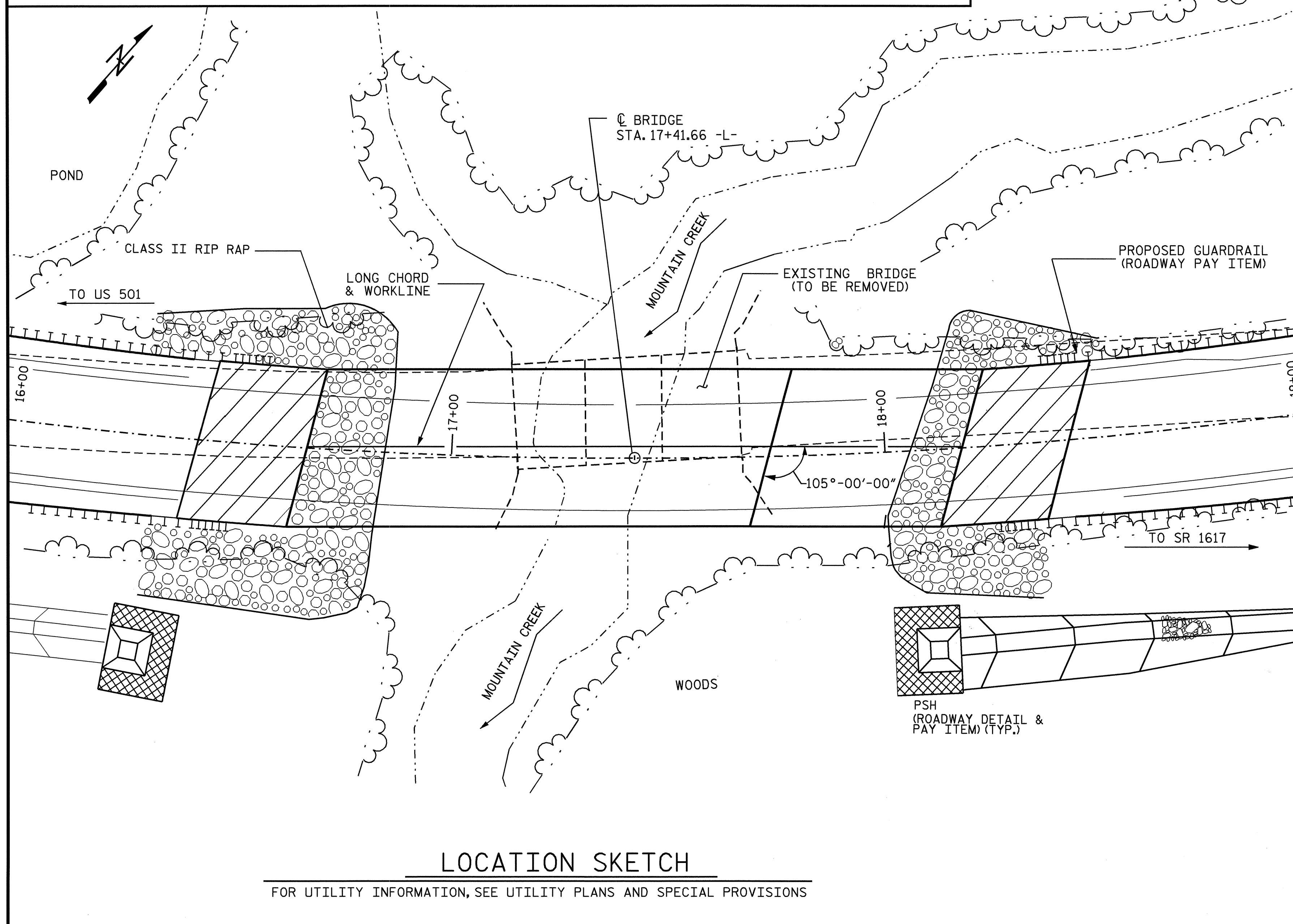


**TOTAL BILL OF MATERIAL**

	REMOVAL OF EXISTING STRUCTURE	3'-6" DIA. DRILLED PIERS IN SOIL	3'-6" DIA. DRILLED PIERS NOT IN SOIL	SID INSPECTION	CROSSHOLE SONIC LOGGING	UNCLASSIFIED STRUCTURE EXCAVATION	GROOVING BRIDGE FLOORS	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	SPIRAL COLUMN REINFORCING STEEL	HP 12 X 53 STEEL PILES	STEEL PILE POINTS	2 BAR METAL RAIL	1'-2" x 3'-3/2" CONCRETE PARAPET	PLAIN RIP RAP CLASS II (2'-0" THICK)	FILTER FABRIC FOR DRAINAGE	ELASTOMERIC BEARINGS	EVAZOTE JOINT SEALS	CONCRETE WEARING SURFACE	3'-0" x 2'-3" PRESTRESSED CONCRETE BOX BEAMS	3'-0" x 3'-3" PRESTRESSED CONCRETE BOX BEAMS	
