

LOCATION SKETCH

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIFICATIONS

TOTAL BILL OF MATERIAL

	1982mm DIA DRILLED PIERS IN SOIL	1982mm DIA DRILLED PIERS NOT IN SOIL	SID INSPECTION	SPT TESTING	CROSSHOLE SONIC LOGGING	CSL TUBES	REINFORCED CONCRETE DECK SLAB (SAND LIGHTWEIGHT CONCRETE)	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL
	METERS	METERS	EACH	EACH	EACH	METERS	SQ. METERS	SQ. METERS	CU. METERS	LUMP SUM	kg
SUPERSTRUCTURE							2567.9	2330.5		LUMP SUM	
END BENT 1									50.6		3230
BENT 1	13.4	6.0	1	2	1	125.1			126.9		20366
BENT 2	13.0	4.0	1	2	1	111.0			129.7		19628
BENT 3	21.0	6.0	1	2	1	170.7			127.7		22699
END BENT 2									53.5		3170
TOTAL	47.4	16.0	3	6	3	406.8	2567.9	2330.5	488.4	LUMP SUM	69094
	SPIRAL COLUMN REINFORCING STEEL	STRUCTURAL STEEL	HP 310 X 79 STEEL PILES	2 BAR METAL RAIL	CONCRETE BARRIER RAIL	355mm X 760mm CONCRETE PARAPET	PLAIN RIP RAP CLASS II (600mm THICK)	FILTER FABRIC FOR DRAINAGE	POT BEARINGS	MODULAR EXPANSION JOINT SEALS	STRUCTURE DRAINAGE SYSTEM
	kg	APPROX. kg	NO.	METERS	METERS	METERS	METRIC TON	SQ. METERS	LUMP SUM	LUMP SUM	LUMP SUM
SUPERSTRUCTURE		477,900			207.653	204.700			LUMP SUM	LUMP SUM	LUMP SUM
END BENT 1			13	260.0			2350	2400			
BENT 1	4465										
BENT 2	4357										
BENT 2	4941										
END BENT 2			10	200.0			1940	1970			
TOTAL	13763	477,900	23	460.0	207.653	204.700	207.656	4290	4370	LUMP SUM	LUMP SUM

DRAWN BY : T.A. WALTER DATE : 11/29/04
 CHECKED BY : L.E. SUTTON DATE : 12/20/04

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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 SN5M.

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 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.

FOR HEAT CURVING GIRDERS FOR BRIDGES AT STA. 68+58.000 -LREV-, 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 POT BEARINGS, SEE SPECIAL PROVISIONS.

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.

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 STRUCTURE DRAINAGE SYSTEM, SEE SPECIAL PROVISIONS.

PILES FOR END BENTS 1 AND 2 SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 530 KN.

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

THE CONTRACTOR SHALL OBSERVE A THREE MONTH WAITING PERIOD BEFORE BEGINNING ANY WORK FOR END BENT CONSTRUCTION AFTER COMPLETION OF THE EMBANKMENT AT EACH END BENT. THE CONTRACTOR MAY BEGIN THE REINFORCED BRIDGE APPROACH FILL CONSTRUCTION AFTER COMPLETION OF THE END BENT INCLUDING WINGWALLS.

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 BENTS 1, 2 & 3 HAVE BEEN DESIGNED FOR BOTH SKIN FRICTION AND TIP BEARING. THE REQUIRED TIP BEARING CAPACITY IS 2900 kPa.

THE REQUIRED TIP BEARING CAPACITY AT BENTS 1, 2 & 3 SHALL BE VERIFIED.

DRILLED PIERS FOR BENTS 1, 2 & 3 HAVE BEEN DESIGNED FOR AN APPLIED LOAD OF 5750 KN EACH AT THE TOP OF THE COLUMN.

PERMANENT STEEL CASING IS NOT REQUIRED FOR DRILLED PIERS AT BENTS 1, 2 OR 3.

DRILLED PIERS AT BENT 1 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 466.5 AND SATISFY THE REQUIRED TIP BEARING CAPACITY.

DRILLED PIERS AT BENT 2 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 467.0 AND SATISFY THE REQUIRED TIP BEARING CAPACITY.

DRILLED PIERS AT BENT 3 SHALL EXTEND TO AN ELEVATION NO HIGHER THAN 464.0 (LEFT), 460.0 (RIGHT) AND SATISFY THE REQUIRED TIP BEARING CAPACITY.

THE SCOUR CRITICAL ELEVATION FOR BENTS 1, 2 & 3 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.

SLURRY CONSTRUCTION SHALL NOT BE USED FOR THIS PROJECT.

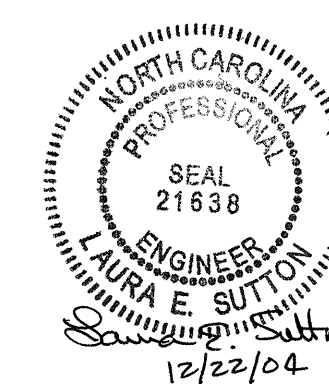
SPT TESTING IS REQUIRED TO DETERMINE THE TIP BEARING CAPACITY OF THE DRILLED PIERS AT BENTS 1, 2 & 3. SEE DRILLED PIERS SPECIAL PROVISION.

SID INSPECTIONS ARE REQUIRED TO DETERMINE THE BOTTOM CLEANLINESS OF THE DRILLED PIERS AT BENTS 1, 2 & 3.

CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR THE DRILLED PIERS AT BENTS 1, 2 & 3. SEE SPECIAL PROVISION FOR CROSSHOLE SONIC LOGGING.

PROJECT NO. R-0977A
CHEROKEE COUNTY
 STATION: 68+58.000-LREV-

SHEET 4 OF 4



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						GENERAL DRAWING FOR BRIDGE ON US 64 OVER THE HIWASSEE RIVER BETWEEN SR 1548 AND SR 1561	
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-175	
1			3			TOTAL SHEETS	
2			4			230	