CONTENTS

5883

REFERENCE

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STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION **DIVISION OF HIGHWAYS** GEOTECHNICAL ENGINEERING UNIT

STRUCTURE SUBSURFACE INVESTIGATION

COUNTY _HARNETT

PROJECT DESCRIPTION IMPROVE I-95 INTERCHANGES AT SR 1808 (JONESBORO RD.) AND SR 1709 (HODGES CHAPEL RD.)

SITE DESCRIPTION BRIDGE NO. 80 ON -YI- (SR 1808) **OVER** -L- (I-95)

STATE STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C. I–5883	1	15

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 SOLT TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (1991) 707-8050. 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 BORNICS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU UN-FLACED TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE ONSERVED WATER LEVELS OR SOL MOISTURE CONDITIONS MOLATED IN THE SUBSURFACE RELIVESTIGATIONS AND REAS RECORDED AT THE TIME OF THE INVESTIGATION. THES WATER LEVELS OR SOL MOISTURE CONDITIONS MAY LARY CONSIDERABLY WITH THE ACCORDING TO CLIMATIC CONDITIONS NICLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIODER 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 OPHION 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 INVESTIGATIONS TO CONTINNS TO BE ENCOUNTERED. THE GIDDER OR CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- NOTES: I. 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

E.G. BLONSHINE

M.S. HAYES

G.H. GOSLIN

T.J. WHITE

K.S. HARDEE

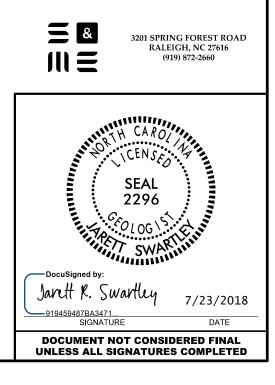
INVESTIGATED BY ______. SWARTLEY

DRAWN BY _J.R. SWARTLEY

CHECKED BY _____S.S. LANEY

SUBMITTED BY ______S.S. LANEY

DATE _____ FEBRUARY 2018



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT SUBSURFACE INVESTIGATION

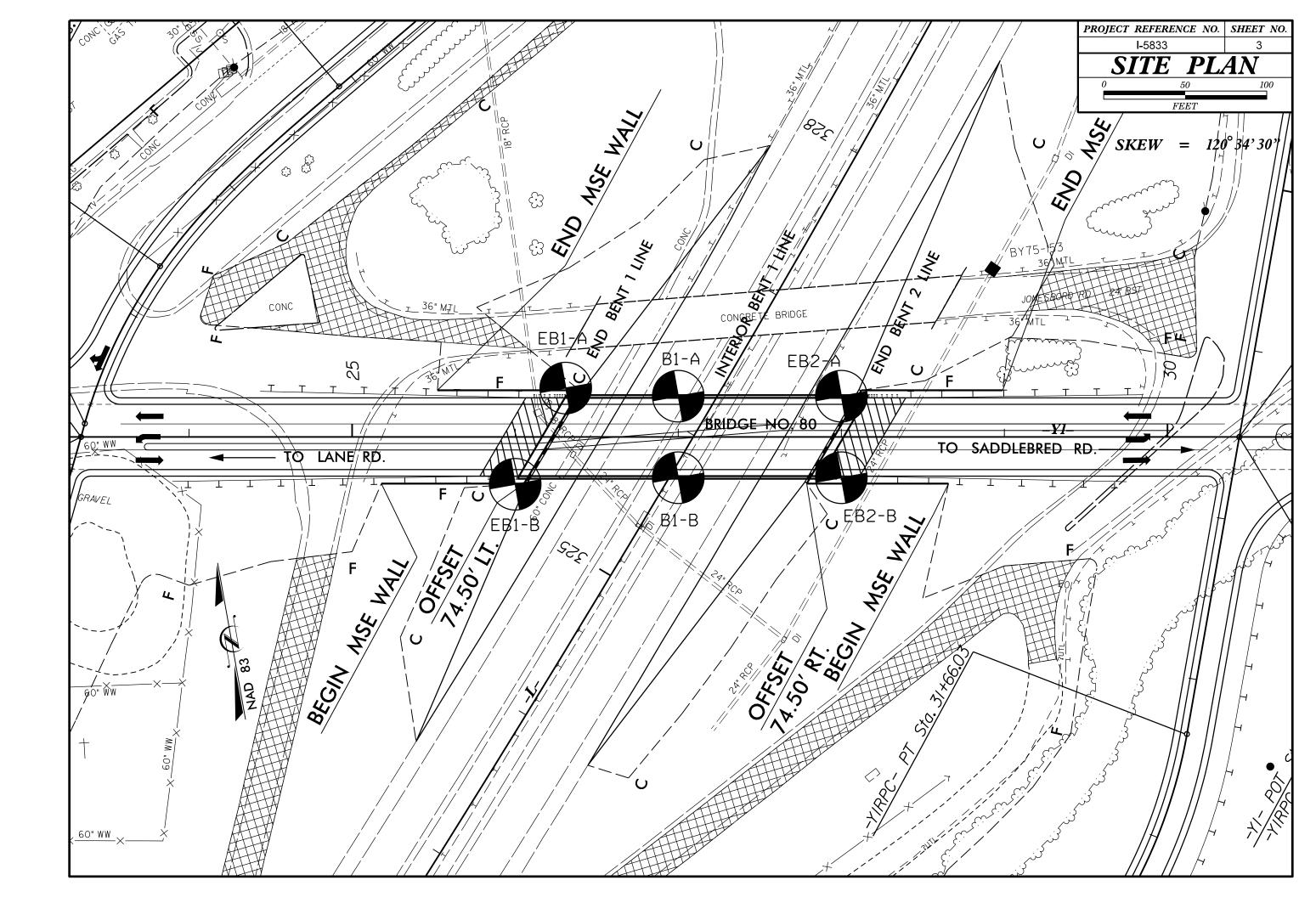
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS
SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AGSHTO T 206, ASTM DISB60. SOIL CLASSIFICATION IS BASED ON THE AGSHTO SYSTEM, BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AGSHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STUDUTURE, PLASTICITY, ETC. FOR EXAMPLE, VERY STIFF.GRW, SULTY CLAY, MOIST WITH INTERBEDDED FINE SAMD LAYERS, HIGHLY PLASTIC.A-7-6	WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES. ANGULARITY OF GRAINS - GRAINS THE ANGULARITY OR ROUNDESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.	HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED. AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS: WEATHERED NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES >	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. <u>AQUIFER</u> - A WATER BEARING FORMATION OR STRATA. <u>ARENACEOUS</u> - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. <u>ARGILLACEOUS</u> - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.
SOIL LEGEND AND AASHTO CLASSIFICATION GENERAL CLASS. GRANULAR MATERIALS (\$ 352, PASSING *200) SILT-CLAY MATERIALS (\$ 352, PASSING *200) ORGANIC MATERIALS GROUP A-1 A-3 A-2 A-4 A-5 A-6 A-7 A-1, A-2 A-4, A-5 A-3 A-6, A-7 CLASS. A-1+b A-2+4 A-2+6 A-2-7 A-3 A-6, A-7 A-3 A-6, A-7	MINERALOGICAL COMPOSITION MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAQLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE. COMPRESSIBILITY	ROCK (WR) 100 BLOWS PER FOOT IF TESTED. CRYSTALLINE ROCK (CR) FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE. CNEISS, GABBRO, SCHIST, ETC. NON-CRYSTALLINE ROCK (NCR) FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK (NCR) ROCK TYPE INCLUDES PRULITE, SANDSTONE, ETC.	<u>ARTESIAN</u> - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE. <u>CALCAREOUS (CALC.)</u> - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. <u>COLLUVIUM</u> - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.
SYMBOL 000000000000000000000000000000000000	SLIGHTLY COMPRESSIBLE LL < 31 - 50 MODERATELY COMPRESSIBLE LL = 31 - 50 HIGHLY COMPRESSIBLE LL > 50 PERCENTAGE OF MATERIAL ORGANIC MATERIAL GRANULAR SILT - CLAY SOLIS SOLIS OTHER MATERIAL	COASTAL PLAIN COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SEDIMENTARY ROCK SPT REFUSAL, ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED (CP) SHELL BEDS, ETC. WEATHERING FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING, ROCK RINGS UNDER	CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.
MATERIAL PASSING *40 - - 40 MX 41 MN 40 MX 41 MN 40 MX 41 MN 50ILS WITH UTTLE OR MODERATE S0ILS WITH UTTLE OR MODERATE GROUP INDEX 0 0 0 4 MX 8 MX 12 MX 16 MX 10 MX 00 M	TRACE OF ORGANIC MATTER 2 - 3% 3 - 5% TRACE 1 - 10% LITTLE ORGANIC MATTER 3 - 5% 5 - 12% LITTLE 10 - 20% MODERATELY ORGANIC 5 - 10% 12 - 20% SOME 20 - 35% HIGHLY ORGANIC > 10% > 20% HIGHLY 35% AND ABOVE	HAMMER IF CRYSTALLINE. VERY SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN, (V SLI.) CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE. SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED AND DISCULDRATION EXTENDS INTO ROCK UP TO	<u>DIP</u> - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. <u>DIP DIRECTION (DIP AZIMUTH)</u> - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP. MEASURED CLOCKWISE FROM NORTH. <u>FAULT</u> - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.
USUAL TYPES STONE FRAGS. FINE SILTY OR CLAYEY SILTY CLAYEY ONGAINL MATTER OF AND SAND SAND SOILS SUBGRADE EXCELLENT TO GOOD FAIR TO POOR POOR UNSUITAB	✓ WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING ✓ STATIC WATER LEVEL AFTER 24 HOURS ✓ PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA LE ✓ ✓ SPRING OR SEEP	(SLL) 1 INCH, OPEN JOINTS MAY CONTAIN CLAY, IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED, CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS, MODERATE SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY, ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK.	<u>FISSILE</u> - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. <u>FLOAT</u> - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL. <u>FLOOD PLAIN (FP)</u> - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
PI OF A-7-5 SUBGROUP IS ≤ LL - 30 : PI OF A-7-6 SUBGROUP IS > LL - 30 CONSISTENCY OR DENSENESS PRIMARY SOIL TYPE COMPACTNESS OR CONSISTENCY PENETATION RESISTENCE CONSISTENCY (N-VALUE) COMPRESSIVE STRENGTH (TONS/FT ²)	MISCELLANEOUS SYMBOLS Image: Strate strat	MODERATELY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL SEVERE AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH (MOD.SEV.) AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES 'CLUNK' SOUND WHEN STRUCK. IF TESTED, MOULD YIELD SPT REFUSAL SEVERE ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT	FORMATION (FMJ) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.
GENERALLY VERY LOOSE < 4 GRANULAR LOOSE 4 TO 10 MATERIAL MEDIUM DENSE 10 TO 30 N/A (NON-COHESIVE) VERY DENSE > 50	SOIL SYMBOL ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT CONE PENETROMETER CONE PENETROMETER CONE PENETROMETER CONE PENETROMETER CONE PENETROMETER CONE PENETROMETER CONE PENETROMETER CONE PENETROMETER	(SEV.) REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF VERY ALL ROCK EXCEPT QUARTZ DISCONCED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK	LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. <u>MOTTLED (MOT.)</u> - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. <u>PERCHED WATER</u> - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE
VERY SOFT < 2 < 0.25 GENERALLY SOFT 2 TO 4 0.25 TO 0.5 SILT-CLAY MODIUM STIFF 4 TO 8 0.5 TO 1.0 MATERIAL STIFF 8 TO 15 1 TO 2 (COHESIVE) VERY STIFF 15 TO 30 2 TO 4 HARD > 36 > 4	INFERRED SOIL BOUNDARY - - CORE BORING SOUNDING ROD INFERRED ROCK LINE MONITORING WELL TEST BORING WITH CORE INFERRED ROCK LINE MONITORING WELL TEST BORING WITH CORE INFERRED ROCK LINE MONITORING WELL SOUNDARY INFERRED ROCK LINE MONITORING WELL SOUNDARY	 (V SEV.) REMAINING. SAPPOLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DECREE THAT ONLY MINOR VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. <u>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</u> COMPLETE ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS, QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE. 	OF AN INTERVENING IMPERVIOUS STRATUM. <u>RESIDUAL (RES.)SOL</u> - SOL FORMED IN PLACE BY THE WEATHERING OF ROCK. <u>ROCK GUALITY DESIGNATION (ROD)</u> - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SECOMENTS EDUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
TEXTURE OR GRAIN SIZE	RECOMMENDATION SYMBOLS		SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.
U.S. STD. SIEVE SIZE 4 10 40 60 200 270 DPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.053 BOULDER COBBLE GRAVEL COARSE FINE SILT CLAY	UNCLASSIFIED EXCAVATION - UNCLASSIFIED EXCAVATI	VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK. HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE	SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT
(BLDR.) (COB.) (GR.) (GR.) (GR.) (SL.) (SL.) (CL.) GRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS	$\begin{tabular}{ c c c c c c } \hline ABBRE VIATIONS \\ \hline AR - AUGER REFUSAL & MED MEDIUM & VST - VANE SHEAR TEST \\ BT - BORING TERMINATED & MICA MICACEOUS & WEA WEATHERED \\ CL CLAY & MOD MODERATELY & Y - UNIT WEIGHT \\ CPT - CONE PENETRATION TEST & NP - NON PLASTIC & Y'_d - DRY UNIT WEIGHT \\ \hline \end{tabular}$	HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROUPED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.	OR SLIP PLANE. <u>STANDARD PENETRATION TEST (PENETRATION RESISTANCE)(SPT)</u> - NUMBER OF BLOWS (N OR BPF)OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.
SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION - SATURATED - (SAT.) USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE PLASTIC CONTRACT OF CO	CSE COARSE ORG ORGANIC DMT - DILATOMETER TEST PMT - PRESSUREMETER TEST <u>SAMPLE ABBREVIATIONS</u> DPT - DYNAMIC PENETRATION TEST SAP SAPROLITIC S - BULK e - VOID RATIO SD SAND, SANDY SS - SPLIT SPOON F - FINE SL SLIT, SLITY ST - SHELBY TUBE F0SS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK	SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERMAIL.	<u>STRATA CORE RECOVERY (SREC.</u>) - TOTAL LENOTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. <u>STRATA ROCK QUALITY DESIGNATION (SROD</u>) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (15.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.
RANGE - WET - (W) SEMISOLID: REQUIRES DRVING TO (PI) PL PLASTIC LIMIT	FRAC, - FRACTURED, FRACTURES TCR - TRICONE REFUSAL RT - RECOMPACTED TRIAXIAL FRAGS, - FRAGMENTS W - MOISTURE CONTENT CBR - CALIFORNIA BEARING HI, - HIGHLY V - VERY RATIO	FRACTURE SPACING BEDDING	BENCH MARK: BY75-153
PLC PLASTIC LIMIT OM OPTIMUM MOISTURE SL SHRINKAGE LIMIT - DRY - (D) - DRY - DRY - (D) - DRY - DRY - (D)	EQUIPMENT USED ON SUBJECT PROJECT DRILL UNITS: ADVANCING TOOLS: Image: CME-45C Image: CLAY BITS Image	IERM SPACING IERM THICKNESS VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDED 4 FEET WIDE 3 TO 10 FEET THICKLY BEDDED 1.5 - 4 FEET MODERATELY CLOSE 1 TO 3 FEET THINLY BEDDED 0.16 - 1.5 FEET CLOSE 0.16 TO 1 FOOT VERY THINLY BEDDED 0.03 - 0.16 FEET VERY CLOSE LESS THAN 0.16 FEET THICKLY LAMINATED 0.008 FEET THINLY LAMINATED < 0.008 FEET	NORTHING: 570733 EASTING: 2127213 ELEVATION: 230.26 FEET NOTES:
PLASTICITY PLASTICITY INDEX (PI) DRY STRENGTH NON PLASTIC 0-5 VERY LOW SLIGHTLY PLASTIC 6-15 SLIGHT	□ CME-550 □ 8" HOLLOW AUGERS □ -B □ -H □ CME-550 □ HARD FACED FINGER BITS □ -N □ YANE SHEAR TEST □ TUNGCARBIDE INSERTS HAND. TODI S'	INDURATION FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.	
MODERATELY PLASTIC 16-25 MEDIUM HIGHLY PLASTIC 26 OR MORE HIGH COLOR	PORTABLE HOIST X CHSING W ADVANCER POST HOLE DIGGER X TRICONE 2 1% STEEL TEETH HAND AUGER X CME-550X TRICONE TUNG-CARB. SOUNDING ROD	MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER. INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.	
DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.	CORE BIT VANE SHEAR TEST X BWJ RODS	EXTREMELY INDURATED SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.	DATE: 8-15-14

PROJECT REFERENCE NO. I-5883



2



280				0 40 80	PROJECT REFERENCE	NO. SHEET NO.
200				FEET	I-5883	4
270				VE = 2:1	PROFILE ALON	G -Y1-
260	·····	······				260
250	 ROADWAY EMBANKMENT, TAN AND GRAY, MOIST, ST ROADWAY EMBANKMENT, BLACK, MOIST, LOOSE, SILTY COASTAL PLAIN, TAN AND GRAY, WET, SOFT, SANDY 	SAND		PRC	DPOSED GRADE	250
0.40		EBI-B 26+00 29' RT	B1-B 27 + 00 25' RT			0.40
240	·····	20 + 00 29' RT SS:11	25' RT 55-328 BRIDGE NO. 80	EB2-B 28+00 25'RT		240
230		,EXISTING GI	ROUND			230
220			-L-			220
210	``\					210
200	ROADWAY EMBANKMENT, BROWN, MC TO LOOSE, SILTY SAND AND CLAYEY 					200
	COASTAL PLAIN, GRAY, RED, BROWN,	3-YELLOW, TAN AND RED,		, CLAYEY SAND AND SILTY SAND, (MID	dendorf formation)	
190			3 SOFT TO MED. STIFF, HIGHL			190
180	GRAY, BROWN, RED, YELLOW,	TAN AND PINK, WET,				180
170	TAN, RED AND PINK,	<u></u>		CLAYEY SAND		170
160	COASTAL PLAIN, GRAY AND BROWN, PLASTIC, SILTY CLAY, (CAPE FEAR	25 WET, VERY STIFF, HIGHLY 20 FORMATION 40 MED. DENSE TO DENSE,	CLAYEY (3) SAND, (CAPE FEAR FORMATION	(CAPE FEAR FORMATION)		160
150	COASTAL PLAIN, GRAY AND TAN, SAT COASTAL PLAIN, GRAY, GREEN	AND TAN WET, STIF		⁻⁽²⁵⁾ (5)		150
	GRAY AND GREEN, SAT., DENSE, CLA					
140	 GRAY, \$ATURATED,	37 MEDIUM DENSE T	O CA DENSE, CLAYEY	38 SAND		140
130						130
120	GRAY, GREEN, RED, TAN. AND	36 PURPLE, .WET, .STIFF. TO		29 AND. SILTY. CLAY		120
110		3- 1 52- 1		32		110
100		BT	BT	ao ₽ B:T		100
					NOTE: EXISTING GROUND SURFAC OF _Y1_ CENTERLINE TAKEN FROM	e profile
90					ELECTRONIC TIN FILE (15883_1s_dtm DATED 5/8/17. INFERRED STRATIGRPA DRAWN THROUGH THE BORINGS V BROLECTED ONTO THE BROELE	HY IS
80 24+00	25+00	26+00	27+00	28+00	projected onto the profile.	80

:				1	1	1	1			1		:		:						:	:	1	:	1		1				I-58.	<u>33</u>		5
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155 156.0 53.7 6 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	160 155		‡		14	20		12			W		BLUE, SANDY CLAY AND (CAPE FEAR FORM	SILTY CLAY			-					
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HARNET				GEOLOGIST Goslin, G.H.		
(I-95)					GROUN	ID WTR (ft)
OFFSET 3	0 ft LT			ALIGNMENT -Y1-	0 HR.	N/A
NORTHING	570,7	07		EASTING 2,126,942	24 HR.	8.0
	DRILL N	IETHO	D Mu	Id Rotary HAMN	IER TYPE	Automatic
COMP. DAT	E 10/1	13/17		SURFACE WATER DEPTH N	/A	
75 100	SAMP. NO.	моі	L O G	SOIL AND ROCK DES	CRIPTION	
COMP. DAT	E 10/ ² SAMP.	13/17	L O	SURFACE WATER DEPTH N	ILTY SAND	<u>82.0</u> <u>87.0</u> <u>92.0</u> <u>92.0</u>
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	53083						-5883			COUN			Т			GEOLO	GIST Goslin, G.H.				53083					P 1-5883		COUNTY
	DESCR			DGE						OVER -L								_	D WTR (ft)					DGEN	-			OVER -L-
BOR	ING NO.	. EB1-	В		S	TATI	ON 2	26+00)		OFF	SET :	29 ft RT	Γ		ALIGN	MENT -Y1-	0 HR.	N/A	BOR	ING NO.	EB1-	·B		ST	TATION 2	.6+00	
COLI		EV. 20	9.8 ft		T(ΟΤΑ	L DEP	тн	100.1	ft	NOR	THING	3 570,0	654		EASTI	IG 2,126,901	24 HR.	8.0	COL	LAR ELE	EV. 20)9.8 ft		тс	OTAL DEP	TH 100.1	. ft 🔤
DRILL	RIG/HAI	MMER E	FF./DA	TE SM	NE9563	CME	-550X	88% 8	/10/201	7			DRILL	METH	OD N	Iud Rotary	HAMN	MER TYPE	Automatic	DRIL	L RIG/HAI	MMER E	FF./DA	TE SN	/E9563	CME-550X 8	38% 8/10/20	17
DRIL	LER W	/hite, T	.J.		S	TAR	T DAT	E 1	0/11/1	7	СОМ	P. DA	TE 10.	/12/17	7	SURFA	CE WATER DEPTH N	I/A		DRIL	LER W	/hite, T	.J.		ST		E 10/11/ [*]	17
ELEV	DRIVE	DEPTH	BLC	ow co	JNT			BL	OWS F	PER FOO	Т		SAMP							ELEV	DRIVE	DEPTH	BLC	w col	JNT		BLOWS	PER FOOT
(ft)	ELEV (ft)	(ft)	0.5ft	0.5ft	0.5ft	0		25	5	50	75	100	NO.	м	O DI G	ELEV. (ft)	SOIL AND ROCK DES	CRIPTION	DEPTH (ft)	(ft)	ELEV (ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25	50 7
210																209.8	GROUND SURF	ACE	0.0	130							Mato	ch Line
	209.8	- 0.0	1	2	4	╟╻	6 [.]							м			ROADWAY EMBAN	NKMENT	0.0								<u>.</u>	T
	- 206.2	1 36				¦	· · · · · ·		· · · · · ·	· · · · · ·	.	· · · ·				<u>207.3</u>	BROWN, SILTY S BROWN, CLAYEY		2.5		- 126.2	83.6					XIII	
205		- 3.0	2	2	1	 ∳₃	· · ·	· ·	· · ·		· · ·			м		È.	5	0,112		125		- 00.0	11	15	21		→ 36 →	· · · ·
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1	201.2	8.6				ŀ			· · ·			· · · ·					RED, BROWN, YELLOW	/ AND GRAY	,		121.2	88.6		10	10		: ::	
200	-	+	2	3	2	│ ├•́	5		· · · ·	· · · ·				Sat.		<u> </u>	CLAYEY SAN (MIDDENDORF FOR			120	-	\vdash	10	16	19			+
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195	196.2	13.6	1	1	2		· · ·		· · · · · ·			· · · ·		Sat.		F				115	116.2	93.6	9	13	18			
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	-	100				i:	· · ·		· · · · · ·			· · · ·				-					-							
190	191.2	18.6	1	2	2	. •	 4	· ·						Sat.		_				110		98.6	12	21	31			• · · · ·
	-	Ł				į						· · ·				187.8			22.0		-							
	186.2	23.6									.				Š		BROWN, RED AND YELL PLASTIC, SILTY		Y		-	F						
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180	181.2	28.6	7	3	4	\	· · · ·		· · · · · ·			· · · ·				ŀ					-	ŧ						
160	-	F	<i>'</i>		-	-	7							W					o			F						
	-	Ł				:	 					· · · ·				<u>178.1</u>	PINK SAND		<u> </u>		-	Ł						
175	176.2	33.6	3	3	4	.								Sat.		-					-	+						
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170		-	4	5	8	11			· · ·			•••		Sat.	0000	-						‡						
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	166.2	43.6	10	13	12	:	· · · ·	\mathbf{N} :	· · ·			· · · ·					COASTAL PLA GRAY AND BROWN, HIG	HLY PLASTI	C,		-	t i						
165	-	F	10	13	12		<u> </u>	25		· · · ·				W		-	SILTY CLAY CAPE FEAR FORM					F						
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160	161.2	48.6	7	9	11	:							SS-11	23%		F					-	F						
	-	F				-					.			1		158.1			51.7		-	F						
	- 156.2	53.6				:	· · · · · ·		· · ·		.	· · · ·					GRAY, CLAYEY	SAND	· <u></u>		-	F						
155			10	14	27	11	· · ·	· ·	• <u>·</u> •41_	• • •	• • •			Sat.		È.					-	‡						
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	151.2	58.6	44	4.4	40	:			<i>i</i> : : :	· · ·	· · ·	· · ·				t	GRAY, SILTY C	LAT			-	t						
150	_	ŧ	11	14	18				32	<u></u>	<u>.</u>	<u> </u>		W		Ł					-	F						
145	-	ł				.			N		.	•••				<u>148.1</u>	GRAY AND GREEN, CL	AYEY SAND	<u>61</u> .7		-	ł						
145	146.2	63.6	6	15	32	:			Т.Х <u>́</u>		.	· · · ·		Sat.		F	,				-	F						
	-	ŧ				-				+/	.				/. /	143 1			<u>66.7</u>		-	F						
	-	68.6				:	· · · · · ·		/ · · ·		: : :	· · · ·				┣━ <u>··</u> ~··	GRAY AND GREEN, SA	ANDY CLAY	. <u> </u>		-	ţ						
140		L 00.0	6	9	13	11		4 22			• • •			w							-	t						
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135	136.2	73.6				·					$\cdot \mid \cdot \cdot$	•••			/./.	L	GRAY, CLAYEY	SAND			-	Ł						
135	_	Ē	15	17	20				9 37	· · ·				Sat.		F					-	F						
	-	ŧ				:	· · · ·	1			.	•••				133.1	GRAY AND GREEN, S		<u> </u>		-	F						
130	131.2	78.6	6	12	13	:	· · · · · ·	/.	· · · · · ·		· · ·	· · · ·		14/		ŧ.	CITITUD ONLEN, O				-	ŧ						
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UNT	Y HARNET	Т			GEOLOGIST Goslin, G	G.H.		
R -L-	· (I-95)						GROUN	D WTR (ft)
	OFFSET 2	29 ft RT			ALIGNMENT -Y1-		0 HR.	N/A
	NORTHING	570,6	54		EASTING 2,126,901		24 HR.	8.0
I		DRILL N	IETHO	D Mi	ud Rotary	HAMM	ER TYPE	Automatic
	COMP. DAT	TE 10/ ⁻	12/17		SURFACE WATER DEF	PTH N/	A	
TOOT		SAMP.	\square	L	1			
	75 100	NO.	мо	O G	SOIL AND RC	ICK DESU	RIPTION	
e								
		T		N		REEN, SII ntinued)	TY CLAY	
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	+ • • • • •	+		┝╲╡	_ 109.7 Boring Terminated	at Elevat	ion 109.7 ft	100.1 IN
					HARD SILTY CL			
					ST-2 Pushed at S	ta. 26+00), 31 RT, -Y	1-
					Other Samples: ST-2 (23.5 - 25.5))		
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WBS (I P 1-588				Y HARI	NETT				GEOL	OGIST Hayes, M.S.				53083					P 1-5883		COUN	
				DGE) ON -Y1		,	OVER -L-	, <i>,</i>								ROUND WTR (ft)					DGEN) ON -Y1- () OVER -	· ·
BORING	g no.	B1-A			S	TATION	27+00)		OFFSE	T 25 f	t LT			ALIG	IMENT -Y1-	0	HR. N/A	BOR	ING NO	. B1-A	۸		S	TATION 2	27+00		OF
COLLA	R ELE	V. 21	0.3 ft		т	OTAL DE	EPTH ²	100.3 1	ft	NORTH	ING 5	570,69	90		EAST	ING 2,127,009	24	HR. 7.5	COLI	LAR EL	EV. 2′	10.3 ft		т	OTAL DEP	TH 100.3	3 ft	NC
DRILL R	IG/HAM	IMER E	FF./DA	TE SN	/E9563	3 CME-5502	X 88% 8/	/10/2017	7		DR	RILL M	IETHO	D N	lud Rotary	HA	MMER T	TYPE Automatic	DRILL	RIG/HA	MMER E	FF./DA	TE SN	ME9563	CME-550X 8	38% 8/10/20)17	
DRILLE		hite, T	.J.		S	TART DA	ATE 11	1/01/17	7	COMP.	DATE	11/0)2/17		SURF	ACE WATER DEPTH	N/A		DRIL	LER V		.J.		S	FART DAT	E 11/01/	/17	cc
	RIVE	DEPTH		W COL					PER FOOT			AMP.	·/			SOIL AND ROCK [DESCRIP	TION	ELEV	DRIVE ELEV		' 	W COL				B PER FOO	
	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25	5	0	75 I	1 001	NO.	/моі	G	ELEV. (ft			DEPTH (ft)	(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25	50	75
215		-													_				135		₋				_	Mat	tch Line	
	‡	-													-						ŧ					I IX I I	· · · · · · · ·	
210 2	210.3	-													- 210.3	GROUND SU	JRFACE	0.0	130	131.5	+ 78.8 +	11	18	24			· · · · ·	· · ·
210 2			3	4	5	. 🖣 9 .							М		-	ROADWAY EME BROWN AND TAN,	BANKME	NT	130	-	ŧ					· · /		. .
	‡	-				:/:::		· · ·		· · · · · · · ·	:				<u>207.3</u>			<u>3.0</u>		126 5	+ 83.8						· · · · ·	· ·
205 _2	205.3	5.0	2	2	2		• • •			· · · ·	·				-	GRAY, TAN AND RE (MIDDENDORF F	D, SAND		125		+	12	14	17		<u>-</u> 31	· · · ·	· ·
	ŧ	-			2	¶ ⁴ · · ·	· · ·	· · ·		. .	:		▼		-						‡					:::	. .	· ·
	201.5	8.8	1	2	3			· · ·		. .	:		w		-				100	121.5	- <u>88.8</u>	9	12	16			· · · · ·	· ·
200	+	-			-	 ¶ 5							٧V					12.0	120	-	‡					<u>−</u> <u></u> <u>−</u>		
	196.5 +	- - 13 ହ				<u> </u> :::		· · ·		. .	:			1.1		TAN AND RED, C	AYEY S	AND		116.5	- 93.8						. .	· ·
195		-	WOH	1	1	<u>•</u> 2 · ·				.	·		Sat.	<u>/~/~</u>	-				115		+	8	12	14		26	.	• •
	ł	-									·			<u>/</u> ~/;	-						ŧ							
	191.5	18.8	1	0	1	<u> : : :</u>				.	:		0.1	/~/~	_					111.5	98.8	12	14	23			.	: :
190	+	-		Ŭ						+			Sat.	/~/~	_				110		1	12	14	20		●37		
	186.5 +	-								.	·				<u> 188.3 </u>	GRAY, RED AND TAN,	SILTYO	LAY AND 22.0			ŧ							
185	100.5	 - -	WOH	1	2	i 3 · ·					•		W		-	SANDY C	LAY				£							
	-	-									•				183.3			27.0			Ŧ							
	181.5	28.8	2	1	2										-						Ŧ							
180	Ŧ	-	2	1	2	• 3							W		<u>179.3</u>					-	Ŧ							
	Ŧ										.			0000	-	TAN AND RE	D, SAND				Ŧ							
175	176.5 +	- 33.8	3	3	4			· · ·					Sat.	0000	-						Ŧ							
	Ŧ	-				· · · ·								0000	<u>173.3</u>			<u>37</u> .0		-	Ŧ							
	171.5	- 38.8						· · ·			.				-	TAN AND GRAY,	SANDY C	CLAY			Ŧ							
170	-	-	3	2	3	4 5					·		W		-					-	Ŧ							
	‡	-				. /				.	:				<u>168.3</u>			<u> </u>			Ŧ							
1 165	166.5 +	- 43.8	3	6	7	· · · ·	. 3 [.]	· · ·		· · · · · · · ·	:		W		-	TAN AND GRAY, (CAPE FEAR FC	SILTY C				Ŧ							
	+	-													-	,	-			-	Ŧ							
	161.5	- - 48.8								.	:				F						Ŧ							
160	4	-	12	23	38		· · ·		6 1	• • • •	·		W		-					-	ŧ							
	‡	-								.	:				-						ŧ							
1 155	156.5 +	- 53.8	9	12	19					.	:		w								ŧ							
100	+	-					- 7 °								-					-	ŧ							
4	+ 151.5 +	- - 58.8					: <u> </u> ; :	· · ·		· · · · · · · ·	:				-						‡							
150		-	9	11	14		. 625	· · ·		· · · ·	·		W		-					-	‡							
	‡	-								· · · · ·	:				<u>148.3</u>	 GRAY, CLAYI		<u>62.0</u>			‡							
	146.5	63.8	16	21	31		· · ·			· · · · · · · ·	·	3-360	18%		-	GIVIT, OLATI					‡							
145	+	-							9 52			, 500	10 /0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	- 143.3			67.0		-	‡							
	 41.5 +	- 68.8								· · · · ·	:			Ň	<u></u>	GRAY, SILT	Y CLAY	07.0			t							
140		-	11	11	13	1 🗠 🖓	. 24				·		W		<u>-</u>						±							
170 165 165 160 1 155 150 145 140 135	ł	-					:1::			.	:				<u>138.3</u>	 GRAY, CLAYI		<u>72.0</u>			ŧ							
	136.5	73.8	16	16	12		· · ·			.	:		0-1	/~/~	_	GRAY, CLAYI	t SAND)			ŧ							
135	T			10	12		€28						Sat.	/							ľ.							

IT	1 HARNET	Т			GEOLOGIST	Hayes, M.S.			
·L-	(I-95)							GROUN	D WTR (ft)
	OFFSET 2	25 ft LT			ALIGNMENT	-Y1-		0 HR.	N/A
	NORTHING	5 570,6	90		EASTING 2,1	27,009		24 HR.	7.5
		DRILL N	IETHO	D Mu	ud Rotary	HAI	MM	R TYPE	Automatic
	COMP. DA	TE 11/0	02/17		SURFACE WA	TER DEPTH	N//	۹	
тс		SAMP.	$\left[\right]$	L	1				
	75 100	NO.	моі	O G	50	IL AND ROCK DI	ESC	RIPTION	
				\sim	GRA	Y, CLAYEY SAN			77.0
				\mathbf{N}		GRAY, SILTY	' CL	AY	
			W	N	_				
				N					
			w	N					
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•				N					
•			w	N					
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				N					
•			w	N	110.0				100.3
					Boring I HARD	Ferminated at Ele SILTY CLAY (CO	evati OAS	on 110.0 f TAL PLAI	t IN N)
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	53083					TIP I-						HARN	ETT				GEOL	OGIST Hayes,	M.S.	1			53083					I P I-5			COUNT	
SITE	DESCR	RIPTION	BR	IDGE I	NO. 8	30 ON	-Y1- (SR 18	308) C	VER										GROUNI	OWTR (ft)					DGE	NO. 80) ON -	Y1- (S	R 1808)	OVER -L	L- (I-9
BOR	ING NO.	. B1-B	}			STATIO	DN 2	7+00			0	FFSET	25 ft	RT				MENT -Y1-		0 HR.	N/A	BOR	NG NO	. B1-E	3		S	ΓΑΤΙΟ	DN 27	+00		OF
COLI	LAR ELI	EV. 21	10.1 ft			TOTAL	DEP1	TH 1	00.1 f	ft	N	ORTHI	NG 5	70,64	41		EASTI	NG 2,127,000		24 HR.	7.6	COLL	AR EL	EV. 2 ⁴	10.1 ft		Т	JTAL	DEPT	H 100.1	ft	NO
DRILL	RIG/HA	MMER E	FF./DA	TE SI	ME956	63 CME-	550X 8	8% 8/1	0/2017	,			DR	ILL M	IETHO	DD N	Iud Rotary		HAMM	ER TYPE	Automatic	DRILL	RIG/HA	MMER E	FF./DA	TE S	ME9563	CME-5	550X 889	% 8/10/201	17	_
DRIL	LER W	-	.J.		\$	START	DATE	E 11/	/02/17	7	C	omp. D	DATE	11/0	03/17		SURF	CE WATER DE	PTH N/	A		DRIL	LER V	/hite, T	.J.		S	ΓART	DATE	11/02/1	17	co
ELEV	DRIVE ELEV			ow co						ER FO				MP.	▼⁄			SOIL AND R	OCK DES	CRIPTION		ELEV	DRIVE ELEV	DEPTH	' 	ow co					PER FOO	т
(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5f	t 0	2	25	5	0	75	10	00 N	10.	Имо		ELEV. (ft)				DEPTH (ft)	(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25	j	50	75
215		Ļ															L					135		 	<u> </u> .	┞		<u> </u>		Mato	ch Line	
	-	ŧ															È							ŧ				::	::/	· · · · ·		: :
010		‡															210.1	GROUI	ND SURFA	ACE	0.0	400	131.5	78.6	4	5	9	::		· · · · ·	· · · ·	: :
210	210.1	0.0	2	5	7		•12	1							М	-	210.1	ROADWA	Y EMBAN	KMENT	0.0	130	-	ŧ		-			<u><u><u></u></u></u>		+	
	-	ŧ					/ /	· ·	· · · ·	· ·							<u>207.1</u>				3.0		126.5	- 83.6				::	: : \\	· · · ·		
205	205.6 -	4.5		2	2	- <u> '</u> .												GRAY, TAN ANI		AYEY SAN	D	125	120.5	L 03.0	10	11	16		· · · `)	27		
	-	ł	.	-	-			· ·	•••						M			(MIDDENDO	ORF FORM	MATION)				ł				• •				
	201.5	8.6		1	2	_ <u> </u>			• •	•••	•••												121.5	88.6	10	12	17	• •		1		• •
200		Ŧ	1	1		• 3		+ • •						-328	20%		F					120	-	Ŧ		12				9 29	+	
	-	Ŧ															F							Ŧ					/			
195	196.5 -	+ 13.6 +	1	0	1		· · ·		•••	•••					Sat.		-					115	116.5	+ 93.6 	6	7	10		• • • • • • • • • • • • • • • • • • •			
		ŧ						1					-				F						-	ŧ						<u> </u>	· · · ·	
	- 191.5 -	+ + 18.6					· · · · · ·		· · · ·	· · · ·		· · · ·					-						111.5	+ - 98.6				::				
190		‡	1	1	1	¢ż_		· ·	• •	•••	•••				Sat.		- -					110		<u>†</u>	12	18	25	<u> </u>		· · • • 4	3	• •
	-	ŧ					· · ·		· · · ·	· · · ·							188.1	GRAY, TAN AN			<u>22.0</u>			ŧ								
405	186.5	23.6	WOH	1	2		· · · · · ·	· ·	· · · ·	· · · ·	· ·	• • • •			w		-	GRAT, TAN AN	ND PINK, 3					ŧ								
185		ŧ						1									-						-	ŧ								
	1915	+ + 28.6					· · ·	· ·	· · · ·	· ·														ŧ								
180	- 101.5	 	WOH	1	1	− •ż_									w		-							Ł								
	-	ł						· ·	•••								<u>178.1</u>				32.0			ł								
	176.5	33.6		1	1				• •	•••								TAN AND R	ED, CLAYI	EY SAND				ł								
175		Ŧ	1	1	'	• 2		+ • •							Sat.		F						-	Ŧ								
	-	Ŧ															<u>173.1</u>	TAN AND G	RAY. SAN		<u>37.0</u>			Ŧ								
170	171.5	+ <u>38.6</u> +	4	1	2		· · ·		•••	•••					w				, -					Ŧ								
	-	ŧ						1									- 168.1				42.0		-	ŧ								
	- 166.5 -	+ 43.6		-		_ :`	· · · <i>·</i>		· · · ·	•••							F	TAN AND GF	STAL PLA					ŧ								
165	-	‡	4	6	9		• <u>15</u>	· ·	•••	•••	•••		41		Sat.		F	(CAPE FE					_	ŧ	1			1				
	-	ŧ				:	· · · ·		· · · ·	· · · ·		· · · ·					F						•	ŧ	1							
170 165 160 155 150 145 140 135	161.5	+ <u>48.6</u> +	5	16	27		· · · · · ·		· · ·	· · ·	•••	· · · ·			Sat.		ļ							‡	1							
100	-	ŧ															- 150 1				52.0		-	ŧ								
	- 156.5 ⁻	+ 53.6					· · · · · ·	1.	· · · ·	· · · ·		• • • •					<u></u>	GRAY AND	TAN, SILT	TY CLAY	<u> </u>			ŧ								
155	-	±	4	7	13	٦Ŀ	· · 🥳	1 20	• •	• •					w								_	ŧ								
	-	ŧ					1	· ·	· · · ·	· · · ·														ŧ								
	151.5	58.6	4	7	16		· · ·]		•••	•••														ŧ								
150	_	Ŧ	7					23							W		-						-	Ŧ								
		Ŧ															F							Ŧ								
145	146.5	+ 63.6 T	2	16	20		· · · · · ·		· · 36	•••		• • • •			w		F						•	Ŧ	1							
	-	Ŧ															- 143.1				67.0		-	ŧ	1							
	- 141.5 -	+ 68.6				:	· · · · · ·		· · · ·	· · · ·	•••	· · · ·						GRAY,	CLAYEY S	AND				ŧ	1			1				
140	-	‡	10	16	23		· · ·	· ·	6 39		•••				Sat.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-						_	‡	1							
	-	‡				:	· · · · · ·	: <i>/</i> .	· · · ·	· · · ·		· · · ·					- -							‡	1							
40-	136.5	73.6	7	8	16		· · ·	/::	· · · ·	· · ·	· ·				Sat.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-							‡	1			1				
135		1	L '	I J	L .0			24							ુ ગ્રેલા.		1							L	1		1	L				

NT	Y HARNET	Т			GEOLOGIS	ST Hayes, M	.S.		
-L-	- (I-95)							GROUN	D WTR (ft)
	OFFSET 2	25 ft RT			ALIGNMEN	IT -Y1-		0 HR.	N/A
	NORTHING	570,6	41		EASTING	2,127,000		24 HR.	7.6
		DRILL N		D Mu	l Rotary		HAMME	ER TYPE	
	COMP. DA		03/17			WATER DEP			
тос	I	SAMP.		L	1				
	75 100	NO.	мо	O G		SOIL AND ROC	K DESC	RIPTION	
					<u>133.1</u> (GRAY, CLAYEY	SAND (continued)	<u>77.0</u>
· ·				Ň	GR	AY, TAN, RED	AND PUI	RPLE, SIL	TY
			w			U			
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			w	N					
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			w		110.0				100.1
				-	Bori	ng Terminated a	at Elevati	on 110.0 f	t IN
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	53083					TIP I-5883		Y HARNE	ΓT		G	EOLOGIST Blonshine, E.G.	1		53083					P 1-5883	-	UNTY
-				IDGE I	NO.	80 ON -Y1- (SR 1808) OVER -L	1					GROUND WTR (ft)					DGE	NO. 80	ON -Y1- (SR	1808) OVE	<u>R -L- (</u>
BOR	ING NO.	. EB2-	A			STATION 28+00		OFFSET	25 ft LT		A	LIGNMENT -Y1-	0 HR. N/A	BOR	ING NO.	EB2	-A		ST	TATION 28+	00	(
COL	LAR ELI	EV. 20)9.2 ft			TOTAL DEPTH 105	4 ft	NORTHING	G 570,6	672	E	ASTING 2,127,108	24 HR. 6.2	COL	LAR ELE	IV. 20	09.2 ft		т	DTAL DEPTH	105.4 ft	N
DRILL	RIG/HA	MMER E	FF./DA	TE SI	ME95	63 CME-550X 88% 8/10/2)17		DRILL N	NETHOD	D Mud Ro	otary HAMM	ER TYPE Automatic	DRIL	L RIG/HAN	MMER E	FF./DA	TE SM	ME9563	CME-550X 88%	8/10/2017	
DRIL	LER W		.J.			START DATE 10/16	/17	COMP. DA	TE 10/	17/17	SI	URFACE WATER DEPTH N/	/Α	DRIL	LER W	/hite, T	.J.		ST	TART DATE	10/16/17	0
ELEV	DRIVE ELEV	DEPIR	<u> </u>	ow co			PER FOOT		SAMP.		L O	SOIL AND ROCK DESC	CRIPTION	ELEV	DRIVE ELEV	DEPTH	· – – – – –	W CO		E	BLOWS PER F	-00T
(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5	t 0 25	50 I	75 100	NO.			EV. (ft)	DEPTH (ft)	(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0 25	50	75
l																						
210	200.2										- 209	.2 GROUND SURFA	ACE 0.0	130							Match Lin	1e
	209.2	0.0	4	4	3	· · · · · · · · · · · · · · · · · · ·				м		ROADWAY EMBAN	KMENT		-	-	0	10	12	· · ·		· · ·
	-	ŧ											3.0	105	405.0	-				$\begin{vmatrix} & \cdot & \cdot & \cdot \\ & \cdot & \cdot & \cdot & \end{vmatrix}$	· · · · ·	· · ·
205	204.9	4.3	WOH	2	2							GRAY AND TAN, SAN	DY CLAY	125	125.3	- 83.9	7	11	21			
1	-	ł									201	(MIDDENDORF FORM	MATION 7.5		-	-						· · ·
200	200.3	8.9										TAN AND RED, CLAYE	EY SAND	120	120.3	88.9				/		
	-	Ŧ		2	2	4 4				Sat.					-	-	8	9	10	•19		
	-	Ŧ													-	-						
195	195.3	T_13.9	2	1	2					Sat.				115		93.9	10	12	15		27	
	-	Ŧ													-	-						
190	190.3	T 18.9					· · · · ·	· · · · · ·						110	110.3	- - 98.9						· · · ·
	-	ŧ	1	0	1	• 1				Sat.	189	GRAY, PURPLE AND RED,	, SILTY CLAY			-	19	24	30		🎽	ŧ
	-	ŧ													-	-					/ .	
185	185.3	23.9	1	1	0		· · · ·	· · · · ·		l w				105	105.3	103.9	13	16	22			
	-	ŧ						· · · · · ·				_				-				.	<u></u>	· · ·
180	- 180.3	+ 28.0					· · · · ·				<u>181</u>	TAN, SILTY SAN	<u> 27.5</u> ND		-	-						
160	- 100.5	- 20.3	3	2	2	4				Sat.					-	-						
	-	ŧ					. .	 							-	-						
175	175.3	33.9	4		3	$- \left \begin{array}{c} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 $									-	-						
	-	Ł	4	4						Sat.					-	_						
	-	<u>+</u>									172	<u></u>	AND <u>37</u> .0		-	_						
170	170.3	38.9	3	3	4	→ · · · · · · · · · · · · · · · ·				Sat.					-	_						
	-	Ŧ				.	.								-	-						
165	165.3	43.9													-	-						
	-	Ŧ	3	4	4					Sat.		COASTAL PLA	44.9		-	-						
	-	ŧ										GRAY, SILTY CL (CAPE FEAR FORM	LAY IATION)		-	-						
160	160.3	<u>+ 48.9</u>	3	5	7					w		\ -	-)		_	-						
	-	ŧ				·		· · · · · ·			157	2	52.0		-	-						
155	155.3	+ - 53 0					· · · · ·	· · · · · ·				GRAY, CLAYEY S	SAND		-	-						
100			4	7	9	16				Sat.					-	-						
	-	‡					· · · · · · · ·	· · · · · ·							-	-						
150	150.3	58.9	4	6	9	$ \cdot \cdot \cdot \cdot \cdot \cdot$						4	60.4		-	-						
150	-	ŧ			ľ					Sat.		GRAY, SILTY CL	60.1 LAY 62.0		-	-						
145	445.0											GRAY, CLAYEY S	SAND <u> 02:0</u>		-	-						
145	145.3	63.9	14	13	16	29				Sat.					_	_						
	-	Ł									142	2	<u> </u>		-	_						
140	140.3	68.9		<u> </u>							Ł	GRAY, SANDY S	SILT			L						
		f	9		11	.•18	· · · ·		SS-64	20%	F					Ľ						
135	-	Ŧ									<u> </u>	GRAY AND GREEN, CLA	AYEY SAND 72.0			_						
135	135.3	T 73.9	8	10	12		· · · · ·	· · · · · ·		Sat.					-	F						
	-	Ŧ		1			.								-	F						
130	- 130.3	T 78.9					· · · · ·	· · · · · ·			·					F						
130		L 10.0	I	1	1					1 6	\$. •N				1	L	1		1			

