STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

May 24, 2022

MEMORANDUM TO: Clark Morrison PhD, P.E.
State Pavement Design Engineer

Tatia L. White, P.E., PLS
State Roadway Design Engineer

FROM: J. L. Pilipchuk, P.E., L.G.
State Geotechnical Engineer

DocuSigned by:
John Pilipchuk
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STATE PROJECT: 48662.1.1 (U-6202)

COUNTY: New Hanover

DESCRIPTION: SR 2048 (Gordon Road) from US 17 (Market Street) to I-40

SUBJECT: Pavement and Subgrade Investigation Report

The Geotechnical Engineering Unit has completed the evaluation of the pavement and subgrade investigation for this project and presents the following.

The proposed work consists of widening the existing roadway to create a four-lane divided facility with a center raised median and curb and gutter.

The subgrade beneath the existing roadway consists of Coastal Plain and roadway embankment soils. The predominant soil types encountered consists of fine sand (A-3) and silty sands (A-2-4).

Anticipated borrow will likely consist of Coastal Plain, fine sand (A-3), and silty sand (A-2-4).

The length of this project is 2.574 miles.

The mainline is approximately 83 percent embankment.

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RALEIGH NC 27699-1589

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Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC

The existing pavement is in fair to good condition. The common pavement distresses are transverse, longitudinal and block cracks. Severity for these distresses typically ranges from low to moderate. Isolated areas of low to moderate severity fatigue cracks occur along the project and are generally confined to the outside wheel paths of the lane.

AREAS OF SPECIAL GEOTECHNICAL INTEREST

A. Highly Plastic Clays:
Clays soils with a PI of 16 or greater were not encountered during this investigation.

B. Ground water:
Ground water was not observed during this investigation.

C. Soils with a High Moisture Content:
Locations of soils that were classified as wet to saturated

LINE	STATION AND OFFSET	MOISTURE CONTENT
-L-	40+50 WB LN	M-S
-L-	40+50 WB OSL	M-S

(M) = Moist, (W) = Wet, (Sat). = Saturated

JLP/JBB

ATTACHMENT 1:	Pavement and Subgrade Inventory	51
ATTACHMENT 2:	DCP Graphs	25
ATTACHMENT 3:	Pavement Core Evaluation	4

DocuSigned by:
Jeffrey Brian Barfield 05/24/2022
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STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-6202	1	51

REFERENCE: U-6202

PROJECT: 48662.1.1

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

ROADWAY SUBSURFACE INVESTIGATION

COUNTY NEW HANOVER

PROJECT DESCRIPTION SR 2048 (GORDON ROAD)
FROM US 17 (MARKET STREET) TO I-40

PAVEMENT AND SUBGRADE INVENTORY

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CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT (919) 707-6850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (IN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS SHOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT. FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

NOTES:
1. THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS OR CONTRACT FOR THE PROJECT.
2. BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

R. STUDNICKY

T. COGAR

INVESTIGATED BY J. SWARTLEY
DRAWN BY J. NELSON
CHECKED BY V. MITCHEV
SUBMITTED BY V. MITCHEV
DATE MAY 2022

3201 SPRING FOREST ROAD
RALEIGH, NC 27616
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NORTH CAROLINA PROFESSIONAL SEAL 031484 ENGINEER VLADIMIR G. MITCHEV

DocuSigned by:
Vladimir G. Mitchev 05/24/2022
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SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
U-6202	2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

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,
VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)								SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS		
GROUP CLASS.	A-1		A-3	A-2					A-4	A-5	A-6	A-7	A-1, A-2 A-3	A-4, A-5 A-6, A-7	
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7					A-7-5, A-7-6			
SYMBOL															
% PASSING #10	50 MX														
#40	30 MX	50 MX	51 MN												
#200	15 MX	25 MX	10 MX	35 MX	35 MX	35 MX	35 MX		36 MN	36 MN	36 MN	36 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
MATERIAL PASSING #40															
LL	—		—	40 MX	41 MN	40 MX	41 MN		40 MX	41 MN	40 MX	41 MN			
PI	6 MX		NP	10 MX	10 MX	11 MN	11 MN		10 MX	10 MX	11 MN	11 MN	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

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTENCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH ($TONS/FT^2$)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE	< 4	
	LOOSE	4 TO 10	
	MEDIUM DENSE	10 TO 30	
	DENSE	30 TO 50	
	VERY DENSE	> 50	N/A
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT	< 2	< 0.25
	SOFT	2 TO 4	0.25 TO 0.5
	MEDIUM STIFF	4 TO 8	0.5 TO 1.0
	STIFF	8 TO 15	1 TO 2
	VERY STIFF	15 TO 30	2 TO 4
	HARD	> 30	> 4

TEXTURE OR GRAIN SIZE

U.S. STD. SIEVE SIZE	4	10	40	60	200	270
OPENING (MM)	4.76	2.00	0.42	0.25	0.075	0.053

BOULDER (BLDR.)	COBBLE (COB.)	GRAVEL (GR.)	COARSE SAND (CSE. SD.)	FINE SAND (F SD.)	SILT (SL.)	CLAY (CL.)

GRAIN SIZE	MM	305	75	2.0	0.25	0.05	0.005
	IN.	12	3				

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
LL — LIQUID LIMIT		
PLASTIC RANGE (PI)	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
PL — PLASTIC LIMIT		
OM — OPTIMUM MOISTURE	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
SL — SHRINKAGE LIMIT		
	- DRY - (D)	REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE

PLASTICITY

	PLASTICITY INDEX (PI)	DRY STRENGTH
NON PLASTIC	0-5	VERY LOW
SLIGHTLY PLASTIC	6-15	SLIGHT
MODERATELY PLASTIC	16-25	MEDIUM
HIGHLY PLASTIC	26 OR MORE	HIGH

COLOR

DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY), MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.

GRADATION

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.

ANGULARITY OF GRAINS

THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.

MINERALOGICAL COMPOSITION

MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.

COMPRESSIBILITY

SLIGHTLY COMPRESSIBLE	LL < 31
MODERATELY COMPRESSIBLE	LL = 31 - 50
HIGHLY COMPRESSIBLE	LL > 50

PERCENTAGE OF MATERIAL

ORGANIC MATERIAL	GRANULAR SOILS	SILT - CLAY SOILS	OTHER MATERIAL	
TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%	TRACE	1 - 10%
LITTLE ORGANIC MATTER	3 - 5%	5 - 12%	LITTLE	10 - 20%
MODERATELY ORGANIC	5 - 10%	12 - 20%	SOME	20 - 35%
HIGHLY ORGANIC	> 10%	> 20%	HIGHLY	35% AND ABOVE

GROUND WATER

- WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING
- STATIC WATER LEVEL AFTER 24 HOURS
- PW — PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA
- SPRING OR SEEP

MISCELLANEOUS SYMBOLS

- ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION
- SOIL SYMBOL
- ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT
- INFERRED SOIL BOUNDARY
- INFERRED ROCK LINE
- ALLUVIAL SOIL BOUNDARY
- 25/025 — DIP & DIP DIRECTION OF ROCK STRUCTURES
- SPT / CPT / DMT / VST PMT — TEST BORING
- AUGER BORING
- CORE BORING
- MW — MONITORING WELL
- PIEZOMETER INSTALLATION
- SLOPE INDICATOR INSTALLATION
- CONE PENETROMETER TEST
- SOUNDING ROD
- TEST BORING WITH CORE
- SPT N-VALUE

RECOMMENDATION SYMBOLS

- UNDERCUT
- SHALLOW UNDERCUT
- UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE
- UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK
- UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL

ABBREVIATIONS

AR - AUGER REFUSAL
BT - BORING TERMINATED
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
HI. - HIGHLY
MED. - MEDIUM
MICA. - MICACEOUS
MOD. - MODERATELY
NP - NON PLASTIC
ORG. - ORGANIC
PMT - PRESSUREMETER TEST
SAP. - SAPROLITIC
SD. - SAND, SANDY
SL. - SILT, SILTY
SLI. - SLIGHTLY
TCR - TRICONE REFUSAL
w - MOISTURE CONTENT
V - VERY
VST - VANE SHEAR TEST
WEA. - WEATHERED
γ - UNIT WEIGHT
γ_d - DRY UNIT WEIGHT

SAMPLE ABBREVIATIONS

S - BULK
SS - SPLIT SPOON
ST - SHELBY TUBE
RS - ROCK
RT - RECOMPACTED TRIAXIAL
CBR - CALIFORNIA BEARING RATIO

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:
- [ ] CME-45C
- [X] CME-55
- [ ] CME-550
- [ ] VANE SHEAR TEST
- [ ] PORTABLE HOIST
- [ ] _____
- [ ] _____

ADVANCING TOOLS:
- [ ] CLAY BITS
- [ ] 6" CONTINUOUS FLIGHT AUGER
- [ ] 8" HOLLOW AUGERS
- [ ] HARD FACED FINGER BITS
- [ ] TUNG.-CARBIDE INSERTS
- [ ] CASING [ ] W/ ADVANCER
- [ ] TRICONE _____" STEEL TEETH
- [ ] TRICONE _____" TUNG.-CARB.
- [X] CORE BIT (4.0 inch)
- [X] 3.5 inch auger

HAMMER TYPE:
- [ ] AUTOMATIC [ ] MANUAL

CORE SIZE:
- [ ] -B _____ [ ] -H _____
- [ ] -N _____

HAND TOOLS:
- [ ] POST HOLE DIGGER
- [ ] HAND AUGER
- [ ] SOUNDING ROD
- [ ] VANE SHEAR TEST
- [ ] _____

ROCK DESCRIPTION

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:

WEATHERED ROCK (WR)	NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.
CRYSTALLINE ROCK (CR)	FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.
NON-CRYSTALLINE ROCK (NCR)	FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YEILD 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.

WEATHERING

FRESH	ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.
VERY SLIGHT (V SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN, CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.
SLIGHT (SLI.)	ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.
MODERATE (MOD.)	SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED WITH FRESH ROCK.
MODERATELY SEVERE (MOD. SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK. *IF TESTED, WOULD YIELD SPT REFUSAL*
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.

ROCK HARDNESS

VERY HARD	CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
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 GROOVED 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 GROVED 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 FINGERNAIL.

FRACTURE SPACING

TERM	SPACING
VERY WIDE	MORE THAN 10 FEET
WIDE	3 TO 10 FEET
MODERATELY CLOSE	1 TO 3 FEET
CLOSE	0.16 TO 1 FOOT
VERY CLOSE	LESS THAN 0.16 FEET

BEDDING

TERM	THICKNESS
VERY THICKLY BEDDED	4 FEET
THICKLY BEDDED	1.5 - 4 FEET
THINLY BEDDED	0.16 - 1.5 FEET
VERY THINLY BEDDED	0.03 - 0.16 FEET
THICKLY LAMINATED	0.008 - 0.03 FEET
THINLY LAMINATED	< 0.008 FEET

INDURATION

FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.

FRIABLE	RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
MODERATELY INDURATED	GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
INDURATED	GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
EXTREMELY INDURATED	SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.

TERMS AND DEFINITIONS

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 (RQD) - 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 (SRQD) - 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.

BENCH MARK:

ELEVATION: FEET

NOTES:

NB - Northbound Lane	OSS - Outside Shoulder
SB - Southbound Lane	ISS - Inside Shoulder
OSL - Outside Lane	GM - Grass Median
ISL - Inside Lane	OGS - Outside Grass Shoulder
CL - Center Lane	PS - Paved Shoulder
LTL - Left Turn Lane	RT LN - Right LN
CTL - Center Turn Lane	LT LN - Left Lane
RTL - Right Turn Lane	COL - Collector Lane
DECEL - Deceleration Lane	RT - Right
ACCEL - Acceleration Lane	LT - Left

DATE: 8-15-14

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-6202	3
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L- 14+95 WB PS	
Pavement Structure	
Asphalt	9.00"
ABC	–

-L- 14+95 WB LN	
Pavement Structure	
Asphalt	6.00"
ABC	–

-L- 14+95 EB PS	
Pavement Structure	
Asphalt	8.25"
ABC	–

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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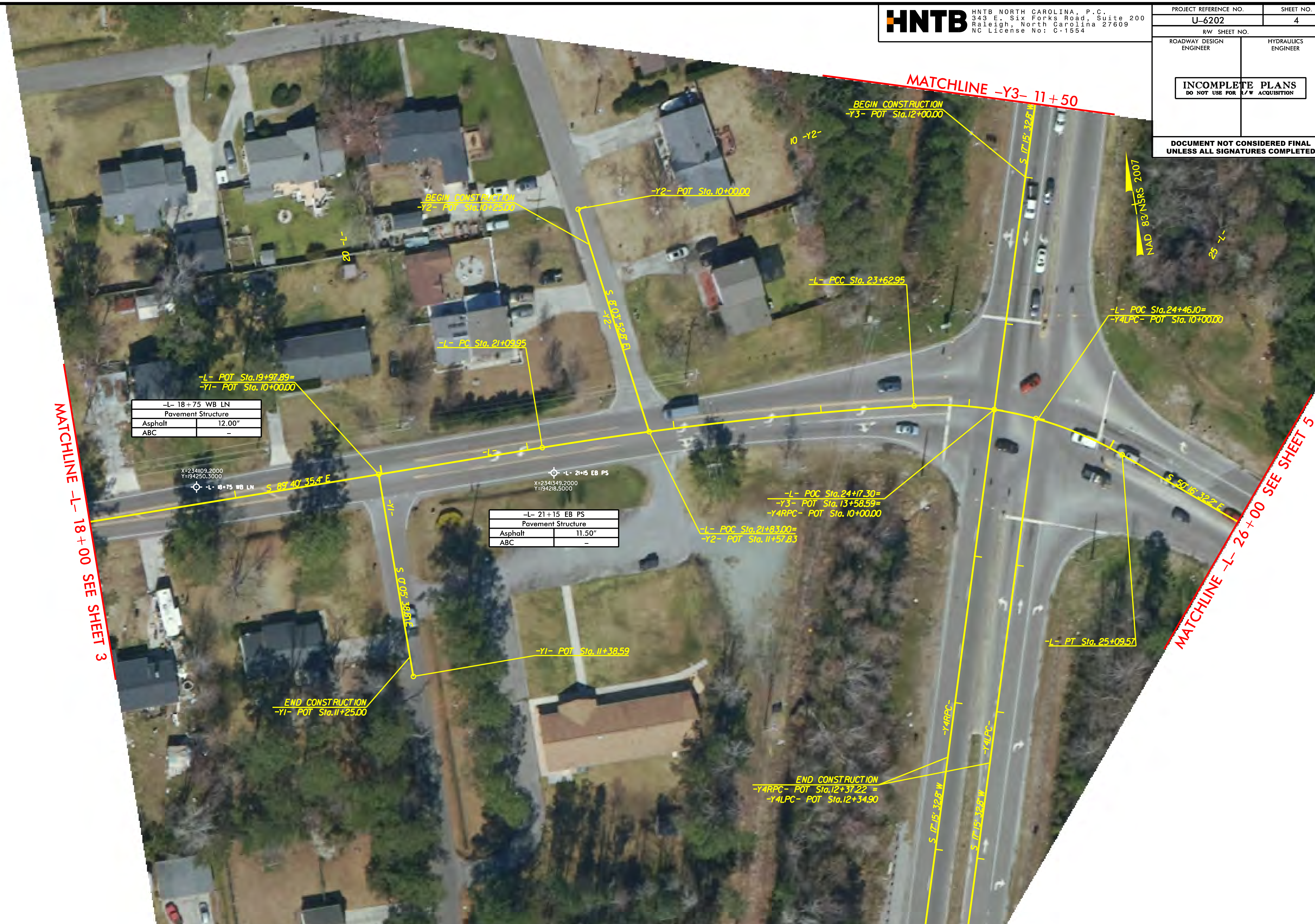
PROJECT REFERENCE NO.	SHEET NO.
U-6202	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L- 18+75 WB LN	
Pavement Structure	
Asphalt	12.00"
ABC	–

-L- 21+15 EB PS	
Pavement Structure	
Asphalt	11.50"
ABC	–

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$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/17/99

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NC License No: C-1554

PROJECT REFERENCE NO.	SHEET NO.
U-6202	5
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NSRS 2007

-Y4RPA-

10 -Y4-

-Y4- POT Sta. 10+00.00

BEGIN CONSTRUCTION
-Y4RPA- POT Sta. 17+50.00

-Y4RPA_SLIP- PCC Sta. 10+82.78

-Y4RPA_SLIP- PC Sta. 10+00.00

10 -Y4RPA_SLIP-

30 -L-

-Y4-

-L- 26+70 WB RTL	
Pavement Structure	
Asphalt	4.00"
ABC	9.00"

-L- 26+70 WB LN	
Pavement Structure	
Asphalt	4.00"
ABC	8.00"

-L- 26+70 WB LTL	
Pavement Structure	
Asphalt	4.00"
ABC	8.00"

X=2341871.2000
Y=194078.7000
-L- 26+70 WB RTL

X=2341859.4000
Y=194068.8000
-L- 26+70 WB LN

X=2341850.1000
Y=194061.0000
-L- 26+70 WB LTL

BEGIN GRADE -L- Sta.29+19.72
END 3" MILL AND OVERLAY

-L- TS Sta. 29+23.01

-L- SC Sta. 30+73.01

MATCHLINE -L- 26+00 SEE SHEET 4

S 15° 16' 32.2" E

END GRADE -L- Sta.26+69.72
BEGIN 3" MILL AND OVERLAY

-L-

X=2342171.3000
Y=193798.7000
-L- 30+80 EB LTL

X=2342165.2000
Y=193788.1000
-L- 30+80 EB ISL

X=2342154.8000
Y=193779.8000
-L- 30+80 EB OSL

-L- 30+80 EB LTL	
Pavement Structure	
Asphalt	5.50"
ABC	8.50"

