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STATE	STATI	3 PROJECT REPERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	]	5BPR.7	1	84
STATI	E PROJ. NO.	F. A. PROJ. NO.	DESCRIPT	TION
15	BPR.7		P.E.	
15	BPR.7		CONS	ST.

Prepared in th DIVISION OF STRUCTURES MAN 1000 BIRCH RALEIGH,	the Office of: <b>HIGHWAYS</b> NAGEMENT UNIT RIDGE DR. N.C. 27610
NDARD SPECIFICATIONS DATE :	G. W. DICKEY, P.E. PROJECT ENGINEER
AY 15, 2018	P. KOREY NEWTON, P.E. PROJECT DESIGN ENGINEER



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SPAN 10 <u>SPAN 11</u> SPAN 12 \_T\_\_ BENT 10 BENT 11 BENT 9 BENT 12 MATCHLINE 1 90'-0" 90'-0" 90'-0" SPAN 11 SPAN 12 SPAN 10 ⊂ € BENT 9 € BENT 107 € BENT 12 7 € BENT 11 7 28'-11" CLEAR ROADWAY 62'-10" (OUT TO OUT) 28'-11" CLEAR ROADWAY 111 — € BRIDGE 111 111 111 :|: - 90°-0'-0" (TYP.EXCEPT WHERE SHOWN) P.D. BRYANT \_ DATE : <u>12/2017</u> DRAWN BY : \_\_ CHECKED BY : \_ P.K.NEWTON \_ DATE : <u>01/2018</u>

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90'-0"	90'-0"	90'-0"	90'-0"	-
SPAN 22	SPAN 23	SPAN 24	SPAN 25	
€ BENT 22 Z	Q BENT 23 Z	© BENT 24 Z	E BENT 25 Z	
	E BRIDGE		MEDIAN BARRIER RAIL	<u> </u>

		F	<u>'L A</u>	N			
(FOOTINGS	&	PILES	NOT	SHOWN	FOR	CLARITY)	

					τοται	_ BILL OF	MATERI	4L					
CURRITUCK BRIDGE NO.15	MOBILIZATION	GROOVING BRIDGE FLOORS	SHOTCRETE REPAIRS	CLASS II SURFACE PREPARATION	SCARIFYING BRIDGE DECK	SHOTBLASTING BRIDGE DECK	PPC MATERIALS	PLACING AND FINISHING PPC OVERLAY	SILICONE JOINT SEALANT	REPAIRS TO PRESTRESSED CONCRETE GIRDERS	EPOXY RESIN INJECTION	CONCRETE DECK REPAIR FOR PPC OVERLAY	HARDWARE
	LUMP SUM	SQ.FT.	CU.FT.	SQ. YD.	SQ.YD.	SQ.YD.	CU.YD	SQ.YD.	LIN.FT.	CU.FT.	LIN.FT.	SQ.YD.	LBS.
TOTAL	LUMP SUM	138435.4	4870.5	30.9	16223.4	16223.4	450.65	16223.4	1632	18.4	294.0	30.9	8115

# GENERAL NOTES

REPAIR LOCATIONS AND ESTIM ARE GIVEN WITH THE BEST IN IF ADDITIONAL REPAIRS NOT ARE DEEMED NECESSARY BY TH ENGINEER SHALL NOTE ON THE APPROXIMATE LOCATION AND D AND ADJUST THE ACTUAL QUAN THE REPAIR QUANTITY TABLE.

EXISTING DIMENSIONS AND BR FROM THE BEST INFORMATION CONTRACTOR SHALL FIELD VER SHOWN ON THE PLANS AND NOT ACTUAL DIMENSIONS AND COND

EXISTING JOINTS AND DECK DF PRIOR TO BEGINNING SURFACE BRIDGE DECK.

IT IS THE CONTRACTOR'S RESP ALL STATE AND FEDERAL SAFE

LONGITUDINAL CONSTRUCTION SHALL BE LOCATED ALONG THE OF TRAVEL LANES.

FOR FALSEWORK AND FORMWORK

FOR GROUT FOR STRUCTURES,

FOR CONTROL OF TRAFFIC AND CONSTRUCTION, SEE TRANSPORT

FOR CRANE SAFETY, SEE SPECI

FOR OVERLAY SURFACE PREPAR POLYMER CONCRETE, SEE SPECI

FOR POLYESTER POLYMER CONC OVERLAY, SEE SPECIAL PROVIS

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IVIAL DILL OF MAIERIAL
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ТОТ	AL BILL	OF MATER	RIAL
REMOVAL OF EXISTING FENDER SYSTEM	12″Ø TREATED TIMBER PILES	10" X 10" TREATED LUMBER	8″X 8″ TREATED LUMBER
LUMP SUM	LIN.FT.	LIN.FT.	LIN.FT.
LUMP SUM	12300	3332	516

MATES OF QUANTITIES NFORMATION AVAILABLE. SHOWN ON THE DRAWING HE ENGINEER, THE E DRAWINGS THE DESCRIPTION OF REPAIRS	WORK ON BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE TO ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES DATED JANUARY 2018 AND THE PROJECT SPECIAL PROVISIONS.
RIDGE CONDITION ARE	PRIOR TO BEGINNING WORK, CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A COMPLETE SEQUENCE OF TASKS FOR EACH OPERATION AFFECTING THE BRIDGE SURFACE AND/OR TRAFFIC.
DRAINS SHALL BE SEALED	ANY DAMAGE TO EXISTING REINFORCING STEEL, DURING CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AND PERFORMED AT NO ADDITIONAL COST.
	FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
SPONSIBILITY TO FOLLOW ETY REQUIREMENTS.	FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
I JOINTS OF OVERLAYS	FOR SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.
	FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
SEE SPECIAL PROVISIONS.	FOR SCARIFYING BRIDGE DECK, SHOTBLASTING, AND CLASS II SURFACE PREPARATION SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.
D LIMITS ON PHASING OF TATION MANAGEMENT PLANS.	FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
IAL PROVISIONS.	FOR CONCRETE FOR DECK REPAIR FOR PPC OVERLAY, SEE SPECIAL PROVISIONS.
RATION FOR POLYESTER IAL PROVISIONS.	FOR REPAIRS TO PRESTRESSED CONCRETE
CRETE BRIDGE DECK SIONS.	SINDENS, SEE SEETRE FROVISIONS.

	PROJEC Cl BRIDGE	CT NO. JRRI E NO	<u>15</u> TUCK	<u>5BPR.</u> co 15	7 OUNTY
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#### NOTES

FOR SILICONE JOINT SEALENT, SEE SPECIAL PROVISIONS.

THE INSTALLED SILICONE JOINT SEALS SHALL BE WATERTIGHT.

THE CONTRACTOR SHALL NOTE THE EXISTING JOINT OPENINGS PRIOR TO OVERLAYING THE PPC. THE FINAL JOINT OPENINGS SHALL BE SAW CUT TO MATCH THE EXISTING OPENINGS.

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

SILICONE JOINT SEALANT
LIN.FT
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FOR SILICONE JOINT SEALENT, SEE SPECIAL PROVISIONS. THE INSTALLED SILICONE JOINT SEALS SHALL BE WATERTIGHT. THE CONTRACTOR SHALL NOTE THE EXISTING JOINT OPENINGS PRIOR TO OVERLAYING THE PPC. THE FINAL JOINT OPENINGS SHALL BE SAW CUT TO MATCH THE EXISTING OPENINGS.

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

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AS-BUILT REPAIR QL	JANTITY	TABLE			
TOP OF DECK R	TOP OF DECK REPAIRS				
APPROACH SL	AB #1				
	ESTIMATE	ACTUAL			
SCARIFYING BRIDGE DECK	64.0 SY				
CLASS II SURFACE PREPARATION	1.5 SY				
SHOTBLASTING BRIDGE DECK	64.0 SY				
PPC MATERIALS	1.78 CY				
PLACING & FINISHING PPC OVERLAY	64.0 SY				
BRIDGE DECK GROOVING	546.0 SF				
CONCRETE FOR DECK REPAIR	1.5 SY				
SPAN 1					
	ESTIMATE	ACTUAL			
SCARIFYING BRIDGE DECK	581.0 SY				
CLASS II SURFACE PREPARATION	1.9 SY				
SHOTBLASTING BRIDGE DECK	581.0 SY				
PPC MATERIALS	16.14 CY				
PLACING & FINISHING PPC OVERLAY	581.0 SY				
BRIDGE DECK GROOVING	4958.0 SF				
CONCRETE FOR DECK REPAIR	1.9 SY				

NOTES

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





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# / EXISTING BARRIER RAIL / (TYP.EA.SIDE)

PLAN

# AS-BUILT REPAIR QUANTITY TABLE

### TOP OF DECK REPAIRS

SPAN 2	
	ESTIM

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	577.8 SY	
CLASS II SURFACE PREPARATION	0.9 SY	
SHOTBLASTING BRIDGE DECK	577.8 SY	
PPC MATERIALS	16.05 CY	
PLACING & FINISHING PPC OVERLAY	577.8 SY	
BRIDGE DECK GROOVING	4930.4 SF	
CONCRETE FOR DECK REPAIR	0.9 SY	

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS' SHEET.

	PROJEC <u>Cl</u> BRIDGE	CT NO. <u>JRRI</u> E NO	 TL	15 ICK	<u>BPR</u> CO 15	7 UNTY
	SHEET 2 (	)F 27				
WITH CAROL	DEPA	STAT RTMENT	e of OF	NORTH CAR TRAN	OLINA NSPORTA	TION
SUPESSION THE	SURFACE PREPARATION					
SEAL 26445						
TOREY NEW NUM		PPC	Ċ	VEF	RLAY	
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PLAN

# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

#### SPAN 3

	ESTIMATE	ACTUAL			
SCARIFYING BRIDGE DECK	577.8 SY				
CLASS II SURFACE PREPARATION	0.8 SY				
SHOTBLASTING BRIDGE DECK	577.8 SY				
PPC MATERIALS	16.05 CY				
PLACING & FINISHING PPC OVERLAY	577.8 SY				
BRIDGE DECK GROOVING	4930.4 SF				
CONCRETE FOR DECK REPAIR	0.8 SY				

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS' SHEET.

- CLASS II SURFACE PREPARATION

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- SCARIFICATION





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# AS-BUILT REPAIR QUANTITY TABLE

### TOP OF DECK REPAIRS

#### SPAN 4

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	577.8 SY	
CLASS II SURFACE PREPARATION	0.6 SY	
SHOTBLASTING BRIDGE DECK	577.8 SY	
PPC MATERIALS	16.05 CY	
PLACING & FINISHING PPC OVERLAY	577.8 SY	
BRIDGE DECK GROOVING	4930.4 SF	
CONCRETE FOR DECK REPAIR	0.6 SY	

NOTES



	PROJEC Cl BRIDGE	CT NO. JRRI E NO	 T L	<u>15</u> JCK	<u>5BPR.</u> co	7 UNTY
	SHEET 4_C	)F 27				
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P. Korey Newton 3/29/2018		3		411	4	
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PLAN

# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

### SPAN 5

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	577.8 SY	
CLASS II SURFACE PREPARATION	1.6 SY	
SHOTBLASTING BRIDGE DECK	577.8 SY	
PPC MATERIALS	16.05 CY	
PLACING & FINISHING PPC OVERLAY	577.8 SY	
BRIDGE DECK GROOVING	4930.4 SF	
CONCRETE FOR DECK REPAIR	1.6 SY	

NOTES







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# / EXISTING BARRIER RAIL / (TYP.EA.SIDE)

PLAN

# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

SPAN	6
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	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	577.8 SY	
CLASS II SURFACE PREPARATION	1.2 SY	
SHOTBLASTING BRIDGE DECK	577.8 SY	
PPC MATERIALS	16.05 CY	
PLACING & FINISHING PPC OVERLAY	577.8 SY	
BRIDGE DECK GROOVING	4930.4 SF	
CONCRETE FOR DECK REPAIR	1.2 SY	

NOTES







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# / EXISTING BARRIER RAIL / (TYP.EA.SIDE)

