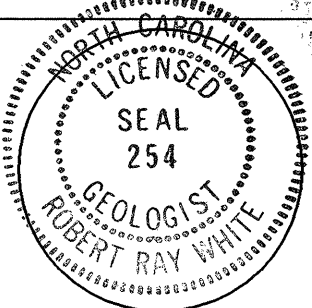


NORTH CAROLINA DIVISION OF HIGHWAYS GEOTECHNICAL UNIT

SOIL AND ROCK CLASSIFICATION, LEGEND, AND ABBREVIATIONS

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 (BLOWS PER FOOT)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH (qu) (TONS/FT ²)
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		GENERALLY GRANULAR MATERIAL	VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	< 4 4 TO 10 10 TO 30 30 TO 50 > 50	N/A
SYMBOL																
% PASSING	#10 50 MX	#40 30 MX	#200 15 MX	51 MN	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT	
(PASSING #40) LL PI	6 MX	N.P.	10 MX	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX
GROUP INDEX	0	0	0	4 MX	8 MX	12 MX	16 MX	NO MX				SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS		
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL & SAND	FINE 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)	305	75	2	0.25	0.05	0.005										
SIZE (IN)	12"	3"														
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										
PLASTIC RANGE (PD 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 ²			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)			MATERIAL THAT CAN BE PENETRATED WITH GREAT DIFFICULTY USING POWER AUGERS AND YIELDS SPT REFUSAL										
			SOFT WEATHERED ROCK (SWR)			MATERIAL THAT CAN BE PENETRATED WITH SOME DIFFICULTY USING POWER AUGERS AND YIELDS SPT VALUES > 100 BPF BUT < SPT REFUSAL										
¹ SPT REFUSAL ≤ 1 INCH OF PENETRATION PER 50 BLOWS. ² 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 4" DIVIDED BY THE TOTAL LENGTH OF THE CORE RUN TIMES 100%.																
BENCH MARK: BM #15 CHISELED SQUARE IN SOUTHEAST CORNER OF SIDEWALK 105.7' RT. OF -BL- STA. 11+62.82 ELEV. 3.64'																
STATE PROJECT NO. 8J080701																
T.A.P. NO. B-3349 F.A. NO. BRSTP-264(III)																
COUNTY HYDE ROUTE US 264																
SITE DESCRIPTION BRIDGE NO. 32 ON US 264 OVER ROSE BAY CREEK																
PROJECT GEOLOGIST SSB SUBMITTED BY RRW																
PERSONNEL AHG DRP RES DATE SUBMITTED 3/2001 WNC																



SEAL
Robert Ray White
Signature

REV. 8/11/98