

BM #8 - ELEV. 45.279m SURVEY BL STA. 48+51.0 OFFSET 20m LEFT, TOP OF BOLT ON OLD SIGN BASE

**ROADWAY DATA**

GRADE POINT ELEV. @ 146+61.950 -L-REV = 41.179  
 BED ELEV. @ 146+61.950 -L-REV = 35.520  
 ROADWAY SLOPES = 3:1

**HYDRAULIC DATA**

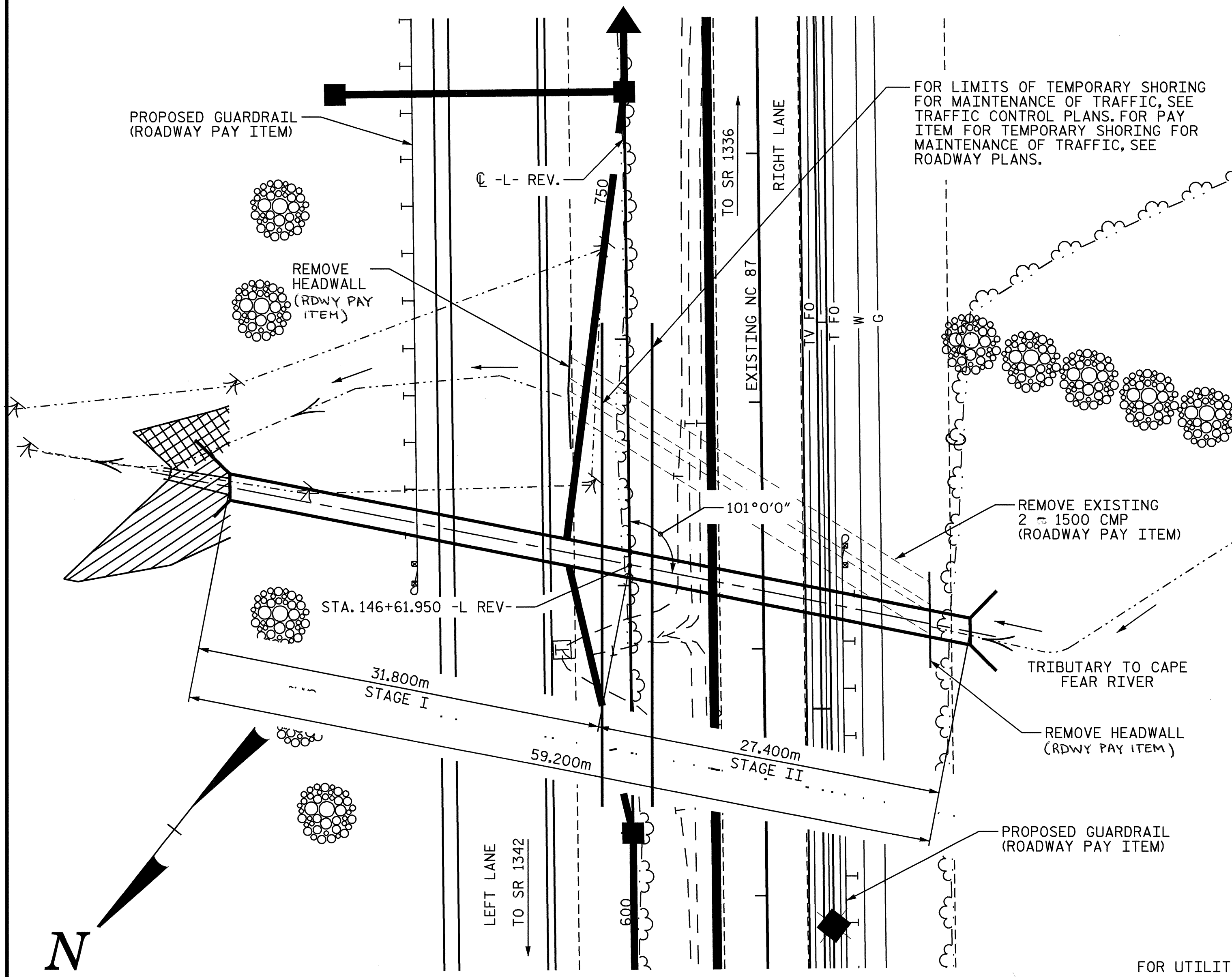
DESIGN DISCHARGE = 4.7 m<sup>3</sup>/s  
 FREQUENCY OF DESIGN FLOOD = 50 YEARS  
 DESIGN HIGH WATER ELEVATION = 37.39  
 DRAINAGE AREA = 2.25 SQ. KM.  
 BASIC DISCHARGE (Q100) = 5.9 m<sup>3</sup>/s.  
 BASIC HIGH WATER ELEVATION = 37.60

