

PROJECT: 17BP.2.R.55 ID: SF-060119

SHEET	DESCRIPTION
1	TITLE SHEET
2	LEGEND
3	SITE PLAN
4	PROFILE
5-6	BORE LOGS

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

STATE	STATE PROJECT REFERENCE NO.	SHEET	TOTAL
N.C.	SF-060119	1	6

STRUCTURE
SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 17BP.2.R.55 (SF-060119) F.A. PROJ. _____
 COUNTY BEAUFORT
 PROJECT DESCRIPTION BRIDGE NO. 119 ON SR 1520 (TERRAPIN TRACK RD.) OVER BEAVERDAM SWAMP AT -L- STA. 12+58

CAUTION NOTICE

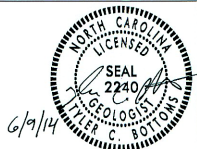
THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION OR WHICH IT IS BASED WERE MADE FOR THE PURPOSES OF STUDY, PLANNING, AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE HAZARD FIELD BORING LOGS, ROCK CORES, AND SOIL TEST DATA AVAILABLE AND BE REVIEWED OR DIRECTED IN PART BY CONTACTING THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT 4801-171-0800. REFER TO THE SUBSURFACE PLANS AND REPORTS, NOT THE FIELD BORING LOGS, ROCK CORES, OR SOIL TEST DATA ARE 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 BOUNDARIES. THE LABORATORY SAMPLE DATA AND THE IN SITU INFLUENCE TEST DATA CAN BE RELIED ON ONLY TO THE EXTENT OF RELIABILITY INDICATED 