REFERENCE

STATE OF NORTH CAROLINA

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

CONTENTS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LEGEND
3-4	SITE PLAN
5-7	PROFILE
8-28	BORE LOG REPORTS
29	SITE PHOTOGRAPHS

STRUCTURE SUBSURFACE INVESTIGATION

COUNTY New Hanover
PROJECT DESCRIPTION SR 1409 (Military Cutoff Rd.) to
US 17 in Wilmington
SITE DESCRIPTION Noise Wall 7 at -L- Sta. 71 + 50 Right

STATE PROJECT REFERENCE NO. U-4751 29

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 LOOS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEGICH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT 1919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

CENERAL 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 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 THE SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR IS ALL! HAVE NO CLAIM FOR ADDITIONS 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.

- IES:
 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.

D. Racey C. Wang S. Davis M. Renza CHECKED BY <u>B. Howey</u>, PG, PE SUBMITTED BY _HDR, Inc.

PERSONNEL



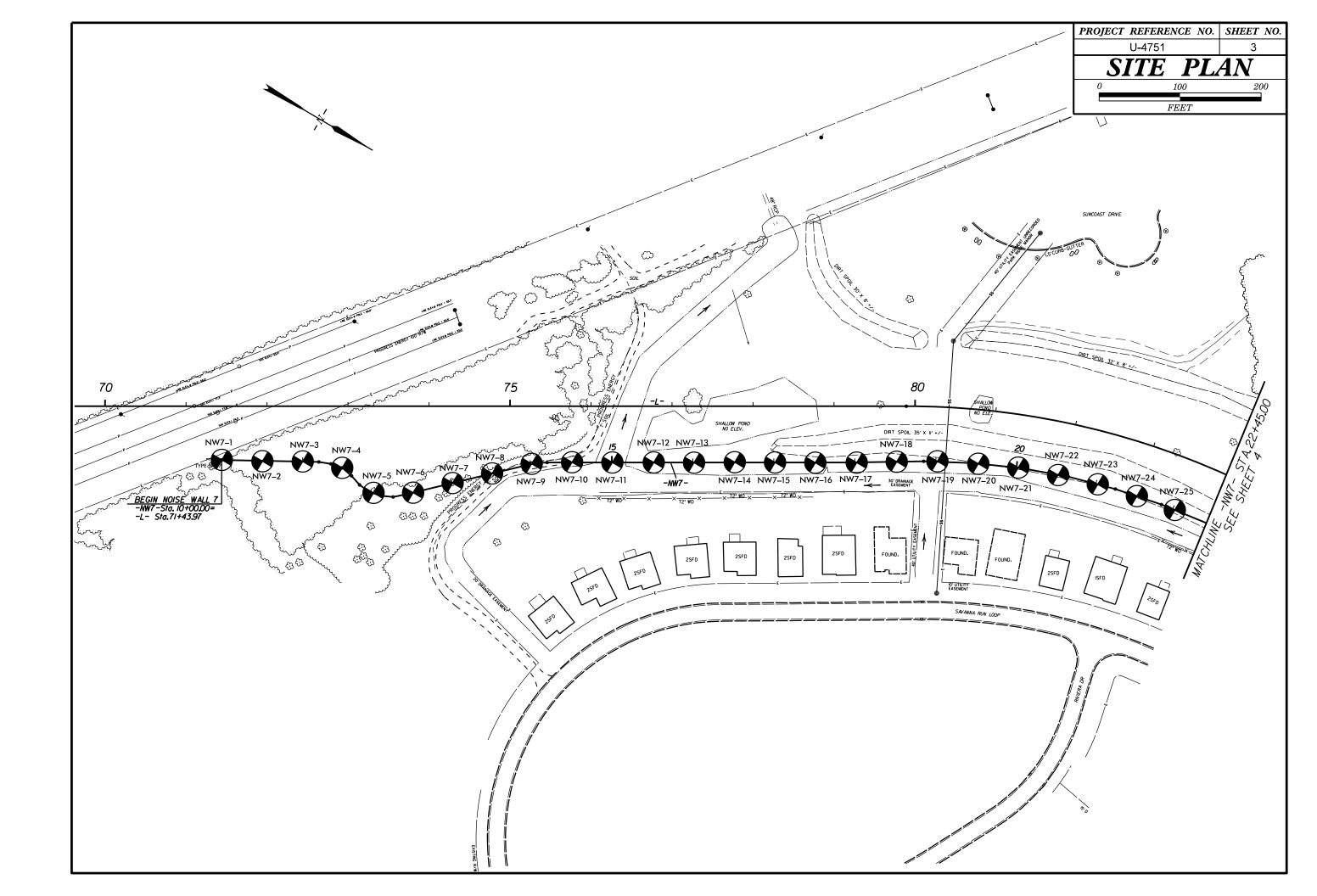
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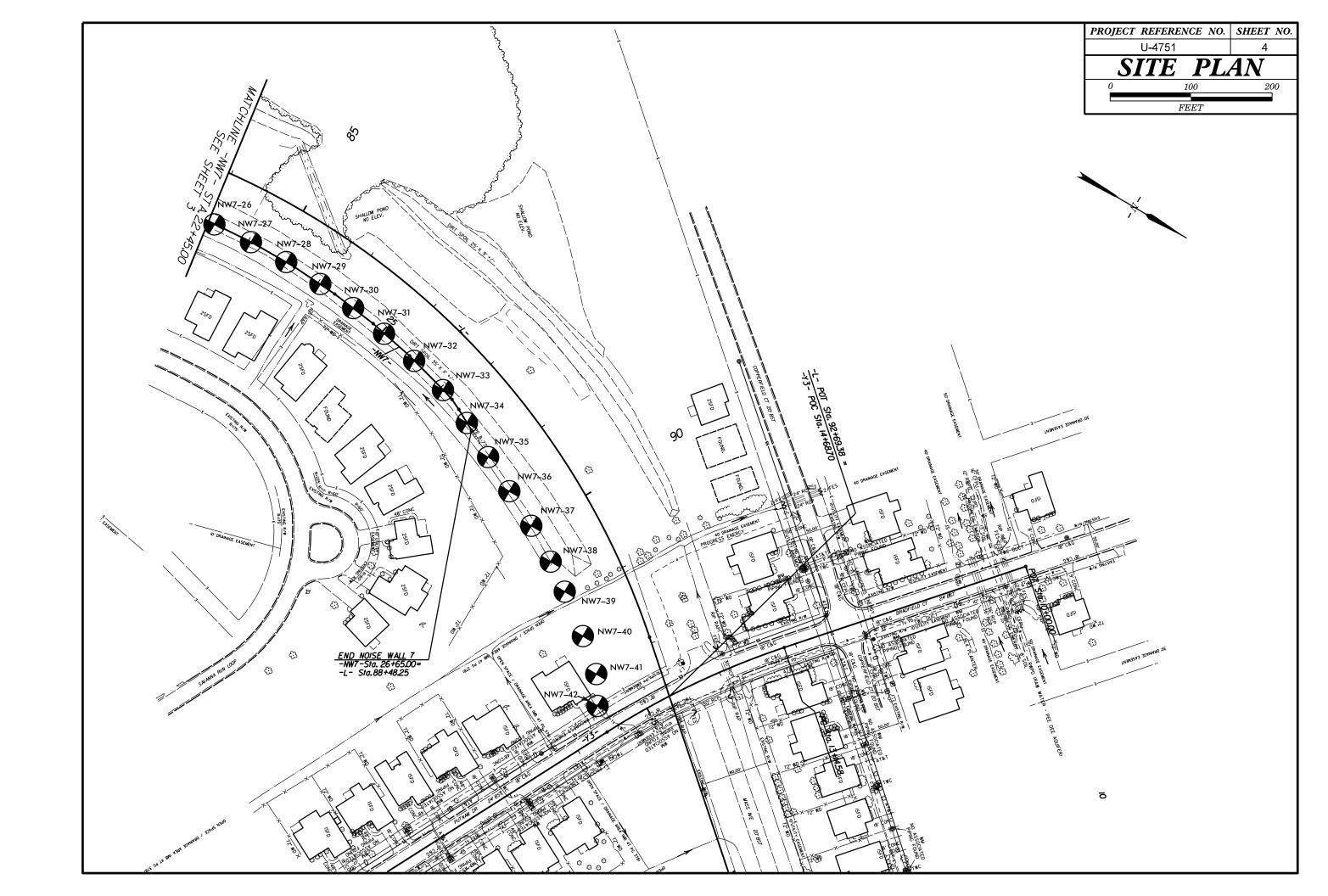
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT

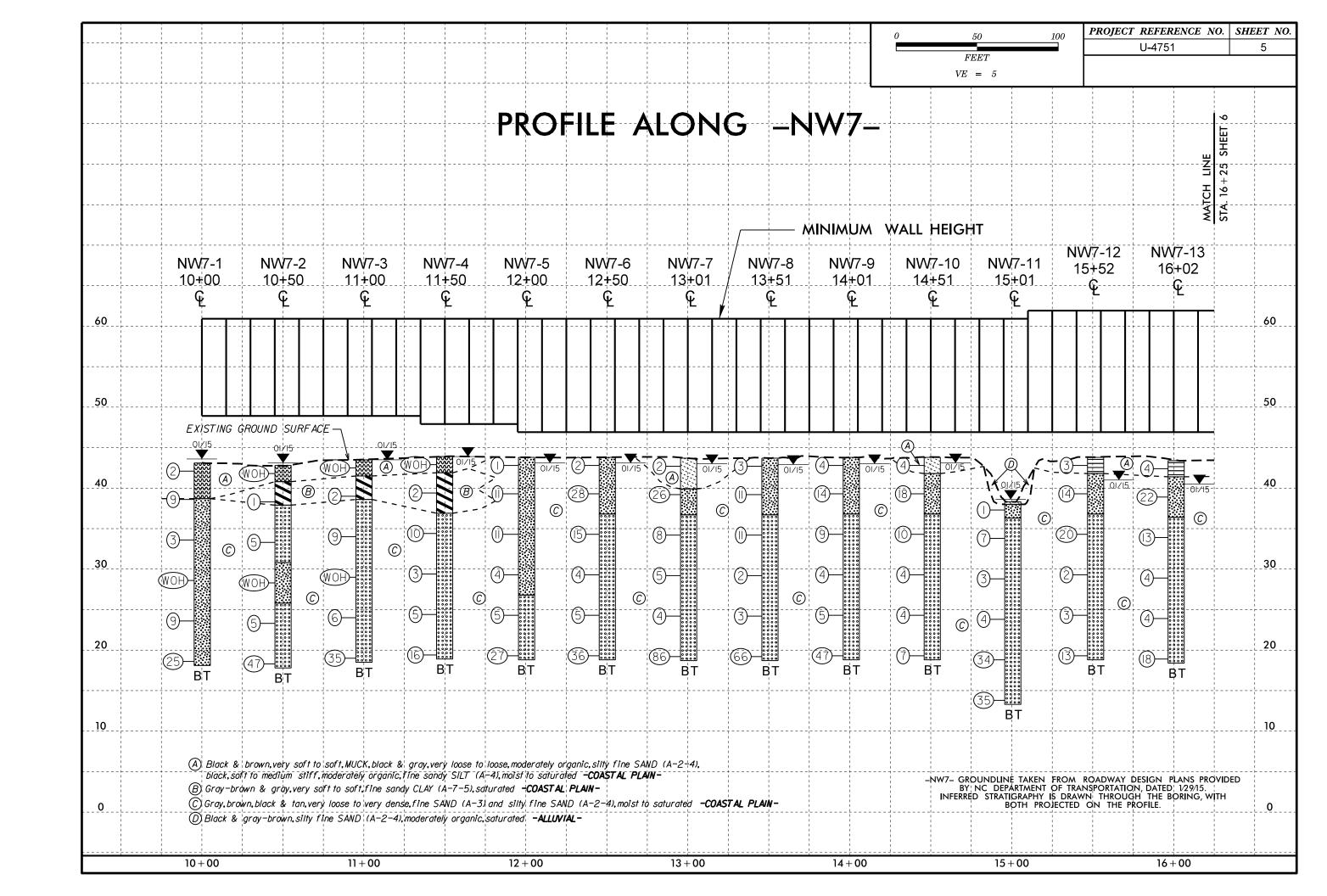
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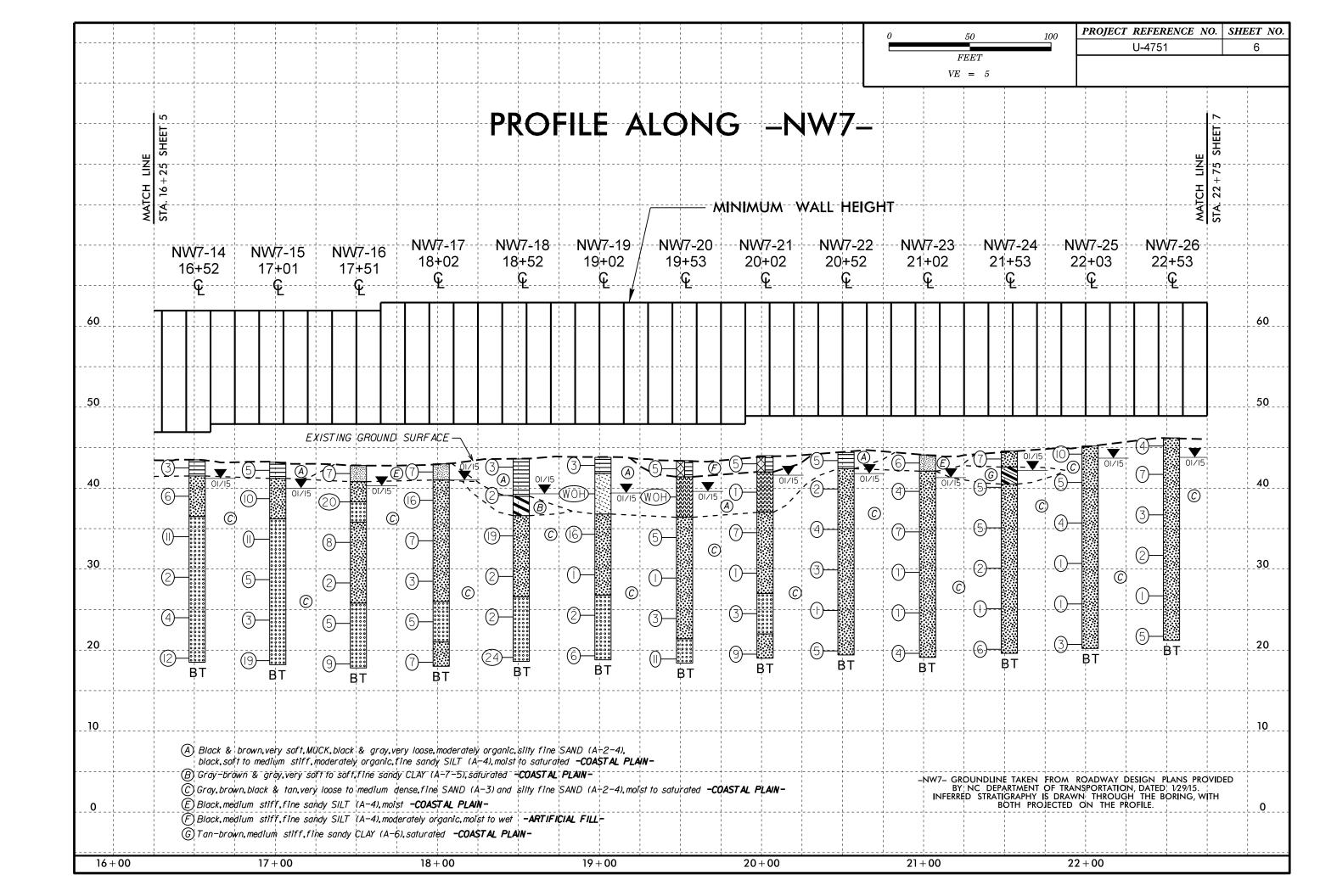
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

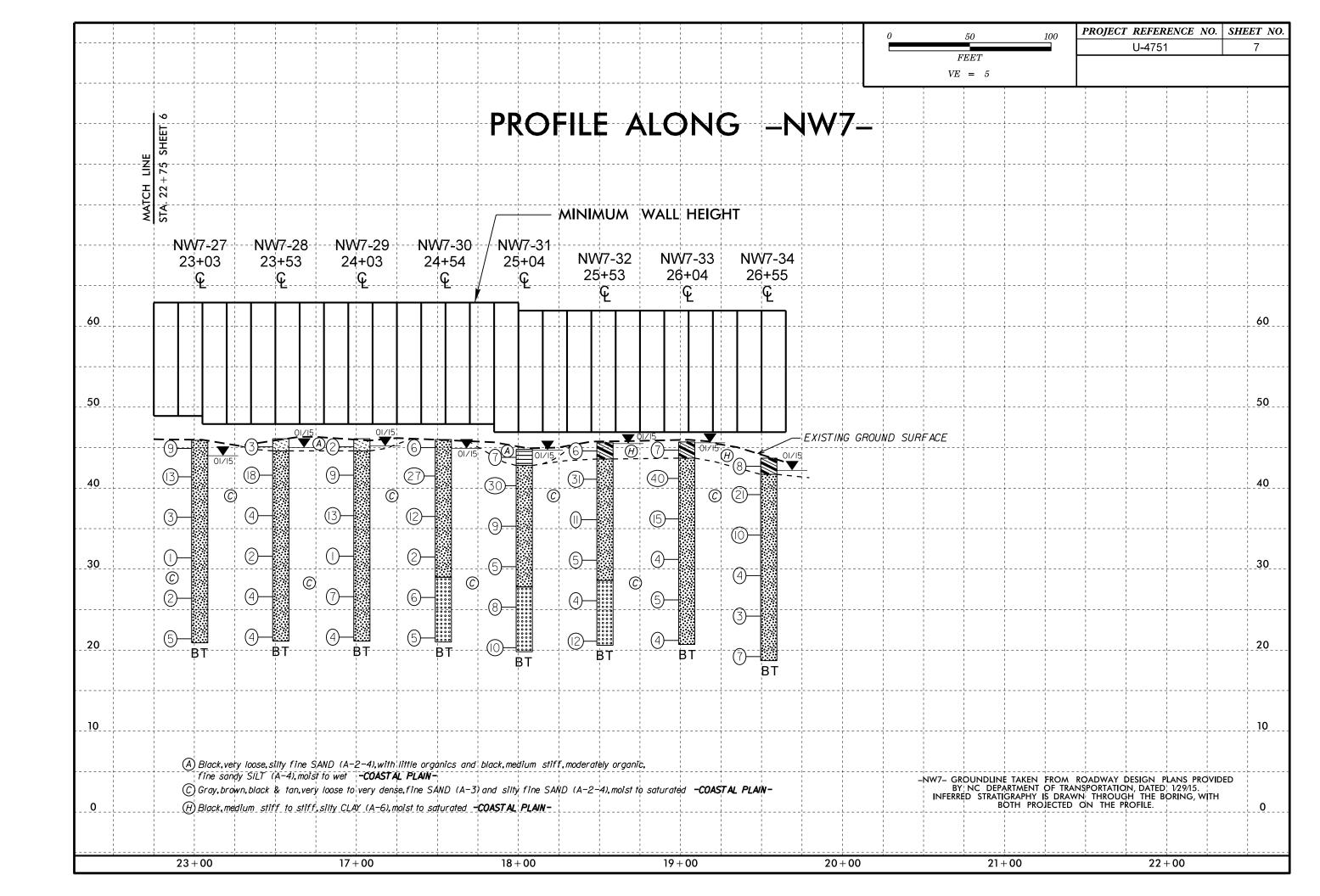
SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS
SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 208, ASTM D1586), SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERACICAL COMPOSITION, AND UNCLURITY, STENCTURE, PLASTICITY, ETC. FOR EXAMPLE, VERY STIFF, GRAY, SILTY CLAY, WOIST WITH INTERBEDDED FINE SAND 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 THE ANGULARITY OR ROUNDRESS 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 PERETRATION 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. AQUIFER - A WATER BEARING FORMATION OR STRATA. 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 A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.
SOIL LEGEND AND AASHTO CLASSIFICATION	MINERALOGICAL COMPOSITION MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, 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, ONEISS, GABBRO, SCHIST, ETC. NON-CRYSTALLINE SEDIMENTARY ROCK THAT WOULD YELLD SPT REFUSAL IF TESTED.	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 SUFFACE. CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. COLLUYIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM
SYMBOL	SLIGHTLY COMPRESSIBLE LL < 31 - 50 MODERATELY COMPRESSIBLE LL = 31 - 50 HIGHLY COMPRESSIBLE LL > 50 PERCENTAGE OF MATERIAL ORGANIC MATERIAL ORGANIC MATERIAL SOILS OTHER MATERIAL	ROCK (NCR) ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC. COASTAL PLAIN 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	OF SLOPE. 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 LL 48 MX 41 MN LITTLE OR P! 6 MX NP 18 MX 10 MX 11 MN 11 MN 10 MX 10 MX 11 MN 11 MN 11 MN MODERATE GROUP INDEX 8 8 8 8 4 MX 8 MX 12 MX 16 MX NO MX AMOUNTS OF	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 GROUND WATER	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 DISCOLORATION EXTENDS INTO ROCK UP TO	DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE
USUAL TYPES STONE FRAGS. OF MAJOR MATERIALS GRAYEL AND SAND GRAYEL AND SAND GRAYEL AND SAND GRAYEL AND SAND FINE SILTY OR CLAYEY SOILS GRAYEL AND SAND GRAYEL AND SAND FINE SILTY OR CLAYEY SOILS FAIR TO POOR FAIR TO POOR POOR POOR UNSUITABLE	■ WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING ■ STATIC WATER LEVEL AFTER 24 HOURS □ PW PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA □ 0.000	(SLL) I 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 DUL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK.	SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
PI OF A-7-5 SUBGROUP IS \$\leq LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30 CONSISTENCY OR DENSENESS PRIMARY SOIL TYPE COMPACTNESS OR CONSISTENCY RANGE OF STANDARD PENETRATION RESISTENCE (TOMPACTNESS OR CONSISTENCY) PRIMARY SOIL TYPE COMPACTNESS OR CONSISTENCY (TOMS/FT2)	SPRING OR SEEP MISCELLANEOUS SYMBOLS ROADWAY EMBANKMENT (RE) 25/925 DIP & DIP DIRECTION OF ROCK STRUCTURES	MODERATELY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL SEVERE AND DISCOLORED AND A MAJORITY SHOW KAQLINIZATION. 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, WOULD YIELD SPT REFUSAL SEVERE ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT	FORMATION (FM.) - 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.
CENERALLY	SOIL SYMBOL SOIL SYMBOL ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT AUGER BORING SLOPE INDICATOR INSTALLATION SLOPE INDICATOR INSTALLATION AUGER BORING CONE PENETROMETER TEST	(SEY.) 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 1 100 BPF VERY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE SEVERE 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. MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS, MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.
VERY SOFT	INFERRED SOIL BOUNDARY CORE BORING SOUNDING ROD TEST BORING WITH CORE TEST BORING WITH CORE PIEZOMETER INSTALLATION SPI N-VALUE	(V SEV.) REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF 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.	RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK, 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.
TEXTURE OR GRAIN SIZE	RECOMMENDATION SYMBOLS	ROCK HARDNESS VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK, BREAKING OF HAND SPECIMENS REQUIRES	SAPPOLITE (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 OPENING (MM) 4,76 2,00 0.42 0.25 0.075 0.053 BOULDER (BLDR.) (COB.) (GR.) (CS.) (CS. SOL) (CS.	UNDERCUT EXCAVATION UNSUITABLE WASTE UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE UNCLASSIFIED EXCAVATION - EXPANSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK ABBREVIATIONS	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 HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED	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 OR SLIP PLANE.
GRAIN MM 305 75 2.0 0.25 0.05 0.005	AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST BT - BORING TERMINATED MICA MICACCOUS WEA WEATHERED CL CLAY MODE - MODERATELY 7 - UNIT WEIGHT CPT - CONE PENETRATION TEST NP - NON PLASTIC CSE COARSE ORG ORGANIC DMT - DILATOMETER TEST PMT - PRESSUREMETER TEST SAMPLE ABBREVIATIONS	BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS	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 WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY
CATTERBERG LIMITS) DESCRIPTION - SATURATED - USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE PLASTIC - WET - (W) SEMISOLID; REQUIRES DRYING TO	DPT - DYNAMIC PENETRATION TEST SAP SAPROLITIC S - BULK e - VOID RATIO SD SANDY SS - SPLIT SPOON F - FINE SL SILT, SILTY ST - SHELBY TUBE FOSS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK FRAC FRACTURED, FRACTURES TCR - TRICONE REFUSAL RT - RECOMPACTED TRIAXIAL	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 OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL.	TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SRQD) - 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 (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.
(PI) PL PLASTIC LIMIT OM OPTIMUM MOISTURE SL SHRINKAGE LIMIT ATTAIN OPTIMUM MOISTURE S SOLID; AT OR NEAR OPTIMUM MOISTURE	FRACS FRAGMENTS HI HIGHLY V - VERY CONTENT V - VERY CONTENT CO	FRACTURE SPACING BEDDING 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	BENCH MARK: N/A ELEVATION: N/A FEET NOTES:
- DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE PLASTICITY PLASTICITY INDEX (PI) DRY STRENGTH	CME-550	VERY CLOSE LESS THAN 0.16 FEET THICKLY LAMINATED 0.008 - 0.03 FEET THINLY LAMINATED < 0.008 FEET THINLY LAMINATED < 0.008 FEET THINLY LAMINATED SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.	BORING AND GROUND SURFACE ELEVATIONS OBTAINED FROM NCDOT-PROVIDED DTM FILE FIAD - FILLED IMMEDIATELY AFTER DRILLING
NON PLASTIC 8-5 VERY LOW SLIGHTLY PLASTIC 6-15 SLIGHT MODERATELY PLASTIC 16-25 MEDIUM HIGHLY PLASTIC 26 OR MORE HIGH COLOR	VANE SHEAR TEST	FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE. 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;	
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 WANE SHEAR TEST	DIFFICULT TO BREAK WITH HAMMER. EXTREMELY INDURATED SAMPLE BREAKS ACROSS GRAINS.	DATE: 8-15-14

