

REFERENCE: I-5987B

PROJECT: 47533

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5987B	1	17

CONTENTS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
3,4	SITE PLAN
5,6	PROFILE
7-16	BORE LOGS
17	SOIL TEST RESULTS

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY ROBESON

PROJECT DESCRIPTION I-95 IMPROVEMENTS FROM NORTH OF SR 1758 (McDUFFIE CROSSING RD.) TO NORTH OF SR 1723 (PARKTON TOBEMORY RD.)

SITE DESCRIPTION RETAINING WALL W5A ON -L- (I-95) BETWEEN STA. 609+75.00 AND STA. 616+54.12 & RETAINING WALL W5B ON -L- (I-95) BETWEEN STA. 617+92.40 AND STA. 626+20.00

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

TRIGON

F&R, INC.

INVESTIGATED BY GOODNIGHT, D.J.

DRAWN BY HILL, M.J.

CHECKED BY HAMM, J. R.

SUBMITTED BY FALCON

DATE APRIL 2022



DocuSigned by:

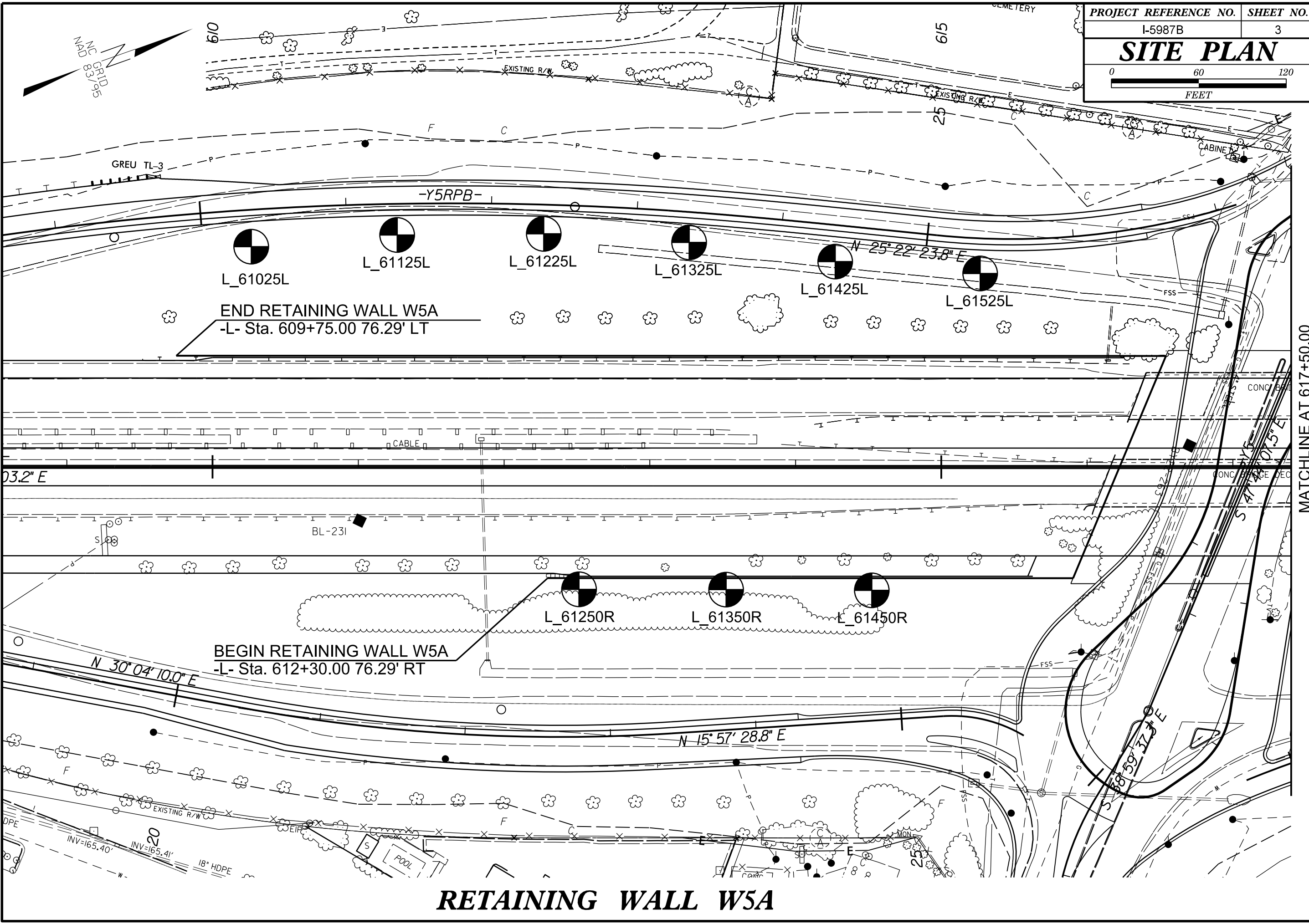
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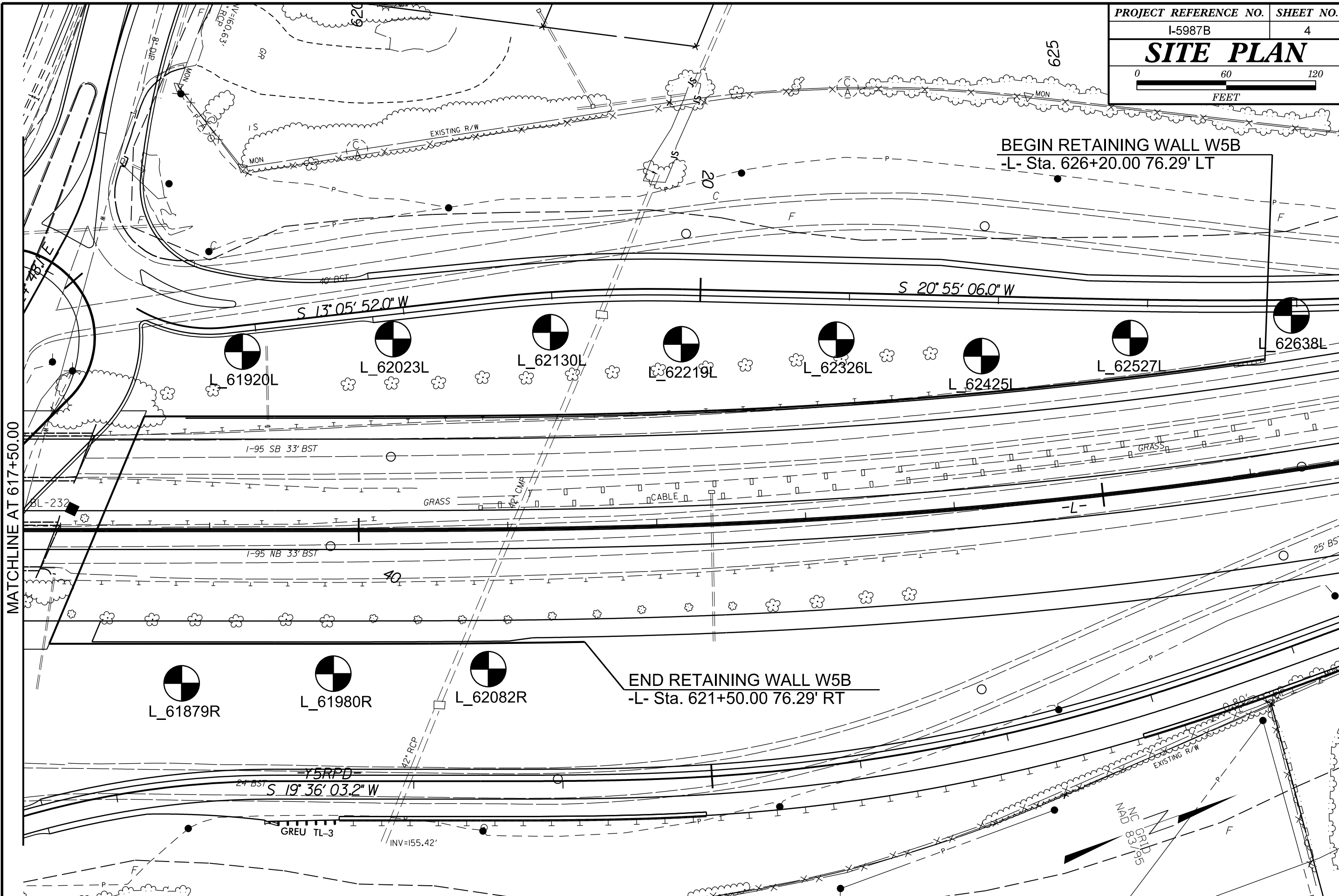
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION										GRADATION										ROCK DESCRIPTION										TERMS AND DEFINITIONS																																																																																																																																																																																				
<p>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></p>										<p>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.</p>										<p>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:</p>										<p>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.</p>																																																																																																																																																																																				
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<p>MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.</p>										<p>SLIGHTLY COMPRESSIBLE LL < 31 MODERATELY COMPRESSIBLE LL = 31 - 50 HIGHLY COMPRESSIBLE LL > 50</p>										<p>FRESH - ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE. VERY SLIGHT (IV 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. <i>IF TESTED, WOULD YIELD SPT REFUSAL</i> 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. <i>IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF</i> VERY SEVERE (IV 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. <i>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</i> 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.</p>										<p>CRUSTAL 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.</p>																																																																																																																																																																																				
