

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

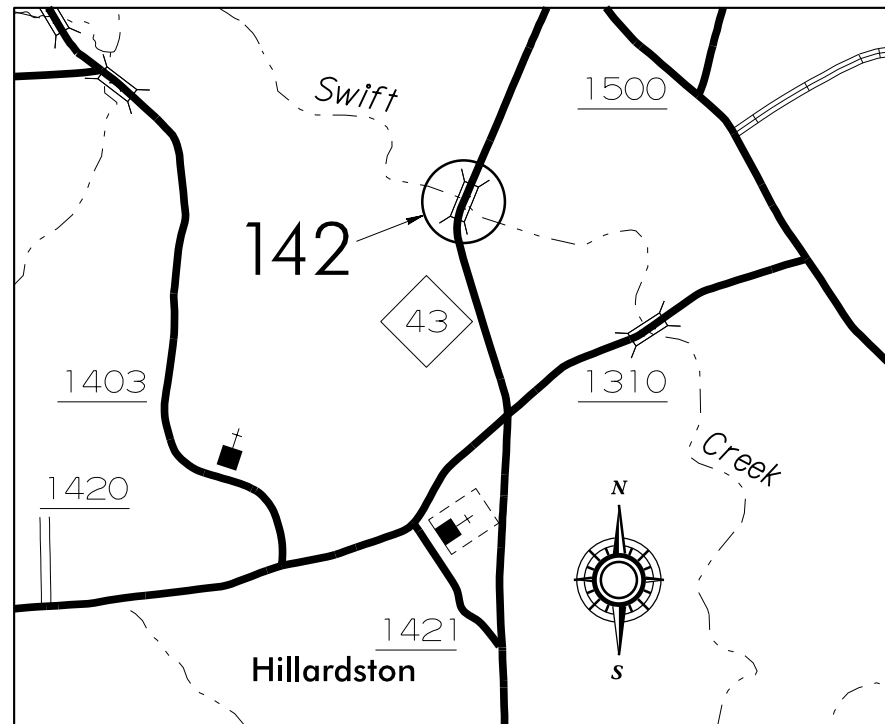
**NASH COUNTY**



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.		1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
41665.3F	-	P.E.	
41665.3F	-	CONST.	

**LOCATION:** NASH COUNTY  
BRIDGE #142 ON NC 43 OVER SWIFT CREEK

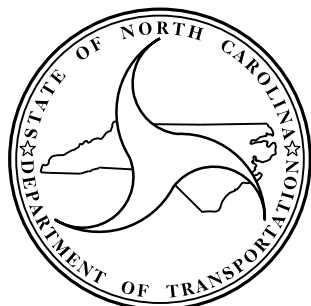
**TYPE OF WORK:** BRIDGE PRESERVATION WITH LATEX MODIFIED CONCRETE OVERLAY, JOINT REPLACEMENT, AND CLEANING AND PAINTING OF STRUCTURAL STEEL.



VICINITY MAP - NASH CO.

PROJECT: 41665.3F

CONTRACT: XXXXXXX



**DESIGN DATA**

NASH COUNTY  
BRIDGE #142 ADT 2012 = 2700

**PROJECT LENGTH**

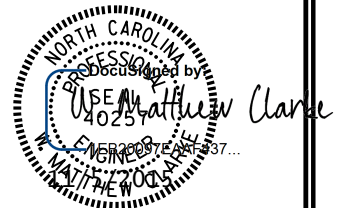
NASH COUNTY  
BRIDGE #142 = 0.142 MILE

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

**TIMOTHY M. SHERRILL, P.E.**  
PROJECT ENGINEER

2012 STANDARD SPECIFICATIONS

LETTING DATE:  
March 8, 2016



**W. MATTHEW CLARKE, P.E.**  
PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS



**NASH COUNTY**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.		1A	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
41665.3F	-	P.E.	
41665.3F	-	CONST.	

**LOCATION: NASH COUNTY:**  
**BRIDGE #142 ON NC 43 OVER SWIFT CREEK**

**TYPE OF WORK: BRIDGE PRESERVATION WITH LATEX MODIFIED CONCRETE  
OVERLAY, JOINT REPLACEMENT, AND CLEANING AND PAINTING OF  
STRUCTURAL STEEL.**

**INDEX OF SHEETS**

*1*  
*1A*  
*S-1*  
*S-2 THRU S-9*  
*SN*

*TITLE SHEET*  
*INDEX OF SHEETS*  
*TOTAL BILL OF MATERIAL*  
*STRUCTURAL PLANS - NASH # 142*  
*STANDARD NOTES*

**PROJECT: 41665.3F**

**CONTRACT: XXXXXXXX**

**TOTAL BILL OF MATERIAL**

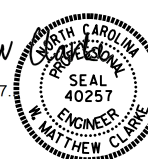
MOBILIZATION	INCIDENTAL MILLING	ASPHALT CONCRETE SURFACE COURSE TYPE S9.5B	ASPHALT BINDER FOR PLANT MIX	GROOVING BRIDGE FLOORS	CLASS II SURFACE PREPARATION	CLASS III SURFACE PREPARATION	LATEX MODIFIED CONCRETE	PLACING & FINISHING LATEX MODIFIED CONCRETE	FOAM JOINT SEALS	VOLUMETRIC MIXER	CLEANING & REPAINTING OF BRIDGE #142	PAINTING CONTAINMENT BRIDGE #142	POLLUTION CONTROL	CONCRETE FOR DECK REPAIR	BRIDGE JOINT DEMOLITION	HYDRO-DEMOLITION OF BRIDGE DECK	SCARIFYING BRIDGE DECK
LUMP SUM	SQ.YDS.	TON	TON	SO. FT.	SO.YDS.	SO.YDS.	CU.YDS.	SO.YDS.	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	CU. FT.	SO. FT.	SO.YDS.	SO.YDS.
LUMP SUM	1900	160	10	3,683	3	1	20	462	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	1	54	462	462

NOTE: CLASS II SURFACE PREPARATION, CLASS III SURFACE PREPARATION, VOLUMETRIC MIXER, AND CONCRETE FOR DECK REPAIR ARE NOT ANTICIPATED. TOKEN PAY ITEMS ARE INDICATED FOR PRICING PURPOSES, IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.

