

DATE: 6/19/2022  
TIME: 11:23:54 AM

USER: gregor.cole  
DN: p:\a\gecom-nc-pw\pwworking\gecom\ds21\_mal\_2020\Documents\60592827-NCDDT\_SMU\_B-5717\SMU\_LOC\_32-03\_40021.dgn

**NOTES:**

ASSUMED LIVE LOAD = HL 93 OR ALTERNATE LOADING.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

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.

REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS.

ALL PAVEMENT MARKING WILL BE IN ACCORDANCE WITH THE PAVEMENT MARKING PLANS AND SHALL PROVIDE FOR BICYCLES.

AT THE CONTRACTOR'S OPTION, AND UPON REMOVAL OF THE CAUSEWAY, THE CLASS II RIP RAP USED IN THE CAUSEWAY MAY BE PLACED AS RIP RAP SLOPE PROTECTION. SEE SPECIAL PROVISIONS FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STATION 21+22.00 -L-.

NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS INCLUDED ON THE PLANS OR APPROVED BY THE ENGINEER.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD FOR THE EXISTING STRUCTURE, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STATION 21+22.00 -L-".

THE CLASS AA CONCRETE IN THE BRIDGE DECK SHALL CONTAIN FLY ASH OR GROUND GRANULATED BLAST FURNACE SLAG AT THE SUBSTITUTION RATE SPECIFIED IN ARTICLE 1024-1 AND IN ACCORDANCE WITH ARTICLES 1024-5 AND 1024-6 OF THE STANDARD SPECIFICATIONS. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE COST OF THE REINFORCED CONCRETE DECK SLAB.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON SHEET S2-01 SHALL BE EXCAVATED FOR A DISTANCE OF 80 FT. LEFT OF CENTERLINE -L- AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

AFTER SERVING AS A TEMPORARY STRUCTURE, THE EXISTING STRUCTURE CONSISTING OF 5 SPANS AT 40FT OF REINFORCED CONCRETE DECK ON STEEL I-BEAMS ON CONCRETE SUBSTRUCTURE AND LOCATED AT THE EXISTING STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY NOT POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING THE CONSTRUCTION OF THE PROPOSED BRIDGE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

THE SUBSTRUCTURE OF THE EXISTING BRIDGES INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE THE BRIDGE IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18 - EVALUATING SCOUR AT BRIDGES."

THE SCOUR CRITICAL ELEVATIONS FOR BENT NO.1 ARE 683.0 (LEFT), 684.0 (CENTER), AND 685.0 (RIGHT). THE SCOUR CRITICAL ELEVATIONS FOR BENT NO.2 ARE 688.0 (LEFT), 687.0 (CENTER), AND 686.0 (RIGHT). SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES, SEE SPECIAL PROVISIONS.

FOR CONSTRUCTION, MAINTENANCE, AND REMOVAL OF TEMPORARY ACCESS, SEE SPECIAL PROVISIONS.

THE CONTRACTOR'S ATTENTION SHALL BE DRAWN TO THE FACT THAT ONLY 50% OF THE CHANNEL WILL BE ALLOWED TO BE BLOCKED AT ANY TIME. NO MORE THAN ONE TEMPORARY ACCESS CAUSEWAY MAY BE INSTALLED AT ANY ONE TIME. DEWATERING FOR REMOVAL OF EXISTING STRUCTURE IS PERMITTED ONLY WITHIN THE TEMPORARY ACCESS LIMITS SHOWN.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE SAMPLE BARS SHOULD COME FROM STEEL ACTUALLY USED IN THE PROJECT AND THE SAMPLE BARS SHOULD BE REPLACED BY SPLICED BARS AS SPECIFIED IN THE SAMPLE BAR REPLACEMENT CHART. PAYMENT FOR THE SAMPLE BARS AND REPLACEMENT REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

