

NOTES

ASSUMED LIVE LOAD = HS 20 OR ALTERNATE LOADING.

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.

ALL STRUCTURAL STEEL, EXCLUDING FLANGES, SHALL BE AASHTO M270 GRADE 50W. FLANGE STEEL SHALL BE GRADE HPS 70W. ALL SPLICE PLATES SHALL BE AASHTO M270 GRADE 50W. FOR HIGH PERFORMANCE STEEL, SEE SPECIAL PROVISIONS.

STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH SYSTEM 4 OF ARTICLE 442-7 OF THE STANDARD SPECIFICATIONS.

REMOVABLE FORMS MAY BE USED IN LIEU OF METAL STAY-IN-PLACE FORMS IN ACCORDANCE WITH ARTICLE 420-3 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS.

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 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.

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.

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT EXISTING BRIDGE REMOVAL AND THE CONSTRUCTION OF THE PROPOSED BRIDGE SHALL NOT RESULT IN ANY DAMAGE TO THE EXISTING SPILLWAY AND THE EXISTING SPILLWAY RETAINING WALLS. SHOULD ANY DAMAGE OCCUR, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REPAIRS AT NO ADDITIONAL COST TO THE DEPARTMENT.

THE CONTRACTOR SHALL MONITOR THE EXISTING RETAINING WALL DURING CONSTRUCTION. THE INITIAL POSITION OF THE WALL WILL BE ESTABLISHED PRIOR TO CONSTRUCTION, VERIFIED PERIODICALLY DURING CONSTRUCTION AND AT THE COMPLETION OF CONSTRUCTION FOR MOVEMENT AND SETTLEMENT OF THE WALL. IF MOVEMENT OR SETTLEMENT OCCURS THAT IS NOT SATISFACTORY TO THE ENGINEER OR IF THE WALL IS DAMAGED, THE CONTRACTOR SHALL RESTORE THE WALL TO ITS INITIAL CONDITION.

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.

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.

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

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR LIMITS OF TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS. FOR PAY ITEM FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE ROADWAY PLANS.

PILE EXCAVATION SHALL BE USED TO INSTALL PILES FOR WING WALLS @ END BENT #1 TO ELEVATIONS 256.333 (LEFT) AND 250.451 (RIGHT). SEE SPECIAL PROVISION FOR PILE EXCAVATION.