PLAN

# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

#### SPAN 7

<b>0</b> . / (		
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	577.8 SY	
CLASS II SURFACE PREPARATION	1.1 SY	
SHOTBLASTING BRIDGE DECK	577.8 SY	
PPC MATERIALS	16.05 CY	
PLACING & FINISHING PPC OVERLAY	577.8 SY	
BRIDGE DECK GROOVING	4930.4 SF	
CONCRETE FOR DECK REPAIR	1.1 SY	

NOTES



	PROJEC <u>Cl</u> BRIDGE	CT NO. JRRI E NO	<u> </u>	<u>15BPR.</u> Co 15	7 DUNTY
	SHEET 7 C	)F 27			
RTH CAROL	DEPA		E OF NORTH OF TR RALEIGH		
SEAL	SURFACE PREPARATION				
			ANE	)	
TOREY NEW		PPC	OVE	ERLAY	
P. Korey. Newton		S	PAN	7	
3/29/2018 3/29/2018					
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# / EXISTING BARRIER RAIL / (TYP.EA.SIDE)

PLAN

# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

### SPAN 8

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	577.8 SY	
CLASS II SURFACE PREPARATION	2.2 SY	
SHOTBLASTING BRIDGE DECK	577.8 SY	
PPC MATERIALS	16.05 CY	
PLACING & FINISHING PPC OVERLAY	577.8 SY	
BRIDGE DECK GROOVING	4930.4 SF	
CONCRETE FOR DECK REPAIR	2.2 SY	

NOTES



	PROJEC Cl	T NO. JRRI	 TU	15 CK	<u>BPR.</u>	7 UNTY
	BRIDG	E NO			15	
	SHEET 8 C	)F 27				
RTH CAROLINI	DEPA	STAT		NORTH CARC TRAN ALEIGH		TION
SEAL F	SURI	- ACE	Ρ	RFL	'ARA I	LON
26445			Δ	ND		
TO CINER ON			$\sim$			
OREY NEWMIN		PPC	U	VEF	KLAY	
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# AS-BUILT REPAIR QUANTITY TABLE

### TOP OF DECK REPAIRS

### SPAN 9

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	577.8 SY	
CLASS II SURFACE PREPARATION	0.8 SY	
SHOTBLASTING BRIDGE DECK	577.8 SY	
PPC MATERIALS	16.05 CY	
PLACING & FINISHING PPC OVERLAY	577.8 SY	
BRIDGE DECK GROOVING	4930.4 SF	
CONCRETE FOR DECK REPAIR	0.8 SY	

NOTES



	PROJEC <u>Cl</u> BRIDGE	T NO. JRRI NO	TUC	<u>15</u> E K 15	<u>BPR.</u> CO	7 UNTY
	SHEET 9 C	)F 27				
NITH CAROLINI	DEPA		E OF NORTH OF T	H CAROLIN RANS GH		TION
SEAL	SURI	- ACE	PR		ARAI	TON
			AN	D		
TOREY NEW OUT		PPC	٥V	ERL	_AY	
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# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

	ESTIMATE	ACTUAL			
SCARIFYING BRIDGE DECK	577.8 SY				
CLASS II SURFACE PREPARATION	1.3 SY				
SHOTBLASTING BRIDGE DECK	577.8 SY				
PPC MATERIALS	16.05 CY				
PLACING & FINISHING PPC OVERLAY	577.8 SY				
BRIDGE DECK GROOVING	4930.4 SF				
CONCRETE FOR DECK REPAIR	1.3 SY				

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS' SHEET.



	PROJEC Cl BRIDGE	CT NO. <u>JRRI</u> E NO	 TL	<u>15</u> JCK	<u>5BPR.</u> CO 15	7 UNTY
WITH CARO	DEPA	STAT RTMENT	e of OF	NORTH CAR TRAN	OLINA NSPORTA	TION
SEAL 26445	SURI	FACE	P A	REF	PARAT	ION
TOREY NEW WINNING		PPC	Ċ	VEF	RLAY	
P. Korey Newton 455539D1431B407		SF	ÞΔ	N 1	0	
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# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

SPAN 1
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	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	577.8 SY	
CLASS II SURFACE PREPARATION	1.5 SY	
SHOTBLASTING BRIDGE DECK	577.8 SY	
PPC MATERIALS	16.05 CY	
PLACING & FINISHING PPC OVERLAY	577.8 SY	
BRIDGE DECK GROOVING	4930.4 SF	
CONCRETE FOR DECK REPAIR	1.5 SY	

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS' SHEET.



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# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

	ESTIMATE	ACTUAL			
SCARIFYING BRIDGE DECK	577.8 SY				
CLASS II SURFACE PREPARATION	1.4 SY				
SHOTBLASTING BRIDGE DECK	577.8 SY				
PPC MATERIALS	16.05 CY				
PLACING & FINISHING PPC OVERLAY	577.8 SY				
BRIDGE DECK GROOVING	4930.4 SF				
CONCRETE FOR DECK REPAIR	1.4 SY				

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS' SHEET.



	PROJEC Cl BRIDGE	CT NO. <u>JRRI</u> E NO	TUCI	15 K 1	<u>BPR.</u> CO 5	7 UNTY
	SHEET 12 (	)F 27				
WINTH CAROLINA	DEPA	stat RTMENT	e of north OF T RALEIC	H CAROL RANS	INA SPORTA	TION
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OREY NEW WINN		PPC	OV	ĒR	LAY	
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# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

SPAN 13					
	ESTIMATE	ACTUAL			
SCARIFYING BRIDGE DECK	500.7 SY				
CLASS II SURFACE PREPARATION	1.1 SY				
SHOTBLASTING BRIDGE DECK	500.7 SY				
PPC MATERIALS	13.91 CY				
PLACING & FINISHING PPC OVERLAY	500.7 SY				
BRIDGE DECK GROOVING	4272.4 SF				
CONCRETE FOR DECK REPAIR	1.1 SY				

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS'' SHEET.

	PROJEC	T NO. JRRI	<u>15</u> TUCK	<u>5BPR.</u> C0	7 UNTY
	RKIDGF	<u>NU.</u>		1.0	
	SHEET 13 C	)F 27			
TH CARO	DEPA	STAT RTMENT	E OF NORTH CAR OF TRAI RALEIGH	OLINA NSPORTA	TION
SEESSION T	SUR	FACE	PREF	PARAT	ION
SEAL 26445			AND		
TOREY NEW INT		PPC	OVEF	RLAY	
DocuSigned by: P. Korey. Newton		SF	PAN 1	3	
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# AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

SPAN 14					
	ESTIMATE	ACTUAL			
SCARIFYING BRIDGE DECK	899.1 SY				
CLASS II SURFACE PREPARATION	0.8 SY				
SHOTBLASTING BRIDGE DECK	899.1 SY				
PPC MATERIALS	24 <b>.</b> 97 CY				
PLACING & FINISHING PPC OVERLAY	899.1 SY				
BRIDGE DECK GROOVING	7672.1 SF				
CONCRETE FOR DECK REPAIR	0.8 SY				

NOTES

FOR SECTION C-C & D-D, SEE ``JOINT DETAILS'' SHEET.







# AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	577.8 SY	
CLASS II SURFACE PREPARATION	0.5 SY	
SHOTBLASTING BRIDGE DECK	577.8 SY	
PPC MATERIALS	16.05 CY	
PLACING & FINISHING PPC OVERLAY	577.8 SY	
BRIDGE DECK GROOVING	4930.4 SF	
CONCRETE FOR DECK REPAIR	0.5 SY	

NOTES

FOR SECTION D-D, SEE ``JOINT DETAILS'' SHEET.

SPAN 16	PROJEC Cl BRIDGE	CT NO. JRRI E NO	<u>15</u> TUCK	<u>BPR.</u> CO	7 UNTY
SEAL 26445 Docusigned by: P. Korey Newton	depa SURI	RTMENT FACE PPC SF	e of north car OF TRAI RALEIGH PREF AND OVEF PAN 1	NSPORTA PARAT RLAY	TION
5/29/2018	REVISIONS SHEET NO.				
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# AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

SPAN 16					
	ESTIMATE	ACTUAL			
SCARIFYING BRIDGE DECK	899.1 SY				
CLASS II SURFACE PREPARATION	1.1 SY				
SHOTBLASTING BRIDGE DECK	899 <b>.</b> 1 SY				
PPC MATERIALS	24 <b>.</b> 97 CY				
PLACING & FINISHING PPC OVERLAY	899.1 SY				
BRIDGE DECK GROOVING	7672.1 SF				
CONCRETE FOR DECK REPAIR	1.1 SY				

NOTES

FOR SECTION C-C & D-D,SEE ``JOINT DETAILS'' SHEET.



	PROJEC <u>Cl</u> BRIDGE	CT NO. <u>JRRI</u> E NO	<u>1</u> 5 TUCK	5 <u>BPR.</u> co 15	7 UNTY	
	<u>SHEET 16 (</u>	)F 27				
SEAL 26445 Decusigned by: P. Korey Newton	SHEET 16 OF 27 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SURFACE PREPARATION AND PPC OVERLAY SPAN 16					
3/29/2018	REVISIONS SHEET NO.					
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				- E (1
C	C			
		2.3 SF —		
			1 SF	
			EXISTING @ BENT 16 -1.0 SF	

TING BARRIER RAIL EA.SIDE)



# PLAN

# AS-BUILT REPAIR QUANTITY TABLE

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### TOP OF DECK REPAIRS

SPAN	17
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	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	500.7 SY	
CLASS II SURFACE PREPARATION	0.8 SY	
SHOTBLASTING BRIDGE DECK	500.7 SY	
PPC MATERIALS	13 <b>.</b> 91 CY	
PLACING & FINISHING PPC OVERLAY	500.7 SY	
BRIDGE DECK GROOVING	4272.4 SF	
CONCRETE FOR DECK REPAIR	0.8 SY	

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS'' SHEET.





DRAWN BY :	P.D. BRYANT	DATE :	12/2017
CHECKED BY :	P.K.NEWTON	DATE :	01/2018

# AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

#### SPAN 18

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	577.8 SY	
CLASS II SURFACE PREPARATION	1.8 SY	
SHOTBLASTING BRIDGE DECK	577.8 SY	
PPC MATERIALS	16.05 CY	
PLACING & FINISHING PPC OVERLAY	577.8 SY	
BRIDGE DECK GROOVING	4930.4 SF	
CONCRETE FOR DECK REPAIR	1.8 SY	

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS'' SHEET.

F [	PROJEC Cl BRIDGE	CT NO. <u>JRRI</u> E NO	 TL	15 ICK	<u>5BPR.</u> CO 15	7 UNTY
	SHEET 18 C	)F 27				
TH CAROLINI	DEPA				NSPORTA	TION
SEAL	SURI	- ALE	Ρ	KFF	'AKA I	TON
			Δ	ND		
TOREY NEW		PPC	С	VEF	RLAY	
DocuSigned by: P. Korey Newton	SPAN 18					
3/29 <sup>4</sup> FE <sup>39D1431B407</sup>						
		REVIS	PTON	5	DATE	SHEEL NU.
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DRAWN BY : _	P.D. BRYANT	DATE : <u>12/2017</u>
CHECKED BY :	P.K. NEWTON	DATE : 01/2018

# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

SPAN 19						
	ESTIMATE	ACTUAL				
SCARIFYING BRIDGE DECK	577.8 SY					
CLASS II SURFACE PREPARATION	0.5 SY					
SHOTBLASTING BRIDGE DECK	577.8 SY					
PPC MATERIALS	16.05 CY					
PLACING & FINISHING PPC OVERLAY	577.8 SY					
BRIDGE DECK GROOVING	4930.4 SF					
CONCRETE FOR DECK REPAIR	0.5 SY					

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS'' SHEET.

F - [	PROJEC Cl BRIDGE	CT NO. <u>JRRI</u> E NO	 T L	15 JCK	<u>BPR.</u> CO	7 UNTY
	SHEET 19 C	)F 27				
WITH CAROL	DEPA	STAT RTMENT	e of OF	NORTH CAR TRAN	OLINA NSPORTA	TION
SESSION ESSION	SURFACE PREPARATION					
SEAL \ 26445						
TOREY NEW	PPC OVERLAY					
P. Korey Newton	SPAN 19					
3/29 <sup>4</sup> 2018 <sup>1431B407</sup>						
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# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

SPAN 20						
	ESTIMATE	ACTUAL				
SCARIFYING BRIDGE DECK	577.8 SY					
CLASS II SURFACE PREPARATION	0.9 SY					
SHOTBLASTING BRIDGE DECK	577.8 SY					
PPC MATERIALS	16.05 CY					
PLACING & FINISHING PPC OVERLAY	577.8 SY					
BRIDGE DECK GROOVING	4930.4 SF					
CONCRETE FOR DECK REPAIR	0.9 SY					

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS'' SHEET.

	PROJECT NO. <u>15BPR.7</u> <u>CURRITUCK</u> COUNTY BRIDGE NO. <u>15</u> SHEET 20 OF 27						
RTH CAROL RESSIONER SEAL 26445 NGINEER O	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SURFACE PREPARATION AND PPC OVERLAY						
DocuSigned by: P. Korey. Newton AFEES0D1434D407	SPAN 20						
3/29/2018/431840/		REVIS	SIONS		SHEET NO.		
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FINAL UNLESS ALL	1		3		TOTAL SHEETS		
SIGNATURES COMPLETED	2		<u>a</u>		84		



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# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

SPAN 2	1	
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	577 <b>.</b> 8 SY	
CLASS II SURFACE PREPARATION	2.1 SY	
SHOTBLASTING BRIDGE DECK	577.8 SY	
PPC MATERIALS	16.05 CY	
PLACING & FINISHING PPC OVERLAY	577 <b>.</b> 8 SY	
BRIDGE DECK GROOVING	4930.4 SF	
CONCRETE FOR DECK REPAIR	2.1 SY	

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS'' SHEET.

	PROJECT NO. <u>15BPR.7</u> <u>CURRITUCK</u> COUNTY BRIDGE NO. <u>15</u>					
	SHEET 21 C	)F 27				
NUMBTH CAROL	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SFESSION F	SURFACE PREPARATION					
26445	AND					
TOREY NEW NUMBER	PPC OVERLAY					
DocuSigned by: P. Korey Newton	SPAN 21					
3/29/201814318407						
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FINAL UNLESS ALL	1		3			TOTAL SHEETS
SIGNATURES COMPLETED	2		A			84



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CHECKED BY :	P.K.NEWTON	DATE :	01/2018

# \_ EXISTING BARRIER RAIL \_ (TYP.EA.SIDE)

# AS-BUILT REPAIR QUANTITY TABLE

	TOP	OF	DECK	REPAIRS
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SPAN 22						
	ESTIMATE	ACTUAL				
SCARIFYING BRIDGE DECK	577.8 SY					
CLASS II SURFACE PREPARATION	0.9 SY					
SHOTBLASTING BRIDGE DECK	577.8 SY					
PPC MATERIALS	16.05 CY					
PLACING & FINISHING PPC OVERLAY	577.8 SY					
BRIDGE DECK GROOVING	4930.4 SF					
CONCRETE FOR DECK REPAIR	0.9 SY					

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS'' SHEET.

	PROJECT NO. <u>15BPR.7</u> <u>CURRITUCK</u> COUNTY BRIDGE NO. <u>15</u> SHEET 22 OF 27						
	STATE OF NORTH CAROLINA						
TH CAROL	RALEIGH						
SEESSION THE	SURFACE PREPARATION						
26445							
PACINEER							
OREY NEW WINN	PPC OVERLAY						
DocuSigned by: P Koney Newton	SPAN 22						
3/29/2018							
		REVIS	SIONS		SHEET NO.		
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FINAL UNLESS ALL	1		<u> </u>		SHEETS		
SIGNATURES COMPLETED	2		<b>4</b> 5		84		



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CHECKED BY :	P.K.NEWTON	DATE	:	01/2018
			-	

# / EXISTING BARRIER RAIL / (TYP.EA.SIDE)

# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

SPAN 23						
	ESTIMATE	ACTUAL				
SCARIFYING BRIDGE DECK	577 <b>.</b> 8 SY					
CLASS II SURFACE PREPARATION	0.7 SY					
SHOTBLASTING BRIDGE DECK	577.8 SY					
PPC MATERIALS	16.05 CY					
PLACING & FINISHING PPC OVERLAY	577.8 SY					
BRIDGE DECK GROOVING	4930.4 SF					
CONCRETE FOR DECK REPAIR	0.7 SY					

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS'' SHEET.





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CHECKED BY :	P.K.NEWTON	DATE : 01/2018



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# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

SPAN 24						
	ESTIMATE	ACTUAL				
SCARIFYING BRIDGE DECK	577 <b>.</b> 8 SY					
CLASS II SURFACE PREPARATION	0.6 SY					
SHOTBLASTING BRIDGE DECK	577.8 SY					
PPC MATERIALS	16.05 CY					
PLACING & FINISHING PPC OVERLAY	577.8 SY					
BRIDGE DECK GROOVING	4930.4 SF					
CONCRETE FOR DECK REPAIR	0.6 SY					

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS'' SHEET.

	PROJEC Cl BRIDGE	CT NO. <u>JRRI</u> E NO	TUCI	<u>15BP</u> < 15	R.7 C0	7 UNTY
	SHEET 24 C	)F 27				
TH CAROLUL	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPESSION T	SURI	FACE	PRE	EPAR	ΑT	ION
SEAL \ 26445						
TOREY NEW INT	PPC OVERLAY					
DocuSigned by: P. Korey, Newton	SPAN 24					
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SIGNATURES COMPLETED	2		ă			84



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# AS-BUILT REPAIR QUANTITY TABLE

#### TOP OF DECK REPAIRS

SPAN 25				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	577 <b>.</b> 8 SY			
CLASS II SURFACE PREPARATION	0.9 SY			
SHOTBLASTING BRIDGE DECK	577 <b>.</b> 8 SY			
PPC MATERIALS	16.05 CY			
PLACING & FINISHING PPC OVERLAY	577 <b>.</b> 8 SY			
BRIDGE DECK GROOVING	4930.4 SF			
CONCRETE FOR DECK REPAIR	0.9 SY			

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS'' SHEET.





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CHECKED BY :_	P.K.NEWTON	DATE : 01/2018

# AS-BUILT REPAIR QUANTITY TABLE

SPAN 26				
	ESTIMATE	ACTUAL		
SCARIFYING BRIDGE DECK	577.8 SY			
CLASS II SURFACE PREPARATION	1.4 SY			
SHOTBLASTING BRIDGE DECK	577.8 SY			
PPC MATERIALS	16.05 CY			
PLACING & FINISHING PPC OVERLAY	577.8 SY			
BRIDGE DECK GROOVING	4930.4 SF			
CONCRETE FOR DECK REPAIR	1.4 SY			

NOTES

FOR SECTION C-C, SEE ``JOINT DETAILS'' SHEET.

f -	PROJEC Cl BRIDGE	CT NO. <u>JRRI</u> E NO	 TU	15 CK	<u>BPR</u> CO 15	7 UNTY
	SHEET 26 (	DF 27				
NUMBER OF CAROL	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
FESSION F	SURI	FACE	Ρ	REP	PARAT	ION
26445	AND					
TOREY NEW		PPC	0	VEF	RLAY	
P. Korey Newton		SF	ͻϪ	N 2	26	
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FINAL UNLESS ALL	1		3			TOTAL
SIGNATURES COMPLETED	2		à			84


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AS-BUILT REPAIR QUANTITY TABLE								
TOP OF DECK REPAIRS								
SPAN 27	SPAN 27							
	ESTIMATE	ACTUAL						
SCARIFYING BRIDGE DECK	581.0 SY							
CLASS II SURFACE PREPARATION	0.0 SY							
SHOTBLASTING BRIDGE DECK	581.0 SY							
PPC MATERIALS	16.14 CY							
PLACING & FINISHING PPC OVERLAY	581.0 SY							
BRIDGE DECK GROOVING	4958.0 SF							
CONCRETE FOR DECK REPAIR	0.0 SY							
APPROACH SL	AB #2							
	ESTIMATE	ACTUAL						
SCARIFYING BRIDGE DECK	64.0 SY							
CLASS II SURFACE PREPARATION	0.0 SY							
SHOTBLASTING BRIDGE DECK	64.0 SY							
PPC MATERIALS	1.78 CY							
PLACING & FINISHING PPC OVERLAY	64.0 SY							
BRIDGE DECK GROOVING	546.0 SF							
CONCRETE FOR DECK REPAIR	0.0 SY							

NOTES

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



- CLASS II SURFACE PREPARATION





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NOTES:

REPAIR QUANTITY TABLE					
DEDATOS SDAN 1		QUANT	ITIES		
REFAIRS SFAN I	ESTI	MATE	ACT	UAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
PRESTRESSED CONCRETE GIRDER REPAIRS	0.0	0.0			
		QUANT	ITIES		
REFAIRS SPAN Z	ESTI	MATE	ACTUAL		
	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
PRESTRESSED CONCRETE GIRDER REPAIRS	0.3	0.1			

FOR CONCRETE GIRDER REPAIR DETAILS, SEE SHEET S-50

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE TO REPAIR DEPTH AND MIN.1"CLEARANCE TO SAW CUT.

DAMAGED AREAS ARE ON THE VERTICAL FACE OF THE BOTTOM FLANGE OR WEB UNLESS OTHERWISE NOTED.

	PROJEC Cl BRIDGE	CT NO. <u>JRRI</u> E NO	<u>15</u> TUCK	<u>5BPR.</u> CO 15	7 UNTY	
POPESSION SEAL 26445	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH FRAMING PLAN SPANS 1 8 2					
DocuSigned by: P. Korey Newton 3/29/2018		REVIS	SIONS		SHEET NO.	
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SIGNATURES COMPLETED	2		4		SHEETS 84	



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REPAIR QUANTITY TABLE							
DEDATOS SDAN 3		QUANTITIES					
REFAIRS SFAN J	ESTI	MATE	ACT	UAL			
	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
PRESTRESSED CONCRETE GIRDER REPAIRS	0.0	0.0					
	QUANTITIES						
REFAIRS SFAN 4	ESTI	MATE	ACTUAL				
	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
PRESTRESSED CONCRETE GIRDER REPAIRS	0.5	0.3					

BOTTOM FLANGE OR WEB UNLESS OTHERWISE NOTED.

# NOTES:

FOR CONCRETE GIRDER REPAIR DETAILS, SEE SHEET S-50

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE TO REPAIR DEPTH AND MIN.1"CLEARANCE TO SAW CUT. DAMAGED AREAS ARE ON THE VERTICAL FACE OF THE

	PROJEC <u>Cl</u> BRIDGE	CT NO. JRRI Ino	<u>15</u> TUCK	<u>5BPR.</u> CO 15	7 UNTY
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THE CAROLAND	DEPA	STAT RTMENT	E OF NORTH CAR OF TRAI RALEIGH	OLINA NSPORTA	TION
SEAL 26445 <b>NCINEEP</b>		FRAN SPAI	IING NS 3	PLAN & 4	
DocuSigned by: P. Korey Newton					
3/29/2018		DEVIC	TONS		SHEET NO
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NOTES:

REPAIR QUANTITY TABLE					
DEDATOS SDAN E		QUANT	ITIES		
REFAIRS SFAN S	ESTI	MATE	ACT	UAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
PRESTRESSED CONCRETE GIRDER REPAIRS	0.3	0.1			
		QUANT	ITIES		
REPAIRS SPAN 6	ESTI	MATE	ACTUAL		
	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
PRESTRESSED CONCRETE GIRDER REPAIRS	6.0	3.0			

FOR CONCRETE GIRDER REPAIR DETAILS, SEE SHEET S-50

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE TO REPAIR DEPTH AND MIN.1"CLEARANCE TO SAW CUT.

DAMAGED AREAS ARE ON THE VERTICAL FACE OF THE BOTTOM FLANGE OR WEB UNLESS OTHERWISE NOTED.

	PROJEC Cl BRIDGE	CT NO. JRRI E NO	<u>15</u> FUCK	<u>BPR</u> CO 15	7 UNTY	
RESSION SEAL	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
26445 <b>NCNEEP</b> DocuSigned by: P. Korey, Newton		SPAN	NS 5	& 6		
3/29/2018 <sup>1431B407</sup>		REVIS	IONS		SHEET NO.	
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FINAL UNLESS ALL	1		3		TOTAL SHEETS	
SIGNATURES COMPLETED	2		<b>4</b>		84	



REPAIR QUANTITY TABLE					
DEDATOS SDAN 7		QUANT	ITIES		
REFAIRS SFAN I	ESTI	MATE	ACT	UAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
PRESTRESSED CONCRETE GIRDER REPAIRS	0.0	0.0			
DEDATOS SDANI Q	QUANTITIES				
REFAIRS SFAN O	ESTI	MATE	ACT	UAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
PRESTRESSED CONCRETE GIRDER REPAIRS	1.0	0.5			
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## NUIES:

FOR CONCRETE GIRDER REPAIR DETAILS, SEE SHEET S-50

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE TO REPAIR DEPTH AND MIN.1"CLEARANCE TO SAW CUT. DAMAGED AREAS ARE ON THE VERTICAL FACE OF THE

BOTTOM FLANGE OR WEB UNLESS OTHERWISE NOTED.

	PROJEC Cl BRIDGE	CT NO. JRRI E NO	<u>15</u> TUCK	<u>5BPR.</u> CO 15	7 OUNTY	
SEAL 26445	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH FRAMING PLAN					
DocuSigned by: P. Korey. Newton 3/29/2018		SPA	NS 7	8 &	SHEET NO.	
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SIGNATURES COMPLETED	2		4		SHEETS 84	



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REPAIR QUANTITY TABLE					
DEDATOS SDAN O		QUANT	ITIES		
REFAIRS SFAN S	ESTI	MATE	ACT	UAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
PRESTRESSED CONCRETE GIRDER REPAIRS	8.3	4.1			
		QUANT	ITIES		
TEFAIRS SPAN IU	ESTI	MATE	ACTUAL		
	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
PRESTRESSED CONCRETE GIRDER REPAIRS	0.0	0.0			

FOR CONCRETE GIRDER REPAIR DETAILS, SEE SHEET S-50

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE TO REPAIR DEPTH AND MIN.1"CLEARANCE TO SAW CUT.

DAMAGED AREAS ARE ON THE VERTICAL FACE OF THE BOTTOM FLANGE OR WEB UNLESS OTHERWISE NOTED.

	PR		T NO. JRRI	 T L	<u>15</u> JCK	5 <u>BPR.</u> cc	7 OUNTY
	SHE	ET 5 0	<b>_ INU.</b> . )F 14				
TH CAROLINA		DEPA	stat RTMENT	e of OF	NORTH CAR	OLINA NSPORTA	TION
SEAL 26445 TOREY NEW WINN			FRAN SPAN	II IS	NG 9	PLAN & 10	
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FINAL UNLESS ALL	1			3			TOTAL SHEETS
SIGNATURES COMPLETED	2			4			84



REPAIR QUANTITY TABLE							
DEDATOS SDAN 11	QUANTITIES						
REFAIRS SFAN II	ESTI	MATE	ACTUAL				
	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
PRESTRESSED CONCRETE GIRDER REPAIRS	0.0	0.0					
	QUANTITIES						
REFAIRS SPAN IZ	ESTI	MATE	ACTUAL				
	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
PRESTRESSED CONCRETE GIRDER REPAIRS	4.0	2.0					

BOTTOM FLANGE OR WEB UNLESS OTHERWISE NOTED.

# NOTES:

FOR CONCRETE GIRDER REPAIR DETAILS, SEE SHEET S-50

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE TO REPAIR DEPTH AND MIN.1"CLEARANCE TO SAW CUT. DAMAGED AREAS ARE ON THE VERTICAL FACE OF THE

	PROJEC Cl BRIDGE	CT NO. JRRI E NO	 Г (	<u>15</u> JCK	<u>BPR</u> co 15	7 UNTY
SEAL 26445 DocuSigned by: P. Korey, Newton	DEPA	FRAN SPAN	E OF II	NORTH CAR TRAI RALEIGH NG 11	NSPORTA PLAN & 12	TION
3/29/2018 <sup>1431B407</sup>		REVIS	SION	NS		SHEET NO.
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO.	BY:	DATE:	S-41
FINAL UNLESS ALL	1		3			TOTAL SHEETS
SIGNATURES COMPLETED	2		4			84



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1-0" (SPAN 13)	SPAN 14	REPAIR	JUANTI	TY TA	BLE	
С ютыт		REPAIRS SPAN 13		QUANT	ITIES	
@ BENT 13			ESTI			
			SF	CF	SF	CF
		PRESTRESSED CONCRETE		4 5		
		GIRDER REPAIRS	9.0	4.5		
		REPAIRS SPAN 14	ESTI	QUANT	ITIES ACTL	JAL
			AREA	VOLUME	AREA	VOLUME
		PRESTRESSED CONCRETE	0.0	0.0		
· /		NOTES				
		FOR CONCRETE GIRDER REPAIR DE	TAILS, SEE SI	HEET S-50		
		VALUES IN CHART REPRESENT EST	IMATED REPA	IR TOTALS		
		AND MIN. 1" CLEARANCE TO SAW CL	JT.	AIR DEFIN		
		DAMAGED AREAS ARE ON THE VERT BOTTOM FLANGE OR WEB UNLESS (	ICAL FACE OF THERWISE NO	F THE TED.		
		- PRESTRESSED CONCRETE (	TROFR REPAT	R		
<u>N 13 - UNDERSIDE</u>						
140'-0" (SPAN 14)	SPAN	N 15				
€_JOINT	DROP و DROP کے دیکھیں کے کہ ک	P-IN)				
@ BENT 14 🛆						
		-€ BRIDGE	PROJECT	NO	<u>15BPR.</u>	7
			<u> </u>	RITUC	<u>. K</u> co	JUNTY
			BRIDGE	NO	15	
			SHEET 7 OF 1	.4		
						TTON
		L CAROLAND	DEPART	MENI UF I RALEI		I I UN
	· · · · · /	SEAL 26445	F	RAMTN	G PLAN	J
		TODE WINN	SI	PANS 1	.3 & 14	1
	 	DocuSigned by:				
	·	<i>P. Korey Newton</i> 3/29/2018 <sup>1431B407</sup>	<b></b>	REVISIONS		SHEFT NO
SPAN 14- UNDERSIDE		DOCUMENT NOT CONSIDERED	NO. BY:	DATE: NO. B	Y: DATE:	
		FINAL UNLESS ALL SIGNATURES COMPLETED	2	<u>৩</u> 4		- SHEETTS 84

REPAIR QUANTITY TABLE							
DEDATOS SDAN 17		QUANT	ITIES				
REFAIRS SFAN IJ	ESTIN	MATE	ACTUAL				
	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
PRESTRESSED CONCRETE GIRDER REPAIRS	9.0	4.5					
	QUANTITIES						
REFAIRS SPAN 14	ESTIN	MATE	ACTUAL				
	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
PRESTRESSED CONCRETE GIRDER REPAIRS	0.0	0.0					



	SDAN 16		REPAIR	QUANTI	TY TA	BLE	
© BRG @	SPAN 16	REDA	TRS SPAN 15		QUANT	ITIES	
				ESTI	ΜΑΤΕ	ACT	UAL
(ON BOTM FLG)				AREA SF	VOLUME CF	AREA SF	VOLUME CF
		PREST GI	RESSED CONCRETE RDER REPAIRS	1.0	0.5		
					QUANT	ITIES	
		REPA	AIRS SPAN 16	ESTI	ΜΑΤΕ	ACT	UAL
				AREA SF	VOLUME CF	AREA SF	VOLUME CF
		PREST	RESSED CONCRETE	2.0	1.0		
	↓ ↓ BRIDGE	NOTES	٥				
		VALUES TN	CHART REPRESENT EST	TMATED REPA	TR TOTALS		
		AFTER REMO AND MIN. 1"	CLEARANCE TO SAW CL	CRETE TO REPA	AIR DEPTH		
		DAMAGED AR	EAS ARE ON THE VERT	ICAL FACE OF	THE		
		BOILOW FLA	INGE OR WEB UNLESS (	DIHERWISE NO	IED.		
		- PRE	STRESSED CONCRETE C	SIRDER REPAIR	7		
	<u>`</u>	<i>\///////</i>					
	i.						
SPAN 15- UNDERSIDE							
140'-0" (SPAN 16)	SPAN 1	7					
<u> </u>							
@ B	ENT 16						
	, `, `, `, `, `, `, `, `, `, `, `, `, `,						
	<u>``</u> `						
		-⊈ BRIDGE		PROJECT	NO	15BPR	.7
				CUR	RITUC	Kr	
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				DRIDGE	NU		
				SHEET 8 OF 1	4		
				DEPART	STATE OF NORT	RANSPORT	ATION
		, ,	WITH CAROLINA I		RALEI	[GH	
			SEAL 26445	F F	RAMIN	G PLAI	N
			TO CINER ON	S S	PAN 15	5 & 16	
	· · · · · · · · · · · · · · · · · · ·		DocuSigned by:				
	2.0 SF	·-1-	P. Korey Newton 3/29/2018	L	<b>DZ</b>		
SPAN 16- UNDERSIDE	(ON BOTM FLG)		MENT NOT CONSTDERED	NO. BY:	REVISIONS	Y: DATE:	SHEET NO. S-43
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REPAIR QUANTITY TABLE							
DEDATOS SDAN 15		QUANT	ITIES				
REFAIRS SFAN IS	ESTIN	MATE	ACTUAL				
	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
PRESTRESSED CONCRETE GIRDER REPAIRS	1.0	0.5					
		QUANT	ITIES				
REFAIRS SPAN 10	ESTIN	MATE	ACTUAL				
	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
PRESTRESSED CONCRETE GIRDER REPAIRS	2.0	1.0					

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REPAIR QUANTITY TABLE							
DEDATOS SDAN 17		QUANT	ITIES				
REFAIRS SFAN II	ESTI	MATE	ACT	UAL			
	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
PRESTRESSED CONCRETE GIRDER REPAIRS	3.0	1.5					
	QUANTITIES						
REPAIRS SPAN IO	ESTIN	MATE	ACTUAL				
	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
PRESTRESSED CONCRETE GIRDER REPAIRS	0.0	0.0					

FOR CONCRETE GIRDER REPAIR DETAILS, SEE SHEET S-50

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE TO REPAIR DEPTH AND MIN.1"CLEARANCE TO SAW CUT. DAMAGED AREAS ARE ON THE VERTICAL FACE OF THE BOTTOM FLANGE OR WEB UNLESS OTHERWISE NOTED.

	PROJEC <u>Cl</u> BRIDGE	T NO. JRRI I NO	<u>1</u> ! TUCK	<u>5BPR.</u> CO 15	7 UNTY			
	SHEET 9 C	)F 14						
PROFESSION AND AND AND AND AND AND AND AND AND AN	FRAMING PLAN SPANS 17 & 18							
P 26445								
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REPAIR QUANTITY TABLE							
DEDATOS SDAN 10		QUANT	ITIES				
REFAIRS SFAN 19	ESTI	MATE	ACT	UAL			
	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
PRESTRESSED CONCRETE GIRDER REPAIRS	0.0	0.0					
	QUANTITIES						
REFAIRS SPAN ZU	ESTI	MATE	ACTUAL				
	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
PRESTRESSED CONCRETE GIRDER REPAIRS	0.0	0.0					

BOTTOM FLANGE OR WEB UNLESS OTHERWISE NOTED.

# NOTES:

FOR CONCRETE GIRDER REPAIR DETAILS, SEE SHEET S-50

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE TO REPAIR DEPTH AND MIN.1"CLEARANCE TO SAW CUT. DAMAGED AREAS ARE ON THE VERTICAL FACE OF THE

	PROJEC <u>Cl</u> BRIDGE	CT NO. JRRI E NO.	 TU	<u>15</u> <u>CK</u>	<u>BPR</u> CO 15	7 UNTY			
	SHEET 10 C	)F 14							
THE CAROLANT	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH								
SEAL 26445 TOREY NEW	FRAMING PLAN SPANS 19 & 20								
Docusigned by: P. Korey Newton									
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REPAIR QUANTITY TABLE					
		QUANT	ITIES		
REFAIRS SFAN ZI	ESTI	MATE	ACT	UAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
PRESTRESSED CONCRETE GIRDER REPAIRS	0.0	0.0			
	QUANTITIES				
REPAIRS SPAN ZZ	ESTI	ESTIMATE ACTUAL			
	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
PRESTRESSED CONCRETE GIRDER REPAIRS	0.5	0.3			

# NOTES:

FOR CONCRETE GIRDER REPAIR DETAILS, SEE SHEET S-50

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE TO REPAIR DEPTH AND MIN.1"CLEARANCE TO SAW CUT. DAMAGED AREAS ARE ON THE VERTICAL FACE OF THE BOTTOM FLANGE OR WEB UNLESS OTHERWISE NOTED.

	PROJEC <u>Cl</u> BRIDGE	CT NO. JRRI E NO. 1 DF 14	<u>15</u> TUCK	<u>5BPR.</u> CO 15	7 UNTY		
NTH CAROLANT	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
SEAL 26445 CINEER OREY NEW UNIT		FRAN SPAN	IING S 21	PLAN & 22			
DocuSigned by: <i>P. Korcy Newton</i> 3/29 <sup>4</sup> E 539 D 1431 B 407			TONC				
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SIGNATURES COMPLETED	2		4		SHEETS 84		



BOTTOM FLANGE OR WEB UNLESS OTHERWISE NOTED.

REPAIR QUANTITY TABLE					
DEDATOS SDAN 23		QUANT	ITIES		
REFAIRS SFAN ZJ	ESTI	MATE	ACT	UAL	
	AREA VOLUME SF CF		AREA SF	VOLUME CF	
PRESTRESSED CONCRETE GIRDER REPAIRS	0.0	0.0			
	QUANTITIES				
TEFAIRS SFAN 24	ESTIMATE ACTUAL			UAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
PRESTRESSED CONCRETE GIRDER REPAIRS	0.0	0.0			

# NOTES:

FOR CONCRETE GIRDER REPAIR DETAILS, SEE SHEET S-50

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE TO REPAIR DEPTH AND MIN.1"CLEARANCE TO SAW CUT. DAMAGED AREAS ARE ON THE VERTICAL FACE OF THE

	PROJEC <u>Cl</u> BRIDGE	CT NO. <u>JRRI</u> E NO	<u>15</u> TUCK	<u>BPR.</u> CO	7 UNTY	
	SHEET 12 OF 14					
THE CAROLAND	DEPA	stat RTMENT	E OF NORTH CAR OF TRAN RALEIGH	OLINA NSPORTA	TION	
SEAL 26445 WGINEER OPEY NEW		FRAN SPAN	IING S 23	PLAN & 24	]	
DocuSigned by: P. Korey Newton						
3/29/203814318407	REVISIONS SHEET NO.					
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![](_page_49_Figure_2.jpeg)

NOTES:

REPAIR QUANTITY TABLE					
DEDATOS SDAN 25		QUANT	ITIES		
REFAIRS SFAN 23	ESTI	MATE	ACT	UAL	
	AREA VOLUME SF CF		AREA SF	VOLUME CF	
PRESTRESSED CONCRETE GIRDER REPAIRS	2.0	1.0			
	QUANTITIES				
TEFAIRS SPAN 20	ESTIMATE ACTUAL			UAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
PRESTRESSED CONCRETE GIRDER REPAIRS	2.0	1.0			

FOR CONCRETE GIRDER REPAIR DETAILS, SEE SHEET S-50

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE TO REPAIR DEPTH AND MIN.1"CLEARANCE TO SAW CUT. DAMAGED AREAS ARE ON THE VERTICAL FACE OF THE

BOTTOM FLANGE OR WEB UNLESS OTHERWISE NOTED.

	PROJEC Cl BRIDGE	CT NO. <u>JRRI</u> E NO	<u>15</u> FUCK	<u>5BPR.</u> CO 15	7 UNTY
SEAL 26445 CREER OFEN COREFRONT	DEPA	RTMENT	e of north car OF TRAN RALEIGH	PLAN & 26	TION
DocuSigned by: <i>P. Korey Newton</i> 3/29/2018 <sup>4553901431B407</sup>					
	NO. BY:	REVIS	NO. BY:	DATE:	S-48
DOCUMENT NOT CONSIDERED	1		3		
SIGNATURES COMPLETED	2		ă l		84

![](_page_50_Figure_0.jpeg)

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CHECKED BY :	P.K.NEWTON	DATE : 01/2018

SPAN 27 - UNDERSIDE

REPAIR QUANTITY TABLE							
FPATRS SPAN 27	QUANT			ITIES			
		STIM4					
	SF		CF	SF	CF		
SHOTCRETE REPAIRS	0.0	)	0.0				
GIRDER REPAIRS	0.0		0.0				
ES:							
NCRETE GIRDER REPAIR DETA	AILS, SEE	SHE	T S-50				
S IN CHART REPRESENT ESTIMATED REPAIR TOTALS REMOVAL OF UNSOUND CONCRETE TO REPAIR DEPTH							
IN. 1" CLEARANCE TO SAW CUT.	_ · · · · ·						
ED AREAS ARE ON THE VERTICAL FACE OF THE M FLANGE OR WEB UNLESS OTHERWISE NOTED.							
- DDECTDECCEN CANODETE AT							
- FRESTRESSED CONCRETE GI	VUER REF	ATK					
		. –		158DR	7		
Р	ROJEC		NO		<u>    (                                </u>		
		JKF	KTIUC		OUNTY		
В	RIDGE	E NO	0	15			
St	HEET 14 O	)F 14					
		RTM	STATE OF NOR	TH CAROLINA	ATTON		
TH CAROLINA			RALE	IGH			
SEAL 26445		FR	ΔΜΤΝ	G ΡΙΔΙ			
NCINER OT			SPAN	1 27			
P. Korey Newton 3/29 <sup>42539</sup> D <sup>1431B407</sup>							
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# NOTES CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL OR PRESTRESSED STRANDS. CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL AND PRESTRESSED STRANDS SHALL NOT BE DAMAGED. CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS. FOR PRESTRESSED CONCRETE GIRDER REPAIR, SEE SPECIAL PROVISIONS. FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS. DAMAGED AREA -SAW CUT 1/2"DEEP AROUND PERIMETER - PRESTRESSED CONCRETE GIRDER REPAIR 15BPR.7 PROJECT NO.\_ CURRITUCK \_ COUNTY 15 BRIDGE NO. STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH SESSION TYPICAL GIRDER, **SEAL** 26445 UNDERDECK & DIAPHRAGM

REPAIR DETAILS DocuSigned by P. Korey Newton 3/29/2018 SHEET NO. REVISIONS S-50 DATE: DATE: DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED BY: NO. BY: TOTAL SHEETS 84

![](_page_52_Figure_0.jpeg)

![](_page_52_Figure_2.jpeg)

SHOTCRETE RE

ERI EPOXY RESIN

REPAIR QUANTITY TABLE					
			QUANT	ITIES	
ND DEINI I	EST	IMA	ATE	ACTUAL	
HOTCRETE REPAIR	AREA S.F.		VOLUME CF	AREA S.F.	VOLUME CF
P (VERTICAL FACE)	0.0		0.0		
P (HORIZONTAL FACE)	0.0		0.0		
RTAIN WALL	0.0		0.0		
POXY RESIN INJECTION			LN. FT		LN. FT
P			0.0		
RTAIN WALL			0.0		

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

NOTES:

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

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2"BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

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

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

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

EPAIR	PROJEC Cl BRIDGE	CT NO. JRRI E NO.:	<u>1</u> 5 TUCK	5BPR. cc 15	7 OUNTY
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VALUE REMOV MIN. 1 LATER ITEM

REPAIR QUANTITY TABLE					
	QUANTITIES				
	EST	IMATE	ACT	ACTUAL	
HOTCRETE REPAIR	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
P (VERTICAL FACE)	96.0	48.0			
P (HORIZONTAL FACE)	0.0	0.0			
LUMN	58.0	40.0			
POXY RESIN INJECT	ION	LF		LF	
Р		0.0			
LUMN		0.0			
VAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND 1"CL TO SAWCUT. SEE REPAIR DETAILS. RAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE TITLED "CAP (HORIZONAL FACES)" NOTES: REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE. CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL. CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER. FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS. FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS. FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS. FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS. FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.					
P B SI MARCHAR SEAL	ROJECT CUI RIDGE HEET 2 OF DEPAR	NO REVISIONS	15BPR K c 15 TH CAROLINA TRANSPORT UCTUR UCTUR UCTUR	.7 OUNTY ATION	
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VALUE REMOV MIN.1 LATER ITEM

ERI EPOXY RESIN INJECT

REPAIR C	UANT	ITY TA	BLE	
NT 2		QUANT	ITIES	
_ • • • • •	EST	IMATE	AC.	TUAL
HOTCRETE REPAIR	AREA SF	VOLUME CF	AREA SF	VOLUME CF
P (VERTICAL FACE)	142.0	71.0		
P (HORIZONTAL FACE)	136.0	68.0		
LUMN	116.0	58.0		
OXY RESIN INJECT	ION	LF		LF
P		8.0		
LUMN		0.0		
NOTES: NOTES: REPAIR LOCATIONS AND WITH THE BEST INFORM REPAIRS NOT SHOWN ON BY THE ENGINEER, THE E THE APPROXIMATE LOCA AND ADJUST THE ACTUAL REPAIR QUANTITY TABL CONTRACTOR SHALL SAW REINFORCING STEEL SHA CONTRACTOR SHALL REM THAT SAWCUT DEPTH WI STEEL. CONCRETE REPAIRS MAY REPAIRS WITH THE APPI FOR CONCRETE REPAIRS, FOR SHOTCRETE REPAIRS, FOR SHOTCRETE REPAIRS, FOR SHOTCRETE REPAIRS, SHOTCRETE REPAIRS, SHOR FOR REPAIR DETAILS, SHOR DETAILS SHEET.	IN. OF THE DETAILS. IS INCLUE CES)" ESTIMATE ATION AVA THE DRAW ENGINEER S TION AND L QUANTIT E. CUT TO A ALL NOT DA OVE SURFAC LL NOT DA BE USED ROVAL OF , SEE SPECT S, SEE SPECT S, SEE SPECT S, SEE SPECT	S OF QUANTI JED IN THE L S OF QUANTI ILABLE. IF AN ING ARE DEEN SHALL NOTE O DESCRIPTION IES ENTERED NOMINAL DE DAMAGED. CE CONCRETE MAGE EXISTI IN LIEU OF S THE ENGINEER IAL PROVISIO CIAL PROVISIO SPECIAL PRO L SUBSTRUCTU	INE TIES ARE G DDITIONAL MED NECESS N THE DRAW OF REPAIR INTO THE PTH OF 1/2 TO VERIFY NG REINFOR SHOTCRETE NS. ONS. VISIONS. JRE REPAIR	IVEN ARY INGS S "BUT CING
TION	PROJECT CUI BRIDGE HEET 3 OF DEPAR	NO RRITUC NO 28 STATE OF NOR TMENT OF T RALE SUBSTRI BENT BENT	15BPR K 15 Th carol INA <b>RANSPORT</b> UCTUR - #2	COUNTY TATION E
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VALUE REMOV MIN.1 LATER ITEM

![](_page_55_Figure_3.jpeg)

