

PROJECT: 17BP.4.R.88 REFERENCE: 970037

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

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY WILSON
PROJECT DESCRIPTION BRIDGE NO. 37 ON -L-
(SR 1195) OVER LITTLE BUFFALO CREEK
AT STATION 15+14.5

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.4.R.88	1	8

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 TOT-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:

1. 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.
2. 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

N.O. MOORE

A.N. KINTNER

D.G. PINTER

R.E. CLARKE

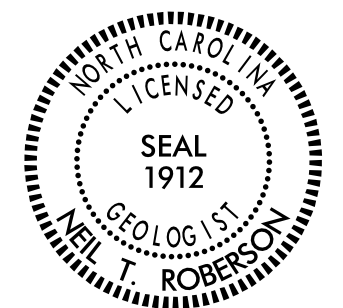
INVESTIGATED BY N.O. MOORE

DRAWN BY N.O. MOORE

CHECKED BY J.L. LOVE

SUBMITTED BY N.T. ROBERSON

DATE JUNE 2018



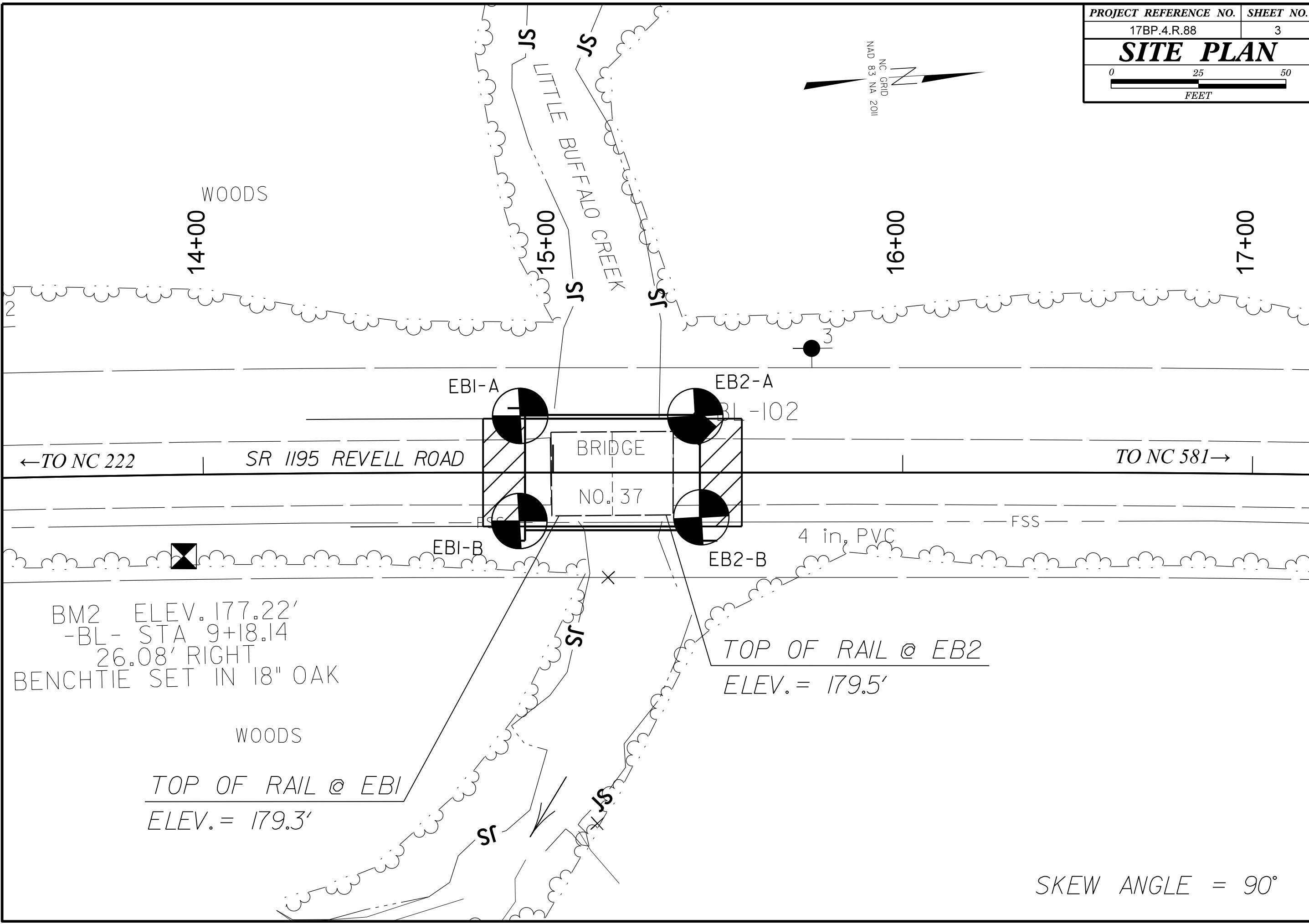
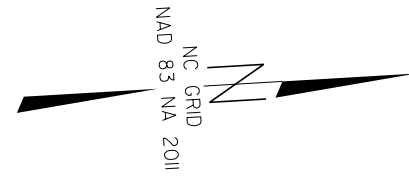
DocuSigned by:
Neil Roberson 6/28/2018
4061D9A8C6C649C SIGNATURE DATE

**DOCUMENT NOT CONSIDERED FINAL
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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

Table with 4 main columns: 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, RECOMMENDATION SYMBOLS, ABBREVIATIONS, EQUIPMENT USED ON SUBJECT PROJECT, FRACTURE SPACING, BEDDING, and INDURATION.



← TO NC 222

SR 1195 REVELL ROAD

BRIDGE

NO. 37

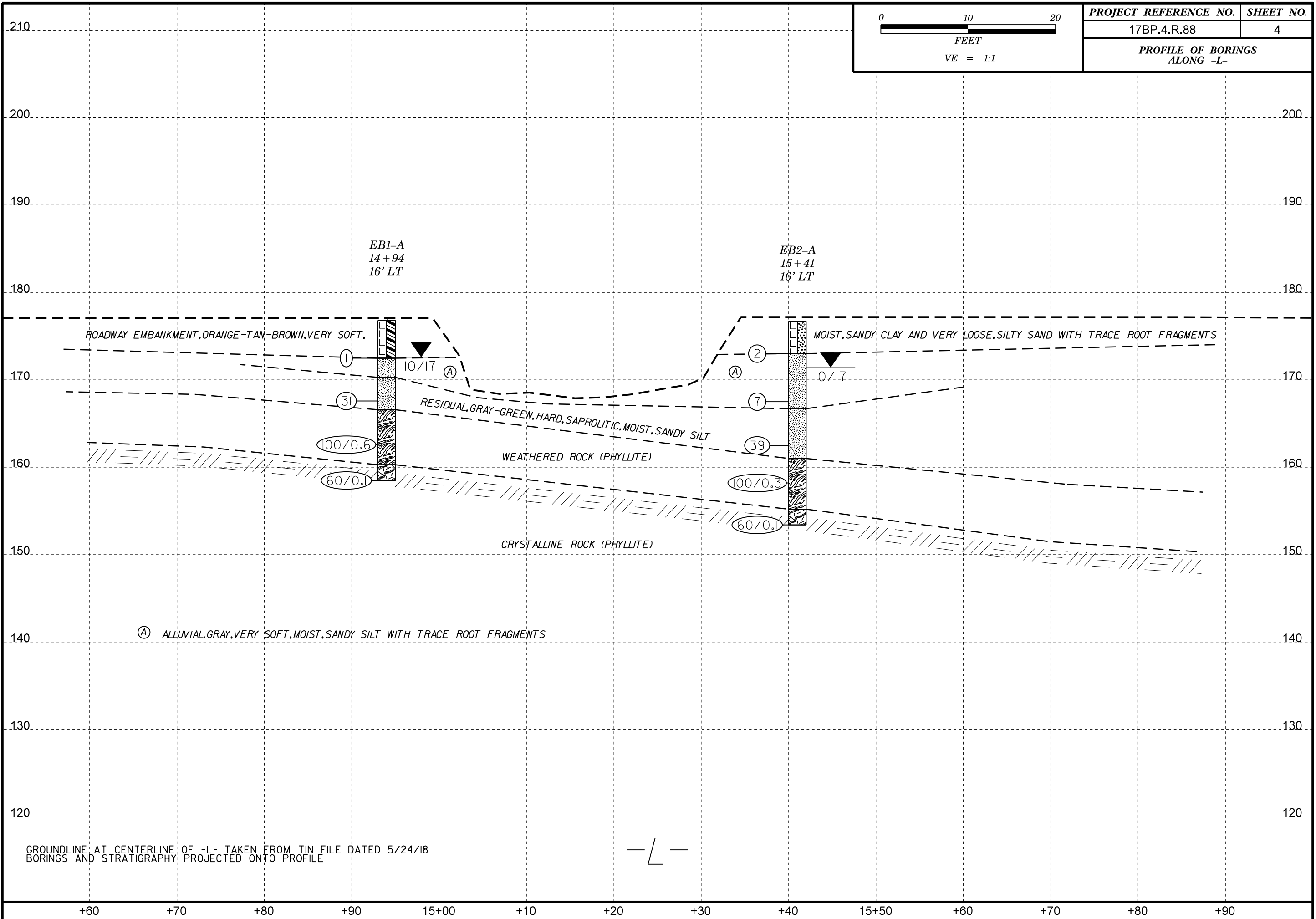
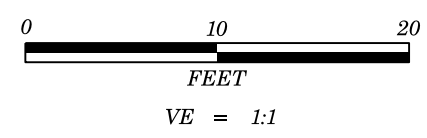
TO NC 581 →

BM2 ELEV. 177.22'
 -BL- STA 9+18.14
 26.08' RIGHT
 BENCHTIE SET IN 18" OAK

TOP OF RAIL @ EBI
 ELEV. = 179.3'

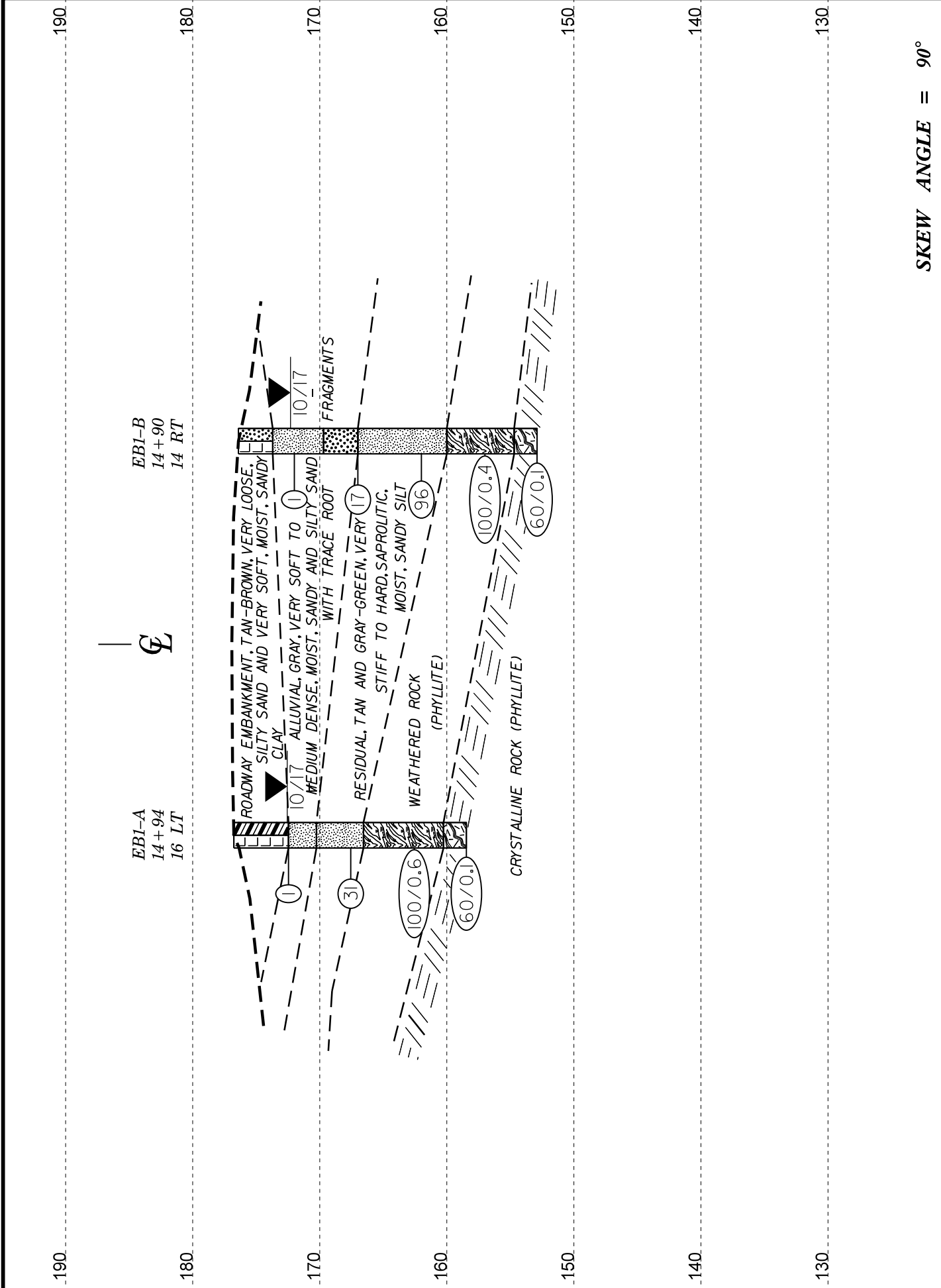
TOP OF RAIL @ EB2
 ELEV. = 179.5'

SKEW ANGLE = 90°

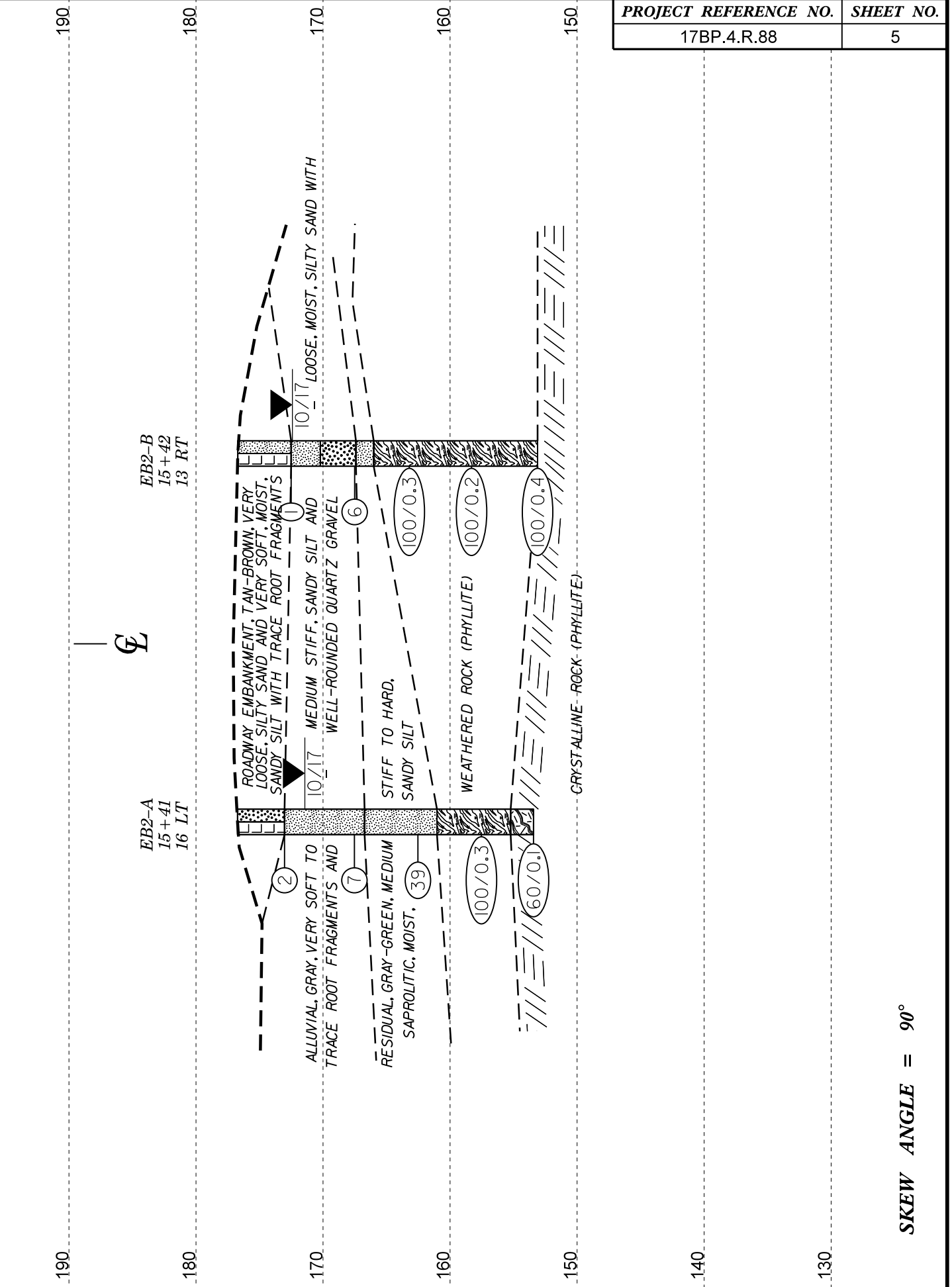


GROUNDLINE AT CENTERLINE OF -L- TAKEN FROM TIN FILE DATED 5/24/18
BORINGS AND STRATIGRAPHY PROJECTED ONTO PROFILE

-L-



CROSS SECTION THROUGH EBI



CROSS SECTION THROUGH EB2

HORIZ. SCALE 0 10 20 (FEET)

VE = 1:1

HORIZ. SCALE 0 10 20 (FEET)

VE = 1:1

SKEW ANGLE = 90°

SKEW ANGLE = 90°

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 17BP.4.R.88		TIP SF-970037		COUNTY WILSON		GEOLOGIST Moore, N. O.									
SITE DESCRIPTION BRIDGE NO. 37 ON -L- (SR1195) OVER LITTLE BUFFALO CREEK							GROUND WTR (ft)								
BORING NO. EB1-A		STATION 14+94		OFFSET 16 ft LT		ALIGNMENT -L-									
COLLAR ELEV. 176.8 ft		TOTAL DEPTH 18.3 ft		NORTHING 681,554		EASTING 2,259,125									
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 90% 07/12/2016			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic										
DRILLER Pinter, D. G.		START DATE 10/10/17		COMP. DATE 10/10/17		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					
180															
175	173.6	3.2	1	0	1								SS-5	M	176.8 GROUND SURFACE 0.0 ROADWAY EMBANKMENT ORANGE-BROWN, SANDY CLAY
170	168.6	8.2	2	10	21										172.5 4.3 170.3 6.5 ALLUVIAL GRAY, SANDY SILT WITH TRACE ROOT FRAGMENTS
165	163.6	13.2	75	25/0.1											166.6 10.2 RESIDUAL GRAY-GREEN, SAPROLITIC, SANDY SILT
160	158.6	18.2	60/0.1												160.3 16.5 WEATHERED ROCK (PHYLLITE)
															158.5 18.3 CRYSTALLINE ROCK (PHYLLITE) Boring Terminated with Standard Penetration Test Refusal at Elevation 158.5 ft IN CRYSTALLINE ROCK (PHYLLITE)

WBS 17BP.4.R.88		TIP SF-970037		COUNTY WILSON		GEOLOGIST Moore, N. O.									
SITE DESCRIPTION BRIDGE NO. 37 ON -L- (SR1195) OVER LITTLE BUFFALO CREEK							GROUND WTR (ft)								
BORING NO. EB1-B		STATION 14+90		OFFSET 14 ft RT		ALIGNMENT -L-									
COLLAR ELEV. 176.4 ft		TOTAL DEPTH 23.5 ft		NORTHING 681,552		EASTING 2,259,155									
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 90% 07/12/2016			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic										
DRILLER Pinter, D. G.		START DATE 10/10/17		COMP. DATE 10/10/17		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					
180															
175	173.0	3.4	1	1	0										176.4 GROUND SURFACE 0.0 ROADWAY EMBANKMENT TAN-BROWN, SILTY SAND
170	168.0	8.4	3	5	12										173.7 2.7 ALLUVIAL GRAY, SANDY SILT WITH TRACE ROOT FRAGMENTS
165	163.0	13.4	30	33	63										169.7 6.7 LIGHT GRAY, SILTY SAND
160	158.0	18.4	100/0.4												167.0 9.4 RESIDUAL TAN AND GRAY-GREEN, SAPROLITIC, SANDY SILT
155	153.0	23.4	60/0.1												160.0 16.4 WEATHERED ROCK (PHYLLITE)
															154.7 21.7 CRYSTALLINE ROCK (PHYLLITE) Boring Terminated with Standard Penetration Test Refusal at Elevation 152.9 ft IN CRYSTALLINE ROCK (PHYLLITE)

NCDOT BORE DOUBLE 980037_GEO_BH_BRDG0037.GPJ NC_DOT.GDT 6/26/18

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 17BP.4.R.88		TIP SF-970037		COUNTY WILSON		GEOLOGIST Moore, N. O.										
SITE DESCRIPTION BRIDGE NO. 37 ON -L- (SR1195) OVER LITTLE BUFFALO CREEK							GROUND WTR (ft)									
BORING NO. EB2-A		STATION 15+41		OFFSET 16 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 176.7 ft		TOTAL DEPTH 23.3 ft		NORTHING 681,604		EASTING 2,259,128										
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 90% 07/12/2016			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER Pinter, D. G.		START DATE 10/10/17		COMP. DATE 10/10/17		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						
180														176.7	0.0	GROUND SURFACE
175	173.5	3.2	1	1	1							SS-1	M	173.0	3.7	ROADWAY EMBANKMENT TAN-BROWN, SILTY SAND WITH TRACE ROOT FRAGMENTS
170	168.5	8.2	6	3	4								M	166.7	10.0	ALLUVIAL GRAY, SANDY SILT WITH TRACE ROOT FRAGMENTS
165	163.5	13.2	10	13	26							SS-2	M	161.0	15.7	RESIDUAL GRAY-GREEN AND BROWN, SAPROLITIC, SANDY SILT
160	158.5	18.2	100/0.3											155.2	21.5	WEATHERED ROCK (PHYLLITE)
155	153.5	23.2	60/0.1											153.4	23.3	CRYSTALLINE ROCK (PHYLLITE)
Boring Terminated with Standard Penetration Test Refusal at Elevation 153.4 ft IN CRYSTALLINE ROCK (PHYLLITE)																

WBS 17BP.4.R.88		TIP SF-970037		COUNTY WILSON		GEOLOGIST Moore, N. O.										
SITE DESCRIPTION BRIDGE NO. 37 ON -L- (SR1195) OVER LITTLE BUFFALO CREEK							GROUND WTR (ft)									
BORING NO. EB2-B		STATION 15+42		OFFSET 13 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 176.7 ft		TOTAL DEPTH 23.6 ft		NORTHING 681,604		EASTING 2,259,157										
DRILL RIG/HAMMER EFF./DATE RFO0074 CME-55 90% 07/12/2016			DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER Pinter, D. G.		START DATE 10/10/17		COMP. DATE 10/10/17		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						
180														176.7	0.0	GROUND SURFACE
175	173.5	3.2	1	1	0							SS-3	M	172.5	4.2	ROADWAY EMBANKMENT ORANGE-TAN, SANDY SILT
170	168.5	8.2	3	2	4								M	170.2	6.5	ALLUVIAL GRAY, SANDY SILT WITH TRACE ROOT FRAGMENTS
165	163.5	13.2	100/0.3											167.4	9.3	GRAY, SILTY SAND WITH TRACE WELL-ROUNDED QUARTZ GRAVEL
160	158.5	18.2	100/0.2											166.0	10.7	RESIDUAL GRAY-GREEN, SAPROLITIC, SANDY SILT
155	153.5	23.2	100/0.4											153.1	23.6	WEATHERED ROCK (PHYLLITE)
Boring Terminated with Standard Penetration Test Refusal at Elevation 153.1 ft IN WEATHERED ROCK (PHYLLITE)																

NCDOT BORE DOUBLE 980037_GEO_BH_BRDG0037.GPJ NC_DOT_GDT 6/26/18

PROJ. NO. - 17BP.4.R.88
ID NO. - 970037
COUNTY - WILSON

EB1-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-5	16' LT	14+94	3.2-4.3	A-6(4)	33	15	9.5	50.5	9.7	30.3	100	98	48	-	-

EB1-B

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-4	14' RT	14+90	3.4-4.9	A-4(0)	22	6	13.5	45.7	18.6	22.2	100	97	47	-	-

EB2-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	16' LT	15+41	3.7-4.7	A-4(0)	20	4	10.3	47.1	18.4	24.2	100	97	52	-	-
SS-2	16' LT	15+41	13.2-14.7	A-4(0)		NP	13.1	24.2	52.5	10.1	100	92	72	-	-

EB2-B

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	13' RT	15+42	4.2-4.7	A-4(0)	18	3	9.1	50.5	22.2	18.2	100	98	48	-	-