-L- 30+80 EB ISL	
Pavement Structure	
Asphalt	4.75"
ABC	9.00"

-L- 30+80 EB OSL	
Pavement Structure	
Asphalt	4.00"
ABC	8.00"

-L- POC Sta.33+02.20=
-Y4RPA- POT Sta.19+27.82

-L- POC Sta.33+02.88=
-Y4RPD- POT Sta.10+00.00

-Y4RPD-

S 20° 45' 32.9" W

15 -Y4-

MATCHLINE -L- 34+00 SEE SHEET 6

MATCHLINE -Y4RPD- 12+00

$$$$$$SYSTIME$$$$$$
$$$$$$FILENAME$$$$$$

8/17/99

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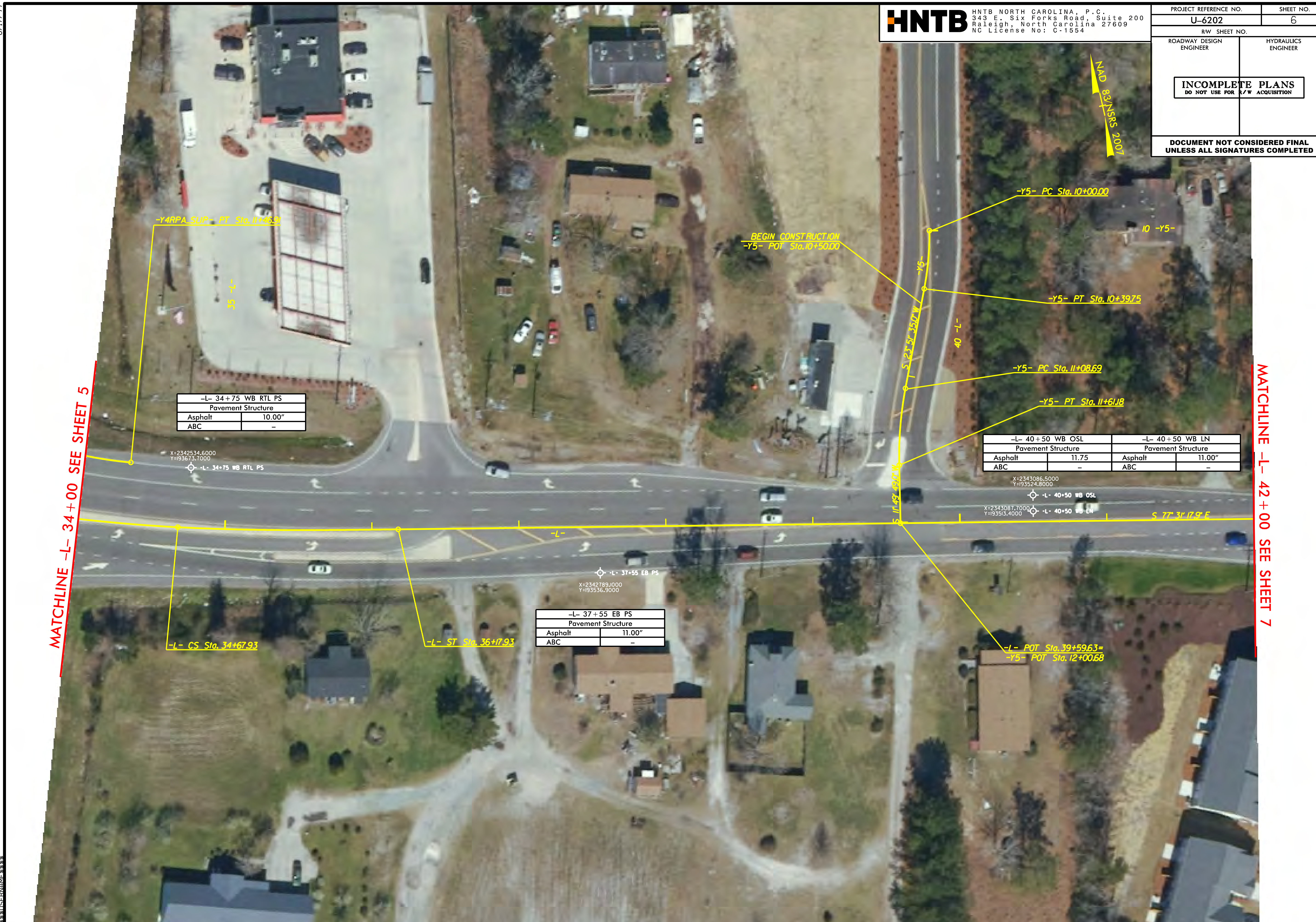
PROJECT REFERENCE NO.	SHEET NO.
U-6202	6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L- 34+75 WB RTL PS	
Pavement Structure	
Asphalt	10.00"
ABC	–

-L- 40+50 WB OSL	
Pavement Structure	
Asphalt	11.75
ABC	–

-L- 40+50 WB LN	
Pavement Structure	
Asphalt	11.00"
ABC	–

-L- 37+55 EB PS	
Pavement Structure	
Asphalt	11.00"
ABC	–

$$$$SYSTIME$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/17/99

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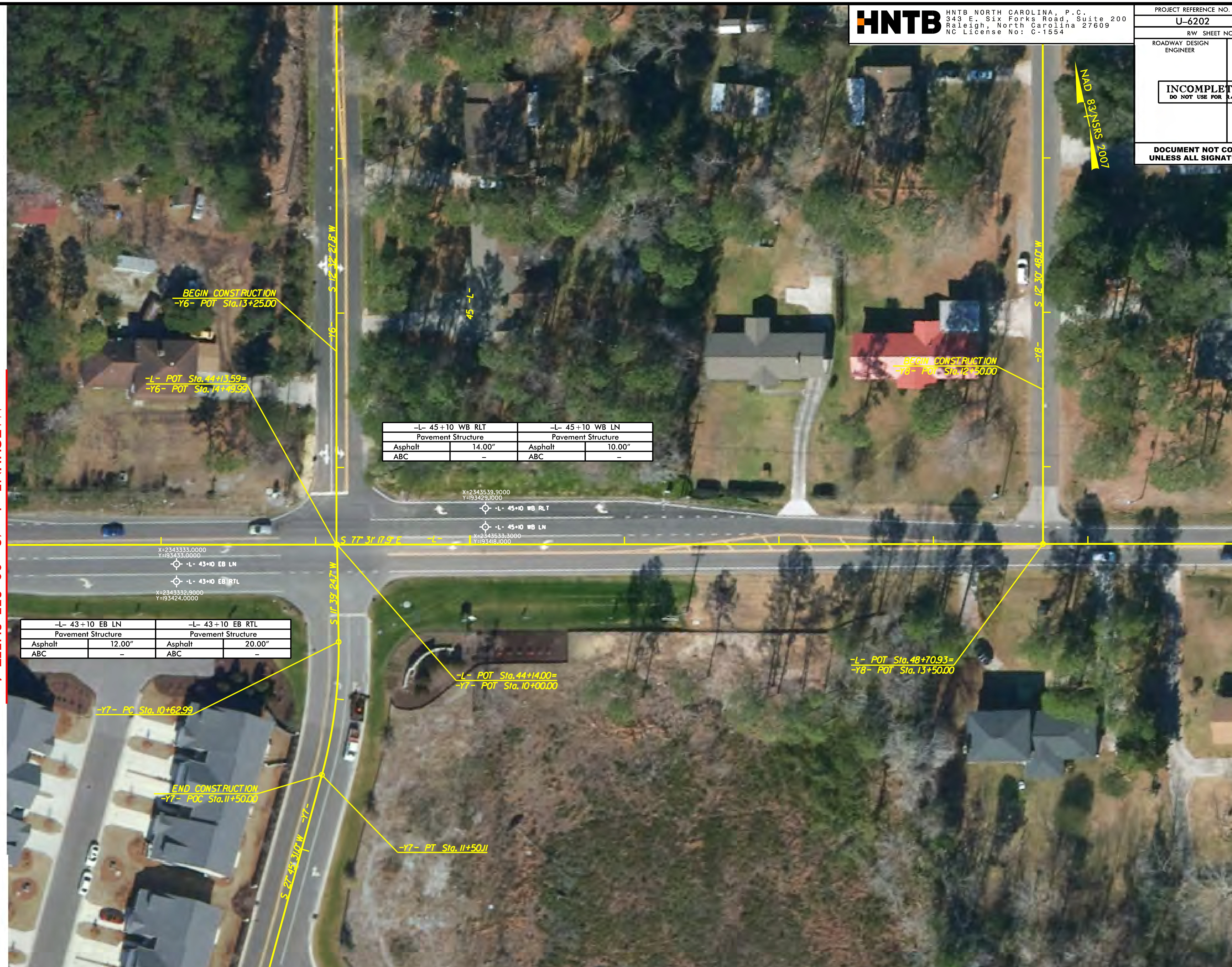
PROJECT REFERENCE NO.	SHEET NO.
U-6202	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



MATCHLINE -L- 42+00 SEE SHEET 6

MATCHLINE -L- 50+00

-L- 45+10 WB RLT		-L- 45+10 WB LN	
Pavement Structure		Pavement Structure	
Asphalt	14.00"	Asphalt	10.00"
ABC	–	ABC	–

-L- 43+10 EB LN		-L- 43+10 EB RTL	
Pavement Structure		Pavement Structure	
Asphalt	12.00"	Asphalt	20.00"
ABC	–	ABC	–

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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PROJECT REFERENCE NO.	SHEET NO.
U-6202	8
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NSRS 2007

BEGIN CONSTRUCTION
-Y11- POT Sta.12+00.00

S 12° 47' 26.5" W

-11-

60 -L-

BEGIN CONSTRUCTION
-Y12- POC Sta.12+50.00

-Y12- PT Sta.12+57.94

-Y12- PC Sta.11+48.35

-Y12- PRC Sta.12+03.15

S 12° 26' 11.6" W

-Y12-

-L- 63+25 WB RTL

Pavement Structure	
Asphalt	10.00"
ABC	–

-L- 63+25 WB LN

Pavement Structure	
Asphalt	10.00"
ABC	–

-L- PT Sta. 62+78.05

X=2345310.3000
Y=193034.0000
-L- 63+25 WB RTL

-L- 63+25 WB LN
X=2345302.4000
Y=193020.5000

S 12° 26' 11.6" W

-L- 65

MATCHLINE -L- 57+00

X=2344992.2000
Y=193066.0000
-L- 60+05 EB LN

-L-

S 77° 33' 48.4" E

MATCHLINE -L- 65+00 SEE SHEET 9

-L- 60+05 EB LN

Pavement Structure	
Asphalt	9.50"
ABC	–

-L- POC Sta.57+91.80=
-Y11- POT Sta.13+66.87

-L- PRC Sta. 57+57.80

-L- POC Sta.62+51.87=
-Y12- POT Sta.13+80.11

$$$$$$$$SYSTIME$$$$$
$$$$$$$$USERNAME$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$

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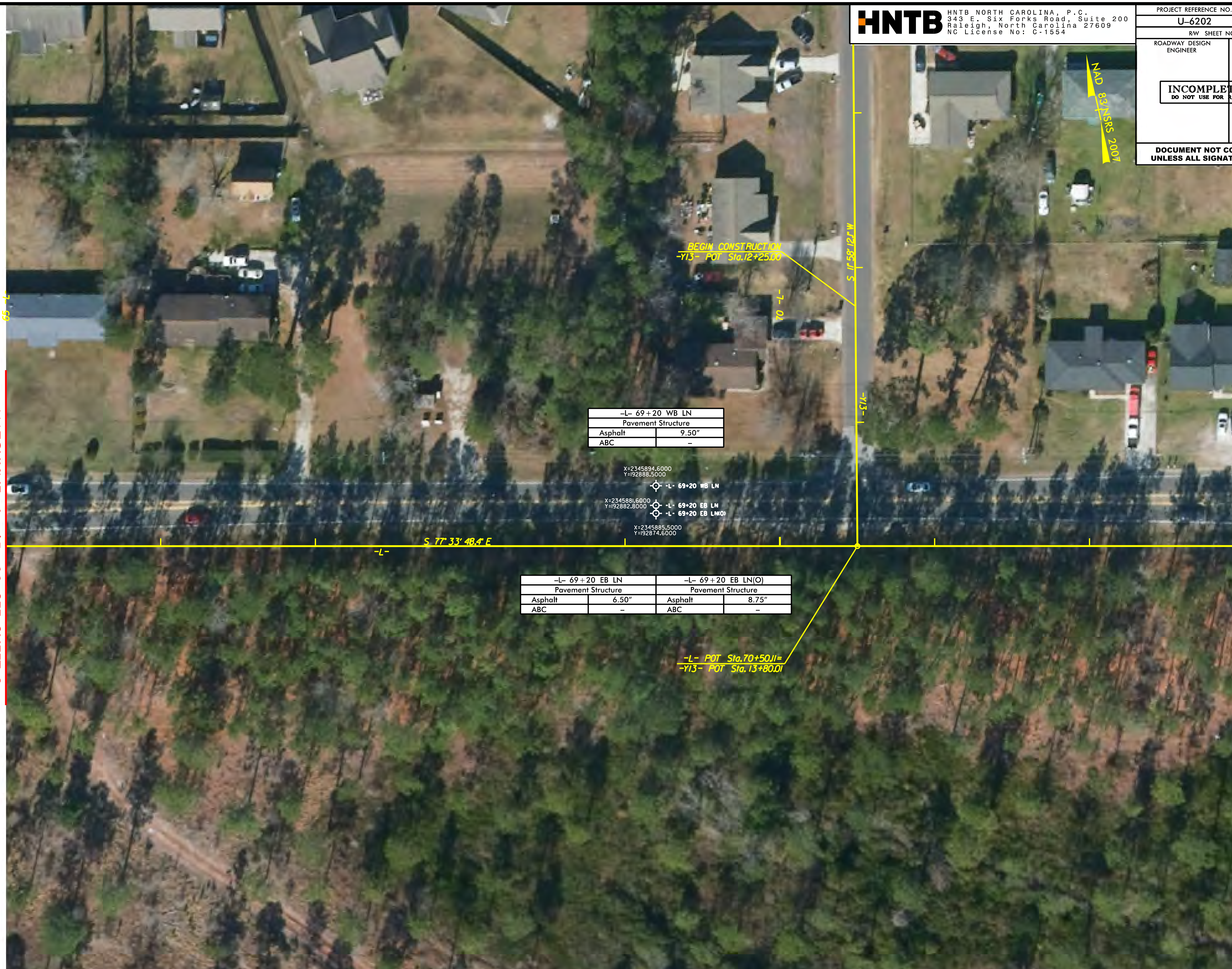
PROJECT REFERENCE NO.	SHEET NO.
U-6202	9
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L- 69+20 WB LN	
Pavement Structure	
Asphalt	9.50"
ABC	–

-L- 69+20 EB LN	
Pavement Structure	
Asphalt	6.50"
ABC	–

-L- 69+20 EB LN(O)	
Pavement Structure	
Asphalt	8.75"
ABC	–

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$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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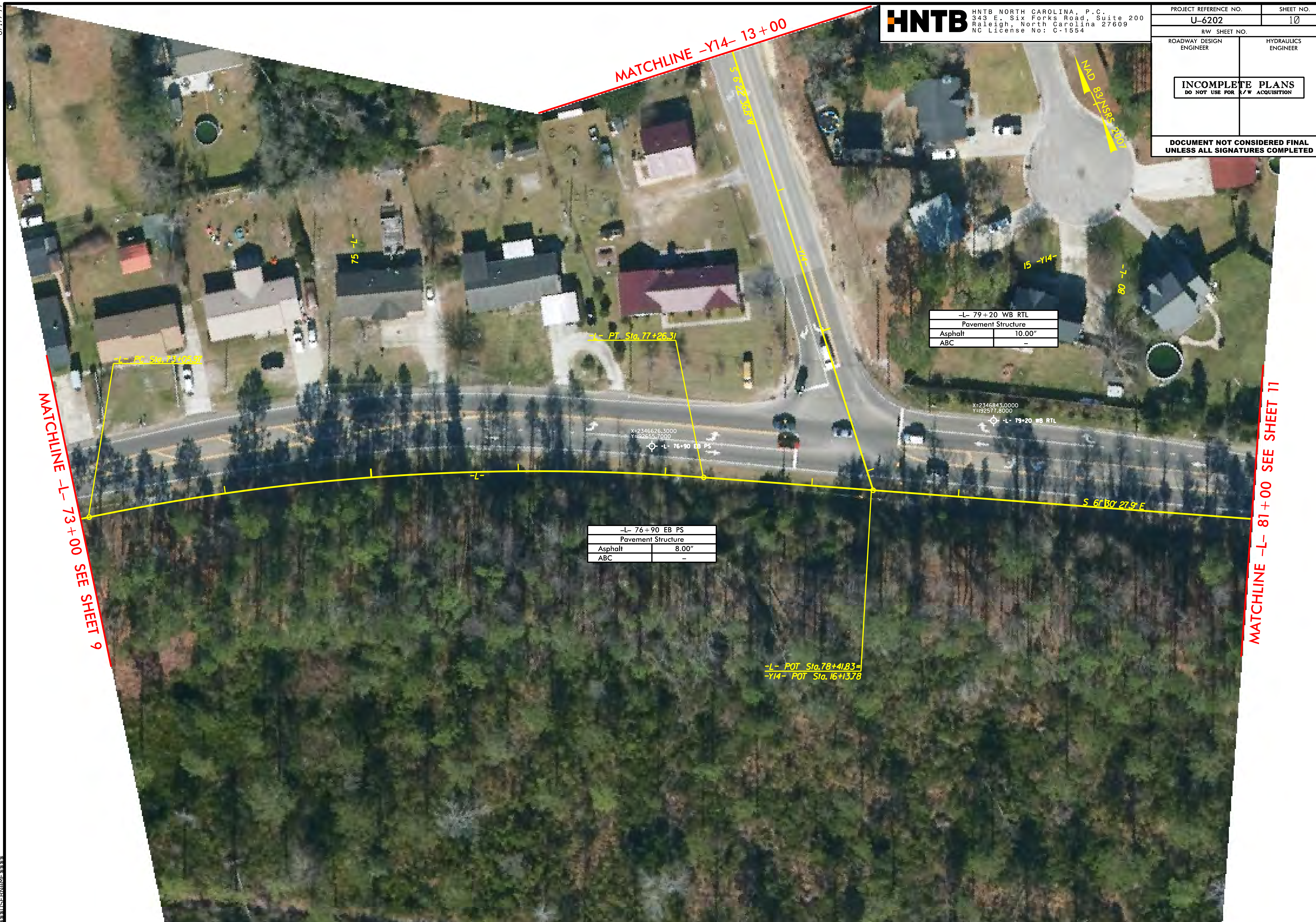
PROJECT REFERENCE NO.	SHEET NO.
U-6202	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L- 79+20 WB RTL	
Pavement Structure	
Asphalt	10.00"
ABC	–

