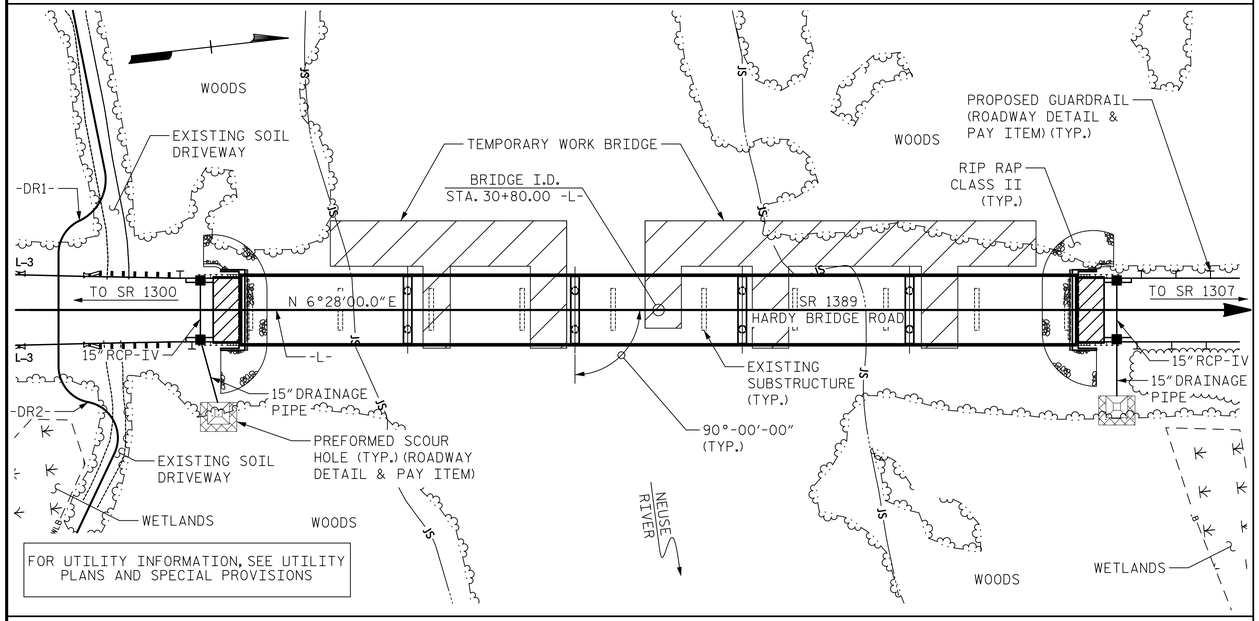
BM #1: R.R. SPIKE IN 18" GUM TREE, 59.06' RT. OF STA. 23+89.93 -L-, EL. 38.64



LOCATION SKETCH

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION.

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.

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.

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

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

NEEDLE BEAMS WILL NOT BE ALLOWED UNLESS OTHERWISE CALLED FOR ON THE PLANS OR APPROVED BY THE ENGINEER.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, 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 30+80.00 -L-."

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

MATERIAL SHOWN IN THE HATCHED AREA ON SHEET 1 OF 3 SHALL BE EXCAVATED FOR A DISTANCE OF 40 FT± LEFT AND 42 FT± RIGHT OF CENTERLINE ROADWAY AT END BENT 1, AND 32 FT± LEFT AND 41 FT± RIGHT AT END BENT 2 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.

THE EXISTING STRUCTURE CONSISTING OF 9 SPANS (50'-3", 7 @ 50'-0", 50'-3"); CLEAR ROADWAY WIDTH OF 22'-0" ON A REINFORCED CONCRETE DECK AND STEEL I-BEAM SUPERSTRUCTURE; END BENTS AND INTERIOR BENTS WITH REINFORCED CONCRETE CAPS STEEL H-PILES, AND LOCATED AT THE SITE OF THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING 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 BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE 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."

