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6/22/2022 S:\DPG1\Division4\HI-0007\Plans\400 Sheets\400_001_HI-0007_SMU_ TSH_1.dgn aabraha

PROJECT LENGTH	\bigcap
BRIDGE # 970225 = 0.038 MILES	
BRIDGE # 970244 = 0.044 MILES	
BRIDGE # 970270 = 0.037 MILES	
BRIDGE # 970287 = 0.041 MILES	LETT

STATE	STATE PROJECT REPERENCE NO. SHEINO			TOTAL SHEETS	
N.C.		HI-0007			
STAT	'E PROJ. NO.	F. A. PROJ. NO.	DESCRIPT	ION	
49	983.1.1	0264075	P.E.		
49	983.2.1	0264075	R.O.W.		
499	49983.2.2 0264075 UTILITI		IES		
49983.3.1		0264075	CONST.		



Prepared in th	the Office of:
DIVISION OF	HIGHWAYS
STRUCTURES MAN	NAGEMENT UNIT
1000 BIRCH	RIDGE DR.
RALEIGH,	N.C. 27610
ING DATE: AUGUST 16, 2022	Kristy W. Alford, P.E., CPM PROJECT ENGINEER Aster G. Abraha, P.E. PROJECT DESIGN ENGINEER

LOCATION:

INDEX OF STRUCTURES SHEETS

SHEET No.	DESCRIPTION
1	TITLE SHEET
1A	INDEX OF SHEETS
S–1	LOCATION SKETCHES
S -2	TOTAL BILL OF MATERIAL
	& GENERAL NOTES
STRUCTURE No. 97022	25
<i>S1–1</i>	GENERAL DRAWING
<i>S1–2</i>	TYPICAL SECTION
<i>S1–3</i>	SURFACE PREPARATION
<i>S1–4</i>	SUPERSTRUCTURE REPAIR
S1– 5	PCG REPAIR DETAILS
<i>S1</i> –6	JOINT REPAIR
<i>S1</i> –7	END BENTS
S1-8 THRU S1-10	BENTS
<i>S1–11</i>	CAP/COLUMN REPAIR DETAILS



WILSON COUNTY

- BRIDGE #970225 ON SR 1526 OVER US 264. BRIDGE #970244 ON SR 1163 OVER US 264 BYP. BRIDGE #970270 ON NC 111/NC 222 OVER US 264.
- BRIDGE #970287 ON US 264 ALT E OVER US 264.

SHEET No.	DESCRIPTION	SHEET No.
STRUCTURE No. 97	/0244	STRUCTURE No. 970
S2–1	GENERAL DRAWING	S4–1
S 2–2	TYPICAL SECTION	S4 –2
S 2–3	SURFACE PREPARATION	S4– 3
<i>S2</i> –4	SUPERSTRUCTURE REPAIR	<i>S4</i> –4
S 2–5	PCG REPAIR DETAILS	S4 –5
S2-6	JOINT REPAIR	S4 –6
S 2–7	SLOPE PROTECTION REPAIR	S4 –7
	DETAILS	S4 –8
STRUCTURE No. 97	0270	
<i>S3–1</i>	GENERAL DRAWING	STANDARD SHEETS
S 3–2	TYPICAL SECTION	SN
S 3–3	SURFACE PREPARATION	
<i>S3</i> –4	JOINT REPAIR	

TYPE OF WORK:

BRIDGE PRESERVATION – SHOTBLASTING & SILANE DECK TREATMENT, RECONSTRUCTION OF BRIDGE DECK JOINTS AND SEALS, PRESTRESSED CONCRETE GIRDER REPAIRS, SUBSTRUCTURE REPAIRS WITH SHOTCRETE, AND CONCRETE SLOPE PROTECTION CRACK SEALING.

STATE	ST	ATE PROJECT REPERENCE NO.	SHEET NO.	TOTAL SHEETS	
N.C.		HI-0007	1A		
STAT	'E PROJ. NO.	J. NO. F. A. PROJ. NO.		ION	
49	983.1.1	0264075	0264075 P.E.		
49	49983.2.1 0264075		R.O.V	V.	
499	983.2.2	0264075	UTILITIES		
49983.3.1		0264075	CONST.		

