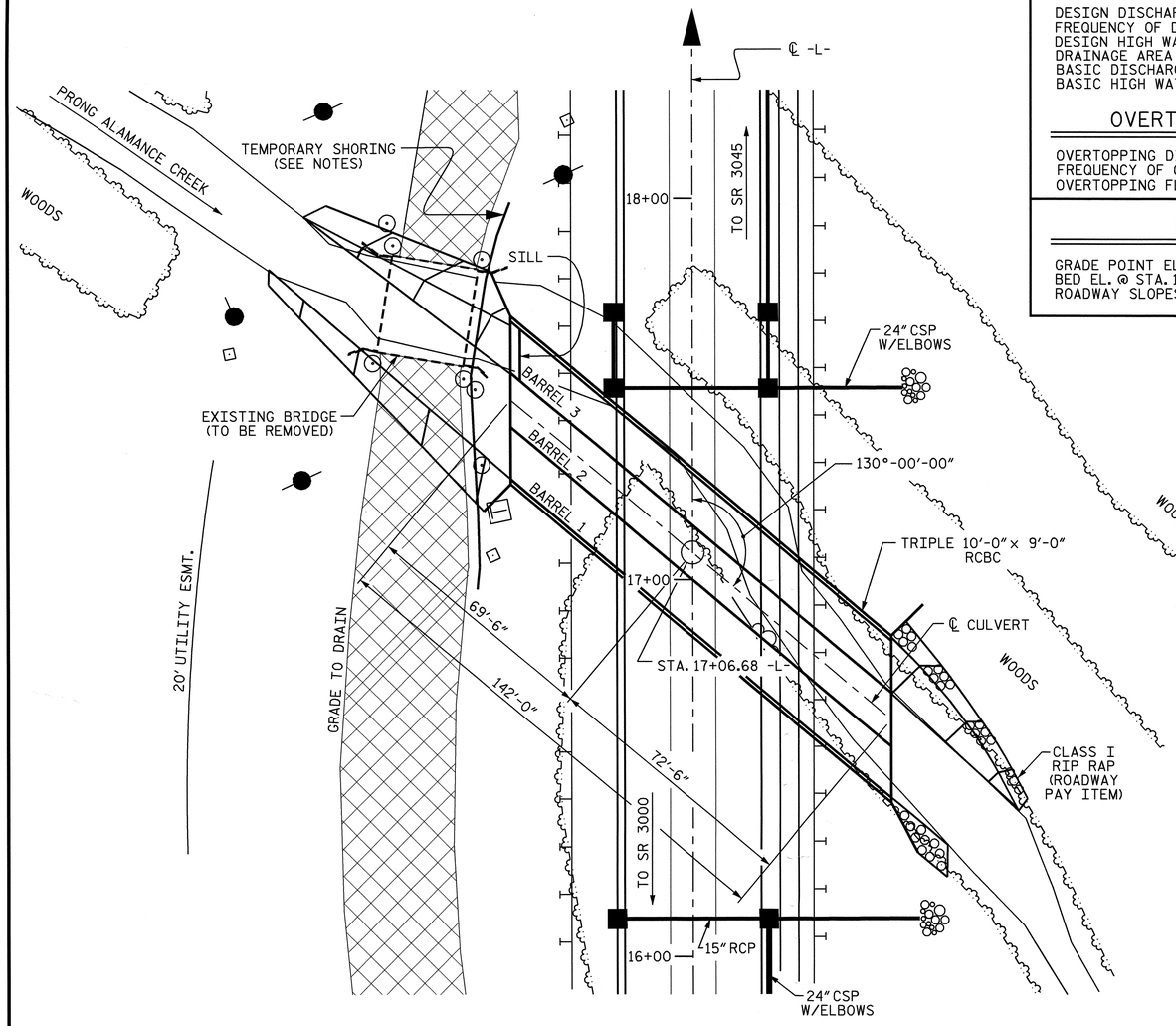
NC DOT BENCHMARK #2 -BL- STA. 17+97.53 (57.15' RT) ELEV. 628.820



LOCATION SKETCH

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS

HYDRAULIC DATA

DESIGN DISCHARGE	= 1200 CFS
FREQUENCY OF DESIGN FLOOD	= 25 YRS
DESIGN HIGH WATER ELEVATION	= 627.000
DRAINAGE AREA	= 2.3 SQ.MILE
BASIC DISCHARGE (Q100)	= 1960 CFS
BASIC HIGH WATER ELEVATION	= 630.800

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 3630 CFS
FREQUENCY OF OVERTOPPING FLOOD	= 500 YRS
OVERTOPPING FLOOD ELEVATION	= 637.500

ROADWAY DATA

GRADE POINT EL. @ STA.17+06.68 -L-	= 636.49
BED EL. @ STA. 17+06.68 -L-	= 618.380
ROADWAY SLOPES	= 2 :1

TOTAL STRUCTURE QUANTITIES

CONST. OF CULVERT	---------- LUMP SUM
CULVERT EXCAVATION	---------- LUMP SUM
FOUNDATION COND. MATERIAL	327 TONS
REMOVAL OF EXISTING STRUCTURE	------ LUMP SUM

CONCRETE, REINFORCING STEEL QUANTITIES

CLASS A CONCRETE

BARREL @ 3.119	CY/FT	442.9	C.Y.
WING ETC.		58.5	C.Y.
TOTAL		501.4	C.Y.

REINFORCING STEEL

BARREL	87605	LBS.
WINGS ETC.	5079	LBS.
TOTAL	92684	LBS.

F. A. PROJECT BRZ-3143(9)

NOTES

ASSUMED LIVE LOAD ----------HS20-44 OR ALTERNATE LOADING.

DESIGN FILL----------9.05 FT.

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 @ BARREL 1 AND FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.
2. THE REMAINING PORTIONS OF THE WALLS AND WINGS @ BARREL 1 FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS.
3. WING FOOTINGS @ BARREL 3.
4. WINGS FULL HEIGHT @ BARREL 3.
5. 2'-0" SILL IN BARREL 3 (UPSTREAM END)

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.

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 THE CONTRACTOR.

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.

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.

THE CONTRACTOR SHALL PROVIDE INDEPENDENT ASSURANCE SAMPLES OF REINFORCING STEEL AS FOLLOWS: FOR PROJECTS REQUIRING UP TO 400 TONS OF REINFORCING STEEL, ONE 30 INCH SAMPLE OF EACH SIZE BAR USED, AND FOR PROJECTS REQUIRING OVER 400 TONS OF REINFORCING STEEL, TWO 30 INCH SAMPLES OF EACH SIZE BAR USED. THE BARS FROM WHICH THE SAMPLES ARE TAKEN MUST THEN BE SPLICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.

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

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS SEE SPECIAL PROVISIONS.

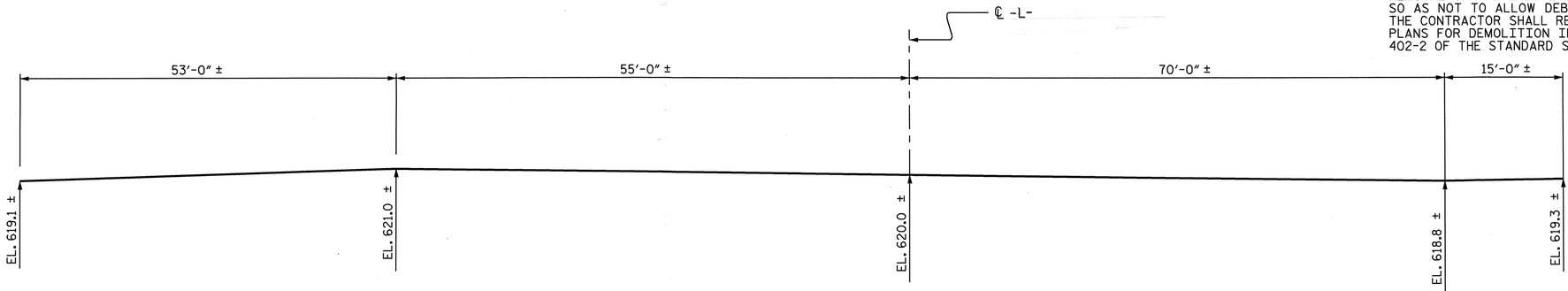
FOR CONSTRUCTION OF CULVERT, SEE SPECIAL PROVISIONS.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "REMOVAL OF EXISTING STRUCTURE AT STA. 17+06.68 -L-.

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.

THE EXISTING STRUCTURE CONSISTING OF ONE SPAN (@ 25.6'), WITH A CLEAR ROADWAY WIDTH OF 22.2' AND HAVING A TIMBERDECK ON I BEAMS SUPERSTRUCTURE AND A SUBSTRUCTURE CONSISTING OF A TIMBER CAP ON TIMBER PILES, CONCRETE ENCASED, TIMBERBULKHEAD SHALL BE REMOVED. THE EXISITING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL REMOVE THE BRIDGE AND SUBMIT PLANS FOR DEMOLITION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.



PROFILE ALONG ℄ CULVERT

PROJECT NO. B-3651

GUILFORD COUNTY

STATION: 17+06.68 -L-

SHEET 1 OF 4 REPLACES BRIDGE NO. 359

NORTH CAROLINA PROFESSIONAL SEAL 9804 ENGINEER MARK ALLEN ROWAN COUNTY NORTH CAROLINA
4-5-04

NORTH CAROLINA PROFESSIONAL SEAL 11259 ENGINEER DAVID R. ANDERSON
3-30-04

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BARREL STANDARD TRIPLE 10 FT. X 9 FT. CONCRETE BOX CULVERT

OCTOBER 1989

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

ASSEMBLED BY : J.L. WALTON	DATE : 10/6/03	SPECIAL
CHECKED BY : M.A. ALLEN	DATE : 2/4/04	
DRAWN BY : JOHN ROUSE	DATE : OCT.1989	STANDARD
CHECKED BY : A.R. BISSETTE	DATE : 10-1-90	

30-MAR-2004 15:09

SID NO. CB553A