

REFERENCE: W-5701C

PROJECT: 44847

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<u>SHEET NO.</u>	<u>DESCRIPTION</u>
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY PASQUOTANK
PROJECT DESCRIPTION CULVERT ON -L- (SR 1333)
OVER TRIBUTARY TO KNOBBS CREEK AT STA.
21+60

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5701C	1	7

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO PERFORM INDEPENDENT SUBSURFACE INVESTIGATIONS AND MAKE INTERPRETATIONS AS NECESSARY TO CONFIRM CONDITIONS ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- NOTES:
- THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N.C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
 - BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

S.N. ZIMARINO

C.M. WALKER

J.M. EDMONDSON

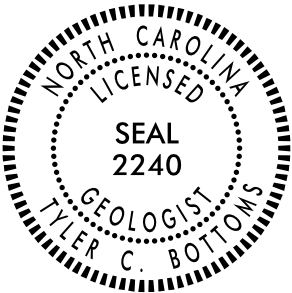
INVESTIGATED BY T.C. BOTTOMS

DRAWN BY T.C. BOTTOMS

CHECKED BY D.N. ARGENBRIGHT

SUBMITTED BY D.N. ARGENBRIGHT

DATE APRIL 2024



DocuSigned by:
Tyler Bottoms 04/25/2024
48A2D3BD08CE4A6...
SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

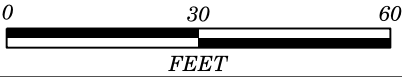
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

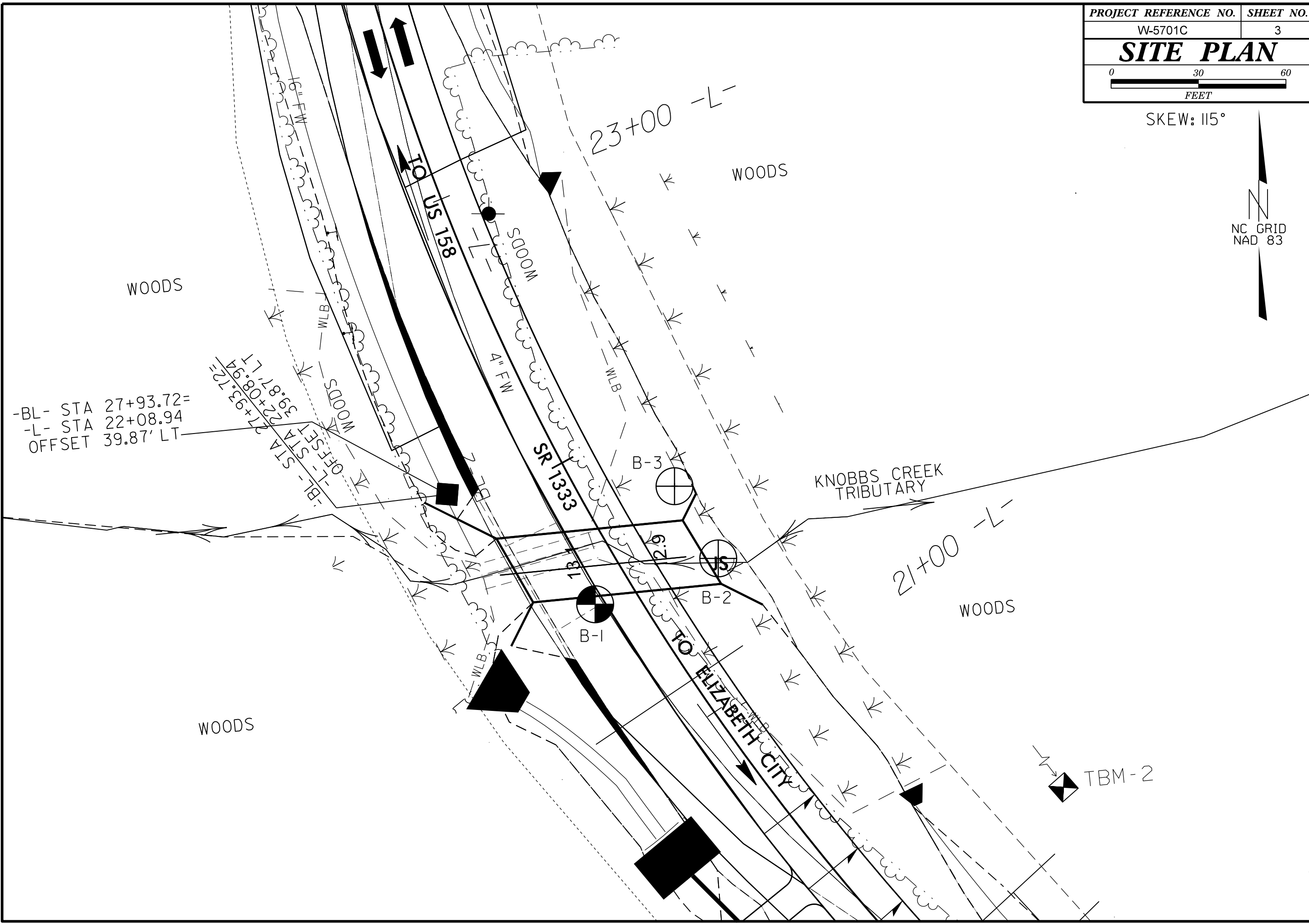
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

