

REFERENCE: BR-0119

PROJECT: 67119

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

STRUCTURE  
SUBSURFACE INVESTIGATION

COUNTY PITT  
PROJECT DESCRIPTION REPLACE BRIDGE NO. 730109  
OVER GRINDLE CREEK ON SR 1514  
(STATON MILL ROAD)  
SITE DESCRIPTION BRIDGE NO. 730109  
AT -L- STA. 13+33.54

CONTENTS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3	SITE PLAN
4	PROFILE
5-6	BORE LOGS
7	SITE PHOTOGRAPHS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BR-0119	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 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

BUNCH, C. M.

DUGGINS, W. T.

TURNER, A. D.

INVESTIGATED BY BUNCH, C. M.

DRAWN BY FIELDS, W. D.

CHECKED BY NASH, A. A.

SUBMITTED BY ALEXANDER, M. J.

DATE NOVEMBER 2019

Prepared in the Office of:  
**Terracon**  
Consulting Engineers and Scientists  
2401 BRENTWOOD ROAD, SUITE 107  
RALEIGH, NORTH CAROLINA 27604  
NC REGISTERED ENGINEERING FIRM: F-0869  
NC REGISTERED GEOLOGIC FIRM: C-367



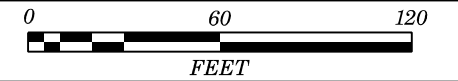
DocuSigned by:  
Matthew J. Alexander 27/2019  
AC113DDE6101413  
SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

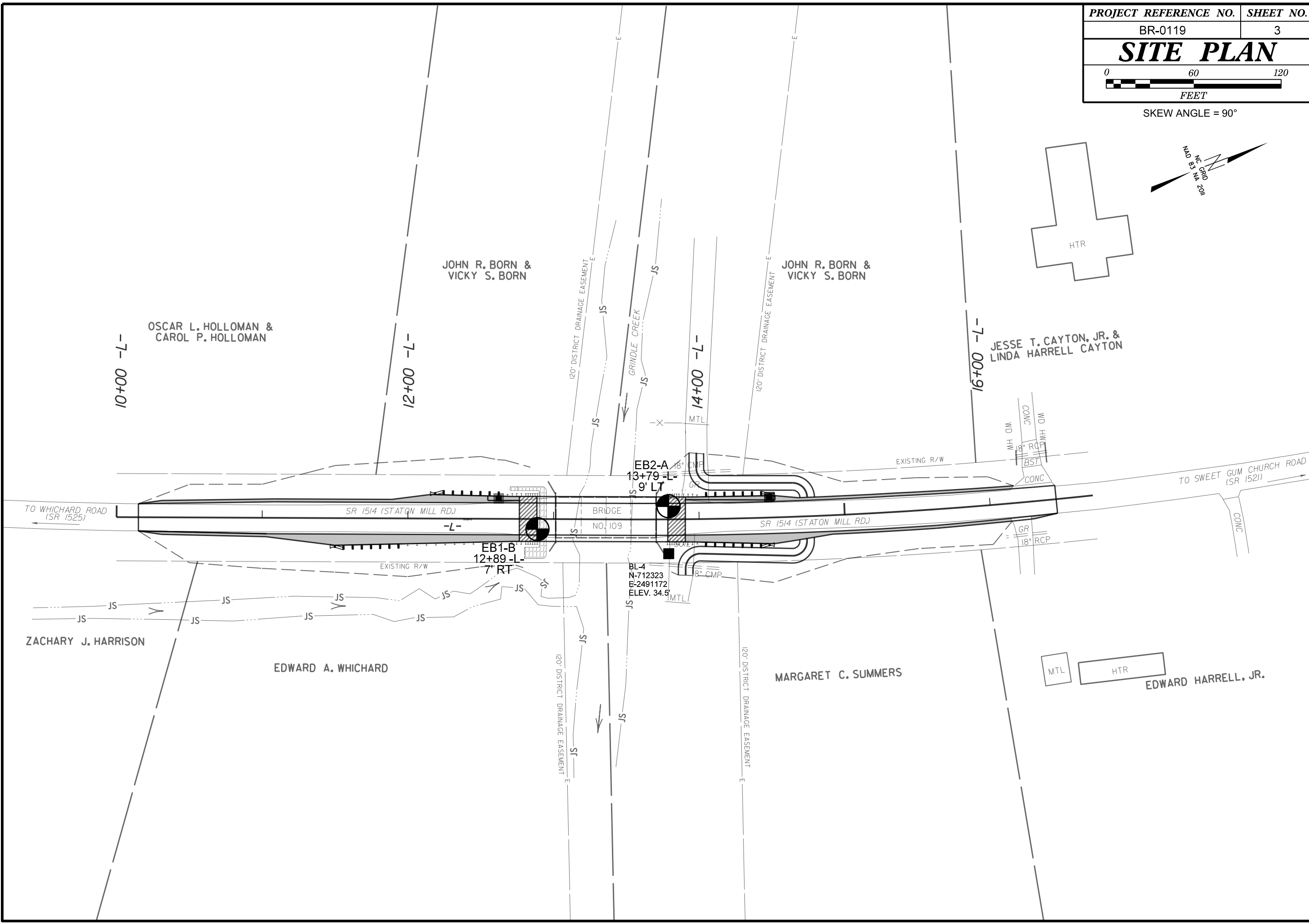
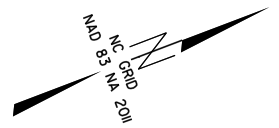
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

