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PROJECT: BP–5500FF

CONTRACT: C203745

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CRAVEN COUNTY

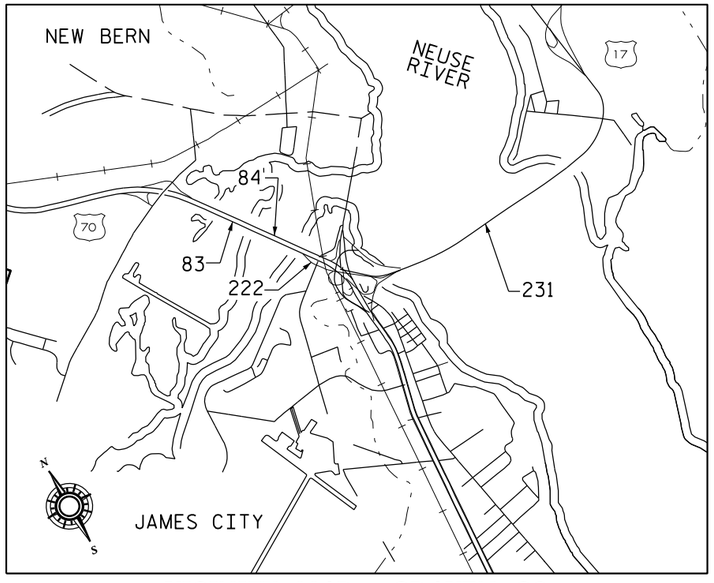
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP-5500FF	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
50070.1.1	BRNHS–000S(747)	P.E.
50070.3.31	BRSTP–0070(191)	CONST.

LOCATION: ***CRAVEN COUNTY:***

BRIDGE #83 ON US70 EAST OVER THE TRENT RIVER
BRIDGE #84 ON US70 WEST OVER THE TRENT RIVER
BRIDGE #222 ON NC55, US17 OVER THE TRENT RIVER
BRIDGE #231 ON NC55, US17 OVER THE NEUSE RIVER

TYPE OF WORK: ***BRIDGE PRESERVATION – EPOXY DECK OVERLAY, JOINT REPLACEMENT, AND DECK REPAIR.***



VICINITY MAP – CRAVEN CO.

DESIGN DATA

CRAVEN COUNTY

BRIDGE #83	ADT 2012	=	28000
BRIDGE #84	ADT 2012	=	28000
BRIDGE #222	ADT 2012	=	24000
BRIDGE #231	ADT 2010	=	13000

PROJECT LENGTH

CRAVEN COUNTY

BRIDGE #83	=	.687 MILE
BRIDGE #84	=	.687 MILE
BRIDGE #222	=	.192 MILE
BRIDGE #231	=	1.881 MILES

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:
SEPTEMBER 15, 2015

DocuSigned by: NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE
1EB3009FEAA84...
7/16/2015

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

PROJECT: BP–5500FF

CONTRACT: C203745

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CRAVEN COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP-5500FF	1A	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
50070.1.1	BRNHS–000S(747)	P.E.
50070.3.31	BRSTP–0070(191)	CONST.

LOCATION: ***CRAVEN COUNTY:***

BRIDGE #83 ON US70 EAST OVER THE TRENT RIVER
BRIDGE #84 ON US70 WEST OVER THE TRENT RIVER
BRIDGE #222 ON NC55, US17 OVER THE TRENT RIVER
BRIDGE #231 ON NC55, US17 OVER THE NEUSE RIVER

TYPE OF WORK: ***BRIDGE PRESERVATION – EPOXY DECK OVERLAY, JOINT REPLACEMENT, AND DECK REPAIR.***

INDEX OF SHEETS

TOTAL BILL OF MATERIAL

BRIDGE	MILLING ASPHALT PAVEMENT, 1½" DEPTH	INCIDENTAL MILLING	ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B	ASPHALT BINDER FOR PLANT MIX	MILLED RUMBLE STRIPS (ASPHALT CONCRETE)	GROOVING BRIDGE FLOORS	CLASS AA CONCRETE	EPOXY COATED REINFORCING STEEL	FOAM JOINT SEALS	PARTIAL REMOVAL OF EXISTING STRCTURE	SYNTHETIC RUBBER EXPANSION JOINT SEAL	ADDITIONAL REINFORCING STEEL	BRIDGE JOINT DEMOLITION	CONCRETE DECK REPAIR FOR EPOXY OVERLAY	EPOXY OVERLAY SYSTEM
	SQ. YDS.	SQ. YDS.	TONS	TONS	LN. FT.	SQ. FT.	CU. YDS.	LBS	LUMP SUM	LUMP SUM	LUMP SUM	LBS	SQ. FT.	SQ.FT.	SQ. FT.
CRAVEN #83	154	620	65	4	345	-	-	-	LUMP SUM	-	-	-	2,442	45 *	183,486
CRAVEN #84	154	805	81	5	345	-	-	-	LUMP SUM	-	-	-	2,826	45 *	214,739
CRAVEN #222	-	186	16	1	-	-	-	-	LUMP SUM	-	-	-	430	10 *	34,026
CRAVEN #231	-	-	-	-	-	280	15	1,297	-	LUMP SUM	LUMP SUM	300	62	-	-
TOTAL	308	1,611	162	10	690	280	15	1,297	LUMP SUM	LUMP SUM	LUMP SUM	300	5,760	100 *	432,251

* CONCRETE DECK REPAIR FOR EPOXY OVERLAY QUANTITIES ARE NOT ANTICIPATED. TOKEN PAY ITEMS ARE INDICATED FOR PRICING PURPOSES, IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.

PROJECT NO. BP-5500FF

CRAVEN COUNTY

BRIDGE NO. 83, 84, 222, 231

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/22/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TOTAL BILL OF MATERIAL

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

DRAWN BY : M.A.LEE DATE : 2/2015
CHECKED BY : W.M.CLARKE DATE : 2/2015

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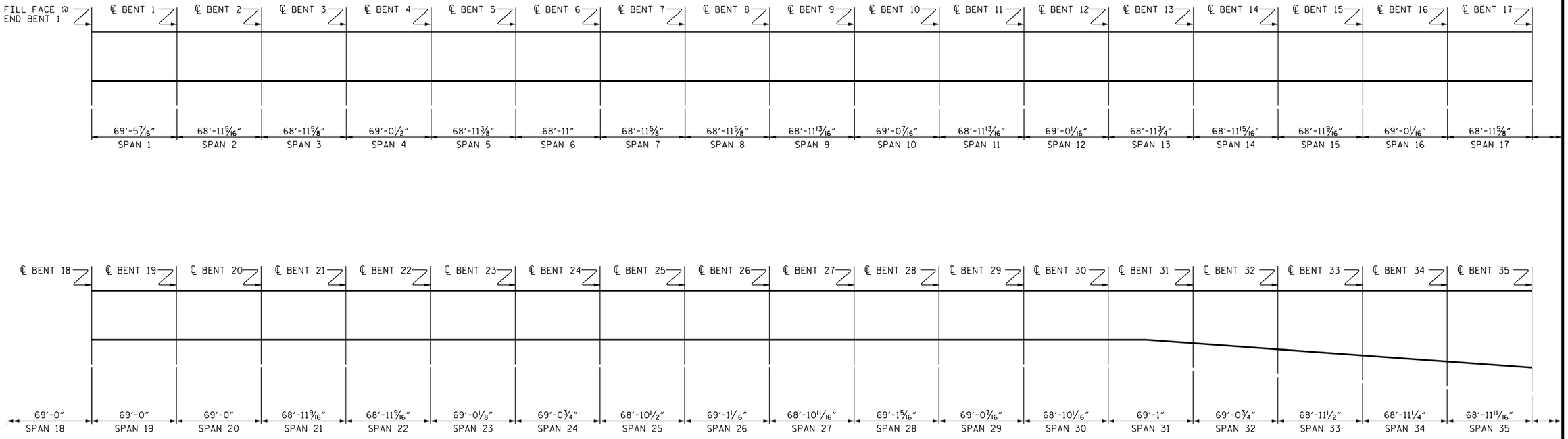
malee7



SCOPE OF WORK:

- PARTIALLY REMOVE BRIDGE DECK CONCRETE, USING SHOTBLAST METHOD.
- OVERLAY PREPARED BRIDGE DECK WITH EPOXY OVERLAY SYSTEM.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW FOAM JOINT SEALS.
- MILL AND PAVE ASPHALT APPROACHES.

PROJECT NO. BP-5500FF

CRAVEN **COUNTY**

BRIDGE NO. 83

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

BRIDGE 83 ON US70 EAST OVER THE TRENT RIVER

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

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

DRAWN BY : M.A.LEE DATE : 3/2015
CHECKED BY : W.M.CLARKE DATE : 3/2015

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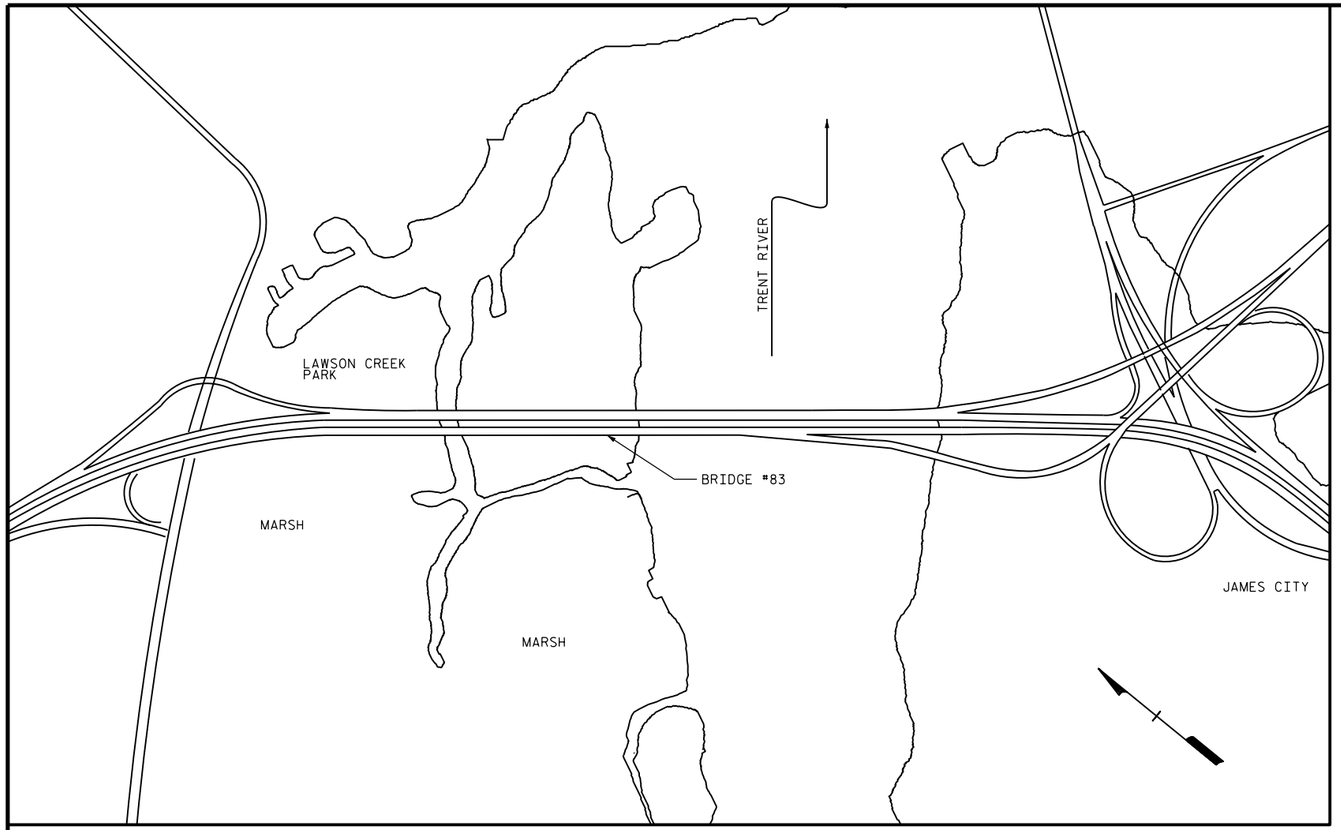
malee7



GENERAL NOTES:

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

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.

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.

FOR OVERLAY OF BRIDGE WITH EPOXY OVERLAY SYSTEM, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, 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 CENTERLINE OR EDGE OF TRAVEL LANES.

FOR SURFACE PREPARATION, SEE "EPOXY OVERLAY SYSTEM" SPECIAL PROVISION.

FOR CONCRETE DECK REPAIR FOR EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

PROJECT NO. BP-5500FF

CRAVEN **COUNTY**

BRIDGE NO. 83

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

BRIDGE 83 ON US70 EAST OVER THE TRENT RIVER

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

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

DRAWN BY : M.A.LEE DATE : 3/2015
CHECKED BY : W.M.CLARKE DATE : 3/2015

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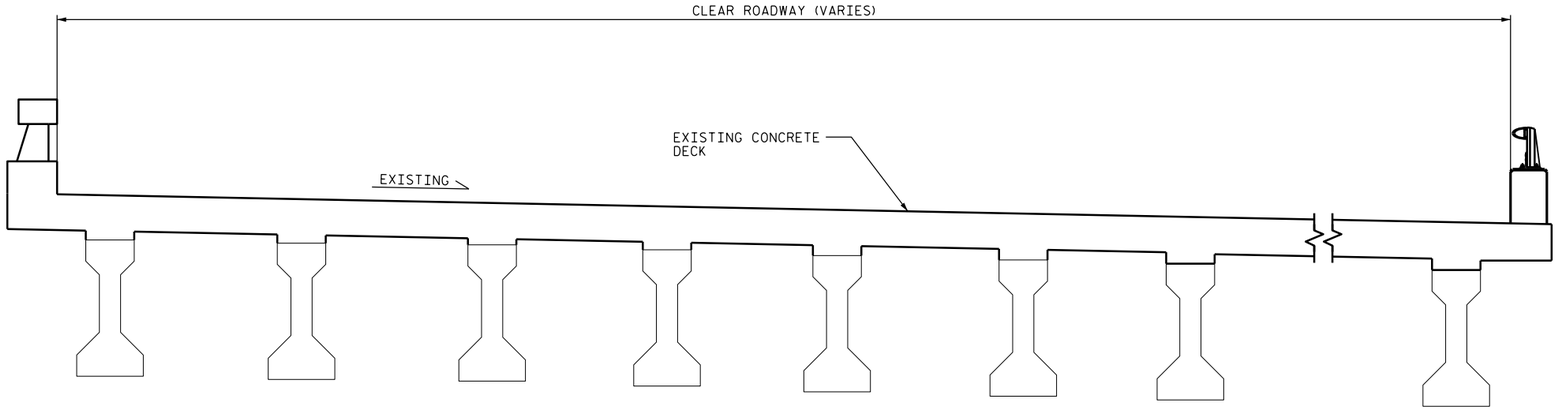
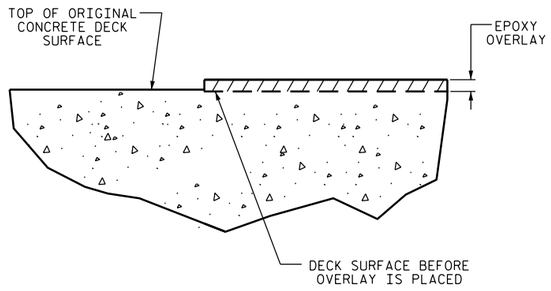
malee7

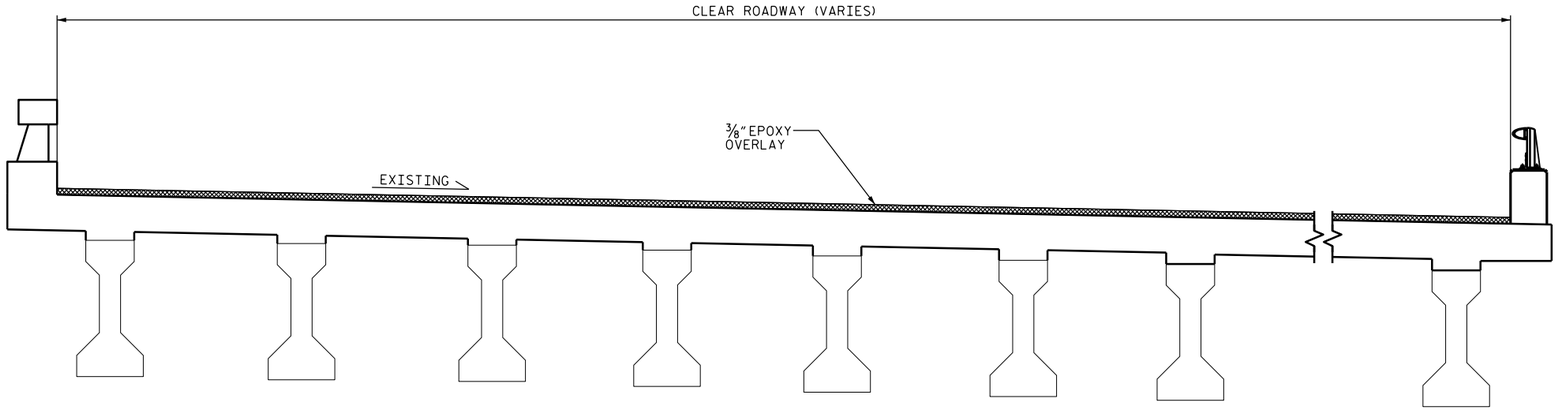
NOTE:
SEE TRAFFIC MANAGEMENT PLANS FOR TRAFFIC STAGING AND WORK ZONE DIMENSIONS.



