

SOIL LEGEND AND AASHTO CLASSIFICATION										CONSISTENCY OR DENSENESS							
GENERAL CLASS.	GRANULAR MATERIALS (< 35% PASSING #200)					SILT-CLAY MATERIALS (> 35% PASSING #200)					ORGANIC MATERIALS	PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTANCE (N - VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH (q <sub>u</sub> ) (kN / m <sup>2</sup> )		
GROUP CLASS.	A-1	A-3	A-2			A-4	A-5	A-6	A-7	A-1,A-2	A-3	A-4,A-5	A-6,A-7				
SYMBOL																	
% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX 10 MX	51 MN 35 MX 35 MX 35 MX	35 MX 35 MX 35 MX	36 MN 36 MN 36 MN	36 MN 36 MN 36 MN	36 MN 36 MN 36 MN	36 MN 36 MN 36 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT						
(PASSING #40) LL PI	6 MX	N.P.	40 MX 10 MN 41 MN 10 MN 41 MN 11 MN 40 MX 10 MN 41 MN 11 MN	40 MX 10 MN 41 MN 11 MN	40 MX 10 MN 41 MN 11 MN	40 MX 10 MN 41 MN 11 MN	40 MX 10 MN 41 MN 11 MN	40 MX 10 MN 41 MN 11 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS						
GROUP INDEX	0	0	0	4 MX	8 MX	12 MX	16 MX	NO MX									
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL & SAND	FINE GRAVEL AND SAND	SILTY OR CLAYEY GRAVEL AND SAND			SILTY SOILS		CLAYEY SOILS									
* PI OF A-7-5 < (LL-30); PI OF A-7-6 > (LL-30)																	
TEXTURE OR GRAIN SIZE																	
BOULDER	COBBLE	GRAVEL	COARSE SAND	FINE SAND	SILT	CLAY											
GRAIN (mm) SIZE (IN)	305 12	75 3	2	0.25	0.05	0.005											
SOIL MOISTURE - CORRELATION OF TERMS																	
SOIL MOISTURE SCALE (ATTERBERG LIMITS)		FIELD MOISTURE DESCRIPTION		GUIDE FOR FIELD MOISTURE DESCRIPTION													
LL	LIQUID LIMIT	-SATURATED- (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE														
PL	PLASTIC LIMIT	-WET- (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE														
OM	OPTIMUM MOISTURE	-MOIST- (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE														
SL	SHRINKAGE LIMIT	-DRY- (D)	REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE														
ROCK DESCRIPTION																	
IN THE BROADEST MEANING, HARD ROCK IS CONSIDERED TO BE THAT INDURATED EARTH MATERIAL WHICH CANNOT BE SAMPLED BY CONVENTIONAL SOIL SAMPLING TOOLS OR TECHNIQUES. THE BOUNDARY BETWEEN SOIL AND ROCK IS ARBITRARY. TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF "WEATHERED ROCK". FOR THE PURPOSE OF THIS INVESTIGATION, THESE MATERIALS ARE DIVIDED AS FOLLOWS:																	
TERM	SYMBOLS		DESCRIPTION														
HARD ROCK (HR)	CORED ROCK	INFERRED ROCK LINE	MATERIAL THAT CANNOT BE PENETRATED BY POWER AUGERS, EXCEPT IN THIN LEDGES, AND REQUIRES ROCK CORING TOOLS FOR OBTAINING A SAMPLE														
WEATHERED ROCK (WR)	HARD WEATHERED ROCK (HWR)	SOFT WEATHERED ROCK (SWR)	MATERIAL THAT CAN BE PENETRATED WITH GREAT DIFFICULTY USING POWER AUGERS AND YIELDS SPT REFUSAL														
<sup>1</sup> SPT REFUSAL ≤ 2.5 cm of PENETRATION PER 50 BLOWS IN SPT. <sup>2</sup> AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH AUGERS COULD NO LONGER PENETRATE. THE HARD ROCK SYMBOL IS SHOWN WHEN ROCK IS CORED AND ONLY TO THAT DEPTH CORED. A DESCRIPTION OF ROCK IS GIVEN, INCLUDING: CORE RECOVERY (REC.) - TOTAL LENGTH OF ROCK RECOVERED IN THE CORE BARREL DIVIDED BY THE TOTAL LENGTH OF THE CORE RUN TIMES 100%. ROCK QUALITY DESIGNATION (ROD) - TOTAL LENGTH OF SOUND ROCK SEGMENTS RECOVERED THAT ARE LONGER THAN OR EQUAL TO 0.1 m DIVIDED BY THE TOTAL LENGTH OF THE CORE RUN TIMES 100%.																	
ABBREVIATIONS																	
ALLUV.	ALLUVIUM	MIC.	MICACEOUS														
AR	AUGER REFUSAL	MOT.	MOTTLED														
BLDR.	BOULDER	N	BLOWS / 30 CM														
CALC.	CALCAREOUS	NS	NO SAMPLE TAKEN														
CL.	CLAY	ORG.	ORGANIC														
CLY.	CLAYEY	P.P.	POCKET PENETROMETER														
COB.	COBBLE	REF.	REFER TO														
CSE.	COARSE	RES.	RESIDUAL														
DPT	DYNAMIC PENETRATION TEST	S.	SOFT														
EST.	ESTIMATED	SAT.	SATURATED														
F.	FINE	SD.	SAND														
FIAD	FILLED IMMED. AFTER DRILLING	SDY.	SANDY														
FOSS.	FOSSILIFEROUS	SED(S).	SEDIMENT(S)														
FRAC.	FRACTURED	SL.	SILT, SILTY														
FRAG(S).	FRAGMENT(S)	SLI.	SLIGHTLY														
GR.	GRAVEL	SPT	STANDARD PENETRATION TEST														
GS	SPECIFIC GRAVITY	TS.	TOPSOIL														
GW	GROUND WATER	VST	VANE SHEAR TEST														
MED.	MEDIUM	V.	VERY														
		W/	WITH														
BENCH MARK: -BY16- 1043 AT -Y1- STA. 12+32.961, 4.549 METERS RIGHT ELEVATION 89.330 METERS																	
STATE PROJECT NO. 34459.1.6 T.J.P. NO. R-2552C F.A. NO. NHF-60-1(9) COUNTY JOHNSTON ROUTE US 70 BYPASS SITE DESCRIPTION DUAL BRIDGES NO. 602 ON -L2RT- STA. 12+14.8 AND NO. 603 ON -L2LT- STA. 12+97.2 OVER SR 1563 (LITTLE CREEK CHURCH RD.) PROJECT GEOLOGIST J.B. BARFIELD SUBMITTED BY D.N. ARGENBRIGHT PERSONNEL N.D. MOHS C.D. CZAJKA M. MOSELEY DATE SUBMITTED OCTOBER 2004 J. WHITE REV. 8/11/98																	

## CAUTION NOTICE

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