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HALIFAX & NORTHAMPTON COUNTIES

- BRIDGE #124 ON I-95 NBL OVER US 158 BRIDGE #129 ON I-95 SBL OVER US 158 BRIDGE #131 ON I-95 NBL OVER CSX RAILROAD AND SR 1742 (BECKER DRIVE). BRIDGE #132 ON I-95 SBL OVER CSX RAILROAD AND SR 1742 (BECKER DRIVE). BRIDGE #139 ON I-95 NBL OVER ROANOKE RIVER BRIDGE #141 ON I-95 SBL OVER ROANOKE RIVER
- BRIDGE #009 ON I-95 NBL OVER ROANOKE RIVER BRIDGE #011 ON I-95 SBL OVER ROANOKE RIVER
- TYPE OF WORK: BRIDGE PRESERVATION WITH EPOXY OVERLAY SYSTEM, JOINT DEMOLITION, CONCRETE BRIDGE DECK CRACK SEALING, SILANE BARRIER RAIL TREATEMENT, MODULAR JOINT REPLACEMENT, SUPERSTRUCTURE REPAIRS, AND SUBSTRUCTURE REPAIRS.



VICINITY MAP : HALIFAX COUNTY - NORTHAMPTON COUNTY

Prepared in DEPARTMENT OF	ENGTH	PROJECT HALIFAX COUNTY
DIVISION C STRUCTURES MANAGEMENT UNIT 1000 BIRCH RIDGE GREG L	0.035 MILES 0.035 MILES 0.041 MILES 0.041 MILES 0.042 MILES 0.042 MILES	BRIDGE #124 = BRIDGE #129 = BRIDGE #131 = BRIDGE #132 = BRIDGE #139 = BRIDGE #141 =
PROJEC	V TY	NORTHAMPTON CO
2012 STANDAR	0.215 MILES	BRIDGE #009
LETTI	0.215 MILES	BRIDGE #011
<i>LETTI</i>	0.215 MILES	BRIDGE #009
JULY	0.215 MILES	BRIDGE #011

STATE	STA1	SHEET NO.	TOTAL SHEETS	
N.C.		1	42	
STAT	STATE PROJ. NO. F. A. PROJ. NO.			PTION
530	45.1.1	NHPIM-0095(036)	P.	E.
530	45.3.1	NHPIM-0095(036)	CO	NST.





HALIFAX & NORTHAMPTON COUNTIES

LOCATION: HALIFAX COUNTY: BRIDGE #124 ON I-95 NBL OVER US 158 BRIDGE #129 ON I-95 SBL OVER US 158 BRIDGE #131 ON I-95 NBL OVER CSX RAILROAD AND SR 1742 (BECKER DRIVE). BRIDGE #132 ON I-95 SBL OVER CSX RAILROAD AND SR 1742 (BECKER DRIVE). BRIDGE #139 ON I-95 NBL OVER ROANOKE RIVER BRIDGE #141 ON I-95 SBL OVER ROANOKE RIVER NORTHAMPTON COUNTY: BRIDGE #009 ON I-95 NBL OVER ROANOKE RIVER BRIDGE #011 ON I-95 SBL OVER ROANOKE RIVER

> TYPE OF WORK: BRIDGE PRESERVATION WITH EPOXY OVERLAY SYSTEM, JOINT DEMOLITION, CONCRETE BRIDGE DECK CRACK SEALING, SILANE BARRIER RAIL TREATMENT, MODULAR JOINT REPLACEMENT, SUPERSTRUCTURE REPAIRS, AND SUBSTRUCTURE REPAIRS.

INDEX OF SHEETS

DESCRIPTION TITLE SHEET INDEX OF SHEETS LOCATION SKETCHES TOTAL BILL OF MATERIALS STRUCTURAL PLANS – BRIDGES #124 & #129 JOINT DETAILS – BRIDGES #124 & #129 STRUCTURAL PLANS – BRIDGES #131 & #132 JOINT DETAILS – BRIDGES #131 & #132 CAP & COLUMN REPAIRS – BRIDGES #131 & #132 STRUCTURAL PLANS – BRIDGES #139 & #141 STRUCTURAL PLANS – BRIDGES #009 & #011 **MODULAR END BENT JOINT DETAILS – BRIDGES #009, #011, #139 & #141** MODULAR BENT JOINT DETAILS - BRIDGES #009 & #011 STANDARD NOTES

STATE	STAT	e project reperence no.	SHEET NO.	TOTAL SHEETS	
N.C.		1A	42		
STAT	'E PROJ. NO.	F. A. PROJ. NO.	DESCRI	PTION	
530	45.1.1	NHPIM-0095(036)	P.E.		
530	45.3.1	NHPIM-0095(036)	CONST.		