/ HARNETT		GE	EOLOGIST	Blonshine	e, E.G.		
(I-95)						GROUN	D WTR (ft)
OFFSET 25 ft LT		AL	IGNMENT	-Y1-		0 HR.	N/A
NORTHING 570,6	72	E/	ASTING 2	,127,108		24 HR.	6.2
DRILL N	IETHOD	Mud Ro	tary		HAMME	ER TYPE	Automatic
COMP. DATE 10/				ATER DEP	TH N/	Ą	
75 100 NO.				OIL AND ROC			
SAMP.	<u> </u>		S GR 2 G	OIL AND ROC	EN, CLA tinued)		<u>92.0</u> 105.4 t IN

																					——————————————————————————————————————		
	53083					FIP I-5883		TY HARNET	T		GE	EOLOGIST Blonshine, E.G.			53083					P I-5883		COUNT	
				DGE		0 ON -Y1- (SR 1808)	OVER -L						GROUND WTR (ft)					DGE N	-	ON -Y1- (S	,	OVER -L	- (-
BOR	NG NO.	EB2-	-B		S	STATION 28+00		OFFSET	25 ft RT		AL	IGNMENT -Y1-	0 HR. N/A	BOR	ING NO.	EB2-	·B		ST	TATION 28	;+00		0
COLI	AR ELE	EV. 20	07.5 ft		Т	TOTAL DEPTH 100.0) ft	NORTHING	3 570,6	623	EA	STING 2,127,099	24 HR. 4.3	COL	LAR ELE	V . 20)7.5 ft		ТС	DTAL DEPT	H 100.0 f	ft	N
DRILL	. RIG/HAN	MMER E	FF./DA	TE SM	ME956	3 CME-550X 88% 8/10/20	17		DRILL I	METHOD	Mud Rot	tary HAMM	IER TYPE Automatic	DRILL	RIG/HAN	IMER E	FF./DA1	TE SN	1E9563	CME-550X 88	% 8/10/2017	7	
DRIL	LER W	/hite, T	.J.		S	START DATE 10/17/	17	COMP. DA	TE 10/	/17/17	SU	IRFACE WATER DEPTH N	/A	DRIL	LER W	hite, T.	.J.		ST	ART DATE	10/17/17	7	C
ELEV	DRIVE ELEV	DEPTH	' 	w co	·		PER FOO		SAMP.			SOIL AND ROCK DES	CRIPTION	ELEV	DRIVE ELEV	DEPTH	L	W COL			BLOWS P		
(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0 25	50	75 100	NO.		G ELEV		DEPTH (ft)	(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0 2	5 5	i0 I	75
210		Ļ												130							Match	n Line	
	- 207.5	- 00									207.5	5 GROUND SURF	ACE 0.0		129.0	78.5 -	8	12	19	· · · · ·	31		:
005			1	3	3	•6				ML	-	ROADWAY EMBAN BLACK, SILTY S		405	+	-				· · · · ·		· · ·	:
205	_	F				 	+				204.5		3.0	125	124.0	83.5		- 10					+
	203.0	4.5	2	3	3	-		· · · · · ·		Sat.		GRAY, TAN AND RED, CL (MIDDENDORF FOR	LAYEY SAND			-	9	13	16		9 29 · ·	· · ·	•
200	-	Ł								1. 1			MATION)	120	-	-					1		•
	199.0	8.5	2	2	3	-				Sat.					119.0	88.5	7	9	12	· · · · /			•
	-	F								~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		=	12.0		+	-				· · · · \			
195		[13.5									<u> </u>	TAN AND RED, SILT	Y SAND 12.0	115		93.5					<u></u>		
	-	- 10.0	2	2	1	$\left \oint_{3} \cdot \cdot \cdot \right \cdot \cdot \cdot \cdot$				Sat.						-	12	13	19		32		
190	-	F						· · · · · ·			<u> </u>	5	17.0	110	ļ	-					: \ : :		
	189.0	18.5	1	1	2							GRAY AND RED, HIGHLY P CLAY	PLASTIC, SILTY		109.0	98.5	11	22	18		· · \. ·		
	-	ŧ	'			$\left \begin{array}{c cccccccccccccccccccccccccccccccccc$		· · · · · ·										22	10		• • • • 40		·
185		<u>+</u>						· · · · ·								-							
		23.5	WOH	1	1	$- \begin{vmatrix} \vdots & \cdot & \cdot & \cdot \\ \bullet_2 & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot$		· · · · · ·							ļ	-							
100	-	ŧ.					· · · ·	· · · · · ·			180.5	5	27.0		+	-							
180	179.0	28.5										TAN, SILTY SA	ND		- +	-							
	-	Ł	4	2	3					Sat.						-							
175	-	Ł													-	-							
	174.0	33.5	3	2	2	- <u> </u>				Sat.					+	-							
	-	F										-	27.0		Ŧ	-							
170	169.0	38.5									<u>- 170.5</u>	GRAY AND TAN, CLAY	YEY SAND 37.0			-							
	-	-	3	2	3	$ \begin{bmatrix} & \cdot & \cdot & \cdot \\ \bullet & \cdot & \bullet \\ \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet \\ \bullet & \bullet & \bullet$				Sat.					Ŧ	-							
165	-	F						· · · · · ·			165.5		42.0		ļ	-							
	164.0	43.5	3	6	6	$\left \left \cdot \right\rangle \right \cdot \left \cdot \cdot \right \cdot \cdot \cdot \cdot \cdot$					5	GRAY AND TAN, SIL	TY CLAY			-							
	-	ŧ						· · · · · ·		" [1	(CAPE FEAR FORM				-							
160	150 0	+ /0 -					+ • • •				<u> </u>	5 GRAY, CLAYEY S	SAND 47.0			-							
	159.0	48.5	6	10	15	$ \begin{vmatrix} \cdot \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \\ \bullet 25 \cdot \cdot \cdot \end{vmatrix} $		· · · · · ·		Sat.	<u>**</u> +					-							
160 155 150 145 140	-	ŧ				$\left \left \begin{array}{c} \cdot \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \end{array} \right \right \left \begin{array}{c} \cdot \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \end{array} \right \left \begin{array}{c} \cdot \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \end{array} \right $		· · · · · ·		<u> </u>	,					.							
155	154.0	53.5		_		_	· · ·			,%•%						-							
	-	ŧ	4	7	8			· · · · ·		Sat.						-							
150	_	Ł																					
	149.0	58.5	7	7	15					Sat.						_							
	-	Ł						· · · · · · · · · · · · · · · · · · ·								-							
145	- 144.0	63.5					+ • • •								-	-							
			11	15	14					Sat.						-							
140	-	F						· · · · · ·		×	,					-							
	139.0	68.5	16	20	18	- <u>\</u>										-							
	-	ŧ		20	10			· · · · · ·		Sat.	<mark>,</mark>					-							
135	-	+														-							
	134.0	73.5	8	9	10	$\left \begin{array}{cccc} \cdot \cdot \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \bullet_{19} \end{array} \right \left \begin{array}{cccc} \cdot \cdot \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \bullet_{19} \end{array} \right \left \begin{array}{cccc} \cdot \cdot \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \bullet_{19} \end{array} \right \left \begin{array}{cccc} \cdot \cdot \cdot \cdot \cdot \cdot \cdot \end{array} \right $		· · · · ·		Sat.	·					-							
135	-	ŧ						· · · · ·															
130											<u>``</u>				Ī								

