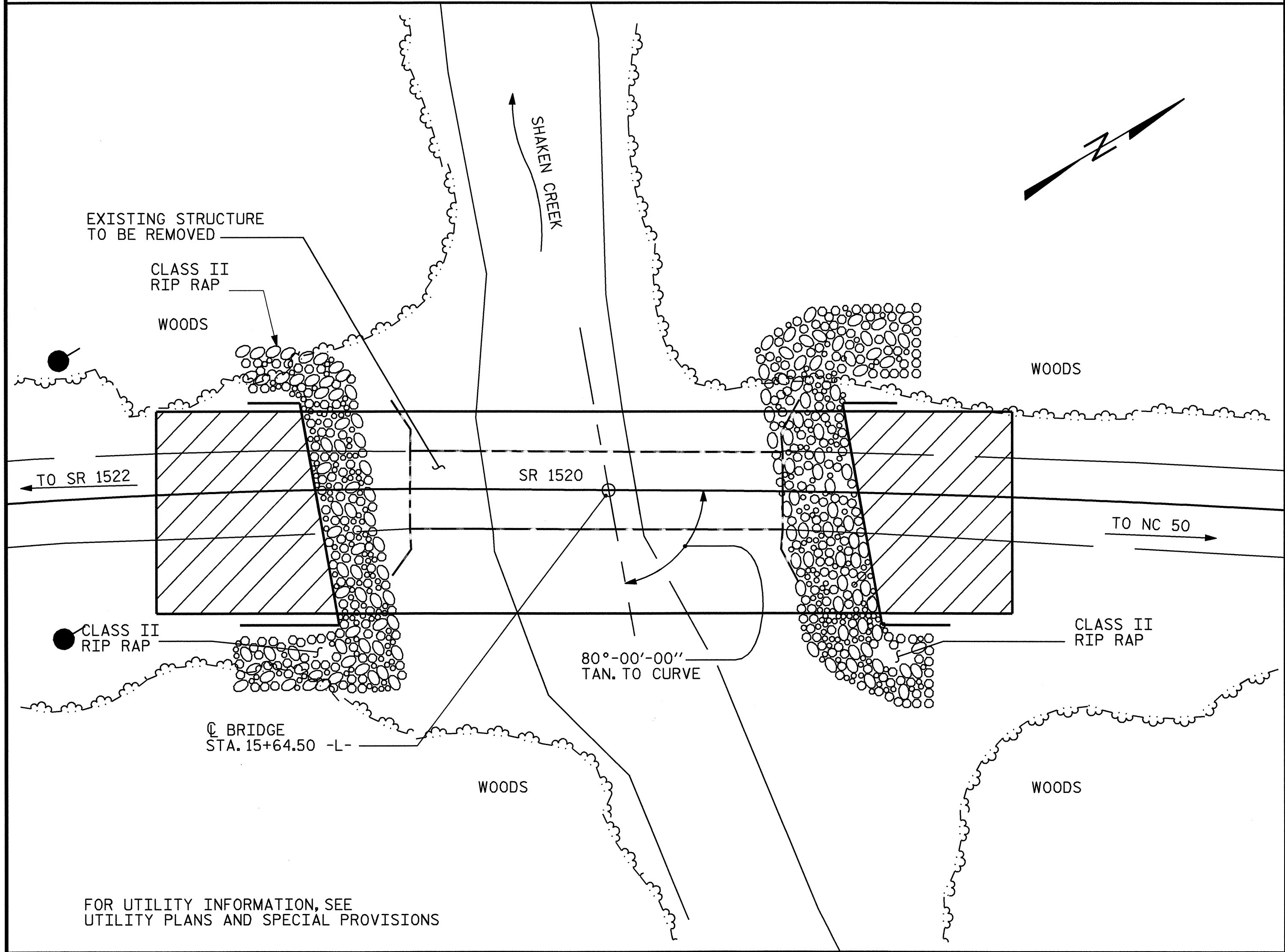


B.M. #2 : RR SPIKE SET IN 14" OAK, 258.10 FT. RIGHT OF -BL- STA. 11+22.63 EL. 8.93; NAVD 88



LOCATION SKETCH

NOTES

ASSUMED LIVE LOAD = HS 20 OR ALTERNATE LOADING, EXCEPT THAT CORED SLAB UNITS HAVE BEEN DESIGNED FOR HS25.

THIS BRIDGE SHALL BE CONSTRUCTED USING TOP-DOWN CONSTRUCTION METHODS. THE USE OF A TEMPORARY CAUSEWAY OR WORK BRIDGE IS NOT PERMITTED.

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

FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.

THIS BRIDGE HAS BEEN DESIGNED BY THE STRENGTH DESIGN METHOD AS SPECIFIED IN AASHTO STANDARD SPECIFICATIONS.

