

LOCATION SKETCH

NOTES:

- ASSUMED LIVE LOAD - HL-93 OR ALTERNATE.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- CULVERT SHALL BE DESIGNED FOR A MAXIMUM FILL DEPTH OF 6'-9"
- FOR CULVERT DIVERSION DETAILS, SEE EROSION CONTROL PLANS.
- THE RESIDENT ENGINEER SHALL CHECK THE LENGTH OF THE CULVERT BEFORE STAKING IT OUT TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.
- FOR ALUMINUM PIPE ARCH CULVERT, SEE SPECIAL PROVISIONS.
- THE DETAILS SHOWN HERE ARE FOR GENERAL LAYOUT ONLY. THE SUPPLIER SHALL SUPPLY DESIGNS AND DETAILS FOR REVIEW AND APPROVAL THAT MEET THE REQUIREMENTS OF ASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12, AND ARE SEALED BY A NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER.
- UNLESS OTHERWISE INDICATED, THE SUPPLIER SHALL DESIGN, DETAIL AND FURNISH ALL STRUCTURAL ELEMENTS AND HARDWARE.
- FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
- EXCAVATE AT LEAST 1 FOOT BELOW THE CULVERT AND REPLACE EXCAVATED MATERIAL WITH FOUNDATION CONDITIONING MATERIAL IN ACCORDANCE WITH ARTICLE 414-4 OF THE STANDARD SPECIFICATIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

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 SAMPLE BARS SHOULD COME FROM STEEL ACTUALLY USED IN THE PROJECT AND THE SAMPLE BARS SHOULD BE REPLACED BY SPICED BARS AS SPECIFIED IN THE SAMPLE BAR REPLACEMENT CHART. PAYMENT FOR THE SAMPLE BARS AND REPLACEMENT REINFORCING STEEL SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAY ITEMS.

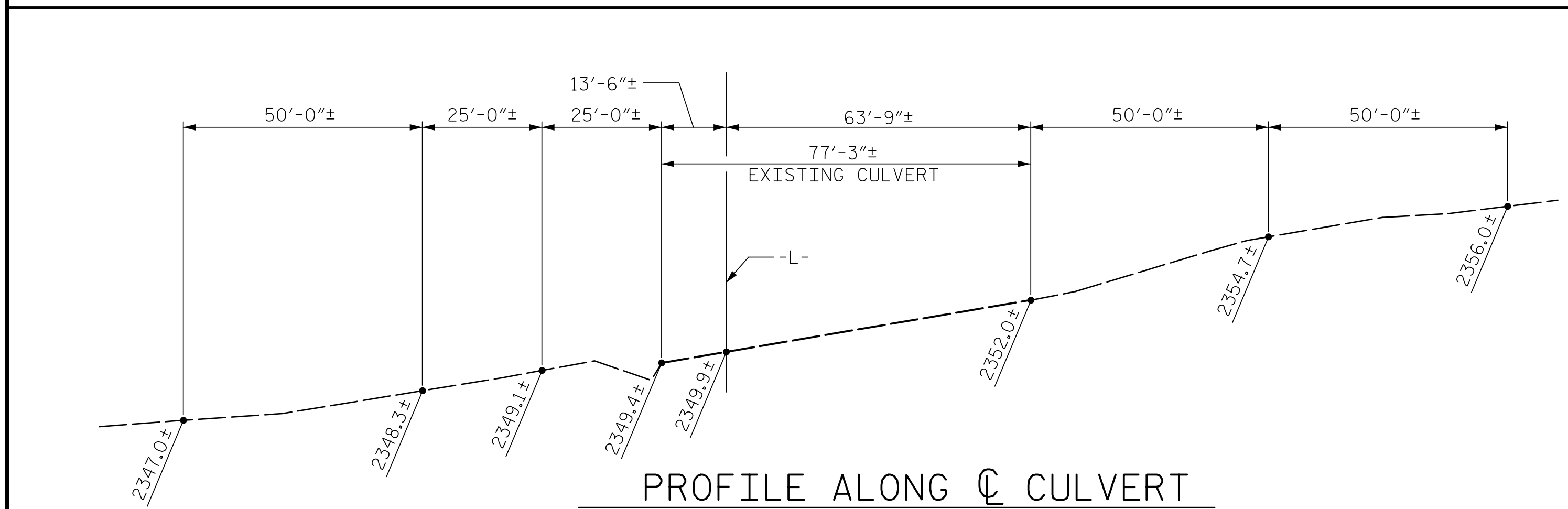
EXCAVATE 1 FOOT BELOW THE BOTTOM OF THE CULVERT AND REPLACE WITH FOUNDATION CONDITIONING MATERIAL IN ACCORDANCE WITH ARTICLE 414 OF THE STANDARD SPECIFICATIONS. FOUNDATION CONDITIONING MATERIAL SHOULD CONSIST OF SELECT MATERIAL CLASS V OR VI FOR CULVERTS.

IF REQUIRED, UNDERCUT LOOSE SOILS THAT MAY BE ENCOUNTERED BENEATH THE BOTTOM OF THE FOUNDATION CONDITIONING MATERIAL. BACKFILL UNDERCUT AREAS WITH FOUNDATION CONDITIONING MATERIAL.

SAMPLE BAR REPLACEMENT	
SIZE	LENGTH
#3	6'-2"
#4	7'-4"
#5	8'-6"
#6	9'-8"
#7	10'-10"
#8	12'-0"
#9	13'-2"
#10	14'-6"
#11	15'-10"

NOTE: SAMPLE BAR REPLACEMENT LENGTHS BASED ON 30" (SAMPLE LENGTH) PLUS TWO SPLICE LENGTHS AND $f_s = 60\text{ksi}$.

TOTAL STRUCTURE QUANTITIES	
ALUMINUM PIPE ARCH CULVERT	LUMP SUM
CULVERT EXCAVATION	LUMP SUM
FOUNDATION CONDITIONING MATERIAL	139 TONS



ROADWAY DATA:	
GRADE POINT ELEV. @ STA. 278+67.70-L-	2364.34'
BED ELEV. @ STA. 278+67.70-L-	2349.2'
ROADWAY SLOPES	2:1
HYDRAULIC DATA:	
DESIGN DISCHARGE	500 CFS
FREQUENCY OF DESIGN FLOOD	50 YRS.
DESIGN HIGH WATER ELEVATION	2358.6'
DRAINAGE AREA	1.09 SQ. MI.
BASE DISCHARGE	600 CFS
FREQUENCY OF BASE DISCHARGE	100 YRS.
BASE HIGH WATER ELEVATION	2359.6'
OVERTOPPING FLOOD DATA:	
OVERTOPPING DISCHARGE	600 CFS
FREQUENCY OF OVERTOPPING FLOOD	100 YRS.
OVERTOPPING FLOOD ELEVATION	2359.6'

PROJECT NO. A-0009CB
GRAHAM COUNTY
 STATION: 278+67.70 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

12'-10" X 8'-4"
 ALUMINUM
 PIPE ARCH CULVERT
 54° SKEW

7/27/2022

ENGINEER
 MICHAEL G. CHECK
 20125

706 HILLSBOROUGH STREET
 SUITE 200
 RALEIGH, NC 27603
 PH (919) 773-8887
 CORP. LICENSE NO.: C-0275

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

DRAWN BY : ZCS DATE : 9/21
 CHECKED BY : MCC DATE : 9/21