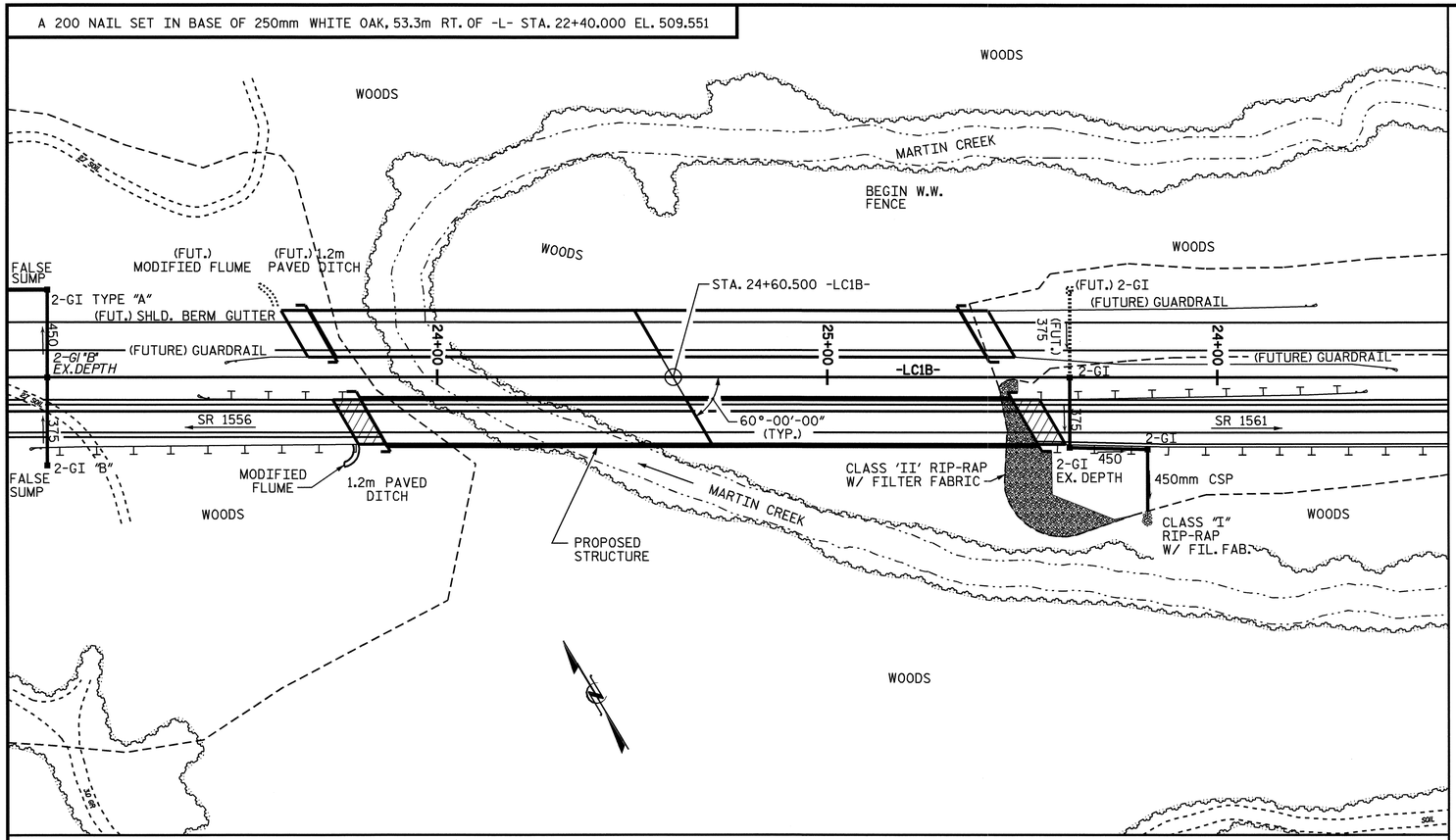

LOCATION SKETCH

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIFICATIONS.

TOTAL BILL OF MATERIAL

	CONSTRUCTION MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS	1066mm DIA DRILLED PIERS IN SOIL	1066mm DIA DRILLED PIERS NOT IN SOIL	1982mm DIA DRILLED PIERS IN SOIL	1982mm DIA DRILLED PIERS NOT IN SOIL	SPT TESTING	CROSSHOLE SONIC LOGGING	CSL TUBES	UNCLASSIFIED STRUCTURE EXCAVATION	REINFORCED CONCRETE DECK SLAB (SAND LIGHTWEIGHT CONCRETE)	GROOVING BRIDGE FLOORS	CLASS A CONCRETE
	LUMP SUM	METERS	METERS	METERS	METERS	EACH	EACH	METERS	CU. METERS	SQ. METERS	SQ. METERS	CU. METERS
SUPERSTRUCTURE										2059.7	1914.6	
END BENT 1		8.0	20.0			5	1	133.0	908			66.3
BENT 1				1.9	8.0		1	68.4				93.4
END BENT 2		12.5	5.0			5	1	91.0	124			65.9
TOTAL	LUMP SUM	20.5	25.0	1.9	8.0	10	3	292.4	1032	2059.7	1914.6	225.6

	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	STRUCTURAL STEEL	TWO BAR METAL RAIL	CONCRETE BARRIER RAIL	355mm X 760mm CONCRETE PARAPET	PLAIN RIP RAP CLASS II (600mm THICK)	FILTER FABRIC FOR DRAINAGE	EXPANSION JOINT SEALS	PIN ROCKER BEARINGS
	LUMP SUM	kg	kg	APPROX. kg	METERS	METERS	METERS	METRIC TONS	SQ. METERS	LUMP SUM	LUMP SUM
SUPERSTRUCTURE	LUMP SUM			800,650	163.700	166.240	166.240			LUMP SUM	LUMP SUM
END BENT 1		10828	935								
BENT 1		11302	1946								
END BENT 2		9508	607					745	760		
TOTAL	LUMP SUM	31638	3488	800,650	163.700	166.240	166.240	745	760	LUMP SUM	LUMP SUM

NOTES

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

ALL ELEVATIONS ARE IN METERS.

