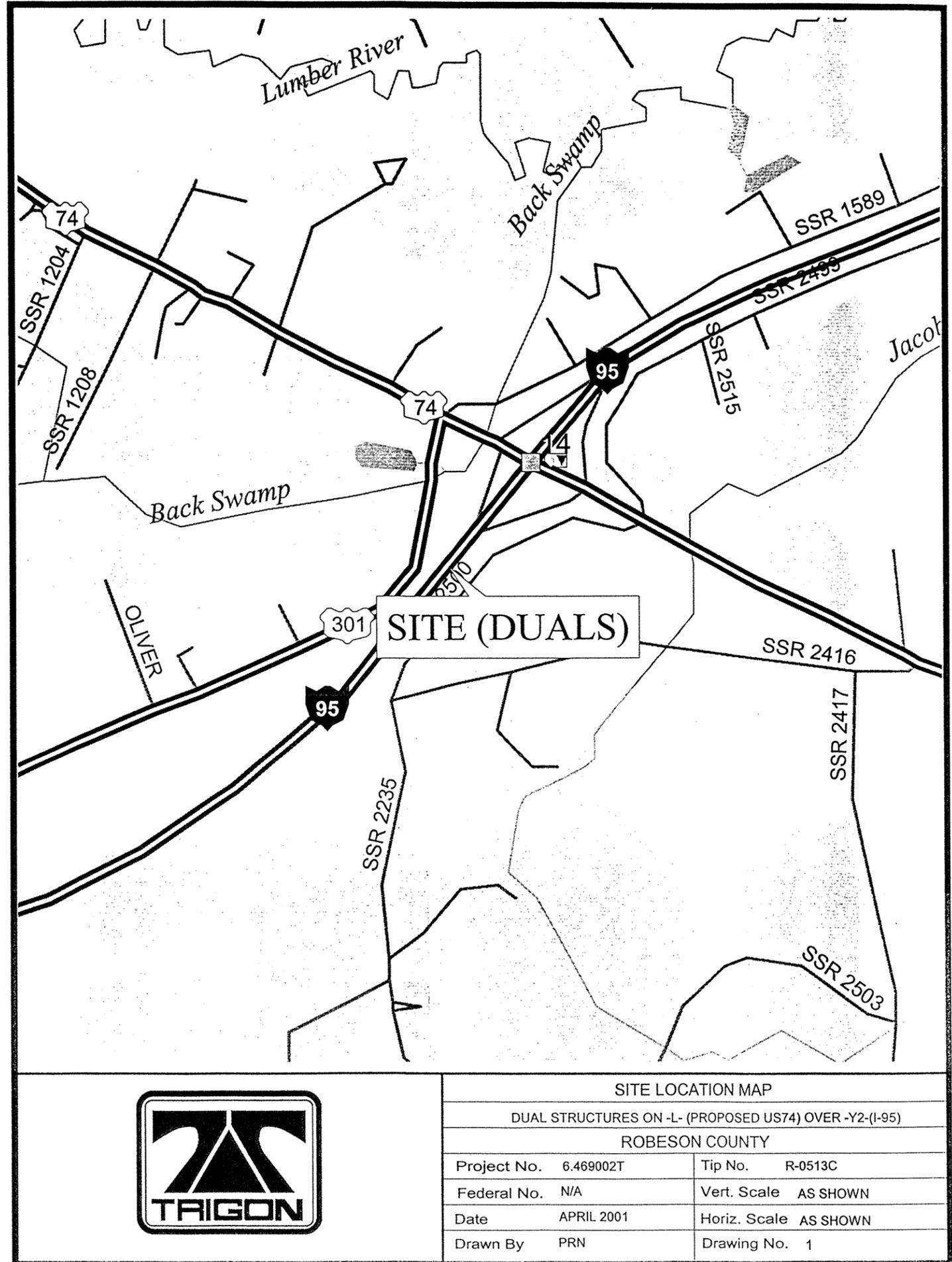


**NORTH CAROLINA DIVISION OF HIGHWAYS
GEOTECHNICAL UNIT
SOIL AND ROCK CLASSIFICATION, LEGEND, AND ABBREVIATIONS**

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 (N - VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH (q _u) (kN / m ²)
GROUP CLASS.	A-1	A-3	A-2		A-4	A-5	A-6	A-7	A-1,A-2	A-4,A-5				
SYMBOL														
% PASSING	#10 #40 #200	#10 #40 #200	#10 #40 #200	#10 #40 #200	#10 #40 #200	#10 #40 #200	#10 #40 #200	#10 #40 #200	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT			
(PASSING #40) LL PI	6 MX	N.P.	40 MX 10 MN	40 MX 10 MN	40 MX 10 MN	40 MX 10 MN	40 MX 10 MN	40 MX 10 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 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											
PL	PLASTIC LIMIT	-WET- (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE											
OM	OPTIMUM MOISTURE SHRINKAGE LIMIT	-MOIST- (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE											
SL		-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)	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 BLOWS BUT < SPT REFUSAL											
¹ SPT REFUSAL ≤ 2.5 cm OF PENETRATION PER 50 BLOWS IN SPT. 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 (ROQ) - 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%.														
BENCH MARK: BL-18, REBAR WITH CAP, -BL-, STA 39+12.136, EL. 43.77 STATE PROJECT NO. 6.469002T T.I.P. NO. R-0513C F.A. NO. N/A COUNTY ROBESON ROUTE SITE DESCRIPTION DUAL STRUCTURES ON -L- (PROPOSED US 74) OVER -Y2- (I-95) PROJECT GEOLOGIST C.NORVILLE SUBMITTED BY TRIGON PERSONNEL D.J.GOODNIGHT D.L. TEAGUE S.W.WHICHARD DATE SUBMITTED MAY 2001 G.C.REECE P.R.NORVILLE REV. 6/11/98														



SITE LOCATION MAP	
DUAL STRUCTURES ON -L- (PROPOSED US74) OVER -Y2- (I-95)	
ROBESON COUNTY	
Project No. 6.469002T	Tip No. R-0513C
Federal No. N/A	Vert. Scale AS SHOWN
Date APRIL 2001	Horiz. Scale AS SHOWN
Drawn By PRN	Drawing No. 1