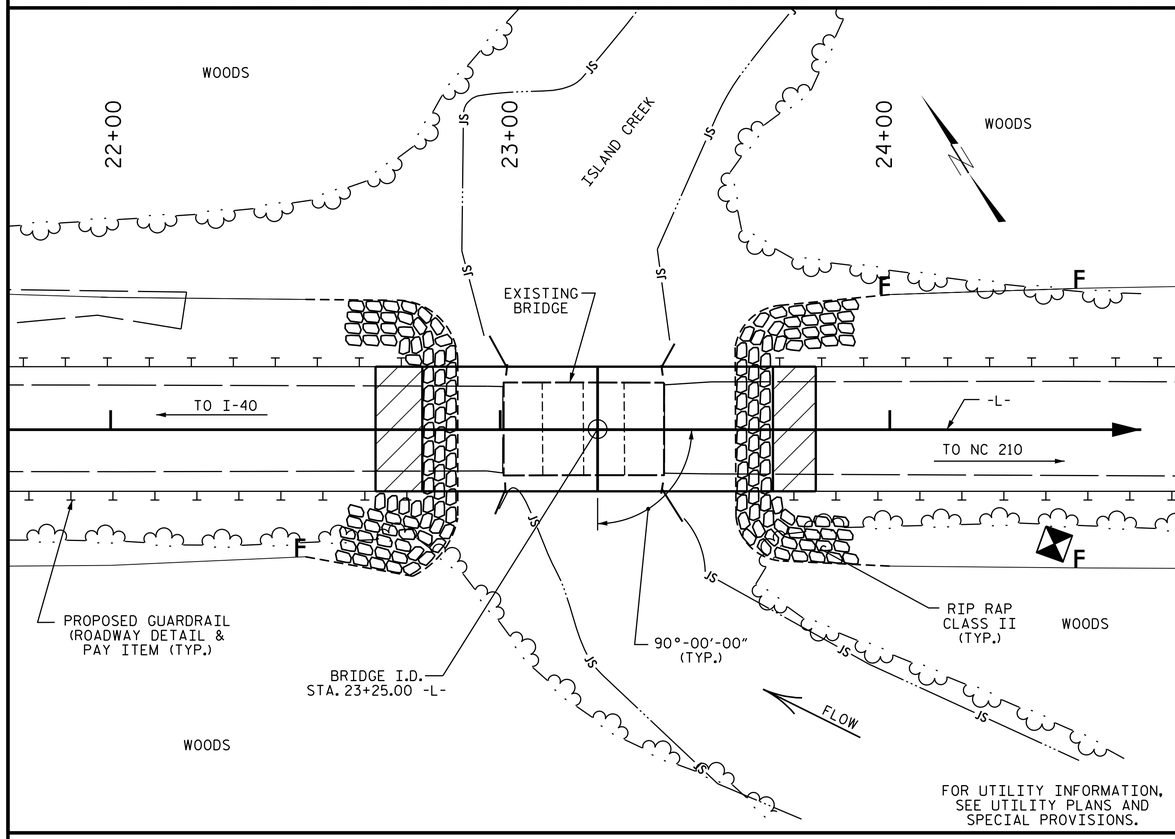
BM#4: RAILROAD SPIKE IN 24"PINE C/L STA. 24+39.00 -L-, OFFSET 29.5' RT., EL. 4.94', NAVD 88.



LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE	=	2,200 CFS
FREQUENCY OF DESIGN FLOOD	=	50 YR.
DESIGN HIGH WATER ELEVATION	=	7.3'
DRAINAGE AREA	=	18.2 Sq. MILES
BASE DISCHARGE (Q100)	=	2,700 CFS
BASE HIGH WATER ELEVATION	=	7.9'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	=	2,660 CFS
FREQUENCY OF OVERTOPPING FLOOD	=	100- YR.
OVERTOPPING FLOOD ELEVATION	=	7.9' (@ RIVER STA. 15400)

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.

THIS STRUCTURE CONTAINS THE NECESSARY CORROSION PROTECTION REQUIRED FOR A CORROSIVE SITE.

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 BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

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

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 23+25.00 -L-."

FOR PLACING LOAD ON STRUCTURE MEMBERS, SEE SPECIAL PROVISIONS.