ASSUMED LIVE LOAD = MS 18 OR ALTERNATE LOADING.

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

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

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

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

ALL STRUCTURAL STEEL, EXCEPT SPECIFIED FLANGE LOCATIONS, SHALL BE AASHTO M270 GRADE 345W AND PAINTED IN ACCORDANCE WITH SYSTEM 4 OF ARTICLE 442-7 OF THE STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS. STRUCTURAL STEEL IN SPECIFIED FLANGE LOCATIONS SHALL BE ASTM A709-03A GRADE 485W AND PAINTED IN ACCORDANCE WITH SYSTEM 4 OF ARTICLE 442-7 OF THE STANDARD SPECIFICATIONS.

FOR HIGH PERFORMANCE STEEL, 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.

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 (SAND LIGHTWEIGHT CONCRETE).

FOR REINFORCED CONCRETE DECK SLAB (SAND LIGHTWEIGHT CONCRETE), SEE SPECIAL PROVISIONS.

FOR SAND LIGHTWEIGHT CONCRETE, SEE SPECIAL PROVISIONS.

FOR PIN ROCKER BEARINGS, SEE SPECIAL PROVISIONS.

FOR TEMPORARY WORK BRIDGE, SEE SPECIAL PROVISIONS FOR CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ACCESS AT STATION 24+60.500 -LC1B-.

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 B.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 360,000 kg OF REINFORCING STEEL, ONE 760mm SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 360,000 kg OF REINFORCING STEEL, TWO 760mm 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.

THE USE OF NEEDLE BEAMS TO SUPPORT THE DECK SLAB WILL ONLY BE ALLOWED IN THE ACUTE CORNERS OF THE SLAB.

SUBMIT PLANS AND CALCULATIONS FOR BRACING OF GIRDERS DURING ERECTION FOR REVIEW AND APPROVAL OF THE ENGINEER BEFORE BEGINNING WORK AT THIS LOCATION. DRAWINGS AND CALCULATIONS SHALL BE PREPARED, SIGNED, AND SEALED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER. THE APPROVAL OF THE ENGINEER WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR THE SAFETY OF THE METHOD OR EQUIPMENT.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 1.7m LT. AND 10.7m RT. OF ROADWAY CONTROL LINE AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE MEASURED AND PAID FOR AS UNCLASSIFIED STRUCTURE EXCAVATION.

FOR FABRICATED METAL STAY-IN-PLACE FORMS, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.

THE LOCATION OF THE CONSTRUCTION JOINT IN THE DRILLED PIERS IS BASED ON AN APPROXIMATE GROUND LINE ELEVATION. IF THE CONSTRUCTION JOINT IS ABOVE THE ACTUAL GROUND ELEVATION, THE CONTRACTOR SHALL PLACE THE CONSTRUCTION JOINT 300mm BELOW THE GROUND LINE.

THE DRILLED PIERS AT END BENT NO. 1 AND END BENT NO. 2 HAVE BEEN DESIGNED FOR BOTH SKIN FRICTION AND TIP BEARING. THE REQUIRED TIP BEARING CAPACITY IS 1400 kPa.

THE DRILLED PIERS AT BENT 1 HAVE BEEN DESIGNED FOR BOTH SKIN FRICTION AND TIP BEARING. THE REQUIRED TIP BEARING CAPACITY IS 2900kPa.

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

DRILLED PIERS FOR END BENT NO. 1 AND END BENT NO. 2 HAVE BEEN DESIGNED FOR AN APPLIED LOAD OF 1195 kN EACH AT THE TOP OF THE COLUMN.

DRILLED PIERS FOR BENT NO. 1 DESIGNED FOR AN APPLIED LOAD OF 9430 kN EACH AT THE TOP OF THE COLUMN.

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

DRILLED PIERS AT END BENT NO. 1, BENT 1 AND END BENT NO. 2 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 473.0, 466.0 AND 476.0 RESPECTIVELY AND SATISFY THE REQUIRED TIP BEARING CAPACITY.

THE SCOUR CRITICAL ELEVATION FOR BENT NO. 1 IS ELEVATION 469.0.

THE SCOUR CRITICAL ELEVATIONS ARE FOR USE BY MAINTENANCE FORCES TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

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

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

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

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

NORTH CAROLINA PROFESSIONAL SEAL 21638 ENGINEER LAURA E. SUTTON
4/11/05

PROJECT NO. R-0977A
CHEROKEE COUNTY
STATION: 24+60.500 -LC1B-

SHEET 3 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING FOR BRIDGE ON US 64 OVER MARTIN CREEK BETWEEN SR 1556 AND SR 1561

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-81
1			3			TOTAL SHEETS
2			4			230

STR. #3

DRAWN BY : T.A. WALTER DATE : 12/02/04
CHECKED BY : L.E. SUTTON DATE : 12/19/04

11-JAN-2005 14:10
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lsutton