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NOTES:

SHOTCRETE REPAIRS MAY BE REPLACED WI

REPAIR LOCATIONS AND ESTIMATE OF QUAN IF ADDITIONAL REPAIRS NOT SHOWN ON TH THE ENGINEER WILL NOTE ON THE DRAWINGS REPAIRS AND ENTER THE ACTUAL QUANTITIN

FOR CAP REPAIRS, SEE "TYPICAL CAP AND

FOR SHOTCRETE REPAIR, SEE SPECIAL PROV

FOR CONCRETE REPAIR, SEE SPECIAL PROVIS

CLEAN AND REMOVE DEBRIS FROM THE TOP APPLY EPOXY PROTECTIVE COATING.EPOXY BE APPLIED TO THE TOP SURFACE OF THE C CONTRACTOR SHALL NOT COAT THE AREA OF BENEATH THE MASONRY PLATES.FOR EPOXY ( SPECIAL PROVISIONS.

	AS-BUILT I	REPA	IR Q	UANT	[ΤΥ Τ	ABLE	
	END BENT	1	ECTT				
	SHOTCRETE REF	PAIRS	AREA	VOLUME	AREA	VOLUME	
	САР		0.0	0.0	SU.FT.		
	BACKWALL		0.0	0.0			
	CONCRETE REP	AIRS	AREA SQ.FT.	VOLUME CU.FT.	AREA SQ.FT.	VOLUME CU.FT.	
	САР		0.0	0.0			
	EPOXY RESIN	INJEC	CTION	LIN.FT.		LIN.FT.	
	BACKWALL			0.0			
	EPOXY COATT	١G	AR	EA	ARE	L	
	TOP OF CAP AT END	BENT 1	50 <b>.</b> 16	FT. 6.0	SQ. 1	•  .	
	TOP OF CAP AT BI	ENT 1	25	4.0			
	AS-BUILT I	REPA	IR Q	UANT]	[ΤΥ Τ	ABLE	
		2		QUANT	ITIES		
		۷	ESTI		ACT		
	SHOTCRETE REF	PAIRS	SQ.FT.	CU.FT.	SQ.FT.	CU.FT.	
	BACKWALL		0.0 9.0	0.0			
	CONCRETE REP	AIRS	AREA	VOLUME	AREA	VOLUME	
	САР		0.0	0.0	30.FT.		
	EPOXY RESIN	INJEC	CTION	LIN.FT.		LIN.FT.	
	BACKWALL			0.0			
			٨R	0.0 FA	ARE	<u> </u>	
	EPUXY CUATIN	NG	s0 <b>.</b>	FT.	SQ.FT.		
	TOP OF CAP AT END	BENT 2	16 25	7.0			
	VALUES IN CHART REP REMOVAL OF UNSOUND AND MINIMUM OF 2″CL SEE ``TYPICAL CAP AN	RESENT E CONCRETE EARANCE D COLUMN	STIMATED MINIMUM TO SAWCL N REPAIR	REPAIR T OF 1"BEH JT.FOR REF DETAILS''S	OTALS AFT IND REBAR PAIR DETA SHEET.	ER ILS,	
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	N REPAIR DETAILS"SH	EET.					
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OF TH COATI CAP. TH	E CAP AND ING SHALL HE	PROJE	ECT NO	I	-579	5	
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	8/4/2020 NOR TH CAROL SEAL 031583 TOCINET	DEF	partment	ATE OF NORTH CAN FOFTRA RALEIGH	NSPORTA	TION	
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F.A. PROJECT NO.: NHPP-0040(032)

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GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 8/21/2018.

BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS/ROUTINE INSPECTION.

SCOPE OF WORK	
PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS.	
OVERLAY PREPARED TOP OF BRIDGE DECK WITH POLYESTER POLYMER CONCRETE (PPC).	R
REMOVE EXISTING JOINT MATERIAL AND INSTALL POURABLE SILICONE JOINTS.	
REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS.	
GROOVE PPC BRIDGE DECK.	
CLEAN AND PAINT EXISTING WEATHERING STEEL BEAM ENDS.	
INJECT CONCRETE CRACKS WITH EPOXY RESIN.	
REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS AND PERFORM SHOTCRETE AND/OR CONCRETE REPAIRS.	
REMOVE DEBRIS FROM TOP OF EXISTING END BENT AND BENT CAPS AND APPLY EPOXY COATING.	
CERTIFY THAT THIS STRUCTURE WAS REHABILITATED	

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

RESIDENT ENGINEER

DATE

TO PETER CREEK PKWY.

ACE @ ENT 2	
	PROJECT NO. <u>I-5795</u> <u>FORSYTH</u> COUNTY BRIDGE NO. <u>330489</u>
RTH CAROLINA BRTH CAROLINA CAROLINA CAROLINA CEESSION	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH
SEAL 22005 CINETE CO	GENERAL DRAWING FOR BRIDGE ON I-40 EBL OVER NC 150 RAMPS
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			AS-B	UILT	R
TOP OF DECK REPAIRS	APPROACH	I SLAB 1		SPAN	1 A
	ESTIMATE	ACTUAL	ESTIN	<b>/</b> ATE	
SCARIFYING BRIDGE DECK	75.0 SQ. YDS.		268.0	SQ.YDS.	
SHOTBLASTING BRIDGE DECK	75.0 SQ. YDS.		268.0	SQ.YDS.	
CLASS II SURFACE PREPARATION	0.3 SQ. YDS.		0.0 \$	SQ.YDS.	
CONCRETE DECK REPAIR FOR PPC OVERLAY	0.3 SQ. YDS.		0.0 \$	SQ.YDS.	
POLYESTER POLYMER CONCRETE MATERIALS	2.6 CU. YDS.		9.3 (	CU.YDS.	
PLACING & FINISHING PPC OVERLAY	75.0 SQ. YDS.		268.0	SQ.YDS.	
GROOVING BRIDGE FLOOR	672.0 SQ.FT.		2263.0	SQ.FT.	
EPOXY RESIN INJECTION			0.0 L	IN.FT.	
			ESTI	ΜΑΤΕ	
SHOTCRETE REPAIRS			AREA SQ.FT.	VOLUME CU.FT.	A SC
CONCRETE BARRIER RAIL			0.0	0.0	

DRAWN BY :	A. SORSENGINH	DATE	: .	10/2019
CHECKED BY :	E.BAYISSA	DATE	:	1/2020

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

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

\* RADIAL DIMENSION

### REPAIR QUANTITY TABLE APPROACH SLAB 2 SPAN B SPAN C ACTUAL ESTIMATE ACTUAL ESTIMATE ACTUAL ESTIMATE ACTUAL 228.0 SQ. YDS. 75.0 SQ. YDS. 491.0 SQ. YDS. 75.0 SQ. YDS. 491.0 SQ. YDS. 228.0 SQ. YDS. 0.0 SQ. YDS. 7.9 CU. YDS. 17.0 CU. YDS. 2.6 CU. YDS. 75.0 SQ. YDS. 491.0 SQ. YDS. 228.0 SQ. YDS. 1922.0 SQ.FT. 672.0 SQ.FT. 4172.0 SQ.FT. 0.0 LIN.FT. 0.0 LIN.FT. ACTUAL ESTIMATE ACTUAL ESTIMATE ACTUAL AREAVOLUMEAREAVOLUMEAREAVOLUMEQ.FT.CU.FT.SQ.FT.CU.FT.SQ.FT.CU.FT. AREA VOLUME AREA VOLUME SQ.FT. CU.FT. SQ.FT. CU.FT. 0.6 0.2 0.0 0.0

### NOTES:



	PROJECT NO I-5795	
	FORSYTH CO	UNTY
	BRIDGE NO. 330489	
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JOINT REPAIR QUANTITY TABLE								
	CLASS I PREPA	I SURFACE RATION	CON DECK FOR PP(	CRETE REPAIR C OVERLAY				
END BENT 1	7.1	SY	7.1	SY				
END BENT 2	7.1	SY	7.1	SY				
<b>*</b> TOTAL	14.2	SY	14.2	SY				

NOTE THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL.IF ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN DETAIL BY MORE THAN  $\frac{1}{4}$ , NOTIFY ENGINEER. REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.

FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY IS COMPLETE.

THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT THE PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.

DURING THE JOINT INSTALLATION PROCEDURE, THE JOINT AND SURROUNDING AREA SHALL BE KEPT CLEAN AND FREE OF DEBRIS.

FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE BACKER ROD FOR THE EXISTING JOINT SIZE AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

A MANUFACTURER'S CERTIFIED TRAINED REPRESENTATIVE SHALL BE PRESENT DURING THE INSTALLATION OF THE FIRST JOINT OF THE PROJECT, OR UNTIL THE ENGINEER IS SATISFIED WITH THE INSTALLATION PROCESS.

THE INSTALLATION OF THE JOINT SEAL SHALL BE WATERTIGHT.

FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMEN OF REPAIR CONCRETE.

JOINT REPAIR QUANTITY TABLE							
	ESTIMATE	ACTUAL					
POURABLE SILICONE JOINT SEALANT							
END BENT 1	65.3 LF						
END BENT 2	65.7 LF						
TOTAL	131.0 LF						

PROJECT NO. <u>I-5795</u> FORSYTH \_ COUNTY BRIDGE NO. 330489

> STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

# JOINT DETAILS

			REVI	SION	1S		SHEET NO.
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E. BAYISSA \_ DATE : <u>5/2020</u>

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JOINT R	EPAIR QUANTI	TY TABLE				
CLASS II SURFACE PREPARATION PPC OVERLAY						
BENT 1	9 <b>.</b> 5 SY	9 <b>.</b> 5 SY				
BENT 2	9 <b>.</b> 5 SY	9 <b>.</b> 5 SY				
<b>*</b> TOTAL	19.0 SY	19 <b>.</b> 0 SY				
* BASED ON THE MINIMUM BLOCKOUT SHOWN.						

JOINT REPAIR	QUANTIT	Y TABLE					
FOAM JOINT SEALS FOR PRESERVATION	ESTIMATED	ACTUAL	Р	ROJECT NO	I	-5795	<u> </u>
BENT 1	64.2 LF		_	FORSY	ТН	CO	UNTY
BENT 2	64.4 LF		P		37	30489	9
TOTAL	128.6 LF		D	NIDUE NU			<u></u>
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		FINAL SIGNATL	UNLESS ALL		3 ]		TOTAL SHEETS 6

### NOTES

FOAM JOINTS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

THE INSTALLED FOAM JOINTS SHALL BE WATER TIGHT.

THE FOAM JOINTS SHALL MEET THE MANUFACTURER'S RECOMMENDATION FOR THE SIZE OF OPENING ON THE PLANS, AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS AT THE BENTS.

CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL.IF ACTUAL JOINT OPENING VARIES FROM OPENING INDICATED IN DETAIL BY MORE THAN 1/4", NOTIFY ENGINEER REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.

FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE.



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### NOTES:

SHOTCRETE REPAIRS MAY BE REPLACED WI

REPAIR LOCATIONS AND ESTIMATE OF QUAN IF ADDITIONAL REPAIRS NOT SHOWN ON TH THE ENGINEER WILL NOTE ON THE DRAWINGS REPAIRS AND ENTER THE ACTUAL QUANTITI

FOR CAP REPAIRS, SEE "TYPICAL CAP AND

FOR SHOTCRETE REPAIR, SEE SPECIAL PROV

FOR CONCRETE REPAIR, SEE SPECIAL PROVI

CLEAN AND REMOVE DEBRIS FROM THE TOP APPLY EPOXY PROTECTIVE COATING.EPOXY BE APPLIED TO THE TOP SURFACE OF THE C CONTRACTOR SHALL NOT COAT THE AREA OF BENEATH THE MASONRY PLATES.FOR EPOXY ( SPECIAL PROVISIONS.