Table containing sections: SOIL DESCRIPTION, SOIL LEGEND AND AASHTO CLASSIFICATION, GRADATION, ANGULARITY OF GRAINS, MINERALOGICAL COMPOSITION, COMPRESSION, PERCENTAGE OF MATERIAL, GROUND WATER, MISCELLANEOUS SYMBOLS, RECOMMENDATION SYMBOLS, ABBREVIATIONS, EQUIPMENT USED ON SUBJECT PROJECT, ROCK DESCRIPTION, WEATHERING, ROCK HARDNESS, FRACTURE SPACING, BEDDING, INDOURATION, and TERMS AND DEFINITIONS.

# SITE PLAN



SKEW ANGLE = 90°



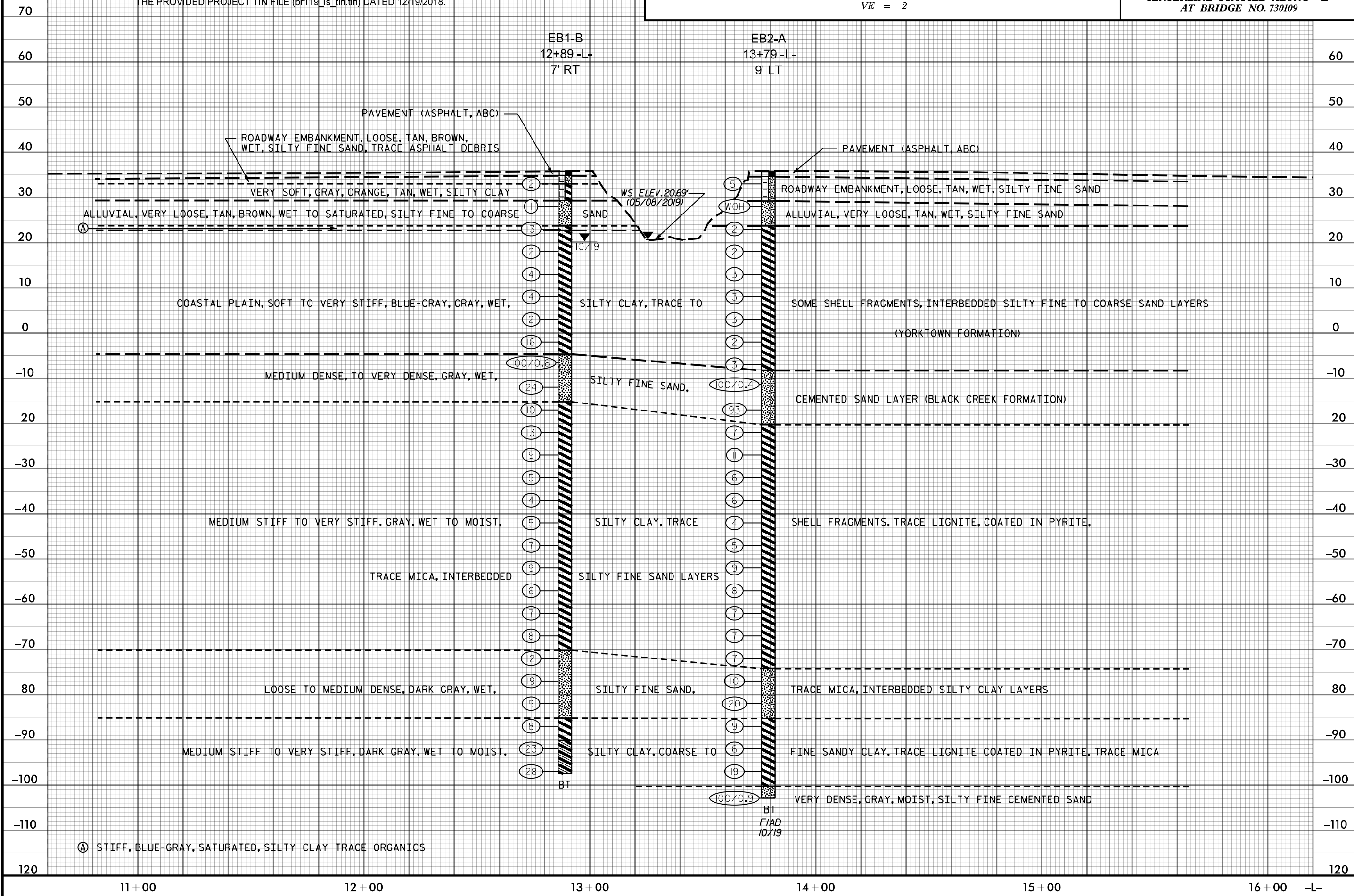
NOTE: INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ON TO THE EXISTING GROUND PROFILE ALONG THE CENTERLINE OF -L- TAKEN FROM THE PROVIDED PROJECT TIN FILE (br119\_ls\_tin.tin) DATED 12/19/2018.



PROJECT REFERENCE NO. SHEET NO.

BR-0119 4

CENTERLINE PROFILE ALONG -L- AT BRIDGE NO. 730109



Ⓐ STIFF, BLUE-GRAY, SATURATED, SILTY CLAY TRACE ORGANICS

11+00

12+00

13+00

14+00

15+00

16+00 -L-

# GEOTECHNICAL BORING REPORT

## BORE LOG

WBS 67119.1.1		TIP BR-0119		COUNTY PITT		GEOLOGIST BUNCH, C. M.	
SITE DESCRIPTION REPLACE BRIDGE NO. 730109 OVER GRINDLE CREEK ON SR 1514 (STATON MILL ROAD)							GROUND WTR (ft)
BORING NO. EB1-B		STATION 12+89		OFFSET 7 ft RT		ALIGNMENT -L-	
COLLAR ELEV. 35.8 ft		TOTAL DEPTH 133.3 ft		NORTHING 712,245		EASTING 2,491,124	
DRILL RIG/HAMMER EFF./DATE TER92-0 ACKER RENEGADE 86% 02/15/2019		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic			
DRILLER DUGGINS, W. T.		START DATE 10/07/19		COMP. DATE 10/07/19		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					
40															
35	34.0	1.8	4	2	0										
30	29.0	6.8	1	0	1										
25	24.0	11.8	9	9	4										
20	19.0	16.8	1	1	1										
15	14.0	21.8	2	2	2										
10	9.0	26.8	1	2	2										
5	4.0	31.8	WOH	1	1										
0	-1.0	36.8	3	7	9										
-5	-6.0	41.8	75	15/0.1											
-10	-11.0	46.8	3	9	15										
-15	-16.0	51.8	2	4	6										
-20	-21.0	56.8	3	7	6										
-25	-26.0	61.8	2	3	6										
-30	-31.0	66.8	1	2	3										
-35	-36.0	71.8	1	2	2										
-40															

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			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
-40															
-45	-41.0	76.8	2	2	3										
-50	-46.0	81.8	2	3	4										
-55	-51.0	86.8	13	5	4										
-60	-56.0	91.8	2	3	3										
-65	-61.0	96.8	3	3	4										
-70	-66.0	101.8	3	4	4										
-75	-71.0	106.8	3	6	6										
-80	-76.0	111.8	4	7	12										
-85	-81.0	116.8	3	4	5										
-90	-86.0	121.8	3	4	4										
-95	-91.0	126.8	8	12	11										
	-96.0	131.8	6	14	14										

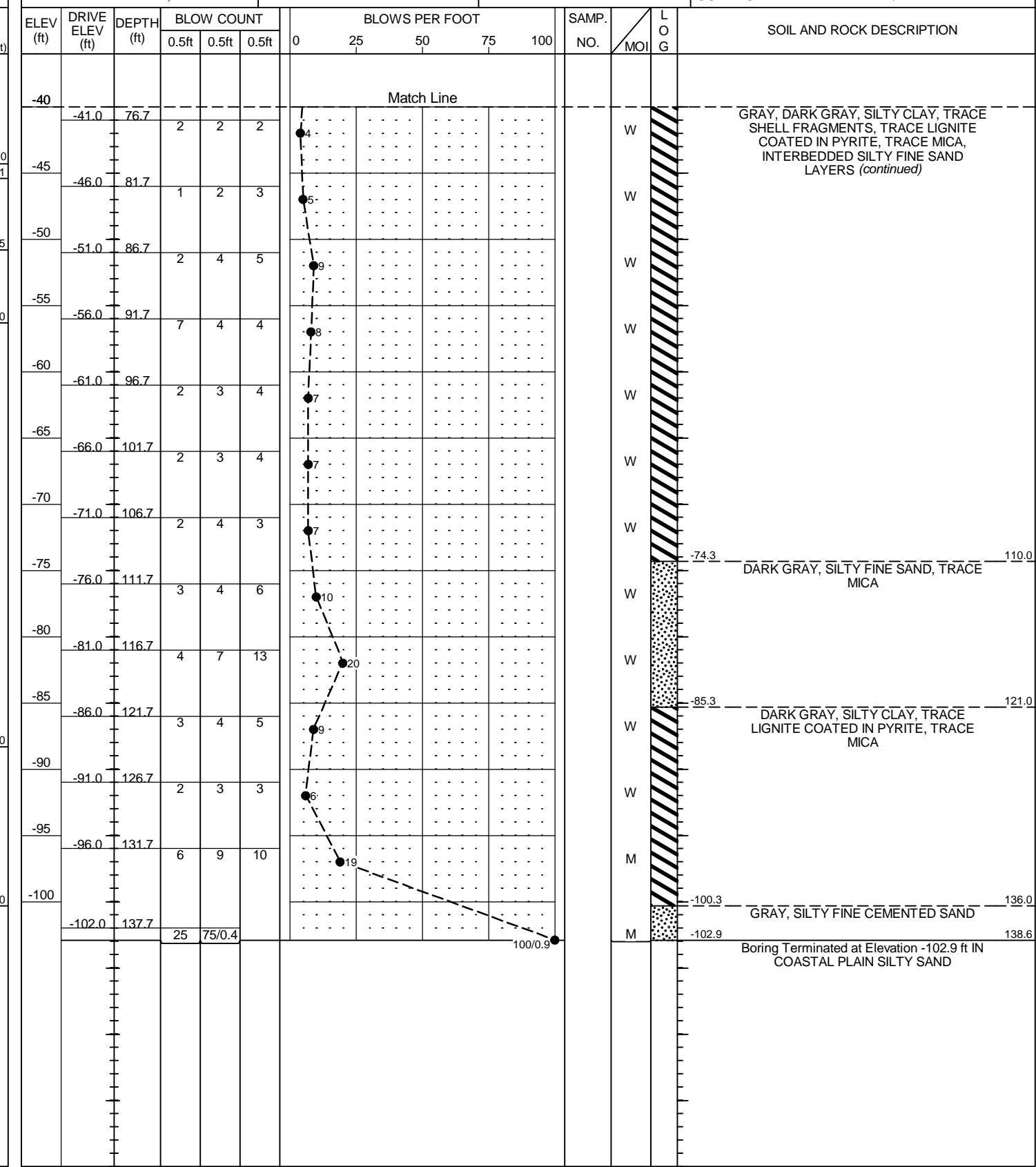
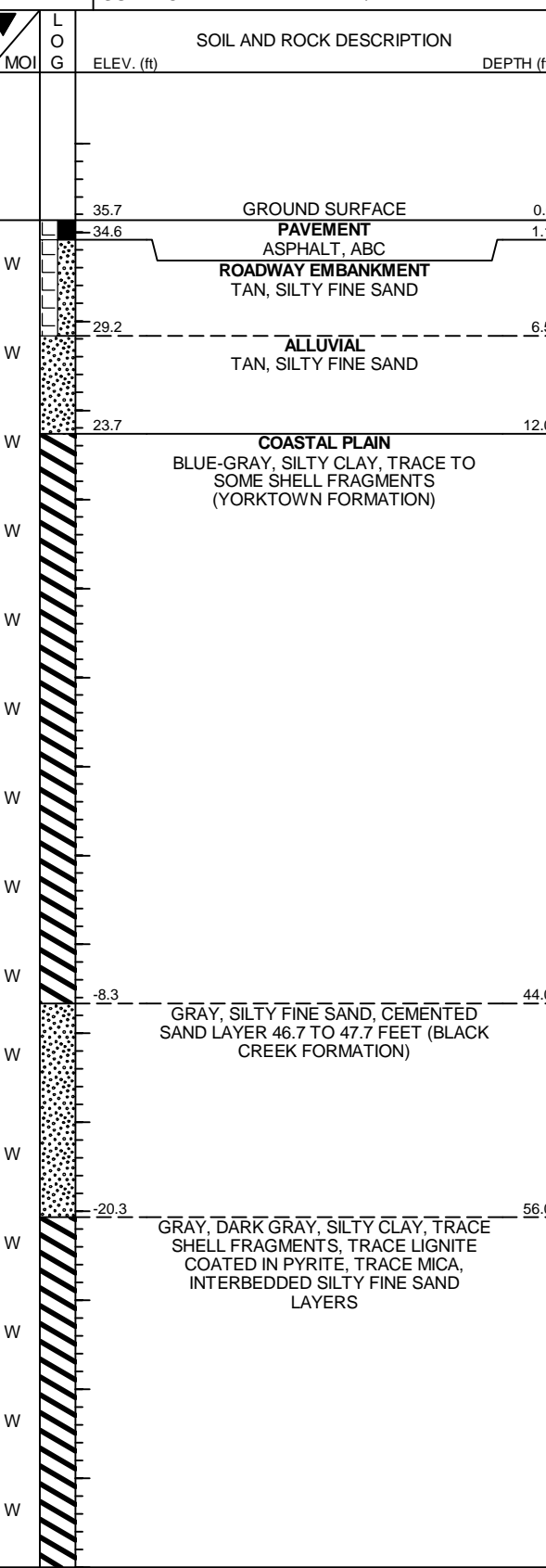
NCDOT BORE DOUBLE BR0119\_GEO\_BRDG730123.GPJ NC\_DOT.GDT 11/5/19

**GEOTECHNICAL BORING REPORT**  
**BORE LOG**

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BORING NO. EB2-A		STATION 13+79		OFFSET 9 ft LT		ALIGNMENT -L-									
COLLAR ELEV. 35.7 ft		TOTAL DEPTH 138.6 ft		NORTHING 712,335		EASTING 2,491,142									
DRILL RIG/HAMMER EFF./DATE TER92-0 ACKER RENEGADE 86% 02/15/2019		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER DUGGINS, W. T.		START DATE 10/08/19		COMP. DATE 10/08/19		SURFACE WATER DEPTH N/A									
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-5	-6.0	41.7	1	1	2										
-10	-11.0	46.7	100/0.4												
-15	-16.0	51.7	31	41	52										
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-60	-56.0	91.7	7	4	4										
-65	-61.0	96.7	2	3	4										
-70	-66.0	101.7	2	3	4										
-75	-71.0	106.7	2	4	3										
-80	-76.0	111.7	3	4	6										
-85	-81.0	116.7	4	7	13										
-90	-86.0	121.7	3	4	5										
-95	-91.0	126.7	2	3	3										
-100	-96.0	131.7	6	9	10										
	-102.0	137.7	25	75/0.4											

NCDOT BORE DOUBLE BR0119\_GEO\_BRDG730123.GPJ NC\_DOT.GDT 11/5/19



# SITE PHOTOGRAPHS

REPLACE BRIDGE NO. 730109 OVER GRINDLE CREEK  
ON SR 1514 (STATON MILL ROAD)



FROM END BENT 1 LOOKING UPSTATON



END BENT 2 LOOKING DOWNSTREAM