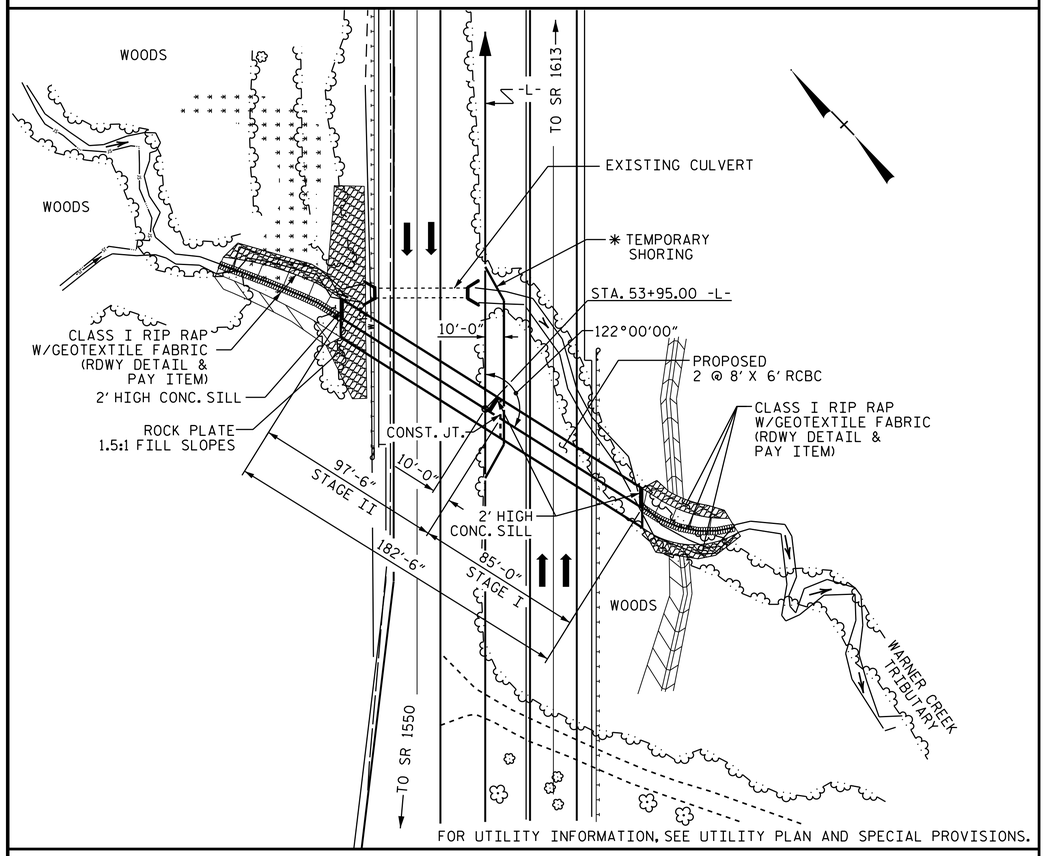
BM: -BL- 500 PINC STA. 12+17.01, -TI- 500 POT STA. 6+70.09; REBAR & CAP SET EL. 531.73



FOR UTILITY INFORMATION, SEE UTILITY PLAN AND SPECIAL PROVISIONS.

LOCATION SKETCH

ROADWAY DATA

GRADE PT. EL. @ STA. 53+95.00 -L-	= 536.29'
BED ELEV. @ STA. 53+95.00 -L-	= 518.73'
ROADWAY SLOPE (LEFT)	= 1.5 : 1
ROADWAY SLOPE (RIGHT)	= 2 : 1

HYDRAULIC DATA

DESIGN DISCHARGE	= 550 CFS
FREQUENCY OF DESIGN FLOOD	= 50 YRS.
DESIGN HIGH WATER ELEVATION	= 526.2'
DRAINAGE AREA	= 0.28 SQ. MI.
BASE DISCHARGE (Q100)	= 600 CFS
BASE HIGH WATER ELEVATION	= 526.78'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 1220 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 500+ YRS.
OVERTOPPING FLOOD ELEVATION	= 536.6'

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE		
STAGE I	153.9	C.Y.
STAGE II	175.4	C.Y.
TOTAL	329.3	C.Y.
REINFORCING STEEL		
STAGE I	17,191	LBS.
STAGE II	19,487	LBS.
TOTAL	36,678	LBS.
FOUNDATION COND. MATERIAL		
STAGE I	132	TONS
STAGE II	151	TONS
TOTAL	283	TONS
CULVERT EXCAVATION	LUMP SUM	
REMOVAL OF EXISTING STRUCTURE	LUMP SUM	

FOUNDATION NOTES

THE BOTTOM OF THE CULVERT ELEVATION WILL BE AT OR NEAR THE ROCK LINE. UP TO 2 FT. OF ROCK EXCAVATION WILL BE REQUIRED WITHIN THE LIMITS OF THE PROPOSED CULVERT FLOOR SLAB. USE A 12 IN. BLANKET OF FOUNDATION CONDITIONING MATERIAL BELOW THE PROPOSED CULVERT. SEE SECTION 414 OF THE STANDARD SPECIFICATIONS.