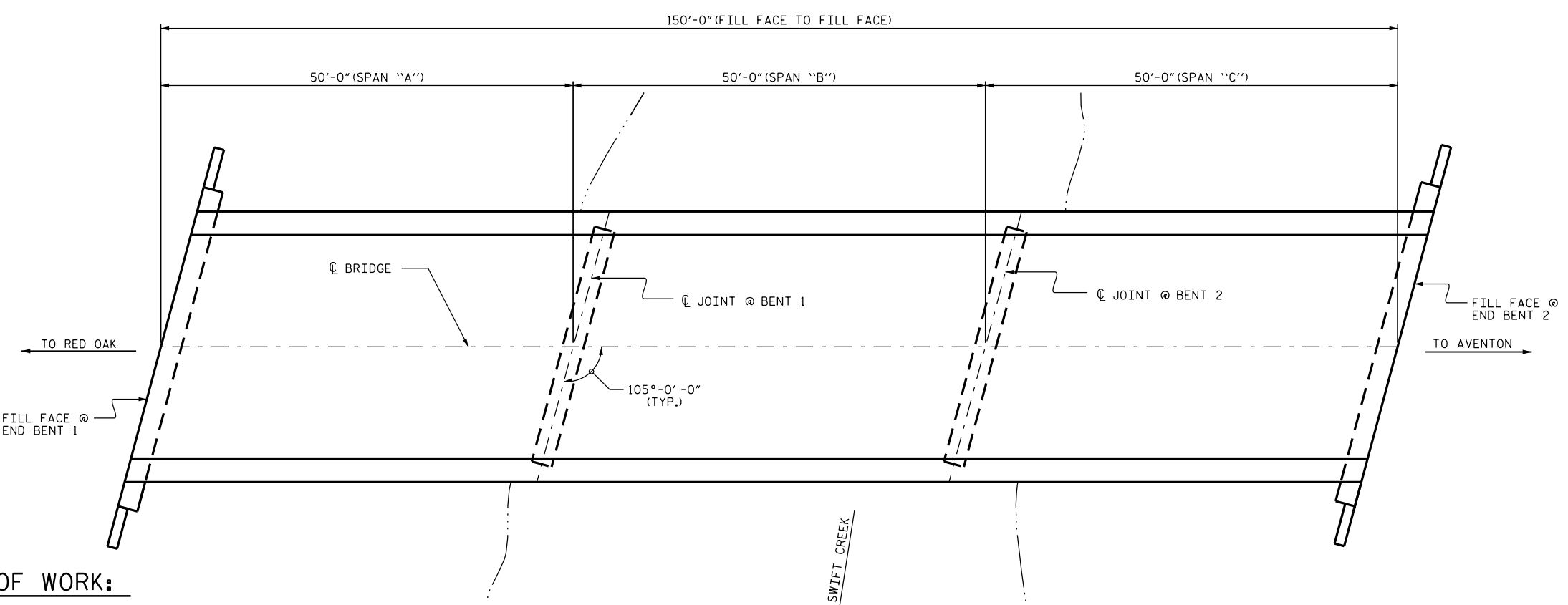
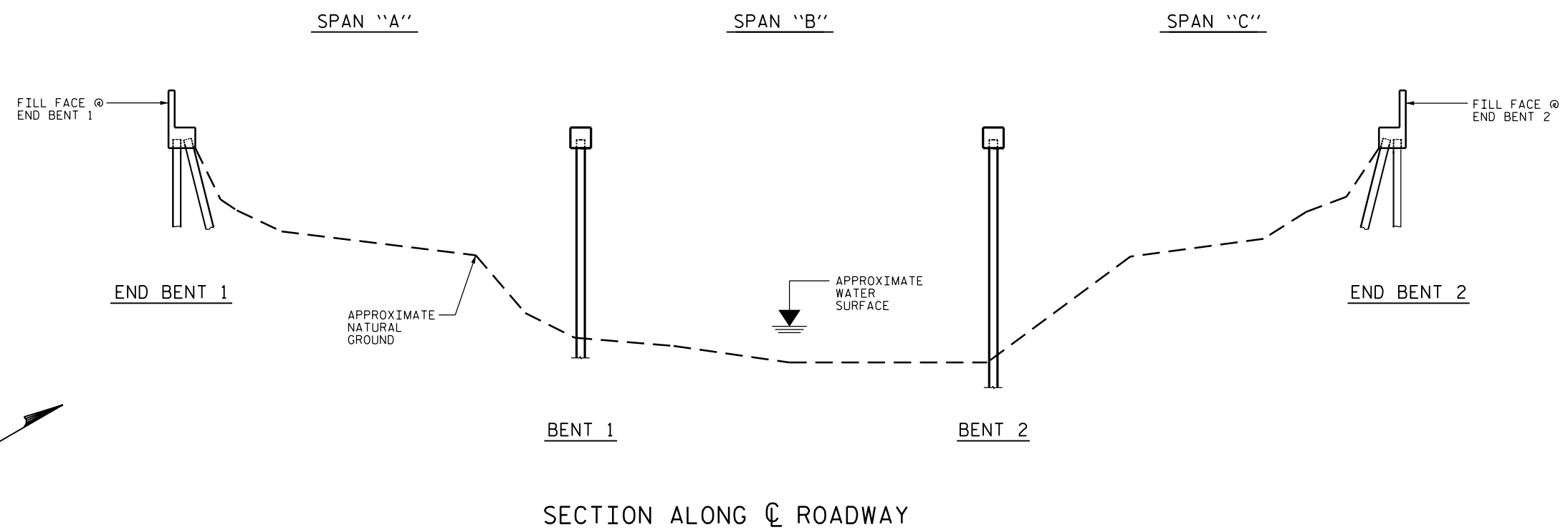
PROJECT NO. 41665.3F  
NASH COUNTY  
BRIDGE NO. 142

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
TOTAL BILL OF MATERIAL					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S-1
TOTAL SHEETS					9

DocuSigned by:  
*W. Matthew*  
1EB20097EAAF437  
11/5/2015



DRAWN BY : C.C.WILLIAMS DATE : 7/2015  
CHECKED BY : W.M.CLARKE DATE : 7/2015



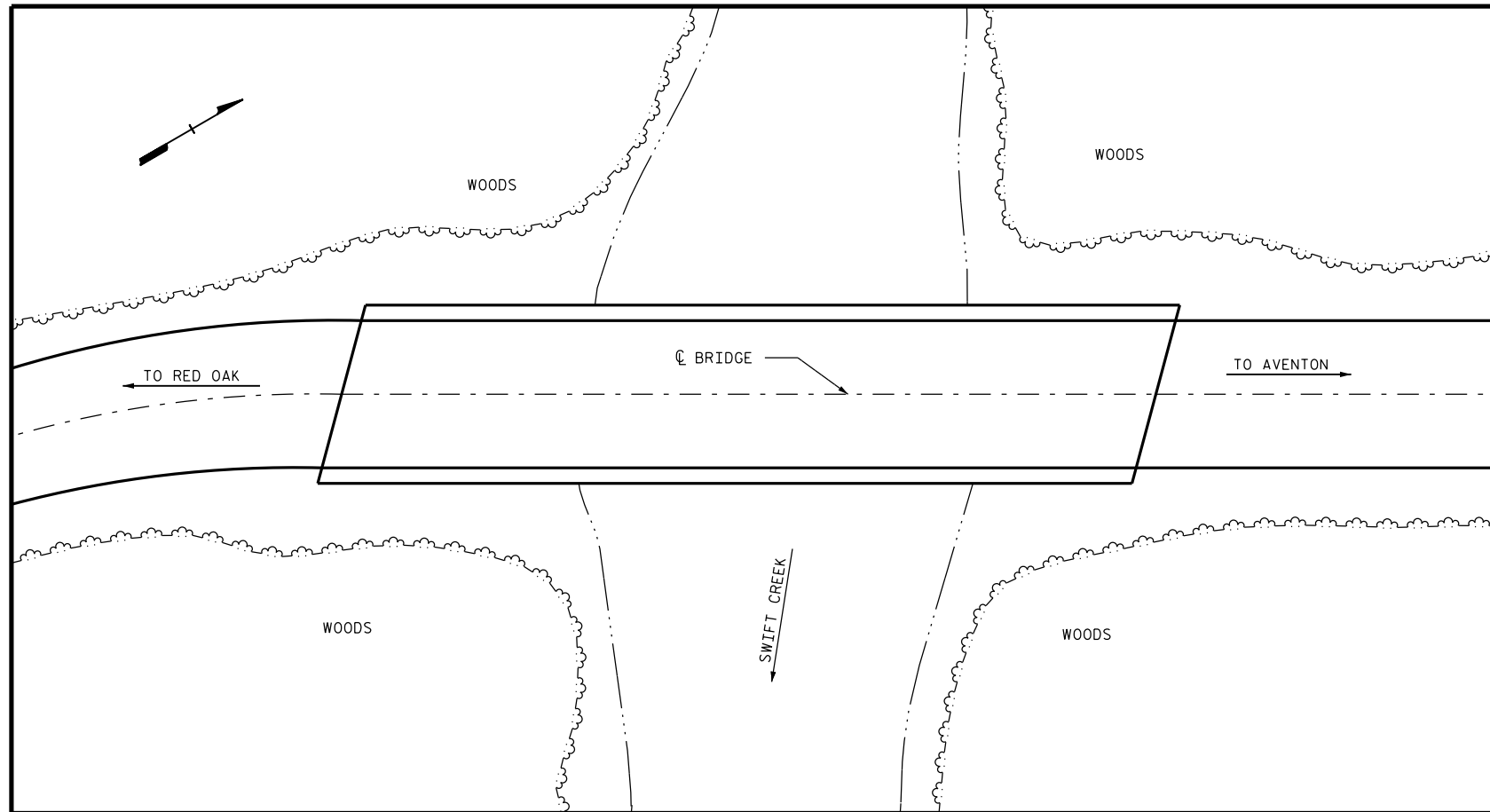
- SCOPE OF WORK:**
- PARTIALLY REMOVE BRIDGE DECK CONCRETE, USING SCARIFICATION AND HYDRO-DEMOLITION METHODS.
  - OVERLAY PREPARED BRIDGE DECK WITH LATEX MODIFIED CONCRETE.
  - DEMOLISH EXISTING BRIDGE DECK JOINTS.
  - RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW FOAM JOINT SEALS.
  - MILL AND PAVE ASPHALT APPROACHES.
  - GROOVE CONCRETE BRIDGE DECK.
  - CLEAN AND PAINT STRUCTURAL STEEL.

DRAWN BY : C.C.WILLIAMS      DATE : 7/2015  
 CHECKED BY : W.M. CLARKE      DATE : 7/2015

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 W. Matthew Clarke  
 1EB20097EAAF43  
 11/5/2015

PROJECT NO. 41665.3F  
 NASH COUNTY  
 BRIDGE NO. 142  
 SHEET 1 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
GENERAL DRAWING BRIDGE #142 ON NC 43 OVER SWIFT CREEK					
REVISIONS					SHEET NO.
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					S-2
					TOTAL SHEETS 9



**LOCATION SKETCH**

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

**GENERAL NOTES**

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

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATION OF BRIDGE DECK.

ROADWAY MILLING IS INCLUDED TO ENSURE A SMOOTH TRANSITION ONTO THE BRIDGE FLOOR. DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL MILL AS REQUIRED TO PROVIDE A SMOOTH TRANSITION TO THE ROADWAY AT BOTH ENDS OF BRIDGE.

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

FOR SCARIFYING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, CLASS II SURFACE PREPARATION, AND CLASS III SURFACE PREPARATION, SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

THE CONTRACTOR MUST COLLECT, TREAT, AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE "MANAGING HYDRO-DEMOLITION WATER" SPECIAL PROVISION.

FOR OVERLAY OF BRIDGE WITH LATEX MODIFIED CONCRETE, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR PAINTING EXISTING STRUCTURE, SEE SPECIAL PROVISIONS.

FOR CONCRETE FOR DECK REPAIRS, SEE SPECIAL PROVISIONS.

FOR VOLUMETRIC MIXER, 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.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

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.

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

DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT FLOW OR MIGRATE INTO ACTIVE TRAVEL LANES.

DRAWN BY : C.C.WILLIAMS DATE : 7/2015  
 CHECKED BY : W.M. CLARKE DATE : 7/2015

PROJECT NO. 41665.3F  
NASH COUNTY  
 BRIDGE NO. 142

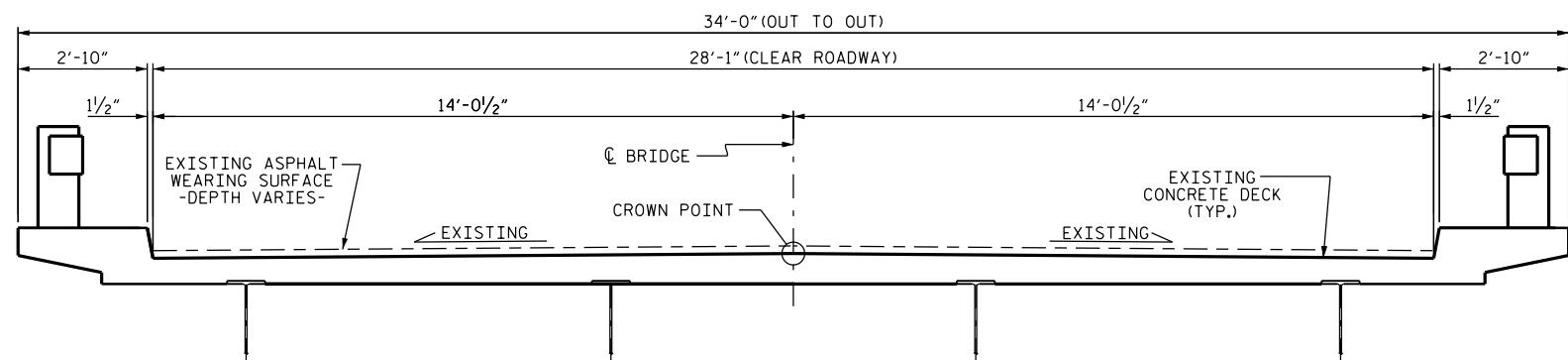
SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

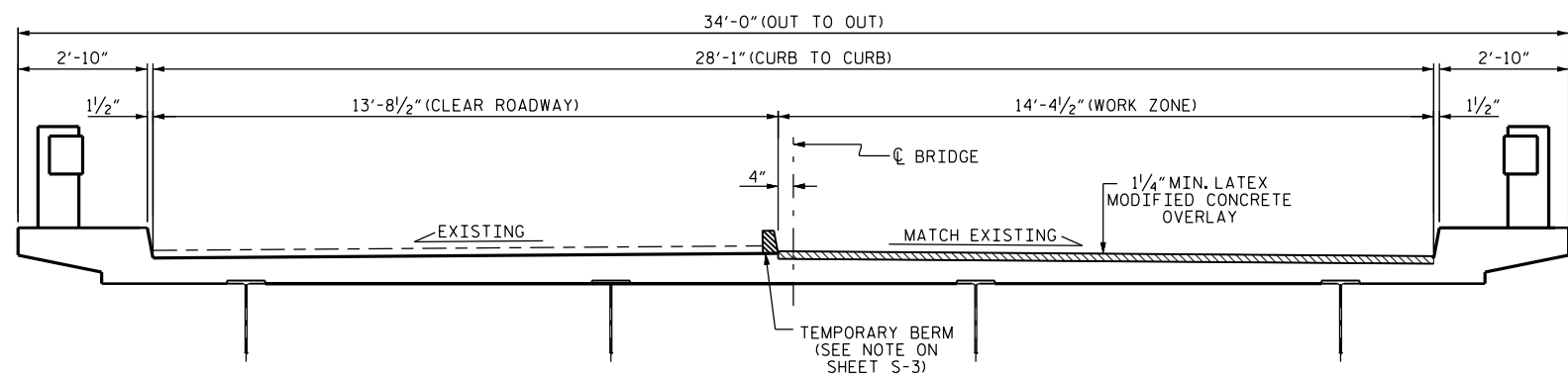
**GENERAL DRAWING**  
 BRIDGE #142 ON NC 43  
 OVER SWIFT CREEK

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

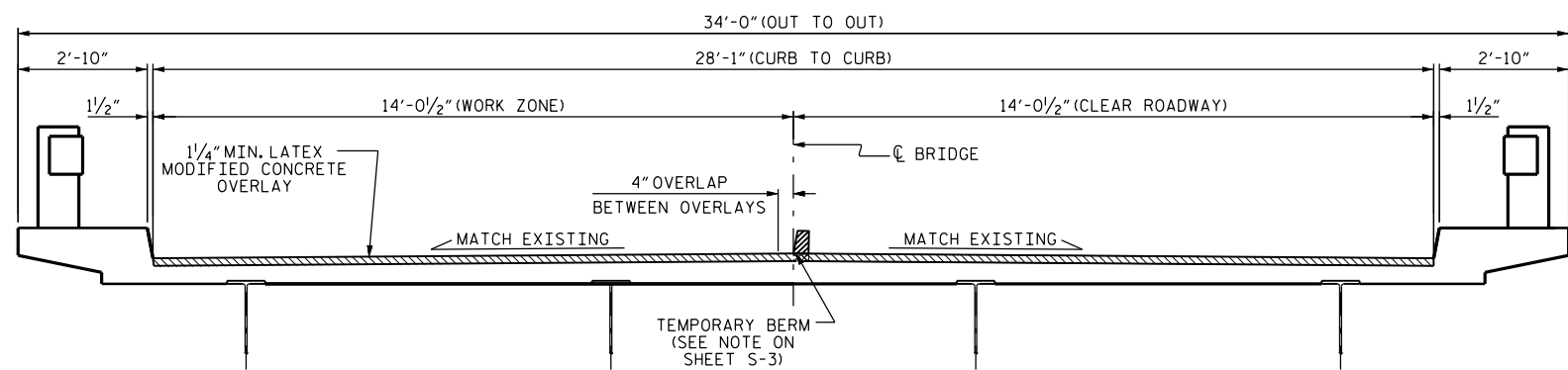
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*W. Matthew Clarke*  
 1EB20097EAAF43  
 11/5/2015



**TYPICAL SECTION**  
(EXISTING)(LOOKING NORTH)



**TYPICAL SECTION**  
(RIGHT LANE WORK ZONE)(LOOKING NORTH)

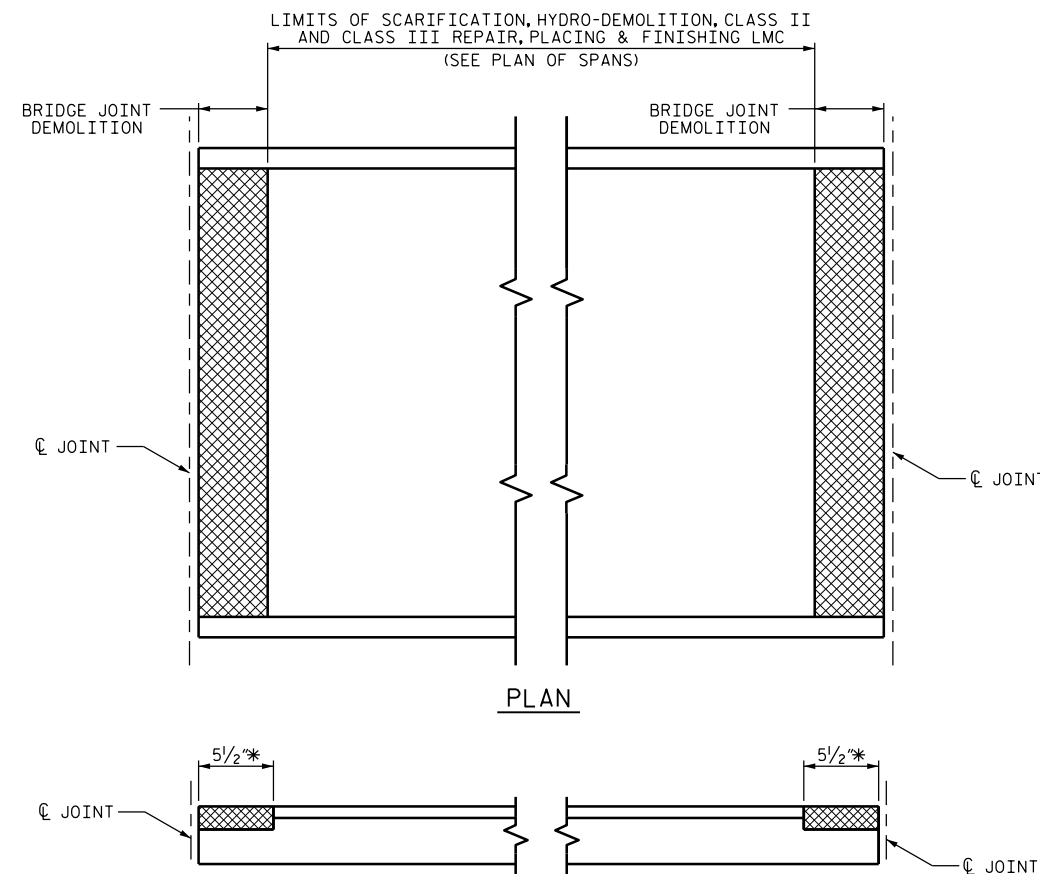


**TYPICAL SECTION**  
(LEFT LANE WORK ZONE)(LOOKING NORTH)

**NOTE:**

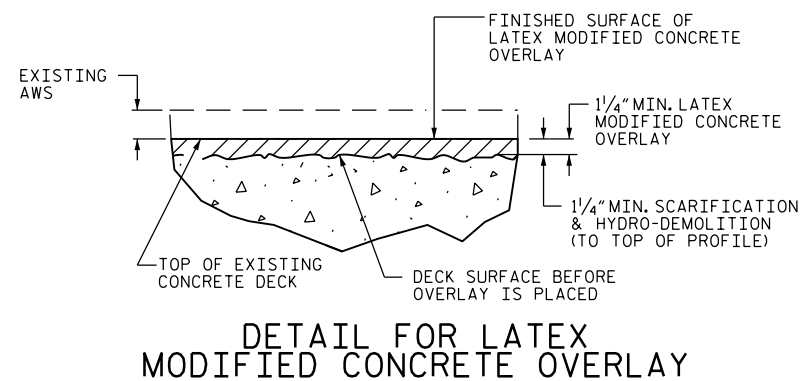
IF THE CONTRACTOR ELECTS TO STAGE THE DECK OVERLAY, THE TEMPORARY BERM AND 4" OVERLAP IS REQUIRED. STAGING INFORMATION IS NOT APPLICABLE IF NO CONSTRUCTION JOINT IS UTILIZED FOR THE DECK OVERLAY.

