

LOCATION SKETCH

ROADWAY DATA

GRADE POINT EL. @ STA. 16+10.00 -LPC- = 3022.68
 BED EL. @ STA. 16+10.00 -LPC- = 2986.29
 GRADE POINT EL. @ STA. 16+87.00 -RPC- = 3024.63
 BED EL. @ STA. 16+87.00 -RPC- = 2986.72
 ROADWAY SLOPES = 2:1

HYDRAULIC DATA

DESIGN DISCHARGE = 380 C.F.S.
 FREQUENCY OF DESIGN FLOOD = 50 YEARS
 DESIGN HIGH WATER ELEVATION = 2995.80
 DRAINAGE AREA = 0.44 SQ.MI.
 BASE DISCHARGE (Q100) = 450 C.F.S.
 BASE HIGH WATER ELEVATION = 2996.56

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 780 C.F.S.
 FREQUENCY OF OVERTOPPING FLOOD = 500+ YEARS
 OVERTOPPING FLOOD ELEVATION = 3003.8 *

* OVERTOPPING ELEVATION WAS SET TO THE ELEVATION OF SR 1675 DEEP GAP DRIVE. THIS IS @ STA. 35+96.00 -Y1- OFFSET 150' RT.

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE	
BARREL @ 1.462 CY/FT	277.8 C.Y.
WING ETC.	19.1 C.Y.
SILLS/BAFFLES	7.5 C.Y.
TOTAL	304.4 C.Y.
REINFORCING STEEL	
BARREL	30,391 LBS.
WINGS ETC.	1,151 LBS.
TOTAL	31,542 LBS.
CULVERT EXCAVATION	LUMP SUM
FOUNDATION COND. MAT'L.	195 TONS

NOTES

ASSUMED LIVE LOAD-----HL-93 OR ALTERNATE LOADING.
 DESIGN FILL-----MAX. = 31.79 FT., MIN. = 28.25 FT.
 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. WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
 2. THE REMAINING PORTIONS OF THE WALLS 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 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 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.

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.

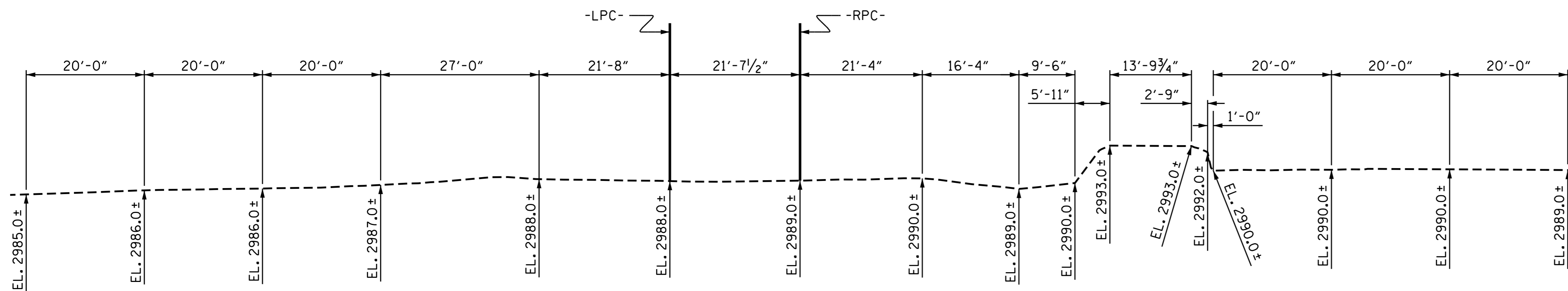
FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FRAMEWORK, SEE SPECIAL PROVISIONS.

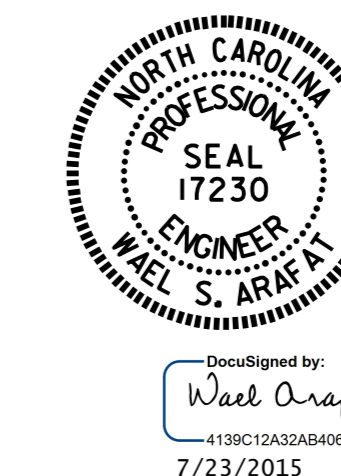
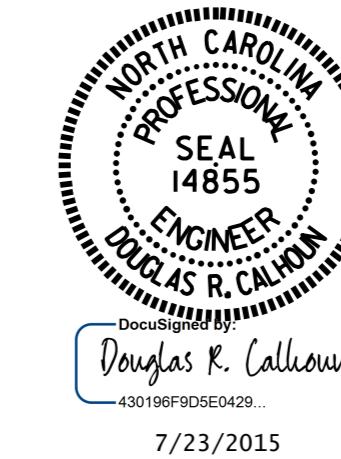
FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.



PROFILE ALONG Q CULVERT



PROJECT NO. R-2915A
WATAUGA/ASHE COUNTY
 STATION: 16+10.00 -LPC- /
16+87.00 -RPC-
 SHEET 1 OF 5

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SINGLE 9 FT. X 7 FT.
 CONCRETE BOX CULVERT

DRAWN BY : M.K. BEARD DATE : 2/23/15
 CHECKED BY : H.T. BARBOUR DATE : 3/20/15
 DESIGN ENGINEER OF RECORD: J.P. MCCARTHA DATE : 4/14/15

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-16
1			3			TOTAL SHEETS
2			4			20