NOTES

ASSUMED LIVE LOAD ----------HS20-44 OR ALTERNATE LOADING.

DESIGN FILL----------11.76'

FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.

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

CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:

1. STAGE I WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
2. THE REMAINING PORTIONS OF STAGE I WALLS AND SILLS WITH NATIVE MATERIAL BACKFILL.
3. FOLLOWED BY THE WING WALLS FULL HEIGHT, ROOF SLAB, AND HEADWALLS.
4. STAGE II WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
5. THE REMAINING PORTIONS OF STAGE II WALLS AND SILLS WITH NATIVE MATERIAL BACKFILL.
6. FOLLOWED BY THE WING WALLS FULL HEIGHT, 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.

STEEL IN THE BOTTOM SLAB MAY BE SPLICED AT THE PERMITTED CONSTRUCTION JOINT AT THE CONTRACTOR'S OPTION. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES SHALL BE PAID FOR BY CONTRACTOR.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL AND BOTH FACES OF INTERIOR WALLS 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 PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.

THE EXISTING STRUCTURE CONSISTING OF A SINGLE BARREL 5' X 6' REINFORCED CONCRETE CULVERT, HEADWALLS AND WINGWALLS LOCATED AT THE PROPOSED STRUCTURE SITE SHALL BE REMOVED.

* 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.

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.

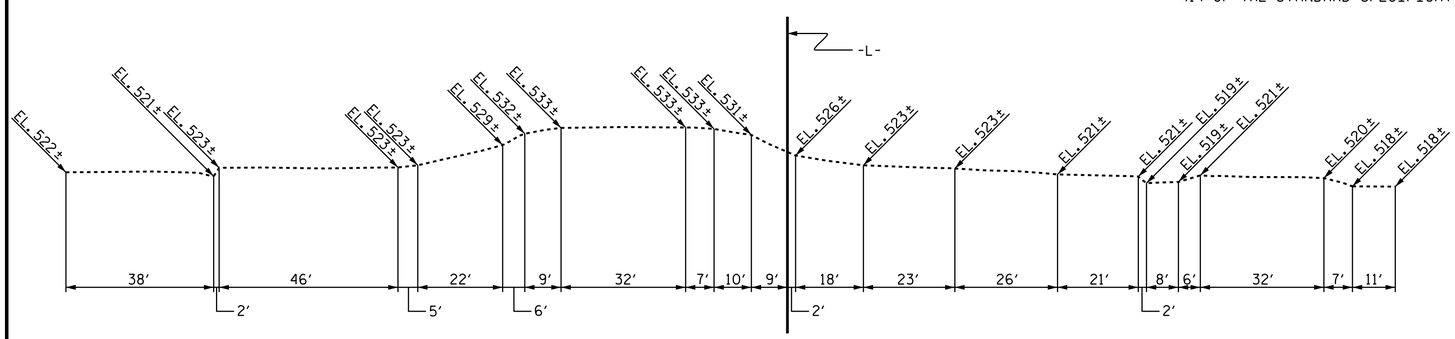
FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS



PROFILE ALONG ℄ CULVERT

PROJECT NO. R-0623

MONTGOMERY COUNTY

STATION: 53+95.00 -L-

SHEET 1 OF 7

NORTH CAROLINA PROFESSIONAL SEAL 022506 ENGINEER JESSE McARTHUR BAILEY

9/29/2014

DocuSigned by: J. M. Bailey

NORTH CAROLINA PROFESSIONAL SEAL 36871 ENGINEER FRANCESCA LEA

9/29/2014

DocuSigned by: Francesca Lea

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BARREL STANDARD

DOUBLE 8 FT. X 6 FT. CONCRETE BOX CULVERT 122° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			29

CULVERT #1

ASSEMBLED BY : F. LEA	DATE : 12-2012	SPECIAL	
CHECKED BY : S. WANCE	DATE : 01-2013		
DRAWN BY : B.M. MEYERS	DATE : AUG. 1989	STANDARD	
CHECKED BY : A.R. BISSETTE	DATE : AUG. 1989		

ADDED 11-90