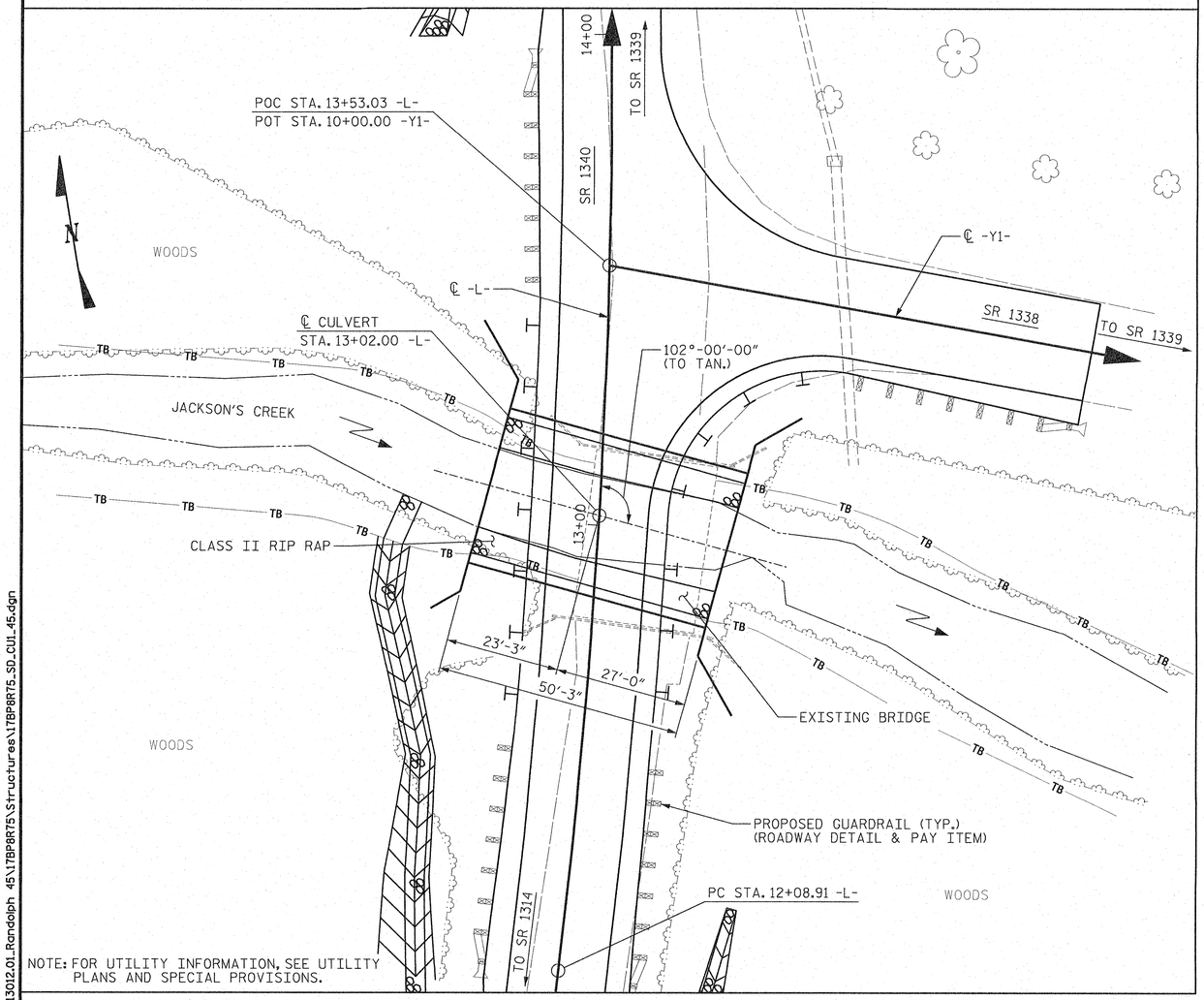
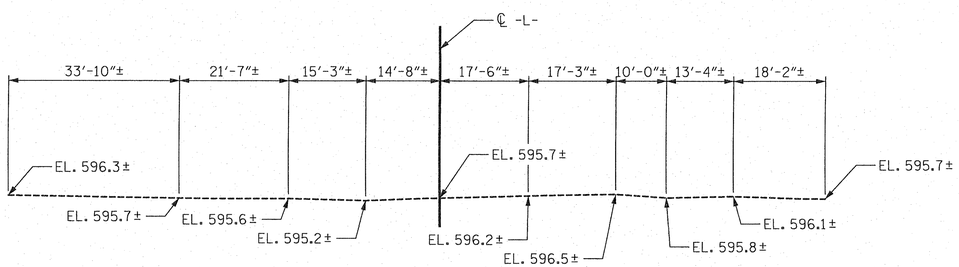
BENCH MARK: RR SPIKE IN BASE OF 24"ELM TREE, 55' LT OF STA. 10+13.00 -BL-, EL. 601.67