DESCRIPTION

0287

GENERAL DRAWING TYPICAL SECTION SURFACE PREPARATION JOINT REPAIR END BENTS **BENTS** CAP/COLUMN REPAIR DETAILS SLOPE PROTECTION REPAIR DETAILS

STANDARD NOTES

Prepared in the Office of: **DIVISION OF HIGHWAYS** STRUCTURES MANAGEMENT UNIT 1000 BIRCH RIDGE DR. RALEIGH, N.C. 27610



INFORMATION INDICATED ON THE L
CONTRACTOR SHALL CONFIRM, TH
BRIDGES, ROADWAYS, UTILITIES, TI
NECESSARY TO PERFORM AND COM

DRAWN BY :	G. AYES	DATE : 4/2022
CHECKED BY : _	A. G. ABRAHA	DATE : 5/2022
DESIGN ENGINE	ER OF RECORD:	DATE :

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LOCATION SKETCH

E LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. HROUGH OTHER SOURCES,SPECIFIC INFORMATION REGARDING THE THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE OMPLETE THE PROJECT.

	PROJE(BRIDG	CT NO <u>WILS</u> E NO. 97	50N <u>97(</u> 02	H 	I-000 CC 5, 97 & 97	7 DUNTY 0244 0287
SEAL 030024 BC: C. ABRANNIN Bootsigned by: Aster Abraha DDA094AED5104FD 06/22/2022	DEPA	st ARTMENT	ATE OF P F OF R	NORTH CAF TRA ALEIGH	ROLINA NSPORTA	TION
		REV	ISIONS	S		SHEET NO.
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STGNATURES COMPLETED	2					SHEETS

GENERAL NOTES:

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THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT DUE TO THE NATURE OF PRESERVATION PROVINCE OF ALWAYS BE ACCURATELY DETERMINED PRIOR TO COMMENCEMENT OF WORK. REPAIR LOC QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN OF DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATION OF THE REPAIRS.

EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM THE BEST INFORMATION AVAILABLE. THE CON THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONI

THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT FOR ANY DELAYS OF BASED ON DIFFERENCES BETWEEN WHAT IS SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT TH

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

WORK ON THE BRIDGE(S) SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW, EXCEPT PLANS TO USE PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES TO CATCH THE MATERIAL. T SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICAT SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT THE EXISTING STRUCTURE WHICH IS NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY PART OF THE EXISTING STRUCTURE WHICH IS TO DAMAGED AREA SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT NO DEPARTMENT.

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

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEI

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

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

ALL PAVEMENT MARKINGS WILL BE IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATIONS OF THE BRIDGE DECK. THE CONTRACTOR SHALL TAKE CARE THAT ANY CONSTRUCTION DEBRIS THAT COLLECTS IN THE DRAINS IS CONTAINED. DRAINS IN SHOULDERS OF ADJACENT TRAVEL LANE(S) SHALL BE KEPT FREE AND CLEAR OF DEBRIS.

	TOTAL BILL OF MATERIAL									
BRIDGE NO.	SHOTCRETE REPAIRS	VOLUMETRIC MIXER	POURABLE SILICONE JOINT SEALANT	ELASTOMERIC CONCRETE FOR PRESERVATION	REPAIRS TO PRESTRESSED CONCRETE GIRDER	BRIDGE JOINT DEMOLITION	CONCRETE DECK REPAIR FOR SILANE DECK TREATMENT	SHOTBLASTING BRIDGE DECK	SILANE DECK TREATMENT	
	CU. FT.	LUMP SUM	LN. FT.	CU. FT.	CU. FT.	SQ. FT.	SQ. FT.	SQ. YD.	SQ. YD.	
970225	13.8	LUMP SUM	133.6	13.8	1.8	73.5	79.1	521.6	521.6	
970244	13.0	LUMP SUM	316.6	16.6	0.5	88.6	0.0	1,091.4	1,091.4	
970270		LUMP SUM	110.2	18.9		101.1	0.0	1,069.2	1,069.2	
970287	7.2	LUMP SUM	170.0	28.8		115.0	0.0	1,211.6	1,211.6	
TOTAL	34.0	LUMP SUM	730.4	78.1	2.3	378.2	79.1	3,893.8	3,893.8	