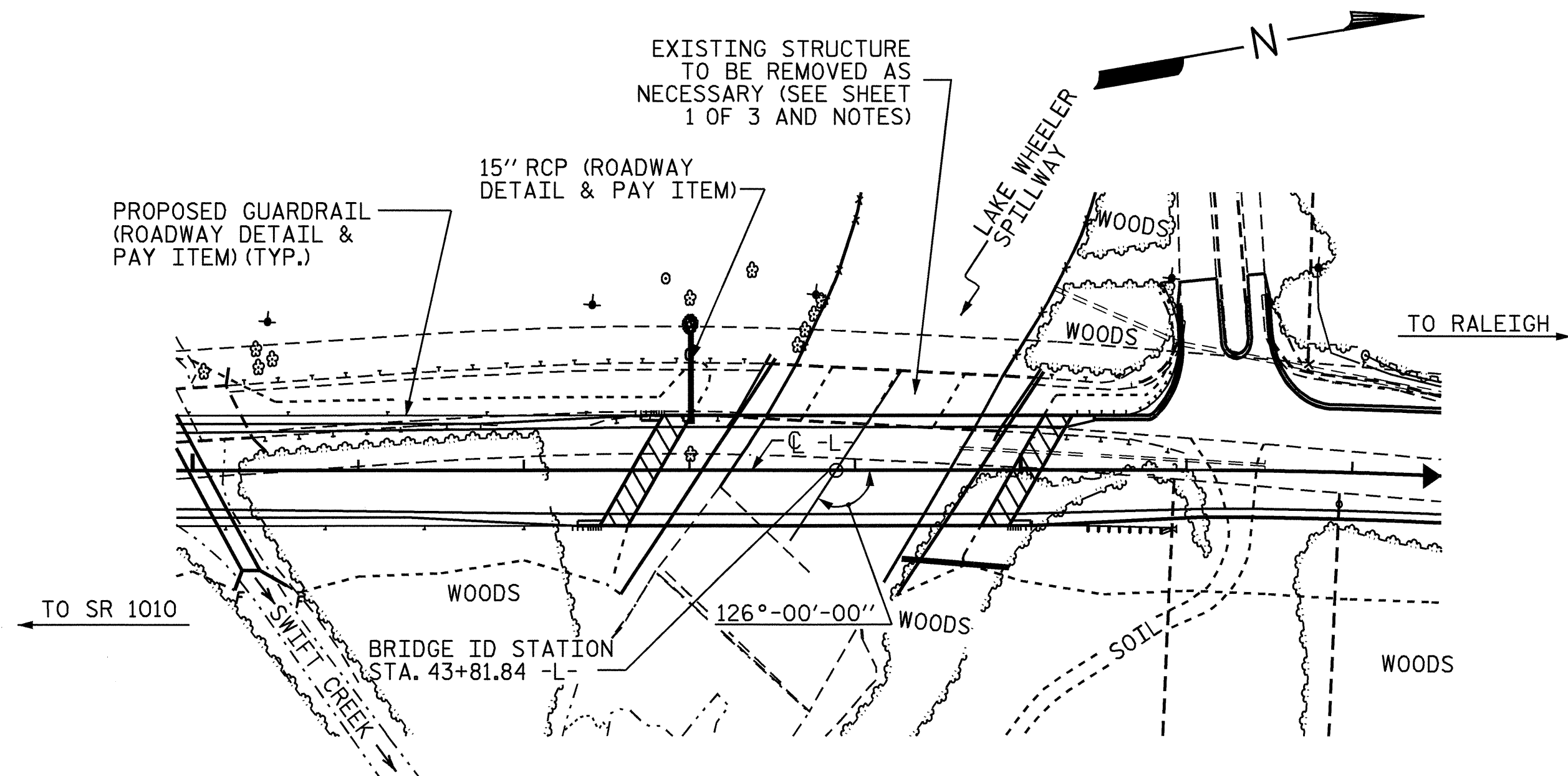
PILE EXCAVATION SHALL BE USED TO INSTALL PILES FOR WING WALLS @ END BENT #2 TO ELEVATIONS 262.397 (LEFT) AND 259.719 (RIGHT). SEE SPECIAL PROVISION FOR PILE EXCAVATION.

AFTER SERVING AS A TEMPORARY STRUCTURE, THE EXISTING STRUCTURE CONSISTING OF 4 SPANS AT 40± FEET AND A TOTAL LENGTH OF 162 FEET, AND A CLEAR ROADWAY OF 24 FEET, WITH A CONCRETE FLOOR ON SIX LINES OF I-BEAMS ON REINFORCED CONCRETE ABUTMENTS AND REINFORCED CONCRETE PIERS, LOCATED AT THE PROPOSED SITE, SHALL BE REMOVED AS SHOWN IN THE PLANS. 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.

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 43+81.84 -L-".

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

EXISTING BENTS SHALL BE CUT OFF AT THE TOP OF THE SPILLWAY AND PATCHED TO THE APPROVAL OF THE ENGINEER.



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS

LOCATION SKETCH

TOTAL BILL OF MATERIAL

	REMOVAL OF EXISTING STRUCTURE	PILE EXCAVATION IN SOIL	3'-6" Ø DRILLED PIERS IN SOIL	3'-6" Ø DRILLED PIERS NOT IN SOIL	SID INSPECTION	SPT TESTING	CROSSHOLE SONIC LOGGING	CSL TUBES	REINFORCED CONCRETE DECK SLAB	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	STRUCTURAL STEEL	HP 12 X 53 STEEL PILES	TWO BAR METAL RAIL	1'-2" X 3'-3" CONCRETE PARAPET	ELASTOMERIC BEARINGS	EVAZOTE JOINT SEALS	
	LUMP SUM	LIN. FT.	LIN. FT.	LIN. FT.	EA.	EA.	EA.	LIN. FT.	SQ. FT.	SQ. FT.	CU. YDS.	LUMP SUM	LBS.	LBS.	APPROX. LBS.	NO.	LIN. FT.	LIN. FT.	LIN. FT.	LUMP SUM	LUMP SUM
SUPERSTRUCTURE									9254	10,519					396,100						
END BENT NO. 1		27	169.0	20.0	6	6	2	816.0			74.3		34,683	4,237		2	27				
END BENT NO. 2		30	209.1	20.0	6	6	2	976.4			75.4		39,530	5,114		2	30				
TOTAL	LUMP SUM	57	378.1	40.0	12	12	4	1792.4	9254	10,519	149.7	LUMP SUM	74,213	9,351	396,100	4	57	322.06	339.06	LUMP SUM	LUMP SUM

THE DRILLED PIERS AT END BENTS NO.1 AND 2 HAVE BEEN DESIGNED FOR BOTH SKIN FRICTION AND TIP BEARING. THE REQUIRED TIP BEARING CAPACITY IS 22 TSF.

THE REQUIRED TIP BEARING CAPACITY FOR END BENTS NO.1 AND 2 SHALL BE VERIFIED.

DRILLED PIERS FOR END BENT NO.1 HAVE BEEN DESIGNED FOR AN APPLIED LOAD OF 209 TONS EACH AT THE TOP OF THE COLUMN.

DRILLED PIERS FOR END BENT NO.2 HAVE BEEN DESIGNED FOR AN APPLIED LOAD OF 195 TONS EACH AT THE TOP OF THE COLUMN.

PERMANENT STEEL CASING IS NOT REQUIRED FOR DRILLED PIERS AT END BENTS NO.1 AND 2.

DRILLED PIERS FOR END BENT NO.1 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 235 FT. AND SATISFY THE REQUIRED TIP BEARING CAPACITY.

DRILLED PIERS FOR END BENT NO.2 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 230 FT. (PIERS 1 AND 2), 235 FT. (PIER 3) AND 242 FT. (PIERS 4, 5, AND 6) AND SATISFY THE REQUIRED TIP BEARING CAPACITY.

SPT TESTING IS REQUIRED TO DETERMINE THE TIP BEARING CAPACITY OF THE DRILLED PIERS AT END BENTS NO.1 AND 2.

SID INSPECTIONS ARE REQUIRED TO DETERMINE THE BOTTOM CLEANLINESS OF THE DRILLED PIERS AT END BENTS NO.1 AND 2.

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

FOR DRILLED PIERS, SEE SPECIAL PROVISION.

DRILLED SHAFT DIAMETER SHALL NOT EXCEED 42 INCHES IN ORDER TO MINIMIZE INTERFERENCE WITH THE EXISTING RETAINING WALL FOUNDATIONS.

INSTALL WORK CASING SUCH THAT THE SLURRY IN THE PIER EXCAVATION IS MAINTAINED AT A LEVEL NOT LESS THAN 5 FT. OR THE DRILLED PIER DIAMETER (WHICHEVER IS GREATER) ABOVE THE HIGHEST PIEZOMETRIC PRESSURE HEAD ALONG THE DEPTH OF THE SHAFT.

DEWATERING OF SHAFTS DURING CONSTRUCTION IS NOT ALLOWED.

IN LIEU OF SLURRY CONSTRUCTION, ONLY SEGMENTAL TEMPORARY CASING MAY BE USED TO STABILIZE DRILLED PIERS DURING CONSTRUCTION. TELESCOPING OF TEMPORARY CASING IS NOT ALLOWED.

HYDRAULIC DATA

DESIGN DISCHARGE = 6,000 CFS
 FREQUENCY OF DESIGN FLOOD = 50 YRS.
 DESIGN HIGH WATER ELEVATION = 272.110 FT.
 DRAINAGE AREA = 35.800 SQ. MI.
 BASIC DISCHARGE (Q100) = 7,700 CFS
 BASIC HIGH WATER EL = 272.580 FT.

OVERTOPPING DATA

OVERTOPPING DISCHARGE = 13,075+ CFS
 FREQUENCY OF OVERTOPPING FLOOD = 500+ YRS.
 OVERTOPPING FLOOD EL. = 274.0 FT.

PROJECT NO. B-3375
WAKE COUNTY
 STATION: 43+81.84 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING

FOR BRIDGE OVER LAKE
 WHEELER SPILLWAY ON
 SR 1375 BETWEEN
 SR 1010 & RALEIGH

REVISIONS						TOTAL SHEETS
NO.	BY:	DATE:	NO.	BY:	DATE:	37
1			3			
2			4			

SEAL
 025516
 ENGINEER
 EMILY E. MURPHY
 1/9/05

DRAWN BY : M.D.PISO DATE : 10/04
 CHECKED BY : W.D.CRUTCHER DATE : 11/04