NOTE: FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH

GRADE POINT ELEVATION @ 13+02.00 -L- = 610.46
BED ELEVATION @ 13+02.00 -L- = 595.7
ROADWAY SLOPES = 2:1



PROFILE ALONG ℄ CULVERT

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

CULVERT IS TO BE DESIGNED FOR A MINIMUM FILL DEPTH OF 2'-6" AND A MAXIMUM FILL DEPTH OF 4'-3".

THE ANTICIPATED BEARING ELEVATION IS 593.0 TO 595.0

EXTEND FOUNDATION EXCAVATIONS AT LEAST 1 FOOT INTO NON-SCOURABLE ROCK. NON-SCOURABLE ROCK IS DEFINED AS THE SURFACE OF CRYSTALLINE ROCK OR WEATHERED ROCK HAVING SPT BLOW COUNTS OF 50 BLOWS WITH 3 INCHES OF PENETRATION OR LESS.

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.

FOR ALUMINUM BOX CULVERT AND CULVERT BACKFILL SEE SPECIAL PROVISIONS.

THE DETAILS SHOWN ARE FOR GENERAL LAYOUT ONLY. THE SUPPLIER SHALL PROVIDE DESIGNS AND DETAILS FOR REVIEW AND APPROVAL THAT MEET REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12, AND ARE SEALED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER.

UNLESS OTHERWISE INDICATED, THE SUPPLIER SHALL DESIGN, DETAIL, AND FURNISH ALL STRUCTURAL ELEMENTS AND HARDWARE.

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

THE EXISTING STRUCTURE CONSISTING OF ONE SPAN AT 35'-10", WITH ASPHALT WEARING SURFACE ON TIMBER DECK AND STEEL I-BEAMS WITH A CLEAR ROADWAY WIDTH OF 25'-0" ON TIMBER CAPS, POSTS AND SILLS LOCATED AT THE PROPOSED CULVERT SITE SHALL BE REMOVED.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

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 CONCTRACTOR 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 SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

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."

GUARD RAIL POST LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER. ADJUST GUARDRAIL LOCATION AS REQUIRED TO AVOID PROPOSED WING WALLS AND ANCHOR UNITS.

SEE SECTION 414 OF THE STANDARD SPECIFICATIONS FOR CULVERT EXCAVATION AND BACKFILLING.

TOTAL STRUCTURE QUANTITIES

REMOVAL OF EXISTING STRUCTURE	LUMP SUM
ALUMINUM BOX CULVERT	LUMP SUM
FOUNDATION EXCAVATION	LUMP SUM
CLASS A CONCRETE	46.5 C.Y.
CULVERT BACKFILL	536 TONS

HYDROGRAPHIC DATA

DESIGN DISCHARGE ..... = 1300 CFS
FREQUENCY OF DESIGN FLOOD ..... = 25 YRS.
DESIGN HIGH WATER ELEVATION ..... = 603.7 FT.
DRAINAGE AREA ..... = 4.3 SQ. MI.
BASE DISCHARGE (Q100) ..... = 1900 CFS
BASE HIGH WATER ELEVATION ..... = 605.71 FT.

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE ..... = 2500+ CFS
FREQUENCY OF OVERTOPPING FLOOD ..... = 500+ YRS.
OVERTOPPING FLOOD ELEVATION ..... = 610.0 FT.

-L- PROFILE DATA

PVI STA. 11+85.00 -L-
PVI EL. = 611.88
VC = 180.00
g1 = -7.4222%
g2 = -1.2139%

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

PROJECT NO. 17BP.8.R.75
RANDOLPH COUNTY
STATION: 13+02.00 -L-

SHEET 1 OF 2 REPLACES BRIDGE NO. 45

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SINGLE 32'-7" X 7'-9" ALUMINUM BOX CULVERT

NORTH CAROLINA PROFESSIONAL SEAL 027189 ENGINEER PAUL A. de PAOLI
12-16-14

DRAWN BY : J.S. ISRAELNAIM DATE : 10/14
CHECKED BY : P.A. de PAOLI DATE : 11/14
DESIGN ENGINEER OF RECORD : P.A. de PAOLI DATE : 12/14

MI ENGINEERING
1011 SCHAUB DRIVE, SUITE 100
RALEIGH, NC 27606
(919) 851-6606
FIRM PE NUMBER : P-0671

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

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