

REFERENCE: B-5631

PROJECT: 45586

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

**STRUCTURE**  
**SUBSURFACE INVESTIGATION**

COUNTY SAMPSON  
PROJECT DESCRIPTION BRIDGE NO. 169 ON -L- (SR 1620)  
OVER BIG JUNIPER RUN AT STA. 13+63.00

**CONTENTS**

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3	SITE PLAN
4	PROFILE
5	BORE LOGS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5631	1	5

**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:
1. 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.
  2. 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

J.K. CRENSHAW  
CATLIN, INC.

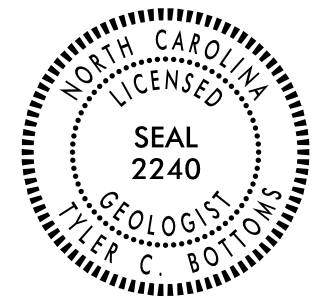
INVESTIGATED BY T.C. BOTTOMS

DRAWN BY C.J. CORNETTE

CHECKED BY D.N. ARGENBRIGHT

SUBMITTED BY D.N. ARGENBRIGHT

DATE NOVEMBER 2018

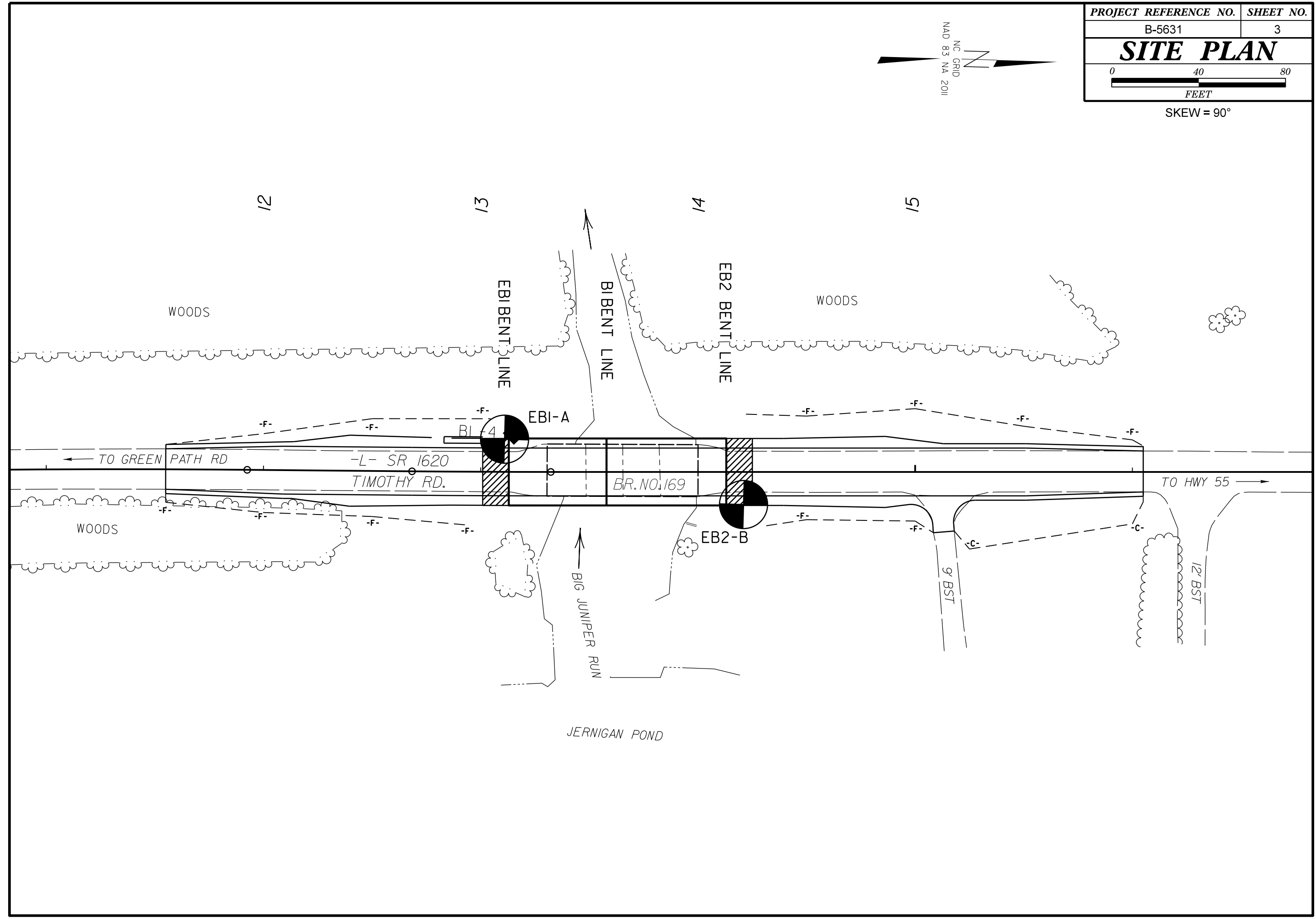
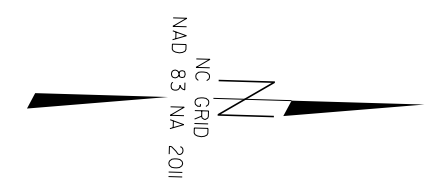


