#### **CONTENTS**

SHEET NO.

- 5

502

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REFERENCE

<b>DESCRIPTION</b>	
TITLE SHEET	
LEGEND (SOIL &	ROCK)
SITE PLAN	
WALL 3 PROFILE	
WALL 4 PROFILE	
WALL 5 PROFILE	
WALL 6 PROFILE	

### STATE OF NORTH CAROLINA

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

# **STRUCTURE** SUBSURFACE INVESTIGATION

COUNTY BRUNSWICK

PROJECT DESCRIPTION NC 211 FROM SR 1500 (MIDWAY ROAD) TO NC 87

SITE DESCRIPTION **RETAINING WALLS 3, 4, 5 AND 6** 

STATE PROJECT REFERENCE NO. STATE SHEETS NO. N.CR-5021 7 1

### **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 (99) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAIL

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 UNPELACED TEST DATA CAN BE RELIED ON ONLY TO THE DECREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOLI MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOLI MOISTURE CONDITIONS MAY YARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTONED 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 DOS NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERRETATIONS MADE, OR OPNION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONSTROST TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY IMINSELF 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 ACUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

NOTES:

- TES: 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 REDUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAVES ANY CLAIMS FOR INCREASED COMPENSATION OR STETNSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE. 2.

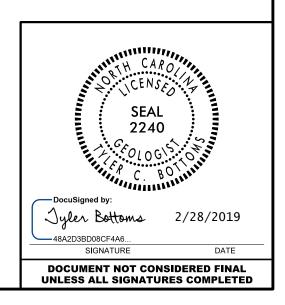
PERSONNEL

C.J. CORNETTE S.N. ZIMARINO

R.E. SMITH

J.M. EDMONDSON

INVESTIGATED BY \_\_\_\_\_. BOTTOMS DRAWN BY \_T.C. BOTTOMS CHECKED BY \_\_\_\_\_\_. D.N. ARGENBRIGHT SUBMITTED BY \_\_\_\_\_\_. ARGENBRIGHT DATE OCTOBER 2017



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

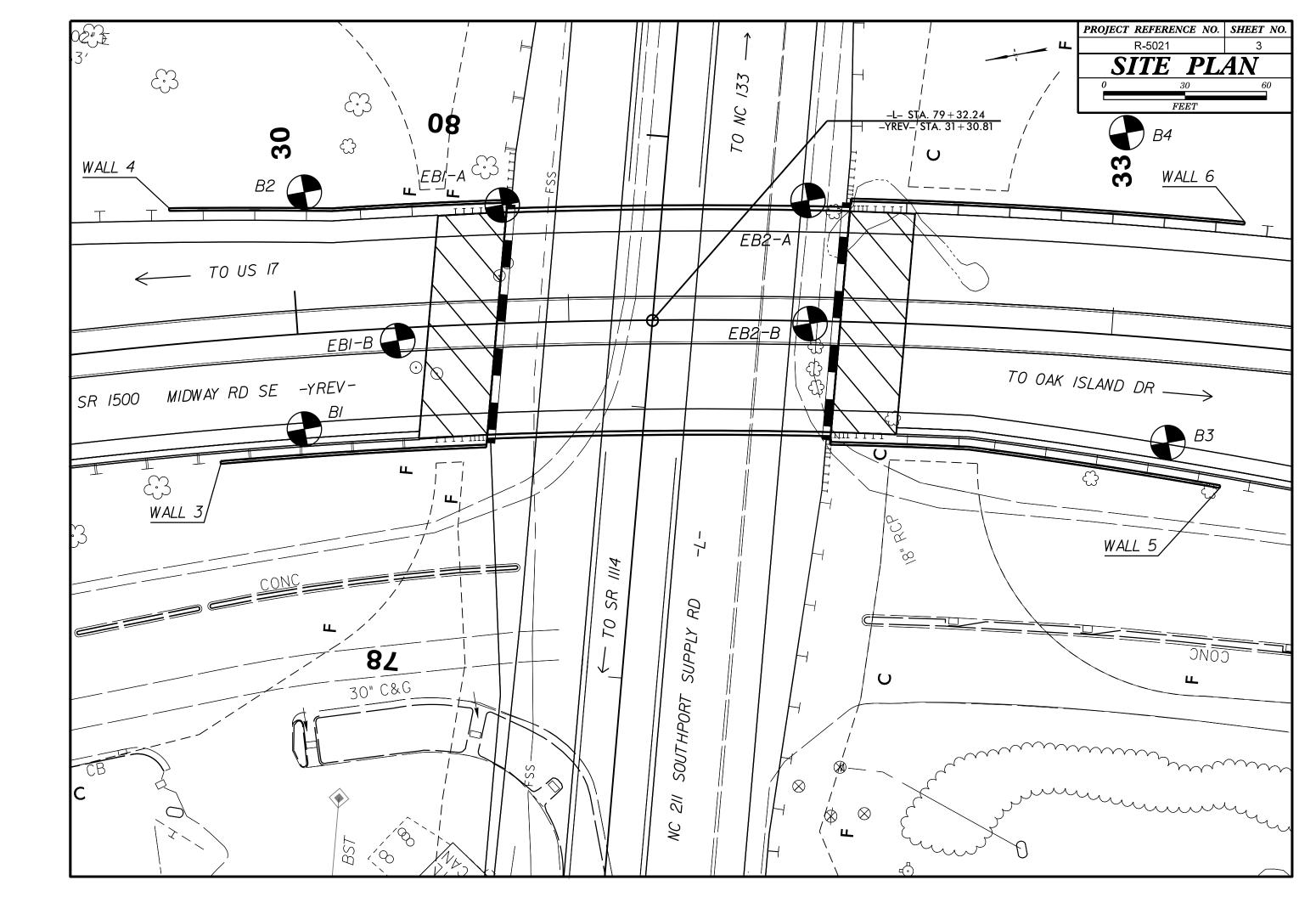
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

