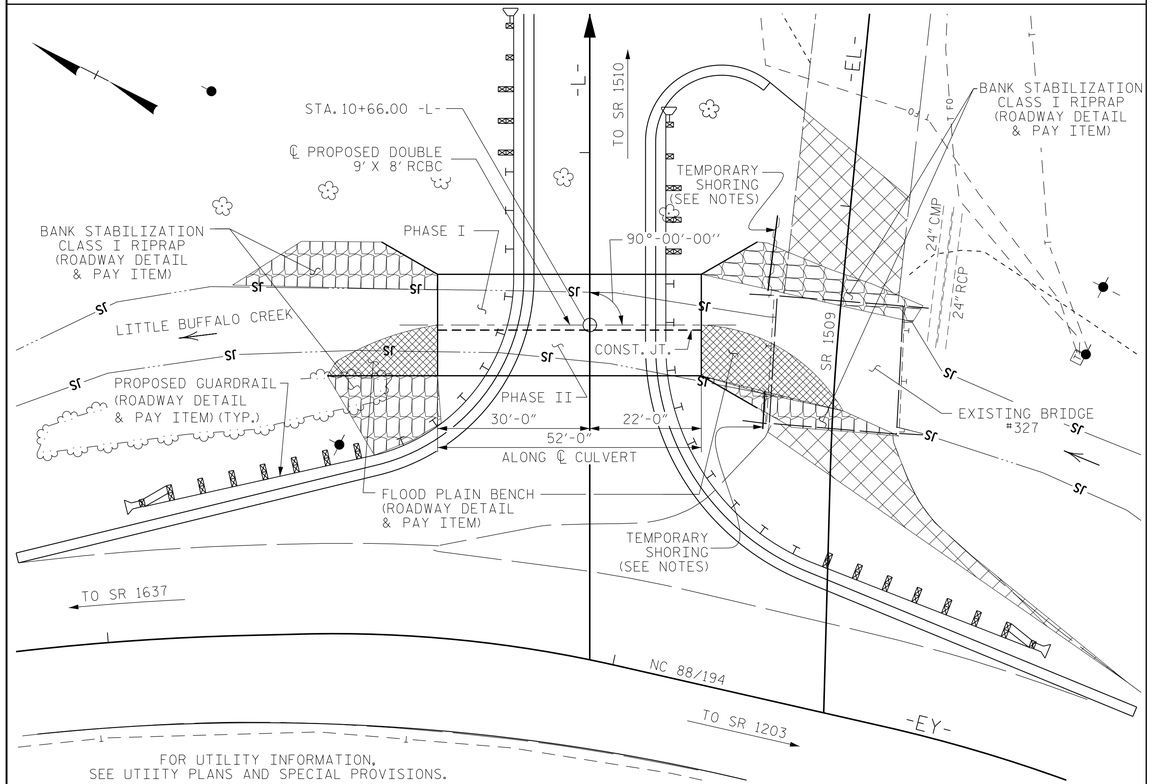
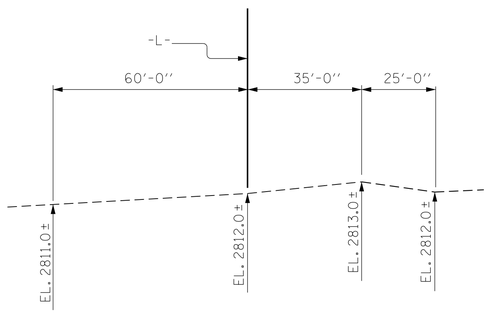
B.M. #2 - RAILROAD SPIKE IN BASE OF 18'' Ø PINE, N 10°-39'-14.80'' E, DIST. 328.35', STA. 12+29.00 -L- , N 983945, E 1264211, EL. 2822.55'



LOCATION SKETCH



PROFILE ALONG ℄ CULVERT

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

DESIGN FILL _____ 2.43 FT. (MIN.), 3.73 FT. (MAX.)

FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTE SHEET.

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

CONCRETE IN PHASE I CULVERT TO BE POURED IN THE FOLLOWING ORDER:

1. PHASE I WING FOOTINGS, FLOOR SLAB AND CURTAIN WALL TO THE CONSTRUCTION JOINT INCLUDING 4" OF PHASE I VERTICAL WALLS.
2. THE REMAINING PORTION OF PHASE I WALLS AND PHASE I WINGS FULL HEIGHT.
3. PHASE I SILLS

CONCRETE IN PHASE II CULVERT TO BE POURED IN THE FOLLOWING ORDER:

1. PHASE II WING FOOTINGS, FLOOR SLAB AND CURTAIN WALL TO THE CONSTRUCTION JOINT INCLUDING 4" OF PHASE II VERTICAL WALLS.
2. THE REMAINING PORTION OF PHASE II WALLS AND PHASE II WINGS FULL HEIGHT.
3. PHASE II SILLS.
4. 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 SHEETS.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACES OF THE EXTERIOR WALLS 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.

FOR CONSTRUCTION SEQUENCE, SEE EROSION CONTROL PLANS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

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

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

AFTER SERVING AS A TEMPORARY STRUCTURE THE EXISTING STRUCTURE CONSISTING OF 2 SPANS: 1 @ 12'-10", 1 @ 12'-9" TIMBER FLOOR ON 11 LINES OF 12" STEEL I-BEAMS @ 2'-5 1/4" CTS.; WITH A CLEAR ROADWAY WIDTH OF 25'-1" ON END BENTS AND INTERIOR BENT WITH TIMBER CAPS, TIMBER PILES POST AND SILLS AND LOCATED APPROXIMATELY 50' UPSTREAM FROM PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY NOT POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED STRUCTURE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT. SEE SPECIAL PROVISIONS.

FOR SALVAGE AND DELIVERY OF EXISTING 12" I-BEAMS, BEARING PLATES, TIMBER FLOORING, CRUTCH BENT, CAPS AND NEW POSTS, SEE SPECIAL PROVISIONS.

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."

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 SHOWN 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.

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 ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES, 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.

HYDRAULIC DATA

DESIGN DISCHARGE _____ = 590 C.F.S

FREQUENCY OF DESIGN FLOOD_____= 5+ YEARS

DESIGN HIGH WATER ELEVATION = 2818.0 FT.

DRAINAGE AREA _____ = 3.96 SQ. MI.

BASE DISCHARGE (Q100) _____ = 1500 C.F.S.

BASE HIGH WATER ELEVATION = 2820.92 FT.

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE _____ = 613 C.F.S.

FREQUENCY OF OVERTOPPING FLOOD _____ = 5+ YEARS

OVERTOPPING FLOOD ELEVATION = 2818.11 FT.

ROADWAY DATA

GRADE POINT ELEV. @ STATION 10+66.00 -L- = 2822.48 FT.

BED ELEV. @ STATION 10+66.00 -L- = 2811.20 FT.

ROADWAY SLOPES = 2:1

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE	
PHASE I	49.8 C.Y.
PHASE II	86.2 C.Y.
TOTAL	136.0 C.Y.
REINFORCING STEEL	
PHASE I	6018 LBS.
PHASE II	8187 LBS.
TOTAL	14205 LBS.
CULVERT EXCAVATION	LUMP SUM
FOUNDATION COND. MAT'L	
PHASE I	49 TONS
PHASE II	39 TONS
TOTAL	88 TONS
REMOVAL OF EXISTING STRUCTURE	LUMP SUM
ASBESTOS ASSESSMENT	LUMP SUM

I HEREBY CERTIFY THESE PLANS ARE THE AS BUILT PLANS

NORTH CAROLINA PROFESSIONAL SEAL 14855 ENGINEER DOUGLAS R. CALHOUN
DocuSigned by: Douglas R. Calhoun 430196F9D5E0429...
3/17/2016

NORTH CAROLINA PROFESSIONAL SEAL 17230 ENGINEER WAEL S. ARAFAT
DocuSigned by: Wael Arafat 4139C12A32AB406...
3/17/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. B-5147

ASHE COUNTY

STATION: 10+66.00 -L-

SHEET 1 OF 9 REPLACES BRIDGE #327

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DOUBLE 9 FT. X 8 FT. CONCRETE BOX CULVERT 90°-00'-00'' SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			9

DRAWN BY : V.X. NGUYEN DATE : 12/7/15
CHECKED BY : H.T. BARBOUR DATE : 1/4/16
DESIGN ENGINEER OF RECORD: A. M. LEE DATE : 1/26/16