

REFERENCE: I-2513AC

PROJECT: 34165

CONTENTS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3	SITE PLAN
4	PROFILE
5-12	BORE LOGS
13	SOIL TEST RESULTS

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

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY BUNCOMBE
PROJECT DESCRIPTION I-26I-40I-240 INTERCHANGE
TO SR 3548 (HAYWOOD ROAD)

SITE DESCRIPTION RETAINING WALL NO.18
-WALL18- STA. 10 + 41.68 (-RP23- STA. 39 + 44.93) TO
-WALL18- STA. 17 + 61.92 (-Y3- STA. 23 + 10.00)

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-2513AC	1	13

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 PERFORM INDEPENDENT SUBSURFACE INVESTIGATIONS AND MAKE INTERPRETATIONS AS NECESSARY TO CONFIRM CONDITIONS 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.

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- 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.

PERSONNEL

A. BLACKMORE

J. MESSICK

GEOLOGIC EXPLORATION

INVESTIGATED BY ECS SOUHEAST, LLC

DRAWN BY A. SUTTLE, P.G.

CHECKED BY M. MULLA, P.E.

SUBMITTED BY ECS SOUTHEAST, LLC

DATE AUGUST 2024

Prepared in the Office of:



ECS SOUTHEAST, LLC
1812 CENTER PARK DRIVE, SUITE D
CHARLOTTE, NC 28217
(704) 525-5152 [PHONE]
(704) 357-0023 [FAX]
NC REGISTERED
ENGINEERING
FIRM # F-1519



Signed by: Amanda R. Suttle, P.G. 6/30/2026
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 DISLOOGED 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 MATERIAL.									
SOIL LEGEND AND AASHTO CLASSIFICATION										MINERALOGICAL COMPOSITION										WEATHERING																			
GENERAL CLASS. GRANULAR MATERIALS (≤ 35% PASSING #200) SILT-CLAY MATERIALS (> 35% PASSING #200) ORGANIC MATERIALS										MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.										FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.																			
GROUP CLASS. A-1 A-3 A-2 A-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										SLIGHTLY COMPRESSIBLE LL < 31 MODERATELY COMPRESSIBLE LL = 31 - 50 HIGHLY COMPRESSIBLE LL > 50										VERY SLIGHT (V SL.) 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.																			
SYMBOL										PERCENTAGE OF MATERIAL										SLIGHT (SL.) 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.																			
% PASSING #10 #40 #200										ORGANIC MATERIAL GRANULAR SOILS SILT - CLAY SOILS OTHER MATERIAL										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.																			
MATERIAL PASSING #40 LL PI										GROUND WATER										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																			
GROUP INDEX										MISCELLANEOUS SYMBOLS										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																			
USUAL TYPES OF MAJOR MATERIALS										RECOMMENDATION SYMBOLS										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																			
GEN. RATING AS SUBGRADE										ABBREVIATIONS										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.																			
PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30										EQUIPMENT USED ON SUBJECT PROJECT										ROCK HARDNESS																			
CONSISTENCY OR DENSENESS										DRILL UNITS:										VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.																			
PRIMARY SOIL TYPE COMPACTNESS OR CONSISTENCY RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE) RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)										ADVANCING TOOLS:										HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.																			
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)										CME-458										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.																			
GENERALLY SILT-CLAY MATERIAL (COHESIVE)										CME-55										MEDIUM HARD CAN BE GROOVED OR GOUGED 0.05 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.																			
TEXTURE OR GRAIN SIZE										CME-550										SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.																			
U.S. STD. SIEVE SIZE OPENING (MM)										VANE SHEAR TEST										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.																			
BOULDER (BLDR.) COBBLE (COB.) GRAVEL (GR.) COARSE SAND (CSE. SD.) FINE SAND (F SD.) SILT (SL.) CLAY (CL.)										PORTABLE HOIST										FRACTURE SPACING																			
GRAIN SIZE										DIEDRICH D70										BEDDING																			
SOIL MOISTURE - CORRELATION OF TERMS										HAMMER TYPE:										INDURATION																			
SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION										CORE SIZE:										FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.																			
LL LIQUID LIMIT										INDURATED										FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.																			
PLASTIC RANGE (PI) PL PLASTIC LIMIT										EXTREMELY INDURATED										MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.																			
OM OPTIMUM MOISTURE SHRINKAGE LIMIT																				INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.																			
PLASTICITY																																							
NON PLASTIC SLIGHTLY PLASTIC MODERATELY PLASTIC HIGHLY PLASTIC																																							
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.																																							

NCDOT BORE DOUBLE I2513AC GEO GTM.GPJ NC DOT.GDT 8/13/24

WBS 34165.1.13		TIP I-2513AC		COUNTY BUNCOMBE		GEOLOGIST A. Blackmore									
SITE DESCRIPTION RETAINING WALL NO. 18, -RP23- STA. 39+44.93 TO -Y3- STA. 23+10.00							GROUND WTR (ft)								
BORING NO. WALL18_B-02		STATION 10+54		OFFSET 1 ft RT		ALIGNMENT -WALL18-		0 HR. Dry							
COLLAR ELEV. 2,034.8 ft		TOTAL DEPTH 20.0 ft		NORTHING 680,593		EASTING 933,827		24 HR. Dry							
DRILL RIG/HAMMER EFF./DATE GEO047 Diedrich D-70 90% 02/09/2024				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic									
DRILLER J. Messick		START DATE 02/07/24		COMP. DATE 02/07/24		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
2035															
	2,033.8	1.0		4	4	6									2,034.8 GROUND SURFACE 0.0
	2,031.3	3.5		6	4	5									
2030	2,028.8	6.0		4	4	4									2,030.8 RESIDUAL 4.0
	2,026.3	8.5		4	4	6									Stiff, Red-Brown, Fine to Coarse Sandy CLAY (A-6)
2025															Medium Stiff to Very Stiff, Brown-Tan, Fine to Coarse Sandy SILT (A-4), with trace mica
	2,021.3	13.5		4	7	11									
2020															
	2,016.3	18.5		6	10	13									2,014.8 Boring Terminated at Elevation 2,014.8 ft In Residual Sandy SILT (A-4) 20.0
2015															

NCDOT BORE DOUBLE I2513AC GEO GTM.GPJ NC DOT.GDT 8/13/24

WBS 34165.1.13		TIP I-2513AC		COUNTY BUNCOMBE		GEOLOGIST A. Blackmore							
SITE DESCRIPTION RETAINING WALL NO. 18, -RP23- STA. 39+44.93 TO -Y3- STA. 23+10.00								GROUND WTR (ft)					
BORING NO. WALL18_B-04		STATION 11+62		OFFSET 32 ft RT		ALIGNMENT -WALL18-		0 HR.	36.4				
COLLAR ELEV. 2,020.4 ft		TOTAL DEPTH 46.0 ft		NORTHING 680,625		EASTING 933,915		24 HR.	34.8				
DRILL RIG/HAMMER EFF./DATE GEO047 Diedrich D-70 90% 02/09/2024				DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER J. Messick			START DATE 02/07/24		COMP. DATE 02/07/24		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	MOI		
2025													
2020													
2015	2,019.4	1.0	3	3	6								2,020.4 GROUND SURFACE 0.0
	2,016.9	3.5	7	12	21								RESIDUAL Stiff, Red-Brown, Fine to Coarse Sandy CLAY (A-6)
2010	2,014.4	6.0	10	14	23								2,016.4 4.0
	2,011.9	8.5	12	30	33								Hard, Brown-Tan, Fine to Coarse Sandy SILT (A-4), with trace mica
2005	2,006.9	13.5	30	70/0.2									2,006.9 13.5
	2,001.9	18.5	21	10	9								WEATHERED ROCK Brown (GNEISS)
2000	1,996.9	23.5	18	15	21								2,002.4 18.0
	1,991.9	28.5	63	19	16								RESIDUAL Very Stiff to Hard, Brown-Tan-Gray, Fine to Coarse Sandy SILT (A-4), with trace mica
1985	1,986.9	33.5	14	8	15								
	1,981.9	38.5	12	11	26								
1975	1,976.9	43.5	15	85/0.1									1,976.9 43.5
	1,974.4	46.0	60/0.0										WEATHERED ROCK Gray (GNEISS)
													1,974.4 46.0
													Boring Terminated with Standard Penetration Test Refusal at Elevation 1,974.4 ft On Crystalline Rock (GNEISS)

NCDOT BORE DOUBLE I2513AC GEO GTM.GPJ NC DOT.GDT 8/13/24

WBS 34165.1.13		TIP I-2513AC		COUNTY BUNCOMBE		GEOLOGIST A. Blackmore									
SITE DESCRIPTION RETAINING WALL NO. 18, -RP23- STA. 39+44.93 TO -Y3- STA. 23+10.00								GROUND WTR (ft)							
BORING NO. WALL18_B-06		STATION 12+52		OFFSET 51 ft RT		ALIGNMENT -WALL18-		0 HR.	22.1						
COLLAR ELEV. 1,998.4 ft		TOTAL DEPTH 34.9 ft		NORTHING 680,615		EASTING 934,006		24 HR.	20.4						
DRILL RIG/HAMMER EFF./DATE GEO047 Diedrich D-70 90% 02/09/2024				DRILL METHOD H.S. Augers			HAMMER TYPE Automatic								
DRILLER J. Messick			START DATE 02/06/24		COMP. DATE 02/06/24		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
2000															
	1,997.4	1.0	5	7	8									1,998.4 GROUND SURFACE 0.0	
1995	1,994.9	3.5	5	5	6										
	1,992.4	6.0	3	3	3										
1990	1,989.9	8.5	2	3	6										1,990.4 8.0
	1,984.9	13.5	3	4	5										
1985	1,979.9	18.5	4	7	12										
1975	1,974.9	23.5	3	10	10									1,974.4 24.0	
1970	1,969.9	28.5	100/0.3											1,969.9 28.5	
1965	1,964.9	33.5	100/0.2												
	1,963.5	34.9	60/0.0											1,963.5 34.9	
														Boring Terminated with Standard Penetration Test Refusal at Elevation 1,963.5 ft On Crystalline Rock (GNEISS)	

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 34165.1.13				TIP I-2513AC				COUNTY BUNCOMBE				GEOLOGIST A. Blackmore					
SITE DESCRIPTION RETAINING WALL NO. 18, -RP23- STA. 39+44.93 TO -Y3- STA. 23+10.00												GROUND WTR (ft)					
BORING NO. WALL18_B-07				STATION 13+78				OFFSET 29 ft LT				ALIGNMENT -WALL18-				0 HR. Dry	
COLLAR ELEV. 2,030.1 ft				TOTAL DEPTH 57.9 ft				NORTHING 680,667				EASTING 934,130				24 HR. Dry	
DRILL RIG/HAMMER EFF./DATE GEO047 Diedrich D-70 90% 02/09/2024								DRILL METHOD H.S. Augers				HAMMER TYPE Automatic					
DRILLER J. Messick				START DATE 02/05/24				COMP. DATE 02/05/24				SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)		
2035																	
2030														2,030.1	0.0		
2025	2,029.1	1.0	5	8	7												
	2,026.6	3.5	5	3	4							M		RESIDUAL Medium Stiff to Stiff, Brown-Tan, Fine to Coarse Sandy SILT (A-4), with trace mica and rock fragments			
2020	2,024.1	6.0	3	5	4						SS-1136	30%		2,024.6	5.5		
	2,021.6	8.5	10	6	8							M		Loose to Medium Dense, Gray-Brown, Silty Fine to Coarse SAND (A-2-5(0)), with trace mica			
2015	2,016.6	13.5	5	8	12							M					
	2,011.6	18.5	8	7	7							M					
2010	2,006.6	23.5	18	10	12							M					
	2,001.6	28.5	68	32/0.1		100/0.6								2,001.6	28.5		
2000	1,996.6	33.5	59	41/0.4													
	1,991.6	38.5	100/0.3														
1990	1,986.6	43.5	57	36	14	50						M		1,987.1	43.0		
	1,981.6	48.5	14	6	8	14						M		RESIDUAL Medium Dense to Dense, White-Tan-Brown, Silty Fine to Coarse SAND (A-2-4), with trace mica			
1975	1,976.6	53.5	24	82	18/0.1									1,976.1	54.0		
	1,972.3	57.8	60/0.1			60/0.1								1,972.3	57.8		
														1,972.2	57.9		
															CRYSTALLINE ROCK (GNEISS) Boring Terminated with Standard Penetration Test Refusal at Elevation 1,972.2 ft In Crystalline Rock (GNEISS)		

