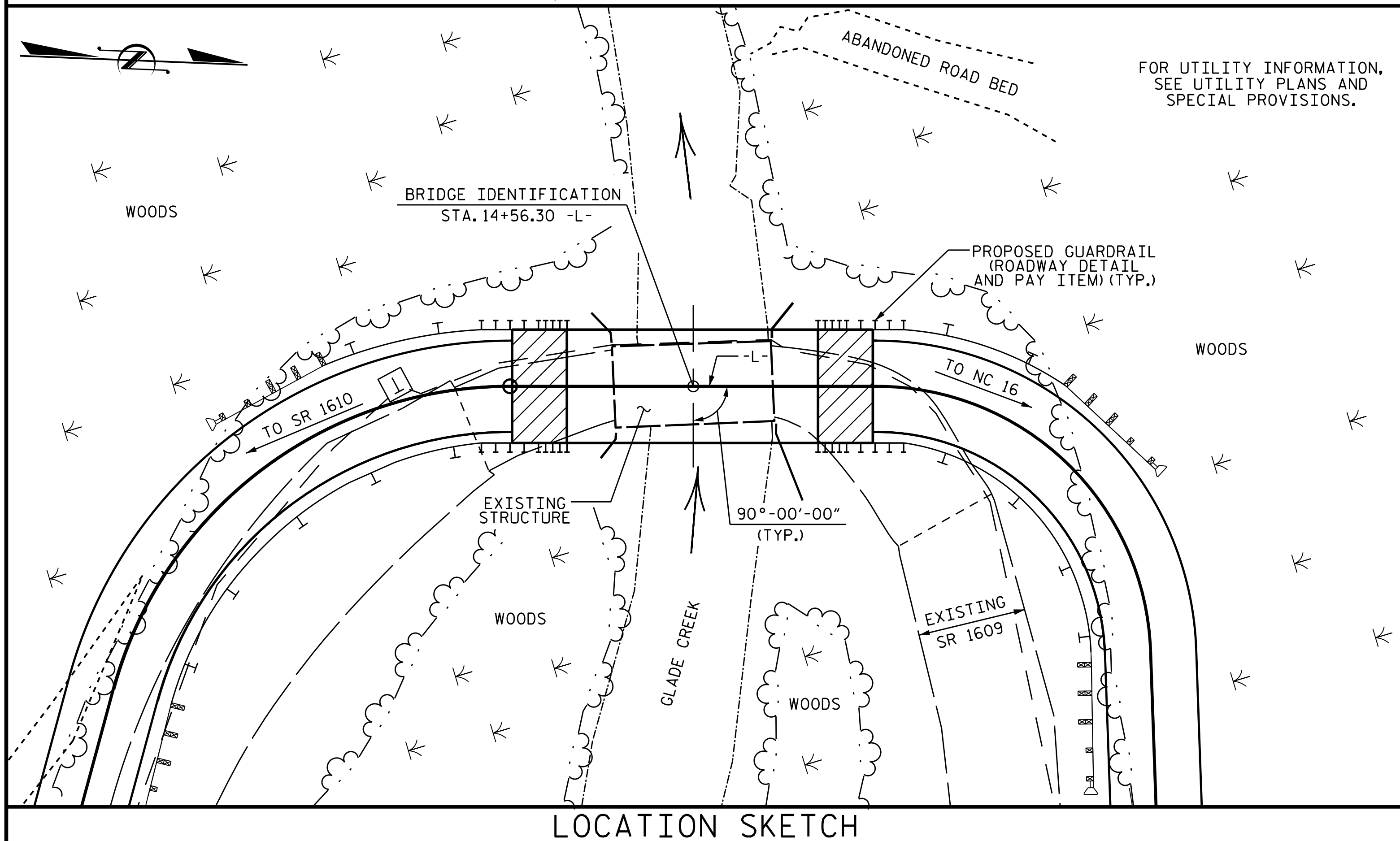


**BENCHMARK #2: R/R SPIKE SET IN 18" BEECH TREE
@ EL. 956.14', 142' RT OF STA. 19+09.00 -L-**



LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE = 2400 C.F.S.
 FREQUENCY OF DESIGN FLOOD = 25 YRS.
 DESIGN HIGH WATER ELEVATION = 951.1
 DRAINAGE AREA = 11.6 SQ. MI
 BASE DISCHARGE (Q100) = 3,300 C.F.S.
 BASE HIGH WATER ELEVATION = 952.01

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 3,600 C.F.S.
 FREQUENCY OF OVERTOPPING FLOOD = 100+ YRS.
 OVERTOPPING FLOOD ELEVATION = 952.6 FT.

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.
 THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 40 FT (LT.) AND 40 FT (RT.) FROM CENTERLINE ROADWAY AT END BENT NO. 1 AND A DISTANCE OF 30 FT (LT.) AND 50 FT (RT.) FROM CENTERLINE ROADWAY AT END BENT NO. 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.
 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.
 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.
 THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18-EVALUATING SCOUR AT BRIDGES."
 FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.
 ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.
 THE EXISTING SINGLE SPAN STRUCTURE (1 @ 35'-6") CONSISTING OF A TIMBER DECK WITH A 1 1/4" ASPHALT WEARING SURFACE, ON 3 LINES OF 21" STEEL I-BEAMS AND 6 LINES OF 5" X 12" TIMBER JOISTS WITH 10" FLOOR BEAMS WITH A CLEAR ROADWAY WIDTH OF 15'-11" AND A SUBSTRUCTURE CONSISTING OF TIMBER CAPS ON TIMBER POST AND SILL ABUTMENTS, AND LOCATED AT 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, THIS LOAD LIMIT MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT. SEE SPECIAL PROVISIONS FOR "REMOVAL OF EXISTING STRUCTURE".
 INASMUCH AS THE PAINT SYSTEM ON THE 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".
 FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES, SEE SPECIAL PROVISIONS.

FOUNDATION NOTES

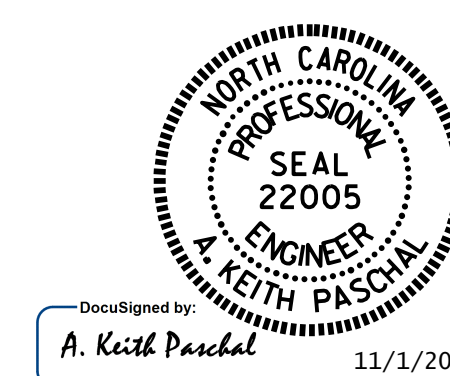
FOR PILES, SEE GEOTECHNICAL SPECIAL PROVISIONS AND SECTION 450 OF THE STANDARD SPECIFICATIONS.
 PILES AT END BENT NO. 1 AND END BENT NO. 2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 85 TONS PER PILE.
 DRIVE PILES AT END BENT NO. 1 AND END BENT NO. 2 TO A REQUIRED DRIVING RESISTANCE OF 142 TONS PER PILE.
 DRILLED-IN PILES ARE REQUIRED FOR END BENT NO. 1. EXCAVATE HOLES AT PILE LOCATIONS TO ELEVATION 932. FILL THE BOTTOM 5 FT OF HOLES FOR PILE EXCAVATION WITH CONCRETE AND THE REST OF HOLES WITH CLASS II OR III SELECT MATERIAL THAT MEETS SECTION 1016 OF THE STANDARD SPECIFICATIONS. FOR PILE EXCAVATION, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
 DRILLED-IN PILES ARE REQUIRED FOR END BENT NO. 2. EXCAVATE HOLES AT PILE LOCATIONS TO ELEVATION 928 (LT) AND 931 (RT). FILL THE BOTTOM 5 FT OF HOLES FOR PILE EXCAVATION WITH CONCRETE AND THE REST OF HOLES WITH CLASS II OR III SELECT MATERIAL THAT MEETS SECTION 1016 OF THE STANDARD SPECIFICATIONS. FOR PILE EXCAVATION, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
 SHEET PILES FOR THE VERTICAL WALLS SHOULD BE DRIVEN TO REFUSAL AND A MINIMUM ELEVATION OF 938 FOR END BENT NO. 1 AND A MINIMUM ELEVATION OF 934 (LT) AND 936 (RT) FOR END BENT NO. 2.
 IF REFUSAL IS ENCOUNTERED ABOVE THE MINIMUM ELEVATIONS SPECIFIED, THE RESIDENT ENGINEER WILL NEED TO CONTACT THE GEOTECHNICAL OPERATIONS PERSON TO REVIEW AND MAKE RECOMMENDATIONS.
 THE SCOUR CRITICAL ELEVATION FOR THE SHEET PILES AT END BENT NO. 1 & 2 IS 942 AND 940, RESPECTIVELY. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
 FOR STEEL SHEET PILES, SEE SPECIAL PROVISIONS AND SECTION 452 OF THE STANDARD SPECIFICATIONS.
 PZ SHEETING ARE TO BE DRIVEN IN FRONT (STREAM SIDE) OF HP 12X53 AT EACH END BENT AS SHOWN IN THE STRUCTURE PLANS.

TOTAL BILL OF MATERIAL

	CONSTRUCTION MAINTENANCE & REMOVAL OF TEMPORARY ACCESS	REMOVAL OF EXISTING STRUCTURE	PILE EXCAVATION IN SOIL	PILE EXCAVATION NOT IN SOIL	UNCLASSIFIED STRUCTURE EXCAVATION	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	PILE DRIVING EQUIPMENT SETUP FOR HP 12 X 53 STEEL PILES	HP 12 X 53 STEEL PILES	VERTICAL CONCRETE BARRIER RAIL	ELASTOMERIC BEARINGS	3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLABS	ASBESTOS ASSESSMENT	STEEL SHEET PILES		
	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	LUMP SUM	CU. YDS.	LUMP SUM	LBS.	EACH	NO.	LIN. FT.	LIN. FT.	LUMP SUM	NO.	LIN. FT.	LUMP SUM	SQ. FT.
SUPERSTRUCTURE							LUMP SUM					LUMP SUM	9	495.00	LUMP SUM		
END BENT NO. 1			33.00	30.00	LUMP SUM	16.7		2441	5	5	75						775
END BENT NO. 2			27.00	30.00	LUMP SUM	16.7		2441	5	5	75						935
TOTAL	LUMP SUM	LUMP SUM	60.00	60.00	LUMP SUM	33.4	LUMP SUM	4882	10	10	150	110.00	LUMP SUM	9	495.00	LUMP SUM	1710

PROJECT NO. B-5391
ALEXANDER COUNTY
 STATION: 14+56.30 -L-

SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR BRIDGE OVER
 GLADE CREEK ON
 SR 1609 BETWEEN
 SR 1610 AND NC 16

DRAWN BY : H. T. BARBOUR DATE : 8-3-17
 CHECKED BY : M. G. CHEEK DATE : 8-17

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			12

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED