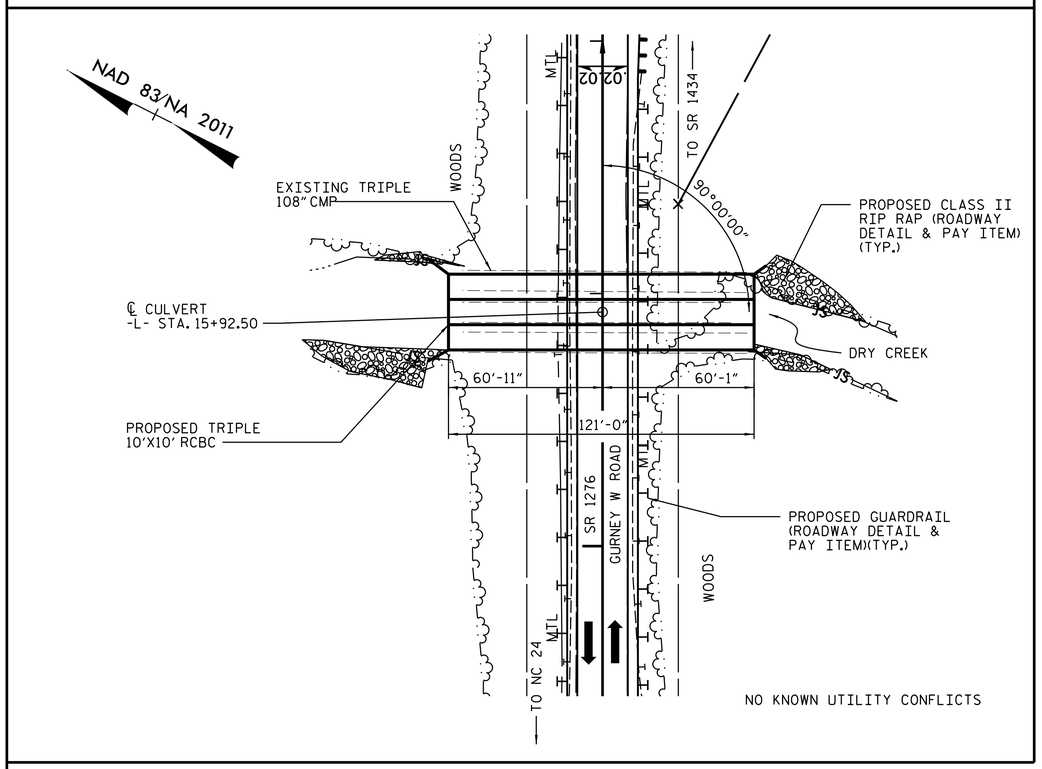
BENCH MARK: BM-#51 BENCH TIE IN 14" POPLAR, 62.26' LT STA 11+71.57 -L- ELEV. 393.0 NAVD 88



LOCATION SKETCH

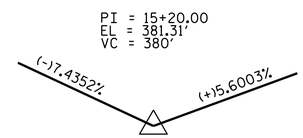
GRADE POINT ELEVATION AT STATION 15+92.50 -L- = 387.74 FT
BED ELEVATION AT STATION 15+92.50 -L- = 354.50 FT
ROADWAY SLOPES 2:1

HYDRAULIC DATA

DESIGN DISCHARGE	= 1400	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 365.8	FT
DRAINAGE AREA	= 10.3	SQ.MI.
BASE DISCHARGE	= 3220	CFS
BASE FREQUENCY	= FEMA 100	YRS
BASE HW ELEVATION	= 372.3	FT

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= N/A	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 387.4	FT



VERTICAL CURVE DATA

NOTES

ASSUMED LIVE LOAD ----------HL93 OR ALTERNATE LOADING.

DESIGN FILL 23.5'

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. STAGE 1 OF WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
2. STAGE 2 OF WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
3. THE REMAINING PORTIONS OF THE WALLS AND WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB, HEADWALLS AND SILLS.

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.

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.

