

REFERENCE: B-3186/B-5898

PROJECT: 38332/48030

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

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY HAYWOOD
 PROJECT DESCRIPTION US 23/US 74/US 19 (GREAT SMOKY MOUNTAIN HWY) FROM WEST OF NC 209(CRABTREE RD.) TO EAST OF RUSS AVE.
 SITE DESCRIPTION RETAINING WALL #8 FROM -DET01 EB- STA. 34+83.83 TO 29+30.48

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3186/B-5898	1	9

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

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 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
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GEOTECHNOLOGY, INC.

INVESTIGATED BY C. SWAFFORD
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SIGNATURE _____ DATE _____

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

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

SOIL DESCRIPTION
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 206, 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 MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, *VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6*

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)						SILT-CLAY MATERIALS (> 35% PASSING #200)						ORGANIC MATERIALS				
	A-1	A-3	A-2	A-2-4	A-2-5	A-2-6	A-4	A-5	A-6	A-7	A-1, A-2	A-3	A-4, A-5	A-6, A-7			
GROUP CLASS.	A-1-a	A-1-b	A-2-4	A-2-5	A-2-6	A-2-7	A-4	A-5	A-6	A-7	A-1, A-2	A-3	A-4, A-5	A-6, A-7			
SYMBOL																	
% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX	51 MN 35 MX	40 MX 35 MX	41 MN 35 MX	41 MN 35 MX	40 MX 36 MN	41 MN 36 MN	40 MX 36 MN	41 MN 36 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT				
MATERIAL PASSING #40 LL PI	-	-	40 MX 10 MX	41 MN 10 MX	41 MN 11 MN	40 MX 11 MN	40 MX 11 MN	40 MX 11 MN	40 MX 11 MN	40 MX 11 MN							
GROUP INDEX	0	0	0	4 MX	8 MX	12 MX	16 MX	NO MX									
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL, AND SAND	FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND	SILTY SOILS	CLAYEY SOILS												
GEN. RATING AS SUBGRADE	EXCELLENT TO GOOD						FAIR TO POOR				FAIR TO POOR	POOR	UNSATURABLE				

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	RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	< 4 4 TO 10 10 TO 30 30 TO 50 > 50	N/A
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD	< 2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 > 30	< 0.25 0.25 TO 0.5 0.5 TO 1.0 1 TO 2 2 TO 4 > 4

TEXTURE OR GRAIN SIZE

U.S. STD. SIEVE SIZE OPENING (MM)	4	10	40	60	200	270
	4.75	2.00	0.42	0.25	0.075	0.053
BOULDER (BLDR.)						
COBBLE (COB.)						
GRAVEL (GR.)						
COARSE SAND (CSE. SD.)						
FINE SAND (F SD.)						
SILT (SL.)						
CLAY (CL.)						
GRAIN SIZE	305	75	2.0	0.25	0.05	0.005
MM						
IN.	12	3				

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
LL - LIQUID LIMIT	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
PL - PLASTIC LIMIT	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
OM - OPTIMUM MOISTURE	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
SL - SHRINKAGE LIMIT	- DRY - (D)	REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE

PLASTICITY

NON PLASTIC	PLASTICITY INDEX (PI)	DRY STRENGTH
SLIGHTLY PLASTIC	0-5	VERY LOW
MODERATELY PLASTIC	6-15	SLIGHT
HIGHLY PLASTIC	16-25	MEDIUM
	26 OR MORE	HIGH

COLOR
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.

GRADATION
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 ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.

MINERALOGICAL COMPOSITION
MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.