**OVERTOPPING FLOOD DATA**

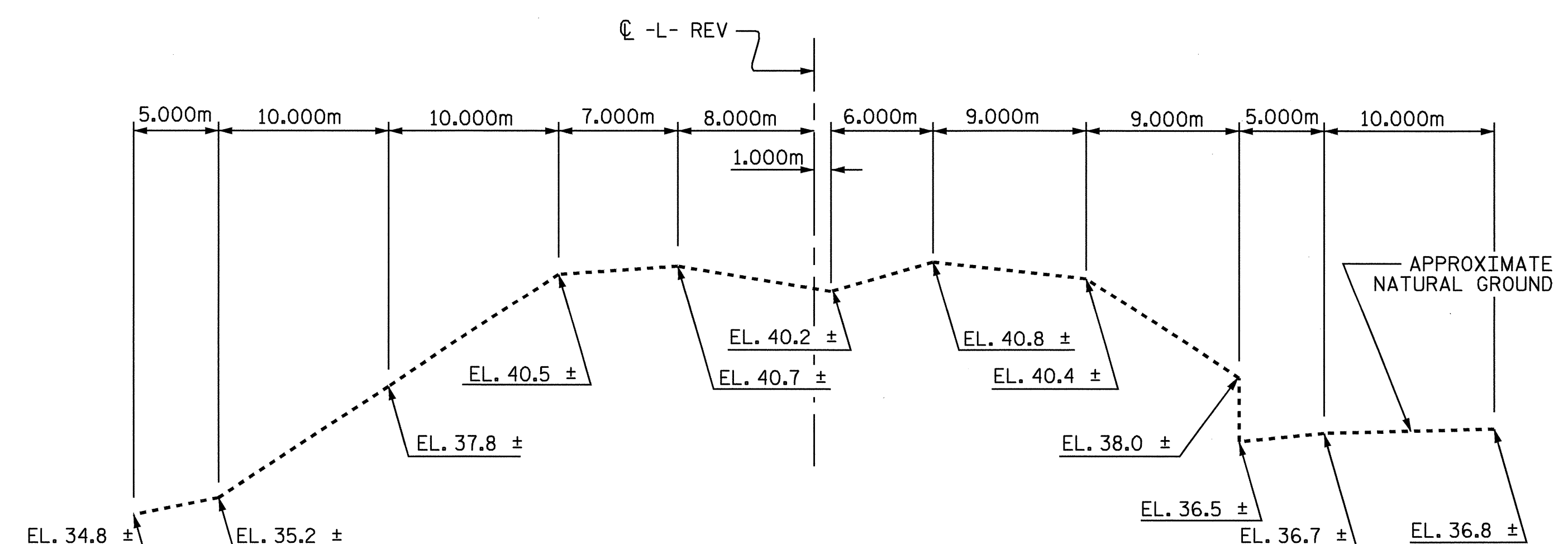
OVERTOPPING DISCHARGE = > 8.4 m<sup>3</sup>/s.  
 FREQUENCY OF OVERTOPPING FLOOD = > 500 YEARS  
 OVERTOPPING FLOOD ELEVATION = 40.93