WBS 34165.1.13			TIP I-2513AC			COUNTY BUNCOMBE			GEOLOGIST A. Blackmore				
SITE DESCRIPTION RETAINING WALL NO. 18, -RP23- STA. 39+44.93 TO -Y3- STA. 23+10.00									GROUND WTR (ft)				
BORING NO. WALL18_B-08			STATION 14+12			OFFSET 36 ft LT			ALIGNMENT -WALL18-			0 HR. Dry	
COLLAR ELEV. 2,033.3 ft			TOTAL DEPTH 36.0 ft			NORTHING 680,665			EASTING 934,164			24 HR. Dry	
DRILL RIG/HAMMER EFF./DATE GEO047 Diedrich D-70 90% 02/09/2024						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic				
DRILLER J. Messick			START DATE 02/05/24			COMP. DATE 02/06/24			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		MOI	
2035													
	2,032.3	1.0											
2030	2,029.8	3.5	7	9	9								2,033.3 GROUND SURFACE 0.0
	2,027.3	6.0	5	5	7								RESIDUAL Stiff to Very Stiff, Red-Brown, Fine to Coarse Sandy CLAY (A-6)
2025	2,024.8	8.5	6	6	4								
			5	5	6								Stiff, Brown-Tan-White-Gray, Fine to Coarse Sandy SILT (A-4), with trace mica
2020	2,019.8	13.5	4	6	5								
			7	5	6								Dense, Tan-Brown, Silty Fine to Coarse SAND (A-2-4), with trace mica
2015	2,014.8	18.5	6	6	9								
2010	2,009.8	23.5											WEATHERED ROCK Tan-White (GNEISS)
2005	2,004.8	28.5	5	12	20								
			23	77	0.2								Boring Terminated with Standard Penetration Test Refusal at Elevation 1,997.3 ft On Crystalline Rock (GNEISS)
2000	1,999.8	33.5											
	1,997.3	36.0	60	0.0									

NCDOT BORE DOUBLE I2513AC_GEO_GTM.GPJ NC_DOT.GDT 8/13/24

NCDOT BORE DOUBLE I2513AC GEO GTM.GPJ NC DOT.GDT 8/13/24

WBS 34165.1.13		TIP I-2513AC		COUNTY BUNCOMBE		GEOLOGIST A. Blackmore								
SITE DESCRIPTION RETAINING WALL NO. 18, -RP23- STA. 39+44.93 TO -Y3- STA. 23+10.00							GROUND WTR (ft)							
BORING NO. WALL18_B-10		STATION 15+00		OFFSET 47 ft LT		ALIGNMENT -WALL18-		0 HR. Dry						
COLLAR ELEV. 2,027.5 ft		TOTAL DEPTH 36.0 ft		NORTHING 680,658		EASTING 934,250		24 HR. Dry						
DRILL RIG/HAMMER EFF./DATE GEO047 Diedrich D-70 90% 02/09/2024				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic								
DRILLER J. Messick		START DATE 02/02/24		COMP. DATE 02/02/24		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
2030														
	2,026.5	1.0	6	5	7									2,027.5 GROUND SURFACE 0.0
2025	2,024.0	3.5	7	6	8									2,024.5 RESIDUAL Stiff, Brown-Red, Fine to Coarse Sandy CLAY (A-6) 3.0
	2,021.5	6.0	5	5	6									Stiff, Brown-Red, Fine to Coarse Sandy SILT (A-4)
2020	2,019.0	8.5	7	9	12									2,019.5 Medium Dense to Dense, Orange-Brown-Tan, Silty Fine to Coarse SAND (A-2-4) 8.0
	2,014.0	13.5	6	6	7									
2015	2,009.0	18.5	10	8	9									
2010	2,004.0	23.5	11	16	16									
2005	1,999.0	28.5	11	7	9									1,999.5 Very Stiff, White-Brown, Fine to Coarse Sandy SILT (A-4) 28.0
2000	1,994.0	33.5	33	42	68/0.4									1,993.5 WEATHERED ROCK Tan (GNEISS) 34.0
1995	1,991.5	36.0	60/0.0											1,991.5 Boring Terminated with Standard Penetration Test Refusal at Elevation 1,991.5 ft On Crystalline Rock (GNEISS) 36.0

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 34165.1.13			TIP I-2513AC			COUNTY BUNCOMBE			GEOLOGIST A. Blackmore						
SITE DESCRIPTION RETAINING WALL NO. 18, -RP23- STA. 39+44.93 TO -Y3- STA. 23+10.00											GROUND WTR (ft)				
BORING NO. WALL18_B-11			STATION 15+43			OFFSET 34 ft LT			ALIGNMENT -WALL18-			0 HR. Dry			
COLLAR ELEV. 2,017.9 ft			TOTAL DEPTH 23.1 ft			NORTHING 680,639			EASTING 934,289			24 HR. Dry			
DRILL RIG/HAMMER EFF./DATE GEO047 Diedrich D-70 90% 02/09/2024						DRILL METHOD H.S. Augers				HAMMER TYPE Automatic					
DRILLER J. Messick			START DATE 02/01/24			COMP. DATE 02/01/24			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)
2020															
2015	2,016.9	1.0												2,017.9	GROUND SURFACE 0.0
	2,014.4	3.5	4	3	6									2,014.9	RESIDUAL Stiff, Brown, Fine to Coarse Sandy CLAY (A-6) 3.0
	2,011.9	6.0	4	4	8										
2010	2,009.4	8.5	6	9	9										
	2,004.4	13.5	11	12	15									2,004.9	Stiff to Very Stiff, Brown-Tan, Fine to Coarse Sandy SILT (A-4), with trace mica
2005	2,004.4	13.5	8	13	15										
	1,999.4	18.5	8	8	17										
2000	1,999.4	18.5	8	8	17										
	1,994.9	23.0	60/0.1											1,994.9	23.0
1995	1,994.9	23.0	60/0.1											1,994.8	23.1