	— TOTAL BILL OF MATERIAL —																								
COUNTY	BRIDGE NO.	CONCRETE REPAIRS	EPOXY COATED REINFORCING STEEL	POLLUTION CONTROL	#57 STONE	GEOTEXTILE FOR DRAINAGE	SHOTCRETE REPAIRS	CONCRETE FOR DECK REPAIR	CONCRETE DECK REPAIR FOR EPOXY OVERLAY & CRACK SEALING	CLEANING AND PAINTING BEARINGS WITH HRCSA BRIDGE NO	SHOT- BLASTING BRIDGE DECK	CONCRETE BRIDGE DECK CRACK SEALING	BRIDGE JOINT DEMOLITION	EPOXY RESIN INJECTION	EPOXY OVERLAY SYSTEM	ELASTOMERIC CONCRETE	EPOXY COATING	MODULAR JOINT REPAIR	MOLDED RUBBER SEGMENTAL EXPANSION JOINT	PARTIAL REMOVAL OF EXISTING STRUCTURE	PAINT CONTAINMENT FOR BRIDGE NO	SILICONE JOINT SEALANT	VOLUMETRIC MIXER	SURFACE PREPARATION FOR CONCRETE BARRIER	SILANE BARRIER RAIL TREATMENT
		CU.FT.	LBS.	LUMP SUM	TON	SQ.YD.	CU.FT.	CU.FT.	SQ.FT.	EACH	SQ.YD.	SQ.YD.	SQ.FT.	LN.FT.	SQ.FT.	CU.FT.	SQ.FT.	SQ.YD.	LUMP SUM	SQ.YD.	LUMP SUM	LN.FT.	LUMP SUM	SQ.FT.	SQ.FT.
	124	-	-	-	-	-	-	-	* 10 . 0	-	813.2	813.2	81.5	-	-	20.4	-	-	-	-	-	220.0	-	987	987
	129	84.0	-	-	4.34	18.7	-	-	* 10 . 0	-	813.2	813.2	81.5	-	-	20.4	-	-	-	18.67	-	220.0	-	987	987
HALIFAX	131	-	-	LUMP SUM	-	-	12.5	-	* 10 . 0	48	-	-	295.0	13.0	11,941	73.8	922.7	-	-	-	LUMP SUM	295.0	-	-	-
	132	-	-	LUMP SUM	-	-	11.2	-	* 10 . 0	48	-	-	295.0	-	11,941	73.8	922.7	-	-	-	LUMP SUM	295.0	-	-	-
	139	-	1,932	-	-	-	-	264.0	* 10 . 0	-	3,053.0	3,053.0	232.0	-	-	-		25.8	LUMP SUM	-	-	-	LUMP SUM	2084	2084
	141	-	1,932	-	-	-	-	264.0	* 10 . 0	-	3,053.0	3,053.0	232.0	-	-	-	-	25.8	LUMP SUM	-	-	-	LUMP SUM	2084	2084
NORTHAMPTON	009	-	2,963	-	-	-	-	455.0	37.0	-	6,015.0	6,015.0	348.0	-	-	-	-	38.7	LUMP SUM	-	-	-	LUMP SUM	6053	6053
	N 011	-	2,963	-	-	-	-	455.0	* 10.0	-	6,015.0	6,015.0	348.0	-	_	-	-	38.7	LUMP SUM	-	-		LUMP SUM	6053	6053
TOTAL		84.0	9,790	LUMP SUM	4.34	18.7	23.7	1,438.0	107.0	96	19,762.4	19,762.4	1,913.0	13.0	23,882	188.4	1845.4	129.0	LUMP SUM	18.67	LUMP SUM	1,030.0	LUMP SUM	18,248	18,248

* CONCRETE DECK REPAIR FOR EPOXY OVERLAY AND CRACK SEALING IS NOT ANTICIPATED. TOKEN PAY ITEMS ARE INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.

GENERAL NOTES:

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

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.

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

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

FOR BRIDGE JOINT DEMOLITION, 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 GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLAN.

FOR EPOXY OVERLAY SYSTEM, SEE SPECIAL PROVISIONS.

FOR CONCRETE DECK REPAIR FOR EPOXY OVERLAY AND CRACK SEALING, SEE SPECIAL PROVISIONS. FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR PAINT CONTAINMENT, SEE SPECIAL PROVISIONS.

FOR CLEANING AND PAINTING EXISTING BEARINGS WITH HRCSA, SEE SPECIAL PROVISIONS.

FOR POLLUTION CONTROL, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

DRAWN BY :	S. T. SANDOR	DATE : 04/2017
CHECKED BY :	W.C.SMITH	DATE : <u>05/2017</u>
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EXISTING MODULAR JOINT AND DECK REINFORCING STEEL SHOWN IS BASED ON BEST INFORMATION AVAILABLE. ALL PROPOSED EXPANSION JOINT DIMENSIONS, OPENINGS AND BLOCKOUTS ARE SHOWN AT 60°F. CONTRACTOR SHALL FOLLOW MANUFACTURER'S INSTALLATION GUIDELINES AND MAKE ANY NECESSARY ADJUSTMENTS. ADHESIVE ANCHOR BOLTS AND HARDWARE FOR THE PROPOSED EXPANSION JOINT SHALL BE GALVANIZED PER ASTM A153 AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

WORK ON BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE TO ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.

PRIOR TO BEGINNING WORK, CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A COMPLETE SEQUENCE OF TASKS FOR EACH OPERATION AFFECTING THE BRIDGE SURFACE AND/OR TRAFFIC.

FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS.

CONTRACTOR SHALL DETERMINE EXTENT OF WORKING AREA, STAGING PROCESS, AND INSTALL COVER P ASSEMBLY AS NECESSARY TO MEET THE REQUIREMENTS OF TRAFFIC MANAGEMENT PLANS. CONCRETE FOR DECK REPAIR SHALL BE A MATERIAL SUITABLE FOR CONCRETE BRIDGE DECK REPAIRS UNDER FAST SETTING CONDITIONS.

CONCRETE FOR DECK REPAIR SHALL REACH A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI IN 3 HOURS OR LESS. CONTRACTOR SHALL SUBMIT PROPOSED MATERIAL DOCUMENTATION TO THE ENGINEER FOR APPROVAL, SEE SPECIAL PROVISIONS.

ANY DAMAGE TO EXISTING REINFORCING STEEL, DURING CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED DIRECTED BY THE ENGINEER AND PERFORMED AT NO ADDITIONAL COST.

