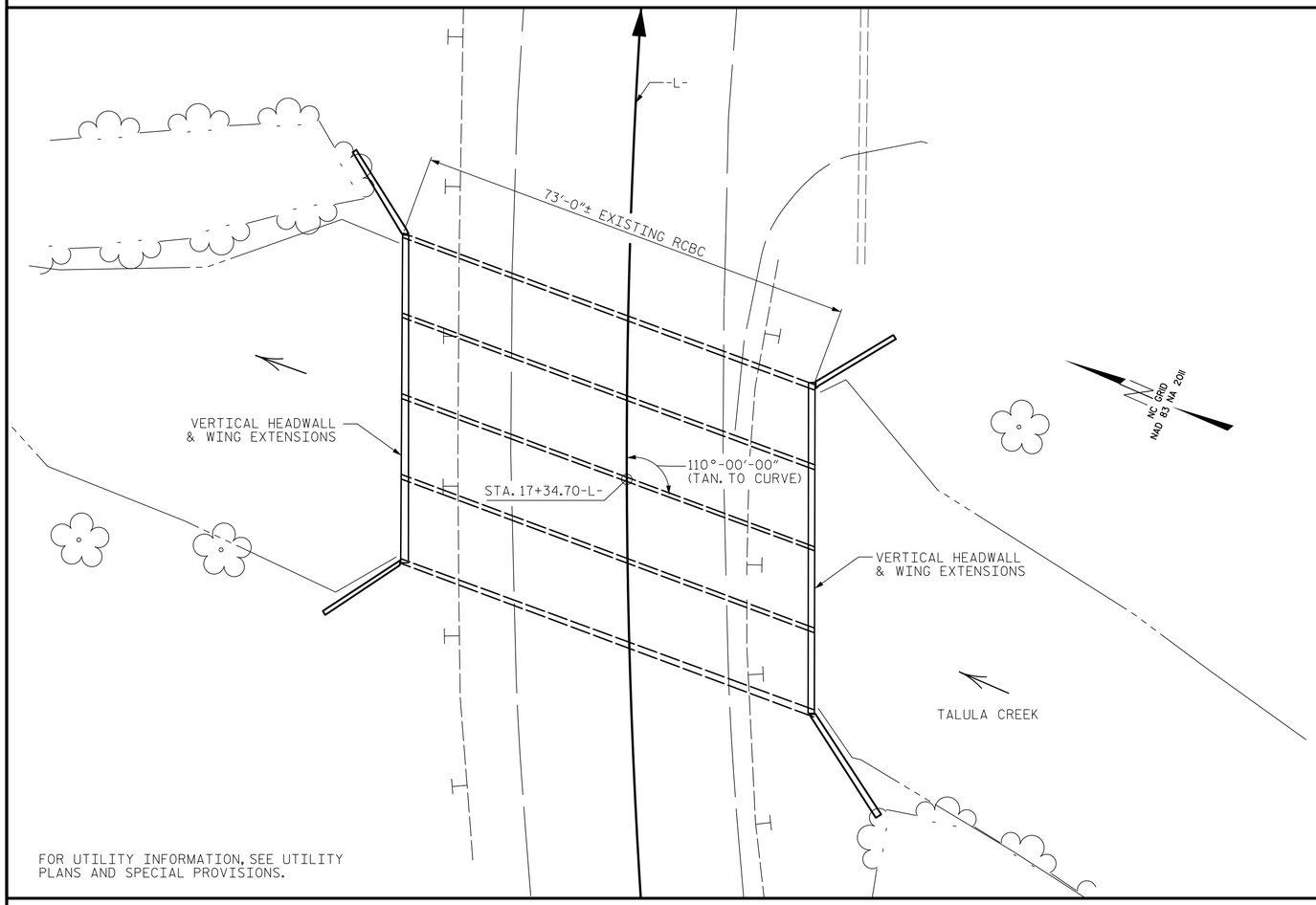
BENCH MARK #1: SPIKE NAIL SET IN BASE OF 18" MAPLE; 30 LT. OF STA. 14+27.88 -L-; ELEV. 1993.80



FOR UTILITY INFORMATION, SEE UTILITY PLANS AND SPECIAL PROVISIONS.

LOCATION SKETCH

NOTES:

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

THE RESIDENT ENGINEER SHALL CHECK THE HEIGHT OF THE HEADWALL AND WING EXTENSIONS BEFORE CONSTRUCTION TO MAKE CERTAIN THAT IT WILL PROPERLY TAKE CARE OF THE FILL.

DOWELS SHALL BE USED TO CONNECT THE HEADWALL EXTENSION AND THE WING EXTENSIONS TO THE EXISTING CULVERT AS SHOWN. FOR NOTE REGARDING SETTING OF DOWELS, SEE SHEET SN.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

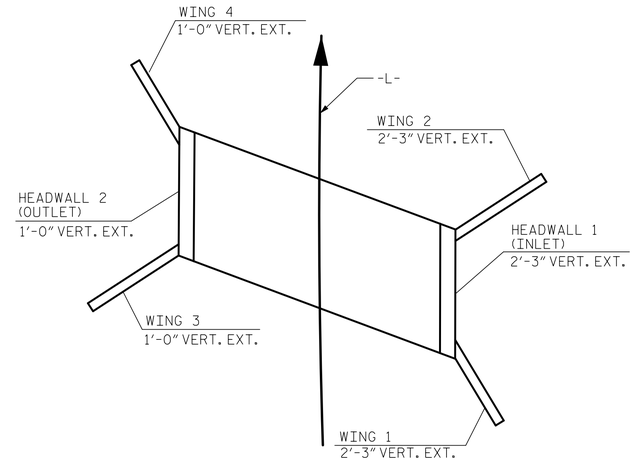
FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

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 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.

F.A. PROJECT NO.: APD-0074(178)

TOTAL STRUCTURE QUANTITIES

CLASS A CONCRETE		
INLET HEADWALL & WING EXTENSIONS	8.8	C.Y.
OUTLET HEADWALL & WING EXTENSIONS	4.0	C.Y.
TOTAL	12.8	C.Y.
REINFORCING STEEL		
INLET HEADWALL & WING EXTENSIONS	737	LBS.
OUTLET HEADWALL & WING EXTENSIONS	456	LBS.
TOTAL	1,193	LBS.



CULVERT LAYOUT

HYDRAULIC DATA

DESIGN DISCHARGE	= 5,080 CFS
FREQUENCY OF DESIGN FLOOD	= 50 YRS
DESIGN HIGH WATER ELEVATION	= 1988.0'
BASE DISCHARGE (Q100)	= 6080 CFS
BASE HIGH WATER ELEVATION	= 1989.4'

OVERTOPPING FLOOD DATA

OVERTOPPING DISCHARGE	= 8850+ CFS
FREQUENCY OF OVERTOPPING FLOOD	= 500+ YRS
OVERTOPPING FLOOD ELEVATION	= 1994.0'

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 = 60ksi.

PROJECT NO. A-0009CA
GRAHAM COUNTY
STATION: 17+34.70 -L-

SHEET 1 OF 5 STRUCTURE NO. 370134

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 20125 MARSHALL G. CHEEK, JR. ENGINEER
Marshall G. Cheek, Jr.
DocuSigned by: 3A4DC41...
6/1/2022

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

QUADRUPLE 12FT. x 12FT. CONCRETE BOX CULVERT 110° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	C1-1
1			3			TOTAL SHEETS
2			4			5

STR. #1

DRAWN BY :	ZCS	DATE :	1/21
CHECKED BY :	MGC	DATE :	4/22
DESIGN ENGINEER OF RECORD :	ZCS	DATE :	4/22