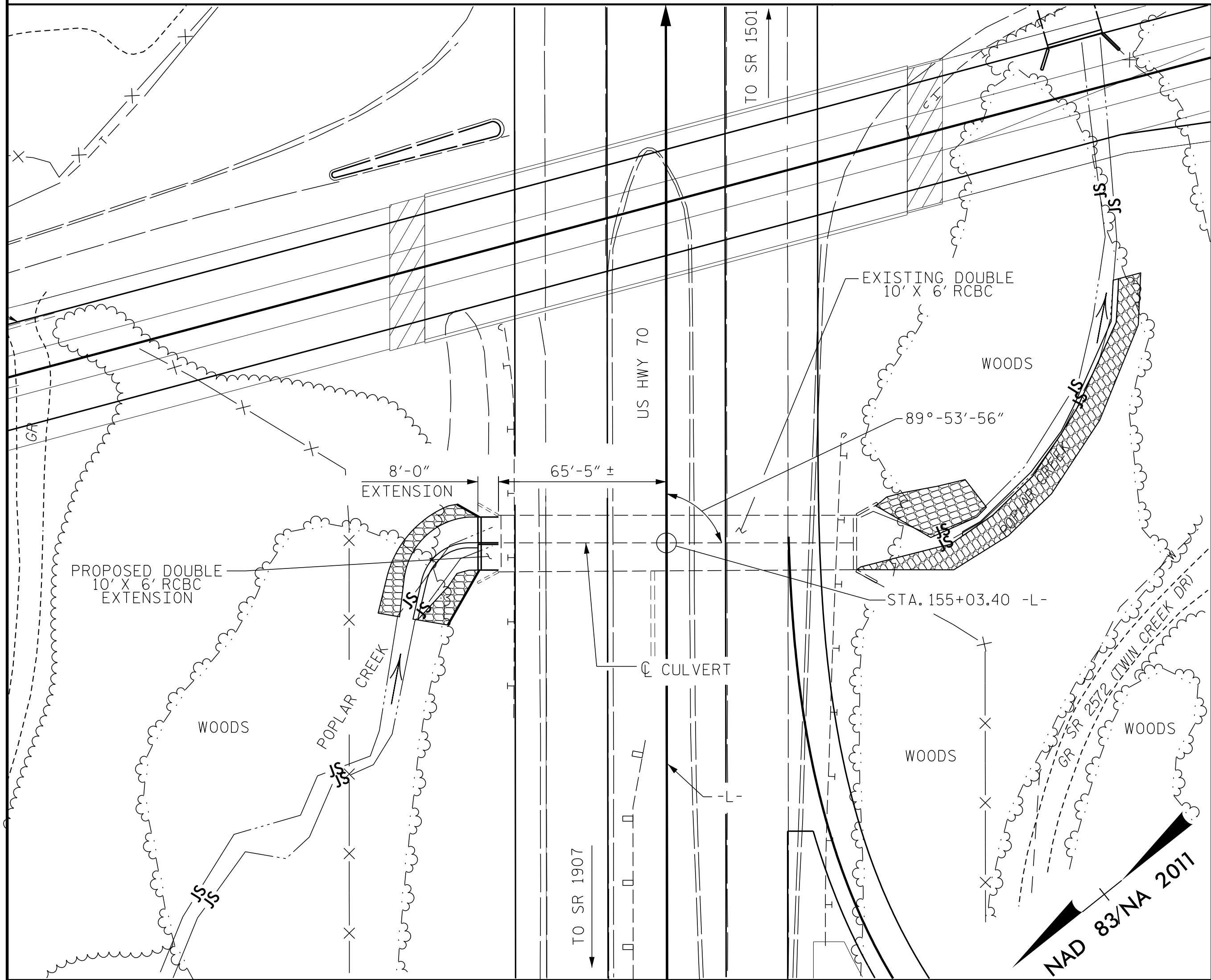


BM #11 BENCH TIE NAIL SET IN 18" PINE, STA. 39+10.93 -Y7-, 134.85 RT, ELEV. 1396.42, N=664851 E=2188605



LOCATION SKETCH

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

ROADWAY DATA

GRADE POINT ELEV. @ STA 155+03.40 -L- = 194.75
 BED ELEV. @ STATION 155+03.40 -L- = 184.92
 ROADWAY SLOPES = 3:1

HYDRAULIC DATA

DESIGN DISCHARGE = 560 CFS
 FREQUENCY OF DESIGN FLOOD = 50 YEARS
 DESIGN HIGH WATER ELEVATION = 189.0
 DRAINAGE AREA = 2.3 SQ. MI.
 BASE DISCHARGE (Q100) = 640 CFS
 BASE HIGH WATER ELEVATION = 189.6

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 840+ CFS
 FREQUENCY OF OVERTOPPING FLOOD = 500+ YEAR
 OVERTOPPING FLOOD ELEVATION = 194.0
 OVERTOPPING OCCURS AT THE FALSE CUT INTERFACE AT THE GRADE SEPERATION OF -L- AND -Y7- AND FLOWS LINE AHEAD ALONG -L- IN DITCHLINE (LT)

NOTES

ASSUMED LIVE LOAD -----HL-93 OR ALTERNATE LOADING.
 DESIGN FILL TO BOTTOM OF TOP SLAB ----- 2.69'
 FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.
 3"Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
 CONCRETE IN CULVERT TO BE POURED IN THE FOLLOWING ORDER:
 STAGE I:
 1. WING FOOTING AND FLOOR SLAB INCLUDING 4" OF VERTICAL WALLS
 2. THE REMAINING PORTIONS OF THE WALLS AND WING FULL HEIGHT.
 STAGE II
 1. WING FOOTING AND FLOOR SLAB INCLUDING 4" OF VERTICAL WALL.
 2. THE REMAINING PORTIONS OF THE WALLS AND WING FULL HEIGHT FOLLOWED BY THE ENTIRE ROOF SLAB AND HEADWALL.
