

PROJECT: REFERENCE: BP5.R112

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

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY WARREN
 PROJECT DESCRIPTION BRIDGE NO. 126 OVER
PHOEBES CREEK ON SR 1116 (PERRY TOWN
ROAD)
 SITE DESCRIPTION BRIDGE FROM -L- STA. 14+62.50
TO 15+37.50

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP5.R112	1	7

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

CATLIN ENGINEERS

AND SCIENTISTS

INVESTIGATED BY T. PARK

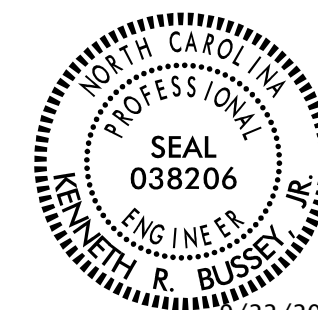
DRAWN BY T. LYNN

CHECKED BY K. BUSSEY

SUBMITTED BY HDR

DATE AUGUST 2022

HDR HDR Engineering, Inc. of the Carolinas
 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
 N.C.B.E.L.S. License Number: F-0116



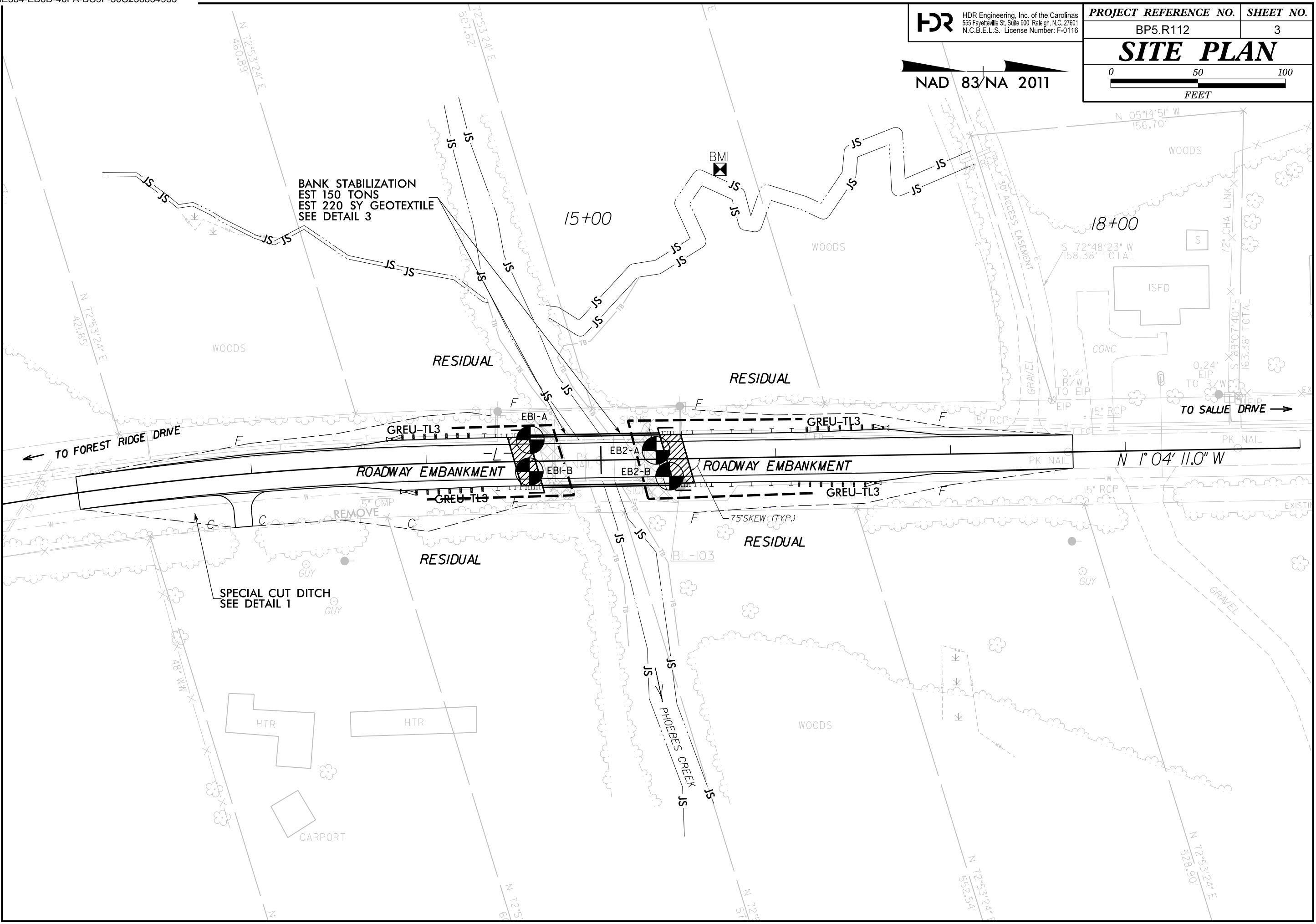
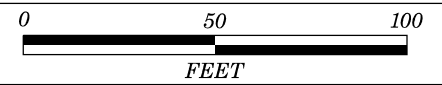
9/22/2022
 Kenneth R. Bussey, Jr.

