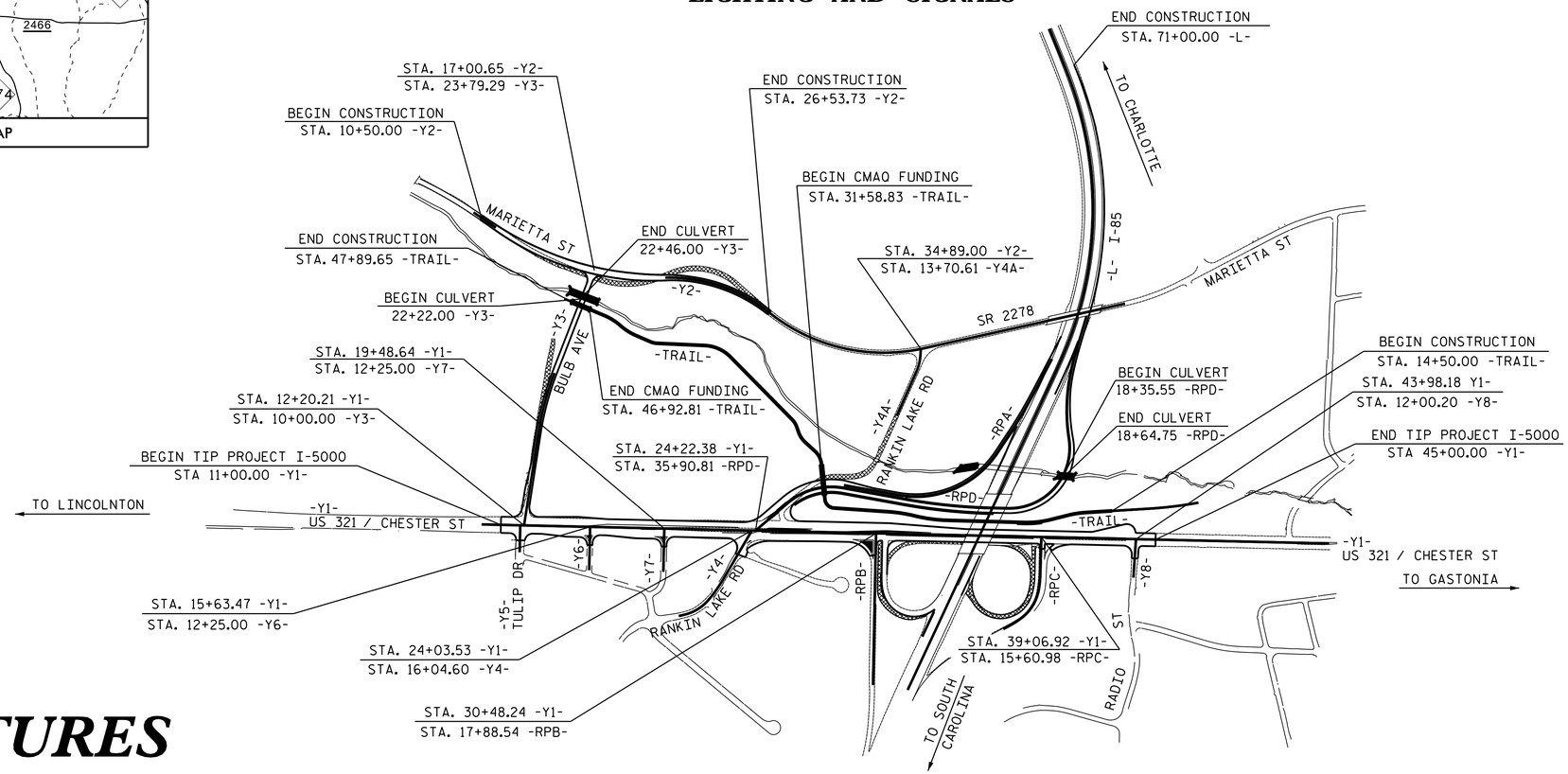
GASTON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5000		

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
41153.1.1	IMF-85-1(113)17	P.E.
41153.2.FS1	IMF-85-1(113)17	R/W
41153.2.FSU1	IMF-85-1(113)17	UTIL.
41153.3.1	IMF-085-1(113)17	CONST.

LOCATION: I-85/US 321 GEOMETRIC SAFETY IMPROVEMENTS TO INTERCHANGE

TYPE OF WORK: GRADING, DRAINAGE, PAVING, CULVERTS, LIGHTING AND SIGNALS



STRUCTURES

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DESIGN DATA

ADT 2017 = 49,516
ADT 2037 = 63,676
K = 8 %
D = 55 %
T = 9 % *
V = 50 MPH
* TTST = 7 DUAL = 2
FUNC CLASS =
PRINCIPAL ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT I-5000 = 0.644 MILES
LENGTH STRUCTURES TIP PROJECT I-5000 = 0.000 MILES

TOTAL LENGTH TIP PROJECT I-5000 = 0.644 MILES

Prepared In the Office of:

DIVISION OF HIGHWAYS

STRUCTURES MANAGEMENT UNIT

1000 BIRCH RIDGE DR.

RALEIGH, N.C. 27610

2012 STANDARD SPECIFICATIONS

LETTING DATE :

March 21, 2017

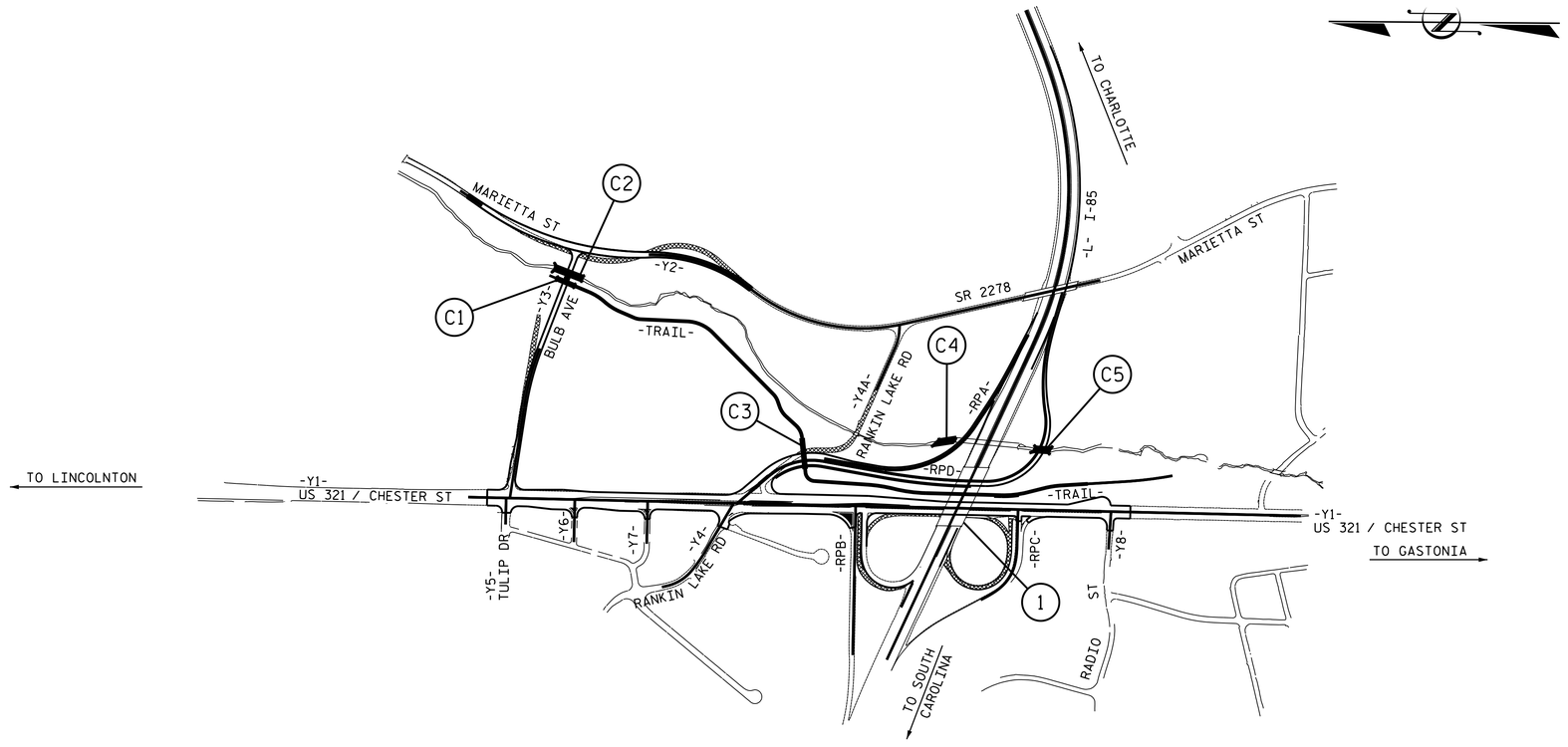
W. S. Arafat, P.E.

PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

GASTON COUNTY



INDEX			
STR. #	STATION	DESCRIPTION	SHEET #
1	42+37.66 -L-	GASTON COUNTY BRIDGE NO. 120	S-1 THRU S-30
CULVERT #1	21+83.98 -Y3-	SINGLE 14 FT. X 10 FT. RCBC	C-1 THRU C-4
CULVERT #2	22+34.00 -Y3-	24 FT. X 8 FT. PRECAST REINFORCED CONCRETE THREE-SIDED CULVERT	C-5 THRU C-7
CULVERT #3	31+64.31 -RPD-	SINGLE 14 FT. X 10 FT. RCBC	C-8 THRU C-11
CULVERT #4	16+57.60 -RPA-	TRIPLE 8 FT. X 9 FT. RCBC EXTENSION	C-12 THRU C-18
CULVERT #5	18+50.00 -RPD-	TRIPLE 8 FT. X 10 FT. RCBC	C-19 THRU C-25
-	-	ELECTRICAL CONDUIT SYSTEM	C-26

PROJECT NO. I-5000

GASTON COUNTY

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

INDEX

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
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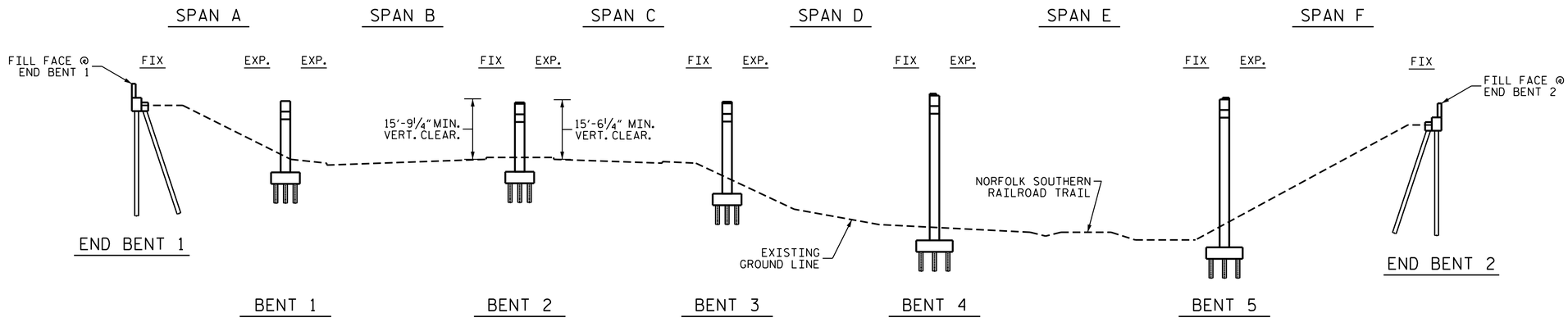
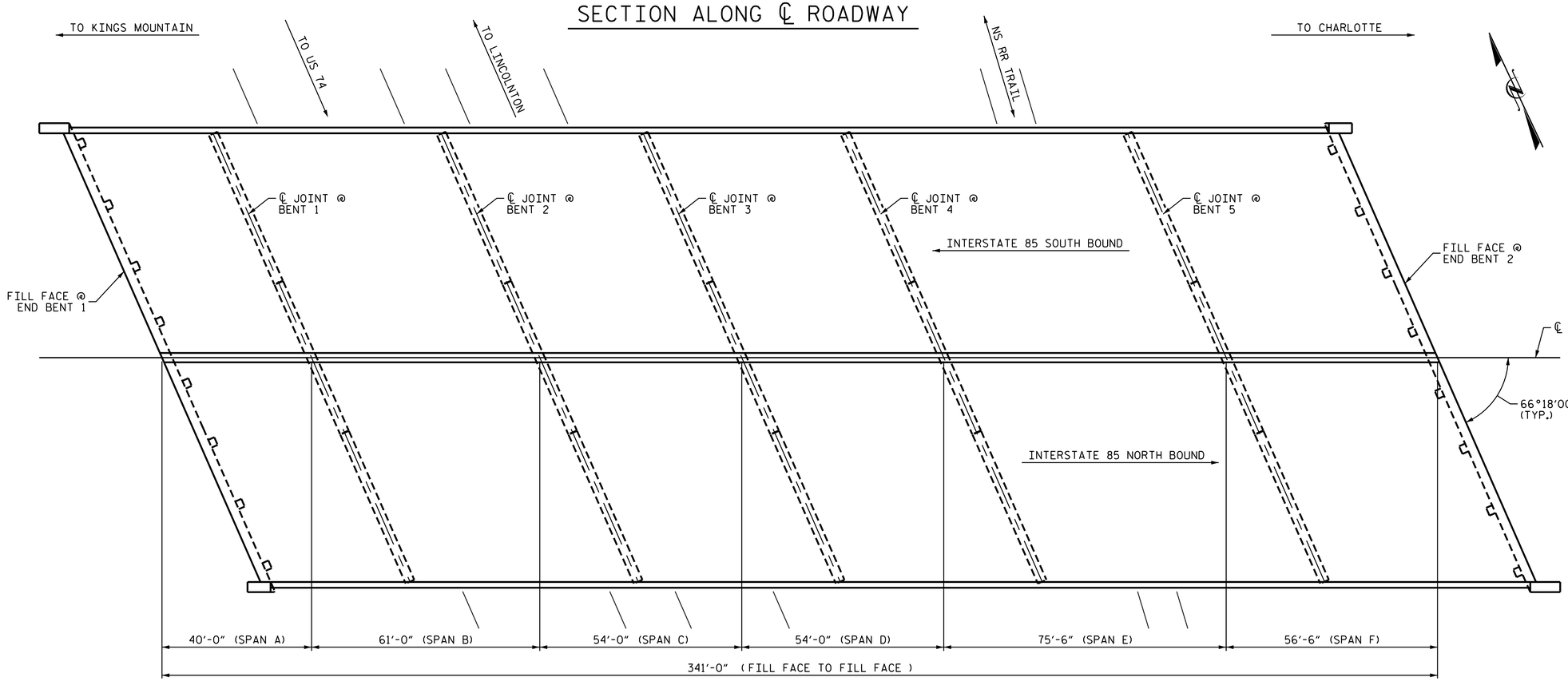


SECTION ALONG ℄ ROADWAY



PLAN

NOTES

PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 10/08/2014.

BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

SCOPE OF WORK

- CLEAN AND PAINT STEEL I-BEAMS AND BEARINGS.
- EPOXY INJECTION OF CONCRETE CRACKS.
- CLEAN AND REPAIR REBAR IN CONCRETE REPAIR AREAS.
- PERFORM SHOTCRETE AND CONCRETE REPAIRS IN PREPARED AREAS.
- REMOVE DEBRIS FROM TOP OF BENT CAPS AND APPLY EPOXY COATING.

DocuSigned by: John A. Yannaccone 7BC36E9CEE894EC...

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

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

RESIDENT ENGINEER DATE

DRAWN BY : R.PUTEK DATE : 10/16

CHECKED BY : J.YANNACCONE DATE : 11/16

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOR BRIDGE ON I-85 OVER US 321 (NORTH CHESTER STREET)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			30

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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.

FOR CLEANING AND REPAINTING OF BRIDGE, SEE PAINTING EXISTING WEATHERING STEEL STRUCTURE SPECIAL PROVISION.

FOR PAINTING CONTAINMENT, SEE PAINTING EXISTING WEATHERING STEEL STRUCTURE SPECIAL PROVISION.

FOR POLLUTION CONTROL, SEE PAINTING EXISTING WEATHERING STEEL STRUCTURE SPECIAL PROVISION.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR BRIDGE JACKING, 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 GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

BRIDGE NO.	CONCRETE REPAIRS	SHOTCRETE REPAIRS	EPOXY RESIN INJECTION	CLEANING AND PAINTING EXISTING WEATHERING STEEL FOR BRIDGE #120	PAINTING CONTAINMENT FOR BRIDGE #120	POLLUTION CONTROL	EPOXY COATING	BRIDGE JACKING
	CU. FT.	CU. FT.	LIN. FT.	LUMP SUM	LUMP SUM	LUMP SUM	SQ. FT.	EA.
120	80.6	262.5	33.8	LUMP SUM	LUMP SUM	LUMP SUM	1,635	9

DocuSigned by: John A. Yannaccone 78C4...

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

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PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOR BRIDGE ON I-85 OVER US 321 (NORTH CHESTER STREET)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			30

DRAWN BY : R.PUTEK DATE : 10/16

CHECKED BY : J.YANNACCONE DATE : 11/16

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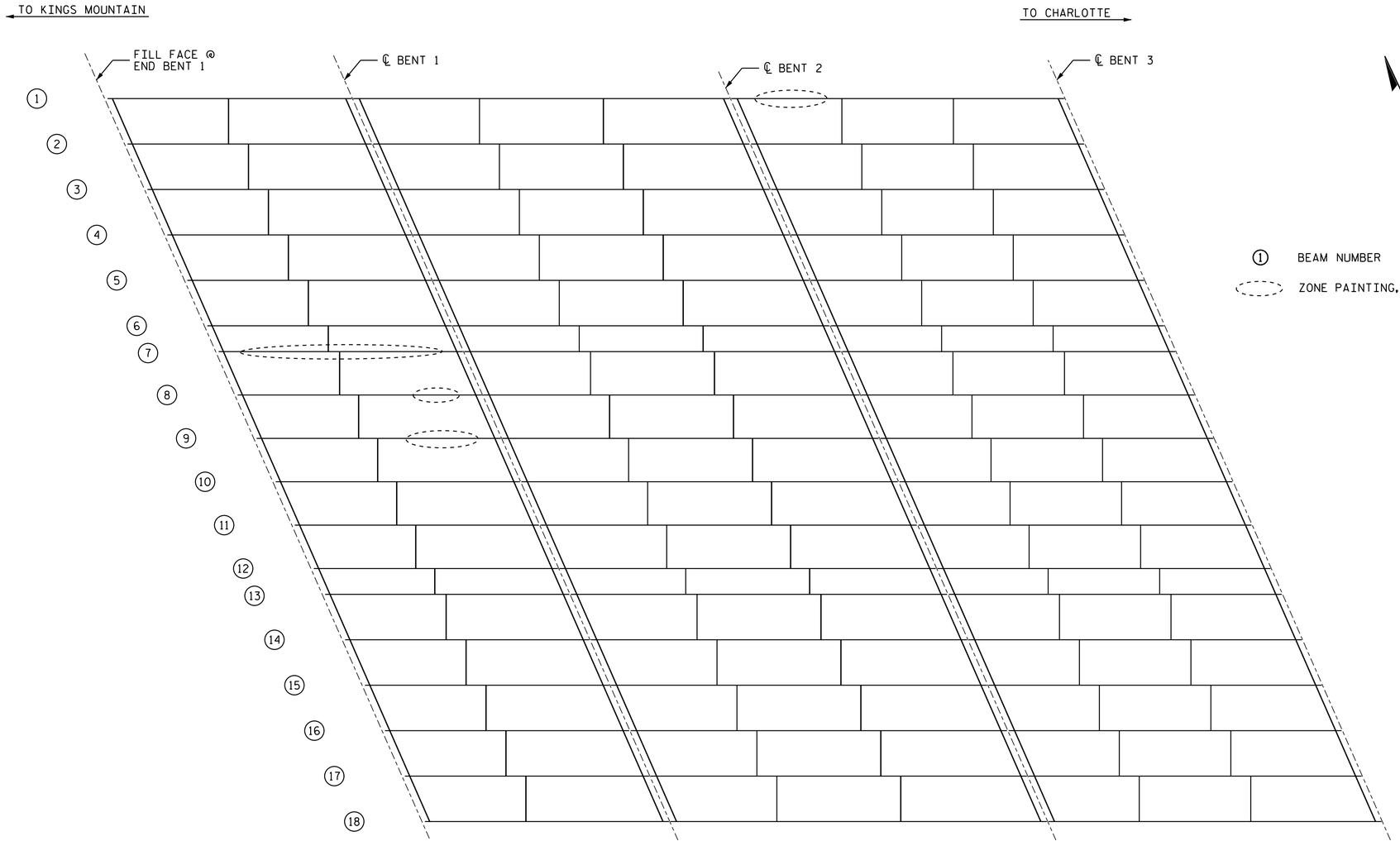


① BEAM NUMBER

ZONE PAINTING, SEE DETAILS.

NOTES

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENT OF REPAIR AREAS PRIOR TO BEGINNING WORK.

CONTRACTOR SHALL ENSURE THAT EXISTING UTILITIES ADJACENT TO THE BRIDGE ARE NOT DAMAGED DURING THE REPAIR OPERATIONS.

FOR ZONE PAINTING, SEE PAINTING EXISTING WEATHERING STEEL STRUCTURE SPECIAL PROVISION.

HORIZONTAL LIMITS OF ZONE PAINTING SHALL EXTEND 12" BEYOND THE MAXIMUM HORIZONTAL EXTENT OF WEB/FLANGE CORROSION.