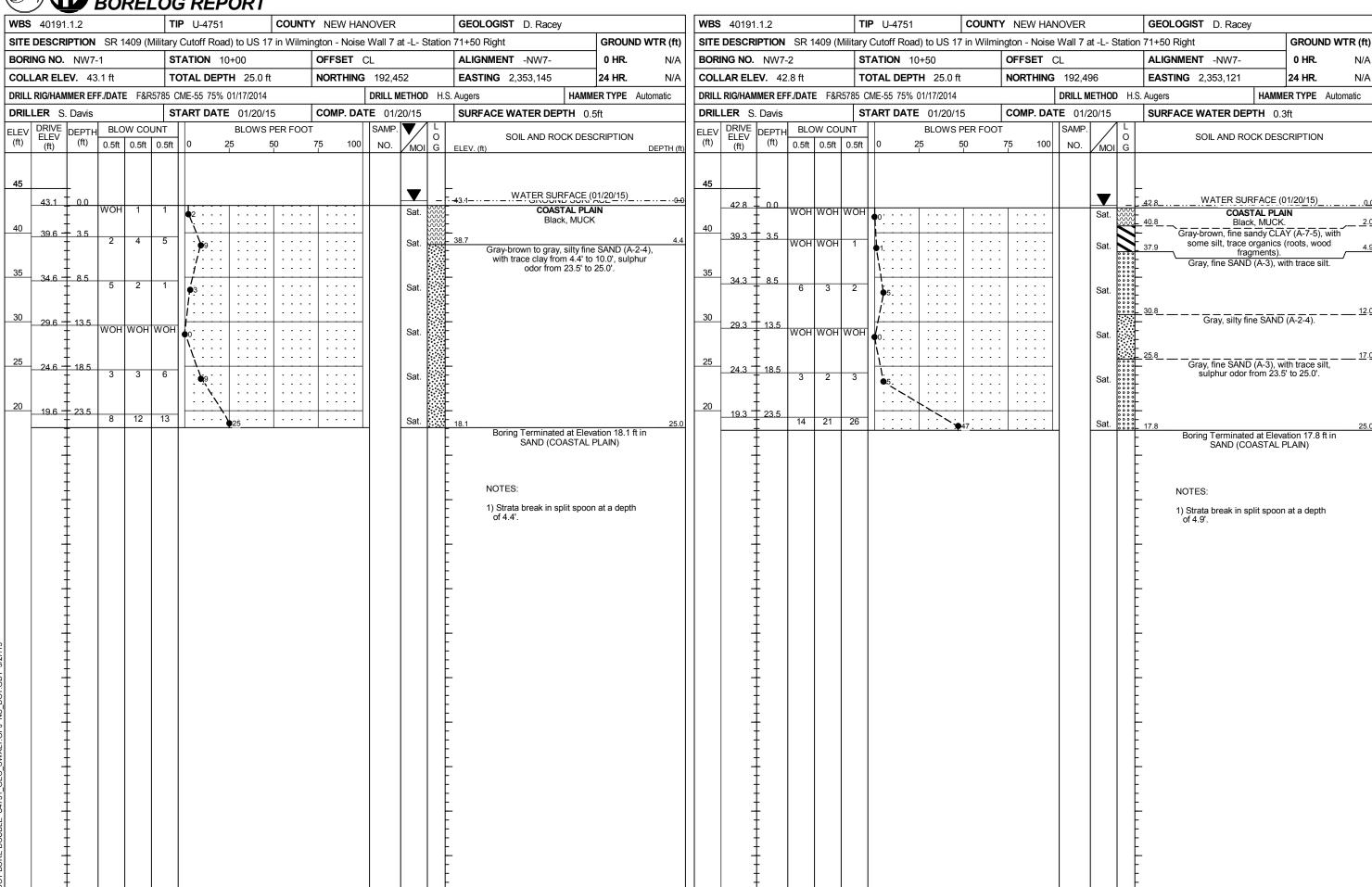






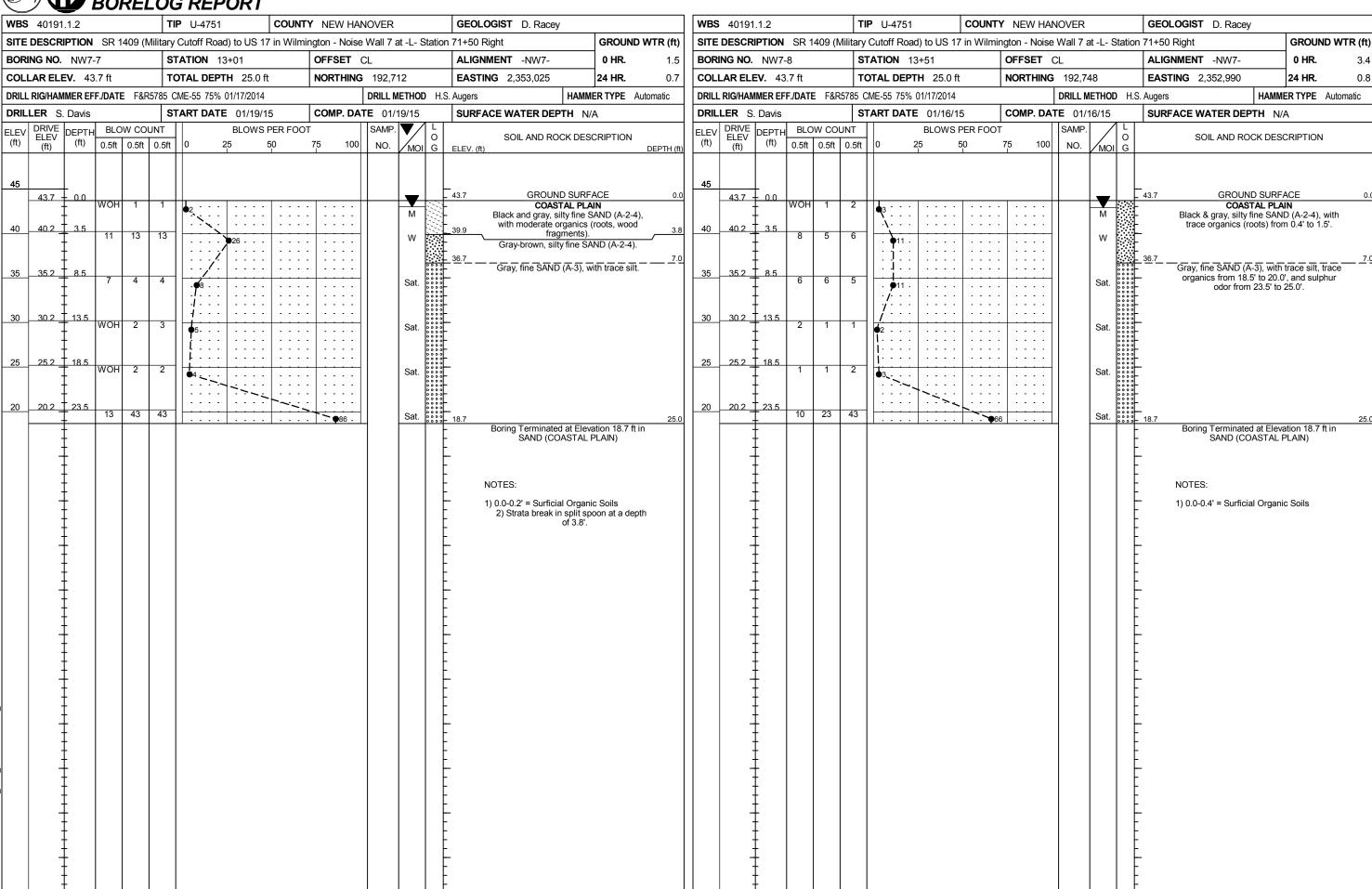






WBS 40191.1.2	TIP U-4751 COUNT	Y NEW HANOVER	GEOLOGIST D. Racey	WBS 40191.1.2 TIP U-4751 COUN	ITY NEW HANOVER	GEOLOGIST D. Racey
SITE DESCRIPTION SR 1409 (Milli	tary Cutoff Road) to US 17 in Wilm	ngton - Noise Wall 7 at -L- Station	71+50 Right GROUND WTR (ft)	SITE DESCRIPTION SR 1409 (Military Cutoff Road) to US 17 in Wilm	nington - Noise Wall 7 at -L- Statio	on 71+50 Right GROUND WTR (ft
BORING NO. NW7-3	STATION 11+00	OFFSET CL	ALIGNMENT -NW7- 0 HR. 0.0	BORING NO. NW7-4 STATION 11+50	OFFSET CL	ALIGNMENT -NW7- 0 HR. 0.3
COLLAR ELEV. 43.5 ft	TOTAL DEPTH 25.0 ft	NORTHING 192,539	EASTING 2,353,096 24 HR. 0.0	COLLAR ELEV. 43.9 ft TOTAL DEPTH 25.0 ft	NORTHING 192,585	EASTING 2,353,078 24 HR. 0.0
DRILL RIG/HAMMER EFF./DATE F&R578	85 CME-55 75% 01/17/2014	DRILL METHOD H.S	. Augers HAMMER TYPE Automatic	DRILL RIG/HAMMER EFF./DATE F&R5785 CME-55 75% 01/17/2014	DRILL METHOD H.	S. Augers HAMMER TYPE Automatic
DRILLER S. Davis	START DATE 01/20/15	COMP. DATE 01/20/15	SURFACE WATER DEPTH 0.0ft	DRILLER S. Davis START DATE 01/20/15	COMP. DATE 01/20/15	SURFACE WATER DEPTH N/A
ELEV DRIVE ELEV (ft) DEPTH BLOW COUNT O.5ft O.	BLOWS PER FOO .5ft	75 100 NO. MOI G	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)	ELEV (ft)	OT SAMP. L O NO. MOI G	SOIL AND ROCK DESCRIPTION
45	7OH 00:	Sat. Sat. Sat. Sat. Sat. Sat. Sat. Sat.	43.5 GROUND SURFACE 0.0 COASTAL PLAIN Black, MUCK. 2.0 Gray-brown, fine sandy CLAY (A-7-5), with some silt, trace organics (roots, wood fragments). 4.9	45 WOH WOH WOH	Sat. Sat. Sat. Sat. Sat. Sat. Sat. Sat.	organics (wood fragments) from 8.5' to 15.0', and sulphur odor from 18.5' to 25.0'.

