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JOHNSTON COUNTY

- BRIDGE #469 ON I-40 WBL OVER BLACK CREEK. BRIDGE #470 ON I-40 EBL OVER BLACK CREEK. BRIDGE #486 ON I-40 WBL RAMP OVER I-40. BRIDGE #487 ON I-40 WBL RAMP OVER I-95. BRIDGE #488 ON I-40 EBL OVER I-95. BRIDGE #489 ON I-40 WBL OVER I-95. BRIDGE #490 ON I-40 WBL OVER SEABOARD COASTLINE RAILROAD. BRIDGE #491 ON I-40 EBL OVER SEABOARD COASTLINE RAILROAD. BRIDGE #497 ON I-40 EBL OVER MIDDLE CREEK. BRIDGE #498 ON I-40 WBL OVER MIDDLE CREEK.
- BRIDGE PRESERVATION WITH POLYESTER POLYMER CONCRETE OVERLAY, SILICONE JOINT SEALS, GROOVING, PAINTING OF EXISTING WEATHERING STEEL, SUPERSTRUCTURE REPAIRS AND SUBSTRUCTURE REPAIRS.





PROJECT LENGTH	Prepared in the Office of: DEPARTMENT OF TRANS
$\begin{array}{rcl} & {\sf BRIDGE} \ \#469 \ = & 0.044 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#470 \ = & 0.044 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#486 \ = & 0.056 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#487 \ = & 0.059 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf BRIDGE} \ \#488 \ = & 0.040 \ {\sf MILES} \\ & {\sf MILES} \ & {\sf MILES} \ & {\sf MILES} \\ & {\sf MILES} \ & {$	DIVISION OF HIGH STRUCTURES MANAGEMENT UNIT – PRESERVATIO 1000 BIRCH RIDGE DR. RALEIGH, N GREGORY W. DICKEY
BRIDGE #489 = 0.040 MILLS BRIDGE #490 = 0.030 MILES BRIDGE #491 = 0.030 MILES BRIDGE #497 = 0.052 MILES BRIDGE #498 = 0.052 MILES	PROJECT ENGINEER 2012 STANDARD SPECIFICATIO
	OCTOBER 17, 2017

STATE	ST.	ATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS	
N.C.		I-5781	1	69	
STAT	E PROJ. NO.	F. A. PROJ. NO.	DESCRI	PTION	
530	22.1.1	NHPIM-0040(050)	P.I	Ε.	
530	22.3.1	NHPIM-0040(050)	CONST.		





JOHNSTON COUNTY

LOCATION: BRIDGE #469 ON I-40 WBL OVER BLACK CREEK. BRIDGE #470 ON I-40 EBL OVER BLACK CREEK. BRIDGE #486 ON I-40 WBL RAMP OVER I-40. BRIDGE #487 ON I-40 WBL RAMP OVER I-95. BRIDGE #488 ON I-40 EBL OVER I-95. BRIDGE #489 ON I-40 WBL OVER I-95. BRIDGE #490 ON I-40 WBL OVER SEABOARD COASTLINE RAILROAD. BRIDGE #491 ON I-40 EBL OVER SEABOARD COASTLINE RAILROAD. BRIDGE #497 ON I-40 EBL OVER MIDDLE CREEK. BRIDGE #498 ON I-40 WBL OVER MIDDLE CREEK.

BRIDGE PRESERVATION WITH POLYESTER POLYMER CONCRETE OVERLAY, SILICONE JOINT SEALS, GROOVING, PAINTING OF EXISTING WEATHERING STEEL, SUPERSTRUCTURE REPAIRS AND SUBSTRUCTURE REPAIRS.

INDEX OF SHEETS

DESCRIPTION

TITLE SHEET INDEX OF SHEETS LOCATION SKETCHES TOTAL BILL OF MATERIALS STRUCTURAL PLANS – BRIDGES #469 & #470 STRUCTURAL PLANS – BRIDGES #486 & #487 STRUCTURAL PLANS – BRIDGES #488 & #489 STRUCTURAL PLANS – BRIDGES #490 & #491 STRUCTURAL PLANS – BRIDGES #497 & #498 CAP & COLUMN REPAIR DETAILS STANDARD NOTES

STATE	STAT	SHEET NO.	TOTAL SHEETS			
N.C.]	[-5781	1A	69		
STAT	E PROJ. NO.	F. A. PROJ. NO.	DESCRI	PTION		
530	22.1.1	NHPIM-0040(050)	P.E.			
530	22.3.1	NHPIM-0040(050)	CON	NST.		



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	— TOTAL BILL OF MATERIAL —																
COUNTY	BRIDGE NO.	GROOVING BRIDGE FLOORS	POLLUTION CONTROL	SHOTCRETE REPAIRS	* CLASS II SURFACE PREPARATION	SCARIFYING BRIDGE DECK	SHOTBLASING BRIDGE DECK	CONCRETE DECK REPAIR FOR PPC OVERLAY	PPC MATERIALS	PLACING AND FINISHING PPC OVERLAY	PAINTING EXISTING WEATHERING STEEL STRUCTURE FOR BRIDGE NO	PAINTING CONTAINMENT FOR BRIDGE NO	EPOXY RESIN INJECTION	EPOXY COATING	SILICONE JOINT SEALANT	FOAM JOINT SEAL	RIP RAP CLASS 2
		SQ. FT.	-	CU.FT.	SQ. YD.	SQ.YD.	SQ.YD.	SQ.YD.	CU.YD.	SQ.YD.	-	-	LN.FT.	SQ.FT.	LN.FT.	LN.FT.	TON
	469	9,399.0	-	1.0	1.0	1,137.0	1,137.0	*** 1 . 0	31.5	1,137.0	-	-	-	501.0	200.0	-	-
	470	9,399.0	-	1.0	1.0	1,137.0	1,137.0	*** 1 . 0	31.5	1,137.0	-	-	-	501.0	200.0	-	-
	486	10,776.5	LUMP SUM	2.0	1.0	1,313.5	1,313.5	11.0	36.5	1,313.5	LUMP SUM	LUMP SUM	9.5	820.0	250.0	-	-
	487	11,174.0	LUMP SUM	25.4	1.0	1,361.0	1,361.0	7.5	37.8	1,364.0	LUMP SUM	LUMP SUM	50.0	682.0	250.5	-	-
JOHNSTON	488	13,286.0	LUMP SUM	20.0	1.0	1,560.0	1,560.0	8.0	43.4	1,560.0	LUMP SUM	LUMP SUM	10.0	439.0	183.0	61	-
	489	10.208.0	LUMP SUM	1.3	1.0	1,228.0	1,228.0	5.4	34.1	1,228.0	LUMP SUM	LUMP SUM	-	348.0	144.0	48	-
	490	7,064.0	-	1.0	1.0	854.5	854.5	*** 1 . 0	23.8	854.5	-	-	-	668.0	210.0	-	-
	491	7,064.0	-	1.0	1.0	854.5	854.5	*** 1 . 0	23.8	854.5	-	-	-	668.0	210.0	-	-
	497	10,835.0	-	1.0	1.0	1,311.0	1,311.0	*** 1 . 0	36.5	1,311.0	-	-	-	676.0	240.0	-	40
	498	10,835.0	-	1.0	1.0	1,311.0	1,311.0	*** 1 . 0	36.5	1,311.0	-	-	-	676.0	240.0	-	30
TOTAL		100,040.5	LUMP SUM	54.7	10.0	12,067.5	12,067.5	37.9	335.4	12,070.5	LUMP SUM	LUMP SUM	69.5	5,979.0	2,127.5	109	70

GENERAL NOTES:

* TOKEN PAY ITEMS ARE INDICATED FOR PRICING PURPOSES, IN CASE UNANTICIPATED CLASS II OR SNOWPLABLE MARKERS AREAS ARE ENCOUNTERED.

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

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 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 POLLUTION CONTROL, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

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FOR OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE, SEE SPECIAL PROVISIONS.

FOR POLYESTER POLYMER CONCRETE BRIDGE DECK OVERLAY, SEE SPECIAL PROVISIONS. FOR FOAM JOINT SEAL, SEE SPECIAL PROVISIONS.

DRAWN BY : _	S. T. SANDOR	DATE :	06/2017
CHECKED BY :	W.C.SMITH	DATE :	06/2017

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.

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.

CONTRACTOR SHALL DETERMINE EXTENT OF WORKING AREA, STAGING PROCESS, AND INSTALL COVER 🖻 ASSEMBLY AS NECESSARY TO MEET THE REQUIREMENTS OF TRAFFIC MANAGEMENT PLANS.