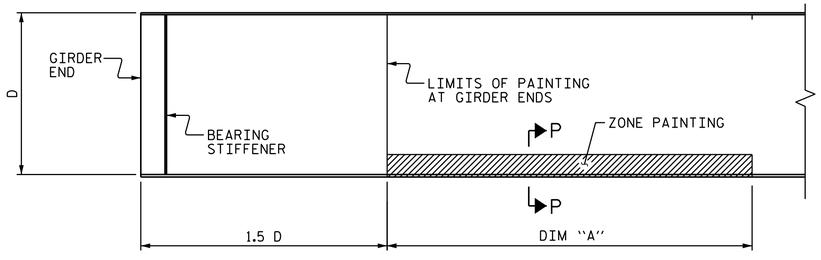
VERTICAL LIMITS OF ZONE PAINTING SHALL EXTEND 3" ABOVE THE MAXIMUM VERTICAL EXTENT OF WEB CORROSION OR 6" MINIMUM ABOVE THE TOP OF THE BOTTOM FLANGE, WHICHEVER IS GREATER.

ZONE PAINTING LOCATIONS

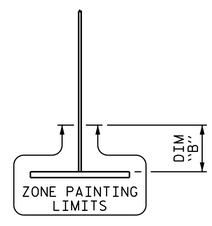
SPAN	BEAM	LOCATION	DIM "A"	DIM "B"
A	7	BENT 1	32'-0"	6"
A	8	BENT 1	3'-3"	6"
A	9	BENT 1	7'-3"	6"
C	1	BENT 2	7'-3"	6"
D	7	BENT 3	7'-3"	6"
D	9	BENT 3	4'-3"	6"
D	12	BENT 3	9'-3"	6"
E	6	BENT 4	37'-2"	6"
E	7	BENT 4	4'-6"	6"
E	8	BENT 4	13'-6"	6"
E	9	BENT 4	12'-6"	6"
E	11	BENT 4	10'-6"	6"
E	12	BENT 4	66'-3"	6"
F	11	BENT 5	24'-5"	6"
F	12	BENT 5	48'-10"	6"

PLAN VIEW

(OTHER LOCATIONS MAY EXIST, SEE NOTES)



GIRDER ELEVATION



SECTION P-P

ZONE PAINTING DETAILS

PROJECT NO. I-5000

GASTON COUNTY

STATION: 120

SHEET 1 OF 2

DocuSigned by: John A. Yannaccone

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

ZONE PAINTING LOCATIONS

REVISIONS						SHEET NO.
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2			4			30

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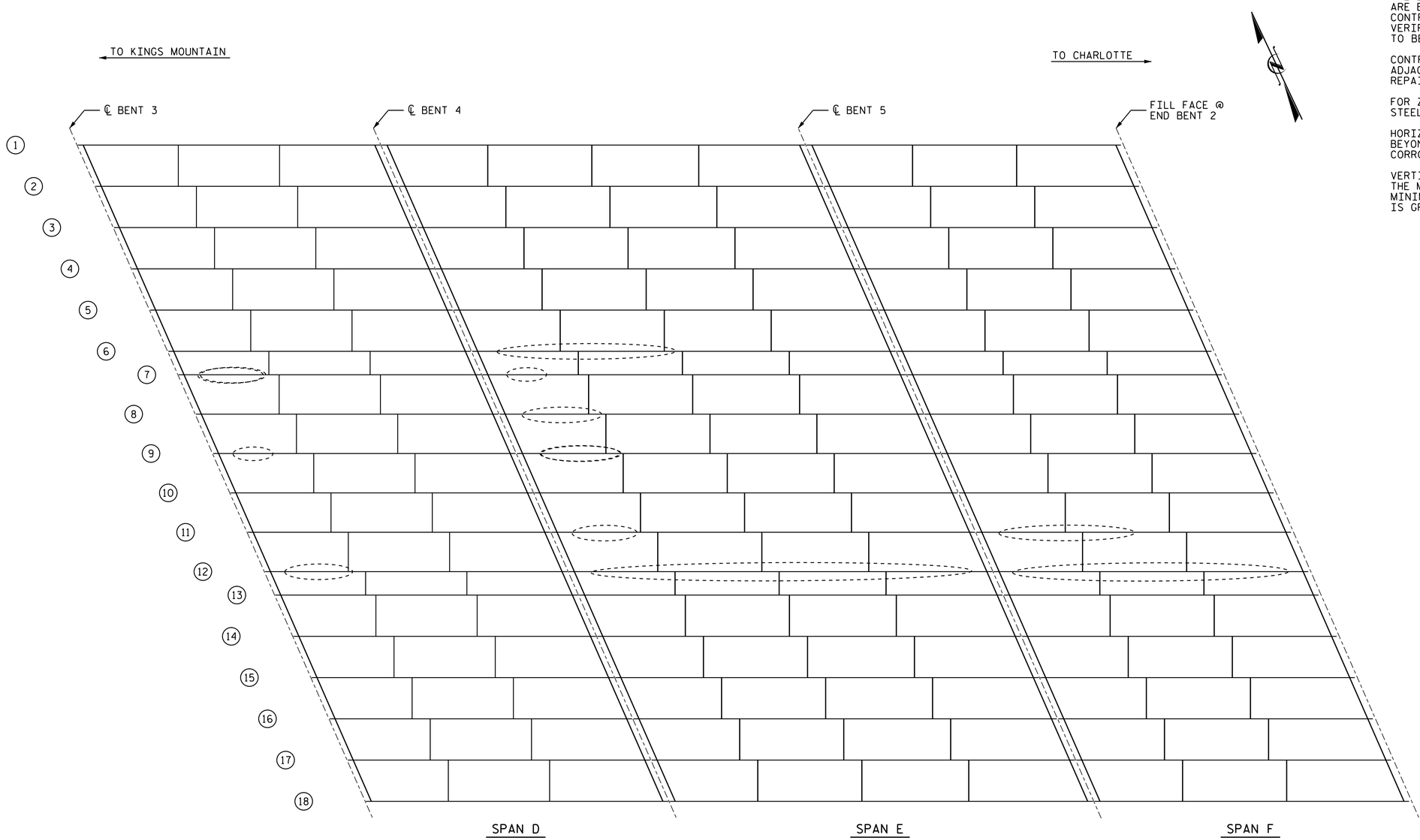

PLAN VIEW

(OTHER LOCATIONS MAY EXIST, SEE NOTES)

NOTES

THE LOCATIONS AND DIMENSIONS OF THE AREAS FOR REPAIR ARE BASED ON THE BEST INFORMATION AVAILABLE. THE CONTRACTOR, IN CONJUNCTION WITH THE ENGINEER, SHALL VERIFY THE LOCATION AND EXTENT OF REPAIR AREAS PRIOR TO BEGINNING WORK.

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HORIZONTAL LIMITS OF ZONE PAINTING SHALL EXTEND 12" BEYOND THE MAXIMUM HORIZONTAL EXTENT OF WEB/FLANGE CORROSION.

VERTICAL LIMITS OF ZONE PAINTING SHALL EXTEND 3" ABOVE THE MAXIMUM VERTICAL EXTENT OF WEB CORROSION OR 6" MINIMUM ABOVE THE TOP OF THE BOTTOM FLANGE, WHICHEVER IS GREATER.

(1) BEAM NUMBER

ZONE PAINTING, SEE DETAILS SHEET 1 OF 2.

PROJECT NO. I-5000

GASTON COUNTY

STATION: 120

SHEET 2 OF 2

DocuSigned by: John A. Yannaccone

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

ZONE PAINTING LOCATIONS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			30

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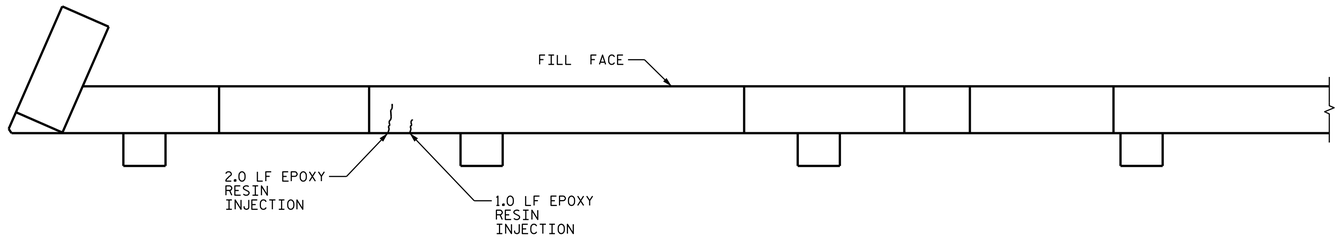
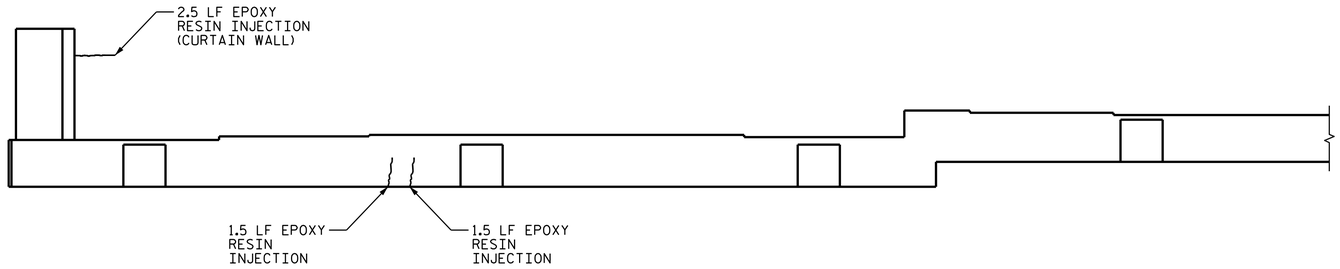
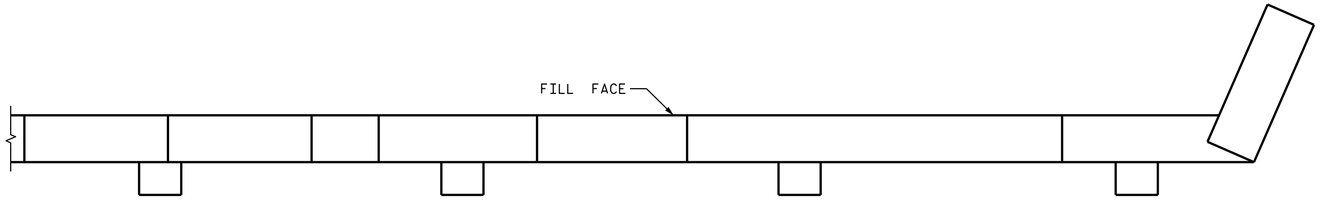


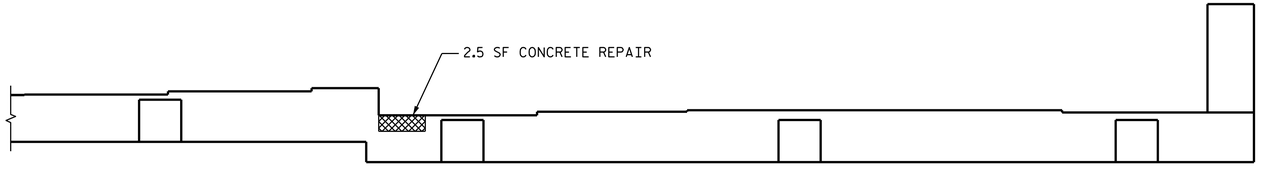
HALF PLAN
(RIGHT)



HALF ELEVATION
(RIGHT)



HALF PLAN
(LEFT)



HALF ELEVATION
(LEFT)

END BENT 1

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	2.5	1.2 *		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		6.0		
CURTAIN WALL		2.5		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE. MIN. OF 1" BEHIND REBAR AND 2" MIN. 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 REPAIR SUMMARY OF QUANTITIES TABLE.

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

* QUANTITIES HAVE BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

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

DAMAGED AREA

EPOXY RESIN INJECTION

DocuSigned by: John A. Yannaccone 78D...

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

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PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

END BENT 1

REVISIONS						SHEET NO.
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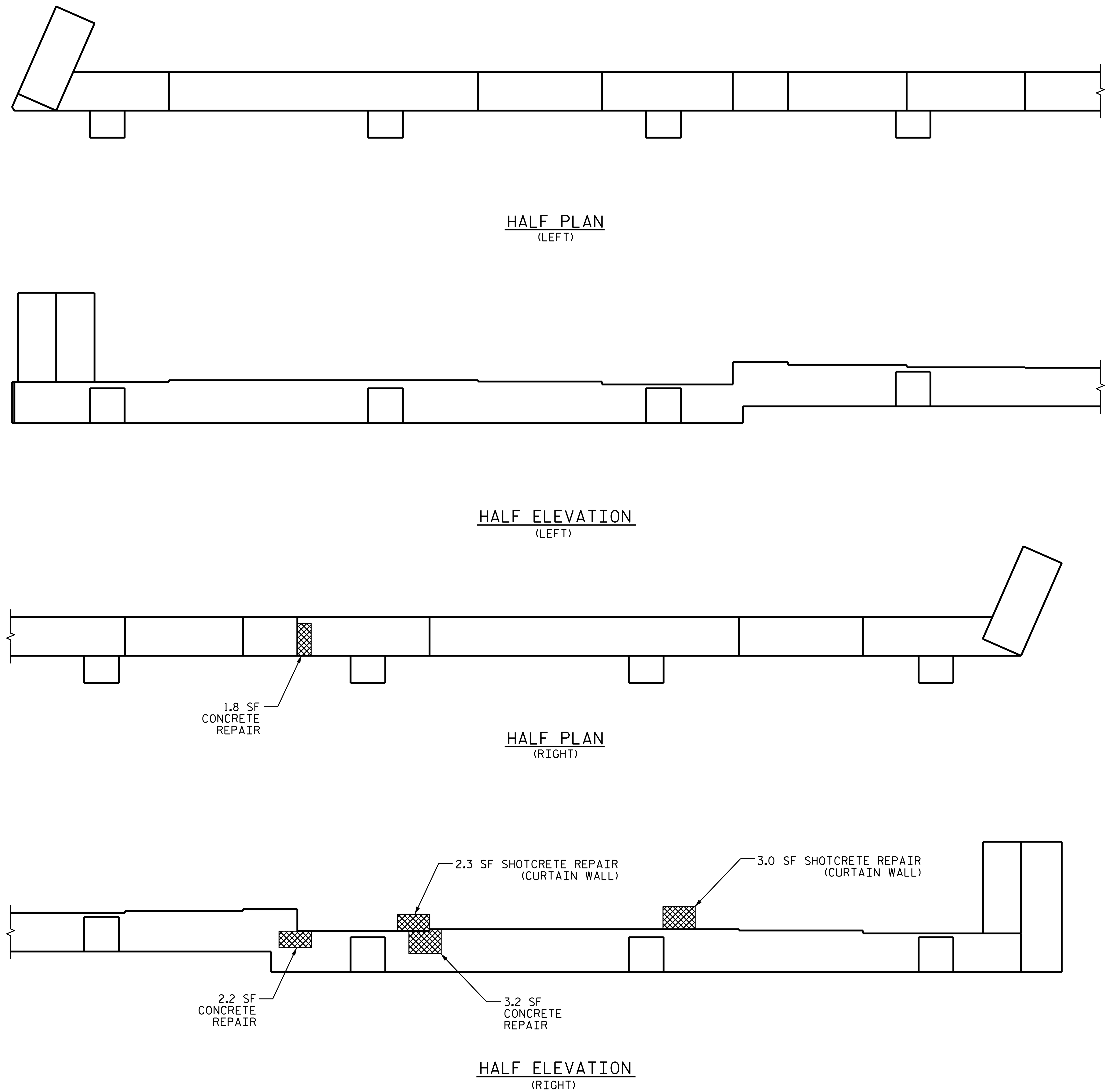

END BENT 2

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS END BENT 2	QUANTITIES ESTIMATE		QUANTITIES ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
CURTAIN WALL	5.3	2.2 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	7.2	3.0 *		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
CURTAIN WALL		0.0		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. 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 REPAIR SUMMARY OF QUANTITIES TABLE.

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

* QUANTITIES HAVE BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

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

CONCRETE REPAIRS TO THE CAP AT END BENT 2 MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING DETAILS, SEE "JACKING DETAILS" SHEET.

DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000
GASTON COUNTY
BRIDGE NO. 120
SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

END BENT 2

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE
1/11/2017

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NO.	BY:	DATE:	NO.	BY:	DATE:		S-6
1			3				TOTAL SHEETS
2			4				30

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CHECKED BY : J. YANNACCONE DATE : 11/2016

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NOTES

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

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

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

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.

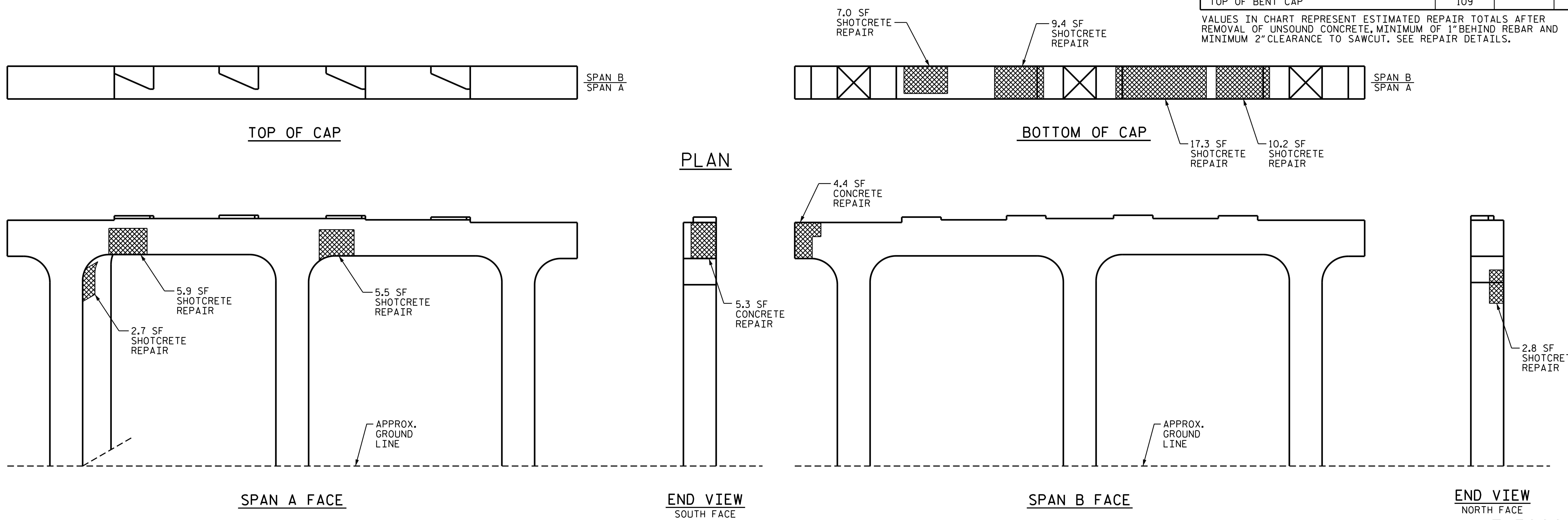
* QUANTITY HAS BEEN INCREASED DUE TO THE POTENTIAL FOR FURTHER DETERIORATION SINCE THE FIELD INSPECTION BY STRUCTURES MANAGEMENT UNIT.

CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING DETAILS, SEE "JACKING DETAILS" SHEET.

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 1 (LEFT)	QUANTITIES: ESTIMATE		QUANTITIES: ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	55.3	23.0 *		
COLUMN	5.5	2.3 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	9.7	4.0 *		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT		SQ. FT
TOP OF BENT CAP		109		

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.



ELEVATION

DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 1 OF 3

DocuSigned by: John A. Yannaccone

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 32492 JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 1
(LEFT SECTION)

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NOTES

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

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

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

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.

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

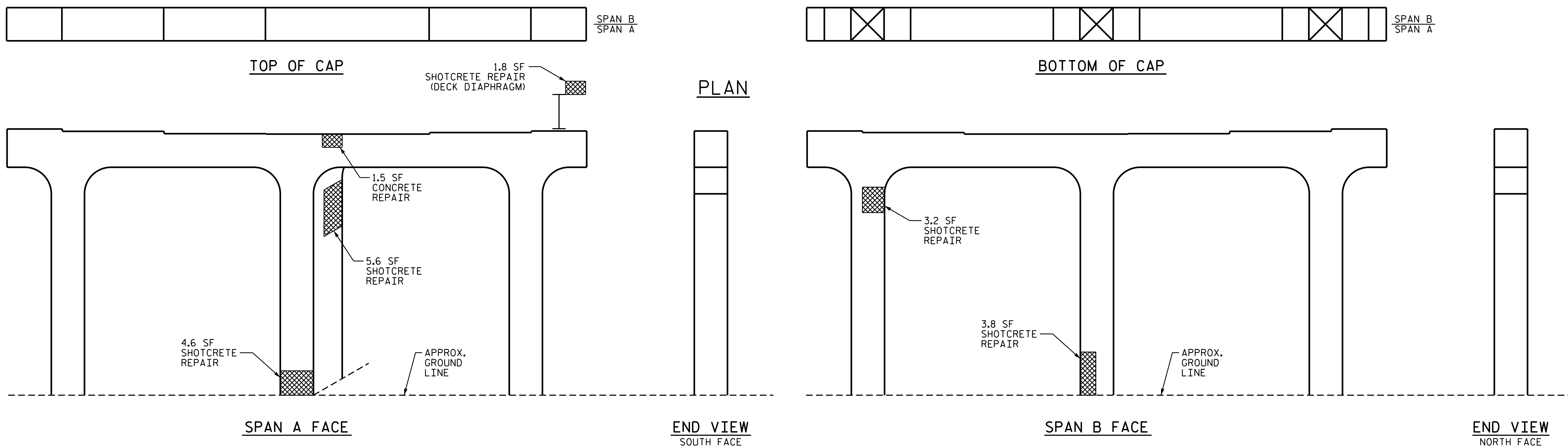
FOR SHOTCRETE REPAIR OF DECK DIAPHRAGM, SEE "OVERHANG AND DIAPHRAGM REPAIR DETAILS" SHEET.

CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING DETAILS, SEE "JACKING DETAILS" SHEET.

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 1 (CENTER)	QUANTITIES ESTIMATE		QUANTITIES ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	17.2	7.2 *		
DECK DIAPHRAGM	1.8	0.8 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	1.5	0.6 *		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT		SQ. FT
TOP OF BENT CAP		109		

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.



PLAN

ELEVATION

DAMAGED AREA

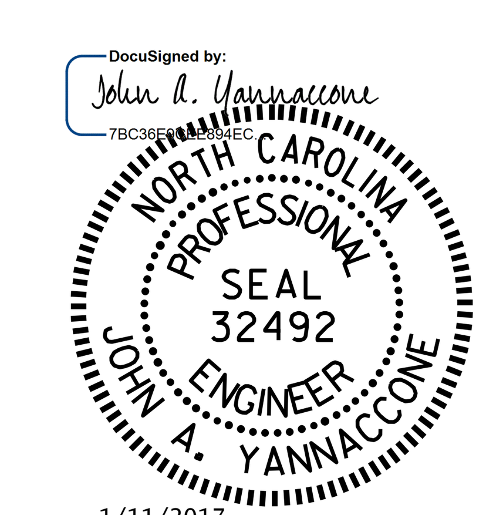
EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 2 OF 3



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 1
(CENTER SECTION)

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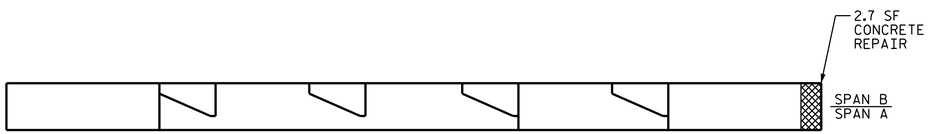
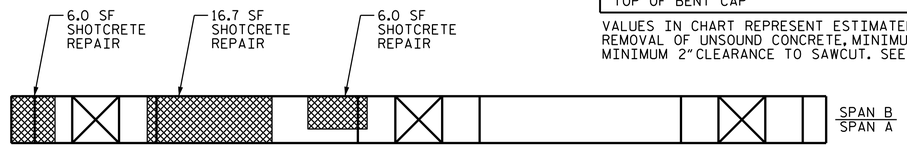
AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 1 (RIGHT)	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	28.7	12.0 ✱		
COLUMN	22.8	9.5 ✱		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	52.4	21.8 ✱		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT		SQ. FT
TOP OF BENT CAP		109		

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.

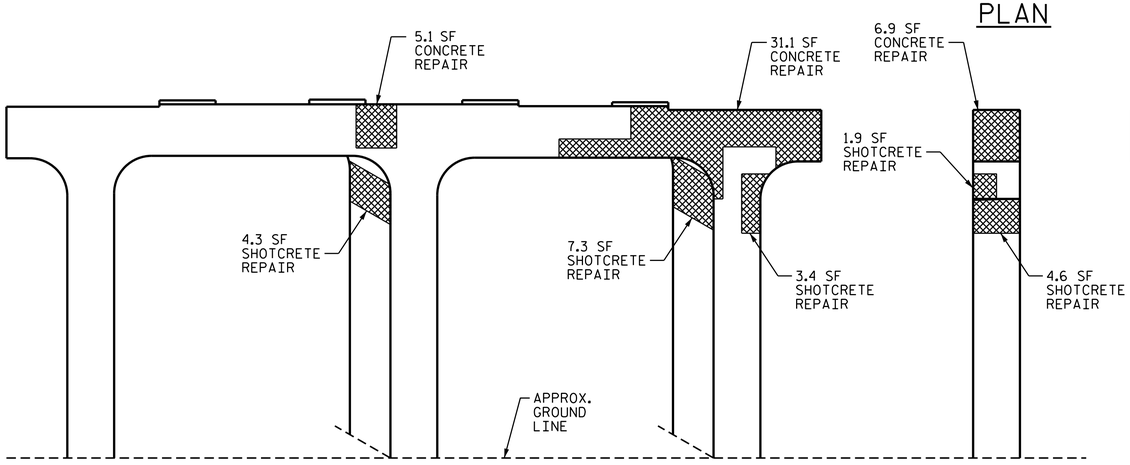


TOP OF CAP



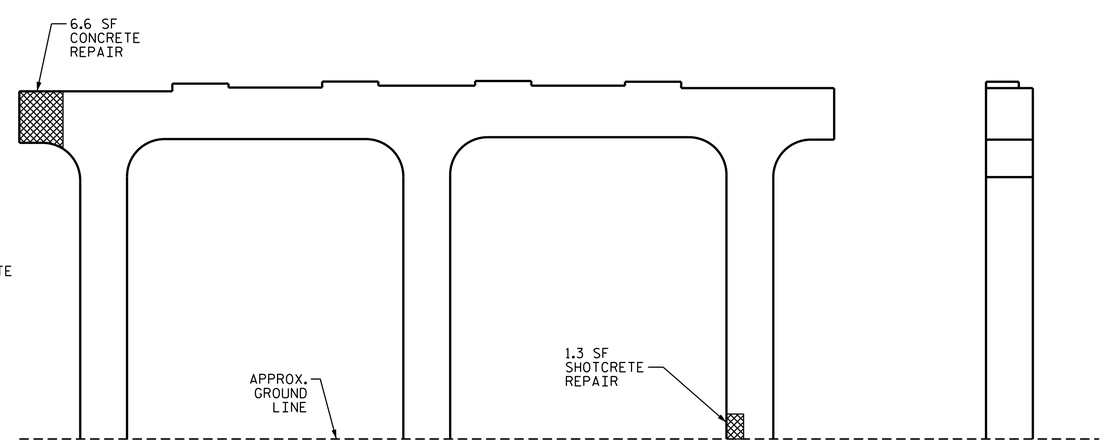
BOTTOM OF CAP

PLAN



SPAN A FACE

END VIEW
SOUTH FACE



SPAN B FACE

END VIEW
NORTH FACE

ELEVATION

DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 3 OF 3

DocuSigned by: John A. Yannaccone

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 1
(RIGHT SECTION)

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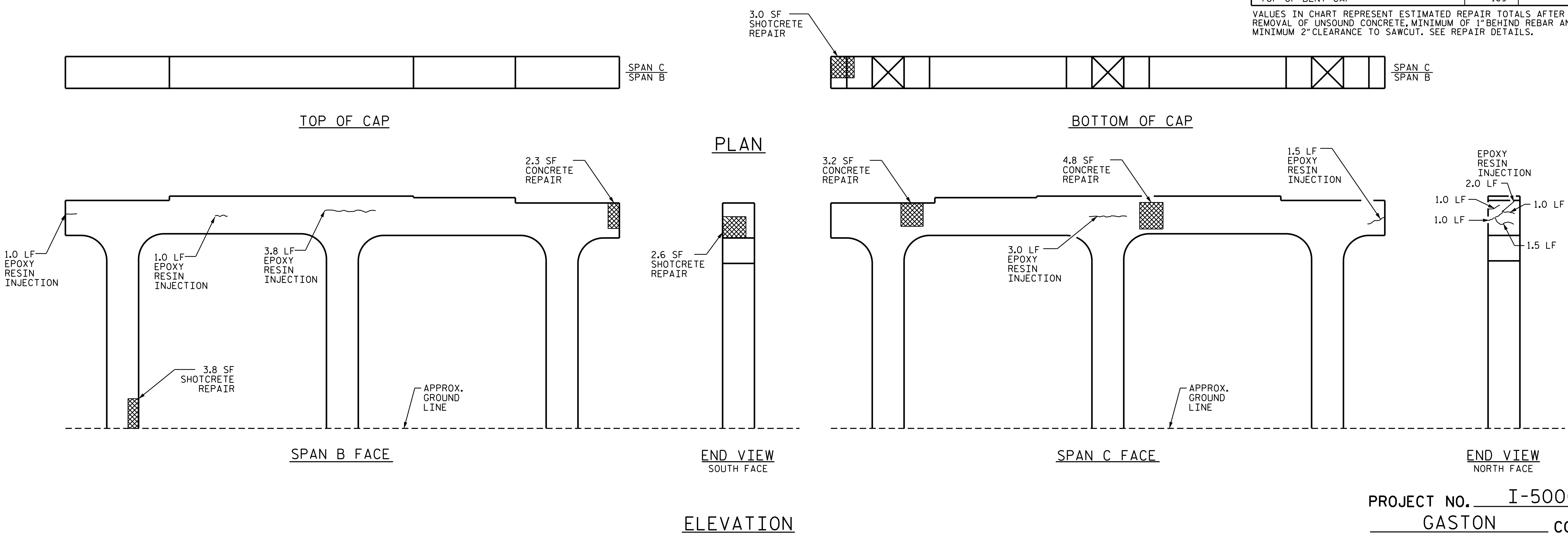
AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 2 (LEFT)	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	5.6	2.3 *		
COLUMN	3.8	1.6 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	10.3	4.3 *		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		16.8		
COLUMN		0.0		
EPOXY COATING		SQ. FT		SQ. FT
TOP OF BENT CAP		109		

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.



DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 1 OF 3

DocuSigned by: John A. Yannaccone

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 2
(LEFT SECTION)

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NOTES

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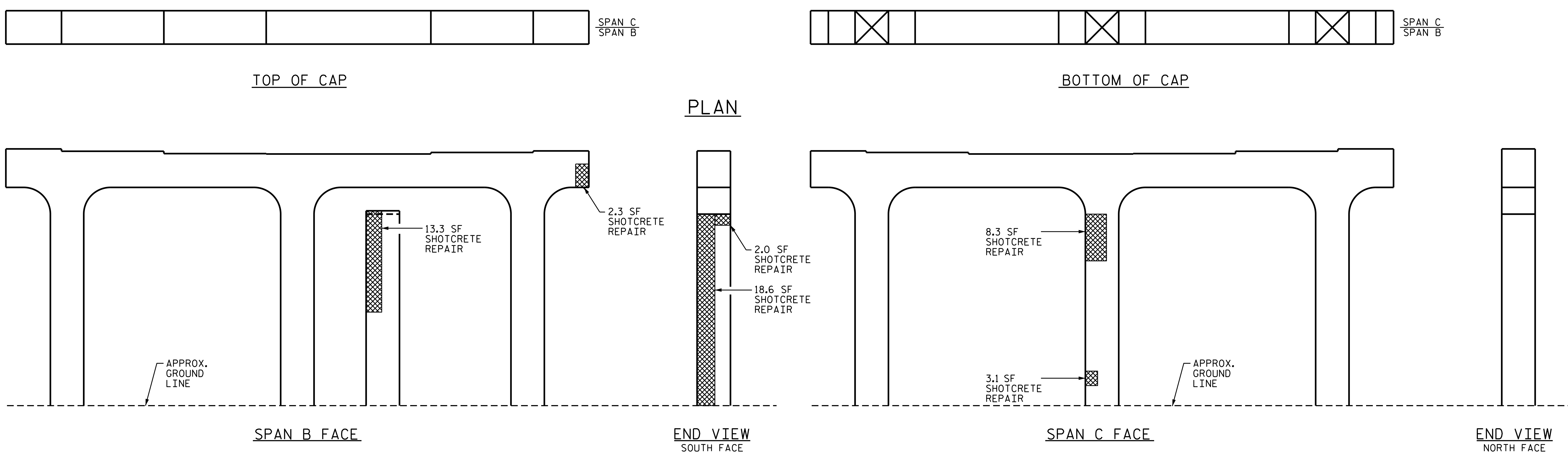
AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 2 (CENTER)	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	2.3	1.0 *		
COLUMN	45.3	18.9 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT		SQ. FT
TOP OF BENT CAP		109		

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.



ELEVATION
(COLUMN FACE IS UNWRAPPED FOR CLARITY)

DAMAGED AREA

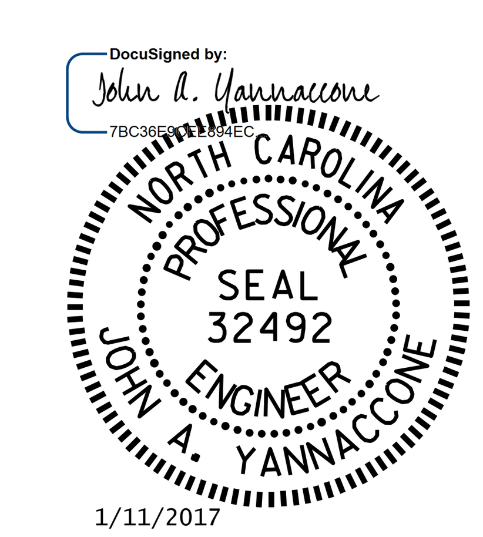
EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 2 OF 3



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 2
(CENTER SECTION)

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NOTES

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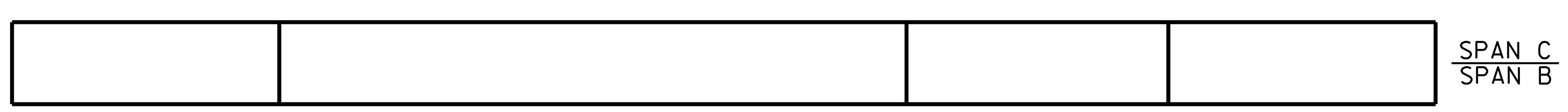
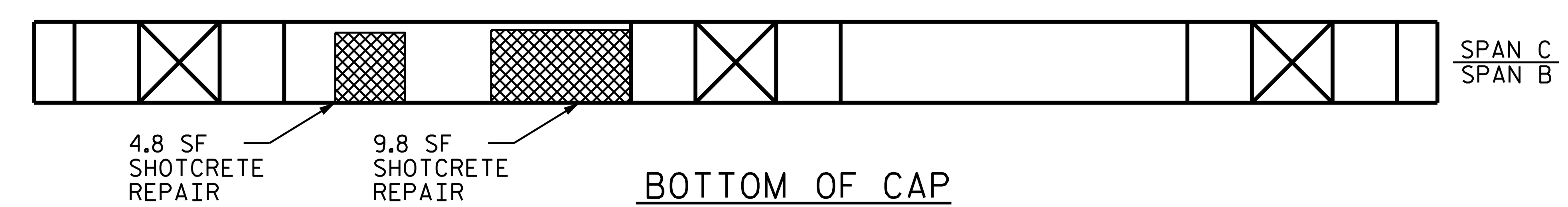
AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 2 (RIGHT)	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	18.1	7.5 *		
COLUMN	0.0	0.0 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMN		3.0		
EPOXY COATING		SQ. FT		SQ. FT
TOP OF BENT CAP		109		

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.

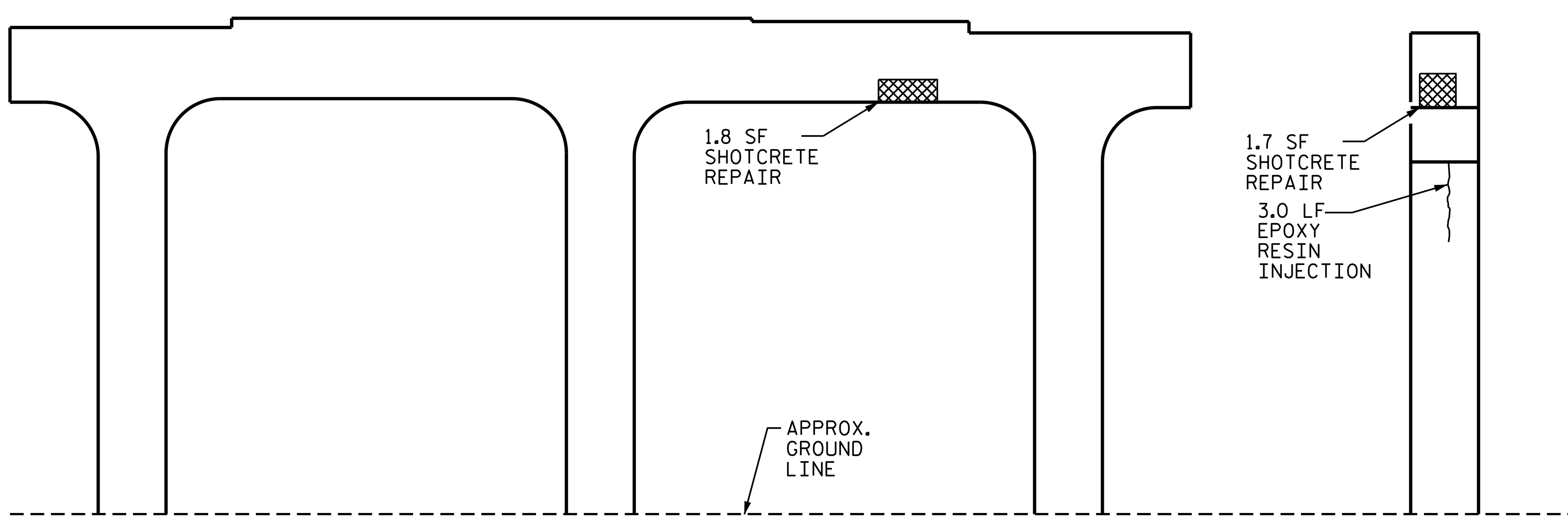


TOP OF CAP



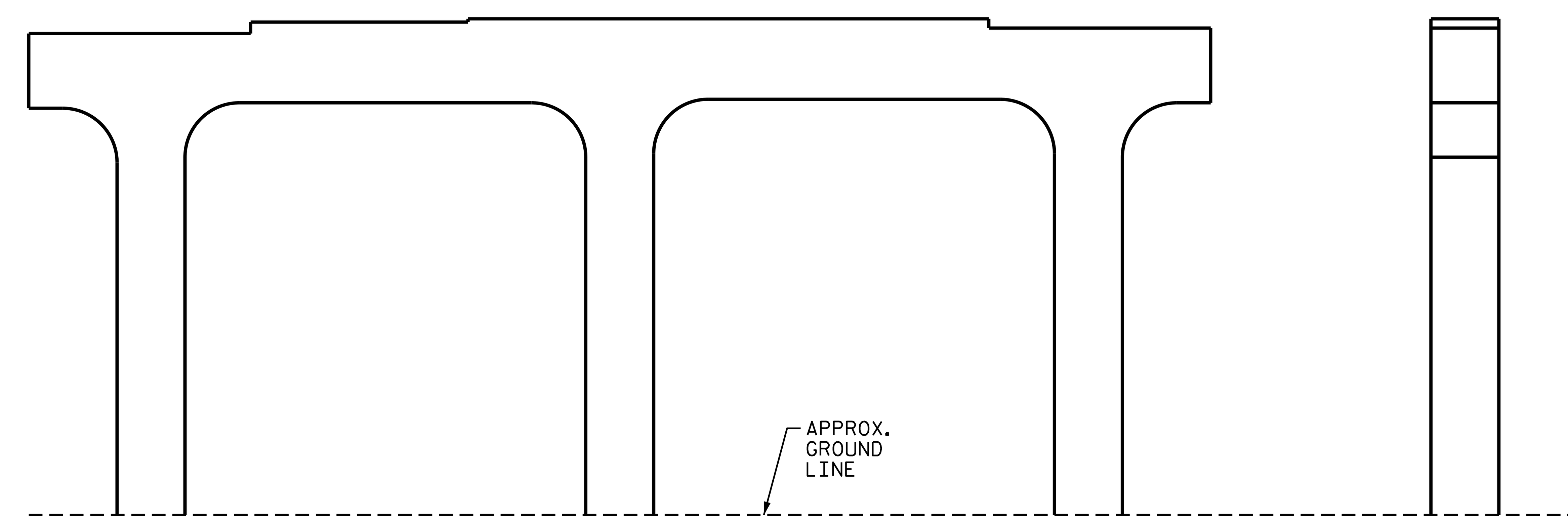
BOTTOM OF CAP

PLAN



SPAN B FACE

END VIEW
SOUTH FACE



SPAN C FACE

END VIEW
NORTH FACE

ELEVATION

DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000
GASTON COUNTY
BRIDGE NO. 120
SHEET 3 OF 3

DocuSigned by: John A. Yannaccone

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE
1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 2
(RIGHT SECTION)

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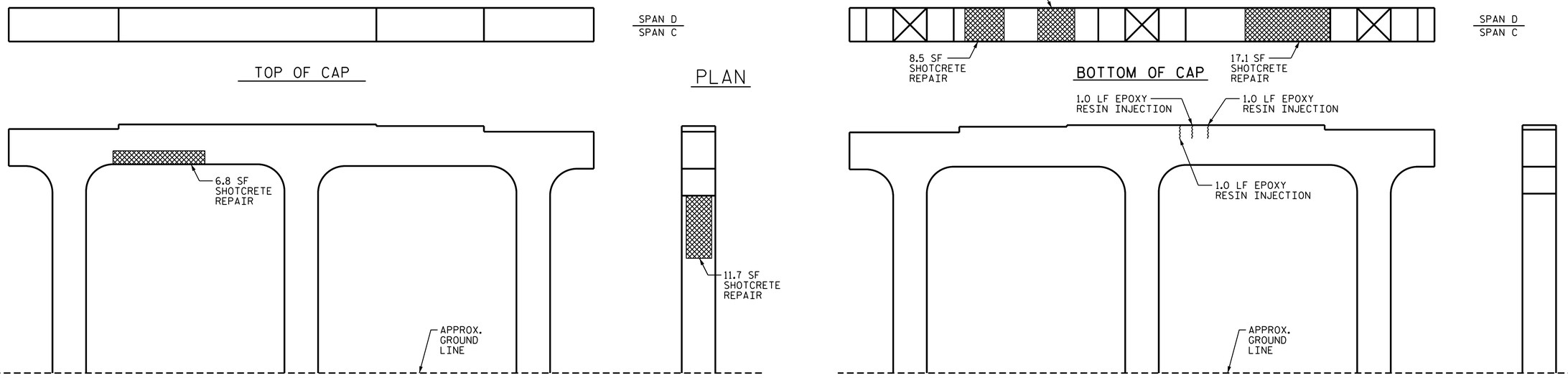
AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 3 (LEFT)	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	40.5	16.9 ✱		
COLUMN	11.7	4.9 ✱		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		3.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		109		

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



ELEVATION

DAMAGED AREA

EPOXY RESIN INJECTION

DocuSigned by: John A. Yannaccone 78C4E...