	SOIL	DESCRIPTION				GRADATION			ROCK DE	SCRIPTION
	RED UNCONSOLIDATED, SEMI-CO VITH A CONTINUOUS FLIGHT PO					TES A GOOD REPRESENTATION OF PARTIC NDICATES THAT SOIL PARTICLES ARE ALL				WOULD YIELD SPT REFUSAL IF TESTED, AN INF ASTAL PLAIN MATERIAL WOULD YIELD SPT REFU
ACCORDING TO TH	HE STANDARD PENETRATION T	EST (AASHTO T 206, ASTM D	1586). SOIL CLASSIFI	CATION		ES A MIXTURE OF UNIFORM PARTICLE SIZ				AMPLER EQUAL TO OR LESS THAN 0.1 FOOT PEF ANSITION BETWEEN SOIL AND ROCK IS OFTEN
	THE AASHTO SYSTEM. BASIC OR, TEXTURE, MOISTURE, AASHT					ANGULARITY OF GRAIN		REPRESENTED BY	A ZONE OF WEATHERED ROCK.	
	LOGICAL COMPOSITION, ANGULA F.GRAY, SILTY CLAY, MOIST WITH IN			•	THE ANGULARI	TY OR ROUNDNESS OF SOIL GRAINS IS DE	SIGNATED BY THE TERMS:		ARE TYPICALLY DIVIDED AS FOLLO	
	SOIL LEGEND AND	AASHTO CLASSIFI			- <u>ANGULAR, SUBAN</u>	NGULAR, SUBROUNDED, OR ROUNDED. MINERALOGICAL COMPOSI	TION	WEATHERED ROCK (WR)	100 BLOWS PER F	
GENERAL CLASS.	GRANULAR MATERIALS ( $\leq 35\%$ PASSING #200)	SILT-CLAY MATERIALS ( > 35% PASSING *200)	ORGANIC MATER	IALS	MINERAL NA	MES SUCH AS QUARTZ, FELDSPAR, MICA, TA		CRYSTALLINE	FINE TO COARSE	GRAIN IGNEOUS AND METAMORPHIC ROCK THAT REFUSAL IF TESTED. ROCK TYPE INCLUDES GF
GROUP A-1	A-3 A-2	A-4 A-5 A-6 A-7	A-1, A-2 A-4, A-5			N DESCRIPTIONS WHEN THEY ARE CONSIDE		ROCK (CR)	GNEISS, GABBRO, S	CHIST, ETC.
CLASS. A-1-a A-1-			A-3 A-6, A-7			COMPRESSIBILITY		NON-CRYSTALLINE ROCK (NCR)	SEDIMENTARY ROC	GRAIN METAMORPHIC AND NON-COASTAL PLAIN K THAT WOULD YEILD SPT REFUSAL IF TESTED
SYMBOL 0000000						HTLY COMPRESSIBLE	LL < 31 LL = 31 - 50	COASTAL PLAIN		DES PHYLLITE, SLATE, SANDSTONE, ETC. EDIMENTS CEMENTED INTO ROCK, BUT MAY NOT
% PASSING						ILY COMPRESSIBLE	LL > 50	SEDIMENTARY ROU	CK SPT REFUSAL. RO	CK TYPE INCLUDES LIMESTONE, SANDSTONE, CEM
*10 50 MX			GRANULAR SILT- CLAY	MUCK,		PERCENTAGE OF MATER	IAL	(CP)	SHELL BEDS, ETC.	HERING
*40 30 MX 50 M *200 15 MX 25 M	MX 51 MN MX 10 MX 35 MX 35 MX 35 MX 35	MX 36 MN 36 MN 36 MN 36 MN	SOILS SOILS	PEAT	ORGANIC MATERIAL	GRANULAR SILT - CLAY SOILS SOILS	OTHER MATERIAL	FRESH ROO		NTS MAY SHOW SLIGHT STAINING. ROCK RINGS UND
MATERIAL					TRACE OF ORGANIC M		TRACE 1 - 10%		MER IF CRYSTALLINE.	ALS MHT SHOW SEIGHT STHINING, NUCK NINGS UND
PASSING #40			SOILS WITH		LITTLE ORGANIC MAT MODERATELY ORGANIC		LITTLE 10 - 20% SOME 20 - 35%			, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF
PI 6 MX		MN 40 MX 41 MN 40 MX 41 MN MN 10 MX 10 MX 11 MN 11 MN	LITTLE OR	HIGHLY	HIGHLY ORGANIC	> 10% > 20%	HIGHLY 35% AND ABOVE		STALS ON A BROKEN SPECIMEN FACE A CRYSTALLINE NATURE.	SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLO
GROUP INDEX Ø	0 0 4 MX	8 MX 12 MX 16 MX NO MX	MODERATE AMOUNTS OF	ORGANIC		GROUND WATER				AND DISCOLORATION EXTENDS INTO ROCK UP TO
USUAL TYPES STONE FRAG	20		ORGANIC	SOILS	$\nabla$	WATER LEVEL IN BORE HOLE IMMEDIA	TELY AFTER DRILLING	(SLI.) 1 IN	ICH. OPEN JOINTS MAY CONTAIN CLAY.	. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPA
OF MAJOR GRAVEL, AN		SILTY CLAYEY SOILS SOILS	MATTER		<b>T</b>	STATIC WATER LEVEL AFTER 24 H				RYSTALLINE ROCKS RING UNDER HAMMER BLOWS.
MATERIALS SAND					 					ISCOLORATION AND WEATHERING EFFECTS. IN DULL AND DISCOLORED,SOME SHOW CLAY, ROCK HA
GEN. RATING AS SUBGRADE	EXCELLENT TO GOOD	FAIR TO POOR	FAIR TO POOR	UNSUITABLE		PERCHED WATER, SATURATED ZONE, OR	WHICK BEHRING STRATH	DUL	L SOUND UNDER HAMMER BLOWS AND	SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPA
	PLOF A-7-5 SUBGROUP IS < 11	- 30 ; PI OF A-7-6 SUBGROUP IS	> 11 - 30		- O-M-	SPRING OR SEEP			H FRESH ROCK.	
		CY OR DENSENESS				MISCELLANEOUS SYMBO	LS			OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF ST
	_ COMPACTNESS OR	RANGE OF STANDARD	RANGE OF UNC			05.005				ST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRU
PRIMARY SOIL TYPE	CONSISTENCY	PENETRATION RESISTENCE (N-VALUE)	COMPRESSIVE S (TONS/F1	TRENGTH	L ROADWAY EMB	BANKMENT (RE) 25/025 DIP & DIP DIRE			TESTED, WOULD YIELD SPT REFUSAL	
	VERY LOOSE	< 4			┨╚┰	, CPT				DR STAINED. ROCK FABRIC CLEAR AND EVIDENT BU IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLIN
GENERALLY GRANULAR	LOOSE	4 TO 10			SOIL SYMBOL	OPT DAT TEST BOR			SOME EXTENT. SOME FRAGMENTS OF S TESTED, WOULD YIELD SPT N VALUES	
MATERIAL	MEDIUM DENSE DENSE	10 TO 30 30 TO 50	N/A		ARTIFICIAL F	TILL (AF) OTHER AUGER BORING	CONE PENETROMETER			DR STAINED. ROCK FABRIC ELEMENTS ARE DISCERN
(NON-COHESIVE)	VERY DENSE	> 50						SEVERE BUT	MASS IS EFFECTIVELY REDUCED TO	SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG F
OF NED ALL Y	VERY SOFT	< 2	< 0.25		INFERRED SOI	IL BOUNDARY - CORE BORING				IF ROCK WEATHERED TO A DEGREE THAT ONLY MIN 1AIN. <u>IF TESTED, WOULD YIELD SPT N VALUES &lt; 10</u>
GENERALLY SILT-CLAY	SOFT MEDIUM STIFF	2 TO 4 4 TO 8	0.25 TO 0.5 TO 1		INFERRED ROOM	CK LINE MW MONITORING WE				DT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL
MATERIAL	STIFF	8 TO 15	1 TO 2							Y BE PRESENT AS DIKES OR STRINGERS. SAPROLIT
(COHESIVE)	VERY STIFF HARD	15 TO 30 > 30	2 TO 4	•	ALLUVIAL SO		- SPT N-VALUE	ALS	SO AN EXAMPLE.	
	TEXTURE	OR GRAIN SIZE	1			RECOMMENDATION SYMBO	DLS			IARDNESS
U.S. STD. SIEVE SIZE	4 10	40 60 200	270			UNCLASSIFIED EXCAVATION -	_켜 UNCLASSIFIED EXCAVATION -		INDI BE SCRAICHED BY KNIFE OR SHA IERAL HARD BLOWS OF THE GEOLOGIST	ARP PICK. BREAKING OF HAND SPECIMENS REQUIRES
OPENING (MM)	4.76 2.00					UNSUITABLE WASTE	ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF			NLY WITH DIFFICULTY. HARD HAMMER BLOWS REQU
BOULDER	COBBLE GRAVEL	COARSE FINE	SILT	CLAY	SHALLOW UNDERCUT	UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK	EMBANKMENT OR BACKFILL		DETACH HAND SPECIMEN.	
	(COB.) (GR.)	SAND SAND (CSE. SD.) (F SD		(CL.)		ABBREVIATIONS				GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE IST'S PICK. HAND SPECIMENS CAN BE DETACHED
GRAIN MM 305	75 2.0		0.05 0.005		AR - AUGER REFUSAL	MED MEDIUM	VST - VANE SHEAR TEST		MODERATE BLOWS.	