-L- 76+90 EB PS	
Pavement Structure	
Asphalt	8.00"
ABC	–

8/17/99

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/17/99

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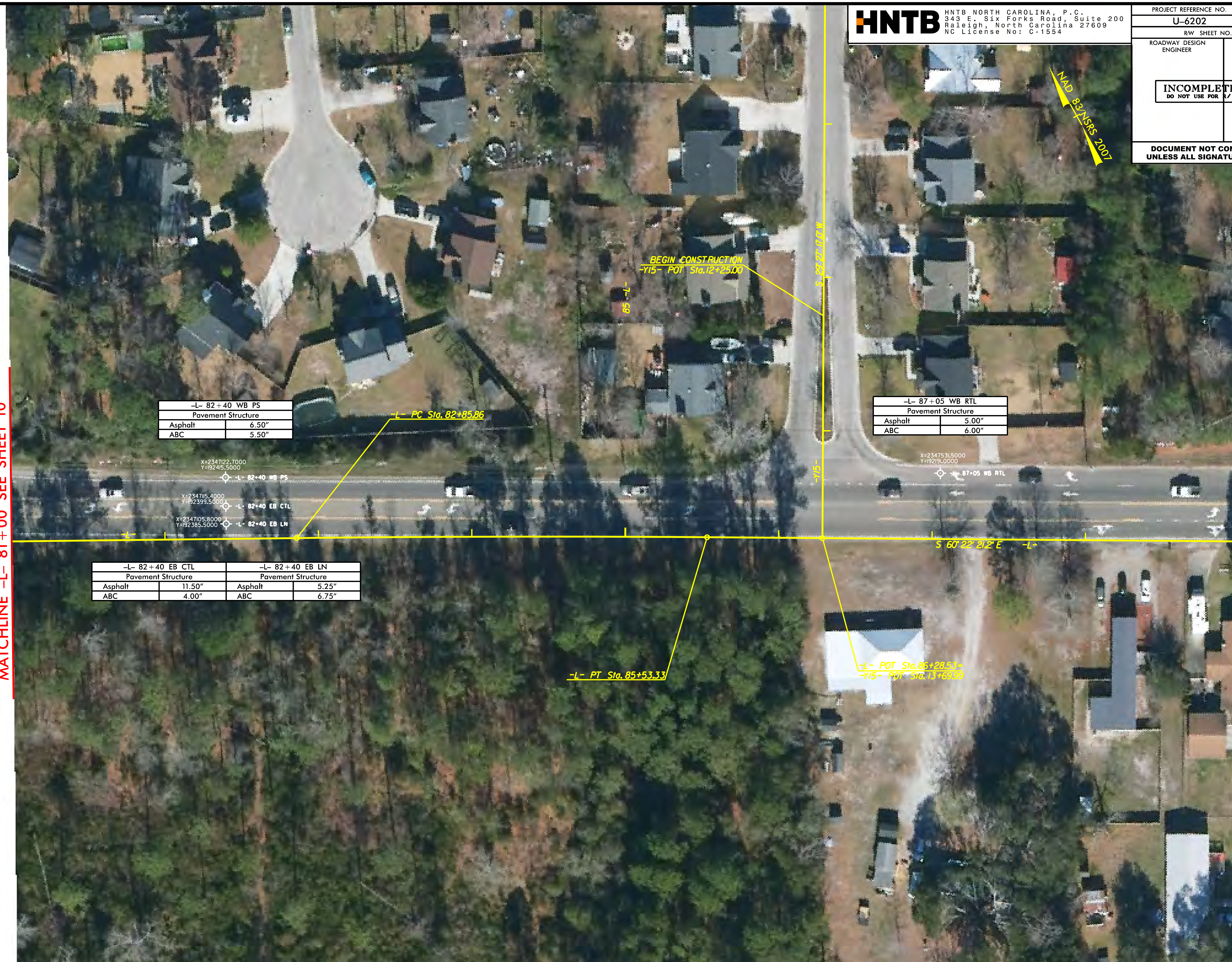
PROJECT REFERENCE NO.	SHEET NO.
U-6202	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L- 82+40 WB PS	
Pavement Structure	
Asphalt	6.50"
ABC	5.50"

-L- 87+05 WB RTL	
Pavement Structure	
Asphalt	5.00"
ABC	6.00"

-L- 82+40 EB CTL		-L- 82+40 EB LN	
Pavement Structure		Pavement Structure	
Asphalt	11.50"	Asphalt	5.25"
ABC	4.00"	ABC	6.75"

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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PROJECT REFERENCE NO.	SHEET NO.
U-6202	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-6202	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L- 100+95 WB PS	
Pavement Structure	
Asphalt	9.50"
ABC	–

-L- 100+95 EB LN		-L- 100+95 EB PS	
Pavement Structure		Pavement Structure	
Asphalt	9.25"	Asphalt	9.50"
ABC	–	ABC	–

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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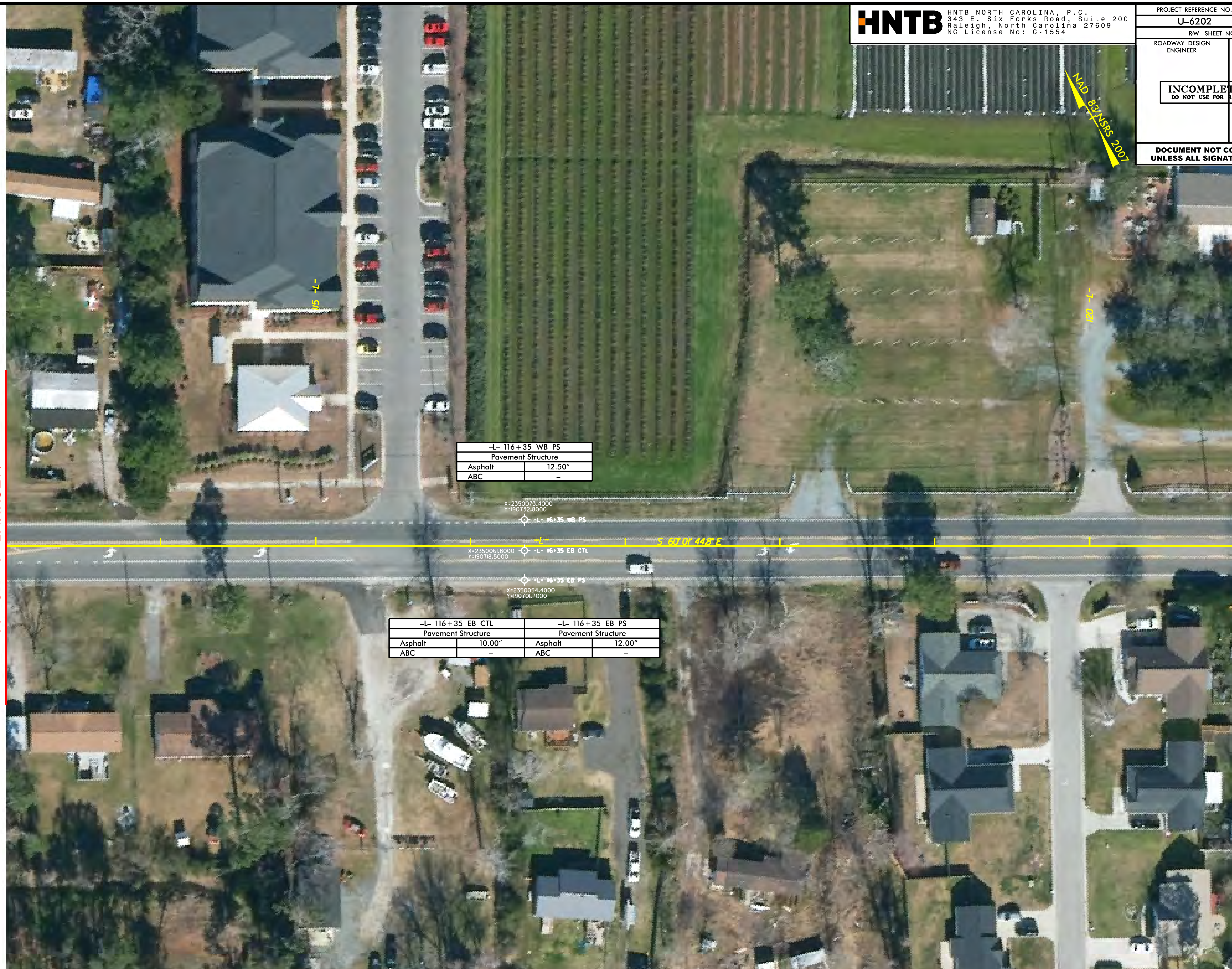
PROJECT REFERENCE NO.	SHEET NO.
U-6202	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L- 116+35 WB PS	
Pavement Structure	
Asphalt	12.50"
ABC	–

-L- 116+35 EB CTL	
Pavement Structure	
Asphalt	10.00"
ABC	–

-L- 116+35 EB PS	
Pavement Structure	
Asphalt	12.00"
ABC	–

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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PROJECT REFERENCE NO.	SHEET NO.
U-6202	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L- 134+95 EB CTL	
Pavement Structure	
Asphalt	8.00"
ABC	4.00"

-L- 134+95 EB ISL	
Pavement Structure	
Asphalt	8.50"
ABC	–

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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PROJECT REFERENCE NO.	SHEET NO.
U-6202	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -L- 135+00 SEE SHEET 15

-L- 135+25 WB OSS/WDNG	
Pavement Structure	
Asphalt	7.25"
ABC	–

-L- 135+25 EB OSL	
Pavement Structure	
Asphalt	4.25
ABC	7.00"

-L- 141+30 WB RTL	
Pavement Structure	
Asphalt	7.50"
ABC	4.50"

MATCHLINE -L- 143+00

8/17/99

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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PROJECT REFERENCE NO.	SHEET NO.
U-6202	17
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -L- 143+00 SEE SHEET 16

-L- 148+65 WB RTL	
Pavement Structure	
Asphalt	10.00"
ABC	–

-L- 146+55 EB LTL		-L- 146+55 EB ISL		-L- 146+55 EB OSL		-L- 146+55 EB RTL	
Pavement Structure		Pavement Structure		Pavement Structure		Pavement Structure	
Asphalt	12.75"	Asphalt	9.75"	Asphalt	11.00"	Asphalt	10.25"
Stabilized Soil Subgrade	2.75"	ABC	8.00"	ABC	–	ABC	–

MATCHLINE -L- 151+00 SEE SHEET 18

8/17/99

$$$$$$SYSTIME$$$$$$
$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

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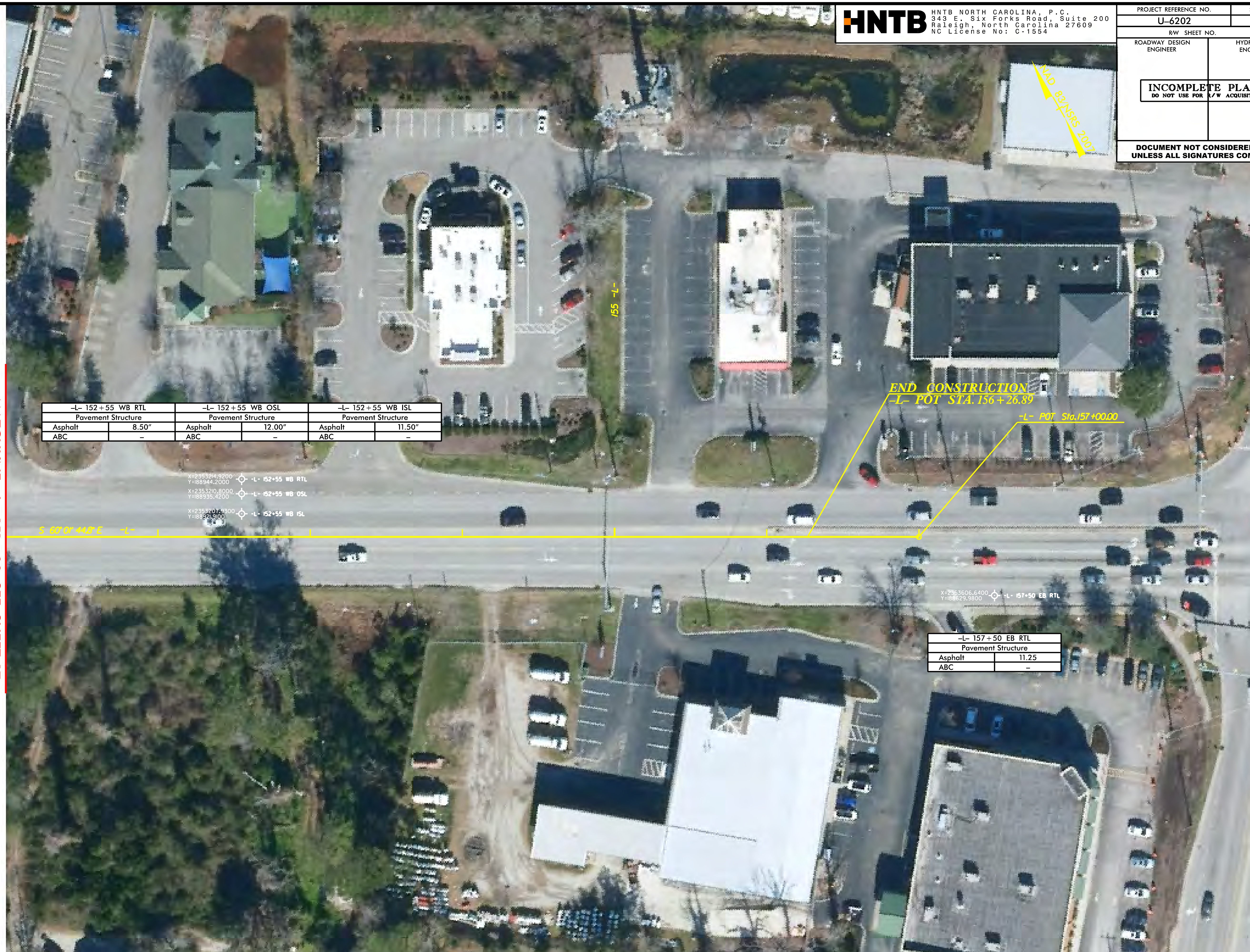
PROJECT REFERENCE NO.	SHEET NO.
U-6202	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -L- 151+00 SEE SHEET 17



-L- 152+55 WB RTL	
Pavement Structure	
Asphalt	8.50"
ABC	–

-L- 152+55 WB OSL	
Pavement Structure	
Asphalt	12.00"
ABC	–

-L- 152+55 WB ISL	
Pavement Structure	
Asphalt	11.50"
ABC	–

-L- 157+50 EB RTL	
Pavement Structure	
Asphalt	11.25
ABC	–

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$USERNAME$$$$$

PAVEMENT INVESTIGATION DATA SHEET

Project:	48662.1.1	County:	NEW HANOVER	Date:	1/4 to 1/7/2022
TIP:	U-6202	Route:	SR 2048 (Gordon Road) From US 17 (Market Street) to I-40	Notes By:	J. Swartley

		Width				Thickness							Subgrade						GPS Coordinates	
Position (Sta., Lane, Shldr.)	Cut/Fill (Est. Of Amount) (ft)	Lane(s) (ft)	Shoulder(s) (ft)	Offset Distance (ft)	Crown "C" or Super "S"	Gross to Top of Soil (in)	Asphalt (in)	Concrete (in)	ABC (in)	Cement Treated ABC (in)	Stabilized Soil Subgrade (in)	Pavement Layering	Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth (ft)	Asphalt Notes	Northing	Easting
-L- 14+95 EB PS	AG	10.00	1.80	1.5 FWL	C	8.25	8.25	N/A	N/A	N/A	N/A	Asphalt	0.0 - 1.5' = Coastal Plain Brown, Silty Sand Auger 2.4' due to nearby utility	S-1	A-2-4	M	2.40	Low Severity Transverse Cracking Low Severity Longitudinal Cracking	194230.70	2340730.60
-L- 14+95 WB LN	AG	10.00	1.30	0.3 FWL	C	6.00	6.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.5' = Coastal Plain Gray, Silty Sand	REF S-1	A-2-4	M	3.50	Low Severity Transverse Cracking Low Severity Longitudinal Cracking	194247.10	2340725.60
-L- 14+95 WB PS	AG	10.00	1.30	1.0 FWL	C	9.00	9.00	N/A	N/A	N/A	N/A	Asphalt	Core Only, Utility Line	N/A	N/A	N/A	0.00	Low Severity Transverse Cracking Low Severity Longitudinal Cracking	194244.60	2340727.40
-L- 18+75 WB LN	AG	10.00	1.00	1.0 FWL	C	12.00	12.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.0' = Coastal Plain Gray, Silty Sand	S-3	A-2-4	M	3.00	Low Severity Transverse Cracking Low Severity Longitudinal Cracking	194250.30	2341109.20
-L- 21+15 EB PS	AG	10.10	3.00	2.0 FWL	C	11.50	11.50	N/A	N/A	N/A	N/A	Asphalt	Core Only, Utility Line	N/A	N/A	N/A	0.00	Low Severity Transverse Cracking Low Severity Longitudinal Cracking	194218.50	2341349.20
-L- 26+70 WB LTL	3.0 Fill	12.00	C&G	8.0 FWL	C	12.00	4.00	N/A	8.00	N/A	N/A	Asphalt ABC	0.0 - 3.0' = Road Embankment Gray, Fine Sand	REF S-5	A-2-4	M	3.00	Low Severity Longitudinal Cracking	194061.00	2341850.10
-L- 26+70 WB LN	3.0 Fill	12.00	C&G	4.0 FWL	C	12.00	4.00	N/A	8.00	N/A	N/A	Asphalt ABC	0.0 - 3.0' = Road Embankment Gray, Fine Sand	REF S-5	A-2-4	M	3.00	Low Severity Longitudinal Cracking	194068.80	2341859.40
-L- 26+70 WB RTL	3.0 Fill	12.00	C&G	6.0 FCG	C	13.00	4.00	N/A	9.00	N/A	N/A	Asphalt ABC	0.0 - 3.0' = Road Embankment Gray, Fine Sand	S-5	A-2-4	M	3.00	Low Severity Longitudinal Cracking	194078.70	2341871.20
-L- 30+80 EB OSL	3.5 Fill	11.90	C&G	7.0 FCG	S	12.00	4.00	N/A	8.00	N/A	N/A	Asphalt ABC	0.0 - 1.0' = Road Embankment Gray, Sand Auger 2.0' due to nearby utility	REF S-4	A-2-4	M	2.00	Low Severity Transverse Cracking Low Severity Longitudinal Cracking	193779.80	2342154.80
-L- 30+80 EB ISL	3.0 Fill	11.50	C&G	5.5 FWL	S	13.75	4.75	N/A	9.00	N/A	N/A	Asphalt ABC	0.0 - 2.9' = Road Embankment Gray, Fine Sand	S-4	A-2-4	M	2.90	Low Severity Transverse Cracking Low Severity Longitudinal Cracking	193788.10	2342165.20
-L- 30+80 EB LTL	3.0 Fill	11.50	C&G	6.0 FWL	S	14.00	5.50	N/A	8.50	N/A	N/A	Asphalt ABC	0.0 - 2.9' = Road Embankment Gray, Fine Sand	REF S-4	A-2-4	M	2.90	Low Severity Transverse Cracking Low Severity Longitudinal Cracking	193798.70	2342171.30
-L- 34+75 WB RTL PS	2.0 Fill	11.90	4.50	2.5 FWL	C	10.00	10.00	N/A	N/A	N/A	N/A	Asphalt	Core Only, Utility Line	N/A	N/A	N/A	0.00	No Visible Distresses	193673.70	2342534.60
-L- 37+55 EB PS	AG	11.20	2.40	1.7 FWL	C	11.00	11.00	N/A	N/A	N/A	N/A	Asphalt	Core Only, Utility Line	N/A	N/A	N/A	0.00	No Visible Distresses	193536.90	2342789.10
-L- 40+50 WB LN	AG	11.00	0.90	5.0 FWL	C	11.00	11.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.0' = Coastal Plain Brown, Silty Sand with trace organics	S-7	A-2-4	M	3.00	No Visible Distresses	193513.40	2343087.70
-L- 40+50 WB OSL	AG	11.00	0.90	4.5 FWL	C	11.75	11.75	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.0' = Coastal Plain Brown, Silty Sand with trace organics	REF S-7	A-2-4	M	3.00	No Visible Distresses	193524.80	2343086.50
-L- 43+10 EB RTL	AG	12.00	0.40	5.6 FWL	C	20.00	20.00	N/A	N/A	N/A	N/A	Asphalt	Core Only, Utility Line	N/A	N/A	N/A	0.00	No Visible Distresses	193424.00	2343332.90

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S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

PAVEMENT INVESTIGATION DATA SHEET

Project:	48662.1.1	County:	NEW HANOVER	Date:	1/4 to 1/7/2022
TIP:	U-6202	Route:	SR 2048 (Gordon Road) From US 17 (Market Street) to I-40	Notes By:	J. Swartley

		Width				Thickness							Subgrade						GPS Coordinates	
Position (Sta., Lane, Shldr.)	Cut/Fill (Est. Of Amount) (ft)	Lane(s) (ft)	Shoulder(s) (ft)	Offset Distance (ft)	Crown "C" or Super "S"	Gross to Top of Soil (in)	Asphalt (in)	Concrete (in)	ABC (in)	Cement Treated ABC (in)	Stabilized Soil Subgrade (in)	Pavement Layering	Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth (ft)	Asphalt Notes	Northing	Easting
-L- 43+10 EB LN	AG	11.00	0.40	2.0 FWL	C	12.00	12.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.0' = Coastal Plain Brown, Silty Sand with trace to little organics matter	REF S-9	A-2-4	M	3.00	No Visible Distresses	193433.00	2343333.00
-L- 45+10 WB LN	AG	11.90	2.00	2.0 FWL	C	10.00	10.00	N/A	N/A	N/A	N/A	Asphalt	Core Only, Utility Line	N/A	N/A	N/A	0.00	Low Severity Longitudinal Cracking	193418.10	2343533.30
-L- 45+10 WB RTL	AG	11.00	2.00	4.0 FWL	C	14.00	14.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 1.0' = Coastal Plain Gray, Fine Sand Auger 2.2' due to nearby utility	S-9	A-2-4	M	2.20	No Visable Cracking Resurfaced Recently	193429.10	2343539.90
-L- 60+05 EB LN	AG	12.00	1.30	5.0 FWL	C	9.50	9.50	N/A	N/A	N/A	N/A	Asphalt	Core Only, Utility Line	N/A	N/A	N/A	0.00	Low Severity Longitudinal Cracking	193066.00	2344992.20
-L- 63+25 WB LN	AG	12.00	0.30	4.0 FWL	C	10.00	10.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 1.5' = Coastal Plain Gray, Fine Sand Auger 2.4' due to nearby utility	REF S-10	A-2-4	M	2.40	Moderate Severity Fatigue Cracking	193020.50	2345302.40
-L- 63+25 WB RTL	AG	11.00	0.30	3.2 FWL	C	10.00	10.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 1.5' = Coastal Plain Gray, Fine Sand Auger 2.4' due to nearby utility	S-10	A-2-4	M	2.40	No Visible Distresses	193034.00	2345310.30
-L- 69+20 EB LN (O)	3.0 Fill	11.90	1.20	0.4 FWL	C	8.75	8.75	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.0' = Road Embankment Gray, Fine Sand	REF S-10	A-2-4	M	3.00	Moderate And High Severity Fatigue Cracking	192874.60	2345885.50
-L- 69+20 EB LN	3.0 Fill	11.90	1.20	2.8 FWL	C	6.50	6.50	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.0' = Road Embankment Gray, Fine Sand	REF S-10	A-2-4	M	3.00	Moderate And High Severity Fatigue Cracking	192882.80	2345881.60
-L- 69+20 WB LN	3.2 Fill	11.90	1.30	5.7 FWL	C	9.50	9.50	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.2' = Road Embankment Gray, Fine Sand	REF S-13	A-2-4	M	3.20	Moderate And High Severity Fatigue Cracking	192888.50	2345894.60
-L- 76+90 EB PS	AG	11.90	2.00	1.5 FWL	C	8.00	8.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.3' = Coastal Plain Gray, Fine Sand	S-13	A-2-4	M	3.30	No Visible Distresses	192655.70	2346626.30
-L- 79+20 WB RTL	AG	11.00	0.30	5.7 FWL	C	10.00	10.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.1' = Coastal Plain Gray, Fine Sand	REF S-13	A-2-4	M	3.10	Moderate Severity Fatigue Cracking	192577.80	2346843.00
-L- 82+40 EB LN	AG	11.10	2.00	2.0 FWL	C	12.00	5.25	N/A	6.75	N/A	N/A	Asphalt ABC	0.0 - 3.0' = Coastal Plain Gray, Fine Sand	REF S-14	A-2-4	M	3.00	Low Severity Fatigue Cracking	192385.50	2347105.80
-L- 82+40 EB CTL	AG	12.00	2.00	6.0 FYL	C	15.50	11.50	N/A	4.00	N/A	N/A	Asphalt ABC	0.0 - 2.8' = Coastal Plain Gray, Fine Sand	S-14	A-2-4	M	2.80	Low Severity Raveling	192399.50	2347115.40
-L- 82+40 WB PS	AG	12.00	3.00	1.5 FWL	C	12.00	6.50	N/A	5.50	N/A	N/A	Asphalt ABC	0.0 - 3.0' = Coastal Plain Gray, Fine Sand	REF S-14	A-2-4	M	3.00	Low Severity Fatigue Cracking	192415.50	2347122.70
-L- 87+05 WB RTL	AG	12.00	0.90	5.1 FWL	C	11.00	5.00	N/A	6.00	N/A	N/A	Asphalt ABC	0.0 - 3.0' = Coastal Plain Brown, Silty Sand	REF S-14	A-2-4	M	3.00	No Visible Distresses	192191.00	2347531.50
-L- 90+70 WB RTL	AG	11.20	0.90	4.1 FWL	C	11.00	5.00	N/A	6.00	N/A	N/A	Asphalt ABC	0.0 - 3.0' = Coastal Plain Brown, Silty Sand	REF S-14	A-2-4	M	3.00	No Visible Distresses	192014.00	2347847.10

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Project:	48662.1.1	County:	NEW HANOVER	Date:	1/4 to 1/7/2022
TIP:	U-6202	Route:	SR 2048 (Gordon Road) From US 17 (Market Street) to I-40	Notes By:	J. Swartley/D. Strother

		Width				Thickness							Subgrade						GPS Coordinates	
Position (Sta., Lane, Shldr.)	Cut/Fill (Est. Of Amount) (ft)	Lane(s) (ft)	Shoulder(s) (ft)	Offset Distance (ft)	Crown "C" or Super "S"	Gross to Top of Soil (in)	Asphalt (in)	Concrete (in)	ABC (in)	Cement Treated ABC (in)	Stabilized Soil Subgrade (in)	Pavement Layering	Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth (ft)	Asphalt Notes	Northing	Easting
-L- 100+95 EB PS	AG	11.50	1.00	0.6 FWL	C	9.50	9.50	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.0' = Coastal Plain Gray, Fine Sand	REF S-16	A-2-4	M	3.00	Low Severity Fatigue Cracking	191471.80	2348717.60
-L- 100+95 EB LN	AG	11.50	1.00	2.0 FWL	C	9.25	9.25	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.1' = Coastal Plain Gray, Fine Sand	S-16	A-2-4	M	3.10	Low Severity Fatigue Cracking	191474.40	2348723.40
-L- 100+95 WB PS	AG	12.00	1.00	0.5 FWL	C	9.50	9.50	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.1' = Coastal Plain Gray, Fine Sand	REF S-16	A-2-4	M	3.10	Low Severity Fatigue Cracking	191490.20	2348736.60
-L- 116+35 EB PS	AG	12.00	0.80	0.4 FWL	C	12.00	12.00	N/A	N/A	N/A	N/A	Asphalt	Core Only, Utility Line	N/A	N/A	N/A	4.00	No Visible Distresses	190701.70	2350054.40
-L- 116+35 EB CTL	AG	13.00	0.80	6.0 FYL	C	10.00	10.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.0' = Coastal Plain Brown, Silty Sand	S-17	A-2-4	M	3.00	No Visible Distresses	190718.50	2350061.80
-L- 116+35 WB PS	AG	12.00	1.00	0.5 FWL	C	12.50	12.50	N/A	N/A	N/A	N/A	Asphalt	0.0 - 3.0' = Coastal Plain Brown, Silty Sand	REF S-17	A-2-4	M	3.00	No Visible Distresses	190732.80	2350073.40
-L- 134+95 EB ISL	AG	10.90	0.50	6.0 FWL	C	8.50	8.50	N/A	N/A	N/A	N/A	Asphalt	0.0 - 1.0' = Coastal Plain Brown, Silty Sand Auger 2.0' due to nearby utility	REF S-18	A-2-4	M	2.00	Low Severity Fatigue Cracking	189783.20	2351668.80
-L- 134+95 EB CTL	AG	11.50	0.50	6.0 FYL	C	12.00	8.00	N/A	4.00	N/A	N/A	Asphalt ABC	0.0 - 3.0' = Coastal Plain Brown, Silty Sand	S-18	A-2-4	M	3.00	No Visible Distresses	189790.80	2351670.40
-L- 135+25 EB OSL	AG	12.00	1.00	2.5 FWL	C	11.75	4.25	N/A	N/A	7.00	N/A	Asphalt ABC	0.0 - 1.0' = Coastal Plain Black and Gray, Silty Sand ABC is contaminated with Lime	REF S-7	A-2-4	M	1.00	Low Severity Transverse Cracking Low Severity Longitudinal Cracking on Both Wheel Paths 1.0" Top-Down Crack	189767.23	2351658.25
-L- 135+25 WB OSS/Wdng	AG	11.50	3.00	1.5 FWL	C	7.25	7.25	N/A	N/A	N/A	N/A	Asphalt	0.0 - 1.5' = Coastal Plain Black, Silty Sand	REF S-7	A-2-4	M	1.50	No Visible Distresses	189806.50	2351687.68
-L- 141+30 WB RTL	AG	12.00	C&G	5.0 FCG	C	12.00	7.50	N/A	4.50	N/A	N/A	Asphalt ABC	0.0 - 3.0' = Coastal Plain Brown, Silty Sand	REF S-7	A-2-4	M	3.00	No Visible Distresses	189494.80	2352239.70
-L- 146+55 EB RTL	AG	12.00	C&G	5.2 FCG	C	10.25	10.25	N/A	N/A	N/A	N/A	Asphalt	0.0 - 1.0' = Coastal Plain Black and Gray, Silty Sand	REF S-7	A-2-4	M	1.00	No Visible Distresses	189180.62	2352659.03
-L- 146+55 EB OSL	AG	11.80	N/A	5.8 FWL	C	11.00	11.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 1.0' = Coastal Plain Black and Gray, Silty Sand	REF S-7	A-2-4	M	1.00	Moderate Severity Transverse Cracking Moderate Severity Longitudinal Cracking on Outside Wheel Path 2.0" Top-Down Crack	189193.29	2352669.60
-L- 146+55 EB ISL	AG	11.80	N/A	5.2 FWL	C	17.75	9.75	N/A	N/A	8.00	N/A	Asphalt ABC	0.0 - 1.0' = Coastal Plain Black and Gray, Silty Sand ABC is contaminated with Lime	REF S-7	A-2-4	M	1.00	Moderate Severity Transverse Cracking Moderate Severity Longitudinal Cracking	189202.21	2352672.25
-L- 146+55 EB LTL	AG	11.50	N/A	5.8 FWL	C	15.50	12.75	N/A	N/A	N/A	2.75	Asphalt Stabl. Sub. Soil	0.0 - 1.5' = Coastal Plain Black, Silty Sand With Trace Organics	REF S-7	A-2-4	M	1.50	Moderate Severity Longitudinal Cracking	189219.66	2352625.95
-L- 148+65 WB RTL	AG	9.50	C&G	3.8 FCG	C	10.00	10.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 0.5' = Coastal Plain Black, Silty Sand With Trace Organics 0.5 - 1.5' = Coastal Plain Black And Gray, Silty Sand	REF S-7 REF S-7	A-2-4 A-2-4	M M	1.50	Light Severity Transverse Cracking Light Severity Longitudinal Cracking	189131.79	2352886.93

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		Width				Thickness							Subgrade						GPS Coordinates	
Position (Sta., Lane, Shldr.)	Cut/Fill (Est. Of Amount) (ft)	Lane(s) (ft)	Shoulder(s) (ft)	Offset Distance (ft)	Crown "C" or Super "S"	Gross to Top of Soil (in)	Asphalt (in)	Concrete (in)	ABC (in)	Cement Treated ABC (in)	Stabilized Soil Subgrade (in)	Pavement Layering	Description	Sample Number	AASHTO Classification	Soil Moisture	Probe Depth (ft)	Asphalt Notes	Northing	Easting
-L- 152+55 WB ISL	AG	12.00	N/A	5.8 FWL	C	11.50	11.50	N/A	N/A	N/A	N/A	Asphalt	0.0 - 1.0' = Coastal Plain Black and Gray, Silty Sand	REF S-7	A-2-4	M	1.00	Light Severity Transverse Cracking Light Severity Longitudinal Cracking	188924.10	2353201.25
-L- 152+55 WB OSL	AG	11.50	N/A	6.0 FWL	C	12.00	12.00	N/A	N/A	N/A	N/A	Asphalt	0.0 - 1.0' = Coastal Plain Black and Gray, Silty Sand 1.0 - 2.5' = Coastal Plain Black, Silty Sand With Trace Organics	REF S-7 REF S-7	A-2-4 A-2-4	M M	2.50	Light Severity Transverse Cracking Light Severity Longitudinal Cracking	188935.35	2353208.98
-L- 152+55 WB RTL	AG	11.10	C&G	5.5 FCG	C	8.50	8.50	N/A	N/A	N/A	N/A	Asphalt	0.0 - 1.0' = Coastal Plain Black and Gray, Silty Sand	REF S-7	A-2-4	M	1.00	No Visible Distresses	188942.09	2353214.72
-L- 157+50 EB RTL	AG	11.10	C&G	4.9 FCG	C	11.25	11.25	N/A	N/A	N/A	N/A	Asphalt	0.0 - 1.0' = Coastal Plain Gray, Silty Sand	REF S-7	A-2-4	M	1.00	Moderate Severity Transverse Cracking	188628.01	2353616.36
-L- 32+35 OES	AG	11.00	C&G	10.0 FCG	S	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0 - 2.0' = Coastal Plain Brown, Silty Sand	BULK4	A-2-4	M	2.00	N/A	193674.40	2342279.00
-L- 45+65 OES	AG	11.00	2.50	7.5 FWL	C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0 - 2.0' = Coastal Plain Brown, Silty Sand with trace of organics matter	BULK1	A-2-4	M	2.00	N/A	193347.60	2343575.90
-L- 117+80 OES	AG	11.90	1.00	9.0 FWL	C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0 - 2.0' = Coastal Plain Brown, Silty Sand with trace of organics matter	BULK2	A-2-4	M	2.00	N/A	190671.20	2350204.70
-L- 134+10 OES	AG	11.00	1.00	9.0 FWL	C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0 - 2.0' = Coastal Plain Brown, Silty Sand	BULK3	A-2-4	M	2.00	N/A	189798.50	2351582.60

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CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	**ENGINEER**	**TECHNICIANS**
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION			DATE RUN
-L- 14+95 EB PS			1/4-7/2022
DATUM	CUT/ FILL	NORTHING	EASTING
ABC	-	194230.7	2340730.6

Cumulative Penetration in Centimeters
0.0
2.2
3.5
4.8
6.2
7.7
9.1
10.4
12.1
13.4
14.7
16.0
17.2
18.5
19.7
21.0
22.4
23.7
25.1
26.5
27.9
29.4
31.1
33.2
35.3
37.7
39.9
42.5
45.1
48.4
51.4
54.4
56.5
57.7
58.2
59.1

TEST LOCATION DESCRIPTION			DATE RUN
-L- 14+95 WB LN			1/4-7/2022
DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	194247.1	2340725.6

Cumulative Penetration in Centimeters			
0.0	37.90	60.9	
2.6	38.30	61.4	
4.0	38.70	61.9	
5.3	39.10	62.4	
6.8	39.50	63.0	
9.0	39.90	63.5	
13.2	40.20	64.0	
15.7	40.60	64.5	
20.0	41.00	65.0	
20.6	41.40	65.6	
21.1	41.80	66.2	
21.6	42.20	66.8	
22.1	42.60	67.4	
22.5	43.00	67.9	
23.0	43.40	68.5	
23.4	43.80	69.1	
23.7	44.30	69.7	
24.0	44.90	70.3	
24.5	45.40	70.9	
25.0	45.90	71.6	
25.4	46.50	72.3	
25.8	47.00	73.0	
26.2	47.40	73.7	
26.6	47.90	74.4	
27.0	48.30	75.1	
27.4	48.80	75.8	
27.8	49.20	76.5	
28.2	49.70	77.2	
28.6	50.20	77.8	
29.0	50.60		
29.4	51.00		
29.8	51.50		
30.2	51.90		
30.6	52.30		
31.0	52.70		
31.3	53.00		
31.6	53.50		
31.9	53.90		
32.2	54.40		
32.6	54.80		
32.9	55.30		
33.3	55.70		
33.7	56.10		
34.1	56.50		
34.5	57.00		
34.8	57.40		
35.1	57.80		
35.4	58.30		
35.8	58.80		
36.2	59.20		
36.6	59.60		
37.0	60.10		
37.4	60.50		

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	**ENGINEER**	**TECHNICIANS**
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION			DATE RUN
-L- 14+95 WB PS			1/4-7/2022
DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	194244.6	2340727.4

Cumulative Penetration in Centimeters	
0.00	
2.50	
4.30	
6.20	
8.10	
11.20	
16.30	
19.80	
21.80	
23.30	
24.90	
26.20	
27.50	
28.60	
29.50	
30.60	
31.60	
32.40	
33.20	
Terminate utilities	

TEST LOCATION DESCRIPTION			DATE RUN
-L- 18+75 WB LN			1/4-7/2022
DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	194250.3	2341109.2

Cumulative Penetration in Centimeters			
0.0	46.3		
2.2	47.0		
3.4	47.9		
4.4	48.6		
5.2	49.2		
6.0	50.0		
7.0	50.8		
7.7	51.6		
8.6	52.3		
9.5	53.3		
10.2	53.9		
11.1	54.3		
11.7	56.0		
12.3	57.0		
13.0	58.2		
13.7	58.7		
14.4	59.6		
15.2	60.3		
16.5	61.0		
17.2	61.8		
18.0	62.5		
18.9	63.3		
19.6	64.1		
20.2	65.0		
21.1	66.5		
21.9	67.1		
22.7	67.9		
23.4	68.8		
24.2	69.5		
25.0	70.4		
25.9	71.2		
26.7	71.9		
27.7	72.6		
28.5	73.4		
29.4	74.1		
30.2	74.7		
31.1	75.4		
32.0	76.2		
32.8	77.0		
33.5	77.9		
34.5	78.8		
35.3	79.5		
36.2	80.5		
37.1			
37.9			
38.7			
39.6			
40.4			
41.4			
42.1			
42.8			
44.5			
45.4			

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
ABC = Aggregate Base Course
ESG = Estimated Subgrade

S&ME, Inc.
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CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	**ENGINEER**	**TECHNICIANS**
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN	DATUM	CUT/ FILL	NORTHING	EASTING
-L- 21+15 EB PS	1/4-7/2022	SG	-	194218.5	2341349.2

Cumulative Penetration in Centimeters

Terminate utilities

TEST LOCATION DESCRIPTION	DATE RUN	DATUM	CUT/ FILL	NORTHING	EASTING
-L- 26+70 WB LTL	1/4-7/2022	ABC	FILL	194061.0	2341850.1

Cumulative Penetration in Centimeters

0.00	9.55	30.55
0.20	9.90	30.8
0.40	10.30	31.1
0.60	10.65	31.4
0.75	11.00	31.7
0.90	11.40	31.95
0.95	11.80	32.2
1.00	12.20	32.7
1.05	12.60	33.2
1.10	13.00	33.7
1.20	13.35	34.2
1.24	13.70	34.6
1.28	14.05	35.0
1.32	14.45	35.4
1.36	14.90	35.8
1.40	15.40	36.3
1.48	15.85	36.7
1.56	16.30	37.1
1.64	16.70	37.5
1.72	17.10	37.9
1.80	17.45	38.5
1.86	17.80	38.9
1.92	18.20	
1.98	18.55	
2.04	18.80	
2.10	19.20	
2.20	19.60	
2.30	20.00	
2.40	20.40	
2.50	20.80	
2.60	21.20	
2.70	21.60	
2.80	22.00	
2.90	22.45	
3.00	22.90	
3.10	23.20	
Augered	23.60	
34.1 cm	23.95	
	24.35	
0.00	24.70	
1.90	25.10	
3.10	25.50	
3.70	25.90	
4.30	26.25	
5.00	26.60	
5.60	27.10	
6.20	27.60	
6.90	28.10	
7.40	28.55	
7.90	29.00	
8.30	29.40	
8.70	29.80	
9.20	30.20	

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	**ENGINEER**	**TECHNICIANS**
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN	DATUM	CUT/ FILL	NORTHING	EASTING
-L- 26+70 WB LN	1/4-7/2022	ABC	FILL	194068.8	2341859.4

Cumulative Penetration in Centimeters

0.00	7.70	26.70	45.10
0.22	8.10	27.05	44.35
0.44	8.5	27.40	45.60
0.66	8.9	27.75	46.05
0.88	9.3	28.10	46.50
1.10	9.7	28.40	46.95
1.24	10.0	28.70	47.45
1.38	1.4	29.05	47.90
1.52	10.8	29.45	
1.66	11.2	30.80	
1.80	11.6	30.10	
1.92	12.0	30.45	
2.04	12.35	30.70	
2.16	12.70	31.05	
2.28	13.05	31.55	
2.40	13.40	32.00	
2.46	13.70	32.35	
2.52	14.00	32.70	
2.58	14.40	33.05	
2.64	14.78	33.45	
2.70	15.20	33.80	
2.76	15.60	34.15	
2.82	15.95	34.50	
2.88	16.30	34.85	
2.94	16.65	35.20	
3.00	16.90	35.50	
3.08	17.35	35.82	
3.16	17.70	36.12	
3.24	18.00	36.40	
3.32	18.35	36.75	
3.40	18.70	37.10	
3.50	19.00	37.40	
3.60	19.40	37.70	
3.70	19.80	38.00	
3.80	20.15	38.30	
3.90	20.55	38.60	
Augered	20.90	38.90	
26.5 cm	21.25	39.20	
	21.60	39.50	
0.00	21.90	39.90	
1.00	22.20	40.30	
1.80	22.50	40.70	
2.40	22.85	41.10	
3.00	23.20	41.50	
3.60	23.55	41.90	
4.15	23.90	42.30	
4.70	24.30	42.70	
5.16	24.65	43.10	
5.52	25.00	43.50	
5.90	25.35	43.85	
5.55	25.70	44.20	
6.90	26.05	44.50	
7.30	26.40	44.80	

TEST LOCATION DESCRIPTION	DATE RUN	DATUM	CUT/ FILL	NORTHING	EASTING
-L- 26+70 WB RTL	1/4-7/2022	ABC	FILL	194078.7	2341871.2

Cumulative Penetration in Centimeters

0.00	7.94	25.80
0.36	8.36	26.14
0.72	8.80	26.48
1.08	9.20	26.84
1.44	9.62	27.18
1.80	10.04	27.50
2.02	10.44	27.82
2.24	10.86	28.14
2.46	11.30	28.46
2.68	11.64	28.78
2.90	11.98	29.10
3.04	12.32	29.38
3.18	12.66	29.66
3.32	13.00	29.94
3.46	13.26	30.22
3.60	13.52	30.50
3.74	13.78	30.84
3.88	14.04	31.18
4.02	14.30	31.52
4.16	14.68	31.90
4.30	15.04	32.20
4.46	15.42	32.60
4.62	15.80	33.00
4.78	16.20	33.40
4.94	16.56	33.80
5.10	16.92	34.20
5.24	17.28	34.60
5.38	17.64	35.00
5.52	18.00	35.40
5.66	18.24	35.80
5.80	18.48	36.20
5.86	18.72	36.60
5.92	18.96	37.00
5.98	19.20	37.40
6.04	19.56	37.80
6.10	19.92	38.20
Augered	20.28	
28.1 cm	20.64	
	21.00	
0.00	21.36	
1.00	21.72	
2.00	22.08	
2.60	22.44	
3.20	22.80	
3.80	23.06	
4.40	23.32	
5.00	23.58	
5.42	23.94	
5.84	24.10	
6.26	24.44	
6.68	24.78	
7.10	25.12	
7.52	25.46	

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CTBC = Cement-Treated Base Course
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CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOBER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 30+80 EB OSL	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
ABC	FILL	193779.8	2342154.8

Cumulative Penetration in Centimeters

0.00	13.90	31.10	52.30
1.00	14.10	31.46	52.80
1.30	14.30	31.82	53.30
1.60	14.50	32.18	53.70
1.90	14.82	32.54	54.10
2.20	15.14	32.90	54.50
2.50	15.46	33.24	54.90
2.74	15.78	33.58	55.30
2.98	16.10	33.92	55.60
3.22	16.42	34.26	55.90
3.46	16.74	34.60	56.20
3.70	17.06	34.98	56.55
4.00	17.38	35.36	57.00
4.30	17.70	35.74	57.35
4.60	18.02	36.12	57.70
4.90	18.34	36.50	58.05
5.20	18.66	36.88	58.40
5.40	18.98	37.28	58.80
5.60	19.30	37.66	59.15
5.80	19.60	38.02	59.50
6.00	19.90	38.40	59.85
6.20	20.20	38.75	60.20
6.44	20.50	39.10	60.60
6.68	20.80	39.45	61.00
6.92	21.14	39.80	61.40
7.18	21.48	40.20	61.80
7.40	21.82	40.60	62.15
7.58	22.16	41.00	62.50
7.76	22.50	41.40	62.85
7.94	22.86	41.80	63.20
8.10	23.22	42.20	63.55
8.30	23.58	42.58	63.90
8.58	23.94	42.96	64.30
8.86	24.30	43.34	64.75
9.14	24.65	43.72	65.20
9.42	25.00	44.10	65.65
9.70	25.35	44.58	66.10
9.95	25.70	45.06	66.50
10.20	26.00	45.54	
10.45	26.35	46.03	
10.70	26.70	46.50	
11.00	27.05	46.90	
11.25	27.40	47.30	
11.50	27.80	47.70	
11.75	28.15	48.15	
11.95	28.50	48.60	
12.20	28.85	49.04	
12.45	29.20	49.48	
12.70	29.50	49.92	
12.95	29.80	50.36	
13.20	30.10	50.80	
13.50	30.40	51.30	
13.70	30.70	51.80	

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 30+80 EB ISL	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
ABC	FILL	193788.1	2342165.2

Cumulative Penetration in Centimeters

0.00	2.70	20.45	37.80
0.28	3.10	20.80	38.10
0.56	3.50	21.10	38.40
0.84	3.90	21.40	38.80
1.12	4.30	21.70	39.12
1.40	4.74	22.00	39.44
1.54	5.14	22.40	39.78
1.68	5.58	22.70	40.10
1.82	6.02	23.00	40.40
1.96	6.50	23.30	40.72
2.10	6.82	23.65	41.04
2.24	7.14	24.00	41.36
2.38	7.46	24.25	41.68
2.52	7.78	24.55	42.00
2.66	8.10	24.80	42.34
2.80	8.45	25.15	42.68
3.00	8.70	25.40	43.02
3.20	9.05	25.70	43.36
3.40	9.45	26.00	43.70
3.60	9.90	26.30	44.04
3.80	10.24	26.65	44.38
3.94	10.58	27.00	44.72
4.08	10.92	27.30	45.06
4.22	11.26	27.60	45.40
4.36	11.60	27.95	
4.50	11.92	28.35	
4.64	12.24	28.60	
4.78	12.56	28.95	
4.92	12.88	29.30	
5.08	13.20	29.65	
5.20	13.48	29.95	
5.36	13.76	30.30	
5.52	14.04	30.65	
5.68	14.32	31.00	
5.84	14.60	31.35	
6.00	14.95	31.70	
6.14	15.30	32.00	
6.28	15.65	32.35	
6.42	15.95	32.70	
6.56	16.30	33.05	
6.70	16.58	33.40	
6.84	16.84	33.70	
6.98	17.14	34.05	
7.12	17.42	34.40	
7.26	17.70	34.75	
7.40	18.00	35.05	
Augered 17.4 cm	18.30	35.40	
	18.60	35.75	
	18.90	36.15	
0.00	19.20	36.50	
1.10	19.50	36.85	
1.70	19.80	37.20	
2.30	20.10	37.50	

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 30+80 EB LTL	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
ABC	FILL	193798.7	2342171.3

Cumulative Penetration in Centimeters

0.00	10.10	32.95	
0.22	10.53	33.40	
0.44	10.96	33.80	
0.66	11.40	34.25	
0.88	11.87	34.80	
1.10	12.34	35.25	
1.30	12.80	35.70	
1.50	13.25	36.20	
1.70	13.70	36.60	
1.90	14.10	37.00	
2.10	14.55	37.40	
2.22	15.00	37.90	
2.34	15.50	38.40	
2.48	15.95	38.90	
2.60	16.40	39.35	
2.70	16.90	39.80	
2.82	17.35	40.30	
2.94	17.80	40.70	
3.06	18.30	41.15	
3.18	18.70	41.60	
3.30	19.10	42.05	
3.48	19.50	42.50	
3.64	19.90	42.90	
3.82	20.35	43.30	
4.00	20.80	43.70	
4.20	21.20	44.10	
4.28	21.60	44.60	
4.36	22.00	45.15	
4.44	22.40	45.70	
4.52	22.85	46.10	
4.60	23.30	46.55	
4.68	23.70	47.00	
4.74	24.10	47.50	
4.82	24.50	48.00	
4.90	24.90	48.50	
5.00	25.30	48.95	
Augered 25.8 cm	25.70	49.40	
	26.10	49.90	
	26.55	50.30	
0.00	27.00	50.75	
2.00	27.40	51.20	
3.30	27.85	51.60	
4.40	28.30	52.05	
5.00	28.70	52.50	
5.70	29.10		
6.20	29.50		
6.70	29.90		
7.20	30.30		
7.70	30.70		
8.25	31.10		
8.80	31.55		
9.20	32.00		
9.65	32.45		

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 34+75 WB RTL PS	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
-	FILL	193673.7	2342534.6

Cumulative Penetration in Centimeters

0.0			
1.8			
3.0			
4.5			
5.9			
7.0			
8.5			
9.9			
11.7			
13.8			
16.0			
17.8			
19.8			
21.7			
23.6			
25.6			
27.7			
30.1			
32.4			
34.6			
Terminate utilities			

SG = Subgrade
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ESG = Estimated Subgrade

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CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 37+55 EB PS	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
AG	-	193536.9	2342789.1

Cumulative Penetration in Centimeters	
0.00	
3.90	
5.40	
6.40	
7.25	
8.10	
9.05	
10.00	
10.55	
11.10	
Terminate utilities	

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 40+50 WB LN	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	193513.4	2343087.7

Cumulative Penetration in Centimeters		
0.00	31.40	67.97
0.54	31.55	69.33
1.08	31.70	70.70
1.62	32.00	71.93
2.16	32.30	73.16
2.70	32.60	74.40
3.50	32.90	75.87
4.30	33.20	77.34
5.10	33.45	78.80
5.90	33.70	
6.70	33.95	
7.14	34.25	
7.58	34.50	
8.02	34.80	
8.46	35.10	
8.90	35.40	
11.70	35.75	
14.60	36.10	
17.80	36.55	
18.90	37.00	
20.00	37.45	
21.10	37.90	
21.77	38.40	
22.44	38.80	
23.10	39.20	
23.57	39.60	
24.04	40.00	
24.50	40.40	
24.75	41.05	
25.05	41.70	
25.30	42.30	
25.60	42.95	
25.90	43.70	
26.20	44.62	
26.50	45.54	
26.80	46.46	
27.05	47.38	
27.30	48.30	
27.55	49.40	
28.85	50.50	
28.10	51.60	
28.32	52.77	
28.54	53.93	
28.76	55.10	
28.98	56.37	
29.20	57.63	
29.45	58.90	
29.70	60.13	
29.95	61.36	
30.20	62.60	
30.40	63.93	
30.83	65.26	
31.26	66.60	

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 40+50 WB OSL	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	193524.8	2343086.5

Cumulative Penetration in Centimeters	
0.00	64.80
3.00	64.80
5.00	65.7
6.60	66.7
8.10	67.6
9.40	68.5
10.50	69.6
11.70	70.7
12.80	
13.80	
15.00	
16.10	
17.10	
18.20	
19.30	
20.10	
21.20	
22.40	
23.60	
24.90	
26.20	
27.80	
29.00	
30.40	
31.70	
32.90	
34.30	
35.70	
37.30	
39.00	
40.70	
42.10	
43.70	
45.10	
46.40	
47.30	
48.40	
49.40	
50.60	
51.60	
52.80	
53.90	
54.90	
55.80	
56.60	
57.50	
58.50	
59.50	
60.40	
61.20	
62.10	
63.00	
64.00	

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TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 43+10 EB RTL	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	193424.0	2343332.9

Cumulative Penetration in Centimeters
0.0
3.8
6.0
7.3
8.5
9.7
10.9
11.9
13.0
14.0
14.9
15.6
16.6
17.3
18.1
18.8
19.6
20.4
21.3
22.3
23.4
24.4
25.4
26.6
27.9
29.3
30.6
32.0
33.2
34.4
35.5
36.6
38.0
39.2
40.2
41.8
43.2
44.3
45.7
46.9
48.2
49.5
50.7
52.1
53.3
54.4
55.5
56.8
57.9
59.2
60.5
62.0

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
ABC = Aggregate Base Course
ESG = Estimated Subgrade

S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	**ENGINEER**	**TECHNICIANS**
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION			DATE RUN
-L- 43+10 EB LN			1/4-7/2022
DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	193433.0	2343333.0

Cumulative Penetration in Centimeters
0.00
2.70
4.80
7.20
9.60
12.00
14.30
16.60
19.00
21.60
24.20
27.00
29.00
30.50
31.60
33.10
34.80
37.00
39.10
41.00
42.70
44.40
46.10
47.70
49.50
51.30
53.10
55.10
57.00
58.80
60.80
62.80
64.70
66.80
68.80
70.90

TEST LOCATION DESCRIPTION			DATE RUN
-L- 45+10 WB LN			1/4-7/2022
DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	193418.1	2343533.3

Cumulative Penetration in Centimeters
Terminate utilities

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TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	**ENGINEER**	**TECHNICIANS**
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION			DATE RUN
-L- 45+10 WB RTL			1/4-7/2022
DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	193429.1	2343539.9

Cumulative Penetration in Centimeters
0.00
3.50
5.50
7.20
8.50
9.90
11.30
12.50
13.80
14.80
16.00
17.10
18.30
19.40
20.40
21.50
22.60
23.60
24.60
25.80
26.90
28.20
29.60
30.80
31.80
33.00
34.00
35.10
36.30
37.30
38.30
39.20
40.60
41.60
42.80
43.90
45.00
46.20
47.40
48.80
49.80
51.10
52.40
53.60
55.20
56.30
57.70
59.00
60.40
62.00
63.70
65.70

TEST LOCATION DESCRIPTION			DATE RUN
-L- 60+05 EB LN			1/4-7/2022
DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	193066.0	2344992.2

Cumulative Penetration in Centimeters	
0.00	44.57
3.20	46.14
4.70	47.70
5.70	49.13
6.50	50.56
7.30	52.00
8.00	52.57
8.60	53.14
9.33	53.70
10.06	Terminate utilities
10.80	
11.43	
12.06	
12.70	
13.30	
13.90	
14.50	
15.07	
15.64	
16.20	
16.77	
17.34	
17.90	
18.57	
19.24	
19.90	
20.33	
20.76	
21.20	
22.23	
23.26	
24.30	
24.83	
25.36	
25.90	
26.70	
27.50	
28.30	
29.03	
29.76	
30.50	
31.37	
32.24	
33.10	
34.03	
34.96	
35.90	
37.07	
38.24	
39.40	
40.60	
41.80	
43.00	

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ESG = Estimated Subgrade

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TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40

COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 63+25 WB LN	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	193020.5	2345302.4

Cumulative Penetration in Centimeters

0.00		19.52		59.36															
2.20		19.86		61.12															
3.00		20.20		62.88															
3.70		20.58		64.64															
4.40		20.96		66.40															
4.90		21.34		68.04															
5.40		21.72		69.68															
5.90		22.10		71.32															
6.30		22.48		72.96															
6.70		22.96		74.60															
7.10		23.34		75.97															
7.43		23.72		77.34															
7.77		24.00		78.70															
8.10		24.44																	
8.47		24.88																	
8.84		25.32																	
9.20		25.76																	
9.50		26.20																	
9.80		26.74																	
10.10		27.28																	
10.40		27.82																	
10.70		28.36																	
11.00		28.90																	
11.24		29.72																	
11.48		30.54																	
11.72		31.36																	
11.96		32.18																	
12.20		33.00																	
12.77		33.88																	
13.34		34.76																	
13.90		35.64																	
14.06		36.52																	
14.22		37.40																	
14.38		38.24																	
14.54		39.08																	
14.70		39.92																	
14.94		40.76																	
15.18		41.60																	
15.42		42.54																	
15.66		43.48																	
15.90		44.42																	
16.18		45.36																	
16.46		46.30																	
16.74		47.36																	
17.02		48.42																	
17.30		49.48																	
17.54		50.56																	
17.78		51.60																	
18.02		52.80																	
18.26		54.00																	
18.50		55.20																	
18.84		56.40																	
19.18		57.60																	

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40

COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATION DESCRIPTION	DATE RUN
-L- 63+25 WB RTL	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	193034.0	2345310.3

Cumulative Penetration in Centimeters

0.00		51.80																	
8.40		52.93																	
10.50		54.06																	
11.90		55.20																	
12.90		56.57																	
13.90		57.94																	
14.70		59.30																	
15.60		60.83																	
16.70		62.36																	
17.30		63.90																	
17.90		65.63																	
18.50		67.36																	
19.17		69.10																	
19.84		70.80																	
20.50		72.50																	
21.20		74.20																	
21.90		75.90																	
22.60		77.60																	
23.30		79.30																	
24.00																			
24.70																			
25.37																			
26.04																			
26.70																			
27.60																			
28.50																			
29.40																			
30.30																			
31.20																			
32.10																			
32.90																			
33.70																			
34.50																			
35.23																			
35.96																			
36.70																			
37.43																			
38.16																			
38.90																			
39.60																			
40.30																			
41.00																			
41.77																			
42.54																			
43.30																			
44.13																			
44.96																			
45.80																			
46.73																			
47.66																			
48.60																			
49.67																			
50.74																			

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40

COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 69+20 EB LN (O)	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	FILL	192874.6	2345885.5

Cumulative Penetration in Centimeters

0.00		51.38																	
4.50		52.36																	
6.30		53.34																	
7.50		54.32																	
8.60		55.30																	
9.50		57.13																	
10.60		58.96																	
11.70		60.80																	
12.90		61.78																	
14.30		62.76																	
15.90		65.70																	
17.50		66.93																	
19.30		68.16																	
22.60		69.40																	
27.10		70.47																	
29.60		71.54																	
30.90		72.60																	
32.10		73.60																	
33.00		74.60																	
33.70		75.60																	
34.50		76.60																	
35.40		77.60																	
36.00		78.60																	
36.62		79.53																	
37.24		80.46																	
37.86		81.40																	
38.48		82.17																	
39.10		82.94																	
39.60		83.70																	
40.10		84.30																	
40.60		84.90																	
41.10		85.50																	
41.60																			
42.20																			
42.80																			
43.40																			
44.00																			
44.60																			
44.86																			
45.12																			
45.38																			
45.64																			
45.90																			
46.18																			
46.46																			
46.74																			
47.02																			
47.30																			
47.92																			
48.54																			
49.16																			
49.78																			
50.40																			

DATUM	CUT/ FILL	NORTHING	EASTING
SG	FILL	192882.8	2345881.6

Cumulative Penetration in Centimeters

0.00		39.96		73.07															
1.70		40.40		73.84															
3.20		40.77		74.60															
4.40		41.14		75.27															
5.60		41.50		75.94															
6.70		41.67		76.60															
7.30		41.84		77.40															
8.10		42.00		78.20															
8.50		42.60		79.00															
8.88		43.20																	
9.26		43.80																	
9.64		44.13																	
10.02		44.46																	
10.40		44.80																	
10.74		45.17																	
11.08		45.54																	
11.42		45.90																	
11.76		46.27																	
12.10		46.64																	
12.46		47.00																	
12.82		47.40																	
13.18		47.80																	
13.54		48.20																	
13.90		48.70																	
14.36		49.20																	
14.82		49.70																	
15.28		50.40																	
15.74		51.10																	
16.20		51.80																	
17.00		52.93																	
17.80		54.06																	
18.60		55.20																	
19.40		56.70																	
20.20		58.20																	
22.87		59.70																	
25.54		60.80																	
28.20		61.90																	
29.87		63.00																	
31.54		63.70																	
33.20		64.40																	
33.87		65.10																	
34.54		65.70																	
35.20		66.30																	
35.67		66.90																	
36.14		67.50																	
36.60		68.10																	
37.00		68.70																	
37.40		69.30																	
37.80		69.90																	
38.23		70.50																	
38.66		71.10																	
39.10		71.70																	
39.53		72.30																	

SG = Subgrade
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ESG = Estimated Subgrade

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CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 69+20 WB LN	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	FILL	192888.5	2345894.6

Cumulative Penetration in Centimeters	
0.00	58.40
0.80	58.90
0.94	59.50
1.08	60.00
1.22	60.50
1.36	61.00
1.50	61.50
2.50	62.10
3.50	62.70
4.50	63.40
5.50	64.10
6.50	64.90
7.93	65.70
9.36	66.50
10.80	67.30
12.86	68.20
14.92	69.00
17.00	69.70
19.00	70.50
21.00	71.20
23.00	71.90
24.20	72.50
25.40	73.10
26.60	73.60
27.30	74.20
28.20	74.80
28.90	75.40
29.70	76.10
30.40	76.70
30.90	
31.40	
31.70	
32.90	
33.50	
34.30	
35.40	
36.70	
37.70	
38.90	
40.10	
41.60	
43.00	
44.70	
46.40	
48.00	
49.40	
50.90	
52.30	
53.50	
54.70	
55.90	
56.80	
57.60	

TEST LOCATION DESCRIPTION	DATE RUN
-L- 76+90 EB PS	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	192655.7	2346626.3

Cumulative Penetration in Centimeters	
0.0	
2.9	
5.4	
7.9	
10.3	
12.3	
14.2	
15.9	
17.8	
19.6	
21.4	
23.2	
25.3	
27.8	
30.5	
33.5	
35.8	
38.3	
40.7	
43.1	
45.0	
46.9	
48.6	
50.3	
51.8	
53.4	
55.1	
57.0	
58.6	
60.3	
62.1	
64.6	
67.6	
71.6	
78.9	
83.3	

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 79+20 WB RTL	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	192577.8	2346843.0

Cumulative Penetration in Centimeters	
0.00	62.10
4.60	64.30
6.00	66.40
7.30	68.70
8.40	70.80
9.60	72.90
10.90	75.00
11.90	76.90
12.80	78.80
13.50	80.60
14.20	
14.90	
15.60	
16.20	
16.90	
17.50	
18.20	
18.80	
19.40	
20.00	
20.60	
21.20	
21.80	
22.50	
23.20	
23.90	
24.60	
25.50	
26.40	
27.30	
28.50	
29.70	
30.80	
32.00	
33.20	
34.40	
35.50	
36.60	
37.60	
38.70	
39.80	
41.00	
42.40	
43.80	
45.10	
46.80	
48.50	
50.30	
52.20	
54.10	
56.00	
58.00	
60.00	

TEST LOCATION DESCRIPTION	DATE RUN
-L- 82+40 EB LN	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
ABC	-	192385.5	2347105.8

Cumulative Penetration in Centimeters			
0.00	15.86	46.74	
2.60	16.22	47.70	
3.60	16.58	48.98	
3.88	16.94	50.26	
4.16	17.30	51.54	
4.44	17.68	52.82	
4.72	18.06	54.10	
5.00	18.44	55.52	
5.24	18.82	56.94	
5.48	19.20	58.36	
5.72	19.66	59.78	
5.96	20.12	61.20	
6.20	20.58	63.03	
6.38	21.04	64.86	
6.56	21.50	66.70	
6.74	21.98	69.10	
6.92	22.46	71.50	
7.10	22.94	73.90	
7.26	23.42	77.40	
7.42	23.90	80.90	
7.58	24.44	84.40	
7.74	24.98	86.60	
7.90	25.52	88.80	
8.06	26.06	91.00	
8.22	26.60		
8.38	27.08		
8.54	27.56		
8.70	28.04		
8.88	28.52		
9.06	29.00		
9.24	29.50		
9.42	30.00		
9.60	30.50		
9.80	31.00		
10.00	31.50		
10.20	32.10		
10.40	32.70		
10.60	33.30		
10.86	33.90		
11.12	34.50		
11.38	35.22		
11.64	35.94		
11.90	36.66		
12.26	37.32		
12.62	38.10		
12.98	39.06		
13.34	40.02		
13.70	40.98		
14.06	41.94		
14.42	42.90		
14.78	43.86		
15.14	44.82		
15.50	45.78		

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CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	**ENGINEER**	**TECHNICIANS**
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 82+40 EB CTL	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
ABC	-	192399.5	2347115.4

Cumulative Penetration in Centimeters

0.00	11.16	26.74	62.10				
0.20	11.38	27.28	63.00				
0.40	11.60	27.82	63.90				
0.60	11.80	28.36	64.80				
0.80	12.00	28.90	65.70				
1.00	12.20	29.50	66.60				
1.20	12.40	30.10	67.50				
1.40	12.60	30.70	68.32				
1.60	12.78	31.30	69.14				
1.80	12.96	31.90	69.96				
2.00	13.14	32.58	70.78				
2.22	13.32	33.26	71.60				
2.44	13.50	33.94	72.38				
2.66	13.72	34.62	73.16				
2.88	13.94	35.30	73.94				
3.10	14.16	35.96	74.72				
3.36	14.38	36.62	75.50				
3.62	14.60	37.28	76.26				
3.88	14.78	37.94	77.02				
4.14	14.96	38.60	77.78				
4.40	15.14	39.24	78.54				
4.62	15.32	39.88	79.30				
4.84	15.50	40.52	79.98				
5.06	15.70	41.16	80.66				
5.28	15.90	41.80	81.34				
5.50	16.10	42.38	82.02				
5.68	16.30	42.96	82.70				
5.86	16.50	43.54					
6.04	16.76	44.12					
6.22	17.02	44.70					
6.40	17.28	45.36					
6.58	17.54	46.02					
6.76	17.80	46.68					
6.94	18.14	47.34					
7.12	18.48	48.00					
7.30	18.82	48.64					
7.52	19.16	49.28					
7.74	19.50	49.92					
7.96	19.88	50.56					
8.18	20.26	51.20					
8.40	20.64	51.88					
8.62	21.02	52.46					
8.84	21.40	53.24					
9.06	21.86	53.92					
9.28	22.32	54.60					
9.50	22.78	55.38					
9.70	23.24	56.16					
9.90	23.70	56.94					
10.10	24.20	57.72					
10.30	24.70	58.50					
10.50	25.20	59.40					
10.72	25.70	60.30					
10.94	26.20	61.20					

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	**ENGINEER**	**TECHNICIANS**
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATION DESCRIPTION	DATE RUN
-L- 82+40 WB PS	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
ABC	-	192415.5	2347122.7

Cumulative Penetration in Centimeters

0.00	40.86						
0.78	42.08						
1.56	43.30						
2.34	44.72						
3.12	46.14						
3.90	47.56						
4.74	48.98						
5.58	50.40						
6.42	51.98						
7.26	53.56						
8.10	55.14						
8.76	56.72						
9.42	58.30						
10.08	59.46						
10.74	60.62						
11.40	61.78						
11.84	62.94						
12.28	64.10						
12.72	65.72						
13.16	67.34						
13.60	68.96						
14.18	70.58						
14.76	72.20						
15.34	73.77						
15.92	75.34						
16.50	76.90						
17.14	78.57						
17.78	80.24						
18.42	81.90						
19.06	83.63						
19.70	85.36						
20.44	87.10						
21.18							
21.92							
22.66							
23.40							
24.22							
25.04							
25.86							
26.68							
27.50							
28.38							
29.26							
30.14							
31.02							
31.90							
32.96							
34.02							
35.08							
36.14							
37.20							
38.42							
39.64							

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	**ENGINEER**	**TECHNICIANS**
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 87+05 WB RTL	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
ABC	-	192191.0	2347531.5

Cumulative Penetration in Centimeters

0.00	14.10	60.73					
0.90	14.50	61.16					
1.26	14.90	61.60					
1.62	15.30	62.13					
1.98	15.92	62.66					
2.34	16.54	63.20					
2.70	17.16	63.66					
2.92	17.78	64.12					
3.14	18.40	64.60					
3.36	19.18	65.03					
3.58	19.96	65.46					
3.80	20.74	65.90					
3.98	21.52	66.33					
4.16	22.30	66.76					
4.34	23.36	67.20					
4.52	24.42	67.66					
4.70	25.48	68.12					
4.86	26.54	68.60					
5.02	27.60	69.03					
5.18	28.58	69.46					
5.34	29.56	69.90					
5.50	30.54	70.53					
5.68	21.52	71.16					
5.86	32.50	71.80					
6.04	34.54	72.50					
6.22	36.58	73.20					
6.40	38.62	73.90					
6.60	40.66	74.93					
6.80	42.70	75.96					
7.00	44.10	77.00					
7.20	45.50	78.76					
7.40	46.90	80.52					
7.60	47.66	82.30					
7.80	48.42	83.90					
8.00	49.20	85.50					
8.20	49.93	87.10					
8.40	50.66	88.43					
8.68	51.40	89.76					
8.96	52.06	91.10					
9.24	52.72	92.40					
9.52	53.40	93.70					
9.80	54.03	95.00					
10.10	54.66						
10.40	55.30						
10.70	55.86						
11.00	56.42						
11.30	57.00						
11.70	57.53						
12.10	58.06						
12.50	58.60						
12.90	59.16						
13.30	59.72						
13.70	60.30						

TEST LOCATION DESCRIPTION	DATE RUN
-L- 90+70 WB RTL	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
ABC	-	192014.0	2347847.1

Cumulative Penetration in Centimeters

0.00	77.90						
0.80	79.50						
1.20	81.00						
1.70	82.50						
2.00	84.00						
2.30	85.40						
2.60	86.60						
2.90	87.90						
3.20	89.30						
3.58	90.20						
3.96	91.60						
4.34	92.70						
4.72							
5.10							
7.12							
9.14							
11.16							
13.18							
15.20							
18.90							
21.50							
24.00							
25.90							
27.40							
28.90							
30.20							
31.70							
33.40							
35.20							
37.10							
39.00							
40.60							
42.50							
44.50							
46.70							
49.10							
51.50							
53.50							
55.40							
57.00							
58.50							
59.70							
61.20							
62.40							
64.20							
65.90							
67.60							
68.90							
70.40							
72.20							
73.60							
75.20							
76.60							

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
ABC = Aggregate Base Course
ESG = Estimated Subgrade

S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 100+95 EB PS	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	191471.8	2348717.6

Cumulative Penetration in Centimeters
0.00
2.40
3.70
5.00
6.10
7.10
8.00
9.10
10.30
11.50
12.40
13.40
14.40
15.50
16.60
17.80
19.10
20.20
21.30
22.40
23.50
24.60
26.00
27.30
28.60
30.10
31.60
33.20
34.90
36.60
38.50
40.40
42.10
44.20
46.10
48.30
50.50
52.60
54.70
57.30
59.60
62.10
64.70
67.20
69.40
71.80
74.40
77.10
79.60
82.00

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TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATION DESCRIPTION	DATE RUN
-L- 100+95 EB LN	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	191474.4	2348723.4

Cumulative Penetration in Centimeters	
0.00	63.00
2.40	64.90
4.10	66.80
5.10	68.70
6.10	70.66
7.00	72.62
7.60	74.60
8.50	76.46
9.10	78.32
9.90	80.20
10.54	81.76
11.18	83.32
11.82	84.90
12.46	
13.10	
13.80	
14.50	
15.20	
15.90	
16.60	
17.26	
17.92	
18.58	
19.24	
20.20	
21.02	
21.84	
22.66	
23.48	
24.30	
25.58	
26.86	
28.14	
29.42	
30.70	
31.98	
33.26	
34.54	
35.82	
37.10	
38.94	
40.78	
42.62	
44.46	
46.30	
48.26	
50.22	
52.20	
54.06	
55.92	
57.80	
59.53	
61.26	

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TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 100+95 WB PS	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	191490.2	2348736.6

Cumulative Penetration in Centimeters
0.00
2.40
3.60
4.60
5.60
6.40
7.30
8.20
8.90
9.80
10.60
11.50
12.60
13.50
14.90
15.80
16.90
18.20
19.50
20.90
22.40
24.20
26.10
28.30
30.60
35.90
38.90
41.70
44.60
47.80
51.10
54.40
57.30
60.30
63.40
66.60
69.90
73.10
75.90
78.90

TEST LOCATION DESCRIPTION	DATE RUN
-L- 116+35 EB PS	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	190701.7	2350054.4

Cumulative Penetration in Centimeters
0.00
5.10
7.30
9.40
11.30
13.10
14.80
16.80
18.30
19.90
23.20
24.20
26.20
30.40
32.40
34.60
36.80
39.20
41.40
43.90
46.40
49.00
52.00
55.10
58.60
61.70
64.90
68.00
71.40
74.90

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ESG = Estimated Subgrade

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TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 116+35 EB CTL	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
ABC	-	190718.5	2350061.8

Cumulative Penetration in Centimeters	
0.00	1.80
0.50	2.40
0.78	3.00
1.06	4.18
1.34	5.36
1.62	6.54
1.90	7.72
2.06	8.90
2.22	10.00
2.38	11.10
2.54	12.20
2.70	13.23
2.84	14.26
2.98	15.30
3.12	16.26
3.26	17.22
3.40	18.20
3.56	19.10
3.72	20.00
3.88	20.90
4.04	21.73
4.20	22.56
4.40	23.40
4.60	24.23
4.80	25.06
5.00	25.90
5.20	26.73
5.36	27.56
5.52	28.40
5.68	29.33
5.84	30.26
6.00	31.20
6.20	32.63
6.40	34.06
6.60	35.50
6.80	37.36
7.00	39.22
7.16	41.10
7.32	43.53
7.48	45.96
7.64	48.40
7.80	50.96
7.98	53.52
8.16	56.10
8.34	59.46
8.52	62.82
8.70	66.20
Augered 8.5 cm	
0.00	
60.00	
1.20	

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 116+35 WB PS	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	190732.8	2350073.4

Cumulative Penetration in Centimeters	
0.00	65.90
1.10	66.40
2.00	66.90
2.60	68.15
3.60	69.40
4.14	70.95
4.68	72.50
5.22	73.85
5.76	75.20
6.30	
6.92	
7.54	
8.16	
8.78	
9.40	
10.83	
12.26	
13.70	
15.73	
17.76	
19.80	
21.26	
22.72	
24.20	
25.50	
26.80	
27.95	
29.10	
30.55	
32.00	
33.55	
35.10	
36.35	
37.60	
39.10	
40.60	
42.00	
43.40	
44.95	
46.50	
47.90	
49.30	
50.50	
51.70	
52.75	
53.80	
55.00	
56.20	
57.40	
58.60	
60.00	
61.40	
63.65	

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 134+95 EB ISL	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	189783.2	2351668.8

Cumulative Penetration in Centimeters	
0.00	
1.60	
2.60	
3.40	
3.90	
4.64	
5.38	
6.12	
6.86	
7.60	
8.76	
9.92	
11.08	
12.24	
13.40	
15.13	
16.86	
18.60	
21.16	
23.72	
26.30	
31.70	
34.60	
36.30	
37.90	
39.80	
41.30	
42.20	
43.00	
43.80	
44.60	
Terminate utilities	

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Jarett Swartley

TEST LOCATION DESCRIPTION	DATE RUN
-L- 134+95 EB CTL	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
ABC	-	189790.8	2351670.4

Cumulative Penetration in Centimeters	
0.00	0.00
1.30	1.00
1.62	2.50
1.94	4.60
2.26	9.40
2.58	16.10
2.90	20.70
3.06	23.50
3.22	25.70
3.38	27.60
3.54	29.60
3.70	31.60
3.84	33.50
3.98	35.00
4.12	36.80
4.26	38.40
4.40	39.90
4.60	41.60
4.80	43.10
5.00	44.60
5.20	46.10
5.40	47.60
5.64	49.30
5.88	50.90
6.12	53.70
6.36	56.60
6.60	58.90
6.76	61.50
6.92	64.00
7.08	67.10
7.24	
7.40	
7.60	
7.80	
8.00	
8.20	
8.40	
8.56	
8.72	
8.88	
9.04	
9.20	
9.44	
9.68	
9.92	
10.16	
10.40	
10.52	
10.64	
10.76	
10.88	
11.00	
Augered 14.4 cm	

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
ABC = Aggregate Base Course
ESG = Estimated Subgrade

S&ME, Inc.
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Raleigh, North Carolina 27616

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Darin Strother & William Gardner

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 135+25 EB OSL	4/5/2022-4/6/2022

DATUM	CUT/ FILL	NORTHING	EASTING
ABC	-	189767.2	2351658.3

Cumulative Penetration in Centimeters

0.00	28.60	62.36
2.50	29.10	62.83
4.30	29.63	63.30
5.40	30.16	63.86
5.90	30.70	64.42
6.30	31.30	65.00
7.00	31.90	65.56
7.40	32.50	66.12
7.80	33.00	66.70
8.20	33.50	67.40
8.60	34.00	68.10
9.00	34.53	68.80
9.36	35.06	69.60
9.72	35.60	70.40
10.08	36.10	71.20
10.44	36.60	72.03
10.80	37.10	72.86
11.32	37.60	73.70
11.84	38.10	74.80
12.36	38.60	75.90
12.88	39.16	77.00
13.40	39.72	78.66
13.80	40.30	80.32
14.20	40.90	82.00
14.60	41.50	83.80
15.13	42.10	85.00
15.66	42.93	86.30
16.20	43.76	87.70
16.76	44.30	89.20
17.32	45.00	90.90
17.90	45.70	93.00
18.46	46.40	95.30
19.02	47.16	98.30
19.60	47.92	
20.10	48.70	
20.60	49.50	
21.10	50.30	
21.56	51.10	
22.02	52.00	
22.50	52.90	
22.90	53.80	
23.30	54.63	
23.70	55.46	
24.06	56.30	
24.42	57.06	
24.80	57.82	
25.23	58.60	
25.66	59.20	
26.10	59.80	
26.60	60.40	
27.10	60.90	
27.60	61.40	
28.10	61.90	

TEST LOCATION DESCRIPTION	DATE RUN
-L- 135+25 WB OSS/Wdng	4/5/2022-4/6/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	189806.5	2351687.7

Cumulative Penetration in Centimeters

0.00		
2.20		
4.00		
5.30		
6.50		
7.50		
8.60		
9.90		
11.00		
12.20		
13.60		
14.90		
16.40		
17.90		
19.20		
20.90		
22.60		
24.60		
27.50		
30.70		
33.30		
35.50		
37.50		
39.60		
41.70		
44.30		
46.80		
49.30		
51.80		
54.50		
57.40		
60.50		
64.30		
68.80		
74.90		
83.40		
85.90		
88.10		
91.00		
94.00		

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Darin Strother & William Gardner

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 141+30 WB RTL	1/4-7/2022

DATUM	CUT/ FILL	NORTHING	EASTING
ABC	-	189494.8	2352239.7

Cumulative Penetration in Centimeters

0.00	0.00	17.10	57.50
0.28	0.20	17.50	58.80
0.56	0.40	17.90	60.10
0.84	0.60	18.36	61.55
1.12	0.80	18.82	63.00
1.40	1.00	19.28	64.50
1.68	1.26	19.74	66.00
1.96	1.52	20.20	67.45
2.24	1.78	20.66	68.90
2.52	2.04	21.12	70.25
2.80	2.30	21.58	71.60
2.98	2.68	22.04	72.85
3.16	3.06	22.50	74.10
3.34	3.44	23.08	75.50
3.52	3.82	23.66	76.90
3.70	4.20	24.24	
3.88	4.42	24.82	
4.06	4.64	25.40	
4.24	4.86	26.04	
4.42	5.08	26.68	
4.60	5.30	27.32	
4.68	5.66	27.96	
4.76	6.02	28.60	
4.84	6.38	29.30	
4.92	6.74	30.00	
5.00	7.10	30.70	
5.14	7.46	31.40	
5.28	7.82	32.10	
5.42	8.18	32.88	
5.56	8.54	33.66	
5.70	8.90	34.44	
5.78	9.28	35.22	
5.86	9.66	36.00	
5.94	10.04	36.82	
6.02	10.42	37.64	
6.10	10.80	38.46	
6.20	11.12	39.28	
6.30	11.44	40.10	
6.40	11.76	41.08	
6.50	12.08	42.06	
6.60	12.40	43.04	
6.76	12.74	44.02	
6.92	13.08	45.00	
7.08	13.42	46.04	
7.24	13.76	47.08	
7.40	14.10	48.12	
7.62	14.46	49.16	
7.84	14.82	50.20	
8.06	15.18	51.30	
8.28	15.54	52.40	
8.50	15.90	53.70	
Augered 8.1 cm	16.30	55.00	
	16.70	56.25	

TEST LOCATION DESCRIPTION	DATE RUN
-L- 146+55 EB RTL	4/5/2022-4/6/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	189180.6	2352659.0

Cumulative Penetration in Centimeters

0.00	40.50	82.73
2.20	41.60	84.16
3.50	42.40	85.60
4.80	43.20	
5.70	43.90	
6.60	44.60	
7.50	45.30	
8.20	46.00	
9.00	47.20	
9.50	47.90	
10.00	48.40	
10.60	49.00	
11.10	49.60	
11.80	50.30	
12.30	51.40	
12.70	52.10	
13.10	52.90	
13.50	53.46	
13.86	54.02	
14.22	54.60	
14.60	55.20	
14.90	55.80	
15.20	56.40	
15.50	57.06	
15.80	57.72	
16.10	58.40	
16.40	59.03	
16.70	59.66	
17.00	60.30	
17.30	61.00	
17.60	61.70	
18.24	62.40	
18.88	63.23	
19.52	64.06	
20.16	64.90	
20.80	65.70	
21.85	66.50	
22.90	67.30	
24.30	68.13	
25.40	68.96	
26.40	69.80	
27.60	70.66	
28.90	71.52	
30.00	72.40	
31.10	73.23	
32.20	74.06	
33.10	74.90	
34.40	75.90	
35.40	76.90	
36.50	77.90	
37.50	79.03	
38.60	80.16	
39.60	81.30	

SG = Subgrade
SS = Stabilized Soil
CTBC = Cement-Treated Base Course
ABC = Aggregate Base Course
ESG = Estimated Subgrade

S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Darin Strother & William Gardner

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 146+55 EB OSL	4/5/2022-4/6/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	189193.3	2352669.6

Cumulative Penetration in Centimeters

0.00	24.16	51.62										
2.20	24.52	52.10										
3.10	24.88	52.96										
4.30	25.24	53.82										
4.90	25.60	54.68										
5.70	26.02	55.54										
6.40	26.44	56.40										
6.90	26.86	57.48										
7.32	27.28	58.56										
7.74	27.70	59.64										
8.16	28.16	60.72										
8.58	28.62	61.80										
9.00	29.08	63.33										
9.40	29.54	64.86										
9.80	30.00	66.40										
10.20	30.48	67.96										
10.60	30.96	69.52										
11.00	31.44	71.10										
11.36	31.92	73.00										
11.72	32.40	75.00										
12.08	32.94	77.30										
12.44	33.48	79.90										
12.80	34.02	82.80										
13.20	34.56	85.70										
13.60	35.10	88.80										
14.00	35.70											
14.40	36.30											
14.80	36.90											
15.20	37.50											
15.60	38.10											
16.00	38.68											
16.40	39.26											
16.80	39.84											
17.12	40.42											
17.44	41.00											
17.76	41.56											
18.08	42.12											
18.40	42.68											
18.72	43.24											
19.04	43.80											
19.36	44.36											
19.68	44.92											
20.00	45.48											
20.38	46.04											
20.76	46.60											
21.14	47.22											
21.52	47.84											
21.90	48.46											
22.28	49.08											
22.66	49.70											
23.04	50.18											
23.42	50.66											
23.80	51.14											

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Darin Strother & William Gardner

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 146+55 EB ISL	4/5/2022-4/6/2022

DATUM	CUT/ FILL	NORTHING	EASTING
ABC	-	189202.2	2352672.3

Cumulative Penetration in Centimeters

0.00	30.80	57.80										
1.00	31.20	58.50										
1.50	31.60	59.20										
2.00	32.03	59.90										
2.50	32.46	60.40										
3.33	32.90	60.90										
4.16	33.40	61.40										
5.00	33.90	61.86										
5.40	34.10	62.32										
5.80	34.53	62.80										
6.20	34.96	63.30										
6.80	35.40	63.80										
7.20	35.80	64.30										
7.40	36.20	64.73										
7.76	36.60	65.16										
8.12	37.00	65.60										
8.50	37.40	66.06										
9.03	37.80	66.52										
9.56	38.23	67.00										
10.10	38.66	67.60										
10.56	39.10	68.20										
11.02	39.46	68.80										
11.50	39.82	69.23										
11.86	40.20	69.66										
12.22	40.56	70.10										
12.60	40.92	70.53										
13.06	41.30	70.96										
13.52	41.70	71.40										
14.00	42.10	71.80										
14.66	42.50	72.20										
15.32	42.82	72.60										
16.00	42.96	73.03										
16.70	43.36	73.46										
17.40	43.42	73.90										
18.10	43.90	73.33										
18.76	45.30	72.76										
19.42	45.90	75.20										
20.10	46.50	75.56										
20.80	47.10	75.92										
21.50	47.73	76.30										
22.20	48.36	76.73										
22.83	49.00	77.16										
23.46	49.86	77.60										
24.10	50.72	77.93										
25.16	51.60	78.26										
26.22	52.30	78.60										
27.30	53.00	79.03										
27.83	53.70	79.46										
28.36	54.33	79.90										
28.90	54.96	79.26										
29.40	55.60	78.62										
29.90	56.33	81.00										
30.40	57.06											

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Darin Strother & William Gardner

TEST LOCATIONS DESCRIPTION	DATE RUN
-L- 146+55 EB LTL	4/5/2022-4/6/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SSS	-	189219.7	2352626.0

Cumulative Penetration in Centimeters

0.00	37.80											
1.90	38.00											
2.90	38.20											
3.80	38.40											
4.50	38.63											
5.20	38.86											
5.80	39.10											
6.30	39.23											
6.98	39.36											
7.66	39.50											
8.34	39.64											
9.02	39.78											
9.70	39.92											
10.63	40.06											
11.56	40.20											
12.50	40.38											
15.33	40.56											
18.16	40.74											
21.00	40.92											
24.40	41.10											
26.00	41.28											
26.90	41.46											
27.60	41.64											
28.10	41.82											
28.56	42.00											
29.02	42.18											
29.50	42.36											
29.33	42.54											
29.16	42.72											
30.50	42.90											
30.86	43.10											
31.22	43.30											
31.60	43.50											
31.90	43.70											
32.20	43.90											
32.50	44.06											
32.80	44.22											
33.10	44.38											
33.40	44.54											
33.93	44.70											
34.46	Terminate											
35.00												
35.20												
35.40												
35.60												
35.83												
36.06												
36.30												
36.56												
36.82												
37.10												
37.33												
37.56												

TIP	PROJECT I.D.	ROUTE
U-6202	38922	SR 2048 / NC17 to I40
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Darin Strother & William Gardner

TEST LOCATION DESCRIPTION	DATE RUN
-L- 148+65 WB RTL	4/5/2022-4/6/2022

DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	189131.8	2352886.9

Cumulative Penetration in Centimeters

0.00	28.66	58.62										
1.50	28.98	59.64										
2.60	29.30	60.66										
3.90	29.62	61.68										
5.30	29.94	62.70										
7.50	30.26	63.52										
10.40	30.58	64.34										
11.70	30.90	65.16										
12.80	31.24	65.98										
13.40	31.58	66.80										
14.00	31.92	67.58										
14.50	32.26	68.36										
15.00	32.60	69.14										
15.50	32.96	69.92										
15.66	33.32	70.70										
15.82	33.68	71.46										
16.00	34.04	72.22										
16.73	34.40	72.98										
17.46	34.86	73.74										
18.20	35.32	74.50										
18.60	35.78											
19.00	36.24											
19.40	36.70											
19.73	37.22											
20.06	37.74											
20.40	38.26											
20.76	38.78											
21.12	39.30											
21.50	39.92											
21.80	40.54											
22.10	41.16											
22.40	41.78											
22.73	42.40											
23.06	43.04											
23.40	43.68											
23.70	44.32											
24.00	44.96											
24.30	45.60											
24.53	46.34											
24.76	47.08											
25.00	47.82											
25.28	48.56											
25.56	49.30											
25.84	50.08											
26.12	50.86											
26.40	51.64											
26.66	52.42											
26.92	53.20											
27.18	54.08											
27.44	54.96											
27.70	55.84											
28.02	56.72											
28.34	57.60											

ABC = Aggregate Base Course
ESG = Estimated Subgrade

S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	**SR 2048 / NC17 to I40**
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Darin Strother & William Gardner

TEST LOCATIONS DESCRIPTION	DATE RUN		
-L- 152+55 WB ISL	4/5/2022-4/6/2022		
DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	188924.10	2353201.25

Cumulative Penetration in Centimeters

0.0	43.7	60.9
1.5	44.0	61.1
3.6	44.4	61.3
4.4	44.7	61.6
5.4	45.0	61.8
6.1	45.4	62.0
6.8	45.7	62.3
7.6	46.1	62.6
8.3	46.5	62.9
8.9	46.9	63.2
9.4	47.2	63.5
10.0	47.6	63.7
10.7	47.9	63.9
11.3	48.3	64.1
12.0	48.6	64.3
12.6	49.0	64.5
13.3	49.3	64.8
14.0	49.6	65.1
14.6	49.9	65.4
15.3	50.4	65.7
16.0	50.9	66.0
17.0	51.4	
18.0	51.9	
19.0	52.4	
20.8	52.7	
22.7	53.0	
24.5	53.3	
26.6	53.6	
28.6	53.9	
30.1	54.2	
31.7	54.5	
32.9	54.7	
33.7	55.0	
34.4	55.3	
35.0	55.6	
35.7	55.9	
36.3	56.1	
36.8	56.4	
37.4	56.7	
37.9	57.0	
38.3	57.3	
38.8	57.5	
39.2	57.8	
39.7	58.1	
40.1	58.4	
40.5	58.7	
40.9	58.9	
41.3	59.2	
41.7	59.5	
42.1	59.8	
42.5	60.1	
42.9	60.3	
43.3	60.6	

TEST LOCATION DESCRIPTION	DATE RUN		
-L- 152+55 WB OSL	4/5/2022-4/6/2022		
DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	188935.35	2353208.98

Cumulative Penetration in Centimeters

0.00	60.10
1.80	63.70
3.10	67.20
4.40	70.50
5.30	73.30
6.20	76.70
7.00	78.80
7.70	
8.30	
8.93	
9.56	
10.20	
10.50	
10.80	
11.10	
11.80	
12.50	
13.20	
13.66	
14.12	
14.60	
15.16	
15.72	
16.30	
16.83	
17.36	
17.90	
18.53	
19.06	
19.16	
19.43	
19.80	
21.70	
22.43	
23.16	
23.90	
24.80	
25.70	
26.60	
28.13	
29.66	
31.20	
34.50	
39.40	
42.10	
44.10	
46.00	
47.70	
49.40	
51.10	
52.90	
55.10	
57.40	

CONE PENETROMETER DATA CODE SHEET

TIP	PROJECT I.D.	ROUTE
U-6202	38922	**SR 2048 / NC17 to I40**
COUNTY	ENGINEER	TECHNICIANS
NEW HANOVER	Vlad Mitchev	Darin Strother & William Gardner

TEST LOCATIONS DESCRIPTION	DATE RUN		
-L- 152+55 WB RTL	4/5/2022-4/6/2022		
DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	188942.09	2353214.72

Cumulative Penetration in Centimeters

0.00	34.13	75.5
3.90	34.86	76.0
4.90	35.60	76.6
5.90	36.73	77.1
6.80	37.86	77.7
7.60	39.00	78.3
8.40	40.70	78.9
9.20	42.40	79.6
9.86	44.10	80.2
10.52	45.00	80.9
11.20	45.90	81.5
11.73	46.80	82.2
12.26	47.66	82.9
12.80	48.52	
13.36	49.40	
13.92	50.36	
14.50	51.32	
15.00	52.30	
15.50	53.16	
16.00	54.02	
16.46	54.90	
16.92	55.63	
17.40	56.36	
17.90	57.10	
18.40	57.76	
18.90	58.42	
19.40	59.10	
19.90	59.80	
20.40	60.50	
20.90	61.20	
21.40	61.80	
21.90	62.40	
22.36	63.00	
22.82	63.63	
23.30	64.26	
23.83	64.90	
24.36	65.56	
24.90	66.22	
25.40	66.90	
25.90	67.40	
26.40	67.90	
26.93	68.40	
27.46	69.00	
28.00	69.60	
28.56	70.20	
29.12	70.76	
29.70	71.32	
30.30	71.90	
30.90	72.53	
31.50	73.16	
32.13	73.80	
32.76	74.36	
33.40	74.92	

TEST LOCATION DESCRIPTION	DATE RUN		
-L- 157+50 EB RTL	4/5/2022-4/6/2022		
DATUM	CUT/ FILL	NORTHING	EASTING
SG	-	188628.01	2353616.36

Cumulative Penetration in Centimeters

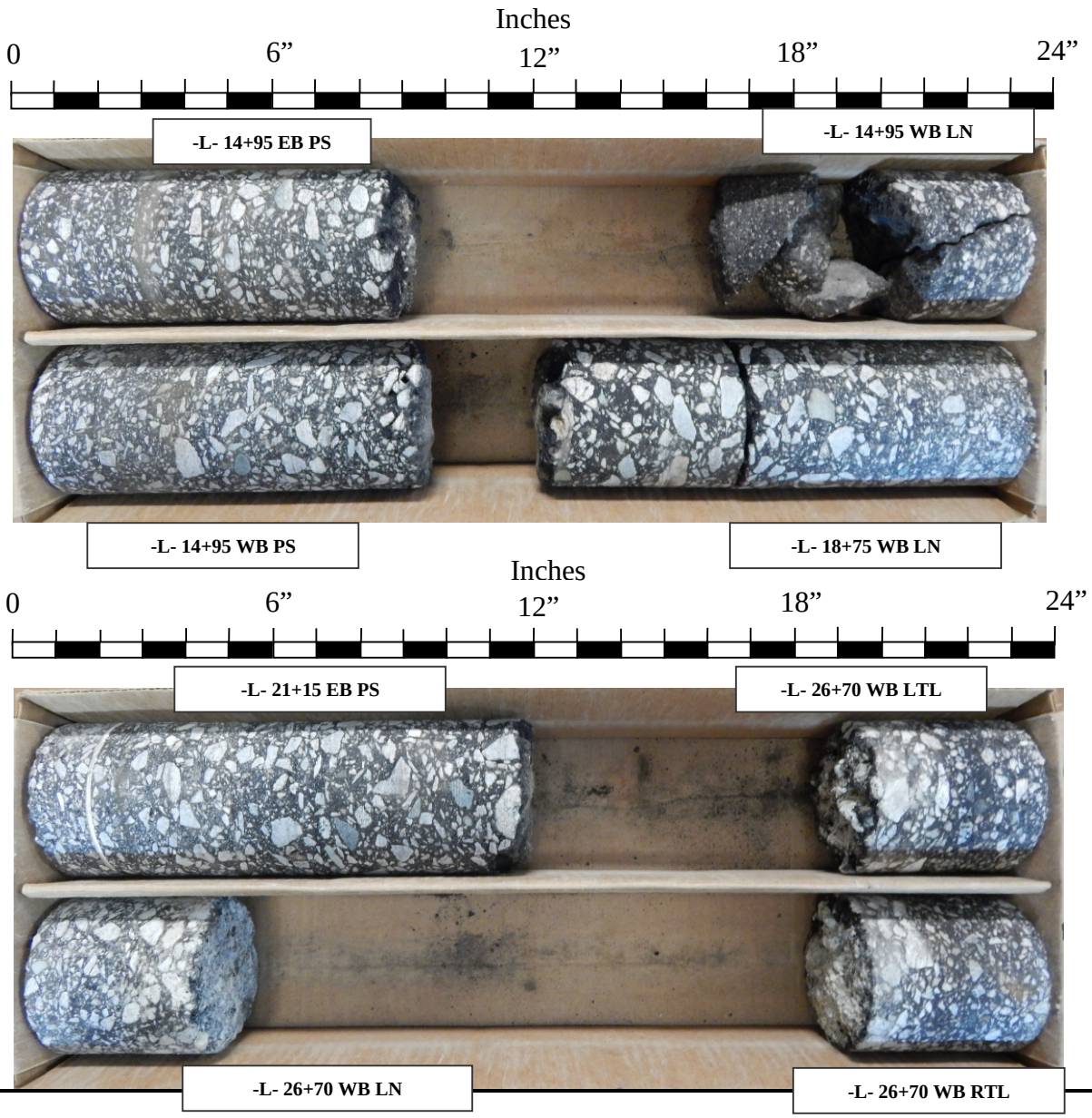
0.00	29.70	71.03
1.70	30.10	71.46
3.20	30.50	71.90
3.90	30.96	72.40
5.00	31.42	72.90
5.60	31.90	73.40
6.40	32.43	73.90
6.80	32.96	74.40
7.36	33.50	74.90
7.92	34.20	75.43
8.48	34.90	75.96
9.04	35.60	76.50
9.60	36.40	77.00
10.16	37.20	77.50
10.72	38.00	78.00
11.28	39.06	78.50
11.84	40.12	79.00
12.32	41.20	79.50
12.80	42.50	
13.30	43.80	
13.83	45.10	
14.36	46.73	
14.90	48.36	
15.40	50.00	
15.90	51.60	
16.40	52.70	
16.90	53.90	
17.40	54.90	
17.90	56.00	
18.36	57.00	
18.82	57.80	
19.28	58.50	
19.74	59.10	
20.20	59.80	
20.70	60.50	
21.20	61.16	
21.70	61.82	
22.20	62.48	
22.73	63.14	
23.26	63.80	
23.80	64.50	
24.30	65.00	
24.80	65.50	
25.30	66.00	
25.80	66.53	
26.30	67.06	
26.80	67.60	
27.16	68.10	
27.52	68.60	
27.90	69.10	
28.36	69.60	
28.82	70.10	
29.30	70.60	

SG = Subgrade

CTBC = Cement-Treated Base Course
ABC = Aggregate Base Course
ESG = Estimated Subgrade

S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

Project No.: 48662.1.1	*I.D. No : U-6202*	*County*: New Hanover	*Dates:1/4/22 to 1/7/22*
Site Description: SR 2048 (Gordon Road) From US 17 (Market Street) to I-40			
Consultant: S&ME, Inc.	*Core Size*: 4 - inch	*Drill Machine:* CME-55	
Geologist / Engineer: Jarett Swartley			



Notes:

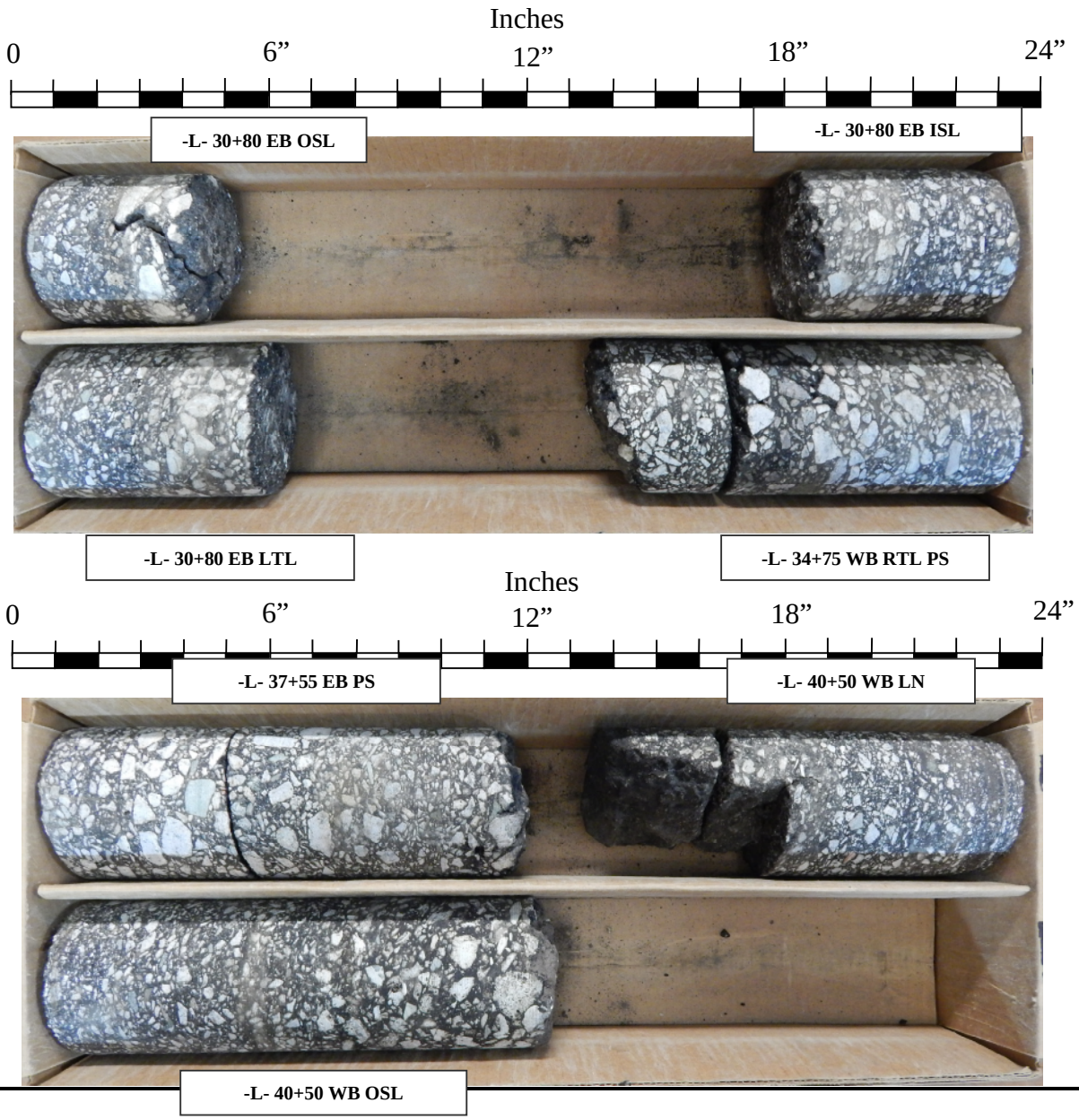
OSL = Outside Lane
ISL = Inside Lane
RTL = Right Turn Lane
OSS = Outside Shoulder

ACCEL = Acceleration Lane
PS = Paved Shoulder
LTL = Left Turn Lane
ISS = Inside Shoulder

MED = