

REFERENCE: B-3186/B-5898

PROJECT: 38332/48030

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

STATE N.C.	STATE PROJECT REFERENCE NO. B-3186/B-5898	SHEET NO. 1	TOTAL SHEETS 11
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1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3	SITE PLAN
4	PROFILE
5-II	BORE LOGS, CORE LOGS & CORE PHOTOGRAPHIC RECORDS

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 #6 FROM -L LT- STA. 70+03.33 TO 73+97.95

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.

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 OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- NOTES:
1. THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
 2. BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

J. CRENSHAW

N. YACOBI

R. DUGGER

GEOTECHNOLOGY, INC.

INVESTIGATED BY C. SWAFFORD

DRAWN BY T. LYNN

CHECKED BY K. BUSSEY

SUBMITTED BY HDR

DATE NOVEMBER 2021

HDR HDR Engineering, Inc. of the Carolinas
 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
 N.C.B.E.L.S. License Number: F-0116

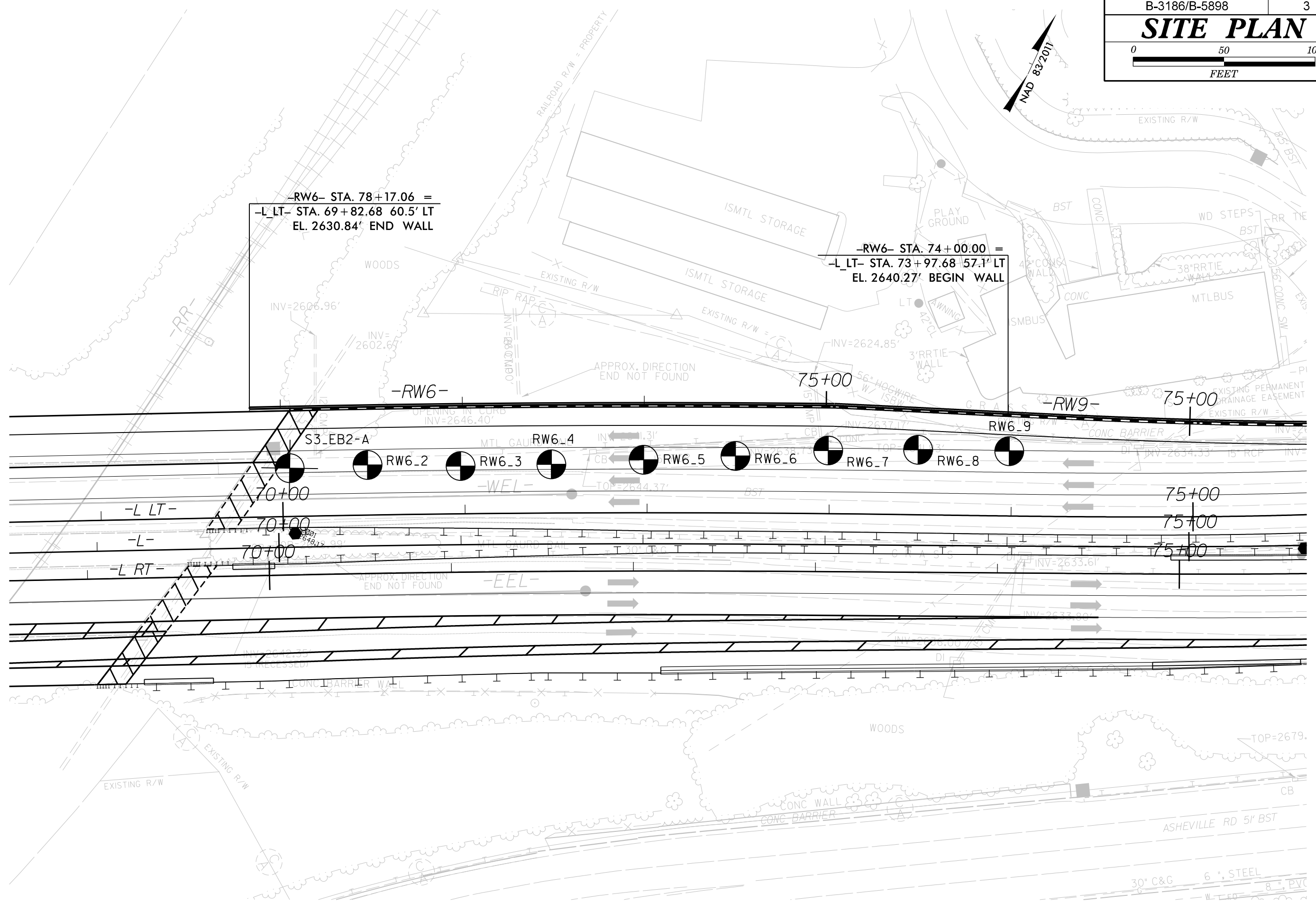


SIGNATURE _____ DATE _____

**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		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 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, <i>VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6</i>		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.		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:		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 DISLODGED 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. SLICKENISE - 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.																																																																																																																													
SOIL LEGEND AND AASHTO CLASSIFICATION <table border="1"> <tr> <th>GENERAL CLASS.</th> <th colspan="4">GRANULAR MATERIALS (≤ 35% PASSING #200)</th> <th colspan="4">SILT-CLAY MATERIALS (> 35% PASSING #200)</th> <th colspan="4">ORGANIC MATERIALS</th> </tr> <tr> <th>GROUP CLASS.</th> <th>A-1</th> <th>A-3</th> <th>A-2</th> <th>A-2</th> <th>A-4</th> <th>A-5</th> <th>A-6</th> <th>A-7</th> <th>A-1, A-2</th> <th>A-3</th> <th>A-4, A-5</th> <th>A-6, A-7</th> <th></th> <th></th> </tr> <tr> <th>SYMBOL</th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>% PASSING #10 #40 #200</th> <td>50 MX 30 MX 15 MX</td> <td>50 MX 25 MX</td> <td>51 MN 35 MX 35 MX</td> <td>40 MX 41 MN 40 MX 41 MN 41 MN 41 MN</td> <td>40 MX 36 MN 36 MN</td> <td>41 MN 40 MX 36 MN</td> <td>41 MN 40 MX 36 MN</td> <td>41 MN 40 MX 36 MN</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>MATERIAL PASSING #40 LL PI</th> <td>-</td> <td>-</td> <td>40 MX 41 MN NP</td> <td>40 MX 41 MN 11 MN 11 MN</td> <td>40 MX 41 MN 11 MN 11 MN</td> <td>40 MX 41 MN 11 MN 11 MN</td> <td>40 MX 41 MN 11 MN 11 MN</td> <td>40 MX 41 MN 11 MN 11 MN</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>GROUP INDEX</th> <td>0</td> <td>0</td> <td>0</td> <td>4 MX</td> <td>8 MX</td> <td>12 MX</td> <td>16 MX</td> <td>NO MX</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>USUAL TYPES OF MAJOR MATERIALS</th> <td>STONE FRAGS. GRAVEL, AND SAND</td> <td>FINE SAND</td> <td>SILTY OR CLAYEY GRAVEL AND SAND</td> <td>SILTY SOILS</td> <td>CLAYEY SOILS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>GEN. RATING AS SUBGRADE</th> <td colspan="4">EXCELLENT TO GOOD</td> <td colspan="4">FAIR TO POOR</td> <td>FAIR TO POOR</td> <td>POOR</td> <td colspan="4">UNSATURABLE</td> </tr> </table>		GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)				SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS				GROUP CLASS.	A-1	A-3	A-2	A-2	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 35 MX	40 MX 41 MN 40 MX 41 MN 41 MN 41 MN	40 MX 36 MN 36 MN	41 MN 40 MX 36 MN	41 MN 40 MX 36 MN	41 MN 40 MX 36 MN							MATERIAL PASSING #40 LL PI	-	-	40 MX 41 MN NP	40 MX 41 MN 11 MN 11 MN	40 MX 41 MN 11 MN 11 MN	40 MX 41 MN 11 MN 11 MN	40 MX 41 MN 11 MN 11 MN	40 MX 41 MN 11 MN 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				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.		WEATHERED ROCK (WR) 		CRYSTALLINE ROCK (CR) 		NON-CRYSTALLINE ROCK (NCR) 		COASTAL PLAIN SEDIMENTARY ROCK (CP) 	
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GRAIN SIZE	MM 305	75	2.0	0.25	0.05	0.005																																																																																																																													
SIZE	IN. 12	3																																																																																																																																	
RECOMMENDATION SYMBOLS UNDERCUT SHALLOW UNDERCUT UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL		ABBREVIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED CL - CLAY CPT - COARSE PENETRATION TEST CSE - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS. - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES FRAGS. - FRAGMENTS HI. - HIGHLY MED. - MEDIUM MICA - MICACEOUS MOD. - MODERATELY NP - NON PLASTIC ORG. - ORGANIC PMT - PRESSUREMETER TEST SAP. - SAPROLITIC SD. - SAND, SANDY SL. - SILT, SILTY SLI. - SLIGHTLY TCR - TRICONE REFUSAL w - MOISTURE CONTENT V - VERY VST - VANE SHEAR TEST WEA. - WEATHERED W - UNIT WEIGHT W _g - DRY UNIT WEIGHT SAMPLE ABBREVIATIONS S - BULK SS - SPLIT SPOON ST - SHELBY TUBE RS - ROCK RT - RECOMPACTED TRIAXIAL CBR - CALIFORNIA BEARING RATIO																																																																																																																																	
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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.		FRACATURE SPACING <table border="1"> <tr> <th>TERM</th> <th>SPACING</th> </tr> <tr> <td>VERY WIDE</td> <td>MORE THAN 10 FEET</td> </tr> <tr> <td>WIDE</td> <td>3 TO 10 FEET</td> </tr> <tr> <td>MODERATELY CLOSE</td> <td>1 TO 3 FEET</td> </tr> <tr> <td>CLOSE</td> <td>0.16 TO 1 FOOT</td> </tr> <tr> <td>VERY CLOSE</td> <td>LESS THAN 0.16 FEET</td> </tr> </table>		TERM	SPACING	VERY WIDE	MORE THAN 10 FEET	WIDE	3 TO 10 FEET	MODERATELY CLOSE	1 TO 3 FEET	CLOSE	0.16 TO 1 FOOT	VERY CLOSE	LESS THAN 0.16 FEET	BEDDING <table border="1"> <tr> <th>TERM</th> <th>THICKNESS</th> </tr> <tr> <td>VERY THICKLY BEDDED</td> <td>4 FEET</td> </tr> <tr> <td>THICKLY BEDDED</td> <td>1.5 - 4 FEET</td> </tr> <tr> <td>THINLY BEDDED</td> <td>0.16 - 1.5 FEET</td> </tr> <tr> <td>VERY THINLY BEDDED</td> <td>0.03 - 0.16 FEET</td> </tr> <tr> <td>THICKLY LAMINATED</td> <td>0.008 - 0.03 FEET</td> </tr> <tr> <td>THINLY LAMINATED</td> <td>< 0.008 FEET</td> </tr> </table>		TERM	THICKNESS	VERY THICKLY BEDDED	4 FEET	THICKLY BEDDED	1.5 - 4 FEET	THINLY BEDDED	0.16 - 1.5 FEET	VERY THINLY BEDDED	0.03 - 0.16 FEET	THICKLY LAMINATED	0.008 - 0.03 FEET	THINLY LAMINATED	< 0.008 FEET																																																																																																				
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INUNDATION FOR SEDIMENTARY ROCKS, INUNDATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.		NOTES: BORING ELEVATIONS OBTAINED USING b3186_br0022_r4047_Mer ged.1-12-21.tin SITE 3 BORING ELEVATIONS OBTAINED FROM TRIMBLE R12 GNSS RECEIVER CERTIFIED WITH FCC PART 15 (CLASS B DEVICE), 24, 32; RCM; PTCRB; BT SIG FIAD - FILLED IMMEDIATELY AFTER DRILLING																																																																																																																																	