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	AS-BUILT F	REPA	IR Q	JANT]	<u>[ΤΥ Τ</u>	ABLE		
	END BENT	1	QUANTITIES					
	SHOTCRETE REF	PAIRS	AREA	VOLUME	AREA	VOLUME		
	САР		0.0	0.0	SU. FT.	<u> </u>		
	BACKWALL		0.0					
	CONCRETE REPA	AIRS	SQ.FT.	CU.FT.	SQ.FT.	CU.FT.		
	САР		0.0	0.0				
	EPOXY RESIN	INJEC	CTION	LIN.FT.		LIN.FT.		
	BACKWALL			2.7				
			۸P	0.0 F A	٨RE	· ^		
	EPOXY COATIN	IG	SQ.	FT.	SQ. F	T.		
	TOP OF CAP AT END	BENT 1	148 22	8.0 1.0				
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	END BENT	2	ESTI	QUANT MATE	ACT	UAL		
	SHOTCRETE REF	PAIRS	AREA SO ET		AREA SO ET			
	САР		0.0	0.0				
	BACKWALL		0.0 ARF 4		۵RF۵			
	CONCRETE REPA	TK2	SQ.FT.	CU.FT.	SQ.FT.	CU.FT.		
			0.0	0.0				
	EPOXY RESIN	INJEC	CTION	LIN.FT.		LIN.FT.		
	BACKWALL			0.0				
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TYPICAL	SECTION
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NOTE: SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND DECK SEAL PLACEMENT.



	APPROACH SLAB	QUANTIT	IES
H THE BEST		ESTIMATE	ACTUAL
TE ON THE AND	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	5.7 SF	
EPAIR QUANTITY	SHOTBLASTING APPROACH SLAB	194 SY	
	SILANE DECK TREATMENT	194 SY	
		ΛΝΤΤΤΤΓΟ	
COMPLETE N FOR		FSTTMATE	ΔΩΤΙΙΛΙ
Y FPAXY PRATECTIVE	CONCRETE DECK REPAIR		AUTUAL
E OF THE CAP. THE E MASONRY PLATES.	FOR SILANE DECK TREATMENT	157 4 SF	
	SHOTBLASTING BRIDGE DECK	1639 SY	
LAILU WIIN SILANE	SILANE DECK TREATMENT	1639 SY	
	SURFACE PREPARATION FOR CONCRETE BARRIER	1368.0 SF	
	SILANE BARRIER RAIL	1368.0 SF	
	EPOXY COATING CONCRETE		
	GIRDER ENDS	404.2 SF	
END BENT 2			
FII	LL FACE @		
EN	ID BENT 2		
	SHOT-BLASTING		
	DECK TREATMENT		
★ # 1			
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HECKED BY : _	M.G.SHAIKH	DATE : <u>5/2018</u>

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### NOTES:

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE ``DIAPHRAGM REPAIR DETAILS" SHEET.

UNDERSIDE EPOXY COATING UNDERSIDE REPAIR DIAPHRAGM REPAIR ----- ERI - EPOXY RESIN INJECTION

AS-BUILT REPAI	IR QL	JANTI	ΤΥ Τ	ABLE						
UNDERSIDE OF DECK REPAIRS										
	ESTI	[MATE	ACT	ACTUAL						
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF						
UNDERSIDE OF DECK	0.0	0.0								
UNDERSIDE OF OVERHANG	0.0	0.0								
INTERIOR DIAPHRAGMS	34.7	11.6								
GIRDERS	0.0	0.0								
	ESTI	[MATE	ACT	UAL						
UNDERSIDE EPOXY RESIN INJECTION	0.0	) LF								

VALUES REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1"BEHIND REBAR AND MINIMUM OF 2"CLEAR TO SAWCUT.SEE REPAIR DETAILS.

TO WINSTON SALEM

	BRIDG	E NO	3	<u>30161</u>			
	DEPA	stat RTMENT	OF NORTH CAR	NSPORTA	TION		
PLAN OF SPANS							
		REVIS	SIONS		SHEET NO.		
	NO. BY:	DATE:	NO. BY:	DATE:	S15-04		
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DRAWN BY :	A. SORSENGINH	DATE : <u>1/2018</u>
CHECKED BY :	M.G.SHAIKH	DATE : <u>3/2018</u>

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JOINT REPAIR QUANTITY TABLE									
BRIDGE J DEMOLIT		JOINT ITION	ELASTOMERIC CONCRETE FOR PRESERVATION		FOAM JOINT SEALS FOR PRESERVATION				
ESTIMATE		ACTUAL	ESTIMATED	ACTUAL	ESTIMATED	ACTUAL			
END BENT 1	78.7 SF		19.7 CF		78.7 LF				
END BENT 2	78.7 SF		19.7 CF		78.7 LF				
* TOTAL	157 <b>.</b> 4 SF		39.4 CF		157 <b>.</b> 4 LF				
* BASED ON THE MINIMUM BLOCKOUT SHOWN.									

	NOTES
	FOAM JOINTS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.
- END BENT 2	FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.
	FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
G FOR	THE INSTALLED FOAM JOINTS SHALL BE WATER TIGHT.
SEAL ANE DECK EATMENT (TYP.)	THE FOAM JOINTS SHALL MEET THE MANUFACTURER'S RECOMMENDATION FOR THE SIZE OF OPENING ON THE PLANS, AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.
	THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.
	THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS AT THE END BENTS 1 AND 2.
$\geq$	FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.
	CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL.IF ACTUAL JOINT OPENING VARIES FROM OPENING INDICATED IN DETAIL BY MORE THAN 1/4", NOTIFY ENGINEER REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.
NT SEAL	DEMOLISH BRIDGE JOINT AREA TO THE NECESSARY DEPTH, SUCH THAT ELASTOMERIC CONCRETE SHALL BE FOUNDED ON SOUND CONCRETE OR REPAIR CONCRETE SUBSTRATE.IF SUCH EXCAVATION EXTENDS MORE THAN 2"BELOW THE BOTTOM OF THE PLANNED ELASTOMERIC CONCRETE HEADER, AS SHOWN, APPROVED CONCRETE REPAIR MATERIAL SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT THE BOTTOM OF THE ELASTOMERIC CONCRETE.
	FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF ELASTOMERIC CONCRETE AND/ OR REPAIR CONCRETE SHALL BE REASONABLY FLAT AND LEVEL.ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF ELASTOMERIC CONCRETE OR CONCRETE REPAIR MATERIAL.

	PROJECT F BRIDGE	「 NO. <u>ORS</u> NO.	<u> </u>	<u>-5795</u> co 30161	5 UNTY	
8/4/2020 TH CAROL MARTIN	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SE AL 031583 Docusionery PRASAD Krishna P. Sedai EA6F794150BF4B7	TAILS	>				
		REVIS	IONS		SHEET NO.	
DOCUMENT NOT CONSIDERED	NO. BY:	DATE:	NO. BY:	DATE:	S15-05	
FINAL UNLESS ALL SIGNATURES COMPLETED	1		3 4		TOTAL SHEETS 7	



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# NOTES:

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FOR	С	AP	RE	PA	IR	s, s	SEE	• • •	ΤYF	PIC	CAL	_ (	2
FOR	S	нот	CR	ΕT	ΕF	REP	AI	<b>R</b> , 3	SEE	S	PE		•
FOR	С	ONC	RE	ΤE	R	ΕΡΑ	IR	<b>,</b> SI	EE	SP	ЪЗ	:14	1
CLE COA ARE	AN TI A	AN NG OF	ID S⊢ TH	REI IAL	MO L [ CAF	VE BE PB	DE AP EN	BR PL EA	IS IED TH	FF T TH	RON O IE	Л ТН МД	

	AS-BUILT REPA	IR Q	UANT	στη τ	ABLE
	END BENT 1	ESTI		ITIES	-1141
	SHOTCRETE REPAIRS			AREA	VOLUME
	САР	0.0	0.0	50.11.	
	BACKWALL	O.O AREA	0.0 VOLUME	AREA	VOLUME
	CONCRETE REFAIRS	SQ.FT. 0.0	CU.FT. 0.0	SQ.FT.	CU.FT.
	EPOXY RESIN INJE	CTION	LIN.FT.		LIN.FT.
	CAP		4.0 0.0		
	EPOXY COATING	A SC	REA D.FT.	AR SQ.	EA FT.
	TOP OF CAP	1	76.2		
	AS-BUILT REPA	IR Q	UANT	στη τ	ABLE
	END BENT 2	FSTI	QUANT MATE		-1141
	SHOTCRETE REPAIRS	AREA	VOLUME	AREA	VOLUME
	САР	0.0	0.0	<u> </u>	
	BACKWALL	0.0 AREA	0.0 VOLUME	AREA	VOLUME
	CONCRETE REFAIRS	SQ.FT. 0.0	CU.FT. 0.0	SQ.FT.	CU.FT.
	EPOXY RESIN INJE	CTION	LIN.FT.		LIN.FT.
	CAP		0.0		
	EPOXY COATING	A SC	REA D.FT.	AR SQ.	EA FT.
	VALUES IN CHART REPRESENT REMOVAL OF UNSOUND CONCRET AND MINIMUM OF 2"CLEARANC SEE ``TYPICAL CAP AND COLUM	ESTIMATE E.MINIMU E TO SAWC N REPAIR	D REPAIR 1 M OF 1"BEH UT.FOR RE DETAILS"	OTALS AF IND REBA PAIR DETA SHEET.	TER R MILS,
( BE REPLACE ESTIMATE OF NOT SHOWN E ON THE DRA ACTUAL QUAN TYPICAL CAP SEE SPECIAL SEE SPECIAL F RIS FROM THE IED TO THE ATH THE MASON	O WITH CONCRETE REPAIRS WI OUANTITIES ARE BASED ON T ON THE DRAWINGS ARE DEEMED AWINGS THE APPROXIMATE LOC NTITIES INTO THE AS-BUILT AND COLUMN REPAIR DETAILS PROVISIONS. PROVISIONS. TOP OF THE CAP AND APPLY TOP SURFACE OF THE CAP. THE NRY PLATES.FOR EPOXY COATI	TH THE AP THE BEST I NECESSAF ATIONS AN REPAIR OL S"SHEET.	PROVAL OF INFORMATIC Y BY THE D DESCRIP JANTITY TA DTECTIVE C OR SHALL N ECIAL PRO	THE ENGI ON AVAILA ENGINEER, TION OF BLE. OATING.ER NOT COAT VISIONS.	NEER. BLE. THE
	PROJ BRID	ECT NC FORS GE:	). <u>I</u> SYTH <u>33</u> ( IATE OF NORTH CA T OF TRA	<u>-579</u> <u>CC</u> 0161	5 DUNTY
	BICK SEAL OSI583 Docusigned by PRASAD Docusigned by PRASAD Krishna P. Sedai EA6F794150BF4B7	END [	BENTS	1 &	2
	MENT NOT CONSIDERED NO. BY:	REV DATE:	ISIONS	DATE:	SHEET NO. S15-06
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AS-BUILT REPAIR	QUAN	1 T I T V	Y TA	BLE
RENIT 1 DEDATOS		QUANT	ITIES	
DENTIREFAIRS	ESTI	ΜΑΤΕ	ACT	UAL
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
САР	0.0	0.0		
COLUMN	0.0	0.0		
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
САР	4.4	2.2		
EPOXY RESIN INJECTI	ON	LN. FT.		LN. FT.
САР		0.0		
COLUMN		0.0		
EPOXY COATING	AF S	REA SF	AR S	EA F
TOP OF CAP (BENTS 1 & 2)	57	5.0		
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER				

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING.FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.



