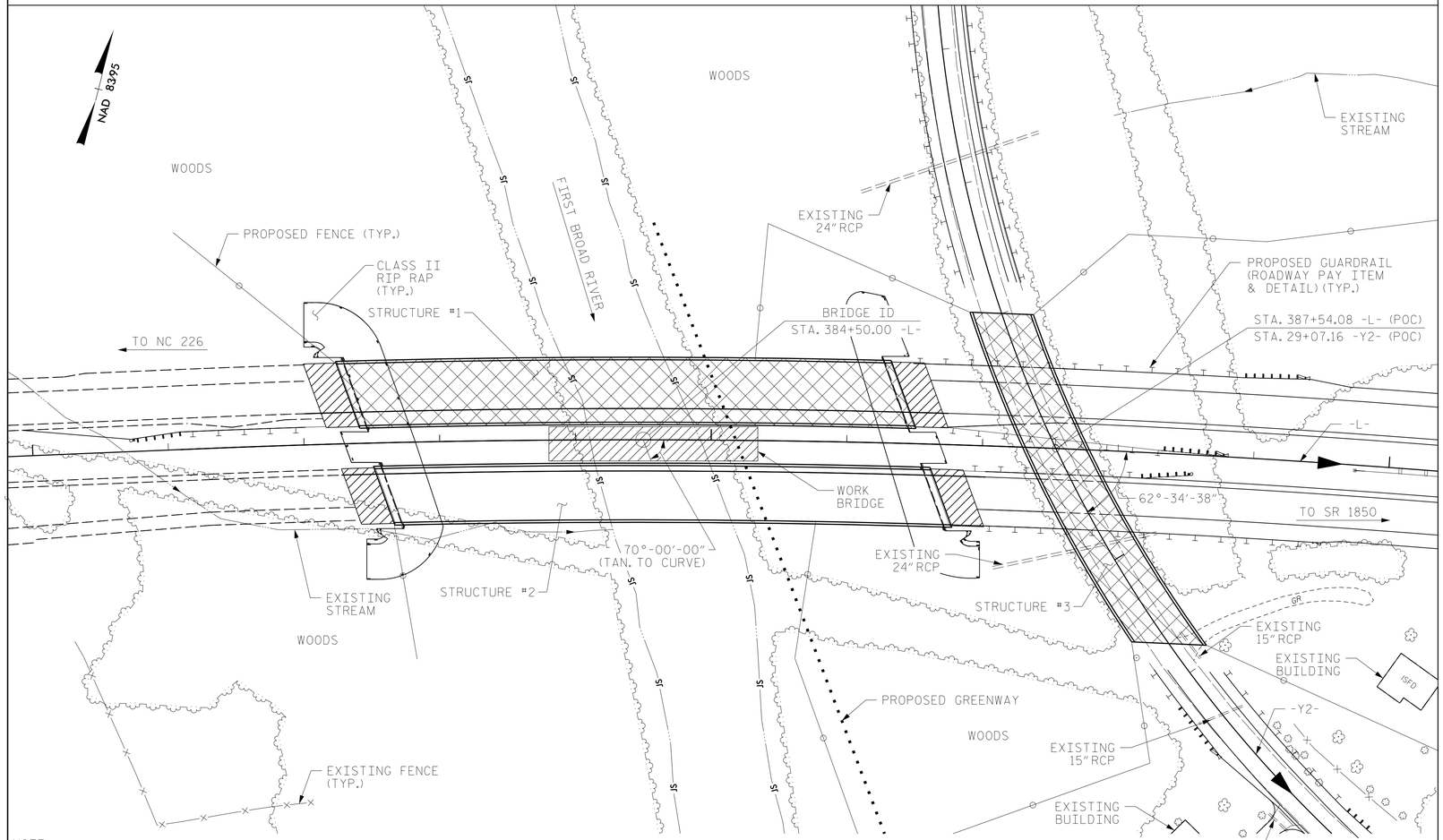
BENCH MARK #17: 8 INCH NAIL IN BASE OF 20 INCH SYCAMORE 93.83' LEFT OF STA. 385+52.11 -L-, EL. 707.47'



NOTE:
FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

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.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

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

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR PLACING LOAD ON 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.