SIZE IN. 12	3				BT - BORING TERMINATE		WEA WEATHERED			S DEEP BY FIRM PRESSURE OF KNIFE OR PICK PO
	SOIL MOISTURE -	CORRELATION OF	TERMS		CL CLAY CPT - CONE PENETRATIO	MOD MODERATELY ON TEST NP - NON PLASTIC	$\gamma$ - UNIT WEIGHT $\gamma_{ m d}$ - DRY UNIT WEIGHT		NT OF A GEOLOGIST'S PICK.	PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF
SOIL MOISTUR		10ISTURE GUIDE FOR F	FIELD MOISTURE DES	CRIPTION	CSE COARSE	ORG ORGANIC	-			KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENT
(ATTERBERG	LIMITS) DESCR				DMT - DILATOMETER TES DPT - DYNAMIC PENETRA		ST <u>SAMPLE ABBREVIATIONS</u> S - BULK		OM CHIPS TO SEVERAL INCHES IN SIZE CES CAN BE BROKEN BY FINGER PRES	E BY MODERATE BLOWS OF A PICK POINT. SMALL,
	- SATUR		QUID; VERY WET, USU		e - VOID RATIO	SD SAND, SANDY	SS - SPLIT SPOON			CAVATED READILY WITH POINT OF PICK. PIECES 1
	ID LIMIT	.) FROM BELOW	W THE GROUND WATE	R TABLE	F - FINE FOSS FOSSILIFEROUS	SL SILT, SILTY SLI SLIGHTLY	ST - SHELBY TUBE RS - ROCK	SOFT OR	MORE IN THICKNESS CAN BE BROKEN	BY FINGER PRESSURE. CAN BE SCRATCHED READIL
PLASTIC		SEMISOLID: F	REQUIRES DRYING TO		FRAC FRACTURED, FRAC		RT - RECOMPACTED TRIAXIAL		GERNAIL.	
RANGE <	- WET -	(W) ATTAIN OPT	IMUM MOISTURE		FRAGS FRAGMENTS HI HIGHLY	ω - MOISTURE CONTENT V - VERY	CBR - CALIFORNIA BEARING RATIO		CTURE SPACING	BEDDING
PLL_PLAS						UIPMENT USED ON SUBJECT		VERY WIDE	SPACING MORE THAN 10 FEET	TERM         THICKNESS           VERY THICKLY BEDDED         4 FEET
	MUM MOISTURE - MOIST	- (M) SOLID; AT O	R NEAR OPTIMUM MC	ISTURE	DRILL UNITS:	ADVANCING TOOLS:	HAMMER TYPE:	WIDE	3 TO 10 FEET	THICKLY BEDDED 1.5 - 4 FEE
SL SHRII	NKAGE LIMIT				CME-45C			MODERATELY ( CLOSE	CLOSE 1 TO 3 FEET 0.16 TO 1 FOOT	THINLY BEDDED 0.16 - 1.5 FE VERY THINLY BEDDED 0.03 - 0.16 F
	- DRY -		DDITIONAL WATER TO	כ		6 CONTINUOUS FLIGHT AUGER		VERY CLOSE	LESS THAN 0.16 FEET	THICKLY LAMINATED 0.008 - 0.03
			IMUM MOISTURE		CME-55	8" HOLLOW AUGERS	CORE SIZE:		ו וטוען	THINLY LAMINATED < 0.008 FEI
L		ASTICITY				HARD FACED FINGER BITS	∐-в ∐-н			THIION NING OF MATERIAL BY CEMENTING, HEAT, PRESSI
NON PLASTIC		0-5	DRY STRENG VERY LOW		Х СМЕ-550		□ -N			FINGER FREES NUMEROUS GRAINS:
SLIGHTLY PL	ASTIC	6-15	SLIGHT		VANE SHEAR TEST	TUNGCARBIDE INSERTS	HAND TOOLS:	FRIABLE		BY HAMMER DISINTEGRATES SAMPLE.
MODERATELY HIGHLY PLAS		16-25 26 OR MORE	MEDIUM HIGH			X CASING W/ ADVANCER	POST HOLE DIGGER	MODERATE		E SEPARATED FROM SAMPLE WITH STEEL PROB
HIGHLY PLAS	5110		HIGH		PORTABLE HOIST	X TRICONE <u>2 <sup>15</sup>/16</u> STEEL TEETH	HAND AUGER		BREAKS EASIL	Y WHEN HIT WITH HAMMER.
L		COLOR			1 🗆	TRICONE TUNGCARB.	SOUNDING ROD	INDURATED		NFFICULT TO SEPARATE WITH STEEL PROBE; BREAK WITH HAMMER.
	Y INCLUDE COLOR OR COLOR					CORE BIT	VANE SHEAR TEST			BREAK WITH HAMMER. R BLOWS REQUIRED TO BREAK SAMPLE:
MODIFIERS	SUCH AS LIGHT, DARK, STRE	AKED, ETC. ARE USED TO DE	ESCRIBE APPEARANCE					EXTREMEL		R BLOWS REQUIRED TO BREAK SAMPLE; <s across="" grains.<="" td=""></s>