-RW6- STA. 78+17.06 =
 -L LT- STA. 69+82.68 60.5' LT
 EL. 2630.84' END WALL

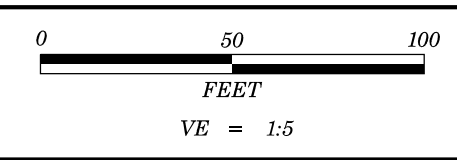
-RW6- STA. 74+00.00 =
 -L LT- STA. 73+97.68 57.1' LT
 EL. 2640.27' BEGIN WALL

S3_EB2-A
 70+00

RW6_2 RW6_3 RW6_4 RW6_5 RW6_6 RW6_7 RW6_8 RW6_9

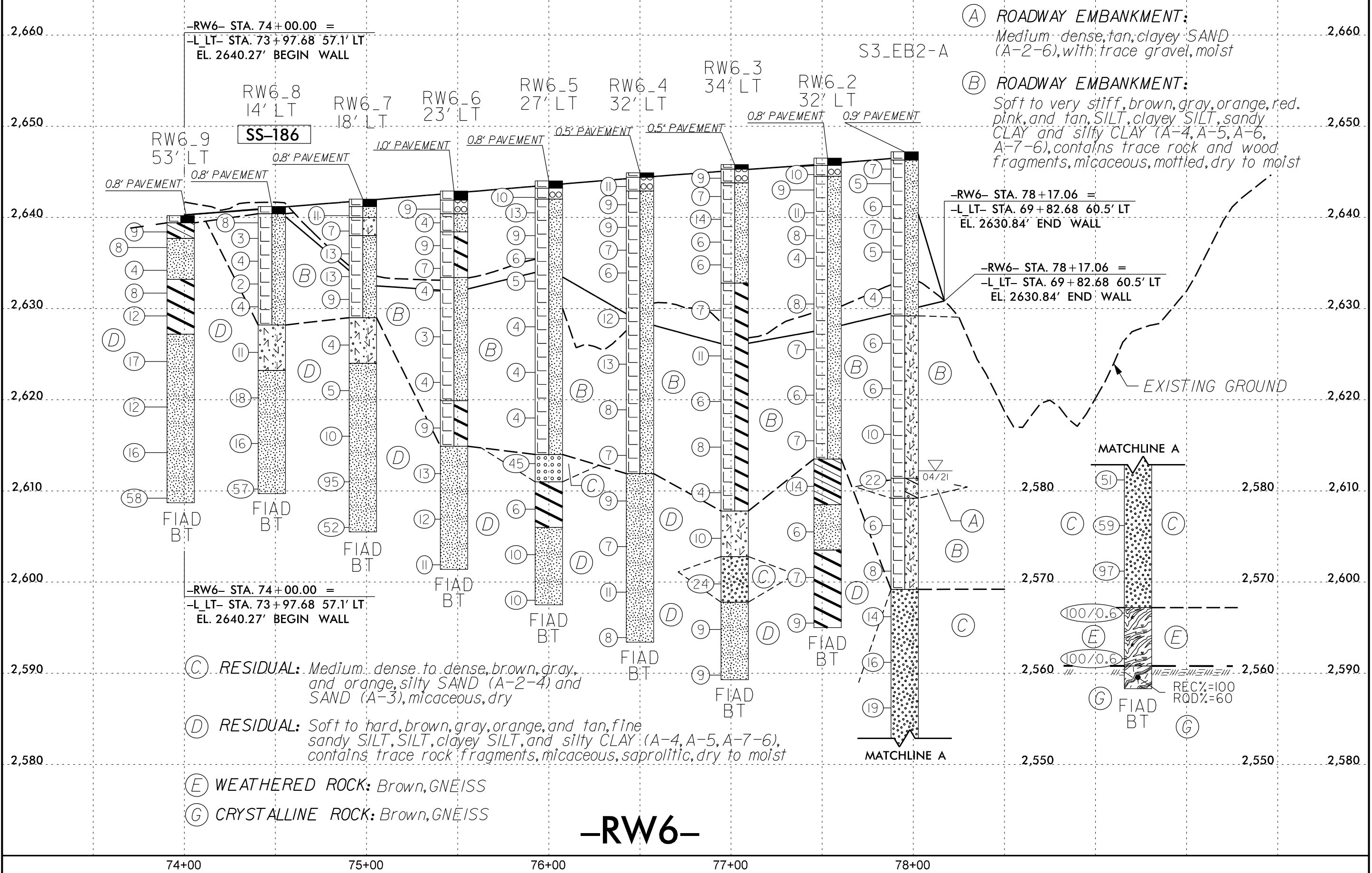
75+00
 75+00
 75+00

30" C&G 6" STEEL
 8" PVC



PROJECT REFERENCE NO.	SHEET NO.
B-3186/B-5898	4
-RW6- PROFILE	

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-186	15' LT	74+48	7.5' - 9.0'	A-4	32	4	22.9	33.3	30.7	13.1	97.7	84.3	50.7	21	-