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 THE ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION, AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BODER 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 REPRESENTATIVE MODEL OR STRATA OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BODER OR CONTRACTOR IS CAUTIONED TO MAKE SUFFICIENTLY SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THIS PROJECT. THE CONTRACTOR SHALL MAKE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME AND REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

PERSONNEL
SUMMIT PERSONNEL
T. C. BOTTOMS

INVESTIGATED BY **T.C. BOTTOMS**
 CHECKED BY **D.N. ARGENBRIGHT**
 SUBMITTED BY **D.N. ARGENBRIGHT**
 DATE **JUNE 2014**



DRAWN BY: C.P. TURNER

NOTE - THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N.C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IS IT CONSIDERED TO BE PART OF THE PLANS, SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

NOTE - 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.

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

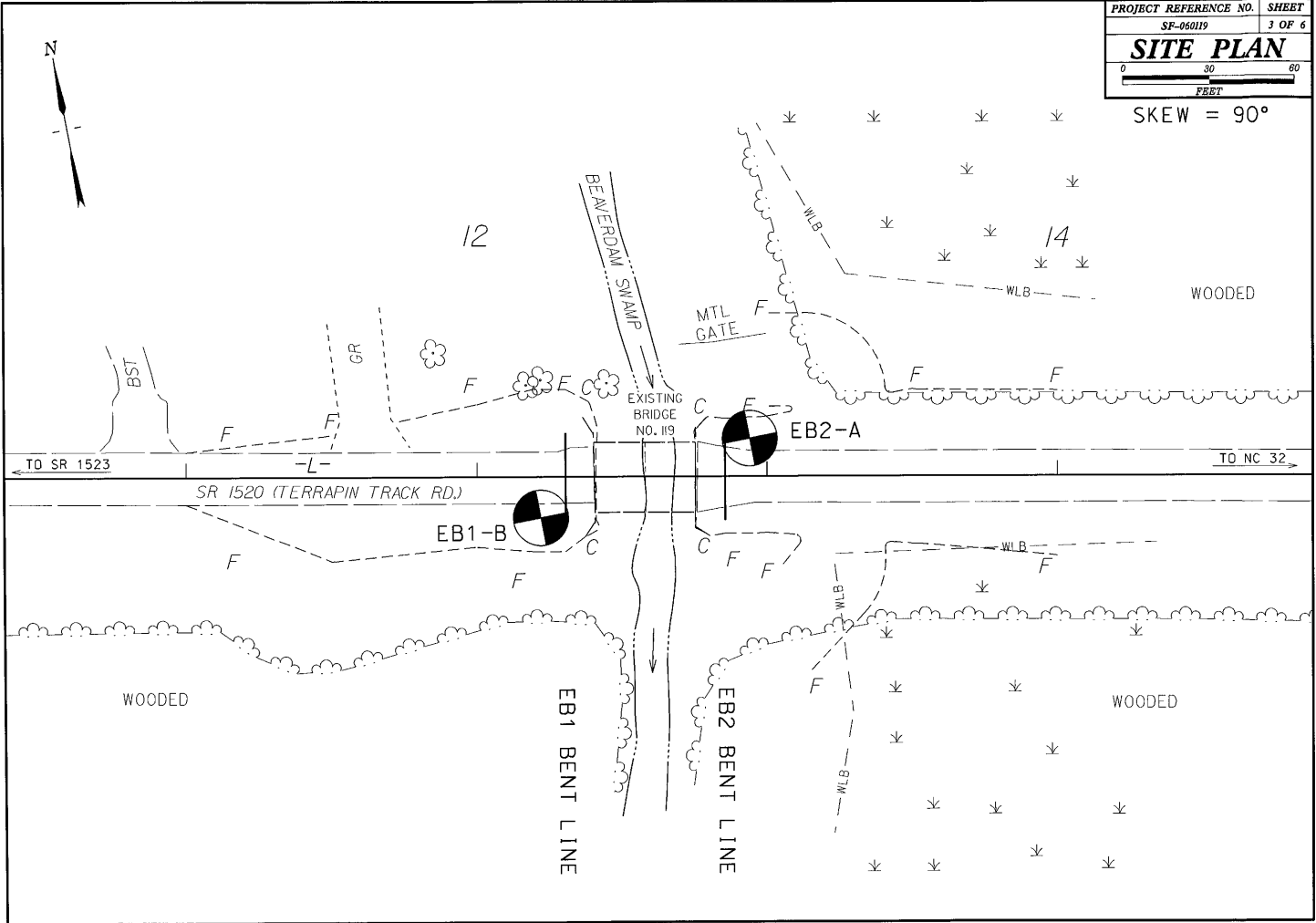
SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

