

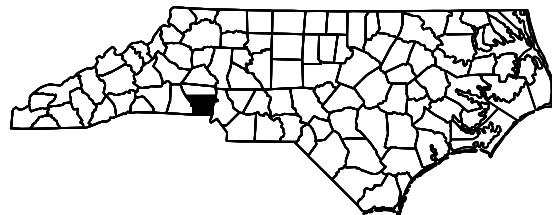
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

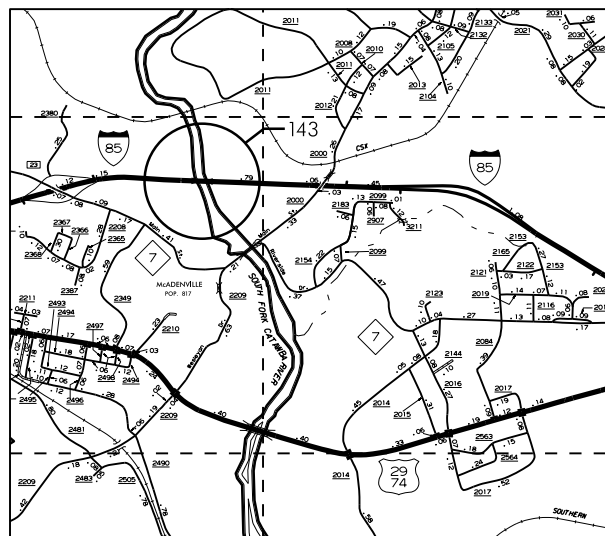
GASTON COUNTY



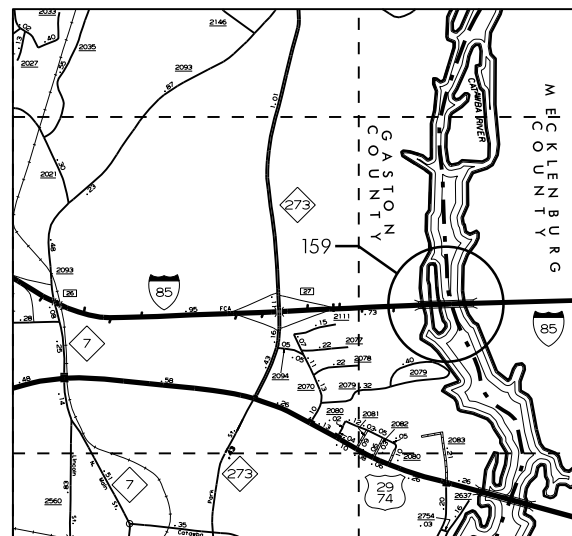
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5894	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46426.1.1	—	P.E.	
46426.3.1	—	CONST.	

LOCATION: **GASTON COUNTY:**
BRIDGE #143 ON INTERSTATE 85 OVER SOUTH FORK CATAWBA RIVER
BRIDGE #159 ON INTERSTATE 85 OVER CATAWBA RIVER

TYPE OF WORK: **BRIDGE PRESERVATION - DECK REPAIR OF EXISTING BRIDGE STRUCTURES.**



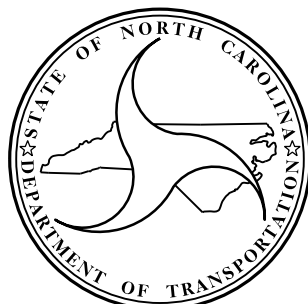
VICINITY MAP - GASTON CO.



VICINITY MAP - GASTON CO.

PROJECT: I-5894

CONTRACT: C203934



DESIGN DATA

GASTON COUNTY
 #143 ADT 2012 = 119,000
 #159 ADT 2013 = 127,000

PROJECT LENGTH

GASTON COUNTY
 - #143 = 0.182 MILE
 - #159 = 0.207 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

RICK NELSON, P.E.
 PROJECT ENGINEER

2012 STANDARD SPECIFICATIONS

LETTING DATE:
 MARCH 21, 2017

DocuSigned by:

John A. Yannaccone

7BC36E...

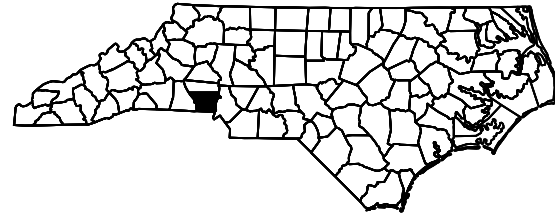


1/31/2017

JOHN A. YANNACONE, P.E.
 PROJECT DESIGN ENGINEER

PROJECT: I-5894

CONTRACT: -



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GASTON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5894	1A	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46426.1.1		P.E.	
46426.3.1	—	CONST.	

LOCATION: **GASTON COUNTY:**
BRIDGE #143 ON INTERSTATE 85 OVER SOUTH FORK CATAWBA RIVER
BRIDGE #159 ON INTERSTATE 85 OVER CATAWBA RIVER

TYPE OF WORK: **BRIDGE PRESERVATION - DECK REPAIR OF EXISTING BRIDGE STRUCTURES.**

INDEX OF SHEETS

1

1A

S-1

S-2 THRU S-13

S-14 THRU S-27

SN

TITLE SHEET

INDEX OF SHEETS

TOTAL BILL OF MATERIAL

STRUCTURAL PLANS - BRIDGE NO. 143

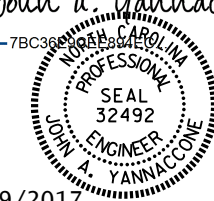
STRUCTURAL PLANS - BRIDGE NO. 159

STANDARD NOTES

TOTAL BILL OF MATERIAL

BRIDGE NO.	GROOVING BRIDGE FLOORS	CLASS II. SURFACE PREPARATION	FOAM JOINT SEALS	SYNTHETIC RUBBER EXPANSION JOINT SEAL	EXPANSION JOINT SEAL REPAIR	POLYESTER POLYMER CONCRETE MATERIALS	BRIDGE JOINT DEMOLITION	PLACING & FINISHING PPC OVERLAY	CONCRETE DECK REPAIR FOR PPC OVERLAY	SCARIFYING BRIDGE DECK	SHOTBLASTING BRIDGE DECK
	SQ. FT.	SQ. YDS.	LUMP SUM	LUMP SUM	LIN. FT.	CU. YDS.	SQ. FT.	SQ. YDS.	SQ. YDS.	SQ. YDS.	SQ. YDS.
143	92,379	29.5	LUMP SUM	—	105.5	381.3	—	10,934	29.5	10,934	10,934
159	151,252	9.1	LUMP SUM	LUMP SUM	—	613.7	449.2	17,585	9.1	17,585	17,585
TOTAL	243,631	38.6	LUMP SUM	LUMP SUM	105.5	995.0	449.2	28,519	38.6	28,519	28,519

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 143 & 159

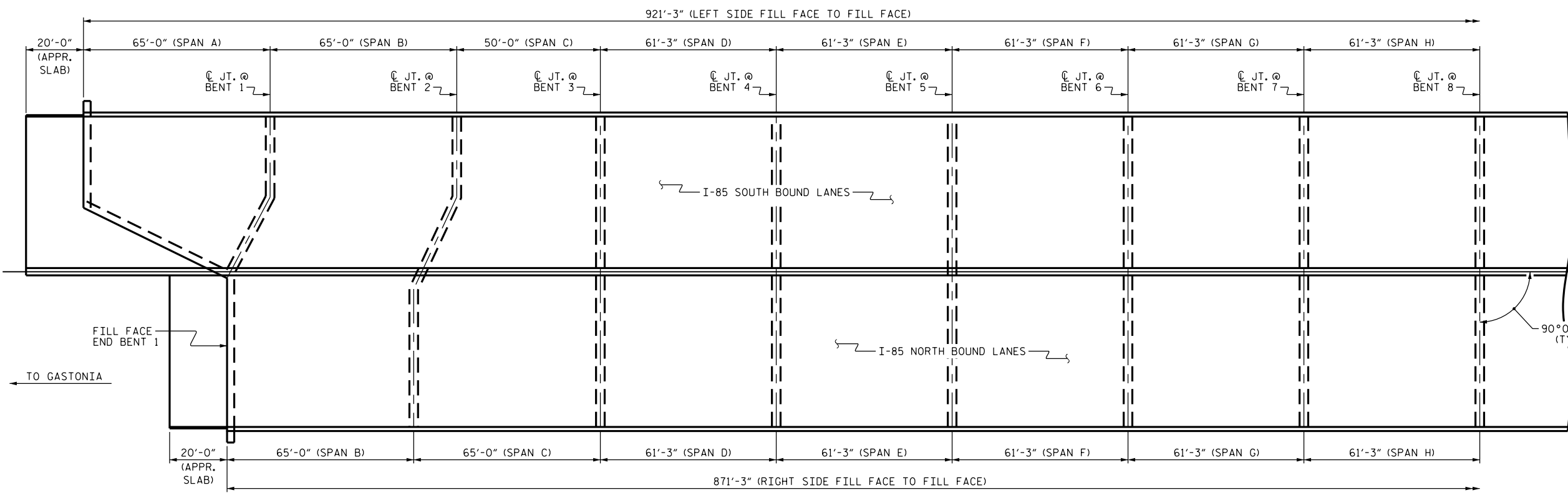
DocuSigned by:
John A. Yannaccone
 7BC36800-709E-484E-804E-709E484E804E

 1/29/2017

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

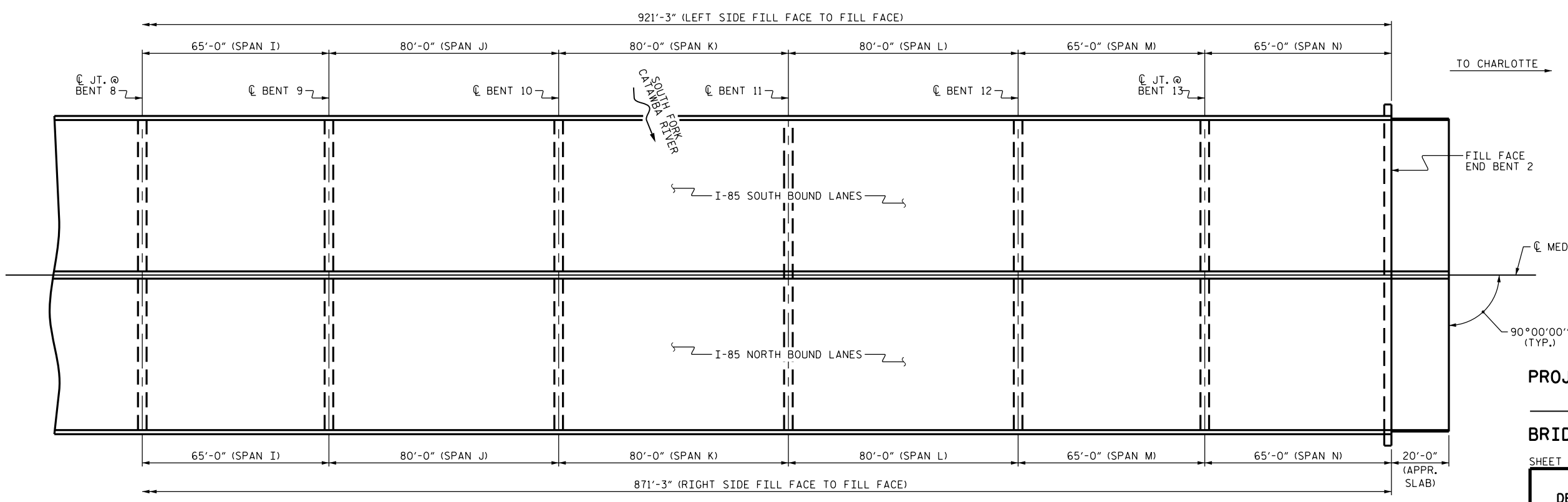
**TOTAL BILL
 OF MATERIAL**

DRAWN BY : J. YANNACONE DATE : 1/17
 CHECKED BY : S. WANCE DATE : 1/17

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			27



NOTES
BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.



PROJECT NO. I-5894
GASTON COUNTY
BRIDGE NO. 143

SHEET 1 OF 2

SCOPE OF WORK

- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS.
- PERFORM DECK REPAIRS IN PREPARED AREAS.
- OVERLAY PREPARED BRIDGE DECK WITH POLYESTER POLYMER CONCRETE.
- RECONSTRUCT BRIDGE JOINTS AND INSTALL JOINT SEALS AND EXPANSION JOINT SEALS.
- GROOVE POLYESTER POLYMER CONCRETE.

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

RESIDENT ENGINEER _____ DATE _____

DocuSigned by:
John A. Yannaccone
7BC8...
SEAL
32492
ENGINEER
JOHN A. YANNACCONE

1/29/2017

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOR BRIDGE ON I-85 OVER SOUTH FORK CATAWBA RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-2
2			4			TOTAL SHEETS 27

DRAWN BY : A. SORSENGIN/H. WELDON DATE : 12/2016
CHECKED BY : J. YANNACCONE DATE : 12/2016



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 PLANS.

EXISTING BRIDGE CONCRETE DECK SHALL BE REPAIRED PRIOR TO THE SURFACE PREPARATION AND APPLICATION OF THE PPC OVERLAY AT LOCATIONS SHOWN ON THE PLANS OR AS DETERMINED BY THE ENGINEER, IF NECESSARY, SUCH LOCATIONS MAY BE REPAIRED WITH PPC.

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR EXPANSION JOINT SEAL REPAIR, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

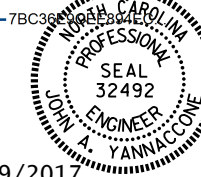
FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 143

SHEET 2 OF 2

DocuSigned by:
John A. Yannaccone
 7BC36...
 1/29/2017



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 GENERAL DRAWING
 FOR BRIDGE ON I-85
 OVER SOUTH FORK
 CATAWBA RIVER

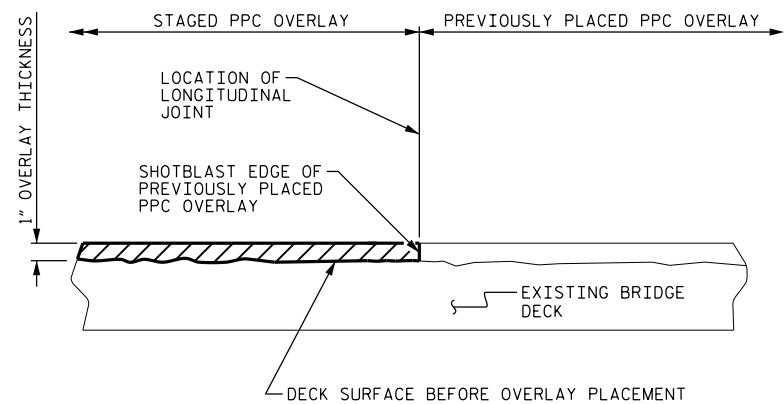
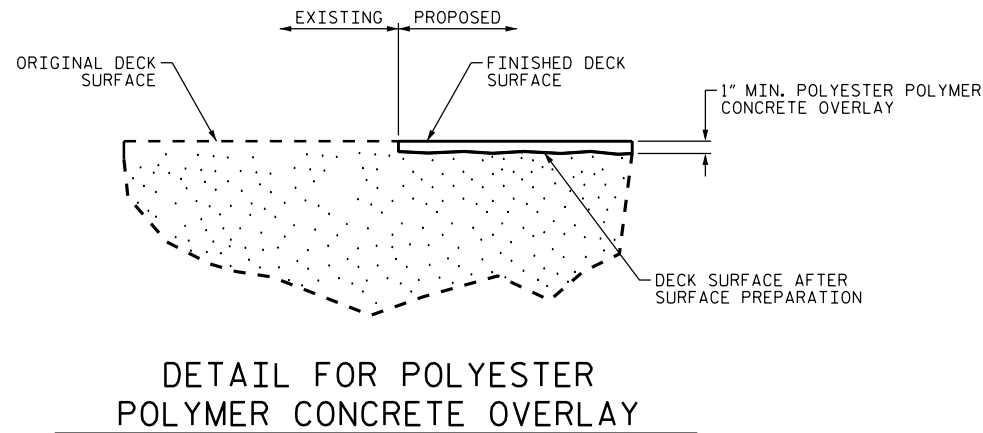
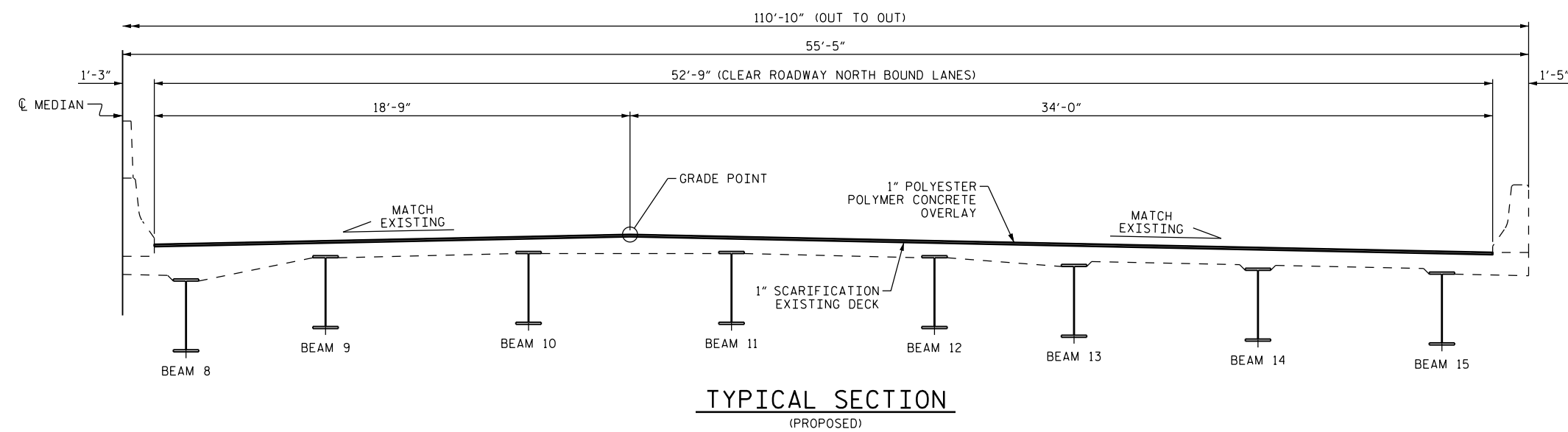
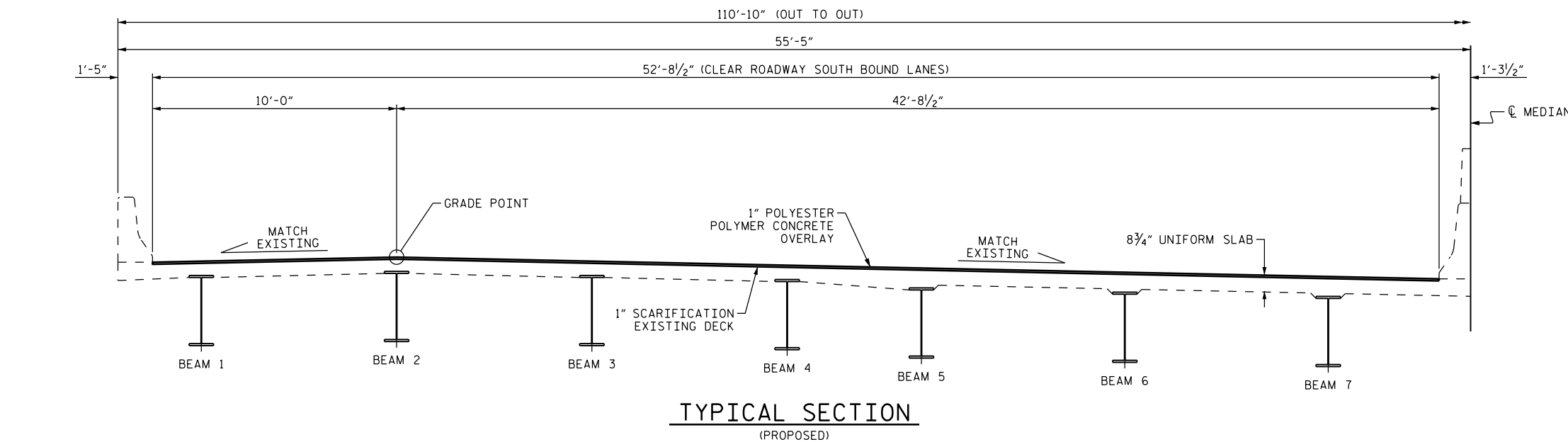
DRAWN BY : A. SORSENGINH DATE : 10/2016
 CHECKED BY : J. YANNAKONE DATE : 12/2016

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			27
2			4			

NOTES

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



PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 143

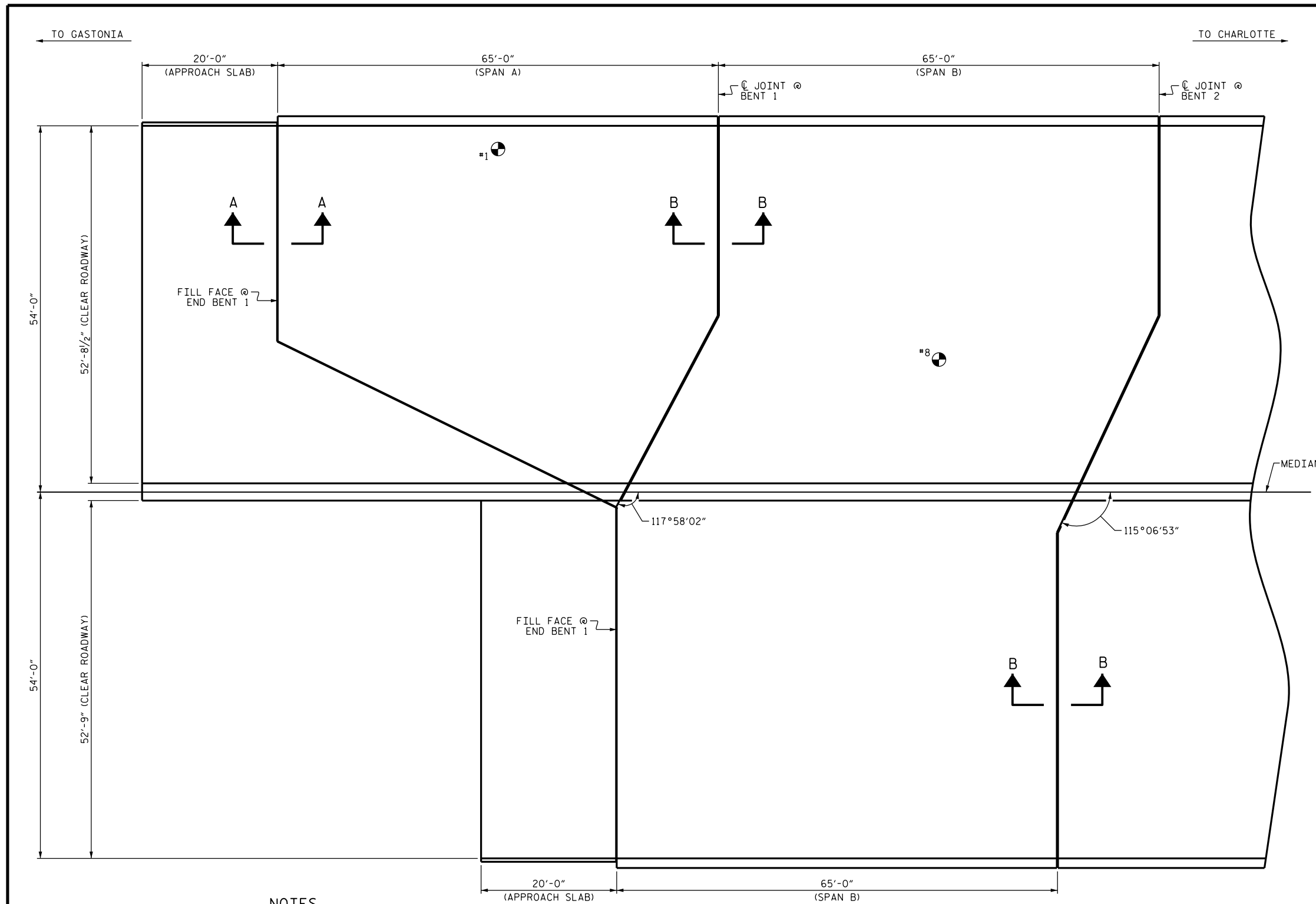
DocuSigned by:
John A. Yannaccone
 7BC386...
 NORTH CAROLINA
 PROFESSIONAL ENGINEER
 SEAL
 32492
 JOHN A. YANNACCONE
 1/29/2017

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**TYPICAL SECTION
 AND
 PPC OVERLAY
 DETAILS**

DRAWN BY : D.V. JOYNER DATE : 12/2016
 CHECKED BY : J. YANNACCONE DATE : 12/2016

DOCUMENT NOT CONSIDERED
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			27
2			4			



AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
APPROACH SLAB		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	277 SY	
CLASS II SURFACE PREPARTION	0.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.0 SY	
SHOTBLASTING BRIDGE DECK	277 SY	
PPC MATERIALS	9.7 CY	
PLACING AND FINISHING PPC OVERLAY	277 SY	
GROOVING BRIDGE FLOORS	2,278 SF	
SPAN A		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	313 SY	
CLASS II SURFACE PREPARTION	0.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.0 SY	
SHOTBLASTING BRIDGE DECK	313 SY	
PPC MATERIALS	10.9 CY	
PLACING AND FINISHING PPC OVERLAY	313 SY	
GROOVING BRIDGE FLOORS	2,678 SF	
SPAN B		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	764 SY	
CLASS II SURFACE PREPARTION	0.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.0 SY	
SHOTBLASTING BRIDGE DECK	764 SY	
PPC MATERIALS	26.6 CY	
PLACING AND FINISHING PPC OVERLAY	764 SY	
GROOVING BRIDGE FLOORS	6,444 SF	

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

- APPROX. CLASS II AREA
- BRIDGE JOINT DEMOLITION
- TEST LOCATION

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 143

SHEET 1 OF 7

DocuSigned by:
John A. Yannaccone
 7BC36...

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN
 SPAN A & B
 AND APPROACH SLAB**

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 AND B-B, 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.

PLAN

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#1	1 3/4"	3,500
#8	3"	5,300

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 11/14/2016.

DRAWN BY : S. WANCE DATE : 12/16
 CHECKED BY : J. YANNAKONE DATE : 1/17

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
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-5
2			4			TOTAL SHEETS 27

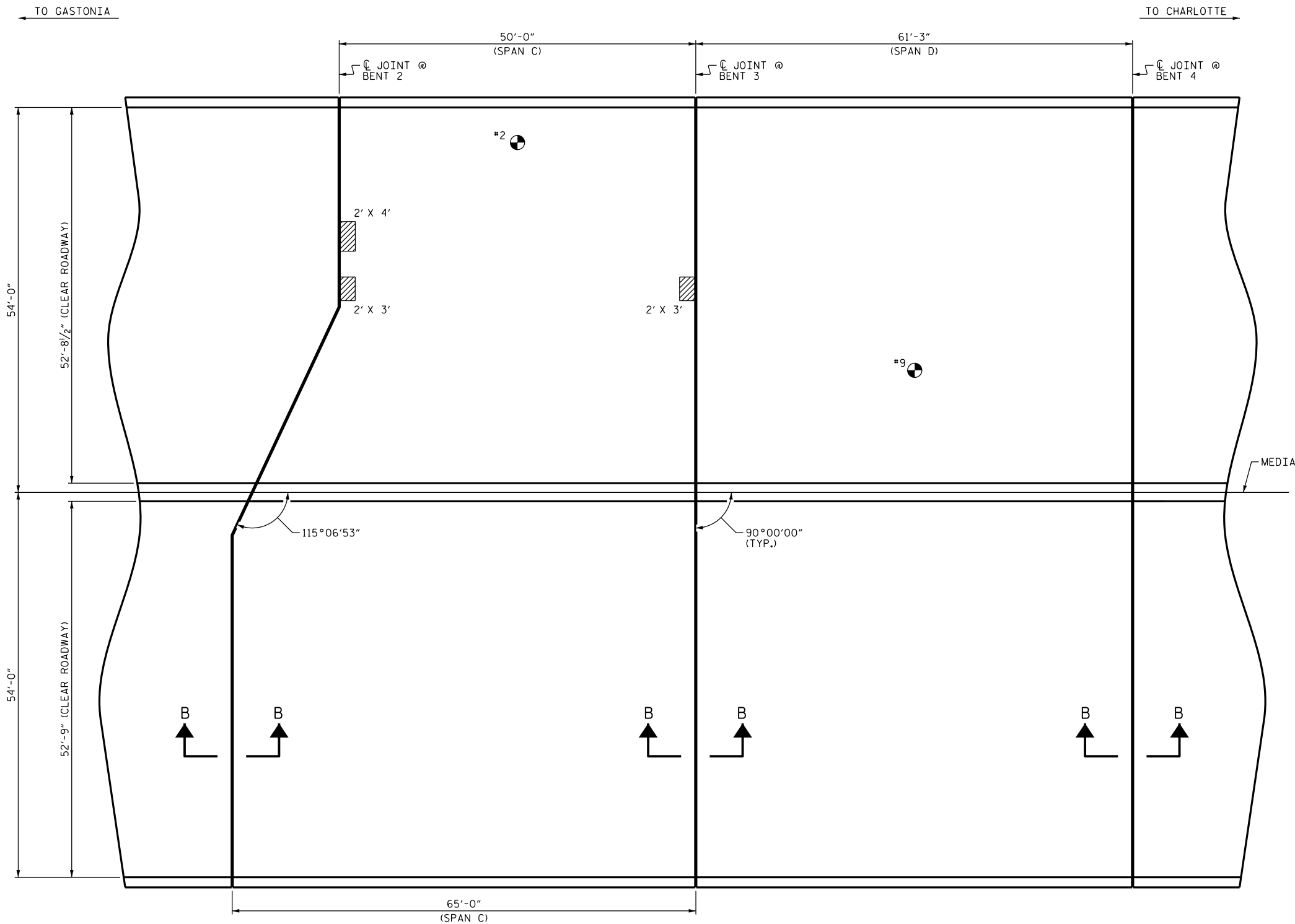
AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

SPAN C		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	689 SY	
CLASS II SURFACE PREPARTION	2.3 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	2.3 SY	
SHOTBLASTING BRIDGE DECK	689 SY	
PPC MATERIALS	24.0 CY	
PLACING AND FINISHING PPC OVERLAY	689 SY	
GROOVING BRIDGE FLOORS	5,801 SF	
SPAN D		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	717 SY	
CLASS II SURFACE PREPARTION	0.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.0 SY	
SHOTBLASTING BRIDGE DECK	717 SY	
PPC MATERIALS	25.0 CY	
PLACING AND FINISHING PPC OVERLAY	717 SY	
GROOVING BRIDGE FLOORS	6,050 SF	

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

-  APPROX. CLASS II AREA
-  BRIDGE JOINT DEMOLITION
-  TEST LOCATION



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 B-B, 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.

PLAN

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#2	2 1/2"	4,100
#9	2 1/2"	6,300

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 11/14/2016.

DocuSigned by:

John A. Yannaccone
 JOHN A. YANNACCONE
 PROFESSIONAL ENGINEER
 SEAL 32492
 1/29/2017

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 143

SHEET 2 OF 7

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN
 SPAN C & D**

DRAWN BY : S. WANCE DATE : 12/16
 CHECKED BY : J. YANNACCONE DATE : 1/17

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED




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2			4			TOTAL SHEETS 27

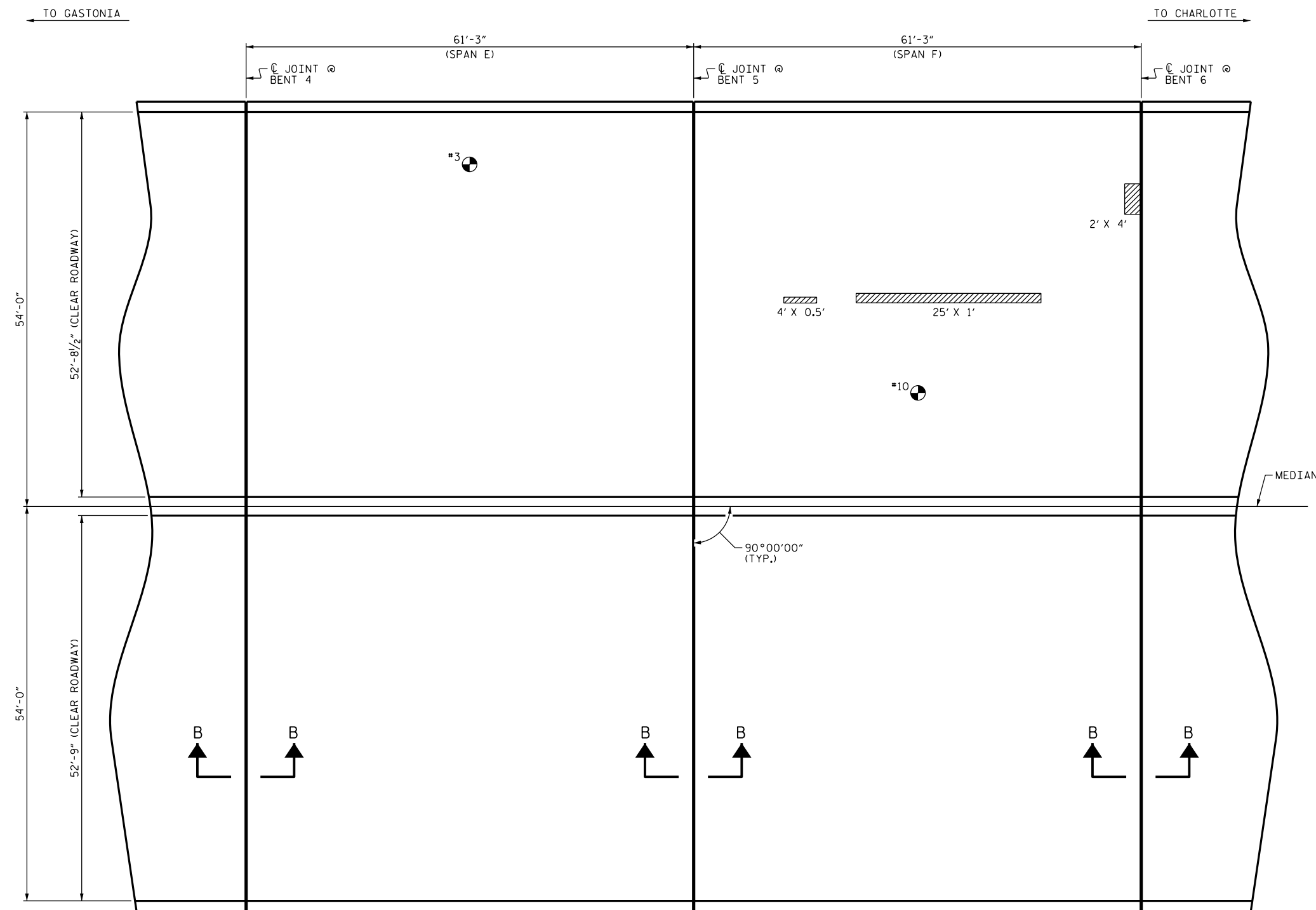
AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

SPAN E		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	717 SY	
CLASS II SURFACE PREPARTION	0.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.0 SY	
SHOTBLASTING BRIDGE DECK	717 SY	
PPC MATERIALS	25.0 CY	
PLACING AND FINISHING PPC OVERLAY	717 SY	
GROOVING BRIDGE FLOORS	6,050 SF	
SPAN F		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	717 SY	
CLASS II SURFACE PREPARTION	3.9 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	3.9 SY	
SHOTBLASTING BRIDGE DECK	717 SY	
PPC MATERIALS	25.0 CY	
PLACING AND FINISHING PPC OVERLAY	717 SY	
GROOVING BRIDGE FLOORS	6,050 SF	

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

-  APPROX. CLASS II AREA
-  BRIDGE JOINT DEMOLITION
-  TEST LOCATION



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 B-B, 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.