(A) ROADWAY EMBANKMENT: Medium dense, tan, clayey SAND (A-2-6), with trace gravel, moist

(B) ROADWAY EMBANKMENT: Soft to very stiff, brown, gray, orange, red, pink, and tan, SILT, clayey SILT, sandy CLAY and silty CLAY (A-4, A-5, A-6, A-7-6), contains trace rock and wood fragments, micaceous, mottled, dry to moist

(C) RESIDUAL: Medium dense to dense, brown, gray, and orange, silty SAND (A-2-4) and SAND (A-3), micaceous, dry

(D) RESIDUAL: Soft to hard, brown, gray, orange, and tan, fine sandy SILT, SILT, clayey SILT, and silty CLAY (A-4, A-5, A-7-6), contains trace rock fragments, micaceous, saprolitic, dry to moist

(E) WEATHERED ROCK: Brown, GNEISS

(G) CRYSTALLINE ROCK: Brown, GNEISS

-RW6-

74+00 75+00 76+00 77+00 78+00

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 38332.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST J. Crenshaw										
SITE DESCRIPTION US 23/ US 74 (Great Smoky Mountain Highway)							GROUND WTR (ft)									
BORING NO. S3_EB2-A		STATION 70+07		OFFSET 43 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 2,647.2 ft		TOTAL DEPTH 88.9 ft		NORTHING 667,892		EASTING 821,164										
DRILL RIGHAMMER EFF./DATE GTC8255 CME-55 93%(11/24/2020)			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER L. Wanstrath		START DATE 04/12/21		COMP. DATE 04/13/21		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						
2650																
	2,646.3	0.9														
2645	2,644.7	2.5	3	4	3											
	2,642.2	5.0	3	2	3											
2640	2,639.7	7.5	3	3	3											
	2,637.2	10.0	2	3	4											
2635	2,632.2	15.0	2	3	2											
2630	2,627.2	20.0	2	2	2											
2625	2,622.2	25.0	2	2	4											
2620	2,617.2	30.0	4	4	6											
2615	2,612.2	35.0	10	14	8											
2610	2,607.2	40.0	2	2	4											
2605	2,602.2	45.0	3	3	5											
2600	2,597.2	50.0	3	6	8											
2595	2,592.2	55.0	4	7	9											
2590	2,587.2	60.0	6	7	12											
2585	2,582.2	65.0	22	22	29											
2580	2,577.2	70.0	25	29	30											
2575	2,572.2	75.0	44	44	53											
2570																

WBS 38332.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST J. Crenshaw										
SITE DESCRIPTION US 23/ US 74 (Great Smoky Mountain Highway)							GROUND WTR (ft)									
BORING NO. S3_EB2-A		STATION 70+07		OFFSET 43 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 2,647.2 ft		TOTAL DEPTH 88.9 ft		NORTHING 667,892		EASTING 821,164										
DRILL RIGHAMMER EFF./DATE GTC8255 CME-55 93%(11/24/2020)			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER L. Wanstrath		START DATE 04/12/21		COMP. DATE 04/13/21		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						
2570																
	2,567.2	80.0	90	10/0.1												
2565	2,562.2	85.0	85	15/0.1												
2560																

2,647.2 GROUND SURFACE 0.0

2,646.3 0.9' PAVEMENT 0.9

ROADWAY EMBANKMENT
Medium stiff, orange, sandy SILT (A-4), with trace gravel, micaceous

2,629.2 18.0
Medium stiff to stiff, brown, clayey SILT (A-5), contains trace wood fragments, micaceous

2,611.4 35.8
Medium dense, tan, clayey SAND (A-2-6), with trace gravel

2,609.2 38.0
Medium stiff, brown and gray, sandy and clayey SILT (A-4, A-5), with little gravel, micaceous

2,599.2 48.0
RESIDUAL
Medium dense to very dense, black and orange, silty SAND (A-2-4), micaceous, saprolitic

2,567.2 WEATHERED ROCK 80.0
Brown, GNEISS

2,560.8 CRYSTALLINE ROCK 86.4
Brown, Migmatitic Biotite GNEISS

2,558.3 88.9


Boring Terminated at Elevation 2,558.3 ft in Crystalline Rock (GNEISS)

NOTES
Core barrel blocked off and wireline cable malfunction - Rock fell into hole when core barrel removed to retrieve core barrel
Abandoned boring to allow for time to get off road before traffic closure stop time