**NOTES**

ASSUMED LIVE LOAD -----MS18 OR ALTERNATE LOADING.  
 DESIGN FILL-----4.51m  
 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 ARE 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 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.  
 ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.  
 ALL ELEVATIONS ARE IN METERS.  
 THE 600mm DIA PIPE THROUGH THE SIDEWALL OF THE CULVERT WILL BE LOCATED BY THE ENGINEER. THE REINFORCING STEEL WILL BE FIELD BENT AS NECESSARY TO CLEAR PIPE.  
 THE 750mm DIA PIPE THROUGH THE SIDEWALL OF THE CULVERT WILL BE LOCATED BY THE ENGINEER. THE REINFORCING STEEL WILL BE FIELD BENT AS NECESSARY TO CLEAR PIPE.  
 FOR EROSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.  
 A 900mm 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 MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.  
 NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.



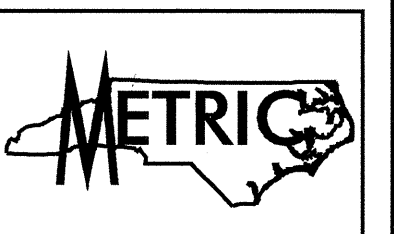
**LOCATION SKETCH**



PROFILE ALONG CULVERT

**TOTAL STRUCTURE QUANTITIES**

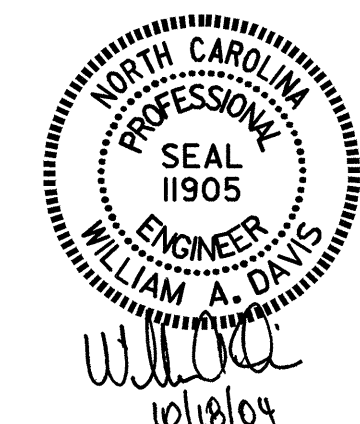
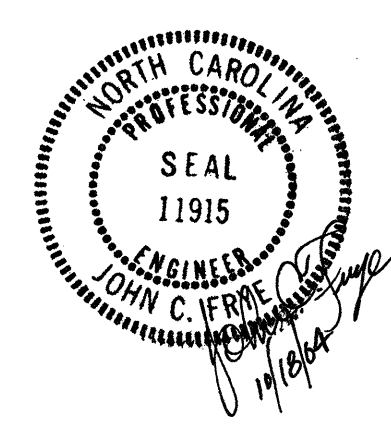
CLASS A CONCRETE		CULVERT EXCAVATION ----- LUMP SUM	
STAGE I		STAGE I	
BARREL @ 1.67 m <sup>3</sup> /m	53.1 m <sup>3</sup>	FOUNDATION COND. MAT'L ----	55 METRIC TONS
WINGS ETC.	4.4 m <sup>3</sup>	STAGE II	FOUNDATION COND. MAT'L ----
TOTAL	57.5 m <sup>3</sup>	FOUNDATION COND. MAT'L ----	47 METRIC TONS
STAGE II		GRAND TOTAL 102 METRIC TONS	
BARREL @ 1.67 m <sup>3</sup> /m	45.8 m <sup>3</sup>		
WINGS ETC.	4.4 m <sup>3</sup>		
TOTAL	50.2 m <sup>3</sup>		
GRAND TOTAL	107.7 m <sup>3</sup>		
REINFORCING STEEL			
STAGE I			
BARREL	4,264 kg		
WINGS ETC.	158 kg		
TOTAL	4,422 kg		
STAGE II			
BARREL	3,627 kg		
WINGS ETC.	159 kg		
TOTAL	3,786 kg		
GRAND TOTAL	8,208 kg		



PROJECT NO. R-2562C  
BLADEN COUNTY  
 STATION: 146+61.950 -L- REV.

SHEET 1 OF 4

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**SINGLE 2.10m X 1.50m  
 CONCRETE BOX CULVERT  
 101° SKEW**



ASSEMBLED BY: Neil M. Ruffin DATE: 5/19/04  
 CHECKED BY: J. D. HAWK DATE: 6/25/04  
 DRAWN BY: EEM 6/97  
 CHECKED BY: ARB 7/97

REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	DATE:
1			3	
2			4	

TOTAL SHEETS 12