DRAWN BY :	G. AYES	DATE :	05/2022
CHECKED BY :	A. ABRAHA	DATE :	05/2022

ROJECTS, THE EXTENT OF	FOR BRI	DGE JOINT DEMOLITION	N, SEE SPECIA	L PROVISIONS.		
ON THE DRAWINGS ARE	FOR POL	JRABLE SILICONE JOINT	SEALANT, SE	EE SPECIAL PROV	ISIONS.	
ATE LOCATION AND DESCRIPTION	FOR ELA	STOMERIC CONCRETE	FOR PRESERV	ATION, SEE SPEC	CIAL PROVISIONS.	
NTRACTOR SHALL FIELD VERIFY	FOR SHO	DTCRETE REPAIRS, SEE	SPECIAL PRO	VISIONS.		
	FOR CO	NCRETE REPAIRS, SEE S	SPECIAL PROV	/ISIONS.		
HE PROJECT SITE.	FOR VOL	UMETRIC MIXER, SEE S	SPECIAL PROV	ISIONS.		
	FOR SHO	DTBLASTING BRIDGE D	ECK AND SILA	NE DECK TREAT	MENT, SEE SPECIA	L PROVIS
WHERE THE CONTRACTOR	FOR CO	NCRETE DECK REPAIR F	OR SILANE D	ECK TREATMENT,	SEE SPECIAL PRO	VISIONS
THE CONTRACTOR SHALL TIONS AND THE PROJECT	FOR REP	AIRS TO PRESTRESSED	CONCRETE (GIRDERS, SEE SPI	ECIAL PROVISIONS	.
5 TO REMAIN IN PLACE WILL O REMAIN IN PLACE, THE O ADDITIONAL COST TO THE	AT THE T ITEM(S) FOLLOW INTENDE TO PERF BE CONS	TIME OF PREPARATION LISTED WOULD BE REC ING ITEM(S) LISTED, O ED BRIDGE PRESERVATI ORM SUCH WORK IN A SIDERED EXTRA WORK	OF THESE PLA QUIRED. HOW R OTHER WO ION/REHABILI TIMELY MANI AND SHALL B	ANS, IT WAS NOT EVER, IT MAY BE RK WILL BE NECE TATION WORK. TH NER, AS DETERMI BE ADDRESSED AS	ANTICIPATED THA DETERMINED IN T SSARY TO PROPER HE CONTRACTOR S NED IN THE FIELD S PER ARTICLE 104	T THE FO HE FIELD RLY COM SHALL BE SUCH V 4-7 OF TI
RED AS DIRECTED BY THE	SPECIFIC ADDITIO	CATIONS. PROJECT SPECT NAL WORK ITEMS HAV	CIAL PROVISIO	ONS THAT OUTLIN	IE REQUIREMENTS	FOR TH
MENT PLANS.	IF EXTRA	WORK IS ENCOUNTER	RED. UNANTIC	CIPATED ITEMS:	SIS WILL DE ESTA	VDLIJITEL
E SEQUENCE OF TASKS	ITEM	DESCRIPTION		UNIT		

- 1 CONCRETE REPAIRS CU. FT.
- 2 SPLICING OF PRESTRESSING EA. STRAND

SIONS.

OLLOWING D THAT THE PLETE THE E PREPARED WORK SHALL THE STANDARD HESE POTENTIAL O QUANTITIES D, AS REQUIRED,

WILSON COUNTIES

PROJECT NO.

BRIDGE NO.: 970225, 970244 970270, 970287

BEAL 030024 SEAL 030024 Stor Abraha Aster Abraha STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

BILL OF MATERIAL AND GENERAL NOTES

06/30/2022							
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NOTES

- PROFILE INFORMATION IS TAKEN FROM ORIGINAL PLANS AND INSPECTION REPORT DATED 06/07/2021.
- BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.

SCOPE OF WORK

- PREPARE BRIDGE DECK BY SHOTBLASTING METHODS.
- PLACE SILANE DECK TREATMENT.
- DEMOLISH EXISTING BRIDGE DECK JOINTS.
- RECONSTRUCT BRIDGE JOINTS WITH ELASTOMERIC CONCRETE AND INSTALL BACKER ROD AND POURABLE SILICONE JOINT SEALANT.
- REPAIR PRESTRESSED CONCRETE GIRDERS.
- REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE AREAS FOR SHOTCRETE REPAIRS.
- PERFORM SHOTCRETE REPAIRS.

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

RESIDENT ENGINEER

DATE

			PR BR		CT NO. WILS E NO	H: ON 97	E - 000 C0 70225	7 UNTY
ARE STATES	AROLAN SIONE AL A41 VEFR Bigmathey: Altord 3389300BF40E	SEAL 030024 BC, C, ABRANNA Docusigned by: Aster Abraha DDA094AED5104FD		DEPA	STAT ARTMENT GENER FOR BR US 2 NC 222	E OF NORTH CAR OF TRAI RALEIGH AL DF IDGE 22 64 BET AND S	NSPORTA NSPORTA RAWINC 25 OVER WEEN R 1534	TION
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HALF SECTION (SPAN A & D)

TYPICAL SECTION



HALF SECTION (SPAN A & D)

RAWN BY :	G. AYES	DATE : <u>3/2022</u>
HECKED BY :	A. G. ABRAHA	DATE : <u>5/2022</u>
		6/22/2022

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HALF SECTION (SPAN B & C)

(EXISTING)

HALF SECTION (SPAN B & C)

TYPICAL SECTION

(PROPOSED)

EXISTING DECK — SURFACE

NOTES

SEE TRAFFIC PLANS FOR LANE WIDTH, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF SURFACE PREPARATION AND SILANE DECK TREATMENT.



SILANE DECK TREATMENT DETAIL





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	ESTIMATE	ACTUAL
G BRIDGE DECK	521.6 SY	
REATMENT	521.6 SY	
CK REPAIR FOR SILANE DECK TREATMENT	79.1 SF	
DEMOLITION	73.5 SF	



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REPAIR	QUANTI	TABL	.E	
		QUAN	TITIES	
UNDERSIDE OF DECK	ESTI	MATE	ACT	UAL
SHOTCRETE REPAIRS	AREA	VOLUME CF	AREA SE	VOLUME CF
UNDERSIDE OF DECK & OVERHANG	0	0	51	
BENT DIAPHRAGMS	1.0	0.3		
GIRDER REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF
PC GIRDERS	7.2	1.8		
ALUES IN CHART REPRESENT ESTIMA MOVAL OF UNSOUND CONCRETE, 1' IN. 2" CLEARANCE TO SAWCUT.	TED REPAIR TO "BEHIND REB "I I I I I I I I I I I I I I I I I I I	OTALS AFTER AR AND FILL FACE @ END BENT 2		
/ / #4/ / / / / / 32'-0" (SPAN D)				
►		T NO	HI-00	07
		WILSON	ſ	
			97022	5
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TYPICAL SECTION

ASSEMBLED BY : CHECKED BY :	G. AYES A. G. ABR	AHA	DATE DATE	:	5/2022 5/2022
DRAWN BY : NAP CHECKED BY :	08/18				

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PRESTRESSED GIRDER REPAIR



BENT DIAPHRAGM REPAIR DETAIL

(EXAMPLE DETAILS ONLY.ACTUAL REBAR SIZE & LOCATION MAY VARY)

NOTES:

PREPACKAGED MATERIAL IS REQUIRED.

CONSULT WITH THE ENGINEER TO DETERMINE PRELOADING REQUIREMENTS WHEN REPAIR IS WITHIN THE CENTER REGION OF THE BEAM (0.25L TO 0.75L).

FOR REPAIRS OVER TRAFFIC AND SHALLOW REPAIRS THAT DO NOT ENGAGE REINFORCEMENT, ANCHOR PATCH MATERIAL USING 1/4" GALVANIZED BOLTS, EPOXY ANCHORED WITH 2"EMBEDMENT. PLACE BOLTS IN A 6"GRID. USE A LATEX OR EPOXY PATCH MATERIAL FOR IMPROVED BOND. USE EXTREME CARE TO NOT DAMAGE STRANDS.