ANY DAMAGE TO EXISTING REINFORCING STEEL, DURING CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AND PERFORMED AT NO ADDITIONAL COST. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

FOR PAINTING EXISTING WEATHERING STEEL STRUCTURE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

RIP RAP MATERIAL SHALL BE CLASS 2, IN ACCORDANCE WITH JANUARY 2012 NORTH CAROLINA "STANDARD SPECIFICATIONS FOR ROADS AND STRUCURES", SECTION 1042, TABLE 1042-1. (ACCEPTED CRITERIA FOR RIP RAP AND STONE EROSION CONTROL.).

PRO	JECT N	10		<u> </u>	5781			
	COU	NTY						
BRI	, 486,	487,						
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497 & 498								
TH CAROLANA	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH							
SEAL		GENE	R	AL N	NOTES	5		
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FINAL UNLESS ALL SIGNATURES COMPLETED	2		৩ 4			SHEETS 69		







NO DECK REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL REINSPECT THE DECK FOR POTENTIAL REPAIRS.

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F	OR	CON	CRET	ΕD	ECK	REPA	TK I	- OR H	-Dd	OVEF	(LAY	΄, ΡΡ	C MA	IFKT	ALS,	ANL) PLA	CTV	٩G
Α	ND	FIN	ISHI	NG	PPC	OVEF	RLAY	SEE	POL	YES	ΓER	POL	YMER	CON	CRET	ΈB	RIDG	ΕD	ECK
0	VEF	RLAY	SPE	CIA		ROVIS	SION												
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DRAWN BY :	M.K. BEARD / S. T. SANDOR	DATE :06/2017
CHECKED BY :	W.C. SMITH	DATE : 06/2017
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CLASS II SURFACE PREPARTION

CONCRETE DECK REPAIR FOR PPC OVERLAY

AS-BUILT REPAIR QUA	NTITY	TABLE
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	1,137 SY	
CLASS II SURFACE PREPARTION	1.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	1.0 SY	
SHOTBLASTING BRIDGE DECK	1,137 SY	
PPC MATERIALS	31 . 5 CY	
PLACING AND FINISHING PPC OVERLAY	1,137 SY	
GROOVING BRIDGE FLOORS	9,399 SF	

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



REPAIR QL	JANTI	T١	Y TA	BLE			
END RENT 1	QUANTITIES						
	ESTI	MAT	ſE	ACTUAL			
SHOTCRETE REPAIRS	AREA SF	V	OLUME CF	AREA SF	VOLUME CF		
CAP (VERTICAL FACE)	0.0		0.0				
CAP (HORIZONTAL, CORNER)	0.0		0.0				
EPOXY RESIN INJECTI	ON		LN.FT.	LN.	FT.		
САР			0.0				
EPOXY COATING	AREA SF						
TOP OF CAP	85.5						
END RENT 2			TIES	ES			
	ESTI	ESTIMATE		ACT	UAL		
SHOTCRETE REPAIRS	AREA SF	V	OLUME CF	AREA SF	VOLUME CF		
CAP (VERTICAL FACE)	0.0		0.0				
CAP (HORIZONTAL, CORNER)	0.0		0.0				
EPOXY RESIN INJECTI	ON LN. FT.			LN.FT.			
САР			0.0				
EPOXY COATING	AREA SF						
TOP OF CAP	85.5						
NOTES REPAIR LOCATIONS AND ESTIMATE WITH THE BEST INFORMATION AVA NOT SHOWN ON THE DRAWINGS ARE INSPECTOR OR ENGINEER THE CON DRAWINGS THE APPROXIMATE LOCA REPAIRS AND ADJUST THE ACTUAL REPAIR QUANTITY TABLE.	E OF QUANT AILABLE.IF E DEEMED N TRACTOR S ATION AND QUANTITI	IT: A[ECE HAL DES ES	IES ARE DITIONA SSARY B L NOTE (SCRIPTIC ENTERED	GIVEN L REPAIRS Y THE ON THE N OF THE INTO THE			

REPAIR DETAILS" SHEET.

FOR SHOTCRETE 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

	PR BR	OJEC ل IDGE	CT NO. OHNS E NO	 	<u>I</u> ON	<u>-5781</u> co 469	UNTY		
TH CAROLANT	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH								
SEAL 030024			SUBS	ΓF	RUCT	URE			
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Docusigned by: Aster Abraha	END BENTS								
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FINAL UNLESS ALL	1			3			SHEETS		
SIGNATURES COMPLETED	2			43			69		













REFAIR UL							
BENT 3	EST	IMATE		UAL			
SHOTCRETE REPAIRS	AREA	VOLUME CF	AREA				
CAP (VERTICAL FACE)	0.0	0.0					
CAP (HORIZONTAL, CORNER)	0.0	0.0					
EPOXY RESIN INJECTION	١	LN.FT.	LN.	FT.			
		0.0					
EPOXY COATING	SF	_					
TOP OF CAP	110.0						
ELEVATION (SPAN D SIDE)							
			т г ¬ ~	1			
PRO	JECT	NO	7-218	1			
	JOHN	ISTON	CC	DUNTY			
BRI	DGE N	0	469				
SEAL 030024 BC: HOCNEER C. ABRINING Docusigned by: USTUR Abraha DA094AED5104FD)epartm SL	STATE OF NORTH ENT OF TR RALEIGH BSTRU REPA BENT	CAROLINA CTURE IR 3	TION			
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NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL REINSPECT THE DECK FOR POTENTIAL REPAIRS.

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NOTES

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

FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET S-15.

FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE SPECIAL PROVISION.

FOR CONCRETE DECK REPAIR FOR PPC OVERLAY, PPC MATERIALS, AND PLACING AND FINISHING PPC OVERLAY SEE POLYESTER POLYMER CONCRETE BRIDGE DECK OVERLAY SPECIAL PROVISION.

DRAWN BY :	M.K. BEARD / S. T. SANDOR	DATE :	06/2017
CHECKED BY :	W.C. SMITH	DATE :	06/2017





CLASS II SURFACE PREPARTION

CONCRETE DECK REPAIR FOR PPC OVERLAY

255'-10" (TOTAL LENGTH OF LIMITS OF SCARIFICATION, SHOTBLASTING AND (PPC) OVERLAY)

AS-BUILT REPAIR QUA	NTITY	TABLE
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	1,137 SY	
CLASS II SURFACE PREPARTION	1.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	1.0 SY	
SHOTBLASTING BRIDGE DECK	1,137 SY	
PPC MATERIALS	31 . 5 CY	
PLACING AND FINISHING PPC OVERLAY	1,137 SY	
GROOVING BRIDGE FLOORS	9,399 SF	

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





REPAIR QUANTITY TABLE					
			QUANT	ITIES	
	ESTIMATE			ACT	UAL
SHOTCRETE REPAIRS	AREA SF	AREA VOLUME SF CF		AREA SF	VOLUME CF
CAP (VERTICAL FACE)	0.0		0.0		
CAP (HORIZONTAL, CORNER)	0.0		0.0		
EPOXY RESIN INJECTION			LN.FT.	LN.	FT.
CAP			0.0		
EPOXY COATING					
TOP OF CAP					
END BENT 2			QUANT	ITIES	
	ESTI	ESTIMATE			UAL
SHOTCRETE 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 INJECTI	ON		LN.FT. LN.FT.		
CAP			0.0		
EPOXY COATING	AREA SF				
TOP OF CAP	85.5				
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 SHOTCRETE REPAIRS, SEE SPE	CIAL PROVI	ISI	ONS.		

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

	PROJEC	CT NO. OHNS E NO	<u> </u>	<u>-5781</u> co 470	UNTY			
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REPAIR QUANTITY TABLE						
BENT 1		FCTT		QUANT	ITIES	
SHOTCRETE REPATRS	Δ		VO	LUME	AREA	VOLUME
		SF	<u> </u>	CF	SF	CF
CAP (VERTICAL FACE) CAP (HORIZONTAL, CORNER)		0.0	0	0.0		
FPOXY RESTN INJECTION	 V		LN	N.FT.	LN.	FT.
	•		0	0.0		
EPOXY COATING	Δ	REA				
TOP OF CAP	11	5F 10.0				
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ELEVATION (SPAN B SIDE)						
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DRAWN BY :	M.K.BEARD / S.T.SANDOR	DATE : <u>06/2017</u>
CHECKED BY : _	W.C.SMITH	DATE : <u>06/2017</u>
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REPAIR QUANTITY TABLE							
RENT 2		QUANT	ITIES				
DEINI Z	ESTI	MATE	ACTI	JAL			
SHOTCRETE REPAIRS	AREA SF	CF	AREA SF	CF			
CAP (VERTICAL FACE)	0.0	0.0					
CAP (HORIZONIAL, CORNER)	0.0	0.0					
EPOXY RESIN INJECTION		LN.FT.	LN.	FT.			
	ARFA	0.0					
TOP OF CAR	SF 110.0						
TUF UF CAF	110.0						
(SPAN C SIDE)							
PRO.	JECT N	0	<u>I-578</u>	1			
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REPATR OI	ΙΛΝΤΤ	ΤΥ ΤΛΓ		
		QUANT	ITIES	
BENT 3	ESTI	MATE	ACT	UAL
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP (VERTICAL FACE)	0.0	0.0		
FPOXY RESTN IN.IECTION	0.0 	1 N. FT.	I N.	FT.
	•	0.0		· · •
EPOXY COATING	AREA SF			
TOP OF CAP	110.0			
ELEVATION (SPAN D SIDE)				
			T_578	1
PRO	JECT N	10 .		1
			C(JUNTY
BRI	DGE NO	•	410	
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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. 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. └┥ᢕ JT. -1" POLYESTER POLYMER CONCRETE (PPC) OVERLAY BEVEL EDGES 1/4"-(TYP.) @ 45° (TYP.) BACKER ROD EXISTING OPENING DETAIL A (PROPOSED) └╾€ JT. SELF-LEVELING

(PROPOSED)

SEAL 030024

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PROJECT	NOI	-5	781
JOF	INSTON		COUNTY
BRIDGE N	NO. 469	&	470

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

SUPERSTRUCTURE

JOINT DETAILS

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SCOPE OF WORK

- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- PERFORM DECK REPAIRS IN PREPARED AREAS.
- OVERLAY PREPARED BRIDGE DECK WITH POLYESTER POLYMER CONCRETE.
- RECONSTRUCT BRIDGE JOINTS AND INSTALL SILICONE JOINT SEALS.
- GROOVE POLYESTER POLYMER CONCRETE.
- SUBSTRUCTURE REPAIRS USING EPOXY RESIN INJECTION AND SHOTCRETE.
- EPOXY COATING OF TOP OF CAPS.
- PAINTING EXISTING WEATHERING STEEL GIRDER ENDS.

......... -FILL FACE @ END BENT 2

TO RALEIGH

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

Resident Engineer

Date

PROJECT NO. I-5781 JOHNSTON _ COUNTY 486 BRIDGE NO. STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH ESSION GENERAL DRAWING SEAL F 030024 CINE FOR BRIDGE ON I-40 WBL RAMP OVER I-40 DocuSigned by Aster Abraha DDA094AED5104FD... 8/22/2017 SHEET NO. REVISIONS S-16 DATE: DATE: NO. BY: DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED BY: total sheets 69

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DATE : 6/15/17

W.C. SMITH

CHECKED BY : _____

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SCARIFICATION, SHOTBLASTING AND POLYESTER POLYMER CONCRETE (PPC) OVERLAY

AC_RIITI T D					
AS-DUILI K					IADLE
			ESTIM	ATE	ACTUAL
SCARIFYING BRIDGE DE	СК		1.313	5 SY	
CLASS II SURFACE PRF	PARATION		1.(D SY	
CONCRETE DECK REPAIR	FOR PPC	OVERLAY	11.0	D SY	
SHOTBLASTING BRIDGE	DECK		1,313.	5 SY	
PPC MATERIALS			36.	5 CY	
PLACING AND FINISHIN	IG PPC OVI	ERLAY	1,313.	5 SY	
GROOVING BRIDGE FLOO	RS		10,776.	5_SF	
				.	
QUANTITIES IN TABLES	REPRESEN	T ESTIMA	TED VALUE	ES OF	CLASS II
AFTER REMOVAL OF SNO	WPLOWABLE	MARKERS	AND UNS	UND (COVERLAT
(MIN. 2" CLEAR TO SAW	CUT). SEE	OVERLAY	SURFACE P	REPAR	ATION FOR
PULIESIER PULIMER CO	NUKEIE SP	CUIAL PR(VISION.		
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43'-6¾"	17'-0"				
SPAN D	APPROACH	►			
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	PROJEC	T NO.	<u></u>	<u>-5(</u>	81
	J				COUNTY
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		STATE	OF NORTH CARO		
	DEPA	RTMENT	OF TRAN	ISPOR	TATION
NURTH CAROLAN			RALLIGH		
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030024) V D	ΛΤΤΟΝ
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Aster Abraha					
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REPAIR QUANTITY TABLE								
END DENT 1		QUANTITIES						
ENU DENT I	ESTI	MAI	ΓE	ACT	UAL			
SHOTCRETE REPAIRS	AREA SF	۷	OLUME CF	AREA SF	VOLUME CF			
CAP (VERTICAL FACE)	0.0		0.0					
CAP (HORIZONTAL, CORNER)	0.0		0.0					
EPOXY RESIN INJECTI	ECTION			LN.FT. LN.FT.				
CAP	3.0							
EPOXY COATING	AREA SF			AREA SF				
TOP OF CAP	155.0							
END BENT 2	QUANTITIES							
	ESTI	ESTIMATE		ACTUAL				
SHOTCRETE REPAIRS	AREA SF	۷	OLUME CF	AREA SF	VOLUME CF			
CAP (VERTICAL FACE)	0.0		0.0					
CAP (HORIZONTAL, CORNER)	0.0		0.0					
EPOXY RESIN INJECTI	ON		LN.FT.	LN.FT.				
САР								
EPOXY COATING	AREA SF			ARE SF	A			
TOP OF CAP	155.0							