NCDOT BORE DOUBLE B3186_GEO_SPT.GPJ NC DOT.GDT 8/10/21

GEOTECHNICAL BORING REPORT

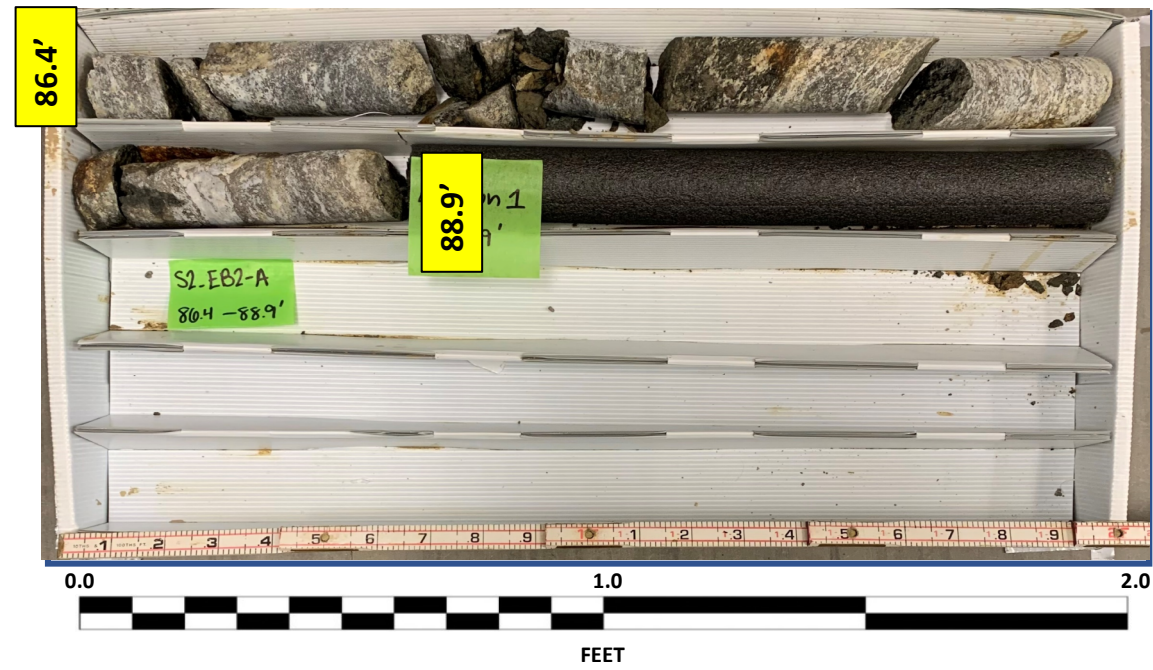
CORE LOG

WBS 38332.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST J. Crenshaw						
SITE DESCRIPTION US 23/ US 74 (Great Smoky Mountain Highway)							GROUND WTR (ft)					
BORING NO. S3_EB2-A		STATION 70+07		OFFSET 43 ft LT		ALIGNMENT -L-						
COLLAR ELEV. 2,647.2 ft		TOTAL DEPTH 88.9 ft		NORTHING 667,892		EASTING 821,164						
DRILL RIGHAMMER EFF./DATE GTC8255 CME-55 93%(11/24/2020)				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic						
DRILLER L. Wanstrath		START DATE 04/12/21		COMP. DATE 04/13/21		SURFACE WATER DEPTH N/A						
CORE SIZE NQ2		TOTAL RUN 2.5 ft										
ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		STRATA		LOG	DESCRIPTION AND REMARKS	DEPTH (ft)	
					REC. (ft) %	RQD (ft) %	REC. (ft) %	RQD (ft) %				
2560.8	2560.8	86.4	2.5	1:11	(2.5)	(1.5)	(2.5)	(1.5)		Begin Coring @ 86.4 ft	86.4	
2560	2,560.8			1:56	100%	60%	100%	60%		2,560.8	CRYSTALLINE ROCK	86.4
	2,558.3	88.9		2:35/0.5						2,558.3	Brown, Migmatitic Biotite GNEISS, moderate to severe weathering, hard, close fracture spacing	88.9
<p>NOTES</p> <p>Core barrel blocked off and wireline cable malfunction - Rock fell into hole when core barrel removed to retrieve core barrel</p> <p>Abandoned boring to allow for time to get off road before traffic closure stop time</p>												

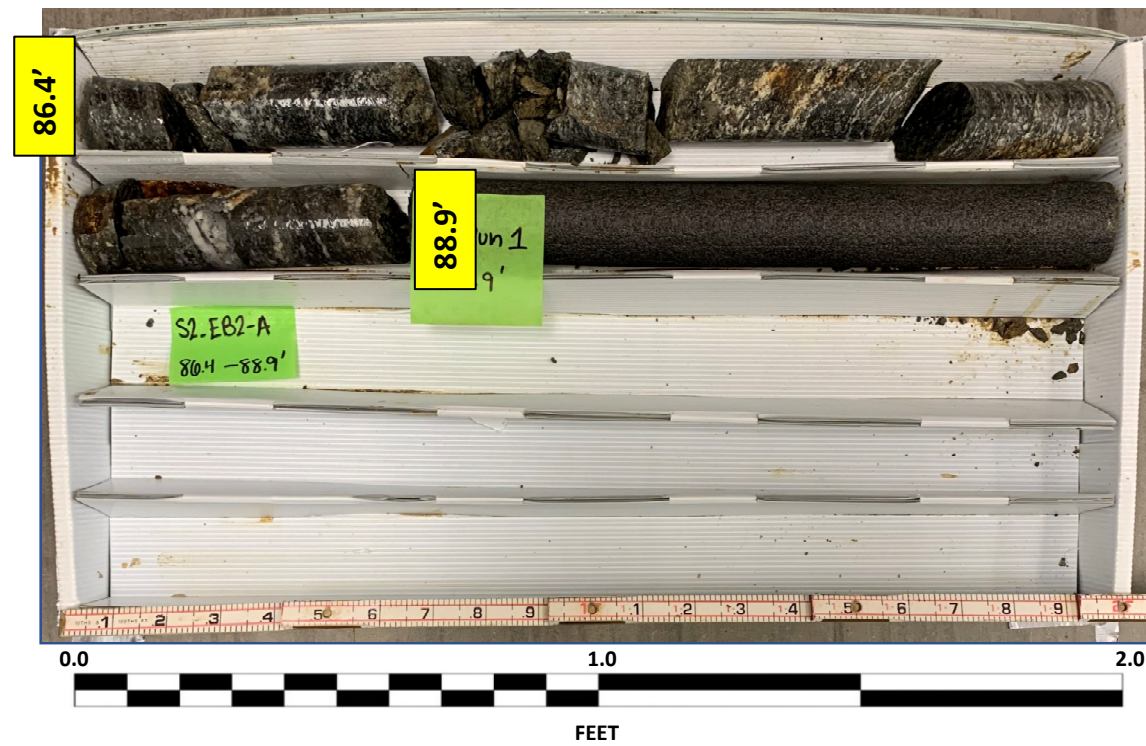
NCDOT CORE DOUBLE B3186_GEO_SPT.GPJ NC_DOT.GDT 8/10/21