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 3
(LEFT SECTION)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13
1			3			TOTAL SHEETS
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AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 3 (CENTER)	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	18.3	7.6 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMN		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		109		

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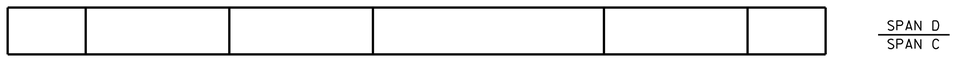
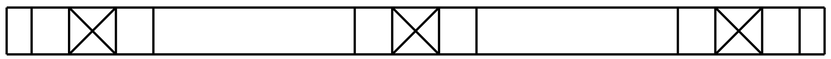
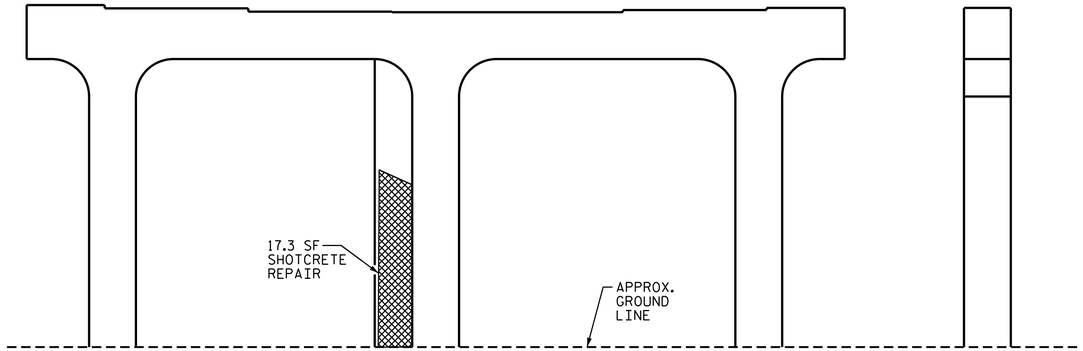


TOP OF CAP

PLAN

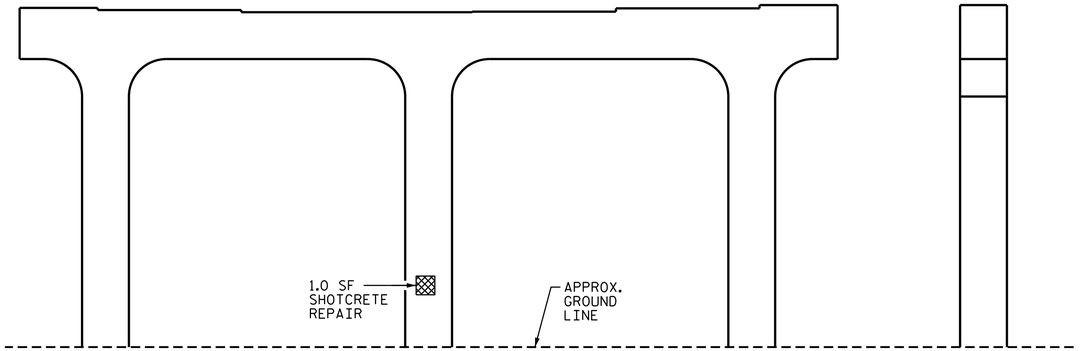


BOTTOM OF CAP



SPAN C FACE

END VIEW
SOUTH FACE



SPAN D FACE

END VIEW
NORTH FACE

ELEVATION

(COLUMN FACE IS SHOWN UNWRAPPED FOR CLARITY)

DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 2 OF 3

DocuSigned by: John A. Yannaccone 7B0E...

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 3

(CENTER SECTION)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14
1			3			TOTAL SHEETS
2			4			30

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NOTES

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

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

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

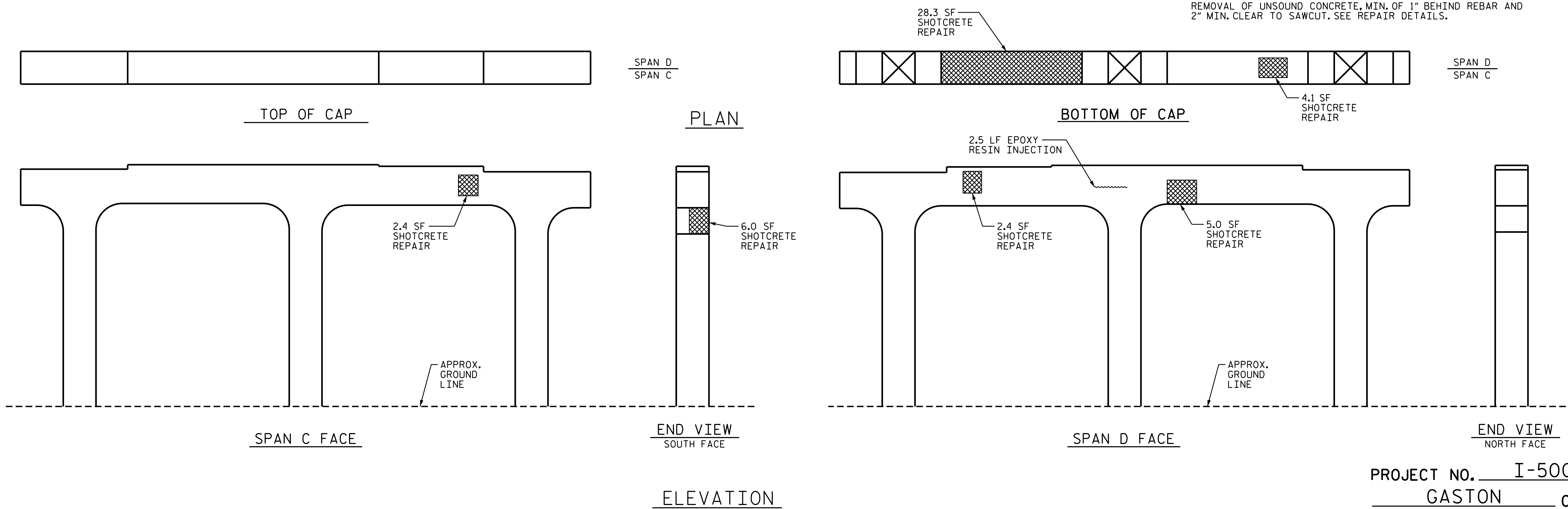
EPOXY COATING SHALL BE APPLIED TO THE TOP FACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 3 (RIGHT)	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	42.2	17.6 *		
COLUMN	6.0	2.5 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		2.5		
COLUMN		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		109		

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



DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 3 OF 3

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NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 3
(RIGHT SECTION)

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NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
1			3			TOTAL SHEETS
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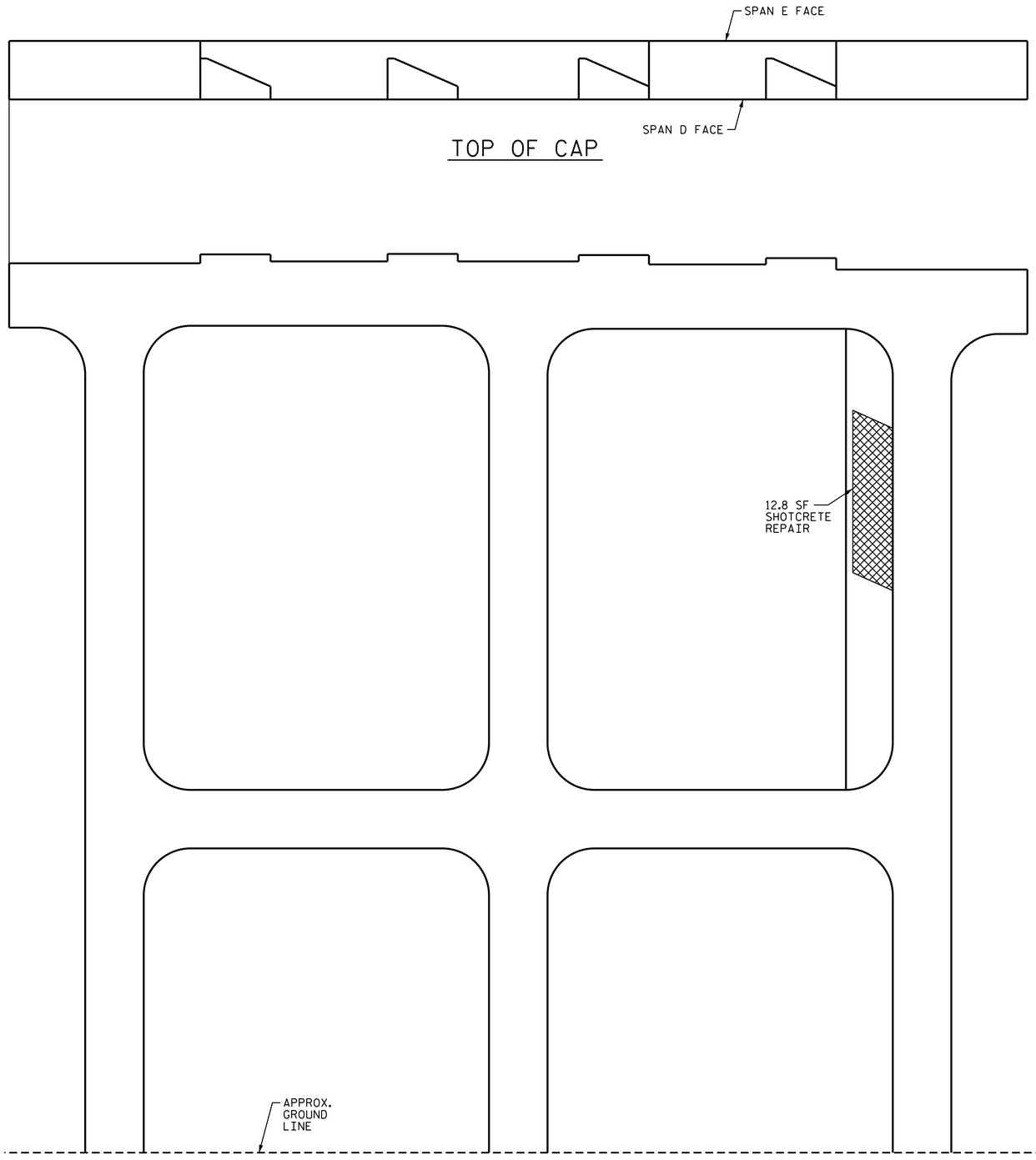
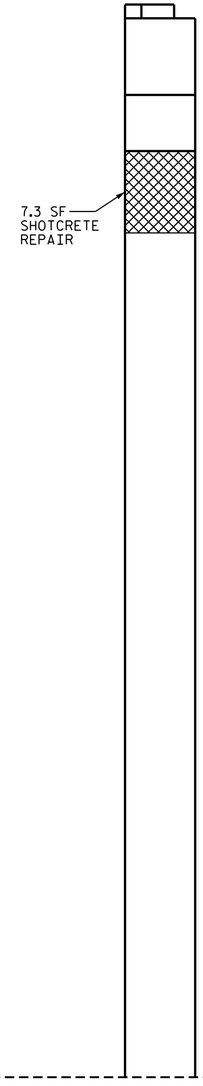


ELEVATION

(COLUMN FACE IS SHOWN UNWRAPPED FOR CLARITY)



END VIEW

SOUTH FACE

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 4 (LEFT)	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	36.6	15.3 *		
COLUMNS & STRUTS	20.1	8.4 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	6.6	2.8 *		
COLUMNS & STRUTS	10.5	4.4 *		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		109		

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

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CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.

DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 1 OF 6

DocuSigned by: John A. Yannaccone

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 4
SPAN D FACE
(LEFT SECTION)

REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS
2			4			30

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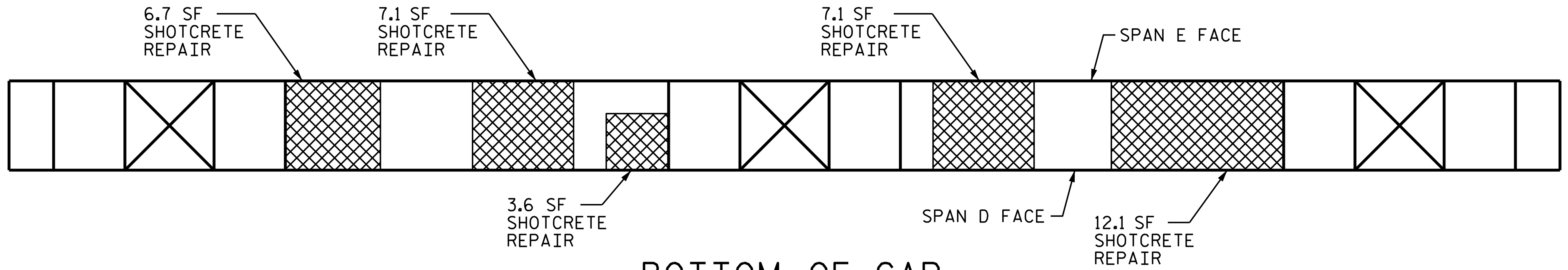
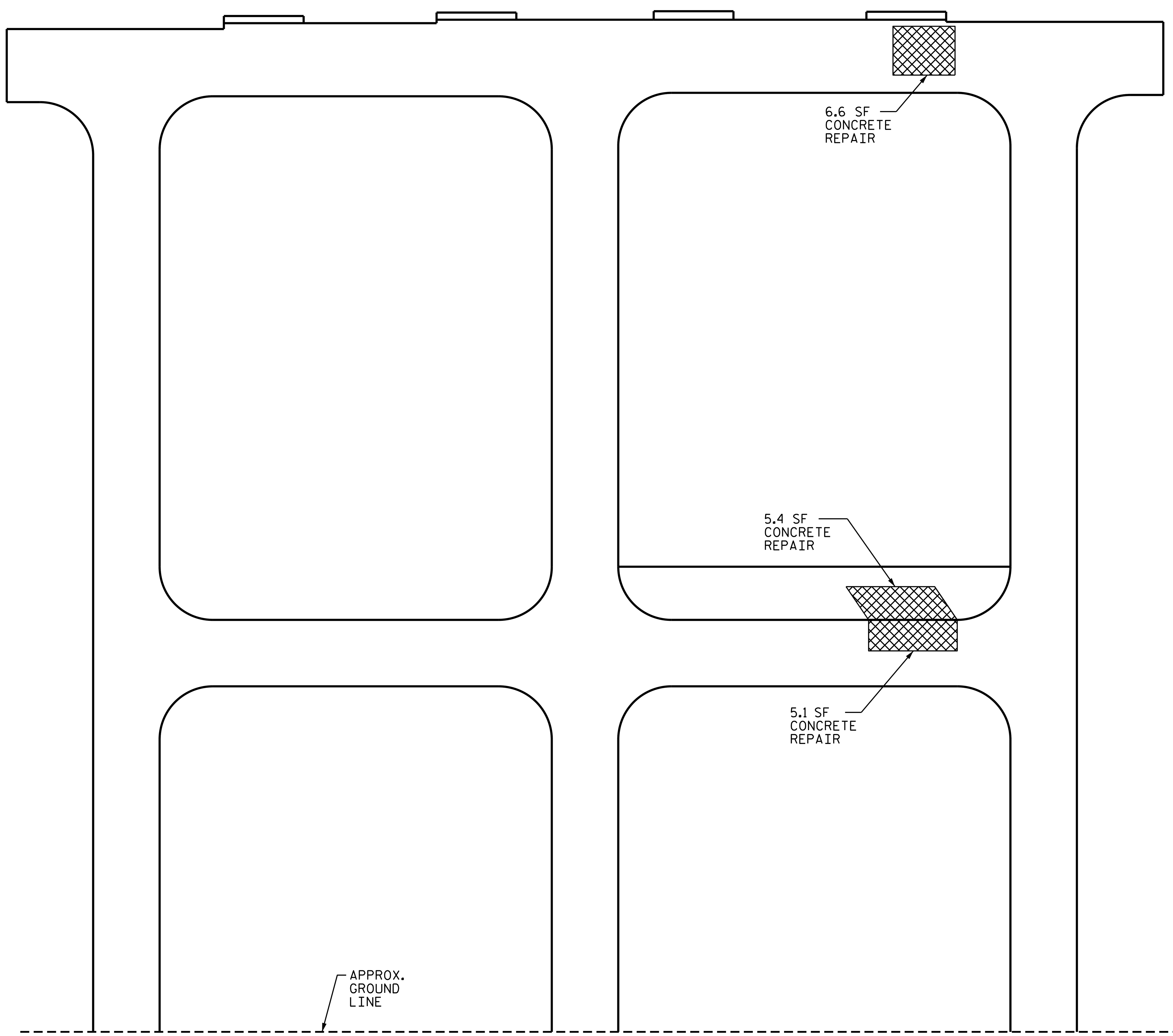
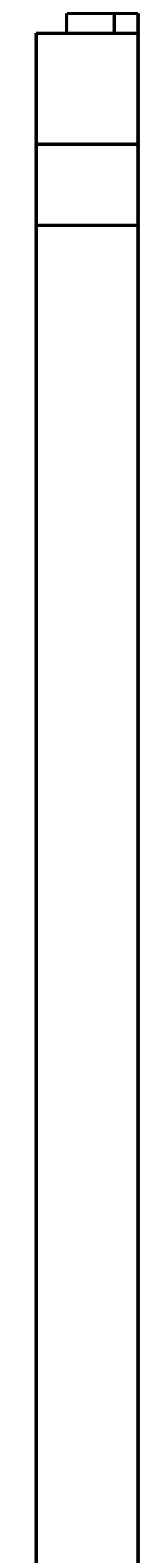


BOTTOM OF CAP



ELEVATION

(STRUT FACE IS SHOWN UNWRAPPED FOR CLARITY)



END VIEW

NORTH FACE

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DAMAGED AREA

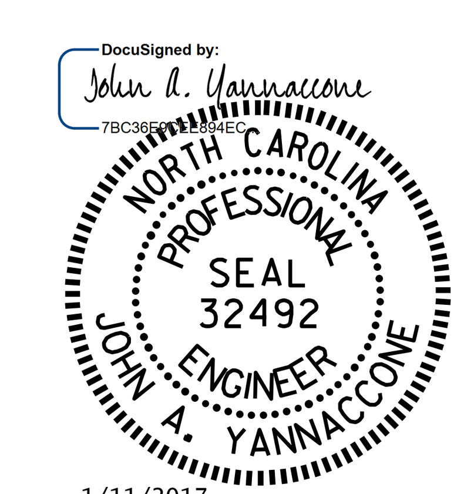
EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 2 OF 6



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 4
SPAN E FACE
(LEFT SECTION)

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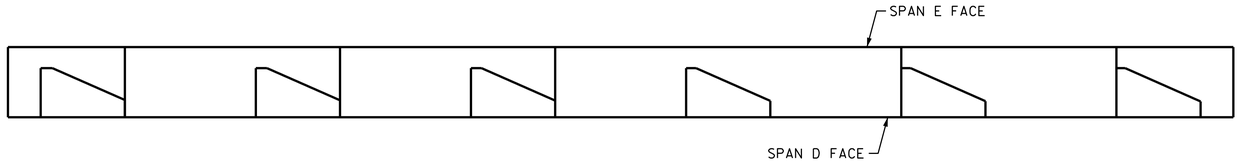
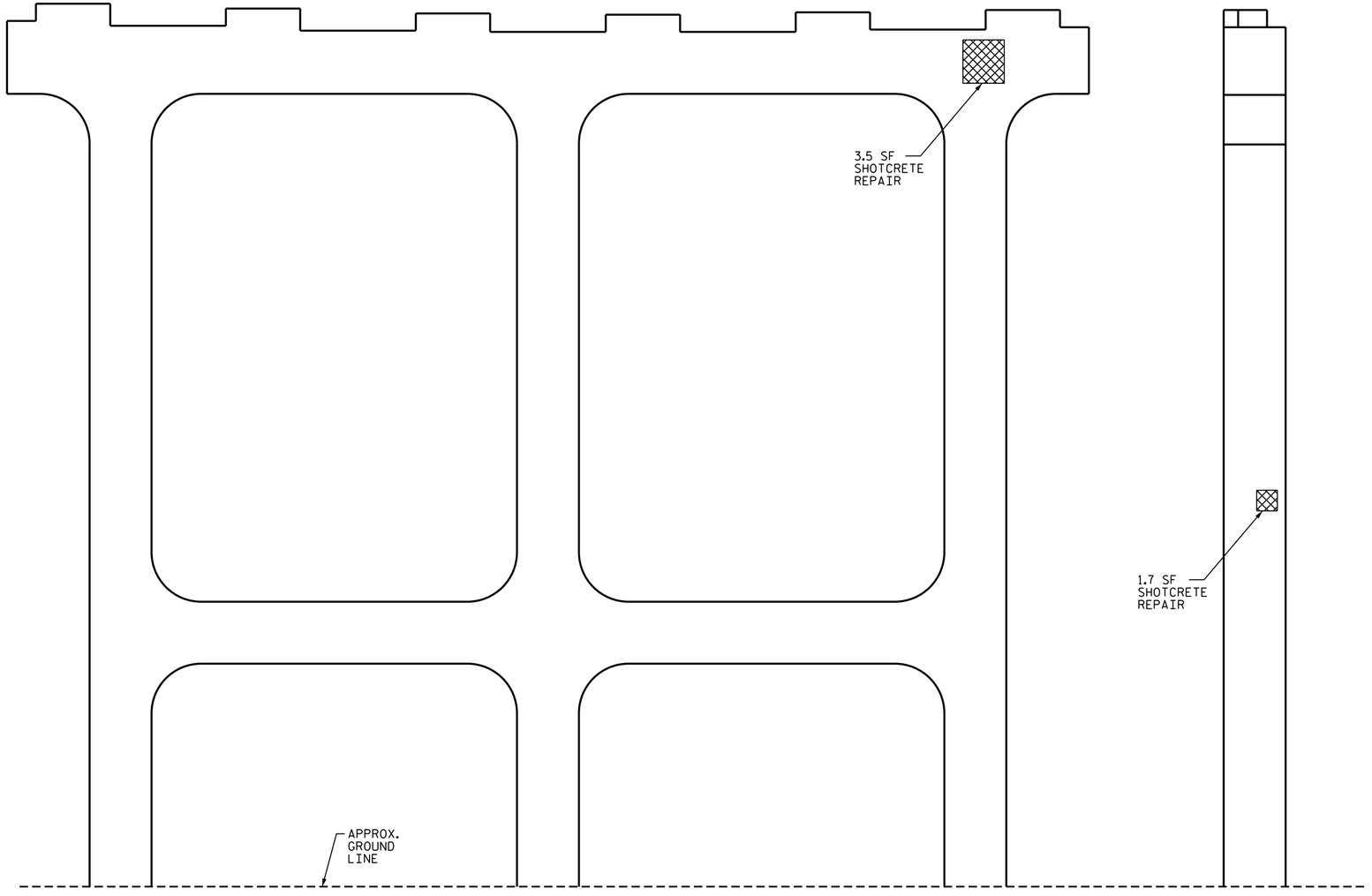


TOP OF CAP



ELEVATION

END VIEW
SOUTH FACE

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 4 (CENTER)	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	3.5	1.5 *		
COLUMNS & SRUTS	5.2	2.2 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMNS & SRUTS	2.0	0.8 *		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMNS & SRUTS		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		109		

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

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DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 3 OF 6

DocuSigned by: John A. Yannaccone 7BC3E...

