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REFERENCE: U-2524BC

PROJECT: 34820

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY GUILFORD
 PROJECT DESCRIPTION GREENSBORO WESTERN LOOP
(I-73 CONNECTOR) FROM I-73A-840 TO SR 2085
(BRYAN BOULEVARD) INTERCHANGE
 SITE DESCRIPTION BRIDGE NO. 743 OVER SR 2085
(BRYAN BOULEVARD) ON SR 2140 (INMAN ROAD)

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2524BC	1	14

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. 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.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. 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 MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE 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

B. WORLEY, PG

B. SMITH, PG

J. ELLIOTT, PE

J. BARE

T. BRIGMAN

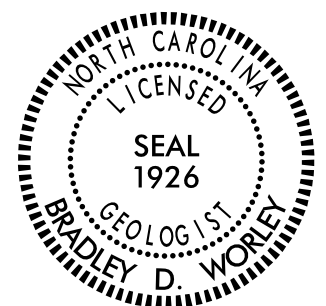
INVESTIGATED BY B. WORLEY, PG

DRAWN BY B. WORLEY & M. BRANDON

CHECKED BY D. DEWEY, PE

SUBMITTED BY Summit Design and Engineering Services, PLLC

DATE JANUARY, 2015



DocuSigned by:

Brad Worley

1/23/2015

CA8721209FC8476 SIGNATURE

DATE

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).

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.

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.

TERMS AND DEFINITIONS
ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
AQUIFER - A WATER BEARING FORMATION OR STRATA.

SOIL LEGEND AND AASHTO CLASSIFICATION table with columns for GENERAL CLASS, GRANULAR MATERIALS, SILT-CLAY MATERIALS, ORGANIC MATERIALS, and various soil types with their corresponding symbols.

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 LL < 31
MODERATELY COMPRESSIBLE LL = 31 - 50
HIGHLY COMPRESSIBLE LL > 50

WEATHERING
FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.
VERY SLIGHT (V SLI.) ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN.

WEATHERING (continued)
SLIGHT (SLI.) ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY.
MODERATE (MOD.) SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS.

CONSISTENCY OR DENSITY table with columns for PRIMARY SOIL TYPE, COMPACTNESS OR CONSISTENCY, RANGE OF STANDARD PENETRATION RESISTANCE, and RANGE OF UNCONFINED COMPRESSIVE STRENGTH.

MISCELLANEOUS SYMBOLS
ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION
SOIL SYMBOL
ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT

MISCELLANEOUS SYMBOLS (continued)
DIP & DIP DIRECTION OF ROCK STRUCTURES
TEST BORING
AUGER BORING
CORE BORING
MONITORING WELL
PIEZOMETER INSTALLATION

MISCELLANEOUS SYMBOLS (continued)
SLOPE INDICATOR INSTALLATION
CONE PENETROMETER TEST
SOUNDING ROD
TEST BORING WITH CORE
SPT N-VALUE

TEXTURE OR GRAIN SIZE table with columns for U.S. STD. SIEVE SIZE, BOULDER, COBBLE, GRAVEL, COARSE SAND, FINE SAND, SILT, and CLAY.

RECOMMENDATION SYMBOLS
UNDERCUT
UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE
UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL

ROCK HARDNESS
VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.

ROCK HARDNESS (continued)
HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.

SOIL MOISTURE - CORRELATION OF TERMS table with columns for SOIL MOISTURE SCALE, FIELD MOISTURE DESCRIPTION, and GUIDE FOR FIELD MOISTURE DESCRIPTION.

ABBREVIATIONS
AR - AUGER REFUSAL
BT - BORING TERMINATED
CL - CLAY
CPT - CONE PENETRATION TEST

ROCK HARDNESS (continued)
MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK, GOUGES OR GROOVES TO .025 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK.

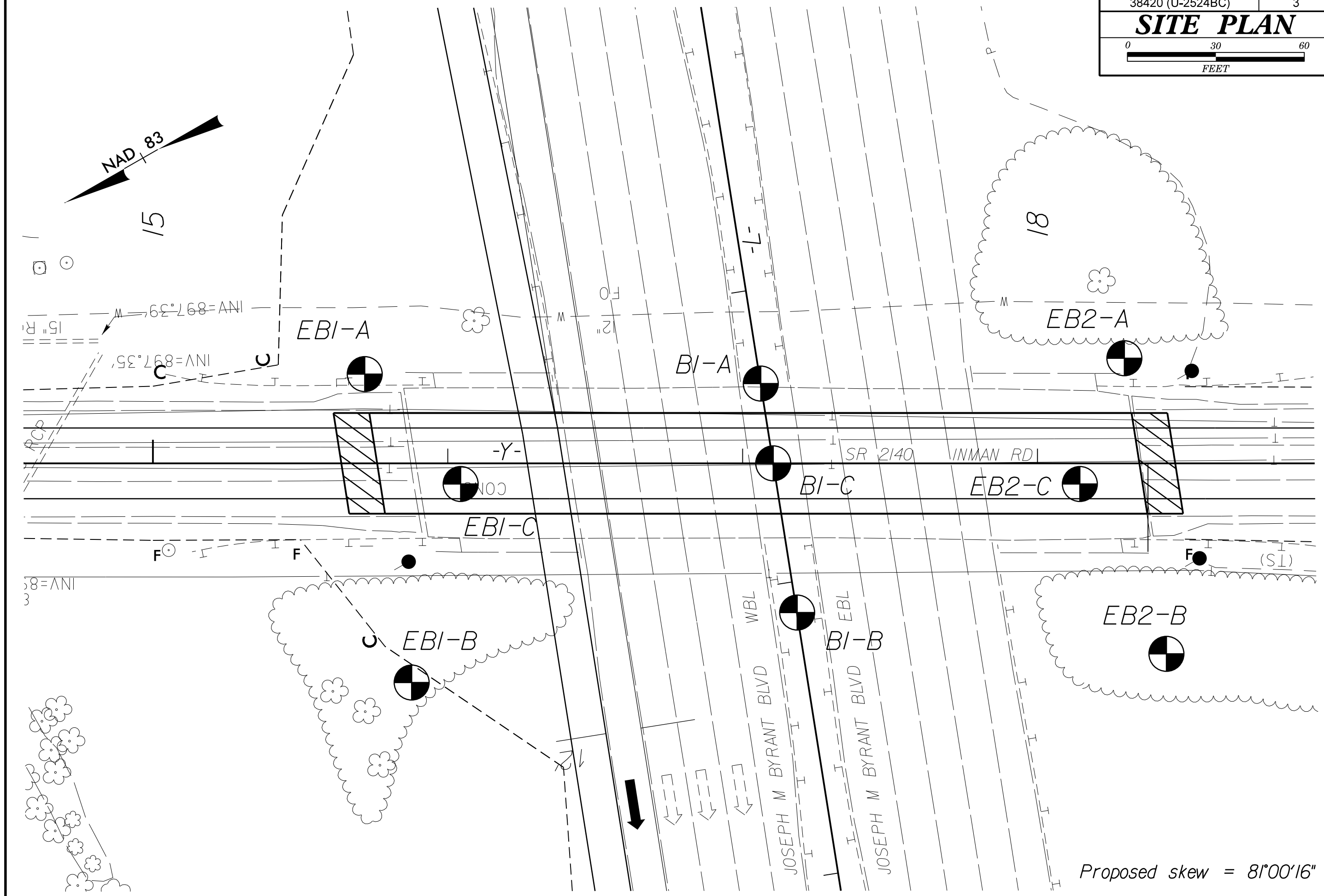
ROCK HARDNESS (continued)
MEDIUM HARD CAN BE GROVED OR GOUGED .05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.

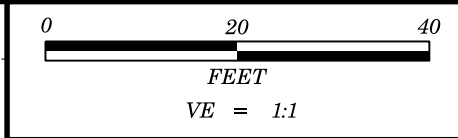
PLASTICITY table with columns for PLASTICITY INDEX (PI) and DRY STRENGTH.

EQUIPMENT USED ON SUBJECT PROJECT
DRILL UNITS:
CME-45C
CME-55
CME-550

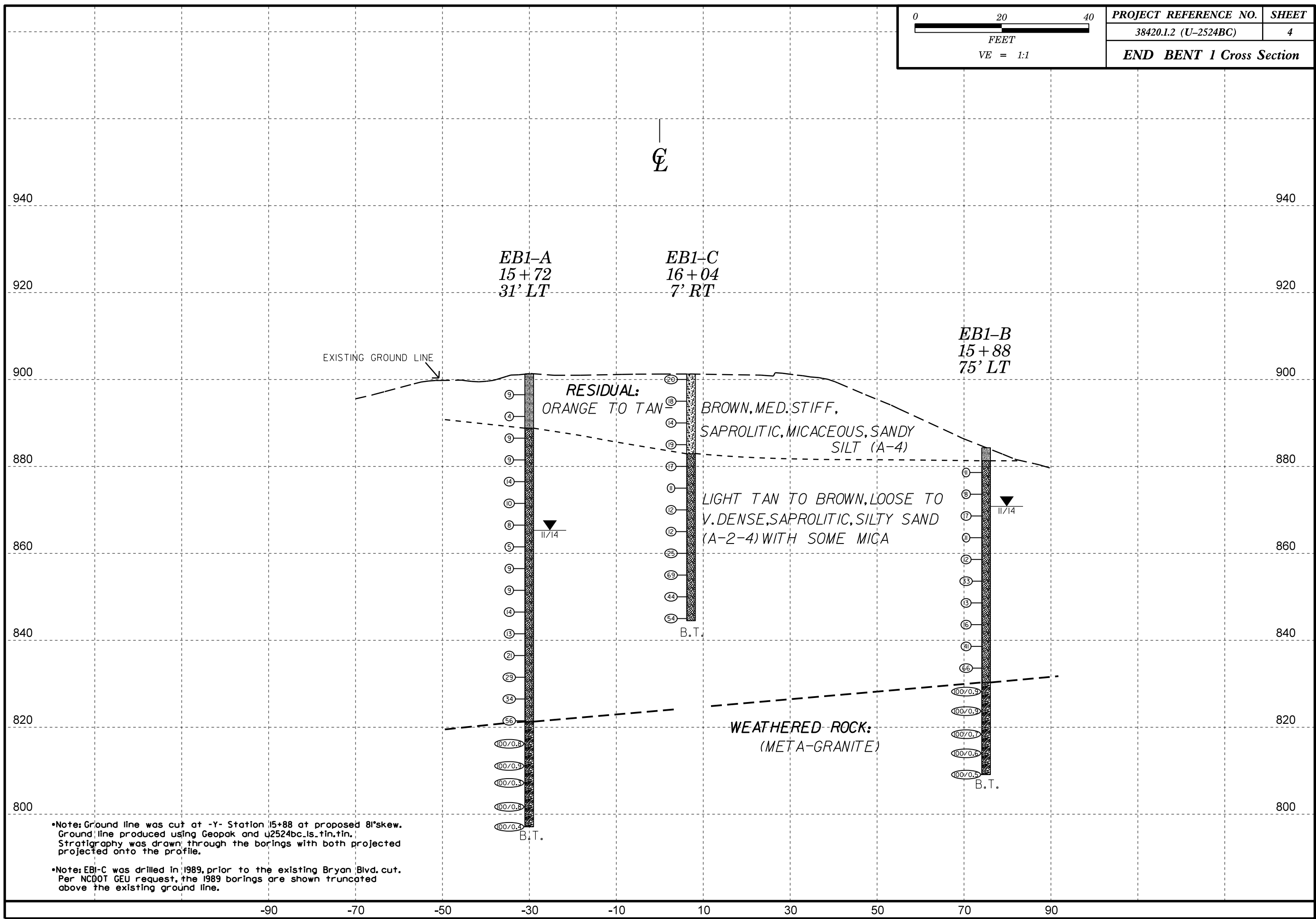
INDURATION
FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.
FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.

INDURATION (continued)
MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.



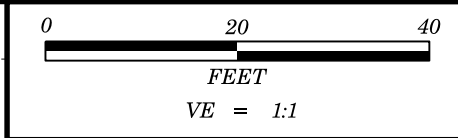


PROJECT REFERENCE NO.	SHEET
38420.1.2 (U-2524BC)	4
END BENT 1 Cross Section	

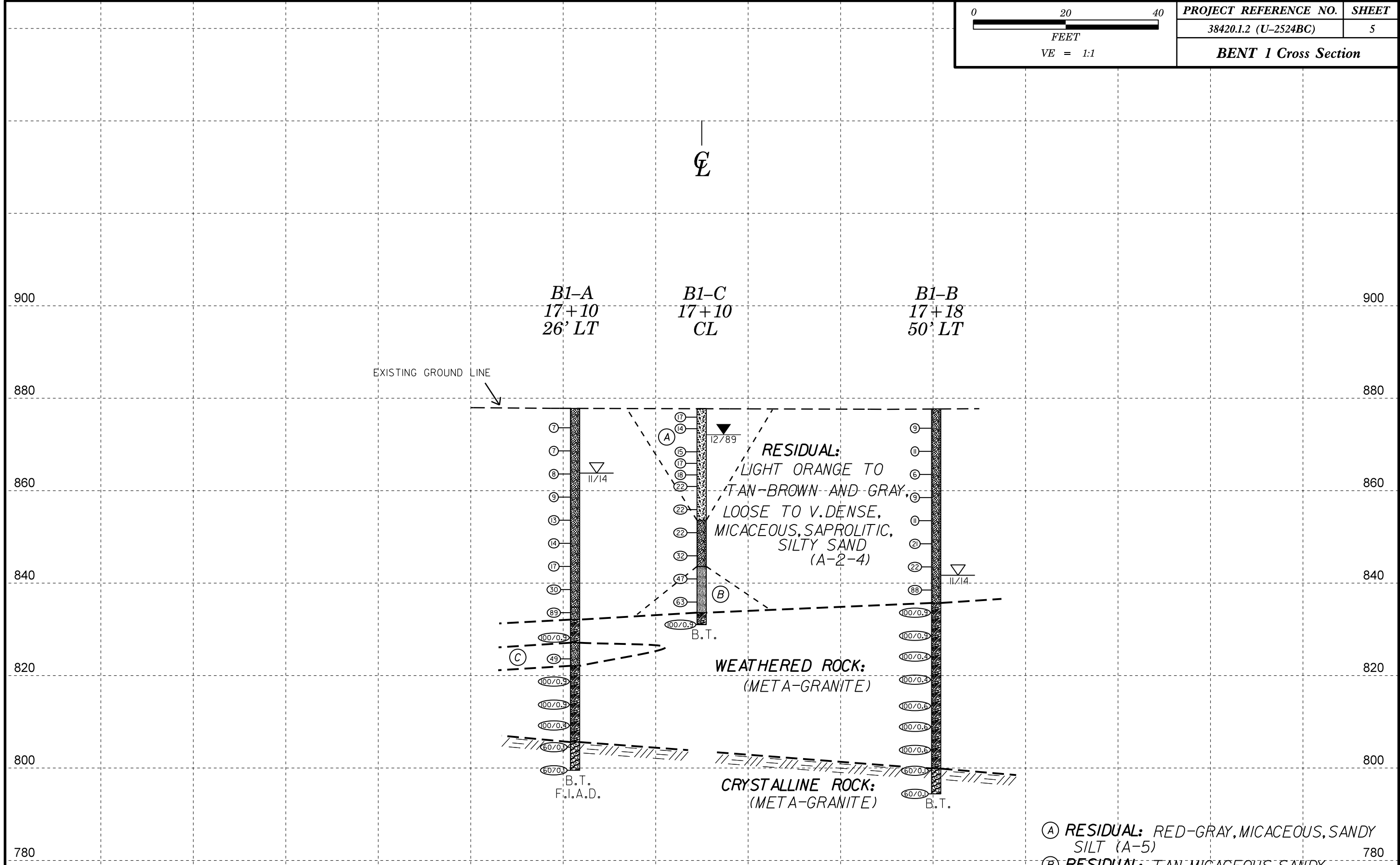


•Note: Ground line was cut at -Y- Station 15+88 at proposed 81'skew. Ground line produced using Geopak and u2524bc.ls.tin.tin. Stratigraphy was drawn through the borings with both projected and existing ground line.

•Note: EB1-C was drilled in 1989, prior to the existing Bryan Blvd. cut. Per NCDOT GEU request, the 1989 borings are shown truncated above the existing ground line.



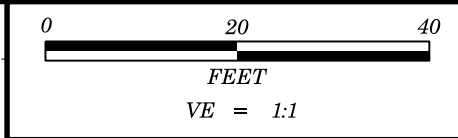
PROJECT REFERENCE NO.	SHEET
38420.1.2 (U-2524BC)	5
BENT 1 Cross Section	



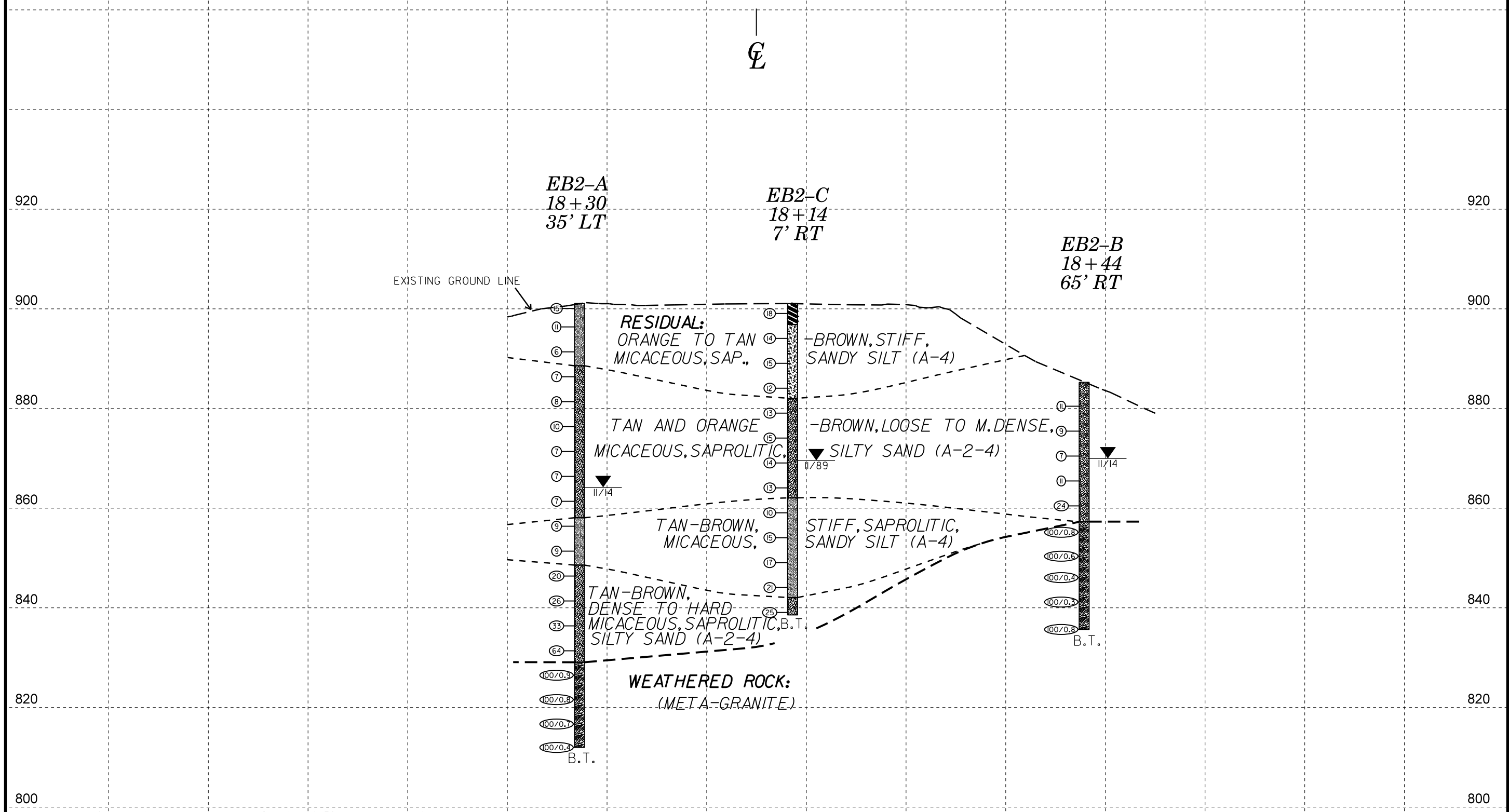
•Note: Ground line was cut at -Y- Station 17+10 at proposed 81° skew. Ground line produced using Geopak and u2524bc.ls.tin.tin. Stratigraphy was drawn through the borings with both projected and truncated borings.

•Note: B1-C was drilled in 1989, prior to the existing Bryan Blvd. cut. Per NCDOT GEU request, the 1989 borings are shown truncated above the existing ground line.

- (A) RESIDUAL: RED-GRAY, MICACEOUS, SANDY SILT (A-5)
- (B) RESIDUAL: TAN, MICACEOUS, SANDY SILT (A-4)
- (C) RESIDUAL: BROWN-WHITE, MICACEOUS, SAPROLITIC, DENSE, SILTY SAND (A-2-4)



PROJECT REFERENCE NO.	SHEET
34820.1.2 (U-25424BC)	6
title (1 or 2 lines)	



•Note: Ground line was cut at -Y- Station 18+32 at proposed 81° skew. Ground line produced using Geopak and u2524bc.ls.tin.tin. Stratigraphy was drawn through the borings with both projected and projected onto the profile.

•Note: EB2-C was drilled in 1989, prior to the existing Bryan Blvd. cut. Per NCDOT GEU request, the 1989 borings are shown truncated above the existing ground line.

NCDOT GEOTECHNICAL ENGINEERING UNIT
BORELOG REPORT

WBS 34820.1.2	TIP U-2524BC	COUNTY GUILFORD	GEOLOGIST Worley, B.
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)			GROUND WTR (ft)
BORING NO. EB1-A	STATION 15+72	OFFSET 31 ft LT	ALIGNMENT -Y-
COLLAR ELEV. 901.3 ft	TOTAL DEPTH 104.2 ft	NORTHING 863,733	EASTING 1,729,508
DRILL RIG/HAMMER EFF./DATE SUM0093 DIEDRICH D-50 86% 10/10/2014		DRILL METHOD H.S. Augers	HAMMER TYPE Automatic
DRILLER Bare, J.	START DATE 11/19/14	COMP. DATE 11/19/14	SURFACE WATER DEPTH N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
905														
900													GROUND SURFACE	0.0
													RESIDUAL Orange-brown, micaceous, f. sandy SILT (A-4).	
895	897.5	3.8	2	4	5							D		
	892.5	8.8	2	2	2							D		
890	887.5	13.8	2	4	5							D		
	882.5	18.8	1	3	6							D		
885	877.5	23.8	2	5	9							D		
	872.5	28.8	2	4	6							D		
880	867.5	33.8	2	3	5							D		
	862.5	38.8	2	2	3							D		
875	857.5	43.8	2	3	6							D		
	852.5	48.8	2	3	6							D		
870	847.5	53.8	3	6	8							D		
	842.5	58.8	4	5	8							D		
865	837.5	63.8	4	9	12							D		
	832.5	68.8	11	13	16							D		
860	827.5	73.8	9	14	20							D		

WBS 34820.1.2	TIP U-2524BC	COUNTY GUILFORD	GEOLOGIST Worley, B.
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)			GROUND WTR (ft)
BORING NO. EB1-A	STATION 15+72	OFFSET 31 ft LT	ALIGNMENT -Y-
COLLAR ELEV. 901.3 ft	TOTAL DEPTH 104.2 ft	NORTHING 863,733	EASTING 1,729,508
DRILL RIG/HAMMER EFF./DATE SUM0093 DIEDRICH D-50 86% 10/10/2014		DRILL METHOD H.S. Augers	HAMMER TYPE Automatic
DRILLER Bare, J.	START DATE 11/19/14	COMP. DATE 11/19/14	SURFACE WATER DEPTH N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	LOG SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
825														
	822.5	78.8	19	23	33								Light tan to brown, saprolitic, silty SAND (A-2-4) with some mica. (continued)	
820	817.5	83.8	27	55	45/0.3							D	WEATHERED ROCK (meta-granite)	80.0
	812.5	88.8	27	41	59/0.4							D		
815	807.5	93.8	100/0.3									D		
	802.5	98.8	52	48/0.3								D		
810	797.5	103.8	100/0.4									D	Boring Terminated at Elevation 797.1 ft in Weathered Rock (meta-granite)	104.2

NCDOT BORE DOUBLE U2524BC_GEO_BRD0743_GINT.GPJ NC_DOT.GDT 1/9/15



NCDOT GEOTECHNICAL ENGINEERING UNIT BORELOG REPORT

WBS 34820.1.2	TIP U-2524BC	COUNTY GUILFORD	GEOLOGIST Pilipchuk, J.L.
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)			
BORING NO. EB1-C	STATION 16+04	OFFSET 7 ft RT	ALIGNMENT -Y-
COLLAR ELEV. 904.9 ft	TOTAL DEPTH 60.4 ft	NORTHING 863,541	EASTING 1,729,335
DRILL RIG/HAMMER EFF./DATE CME 45B		DRILL METHOD H.S. Augers	
DRILLER Conley, H. R.		HAMMER TYPE Manual	
START DATE 11/30/89	COMP. DATE 12/01/89	SURFACE WATER DEPTH N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
905	904.9	0.0	1	3	5							M	GROUND SURFACE 904.9	0.0
RESIDUAL														
	902.2											M	Red, micaceous, silty sandy CLAY (A-7-6).	2.7
900	901.0	3.9	5	9	11							M	Red, white, and brown, micaceous, sandy SILT (A-5).	
895	896.0	8.9	5	7	11							M		
890	891.0	13.9	4	6	8							M		
885	886.0	18.9	5	8	11							M		
880	881.0	23.9	5	7	10							M		
875	876.0	28.9	3	5	6							W		
870	871.0	33.9	3	6	6							W		
865	866.0	38.9	3	5	7							W		
860	861.0	43.9	5	10	15							W		
855	856.0	48.9	14	23	46							W		
850	851.0	53.9	17	21	23							W		
845	846.0	58.9	18	19	35							W		
												W	882.9	22.0
													Tan, white, and gray, micaceous, saprolitic, silty SAND (A-2-4).	
													844.5	60.4
Boring Terminated at Elevation 844.5 ft in micaceous Silty SAND (A-2-4) *Boring completed during original (1989) investigation for existing Inman Rd. over Byran Blvd. bridge. Boring originally called "EB2-CR" because of different design.														

NCDOT BORE DOUBLE U2524BC_GEO_BRD0743_GINT.GPJ NC_DOT.GDT 1/9/15

WBS 34820.1.2	TIP U-2524BC	COUNTY GUILFORD	GEOLOGIST Worley, B.
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)			
BORING NO. EB1-B	STATION 15+88	OFFSET 75 ft RT	ALIGNMENT -Y-
COLLAR ELEV. 884.3 ft	TOTAL DEPTH 75.2 ft	NORTHING 863,771	EASTING 1,729,409
DRILL RIG/HAMMER EFF./DATE SUM0093 DIEDRICH D-50 86% 10/10/2014		DRILL METHOD H.S. Augers	
DRILLER Bare, J.		HAMMER TYPE Automatic	
START DATE 11/20/14	COMP. DATE 11/20/14	SURFACE WATER DEPTH N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
885	884.3	0.0											GROUND SURFACE 884.3	0.0
RESIDUAL														
	881.3											D	Orange-brown, sandy SILT (A-4).	3.0
880	879.6	4.7	3	4	7							D	Light tan to brown, saprolitic, silty SAND (A-2-4) with some mica.	
875	874.6	9.7	2	3	5							D		
870	869.6	14.7	4	6	11							D		
865	864.6	19.7	3	5	6							M		
860	859.6	24.7	2	5	7							M		
855	854.6	29.7	7	12	21							M		
850	849.6	34.7	4	4	9							M		
845	844.6	39.7	3	5	11							M		
840	839.6	44.7	10	17	24							M		
835	834.6	49.7	13	28	38							M		
830	829.6	54.7	24	38	62/0.4							M		
825	824.6	59.7	30	70/0.4								M		
820	819.6	64.7	23	47	53/0.2							M		
815	814.6	69.7	85	15/0.1								M		
810	809.6	74.7										M		
													830.3	54.0
WEATHERED ROCK (meta-granite)														
													809.1	75.2
Boring Terminated at Elevation 809.1 ft in Weathered Rock (meta-granite)														



NCDOT GEOTECHNICAL ENGINEERING UNIT

BORELOG REPORT

WBS 34820.1.2			TIP U-2524BC			COUNTY GUILFORD			GEOLOGIST Smith, B.								
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)									GROUND WTR (ft)								
BORING NO. B1-A			STATION 17+10			OFFSET 26 ft LT			ALIGNMENT -Y-								
COLLAR ELEV. 877.8 ft			TOTAL DEPTH 78.3 ft			NORTHING 863,618			EASTING 1,729,439								
DRILL RIG/HAMMER EFF./DATE SUM0093 DIEDRICH D-50 86% 10/10/2014						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic								
DRILLER Bare, J.			START DATE 11/25/14			COMP. DATE 11/25/14			SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	ELEV. (ft)	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100							
880														877.8	0.0		
						RESIDUAL											
						Light orange-brown, brown, white, micaceous, saprolitic, silty SAND (A-2-4).											
875	874.6	3.2	3	3	4								M				
870	869.6	8.2	3	3	4								M				
865	864.6	13.2	2	3	5								M				
860	859.6	18.2	2	4	5								W				
855	854.6	23.2	2	4	9								Sat.				
850	849.6	28.2	3	5	9								Sat.				
845	844.6	33.2	3	6	11								Sat.				
840	839.6	38.2	6	12	18								Sat.				
835	834.6	43.2	16	37	52								Sat.	834.8	43.0		
													Sat.	832.1	45.7		
														WEATHERED ROCK (meta-granite)			
830	829.6	48.2	22	42	58/0.4									827.1	50.7		
														RESIDUAL brown and white, micaceous, saprolitic, silty SAND (A-2-4).			
825	824.6	53.2	13	17	32								Sat.	822.1	55.7		
														WEATHERED ROCK (meta-granite)			
820	819.6	58.2	32	68/0.4										100/0.9			
815	814.6	63.2	31	69/0.4										100/0.9			
810	809.6	68.2	100/0.4											100/0.4			
805	804.6	73.2	60/0.1											60/0.1			
800																	

WBS 34820.1.2			TIP U-2524BC			COUNTY GUILFORD			GEOLOGIST Smith, B.								
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)									GROUND WTR (ft)								
BORING NO. B1-A			STATION 17+10			OFFSET 26 ft LT			ALIGNMENT -Y-								
COLLAR ELEV. 877.8 ft			TOTAL DEPTH 78.3 ft			NORTHING 863,618			EASTING 1,729,439								
DRILL RIG/HAMMER EFF./DATE SUM0093 DIEDRICH D-50 86% 10/10/2014						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic								
DRILLER Bare, J.			START DATE 11/25/14			COMP. DATE 11/25/14			SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	ELEV. (ft)	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100							
800														799.5	78.3		
						Match Line											
						Boring Terminated with Standard Penetration Test Refusal at Elevation 799.5 ft in Crystalline Rock (meta-granite)											
						*Very hard/slow drilling at 72.2', interpreted as top of CR											

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WBS 34820.1.2		TIP U-2524BC		COUNTY GUILFORD		GEOLOGIST Pilipchuk, J.L.										
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)							GROUND WTR (ft)									
BORING NO. B1-C		STATION 17+10		OFFSET CL		ALIGNMENT -Y-	0 HR. 36.0									
COLLAR ELEV. 905.6 ft		TOTAL DEPTH 74.6 ft		NORTHING 863,628		EASTING 1,729,413										
DRILL RIG/HAMMER EFF./DATE CME 45B		DRILL METHOD H.S. Augers		HAMMER TYPE Manual												
DRILLER Conley, H. R.		START DATE 11/30/89		COMP. DATE 11/30/89		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	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
910																
905	905.6	0.0	3	3	5											905.6
900	901.9	3.7	6	11	14											
895	896.9	8.7	7	8	8											
890	891.9	13.7	4	8	8											
885	886.9	18.7	4	6	9											
880	881.9	23.7	4	5	7											
875	876.9	28.7	4	7	10											
870	874.4	31.2	3	6	8											
865	869.4	36.2	4	6	9											
860	866.9	38.7	3	7	10											
855	864.4	41.2	4	6	12											
850	861.9	43.7	10	11	11											
845	856.9	48.7	6	9	13											
840	851.9	53.7	6	10	12											
835	846.9	58.7	7	12	20											
830	841.9	63.7	22	24	23											
	836.9	68.7	14	25	38											
	831.9	73.7	47	53/0.4												

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WBS 34820.1.2		TIP U-2524BC		COUNTY GUILFORD		GEOLOGIST Pilipchuk, J.L.										
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)							GROUND WTR (ft)									
BORING NO. B1-C		STATION 17+10		OFFSET CL		ALIGNMENT -Y-	0 HR. 36.0									
COLLAR ELEV. 905.6 ft		TOTAL DEPTH 74.6 ft		NORTHING 863,628		EASTING 1,729,413										
DRILL RIG/HAMMER EFF./DATE CME 45B		DRILL METHOD H.S. Augers		HAMMER TYPE Manual												
DRILLER Conley, H. R.		START DATE 11/30/89		COMP. DATE 11/30/89		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	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
830																

Match Line

Weathered Rock (meta-granite)

*Boring completed during original (1989) investigation for existing Inman Rd. over Byran Blvd. bridge. Boring originally called "B2-C" because of different design.



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BORELOG REPORT

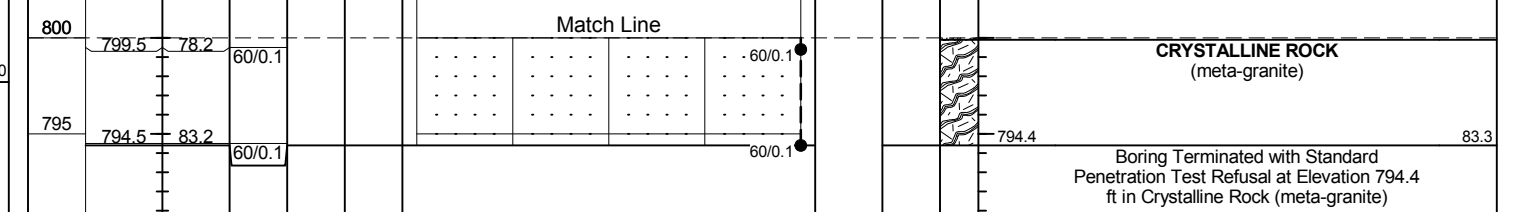
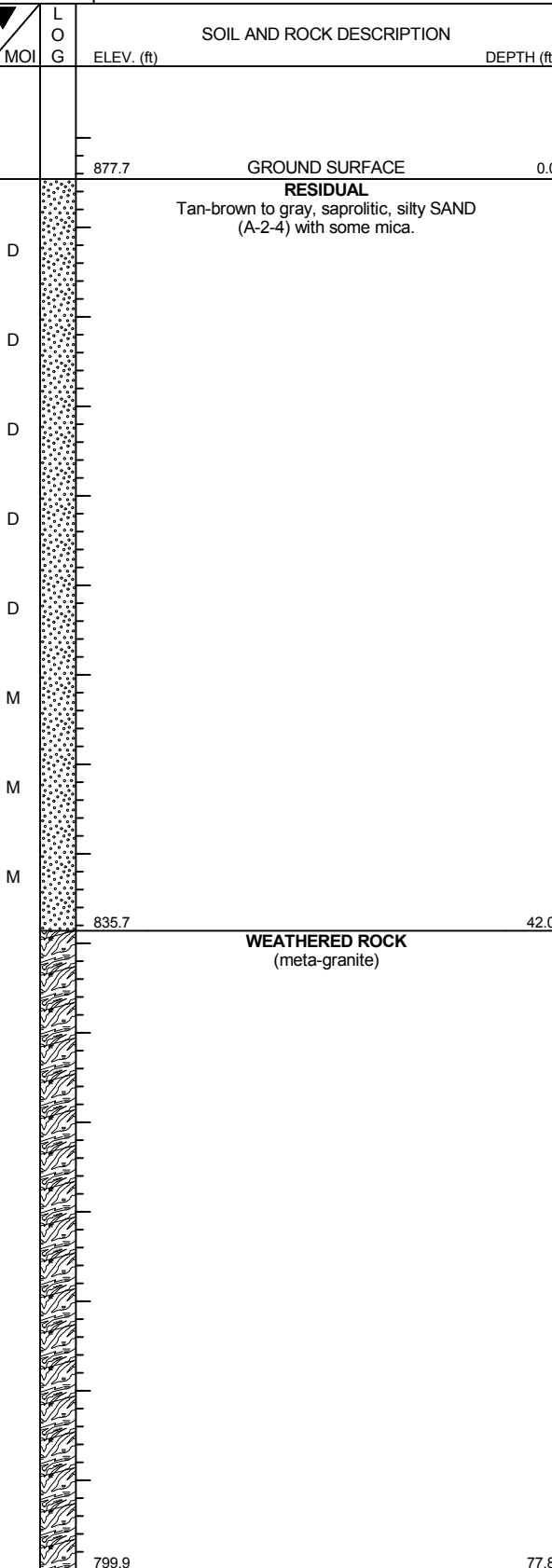
WBS 34820.1.2	TIP U-2524BC	COUNTY GUILFORD	GEOLOGIST Worley, B.
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)			GROUND WTR (ft)
BORING NO. B1-B	STATION 17+18	OFFSET 50 ft RT	ALIGNMENT -Y-
COLLAR ELEV. 877.7 ft	TOTAL DEPTH 83.3 ft	NORTHING 863,646	EASTING 1,729,365
DRILL RIG/HAMMER EFF./DATE SUM0093 DIEDRICH D-50 86% 10/10/2014		DRILL METHOD H.S. Augers	HAMMER TYPE Automatic
DRILLER Bare, J.	START DATE 11/24/14	COMP. DATE 11/24/14	SURFACE WATER DEPTH N/A

WBS 34820.1.2	TIP U-2524BC	COUNTY GUILFORD	GEOLOGIST Worley, B.
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)			GROUND WTR (ft)
BORING NO. B1-B	STATION 17+18	OFFSET 50 ft RT	ALIGNMENT -Y-
COLLAR ELEV. 877.7 ft	TOTAL DEPTH 83.3 ft	NORTHING 863,646	EASTING 1,729,365
DRILL RIG/HAMMER EFF./DATE SUM0093 DIEDRICH D-50 86% 10/10/2014		DRILL METHOD H.S. Augers	HAMMER TYPE Automatic
DRILLER Bare, J.	START DATE 11/24/14	COMP. DATE 11/24/14	SURFACE WATER DEPTH N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
880														877.7	0.0
875	874.5	3.2		4	4	5									
870	869.5	8.2		4	5	6									
865	864.5	13.2		2	2	4									
860	859.5	18.2		3	4	5									
855	854.5	23.2		2	3	8									
850	849.5	28.2		3	8	13									
845	844.5	33.2		6	8	14									
840	839.5	38.2		18	36	52									
835	834.5	43.2		32	68	0.4									
830	829.5	48.2		20	80	0.4									
825	824.5	53.2		100	0.4										
820	819.5	58.2		100	0.4										
815	814.5	63.2		23	53	47	0.1								
810	809.5	68.2		59	41	0.1									
805	804.5	73.2		48	52	0.1									
800															

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
800															
795	794.5	83.2													

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WBS 34820.1.2	TIP U-2524BC	COUNTY GUILFORD	GEOLOGIST Worley, B.
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)			GROUND WTR (ft)
BORING NO. EB2-A	STATION 18+30	OFFSET 35 ft LT	ALIGNMENT -Y-
COLLAR ELEV. 902.1 ft	TOTAL DEPTH 89.1 ft	NORTHING 863,507	EASTING 1,729,385
DRILL RIG/HAMMER EFF./DATE SUM0093 DIEDRICH D-50 86% 10/10/2014		DRILL METHOD H.S. Augers	HAMMER TYPE Automatic
DRILLER Bare, J.	START DATE 11/18/14	COMP. DATE 11/18/14	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)		
905															902.1	0.0	GROUND SURFACE
	902.1	0.0	2	7	8	15											
900													D				RESIDUAL Orange-brown, sandy SILT (A-4) with f. sand and some mica.
	898.4	3.7	3	4	7	11											
895													D				
	893.4	8.7	2	2	4	6											
890													D				Light tan-brown to light gray, silty SAND (A-2-4) with some mica.
	888.4	13.7	2	2	5	7											
885													D				
	883.4	18.7	1	3	5	6											
880													D				Tan-brown, sandy SILT (A-4), micaceous, saprolitic.
	878.4	23.7	2	4	6	10											
875													D				
	873.4	28.7	2	3	4	7											
870													D				Tan-brown, micaceous, saprolitic, silty SAND (A-2-4).
	868.4	33.7	2	3	4	7											
865													M				
	863.4	38.7	1	2	5	9											
860													M				WEATHERED ROCK (meta-granite)
	858.4	43.7	2	3	6	9											
855													M				
	853.4	48.7	2	3	6	9											
850													M				Boring Terminated at Elevation 813.0 ft in Weathered Rock (meta-granite)
	848.4	53.7	5	8	12	20											
845													M				
	843.4	58.7	5	10	16	26											
840													M				Boring Terminated at Elevation 813.0 ft in Weathered Rock (meta-granite)
	838.4	63.7	8	12	21	33											
835													M				
	833.4	68.7	15	16	48	64											
830													M				WEATHERED ROCK (meta-granite)
	828.4	73.7	31	69/0.4													
825																	

WBS 34820.1.2	TIP U-2524BC	COUNTY GUILFORD	GEOLOGIST Worley, B.
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)			GROUND WTR (ft)
BORING NO. EB2-A	STATION 18+30	OFFSET 35 ft LT	ALIGNMENT -Y-
COLLAR ELEV. 902.1 ft	TOTAL DEPTH 89.1 ft	NORTHING 863,507	EASTING 1,729,385
DRILL RIG/HAMMER EFF./DATE SUM0093 DIEDRICH D-50 86% 10/10/2014		DRILL METHOD H.S. Augers	HAMMER TYPE Automatic
DRILLER Bare, J.	START DATE 11/18/14	COMP. DATE 11/18/14	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)		
825																	WEATHERED ROCK (meta-granite) (continued)
	823.4	78.7	56	44/0.3													
820																	
	818.4	83.7	53	47/0.2													
815																	Boring Terminated at Elevation 813.0 ft in Weathered Rock (meta-granite)
	813.4	88.7	100/0.4														

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WBS 34820.1.2	TIP U-2524BC	COUNTY GUILFORD	GEOLOGIST Pilipchuk, J.L.
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)			GROUND WTR (ft)
BORING NO. EB2-C	STATION 18+14	OFFSET 7 ft RT	ALIGNMENT -Y-
COLLAR ELEV. 905.1 ft	TOTAL DEPTH 65.5 ft	NORTHING 863,724	EASTING 1,729,460
DRILL RIG/HAMMER EFF./DATE CME 45B		DRILL METHOD H.S. Augers	HAMMER TYPE Manual
DRILLER Conley, H. R.	START DATE 11/29/89	COMP. DATE 11/29/89	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)	
910																
905	905.1	0.0	1	2	4										905.1	GROUND SURFACE
900	901.1	4.0	5	7	11											RESIDUAL Red-brown, highly plastic, micaceous, sandy-CLAY (A-7-6).
895	896.1	9.0	5	7	7										897.9	Red, yellow, tan, and white, micaceous, sandy-SILT (A-5).
890	891.1	14.0	4	7	8											
885	886.1	19.0	4	6	6											
880	881.1	24.0	5	6	7										883.1	Tan and white, micaceous, saprolitic, silty fine to coarse SAND (A-2-4).
875	876.1	29.0	4	7	8											
870	871.1	34.0	3	6	8											
865	866.1	39.0	2	6	7											
860	861.1	44.0	2	4	6										863.1	Red, tan, and brown, highly micaceous, sandy-SILT (A-4).
855	856.1	49.0	3	6	9											
850	851.1	54.0	2	6	11											
845	846.1	59.0	4	7	14											
840	841.1	64.0	6	11	14										843.1	Tan and white, micaceous, saprolitic, silty fine to coarse SAND (A-2-4).
															839.6	Boring Terminated at Elevation 839.6 ft in coarse SAND (A-2-4)

*Boring completed during original (1989) investigation for existing Inman Rd. over Bryan Blvd. bridge. Boring originally called "EB1-CR" because of different design.

WBS 34820.1.2	TIP U-2524BC	COUNTY GUILFORD	GEOLOGIST Worley, B.
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)			GROUND WTR (ft)
BORING NO. EB2-B	STATION 18+44	OFFSET 65 ft RT	ALIGNMENT -Y-
COLLAR ELEV. 886.3 ft	TOTAL DEPTH 49.6 ft	NORTHING 863,545	EASTING 1,729,291
DRILL RIG/HAMMER EFF./DATE SUM0093 DIEDRICH D-50 86% 10/10/2014		DRILL METHOD H.S. Augers	HAMMER TYPE Automatic
DRILLER Bare, J.	START DATE 11/21/14	COMP. DATE 11/21/14	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)	
890																
885															886.3	GROUND SURFACE
880	882.5	3.8	2	5	6											RESIDUAL Tan to orange-brown, micaceous, saprolitic, silty SAND (A-2-4).
875	877.5	8.8	2	2	7											
870	872.5	13.8	2	3	4											
865	867.5	18.8	4	5	6											
860	862.5	23.8	5	9	15											
855	857.5	28.8	11	28	72/0.3										858.3	WEATHERED ROCK (meta-granite)
850	852.5	33.8	7	42	58/0.1											
845	847.5	38.8	100/0.4													
840	842.5	43.8	100/0.3													
	837.5	48.8	46	54/0.3												

Boring Terminated at Elevation 836.7 ft in Weathered Rock (meta-granite)
*Harder drilling at 28.0' interpreted to be top of WR

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SITE PHOTOGRAPHS

Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)



Looking East along -L- (Bryan Blvd.)



Looking West along -L- (Bryan Blvd.)



Looking South along -Y- (Inman Rd.)