SHOTCRETE AREA



CONCRETE AREA

← ERI - EPOXY RESIN INJECTION

REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1"BEHIND REBAR AND MINIMUM 2"CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN FOR REPAIR DETAILS" SHEET.

	PROJECT NOFORSY FORSY	<u>I-5795</u> TH <b>co</b> 330161	UNTY
8/4/2020 NOR TH CAROLINA OFESSION SEAL 031583 Docusigned by PRASAD	DEPARTMENT O SUBST BE	F NORTH CAROLINA F TRANSPORTAT RALEIGH RUCTURE ENT 1	ION
DOCUMENT NOT CONSIDERED	SPAN REVISIO NO. BY: DATE: NO 1	A FACE	SHEET NO. S15-07
SIGNATURES COMPLETED	2 4		7



F.A. PROJECT NO .: NHPP-0040(032)

### NOTES

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 8/7/2018.

BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS/ROUTINE INSPECTION.

EXISTING GROUND

\_FILL FACE @ END BENT 2

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

RESIDENT ENGINEER

DATE

# SCOPE OF WORK

PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS. APPLY DECK SEALANT TO PREPARED TOP OF BRIDGE DECK. REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS.

REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS AND PERFORM SHOTCRETE AND/OR CONCRETE REPAIRS.

CLEAN AND EPOXY COAT EXISTING PRESTRESSED CONCRETE GIRDER ENDS.

REMOVE DEBRIS FROM TOP OF EXISTING END BENT AND BENT CAPS AND APPLY EPOXY COATING. EPOXY RESIN INJECTION OF CONCRETE CRACKS.

TO WINSTON SALEM

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<sup>2</sup> SEAL 22005

ACINEE? ~YTH by PA-

-F8B6AD6DB2FC48F...

FILL FACE @ END BENT 2

	PROJECT NO. <u>I-5795</u> FORSYTH county BRIDGE NO. <u>330162</u>
8/4/2020 TH CAROLINA NUMBER CAROLINA	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH
SEAL 031583 Docusioner Krishna P. Sedai	GENERAL DRAWING For bridge on I-40 wbl over muddy creek

		REVISIONS					SHEET NO.
DOCUMENT NOT CONSTDERED	NO.	BY:	DATE:	NO.	BY:	DATE:	S16-01
FINAL UNLESS ALL	1			3			TOTAL SHEETS
SIGNATURES COMPLETED	2			4			5



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



			TEC
HE BEST HE DRAWINGS	CONCRETE DECK REPAIR		ACTORE
REPAIRS AND	FOR SILANE DECK TREATMENT		
	SHOTBLAST APPROACH SLAB	194 SY	
	SILANE DECK TREATMENT	194 SY	
	BRIDGE QU	JANTITIES	
PLETE OR		ESTIMATE	ACTUAL
POYY PROTECTIVE	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	5.0 SF	
F THE CAP. THE	BRIDGE JOINT DEMOLITION	157.4 SF	
ASUNIT TEATES.	SHOTBLAST BRIDGE DECK	1639 SY	
REATED WITH	SILANE DECK TREATMENT	1639 SY	
	SURFACE PREPARATION FOR CONCRETE BARRIER	1368 SF	
	SILANE BARRIER RAIL	1368 SF	
	EPOXY COATING CONCRETE		
	GIRDER ENDS	402 55	
	EPOXY	COATING	
		ESTIMATE AREA	ACTUAL AREA
		SQ. FT.	SQ.FT.
	END BENI 1	176.2	
	DENI I RENT 2	28(.5	
	END BENT 2	176.2	
	WINSTON SALEM PROJECT NO FORS BRIDGE NO.	<u>I-57</u> YTH 3301	2 <u>95</u> county 62
12'-0" 8/4/20 APPROACH SLAB	DEPARTMENT	TE OF NORTH CAROLINA OF TRANSPOI RALEIGH	RTATION
Docuss Krist EA6F7	SEAL O31583 MCINER PRASAD MA PRASAD MA PRASAD MI MA PRASAD MI MA PRASAD MI MA PRASAD MI MA PRASAD MI MA PRASAD MI MI MI MI MI MI MI MI MI MI	PREPAR LANE DE EATMENT	ATION CK
			SHEET NO.
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\_ DATE : <u>5/2018</u> M.G.SHAIKH CHECKED BY :

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### NOTES:

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

FOR UNDERSIDE OF DECK AND DIAPHRAGM REPAIRS, SEE ``DIAPHRAGM REPAIR DETAILS" SHEET.

UNDERSIDE EPOXY COATING UNDERSIDE REPAIR DIAPHRAGM REPAIR ----- ERI - EPOXY RESIN INJECTION

AS-BUILT REPAI	IR QL	JANTI	ΤΥ Τ	ABLE
UNDERSIDE OF	DECK	REPAIR	S	
SHOTCRETE REPAIRS	ESTI AREA SF	MATE VOLUME CF	ACT AREA SF	UAL VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	7.6	2.5		
GIRDERS	0.0	0.0		
	ESTI	MATE	ACT	UAL
UNDERSIDE EPOXY RESIN INJECTION	0.0	) LF		

VALUES REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1"BEHIND REBAR AND MINIMUM OF 2"CLEAR TO SAWCUT.SEE REPAIR DETAILS.

TO WINSTON SALEM

FILL FACE @

END BENT 2

	PROJEC	CT NO. Forsy F NO.	<u> </u>	<u>-5795</u> co 30162	5 OUNTY
8/4/2020 NORTH CAROLINA ORGESSION SEAL 031583 TOCINEER S	DEPA	RTMENT	E OF NORTH CAR OF TRAN RALEIGH	NSPORTA	TION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	NO. BY: 1 2	REVIS	SIONS NO. BY: 3	DATE:	SHEET NO. S16-04 TOTAL SHEETS 5





DRAWN BY :	A. SORSENGINH	DATE : 1/2018
CHECKED BY :	M.G.SHAIKH	DATE : <u>3/2018</u>



JOINT REPAIR QUANTITY TABLE						
	BRIDGE DEMOLI	JOINT ITION	ELASTOMERI FOR PRES	C CONCRETE ERVATION	FOAM JO FOR PRES	INT SEALS SERVATION
	ESTIMATED	ACTUAL	ESTIMATED	ACTUAL	ESTIMATED	ACTUAL
END BENT 1	78.7 SF		19.7 CF		78.7 LF	
END BENT 2	78.7 SF		19.7 CF		78.7 LF	
* TOTAL	157 <b>.</b> 4 SF		39 <b>.</b> 4 CF		157 <b>.</b> 4 LF	
* BASED ON THE MINIMUM BLOCKOUT SHOWN.						

SEAL 031583

PRAS

Krishna F EA6F794150BF4B7

# JOINT SEAL DETAILS AT END BENTS

	NOTES
	FOAM JOINTS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.
- END BENT 2	FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.
	FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
FOR	THE INSTALLED FOAM JOINTS SHALL BE WATER TIGHT.
ANE DECK EATMENT (TYP.)	THE FOAM JOINTS SHALL MEET THE MANUFACTURER'S RECOMMENDATION FOR THE SIZE OF OPENING ON THE PLANS, AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.
	THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.
	THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS AT THE END BENTS 1 AND 2.
$\geq$	FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.
	CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL.IF ACTUAL JOINT OPENING VARIES FROM OPENING INDICATED IN DETAIL BY MORE THAN ¼, NOTIFY ENGINEER REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.
' SEAL	DEMOLISH BRIDGE JOINT AREA TO THE NECESSARY DEPTH, SUCH THAT ELASTOMERIC CONCRETE SHALL BE FOUNDED ON SOUND CONCRETE OR REPAIR CONCRETE SUBSTRATE.IF SUCH EXCAVATION EXTENDS MORE THAN 2"BELOW THE BOTTOM OF THE PLANNED ELASTOMERIC CONCRETE HEADER, AS SHOWN, APPROVED CONCRETE REPAIR MATERIAL SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT THE BOTTOM OF THE ELASTOMERIC CONCRETE.
	FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF ELASTOMERIC CONCRETE AND/ OR REPAIR CONCRETE SHALL BE REASONABLY FLAT AND LEVEL.ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF ELASTOMERIC CONCRETE OR CONCRETE REPAIR MATERIAL.

	FORSYTH	COUNTY
	BRIDGE NO.	330162
11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	STATE OF NORTH OF DEPARTMENT OF TR RALEIGH	CAROLINA ANSPORTATION
141 141 141		

PROJECT NO. 1-5795

# JOINT DETAILS

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ſſ	OCUMENT NOT CONSTDERED	NO.	BY:	DATE:	NO.	BY:	DATE:	S16-05
ľ	FINAL UNLESS ALL	1			3			TOTAL SHEETS
	SIGNATURES COMPLETED	2			4			5



F.A. PROJECT NO .: NHPP-0040(032)

### NOTES

PROFILE INFOMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 9/11/2018.

BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

CHARTING GROUND LINE

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

RESIDENT ENGINEER

DATE

# SCOPE OF WORK

- SURFACE PREPARATION AND PAINTING OF WEATHERING STEEL GIRDER ENDS AND BEARINGS.
   PREPARE CONCRETE DECK SURFACE BY SHOTBLASTING.
   APPLY SILANE DECK TREATMENT.
   REMOVE EXISTING MODULAR EXPANSION JOINT AND REPLACE WITH TRANSFLEX JOINT.
   REMOVE DEBRIS FROM TOP OF EXISTING END BENT CAPS AND APPLY EPOXY COATING.

<b>&gt; &gt;</b>	PROJECT NO. <u>I-5795</u> <u>FORSYTH</u> COUNTY BRIDGE NO. <u>330444</u>
SEAL 22005 NGNEER CHAROL SEAL 22005 NGNEER CHAROL SEAL 22005 NGNEER CHAROL NGNEER CHAROL NGNEER CHAROL NGNEER CHAROL NGNEER CHAROL CHA	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH GENERAL DRAWING FOR BRIDGE ON US 421 SBL RAMP
EA6F794150BF4B7	REVISIONS SHEET NO.
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	NO.         BY:         DATE:         NO.         BY:         DATE:         S17-01           1         3         3         TOTAL SHEETS 10         10



	PROJEC [ BRIDGE	CT NO. Fors` E NO	<u> </u>	<u>-5795</u> co <u>)444</u>	5 OUNTY
SHEET 2 OF 2					
8/4/2020 TH CAROLINA SUNNING TH CAROLINA	DEPA	stat RTMENT	e of north car OF TRAN Raleigh	OLINA NSPORTA	TION
SEAL 031583 Docusigner by PRASAD Krishna P. Sedai	GI ove	ENER FOR US 42 ER I-4	AL DF BRIDG 21 SBL 0 AND	RAWIN E ON RAMP I-40 I	NG BUS
		REVIS	SIONS		SHEET NO.
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO. BY:	DATE:	S17-02
FINAL UNLESS ALL	1		3		TOTAL SHEETS
SIGNATURES COMPLETED	2		4		10



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L\_\_\_\_\_

GIRDER 1

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GIRDER 2

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TYPICAL SECTION (PROPOSED)

### NOTE:

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

	PROJECT NO. <u>I-5795</u> <u>FORSYTH</u> COUNTY BRIDGE NO. <u>330444</u>					
8/4/2020 H CAROLANA NORTH CAROLANA CESSIO	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SEAL 031583 Docusioner Krishna P. Sedai EA6F794150BF4B7	TYPICAL SECTION					
		REVIS	SION	١S		SHEET NO.
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO.	BY:	DATE:	S17-03
FINAL UNLESS ALL	1		3			TOTAL SHEETS
SIGNATURES COMPLETED	2		4			10