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 FORM WORK, SEE SPECIAL PROVISIONS

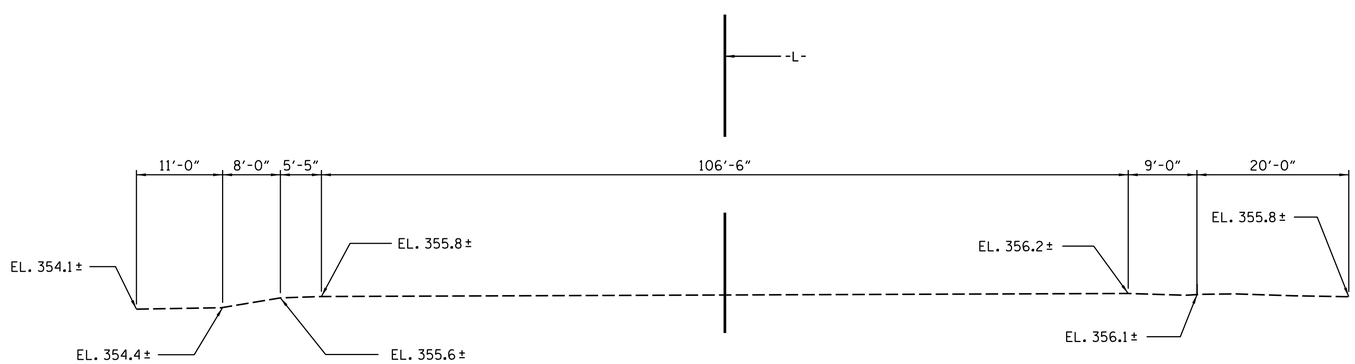
FOR CRANE SAFETY, SEE SPECIAL PROVISIONS

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS

CONSTRUCT THE REINFORCED CONCRETE BOX CULVERT AT STATION 15+92+50 WITH 0" CAMBER TO ACCOUNT FOR ANTICIPATED SETTLEMENT.

BACKFILL WITH SELECT MATERIAL, CLASS III MEETING THE REQUIREMENTS OF SECTION 1016 OF THE STANDARD SPECIFICATIONS.

USE CLASS VI SELECT MATERIAL FOUNDATION CONDITIONING MATERIAL IN ACCORDANCE WITH SECTION 1016 OF THE STNADARD SPECIFICATIONS.



PROFILE ALONG ℄ CULVERT

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE			
BARREL @ 5.42 CY/FT	655.8	C.Y.	
WINGS ETC.	40.1	C.Y.	
TOTAL	695.90	C.Y.	
REINFORCING STEEL			
BARREL	79517	LBS.	
WINGS ETC.	2427	LBS.	
TOTAL	81944	LBS.	
FOUNDATION CONDITIONING MATERIAL	464	TONS *	
CULVERT EXCAVATION	LUMP SUM		

* INCLUDES 143 TONS FOR BACKFILL OF UNDERCUT

I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

PROJECT NO. 17BP.8.R.127

MOORE COUNTY

STATION: 15+92.50 -L-

SHEET 1 OF 6

REPLACES BRIDGE NO. 212

NORTH CAROLINA PROFESSIONAL SEAL 14114 ENGINEER ROBERT C. LARSON

DocuSigned by: DB3C8E45B06D499... 3/20/2018

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TRIPLE 10 FT. X 10 FT. CONCRETE BOX CULVERT 90° SKEW

DESIGN ENGINEER OF RECORD: DocuSigned DB3C8E45B06D499... DATE: 3/20/2018

DRAWN BY: K. SU DATE: 11/20/17

CHECKED BY: R.C. LARSON DATE: 12/13/17

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

KCI Associates of North Carolina, P.A.
RALEIGH OFFICE
CONSULTING ENGINEERS & ECOLOGISTS
LICENSE NUMBER: C-0194
4505 FALLS OF NEUSE ROAD SUITE 400
RALEIGH, N.C. 27609-5260
PHN 919-878-9560

DWG. REF. NO. 1 OF 6

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

SHEET NO. C-1

TOTAL SHEETS 6