

REFERENCE: U-6187

PROJECT: 48647

SEE SHEET 3 FOR PLAN SHEET LAYOUT
AT TIME OF INVESTIGATION

CONTENTS

LINE	STATION	PLAN
-L-	10+30 - 72+81	4-8
-Y1-	10+31 - 35+40	5,9,10
-Y2-	27+98 - 63+90	8,11,12
-Y3-	10+00 - 11+26	9
-Y4-	10+00 - 22+49	4,5
-LPB-	10+00 - 22+69	8
-RPB-	10+00 - 31+48	8
-RPC-	10+00 - 25+89	8
-RPD-	10+00 - 25+32	8,12

APPENDIX A

TITLE	SHEETS
BORING LOGS	13-70
SOIL TEST RESULTS	71-72
DCP DATA SHEETS	73-80

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

ROADWAY
SUBSURFACE INVESTIGATION

COUNTY DAVIE
PROJECT DESCRIPTION REALIGNMENT AND
EXTENSION OF SR 1630 (BALTIMORE ROAD)
ON NEW LOCATION FROM SOUTH OF US 158
TO A NEW INTERCHANGE AT I-40

INVENTORY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6187	1	

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 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:
- 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

Q. HILL

CG2 EXPLORATION

J. CRENSHAW

J. ROSE

R. MAFFIA

M. HABERMANN

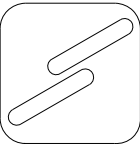
INVESTIGATED BY J. CRENSHAW

DRAWN BY Q. HILL

CHECKED BY J. CRENSHAW

SUBMITTED BY SCHNABEL ENG.

DATE JULY 2024



Schnabel
ENGINEERING



Signed by:

Jared K. Crenshaw

F325B40D4C25483...

SIGNATURE

08/01/2024

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

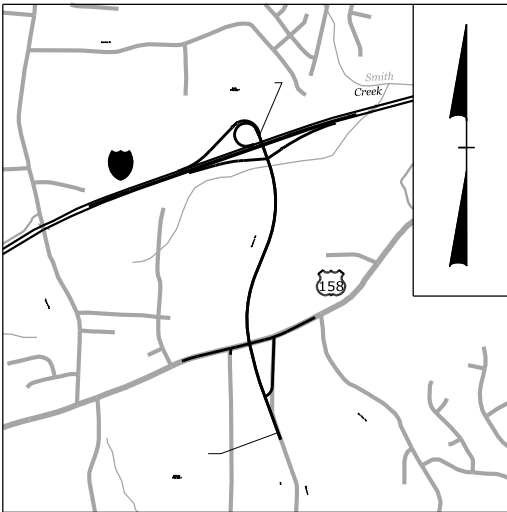
SOIL DESCRIPTION										GRADATION										ROCK DESCRIPTION										TERMS AND DEFINITIONS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, <i>VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6</i>										WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.										HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:										ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. AQUIFER - A WATER BEARING FORMATION OR STRATA. ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC. ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE. CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE. CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK. DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT. LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM. RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK. SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
SOIL LEGEND AND AASHTO CLASSIFICATION										ANGULARITY OF GRAINS										WEATHERED ROCK (WR)										CRYSTALLINE ROCK (CR)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)					SILT-CLAY MATERIALS (> 35% PASSING #200)					ORGANIC MATERIALS					MINERALOGICAL COMPOSITION										NON-CRYSTALLINE ROCK (NCR)										COASTAL PLAIN SEDIMENTARY ROCK (CP)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
GROUP CLASS.	A-1	A-3	A-2	A-2-4	A-2-5	A-2-6	A-2-7	A-4	A-5	A-6	A-7	A-1, A-2	A-3	A-4, A-5	A-6, A-7	MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.										FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.										FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.										COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS, GRAVEL, AND SAND		FINE SAND		SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS				CLAYEY SOILS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
GEN. RATING AS SUBGRADE	EXCELLENT TO GOOD					FAIR TO POOR					FAIR TO POOR					POOR					UNSUITABLE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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CONSISTENCY OR DENSENESS										MISCELLANEOUS SYMBOLS										ROCK HARDNESS										FRACTURE SPACING										BEDDING																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY			RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)			RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)			ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION										DIP & DIP DIRECTION OF ROCK STRUCTURES										VERY HARD										MODERATELY HARD										SOFT										VERY SOFT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE			< 4 4 TO 10 10 TO 30 30 TO 50			N/A			SOIL SYMBOL										SPT DPT DMT VST PMT										AUGER BORING										CORE BORING										MONITORING WELL										PIEZOMETER INSTALLATION										SLOPE INDICATOR INSTALLATION										CONE PENETROMETER TEST										SOUNDING ROD										TEST BORING WITH CORE										SPT N-VALUE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD			< 2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 > 30			< 0.25 0.25 TO 0.5 0.5 TO 1.0 1 TO 2 2 TO 4 > 4			INFERRED SOIL BOUNDARY										INFERRED ROCK LINE										ALLUVIAL SOIL BOUNDARY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

09/08/25

TIP PROJECT: U-6187

CONTRACT: TBD

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Plan Sheet Symbols



VICINITY MAP (NTS)

DESIGN RECOMMENDATION PLANS

(PLANS DEVELOPED USING
OPENROADS DESIGNER)

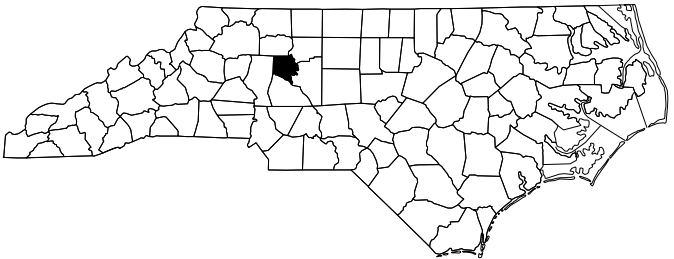
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DAVIE COUNTY

LOCATION: *REALIGNMENT AND EXTENSION OF SR 1630
(BALTIMORE ROAD) FROM SOUTH OF US 158
TO A NEW INTERCHANGE AT I-40*

TYPE OF WORK: *GRADING, PAVING, DRAINAGE, AND STRUCTURES*

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6187	3	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
48647.1.1		PE	



BEGIN TIP PROJECT U-6187
-L- STA. 10+30.00

END TIP PROJECT U-6187
-L- STA. 72+80.54

END PROP. BRIDGE
-L- STA. 72+09 ±

PROPOSED BRIDGE

END CONSTRUCTION
-Y2- STA. 54+04.08 LT

THIS PROJECT IS NOT WITHIN A MUNICIPAL BOUNDARY.
THIS IS A CONTROL OF ACCESS PROJECT WITH ACCESS TO I-40 BEING LIMITED TO INTERCHANGES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

DENOTES PROPOSED TRAFFIC SIGNAL

GRAPHIC SCALES



PLANS



PROFILE (HORIZONTAL)



PROFILE (VERTICAL)

DESIGN DATA

ADT 2025 = 8,100
ADT 2045 = 21,200
K = 10 %
D = 55 %
T = 8 % *
V = 60 MPH
* TTST = 6% DUAL 2%
FUNC CLASS =
MAJOR COLLECTOR
STATE WIDE TIER

PROJECT LENGTH

PROJECT LENGTHS FOR TIP PROJECT U-6187:
LENGTH ROADWAY TIP PROJECT U-6187 = 1.139 MILES
LENGTH STRUCTURES TIP PROJECT U-6187 = 0.045 MILES
TOTAL LENGTH TIP PROJECT U-6187 = 1.184 MILES

NCDOT Contact: RYAN C. NEWCOMB, PE
Prepared in the Office of:



2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 30, 2024

JONATHAN P. SOIKA, P.E.
PROJECT ENGINEER

LETTING DATE:
JUNE 17, 2025

JERRY B. JAVELLANA, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____
ROADWAY DESIGN ENGINEER

SIGNATURE: _____
P.E.



July 31, 2024

STATE PROJECT: 48647.1.1

TIP NUMBER: U-6187

COUNTY: DAVIE

DESCRIPTION: Realignment and Extension of SR 1630 (Baltimore Road) on New Location from South of US 158 to a New Interchange at I-40

SUBJECT: Geotechnical Roadway Inventory Report

Project Description

The project consists of constructing a 1.139-mile roadway on new location and adjoining existing state highways, a 2-span bridge over I-40, and 1 culvert, in the city of Advance, North Carolina. The new interchange will provide direct access to I-40 from the communities of Bixby, Redland and the surrounding rural area. The direct access to I-40 will support economic development and address traffic congestion at existing intersections. We also investigated a proposed culvert extension at approximately -Y2- STA. 30+25. It is our understanding that the design team no longer intends to extend this culvert. The provided plans showed anticipated cut excavations as deep as 30± feet and proposed embankment construction with fill heights up to 55± feet. Boring logs associated with this culvert extension are included in this report.

The field investigation was conducted in November 2023 through February of 2024 using both rubber-tire and track-mounted CME 550X drill rigs, with automatic hammers, a truck mounted Mobile B-29, with automatic hammer, and hand tools. Standard Penetration Tests (SPT) were performed at selected locations. Borings were advanced with hollow stem auger equipment and hand tools along the project corridor. Cone Penetration Tests (CPT) and Dilatometer (DMT) tests were completed near the proposed shoulder points of a culvert approximately 30-feet left and 40-feet right of -L- STA. 66+25 as well as at -L- STA. 69+74, near End Bent 1 of the proposed bridge over I-40. Hand augers were performed at locations the drill rig could not access or where concentrated underground utilities warranted, Dynamic Cone Penetration Tests (DCP) were conducted at all hand auger locations. Representative soil samples were collected and forwarded to an approved testing facility for soil quality analysis, moisture content, California Bearing Ratio, specific gravity, organic content, and AASHTO classification.

The Following Alignments were Investigated

Line	Station			Length (ft)
-L-	10+30	to	72+81	6,251
-Y1-	10+31	to	35+40	2,509
-Y2-	27+98	to	63+90	3,592
-Y3-	10+00	to	11+26	126
-Y4-	10+00	to	22+49	1,249
-LPB-	10+00	to	22+69	1,269
-RPB-	10+00	to	31+48	2,148
-RPC-	10+00	to	25+89	1,589
-RPD-	10+00	to	25+32	1,532
			Total=	20,265 feet (~3.8 miles)

Physiography and Geology

Based on a review of the Geologic map of North Carolina (1985) and the Geologic map of the Charlotte 1 degree x 2 degrees quadrangle, North Carolina and South Carolina (1988), the project is located in the Piedmont Physiographic Province. Soils in the area generally consist of residual sands, silts, and clays. Weathered rock and Late Proterozoic crystalline rock of the Metamorphic Mafic Complex (mm) primarily consisted of meta-gabbro underlie. Topography along the project corridor is gently rolling, traversing through a heavily wooded area to the north of US 158 until reaching an open pasture south of I-40. Natural ground surface elevations range from 757.3± feet above sea level in the vicinity of Smith Creek along the -L- alignment to 884.1± feet above sea level at the start of the -Y1- alignment.

Soil Properties

Soil and rock encountered along the project corridor are divided into five categories based on origin: roadway embankment soils, alluvial soils, residual soils, weathered rock, and crystalline rock.

Roadway embankment soils consisting of very loose SAND and GRAVEL (A-1-b), medium stiff silty SAND (A-2-4), medium stiff, clayey SILT (A-5), and medium stiff sandy CLAY, silty CLAY, and sandy and silty CLAY (A-6, A-7-5, A-7-6) were encountered along the -L-, -Y1-, and -Y2- alignments. Soils varied in thickness from less than one foot to 10 feet. Soils moistures were typically moist. Soil quality (classification) testing performed on two samples from this stratum indicate liquid limits of 42 and 59, and plasticity indices (PI) of 13 and 30. Moisture content values were reported as 21% and 32%.

Alluvial soils consisting of stiff sandy CLAY and CLAY (A-6, A-7-6), and sandy SILT (A-4) were encountered along the -L- alignment near Smith Creek. Thickness varied from less than one foot to 6.5 feet thick. Soils moistures were typically moist to wet. Soil quality (classification) testing performed on 2 samples from this stratum indicate liquid limits of 38 and 45, and plasticity indices (PI) of 14 and 17. Moisture content values were reported as 53% and 59%. Organic contents of two samples were reported at 5% and 10.2%.

Residual soils consisting of very loose to very dense SAND, silty SAND and clayey SAND (A-3, A-2-4, A-2-6), medium stiff to hard, SILT, sandy SILT and clayey SILT (A-4, A-5), and very soft to hard, CLAY, sandy CLAY, silty CLAY, and sandy and silty CLAY (A-6, A-7, A-7-5, A-7-6) were encountered throughout the project corridor. Soils varied in thickness from less than one foot to a maximum of 69.1 feet. Soil moistures were typically dry to wet. Soil quality (classification) testing performed on samples from this stratum indicate liquid limits of 31 to 87, and plasticity indices (PI) of 3 to 47. Moisture content values ranged from 9.0% to 70.0%.

Weathered rock consisting of gray, white, black, brown, tan, and pink meta-gabbro was encountered interlaid and underlying residual soils at several locations along the project corridor. Weathered rock elevations in these borings varied from 719.5± feet above sea level to 818.9± feet above sea level. Auger and split spoon refusal were noted beneath some of these layers on crystalline rock (meta-gabbro).

Crystalline rock consisting of black, white, gray, and tan meta-gabbro was encountered underlying residual soils and weathered rock at several locations along the corridor. Top of rock elevations in these borings varied from 686.5± feet above sea level to 738.2± feet above sea level. No rock core samples were collected as part of this investigation.

Groundwater

Borings were left open for a minimum of 24 hours to equilibrate with the surrounding conditions, when conditions permitted. All measured groundwater levels were at least 6 feet below proposed pavement grades in the preliminary roadway plans. Groundwater data was collected in November and December of 2023. Groundwater elevations generally varied with topography and ranged from 764± to 813± feet above sea level.

Areas of Special Geotechnical Interest

A. Highly plastic soils were encountered in the following sections.

Alignment	Begin Station	End Station
-L-	30+75	33+75
-L-	37+75	50+75
-Y1-	10+31	15+25
-Y1-	16+25	23+25
-Y2-	19+93	25+25
-Y2-	45+25	50+75
-Y2-	61+75	62+25
-RPB-	13+75	18+75
-RPD-	10+00	17+75

B. Alluvial Soils were encountered in the following sections.

Alignment	Begin Station	End Station
-L-	65+75	67+25

Alluvial soils should also be expected within the vicinity of creeks and streams in the following areas.

Alignment	Begin Station	End Station
-Y2-	28+75	32+25
-Y2-	50+25	52+75
-Y4-	12+25	13+75
-RPD-	20+25	22+25

These areas may require culvert structures under embankment fills, which were not identified in the preliminary roadway plans.

C. Fill soils were encountered in the following sections.

Alignment	Begin Station	End Station
-Y1-	16+25	16+75
-Y1-	28+25	32+75
-Y2-	34+75	60+25

D. Groundwater wells are shown on the preliminary plans in the following locations.

Alignment	Station	Offset
-Y1-	27+90	100' LT
-Y4-	16+00	37' LT

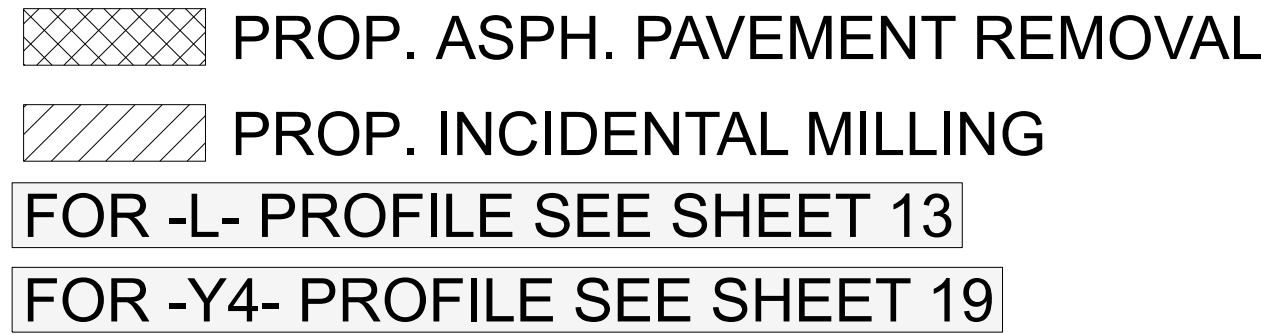
E. No rock outcrops were observed within the project limits.

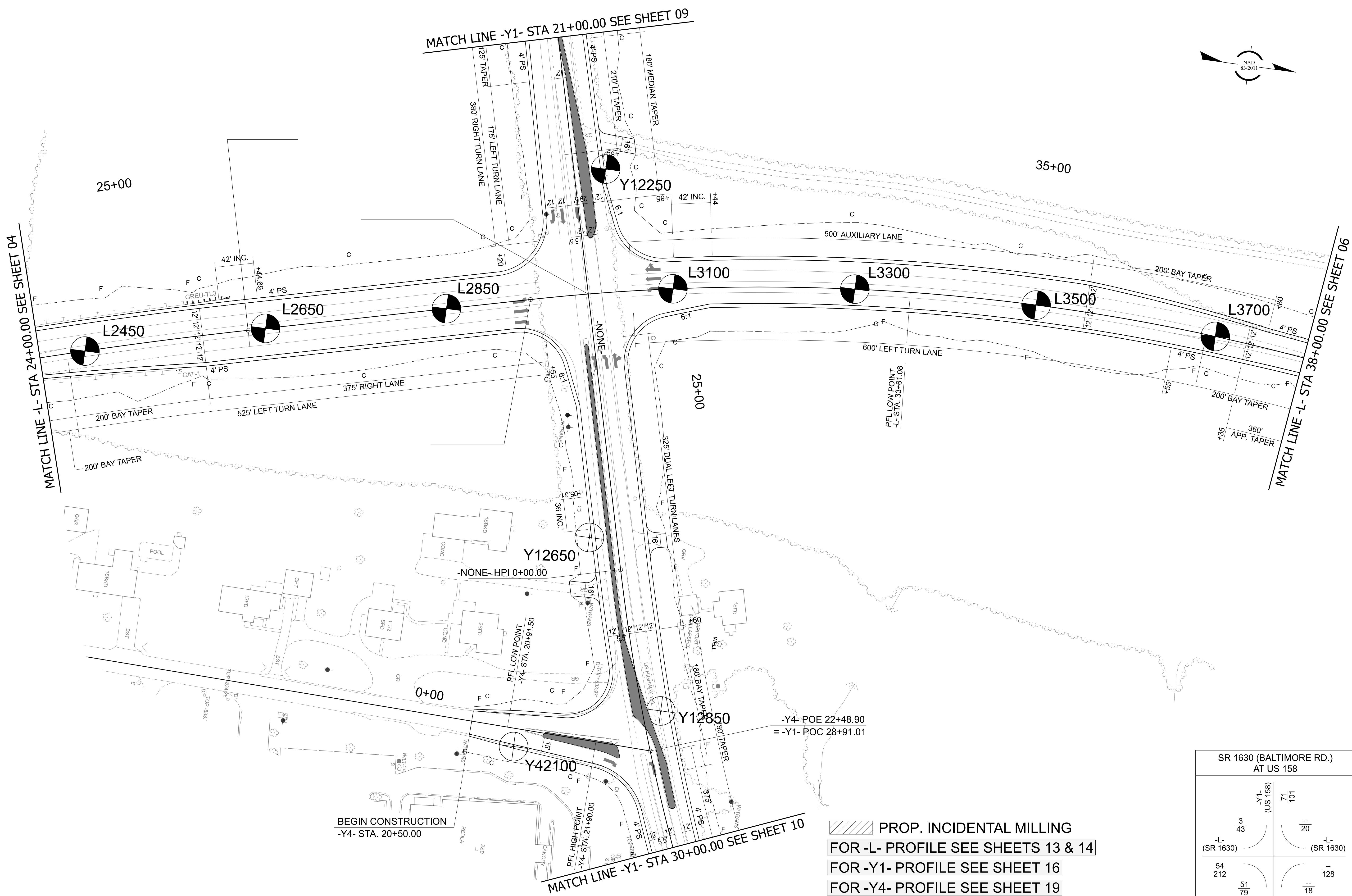
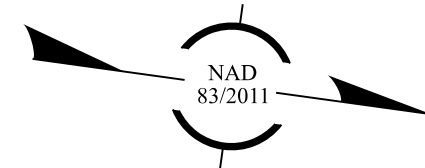


Jared K. Crenshaw, PG
Senior Geologist



Jason A. Holland, PG
Project Geologist





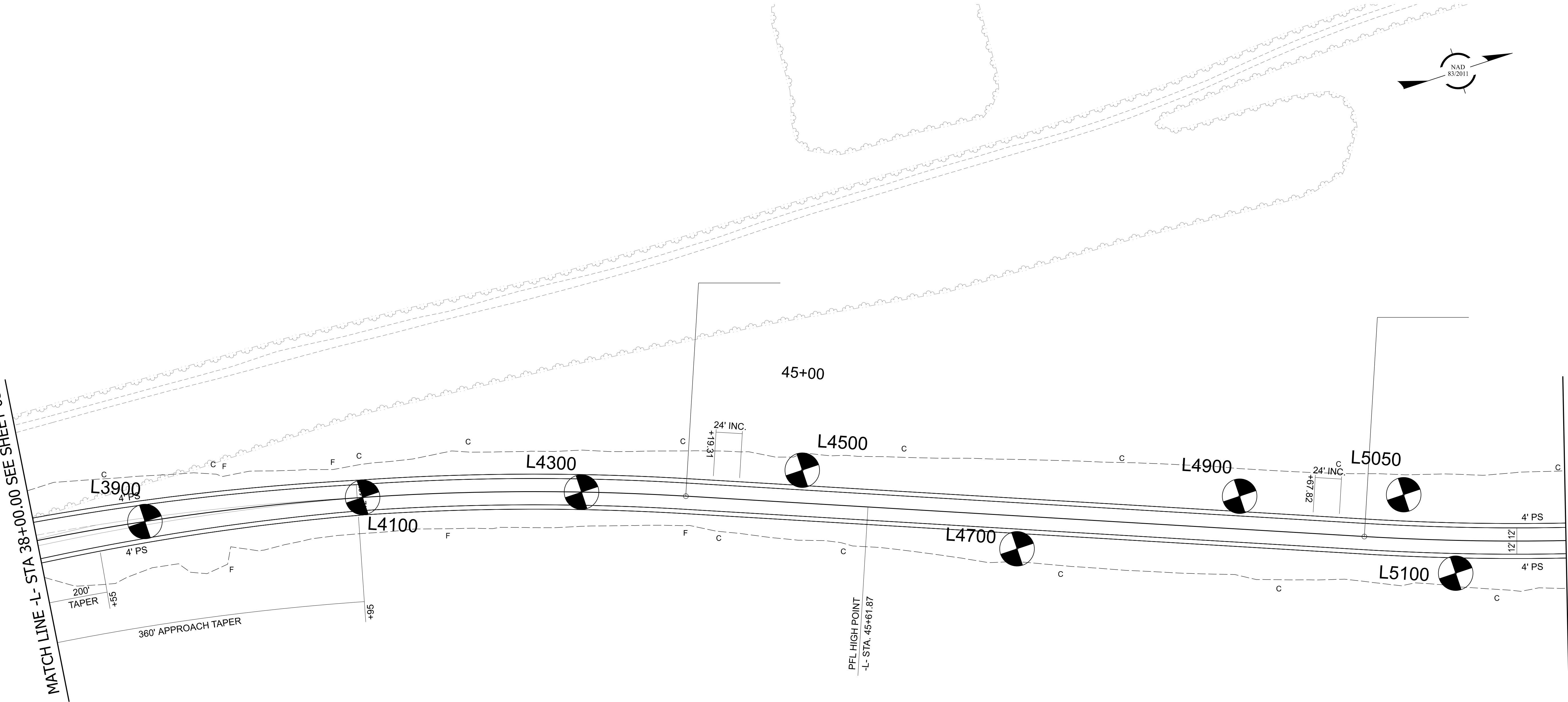
PROP. INCIDENTAL MILLING
FOR -L- PROFILE SEE SHEETS 13 & 14
FOR -Y1- PROFILE SEE SHEET 16
FOR -Y4- PROFILE SEE SHEET 19

PROPOSED TRAFFIC SIGNAL

SR 1630 (BALTIMORE RD.) AT US 158			
-L- (SR 1630)	$\frac{3}{43}$ 	-Y1- (US 158)	$\frac{71}{101}$
			$\frac{-}{20}$
-L- (SR 1630)	$\frac{54}{212}$ 	-Y1- (US 158)	$\frac{-}{128}$
			$\frac{-}{18}$
2019 2045 ADT			

MATCH LINE -L- STA 38+00.00 SEE SHEET 05

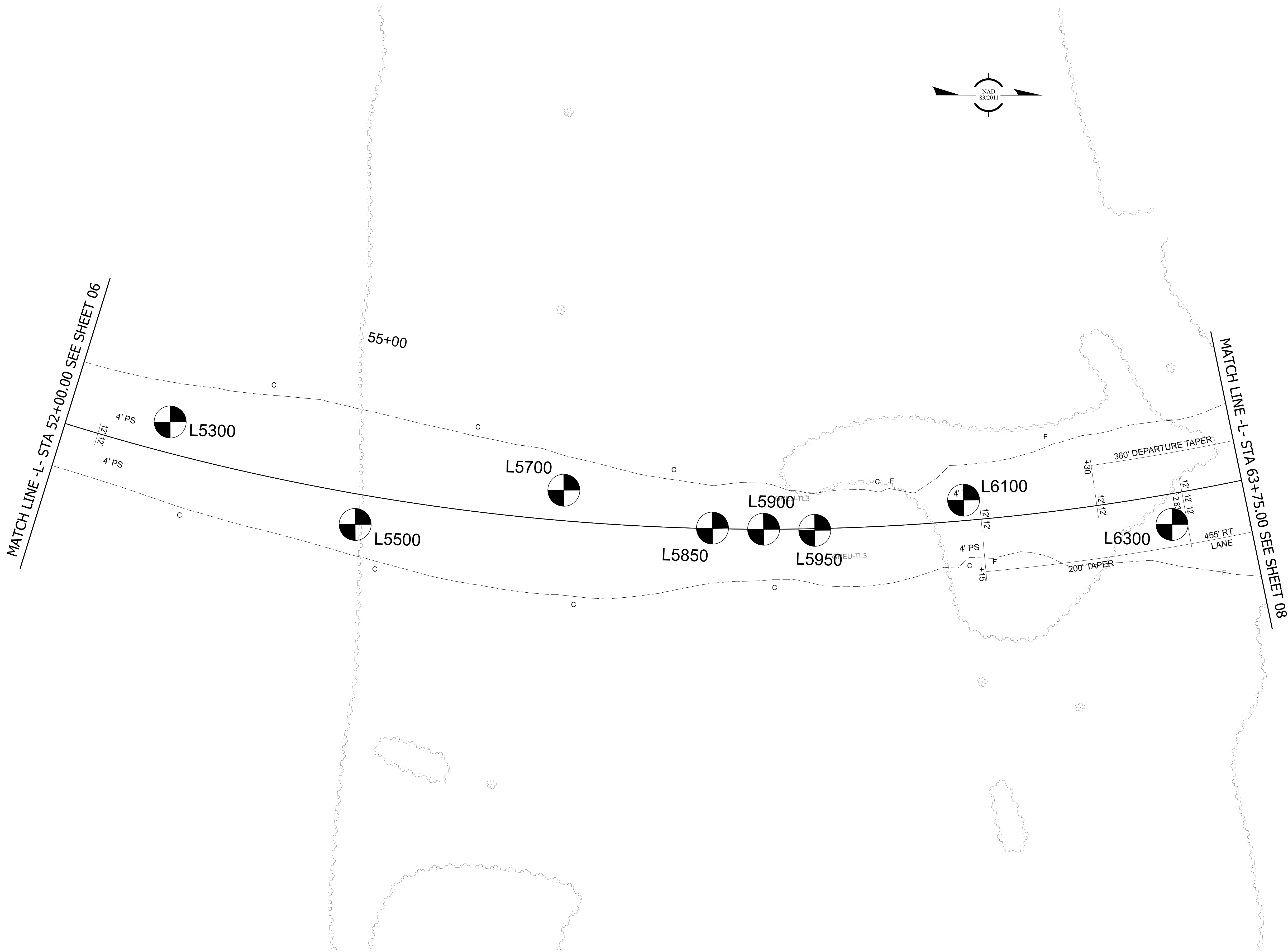
MATCH LINE -L- STA 52+00.00 SEE SHEET 07



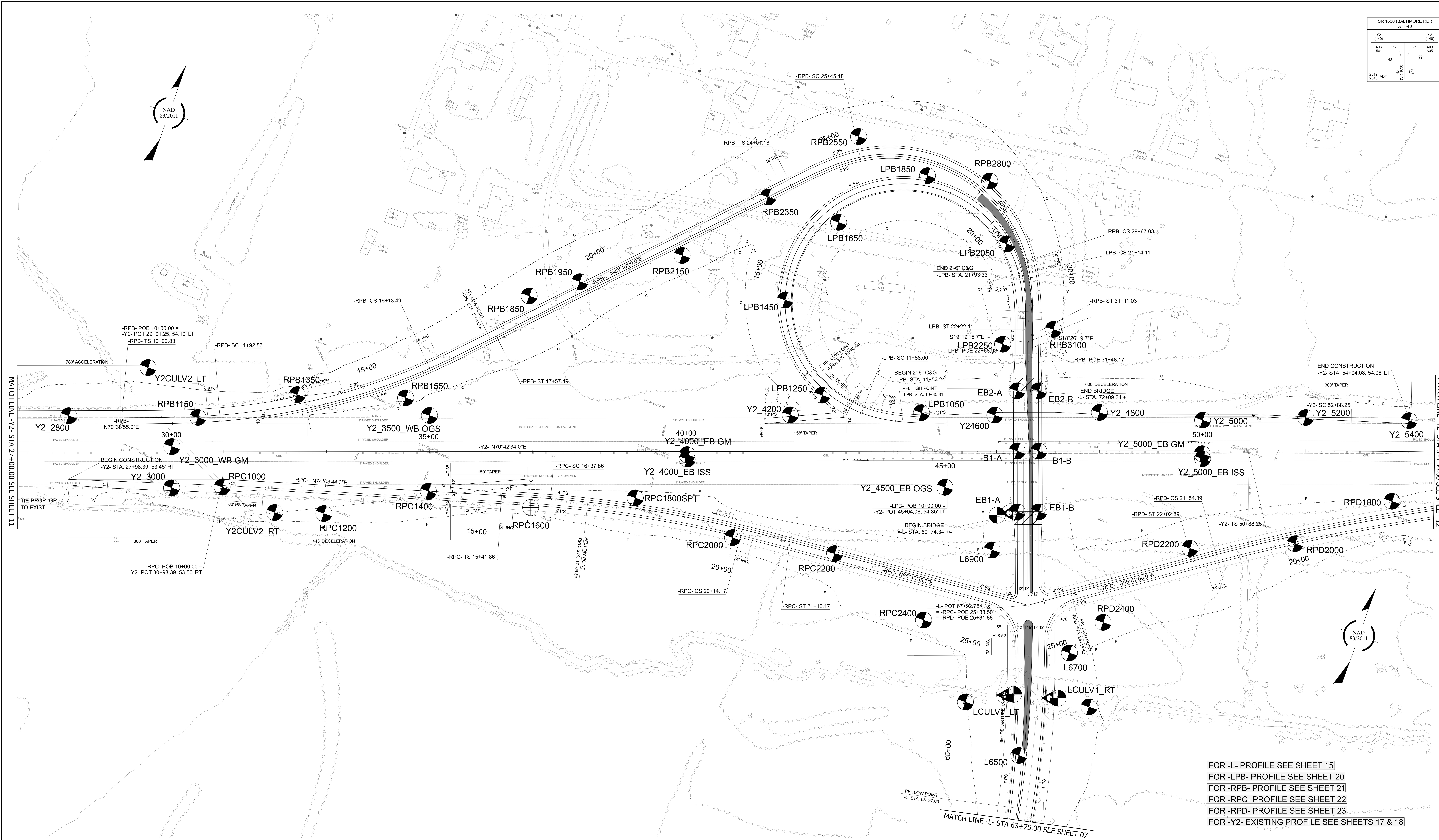
U-6187	
2RD1	06
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DAVIE COUNTY	
ROADWAY DESIGN UNIT ROADWAY DESIGN ENGINEER	
HYDRAULICS ENGINEER	
PREPARED BY 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	

FOR -L- PROFILE SEE SHEET 14

5/26/20



U-6187	
2R01	07
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DAVID COUNTY	
ROADWAY DESIGN UNIT ROADWAY DESIGN ENGINEER	
HYDRAULICS ENGINEER	
PREPARED BY 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED INCOMPLETE PLANS DO NOT USE FOR BIDDING	



FOR -L- PROFILE SEE SHEET 15

FOR -LPB- PROFILE SEE SHEET 20

FOR -RPB- PROFILE SEE SHEET 21

FOR -RPC- PROFILE SEE SHEET 22

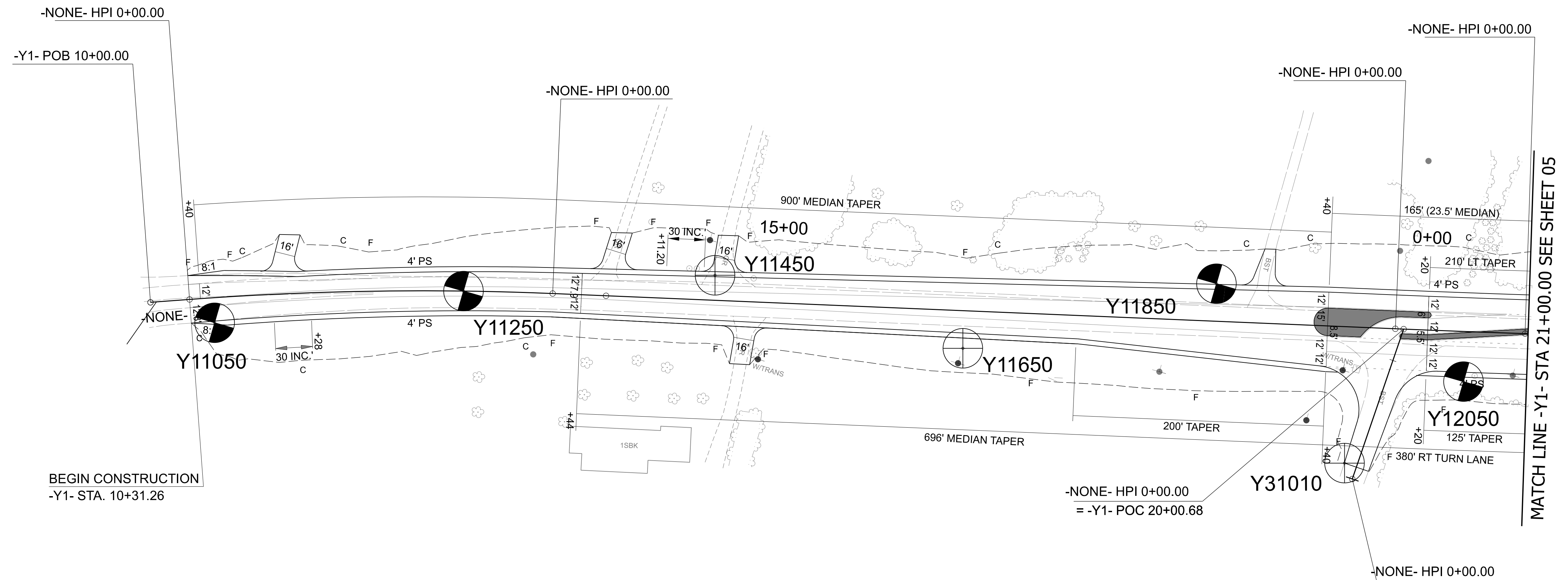
FOR -RPD- PROFILE SEE SHEET 23

FOR -Y2- EXISTING PROFILE SEE SHEETS 17 & 18

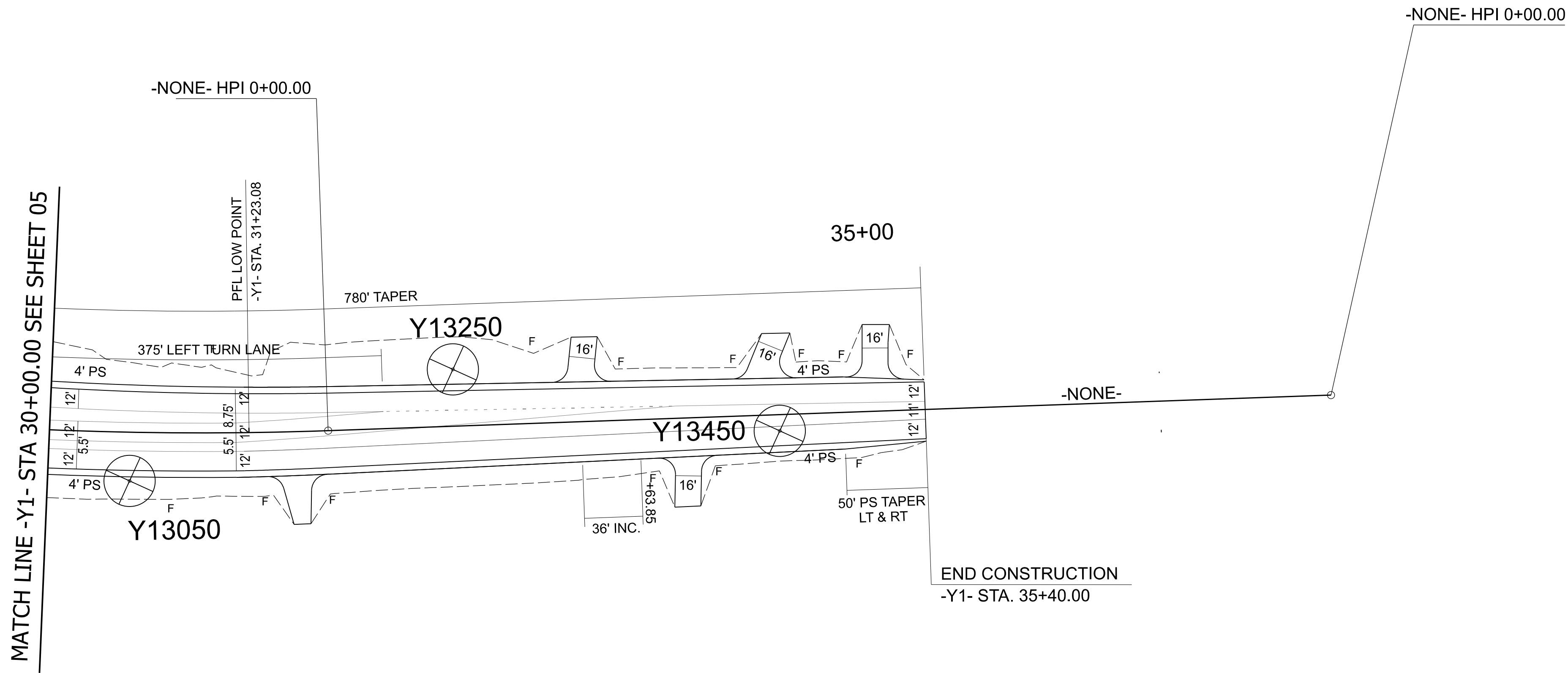
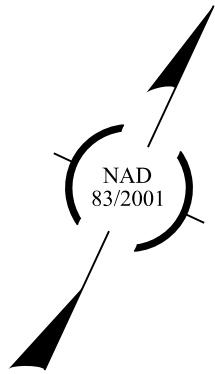
SR 1630 (BALTIMORE RD.) AT I-40	
-Y2- (I-40)	-Y2- (I-40)
403 561	403 605
$\frac{42}{42}$	$\frac{86}{86}$
2019 2045 ADT	(SR 1630) $\frac{1}{128}$

U-6187	
2RD1	08
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DAVIE COUNTY 	
ROADWAY DESIGN UNIT	
ROADWAY DESIGN ENGINEER	

HYDRAULICS ENGINEER	
PREPARED BY	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
INCOMPLETE PLANS (DO NOT USE FOR B.M. ACQUISITION)	

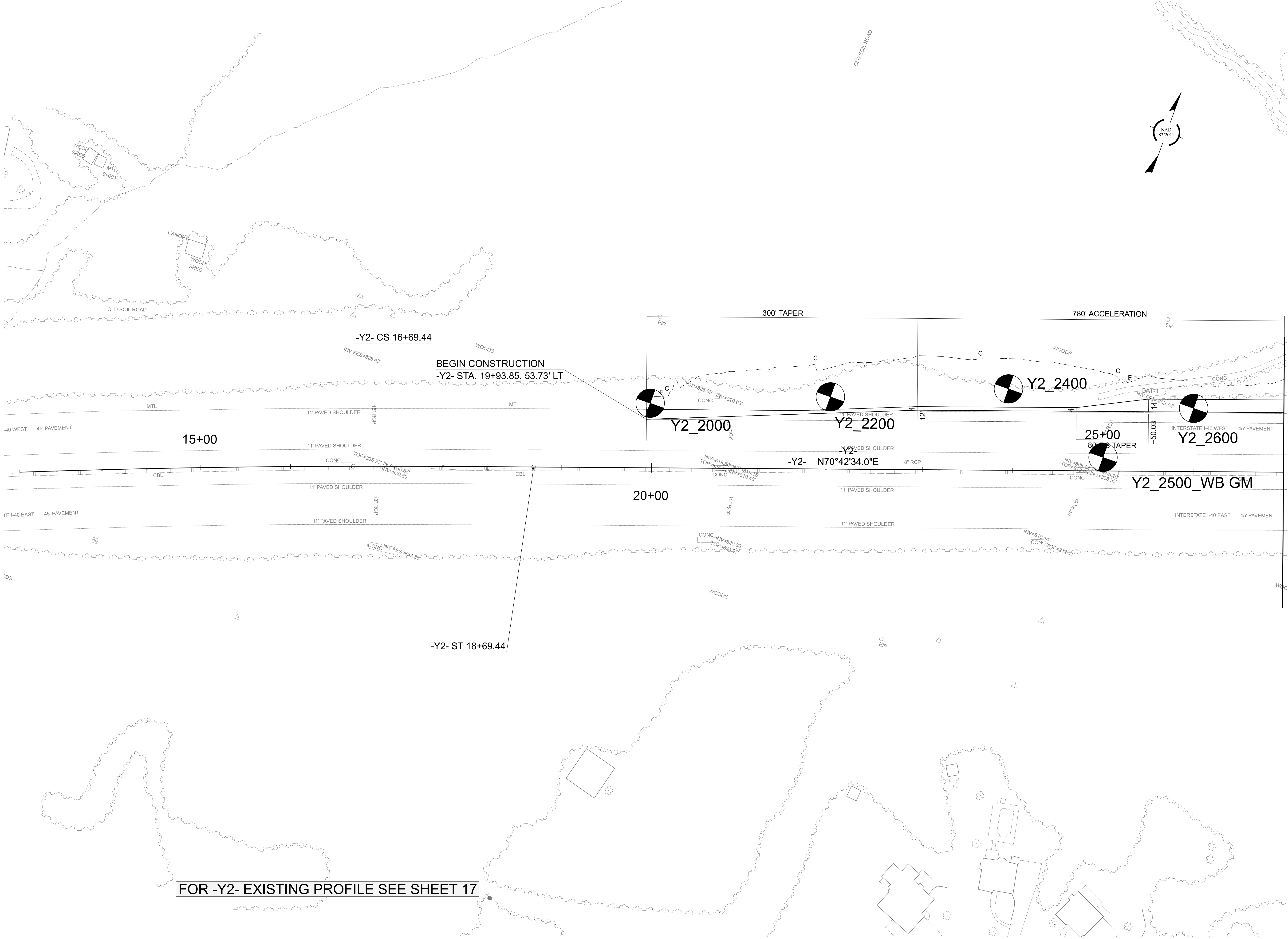


PROP. INCIDENTAL MILLING
FOR -Y1- PROFILE SEE SHEET 16



PROP. INCIDENTAL MILLING
FOR -Y1- PROFILE SEE SHEET 16

U-6187	
2R01	10
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DAVIE COUNTY	
ROADWAY DESIGN UNIT ROADWAY DESIGN ENGINEER	
HYDRAULICS ENGINEER	
PREPARED BY 	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	



FOR -Y2- EXISTING PROFILE SEE SHEET 17

MATCH LINE -Y2- STA 27+00.00 SEE SHEET 08

U-6187

2RD1II

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DAVIE COUNTY



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

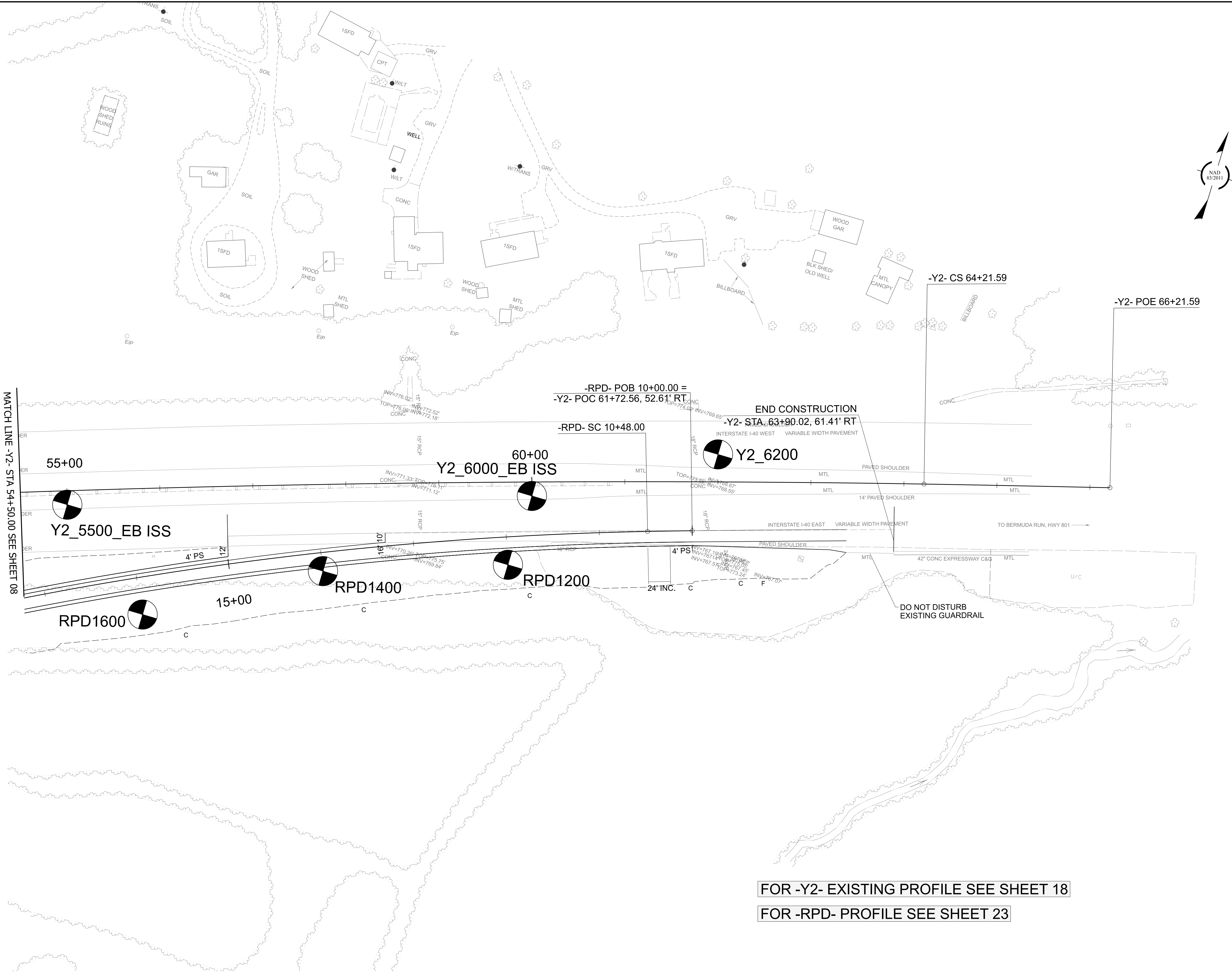
HYDRAULICS
ENGINEER

PREPARED BY


DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

INCOMPLETE PLANS
DO NOT USE FOR R.F.W. ACQUISITION

5/26/20



U-6187

2R0112

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DAVIE COUNTY

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

FOR -Y2- EXISTING PROFILE SEE SHEET 18
FOR -RPD- PROFILE SEE SHEET 23

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)						
BORING NO. L1250				STATION 12+50		OFFSET 17 ft LT		ALIGNMENT -L-		0 HR. Dry				
COLLAR ELEV. 842.6 ft				TOTAL DEPTH 6.0 ft		NORTHING 817,076		EASTING 1,567,869		24 HR. FIAD				
DRILL RIG/HAMMER EFF./DATE N/A						DRILL METHOD Hand Auger			HAMMER TYPE N/A					
DRILLER Q. Hill				START DATE 01/04/24		COMP. DATE 01/04/24		SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
845														
840											M		842.6	GROUND SURFACE 0.0
											M		839.6	RESIDUAL Medium stiff, orange, clayey SILT (A-5), with trace rock and root fragments, micaceous 3.0
											M		836.6	Medium stiff, red and brown, silty CLAY (A-6), medium plasticity 6.0
														Boring Terminated at Elevation 836.6 ft in CLAY (RESIDUAL)
														Kessler DCP Test performed to estimate soil strength

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)						
BORING NO. L1400				STATION 14+00		OFFSET 32 ft RT		ALIGNMENT -L-		HR. Dry				
COLLAR ELEV. 844.0 ft				TOTAL DEPTH 4.4 ft		NORTHING 817,234		EASTING 1,567,863		24 HR. FIAD				
DRILL RIG/HAMMER EFF./DATE N/A						DRILL METHOD Hand Auger			HAMMER TYPE N/A					
DRILLER Q. Hill				START DATE 01/04/24		COMP. DATE 01/04/24		SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
845														
840											M		844.0	GROUND SURFACE 0.0
											M		841.8	RESIDUAL Medium stiff, brown and red, silty CLAY (A-6), low to medium plasticity 2.2
											M		839.8	Medium stiff, brown and tan, clayey SILT (A-5), with little sand 4.2
													839.6	Medium stiff, brown and orange, silty CLAY (A-6), with trace rock fragments. 4.4
														Boring Terminated at Elevation 839.6 ft in CLAY (RESIDUAL)
														Kessler DCP Test performed to estimate soil strength. Hand auger refusal at 4.4 feet.

