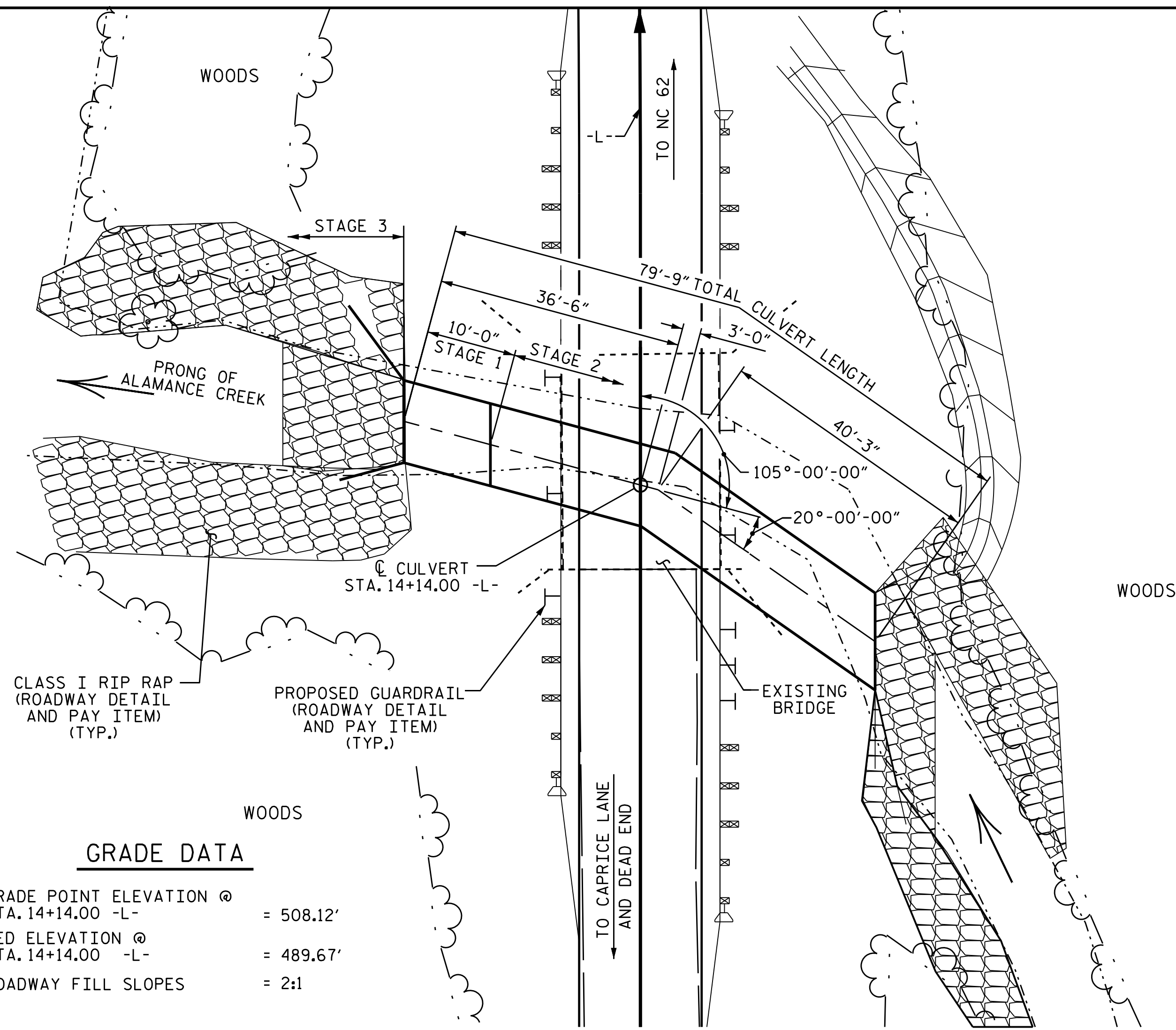


BM#1: RR SPIKE IN BASE OF 27" RED OAK, STA. 31+82.00 -BL-, 151' RIGHT, ELEV. 515.66



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

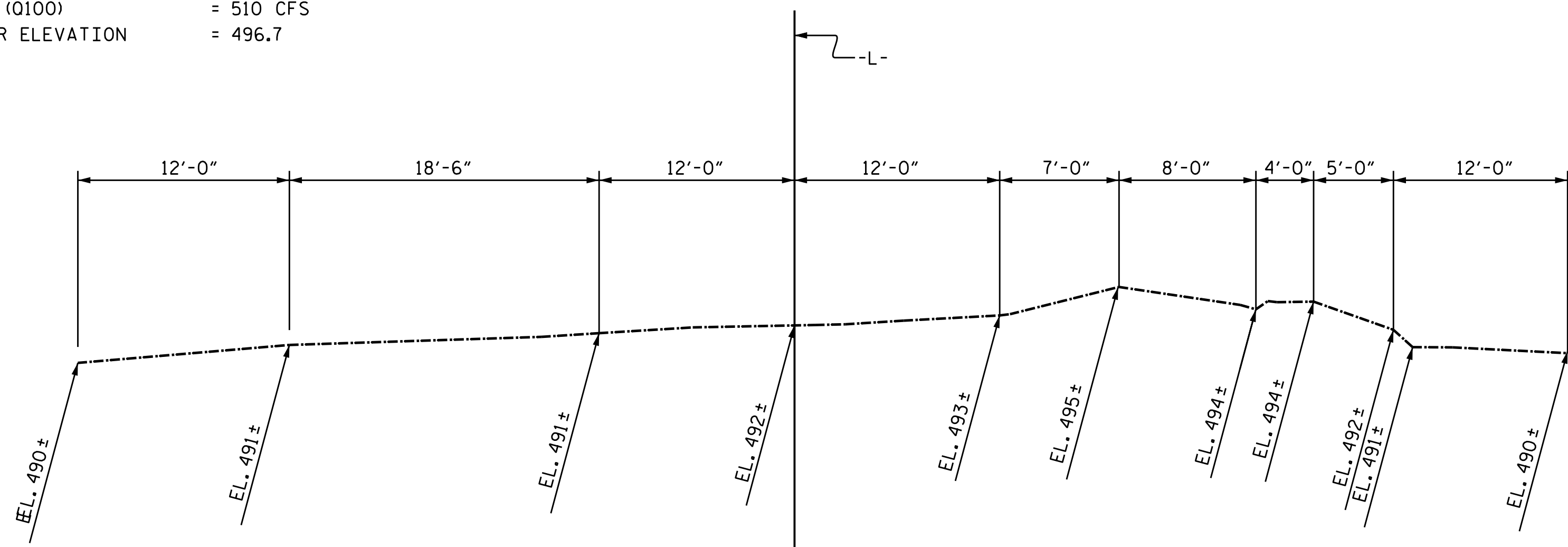
LOCATION SKETCH

HYDRAULIC DATA

DESIGN DISCHARGE = 450 CFS  
 FREQUENCY OF DESIGN FLOOD = 25 YRS.  
 DESIGN HIGH WATER ELEVATION = 496.3  
 DRAINAGE AREA = 0.49 SQ. MI.  
 BASE DISCHARGE (Q100) = 510 CFS  
 BASE HIGH WATER ELEVATION = 496.7

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE = 580+ CFS  
 FREQUENCY OF OVERTOPPING FLOOD = >500+ YRS.  
 OVERTOPPING FLOOD ELEVATION = 508.0  
 OVERTOPPING OCCURS AT STA. 14+53 -L-



DRAWN BY : REZA KOUCHEKI DATE : 7/28/16  
 CHECKED BY : K.W. ALFORD DATE : 3/30/17  
 DESIGN ENGINEER OF RECORD : K.W. ALFORD DATE : 3/30/17

25-SEP-2017 08:54  
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 jshawk

NOTES

ASSUMED LIVE LOAD ----- HL-93 OR ALTERNATE LOADING.  
 DESIGN FILL ----- 11.46'  
 FOR OTHER DESIGN DATA AND NOTES SEE STANDARD NOTE SHEET.

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.

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

CONCRETE IN CULVERTS TO BE POURED IN THE FOLLOWING ORDER:

- STAGE I  
 1. FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS FOR 10' AT OUTLET END.  
 2. THE REMAINING PORTIONS OF THE WALLS FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS.
- STAGE II  
 1. THE INLET WING FOOTINGS AND THE REMAINING PORTION OF THE FLOOR SLAB INCLUDING 4" OF ALL VERTICAL WALLS.  
 2. THE REMAINING PORTIONS OF THE WALLS AND INLET WINGS FULL HEIGHT FOLLOWED BY ROOF SLAB AND HEADWALLS.
- STAGE III  
 1. THE OUTLET WING FOOTINGS INCLUDING 4" OF ALL VERTICAL WALLS.  
 2. THE REMAINING PORTIONS OF THE OUTLET WINGS FULL HEIGHT.

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.

AT THE CONTRACTORS 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.

DIMENSIONS FOR WING LAYOUT AS WELL AS ADDITIONAL REINFORCING STEEL EMBEDDED IN BARREL ARE SHOWN ON WING SHEET.

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 STATION 14+14.00 -L-.'

THE CONTRACTOR SHALL FILL THE PROPOSED CULVERT WITH NATIVE MATERIAL TO A DEPTH OF 1 FOOT. NATIVE MATERIAL CONSISTS OF MATERIAL THAT IS EXCAVATED FROM THE STREAM OR FLOOD PLAIN AT THE PROJECT SITE DURING CONSTRUCTION. NATIVE MATERIAL IS SUBJECT TO APPROVAL BY THE ENGINEER AND MAY BE SUBJECT TO PERMIT CONDITIONS.

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

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

THE EXISTING STRUCTURE CONSISTING OF ONE 35'-5" SPAN WITH A CLEAR ROADWAY WIDTH OF 25'-0", WITH A TIMBER DECK ON I-BEAMS ON TIMBER CAPS AND PILE END BENTS WITH STEEL PLANK BULKHEADS AND LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED FOR LOAD LIMIT.

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 CLAIMS 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 IN A MANNER THAT PREVENTS DEBRIS FROM FALLING INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE THE BRIDGE IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES, SEE SPECIAL PROVISIONS.

I HEREBY CERTIFY THESE PLANS ARE THE AS BUILT PLANS

TOTAL STRUCTURE QUANTITIES

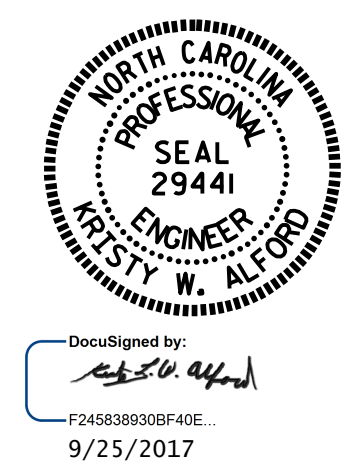
CLASS A CONCRETE		
STAGE I	18.4	C.Y.
STAGE II	134.0	C.Y.
STAGE III	9.1	C.Y.
TOTAL	161.5	C.Y.

REINFORCING STEEL		
STAGE I	2,540	LBS.
STAGE II	16,651	LBS.
STAGE III	639	LBS.
TOTAL	19,830	LBS.

FOUNDATION COND. MAT'L.		
STAGE I	13	TONS
STAGE II	90	TONS
TOTAL	103	TONS

CULVERT EXCAVATION	LUMP SUM
REMOVAL OF EXISTING STRUCTURE	LUMP SUM
ASBESTOS ASSESSMENT	LUMP SUM

PROJECT NO. B-5347  
 ALAMANCE COUNTY  
 STATION: 14+14.00 -L-  
 SHEET 1 OF 8 REPLACES BRIDGE #170



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 BARREL STANDARD  
 SINGLE 13 FT. X 7 FT.  
 CONCRETE BOX CULVERT  
 105° SKEW

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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