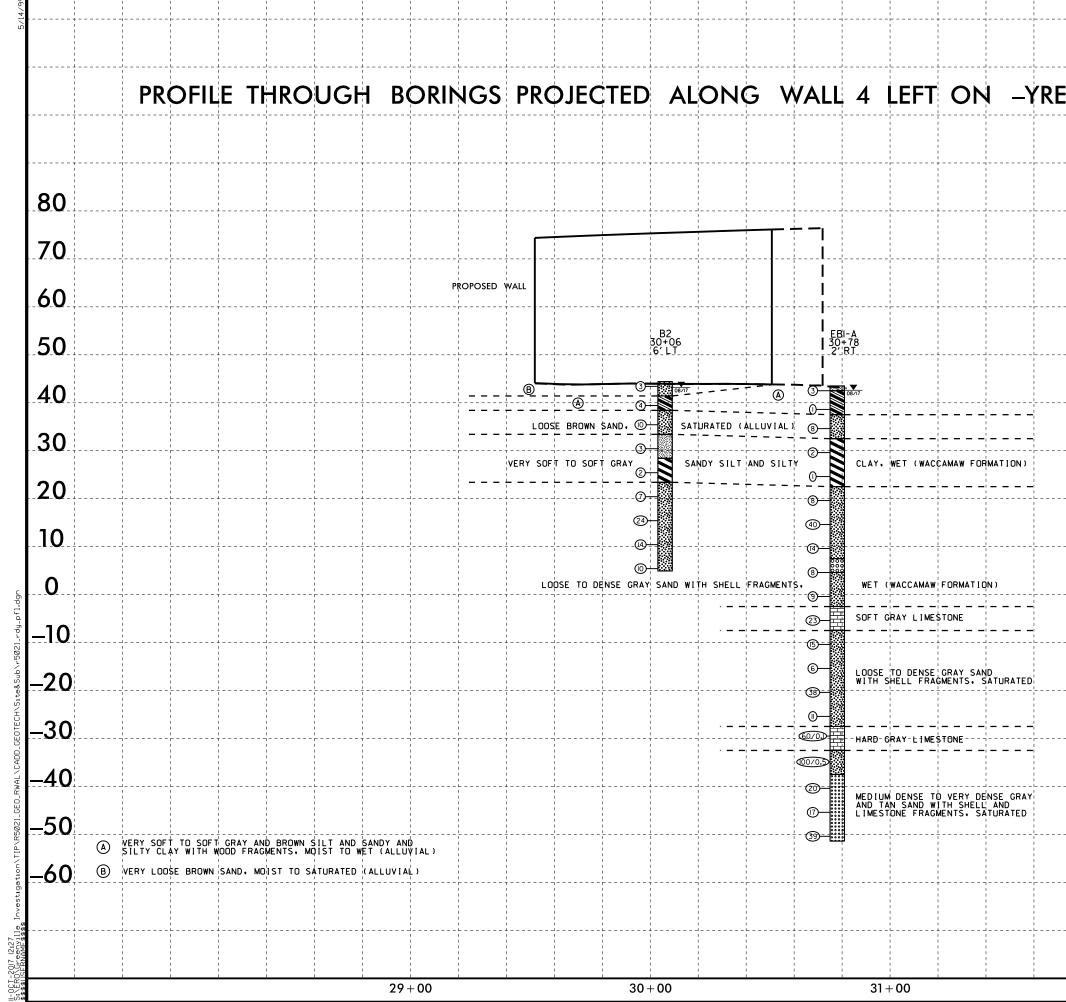


ED. AN INFERRED							
) SPT REFUSAL. 1 FOOT PER 60	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. ADUIFER - A WATER BEARING FORMATION OR STRATA.						
IS OFTEN	ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.						
	ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING						
T N VALUES >	A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.						
	ARTESIAN - 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						
OCK THAT NCLUDES GRANITE,	SURFACE.						
AL PLAIN	CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.						
IF TESTED.	COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.						
MAY NOT YIELD	CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED						
STONE, CEMENTED	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.						
RINGS UNDER	DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE						
COATINGS IF OPEN.	HORIZONTAL.						
HAMMER BLOWS IF	DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.						
ОСК ИР ТО	FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE						
AL FELDSPAR	SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.						
R BLOWS.	FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.						
IS. IN AY. ROCK HAS	FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL.						
H AS COMPARED	FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.						
FELDSPARS DULL	FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE						
OSS OF STRENGTH	FIELD.						
WHEN STRUCK.	<u>JOINT</u> - 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						
EVIDENT BUT	ITS LATERAL EXTENT.						
ARE KAOLINIZED	LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.						
	MOTTLED (MOT.)- IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.						
RE DISCERNIBLE DF STRONG ROCK	PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE						
T ONLY MINOR	OF AN INTERVENING IMPERVIOUS STRATUM.						
<u>VALUES &lt; 100 BPF</u> IN SMALL AND	RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.						
S. SAPROLITE IS	ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE						
	RUN AND EXPRESSED AS A PERCENTAGE.						
	SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.						
NS REQUIRES	<u>SILL</u> - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND						
BLOWS REQUIRED	RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.						
DEEP CAN BE	SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT						
DETACHED	OR SLIP PLANE.						
	STANDARD PENETRATION TEST (PENETRATION RESISTANCE)(SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL						
OR PICK POINT. BLOWS OF THE	WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL						
COACHENTS	TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.						
N FRAGMENTS NT. SMALL, THIN	STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.						
	STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL						
. PIECES 1 INCH HED READILY BY	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 (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.						
	BENCH MARK: BM92						
THICKNESS 4 FEET	N=81586.9044 E=2264662.2379						
1.5 - 4 FEET	ELEVATION: 52.85 FEET						
.16 - 1.5 FEET 03 - 0.16 FEET	NOTES:						
08 - 0.03 FEET < 0.008 FEET	FIAD: FILLED IMMEDIATELY AFTER DRILLING						
EAT, PRESSURE, ETC.							