TYPICAL SECTION
(EXISTING)



DETAIL FOR EPOXY OVERLAY



TYPICAL SECTION
(PROPOSED)

PROJECT NO. BP-5500FF
CRAVEN COUNTY
BRIDGE NO. 83

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION & EPOXY OVERLAY DETAIL

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

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

DRAWN BY : H.F.YEUNG/M.A.LEE DATE : 2/2015
CHECKED BY : W.M.CLARKE DATE : 3/2015

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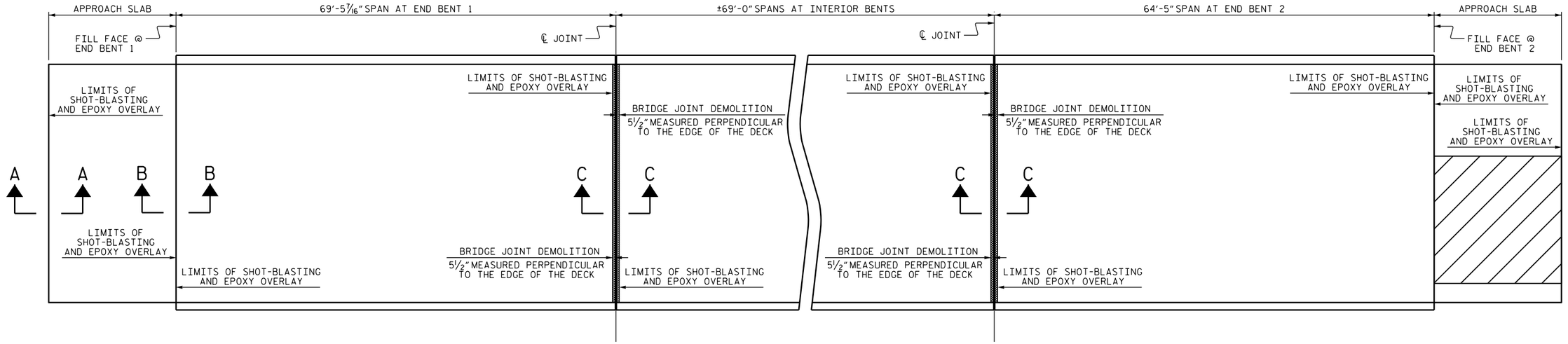
SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
CONCRETE DECK REPAIR FOR EPOXY OVERLAY	45 SF	
EPOXY OVERLAY SYSTEM	183,486 SF	

NOTES:

FOR SECTION A-A, B-B, AND C-C SEE SHEET S-6.

SECTION A-A AND B-B ARE SIMILAR AT EACH END OF THE BRIDGE.

CONCRETE DECK REPAIR FOR EPOXY OVERLAY QUANTITIES ARE NOT ANTICIPATED. TOKEN PAY ITEMS ARE INDICATED FOR PRICING PURPOSES, IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.



PLAN

- EXISTING ASHPALT

PROJECT NO. BP-5500FF

CRAVEN COUNTY

BRIDGE NO. 83

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SURFACE PREPARATION AND EPOXY OVERLAY

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			23

DRAWN BY : M.A.LEE DATE : 3/2015
CHECKED BY : W.M.CLARKE DATE : 3/2015

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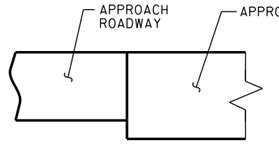

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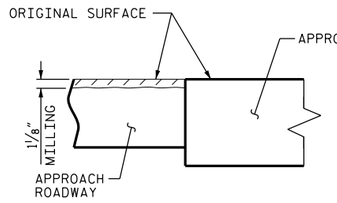
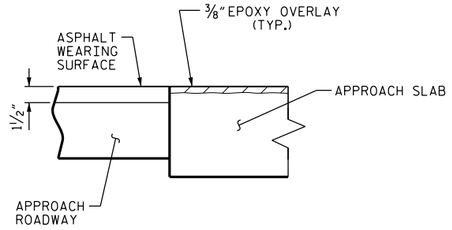
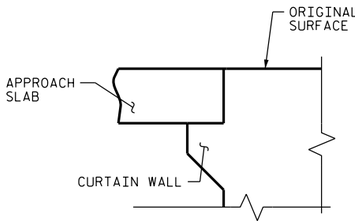


MINIMUM EXISTING JOINT DEMOLITION



PROPOSED

SECTION A-A



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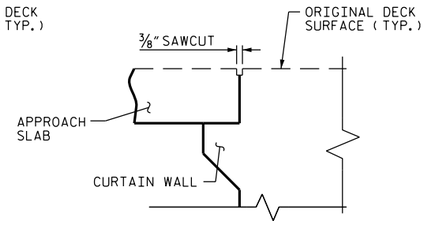

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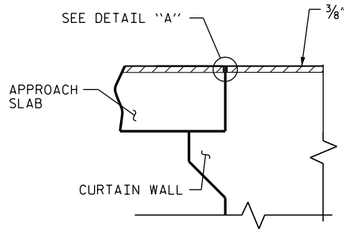

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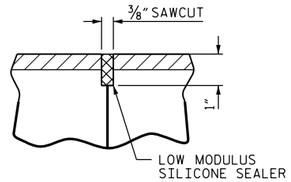
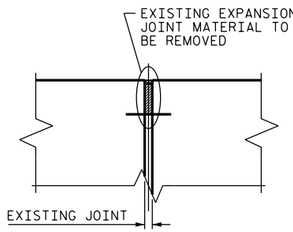
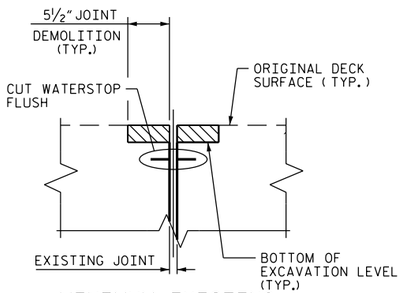


DETAIL "A"

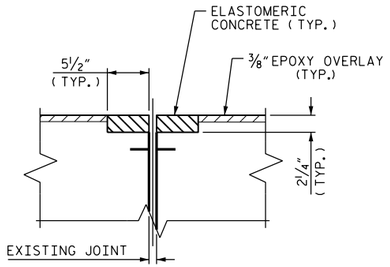
SECTION B-B



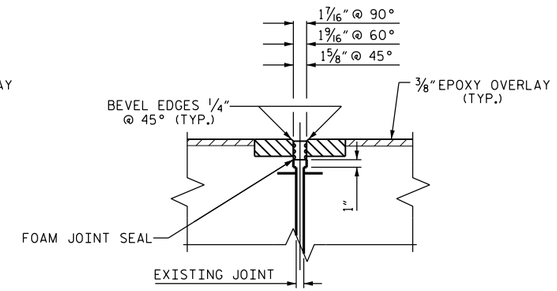
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION



PROPOSED JOINT PRE-SAWED DIMENSIONS



PROPOSED FOAM JOINT SEAL

SECTION C-C

IF THE EMBEDDED PORTION OF THE EXISITNG 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.

LOCATION	JOINT LENGTH	JOINT DEMO.	LOCATION	JOINT LENGTH	JOINT DEMO.	LOCATION	JOINT LENGTH	JOINT DEMO.	LOCATION	JOINT LENGTH	JOINT DEMO.	LOCATION	JOINT LENGTH	JOINT DEMO.	LOCATION	JOINT LENGTH	JOINT DEMO.
BENT 1	51'-8¾"	47.42 SF	BENT 11	51'-8¾"	47.42 SF	BENT 21	51'-8¾"	47.42 SF	BENT 31	54'-0½"	49.54 SF	BENT 41	40'-0"	36.66 SF	BENT 51	40'-0"	36.66 SF
BENT 2	51'-8¾"	47.42 SF	BENT 12	51'-8¾"	47.42 SF	BENT 22	51'-8¾"	47.42 SF	BENT 32	58'-4"	53.47 SF	BENT 42	40'-0"	36.66 SF	BENT 52	40'-0"	36.66 SF
BENT 3	51'-8¾"	47.42 SF	BENT 13	51'-8¾"	47.42 SF	BENT 23	51'-8¾"	47.42 SF	BENT 33	63'-3½"	58.01 SF	BENT 43	40'-0"	36.66 SF			
BENT 4	51'-8¾"	47.42 SF	BENT 14	51'-8¾"	47.42 SF	BENT 24	51'-8¾"	47.42 SF	BENT 34	68'-3"	62.56 SF	BENT 44	40'-0"	36.66 SF			
BENT 5	51'-8¾"	47.42 SF	BENT 15	51'-8¾"	47.42 SF	BENT 25	51'-8¾"	47.42 SF	BENT 35	73'-2½"	67.10 SF	BENT 45	40'-0"	36.66 SF			
BENT 6	51'-8¾"	47.42 SF	BENT 16	51'-8¾"	47.42 SF	BENT 26	51'-8¾"	47.42 SF	BENT 36	78'-2¼"	71.67 SF	BENT 46	40'-0"	36.66 SF			
BENT 7	51'-8¾"	47.42 SF	BENT 17	51'-8¾"	47.42 SF	BENT 27	51'-8¾"	47.42 SF	BENT 37	83'-1 13/16"	76.22 SF	BENT 47	40'-0"	36.66 SF			
BENT 8	51'-8¾"	47.42 SF	BENT 18	51'-8¾"	47.42 SF	BENT 28	51'-8¾"	47.42 SF	BENT 38	73'-6⅝"	67.42 SF	BENT 48	40'-0"	36.66 SF			
BENT 9	51'-8¾"	47.42 SF	BENT 19	51'-8¾"	47.42 SF	BENT 29	51'-8¾"	47.42 SF	BENT 39	40'-0"	36.66 SF	BENT 49	40'-0"	36.66 SF			
BENT 10	51'-8¾"	47.42 SF	BENT 20	51'-8¾"	47.42 SF	BENT 30	51'-8¾"	47.42 SF	BENT 40	40'-0"	36.66 SF	BENT 50	40'-0"	36.66 SF			

DRAWN BY : M.A.LEE DATE : 03/2015
CHECKED BY : W. M. CLARKE DATE : 03/2015

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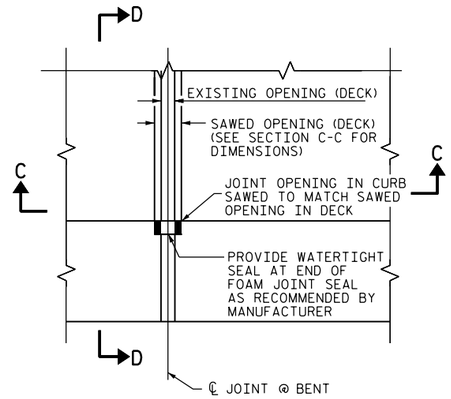
NOTES:

FOR FOAM JOINT SEALS SEE SPECIAL PROVISIONS.

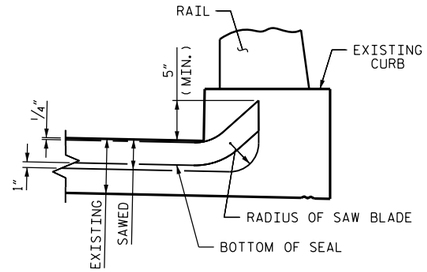
THE INSTALLED FOAM JOINT SEAL SHALL BE WATER TIGHT.

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.



PLAN



SECTION D-D

JOINT SEAL DETAILS AT BENT

PROJECT NO. BP-5500FF
CRAVEN COUNTY
BRIDGE NO. 83

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

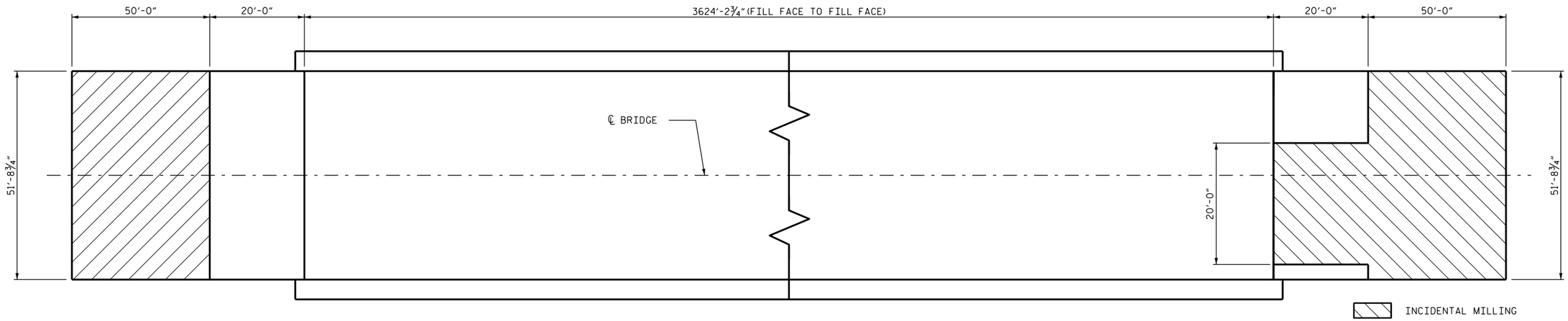
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JOINT DETAILS

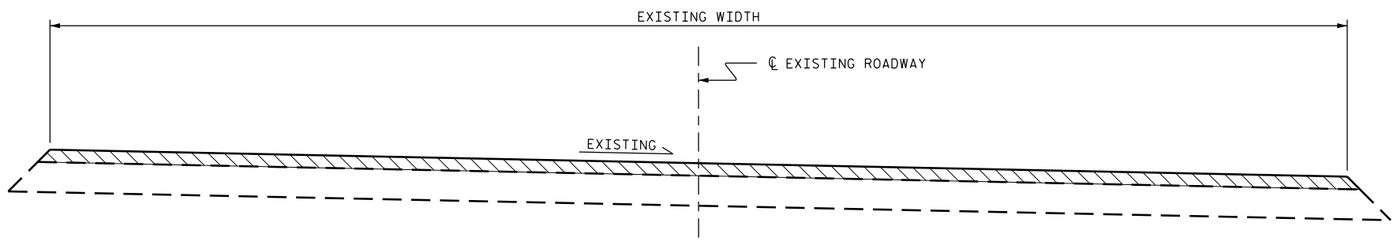
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS
2			4			23

NOTES:

INCIDENTAL MILLING - EXISTING APPROACH ASPHALT PAVING TO BE MILLED AS NECESSARY TO ATTAIN MINIMUM 1½"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 1½" DUE TO SETTLEMENT OF THE EXISTING APPROACH ASPHALT PAVING.



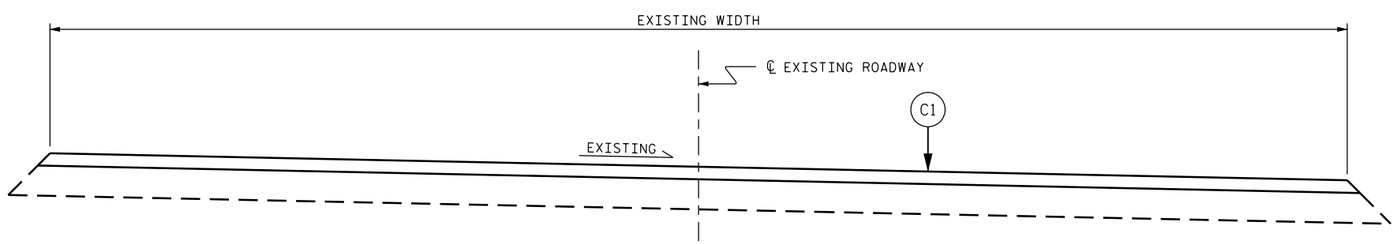
PLAN



TYPICAL ROADWAY MILLING SECTION

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
INCIDENTAL MILLING	620 SQ. YDS.	
ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B	52 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 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.



TYPICAL PROPOSED ROADWAY SECTION

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/16/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

PROJECT NO. BP-5500FF
CRAVEN COUNTY
BRIDGE NO. 83

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

APPROACH MILLING AND TYPICAL ROADWAY SECTIONS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-7
1			3			TOTAL SHEETS
2			4			23

DRAWN BY : M.A.LEE DATE : 03/2015
CHECKED BY : W. M. CLARKE DATE : 03/2015

15-JUN-2015 11:18
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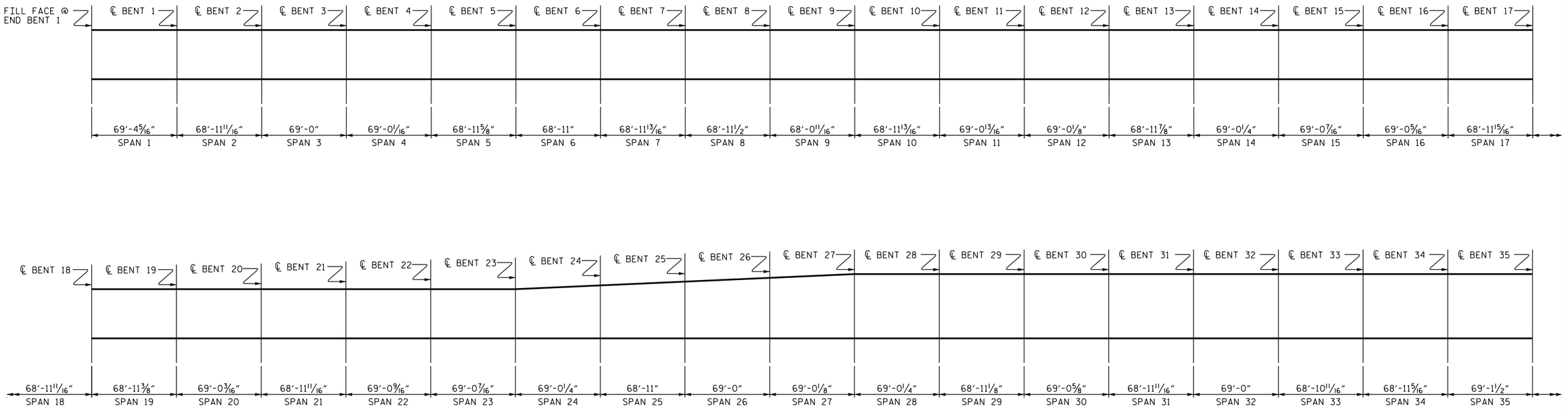
malee7



SCOPE OF WORK:

- PARTIALLY REMOVE BRIDGE DECK CONCRETE, USING SHOTBLAST METHOD.
- OVERLAY PREPARED BRIDGE DECK WITH EPOXY OVERLAY SYSTEM.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW FOAM JOINT SEALS.
- MILL AND PAVE ASPHALT APPROACHES.

