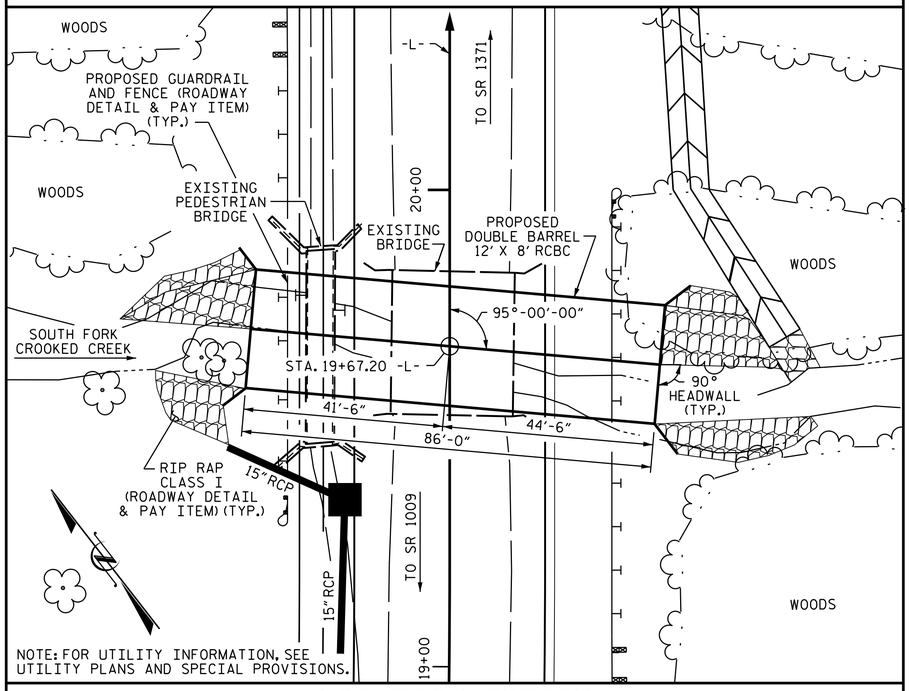
F. A. PROJECT NO. BRSTP-1008(23)

BM 2: RR SPIKE IN 20" OAK TREE, 94' RIGHT OF STA. 19+89.00 -L-, EL. 672.58.



LOCATION SKETCH

ROADWAY DATA

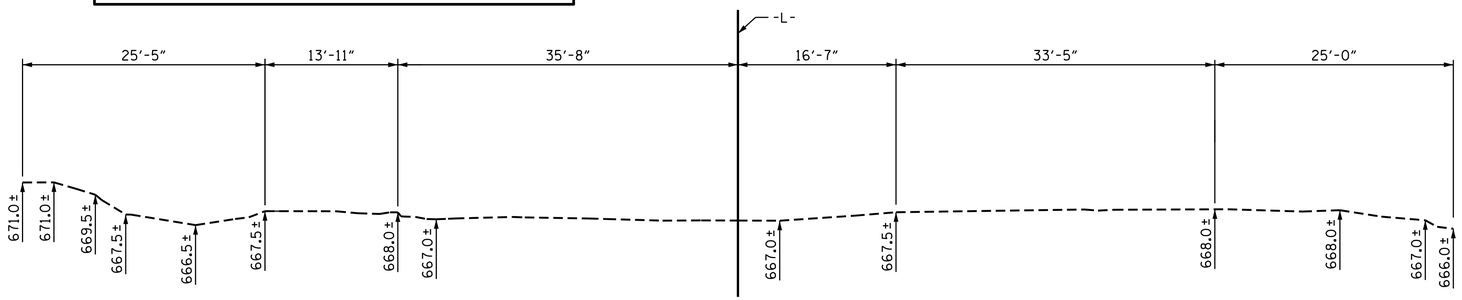
GRADE POINT EL. @ STA. 19+67.20 -L-	= 676.70
BED ELEVATION @ STA. 19+67.20 -L-	= 665.00
ROADWAY SLOPES	= 2:1

HYDRAULIC DATA

DESIGN DISCHARGE	= 900 C.F.S.
FREQUENCY OF DESIGN FLOOD	= 50 YRS.
DESIGN HIGH WATER ELEVATION	= 673.9
DRAINAGE AREA	= 1.3 SQ. MI.
BASE DISCHARGE (Q100)	= 1,000 C.F.S.
BASE HIGH WATER ELEVATION	= 674.37

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 1,140 C.F.S
FREQUENCY OF OVERTOPPING FLOOD	= 200+ YRS.
OVERTOPPING FLOOD ELEVATION	= 675.40



PROFILE ALONG ℄ CULVERT

NOTES

ASSUMED LIVE LOAD ----------HL-93 OR ALTERNATE LOADING.

DESIGN FILL----------2.94 FT.

FOR OTHER DESIGN DATA AND NOTES, SEE SHEET SN.

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

CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:

1. WING FOOTINGS, CURTAIN WALL AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS IN STAGE I.
2. THE REMAINING PORTIONS OF STAGE I WALLS, SILL AND WINGS FULL HEIGHT.
3. WING FOOTINGS, CURTAIN WALL AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS IN STAGE II.
4. THE REMAINING PORTION OF STAGE II WALLS, SILLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS.

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.

TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARREL, SPACED TO LIMIT THE POURS TO A MAXIMUM OF 70 FT. LOCATION OF JOINTS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL AND BOTH FACES OF INTERIOR 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.

AT THE CONTRACTOR'S OPTION HE MAY SUBMIT, TO THE ENGINEER FOR APPROVAL, DESIGN AND DETAIL DRAWINGS FOR A PRECAST REINFORCED CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE CULVERT SHOWN ON THE PLANS. THE DESIGN SHALL PROVIDE THE SAME SIZE AND NUMBER OF BARRELS AS USED ON THE CAST-IN-PLACE DESIGN. FOR OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.

THE EXISTING STRUCTURE CONSISTING OF 1 SPAN @ 30'-6", WITH TIMBER DECK ON STEEL I-BEAMS; CLEAR ROADWAY WIDTH OF 25'-2" WITH TIMBER CAPS, POSTS & SILLS, TIMBER BULKHEADS AND TIMBER CRUTCH BENT; AND LOCATED AT THE PROPOSED STRUCTURE 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.

THE EXISTING PEDESTRIAN BRIDGE CONSISTING OF 1 SPAN @ 30'-0"± WITH CONCRETE DECK ON CONCRETE BEAMS LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED.

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 INCICATED ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE THE BRIDGE IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

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. PAYMENT FOR THE SAMPLES OF REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

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 19+67.20 -L-".

FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.

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.

NATURAL STREAM BED MATERIAL SHALL BE USED TO BACKFILL THE CULVERT BETWEEN THE SILLS. FOR PLACEMENT OF NATURAL STREAM BED MATERIAL, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

TOTAL STRUCTURE QUANTITIES

REMOVAL OF EXISTING STRUCTURES	LUMP SUM	
CULVERT EXCAVATION	LUMP SUM	
FOUNDATION CONDITIONING MATERIAL	TONS	182
CLASS A CONCRETE		
STAGE I	C.Y.	89.0
STAGE II	C.Y.	179.7
TOTAL	C.Y.	268.7
REINFORCING STEEL		
STAGE I	LBS.	12,002
STAGE II	LBS.	18,687
TOTAL	LBS.	30,689
PLACEMENT OF NATURAL STREAM BED MATERIAL	LUMP SUM	

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

PROJECT NO. B-5243

UNION COUNTY

STATION: 19+67.20 -L-

SHEET 1 OF 6 REPLACES BRIDGE NO. 258

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BARREL STANDARD

DOUBLE 12 FT. X 8 FT. CONCRETE BOX CULVERT

95° SKEW/90° HEADWALL

NORTH CAROLINA PROFESSIONAL SEAL 21638 ENGINEER LAURA E. SUTTON
DocuSigned by: Laura C. Sutton AE35E3E67276406...
11/17/2015

NORTH CAROLINA PROFESSIONAL SEAL 031480 ENGINEER DONALD R. SMITH, JR
DocuSigned by: Donald R. Smith, Jr EDC877061748490...
11/16/2015

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			6

STD. NO. CB12A

ASSEMBLED BY : N.D'AIUTO DATE : 2/1/15
CHECKED BY : P.S.ADKINS DATE : 3/2/15

DRAWN BY : R.W. WRIGHT DATE : JULY, 1990
CHECKED BY : D.A. GLADDEN DATE : JULY, 1990

SPECIAL
STANDARD

DESIGN ENGINEER OF RECORD: J.P.MCCARTHA DATE : 8/3/15

ADDED NOV. 1, 1990

16-NOV-2015 11:02
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jdhawk