CONTRACTOR SHALL HAVE A REPRESENTIVE FROM THE JOINT MANUFACTURER PRESENT DURING INSTALL OF PROPOSED RUBBER PLATE TYPE EXPANSION JOINT. FOR #57 STONE, SEE SPECIAL PROVISIONS.

FOR EPOXY COATED REINFORCING STEEL, SEE 2012 NORTH CAROLINA STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, SECTION 425.

FOR MODULAR JOINT REPAIR. SEE SPECIAL PROVISIONS.

FOR VOLUMETRIC MIXER, SEE SPECIAL PROVISIONS.

FOR PARTIAL REMOVAL OF EXISTING STRUCTURE, SEE SPECIAL PROVISIONS.

FOR CONCRETE BRIDGE DECK CRACK SEALING, SEE SPECIAL PROVISIONS.

FOR SILANE BARRIER RAIL TREATMENT, SEE SPECIAL PROVISIONS.

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SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCE, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT. SHOWING BRIDGE #124 NORTHBOUND, BRIDGE #129 SOUTHBOUND SIMILAR.





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* CONCRETE DECK REPAIR FOR DECK CRACK SEALING IS NOT ANTICIPATED. TOKEN PAY ITEM IS INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.

SUMMARY OF	QUANTITI	ES
	ESTIMATE	ACTUAL
CONCRETE DECK REPAIR FOR CRACK SEALING	* 10 SQ.FT.	
SHOTBLASTING BRIDGE DECK	813.2 SQ.YD.	
CONCRETE BRIDGE DECK CRACK SEALING	813.2 SO.YD.	
BRIDGE JOINT DEMOLITION	81.5 SQ.FT.	
SURFACE PREPARATION FOR CONCRETE BARRIER	987 SQ.FT.	
SILANE BARRIER RAIL TREATMENT	987 SQ.FT.	





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NOTE * CONCRETE DECK REPAIR FOR DE IS NOT ANTICIPATED. TOKEN F INDICATED FOR PRICING PURP UNANTICIPATED REPAIR AREAS

	SUMMARY OF	QUANTITI	ES
ECK CRACK SEALING		ESTIMATE	ACTUAL
PAY ITEM IS POSE IN CASE S ARE ENCOUNTERED.	CONCRETE DECK REPAIR FOR CRACK SEALING	* 10 SQ.FT.	
	SHOTBLASTING BRIDGE DECK	813.2 SQ.YD.	
	CONCRETE BRIDGE DECK CRACK SEALING	813.2 SQ.YD.	
	BRIDGE JOINT DEMOLITION	81.5 SQ.FT.	
	SURFACE PREPARATION FOR CONCRETE BARRIER	987 SQ.FT.	
	SILANE BARRIER RAIL TREATMENT	987 SQ.FT.	



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DETAILS OF EXCAVATION

	WTDE	
	WINC	FADRIC
X 6	- W1.4	X W1.4

BRIDGE #124	SILICONE JOINT SEALANT
	LN.FT.
BOTTOM OF BENT 1 COLUMNS	28.3
BOTTOM OF BENT 2 COLUMNS	28.3

BRIDGE #129	#57 STONE	GEOTEXTILE FOR DRAINAGE TYPE 2	CLASS A CONCRETE REPAIRS	SILICONE JOINT SEALANT
	TON	SQUARE YARDS	CUBIC YARDS	LN.FT.
END BENT 1	1.86	8.0	1.33	
END BENT 2	2.48	10.67	1.78	
BOTTOM OF BENT 1 COLUMNS				28.3
BOTTOM OF BENT 2 COLUMNS				28.3

EXCAVATION FOR REPAIRS OF SLOPE PROTECTION SHALL BE DONE AFTER THE THOROUGH REMOVAL OF ALL LOOSE CONCRETE OF EXISTING SLOPE PROTECTION.

DEPTH OF EXCAVATION IS FOR REFERENCE ONLY.EXCAVATE UNTIL STABLE SOIL IS ENCOUNTERED, AS APPROVED BY THE ENGINEER.

GEOTEXTILE FILTER FABRIC SHALL BE PLACED OVER THE EXCAVATED AREA AND A LAYER OF #57 (OR SIMILAR) STONE SHALL BE PLACED ON TOP OF FABRIC TO A DEPTH OF APPROXIMATELY SIX INCHES.

WHERE EXISTING SLOPE PROTECTION HAS BEEN REMOVED CLASS A CONCRETE SHALL BE PLACED IN THE AREA TO A LEVEL THAT MATCHES THE TOP OF THE REMAINING CONCRETE SLOPE PROTECTION.

GEOTEXTILE FILTER FABRIC SHALL BE TYPE 2 IN ACCORDANCE WITH JANUARY 2012 NORTH CAROLINA STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, SECTION 1056, TABLE 1056-1 (GEOTEXTILE REQUIREMENTS).

CLASS A CONCRETE SHALL BE IN ACCORDANCE WITH JANUARY 2012 NORTH CAROLINA STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, SECTION 1000, TABLE 1000-1 (REQUIREMENTS FOR CONCRETE).

