

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.
 DESIGN FILL = 20.17 FT.
 FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTES SHEET.
 3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
 CONCRETE IN THE 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.
 TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARREL, SPACED TO LIMIT THE POURS TO A MAXIMUM OF 70 FEET. LOCATION OF JOINTS SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
 STEEL IN THE BOTTOM SLAB MAY BE SPliced AT THE PERMITTED CONSTRUCTION JOINT AT THE CONTRACTOR'S OPTION. EXTRA WEIGHT OF STEEL DUE TO THE SPLICES WILL BE PAID FOR BY THE CONTRACTOR.
 PIPE PENETRATING THROUGH WINGWALL W2 SHALL BE LOCATED BY THE ENGINEER. THE REINFORCING STEEL SHALL BE CUT OR BENT AS NECESSARY TO CLEAR THE PIPE. ADDITIONAL REINFORCING STEEL SHALL BE PLACED AROUND THE WALL OPENING AS DETAILED IN THE PLANS.
 NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.
 FOR CULVERT EXCAVATION, SEE SECTION 414 OF THE STANDARD SPECIFICATIONS.
 THE REINFORCED CONCRETE BOX CULVERT SHALL BE PLACED ON THE STANDARD 1.0 FOOT BLANKET OF FOUNDATION CONDITIONING MATERIAL SEE SECTION 414 OF THE STANDARD SPECIFICATIONS.
 UNDERCUT SOFT/VERY LOOSE SOILS THAT MAY BE ENCOUNTERED BENEATH THE BOTTOM OF THE FOUNDATIONS. BACKFILL UNDERCUT AREAS WITH FOUNDATION CONDITIONING MATERIAL. SEE DETAIL SHEETS 2G-1 AND 2G-2 FOR LOCATION AND PROFILE VIEWS. UNDERCUT QUANTITY IS ESTIMATED AT 1,780 CUBIC YARDS. UNDERCUT OUTSIDE THE THE EDGE OF THE CULVERT FOOTING WILL EQUAL THE DEPTH OF UNDERCUT (SEE DETAIL).

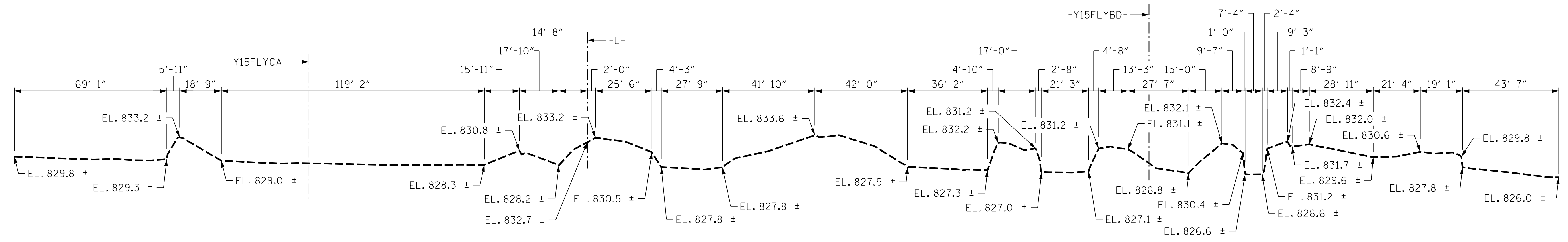
DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON THE WING SHEETS.
 A 3 FOOT STRIP OF GEOTEXTILE SHALL BE ATTACHED TO THE FILL FACE OF THE WING COVERING THE ENTIRE LENGTH OF THE EXPANSION JOINT.
 THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 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 SAMPLE BARS SHOULD COME FROM STEEL ACTUALLY USED IN THE PROJECT AND THE SAMPLE BARS SHOULD BE REPLACED BY SPLICED BARS AS SPECIFIED IN THE SAMPLE BAR REPLACEMENT CHART. PAYMENT FOR THE SAMPLE BARS AND REPLACEMENT REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS PAY ITEMS.
 FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
 FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
 FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
 FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
 FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
 AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL AND BOTH FACES OF THE 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.
 DETAILED DRAWINGS FOR FALSEWORK AND FORMS FOR THIS DOUBLE BARREL 12 FT X 10 FT CONCRETE BOX CULVERT SHALL BE SUBMITTED. SEE SHEET SN.

ROADWAY DATA

GRADE POINT ELEV. @ STATION 768+62.23 -L-	= 855.81
BED ELEV. @ STATION 768+62.23 -L-	= 827.53
ROADWAY SLOPES	= 2:1 MIN

LOCATION SKETCH

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS



PROFILE ALONG CULVERT

PROJECT NO. U-2579AB
 FORSYTH COUNTY
 STATION: 768+62.23 -L-
 SHEET 1 OF 11 BRIDGE NO. 749

HYDRAULIC DATA

DESIGN DISCHARGE	= 1430 CFS
FREQUENCY OF DESIGN FLOOD	= 50 YR.
DESIGN HIGH WATER ELEVATION	= 836.9
DRAINAGE AREA	= 2.32 SQ. MI.
BASE DISCHARGE (Q100)	= 1630 CFS
BASE HIGH WATER ELEVATION	= 837.7

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 4300 CFS
FREQUENCY OF OVERTOPPING FLOOD	= >500 YR.
OVERTOPPING FLOOD ELEVATION	= 853.7

TOTAL STRUCTURE QUANTITIES

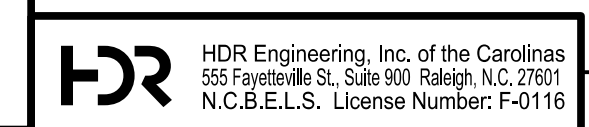
CLASS A CONCRETE	BARREL @ 4.700 C.Y./FT. 2652.4 C.Y.
HEADWALLS AND SILLS	8.1 C.Y.
WINGS ETC.	124.5 C.Y.
TOTAL	2785.0 C.Y.
REINFORCING STEEL	BARREL, HEADWALLS & SILL 464,160 LBS.
WINGS	15,222 LBS.
TOTAL	479,382 LBS.
CULVERT EXCAVATION	LUMP SUM
FOUNDATION CONDITIONING MATERIAL	4610 TONS

SAMPLE BAR REPLACEMENT

SIZE	LENGTH
#3	6'-2"
#4	7'-4"
#5	8'-6"
#6	9'-8"
#7	10'-10"
#8	12'-0"
#9	13'-2"
#10	14'-6"
#11	15'-10"

NOTE: SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND fy = 60 ksi.

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS



10/11/2021

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**DOUBLE BARREL
 12 FT. X 10 FT.
 CONCRETE BOX CULVERT
 60°45'00" SKEW**

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

SHEET NO. CI-1
 TOTAL SHEETS 11

PLOT DRIVER: NCDOT STRUCTURES DEFAULT PLOTTER.plt
 PENTABLE: NCDOT STRUCTURES DEFAULT PEN.tbl
 USER: PETERSO
 DATE: 5/20/2021
 TIME: 10:58:40 AM
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