CORE PHOTOGRAPHIC RECORD
38330.1.FS1 (B-3186/B-5898)
US 23/ US 74 Great Smokey Mountain Highway

S3_EB2-A
Box 1 of 1: 86.4 – 88.9 FEET
DRY



S3_EB2-A
Box 1 of 1: 86.4 – 88.9 FEET
WET



GEOTECHNICAL BORING REPORT

BORE LOG

WBS 38332.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST R. Dugger									
SITE DESCRIPTION Retaining Wall No. 6 from -L_LT- STA 70+03 to 73+98							GROUND WTR (ft)								
BORING NO. RW6_2		STATION 77+53		OFFSET 33 ft LT		ALIGNMENT -RW6-									
COLLAR ELEV. 2,646.5 ft		TOTAL DEPTH 51.5 ft		NORTHING 667,912		EASTING 821,202									
DRILL RIGHAMMER EFF./DATE GTC9083 CME-550X 80%(11/24/2020)			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic									
DRILLER L. Wanstrath		START DATE 02/02/21		COMP. DATE 02/02/21		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					
2650															
2645	2,645.7	0.8	7	5	5										2,646.5 GROUND SURFACE 0.0
	2,644.0	2.5	4	4	5										2,645.7 0.8
	2,641.5	5.0													2,644.5 2.0
2640	2,639.0	7.5	5	5	6										ROADWAY EMBANKMENT
	2,636.5	10.0	2	2	2										Medium dense, brown and orange, SAND and GRAVEL (A-1-b)
2635	2,631.5	15.0	3	4	4										Medium stiff to stiff, brown, orange and tan, SILT (A-4), with few gravel, micaceous
2630	2,626.5	20.0	3	3	4										
2625	2,621.5	25.0	2	3	3										
2620	2,616.5	30.0	3	3	4										
2615	2,611.5	35.0	15	9	5										
2610	2,606.5	40.0	2	2	4										2,613.5 RESIDUAL 33.0
	2,601.5	45.0	2	3	4										Stiff, gray and brown, sandy CLAY (A-6), with rock fragments, micaceous
2605	2,596.5	50.0	6	4	5										2,608.5 38.0
2600															Medium stiff, brown, tan and orange, SILT (A-4), with trace clay and sand, contains trace mica
2595															2,603.5 43.0
															Medium stiff to stiff, gray, silty CLAY (A-7-6) with rock fragments, contains trace wood fragments, micaceous
															2,595.0 51.5
															Boring Terminated at Elevation 2,595.0 ft in SILT

WBS 38332.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST R. Dugger									
SITE DESCRIPTION Retaining Wall No. 6 from -L_LT- STA 70+03 to 73+98							GROUND WTR (ft)								
BORING NO. RW6_3		STATION 77+02		OFFSET 34 ft LT		ALIGNMENT -RW6-									
COLLAR ELEV. 2,645.8 ft		TOTAL DEPTH 56.5 ft		NORTHING 667,933		EASTING 821,248									
DRILL RIGHAMMER EFF./DATE GTC9083 CME-550X 80%(11/24/2020)			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic									
DRILLER L. Wanstrath		START DATE 02/02/21		COMP. DATE 02/02/21		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					
2650															
2645	2,645.3	0.5	6	4	5										2,645.8 GROUND SURFACE 0.0
	2,643.3	2.5	4	4	3										2,645.3 0.8
	2,640.8	5.0	4	7	7										2,643.8 2.0
2640	2,638.3	7.5	2	2	4										ROADWAY EMBANKMENT
	2,635.8	10.0	2	2	4										Loose, brown and orange, SAND and GRAVEL (A-1-b)
2635	2,630.8	15.0	3	3	4										Medium stiff to stiff, brown, tan and orange, SILT (A-4), micaceous
2630	2,625.8	20.0	2	7	4										
2625	2,620.8	25.0	2	3	3										
2620	2,615.8	30.0	2	4	4										
2615	2,610.8	35.0	2	2	2										2,632.8 13.0
	2,605.8	40.0	2	4	6										Medium stiff, brown and orange, silty CLAY (A-7-6), micaceous
2605	2,600.8	45.0	82	14	10										2,627.8 18.0
2600	2,595.8	50.0	3	3	6										Medium stiff to stiff, brown, orange and tan, SILT (A-4), with rock fragments, micaceous
2595	2,589.8	55.0	3	4	5										2,612.8 33.0
															Medium stiff, brown, orange and gray, silty CLAY (A-7-6), with rock fragments, micaceous, saprolitic
															2,607.8 38.0
															RESIDUAL
															Stiff, brown, orange, and gray, clayey SILT (A-5), micaceous, saprolitic
															2,602.8 43.0
															Medium dense, brown and orange, silty SAND (A-2-4), micaceous
															*Suspected boulder at 45.0 feet.
															2,597.8 48.0
															Stiff, brown, tan, and orange, sandy SILT (A-4), micaceous, saprolitic
															2,589.3 56.5
															Boring Terminated at Elevation 2,589.3 ft in SILT

