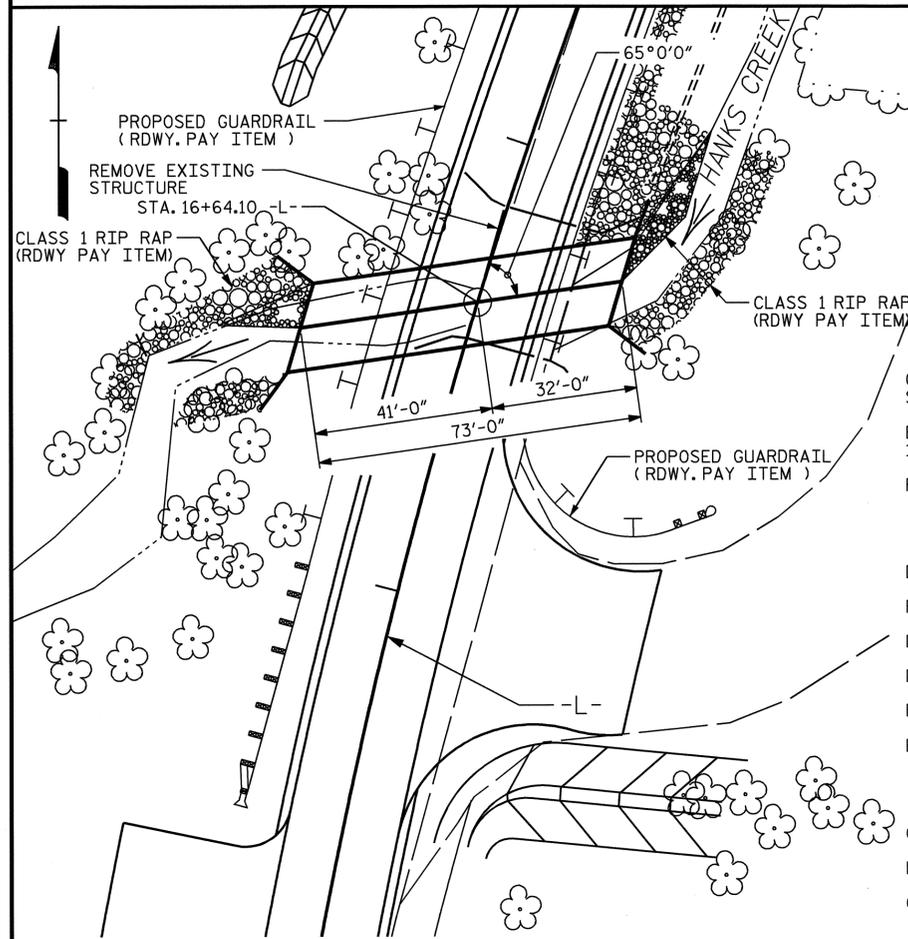


BM #1 - R/R SPIKE SET IN BASE OF 18" OAK 169' OFF W. EP AND 88' FROM POWER POLE BEHIND MTL BUSINESS COURSE FROM BL-1 (GPS-1) TO BM #1 DIST. 140.21' ELEV. 766.39'



