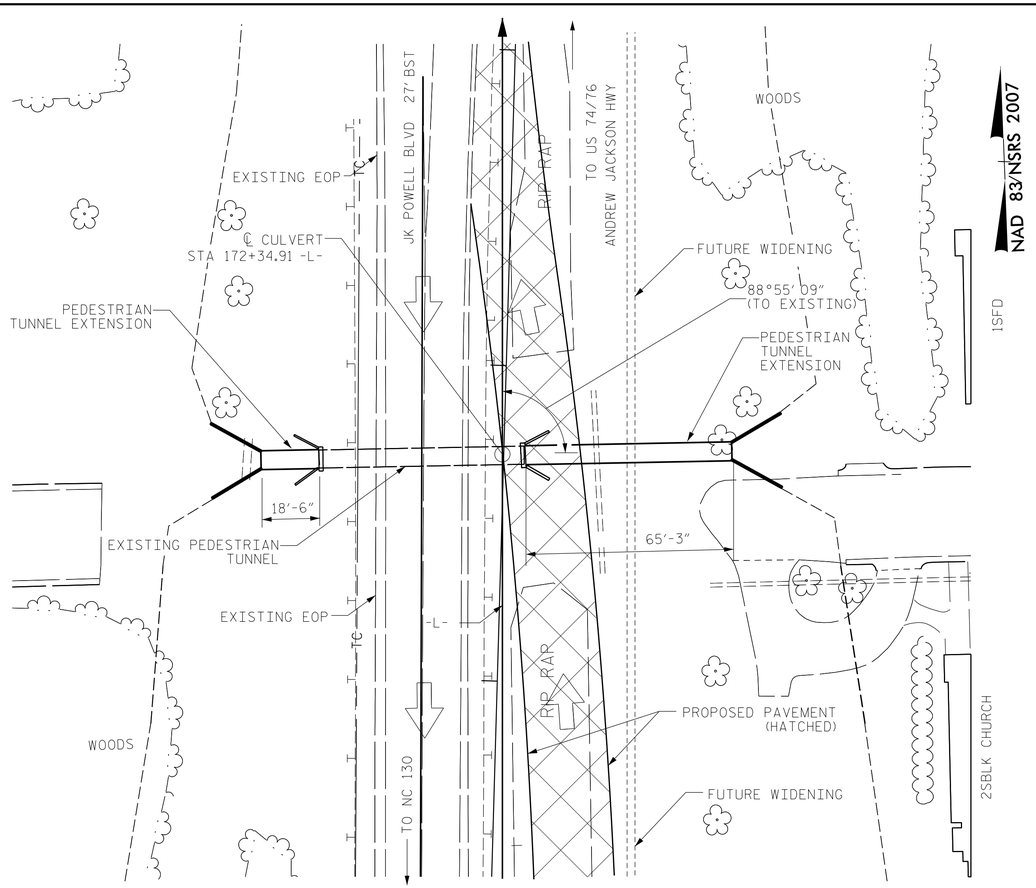
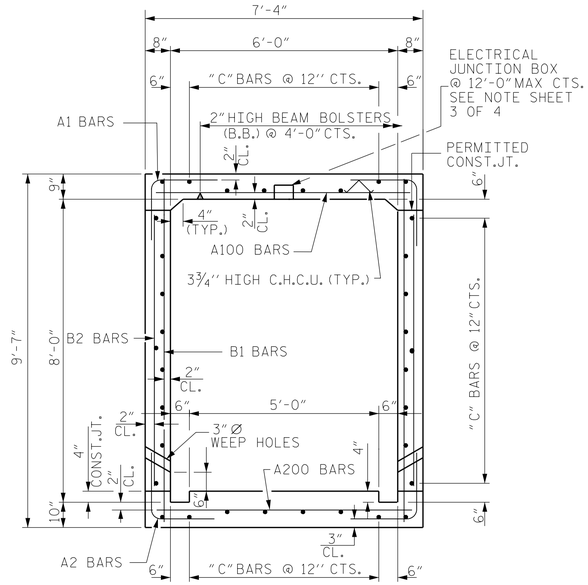
BENCHMARK: BM3 RR SPIKE IN 18" PINE -L- STATION 114+31.86 52.89 RIGHT ELEVATION 52.04



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS

LOCATION SKETCH



RIGHT ANGLE SECTION OF BARREL

THERE ARE 34 "C" BARS IN SECTION OF BARREL

NOTE: EXISTING CULVERT VERTICAL CLEARANCE MAY VARY. TAPER WALL HEIGHT OF PROPOSED CULVERT TO MATCH EXISTING OVER 5' LENGTH IF NECESSARY

NOTES:

ASSUMED LIVE LOAD ----------HL-93 OR ALTERNATE LOADING.

THIS CULVERT HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

DESIGN FILL----------8.6'

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.

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 CONTRACTORS 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.

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.

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 EXTENSIONS. IN THIS CASE, THE BOTTOM SLAB OF THE EXTENSION SHALL BE POURED AT LEAST 72 HOURS PRIOR TO THE CUTTING OF THE WINGS. THE WINGS MAY BE CUT EARLIER PROVIDED THE SLAB CONCRETE HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 1500 psi.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

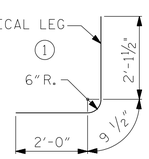
FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE			
BARREL @ 0.89	CY/FT	74.5	C.Y.
WING ETC.		32.1	C.Y.
TOTAL		106.6	C.Y.
REINFORCING STEEL			
BARREL		7236	LBS.
WINGS ETC.		2059	LBS.
TOTAL		9295	LBS.
FOUNDATION CONDITIONING MATERIAL, TONS		67	
CULVERT EXCAVATION,		LUMP SUM	

BAR TYPES



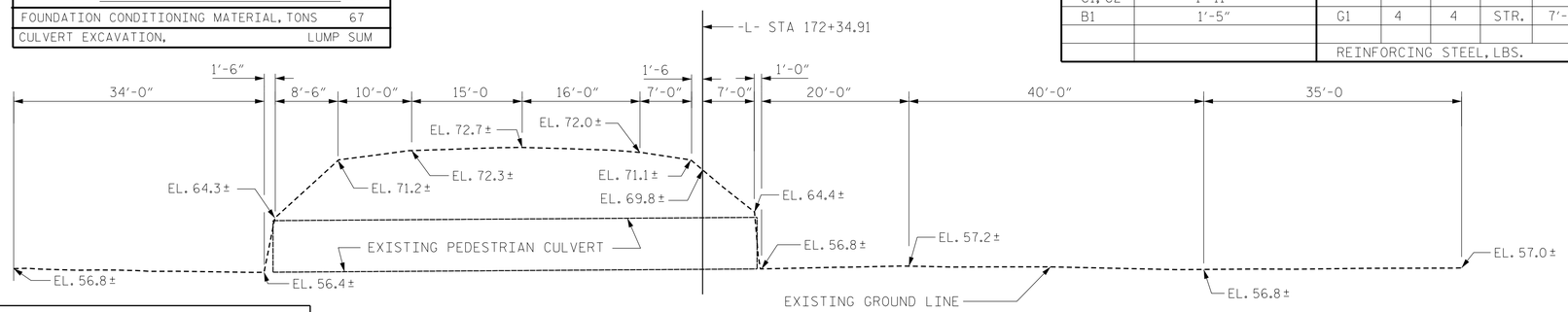
DIMENSIONS ARE OUT TO OUT

SPLICE LENGTHS

BAR	SPLICE LENGTH
C1, C2	1'-11"
B1	1'-5"

REINFORCING STEEL SCHEDULE

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
A1	334	4	1	4'-11"	1097
A2	334	4	1	4'-11"	1097
A100	112	4	STR.	7'-0"	524
A200	112	4	STR.	7'-0"	524
B1	170	4	STR.	9'-2"	1041
B2	170	4	STR.	7'-0"	795
C1	34	4	STR.	18'-2"	413
C2	102	4	STR.	22'-11"	1561
D1	44	6	STR.	2'-6"	165
G1	4	4	STR.	7'-0"	19
REINFORCING STEEL, LBS.					7236



PROFILE ALONG ℄ CULVERT

PROJECT NO. R-5020B

COLUMBUS COUNTY

STATION: 172+34.91 -L-

SHEET 1 OF 4

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BARREL SINGLE 6 FT. X 8 FT. CONCRETE PEDESTRIAN BOX CULVERT EXTENSION

DESIGN ENGINEER OF RECORD: DocuSigned by: DATE: 1/27/2020
DB3C8E45B06D499...

DRAWN BY: K. SU DATE: 10/01/18

CHECKED BY: R. A. PRUETT DATE: 03/29/19

DocuSigned by:
DB3C8E45B06D499...
1/27/2020

NORTH CAROLINA PROFESSIONAL SEAL 14114 ENGINEER ROBERT C. LASSON

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ENGINEERS ● PLANNERS ● SCIENTISTS ● CONSTRUCTION MANAGERS LICENSE NUMBER: C-0764
KCI Associates of North Carolina, P.A.
4505 Falls of Neuse Road, Suite 400 Raleigh, NC 27609-6270 Phone (919) 783-9214

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

SHEET NO. C-1

TOTAL SHEETS 4