 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.
 AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACE OF EXTERIOR WALL AND BOTH FACES OF INTERIOR 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.
 NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.
 DOWELS SHALL BE USED TO CONNECT THE CULVERT EXTENSION TO THE EXISTING CULVERT AS SHOWN. FOR NOTE REGARDING SETTING OF DOWELS, SEE SHEET SN.
 IF APPROVED BY THE ENGINEER, THE CONTRACTOR MAY USE THE EXISTING WINGS AS TEMPORARY SHORING FOR THE CONSTRUCTION OF THE CULVERT EXTENSION. IN THIS CASE, THE BOTTOM SLAB OF THE EXTENSION SHALL BE POURED AT LEAST 72 HOURS PRIOR TO CUTTING THE WINGS. THE WINGS MAY BE CUT EARLIER PROVIDED THE SLAB CONCRETE STRENGTH HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI.
 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.
 FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
 FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
 THE EXISTING STRUCTURE CONSISTING OF A 10'x6' DOUBLE BARREL REINFORCED CONCRETE BOX CULVERT LOCATED AT PROPOSED SITE SHALL BE RETAINED AND EXTENDED TO THE LIMITS SHOWN. THE EXISTING CULVERT IS PRESENTLY NOT POSTED FOR LOAD LIMIT.
 FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.
 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 BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

F.A. PROJECT NO. HISP-0070(163)

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"

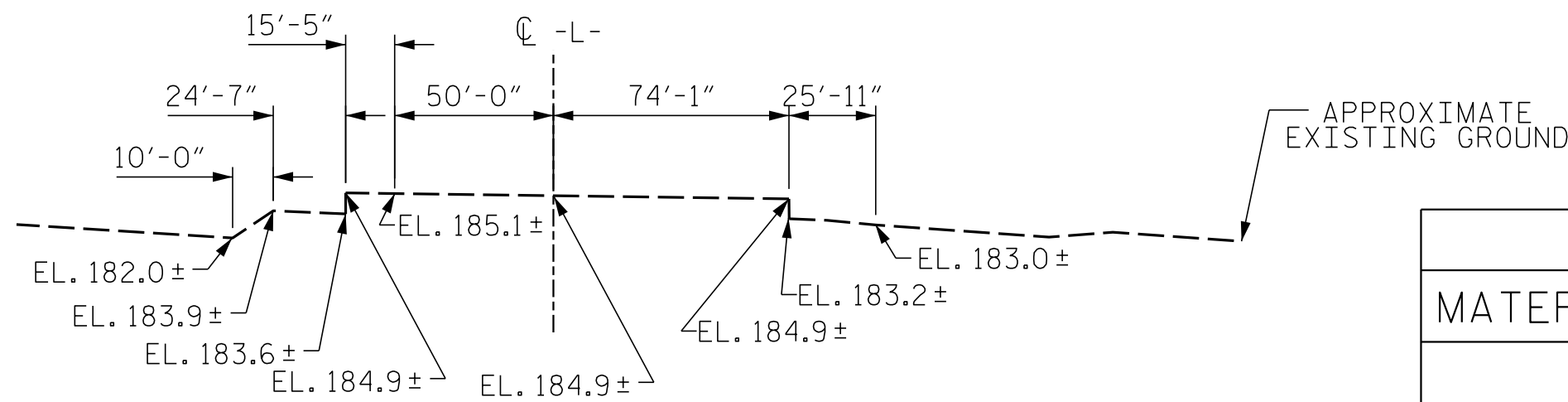
NOTE: SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND fy = 60 ksi.

PROJECT NO. W-5600

JOHNSTON COUNTY

STATION: 155+03.40 -L-

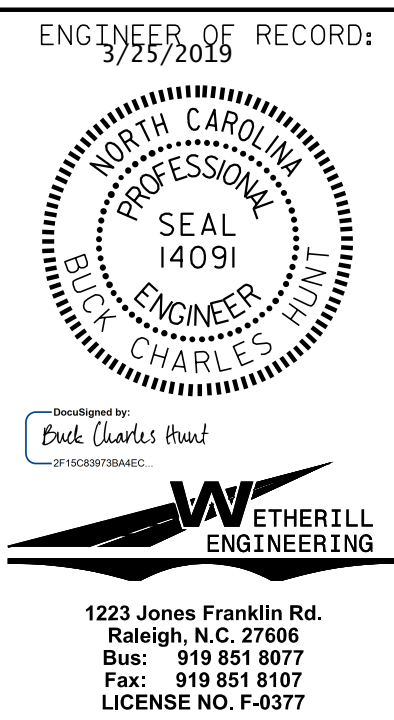
SHEET 1 OF 7 EXISTING STRUCTURE NO. 513



PROFILE ALONG CULVERT

TOTAL BILL OF MATERIAL			
MATERIAL	ELEMENT	STAGE I	STAGE II
CLASS A CONCRETE (CU. YDS.)	BARREL	6.5	13.4
	HEADWALLS	----	1.0
	CURTAIN WALLS	2.4	1.9
	WINGS	7.8	12.6
TOTAL		16.7	28.9
TOTAL		45.6	
REINFORCING STEEL (LBS.)	BARREL	1431	2395
	WINGS	407	752
	TOTAL	1838	3147
TOTAL		4985	
FOUNDATION COND. MAT'L (TONS)	---	9	7
	TOTAL		16
CULVERT EXCAVATION		LUMP SUM	

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

DOUBLE 10 FT. X 6 FT. CONCRETE BOX CULVERT EXTENSION
 89°-53'-56" SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C2-1
1			3			TOTAL SHEETS 7
2			4			

1223 Jones Franklin Rd.
 Raleigh, N.C. 27606
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 Fax: 919 851 8107
 LICENSE NO. F-0377

DRAWN BY : B.C. HUNT DATE : 4-18
 CHECKED BY : J.A. DILWORTH DATE : 5-18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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