WBS 4						U -4751			NEW H				OGIST D. Racey			↓ ├ ──	S 401					P U-4751			NEW HA				DLOGIST D. Race	·	
				1409 (1			<u> </u>				at -L- S	tation 71+50			ROUND WTR (ft)	I -				1409 (N	<u> </u>		<u>′</u>		•		at -L- S	station 71+5		GROUND W	
BORING					_	ATION 12			OFFSET				NMENT -NW7-		HR. 0.8	l) . NW7			_	TATION 12			OFFSET				GNMENT -NW7-	0 HR.	2.
COLLA						TAL DEPT			NORTHIN	<u> </u>			ING 2,353,085	24		┨ ├──		L EV . 4				OTAL DEPT			NORTHING	· ·			STING 2,353,060	24 HR.	0
			F./DAT	E F&F		ME-55 75%						H.S. Augers			YPE Automatic	┨ ├──				E F&R		ME-55 75%						H.S. Auger		HAMMER TYPE Autor	matic
DRILLE		Davis				ART DATE			COMP. D				ACE WATER DEP	TH N/A				S. Davis				TART DATE			COMP. DA		19/15	SUF	RFACE WATER DEI	PTH N/A	
ELEV DI		OEPTH (ft)		0.5ft				PER FOOT 50			· 🗸	0	SOIL AND ROO	CK DESCRIP			V ELEV	DEPTH	H BLO	0.5ft		/ ا	BLOWS P		5 100	SAMP.		o	SOIL AND RO	OCK DESCRIPTION	
(11)	(ft)	(11)	υ.5π	0.5π	υ.5π	10 4	23 	50	75 10	0 NO.	MOI	G ELEV. (ft	2)		DEPTH (f) (11)	(ft)	110	υ.5π	0.5π	0.511	10 4	25 50	, ,	5 100	NO.	/MOI	G			
45	3.8 -										_	43.8	GROUNE	D SURFACE	0.	45	43.8	\pm									_	43.8	GROUN	ID SURFACE	
	3.0	0.0	1	0	1	1				1 1	W		COAST	TAL PLAIN			45.0	Ŧ 0.0	WOH	WOH	2	2					W		COAS	TAL PLAIN o gray-brown, silty fine	
40 4	0.3	3.5				\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.\.	: : : :	: : : :	l l			-	Black and gray to SAND (A-2-4), with	trace organi	ics (roots)	40	40.3	3.5							: : : :			-	SAND (A-2-4), wit	th trace organics (roots)	
	7	·	6	4	7	. •11 .				1	Sat.		from U.	.2' to 10.0'.				Ŧ	11	14	14		28]	W		trom	0.2' to 1.5'.	
	‡					- 1												‡				: : : : : : : : : : : : : : : : : :	1 : : : :					36.8		5 /A 57 THE LET STILL T	
35 3	5.3	8.5	9	6	5	<u> </u>				41	Sat.					35	35.3	<u>‡ 8.5</u>	9	8	7	415					Sat.	0000	sulphur odor	O (A-3), with trace silt, from 23.5' to 25.0'.	
	‡					. þ 11 .					J Gat.							‡									Out.	0000			
303	,, ,	12.5				/											20.2	13.5				:/:::						0000-			
30)U.J	13.5	1	2	2	4 4		 	1	1	Sat.					30		+ 13.3	1	2	2	4				1	Sat.	0000			
	‡											26.8			17.			1										0000			
25 2	5.3	18.5	2	2	3	1		<u> </u>				0000	Gray, fine SAND (A	A-3), with trac hur odor.	ce silt and		25.3	18.5	1	2	3	<u> </u>						0000			
	1		2			5	: : : :				Sat.	18.8	•					İ	'	-		4 5					Sat.	0000			
	1							: : : :				0000						1					· · · ·					0000			
20 2	0.3	23.5	6	12	15	,	27	1	+	+	Sat.	18.8			25.0		20.3	23.5	10	18	18		36			1	Sat.	18.8			2
	1						14					-	Boring Terminated	at Elevation ASTAL PLAIN	18.8 ft in			Ŧ					. 🕶					-	Boring Terminate	d at Elevation 18.8 ft in DASTAL PLAIN)	
	7											F	SAND (CO)	ASTALFLAII	(N)			Ŧ										F	SAND (CC	DASTAL FLAIN)	
	7	.										-						‡													
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WBS 40						U-4751			Y NEW H				OGIST D. Racey			→		191.1.2				P U-4751		COUNTY					OLOGIST D. Race	<u> </u>	
				409 (N				17 in Wilmi	·		at -L- St	tation 71+50			ROUND WTR (´ I —				1409 (I			·	in Wilmingt			at -L- S			GROUNI	
BORING					_	ATION 1			OFFSET				NMENT -NW7-					NO. NW			_	TATION 1			FFSET				IGNMENT -NW7-	0 HR.	;
COLLAR						TAL DEP			NORTHIN				ING 2,352,955					ELEV. 4				OTAL DEP		N	ORTHING	· ·			STING 2,352,928	24 HR.	(
			/DATI	F&R	_	/IE-55 75%						H.S. Augers			TYPE Automatic	$\dashv \vdash$				TE F&F		ME-55 75%						H.S. Auge		HAMMER TYPE	Automatio
DRILLER						ART DATI			COMP. D				ACE WATER DEP	TH N/A				S. Davis				TART DATI			OMP. DA		16/15	SU	RFACE WATER DE	PTH N/A	
ELEV DR (ft) EL		EPTH (ft)	BLC	W COU		0		S PER FOO 50	T 7 <u>5</u> 10		₽. ▼/	0	SOIL AND RO	CK DESCRI		1 (11)		VE DEPT	H BL	OW CO			BLOWS P	PER FOOT 0 75	5 100	SAMP.	/	0	SOIL AND R	OCK DESCRIPTION	
(1.1)	ft)	(,	0.511	บ.ธน	0.511		25	30	75 10	0 NO.	MOI	G ELEV. (fi	t)		DEPTH	(ft)) (ft	(1)	0.511	0.511	0.511		3 3	73	100	NO.	/MOI	G			
45	3.8	00									_	43.8	GROUN	D SURFACE	=	0.0		.8 + 0.0									_	43.8	GROU	ND SURFACE	
	 	0.0	1	2	2	4		I		1 1	M			TAL PLAIN			43.	.o <u> </u>	1	2	2	4					M	41.8	COA	STAL PLAIN silty fine SAND (A-2-4)),
40 40	0.3	3.5					: : : :					F	trace organics (ro	oots) from 0.	.1' to 1.5'.	40	40.	.3 7 3.5									""		moder	rately organic.	
	Ŧ		8	7	7	. • 14.					M							Ŧ	9	9	9)]	М		Gray, silty	fine SAND (A-2-4).	
	Ŧ					: :/: :			.			36.8		7.7.5		7.0		Ŧ				::;						36.8		ID (A-3), with trace sil	
35 35	5.3 +	8.5	5	4	5	· j · ·				_	l _w	0000	Gray, fine SAND sulphur odor f	from 23.5' to	25.0'.	35	35.	.3 ‡ 8.5	6	5	5	1 - 1 -				11	l w	0000	Gray, fine SAN	iD (A-3), with trace sii	II.
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30 30	, , ‡	12.5				-/						0000					20	.3 13.5	.			½:::						0000			
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20 20	0.3	23.5	6	13	34			1 47		_	Sat.	18.8			2	5.0		.3 ‡ 23.5	2	2	5	7					Sat.	18.8			
	Ŧ						1	<u> </u>			1	- 10.0	Boring Terminated	d at Elevation	n 18.8 ft in	3.0		#				— • · · ·			<u> </u>			- 10.0	Boring Terminat	ed at Elevation 18.8 ft	t in
	Ŧ											F	SAND (CO	ASTAL FLA	airi)			Ŧ										F	SAND (C	OASTAL PLAIN)	
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WBS 40191.1.2		Y NEW HANOVER	GEOLOGIST D. Racey	WBS 40191.1.2 TIP U-475	COUNTY NEW HA	NOVER	GEOLOGIST D. Racey	
SITE DESCRIPTION SR 1409 (Mili	tary Cutoff Road) to US 17 in Wilm	ington - Noise Wall 7 at -L- Statio	n 71+50 Right GROUND WTR (ft)	SITE DESCRIPTION SR 1409 (Military Cutoff Roa	oad) to US 17 in Wilmington - Noise	Wall 7 at -L- Station	n 71+50 Right	GROUND WTR (ft)
BORING NO. NW7-11	STATION 15+01	OFFSET CL	ALIGNMENT -NW7- 0 HR. N/A	BORING NO. NW7-12 STATION	15+52 OFFSET	CL	ALIGNMENT -NW7-	0 HR. 4.0
COLLAR ELEV. 38.3 ft	TOTAL DEPTH 25.0 ft	NORTHING 192,869	EASTING 2,352,903 24 HR. N/A	COLLAR ELEV. 43.8 ft TOTAL DEP	PTH 25.0 ft NORTHING	192,913	EASTING 2,352,877	24 HR. 2.8
DRILL RIG/HAMMER EFF./DATE F&R57	85 CME-55 75% 01/17/2014	DRILL METHOD H.S	S. Augers HAMMER TYPE Automatic	DRILL RIG/HAMMER EFF./DATE F&R5785 CME-55 75%	% 01/17/2014	DRILL METHOD H.S	S. Augers	HAMMER TYPE Automatic
DRILLER S. Davis	START DATE 01/21/15	COMP. DATE 01/21/15	SURFACE WATER DEPTH 0.3ft		TE 01/21/15 COMP. DA	TE 01/21/15	SURFACE WATER DEPT	H N/A
ELEV (ft) DRIVE ELEV (ft) DEPTH (ft) BLOW COUNTY 0.5ft 0.5ft 0		T SAMP. L O NO. MOI G	SOIL AND ROCK DESCRIPTION ELEV. (ft) DEPTH (ft)	ELEV CRIP CRIP CRIP CRIP CRIP CRIP CRIP CRIP	BLOWS PER FOOT 25 50 75 100	SAMP. L O MOI G	SOIL AND ROCK	K DESCRIPTION
383 00 1 0 35 348 35 4 3 3 30 298 85 2 2 2 2 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3	20	Sat. Sat. Sat. Sat. Sat. Sat. Sat. Sat.	(A-2-4), with moder are amount of organics (grass, roots). COASTAL PLAIN Gray, silty fine SAND (A-2-4). Gray, fine SAND (A-3), with trace silt, trace organics (wood fragments) from 18.5' to 25.0', and sulphur odor from 23.5' to 25.0'.	45	4	Sat.	Black, fine sandy SII Gray-brown, silty f Gray-brown, silty f Gray, fine SAND (A-3 organics (roots) fi	ine SAND (A-2-4). 7. 7. 7. 7. 7. 7. 7. 7. 7.

BS	40191.	.1.2			IIP	U-4751		CC	JUNIY	NEW H	ANOVE	ER		GEC	DLOGIST D. Racey	y		WB	S 401	91.1.2			TIF	P U-475		COUNT	Y NEW HA	NOVER		GEO	LOGIST D. Racey	
TE [DESCRI	PTION	SR 140	09 (Mi	litary C	Cutoff Road	d) to US	3 17 in \	Wilmin	gton - Nois	se Wall	7 at -l	L- Stati	ion 71+50	Right	G	ROUND WTR (ft	SITE	DESC	RIPTION	N SR	1409 ((Military	Cutoff Ro	ad) to US	17 in Wilmi	ngton - Noise		at -L- Sta	tion 71+50	Right	GROUND W
ORIN	NG NO.	NW7-	13		ST	ATION 16	6+02			OFFSET	CL			ALIC	SNMENT -NW7-	0) HR. 4.6	BOF	RING NO) . NW7	7-14		ST	TATION	16+52		OFFSET	CL		ALIG	NMENT -NW7-	0 HR.
OLL	AR ELE	V. 43.	4 ft		TO	TAL DEPT	H 25.	.0 ft		NORTHIN	G 192	2,956		EAS	TING 2,352,852	24	HR. 2.9	COL	LAR E	L EV . 4	3.5 ft		TC	OTAL DEF	TH 25.0	ft	NORTHING	192,9	999	EAS	FING 2,352,826	24 HR.
RILL	RIG/HAMI	MER EFF	./DATE	F&R5	785 CN	1E-55 75%	01/17/20)14			DRIL	L METI	HOD	H.S. Augen	S	HAMMER	TYPE Automatic	DRIL	L RIG/H	MMER E	FF./DA	TE F&	R5785 C	ME-55 75%	01/17/2014	1		DRILL	METHOD	H.S. Augers		HAMMER TYPE Auton
	LER S.				ST	ART DATE	01/2	1/15		COMP. D	ATE ()1/21/	15	SUR	FACE WATER DEF	PTH N/A		DRII	LLER	S. Davis	;		ST	ART DAT	E 01/21/	15	COMP. DA	TE 01	/21/15	SURI	FACE WATER DEP	Γ H N/A
EV	DRIVE ELEV	DEPTH	BLOW					VS PER				MP.	/ 10		SOIL AND RO	OCK DESCRI	PTION	ELEV	DRIV	DEPTI	H BL	OW CC				PER FOO		SAMP	1 / 1	L o	SOIL AND ROO	K DESCRIPTION
t)	(ft)	(ft)	0.5ft (0.5ft (0.5ft	0 2	25	50	7	75 100) NO). / <u>(</u>	MOI G	ELEV.			DEPTH ((ft)	(ft)	(ft)	0.5f	t 0.5ft	t 0.5ft	0	25	50	75 100	NO.	MOI	G		
5		-												L				45												L		
	43.4	- 0.0	WOH	2	2	1		.				٠,	М	43.4		ID SURFACE	<u> </u>	0	43.5	+ 00	WOH	 H 1	2	1					M	- 43.5		SURFACE AL PLAIN
	‡	-		_	-	•4							vi	41.4	Black, fine sandy	SILT (A-4), n	noderately2	의		‡				\ 3 · ·		. .			₩	41.5	Black, fine sandy S	ILT (A-4), moderately janic.
0	39.9	3.5	8	9	13						+		N		Gray-brown, silt	rganic. ty fine SAND	$\overline{(A-2-4)}$. I	40	40.0	3.5	2	3	3	16: :	+		+	-	w			$\frac{1}{1}$ fine SAND (A-2-4).
	ł	-				::: <i>[</i>		-						<u>.</u>			-			ł				17		.				26.5		
5	34.9	8.5				: : :/:		:					000	36.4	Gray, fine SAND ((A-3), with tra	ace silt and	35	35.0	I I 8.5				: ', :						36.5	Gray, fine SAND (A	-3), with trace silt and
T	34.9	- 0.5	9	7	6	· ·•13·						s	at.		trace organics (woo	od fragments o 25.0'.	s) from 23.5'		33.0	Ŧ	6	6	5	· • 11					Sat.		trace organics (woo to	d fragments) from 18.5' 25.0'.
	#	-						.					000							‡				:/. :		.			0 0			
)	29.9	- - 13.5	WOLL			<i>ij</i> ::::	- : :				41		000					30	30.0	13.5	WOF	D 1		/					0 0			
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t	19.9	<u>- 23.5</u> -	3	5	13						11	s	at.	18.4			25.		20.0	+ 23.5	3	5	7	. 12				1	Sat.	18.5		
Ī	1	-					.)	· ·		ı			000	-	Boring Terminate	ed at Elevation DASTAL PLA	n 18.4 ft in			†						•						at Elevation 18.5 ft in
	土	-												Ł	SAND (CC	JASTAL FLA	ain)			Ī										Ł	SAND (SO)	AOTALT LAIN)
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	<u>_</u>	-												ţ	1) 0.0-0.3' = Surficia	ai Organic Si	DIIS			‡										ţ	1) 0.0-0.2 – Suriicia	Organic Soils
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DRILLER S. Davis START DATE 01/22/15 COMP. DATE 01/22/15 SURFACE WATER DEPTH N/A	L- Station 71+50 Right
COLLAR ELEV. 43.2 ft TOTAL DEPTH 25.0 ft NORTHING 193.042 DRILL MISHAMMER EFF,DATE F86795 CMES-5795 0117/2014 DRILL METHOD HS. Augers HAMMER TF,DATE 519275 CMES-5795 0117/2014 ELEV DRILL RS. Davis START DATE 011/22/15 ELEV DRIVE DEPTH 010 0.06 0.06 0.06 0.07 0.75 100 NO. Mool GEV. (In the property of the property	ALIGNMENT -NW7- 0 HR. 3.0
DRILLER'S DAVIS START DATE 01/22/15 COMP. DATE 01/22/15 SURFACE WATER DEPTH NIA	
DRILLER S. Davis START DATE 01/22/15 COMP. DATE 01/22/15 SURFACE WATER DEPTH N/A	EASTING 2,352,776 24 HR . 2.9
DRILLER S. Davis START DATE 01/22/15 COMP. DATE 01/22/15 SURFACE WATER DEPTH N/A	HOD H.S. Augers HAMMER TYPE Automatic
ELEV PREV DEPTH BLOW COUNT BLOWS PER FOOT SAMP.	
(ft) (ft) 0.5ft 0.5ft 0.5ft 0.5ft 0.25 50 75 100 NO. MOI G ELEV.(ft) 0.05ft 0.5ft 0.5ft 0.5ft 0.5ft 0.5ft 0.5ft 0.5ft 0.25 50 75 100 NO. MOI G ELEV.(ft) 0.05ft 0.5ft 0	L CON AND DOO'S PEOPLIPTION
432 0.0 1 2 3 4 6	O SOIL AND ROCK DESCRIPTION MOI G
43.2 GROUND SUFFACE 0.0 COASTAL FLAN 40 39.7 3.5 2 4 6 10 10 2 3 4 12 18.5 6 6 6 5 10 11 2 3 3 4 17 8.5 6 6 6 5 10 11 2 3 10 10 10 10 10 10 10 10 10 10 10 10 10	
43.2 GROUND SUFFACE 0.0 COASTAL FLAN 40 39.7 3.5 2 4 6 10 10 2 3 4 12 18.5 6 6 6 5 10 11 2 3 3 4 17 8.5 6 6 6 5 10 11 2 3 10 10 10 10 10 10 10 10 10 10 10 10 10	
40 39.7 3.5 2 4 6 10 W Gray-brown, silly fine SAND (A-24). 35 34.7 8.5 6 6 5 10 Sat Sat Sat Sat Sat Sat Sat Sat Sat Sat	42.8 GROUND SURFACE
39.7 3.5 2 4 6 3 10 30.3 3.5 7 11 9 32.3 35 34.7 8.5 6 6 5 3 11 3 30 29.7 13.5 WOH 2 3 3 13.5 WOH 2 3 3 13.5 WOH 1 2 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	M COASTAL PLAIN
35 347 85 6 6 5 111 Sat Sat Sat Sat Sat Sat Sat Sat Sat Sat	organics (roots).
30 297 13.5 WOH 2 3	N Gray-brown, silty fine SAND (A-2-4). 4
Sat. Sulphur odor from 18.5 to 25.0. Sat. Sulphur odor from 18.5 to 25.0. Sat. Sat. Sulphur odor from 18.5 to 25.0. Sat. Sat. Sulphur odor from 18.5 to 25.0. Sat. Sat. Sat. Sat. Sulphur odor from 18.5 to 25.0. Sat. Sat. Sat. Sat. Sat. Sat. Sat. Sat.	[888
30 29.7 13.5 WOH 2 3	Gray, silty fine SAND (A-2-4), with trace organics from 13.5' to 15.0'.
30	at
Sat. Sat. Sat. Sat. Sat. Sat. Sat. Sat.	
25 24.7 18.5 WOH 1 2 3 Sat. Sat. Sat. Sat. Sat. Sat. Sat.	at.
Sat. Sat. Sat. Sat. Sat. Sat. Sat. Sat.	
20 19.7 23.5 5 8 11	Gray, fine SAND (A-3), with trace silt and
20 19.7 23.5 5 8 11	at.
Sat. Sat. Sat. Sat. Sat. Sat. Sat. Sat.	0000- 0000- 0000- 0000-
Boring Terminated at Elevation 18.2 ft in SAND (COASTAL PLAIN) NOTES:	at. [] 17.8 25
	Boring Terminated at Elevation 17.8 ft in SAND (COASTAL PLAIN)
	SAND (COASTAL FLAIN)
1) 0.0-0.1' = Surficial Organic Soils	NOTES:
	1) 0.0-0.3' = Surficial Organic Soils
	2) Strata break in split spoon at a depth of 4.5'.
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WB	S 4019	91.1.2		Т	G REP IP U-4751		COUN	TY NEW H				GEOLOGIST D. Racey		l —	BS 40191					P U-4751			Y NEW HA				GEOLOGIST D. Racey		
						-	7 in Wilm	nington - Nois		at -L- Stat			GROUND WTR (ft)	l —				1409 (N	<u>_</u>		<u> </u>				at -L-	Station	71+50 Right	GROUND WTR	(ft)
-) . NW7			TATION 1			OFFSET				ALIGNMENT -NW7-	0 HR. 2.5	l	DRING NO.					ATION 18			OFFSET				ALIGNMENT -NW7-		4.4
		L EV . 43			OTAL DEP			NORTHIN				EASTING 2,352,750	24 HR. 2.0	l	DLLAR EL					TAL DEPT			NORTHING				EASTING 2,352,724		4.3
					CME-55 75%					METHOD		-	MER TYPE Automatic	l —				E F&R		ME-55 75%				DRILL			•	HAMMER TYPE Automatic	С
DRII		S. Davis			TART DAT			COMP. D				SURFACE WATER DEPTH N	/A		RILLER S					ART DATE			COMP. DA			4	SURFACE WATER DEPTI	H N/A	
ELEV (ft)	/ DRIVE ELEV (ft)	DEPTH (ft)	0.5ft 0.5		0		PER FOO	OT 75 100		MOI G)	SOIL AND ROCK DES	SCRIPTION DEPTH (ft)	ELE (ft)	DRIVE ELEV (ft)	DEPTH (ft)	0.5ft	0.5ft	0.5ft	0 2	BLOWS F		75 100	SAMP.		0 I G	SOIL AND ROCK	DESCRIPTION	
45		\pm									-			45		- 00										-	43.6 GROUND	SURFACE	0.0
	43.0	1 0.0	1 2	5	7	T	T				43.	COASTAL PL	AIN		43.0	<u> </u>	WOH	2	1	93			1		W		COASTA Black, fine sandy SIL	L PLAIN	
40		Ŧ									41.	.0_ \(\) Black, fine sandy SILT (A	1-4), with trace2.0_	40	40.1	I I 3.5				:::::	: : : :	: : : :	1		_	F	orga	nic.	
	39.5	3.5	6 8	8	16					W	₩.	organics (root Gray-brown to gray, silty fin	e SAND (A-2-4).			Ŧ	1	1	1	2			1		Sat.	F	39.0 Gray, fine sandy	/ CLAY (A-7-5).	4.6
		Ŧ			::/::											Ŧ						: : : :					36.6		<u>7</u> .0
35	34.5	+ 8.5] - /				41					35	35.1	8.5	7	9	10					-	Sat.		Gray, silty fine	SAND (A-2-4).	
		‡	5 4	3	. 7					Sat.						‡	'			1: 1:	9				Jai.				
30		‡												30	30.1	‡ 42.5				: <i>i'</i> : :									
30	29.5	<u>+ 13.5</u>	WOH 1	2	<u> </u>				1	Sat.				30	30.1	13.5	WOH	1	1	© 2 · · ·				-	Sat.				
		‡								Oat	<u>-</u> 2 <u>6</u> .	_				‡											26.6		<u>17.0</u>
25	24.5	+ + 18.5			1							.0Gray, fine SAND (A-3), v	<u>17</u> . <u>0</u> with trace silt.	25	5 25.1	18.5	lwou			j · · · ·						0000	Gray, fine SAND (A	A-3), with trace silt,	
	24.5	1 10.3	1 3	2	5: :					Sat.						ŧ	WOH	1	1	2					Sat.	0000	·	. 0001.	
		+			¦ · · ·					00000	21.	.0	22.0			+				- /						0000			
20	19.5	¥ 23.5			1		.				:: <u> </u>	Gray, silty fine SANI	O (A-2-4).	20	20.1	23.5	8	11	13		24		· · · · ·		Sat.	0000	10.6		25.0
		┼	3 4	3	<u>-</u> ∳ [†] · · ·					Sat.	18.	.0 Boring Terminated at Elev	25.0 vation 18 0 ft in			† 					124	1	1		Jun	-	Boring Terminated a	t Elevation 18.6 ft in	25.0
		Ŧ									F	SAND (COASTAL	PLAIN)			Ŧ										F	SAND (COAS	STAL PLAIN)	
		‡									F				-	‡										-			
		‡									-					‡											NOTES:		
		Ţ									Ł	NOTES:			_	ŧ										ΙŁ			
		+									-	1) 0.0-0.3' = Surficial Organ	nic Soils			+										F	 Strata break in split of 4.6'. 	spoon at a depth	
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RING NO		ON S	SR 14	100 (1	liliton (Cutoff Doo									ı		1 1															ı
LLAR EL				+09 (IV				17 in \				at -L- S	tation 71+50 F			ROUND WTR (fi	`								<u> </u>		ngton - Nois		at -L-			GROUND V
). N	W7-19	9		ST	ATION 1	9+02			OFFSET				IMENT -NW7-	() HR. 4.8	BOF	RING I	10 . NW	/7-20				TION 19			OFFSET				ALIGNMENT -NW7-	0 HR.
L RIG/HA	EV.	43.8	ft		TC	TAL DEPT	TH 25.0	O ft	1	NORTHIN				NG 2,352,698		HR. 4.4	⊣		ELEV. 4				<u> </u>		H 25.0 ft		NORTHING	· ·			EASTING 2,352,675	24 HR.
	MMEF	R EFF./	DATE	F&R	5785 C	ME-55 75%	01/17/20	14			DRILL	METHOD	H.S. Augers		HAMMER	TYPE Automatic	→				ATE F	F&R578	35 CME	-55 75% (1/17/2014			DRILL	METHO	D H.S. Au	igers	HAMMER TYPE Aut
ILLER S						ART DATE				COMP. DA				ACE WATER DEP	PTH N/A				S. Davi				L	RT DATE	01/22/1		COMP. DA			s	SURFACE WATER DEF	PTH N/A
CLCV	DEF	· · · · · —		N COL					FOOT	F 100		· 🔻	0	SOIL AND ROO	CK DESCR	PTION	ELE\		VE DEPT	гн В		COUNT			BLOWS F			SAMP.	1 /	0	SOIL AND RO	OCK DESCRIPTION
(ft)	+ '	11)).5ft	0.5ft	0.5ft	0 .	25	50	7:	5 100	NO.	MOI	G ELEV. (ft))		DEPTH (ft) (11)	(fi) (11)	0.5	5π 0.t	5ft 0.	.5ft U) 2	5 5	50 	75 100	NO.	/MO	I G		
43.8	$+$ $^{\circ}$												43.8	GROUNE	ID SURFACI	Ξ (.0 45		 - -												, ODOLIN	
43.0	+ "	.0	1	2	1	4 3 · · ·					1 1	W	41.8		TAL PLAIN			43	4 ‡ 0.0	wc	OH 2	2 3	3	5			1	+	W	43	ARTIF	ID SURFACE FICIAL FILL
40.3	‡ ₃	.5				/::::							হর⊑==7	ord	rganic	i	40		.9 I 3.5				- /	7						41	organic, v	SILT (A-4), moderately with some clay.
1	Ŧ	\	/OH	WOH	WOH	0					11	Sat.		Black, silty fine SAN organic, wi	ND (A-2-4), vith some cla	moderately ay.			9 + 3.3	wc	OH WO	OH W	он 🌓)			1	1	Sat.		COAS	TAL PLAIN ck, MUCK
	Ŧ					<u>``</u> ;;;;;							36.8	Gray, silty fine SAN			<u>o</u>		ļ											36	4	
35.3	‡ 8	.5	6	8	8	16					41	Sat.		organics (roots)	s) from 13.5'	to 15.0'.	35	34	9 ‡ 8.5	4	1 3	3 2	\	/ 	· · · ·			-			Tan, silty fine SAI sulphur odor	ND (A-2-4), with strong from 13.5' to 20.0'.
	‡											Joan							‡	"	† `	,		? 5					Sat.		•	
30.3	‡ ₁₂	3.5				:/: : :				: : : :							30		. ‡				- i	/ 								
	‡	v v	/OR	WOH	1	1 1					1	Sat.						29	9 + 13.5	, MC	эн ж	он 1	1	1				1	Sat.			
	‡												26.8				0		‡				<u> </u>									
25.3	18	3.5 N	/OH	WOH	2	<u> </u>						Sat.	0000	Gray, fine SAND (A sulph	A-3), with tra hur odor.	ace silt and	25	24	.9 $\frac{1}{4}$ 18.5	5			_	· · · ·	· · · ·							
	‡	'			-	● 2						Sal.	00000						‡	Iwc	OH 1	1 2	2	3					Sat.			
20.2	‡ ,,	, _				 							0000 <u>-</u>						‡					<u>)</u> ::::						21	.4Gray fine SAND	O (A-3), with trace silt,
20.3	+	5.5	2	3	3	6					\blacksquare	Sat.	18.8			25	0 20	19	9 + 23.5	5 4	1 5	5 6	6	. 11 .			 	1	Sat.	18		hur odor.
	Ī					•							E	Boring Terminated SAND (CO	d at Elevatio	n 18.8 ft in			Ŧ					<u> </u>				-		- 10	Boring Terminate	d at Elevation 18.4 ft in
	Ī												Ł	,		,			土											ΙŁ	SAND (CC	DASTAL PLAIN)
	+												-						+											1 E		
	Ŧ												F						Ŧ											1 F	NOTES:	
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WBS 4						IP U-4751			Y NEW HA				OGIST D. Racey			1	40191					U -4751			NEW HA				GEOLOGIST D. Racey		
				1409 (7 in Wilmir			at -L- Stati	ion 71+50 Ri	<u> </u>		ROUND WTR (ft)	I				409 (N				17 in Wilmir			at -L-			GROUND WT	ΓR (ft
BORING	G NO.	NW7	-21			TATION 2			OFFSET			_	MENT -NW7-	0	HR. 3.7	BORII	NG NO.	NW7-	22			ATION 2			OFFSET				ALIGNMENT -NW7-	0 HR.	4.0
COLLA	R ELE	V . 44	4.0 ft		Т	OTAL DEP	TH 25.0	ft	NORTHIN				IG 2,352,654		HR. 2.4		AR ELE					TAL DEP			NORTHING				EASTING 2,352,637	24 HR.	2.0
DRILL RI	IG/HAM	MER EF	F./DAT	E F&	R5785 (CME-55 75%	01/17/2014		-	DRILL M	ETHOD	H.S. Augers		HAMMER T	TYPE Automatic	DRILL	RIG/HAM	MER EF	F./DATE	F&R		ME-55 75%				DRILL I	METHO	D H.S. A	ugers	HAMMER TYPE Autom	natic
DRILLE						TART DAT	E 01/23/	15	COMP. DA				CE WATER DEP	PTH N/A			LER S.					ART DAT	E 01/23	/15	COMP. DA			!	SURFACE WATER DE	PTH N/A	
ELEV D		DEPTH	BL	OW CC				PER FOOT			O L		SOIL AND ROO	CK DESCRIF	PTION	ELEV	DRIVE ELEV	DEPTH	BLO\	W COL				S PER FOOT		SAMP	1 /	0	SOIL AND RO	OCK DESCRIPTION	
(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25	50	75 100	NO.	MOI G	ELEV. (ft)			DEPTH (ft	(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25	50	75 100	NO.	MO	I G			
1																															
45	11.0	- 00										44.0	GROUNI	ID SURFACE	: or	45	44.4	- 00										<u>-4</u>	4.4 GROUN	ID SURFACE	С
	44.0	- 0.0	1	2	3	\$ 5	T	T			M	_	ARTIFI	ICIAL FILL		1		-	1	3	2	5					M	42	COAS 2.4 Black, fine sandy	TAL PLAIN SILT (A-4), moderately	2
40	40.5	- 35				<i> :</i> ::::					 	42.0	Black, fine sandy S	with some cla	10derately2. <u>u</u> 1 <u>y.</u> <i>J</i>	40	40.9	- - 3.5	MOLL			<i>İ</i> ::::				1 1			organic, v	with some clay.	i
40	-	-	WOF	WOF	1	 1	 	<u> </u>		-	Sat.	<u>}</u>		TAL PLAIN d black, MUC	K	40	-	_	WOH	1		2	1		 	1	Sat.		(A-2-4), sulphur	n to gray, silty fine SAND odor from 8.5' to 20.0'.	
	1	_				\::::					3555	37.0			7.0	<u>.</u>	-					<u>i</u> : : : :									
35	35.5	8.5	4	4	3	\						<u>.</u>	Tan, silty fine	ne SAND (A-2	2-4).	35	35.9 -	- 8.5	3	2	2	\\\					Sat.				
	7	-	"	"		77					Sat.	F					-					1) Out.	F			
	7	-					: : : :	: : : :				<u>}</u>					30.9	125				:::::	: : :	.				<u> </u>			
30	30.5	- 13.5 -	WOF	WOF	1	<u> </u>		ļ			Sat.	<u>.</u>				30	30.9 -	- 13.5	WOH	1	2	\$ 3	 		<u> </u>	-	Sat.	-			
	‡	-													47.0		-					: : : :									
25	25.5	- - 18.5				<u> </u> :::::					000	27.0	Gray, fine SAND (A-	A-3), with trac	e silt and a		25.9	- - 18.5				:::::		: : : : :							
25	25.5	-	WOF	1	2	1	 	 	 	-	Sat.		0.2 thick layer of m	moderately or clav.	ganic silty	25	-	_	WOR	1	0	1	 	- 	+		Sat.				
	+	-				`\					000	22.0		,	22.0		-	-				<u> </u>						-			
20	20.5	23.5		<u> </u>		:\: : :	: : : :					<u></u>	Gray, silty fine SAN	AND (A-2-4), v	with trace] 20	20.9	23.5	WOH	2	3	 	: : :	.	I		Cot	F			
			3	4	5	9				1	Sat.	19.0	Boring Terminated	ga	25.0			-	W 011	_		5	1		1	4	Sat.	19 		d at Elevation 19.4 ft in DASTAL PLAIN)	<u>25</u> .
	1	-										F	SAND (CO	DASTAL PLAI	IN)		-												SAND (CO	DASTAL PLAIN)	
	4	-										Ļ					_	_													
	1	-										_					-														
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	+	-										-					_	-										 	1) 0.0-0.2' = Surfici	al Organic Soils	
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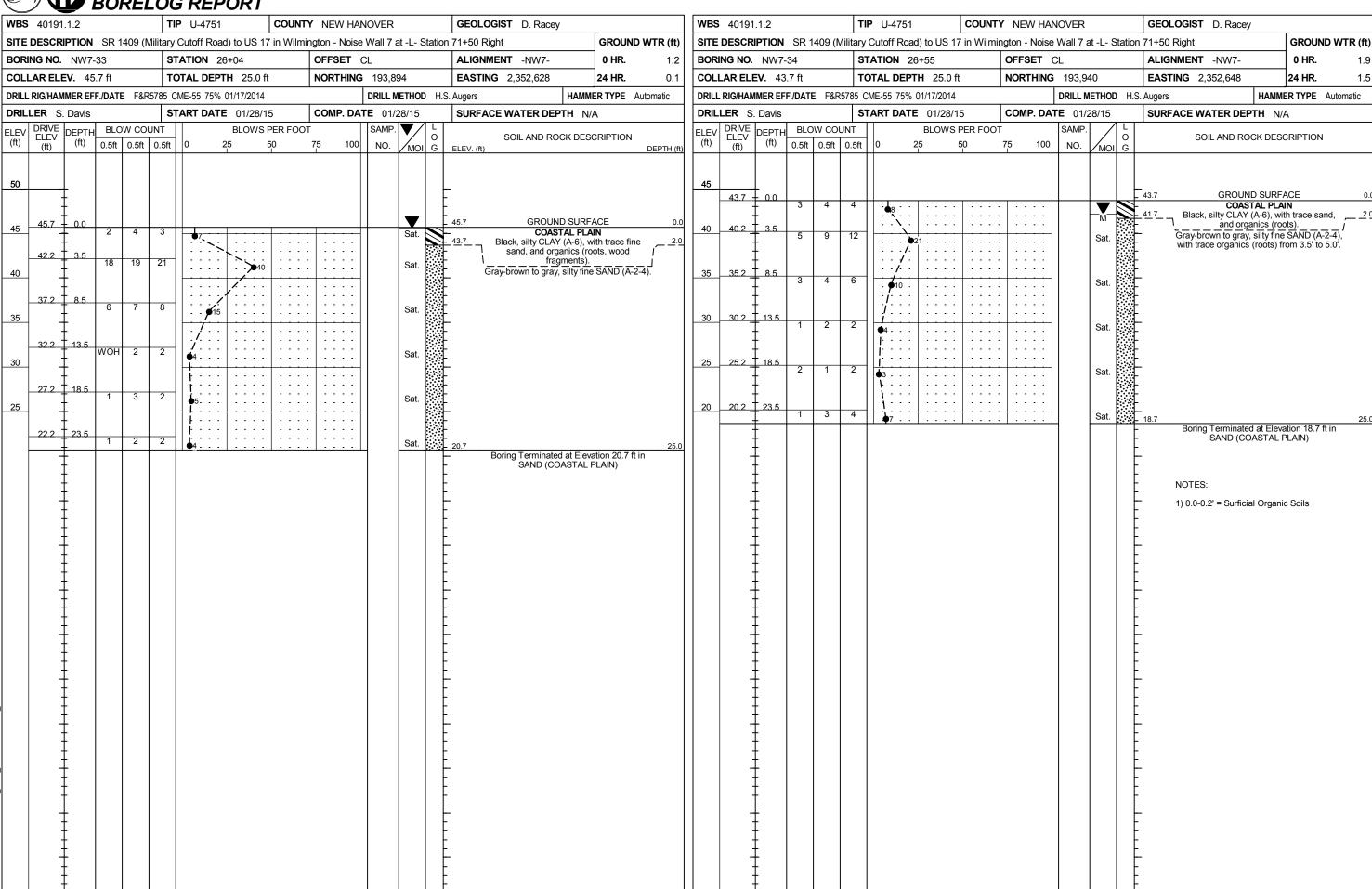
VBS 40191.1.2			P U-4751		COUNTY				GEOLOGIST D. Racey				40191.1.				TIP U-4				NEW HA				LOGIST D. Racey	T
SITE DESCRIPTION SI	R 1409 (t -L- Statio			D WTR (ft)												:-L- S	station 71+50		GROUND WTR
SORING NO. NW7-23			ATION 21+			FFSET			ALIGNMENT -NW7-	0 HR.	3.8	BORIN	G NO. N	IW7-24	4		STATIO				DFFSET				NMENT -NW7-	0 HR. 2
COLLAR ELEV. 44.1 f	it	TC	TAL DEPTH	25.0 ft	1	IORTHING	193,39	9	EASTING 2,352,622	24 HR.	2.8	COLLA	AR ELEV.	44.6	ft		TOTAL I	DEPTH	25.0 ft	N	ORTHING	193,44	8	EAS	FING 2,352,610	24 HR. 2
RILL RIG/HAMMER EFF./D	ATE F&	R5785 C	ME-55 75% 01	/17/2014			DRILL M	ETHOD H.	S. Augers	HAMMER TYPE	Automatic	DRILL F	RIG/HAMME	R EFF.	DATE	F&R578	5 CME-55	75% 01	/17/2014			DRILL ME	THOD	H.S. Augers		HAMMER TYPE Automatic
ORILLER S. Davis		SI	ART DATE	01/23/15	C	OMP. DA	TE 01/2	3/15	SURFACE WATER DEP	TH N/A			ER S. Da				START I	DATE	01/26/15	C	OMP. DA	TE 01/2	6/15	SURF	FACE WATER DEF	TH N/A
•	BLOW CO			BLOWS PE				▼/ L	SOIL AND RO	CK DESCRIPTION		ELEV I	DRIVE DE	PTH		COUN			BLOWS PE			SAMP.		L	SOIL AND RO	CK DESCRIPTION
$\begin{array}{c cccc} (ft) & \begin{array}{ccccc} C & C & C & C \\ \hline \end{array} & (ft) & C & C \\ \hline \end{array} & (ft) & \begin{array}{ccccc} C & C & C \\ \hline \end{array} & C & C \\ \hline \end{array}$	5ft 0.5ft	0.5ft	0 25	50) 7!	5 100	NO.	MOI G			DEPTH (ft)	(ft)	(ft)	(ft) (0.5ft 0	.5ft 0.	5ft 0	25	50	75	5 100	NO.	<u>MOI</u>	G		
45									- 444 CDOUN	D CLIDEACE	0.0	45												44.6	GROUN	D SURFACE
44.1 0.0	1 3	3	6					M	COAS	D SURFACE TAL PLAIN	0.0		44.6	3.0	2	4 3	3 .•7						W	42.6		TAL PLAIN ilty fine SAND (A-2-4),
100 + 25			1 ,					V	42.1 Black, fine sandy SI and organics (red	ots wood fragments	i = i		41.1 ± ;	3.5			i ·					1 -	_	<u>- 42.6</u> - 40.5	with trace	organics (roots).
40.6 + 3.5	1 2	2	4					w	Grav-brown to tan.	silty fine SAND (A-2	2-4).	40	Ŧ		2	2 3	3						Sat.	40.5		e sandy CLAY (A-6).
			$ \vdots \vdots \tilde{j} $						- with suiphur od -	or from 8.5' to 25.0'.			Į.												SAN	tan and gray, silty fine D (A-2-4).
35.6 + 8.5			1 : : :						<u>-</u> -			25	36.1	8.5	3	3 2	_ :									
35.6 7 8.5	5 4	3	7					Sat.	<u> </u>			35	+		٠	3 2	5-						Sat.			
+			$ \cdot \cdot \cdot \cdot $						-				+				-									
30.6 + 13.5 W	00 14/05		/::::						_ 			30	31.1 1	3.5 V	/OH	1 -							Sat.			
† wc	OR WOF	\ \ \ \ \ \	• 1					Sat.	- -			00	‡				P 2−−						Jai.			
									-				‡ .				: :									
25.6 ± 18.5	OR WOH	1 1	<u> </u>					C-4	<u>-</u>			25	26.1 1	8.5 V	и но	OH ′							Sat.	i:::L		
		1 '	1					Sat.	_				Ŧ													
									-				21.1 2	25			1, : :									
20.6 + 23.5 W	OH 2	2	1					Sat.			25.0	20		3.5	2	3 3	3 6-						Sat.	19.6		:
									NOTES: 1) 0.0-0.2' = Surficia	al Organic Soils			+												NOTES: 1) 0.0-0.2' = Surfici 2) Strata break i	al Organic Soils n split spoon at a depth of 4.1'.