PROJECT REFERENCE NO. SF-06019
SHEET NO. 2 OF 6

SOIL DESCRIPTION		GRADATION		ROCK DESCRIPTION		TERMS AND DEFINITIONS																																	
<p>SOIL IS CONSIDERED TO BE THE UNWEATHERED, NON-COHESIVE OR WEATHERED MATERIALS THAT CAN BE PENETRATED WITH A CONSIDERABLE FORCE AND YIELD LESS THAN THE BLANK FOR TEST ACCORDING TO STANDARD PENETRATION TEST METHOD WITH A 140 LB SOIL CLASSIFICATION IS MADE ON THE BASIS OF UNIFORM SAND DESCRIPTIONS, GRAIN SIZE, MOISTURE CONTENT, PLASTICITY, ORGANIC CONTENT, AND OTHER RELEVANT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ORGANICITY, STRUCTURE, PLASTICITY, ETC. (EXAMPLES FOR SPECIFICATIONS FOR SOIL WITH PROBLEMS ARE SPECIFICATIONS PART 4-4)</p>		<p>WELL-GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. SHOULD INCLUDE THE PERCENTAGE OF PARTICLES IN ALL APPROPRIATE SIZE RANGES. POORLY GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLES OF TWO OR MORE SIZES.</p>		<p>HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT YIELDS TO STANDARD PENETRATION TEST OR IMPACT TEST PENETRATION OR TO LESS THAN 80 FT PER 60 BLows, OR TO 100-150 FT PER 60 BLows. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK.</p>		<p>ALUMINUM HYDRATE - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. SOURCE - A WATER BEARING CONCRETION OR STRATA.</p>																																	
<p>MINERALOGICAL COMPOSITION</p> <table border="1"><tr><th>GROUP</th><th>CLASS.</th><th>SYMBOL</th><th>DESCRIPTION</th></tr><tr><td>A-1, A-2</td><td>A-1, A-2</td><td>AS, AT</td><td>CLAY MATERIALS</td></tr><tr><td>A-3, A-4, A-5, A-6, A-7</td><td>A-3, A-4, A-5, A-6, A-7</td><td>AC, AD, AE, AF, AG, AH</td><td>ORGANIC MATERIALS</td></tr></table>		GROUP	CLASS.	SYMBOL	DESCRIPTION	A-1, A-2	A-1, A-2	AS, AT	CLAY MATERIALS	A-3, A-4, A-5, A-6, A-7	A-3, A-4, A-5, A-6, A-7	AC, AD, AE, AF, AG, AH	ORGANIC MATERIALS	<p>ANGULARITY OF GRAINS</p> <p>THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERM ANGULAR, SUBANGULAR, OR ROUND, OR BOUNDED.</p>		<p>CRYSTALLINE ROCK (CR)</p> <p>FINE TO COARSE GRAIN SANDS AND SANDSTONE ROCK THAT WOULD YIELD TO STANDARD PENETRATION TEST OR IMPACT TEST PENETRATION OR TO LESS THAN 80 FT PER 60 BLows, OR TO 100-150 FT PER 60 BLows. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK.</p>		<p>PROXIMATE - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR OTHER SANDS, OR FROM A MIXTURE OF SAND AND SILT OR CLAY, OR FROM A MIXTURE OF SAND AND SILT OR CLAY AND OTHER MATERIALS.</p>																					
GROUP	CLASS.	SYMBOL	DESCRIPTION																																				
A-1, A-2	A-1, A-2	AS, AT	CLAY MATERIALS																																				
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<p>SOIL LEGEND AND CLASSIFICATION</p> <table border="1"><tr><th>GENERAL CLASS.</th><th>ORGANIC MATERIALS</th><th>SILT-CLAY MATERIALS</th><th>ORGANIC MATERIALS</th></tr><tr><td>GROUP</td><td>A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>A-1, A-2, A-3, A-4, A-5, A-6, A-7</td></tr><tr><td>CLASS.</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td></tr></table>		GENERAL CLASS.	ORGANIC MATERIALS	SILT-CLAY MATERIALS	ORGANIC MATERIALS	GROUP	A-1, A-2, A-3, A-4, A-5, A-6, A-7	A-1, A-2, A-3, A-4, A-5, A-6, A-7	A-1, A-2, A-3, A-4, A-5, A-6, A-7	CLASS.	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	<p>MINERALOGICAL COMPOSITION</p> <p>MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHENEVER THEY ARE CONSIDERED OF IMPORTANCE.</p>		<p>NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD TO STANDARD PENETRATION TEST OR IMPACT TEST PENETRATION OR TO LESS THAN 80 FT PER 60 BLows, OR TO 100-150 FT PER 60 BLows. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK.</p>		<p>PROXIMATE - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR OTHER SANDS, OR FROM A MIXTURE OF SAND AND SILT OR CLAY, OR FROM A MIXTURE OF SAND AND SILT OR CLAY AND OTHER MATERIALS.</p>																					
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GROUP	A-1, A-2, A-3, A-4, A-5, A-6, A-7	A-1, A-2, A-3, A-4, A-5, A-6, A-7	A-1, A-2, A-3, A-4, A-5, A-6, A-7																																				