PILES FOR END BENTS NO.1 AND 2 SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 50 TONS EACH.

PILES FOR BENTS NO.1 AND 2 SHALL BE DRIVEN TO AN ELEVATION NO HIGHER THAN -24.0 AND SATISFY THE BEARING CAPACITY OF 60 TONS EACH.

WHEN DRIVING PILES, THE MAXIMUM BLOW COUNT SHALL NOT BE EXCEEDED.

IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY IN THE RANGE OF 16,500 TO 36,400 FT.-LBS. PER BLOW WILL BE REQUIRED TO DRIVE THE HP 14 X 73 STEEL PILES. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM THE PROVISIONS OUTLINED IN ARTICLE 450-6 OF THE STANDARD SPECIFICATIONS.

THE EXISTING STRUCTURE CONSISTING OF 5 SPANS; 1 @ 17'-10", 1 @ 16'-9", 1 @ 17'-3", 1 @ 17'-1" AND 1 @ 17'-8" WITH TIMBER FLOOR ON TIMBER JOISTS SUPERSTRUCTURE AND A CLEAR ROADWAY WIDTH OF 19'-2" ON A SUBSTRUCTURE CONSISTING OF TIMBER CAPS ON TIMBER PILES END BENTS AND BENTS AND LOCATED AT THE PROPOSED STRUCTURE SITE SHALL BE REMOVED.

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 ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 20 FT. 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. FOR UNCLASSIFIED STRUCTURE EXCAVATION, SEE SPECIAL PROVISIONS.

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.

ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", NOVEMBER 1995.

THE SCOUR CRITICAL ELEVATION FOR BENT NO.1 AND 2 IS - 12.0 FEET. THE SCOUR CRITICAL ELEVATIONS ARE FOR USE BY MAINTENANCE FORCES TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES FOR SEISMIC PERFORMANCE CATEGORY A.

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 SPICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

THE HP 14 X 73 STEEL PILES SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS. FOR GALVANIZING STEEL PILES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CONSTRUCTION OF SUPERSTRUCTURE, SEE SPECIAL PROVISIONS.

FOR CONSTRUCTION OF SUBSTRUCTURE, SEE SPECIAL PROVISION.

HYDRAULIC DATA

DESIGN DISCHARGE.....3900 CFS.  
 FREQUENCY OF DESIGN FLOOD.....25 YEARS  
 DESIGN HIGH WATER ELEVATION.....10.45  
 DRAINAGE AREA.....84.5 SQ. MI.  
 BASIC DISCHARGE(Q100).....5800 CFS.  
 BASIC HIGH WATER ELEVATION.....12.28

OVERTOPPING FLOOD DATA

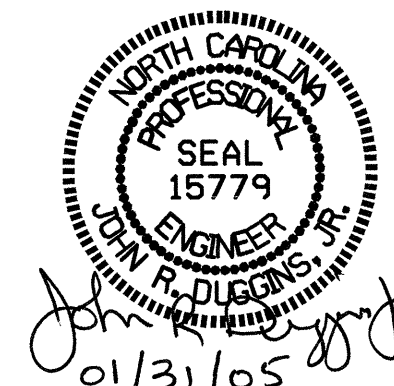
OVERTOPPING DISCHARGE.....8600 CFS.  
 FREQUENCY OF OVERTOPPING FLOOD.....500 YRS.  
 OVERTOPPING FLOOD ELEVATION.....16.71

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	UNCLASSIFIED STRUCTURE EXCAVATION	HP 12 X 53 STEEL PILES		HP 14 X 73 STEEL PILES		GALVANIZING STEEL PILES	PLAIN RIP RAP CLASS II (2'-0" THICK)	CONSTRUCTION OF SUBSTRUCTURE	CONSTRUCTION OF SUPERSTRUCTURE
			NO.	LIN.FT.	NO.	LIN.FT.				
SUPERSTRUCTURE										
END BENT 1		LUMP SUM	8	200				164		
BENT 1					9	360	LUMP SUM			
BENT 2					9	360	LUMP SUM			
END BENT 2		LUMP SUM	8	280				155		
TOTAL	LUMP SUM	LUMP SUM	16	480	18	720		319	LUMP SUM	LUMP SUM

PROJECT NO. B-3887  
 PENDER COUNTY  
 STATION: 15+64.50 -L-  
 SHEET 3 OF 3 REPLACES BRIDGE NO. 116

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 GENERAL DRAWING  
 FOR BRIDGE ON SR 1520  
 OVER SHAKEN CREEK  
 BETWEEN SR 1522 AND NC 50



DRAWN BY : M. POOLE DATE : 05/2004  
 CHECKED BY : J. R. DUGGINS DATE : 12/2004

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS 23
2			4			