THE WORK STAGING ON THIS PLAN SHEET INDICATES THAT THE RIGHT LANE LMC WORK IS PERFORMED FIRST, FOLLOWED BY THE LEFT LANE LMC WORK. THE CONTRACTOR MAY ELECT TO SEQUENCE THE WORK DIFFERENTLY, BUT THE DIMENSIONS OF THE WORK ZONE AND CLEAR ROADWAY AREAS SHALL MATCH THAT INDICATED ON THIS PLAN SHEET, RESPECTIVE TO THE LANE WHERE THE LMC WORK IS BEING PERFORMED.



**ELEVATION**  
\* DIMENSIONS MEASURED PERPENDICULAR TO JOINT

**PAY LIMITS FOR OVERLAY BID ITEMS**



**DETAIL FOR LATEX MODIFIED CONCRETE OVERLAY**

PROJECT NO. 41665.3F  
NASH COUNTY  
BRIDGE NO. 142

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
<b>TYPICAL SECTION AND OVERLAY DETAIL</b>					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S-4
TOTAL SHEETS					9

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*W. Matthew Clarke*  
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11/5/2015






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CHECKED BY : W.M.CLARKE DATE : 7/2015

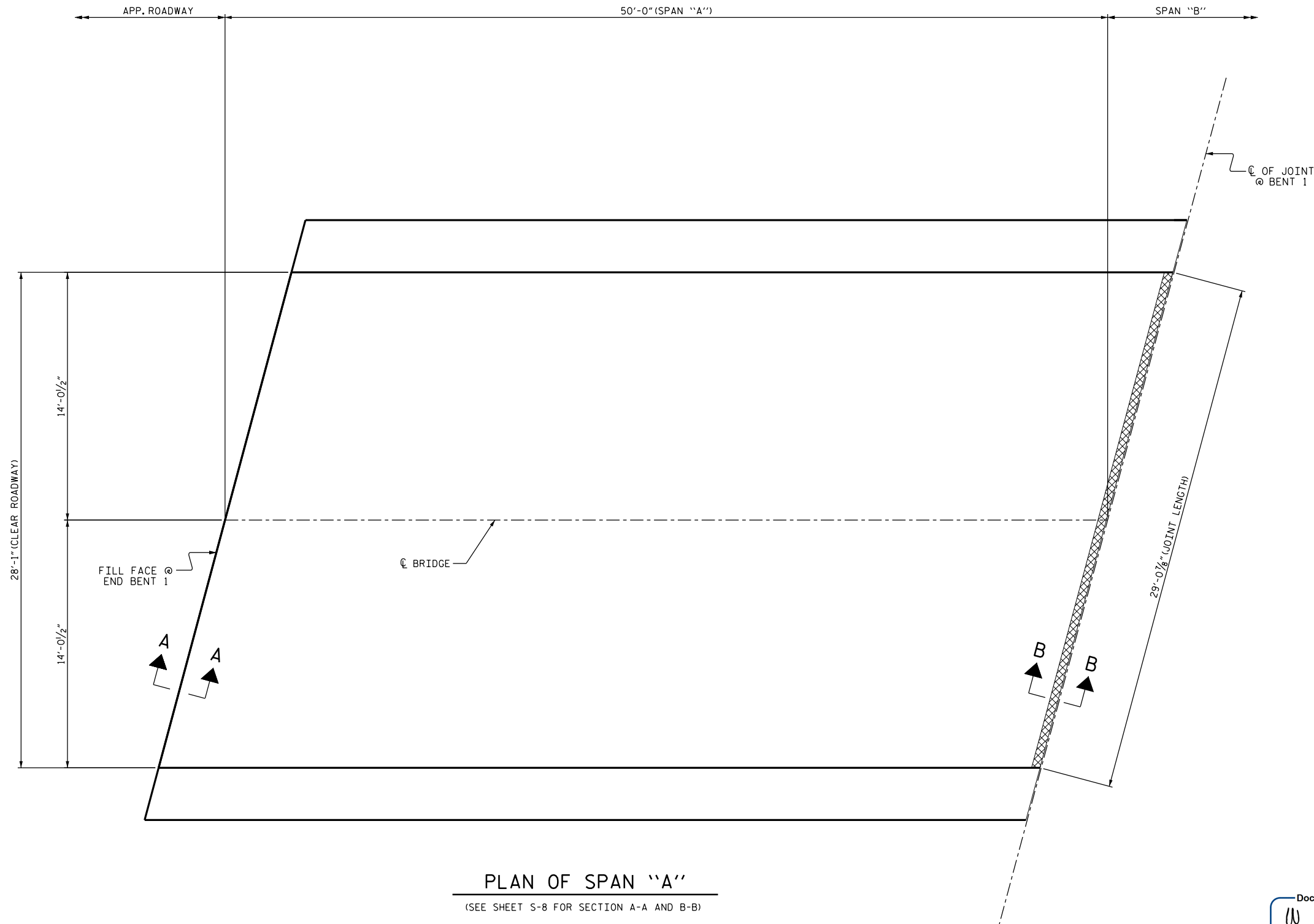
SUMMARY OF QUANTITIES FOR SPAN "A"

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	154.3 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	154.3 SY	
CLASS II SURFACE PREPARATION	1 SY	
CLASS III SURFACE PREPARATION	0.33 SY	
JOINT DEMOLITION	13.3 SF	

PAYMENT FOR CLASS II AND CLASS III SURFACE PREP. BASED UPON SQUARE FEET OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.  
 CLASS II AND CLASS III SURFACE PREPARATION IS NOT ANTICIPATED. A TOKEN AMOUNT IS INDICATED FOR PRICING PURPOSES, IN CASE UNANTICIPATED CLASS II OR CLASS III SURFACE PREPARATION ARE ENCOUNTERED.

-  SCARIFYING BRIDGE DECK
-  BRIDGE JOINT DEMOLITION
-  APPROX. AREA CLASS II SURFACE PREPARATION

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE AFTER HYDRODEMOLITION FOR POTENTIAL CLASS II REPAIRS.



PLAN OF SPAN "A"  
 (SEE SHEET S-8 FOR SECTION A-A AND B-B)

PROJECT NO. 41665.3F  
NASH COUNTY  
 BRIDGE NO. 142

SHEET 1 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SURFACE PREPARATION  
 SPAN "A"

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5	
1			3			TOTAL	9
2			4			SHEETS	

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*W. Matthew Clarke*  
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 11/5/2015






DRAWN BY : C.C.WILLIAMS DATE : 7/2015  
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SUMMARY OF QUANTITIES FOR SPAN "B"

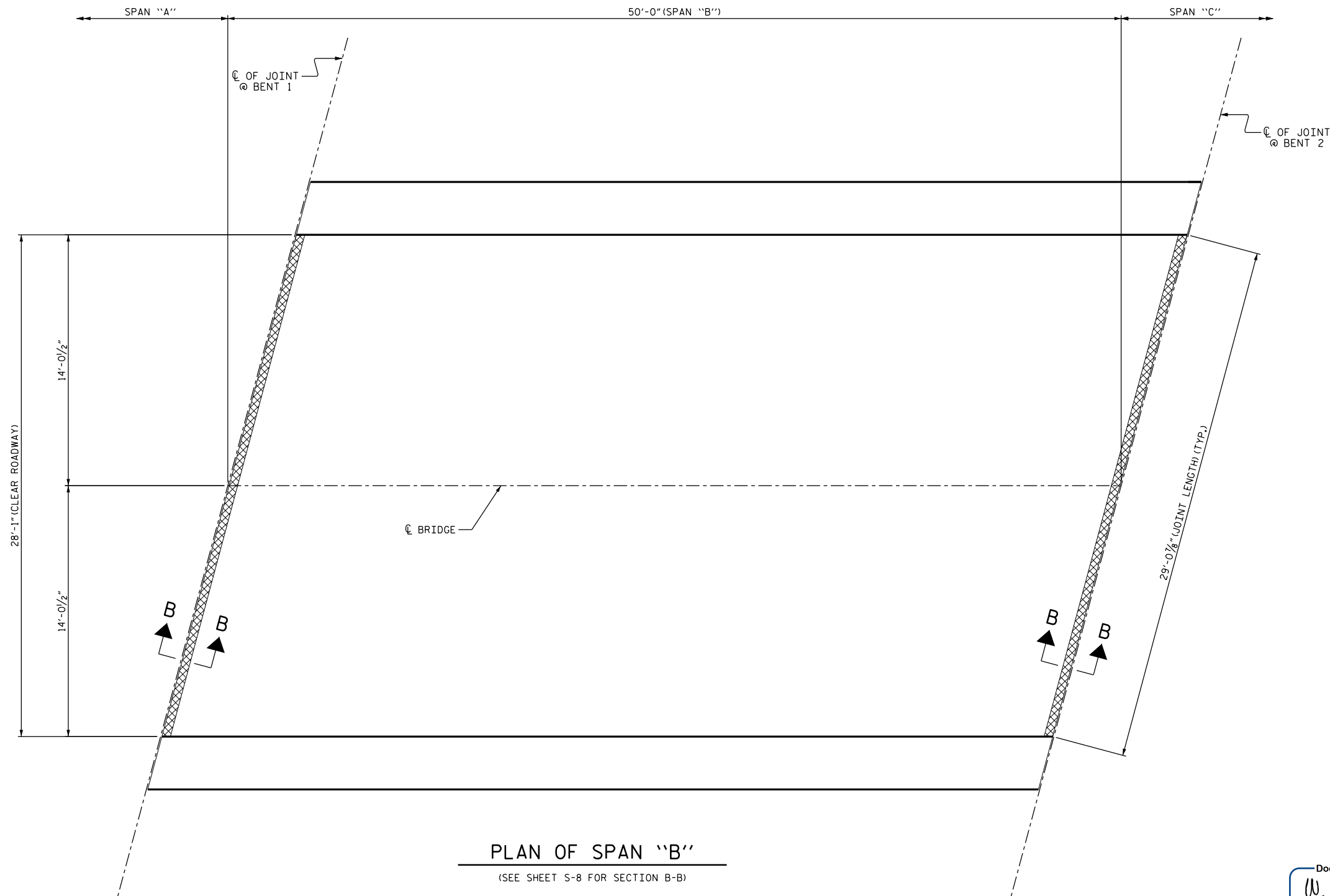
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	152.6 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	152.6 SY	
CLASS II SURFACE PREPARATION	1 SY	
CLASS III SURFACE PREPARATION	0.33 SY	
JOINT DEMOLITION	26.7 SF	

PAYMENT FOR CLASS II AND CLASS III SURFACE PREP. BASED UPON SQUARE FEET OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

CLASS II AND CLASS III SURFACE PREPARATION IS NOT ANTICIPATED. A TOKEN AMOUNT IS INDICATED FOR PRICING PURPOSES, IN CASE UNANTICIPATED CLASS II OR CLASS III SURFACE PREPARATION ARE ENCOUNTERED.

-  SCARIFYING BRIDGE DECK
-  BRIDGE JOINT DEMOLITION
-  APPROX. AREA CLASS II SURFACE PREPARATION

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE AFTER HYDRODEMOLITION FOR POTENTIAL CLASS II REPAIRS.



PROJECT NO. 41665.3F  
NASH COUNTY  
 BRIDGE NO. 142

SHEET 2 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**SURFACE PREPARATION  
 SPAN "B"**

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6	
1			3			TOTAL SHEETS	9
2			4				

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 1EB20097EAAF437  
 11/5/2015



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 CHECKED BY : W.M.CLARKE DATE : 7/2015






SUMMARY OF QUANTITIES FOR SPAN "C"

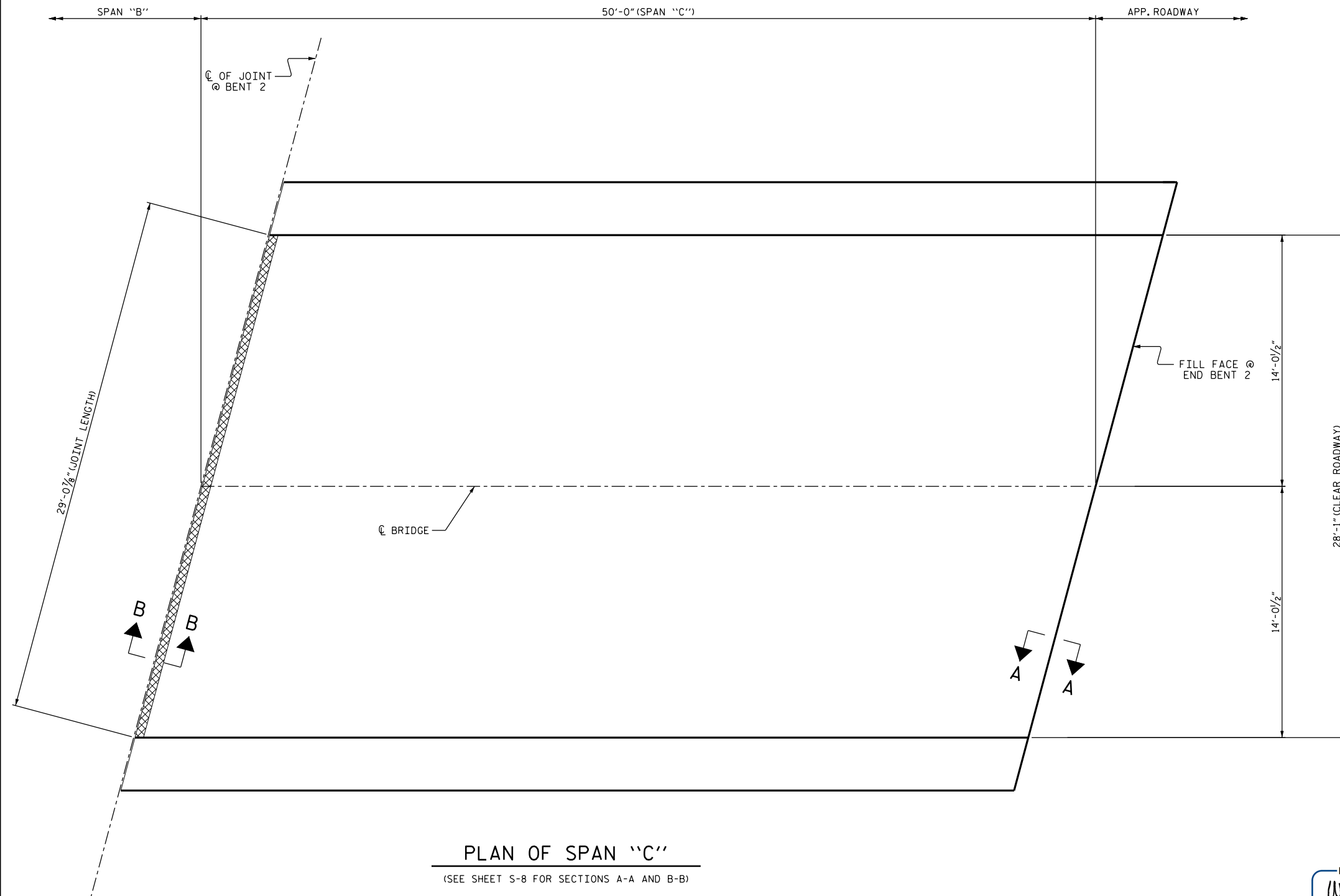
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	154.3 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	154.3 SY	
CLASS II SURFACE PREPARATION	1 SY	
CLASS III SURFACE PREPARATION	0.33 SY	
JOINT DEMOLITION	13.3 SF	