DRAWN BY :	A. SORSENGINH	DATE :	4/2018
CHECKED BY :	M. G. SHAIKH	DATE :	5/2018

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### NOTES:

	APPROACH SLAB QUANTITIES			
IN WITH THE REST		ESTIMATE	ACTUAL	
HOWN ON THE DEST HOWN ON THE DRAWINGS WILL NOTE ON THE N OF THE REPAIRS AND	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	0 SF		
UILI REPAIR QUANIIIY	SHOTBLAST APPROACH SLAB	62 SY		
LL BE COMPLETE PRIOR N FOR SILANE DECK	SILANE DECK TREATMENT	62 SY		
D APPLY EPOXY PROTECTIVE	SILANE BARRIER RAIL TREATMENT	16 SF		
SURFACE OF THE CAP. THE ATH THE MASONRY PLATES.	SURFACE PREPARATION FOR CONCRETE BARRIER	16 SF		
BE TREATED WITH SILANE	BRIDGE QU	ANTITIES		
		ESTIMATE	ACTUAL	
	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	0 SF		
ATMENT	SHOTBLAST BRIDGE DECK	1,485 SY		
ATMENT	SILANE DECK TREATMENT	1,485 SY		
	SILANE BARRIER RAIL TREATMENT	1,934 SF		
	SURFACE PREPARATION FOR CONCRETE BARRIER	1,934 SF		

PROJECT NO. <u>I-5795</u> <u>FORSYTH</u> COUNTY BRIDGE NO. <u>330444</u> SHEET 1 OF 2					
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SEAL O31583 CONFER SEAL O31583 CONFER SURFACE PREPARATION & SILANE DECK TREATMENT					
REVISIONS	SHEET NO.				
DOCUMENT NOT CONSIDERED NO. BY: DATE: NO. BY: DATE:	S17-04				
FINAL UNLESS ALL 1 3 SIGNATURES COMPLETED 2 4	TOTAL SHEETS 10				

DRAWN BY :	A. SORSENGINH	DATE : <u>4/2018</u>
CHECKED BY :	M.G.SHAIKH	DATE : <u>5/2018</u>

		DATE 4/2019	
UKAWN BY :		UAIE : <u>4/2018</u>	
CHECKED BY :	M. C. SHAIKH	DATE : <u>572018</u>	



+

### NOTES:

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHO ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WI DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE AS-BU TABLE.

CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT SHALL TO SHOTBLAST OF ENTIRE DECK SURFACE FOR PREPARATION TREATMENT.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SI CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEA FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

ONLY INNER SURFACE AND TOP SURFACE OF BARRIER WILL PENETRANT SEALER.

CONCRETE DECK REPAIR FOR SILANE DECK TREA

SHOTBLAST BRIDGE DECK AND SILANE DECK TREA

# <u>Plan of spans d, e, and f</u>

	APPROACH SLAE	3 QUANTIT	IES		
N WITH THE BEST		ESTIMATE	ACTUAL		
OWN ON THE DRAWINGS VILL NOTE ON THE N OF THE REPAIRS AND	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	0 SF			
UILI REPAIR QUANIIIY	SHOTBLAST APPROACH SLAB	62 SY			
L BE COMPLETE PRIOR N FOR SILANE DECK	SILANE DECK TREATMENT	62 SY			
D APPLY EPOXY PROTECTIVE SURFACE OF THE CAP. THE	SILANE BARRIER RAIL TREATMENT	16 SF			
ATH THE MASONRY PLATES.	SURFACE PREPARATION FOR CONCRETE BARRIER	16 SF			
BE TREATED WITH SILANE	BRIDGE QUANTITIES				
		ESTIMATE	ACTUAL		
	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	0 SF			
ATMENT	SHOTBLAST BRIDGE DECK	1,657 SY			
ATMENT	SILANE DECK TREATMENT	1,657 SY			
	SILANE BARRIER RAIL TREATMENT	2,158 SF			
	SURFACE PREPARATION FOR CONCRETE BARRIER	2,158 SF			

© MODULAR JT. ◎ END BENT 2

\_FILL FACE @ END BENT 2 'n  $\triangleright$ B TO GREENSBORO LIMITS OF SHOT-BLASTING & SILANE DECK TREATMENT 빙

![](_page_24_Picture_17.jpeg)

	PROJEC F BRIDGE	CT NO. CORS NO	 (TH 3	I 330	- <u>5795</u> CO )444	5 OUNTY
8/4/2020 NOTESSION SEAL 031583 Docusigner by PRASAD Krishna P. Sedai EA6F794150BF4B7	depa SURI	RTMENT	PR	TH CARC <b>RAN</b> IGH REP NE ME	PARAT DECK	τιοΝ ΙΟΝ
		REVIS	SIONS			SHEET NO.
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO. B	Y:	DATE:	S15-05
FINAL UNLESS ALL SIGNATURES COMPLETED	1		3 4			total sheets 10

![](_page_25_Figure_0.jpeg)

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![](_page_26_Figure_0.jpeg)

![](_page_27_Figure_0.jpeg)

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![](_page_27_Figure_3.jpeg)

![](_page_27_Figure_4.jpeg)

![](_page_28_Figure_0.jpeg)

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![](_page_28_Figure_3.jpeg)

SECTION B-B

![](_page_28_Figure_5.jpeg)

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

### NOTES:

THE CONTRACTOR SHALL CUT THE EXISTING #5 ``S'' 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.

	PROJEC	CT NO. Fors` E no.	<u> </u>	-5795 co <u>)444</u>	5 OUNTY
8/4/2020 MARTH CARO SEAL O31583 FOCNEFR Docusioner P. Sedai EA66794150BF4B7	depa J( TH ENE	RTMENT	e of north car OF TRAN RALEIGH DETA RRIE BEN NT 1	NSPORTA NSPORTA R RA T 2 SIMII	TION T IL _AR
		REVIS	SIONS		SHEET NO.
DOCUMENT NOT CONSIDERED	NU. BY: ≤1	DATE:	NO. BY: න	DATE:	
FINAL UNLESS ALL SIGNATURES COMPLETED	2		୬ 4		SHEETS 10

![](_page_29_Figure_0.jpeg)

FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET. CONCRETE REPAIRS MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

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 WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR

> AS-BUILT REPAIR QUANTITY TABLE QUANTITIES BENT 2 REPAIRS ESTIMATE ACTUAL AREA VOLUME SF CF AREA VOLUME SHOTCRETE REPAIRS SF CF 0.0 0.0 COLUMN 3.0 1.5 AREA VOLUME AREA VOLUME SF CF SF CF CONCRETE REPAIRS 0.0 0.0 LN. FT. LN. EPOXY RESIN INJECTION FΤ. 0.0 COLUMN 0.0 \* EPOXY COATING ON SQ. FT. SQ. FT. TOP OF CAP END BENT 1 116.5 END BENT 2 116.5

\* END BENT NOT SHOWN ON THIS SHEET. TOP SURFACE OF BEND BENT CAP EXCEPT BRIDGE SEATS SHOULD BE EPOXY COATED

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

SHOTCRETE AREA

CONCRETE AREA

----- ERI - EPOXY RESIN INJECTION

	<u> </u>
	COUNTY
	BRIDGE NO. 330444
	STATE OF NORTH CAROLINA
8/4/2020	DEPARTMENT OF TRANSPORTATION RALEIGH
SEAL 031583	SUBSTRUCTURF
Docusigned by PRASAD UNIT	BENT 2 SPAN C FACE
Krishna P. Sedai EA6F794150BF4B7	JIAN CIACL
	REVISIONS SHEET NO.
DOCUMENT NOT CONSIDERED	NO. BY: DATE: NO. BY: DATE: S17-10
FINAL UNLESS ALL SIGNATURES COMPLETED	2 4 10 SHEETS

![](_page_30_Figure_0.jpeg)

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F.A. PROJECT NO .: NHPP-0040(032)

### NOTES

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 7/8/2019.

BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS/ROUTINE INSPECTION.

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

RESIDENT ENGINEER

DATE

### SCOPE OF WORK

PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS. APPLY DECK SEALANT TO PREPARED TOP OF BRIDGE DECK. REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS.

REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS AND PERFORM SHOTCRETE AND/OR CONCRETE REPAIRS.

CLEAN AND EPOXY COAT EXISTING PRESTRESSED CONCRETE GIRDER ENDS.

REMOVE DEBRIS FROM TOP OF EXISTING END BENT AND BENT CAPS AND APPLY EPOXY COATING.

EPOXY RESIN INJECTION OF CONCRETE CRACKS.

	PROJEC F BRIDGE	CT NO. Forsy E NO	I /TH 33	<u>-5795</u> co 30448	5 OUNTY
8/4/2020 8/4/2020 8/4/2020 8/4/2020 8/4/2020 8/4/2020 8/4/2020 9/10/10/10/10/10/10/10/10/10/10/10/10/10/	depa GI F OF O	RTMENT	E OF NORTH CAR OF TRAN RALEIGH AL DF GE ON STGAT	NSPORTA NSPORTA I-40 E DRIV	TION NG EBL /E
		REVIS		DATE	SHEET NO.
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FINAL UNLESS ALL SIGNATURES COMPLETED	1		3 4		total sheets 7

![](_page_31_Figure_0.jpeg)

![](_page_31_Figure_1.jpeg)

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	Γ	

DRAWN BY :	A. SORSENGINH	DATE : <u>4/2018</u>
CHECKED BY :	M.G.SHAIKH	DATE : <u>6/2018</u>

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![](_page_31_Figure_5.jpeg)

![](_page_31_Figure_6.jpeg)

# NOTE:

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

F - E	PROJEC BRIDGE	CT NO. Fors` E NO	<u> </u>	<u>-5795</u> CO 30448	UNTY
8/4/2020 H CARO////////////////////////////////////	DEPA	stat NRTMENT	E OF NORTH CAR OF TRAN RALEIGH	OLINA NSPORTA	TION
SEAL 031583 Docusioner P. Sedai EA6F794150BF4B7	T T R	YPIC & SI EATM	AL SE LANE ENT [	CTIO DECK DETAI	N LS
		REVIS	SIONS		SHEET NO
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FINAL UNLESS ALL SIGNATURES COMPLETED	1		3 4		TOTAL SHEETS 7

![](_page_32_Figure_0.jpeg)

	APPROACH SLAB	QUANTIT	IES			
VITH THE BEST		ESTIMATE	ACTUAL			
NOTE ON THE DRAWINGS NOTE ON THE THE REPAIRS AND	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	0.0 SF				
T REPAIR QUANTITY	SHOTBLASTING APPROACH SLAB	173 SY				
	SILANE DECK TREATMENT	173 SY				
OVISIONS.	BRIDGE QUANTITIES					
BE COMPLETE		ESTIMATE	ACTUAL			
IION FOR	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	0.0 SF				
TREATED WITH SILANE	BRIDGE JOINT DEMOLITION	284.4 SF				
	SHOTBLASTING BRIDGE DECK	1,034 SY				
	SILANE DECK TREATMENT	1,034 SY				
Т	SURFACE PREPARATION FOR CONCRETE BARRIER	969.7 SF				
MENT	SILANE BARRIER RAIL TREATMENT	969.7 SF				
ORO	EPOXY COATING CONCRETE GIRDER ENDS	1156.4 SF				
<b>►</b>						

	PRC BRI	DJEC F DGE	CT NO. Fors^ E NO	 Y T	I H 33	<u>-5795</u> <b>C0</b> 30448	D UNTY
8/4/2020 TH CAROL PESSION SEAL 031583	SURFACE PREPARATION						TION
Docusigner by PRASA Krishna P. Sedai EA6F794150BF4B7			& SI TRE		ANE ATME	DECK ENT	
	NO	BY.	REVIS		NS BY:	DATE	SHEET NO.
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![](_page_33_Figure_0.jpeg)

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# NOTES:

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

	UNDERSIDE	REPAIR	
--	-----------	--------	--

GIRDER AND DIAPHRAGM REPAIR 

----- ERI - EPOXY RESIN INJECTION

AS-BUILT REPAI	IR QL	JANTI	ΤΥ Τ	ABLE			
UNDERSIDE OF DECK REPAIRS							
	ESTIMATE ACTUAL						
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
UNDERSIDE OF DECK	0.0	0.0					
UNDERSIDE OF OVERHANG	0.0	0.0					
UNDERSIDE OF OVERHANG	0.0	0.0					
INTERIOR DIAPHRAGMS	0.0	0.0					
GIRDER	0.6	0.2					
	ESTIMATE ACTUAL						
UNDERSIDE EPOXY RESIN INJECTION	0.0	) LF					

VALUES REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1"BEHIND REBAR AND MINIMUM OF 2"CLEAR TO SAWCUT.SEE REPAIR DETAILS.

	PROJEC	CT NO. Fors` E NO	 Y T I	I H 33	<u>-5795</u> co 30448	5 OUNTY			
8/4/2020 TH CAROLAN	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH								
SEAL 031583 Docusigner by PRASAD Krishna P. Sedai EA6F794150BF4B7	PLAN OF SPANS								
		REVI	SIONS	,		SHEET NO.			
CUMENT NOT CONSTDERED	NO. BY:	DATE:	NO.	BY:	DATE:	S18-04			
FINAL UNLESS ALL	1		3			TOTAL SHEETS			
SIGNATURES COMPLETED	2		4]			7			

![](_page_34_Figure_0.jpeg)

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	NOTES	
-END BENTS	FOAM JOINTS SHAL RECOMMENDATIONS.	LL BE INSTALLED AS PER MANUFACTURER'S
	FOR FOAM JOINT S	SEALS FOR PRESERVATION, SEE SPECIAL
SEAL	FOR BRIDGE JOINT	T DEMOLITION, SEE SPECIAL PROVISIONS.
ANE DECK EATMENT (TYP)	THE INSTALLED FO	DAM JOINTS SHALL BE WATER TIGHT.
	THE FOAM JOINTS RECOMMENDATION F AND ACCOMMODATE PLANS.	SHALL MEET THE MANUFACTURER'S FOR THE SIZE OF OPENING ON THE PLANS, THE MINIMUM EXPANSION SHOWN ON THE
	THE CONTRACTOR V JOINTS IN LIEU C	WILL NOT BE PERMITTED TO FORM THE OF SAWING THE JOINT.
	THE MANUFACTURER SEAL WIDTH OF TH AT THE END BENTS	R IS TO PROVIDE THE NOMINAL UNCOMPRESSED HE FOAM JOINT SEAL BASED ON JOINT OPENINGS S AND BENTS.
	FOR ELASTOMERIC SPECIAL PROVISIO	CONCRETE FOR PRESERVATION, SEE ONS.
	CONTRACTOR SHALL OPENING PRIOR TO ACTUAL JOINT OPE IN DETAIL BY MOP TO THE JOINT SEA	L FIELD VERIFY THE EXISTING JOINT O ORDERING JOINT SEAL MATERIAL.IF ENING VARIES FROM OPENING INDICATED RE THAN ¼″,NOTIFY ENGINEER REVISION AL SIZE MIGHT BE NECESSARY.
<u>NT SEAL</u>	DEMOLISH BRIDGE THAT ELASTOMERIC CONCRETE OR REPA EXTENDS MORE THA ELASTOMERIC CONC REPAIR MATERIAL THE ELEVATION AT	JOINT AREA TO THE NECESSARY DEPTH, SUCH C CONCRETE SHALL BE FOUNDED ON SOUND AIR CONCRETE SUBSTRATE.IF SUCH EXCAVATION AN 2"BELOW THE BOTTOM OF THE PLANNED CRETE HEADER, AS SHOWN, APPROVED CONCRETE SHALL BE PLACED IN THE EXCAVATED AREA TO T THE BOTTOM OF THE ELASTOMERIC CONCRETE.
→ BENTS 1 & 2	FINAL SURFACE OF PLACEMENT OF ELA CONCRETE SHALL B SHALL DETERMINE TO PLACEMENT OF MATERIAL.	THE JOINT DEMOLITION AREA PRIOR TO ASTOMERIC CONCRETE AND/ OR REPAIR E REASONABLY FLAT AND LEVEL.ENGINEER THE ACCEPTABILITY OF THE SURFACE PRIOR ELASTOMERIC CONCRETE OR CONCRETE REPAIR
LANE DECK REATMENT		
(TYP.)		
TOP OF I	BEAM	
	) AGM	
(TYP.	,)	
RSTOP TO OT FLUSH		
SEAL		
TABLE		
RETE FOAM	JOINT SEALS	
JAL ESTIMATE	D ACTUAL	PPO = T - 5795
71.1 LF		
71.1 LF		BRIDGE NO 330448
284.4 L	F	
		STATE OF NORTH CAROLINA
	8/4/2020 HTH CAROL NORTH CAROL NORTH CAROL	DEPARIMENT OF TRANSPORTATION RALEIGH
	SEAL 031583 =	
	AS ACINET ST	JOINT DETAILS
	Krishna P. Sedai EA6F794150BF4B7	
		REVISIONS SHEET NO.
	T NOT CONSIDERED	NO.     BY:     DATE:     NO.     BY:     DATE:     S18-05       1     3     TOTAL       2     4     7
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![](_page_35_Figure_0.jpeg)

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# NOTES:

SHC	TCRE	TE REI	PAIRS	MAY	ΒE	REP	LA
REF IF THE REF	AIR I ADDI ENG AIRS	_OCAT TIONA INEER AND	IONS L REP WILL ENTER	AND AIRS NOTE THE	EST NO ON ACT	EMAT SH THE UAL	E OW E ( Q
FOF	R CAP	REPA	IRS,S	EE ``	ΓΥΡΙ	CAL	С
FOF	SHO.	TCRET	E REP	AIR, S	SEE	SPE	CI
FOF		CRETE	REPA	IR, SE	EE S	PEC	IA
CLE CO4 ARE	AN AN TING A OF	ND REI SHAL THE	MOVE L BE CAP B	DEBRI APPL ] ENEA ]	ISF IED IHT	ROM TO HE M	T HT CAN

	AS-BUILT REPA	AIR Q	UANT	στη τ	ABLE
	END BENT 1		QUANT	ITIES	
	SHOTORETE REPATRS	AREA	VOLUME	AREA	VOLUME
		2 SQ.FT. 0.0	CU.FT. 0.0	SQ.FT.	CU.FT.
	BACKWALL	0.0	0.0		
	CONCRETE REPAIRS	AREA SQ.FT.	VOLUME CU.FT.	AREA SQ.FT.	VOLUME CU.FT.
	САР	0.0	0.0		
	EPOXY RESIN INJE	CTION	LIN.FT.		LIN.FT.
	BACKWALL		5.0		
		Δ	O.O RFA	AR	 ?FA
	TOP OF CAP	SC	0. FT.	SQ.	FT.
	AC_RITIT DED		11 <b>1</b> NIT -	гту т	
	AS-DUILT NELF			LII I TTTES	ADLL
	END BENT 2	ESTI		ACT	UAL
	SHOTCRETE REPAIRS	AREA SQ.FT.	VOLUME CU.FT.	AREA SO.FT.	VOLUME CU.FT.
	САР	0.0	0.0		
	CONCRETE REPATRS	AREA	VOLUME	AREA	VOLUME
		SQ. FT. 0.0	CU.FT. 0.0	SQ.FT.	CU.FT.
	EPOXY RESIN INJE	CTION	LIN.FT.		LIN.FT.
	BACKWALL CAP		0.0		
	EPOXY COATING	A	REA	AR	EA ET
	TOP OF CAP	2	00.8		1 1.
	REMOVAL OF UNSOUND CONCRET AND MINIMUM OF 2" CLEARANC SEE "TYPICAL CAP AND COLUN	ESTIMATEL TE, MINIMU E TO SAWC MN REPAIR	M OF 1" BEH UT.FOR RE DETAILS"	HIND REBAI PAIR DETA SHEET.	NEED
ESTIMA S NOT SI E ON TH ACTUAL TYPICAL SEE SPE SEE SPEC RIS FROM IED TO ATH THE	TE OF QUANTITIES ARE BASED ON HOWN ON THE DRAWINGS ARE DEEMEN HE DRAWINGS THE APPROXIMATE LOO QUANTITIES INTO THE AS-BUILT L CAP AND COLUMN REPAIR DETAILS ECIAL PROVISIONS. CIAL PROVISIONS. W THE TOP OF THE CAP AND APPLY THE TOP SURFACE OF THE CAP. THE MASONRY PLATES.FOR EPOXY COATS	THE BEST I D NECESSAF CATIONS AN REPAIR OL S" SHEET. S" SHEET. EPOXY PRO CONTRACT	DIECTIVE COR SHALL N	ON AVAILA ENGINEER, TION OF BLE. OATING.ER NOT COAT VISIONS.	POXY THE
	PROJ  BRID	ECT NC FORS GE NO.	). <u> </u>	<u>-579</u> cc )448	5 DUNTY
	8/4/2020 WINDERTH CAROLINATION OFESSION SEAL O31583 Docusigney pression Krishna P. Sedai EAGF794150BF4B7	end [	TATE OF NORTH CA T OF TRA RALEIGH	rolina NSPORTA 1 &	tion 2
		REV	/ISIONS		SHEET NO.
	DOCUMENT NOT CONSIDERED NO. BY	DATE:	NO. BY:	DATE:	S18-06 Total Sheets
	SIGNATURES COMPLETED 2		4		7

![](_page_36_Figure_0.jpeg)

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![](_page_36_Figure_2.jpeg)

NOTES:

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES.FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

![](_page_36_Picture_12.jpeg)

SHOTCRETE AREA

CONCRETE AREA

← ERI - EPOXY RESIN INJECTION

-BUILT REPAIR	QUAN	1 T I T V	Y TA	BLE			
RENIT 1 DEDATOS	QUANTITIES						
DENT I REFAIRS	ESTI	ΜΑΤΕ	ACT	UAL			
HOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
Р	0.0	0.0					
LUMN	6.7	3.4					
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
P	0.0	0.0					
POXY RESIN INJECTI	NC	LN. FT.		LN. FT.			
Р		0.0					
		0.0					
POXY COATING	AR S	EA F	AR S	EA F			
P OF CAP (BENTS 1 & 2)	52	0.6					

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1"BEHIND REBAR AND MINIMUM 2"CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN FOR REPAIR DETAILS" SHEET.

	PROJEC	CT NO. Forsy E NO	 Y T	<u>I</u> H <u>33</u>	<u>-5795</u> <b>C0</b> 30448	5 UNTY	
8/4/2020 MINING CAROLINA MINING TH CAROLINA MINING TH CAROLINA MINING THE SECOND	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SUBSTRUCTURE BENT 1 SPAN A FACE						
SEAL 031583 Docusioner py Krishna P. Sodai EA6F794150BF4B7							
		REVIS	STON	IS		SHEET NO.	
DOCUMENT NOT CONSTREPED	NO. BY:	DATE:	NO.	BY:	DATE:	S18-07	
FINAL UNLESS ALL	1		3			TOTAL SHEETS 7	

![](_page_37_Figure_0.jpeg)

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### NOTES

GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 7/8/2019. BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS/ROUTINE INSPECTION.

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

RESIDENT ENGINEER

DATE

# SCOPE OF WORK PREPARE TOP OF BRIDGE DECK SURFACE BY SHOTBLASTING METHODS. CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT. REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINT SEALS FOR PRESERVATION. CLEAN AND EPOXY COAT EXISTING PRESTRESSED CONCRETE GIRDER ENDS. REMOVE DEBRIS FROM TOP OF EXISTING END BENT CAPS AND APPLY EPOXY COATING. REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS FOR SHOTCRETE AND CONCRETE REPAIRS. APPLY SILANE DECK TREATMENT. EPOXY RESIN INJECTION OF CONCRETE CRACKS.

	PROJEC [ BRIDGE	CT NO. Fors^ E NO	<u> </u>	<u>-5795</u> <b>C0</b> 30449	<u> </u>
8/5/2020 8/4/2020 8/4/2020 8/4/2020 8/4/2020 100	depa G f Of O	RTMENT	E OF NORTH CAR OF TRAN RALEIGH AL DF GE ON STGAT	NSPORTA NSPORTA AWIN I-40 E DRIV	TION IG WBL 'E
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DOCUMENT NOT CONSIDERED	NO. BY:	DATE:	NO. BY:	DATE:	S19-01
FINAL UNLESS ALL SIGNATURES COMPLETED	1		<u>ত</u> ব্ৰু		SHEETS 6

![](_page_38_Figure_0.jpeg)

![](_page_38_Figure_1.jpeg)

![](_page_38_Figure_2.jpeg)

DRAWN BY :	A. SORSENGINH	DATE : <u>4/2018</u>
CHECKED BY :	M.G.SHAIKH	DATE : <u>6/2018</u>

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# NOTE:

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

	PROJEC	CT NO. Forsi E NO	/ T	<u>I</u> H 33	<u>-5795</u> <b>CO</b> 30449	UNTY	
8/4/2020	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH TO SEAL 031583 TYPERSKOW WERE STOLEN TO SEAL 031583 TYPICAL SECTION						
SEAL 031583 Docusigner by PRASAD Krishma P. Sedai EA6F794150BF4B7							
		REVIS	SION	S		SHEET NO.	
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO.	BY:	DATE:	S19-02	
FINAL UNLESS ALL	1		3			TOTAL SHEETS	
SIGNATURES COMPLETED	2		4			6	

![](_page_39_Figure_0.jpeg)

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	APPROACH SLAB	QUANTIT	IES
WITH THE BEST		ESTIMATE	ACTUAL
WN ON THE DRAWINGS LL NOTE ON THE	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	6.3 SF	
LT REPAIR QUANTITY	SHOTBLASTING APPROACH SLAB	173 SY	
т.	SILANE DECK TREATMENT	173 SY	
ROVISIONS.	BRIDGE QU	ANTITIES	
BE COMPLETE		ESTIMATE	ACTUAL
ATION FOR	CONCRETE DECK REPAIR	0.0 SF	
E TREATED WITH	BRIDGE JOINT DEMOLITION	284.4 SF	
	SHOTBLASTING BRIDGE DECK	1,130 SY	
	SILANE DECK TREATMENT	1,130 SY	
NT	SURFACE PREPARATION FOR CONCRETE BARRIER	1,042.4 SF	
TMENT	SILANE BARRIER RAIL TREATMENT	1,042.4 SF	
	EPOXY COATING CONCRETE GIRDER ENDS	1156.4 SF	
IITS OF BLASTING SILANE IREATMENT (CREAK ROADWAY) (CLEAR ROADWAY) (CLEAR ROADWAY)			
	PROJECT NO. FORSY	I-57 TH 3304	' <u>95</u> COUNTY

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

SURFA	CE PREPARATION
&	SILANE DECK
	TREATMENT

			REV]	SIO	NS		SHEET NO.
DOCUMENT NOT CONSTDERED	NO.	BY:	DATE:	NO.	BY:	DATE:	S19-03
FINAL UNLESS ALL	1			3			TOTAL SHEETS
SIGNATURES COMPLETED	2			4			6

8/4/2020

RTH CARO

SE AL 031583

Krishna P. Sedar -EA6F794150BF4B7..

![](_page_40_Figure_0.jpeg)

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+

JOINT REPAIR QUANTITY TABLE							
	BRIDGE JOINT DEMOLITION		ELASTOMERI FOR PRES	C CONCRETE ERVATION	FOAM JOINT SEALS FOR PRESERVATION		
	ESTIMATED	ACTUAL	ESTIMATED	ACTUAL	ESTIMATED	ACTUAL	
END BENT 1	71.1 SF		17.8 CF		71 <b>.</b> 1 LF		
BENT 1	71.1 SF		17.8 CF		71 <b>.</b> 1 LF		
BENT 2	71.1 SF		17.8 CF		71 <b>.</b> 1 LF		
END BENT 2	71.1 SF		17.8 CF		71 <b>.</b> 1 LF		
* TOTAL	284.4 SF		71 <b>.</b> 2 CF		284.4 LF		

			REVI	SION	IS		SHEET NO.
OCUMENT NOT CONSTDERED	NO.	BY:	DATE:	NO.	BY:	DATE:	S19-04
FINAL UNLESS ALL	1			3			TOTAL SHEETS
SIGNATURES COMPLETED	2			4			6

![](_page_41_Figure_0.jpeg)

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# NOTES:

SHOT	CRET	E RE	PAIF	rs n	AAY	BE	REF	'LA
REPA IF A THE E REPA	IR L DDIT ENGI IRS	OCAT ION/ NEER AND	ION: AL RE WIL ENTE	S AN EPA] LL N ER 1	NDE [RS  OTE [HE	STI NOT ON ACT	MA SH TH UAL	TE 10W IE [ . QI
FOR (	CAP	REPA	IRS,	SEE	T'' I	YPI	CAL	_ C
FOR	снот	CRET	e Re	PAI	R, S	EE	SPE	CI
FOR	CONC	RETE	REF	PAIF	R, SE	ΕS	PEC	ΙΑΙ
CLEAN COAT AREA	N AN ING OF	D RE SHAL THE	MOVI L BE CAP	E DE E AF BEN	EBRI PLI NEAT	SF ED HT	RON TO HE	1 T Thi MAS

	AS-BUILT REP.	AIR	Q	UANT	[ΤΥ Τ	ABLE
	END BENT 1			QUANT	ITIES	
	SHOTORETE REPATR		<u>STI</u> 4	VOLUME	AREA	VOLUME
		SQ. F 0.0	Τ.	CU.FT. 0.0	SQ.FT.	CU.FT.
	BACKWALL	0.0		0.0		
	CONCRETE REPAIRS	ARE SQ. F	Δ Τ.	VOLUME CU.FT.	AREA SQ.FT.	VOLUME CU.FT.
	САР	0.0		0.0		
	EPOXY RESIN INJE		N	LIN.FT.		LIN.FT.
	BACKWALL			4.0		
			Δ1	2 <b>.</b> 5	۸R	<u> </u> γF Δ
	EPOXY COATING		<u>SQ</u>	.FT.	so.	FT.
	AS-BUILT REP.	4 T K	Q		LIY I TTTES	ABLE
	END BENT 2	E	STI	MATE	ACT	UAL
	SHOTCRETE REPAIR	S ARE/	Δ Τ.	VOLUME CU.FT.	AREA SQ.FT.	VOLUME CU.FT.
	САР	0.0		0.0		
	CONCRETE REPATRS	ARE	Δ	VOLUME	AREA	VOLUME
		<u> </u>	Τ.	CU.FT. 0.0	SQ.FT.	CU.FT.
	EPOXY RESIN INJE		N	LIN.FT.		LIN.FT.
	BACKWALL CAP			7.0		
	EPOXY COATING			REA	AR SO	I EA FT
	TOP OF CAP		20	0.8	50.	
	REMOVAL OF UNSOUND CONCRE AND MINIMUM OF 2"CLEARANG SEE "TYPICAL CAP AND COLU	TE, MINI CE TO SA MN REPA		DETAILS	IND REBAI PAIR DETA SHEET.	R ILS,
ESTIMA S NOT SI E ON TH ACTUAL TYPICAL SEE SPE SEE SPEC RIS FROM IED TO TH THE	TE OF QUANTITIES ARE BASED ON HOWN ON THE DRAWINGS ARE DEEME E DRAWINGS THE APPROXIMATE LO QUANTITIES INTO THE AS-BUILT CAP AND COLUMN REPAIR DETAIL CIAL PROVISIONS. CIAL PROVISIONS. M THE TOP OF THE CAP AND APPLY THE TOP SURFACE OF THE CAP. THE MASONRY PLATES.FOR EPOXY COAT	THE BES D NECES CATIONS REPAIR S" SHEET EPOXY CONTRA ING, SEE	T I SAR AN QU	NFORMATIO Y BY THE D DESCRIP ANTITY TA TECTIVE C DR SHALL N ECIAL PRO	OATING.EF	BLE. THE POXY THE
	PRO.  BRI	JECT Fof DGE:	NO RS	). <u> </u>	<u>-579</u> cc )449	5 DUNTY
	8/4/2020 NATH CARO SEAL O31583 Docusioner Krishna P. Sedai EA6F794150BF4B7	epartm END	st ENT	ATE OF NORTH CAN FOFTRA RALEIGH	rolina NSPORTA 1 &	tion 2
			REV	ISIONS		SHEET NO.
	DOCUMENT NOT CONSIDERED <sup>№. В'</sup> FINAL UNLESS ALL <b>1</b>	<b></b>	TE:	NO. BY:	DATE:	SIY-U5 TOTAL SHEETS
	SIGNATURES COMPLETED 2			<b>4</b>		6

![](_page_42_Figure_0.jpeg)

![](_page_42_Figure_3.jpeg)

NOTES:

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES.FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

![](_page_42_Picture_13.jpeg)

SHOTCRETE AREA

CONCRETE AREA

← ERI - EPOXY RESIN INJECTION

-BUILT REPAIR	QUAN	1 T T V	Y TA	BLE		
RENT 2 REPATRS	QUANTITIES					
DENT 2 INLIAINS	ESTI	ΜΑΤΕ	ACT	UAL		
HOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
Р	0.0	0.0				
LUMN	1.2	0.6				
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
Р	0.0	0.0				
POXY RESIN INJECTI	ON	LN. FT.		LN. FT.		
Р		0.0				
LUMN		0.0				
POXY COATING	AREA		AREA			
P OF CAP (BENTS 1 & 2)	52	0.6				

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1"BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN FOR REPAIR DETAILS" SHEET.

	PROJEC F BRIDGE	T NO. ORS` NO	<u> </u>	<u>-5795</u> cc 30449	5 )UNTY
8/4/2020 TH CAROL	DEPAI	stat RTMENT	e of north ca OF TRA RALEIGH	<sup>ROLINA</sup> NSPORTA	TION
SE AL 031583 Docusigned by PRASAD Krishna P. Sedai EA6F794150BF4B7		SUBS E SPA	STRUC SENT N C	CTURE 2 FACE	
		REVI	SIONS		SHEET NO.
DOCUMENT NOT CONSIDERED	NO. BY:	DATE:	NO. BY:	DATE:	S19-06
FINAL UNLESS ALL SIGNATURES COMPLETED	1		3 4		SHEETS

![](_page_43_Figure_0.jpeg)

![](_page_43_Figure_3.jpeg)

![](_page_44_Figure_0.jpeg)

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![](_page_44_Figure_2.jpeg)

![](_page_44_Figure_3.jpeg)

### NOTE:

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

PROJEC	CT NO. Forsy E No	<u> </u>	<u>-5795</u> <b>co</b> 30508	5 UNTY
DEPA	state RTMENT	OF NORTH CAR OF TRAN RALEIGH	OLINA NSPORTA	TION
T	YPICA	AL SE	ECTIC	)N
	REVIS	IONS		SHEET NO.
NO. BY:	DATE:	NO. BY:	DATE:	S20-02
า 2		গ্র র		
	PROJEC F BRIDGE DEPA T	PROJECT NO. FORSY BRIDGE NO. DEPARTMENT DEPARTMENT TYPICA REVIS	PROJECT NO. 1 FORSYTH BRIDGE NO. 33 DEPARTMENT OF TRAN RALEIGH TYPICAL SE	PROJECT NO. <u>I-5795</u> FORSYTH CO BRIDGE NO. <u>330508</u> DEPARTMENT OF TRANSPORTA RALEIGH TYPICAL SECTIC

![](_page_45_Figure_0.jpeg)

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	NOTEC	
	NUTES: REPAIR LOCATIONS AND ESTIMATED QUANTITIES INFORMATION AVAILABLE. IF ADDITIONAL REPAIR ARE DEEMED NECESSARY BY THE ENGINEER, THE END DRAWINGS THE APPROXIMATE LOCATIONS AND DES ADJUST THE ACTUAL QUANTITIES ENTERED INTO TABLE.	ARE GIVEN WI RS NOT SHOWN NGINEER WILL SCRIPTION OF THE AS-BUILT
	FOR SECTION A-A, SEE ``JOINT DETAILS" SHEET.	
	CONCRETE DECK REPAIR FOR SILANE DECK TREAT TO SHOTBLAST OF ENTIRE DECK SURFACE FOR PR TREATMENT.	MENT SHALL BE EPARATION FOI
	CLEAN AND REMOVE DEBRIS FROM THE TOP OF TH COATING.EPOXY COATING SHALL BE APPLIED TO CONTRACTOR SHALL NOT COAT THE AREA OF THE FOR EPOXY COATING,SEE SPECIAL PROVISIONS.	IE CAP AND AP THE TOP SURF CAP BENEATH
	ONLY INNER SURFACE AND TOP SURFACE OF BARR PENETRANT SEALER.	IER WILL BE
	CONCRETE DECK REPAIR FOR SILANE DEC	CK TREATMENT
	SHOTBLAST BRIDGE DECK AND SILANE DE	CK TREATMENT
393'-7"(FILL FACE TO FILL FACE	(ALONG ARC)	
198'-5" (SPAN B)		
(ALONG ARC)		-
LIMITS OF SHOT-BLAST	TNG	
& SILANE DECK TREATM	ENT	:
		¦ 
¢ -ROADWAY-		1
2-01'-25.5" HORT CHORD)		88° (TO S
	1	

PLAN - SPANS A, B AND C

€ BENT 2 —⁄

	APPROACH SLAB	QUANTIT	IES		
WITH THE BEST		ESTIMATE	ACTUAL		
WN ON THE DRAWINGS	CONCRETE DECK REPAIR FOR SILANE DECK TREATMEN	0.0 SF			
UF THE REPAIRS AND	SHOTBLAST APPROACH SLAB	194 SY			
	SILANE DECK TREATMENT	194 SY			
BE COMPLETE PRIOR	SILANE BARRIER RAIL TREATMENT	16 SF			
FOR SILANE DECK	SURFACE PREPARATION FOR CONCRETE BARRIER	16 SF			
APPLY EPOXY PROTECTIVE JRFACE OF THE CAP. THE	BRIDGE QU	ANTITIES			
IN THE MASUNKI FLATES.		ESTIMATE	ACTUAL		
BE TREATED WITH SILANE	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	0.0 SF			
	SHOTBLAST BRIDGE DECK	2,430 SY			
NT	SILANE DECK TREATMENT	2,430 SY			
ENT	SILANE BARRIER RAIL TREATMENT	2753 SF			
	SURFACE PREPARATION	2753 SF			
	FPOXY CON	ATTNG	· · · · · · · · · · · · · · · · · · ·		
		ESTIMATE	ACTUAL		
		AREA SQ.FT.	SQ. FT.		
	END BENT 1	194.5			
	END BENT 2	194.5			
88°-32'-10.5″ ) SHORT CHORD) 88°-35 (TO SHOR	-46.5" T CHORD) A A A	SILANE DECK REATMENT			
	© JOINT @ END BENT 2	GREENSBORO			
	PROJECT NO	<u>1-579</u> <u>Н</u>	35 COUNTY		
BRIDGE NO. 330508					
STATE OF NORTH CAROLINA 8/4/2020 BEPARTMENT OF TRANSPORTATION RALEIGH					
SEAL 03158 Docusigner pr PRAS Krishna P. Sea EAGF794150BF4B7	SURFACE F & SIL/ TREA	PREPARA ANE DEC ATMENT	ATION CK		
	REVISION	NS BY: DATE:	SHEET NO. S20-03		
FINAL UNLESS A SIGNATURES COMPI	LETED 2 4		TOTAL SHEETS 4		

![](_page_46_Figure_0.jpeg)

DRAWN BY :	A. SORSENGINH	DATE : <u>5/2020</u>
CHECKED BY : _	M.G.SHAIKH	DATE : <u>5/2020</u>

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ELASTOMER	IC CO	NCRETE
END BENT 1	14.0	(CU.FT.)
END BENT 2	14.0	(CU.FT.)
* TOTAL	28.0	(CU.FT.)
* BASED ON 6"(EA.S]	IDE) X 3"	BLOCKOUT.

CLASS II SURFACE PREPARATION							
ESTIMATED ACTUAL							
END BENT 1	6.2 SY						
END BENT 2	6.2 SY						
TOTAL	12 <b>.</b> 4 SY						

### NOTES FOAM JOINTS SHALL BE INSTALLED AS PER MANUFACTURER'S

RECOMMENDATIONS. FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL

PROVISIONS.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

THE INSTALLED FOAM JOINTS SHALL BE WATER TIGHT.

THE FOAM JOINTS SHALL MEET THE MANUFACTURER'S RECOMMENDATION FOR THE SIZE OF OPENING ON THE PLANS, AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS IN LIEU OF SAWING THE JOINT.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL BASED ON JOINT OPENINGS AT THE END BENTS 1 AND 2.

CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF ACTUAL JOINT OPENING VARIES FROM OPENING INDICATED IN DETAIL BY MORE THAN 1/4", NOTIFY ENGINEER REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.

FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF ELASTOMERIC CONCRETE OR REPAIR CONCRETE.

JOINT REPAIR	QUANTIT	Y TABLE
FOAM JOINT SEALS FOR PRESERVATION	ESTIMATED	ACTUAL
END BENT 1	56.0 LF	
END BENT 2	56.0 LF	
TOTAL	112.0 LF	

CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT							
	ACTUAL						
END BENT 1	56.0 SF						
END BENT 2	56.0 SF						
TOTAL	112 <b>.</b> 0 SF						

PROJECT NO. 1-5795 FORSYTH \_\_\_ COUNTY 330508 BRIDGE NO. \_\_\_\_

> STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

# JOINT DETAILS

			REVI	SIO	٧S		SHEET NO.
DOCUMENT NOT CONSTDERED	NO.	BY:	DATE:	NO.	BY:	DATE:	S20-04
FINAL UNLESS ALL	1			3			TOTAL SHEETS
SIGNATURES COMPLETED	2			4			4

8/4/202

SEAL 031583

![](_page_47_Figure_0.jpeg)

![](_page_48_Figure_0.jpeg)

![](_page_48_Figure_5.jpeg)

![](_page_49_Figure_0.jpeg)

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### NOTE:

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

	PROJEC	CT NO. Forsy E No	 7 T	<u>I</u> H <u>33</u>	<u>-5795</u> <b>C0</b> 30509	5 UNTY
8/4/2020 TH CAROLAN	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SEAL 031583 Docusigner by PRASA Krishna P. Sedai EA6F794150BF4B7	TYPICAL SECTION					
	REVISIONS SHEET NO.					
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO.	BY:	DATE:	S21-03
FINAL UNLESS ALL	1		3			TOTAL SHEETS
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![](_page_50_Figure_0.jpeg)

![](_page_51_Figure_0.jpeg)

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DRAWN BY :	A. SORSENGINH	DATE : 4/2018
CHECKED BY :	C.RUIZ	DATE : 5/2018

	NOTES: REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE AS-BUIL TABLE. CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT SHA PRIOR TO SHOTBLAST OF ENTIRE DECK SURFACE FOR PREP SILANE DECK TREATMENT. ONLY INNER SURFACE AND TOP SURFACE OF BARRIER WILL WITH SILANE PENETRANT SEALER.
	CONCRETE DECK REPAIR FOR SILANE DECK TREA
	€ BENT 3
د -ROADWAY-	
LIMITS OF SHOT-BLASTING & SILANE DECK TREATMENT	TO US
175'-0" (ALONG ARC)	
SPAN C 822'-65/8"(FILL FACE TO FILL FACE)(ALONG ARC)	

PLAN	OF	SPAN	С	

	BRIDGE QUAN	TITIES	
EN WITH THE BEST		ESTIMATE	ACTUAL
HOWN ON THE DRAWINGS WILL NOTE ON THE N OF THE REPAIRS AND	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	0.0 SF	
UILT REPAIR QUANTITY	SHOTBLAST BRIDGE DECK	778 SY	
SHALL BE COMPLETE	SILANE DECK TREATMENT	778 SY	
REPARATION FOR	SILANE BARRIER RAIL TREATMENT	1,234 SF	
ILL BE TREATED	SURFACE PREPARATION FOR CONCRETE BARRIER	1,234 SF	

TREATMENT

EATMENT

88°-41'-15.0" -----(TO\_SHORT\_CHORD)

US 421 NB

	PROJEC [ BRIDGE	CT NO. Fors^ E NO	ΥT	I H 330	<u>-5795</u> <b>co</b> )509	UNTY
8/4/2020 TH CAROLINA OF ESSION	DEPA	stat RTMENT	e of i OF r	NORTH CARG TRAN ALEIGH	DLINA NSPORTA	TION
SEAL 031583 Docusion PRASAD Krishna P. Sedai	SURI	FACE & SI TRE	Р L	REF Ane Tme	PARAT DECK ENT	ION
EA6F794150BF4B7		DEVIS		c		
	NO. BY:	DATE:	NO.	S BY:	DATE:	S21-05
FINAL UNLESS ALL	1		3			TOTAL SHEETS
SIGNATURES COMPLETED	2		4			11

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DRAWN BY :	A. SORSENGINH	DATE :	4/2018
CHECKED BY :	C. RUIZ	DATE :	5/2018

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€ BENT 3 —

04-406-2020 16:4 .dgn

	NOTES:
	REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVE INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SU ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE AS-B TABLE.
	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT PRIOR TO SHOTBLAST OF ENTIRE DECK SURFACE FOR P SILANE DECK TREATMENT.
	ONLY INNER SURFACE AND TOP SURFACE OF BARRIER W WITH SILANE PENETRANT SEALER.
	CONCRETE DECK REPAIR FOR SILANE DECK T
	© BENT 4
€ -ROADWAY-	
ITMITS OF SHOT-BLASTING	TO US 421
& SILANE DECK TREATMENT	
175'-O" (ALONG ARC) SPAN D	
822'-65/8"(FILL FACE TO FILL FACE)(ALONG ARC)	

# <u>PLAN OF SPAN D</u>

BRIDGE QUANTITIES					
	ESTIMATE	ACTUAL			
CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	0.0 SF				
SHOTBLAST BRIDGE DECK	778 SY				
SILANE DECK TREATMENT	778 SY				
SILANE BARRIER RAIL TREATMENT	1,234 SF				
SURFACE PREPARATION FOR CONCRETE BARRIER	1,234 SF				
	BRIDGE QUAN CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT SHOTBLAST BRIDGE DECK SILANE DECK TREATMENT SILANE BARRIER RAIL TREATMENT SURFACE PREPARATION FOR CONCRETE BARRIER	BRIDGE QUANTITIESESTIMATECONCRETE DECK REPAIR FOR SILANE DECK TREATMENT0.0 SFSHOTBLAST BRIDGE DECK778 SYSILANE DECK TREATMENT778 SYSILANE BARRIER RAIL TREATMENT1.234 SFSURFACE PREPARATION FOR CONCRETE BARRIER1.234 SF			

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NOTES:

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

CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT SHALL BE COMPLE TO SHOTBLAST OF ENTIRE DECK SURFACE FOR PREPARATION FOR SILAN TREATMENT.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPO COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MAS FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

ONLY INNER SURFACE AND TOP SURFACE OF BARRIER WILL BE TREATED PENETRANT SEALER.

CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT

SHOTBLAST BRIDGE DECK AND SILANE DECK TREATMENT

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ETE PRIOR	SILANE DE	СК	TREAT	IENT		52 S	γ		
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DXY PROTECTIVE THE CAP.THE	SURFACE P FOR CONCR	REI E T	PARATIC E BARRI	ON [ER		0 S	F		
SONRY PLATES.						<u> </u>	ΤΓς		
WITH SILANE			BKII	JGE QI			TE2	٨	
	CONCRETE		CK REPA	IR REATMENT		0.0 \$	SF	~	
	SHOTBLAST	B	RIDGE (	DECK		1.043	SY		
	SILANF DF	СК	TREATM	IENT	+	1,043	SY		
	SILANE BA	RR	IER RA	 [L		1,658	SF		
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1°-26'-26.0" SHORT CHORD)	FILL END	FABEN	LIMIT HOT-BL SILAN TREA	S OF ASTING NE DECK IMENT	40'-0 BIND BIND BIND BIND BIND BIND BIND BIND	Τ	_ E 7		
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![](_page_56_Figure_4.jpeg)

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![](_page_57_Figure_2.jpeg)

SECTION B-B

![](_page_57_Figure_4.jpeg)

<u>SECTION C-C</u> (THE NEW RUBBER PLATE BRIDGE JOINT SHALL BE TURNED UP AND FLUSH WITH THE FACE OF THE BARRIER)

### NOTES:

THE CONTRACTOR SHALL CUT THE EXISTING #5 `S' 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. 1-5795 FORSYTH \_\_\_ COUNTY BRIDGE NO. 330509 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION 8/4/2020 WITH CARO, RALEIGH SEAL 031583 JOINT DETAIL AT THE BARRIER RAIL END BENT 2 END BENT 1 SIMILAR PRASA Krishna P. Sedai REVISIONS SHEET NO S21-11 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED 2 DATE: NO. BY: DATE: BY: TOTAL SHEETS

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### REPAIR KEY

SECTION A-A

### CAP REPAIR

SHOTCRETE REPAIR AREA

EPOXY RESIN INJECTION (ERI)

CONCRETE REPAIR AREA (FORM AND POUR)

![](_page_58_Figure_8.jpeg)

![](_page_58_Figure_9.jpeg)

![](_page_58_Figure_10.jpeg)

<b>SPLICE</b>	LENGTH TABLE				
BAR SIZE	MIN. SPLICE LENGTH				
#4	2'-4"				
<b>#</b> 5	2'-9"				
*6	4'-0"				
<b>#</b> 7	5'-3"				
#8	6′-9″				
<b>#</b> 9	8'-6"				
#10	10'-11"				
#11	13'-4"				

ELEVATION

PEDESTAL WALL REPAIR

### NOTES

TYPICAL BENT CAP REPAIRS ARE SHOWN. REPAIR DETAILS SIMILAR FOR END BENT CAPS AND STRUTS.

THE METHOD USED TO DELINEATE THE AREAS OF UNSOUND CONCRETE TO BE REPAIRED SHALL NOT PERMANENTLY MARK THE CONCRETE, LEAVE ANY RESIDUE AFTER REMOVAL OR REQUIRE HARSH CHEMICALS TO REMOVE.

THE CONTRACTOR SHALL REMOVE THE DETERIORATED CONCRETE IN ACCORDANCE WITH THE GUIDELINES SET IN THESE NOTES, IN THE SPECIAL PROVISIONS AND THE STANDARD SPECIFICATIONS.

REMOVE UNSOUND CONCRETE TO THE EXTENT NECESSARY, MINIMUM OF 1"BEHIND REBAR AND MINIMUM OF 2"CLEARANCE TO SAWCUT.

NO MORE THAN ONE-THIRD OF THE CAP OR COLUMN CROSS SECTIONAL AREA SHALL BE REMOVED AT ONE TIME. SHOULD IT BECOME NECESSARY TO REMOVE MORE THAN 30% OF A CAP OR COLUMN CROSS SECTIONAL AREA, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

SIMULTANEOUS REMOVAL OF UNSOUND CONCRETE MAY BE PERMITTED ON MORE THAN ONE FACE OF A CAP AND/OR COLUMN, IF THE AREAS OF REMOVAL ARE NOT ADJACENT TO OR DIRECTLY OPPOSITE ONE ANOTHER. IF REMOVAL EXTENDS MORE THAN 11/2" BEHIND THE MAIN REINFORCING BARS, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

REINFORCING STEEL WHICH IS DETERMINED BY THE ENGINEER TO BE REPLACED, SHALL BE REMOVED TO A POINT WHERE IT IS SOUND. THE PATCH SHALL EXTEND A SUFFICIENT DISTANCE BEYOND THIS POINT TO DEVELOP A SPLICE LENGTH SPECIFIED IN THE TABLE ON THIS SHEET.

THE #4 ``U'' DOWELS ARE REQUIRED ONLY AROUND THE ANCHOR BOLTS. THE EXISTING REINFORCING STEEL IN THE PEDESTAL WALL SHALL BE CLEANED, STRAIGHTENED AND REMAIN IN PLACE.

FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

COAT ALL REPAIR SURFACE AREAS ON THE TOP OF CAPS, INCLUDING CHAMFERS, WITH EPOXY PROTECTIVE COATING, OVERLAPPING THE REPAIR AREA BY A MINIMUM OF 3"ON ALL POSSIBLE SIDES.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION (ERI), SEE SPECIAL PROVISIONS.

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# NOTES

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

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

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS. FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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	BR.	IDGE J	ACKING TAB	LE
ON	SPAN	BEAM(S)	BRIDGE JACKING TYPE	DEAD LOAD (DC+DW) (KIPS)
T 1				
1	A	4	I	58
2				
T 2				

# BRIDGE JACKING NOTES:

THIS DETAIL IS A GENERIC EXAMPLE OF A JACKING SCHEME AND DOES NOT NECESSARILY REPRESENT SPECIFIC CONDITIONS AT A PARTICULAR BRIDGE. ACTUAL BRIDGE GEOMETRIES. DIMENSIONS. AND CONDITIONS MAY DIFFER FROM THIS DETAIL. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL INVESTIGATE THE BRIDGES ON THE PROJECT AND DEVELOP A JACKING PLAN TO BE SUBMITTED FOR REVIEW AND APPROVAL. SEE BRIDGE JACKING SPECIAL PROVISION.

PRIOR TO BRIDGE JACKING OPERATIONS, THE ENGINEER AND CONTRACTOR SHALL INSPECT THE STRUCTURE FOR ANY NOTABLE DEFECTS TO THE PRIMARY AND SECONDARY STRUCTURAL MEMBERS. ALL NOTABLE DEFECTS SHALL BE DOCUMENTED AND REPORTED TO THE AREA BRIDGE MAINTENANCE ENGINEER PRIOR TO COMMENCEMENT OF ANY BRIDGE JACKING. THE CONTRACTOR SHALL PROVIDE SAFE AND SUFFICIENT ACCESS TO ALL STRUCTURAL MEMBERS FOR THE ENGINEER TO ESTABLISH PROPER DOCUMENTATION.

PRIOR TO JACKING, THE CONTRACTOR SHALL ENSURE THERE ARE NO OBSTACLES PREVENTING THE BEAM FROM BEING LIFTED.

THE BEAM SHALL BE LIFTED ENOUGH THAT THE BEAM CLEARS THE BEARINGS AND ALL LOAD IS SUPPORTED BY THE JACKS. AFTER JACKING IS COMPLETE, THE CONTRACTOR SHALL PROVIDE FOR A METHOD TO REMOVE THE JACKS AND SUPPORT THE BEAM FOR DEAD AND LIVE LOAD DURING THE REPAIR OPERATIONS. IF THE JACKS REMAIN IN PLACE DURING THE ENTIRE JACKING AND REPAIR OPERATION, THEY SHALL HAVE MECHANICAL LOCK OFF CAPABILITIES.

IF, DURING THE JACKING PROCESS, OR WHILE THE BEAM IS BEING SUPPORTED, THE BEAM SHIFTS FROM ITS ORIGINAL POSITION, ALL WORK SHALL CEASE AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

BEARINGS ADJACENT TO THE BEAM BEING JACKED MAY BE LOOSENED TO DECREASE THE RESISTANCE OF THE DECK SLAB DURING JACKING. ALL BEARINGS LOOSENED SHALL BE TIGHTENED BACK AFTER REPAIR OPERATIONS ARE COMPLETED AND THE JACKS AND BLOCKING HAVE BEEN REMOVED.

THE MAXIMUM DIFFERENTIAL BETWEEN ADJACENT BEAMS THAT ARE BEING JACKED IS 1/8".

LOADS PROVIDED IN THE ``BRIDGE JACKING TABLE" ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY, THE CONTRACTOR'S ENGINEER SHALL DETERMINE THE EXPECTED LOADS TO BE LIFTED DURING THE BRIDGE JACKING OPERATIONS.

THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS AND CALCULATIONS OF THE JACKING PROCEDURE(S) SEALED BY A PROFESSIONAL ENGINEER IN THE STATE OF NORTH CAROLINA TO THE ENGINEER FOR APPROVAL PRIOR TO BRIDGE JACKING OPERATIONS.

FOR TYPE I OR TYPE II BRIDGE JACKING, SEE SPECIAL PROVISIONS.

FOR WORKING DRAWING SUBMITTALS, SEE SPECIAL PROVISIONS.

ANY STEEL THAT HAS BEEN WELDED TO THE EXISTING STRUCTURE SHALL REMAIN IN PLACE.

TYPE II BRIDGE JACKING SHALL BE DONE WITH A HYDRUALIC JACKING SYSTEM THAT LIFTS EACH BEAM ALONG ENTIRE SPAN END WITH EQUAL FORCE AND AT AN EQUAL RATE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED TO THE EXISTING STRUCTURE BY BRIDGE JACKING OPERATIONS AT NO ADDITIONAL COST TO THE DEPARTMENT.

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### DESIGN DATA:

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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 SO.IN.
- AASHTO M270 GRADE 50	27,000 LBS.PER SO.IN.
REINFORCING STEEL IN TENSION - GRADE 60	24,000 LBS. PER SO. IN.
CONCRETE IN COMPRESSION	1,200 LBS.PER SO.IN.
CONCRETE IN SHEAR	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	1,800 LBS.PER SO.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 2018 "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 11/2" 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  $\frac{1}{4}$  RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

### DOWELS:

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

# 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  $\frac{1}{8}$ " Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 -  $\frac{1}{8}$ " Ø STUDS FOR 4 -  $\frac{3}{4}$ " Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 1/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR  $\frac{3}{4}$ " Ø STUDS BASED ON THE RATIO OF 3 -  $\frac{7}{8}$ " Ø STUDS FOR 4 -  $\frac{3}{4}$ " 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  $V_{16}$  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.

![](_page_61_Picture_33.jpeg)