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

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

PILE CUSHIONS ARE REQUIRED FOR DRIVING STEEL PILES FOR THE TEMPORARY WORK BRIDGE AND THE DRILLED SHAFT CASING TEMPLATES. THE COST OF PILE CUSHIONS SHALL BE CONSIDERED INCIDENTAL TO THE TEMPORARY WORK BRIDGE, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

	CONSTRUCTION, MAINTENANCE & REMOVAL OF TEMPORARY ACCESS AT STA. 30+80.00 -L-	REMOVAL OF EXISTING STRUCTURE AT STA. 30+80.00 -L-	ASBESTOS ASSESSMENT	4'-6" Ø DRILLED PIERS	PERMANENT STEEL CASING FOR 4'-6" Ø DRILLED PIER	PDA TESTING	SID INSPECTION	SPT TESTING	CSL TESTING	UNCLASSIFIED STRUCTURE EXCAVATION AT STA. 30+80.00 -L-	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS STA. 30+80.00 -L-	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL
	LUMP SUM	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	EACH	EACH	EACH	EACH	LUMP SUM	SQ. FT.	SQ. FT.	CU. YDS.	LUMP SUM	LBS.	LBS.
SUPERSTRUCTURE											17,592	15,633				
END BENT 1										LUMP SUM			30.4		4,241	
BENT 1				184.0	44.0				1				44.3		26,080	6,064
BENT 2				184.0	44.0				1				44.5		26,123	6,079
BENT 3				184.0	44.0				1				44.5		26,123	6,079
BENT 4				177.0	35.0				1				42.9		25,230	5,772
END BENT 2										LUMP SUM			30.4		4,241	
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	729.0	167.0	1	2	3	4	LUMP SUM	17,592	15,633	237.0	LUMP SUM	112,038	23,994

SAMPLE BAR REPLACEMENT	
#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.

HYDRAULIC DATA

DESIGN DISCHARGE	= 32,400 CFS
FREQUENCY OF DESIGN DISCHARGE	= 25 YEARS
DESIGN HIGH WATER ELEVATION	= 48.8
DRAINAGE AREA	= 2,600 SQ. MI.
BASE DISCHARGE (Q100)	= 44,000 CFS
BASE HIGH WATER ELEVATION	= 51.2

OVERTOPPING DATA

OVERTOPPING DISCHARGE	= 24,500 CFS
FREQUENCY OF OVERTOPPING	= 10- YEARS
*OVERTOPPING ELEVATION	= 46.8

*OVERTOPPING WOULD OCCUR AT STA. 55+30.00 -L-

TOTAL BILL OF MATERIAL

	PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES	HP 12 X 53 STEEL PILES		PILE REDRIVES	CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	FOAM JOINT SEALS	36" FLORIDA I-BEAM (FIB) GIRDERS	
	EACH	NO.	LIN. FT.	EACH	LIN. FT.	TONS	SQ. YDS.	LUMP SUM	LUMP SUM	NO.	LIN. FT.
SUPERSTRUCTURE					919.5					20	1,833.33
END BENT 1	7	7	539	4		211	234				
BENT 1											
BENT 2											
BENT 3											
BENT 4											
END BENT 2	7	7	539	4		254	283				
TOTAL	14	14	1,078	8	919.5	465	517	LUMP SUM	LUMP SUM	20	1,833.33

DRAWN BY : J.S. HOBSON DATE : 12/17/20
CHECKED BY : J.A. BOYER DATE : 12/20/20
DESIGN ENGINEER OF RECORD : J.S. HOBSON DATE : 02/09/21

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043177 JOHN S. HOBSON

DocuSigned by: Jack Hobson 5B6E7C2B670044B... 03/14/2021

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. B-5619
LENOIR COUNTY
STATION: 30+80.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER NEUSE RIVER ON SR 1389 BETWEEN SR 1300 AND SR 1307

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-03
1			3			TOTAL SHEETS
2			4			40