WBS 40						P U-47			TY NEW						ST D. Ra	acey			l		91.1.2				TIP U-			COUNTY					1	.OGIST D. Ra	cey		
SITE DES				409 (I	<u>_</u>			in Wilm				t -L- St					_	ND WTR (ft)	l —				R 1409					7 in Wilmin			at -L-	Station				GROUND	WTR (f
BORING						ATION			OFFSI						NT -NW7		0 HR.		l		O. NW					ON 22+			OFFSET					NMENT -NW7		0 HR.	2.
COLLAR						TAL DE			NORTI		193,49				2,352,60		24 HR.		 		ELEV. 4						25.0 ft	t	NORTHIN					ING 2,352,59		24 HR.	2.
DRILL RIG/			/DATE	F&F									H.S. Aug	ers		HAN	IMER TYPE	Automatic	ł		IAMMER E		ATE F8							DRILL N			. Augers		HAMMI	R TYPE A	utomatic
DRILLER						ART DA					E 01/2			JRFACE	WATER I	DEPTH	N/A				S. Davis				START		01/26/1		COMP. DA			<u> </u>	SURF	ACE WATER D	EPTH N/	A	
ELEV DR EL		EPTH (ft)	BLO	W CO	UNT 0.5ft	0		PER FOO			SAMP.	'/ I	0		SOIL AND	ROCK DE	SCRIPTIO	N	ELE\ (ft)	/ DRI	VE DEPT	H BI	LOW C		- _			PER FOOT	7E 100	SAMP.	1 /			SOIL AND	ROCK DESC	RIPTION	
(it) (f	ft)	(11)	0.5π	0.5π	0.5π	0	25	 50	75	100	NO.	/MOI	G ELE	V. (ft)				DEPTH (ft	(11)	(ft	(10)	0.5	π 0.51	t 0.5ft	1 0	25	•	50	75 100	NO.	/MC)I G					
50	+												F						50		\pm											<u> </u>	-				
	Ŧ												F								Ŧ											1 F					
45 45	5.2 I	0.0											45.2	!		OUND SUF		0.0	45	46.	2 <u>T 00</u>	1	2	2	1	• • • •	• • • •	1			_w_		46.2	CC	UND SURFA	N	
	Ŧ		2	5	5	- 10		 				V.		E	lack to tan	DASTAL P and gray,		ND			7 + 3.5									71	W	- :::F	-	Black to gray a (A-2-4), with tr	ind brown, si ace organics	Ity fine SANI (roots, woo	D od
	1.7 -	3.5	2	2	3	;7: :	- -		-			W	E .	(A	2-4), with truments) fror	race organ m 0.0' to 1	ics (roots, v .5' and trac	wood e clay			 	3	4	3	- ∳	7					Sat.	F		fragmer	ts) from 0.4'	to 1.5'.	
40	Ŧ		_	_		\$ 5		 				Sat.		•	ments) fror fro	om 3.5' to	5.0'.	,	40	_	Ŧ				$\parallel \frac{\gamma}{r}$			+	 				-				
	, , Ŧ							 												37.	7 + 8.5	2	1	2	_ <u>į</u> .												
35	3.7 <u>+</u> +	8.5	2	2	2	4	- -	 				Sat.							35		Ŧ		'		∳3					1 1	Sat.	-					
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31	1.7 ‡	13.5	WOR	WOLL	4	::::		 												32.	7 13.5 	wo)H 1	1	- j ·						Sat.						
30	‡		WUR	WOH	1	1		 				Sat.							30	4	‡				-					41			-				
	‡							 				:								27.	7 + 18.5	5			_ ∶												
25 25	5.7 +	18.5	1	0	1	1		 		: :		Sat.							25		‡	Iwo	R WO	H 1	1					1 1	Sat.	-					
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21	1.7	23.5				1		 												22.	7 + 23.5	1	2	3	- \ \ \						Sat.		21.2				2!
	_‡		1	1	2	∳ 3 · ·	- -	 				Sat.	20.2	. De	ring Termin	atad at Fl	ovetion 20 1	25.0			‡				1	2		-	1		-		- 21.2	Boring Termin SAND	ated at Eleva	tion 21.2 ft i	in Z
	‡												ţ	ВС	SAND	(COASTA	L PLAIN)	2 1(111			‡											1		SAND	COASTALF	LAIN)	
	‡												ţ								‡											1					
	+												-								+												-	NOTES:			
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WBS 4019					IP U-4751			Y NEW H				OLOGIST D. Racey	<u> </u>		→ 		191.1.2				IP U-4751		COUNTY					EOLOGIST D. Race	<u> </u>	
SITE DESC			R 1409	<u> </u>			17 in Wilm	-		at -L- S				ROUND WTR (ft)	I				R 1409				17 in Wilmino			at -L- S				UND WTR
BORING NO	D. NV	V7-27			TATION 2			OFFSET				IGNMENT -NW7-	(0 HR. 3.5	ВО	RING N	IO. NW	/7-28			TATION 2			OFFSET				LIGNMENT -NW7-	0 HF	₹.
COLLAR E	LEV.	45.9 ft		Т	OTAL DEP	TH 25.0	ft	NORTHIN				STING 2,352,591		4 HR. 1.9	co	LLAR	ELEV. 4	46.1 ft		Т	OTAL DEP	TH 25.0	ft	NORTHIN	G 193,64	47	E	ASTING 2,352,590	24 HF	
DRILL RIG/HA	MMER	EFF./DA	ATE F	&R5785	CME-55 75%	01/17/2014	4		DRILL I	METHOD	H.S. Auge	ers	HAMMER	TYPE Automatic	DRII	LL RIG/I	HAMMER	EFF./DA	ATE F8	R5785	CME-55 75%	01/17/2014	1		DRILL N	IETHO	D H.S. Aug	jers	HAMMER TYP	E Automat
DRILLER					TART DAT	E 01/27/	/15	COMP. D.	ATE 01/	/27/15	SU	RFACE WATER DEP	PTH N/A				S. Davi			S	TART DAT	E 01/27/	15	COMP. DA	ATE 01/2	27/15	SI	JRFACE WATER DE	PTH N/A	
ELEV DRIVE	, DEP	тн в		OUNT	1		S PER FOO		11	. ▼/	L	SOIL AND RO	OCK DESCR	IPTION	ELE'	V DRI	VE DEPT	TH BL	LOW C		<u> </u>		PER FOOT		SAMP.	/	1 b	SOIL AND R	OCK DESCRIPTION	ON
(ft) (ft)	(ft	0.5	ft 0.5	ft 0.5ft	0	25	50	75 10	NO.	MOI	G ELEV			DEPTH (f		(ft	(ft)	0.51	ft 0.5f	t 0.5ft	0	25	50 7	5 100	NO.	MOI				
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	‡										E						‡										<u> </u>			
45.9	1 0.0	n									45.9	GROUN	ND SURFAC	E 0.		46.	1 + 0.0										46.1		ND SURFACE	
45	Ŧ	4	5	4	9						<u> </u>	COAS ⁻ Black, brown, and	TAL PLAIN	fine SAND	45	_	Ŧ	lwo)H 1	2	3	1			+	W	44.6	Black, silty fine	STAL PLAIN SAND (A-2-4), wit	h little r
42.4	Ť 3.5	5] . ` `							(A-2-4), with trace of	organics and	d roots from		42.	6 + 3.5	<u> </u>] ::\:::							organics (roc Gray-brown to gra	its, wood fragmen	[S).
40	‡	5	6	7	13.					W		0.2	2' to 1.5'.		40		‡	'	9	9	::;>:	8			1 1	Sat.		Gray-brown to gra	ly, slity fine SAND	(A-2-4).
40	‡				 				11						40		‡				-/-				1					
37.4	8.9	5 2	2	1	i'::::											37.	6 + 8.5	2	2	2	┤ │.∕′:::		.			Sot				
35	+			'	∳3		-	-		Sat.					35		+	-	-	-	4		.		1 1	Sat.	-			
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32.4	† 13	5 WO	R WO)H 1	 <u> </u>					Sat.						32.	6 + 13.5	5 wo)H 1	1	1 2		.			Sat.				
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07.4	1,0	_														27	+ 6 + 18.5	_			;:::::		.							
	† 18.	wo)H 1	1			-			Sat.							+ 10.5	wo)H 2	2	¹ ↓ 4 · · ·				1 1	Sat.	-			
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22.4	‡ ₂₃	5														22	6 + 23.5	5] i::::									
	1	wo)H 3	2	∮ 5		<u>. </u>	<u> </u>	Ц	Sat.	20.9			25.	<u>o</u>		_‡	2	2	2	4				Ц	Sat.	21.1		- d -t Flavetia - 04	4.4:
	†										-	Boring Terminated SAND (CO	ed at Elevatio DASTAL PL <i>A</i>	on 20.9 ft in AIN)			†											SAND (C	ed at Elevation 21 OASTAL PLAIN)	.1 π in
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WBS 40191.1.2	TIP U-4751 COUN	NTY NEW HANOVER	GEOLOGIST D. Racey		WBS 40191.1.2		TIP U-4751 CO	UNTY NEW HA	NOVER	GEOLOGIST D. Racey	
SITE DESCRIPTION SR 1409 (Mi	ilitary Cutoff Road) to US 17 in Wilr	mington - Noise Wall 7 at -L- Statio	n 71+50 Right	GROUND WTR (ft)	SITE DESCRIPTION	ON SR 1409 (Mil	litary Cutoff Road) to US 17 in V	Vilmington - Noise	Wall 7 at -L- St	tation 71+50 Right	GROUND WTR (ft
BORING NO. NW7-29	STATION 24+03	OFFSET CL	ALIGNMENT -NW7-	0 HR. 2.0	BORING NO. NV	V7-30	STATION 24+54	OFFSET	CL	ALIGNMENT -NW7-	0 HR. 1.8
COLLAR ELEV. 46.1 ft	TOTAL DEPTH 25.0 ft	NORTHING 193,697	EASTING 2,352,592	24 HR. 0.9	COLLAR ELEV.	46.0 ft	TOTAL DEPTH 25.0 ft	NORTHING	193,747	EASTING 2,352,597	24 HR. 1.1
DRILL RIG/HAMMER EFF./DATE F&R5	785 CME-55 75% 01/17/2014	DRILL METHOD H.	S. Augers HAMI	MER TYPE Automatic	DRILL RIG/HAMMER	EFF./DATE F&R57	785 CME-55 75% 01/17/2014		DRILL METHOD	H.S. Augers	HAMMER TYPE Automatic
DRILLER S. Davis	START DATE 01/27/15	COMP. DATE 01/27/15	SURFACE WATER DEPTH N		DRILLER S. Dav	<i>i</i> is	START DATE 01/27/15	COMP. DA	TE 01/27/15	SURFACE WATER DEP	
ELEV DRIVE DEPTH BLOW COU	NT BLOWS PER FO	OOT SAMP.	SOIL AND ROCK DE	CODIDITION	ELEV DRIVE DEF	TH BLOW COUN	NT BLOWS PER I	FOOT	SAMP.	L SOIL AND RO	CK DESCRIPTION
(ft) (ft) (ft) 0.5ft 0.5ft	0.5ft 0 25 50	75 100 NO. MOI G		DEPTH (ft)	(ft) ELEV (ft)	0.5ft 0.5ft 0	0.5ft 0 25 50	75 100	NO. MOI		CK DESCRIPTION
50			_		50					_	
			- -		‡					-	
46.1 0.0 WOH WOH			46.1 GROUND SUR		46.0 0						SURFACE 0
45 WOH WOH	2 2		COASTAL PL Black, silty fine SAND (A	ر-2-4), with little <i>r</i> — ال-2	45	2 3	3		W W	Black-brown to gra	TAL PLAIN ny-tan, silty fine SAND -2-4).
42.6 + 3.5 2 2	7	· · · · · ·		gray, silty fine	42.5 + 3.	5 9 13	14		Sat.	(A	-2-4).
40 +	· ¶* · · · · · · · · ·		- SAND (A-2-	4).	40 ‡		,			<u></u>	
37.6 + 8.5	:: :::: :::: ::::		-		37.5 + 8.	5					
	6	· · · · · · Sat.	- -		†	6 6	6 .		Sat.		
	/		- •		35		./			*** -	
32.6 + 13.5 WOH WOH	<u> </u>	· · · · · ·	• •		32.5 + 13	.5 WOH WOH	$\frac{1}{2}$		Sat.	<u></u>	
30 +	7		- -		30		7			29.0 Croy fine SAND	17
27.6 + 18.5			. -		27.5 + 18	.5				Gray, fine SAND	(A-3), with trace silt.
25 1 3	4 7	Sat.	- -		25	2 2	4 •6 .		Sat.	0 0 0 0 <u> </u>	
			- -							0000	
22.6 + 23.5 WOH 1	3	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- - 21.1	25.0	22.5 + 23	.5 WOH 2	3		Sat.	21.0	25
	1,4,-		Boring Terminated at Ele SAND (COASTAL	evation 21.1 ft in			1 \$			Boring Terminated	at Elevation 21.0 ft in ASTAL PLAIN)
			-	- 1 - 2 4)	1 1 ‡					- SAND (OO.	AOTALT LAIN)
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WBS	4019	1.1.2			TIP U-47	51		COUNT	Y NEW	/ HANG	OVER			GEOLOGIST D. Racey		WB	S 4019	91.1.2			TIP	COUNT	Y NEW HA	NOVER		GEOLOGIST D. Racey	,
SITE	DESCR	RIPTION	SR 140	9 (Milita	ary Cutoff F	Road) to	o US 17	in Wilmi	ngton - N	Noise V	Vall 7 a	at -L- St	ation 7	71+50 Right	GROUND WTR (fi) SITI	E DESC	RIPTION	N SR	1409 (Milit	tary C	Cutoff Road) to US 17 in Wilmi	<u> </u>		at -L- Stat	on 71+50 Right	GROUND WTR
BOR	NG NO.	. NW7-	31		STATION	25+0)4		OFFSE	ET CI	_			ALIGNMENT -NW7-	0 HR. 0.	BOF	RING NO	D. NW7	7-32		STA	ATION 25+53	OFFSET	CL		ALIGNMENT -NW7-	0 HR.
COLI	AR EL	EV . 44	.8 ft		TOTAL D	EPTH	25.0 ft		NORTH	HING	193,79	96		EASTING 2,352,605	24 HR. 0.	COL	LAR E	LEV. 4	5.6 ft		то	TAL DEPTH 25.0 ft	NORTHING	3 193,8	345	EASTING 2,352,615	24 HR.
DRILL	RIG/HAI	MMER EF	F./DATE	F&R578	5 CME-55 7	5% 01/	17/2014					IETHOD	H.S. <i>A</i>	Augers	HAMMER TYPE Automatic	DRIL	L RIG/HA	AMMER E	FF./DAT	E F&R578	85 CN	ME-55 75% 01/17/2014		DRILL I	METHOD	H.S. Augers	HAMMER TYPE Automat
		3. Davis			START D	ATE (01/27/15	j	COMP.	. DATI	E 01/2	27/15		SURFACE WATER DEP	TH N/A	DRI		S. Davis				ART DATE 01/28/15	COMP. DA	TE 01/	28/15	SURFACE WATER DEF	PTH 0.2ft
LEV	DRIVE ELEV	: · · ·	BLOW				BLOWS P						0	SOIL AND RO	CK DESCRIPTION	ELE\	/ DRIVE	DEPTI	H BLC	OW COUN	Т	BLOWS PER FOO		SAMP	1/10	SOIL AND RO	CK DESCRIPTION
(ft)	(ft)	(ft)	0.5ft 0.	5ft 0.5	Sft 0	25	5	0	75	100	NO.	MOI	G E	ELEV. (ft)	DEPTH	ft) (ft)	(ft)	(π)	0.5ft	0.5ft 0.	.5ft	0 25 50	75 100	NO.	MOI G		
45	44.8	0.0	_	,						$-\Box$			4			.0 50		4								_	
		‡ "	2	3 4	•7				.	: :		l w	4	Black, fine sandy	AL PLAIN SILT (A-4), with little2	<u>o</u>		‡								-	
40	41.3	† 3.5 †	6 1	3 1	7				.			Sat.		<u>organics (roots</u> Brown to gray, si	SILT (A-4), with little2 wood fragments)	45	45.6	+ 0.0									D SURFACE_
40	-	‡				.,/	30					J Sat.		3 7		45		‡	2	3	3	•6		1	W	COAS 43.6 _ Black, silty CLAY (A	TAL PLAIN A-6), with trace fine sand
	36.3	+ + 8.5				/ <u>.</u> :			· · · · ·	: :							42.1	3.5	8	14 1	17						ots, wood fragments). j
35		+ 0.5	4	4 5		- -						Sat.				40		‡	"	'* '	''	31			W	Clay blown to gray	, only line of the (112 4).
		‡			- :j: :				. .	: :								‡				: : : // : : : : : : :				-	
	31.3	13.5	WOH	2 2		: :			. .								37.1	8.5	6	5	6	. •11			Sat.	-	
30	-	<u>†</u>	WOH	2 3	5					-		Sat.	∷⊢			35	-	\pm						$\ \cdot \ $		<u>-</u>	
		+			1				.				2	Gray fine SAND	(A-3), with trace silt.	0	32.1	13.5				/:				-	
25	26.3	18.5	3	4 4	- 1.	- -						Sat.	000	3.ay, 3. a. a.	(· · •), mar a a • • • • • • • • • • • • • • • • •	30		Ŧ	1	2	3	6 5			Sat.	-	
	_	Ŧ			1 . 1.							000						Ŧ							000	- 28.6 - 28.6	(A 0) = (E = = = = = = = = = = = = = = = = =
	21.3	23.5							.	: :		0000					27.1	18.5	1	2	2				Sat.	Gray, fine SANL	(A-3), with trace silt.
20		‡	3	6 4	10							Sat.	1	19.8	25	0 25		‡				4		1	Oat.	-	
		‡											F	SAND (CC	at Elevation 19.8 ft in ASTAL PLAIN)		22.1	23.5				./			0 0 0	- -	
		‡											ļ.					23.5	2	5	7	12			Sat.	- 20.6	
	-	‡																‡								Boring Terminate	d at Elevation 20.6 ft in DASTAL PLAIN)
		‡											ţ					‡								<u></u>	•
	_	‡											L					‡								_	
		‡											þ					‡								NOTES:	
		<u>†</u>											Ł					<u>†</u>								1) 0.0-0.2' = Surfici	al Organic Soils
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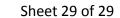