DocuSigned by:  
Tyler C. Bottoms 1/14/2019  
48A2D3BD08... DATE

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



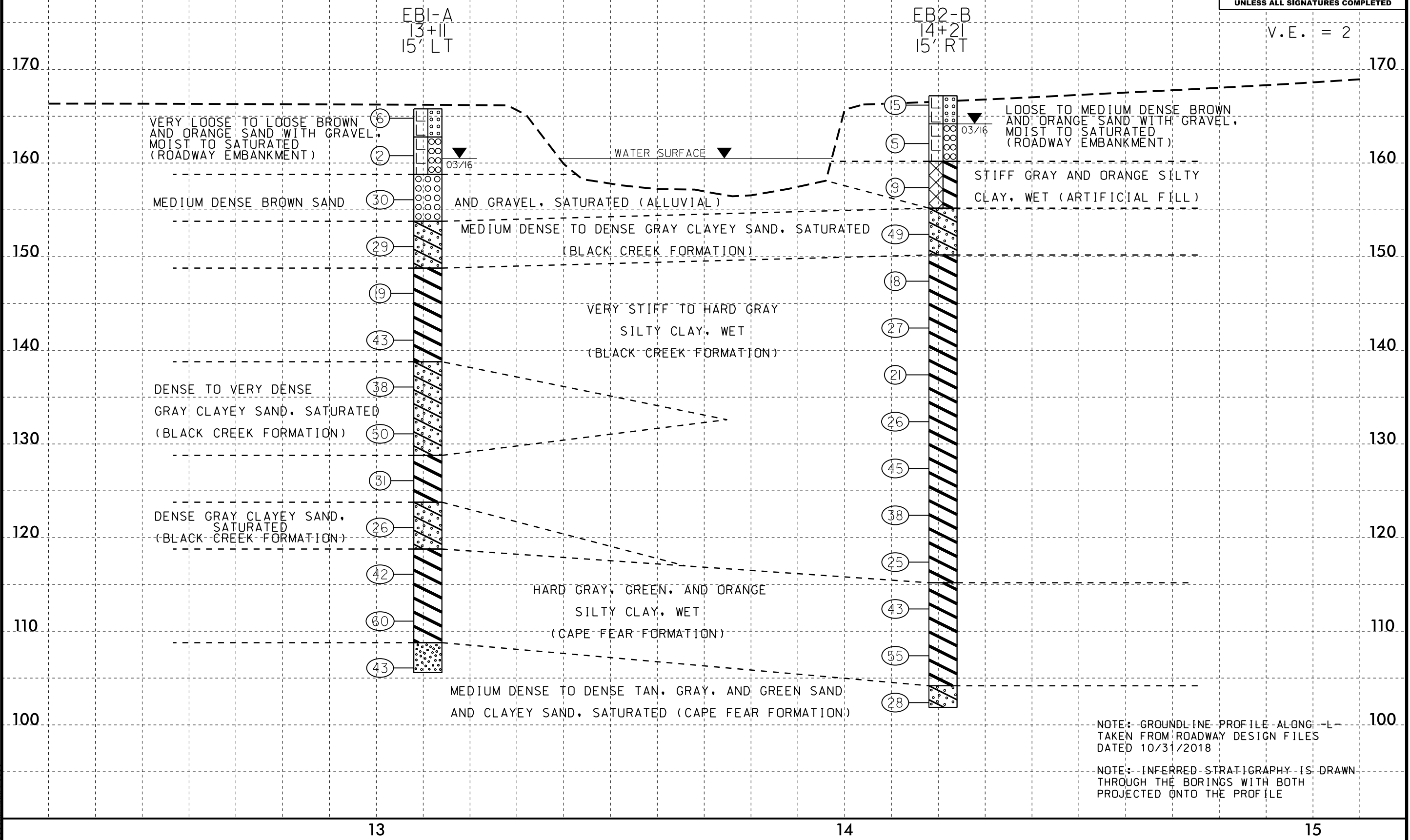
SKEW = 90°



5/14/99

PROJECT REFERENCE NO. <i>B-5631</i>	SHEET NO. <i>4</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
<b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED	

# PROFILE THROUGH BORINGS PROJECTED ALONG -L-



NOTE: GROUNDLINE PROFILE ALONG -L- TAKEN FROM ROADWAY DESIGN FILES DATED 10/31/2018

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

30-NOV-2018 08:06  
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 \$\$\$\$ STRAND \$\$\$

# GEOTECHNICAL BORING REPORT

## BORE LOG

WBS 45586.1.1		TIP B-5631		COUNTY SAMPSON		GEOLOGIST Crenshaw, J. K.										
SITE DESCRIPTION BRIDGE NUMBER 169 ON -L- (SR 1620) OVER BIG JUNIPER RUN AT STA. 13+63.00							GROUND WTR (ft)									
BORING NO. EB1-A		STATION 13+11		OFFSET 15 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 165.8 ft		TOTAL DEPTH 60.2 ft		NORTHING 557,215		EASTING 2,130,372										
DRILL RIG/HAMMER EFF./DATE CAT1314 CME-45B 94% 09/26/2018			DRILL METHOD Mud Rotary			HAMMER TYPE Automatic										
DRILLER Contract Driller		START DATE 03/21/16		COMP. DATE 03/22/16		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						
170																
165	165.8	0.0	3	3	3									165.8	GROUND SURFACE	0.0
160	161.8	4.0	2	1	1									162.8	ROADWAY EMBANKMENT BROWN AND ORANGE SAND WITH GRAVEL, MOIST TO SATURATED	3.0
155	157.1	8.7	7	14	16									158.8	ALLUVIAL BROWN SAND AND GRAVEL, SATURATED	7.0
150	152.1	13.7	12	13	16									153.8	COASTAL PLAIN GRAY CLAYEY SAND, SATURATED (BLACK CREEK FORMATION)	12.0
145	147.1	18.7	8	8	11									148.8	COASTAL PLAIN GRAY SILTY CLAY, WET (BLACK CREEK FORMATION)	17.0
140	142.1	23.7	12	18	25									138.8	COASTAL PLAIN GRAY CLAYEY SAND, SATURATED (BLACK CREEK FORMATION)	27.0
135	137.1	28.7	11	16	22									128.8	COASTAL PLAIN GRAY SILTY CLAY, WET (BLACK CREEK FORMATION)	37.0
130	132.1	33.7	10	17	33									123.8	COASTAL PLAIN GRAY CLAYEY SAND, SATURATED (BLACK CREEK FORMATION)	42.0
125	127.1	38.7	9	13	18									118.8	COASTAL PLAIN GRAY, GREEN, AND ORANGE SILTY CLAY, WET (CAPE FEAR FORMATION)	47.0
120	122.1	43.7	6	11	15									108.8	COASTAL PLAIN TAN SAND, SATURATED (CAPE FEAR FORMATION)	57.0
115	117.1	48.7	8	17	25									105.6	Boring Terminated at Elevation 105.6 ft in Dense Sand	60.2
110	112.1	53.7	16	25	35											
	107.1	58.7	17	16	27											

WBS 45586.1.1		TIP B-5631		COUNTY SAMPSON		GEOLOGIST Crenshaw, J. K.										
SITE DESCRIPTION BRIDGE NUMBER 169 ON -L- (SR 1620) OVER BIG JUNIPER RUN AT STA. 13+63.00							GROUND WTR (ft)									
BORING NO. EB2-B		STATION 14+21		OFFSET 15 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 167.2 ft		TOTAL DEPTH 65.3 ft		NORTHING 557,325		EASTING 2,130,399										
DRILL RIG/HAMMER EFF./DATE CAT1314 CME-45B 94% 09/26/2018			DRILL METHOD Mud Rotary			HAMMER TYPE Automatic										
DRILLER Contract Driller		START DATE 03/23/16		COMP. DATE 03/23/16		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						
170																
165	167.2	0.0	5	6	9									167.2	GROUND SURFACE	0.0
160	163.1	4.1	2	2	3									164.2	ROADWAY EMBANKMENT BROWN AND ORANGE SAND WITH GRAVEL, MOIST TO SATURATED	3.0
155	158.4	8.8	3	4	5									160.2	ARTIFICIAL FILL GRAY AND ORANGE SILTY CLAY, WET	7.0
150	153.4	13.8	13	21	28									155.2	COASTAL PLAIN GRAY CLAYEY SAND, SATURATED (BLACK CREEK FORMATION)	12.0
145	148.4	18.8	7	8	10									150.2	COASTAL PLAIN GRAY SILTY CLAY, WET (BLACK CREEK FORMATION)	17.0
140	143.4	23.8	7	11	16											
135	138.4	28.8	5	9	12											
130	133.4	33.8	7	10	16											
125	128.4	38.8	18	20	25											
120	123.4	43.8	12	16	22											
115	118.4	48.8	8	11	14											
110	113.4	53.8	12	20	23											
105	108.4	58.8	10	23	32											
	103.4	63.8	12	13	15											

NCDOT BORE DOUBLE B5631\_GEO\_BRDG.GPJ\_NC\_DOT.GDT 11/30/18