

REFERENCE: I-2513AC

PROJECT: 34165

CONTENTS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY BUNCOMBE

PROJECT DESCRIPTION I-26I-40I-240 INTERCHANGE
TO SR 3548 (HAYWOOD ROAD)

SITE DESCRIPTION DUAL BRIDGES NO. 898 & 899 ON
I-26I-240 (-L-) OVER SR 3556 (AMBOY ROAD, -Y3-)
-L- STA. 83 + 50.80

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-2513AC	1	9

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF PREPARING THE SCOPE OF WORK TO BE INCLUDED IN THE REQUEST FOR PROPOSAL. 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.

SOIL AND ROCK BOUNDARIES WITHIN A BOREHOLE ARE BASED ON GEOTECHNICAL INTERPRETATION UNLESS ENCOUNTERED IN A SAMPLE. INTERPRETED BOUNDARIES MAY NOT NECESSARILY REFLECT ACTUAL SUBSURFACE CONDITIONS BETWEEN SAMPLED STRATA AND BOREHOLE INFORMATION MAY NOT NECESSARILY REFLECT ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS. 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 PERFORM INDEPENDENT SUBSURFACE INVESTIGATIONS AND MAKE INTERPRETATIONS AS NECESSARY TO CONFIRM CONDITIONS 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:
- 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.
 - 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

A. BLACKMORE

D. HAMILTON

TOTAL DEPTH DRILLING

TERRACON CONSULTANTS

INVESTIGATED BY ECS SOUTHEAST, LLC

DRAWN BY A. SUTTLE, P.E.

CHECKED BY M. MULLA, P.E.

SUBMITTED BY ECS SOUTHEAST, LLC

DATE MARCH 2024

Prepared in the Office of:

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Signed by: Amanda R. Suttle, P.E. 6/30/2026

BDAF14CE SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

SOIL DESCRIPTION

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,
VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)				SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS			
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	50 MX 30 MX 15 MX	50 MX 25 MX 10 MX	35 MX 35 MX 10 MX	35 MX 35 MX 10 MX	35 MX 35 MX 10 MX	36 MN 36 MN 36 MN	36 MN 36 MN 36 MN	36 MN 36 MN 36 MN	GRANULAR SOILS			
MATERIAL PASSING #40 LL PI	— 6 MX		— NP		40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	40 MX 10 MX	41 MN 11 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER	
GROUP INDEX	0		0		4 MX		8 MX	12 MX	16 MX	NO MX	HIGHLY ORGANIC SOILS	
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL, AND SAND		FINE SAND		SILTY OR CLAYEY GRAVEL AND SAND		SILTY SOILS		CLAYEY SOILS			
GEN. RATING AS SUBGRADE	EXCELLENT TO GOOD				FAIR TO POOR				FAIR TO POOR		POOR	
PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS ≥ LL - 30												

CONSISTENCY OR DENSENESS

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT²)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	< 4 4 TO 10 10 TO 30 30 TO 50 > 50	N/A
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD	< 2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 > 30	< 0.25 0.25 TO 0.5 0.5 TO 1.0 1 TO 2 2 TO 4 > 4

TEXTURE OR GRAIN SIZE

U.S. STD. SIEVE SIZE OPENING (MM)	4	10	40	60	200	270
	4.76	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	305 IN.	75 IN.	2.0	0.25	0.05	0.005
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SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
LL PLASTIC RANGE (PI) PL	LIQUID LIMIT - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
	WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
	MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
OM SL	OPTIMUM MOISTURE SHRINKAGE LIMIT	
- DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE		

PLASTICITY

NON PLASTIC	SLIGHTLY PLASTIC	MODERATELY PLASTIC	HIGHLY PLASTIC
0-5	6-15	16-25	26 OR MORE
VERY LOW SLIGHT MEDIUM HIGH			

COLOR

DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.

GRADATION

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.

ANGULARITY OF GRAINS

THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.

MINERALOGICAL COMPOSITION

MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.

COMPRESSIBILITY

SLIGHTLY COMPRESSIBLE
MODERATELY COMPRESSIBLE
HIGHLY COMPRESSIBLE

LL < 31
LL = 31 - 50
LL > 50

PERCENTAGE OF MATERIAL

ORGANIC MATERIAL
TRACE OF ORGANIC MATTER
LITTLE ORGANIC MATTER
MODERATELY ORGANIC
HIGHLY ORGANIC

GRANULAR SOILS
2 - 3%
3 - 5%
5 - 10%
> 10%

SILT - CLAY SOILS
3 - 5%
5 - 12%
12 - 20%
> 20%

OTHER MATERIAL
TRACE
LITTLE
SOME
HIGHLY

1 - 10%
10 - 20%
20 - 35%
35% AND ABOVE

GROUND WATER

WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING

STATIC WATER LEVEL AFTER 24 HOURS

PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA

SPRING OR SEEP

MISCELLANEOUS SYMBOLS

ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION

SOIL SYMBOL

ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT

INFERRED SOIL BOUNDARY

INFERRED ROCK LINE

ALLUVIAL SOIL BOUNDARY

DIP & DIP DIRECTION OF ROCK STRUCTURES

TEST BORING

AUGER BORING

CORE BORING

MONITORING WELL

PIEZOMETER INSTALLATION

SLOPE INDICATOR INSTALLATION

CONE PENETROMETER TEST

SOUNDING ROD

TEST BORING WITH CORE

SPT N-VALUE

RECOMMENDATION SYMBOLS

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

ABBREVIATIONS

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
HL - 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

SAMPLE ABBREVIATIONS

S - BULK
SS - SPLIT SPOON
ST - SHELBY TUBE
RS - ROCK
RT - RECOMPACTED TRIAXIAL
CBR - CALIFORNIA BEARING RATIO

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:

CME-45C

CME-75

CME-550

VANE SHEAR TEST

PORTABLE HOIST

DIEDRICH D50

ADVANCING TOOLS:

CLAY BITS

6" CONTINUOUS FLIGHT AUGER

8" HOLLOW AUGERS

HARD FACED FINGER BITS

TUNG-CARBIDE INSERTS

CASING

W/ ADVANCER

TRICONE

STEEL TEETH

TRICONE

TUNG-CARB.

CORE BIT

MUD ROTARY

HAMMER TYPE:

AUTOMATIC

MANUAL

CORE SIZE:

B

H

N

HAND TOOLS:

POST HOLE DIGGER

HAND AUGER

SOUNDING ROD

VANE SHEAR TEST

ROCK DESCRIPTION

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:

WEATHERED ROCK (WR)

NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.

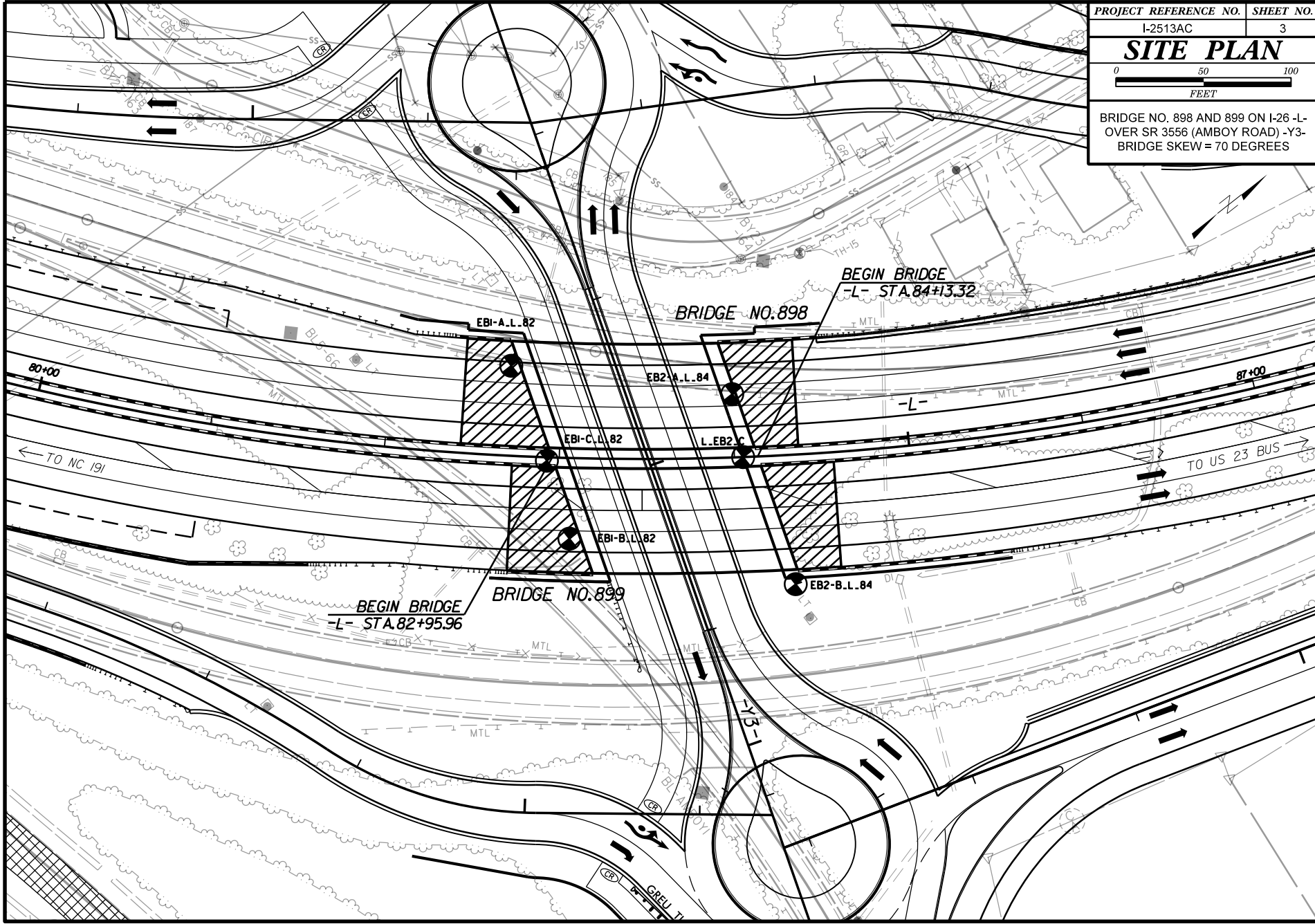
CRYSTALLINE ROCK (CR)

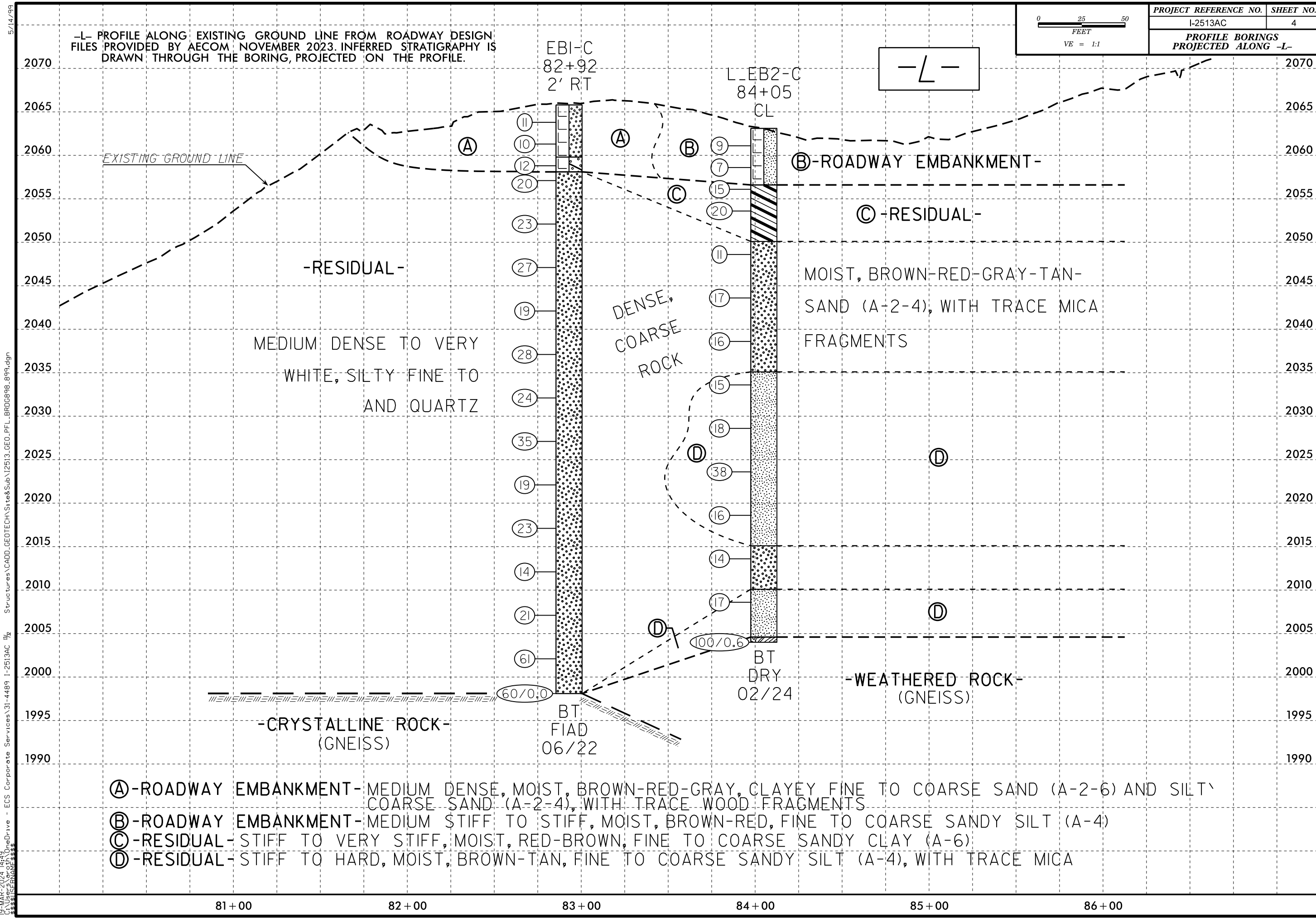
FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.

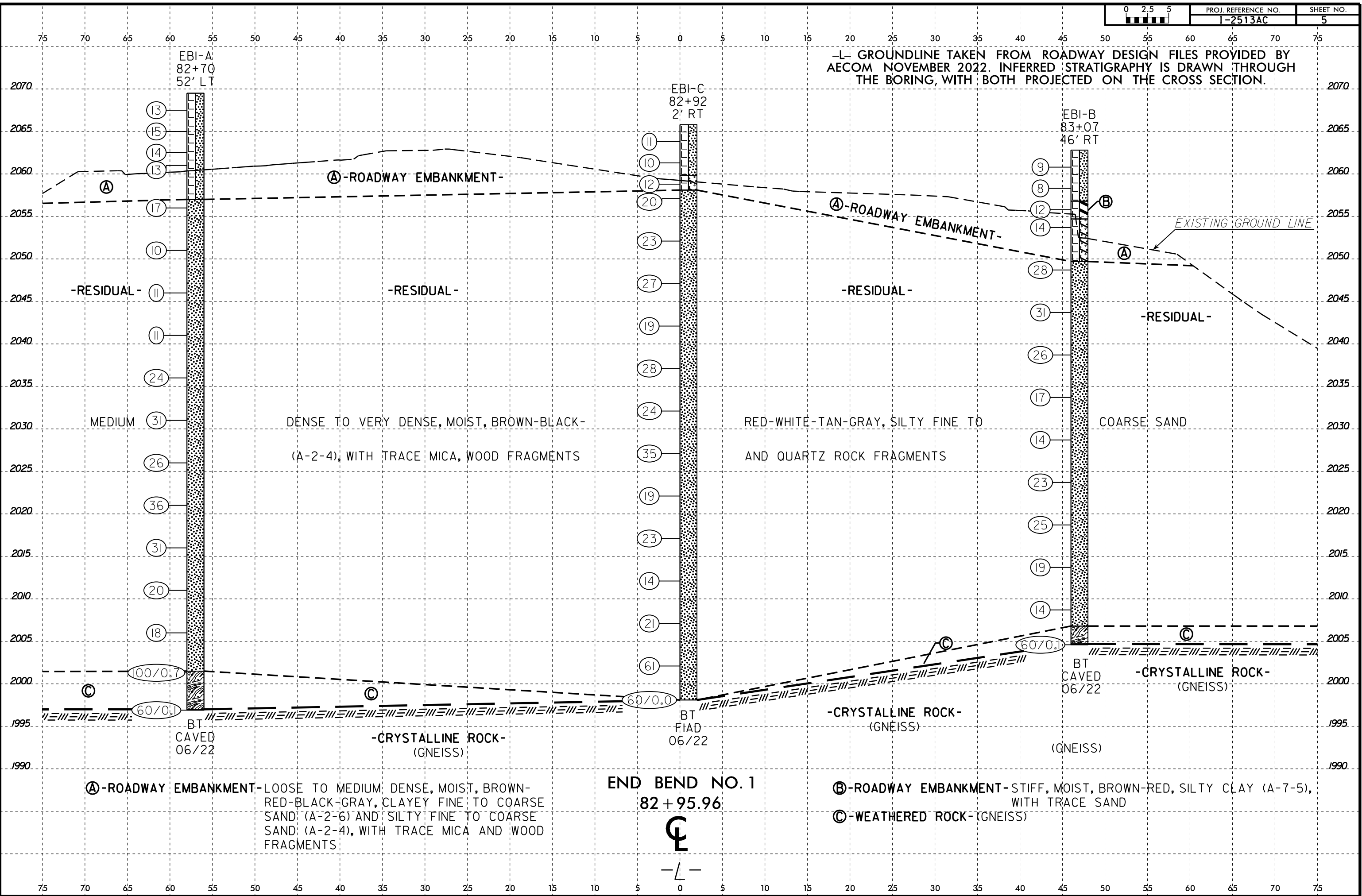
NON-CRYSTALLINE ROCK (NCR)

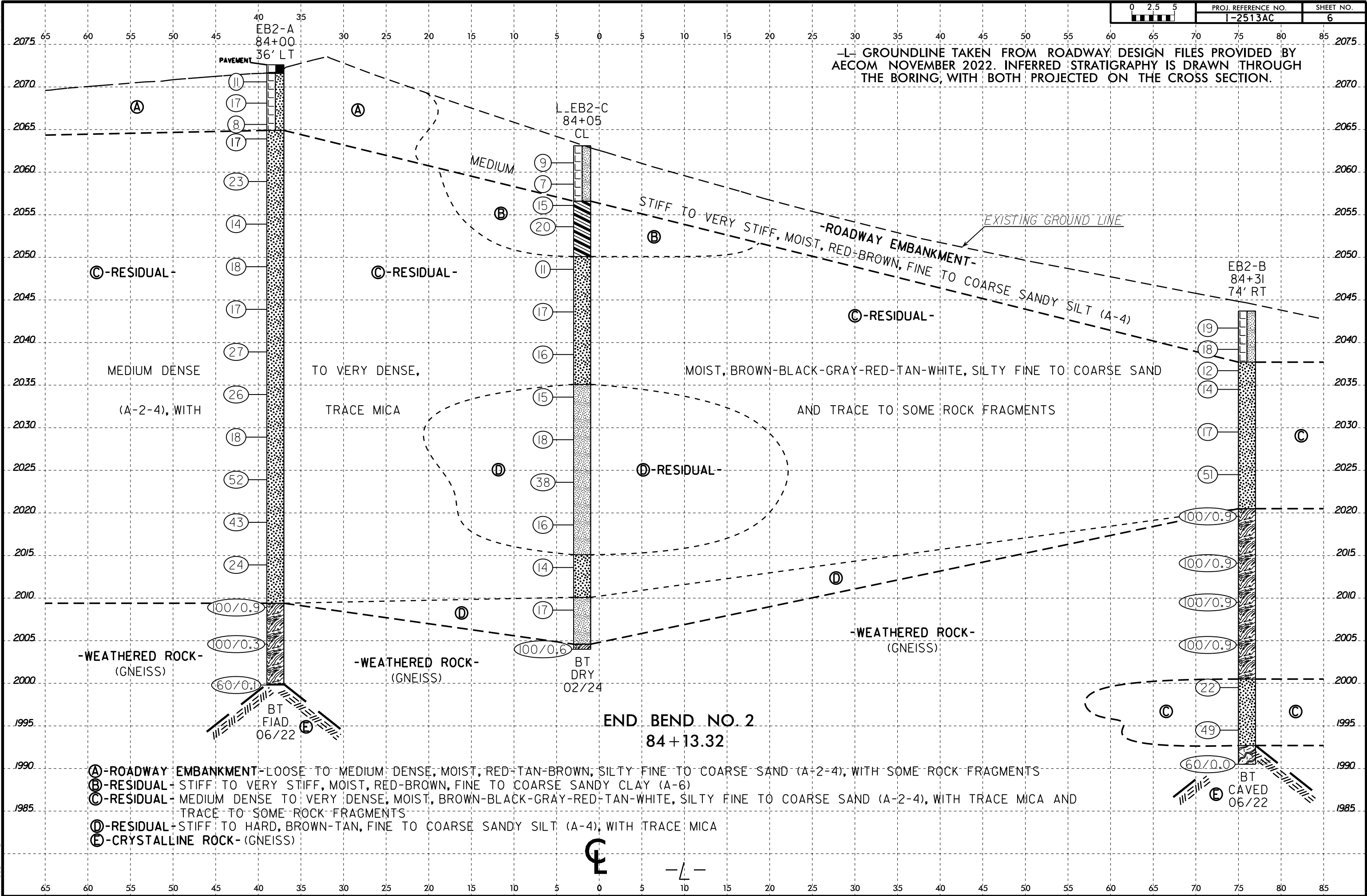
FINE TO COARSE GRAIN METAMORPHIC

PROJECT REFERENCE NO.	I-2513AC	SHEET NO.	3
SITE PLAN			
BRIDGE NO. 898 AND 899 ON I-26 -L- OVER SR 3556 (AMBOY ROAD) -Y3- BRIDGE SKEW = 70 DEGREES			









NCDOT BORE DOUBLE I2513AC GEO RDWY TERRACON.GPJ NC DOT.GDT 3/19/24

WBS		34165.1.2		TIP		I-2513AC		COUNTY		BUNCOMBE		GEOLOGIST		CHITTICK, N.																																													
SITE DESCRIPTION													I-26 CONNECTOR (I-40 TO US 19 - 23 - 70 NORTH OF ASHEVILLE)			GROUND WTR (ft)																																											
BORING NO.				EB1-C				STATION				82+92				OFFSET				2 ft RT				ALIGNMENT				-L-				0 HR.		N/A																									
COLLAR ELEV.				2,065.8 ft				TOTAL DEPTH				67.7 ft				NORTHING				680,785				EASTING				933,686				24 HR.		FIAD																									
DRILL RIG/HAMMER EFF./DATE										TER373 DIEDRICH D-50 95% 02/06/2021										DRILL METHOD										Mud Rotary										HAMMER TYPE										Automatic									
DRILLER						TURNAGE, J. R.						START DATE						06/16/22						COMP. DATE						06/16/22						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																																																		
2070																																																											
2065		2,064.8		1.0		4 5 6														GROUND SURFACE 0.0																																							
		2,062.3		3.5		5 5 5														ROADWAY EMBANKMENT																																							
2060		2,059.8		6.0		3 5 7														MEDIUM DENSE, BROWN, SILTY FINE TO COARSE SAND, MOIST (A-2-4)																																							
		2,058.1		7.7		6 8 12														M																																							
2055		2,053.1		12.7		7 12 11														M																																							
2050		2,048.1		17.7		13 12 15														M																																							
2045		2,043.1		22.7		8 8 11														M																																							
2040		2,038.1		27.7		7 13 15														M																																							
2035		2,033.1		32.7		9 10 14														M																																							
2030		2,028.1		37.7		7 15 20														M																																							
2025		2,023.1		42.7		5 9 10														M																																							
2020		2,018.1		47.7		4 7 16														M																																							
2015		2,013.1		52.7		4 6 8														M																																							
2010		2,008.1		57.7		12 10 11														M																																							
2005		2,003.1		62.7		55 21 40														M																																							
2000		1,998.1		67.7		60/0.0														Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 1,998.1 ft ON CRYSTALLINE ROCK (GNEISS)																																							

NCDOT BORE DOUBLE I2513AC GEO RDWY TERRACON.GPJ NC DOT.GDT 3/19/24

[illegible]

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 34165.1.13		TIP I-2513AC		COUNTY BUNCOMBE		GEOLOGIST A. Blackmore									
SITE DESCRIPTION I-26/I-40/I-240 Interchange to SR 3548 (Haywood Road)							GROUND WTR (ft)								
BORING NO. L_EB2-C		STATION 84+05		OFFSET CL		ALIGNMENT -L-		0 HR.	Dry						
COLLAR ELEV. 2,063.1 ft		TOTAL DEPTH 59.1 ft		NORTHING 680,875		EASTING 933,754		24 HR.	Dry						
DRILL RIG/HAMMER EFF./DATE TDD417 CME75 82.7% 06/15/2021				DRILL METHOD H.S. Augers			HAMMER TYPE Automatic								
DRILLER D. Hamilton		START DATE 02/22/24		COMP. DATE 02/22/24		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)
2065															
	2,062.1	1.0												2,063.1	GROUND SURFACE 0.0
2060	2,059.6	3.5	2	4	5							M		ROADWAY EMBANKMENT Medium Stiff to Stiff, Brown-Red, Fine to Coarse Sandy SILT (A-4)	
	2,057.1	6.0	2	3	4							M			
2055	2,054.6	8.5	4	6	9							M		2,056.6	RESIDUAL 6.5
	2,054.6											M		Stiff to Very Stiff, Red-Brown, Fine to Coarse Sandy CLAY (A-6)	
2050	2,049.6	13.5	7	10	10							M		2,050.1	13.0
	2,049.6		2	5	6							M		Medium Dense, Brown-Gray, Silty Fine to Coarse SAND (A-2-4), with trace mica	
2045	2,044.6	18.5										M			
	2,044.6		5	9	8							M			
2040	2,039.6	23.5										M			
	2,039.6		7	8	8							M			
2035	2,034.6	28.5										M		2,035.1	28.0
	2,034.6		6	8	7							M		Stiff to Hard, Brown-Tan, Fine to Coarse Sandy SILT (A-4), with trace mica	
2030	2,029.6	33.5										M			
	2,029.6		8	8	10							M			
2025	2,024.6	38.5										M			
	2,024.6		12	17	21							M			
2020	2,019.6	43.5										M			
	2,019.6		6	7	9							M			
2015	2,014.6	48.5										M		2,015.1	48.0
	2,014.6		8	8	6							M		Medium Dense, Tan-White, Silty Fine to Coarse SAND (A-2-4), with trace mica	
2010	2,009.6	53.5										M		2,010.1	53.0
	2,009.6		8	7	10							M		Very Stiff, Brown-Tan, Fine to Coarse Sandy SILT (A-4), with trace mica	
2005	2,004.6	58.5												2,004.6	58.5
	2,004.6		35	65/0.1										2,004.0	59.1
														WEATHERED ROCK Brown (GNEISS) Boring Terminated at Elevation 2,004.0 ft In Weathered Rock (GNEISS) Suficial Organic Soil 0.0 to 0.2 feet	