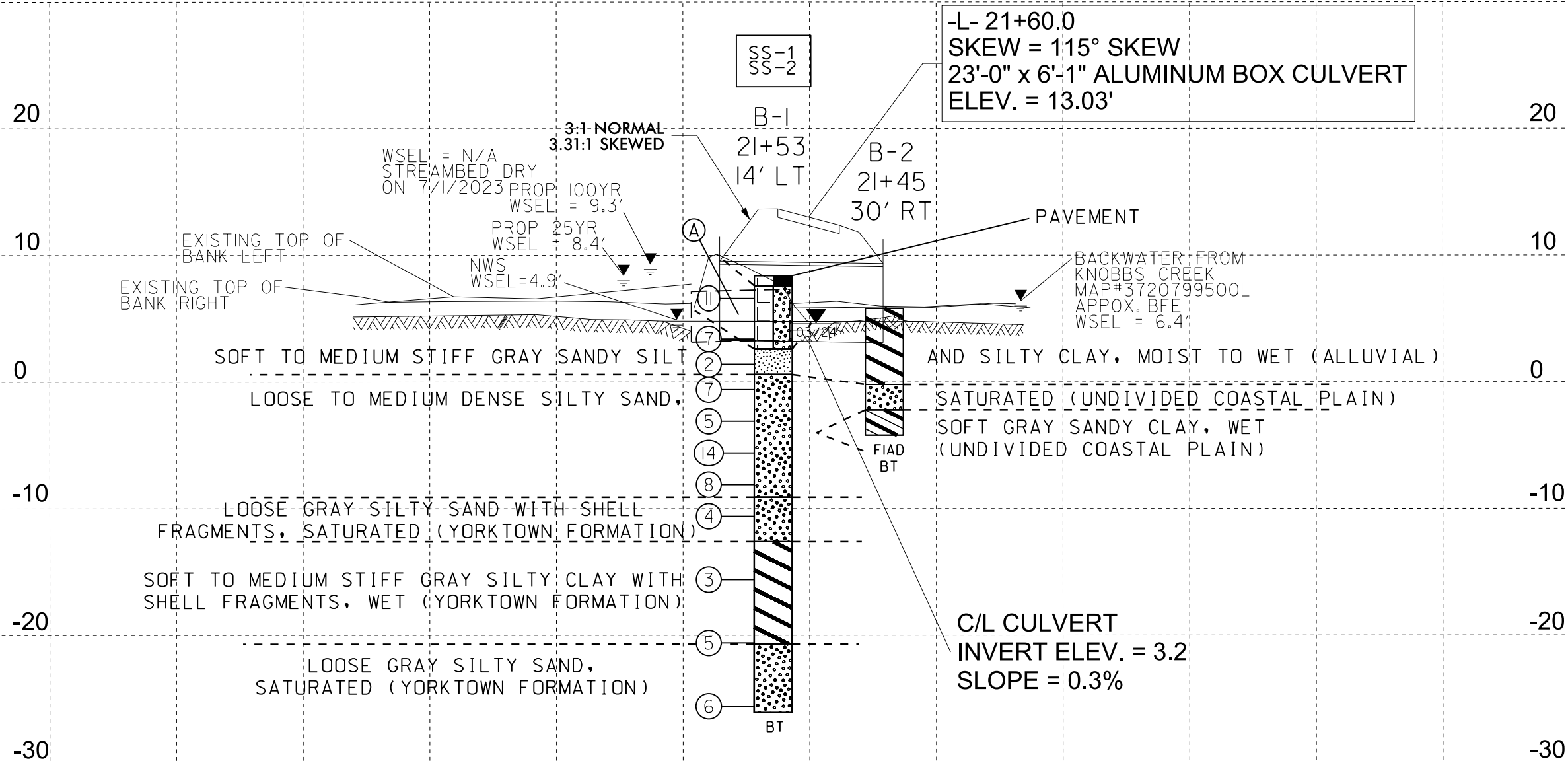
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SITE PLAN