NOTES

ALL BAR SUPPORTS USED IN THE PARAPET, DECK, BENT CAPS AND ALL INCIDENTAL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

THE CONCRETE IN THE BENT CAPS, AND PILES OF BENT NO. 1 SHALL CONTAIN SILICA FUME. SILICA FUME SHALL BE SUBSTITUTED FOR 5% OF THE PORTLAND CEMENT BY WEIGHT. IF THE OPTION OF ARTICLE 1024-1 OF THE STANDARD SPECIFICATIONS TO PARTIALLY SUBSTITUTE CLASS F FLY ASH FOR PORTLAND CEMENT IS EXERCISED, THEN THE RATE OF FLY ASH SUBSTITUTION SHALL BE REDUCED TO 1.0 LB OF FLY ASH PER 1.0 LB OF CEMENT. NO PAYMENT WILL BE MADE FOR THIS SUBSTITUTION AS IT IS CONSIDERED INCIDENTAL TO THE VARIOUS PAY ITEMS.

ALL METALIZED SURFACES SHALL RECEIVE A SEAL COATING AS SPECIFIED IN THE SPECIAL PROVISION FOR THERMAL SPRAYED COATINGS (METALIZATION).

CLASS AA CONCRETE SHALL BE USED IN ALL CAST-IN-PLACE END BENT AND/OR BENT CAPS AND SHALL CONTAIN CALCIUM NITRITE CORROSION INHIBITOR.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 25'-0" EACH SIDE OF CENTERLINE ROADWAY 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 4 SPANS (1 @ 11'-0", 1 @ 9'-8", 1 @ 10'-9", AND 1 @ 10'-10") FOR A APPROXIMATE TOTAL LENGTH OF 42'-0"; A CLEAR ROADWAY WIDTH OF 24.0 FT. AND REINFORCED CONCRETE DECK ON I-BEAMS @ 2'-2" CENTERS ON REINFORCED CONCRETE END BENT CAPS ON TIMBER PILES, BENTS 1 AND 3 TIMBER CAPS ON TIMBER PILES, AND REINFORCED CONCRETE BENT 2 CAP ON STEEL PILES AND SUPPORTED BY 3 CRUTCH BENTS AND LOCATED AT 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 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 SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION 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 EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	UNCLASSIFIED EXCAVATION	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS AA CONCRETE	BRIDGE APPROACH SLABS	EPOXY COATED REINFORCING STEEL	36" PRESTRESSED CONCRETE GIRDERS		20" PRESTRESSED CONCRETE PILES		HP 12 X 53 STEEL PILES		TWO BAR METAL RAIL	1'-2" x 2'-6" CONCRETE PARAPET	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS
	LUMP SUM	LUMP SUM	SQ. FT.	SQ. FT.	CU. YDS.	LUMP SUM	LBS.	NO.	LIN. FT.	NO.	LIN.FT.	NO.	LIN.FT.	LIN.FT.	LIN.FT.	TON	SQ. YDS.	LUMP SUM
SUPERSTRUCTURE	LUMP SUM		3112	3954		LUMP SUM		8	349.00					161.67	176.67			LUMP SUM
END BENT NO.1		LUMP SUM			17.6		2367					5	275			235	256	
BENT NO.1					10.6		2054			5	275							
END BENT NO.2		LUMP SUM			17.6		2367					5	275			210	233	
TOTAL	LUMP SUM	LUMP SUM	3112	3954	45.8	LUMP SUM	6788	8	349.00	5	275	10	550	161.67	176.67	445	489	LUMP SUM

DRAWN BY : N. Ruffin DATE : 5/20/13
CHECKED BY : GHOLAMREZA KOUCHEKI DATE : 6/7/13
DESIGN ENGINEER OF RECORD: N. RUFFIN DATE : 7/25/13

3/25/2014
NORTH CAROLINA PROFESSIONAL SEAL 14045 ENGINEER TIMOTHY L. COGGINS

DocuSigned by: Tom Coggins
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PROJECT NO. B-4591
NEW HANOVER/PENDER COUNTY
STATION: 23+25.00 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE OVER
ISLAND CREEK
ON SR 1002 BETWEEN
I-40 AND NC 210

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			30

25-MAR-2014 11:19
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