$ET. \ WALL - US \ 129$

PROJECT:

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

CONTENTS:

INVESTIGATION ALONG RETAINING WALL US 129, APPROX. 0.5 MILES NW OF INTERSECTION US 129/US 74 GRAHAM COUNTY

DIVISION OF HIGHWAYS
GEOTECHNICAL UNIT

STRUCTURE SUBSURFACE INVESTIGATION

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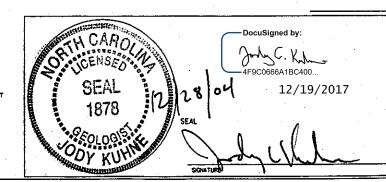
CAUTION NOTICE

THE SUBSURFACE REFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WAS MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORNED LOSS, ROCK CORES, AND SOIL TEST DATA AVAILABLE MAY BE REVEWED OR RISPECTED IN RALEGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL UNIT O 1999 250-4088. NEITHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD BORNED LOSS, ROCK CORES, OR SOIL TEST DATA IS PART OF THE CONTRACT.

CENERAL SOL AND ROCK STRATA DESCRIPTIONS AND MOKCATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVALABLE SUBSURFACE DATA AND MAY NOT NECESSARLY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORNING OR BETWEEN SAMPLED STRATA WITHIN THE BORCHOLE THE LABORATORY SAMPLE DATA AND THE N SITU GN-PLACE TEST DATA CAN BE RELED ON ONLY TO THE DEGREE OF RELIABILITY INTERENT IN THE SITU GN-PLACE TEST DATA CAN BE RELED ON ONLY TO THE DEGREE OF RELIABILITY INTEREST IN THE STRANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOL MOSTURE CONDITIONS APE AS RECORDED AT THE TIME OF THE NVESTIGATION, THESE WATER LEVELS OR SOL MOSTURE CONDITIONS HAVE VARY CONSIDERALLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECINITATION 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 QUARANTEE THE SUFFICIENCY OR ACCURACY OF THE RYESTIGATION MADE, NOR THE INTERPRETATIONS MADE OR OPENION 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 DEEM'S INCESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THIS 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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SUBMITTED BY JC KUHNE	C COFFEY
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NOTE - THE REGRMATION CONTAINED HEREM IS NOT IMPLIED OR GUARANTEED BY THE N.C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IT IS CONSIDERED TO BE PART OF THE PLANS. SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

NOTE - 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.

