

REFERENCE: B-4709

PROJECT: 17BP.2.R.95

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4709	1	7

CONTENTS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3	SITE PLAN
4	PROFILE
5-7	BORE LOGS

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY BEAUFORT
PROJECT DESCRIPTION BRIDGE NO. 14 ON -L- (SR 1932)
OVER TAN SWAMP AT STA. 16 + 80.00

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 MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE 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

C.J. CORNETTE
S.N. ZIMARINO
R.E. SMITH

INVESTIGATED BY T.C. BOTTOMS
DRAWN BY T.C. BOTTOMS
CHECKED BY D.N. ARGENBRIGHT
SUBMITTED BY D.N. ARGENBRIGHT
DATE DECEMBER 2018



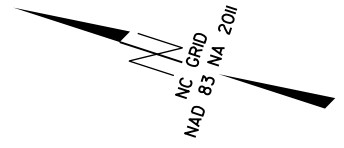
DocuSigned by:
Tyler Bottoms 12/17/2018
48A2D3BD08CF4A6...
SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

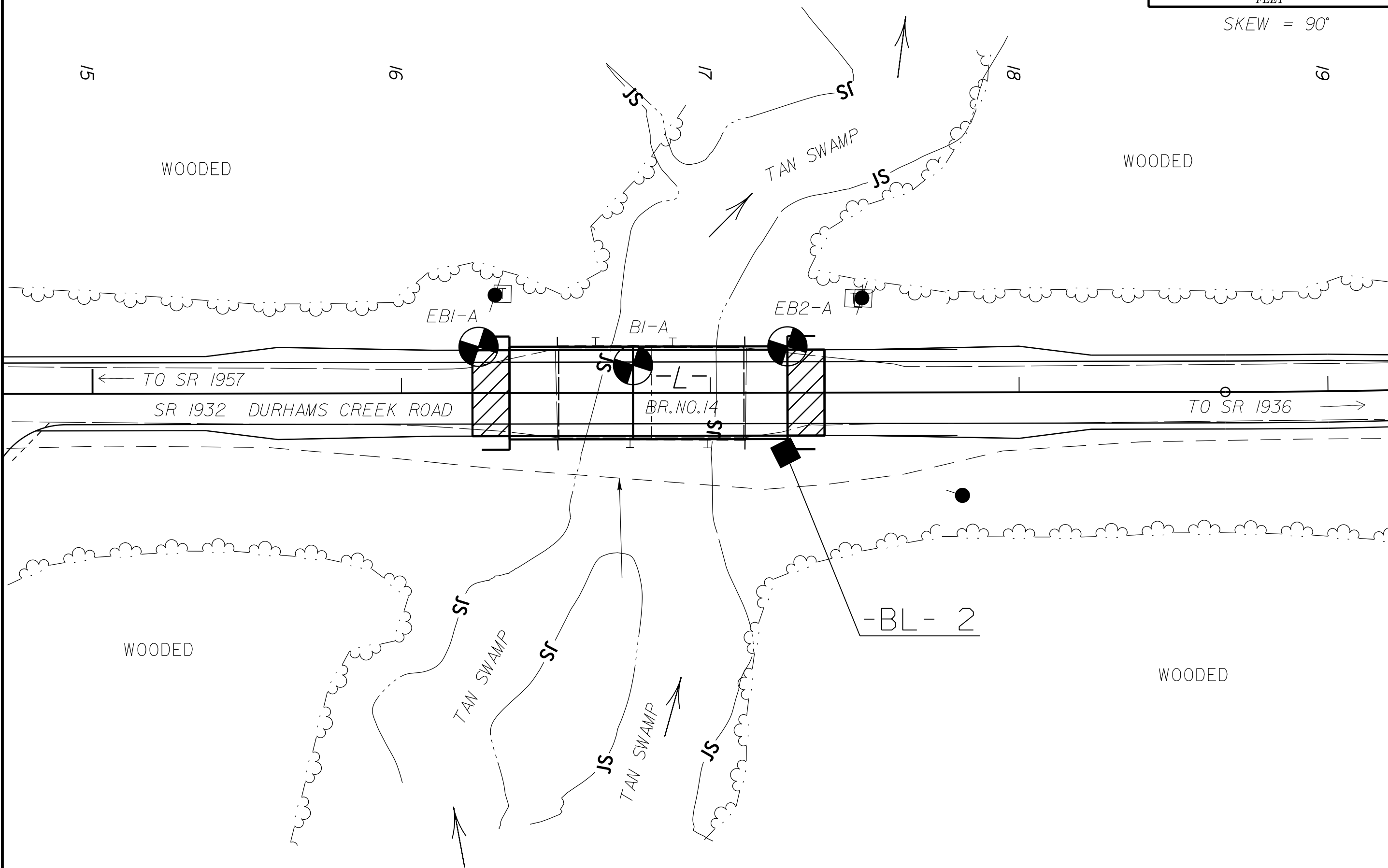
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

Table with 4 main columns: SOIL DESCRIPTION, GRADATION, ROCK DESCRIPTION, and TERMS AND DEFINITIONS. Includes sub-sections like SOIL LEGEND AND AASHTO CLASSIFICATION, CONSISTENCY OR DENSENESS, TEXTURE OR GRAIN SIZE, SOIL MOISTURE - CORRELATION OF TERMS, PLASTICITY, COLOR, MISCELLANEOUS SYMBOLS, RECOMMENDATION SYMBOLS, ABBREVIATIONS, EQUIPMENT USED ON SUBJECT PROJECT, FRACTURE SPACING, BEDDING, and INDURATION.

PROJECT REFERENCE NO.	SHEET NO.
B-4709	3
SITE PLAN	



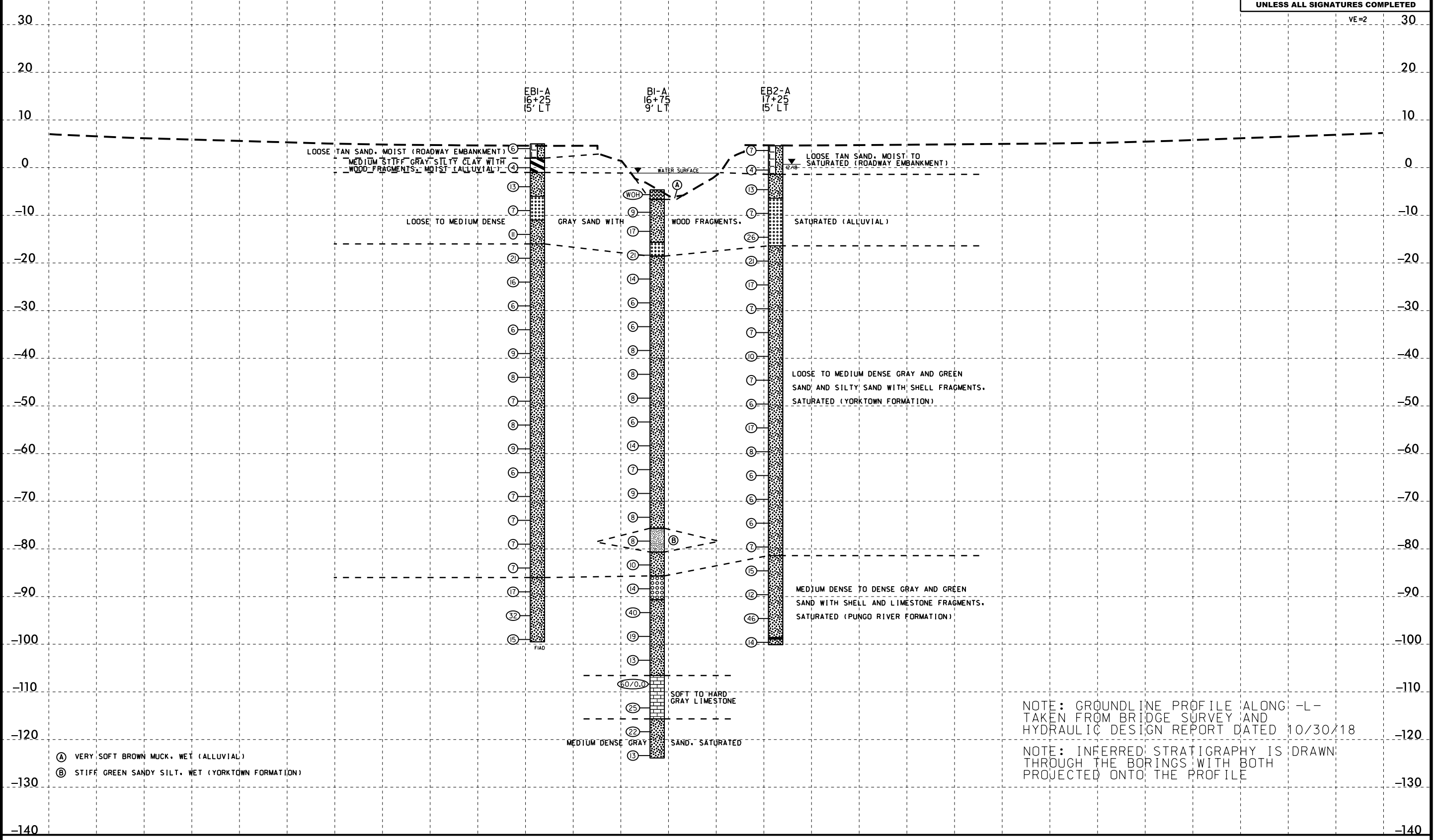
SKEW = 90°



5/14/99

PROJECT REFERENCE NO. B-4709	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PROFILE THROUGH BORINGS PROJECTED ALONG -L-



- Ⓐ VERY SOFT BROWN MUCK, WET (ALLUVIAL)
- Ⓑ STIFF GREEN SANDY SILT, WET (YORKTOWN FORMATION)

NOTE: GROUNDLINE PROFILE ALONG -L- TAKEN FROM BRIDGE SURVEY AND HYDRAULIC DESIGN REPORT DATED 10/30/18

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

12-DEC-2018 12:13
S:\PROJECTS\Greenville\12-DEC-2018\Investigation\TIP\B4709_GEO\BROG001A\CADD_GEOTECH\PlanProf\B-4709_Rdy_pf1.dgn

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 17BP.2.R.95	TIP B-4709	COUNTY BEAUFORT	GEOLOGIST Zimarino, S. N.
SITE DESCRIPTION BRIDGE NO. 14 ON -L- (SR 1932) OVER TAN SWAMP AT STA. 16+80			GROUND WTR (ft)
BORING NO. B1-A	STATION 16+75	OFFSET 9 ft LT	ALIGNMENT -L-
COLLAR ELEV. -4.7 ft	TOTAL DEPTH 119.2 ft	NORTHING 593,898	EASTING 2,635,057
DRILL RIG/HAMMER EFF./DATE GFC0075 CME-45C 84% 08/21/2017		DRILL METHOD Mud Rotary	HAMMER TYPE Automatic
DRILLER Smith, R. E.	START DATE 11/27/18	COMP. DATE 11/27/18	SURFACE WATER DEPTH 5.0ft

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
0															
-5	-4.7	0.0													
			WOH	WOH	WOH										
-10	-8.4	3.7													
			3	4	5										
-15	-12.4	7.7													
			4	7	10										
-20	-17.4	12.7													
			8	10	11										
-25	-22.4	17.7													
			7	8	6										
-30	-27.4	22.7													
			2	3	3										
-35	-32.4	27.7													
			2	3	3										
-40	-37.4	32.7													
			2	4	4										
-45	-42.4	37.7													
			3	4	4										
-50	-47.4	42.7													
			3	4	4										
-55	-52.4	47.7													
			2	2	4										
-60	-57.4	52.7													
			4	6	8										
-65	-62.4	57.7													
			3	3	4										
-70	-67.4	62.7													
			4	4	5										
-75	-72.4	67.7													
			4	4	4										
-80	-77.4	72.7													
			2	3	5										

WBS 17BP.2.R.95	TIP B-4709	COUNTY BEAUFORT	GEOLOGIST Zimarino, S. N.
SITE DESCRIPTION BRIDGE NO. 14 ON -L- (SR 1932) OVER TAN SWAMP AT STA. 16+80			GROUND WTR (ft)
BORING NO. B1-A	STATION 16+75	OFFSET 9 ft LT	ALIGNMENT -L-
COLLAR ELEV. -4.7 ft	TOTAL DEPTH 119.2 ft	NORTHING 593,898	EASTING 2,635,057
DRILL RIG/HAMMER EFF./DATE GFC0075 CME-45C 84% 08/21/2017		DRILL METHOD Mud Rotary	HAMMER TYPE Automatic
DRILLER Smith, R. E.	START DATE 11/27/18	COMP. DATE 11/27/18	SURFACE WATER DEPTH 5.0ft

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
-80															
-85	-82.4	77.7													
			3	4	6										
-90	-87.4	82.7													
			3	7	7										
-95	-92.4	87.7													
			14	18	22										
-100	-97.4	92.7													
			33	9	10										
-105	-102.4	97.7													
			4	6	7										
-110	-107.4	102.7													
			60/0.0												
-115	-112.4	107.7													
			14	14	11										
-120	-117.4	112.7													
			9	10	12										
-125	-122.4	117.7													
			8	6	7										

NCDOT BORE DOUBLE B-4709_GEO_BRDG.GPJ NC_DOT.GDT 12/12/18

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 17BP.2.R.95	TIP B-4709	COUNTY BEAUFORT	GEOLOGIST Zimarino, S. N.
SITE DESCRIPTION BRIDGE NO. 14 ON -L- (SR 1932) OVER TAN SWAMP AT STA. 16+80			GROUND WTR (ft)
BORING NO. EB2-A	STATION 17+25	OFFSET 15 ft LT	ALIGNMENT -L-
COLLAR ELEV. 4.6 ft	TOTAL DEPTH 104.7 ft	NORTHING 593,852	EASTING 2,635,079
DRILL RIG/HAMMER EFF./DATE GFC0075 CME-45C 84% 08/21/2017		DRILL METHOD Mud Rotary	HAMMER TYPE Automatic
DRILLER Smith, R. E.	START DATE 12/03/18	COMP. DATE 12/03/18	SURFACE WATER DEPTH N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
5	-4.6	0.0	8	4	3								GROUND SURFACE	0.0
0	-0.5	4.1	5	2	2								ROADWAY EMBANKMENT TAN SAND, MOIST TO SATURATED	
-5	-3.6	8.2	6	7	6								ALLUVIAL GRAY SAND, SATURATED	6.0
-10	-8.6	13.2	5	4	3									11.0
-15	-13.6	18.2	9	13	13									21.0
-20	-18.6	23.2	10	12	9								COASTAL PLAIN GRAY SILTY SAND WITH SHELL FRAGMENTS AND BLACK PHOSPHATIC NODULES, SATURATED (YORKTOWN FORMATION)	
-25	-23.6	28.2	5	7	10									
-30	-28.6	33.2	2	3	4									
-35	-33.6	38.2	2	3	4									
-40	-38.6	43.2	4	6	4									
-45	-43.6	48.2	3	3	4									
-50	-48.6	53.2	3	3	3									
-55	-53.6	58.2	3	3	14									
-60	-58.6	63.2	3	3	5									
-65	-63.6	68.2	2	3	3									
-70	-68.6	73.2	3	3	3									
-75	-73.6	78.2	3	3	3									

WBS 17BP.2.R.95	TIP B-4709	COUNTY BEAUFORT	GEOLOGIST Zimarino, S. N.
SITE DESCRIPTION BRIDGE NO. 14 ON -L- (SR 1932) OVER TAN SWAMP AT STA. 16+80			GROUND WTR (ft)
BORING NO. EB2-A	STATION 17+25	OFFSET 15 ft LT	ALIGNMENT -L-
COLLAR ELEV. 4.6 ft	TOTAL DEPTH 104.7 ft	NORTHING 593,852	EASTING 2,635,079
DRILL RIG/HAMMER EFF./DATE GFC0075 CME-45C 84% 08/21/2017		DRILL METHOD Mud Rotary	HAMMER TYPE Automatic
DRILLER Smith, R. E.	START DATE 12/03/18	COMP. DATE 12/03/18	SURFACE WATER DEPTH N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
-75													Match Line	
-80	-78.6	83.2	3	3	4								COASTAL PLAIN GRAY SILTY SAND WITH SHELL FRAGMENTS AND BLACK PHOSPHATIC NODULES, SATURATED (YORKTOWN FORMATION) (continued)	86.0
-85	-83.6	88.2	3	3	12								COASTAL PLAIN GRAY SAND WITH SHELL AND LIMESTONE FRAGMENTS, SATURATED (PUNGO RIVER FORMATION)	
-90	-88.6	93.2	7	5	7									
-95	-93.6	98.2	18	21	25									
-100	-98.6	103.2	18	8	6								COASTAL PLAIN SEDIMENTARY ROCK SOFT GRAY LIMESTONE (PUNGO RIVER FORMATION)	103.2
													COASTAL PLAIN GRAY SAND WITH SHELL AND LIMESTONE FRAGMENTS, SATURATED (PUNGO RIVER FORMATION)	104.7
													Boring Terminated at Elevation -100.1 ft in Medium Dense Sand	

NCDOT BORE DOUBLE B-4709_GEO_BRDG.GPJ NC_DOT.GDT 12/12/18