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NOTES: CONTRACTOR SHALL FIELD VERIFY THE EXISTING FORMED OPENING PRIOR TO OBTAINING JOINT MATERIAL. FOR SILICONE JOINT SEALANT. SEE SPECIAL PROVISIONS. FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS. UNLESS NOTED OTHERWISE RETAIN ALL EXISTING REINFORCING STEEL.CLEAN AND REPAIR AS NEEDED. ALL EXPOSED ENDS OF CUT BARS SHALL BE COATED WITH EPOXY PRIOR TO THE NEW JOINT MATERIAL INSTALLATION. JOINT DEMOLITION EXCAVATION OF CONCRETE AT THE EXISTING JOINT SHALL RESULT IN THE BOTTOM OF THE EXCAVATION BEING REASONABLY FLAT, TO PROVIDE SUFFICIENT SUBSTRATE FOR PLACEMENT AND SUPPORT OF ELASTOMERIC CONCRETE. MAXIMUM DEPTH OF ELASTOMERIC CONCRETE SHALL BE 4". IF DEPTH OF JOINT DEMOLITION EXCAVATION EXCEEDS 1" BELOW THE PLANNED 3" DEPTH OF ELASTOMERIC CONCRETE HEADER, PLACE CONCRETE FOR DECK REPAIR TO BOTTOM OF THE ELASTOMERIC CONCRETE HEADER.

** DIMENSIONS INDICATED ARE GENERIC. ACTUAL DEMOLITION DIMENSIONS SHALL BE SUFFICIENT TO REMOVE THE HOLD- DOWN PLATE AND BASE ANGLES. BASE ANGLE STUDS MAY REMAIN, BUT SHALL BE CUT FLUSH WITH BOTTOM OF EXCAVATION.

	PROJECT NO. <u>I-5839</u> <u>HALIFAX</u> county BRIDGE No.: <u>124 & 129</u>
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NORTH CAROLANT	SUPERSTRUCTURE
SEAL 030024	JOINT DETAILS
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SCOPE OF WORK

- BRIDGE DECK PREPARATION.
- EPOXY OVERLAY.
- JOINT DEMOLITION AND REPLACEMENT.
- CLEAN AND PAINT ORIGINAL BEARINGS.
- SUBSTRUCTURE REPAIR.
- EPOXY COAT TOP OF BENT CAPS.



I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

Resident Engineer

Date

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NOTE: * CONCRETE DECK REPAIR FOR EPO ANTICIPATED, TOKEN PAY ITEMS PRICING PURPOSE IN CASE UNAN AREAS ARE ENCOUNTERED.

214'-8"FILL FACE TO FILL FACE.(TOTAL LENGTH OF BRIDGE)

54'-0"		54'-0"	514	53'-4
SPAN B		SPAN C		SPAN D
Ê BENT 1		Z— € BENT 2		C BENT 3
				B
T-BLASTING AND EPOXY	OVERLAY LIMITS OF	SHOT-BLASTING AND EPOXY	OVERLAY	S OF SHOT-BLASTING AND E
		GUTTERLINE		

PLAN (FOR SECTION A-A & B-B, SEE JOINT DETAIL SHEET S-24)

EPOXY OVERLAY

BRIDGE JOINT DEMOLITION

SUMMARY OF	QUANTI	TIES
	ESTIMATE	ACTUAL
EPOXY OVERLAY SYSTEM	11,941 SQ.FT.	
CONCRETE DECK REPAIR FOR EPOXY OVERLAY	*10 SQ.FT.	
BRIDGE JOINT DEMOLITION	295 SQ.FT.	
	SUMMARY OF EPOXY OVERLAY SYSTEM CONCRETE DECK REPAIR FOR EPOXY OVERLAY BRIDGE JOINT DEMOLITION	SUMMARY OFQUANTIESTIMATEESTIMATEEPOXY OVERLAY SYSTEM11,941 SO.FT.CONCRETE DECK REPAIR FOR EPOXY OVERLAY*10 SO.FT.BRIDGE JOINT DEMOLITION295 SO.FT.

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REPAIR QUANTITY TABLE						
		QUANTITIES				
REFAIRS END DENT I	ESTI	ΜΑΤΕ	ACT	UAL		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
CAP (VERTICAL FACE)	6.4	3.2				
CAP (HORIZONTAL, CORNER)	0.0	0.0				
EPOXY RESIN INJECTI	ON	LN. F	T. LN.	FT.		
САР						
EPOXY COATING	AREA SF		LN.	LN.FT.		
TOP OF CAP	171.3					
REPATRS END RENT 2		QUAN	QUANTITIES			
INCLATING LIND DENT Z	ESTIMATE		ACT	ACTUAL		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
CAP (VERTICAL FACE)	0.0	0.0				
CAP (HORIZONTAL, CORNER)	0.0	0.0				
EPOXY RESIN INJECTION			.FT.			
САР						
EPOXY COATING	AREA SF		LN.	FT.		
TOP OF CAP	171.3					

NOTES:

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

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

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

- SHOTCRETE REPAIR

ERI - EPOXY RESIN INJECTION

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NOTES:

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

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

FOR ``SHOTCRETE REPAIRS'', SEE SPECIAL PROVISIONS.

FOR ``EPOXY RESIN INJECTION'', SEE SPECIAL PROVISIONS.

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	REPAIR QUANTITY TABLE				
	DEDATOS RENT 1		QUANT	ITIES	
	REFAIRS DENT I	ESTI	ΜΑΤΕ	ACT	UAL
	SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
	CAP (VERTICAL FACE)	0.0	0.0		
MN	CAP (HORIZONTAL, CORNER)	0.0	0.0		
	COLUMN	2.0	1.0		
	STRUT	4.0	2.0		
	FOOTER	0.0	0.0		
	EPOXY RESIN INJECTI	ON	LN.FT		LN.FT
	САР		0.0		
	COLUMN		0.0		
	STRUT		0.0		
	FOOTER		0.0		
	EPOXY COATING	AREA SF			
-	TOP OF CAP	193.4			
	VALUES IN CHART REPRESENT EST REMOVAL OF UNSOUND CONCRETE,M MIN.1″CL TO SAWCUT.SEE REPAIR	IMATED REF IIN. OF 1"BE DETAILS.	PAIR TOTAL HIND REBAN	S AFTER R AND	

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

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FOR ``EPOXY RESIN INJECTION'', SEE SPECIAL PROVISIONS.