SKEW: 115°





Ⓐ LOOSE TO MEDIUM DENSE SILTY SAND, MOIST TO SATURATED (ROADWAY EMBANKMENT)

NOTE: PROFILE ALONG GROUNDLINE
TAKEN FROM CULVERT SURVEY AND
HYDRAULIC REPORT DATED 12/11/23

NOTE: INFERRED STRATIGRAPHY IS
DRAWN THROUGH THE BORINGS WITH
BOTH PROJECTED ONTO THE PROFILE

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 44847.1.10			TIP W-5701C			COUNTY PASQUOTANK			GEOLOGIST Zimarino, S. N.					
SITE DESCRIPTION CULVERT ON -L- (SR 1333) OVER TRIBUTARY TO KNOBBS CREEK									GROUND WTR (ft)					
BORING NO. B-1			STATION 21+53			OFFSET 14 ft LT			ALIGNMENT -L-			0 HR. N/A		
COLLAR ELEV. 8.4 ft			TOTAL DEPTH 34.5 ft			NORTHING 956,208			EASTING 2,796,381			24 HR. 3.8		
DRILL RIG/HAMMER EFF./DATE GFC0075 CME-45C 90% 11/21/2022						DRILL METHOD Mud Rotary			HAMMER TYPE Automatic					
DRILLER Edmondson, J. M.			START DATE 03/19/24			COMP. DATE 03/19/24			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			ELEV. (ft)	DEPTH (ft)
10														
5	7.6	0.8	7	6	5	11							8.4	0.0
													7.6	0.8
	4.4	4.0	4	4	3	7							ROADWAY EMBANKMENT	
0	2.4	6.0	WOH	WOH	2								2.6	5.8
	0.4	8.0	3	4	3	2					SS-1		0.6	7.8
													ALLUVIAL	
-5	-2.1	10.5	2	2	3	7								
													GRAY SANDY SILT, WET	
	-4.6	13.0	5	7	7	5								
-10	-7.1	15.5	3	4	4	14								
	-9.6	18.0	5	2	2	8							-9.1	17.5
-15														
	-14.6	23.0	2	1	2	4							-12.6	21.0
											SS-2		COASTAL PLAIN	
-20	-19.6	28.0	2	2	3	3								
													-20.7	29.1
-25	-24.6	33.0	2	2	4	5								
													-26.1	34.5
						6							Boring Terminated at Elevation -26.1 ft in Loose Silty Sand	
													Note: Culvert Invert Elevation = 3.2' at Center Line	

NCDOT BORE DOUBLE W5701C_GEO_CULV.GPJ NC_DOT.GDT 4/17/24

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 44847.1.10		TIP W-5701C		COUNTY PASQUOTANK		GEOLOGIST Zimarino, S. N.	
SITE DESCRIPTION CULVERT ON -L- (SR 1333) OVER TRIBUTARY TO KNOBBS CREEK						GROUND WTR (ft)	
BORING NO. B-2		STATION 21+45		OFFSET 30 ft RT		ALIGNMENT -L-	
COLLAR ELEV. 5.8 ft		TOTAL DEPTH 10.0 ft		NORTHING 956,223		EASTING 2,796,424	
DRILL RIG/HAMMER EFF./DATE N/A				DRILL METHOD Hand Auger		HAMMER TYPE N/A	
DRILLER Edmondson, J. M.		START DATE 03/19/24		COMP. DATE 03/19/24		SURFACE WATER DEPTH N/A	
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT	
			0.5ft	0.5ft	0.5ft	0	25
						50	75
						100	
10							
5							
0							
SOIL AND ROCK DESCRIPTION							
5.8 GROUND SURFACE 0.0							
ALLUVIAL							
SOFT GRAY SANDY CLAY, MOIST TO WET							
-0.2							
UNDIVIDED COASTAL PLAIN							
-2.2 LOOSE GRAY SILTY SAND, SATURATED 8.0							
SOFT GRAY SANDY CLAY, WET							
-4.2 10.0							
Boring Terminated at Elevation -4.2 ft in Soft Sandy Clay							
Note: Culvert Invert Elevation = 3.2' at Center Line							

WBS 44847.1.10		TIP W-5701C		COUNTY PASQUOTANK		GEOLOGIST Zimarino, S. N.	
SITE DESCRIPTION CULVERT ON -L- (SR 1333) OVER TRIBUTARY TO KNOBBS CREEK						GROUND WTR (ft)	
BORING NO. B-3		STATION 21+75		OFFSET 30 ft RT		ALIGNMENT -L-	
COLLAR ELEV. 5.5 ft		TOTAL DEPTH 10.0 ft		NORTHING 956,248		EASTING 2,796,408	
DRILL RIG/HAMMER EFF./DATE N/A				DRILL METHOD Hand Auger		HAMMER TYPE N/A	
DRILLER Edmondson, J. M.		START DATE 03/19/24		COMP. DATE 03/19/24		SURFACE WATER DEPTH N/A	
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT	
			0.5ft	0.5ft	0.5ft	0	25
						50	75
						100	
10							
5							
0							
SOIL AND ROCK DESCRIPTION							
5.5 GROUND SURFACE 0.0							
ALLUVIAL							
SOFT GRAY SANDY CLAY, MOIST TO WET							
-0.5							
UNDIVIDED COASTAL PLAIN							
-2.5 LOOSE GRAY SILTY SAND, SATURATED 8.0							
SOFT GRAY SANDY CLAY, WET							
-4.5 10.0							
Boring Terminated at Elevation -4.5 ft in Soft Sandy Clay							
Note: Culvert Invert Elevation = 3.2' at Center Line							

NCDOT BORE DOUBLE W5701C_GEO_CULV.GPJ NC_DOT.GDT 4/2/24

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAY
MATERIALS & TESTS UNIT
SOILS LABORATORY

T. I. P. No. W-5701C

SOILS FOR QUALITY

Project	44847.1.10	PASQUOTANK	Owner	
Date: Sampled	3/18/24	Reported	4/17/24	
Sampled from	T.C. BOTTOMS			
Submitted by	MATT ALEXANDER		2012	Standard Specifications

819590 TO 819596
4/17/24

TEST RESULTS

Proj. Sample No.		SS-1	SS-2			
Lab. Sample No.		819591	819593			
Retained #4 Sieve	%	-	-			
Passing #10 Sieve	%	100	99			
Passing #40 Sieve	%	99	93			
Passing #200 Sieve	%	76	74			

MINUS NO. 10 FRACTION

SOIL MORTAR - 100%					
Coarse Sand Ret - #60	%	3.9	9.3		
Fine Sand Ret - #270	%	37.9	20.7		
Silt 0.05 - 0.005 mm	%	33.9	29.5		
Clay < 0.005 mm	%	24.3	40.5		
Passing #40 Sieve	%	-	-		
Passing #200 Sieve	%	-	-		

L. L.	25	53			
P. I.	10	32			
AASHTO Classification	A-4(5)	A-7-6(23)			
Station	21+53	21+53			
Offset	14' LT	14'LT			
Alignment	-L-	-L-			
Location					
Depth (Ft)	6.00	23.0'			
to	7.50	24.5'			

cc: T.C BOTTOMS