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SITE	ESCRI	PTION	SR 1	409 (M	ilitary (Cutoff Road	l) to US 1	7 in Wiln	ington - Noi	se Wall 7	7 at -L- S	tation 71+	50 Right	GROUN	ND WTR (ft)	SITE	DESCR	IPTION	SR 1	409 (N	/lilitary (Cutoff Roa	d) to US 17	in Wilmin	ngton - Nois	e Wall 7 at	t -L- S	Station 71+	50 Right	GROUND W
BORIN	G NO.	NW7-	35		ST	ATION 88	+90		OFFSET	75 ft R	Т	AL	IGNMENT -L-	0 HR.	1.5	BOR	ING NO.	NW7-	36		ST	ATION 8	9+45		OFFSET	77 ft RT		AL	IGNMENT -L-	0 HR.
COLL	AR ELE	V. 42.	2 ft		TO	TAL DEPT	H 25.0 f	t	NORTHIN		·		STING 2,352,671	24 HR.	1.5	COLI	LAR ELI	EV . 42	.2 ft		то	TAL DEP	H 25.0 ft		NORTHING	. , .			STING 2,352,694	24 HR.
DRILL F	RIG/HAMI	MER EFF	./DATE	F&R	785 CN	1E-55 75%	01/17/2014			DRILL	. METHOD	H.S. Auge	ers	HAMMER TYPE	Automatic	DRILL	RIG/HAN	IMER EF	F./DATE	F&R	5785 CN	ME-55 75%	01/17/2014			DRILL ME	ETHOD	H.S. Auge	rs	HAMMER TYPE Autor
	ER S.					ART DATE	01/28/1	15	COMP. D	ATE 0	1/28/15	SU	RFACE WATER DEP	TH N/A			LER S					ART DAT	01/29/1	5	COMP. DA	TE 01/2	9/15	SU	RFACE WATER DEP	TH N/A
ELEV	DRIVE ELEV		BLO	N COL			BLOWS				P. V	0	SOIL AND RO	CK DESCRIPTION	I	ELEV	DRIVE ELEV	DEPTH	BLO	W COL	JNT			PER FOOT		SAMP.		0	SOIL AND RO	CK DESCRIPTION
(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0 2	.5 	50	75 10	0 NO.	· /MOI	G ELE	/. (ft)		DEPTH (ft)	(ft)	(ft)	(11)	0.5ft	0.5ft	0.5ft	0	25 5	50	75 100	NO.	/MOI	G		
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	42.2	- 00										42.2	GROUN	D SURFACE	0.0		42.2	0.0										42.2	GROUN	D SURFACE
40	76.6	- 0.0	1	2	2	4								ΓAL PLAIN (Δ-6) with trace sa	and,2.0	40	-72.2	- 0.0	1	3	3	6					T	sacces -		TAL PLAIN andy SILT (A-4).
40	38.7	- - 3.5						1		1	_w_		and orga	anics (roots).	i	40	38.7	3.5					1		1	1	•		Gray-brown to ta	in & gray, fine SAND
	‡	:	2	7	13		h				Sat.		Gray-brown to gray,	silty fine SAND (A	2-4).				2	8	13	: : : <i>)</i> =	21 · · · · · · · · · · · · · · · · · · ·				Sat.		(4	n-2-4).
35	‡	-				/ .				_		<u> </u>				35	-					/				1		<u> </u>		
	33.7	- 8.5 -	4	5	4	/					Sat.						33.7	8.5	3	3	2	<i>√</i>					Sat.			
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30	28.7	- - 13.5				 				\dashv						30	28.7	13.5				 			1	1				
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	23.7	- 18.5	WOH	2	1						Sat.						23.7	18.5	1	2	3	i : : : i					Sat.			
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	Ŧ	-										F	Boring Terminated SAND (CO	d at Elevation 17.2 ASTAL PLAIN)	ft in		-	F										F	Boring Terminated SAND (CC	d at Elevation 17.2 ft in ASTAL PLAIN)
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			1409	<u> </u>			7 in Wilmi	·			ation 71+50 F		GF	ROUND WTR (ft)	I -				409 (N					ngton - Noise		t -L- S			GROUND WTR
BORING NO	D. NV	V7-37		S ⁻	TATION 8	9+99		OFFSET	77 ft R	Γ	ALIGN	MENT -L-	0	HR. 1.9	BORI	ING NO.	NW7	-38		ST	ATION 9	0+54		OFFSET	77 ft RT			IGNMENT -L-	0 HR.
COLLAR EL	LEV.	42.1 ft		T	OTAL DEP	TH 25.0 f	t	NORTHIN	G 194,	073	EASTI	NG 2,352,717	24	HR. 1.9	COLI	LAR EL	EV . 42	2.4 ft		то	TAL DEP	TH 24.9 f	t	NORTHING	194,11	6	EA	STING 2,352,743	24 HR.
DRILL RIG/HA	AMMER	EFF./DA	TE F8	R5785 C	ME-55 75%	01/17/2014			DRILL	METHOD	H.S. Augers		HAMMER T	YPE Automatic	DRILL	RIG/HAI	MER EF	F./DATE	E F&R	85785 CN	ME-55 75%	01/17/2014			DRILL M	ETHOD	H.S. Auge	ers	HAMMER TYPE Automat
DRILLER :	S. Dav	<i>i</i> s		S	TART DATI	E 01/29/1	15	COMP. D	ATE 01	/29/15	SURFA	CE WATER DEP	PTH N/A		DRIL	LER S	. Davis			ST	ART DAT	E 01/29/1	5	COMP. DA	TE 01/2	9/15	SU	RFACE WATER DEP	TH N/A
ELEV DRIVE	DEP	TH BL		OUNT			PER FOO			°. ▼	L O	SOIL AND RO	CK DESCRIP	TION	ELEV	DRIVE ELEV	DEPTH	BLO	W COL				PER FOOT		SAMP.		L	SOIL AND RO	CK DESCRIPTION
(ft) (ft)	(ft	0.5f	t 0.5f	t 0.5ft	0	25	50	75 10	NO.	MOI	G ELEV. (ft)			DEPTH (fi		(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25 	50	75 100	NO.	<u>/MOI</u>			
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	‡										<u> </u>	CDOLIN				40.4	‡ ,,										- - 42.4	GROUN	O SURFACE
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40	+	_			1		+		-	 	40.1	Black, fine s Gray-brown, silt	andy SILT (A	<u>-4).</u>	40	39.0	3.4				 			 	-	W		(A-2-4), with trace	own, silty fine SAND organics (roots, wood
38.6	+ 3.5	3	4	5		: : : :		.		w	37.1	madara	talicaraania `	*			Ŧ	2	3	3	6					Sat.	::::F	fragments)	rom 0.1' to 5.0'.
35	‡				::[:::::							Gray-tan to gray, s with trace organic	silty fine SAND	O (A-2-4),	35		‡				: : :						<u>::::</u>		
33.6	± 8.5	5			1		1		1			with trace organic	C3 IIOIII 10.5	10 25.0 .		34.0	8.4	2	2	2	ļ				11				
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23.6	18.	5 2	3	2	::: <u>:</u> i					Sat.						24.0	18.4	WOR	WOR	WOH .	0					Sat.			
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18.6	<u>+ 23</u>	5 3	4	6	- \					Sat.	17.1			25.0		10.0	1 20.3	WOR	2	4	• 6· · ·				Ш	Sat.	17.5		
	1				¥	·				ľ		Boring Terminated	d at Elevation DASTAL PLAIN	17.1 ft in			‡											Boring Terminated SAND (CC	l at Elevation 17.5 ft in ASTAL PLAIN)
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	4019					REP U-4751		COUNT	NEW HA	NOVER			GEOLOGIST D. Racey		W	BS 40	191.1.2			T IP U-4751	CC	DUNTY NEW HA	NOVER			GEOLOGIST D. Racey		
SITE	DESC	RIPTION	SR 1	409 (N	lilitary (Cutoff Road	l) to US 17	in Wilmir	ngton - Nois	e Wall 7	at -L- S	Station	71+50 Right	GROUND WTR (ft) SI	TE DES	CRIPTION	N SR 14	09 (Militar	y Cutoff Road	l) to US 17 in '	Wilmington - Noise	e Wall 7	at -L-	Station	71+50 Right	GROUND WT	ΓR (ft
BOR	ING NO	. NW7-	-39		ST	ATION 90)+98		OFFSET	77 ft RT	-		ALIGNMENT -L-	0 HR. 2.6	ВС	ORING N	10. NW	7-40	S	STATION 91	+62	OFFSET	77 ft RT	-		ALIGNMENT -L-	0 HR.	3.6
COL	LAR EL	EV . 42	.1 ft		то	TAL DEPT	H 25.0 ft		NORTHIN	G 194,1	150		EASTING 2,352,766	24 HR. 2.2	2 cc	OLLAR	ELEV. 4	3.9 ft	т	TOTAL DEPT	H 25.0 ft	NORTHING	3 194,1	197		EASTING 2,352,802	24 HR.	3.4
DRIL	RIG/HA	MMER EF	F./DATE	F&R	5785 CN	ME-55 75%	01/17/2014			DRILL			. Augers HAM	MER TYPE Automatic	DR	RILL RIG/H	HAMMER E	FF./DATE	F&R5785	CME-55 75% (01/17/2014					. Augers	HAMMER TYPE Autom	natic
DRIL		6. Davis				ART DATE	01/29/15	5	COMP. DA				SURFACE WATER DEPTH	N/A			S. Davis			START DATE	01/29/15	COMP. DA	TE 01.	/29/15		SURFACE WATER DEPT	H N/A	
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)		W COU		0 2	BLOWS F		75 100		MO	0	SOIL AND ROCK DE	SCRIPTION DEPTH (EV DRIV	VE V (ft)	H BLOV 0.5ft	V COUNT 0.5ft 0.5ft	0 2	BLOWS PER 5 50	FOOT 75 100	SAMP NO.	MO	0 I G	SOIL AND ROC	K DESCRIPTION	
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	38.6	3.5	5	6	7	13				1 1	Sat.	15.75	38.6 organics (roots, wood 37.1 Gray-brown, silty fine S		. <u>5</u> .0		‡		. -	•	.			Sat.				
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	33.6	8.5	2	2	4	• / • • •					Sat.		organics (roots) from	18.5' to 25.0'.			‡			∮ 5				Sat.	+			
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20	18.6	+ - 23.5	1	3	4	<u> </u>				1 1		-	-			0	+	2	2 3	\$5			1	Sat.			at Elevation 18.9 ft in	25
		!	'	3	4	• 7				Ц	Sat.	:::: <u> </u>	Boring Terminated at Ele	evation 17.1 ft in	0		Ī									SAND (COA	STAL PLAIN)	
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201 BORE DOUBLE 14751_GEO_SWAL7.GPJ NC_DOT.GDT 3/27/15		0.5	. 18 5	2 5 WOH	4 5 WOI	6 H 1									3	W Sat. Sat. Sat.		44.0	Gr (,	ray-brown (A-2-4), v frag	vn to tan with trac agments agments erminate	STAL Pi and gra- e organ of from 0	EAIN ay, silty ics (roo .1' to 1	fine S, wo ots, wo .5'.	od	25.0	45 40 35 30 25 20	35.0 30.0		.5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0 .0	2 4	5 2 5 WOH	6 1 5 1 2	 3 · · · · · · · · · · · · · · · · · · ·							at.			Bor NOTI	ring Te SA	GROUN COAS an-gray, organicss from erminate AND (CO	ed at Electors	AIN e SAND wood fr 1.5'. evation L PLAIN	agment 18.5 ft in)	25.0



FDS

SITE PHOTOGRAPHS



Photograph No. 1: View looking North along proposed Military Cutoff Rd - Proposed NW7 on right



Photograph No. 2: View looking South along proposed Military Cutoff Road – Proposed NW7 on left



Photograph No. 3: View looking North along proposed Military Cutoff Road – Proposed NW7 on right



Photograph No. 4: View looking Northeast toward Proposed NW7