PAYMENT FOR CLASS II AND CLASS III SURFACE PREP. BASED UPON SQUARE FEET OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

CLASS II AND CLASS III SURFACE PREPARATION IS NOT ANTICIPATED. A TOKEN AMOUNT IS INDICATED FOR PRICING PURPOSES, IN CASE UNANTICIPATED CLASS II OR CLASS III SURFACE PREPARATION ARE ENCOUNTERED.

-  SCARIFYING BRIDGE DECK
-  BRIDGE JOINT DEMOLITION
-  APPROX. AREA CLASS II SURFACE PREPARATION

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL INSPECT THE DECK SURFACE AFTER HYDRODEMOLITION FOR POTENTIAL CLASS II REPAIRS.



PLAN OF SPAN "C"  
(SEE SHEET S-8 FOR SECTIONS A-A AND B-B)

PROJECT NO. 41665.3F  
NASH COUNTY  
 BRIDGE NO. 142

SHEET 3 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SURFACE PREPARATION  
 SPAN "C"

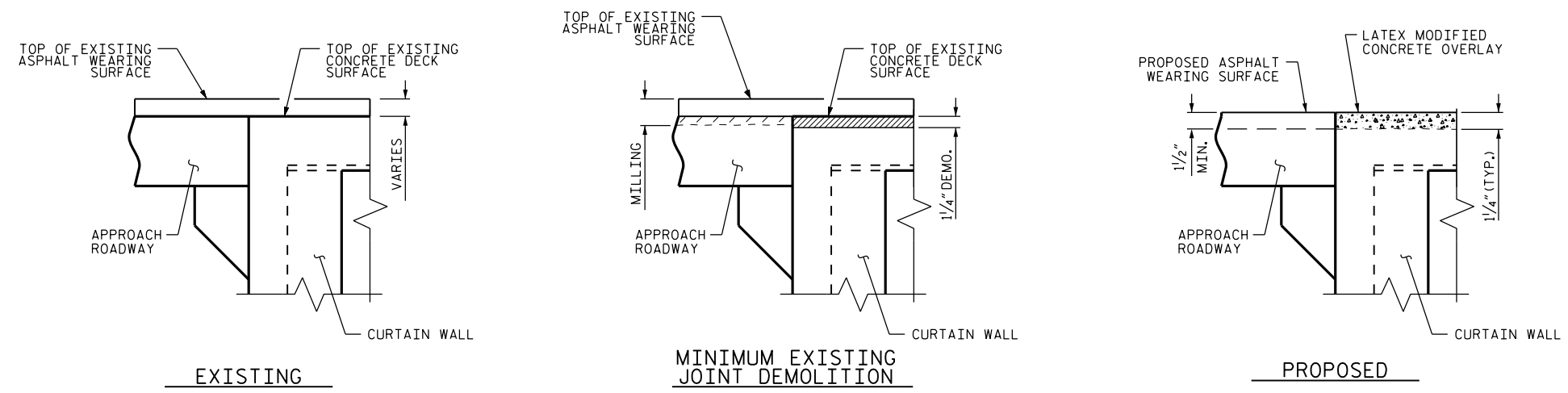
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 11/5/2015



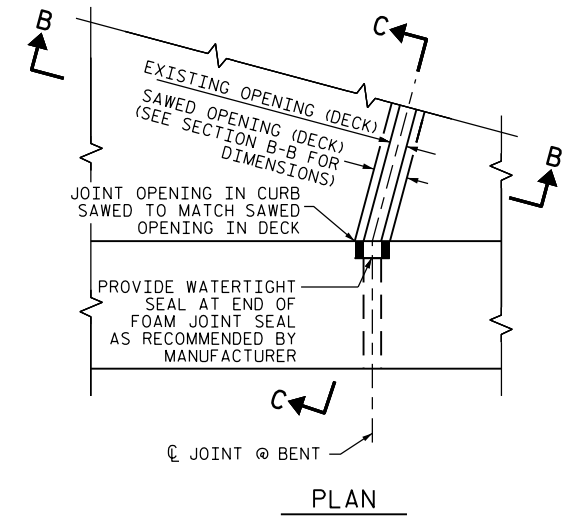
DRAWN BY : C.C.WILLIAMS DATE : 7/2015  
 CHECKED BY : W.M.CLARKE DATE : 7/2015

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			9

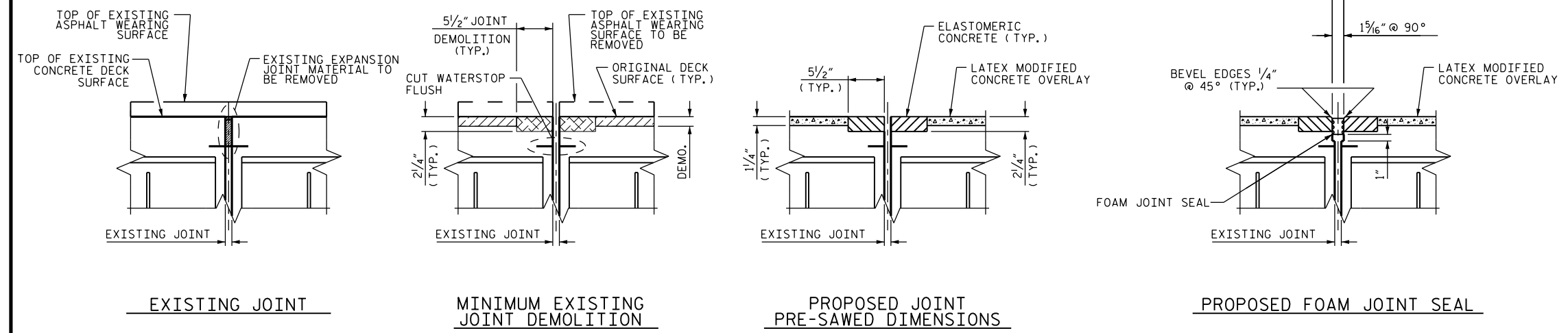
**NOTES:**  
 FOR FOAM JOINT SEALS SEE SPECIAL PROVISIONS.  
 THE INSTALLED FOAM JOINT SEAL SHALL BE WATER TIGHT.  
 NOMINAL UNCOMPRESSED SEAL WIDTH OF FOAM JOINT SEAL SHALL BE 2".  
 THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.