NCDOT BORE DOUBLE B3186_GEO_SPT.GPJ_NC_DOT.GDT 11/5/21

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 38330.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST R. Dugger										
SITE DESCRIPTION Retaining Wall No. 6 from -L_LT- STA 70+03 to 73+98							GROUND WTR (ft)									
BORING NO. RW6_4		STATION 76+50		OFFSET 32 ft LT		ALIGNMENT -RW6-										
COLLAR ELEV. 2,644.9 ft		TOTAL DEPTH 51.5 ft		NORTHING 667,955		EASTING 821,293										
DRILL RIGHAMMER EFF./DATE GTC/CME550X 9083			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER L. Wanstrath		START DATE 02/02/21		COMP. DATE 02/02/21		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						
2645	2,644.4	0.5												2,644.9	0.0	GROUND SURFACE
	2,644.4	2.5	11	8	3									2,644.4	0.5	0.5' PAVEMENT
	2,642.9	2.5	4	4	5									2,642.9	2.0	ROADWAY EMBANKMENT
2640	2,639.9	5.0	3	4	5											Medium dense, brown and orange, SAND and GRAVEL (A-1-b)
	2,637.4	7.5	2	3	4											Medium stiff to very stiff, brown, tan, and orange, SILT (A-4), with trace clay, micaceous
2635	2,634.9	10.0	2	3	3											
2630	2,629.9	15.0	4	6	6											
2625	2,624.9	20.0	3	7	6											
2620	2,619.9	25.0	2	3	5											
2615	2,614.9	30.0	2	4	3											
2610	2,609.9	35.0	3	4	5									2,611.9	33.0	RESIDUAL
																Medium stiff to stiff, brown and orange SILT (A-4), micaceous, saprolitic
2605	2,604.9	40.0	2	3	4											
2600	2,599.9	45.0	3	4	7											
2595	2,594.9	50.0	3	3	5											
																Boring Terminated at Elevation 2,593.4 ft in SILT

WBS 38330.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST R. Dugger										
SITE DESCRIPTION Retaining Wall No. 6 from -L_LT- STA 70+03 to 73+98							GROUND WTR (ft)									
BORING NO. RW6_5		STATION 76+00		OFFSET 27 ft LT		ALIGNMENT -RW6-										
COLLAR ELEV. 2,644.0 ft		TOTAL DEPTH 46.5 ft		NORTHING 667,979		EASTING 821,338										
DRILL RIGHAMMER EFF./DATE GTC/CME550X 9083			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER L. Wanstrath		START DATE 02/02/21		COMP. DATE 02/02/21		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						
2645	2,644.0	0.0												2,644.0	0.0	GROUND SURFACE
	2,643.2	0.8	24	6	4									2,643.2	0.8	0.8' PAVEMENT
	2,641.5	2.5	3	4	9									2,642.0	2.0	ROADWAY EMBANKMENT
2640	2,639.0	5.0	3	4	5											Medium dense, brown and orange, SAND and GRAVEL (A-1-b)
	2,636.5	7.5	2	3	3											Medium stiff to stiff, brown and orange, SILT (A-4), with trace clay, micaceous
2635	2,634.0	10.0	2	2	3											
2630	2,629.0	15.0	2	2	2											
2625	2,624.0	20.0	2	2	2											
2620	2,619.0	25.0	2	2	2											
2615	2,614.0	30.0	12	37	8									2,614.0	30.0	RESIDUAL
														2,611.0	33.0	Dense, gray, SAND (A-3) *Suspected Boulder
2610	2,609.0	35.0	4	3	3											Medium stiff, gray, silty CLAY (A-7-6), micaceous, saprolitic
2605	2,604.0	40.0	3	4	6									2,606.0	38.0	Stiff, brown and orange, SILT (A-4), micaceous, saprolitic
2600	2,599.0	45.0	3	4	6											
																Boring Terminated at Elevation 2,597.5 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 R. Dugger	
SITE DESCRIPTION Retaining Wall No. 6 from -L_LT- STA 70+03 to 73+98							GROUND WTR (ft)
BORING NO. RW6_6		STATION 75+48		OFFSET 23 ft LT		ALIGNMENT -RW6-	
COLLAR ELEV. 2,642.9 ft		TOTAL DEPTH 41.5 ft		NORTHING 668,003		EASTING 821,382	
DRILL RIG/HAMMER EFF./DATE GTC/CME550X/9083				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic	
DRILLER L. Wanstrath		START DATE 02/02/21		COMP. DATE 02/02/21		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					
2645															
	2,641.9	1.0													2,642.9
	2,640.4	2.5	6	5	4										2,641.9
2640	2,640.4	2.5	3	2	2										2,640.4
	2,637.9	5.0													2,638.4
	2,637.9	5.0	2	3	6										2,638.4
2635	2,635.4	7.5	4	3	4										2,633.4
	2,632.9	10.0	3	2	2										2,633.4
2630	2,627.9	15.0	2	1	2										2,633.4
	2,622.9	20.0	2	1	3										2,619.9
2625	2,622.9	20.0	2	1	3										2,619.9
2620	2,617.9	25.0	8	5	4										2,614.9
	2,612.9	30.0	3	5	8										2,614.9
2615	2,612.9	30.0	3	5	8										2,614.9
2610	2,607.9	35.0	3	5	7										2,607.9
	2,602.9	40.0	3	4	7										2,602.9
2605	2,602.9	40.0	3	4	7										2,602.9
															2,601.4
															2,601.4

WBS 38330.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST N. Yacobi	
SITE DESCRIPTION Retaining Wall No. 6 from -L_LT- STA 70+03 to 73+98							GROUND WTR (ft)
BORING NO. RW6_7		STATION 74+98		OFFSET 18 ft LT		ALIGNMENT -RW6-	
COLLAR ELEV. 2,642.0 ft		TOTAL DEPTH 36.5 ft		NORTHING 668,028		EASTING 821,427	
DRILL RIG/HAMMER EFF./DATE GTC/CME550X/9083				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic	
DRILLER L. Wanstrath		START DATE 02/04/21		COMP. DATE 02/04/21		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					
2645															
	2,641.2	0.8													2,642.0
	2,639.5	2.5	7	5	6										2,641.2
2640	2,639.5	2.5	3	3	4										2,640.0
	2,637.0	5.0	5	6	7										2,638.0
	2,634.5	7.5	6	6	7										2,638.0
2635	2,634.5	7.5	6	6	7										2,634.5
	2,632.0	10.0	6	4	5										2,632.0
2630	2,627.0	15.0	2	2	2										2,629.0
	2,622.0	20.0	1	2	3										2,622.0
2625	2,622.0	20.0	1	2	3										2,622.0
2620	2,617.0	25.0	4	4	6										2,617.0
	2,612.0	30.0	13	34	61										2,612.0
2615	2,612.0	30.0	13	34	61										2,612.0
2610	2,607.0	35.0	14	27	25										2,607.0
															2,605.5
															2,605.5

NCDOT BORE DOUBLE B3186_GEO_SPT.GPJ_NC_DOT.GDT 5/26/21

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 38332.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST N. Yacobi									
SITE DESCRIPTION Retaining Wall No. 6 from -L_LT- STA 70+03 to 73+98							GROUND WTR (ft)								
BORING NO. RW6_8		STATION 74+48		OFFSET 15 ft LT		ALIGNMENT -RW6-									
COLLAR ELEV. 2,641.2 ft		TOTAL DEPTH 31.5 ft		NORTHING 668,049		EASTING 821,472									
DRILL RIGHAMMER EFF./DATE GTC9083 CME-550X 80%(11/24/2020)				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER L. Wanstrath		START DATE 02/03/21		COMP. DATE 02/03/21		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
2645															
2640	2,640.4	0.8	5	4	4									2,641.2 GROUND SURFACE 0.0	
	2,638.7	2.5	1	2	1									2,640.4 ROADWAY EMBANKMENT 0.8	
	2,636.2	5.0												ROADWAY EMBANKMENT	
	2,633.7	7.5												Soft to medium stiff, red, brown and pink, SILT (A-4)	
2635	2,631.2	10.0	1	1	1										
	2,628.2	13.0												RESIDUAL	
	2,626.2	15.0	3	4	7									Stiff, brown and red, clayey SILT (A-5), micaceous	
2625	2,623.2	18.0													
	2,621.2	20.0	5	7	11									Very stiff to hard, brown, red and gray, SILT (A-4), with trace rock fragments, micaceous	
2620	2,616.2	25.0	4	7	9										
2615	2,611.2	30.0	13	24	33										
2610															
															Boring Terminated at Elevation 2,609.7 ft in SILT

WBS 38332.1.FS1		TIP B-3186 / B-5898		COUNTY HAYWOOD		GEOLOGIST N. Yacobi									
SITE DESCRIPTION Retaining Wall No. 6 from -L_LT- STA 70+03 to 73+98							GROUND WTR (ft)								
BORING NO. RW6_9		STATION 74+02		OFFSET 20 ft RT		ALIGNMENT -RW9-									
COLLAR ELEV. 2,640.2 ft		TOTAL DEPTH 31.5 ft		NORTHING 668,070		EASTING 821,517									
DRILL RIGHAMMER EFF./DATE GTC9083 CME-550X 80%(11/24/2020)				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER L. Wanstrath		START DATE 02/03/21		COMP. DATE 02/03/21		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
2645															
2640	2,639.4	0.8	7	4	5									2,640.2 GROUND SURFACE 0.0	
	2,637.7	2.5	3	4	4									2,639.4 ROADWAY EMBANKMENT 0.8	
	2,635.2	5.0	2	2	2									RESIDUAL	
2635	2,632.7	7.5	2	3	5									Stiff, brown and orange, silty CLAY (A-6)	
	2,630.2	10.0	4	5	7									Soft to stiff, brown and orange, SILT (A-4)	
2630	2,627.2	13.0													
	2,625.2	15.0	8	9	8									Stiff, brown, silty CLAY (A-7-6), with trace manganese oxide staining	
2625	2,622.2	18.0													
	2,620.2	20.0	3	6	6									Stiff to hard, brown, gray and black, fine to coarse sandy SILT (A-4), saprolitic (Amphibolite and Gneiss)	
2620	2,615.2	25.0	5	7	9										
2615	2,610.2	30.0	21	18	40										
2610															
															Boring Terminated at Elevation 2,608.7 ft in silty SAND