PROJECT NO. BP-5500FF

CRAVEN **COUNTY**

BRIDGE NO. 84

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

BRIDGE 84 ON US70 WEST OVER THE TRENT RIVER

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER M. MATTHEW CLARKE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			23

DRAWN BY : M.A.LEE DATE : 3/2015
CHECKED BY : W.M.CLARKE DATE : 3/2015

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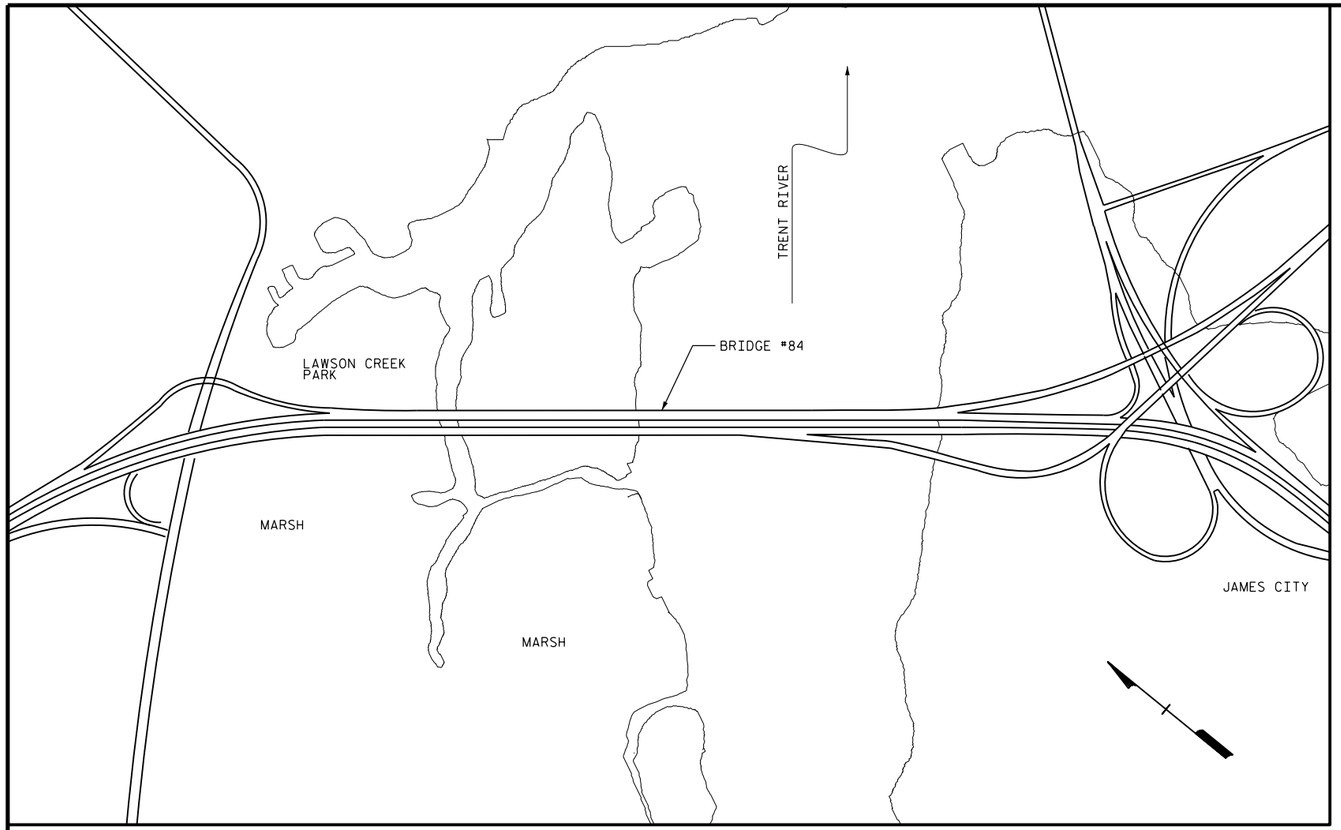
malee7



GENERAL NOTES:

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

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.

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.

FOR OVERLAY OF BRIDGE WITH EPOXY OVERLAY SYSTEM, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, 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 CENTERLINE OR EDGE OF TRAVEL LANES.

FOR SURFACE PREPARATION, SEE "EPOXY OVERLAY SYSTEM" SPECIAL PROVISION.

FOR CONCRETE DECK REPAIR FOR EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

PROJECT NO. BP-5500FF

CRAVEN **COUNTY**

BRIDGE NO. 84

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

BRIDGE 84 ON US70 WEST OVER THE TRENT RIVER

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			23

DRAWN BY : M.A.LEE DATE : 3/2015
CHECKED BY : W.M.CLARKE DATE : 3/2015

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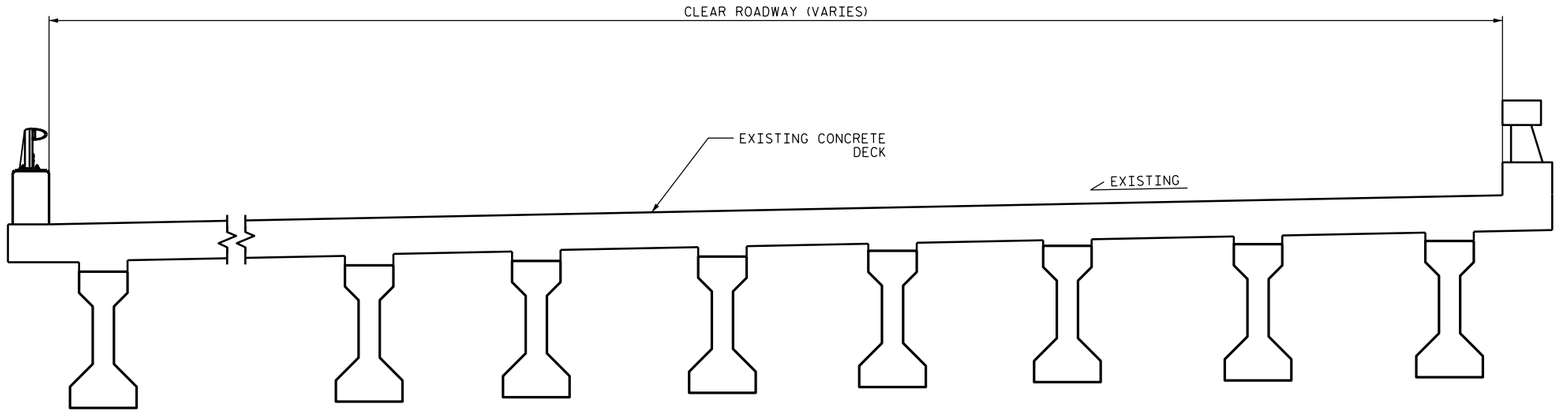
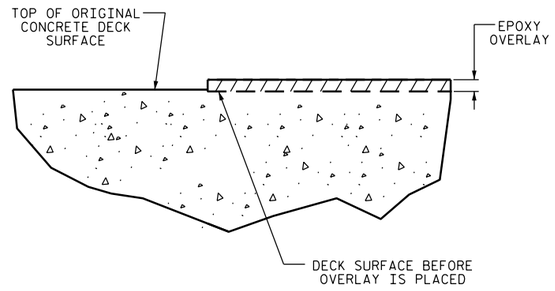
malee7

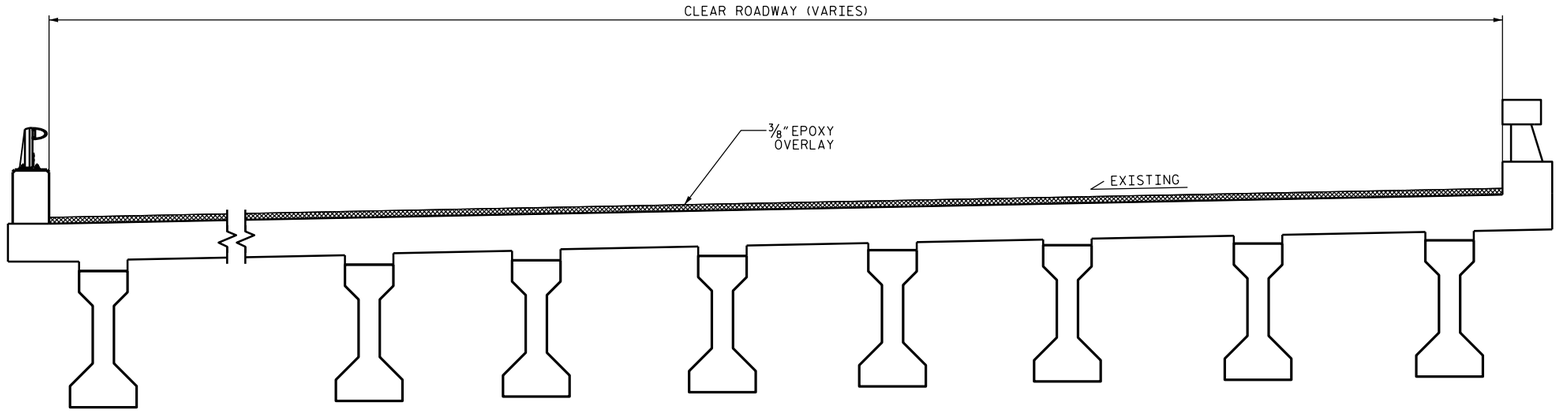
NOTE:
SEE TRAFFIC MANAGEMENT PLANS FOR TRAFFIC STAGING AND WORK ZONE DIMENSIONS.



TYPICAL SECTION
(EXISTING)



DETAIL FOR EPOXY OVERLAY



TYPICAL SECTION
(PROPOSED)

PROJECT NO. BP-5500FF
CRAVEN COUNTY
BRIDGE NO. 84

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION & EPOXY OVERLAY DETAIL

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS
2			4			23

DRAWN BY : H.F.YEUNG/M.A.LEE DATE : 2/2015
CHECKED BY : W.M.CLARKE DATE : 3/2015

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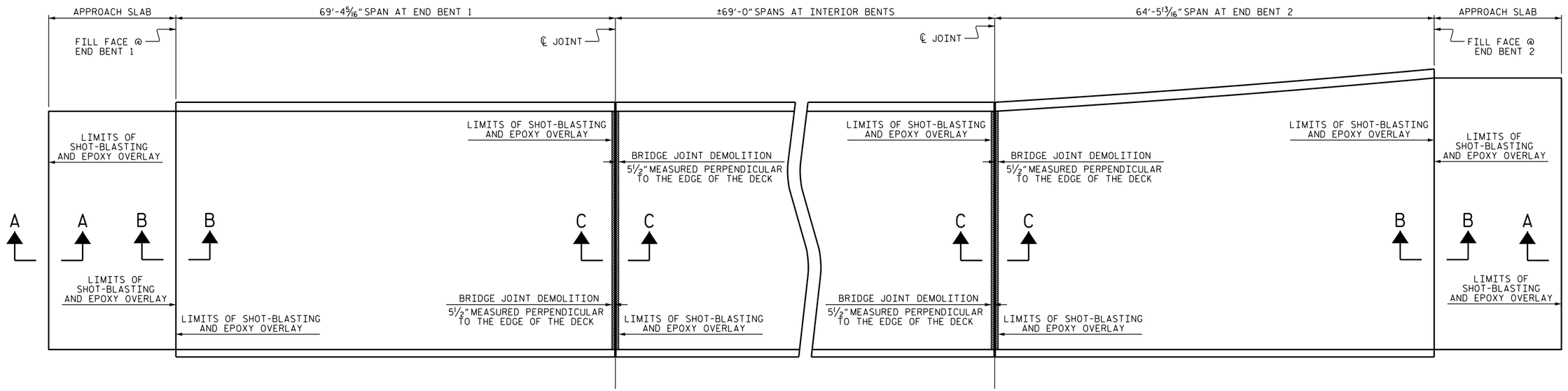
malee7

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
CONCRETE DECK REPAIR FOR EPOXY OVERLAY	45 SF	
EPOXY OVERLAY SYSTEM	214,739 SF	

NOTES:

FOR SECTION A-A, B-B, AND C-C SEE SHEET S-12.

CONCRETE DECK REPAIR FOR EPOXY OVERLAY QUANTITIES ARE NOT ANTICIPATED. TOKEN PAY ITEMS ARE INDICATED FOR PRICING PURPOSES, IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.



PLAN

PROJECT NO. BP-5500FF

CRAVEN COUNTY

BRIDGE NO. 84

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SURFACE PREPARATION AND EPOXY OVERLAY

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			23

DRAWN BY : M.A.LEE DATE : 3/2015
CHECKED BY : W.M.CLARKE DATE : 3/2015

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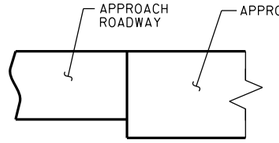

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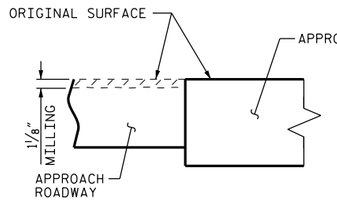
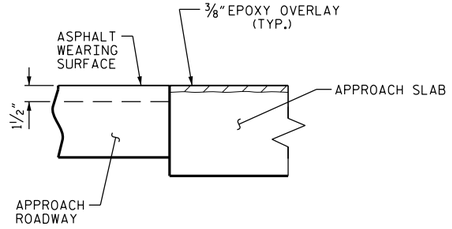
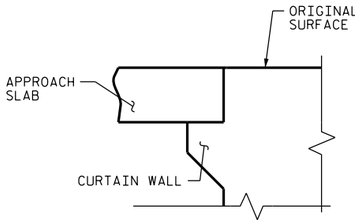


MINIMUM EXISTING JOINT DEMOLITION



PROPOSED

SECTION A-A



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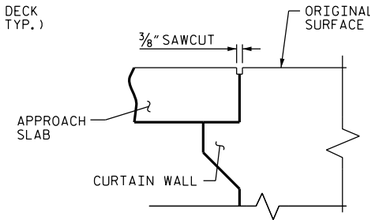

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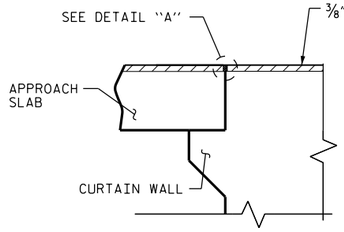

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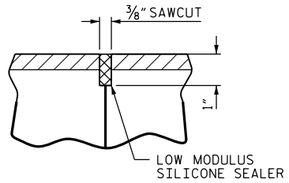
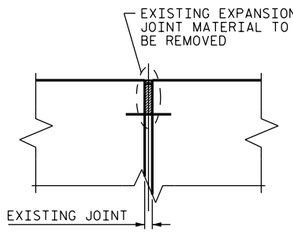
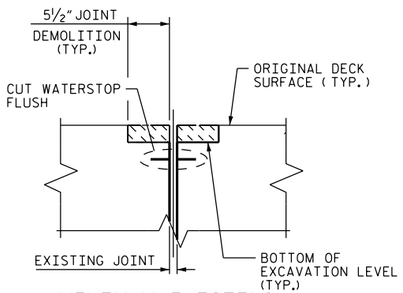


DETAIL "A"

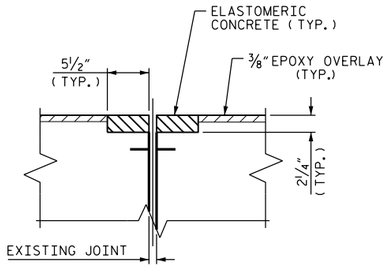
SECTION B-B



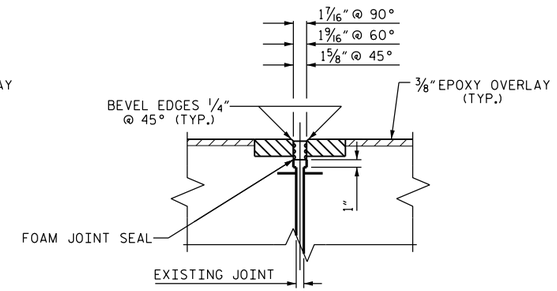
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION



PROPOSED JOINT PRE-SAWED DIMENSIONS



PROPOSED FOAM JOINT SEAL

SECTION C-C

IF THE EMBEDDED PORTION OF THE EXISITNG 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.

