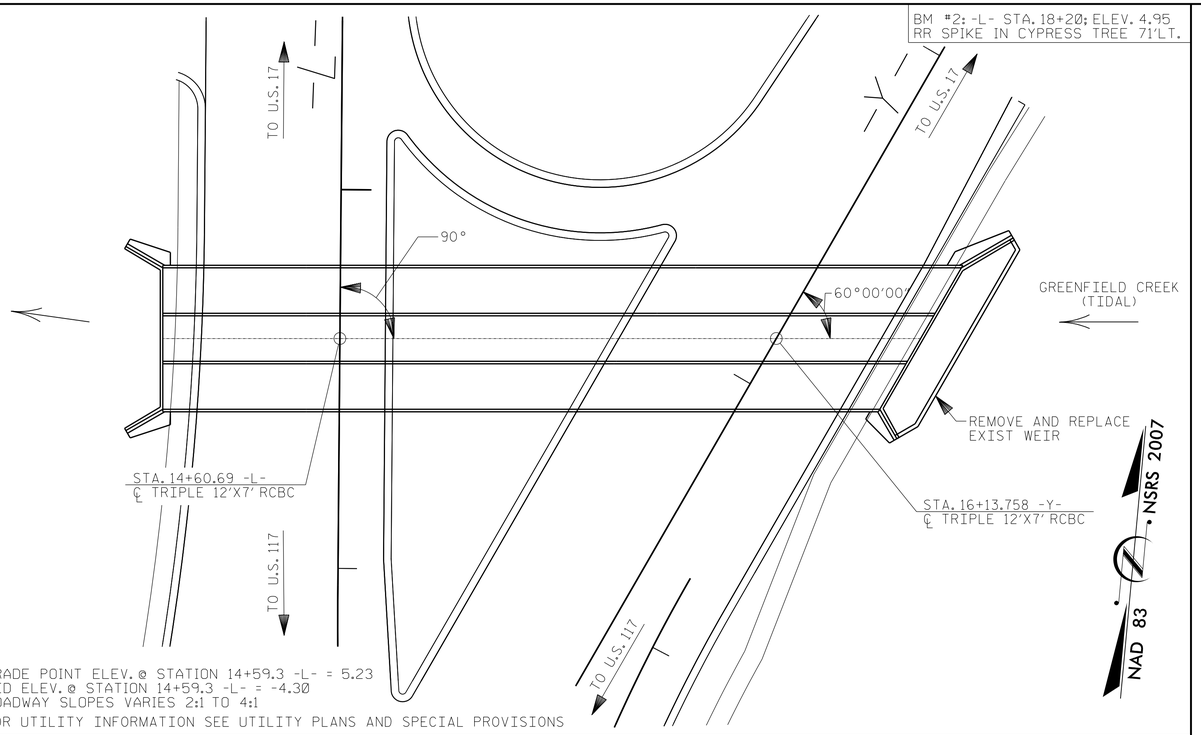


LOCATION SKETCH

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE			
BARREL @ 3.79	CY/FT	759.16	C.Y.
WING ETC.		29.53	C.Y.
TOTAL		788.69	C.Y.
REINFORCING STEEL			
BARREL		124,206	LBS.
WINGS ETC.		2229	LBS.
TOTAL		126,435	LBS.
CULVERT EXCAVATION•		1	LS
FOUNDATION CONDITIONING MATERIAL		546	TONS
RIP RAP CLASS II		31	TON
GEOTEXTILE FABRIC		28	S.Y.
1½" GALVANIZED STEEL PIPE		145	L.F.

•PAYMENT FOR REMOVAL OF EXISTING CULVERT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR CULVERT EXCAVATION.

HYDRAULIC DATA

DESIGN DISCHARGE_____= 3000 CFS
FREQUENCY OF DESIGN FLOOD_____= 50 YR.
DESIGN HIGH WATER ELEVATION_____= 6.8 FT.
DRAINAGE AREA_____= 4.0 SQ. MI.
BASE DISCHARGE (Q100)_____= 3300 CFS
BASE HIGH WATER ELEVATION_____= 6.89 FT.

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE_____= <1700 CFS
FREQUENCY OF OVERTOPPING FLOOD_____= <5 YR.
OVERTOPPING FLOOD ELEVATION_____= 5.4 FT.

NOTES:

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

DESIGN FILL = 1.5 FEET

FOR OTHER DESIGN DATA AND NOTES, SEE STANDARD NOTE SHEET SN.

THE 18 INCH DIAMETER PIPE, AND 15 INCH DIAMETER PIPE THROUGH THE SIDEWALL OF THE CULVERT SHALL BE LOCATED BY THE ENGINEER. THE REINFORCING STEEL SHALL BE FIELD BENT AS NECESSARY TO CLEAR PIPES.

THE 36 INCH DIAMETER PIPE, AND 15 INCH DIAMETER PIPE THROUGH THE WING WALLS SHALL BE LOCATED BY THE ENGINEER. THE REINFORCING STEEL SHALL BE FIELD BENT AS NECESSARY TO CLEAR PIPES.

TRAFFIC ON FRONT STREET AND BURNETT BOULEVARD SHALL BE MAINTAINED AT VARIOUS STAGES OF CONSTRUCTION. IN ORDER TO MAINTAIN TRAFFIC, THE CULVERT SHALL BE CONSTRUCTED IN SECTIONS AS DIRECTED BY THE ENGINEER, AND IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.

STEEL IN THE BOTTOM SLAB MAY BE SPLICED AT THE PERMITTED CONSTRUCTION JOINT AT THE CONTRACTOR'S OPTION. EXTRA WEIGHT OF THE STEEL DUE TO THE SPLICES WILL 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 THE APPROVAL OF THE ENGINEER.

ONE PERMITTED CONSTRUCTION JOINT WILL BE ALLOWED IN THE END CURTAIN WALL.

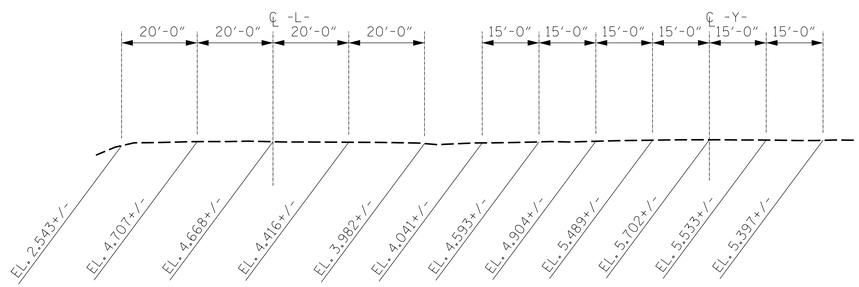
FOR CULVERT DIVERSION DETAILS AND PAY ITEMS, SEE EROSION CONTROL PLANS.

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.

NO PRECAST REINFORCED BOX CULVERT OPTION WILL BE ALLOWED.

BED MATERIAL PLACED BETWEEN SILLS IN THE CULVERT SHALL PROVIDE A CONTINUOUS LOW FLOW CHANNEL BETWEEN THE LOWER SILLS. THE MATERIAL SHALL BE EXCAVATED FROM THE STREAM OR FLOODPLAIN AT THE PROJECT SITE DURING CONSTRUCTION. ONLY MATERIAL THAT IS EXCAVATED FROM THE STREAM BED MAY LINE THE LOWER SILLS. RIPRAP MAY BE USED TO SUPPLEMENT NATIVE MATERIAL IN THE HIGH SILL BARREL. IF RIPRAP IS USED, NATIVE MATERIAL SHALL BE PLACED TO FILL ALL VOIDS AND PROVIDE A LEVEL SURFACE FOR ANIMAL PASSAGE. NATIVE MATERIAL IS SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.

THE ENGINEER SHALL CHECK THE LENGTH OF THE CULVERT BEFORE STAKING IT OUT TO VERIFY THAT IT WILL PROPERLY TAKE CARE OF THE FILL.



PROFILE ALONG ℄ CULVERT

NOTES (CONTINUED):

DIMENSIONS FOR THE WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL SHOWN ON WING SHEETS.

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

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 SCOUR CRITICAL ELEVATION IS THE AS-BUILT BOTTOM OF CULVERT FLOOR SLAB ELEVATION. SCOUR CRITICAL ELEVATIONS ARE USED TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.

CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:

1. WING FOOTINGS AND CULVERT FLOOR SLAB INCLUDING 4 INCHES OF VERTICAL WALLS.
2. THE REMAINING PORTIONS OF THE WALLS AND WINGS TO FULL HEIGHT.
3. ROOF SLABS AND HEAD WALLS.
4. CONSTRUCTION JOINTS SHALL BE PERMITTED IN ORDER TO CONSTRUCT CULVERT IN ACCORDANCE WITH THE VARIOUS TRAFFIC CONTROL STAGES.

CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL, A DETAILED DEMOLITION PLAN FOR THE REMOVAL OF THE EXISTING CONCRETE CULVERT.

PROJECT NO. 17BP.3.R.28
NEW HANOVER COUNTY
STATION: 14+60.69 -L-

REPLACES CULVERT NO. 640028

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL SEAL 030046 ENGINEER MATTHEW PAYNE
Docusigned by: Matthew Payne
9/28/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TRIPLE 12 FT. X 7 FT. CONCRETE BOX CULVERT 90°(-L-) 60°(-Y-) SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C-2
1			3			TOTAL SHEETS
2			4			11

ATKINS
1616 E. MILLBROOK ROAD, SUITE #310
RALEIGH, NORTH CAROLINA 27609
(919) 876-6888 NCBEES #F-0326

DRAWN BY : C. DESROCHERS DATE : MAY 2014
CHECKED BY : M. PAYNE DATE : MAY 2014

28-SEP-2016 14:26
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