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>U.S. STD. SIEVE SIZE OPENING (MM)</th> <th>4</th> <th>10</th> <th>40</th> <th>60</th> <th>200</th> <th>270</th> </tr> <tr> <td></td> <td>4.75</td> <td>2.00</td> <td>0.42</td> <td>0.25</td> <td>0.075</td> <td>0.053</td> </tr> <tr> <th>BOULDER (BLDR.)</th> <th>COBBLE (COB.)</th> <th>GRAVEL (GR.)</th> <th>COARSE SAND (CSE. SD.)</th> <th>FINE SAND (F SD.)</th> <th>SILT (SL.)</th> <th>CLAY (CL.)</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>GRAIN SIZE</th> <th>MM</th> <th>305</th> <th>75</th> <th>2.0</th> <th>0.25</th> <th>0.05</th> <th>0.005</th> </tr> <tr> <td></td> <td>IN.</td> <td>12</td> <td>3</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										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	MM	305	75	2.0	0.25	0.05	0.005		IN.	12	3					<p>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</p>										<p>AR - AUGER REFUSAL BT - BORING TERMINATED CL - CLAY CPT - CONE 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 γ - UNIT WEIGHT γ_d - DRY UNIT WEIGHT</p>										<p>LL - LIQUID LIMIT PL - PLASTIC LIMIT OM - OPTIMUM MOISTURE SHRINKAGE LIMIT</p>										<p>SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION</p>																																																																																																																														
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COLOR										INDURATION										FRAC. MARK: ELEVATIONS TAKEN FROM I5987_LS_TIN2_TIN DATED 05/21										NOTES:																																																																																																																																																																																				
<p>DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-BROWN). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.</p>										<p>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.</p>										<p>ELEVATION: FEET</p>										<p>FIAD - FILLED IMMEDIATELY AFTER DRILLING</p>																																																																																																																																																																																				



RETAINING WALL W5A

MATCHLINE AT 617+50.00



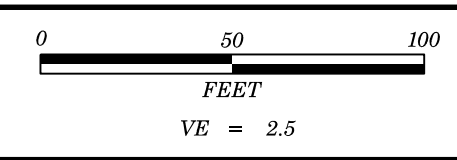
BEGIN RETAINING WALL W5B
-L- Sta. 626+20.00 76.29' LT

END RETAINING WALL W5B
-L- Sta. 621+50.00 76.29' RT

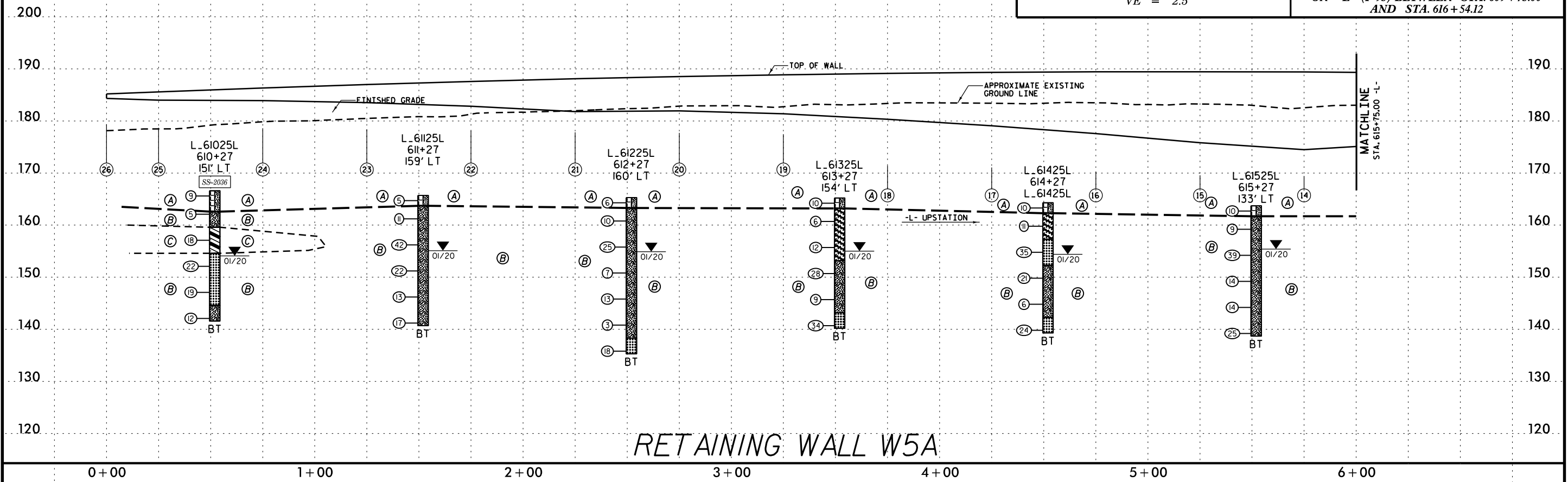
MATCHLINE AT 617+50.00

RETAINING WALL W5B

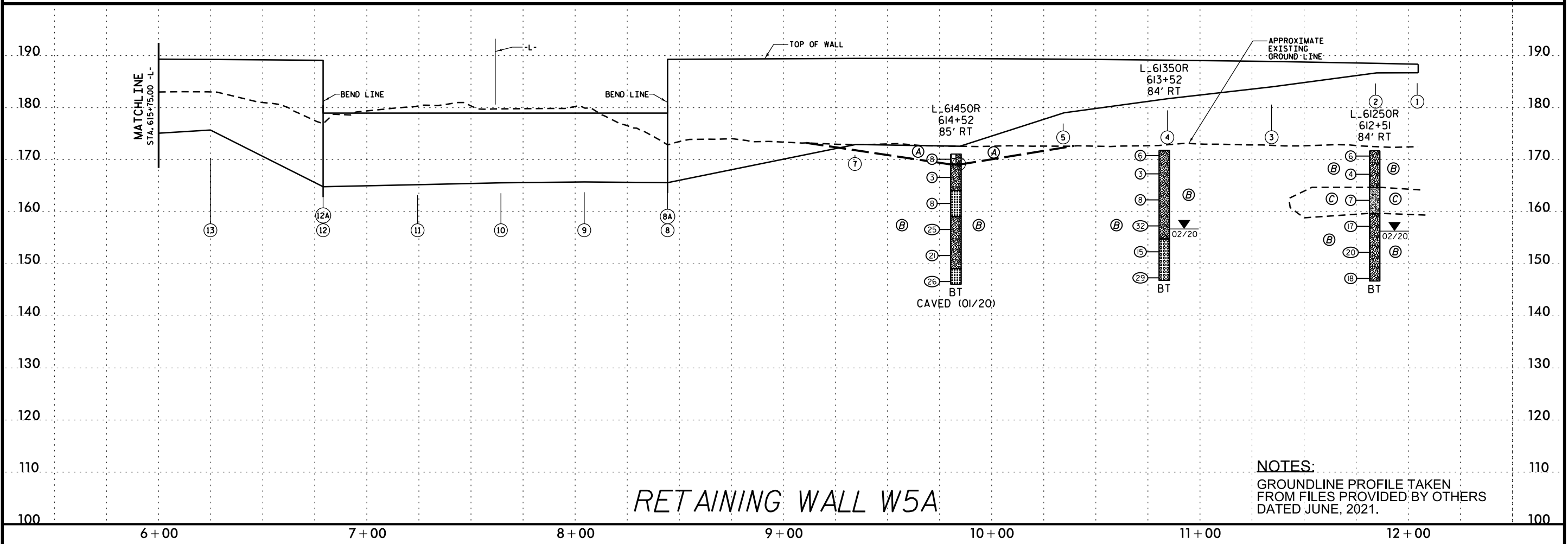
- Ⓐ ROADWAY EMBANKMENT: BROWN, GRAY, YELLOW AND ORANGE, MOIST, LOOSE TO MED. DENSE, SILTY SAND (A-2-4) WITH TRACE ORGANICS AND TRACE GRAVEL
- Ⓑ COASTAL PLAIN: BROWN-TAN, GRAY, PINK, YELLOW, WHITE AND ORANGE, MOIST TO SAT. V. LOOSE TO DENSE, SILTY AND CLAYEY SAND (A-2-4, A-2-6) AND F. AND CSE. SAND (A-3, A-1-b) WITH TRACE ORGANICS (CAPE FEAR FORMATION)
- Ⓒ COASTAL PLAIN: RED, YELLOW AND GRAY, MOIST, MED. STIFF TO V. STIFF, SILTY SANDY CLAY AND SANDY SILT (A-6, A-4)



PROJECT REFERENCE NO.	SHEET NO.
I-5987B	5
RETAINING WALL W5A ON -L- (I-95) BETWEEN STA. 609+75.00 AND STA. 616+54.12	

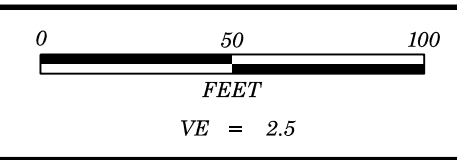


RETAINING WALL W5A

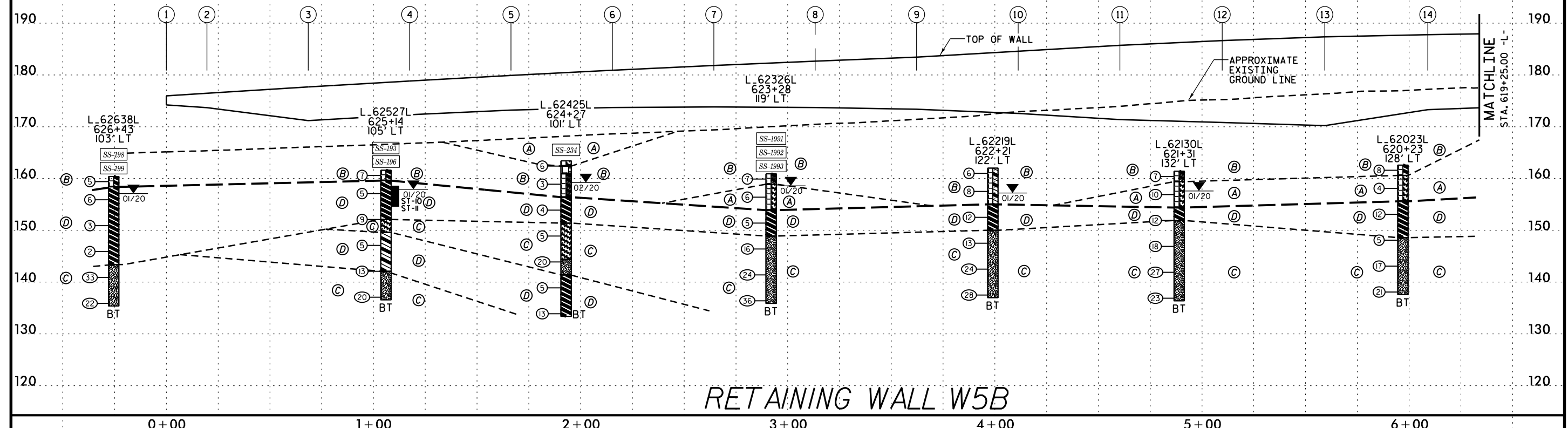


RETAINING WALL W5A

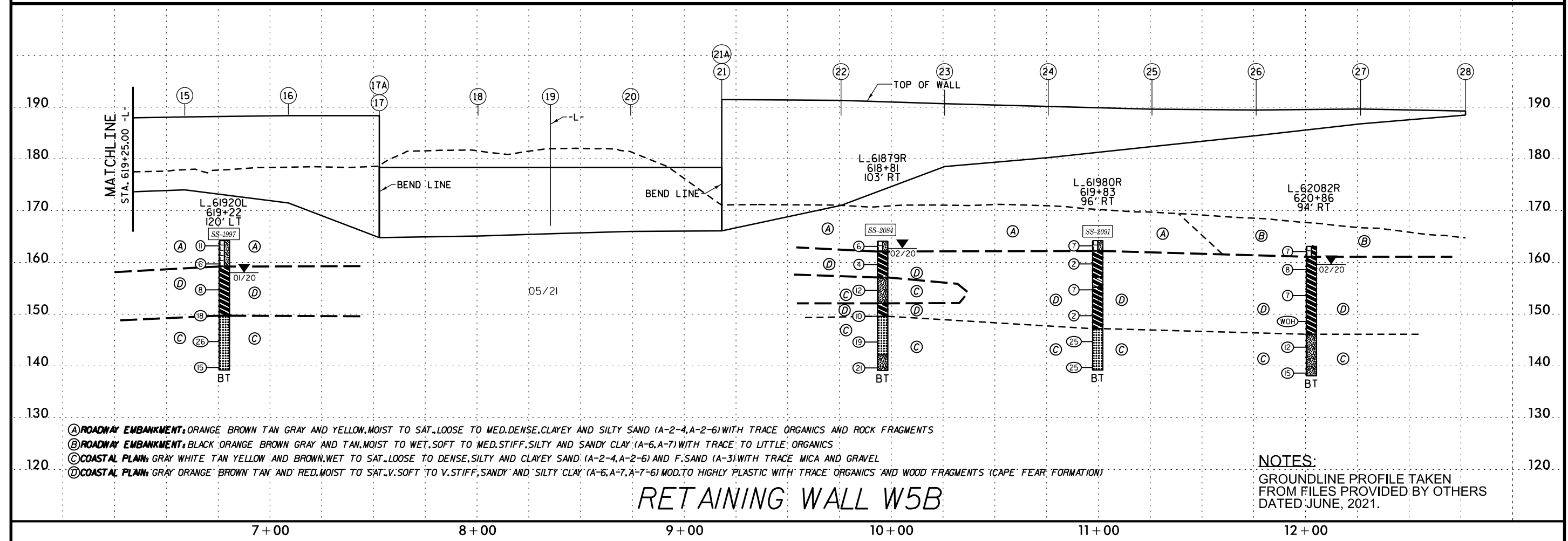
NOTES:
GROUNDLINE PROFILE TAKEN
FROM FILES PROVIDED BY OTHERS
DATED JUNE, 2021.



PROJECT REFERENCE NO.	SHEET NO.
I-5987B	6
RETAINING WALL W5B ON -L- (I-95) BETWEEN STA. 617+92.40 AND STA. 626+20.00	



RETAINING WALL W5B



RETAINING WALL W5B

- (A) ROADWAY EMBANKMENT: ORANGE BROWN TAN GRAY AND YELLOW, MOIST TO SAT., LOOSE TO MED. DENSE, CLAYEY AND SILTY SAND (A-2-4, A-2-6) WITH TRACE ORGANICS AND ROCK FRAGMENTS
- (B) ROADWAY EMBANKMENT: BLACK ORANGE BROWN GRAY AND TAN, MOIST TO WET, SOFT TO MED. STIFF, SILTY AND SANDY CLAY (A-6, A-7) WITH TRACE TO LITTLE ORGANICS
- (C) COASTAL PLAIN: GRAY WHITE TAN YELLOW AND BROWN, WET TO SAT., LOOSE TO DENSE, SILTY AND CLAYEY SAND (A-2-4, A-2-6) AND F. SAND (A-3) WITH TRACE MICA AND GRAVEL
- (D) COASTAL PLAIN: GRAY ORANGE BROWN TAN AND RED, MOIST TO SAT., V. SOFT TO V. STIFF, SANDY AND SILTY CLAY (A-6, A-7, A-7-6) MOD. TO HIGHLY PLASTIC WITH TRACE ORGANICS AND WOOD FRAGMENTS (CAPE FEAR FORMATION)

NOTES:
GROUNDLINE PROFILE TAKEN
FROM FILES PROVIDED BY OTHERS
DATED JUNE, 2021.

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST P. Fahey									
SITE DESCRIPTION RETAINING WALL W5A ON -L- (I-95) BETWEEN STA. 609+75.00 AND STA. 616+54.12							GROUND WTR (ft)								
BORING NO. L_61025L		STATION 610+27		OFFSET 151 ft LT		ALIGNMENT -L-									
COLLAR ELEV. 166.6 ft		TOTAL DEPTH 25.0 ft		NORTHING 385,582		EASTING 2,003,766									
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER E. Estep		START DATE 01/29/20		COMP. DATE 01/29/20		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					
170															
165	166.6	0.0	1	3	6								M	166.6 GROUND SURFACE	0.0
	163.1	3.5	3	3	2								M	ROADWAY EMBANKMENT BROWN-GRAY, SILTY FINE SAND (A-2-4) WITH TRACE ORGANICS	4.0
160	158.1	8.5	5	8	10								M	COASTAL PLAIN ORANGE, SILTY FINE SAND (A-2-4) (CAPE FEAR FORMATION)	7.0
155	153.1	13.5	8	10	12								SS-2036 16%	RED-YELLOW-LIGHT GRAY, SILTY FINE TO COARSE SANDY CLAY (A-6)	12.0
150	148.1	18.5	5	9	10								Sat.	ORANGE-YELLOW, FINE SAND (A-3)	15.0
145	143.1	23.5	5	6	6								Sat.	ORANGE-YELLOW, SILTY FINE SAND (A-2-4)	22.0
													Sat.	Boring Terminated at Elevation 141.6 ft in SAND (COASTAL PLAIN) (CAPE FEAR FORMATION)	25.0

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST P. Fahey									
SITE DESCRIPTION RETAINING WALL W5A ON -L- (I-95) BETWEEN STA. 609+75.00 AND STA. 616+54.12							GROUND WTR (ft)								
BORING NO. L_61125L		STATION 611+27		OFFSET 159 ft LT		ALIGNMENT -L-									
COLLAR ELEV. 165.7 ft		TOTAL DEPTH 25.0 ft		NORTHING 385,679		EASTING 2,003,792									
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER E. Estep		START DATE 01/29/20		COMP. DATE 01/29/20		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					
170															
165	165.7	0.0	1	2	3								M	165.7 GROUND SURFACE	0.0
	162.2	3.5	3	5	6								M	ROADWAY EMBANKMENT LIGHT BROWN, SILTY FINE SAND (A-2-4) WITH TRACE ORGANICS	2.0
160	157.2	8.5	14	20	22								M	COASTAL PLAIN ORANGE-BROWN TO YELLOW-GRAY-BROWN, SILTY FINE TO COARSE SAND (A-2-4) (CAPE FEAR FORMATION)	7.0
155	152.2	13.5	8	11	11								Sat.		12.0
150	147.2	18.5	7	7	6								Sat.		15.0
145	142.2	23.5	7	8	9								Sat.		22.0
													Sat.	Boring Terminated at Elevation 140.7 ft in SAND (COASTAL PLAIN) (CAPE FEAR FORMATION)	25.0

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST P. Fahey										
SITE DESCRIPTION RETAINING WALL W5A ON -L- (I-95) BETWEEN STA. 609+75.00 AND STA. 616+54.12							GROUND WTR (ft)									
BORING NO. L_61225L		STATION 612+27		OFFSET 160 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 165.3 ft		TOTAL DEPTH 30.0 ft		NORTHING 385,774		EASTING 2,003,825										
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER E. Estep		START DATE 01/29/20		COMP. DATE 01/29/20		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
170																
165	165.3	0.0	2	2	4										165.3	GROUND SURFACE
															163.3	ROADWAY EMBANKMENT LIGHT BROWN, SILTY FINE SAND (A-2-4) WITH TRACE ORGANICS
160	161.8	3.5	4	4	6											COASTAL PLAIN ORANGE-YELLOW TO GRAY-WHITE-BROWN, SILTY FINE TO COARSE SAND (A-2-4) (CAPE FEAR FORMATION)
155	156.8	8.5	9	12	13											
150	151.8	13.5	4	4	3											Sat.
145	146.8	18.5	3	6	7											Sat.
140	141.8	23.5	3	2	1											Sat.
	136.8	28.5	6	8	10										138.3	YELLOW-LIGHT GRAY, FINE SAND (A-3)
															135.3	Boring Terminated at Elevation 135.3 ft in SAND (COASTAL PLAIN) (CAPE FEAR FORMATION)

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST P. Fahey										
SITE DESCRIPTION RETAINING WALL W5A ON -L- (I-95) BETWEEN STA. 609+75.00 AND STA. 616+54.12							GROUND WTR (ft)									
BORING NO. L_61250R		STATION 612+51		OFFSET 84 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 171.7 ft		TOTAL DEPTH 25.0 ft		NORTHING 385,715		EASTING 2,004,063										
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER E. Estep		START DATE 01/31/20		COMP. DATE 01/31/20		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
175																
															171.7	GROUND SURFACE
170	171.7	0.0	2	3	3											COASTAL PLAIN BROWN-LIGHT BROWN-ORANGE, SILTY FINE SAND (A-2-4) WITH TRACE ORGANICS (CAPE FEAR FORMATION)
165	168.2	3.5	2	2	2											
160	163.2	8.5	3	4	3											ORANGE-BROWN, FINE SANDY CLAYEY SILT (A-4)
155	158.2	13.5	7	7	10											BROWN-GRAY-PINK, SILTY FINE TO COARSE SAND (A-2-4)
150	153.2	18.5	7	10	10											Sat.
	148.2	23.5	8	9	9											Sat.
															146.7	Boring Terminated at Elevation 146.7 ft in SAND (COASTAL PLAIN) (CAPE FEAR FORMATION)

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST P. Fahey									
SITE DESCRIPTION RETAINING WALL W5A ON -L- (I-95) BETWEEN STA. 609+75.00 AND STA. 616+54.12							GROUND WTR (ft)								
BORING NO. L_61325L		STATION 613+27		OFFSET 154 ft LT		ALIGNMENT -L-									
COLLAR ELEV. 165.2 ft		TOTAL DEPTH 25.0 ft		NORTHING 385,866		EASTING 2,003,864									
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic										
DRILLER E. Estep		START DATE 01/28/20		COMP. DATE 01/28/20		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					
170															
165	165.2	0.0	2	4	6									165.2	GROUND SURFACE
160	161.7	3.5	4	2	4									163.2	ROADWAY EMBANKMENT ORANGE-YELLOW-BROWN, SILTY FINE SAND (A-2-4)
155	156.7	8.5	4	4	8									153.2	COASTAL PLAIN ORANGE-BROWN, CLAYEY FINE SAND (A-2-6) (CAPE FEAR FORMATION)
150	151.7	13.5	15	13	15									143.2	ORANGE-BROWN TO LIGHT GRAY, SILTY FINE SAND (A-2-4)
145	146.7	18.5	5	4	5									143.2	LIGHT GRAY-BROWN, FINE SAND (A-3)
	141.7	23.5	13	16	18									140.2	Boring Terminated at Elevation 140.2 ft in SAND (COASTAL PLAIN) (CAPE FEAR FORMATION)

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST P. Fahey									
SITE DESCRIPTION RETAINING WALL W5A ON -L- (I-95) BETWEEN STA. 609+75.00 AND STA. 616+54.12							GROUND WTR (ft)								
BORING NO. L_61350R		STATION 613+52		OFFSET 84 ft RT		ALIGNMENT -L-									
COLLAR ELEV. 171.8 ft		TOTAL DEPTH 25.0 ft		NORTHING 385,810		EASTING 2,004,097									
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic										
DRILLER E. Estep		START DATE 01/31/20		COMP. DATE 01/31/20		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					
175															
170	171.8	0.0	2	2	4									171.8	GROUND SURFACE
165	168.3	3.5	2	1	2									163.2	COASTAL PLAIN YELLOW-BROWN TO ORANGE-WHITE, SILTY FINE TO COARSE SAND (A-2-4) WITH TRACE ORGANICS FROM 0.0-1.5' (CAPE FEAR FORMATION)
160	163.3	8.5	2	4	4									153.2	
155	158.3	13.5	7	12	20									154.8	GRAY-BROWN TO YELLOW, FINE TO COARSE SAND (A-1-B)
150	153.3	18.5	6	6	9									146.8	Boring Terminated at Elevation 146.8 ft in SAND (COASTAL PLAIN) (CAPE FEAR FORMATION)

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST P. Fahey										
SITE DESCRIPTION RETAINING WALL W5A ON -L- (I-95) BETWEEN STA. 609+75.00 AND STA. 616+54.12							GROUND WTR (ft)									
BORING NO. L_61425L		STATION 614+27		OFFSET 141 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 164.3 ft		TOTAL DEPTH 25.0 ft		NORTHING 385,956		EASTING 2,003,910										
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER E. Estep		START DATE 01/28/20		COMP. DATE 01/28/20		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						
165	164.3	0.0												164.3	GROUND SURFACE	0.0
			2	4	6									162.3	ROADWAY EMBANKMENT ORANGE-BROWN, SILTY FINE TO COARSE SAND (A-2-4)	2.0
160	160.8	3.5	4	4	7									157.3	COASTAL PLAIN ORANGE, CLAYEY FINE SAND (A-2-6) (CAPE FEAR FORMATION)	7.0
			7	17	18									152.3	LIGHT GRAY TO ORANGE, FINE SAND (A-3)	12.0
155	155.8	8.5												142.3	YELLOW-WHITE, SILTY FINE TO COARSE SAND (A-2-4)	12.0
			5	9	12									142.3	GRAY-YELLOW-WHITE, FINE SAND (A-3)	22.0
150	150.8	13.5												139.3	Boring Terminated at Elevation 139.3 ft in SAND (COASTAL PLAIN) (CAPE FEAR FORMATION)	25.0
			4	3	3											
145	145.8	18.5														
			9	11	13											
140	140.8	23.5														

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST P. Fahey										
SITE DESCRIPTION RETAINING WALL W5A ON -L- (I-95) BETWEEN STA. 609+75.00 AND STA. 616+54.12							GROUND WTR (ft)									
BORING NO. L_61450R		STATION 614+52		OFFSET 85 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 171.1 ft		TOTAL DEPTH 25.0 ft		NORTHING 385,904		EASTING 2,004,131										
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER E. Estep		START DATE 01/31/20		COMP. DATE 01/31/20		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						
175														171.1	GROUND SURFACE	0.0
			2	3	5									169.1	ROADWAY EMBANKMENT DARK BROWN, SILTY FINE SAND (A-2-4)	2.0
170	171.1	0.0												164.1	COASTAL PLAIN ORANGE, SILTY FINE SAND (A-2-4) WITH TRACE ORGANICS (CAPE FEAR FORMATION)	7.0
			1	2	1									159.1	LIGHT BROWN, FINE TO COARSE SAND (A-3)	12.0
165	167.6	3.5												149.1	GRAY-BROWN TO YELLOW, SILTY FINE TO COARSE SAND (A-2-4)	12.0
			2	4	4									146.1	ORANGE-YELLOW, FINE SAND (A-3)	22.0
160	162.6	8.5														
			10	11	14											
155	157.6	13.5														
			6	9	12											
150	152.6	18.5														
			8	11	15											
145	147.6	23.5														
140																

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST P. Fahey											
SITE DESCRIPTION RETAINING WALL W5B ON -L- (I-95) BETWEEN STA. 617+92.40 AND STA. 626+20.00							GROUND WTR (ft)										
BORING NO. L_61920L		STATION 619+22		OFFSET 120 ft LT		ALIGNMENT -L-											
COLLAR ELEV. 164.2 ft		TOTAL DEPTH 25.0 ft		NORTHING 386,415		EASTING 2,004,096											
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic												
DRILLER E. Estep		START DATE 01/28/20		COMP. DATE 01/28/20		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							
165	164.2	0.0												164.2	0.0	GROUND SURFACE	
			1	5	6												ROADWAY EMBANKMENT ORANGE-GRAY-BROWN, SILTY FINE TO COARSE SAND (A-2-4) WITH TRACE ORGANICS
160	160.7	3.5	2	2	4									159.2	5.0	COASTAL PLAIN LIGHT GRAY, FINE TO COARSE SANDY SILTY CLAY (A-7-6), HIGHLY PLASTIC (CAPE FEAR FORMATION)	
155	155.7	8.5	4	3	5									149.7	14.5	W LIGHT GRAY, FINE SAND (A-3)	
150	150.7	13.5	2	5	13											Sat.	
145	145.7	18.5	6	12	14											Sat.	
140	140.7	23.5	6	6	9											Sat.	
																	Boring Terminated at Elevation 139.2 ft in SAND (COASTAL PLAIN) (CAPE FEAR FORMATION)

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST P. Fahey											
SITE DESCRIPTION RETAINING WALL W5B ON -L- (I-95) BETWEEN STA. 617+92.40 AND STA. 626+20.00							GROUND WTR (ft)										
BORING NO. L_61980R		STATION 619+83		OFFSET 96 ft RT		ALIGNMENT -L-											
COLLAR ELEV. 164.2 ft		TOTAL DEPTH 25.0 ft		NORTHING 386,400		EASTING 2,004,320											
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic												
DRILLER E. Estep		START DATE 02/03/20		COMP. DATE 02/03/20		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							
165	164.2	0.0												164.2	0.0	GROUND SURFACE	
			2	3	4												ROADWAY EMBANKMENT LIGHT YELLOW, SILTY FINE SAND (A-2-4) WITH TRACE ORGANICS
160	160.7	3.5	1	1	1									162.2	2.0	COASTAL PLAIN GRAY, FINE TO COARSE SANDY CLAY (A-7-6), HIGHLY PLASTIC (CAPE FEAR FORMATION)	
155	155.7	8.5	2	3	4									157.2	7.0	W GRAY, SILTY FINE SANDY CLAY (A-6)	
150	150.7	13.5	WOH	1	1									155.2	9.0	Sat. GRAY, FINE SANDY SILTY CLAY (A-7)	
145	145.7	18.5	9	11	14									147.2	17.0	Sat. WHITE, FINE SAND (A-3)	
140	140.7	23.5	9	13	12											Sat.	
																	Boring Terminated at Elevation 139.2 ft in SAND (COASTAL PLAIN) (CAPE FEAR FORMATION)

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST R. French										
SITE DESCRIPTION RETAINING WALL W5B ON -L- (I-95) BETWEEN STA. 617+92.40 AND STA. 626+20.00							GROUND WTR (ft)									
BORING NO. L_62023L		STATION 620+23		OFFSET 128 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 162.6 ft		TOTAL DEPTH 25.0 ft		NORTHING 386,513		EASTING 2,004,122										
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER E. Estep		START DATE 01/24/20		COMP. DATE 01/24/20		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						
165	162.6	0.0												162.6	0.0	GROUND SURFACE
			2	4	4								M			ROADWAY EMBANKMENT
160	159.1	3.5	1	2	2								Sat.	160.6	2.0	TAN-DARK GRAY, FINE TO COARSE SANDY SILTY CLAY (A-7) WITH TRACE ORGANICS
																TAN-BROWN-GRAY, CLAYEY FINE TO COARSE SAND (A-2-6)
155	154.1	8.5	3	5	7								Sat.	155.6	7.0	COASTAL PLAIN
																TAN-GRAY-RED, FINE SANDY SILTY CLAY (A-7) (CAPE FEAR FORMATION)
150	149.1	13.5	3	3	2								Sat.	148.6	14.0	TAN-GRAY-WHITE, SILTY FINE SAND (A-2-4) WITH TRACE MICA
145	144.1	18.5	7	7	10								Sat.			
140	139.1	23.5	8	9	12								Sat.	137.6	25.0	Boring Terminated at Elevation 137.6 ft in SAND (COASTAL PLAIN) (CAPE FEAR FORMATION)

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST P. Fahey										
SITE DESCRIPTION RETAINING WALL W5B ON -L- (I-95) BETWEEN STA. 617+92.40 AND STA. 626+20.00							GROUND WTR (ft)									
BORING NO. L_62082R		STATION 620+86		OFFSET 94 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 163.1 ft		TOTAL DEPTH 25.0 ft		NORTHING 386,499		EASTING 2,004,352										
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic											
DRILLER E. Estep		START DATE 02/03/20		COMP. DATE 02/03/20		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						
165	163.1	0.0												163.1	0.0	GROUND SURFACE
			2	3	4								M			ROADWAY EMBANKMENT
160	159.6	3.5	2	3	5								Sat.	161.1	2.0	DARK BROWN, SILTY CLAY (A-7) WITH TRACE ORGANICS
																COASTAL PLAIN
155	154.6	8.5	2	3	4								W			GRAY-ORANGE, SILTY CLAY (A-7) (CAPE FEAR FORMATION)
150	149.6	13.5											Sat.			
145	144.6	18.5	6	5	7								Sat.	146.1	17.0	WHITE, SILTY FINE SAND (A-2-4)
140	139.6	23.5	4	6	9								Sat.	138.1	25.0	Boring Terminated at Elevation 138.1 ft in SAND (COASTAL PLAIN) (CAPE FEAR FORMATION)

GEOTECHNICAL BORING REPORT BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST R. French										
SITE DESCRIPTION RETAINING WALL W5B ON -L- (I-95) BETWEEN STA. 617+92.40 AND STA. 626+20.00							GROUND WTR (ft)									
BORING NO. L_62130L		STATION 621+31		OFFSET 132 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 161.4 ft		TOTAL DEPTH 25.0 ft		NORTHING 386,614		EASTING 2,004,153										
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic												
DRILLER E. Estep		START DATE 01/24/20		COMP. DATE 01/24/20		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)	
165															161.4	0.0
160	161.4	0.0	3	4	3								M	ROADWAY EMBANKMENT		
	157.9	3.5	2	5	5									TAN-GRAY-DARK GRAY, FINE TO COARSE SANDY SILTY CLAY (A-6) WITH TRACE ORGANICS	2.9	
155														TAN-GRAY-ORANGE, CLAYEY FINE TO COARSE SAND (A-2-6) WITH TRACE ROCK FRAGMENTS	7.0	
	152.9	8.5	2	3	9								Sat.	COASTAL PLAIN		
150														TAN-GRAY, FINE SANDY SILTY CLAY (A-7) (CAPE FEAR FORMATION)	9.5	
	147.9	13.5	6	7	11								Sat.	TAN-GRAY-WHITE, SILTY FINE TO COARSE SAND (A-2-4) WITH TRACE MICA		
145																
	142.9	18.5	12	12	15								Sat.			
140																
	137.9	23.5	10	11	12								Sat.			
															136.4	25.0
														Boring Terminated at Elevation 136.4 ft in SAND (COASTAL PLAIN) (CAPE FEAR FORMATION)		

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST R. French										
SITE DESCRIPTION RETAINING WALL W5B ON -L- (I-95) BETWEEN STA. 617+92.40 AND STA. 626+20.00							GROUND WTR (ft)									
BORING NO. L_62219L		STATION 622+21		OFFSET 122 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 162.0 ft		TOTAL DEPTH 25.0 ft		NORTHING 386,694		EASTING 2,004,190										
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019		DRILL METHOD Mud Rotary		HAMMER TYPE Automatic												
DRILLER E. Estep		START DATE 01/24/20		COMP. DATE 01/24/20		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)	
165															162.0	0.0
160	162.0	0.0	2	3	3								M	ROADWAY EMBANKMENT		
	158.5	3.5	2	3	5									TAN-GRAY-DARK GRAY, FINE TO COARSE SANDY CLAY (A-6)		
155														COASTAL PLAIN		
	153.5	8.5	2	3	9								M	TAN-GRAY-RED, FINE SANDY SILTY CLAY (A-7) (CAPE FEAR FORMATION)	7.0	
150														TAN-GRAY-WHITE, SILTY FINE TO COARSE SAND (A-2-4) WITH TRACE MICA AND GRAVEL	12.0	
145													Sat.			
	143.5	18.5	8	10	14								Sat.			
140																
	138.5	23.5	11	12	16								Sat.			
															137.0	25.0
														Boring Terminated at Elevation 137.0 ft in SAND (COASTAL PLAIN) (CAPE FEAR FORMATION)		

