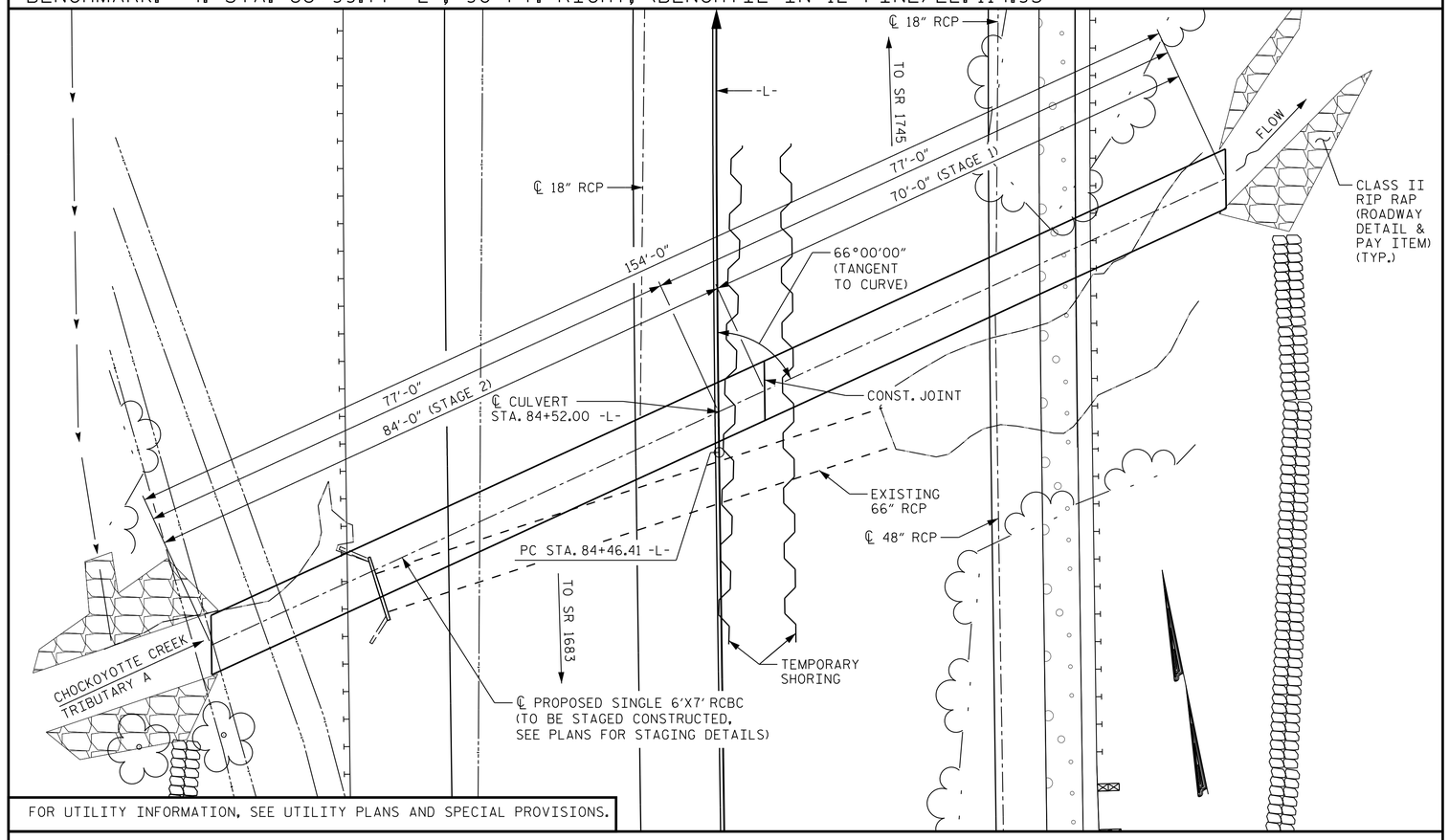
BENCHMARK: #4: STA. 88+99.77 -L-, 90 FT. RIGHT, (BENCHTIE IN 12" PINE) EL. 114.93'



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH

NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

DESIGN FILL = 6.68 FEET.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

3" Ø WEEP HOLES INDICATED TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.

CONCRETE IN STAGE I CULVERT TO BE POURED IN THE FOLLOWING ORDER:

1. WING FOOTINGS, CURTAIN WALL AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB, HEADWALL AND SILL.

CONCRETE IN STAGE II CULVERT TO BE POURED IN THE FOLLOWING ORDER:

1. WING FOOTINGS, CURTAIN WALL AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
2. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB, HEADWALL AND SILL.

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.

THE 18" Ø R.C. PIPES AND 48" Ø R.C. PIPE THROUGH THE SIDEWALLS OF THE CULVERT SHALL BE LOCATED BY THE ENGINEER. THE REINFORCING STEEL SHALL BE FIELD BENT AS NECESSARY TO CLEAR PIPES.

