

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	37698.1.1(B-4534)	1	10

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

STRUCTURE
SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 37698.1.1(B-4534) F.A. PROJ. BRNHS-40-3(103)219
COUNTY GUILFORD
PROJECT DESCRIPTION BRIDGE NO. 336 ON -L- (I-40 & US 220)
OVER I-85 BUS. SBL AT -L- STATION 31+81.71

INVENTORY

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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 1919 250-4088. NEITHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD BORING LOGS, ROCK CORES, OR SOIL TEST DATA ARE PART OF THE CONTRACT.

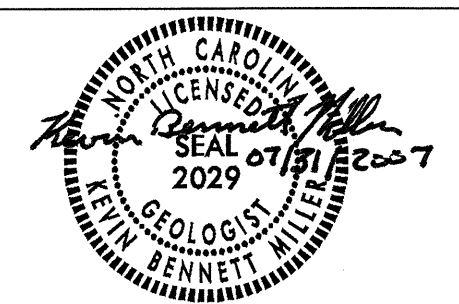
GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND 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 THIS 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.

PROJECT: 37698.1.1 ID: B-4534

PERSONNEL
J.I. MILKOVITS, JR.
H.R. CONLEY
D.W. DIXON

INVESTIGATED BY K.B. MILLER
CHECKED BY N.T. ROBERSON
SUBMITTED BY N.T. ROBERSON
DATE JULY 2007



DRAWN BY: T.T. WALKER

NOTE - THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IT IS CONSIDERED TO BE PART OF THE PLANS, SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

NOTE - 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.

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

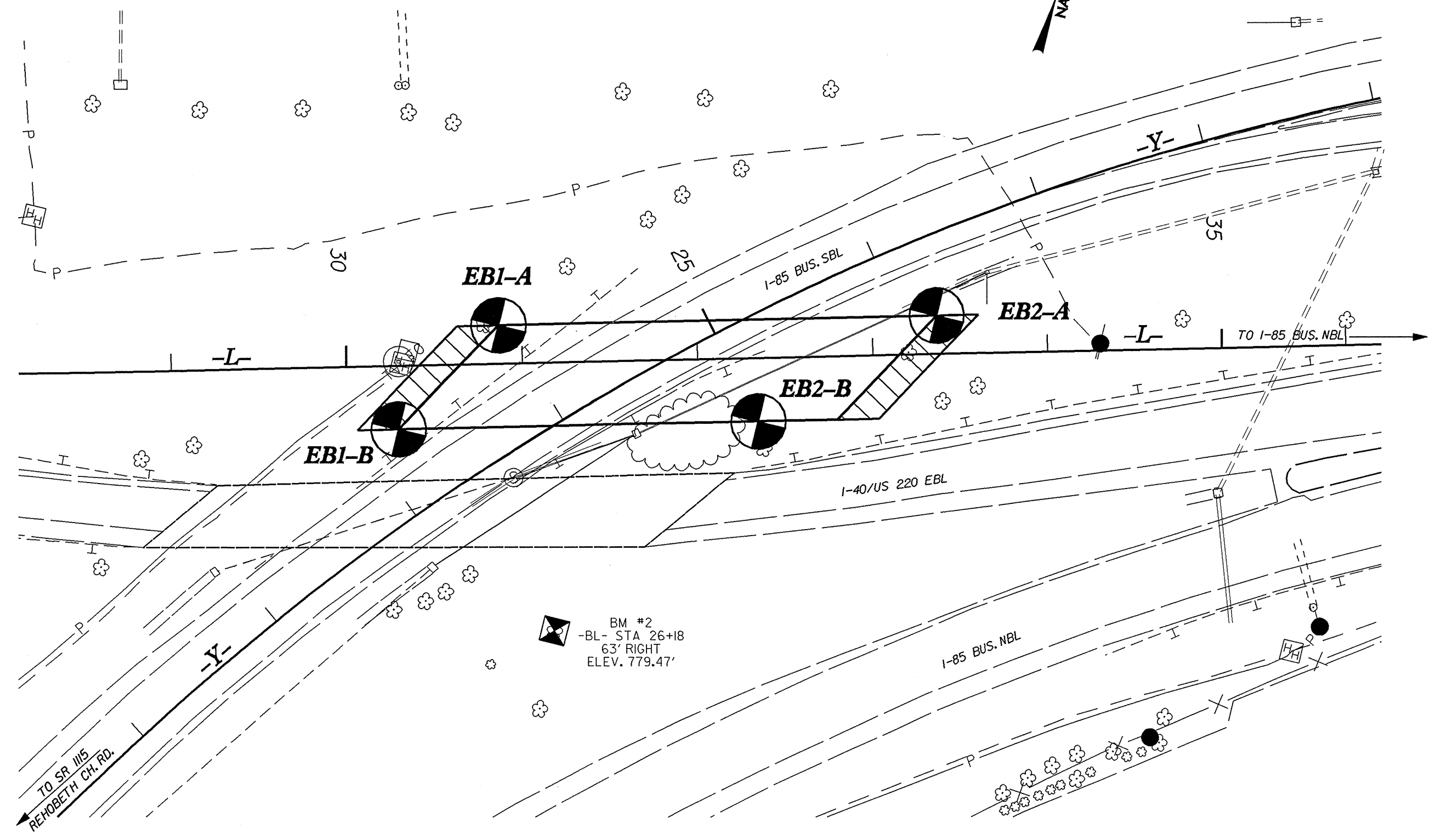
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

PROJECT REFERENCE NO. 37698.1(KB-4534) SHEET NO. 2

Main table containing SOIL DESCRIPTION, GRADATION, ROCK DESCRIPTION, and TERMS AND DEFINITIONS. Includes sub-sections like SOIL LEGEND AND AASHTO CLASSIFICATION, CONSISTENCY OR DENSENESS, TEXTURE OR GRAIN SIZE, SOIL MOISTURE - CORRELATION OF TERMS, PLASTICITY, COLOR, MISCELLANEOUS SYMBOLS, ABBREVIATIONS, EQUIPMENT USED ON SUBJECT PROJECT, FRACTURE SPACING, BEDDING, and INDURATION.



BM #2
 -BL- STA 26+18
 63' RIGHT
 ELEV. 779.47'

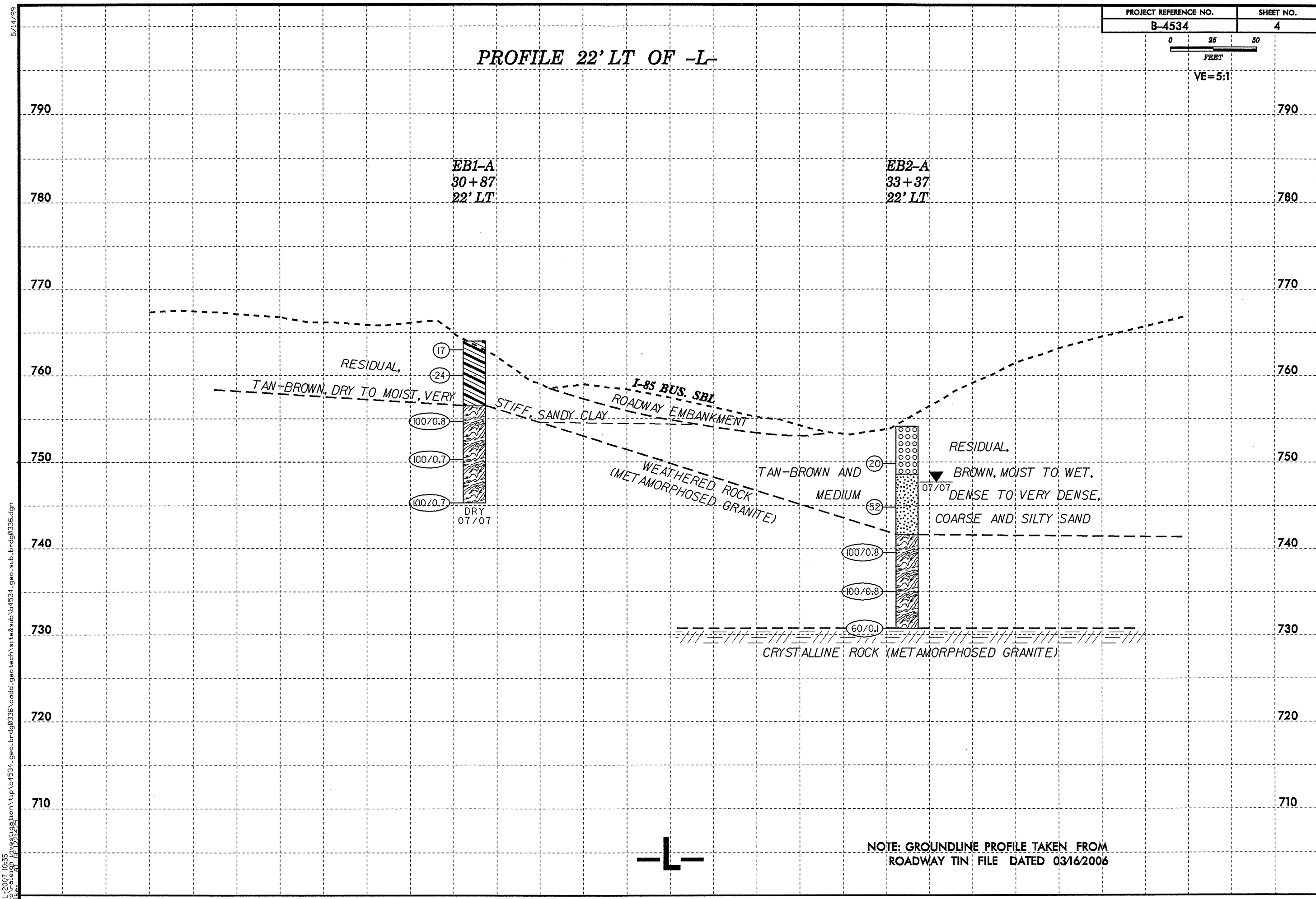
TO SR 1115
 REHOBETH CH. RD.

TO I-85 BUS. NBL



VE=5:1

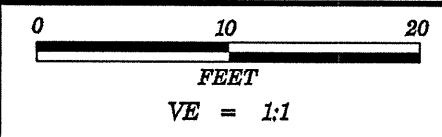
PROFILE 22' LT OF -L-



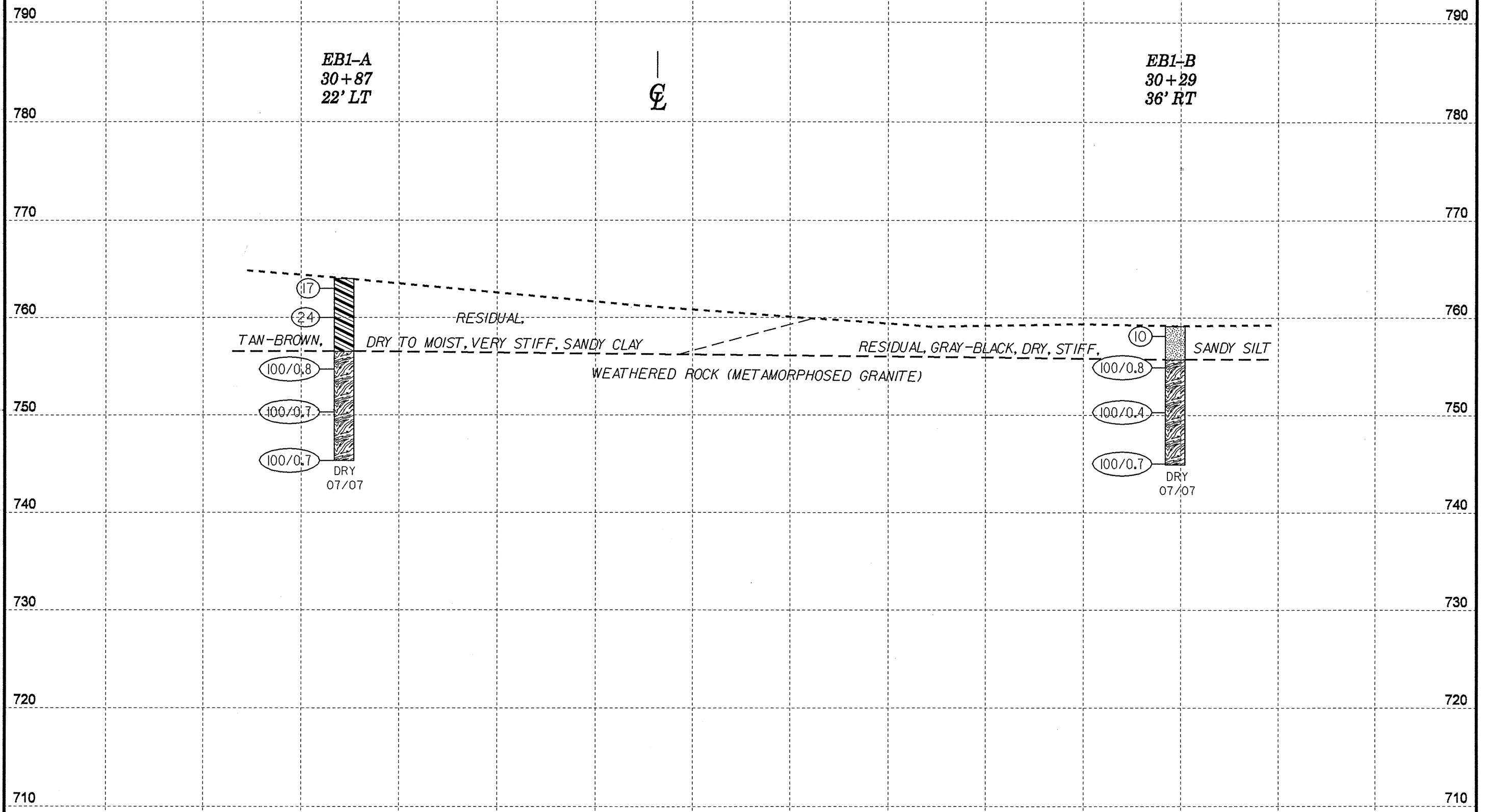
NOTE: GROUNDLINE PROFILE TAKEN FROM ROADWAY TIN FILE DATED 03/16/2006

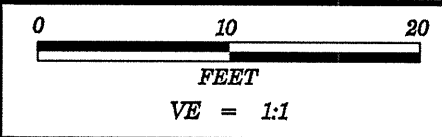
5/14/99
 P:\JUL-2007\0335\investigation\tp\4534-geo-bur\336\cadd-geotech\1\te&sub\4534-geo-sub-bur\336.dgn
 07/07/07

29+00 30+00 31+00 32+00 33+00 34+00 35+00

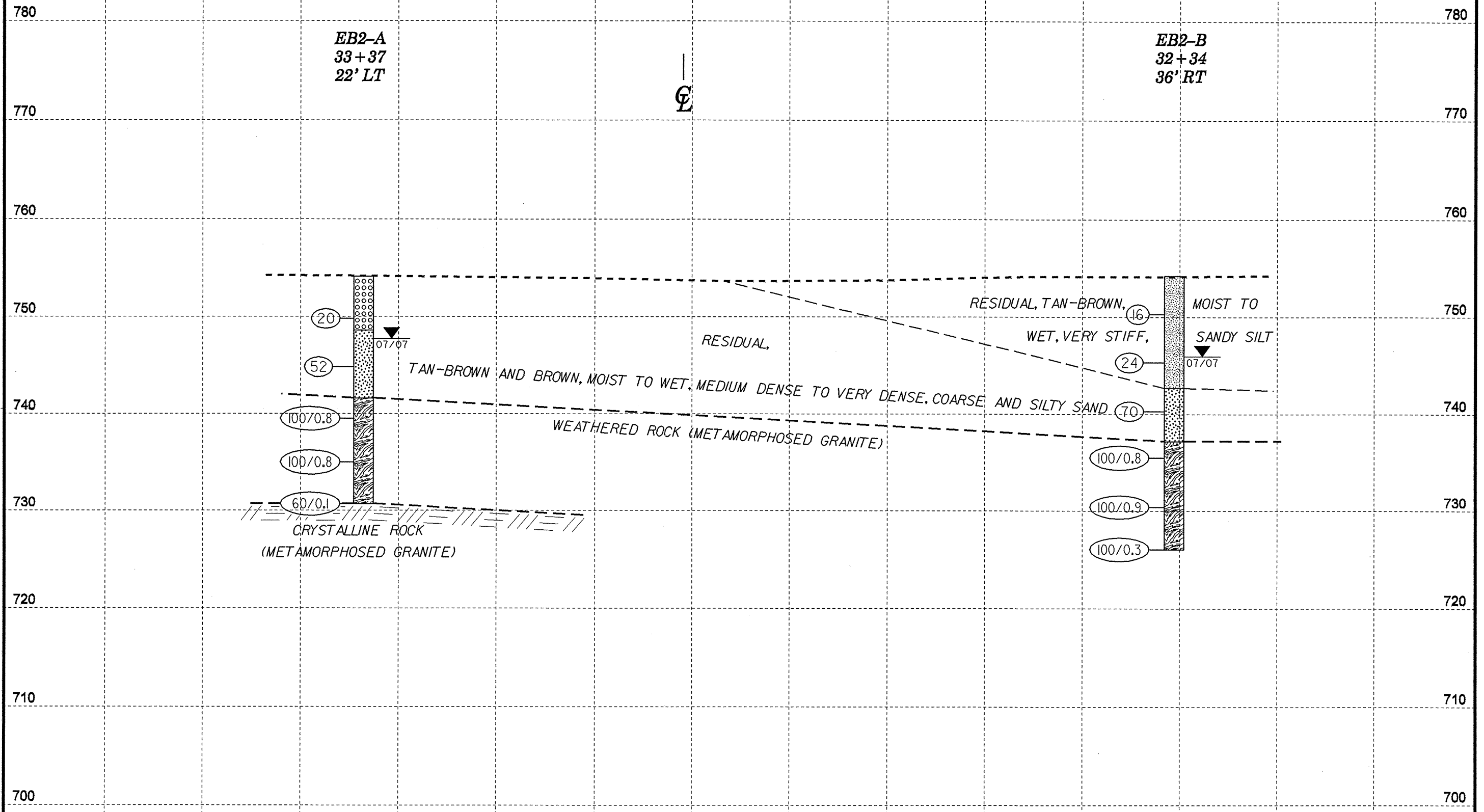


PROJECT REFERENCE NO.	SHEET
37698.1.1(B-4534)	5
CROSS SECTION THROUGH END BENT 1	





PROJECT REFERENCE NO.	SHEET
37698.1.1(B-4534)	6
CROSS SECTION THROUGH END BENT 2	





PROJECT NO. 37698.1.1	ID. B-4534	COUNTY GUILFORD	GEOLOGIST Milkovits, J. I.
SITE DESCRIPTION BRIDGE NO. 336 ON -L- (I-40 & US 220) OVER I-85 BUS. SBL			GROUND WTR (ft)
BORING NO. EB1-A	STATION 30+87	OFFSET 22ft LT	ALIGNMENT -L-
COLLAR ELEV. 764.0 ft	TOTAL DEPTH 18.7 ft	NORTHING 831,497	EASTING 1,761,501
DRILL MACHINE CME-550X	DRILL METHOD H.S. Augers	HAMMER TYPE Automatic	
START DATE 07/11/07	COMP. DATE 07/11/07	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A

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					
765 764.0	0.0												GROUND SURFACE	0.0
761.0	3.0	5	8	9	17							D	RESIDUAL TAN-BROWN, SANDY CLAY	
756.0	8.0	7	11	13	24					SS-1	M		WEATHERED ROCK (METAMORPHOSED GRANITE)	7.5
751.0	13.0	30	41	59/0.3					100/0.8					
746.0	18.0	46	54/0.2						100/0.7					
		40	60/0.2						100/0.7					

Boring Terminated at Elevation 745.3 ft in WEATHERED ROCK (METAMORPHOSED GRANITE)

PROJECT NO. 37698.1.1	ID. B-4534	COUNTY GUILFORD	GEOLOGIST Milkovits, J. I.
SITE DESCRIPTION BRIDGE NO. 336 ON -L- (I-40 & US 220) OVER I-85 BUS. SBL			GROUND WTR (ft)
BORING NO. EB1-B	STATION 30+29	OFFSET 36ft RT	ALIGNMENT -L-
COLLAR ELEV. 759.2 ft	TOTAL DEPTH 14.2 ft	NORTHING 831,426	EASTING 1,761,460
DRILL MACHINE CME-550X	DRILL METHOD H.S. Augers	HAMMER TYPE Automatic	
START DATE 07/11/07	COMP. DATE 07/11/07	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A

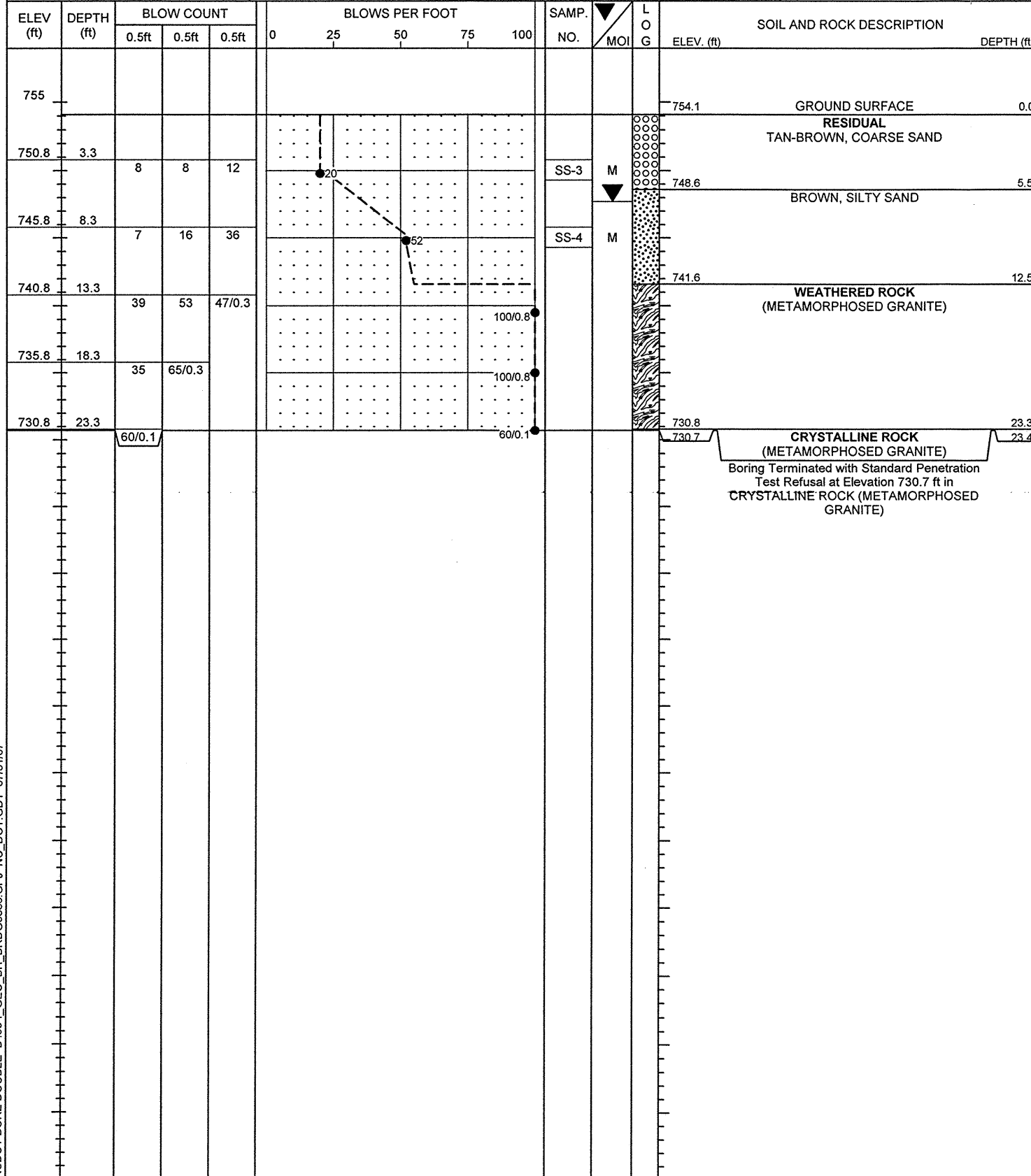
ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
		0.5ft	0.5ft	0.5ft	0	25	50	75	100					
760 759.2	0.0												GROUND SURFACE	0.0
755.8	3.4	1	4	6	10					SS-2	D		RESIDUAL GRAY-BLACK, SANDY SILT	3.4
750.8	8.4	46	54/0.3						100/0.8				WEATHERED ROCK (METAMORPHOSED GRANITE)	
		100/0.4							100/0.4					
745.8	13.4	47	53/0.3						100/0.8					

Boring Terminated at Elevation 745.0 ft in WEATHERED ROCK (METAMORPHOSED GRANITE)

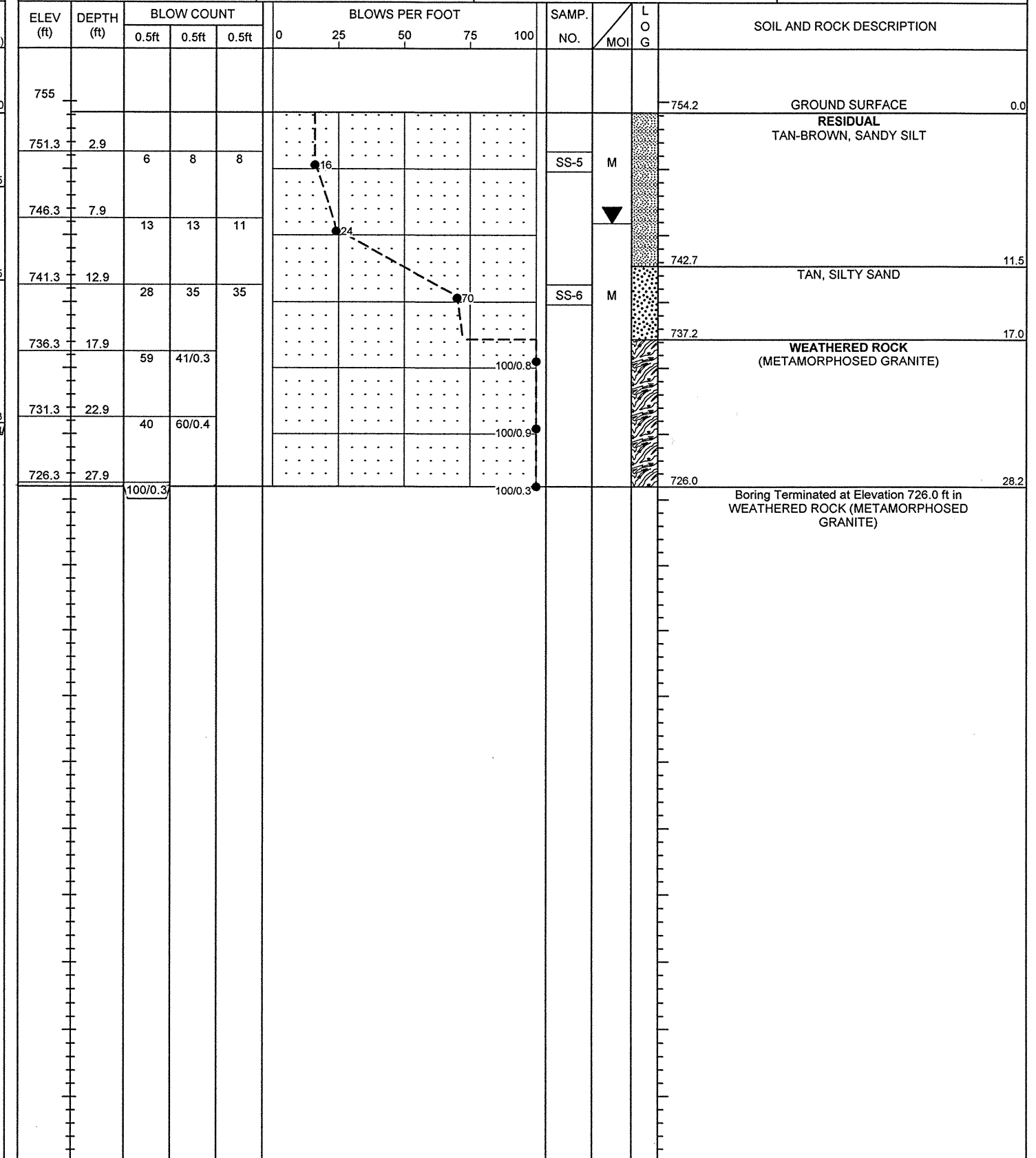
NCDOT BORE DOUBLE B4534_GEO_BH_BRD00336.GPJ_NC_DOT.GDT_07/31/07



PROJECT NO. 37698.1.1	ID. B-4534	COUNTY GUILFORD	GEOLOGIST Milkovits, J. I.
SITE DESCRIPTION BRIDGE NO. 336 ON -L- (I-40 & US 220) OVER I-85 BUS. SBL			GROUND WTR (ft)
BORING NO. EB2-A	STATION 33+37	OFFSET 22ft LT	ALIGNMENT -L-
COLLAR ELEV. 754.1 ft	TOTAL DEPTH 23.4 ft	NORTHING 831,562	EASTING 1,761,742
DRILL MACHINE CME-550X	DRILL METHOD H.S. Augers	HAMMER TYPE Automatic	
START DATE 07/12/07	COMP. DATE 07/12/07	SURFACE WATER DEPTH N/A	DEPTH TO ROCK 23.3 ft



PROJECT NO. 37698.1.1	ID. B-4534	COUNTY GUILFORD	GEOLOGIST Milkovits, J. I.
SITE DESCRIPTION BRIDGE NO. 336 ON -L- (I-40 & US 220) OVER I-85 BUS. SBL			GROUND WTR (ft)
BORING NO. EB2-B	STATION 32+34	OFFSET 36ft RT	ALIGNMENT -L-
COLLAR ELEV. 754.2 ft	TOTAL DEPTH 28.2 ft	NORTHING 831,479	EASTING 1,761,658
DRILL MACHINE CME-550X	DRILL METHOD H.S. Augers	HAMMER TYPE Automatic	
START DATE 07/12/07	COMP. DATE 07/12/07	SURFACE WATER DEPTH N/A	DEPTH TO ROCK N/A



SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-1	22' LT	30+87	3.0'-4.5'	A-6(1)	30	11	38.9	24.3	18.5	18.3	100	75	42	-	-

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-2	36' RT	30+29	0.0'-1.5'	A-4(0)	22	NP	16.0	56.8	21.1	6.1	100	94	37	-	-

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-3	22' LT	33+37	3.3'-4.8'	A-1-b(0)	26	4	43.2	30.6	20.1	6.1	68	49	22	-	-
SS-4	22' LT	33+37	8.3'-9.8'	A-2-4(0)	21	NP	29.6	45.4	20.9	4.1	100	89	32	-	-

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-5	36' RT	32+34	2.9'-4.4'	A-4(0)	23	1	30.2	33.1	24.5	12.2	97	81	42	-	-
SS-6	36' RT	32+34	12.9'-14.4'	A-2-4(0)	22	NP	50.3	35.5	10.1	4.1	99	70	19	-	-

SITE PHOTOGRAPH

Bridge No. 336 on -L- (I-40 & US 220) over I-85 Bus. SBL