ROADWAY DATA

GRADE POINT ELEV. @ STATION 16+64.10 -L- = 774.38
 BED ELEV. @ STATION 16+64.10 -L- = 759.99
 ROADWAY SLOPES = 2:1

HYDRAULIC DATA

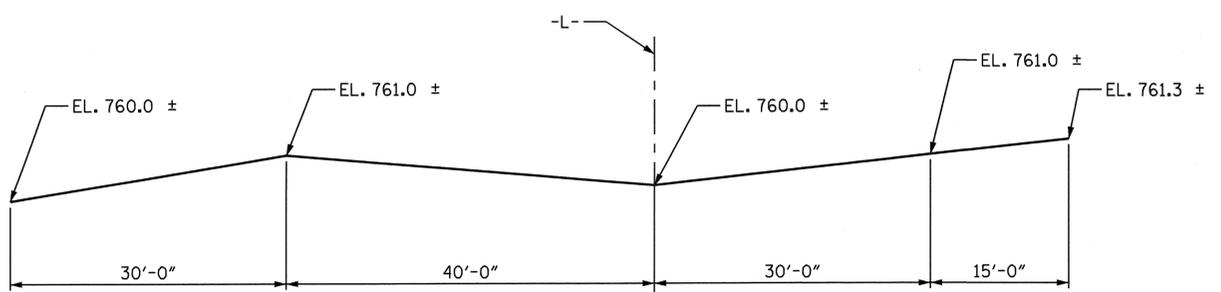
DESIGN DISCHARGE = 650 CFS
 FREQUENCY OF DESIGN FLOOD = 25 YR.
 DESIGN HIGH WATER ELEVATION = 765.7
 DRAINAGE AREA = 0.671 SQ. MI.
 BASIC DISCHARGE (Q100) = 850 CFS
 BASIC HIGH WATER ELEVATION = 767.2

OVERTOPPING DATA

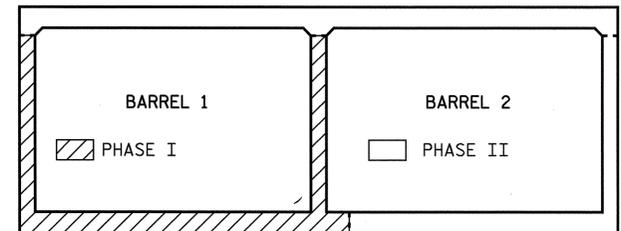
OVERTOPPING DISCHARGE > 1350 CFS
 FREQUENCY OF OVERTOPPING FLOOD > 500 YRS.
 OVERTOPPING FLOOD ELEVATION = 775.4

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH



PROFILE ALONG CULVERT



CONSTRUCTION SEQUENCE
 (LOOKING DOWNSTREAM)

--- NOTES ---

ASSUMED LIVE LOAD -----HS20-44 OR ALTERNATE LOADING.
 DESIGN FILL----- 7.60
 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.
 3. 1'-6" SILL IN BARREL 2 (INLET END ONLY)
 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 REINFORCINGS 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 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.
 THE EXISTING STRUCTURE CONSISTING OF A TIMBER DECK ON I-BEAM FLOOR JOISTS SYSTEM WITH SPAN OF 1 @ 30'-6" WITH A CLEAR ROADWAY WIDTH 19.2 FT. WITH TIMBER CAPS ON TIMBER PILES, CONCRETE ENCASED AND LOCATED AT THE SITE OF PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT AND POSTED AT 20 TONS FOR TTST AND 15 TONS FOR SV. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.
 REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.
 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.
 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.
 INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR 'REMOVAL OF EXISTING STRUCTURE AT STATION 16+64.10 -L-.'
 EXISTING BED MATERIAL WILL BE STOCK PILED ON SITE AND REUSED AS BACK FILL MATERIAL INSIDE THE CULVERT TO BURY THE BOTTOM OF THE CULVERT THE REQUIRED 1'-0".
 FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

TOTAL STRUCTURE QUANTITIES			
CLASS A CONCRETE			
BARREL @	2.487	CY/FT	181.6 C.Y.
WING ETC.			30.4 C.Y.
SILL			0.8 C.Y.
TOTAL			212.8 C.Y.
REINFORCING STEEL			
BARREL			34,006 LBS.
WINGS ETC.			1,661 LBS.
TOTAL			35,667 LBS.
CULVERT EXCAVATION			LUMP SUM
FOUNDATION COND. MAT'L			134 TONS
REMOVAL OF EXISTING STRUCTURE			LUMP SUM

PROJECT NO. B-3834
DAVIDSON COUNTY
 STATION: 16+64.10 -L-
 SHEET 1 OF 5 REPLACES BRIDGE NO. 156

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
DOUBLE 12 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			5

DRAWN BY: Neil M. Ruffin DATE: 11/29/04
 CHECKED BY: P. K. NEWTON DATE: 03/08/05