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)					
BORING NO. L1600-A		STATION 16+00		OFFSET 12 ft RT		ALIGNMENT -L-		0 HR. Dry					
COLLAR ELEV. 843.3 ft		TOTAL DEPTH 3.5 ft		NORTHING 817,415		EASTING 1,567,776		24 HR. FIAD					
DRILL RIG/HAMMER EFF./DATE N/A				DRILL METHOD Hand Auger			HAMMER TYPE N/A						
DRILLER Q. Hill		START DATE 01/04/24		COMP. DATE 01/04/24		SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			
845													
840											M	N	843.3 GROUND SURFACE 0.0
											M	M	840.9 ROADWAY EMBANKMENT 2.4
											M	M	839.8 Medium stiff, orange and brown, clayey SILT (A-5), with some rock fragments, micaceous 3.5
													RESIDUAL
													Medium stiff, brown and orange, sandy SILT (A-4), with trace rock fragments and clay lenses
													Boring Terminated at Elevation 839.8 ft in SILT (RESIDUAL)
													Kessler DCP Test performed to estimate soil strength. Hand auger refusal at 3.5 feet.

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)					
BORING NO. L1600-B		STATION 16+00		OFFSET 60 ft LT		ALIGNMENT -L-		0 HR. Dry					
COLLAR ELEV. 839.0 ft		TOTAL DEPTH 2.4 ft		NORTHING 817,416		EASTING 1,567,749		24 HR. FIAD					
DRILL RIG/HAMMER EFF./DATE N/A				DRILL METHOD Hand Auger			HAMMER TYPE N/A						
DRILLER Q. Hill		START DATE 01/04/24		COMP. DATE 01/04/24		SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			
840													
											M	M	839.0 GROUND SURFACE 0.0
													836.6 ROADWAY EMBANKMENT 2.4
													Medium dense, brown and orange, sandy SILT (A-4), with trace rock fragments, low to medium plasticity
													Boring Terminated at Elevation 836.6 ft in SILT (ROADWAY EMBANKMENT)
													Kessler DCP Test performed to estimate soil strength; Hand auger refusal at 2.4 feet.

NCDOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)					
BORING NO. L2050			STATION 20+50			OFFSET CL			ALIGNMENT -L-		0 HR. 31.7				
COLLAR ELEV. 818.5 ft			TOTAL DEPTH 35.0 ft			NORTHING 817,833			EASTING 1,567,610		24 HR. 5.5				
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER J. Kiker			START DATE 11/14/23			COMP. DATE 11/15/23			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
820															
	818.5	0.0	3	5	5									818.5 GROUND SURFACE 0.0	
815	815.0	3.5	3	3	4							M		RESIDUAL Brown, silty and sandy CLAY (A-6), medium plasticity Shelby tube taken from 4.0 - 6.0 ft. Not sampled	
	812.0	6.5	2	2	4										
810	810.0	8.5	6	10	15							W		810.0 8.5	
												W		Brown and tan, clayey SILT (A-5 (0))	
805	805.0	13.5	13	16	18							SS-25	40%		801.5 17.0
800	800.0	18.5	10	13	15										Gray, tan, and brown, silty SAND (A-2-4), with trace rock fragments and clayey lenses
795	795.0	23.5	13	14	20							W			
790	790.0	28.5	7	10	13							W			
785	785.0	33.5	17	25	47							W			
												W		783.5 35.0	
Boring Terminated at Elevation 783.5 ft in SAND (RESIDUAL)															

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill							
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40												GROUND WTR (ft)				
BORING NO. L2250			STATION 22+50			OFFSET CL			ALIGNMENT -L-			0 HR.	13.0			
COLLAR ELEV. 821.1 ft			TOTAL DEPTH 25.0 ft			NORTHING 818,022			EASTING 1,567,544			24 HR.	5.5			
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic							
DRILLER J. Kiker			START DATE 11/14/23			COMP. DATE 11/15/23			SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
825																
820	821.1	0.0												821.1	GROUND SURFACE	0.0
815	817.6	3.5	3	7	8											
	817.6	3.5	4	4	5						SS-15	29%		817.6	Brown, silty CLAY (A-6)	3.5
	814.6	6.5	4	4	5											
810	812.6	6.5	4	4	5											
	812.6	8.5	3	6	7											
805	812.6	8.5	4	5	7											
	807.6	13.5	1	2	2									809.1	Brown and gray, CLAY (A-7 -5 (41)), with little silt, medium plasticity	12.0
800	807.6	13.5	1	2	2											
	802.6	18.5	1	2	3											
	797.6	23.5	7	8	13									809.1	Brown, white, and orange, silty CLAY (A-6), with trace sand, saprolitic, medium plasticity	12.0
														799.1	Gray, white, and orange, sandy SILT (A-4), with trace clay	22.0
														796.1	Boring Terminated at Elevation 796.1 ft in SILT (RESIDUAL)	25.0

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)					
BORING NO. L2450			STATION 24+50			OFFSET CL			ALIGNMENT -L-			0 HR. Dry			
COLLAR ELEV. 827.0 ft			TOTAL DEPTH 15.0 ft			NORTHING 818,213			EASTING 1,567,486			24 HR. Dry			
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER J. Kiker			START DATE 11/14/23			COMP. DATE 11/15/23			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
830															
	827.0	0.0												827.0 GROUND SURFACE 0.0	
825			5	9	8							D		RESIDUAL Brown and orange, silty CLAY (A-6), saprolitic, with manganese oxides	
	823.5	3.5	8	8	7							M			
820	820.5	6.5	4	9	12							M			821.0 6.0
	818.5	8.5	7	6	7							M			Gray and brown, clayey SILT (A-5), micaceous, with manganese oxides
815	813.5	13.5	8	10	10							M			812.0 15.0
														Boring Terminated at Elevation 812.0 ft in SILT (RESIDUAL)	

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40											GROUND WTR (ft) 0 HR. Dry 24 HR. Dry			
BORING NO. L2850			STATION 28+50			OFFSET CL			ALIGNMENT -L-					
COLLAR ELEV. 843.7 ft			TOTAL DEPTH 10.0 ft			NORTHING 818,601			EASTING 1,567,388					
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers				HAMMER TYPE Automatic				
DRILLER J. Kiker			START DATE 11/14/23			COMP. DATE 11/15/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
845														
840	843.7	0.0									SS-1	18%		843.7 GROUND SURFACE 0.0
	840.2	3.5	4	7	6									840.2 Orange and white, sandy SILT (A-4 (3)), medium plastic 3.5
835			5	6	6						M	M		Orange and white, clayey SILT (A-5), medium to high plasticity
	837.2	6.5	4	3	4									835.2 8.5
	835.2	8.5	3	2	2									833.7 Tan, orange, and white, sandy SILT (A-4), saprolitic, highly plastic 10.0
														Boring Terminated at Elevation 833.7 ft in SILT (RESIDUAL)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill							
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)					
BORING NO. L3100			STATION 31+00			OFFSET CL		ALIGNMENT -L-		0 HR.	Dry				
COLLAR ELEV. 847.2 ft			TOTAL DEPTH 15.0 ft			NORTHING 818,845		EASTING 1,567,334		24 HR.	Dry				
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER J. Kiker			START DATE 11/14/23			COMP. DATE 11/15/23		SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE 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					
850															
	847.2	0.0											GROUND SURFACE		0.0
845			4	5	7						M		RESIDUAL		
	843.7	3.5	7	7	10						M		Orange, silty CLAY (A-7), medium plasticity		
840											M				
	840.7	6.5	3	4	4						M				
	838.7	8.5	2	4	5						M				
835													835.2		12.0
	833.7	13.5	5	6	8						M		Orange, silty SAND (A-2-4), with trace rock fragments		
													832.2		15.0
													Boring Terminated at Elevation 832.2 ft in SAND (RESIDUAL)		

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)				
BORING NO. L3300			STATION 33+00			OFFSET CL		ALIGNMENT -L-		0 HR.	Dry			
COLLAR ELEV. 846.1 ft			TOTAL DEPTH 15.0 ft			NORTHING 819,043		EASTING 1,567,308		24 HR.	Dry			
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER J. Kiker			START DATE 11/14/23			COMP. DATE 11/15/23		SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
850														
	846.1	0.0												
845														
	842.6	3.5	5	7	7									
	842.6	3.5	6	7	9									
840														
	839.6	6.5	5	4	7									
	837.6	8.5	3	4	8									
835														
	832.6	13.5	1	3	5									

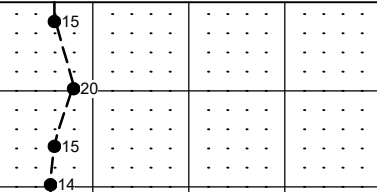
NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC DOT GDT 5/3/24

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NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill										
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)									
BORING NO. L4100			STATION 41+00			OFFSET CL			ALIGNMENT -L-			0 HR.	Dry						
COLLAR ELEV. 849.8 ft			TOTAL DEPTH 10.0 ft			NORTHING 819,837			EASTING 1,567,376			24 HR.	Dry						
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic										
DRILLER J. Kiker			START DATE 11/14/23			COMP. DATE 11/15/23			SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION					
			0.5ft	0.5ft	0.5ft	0	25	50	75	100									
850	849.8	0.0	5	8	10														
	846.3	3.5	6	6	10											M		849.8 GROUND SURFACE 0.0	
845	843.3	6.5	3	4	5											M		RESIDUAL Orange and brown, silty CLAY (A-6), medium to high plasticity	
	841.3	8.5	3	3	5											M		843.8 6.0 Orange and tan, SILT (A-5), micaceous, low to medium plasticity	
840			3	3	5							M		839.8 10.0 Boring Terminated at Elevation 839.8 ft in SILT (RESIDUAL)					

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40											GROUND WTR (ft)				
BORING NO. L4300			STATION 43+00			OFFSET CL			ALIGNMENT -L-			0 HR.	Dry		
COLLAR ELEV. 854.6 ft			TOTAL DEPTH 10.0 ft			NORTHING 820,028			EASTING 1,567,435			24 HR.	Dry		
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER J. Kiker			START DATE 11/15/23			COMP. DATE 11/16/23			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)
855	854.6	0.0												854.6	0.0
850	851.1	3.5	7	9	6							M		RESIDUAL Orange, silty CLAY (A-7-6 (25)), medium to high plasticity	
	850	851.1	3.5	7	8						12	SS-71			
845	848.1	6.5										M		848.1	6.5
	845	846.1	8.5	5	5	10								M	844.6
			4	7	7									Boring Terminated at Elevation 844.6 ft in SILT (RESIDUAL)	

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40									GROUND WTR (ft)					
BORING NO. L4500			STATION 45+00			OFFSET 30 ft LT			ALIGNMENT -L-			0 HR. Dry		
COLLAR ELEV. 859.5 ft			TOTAL DEPTH 15.0 ft			NORTHING 820,225			EASTING 1,567,480			24 HR. Dry		
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER J. Kiker			START DATE 11/15/23			COMP. DATE 11/16/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
860	859.5	0.0	5	7	10									859.5 GROUND SURFACE 0.0
855	856.0	3.5	7	8	14						M		856.5 3.0	
	853.0	6.5	4	4	6						M		Orange, silty CLAY (A-6), medium to high plasticity	
850	851.0	8.5	5	4	6						M			847.5 12.0
	846.0	13.5	2	4	4						M		844.5 15.0	
845													Boring Terminated at Elevation 844.5 ft in SILT (RESIDUAL)	

NCDOT BORE DOUBLE U6187_BORINGS.GPJ NC_DOT.GDT 5/3/24

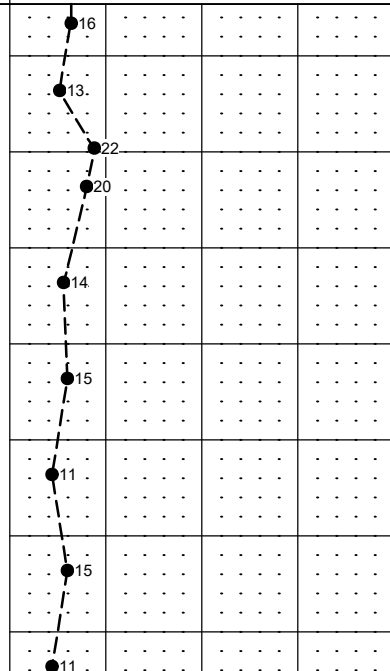
NCDOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)				
BORING NO. L4900			STATION 49+00			OFFSET 30 ft LT			ALIGNMENT -L-		0 HR. Dry			
COLLAR ELEV. 861.7 ft			TOTAL DEPTH 20.0 ft			NORTHING 820,596			EASTING 1,567,630		24 HR. Dry			
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER J. Kiker			START DATE 11/15/23			COMP. DATE 11/16/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
865														
860	861.7	0.0	4	5	9	14					M	27%		861.7 GROUND SURFACE 0.0
	858.2	3.5	8	8	13	21								RESIDUAL Orange, silty CLAY (A-7-5 (29)), high plasticity
855	855.2	6.5	8	10	8	18					M		853.7 8.0	
	853.2	8.5	5	5	3	6					M		Orange, clayey SILT (A-4), low to high plasticity	
850														
	848.2	13.5	6	5	6	11					M			
845	843.2	18.5	5	4	9	13					M		841.7 20.0	
													Boring Terminated at Elevation 841.7 ft in SILT (RESIDUAL)	

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40											GROUND WTR (ft)			
BORING NO. L5100			STATION 51+00			OFFSET 30 ft RT			ALIGNMENT -L-			0 HR. Dry		
COLLAR ELEV. 852.0 ft			TOTAL DEPTH 25.0 ft			NORTHING 820,761			EASTING 1,567,759			24 HR. Dry		
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER J. Kiker			START DATE 11/15/23			COMP. DATE 11/16/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
855														
	852.0	0.0												852.0 GROUND SURFACE 0.0
850			5	8	10							M		
	848.5	3.5	11	10	13							M		
	845.5	6.5	6	8	9							M		
845			4	6	6							M		
	843.5	8.5									SS-100	30%		
840			4	2	4							M		
	838.5	13.5	7	11	10							M		
835												M		
	833.5	18.5										M		
830			7	9	14							M		
	828.5	23.5	7	9	14							M		
														827.0 Boring Terminated at Elevation 827.0 ft in SILT (RESIDUAL) 25.0

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE				GEOLOGIST Q. Hill							
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40												GROUND WTR (ft) 0 HR. Dry 24 HR. FIAD					
BORING NO. L5500			STATION 55+00			OFFSET 30 ft RT			ALIGNMENT -L-								
COLLAR ELEV. 847.7 ft			TOTAL DEPTH 35.0 ft			NORTHING 821,151			EASTING 1,567,864								
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023								DRILL METHOD H.S. Augers				HAMMER TYPE Automatic					
DRILLER J. Kiker				START DATE 11/15/23			COMP. DATE 11/15/23			SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100							
850															847.7	GROUND SURFACE	0.0
	847.7	0.0	6	9	7							M	RESIDUAL Orange and brown, silty CLAY (A-7-5 (10)), low to high plasticity				
845	844.2	3.5	7	6	7						SS-112	22%					
	841.2	6.5	12	12	10							M					
840	839.2	8.5	5	8	12							M					
835	834.2	13.5	9	9	5							M			835.7	Orange and black, sandy and clayey SILT (A-4 (0)), with trace rock fragments, micaceous, low to medium plasticity	12.0
830	829.2	18.5	10	7	8						SS-116	21%					
825	824.2	23.5	5	5	6							M					
820	819.2	28.5	12	6	9							M					
815	814.2	33.5	15	5	6							M		812.7	Boring Terminated at Elevation 812.7 ft in SILT (RESIDUAL)	35.0	

GEOTECHNICAL BORING REPORT
BORE LOG

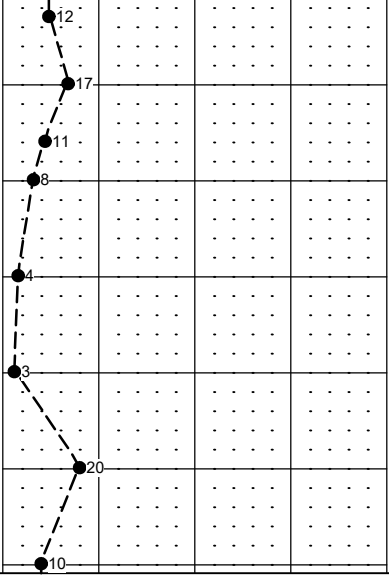
WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40											GROUND WTR (ft)				
BORING NO. L5700			STATION 57+00			OFFSET 30 ft LT			ALIGNMENT -L-			0 HR. Dry			
COLLAR ELEV. 838.0 ft			TOTAL DEPTH 30.0 ft			NORTHING 821,358			EASTING 1,567,831			24 HR. FIAD			
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER J. Kiker			START DATE 11/15/23			COMP. DATE 11/15/23			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)
840															
835	838.0	0.0	4	6	7	<									

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)				
BORING NO. L5850			STATION 58+50			OFFSET CL		ALIGNMENT -L-		0 HR.	Dry			
COLLAR ELEV. 821.6 ft			TOTAL DEPTH 25.0 ft			NORTHING 821,504		EASTING 1,567,869		24 HR.	FIAD			
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER J. Kiker			START DATE 11/17/23			COMP. DATE 11/17/23		SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
825														
	821.6	0.0												821.6 GROUND SURFACE 0.0
820														
	818.1	3.5	3	2	2							M		RESIDUAL Orange, clayey SILT (A-5), micaceous, with manganese oxides, low to medium plasticity
	815.1	6.5	2	2	2							M		
815												M		
	813.1	8.5	2	2	5							M		
810														
	808.1	13.5	3	3	8						SS-197	M		White, gray, and orange, SILT (A-4 (0)), low to medium plasticity, saprolitic
805														
	803.1	18.5	2	2	4							M		
800														
	798.1	23.5	2	3	5							M		796.6 25.0
														Boring Terminated at Elevation 796.6 ft in SILT (RESIDUAL)

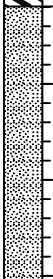
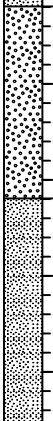
NCDOT BORE DOUBLE U6187 BORINGS.GPJ NC DOT GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)				
BORING NO. L5950			STATION 59+50			OFFSET CL			ALIGNMENT -L-		0 HR. Dry			
COLLAR ELEV. 815.7 ft			TOTAL DEPTH 25.0 ft			NORTHING 821,604			EASTING 1,567,870		24 HR. FIAD			
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER J. Kiker			START DATE 11/17/23			COMP. DATE 11/17/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
820														
815	815.7	0.0												815.7 GROUND SURFACE 0.0
810	812.2	3.5	2	5	5									RESIDUAL Brown and orange, silty CLAY (A-6), medium to high plasticity
	809.2	6.5	3	4	5									
	807.2	8.5	3	3	3									
805	809.2	6.5	2	2	6									Orange, SILT (A-5 (4)), micaceous, low to medium plasticity
	807.2	8.5	3	3	3						SS-203	26%		
800	802.2	13.5	1	2	3									White, black, and orange, sandy SILT (A-4 (1)), with manganese oxides, micaceous, saprolitic, low plasticity
	797.2	18.5	5	2	5									
	792.2	23.5	2	2	3						SS-205	57%		
795														790.7 Boring Terminated at Elevation 790.7 ft in SILT (RESIDUAL) 25.0

NCDOT BORE DOUBLE U6187 BORINGS.GPJ NC DOT GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40									GROUND WTR (ft) 0 HR. 27.0 24 HR. FIAD					
BORING NO. L6300			STATION 63+00			OFFSET 30 ft RT						ALIGNMENT -L-		
COLLAR ELEV. 789.6 ft			TOTAL DEPTH 30.0 ft			NORTHING 821,958						EASTING 1,567,867		
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER J. Kiker				START DATE 11/16/23			COMP. DATE 11/16/23			SURFACE WATER DEPTH N/A				
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
790														
	789.6	0.0	5	6	6						SS-145	24%		789.6 GROUND SURFACE 0.0
785	786.1	3.5	4	7	10							M		RESIDUAL Orange, sandy CLAY (A-7-6 (16)), with little silt, highly plastic
	783.1	6.5	3	5	6							M		783.1 White and orange, sandy SILT (A-4) with some clay and rock fragments, low to medium plasticity 6.5
780	781.1	8.5	3	3	5							M		777.6 Tan, white, and orange, silty and sandy CLAY (A-7-5 (22)), low to medium plasticity 12.0
775	776.1	13.5	1	1	3						SS-149	40%		767.6 White and tan, sandy SILT (A-4 (0)) 22.0
770	771.1	18.5	4	1	2							M		759.6 Boring Terminated at Elevation 759.6 ft in SILT (RESIDUAL) 30.0
765	766.1	23.5	2	9	11						SS-151	37%		
760	761.1	28.5	4	4	6							M		

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40												GROUND WTR (ft)			
BORING NO. L6500			STATION 65+00			OFFSET 10 ft LT			ALIGNMENT -L-			0 HR. 11.6			
COLLAR ELEV. 766.0 ft			TOTAL DEPTH 54.2 ft			NORTHING 822,146			EASTING 1,567,786			24 HR. FIAD			
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER J. Kiker			START DATE 11/16/23			COMP. DATE 11/16/23			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)
770															
765	766.0	0.0	4	5	4									766.0	GROUND SURFACE 0.0
760	762.5	3.5	3	3	3							M		RESIDUAL White, brown, orange, and gray, silty CLAY (A-6), with trace fine sand, low to high plasticity	
	759.5	6.5	4	3	3							M			
	757.5	8.5	1	2	3							M			
755	752.5	13.5	1	2	5							M			
	747.5	18.5	2	3	5							M		749.0	17.0
745	742.5	23.5	3	5	10							M			Gray and black, sandy SILT (A-4), with little clay, saprolitic, low to medium plasticity
	737.5	28.5	3	6	9							M			
740	732.5	33.5	5	9	14							M		734.0	32.0
	727.5	38.5	9	10	13							M			
735	722.5	43.5	15	17	26							M		724.0	42.0
	717.5	48.5	19	28	32							M			Gray, brown, and orange sandy SILT (A-4 (0)), low to medium plasticity
730	712.1	53.9									SS-163	23%			
	711.8	54.2													
725															
720															
715															

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill							
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)						
BORING NO. L6700			STATION 67+00			OFFSET 80 ft RT			ALIGNMENT -L-		0 HR. 12.6					
COLLAR ELEV. 768.4 ft			TOTAL DEPTH 54.2 ft			NORTHING 822,366			EASTING 1,567,813		24 HR. FIAD					
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic							
DRILLER J. Kiker			START DATE 11/17/23			COMP. DATE 11/20/23			SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
770																
765	768.4	0.0	4	5	5									768.4	GROUND SURFACE	0.0
	764.9	3.5	1	1	2						SS-207	M		765.4	ALLUVIAL	3.0
760	761.9	6.5	WOH		1						SS-208	56%		760.4	Brown, sandy SILT (A-4), with little organic matter	
	759.9	8.5	1	1	1							W			RESIDUAL	
755															Orange, clayey SILT (A-5 (9)), micaceous, low to medium plasticity	
	754.9	13.5	WOH		23	21						SS-211	55%		760.4	Shelby tube taken from 5.0 - 7.0 ft in an offset hole. Not sampled
750															Gray, orange, and white, silty SAND (A-2-4), saprolitic	
	749.9	18.5	2	3	6							W				
745																
	744.9	23.5	4	6	7							W				
740																
	739.9	28.5	7	10	13							W				
735																
	734.9	33.5	33	67/0.1								W			734.4	WEATHERED ROCK
730															White and gray, META-GABBRO	
	729.9	38.5	8	10	25							W			731.4	RESIDUAL
725															White, orange, and brown, sandy SILT (A-5), micaceous, low to medium plasticity	
	724.9	43.5	22	21	19							W			726.4	
720															Black, tan, and gray, silty SAND (A-2-4),	
	719.9	48.5	11	10	15							W				
715																
	714.2	54.2	60/0.0									W			714.2	
															Boring Terminated with Standard Penetration Test Refusal at Elevation 714.2 ft on CRYSTALLINE ROCK (META-GABBRO)	

NCDOT BORE DOUBLE U6187_BORINGS.GPJ NC_DOT_GDT 5/3/24

NCDOT BORE DOUBLE U6187 BORINGS.GPJ NC DOT GDT 5/3/24

WBS 48647.1.1						TIP U-6187						COUNTY DAVIE						GEOLOGIST Q. Hill							
SITE DESCRIPTION Bridge on -L- (Baltimore Road) over I-40																		GROUND WTR (ft)							
BORING NO. EB1-A						STATION 69+74						OFFSET 21 ft LT						ALIGNMENT -L-						0 HR. 20.8	
COLLAR ELEV. 783.2 ft						TOTAL DEPTH 71.3 ft						NORTHING 822,591						EASTING 1,567,627						24 HR. 18.9	
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022												DRILL METHOD H.S. Augers						HAMMER TYPE Automatic							
DRILLER D. Demby						START DATE 12/05/23						COMP. DATE 12/06/23						SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION											
			0.5ft	0.5ft	0.5ft	0	25	50	75	100															
785																									
	783.2	0.0		3	7	12									783.2	GROUND SURFACE 0.0									
780																									
	779.0	4.2		5	8	7																			
	776.2	7.0		3	3	5																			
775																									
	773.5	9.7		3	3	3																			
770																									
	768.3	14.9		2	2	3																			
765																									
	763.3	19.9		2	3	3																			
760																									
	758.3	24.9		3	2	5																			
755																									
	753.4	29.8		5	17	34																			
750																									
	748.6	34.6		18	36	64																			
745																									
	743.6	39.6		40	60	0.4																			
740																									
	738.6	44.6		WOH	WOH	1																			
735																									
	733.3	49.9		4	7	11																			
730																									
	728.4	54.8		8	9	13																			
725																									
	723.4	59.8		10	17	23																			
720																									
	718.4	64.8		12	23	46																			
715																									
	713.4	69.8		9	16	28																			

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill						
SITE DESCRIPTION Bridge on -L- (Baltimore Road) over I-40											GROUND WTR (ft)				
BORING NO. EB1-B			STATION 69+74			OFFSET 21 ft RT			ALIGNMENT -L-			0 HR.	20.0		
COLLAR ELEV. 784.0 ft			TOTAL DEPTH 69.6 ft			NORTHING 822,605			EASTING 1,567,667			24 HR.	19.1		
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers				HAMMER TYPE Automatic					
DRILLER D. Demby			START DATE 12/06/23			COMP. DATE 12/08/23			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)
785															
	784.0	0.0												784.0	0.0
			5	5	7							M		GROUND SURFACE	
														RESIDUAL	
														Orange, brown, and tan, sandy and silty CLAY (A-6), medium to highly plastic	
780	779.9	4.1	5	8	13							M			
	778.0	6.0	9	12	10							M			
775	774.8	9.2	5	6	7							M		775.0	9.0
														Orange, tan, brown, and black, clayey SILT (A-4), with manganese oxides, micaceous, medium to low plasticity	
770	769.5	14.5	2	2	3							M			
765	764.1	19.9	2	2	3							M			
760	759.1	24.9	2	3	3							M			
755															
	754.1	29.9	WOH	2	4							M		756.0	28.0
														Orange, tan, and black, SILT (A-5), micaceous, low to medium plasticity	
750	749.5	34.5	3	6	5							M		751.0	33.0
														Orange, white, black, and tan, sandy CLAY (A-6), micaceous, saprolitic, low to medium plasticity	
745	744.3	39.7	3	3	7							M			
740	739.5	44.5	4	4	6							M			
735	734.5	49.5	7	13	15							M		736.0	48.0
														Black, tan, and orange, silty SAND (A-2-4), saprolitic	
730	729.5	54.5	13	24	26							M			
725	724.5	59.5	23	13	38							M			
720	719.5	64.5	100/0.4											719.5	64.5
														WEATHERED ROCK	
														White and gray, META-GABBRO	
715	714.5	69.5	60/0.1											714.5	69.5
														714.4	69.6
														CRYSTALLINE ROCK	
														White and gray, META-GABBRO	
														Boring Terminated with Standard Penetration Test Refusal at Elevation 714.4 ft in CRYSTALLINE ROCK (META-GABBRO)	

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill						
SITE DESCRIPTION Bridge on -L- (Baltimore Road) over I-40										GROUND WTR (ft)					
BORING NO. B1-A			STATION 70+92			OFFSET 21 ft LT			ALIGNMENT -L-		0 HR. 14.8				
COLLAR ELEV. 783.2 ft			TOTAL DEPTH 64.5 ft			NORTHING 822,702			EASTING 1,567,588		24 HR. FIAD				
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER D. Demby			START DATE 12/14/23			COMP. DATE 12/14/23			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
785															
	783.2	0.0	4	4	5									783.2	GROUND SURFACE 0.0
780	779.7	3.5	2	3	3							M			RESIDUAL Orange, clayey SILT (A-5), with trace rock fragments and manganese oxides, micaceous, low to medium plasticity
	776.3	6.9	2	2	3							M			
775	774.1	9.1	2	3	4							M			
												M			
770	768.7	14.5	2	1	2										
	763.5	19.7	2	2	3							M			
760	758.7	24.5	2	2	2										
	753.8	29.4	2	3	4							M			
750	748.9	34.3	2	2	4										
	744.2	39.0	3	2	5							M			
740	739.2	44.0	4	8	14									741.2	Black, white, and tan, sandy SILT (A-4), micaceous, saprolitic, low to medium plasticity 42.0
	734.2	49.0	16	13	17							M			
730	729.2	54.0	42	58/0.4										731.2	WEATHERED ROCK 52.0 Gray and brown, META-GABBRO
	724.2	59.0	47	53/0.1											
720	719.2	64.0	100/0.5											718.7	Boring Terminated at Elevation 718.7 ft in WEATHERED ROCK (META-GABBRO) 64.5

NCDOT BORE DOUBLE U6187_BORINGS.GPJ NC DOT.GDT 5/3/24

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill							
SITE DESCRIPTION Bridge on -L- (Baltimore Road) over I-40										GROUND WTR (ft)					
BORING NO. EB2-B		STATION 72+09		OFFSET 21 ft RT		ALIGNMENT -L-		0 HR.		31.5					
COLLAR ELEV. 806.7 ft		TOTAL DEPTH 68.6 ft		NORTHING 822,827		EASTING 1,567,589		24 HR.		30.0					
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022					DRILL METHOD H.S. Augers			HAMMER TYPE Automatic							
DRILLER D. Demby			START DATE 12/07/23		COMP. DATE 12/07/23		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)
810															
	806.7	0.0	3	4	8	12								806.7	GROUND SURFACE 0.0
805	803.6	3.1	4	6	7	13								803.7	RESIDUAL Orange and brown, sandy CLAY (A-6), medium plasticity 3.0
	800.7	6.0	3	3	4	7									Orange, SILT (A-5), with mangense oxides, micaceous, medium to high plasticity
800	798.2	8.5	4	4	5	9								798.2	8.5
															Orange, brown, and black, sandy SILT (A-4), with some rock fragments, micas, and manganese oxides, low to medium plasticity
795	793.2	13.5	4	4	4	8									
790	788.3	18.4	3	3	4	7									
785	783.3	23.4	2	3	4	7									
780	777.9	28.8	2	5	6	11									
775	773.1	33.6	3	3	7	10								774.7	32.0
															Orange, brown, and black, sandy SILT (A-5), micaceous, low to medium plasticity
770	768.1	38.6	3	4	7	11									
765	763.1	43.6	3	5	7	12								764.7	42.0
															Tan, brown, and black, sandy SILT (A-4), micaceous, low to medium plasticity
760	758.2	48.5	4	10	9	19								759.7	47.0
															Black, tan, white, and gray, silty SAND (A-2-4), with trace rock fragments, micaceous
755	753.0	53.7	8	18	27										
750	748.1	58.6	11	18	37										
745	743.3	63.4	100/0.5											745.7	61.0
															WEATHERED ROCK Gray and black, META-GABBRO
740	738.2	68.5	60/0.1											738.2	68.5
														738.1	68.6
															CRYSTALLINE ROCK Gray and black, META-GABBRO Boring Terminated with Standard Penetration Test Refusal at Elevation 738.1 ft on CRYSTALLINE ROCK (META-GABBRO)

NCDOT BORE DOUBLE U6187_BORINGS.GPJ NC DOT.GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40									GROUND WTR (ft)						
BORING NO. LCULV1_LT			STATION 66+00			OFFSET 120 ft LT			ALIGNMENT -L-			0 HR. 4.5			
COLLAR ELEV. 761.4 ft			TOTAL DEPTH 40.0 ft			NORTHING 822,209			EASTING 1,567,654			24 HR. FIAD			
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER J. Kiker			START DATE 11/16/23			COMP. DATE 11/16/23			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
765															
760	761.4	0.0	4	2	3	5					SS-165	59%	761.4	GROUND SURFACE 0.0	
755	757.9	3.5	1	0	1	1								757.9	ALLUVIAL Orange and brown, CLAY (A-7-6 (9)), medium plasticity 3.5
	754.9	6.5	WOH	1	3	4					SS-167	49%			RESIDUAL Brown, orange, gray, and black, SILT (A-5 (0), A-5 (2)), micaceous, saprolitic, low plasticity
750	752.9	8.5	1	0	2	2						W			Shelby tube taken from 10.0 - 12.0 ft. Not sampled
	747.9	13.5	1	2	3	5						W			
745	742.9	18.5	2	3	5	3						W			
	737.9	23.5	1	1	5	6						W			
735	732.9	28.5	WOH	2	5	7					SS-172	41%			
	727.9	33.5	WOH	3	5	8						W			
725	722.9	38.5	WOH	2	6	8						W		721.4	40.0
															Boring Terminated at Elevation 721.4 ft in SAND (RESIDUAL)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40												GROUND WTR (ft)			
BORING NO. LCULV1_RT			STATION 66+00			OFFSET 120 ft RT			ALIGNMENT -L-			0 HR.	5.0		
COLLAR ELEV. 759.8 ft			TOTAL DEPTH 35.5 ft			NORTHING 822,280			EASTING 1,567,884			24 HR.	FIAD		
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER J. Kiker			START DATE 11/20/23			COMP. DATE 11/20/23			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)
760														759.8	0.0
755	759.8	0.0	3	5	4						SS-241	53%		GROUND SURFACE	
		756.3	3.5	1	1						1	Brown and orange, sandy CLAY (A-6 (6)), with some silt, low to medium plasticity			
750	753.3	6.5	1	1	2									753.3	6.5
	751.3	8.5	2	2	3							M	M	RESIDUAL	
745														Black, white, and orange, silty SAND (A-2-4), micaceous, saprolitic	
	746.3	13.5	4	2	2							M			
740														742.8	17.0
	741.3	18.5	1	1	3						SS-246	31%		Black, white, and orange, sandy SILT (A-4 (0)), low to medium plasticity, saprolitic	
735	736.3	23.5	2	2	30									732.8	27.0
												M		Black, white, and tan, silty SAND and SAND (A-2-4 (0), A-3)	
730	731.3	28.5	20	23	22								M		
														726.3	33.5
725	726.3	33.5	100/0.4								SS-249	12%		WEATHERED ROCK	
	724.3	35.5	60/0.0											Black, white, and tan, META-GABBRO	
														Boring Terminated with Standard Penetration Test Refusal at Elevation 724.3 ft on CRYSTALLINE ROCK (META-GABBRO)	
														Running sands encountered at 28.5 feet.	

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)				
BORING NO. LPB1050			STATION 10+50			OFFSET 20 ft RT			ALIGNMENT -LPB-		0 HR. 17.5			
COLLAR ELEV. 786.4 ft			TOTAL DEPTH 20.0 ft			NORTHING 822,712			EASTING 1,567,388		24 HR. FIAD			
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER M. Brewer			START DATE 11/30/23			COMP. DATE 11/30/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
790														786.4 GROUND SURFACE 785.7 RESIDUAL Brown, silty SAND (A-2-4) Brown, orange, and tan, clayey SILT (A-5 (6)), with trace sand and manganese oxides, micaceous, low to medium plasticity 766.4 20.0 Boring Terminated at Elevation 766.4 ft in SILT (RESIDUAL)
785	786.4	0.0	3	2	1	3						M		
780	782.9	3.5	1	1	1	2						M		
	780.4	6.0	WOH	1	1	2						M		
	777.9	8.5	1	1	2	3						M		
775														
770	772.9	13.5	1	1	2							M		
	767.9	18.5	1	2	4	6					SS-1067	58%		

NCDOT BORE DOUBLE U6187 BORINGS.GPJ NC DOT GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST J. Crenshaw					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40									GROUND WTR (ft)					
BORING NO. LPB1450			STATION 14+50			OFFSET CL			ALIGNMENT -LPB-			0 HR. 31.7		
COLLAR ELEV. 809.6 ft			TOTAL DEPTH 35.0 ft			NORTHING 822,831			EASTING 1,567,066			24 HR. FIAD		
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER D. Demby			START DATE 12/08/23			COMP. DATE 12/08/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
810														
	809.6	0.0	4	4	5									809.6 GROUND SURFACE 0.0
												M		RESIDUAL
	806.1	3.5	4	4	7							M		Orange, sandy SILT (A-4), micaceous
805														806.6 3.0
	803.6	6.0	2	4	5							M		Orange, white, and black, SILT (A-5),
	801.1	8.5	2	4	4							M		micaceous, low to medium plasticity
800												M		
	796.1	13.5	3	3	5							M		
795														
	791.1	18.5	2	2	3							M		
790														
	786.1	23.5	3	3	4							W		
785														
	781.1	28.5	1	1	3							W		
780												▽		
	776.1	33.5	2	4	6							W		774.6 35.0
775														Boring Terminated at Elevation 774.6 ft in SILT (RESIDUAL)

NCDOT BORE DOUBLE U6187 BORINGS.GPJ NC DOT GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40									GROUND WTR (ft)					
BORING NO. LPB1850			STATION 18+50			OFFSET 20 ft LT			ALIGNMENT -LPB-			0 HR. Dry		
COLLAR ELEV. 826.8 ft			TOTAL DEPTH 40.0 ft			NORTHING 823,150			EASTING 1,567,248			24 HR. FIAD		
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER D. Demby			START DATE 12/11/23			COMP. DATE 12/11/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
830														
	826.8	0.0	4	4	7									826.8 GROUND SURFACE 0.0
825														826.0 10 inches of Topsoil 0.8
	823.3	3.5	3	6	8									RESIDUAL
820														Orange and brown, CLAY (A-7), with little sand, medium to high plasticity
	820.8	6.0	3	4	6									820.8 Orange, white, black, and brown, sandy SILT (A-5), micaceous, low to medium plasticity 6.0
	818.3	8.5	3	4	4									
815														
	813.3	13.5	6	7	6									
810														
	808.3	18.5	3	4	6									809.8 Orange, black, red, and white, SILT (A-4), with trace sand, micaceous, saprolitic, low to medium plasticity 17.0
805														
	803.3	23.5	3	3	5									
800														
	798.3	28.5	6	6	9									799.8 Brown and orange, clayey SILT (A-5), micaceous, low to medium plasticity, saprolitic 27.0
795														797.3 Orange, red, tan, and black, and white, sandy SILT (A-4), with trace rock fragments, micaceous, low to medium plasticity 29.5
	793.3	33.5	3	3	4									
790														
	788.3	38.5	6	5	9									786.8 Boring Terminated at Elevation 786.8 ft in SILT (RESIDUAL) 40.0

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill							
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40									GROUND WTR (ft)							
BORING NO. LPB2050			STATION 20+50			OFFSET CL			ALIGNMENT -LPB-			0 HR. Dry				
COLLAR ELEV. 819.6 ft			TOTAL DEPTH 30.0 ft			NORTHING 823,076			EASTING 1,567,436			24 HR. FIAD				
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic							
DRILLER D. Demby			START DATE 12/12/23			COMP. DATE 12/12/23			SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
820																
	819.6	0.0	9	10	10							M		819.6	GROUND SURFACE	0.0
	816.1	3.5	4	6	10							M		RESIDUAL Orange and brown, CLAY (A-7), medium to high plasticity		
815	813.6	6.0	3	5	7							M		813.6	6.0	
	811.1	8.5	3	4	6							M		Orange, black, and red, SILT (A-5), micaceous, low to medium plasticity		
810												M				
	806.1	13.5	2	3	3							M				
805												M				
	801.1	18.5	3	4	4							M				
800												M				
	796.1	23.5	3	3	5							M				
795												M				
	791.1	28.5	3	5	4							M				
790												M				
														Boring Terminated at Elevation 789.6 ft in SILT (RESIDUAL)		

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST J. Crenshaw					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40									GROUND WTR (ft)					
BORING NO. LPB2250			STATION 22+50			OFFSET 40 ft RT			ALIGNMENT -LPB-			0 HR. Dry		
COLLAR ELEV. 810.7 ft			TOTAL DEPTH 15.0 ft			NORTHING 822,889			EASTING 1,567,493			24 HR. Dry		
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER D. Demby			START DATE 12/08/23			COMP. DATE 12/11/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
815														
810	810.7	0.0												810.7 GROUND SURFACE 0.0
805	807.2	3.5	3	4	6						M			Orange, clayey SILT (A-5), medium plasticity
	804.7	6.0	4	5	7						M			807.7 Orange and white, silty SAND (A-2-4), with trace rock fragments, micaceous 3.0
	802.2	8.5	6	8	13						M			
800	797.2	13.5	4	6	5						M			798.7 Orange, sandy SILT (A-4), micaceous, low plasticity 12.0
														795.7 Boring Terminated at Elevation 795.7 ft in SILT (RESIDUAL) 15.0

NCDOT BORE DOUBLE U6187_BORINGS.GPJ NC_DOT.GDT 5/3/24

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC DOT.GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40									GROUND WTR (ft)					
BORING NO. RPB1350			STATION 13+50			OFFSET 30 ft LT			ALIGNMENT -RPB-			0 HR. Dry		
COLLAR ELEV. 791.0 ft			TOTAL DEPTH 10.0 ft			NORTHING 822,345			EASTING 1,566,233			24 HR. Dry		
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER D. Demby			START DATE 12/07/23			COMP. DATE 12/11/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
795														
790	791.0	0.0												791.0 GROUND SURFACE 0.0
785	787.5	3.5	2	4	6						SS-360	40%		RESIDUAL Orange and brown, silty CLAY (A-7-6 (11)), contains root fragments, medium plasticity Orange and brown, sandy SILT (A-4), with little clay, medium plasticity Black, white, and orange, silty SAND (A-2-4), with trace to some rock fragments Boring Terminated at Elevation 781.0 ft in SAND (RESIDUAL)
	785.0	6.0	7	26	47							M		
	782.5	8.5	13	28	41							M		
				12	21	28								

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)				
BORING NO. RPB1550		STATION 15+50		OFFSET 35 ft RT		ALIGNMENT -RPB-		0 HR. 15.5						
COLLAR ELEV. 791.8 ft		TOTAL DEPTH 20.0 ft		NORTHING 822,409		EASTING 1,566,434		24 HR. 14.0						
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022					DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER D. Demby			START DATE 12/07/23		COMP. DATE 12/11/22		SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			ELEV. (ft)	DEPTH (ft)
795														
790	791.8	0.0											791.8	GROUND SURFACE 0.0
785	788.3	3.5	4	5	7						M		788.3	RESIDUAL Orange and brown, silty CLAY (A-6), medium plasticity 3.5
	785.8	6.0	5	4	6						M		785.8	Orange, SILT (A-4), low to medium plasticity 6.0
780	783.3	8.5	2	3	4						M			
	778.3	13.5	6	8	4						M			Orange, black, and white, silty and sandy CLAY (A-7-5 (19)), low to medium plasticity 6.0
775														
	773.3	18.5	2	1	2					SS-358	62%		774.8	Orange and black, sandy SILT (A-4), with little clay, low to medium plasticity 17.0
			6	7	9								771.8	Boring Terminated at Elevation 771.8 ft in SILT (RESIDUAL) 20.0
											W			

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST J. Crenshaw					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)				
BORING NO. RPB1850			STATION 18+50			OFFSET 40 ft LT			ALIGNMENT -RPB-		0 HR. 25.0			
COLLAR ELEV. 808.1 ft			TOTAL DEPTH 30.0 ft			NORTHING 822,675			EASTING 1,566,595		24 HR. FIAD			
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER D. Demby			START DATE 12/08/23			COMP. DATE 12/08/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
810														
805	808.1	0.0	2	4	6									808.1 GROUND SURFACE 0.0
	804.6	3.5	5	10	12									RESIDUAL Red and brown, clayey SILT (A-5), with some sand
	802.1	6.0	4	5	8									802.1 6.0
800	799.6	8.5	3	5	7									Red and brown, SILT (A-4), with trace sand and clay and manganese oxides, low plasticity
795	794.6	13.5	6	7	6									
	789.6	18.5	2	4	4									791.1 17.0 Red and brown, clayey SILT (A-5), with trace rock fragments, micaceous
785	784.6	23.5	3	2	3									786.1 22.0 Orange, brown, and black, sandy SILT (A-4), with manganese oxides, micaceous
780	779.6	28.5	2	4	7									
														778.1 30.0 Boring Terminated at Elevation 778.1 ft in SILT (RESIDUAL)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST J. Crenshaw							
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40											GROUND WTR (ft)				
BORING NO. RPB1950			STATION 19+50			OFFSET 20 ft LT			ALIGNMENT -RPB-		0 HR.	28.2			
COLLAR ELEV. 807.5 ft			TOTAL DEPTH 35.0 ft			NORTHING 822,733			EASTING 1,566,679		24 HR.	FIAD			
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers				HAMMER TYPE Automatic					
DRILLER D. Demby				START DATE 12/08/23			COMP. DATE 12/08/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)
810															
	807.5	0.0												807.5	0.0
805			2	2	5							M		GROUND SURFACE	
	804.0	3.5	13	21	18							M		REDUCED Red and brown, sandy SILT (A-4), with trace rock fragments, low plasticity	
800			3	10	24							M			
	801.5	6.0										M			
	799.0	8.5	10	14	20							M			
795												M			
	794.0	13.5	9	11	6							M		795.5 12.0 Orange, black, and white, silty SAND (A-2-4), with trace rock fragments, saprolitic	
790												M			
	789.0	18.5	11	7	11							M			
785												M			
	784.0	23.5	3	2	4							Sat.			
780												▽			
	779.0	28.5	5	3	7							Sat.			
775															
	774.0	33.5	3	6	7							Sat.	772.5 35.0 Boring Terminated at Elevation 772.5 ft in SAND (RESIDUAL)		

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE				GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)					
BORING NO. RPB2150				STATION 21+50				OFFSET 25 ft RT				ALIGNMENT -RPB-		0 HR.	22.3
COLLAR ELEV. 804.1 ft				TOTAL DEPTH 35.0 ft				NORTHING 822,847				EASTING 1,566,849		24 HR.	FIAD
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022								DRILL METHOD H.S. Augers				HAMMER TYPE Automatic			
DRILLER D. Demby				START DATE 12/11/23				COMP. DATE 12/11/23				SURFACE WATER DEPTH N/A			
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
805															
	804.1	0.0												804.1 GROUND SURFACE 0.0	
			3	3	4										
800	800.6	3.5	2	9	10									801.1 RESIDUAL 3.0	
														Brown and orange, clayey SILT (A-4), medium plasticity	
	798.1	6.0	5	7	8									Orange and tan, CLAY (A-7-5 (21)), with manganese oxides, medium plasticity	
795	795.6	8.5	2	4	4										
											SS-405	50%			
														792.1 12.0	
790	790.6	13.5	5	7	7									White and orange, silty SAND (A-2-4)	
785	785.6	18.5	7	4	4										
780	780.6	23.5	3	3	3									782.1 22.0	
														Orange, tan, and black, CLAY (A-7), medium plasticity	
775	775.6	28.5	1	2	2										
770	770.6	33.5	3	4	6										
														769.1 35.0	
														Boring Terminated at Elevation 769.1 ft in CLAY (RESIDUAL)	

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40											GROUND WTR (ft)				
BORING NO. RPB2350			STATION 23+50			OFFSET CL			ALIGNMENT -RPB-			0 HR.	25.0		
COLLAR ELEV. 813.2 ft			TOTAL DEPTH 30.0 ft			NORTHING 823,009			EASTING 1,566,969			24 HR.	FIAD		
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER D. Demby			START DATE 12/11/23			COMP. DATE 12/11/23			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)
815															
810	813.2	0.0	2	5	5									813.2	GROUND SURFACE 0.0
	809.7	3.5	3	6	7							M		809.7	RESIDUAL Orange and brown, silty CLAY (A-6), with some roots, medium plasticity 3.5
805	807.2	6.0	4	5	7							M		807.2	Orange, SILT (A-4), with little clay, micaceous, low to medium plasticity
	804.7	8.5	3	5	7							M			
800												M		801.2	Orange and black, SILT (A-5), micaceous, low to medium plasticity 12.0
	799.7	13.5	2	3	4							M			
795												M		796.2	Orange and black, sandy SILT (A-4), with trace rock fragments and little clay, low to medium plasticity 17.0
	794.7	18.5	4	3	3							M			
790														789.4	Orange and black, silty SAND (A-2-4), with trace rock fragments 23.8
	789.7	23.5	4	5	10										
785	784.7	28.5	4	5	6							M		783.2	Boring Terminated at Elevation 783.2 ft in SAND (RESIDUAL) 30.0

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)				
BORING NO. RPB2550			STATION 25+50			OFFSET 40 ft LT			ALIGNMENT -RPB-		0 HR. Dry			
COLLAR ELEV. 822.5 ft			TOTAL DEPTH 35.0 ft			NORTHING 823,178			EASTING 1,567,096		24 HR. FIAD			
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER D. Demby			START DATE 12/11/23			COMP. DATE 12/11/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
825														
	822.5	0.0	2	2	2									822.5 GROUND SURFACE 0.0
820	819.0	3.5	2	3	6							M		RESIDUAL Brown, orange, and black, silty CLAY (A-6), with little sand, low to medium plasticity
	816.5	6.0	3	3	4							M		
815	814.0	8.5	3	4	4							M		
810	809.0	13.5	5	5	6							M		White, silty SAND (A-2-4), with trace quartz rock fragments Bulk Sample from 10 - 20 ft. Orange, red, white, tan, and black, clayey SILT (A-4), with trace sand, micaceous, low to medium plasticity
805	804.0	18.5	4	2	3							M		
800	799.0	23.5	3	3	5							M		
795	794.0	28.5	2	3	3							M		
790	789.0	33.5	3	4	6							M		790.5 Orange, tan, white, and pink, CLAY (A-6), saprolitic, low to medium plasticity 32.0 787.5 Boring Terminated at Elevation 787.5 ft in CLAY (RESIDUAL) 35.0

NCDOT BORE DOUBLE U6187_BORINGS.GPJ NC_DOT.GDT 5/3/24

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40											GROUND WTR (ft)				
BORING NO. RPB2800			STATION 28+00			OFFSET 20 ft LT			ALIGNMENT -RPB-			0 HR.	Dry		
COLLAR ELEV. 825.5 ft			TOTAL DEPTH 40.0 ft			NORTHING 823,180			EASTING 1,567,365			24 HR.	FIAD		
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER D. Demby			START DATE 12/12/23			COMP. DATE 12/12/23			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)
830															
825	825.5	0.0												825.5	GROUND SURFACE 0.0
820	822.0	3.5	4	5	6									822.0	RESIDUAL Orange and brown, clayey SILT (A-4), medium to high plasticity 3.5
	819.5	6.0	4	9	12									819.5	Orange, silty CLAY (A-6), medium to high plasticity 6.0
	817.0	8.5	4	5	7										
815	817.0	8.5	4	5	7										
	817.0	8.5	3	4	4										Tan, orange, and black, clayey SILT (A-4), with little clay, some rock fragments, micaceous, and manganese oxides, low to medium plasticity
810	812.0	13.5	2	4	4										
	812.0	13.5	2	4	4										
805	807.0	18.5	3	3	5										
	807.0	18.5	3	3	5										
800	802.0	23.5	3	3	4										
	802.0	23.5	3	3	4										
795	797.0	28.5	3	3	4										
	797.0	28.5	3	3	4										
790	792.0	33.5	1	2	3										
	792.0	33.5	1	2	3										
	787.0	38.5	2	3	5									788.5	Brown, black, and orange, SILT (A-5), micaceous, low to medium plasticity 37.0
														785.5	Boring Terminated at Elevation 785.5 ft in SILT (RESIDUAL) 40.0

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST J. Crenshaw					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40											GROUND WTR (ft)		
BORING NO. RPB3100			STATION 31+00			OFFSET 40 ft LT			ALIGNMENT -RPB-		0 HR.	Dry	
COLLAR ELEV. 811.2 ft			TOTAL DEPTH 20.0 ft			NORTHING 822,949			EASTING 1,567,576		24 HR.	FIAD	
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic				
DRILLER D. Demby			START DATE 12/08/23			COMP. DATE 12/08/23			SURFACE WATER DEPTH N/A				
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100	MOI		
815													
	811.2	0.0											811.2 GROUND SURFACE 0.0
810													
	807.7	3.5	3	7	8						M		807.7 RESIDUAL Red and brown, CLAY (A-6), with manganese oxides and root fragments, low plasticity 3.5
	805.2	6.0	5	5	6						M		805.2 Red, brown, and orange, SILT (A-5), micaceous 6.0
805			2	3	5						M		803.2 Red, white, and orange, silty SAND (A-2-4), micaceous 8.0
	802.7	8.5	3	3	3						M		799.2 Orange, SILT (A-5), with manganese oxides, micaceous, low plasticity 12.0
800													
	797.7	13.5	2	4	4						M		791.2 Boring Terminated at Elevation 791.2 ft in SILT (RESIDUAL) 20.0
795													
	792.7	18.5	2	3	4						M		

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill							
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40											GROUND WTR (ft)					
BORING NO. RPC1000			STATION 10+00			OFFSET 15 ft RT			ALIGNMENT -RPC-			0 HR. Dry				
COLLAR ELEV. 799.2 ft			TOTAL DEPTH 10.0 ft			NORTHING 822,128			EASTING 1,566,155			24 HR. FIAD				
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic							
DRILLER M. Brewer			START DATE 11/28/23			COMP. DATE 11/28/23			SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
800																
	797.7	1.5	6	2	5									799.2	0.0	
	795.7	3.5	4	4	5							M		ROADWAY EMBANKMENT PAVEMENT		1.5
795	793.2	6.0	3	5	5							M		RESIDUAL		
	790.7	8.5	2	3	6							M		Orange and brown, silty CLAY (A-6), with trace sand and rock fragments, contains manganese oxides, micaceous, medium plasticity		
790												M		789.2 10.0		
Boring Terminated at Elevation 789.2 ft in CLAY (RESIDUAL)																

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40									GROUND WTR (ft)					
BORING NO. RPC1200			STATION 12+00			OFFSET 55 ft RT			ALIGNMENT -RPC-			0 HR. 2.5		
COLLAR ELEV. 775.0 ft			TOTAL DEPTH 20.0 ft			NORTHING 822,144			EASTING 1,566,358			24 HR. 2.5		
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER D. Demby			START DATE 12/05/23			COMP. DATE 12/06/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
780														
775	775.0	0.0												775.0 GROUND SURFACE 0.0
770	771.5	3.5	2	5	5									RESIDUAL Brown and gray, sandy SILT (A-4), low to medium plasticity
	769.0	6.0	2	2	1									
765	766.5	8.5	3	3	5									769.0 Brown, orange, tan, and black, silty SAND (A-2-4) 6.0
	761.5	13.5	4	2	4									763.0 Orange and brown, sandy SILT (A-4), micaceous, low to medium plasticity 12.0
760	756.5	18.5	2	2	4									Boring Terminated at Elevation 755.0 ft in SILT (RESIDUAL)
			2	3	5									

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)				
BORING NO. RPC1600			STATION 16+00			OFFSET 20 ft RT			ALIGNMENT -RPC-			0 HR. Dry		
COLLAR ELEV. 789.2 ft			TOTAL DEPTH 2.6 ft			NORTHING 822,288			EASTING 1,566,733			24 HR. FIAD		
DRILL RIG/HAMMER EFF./DATE N/A						DRILL METHOD Hand Auger				HAMMER TYPE N/A				
DRILLER J. Crenshaw			START DATE 12/20/23			COMP. DATE 12/20/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
790														
											M	M		GROUND SURFACE RESIDUAL Medium stiff, brown, sandy SILT (A-4), with root fragments, moist Loose, brown and orange, clayey SAND (A-2-6), moist Boring Terminated at Elevation 786.6 ft on a suspected boulder.

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40									GROUND WTR (ft)					
BORING NO. RPC2000			STATION 20+00			OFFSET 20 ft RT			ALIGNMENT -RPC-			0 HR. Dry		
COLLAR ELEV. 787.3 ft			TOTAL DEPTH 15.0 ft			NORTHING 822,362			EASTING 1,567,122			24 HR. Dry		
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER D. Demby			START DATE 12/05/23			COMP. DATE 12/06/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
790														
	787.3	0.0												787.3 GROUND SURFACE 0.0
785			4	7	12							M		
	783.8	3.5		6	12							M		
	781.3	6.0		6	9							M		
780			7	9	12							M		
	778.8	8.5												
775														775.3 12.0
	773.8	13.5	3	3	3							M		772.3 15.0
														Boring Terminated at Elevation 772.3 ft in SILT (RESIDUAL)

NCDOT BORE DOUBLE U6187 BORINGS.GPJ NC DOT GDT 5/3/24

[illegible]

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill							
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)					
BORING NO. RPD1200			STATION 12+00			OFFSET 30 ft LT			ALIGNMENT -RPD-		0 HR. Dry				
COLLAR ELEV. 776.7 ft			TOTAL DEPTH 15.0 ft			NORTHING 823,042			EASTING 1,568,878		24 HR. Dry				
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER D. Demby				START DATE 12/05/23			COMP. DATE 12/06/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)
780															
	776.7	0.0	4	5	8									776.7	0.0
775															
	773.2	3.5	2	3	4										
770															
	770.7	6.0	3	3	4										
	768.2	8.5	2	2	7										
765															
	763.2	13.5	2	3	4										

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)				
BORING NO. RPD1400			STATION 14+00			OFFSET 20 ft LT			ALIGNMENT -RPD-		0 HR. Dry			
COLLAR ELEV. 780.7 ft			TOTAL DEPTH 20.0 ft			NORTHING 822,979			EASTING 1,568,689		24 HR. Dry			
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER D. Demby				START DATE 12/05/23			COMP. DATE 12/06/23			SURFACE WATER DEPTH N/A				
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
785														
780	780.7	0.0	4	6	9									780.7 GROUND SURFACE 0.0
775	777.2	3.5	5	6	9							M		RESIDUAL Orange and brown, silty CLAY (A-6), contains root fragments, medium plasticity
	774.7	6.0	3	4	4							M		Orange, clayey SILT (A-4), micaceous, medium plasticity
770	772.2	8.5	3	2	4							M		Orange, tan, and black, clayey SILT (A-5), with manganese oxides, micaceous, medium plasticity
	767.2	13.5	2	2	3							M		
765	762.2	18.5	2	2	2							M		Tan, orange, and black, sandy SILT (A-4), with manganese oxides, low to medium plasticity
														763.7 17.0
														760.7 20.0
														Boring Terminated at Elevation 760.7 ft in SILT (RESIDUAL)

NCDOT BORE DOUBLE U6187_BORINGS.GPJ NC_DOT.GDT 5/3/24

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC DOT GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)						
BORING NO. RPD1800			STATION 18+00			OFFSET 30 ft RT			ALIGNMENT -RPD-					
COLLAR ELEV. 779.1 ft			TOTAL DEPTH 15.0 ft			NORTHING 822,850			EASTING 1,568,307					
									0 HR. Dry					
									24 HR. Dry					
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER D. Demby			START DATE 12/05/23			COMP. DATE 12/06/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
780														
775	779.1	0.0												779.1 GROUND SURFACE 0.0
770	775.6	3.5	4	5	9									RESIDUAL
														Orange and brown, silty CLAY (A-6), medium plasticity
765	773.1	6.0	5	9	10									775.6 3.5
														Orange, tan, and black, clayey SILT (A-4), with manganese oxides, low to medium plasticity
760	770.6	8.5	3	5	5									
755	770.6	8.5	3	4	4									
750	765.6	13.5	1	2	2									
745														
740														
735														
730														
725														
720														
715														
710														
705														
700														
695														
690														
685														
680														
675														
670														
665														
660														
655														
650														
645														
640														
635														
630														
625														

NCDOT BORE DOUBLE U6187 BORINGS.GPJ NC DOT GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)				
BORING NO. RPD2200			STATION 22+00			OFFSET 25 ft RT			ALIGNMENT -RPD-		0 HR. Dry			
COLLAR ELEV. 769.7 ft			TOTAL DEPTH 48.6 ft			NORTHING 822,635			EASTING 1,567,967		24 HR. FIAD			
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER D. Demby			START DATE 12/04/23			COMP. DATE 12/04/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
770														
	769.7	0.0	2	2	5									769.7 GROUND SURFACE 0.0
														RESIDUAL
	766.2	3.5	2	2	3									Brown and orange, silty CLAY (A-7), contains wood fragments, micaceous, medium to high plasticity
765														
	763.7	6.0	WOH	WOH	WOH									
	761.2	8.5	WOH	1	2									761.7 Orange, brown, and white, sandy and clayey SILT (A-4), low to medium plasticity 8.0
760														
	756.2	13.5	WOH	3	3									
755														
	751.2	18.5	4	5	7									
750														
	746.2	23.5	11	12	11									747.7 Gray and tan, silty SAND (A-2-4) 22.0
745														
	741.2	28.5	6	17	23									742.7 Black and white, clayey SAND (A-2-6), with trace silt, saprolitic 27.0
740														
	736.2	33.5	32	68/0.4										
735														735.7 WEATHERED ROCK 34.0
														Black and white, META-GABBRO
	730.8	38.9	100/0.3											
730														
	726.2	43.5	60/0.1											726.2 CRYSTALLINE ROCK 43.5
725														Black and white, META-GABBRO
	721.2	48.5	60/0.1											721.1 Boring Terminated with Standard Penetration Test Refusal at Elevation 721.1 ft in CRYSTALLINE ROCK (META-GABBRO) 48.6

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

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NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC DOT GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40									GROUND WTR (ft)					
BORING NO. Y11450			STATION 14+50			OFFSET 20 ft LT			ALIGNMENT -Y1-			0 HR. Dry		
COLLAR ELEV. 869.5 ft			TOTAL DEPTH 6.0 ft			NORTHING 818,549			EASTING 1,566,440			24 HR. FIAD		
DRILL RIG/HAMMER EFF./DATE N/A						DRILL METHOD Hand Auger			HAMMER TYPE N/A					
DRILLER Q. Hill			START DATE 02/01/24			COMP. DATE 02/01/24			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
870														869.5 GROUND SURFACE 0.0
865											M		RESIDUAL	
													Medium stiff, red and brown, silty CLAY (A-7-5) with trace to little sand and rock fragments, low to medium plasticity	
														
														863.5 6.0
													Boring Terminated at Elevation 863.5 ft in CLAY (RESIDUAL)	
													Kessler DCP Test performed to estimate soil strength	

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC DOT GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40									GROUND WTR (ft)						
BORING NO. Y11850			STATION 18+50			OFFSET 30 ft LT			ALIGNMENT -Y1-						
COLLAR ELEV. 860.9 ft			TOTAL DEPTH 15.0 ft			NORTHING 818,654			EASTING 1,566,826						
									0 HR. Dry		24 HR. FIAD				
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER D. Demby			START DATE 12/13/23			COMP. DATE 12/13/23			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100					
865															
860	860.9	0.0												860.9 GROUND SURFACE 0.0	
855	857.4	3.5	4	4	6									RESIDUAL Orange, brown, and black, clayey SILT (A-5), contains root fragments, medium to high plasticity	
	854.9	6.0	3	6	10										
850	852.4	8.5	3	4	6										
	847.4	13.5	3	6	8										
			9	13	11									848.9 Orange and brown, silty SAND (A-2-4), with trace rock fragments 12.0	
														845.9 Boring Terminated at Elevation 845.9 ft in SAND (RESIDUAL) 15.0	

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1		TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill								
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)						
BORING NO. Y12250		STATION 22+50		OFFSET 55 ft LT		ALIGNMENT -Y1-		0 HR.	Dry					
COLLAR ELEV. 851.8 ft		TOTAL DEPTH 15.0 ft		NORTHING 818,755		EASTING 1,567,213		24 HR.	Dry					
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic								
DRILLER J. Kiker		START DATE 11/15/23		COMP. DATE 11/16/23		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
855														
	851.8	0.0												851.8 GROUND SURFACE 0.0
850			4	8	9							M		RESIDUAL Brown, sandy SILT (A-4), contains root fragments
	848.3	3.5										M		848.3 Orange, silty CLAY (A-7-6), highly plastic 3.5
	845.3		11	8	9							M		845.8 Orange and black, sandy SILT (A-4), with trace rock fragments and little clay, medium plasticity 6.0
845		6.5										M		
	843.3	8.5	7	9	9							M		839.8 Orange, silty SAND (A-2-4), with some rock fragments 12.0
			4	6	10							M		
840												M		836.8 Boring Terminated at Elevation 836.8 ft in SAND (RESIDUAL) 15.0
	838.3	13.5	5	6	9									

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1				TIP U-6187				COUNTY DAVIE				GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40												GROUND WTR (ft)					
BORING NO. Y12850				STATION 28+50				OFFSET 20 ft LT				ALIGNMENT -Y1-				0 HR. Dry	
COLLAR ELEV. 831.2 ft				TOTAL DEPTH 6.0 ft				NORTHING 818,893				EASTING 1,567,795				24 HR. FIAD	
DRILL RIG/HAMMER EFF./DATE N/A								DRILL METHOD Hand Auger				HAMMER TYPE N/A					
DRILLER Q. Hill				START DATE 01/04/24				COMP. DATE 01/04/24				SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.		L O G	SOIL AND ROCK DESCRIPTION			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100							
835																	
830														831.2 GROUND SURFACE 0.0			
												M		ROADWAY EMBANKMENT Medium stiff, orange and brown, silty CLAY (A-7-6), with little sand and gravel			
														825.2 6.0 Boring Terminated at Elevation 825.2 ft in CLAY (ROADWAY EMBANKMENT) Kessler DCP Test performed to estimate soil strength			

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)					
BORING NO. Y13050				STATION 30+50		OFFSET 30 ft RT		ALIGNMENT -Y1-		0 HR. Dry			
COLLAR ELEV. 832.3 ft				TOTAL DEPTH 6.0 ft		NORTHING 818,917		EASTING 1,568,000		24 HR. FIAD			
DRILL RIG/HAMMER EFF./DATE N/A						DRILL METHOD Hand Auger			HAMMER TYPE N/A				
DRILLER J. Crenshaw				START DATE 12/20/23		COMP. DATE 12/20/23		SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			
835													
830											M		832.3 GROUND SURFACE 0.0
													RESIDUAL Medium stiff, brown and red, silty CLAY (A-7-6), contains root fragments and trace rock fragments, low to medium plasticity
													826.3 6.0
													Boring Terminated at Elevation 826.3 ft in CLAY (RESIDUAL)
													Kessler DCP Test performed to estimate soil strength

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)					
BORING NO. Y13250				STATION 32+50		OFFSET 35 ft LT		ALIGNMENT -Y1-		0 HR. Dry			
COLLAR ELEV. 827.9 ft				TOTAL DEPTH 6.0 ft		NORTHING 819,062		EASTING 1,568,153		24 HR. FIAD			
DRILL RIG/HAMMER EFF./DATE N/A						DRILL METHOD Hand Auger			HAMMER TYPE N/A				
DRILLER J. Crenshaw				START DATE 12/20/23		COMP. DATE 12/20/23		SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			
830													
825											M		827.9 GROUND SURFACE 0.0
													ROADWAY EMBANKMENT Medium stiff, orange and brown, sandy CLAY (A-6), with some silt and trace gravel, medium plasticity
													821.9 6.0
													Boring Terminated at Elevation 821.9 ft in CLAY (ROADWAY EMBANKMENT)
													Kessler DCP Test performed to estimate soil strength

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)						
BORING NO. Y13450				STATION 34+50		OFFSET 10 ft RT		ALIGNMENT -Y1-		0 HR. Dry				
COLLAR ELEV. 834.1 ft				TOTAL DEPTH 2.8 ft		NORTHING 819,112		EASTING 1,568,352		24 HR. FIAD				
DRILL RIG/HAMMER EFF./DATE N/A						DRILL METHOD Hand Auger			HAMMER TYPE N/A					
DRILLER J. Crenshaw				START DATE 12/20/23		COMP. DATE 12/20/23		SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
835														
											M		834.1 GROUND SURFACE 0.0	
													831.3 RESIDUAL Medium stiff, brown, sandy CLAY (A-6), with trace rock fragments, medium plasticity 2.8	
													Boring Terminated BY AUGER REFUSAL at Elevation 831.3 ft on suspected boulder	
													Kessler DCP Test performed to estimate soil strength; Hand auger refusal at 2.8 feet.	

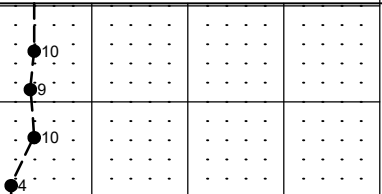
WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)						
BORING NO. Y22000				STATION 20+00		OFFSET 75 ft LT		ALIGNMENT -Y2-		0 HR. Dry				
COLLAR ELEV. 824.6 ft				TOTAL DEPTH 15.0 ft		NORTHING 821,901		EASTING 1,565,071		24 HR. FIAD				
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER M. Brewer				START DATE 11/30/23		COMP. DATE 11/30/23		SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION	DEPTH (ft)
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
825	824.6	0.0	5	7	3								824.6 GROUND SURFACE 0.0	
	824.0										M		824.0 7 inches of Topsoil 0.6	
	821.1	3.5									M		821.1 Orange, silty CLAY (A-6), with some rock fragments, medium plasticity 3.5	
820	818.6	6.0	3	4	4						M		Orange and brown, clayey SILT (A-4), with trace sand, micaceous, low to medium plasticity	
	816.1	8.5	2	2	3						M			
815			1	1	2						M			
	811.1	13.5	WOH	1	1						M		812.6 Orange, silty CLAY (A-6), with trace sand, contains manganese oxides, medium plasticity 12.0	
810													809.6 Boring Terminated at Elevation 809.6 ft in CLAY (RESIDUAL) 15.0	

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40											GROUND WTR (ft)			
BORING NO. Y22400			STATION 24+00			OFFSET 90 ft LT			ALIGNMENT -Y2-			0 HR. Dry		
COLLAR ELEV. 811.6 ft			TOTAL DEPTH 15.0 ft			NORTHING 822,047			EASTING 1,565,444			24 HR. FIAD		
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER M. Brewer			START DATE 11/30/23			COMP. DATE 11/30/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
815														
810	811.6	0.0	5	5	7									811.6 GROUND SURFACE 0.0
	810.8										M			810.8 TOPSOIL 0.8
	808.1	3.5	9	9	13						M			808.1 RESIDUAL 3.5
805	805.6	6.0	9	11	14						M			Brown, silty SAND (A-2-4)
	803.1	8.5	10	12	27						M			Orange and brown sandy SILT and SILT (A-4), trace to little rock fragments, low to medium plasticity
800	798.1	13.5	8	13	12						M			796.6 15.0
														Boring Terminated at Elevation 796.6 ft in SILT (RESIDUAL)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill							
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)					
BORING NO. Y22500_WB_IGM				STATION 25+00		OFFSET 15 ft LT		ALIGNMENT -Y2-		0 HR.	Dry				
COLLAR ELEV. 814.7 ft				TOTAL DEPTH 10.0 ft		NORTHING 822,009		EASTING 1,565,563		24 HR.	FIAD				
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER M. Brewer				START DATE 11/28/23		COMP. DATE 11/28/23		SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			ELEV. (ft)	DEPTH (ft)	
815															
	814.7	0.0	2	3	4						M		814.7	GROUND SURFACE	0.0
	811.2	3.5	5	6	7						M				
810	808.7	6.0	2	3	4						M		808.7		6.0
	806.2	8.5	2	2	4						M		804.7		10.0
805												Boring Terminated at Elevation 804.7 ft in SILT (RESIDUAL)			
												Boring offset 14' FY			

WBS 48647.1.1				TIP U-6187				COUNTY DAVIE				GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40												GROUND WTR (ft)					
BORING NO. Y22600				STATION 26+00				OFFSET 70 ft LT				ALIGNMENT -Y2-				0 HR. Dry	
COLLAR ELEV. 810.1 ft				TOTAL DEPTH 10.0 ft				NORTHING 822,094				EASTING 1,565,639				24 HR. FIAD	
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022								DRILL METHOD H.S. Augers				HAMMER TYPE Automatic					
DRILLER M. Brewer				START DATE 11/30/23				COMP. DATE 11/30/23				SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100							
815																	
810														810.1 GROUND SURFACE 0.0			
805	808.6	1.5		5	4	6									808.7 ROADWAY EMBANKMENT 1.4		
	806.6	3.5		3	4	5							M		RESIDUAL Brown and orange silty CLAY (A-6), micaceous, low to high plasticity		
	804.1	6.0		2	5	5							M				
	801.6	8.5		1	2	2							M				
													M				
																800.1 10.0	
														Boring Terminated at Elevation 800.1 ft in CLAY (RESIDUAL)			

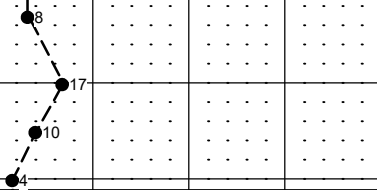
NCDOT BORE DOUBLE U6187 BORINGS.GPJ NC DOT GDT 5/3/24

WBS 48647.1.1				TIP U-6187				COUNTY DAVIE				GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40												GROUND WTR (ft)					
BORING NO. Y23000_WB GM				STATION 30+00				OFFSET 10 ft LT				ALIGNMENT -Y2-				0 HR. Dry	
COLLAR ELEV. 801.4 ft				TOTAL DEPTH 10.0 ft				NORTHING 822,170				EASTING 1,566,037				24 HR. FIAD	
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022								DRILL METHOD H.S. Augers				HAMMER TYPE Automatic					
DRILLER M. Brewer				START DATE 11/28/23				COMP. DATE 11/28/23				SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100							
805																	
	801.4	0.0															
800																	
	797.9	3.5	2	2	5							M		801.4 GROUND SURFACE 0.0			
	795.4	6.0	3	6	6						SS-9006 33%			RESIDUAL Brown and orange, silty CLAY (A-7-5 (15)), micaceous			
795												M					
	792.9	8.5	3	4	7							M					
			3	5	9							M		791.4 10.0			
Boring Terminated at Elevation 791.4 ft in CLAY (RESIDUAL)																	
Boring offset 13.5' FY																	

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40									GROUND WTR (ft)					
BORING NO. Y23500_WB OGS			STATION 35+00			OFFSET 71 ft LT			ALIGNMENT -Y2-			0 HR. Dry		
COLLAR ELEV. 801.4 ft			TOTAL DEPTH 10.0 ft			NORTHING 822,392			EASTING 1,566,489			24 HR. FIAD		
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER M. Brewer			START DATE 11/27/23			COMP. DATE 11/27/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
805														
800	801.4	0.0	4	11	9									801.4 GROUND SURFACE 0.0
795	797.9	3.5	3	5	7						S-01	M	M	Brown and orange, sandy CLAY (A-7-5 (4)), medium plasticity
	795.4	6.0	5	6	7									
	792.9	8.5	3	7	9							M	M	795.9 Brown, orange, and red, silty SAND (A-2-4), with clay lenses, trace gravel, and manganese oxides 5.5
														791.4 Boring Terminated at Elevation 791.4 ft in SAND (ROADWAY EMBANKMENT) 10.0
														Boring offset 12.0' FW

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill							
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40											GROUND WTR (ft)					
BORING NO. Y24000_EB GM			STATION 40+00			OFFSET 7 ft RT			ALIGNMENT -Y2-			0 HR. Dry				
COLLAR ELEV. 794.4 ft			TOTAL DEPTH 10.0 ft			NORTHING 822,485			EASTING 1,566,986			24 HR. FIAD				
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic							
DRILLER M. Brewer			START DATE 11/29/23			COMP. DATE 11/29/23			SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
795																
	794.4	0.0	2	3	5							M		794.4	GROUND SURFACE	0.0
790	790.9	3.5	5	7	10							SS-1015		26%		RESIDUAL Orange and brown, silty CLAY (A-7-5 (25)), with trace rock fragments, low to medium plasticity
	788.4	6.0	3	4	6							M			786.4	8.0
785	785.9	8.5	1	2	2							M			784.4	10.0
														Orange, SILT (A-5), micaceous, low to medium plasticity		
														Boring Terminated at Elevation 784.4 ft in SILT (RESIDUAL)		
														Boring offset 13.0' FY		

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)				
BORING NO. Y24000_EB ISS			STATION 40+00			OFFSET 15 ft RT			ALIGNMENT -Y2-			0 HR. Dry		
COLLAR ELEV. 791.5 ft			TOTAL DEPTH 10.0 ft			NORTHING 822,477			EASTING 1,566,989			24 HR. FIAD		
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER D. Demby			START DATE 12/15/23			COMP. DATE 12/15/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
795														
790	790.1	1.4												791.5 GROUND SURFACE 0.0
														790.3 ROADWAY EMBANKMENT 1.3
	788.0	3.5	9	7	6						SS-523	16%		790.1 PAVEMENT 1.4
														AGGREGATE BASE COURSE
785	785.5	6.0	6	6	6							M		785.5 RESIDUAL 6.0
												M		Red and brown, silty CLAY (A-7-6 (16)), micaceous, medium plasticity
	783.0	8.5	4	5	6							M		785.5 Orange, red, and brown, clayey SILT (A-5), with manganese oxides, low to medium plasticity 6.0
			3	3	4							M		781.5 Boring Terminated at Elevation 781.5 ft in SILT (RESIDUAL) 10.0
														Boring offset 6.5' FY

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

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NCDOT BORE DOUBLE U6187_BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1				TIP U-6187				COUNTY DAVIE				GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40												GROUND WTR (ft)					
BORING NO. Y24800				STATION 48+00				OFFSET 75 ft LT				ALIGNMENT -Y2-				0 HR. 20.0	
COLLAR ELEV. 773.7 ft				TOTAL DEPTH 25.0 ft				NORTHING 822,826				EASTING 1,567,714				24 HR. FIAD	
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022								DRILL METHOD H.S. Augers				HAMMER TYPE Automatic					
DRILLER M. Brewer				START DATE 11/29/23				COMP. DATE 11/29/23				SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100							
775														GROUND SURFACE 0.0 773.0 0.7 8 inches of Topsoil RESIDUAL Orange, white, and tan, sandy and clayey SILT (A-4), contains manganese oxides, micaceous, low to medium plasticity 751.7 22.0 Orange and tan silty SAND (A-2-4), contains manganese oxides 748.7 25.0 Boring Terminated at Elevation 748.7 ft in SAND (RESIDUAL)			
	773.7	0.0	5	5	3							M					
770	770.2	3.5	2	2	3							M					
	767.7	6.0	1	1	1							M					
765	765.2	8.5	1	1	1							M					
760	760.2	13.5	1	1	2							M					
755	755.2	18.5	2	2	4							M					
750	750.2	23.5	3	3	8							▽					
												W					

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill				
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)			
BORING NO. Y25000_EB ISS			STATION 50+00			OFFSET 35 ft RT			ALIGNMENT -Y2-				
COLLAR ELEV. 784.5 ft			TOTAL DEPTH 10.0 ft			NORTHING 822,807			EASTING 1,567,933				
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022										DRILL METHOD H.S. Augers		HAMMER TYPE Automatic	
DRILLER D. Demby			START DATE 12/15/23			COMP. DATE 12/15/23			SURFACE WATER DEPTH N/A				
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			
785													
780	782.5	2.0	4	5	7								GROUND SURFACE 0.0
	781.0	3.5	4	4	5					SS-519	21%		ROADWAY EMBANKMENT 1.5
	778.5	6.0	3	6	8						M		PAVEMENT 2.0
775	776.0	8.5	3	5	7						M		AGGREGATE BASE COURSE
											M		RESIDUAL
Orange and brown, silty CLAY (A-7-5 (13)), with trace sand, micaceous, medium to high plasticity													
Boring Terminated at Elevation 774.5 ft in CLAY (RESIDUAL)													
Boring offset 6.5' FY													

NCDOT BORE DOUBLE U6187_BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)						
BORING NO. Y25200		STATION 52+00		OFFSET 65 ft LT		ALIGNMENT -Y2-		0 HR. 17.5						
COLLAR ELEV. 777.0 ft		TOTAL DEPTH 20.0 ft		NORTHING 822,949		EASTING 1,568,095		24 HR. FIAD						
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022					DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER M. Brewer		START DATE 11/29/23		COMP. DATE 11/29/23		SURFACE WATER DEPTH N/A								
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
780														
	777.0	0.0												
775			4	6	3									
	773.5	3.5												
	771.0	6.0	2	2	5									
770			4	5	5									
	768.5	8.5												
			1	1	3									
765														
	763.5	13.5	WOH	WOH	2									
760														
	758.5	18.5	1	1	1									

NC DOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40									GROUND WTR (ft)					
BORING NO. Y25500_EB ISS			STATION 55+00			OFFSET 15 ft RT			ALIGNMENT -Y2-			0 HR. Dry		
COLLAR ELEV. 780.8 ft			TOTAL DEPTH 10.0 ft			NORTHING 822,970			EASTING 1,568,405			24 HR. FIAD		
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER M. Brewer			START DATE 11/29/23			COMP. DATE 11/29/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
785														
780														
	779.3	1.5	3	3	6									780.8 GROUND SURFACE 0.0
	777.3	3.5	3	4	4									779.3 ROADWAY EMBANKMENT PAVEMENT 1.5
	774.8	6.0	2	3	4									RESIDUAL Orange and tan, CLAY (A-7-5 (25, 13)), with manganese oxides, micaceous, low to medium plasticity
	772.3	8.5	1	2	3									770.8 Boring Terminated at Elevation 770.8 ft in CLAY (RESIDUAL) 10.0
														Boring Offset 6.0 FY

NCDOT BORE DOUBLE U6187 BORINGS.GPJ NC_DOT_GDT 5/3/24

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)				
BORING NO. Y26200			STATION 62+00			OFFSET 30 ft RT			ALIGNMENT -Y2-		0 HR. Dry			
COLLAR ELEV. 770.5 ft			TOTAL DEPTH 15.0 ft			NORTHING 823,135			EASTING 1,569,086		24 HR. FIAD			
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER M. Brewer			START DATE 11/29/23			COMP. DATE 11/29/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
775														
770	770.5	0.0												770.5 GROUND SURFACE 0.0
765	767.0	3.5	8	2	3						M			ROADWAY EMBANKMENT Brown, silty SAND (A-2-4), with trace gravel
	764.5	6.0	3	4	4						M			767.5 3.0
760	762.0	8.5	3	3	3						M			RESIDUAL Orange SILT (A-4), contains manganese oxides, low to medium plasticity
	757.0	13.5	1	1	3						M			764.5 6.0
			2	5	13						M			762.0 8.5
											M			Orange and black, sandy SILT and clayey SILT (A-4), contains manganese oxides, micaceous, low to medium plasticity
														755.5 15.0
														Boring Terminated at Elevation 755.5 ft in SILT (RESIDUAL)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40											GROUND WTR (ft)				
BORING NO. Y2CULV2_LT			STATION 29+55			OFFSET 165 ft LT			ALIGNMENT -Y2-			0 HR. 5.0			
COLLAR ELEV. 778.6 ft			TOTAL DEPTH 33.9 ft			NORTHING 822,300			EASTING 1,565,943			24 HR. FIAD			
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic						
DRILLER D. Demby			START DATE 12/13/23			COMP. DATE 12/13/23			SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)
780															
	778.6	0.0												778.6	GROUND SURFACE 0.0
			4	4	5							M		777.5	TOPSOIL 1.1
775	775.1	3.5												RESIDUAL	
			3	2	2									Brown, gray, and tan, silty CLAY (A-7-6), medium plasticity	
	772.6	6.0												772.6	6.0
770	770.1	8.5									SS-480	42%		Gray, white, and orange, sandy SILT (A-4 (0)), saprolitic	
			4	6	7							W			
765	765.1	13.5										W			
			5	6	10									761.6	17.0
760	760.1	18.5												Gray, white, and orange, silty SAND (A-2-4)	
			6	6	10							Sat.			
														754.4	24.2
755	755.1	23.5										Sat.		White and gray, SAND (A-1-b), with little sand and trace rock fragments, micaceous	
			6	10	10									751.6	27.0
750	750.1	28.5												White, silty SAND (A-2-4)	
			8	22	78							Sat.		749.1	29.5
														WEATHERED ROCK	
745	745.1	33.5												Black and gray, META-GABBRO	
														744.7	33.9
														Boring Terminated at Elevation 744.7 ft in WEATHERED ROCK (META-GABBRO)	

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40											GROUND WTR (ft)			
BORING NO. Y2CULV2_RT			STATION 32+05			OFFSET 120 ft RT			ALIGNMENT -Y2-			0 HR.	3.9	
COLLAR ELEV. 775.7 ft			TOTAL DEPTH 40.0 ft			NORTHING 822,115			EASTING 1,566,267			24 HR.	3.0	
DRILL RIG/HAMMER EFF./DATE CG24116 CME 550X 74% 04/11/2022							DRILL METHOD H.S. Augers			HAMMER TYPE Automatic				
DRILLER D. Demby			START DATE 12/05/23			COMP. DATE 12/15/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
780														
775	775.7	0.0	4	2	3									775.7 GROUND SURFACE 0.0
770	772.2	3.5	1	2	2									RESIDUAL Orange and brown, silty CLAY (A-7-6), contains root fragments, micaceous, medium plasticity
	769.7	6.0	2	2	3									
765	767.2	8.5	2	2	2									Orange and brown, sandy SILT (A-4), with some rock fragments, micaceous, low to medium plasticity
760	762.2	13.5	12	18	18									White and tan, silty SAND (A-2-4), saprolitic
755	757.2	18.5	3	4	7									*Running sands in auger. Boring paused and resumed at an offset location* White, SILT (A-4 (4)), micaceous, low to medium plasticity
														758.7 17.0
750	752.2	23.5	5	10	12									753.7 22.0
	747.2	28.5	10	9	13									Orange, SILT (A-5), micaceous, low to medium plasticity
745														748.7 27.0
	742.2	33.5	11	12	17									Gray, white, black, and orange, sandy SILT (A-4), with little clay, micaceous, low to medium plasticity
740	737.2	38.5	9	21	13									735.7 40.0
														Boring Terminated at Elevation 735.7 ft in SILT (RESIDUAL)
														Boring was initially paused at 15.0 feet due to running sands in the augers. The boring was resumed at an offset location (10' left of initial boring) on a later date. The drill crew augered to the initial termination depth of 15.0 feet and collected the next SPT sample at 18.5 feet.

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)						
BORING NO. Y31010				STATION 10+10		OFFSET 10 ft LT		ALIGNMENT -Y3-		0 HR. Dry				
COLLAR ELEV. 854.3 ft				TOTAL DEPTH 6.0 ft		NORTHING 818,544		EASTING 1,566,964		24 HR. FIAD				
DRILL RIG/HAMMER EFF./DATE N/A						DRILL METHOD Hand Auger			HAMMER TYPE N/A					
DRILLER J. Crenshaw				START DATE 12/20/23		COMP. DATE 12/20/23		SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
855														
850											M			854.3 GROUND SURFACE 0.0
														RESIDUAL Medium stiff, orange and brown, CLAY (A-7), with trace sand and root fragments, medium to high plasticity
											M			850.3 4.0
														848.3 6.0 Medium stiff, orange and brown, clayey SILT (A-5), medium plasticity Boring Terminated at Elevation 848.3 ft in SILT (RESIDUAL) Kessler DCP Test performed to estimate soil strength

NCDOT BORE DOUBLE U6187_BORINGS.GPJ NC_DOT.GDT 5/3/24

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)						
BORING NO. Y41150				STATION 11+50		OFFSET 20 ft LT		ALIGNMENT -Y4-		0 HR. Dry				
COLLAR ELEV. 825.3 ft				TOTAL DEPTH 20.0 ft		NORTHING 817,806		EASTING 1,567,755		24 HR. 15.9				
DRILL RIG/HAMMER EFF./DATE CG23639 CME 550X 90% 03/15/2023						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER J. Kiker				START DATE 11/14/23		COMP. DATE 11/15/23		SURFACE WATER DEPTH N/A						
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
830														
825	825.3	0.0		5	9	7								825.3 GROUND SURFACE 0.0
	821.8	3.5		10	22	23								RESIDUAL Orange, silty CLAY (A-7-6 (19)), with little sand and rock fragments
820	818.8	6.5		4	8	14								819.3 6.0 Orange and tan, sandy SILT (A-4), with trace rock fragments, micaceous
	816.8	8.5		9	11	15								813.3 12.0 Gray, brown, black, and tan, silty SAND (A-2-4), with some clay and little rock fragments, micaceous
815	811.8	13.5		4	11	20								
810	806.8	18.5		23	34	12								805.3 20.0 Boring Terminated at Elevation 805.3 ft in SAND (RESIDUAL)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)					
BORING NO. Y41350		STATION 13+50		OFFSET 10 ft RT		ALIGNMENT -Y4-		0 HR. Dry					
COLLAR ELEV. 823.0 ft		TOTAL DEPTH 10.0 ft		NORTHING 817,988		EASTING 1,567,819		24 HR. FIAD					
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022				DRILL METHOD H.S. Augers		HAMMER TYPE Automatic							
DRILLER M. Brewer		START DATE 12/01/23		COMP. DATE 12/01/23		SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			
825													
	822.5	0.5	9	1	2								823.0 GROUND SURFACE 0.0
													822.4 ROADWAY EMBANKMENT 0.0
820	819.5	3.5	3	3	5								821.3 PAVEMENT 1.7
													AGGREGATE BASE COURSE
	817.0	6.0	1	1	4								RESIDUAL
													Brown and orange, silty CLAY (A-7), with some sand, micaceous
815	814.5	8.5	3	6	5								
													813.0 Boring Terminated at Elevation 813.0 ft in CLAY (RESIDUAL) 10.0

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40								GROUND WTR (ft)					
BORING NO. Y41520		STATION 15+20		OFFSET 15 ft LT		ALIGNMENT -Y4-		0 HR. Dry					
COLLAR ELEV. 826.3 ft		TOTAL DEPTH 6.0 ft		NORTHING 818,159		EASTING 1,567,800		24 HR. FIAD					
DRILL RIG/HAMMER EFF./DATE N/A				DRILL METHOD Hand Auger		HAMMER TYPE N/A							
DRILLER Q. Hill		START DATE 01/04/24		COMP. DATE 01/04/24		SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	MOI	L O G	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			
830													
													826.3 GROUND SURFACE 0.0
825													823.1 ROADWAY EMBANKMENT 3.2
													Medium stiff, brown and orange, silty CLAY (A-7-6), with roots and trace rock fragments, micaceous, moist
													RESIDUAL
													Medium stiff, brown, red, and orange, silty CLAY (A-7-6), with trace rock fragments, micaceous, moist
													6.0 Boring Terminated at Elevation 820.3 ft in CLAY (RESIDUAL)
													Kessler DCP Test performed to estimate soil strength

NCDOT BORE DOUBLE U6187_BORINGS.GPJ NC_DOT.GDT 5/3/24

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 48647.1.1				TIP U-6187		COUNTY DAVIE		GEOLOGIST Q. Hill						
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40										GROUND WTR (ft)				
BORING NO. Y42100		STATION 21+00		OFFSET 25 ft RT		ALIGNMENT -Y4-		0 HR.		Dry				
COLLAR ELEV. 827.7 ft		TOTAL DEPTH 8.5 ft		NORTHING 818,737		EASTING 1,567,855		24 HR.		FIAD				
DRILL RIG/HAMMER EFF./DATE N/A					DRILL METHOD Hand Auger			HAMMER TYPE N/A						
DRILLER J. Crenshaw			START DATE 12/20/23		COMP. DATE 12/20/23		SURFACE WATER DEPTH N/A							
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT				SAMP. NO.	 MOI	L O G	SOIL AND ROCK DESCRIPTION	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100			ELEV. (ft)	DEPTH (ft)
830														
825											M		827.7	GROUND SURFACE 0.0
													RESIDUAL Medium stiff, orange and brown, silty CLAY (A-7-6), trace root fragments, low to medium plasticity, moist	
820													819.2	8.5
													Boring Terminated at Elevation 819.2 ft in CLAY (RESIDUAL)	

WBS 48647.1.1			TIP U-6187			COUNTY DAVIE			GEOLOGIST Q. Hill					
SITE DESCRIPTION 2- Lane Extension of SR 1630 (Baltimore Road) From South of US 158 to I-40											GROUND WTR (ft)			
BORING NO. Y42600			STATION 46+00			OFFSET 70 ft LT			ALIGNMENT -Y4-			0 HR.	21.5	
COLLAR ELEV. 786.6 ft			TOTAL DEPTH 25.0 ft			NORTHING 822,755			EASTING 1,567,527			24 HR.	FIAD	
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 86% 04/11/2022						DRILL METHOD H.S. Augers			HAMMER TYPE Automatic					
DRILLER M. Brewer			START DATE 11/29/23			COMP. DATE 11/30/23			SURFACE WATER DEPTH N/A					
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				
790														
785	786.6	0.0	3	8	5									786.6 GROUND SURFACE 0.0
														785.7 10" TOPSOIL 0.9
	783.1	3.5	1	2	2						S-09	M		RESIDUAL Orange, brown, white, and tan, silty SAND (A-2-4), micaceous
780	780.6	6.0	1	1	2							M		
	778.1	8.5	1	1	2							M		
775												M		
	773.1	13.5	3	2	3							M		
770														
	768.1	18.5	WOH	1	2							M		769.6 Orange, SILT (A-4), micaceous, low to medium plasticity 17.0
765														
	763.1	23.5	WOH	1	2							M		761.6 Boring Terminated at Elevation 761.6 ft in SILT (RESIDUAL) 25.0

LABORATORY TESTING RESULTS

- 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- 37	0' CL	18+00	3. 7- 5. 2	A- 7- 5(13)	54	20	15. 5	23. 3	18. 9	42. 3	99. 5	92	66	13	-
SS- 25	0' CL	20+50	13. 5- 15	A- 5(0)	43	4	22. 6	49	16. 6	11. 8	99. 7	91	36	40	-
SS- 15	0' CL	22+50	3. 5- 5. 0	A- 7- 5(4 1)	73	43	5	12. 9	16. 1	65. 9	100	98	85	29	-
SS- 6	0' CL	26+50	3. 4- 4. 9	A- 7- 5(23)	7 1	21	4. 4	22. 1	23. 5	50	99. 9	98	78	37	-
SS- 1	0' CL	28+50	0. 0- 1. 5	A- 4(3)	36	10	17. 2	35. 4	25. 1	22. 3	94. 8	84	50	18	-
SS- 49	0' CL	33+00	3. 5- 5. 0	A- 7- 5(52)	87	47	1. 9	9. 5	17. 1	7 1. 5	99. 9	99	91	42	-
SS- 55	0' CL	35+00	6. 5- 8. 0	A- 7- 5(5)	50	11	20. 9	32. 5	18. 2	28. 4	100	89	53	35	-
SS- 57	0' CL	37+00	0. 0- 1. 5	A- 7- 6(11)	43	19	12. 5	25. 7	18. 6	43. 2	98. 8	92	65	19	-
SS- 62	0' CL	39+00	0. 0- 1. 5	A- 7- 6(18)	52	23	12. 7	15. 9	19. 7	51. 7	98. 6	92	73	29	8. 6
SS- 7 1	0' CL	43+00	3. 5- 5. 0	A- 7- 5(25)	66	22	7	10. 5	10. 7	7 1. 8	99. 9	96	85	24	-
SS- 82	30' RT	47+00	8. 5- 10. 0	A- 5(6)	50	8	10. 9	37. 3	20. 3	31. 5	100	96	61	22	-
SS- 86	30' LT	49+00	3. 5- 5. 0	A- 7- 5(29)	68	29	4. 9	16. 6	23. 2	55. 3	100	98	83	27	-
SS- 100	30' RT	51+00	8. 5- 10. 0	A- 5(2)	42	6	19. 6	39. 6	22. 1	18. 7	100	90	48	30	-
SS- 109	30' LT	53+00	18. 5- 20. 0	A- 5(3)	51	4	12. 1	42. 4	28. 3	17. 2	100	94	56	24	-
SS- 112	30' RT	55+00	3. 5- 5. 0	A- 7- 5(10)	50	13	13. 4	26. 2	26. 4	34	99. 8	94	67	22	-
SS- 116	30' RT	55+00	18. 5- 20. 0	A- 4(0)	36	3	27. 7	34. 4	27	10. 9	100	83	45	21	-
SS- 125	30' LT	57+00	18. 5- 20. 0	A- 4(0)	NP	NP	29. 1	39. 6	22. 5	8. 8	98. 1	84	38	29	-
SS- 197	0' CL	58+50	13. 5- 15. 0	A- 4(0)	32	3	46. 5	20. 9	19	13. 6	90. 6	57	34	-	-
SS- 130	0' CL	59+00	6. 5- 8. 0	A- 7- 5(8)	56	11	6. 4	44. 1	30. 6	19	100	98	60	40	-
SS- 203	0' CL	59+50	8. 5- 10. 0	A- 5(4)	55	9	22. 4	37. 1	24. 2	16. 3	95. 4	82	47	26	-
SS- 205	0' CL	59+50	18. 5- 20. 0	A- 4(1)	38	4	35. 1	20. 3	30. 8	13. 8	95	69	48	57	-
SS- 133	40' LT	61+00	0. 0- 1. 5	A- 7- 5(14)	49	19	14. 9	17. 5	23. 5	44. 2	97. 6	88	69	25	-
SS- 145	30' RT	63+00	0. 0- 1. 5	A- 7- 6(16)	53	26	19. 1	18. 1	19. 9	42. 9	90. 3	78	60	24	-
SS- 149	30' RT	63+00	13. 5- 15. 0	A- 7- 5(22)	56	18	2. 3	9. 3	48. 1	40. 3	99. 9	99	91	40	-
SS- 151	30' RT	63+00	23. 5- 25. 0	A- 4(0)	NP	NP	23. 8	30. 4	31. 5	14. 4	94. 9	80	50	37	-
SS- 163	10' LT	65+00	43. 5- 45. 0	A- 4(0)	31	3	29. 7	38. 6	22. 7	9. 1	99	87	39	23	-
SS- 165	120' LT	66+00	0. 0- 1. 5	A- 7- 6(9)	45	17	18. 1	25. 4	23. 9	32. 6	97. 6	87	59	59	5
SS- 167	120' LT	66+00	6. 5- 8. 0	A- 5(0)	49	4	32	37. 2	21. 8	8. 9	99. 6	82	38	49	-
SS- 172	120' LT	66+00	28. 5- 30. 0	A- 5(2)	44	9	14. 5	49. 1	23	13. 4	100	98	44	41	-
SS- 241	120' RT	66+00	0. 0- 1. 5	A- 6(6)	38	14	18. 5	29. 3	21. 8	30. 4	97. 2	87	56	53	-
SS- 246	120' RT	66+00	18. 5- 20. 0	A- 4(0)	33	5	20. 7	40. 9	29. 4	9	100	92	48	31	-
SS- 249	120' RT	66+00	33. 5- 33. 9	A- 2- 4(0)	NP	NP	56. 6	31. 7	9. 4	2. 4	84. 1	56	13	12	-
SS- 207	80' RT	67+00	0. 0- 1. 5	()	NEM	-	25. 9	22. 9	24. 1	27. 1	86. 3	72	47	-	10. 2
SS- 208	80' RT	67+00	3. 5- 5. 0	A- 5(9)	58	9	4. 9	37. 6	32. 5	25	100	99	67	56	-
SS- 211	80' RT	67+00	13. 5- 15. 0	A- 2- 4(0)	NP	NP	37. 9	41. 4	12. 4	8. 3	97. 7	79	26	55	-
SS- 232	70' LT	69+00	8. 5- 10. 0	A- 7- 6(4)	49	23	44	18. 6	13	24. 4	84. 2	56	34	22	-
SS- 394	21' LT	72+09	34. 4- 35. 9	A- 5(1)	54	5	16. 2	46. 2	26. 1	11. 5	100	96	46	66	-

- L P 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- 1067	20' RT	10 +50	18. 5- 20. 0	A- 5(6)	53	8	12. 8	34	42. 9	10. 3	100	96	61	58	-

- R P 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- 360	30' LT	13 +50	0. 0- 1. 5	A- 7- 6(11)	47	20	21. 2	21. 7	29. 4	27. 7	89. 5	77	54	40	-
SS- 358	35' RT	15 +50	13. 5- 15. 0	A- 7- 5(19)	66	26	15. 1	22. 3	35. 7	26. 8	98. 5	88	66	62	-
SS- 405	25' RT	21 +50	8. 5- 10. 0	A- 7- 5(21)	63	16	2. 5	16. 8	43. 5	37. 2	100	99	87	50	-

- R P D -

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- 265	15' LT	20 +00	8. 5- 10. 0	A- 7- 5(36)	72	33	2. 8	10. 6	48. 9	37. 8	100	99	89	70	-

- Y 1 -

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- 106	25' RT	12 +50	3. 5- 5. 0	A- 7- 5(35)	73	35	5. 9	22. 3	12. 6	59. 2	99. 8	97	84	31	-

- Y 2 -

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- 480	55' RT	29 +55	6. 0- 7. 5	A- 4(0)	33	3	10	48	27. 9	14	97	93	52	42	-
SS- 9006	14' RT	30 +00	3. 5- 5. 0	A- 7- 5(15)	50	16	10. 1	15. 5	37. 7	36. 7	99. 4	94	77	33	-
SS- 487	120' RT	32 +05	18. 5- 20. 0	A- 4(4)	39	7	16. 7	26. 8	40. 9	15. 6	93. 4	84	59	41	-
SS- 1015	13' RT	40 +00	3. 5- 5. 0	A- 7- 5(25)	67	28	12. 7	12. 8	14. 5	59. 9	95. 8	87	74	26	-
SS- 523	7' RT	40 +00	1. 3- 1. 8	A- 7- 6(16)	52	24	17. 3	19. 1	28. 9	34. 8	93. 8	83	64	16	-
SS- 1010	14' RT	45 +00	0. 0- 1. 5	A- 7- 6(20)	59	30	20. 4	15. 4	22. 7	41. 5	89. 9	78	60	32	-
SS- 1011	14' RT	45 +00	3. 5- 5. 0	A- 7- 6(4)	42	13	38. 1	17. 7	25. 6	18. 7	86. 8	61	42	21	-
SS- 519	7' RT	50 +00	2. 0- 3. 5	A- 7- 5(13)	51	18	13. 5	21. 7	32. 3	32. 5	90. 7	83	64	21	-
SS- 1022	6' RT	55 +00	1. 5- 3. 0	A- 7- 5(25)	62	22	2. 6	15. 9	41. 5	40	99. 8	99	87	37	-

- Y 4 -

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- 30	20' LT	11 +50	0. 0- 1. 5	A- 7- 6(19)	55	31	19. 8	18. 9	37. 9	23. 5	86. 9	76	56	22	-

CONE PENETROMETER RESULTS

Page 73

PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

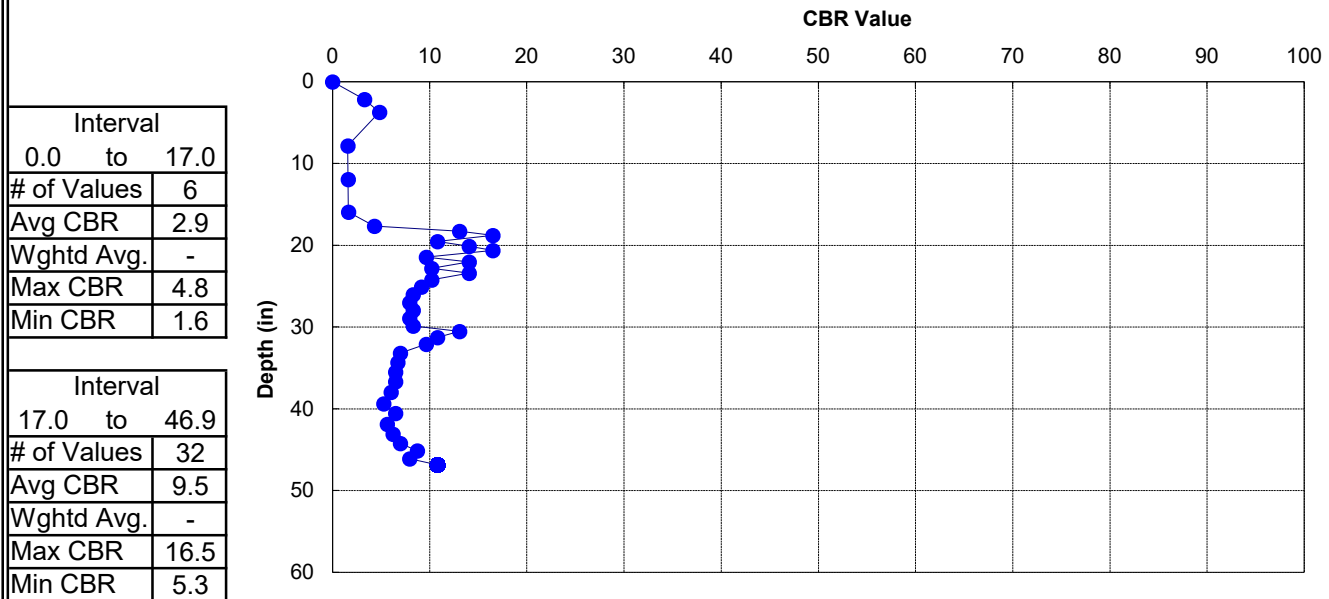
GEOLOGIST	Quinton Hill
GEOTECH(S)	J. Rose
	J. Crenshaw
	M. Brewer

L1250

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01/04/2024

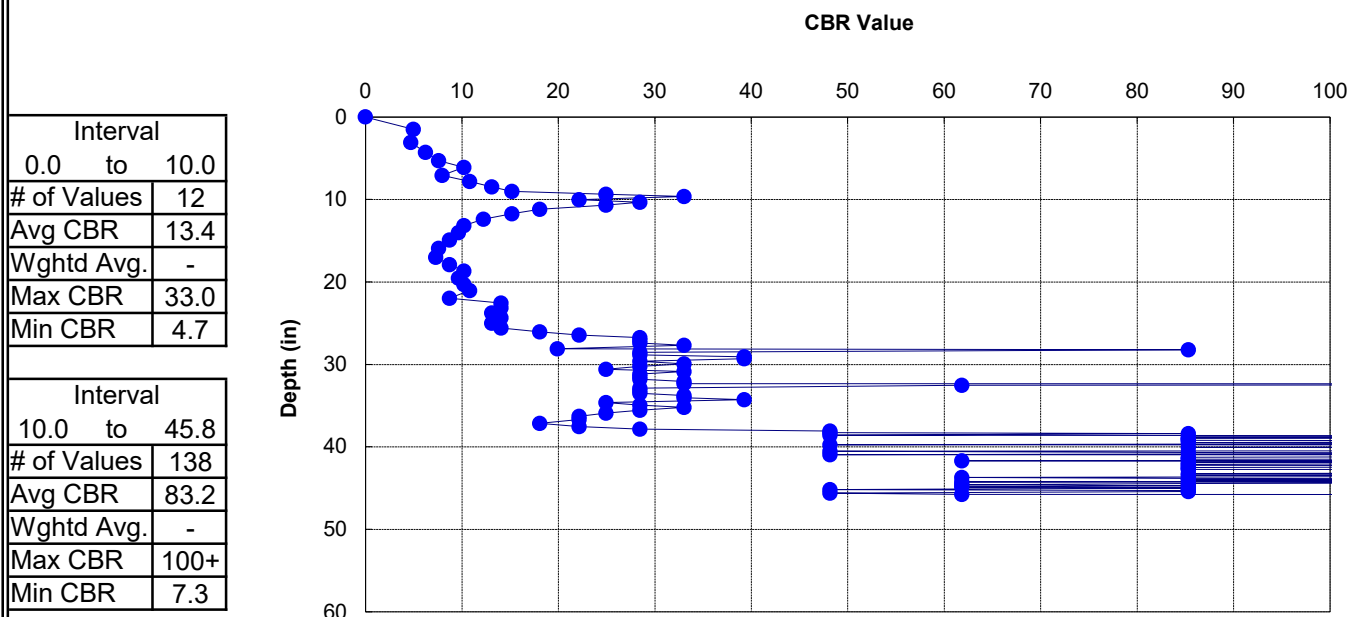


L1400

2

Datum = Exstg Grd Lvl

01/04/2024



CONE PENETROMETER RESULTS

Page 74

PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

L1600-A

3

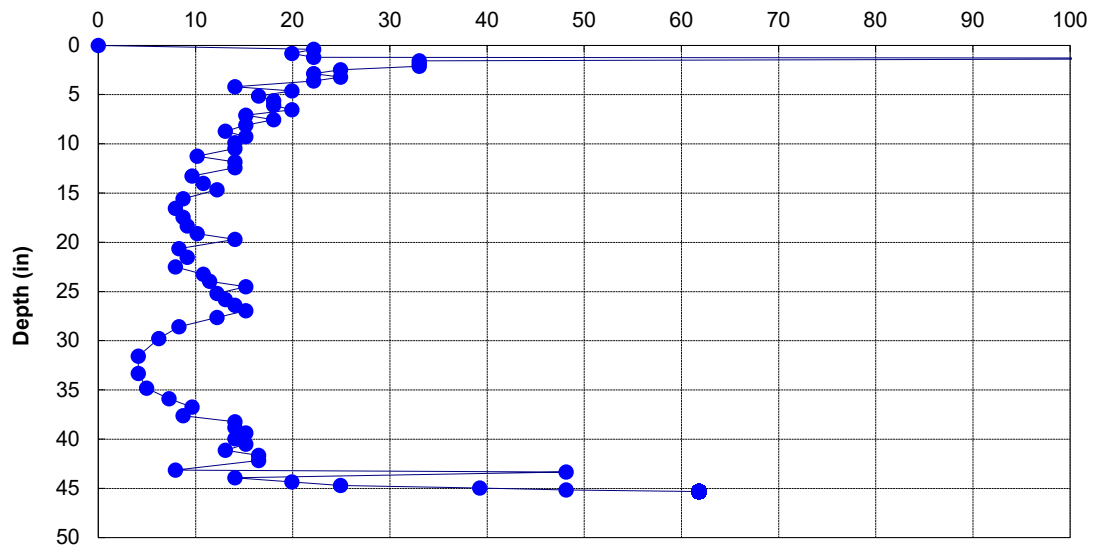
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01/04/2024

CBR Value

Interval	
0.0	to 26.0
# of Values	45
Avg CBR	18.6
Wghtd Avg.	-
Max CBR	100+
Min CBR	7.9

Interval	
26.0	to 45.3
# of Values	26
Avg CBR	17.8
Wghtd Avg.	-
Max CBR	61.8
Min CBR	4.1



L1600-B

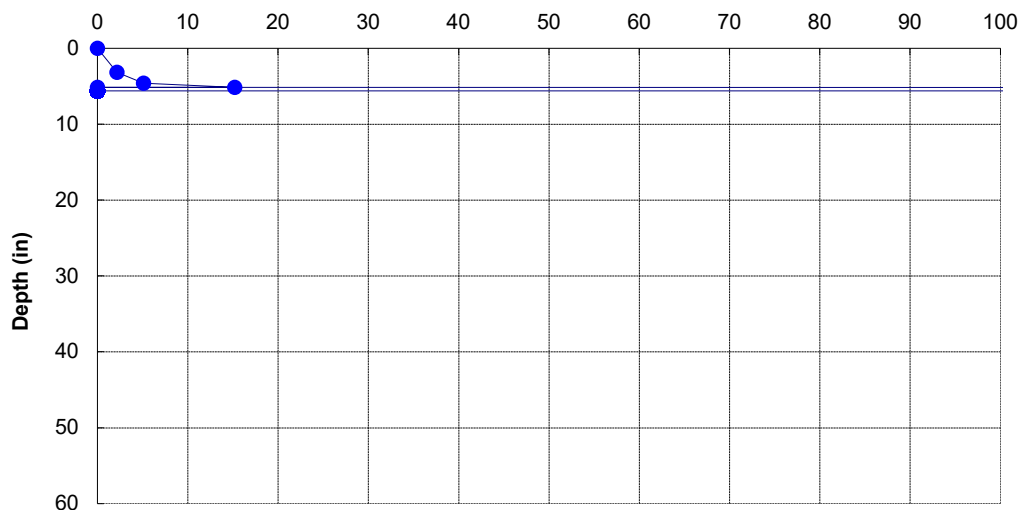
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Datum = Exstg Grd Lvl

01/04/2024

CBR Value

Interval	
0.0	to 5.2
# of Values	3
Avg CBR	7.5
Wghtd Avg	-
Max CBR	15.2
Min CBR	2.2



CONE PENETROMETER RESULTS

Page 75

PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

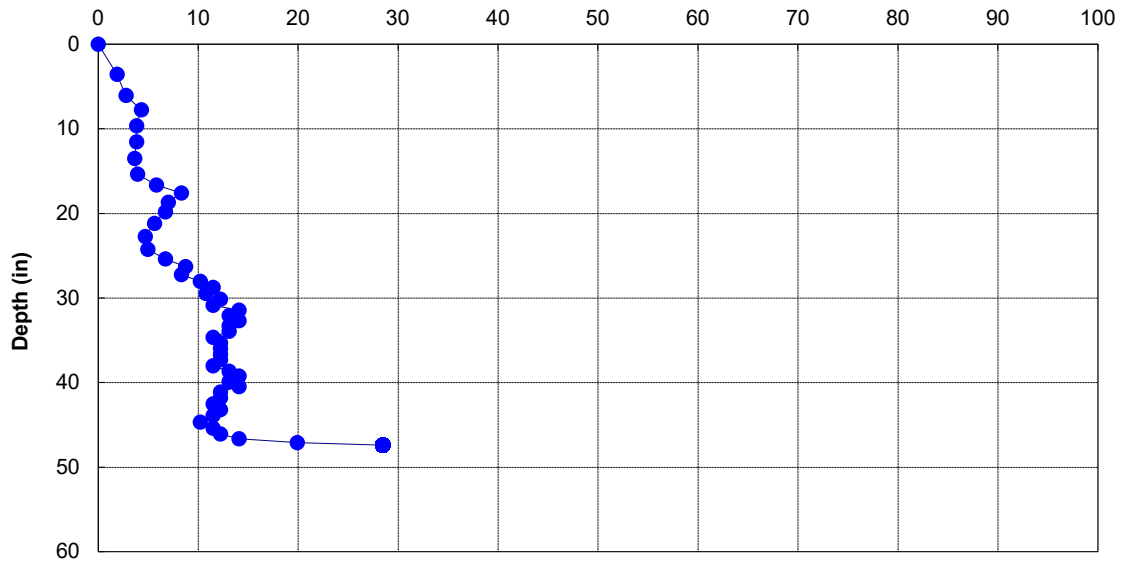
Y11450

5

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CBR Value

Interval	0.0 to 47.4
# of Values	48
Avg CBR	10.3
Wghtd Avg.	-
Max CBR	28.4
Min CBR	1.9



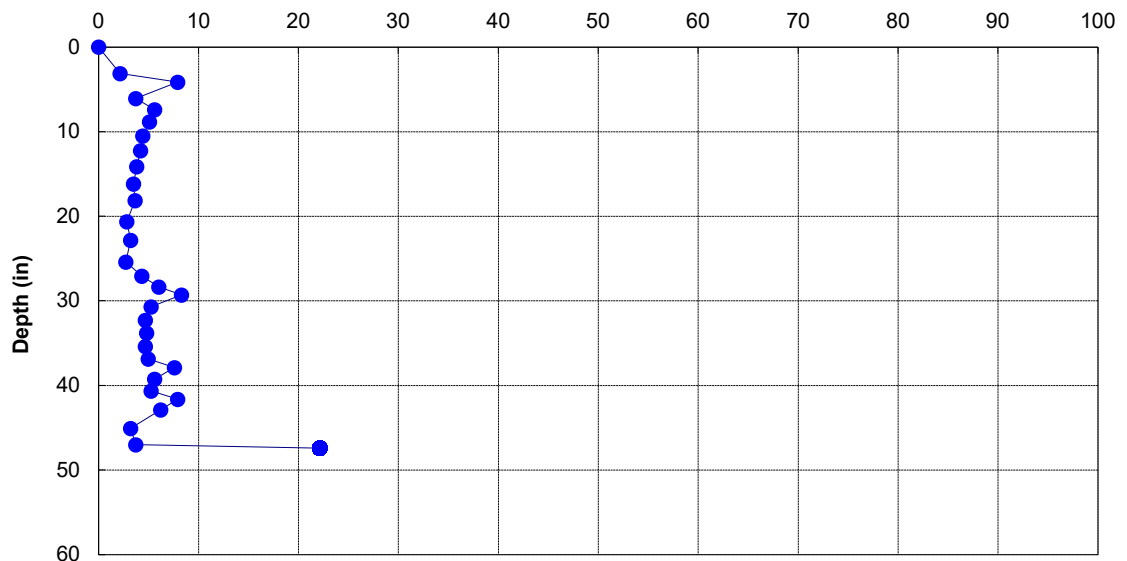
Y11650

6

Datum = Exstg Grd Lvl 01/04/2024

CBR Value

Interval	0.0 to 47.4
# of Values	29
Avg CBR	5.4
Wghtd Avg.	-
Max CBR	22.2
Min CBR	2.2



CONE PENETROMETER RESULTS

Page 76

PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

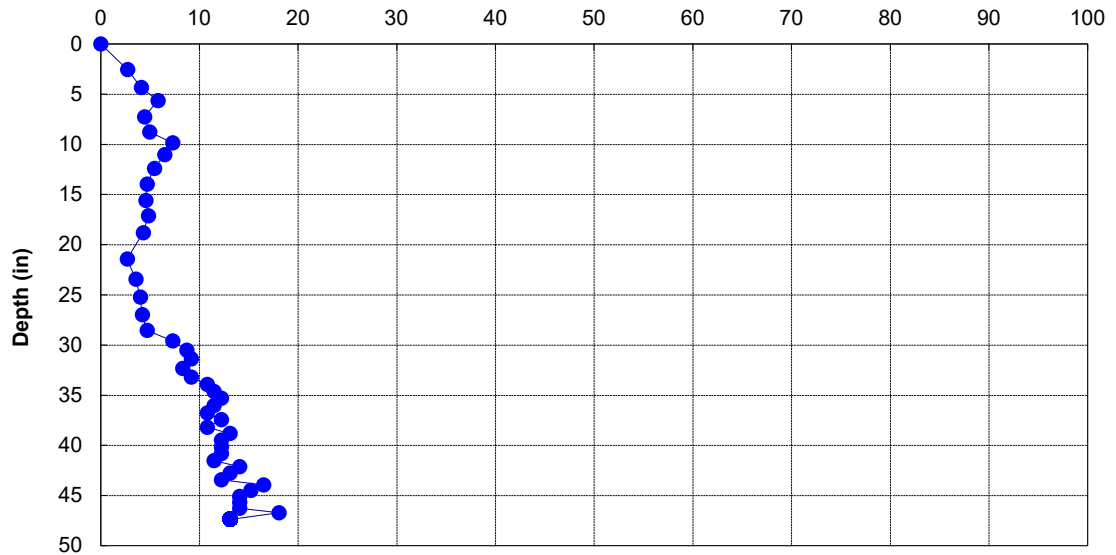
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7

Datum = Exstg Grd Lvl 01/04/2024

CBR Value

Interval	0.0 to 47.4
# of Values	44
Avg CBR	9.2
Wghtd Avg.	-
Max CBR	18.1
Min CBR	2.7



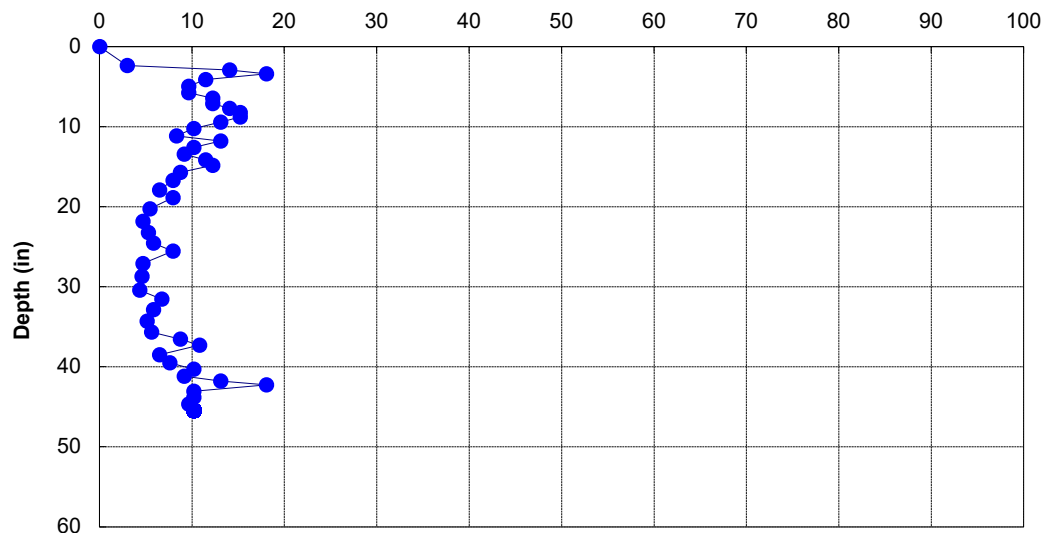
Y12850

8

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CBR Value

Interval	0.0 to 45.5
# of Values	47
Avg CBR	9.4
Wghtd Avg.	-
Max CBR	18.1
Min CBR	3.0



CONE PENETROMETER RESULTS

Page 77

PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

Y13050

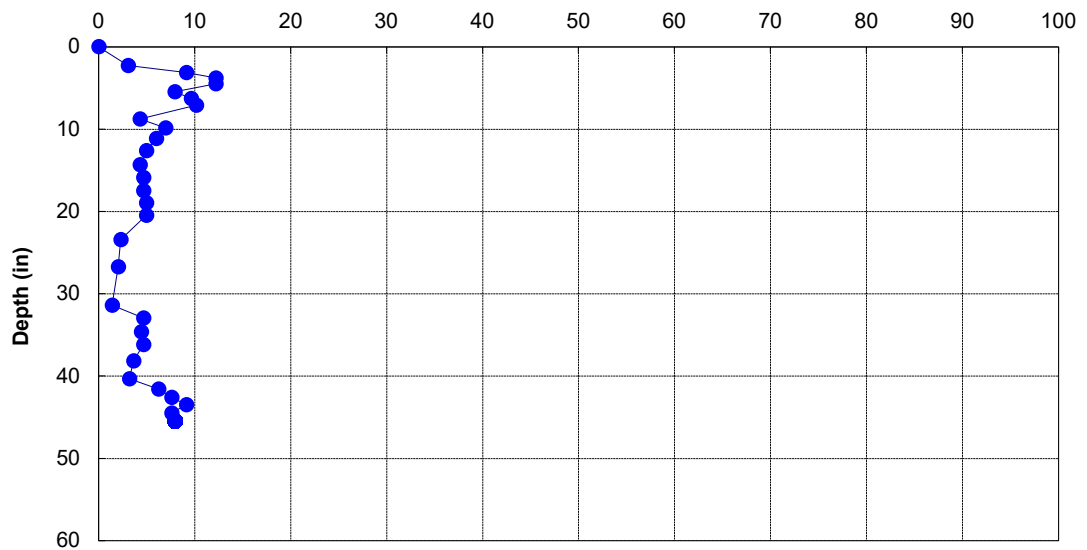
9

Datum = Exstg Grd Lvl

12/20/2023

CBR Value

Interval	0.0 to 45.5
# of Values	29
Avg CBR	6.0
Wghtd Avg.	-
Max CBR	12.2
Min CBR	1.4



Y13250

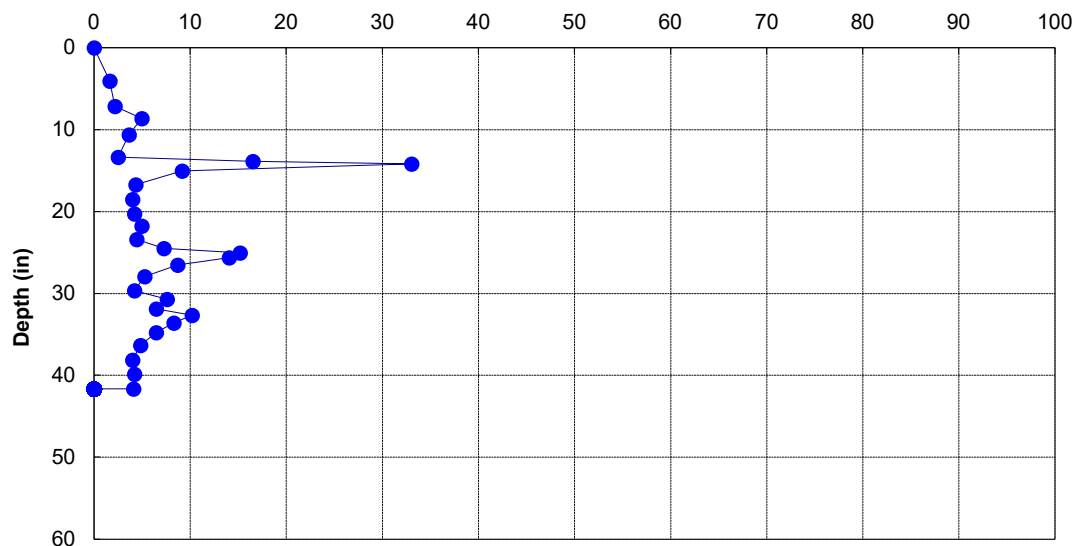
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12/20/2023

CBR Value

Interval	0.0 to 41.7
# of Values	28
Avg CBR	7.4
Wghtd Avg.	-
Max CBR	33.0
Min CBR	1.6



CONE PENETROMETER RESULTS

Page 78

PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

Y13450

11

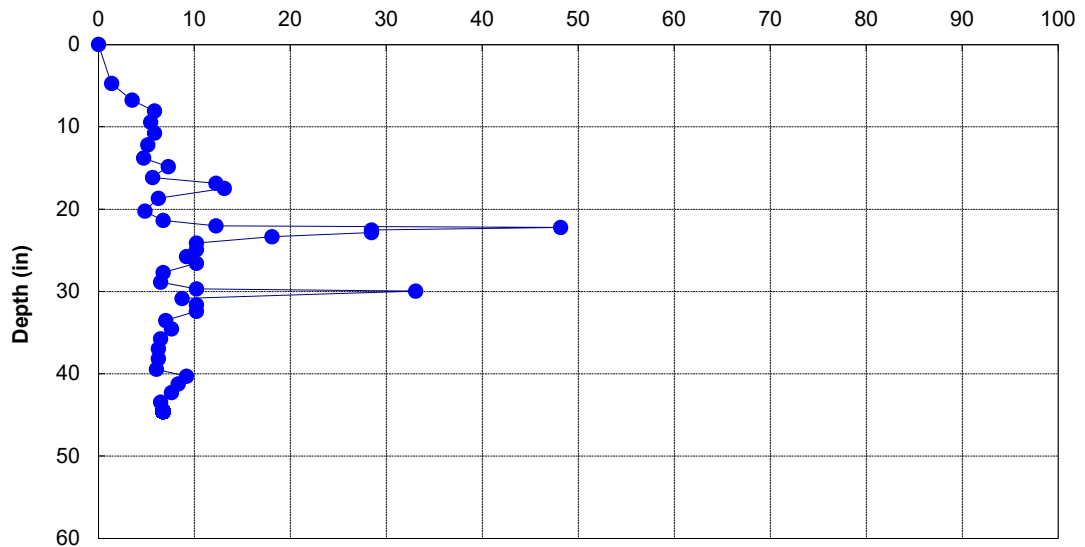
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12/20/2023

CBR Value

Interval	
0.0	to 22.9
# of Values	19
Avg CBR	11.7
Wghtd Avg.	-
Max CBR	48.1
Min CBR	1.4

Interval	
22.9	to 44.6
# of Values	22
Avg CBR	9.2
Wghtd Avg.	-
Max CBR	33.0
Min CBR	6.0



Y31010

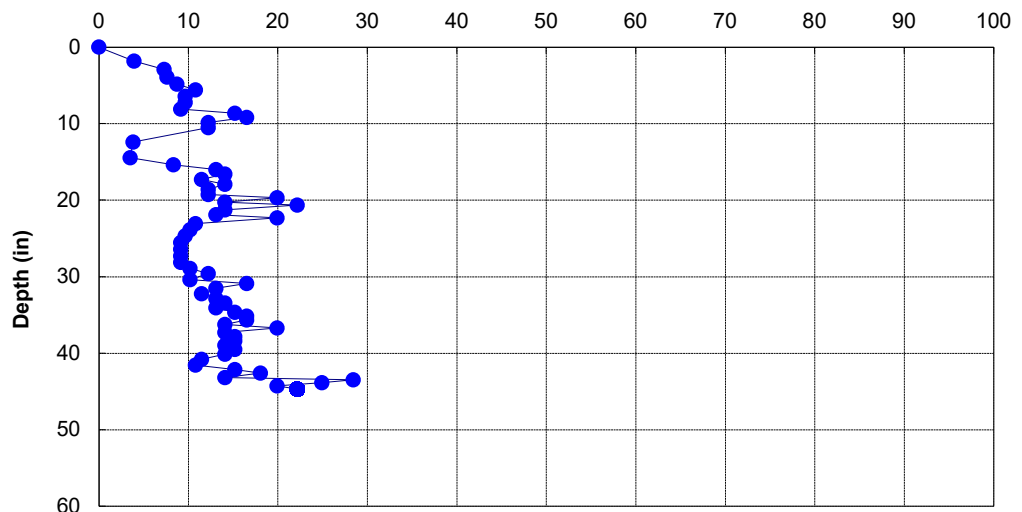
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Datum = Exstg Grd Lvl

12/20/2023

CBR Value

Interval	
0.0	to 44.7
# of Values	63
Avg CBR	13.3
Wghtd Avg.	-
Max CBR	28.4
Min CBR	3.5



CONE PENETROMETER RESULTS

Page 79

PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

Y41520

13

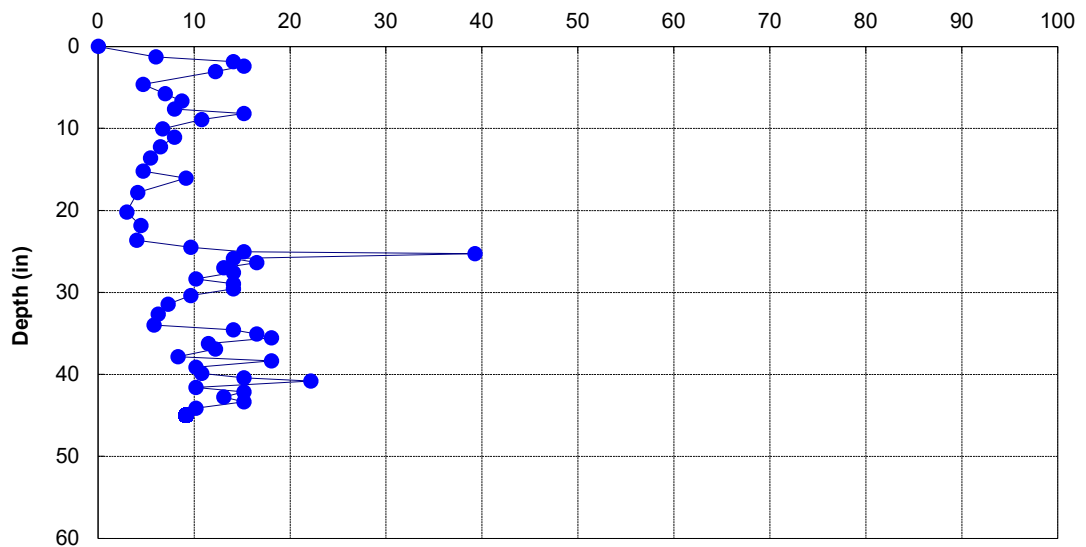
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01/04/2024

CBR Value

Interval	0.0 to 17.4
# of Values	17
Avg CBR	8.6
Wghtd Avg.	-
Max CBR	15.2
Min CBR	4.1

Interval	17.4 to 45.0
# of Values	34
Avg CBR	-
Wghtd Avg.	2.6
Max CBR	39.3
Min CBR	3.0



Y42100

14

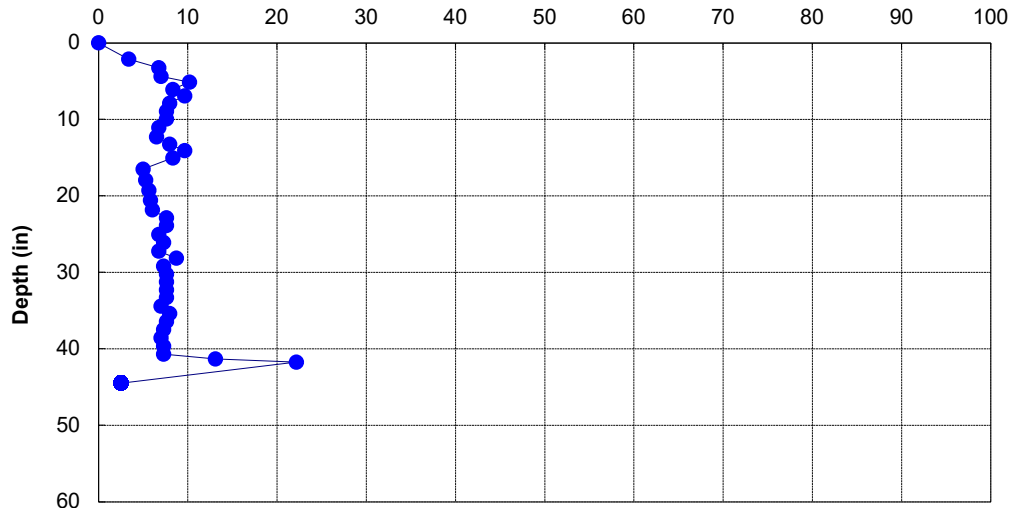
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12/20/2023

CBR Value

Interval	0.0 to 30.6
# of Values	28
Avg CBR	7.2
Wghtd Avg.	-
Max CBR	10.2
Min CBR	3.4

Interval	30.6 to 44.5
# of Values	12
Avg CBR	8.7
Wghtd Avg.	-
Max CBR	22.2
Min CBR	2.5



CONE PENETROMETER RESULTS

Page 80

PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

RPC1600

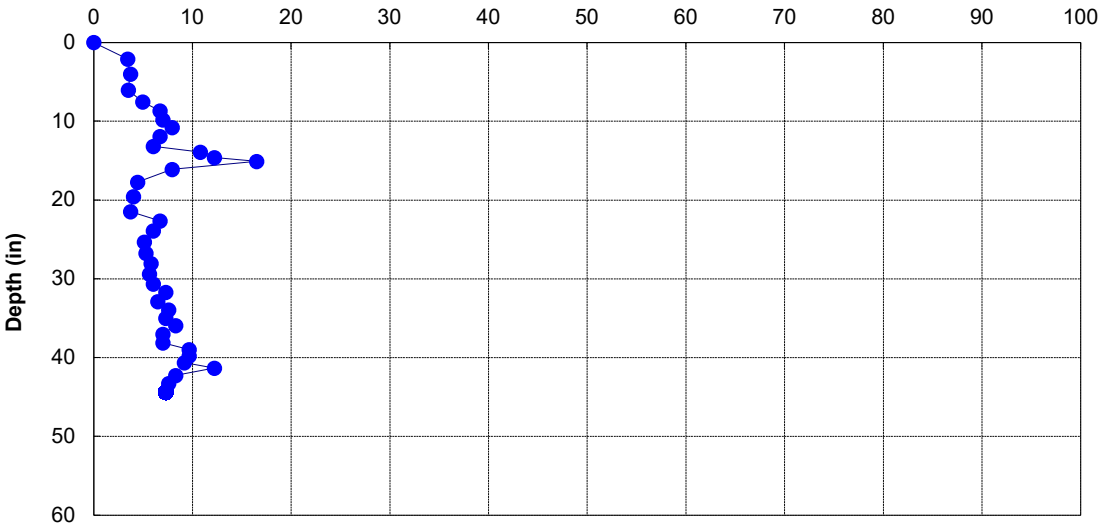
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Datum = Exstg Grd Lvl

12/20/2023

CBR Value

Interval	
0.0	to 45.5
# of Values	29
Avg CBR	6.0
Wghtd Avg.	-
Max CBR	12.2
Min CBR	1.4



PROJECT: 48647 REFERENCE: U-6187

SEE SHEET 3 FOR PLAN SHEET LAYOUT
AT TIME OF INVESTIGATION

CONTENTS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
2	LEGEND (SOIL AND ROCK)
3	ROADWAY TITLE SHEET
4-12	PLAN SHEETS
13-16	PAVEMENT DATA SHEETS
17-32	DCP RAW DATA LOGS
33-42	PAVEMENT CORE PHOTOS

APPENDIX A

<u>TITLE</u>	<u>SHEETS</u>
SOIL TEST RESULTS	43-54

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

ROADWAY
SUBSURFACE INVESTIGATION

COUNTY DAVIE
PROJECT DESCRIPTION CONSTRUCT 2-LANE EXTENSION
OF SR 1630 (BALTIMORE ROAD) ON NEW LOCATION
FROM SOUTH OF US 158 TO I-40
PAVEMENT & SUBGRADE INVESTIGATION

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6187	1	

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 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:
- 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

Q. HILL

CG2 EXPLORATION

R. MAFFIA

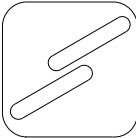
INVESTIGATED BY J. CRENSHAW

DRAWN BY Q. HILL

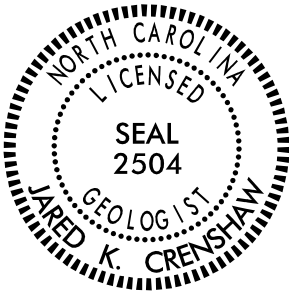
CHECKED BY J. CRENSHAW

SUBMITTED BY SCHNABEL ENG.

DATE APRIL 2024



Schnabel
ENGINEERING



DocuSigned by:

Jared Crenshaw

06/19/2024

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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

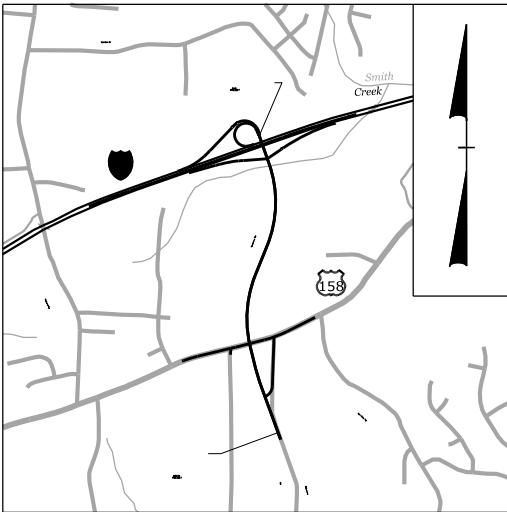
SOIL DESCRIPTION										GRADATION										ROCK DESCRIPTION										TERMS AND DEFINITIONS									
SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, <i>VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6</i>										WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.										HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED. AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:										ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. AQUIFER - A WATER BEARING FORMATION OR STRATA. ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC. ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE. CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE. CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK. DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOGGED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT. LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM. RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK. SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.									
SOIL LEGEND AND AASHTO CLASSIFICATION										ANGULARITY OF GRAINS										WEATHERED ROCK (WR)										CRYSTALLINE ROCK (CR)									
GENERAL CLASS.		GRANULAR MATERIALS (≤ 35% PASSING #200)					SILT-CLAY MATERIALS (> 35% PASSING #200)					ORGANIC MATERIALS					CRYSTALLINE ROCK (CR)		NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.								FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.												
GROUP CLASS.	A-1-a	A-1-b	A-3	A-2-4	A-2	A-2-5	A-2-6	A-2-7	A-4	A-5	A-6	A-7	A-1, A-2 A-3	A-4, A-5 A-6, A-7	NON-CRYSTALLINE ROCK (NCR)		FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.								COASTAL PLAIN SEDIMENTARY ROCK (CP)		COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.												
SYMBOL																																							
% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX	51 MN 10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN	36 MN	GRANULAR SOILS		SILT-CLAY SOILS		MUCK, PEAT		SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER								HIGHLY ORGANIC SOILS												
MATERIAL PASSING #40 LL PI	— 6 MX		— NP		40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	GRANULAR SOILS		SILT-CLAY SOILS		MUCK, PEAT		SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER								HIGHLY ORGANIC SOILS												
GROUP INDEX	0		0		0		4 MX		8 MX		12 MX		16 MX		NO MX																								
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS, GRAVEL, AND SAND		FINE SAND		SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS		CLAYEY SOILS																												
GEN. RATING AS SUBGRADE	EXCELLENT TO GOOD				FAIR TO POOR				FAIR TO POOR		POOR		UNSUITABLE																										
PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30																																							
CONSISTENCY OR DENSENESS										MISCELLANEOUS SYMBOLS										ROCK HARDNESS										BENCH MARK:									
PRIMARY SOIL TYPE		COMPACTNESS OR CONSISTENCY		RANGE OF STANDARD PENETRATION RESISTENCE (IN-VALUE)				RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)				ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION		25/025 DIP & DIP DIRECTION OF ROCK STRUCTURES		SLOPE INDICATOR INSTALLATION		SEVERE (SEV.)		ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF		VERY SEVERE (V SEV.)		ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF		COMPLETE		ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.											
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)		VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE		< 4 4 TO 10 10 TO 30 30 TO 50				N/A				SOIL SYMBOL		TEST BORING		CONE PENETROMETER TEST		SEVERE (SEV.)		ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF		VERY SEVERE (V SEV.)		ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF		COMPLETE		ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.											
GENERALLY SILT-CLAY MATERIAL (COHESIVE)		VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD		< 2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 > 30				< 0.25 0.25 TO 0.5 0.5 TO 1.0 1 TO 2 2 TO 4 > 4				INFERRED SOIL BOUNDARY		CORE BORING		SOUNDING ROD		SEVERE (SEV.)		ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF		VERY SEVERE (V SEV.)		ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF		COMPLETE		ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.											
TEXTURE OR GRAIN SIZE										RECOMMENDATION SYMBOLS										ROCK HARDNESS										BENCH MARK:									
U.S. STD. SIEVE SIZE OPENING (MM)		4 4.75		10 2.00		40 0.42		60 0.25		200 0.075		270 0.053		UNDERCUT		UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE		UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL		HARD		CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.		MODERATELY HARD		CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.		MEDIUM HARD		CAN BE GROUVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.		SOFT		CAN BE GROUVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.		VERY SOFT		CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.	
BOULDER (BLDR.)										COBBLE (COB.)		GRAVEL (GR.)		COARSE SAND (CSE, SD.)		FINE SAND (F SD.)		SILT (SL.)		CLAY (CL.)		HARD		CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.		MODERATELY HARD		CAN BE GROUVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.		SOFT		CAN BE GROUVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.		VERY SOFT		CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.			
GRAIN SIZE										305 12		75 3		2.0		0.25		0.05		0.005		HARD		CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.		MODERATELY HARD		CAN BE GROUVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.		SOFT		CAN BE GROUVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.		VERY SOFT		CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.			
SOIL MOISTURE - CORRELATION OF TERMS										EQUIPMENT USED ON SUBJECT PROJECT										INDURATION										NOTES:									
SOIL MOISTURE SCALE (ATTERBERG LIMITS)		FIELD MOISTURE DESCRIPTION		GUIDE FOR FIELD MOISTURE DESCRIPTION						AR - AUGER REFUSAL		MED. - MEDIUM MICA. - MICACEOUS MOD. - MODERATELY NP - NON PLASTIC		VST - VANE SHEAR TEST		WEA. - WEATHERED		UNIT WEIGHT		DRY UNIT WEIGHT		SAMPLE ABBREVIATIONS		TERM		SPACING		TERM		THICKNESS		BENCH MARK:							
- SATURATED - (SAT.)		USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE		CSE. - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS. - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES FRAGS. - FRAGMENTS HL. - HIGHLY		PMT - PRESSUREMETER TEST SAP. - SAPROLITIC SD. - SAND, SANDY SL. - SILT, SILTY SLI. - SLIGHTLY TCR - TRICONE REFUSAL w - MOISTURE CONTENT v - VERY		S - BULK SS - SPLIT SPOON ST - SHELBY TUBE RS - ROCK RT - RECOMPACTED TRIAXIAL CBR - CALIFORNIA BEARING RATIO		CL. - CLAY CPT - CONE PENETRATION TEST CSE. - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS. - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES FRAGS. - FRAGMENTS HL. - HIGHLY		MED. - MEDIUM MICA. - MICACEOUS MOD. - MODERATELY NP - NON PLASTIC		VST - VANE SHEAR TEST		WEA. - WEATHERED		UNIT WEIGHT		DRY UNIT WEIGHT		SAMPLE ABBREVIATIONS		TERM		SPACING		TERM		THICKNESS		BENCH MARK:							
- WET - (W)		SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE		CSE. - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS. - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES FRAGS. - FRAGMENTS HL. - HIGHLY		PMT - PRESSUREMETER TEST SAP. - SAPROLITIC SD. - SAND, SANDY SL. - SILT, SILTY SLI. - SLIGHTLY TCR - TRICONE REFUSAL w - MOISTURE CONTENT v - VERY		S - BULK SS - SPLIT SPOON ST - SHELBY TUBE RS - ROCK RT - RECOMPACTED TRIAXIAL CBR - CALIFORNIA BEARING RATIO		CL. - CLAY CPT - CONE PENETRATION TEST CSE. - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS. - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES FRAGS. - FRAGMENTS HL. - HIGHLY		MED. - MEDIUM MICA. - MICACEOUS MOD. - MODERATELY NP - NON PLASTIC		VST - VANE SHEAR TEST		WEA. - WEATHERED		UNIT WEIGHT		DRY UNIT WEIGHT		SAMPLE ABBREVIATIONS		TERM		SPACING		TERM		THICKNESS		BENCH MARK:							
- MOIST - (M)		SOLID; AT OR NEAR OPTIMUM MOISTURE		CSE. - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS. - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES FRAGS. - FRAGMENTS HL. - HIGHLY		PMT - PRESSUREMETER TEST SAP. - SAPROLITIC SD. - SAND, SANDY SL. - SILT, SILTY SLI. - SLIGHTLY TCR - TRICONE REFUSAL w - MOISTURE CONTENT v - VERY		S - BULK SS - SPLIT SPOON ST - SHELBY TUBE RS - ROCK RT - RECOMPACTED TRIAXIAL CBR - CALIFORNIA BEARING RATIO		CL. - CLAY CPT - CONE PENETRATION TEST CSE. - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS. - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES FRAGS. - FRAGMENTS HL. - HIGHLY		MED. - MEDIUM MICA. - MICACEOUS MOD. - MODERATELY NP - NON PLASTIC		VST - VANE SHEAR TEST		WEA. - WEATHERED		UNIT WEIGHT		DRY UNIT WEIGHT		SAMPLE ABBREVIATIONS		TERM		SPACING		TERM		THICKNESS		BENCH MARK:							
- DRY - (D)		REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE		CSE. - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS. - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES FRAGS. - FRAGMENTS HL. - HIGHLY		PMT - PRESSUREMETER TEST SAP. - SAPROLITIC SD. - SAND, SANDY SL. - SILT, SILTY SLI. - SLIGHTLY TCR - TRICONE REFUSAL w - MOISTURE CONTENT v - VERY		S - BULK SS - SPLIT SPOON ST - SHELBY TUBE RS - ROCK RT - RECOMPACTED TRIAXIAL CBR - CALIFORNIA BEARING RATIO		CL. - CLAY CPT - CONE PENETRATION TEST CSE. - COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATIO F - FINE FOSS. - FOSSILIFEROUS FRAC. - FRACTURED, FRACTURES FRAGS. - FRAGMENTS HL. - HIGHLY		MED. - MEDIUM MICA. - MICACEOUS MOD. - MODERATELY NP - NON PLASTIC		VST - VANE SHEAR TEST		WEA. - WEATHERED		UNIT WEIGHT		DRY UNIT WEIGHT		SAMPLE ABBREVIATIONS		TERM		SPACING		TERM		THICKNESS		BENCH MARK:							
PLASTICITY										EQUIPMENT USED ON SUBJECT PROJECT										INDURATION										NOTES:									
NON PLASTIC		SLIGHTLY PLASTIC		MODERATELY PLASTIC		HIGHLY PLASTIC		PLASTICITY INDEX (PI)		DRY STRENGTH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:									
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS:		ADVANCING TOOLS:		HAMMER TYPE:		CORE SIZE:		HAND TOOLS:		FRIABLE		MODERATELY INDURATED		INDURATED		EXTREMELY INDURATED		BENCH MARK:					
0-5		6-15		16-25		26 OR MORE		VERY LOW		SLIGHT		MEDIUM		HIGH		DRILL UNITS																							

09/08/25

TIP PROJECT: U-6187

CONTRACT: TBD

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Plan Sheet Symbols



VICINITY MAP (NTS)

DESIGN RECOMMENDATION PLANS

(PLANS DEVELOPED USING
OPENROADS DESIGNER)

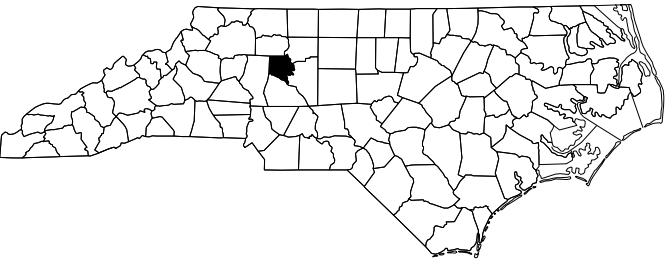
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DAVIE COUNTY

LOCATION: *REALIGNMENT AND EXTENSION OF SR 1630
(BALTIMORE ROAD) FROM SOUTH OF US 158
TO A NEW INTERCHANGE AT I-40*

TYPE OF WORK: *GRADING, PAVING, DRAINAGE, AND STRUCTURES*

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6187	3	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
48647.1.1		PE	



BEGIN TIP PROJECT U-6187
-L- STA. 10+30.00

END TIP PROJECT U-6187
-L- STA. 72+80.54

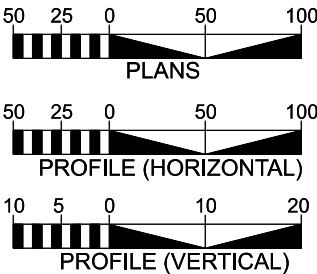
END PROP. BRIDGE
-L- STA. 72+09 ±

PROPOSED BRIDGE

END CONSTRUCTION
-Y2- STA. 54+04.08 LT

THIS PROJECT IS NOT WITHIN A MUNICIPAL BOUNDARY.
THIS IS A CONTROL OF ACCESS PROJECT WITH ACCESS TO I-40 BEING LIMITED TO INTERCHANGES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

GRAPHIC SCALES



DESIGN DATA

ADT 2025 = 8,100
ADT 2045 = 21,200
K = 10 %
D = 55 %
T = 8 % *
V = 60 MPH
* TTST =6% DUAL 2%
FUNC CLASS =
MAJOR COLLECTOR
STATE WIDE TIER

PROJECT LENGTH

PROJECT LENGTHS FOR TIP PROJECT U-6187:
LENGTH ROADWAY TIP PROJECT U-6187 = 1.139 MILES
LENGTH STRUCTURES TIP PROJECT U-6187 = 0.045 MILES
TOTAL LENGTH TIP PROJECT U-6187 = 1.184 MILES

NCDOT Contact: RYAN C. NEWCOMB, PE
Prepared in the Office of:



2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 30, 2024

JONATHAN P. SOIKA, P.E.
PROJECT ENGINEER

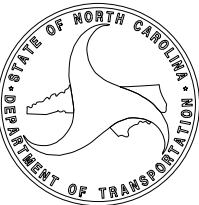
LETTING DATE:
JUNE 17, 2025

JERRY B. JAVELLANA, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____
ROADWAY DESIGN ENGINEER

SIGNATURE: _____
P.E.





-NONE- START 0+00.00

-NONE- PC 10+76.70

L_PC_1300_WB_LN		L_PC_1300_EB_LN	
PAVEMENT STRUCTURE		PAVEMENT STRUCTURE	
ASPHALT	8.5"	ASPHALT	10.0"
ABC	10.0"	ABC	12.0"

Y4_PC_1370_EB_LN	
PAVEMENT STRUCTURE	
ASPHALT	6.25"
ABC	14.75"

FOR -L- PROFILE SEE SHEET 13
FOR -Y4- PROFILE SEE SHEET 19

MATCH LINE -L- STA 24+00.00 SEE SHEET 05

2RD104

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DAVIE COUNTY

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

VHB Engineering, Inc. P.C. (C-3705)
940 Main Campus Drive, Suite 500
Raleigh, NC 27605

MATCH LINE -L- STA 24+00.00 SEE SHEET 04

MATCH LINE -Y1- STA 21+00.00 SEE SHEET 09



MATCH LINE -L- STA 38+00.00 SEE SHEET 06

MATCH LINE -Y1- STA 30+00.00 SEE SHEET 10

FOR -L- PROFILE SEE SHEETS 13 & 14
FOR -Y1- PROFILE SEE SHEET 16
FOR -Y4- PROFILE SEE SHEET 19

2R01 05

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DAVIE COUNTY



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY



MATCH LINE -L- STA 38+00.00 SEE SHEET 05



MATCH LINE -L- STA 52+00.00 SEE SHEET 07

FOR -L- PROFILE SEE SHEET 14

U-6187	
2RD1	06
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DAVIE COUNTY	
	
ROADWAY DESIGN UNIT ROADWAY DESIGN ENGINEER	
HYDRAULICS ENGINEER	
PREPARED BY	
 vhb Engineering, Inc. P.C. (C-3705) 840 Main Campus Drive, Suite 500 Raleigh, NC 27606	



FOR -L- PROFILE SEE SHEETS 14 & 15

U-6187	
2RD1	07
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DAVIE COUNTY	
	
ROADWAY DESIGN UNIT ROADWAY DESIGN ENGINEER	
HYDRAULICS ENGINEER	
PREPARED BY	
 vhb Engineering, Inc. P.L.L.C. (C-3705) 940 Main Campus Drive, Suite 500 Raleigh, NC 27606	





FOR -L- PROFILE SEE SHEET 15
FOR -LPB- PROFILE SEE SHEET 20
FOR -RPB- PROFILE SEE SHEET 21
FOR -RPC- PROFILE SEE SHEET 22
FOR -RPD- PROFILE SEE SHEET 23
FOR -Y2- EXISTING PROFILE SEE SHEETS 17 & 18

MATCH LINE -Y1- STA 30+00.00 SEE SHEET 05



Y1_PC_3350_WB WDNG		Y1_PC_3350_CENTER LTL		Y1_PC_3350_EB LN WDNG	
PAVEMENT STRUCTURE		PAVEMENT STRUCTURE		PAVEMENT STRUCTURE	
ASPHALT	14.0"	ASPHALT	9.0"	ASPHALT	14.0"
		CONCRETE	7.5"		

FOR -Y1- PROFILE SEE SHEET 16

2R0110

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DAVIE COUNTY

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY

vhb
VHB Engineering, Inc. P.C. (C-3705)
340 Main Campus Drive, Suite 500
Raleigh, NC 27605



Y2_PC_2000_WB OSS		Y2_PC_2000_WB ISS	
PAVEMENT STRUCTURE		PAVEMENT STRUCTURE	
ASPHALT	19.5"	ASPHALT	18.0"

Y2_PC_2500_WB OSS		Y2_PC_2500_WB OSL		Y2_PC_2500_WB ISS	
PAVEMENT STRUCTURE		PAVEMENT STRUCTURE		PAVEMENT STRUCTURE	
ASPHALT	18.0"	ASPHALT	6.0"	ASPHALT	17.25"
		CONCRETE	8.0"		
		ABC	7.0"		

FOR -Y2- EXISTING PROFILE SEE SHEET 17

MATCH LINE -Y2- STA 27+00.00 SEE SHEET 08

2R01

11

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DAVIE COUNTY



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY


vhb
VHB Engineering, Inc. P.C. (C-3705)
340 Main Campus Drive, Suite 500
Raleigh, NC 27605

MATCH LINE -Y2- STA 54+50.00 SEE SHEET 08



FOR -Y2- EXISTING PROFILE SEE SHEET 18
FOR -RPD- PROFILE SEE SHEET 23

2RD1

12

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DAVIE COUNTY



ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

PREPARED BY



vhb
VHB Engineering, Inc. P.C. (C-3705)
340 Main Campus Drive, Suite 500
Raleigh, NC 27605

PAVEMENT INVESTIGATION DATA SHEET

Project: 48647.1.1
TIP: U-6187

Route: SR 1630 (Baltimore Road)
County: Davie

Date: 02/23/24
Notes By: Q. Hill

Position (Sta., Lane, Shldr.)	Cut/Fill (Est. of Amount)	Width		Thickness								Subgrade					State Plane Coordinates		
		Lane(s)	Shoulder(s)	Offset Distance (See Notes)	Crown "C" or Super "S"	Gross to Top of Soil	Asphalt	Concrete	ABC	Stabilized Subgrade Soil	Pavement Layering	Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth	Asphalt Notes	Northing	Easting
-L- STA 13+00																			
L_PC_1300_EB LN	FILL ± 0.5'	EB LN 11'	EB OSS 0.75'	4.5' FW	C	22.0"	10"	-	12.0"	-	Asphalt Concrete ABC	RE: Tan, brown, sandy SILT (1.3' - 1.9') RES: Reddish-brown, silty CLAY (1.9' - 5.0')	S-29	A-4 (1) A-6	9% M	5.0'	Moderate alligator cracking in vicinity	817,129	1,567,872
L_PC_1300_WB LN	AT GRADE ± 0.0'	WB LN 11'	WB OSS 1.5'	4.5' FW	C	18.5"	8.5"	-	10.0"	-	Asphalt ABC	RES: Brown, orange, CLAY, micaceous (1.5' - 5.0')	-	A-7	M	5.0'	Moderate alligator cracking in vicinity	817,127	1,567,862
-Y1- STA 14+00																			
Y1_PC_1100_WB LN WDNG	AT GRADE ± 0.0'	EBL 11'	WB OSS 2.5'	2.0' FW	S	23.5"	15.5"	8.0"	-	-	Asphalt Concrete	RES: Orange, silty CLAY (2.0' - 5.0')	S-27	A-7-5 (27)	32%	5.0'	No pavement distress observed	818,453	1,566,099
-Y1- STA 19+00																			
Y1_PC_1900_EB PS	CUT ± 2.0'	EBL 11'	EB OSS 1.5'	0.5' FW	C	17.0"	12.0"	-	5.0"	-	Asphalt ABC	RES: Orange, silty CLAY (1.4' - 5.0')	S-25	A-7-6 (19)	30%	5.0'	No pavement distress observed	818,628	1,566,871
Y1_PC_1900_EB LN	CUT ± 2.0'	EBL 11'	EB OSS 1.5'	5.5' FW	C	16.0"	8.0"	8.0"	-	-	Asphalt Concrete	RES: Brown, orange, sandy CLAY (1.4' - 5.0')	S-24	A-7-6 (13)	27%	5.0'	No pavement distress observed	818,635	1,566,871
Y1_PC_1900_WB LN	FILL ±1.0'	WBL 11'	WB OSS 1.5'	4.0' FW	C	17.5"	9.5"	8.0"	-	-	Asphalt Concrete	RES: Orange, silty CLAY (1.3' - 5.0')	-	A-7-6	M	5.0'	No pavement distress observed	818,649	1,566,868
-Y1- STA 28+50																			
Y12850HA	FILL ± 1.0'	-	-	20.0' LT	S	-	-	-	-	-	-	TOPSOIL (0.0' - 0.2') R.E.: Orange, brown, silty CLAY little fine to medium sand, little gravel (0.2' - 6.0')	BS-13	- A-7-6	26%	6.0'	No pavement distress observed	818,893	1,567,795

Notes:
 OSL = Outside Lane CTL = Center Turn Lane OSS = Outside Shoulder PS = Paved Shoulder RT = Right NB = Northbound
 ISL = Inside Lane RTL = Right Turn Lane ISS = Inside Shoulder RT LN = Right Lane LT = Left SB = Southbound
 CL = Center Lane DECEL = Deceleration Lane GM = Grass Median LT LN = Left Lane (I) = Inside FW = From White
 LTL = Left Turn Lane ACCEL = Acceleration Lane OGS = Outside Grass Shoulder COL = Collector Lane (O) = Outside FY = From Yellow

PAVEMENT INVESTIGATION DATA SHEET

Page 14

Project: 48647.1.1
TIP: U-6187

Route: SR 1630 (Baltimore Road)
County: Davie

Date: 02/23/24
Notes By: Q. Hill

		Width		Thickness							Subgrade					State Plane Coordinates			
Position (Sta., Lane, Shldr.)	Cut/Fill (Est. of Amount)	Lane(s)	Shoulder(s)	Offset Distance (See Notes)	Crown "C" or Super "S"	Gross to Top of Soil	Asphalt	Concrete	ABC	Stabilized Subgrade Soil	Pavement Layering	Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth	Asphalt Notes	Northing	Easting
-Y1- STA 33+50																			
Y1_PC_3350_EB LN WDNG	FILL ± 1.0'	EBL 12.5'	EB OSS 1.5'	2.5' FW	C	14.0"	14.0"	-	-	-	Asphalt	R.E.: Brown, sandy CLAY, some silt (1.2' - 2.0') RES: Brown, sandy SILT (2.0' - 5.0')	- S-23	A-6 A-4 (2)	M 18%	5.0'	No pavement distress observed	819,073	1,568,275
Y1_PC_3350_CENTER LTL	AT GRADE ± 0.0'	LTL 11.5'	-	6.5' FW	C	16.5"	9.0"	7.5"	-	-	Asphalt Concrete	R.E.: Brown, sandy CLAY, some silt (1.4' - 2.5') RES: Orange, brown, sandy CLAY (2.5' - 5.0')	S-22 -	A-6 (4) A-6	15% M	5.0'	No pavement distress observed	819,085	1,568,265
Y1_PC_3350_WB WDNG	FILL ± 1.0'	WBL 12.0'	WB OSS 1.5'	2.5' FW	C	14.0"	14.0"	-	-	-	Asphalt	R.E.: Brown, sandy CLAY (1.2' - 1.9') RES: Orange, brown, sandy SILT (1.9' - 5.0')	- S-21	A-6 A-4 (2)	M 20%	5.0'	No pavement distress observed	819,100	1,568,257
-Y2- STA 30+00																			
Y2_PC_3000_EB ISS	AT GRADE ± 0.0'	ISL 12.0'	ISS 10.0'	5.5' FY	S	18.0"	18.0"	-	-	-	Asphalt	RES: Orange, brown, silty CLAY, micaceous (1.5' - 5.0')	-	A-6	M	5.0'	No pavement distress observed	822,146	1,566,054
Y2_PC_3000_EB OSL	AT GRADE ± 0.0'	OSL 13.0'	OSS 10.0'	5.5' FW	S	19.0"	6.0"	8.0"	5.0"	-	Asphalt Concrete ABC	RES: Orange, brown, clayey SILT, micaceous (1.6' - 5.0')	-	A-5	M	5.0'	No pavement distress observed	822,124	1,566,066
Y2_PC_3000_EB OSS	CUT ± 2.0'	OSL 13.0'	OSS 10.0'	6.0' FW	S	18.0"	18.0"	-	-	-	Asphalt	RES: Orange, brown, clayey SILT, micaceous (1.5' - 5.0')	-	A-5	M	5.0'	No pavement distress observed	822,112	1,566,070
-Y2- STA 35+00																			
Y2_PC_3500_EB ISS	AT GRADE ± 0.0'	ISL 12.0'	ISS 10.0'	5.5' FY	S	20.5"	17.0"	-	3.5"	-	Asphalt ABC	R.E.: Orange, brown, silty CLAY, micaceous (1.4' - 5.0')	-	A-6	M	5.0'	No pavement distress observed	822,311	1,566,531
Y2_PC_3500_EB OSS	AT GRADE ± 0.0'	OSL 12.5'	OSS 10.0'	6.0' FW	S	17.5"	17.5"	-	-	-	Asphalt	R.E.: Orange, silty CLAY, micaceous (1.5' - 5.0')	S-15	A-7-5 (15)	30%	5.0'	No pavement distress observed	822,279	1,566,540
-Y2- STA 40+00																			
Y2_AP_4000_EB GM	AT GRADE ± 0.0'	ISL 12.0'	ISS 10.5'	13.0' FY	S	-	-	-	-	-	-	TOPSOIL (0.0' - 0.25') RES: Orange, brown, CLAY (0.25' - 8.5') RES: Orange, clayey SILT, micaceous (8.5' - 10.0')	- SS-1015 -	- A-7-5 (25) A-5	M 26% M	10.0'	No pavement distress observed	822,485	1,566,986
Y2_AP_4000_EB ISS	AT GRADE ± 0.0'	ISL 12.0'	ISS 10.5'	6.5' FY	S	18.0"	15.0"	-	3"	-	Asphalt ABC	RES: Reddish-brown, silty CLAY, micaceous (1.5' - 8.5') RES: Orange, SILT, micaceous, contains manganese oxide (8.5' - 10.0')	SS-523 -	A-7-6 (16) A-5	16% M	10.0'	No pavement distress observed	822,477	1,566,989
-Y2- STA 45+00																			
Y2_AP_4500_EB OGS	AT GRADE ± 0.0'	OSS 12.5'	OSS 10.0'	14.0' FW	S	-	-	-	-	-	Topsoil	TOPSOIL (0.0' - 0.8') R.E.: Orange, silty and sandy CLAY, micaceous (0.8' - 10.0')	SS-1010 SS-1011	- A-7-6 (20)(4)	M 32% 21%	10.0'	No pavement distress observed	822,590	1,567,479
-Y2- STA 50+00																			
Y2_AP_5000_EB GM	AT GRADE ± 0.0'	ISL 12.0'	ISS 10.5'	12.0' FY	S	-	-	-	-	-	Topsoil	TOPSOIL (0.0' - 0.3') RES: Orange, brown, clayey SILT (0.3' - 3.0') RES: Reddish brown, silty CLAY (3.0' - 10.0')	-	- A-5 A-7	M	10.0'	No pavement distress observed	822,816	1,567,929
Y2_AP_5000_EB ISS	AT GRADE ± 0.0'	ISL 12.0'	ISS 10.5'	6.5' FY	S	24.0"	18.0"	-	6.0"	-	Asphalt ABC	RES: Orange, brown, silty CLAY, trace sand, micaceous (2.0' - 10.0')	SS-519	A-7-5 (13)	21%	10.0'	No pavement distress observed	822,807	1,567,933

Notes:

OSL = Outside Lane
ISL = Inside Lane
CL = Center Lane
LTL = Left Turn Lane

CTL = Center Turn Lane
RTL = Right Turn Lane
DECEL = Deceleration Lane
ACCEL = Acceleration Lane

OSS = Outside Shoulder
ISS = Inside Shoulder
GM = Grass Median
OGS = Outside Grass Shoulder

PS = Paved Shoulder
RT LN = Right Lane
LT LN = Left Lane
COL = Collector Lane

RT = Right
LT = Left
(I) = Inside
(O) = Outside

NB = Northbound
SB = Southbound
FW = From White
FY = From Yellow

PAVEMENT INVESTIGATION DATA SHEET

Page 15

Project: 48647.1.1
TIP: U-6187

Route: SR 1630 (Baltimore Road)
County: Davie

Date: 02/23/24
Notes By: Q. Hill

		Width		Thickness							Subgrade					State Plane Coordinates			
Position (Sta., Lane, Shldr.)	Cut/Fill (Est. of Amount)	Lane(s)	Shoulder(s)	Offset Distance (See Notes)	Crown "C" or Super "S"	Gross to Top of Soil	Asphalt	Concrete	ABC	Stabilized Subgrade Soil	Pavement Layering	Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth	Asphalt Notes	Northing	Easting
-Y2- STA 55+00																			
Y2_AP_5500_EB_ISS	AT GRADE ± 0.0'	ISL 11.5'	ISS 10.5'	6.0' FY	S	18.0"	18.0"	-	-	-	Asphalt	RES: Orange and tan, silty CLAY, micaceous, contains manganese oxide (1.5' - 10.0')	BS-07 SS-1022	A-7-5 (25) (13)	37% 29%	10.0'	No pavement distress observed	822,970	1,568,405
-Y2- STA 60+00																			
Y2_AP_6000_EB_ISS	AT GRADE ± 0.0'	ISL 12.0'	ISS 10.5'	5.5' FY	S	18.0"	18.0"	-	-	-	Asphalt	RES: Orange, tan, and black, clayey SILT, micaceous, contains manganese oxide (1.5' - 10.0')	-	A-5	M	10.0'	No pavement distress observed	823,121	1,568,881
-Y2- STA 64+00																			
Y2_PC_6400_EB ISS	AT GRADE ± 0.0'	ISL 11.5'	ISS 14'	6.0' FY	S	17.0"	17.0"	-	-	-	Asphalt	RES: Orange, brown, clayey SILT, micaceous (1.4' - 5.0')	-	A-5	M	5.0'	No pavement distress observed	823,238	1,569,261
Y2_PC_6400_EB OSL	AT GRADE ± 0.0'	OSL 11.25'	OSS 15.5'	4.5' FW	S	22.0"	22.0"	-	-	-	Asphalt	RES: Orange, silty CLAY, little fine to medium sand (1.8' - 5.0')	-	A-7-6	M	5.0'	No pavement distress observed	823,199	1,569,272
Y2_PC_6400_EB OSS	AT GRADE ± 0.0'	OSL 11.25'	OSS 15.5'	7.0' FW	S	21.25"	9.25"	-	12.0"	-	Asphalt ABC	RES: Orange, silty CLAY (1.8' - 5.0')	S-17	A-7-6 (19)	27%	5.0'	No pavement distress observed	823,186	1,569,274
-Y2- STA 20+00																			
Y2_PC_2000_WB ISS	AT GRADE ± 0.0'	ISL 12.0'	ISS 11.0'	5.5' FY	S	18.0"	18.0"	-	-	-	Asphalt	RES: Brown, orange, CLAY, some fine to medium sand (1.5' - 5.0')	S-12	A-7-6 (10)	25%	5.0'	No pavement distress observed	821,855	1,565,079
Y2_PC_2000_WB OSS	AT GRADE ± 0.0'	OSL 12.0'	OSS 11.0'	6.0' FW	S	19.5"	19.5"	-	-	-	Asphalt	RES: Brown, orange, silty CLAY (1.6' - 5.0')	S-06	A-7-5 (48)	54%	5.0'	No pavement distress observed	821,899	1,565,076
-Y2- STA 25+00																			
Y2_AP_2500_WB_GM	AT GRADE ± 0.0'	ISL 11.5'	ISS 11.0'	14.0' FY	S	-	-	-	-	-	-	TOPSOIL (0.0' - 0.25') RES: Brown, orange, SILT, micaceous (0.25' - 6.0') RES: Brown, tan, orange, clayey SILT, contains manganese oxide (6.0' - 10.0')	BS-03	- A-4 A-5	29%	10.0'	No pavement distress observed	822,009	1,565,563
Y2_PC_2500_WB ISS	AT GRADE ± 0.0'	ISL 11.5'	ISS 11.0'	6.5' FY	S	17.25"	17.25"	-	-	-	Asphalt	RES: Reddish brown, clayey SILT (1.4' - 5.0')	-	A-5	M	5.0'	No pavement distress observed	822,025	1,565,560
Y2_PC_2500_WB OSL	FILL ± 0.5'	ISL 11.5'	OSS 11.0'	3.0' FW	S	21.0"	6.0"	8.0"	7.0"	-	Asphalt Concrete ABC	RES: Brown, orange, silty CLAY, micaceous (1.8' - 5.0')	S-04	A-7-5 (28)	31%	5.0'	No pavement distress observed	822,045	1,565,553
Y2_PC_2500_WB OSS	FILL ± 1.0'	OSL 12.0'	OSS 11.0'	6.0' FW	S	18.0"	18.0"	-	-	-	Asphalt	RES: Brown, orange, silty CLAY, micaceous (1.5' - 5.0')	-	A-7-5	M	5.0'	No pavement distress observed	822,063	1,565,548
-Y2- STA 30+00																			
Y2_AP_3000_WB_GM	AT GRADE ± 0.0'	ISL 12.0'	ISS 11.0'	13.5' FY	S	-	-	-	-	-	-	TOPSOIL (0.0' - 0.3') R.E.: Brown, orange, silty CLAY, micaceous (0.3' - 10.0')	SS-9006	- A-7-5 (15)	M 33%	10.0'	No pavement distress observed	822,170	1,566,037
Y2_PC_3000_WB ISS	AT GRADE ± 0.0'	ISL 12.0'	ISS 11.0'	5.5' FY	S	18.0"	18.0"	-	-	-	Asphalt	R.E.: Brown, orange, silty CLAY (1.5' - 5.0')	S-10	A-7-5 (19)	31%	5.0'	No pavement distress observed	822,186	1,566,036
Y2_PC_3000_WB OSS	AT GRADE ± 0.0'	OSL 12.0'	OSS 11.0'	5.5' FW	S	17.0"	17.0"	-	-	-	Asphalt	R.E.: Brown, orange, clayey SILT, micaceous (1.4' - 5.0')	-	A-5	M	5.0'	No pavement distress observed	822,228	1,566,030
-Y2- STA 35+00																			
Y2_AP_3500_WB OGS	AT GRADE ± 0.0'	OSL 11.5'	OSS 11.5'	12.0' FW	S	-	-	-	-	-	-	TOPSOIL (0.0' - 0.3') R.E.: Brown, orange, silty CLAY (0.3' - 5.0') R.E.: Brown, orange, red, silty SAND, with clay lenses, trace rock fragments and manganese oxide (5.0' - 10.0')	BS-01	A-7-5 (4) A-2-4	27%	10.0'	No pavement distress observed	822,392	1,566,489

Notes:

OSL = Outside Lane
ISL = Inside Lane
CL = Center Lane
LTL = Left Turn Lane
CTL = Center Turn Lane
RTL = Right Turn Lane
DECEL = Deceleration Lane
ACCEL = Acceleration Lane
OSS = Outside Shoulder
ISS = Inside Shoulder
GM = Grass Median
OGS = Outside Grass Shoulder
PS = Paved Shoulder
RT LN = Right Lane
LT LN = Left Lane
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RT = Right
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(I) = Inside
(O) = Outside
NB = Northbound
SB = Southbound
FW = From White
FY = From Yellow

PAVEMENT INVESTIGATION DATA SHEET

Project: 48647.1.1
TIP: U-6187

Route: SR 1630 (Baltimore Road)
County: Davie

Date: 02/23/24
Notes By: Q. Hill

		Width		Thickness								Subgrade					State Plane Coordinates		
Position (Sta., Lane, Shldr.)	Cut/Fill (Est. of Amount)	Lane(s)	Shoulder(s)	Offset Distance (See Notes)	Crown "C" or Super "S"	Gross to Top of Soil	Asphalt	Concrete	ABC	Stabilized Subgrade Soil	Pavement Layering	Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth	Asphalt Notes	Northing	Easting
-Y2- STA 45+00																			
Y2_PC_4500_WB ISS	AT GRADE ± 0.0'	ISL 11.5'	ISS 11.0'	5.5' FY	S	17.25"	17.25"	-	-	-	Asphalt	RES: Brown, orange, silty CLAY, micaceous (1.4' - 5.0')	-	A-7-5	M	5.0'	No pavement distress observed	822,685	1,567,462
Y2_PC_4500_WB ISL	AT GRADE ± 0.0'	ISL 11.5'	ISS 11.0'	3.5' FY	S	21.0"	6.5"	7.75"	6.75"	-	Asphalt Concrete ABC	RES: Brown, orange, silty CLAY (1.8' - 5.0')	S-08	A-7-5 (13)	31%	5.0'	No pavement distress observed	822,699	1,567,462
Y2_PC_4500_WB OSS	AT GRADE ± 0.0'	OSL 11.5'	OSS 12.0'	7.0' FW	S	13.25"	13.25"	-	-	-	Asphalt	RES: Brown, silty CLAY (1.5' - 5.0')	S-02	A-7-5 (17)	40%	5.0'	Previous pavement core patches observed, asphalt otherwise observed to be in good condition	822,723	1,567,452
-Y2- STA 50+00																			
Y2_PC_5000_WB ISS	AT GRADE ± 0.0'	ISL 11.5'	ISS 11.0'	6.0 FY	S	17.75"	17.75"	-	-	-	Asphalt	RES: Reddish-brown, CLAY (1.5' - 5.0')	S-07	A-7-6 (23)	24%	5.0'	No pavement distress observed	822,856	1,567,937
Y2_PC_5000_WB OSS	FILL ± 1.0'	OSL 11.0'	OSS 11.5'	6.5' FW	S	18.0"	18.0"	-	-	-	Asphalt	RES: Reddish-brown, silty CLAY (1.5' - 5.0')	-	A-7-6	M	5.0'	Previous pavement core patches observed, asphalt otherwise observed to be in good condition	822,887	1,567,924
-Y4- STA 13+70																			
Y4_PC_1370_EB LN	FILL ± 1.0'	EB LN 11.0'	OSS 1.25'	4.5' FW	C	21.0"	6.25"	-	14.75"	-	Asphalt ABC	R.E.: Brown, orange, CLAY (1.7' - 5.0')	S-31	A-7-6 (21)	30%	5.0'	Moderate alligator and vertical cracking in vicinity	818,008	1,567,814

Notes:

OSL = Outside Lane	CTL = Center Turn Lane	OSS = Outside Shoulder	PS = Paved Shoulder	RT = Right	NB = Northbound
ISL = Inside Lane	RTL = Right Turn Lane	ISS = Inside Shoulder	RT LN = Right Lane	LT = Left	SB = Southbound
CL = Center Lane	DECEL = Deceleration Lane	GM = Grass Median	LT LN = Left Lane	(I) = Inside	FW = From White
LTL = Left Turn Lane	ACCEL = Acceleration Lane	OGS = Outside Grass Shoulder	COL = Collector Lane	(O) = Outside	FY = From Yellow

CONE PENETROMETER RESULTS

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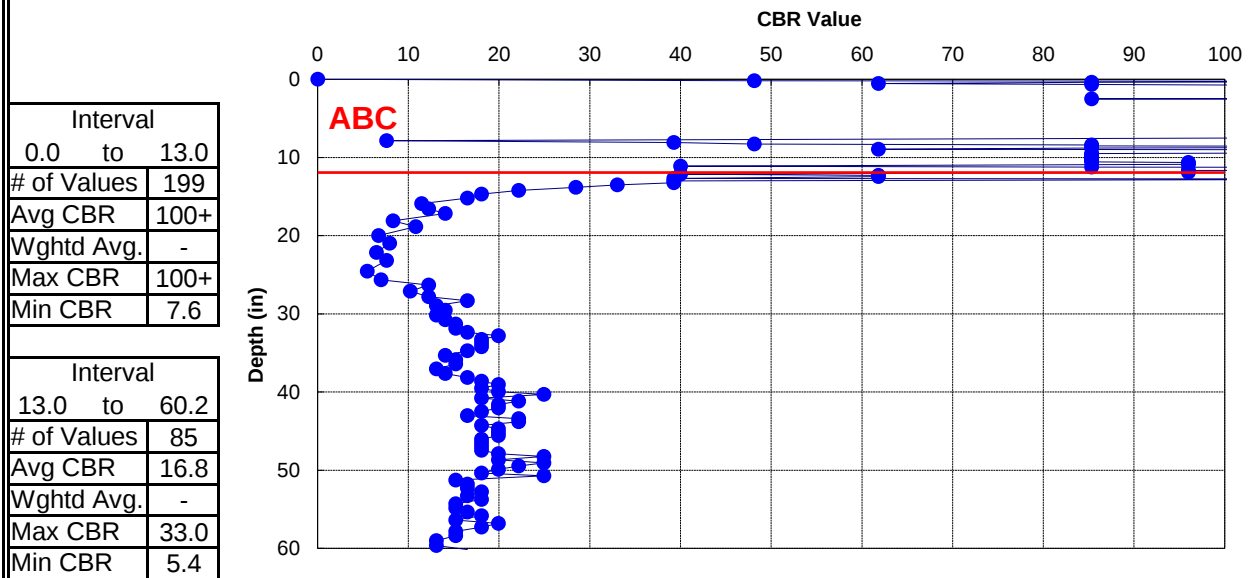
PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
GEOTECH(S)	J. Rose J. Crenshaw M. Brewer

L_PC_1300_EB LN

1

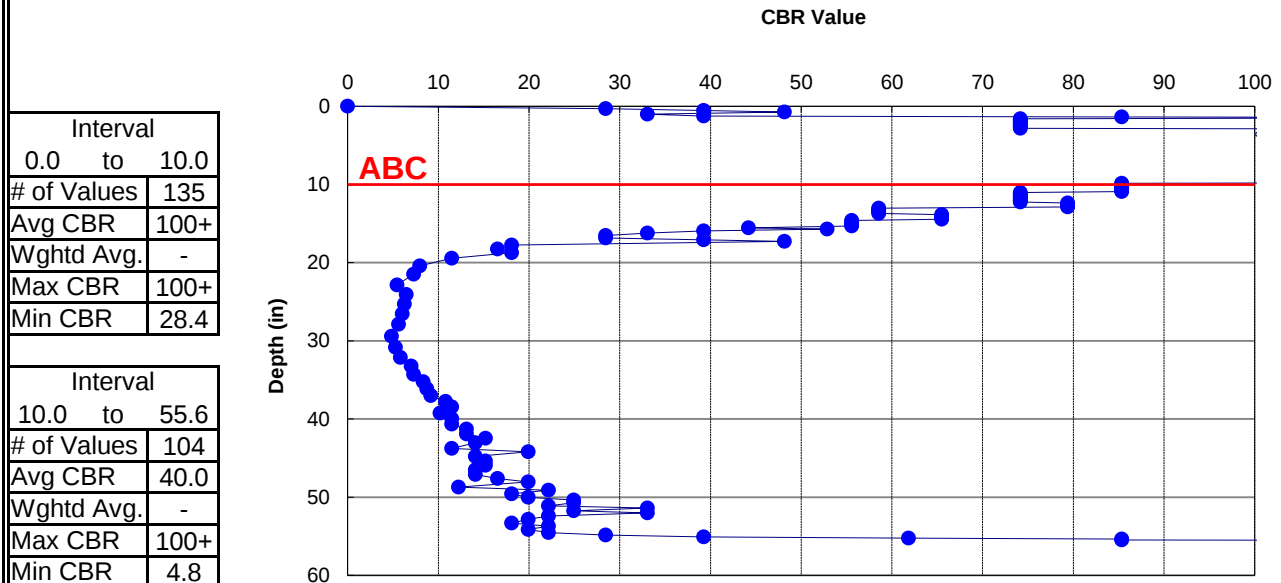
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L_PC_1300_WB LN

2

Datum = Top of subgrade 12/01/2023



CONE PENETROMETER RESULTS

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PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

Y1_PC_1100_WB LN WDNG

3

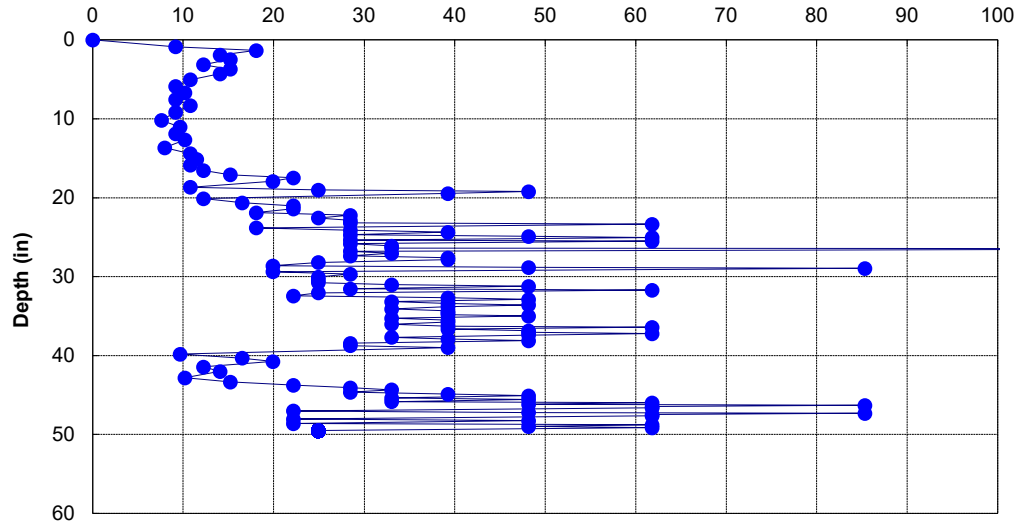
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12/01/2023

CBR Value

Interval	0.0 to 20.0
# of Values	30
Avg CBR	14.7
Wghtd Avg.	-
Max CBR	48.1
Min CBR	7.6

Interval	20.0 to 49.5
# of Values	102
Avg CBR	38.6
Wghtd Avg.	-
Max CBR	100+
Min CBR	9.6



Y1_PC_1900_EB PS

4

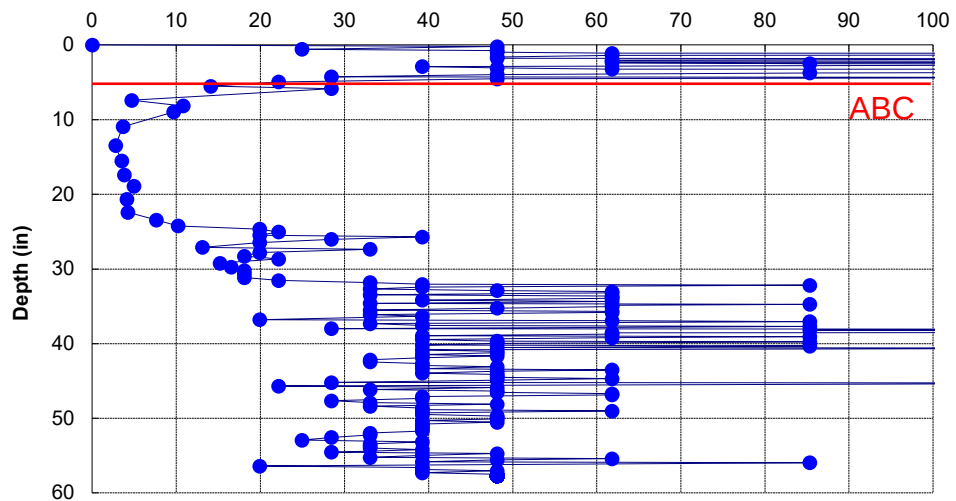
Datum = Top of subgrade

11/30/2023

CBR Value

Interval	0.0 to 5.0
# of Values	35
Avg CBR	100+
Wghtd Avg.	-
Max CBR	100+
Min CBR	14.1

Interval	5.0 to 57.7
# of Values	153
Avg CBR	45.0
Wghtd Avg.	-
Max CBR	100+
Min CBR	2.8



CONE PENETROMETER RESULTS

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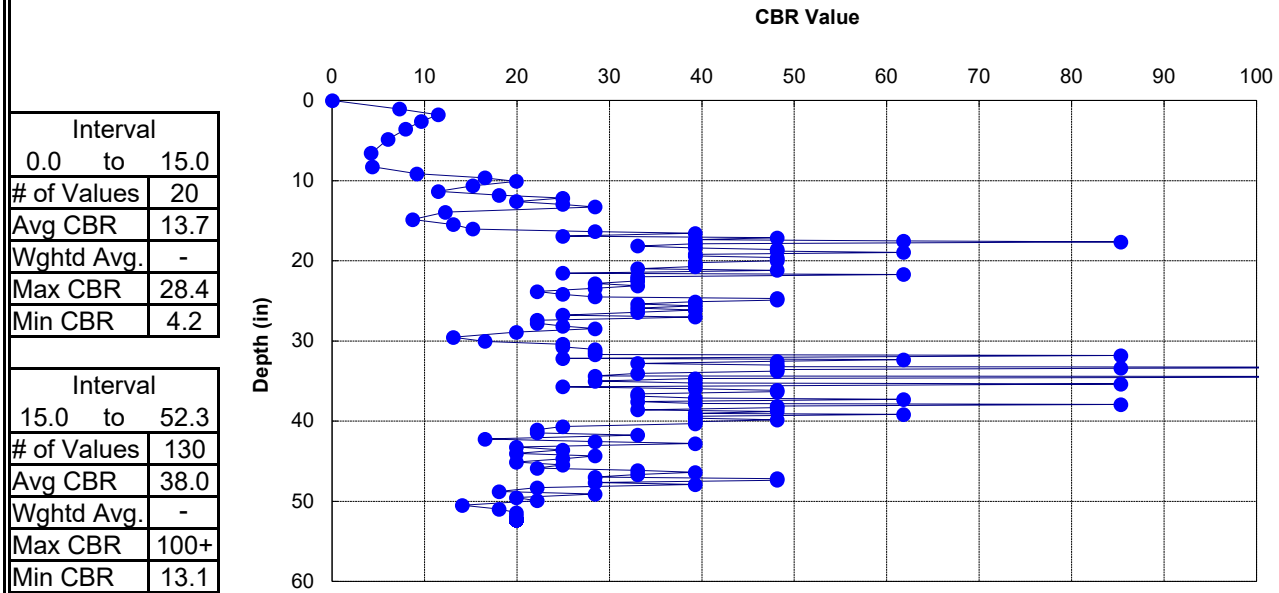
PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

Y1_PC_1900_EB LN

5

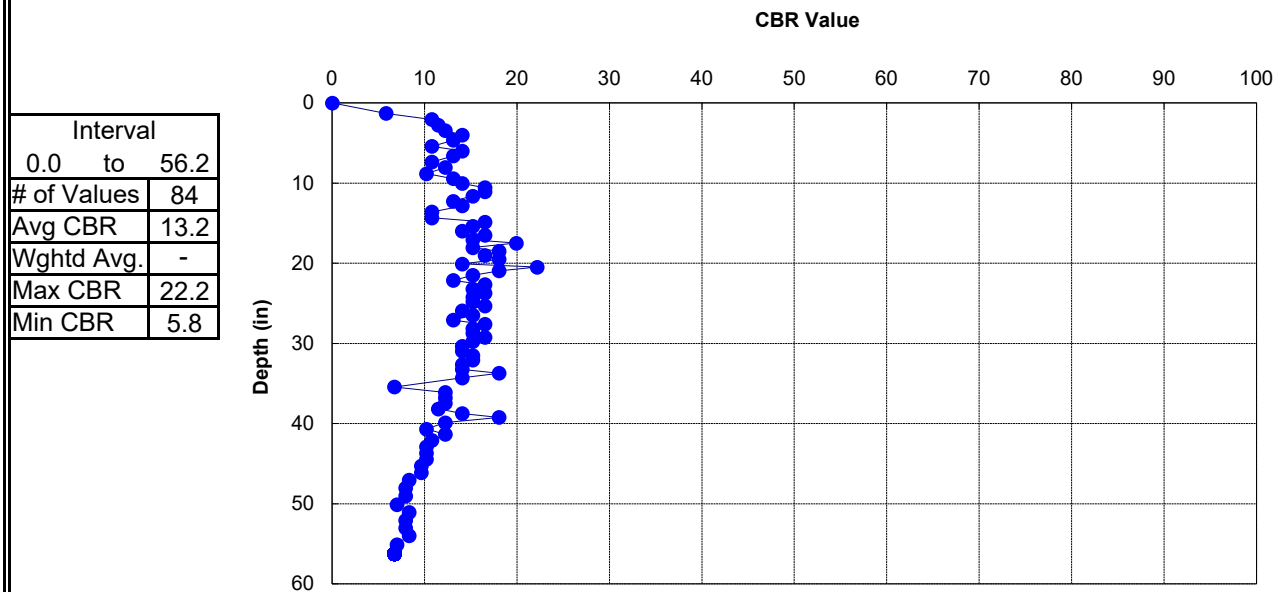
Datum = Top of subgrade 11/30/2023



Y1_PC_1900_WB LN

6

Datum = Top of subgrade 12/01/2023



CONE PENETROMETER RESULTS

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PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

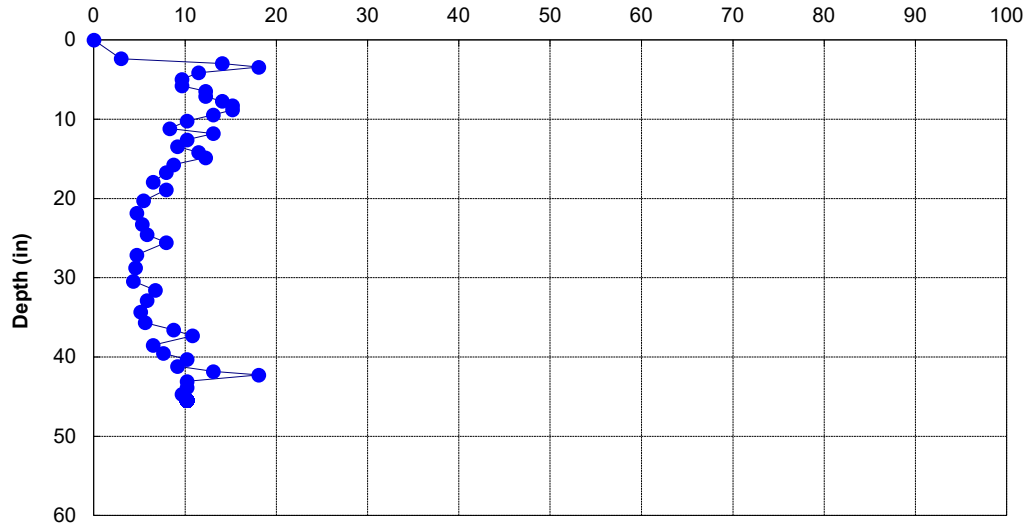
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7

Datum = Exstg Grd Lvl 01/04/2024

CBR Value

Interval	0.0 to 45.5
# of Values	47
Avg CBR	9.4
Wghtd Avg.	-
Max CBR	18.1
Min CBR	3.0



Y1_PC_3350_EB LN WDNG

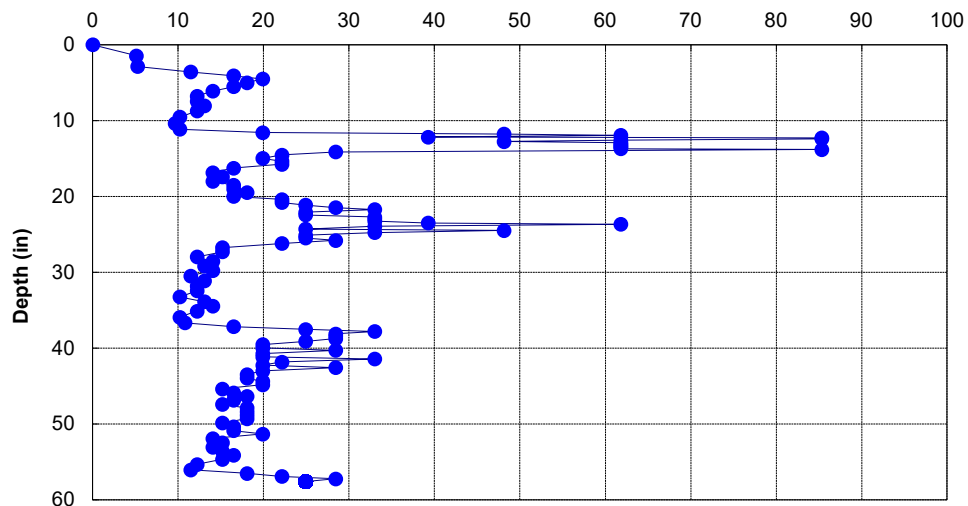
8

Datum = Top of subgrade 11/30/2023

CBR Value

Interval	0.0 to 10.0
# of Values	14
Avg CBR	12.6
Wghtd Avg.	-
Max CBR	19.9
Min CBR	5.1

Interval	10.0 to 57.6
# of Values	111
Avg CBR	26.2
Wghtd Avg.	-
Max CBR	85.3
Min CBR	10.2



CONE PENETROMETER RESULTS

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PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

Y1_PC_3350_CENTER LTL

9

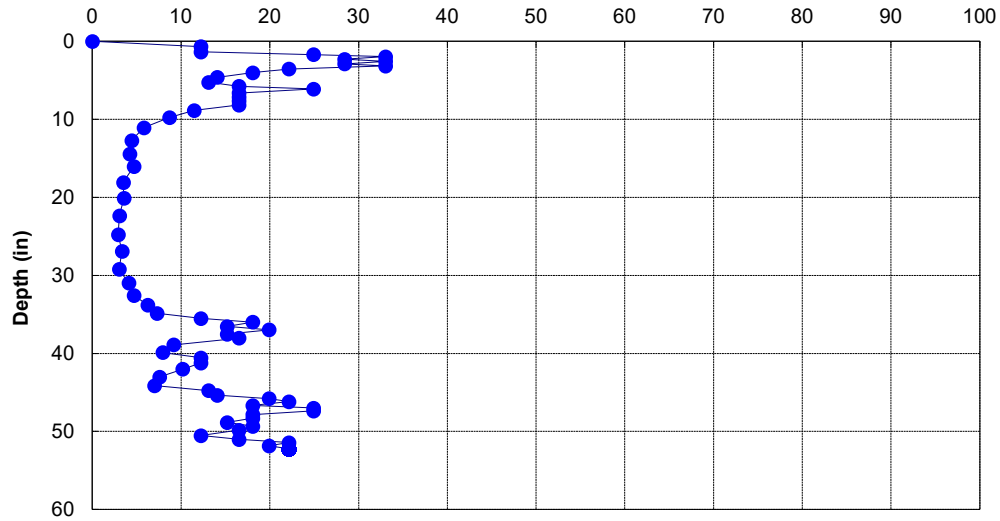
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11/30/2023

CBR Value

Interval	0.0 to 13.0
# of Values	23
Avg CBR	18.0
Wghtd Avg.	-
Max CBR	33.0
Min CBR	4.2

Interval	13.0 to 52.2
# of Values	41
Avg CBR	12.8
Wghtd Avg.	-
Max CBR	24.9
Min CBR	2.9



Y1_PC_3350_WB WDNG

10

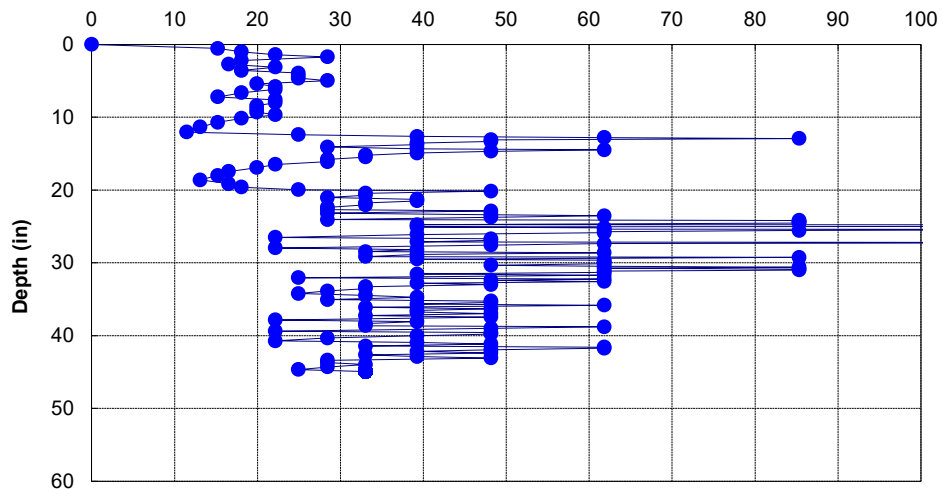
Datum = Top of subgrade

11/30/2023

CBR Value

Interval	0.0 to 9.0
# of Values	22
Avg CBR	21.1
Wghtd Avg.	-
Max CBR	28.4
Min CBR	15.2

Interval	9.0 to 44.9
# of Values	142
Avg CBR	46.1
Wghtd Avg.	-
Max CBR	100+
Min CBR	11.5



CONE PENETROMETER RESULTS

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PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

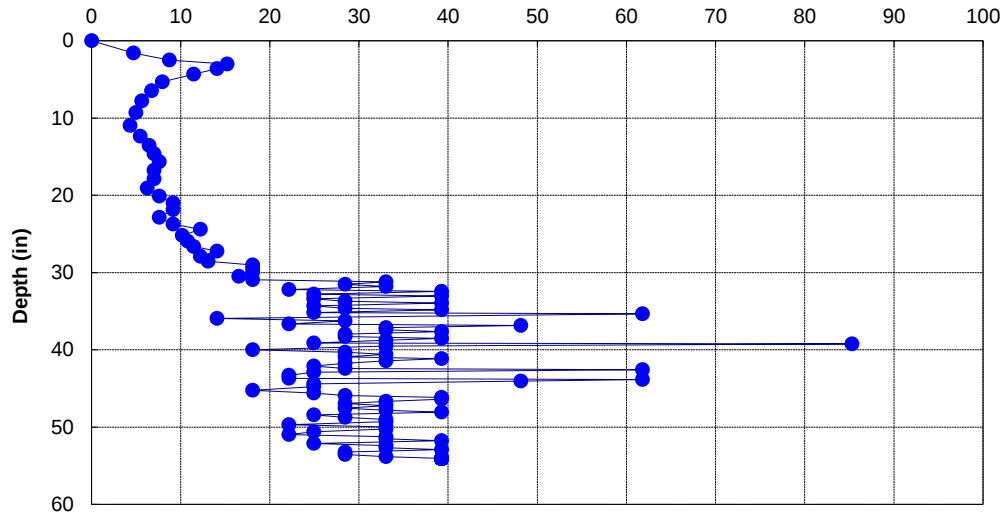
Y2_PC_3000_EB ISS

11

Datum = Top of subgrade

11/29/2023

CBR Value



Interval	0.0 to 28.0
# of Values	29
Avg CBR	8.9
Wghtd Avg.	-
Max CBR	15.2
Min CBR	4.3

Interval	28.0 to 54.1
# of Values	82
Avg CBR	31.6
Wghtd Avg.	-
Max CBR	85.3
Min CBR	14.1

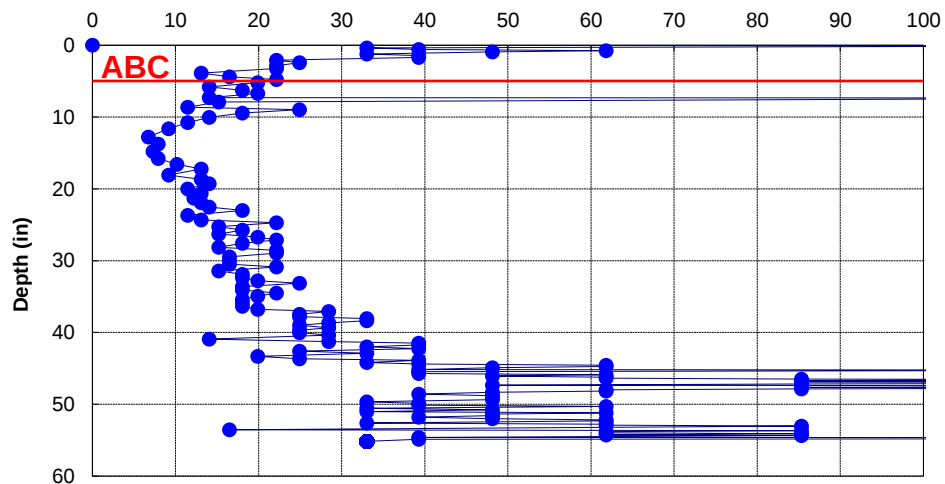
Y2_PC_3000_EB OSL

12

Datum = Top of subgrade

11/28/2023

CBR Value



Interval	0.0 to 10.0
# of Values	26
Avg CBR	33.7
Wghtd Avg.	-
Max CBR	100+
Min CBR	11.5

Interval	10.0 to 55.2
# of Values	132
Avg CBR	43.6
Wghtd Avg.	-
Max CBR	100+
Min CBR	6.7

CONE PENETROMETER RESULTS

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PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

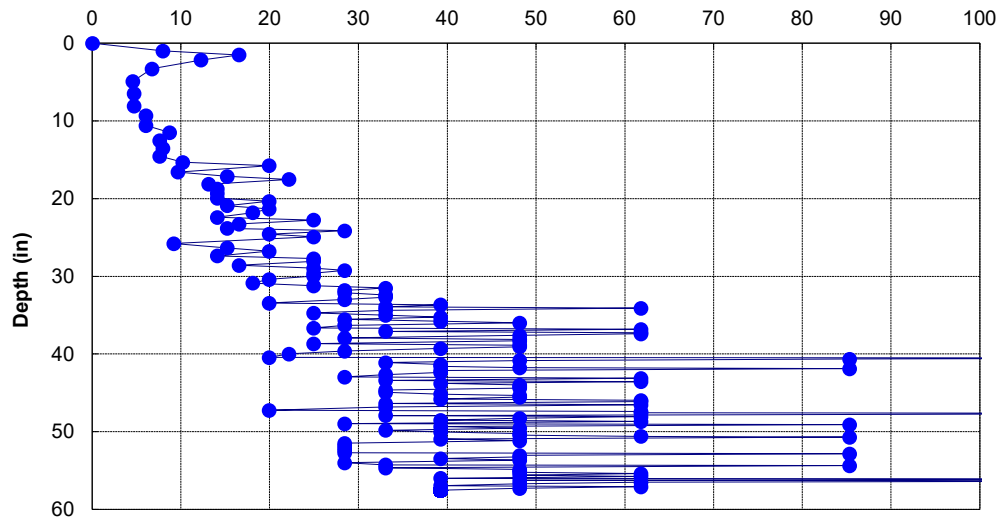
Y2_PC_3000_EB OSS

13

Datum = Top of subgrade

11/28/2023

CBR Value



Interval	0.0 to 15.0
# of Values	14
Avg CBR	8.0
Wghtd Avg.	-
Max CBR	16.5
Min CBR	4.6

Interval	15.0 to 57.5
# of Values	148
Avg CBR	41.0
Wghtd Avg.	-
Max CBR	100+
Min CBR	9.2

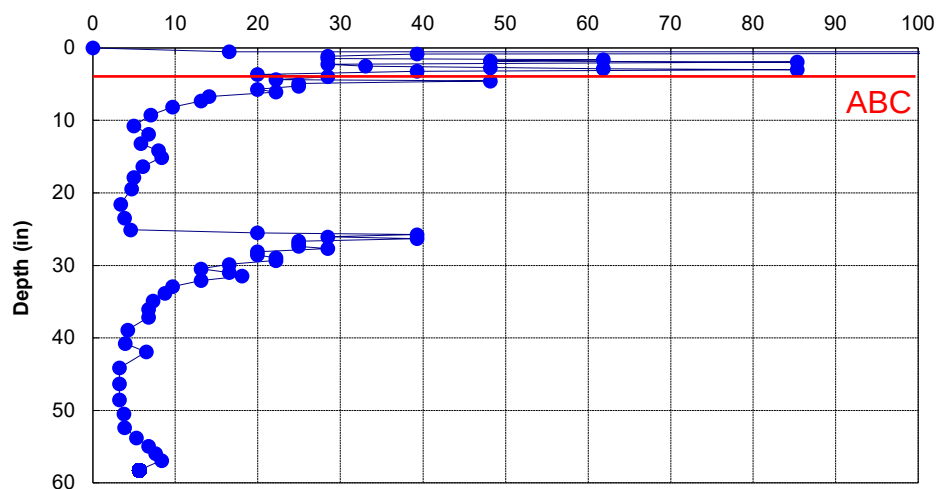
Y2_PC_3500_EB ISS

14

Datum = Top of subgrade

11/29/2023

CBR Value



Interval	0.0 to 25.0
# of Values	38
Avg CBR	39.6
Wghtd Avg.	-
Max CBR	100+
Min CBR	3.4

Interval	25.0 to 58.2
# of Values	35
Avg CBR	14.2
Wghtd Avg.	-
Max CBR	39.3
Min CBR	3.2

CONE PENETROMETER RESULTS

Page 24

PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

Y2_PC_3500_EB OSS

15

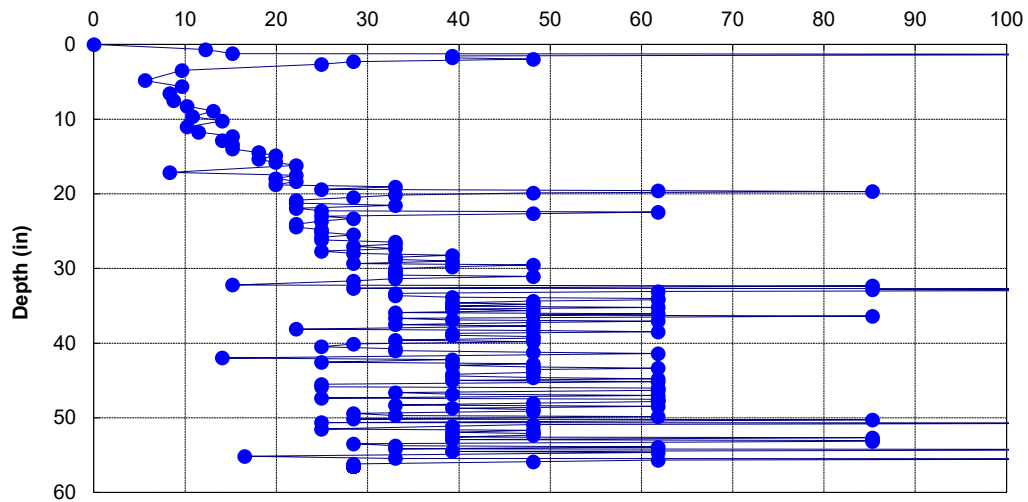
Datum = Top of subgrade

11/28/2023

CBR Value

Interval	0.0 to 19.0
# of Values	34
Avg CBR	21.7
Wghtd Avg.	-
Max CBR	100+
Min CBR	5.6

Interval	19.0 to 56.5
# of Values	154
Avg CBR	45.4
Wghtd Avg.	-
Max CBR	100+
Min CBR	14.1



Y2_PC_6400_EB ISS

16

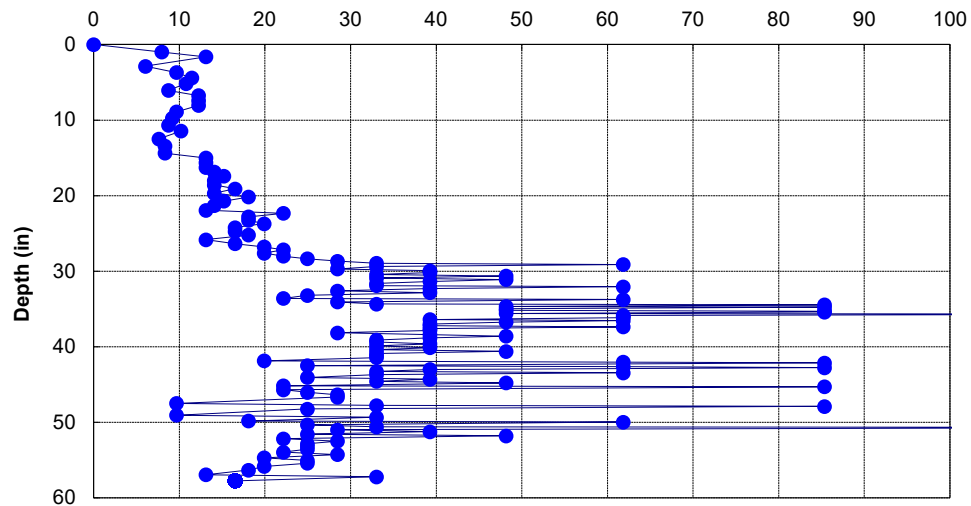
Datum = Top of subgrade

11/29/2023

CBR Value

Interval	0.0 to 26.0
# of Values	39
Avg CBR	13.1
Wghtd Avg.	-
Max CBR	22.2
Min CBR	6.0

Interval	26.0 to 57.7
# of Values	112
Avg CBR	40.5
Wghtd Avg.	-
Max CBR	100+
Min CBR	9.6



CONE PENETROMETER RESULTS

Page 25

PROJECT NO.	U-6187
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ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

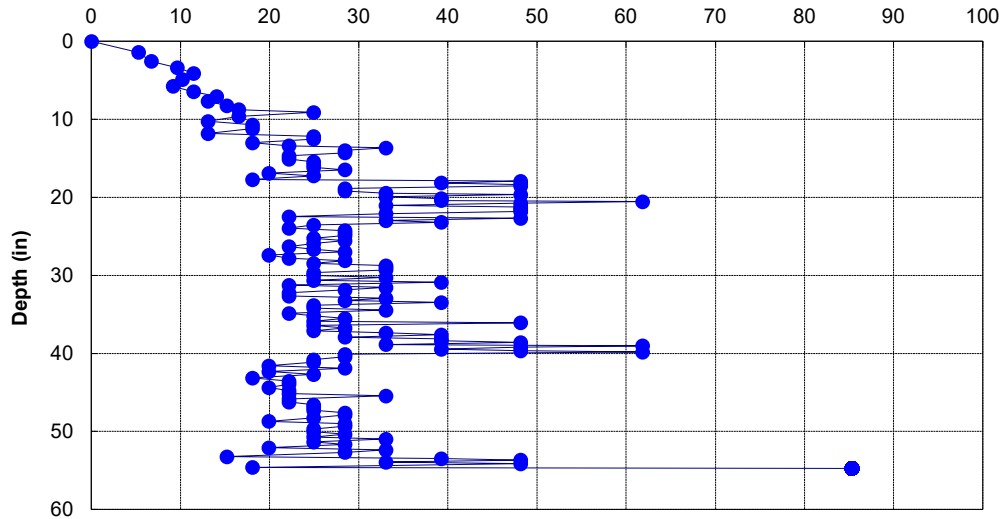
Y2_PC_6400_EB OSL

17

Datum = Top of subgrade

11/29/2023

CBR Value



Interval	0.0 to 17.0
# of Values	32
Avg CBR	18.7
Wghtd Avg.	-
Max CBR	33.0
Min CBR	5.3

Interval	17.0 to 54.7
# of Values	121
Avg CBR	31.8
Wghtd Avg.	-
Max CBR	85.3
Min CBR	15.2

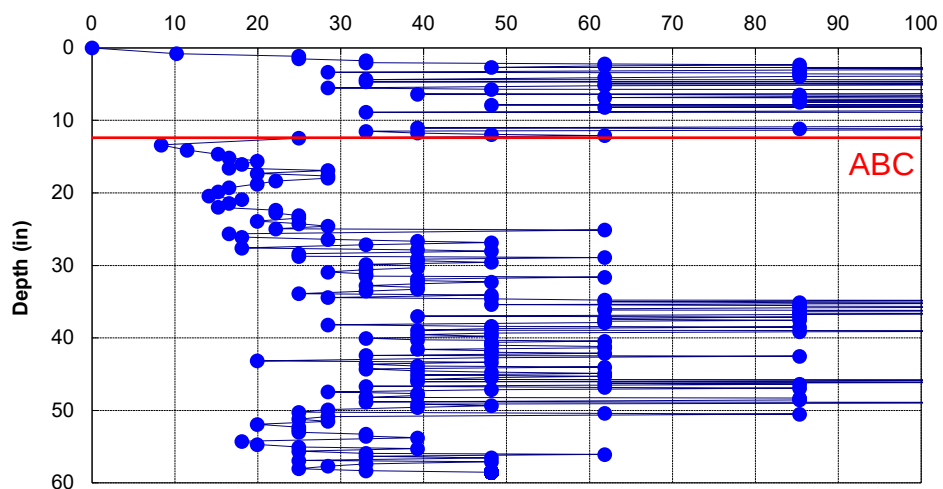
Y2_PC_6400_EB OSS

18

Datum = Top of subgrade

11/29/2023

CBR Value



Interval	0.0 to 12.0
# of Values	102
Avg CBR	100+
Wghtd Avg.	-
Max CBR	100+
Min CBR	10.2

Interval	12.0 to 58.5
# of Values	178
Avg CBR	47.0
Wghtd Avg.	-
Max CBR	100+
Min CBR	8.3

CONE PENETROMETER RESULTS

Page 26

PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

Y2_PC_2000_WB ISS

19

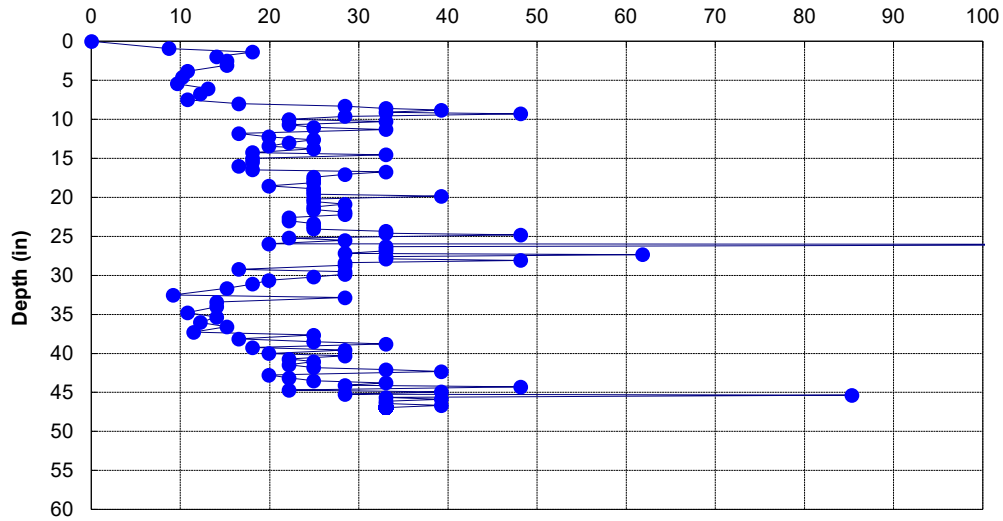
Datum = Top of subgrade

11/28/2023

CBR Value

Interval	0.0 to 25.0
# of Values	61
Avg CBR	23.9
Wghtd Avg.	-
Max CBR	48.1
Min CBR	8.7

Interval	25.0 to 46.9
# of Values	59
Avg CBR	29.6
Wghtd Avg.	-
Max CBR	100+
Min CBR	9.2



Y2_PC_2000_WB OSS

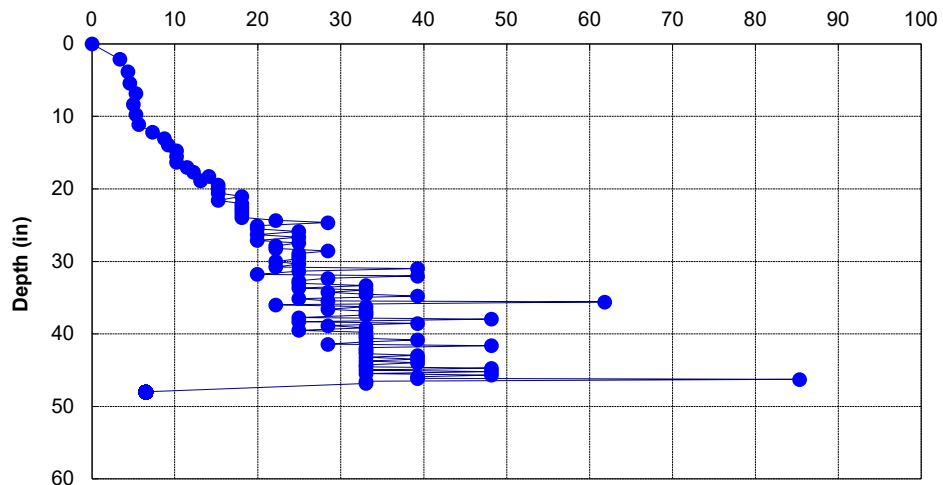
20

Datum = Top of subgrade

11/27/2024

CBR Value

Interval	0.0 to 48.0
# of Values	104
Avg CBR	26.5
Wghtd Avg.	-
Max CBR	85.3
Min CBR	3.4



CONE PENETROMETER RESULTS

Page 27

PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

Y2_PC_2500_WB ISS

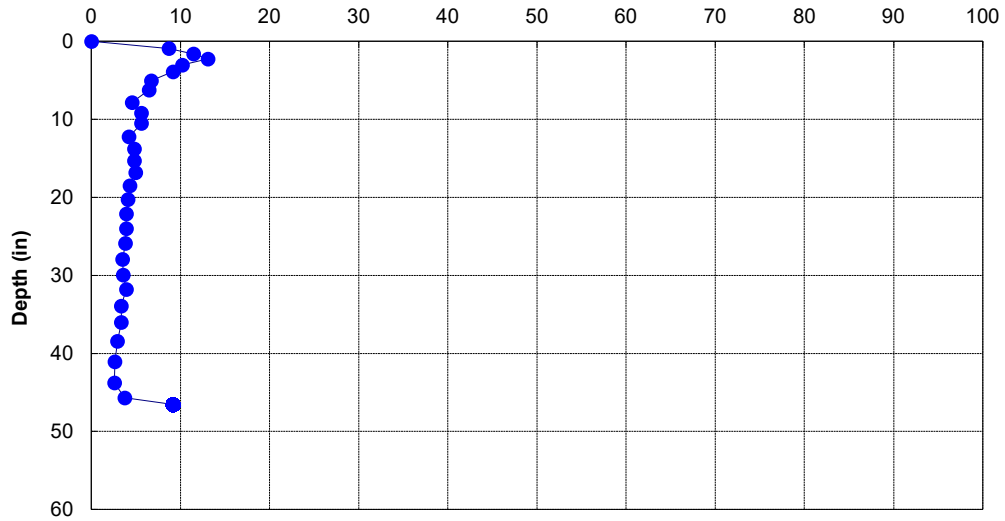
21

Datum = Top of subgrade

11/28/2023

CBR Value

Interval	0.0 to 46.5
# of Values	29
Avg CBR	5.5
Wghtd Avg.	-
Max CBR	13.1
Min CBR	2.6



Y2_PC_2500_WB OSL

22

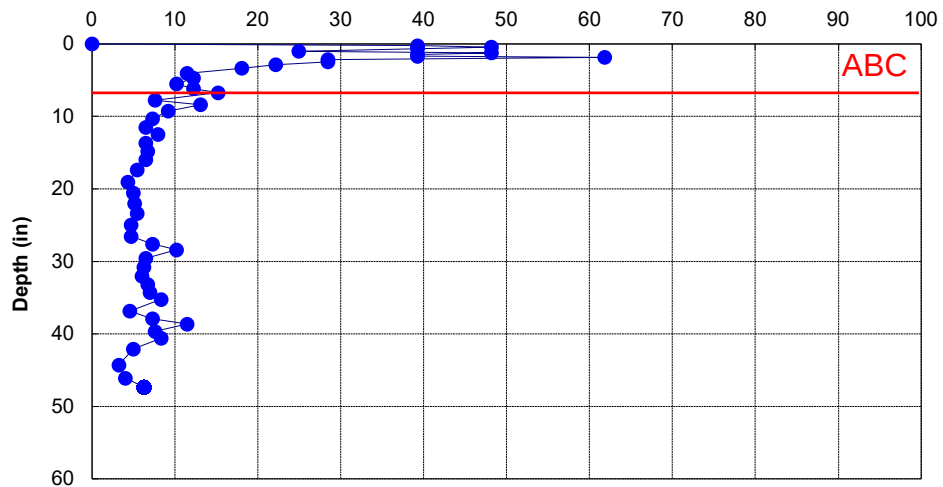
Datum = Top of subgrade

11/28/2023

CBR Value

Interval	0.0 to 6.0
# of Values	16
Avg CBR	30.2
Wghtd Avg.	-
Max CBR	61.8
Min CBR	10.2

Interval	6.0 to 47.3
# of Values	34
Avg CBR	7.0
Wghtd Avg.	-
Max CBR	15.2
Min CBR	3.2



CONE PENETROMETER RESULTS

Page 28

PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

Y2_PC_2500_WB OSS

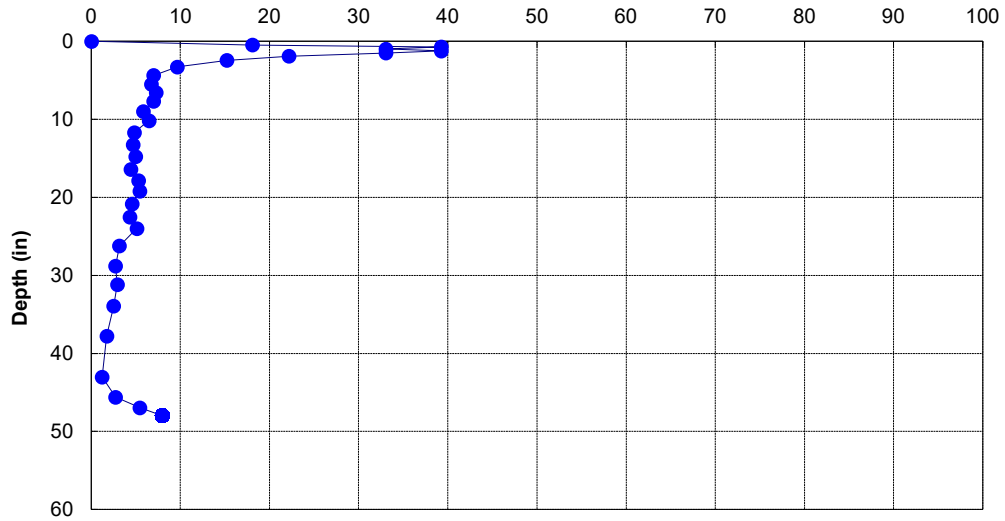
23

Datum = Top of subgrade

11/28/2023

CBR Value

Interval	0.0 to 48.0
# of Values	32
Avg CBR	10.1
Wghtd Avg.	-
Max CBR	39.3
Min CBR	1.2



Y2_PC_3000_WB ISS

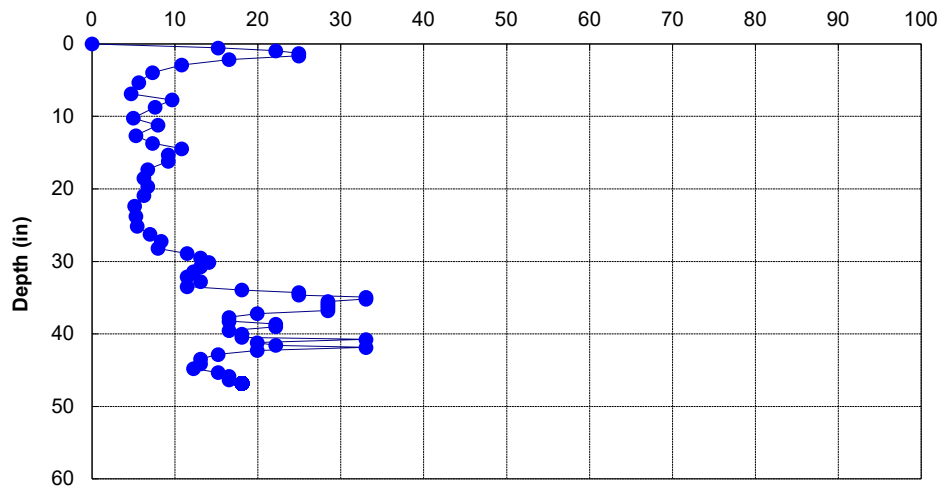
24

Datum = Top of subgrade

11/28/2023

CBR Value

Interval	0.0 to 46.8
# of Values	67
Avg CBR	15.6
Wghtd Avg.	-
Max CBR	33.0
Min CBR	4.7



CONE PENETROMETER RESULTS

Page 29

PROJECT NO.	U-6187
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ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

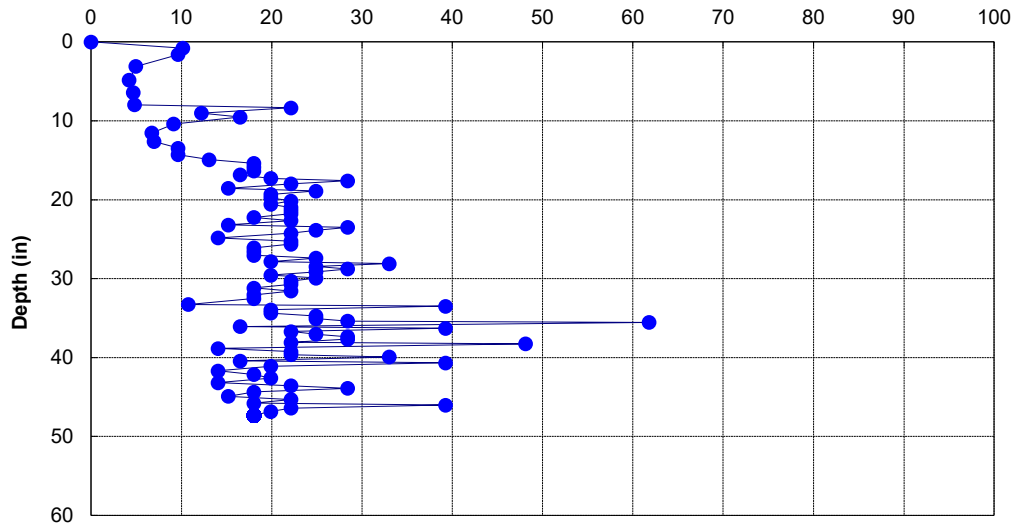
Y2_PC_3000_WB OSS

25

Datum = Top of subgrade 11/27/2023

CBR Value

Interval	0.0 to 47.3
# of Values	94
Avg CBR	20.8
Wghtd Avg.	-
Max CBR	61.8
Min CBR	4.2



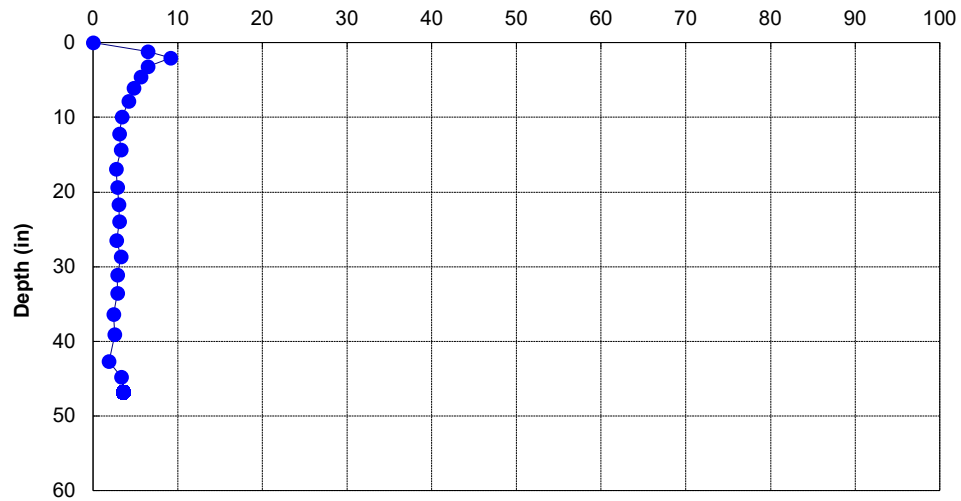
Y2_PC_4500_WB ISS

26

Datum = Top of subgrade 11/27/2023

CBR Value

Interval	0.0 to 46.8
# of Values	22
Avg CBR	3.8
Wghtd Avg.	-
Max CBR	9.2
Min CBR	1.9



CONE PENETROMETER RESULTS

Page 30

PROJECT NO.	U-6187
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ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

Y2_PC_4500_WB ISL

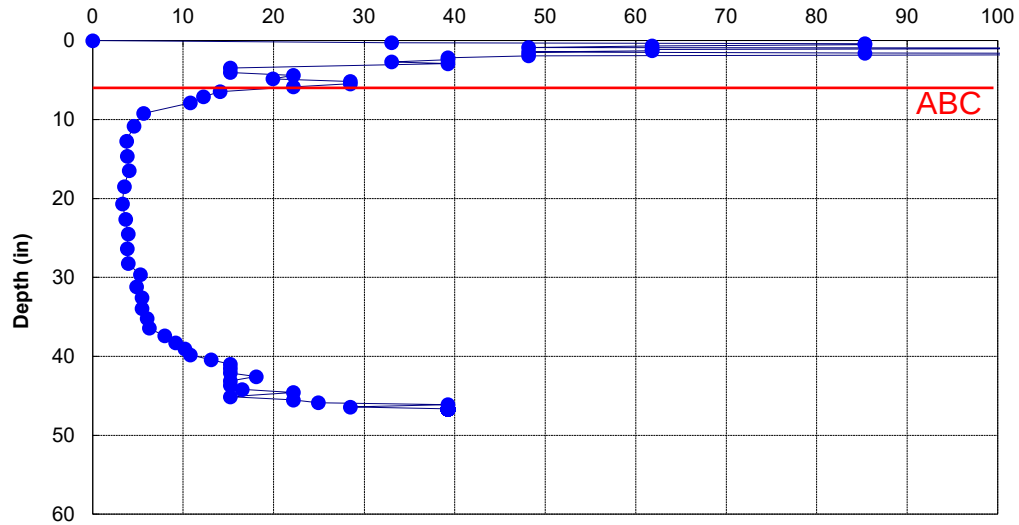
27

Datum = Top of subgrade

11/27/2024

CBR Value

Interval	0.0 to 46.7
# of Values	63
Avg CBR	28.4
Wghtd Avg.	-
Max CBR	100+
Min CBR	3.3



Y2_PC_4500_WB OSS

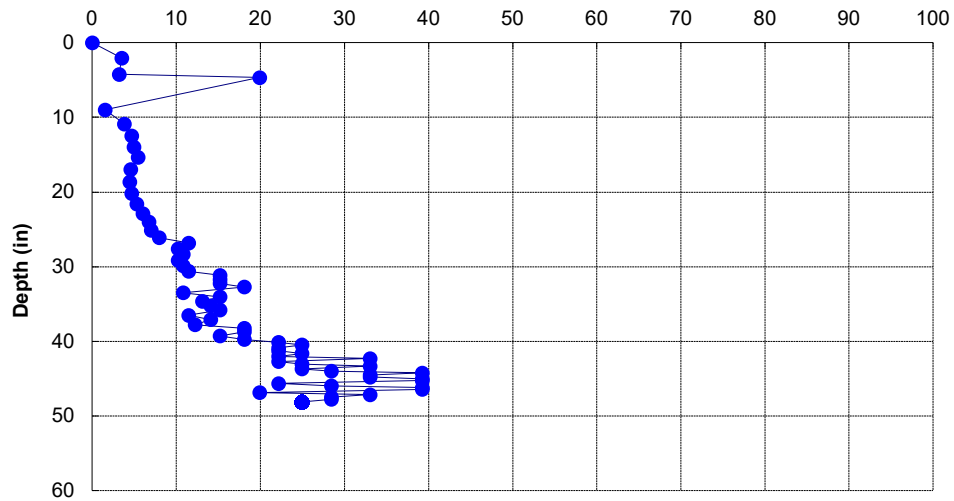
28

Datum = Top of subgrade

11/27/2023

CBR Value

Interval	0.0 to 48.1
# of Values	64
Avg CBR	18.0
Wghtd Avg.	-
Max CBR	39.3
Min CBR	1.5



CONE PENETROMETER RESULTS

Page 31

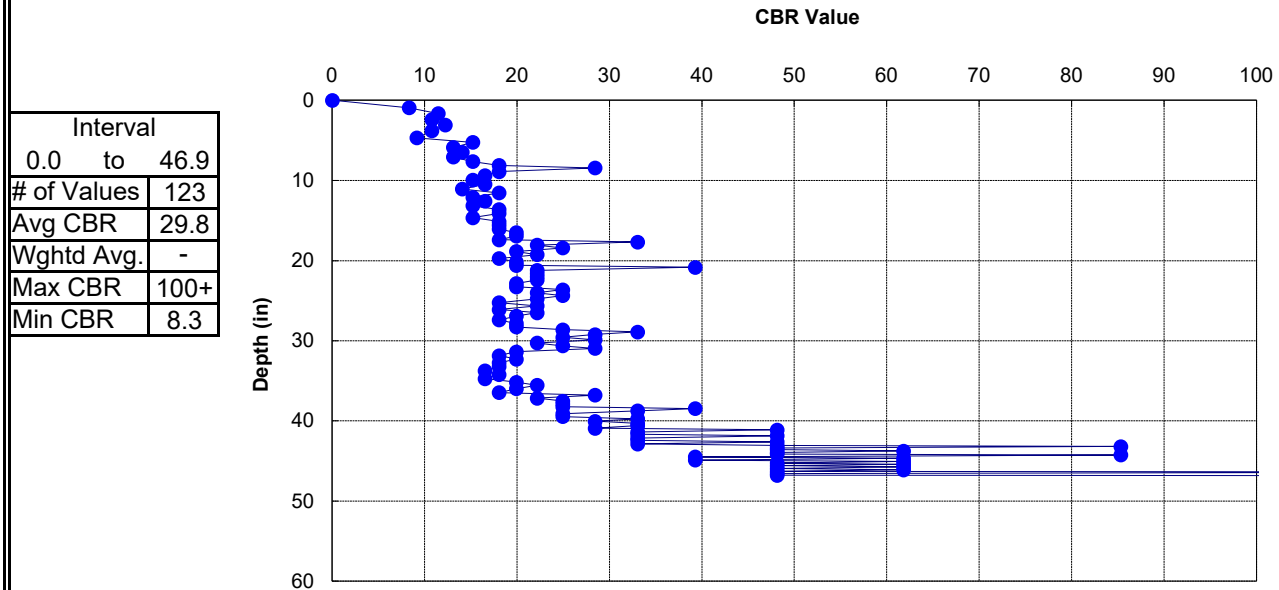
PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
ROUTE	I 40, US 158, and SR 1630
COUNTY	Davie

GEOLOGIST	Quinton Hill
	J. Rose
GEOTECH(S)	J. Crenshaw
	M. Brewer

Y2_PC_5000_WB ISS

29

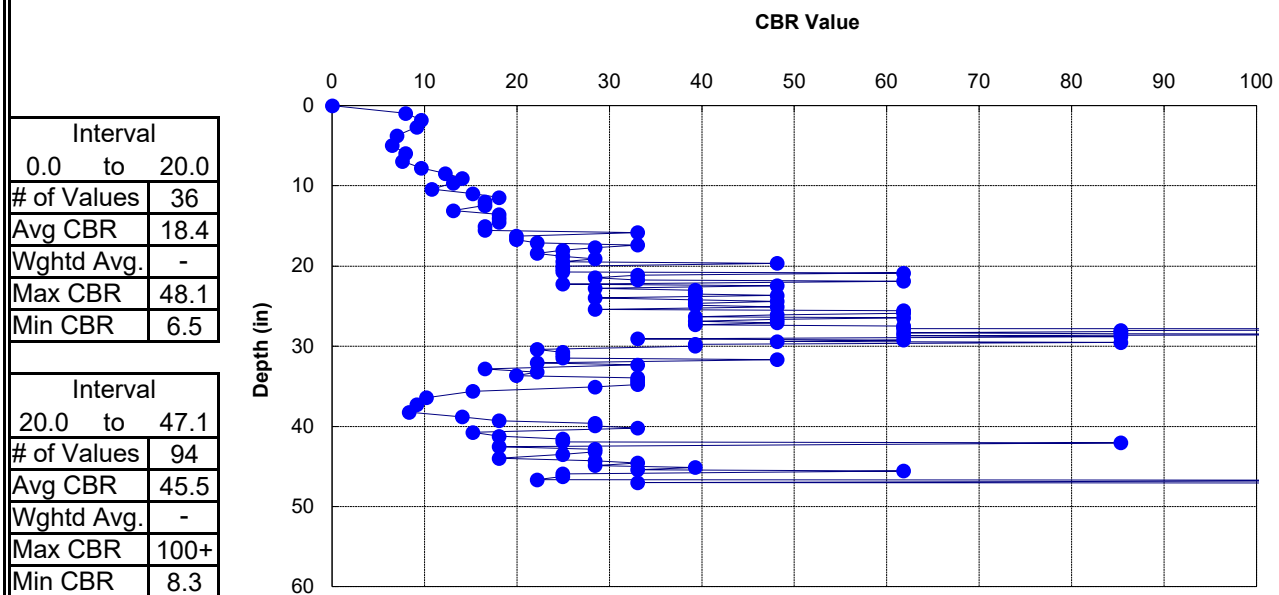
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Y2_PC_5000_WB OSS

30

Datum = Top of subgrade 11/27/2023



CONE PENETROMETER RESULTS

Page 32

PROJECT NO.	U-6187
PROJECT NAME	2-Lane Extension of SR 1630
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COUNTY	Davie

GEOLOGIST	Quinton Hill
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GEOTECH(S)	J. Crenshaw
	M. Brewer

Y4_PC_1370_EB LN

42

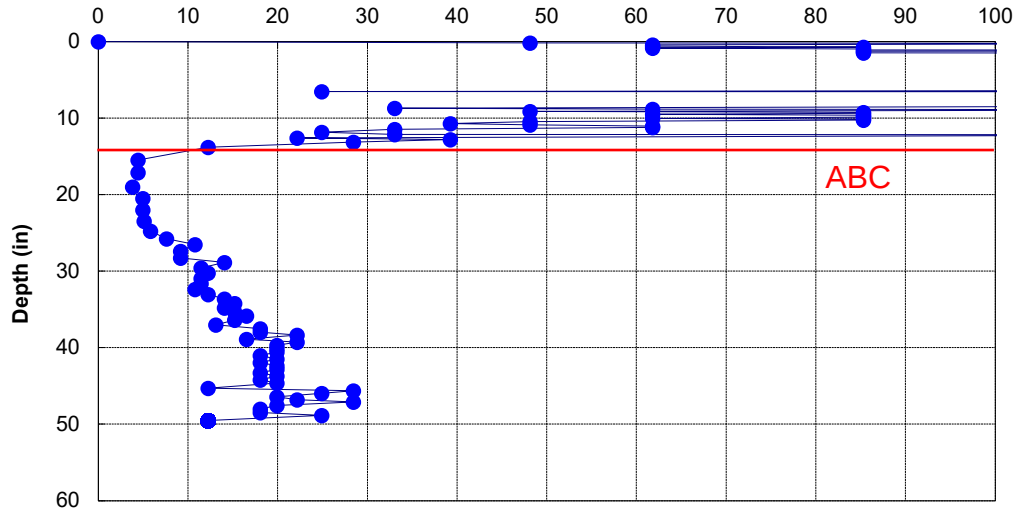
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12/01/2023

CBR Value

Interval		
0.0	to	15.0
# of Values	161	
Avg CBR	100+	
Wghtd Avg.	-	
Max CBR	100+	
Min CBR	4.4	

Interval		
15.0	to	49.5
# of Values	52	
Avg CBR	15.6	
Wghtd Avg.	-	
Max CBR	28.4	
Min CBR	3.8	



PAVEMENT CORE PHOTOGRAPHS
TIP No. U-6187|Davie County, NC

L_PC_1300_EB LN



TOP

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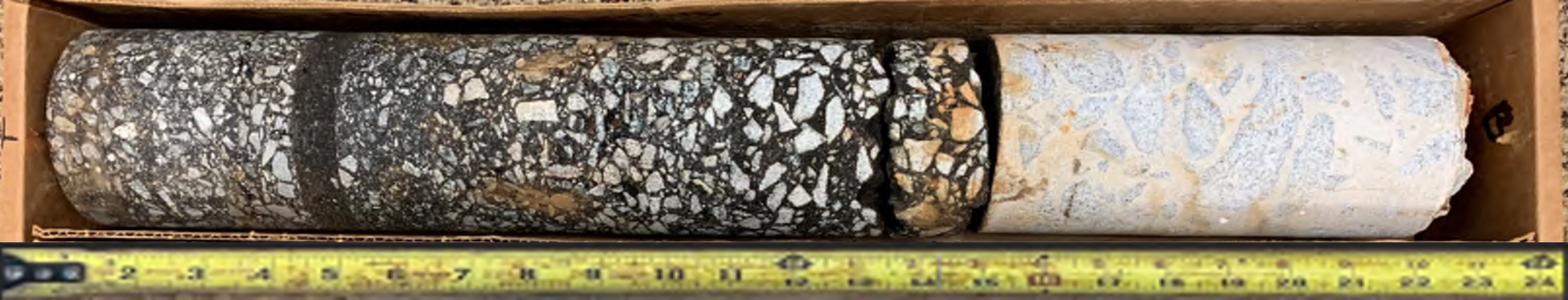
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Y1_PC_1100_WB LN WDNG

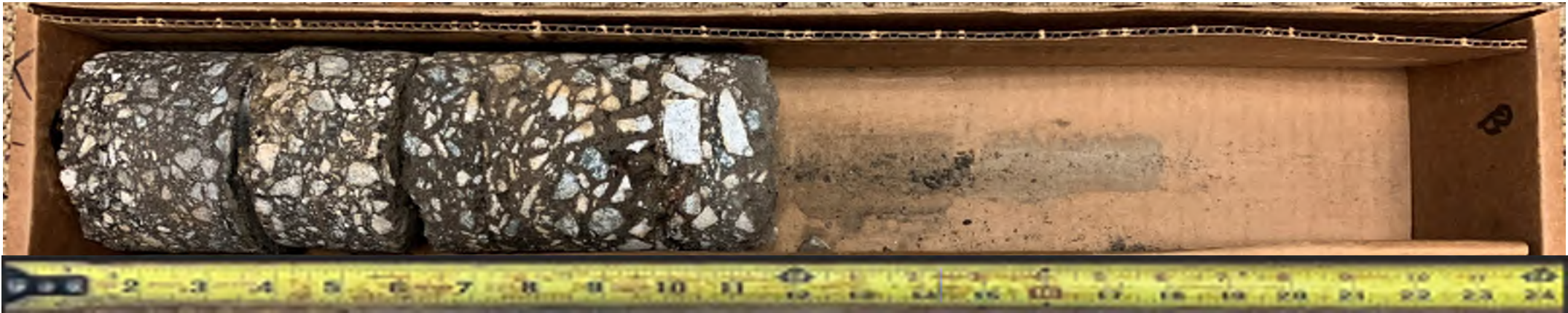


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PAVEMENT CORE PHOTOGRAPHS
TIP No. U-6187|Davie County, NC

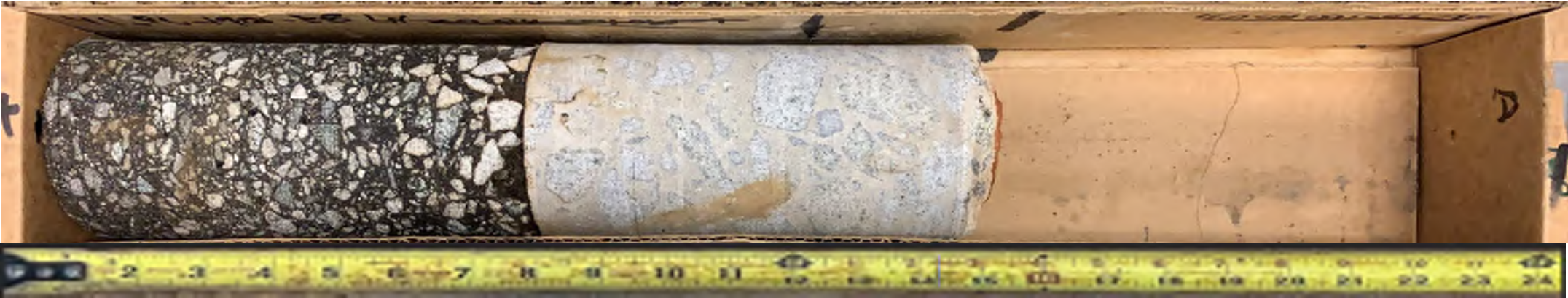
Y1_PC_1900_EB PS



TOP

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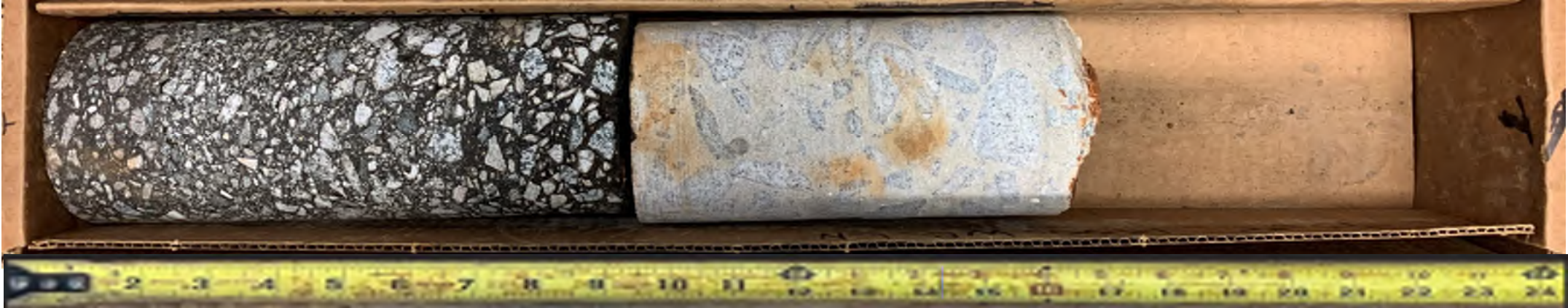
Y1_PC_1900 EB LN



TOP

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Y1_PC_1900 WB LN



TOP

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PAVEMENT CORE PHOTOGRAPHS
TIP No. U-6187|Davie County, NC

Y1_PC_3350_EB LN WDNG



TOP

BOTTOM

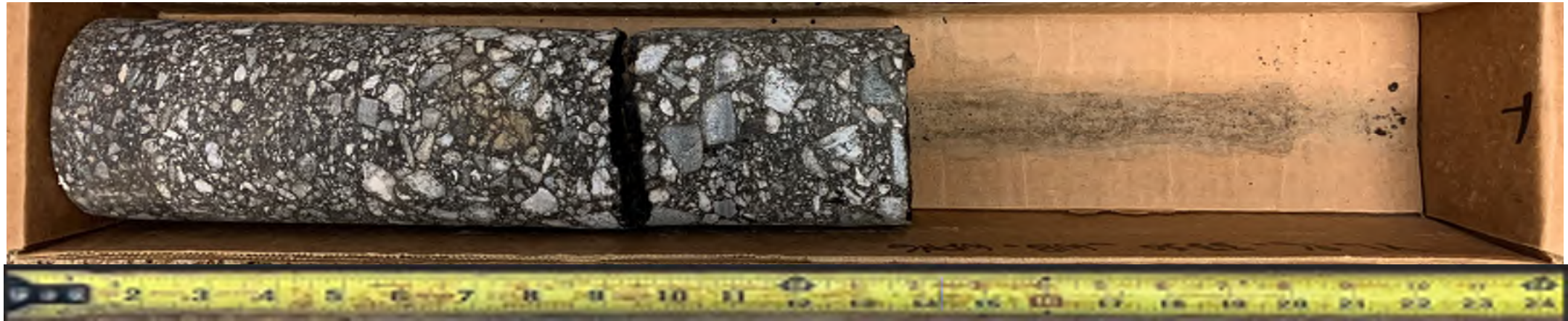
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Y1_PC_3350_WB WDNG

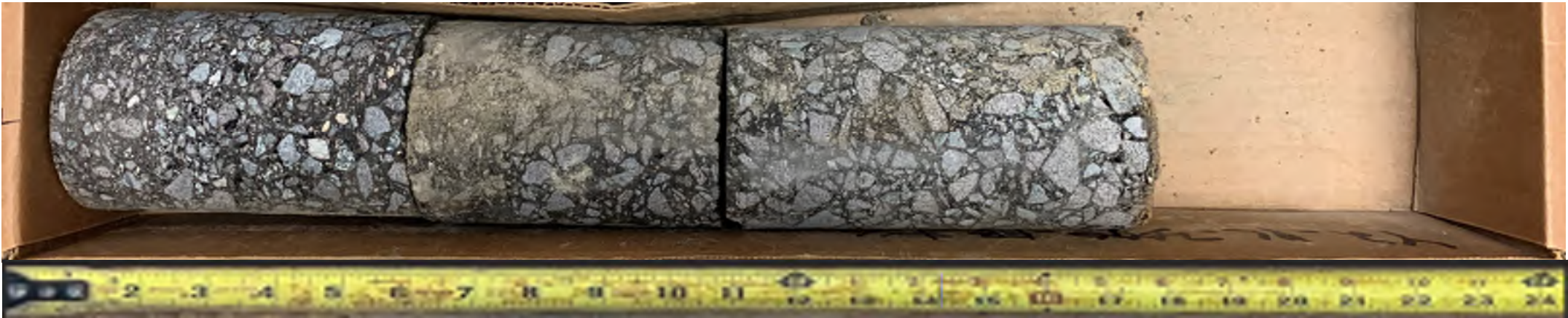


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PAVEMENT CORE PHOTOGRAPHS
TIP No. U-6187|Davie County, NC

Y2_PC_3000_EB ISS



TOP

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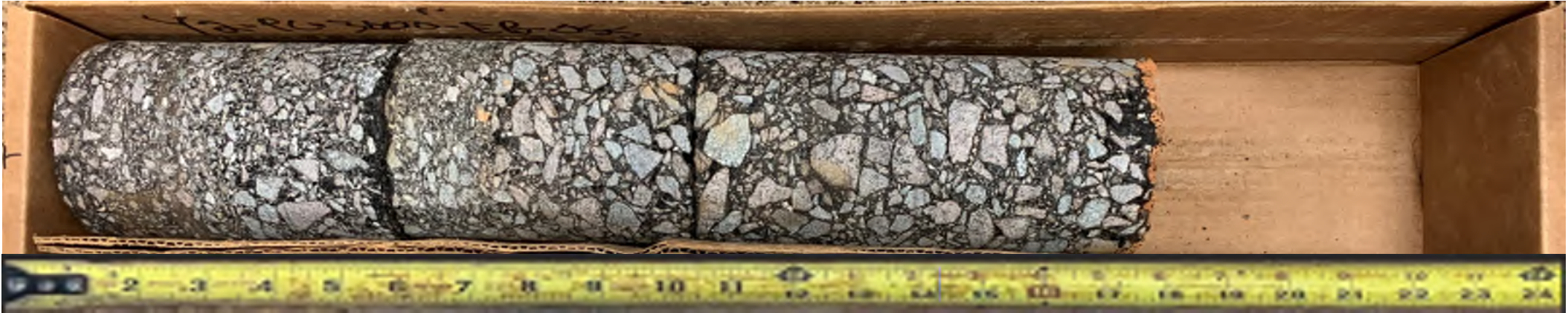
Y2_PC_3000_EB OSL



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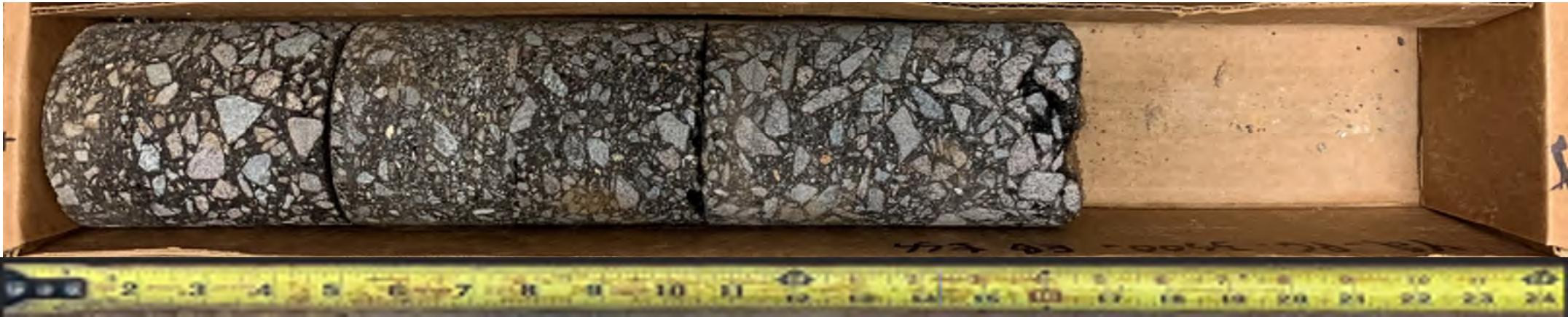


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PAVEMENT CORE PHOTOGRAPHS
TIP No. U-6187|Davie County, NC

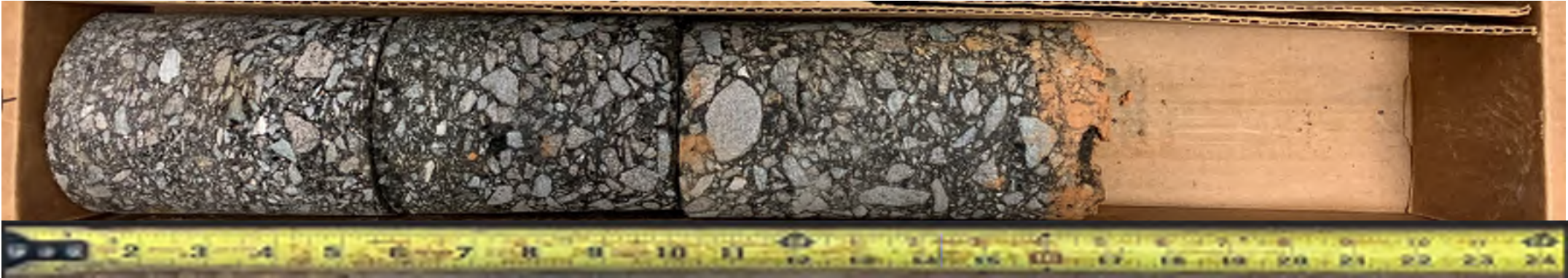
Y2_PC_3500_EB ISS



TOP

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Y2_PC_3500_EB OSS



TOP

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Y2_PC_6400_EB ISS

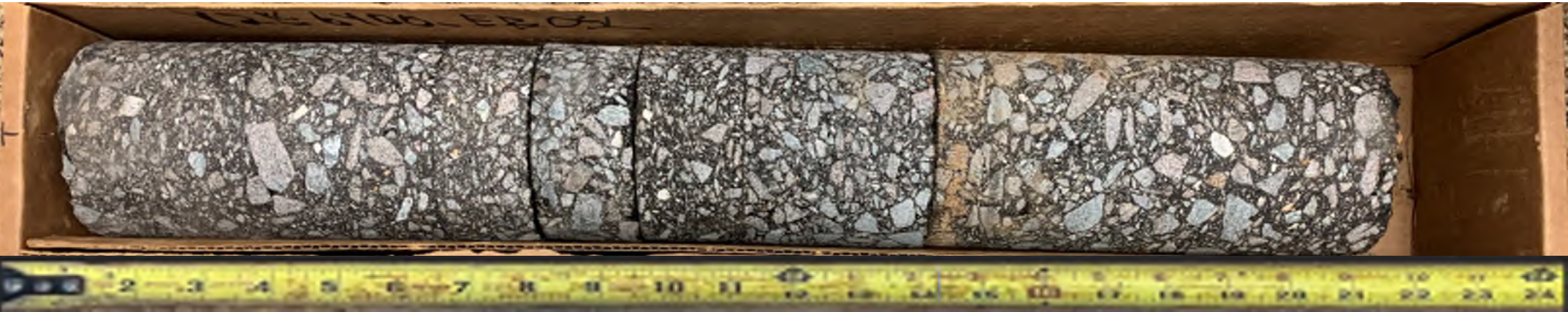


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PAVEMENT CORE PHOTOGRAPHS
TIP No. U-6187|Davie County, NC

Y2_PC_6400_EB OSL



TOP

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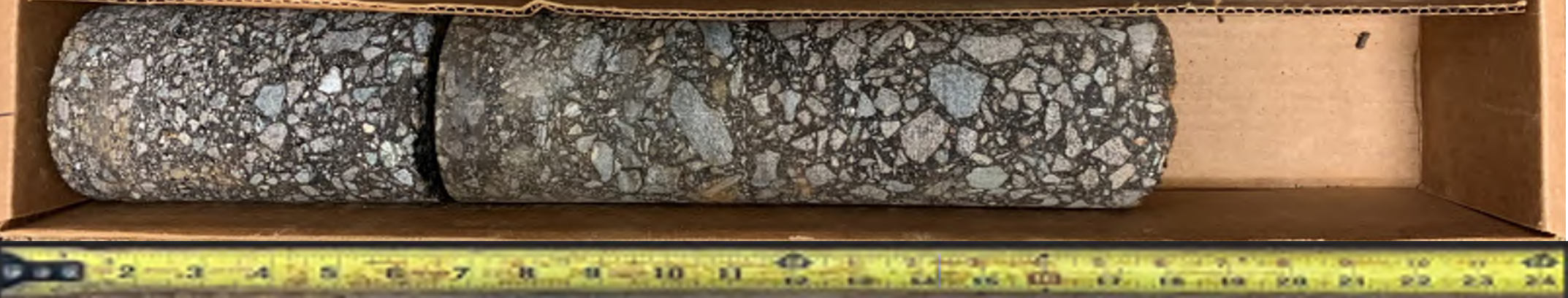
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Y2_PC_2000_WB ISS

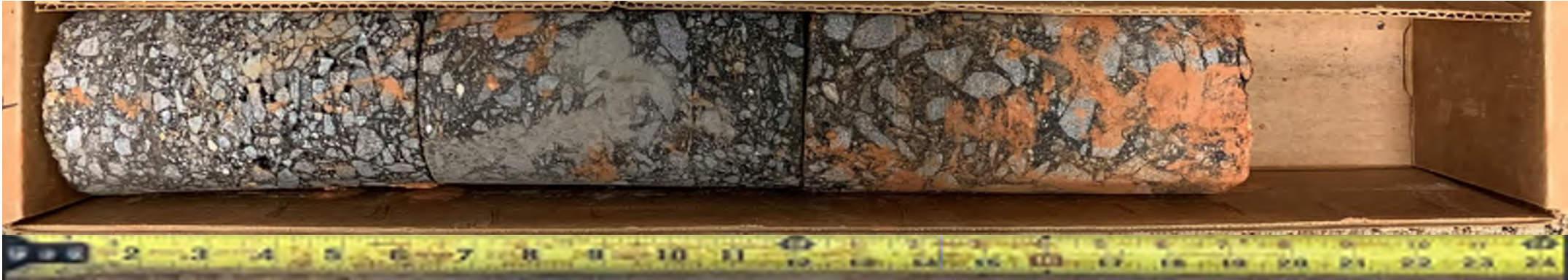


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PAVEMENT CORE PHOTOGRAPHS
TIP No. U-6187|Davie County, NC

Y2_PC_2000_WB OSS



TOP

BOTTOM

Y2_PC_2500_WB ISS



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Y2_PC_2500_WB OSL



TOP

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PAVEMENT CORE PHOTOGRAPHS
TIP No. U-6187|Davie County, NC

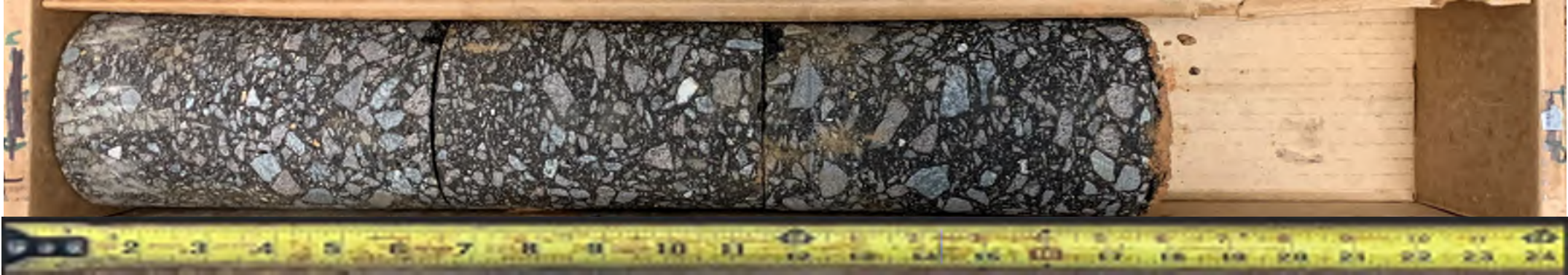
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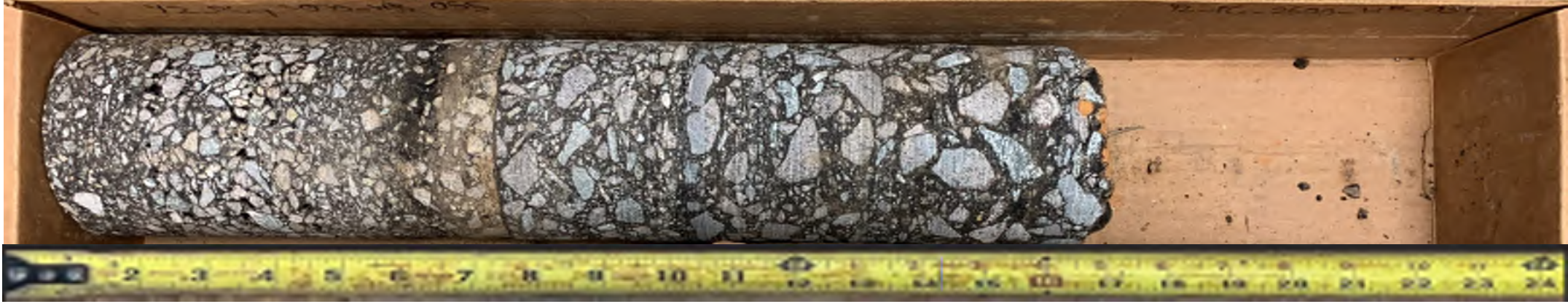
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Y2_PC_3000_WB OSS

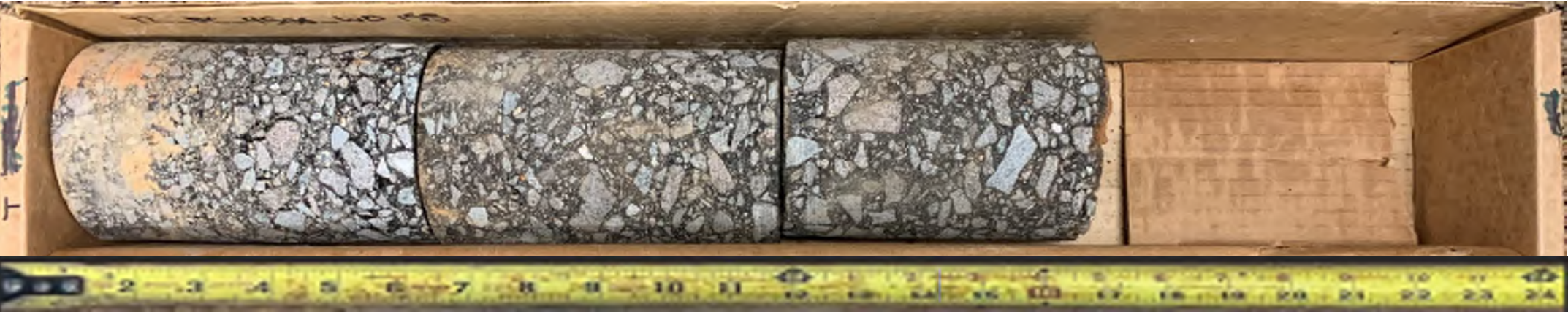


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PAVEMENT CORE PHOTOGRAPHS
TIP No. U-6187|Davie County, NC

Y2_PC_4500_WB ISS



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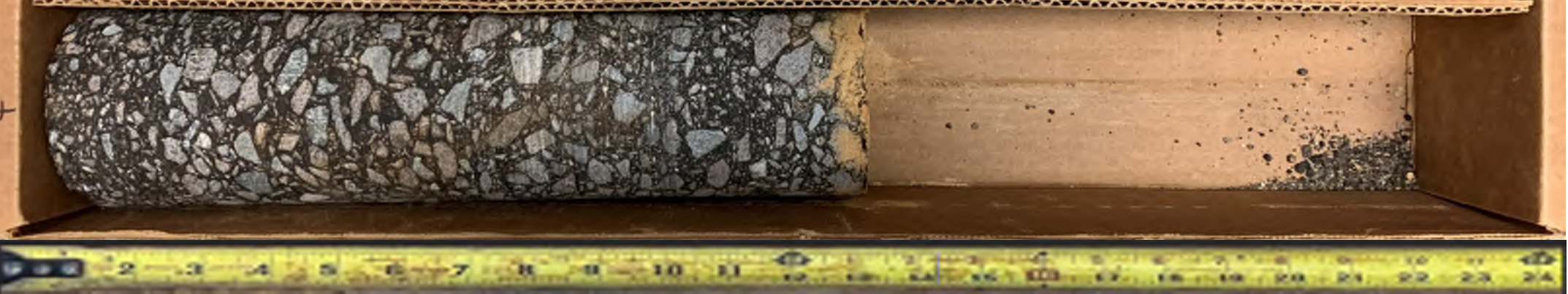
Y2_PC_4500_WB ISL



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Y2_PC_4500_WB OSS

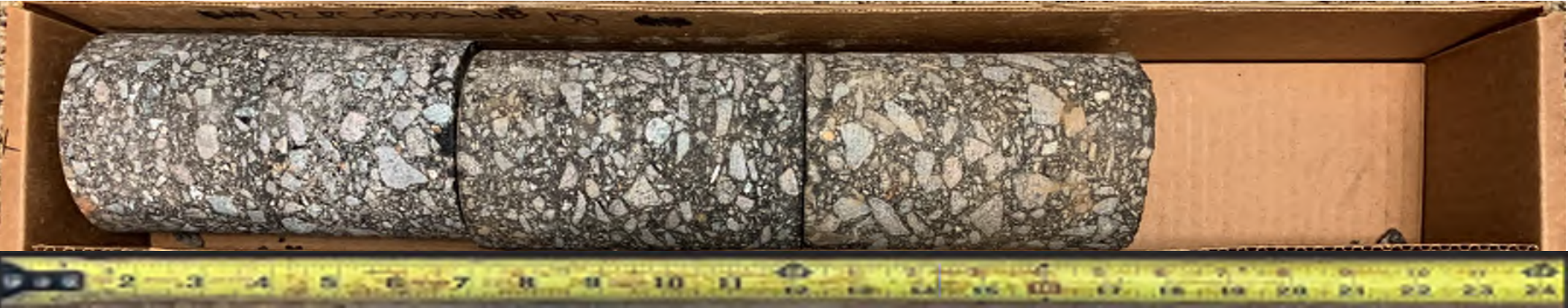


TOP

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PAVEMENT CORE PHOTOGRAPHS
TIP No. U-6187|Davie County, NC

Y2_PC_5000_WB ISS



TOP

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Y2_PC_5000_WB OSS



TOP

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Y4_PC_1370_EB LN



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S:\GINT\PROJECTS\223294 SCHNABEL U6187 BALTIMORE RD EXTENSION.GPJ

LABORATORY SUMMARY SHEET

AASHTO Standard Specifications

(As modified by NCDOT, Material and Tests Unit, 2000.)

TEST RESULTS															
Proj. Sample Number	SS-37	SS-25	SS-15	SS-6	SS-1	SS-49	SS-55	SS-57	SS-62	SS-71	SS-82	SS-86	SS-100	SS-109	SS-112
Lab Sample Number	SS-37	SS-25	SS-15	SS-6	SS-1	SS-49	SS-55	SS-57	SS-62	SS-71	SS-82	SS-86	SS-100	SS-109	SS-112
Retained #4 Sieve %	0.1	0.1	0	0	3.0	0.1	0	0.5	0.8	0	0	0	0	0	0.1
Passing #10 Sieve %	99.5	99.7	100	99.9	94.8	99.9	100	98.8	98.6	99.9	100	100	100	100	99.8
Passing #40 Sieve %	92	91	98	98	84	99	89	92	92	96	96	98	90	94	94
Passing #200 Sieve %	66	36	85	78	50	91	53	65	73	85	61	83	48	56	67
MINUS NUMBER 10 FRACTION															
SOIL MORTAR - 100%															
Coarse Sand Ret.-#60 %	15.5	22.6	5.0	4.4	17.2	1.9	20.9	12.5	12.7	7.0	10.9	4.9	19.6	12.1	13.4
Fine Sand Ret.-#270 %	23.3	49.0	12.9	22.1	35.4	9.5	32.5	25.7	15.9	10.5	37.3	16.6	39.6	42.4	26.2
Silt 0.05 - 0.005mm %	18.9	16.6	16.1	23.5	25.1	17.1	18.2	18.6	19.7	10.7	20.3	23.2	22.1	28.3	26.4
Clay <0.005mm %	42.3	11.8	65.9	50.0	22.3	71.5	28.4	43.2	51.7	71.8	31.5	55.3	18.7	17.2	34.0
Liquid Limit (LL)	54	43	73	71	36	87	50	43	52	66	50	68	42	51	50
Plasticity Index (PI)	20	4	43	21	10	47	11	19	23	22	8	29	6	4	13
AASHTO Classification /Group Index	A-7-5(13)	A-5(0)	A-7-5(41)	A-7-5(23)	A-4(3)	A-7-5(52)	A-7-5(5)	A-7-6(11)	A-7-6(18)	A-7-5(25)	A-5(6)	A-7-5(29)	A-5(2)	A-5(3)	A-7-5(10)
Organic Content %	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.6	N/A	N/A	N/A	N/A	N/A	N/A
Station	18+00	20+50	22+50	26+50	28+50	33+00	35+00	37+00	39+00	43+00	47+00	49+00	51+00	53+00	55+00
Offset	0ft CL	0ft CL	0ft CL	0ft CL	0ft CL	0ft CL	0ft CL	0ft CL	0ft CL	0ft CL	30ft RT	30ft LT	30ft RT	30ft LT	30ft RT
Alignment															
Boring Identification	L-1800	L-2050	L-2250	L-2650	L-2850	L-3300	L-3500	L-3700	L-3900	L-4300	L-4700	L-4900	L-5100	L-5300	L-5500
Depth (FT)	3.7	13.5	3.5	3.4	0.0	3.5	6.5	0.0	0.0	3.5	8.5	3.5	8.5	18.5	3.5
to	5.2	15.0	5.0	4.9	1.5	5.0	8.0	1.5	1.5	5.0	10.0	5.0	10.0	20.0	5.0
Field Moist. Content %	13	40	29	37	18	42	35	19	29	24	22	27	30	24	22
Tested By	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON
Submitted By	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL
Date Submitted	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23

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Laboratory Manager

Report Date: 12/18/2023
Laboratory Report Page 1 of 3

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LABORATORY SUMMARY SHEET

AASHTO Standard Specifications

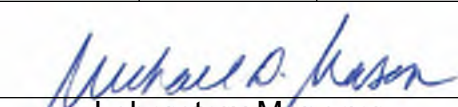
(As modified by NCDOT, Material and Tests Unit, 2000.)

TEST RESULTS															
Proj. Sample Number	SS-116	SS-125	SS-197	SS-130	SS-203	SS-205	SS-133	SS-145	SS-149	SS-151	SS-163	SS-207	SS-208	SS-211	SS-232
Lab Sample Number	SS-116	SS-125	SS-197	SS-130	SS-203	SS-205	SS-133	SS-145	SS-149	SS-151	SS-163	SS-207	SS-208	SS-211	SS-232
Retained #4 Sieve %	0	1.9	0.6	0	0.4	0.3	0.6	2.6	0	1.1	0.1	8.3	0	0	5.3
Passing #10 Sieve %	100	98.1	90.6	100	95.4	95.0	97.6	90.3	99.9	94.9	99.0	86.3	100	97.7	84.2
Passing #40 Sieve %	83	84	57	98	82	69	88	78	99	80	87	72	99	79	56
Passing #200 Sieve %	45	38	34	60	47	48	69	60	91	50	39	47	67	26	34
MINUS NUMBER 10 FRACTION															
SOIL MORTAR - 100%															
Coarse Sand Ret.-#60 %	27.7	29.1	46.5	6.4	22.4	35.1	14.9	19.1	2.3	23.8	29.7	25.9	4.9	37.9	44.0
Fine Sand Ret.-#270 %	34.4	39.6	20.9	44.1	37.1	20.3	17.5	18.1	9.3	30.4	38.6	22.9	37.6	41.4	18.6
Silt 0.05 - 0.005mm %	27.0	22.5	19.0	30.6	24.2	30.8	23.5	19.9	48.1	31.5	22.7	24.1	32.5	12.4	13.0
Clay <0.005mm %	10.9	8.8	13.6	19.0	16.3	13.8	44.2	42.9	40.3	14.4	9.1	27.1	25.0	8.3	24.4
Liquid Limit (LL)	36	NP	32	56	55	38	49	53	56	NP	31	NEM	58	NP	49
Plasticity Index (PI)	3	NP	3	11	9	4	19	26	18	NP	3	-	9	NP	23
AASHTO Classification /Group Index	A-4(0)	A-4(0)	A-4(0)	A-7-5(8)	A-5(4)	A-4(1)	A-7-5(14)	A-7-6(16)	A-7-5(22)	A-4(0)	A-4(0)	()	A-5(9)	A-2-4(0)	A-7-6(4)
Organic Content %	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.2	N/A	N/A	N/A
Station	55+00	57+00	58+50	59+00	59+50	59+50	61+00	63+00	63+00	63+00	65+00	67+00	67+00	67+00	69+00
Offset	30ft RT	30ft LT	0ft CL	0ft CL	0ft CL	0ft CL	40ft LT	30ft RT	30ft RT	30ft RT	10ft LT	80ft RT	80ft RT	80ft RT	70ft LT
Alignment															
Boring Identification	L-5500	L-5700	L-5850	L-5900	L-5950	L-5950	L-6100	L-6300	L-6300	L-6300	L-6500	L-6700	L-6700	L-6700	L-6900
Depth (FT)	18.5	18.5	13.5	6.5	8.5	18.5	0.0	0.0	13.5	23.5	43.5	0.0	3.5	13.5	8.5
to	20.0	20.0	15.0	8.0	10.0	20.0	1.5	1.5	15.0	25.0	45.0	1.5	5.0	15.0	10.0
Field Moist. Content %	21	29		40	26	57	25	24	40	37	23		56	55	22
Tested By	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON
Submitted By	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL
Date Submitted	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23

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Laboratory Manager

Report Date: 12/18/2023
Laboratory Report Page 2 of 3

LABORATORY SUMMARY SHEET

AASHTO Standard Specifications
(As modified by NCDOT, Material and Tests Unit, 2000.)

TEST RESULTS															
Proj. Sample Number	SS-165	SS-167	SS-172	SS-241	SS-246	SS-249									
Lab Sample Number	SS-165	SS-167	SS-172	SS-241	SS-246	SS-249									
Retained #4 Sieve %	0.2	0	0	1.0	0	7.8									
Passing #10 Sieve %	97.6	99.6	100	97.2	100	84.1									
Passing #40 Sieve %	87	82	98	87	92	56									
Passing #200 Sieve %	59	38	44	56	48	13									
MINUS NUMBER 10 FRACTION															
SOIL MORTAR - 100%															
Coarse Sand Ret.-#60 %	18.1	32.0	14.5	18.5	20.7	56.6									
Fine Sand Ret.-#270 %	25.4	37.2	49.1	29.3	40.9	31.7									
Silt 0.05 - 0.005mm %	23.9	21.8	23.0	21.8	29.4	9.4									
Clay <0.005mm %	32.6	8.9	13.4	30.4	9.0	2.4									
Liquid Limit (LL)	45	49	44	38	33	NP									
Plasticity Index (PI)	17	4	9	14	5	NP									
AASHTO Classification /Group Index	A-7-6(9)	A-5(0)	A-5(2)	A-6(6)	A-4(0)	A-2-4(0)									
Organic Content %	5.0	N/A	N/A	N/A	N/A	N/A									
Station	66+00	66+00	66+00	66+00	66+00	66+00									
Offset	120ft LT	120ft LT	120ft LT	120ft RT	120ft RT	120ft RT									
Alignment															
Boring Identification	LCULV1_LT	LCULV1_LT	LCULV1_LT	LCULV1_RT	LCULV1_RT	LCULV1_RT									
Depth (FT)	0.0	6.5	28.5	0.0	18.5	33.5									
to	1.5	8.0	30.0	1.5	20.0	33.9									
Field Moist. Content %	59	49	41	53	31	12									
Tested By	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON									
Submitted By	QHILL	QHILL	QHILL	QHILL	QHILL	QHILL									
Date Submitted	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23	11/22/23									

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Laboratory Manager

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LABORATORY SUMMARY SHEET

AASHTO Standard Specifications
(As modified by NCDOT, Material and Tests Unit, 2000.)

TEST RESULTS															
Proj. Sample Number	SS-394	S-29	SS-1067	SS-360	SS-358	SS-405	SS-265	SS-106	S-27	S-24	S-25	S-22	S-23	S-21	SS-9006
Lab Sample Number	SS-394	S-29	SS-1067	SS-360	SS-358	SS-405	SS-265	SS-106	S-27	S-24	S-25	S-22	S-23	S-21	SS-9006
Retained #4 Sieve %	0	0.9	0	7.5	0.6	0	0	0	0.3	0.1	0	2.5	1.9	3.4	0.2
Passing #10 Sieve %	100	95.2	100	89.5	98.5	100	100	99.8	99.7	99.9	99.5	90.2	93.1	96.1	99.4
Passing #40 Sieve %	96	78	96	77	88	99	99	97	97	98	95	70	75	89	94
Passing #200 Sieve %	46	46	61	54	66	87	89	84	78	67	70	43	43	53	77
MINUS NUMBER 10 FRACTION															
SOIL MORTAR - 100%															
Coarse Sand Ret.-#60 %	16.2	28.2	12.8	21.2	15.1	2.5	2.8	5.9	7.5	6.6	8.7	28.9	27.6	17.2	10.1
Fine Sand Ret.-#270 %	46.2	29.0	34.0	21.7	22.3	16.8	10.6	22.3	18.9	58.1	26.0	28.4	32.2	34.4	15.5
Silt 0.05 - 0.005mm %	26.1	23.7	42.9	29.4	35.7	43.5	48.9	12.6	26.3	0.5	20.6	20.1	22.6	26.4	37.7
Clay <0.005mm %	11.5	19.2	10.3	27.7	26.8	37.2	37.8	59.2	47.3	34.8	44.8	22.6	17.6	22.0	36.7
Liquid Limit (LL)	54	23	53	47	66	63	72	73	61	43	55	31	26	27	50
Plasticity Index (PI)	5	8	8	20	26	16	33	35	31	21	27	17	10	7	16
AASHTO Classification /Group Index	A-5(1)	A-4(1)	A-5(6)	A-7-6(11)	A-7-5(19)	A-7-5(21)	A-7-5(36)	A-7-5(35)	A-7-5(27)	A-7-6(13)	A-7-6(19)	A-6(4)	A-4(2)	A-4(2)	A-7-5(15)
Organic Content %	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Station	72+09	13+00	10+50	13+50	15+50	21+50	20+00	12+50	11+00	19+00	19+00	33+50	33+50	35+00	30+00
Offset	21ft LT	5ft RT	20ft RT	30ft LT	35ft RT	25ft RT	15ft LT	25ft RT	2ft RT	6ft RT	1ft RT	7ft RT	3ft RT	7ft LT	14ft RT
Alignment															
Boring Identification	EB2_A	L_PC_1300_EB LN	LPB_1050	RPB_1350	RPB_1550	RPB_2150	RPD_2000	Y1_1250	Y1_PC_1100 WB LN WDNG	Y1_PC_1900 EB LN	Y1_PC_1900 EB PS	Y1_PC_3350 CENTER LTL	Y1_PC_3350 EB LN WDNG	Y1_PC_3500 WB WDNG	Y2_AP_3000 WB IGM
Depth (FT)	34.4	1.2	18.5	0.0	13.5	8.5	8.5	3.5	2.0	2.5	2.5	2.5	3.0	2.0	3.5
	to 35.9	2.0	20.0	1.5	15.0	10.0	10.0	5.0	2.5	3.0	3.0	3.0	3.5	2.3	5.0
Field Moist. Content %	66	9	58	40	62	50	70	31	32	27	30	15	18	20	33
Tested By	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON
Submitted By	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE
Date Submitted	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24

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Laboratory Manager

Report Date: 1/30/2024
Laboratory Report Page 1 of 3

LABORATORY SUMMARY SHEET

AASHTO Standard Specifications
(As modified by NCDOT, Material and Tests Unit, 2000.)

TEST RESULTS															
Proj. Sample Number	SS-1015	SS-523	SS-1010	SS-1011	SS-519	SS-1022	S-12	S-06	S-04	S-10	S-15	S-08	S-02	S-07	S-17
Lab Sample Number	SS-1015	SS-523	SS-1010	SS-1011	SS-519	SS-1022	S-12	S-06	S-04	S-10	S-15	S-08	S-02	S-07	S-17
Retained #4 Sieve %	1.9	2.4	6.9	1.2	5.1	0	0	0	0.2	0.3	0.1	2.9	0	0.2	1.8
Passing #10 Sieve %	95.8	93.8	89.9	86.8	90.7	99.8	100	99.8	99.2	99.2	98.7	95.8	100	97.7	97.1
Passing #40 Sieve %	87	83	78	61	83	99	93	99	94	92	92	90	99	88	88
Passing #200 Sieve %	74	64	60	42	64	87	65	90	79	72	73	61	87	70	67
MINUS NUMBER 10 FRACTION															
SOIL MORTAR - 100%															
Coarse Sand Ret.-#60 %	12.7	17.3	20.4	38.1	13.5	2.6	15.1	2.7	9.1	11.7	10.8	12.2	3.2	15.2	15.5
Fine Sand Ret.-#270 %	12.8	19.1	15.4	17.7	21.7	15.9	25.7	10.2	15.8	21.0	20.6	30.7	15.4	16.1	19.7
Silt 0.05 - 0.005mm %	14.5	28.9	22.7	25.6	32.3	41.5	27.5	25.8	31.2	24.5	26.1	28.4	45.2	15.4	20.4
Clay <0.005mm %	59.9	34.8	41.5	18.7	32.5	40.0	31.7	61.3	43.9	42.8	42.5	28.7	36.2	53.3	44.4
Liquid Limit (LL)	67	52	59	42	51	62	42	87	65	58	55	60	54	58	52
Plasticity Index (PI)	28	24	30	13	18	22	18	41	31	24	18	19	14	31	28
AASHTO Classification /Group Index	A-7-5(25)	A-7-6(16)	A-7-6(20)	A-7-6(4)	A-7-5(13)	A-7-5(25)	A-7-6(10)	A-7-5(48)	A-7-5(28)	A-7-5(19)	A-7-5(15)	A-7-5(13)	A-7-5(17)	A-7-6(23)	A-7-6(19)
Organic Content %	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Station	40+00	40+00	45+00	45+00	50+00	55+00	20+00	20+00	25+00	30+00	35+00	45+00	45+00	50+00	64+00
Offset	13ft RT	7ft RT	14ft RT	14ft RT	7ft RT	6ft RT	6ft RT	6ft RT	3ft RT	6ft RT	6ft RT	4ft RT	7ft RT	6ft RT	7ft RT
Alignment															
Boring Identification	Y2_AP_4000 EB IGM	Y2_AP_4000 EB ISS	Y2_AP_4500 EB OGM	Y2_AP_4500 EB OGM	Y2_AP_5000 EB ISS	Y2_AP_5500 EB ISS	Y2_PC_2000 WB ISS	Y2_PC_2000 WB OSS	Y2_PC_2500 WB OSL	Y2_PC_3000 WB ISS	Y2_PC_3500 EB OSS	Y2_PC_4500 WB ISL	Y2_PC_4500 WB OSS	Y2_PC_5000 WB ISS	Y2_PC_6400 EB OSS
Depth (FT)	3.5	1.3	0.0	3.5	2.0	1.5	2.0	3.0	2.0	3.0	2.5	2.3	2.0	2.0	2.5
to	5.0	1.8	1.5	5.0	3.5	3.0	2.5	4.0	2.5	3.5	3.0	2.8	2.5	2.5	5.0
Field Moist. Content %	26	16	32	21	21	37	25	54	31	31	30	31	40	24	27
Tested By	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON	MDMASON
Submitted By	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE	JROSE
Date Submitted	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24	01/09/24

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Laboratory Manager

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Laboratory Report Page 2 of 3

LABORATORY SUMMARY SHEET

AASHTO Standard Specifications
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TEST RESULTS															
Proj. Sample Number	SS-480	SS-487	SS-30	S-31											
Lab Sample Number	SS-480	SS-487	SS-30	S-31											
Retained #4 Sieve %	1.4	3.2	7.8	4.2											
Passing #10 Sieve %	97.0	93.4	86.9	92.4											
Passing #40 Sieve %	93	84	76	84											
Passing #200 Sieve %	52	59	56	67											
MINUS NUMBER 10 FRACTION															
SOIL MORTAR - 100%															
Coarse Sand Ret.-#60 %	10.0	16.7	19.8	14.5											
Fine Sand Ret.-#270 %	48.0	26.8	18.9	16.9											
Silt 0.05 - 0.005mm %	27.9	40.9	37.9	6.1											
Clay <0.005mm %	14.0	15.6	23.5	62.5											
Liquid Limit (LL)	33	39	55	55											
Plasticity Index (PI)	3	7	31	29											
AASHTO Classification /Group Index	A-4(0)	A-4(4)	A-7-6(19)	A-7-6(21)											
Organic Content %	N/A	N/A	N/A	N/A											
Station	29+55	32+05	11+50	13+70											
Offset	55ft RT	120ft RT	20ft LT	5ft RT											
Alignment															
Boring Identification	Y2CULV2_LT	Y2CULV2_RT	Y4_1150	Y4_PC_1370 EB LN											
Depth (FT) to	6.0	18.5	0.0	1.8											
	7.5	20.0	1.5	3.0											
Field Moist. Content %	42	41	22	30											
Tested By	MDMASON	MDMASON	MDMASON	MDMASON											
Submitted By	JROSE	JROSE	JROSE	JROSE											
Date Submitted	01/09/24	01/09/24	01/09/24	01/09/24											

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Report Date: 1/30/2024
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S:\GINT\PROJECTS\223294 SCHNABEL U6187 BALTIMORE RD EXTENSION.GPJ



PROJECT REFERENCE NO.	SHEET NO.
U-6187	-

County: Davie

Description: U-6187 Baltimore Road Extension

[illegible]

NP = Not Plastic
NT = Not Tested
ND = Not Determined

Henry Sanchez
Lab Manager, Certification No. 101-04-0603

W. Patrick Alton, P.E.
Soils Engineer

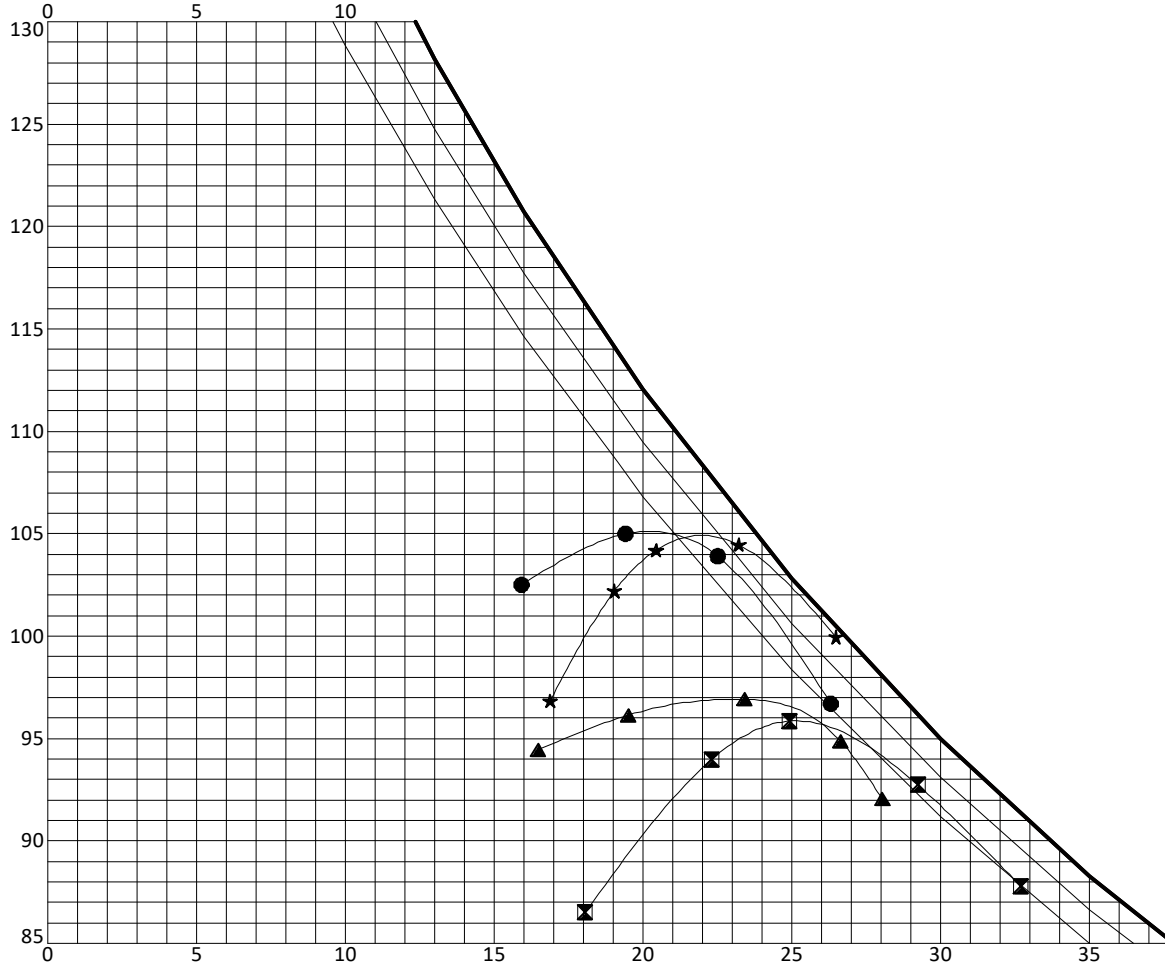


Project No: 66C-0009

Client: Schnabel Engineering South, PC

Project: U-6187 Baltimore Road Extension

City/State: Winston-Salem, NC



Sample	Depth (ft)	Classification	LL	PL	PI	% GRAVEL (+ #10)	% SAND (#10 - #200)	% FINES (- #200)
● BS-01	0.0' - 5.0'	A-7-5 (4)	46	30	16	8.6	46.4	45.0
⊠ BS-03	0.0' - 5.0'	A-7-5 (13)	56	39	17	3.8	22.8	73.4
▲ BS-07	1.3' - 6.3'	A-7-5 (13)	55	36	19	4.8	27.2	68.0
★ BS-13	0.0' - 5.0'	A-7-6 (9)	42	24	18	6.2	31.2	62.6

Sample	Max Dry Density (pcf)	Optimum Moisture (%)	AASHTO	Sample Location	Natural Moisture (%)	Sample Notes
● BS-01	105.1	20.2	T-99 A	Y2_AP_3500_WB OGS	27.2	5.5 lb. Hammer, 12" Drop
⊠ BS-03	95.9	25.1	T-99 A	Y2_AP_2500_WB GM	23.1	5.5 lb. Hammer, 12" Drop
▲ BS-07	96.9	23.0	T-99 A	Y2_AP_5500_EB ISS	29.1	5.5 lb. Hammer, 12" Drop
★ BS-13	104.9	22.0	T-99 A	Y12850HA	25.6	5.5 lb. Hammer, 12" Drop

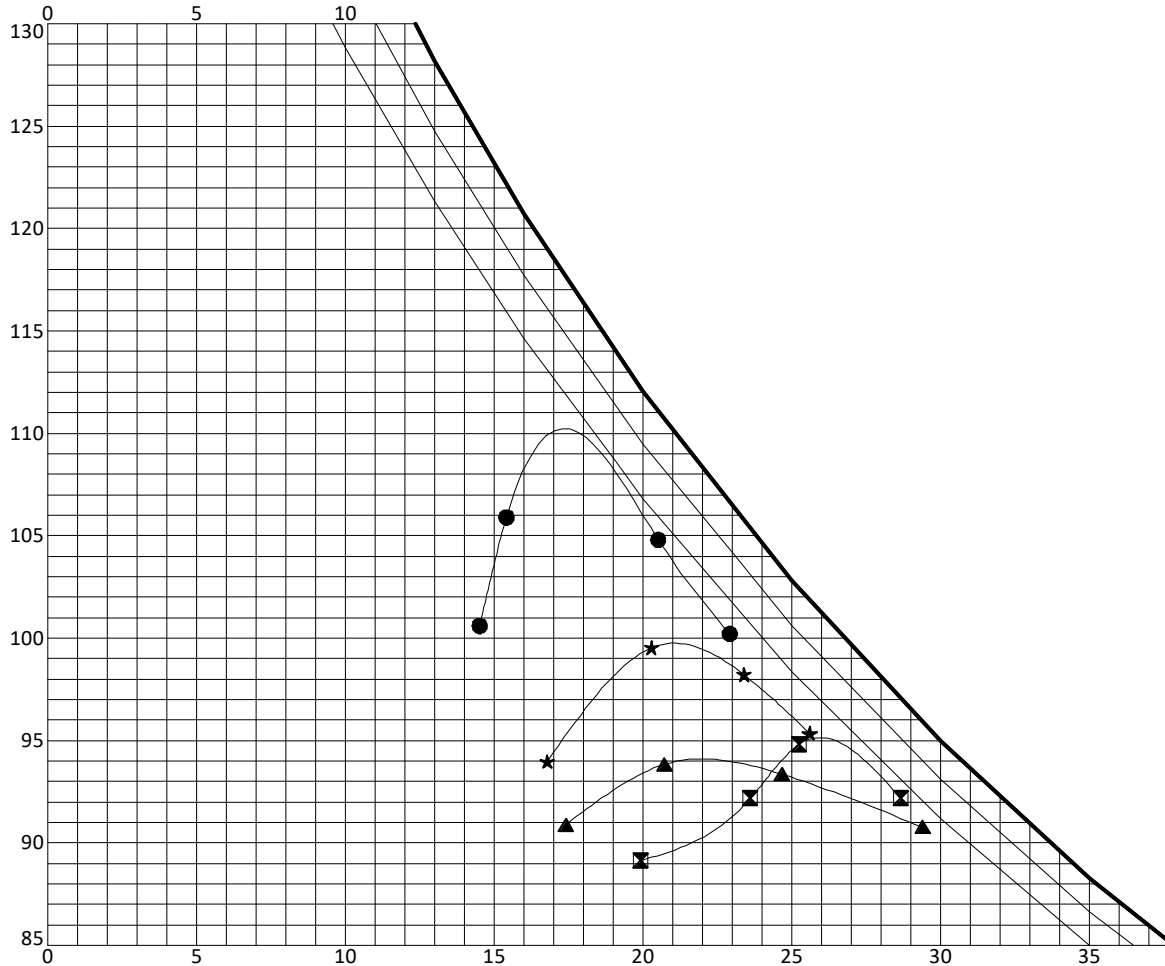


Project No: 66C-0009

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Project: U-6187 Baltimore Road Extension

City/State: Winston-Salem, NC

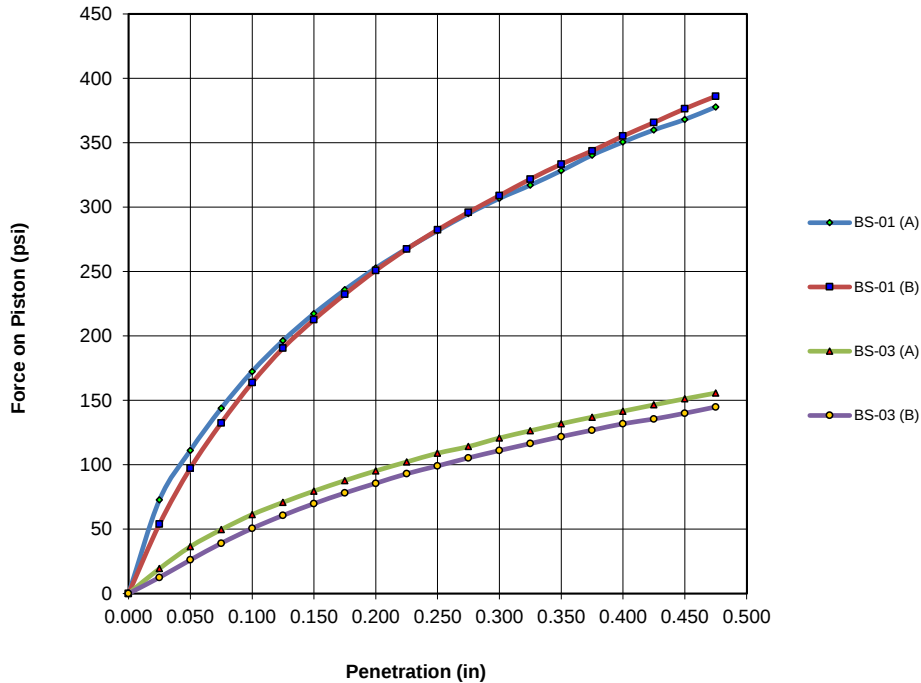


Sample	Depth (ft)	Classification	LL	PL	PI	% GRAVEL (+ #10)	% SAND (#10 - #200)	% FINES (- #200)
● BS-01	0.0' - 5.0'	A-7-5 (4)	46	30	16	8.6	46.4	45.0
☒ BS-03	0.0' - 5.0'	A-7-5 (13)	56	39	17	3.8	22.8	73.4
▲ BS-07	1.3' - 6.3'	A-7-5 (13)	55	36	19	4.8	27.2	68.0
★ BS-13	0.0' - 5.0'	A-7-6 (9)	42	24	18	6.2	31.2	62.6

Sample	Max Dry Density (pcf)	Optimum Moisture (%)	AASHTO	Sample Location	Natural Moisture (%)	Sample Notes
● BS-01	110.2	17.3	T-134	Y2_AP_3500_WB OGS	27.2	10% Cement Added
☒ BS-03	95.2	26.0	T-134	Y2_AP_2500_WB GM	23.1	4% Lime Added
▲ BS-07	94.1	22.0	T-134	Y2_AP_5500_EB ISS	29.1	4% Lime Added
★ BS-13	99.8	21.1	T-134	Y12850HA	25.6	4% Lime Added

California Bearing Ratio Test Report - AASHTO T193

Load Penetration Curve



SOAKED CBR TEST RESULTS

Results		BS-01 (A)	BS-01 (B)	BS-03 (A)	BS-03 (B)					
0.1" Penetration		17.2	16.4	6.1	5.1					
0.2" Penetration		16.9	16.7	6.4	5.7					
Moisture Before Soaking (%)		20.1	20.1	27.0	27.0					
Dry Density Before Soaking (pcf)		104.7	104.4	95.5	95.6					
Moisture - Top 1" After Soaking (%)		22.6	22.5	29.3	30.2					
Surcharge Weight (lbs.)		10.0	10.0	10.0	10.0					
Project Information				Natural Moisture (%)						
Project Name:		Baltimore Road Extension (U-6187)			BS-01		27.2			
Client Name:		Schnabel Engineering South, PC			BS-03		23.1			
Project Number:		66C-0009			Percent Swell		A	B		
Date Received:		1/12/2024			BS-01		0.070	0.120		
Project Location:		Winston-Salem, NC			BS-03		0.420	0.200		
Sample Information				Proctor Test Method (AASHTO T99)						
Sample Number		Description			Max. Dry Density (pcf)		Optimum Moisture %			
BS-01		A-7-5 (4)			105.1		20.2			
BS-03		A-7-5 (13)			95.9		25.1			
Sample Number		Sample Location			AASHTO (M145)		% - #200		% +19mm	
BS-01		Y2_AP_3500_WB OGS			A-7-5		45.0		2.0	
BS-03		Y2_AP_2500_WB GM			A-7-5		73.4		0.9	
Specific Gravity		Remarks								
BS-01	2.753	BS-01	Specific Gravity Measured							
BS-03	2.746	BS-03	Specific Gravity Measured							

Performed By:

Henry Sanchez

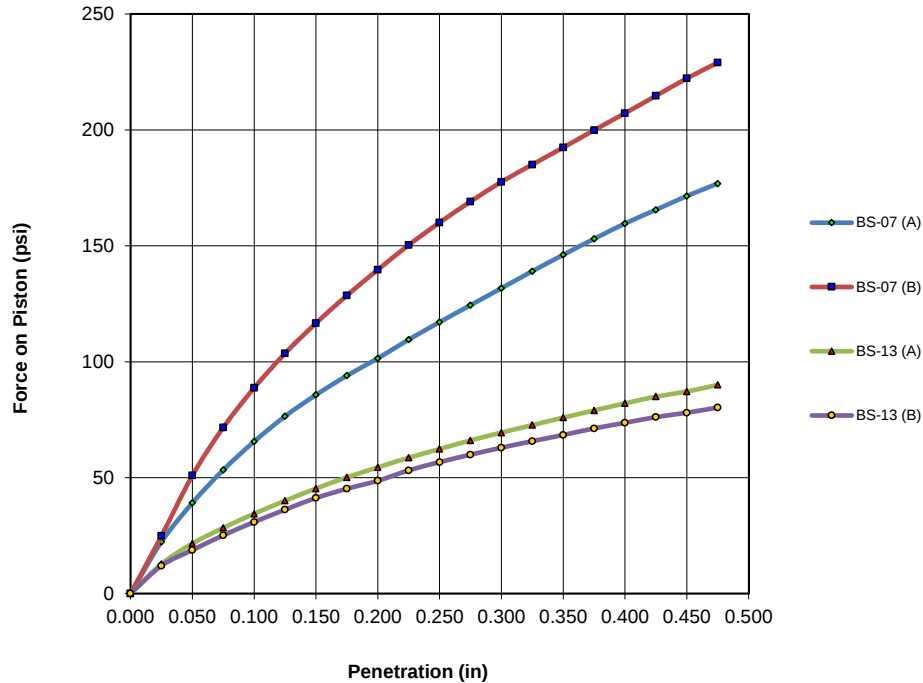
Date:

2/20/2024



California Bearing Ratio Test Report - AASHTO T193

Load Penetration Curve



SOAKED CBR TEST RESULTS

Results		BS-07 (A)	BS-07 (B)	BS-13 (A)	BS-13 (B)		
0.1" Penetration		6.6	8.9	3.4	3.1		
0.2" Penetration		6.8	9.3	3.6	3.2		
Moisture Before Soaking (%)		22.8	22.8	24.5	24.5		
Dry Density Before Soaking (pcf)		98.0	99.3	100.8	99.8		
Moisture - Top 1" After Soaking (%)		32.5	30.0	24.5	25.3		
Surcharge Weight (lbs.)		10.0	10.0	10.0	10.0		
Project Information				Natural Moisture (%)			
Project Name:		Baltimore Road Extension (U-6187)		BS-07		29.1	
Client Name:		Schnabel Engineering South, PC		BS-13		25.6	
Project Number:		66C-0009		Percent Swell		A	B
Date Received:		2/20/2024		BS-07		1.280	1.080
Project Location:		Winston-Salem, NC		BS-13		0.050	0.360
Sample Information				Proctor Test Method (AASHTO T99)			
Sample Number		Description		Max. Dry Density (pcf)		Optimum Moisture %	
BS-07		A-7-5 (13)		96.9		23.0	
BS-13		A-7-6 (9)		104.9		22.0	
Sample Number		Sample Location		AASHTO (M145)		% - #200	% +19mm
BS-07		Y2_AP_5500_EB ISS		A-7-5		68.0	0.2
BS-13		Y12850HA		A-7-6		62.6	2.0
Specific Gravity		Remarks					
BS-07	2.677	BS-07	Specific Gravity Measured				
BS-13	2.776	BS-13	Specific Gravity Measured				

Performed By:

Henry Sanchez

Date:

2/20/2024


Summary of Soil-Lime and Soil-Cement Unconfined Compression Testing
Baltimore Road Extension U-6187
F&R Project No. 66C-0009

Sample	Location	Classification	Max Dry Density (pcf)	Optimum Moisture (%)	Additive (%)	Specimen	Unit Wt. (pcf)	Moisture (%)	Compaction (%)	Strength (psi)	Avg Strength (psi)
BS-01	Y2_AP_3500_WB OGS	A-7-5	110.2	17.3	Cement 8%	A	104.8	17.4	95.1	150	135
						B	104.0		94.4	120	
					Cement 10%	A	105.1	17.6	95.4	200	215
						B	107.7		97.7	230	
BS-03	Y2_AP_2500_WB GM	A-7-5	95.2	26.0	Lime 3%	A	94.0	25.3	98.7	30	35
						B	94.0		98.7	40	
					Lime 5%	A	92.3	26.9	97.0	40	40
						B	90.9		95.5	40	
BS-07	Y2_AP_5500_EB ISS	A-7-5	94.1	22.0	Lime 3%	A	95.4	24.4	101.4	50	50
						B	95.1		101.1	50	
					Lime 5%	A	93.3	26.9	99.1	50	45
						B	92.0		97.8	40	
BS-13	Y12850HA	A-7-6	99.8	21.1	Lime 3%	A	101.2	20.6	101.4	40	40
						B	99.8		100.0	40	
					Lime 5%	A	99.4	22.0	99.6	40	40
						B	98.9		99.1	40	