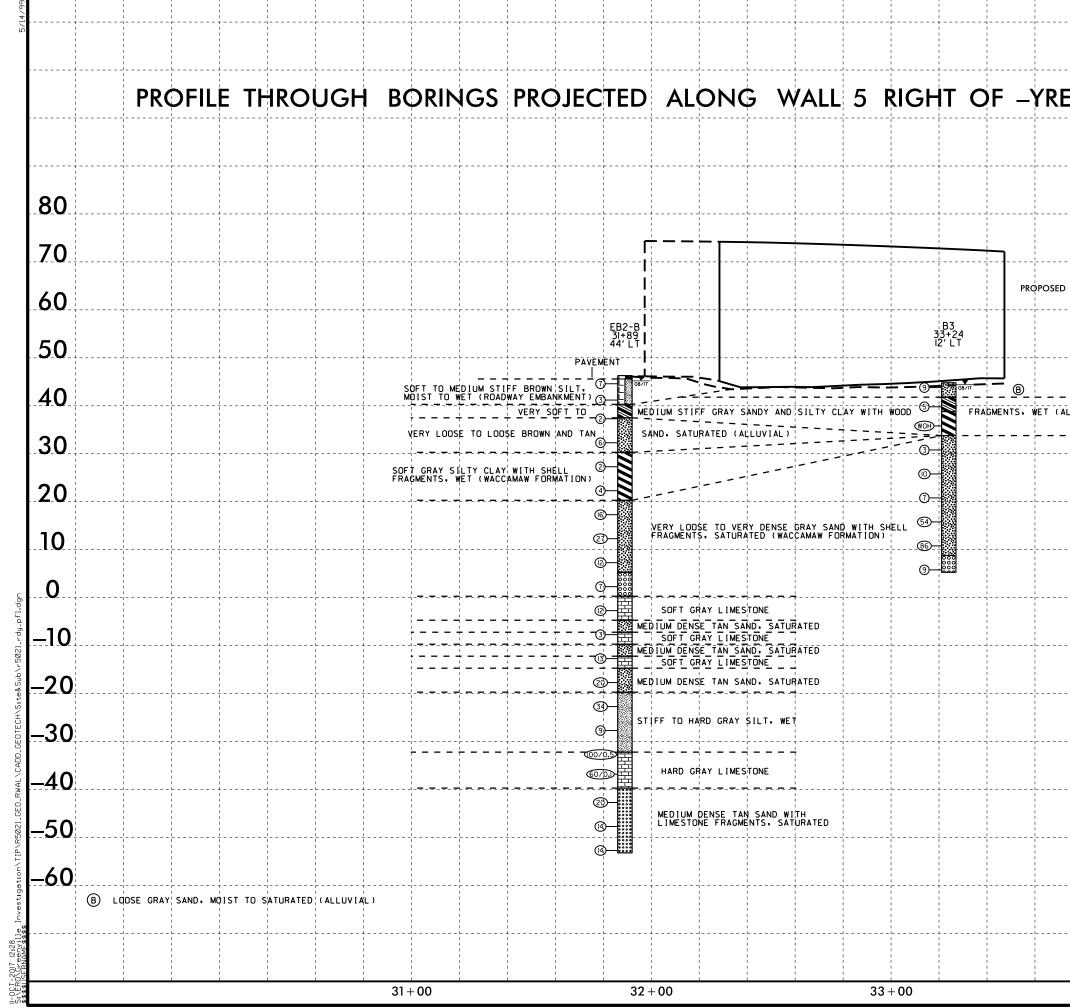


	PROFILE	THROUGH	BORINGS	PROJECT	ED	ALO	NG	WA	ALL :	3 RI	GHT	OF	-YREV-
i i	SAMPLE NOSTATION SS-2 40' LT 30+37 SS-4 40' LT 30+37	DEPTH AASHTO	RESULTS           % BY WEIGHT           SAND F. SAND - SULT - CLAY           6.9         32.7           15.9         63.6         10.4	% thassing (steves)         %          10 + 40 200 - MOIST         -000 - MOIST           100         98         84           00         92         '33	URE _ ORGANI					- - - - - - - - - - - - - - - - - - -			
80	<u>SS-5    40' LT    30+37   </u>	[7.9'-19.4'   A-4(5)   28  8	6.1   20.0   57.8     16.1	<u>  100   98   83   -</u>		 · +			, , , , , ,				
70									· · ·				
60				PROPOSED WALL	   -			SS-2 -SS-4 SS-5	· · · · · · · · · · · · · · · · · · ·	 			
50					30 10	BI 0+00 /'LT	4	EBI-B 50+37 10'_LJ				         	           
40							<u>_@_</u>	08/17	I				
. <b>4.</b> V				VERY LOOSE BROWN S	0		_0_						
30				©			 	▓▁▁▁▁			   		
