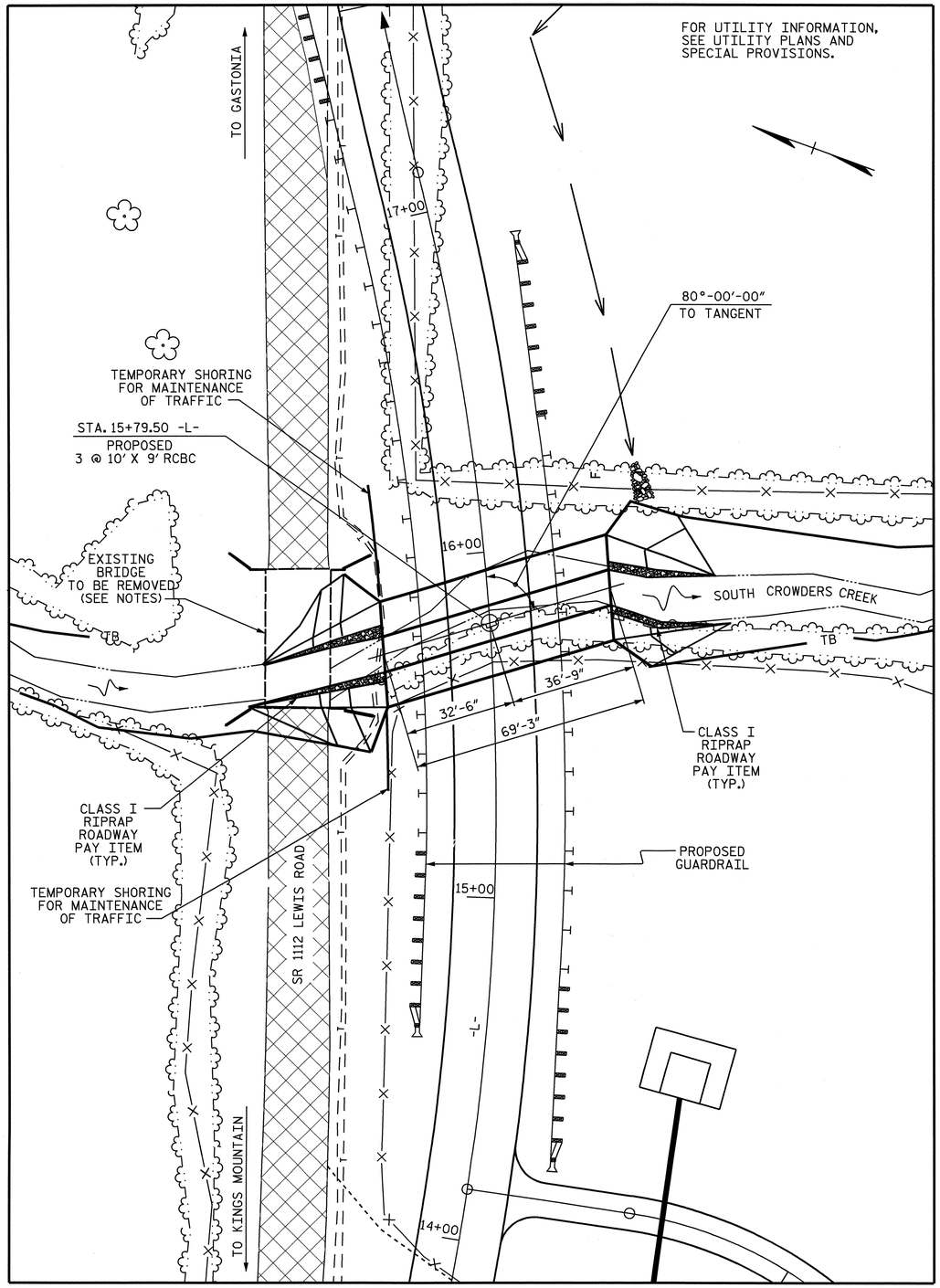
F.A. PROJECT NO. BRZ-1112(8)

BM#2 - RR SPIKE SET IN 15"HICKORY, 129.75 FT. LEFT OF STA. 16+57.49 -L- EL. = 686.310 NAVD 88



LOCATION SKETCH

ROADWAY DATA

GRADE POINT EL. @ STA. 15+79.50 -L- ____ = 692.670
BED ELEVATION @ STA. 15+79.50 -L- ____ = 677.050
ROADWAY SLOPES _____ = 2 : 1

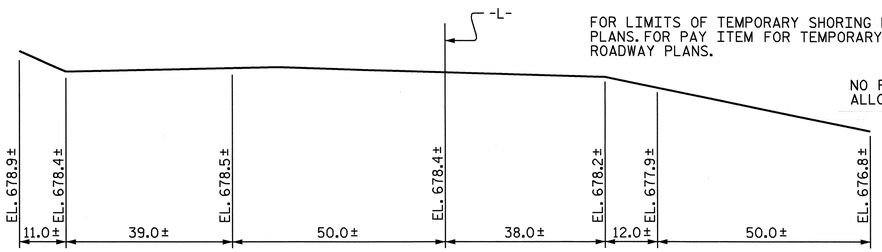
HYDRAULIC DATA

DESIGN DISCHARGE _____ = 1400 CFS.
FREQUENCY OF DESIGN FLOOD _____ = 25 YRS.
DESIGN HIGH WATER ELEVATION _____ = 687.600
DRAINAGE AREA _____ = 5.1 SQ. MILES
BASIC DISCHARGE (Q100) _____ = 2100 CFS.
BASIC HIGH WATER ELEVATION _____ = 688.100

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE _____ = 3500 CFS.
FREQUENCY OF OVERTOPPING FLOOD ____ = 500 YRS. +
OVERTOPPING FLOOD ELEVATION _____ = 691.600

TOTAL STRUCTURE QUANTITIES	
CLASS A CONCRETE (C.Y.)	
BARREL @ 2.918 CY/FT =	202.1
WINGS, HEADWALLS, SILLS, ETC. =	37.5
TOTAL =	239.6
REINFORCING STEEL (Lbs)	
BARREL =	37,244
WINGS ETC. =	1,982
TOTAL =	39,226
FOUNDATION COND. MAT'L (TONS)	160
CULVERT EXCAVATION =	LUMP SUM
REMOVAL OF EXISTING STRUCTURE =	LUMP SUM



PROFILE ALONG ℄ CULVERT

NOTES

ASSUMED LIVE LOAD ---------- HS20 OR ALTERNATE LOADING.

MAXIMUM DESIGN FILL - = 7.46'

FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.

3"Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.

CONCRETE IN CULVERT TO BE POURED IN THE FOLLOWING ORDER :
1. STAGE 1 FLOOR SLAB INCLUDING 4"OF VERTICAL WALLS, STAGE 1 OUTLET WING FOOTING AND PARTIAL INLET WING FOOTING.
2. REMAINING PORTION OF STAGE 1 WALLS AND OUTLET WING TO FULL HEIGHT.
3. STAGE 2 FLOOR SLAB INCLUDING 4"OF VERTICAL WALLS, STAGE 2 OUTLET WING FOOTING AND PARTIAL INLET WING FOOTING.
4. REMAINING PORTION OF STAGE 2 WALLS AND OUTLET WING TO FULL HEIGHT FOLLOWED BY STAGE 3 ROOF SLAB, HEADWALLS, AND SILLS IN EAST BARREL.
5. AFTER REMOVAL OF THE EXISTING STRUCTURE, BOTH INLET WINGS TO FULL HEIGHT AND SILLS IN WEST BARREL.

THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL ABOVE LOWER WALL CONSTRUCTION JOINT. THE SPLICE LENGTH SHALL BE AS PROVIDED IN THE SPLICE LENGTH CHART SHOWN ON THE PLANS. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY THE CONTRACTOR.

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 REPLACMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

A 3 FOOT STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.

FOR CONSTRUCTION SEQUENCE, SEE EROSION CONTROL PLANS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

THE EXISTING STRUCTURE CONSISTS OF 1 SPAN AT 40'-6" WITH A CLEAR ROADWAY WIDTH OF 19.2 FT. CONSISTING OF 3½"ASPHALT COVERED TIMBER DECK ON I-BEAMS. THE SUBSTRUCTURE CONSISTS OF TIMBER CAPS ON TIMBER PILES AND IS LOCATED UPSTREAM FROM PROPOSED CULVERT AND 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.

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+79.50 -L-."

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.

NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.

NORTH CAROLINA PROFESSIONAL SEAL 23991 ENGINEER BRUCE CHARLES MUNN 7/23/04

NORTH CAROLINA PROFESSIONAL SEAL 20211 ENGINEER THOMAS G. FORTNE 7/27/04

PROJECT NO. B-3840
GASTON COUNTY
STATION 15+79.50 -L-
SHEET 1OF 5 REPLACES BRIDGE #52

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TRIPLE 10 FT. x 9 FT. CONCRETE BOX CULVERT 80° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			5

DRAWN BY:	KEITH D. LAYNE	DATE: 12-10-02
CHECKED BY:	S. J. FORTIER	DATE: 12-17-02

22-JUL-2004 09:09
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