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 4
SPAN D FACE
(CENTER SECTION)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-18
1			3			TOTAL SHEETS
2			4			30

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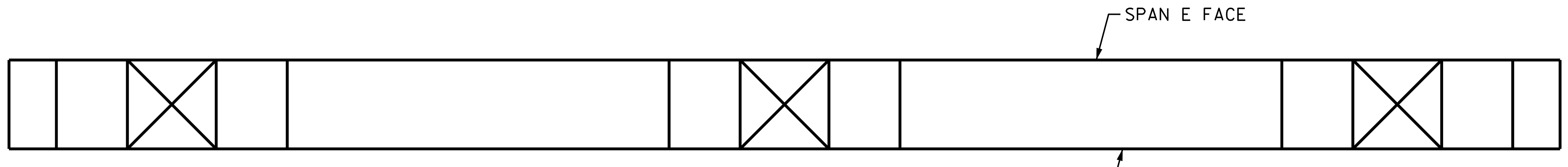
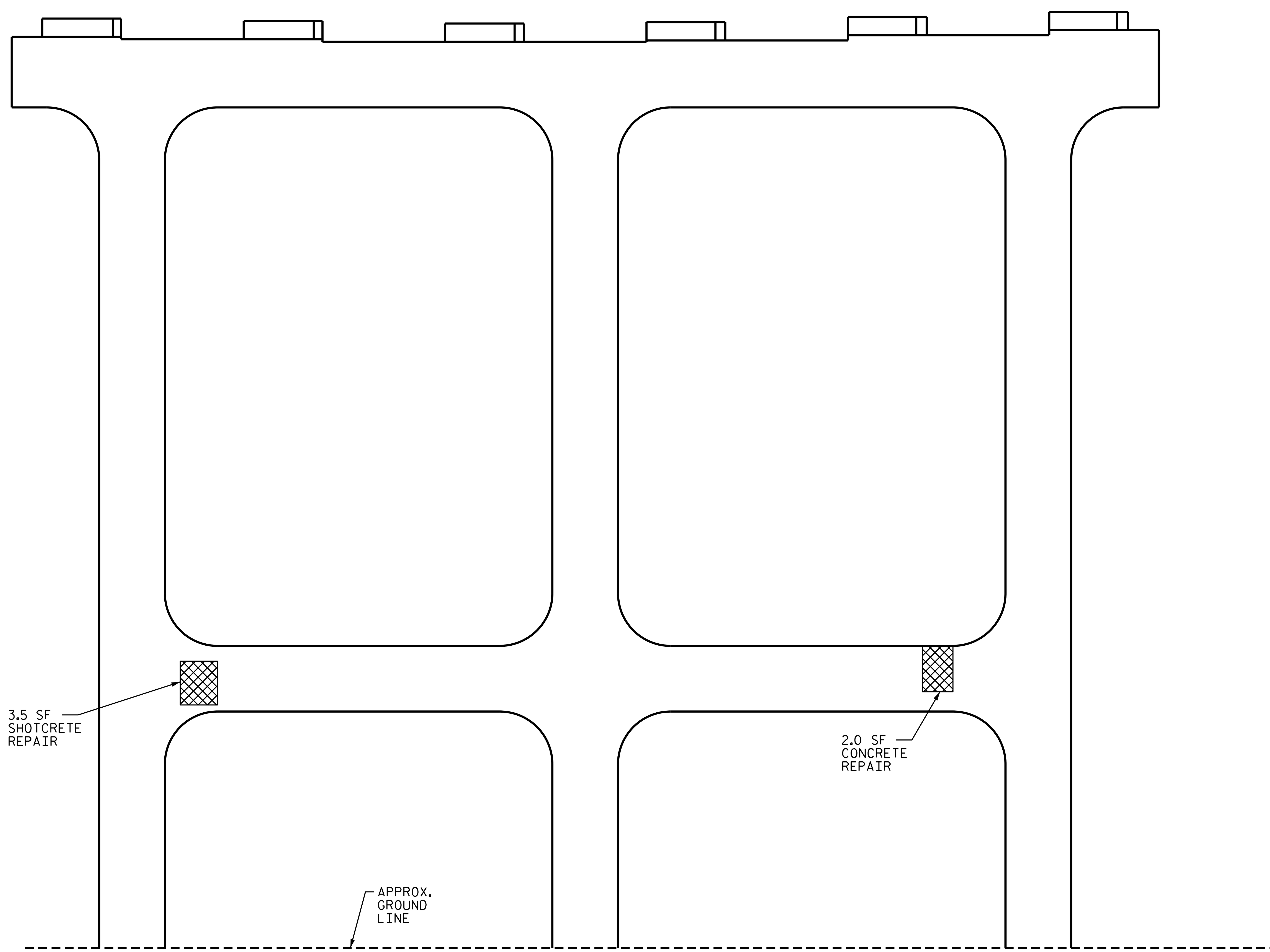
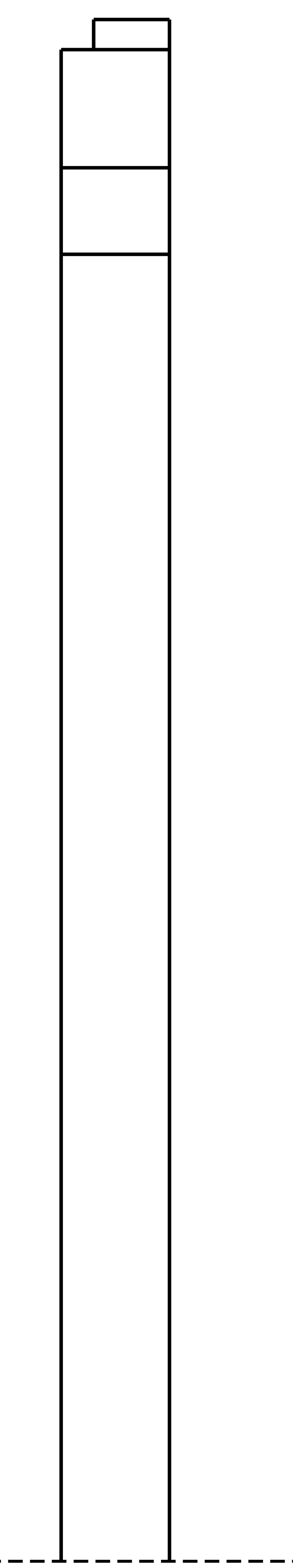


BOTTOM OF CAP



ELEVATION



END VIEW
NORTH FACE

NOTES

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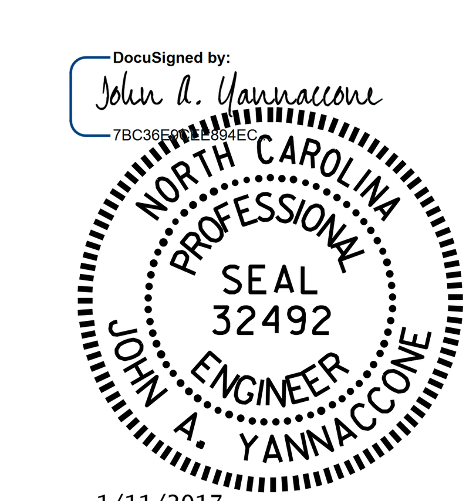
DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000
GASTON COUNTY
BRIDGE NO. 120
SHEET 4 OF 6



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 4
SPAN E FACE
(CENTER SECTION)

REVISIONS								SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:			S-19
1			3					TOTAL SHEETS
2			4					30

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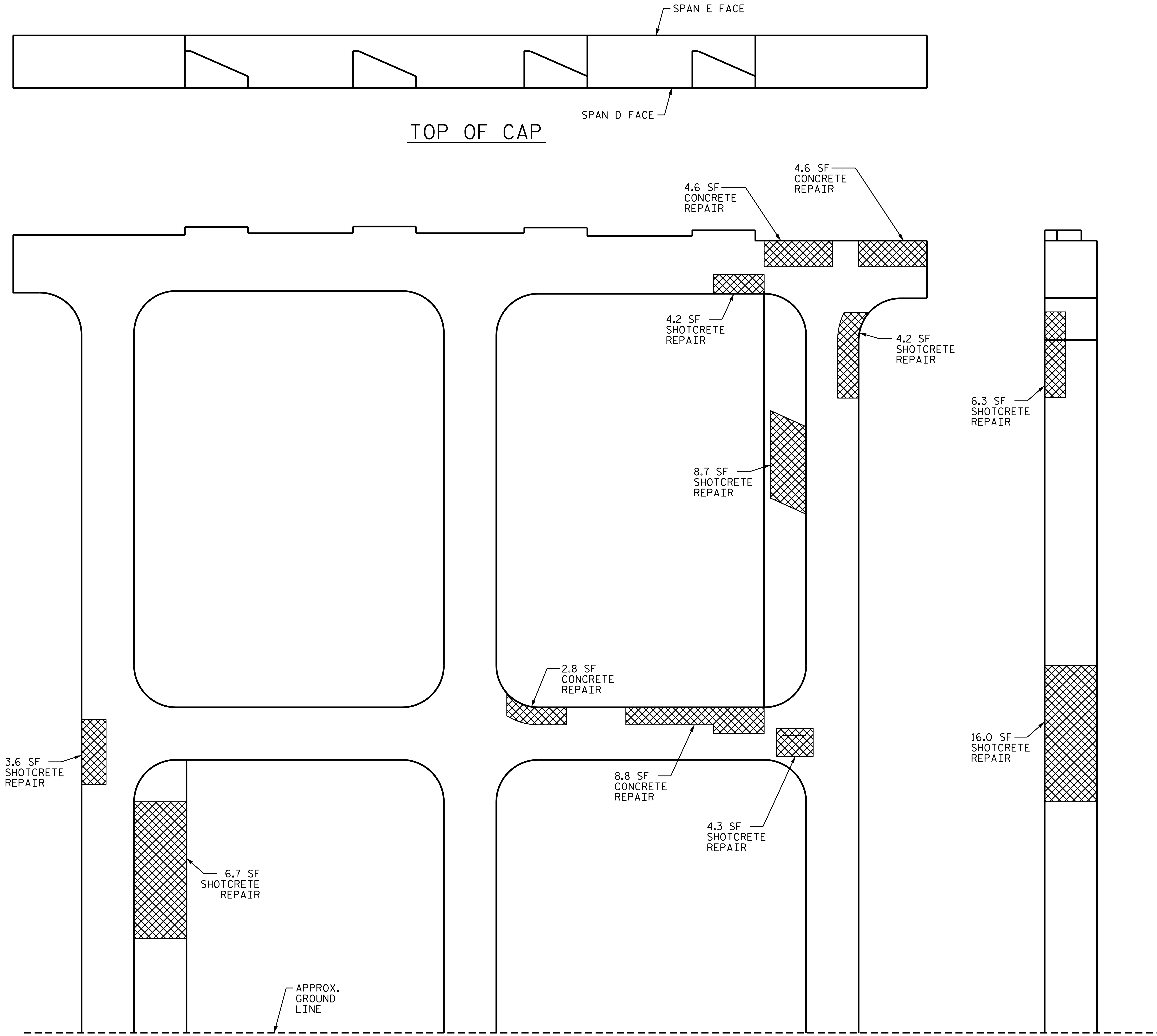
AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 4 (RIGHT)	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	60.6	25.3 *		
COLUMNS & STRUTS	70.7	29.5 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	31.3	13.8 *		
COLUMNS & STRUTS	21.9	12.1 *		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		109		

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



ELEVATION
(COLUMN FACE IS SHOWN UNWRAPPED FOR CLARITY)

END VIEW
SOUTH FACE

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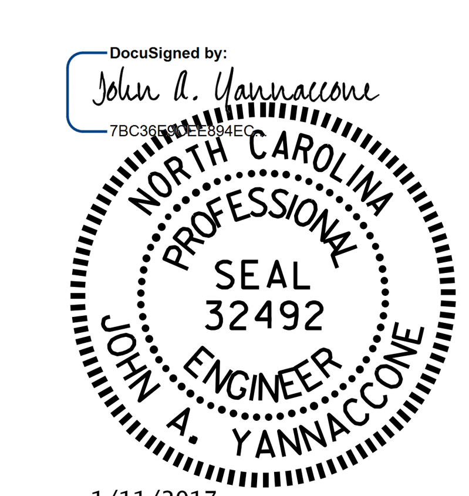
DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000
GASTON COUNTY
BRIDGE NO. 120
SHEET 5 OF 6



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 4
SPAN D FACE
(RIGHT SECTION)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-20
1			3			TOTAL SHEETS
2			4			30

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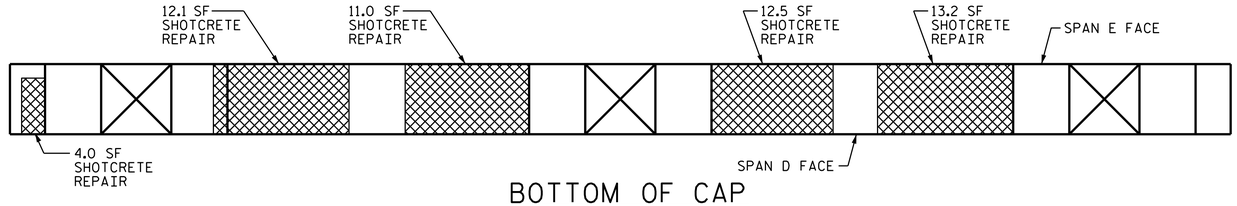
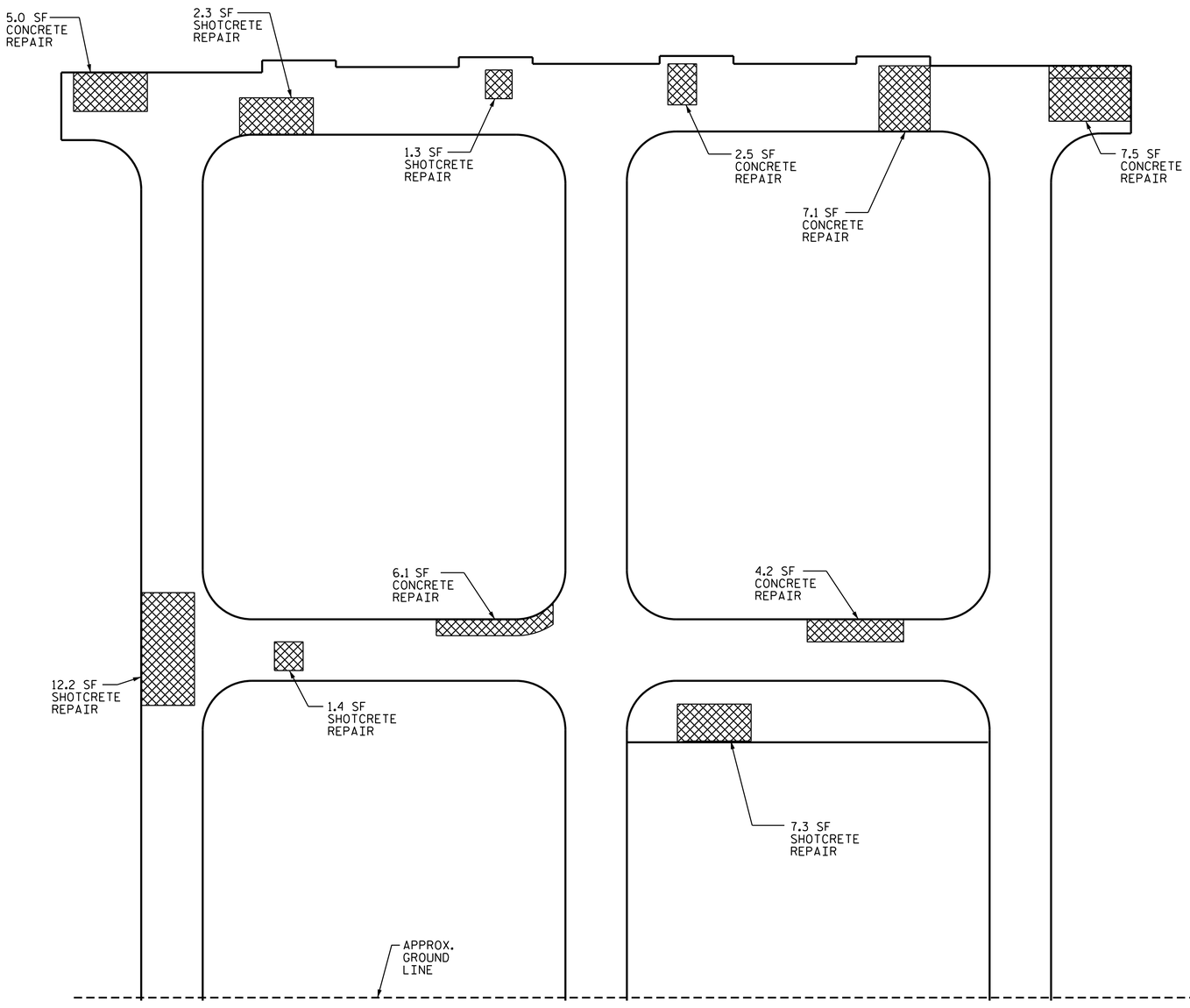
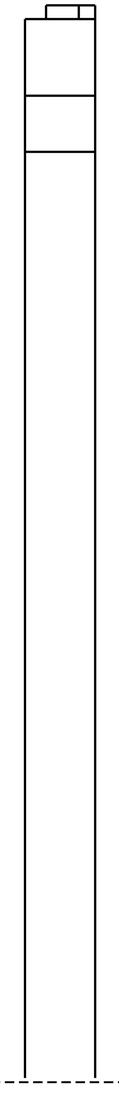


BOTTOM OF CAP



ELEVATION

(STRUT FACE IS SHOWN UNWRAPPED FOR CLARITY)



END VIEW

NORTH FACE

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DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 6 OF 6

DocuSigned by:
John A. Yannaccone
78C3...

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 4
SPAN E FACE
(RIGHT SECTION)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-21
1			3			TOTAL SHEETS
2			4			30

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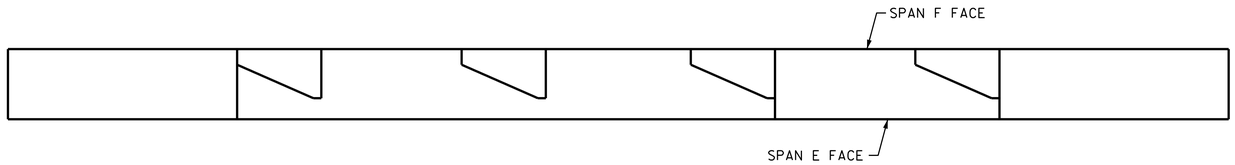
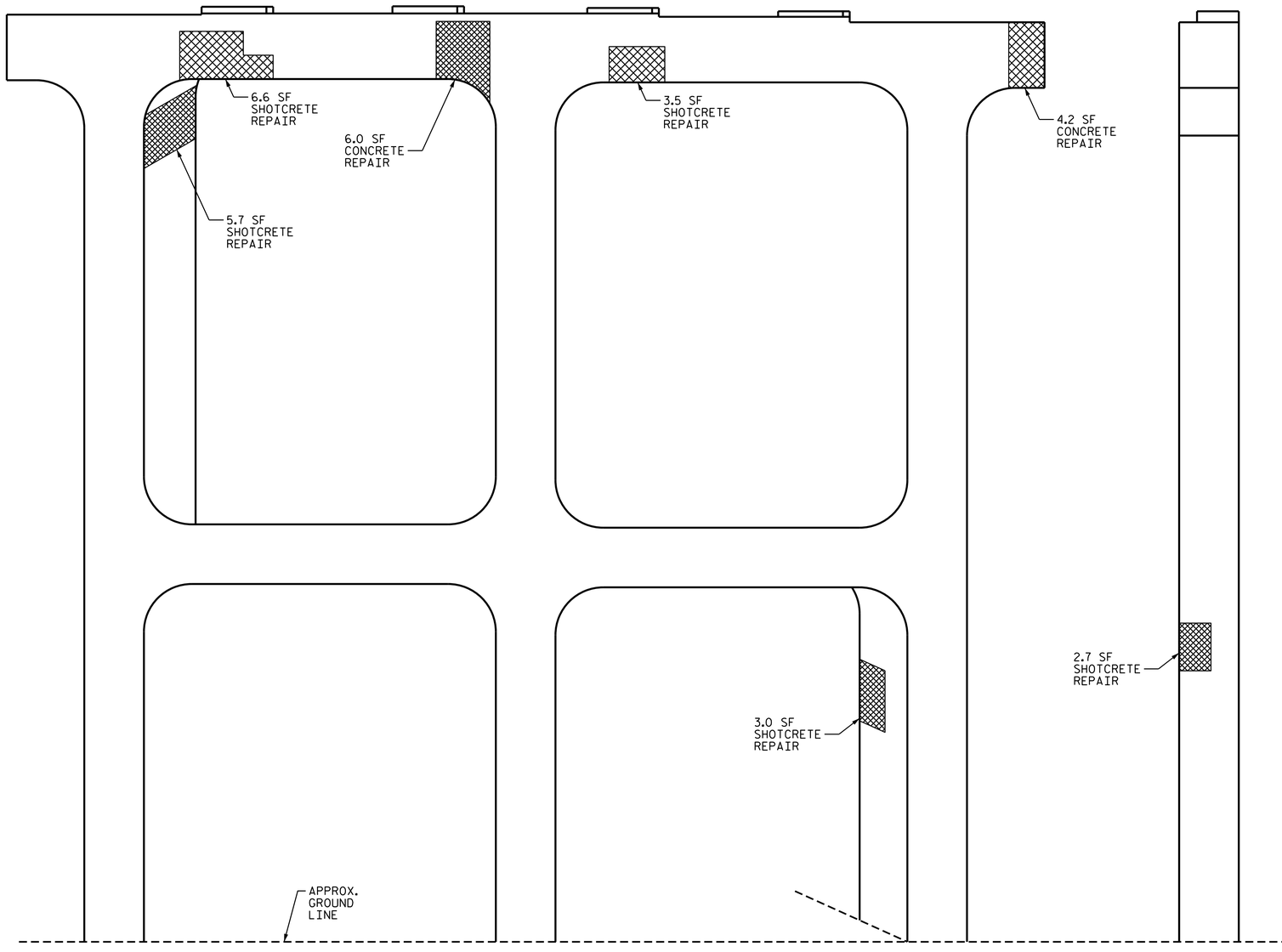


TOP OF CAP



ELEVATION

(COLUMN FACE IS SHOWN UNWRAPPED FOR CLARITY)

END VIEW

SOUTH FACE

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 5 (LEFT)	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	36.3	15.1 *		
COLUMNS & STRUTS	24.9	10.4 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	12.0	6.2 *		
COLUMNS & STRUTS	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		109		

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BEHIND REBAR AND 2" MIN. 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 REPAIR SUMMARY OF QUANTITIES TABLE.

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

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

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.

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

CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.

DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 1 OF 6

DocuSigned by: John A. Yannaccone 7BC3E...

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 5
SPAN E FACE
(LEFT SECTION)

REVISIONS						SHEET NO.
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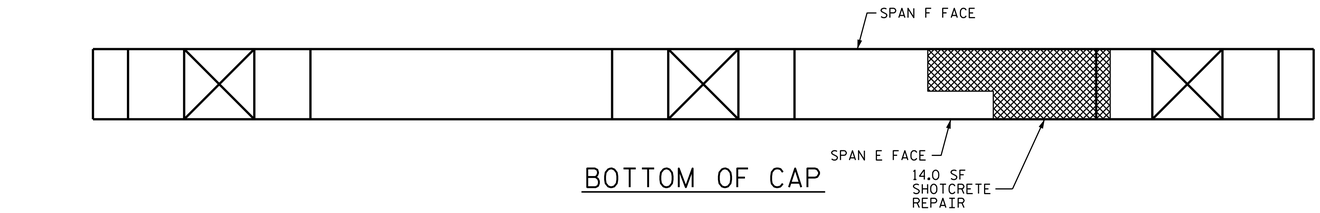
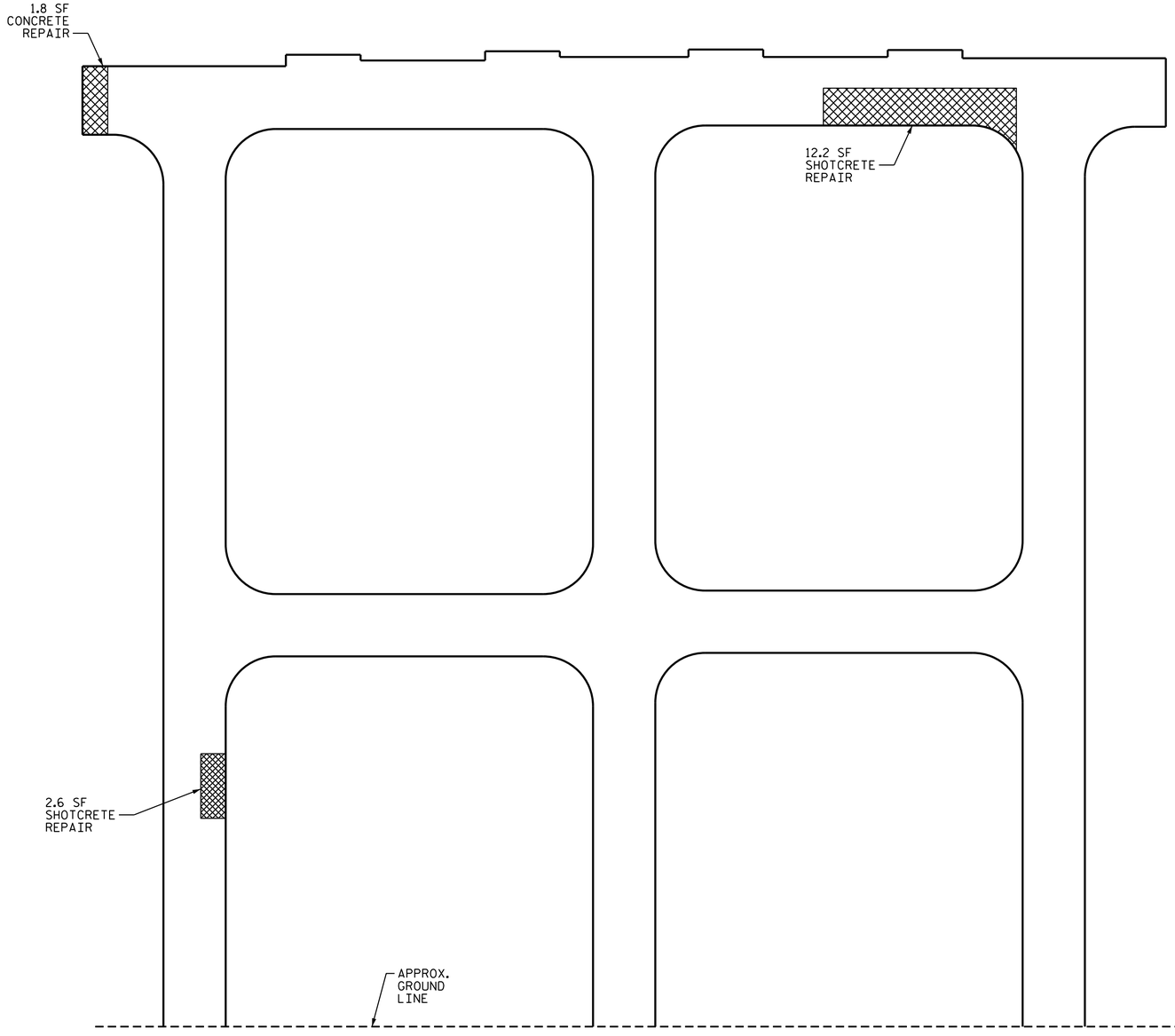
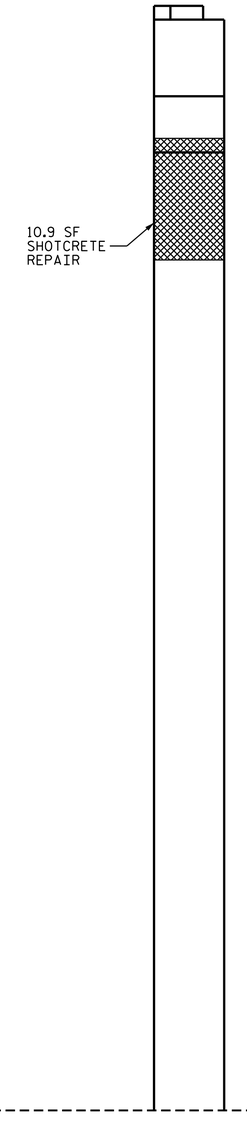


BOTTOM OF CAP



ELEVATION



END VIEW
NORTH FACE

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 REPAIR SUMMARY OF QUANTITIES TABLE.

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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.

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

CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.

DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 2 OF 6

DocuSigned by:
John A. Yannaccone
78C3...

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 5
SPAN F FACE
(LEFT SECTION)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-23
1			3			TOTAL SHEETS
2			4			30

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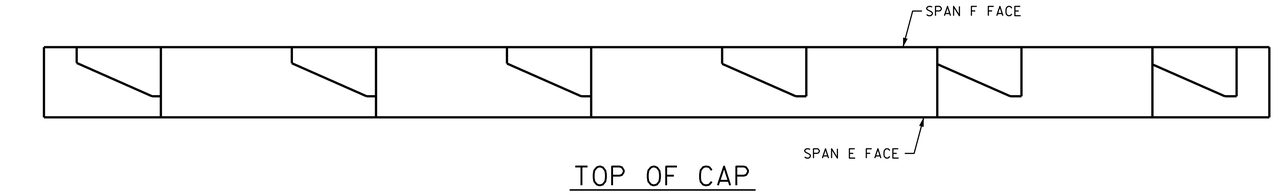
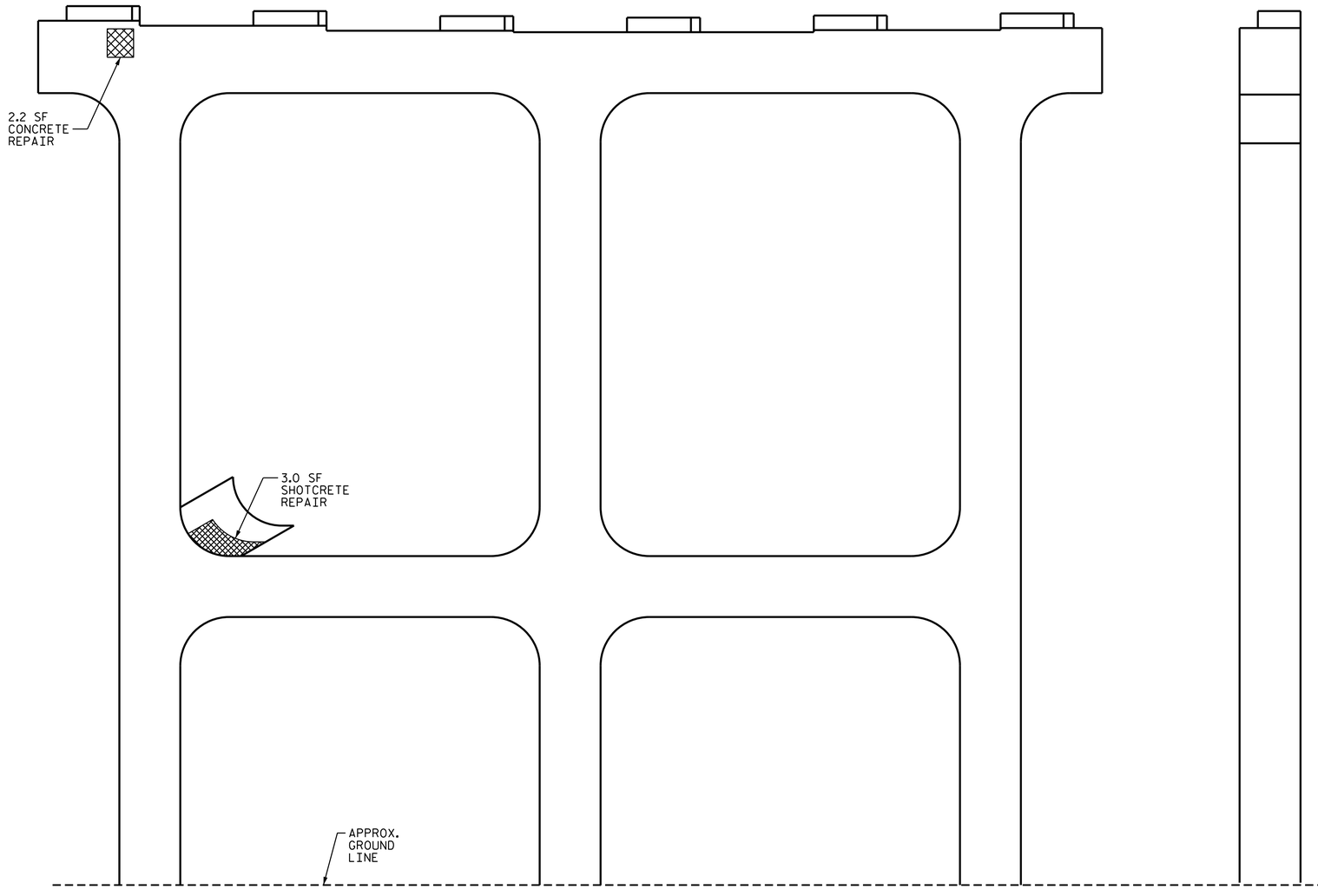


TOP OF CAP



ELEVATION

(STRUT FACE IS SHOWN UNWRAPPED FOR CLARITY)

END VIEW

SOUTH FACE

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 5 (CENTER)	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	0.0	0.0		
COLUMNS & STRUTS	3.0	1.3 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	6.5	2.7 *		
COLUMNS & STRUTS	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		109		

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

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DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 3 OF 6

DocuSigned by: John A. Yannaccone 7BC3...

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 5
SPAN E FACE
(CENTER SECTION)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-24
1			3			TOTAL SHEETS
2			4			30

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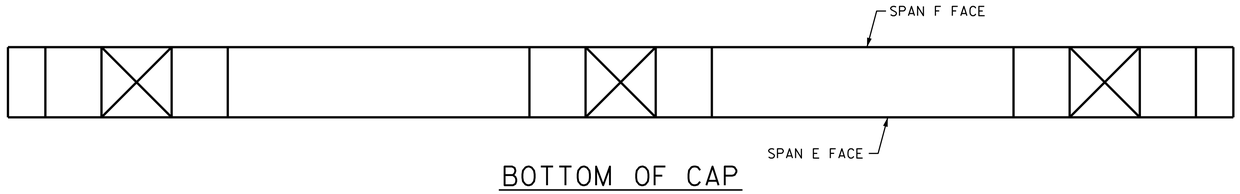
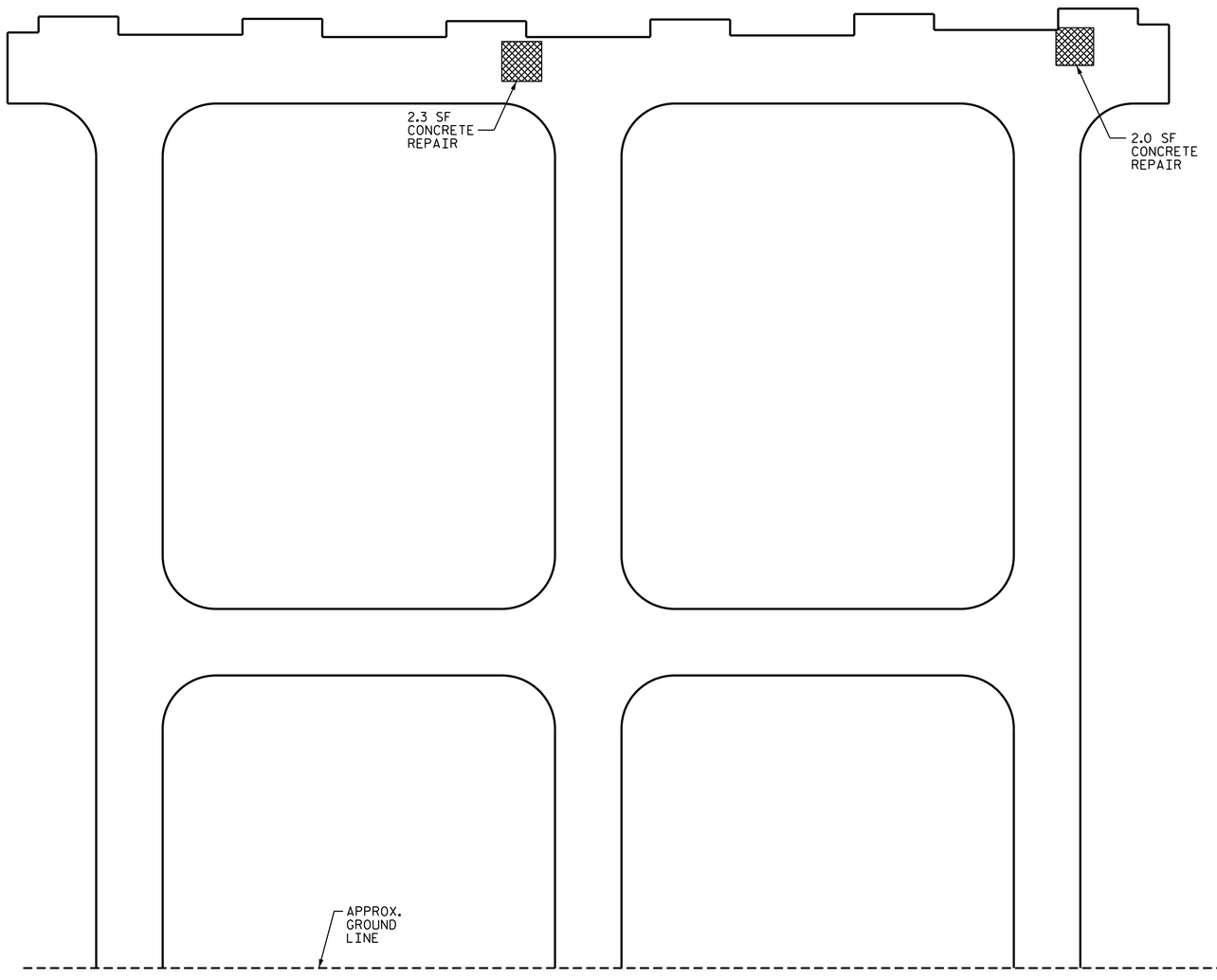
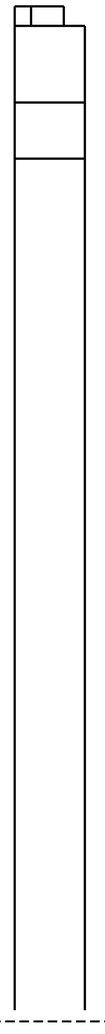


BOTTOM OF CAP



ELEVATION



END VIEW
NORTH FACE

NOTES

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DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 4 OF 6

DocuSigned by:
John A. Yannaccone
7BC3F...

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 5
SPAN F FACE
(CENTER SECTION)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-25
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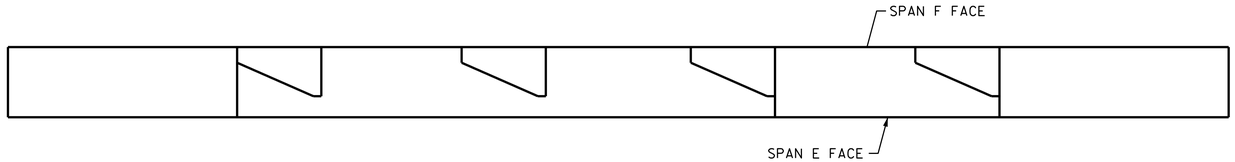
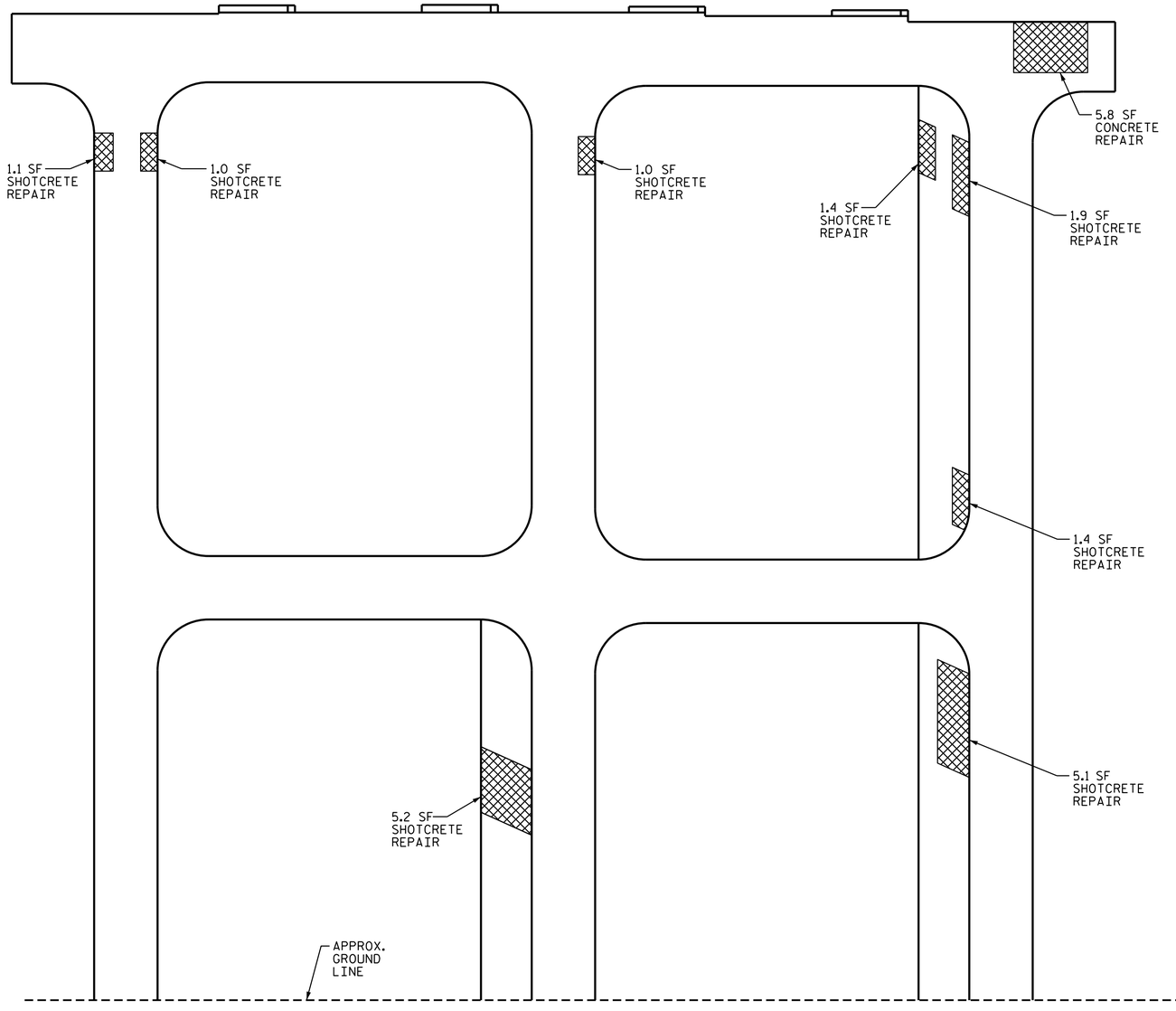
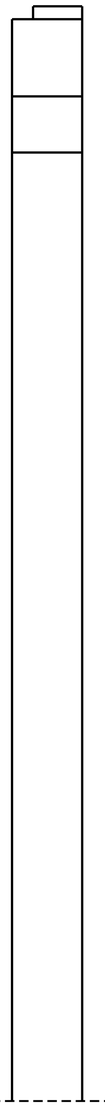


TOP OF CAP



ELEVATION

(COLUMN FACE IS SHOWN UNWRAPPED FOR CLARITY)



END VIEW

SOUTH FACE

AS-BUILT REPAIR QUANTITY TABLE

REPAIRS BENT 5 (RIGHT)	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	6.3	2.6 *		
COLUMNS & STRUTS	31.5	13.1 *		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP	5.8	2.9 *		
COLUMNS & STRUTS	0.0	0.0		
EPOXY RESIN INJECTION		LN. FT		LN. FT
CAP		0.0		
COLUMNS & STRUTS		0.0		
EPOXY COATING		SQ. FT.		SQ. FT.
TOP OF BENT CAP		109		

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

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CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.

DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 5 OF 6

DocuSigned by: John A. Yannaccone 78C3...

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 5 SPAN E FACE (RIGHT SECTION)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-26
1			3			TOTAL SHEETS
2			4			30

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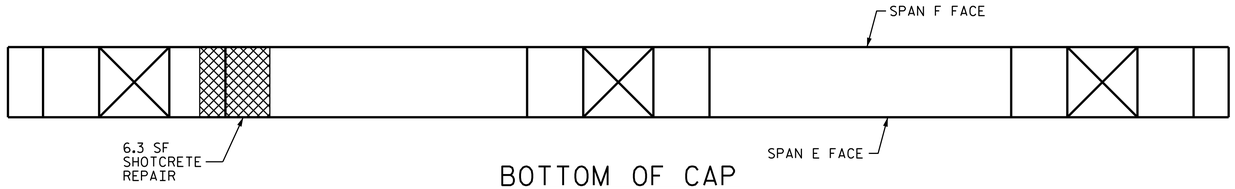
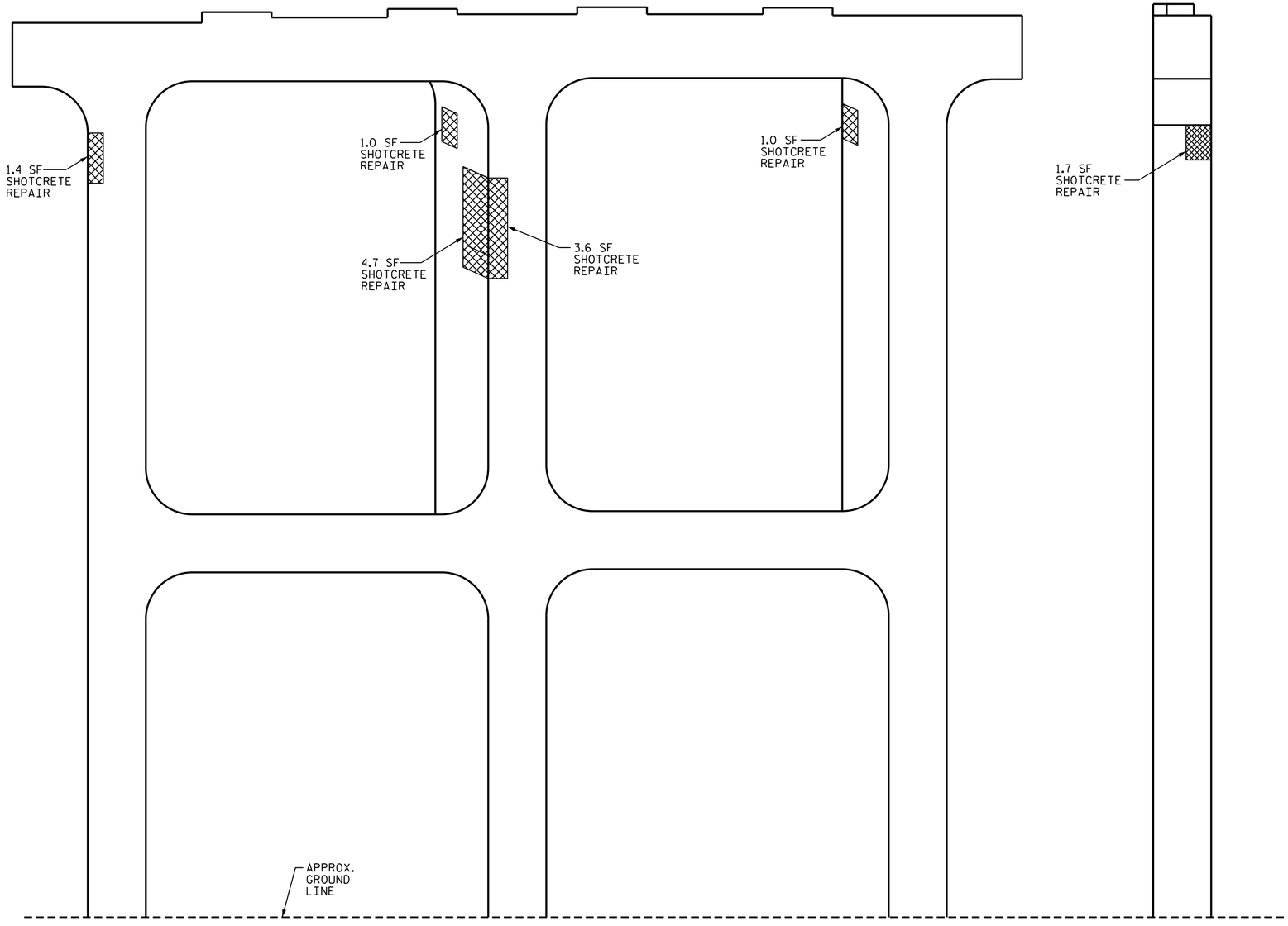


BOTTOM OF CAP



ELEVATION

(COLUMN FACE IS SHOWN UNWRAPPED FOR CLARITY)

END VIEW

NORTH FACE

NOTES

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CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.

DAMAGED AREA

EPOXY RESIN INJECTION

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

SHEET 6 OF 6

DocuSigned by:
John A. Yannaccone
78C3...

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 5
SPAN F FACE
(RIGHT SECTION)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-27
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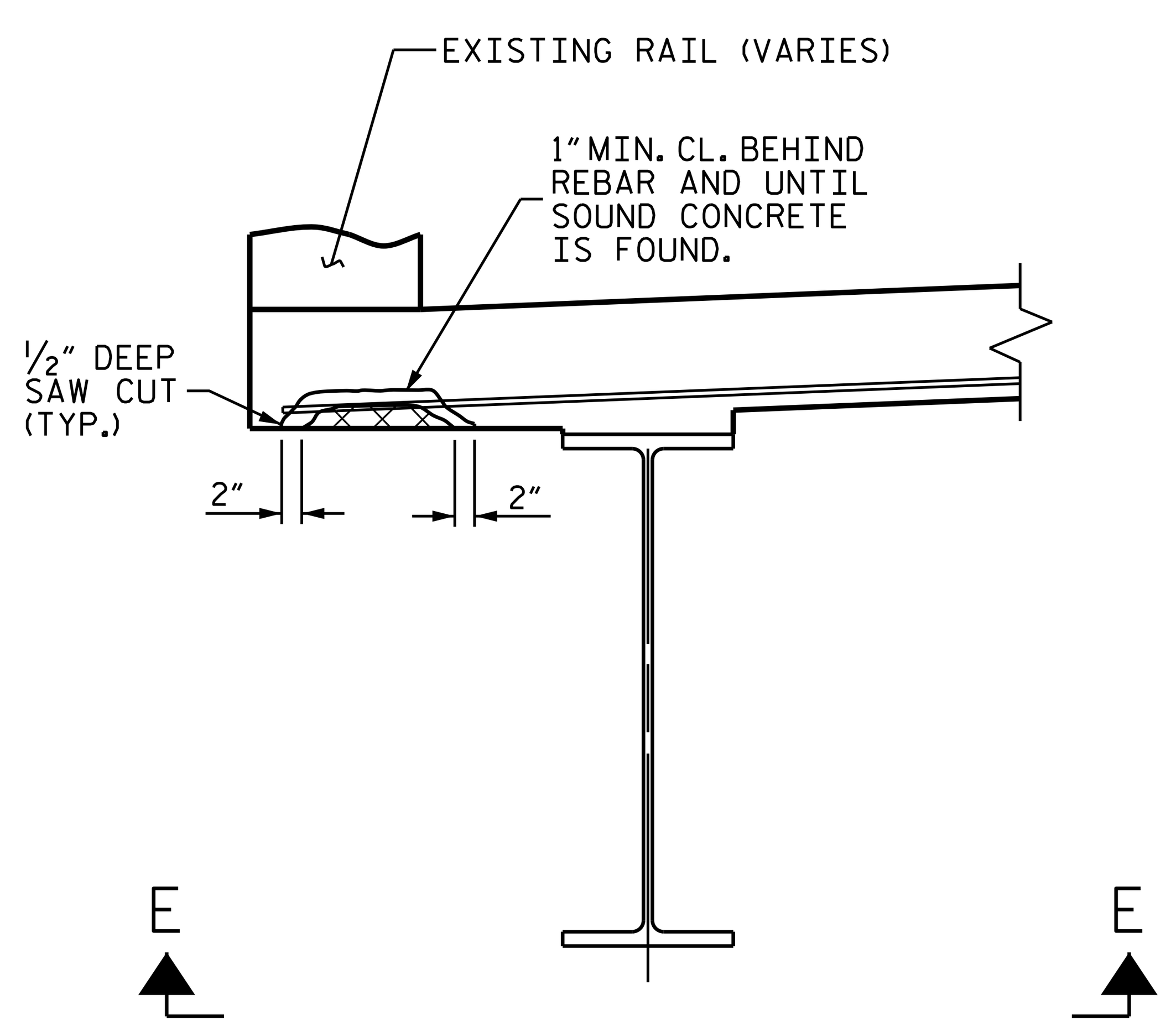
NOTES:

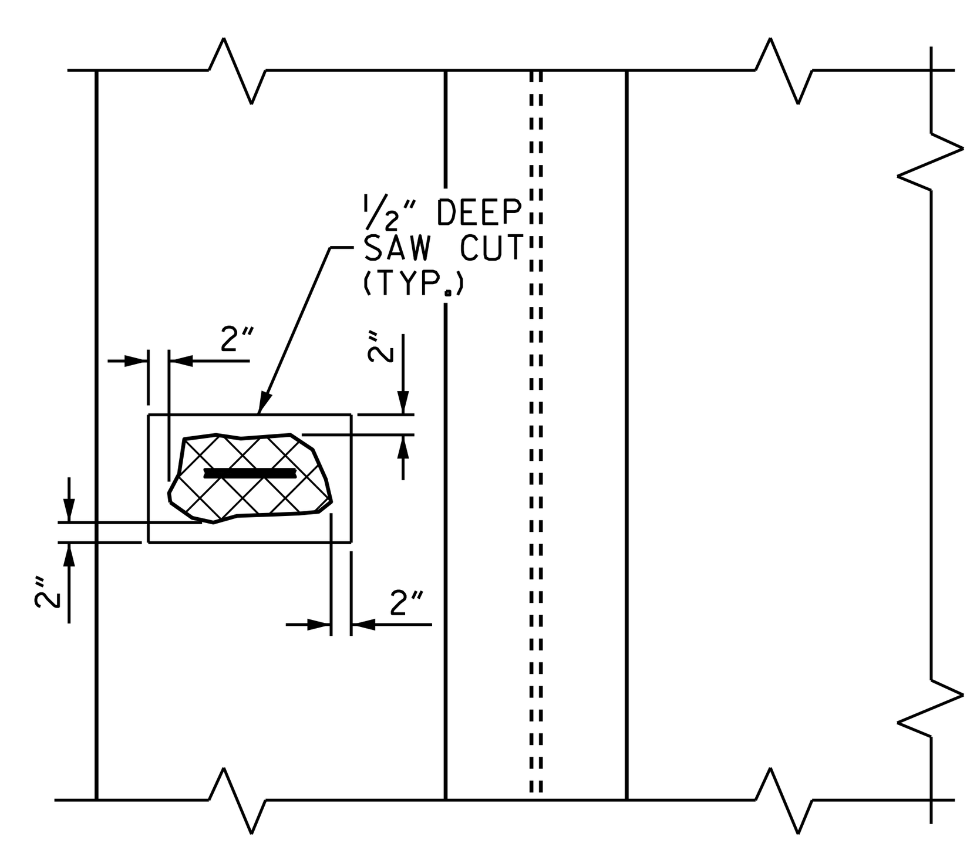
EXISTING REBAR TO REMAIN IN PLACE. CLEAN AND REPAIR AS NECESSARY.

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



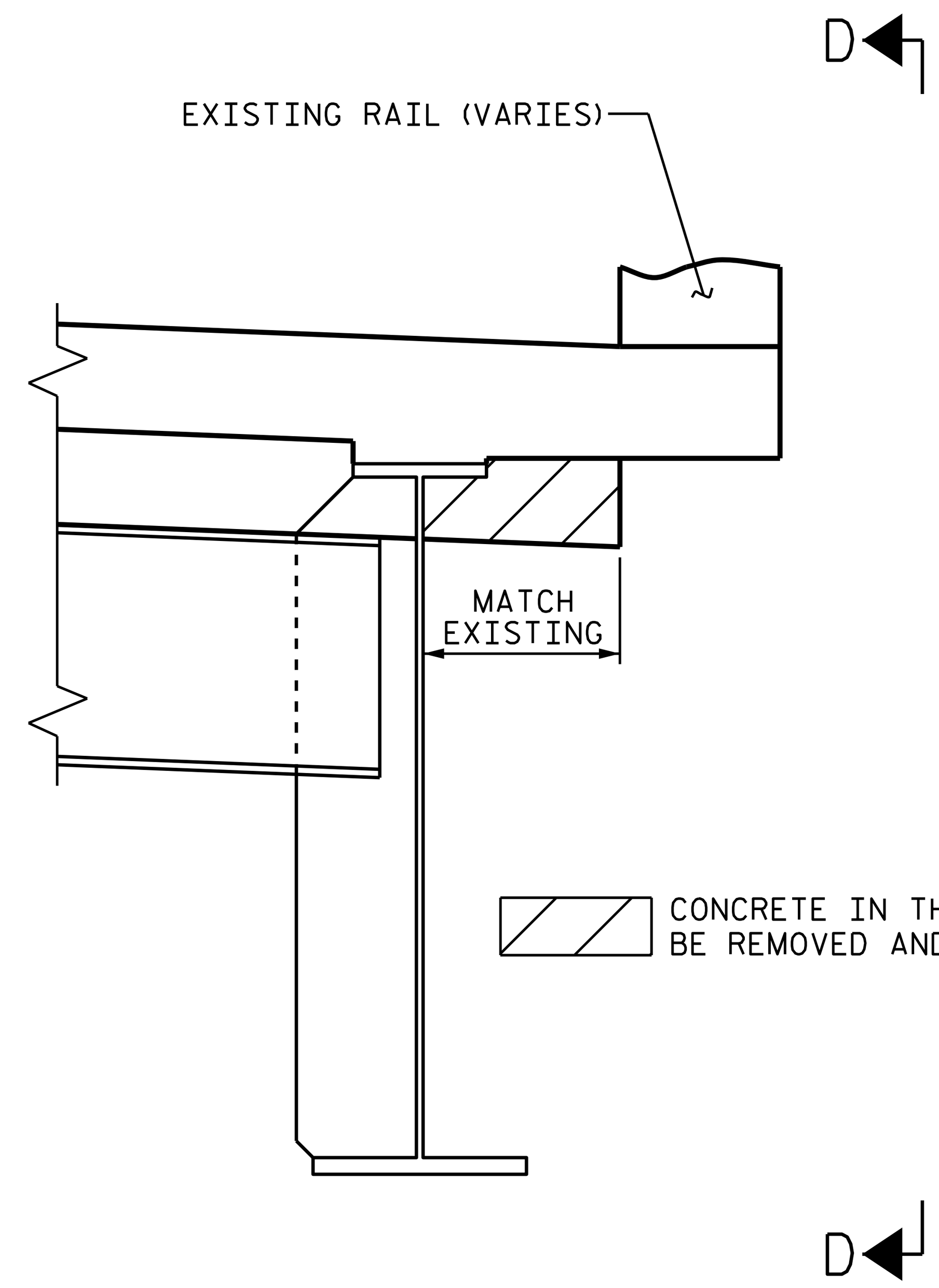
TYPICAL SECTION

DAMAGED AREA



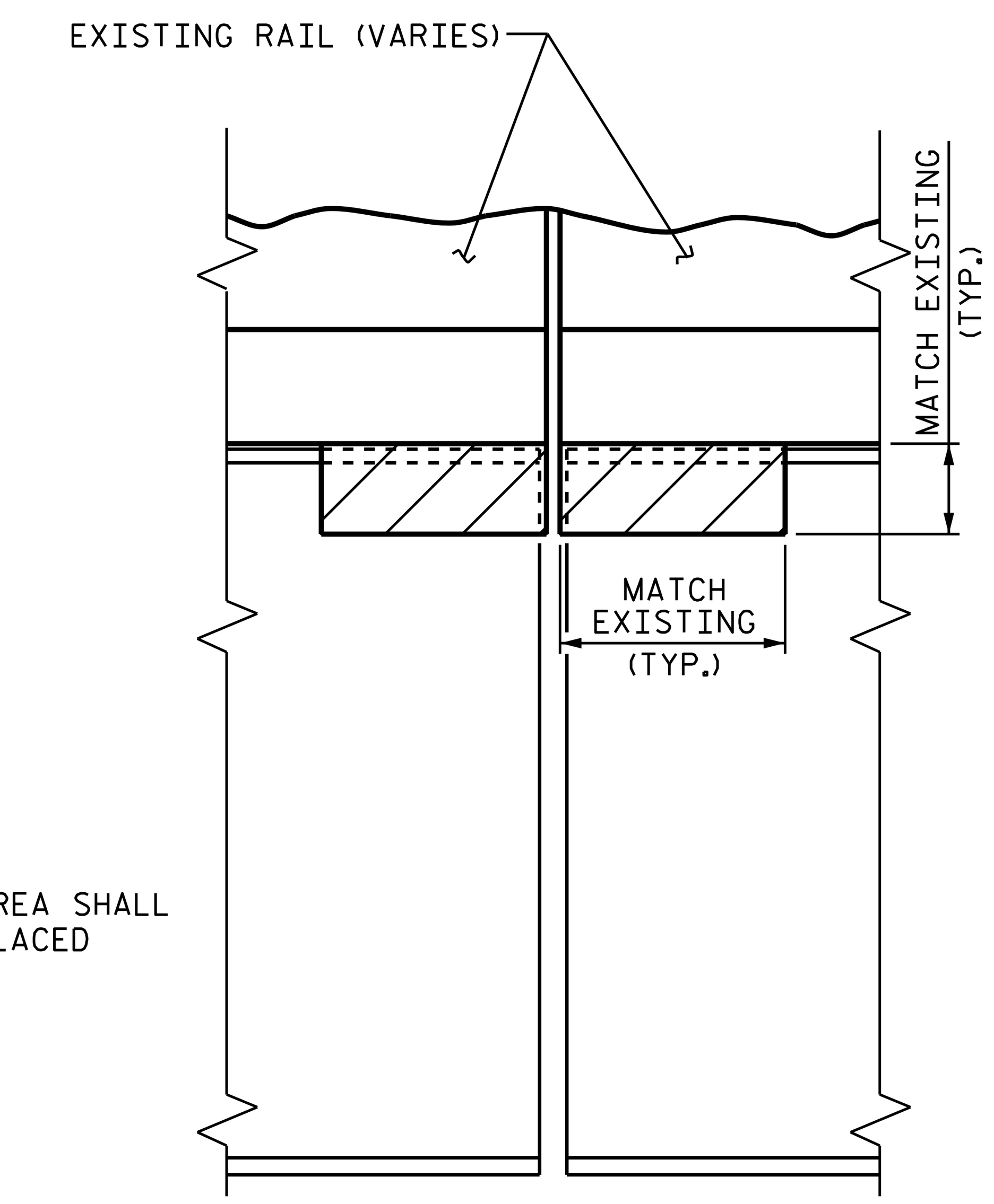
SECTION E-E

OVERHANG DETAILS



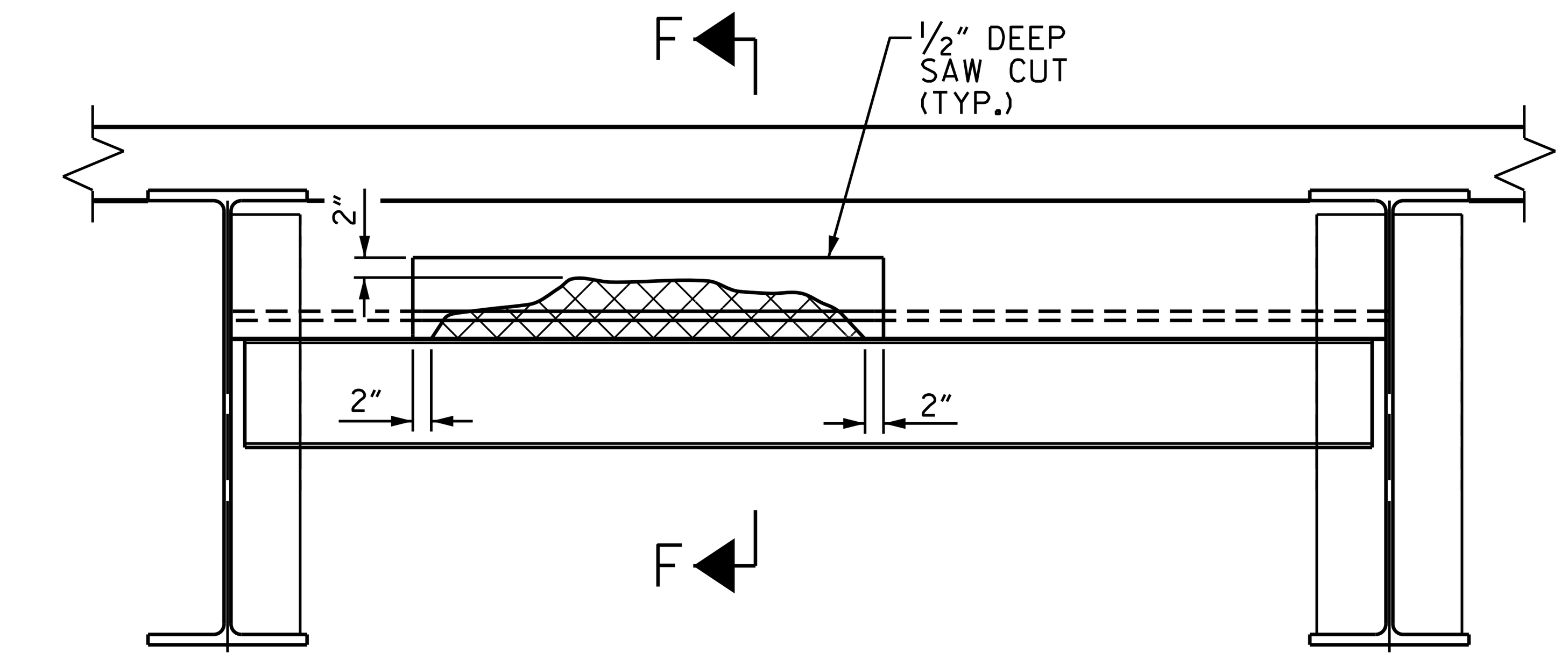
TYPICAL SECTION

CONCRETE IN THIS AREA SHALL BE REMOVED AND REPLACED

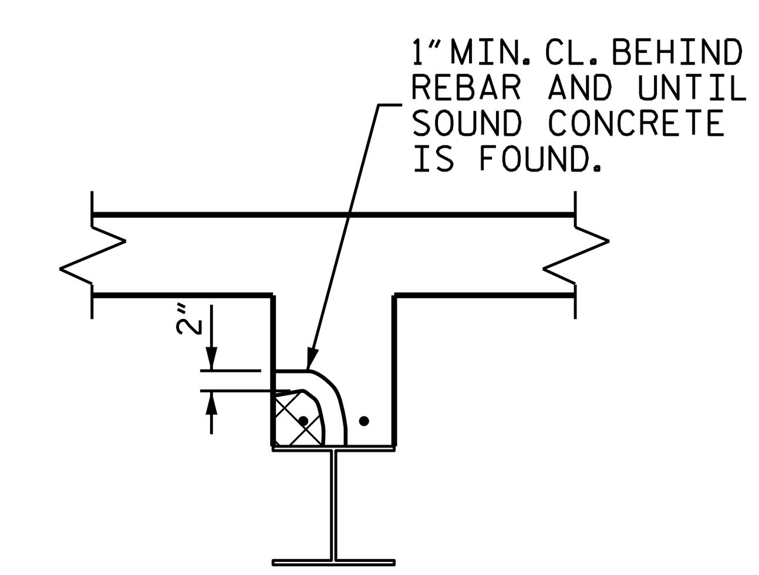


SECTION D-D

OVERHANG DIAPHRAGM REPLACEMENT DETAILS



TYPICAL SECTION



DAMAGED AREA

SECTION F-F

INTERIOR DIAPHRAGM REPAIR DETAILS

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

DocuSigned by: John A. Yannaccone

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

OVERHANG AND DIAPHRAGM REPAIR DETAILS

REVISIONS								SHEET NO.
NO.	BY:	DATE:		NO.	BY:	DATE:		S-28
1				3				TOTAL SHEETS
2				4				30

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DRAWN BY :	S. WANCE	DATE :	09/16
CHECKED BY :	J. YANNACCONE	DATE :	09/16

11-JAN-2017 11:30
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JACKING NOTES:

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

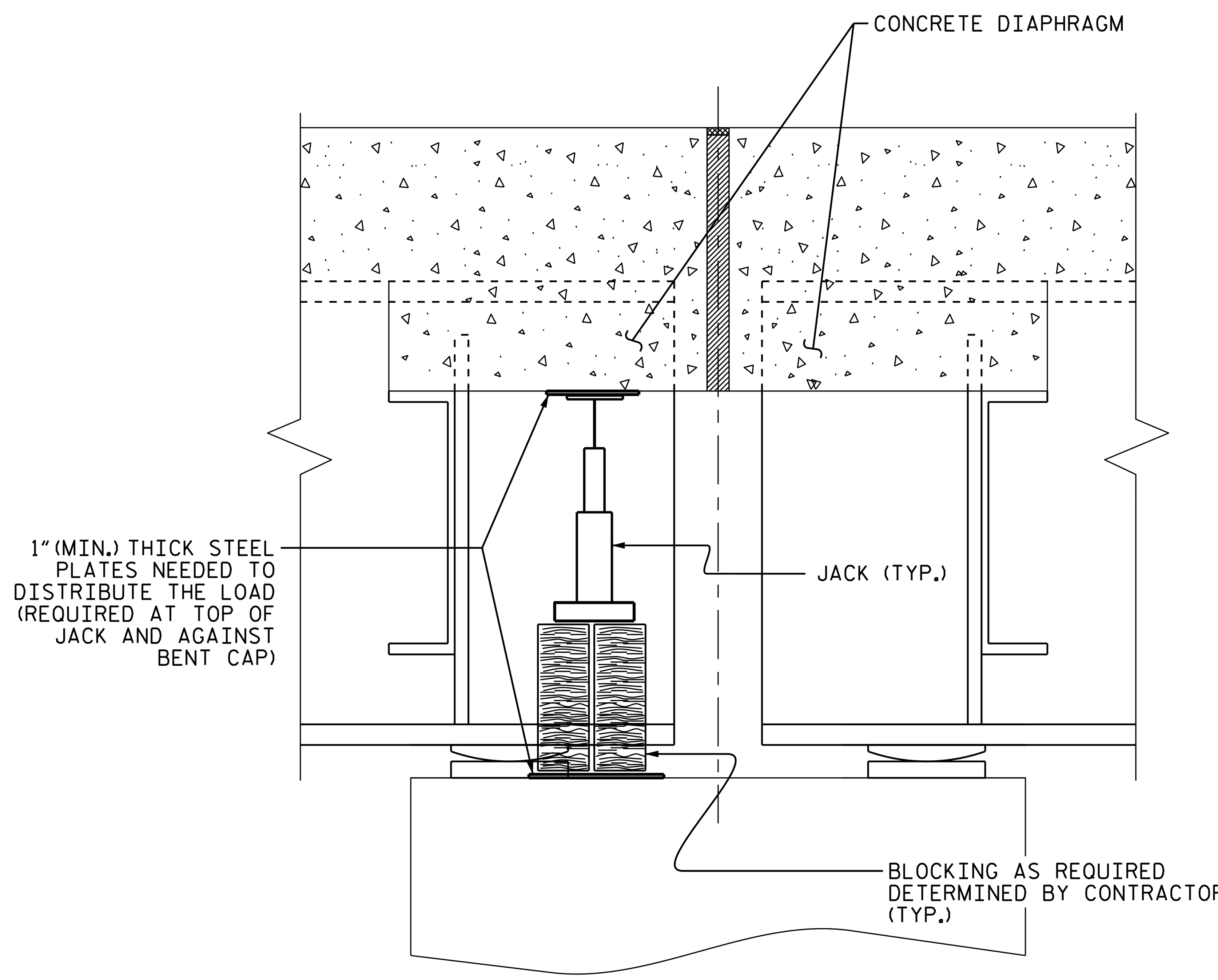
THE BEAM SHALL BE LIFTED ENOUGH THAT THE BEAM CLEARS THE BEARINGS AND ALL LOAD IS SUPPORTED BY THE JACKS. AFTER JACKING IS COMPLETE THE CONTRACTOR SHALL PROVIDE A METHOD TO SUPPORT THE BEAM FOR DEAD AND LIVE LOADS AND REMOVE THE JACKS DURING THE REPAIR OPERATIONS. IF THE JACKS REMAIN IN PLACE DURING 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 1/8".



SECTION THRU DIAPHRAGM

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

DocuSigned by: John A. Yannaccone

NORTH CAROLINA PROFESSIONAL SEAL 32492 ENGINEER JOHN A. YANNACCONE

1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JACKING DETAILS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-29
1			3			TOTAL SHEETS
2			4			30

DRAWN BY : J. YANNACCONE DATE : 1/16
CHECKED BY : S. WANCE DATE : 1/16

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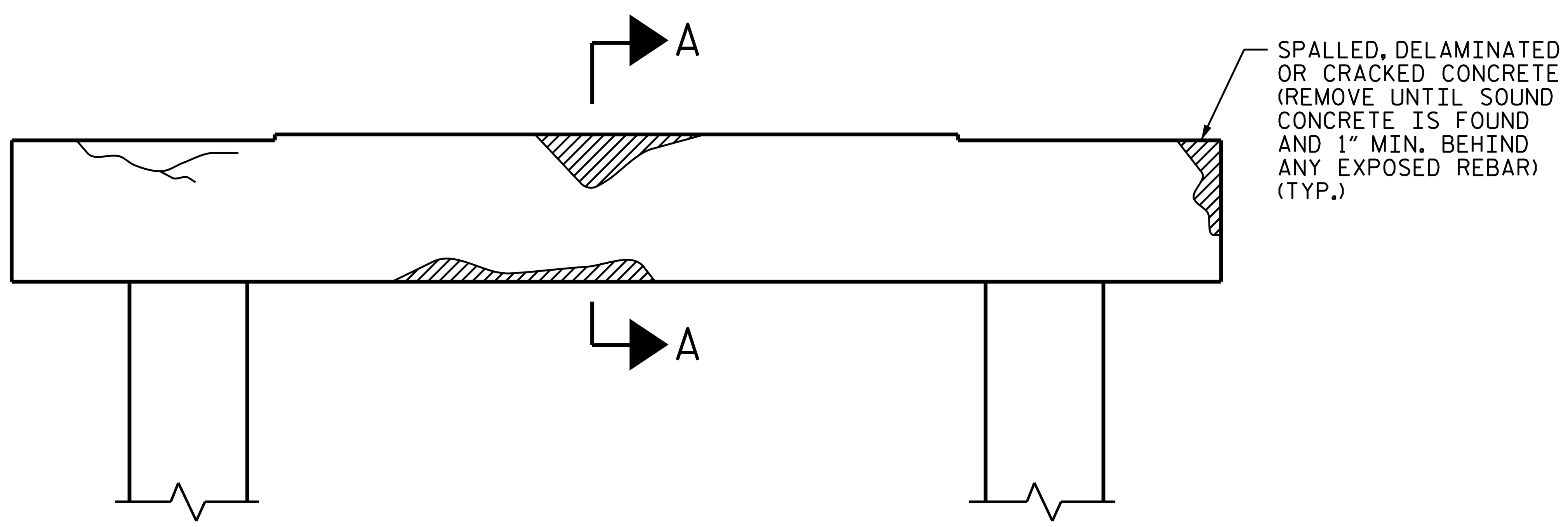
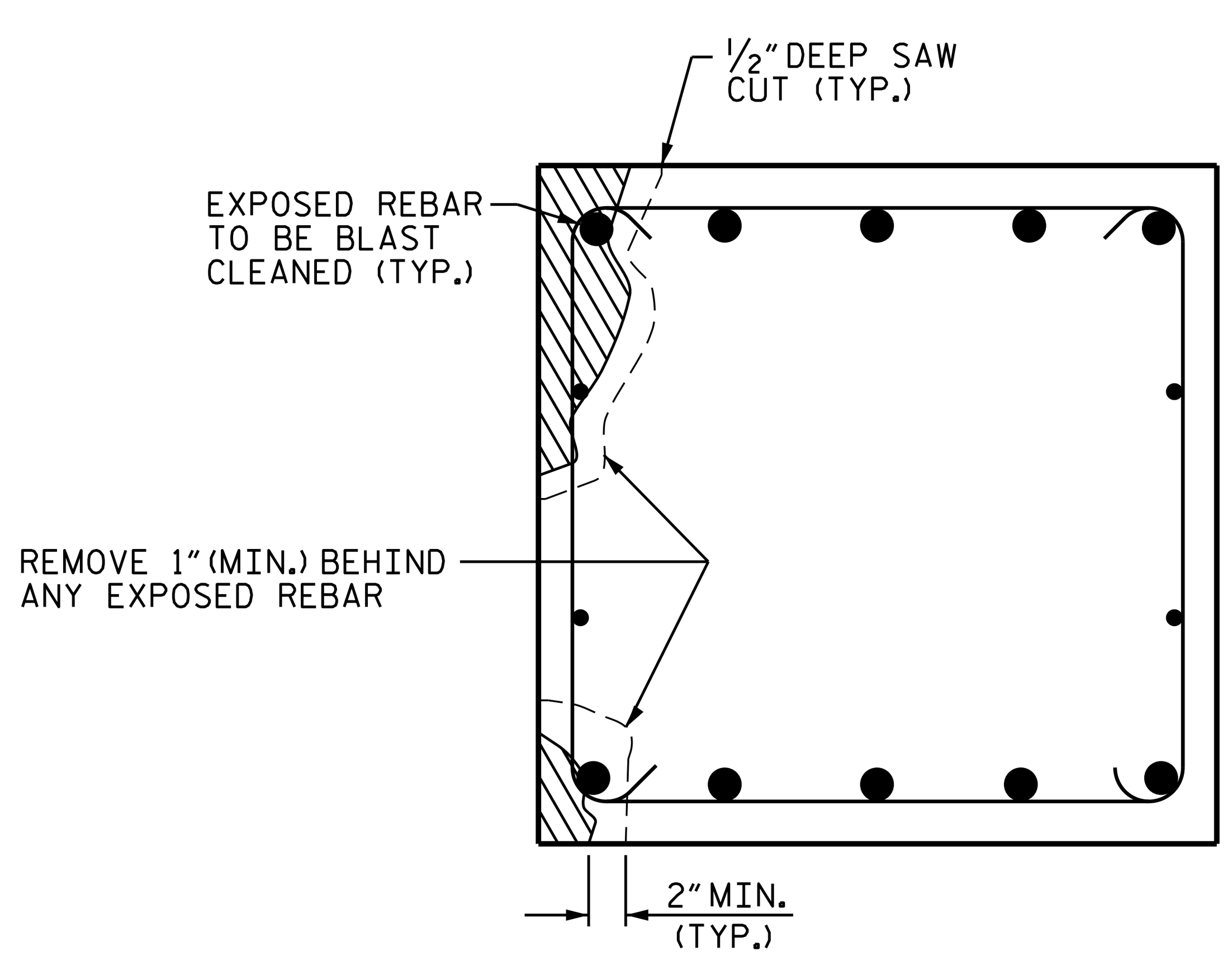
NOTE

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

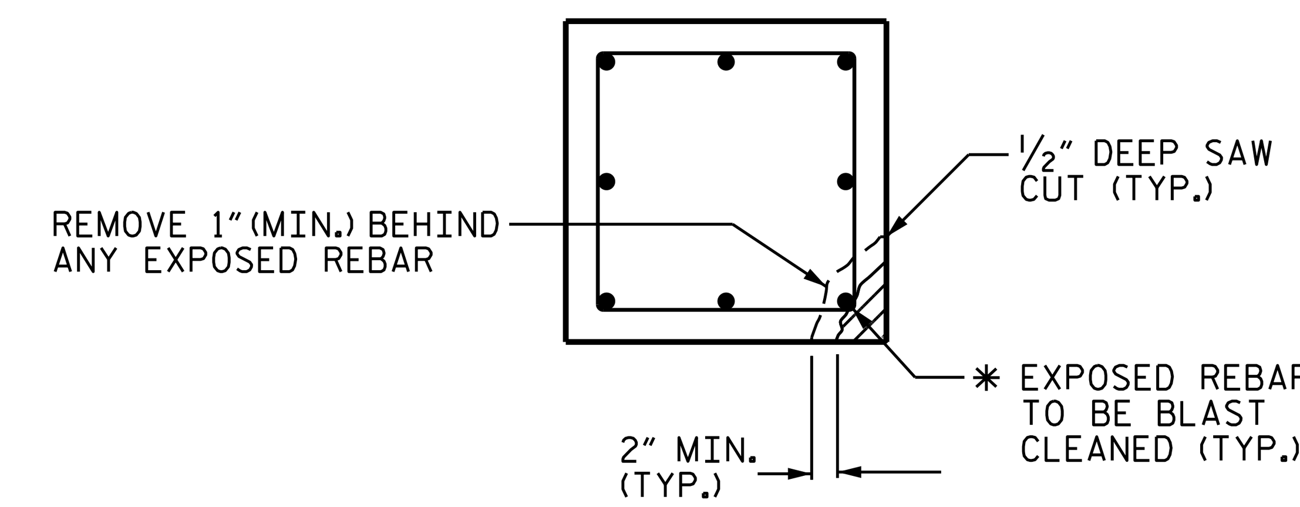


BENT CAP REPAIRS

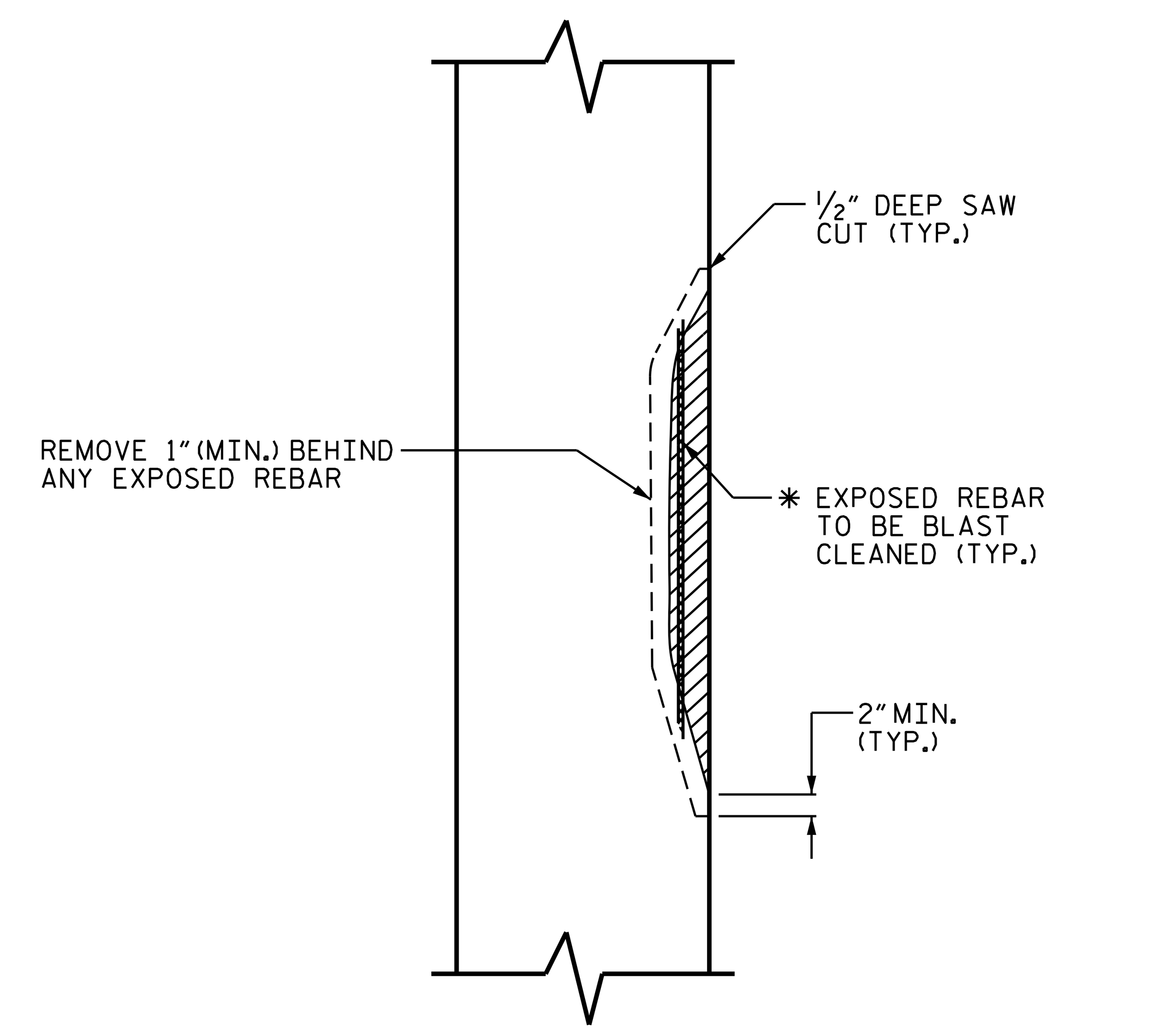


SECTION A-A

CAP REPAIR



PLAN OF COLUMN



* REPAIR LENGTH SHALL NOT EXCEED 10 FEET.

ELEVATION OF COLUMN

COLUMN REPAIR

PROJECT NO. I-5000

GASTON COUNTY

BRIDGE NO. 120

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1/11/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL CAP AND COLUMN REPAIR DETAILS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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1			3			TOTAL SHEETS
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