LOCATION	JOINT LENGTH	JOINT DEMO.	LOCATION	JOINT LENGTH	JOINT DEMO.	LOCATION	JOINT LENGTH	JOINT DEMO.	LOCATION	JOINT LENGTH	JOINT DEMO.	LOCATION	JOINT LENGTH	JOINT DEMO.
BENT 1	51'-8¾"	47.41 SF	BENT 11	51'-8¾"	47.41 SF	BENT 21	51'-8¾"	47.41 SF	BENT 31	59'-7 3/16"	54.63 SF	BENT 41	63'-8⅛"	58.36 SF
BENT 2	51'-8¾"	47.41 SF	BENT 12	51'-8¾"	47.41 SF	BENT 22	51'-8¾"	47.41 SF	BENT 32	59'-7 3/16"	54.63 SF	BENT 42	65'-4 3/16"	59.90 SF
BENT 3	51'-8¾"	47.41 SF	BENT 13	51'-8¾"	47.41 SF	BENT 23	53'-7⅝"	48.86 SF	BENT 33	59'-7 3/16"	54.63 SF	BENT 43	67'-0¼"	61.43 SF
BENT 4	51'-8¾"	47.41 SF	BENT 14	51'-8¾"	47.41 SF	BENT 24	54'-10½"	50.30 SF	BENT 34	59'-7 3/16"	54.63 SF	BENT 44	68'-8 5/16"	62.96 SF
BENT 5	51'-8¾"	47.41 SF	BENT 15	51'-8¾"	47.41 SF	BENT 25	56'-5 7/16"	51.74 SF	BENT 35	59'-7 3/16"	54.63 SF	BENT 45	70'-6	64.64 SF
BENT 6	51'-8¾"	47.41 SF	BENT 16	51'-8¾"	47.41 SF	BENT 26	58'-0 5/16"	53.19 SF	BENT 36	59'-7 3/16"	54.63 SF	BENT 46	72'-0 15/16"	66.06 SF
BENT 7	51'-8¾"	47.41 SF	BENT 17	51'-8¾"	47.41 SF	BENT 27	59'-7 3/16"	54.63 SF	BENT 37	59'-7 3/16"	54.63 SF	BENT 47	73'-7⅝"	67.49 SF
BENT 8	51'-8¾"	47.41 SF	BENT 18	51'-8¾"	47.41 SF	BENT 28	59'-7 3/16"	54.63 SF	BENT 38	59'-7 15/16"	54.69 SF	BENT 48	75'-3"	68.97 SF
BENT 9	51'-8¾"	47.41 SF	BENT 19	51'-8¾"	47.41 SF	BENT 29	59'-7 3/16"	54.63 SF	BENT 39	60'-7 9/16"	55.57 SF	BENT 49	77'-2 1/16"	70.74 SF
BENT 10	51'-8¾"	47.41 SF	BENT 20	51'-8¾"	47.41 SF	BENT 30	59'-7 3/16"	54.63 SF	BENT 40	62'-0⅛"	56.84 SF	BENT 50	79'-8 3/16"	73.04 SF
												BENT 51	83'-0 11/16"	76.13 SF
												BENT 52	87'-6 3/16"	80.22 SF

DRAWN BY : M.A.LEE DATE : 03/2015
CHECKED BY : W. M. CLARKE DATE : 03/2015

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malee7

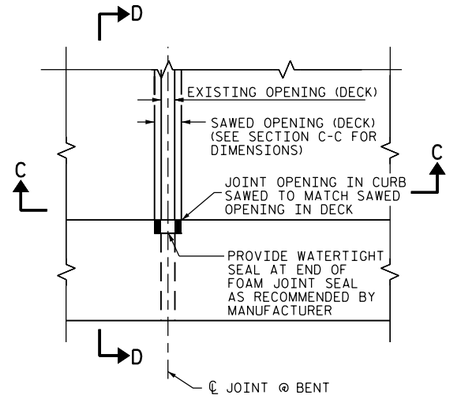
NOTES:

FOR FOAM JOINT SEALS SEE SPECIAL PROVISIONS.

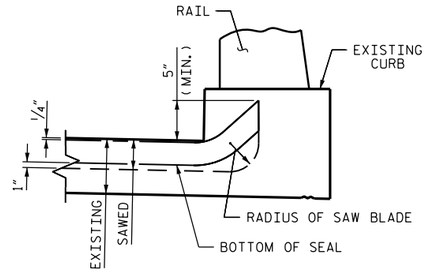
THE INSTALLED FOAM JOINT SEAL SHALL BE WATER TIGHT.

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.



PLAN



SECTION D-D

JOINT SEAL DETAILS AT BENT

PROJECT NO. BP-5500FF
CRAVEN COUNTY
BRIDGE NO. 84

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

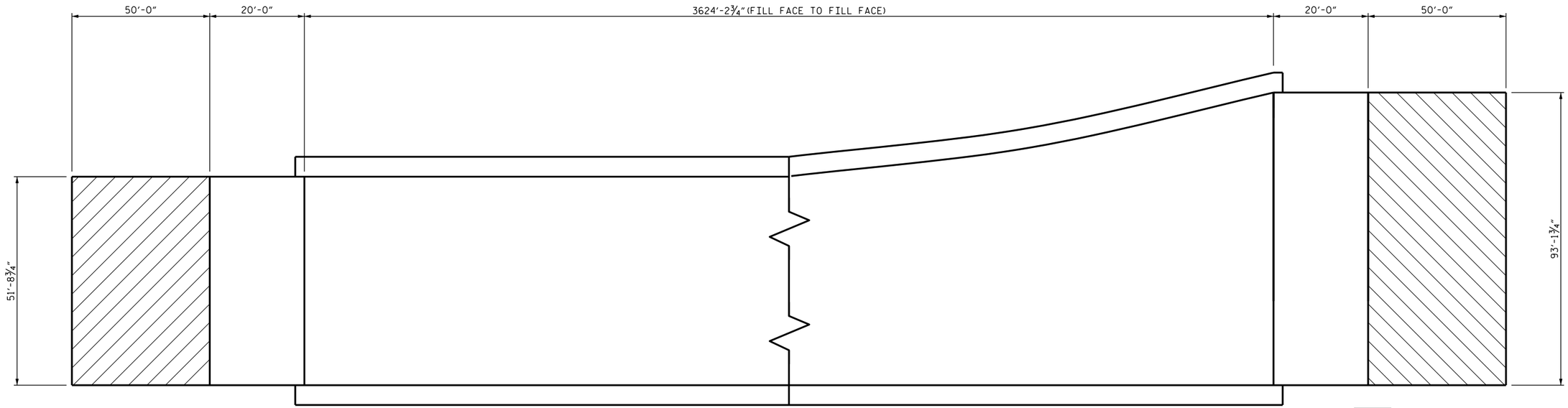
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JOINT DETAILS

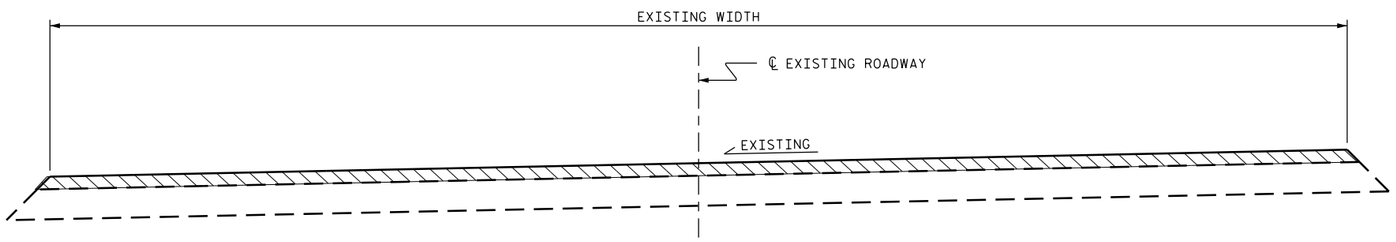
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12
1			3			TOTAL SHEETS
2			4			23

NOTES:

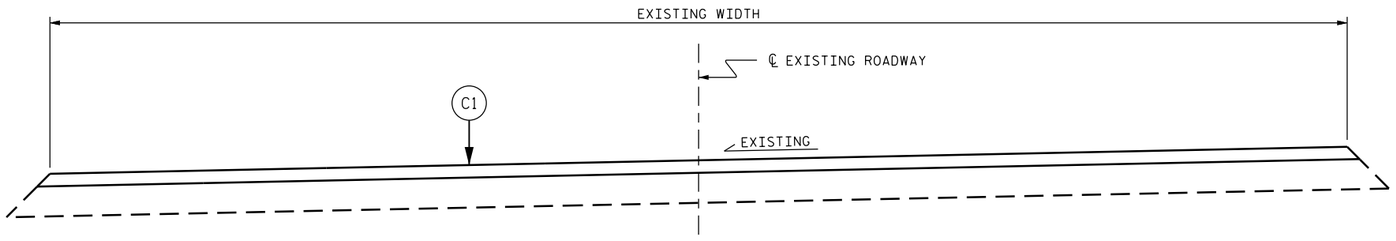
INCIDENTAL MILLING - EXISTING APPROACH ASPHALT PAVING TO BE MILLED AS NECESSARY TO ATTAIN MINIMUM 1½" DEPTH OF NEW ASPHALT PAVING. PROVIDE NEW ASPHALT PAVING THICKNESS TO CREATE A SMOOTH TRANSITION BETWEEN THE ROADWAY AND THE BRIDGE DECK. NEW ASPHALT PAVING THICKNESS MAY EXCEED 1½" DUE TO SETTLEMENT OF THE EXISTING APPROACH ASPHALT PAVING.



PLAN



TYPICAL ROADWAY MILLING SECTION



TYPICAL PROPOSED ROADWAY SECTION

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
INCIDENTAL MILLING	805 SQ. YDS.	
ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B	68 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 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.

PROJECT NO. BP-5500FF

CRAVEN **COUNTY**

BRIDGE NO. 84

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

APPROACH MILLING AND TYPICAL ROADWAY SECTIONS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13
1			3			TOTAL SHEETS
2			4			23

DRAWN BY : M.A.LEE DATE : 03/2015
CHECKED BY : W. M. CLARKE DATE : 03/2015

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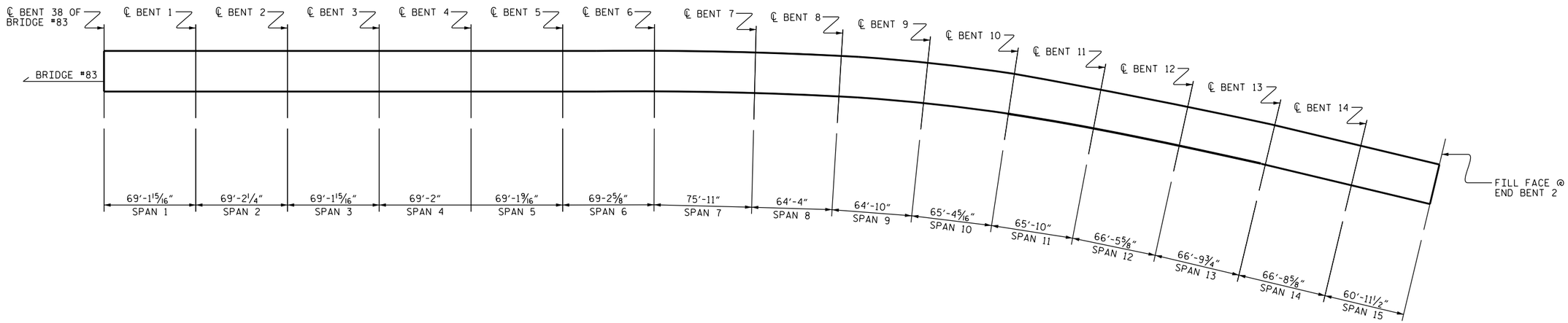

SCOPE OF WORK:

- PARTIALLY REMOVE BRIDGE DECK CONCRETE, USING SHOTBLAST METHOD.
- OVERLAY PREPARED BRIDGE DECK WITH EPOXY OVERLAY SYSTEM.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- RECONSTRUCT BRIDGE DECK JOINTS AND INSTALL NEW FOAM JOINT SEALS.
- MILL AND PAVE ASPHALT APPROACHES.

PROJECT NO. BP-5500FF

CRAVEN **COUNTY**

BRIDGE NO. 222

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE 222 ON NC55, US17 OVER THE TRENT RIVER

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-14
1			3			TOTAL SHEETS
2			4			23

DRAWN BY : M.A.LEE DATE : 3/2015
CHECKED BY : W.M.CLARKE DATE : 3/2015

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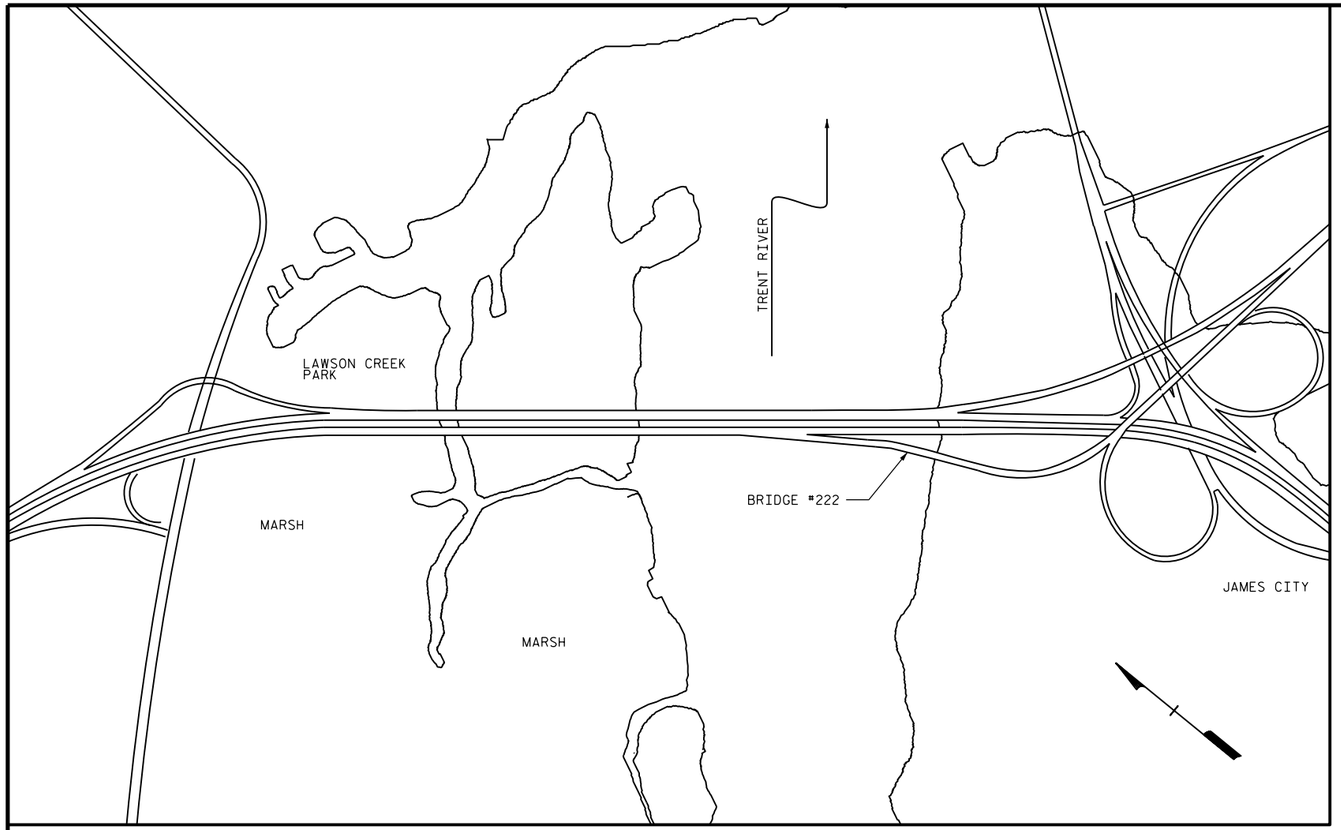
malee7



GENERAL NOTES:

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

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.

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.

FOR OVERLAY OF BRIDGE WITH EPOXY OVERLAY SYSTEM, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, 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 CENTERLINE OR EDGE OF TRAVEL LANES.

FOR SURFACE PREPARATION, SEE "EPOXY OVERLAY SYSTEM" SPECIAL PROVISION.

FOR CONCRETE DECK REPAIR FOR EPOXY OVERLAY, SEE SPECIAL PROVISIONS.