WBS 34165.1.13			TIP I-2513AC			COUNTY BUNCOMBE			GEOLOGIST A. Blackmore					
SITE DESCRIPTION RETAINING WALL NO. 18, -RP23- STA. 39+44.93 TO -Y3- STA. 23+10.00									GROUND WTR (ft)					
BORING NO. WALL18_B-12			STATION 15+84			OFFSET 22 ft LT			ALIGNMENT -WALL18-			0 HR. Dry		
COLLAR ELEV. 2,009.7 ft			TOTAL DEPTH 28.0 ft			NORTHING 680,620			EASTING 934,328			24 HR. Dry		
DRILL RIG/HAMMER EFF./DATE GEO047 Diedrich D-70 90% 02/09/2024						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER J. Messick			START DATE 02/01/24			COMP. DATE 02/01/24			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
2010														
	2,008.7	1.0												2,009.7 GROUND SURFACE 0.0
			3	3	4									RESIDUAL
	2,006.2	3.5	5	5	6									Medium Stiff to Stiff, Brown, Fine to Coarse Sandy CLAY (A-6), with trace mica
2005														
	2,003.7	6.0	5	9	8									2,004.2
														Loose to Dense, Tan-Brown, Silty Fine to Coarse SAND (A-2-4)
	2,001.2	8.5	5	8	17									
2000														
	1,996.2	13.5	9	14	8									
1995														
	1,991.2	18.5	7	6	3									
1990														
	1,986.2	23.5	21	19	13									
1985														
	1,981.7	28.0	60/0.0			60/0.0								1,981.7 28.0
														Boring Terminated with Standard Penetration Test Refusal at Elevation 1,981.7 ft On Crystalline Rock (GNEISS)

NCDOT BORE DOUBLE I2513AC_GEO_GTM.GPJ NC_DOT.GDT 8/13/24

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 34165.1.13			TIP I-2513AC			COUNTY BUNCOMBE			GEOLOGIST A. Blackmore							
SITE DESCRIPTION RETAINING WALL NO. 18, -RP23- STA. 39+44.93 TO -Y3- STA. 23+10.00												GROUND WTR (ft)				
BORING NO. WALL18_B-13			STATION 16+50			OFFSET 38 ft RT			ALIGNMENT -WALL18-			0 HR.	Dry			
COLLAR ELEV. 2,005.0 ft			TOTAL DEPTH 27.1 ft			NORTHING 680,552			EASTING 934,386			24 HR.	Dry			
DRILL RIG/HAMMER EFF./DATE GEO047 Diedrich D-70 90% 02/09/2024						DRILL METHOD H.S. Augers				HAMMER TYPE Automatic						
DRILLER J. Messick				START DATE 02/01/24			COMP. DATE 02/01/24			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
2005														2,005.0	GROUND SURFACE 0.0	
2000	2,004.0	1.0		3	4	5						SS-1088	28%		2,002.0	Medium Stiff, Brown, Fine to Coarse Sandy SILT (A-4), with trace mica 3.0
	2,001.5	3.5		4	5	4									2,002.0	Loose to Medium Dense, Brown-Tan, Silty Fine to Coarse SAND (A-2-5(0)), with trace mica
	1,999.0	6.0		5	5	5									1,992.0	WEATHERED ROCK Gray-Tan (GNEISS) 13.0
1995	1,999.0	6.0		5	5	5							M	M		
	1,996.5	8.5		9	7	8									1,987.0	RESIDUAL Dense, Brown-Tan, Silty Fine to Coarse SAND (A-2-4) 18.0
1990	1,991.5	13.5		73	27/0.2							M	M			
	1,986.5	18.5		15	17	18								1,978.0	CRYSTALLINE ROCK (GNEISS) 27.0	
1985	1,981.5	23.5		8	13	33							M	M		
	1,978.0	27.0		60/0.1						1,977.9	Boring Terminated with Standard Penetration Test Refusal at Elevation 1,977.9 ft In Crystalline Rock (GNEISS) 27.1					

WBS 34165.1.13			TIP I-2513AC			COUNTY BUNCOMBE			GEOLOGIST A. Blackmore					
SITE DESCRIPTION RETAINING WALL NO. 18, -RP23- STA. 39+44.93 TO -Y3- STA. 23+10.00									GROUND WTR (ft)					
BORING NO. WALL18_B-14			STATION 17+16			OFFSET 41 ft RT			ALIGNMENT -WALL18-			0 HR. Dry		
COLLAR ELEV. 2,007.2 ft			TOTAL DEPTH 30.0 ft			NORTHING 680,544			EASTING 934,453			24 HR. Dry		
DRILL RIG/HAMMER EFF./DATE GEO047 Diedrich D-70 90% 02/09/2024						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER J. Messick			START DATE 02/01/24			COMP. DATE 02/01/24			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
2010														
	2,006.2	1.0	2	3	7									2,007.2 GROUND SURFACE 0.0
2005	2,003.7	3.5	4	3	4									RESIDUAL Medium Stiff to Stiff, Brown, Fine to Coarse Sandy SILT (A-4), with trace mica and rock fragments
	2,001.2	6.0	6	8	9									Very Stiff, Red-Brown, Fine to Coarse Sandy CLAY (A-6)
2000	1,998.7	8.5	12	9	8									1,999.2 Medium Dense, Tan-Brown, Silty Fine to Coarse SAND (A-2-4)
1995	1,993.7	13.5	6	6	9									1,994.7 Stiff to Very Stiff, Tan-Brown-White, Fine to Coarse Sandy SILT (A-4)
1990	1,988.7	18.5	5	6	11									
1985	1,983.7	23.5	3	6	20									
1980	1,978.7	28.5	3	10	6									
														Boring Terminated at Elevation 1,977.2 ft In Residual Sandy SILT (A-4)

NCDOT BORE DOUBLE I2513AC_GEO_GTM.GPJ NC_DOT.GDT 8/13/24

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 34165.1.13			TIP I-2513AC			COUNTY BUNCOMBE			GEOLOGIST A. Blackmore						
SITE DESCRIPTION RETAINING WALL NO. 18, -RP23- STA. 39+44.93 TO -Y3- STA. 23+10.00											GROUND WTR (ft)				
BORING NO. WALL18_B-15			STATION 17+62			OFFSET 42 ft RT			ALIGNMENT -WALL18-			0 HR.	Dry		
COLLAR ELEV. 2,007.1 ft			TOTAL DEPTH 15.0 ft			NORTHING 680,538			EASTING 934,522			24 HR.	Dry		
DRILL RIG/HAMMER EFF./DATE GEO047 Diedrich D-70 90% 02/09/2024						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER J. Messick			START DATE 02/01/24			COMP. DATE 02/01/24			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)
2010															
	2,006.1	1.0	3	4	4									2,007.1	GROUND SURFACE 0.0
2005															
	2,003.6	3.5	4	3	3						M				
	2,003.6														
	2,001.1	6.0	4	6	6						M			2,001.6	5.5
2000															
	1,998.6	8.5	8	6	6						M				
	1,998.6														
1995															
	1,993.6	13.5	6	7	9						M			1,992.1	15.0
															</

NCDOT BORE DOUBLE I2513AC_GEO_GTM.GPJ NC_DOT.GDT 8/13/24

SOIL TEST RESULTS																
BORING NO.	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		
WALL18 B-05	SS-1159	42' RT	-WALL18- 12+12	3.5-5.0	A-7-5(4)	49	13	19.5	33.5	29.7	17.3	87.2	76.2	47.7	20.8	-
WALL18 B-07	SS-1136	29' LT	-WALL18- 13+78	6.0-7.5	A-2-5(0)	44	10	46.3	22.3	20.1	11.3	92.2	57.5	33.6	30.4	-
WALL18 B-13	SS-1088	38' RT	-WALL18- 16+50	3.5-5.0	A-2-5(0)	45	3	48.1	25.3	19.3	7.3	94.6	59.4	30.1	27.9	-

LAB TECHNICIAN: DANIEL REEVE

NCDOT CERTIFICATION NO. 135-03-0816