ERI EPOXY RESIN INJECT

REPAIR (	JUANT	ITY TA	ABLE		
		QUANT	ITIES		
	ESTIMA	TE	ACTUAL		
HOTCRETE REPAIR	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
P (VERTICAL FACE)	14.0	7.0			
P (HORIZONTAL FACE)	0.0	0.0			
LUMN	166.0	83.0			
POXY RESIN INJECT	ION	LF		LF	
PULUMN		7.0 0.0			
ES IN CHART REPRESENT EST VAL OF UNSOUND CONCRETE, M 1"CL TO SAWCUT. SEE REPAIR RAL GUIDE REPAIR MATERIAL TITLED "CAP (HORIZONAL FA NOTES: REPAIR LOCATIONS AND EST WITH THE BEST INFORMATIO REPAIRS NOT SHOWN ON THE BY THE ENGINEER, THE ENGIN THE APPROXIMATE LOCATION AND ADJUST THE ACTUAL OU/ REPAIR QUANTITY TABLE. CONTRACTOR SHALL SAW CUT REINFORCING STEEL SHALL N CONTRACTOR SHALL REMOVE THAT SAWCUT DEPTH WILL N STEEL. CONCRETE REPAIRS MAY BE TO REPAIRS WITH THE APPROVA FOR CONCRETE REPAIRS, SEE FOR SHOTCRETE REPAIRS, SEE FOR REPAIR DETAILS, SEE TO DETAILS SHEET.	IMATED REF IN. OF 1" BE DETAILS. IS INCLUE CES)" IMATES OF N AVAILABE DRAWING A VEER SHALL AND DESCE ANTITIES E TO A NOM VEER SHALL AND DESCE ANTITIES E TO A NOM VIER SHALL AND DESCE ANTITIES E SURFACE CC OT DAMAGE USED IN LI L OF THE E SPECIAL P E SPECIAL P E SPECIAL SUE	PAIR TOTALS HIND REBAR DED IN THE L OUANTITIES LE. IF ADDITI ARE DEEMED N NOTE ON THE RIPTION OF F ENTERED INTO INAL DEPTH ( AGED. NCRETE TO V EXISTING RE EU OF SHOTC NGINEER. ROVISIONS. PROVISIONS. STRUCTURE R	AFTER AND INE INE ARE GIVEN ONAL ECESSARY DRAWINGS EPAIRS THE OF 1/2" BUT ERIFY EINFORCING RETE ONS. EPAIR		
F - E	ROJECT	<sup>-</sup> NO RRITUC NO	<u>15BPR</u> K c 15	.7 OUNTY	
S	HEET 4 OF	28			
TION	DEPAR	STATE OF NOR	TH CAROLINA	ATION	
NORTH CAROLINA	ſ			-	
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![](_page_56_Figure_0.jpeg)

![](_page_56_Figure_1.jpeg)

VALUE REMOV MIN.1 LATER ITEM

REPAIR C	UANT	ITY TA	BLE		
		ΟΠΑΝΤΤ	TIFS		
ENT 4	ESTIMA		ACTUAL		
HOTCRETE REPAIR	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
P (VERTICAL FACE)	85.0	42.5			
P (HORIZONTAL FACE)	40.0	20.0			
LUMN	121.0	60.5			
POXY RESIN INJECT	ION	LF		LF	
Р		0.0			
LUMN		0.0			
ES IN CHART REPRESENT EST VAL OF UNSOUND CONCRETE, M 1"CL TO SAWCUT. SEE REPAIR RAL GUIDE REPAIR MATERIAL TITLED "CAP (HORIZONAL FA NOTES: REPAIR LOCATIONS AND ES WITH THE BEST INFORMAT REPAIRS NOT SHOWN ON T BY THE ENGINEER, THE ENG THE APPROXIMATE LOCATION AND ADJUST THE ACTUAL COR REPAIR QUANTITY TABLE. CONTRACTOR SHALL SAW C REINFORCING STEEL SHALL CONTRACTOR SHALL REMOVIN THAT SAWCUT DEPTH WILL STEEL. CONCRETE REPAIRS MAY BI REPAIRS WITH THE APPROV FOR CONCRETE REPAIRS, SE FOR SHOTCRETE REPAIRS, SE FOR SHOTCRETE REPAIRS, SE FOR SHOTCRETE REPAIRS, SE FOR EPOXY RESIN INJECTION FOR REPAIR DETAILS, SEE DETAILS SHEET.	IMATED RE IN. OF 1"BE DETAILS. IS INCLUE CES)" STIMATES ION AVAIL HE DRAWIN SINEER SHA ON AND DE DUANTITIE UT TO A N SINEER SHA ON AND DE DUANTITIE UT TO A N SINEER SHA DUANTITIE UT TO A N SINEER SHA DUANTITIE UT TO A N SINEER SHA DUANTITIE SURFACE NOT DAMA E USED IN VAL OF THE EE SPECIAL SEE SPECIAL SEE SPECIAL SEE SPECIAL	PAIR TOTALS EHIND REBAR DED IN THE LI OF QUANTITIE ABLE. IF ADDI A ARE DEEMED ALL NOTE ON T SCRIPTION OF S ENTERED IN NOMINAL DEPTH DAMAGED. CONCRETE TO AGE EXISTING LIEU OF SHO E ENGINEER. PROVISIONS. AL PROVISIONS SUBSTRUCTURE	AFTER AND INE S ARE GIV TIONAL NECESSAR HE DRAWIN REPAIRS TO THE OF 1/2" BI VERIFY REINFORCI TCRETE S. SIONS. REPAIR	EN YGS UT NG	
P - B	ROJEC CU RIDGE	「 NO RRITUC NO	15BPF K( 15	R.7 County	
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ION SEAL 26445 Docusigned by: P. Korey, Newton 3/29/5639014318407	DEPAR	TMENT OF T RALEI	RANSPOR GH JCTUR # 4	E	
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![](_page_57_Figure_0.jpeg)

BE SH CAF CAF COL EF CAF COL

![](_page_57_Figure_3.jpeg)

REPAIR QUANTITY TABLE								
		QUANTITIES						
2 I NI - 5	ESTIMA	ESTIMATE ACTUA		JAL				
HOTCRETE REPAIR	AREA SF		VOLUME CF	AF	REA SF	VOLUME CF		
P (VERTICAL FACE)	35.0		17.5					
P (HORIZONTAL FACE)	11.0		5.5					
LUMN	263.0		131.5					
POXY RESIN INJECT	ION		LF			LF		
P			0.0					
LUMN			0.0					

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

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONAL FACES)"

### NOTES:

REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE.IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE. CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2"BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL. CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER. FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS. FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS. FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS. FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

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TION	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
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P. Korey Newton 3/29/2018							
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![](_page_58_Figure_0.jpeg)

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REPAIR QUANTITY TABLE							
		C	UANTI	ITIES			
	EST	IMATE ACTUA	UAL				
HOTCRETE REPAIR	AREA SF	VOLU CF	ME	AREA SF	VOLUME CF		
P (VERTICAL FACE)	79.0	39.	5				
P (HORIZONTAL FACE)	1.0	0.5	5				
LUMN	180.0	90.	0				
POXY RESIN INJECT	ION	L	.F		LF		
P		0	.0				
LUMN		0	.0				

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

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONAL FACES)"

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- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

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![](_page_59_Figure_0.jpeg)

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VALUE REMO' MIN.

REPAIR Q	UANT	ITY TA	ABLE					
		QUANT	DUANTITIES					
	EST	IMATE	ACT	UAL				
HOTCRETE REPAIR	AREA SF	VOLUME CF	AREA SF	VOLUME CF				
AP (VERTICAL FACE)	0.0	0.0						
AP (HORIZONTAL FACE)	0.0	0.0						
DLUMN	186.0	93.0						
POXY RESIN INJECT:	ION	LF		LF				
٨P		7.0						
LUMN		0.0						
NOTES: REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS								
REPAIR QUANTITY TABLE.	() <u>1</u>   <u>1</u>   <u>2</u>   <u>2</u>							
CONTRACTOR SHALL SAW CUI REINFORCING STEEL SHALL NO	TO A NOML T BE DAMA	NAL DEPTH C AGED.	)F 1/2″BUT					
CONTRACTOR SHALL REMOVE SU THAT SAWCUT DEPTH WILL NO STEEL.	JRFACE CON T DAMAGE	NCRETE TO VI EXISTING RE	ERIFY INFORCING					
CONCRETE REPAIRS MAY BE US REPAIRS WITH THE APPROVAL	SED IN LIE OF THE EN	EU OF SHOTCH Igineer.	RETE					
FOR CONCRETE REPAIRS, SEE S	PECIAL PR	OVISIONS.						
FOR SHOTCRETE REPAIRS, SEE	SPECIAL P	ROVISIONS.						
FOR EPOXY RESIN INJECTION,	SEE SPECI	AL PROVISIO	SNS.					
FOR REPAIR DETAILS, SEE TYF DETAILS SHEET.	'ICAL SUBS	STRUCTURE RE	EPAIR					

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	BF	RIDG	E NO		15		
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CTION		DEPA	STAT RTMENT	e of north car OF TRAI RALEIGH	OLINA NSPORTA	TION	
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![](_page_60_Figure_0.jpeg)

BE SH CAF CAF COL ΕF CAF COL

![](_page_60_Figure_4.jpeg)

REPAIR QUANTITY TABLE								
		QUANTITIES						
	EST	IMATE ACTU VOLUME AREA CF SF 0.0 0.0	UAL					
HOTCRETE REPAIR	AREA SF		VOLUME CF	AREA SF	VOLUME CF			
P (VERTICAL FACE)	0.0		0.0					
P (HORIZONTAL FACE)	0.0		0.0					
LUMN	50.0		25.0					
POXY RESIN INJECT	ION		LF		LF			
Ρ			3.0					
LUMN			0.0					

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

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONAL FACES)"

### NOTES:

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CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2"BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

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

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

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

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![](_page_61_Figure_0.jpeg)

BE SH CAF CAF COL EF CAF \_\_\_\_\_ COL

![](_page_61_Figure_4.jpeg)

REPAIR QUANTITY TABLE								
		QUANTITIES						
LNI 9	ESTIMATE ACTUAL			UAL				
HOTCRETE REPAIR	AREA SF		VOLUME CF	AREA SF	VOLUME CF			
P (VERTICAL FACE)	56.0		28.0					
P (HORIZONTAL FACE)	30.0		15.0					
LUMN	95.0		47.5					
POXY RESIN INJECT	ION		LF		LF			
Ρ			0.0					
LUMN			0.0					

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

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONAL FACES)"

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

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SUBSTRUCTURE						
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SIGNATURES COMPLETED	2		4]			84

![](_page_62_Figure_0.jpeg)

ΒE SH CAF CAF COL EF CAF \_\_\_\_\_ COL

![](_page_62_Figure_3.jpeg)

ERI EPOXY RESIN INJEC

REPAIR QUANTITY TABLE					
		QUANT	ITIES		
NT IO	EST	ΙΜΑΤΕ	ACTUAL		
HOTCRETE REPAIR	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
P (VERTICAL FACE)	21.0	10.5			
P (HORIZONTAL FACE)	4.0	2.0			
LUMN	338.0	169.0			
POXY RESIN INJECT	LF		LF		
P	0.0				
LUMN	0.0				

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

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONAL FACES)"

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- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
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![](_page_63_Figure_0.jpeg)

BE SH CAF CAF COL CAF

END VIEW SOUTH SIDE

> SHOTCRETE REPAIR ERI EPOXY RESIN INJECT

REPAIR QUANTITY TABLE					
		QUANT	ITIES		
	EST	ΙΜΑΤΕ	ACTUAL		
HOTCRETE REPAIR	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
P (VERTICAL FACE)	101.0	50 <b>.</b> 5			
P (HORIZONTAL FACE)	0.0	0.0			
LUMN	338.0	169.0			
POXY RESIN INJECT	LF		LF		
P	0.0				
LUMN	0.0				

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

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- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
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	PROJEC Cl BRIDGE	T NO. JRRII	15 FUCK	5BPR. CO 15	7 UNTY
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Docusigned by: P. Korey Newton		BE	ENT #	ŧ11	
3/29 <sup>4</sup> 2518 <sup>30</sup> 0 <sup>1431B407</sup>		REVIS	TONS		SHEET NO
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![](_page_64_Figure_0.jpeg)

BE SH CAF CAF COL EF CAF COL

![](_page_64_Figure_3.jpeg)