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- SHOTCRETE REPAIR ERI - EPOXY RESIN INJECTION

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	REPAIR QL	JANTI	ΤΥ ΤΑ	BLE	
	DEDATOS DENT 2		QUANT	ITIES	
	REFAIRS DENI Z	ESTI	ΜΑΤΕ	ACT	UAL
	SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
	CAP (VERTICAL FACE)	0.0	0.0		
MN	CAP (HORIZONTAL, CORNER)	0.0	0.0		
	COLUMN	2.0	1.0		
	STRUT	1.5	0.8		
	FOOTER	0.0	0.0		
	EPOXY RESIN INJECTI	ON	LN.FT		LN.FT
	CAP		4.0		
	COLUMN		0.0		
	STRUT		0.0		
	FOOTER		0.0		
	EPOXY COATING	AREA SF			
-	TOP OF CAP	193.4			
•	VALUES IN CHART REPRESENT EST REMOVAL OF UNSOUND CONCRETE,M MIN.1"CL TO SAWCUT.SEE REPAIR	IMATED REF IIN.OF 1″BE DETAILS.	PAIR TOTAL HIND REBAR	S AFTER R AND	

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

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FOR ``SHOTCRETE REPAIRS'', SEE SPECIAL PROVISIONS.

FOR ``EPOXY RESIN INJECTION'', SEE SPECIAL PROVISIONS.

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SPAN D SPAN C

- SHOTCRETE REPAIR ERI - EPOXY RESIN INJECTION

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	REPAIR QL	JANTI	ΤΥ ΤΑ	BLE	
	DEDATOS BENIT 3		QUANT	ITIES	
	ILLIAINS DENI S	ESTI	ΜΑΤΕ	ACT	UAL
	SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
	CAP (VERTICAL FACE)	0.0	0.0		
MN	CAP (HORIZONTAL, CORNER)	0.0	0.0		
	COLUMN	3.0	1.5		
	STRUT	5.0	2.5		
	FOOTER	0.0	0.0		
	EPOXY RESIN INJECTI	ON	LN.FT		LN.FT
	САР		4.0		
	COLUMN		5.0		
	STRUT		0.0		
	FOOTER		0.0		
	EPOXY COATING	AREA SF			
-	TOP OF CAP	193.4			
I					

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

SCOPE OF WORK

- BRIDGE DECK PREPARATION.
- EPOXY OVERLAY.
- JOINT DEMOLITION AND REPLACEMENT.
- CLEAN AND PAINT ORIGINAL BEARINGS.
- SUBSTRUCTURE REPAIR.
- EPOXY COAT TOP OF BENT CAPS.

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

Date

Resident Engineer

	PROJEC	CT NO. HALIF E NO.	<u>Ι</u> Αχ	<u>-5839</u> co 132) OUNTY
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DRAWN BY : CHECKED BY :	S. T. SANDOR A. G. ABRAHA	DATE : <u>02/2017</u> DATE : <u>04/2017</u>	
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QUANTITIES				
ESTIMATE	ACTUAL			
11,941 SQ.FT.				
*10 SQ.FT.				
295 SQ.FT.				
	QUANTI ESTIMATE 11,941 SO.FT. * 10 SQ.FT. 295 SQ.FT.			

NOTE:

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

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REPAIR QU	JANTI	ΤΥ ΤΑ	BLE			
DEDATOS ENIN DENIT 1		QUANT	ITIES			
REFAIRS END DENT I	ESTI	ΜΑΤΕ	ACT	UAL		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
CAP (VERTICAL FACE)	6.4	3.2				
CAP (HORIZONTAL, CORNER)	0.0	0.0				
EPOXY RESIN INJECTI	ON	LN.FT.	LN.	FT.		
САР						
EPOXY COATING	AREA SF LN.FT.					
TOP OF CAP	171.3					
REPATRS END RENT 2		QUANT	ITIES			
INCLATING LIND DENT Z	ESTIMATE		ACT	UAL		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
CAP (VERTICAL FACE)	0.0	0.0				
CAP (HORIZONTAL, CORNER)	0.0	0.0				
EPOXY RESIN INJECTION			LN.	LN.FT.		
САР	-					
EPOXY COATING	AREA SF		LN.	FT.		
TOP OF CAP	171.3					

NOTES:

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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

- SHOTCRETE REPAIR

ERI - EPOXY RESIN INJECTION

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

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FOR ``EPOXY RESIN INJECTION'', SEE SPECIAL PROVISIONS.

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- SHOTCRETE REPAIR ERI - EPOXY RESIN INJECTION

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	REPAIR QL	JANTI	ΤΥ ΤΑ	BLE	
	DEDATOS DENIT 1		QUANT	ITIES	
	REFAIRS DENI I	ESTI	ΜΑΤΕ	ACT	UAL
	SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
	CAP (VERTICAL FACE)	0.0	0.0		
MN	CAP (HORIZONTAL, CORNER)	0.0	0.0		
	COLUMN	3.0	1.5		
	STRUT	6.0	3.0		
	FOOTER	0.0	0.0		
	EPOXY RESIN INJECTI	LN.FT		LN.FT	
	САР		0.0		
	COLUMN		0.0		
	STRUT		0.0		
	FOOTER		0.0		
	EPOXY COATING	AREA SF			
	TOP OF CAP	193.4			
•			•		

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

ELEVATION SPAN B SIDE

	PROJEC BRIDGE	CT NO. <u>HALIF</u> E NO.	- A	<u>I</u> X 1	<u>-5839</u> co <u>32</u>) UNTY
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REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

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FOR ``SHOTCRETE REPAIRS'', SEE SPECIAL PROVISIONS.

FOR ``EPOXY RESIN INJECTION'', SEE SPECIAL PROVISIONS.

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- SHOTCRETE REPAIR ERI - EPOXY RESIN INJECTION

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	REPAIR QL	JANTI	ΤΥ ΤΑ	BLE	
	DEDATOS DENIT 2		QUANT	ITIES	
	REFAIRS DENI Z	ESTI	ΜΑΤΕ	ACT	UAL
	SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
	CAP (VERTICAL FACE)	0.0	0.0		
MN	CAP (HORIZONTAL, CORNER)	0.0	0.0		
	COLUMN	0.0	0.0		
	STRUT	7.0	3.5		
	FOOTER	0.0	0.0		
	EPOXY RESIN INJECTI	LN.FT		LN.FT	
	САР		0.0		
	COLUMN		0.0		
	STRUT		0.0		
	FOOTER	0.0			
	EPOXY COATING	AREA SF			
-	TOP OF CAP	193.4			
•	VALUES IN CHART REPRESENT EST	TMATED REF	PATR TOTAL	S AFTER	

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

ELEVATION SPAN C SIDE

	PROJEC BRIDGE	CT NO. <u>HALIF</u> E NO.	- A	<u>I</u> X 1	<u>-5839</u> co <u>32</u>) OUNTY
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FOR ``EPOXY RESIN INJECTION'', SEE SPECIAL PROVISIONS.

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SPAN D SPAN C

- SHOTCRETE REPAIR ERI - EPOXY RESIN INJECTION

	REPAIR QUANTITY TABLE						
	DEDATOS DENIT 3	QUANTITIES					
	REFAIRS DENI J	ESTI	ΜΑΤΕ	ACT	UAL		
	SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
	CAP (VERTICAL FACE)	0.0	0.0				
MN	CAP (HORIZONTAL, CORNER)	0.0	0.0				
	COLUMN	0.0	0.0				
	STRUT	0.0	0.0				
	FOOTER	0.0	0.0				
	EPOXY RESIN INJECTI	ON	LN.FT		LN.FT		
	САР	0.0					
	COLUMN		0.0				
	STRUT		0.0				
	FOOTER		0.0				
	EPOXY COATING	AREA SF					
	TOP OF CAP	193.4					
	VALUES IN CHART REPRESENT EST REMOVAL OF UNSOUND CONCRETE, M MIN.1″CL TO SAWCUT.SEE REPAIR	IMATED REI IIN. OF 1″BE DETAILS.	PAIR TOTAL HIND REBAN	S AFTER R AND			

ELEVATION OF COLUMN

COLUMN REPAIR

* DUE TO LACK OF CONFINEMENT STEEL, REPAIR LENGTH SHALL NOT EXCEED 10'-0" AT ONE TIME, UNLESS APPROVED BY THE ENGINEER.

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	- CONCRET	TE BRIDGE	DECK CRA	ACK SEALI	NG
	- SILANE	BARRIER	RAIL TRE	ATMENT	
	- DRAINAU	JE REPAIR		5	
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NOTE

SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCE, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.

SHOWING BRIDGE #139 NORTHBOUND, BRIDGE #141 SOUTHBOUND SIMILAR.

1′-6<mark>1/</mark>2″

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DRAWN BY : M.K.BEARD / S.T.SANDOR DATE : 03/2017 CHECKED BY : W.C.SMITH DATE : 03/2017				
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	DRAWN BY :	M.K.BEARD / S.T.SANDOR W.C.SMITH	DATE : <u>03/2017</u> DATE : 03/2017	

NOTES * CONCRETE DECK REPAIR FOR CRACK SEALING IS NOT ANTICIPATED, TOKEN PAY ITEMS ARE INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.

PLAN OF SPANS - DECK REPAIR

CONCRETE DECK CRACK SEALING

SILANE BARF

SUMMARY OF QUANTITIES					
	ESTIMATE	ACTUAL			
CONCRETE DECK REPAIR FOR CRACK SEALING	* 10 SQ.FT.				
SHOTBLASTING BRIDGE DECK	3,053 SQ.YD.				
CONCRETE BRIDGE DECK CRACK SEALING	3,053 SQ.YD.				
BRIDGE JOINT DEMOLITION	96 SQ.FT.				
SURFACE PREPARATION FOR CONCRETE BARRIER	2,084 SQ.FT.				
SILANE BARRIER RAIL TREATMENT	2,084 SQ.FT.				

BRIDGE JOINT DEMOLITION

PR	OJEC	CT NO.		I	-5839)
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BR	IDGE	E No.:			139	
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	PR BR	PROJEC	PROJECT NO. HALIF BRIDGE NO.: DEPARTMENT DEPARTMENT SUPER DECK CF SILANE TF NO. BY: DATE: 1	PROJECT NO	PROJECT NO. I HALIFAX BRIDGE NO.: DEPARTMENT OF TRAN RALEIGH SUPERSTRU DECK CRACK SE SILANE BARRIE TREATMEN NO. BY: DATE: NO. BY: 1	PROJECT NO. <u>I-5839</u> <u>HALIFAX</u> CO BRIDGE NO.: <u>139</u> STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTA RALEIGH SUPERSTRUCTUR DECK CRACK SEALING SILANE BARRIER RAI TREATMENT <u>REVISIONS</u> NO. BY: DATE: NO. BY: DATE: 1 2 4

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DRAWN BY : M.K.BEARD / S.T.SANDOR DATE : 03/2017 CHECKED BY : W.C.SMITH DATE : 03/2017			
	DRAWN BY :	M.K.BEARD / S.T.SANDOR	DATE : <u>03/2017</u>
	CHECKED BY : _	W.C.SMITH	DATE : <u>03/2017</u>

NOTES * CONCRETE DECK REPAIR FOR CRACK SEALING IS NOT ANTICIPATED, TOKEN PAY ITEMS ARE INDICATED FOR PRICING PURPOSE IN CASE UNANTICIPATED REPAIR AREAS ARE ENCOUNTERED.

PLAN OF SPANS - DECK REPAIR

CONCRETE DECK CRACK SEALING

SILANE BARR

SUMMARY OF QUANTITIES					
	ESTIMATE	ACTUAL			
CONCRETE DECK REPAIR FOR CRACK SEALING	* 10 SQ.FT.				
SHOTBLASTING BRIDGE DECK	3,053 SQ.YD.				
CONCRETE BRIDGE DECK CRACK SEALING	3,053 SQ.YD.				
BRIDGE JOINT DEMOLITION	96 SQ.FT.				
SURFACE PREPARATION FOR CONCRETE BARRIER	2,084 SQ.FT.				
SILANE BARRIER RAIL TREATMENT	2,084 SQ.FT.				

BRIDGE JOINT DEMOLITION

RIER RAIL TREATMENT	PF	ROJEC	CT NO.		I	-5839)
		ł	HALIF	- /	X	CO	UNTY
	BF	RIDG	E No.:			141	
SEAL O30024		DEPA S D S	SUPER ECK CR ILANE TR	S S S B	NORTH CARG TRAN RALEIGH TRU CK SE ARRIE	SPORTA SPORTA CTUR EALING ER RAI	TION E & L
Aster Abralia							
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224'-0" (SPAN B)	►	171'-0" (SPAN C)
	Q BENT 2	€ JOINT @

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PROJECT NO. <u>I-5839</u> NORTHAMPTON COUNTY
BRIDGE. NO. 009 & 011 SHEET 2 OF 2
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH
GENERAL DRAWING
BRIDGES OVER ROANOKE RIVER ON I-95 BETWEEN US 158 AND NC 46
REVISIONS SHEET NO.
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SHOWING BRIDGE #009 NORTHBOUND,BRIDGE #011 SOUTHBOUND SIMILAR.

SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL

	PROJEC NOF BRIDGE	T NO. RTHAN NO	<u>I</u> /PTON 009	<u>-5839</u> <u>V</u> cc & C) DUNTY)11	
OFESSION ESSION	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE					
DocuSigned by: Aster Abraha DDA094AED5104FD	TYPICAL SECTION & DECK CRACK SEAL DETAIL					
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TOTAL LENGTH OF BRIDGE (FILL FACE	TO FILL FACE = 1135'-0"
224'-0"	
	BARRIER RAIL
LIMITS OF DE	CK SEALING
€ BRIDGE <u>TO NC</u>	4 SQ. FT. 4 SQ. FT
1 SQ. FT. BARRIE	R RAIL
PLAN-SPANS A, I BRIDGE (FILL FACE TO FILL FACE = 1135'-0"	<u>B & C</u>
224'-0" (SPAN E)	172'-6" (SPAN F)
LIMITS OF DECK SEALING	
	TO NC 46
© BENT 5	FOR DE ``END B MODUL REPLACEME S-3 S-3