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 EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, 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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TH CAROL	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH							
SEAL	SUBSTRUCTURE							
I 030024	REPAIR							
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REPAIR QU	JANTI	ΤΥ ΤΑ	BLE	
BENT 1	FSTI	QUANT		
SHOTORFTE REPATRS	AREA	VOLUME	AREA	VOLUME
CAP (VERTICAL EACE)	SF 30	CF	SF	CF
CAP (VERTICAL FACE)	0.0	0.0		
COLUMN				
FOOTER	0.0	0.0		
EPOXY RESIN INJECTI	ON	LN. FT		LN.FT
САР		0.0		
COLUMN		0.0		
FOOTER		0.0		
EPOXY COATING	AREA SF			
TOP OF CAP	170.0			
EVATION PAN B SIDE))JECT I	NO	<u>I-578</u>	1
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BRI	DGE NO	D.	400	
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BENT 2 SHOTCRETE REPAIRS CAP (VERTICAL FACE) CAP (HORIZONTAL, CORNER) COLUMN FOOTER EPOXY RESIN INJECTI CAP COLUMN FOOTER EPOXY COATING TOP OF CAP (ALUES IN CHART REPRESENT EST REMOVAL OF UNSOUND CONCRETE, N AIN. 2" CL. TO SAWCUT. SEE REPAI	ESTI AREA SF 0.0 0.0 0.0 CON CON AREA SF 170.0 TIMATED RE MIN. OF 1"BI R DETAILS.	QUANT: MATE VOLUME CF 0.0 0.0 LN. FT 4.5 0.0 0.0 0.0 PAIR TOTAL HIND REBAR	AREA SF	FUAL VOLUME CF LN. FT
SHOTCRETE REPAIRS CAP (VERTICAL FACE) CAP (HORIZONTAL, CORNER) COLUMN FOOTER EPOXY RESIN INJECTI CAP COLUMN FOOTER EPOXY COATING TOP OF CAP (ALUES IN CHART REPRESENT EST REMOVAL OF UNSOUND CONCRETE, N AIN. 2"CL. TO SAWCUT. SEE REPAIN	AREA SF 0.0 0.0 0.0 CON CON CON CON CON CON CON CON CON CON	VOLUME CF 0.0 0.0 0.0 LN. FT 4.5 0.0 0.0 0.0 PAIR TOTAL	AREA SF	VOLUME CF
CAP (VERTICAL FACE) CAP (HORIZONTAL, CORNER) COLUMN FOOTER EPOXY RESIN INJECTI CAP COLUMN FOOTER EPOXY COATING TOP OF CAP (ALUES IN CHART REPRESENT EST REMOVAL OF UNSOUND CONCRETE, N AIN. 2" CL. TO SAWCUT. SEE REPAI	SF 0.0 0.0 0.0 EON AREA SF 170.0 TIMATED RE MIN. OF 1"BI R DETAILS.	CF 0.0 0.0 LN. FT 4.5 0.0 0.0 0.0 PAIR TOTAL PAIR TOTAL EHIND REBAR	S AF TER	CF LN.FT
CAP (HORIZONTAL, CORNER) COLUMN FOOTER EPOXY RESIN INJECTI CAP COLUMN FOOTER EPOXY COATING TOP OF CAP (ALUES IN CHART REPRESENT EST REMOVAL OF UNSOUND CONCRETE, N (IN. 2" CL. TO SAWCUT. SEE REPAIN	0.0 0.0 EON AREA SF 170.0 TIMATED RE MIN. OF 1"BI R DETAILS.	O.O O.O LN. FT 4.5 O.O O.O O.O PAIR TOTAL HIND REBAF	S AFTER AND	LN.FT
COLUMN FOOTER EPOXY RESIN INJECTI CAP COLUMN FOOTER EPOXY COATING TOP OF CAP (ALUES IN CHART REPRESENT EST REMOVAL OF UNSOUND CONCRETE, N AIN. 2" CL. TO SAWCUT. SEE REPAIN	O.O O.O ON AREA SF 170.0 TIMATED RE MIN. OF 1"BI R DETAILS.	O.O LN.FT 4.5 O.O O.O PAIR TOTAL HIND REBAR	S AFTER R AND	LN. FT
EPOXY RESIN INJECTI CAP COLUMN FOOTER EPOXY COATING TOP OF CAP VALUES IN CHART REPRESENT EST REMOVAL OF UNSOUND CONCRETE, N MIN. 2" CL. TO SAWCUT. SEE REPAI	O.0 EON AREA SF 170.0 TIMATED RE MIN. OF 1" BI R DETAILS.	U.U LN. FT 4.5 0.0 0.0 PAIR TOTAL HIND REBAR	S AFTER R AND	LN. FT
EPOXY RESIN INJECTI CAP COLUMN FOOTER EPOXY COATING TOP OF CAP 'ALUES IN CHART REPRESENT EST EMOVAL OF UNSOUND CONCRETE, N AIN. 2" CL. TO SAWCUT. SEE REPAI	AREA SF 170.0 TIMATED RE MIN. OF 1" BI R DETAILS.	LN.FT 4.5 0.0 0.0 PAIR TOTAL HIND REBAR	S AFTER R AND	LN. FT
CAP COLUMN FOOTER EPOXY COATING TOP OF CAP YALUES IN CHART REPRESENT EST REMOVAL OF UNSOUND CONCRETE, N MIN. 2" CL. TO SAWCUT. SEE REPAI	AREA SF 170.0 TIMATED RE MIN. OF 1"BI R DETAILS.	4.5 O.O O.O PAIR TOTAL EHIND REBAR	S AFTER R AND	
COLUMN FOOTER EPOXY COATING TOP OF CAP YALUES IN CHART REPRESENT EST REMOVAL OF UNSOUND CONCRETE, N AIN. 2"CL. TO SAWCUT. SEE REPAI	AREA SF 170.0 TIMATED RE MIN. OF 1"BI R DETAILS.	0.0 0.0 PAIR TOTAL EHIND REBAR	S AFTER R AND	
FOOTER EPOXY COATING TOP OF CAP YALUES IN CHART REPRESENT EST REMOVAL OF UNSOUND CONCRETE, N AIN. 2"CL. TO SAWCUT. SEE REPAI	AREA SF 170.0 TIMATED RE MIN. OF 1"BI R DETAILS.	O.O PAIR TOTAL EHIND REBAF	S AFTER R AND	
EPOXY COATING TOP OF CAP ALUES IN CHART REPRESENT EST EMOVAL OF UNSOUND CONCRETE, N MIN. 2"CL. TO SAWCUT. SEE REPAI	AREA SF 170.0 TIMATED RE WIN. OF 1"BI R DETAILS.	PAIR TOTAL EHIND REBAF	S AFTER R AND	
TOP OF CAP ALUES IN CHART REPRESENT EST EMOVAL OF UNSOUND CONCRETE, N MIN. 2"CL. TO SAWCUT. SEE REPAI	170.0 TIMATED RE MIN. OF 1"BI R DETAILS.	PAIR TOTAL EHIND REBAF	S AFTER R AND	
ALUES IN CHART REPRESENT EST EMOVAL OF UNSOUND CONCRETE,M IN. 2"CL. TO SAWCUT. SEE REPAI	TIMATED RE MIN.OF 1″BI R DETAILS.	PAIR TOTAL EHIND REBAF	S AFTER R AND	
EVATION PAN C SIDE) PR(BR)	OJECT N JOHI IDGE NG	NO NSTON D	<u>I-578</u> C 6	8 <u>1</u> OUNTY
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REPAIR QU	JANTI	ΤΥ ΤΑ	BLE	
BENT 3	ЕСТТ		ITIES	1141
SHOTORETE REPATRS	AREA	VOLUME	AREA	VOLUME
	SF	CF	SF	CF
CAP (HORTZONTAL CORNER)	0.0	0.0		
COLUMN				
FOOTER	0.0	0.0		
EPOXY RESIN INJECTI	ON	LN.FT		LN.FT
CAP		2.0		
COLUMN		0.0		
FOOTER		0.0		
EPOXY COATING	AREA SF			
TOP OF CAP	170.0			
EVATION PAN D SIDE) PRO BRI	DJECT N JOHN	10 1ston 0	<u>I-578</u> C(6	<u>1</u> DUNTY
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- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS.
- PERFORM DECK REPAIRS IN PREPARED AREAS.
- OVERLAY PREPARED BRIDGE DECK WITH POLYESTER POLYMER CONCRETE.
- RECONSTRUCT BRIDGE JOINTS AND INSTALL SILICONE JOINT SEALS.
- GROOVE POLYESTER POLYMER CONCRETE.
- SUBSTRUCTURE REPAIRS USING EPOXY RESIN INJECTION AND SHOTCRETE.
- PAINTING EXISTING WEATHERING STEEL GIRDER ENDS.

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

PROJECT NO. I-5781

JOHNSTON

BRIDGE NO._

_ COUNTY 487

Date

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

GENERAL DRAWING

FOR BRIDGE ON I-40 WBL RAMP OVER I-95

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AS-BUILT REPAIR QUA	NTITY	TABLE
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	1,361.0 SY	
CLASS II SURFACE PREPARATION	1.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	7 . 5 SY	
SHOTBLASTING BRIDGE DECK	1,361.0 SY	
PPC MATERIALS	37.8 CY	
PLACING AND FINISHING PPC OVERLAY	1,361.0 SY	
GROOVING BRIDGE FLOORS	11,174.0 SF	

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

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USELF UBFALLA DDA094AED5104FD 8/22/2017		REVIS	IONS		SHEET NO.
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REPAIR QUANTITY TABLE							
END BENT 1	QUANTITIES						
END DENT I	ESTI	MA	ΓE	ACT	UAL		
CONCRETE REPAIRS	AREA SF	V	OLUME CF	AREA SF	VOLUME CF		
CAP (VERTICAL FACE)							
CAP (HORIZONTAL, CORNER)	0.0		0.0				
EPOXY RESIN INJECTI	ON		LN.FT.	LN.	FT.		
САР			6.0				
EPOXY COATING	AREA SF			LN.	FT.		
TOP OF CAP	162.0						
END BENT 2			QUANT	ITIES			
	ESTI	MA	ΓE	ACTUAL			
CONCRETE REPAIRS	AREA SF	VOLUME CF		AREA SF	VOLUME CF		
CAP (VERTICAL FACE)							
CAP (HORIZONTAL, CORNER)	0.0		0.0				
EPOXY RESIN INJECTI	ON		LN.FT.	LN.	FT.		
САР	T		38.0				
EPOXY COATING	AREA SF			LN.	FT.		
TOP OF CAP	162.0						
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. FOR EPOXY COATING, SEE SPECIAL PROVISIONS. VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER							
REMOVAL OF UNSOUND CONCRET MIN. 2"CL TO SAWCUT. SEE REP	E, MIN. OF 1 AIR DETAIL	″BE _S.	EHIND RE	BAR AND			