RAWN BY:JC_KUHNE	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

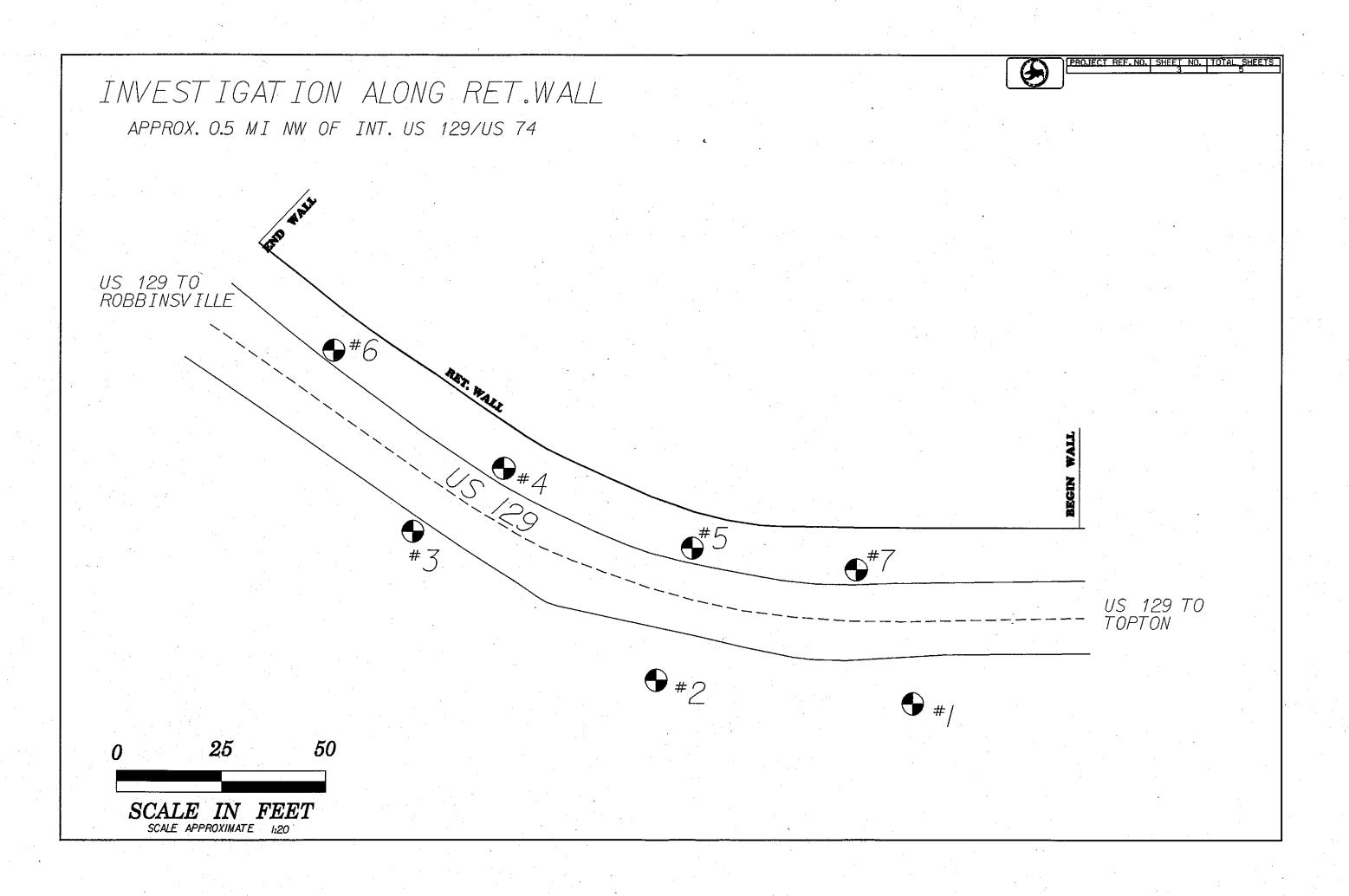
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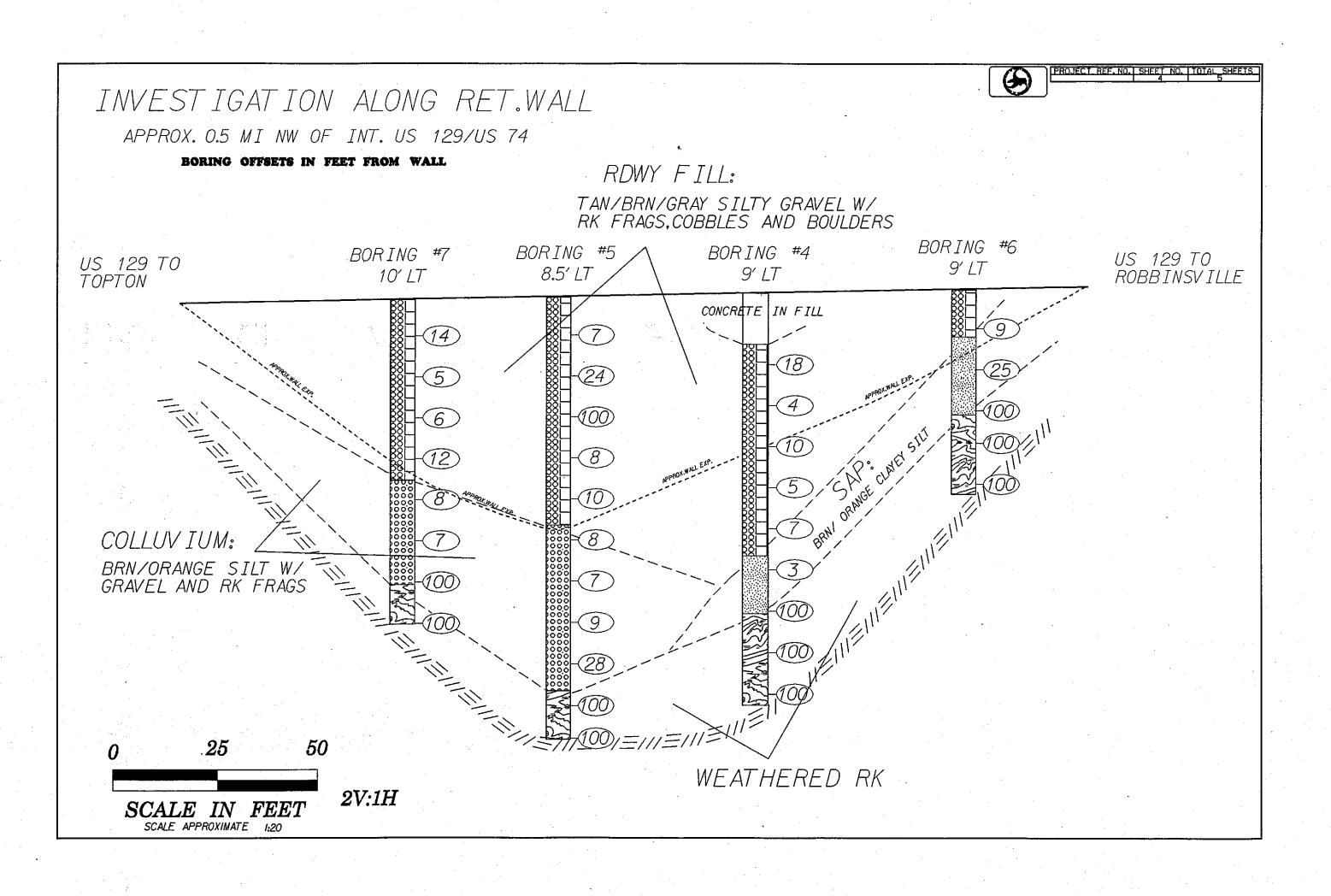
DIVISION OF HIGHWAYS

GEOTECHNICAL UNIT

SUBSURFACE INVESTIGATION

	SOIL AND ROCK LEGEND, TERM	MS, SYMBOLS, AND ABBREVIATIONS		
SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS	
SOIL IS CONSIDERED TO BE THE UNCONSOLIDATED, SEMI-CONSOLIDATED OR WEATHERED EARTH MATERIALS WHICH CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER, AND WHICH YIELDS LESS THAN	<u>WELL GRADED</u> INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE <u>UNIFORM</u> INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. (ALSO	HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WHEN TESTED, WOULD YIELD SPT REFUSAL AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL,	ALLUYIUM (ALLUY.) - SOILS WHICH HAVE BEEN TRANSPORTED BY WATER.	
100 BLOWS PER FOOT ACCORDING TO STANDARD PENETRATION TEST (AASHTD 1206, ASTM D-1586), SDIL	POORLY GRADED) GAP-GRADED- INDICATES A MIXTURE OF UNIFORM PARTICLES OF TWO OR MORE SIZES.	SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER ECUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. IN NON-COASTAL PLAIN HATERIAL, THE TRANSITION BETVEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE	ACUIFER - A WATER BEARING FORMATION OR STRATA.	
CLASSIFICATION IS BASED ON THE AASHTO SYSTEM AND BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH	ANGULARITY OF GRAINS	OF MEATHERED ROCK, ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLOWS:	ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.	
AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. EXAMPLE: VERY SIFF, SRM SUTY CLAY, MOST WITH ATTERSCOOD FINE SAND LIVERS, MISHAY PLASTIC, 4-7-6	THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS ARE DESIGNATED BY THE TERMS; ANGULAR, SUBRAGULAR, SUBRAGULAR, SUBRAGULAR, OR ROUNDED.	WEATHERED NON-COASTAL PLAIN MATERIAL THAT YIELDS SPT N VALUES > 100 BLOWS	ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS. OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, AS SHALE, SLATE, ETC.	
SOIL LEGEND AND AASHTO CLASSIFICATION	MINERALOGICAL COMPOSITION	PER FOOT.	ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL	
GENERAL GRANULAR MATERIALS SILT-CLAY MATERIALS DECONTO MATERIALS	MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS	CRYSTALLINE FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE.	AT WHICH IS IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.	
CLASS: (55% PASSING #200) (35% PASSING #200)	WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.	GNETSS, GABBRO, SCHIST, ETC.	CALCAREOUS (CALC.) - SOILS WHICH CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.	
GROUP A-1 A-3 A-2 A-4 A-5 A-6 A-7 A-1, A-2 A-4, A-5 CLASS. A-1-a A-1-b A-2-4 A-2-5 A-2-6 A-2-7 A-2-6 A-3-6 A-7	COMPRESSIBILITY SLIGHTLY COMPRESSIBLE LIQUID LIMIT LESS THAN 38	NON-CRYSTALLINE NON-CRYSTALLINE SEDIMENTARY ROCK THAT WOULD YELLD SPT REFUSAL IF TESTED, ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.	COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.	
SYMBOL \$8888 8888 8888	MODERATELY COMPRESSIBLE LIQUID LIMIT 31-50 HIGHLY COMPRESSIBLE LIQUID LIMIT GREATER THAN 50	COASTAL PLAIN COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SEDIMENTARY ROCK SPT REFUSAL, ROCK TYPE INCLUDES LINESTONE, SANDSYONE, CEMENTED	CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL	
2 PASSING	PERCENTAGE OF MATERIAL	(CP) SHELL BEDS, ETC.	LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.	
* 10 50 MX SILT- MUCK, ** 40 30 MX51 MN SOILS SOILS CAY PEAT	ORGANIC MATERIAL GRANULAR SILT- CLAY SOILS SOILS OTHER MATERIAL	- WEATHERING	DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.	
* 200 15 MX 25 MX 00 MX 35 MX 35 MX 35 MX 36 MX 36 MX 36 MX 36 MX 36 MX	TRACE OF ORGANIC MATTER 2 - 3% 3 - 5% TRACE 1 - 10%	FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING, ROCK RINGS UNDER HAMMER IF CRYSTALLINE.	DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.	
LIQUED LIMIT 46 MX41 MN 48 MX41 MN 48 MX41 MN 48 MX41 MN 50ILS WITH PLASTIC DOEX 6 MX N.P. 18 MX58 MX51 MN 51 MN 18 MX58 MX511 MN 15 MX 18	LITTLE ORGANIC MATTER 3 - 5% 5 - 12% LITTLE 10 - 20% MODERATELY ORGANIC 5 - 10% 12 - 20% SOME 20 - 35%	VERY SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN,	DIP DIRECTION OUP AZIMUTH: THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF	
GROUP INDEX 8 8 0 4 MX 9 MX 12 MX 16 MX No MX MODERATE ORGANIC	HIGHLY ORGANIC >18% >20% HIGHLY 35% AND ABOVE	(V. SLI.) CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.	THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.	
HISHAL TYPES STORE FRADS AMOUNTS OF SOILS	GROUND WATER WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING.	SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. DPEN JOINTS MAY CONTAIN CLAY, IN GRANITOID ROCKS SOME DCCASIONAL FELDSFAR	FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.	
OF MAJOR BRAYEL AND SAND FINE SILTY OR CLAYEY SILTY CLAYEY CHOANIC OF MAJOR BRAYEL AND SAND SOILS SOILS MATTER	STATIC WATER LEVEL AFTER 24 HOURS.	CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.	FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.	
GEN, RATING	✓PW. PERCHED WATER, SATURATED ZONE OR WATER BEARING STRATA	MODERATE SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY, ROCK HAS	FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOGGED FROM	
AS A EXCELLENT TO GOOD. FAIR TO POOR POOR UNSUITABLE SUBGRADE	TENDED WITCH STITLING STREET	DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED MITH FRESH ROCK.	PARENT MATERIAL. FLOOD PLAIN (F.P.) - LAND BORDERING A STREAM BUILT OF SEDIMENTS DEPOSITED BY	
P.1. OF A-7-5 ≤ L.L 30 : P.J. OF A-7-6 > L.L 30	O-MM- SPRING OR SEEPAGE	MODERATELY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL	THE STREAM.	
CONSISTENCY OR DENSENESS RANGE OF STANDARD RANGE OF UNCONFINED	MISCELLANEOUS SYMBOLS	SEVERE AND DISCOLORED AND A MAJDRITY SHOW KACLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH (MOD. SEV) AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK.	FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.	
PRIMARY SOIL TYPE COMPACTNESS OR CONSISTENCY PENETRATION RESISTENCE COMPRESSIVE STRENGTH (N-VALUE) (TONS/FTZ)	ROADWAY EMBANKMENT ST COT TEST BORING SAMPLE VITH SOIL DESCRIPTION OF SIGNATIONS	<u>IF TESTED, WOULD YIELD SPT REFUSAL</u>	JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.	
GENERALLY VERY LOOSE 44	SOIL SYMBOL AUGER BORING S-BULK SAMPLE	SEVERE ALL ROCKS EXCEPT QUARTZ DISCOLORED OR STAINED ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED (SEV.) IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KACLINIZED TO SOME	LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO	
GRANULAR LUUSE 4 TO 10 MATERIAL MEDIUM DENSE 10 TO 30 N/A	ARTIFICIAL FILL OTHER THAN SS- SPLIT SPOON	EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. 1F TESTED. YIELDS SPT. N. VALUES > 100 BPF	ITS LATERAL EXTENT. LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.	
(NON-COHESIVE) DENSE 30 TO 50 VERY DENSE >50	ROADWAY EMBANKMENTS CORE BORING SAMPLE	VERY SEVERE ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT	MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS, MOTTLING IN	
VERY SOFT (2 (0,25	ST- SHELBY TUBE ST- SHELBY TUBE MONITORING WELL SAMPLE	(V. SEV.) THE MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE SUCH THAT ONLY MINOR	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	
	INFERRED ROCK LINE A PIEZOMETER RS- ROCK SAMPLE	VESTIGES OF THE ORIGINAL ROCK FABRIC REMAIN. IF TESTED, YIELDS SPT N VALUES (180 BPF	INTERVENING IMPERVIOUS STRATUM.	
MATERIAL STIFF 8 TO 15 1 TO 2 (COHESIVE) VERY STIFF 15 TO 38 2 TO 4	TTTTT ALLUVIAL SOIL BOUNDARY INSTALLATION RT- RECOMPACTED STORE INDICATOR TRIAXIAL SAMPLE	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	RESIDUAL SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. ROCK DUALITY DESIGNATION (R.O.D.) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF	
HARD >30 >4	25/925 DIP/DIP DIRECTION OF INSTALLATION CRR - CRR SAMPLE	ALSO AN EXAMPLE.	ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND	
TEXTURE OR GRAIN SIZE	ROCK STRUCTURES SPT N-VALUE	ROCK HARDNESS	EXPRESSED AS A PERCENTAGE. SAPROLITE (SAP.) - RESIDUAL SOIL WHICH RETAINS THE RELIC STRUCTURE OR FABRIC OF THE	
U.S. STD. SIEVE S1ZE 4 10 40 60 200 270 OPENING (MM) 4,76 2,0 4,42 0,25 0,975 0,053	■ - SDUNDING ROD REF SPT REFUSAL	VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK, BREAKING OF HAND SPECIMENS REQUIRES. SEVERAL HARD BLOWS OF THE GEOLOGISTS PICK.	PAPENT ROCK.	
COADCE FINE	ABBREVIATIONS	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REDUIRED TO DETACH HAND SPECIMEN.	SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, WHICH HAS BEEN EMPLACED PARALLEL	
BOULDER	AR - AUGER REFUSAL PMT - PRESSUREMETER TEST	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK, GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE	TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS	
GRAIN MM 305 75 2.0 0.25 0.05 0.005	BT - BORING TERMINATED SD SAND, SANDY CL CLAY SL SILT, SILTY	HARD EXCAVATED BY HARD BLOW OF A GEOLOGISTS PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.	SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT DR SLIP PLANE.	
SIZE IN. 12" 3"	CPT - CONE PENETRATION TEST SLI SLIGHTLY CSE COARSE TCR - TRICONE REFUSAL	MEDIUM CAN BE GROOVED OR GOUGED 8.85 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT.	STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR B.P.F.) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH	
SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE FIELD MOISTURE CUIDE FOR EVEN A MANAGEMENT OF THE PROPERTY OF TH	DMT - DILATOMETER TEST	HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGISTS PICK.	A 2 INCH DUTSIDE DIAHETER SPLIT SPOON SAMPLER, SPT REFUSAL IS LESS THAN 0.1 FOOT PENETRATION WITH 68 BLDWS.	
(ATTERBERG LIMITS) DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION	O TOTAL TOTAL O TOTAL	SOFT CAN BE GROVED OR COUGED 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	STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH	
- SATURATED - USUALLY LIQUID; YERY WET, USUALLY	FDSS FDSSILIFEROUS V VERY	PIECES CAN BE BROKEN BY FINGER PRESSURE.	OF STRATUM AND EXPRESSED AS A PERCENTAGE.	
(SAT.) FROM BELOW THE GROUND WATER TABLE	FRAGS FRAGMENTS	VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH. SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY	STRATA ROCK QUALITY DESIGNATION (S.R.O.D.) - 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	
PLASTIC SEMISOLID, REQUIRES DRYING TO	MED MEDIUM	FINGERNAIL.	TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (T.S.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.	
(PI) PLASTIC LIMIT ATTAIN OPTIMUM MOISTURE	EQUIPMENT USED ON SUBJECT PROJECT	FRACTURE SPACING BEDDING TERM SPACING IERM IHICKNESS		
OF CPTIMUM MOISTURE - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE	ORILL UNITS: ADVANCING TOOLS: HAMMER TYPE:	VERY WIPE MORE THAN IN EFET VERY THICKLY BEDDED > 4 FEET	BENCH MARK:	
OM _ OPTIMUM MOISTURE - MUIST - MI SULIDI AT OK NEAR OPTIMUM MUISTURE SL _ SHRINKAGE LIMIT	MOBILE 8- CLAY BITS	MIDE 3 TO 10 FEET THICKLY BEDDED 1.5 - 4 FEET MODERATELY CLOSE 1 TO 3 FEET THINLY BEDDED 8.16 - 1.5 FEET	ELEVATION:	
- DRY - (D) REDUIRES ADDITIONAL WATER TO	BK-51 S'CONTINUOUS FLIGHT AUGER CORE SIZE:	CLOSE 0.16 TO 1 FEET VERY THINNY BEDDED 0.03 - 0.16 FEET	NOTES:	
ATTAIN DELIMON MOISTURE	A B NOCCO HOURS	THINLY LAMINATED (8.008 FEET		
PLASTICITY	X CME-45 HARD FACED FINGER BITS	INDURATION FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF THE MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.		
PLASTICITY INDEX (P) DRY STRENGTH NONPLASTIC 9-5 VERY LOW	CHE-550 TUNG,-CARBIDE INSERTS -H	DISCOURS WITH FINANCE CORES WHITEOUS COALS		
LOW PLASTICITY 6-15 SLIGHT	CASING W/ ADVANCER HAND TOOLS:	FRIABLE ROBBING WITH FINGER PREES NOMEHOUS GRAINS) GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.		
MED. PLASTICITY 16-25 MEDIUM HIGH PLASTICITY 26 OR MORE HIGH	PORTABLE HOIST TRICONE STEEL TEETH POST HOLE DIGGER	MODERATELY INDURATED DRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.		
COLOR	OTHER TRICONE TUNGCARB. HAND AUGER	INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE;		
DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YEL-BRN, BLUE-GRAY)	CORE BIT SOUNDING HUD	DIFFICULT TO BREAK WITH HAMMER.		
MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.	OTHER VANE SHEAR TEST OTHER OTHER	EXTREMELY INDURATED SHARP MANMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.		
			REVISED 09/15/00	





INVESTIGATION ALONG RET.WALL

APPROX. 0.5 MI NW OF INT. US 129/US 74

BORING OFFSETS IN FEET FROM WALL