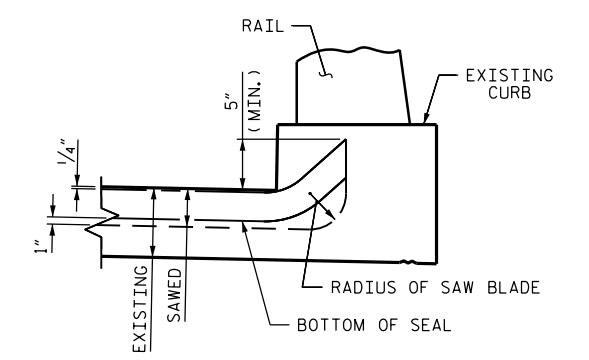
**SECTION A-A**



**PLAN**



**SECTION B-B**



**SECTION C-C**  
**JOINT SEAL DETAILS AT BENT**

IF THE EMBEDDED PORTION OF THE EXISTING PLASTIC WATERSTOP IS EXPOSED DURING REMOVAL OF UNSOUND CONCRETE OR IF UNSOUND CONCRETE IS REMOVED WITHIN 2" OF THE WATERSTOP, THE ENTIRE WATERSTOP SHALL BE REMOVED

REMOVAL OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT AND LEVEL. TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC OR REPAIR CONCRETE.

PROJECT NO. 41665.3F  
NASH COUNTY  
 BRIDGE NO. 142

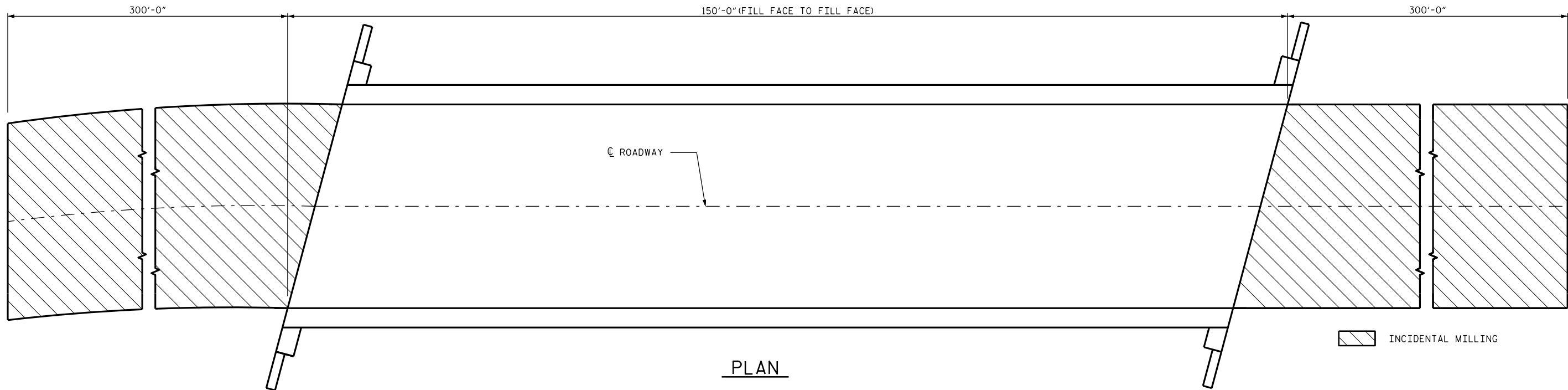
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
JOINT DETAILS					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 9

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 1EB20097EAAF437  
 11/5/2015

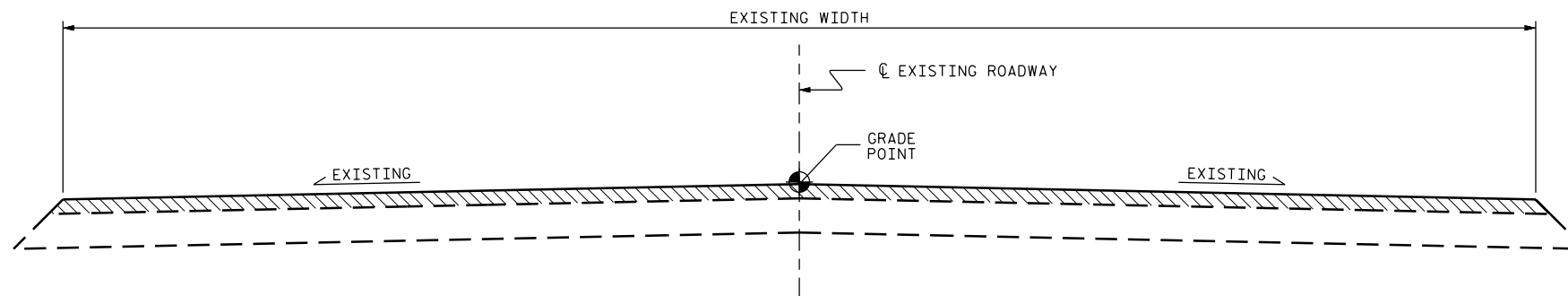
DRAWN BY : C.C.WILLIAMS DATE : 7/2015  
 CHECKED BY : W. M. CLARKE DATE : 7/2015

**NOTES:**

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



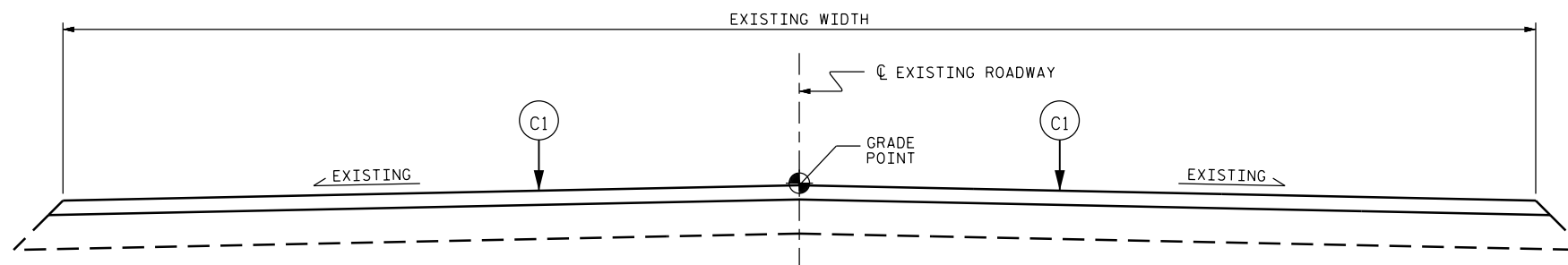
**PLAN**



**TYPICAL ROADWAY MILLING SECTION**

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
INCIDENTAL MILLING	1900 SQ. YDS.	
ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B	160 TONS	

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



**TYPICAL PROPOSED ROADWAY SECTION**

PROJECT NO. 41665.3F  
NASH COUNTY  
 BRIDGE NO. 142

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**APPROACH MILLING AND TYPICAL ROADWAY SECTIONS**

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

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*W. Matthew Clarke*  
 1EB20097EAAF43  
 11/5/2015

DRAWN BY : C.C. WILLIAMS DATE : 7/2015  
 CHECKED BY : W.M. CLARKE DATE : 7/2015

## 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. FINISHES 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

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