<u>Plan-Spans</u> D, E & F

BRIDGE DECK REPAIR

BRIDGE JOINT DEMOLITION

SILANE BARRIER RAIL TREATMENT

224'-0"	
(SPAN B)	
BARRIER RAIL	
LIMITS OF DECK SEALING	
€ BRIDGE	
€ BENT 2	
	I

	NOTF:		SUMMARY OF	QUANTITIES
	* CONCRETE DECK REPAIR FOR CRACK	SEALING IS NOT ANTICIPATED.		ESTIMATE ACTUAL
	UNANTICIPATED REPAIR AREAS ARE	ENCOUNTERED.	CONCRETE DECK REPAIR FOR CRACK SEALING	* 10 SQ.FT.
			SHOTBLASTING BRIDGE DECK	6,015 SQ. YD.
			CONCRETE BRIDGE DECK	6,015 SQ. YD.
			BRIDGE JOINT DEMOLITION	348 SQ.FT.
			SURFACE PREPARATION	6.053 SQ.FT.
			FOR CONCRETE BARRIER SILANE BARRIER	
			RAIL TREATMENT	6,053 SU.FI.
TOTAL LENGTH OF BRIDGE (FILL FACE T	TO FILL FACE = 1135'-0"			
224'-0"			171'-0"	171'-0"
(SPAN B)		4	(SPAN C)	(SPAN D)
	BARRIER RAIL			
LIMITS OF DEC	CK SEALING		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
(DDIDOF			LIMITS OF DEC	CK SEALING
	¢ Bent 2		FOR DETA	IL, SEE —
BARRIER	R RAIL		JOINT REPLAC SHEETS S-39 T	DUULAR CEMENT''
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, , , , , , , , , , , , , , , , , , , ,		
			€ JO BEI	
<u>FLAN-SFANS A, D</u>				MA
BRIDGE (FILL FACE TO FILL FACE = 1135'-0" 224'-0" (SPAN E)	▲ 172'-6″ (SPAN F)	© JOINT @ END BENT 2	FILL FACE @	
				•
LIMITS OF DECK SEALING			LIMITS OF ASPHALT	1AY)
TOUS_158		LIMITS OF DECK SEALING —	WEARING SURFACE	0.0 0 ADW P.)
Ω DENT 5		FOR DETAIL, SEE ``END BENT 1 & 2		48'- EAR R (TY
		REPLACEMENT" SHEET S-35 TO S-38.		(CL
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	17'-O" APPROACH SLAB	PROJECT NO.	
SPANS D, E & F			<u>NORTHAN</u>	IPTON COUNTY
			BRIDGE NO.	O11
			STATE	OF NORTH CAROLINA
		www.oR.	ULPARTMENT	UF IKANSPURIATION RALEIGH
			SUPER	STRUCTURE
	SILANE BARRIER RAIL TREAT	TMENT 0	DECK CR	ACK SEALING &
	BRIDGE DECK REPAIR		G. ABY INT SILANE Docusigned by: Aster Abraha	EATMENT
		6,	-DDA094AED5104FD /6/2017	IONS SHEET NO.
	BRIDGE JOINT DEMOLITION	DOCUMENT NOT FTNAL LINI F	CONSIDERED NO. BY: DATE: MATE:	NO. BY: DATE: S-34
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BAR TYPES ———	BILL OF MATERIAL						
	FOR	END	BEN	Γ18	k APP.	SLAB	
	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
(1)	* A1	9	5	STR	47'-8"	448	
	* B1	48	4	1	2'-2"	70	
2 4 7 4 6 B1 HK.	* B2	48	4	1	2'-0"	64	
2" 7" 6" B2 HK.	* D1	192	6	2	1'-4"	384	
	* E	POXY C	OATED	REINF	ORCING S	TEEL	
	REINF	ORCING	STEEI	_ TOTA	L LBS.	966	
		CON	NCRETE	QUAN	TITIES		
<u>3″ J D1</u>	CONCRE	TE FOR	DECK	REPAI	R CU.FT.	132	
IMENSIONS ARE OUT TO OUT.							

NOTE:

FOR EPOXY COATED REINFORCING STEEL,SEE 2012 NORTH CAROLINA STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES,SECTION 425.

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	PROJEC HALI NORT BRIDGE	T NO. FAX HAMF	<u> </u>	-5839 _ coun 41, 00 011) ITIES)9	
TH CAROLINA	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SEAL 030024	END JOI	BEN NT R	t 1 M Repla	10DUL CEME	AR NT	
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SECTION C-C

SECTION D-D (THE NEW RUBBER PLATE BRIDGE JOINT SHALL BE TURNED UP AND FLUSH WITH THE FACE OF THE BARRIER)

Ν	0	Τ	Ε	S	0

THE CONTRACTOR SHALL CUT THE EXISTING #5 ``S1'' REBARS EXTENDING INTO THE BARRIER FROM THE DECK AND THE LONGITUDINAL #5 REBAR WITHIN THE LIMIT OF THE PROPOSED RUBBER PLATE JOINT. ALL EXPOSED ENDS OF THESE BARS SHALL BE COATED WITH EPOXY PRIOR TO THE NEW JOINT MATERIAL INSTALLATION.

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BAR TYPES ———	BILL OF MATERIAL								
		F	OR	BEN	Т З				
	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT			
	* A1	10	5	STR	47′-8″	497			
2" 7" 6" B1 HK.	* B1	96	4	1	2'-2"	139			
	* D1	192	6	2	1'-4"	395			
	* EPOXY COATED REINFORCING STEEL								
	REINFORCING STEEL TOTAL LBS. 1,031								
	CONCRETE QUANTITIES								
<u>3″ D1</u>	CONCRE	TE FOR	DECK	REPAI	R CU.FT.	144.0			
IMENSIONS ARE OUT TO OUT.									

NOTE:

FOR EPOXY COATED REINFORCING STEEL,SEE 2012 NORTH CAROLINA STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES,SECTION 425.

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	PROJECT NO. <u>I-5839</u> <u>NORTHAMPTON</u> COUNTY BRIDGE NO. <u>009 & 011</u>						
SEAL 030024 BOUSIGNED DocuSigned by: Ustur Abraha DocuSigned by: Ustur Abraha DocuSigned by: Ustur Abraha	BENT 3 MODULAR JOINT REPLACEMENT						
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SECTION C-C

SECTION D-D (THE NEW RUBBER PLATE BRIDGE JOINT SHALL BE TURNED UP AND FLUSH WITH THE FACE OF THE BARRIER)

NOTE	S:
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THE CONTRACTOR SHALL CUT THE EXISTING #5 ``S1'' REBARS EXTENDING INTO THE BARRIER FROM THE DECK AND THE LONGITUDINAL #5 REBAR WITHIN THE LIMIT OF THE PROPOSED RUBBER PLATE JOINT. ALL EXPOSED ENDS OF THESE BARS SHALL BE COATED WITH EPOXY PRIOR TO THE NEW JOINT MATERIAL INSTALLATION.

	PROJECT NO. <u>I-5839</u> <u>HALIFAX</u> COUNTY BRIDGE NO. <u>009 & 011</u>						
NOR SEAL O30024 BOOLSIGNED DOCUSIGNED	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH JOINT DETAIL AT THE BARRIER RAIL BENT 3						
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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 SO.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 SO.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 LIMBER	JIJ LBS. PER SU. 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:

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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.

STANDARD NOTES

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 $\frac{3}{4}$ "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'-O".

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