- SHOTCRETE REPAIR

ERI - EPOXY RESIN INJECTION

	PROJEC J BRIDGE	CT NO. OHNS E NO	TOI	I N 4	<u>-5781</u> CO <u>87</u>	UNTY
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REPAIR QL	JANTI	ΤΥ ΤΑ	BLE	
BENT 1		QUANT	ITIES	
	EST] ARFA	VOLUME		
SHUICKEIE KEPAIKS	SF	CF	SF	
CAP (VERTICAL FACE) CAP (HORIZONTAL, CORNER)	0.0	0.0		
COLUMN	47.1	23.6		
FOOTER	0.0	0.0		
EPOXY RESIN INJECTI	ON	LN.FT		LN.FT
CAP		6.0		
COLUMN		0.0		
TOOTER		0.0		
EPOXY COATING	AREA SF			
TOP OF CAP	179.0			
EVATION (PAN B SIDE)				
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REPAIR QUANTITY TABLE							
BENT 2	QUANTITIES						
	ESTI ARFA		ACTL				
SHUICKEIE KEPAIKS	SF	CF	SF	CF			
CAP (VERIICAL FACE)	3.0 0.0	1.5					
COLUMN	0.0	0.0					
STRUT	0.5	0.3					
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							
EVATION SPAN C SIDE)							
PRO BRI	DJECT N JOHN DGE NO	IO ISTON STATE OF NORTH CA NT OF TRA RALEIGH BSTRUC	<u>E - 578</u> CC <u>487</u> NSPORTA	1 DUNTY			
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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. 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. * DIMENSIONS INDICATED ARE GENERIC.ACTUAL REMOVAL 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. └╾-Œ_ JT. SELF -LEVELING -SILICONE — 1" POLYESTER POLYMER CONCRETE OVERLAY (TYP.) BEVEL EDGES 1/4" @ 45° (TYP.) BACKER ROD EXISTING OPENING 1"POLYESTER POLYMER CONCRETE OVERLAY DETAIL A (TYP.) (PROPOSED) 🖞 JT. @ BENT — POLYMER CONCRETE SELF-LEVELING -OVERLAY (TYP. SILICONE BEVEL EDGES 1/4" @ 45° (TYP.) BACKER ROD -EXISTING OPENING DETAIL B PROPOSED) I-5781 PROJECT NO. JOHNSTON COUNTY 1"POLYESTER POLYMER BRIDGE No.: <u>486 &</u> 487 CONCRETE OVERLAY (TYP.) STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION RALEIGH

SUPERSTRUCTURE

JOINT DETAILS

Docusigned by G. ABRANIN Ister Abralia G. ABRANIN DDA094AED5104FD 8/22/2017							
6/22/2017			REV	ISION	S		SHEET NO.
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FINAL UNLESS ALL	1			3			TOTAL SHEETS
SIGNATURES COMPLETED	2			4			69

FESSION

SEAL

S. ACINEER

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SCOPE OF WORK

- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- PERFORM DECK REPAIRS IN PREPARED AREAS.
- OVERLAY PREPARED BRIDGE DECK WITH POLYESTER POLYMER CONCRETE.
- RECONSTRUCT BRIDGE JOINTS AND INSTALL SILICONE JOINT SEALS.
- GROOVE POLYESTER POLYMER CONCRETE.
- SUBSTRUCTURE REPAIRS USING EPOXY RESIN INJECTION AND SHOTCRETE.
- EPOXY COATING OF TOP OF CAPS.
- PAINTING EXISTING WEATHERING STEEL GIRDER ENDS.

TO WILMINGTON

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

Date

← FILL FACE @ END BENT 2

	PROJEC J BRIDGE	CT NO. <u>OHNS</u> E NO.	TON	<u>I-578</u> co <u>488</u>	<u>1</u> DUNTY			
SEAL O30024 BC, ABRAINA DocuSigned by: USter Abralia DDA094AED5104FD	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATIO RALEIGH GENERAL DRAWING FOR BRIDGE ON I-40 EBL OVER I-95							
8/22/2017	REVISIONS SHEET NO.							
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO. BY:	DATE:	S-30			
FINAL UNLESS ALL	1		3		TOTAL SHEETS			
SIGNATURES COMPLETED	2		4		69			

Resident Engineer

AS-BUTLT R	FPATI			ТҮ Т	
				1 1 ···································	
					ACTUAL
SCARIFYING BRIDGE DECK				.0 SY	
CONCRETE DECK DEDATD	<u>ا</u>				
SHOTBLASTING BRIDGE	DFCK	UVLINLAT	1,560	.0 SY	
PPC MATERIALS			43	.4 CY	
PLACING AND FINISHIN	G PPC OV	ERLAY	1,560	.0 SY	
GROOVING BRIDGE FLOO	RS		13,286	.0 SF	
					
QUANTITIES IN TABLES SURFACE PREPARATION A	REPRESEN ND CONCRI	ESTIMA TE DECK	REPATR F	S OF CI	LASS II OVERLAY
AFTER REMOVAL OF SNOW	PLOWABLE		AND UNSO		NCRETE
POLYESTER POLYMER CON	CRETE SPE	CIAL PRO	VISION.		
	4				
ND BENT 2					
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	J	<u>OHNS</u>	TON	(COUNTY
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1		~- ·-			
	DFPA	RTMENT	OF TRAN		ATION
TH CAROLINE			RALEIGH		· · · • • • • •
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SEAL 5 030024		SUPEF	RSTRU	ICTU	RE
TS . NOINEER . ST					
THOME C. ABRAIN	SI	JRFACE		ARAT	ION
		& PF		RLAY	
DDA094AED5104FD					
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FINAL UNLESS ALL SIGNATURES COMPLETED	2		♥ 4	<u> </u>	SHEETS 69

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REPAIR QUANTITY TABLE								
END BENT 1	QUANTITIES							
	ESTIMATE			ACTUAL				
CONCRETE REPAIRS	AREA VC SF		OLUME CF	AREA SF	VOLUME CF			
CAP (VERTICAL FACE)	0.0 0.0		0.0					
CAP (HORIZONTAL, CORNER)	0.0		0.0					
EPOXY RESIN INJECTION				LN.FT.				
САР	0.0							
EPOXY COATING	AREA SF		LN. FT.		FT.			
TOP OF CAP	122.5							
END BENT 2	QUANTITIES							
	ESTI	MAI	ſE	ACTUAL				
CONCRETE REPAIRS	AREA V SF		OLUME CF	AREA SF	VOLUME CF			
CAP (VERTICAL FACE)	0.0		0.0					
CAP (HORIZONTAL, CORNER)	P (HORIZONTAL, CORNER) 0.0		0.0					
EPOXY RESIN INJECTI	LN.FT. LN.FT		FT.					
САР	0.0							
EPOXY COATING	AREA SF			LN.	FT.			
TOP OF CAP 122.5								

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

SIGNATURES COMPLETED 2

ERI - EPOXY RESIN INJECTION

NO REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL REINSPECT THE SUBSTRUCTURE FOR POTENTIAL REPAIRS.

	PROJE(CT NO IOHNS E NO.	• 5_T (<u>I</u> DN 4	<u>-5781</u> co <u>88</u>	UNTY
NORTH CAROLAND	DEPA	ARTMENT SUBS	™ of of RE ND	NORTH CAR TRAI PALEIGH PAIF BEN	NSPORTA TURE R TS	TION
8/22/2017		REVI	SION	S		SHEET NO.
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REPAIR QU	JANTI	ΤΥ ΤΑ	BLE	
BENT 1		QUANT	ITIES	
SHUICKEIE REPAIRS	SF	CF	SF	CF
CAP (VERTICAL FACE)	1.0	0.5		
COLUMN	1.0	19.0		
	50.0	13.0		
EPOXY RESIN INJECTI	ON	LN.FT		LN.FT
CAP		0.0		
COLUMN		10.0		
EPOXY COATING	AREA			
ΤΟΡ ΟΓ ΓΔΡ	5r 189 0			
	- 1 SQ. FT. 			
ELEVATION SPAN B SIDE PRO BRI	DJECT N JOHN IDGE NO	10 1ston)	<u>I-578</u> C(488	1 DUNTY
DocuSigned by: Uster Abraha DDA094AED5104FD 8/22/2017	DEPARTME	STATE OF NORTH C NT OF TR RALEIGH BSTRU REPAI BENT	ANSPORTA CTURE R 1	SHEET NO.
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SIGNATURES COMPLETED				SHEETS 69













