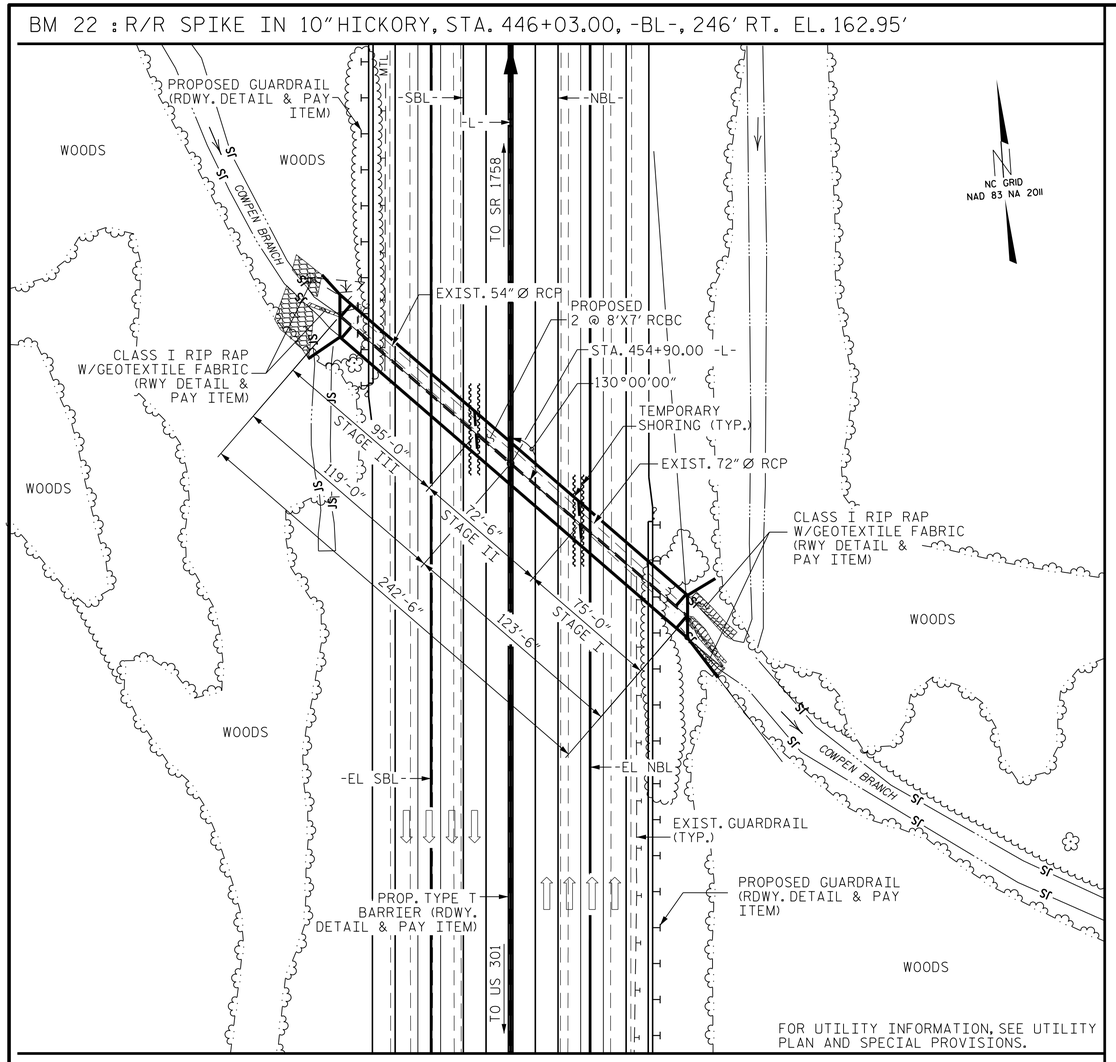


ROADWAY DATA

GRADE PT. EL. @ STA. 454+90.00 -NBL-	= 168.30'
BED ELEV. @ STA. 454+90.00 -L-	= 154.40'
ROADWAY SLOPE	= 3 : 1

HYDRAULIC DATA

DESIGN DISCHARGE	= 550 CFS
FREQUENCY OF DESIGN FLOOD	= 100 YRS.
DESIGN HIGH WATER ELEVATION	= 164.5'
DRAINAGE AREA	= 1.66 SQ. MI.
BASE DISCHARGE (Q100)	= 550 CFS
BASE HIGH WATER ELEVATION	= 164.5'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 330± CFS
FREQUENCY OF OVERTOPPING FLOOD	= 10 YRS.
OVERTOPPING FLOOD ELEVATION	= 162.9' ✳

✳ OT AT DRAINAGE DIVIDE @ STA. 444+50.00 -L- LT. ELEV. = 162.9'

TOTAL STRUCTURE QUANTITIES

CULVERT EXCAVATION	LUMP SUM
FOUNDATION COND. MATERIAL	
STAGE I	116 TONS
STAGE II	113 TONS
STAGE III	147 TONS
TOTAL	376 TONS
CLASS A CONCRETE	
STAGE I	148.1 C.Y.
STAGE II	123.7 C.Y.
STAGE III	181.1 C.Y.
TOTAL	452.9 C.Y.
REINFORCING STEEL	
STAGE I	21,805 LBS.
STAGE II	19,756 LBS.
STAGE III	26,878 LBS.
TOTAL	68,439 LBS.

NOTES

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

FOR CULVERT DIVERSION DETAILS AND PAY ITEM, SEE EROSION CONTROL PLANS.

FOR CONSTRUCTION SEQUENCE, EROSION CONTROL AND MEASURES, SEE EROSION CONTROL PLANS.

DESIGN FILL---------- 6.28'

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:

STAGES I - CONSTRUCT RCBC SECTION AT OUTLET END.
STAGES III - CONSTRUCT RCBC SECTION AT INLET END.

1. WING FOOTINGS AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
2. SILLS WITH NATIVE MATERIAL BACKFILL IN BOTH BARRELS.
3. FOLLOWED BY THE WING WALLS FULL HEIGHT. ROOF SLAB AND HEADWALL.

STAGE II - CONSTRUCT RCBC INTERMEDIATE SECTION.

1. FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
2. FOLLOWED BY NATIVE MATERIAL BACKFILL AND ROOF SLAB.

THE CONTRACTOR 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 BARRELS ARE SHOWN ON WING SHEET.

TRANSVERSE CONSTRUCTION JOINTS SHALL BE USED IN THE BARRELS, 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 SHALL BE PAID FOR BY CONTRACTOR.

AT THE CONTRACTOR'S 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.

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.

NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.

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.

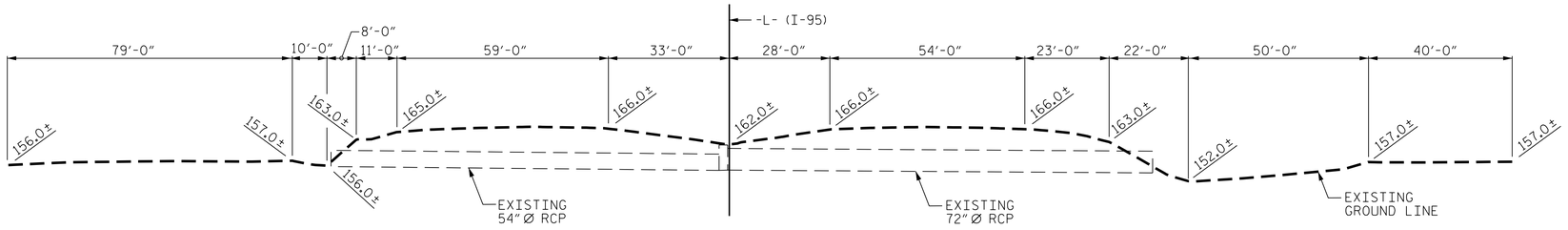
FOR TRAFFIC PHASING, LIMITS OF TEMPORARY SHORING, SEE TRAFFIC CONTROL PLANS.

FOR PAY ITEM FOR TEMPORARY SHORING, SEE ROADWAY PLANS.

FOUNDATION NOTES

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

SEE SECTION 414 OF THE STANDARD SPECIFICATIONS FOR CULVERT EXCAVATION AND BACKFILLING. EXCAVATE 1 FOOT BELOW CULVERT AND FOOTING AND REPLACE WITH FOUNDATION CONDITIONING MATERIAL IN ACCORDANCE WITH ARTICLE 414-4 OF THE STANDARD SPECIFICATIONS.



PROFILE ALONG ℄ CULVERT

PROJECT NO. I-5987A

ROBESON COUNTY

STATION: 454+90.00 -L-

SHEET 1 OF 8 STRUCTURE NO. E27

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BARREL STANDARD

DOUBLE 8 FT. X 7 FT. CONCRETE BOX CULVERT 130° SKEW

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CDM Smith
CDM SMITH
5400 Glenwood Avenue, Suite 400
Raleigh, NC 27612-3228
NC COA No. F-1255

DRAWN BY : JJR DATE : 10/21
CHECKED BY : THF DATE : 11/21
DESIGN ENGINEER : VDK DATE : 12/21

DWG. No.

NORTH CAROLINA PROFESSIONAL SEAL 16301 ENGINEER TING HSIUNG FANG
Ting Fang
60E43C9AEA60462...
3/17/2022

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C13-1
1			3			TOTAL SHEETS
2			4			8

SITE 13