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

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.

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

THE SCOUR CRITICAL ELEVATION FOR BENT NO. 1 AND NO. 2 IS ELEVATION 679. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA ON GENERAL DRAWING SHEET 1 OF 4 SHALL BE EXCAVATED FOR A DISTANCE OF 23 FT LEFT AND 70 FT RIGHT OF RIGHT LANE GRADE LINE 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 CONTRACTOR WILL BE REQUIRED TO CONSTRUCT, MAINTAIN AND AFTERWARDS REMOVE THE TEMPORARY ACCESS AT STATION 384+50.00 -L- FOR USE DURING CONSTRUCTION OF THE PROPOSED STRUCTURE.

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

FOR 74" MODIFIED PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

HYDRAULIC DATA

DESIGN DISCHARGE	= 20,200 CFS
FREQUENCY OF DESIGN FLOOD	= 50 YRS
DESIGN HIGH WATER ELEVATION	= 716.2
DRAINAGE AREA	= 226 SQ. MI.
BASE DISCHARGE (Q100)	= 23,400 CFS
BASE HIGH WATER ELEVATION	= 717.69

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= >31,700 CFS
FREQUENCY OF OVERTOPPING FLOOD	= >500 YRS+
OVERTOPPING FLOOD ELEVATION	= 733.80

TOTAL BILL OF MATERIALS

	CONSTRUCTION, MAINTENANCE & REMOVAL OF TEMP. ACCESS AT STA. 384+50.00 -L-	UNCLASSIFIED STRUCTURE EXCAVATION	4'-6" Ø DRILLED PIER IN SOIL	4'-6" Ø DRILLED PIER NOT IN SOIL	PERMANENT STEEL CASING FOR 4'-6" DIA. DRILLED PIER	CSL TESTING	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	74" MODIFIED PRESTRESSED CONCRETE GIRDERS		PILE EXCAVATION IN SOIL	PILE EXCAVATION NOT IN SOIL
	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	EACH	SQ. FT.	SQ. FT.	CU. YDS.	LUMP SUM	LBS.	APPROX. LBS.	NO.	LIN. FT.	LIN. FT.	LIN. FT.
SUPERSTRUCTURE							17,661	16,827		LUMP SUM			12	1,621.85		
END BENT No. 1									47.5		8,647					
BENT No. 1			85.0	27.0	54.0				62.5		20,079	4,601				
BENT No. 2			76.0	27.0	54.0				64.1		19,678	4,478				
END BENT No. 2		LUMP SUM							47.2		8,619				77	33
TOTAL	LUMP SUM	LUMP SUM	161	54	108	2	17,661	16,827	221.3	LUMP SUM	57,023	9,079	12	1,621.85	77	33

	HP 12x53 STEEL PILES		STEEL PILE POINTS	PILE DRIVING EQUIPMENT SETUP FOR HP 12X53 STEEL PILES	CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS
	NO.	LIN. FT.	EACH	EACH	LIN. FT.	TONS	SQ. YDS.	LUMP SUM
SUPERSTRUCTURE					816.7			LUMP SUM
END BENT No. 1	11	440	11	11		500	550	
BENT No. 1								
BENT No. 2								
END BENT No. 2	11	165	11	11		450	500	
TOTAL	22	605	22	22	816.7	950	1,050	LUMP SUM

DRAWN BY : PDS DATE : 11/2016
CHECKED BY : TLC DATE : 01/2017
DESIGN ENGINEER OF RECORD: MAL DATE : 11/2016

4/6/2017
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leblancm

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039213 AUSTIN MARK ROBINSON
Docusigned by: Austin Seal
4/7/2017

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

RIGHT LANE BRIDGE OVER FIRST BROAD RIVER ON US 74 SHELBY BYPASS BETWEEN NC 226 AND SR 1850

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S2-4
1			3			TOTAL SHEETS
2			4			36

PROJECT NO. R-2707C
CLEVELAND COUNTY
STATION: 384+50.00 -L-
SHEET 4 OF 4

STR. #2