AS-BUTLT RE			ΔΝΤΤ	ГΥ	TABI F
			FSTTM	1ATF T	
SCARTEYING BRIDGE DEC	1_228		AUTUAL		
CLASS II SURFACE PREF	1.	0 SY			
CONCRETE DECK REPAIR	CONCRETE DECK REPAIR FOR PPC OVERLAY				
SHOTBLASTING BRIDGE	реск		1,228	.0 SY	
PLACING AND FINISHING	G PPC OVI	ERLAY	1_228		
GROOVING BRIDGE FLOOP	RS		10,208	3.0 SF	
QUANTITIES IN TABLES F SURFACE PREPARATION AN AFTER REMOVAL OF SNOWF (MIN. 2" CLEAR TO SAW C POLYESTER POLYMER CONC	REPRESENT ND CONCRE PLOWABLE UT).SEE (CRETE SPE	ESTIMAT TE DECK MARKERS OVERLAY S CIAL PRO	TED VALUE REPAIR FO AND UNSO SURFACE PO VISION.	S OF (OR PPC UND CO REPARA	CLASS II OVERLAY ONCRETE TION FOR
JOINT @ ND BENT 2					
	LL FACE ND BENT	@ 2			
12'-O" APP. SLAB			т	E 7	01
F - E	PROJEC J BRIDGE	:T NO. <u>OHNS</u> E NO	TON	<u>-57</u> (489	COUNTY
SEAL O30024 DocuSigned by: Uster Abraha	DEPA SL	SUPER JRFACE & PF	e of north card OF TRAN RALEIGH STRU PREP PC OVE	ARA	TATION JRE TION Y
8/22/2017		REVIS	IONS		SHEET NO.
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	NO. BY: 1 2	DATE:	NO. BY:	DATE:	S-36 TOTAL SHEETS 69



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





REPAIR QUANTITY TABLE						
	QUANTITIES					
	ESTI	ΜΑΊ	ſE	ACT	UAL	
CONCRETE REPAIRS	AREA SF	۷	OLUME CF	AREA SF	VOLUME CF	
CAP (VERTICAL FACE)	0.0		0.0			
CAP (HORIZONTAL, CORNER)	0.0		0.0			
EPOXY RESIN INJECTION LN.F				LN.	FT.	
САР			0.0			
EPOXY COATING	AREA SF			LN.FT.		
TOP OF CAP	100.0	100.0				
END BENT 2	QUANTITIES					
	ESTIMATE			ACTUAL		
CONCRETE REPAIRS	AREA SF	۷	OLUME CF	AREA SF	VOLUME CF	
CAP (VERTICAL FACE)	0.0		0.0			
CAP (HORIZONTAL, CORNER)	0.0		0.0			
EPOXY RESIN INJECTION				LN.	FT.	
САР						
EPOXY COATING	AREA SF		LN.FT.			
TOP OF CAP	100.0					

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.

FOR EPOXY COATING, 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

PROJECT NO. <u>I-5781</u> <u>JOHNSTON</u> COUNTY BRIDGE NO. <u>489</u>							
SEAL 030024 BOCUSIGNEER BOCUSIGNEED BOCUSIGNEED BOCUSIGNEED BOCUSIGNEED BOCUSIGNEED BOCUSIGNEED BOCUSIGNEED BOCUSIGNEED BOCUSIGNEED BOCUSIGNEED BOCUSIGNEED BOCUSIGNEED	DEPARTMENT OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUBSTRUCTURE REPAIR END BENTS					TION	
8/22/2017	REVISIONS SHEET NO.					SHEET NO.	
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FINAL UNLESS ALL	1		3			TOTAL SHEETS	
SIGNATURES COMPLETED	2		4			69	



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REPAIR QL	JANTI	ΤΥ ΤΑ	BLE		
BENT 1	FSTT	QUANTI MATF			
SHOTCRETE REPAIRS	AREA	VOLUME	AREA	VOLUME	
CAP (VERTICAL ΕΔΟΕ)	0.0		J	Сг	
CAP (HORIZONIAL CORNER)	1.0	0.5			
COLLIMN	1.0	0.5			
	1:5				
EPOXY RESIN INJECTI	ON	LN.FT		LN.FT	
САР		0.0			
COLUMN		0.0			
EPOXY COATING	AREA SF				
TOP OF CAP	148.0				
	- 1				
<u>N</u> PRC	JOHN	10 1STON	<u>I-578</u> C	3 <u>1</u> OUNTY	
BRI	DGE NO)	489		
BOOLUMENT NOT CONCEPTION NO.	DEPARTME SU	STATE OF NORTH C NT OF TR RALEIGH BSTRU REPA BENT REVISIONS	AROLINA ANSPORTA CTURE [R 1 	ATION SHEET NO. S-39	
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SCOPE OF WORK

- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS.
- CLEAN AND REMOVE EXISTING BRIDGE DECK JOINTS MATERIAL.
- PERFORM DECK REPAIRS IN PREPARED AREAS.
- OVERLAY PREPARED BRIDGE DECK WITH POLYESTER POLYMER CONCRETE.
- INSTALL SILICONE JOINT SEALS.
- GROOVE POLYESTER POLYMER CONCRETE.
- EPOXY COATING TOP OF CAP.
- SUBSTRUCTURE REPAIRS USING EPOXY RESIN INJECTION AND SHOTCRETE.

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

Resident Engineer

Date

PROJECT NO. 1-5781 JOHNSTON _ COUNTY 490 BRIDGE NO. STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH GENERAL DRAWING SEAL 030024 FOR BRIDGE ON I-40 WBL OVER SEABORD COASTLINE RAILROAD NCINEES Aster Abraha DDA094AED5104FD... 8/22/2017 REVISIONS SHEET NO. S-41 DATE: DATE: BY: DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED BY: TOTAL SHEETS 69





DRAWN BY :	S. T. SANDOR	DATE : <u>03/2017</u>
CHECKED BY :	W.C.SMITH	DATE : <u>06/2017</u>
		22-AUG-2017 15:48









AS-BUILT REPAIR QUA	NTITY	TABLE
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	854.5 SY	
CLASS II SURFACE PREPARTION	1.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	1.0 SY	
SHOTBLASTING BRIDGE DECK	854.5 SY	
PPC MATERIALS	23.8 CY	
PLACING AND FINISHING PPC OVERLAY	854.5 SY	
GROOVING BRIDGE FLOORS	7,064.0 SF	

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

	PROJEC J BRIDGE	CT NO. OHNS E NO	I TON	<u>-5781</u> co 490	UNTY
NUMBER OF ESSION	DEPA	rtment SUPEF	e of north card OF TRAN RALEIGH	NSPORTA JCTUR	tion E
DocuSigned by: Aster Abraha DDA094AED5104FD	0.5	SURFAC & P	E PREF PC OVE	PARATI ERLAY	ON
8/22/2017		REVIS	SIONS		SHEET NO.
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REPAIR QUANTITY TABLE						
			QUANT	ITIES		
ENU DENT I	ESTI	MA	ſE	ACT	UAL	
SHOTCRETE REPAIRS	AREA SF	V	OLUME CF	AREA SF	VOLUME CF	
CAP (VERTICAL FACE)	0.0		0.0			
CAP (HORIZONTAL, CORNER)	0.0		0.0			
EPOXY RESIN INJECTION				LN.	FT.	
CAP			0.0			
EPOXY COATING	AREA SF					
TOP OF CAP	150.0					
END RENT 2	QUANTITIES					
	ESTIMATE		ſE	ACTUAL		
SHOTCRETE REPAIRS	AREA SF	V	OLUME CF	AREA SF	VOLUME CF	
CAP (VERTICAL FACE)	0.0		0.0			
CAP (HORIZONTAL, CORNER)	0.0		0.0			
EPOXY RESIN INJECTION			LN.FT. LN.FT.		FT.	
CAP			0.0			
EPOXY COATING	AREA SF					
TOP OF CAP	150.0					

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 SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING, 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

	PROJEC J BRIDGE	CT NO. <u>OHNS</u> E NO.	 TON	<u>[-578</u> cc 190	<u>1</u> DUNTY	
OFESSION SEAL O30024 HTS: MGNEER Docusigned by: Aster Abraha	DEPA	TION				
DDA094AED5104FD 8/22/2017	REVISIONS SHEET NO.					
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FINAL UNLESS ALL	1		3		TOTAL SHEETS	
SIGNATURES COMPLETED	2		4		69	



REPAIR	QUANTI	ΤΥ ΤΑ	BLE	
BENT 1			ITIES	1141
SHOTORFTE REPATRS	AREA	VOLUME	AREA	VOLUME
CAP (VERTICAL FACE)	SF 0.0	CF	SF	CF
CAP (HORIZONTAL, CORNER)	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJEC	TION	LN.FT		LN.FT
CAP		0.0		
COLUMN		0.0		
	-			
EPOXY COATING	AREA SF			
TOP OF CAP	169.0			
ELEVATION (SPAN B SIDE)				
P - B	ROJECT JOH RIDGE N	NO NSTON 0	<u>I-578</u> C 490	1 DUNTY
Bocusigned by: North CAROJ NORTH CAROJ NORTH CAROJ NORTH CAROJ NORTH CAROJ NORTH CAROJ NORTH CAROJ NORTH CAROJ NORTH CAROJ NATION SEAL 030024 Docusigned by: USter Abraha DA094AED5104FD 8/22/2017	DEPARTM	STATE OF NORTH ENT OF TR RALEIGH JBSTRU REPAJ BENT REVISIONS	CAROLINA CTURE [R 1	ATION
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REPAIR QI	JANTI	ΤΥ ΤΑ	BLE	
RENT 2		QUANT	ITIES	
	ESTI	MATE	ACT	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
CAP (VERTICAL FACE)	0.0	0.0		
CAP (HORIZONTAL, CORNER)	0.0	0.0		
CULUMN	0.0	0.0		
EPOXY RESIN INJECTI	ION	LN.FT		LN.FT
САР		0.0		
COLUMN		0.0		
EPOXY COATING	AREA			
	SF			
/ALUES IN CHART REPRESENT EST Removal of unsound concrete, M /IN.2"CL TO SAWCUT.SEE REPAIR	TIMATED RE MIN.OF 1″BI R DETAILS.	PAIR TOTALS EHIND REBAR	S AFTER ≀ AND	
		<i>r</i> _,		
			/	
; , , , , , , , , , , , , , , , , , , ,				
(SPAN B SIDE)				
			T-578	1
PRU				<u> </u>
	JUHI	NDICN	C(DUNTY
BR	IDGE NO)	490	
		STATE OF NORTH C	AROLINA	
TH CARO	DEPARTME	INT OF TR	ANSPORTA	TION
THE SSION AT THE	C 11	RCTRI		-
SEAL TO SEAL	JU			-
TS AGINER ST			D	
G. ABRATIN				
DocuSigned by: Aster Abraha		BENT	2	
DDA094AED5104FD 8/22/2017		REVISIONS		SHEET NO.
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DRAWN BY :	S. T. SANDOR	DATE : 03/2017
CHECKED BY :	W.C.SMITH	DATE : <u>06/2017</u>
		22-AUG-2017 15:48

NO DECK REPAIRS NOTED DURING INSPECTION BY STRUCTURES MANAGEMENT UNIT. THE CONTRACTOR AND ENGINEER SHALL REINSPECT THE DECK FOR POTENTIAL REPAIRS.



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NOTES

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

FOR SECTION A-A AND B-B, SEE ``JOINT DETAILS' SHEET S-53.

FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION FOR POLYESTER POLYMER CONCRETE SPECIAL PROVISION.

FOR CONCRETE DECK REPAIR FOR PPC OVERLAY, PPC MATERIALS, AND PLACING AND FINISHING PPC OVERLAY SEE POLYESTER POLYMER CONCRETE BRIDGE DECK OVERLAY SPECIAL PROVISION.

DRAWN BY :	S. T. SANDOR	DATE	:	03/2017
CHECKED BY :	W.C.SMITH	DATE	:	06/2017



SCARIFICATION, SHOTBLASTING AND POLYESTER POLYMER CONCRETE (PPC) OVERLAY



CLASS II SURFACE PREPARTION



CONCRETE DECK REPAIR FOR PPC OVERLAY

PLAN OF SPANS

AS-BUILT REPAIR QUA	NTITY	TABLE
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	854.5 SY	
CLASS II SURFACE PREPARTION	1.0 SY	
CONCRETE DECK REPAIR FOR PPC OVERLAY	1.0 SY	
SHOTBLASTING BRIDGE DECK	854.5 SY	
PPC MATERIALS	23.8 CY	
PLACING AND FINISHING PPC OVERLAY	854.5 SY	
GROOVING BRIDGE FLOORS	7,064.0 SF	

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

PROJECT NO. <u>I-5781</u> <u>JOHNSTON</u> COUNTY BRIDGE NO. <u>491</u>						
PTH CAROL MARINE	DEPA	rtment SUPEF	e of north car OF TRAI RALEIGH	NSPORTA JCTUR	tion ?E	
O30024 HJJ C. ABRAMIN Docusigned by: Aster Abraha	S	SURFAC & P	E PREF PC OVI	PARATI	ON	
DDA094AED5104FD 8/22/2017		REVIS	SIONS		SHEET NO.	
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO. BY:	DATE:	S-49	
FINAL UNLESS ALL	1		3		TOTAL SHEETS	
SIGNATURES COMPLETED	2		4]		69	



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REPAIR QUANTITY TABLE							
END RENT 1	QUANTITIES						
END DENT I	ESTI	MA	ſE	ACT	UAL		
SHOTCRETE REPAIRS	AREA VC SF		OLUME CF	AREA SF	VOLUME CF		
CAP (VERTICAL FACE)	0.0		0.0				
CAP (HORIZONTAL, CORNER)	0.0		0.0				
EPOXY RESIN INJECTI	ON		LN.FT.	LN.	FT.		
САР							
EPOXY COATING	AREA						
TOP OF CAP	150.0						
END BENT 2		QUANTITIES					
	ESTI	MA	ſE	ACTUAL			
SHOTCRETE REPAIRS	AREA SF	V	OLUME CF	AREA SF	VOLUME CF		
CAP (VERTICAL FACE)	0.0		0.0				
CAP (HORIZONTAL, CORNER)	0.0		0.0				
EPOXY RESIN INJECTION			LN.FT.	LN.	FT.		
CAP			0.0				
EPOXY COATING	AREA SF						
TOP OF CAP	150.0						

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, COLUMN, AND RAIL REPAIR DETAILS'' SHEET.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING, 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

	PROJEC J BRIDGE	CT NO. <u>OHNS</u> E NO	<u> </u>	<u>-5781</u> co 191	UNTY
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REPAIR QU	JANTI	ΤΥ ΤΑ	BLE	
RFNT 1		QUANT	ITIES	
	ESTI		ACT	UAL
SHOTCRETE 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 INJECTI	ON	LN.FT		LN.FT
CAP		0.0		
COLUMN		0.0		
EPOXY COATING	AREA			
	5F 169.0			
		 	_	
ELEVATION (SPAN B SIDE)	DJECT N	١0.	<u>I-578</u>	1
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NEFAIR UL				
BENT 2	ESTT		ACT	UAL
SHOTCRFTF RFPATRS	AREA	VOLUME	AREA	VOLUME
CAP (VERTICAL EACE)	SF 0.0		SF	CF
CAP (HORIZONTAL. CORNER)	0.0	0.0		
COLUMN	0.0	0.0		
EPOXY RESIN INJECTI	ON	LN.FT		LN.FT
САР		0.0		
COLUMN		0.0		
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TOP OF CAP	ىر 169 ₋ 0			
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SCOPE OF WORK

- PARTIALLY REMOVE BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS. - CLEAN AND REMOVE EXISTING BRIDGE DECK JOINTS MATERIAL. - PERFORM DECK REPAIRS IN PREPARED AREAS.

- OVERLAY PREPARED BRIDGE DECK WITH POLYESTER POLYMER CONCRETE.

- INSTALL SILICONE JOINT SEALS.

- GROOVE POLYESTER POLYMER CONCRETE.

- EPOXY COATING TOP OF CAP.

- SUBSTRUCTURE REPAIRS USING EPOXY RESIN INJECTION AND SHOTCRETE. - FILL SCOUR HOLES WITH CLASS 2 RIP RAP.

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

Resident Engineer

Date

PROJECT NO. <u>I-5781</u> JOHNSTON COUN BRIDGE NO. <u>497 & 49</u>	NTY 18
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATIO RALEIGH GENERAL DRAWING	ON
FOR BRIDGES ON I-40 EE	3L
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SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND POLYESTER POLYMER CONCRETE PLACEMENT.

BRIDGE #497 SHOWN,BRIDGE # 498 SIMILAR



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUPERSTRUCTURE SEAL F 030024 TYPICAL SECTION & ACINEER. aster abration PPC OVERLAY DETAILS SHEET NO. REVISIONS S-55 DATE: DATE: NO. BY: DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED BY: total sheets 69



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REPAIR QL	JANTI	ΤY	TA	BLE	
FND RENT 1			QUANTI	TIES	
	ESTI	MATE		ACT	
SHOTCRETE REPAIRS	AREA SF			AREA SF	CF
CAP (VERTICAL FACE)	0.0	0	0.0		
CAP (HORIZONTAL, CORNER)					
EPUXY RESIN INJECTI	UN	L	N. F I.	LN.	FT.
	AREA		0.0		
	SF 98.0				
	50.0		QUANTI	TIES	
END BENIZ	ESTI	ΜΑΤΕ		ACT	UAL
SHOTCRETE REPAIRS	AREA SF	VOL (LUME	AREA SF	VOLUME CF
CAP (VERTICAL FACE)	0.0	С	0.0		
CAP (HORIZONTAL, CORNER)	0.0		0.0		
EPOXY RESIN INJECTI	ON	L	N.FT.	LN.	FT.
			0.0		
EPOXY COALING	SF				
TOP OF CAP	98.0				
REPAIR LOCATIONS AND ESTIMATE	OF QUANT	ITIE	S ARE (GIVEN	_
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REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.					
FOR CAP AND COLUMN REPAIR DETAILS, SEE "TYPICAL CAP AND COULMN,					
FOR SHOTCRETE REPAIRS. SEE SPE	CTAL PROV	ISTON	NS.		
FOR EPOXY RESIN INJECTION. SEE	SPECIAL F	PROVI	ESIONS.		
FOR EPOXY COATING, SEE SPECIAL	PROVISIO	NS.			
VALUES IN CHART REPRESENT EST	IMATED RE	PAIR	TOTALS	S AFTER	
REMOVAL OF UNSOUND CONCRETE,N MIN.2″CL TO SAWCUT.SEE REPAIF	MIN.OF 1″BE R DETAILS.	EHIND) REBAR	AND	
77					
- SHOTCRETE REPAIR					
ERI - EPOXY RESIN INJECTION					
O REPAIRS NOTED DURING INSP	ECTION BY	STR		S	
EINSPECT THE SUBSTRUCTURE F	OR POTENT	IAL	REPAIR	S.	
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REPAIR QUANTITY TABLE					
DENT 1		QUANT	ITIES		
DEINII	ESTI	MATE	ACT	UAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
CAP (VERTICAL FACE)	0.0	0.0			
CAP (HORIZONTAL, CORNER)	0.0	0.0			
COLUMN	0.0	0.0			
EPOXY RESIN INJECTI	LN.FT.		LN.FT.		
САР		0.0			
COLUMN		0.0			
EPOXY COATING	AREA SF				
TOP OF CAP	120.0				



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.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIR

ERI - EPOXY RESIN INJECTION





REPAIR QUANTITY TABLE								
		QUANTITIES						
BENT 2	ESTI	MATE	ACT	UAL				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF				
CAP (VERTICAL FACE)	0.0	0.0						
CAP (HORIZONTAL, CORNER)	0.0	0.0						
COLUMN	0.0	0.0						
EPOXY RESIN INJECTI	LN.FT.		LN.FT.					
CAP		0.0						
COLUMN		0.0						
EPOXY COATING	AREA SF							
TOP OF CAP	120.0							
ALLIES TN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER								

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



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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIR

ERI - EPOXY RESIN INJECTION

END VIEW RIGHT SIDE





REPAIR QUANTITY TABLE						
		QUANT	ITIES			
	ESTI	ΜΑΤΕ	ACT	UAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
CAP (VERTICAL FACE)	0.0	0.0				
CAP (HORIZONTAL, CORNER)	0.0	0.0				
COLUMN	0.0	0.0				
EPOXY RESIN INJECTION		LN.FT.		LN.FT.		
CAP		0.0				
COLUMN		0.0				
EPOXY COATING	AREA SF					
TOP OF CAP	120.0					
ALLIES TN CHART REPRESENT ESTIMATED REPATR TOTALS AFTER						

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



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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIR

ERI - EPOXY RESIN INJECTION

END VIEW RIGHT SIDE





REPAIR QUANTITY TABLE						
		QUANT	LTIES			
	ESTI	MATE	ACT	UAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
CAP (VERTICAL FACE)	0.0	0.0				
CAP (HORIZONTAL, CORNER)	0.0	0.0				
COLUMN	0.0	0.0				
EPOXY RESIN INJECTI	LN.FT.		LN.FT.			
САР		0.0				
COLUMN		0.0				
EPOXY COATING	AREA SF					
TOP OF CAP	120.0					
ALLIES TN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER						

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



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REPAIR QU	JAI	NTI	Τ١	Y TA	BLE	
END RENT 1				ITIES		
		ESTI	MAT	E	ACT	UAL
SHOTCRETE REPAIRS	A	REA SF	V	OLUME CF	AREA SF	VOLUME CF
CAP (VERTICAL FACE)		0.0		0.0		
CAP (HORIZONTAL, CORNER)		0.0		0.0		
EPOXY RESIN INJECTI	ON			LN.FT.	LN.	FT.
САР				0.0		
EPOXY COATING	/	AREA SF				
TOP OF CAP	1	44.0				
FND BENT 2				QUANT	ITIES	
		ESTI	TAN		ACT	
SHOTCRETE REPAIRS	A	SF	V	OLUME CF	AREA SF	CF
CAP (VERTICAL FACE)		0.0		0.0		
CAP (HORIZONTAL, CORNER)		0.0		0.0		
EPOXY RESIN INJECTI	ON			LN.FT.	LN.	FT.
САР				0.0		
EPOXY COATING		AREA SF				
TOP OF CAP	1	44.0				
TOP OF CAP144.0NOTES: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 COULMN REPAIR DETAILS" SHEET.FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.FOR EPOXY COATING, 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						

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	NOTES:	REPAIR QUANTITY TABLE					
	REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN	DENIT 1	QUANTITIES				
	WITH THE BEST INFORMATION AVAILABLE.IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE	DENII	ESTIMATE		ACTUAL		
	INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE DEDATES AND ADJUST THE ACTUAL OUANTITIES ENTEDED INTO THE	SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
	REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.	CAP (VERTICAL FACE)	0.0	0.0			
	FOR CAP AND COLUMN REPATE DETATIS, SEE "ΤΥΡΤΟΔΙ CAP AND COLUMN	CAP (HORIZONTAL, CORNER)	0.0	0.0			
	REPAIR DETAILS" SHEET.	COLUMN	0.0	0.0			
►	FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.	EPOYY RESTN THIECTT	IN.FT.				
	FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.						
	FOR EPOXY COATING, SEE SPECIAL PROVISIONS.	CAP		0.0			
SPAN B		COLUMN		0.0			
SPAN A	- SHOTCRETE REPAIR	EPOXY COATING	AREA SF				
	FRT - FPOXY RESTN INJECTION	TOP OF CAP	120.0				
		VALUES TN CHADT DEDDESENT EST	TMATED DE				



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	SPAN A

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







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NOTES:

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

 \mathbb{V} - SHOTCRETE REPAIR

ERI - EPOXY RESIN INJECTION



ELEVATION (SPAN C SIDE)

	SPAN C
 · - ·	SPAN B

REPAIR QUANTITY TABLE						
DENT 2		QUANT	ITIES			
DENI Z	ESTI	MATE	ACT	UAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
CAP (VERTICAL FACE)	0.0	0.0				
CAP (HORIZONTAL, CORNER)	0.0	0.0				
COLUMN	0.0	0.0				
EPOXY RESIN INJECTI	LN.FT.		LN.FT.			
CAP		0.0				
COLUMN		0.0				
EPOXY COATING	AREA SF					
TOP OF CAP	120.0					
ALLIES TN CHADT DEDDESENT ESTTMATED DEDATD TOTALS AFTED						

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.

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REPAIR QUANTITY TABLE							
	QUANTITIES						
	ESTI	MATE	ACT	UAL			
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
CAP (VERTICAL FACE)	0.0	0.0					
CAP (HORIZONTAL, CORNER)	0.0	0.0					
COLUMN	0.0	0.0					
EPOXY RESIN INJECTI	ON	LN.FT.		LN.FT.			
САР		0.0					
COLUMN		0.0					
EPOXY COATING	AREA SF						
TOP OF CAP	120.0						
VALUES TN CHART REPRESENT ESTIMATED REPATR TOTALS AFTER							

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

- SHOTCRETE REPAIR

ERI - EPOXY RESIN INJECTION





REPAIR QUANTITY TABLE							
	QUANTITIES						
	ESTI	MATE	ACT	UAL			
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
CAP (VERTICAL FACE)	0.0	0.0					
CAP (HORIZONTAL, CORNER)	0.0	0.0					
COLUMN	0.0	0.0					
EPOXY RESIN INJECTI	ON	LN.FT.		LN.FT.			
САР		0.0					
COLUMN		0.0					
EPOXY COATING	AREA SF						
TOP OF CAP	120.0						
VALUES IN CHART REPRESENT ESTIMATED REPATR TOTALS AFTER							

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





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NOTE

CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF $\frac{1}{2}$ " BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

* IF CONFINEMENT STEEL IS NOT PRESENT, THEN REPAIR LENGTH SHALL NOT EXCEED 10 FEET.

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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 SO.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:

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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

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