

PROJECT: HENDERSON 36 REFERENCE: EMERGENCY

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

**STRUCTURE**  
**SUBSURFACE INVESTIGATION**

COUNTY HENDERSON  
PROJECT DESCRIPTION REPLACE BRIDGE #0036  
ON SR 1585 (SOUTH MILLS GAP RD.)  
OVER CLEAR CREEK  
SITE DESCRIPTION \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CONTENTS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LEGEND (SOIL & ROCK)
2A	SUPPLEMENTAL LEGEND (GSI)
3	SITE PLAN
4-5	BORE LOGS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	EMERGENCY	1	5

**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 1919 TOT-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 (ON-PLACE) TEST DATA CAN BE RELED 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:
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

CE STEWMAN  
CJ COFFEY  
JD WORLEY  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

INVESTIGATED BY DM MULLEN  
DRAWN BY DM MULLEN  
CHECKED BY DC ELLIOTT  
SUBMITTED BY DC ELLIOTT  
DATE 2/5/2024



DocuSigned by:  
D. Matt Mullen 02/05/2024  
SIGNATURE DATE

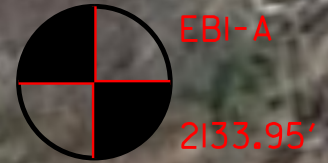
**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



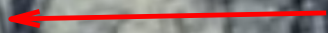
# SITE PLAN



CLEAR CREEK

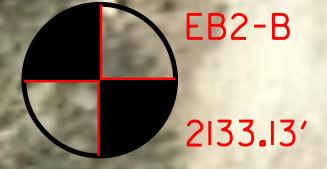
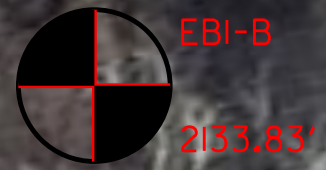


TO FRUITLAND



HENDERSON 36

TO US 64



# GEOTECHNICAL BORING REPORT

## BORE LOG

WBS 999		TIP 999		COUNTY HENDERSON		GEOLOGIST Stewman, C. E.										
SITE DESCRIPTION BRIDGE 36 OVER CLEAR CREEK ON S. MILLS GAP RD							GROUND WTR (ft)									
BORING NO. EB1-A		STATION N/A		OFFSET N/A		ALIGNMENT N/A										
COLLAR ELEV. 2,134.0 ft		TOTAL DEPTH 45.3 ft		NORTHING 614,738		EASTING 994,570										
DRILL RIG/HAMMER EFF./DATE AFO8963 CME-550X 83% 04/11/2022		DRILL METHOD NW Casing w/ SPT		HAMMER TYPE Automatic												
DRILLER Coffey, Jr., C.		START DATE 01/23/24		COMP. DATE 01/23/24		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						
2135														2,134.0	0.0	GROUND SURFACE
2130	2,128.8	5.2	1	3	12									2,125.6	8.4	ALLUVIAL BROWN, GRAY SILT-SAND w/ SUB-ROUNDED PEBBLES (A-2)  ***COBBLES/BOULDERS @ 6.7'
2125	2,123.8	10.2	2	3	2											SAPROLITE GRAY/WHITE SL. MICACEOUS SAND-SILT (A-4)
2120	2,118.8	15.2	1	2	3											
2115	2,113.8	20.2	3	4	6											
2110	2,108.8	25.2	9	11	12											
2105	2,103.8	30.2	9	15	18											
2100	2,098.8	35.2	53	47/0.2										2,099.8	34.2	WEATHERED ROCK BROWN/GRAY SEVERLY WEATHERED ROCK
2095																
2090	2,088.8	45.2	60/0.1											2,089.8	44.2	CRYSTALLINE ROCK GRAY GNEISS
														2,088.7	45.3	Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 2,088.7 ft IN CRYSTALLINE ROCK

WBS 999		TIP 999		COUNTY HENDERSON		GEOLOGIST Stewman, C. E.										
SITE DESCRIPTION BRIDGE 36 OVER CLEAR CREEK ON S. MILLS GAP RD							GROUND WTR (ft)									
BORING NO. EB1-B		STATION N/A		OFFSET N/A		ALIGNMENT N/A										
COLLAR ELEV. 2,133.8 ft		TOTAL DEPTH 45.2 ft		NORTHING 614,670		EASTING 994,588										
DRILL RIG/HAMMER EFF./DATE AFO8963 CME-550X 83% 04/11/2022		DRILL METHOD NW Casing w/ SPT		HAMMER TYPE Automatic												
DRILLER Coffey, Jr., C.		START DATE 01/24/24		COMP. DATE 01/24/24		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						
2135														2,133.8	0.0	GROUND SURFACE
2130	2,128.7	5.1	2	7	16									2,125.4	8.4	ALLUVIAL BROWN/GRAY SILT-SAND w/ SUBROUNDED PEBBLES (A-2)  *** COBBLES/BOULDERS @ 7.1'
2125	2,123.7	10.1	WOH	1	1											SAPROLITE GRAY/WHITE SL. MICACEOUS SAND-SILT (A-4)
2120	2,118.7	15.1	2	2	3											
2115	2,113.7	20.1	2	2	4											
2110	2,108.7	25.1	5	7	10											
2105	2,103.7	30.1	8	19	24											
2100	2,098.7	35.1	7	6	18											
2095	2,093.7	40.1	9	8	28											
2090	2,088.7	45.1	60/0.1											2,091.2	42.6	WEATHERED ROCK BROWN/WHITE SEVERELY WEATHERED ROCK
														2,089.7	44.1	CRYSTALLINE ROCK GRAY GNEISS
														2,088.6	45.2	Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 2,088.6 ft IN CRYSTALLINE ROCK

NCDOT BORE DOUBLE 44\_GEO\_BRD0036\_HENDERSON\_EMERGENCY.GPJ\_NC\_DOT\_GDT\_2/2/24

# GEOTECHNICAL BORING REPORT

## BORE LOG

WBS 999		TIP 999		COUNTY HENDERSON		GEOLOGIST Stewman, C. E.										
SITE DESCRIPTION BRIDGE 36 OVER CLEAR CREEK ON S. MILLS GAP RD							GROUND WTR (ft)									
BORING NO. EB2-A		STATION N/A		OFFSET N/A		ALIGNMENT N/A										
COLLAR ELEV. 2,133.7 ft		TOTAL DEPTH 45.2 ft		NORTHING 614,729		EASTING 994,666										
DRILL RIG/HAMMER EFF./DATE AFO8963 CME-550X 83% 04/11/2022			DRILL METHOD NW Casing w/ SPT			HAMMER TYPE Automatic										
DRILLER Coffey, Jr., C.		START DATE 01/23/24		COMP. DATE 01/23/24		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						
2135														2,133.7	0.0	GROUND SURFACE
2130	2,128.7	5.0	0	0	1								M	2,125.9	7.8	ALLUVIAL BROWN SL. MICACEOUS SAND-SILT W/ ORGX (A-4) *** COBBLES/BOULDERS @ 6.9'
2125	2,123.7	10.0	3	2	2								M			SAPROLITE BROWN/WHITE SL. MICACEOUS SAND-SILT (A-4)
2120	2,118.7	15.0	1	2	3								M			
2115	2,113.7	20.0	4	8	12								M			
2110	2,108.7	25.0	4	6	8								M			
2105	2,103.7	30.0	14	18	31								M			
2100	2,098.7	35.0	30	70/0.4									M			
2095	2,093.7	40.0	25	60	40/0.2								M			
2090	2,088.7	45.0	100/0.2										M			
														2,088.5	45.2	Boring Terminated at Elevation 2,088.5 ft IN WEATHERED ROCK

WBS 999		TIP 999		COUNTY HENDERSON		GEOLOGIST Stewman, C. E.										
SITE DESCRIPTION BRIDGE 36 OVER CLEAR CREEK ON S. MILLS GAP RD							GROUND WTR (ft)									
BORING NO. EB2-B		STATION N/A		OFFSET N/A		ALIGNMENT N/A										
COLLAR ELEV. 2,133.1 ft		TOTAL DEPTH 50.2 ft		NORTHING 614,658		EASTING 994,656										
DRILL RIG/HAMMER EFF./DATE AFO8963 CME-550X 83% 04/11/2022			DRILL METHOD NW Casing w/ SPT			HAMMER TYPE Automatic										
DRILLER Coffey, Jr., C.		START DATE 01/22/24		COMP. DATE 01/22/24		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						
2135														2,133.1	0.0	GROUND SURFACE
2130	2,128.0	5.1	1	4	9								M	2,124.0	9.1	ALLUVIAL BROWN SILT-SAND w/ SUBROUNDED PEBBLES (A-2) *** COBBLES/BOULDERS @ 7.6'
2125	2,123.0	10.1	WOH	1	2								M			SAPROLITE BROWN/GRAY SL. MICACEOUS SAND-SILT (A-4)
2120	2,118.0	15.1	1	2	4								M			
2115	2,113.0	20.1	1	3	4								M			
2110	2,108.0	25.1	32	68/0.2									M			
2105	2,103.0	30.1	6	23	32								M			
2100	2,098.0	35.1	6	13	64								M			
2095	2,093.0	40.1	100/0.5										M			
2090	2,088.0	45.1	28	53	47/0.1								M			
2085	2,083.0	50.1	60/0.1										M			
														2,082.9	50.2	CRYSTALLINE ROCK GRAY GNEISS Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 2,082.9 ft IN CRYSTALLINE ROCK

NCDOT BORE DOUBLE 44\_GEO\_BRD0036\_HENDERSON\_EMERGENCY.GPJ\_NC\_DOT\_GDT\_2/2/24