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST R. French										
SITE DESCRIPTION RETAINING WALL W5B ON -L- (I-95) BETWEEN STA. 617+92.40 AND STA. 626+20.00							GROUND WTR (ft)									
BORING NO. L_62326L		STATION 623+28		OFFSET 119 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 160.9 ft		TOTAL DEPTH 25.0 ft		NORTHING 386,793		EASTING 2,004,222										
DRILL RIG/HAMMER EFF./DATE TRI8016 MOBILE B-57 97% 03/22/2019			DRILL METHOD Mud Rotary			HAMMER TYPE Automatic										
DRILLER E. Estep		START DATE 01/24/20		COMP. DATE 01/24/20		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	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
165																
160	160.9	0.0	2	3	4											160.9
155	157.4	3.5	2	2	4											158.9
150	152.4	8.5	1	2	3											153.9
145	147.4	13.5	WOH	7	9											148.9
140	142.4	18.5	6	7	17											144.9
	137.4	23.5	12	17	19											135.9
Boring Terminated at Elevation 135.9 ft in SAND (COASTAL PLAIN) (CAPE FEAR FORMATION)																

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST W. Pestl										
SITE DESCRIPTION RETAINING WALL W5B ON -L- (I-95) BETWEEN STA. 617+92.40 AND STA. 626+20.00							GROUND WTR (ft)									
BORING NO. L_62425L		STATION 624+27		OFFSET 101 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 163.4 ft		TOTAL DEPTH 30.0 ft		NORTHING 386,881		EASTING 2,004,265										
DRILL RIG/HAMMER EFF./DATE F&R2175 CME-55 84% 03/01/2019			DRILL METHOD Mud Rotary			HAMMER TYPE Automatic										
DRILLER S. Davis		START DATE 01/31/20		COMP. DATE 01/31/20		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	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
165																
160	163.4	0.0	1	3	3											163.4
155	159.9	3.5	1	1	2											162.4
150	154.9	8.5	1	2	2											160.9
145	149.9	13.5	2	3	2											156.4
140	144.9	18.5	5	9	11											151.4
135	139.9	23.5	4	2	3											144.4
	134.9	28.5	3	5	8											141.4
																133.4
Boring Terminated at Elevation 133.4 ft in CLAY (COASTAL PLAIN) (CAPE FEAR FORMATION)																

NCDOT BORE DOUBLE RWALL5 EXPORT.GPJ NC_DOT.GDT 4/7/22

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST W. Pesi									
SITE DESCRIPTION RETAINING WALL W5B ON -L- (I-95) BETWEEN STA. 617+92.40 AND STA. 626+20.00							GROUND WTR (ft)								
BORING NO. L_62527L		STATION 625+14		OFFSET 105 ft LT		ALIGNMENT -L-									
COLLAR ELEV. 161.6 ft		TOTAL DEPTH 25.0 ft		NORTHING 386,979		EASTING 2,004,287									
DRILL RIG/HAMMER EFF./DATE F&R2175 CME-55 84% 03/01/2019			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic										
DRILLER S. Davis		START DATE 01/27/20		COMP. DATE 01/27/20		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
165															
	161.6	0.0												161.6	0.0
160			2	3	4									159.6	2.0
	158.1	3.5	2	2	3									152.1	9.5
155														149.6	12.0
	153.1	8.5	2	3	6									142.1	19.5
150			1	2	3									136.6	25.0
	148.1	13.5													
145															
	143.1	18.5	WOH	2	11										
140															
	138.1	23.5		5	8	12									

WBS 47533.1.1		TIP I-5987		COUNTY ROBESON		GEOLOGIST W. Pesi									
SITE DESCRIPTION RETAINING WALL W5B ON -L- (I-95) BETWEEN STA. 617+92.40 AND STA. 626+20.00							GROUND WTR (ft)								
BORING NO. L_62638L		STATION 626+43		OFFSET 103 ft LT		ALIGNMENT -L-									
COLLAR ELEV. 160.4 ft		TOTAL DEPTH 25.0 ft		NORTHING 387,086		EASTING 2,004,309									
DRILL RIG/HAMMER EFF./DATE F&R2175 CME-55 84% 03/01/2019			DRILL METHOD Mud Rotary		HAMMER TYPE Automatic										
DRILLER S. Davis		START DATE 01/27/20		COMP. DATE 01/27/20		SURFACE WATER DEPTH N/A									
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
165															
	160.4	0.0	2	3	2									160.4	0.0
160														158.4	2.0
	156.9	3.5	2	2	4									152.1	9.5
155														149.6	12.0
	151.9	8.5	1	1	2									142.1	19.5
150														136.6	25.0
	146.9	13.5	1	1	1										
145															
	141.9	18.5	7	13	20										
140															
	136.9	23.5	10	13	9										

NCDOT BORE DOUBLE RWALL5 EXPORT.GPJ NC_DOT.GDT 4/7/22

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-2036	151 FT LT	610+27	8.5'-10.0'	A-6	35	18	28	28	11	33	100	83	49	16	-
SS-2084	103 FT RT	618+81	3.5'-5.0'	A-7-6	56	35	31	14	9	47	99	79	57	24	-
SS-1997	120 FT LT	619+22	8.5'-10.0'	A-7-6	56	35	11	12	23	54	100	94	82	29	-
SS-2091	96 FT RT	619+83	3.5'-5.0'	A-7-6	44	27	37	14	8	41	99	75	51	20	-
SS-1991	119 FT LT	623+28	0.1'-1.5'	A-6	36	21	32	18	10	40	100	82	51	15	-
SS-1992	119 FT LT	623+28	3.5'-5.0'	A-2-6	34	19	56	17	1	27	100	66	28	16	-
SS-1993	119 FT LT	623+28	8.5'-10.0'	A-7-6	57	38	0	12	41	47	100	100	97	26	-
SS-234	101 FT LT	624+27	1.0'-1.5'	A-6	29	13	36	17	13	35	100	77	50	19	-
SS-193	105 FT LT	625+14	3.5'-5.0'	A-7-6	54	34	31	13	11	45	100	81	58	18	-
SS-196	105 FT LT	625+14	13.5'-15.0'	A-6	26	11	2	45	18	34	100	99	60	17	-
ST-10	105 FT LT	625+14	3.0'-5.0'	A-7-6	50	31	27	12	14	47	100	83	63	25	-
ST-11	105 FT LT	625+14	5.0'-7.0'	A-7-6	43	24	44	18	2	37	100	76	41	18	-
SS-198	103 FT LT	626+43	3.5'-5.0'	A-7-6	44	28	36	22	6	37	100	79	44	20	-
SS-199	103 FT LT	626+43	8.5'-10.0'	A-7-6	44	26	1	23	34	43	100	100	88	17	-