FOR PRESTRESSED CONCRETE GIRDER REPAIRS, SEE SPECIAL PROVISIONS.

PRESTRESSED GIRDER REPAIR SEQUENCE:

- SOUND CONCRETE TO DETERMINE EXTENTS OF REPAIR LOCATION.
- 2. REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL. SAW CUT AROUND REPAIR AREA TO A MINIMUM DEPTH OF $\frac{1}{2}$ ".
- REMOVE CONCRETE WITHIN SAW CUT AREA TO MINIMUM $\frac{1}{2}$ " DEPTH. IF 3. CONCRETE IS DAMAGED BEYOND THE ORIGINAL SAW CUT, A NEW SAW CUT IS REQUIRED.
- 4. ▲ IF MORE THAN HALF THE CIRCUMFERENCE OF A REINFORCING BAR IS EXPOSED DURING THIS PROCESS, REMOVE ADDITIONAL CONCRETE TO 1" BEHIND THE BAR. THIS DOES NOT APPLY TO PRESTRESSED STRANDS.
- 5. ALL UNSOUND CONCRETE MUST BE REMOVED, HOWEVER, PRESTRESSED STRANDS SHOULD NOT BE DISTURBED UNLESS ABSOLUTELY NECESSARY. USE EXTREME CARE TO NOT DAMAGE STRANDS.
- CLEAN ALL EXPOSED REINFORCING BARS AND PRESTRESSED STRANDS IN 6. ACCORDANCE WITH THE REPAIRS TO PRESTRESSED CONCRETE GIRDERS SPECIAL PROVISION. FOR BARS WITH MORE THAN 10% SECTION LOSS, SPLICE AND SECURELY TIE SUPPLEMENTAL REINFORCING BARS AS NEEDED. NOTE AND PROVIDE DETAILED DOCUMENTATION, INCLUDING LOCATION AND SEVERITY, OF ALL DAMAGE TO PRESTRESSED STRANDS THAT EXCEEDS 10% SECTION LOSS. IF FIVE OR MORE STRANDS ARE DAMAGED, NOTIFY THE ENGINEER PRIOR TO PLACEMENT OF REPAIR MATERIAL.
- REMOVE ALL LOOSE OR WEAKENED MATERIAL THEN CLEAN THE REPAIR 7. AREA OF DIRT, GREASE, OIL, AND FOREIGN MATTER.
- PREPARE SURFACE AND PLACE APPROVED REPAIR MATERIAL ACCORDING 8. TO PRESTRESSED CONCRETE GIRDER REPAIRS SPECIAL PROVISION. MAXIMUM AGGREGATE SIZE FOR REPAIR MATERIAL SHALL NOT EXCEED 3/3 THE MINIMUM REPAIR DEPTH.

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CONTRACTOR SHALL FIELD VERIFY THE EXISTING FORMED OPENING PRIOR TO OBTAINING JOINT MATERIAL. IF ACTUAL JOINT OPENINGS VARIES FROM THE OPENING INDICATED IN DETAIL MORE THAN 1/4" NOTIFY

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

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

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

SILICONE JOINT SEALANT AND BACKER ROD SHALL BE INSTALLED AS PER MANUFACTURER'S

DURING JOINT INSTALLATION PROCEDURE, THE JOINT AND SURROUNDING AREA SHALL BE KEPT CLEAN AND

FOR EXCAVATION BELOW THE BOTTOM OF THE PLANNED JOINT DEMOLITION, CONCRETE FOR DECK REPAIR SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT BOTTOM OF THE PROPOSED

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

SUMMARY OI	F QUANTIT	IES
	ESTIMATE	ACTUAL
ELASTOMERIC CONCRETE FOR PRESERVATION	13.8 CF	
POURABLE SILICONE JOINT SEALANT	133.6 LF	

PROJECT NO.	<u>HI-0007</u>		
WILSON			
BRIDGE NO.	970225		

BRIDGE NO.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

RALEIGH JOINT REPAIR DETAILS

DDA094AED5104FD 06/22/2022						
		REVISIONS				
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SIGNATURES COMPLETED	2		4		11	



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NOTES

REPAIR QUANTITY TABLE						
		QUAN	TITIES			
REFAIRS - END DENIS	ESTI	MATE	ACT	UAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
САР	0	0				
CURTAIN WALL	0	0				
WINGWALL						
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
САР	0	0				
CURTAIN WALL	0	0				
WINGWALL						

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

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

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

REPAIR KEY



SHOTCRETE REPAIR AREA



	PROJEC	T NO.	<u> </u>	I - 000	7
		WILS	ON	CO	UNTY
	BRIDGE	NO	9	70225	
NUMBER OF CAROLAND	DEPAF	STATE RTMENT	E OF NORTH CAR OF TRAI RALEIGH	OLINA NSPORTA	TION
SEAL 030024		SUBS F	STRUC REPAI	TURE R	
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NOTES

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

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CAP & COLUMN REPAIRS DETAILS, SEE TYPICAL CAP & COLUMN REPAIR DETAIL SHEET.



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





SPAN A SPAN B

SPAN B

REPAIR QUANTITY TABLE						
		QUAN	TITIES			
KEPAIKS - DENI I	ESTI	MATE	ACTUAL			
SHOTCRETE REPAIRS	AREA VOLUME SF CF		AREA SF	VOLUME CF		
САР	4.3	2.2				
COLUMN	2.9	1.5				
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
САР	0	0				
COLUMN	0	0				

REPAIR KEY



SHOTCRETE REPAIR AREA

	PROJEC	CT NO. WILS E NO	H ON g	I I-000 CC 70225	7)UNTY	
RINGE ESSION SE AL OSO024 SE AL OSO024 C. ABRHUM Docusigned by: Aster Abraha OD0094AED5104FD	DEPA	SUBS	e of NORTH CA OF TRA RALEIGH	AROLINA ANSPORTA CTURE R 1	TION	
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NOTES

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

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CAP & COLUMN REPAIRS DETAILS, SEE TYPICAL CAP & COLUMN REPAIR DETAIL SHEET.



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





SPAN B SPAN C

SPAN C

SPAN B

REPAIR QUANTITY TABLE							
		QUAN	TITIES				
KEPAIKS - DENI Z	ESTI	MATE	ACTUAL				
SHOTCRETE REPAIRS	AREA VOLUME SF CF		AREA SF	VOLUME CF			
САР	0	0					
COLUMN	18.5	9.3					
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
САР	0	0					
COLUMN	0	0					

REPAIR KEY



SHOTCRETE REPAIR AREA

	PROJEC	CT NO. WILS E NO	H ON g	I I - 000 CC 70225	7 OUNTY	
OR ESSIONE SEAL 030024	DEPA	STAT	e of NORTH C. OF TRA RALEIGH	ANSPORTA	TION	
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NOTES

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

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

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CAP & COLUMN REPAIRS DETAILS, SEE TYPICAL CAP & COLUMN REPAIR DETAIL SHEET.



SPAN D SPAN C

SPAN C SPAN D

REPAIR QUANTITY TABLE							
		QUAN	TITIES				
KEPAIKS - DENI S	ESTI	MATE	ACTUAL				
SHOTCRETE REPAIRS	AREA VOLUME SF CF		AREA SF	VOLUME CF			
САР	1.0	0.5					
COLUMN	0	0					
CONCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
САР	0	0					
COLUMN	0	0					

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

REPAIR KEY



SHOTCRETE REPAIR AREA

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REPAIR KEY

SECTION A-A

CAP REPAIR

CONCRETE REPAIR AREA (FORM AND POUR)

SHOTCRETE REPAIR AREA

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

ELEVATION

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.

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NOTES

SEE TRAFFIC PLANS FOR LANE WIDTH, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF SURFACE PREPARATION AND SILANE DECK TREATMENT.

SILANE DECK TREATMENT DETAIL

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DESIGN ENGINEER OF RECORD:

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