REPAIR QUANTITY TABLE					
		QUANT	ITIES		
	EST	IMATE	ACTUAL		
HOTCRETE REPAIR	AREA SF	VOLUME CF	AREA SF	VOLUME CF	
P (VERTICAL FACE)	28.0	14.0			
P (HORIZONTAL FACE)	4.0	2.0			
LUMN	103.0	51.5			
POXY RESIN INJECT	LF		LF		
Р	0.0				
LUMN		0.0			

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

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONAL FACES)"

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- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

	PROJEC Cl BRIDGE	T NO. JRRI E NO	15 TUCK	5BPR. co 15	7 OUNTY	
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P. Korey Newton						
3/29/20181431840/		REVIS	SIONS		SHEET NO.	
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO. BY:	DATE:	S-63	
FINAL UNLESS ALL	1		3		TOTAL SHEETS	
SIGNATURES COMPLETED	2		<b> </b> 45		84	

![](_page_65_Figure_0.jpeg)

![](_page_65_Figure_1.jpeg)

QUANTITIES						
BENT 13		ΙΜΑΤΕ	ACTUAL			
SHOTCRETE REPAIR	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
CAP (VERTICAL FACE)	278.0	139.0				
CAP (HORIZONTAL FACE)	159.0	79.5				
COLUMN	265.00	132.5				
EPOXY RESIN INJECT	LF		LF			
САР	0.0					
COLUMN	10.0					

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONAL FACES)"

- REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.
- CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2"BUT REINFORCING STEEL SHALL NOT BE DAMAGED.
- CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.
- CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.
- FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

	PROJEC Cl BRIDGE	CT NO. JRRI E NO	15 TUCK	5BPR. CO 15	7 OUNTY	
	SHEET 14	OF 28				
TION	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SEAL 26445		SUBS	TRUC	TURE		
DocuSigned by:	BENT #13					
P. Korey, Newton						
3/29/2018		REVIS	SIONS		SHEET NO.	
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO. BY:	DATE:	S-64	
FINAL UNLESS ALL	1		3		TOTAL SHEETS	
SIGNATURES COMPLETED	2		4		84	

![](_page_66_Figure_0.jpeg)

REPAIR QUANTITY TABLE					
		QUANT	ITIES		
INT 14	EST	IMATE	ACTUAL		
HOTCRETE REPAIR	AREA S.F.	VOLUME CF	AREA SF	VOLUME CF	
P (VERTICAL FACE)	0.0	0.0			
P (HORIZONTAL FACE)	0.0	0.0			
LUMN	111.0	55.5			
POXY RESIN INJECT	LF		LF		
P	6.0				
LUMN		0.0			

![](_page_67_Figure_0.jpeg)

![](_page_67_Figure_4.jpeg)

BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2"BUT

THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING

REPAIR QUANTITY TABLE						
		QUANT	ITIES			
BENI 15	EST	IMATE	ACTUAL			
SHOTCRETE REPAIR	AREA SF	VOLUME CF	AREA SF	VOLUME CF		
CAP (VERTICAL FACE)	2.0	1.0				
CAP (HORIZONTAL FACE)	0.0	0.0				
COLUMN 153.0		76 <b>.</b> 5				
EPOXY RESIN INJECT	LF		LF			
САР	80.0					
COLUMN	0.0					

![](_page_67_Figure_16.jpeg)

![](_page_68_Figure_0.jpeg)

![](_page_68_Figure_1.jpeg)

REPAIR QUANTITY TABLE								
			QUANT	TITIES				
INT 16	ESTIMATE			ACTUAL				
HOTCRETE REPAIR	AREA SF		VOLUME CF	AREA SF	VOLUME CF			
P (VERTICAL FACE)	0.0		0.0					
P (HORIZONTAL FACE)	30.0		15.0					
DLUMN	1074.0	537.0						
POXY RESIN INJECT	ION		LF		LF			
P	20.0							
LUMN			0.0					
ES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER VAL OF UNSOUND CONCRETE, MIN. OF 1"BEHIND REBAR AND 1"CL TO SAWCUT. SEE REPAIR DETAILS.								

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONAL FACES)"

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- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

	PROJEC Cl BRIDGE	7 OUNTY				
	SHEET 17	OF 28				
CTION	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SEAL 26445		SUBS	TRUC	TURE		
DocuSigned by:		BE	INT #	16		
P. Korey Newton						
3/29/2018		REVIS	SIONS		SHEET NO.	
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO. BY:	DATE:	S-67	
FINAL UNLESS ALL	1		3		TOTAL SHEETS Q/	
STORATORES COMPLETED	<u>ک</u>		57		04	

![](_page_69_Figure_0.jpeg)

BE S⊦ CAF CAF COL ΕF CAF COL

REPAIR QUANTITY TABLE							
INT 17	QUANTITIES						
	ESTIMATE			ACTUAL			
HOTCRETE REPAIR	AREA SF		VOLUME AREA CF SF		VOLUME CF		
P (VERTICAL FACE)	20.0		10.0				
P (HORIZONTAL FACE)	0.0	0.0					
DLUMN	350.0	175.0					
POXY RESIN INJECTION LF					LF		
P	12.0						
LUMN			0.0				
ES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER							

REMOVAL OF UNSOUND CONCRETE, MIN. OF 1" BE MIN. 1"CL TO SAWCUT. SEE REPAIR DETAILS. DENTINU REDAR AND

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONAL FACES)"

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- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

	PROJECT NO. <u>15BPR.7</u> <u>CURRITUCK</u> COUNTY BRIDGE NO. <u>15</u>						
	SHEET 18	OF 28					
TION	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
26445 CREEP. O DocuSigned by:		BE	INT #	*17			
P. Lorey Newton 4EEE39D1431B407							
3/29/2018		REVIS	SIONS		SHEET NO.		
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO. BY:	DATE:	S-68		
FINAL UNLESS ALL	1		3		TOTAL SHEETS		
SIGNATURES COMPLETED	2		4		84		

![](_page_70_Figure_0.jpeg)

![](_page_70_Figure_1.jpeg)

REPAIR QUANTITY TABLE							
		QUANTITIES					
INT 18	ESTIMATE			ACTUAL			
HOTCRETE REPAIR	AREA SF		VOLUME CF	AREA SF	VOLUME CF		
P (VERTICAL FACE)	0.0		0.0				
P (HORIZONTAL FACE)	25.0		12.5				
DLUMN	100.0	50.0					
POXY RESIN INJECTION			LF				
P 24.0							
_UMN 0.0							
ES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER VAL OF UNSOUND CONCRETE, MIN. OF 1"BEHIND REBAR AND 1"CL TO SAWCUT. SEE REPAIR DETAILS.							

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONAL FACES)"

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- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

	PROJECT NO. <u>15BPR.7</u> <u>CURRITUCK</u> county BRIDGE NO. <u>15</u>						
	SHEET 19	OF 28					
TION	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
SESSION A		SURS	TRUC	THRF			
26445		5005		IONE			
PROPEY NEW MINING		BE	INT #	18			
P. Korey Newton							
3/29/2018 <sup>1431B407</sup>		REVIS	STONS		SHEET NO.		
DOCUMENT NOT CONCEPTO	NO. BY:	DATE:	NO. BY:	DATE:	S-69		
FTNAL UNLESS ALL	1		3		TOTAL SHEETS		
SIGNATURES COMPLETED	2		4		84		

![](_page_71_Figure_0.jpeg)

![](_page_71_Figure_1.jpeg)

ERI EPOXY RESIN INJEC

REPAIR QUANTITY TABLE							
	QUANTITIES						
NT 19	EST	IMATE	ACT	UAL			
HOTCRETE REPAIR	AREA SF	VOLUME CF	AREA SF	VOLUME CF			
P (VERTICAL FACE)	55.0	27.5					
P (HORIZONTAL FACE)	44.0	22.0					
LUMN	806.0	403.0					
POXY RESIN INJECT	INJECTION LF			LF			
P		22.0					
LUMN		0.0					

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

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- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

	PROJEC Cl BRIDGE	CT NO. JRRI E NO	 TL	15 JCK	5BPR C 15	.7 OUNTY
	SHEET 20	OF 28				
TION	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SEAL 26445		SUBS	<b>,</b> T	RUC	TUR	Ξ
DocuSigned by:		BE	ΞN	T #	19	
P. Korey Newton						
3/29/2018 <sup>4431B407</sup>		REVTS	STON	S		SHEET NO.
DOOLNENT NOT CONCERNED	NO. BY:	DATE:	NO.	BY:	DATE:	S-70
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STGNATURES COMPLETED	2		a			


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VALUE

REPAIR QUANTITY TABLE						
T 20 )TCRETE REPAIR (VERTICAL FACE) (HORIZONTAL FACE) IMN			QUANT	ITIES		
NT 20	EST	IM	ATE	ACT	UAL	
HOTCRETE REPAIR	AREA SF		VOLUME CF	AREA SF	VOLUME CF	
P (VERTICAL FACE)	0.0		0.0			
P (HORIZONTAL FACE)	0.0		0.0			
LUMN	346.0		173.0			
POXY RESIN INJECT	ION		LF		LF	
Р			0.0			
LUMN			0.0			
ES IN CHART REPRESENT EST:	IMATED REF	PAI	R TOTALS	AFTER		

REMOVAL OF UNSOUND CONCRETE, MIN. OF 1"BEHIND REBAR AND MIN. 1"CL TO SAWCUT. SEE REPAIR DETAILS.

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONAL FACES)"

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- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

	PROJEC Cl BRIDGE	CT NO. JRRI E NO	<u>1</u> 5 TUCK	5BPR. CO 15	7 OUNTY
	SHEET 21 (	DF 28			
TION	DEPA	RTMENT	OF TRA	NSPORTA	TION
SEAL 26445		SUBS	TRUC	TURE	
POREY NEW MUNICIPALITY		BE	INT #	20	
P. Korey Newton					
3/29/2018		REVIS	SIONS		SHEET NO.
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO. BY:	DATE:	S-71
FINAL UNLESS ALL	1		3		TOTAL SHEETS
SIGNATURES COMPLETED	2				84



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VALUE REMO MIN. LATEF ITEM



REPAIR QUANTITY TABLE								
	QUANTITIES							
-NI 21	EST	IM/	ATE	ACT	UAL			
HOTCRETE REPAIR	AREA SF		VOLUME CF	AREA SF	VOLUME CF			
AP (VERTICAL FACE)	20.0		10.0					
AP (HORIZONTAL FACE)	8.0		4.0					
)LUMN	308.0		154.0					
POXY RESIN INJECT	ION		LF		LF			
/P	-		0.0					
DLUMN			0.0					
OLUMN UES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER OVAL OF UNSOUND CONCRETE, MIN. OF 1"BEHIND REBAR AND 1"CL TO SAWCUT. SEE REPAIR DETAILS. CRAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE 1 TITLED "CAP (HORIZONAL FACES)"								
NOTES: REPAIR LOCATIONS AND ESTINUTH THE BEST INFORMATION REPAIRS NOT SHOWN ON THE INSTITUTE OF THE ENGINEER, THE ENGINE THE APPROXIMATE LOCATION	MATES OF AVAILABL DRAWING A ER SHALL AND DESCR	OU, E. RE NO	ANTITIES IF ADDITI DEEMED N TE ON THE TION OF R	ARE GIVEN ONAL ECESSARY DRAWINGS EPAIRS				

AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2"BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

	PROJEC CL BRIDGE	CT NO. JRRI E NO	15 TUCK	5BPR. co 15	7 OUNTY
SEAL 26445	DEPA	RTMENT SUBS BE	e of north car OF TRA RALEIGH TRUC	TURE	TION
Docusigned by: <i>P. Korey Newton</i> 3/29/2018 <sup>1431B407</sup>		REVIS	SIONS		SHEET NO.
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	NO. ВҮ: 1 2	DATE:	NO. ВҮ: З 4	DATE:	S-72 Total Sheets 84