PROJECT NO. BP-5500FF

CRAVEN **COUNTY**

BRIDGE NO. 222

SHEET 2 OF 2

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

BRIDGE 222 ON NC55, US17 OVER THE TRENT RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
1			3			TOTAL SHEETS
2			4			23

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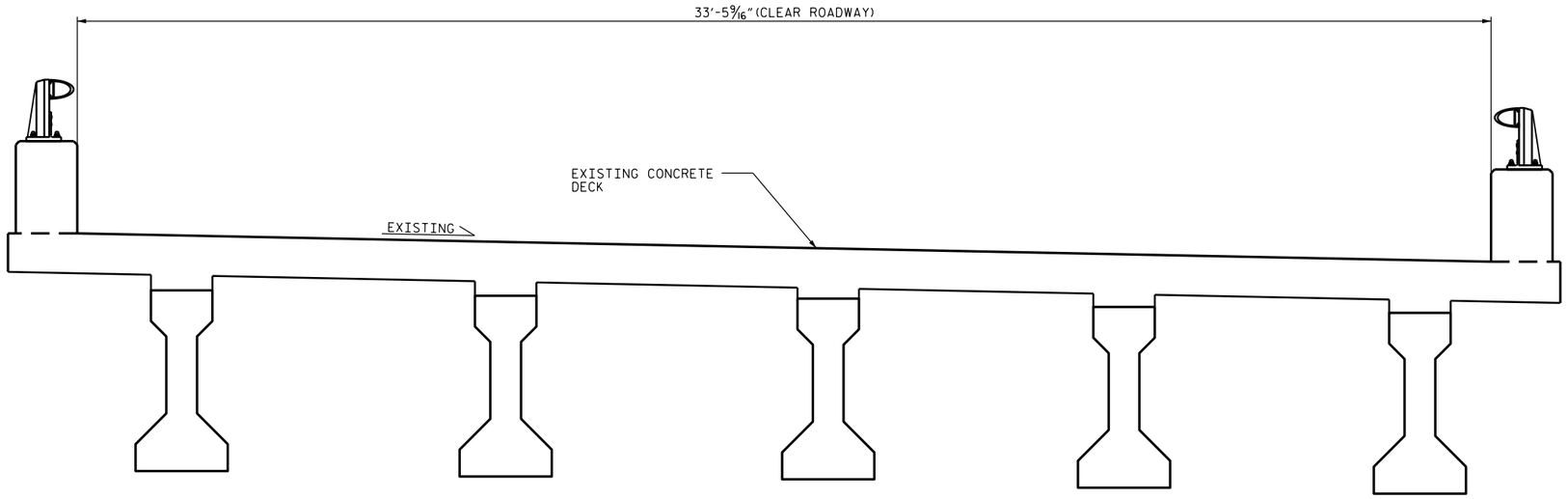
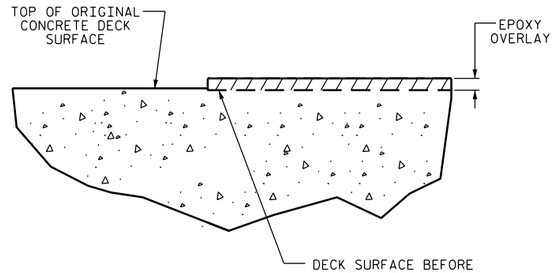
malee7

NOTE:

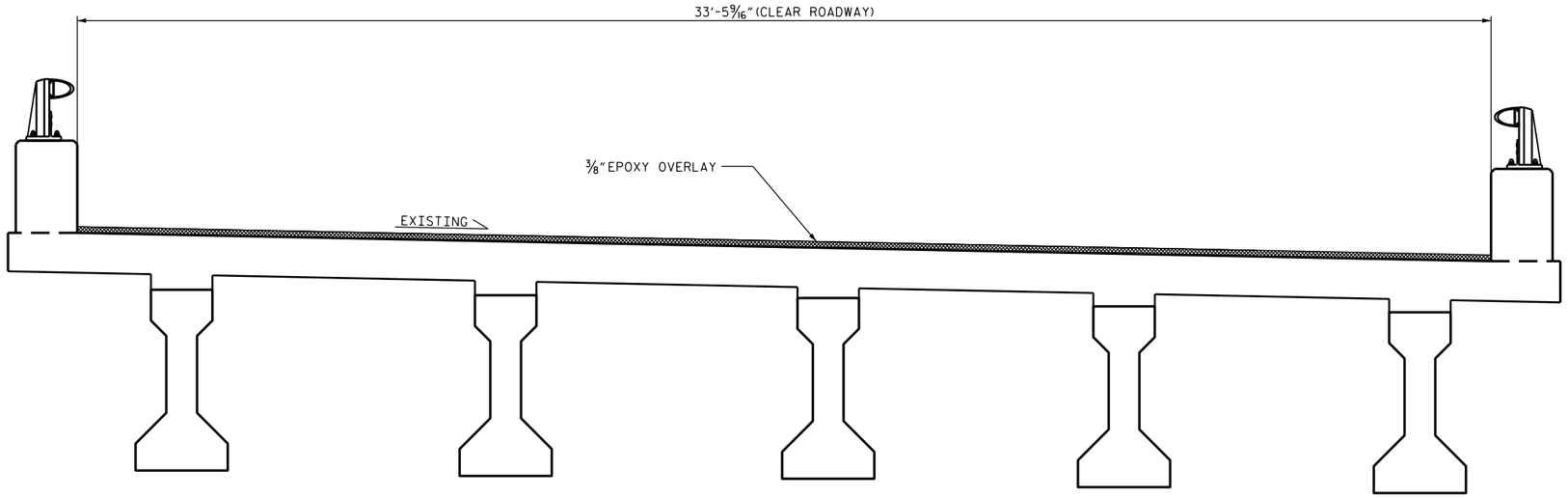
SEE TRAFFIC MANAGEMENT PLANS FOR TRAFFIC STAGING AND WORK ZONE DIMENSIONS.



TYPICAL SECTION
(EXISTING)



DETAIL FOR EPOXY OVERLAY



TYPICAL SECTION
(PROPOSED)

PROJECT NO. BP-5500FF

CRAVEN COUNTY

BRIDGE NO. 222

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION & EPOXY OVERLAY DETAIL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-16
1			3			TOTAL SHEETS
2			4			23

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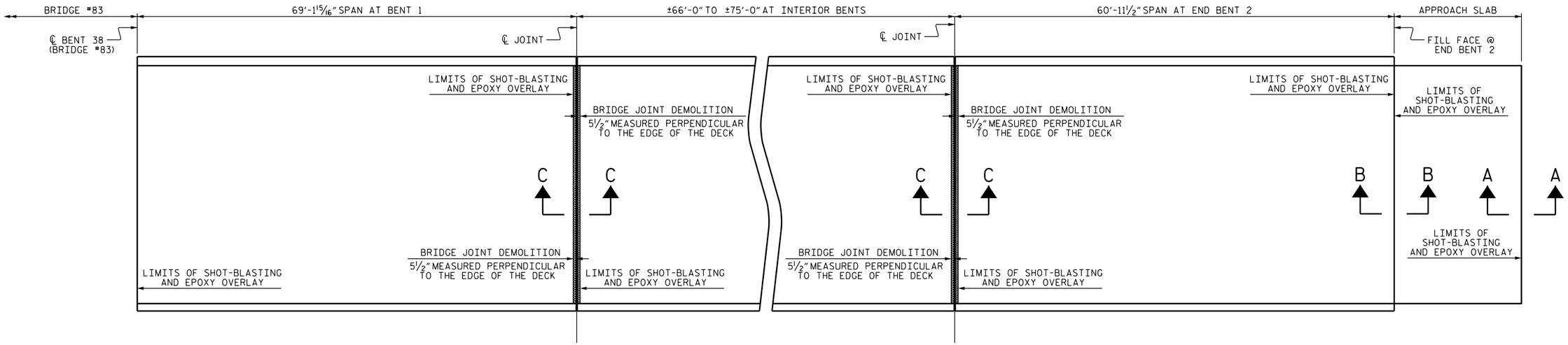
malee7

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
CONCRETE DECK REPAIR FOR EPOXY OVERLAY	10 SF	
EPOXY OVERLAY SYSTEM	34,026 SF	

NOTES:

FOR SECTION A-A, B-B, AND C-C SEE SHEET S-18.

CONCRETE DECK REPAIR FOR EPOXY OVERLAY QUANTITIES ARE NOT ANTICIPATED. TOKEN PAY ITEMS ARE INDICATED FOR PRICING PURPOSES, IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.



PLAN

PROJECT NO. BP-5500FF

CRAVEN COUNTY

BRIDGE NO. 222

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SURFACE PREPARATION AND EPOXY OVERLAY

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William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS
2			4			23

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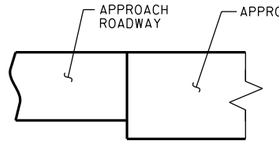
malee7



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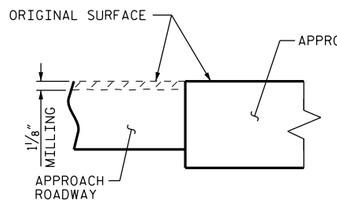
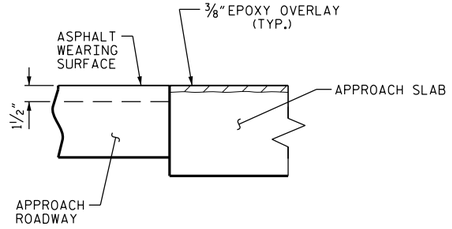
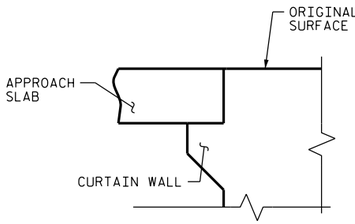


MINIMUM EXISTING JOINT DEMOLITION



PROPOSED

SECTION A-A



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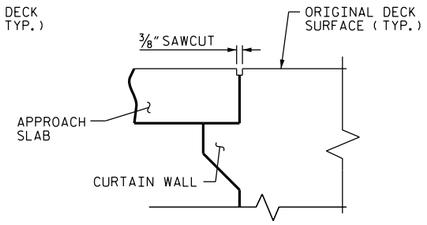

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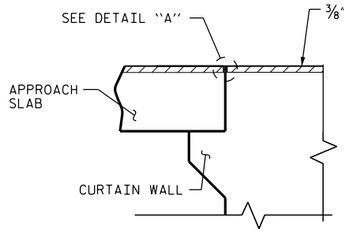
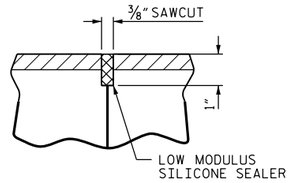
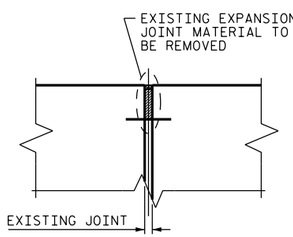


PROPOSED

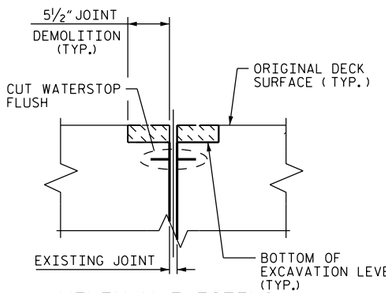


DETAIL "A"

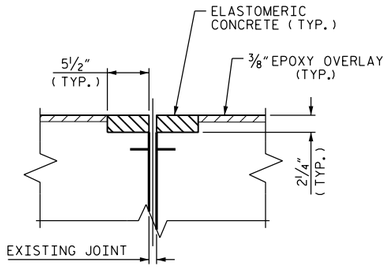
SECTION B-B



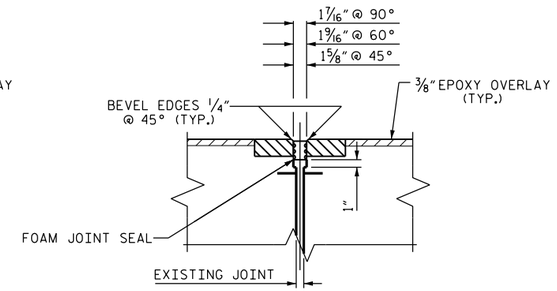
EXISTING JOINT



MINIMUM EXISTING JOINT DEMOLITION



PROPOSED JOINT PRE-SAWED DIMENSIONS



PROPOSED FOAM JOINT SEAL

SECTION C-C

IF THE EMBEDDED PORTION OF THE EXISITNG 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.

LOCATION	JOINT LENGTH	JOINT DEMO.
BENT 1	33'-5⁹⁄₁₆"	30.67 SF
BENT 2	33'-5⁹⁄₁₆"	30.67 SF
BENT 3	33'-5⁹⁄₁₆"	30.67 SF
BENT 4	33'-5⁹⁄₁₆"	30.67 SF
BENT 5	33'-5⁹⁄₁₆"	30.67 SF
BENT 6	33'-6¹¹⁄₁₆"	30.76 SF
BENT 7	33'-7½"	30.82 SF
BENT 8	33'-5⁹⁄₁₆"	30.67 SF
BENT 9	33'-5⁹⁄₁₆"	30.67 SF
BENT 10	33'-5⁹⁄₁₆"	30.67 SF
BENT 11	33'-5⁹⁄₁₆"	30.67 SF
BENT 12	33'-5⁹⁄₁₆"	30.67 SF
BENT 13	33'-5⁹⁄₁₆"	30.67 SF
BENT 14	33'-5⁹⁄₁₆"	30.67 SF

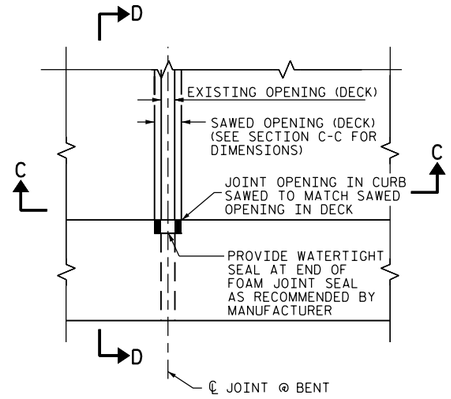
NOTES:

FOR FOAM JOINT SEALS SEE SPECIAL PROVISIONS.

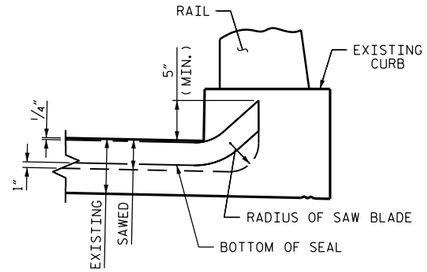
THE INSTALLED FOAM JOINT SEAL SHALL BE WATER TIGHT.

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.



PLAN



SECTION D-D

JOINT SEAL DETAILS AT BENT

PROJECT NO. BP-5500FF

CRAVEN **COUNTY**

BRIDGE NO. 222

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William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JOINT DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-18
1			3			TOTAL SHEETS
2			4			23

DRAWN BY : M.A.LEE DATE : 03/2015
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10-JUN-2015 14:23
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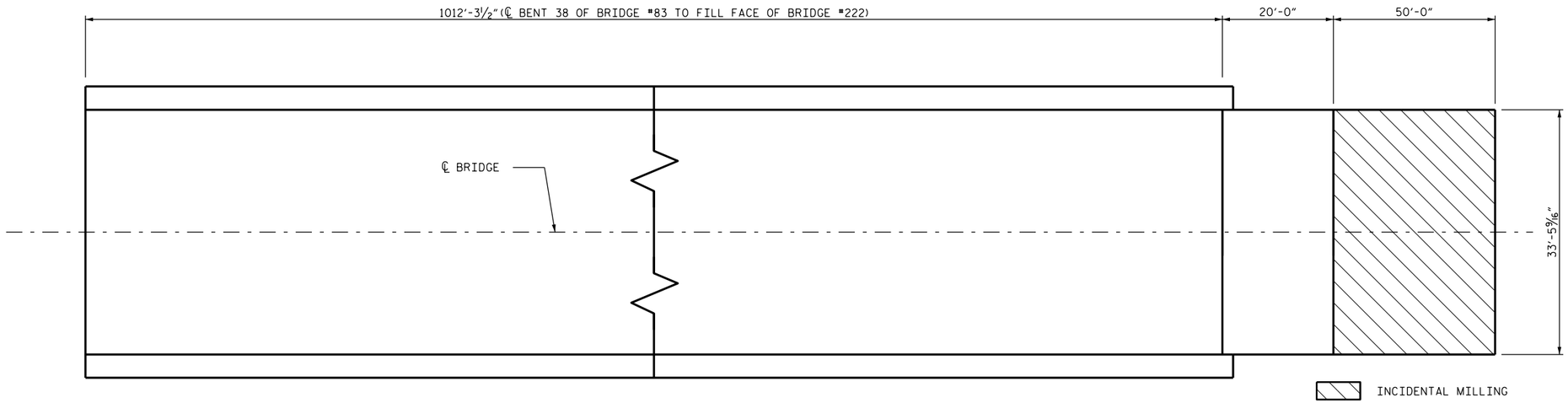
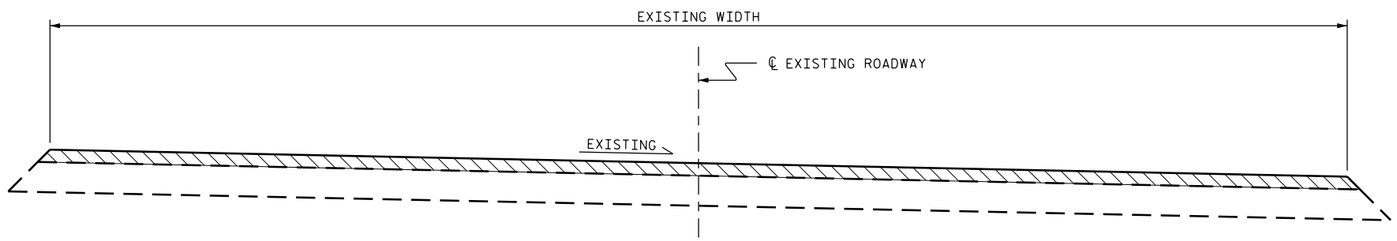
malee7

NOTES:

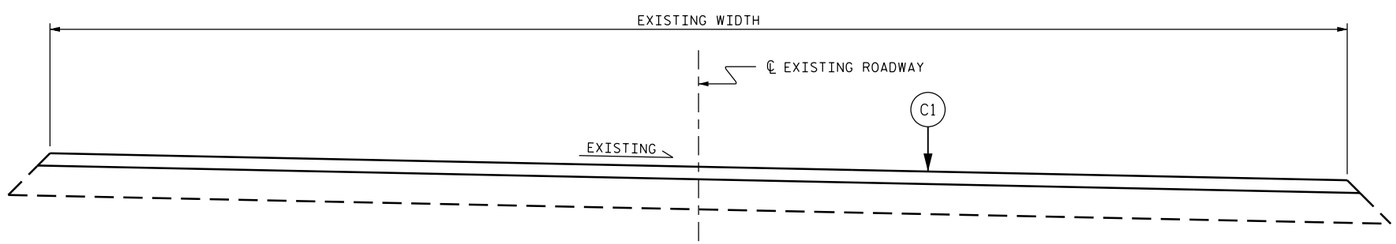
INCIDENTAL MILLING - EXISTING APPROACH ASPHALT PAVING TO BE MILLED AS NECESSARY TO ATTAIN MINIMUM 1½"DEPTH OF NEW ASPHALT PAVING. PROVIDE NEW ASPHALT PAVING THICKNESS TO CREATE A SMOOTH TRANSITION BETWEEN THE ROADWAY AND THE BRIDGE DECK. NEW ASPHALT PAVING THICKNESS MAY EXCEED 1½" DUE TO SETTLEMENT OF THE EXISTING APPROACH ASPHALT PAVING.



PLAN



TYPICAL ROADWAY MILLING SECTION



TYPICAL PROPOSED ROADWAY SECTION

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
INCIDENTAL MILLING	186 SO. YDS.	
ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B	16 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 1½" IN DEPTH OR GREATER THAN 2" IN DEPTH.

PROJECT NO. BP-5500FF

CRAVEN **COUNTY**

BRIDGE NO. 222

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

APPROACH MILLING AND TYPICAL ROADWAY SECTIONS

REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS
2			4			23

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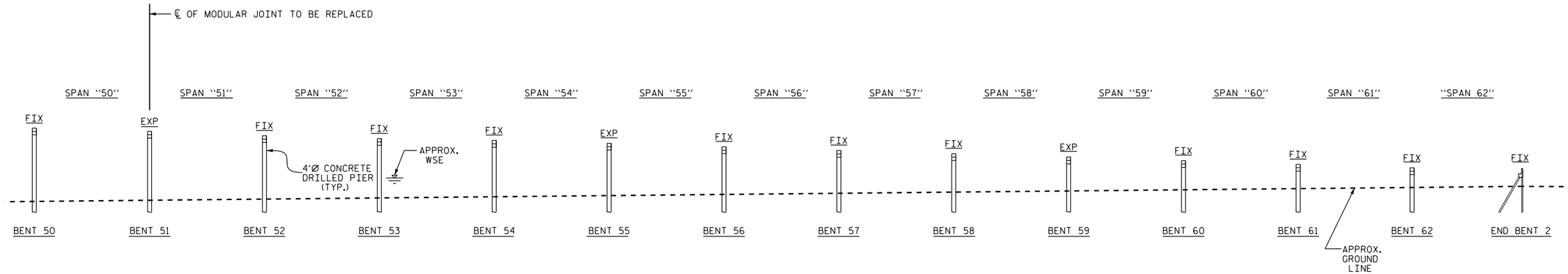
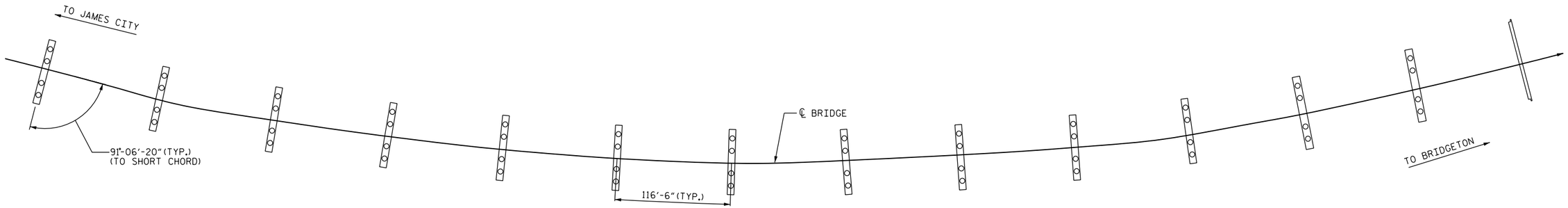
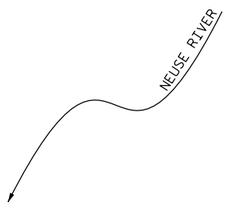


PARTIAL SECTION ALONG ℄ ROADWAY





PARTIAL PLAN

SCOPE OF WORK:

-DEMOLISH EXISTING BRIDGE DECK JOINT AT BENT 51
-RECONSTRUCT BRIDGE DECK JOINT AND INSTALL NEW SYNTHETIC RUBBER EXPANSION JOINT SEAL AT BENT 51
-GROOVE CONCRETE BRIDGE DECK

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William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

PROJECT NO. BP-5500FF
CRAVEN **COUNTY**
BRIDGE NO. 231

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING

BRIDGE 231 ON US17 OVER THE NEUSE RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-20
1			3			TOTAL SHEETS
2			4			23

DRAWN BY : D.RENCKENS DATE : 10/2014
CHECKED BY : W.M.CLARKE DATE : 10/2014

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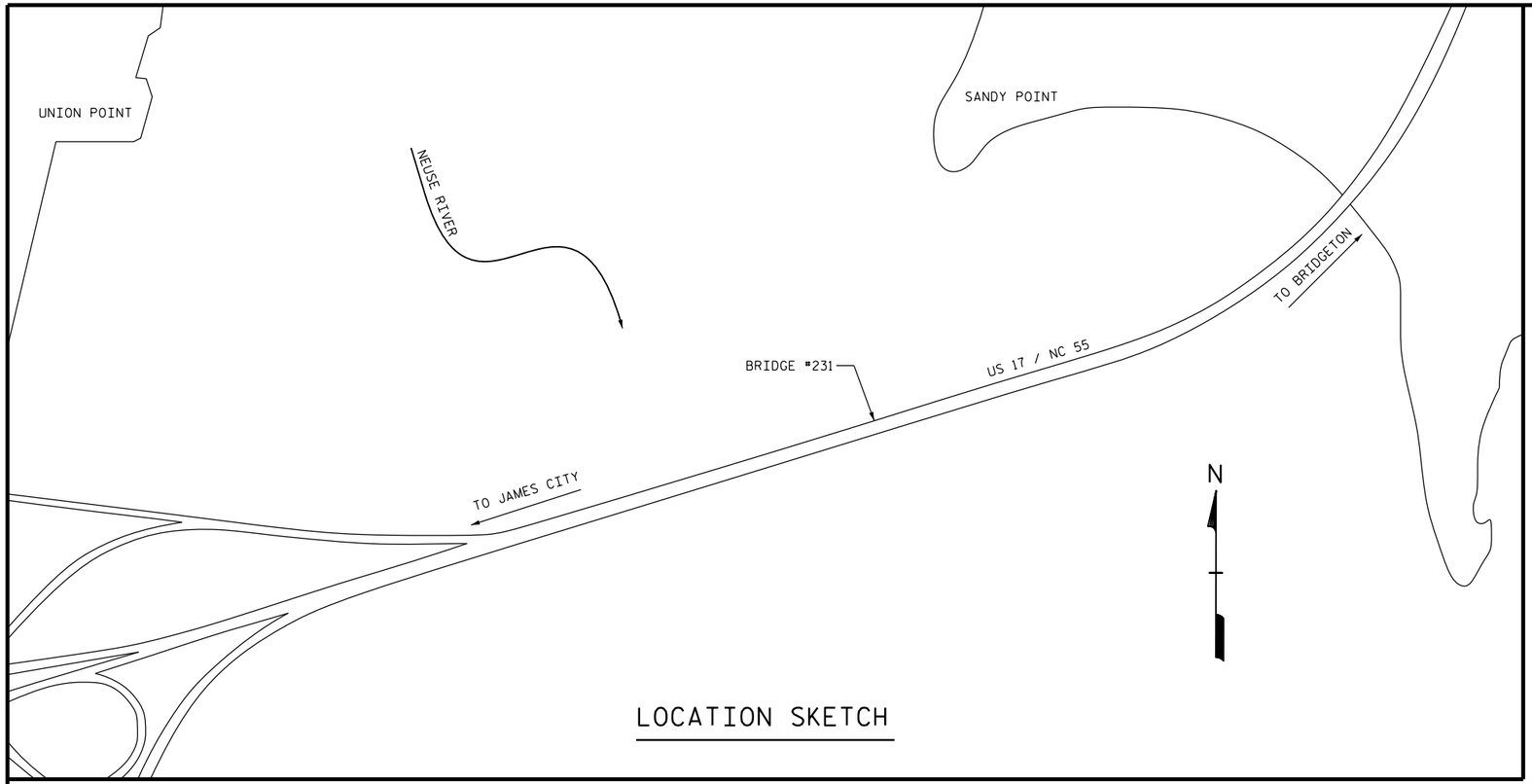

LOCATION SKETCH

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.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

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

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR ADDITIONAL REINFORCING STEEL, SEE SPECIAL PROVISIONS.

FOR SYNTHETIC RUBBER EXPANSION JOINT SEAL, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR PARTIAL REMOVAL OF EXISTING STRUCTURE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR MAINTENANCE OF WATER TRAFFIC, SEE SPECIAL PROVISIONS.

DRAWN BY : D.RENCKENS DATE : 11/2014
CHECKED BY : W.M.CLARKE DATE : 11/2014

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DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

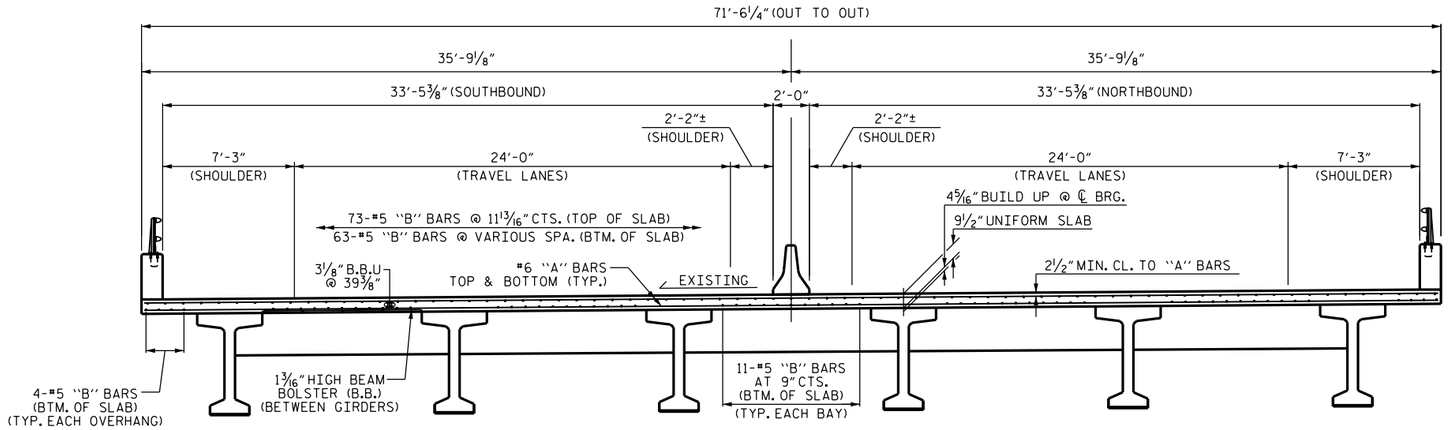
PROJECT NO. BP-5500FF
CRAVEN COUNTY
BRIDGE NO. 231

SHEET 2 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
GENERAL DRAWING

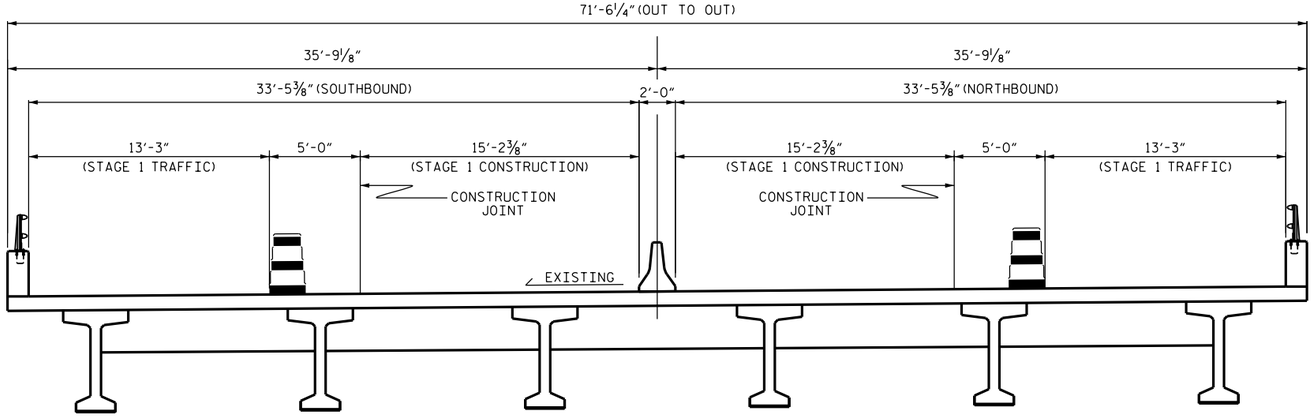
BRIDGE 231 ON US17 OVER THE NEUSE RIVER

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-21
1			3			TOTAL SHEETS
2			4			23



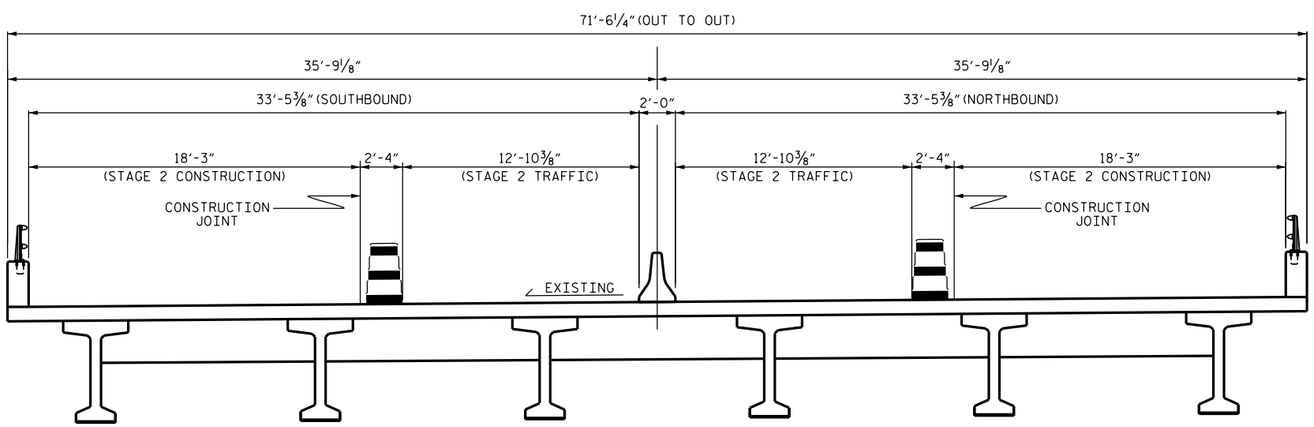
TYPICAL SECTION

(EXISTING) (LOOKING NORTH)



TYPICAL SECTION

(STAGE 1) (LOOKING NORTH)
(REINFORCING STEEL NOT SHOWN FOR CLARITY)



TYPICAL SECTION

(STAGE 2) (LOOKING NORTH)
(REINFORCING STEEL NOT SHOWN FOR CLARITY)

NOTES:
DIMENSIONS SHOWN ARE MEASURED RADIALLY.

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

6/10/2015

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

PROJECT NO. BP-5500FF
CRAVEN COUNTY
BRIDGE NO. 231

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STAGING SEQUENCE

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-22
1			3			TOTAL SHEETS
2			4			23

DRAWN BY : M.A.LEE/D.RENCKENS DATE : 11/2014
CHECKED BY : W.M.CLARKE DATE : 11/2014

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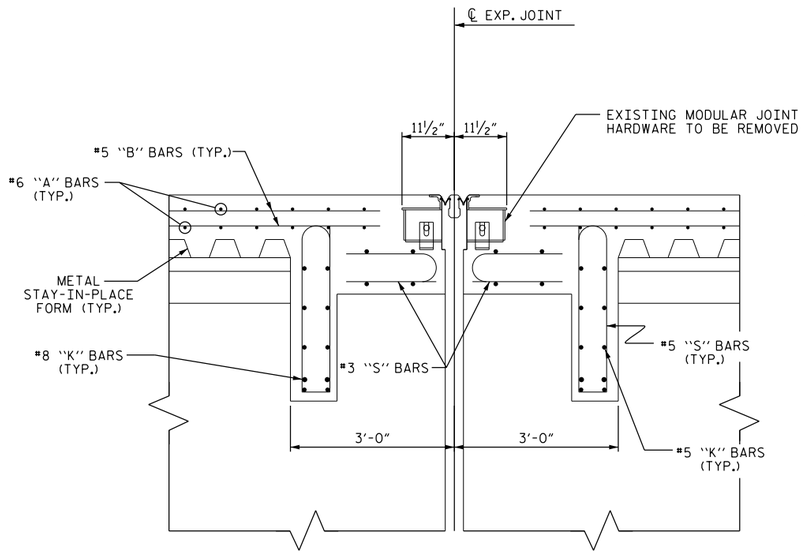
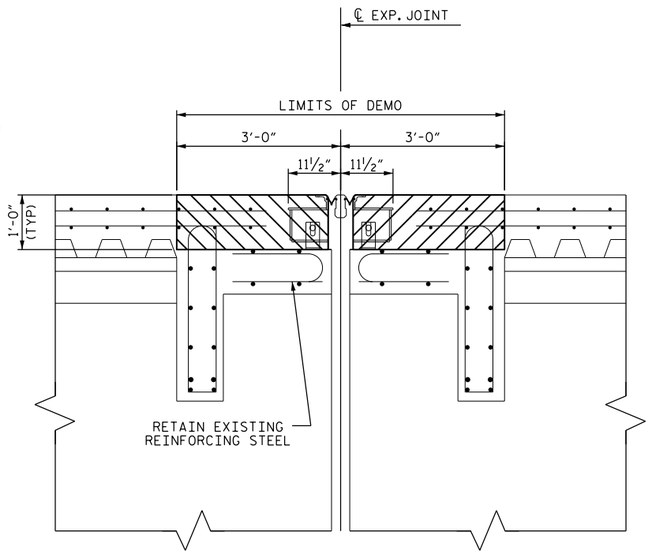
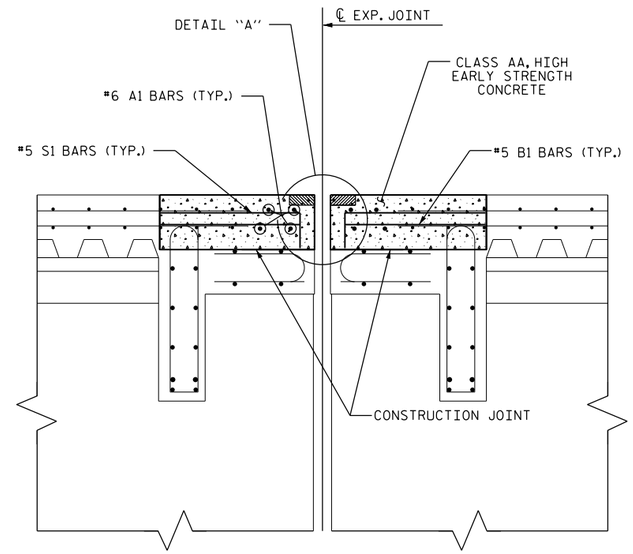


EXPANSION JOINT
(EXISTING JOINT)



EXPANSION JOINT
(EXISTING JOINT DEMOLITION)



EXPANSION JOINT
(PROPOSED EXPANSION JOINT)

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 ENGINEER WILL REVIEW EXISTING DECK CONDITIONS. THE CONTRACTOR SHALL REMOVE UNSOUND CONCRETE IN THE DECK, OR AS DIRECTED BY THE ENGINEER.

DECK CONCRETE SHALL BE REPLACED WITH CLASS AA HIGH EARLY STRENGTH PORTLAND CEMENT CONCRETE ACCORDING TO SECTION 1000-5 OF THE STANDARD SPECIFICATIONS.

REMOVE BRIDGE DECK CONCRETE TO THE EXTENT NECESSARY TO REMOVE EXISTING JOINT. INTRODUCE A PARTIAL DEPTH SAWCUT NOT EXCEEDING 1" IN DEPTH, FOLLOWED BY CONCRETE REMOVAL WITHOUT DAMAGE TO EXISTING REINFORCING STEEL AND EXISTING GIRDERS.

RETAIN BRIDGE DECK REINFORCING STEEL. STRAIGHTEN, REPAIR, OR REPLACE REINFORCING STEEL, AS NECESSARY.

THE CONTRACTOR SHALL CONSTRUCT THE OPENING FOR THE SYNTHETIC RUBBER EXPANSION JOINT SEAL BASED UPON THE MANUFACTURER'S RECOMMENDATIONS. FOR ALL TEMPERATURE RANGES, THE JOINT WIDTH MAY NOT BE LESS THAN 1" OR GREATER THAN 3½". THE CONTRACTOR SHALL INSTALL JOINT SEAL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

REMOVE EXISTING MODULAR EXPANSION JOINT IN ENTIRETY WITH THE EXCEPTION OF THE HORIZONTAL LEG OF "TIE DOWN ANGLE" AND ANCHOR. REMOVE THE VERTICAL LEG OF "TIE DOWN ANGLE" AND ALL OTHER JOINT HARDWARE.

PROPOSED A1, B1 AND S1 BARS SHALL BE SPACED SO AS TO MATCH SPACING OF EXISTING "A" AND "B" BARS.

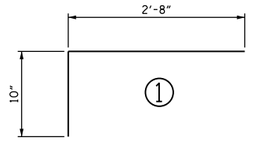
THE REPAIR CONCRETE SHALL ATTAIN A STRENGTH OF 3,000 PSI PRIOR TO THE INTRODUCTION OF TRAFFIC.

DRAWN BY : M.A.LEE DATE : 10/2014
CHECKED BY : W.M.CLARKE DATE : 10/2014

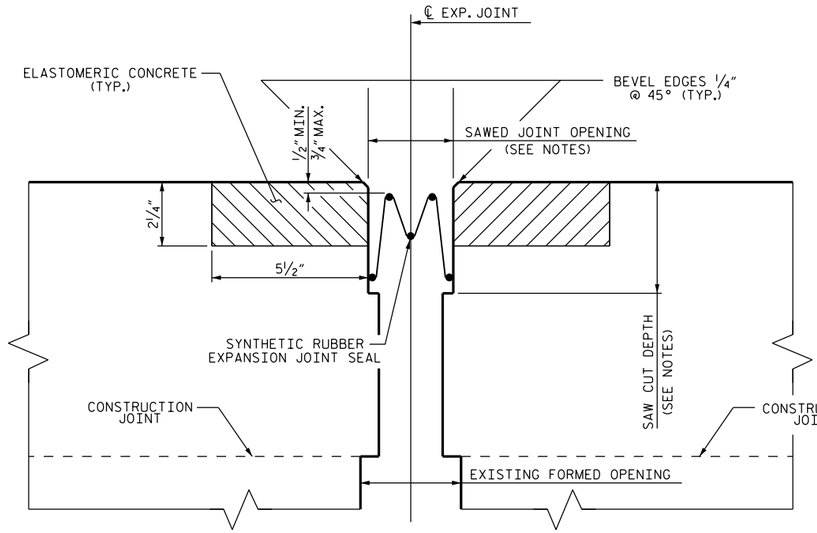
BILL OF MATERIAL

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
✳ A1	32	#6	STR	18'-2"	874
✳ B1	60	#5	STR	2'-8"	167
✳ S1	70	#5	1	3'-6"	256
✳ EPOXY COATED REINFORCING STEEL					= 1,297 LBS
CLASS AA CONCRETE					= 15 C.Y.
BRIDGE JOINT DEMOLITION					= 62 S.F.

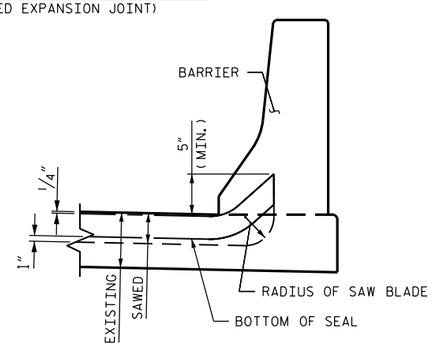
BAR TYPES



NOTE: MIN. SPLICE LENGTH OF 3'-0" IS REQUIRED BETWEEN STAGES FOR A1 BARS.



DETAIL A
(REINFORCING STEEL NOT SHOWN FOR CLARITY)



SECTION E-E

JOINT SEAL DETAILS AT BARRIER

(INTERIOR AND EXTERIOR BARRIERS ARE SIMILAR)

PROJECT NO. BP-5500FF
CRAVEN COUNTY
BRIDGE NO. 231

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 51 JOINT DETAILS

6/10/2015

DocuSigned by:
William M. Clarke
1EB20097EAAF437...

NORTH CAROLINA PROFESSIONAL SEAL 40257 ENGINEER W. MATTHEW CLARKE

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

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

SPECIAL NOTES:

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

ENGLISH

JANUARY, 1990

STD. NO. SN

REV. 6-16-95 EEM ⟨⟩ RGW REV. 5-7-03 RWW ⟨⟩ JTE REV. 10-1-11 MAA ⟨⟩ GM
REV. 8-16-99 RWW ⟨⟩ LES REV. 5-1-06 TLA ⟨⟩ GM

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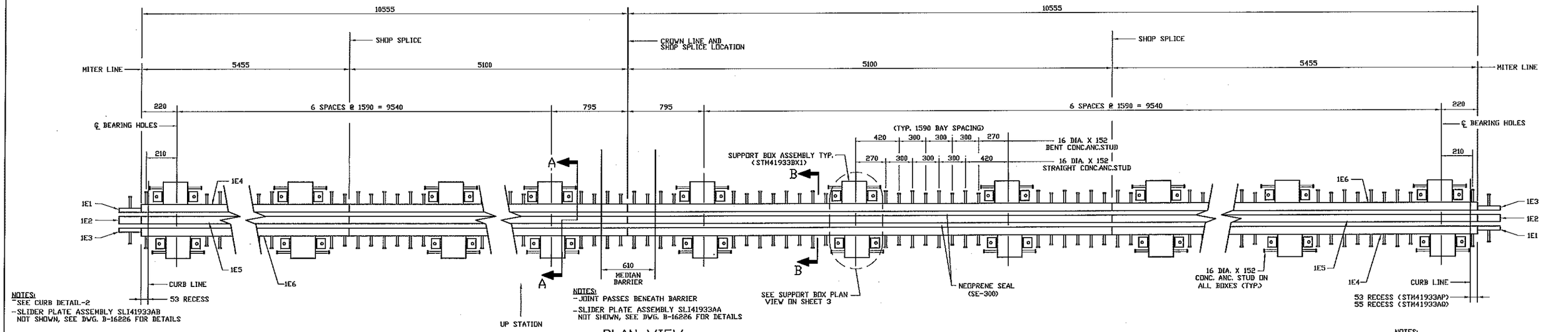


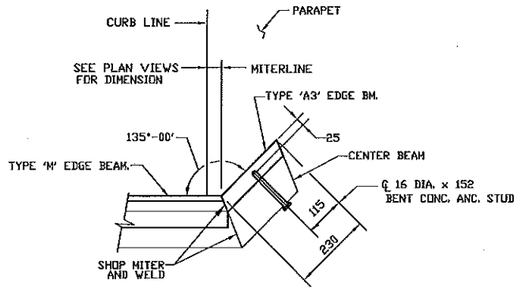
NOTES:
- SEE CURB DETAIL-2
- SLIDER PLATE ASSEMBLY SLI41933AB NOT SHOWN, SEE DWG. B-16226 FOR DETAILS

PLAN VIEW

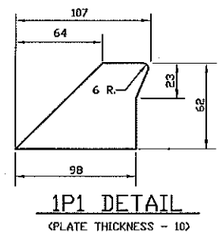
STM41933AP - 3 REQ'D
@ BENTS 35, 39, 43 MAIN BRIDGE TRESTLE
STM41933AQ - 1 REQ'D
@ BENT 47 MAIN BRIDGE TRESTLE

NOTES:
- JOINT PASSES BENEATH BARRIER
- SLIDER PLATE ASSEMBLY SLI41933AA NOT SHOWN, SEE DWG. B-16226 FOR DETAILS

NOTES:
- SEE CURB DETAIL-2
- SLIDER PLATE ASSEMBLY SLI41933AB NOT SHOWN, SEE DWG. B-16226 FOR DETAILS

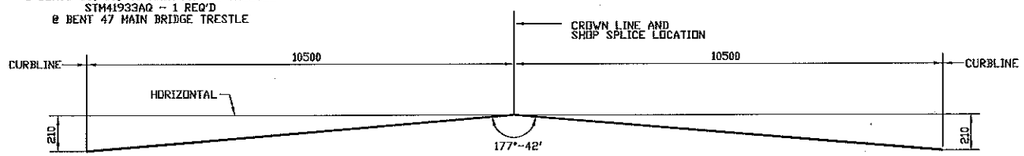


CURB DETAIL-2



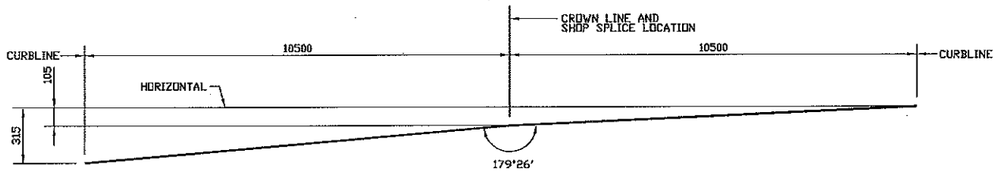
1P1 DETAIL

(PLATE THICKNESS = 10)



JOINT PROFILE

STM41933AP
BENTS 35, 39 & 43

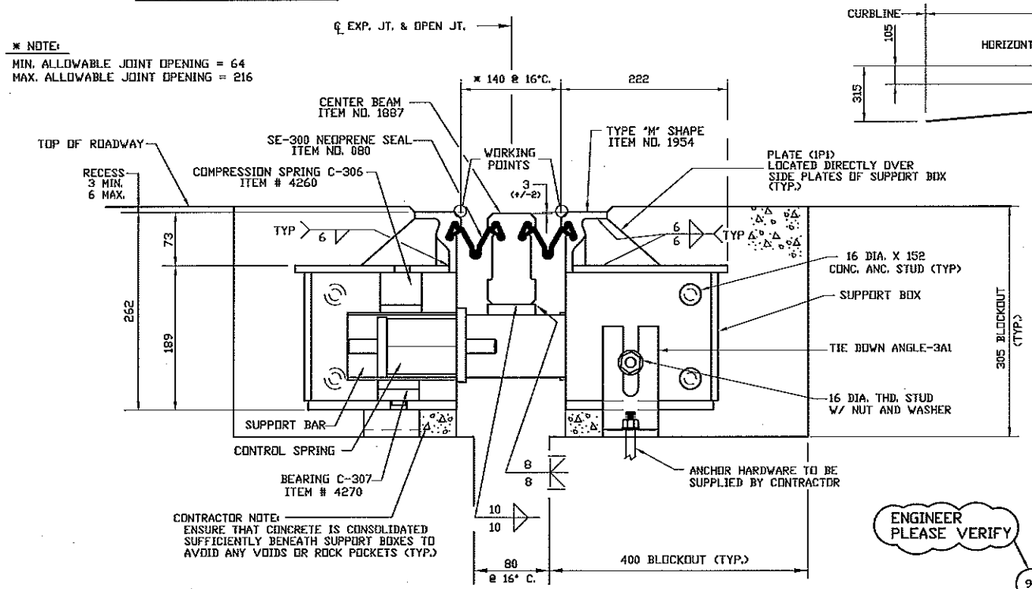


JOINT PROFILE

STM41933AQ
BENT 47

GENERAL NOTES

1. THE CONTRACTOR MUST VERIFY ALL DIMENSIONS PRIOR TO FABRICATION TO ENSURE ACCURACY OF THE EXPANSION JOINT.
2. ALL MATERIALS AND FABRICATION SHALL BE IN ACCORDANCE WITH THE 1995 STATE OF NORTH CAROLINA D.O.T. STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES AS MODIFIED BY THE CONTRACT SPECIAL PROVISIONS, EXCEPT AS NOTED HEREIN.
3. WELDING SHALL COMPLY WITH THE ANSI/AWS/AASHTO BRIDGE WELDING CODE D1.5 AS MODIFIED BY ANY INTERIM SPECIFICATIONS AND THE CONTRACT SPECIAL PROVISIONS.
4. ALL STEEL SURFACES, EXCEPT STAINLESS STEEL, SHALL BE SSPC SP6 BLAST CLEANED PRIOR TO PAINTING. ALL STEEL SURFACES (INCLUDING NEOPRENE SEAL CAVITIES), EXCEPT FOR STAINLESS STEEL SHALL BE SHOP PAINTED WITH A ZINC RICH PAINT COMPLYING TO SECTION 1080-9. THE PAINT SHALL COMPLY TO TT-P-641 AND SHALL HAVE BEEN TESTED AND APPROVED PRIOR TO ITS USE. THE PAINT SHALL BE APPLIED AT A RATE OF 100 MICRONS (4 mils.) D.F.T.
5. THE EXPANSION JOINT OPENING SHALL BE PRESET BY THE MANUFACTURER TO THE DIMENSION SHOWN AT 16°C. PRIOR TO SHIPPING. FINAL ADJUSTMENTS SHALL BE MADE IN THE FIELD, BY THE CONTRACTOR AS DIRECTED BY THE E.I.C., PRIOR TO CONCRETE PLACEMENT.
6. THE NEOPRENE SEALS SHALL BE SHOP INSTALLED BY THE MANUFACTURER USING INSTALLATION TOOLS AND BONDED IN PLACE WITH PRIMA-LUB ADHESIVE. THE ADHESIVE SHALL BE APPLIED TO ALL NEOPRENE / STEEL CONTACT SURFACES. THE NEOPRENE SEAL SHALL BE SUPPLIED IN ONE CONTINUOUS PIECE, FACTORY SPLICES ARE PERMITTED.
7. IN HOUSE STATE INSPECTION IS REQUIRED.
8. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.



SECTION A-A

NOTE:
CONTRACTOR SHALL COORDINATE REBAR DETAILS AT EXP. JOINT BLOCKOUT TO AVOID INTERFERENCE WITH EXP. JOINT (TYP.)

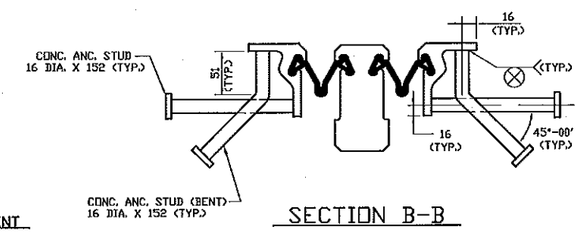
ENGINEER PLEASE VERIFY

9 MILLIMETERS AT BENTS 35, 39 & 43 (STM41933AP)
9 MILLIMETERS AT BENT 47 (STM41933AQ)
9 MILLIMETERS AT BENTS 51, 55 & 59 (STM41933AR)

TEMPERATURE ADJUSTMENT

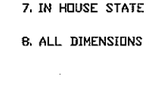
THE CHANGE PER 6°C IS MEASURED PERPENDICULAR TO THE JOINT FOR BOTH NORMAL AND SKEWED JOINTS.

DIMENSIONS SPANNING THE OPEN JOINT WILL DECREASE OR INCREASE FOR EVERY 6°C RISE OR FALL RESPECTIVELY.



SECTION B-B

NOTE:
FOR INFORMATION NOT SHOWN SEE SECTION A-A.



MARK SYSTEM

STATE: NORTH CAROLINA
COUNTY: CRAVEN
F.A.PROJECT NO.: NHF-17(10)
PROJECT NO.: 8.1170804 (B-2531B)
WBA PRODUCT NO.: STM41933AP, AQ & AR
JOINT TYPE: STRIP SEAL MODULAR - STM600

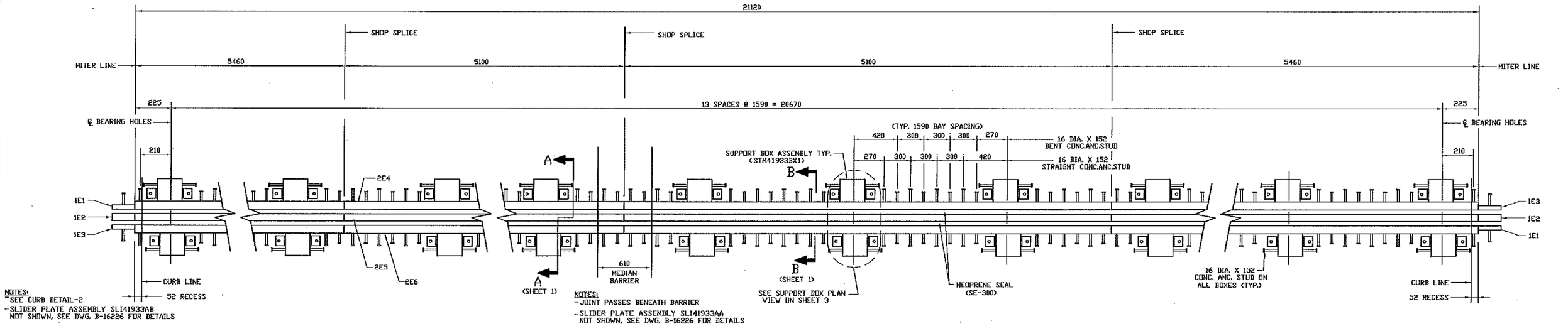
NO.	DESCRIPTION	NAME	DATE
4			
3			
2			
1			

REVISIONS

Watson Bowman Acme
JENNE
85 PINEVIEW DRIVE AMHERST, N.Y. 14228, TEL (716) 691-7566 FAX (716) 691-9239
A DIVISION OF HARRIS SPECIALTY CHEMICALS, INC.

PROJECT: NEUSE RIVER BRIDGE

DETAILED BY: MN	DATE: 8/21/96
CHECKED BY: RH	DATE: 8/30/96
SCALE: N.T.S.	WBA JOB NO.: 41933
SHEET NO.: 1 OF 4	DRAWING NO.: B-16454



NOTES:
- SEE CURB DETAIL-2
- SLIDER PLATE ASSEMBLY SLI41933AB NOT SHOWN, SEE DWG. B-16226 FOR DETAILS

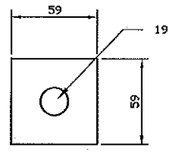
NOTES:
- JOINT PASSES BENEATH BARRIER
- SLIDER PLATE ASSEMBLY SLI41933AA NOT SHOWN, SEE DWG. B-16226 FOR DETAILS

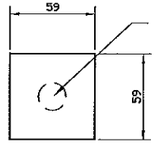
NOTES:
- SEE CURB DETAIL-2
- SLIDER PLATE ASSEMBLY SLI41933AB NOT SHOWN, SEE DWG. B-16226 FOR DETAILS

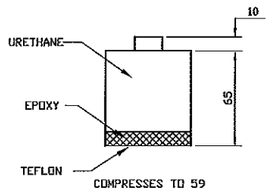
PLAN VIEW

STM41933AR - 3 REQ'D
@ BENTS 51, 55 & 59 MAIN BRIDGE TRESTLE

UP STATION

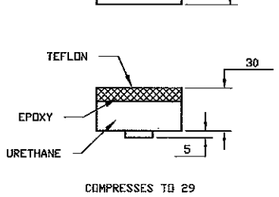






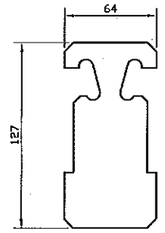
COMPRESSION SPRING

C-306



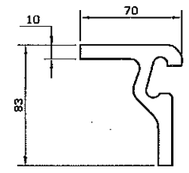
BEARING

C-307



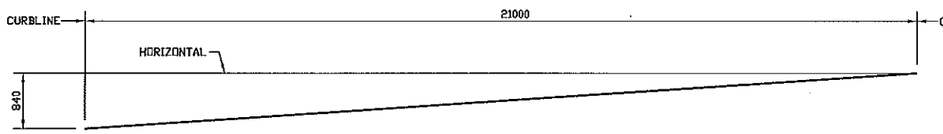
CENTER BEAM

ITEM # 1887



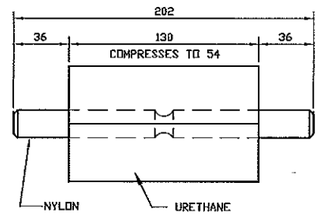
EDGE BEAM TYPE 'M'

ITEM # 1954

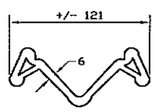


JOINT PROFILE

STM41933AR
BENTS 51, 55 & 59



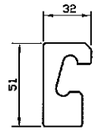
CONTROL SPRING



MOVEMENT RATING = 76

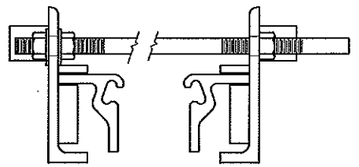
SE-300 GLAND

ITEM # 080

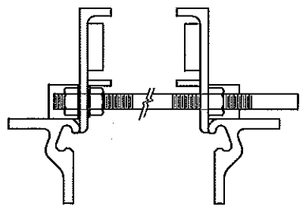


EDGE BEAM TYPE 'A3'

ITEM # 1917



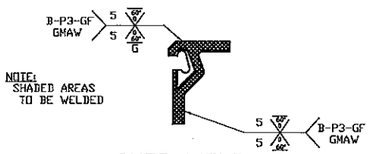
POSITION FOR COMPRESSION



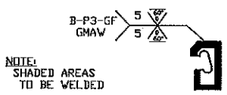
POSITION FOR EXPANSION

PRESTRESS DEVICE

(PART # 4324)
(SUPPLIED ON DRAWING B-16219)

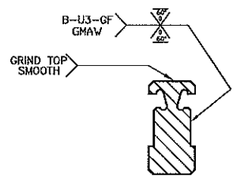


SHOP WELD

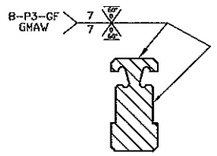


SHOP WELD

CURB SPLICES



SHOP WELD



SHOP WELD

CURB SPLICES

STATE: NORTH CAROLINA
COUNTY: CRAVEN
F.A.PROJECT NO.: NHF-17(10)
PROJECT NO.: 8.1170804 (B-2531B)
WBA PRODUCT NO.: STM41933AP, AQ & AR
JOINT TYPE: STRIP SEAL MODULAR - STM600

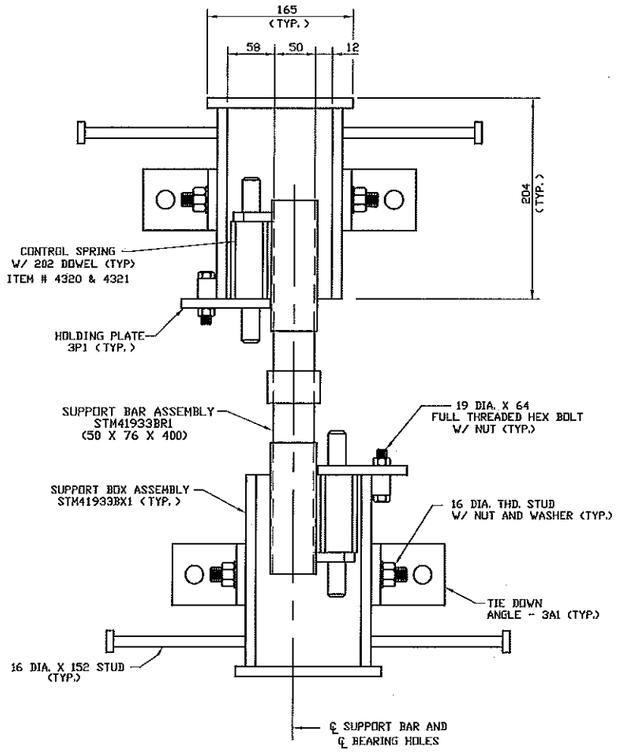
NO.	DESCRIPTION	NAME	DATE
4			
3			
2			
1			

REVISIONS

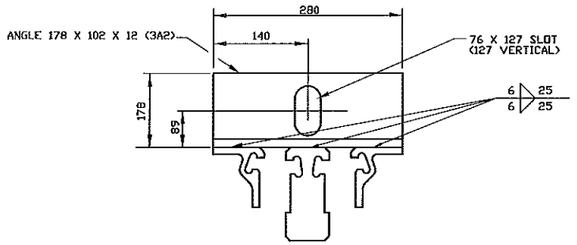
Watson Bowman Acme
95 PINEVIEW DRIVE AMHERST, N.Y. 14228. TEL. (716) 691-7566 FAX (716) 691-9239
JENNE
A DIVISION OF HARRIS SPECIALTY CHEMICALS, INC.

PROJECT: NEUSE RIVER BRIDGE

DETAILED BY:	MN
DATE:	8/21/96
CHECKED BY:	RH
DATE:	8/30/96
SCALE:	N.T.S.
WBA JOB NO.:	41933
SHEET NO.:	2 OF 4
DRAWING NO.:	B-16454



SUPPORT BOX PLAN VIEW

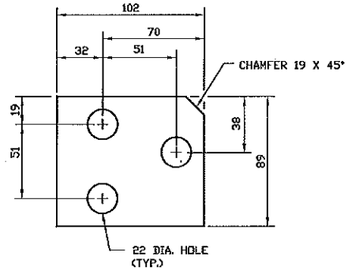


LIFTING DEVICE ASSEMBLY

(THIS IS A TEMPORARY DEVICE)

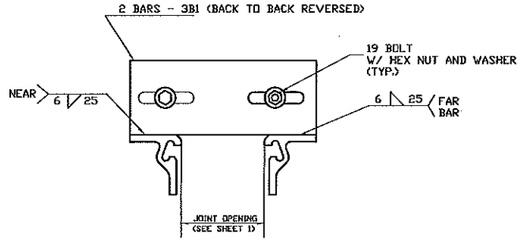
NOTE:

1. LIFTING ANGLES SHALL BE PLACED BY THE FABRICATOR TO ACHIEVE A LEVEL LIFT FOR PLACEMENT (2 PER JOINT).
2. THE CONTRACTOR SHALL REMOVE AFTER THE JOINT IS SET IN BLOCKOUT, PRIOR TO PRESETTING OF JOINT.
3. THE CONTRACTOR SHALL REMOVE BY GRINDING WELDS SMOOTH.
4. CONTRACTOR SHALL TOUCH UP ANY DAMAGED PAINTED AREAS.



HOLDING PLATE - 3P1

(PLATE THICKNESS - 12)

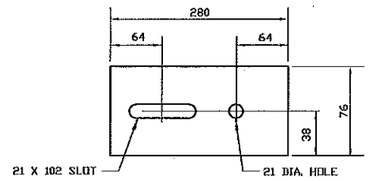


SHIPPING CLAMP ASSEMBLY

(THIS IS A TEMPORARY DEVICE)

NOTE:

1. SHIPPING CLAMPS SHALL BE SPACED DIRECTLY BETWEEN SUPPORT BOXES, PARALLEL TO THE CENTERLINE OF THE SUPPORT BAR, AND BETWEEN ENDS OF JT. AND FIRST & LAST BOXES.
2. EACH SHIPPING CLAMP ASSEMBLY SHALL INCLUDE:
   - (2) BAR - 3B1
   - (2) 19 DIA. X 64 BOLT
   - (2) 19 HEX NUT
   - (2) 19 STD. WASHERS
3. CONTRACTOR TO REMOVE SHIPPING CLAMPS WHEN JOINT IS SET, GRIND WELDS SMOOTH, AND TOUCH ANY PAINTED AREAS.



DETAIL - 3B1

MATERIAL SPECIFICATIONS

STEEL EDGE & CENTER BEAMS - All beams are made of ASTM A-588 grade steel and have grooves which grip the neoprene locking seal.

NEOPRENE LOCKING SEAL - The neoprene locking seal is bonded to the steel beams with Prima-Lub Adhesive. The neoprene seal is designed to absorb all joint movements. The strip-seal shall be extruded polychloroprene meeting the requirements os ASTM D2628 with the exception of the recovery and compression deflection test requirements.

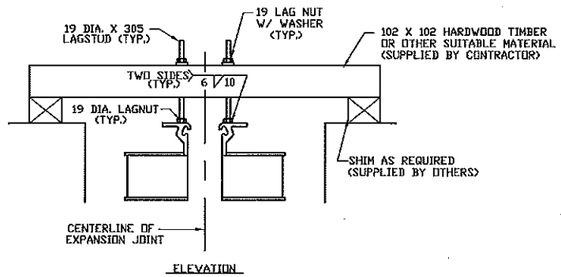
COMPRESSION SPRING C-306 - This compression spring is composed of urethane, epoxy and 1.2mm thick teflon sheet. The compression spring sits on top of the support bar.

BEARING C-307 - The bearing is composed of urethane, epoxy and 1.2mm thick teflon sheet on which the support bar slides on.

CONTROL SPRING - The control spring which is located between the support bars act to equalize the expansion of each seal. The control spring is made of urethane.

STAINLESS STEEL SHEETING - Stainless steel is used on the sliding surfaces of the support bar that contact the teflon surface of the bearing and compression spring. The stainless steel shall be ASTM A167, Type 304, No. 2B finish.

PRIMA-LUB ADHESIVE - Prima-lub Adhesive is used to bond the neoprene locking seal to the steel shapes. This adhesive shall be a one-part moisture curing polyurethane and hydrocarbon solvent mixture.

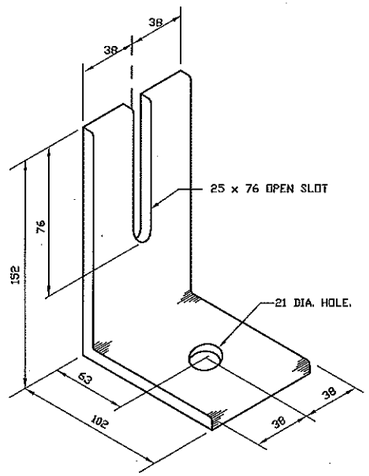


ELEVATION

LEVELING ASSEMBLY

NOTE:

1. LEVELING NUTS SHALL BE LOCATED AT EVERY OTHER SUPPORT BOX.
2. LEVELING NUTS SHALL BE SHOP INSTALLED PARALLEL TO THE EXPANSION JOINT SUPPORT BARS.
3. CONTRACTOR SHALL REMOVE LEVELING NUTS WHEN JOINT IS SET AND GRIND WELDS SMOOTH.
4. CONTRACTOR SHALL MATCH DRILL THE TIMBER WITH THE 19 DIA. LAG NUTS PRIOR TO SETTING THE EXPANSION DAM IN ITS FINAL POSITION.
5. CONTRACTOR SHALL TOUCH UP ANY DAMAGED PAINTED AREAS.
6. FOR REINFORCING DETAILS AND OTHER METHODS OF SUPPORT, SEE REVISED CONTRACT PLANS.



TIE DOWN ANGLE - 3A1

(ANGLE - 152 X 102 X 12 X 76 LONG)

INSTALLATION PROCEDURE

STEP 1. Compare the dimensions of SECTION A-A on sheet #1 with the field dimensions. Correct as necessary.

STEP 2. Lift and then place the expansion joint into blockout. While joint is suspended install leveling devices and adjust to proper grade and elevation. Remove lifting devices, and loosen shipping clamp nuts.

STEP 3. Preset the expansion joint opening using the structure temperature and as determined by the Engineer in charge. Retighten nuts at shipping clamps.

STEP 4. Check joint for alignment with curbs (as required).

STEP 5. Temperature and joint opening should be checked for any discrepancies from initial adjustment.

STEP 6. Complete all connections to the superstructure.

STEP 7. Prior to placement of concrete, all prestress devices shall be removed. Devices on top of the joint may remain if their location will not interfere with concrete placement or expansion joint performance.

STEP 8. Contractor shall at this time have all required formwork in place.

STEP 9. All concrete placement shall be in accordance with the specifications.

STEP 10. Upon completing concrete placement operations, loosen nuts at shipping clamps. The Engineer shall determine when removal of the leveling devices will be permitted.

STEP 11. Contractor shall remove all temporary devices from top of joint and touch-up all damaged painted surfaces.

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SHEET NO.: 3 OF 4	DRAWING NO.: B-16454

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