20				©	@	·	0	© 					
				LOOSE TO VERY DEN	SE GRAY	SAND W	ітн 3	SHELL F	RAGMENTS	SATURAT	ED		
10	·				· 		- ()	<b>.</b>		   <b></b> ·	         		
0								MEDIUM WITH_SH	STIFF GRA	NY SANDY C MENTS, WET	LAY		
10								SOF T	GRAY LIME	STONE			
_10										 			
-20	· · · · · · · · · · · · · · · · · · ·				         	, , , , ,	5			DENSE GR SAND WIT SATURAT	άΥ.		
20								SHELL	FRAGMENTS	SATURAT	ED		
-30		· · · · · · · · · · · · · · · · · · ·						HARD	GRAY LIME	STONE			
-40	VERY SOFT TO SOF	T GRAY, BROWN AND DRANCE			- - -		©∕0,5 						
-50	SANDY AND SILTY	CLAY, MOIST TO WET (ALLUV MOIST TO SATURATED (ALLU	AL)				37-	MEDIUM TAN SA FRAGME	DENSE TO ND WITH L NTS, SATU	VERY DEN IMESTONE	ISE		
-30	C VERY SOFT GRAY S (WACCAMAW FORMAT	ILT AND SILTY CLAY, WET				· <del>-</del>	- @		· <del>.</del>				
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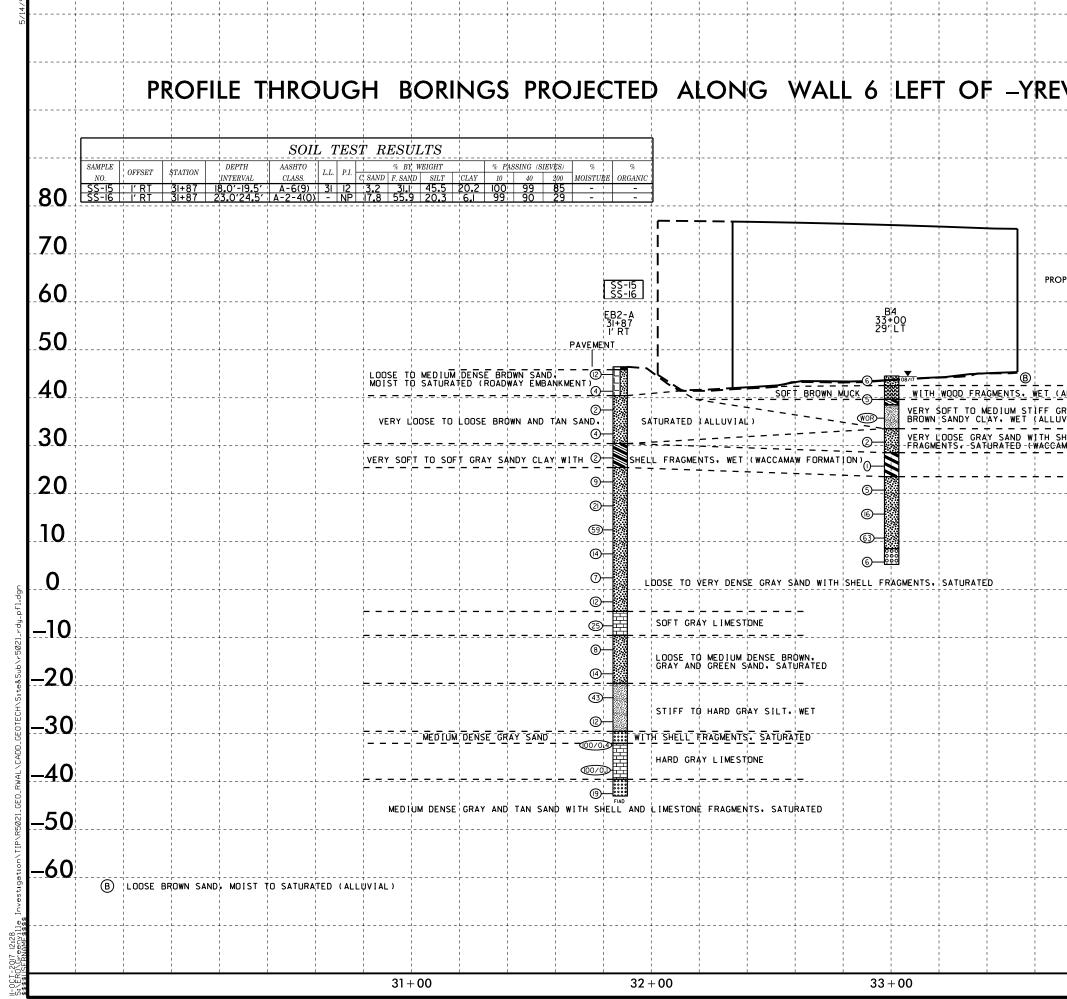


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