

LOCATION SKETCH

GRADE DATA

+0.5897%  $\Delta$  -1.1467%  
 PI = 14+85.00 -L-  
 EL. = 2094.65'  
 VC = 60'

HYDRAULIC DATA

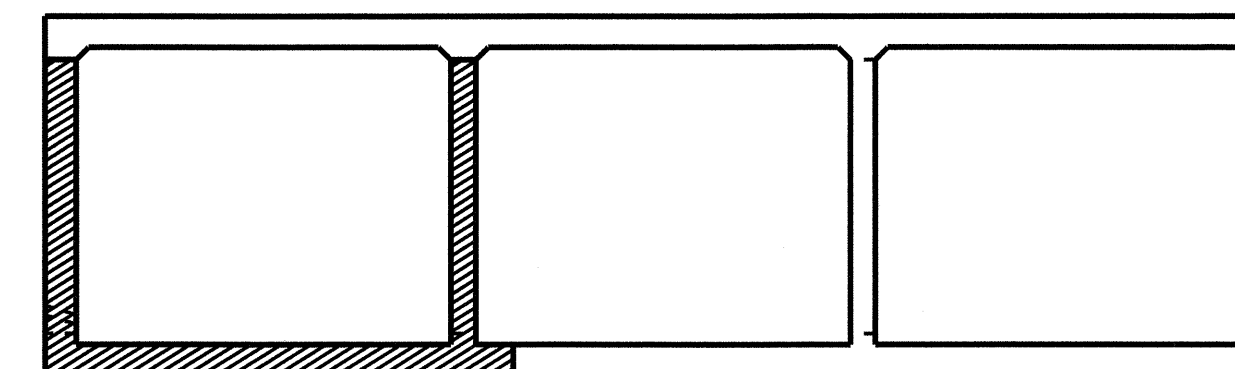
DESIGN DISCHARGE = 1313 C.F.S.  
 FREQUENCY OF DESIGN FLOOD = 50 YRS.  
 DESIGN HIGH WATER ELEVATION = 2094.46'  
 DRAINAGE AREA = 2.0 SQ. MI.  
 BASIC DISCHARGE (Q100) = 1486 C.F.S.  
 BASIC HIGH WATER ELEVATION = 2094.67'

OVERTOPPING FLOOD DATA

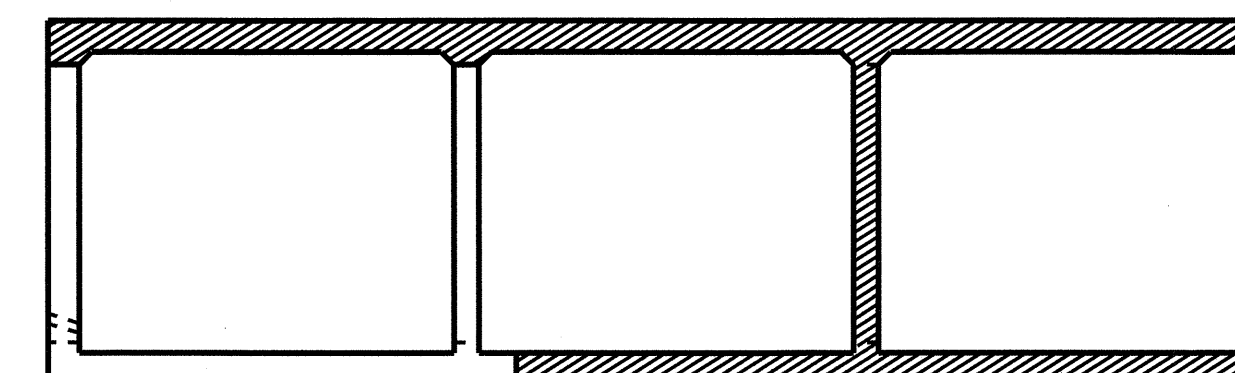
OVERTOPPING DISCHARGE = 1000 C.F.S.  
 FREQUENCY OF OVERTOPPING FLOOD = 10+ YRS.  
 OVERTOPPING FLOOD ELEVATION = 2093.79'

ROADWAY DATA

GRADE POINT ELEV. @  
 STA. 14+82.00 -L- = 2094.527'  
 BED ELEV. @  
 STA. 14+82.00 -L- = 2084.00'  
 ROADWAY SLOPES = 2 : 1



PHASE I



PHASE II

CONSTRUCTION SEQUENCE

LOOKING DOWN STREAM

NOTES

ASSUMED LIVE LOAD -----HS20-44 OR ALTERNATE LOADING.  
 DESIGN FILL-----2.94'  
 FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.  
 3"  $\varnothing$  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 SHEETS.

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 OPTIONAL PRECAST REINFORCED CONCRETE BOX CULVERT, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

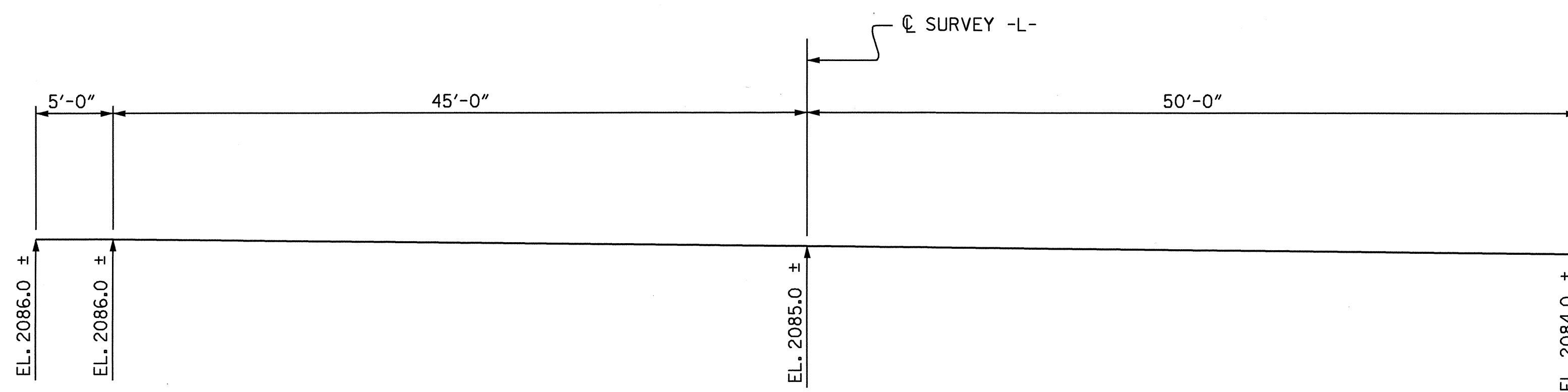
THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE 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.

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

FOR ARCHITECTURAL CONCRETE SURFACE TREATMENT, SEE SPECIAL PROVISIONS.

ARCHITECTURAL CONCRETE SURFACE TREATMENT SHALL BE APPLIED TO THE EXTERIOR FACES OF THE PROPOSED CULVERT, HEADWALL AND WING WALLS.

THE EXISTING STRUCTURE CONSISTING OF 4 SPAN (1 @ 4'-5.5", 1 @ 15'-6", 1 @ 15'-2", AND 1 @ 10'-7.5") CONTINUOUS REINFORCED CONCRETE DECK SLAB WITH AN ASPHALT WEARING SURFACE OF 4" AND CLEAR ROADWAY WIDTH OF 30.4' ON A SUBSTRUCTURE CONSISTING OF REINFORCED CONCRETE ABUTMENT END BENTS AND REINFORCED CONCRETE POST AND BEAM BENTS AND LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED.



PROFILE ALONG CULVERT

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE		
BARREL @	3.063 CY/FT	194.5 C.Y.
WINGS ETC.		53.0 C.Y.
TOTAL		247.5 C.Y.

REINFORCING STEEL		
BARREL		33997 LBS.
WINGS ETC.		2224 LBS.
TOTAL		36221 LBS.

FOUNDATION CONDITIONING MATERIAL	147 TONS
CULVERT EXCAVATION	LUMP SUM
REMOVAL OF EXISTING STRUCTURE	LUMP SUM
ARCHITECTURAL CONCRETE SURFACE TREATMENT	1057 SQ. FT.



PROJECT NO. B-3475  
HENDERSON COUNTY  
 STATION: 14+82.00-L-

SHEET 1 OF 8 REPLACES BRIDGE NO. 356

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

TRIPLE 10 FT. X 8 FT.  
 CONCRETE BOX CULVERT  
 65° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-1
1			3			TOTAL SHEETS
2			4			8

ADDED 11-90

ASSEMBLED BY : L.L. MURPHY DATE : 11-03  
 CHECKED BY : V.X. NGUYEN DATE : 02-04