AFTER SERVING AS A TEMPORARY STRUCTURE, THE EXISTING 66" Ø REINFORCED CONCRETE PIPE LOCATED AT THE SAME LOCATION AS THE PROPOSED CULVERT SHALL BE REMOVED. THE EXISTING STRUCTURE IS PRESENTLY NOT POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE STRUCTURE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED STRUCTURE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

AT THE CONTRACTOR'S OPTION, HE MAY SPLICE THE VERTICAL REINFORCING STEEL IN THE INTERIOR FACES OF THE EXTERIOR 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 LIMITS OF TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS. FOR PAY ITEM FOR TEMPORARY SHORING FOR MAINTENANCE OF TRAFFIC, SEE ROADWAY PLANS.

TRAFFIC ON NC 125 SHALL BE MAINTAINED. IN ORDER TO MAINTAIN TRAFFIC THE CULVERT SHALL BE CONSTRUCTED IN SECTIONS AS SHOWN ON THESE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

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.

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.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THIS STRUCTURE IS LOCATED IN SEISMIC ZONE 1.

SEE SECTION 414 OF THE STANDARD SPECIFICATIONS FOR CULVERT EXCAVATION AND BACKFILLING.

EXCAVATE AT LEAST 1 FOOT BELOW THE CULVERT AND FOOTINGS, AND REPLACE THE EXCAVATED MATERIAL WITH CLASS VI SELECT MATERIAL MEETING THE REQUIREMENTS OF SECTION 1016 OF THE STANDARD SPECIFICATIONS.

BACKFILL WING WALLS WITH CLASS II OR BETTER SELECT MATERIAL MEETING THE REQUIREMENTS OF SECTION 1016 OF THE STANDARD SPECIFICATIONS.

HYDRAULIC DATA

DESIGN DISCHARGE	360 C.F.S.
FREQUENCY OF DESIGN FLOOD	50 YR.
DESIGN HIGH WATER ELEVATION	110.3 FT.
DRAINAGE AREA	0.87 SQ. MI.
BASE DISCHARGE (Q100)	400 C.F.S.
FEMA 100	348 C.F.S.
BASE HIGH WATER ELEVATION	110.9 FT.
FEMA 100	110.2 FT.

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	550 C.F.S.
FREQUENCY OF OVERTOPPING FLOOD	> 500 YR.
OVERTOPPING FLOOD ELEVATION	114.31 FT.

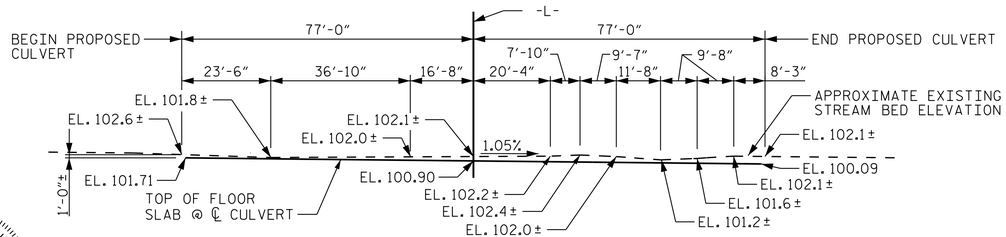
ROADWAY DATA

GRADE POINT ELEV. @ STA 84+52.00 -L- = 113.70'
BED ELEVATION @ STA 84+52.00 -L- = 100.90'
ROADWAY SLOPES 3 : 1

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE	
STAGE 1	72.2 C.Y.
STAGE 2	81.8 C.Y.
TOTAL	154.0 C.Y.
REINFORCING STEEL	
STAGE 1	8,261 LBS.
STAGE 2	9,187 LBS.
TOTAL	17,448 LBS.
REMOVAL OF EXISTING STRUCTURES	LUMP SUM
CULVERT EXCAVATION	LUMP SUM
FOUNDATION CONDITIONING MATERIAL	
STAGE 1	67 TONS
STAGE 2	56 TONS
TOTAL	123 TONS

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS.



PROFILE ALONG ℄ CULVERT

NORTH CAROLINA PROFESSIONAL SEAL 040769 ENGINEER ANDREW L PHILLIPS
DocuSigned by: Andrew Phillips 2BB69ABAD40D43...
5/21/2018

DRAWN BY: P.G. ROBBS DATE: 5/18
CHECKED BY: C.T. POOLE DATE: 5/18
DESIGN ENGINEER OF RECORD: A.L. PHILLIPS DATE: 5/18

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Kimley»Horn
421 Fayetteville Street, Suite 600
Raleigh, NC 27601-1772
Phone (919) 677-2000
NC LICENSE # F-0102

PROJECT NO. U-5725
HALIFAX COUNTY
STATION: 84+52.00 -L-

SHEET 1 OF 8

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SINGLE 6 FT. X 7 FT. CONCRETE BOX CULVERT 66° SKEW

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

5/21/2018 K:\RDT_Structures_Bridge\NC\01036407 - U-5725\Cad\Dgn\U5725_SMU_CUL_410XXX.dgn