PLAN

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#3	1 3/4"	4,100
#10	2 1/2"	6,300

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 11/14/2016.

DocuSigned by:

John A. Yannaccone
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 32492
 JOHN A. YANNAKONNE
 1/29/2017

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 143

SHEET 3 OF 7

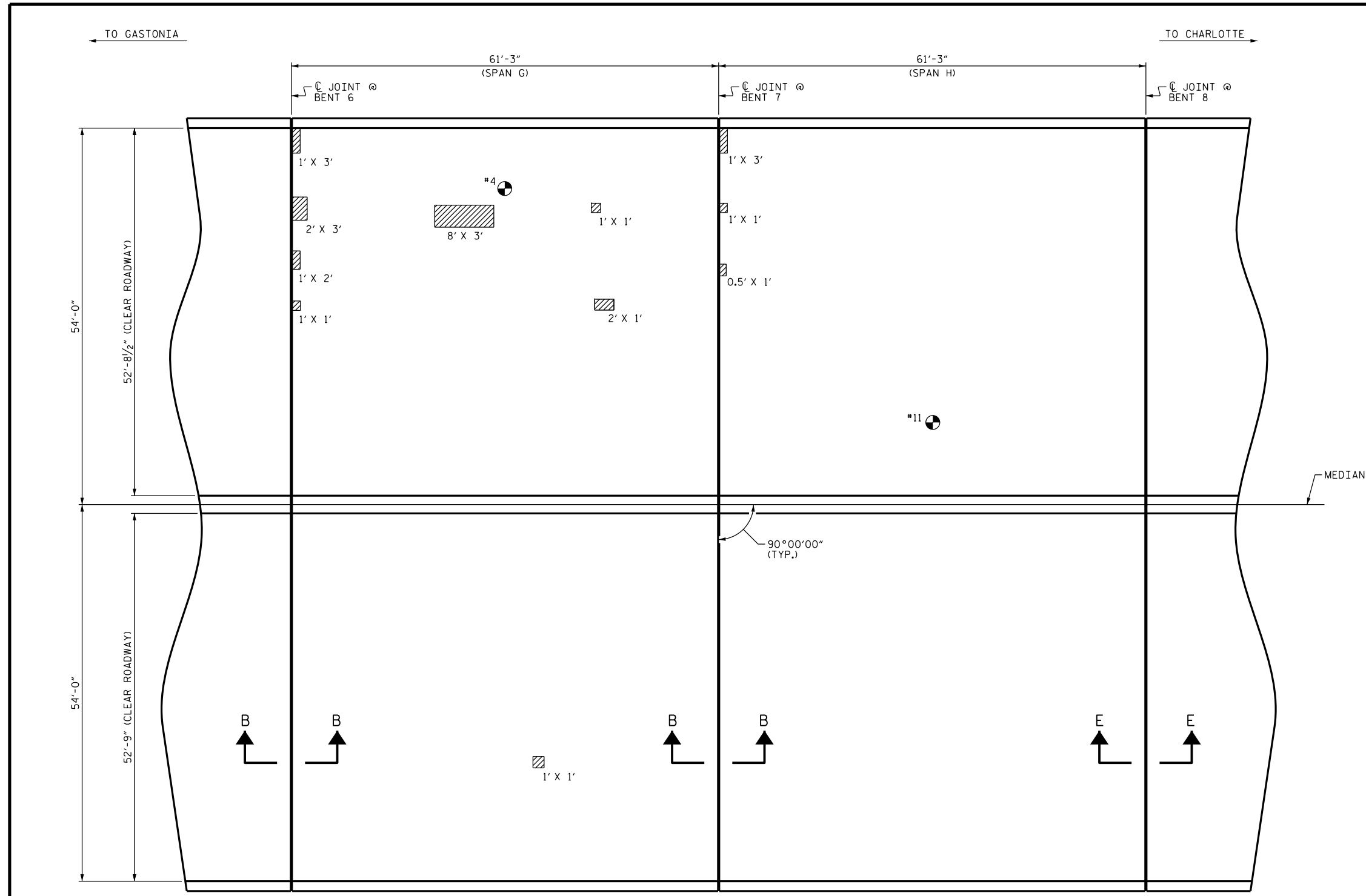
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN
 SPAN E & F**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-7
2			4			TOTAL SHEETS 27

DRAWN BY : S. WANCE DATE : 12/16
 CHECKED BY : J. YANNAKONNE DATE : 1/17

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
SPAN G		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	717 SY	
CLASS II SURFACE PREPARTION	4.5 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	4.5 SY	
SHOTBLASTING BRIDGE DECK	717 SY	
PPC MATERIALS	25.0 CY	
PLACING AND FINISHING PPC OVERLAY	717 SY	
GROOVING BRIDGE FLOORS	6,050 SF	
SPAN H		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	713 SY	
CLASS II SURFACE PREPARTION	0.6 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.6 SY	
SHOTBLASTING BRIDGE DECK	713 SY	
PPC MATERIALS	24.8 CY	
PLACING AND FINISHING PPC OVERLAY	713 SY	
GROOVING BRIDGE FLOORS	6,011 SF	

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

- APPROX. CLASS II AREA
- BRIDGE JOINT DEMOLITION
- #1 TEST LOCATION

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 B-B, SEE "JOINT DETAILS" SHEET.

FOR SECTION E-E, SEE "EXPANSION JOINT SEAL 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.

PLAN

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#4	2 1/8"	5,300
#11	3"	5,300

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 11/14/2016.

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

 1/29/2017

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 143

SHEET 4 OF 7

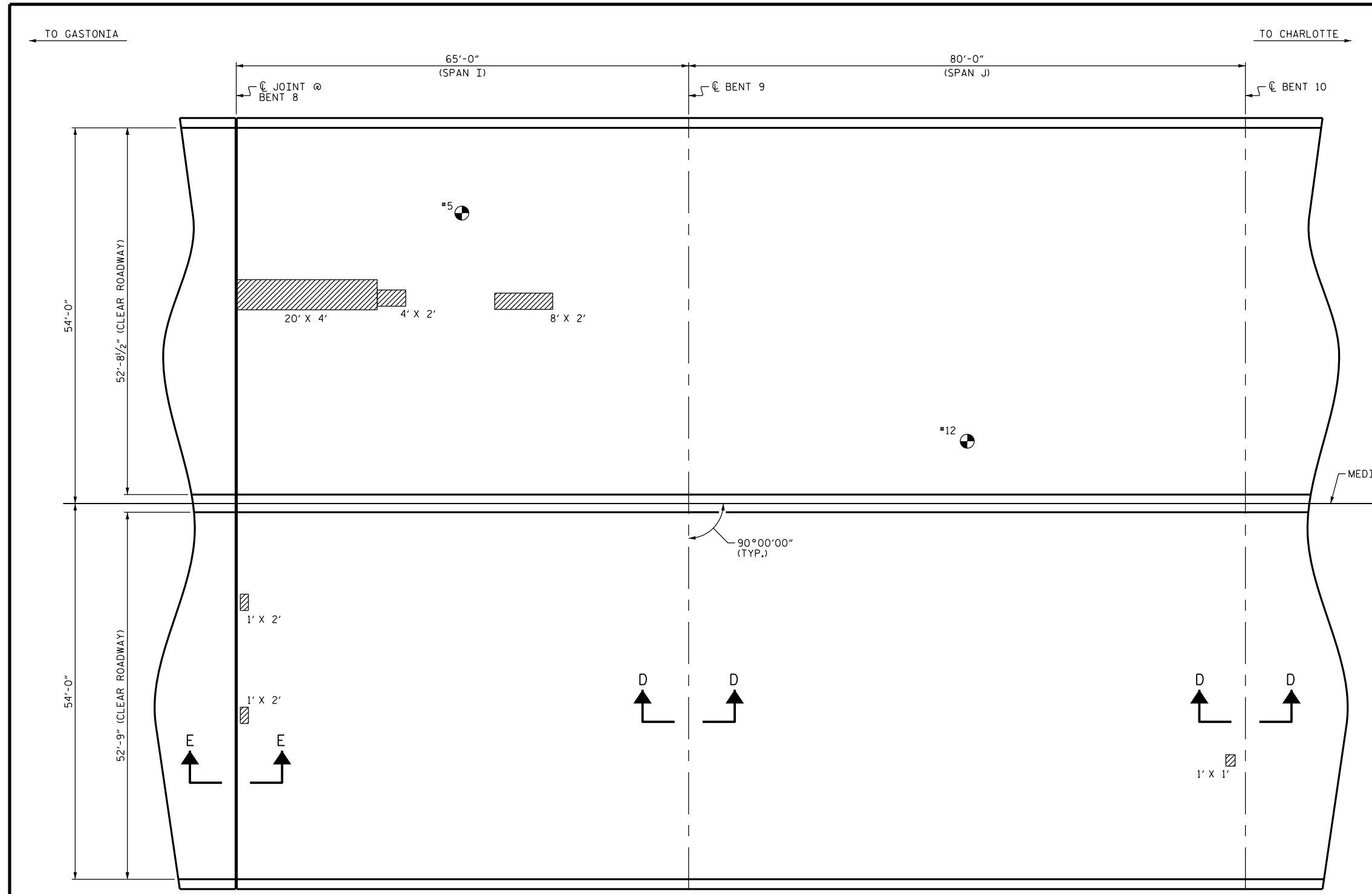
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN
 SPAN G & H**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			27
2			4			

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DRAWN BY : S. WANCE DATE : 12/16
 CHECKED BY : J. YANNAKONE DATE : 1/17



AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
SPAN I		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	756 SY	
CLASS II SURFACE PREPARATION	12.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	12.0 SY	
SHOTBLASTING BRIDGE DECK	756 SY	
PPC MATERIALS	26.4 CY	
PLACING AND FINISHING PPC OVERLAY	756 SY	
GROOVING BRIDGE FLOORS	6,405 SF	
SPAN J		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	938 SY	
CLASS II SURFACE PREPARATION	0.2 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.2 SY	
SHOTBLASTING BRIDGE DECK	938 SY	
PPC MATERIALS	32.7 CY	
PLACING AND FINISHING PPC OVERLAY	938 SY	
GROOVING BRIDGE FLOORS	7,957 SF	

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

- APPROX. CLASS II AREA
- BRIDGE JOINT DEMOLITION
- TEST LOCATION

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 D-D, SEE "JOINT DETAILS" SHEET.

FOR SECTION E-E, SEE "EXPANSION JOINT SEAL 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.

PLAN

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#5	2 1/8"	4,100
#12	2 1/2"	4,300

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 11/14/2016.

DocuSigned by:
John A. Yannaccone
 7BC3...
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 32492
 JOHN A. YANNACCONE
 1/29/2017

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 143

SHEET 5 OF 7

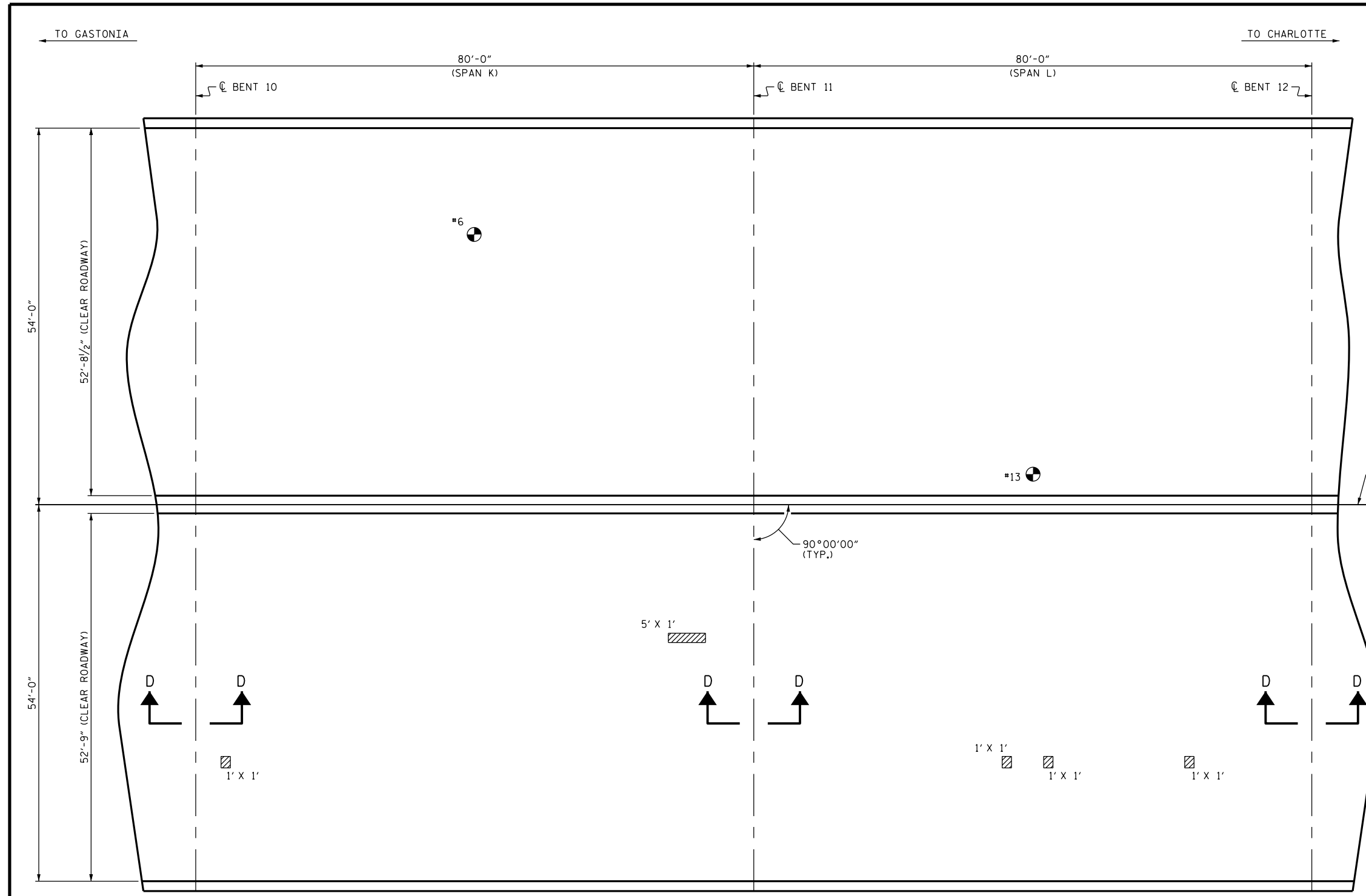
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN
 SPAN I & J**

DRAWN BY : S. WANCE DATE : 12/16
 CHECKED BY : J. YANNACCONE DATE : 1/17

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1			3			S-9
2			4			TOTAL SHEETS 27



AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
SPAN K		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	938 SY	
CLASS II SURFACE PREPARTION	0.7 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.7 SY	
SHOTBLASTING BRIDGE DECK	938 SY	
PPC MATERIALS	32.7 CY	
PLACING AND FINISHING PPC OVERLAY	938 SY	
GROOVING BRIDGE FLOORS	7,957 SF	
SPAN L		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	938 SY	
CLASS II SURFACE PREPARTION	0.4 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.4 SY	
SHOTBLASTING BRIDGE DECK	938 SY	
PPC MATERIALS	32.7 CY	
PLACING AND FINISHING PPC OVERLAY	938 SY	
GROOVING BRIDGE FLOORS	7,957 SF	

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

- APPROX. CLASS II AREA
- BRIDGE JOINT DEMOLITION
- #1 TEST LOCATION

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 D-D, 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.

PLAN

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#6	2 3/8"	5,300
#13	2 5/8"	3,900

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 11/14/2016.

DocuSigned by:
John A. Yannaccone
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 32492
 JOHN A. YANNACCONE
 1/29/2017

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 143

SHEET 6 OF 7

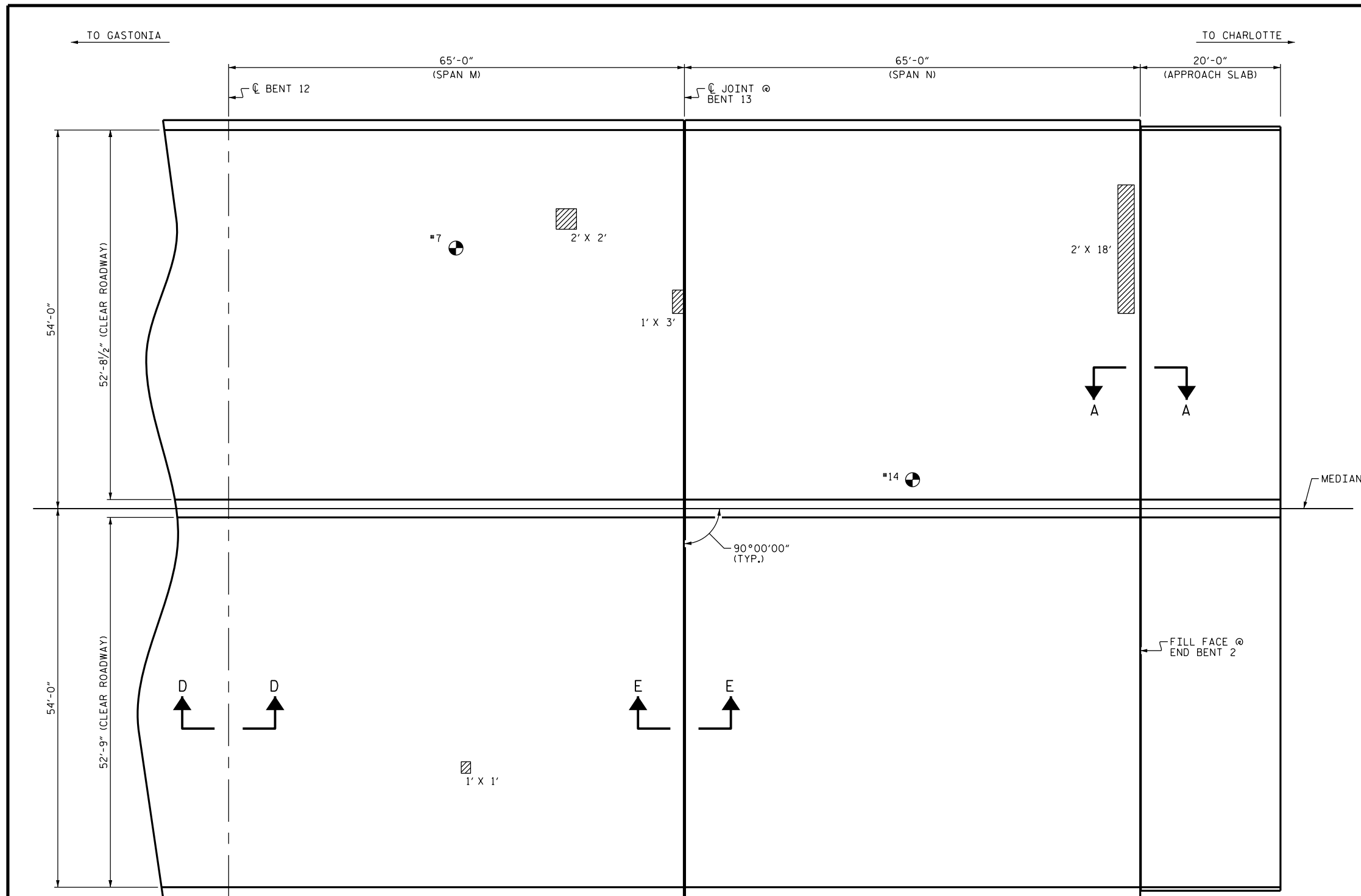
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN
 SPAN K & L**

DRAWN BY : S. WANCE DATE : 12/16
 CHECKED BY : J. YANNACCONE DATE : 1/17

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1			3			S-10
2			4			TOTAL SHEETS 27



AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
SPAN M		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	756 SY	
CLASS II SURFACE PREPARTION	0.9 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.9 SY	
SHOTBLASTING BRIDGE DECK	756 SY	
PPC MATERIALS	26.4 CY	
PLACING AND FINISHING PPC OVERLAY	756 SY	
GROOVING BRIDGE FLOORS	6,405 SF	
SPAN N		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	756 SY	
CLASS II SURFACE PREPARTION	4.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	4.0 SY	
SHOTBLASTING BRIDGE DECK	756 SY	
PPC MATERIALS	26.4 CY	
PLACING AND FINISHING PPC OVERLAY	756 SY	
GROOVING BRIDGE FLOORS	6,388 SF	
APPROACH SLAB		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	228 SY	
CLASS II SURFACE PREPARTION	0.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.0 SY	
SHOTBLASTING BRIDGE DECK	228 SY	
PPC MATERIALS	8.0 CY	
PLACING AND FINISHING PPC OVERLAY	228 SY	
GROOVING BRIDGE FLOORS	1,898 SF	

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

- APPROX. CLASS II AREA
- BRIDGE JOINT DEMOLITION
- TEST LOCATION

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 143

SHEET 7 OF 7

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 AND D-D, SEE "JOINT DETAILS" SHEET.

FOR SECTION E-E, SEE "EXPANSION JOINT SEAL 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.

PLAN

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#7	2 3/8"	4,300
#14	2 1/2"	5,500

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 11/14/2016.

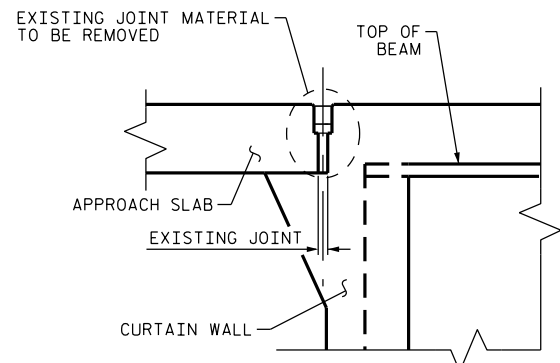
DocuSigned by:
John A. Yannaccone
 7BC3...
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 32492
 JOHN A. YANNAKONNE
 1/29/2017

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

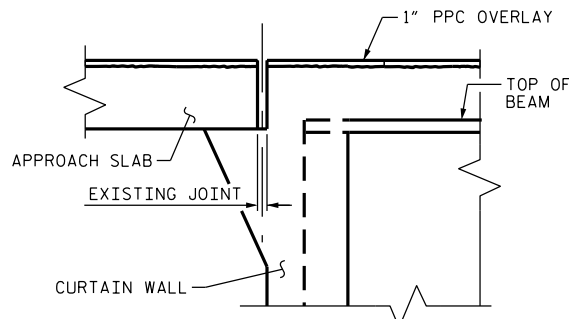
**PLAN OF SPAN
 SPAN M & N
 AND APPROACH SLAB**

DRAWN BY : S. WANCE DATE : 12/16
 CHECKED BY : J. YANNAKONNE DATE : 1/17

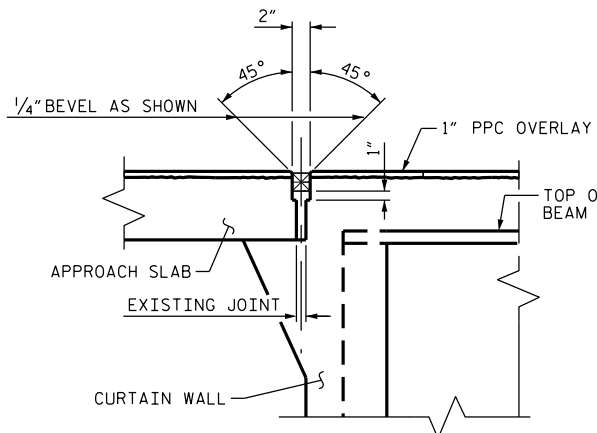
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			27



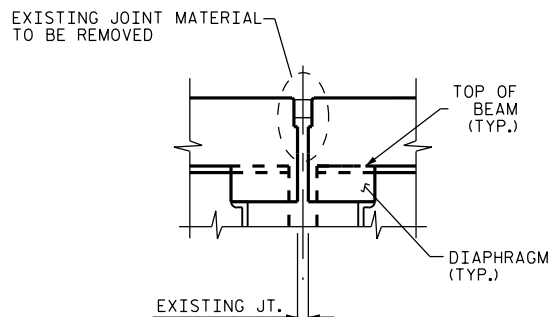
EXISTING JOINT



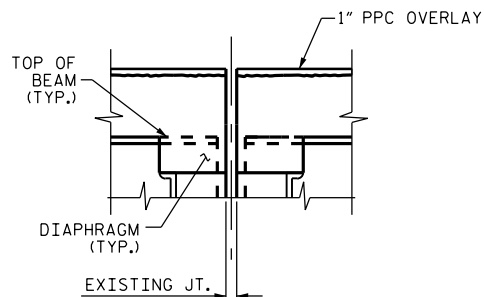
PROPOSED JOINT PRE-SAWED



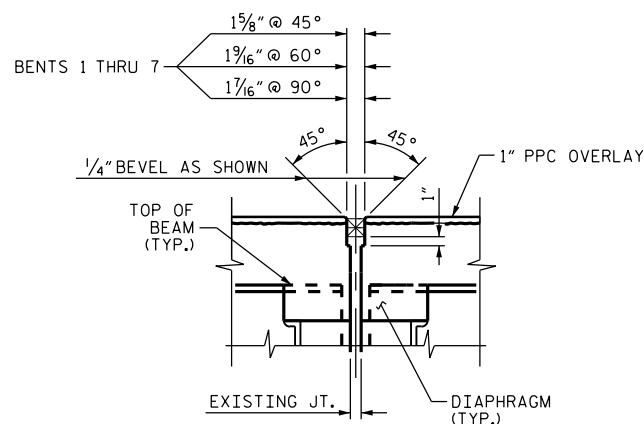
PROPOSED FOAM JOINT SEAL



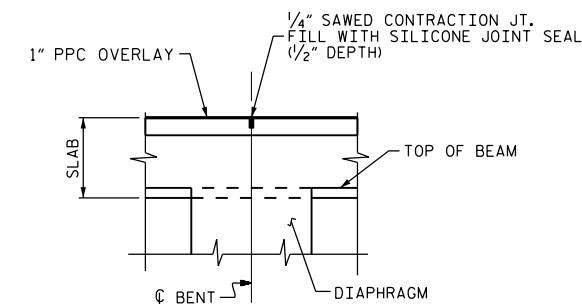
EXISTING JOINT



PROPOSED JOINT PRE-SAWED



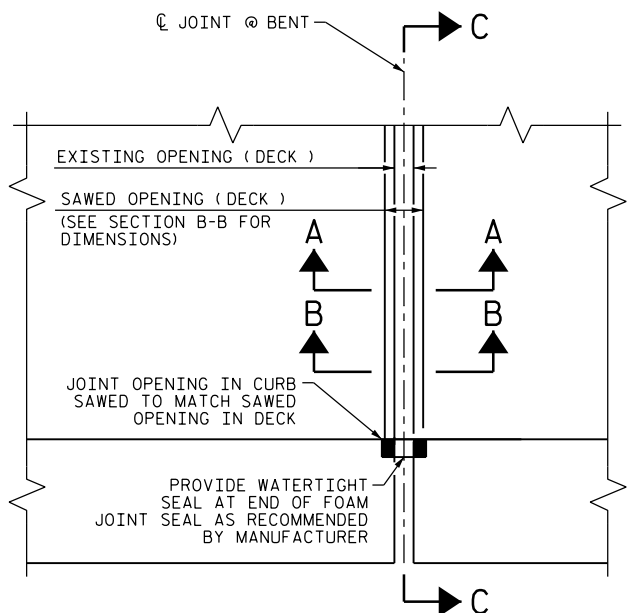
PROPOSED FOAM JOINT SEAL



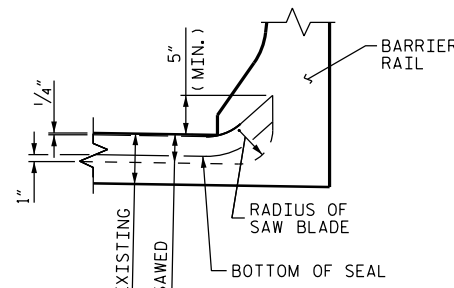
SECTION D-D

SECTION B-B

(SECTION VIEW OF DIAPHRAGM VARIES AT BENT)



PLAN



SECTION C-C

NOTES

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
 THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.
 NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2 1/2" AT END BENTS AND 2" AT THE BENTS.
 THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS FOR THE JOINT SEALS IN LIEU OF SAWING THE JOINTS.
 THE SILICONE JOINT SEALS AT THE BENTS SHALL CONFORM TO THE STANDARD SPECIFICATIONS. PAYMENT FOR THE SILICONE JOINT SEALS IS INCLUDED IN THE CONTRACT UNIT PRICE BID FOR PLACING AND FINISHING PPC OVERLAY.
 FOR LOCATION OF SECTION A-A, B-B AND D-D, SEE PLAN OF SPAN SHEETS.

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 143

DocuSigned by:
John A. Yannaccone
 7BC80000000000000000000000000000
 NORTH CAROLINA PROFESSIONAL SEAL 32492
 JOHN A. YANNACCONI ENGINEER
 1/29/2017

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

JOINT DETAILS

DRAWN BY : S. WAN@PE DATE : 11/16
 CHECKED BY : J. YANNACCONI DATE : 1/17

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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-12
2			4			TOTAL SHEETS 27

REPAIR INSTALLATION PROCEDURE

LOOSEN THE EXISTING BOLTS AND HOLD DOWN PLATES TO REMOVE AND REPLACE THE EXISTING GLAND. REMOVE THE EXISTING NEOPRENE SEALANT AND CLEAN THE EXISTING BASE ANGLE OF OIL, GREASE AND OTHER LATENTS.

LAY THE NEW GLAND ON THE BASE ANGLE AND FIELD MARK THE NEW GLAND FOR THE BOLT HOLES. HOLES IN THE NEW GLAND SHALL BE PUNCHED $\frac{1}{8}$ " IN DIAMETER WITH A HAND PUNCH.

IN ORDER TO CHECK FOR PROPER ALIGNMENT, PLACE THE NEW GLAND AND HOLD-DOWN PLATES ON THE BASE ANGLE. DO NOT APPLY NEW NEOPRENE SEALANT. BOLT THE HOLD-DOWN PLATES TO THE BASE ANGLE, BUT DO NOT TIGHTEN. THE ENGINEER WILL INSPECT THE JOINT SEAL DEVICE FOR PROPER ALIGNMENT.

AFTER INSPECTION, REMOVE THE HOLD-DOWN PLATES AND NEW GLAND. APPLY NEW NEOPRENE SEALANT TO THE BASE ANGLE IN ACCORDANCE WITH THE "INSTALLATION SKETCH". PLACE NEW GLAND AND HOLD-DOWN PLATES ON THE BASE ANGLE. BOLT THE HOLD-DOWN PLATES TO THE BASE ANGLE ASSEMBLY AND TORQUE THE BOLTS TO 88 FT-LBS WITH A TORQUE WRENCH. CHECK THE TORQUE AFTER THREE (3) HOURS AND, IF NECESSARY, RETIGHTEN TO 88 FT-LBS. A FINAL CHECK SHALL BE MADE AT SEVEN (7) DAYS. TORQUE SHALL NOT BE LESS THAN 80 FT-LBS AFTER SEVEN (7) DAYS.

AFTER PROPER TORQUING, CLEAN THE BOLT HOLE RECESSES AND THE RECESS BETWEEN THE JOINT SEAL DEVICE AND CONCRETE. COMPLETELY FILL THESE RECESSES WITH NEW NEOPRENE SEALANT.

GENERAL NOTES

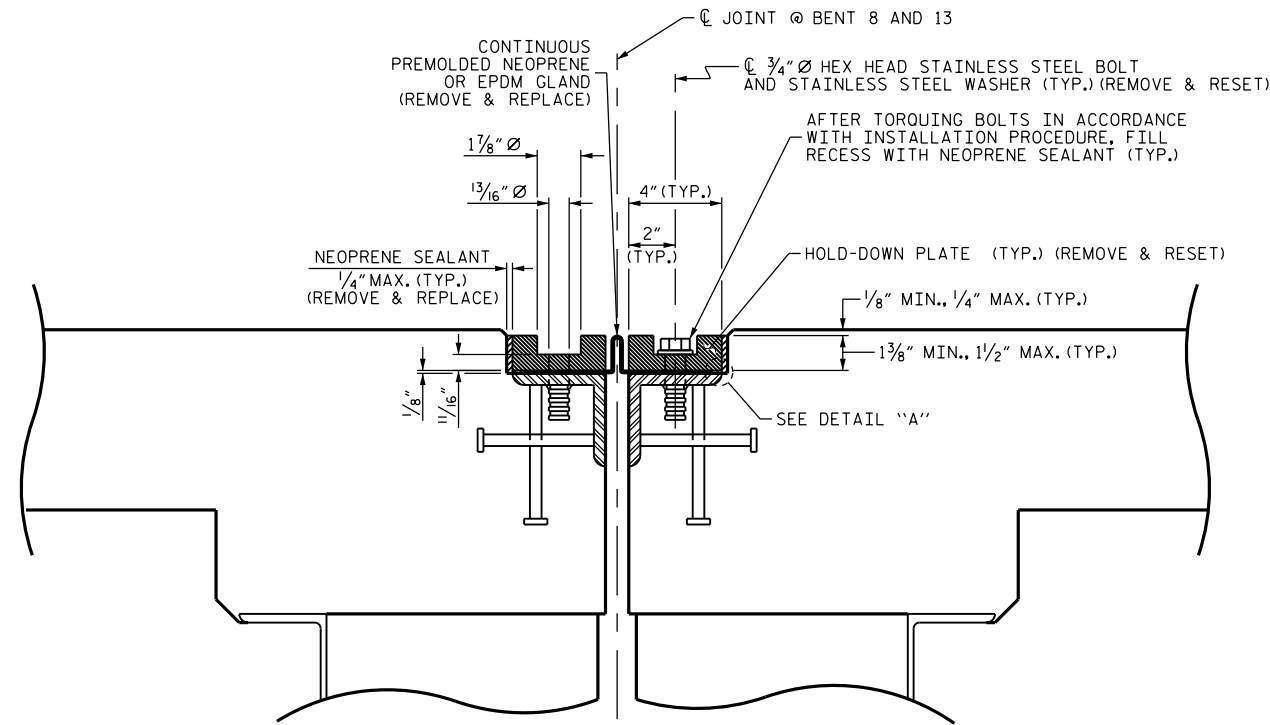
ALL HOLD-DOWN BOLTS SHALL CONFORM TO ASTM F593 ALLOY 304 STAINLESS STEEL AND WASHERS SHALL CONFORM TO ASTM F844 EXCEPT THEY SHALL BE MADE FROM ALLOY 304 STAINLESS STEEL.

A PREMOLDED CORRUGATED OR NON-CORRUGATED GLAND SHALL BE USED FOR JOINTS SKEWED BETWEEN 50° THRU 130°.

THE FINISHED EXPANSION SEAL DEVICE SHALL BE A MINIMUM $\frac{1}{8}$ " AND A MAXIMUM OF $\frac{1}{4}$ " BELOW THE TOP OF SLAB.

FOR EXPANSION JOINT SEAL REPAIR, SEE SPECIAL PROVISIONS.

NO SEPARATE PAYMENT WILL BE MADE FOR REMOVING AND REINSTALLING MEDIAN AND BARRIER RAIL COVER PLATES. THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "EXPANSION JOINT SEALS".