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REPAIR QUANTITY TABLE								
	QUANTITIES							
	22 ESTIMATE		ACTUAL					
HOTCRETE REPAIR	AREA SF	,	VOLUME CF	4	AREA SF	VOLUME CF		
P (VERTICAL FACE)	20.0		10.0					
P (HORIZONTAL FACE)	203.5		101.8					
LUMN	690.0		345.0					
POXY RESIN INJECT	ION		LF			LF		
P			0.0					
LUMN			0.0					

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

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- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

	PROJEC Cl BRIDGE	T NO. JRRI E NO	15 TUCK	5BPR. CO 15	7 UNTY
	SHEET 23	OF 28			
TION	DEPA	stat RTMENT	e of north car OF TRAI RALEIGH	OLINA NSPORTA	TION
SEAL 26445		SUBS	TRUC	TURE	
Docusigned by:		BE	INT #	22	
P. Korey Newton					
3/29/2018		REVIS	SIONS		SHEET NO.
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO. BY:	DATE:	S-73
FINAL UNLESS ALL	1		3		TOTAL SHEETS
SIGNATURES COMPLETED	2				84



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REPAIR QUANTITY TABLE							
			QUANT	ITIES			
NI 23	EST	IM	4TE	VOLUME AREA CF SF 0.0 27.5	UAL		
HOTCRETE REPAIR	AREA SF		VOLUME CF	AREA SF	VOLUME CF		
P (VERTICAL FACE)	0.0		0.0				
P (HORIZONTAL FACE)	55.0		27.5				
LUMN	1260.0		630.0				
POXY RESIN INJECT	ION		LF		LF		
P			21.0				
LUMN	0.0						
ES IN CHART REPRESENT EST			R TOTALS	AFTER			

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

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONAL FACES)"

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- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

	PROJEC Cl BRIDGE	CT NO. JRRI E NO	15 TUCK	5BPR. CO 15	7 OUNTY
	SHEET 24	OF 28			
TION	DEPA	STAT RTMENT	e of north car OF TRAI RALEIGH	OLINA NSPORTA	TION
SEAL 26445		SUBS	TRUC	TURE	
DocuSigned by:		BE	INT #	23	
P. Korey Newton					
3/29/2018 401040/		REVIS	SIONS		SHEET NO.
DOCUMENT NOT CONSTDERED	NO. BY:	DATE:	NO. BY:	DATE:	S-74
FINAL UNLESS ALL	1		3		TOTAL SHEETS
SIGNATURES COMPLETED	2		<b>4</b> 5		84





ERI EPOXY RESIN INJEC

REPAIR Q	UANT	I-	ΓΥ ΤΑ	BLE					
		QUANTITIES							
NI 24	EST	IMA	ATE	ACT	UAL				
HOTCRETE REPAIR	AREA SF		VOLUME CF	AREA SF	VOLUME CF				
P (VERTICAL FACE)	32.0		16.0						
P (HORIZONTAL FACE)	0.0		0.0						
LUMN	247.0		123.5						
POXY RESIN INJECT	ION		LF		LF				
P			12.0						
LUMN			0.0						
ES IN CHART DEPRESENT EST		<u>т л с</u>		AFTED					

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

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONAL FACES)"

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- CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.
- FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

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REPAIR QUANTITY TABLE						
			QUANT	ITIES		
NI 25	EST	ΙΜΑ	TE	ACT	UAL	
HOTCRETE REPAIR	AREA VOLUME SF CF		AREA SF	VOLUME CF		
P (VERTICAL FACE)	25.0		12.5			
P (HORIZONTAL FACE)	44.0		22.0			
LUMN	54.0		27.0			
POXY RESIN INJECT	ION		LF		LF	
P			0.0			
LUMN			2.0			

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

LATERAL GUIDE REPAIR MATERIAL IS INCLUDED IN THE LINE ITEM TITLED "CAP (HORIZONAL FACES)"

- REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE.IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.
- CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2"BUT REINFORCING STEEL SHALL NOT BE DAMAGED.
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- CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.
- FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

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REPAIR QUANTITY TABLE						
	QUANTITIES					
BENI 26	EST	ΙΜΑΙ	ΓE	ACT	UAL	
SHOTCRETE REPAIR	AREA VOLUME SF CF		AREA SF	VOLUME CF		
CAP (VERTICAL FACE)	3.0		1.5			
CAP (HORIZONTAL FACE)	34.0	17.0				
COLUMN	19.0		9.5			
EPOXY RESIN INJECTION			LF		LF	
САР			0.0			
COLUMN			0.0			

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

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- REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWING ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.
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- CONCRETE REPAIRS MAY BE USED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.
- FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

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SHOTCRETE RE ERI EPOXY RESIN

REPAIR QUANTITY TABLE						
	QUANTITIES					
END DENT Z	BENIZ ESTIMATE		ACT	UAL		
SHOTCRETE REPAIR	AREA VOLUME S.F. CF		AREA S.F.	VOLUME CF		
CAP (VERTICAL FACE)	0.0	0.0				
CAP (HORIZONTAL FACE)	0.0	0.0				
CURTAIN WALL	4.0	2.0				
EPOXY RESIN INJECT	LN. FT		LN. FT			
САР	0.0					
CURTAIN WALL	60.0					
ALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN. OF 1"BEHIND REBAR AND MIN. 1"CL TO SAWCUT. SEE REPAIR DETAILS.						





NOTES:

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

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2"BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

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

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

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR REPAIR DETAILS, SEE TYPICAL SUBSTRUCTURE REPAIR DETAILS SHEET.

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(COLUMN & FOOTING REPAIRS SIMILAR)

# NOTES

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL. CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS. CONCRETE REPAIR MAY BE SUBSTITUTED IN LIEU OF SHOTCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER. FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS. FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

DAMAGED AREA





NOTES
FOR MAINTENANCE OF WATER TRAFFIC, SEE SPECIAL PROVISIONS.
FOR WORK IN,OVER OR ADJACENT TO NAVIGABLE WATERS,SEE SPECIAL PROVISIONS.
FOR SECURING OF VESSELS, SEE SPECIAL PROVISIONS.
PROVISIONS.
"COORDINATION WITH THE U.S. COAST GUARD".
THE CONTRACTOR SHALL RELOCATE THE CLEARANCE MARKER AT BOTH ENDS OF THE FENDER SYSTEM TO THE LOCATION DESIGNATED BY THE ENGINEER.
FOR REMOVAL OF EXISTING FENDER SYSTEM, SEE SPECIAL PROVISIONS.
FOR PILE DRIVING EQUIPMENT DATA SUBMITTAL,SEE SPECIAL PROVISIONS FOR ``SUBMITTAL OF WORKING DRAWINGS''.
MINIMUM PILE TIP ELEVATION FOR ALL PILES IN FENDER SYSTEM SHALL BE ELEV -35.00 FT
ALL THE BOLTS, WASHERS, NUTS, AND ALL OTHER HARDWARE SHALL BE GALVANIZED AND SHALL CONFORM TO ASTM A307.
GALVANIZING SHALL BE DONE IN ACCORDANCE WITH SECTION 1076 OF NCDOT STANDARD SPECIFICATIONS FOR ROAD AND STRUCTURES DATED JANUARY 2018.
ALL O.G. WASHERS SHALL CONFORM TO ASTM A47 CLASS 30.
THEIR HEADS AND WASHERS ARE IN FULL CONTACT WITH THE COMPONENTS THEY CONNECT.
ALL TIMBER SPIKE HEADS MUST BE IN FULL CONTACT WITH THE SURFACE OF THE TIMBER WALES.
ALL TREATED LUMBER SHALL CONFORM TO SECTION 1082 OF THE STANDARD SPECIFICATIONS OR AS NOTED ON THE PLANS.
FOR LOCATION OF NEW FENDER SYSTEM, SEE SPECIAL PROVISIONS.
AT LOCATIONS WHERE EXISTING AND PROPOSED PILING COINCIDE,SOME OR ALL OF THE EXISTING PILING MAY BE REQUIRED TO BE FULLY REMOVED.IF THE EXISTING PILING BREAKS UPON INITIAL EXTRACTION,WITH THE ENGINEER'S APPROVAL,THE PROPOSED PILING MAY BE SHIFTED NOMINALLY TO AVOID THE BROKEN,EXISTING PILES.
PROJECT NO. 158PR.7
<u>CURRITUCK</u> COUNTY
BRIDGE NO. 15
SHEET 1 OF 5
DEPARTMENT OF TRANSPORTATION
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# DETAIL OF 7-PILE CLUSTERS

SIX (6) OUTSIDE PILES TO BE EQUALLY SPACED ON A 6 FOOT CIRCLE, DRAWN TOGETHER AT THE TOP, AND WRAPPED WITH 3 TURNS OF WIRE ROPE FOR FENDER SYSTEM AT TWO LOCATIONS AS SHOWN. WIRE ROPE FOR FENDER SYSTEM SHALL BE SECURED WITH  $\frac{3}{8}$ " Ø X 4" GALVANIZED STAPLES AND THREE GALVANIZED CABLE CLAMPS AT EACH END.

STRUCTURAL TIMBER					
ITEM	NO.	SIZE	SURFACE TO	LENGTH	TOTAL
TIMBER WALES	196	10" X 10"	S4S 9 <sup>1</sup> /2" X 9 <sup>1</sup> /2"	16'-0"	3136
TIMBER HEADER	28	10" X 10"	S4S 9 <sup>1</sup> /2" X 9 <sup>1</sup> /2"	7'-0"	196
SPACER BLOCK	516	8″ X 8″	S4S 7 <sup>1</sup> /2" X 7 <sup>1</sup> /2"	1'-0"	516
TIMBER PILE	246	1'-0"		50'-0"	12300
	,,			· · · · · · · · · · · · · · · · · · ·	

STRUCTURAL HARDWARF					
(GALVANI	ZED)	-			
ITEM	UNIT	NO.	TOTAL		
WIRE ROPE FOR FENDER SYSTEM	LIN.FT.	3100	3100 LBS		
¾″∅ CABLE CLAMPS	LBS.	408	625 LBS		
⅔″X 4″STAPLES	LBS.	882	441 LBS		
$\frac{1}{8}$ "Ø × 1'-4"DOME HEAD TIMBER SPIKE	LBS.	476	1737 LBS		
16d COMMON NAILS	LBS.	17	17 LBS		
$\frac{7}{8}$ "ØX2'-2"DOME HEAD TIMBER BOLT	LBS.	336	984 LBS		
$\frac{7}{8}$ "ØX2'-4"DOME HEAD TIMBER BOLT	LBS.	56	206 LBS		
$\frac{7}{8}$ "ØX 2'-10"DOME HEAD TIMBER BOLT	LBS.	56	248 LBS		
⅓″Ø O.G. WASHER	LBS.	448	672 LBS		
$7_8" arnothing$ standard nut	LBS.	448	85 LBS		

## NOTES:

LENGTHS OF BOLTS, SPIKES AND WIRE ROPE ARE DETERMINED USING AN AVERAGE PILE DIAMETER OF 1'-1".

	PROJECT NO. <u>15BPR.7</u> <u>CURRITUCK</u> COUNT STATION: <u>15</u> SHEET 5 OF 5 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH FENDER SYSTEM DETAILS					
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3/29 <sup>4</sup> 2018 <sup>1431B407</sup>	REVISIONS SHEET NO					
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DESIGN DATA:

SPECIFICATIONS	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	SEE PLANS
IMPACT ALLOWANCE	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	20,000 LBS.PER SQ.IN.
- AASHTO M270 GRADE 50W	27,000 LBS.PER SO.IN.
- AASHTO M270 GRADE 50	27,000 LBS.PER SQ.IN.
REINFORCING STEEL IN TENSION - GRADE 60	24,000 LBS.PER SO.IN.
CONCRETE IN COMPRESSION	1,200 LBS.PER SO.IN.
CONCRETE IN SHEAR	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	1,800 LBS.PER SQ.IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	375 LBS.PER SQ.IN.
EQUIVALENT FLUID PRESSURE OF EARTH	30 LBS.PER CU.FT. (MINIMUM)

#### MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 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 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  $\frac{7}{8}$ " Ø SHEAR STUDS FOR THE  $\frac{3}{4}$ " Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF  $\frac{7}{8}$ " 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 - 🔏 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.

# ENGLISH JANUARY, 1990

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