

BENCH MARK : TBM 100, NAIL SET IN ROOT OF 8" GUM TREE AT -L- STA. 17+61.45, 44.99' RT. OFFSET : ELEVATION 315.52.

**NOTES**

ASSUMED LIVE LOAD = HS 20 OR ALTERNATE LOADING, EXCEPT THAT THE CORED SLAB UNITS HAVE BEEN DESIGNED FOR HS-25..

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.

THE EXISTING STRUCTURE CONSISTING OF 1 SPAN @ 40.5' WITH A CLEAR ROADWAY WIDTH OF 24.4' AND HAVING A TIMBER DECK COVERED WITH ASPHALT ON STEEL BEAMS SUPPORTED BY A SUBSTRUCTURE CONSISTING OF TIMBER CAPS ON CONCRETE ENCASED TIMBER PILES SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

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.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 25' EACH SIDE OF CENTERLINE ROADWAY AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE MEASURED AND PAID FOR AS UNCLASSIFIED STRUCTURE EXCAVATION.

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.

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

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

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.

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 15+83.00 -L-.'

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

SEE SPECIAL PROVISIONS FOR CONSTRUCTION OF SUPERSTRUCTURE.

SEE SPECIAL PROVISIONS FOR CONSTRUCTION OF SUBSTRUCTURE.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

NO SEPARATE PAYMENT SHALL BE MADE FOR ANY ADDITIONAL STEEL REQUIRED IN CONSTRUCTION OF THE DRILLED PIERS AS THIS IS CONSIDERED INCIDENTAL TO THE LINEAR FOOT PRICE FOR DRILLED PIERS.

FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.

THE DRILLED PIERS AT BENT NO. 1 AND BENT NO. 2 HAVE BEEN DESIGNED FOR TIP BEARING ONLY. THE REQUIRED TIP BEARING CAPACITY IS 20 TSF.

THE REQUIRED TIP BEARING CAPACITY AT BENT NO. 1 AND BENT NO. 2 SHALL BE VERIFIED.

DRILLED PIERS FOR BENT NO. 1 AND BENT NO. 2 HAVE BEEN DESIGNED FOR AN APPLIED LOAD OF 169 TONS EACH AT THE TOP OF THE COLUMN.

DRILLED PIER NO. 1 AT BENT NO. 1 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 294 FEET AND SATISFY THE REQUIRED TIP BEARING CAPACITY.

DRILLED PIER NO. 2 AT BENT NO. 1 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 299 FEET AND SATISFY THE REQUIRED TIP BEARING CAPACITY.

DRILLED PIERS AT BENT NO. 2 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 302 FEET AND SATISFY THE REQUIRED TIP BEARING CAPACITY.

PERMANENT STEEL CASING MAY BE REQUIRED FOR DRILLED PIER NO. 1 AT BENT NO. 1. IF REQUIRED, INSTALL PERMANENT CASING BY VIBRATING, SCREWING, OR DRIVING THE CASING BEFORE EXCAVATING OR DISTURBING ANY MATERIAL BELOW ELEVATION 307 FEET. THE PERMANENT CASING SHALL NOT EXTEND BELOW ELEVATION 300 FEET. THE NEED FOR PERMANENT STEEL CASING WILL BE DETERMINED BY THE ENGINEER.

PERMANENT STEEL CASING MAY BE REQUIRED FOR DRILLED PIER NO. 2 AT BENT NO. 1. IF REQUIRED, THE CASING SHALL NOT EXTEND BELOW ELEVATION 306 FEET WITHOUT THE ENGINEER'S PERMISSION. THE NEED FOR PERMANENT STEEL CASING WILL BE DETERMINED BY THE ENGINEER.

PERMANENT STEEL CASING MAY BE REQUIRED FOR DRILLED PIERS AT BENT NO. 2. IF REQUIRED, THE CASING SHALL NOT EXTEND BELOW ELEVATION 309 FEET WITHOUT THE ENGINEER'S PERMISSION. THE NEED FOR PERMANENT STEEL CASING WILL BE DETERMINED BY THE ENGINEER.

THE SCOUR CRITICAL ELEVATION FOR BENT NO. 1 IS ELEVATION 305 FEET. THE SCOUR CRITICAL ELEVATIONS ARE FOR USE BY MAINTENANCE FORCES TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

THE SCOUR CRITICAL ELEVATION FOR BENT NO. 2 IS ELEVATION 308 FEET. THE SCOUR CRITICAL ELEVATIONS ARE FOR USE BY MAINTENANCE FORCES TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

SPT TESTING IS NOT REQUIRED TO DETERMINE THE TIP BEARING CAPACITY OF THE DRILLED PIERS AT BENT NO. 1 AND BENT NO. 2.

SLURRY CONSTRUCTION SHALL NOT BE USED FOR THIS PROJECT.

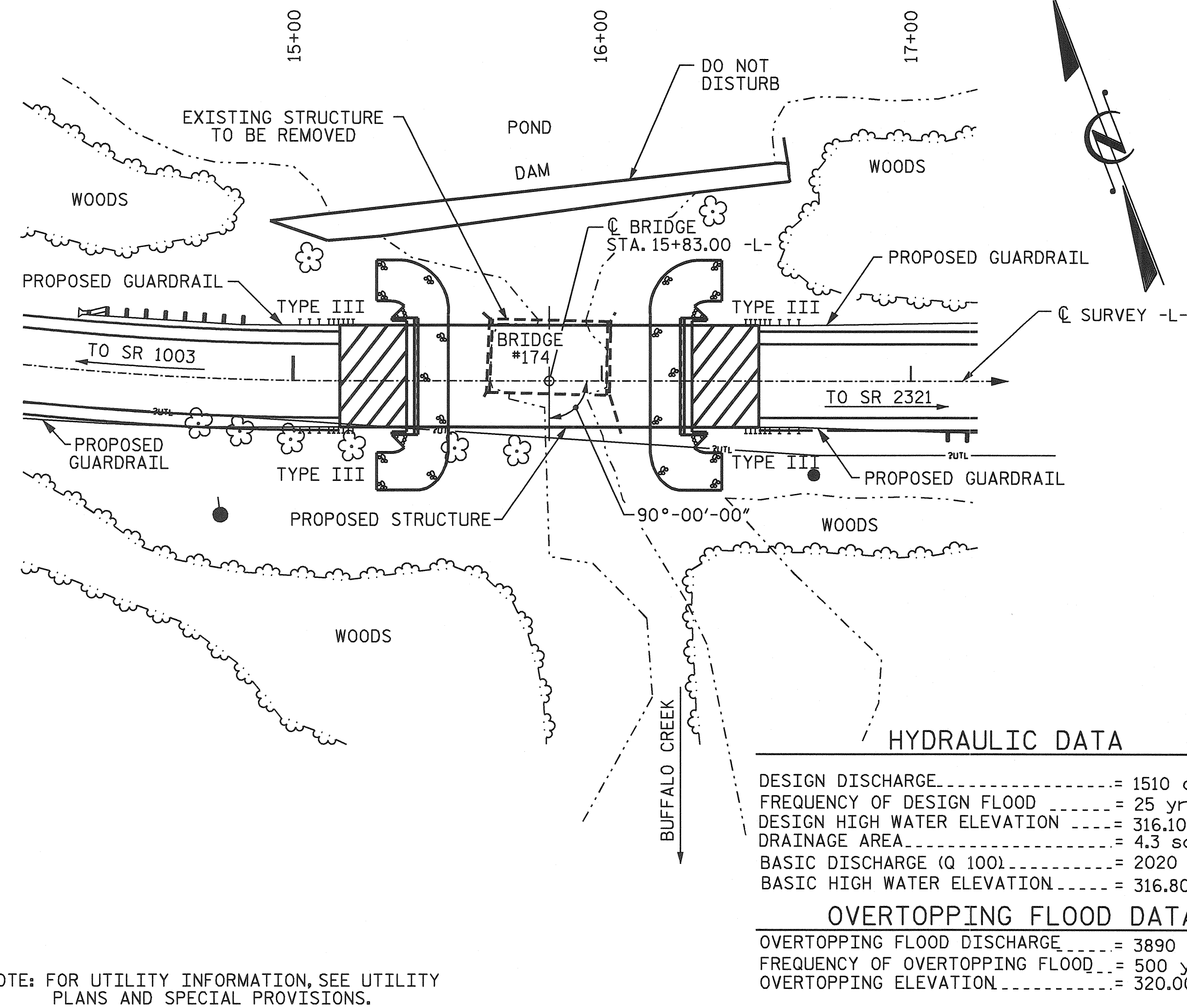
SID INSPECTIONS ARE NOT REQUIRED TO DETERMINE THE BOTTOM CLEANLINESS OF THE DRILLED PIERS AT BENT NO. 1 AND BENT NO. 2.

CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR THE DRILLED PIERS AT BENT NO. 1 AND BENT NO. 2. SEE SPECIAL PROVISION FOR CROSSHOLE SONIC LOGGING.

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

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

STEEL PILE POINTS ARE REQUIRED FOR PILES AT END BENT NO. 1 AND END BENT NO. 2. SEE SPECIAL PROVISION FOR STEEL PILE POINTS.



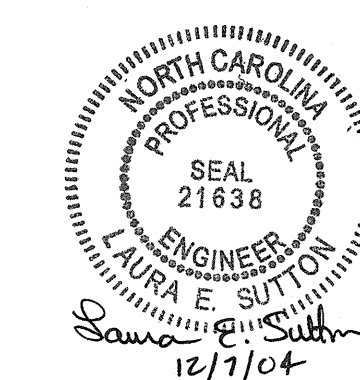
**LOCATION SKETCH**

**TOTAL BILL OF MATERIAL**

	REMOVAL OF EXISTING STRUCTURE	3'-6" DIA. DRILLED PIERS IN SOIL	3'-6" DIA. DRILLED PIERS NOT IN SOIL	PERMANENT STEEL CASING FOR 3'-6" DIA. DRILLED PIER	CROSSHOLE SONIC LOGGING	CSL TUBES	UNCLASSIFIED STRUCTURE EXCAVATION	HP 12 x 53 STEEL PILES	STEEL PILE POINTS	PLAIN RIP RAP CLASS II (2'-0" THICK)	CONSTRUCTION OF SUPERSTRUCTURE	CONSTRUCTION OF SUBSTRUCTURE	
	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	EACH	LIN. FT.	CU. YDS.	NO.	LIN. FT.	EACH	TON	LUMP SUM	LUMP SUM
SUPERSTRUCTURE												LUMP SUM	
END BENT NO. 1							270	6	60	6	130		
BENT NO. 1		25.88	13.00	25.44	1	174.33							
BENT NO. 2		12.75	15.00	12.86		131.00							
END BENT NO. 2							320	6	60	6	118		
TOTAL	LUMP SUM	38.33	28.00	38.30	1	305.33	590	12	120	12	248	LUMP SUM	LUMP SUM

PROJECT NO. B-3530  
WAKE COUNTY  
 STATION: 15+83.00 -L-

SHEET 3 OF 3



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**GENERAL DRAWING  
 FOR BRIDGE OVER  
 BUFFALO CREEK  
 ON SR 2320 BETWEEN  
 SR 1003 AND SR 2321**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS 21
2			4			

DRAWN BY : A.S. CALLAWAY DATE : 9/9/04  
 CHECKED BY : B.N. BARODAWALA DATE : 9/15/04