SIGNATURE DATE

**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

SITE PLAN

NAD 83/NA 2011

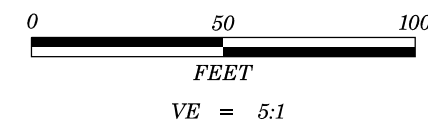


BANK STABILIZATION
EST 150 TONS
EST 220 SY GEOTEXTILE
SEE DETAIL 3

SPECIAL CUT DITCH
SEE DETAIL 1

TO SALLIE DRIVE →

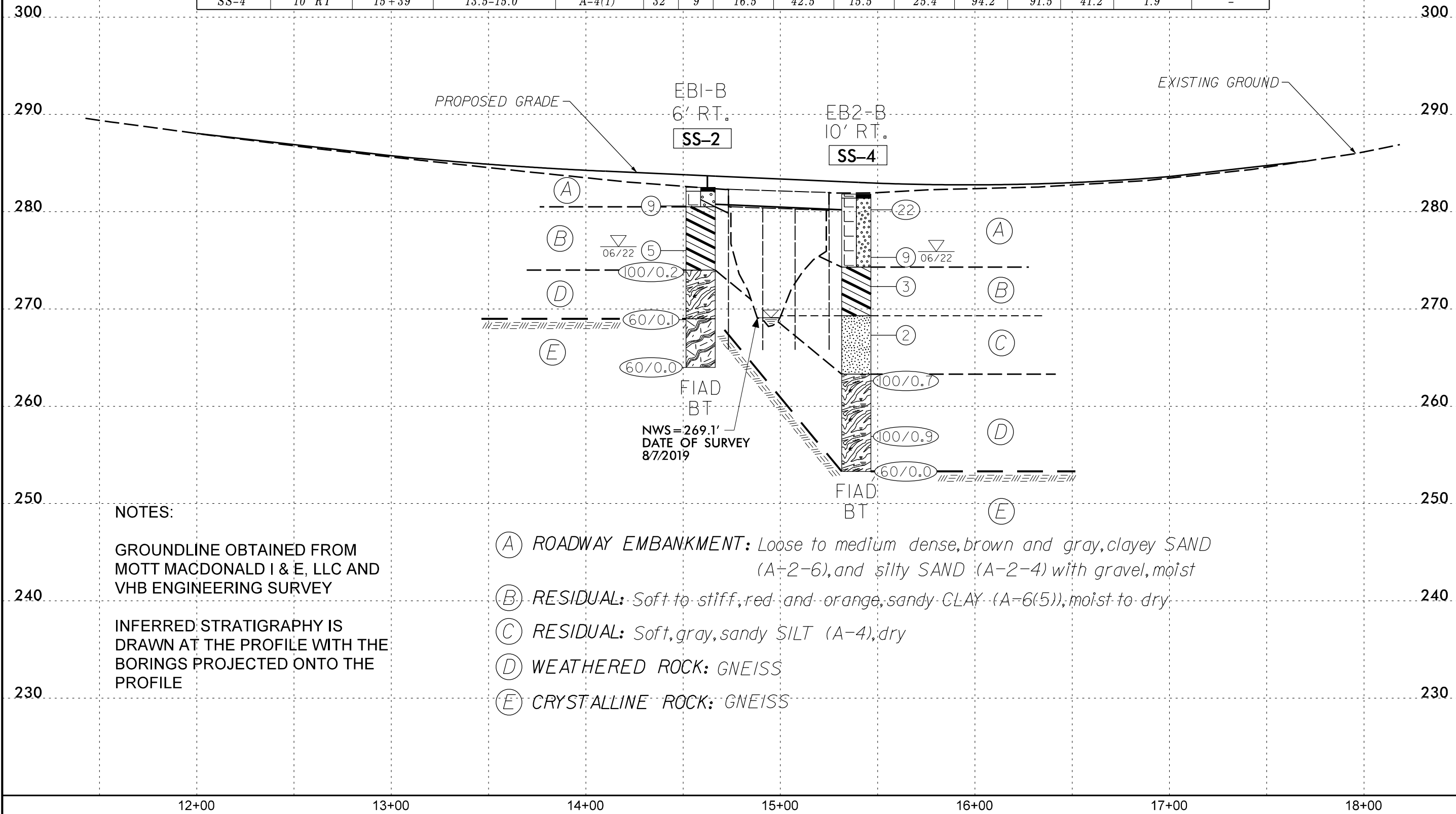
← TO FOREST RIDGE DRIVE



PROJECT REFERENCE NO.	SHEET NO.
BP5.R112	4
BRIDGE NO. 126 PROFILE AT CL OF -L-	

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	6' RT	14+59	5.5-7.0	A-6(5)	40	19	31.7	25.0	12.4	30.8	99.8	81.1	46.8	3.2	-
SS-4	10' RT	15+39	13.5-15.0	A-4(1)	32	9	16.5	42.5	15.5	25.4	94.2	91.5	41.2	1.9	-



NOTES:

GROUNDLINE OBTAINED FROM MOTT MACDONALD I & E, LLC AND VHB ENGINEERING SURVEY

INFERRED STRATIGRAPHY IS DRAWN AT THE PROFILE WITH THE BORINGS PROJECTED ONTO THE PROFILE

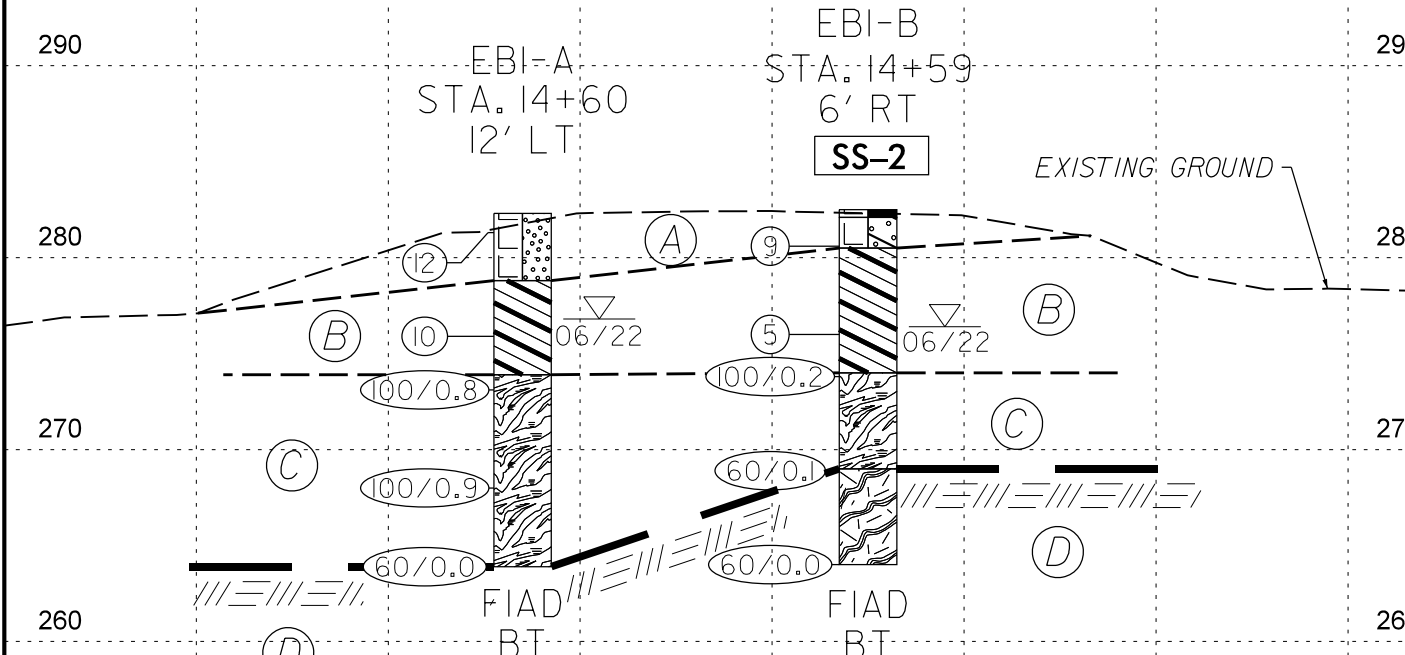
- (A) ROADWAY EMBANKMENT: Loose to medium dense, brown and gray, clayey SAND (A-2-6), and silty SAND (A-2-4) with gravel, moist
- (B) RESIDUAL: Soft to stiff, red and orange, sandy CLAY (A-6(5)), moist to dry
- (C) RESIDUAL: Soft, gray, sandy SILT (A-4), dry
- (D) WEATHERED ROCK: GNEISS
- (E) CRYSTALLINE ROCK: GNEISS

NWS = 269.1'
 DATE OF SURVEY
 8/7/2019

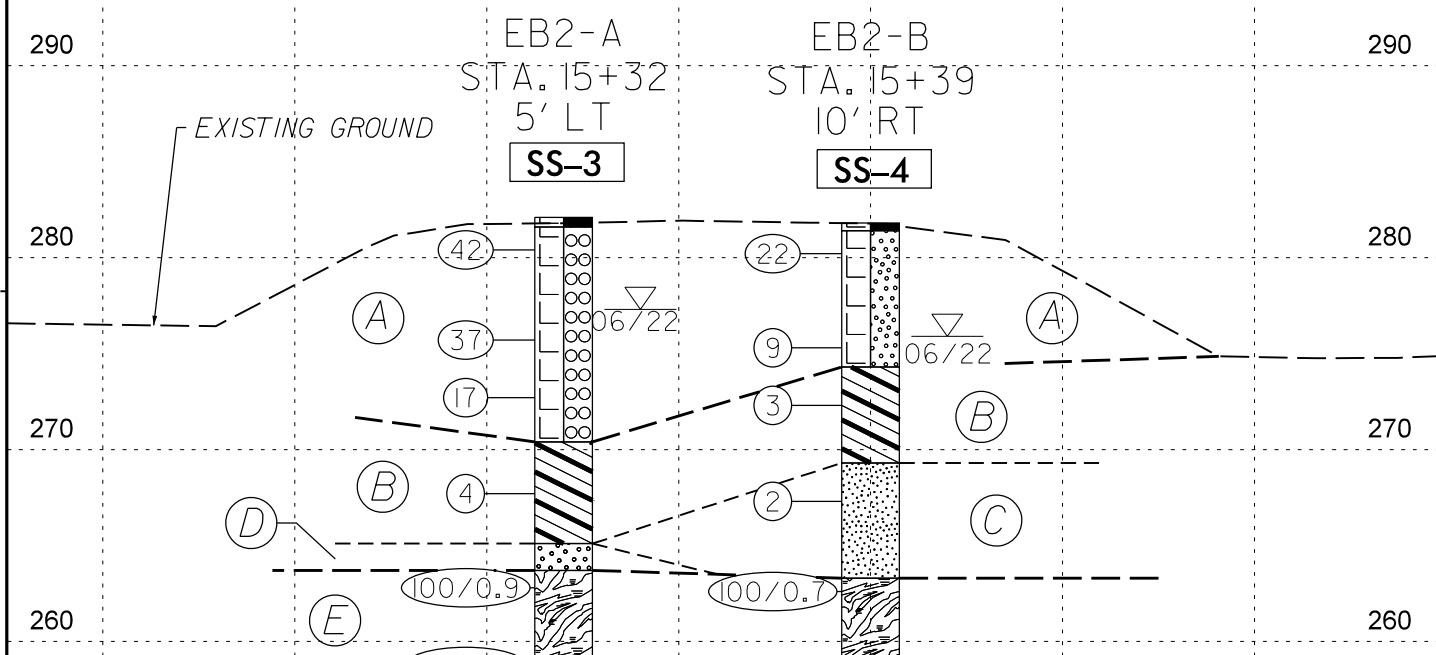
SOIL TEST RESULTS

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	6' RT	14+59	5.5-7.0	A-6(5)	40	19	31.7	25.0	12.4	30.8	99.8	81.1	46.8	3.2	-
SS-3	5' LT	15+32	13.4-14.9	A-6(5)	37	13	17.8	29.3	19.9	33.0	99.5	95.8	54.7	2.4	-
SS-4	10' RT	15+39	13.5-15.0	A-4(1)	32	9	16.5	42.5	15.5	25.4	94.2	91.5	41.2	1.9	-

NOTES:
 GROUNDLINE OBTAINED USING 920126_Is_tin.tin FILE DATED 6-8-2022
 INFERRED STRATIGRAPHY IS DRAWN AT THE CROSS SECTIONS WITH THE BORINGS PROJECTED ONTO THE CROSS SECTIONS



- (A) ROADWAY EMBANKMENT: Loose to medium dense, brown, silty fine SAND (A-2-4) with gravel, and clayey SAND (A-2-6), moist
- (B) RESIDUAL: Medium stiff to stiff, red and orange, sandy CLAY (A-6(5)), dry
- (C) WEATHERED ROCK: GNEISS
- (D) CRYSTALLINE ROCK: GNEISS



- (A) ROADWAY EMBANKMENT: Loose to dense, gray, well-graded coarse SAND (A-1-b) with gravel, and silty SAND (A-2-4) with gravel, moist
- (B) RESIDUAL: Soft, gray, red and orange, sandy CLAY (A-6(5)), moist to dry
- (C) RESIDUAL: Soft, gray, sandy SILT (A-4), dry
- (D) RESIDUAL: Loose, tan, gray and red, silty SAND (A-2-4) with rock fragments
- (E) WEATHERED ROCK: GNEISS
- (F) CRYSTALLINE ROCK: GNEISS

GEOTECHNICAL BORING REPORT

BORE LOG

WBS BP5.R112		TIP BP5.R112		COUNTY WARREN		GEOLOGIST T. Park									
SITE DESCRIPTION Bridge No. 126 over Pheobes Creek on SR 1116 (Perry Town Road)							GROUND WTR (ft)								
BORING NO. EB1-A		STATION 14+60		OFFSET 12 ft LT		ALIGNMENT -L-									
COLLAR ELEV. 282.3 ft		TOTAL DEPTH 18.4 ft		NORTHING 961,031		EASTING 2,231,838									
DRILL RIGHAMMER EFF./DATE CAT1303 CME-550 92% 02/03/2022			DRILL METHOD Mud Rotary			HAMMER TYPE Automatic									
DRILLER P. McCain		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.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
285															
	282.3	0.0	2	7	5									282.3	0.0
280														278.8	3.5
	276.9	5.4	1	2	8									273.9	8.4
275														273.9	8.4
	273.9	8.4	56	44/0.3										273.9	8.4
270														268.9	13.4
	268.9	13.4	7	93/0.4										268.9	13.4
265														263.9	18.4
	263.9	18.4	60/0.0											263.9	18.4
Boring Terminated with Standard Penetration Test Refusal at Elevation 263.9 ft on Crystalline Rock (GNEISS)															