**LOCATION SKETCH**

**TOTAL BILL OF MATERIAL**

	CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STA. 21+22.00 -L-	REMOVAL OF EXISTING STRUCTURE AT STA. 21+22.00 -L-	ASBESTOS ASSESSMENT	3'-6" Ø DRILLED PIERS IN SOIL	3'-6" Ø DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 3'-6" Ø DRILLED PIER	SID INSPECTION	SPT TESTING	CSL TESTING	UNCLASSIFIED STRUCTURE EXCAVATION	REINFORCED CONCRETE DECK SLAB
	LUMP SUM	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	EACH	EACH	EACH	LUMP SUM	SQ. FT.
SUPERSTRUCTURE											8,825
END BENT 1											
BENT 1				58.75	35	60.0					
BENT 2				52.5	53	48.2					
END BENT 2											
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	111.25	88	108.2	1	1	1	LUMP SUM	8,825

**SAMPLE BAR REPLACEMENT**

SIZE	LENGTH
#3	6'-2"
#4	7'-4"
#5	8'-6"
#6	9'-8"
#7	10'-10"
#8	12'-0"
#9	13'-2"
#10	14'-6"
#11	15'-10"

NOTE: SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND fy = 60ksi.

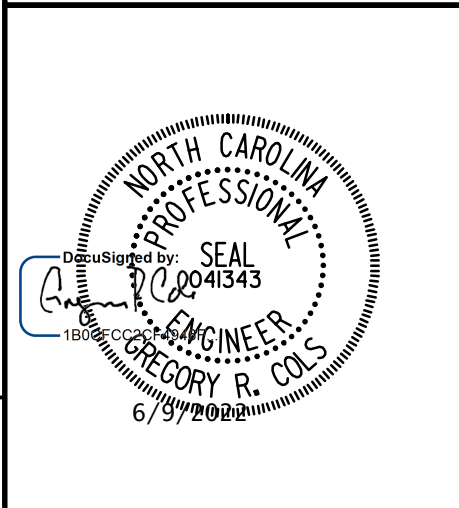
REVISION #1: REMOVED PREDRILLING FOR PILES PAY ITEM.

**TOTAL BILL OF MATERIAL**

	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	54" PRESTRESSED CONCRETE GIRDER	PILE DRIVING EQUIPMENT SETUP FOR HP 12x53 STEEL PILES	HP 12x53 STEEL PILES	STEEL PILE POINTS	TWO BAR METAL RAIL	CONCRETE BARRIER RAIL	1'-2" X 2'-6" CONCRETE PARAPET	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS
	SQ. FT.	CU. YDS.	LUMP SUM	LBS.	LBS.	NO. LIN. FT.	EACH	NO. LIN. FT.	EACH	LIN. FT.	LIN. FT.	LIN. FT.	TON	SQ. YDS.	LUMP SUM
SUPERSTRUCTURE	7,863					15 1,055.73			8	204.88	213.07	213.07			LUMP SUM
END BENT 1		48.2		7,352			8	8 200	8				281	312	
BENT 1		37.8		10,320	2,206										
BENT 2		40.6		11,738	2,684										
END BENT 2		48.1		7,597			8	8 200	8				215	239	
TOTAL	7,863	174.7	LUMP SUM	37,007	4,890	15 1,055.73	16	16 400	16	204.88	213.07	213.07	496	551	LUMP SUM

PROJECT NO. B-5717  
 GUILFORD COUNTY  
 STATION: 21+22.00 -L-

SHEET 3 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**

FOR BRIDGE ON SR 4240 OVER S. BUFFALO CREEK BETWEEN E. FLORIDA ST. AND SR 3140 (LEFT LANE)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-03
1	GRC	6-9-22	3			TOTAL SHEETS 38
2			4			

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY : D.R. DRUM DATE : 10/2021  
 CHECKED BY : G.R. COLS DATE : 10/2021  
 DESIGNED BY : D.R. DRUM DATE : 10/2021  
 DESIGN CHECKED BY : G.R. COLS DATE : 10/2021