	LUMP SUM	LIN. FT.	LIN. FT.	EACH	EACH	CU.YDS.	SQ. FT.	CU.YDS.	LUMP SUM	LBS.	LBS.	NO.	LIN. FT.	EACH	LIN. FT.	TONS	SQ. YARDS	LUMP SUM	LUMP SUM	SQ. FT.	LIN. FT.	LIN. FT.	
SUPERSTRUCTURE							6436		LUMP SUM					279.74	295.33			LUMP SUM	LUMP SUM	5390	569.02	1349.02	
END BENT 1						875		23.2		3793		11	110	11		504	560						
BENT 1		22.5	32.0	1	1			27.1		8522	1,446												
END BENT 2						575		19.3		3452		10	100	10		216	240						
<b>TOTAL</b>	<b>LUMP SUM</b>	<b>22.5</b>	<b>32.0</b>	<b>1</b>	<b>1</b>	<b>1450</b>	<b>6436</b>	<b>69.6</b>	<b>LUMP SUM</b>	<b>15,767</b>	<b>1,446</b>	<b>21</b>	<b>210</b>	<b>21</b>	<b>279.74</b>	<b>295.33</b>	<b>720</b>	<b>800</b>	<b>LUMP SUM</b>	<b>LUMP SUM</b>	<b>5390</b>	<b>569.02</b>	<b>1349.02</b>

BENCH MARK : BM #764 -BL- STA 15+98 LEFT 53', -L- STA 18+51.42 LEFT 47.85', ELEV. 378.56



**LOCATION SKETCH**

FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS

**NOTES**

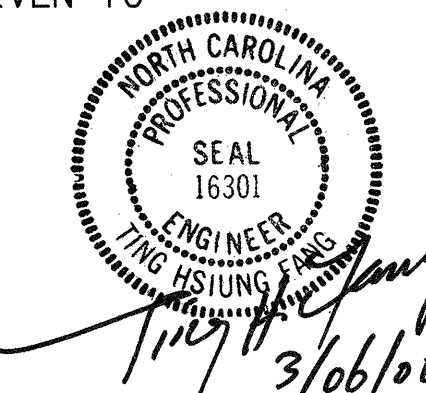
- THIS BRIDGE HAS BEEN DESIGNED BY THE STRENGTH DESIGN METHOD AS SPECIFIED IN AASHTO STANDARD SPECIFICATIONS.
  - ASSUMED LIVE LOAD = HS 20 OR ALTERNATE LOADING EXCEPT THAT BOX BEAMS IN SPAN B HAVE BEEN DESIGNED FOR HS25.
  - FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
  - FOR EROSION CONTROL MEASURES SEE EROSION CONTROL PLANS.
  - THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH HEC 18, "EVALUATING SCOUR AT BRIDGES", NOVEMBER, 1995.
  - THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES FOR SEISMIC PERFORMANCE CATEGORY A.
  - 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 SPICED WITH REPLACEMENT BARS OF THE SIZE AND LENGTH OF THE SAMPLE, PLUS A MINIMUM LAP SPLICE OF THIRTY BAR DIAMETERS.
  - THE DRILLED PIERS AT BENT NO.1 HAVE BEEN DESIGNED FOR BOTH SKIN FRICTION AND END BEARING. CHECK FIELD CONDITIONS FOR THE REQUIRED END BEARING CAPACITY OF 30 TONS/SF.
  - DRILLED PIERS FOR BENT NO.1 HAVE BEEN DESIGNED FOR AN APPLIED LOAD OF 377 TONS EACH AT THE TOP OF THE COLUMN.
  - DRILLED PIERS NO.1, NO.2, NO.3 AT BENT NO.1 MUST EXTEND TO AN ELEVATION NO HIGHER THAN 358 FT., 357 FT., AND 356 FT. RESPECTIVELY AND SATISFY THE REQUIRED BEARING CAPACITY.
  - THE REQUIRED TIP BEARING CAPACITY FOR BENT NO.1 SHALL BE VERIFIED.
  - PERMANENT STEEL CASING IS NOT REQUIRED FOR DRILLED PIERS AT BENT NO.1.
  - FOR DRILLED PIERS, SEE SPECIAL PROVISIONS.
  - SPT TESTING IS NOT REQUIRED TO DETERMINE THE END BEARING CAPACITY OF THE DRILLED PIERS AT BENT NO.1
  - SID INSPECTIONS MAY BE REQUIRED TO INSPECT THE BOTTOM CLEANLINESS OF THE DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR SID INSPECTIONS. SEE DRILLED PIER SPECIAL PROVISIONS.
  - CSL TUBES ARE REQUIRED AND CSL TESTING MAY BE REQUIRED FOR THE DRILLED PIERS. THE ENGINEER WILL DETERMINE THE NEED FOR CSL TESTING. SEE CROSSHOLE SONIC LOGGING SPECIAL PROVISIONS.
  - FOR STEEL H PILES, SEE SPECIAL PROVISIONS.
  - THE SCOUR CRITICAL ELEVATION FOR BENT NO.1 IS 367 FT. BRIDGE MAINTENANCE USES SCOUR CRITICAL ELEVATIONS TO MONITOR POSSIBLE SCOUR PROBLEMS DURING THE LIFE OF THE STRUCTURE.
  - PILES FOR END BENTS NO.1 & NO.2 SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 75 TONS EACH.
  - FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- WHEN DRIVING PILES, THE MAXIMUM BLOW COUNT SHALL NOT BE EXCEEDED.
  - STEEL PILE POINTS ARE REQUIRED FOR STEEL PILES AT END BENT NO.1 AND NO.2. SEE STEEL PILE POINT SPECIAL PROVISIONS.
  - SLURRY CONSTRUCTION WILL NOT BE USED FOR THIS PROJECT.
  - THE EXISTING BRIDGE CONSISTING OF 1 SPAN @ 17'-6", 1@ 16'-9", AND 1@ 17'-6"; 24'-2" CLEAR ROADWAY WIDTH AND TIMBER FLOOR JOIST; END BENTS AND INTERIOR BENTS; TIMBER CAPS ON TIMBER POSTS AND CONCRETE SILLS, AND LOCATED AT PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED BELOW THE LEGAL LOAD LIMIT. SHOULD STRUCTURAL INTEGRITY OF THE BRIDGE FURTHER DETERIORATE, THIS LOAD LIMITATION MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF PROJECT.
  - THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.
  - 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.
  - FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
  - FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
  - THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA SHALL BE EXCAVATED FOR A DISTANCE OF 40 FT. LEFT SIDE AND 30 FT. RIGHT SIDE OF ROADWAY CENTERLINE AT END BENT 1 AND END BENT NO.2 AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE MEASURED AND PAID FOR AS UNCLASSIFIED STRUCTURE EXCAVATION.
  - NO WAITING PERIOD IS REQUIRED FOR END BENT CONSTRUCTION AFTER COMPLETION OF THE EMBANKMENT.

PROJECT NO. B-4110  
DURHAM COUNTY  
 STATION: 17+41.66 -L-

SHEET 3 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
**FOR BRIDGE ON SR 1616**  
**OVER MOUNTAIN CREEK**  
**BETWEEN**  
**US 501 AND SR 1617**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			27



DRAWN BY : N.Q. TRAN DATE : 7-29-05  
 CHECKED BY : S. M. RASHIDI DATE : 10-29-05

03-MAR-2006 10:33  
 J:\STRUCTURES\FINAL PLANS\B-4110.ecd.01.sk.dgn  
 danderson