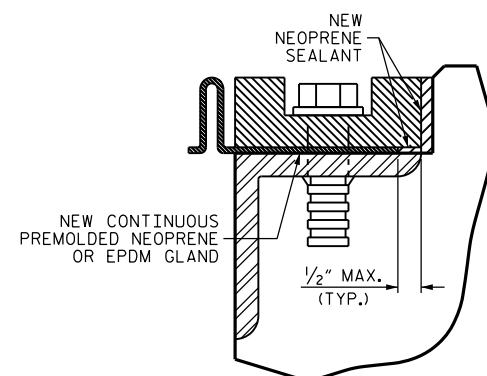


SECTION E-E

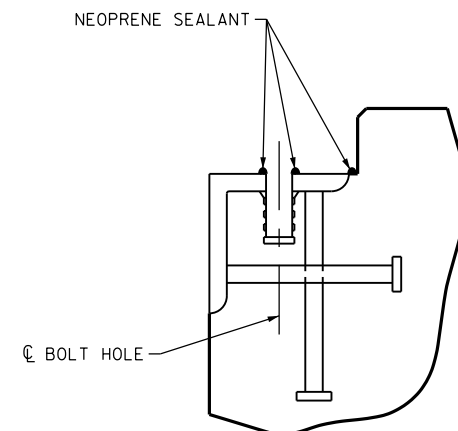
(SECTION NORMAL TO JOINT -- STEEL SUPERSTRUCTURE)

MOVEMENT AND SETTING AT JOINT

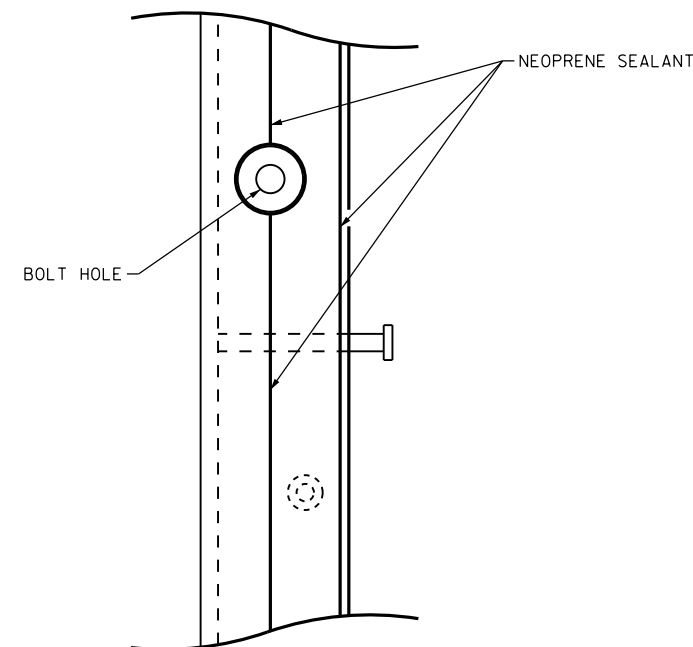
BRIDGE	LOCATION	SKEW ANGLE	TOTAL MOVEMENT (ALONG \bar{C} RDWY)	PERPENDICULAR JOINT OPENING AT 30° F	PERPENDICULAR JOINT OPENING AT 60° F	PERPENDICULAR JOINT OPENING AT 90° F
143	BENT 8	90°00'00"	2 $\frac{3}{8}$ "	2 $\frac{3}{4}$ "	2 $\frac{3}{16}$ "	1 $\frac{5}{8}$ "
	BENT 13	90°00'00"	2 $\frac{3}{8}$ "	2 $\frac{3}{4}$ "	2 $\frac{3}{16}$ "	1 $\frac{5}{8}$ "



DETAIL "A"



CROSS SECTION



PLAN VIEW

INSTALLATION SKETCH

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 143

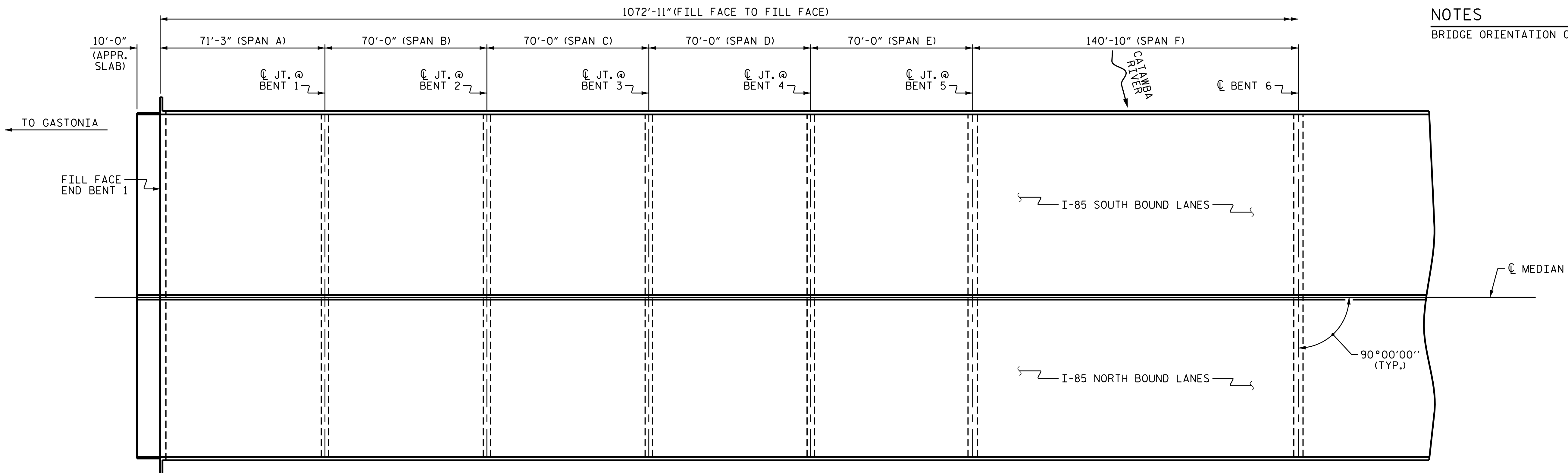
DocuSigned by:
John A. Yannaccone
 7BC3800E-3E44-4000-9000-000000000000
 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 ENGINEER
 JOHN A. YANNACCONE

1/29/2017

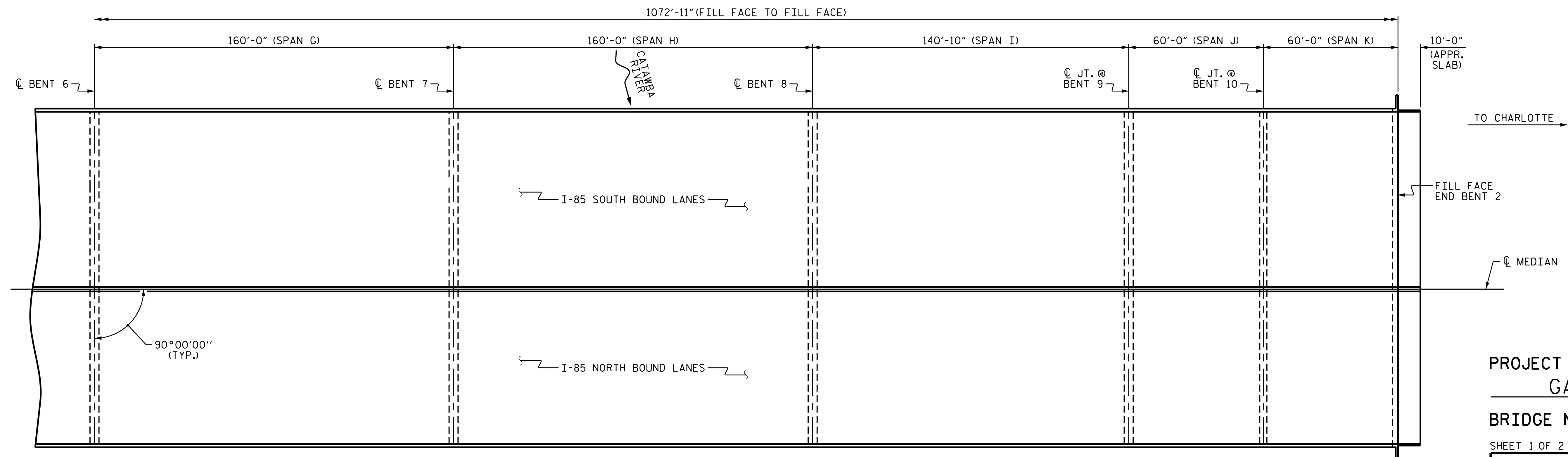
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-13
2			4			TOTAL SHEETS 27

DRAWN BY : R.L. PUTEK DATE : 07/16
 CHECKED BY : J. YANNACCONE DATE : 12/16

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 SIGNATURES COMPLETED



NOTES
BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.



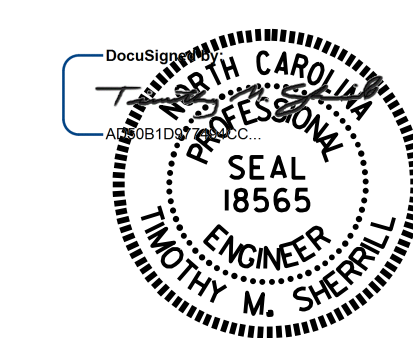
SCOPE OF WORK

- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- PERFORM DECK REPAIRS IN PREPARED AREAS.
- OVERLAY PREPARED BRIDGE DECK WITH POLYESTER POLYMER CONCRETE.
- RECONSTRUCT BRIDGE JOINTS AND INSTALL JOINT SEALS.
- REPLACE EXPANSION JOINT SEAL.
- GROOVE POLYESTER POLYMER CONCRETE.

PLAN

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

RESIDENT ENGINEER _____ DATE _____



3/13/2017

PROJECT NO. I-5894
GASTON COUNTY
BRIDGE NO. 159

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE ON I-85
OVER CATAWBA RIVER

DRAWN BY : A. SORSENGINH/D. JOYNER DATE : 10/2016
CHECKED BY : J. YANNACCONE DATE : 12/2016

DOCUMENT NOT CONSIDERED
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1			3			S-14
2			4			27



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 PLANS.

EXISTING BRIDGE CONCRETE DECK SHALL BE REPAIRED PRIOR TO THE SURFACE PREPARATION AND APPLICATION OF THE PPC OVERLAY AT LOCATIONS SHOWN ON THE PLANS OR AS DETERMINED BY THE ENGINEER, IF NECESSARY, SUCH LOCATIONS MAY BE REPAIRED WITH PPC.

THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR SYNTHETIC RUBBER EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

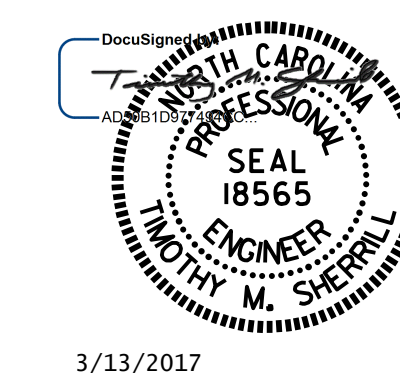
FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 159

SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING
 FOR BRIDGE ON I-85
 OVER CATAWBA RIVER

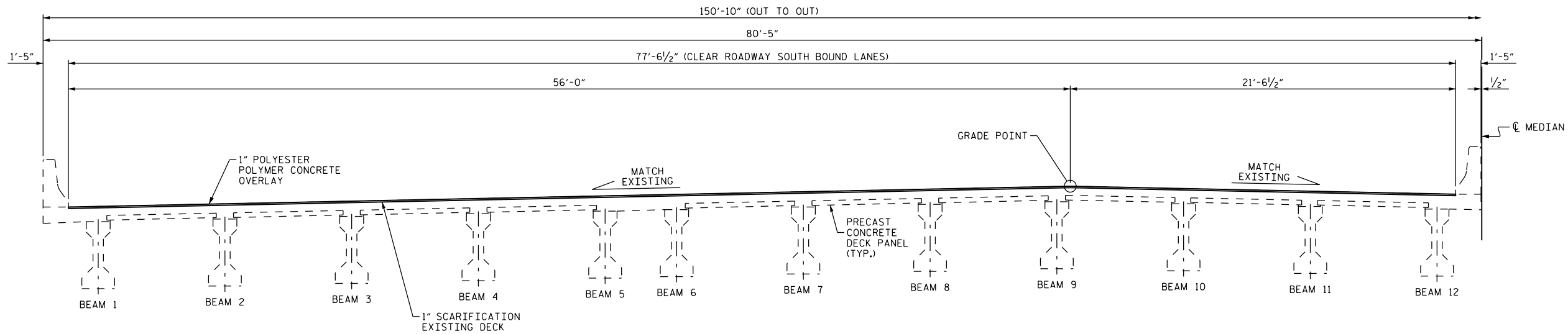
DRAWN BY : A. SORSENGINH DATE : 10/2016
 CHECKED BY : J. YANNAACONE DATE : 12/2016

DOCUMENT NOT CONSIDERED
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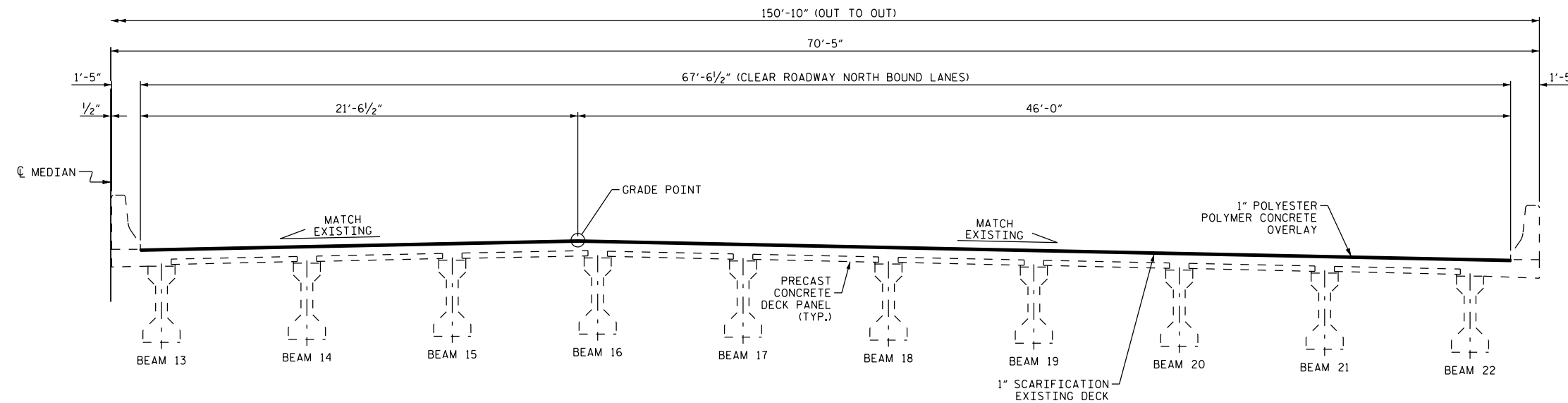
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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
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2			4			27

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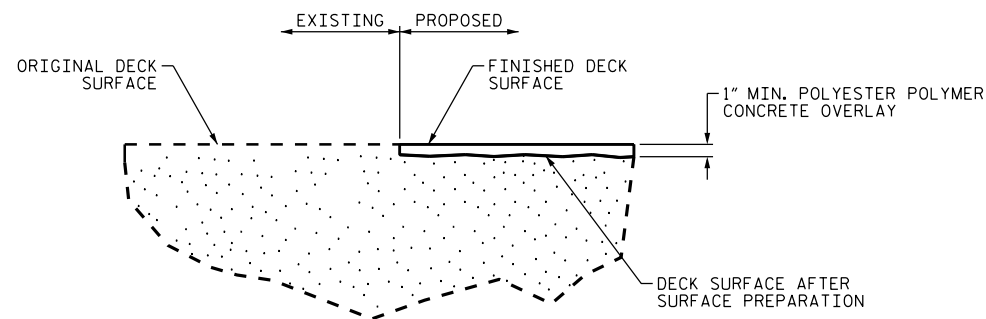
SEE TRANSPORTATION MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND POLYESTER POLYMER CONCRETE PLACEMENT.



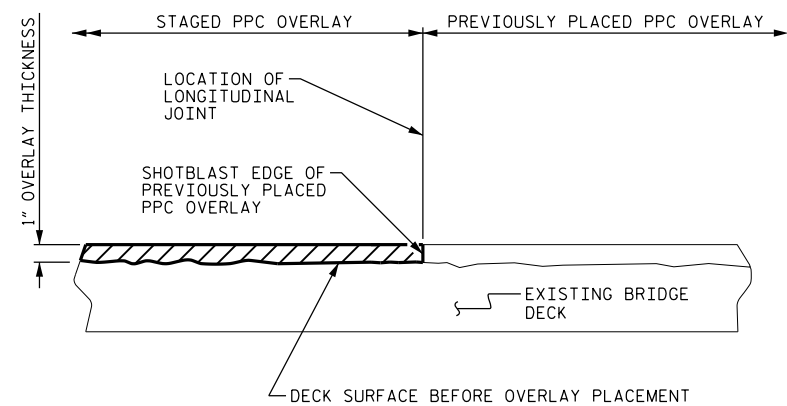
TYPICAL SECTION
(PROPOSED)



TYPICAL SECTION
(PROPOSED)



**DETAIL FOR POLYESTER
POLYMER CONCRETE OVERLAY**



STAGED PPC OVERLAY JOINT
(AS NEEDED)

PROJECT NO. I-5894
GASTON COUNTY
BRIDGE NO. 159

SHEET 1 OF 2

DocuSigned by:
John A. Yannaccone
7BC3...
NORTH CAROLINA
PROFESSIONAL
SEAL
32492
ENGINEER
JOHN A. YANNACCONI
1/29/2017

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**TYPICAL SECTION
AND PPC OVERLAY
DETAILS
(SPANS A-E, J & K)**

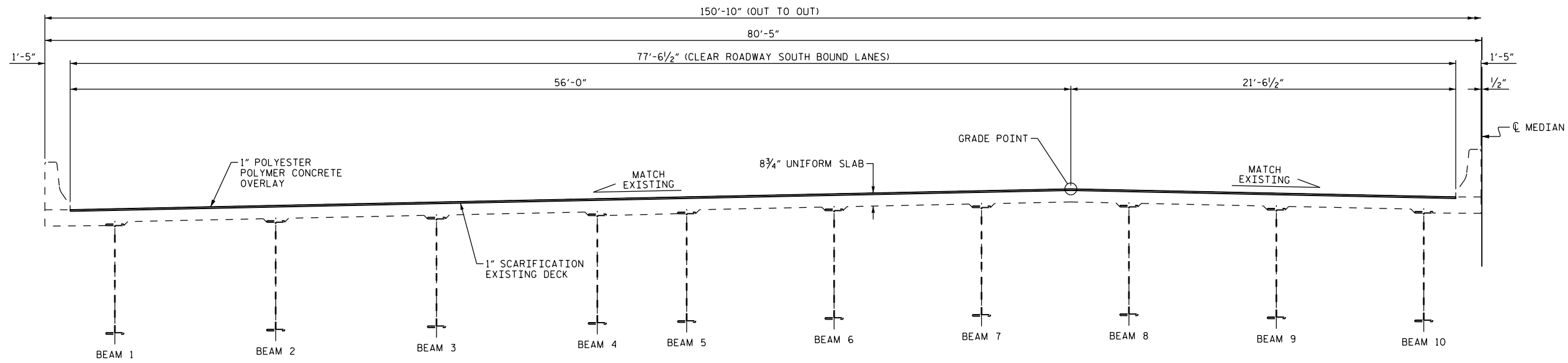
DRAWN BY : A. SORSENGINH/M. WELDON DATE : 12/2016
CHECKED BY : J. YANNACCONI DATE : 12/2016

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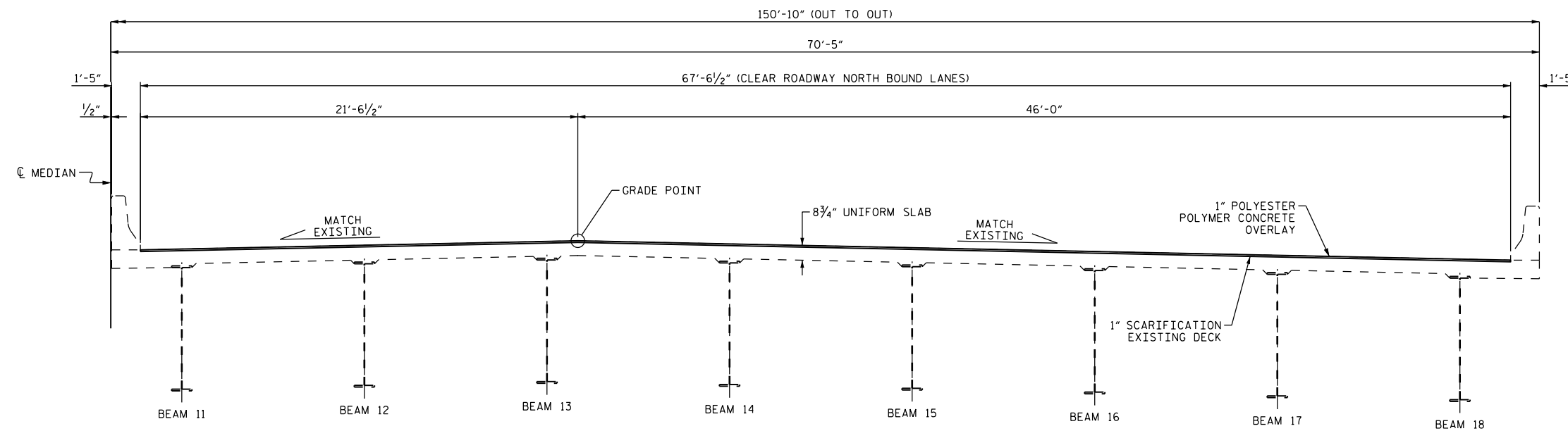
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1			3			27
2			4			

NOTES

SEE TRANSPORTATION MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND POLYESTER POLYMER CONCRETE PLACEMENT.
 FOR "DETAIL FOR POLYESTER POLYMER CONCRETE OVERLAY", SEE SHEET 1 OF 2.



TYPICAL SECTION
(PROPOSED)



TYPICAL SECTION
(PROPOSED)

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 159

SHEET 2 OF 2

DocuSigned by:

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 NORTH CAROLINA
 PROFESSIONAL
 SEAL
 32492
 JOHN A. YANNACCONI
 ENGINEER

1/29/2017

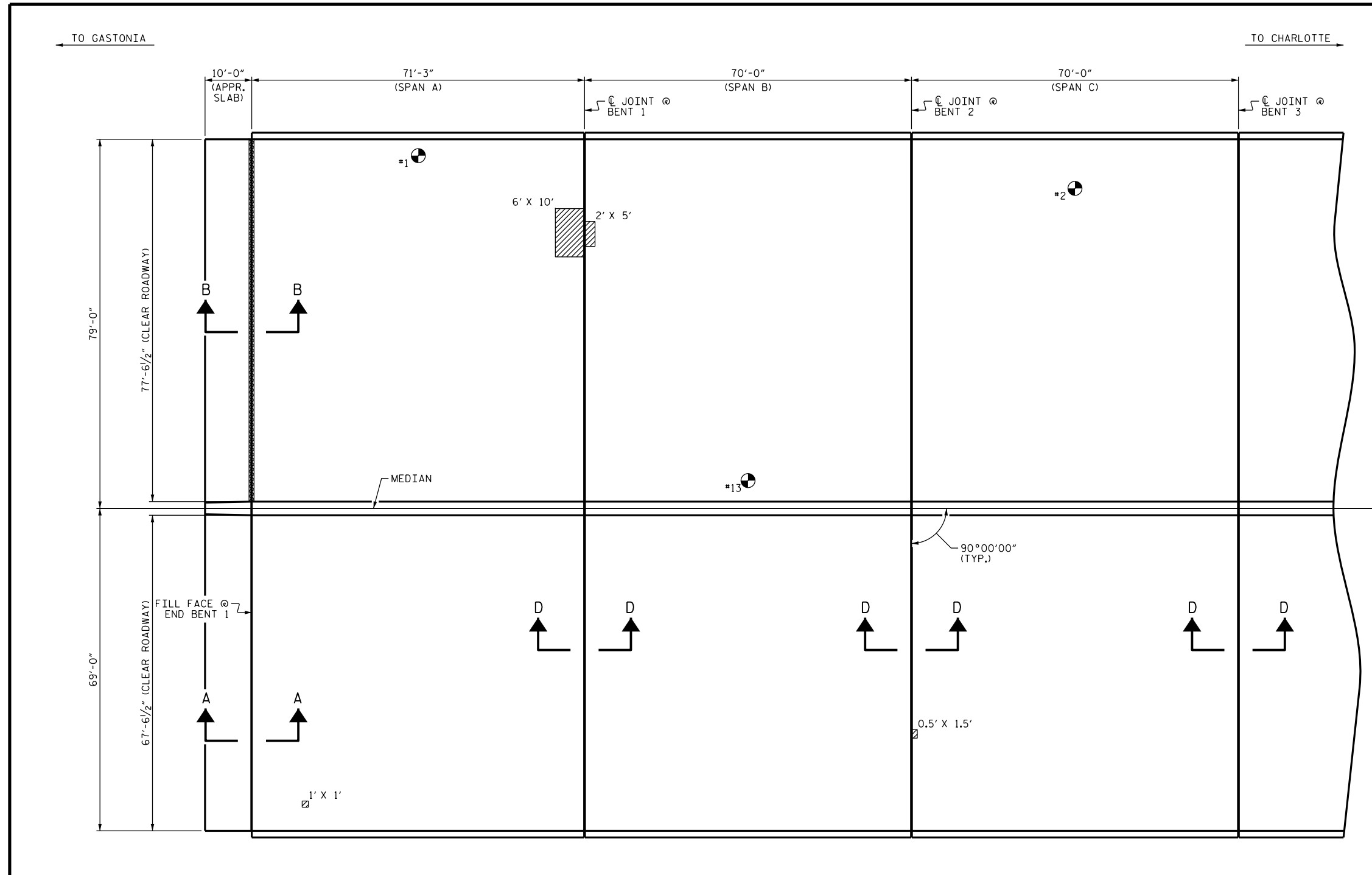
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 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**TYPICAL SECTION
 AND PPC OVERLAY
 DETAILS
 (SPAN F-I)**

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1			3			5-17
2			4			TOTAL SHEETS 27



PLAN

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, B-B AND D-D, SEE "JOINT DETAILS" SHEETS.

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 BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS		
APPROACH SLAB		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	152 SY	
CLASS II SURFACE PREPARATION	0.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.0 SY	
SHOTBLASTING BRIDGE DECK	152 SY	
PPC MATERIALS	5.3 CY	
PLACING AND FINISHING PPC OVERLAY	152 SY	
GROOVING BRIDGE FLOORS	1,263 SF	
BRIDGE JOINT DEMOLITION	38.8 SF	
SPAN A		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	1,148 SY	
CLASS II SURFACE PREPARATION	6.8 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	6.8 SY	
SHOTBLASTING BRIDGE DECK	1,148 SY	
PPC MATERIALS	40.1 CY	
PLACING AND FINISHING PPC OVERLAY	1,148 SY	
GROOVING BRIDGE FLOORS	9,858 SF	
BRIDGE JOINT DEMOLITION	38.8 SF	
SPAN B		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	1,127 SY	
CLASS II SURFACE PREPARATION	1.2 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	1.2 SY	
SHOTBLASTING BRIDGE DECK	1,127 SY	
PPC MATERIALS	39.3 CY	
PLACING AND FINISHING PPC OVERLAY	1,127 SY	
GROOVING BRIDGE FLOORS	9,678 SF	
BRIDGE JOINT DEMOLITION	0.0 SF	
SPAN C		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	1,127 SY	
CLASS II SURFACE PREPARATION	0.1 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.1 SY	
SHOTBLASTING BRIDGE DECK	1,127 SY	
PPC MATERIALS	39.3 CY	
PLACING AND FINISHING PPC OVERLAY	1,127 SY	
GROOVING BRIDGE FLOORS	9,678 SF	
BRIDGE JOINT DEMOLITION	0.0 SF	

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

- APPROX. CLASS II AREA
- BRIDGE JOINT DEMOLITION
- TEST LOCATION

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 159

SHEET 1 OF 7

DocuSigned by:
John A. Yannaccone
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 32492
 JOHN A. YANNACCONE
 1/29/2017

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#1	2 1/2"	4,500
#2	2 5/8"	5,300
#13	2 1/2"	4,100

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 11/15/2016.

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN
 SPAN A, B & C
 AND APPROACH SLAB

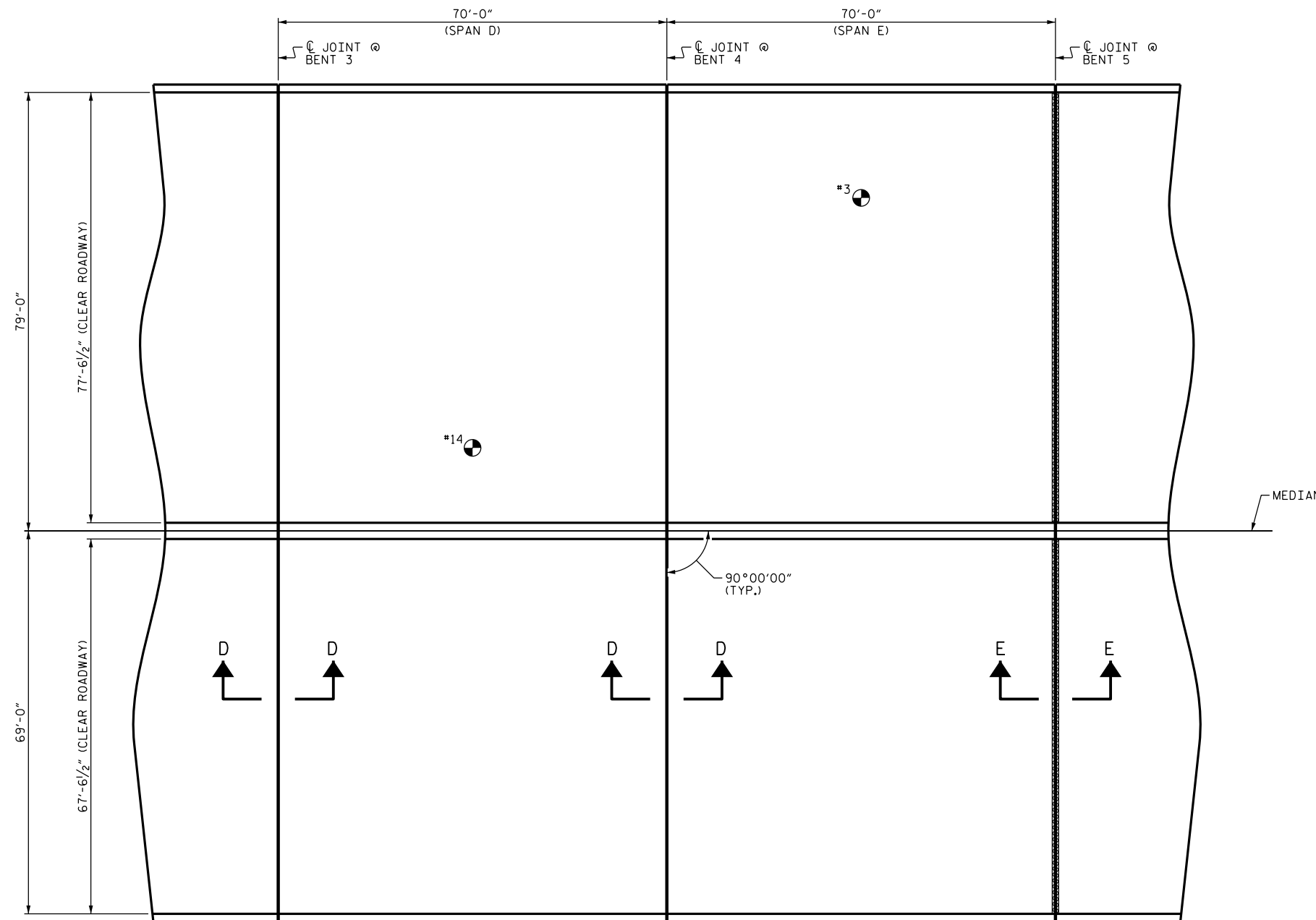
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 CHECKED BY: J. YANNACCONE DATE: 1/2017

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1			3			S-18
2			4			TOTAL SHEETS 27

← TO GASTONIA

TO CHARLOTTE →



AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS		
SPAN D		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	1,127 SY	
CLASS II SURFACE PREPARTION	0.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.0 SY	
SHOTBLASTING BRIDGE DECK	1,127 SY	
PPC MATERIALS	39.3 CY	
PLACING AND FINISHING PPC OVERLAY	1,127 SY	
GROOVING BRIDGE FLOORS	9,678 SF	
BRIDGE JOINT DEMOLITION	0.0 SF	
SPAN E		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	1,126 SY	
CLASS II SURFACE PREPARTION	0.1 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.1 SY	
SHOTBLASTING BRIDGE DECK	1,126 SY	
PPC MATERIALS	39.3 CY	
PLACING AND FINISHING PPC OVERLAY	1,126 SY	
GROOVING BRIDGE FLOORS	9,666 SF	
BRIDGE JOINT DEMOLITION	72.5 SF	

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

- APPROX. CLASS II AREA
- BRIDGE JOINT DEMOLITION
- TEST LOCATION

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 D-D, SEE "JOINT DETAILS" SHEETS.
- FOR SECTION E-E, SEE "SYNTHETIC RUBBER EXPANSION 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.
- FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

PLAN

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#3	2 1/2"	4,900
#14	2 5/8"	4,300

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 11/15/2016.

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 159

SHEET 2 OF 7

DocuSigned by:
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 SEAL 32492
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 1/29/2017

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN
 SPAN D & E

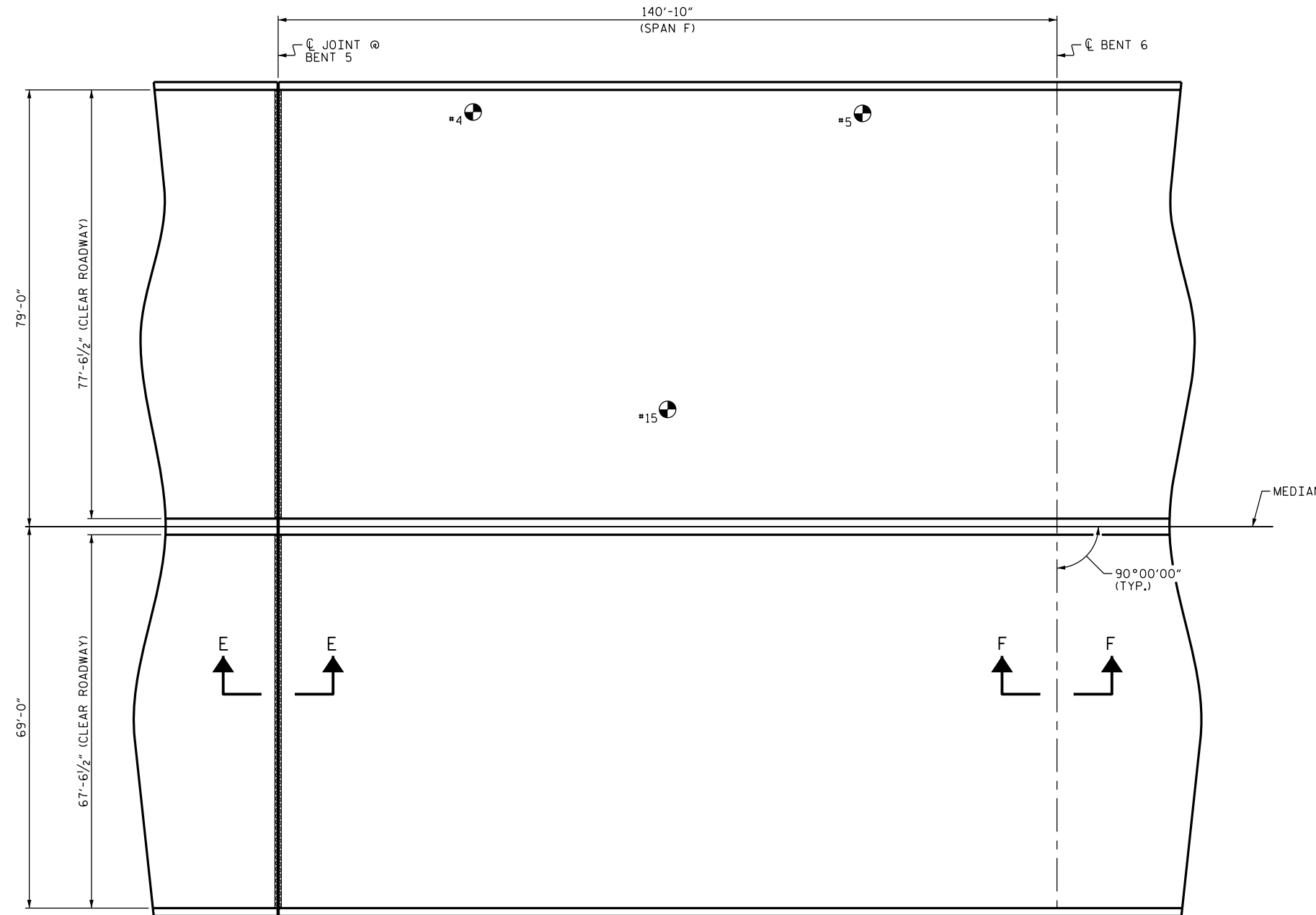
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1			3			S-19
2			4			TOTAL SHEETS 27

TO GASTONIA

TO CHARLOTTE



PLAN

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 E-E AND F-F, SEE "SYNTHETIC RUBBER EXPANSION 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.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

DRAWN BY : S. WANCE DATE : 12/2016
 CHECKED BY : J. YANNACCONE DATE : 1/2017

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS		
SPAN F		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	2,268 SY	
CLASS II SURFACE PREPARATION	0.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.0 SY	
SHOTBLASTING BRIDGE DECK	2,268 SY	
PPC MATERIALS	79.2 CY	
PLACING AND FINISHING PPC OVERLAY	2,268 SY	
GROOVING BRIDGE FLOORS	19,547 SF	
BRIDGE JOINT DEMOLITION	72.5 SF	

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

- APPROX. CLASS II AREA
- BRIDGE JOINT DEMOLITION
- TEST LOCATION

PROJECT NO. I-5894
 GASTON COUNTY
 BRIDGE NO. 159

SHEET 3 OF 7

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#4	2 1/2"	4,500
#5	2 1/2"	4,100
#15	2 1/2"	4,700

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 11/15/2016.