CLASS.	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7																																				
<p>PERCENTAGE OF WATER</p> <table border="1"><tr><th>ORGANIC MATERIAL</th><th>DRINKING WATER</th><th>SILT-CLAY</th><th>OTHER MATERIAL</th></tr><tr><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td></tr></table>		ORGANIC MATERIAL	DRINKING WATER	SILT-CLAY	OTHER MATERIAL	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	<p>PERCENTAGE OF WATER</p> <table border="1"><tr><th>ORGANIC MATERIAL</th><th>DRINKING WATER</th><th>SILT-CLAY</th><th>OTHER MATERIAL</th></tr><tr><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td></tr></table>		ORGANIC MATERIAL	DRINKING WATER	SILT-CLAY	OTHER MATERIAL	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	<p>WEATHERING</p> <p>ROCK WEATHERING - ROCKS THAT SHOW WEATHERING CHARACTERISTICS UNDER VARIOUS CONDITIONS OF WEATHERING.</p>		<p>PROXIMATE - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR OTHER SANDS, OR FROM A MIXTURE OF SAND AND SILT OR CLAY, OR FROM A MIXTURE OF SAND AND SILT OR CLAY AND OTHER MATERIALS.</p>		<p>PROXIMATE - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR OTHER SANDS, OR FROM A MIXTURE OF SAND AND SILT OR CLAY, OR FROM A MIXTURE OF SAND AND SILT OR CLAY AND OTHER MATERIALS.</p>															
ORGANIC MATERIAL	DRINKING WATER	SILT-CLAY	OTHER MATERIAL																																				
U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7																																				
ORGANIC MATERIAL	DRINKING WATER	SILT-CLAY	OTHER MATERIAL																																				
U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7																																				
<p>CONSISTENCY OR DENSITY</p> <table border="1"><tr><th>PRIMARY SOIL TYPE</th><th>CONSISTENCY OR DENSITY</th><th>UNSATURATED</th><th>WET</th></tr><tr><td>GENERAL</td><td>VERY LOOSE, LOOSE, MEDIUM DENSE, DENSE</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td></tr></table>		PRIMARY SOIL TYPE	CONSISTENCY OR DENSITY	UNSATURATED	WET	GENERAL	VERY LOOSE, LOOSE, MEDIUM DENSE, DENSE	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	<p>GRAIN SIZE</p> <table border="1"><tr><th>GRAIN SIZE</th><th>DESCRIPTION</th><th>SYMBOL</th></tr><tr><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td></tr></table>		GRAIN SIZE	DESCRIPTION	SYMBOL	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	<p>ABBREVIATIONS</p> <table border="1"><tr><th>SYMBOL</th><th>DESCRIPTION</th><th>SYMBOL</th><th>DESCRIPTION</th></tr><tr><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td></tr></table>		SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	<p>ROCK HARDNESS</p> <table border="1"><tr><th>HARDNESS</th><th>DESCRIPTION</th><th>SYMBOL</th></tr><tr><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td><td>U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7</td></tr></table>		HARDNESS	DESCRIPTION	SYMBOL	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	<p>TERMS AND DEFINITIONS</p> <p>PROXIMATE - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR OTHER SANDS, OR FROM A MIXTURE OF SAND AND SILT OR CLAY, OR FROM A MIXTURE OF SAND AND SILT OR CLAY AND OTHER MATERIALS.</p>		<p>PROXIMATE - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR OTHER SANDS, OR FROM A MIXTURE OF SAND AND SILT OR CLAY, OR FROM A MIXTURE OF SAND AND SILT OR CLAY AND OTHER MATERIALS.</p>	
PRIMARY SOIL TYPE	CONSISTENCY OR DENSITY	UNSATURATED	WET																																				
GENERAL	VERY LOOSE, LOOSE, MEDIUM DENSE, DENSE	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7																																				
GRAIN SIZE	DESCRIPTION	SYMBOL																																					
U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7																																					
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION																																				
U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7																																				
HARDNESS	DESCRIPTION	SYMBOL																																					
U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7	U, O, A-1, A-2, A-3, A-4, A-5, A-6, A-7																																					

SKEW = 90°

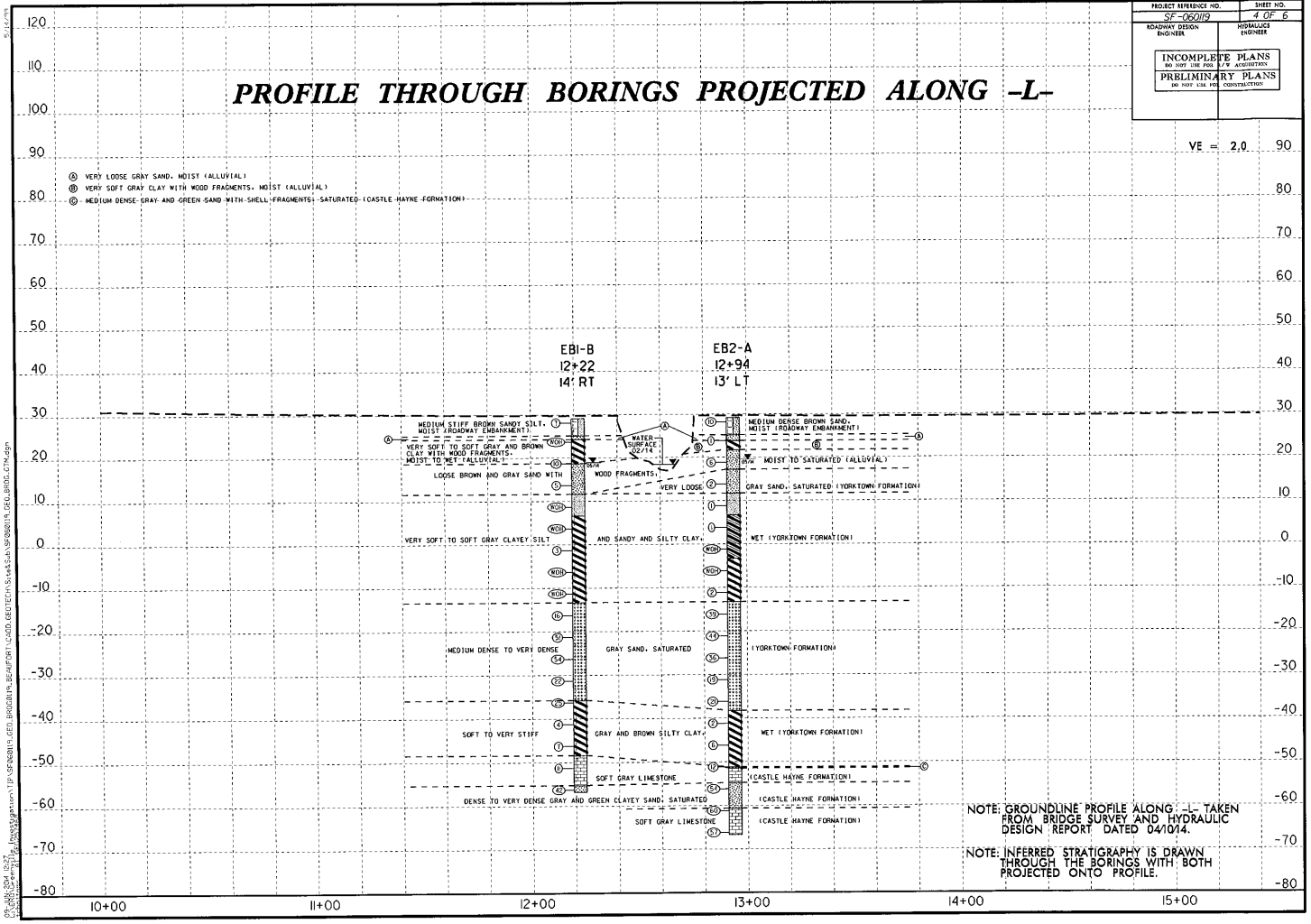


PROJECT REFERENCE NO. SF-08019	SHEET NO. 4 OF 6
ROADWAY DESIGN ENGINEER	HYDRAULIC ENGINEER
INCOMPLETE PLANS NO COPY FOR POST OR ARCHIVING PRELIMINARY PLANS NO COPY FOR POST OR ARCHIVING	

PROFILE THROUGH BORINGS PROJECTED ALONG -L-

VE = 2.0

- ⊙ VERY LOOSE GRAY SAND, MOIST (ALLUVIAL)
- ⊙ VERY SOFT GRAY CLAY WITH WOOD FRAGMENTS, MOIST (ALLUVIAL)
- ⊙ MEDIUM DENSE GRAY AND GREEN SAND WITH SHELL FRAGMENTS, SATURATED (CASTLE HAYNE FORMATION)

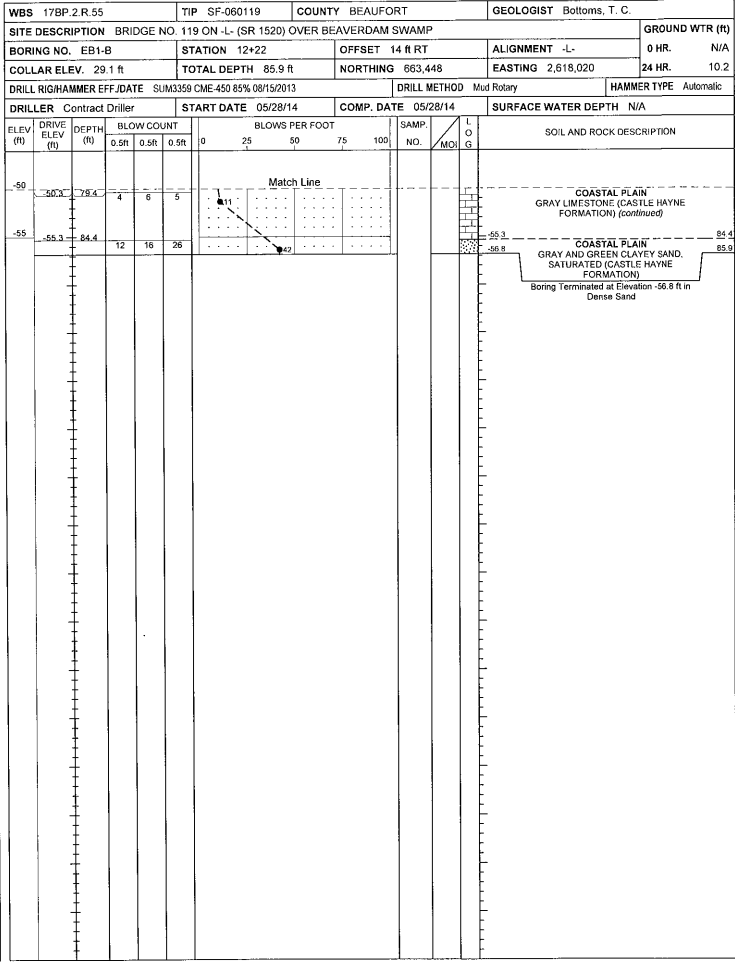
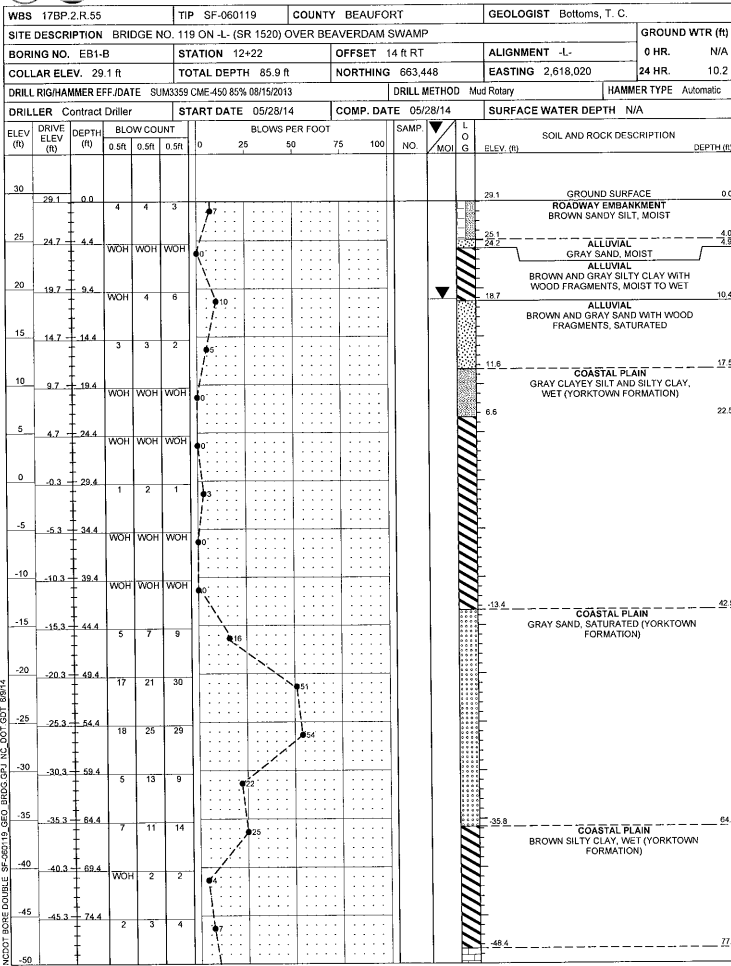


NOTE: GROUNDLINE PROFILE ALONG -L- TAKEN FROM BRIDGE SURVEY AND HYDRAULIC DESIGN REPORT DATED 04/10/14.

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

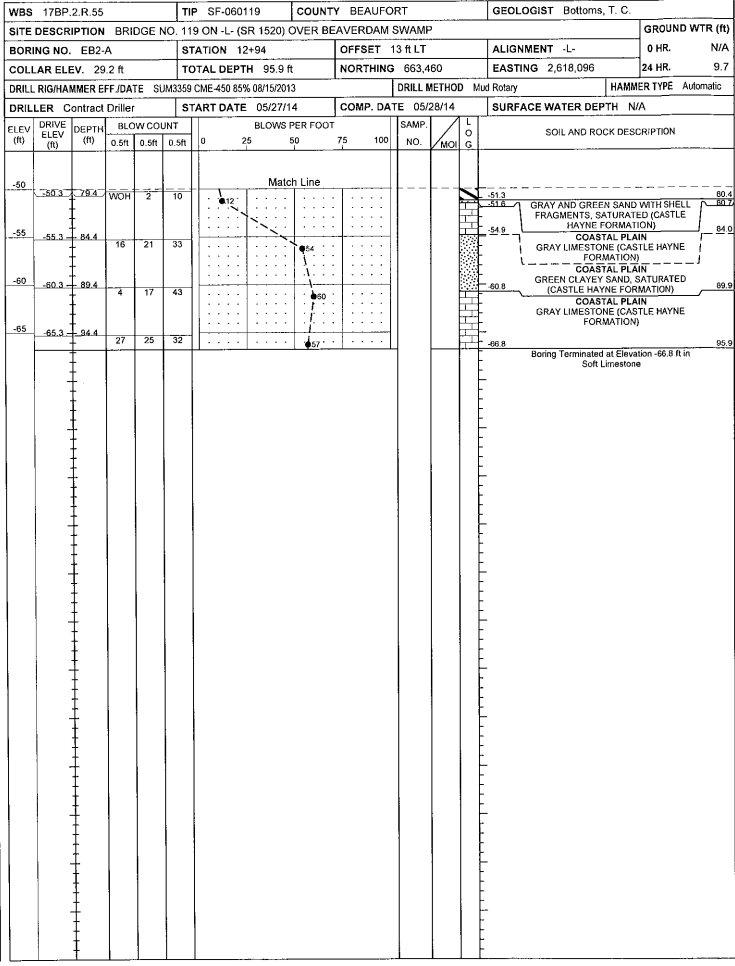
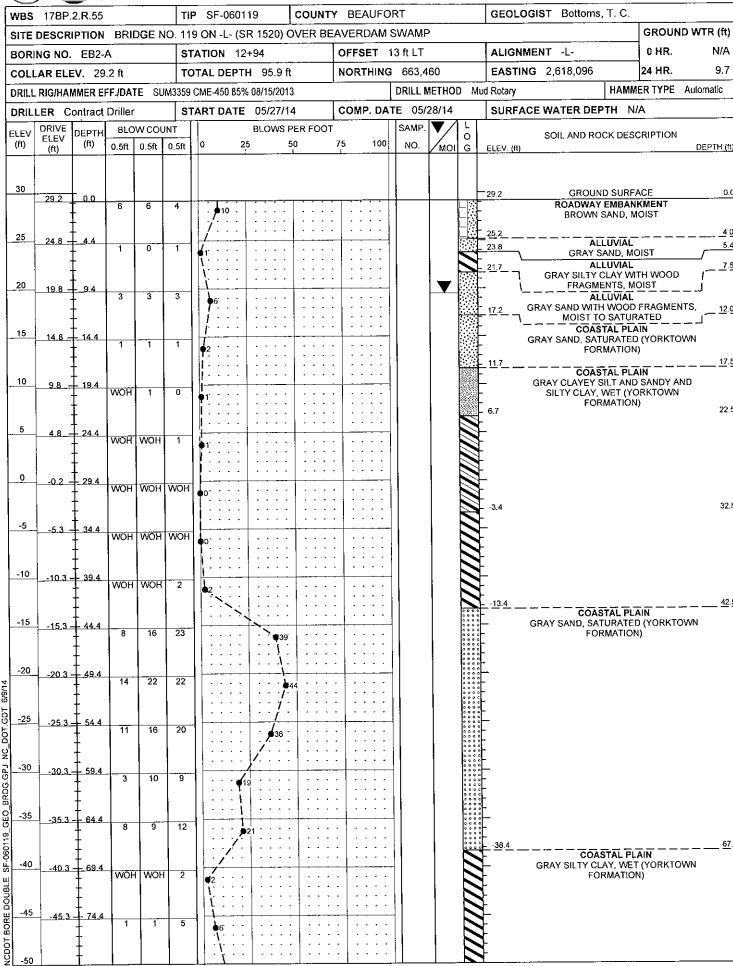
PROJECT: SF-08019 (TP) - CROWN POINT BRIDGE AND RAMP IMPROVEMENTS AND BRIDGE AND RAMP REPAIRS
 DRAWN BY: J. B. BROWN
 CHECKED BY: J. B. BROWN
 DATE: 04/10/14

NCDOT GEOTECHNICAL ENGINEERING UNIT
BORELOG REPORT



NCDOT BORE DOUBLE SF-060119 GEO. BIRDS.GPJ, NS, DOT, GSD, 8/14

NCDOT GEOTECHNICAL ENGINEERING UNIT
BORELOG REPORT



NCDOT BORE LOG SF 060119, RECD, IRREG.G.P., NC DOT COST 08/14