

LOCATION SKETCH

NO KNOWN UTILITY CONFLICTS.

ROADWAY DATA

GRADE POINT EL. @ STA. 132+58.000 -L- = 234.778
 BED ELEVATION @ STA. 132+58.000 -L- = 223.170
 ROADWAY SLOPES = 2:1

HYDRAULIC DATA

DESIGN DISCHARGE = 11.2 m³/s
 FREQUENCY OF DESIGN FLOOD = 50 Yrs.
 DESIGN HIGH WATER ELEVATION = 226.225
 DRAINAGE AREA = 0.63 sq. km.
 BASIC DISCHARGE (Q100) = 12.9 m³/s
 BASIC HIGH WATER ELEVATION = 226.393

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = **
 FREQUENCY OF OVERTOPPING FLOOD = 500+ YRS.
 OVERTOPPING FLOOD ELEVATION = 231.000

** OVERTOPPING FLOOD IS GREATER THAN THE 500+ YR. EVENT

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE (Cu. Meters)	
BARREL @ 3.69 Cu. m/m =	451.7
2 CONCRETE SILLS =	4.8
4 WINGS, 2 HEADWALLS, & 2 CURTAIN WALLS =	12.5
TOTAL =	469.0
REINFORCING STEEL (kilograms)	
BARREL =	43608
4 WINGS, 2 HEADWALLS, & 2 CURTAIN WALLS =	391
TOTAL =	43999
CULVERT EXCAVATION =	LUMP SUM
FOUNDATION COND. MAT'L =	285.0 Metric Tons
* PLAIN RIP RAP CLASS B =	117.7 Metric Tons

NOTES

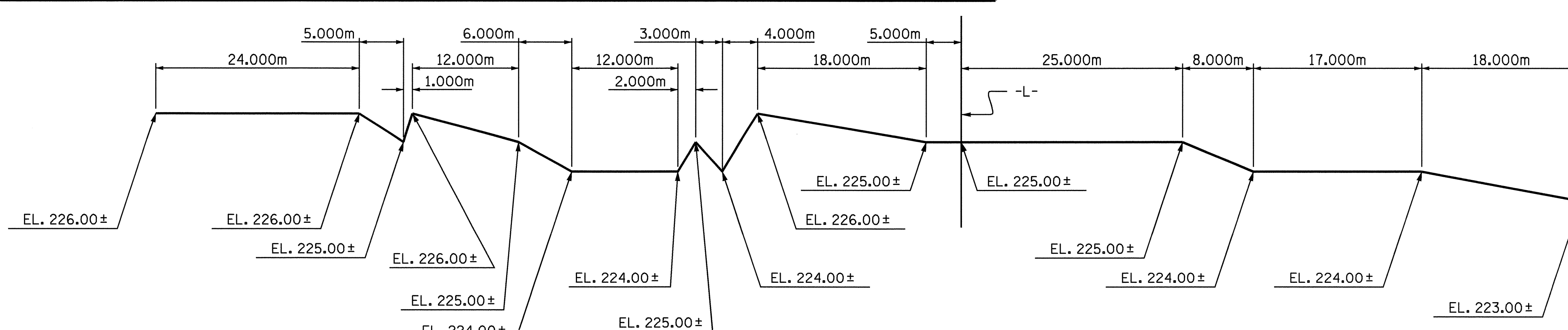
- ASSUMED LIVE LOAD -----MS18 OR ALTERNATE LOADING.
- DESIGN FILL----- 11.44m
- FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.
- 76mm Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:
 1. WING FOOTINGS AND FLOOR SLAB INCLUDING 100mm 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 21.0m. 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 AND ABOVE THE 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.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- ALL ELEVATIONS ARE IN METERS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- A 900mm STRIP OF FILTER FABRIC SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.
- THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 360,000kg OF REINFORCING STEEL, ONE 760mm SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 360,000kg OF REINFORCING STEEL, TWO 760mm 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.
- FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
- NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.

* THE CONTRACTOR SHALL EXCAVATE THE EXISTING STREAM BED WHERE NECESSARY FOR CULVERT CONSTRUCTION AND STOCKPILE THE MATERIAL TO BE PLACED BACK INTO THE PROPOSED CULVERT. BED MATERIAL SHALL BE PLACED TO THE TOP OF THE SILLS. BED MATERIAL PLACED BETWEEN SILLS IN THE CULVERT SHALL PROVIDE A CONTINUOUS LOW FLOW CHANNEL BETWEEN THE LOWER SILLS. IF THE AMOUNT OF EXCAVATED STREAM BED MATERIAL IS NOT SUFFICIENT, THEN NATURAL STONE WITH A GRADATION SIZE SIMILAR TO THAT OF CLASS B RIP RAP SHALL BE USED. STONES LARGER THAN 300mm SHALL NOT BE PLACED WITHIN THE LOW FLOW CHANNEL. BED MATERIAL IS SUBJECT TO APPROVAL BY THE ENGINEER. NATURAL STONE SHALL CONSIST OF FIELD STONE, ROUGH UNHEWN QUARRY STONE SHALL NOT BE USED.

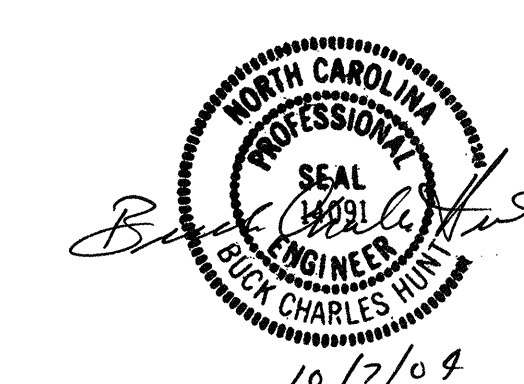


PROJECT NO. R-2206B
LINCOLN COUNTY
 STATION: 132+58.000 -L-

SHEET 1 OF 4



PROFILE ALONG CULVERT



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**SINGLE 3.0m X 1.8m
 CONCRETE BOX CULVERT
 120° SKEW**

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	C-6	
1			3			TOTAL SHEETS	
2			4			15	

DRAWN BY : KEITH D. LAYNE DATE : 10-5-04
 CHECKED BY : B. C. HUNT DATE : 10-5-04