WBS 34165.1.2		TIP I-2513AC		COUNTY BUNCOMBE		GEOLOGIST CHITTICK, N.								
SITE DESCRIPTION I-26 CONNECTOR (I-40 TO US 19 - 23 - 70 NORTH OF ASHEVILLE)							GROUND WTR (ft)							
BORING NO. EB2-B		STATION 84+31		OFFSET 74 ft RT		ALIGNMENT -L-		0 HR. N/A						
COLLAR ELEV. 2,043.7 ft		TOTAL DEPTH 53.2 ft		NORTHING 680,854		EASTING 933,830		24 HR. Caved						
DRILL RIG/HAMMER EFF./DATE TER373 DIEDRICH D-50 95% 02/06/2021				DRILL METHOD Mud Rotary			HAMMER TYPE Automatic							
DRILLER TURNAGE, J. R.		START DATE 06/21/22		COMP. DATE 06/22/22		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)
2045														
	2,042.7	1.0	12	9	10								2,043.7	GROUND SURFACE 0.0
2040	2,040.2	3.5	11	9	9									ROADWAY EMBANKMENT VERY STIFF, RED, BROWN, FINE SANDY SILT, MOIST (A-4)
	2,037.7	6.0	4	5	7								2,037.7	RESIDUAL 6.0
2035	2,035.5	8.2	6	6	8									MEDIUM DENSE TO VERY DENSE, BROWN, RED, BLACK, SILTY FINE TO COARSE SAND, TRACE MICA, MOIST (A-2-4)
2030	2,030.5	13.2	7	7	10									
2025	2,025.5	18.2	23	26	25									
2020	2,020.5	23.2	64	36/0.4									2,020.5	23.2
										100/0.9				WEATHERED ROCK (BROWN, BLACK, GNEISS)
2015	2,015.5	28.2	28	46	54/0.4					100/0.9				
2010	2,010.5	33.2	19	27	73/0.4					100/0.9				
2005	2,005.5	38.2	33	38	62/0.4					100/0.9				
2000	2,000.5	43.2	8	10	12								2,000.5	43.2
														RESIDUAL
1995	1,995.5	48.2	19	22	27									MEDIUM DENSE TO DENSE, BROWN WITH BLACK, SILTY FINE TO COARSE SAND, MOIST (A-2-4)
	1,990.5	53.2	60/0.0							60/0.0			1,992.7	51.0
													1,990.5	53.2
														CRYSTALLINE ROCK (GNEISS)
														Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 1,990.5 ft IN CRYSTALLINE ROCK (GNEISS)
														CAVED DRY @ 28.5' TOPSOIL 3"

NCDOT BORE DOUBLE I2513AC_GEO_RDWY_TERRACON.GPJ NC DOT GDT 3/19/24