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1/29/2017

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN
 SPAN F




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2			4			27

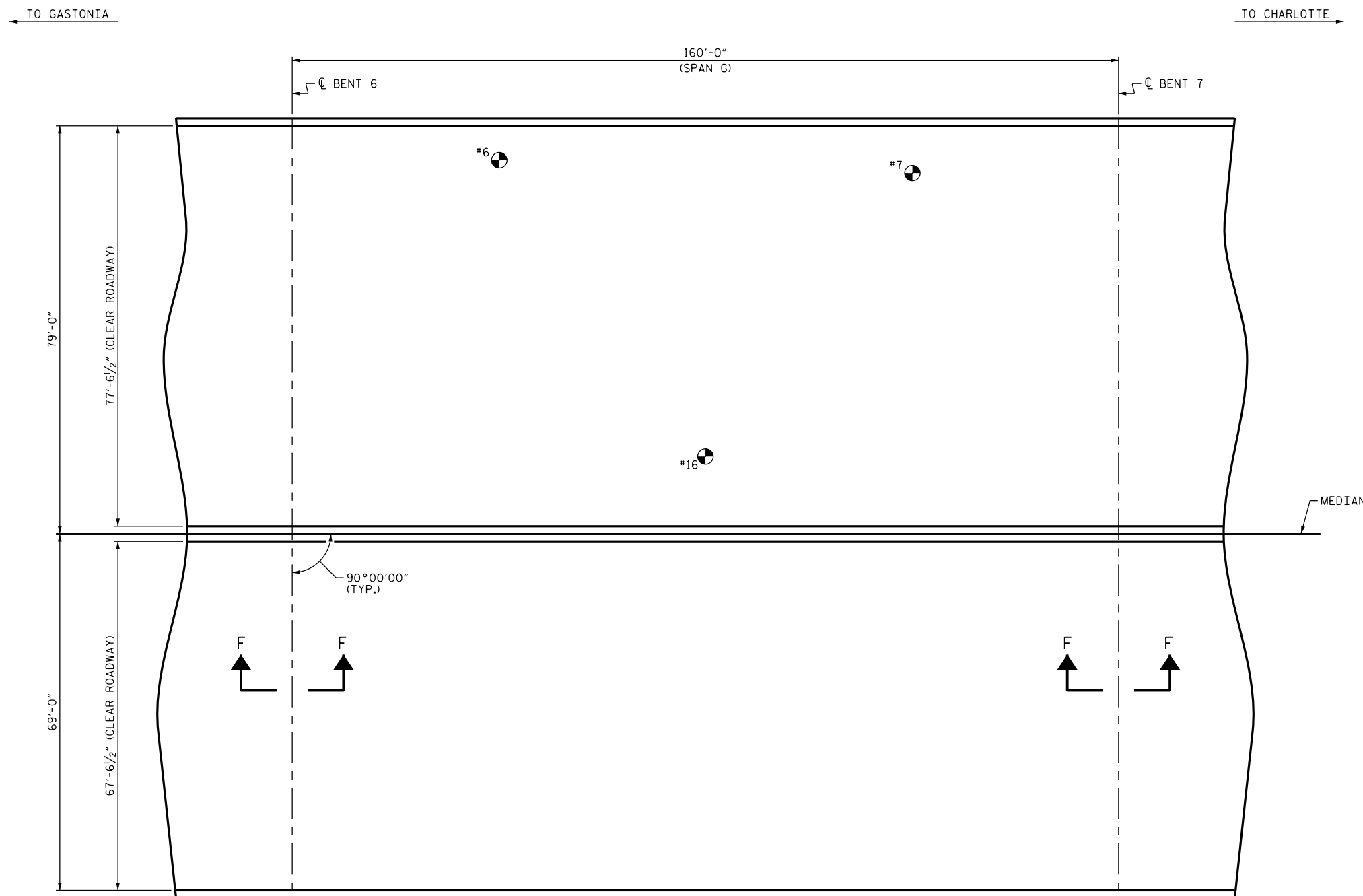
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AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS		
SPAN G		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	2,579 SY	
CLASS II SURFACE PREPARATION	0.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.0 SY	
SHOTBLASTING BRIDGE DECK	2,579 SY	
PPC MATERIALS	90.0 CY	
PLACING AND FINISHING PPC OVERLAY	2,579 SY	
GROOVING BRIDGE FLOORS	22,253 SF	
BRIDGE JOINT DEMOLITION	0.0 SF	

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

-  APPROX. CLASS II AREA
-  BRIDGE JOINT DEMOLITION
-  TEST LOCATION



PLAN

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 F-F, SEE "SYNTHETIC RUBBER EXPANSION 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.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#6	3"	4,500
#7	2 1/2"	4,300
#16	2 1/2"	4,900

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 11/15/2016.

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 159

SHEET 4 OF 7

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 1/29/2017

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN
 SPAN G

DRAWN BY : S. Wance DATE : 12/2016
 CHECKED BY : J. YANNACCONE DATE : 1/2017




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2			4			TOTAL SHEETS 27

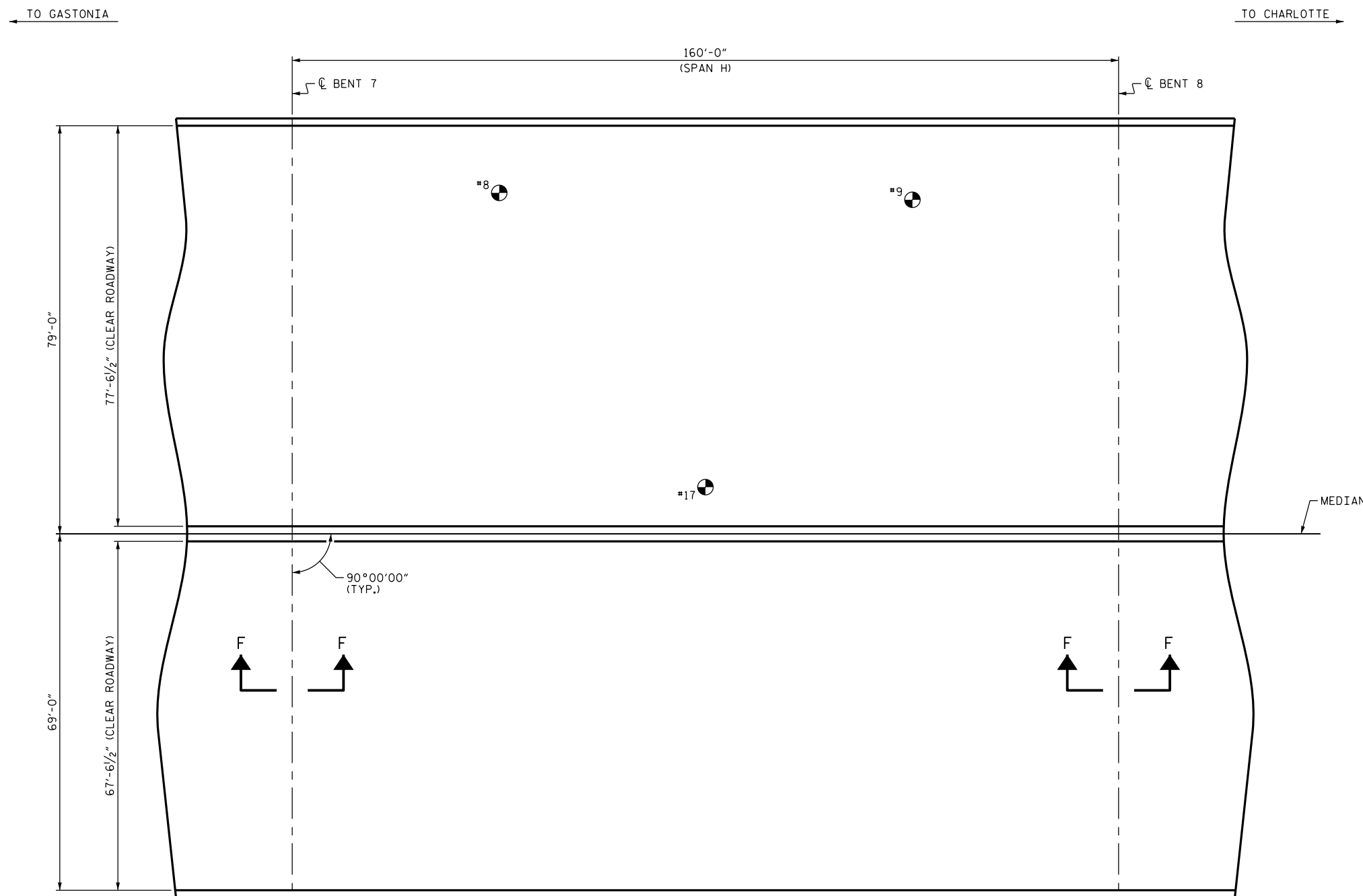
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AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS		
SPAN H		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	2,579 SY	
CLASS II SURFACE PREPARATION	0.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.0 SY	
SHOTBLASTING BRIDGE DECK	2,579 SY	
PPC MATERIALS	90.0 CY	
PLACING AND FINISHING PPC OVERLAY	2,579 SY	
GROOVING BRIDGE FLOORS	22,253 SF	
BRIDGE JOINT DEMOLITION	0.0 SF	

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

-  APPROX. CLASS II AREA
-  BRIDGE JOINT DEMOLITION
-  TEST LOCATION



PLAN

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 F-F, SEE "SYNTHETIC RUBBER EXPANSION 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.
- FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#8	3/4"	5,300
#9	3/8"	5,700
#17	2 1/2"	4,100

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 11/15/2016.

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 159

SHEET 5 OF 7

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 1/29/2017

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN
 SPAN H**

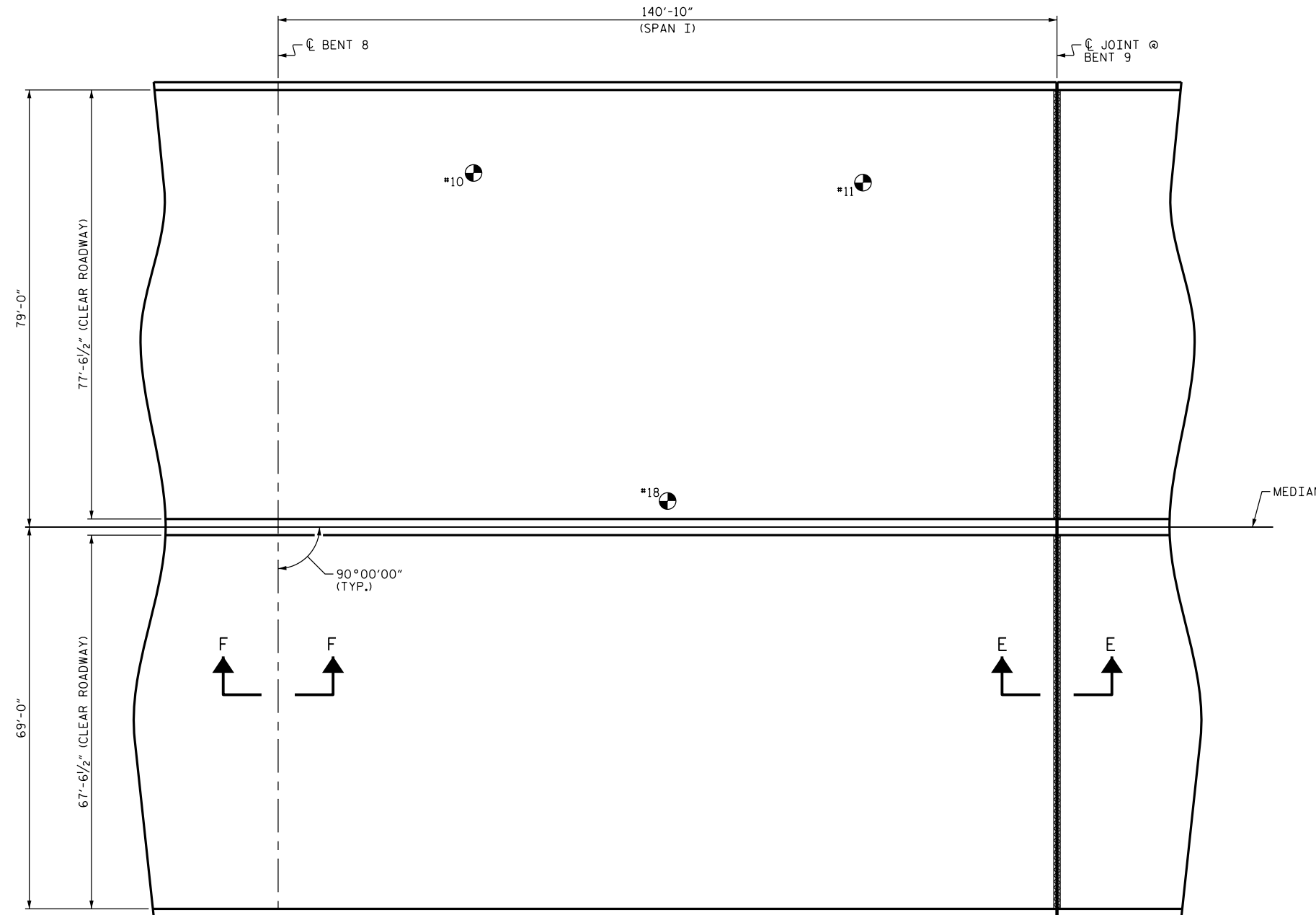
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


TO CHARLOTTE



AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS		
SPAN I		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	2,268 SY	
CLASS II SURFACE PREPARATION	0.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.0 SY	
SHOTBLASTING BRIDGE DECK	2,268 SY	
PPC MATERIALS	79.2 CY	
PLACING AND FINISHING PPC OVERLAY	2,268 SY	
GROOVING BRIDGE FLOORS	19,547 SF	
BRIDGE JOINT DEMOLITION	72.5 SF	

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

-  APPROX. CLASS II AREA
-  BRIDGE JOINT DEMOLITION
-  TEST LOCATION

PLAN

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 E-E AND F-F, SEE "SYNTHETIC RUBBER EXPANSION 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.

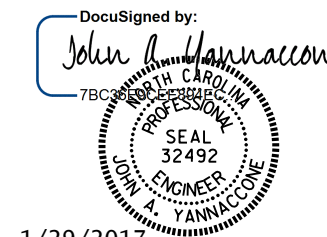
FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 159

SHEET 6 OF 7

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#10	2 1/2"	4,500
#11	2 1/2"	5,900
#18	2 5/8"	4,300

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 11/15/2016.