T١	и Н/	٩RN	IET	Т					GEOLOGI	ST	Blonshine	e, E.G.		
L-	(1-95	i)											GROUN	D WTR (ft)
Τ	OFF	SET	Г 2	25	5 ft RT				ALIGNME	NT	-Y1-		0 HR.	N/A
1	NOF	RTH	ING	}	570,6	23		╈	EASTING	2,1	27,099		24 HR.	4.3
_1				_			D N		Rotary	,			ER TYPE	
Τ	CON	/P	DA.	_		17/17		-	SURFACE	W۵				
Т	500			-	SAMP.		L							
	75	1	00		NO.	моі	O G			SOI	IL AND ROC	K DESC	RIPTION	
	1			1			5							
	Τ.			ł			%			GRA	Y, CLAYEY	SAND (continued)	
•		 	:			Sat.	\langle / \rangle							
•			•					<u>_ 1</u>	25.5		RED AND G			82.0
•	·	•••	•			w			Gr	ΑI,	RED AND G	IREEN, S	SANDICL	AT
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			•					_						
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-			·]			W		Ę,	07.5					100.0
	1.	<u>· ·</u>	•					-	Boi	ring T	Ferminated a SANDY CLA	at Elevati	on 107.5 f	t IN
								-			ushed at Sta			
								F				. 20100	, _0 : (i , - 1	
								E	S	<u>а заг</u> Г-1 (1	<u>mples:</u> 18.8 - 20.7)			
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SUMMARY OF LABORATOTY TEST DATA

Soil Classification and Gradation

			5	S&ME. Inc	. Raleigh, 3201	Spring	Forest	Road. I	Raleigh.	North	Carolin	a 27616						
S&ME Proje	ect #:			6235-16-0	U	- r e		,						Date	Report	1	12/1/20	17
State Project				53083.1.1				County	:	Harnet	t				Tested	11/1	/17-11/	30/17
Federal ID N	No.:			N/A				TIP No		I-5883								
Project Nam	ne:			Bridge No	o. 80 on -Y1- (S	R 1808) over -L	- (I-95)										
Client Name	e:			Michael E	Baker Internation	nal												
Vo.			nt	Sample	AASHTO		Tota	al % Pas	sing		Tota	l Mortar	Fraction	n (%)				
le N	t n#	# 00	mei	Depth	Classification			Sieve #	-		Coarse	Fine			LL	PL	PI	
Sample No.	Station #: Offset	Boring #:	Alignment	-							Sand	Sand	~ •	~	LL	1 L		Moist
<u> ジ ジ</u> SS-11 26+			 Y1	(ft) 48.6-50.1	A-7-6 (8)	$\frac{10}{100}$	40 97	60 95	200 48.1	270 42.4	5	53	Silt 8	Clay 34	43	17	26	% 23.3
SS-64 28+			Y1 Y1	68.9-70.4	A-7-0 (8) A-4 (1)	100	97	95	55.8	42.4 36.1	5	55	° 30	54 6	45 30	26	20 4	19.8
SS-328 27+			Y1	8.6-10.1	A-2-6 (0)	100	61	43	26.7	25.4	57	18	7	18	37	20	15	20.2
SS-360 27+			Y1	63.8-65.3	A-2-7 (0)	100	48	30	18.6	15.2	70	15	10	5	41	22	19	18.4
ST-1 28+	-05 25 R		Y1	18.8-20.7	A-7-6 (45)	100	100	99	98.7	96.5	1	3	36	60	64	25	39	41.0
ST-2 26+	-00 31 R	T EB1-B	Y1	23.5-25.5	A-7-6 (46)	100	99	98	97.0	94.3	2	4	34	60	65	23	42	37.8
			_															
			-															
				_														
References / Co	omments / i	Deviations:		ND=Not De	temined.													
AASHTO T88:	: Particle Siz	e Analysis of Soils a	s Modified	by the NCDOT	7				AASHTO) T89: De	etermining	the Liquid	l Limit of	Soils				
AASHTO T90:	: Determinir	g the Plastic Limit &	Plasticity I	ndex of Soils					AASHT	O T265: 1	Laboratory	Determin	ation of N	Aoisture C	Content of	Soils		
AASHTO M14	45: The Clas	sification of Soils and	d Soil Aggre	egate Mixtures	for Highway Const	truction P	urposes											
					N	-6	2	>	4 01 07		G		P	F		D		
		<u>Mal Krajan,</u>				Signatur	0		4-01-07 ertification			tewart L	•		<u>-</u>	ě	Manage ition	<u>er</u>
		Technician Nar	ne:		port shall not be repr	0	5	C	епцисаноп	π	T	echnical Re	sponsibilit	y:		1'05	mon	



SITE PHOTOGRAPH

Bridge No. 80 on -Y1- (SR 1808) over -L- (I-95)



SHEET 15 I-5883 Harnett Co.