

REFERENCE: U-5710A

PROJECT: 50115

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

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY NEW HANOVER
PROJECT DESCRIPTION NEW LOCATION
NORTHWESTERN QUADRANT CONNECTION
BETWEEN US 74 (EASTWOOD RD.) AND SR 1409
(MILITARY CUTOFF RD.)
SITE DESCRIPTION EASTWOOD STORMWATER BASIN
RETAINING WALL

CONTENTS

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5710A	1	5

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.

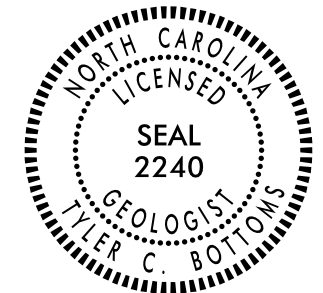
PERSONNEL

ZIMARINO, S.N.

SMITH, R.E.

PINTER, D.G.

INVESTIGATED BY T.C. BOTTOMS
DRAWN BY S.N. ZIMARINO
CHECKED BY D.N. ARGENBRIGHT
SUBMITTED BY D.N. ARGENBRIGHT
DATE NOVEMBER 2019



DocuSigned by:
Tyler Bottoms 11/27/2019
48A2D3BD08CF4A6...
SIGNATURE DATE

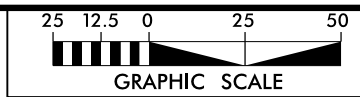
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

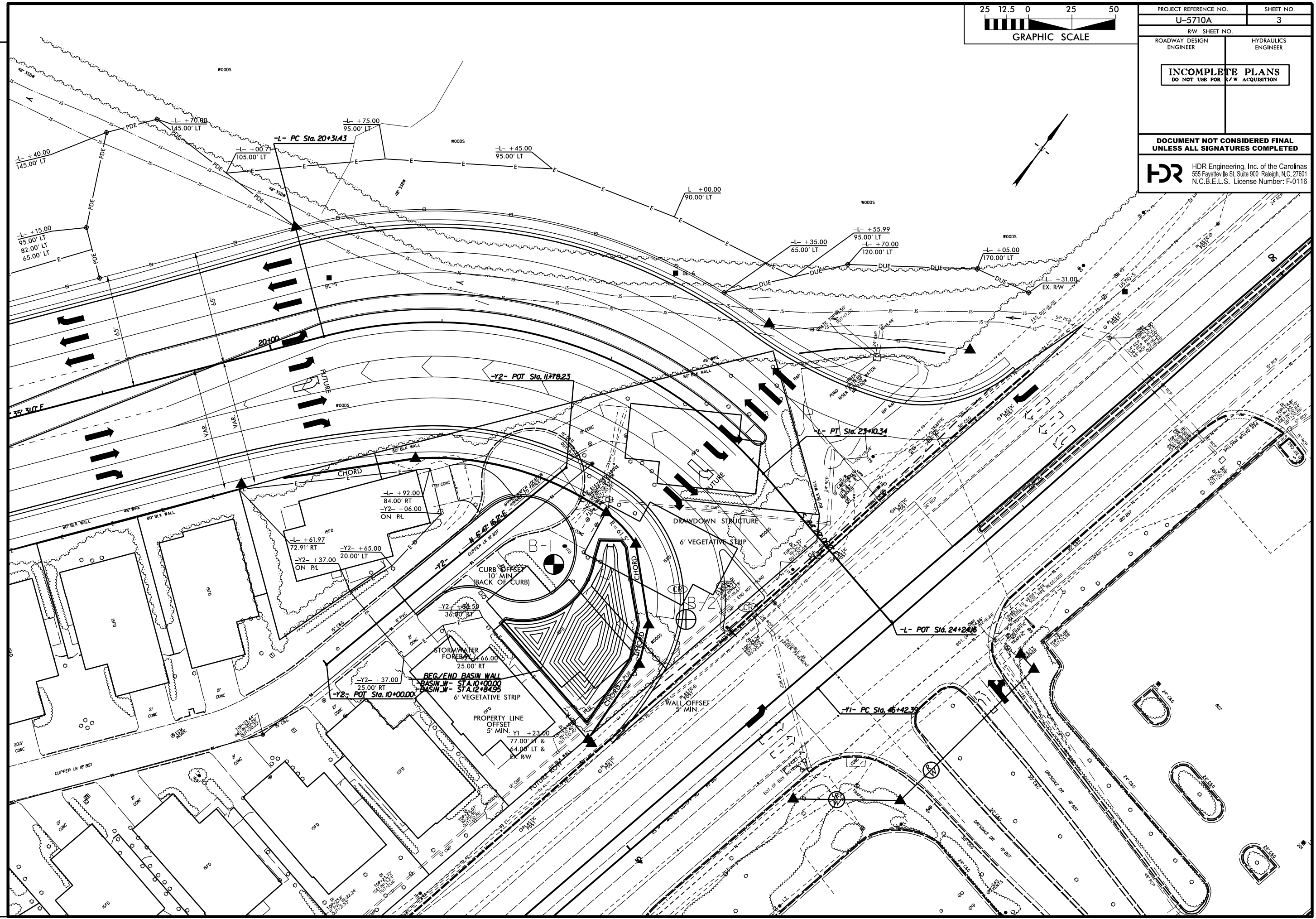
Table with 4 main columns: SOIL DESCRIPTION, GRADATION, ROCK DESCRIPTION, and TERMS AND DEFINITIONS. It contains detailed technical specifications, classification tables, and symbols for geotechnical engineering.



PROJECT REFERENCE NO. U-5710A	SHEET NO. 3
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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	

REVISIONS

PLOT DRIVER: \$PLTDVRS\$
 USER: \$USER\$
 FILE: \$PWVARVAULTPATHDESC\$
 DATE: \$DATE\$
 TIME: \$TIME\$

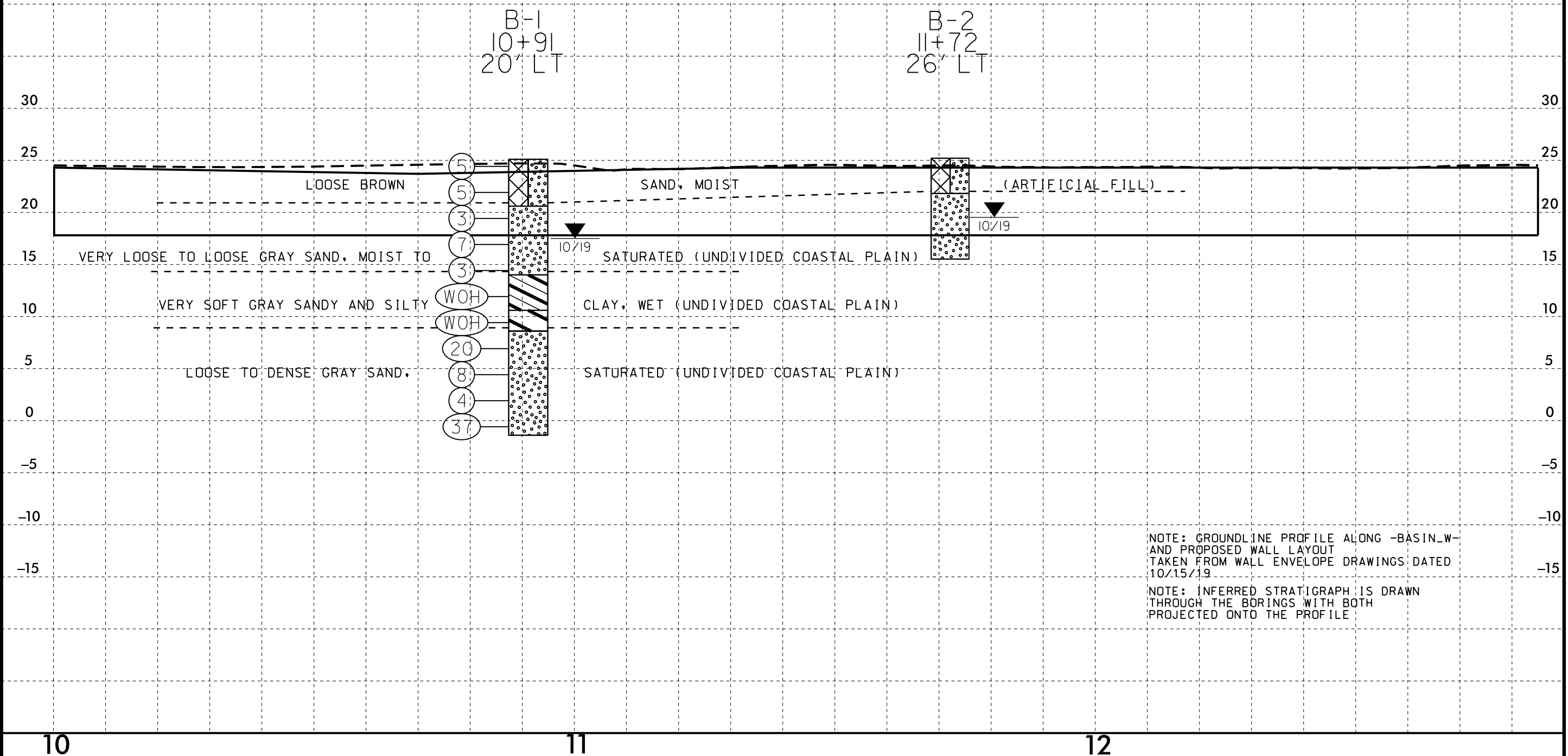


5/14/99

PROJECT REFERENCE NO. <i>U-5710A</i>	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

V.E. = 2

PROFILE THROUGH BORINGS PROJECTED ALONG -BASIN_W-



NOTE: GROUNDLINE PROFILE ALONG -BASIN_W- AND PROPOSED WALL LAYOUT TAKEN FROM WALL ENVELOPE DRAWINGS DATED 10/15/19

NOTE: INFERRED STRATIGRAPH IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE PROFILE

04-NOV-2018 10:46
X:\05710A\NOV\PPFL_1.DGN
\$\$\$\$\$FRMNUM\$\$\$\$\$

GEOTECHNICAL BORING REPORT

BORE LOG

WBS 50115.1.FS1		TIP U-5710A		COUNTY NEW HANOVER		GEOLOGIST Zimarino, S. N.										
SITE DESCRIPTION EASTWOOD STORMWATER BASIN RETAINING WALL							GROUND WTR (ft)									
BORING NO. B-1		STATION 10+91		OFFSET 20 ft LT		ALIGNMENT -BASIN_W-										
COLLAR ELEV. 25.1 ft		TOTAL DEPTH 26.5 ft		NORTHING 177,360		EASTING 2,353,777										
DRILL RIGHAMMER EFF/DATE GFC0075 CME-45C 89% 08/19/2019			DRILL METHOD Mud Rotary			HAMMER TYPE Automatic										
DRILLER Smith, R. E.		START DATE 10/24/19		COMP. DATE 10/24/19		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						
30																
25	25.1	0.0													25.1	GROUND SURFACE
	22.6	2.5	1	2	3											ARTIFICIAL FILL BROWN SAND, MOIST
	20.1	5.0	2	2	3										20.6	UNDIVIDED COASTAL PLAIN GRAY SAND, MOIST TO SATURATED
20	20.1	5.0	WOH	1	2											
	17.6	7.5	2	2	5											
15	15.1	10.0	6	2	1										14.0	GRAY SANDY CLAY, WET
	12.6	12.5	WOH	WOH	WOH										10.6	GRAY SILTY CLAY, WET
10	10.1	15.0	WOH	WOH	WOH										8.6	GRAY SAND, SATURATED
	7.6	17.5	7	9	11											
5	5.1	20.0	5	5	3											
	2.6	22.5	3	2	2											
0	0.1	25.0	6	14	23											
															-1.4	Boring Terminated at Elevation -1.4 ft in Dense Sand

WBS 50115.1.FS1		TIP U-5710A		COUNTY NEW HANOVER		GEOLOGIST Zimarino, S. N.										
SITE DESCRIPTION EASTWOOD STORMWATER BASIN RETAINING WALL							GROUND WTR (ft)									
BORING NO. B-2		STATION 11+72		OFFSET 26 ft LT		ALIGNMENT -BASIN_W-										
COLLAR ELEV. 25.2 ft		TOTAL DEPTH 10.0 ft		NORTHING 177,390		EASTING 2,353,854										
DRILL RIGHAMMER EFF/DATE N/A			DRILL METHOD Hand Auger			HAMMER TYPE N/A										
DRILLER Smith, R. E.		START DATE 10/24/19		COMP. DATE 10/24/19		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						
30																
25															25.2	GROUND SURFACE
																ARTIFICIAL FILL BROWN SAND, MOIST
															21.7	UNDIVIDED COASTAL PLAIN LOOSE GRAY SAND, MOIST TO SATURATED
															15.2	Boring Terminated at Elevation 15.2 ft in Loose Sand

NCDOT BORE DOUBLE U5710_GEO_RWAL.GPJ NC_DOT.GDT 11/4/19