WBS BP5.R112		TIP BP5.R112		COUNTY WARREN		GEOLOGIST T. Park									
SITE DESCRIPTION Bridge No. 126 over Pheobes Creek on SR 1116 (Perry Town Road)							GROUND WTR (ft)								
BORING NO. EB1-B		STATION 14+59		OFFSET 6 ft RT		ALIGNMENT -L-									
COLLAR ELEV. 282.5 ft		TOTAL DEPTH 18.5 ft		NORTHING 961,030		EASTING 2,231,856									
DRILL RIGHAMMER EFF./DATE CAT1303 CME-550 92% 02/03/2022			DRILL METHOD Mud Rotary			HAMMER TYPE Automatic									
DRILLER P. McCain		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.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
285															
	281.6	0.9	6	3	6									282.5	0.0
280														280.5	2.0
	277.0	5.5	3	3	2									274.0	8.5
275														274.0	8.5
	274.0	8.5	100/0.2											274.0	8.5
270														269.0	13.5
	269.0	13.5	60/0.1											269.0	13.5
265														264.0	18.5
	264.0	18.5	60/0.0											264.0	18.5
Boring Terminated with Standard Penetration Test Refusal at Elevation 264.0 ft in Crystalline Rock (GNEISS)															

NCDOT BORE DOUBLE 920126_GEO.GPJ NC_DOT.GDT 9/14/22

GEOTECHNICAL BORING REPORT

BORE LOG

WBS BP5.R112		TIP BP5.R112		COUNTY WARREN		GEOLOGIST T. Park										
SITE DESCRIPTION Bridge No. 126 over Pheobes Creek on SR 1116 (Perry Town Road)							GROUND WTR (ft)									
BORING NO. EB2-A		STATION 15+32		OFFSET 5 ft LT		ALIGNMENT -L-										
COLLAR ELEV. 282.1 ft		TOTAL DEPTH 23.4 ft		NORTHING 961,103		EASTING 2,231,844										
DRILL RIGHAMMER EFF./DATE CAT1303 CME-550 92% 02/03/2022				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic										
DRILLER P. McCain		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.	LOG MOI	LOG G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
285																
280	281.4	0.7	10	20	22											
275	276.7	5.4	13	17	20											
270	273.7	8.4	5	9	8											
265	268.7	13.4	4	2	2											
260	263.7	18.4	6	94/0.4												
	258.7	23.4	60/0.0													

WBS BP5.R112		TIP BP5.R112		COUNTY WARREN		GEOLOGIST T. Park										
SITE DESCRIPTION Bridge No. 126 over Pheobes Creek on SR 1116 (Perry Town Road)							GROUND WTR (ft)									
BORING NO. EB2-B		STATION 15+39		OFFSET 10 ft RT		ALIGNMENT -L-										
COLLAR ELEV. 281.8 ft		TOTAL DEPTH 28.5 ft		NORTHING 961,110		EASTING 2,231,859										
DRILL RIGHAMMER EFF./DATE CAT1303 CME-550 92% 02/03/2022				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic										
DRILLER P. McCain		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.	LOG MOI	LOG G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
285																
280	281.2	0.6	9	10	12											
275	276.3	5.5	7	5	4											
270	273.3	8.5	2	2	1											
265	268.3	13.5	1	1	1											
260	263.3	18.5	77	23/0.2												
255	258.3	23.5	17	39	61/0.4											
	253.3	28.5	60/0.0													

NCDOT BORE DOUBLE 920126_GEO.GPJ NC_DOT.GDT 9/14/22