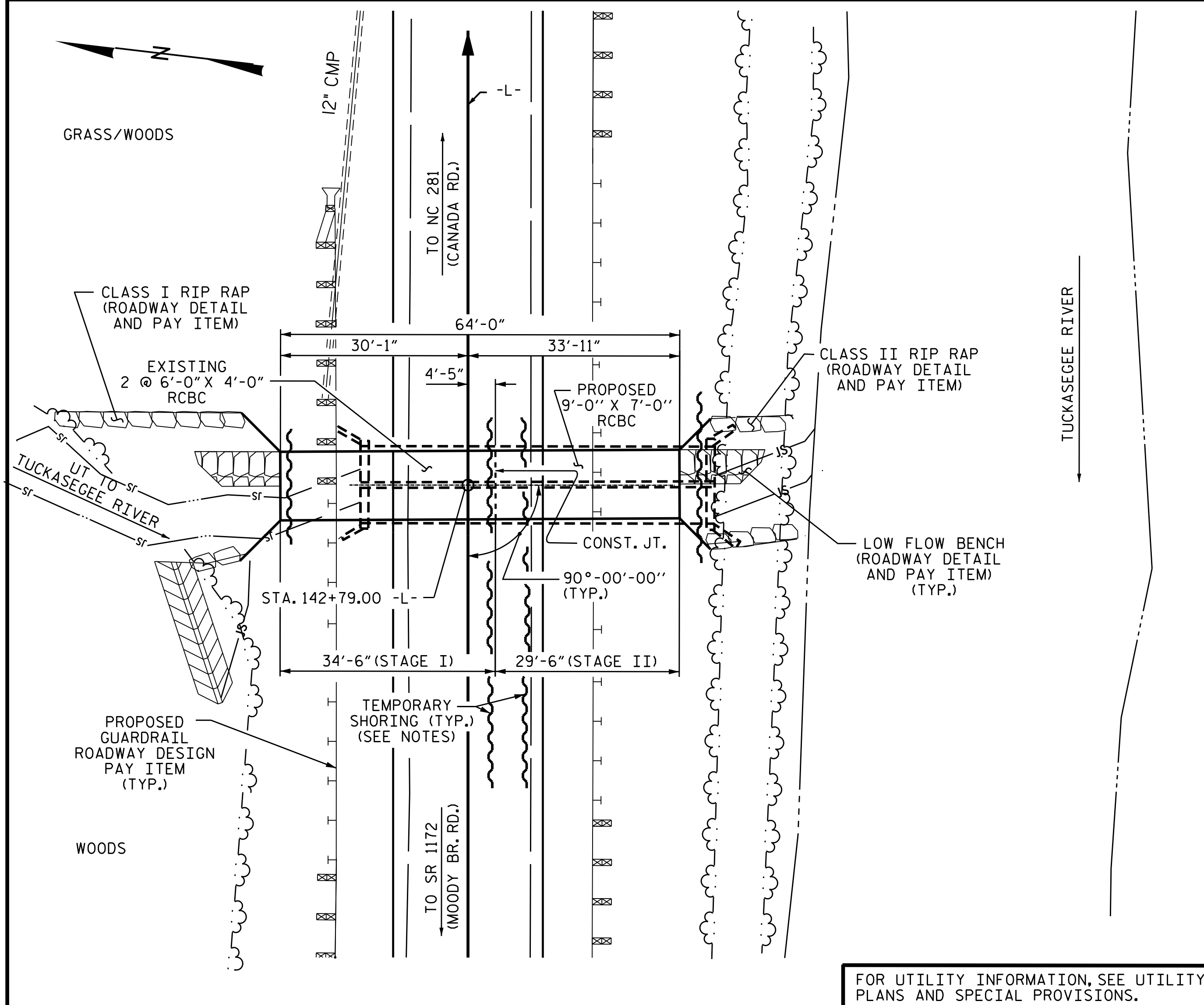


BENCHMARK: (BL31) STA. 143+00.21 -L-, 16.85 FT. LEFT, EL. 2134.53 NAVD 88,  
(N 584155.654 E 767157.083) NCDOT MONUMENT SET IN SHOULDER.



LOCATION SKETCH

NOTES

- ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
- DESIGN FILL = 4.34 FT. MIN. AND 5.85 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 STAGE I CULVERTS TO BE POURED IN THE FOLLOWING ORDER:  
1. WING FOOTINGS, CURTAIN WALL AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
- 2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB, HEADWALL AND SILLS.
- CONCRETE IN STAGE II CULVERTS TO BE POURED IN THE FOLLOWING ORDER:  
1. WING FOOTINGS, CURTAIN WALL AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
- 2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB, HEADWALL AND SILLS.
- 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.
- AFTER SERVING AS A TEMPORARY STRUCTURE, THE EXISTING DOUBLE 6' X 4' X 38' LONG RCBC AND LOCATED AT THE PROPOSED CULVERT SHALL BE REMOVED. THE EXISTING STRUCTURE IS PRESENTLY NOT POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE STRUCTURE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED STRUCTURE, A LOAD LIMIT MAYBE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.
- AT THE CONTRACTORS 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.
- 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.
- TRAFFIC ON NC 107 SHALL BE MAINTAINED. IN ORDER TO MAINTAIN TRAFFIC THE CULVERT SHALL BE CONSTRUCTED IN SECTIONS AS SHOWN ON THESE PLANS AND/OR AS DIRECTED BY THE ENGINEER.
- 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 FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, 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.  
FOR CONSTRUCTION SEQUENCE, SEE EROSION CONTROL PLANS.