COMPRESSIBILITY

SLIGHTLY COMPRESSIBLE	LL < 31
MODERATELY COMPRESSIBLE	LL = 31 - 50
HIGHLY COMPRESSIBLE	LL > 50

PERCENTAGE OF MATERIAL

ORGANIC MATERIAL	GRANULAR SOILS	SILT - CLAY SOILS	OTHER MATERIAL
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

WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING

STATIC WATER LEVEL AFTER 24 HOURS

PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA

SPRING OR SEEP

MISCELLANEOUS SYMBOLS

RECOMMENDATION SYMBOLS

ABBREVIATIONS

AR - AUGER REFUSAL	MED. - MEDIUM	VST - VANE SHEAR TEST
BT - BORING TERMINATED	MICA - MICACEOUS	WEA. - WEATHERED
CL - CLAY	MOD. - MODERATELY	U - UNIT WEIGHT
CPT - COARSE PENETRATION TEST	NP - NON PLASTIC	U _G - DRY UNIT WEIGHT
CSE. - COARSE	ORG. - ORGANIC	
DMT - DILATOMETER TEST	PMT - PRESSUREMETER TEST	SAMPLE ABBREVIATIONS
DPT - DYNAMIC PENETRATION TEST	SAP. - SAPROLITIC	S - BULK
e - VOID RATIO	SD. - SAND, 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
FRAGS. - FRAGMENTS	w - MOISTURE CONTENT	CBR - CALIFORNIA BEARING RATIO
HI. - HIGHLY	V - VERY	

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:	ADVANCING TOOLS:	HAMMER TYPE:
<input type="checkbox"/> CME-45C	<input type="checkbox"/> CLAY BITS	<input checked="" type="checkbox"/> AUTOMATIC <input type="checkbox"/> MANUAL
<input type="checkbox"/> CME-55	<input type="checkbox"/> 6" CONTINUOUS FLIGHT AUGER	CORE SIZE:
<input checked="" type="checkbox"/> CME-550X	<input checked="" type="checkbox"/> 8" HOLLOW AUGERS	<input type="checkbox"/> -B <input type="checkbox"/> -H
<input type="checkbox"/> VANE SHEAR TEST	<input type="checkbox"/> HARD FACED FINGER BITS	<input type="checkbox"/> -N
<input type="checkbox"/> PORTABLE HOIST	<input type="checkbox"/> TUNG-CARBIDE INSERTS	HAND TOOLS:
<input type="checkbox"/>	<input type="checkbox"/> CASING <input type="checkbox"/> W/ ADVANCER	<input type="checkbox"/> POST HOLE DIGGER
<input type="checkbox"/>	<input type="checkbox"/> TRICONE * STEEL TEETH	<input type="checkbox"/> HAND AUGER
<input type="checkbox"/>	<input type="checkbox"/> TRICONE * TUNG-CARB.	<input type="checkbox"/> SOUNDING ROD
<input type="checkbox"/>	<input type="checkbox"/> CORE BIT	<input type="checkbox"/> VANE SHEAR TEST
<input type="checkbox"/>		

ROCK DESCRIPTION

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 ROCK (WR)		NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 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, GNEISS, 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 TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.
COASTAL PLAIN SEDIMENTARY ROCK (CP)		COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.

WEATHERING

FRESH - ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.

VERY SLIGHT (V SLI.) - ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN. CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.

SLIGHT (SLI.) - ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 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 (MOD.) - 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.

MODERATELY SEVERE (MOD. SEV.) - ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK. *IF TESTED, WOULD YIELD SPT REFUSAL*

SEVERE (SEV.) - ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT 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 SEVERE (V SEV.) - ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK 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.

ROCK HARDNESS

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 HARD - CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.

MEDIUM HARD - CAN BE GROUDED OR GOUGED 0.25 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.

SOFT - CAN BE GROUDED 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 SOFT - 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 FINGER NAIL.

FRACTURE SPACING		BEDDING	
TERM	SPACING	TERM	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 - 0.03 FEET
		THINLY LAMINATED	< 0.008 FEET

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 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.

EXTREMELY INDURATED - SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.

TERMS AND DEFINITIONS

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.

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 SURFACE.

CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.

COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM 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.

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 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 DISLOADED FROM PARENT MATERIAL.

FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.

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.

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.

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.

SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.

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.

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 TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.

STRATA ROCK QUALITY DESIGNATION (SROD) - 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.

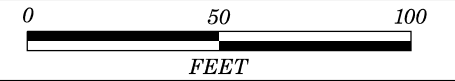
TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.

BENCH MARK: N/A

ELEVATION: FEET

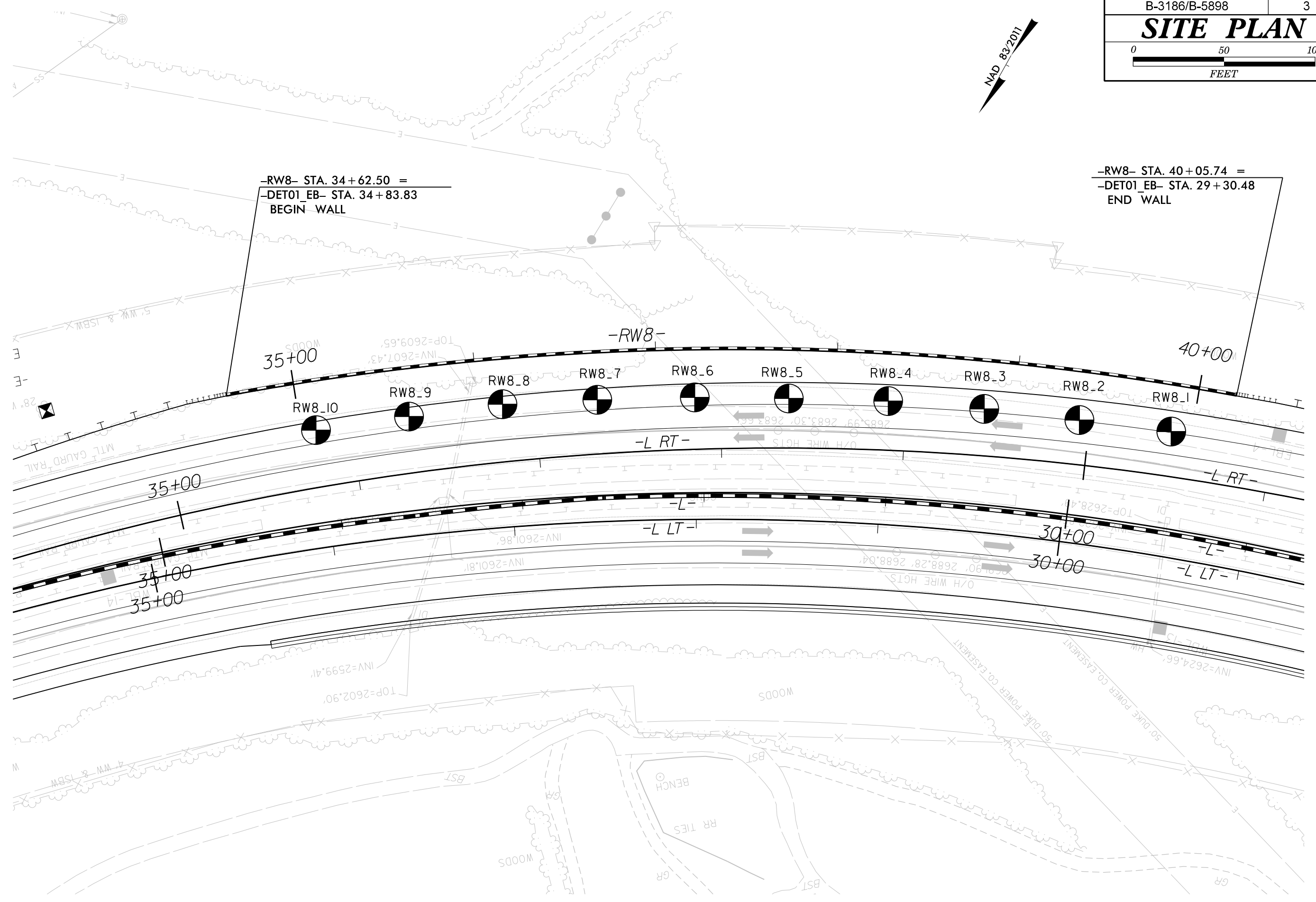
NOTES:
BORING ELEVATIONS OBTAINED USING b3186_br0022_r4047_Mer ged.1-12-21.tin
FIAD - FILLED IMMEDIATELY AFTER DRILLING

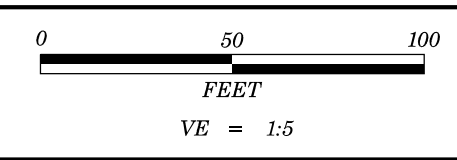
SITE PLAN



-RW8- STA. 34+62.50 =
-DET01_EB- STA. 34+83.83
BEGIN WALL

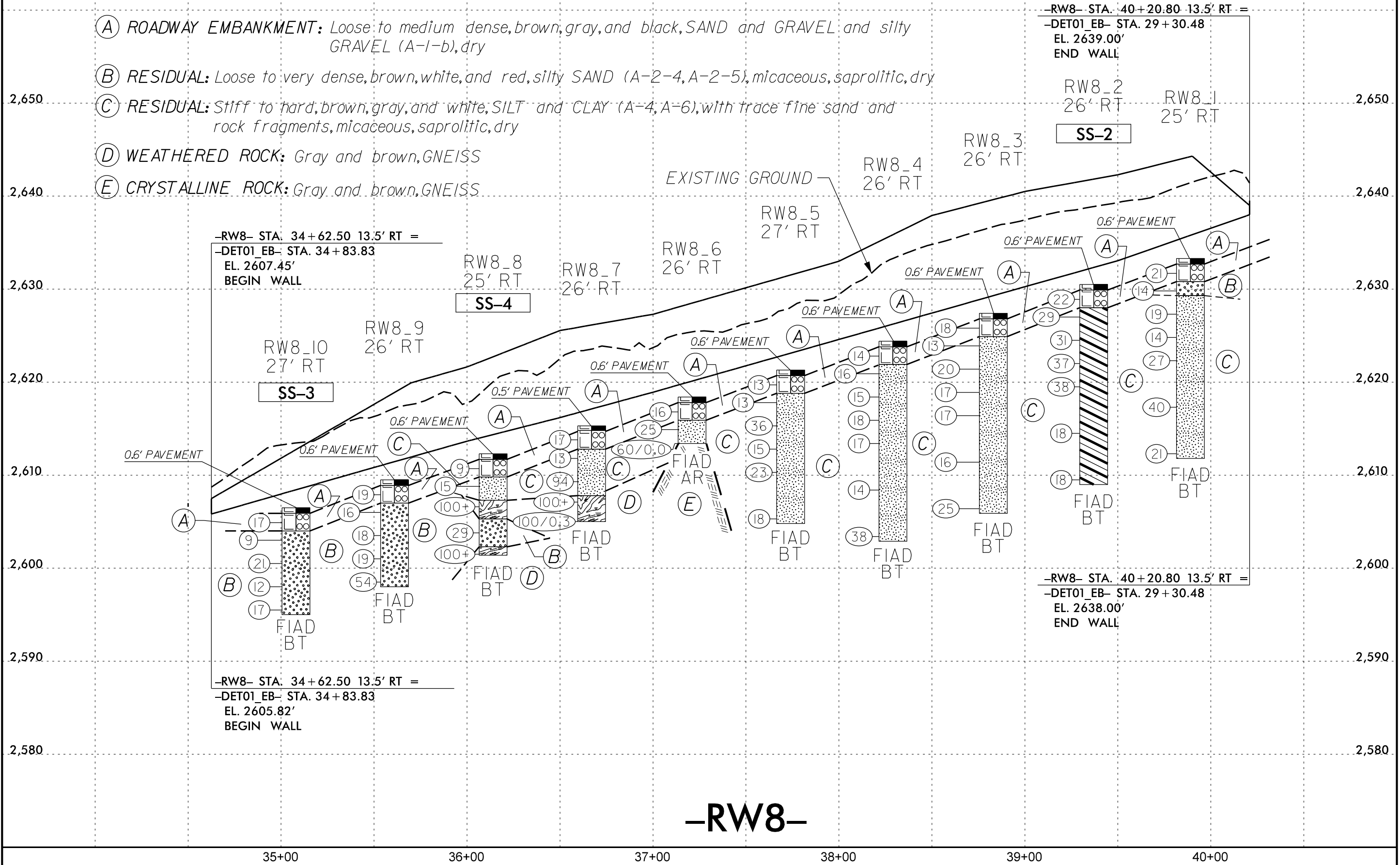
-RW8- STA. 40+05.74 =
-DET01_EB- STA. 29+30.48
END WALL





SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-3	27' RT	35+08	2.5' - 4.0'	A-2-5	44	7	54.2	24.3	14.6	6.9	95.1	55.9	25.7	26	-
SS-4	25' RT	36+14	7.5' - 9.0'	A-2-4	28	6	54.4	23.4	15.4	6.8	87.7	50.7	24.3	10	-
SS-2	26' RT	39+37	2.5' - 4.0'	A-6 (2)	34	13	33.6	31.1	30.2	5.1	96.0	76.0	41.0	15	-

- (A) ROADWAY EMBANKMENT: Loose to medium dense, brown, gray, and black, SAND and GRAVEL and silty GRAVEL (A-1-b), dry
- (B) RESIDUAL: Loose to very dense, brown, white, and red, silty SAND (A-2-4, A-2-5), micaceous, saprolitic, dry
- (C) RESIDUAL: Stiff to hard, brown, gray, and white, SILT and CLAY (A-4, A-6), with trace fine sand and rock fragments, micaceous, saprolitic, dry
- (D) WEATHERED ROCK: Gray and brown, GNEISS
- (E) CRYSTALLINE ROCK: Gray and brown, GNEISS



-RW8-

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 38330.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST N. Yacobi								
SITE DESCRIPTION Retaining Wall No. 8 from -DET01_EB- STA 34+83.83 to 29+30.48							GROUND WTR (ft)							
BORING NO. RW8_10		STATION 35+08		OFFSET 27 ft RT		ALIGNMENT -RW8-								
COLLAR ELEV. 2,606.5 ft		TOTAL DEPTH 11.5 ft		NORTHING 665,687		EASTING 818,414								
DRILL RIGHAMMER EFF/DATE GTC CME550X 9083				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic								
DRILLER L. Wanstrath		START DATE 01/26/21		COMP. DATE 01/26/21		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
2610														
2605	2,605.9	0.6	7	10	7									GROUND SURFACE 0.0
	2,604.0	2.5	4	4	5									0.6' PAVEMENT 0.6
	2,601.5	5.0	6	8	13									ROADWAY EMBANKMENT 2.5
	2,599.0	7.5	5	5	7									Medium dense, gray and brown, SAND and GRAVEL (A-1-b)
	2,596.5	10.0	6	7	10									RESIDUAL
2595														Loose to medium dense, white, brown and red, fine to coarse SAND (A-2-5) with little silt and trace clay, micaceous, saprolitic
Boring Terminated at Elevation 2,595.0 ft in SAND														

WBS 38330.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST N. Yacobi								
SITE DESCRIPTION Retaining Wall No. 8 from -DET01_EB- STA 34+83.83 to 29+30.48							GROUND WTR (ft)							
BORING NO. RW8_9		STATION 35+61		OFFSET 26 ft RT		ALIGNMENT -RW8-								
COLLAR ELEV. 2,609.5 ft		TOTAL DEPTH 11.5 ft		NORTHING 665,656		EASTING 818,373								
DRILL RIGHAMMER EFF/DATE GTC CME550X 9083				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic								
DRILLER L. Wanstrath		START DATE 01/27/21		COMP. DATE 01/27/21		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
2610														
	2,608.9	0.6	7	11	8									GROUND SURFACE 0.0
	2,607.0	2.5	4	9	7									0.6' PAVEMENT 0.6
2605	2,604.5	5.0	8	8	10									ROADWAY EMBANKMENT 2.5
	2,602.0	7.5	4	8	11									Medium dense, gray and brown, SAND and GRAVEL (A-1-b)
2600	2,599.5	10.0	16	32	22									RESIDUAL
Boring Terminated at Elevation 2,598.0 ft in SAND														

NCDOT BORE DOUBLE B3186_GEO_SPT.GPJ NC_DOT.GDT 5/26/21

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 38330.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST N. Yacobi										
SITE DESCRIPTION Retaining Wall No. 8 from -DET01_EB- STA 34+83.83 to 29+30.48							GROUND WTR (ft)									
BORING NO. RW8_8		STATION 36+14		OFFSET 25 ft RT		ALIGNMENT -RW8-										
COLLAR ELEV. 2,612.3 ft		TOTAL DEPTH 10.9 ft		NORTHING 665,625		EASTING 818,331										
DRILL RIGHAMMER EFF./DATE GTC CME550X 9083			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER L. Wanstrath		START DATE 01/27/21		COMP. DATE 01/27/21		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2615																
	2,611.7	0.6	6	4	5											2,612.3 GROUND SURFACE 0.0
	2,609.8	2.5	8	7	8											2,611.7 0.6' PAVEMENT 0.6
2610																2,609.8 ROADWAY EMBANKMENT 2.5
	2,607.3	5.0	64	54/0.5												2,607.3 Loose, gray and brown, SAND and GRAVEL (A-1-b) 5.0
	2,604.8	7.5	10	15	14											2,605.3 RESIDUAL 7.0
2605																2,602.3 Stiff to very stiff, brown and black, SILT (A-4), micaceous 7.0
	2,602.3	10.0	24	100/0.4												2,602.3 WEATHERED ROCK 10.0
																2,601.4 Gray and brown, GNEISS 10.0
																2,601.4 RESIDUAL 10.9
																Medium dense, brown, gray, and white, silty SAND (A-2-4), micaceous, saprolitic 10.9
																WEATHERED ROCK 10.9
																Gray, GNEISS
																Boring Terminated at Elevation 2,601.4 ft in Weathered Rock (GNEISS)

WBS 38330.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST N. Yacobi										
SITE DESCRIPTION Retaining Wall No. 8 from -DET01_EB- STA 34+83.83 to 29+30.48							GROUND WTR (ft)									
BORING NO. RW8_7		STATION 36+67		OFFSET 26 ft RT		ALIGNMENT -RW8-										
COLLAR ELEV. 2,615.3 ft		TOTAL DEPTH 10.3 ft		NORTHING 665,597		EASTING 818,287										
DRILL RIGHAMMER EFF./DATE GTC CME550X 9083			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER L. Wanstrath		START DATE 01/27/21		COMP. DATE 01/27/21		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2620																
	2,614.8	0.5	6	8	9											2,615.3 GROUND SURFACE 0.0
2615																2,614.8 0.5' PAVEMENT 0.5
	2,612.8	2.5	5	6	7											2,612.8 ROADWAY EMBANKMENT 2.5
	2,610.3	5.0	10	53	41											2,612.8 Medium dense, brown and gray, SAND and GRAVEL (A-1-b) 2.5
2610																2,607.8 RESIDUAL 7.5
	2,607.8	7.5	32	100/0.4												2,607.8 Stiff to hard, brown and gray, SILT (A-4), micaceous, saprolitic 7.5
2605																2,605.0 WEATHERED ROCK 10.3
	2,605.3	10.0	100/0.3													2,605.0 Gray, GNEISS 10.3
																Boring Terminated at Elevation 2,605.0 ft in Weathered Rock (GNEISS)

NCDOT BORE DOUBLE B3186_GEO_SPT.GPJ NC_DOT.GDT 5/26/21

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 38330.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST N. Yacobi									
SITE DESCRIPTION Retaining Wall No. 8 from -DET01_EB- STA 34+83.83 to 29+30.48							GROUND WTR (ft)								
BORING NO. RW8_6		STATION 37+21		OFFSET 26 ft RT		ALIGNMENT -RW8-									
COLLAR ELEV. 2,618.4 ft		TOTAL DEPTH 5.0 ft		NORTHING 665,570		EASTING 818,241									
DRILL RIGHAMMER EFF./DATE GTC CME550X 9083			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic									
DRILLER L. Wanstrath		START DATE 01/27/21		COMP. DATE 01/27/21		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
2620															
	2,617.8	0.6	9	6	10									2,618.4	0.0
	2,615.9	2.5	9	10	15									2,617.8	0.6
2615	2,613.4	5.0	60/0.0											2,615.9	2.5
														2,613.4	5.0

WBS 38330.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST N. Yacobi									
SITE DESCRIPTION Retaining Wall No. 8 from -DET01_EB- STA 34+83.83 to 29+30.48							GROUND WTR (ft)								
BORING NO. RW8_5		STATION 37+74		OFFSET 27 ft RT		ALIGNMENT -RW8-									
COLLAR ELEV. 2,621.3 ft		TOTAL DEPTH 16.5 ft		NORTHING 665,545		EASTING 818,196									
DRILL RIGHAMMER EFF./DATE GTC CME550X 9083			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic									
DRILLER L. Wanstrath		START DATE 01/27/21		COMP. DATE 01/27/21		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
2625															
	2,620.7	0.6												2,621.3	0.0
2620	2,618.8	2.5	6	6	7									2,620.7	0.6
	2,616.3	5.0	18	21	15									2,618.8	2.5
2615	2,613.8	7.5	5	5	10										
	2,611.3	10.0	8	10	13										
2610															
	2,606.3	15.0	5	7	11										
2605															

NCDOT BORE DOUBLE B3186_GEO_SPT.GPJ NC_DOT.GDT 5/26/21

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 38330.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST N. Yacobi										
SITE DESCRIPTION Retaining Wall No. 8 from -DET01_EB- STA 34+83.83 to 29+30.48							GROUND WTR (ft)									
BORING NO. RW8_4		STATION 38+29		OFFSET 26 ft RT		ALIGNMENT -RW8-										
COLLAR ELEV. 2,624.4 ft		TOTAL DEPTH 21.5 ft		NORTHING 665,520		EASTING 818,149										
DRILL RIGHAMMER EFF./DATE GTC CME550X 9083			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER L. Wanstrath		START DATE 01/27/21		COMP. DATE 01/27/21		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2625	2,623.8	0.6	6	7	7									2,624.4	0.0	GROUND SURFACE
	2,621.9	2.5	7	8	8									2,623.8	0.6	0.6' PAVEMENT
2620	2,619.4	5.0	4	6	9									2,621.9	2.5	ROADWAY EMBANKMENT Medium dense, brown and black, SAND and GRAVEL (A-1-b)
	2,616.9	7.5	10	10	8											RESIDUAL Stiff to hard, white, gray, brown and black, SILT (A-4), micaceous, saprolitic
2615	2,614.4	10.0	7	7	10											
2610	2,609.4	15.0	6	6	8											
2605	2,604.4	20.0	12	15	23											
														2,602.9	21.5	Boring Terminated at Elevation 2,602.9 ft in SILT

WBS 38330.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST N. Yacobi										
SITE DESCRIPTION Retaining Wall No. 8 from -DET01_EB- STA 34+83.83 to 29+30.48							GROUND WTR (ft)									
BORING NO. RW8_3		STATION 38+83		OFFSET 26 ft RT		ALIGNMENT -RW8-										
COLLAR ELEV. 2,627.4 ft		TOTAL DEPTH 21.5 ft		NORTHING 665,498		EASTING 818,099										
DRILL RIGHAMMER EFF./DATE GTC CME550X 9083			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER L. Wanstrath		START DATE 01/27/21		COMP. DATE 01/27/21		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
2630	2,627.4	0.0												2,627.4	0.0	GROUND SURFACE
	2,626.8	0.6												2,626.8	0.6	0.6' PAVEMENT
2625	2,624.9	2.5	10	10	8									2,624.9	2.5	ROADWAY EMBANKMENT Medium dense, gray and brown, SAND and GRAVEL (A-1-b)
	2,622.4	5.0	8	7	6											RESIDUAL Stiff to very stiff, brown and gray, SILT (A-4), micaceous, saprolitic
2620	2,619.9	7.5	9	9	11											
	2,617.4	10.0	7	8	9											
2615	2,614.4	15.0	8	8	9											
2610	2,612.4	15.0	8	8	8											
	2,607.4	20.0	12	13	12											
														2,605.9	21.5	Boring Terminated at Elevation 2,605.9 ft in SILT

NCDOT BORE DOUBLE B3186_GEO_SPT.GPJ NC_DOT.GDT 5/26/21

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 38330.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST N. Yacobi								
SITE DESCRIPTION Retaining Wall No. 8 from -DET01_EB- STA 34+83.83 to 29+30.48							GROUND WTR (ft)							
BORING NO. RW8_2		STATION 39+37		OFFSET 26 ft RT		ALIGNMENT -RW8-								
COLLAR ELEV. 2,630.5 ft		TOTAL DEPTH 21.5 ft		NORTHING 665,477		EASTING 818,051								
DRILL RIGHAMMER EFF./DATE GTC CME550X 9083			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic								
DRILLER L. Wanstrath		START DATE 01/26/21		COMP. DATE 01/27/21		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
2635														
2630	2,629.9	0.6	11	12	10									2,630.5 GROUND SURFACE 0.0 2,629.9 0.6 2,628.0 ROADWAY EMBANKMENT 0.6' PAVEMENT 0.6 2,628.0 ROADWAY EMBANKMENT 2.5 Medium dense, gray and brown, SAND and GRAVEL (A-1-b) RESIDUAL Very stiff to hard, brown, silty, fine to coarse sandy CLAY (A-6)(2), micaceous, saprolitic
2625	2,625.5	5.0	9	15	16						SS-2	15%		
2620	2,620.5	10.0	15	17	21									
2615	2,615.5	15.0	6	9	9									
2610	2,610.5	20.0	8	7	11									
														Boring Terminated at Elevation 2,609.0 ft in CLAY

WBS 38330.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST N. Yacobi								
SITE DESCRIPTION Retaining Wall No. 8 from -DET01_EB- STA 34+83.83 to 29+30.48							GROUND WTR (ft)							
BORING NO. RW8_1		STATION 39+89		OFFSET 25 ft RT		ALIGNMENT -RW8-								
COLLAR ELEV. 2,633.3 ft		TOTAL DEPTH 21.5 ft		NORTHING 665,458		EASTING 818,003								
DRILL RIGHAMMER EFF./DATE GTC CME550X 9083			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic								
DRILLER L. Wanstrath		START DATE 01/26/21		COMP. DATE 01/26/21		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
2635														
2630	2,632.7	0.6	10	11	10									2,633.3 GROUND SURFACE 0.0 2,632.7 0.6 2,631.3 ROADWAY EMBANKMENT 2.0 2,629.3 ROADWAY EMBANKMENT 4.0 Medium dense, gray and brown, silty GRAVEL (A-1-b) RESIDUAL Medium dense, tan and brown, silty SAND (A-2-4), micaceous Stiff to hard, brown, tan and white, SILT (A-4), with trace sand, micaceous, saprolitic
2625	2,625.8	7.5	5	8	6									
2620	2,623.3	10.0	4	12	15									
2615	2,618.3	15.0	12	17	23									
2610	2,613.3	20.0	9	10	11									
														Boring Terminated at Elevation 2,611.8 ft in SILT

NCDOT BORE DOUBLE B3186_GEO_SPT.GPJ NC_DOT.GDT 5/26/21