1/29/2017

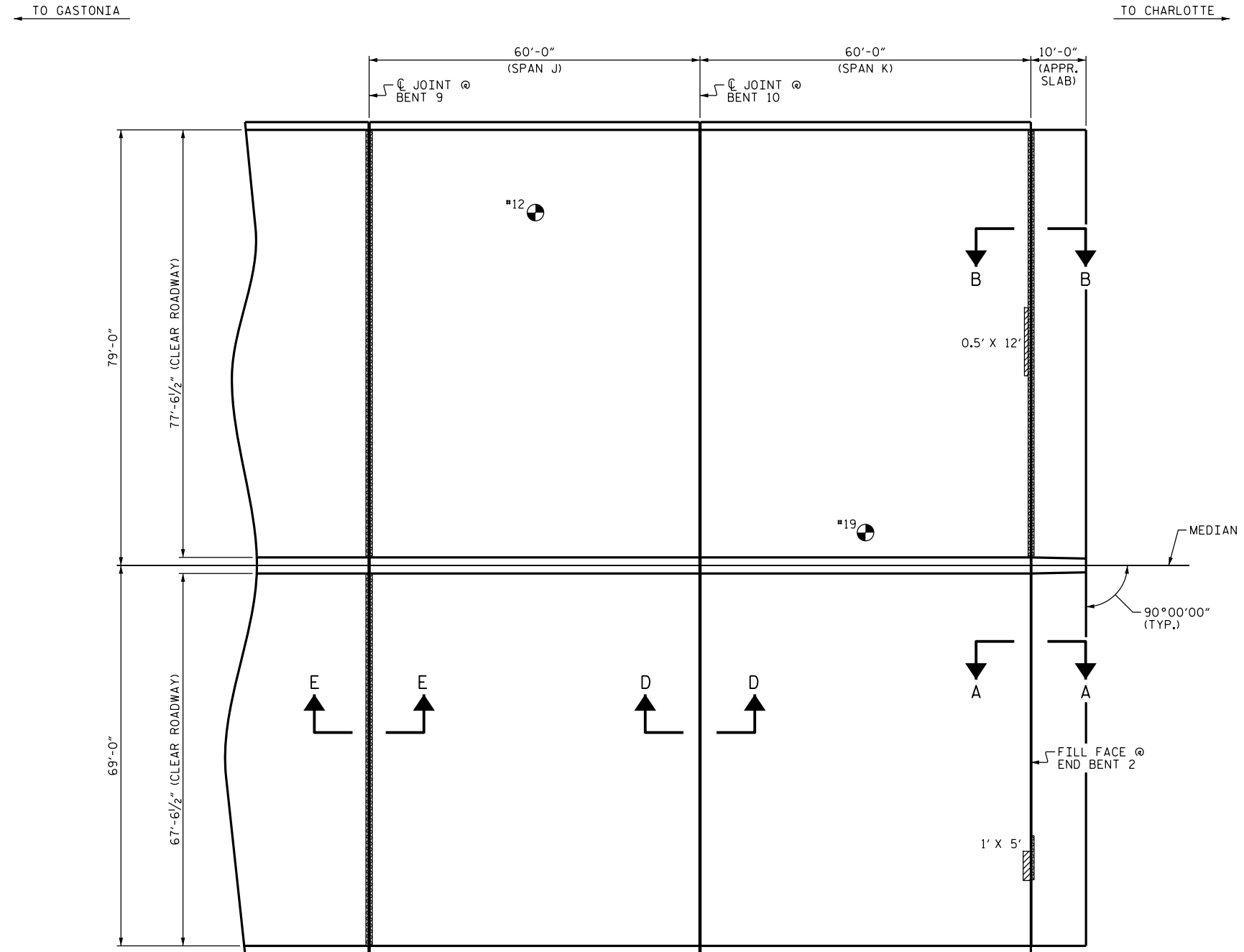
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN
 SPAN I

DRAWN BY : S. Wance DATE : 12/2016
 CHECKED BY : J. YANNACCONE DATE : 1/2017

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AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS		
SPAN J		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	965 SY	
CLASS II SURFACE PREPARATION	0.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.0 SY	
SHOTBLASTING BRIDGE DECK	965 SY	
PPC MATERIALS	33.7 CY	
PLACING AND FINISHING PPC OVERLAY	965 SY	
GROOVING BRIDGE FLOORS	8,275 SF	
BRIDGE JOINT DEMOLITION	72.5 SF	
SPAN K		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	967 SY	
CLASS II SURFACE PREPARATION	0.9 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.9 SY	
SHOTBLASTING BRIDGE DECK	967 SY	
PPC MATERIALS	33.7 CY	
PLACING AND FINISHING PPC OVERLAY	967 SY	
GROOVING BRIDGE FLOORS	8,293 SF	
BRIDGE JOINT DEMOLITION	38.8 SF	
APPROACH SLAB		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	152 SY	
CLASS II SURFACE PREPARATION	0.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.0 SY	
SHOTBLASTING BRIDGE DECK	152 SY	
PPC MATERIALS	5.3 CY	
PLACING AND FINISHING PPC OVERLAY	152 SY	
GROOVING BRIDGE FLOORS	1,263 SF	
BRIDGE JOINT DEMOLITION	42.8 SF	

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

- APPROX. CLASS II AREA
- BRIDGE JOINT DEMOLITION
- TEST LOCATION

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, B-B AND D-D, SEE "JOINT DETAILS" SHEETS.

FOR SECTION E-E, SEE "SYNTHETIC RUBBER EXPANSION 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.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

PLAN

TEST LOCATION	CONCRETE COVER (INCH)	CONCRETE STRENGTH (PSI)
#12	2 1/2"	5,100
#19	2 1/2"	3,700

INFORMATION IN CHART TAKEN FROM DECK EVALUATION DATED 11/15/2016.

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 159

SHEET 7 OF 7

DocuSigned by:
John A. Yannaccone
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 32492
 JOHN A. YANNACCONE
 1/29/2017

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN
 SPAN J & K**

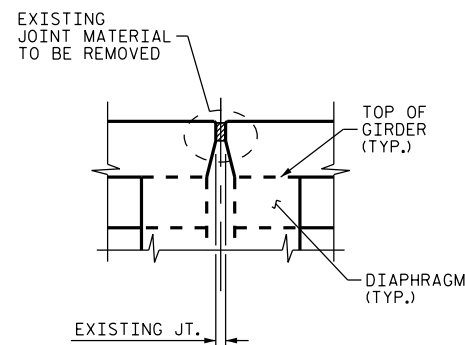
DRAWN BY : S. Wance DATE : 12/2016
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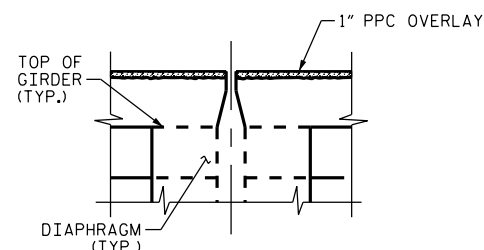
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NOTES

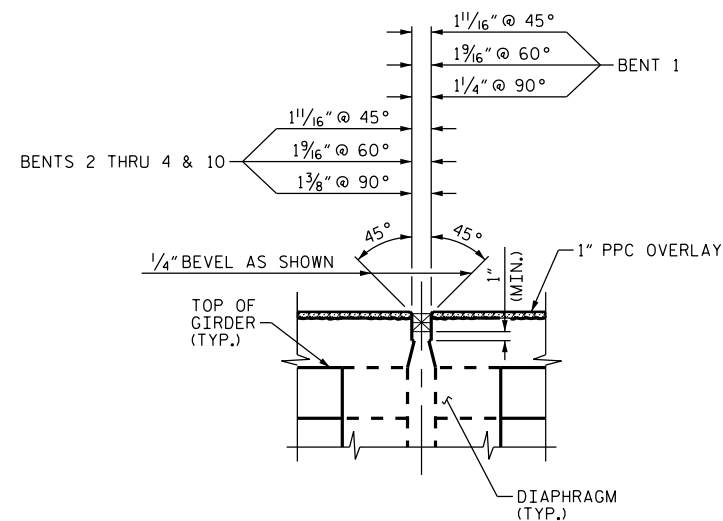
FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
 THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.
 NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEALS SHALL BE 2".
 THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS FOR THE JOINT SEALS IN LIEU OF SAWING THE JOINTS.
 FOR LOCATION OF SECTION D-D, SEE "PLAN OF SPAN" SHEETS.



EXISTING JOINT

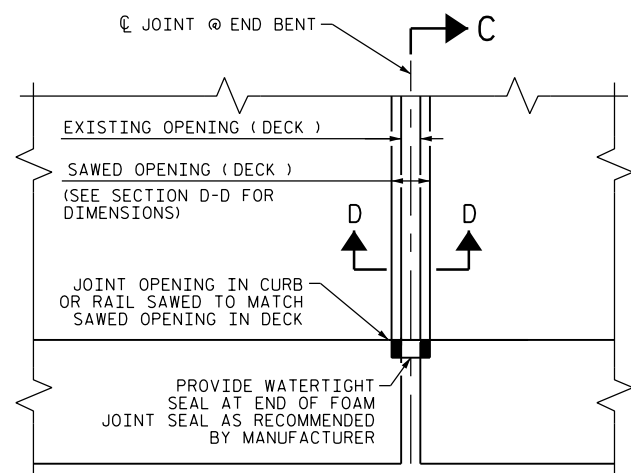


PROPOSED JOINT PRE-SAWED

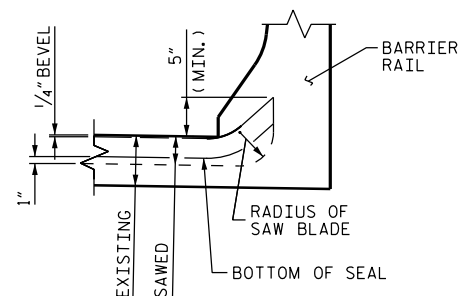


PROPOSED FOAM JOINT SEAL

SECTION D-D



PLAN



SECTION C-C

PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 159

SHEET 2 OF 2

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1/29/2017

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

JOINT DETAILS
 (BENTS 1-4 & 10)

DRAWN BY : S. WAN@PE DATE : 01/2017
 CHECKED BY : J. YANNAKONE DATE : 01/2017

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NOTES

EXISTING DIMENSIONS ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS OR CONDITIONS DIFFER.

THE CONTRACTOR SHALL CONSTRUCT THE OPENING AND INSTALL THE SYNTHETIC RUBBER EXPANSION JOINT SEAL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

THE INSTALLED SYNTHETIC RUBBER EXPANSION JOINT SEALS SHALL BE WATERTIGHT.

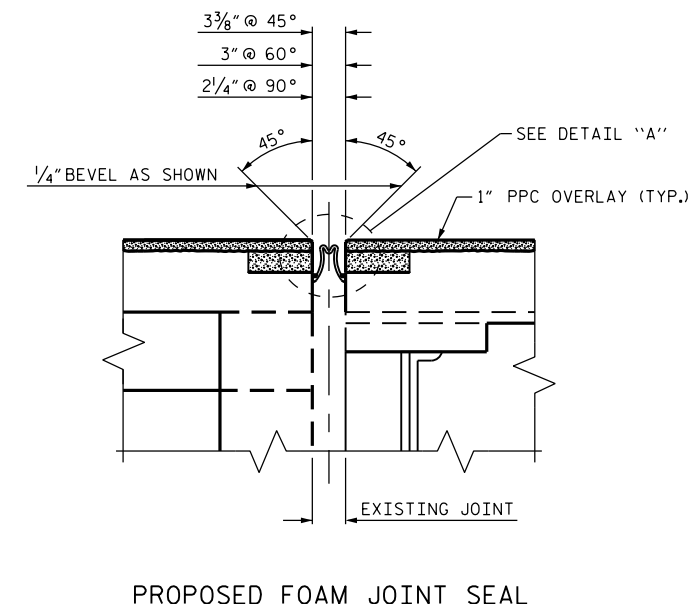
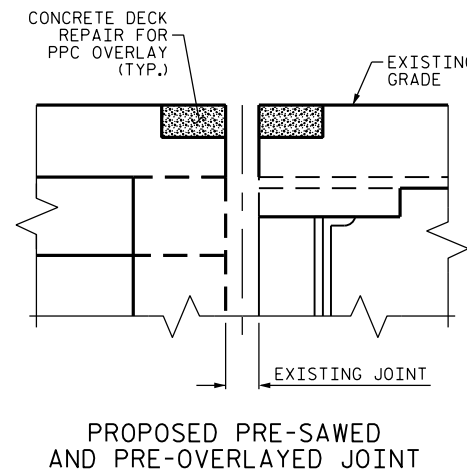
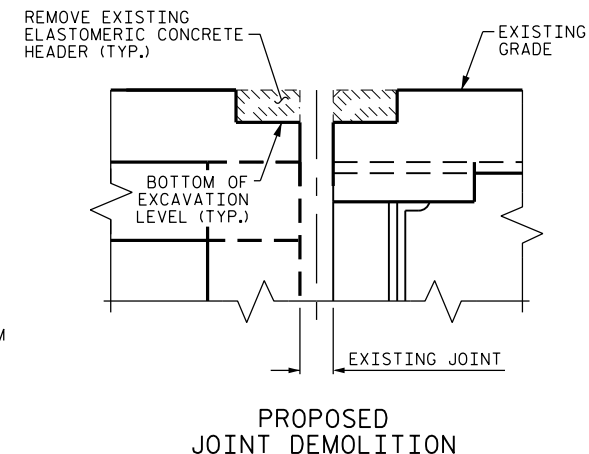
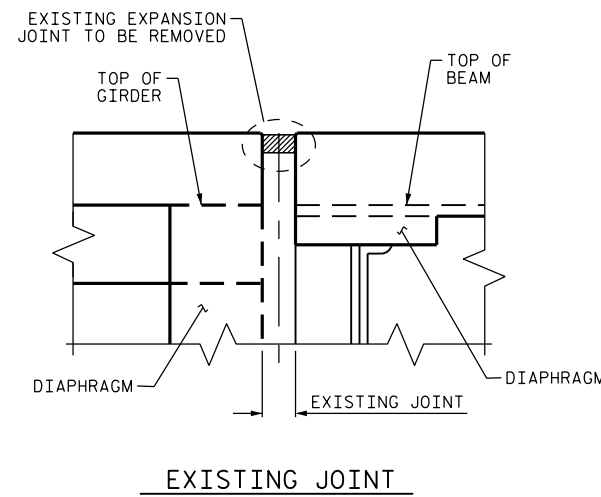
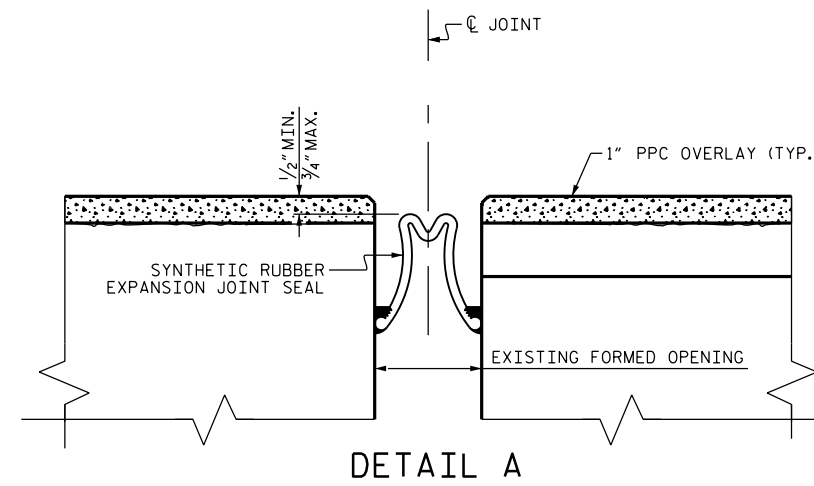
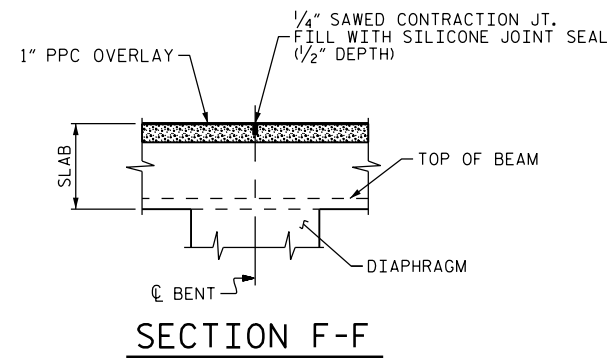
THE CONTRACTOR WILL BE PERMITTED TO FORM THE JOINTS FOR THE JOINT SEALS IN LIEU OF SAWING THE JOINTS.

THE FINISHED SYNTHETIC RUBBER EXPANSION JOINT SEAL SHALL BE A MINIMUM 1/2" AND A MAXIMUM 3/4" BELOW THE FINISHED GRADE.

FOR SYNTHETIC RUBBER EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.

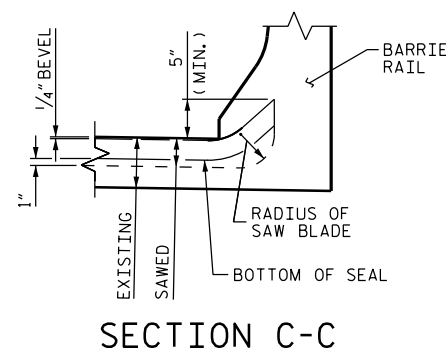
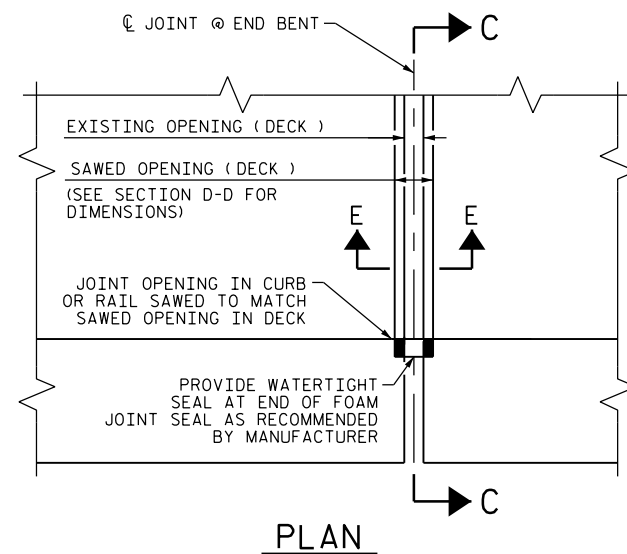
THE SILICONE JOINT SEALS AT THE BENTS SHALL CONFORM TO THE STANDARD SPECIFICATIONS. PAYMENT FOR THE SILICONE JOINT SEALS IS INCLUDED IN THE CONTRACT UNIT PRICE BID FOR PLACING AND FINISHING PPC OVERLAY.

FOR LOCATION OF SECTION E-E AND F-F, SEE "PLAN OF SPAN" SHEETS.



SECTION E-E

DEMOLISH BRIDGE JOINT AREA TO THE NECESSARY DEPTH, SUCH THAT CONCRETE REPAIR SHALL BE FOUNDED ON SOUND CONCRETE SUBSTRATE.



PROJECT NO. I-5894
GASTON COUNTY
 BRIDGE NO. 159

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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**SYNTHETIC RUBBER
 EXPANSION JOINT
 DETAILS**
 (BENT 5 & 9)

DRAWN BY : S. WANCE DATE : 01/2017
 CHECKED BY : J. YANNACCONE DATE : 01/2017

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STANDARD NOTES

DESIGN DATA:

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

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

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

CONCRETE:

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

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

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

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

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

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

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

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

REINFORCING STEEL:

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

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

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

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

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

HANDRAILS AND POSTS:

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

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

SPECIAL NOTES:

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

ENGLISH

JANUARY, 1990

STD. NO. SN