ROADWAY DATA

GRADE POINT ELEV. @ STATION 142+79.00 -L- ----	=	2136.09
BED ELEV. @ STATION 142+79.00 -L- ----	=	2123.60
ROADWAY SLOPES -----	=	2 : 1

HYDRAULIC DATA

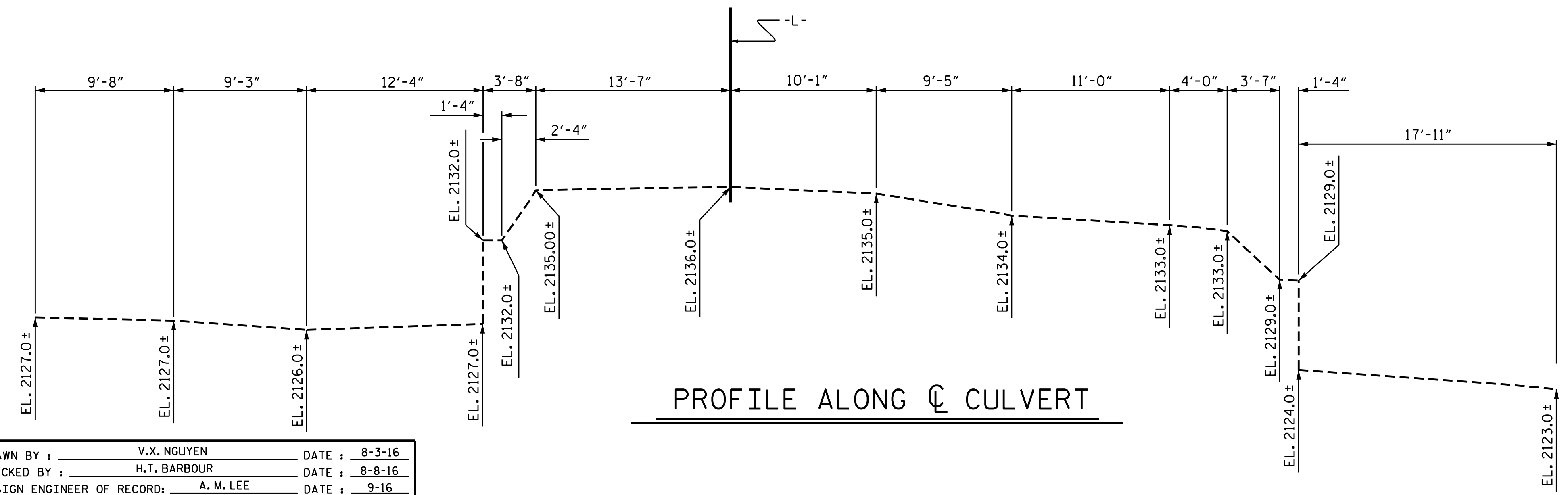
DESIGN DISCHARGE -----	=	290 C.F.S.
FREQUENCY OF DESIGN FLOOD -----	=	50 YEARS
DESIGN HIGH WATER ELEVATION -----	=	2131.0
DRAINAGE AREA -----	=	200 AC.
BASE DISCHARGE (Q100) -----	=	350 C.F.S.
BASE HIGH WATER ELEVATION -----	=	2132.1

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE -----	=	630 C.F.S.
FREQUENCY OF OVERTOPPING FLOOD -----	=	500 YEARS+
OVERTOPPING FLOOD ELEVATION -----	=	2135.8 @ STA. 141+97.00 -L-

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE	
STAGE I	40.8 C.Y.
STAGE II	35.9 C.Y.
TOTAL	76.7 C.Y.
REINFORCING STEEL	
STAGE I	5,364 LBS.
STAGE II	4,569 LBS.
TOTAL	9,933 LBS.
FOUNDATION CONDITIONING MATERIAL	
STAGE I	35.0 TONS
STAGE II	29.0 TONS
TOTAL	64.0 TONS
CULVERT EXCAVATION	LUMP SUM



DRAWN BY : V.X. NGUYEN DATE : 8-3-16  
CHECKED BY : H.T. BARBOUR DATE : 8-8-16  
DESIGN ENGINEER OF RECORD: A. M. LEE DATE : 9-16



Designed by  
Wael Arafat 10/12/2016  
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. R-4753  
JACKSON COUNTY  
STATION: 142+79.00 -L-

SHEET 1 OF 7

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

SINGLE 9 FT. X 7 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			14	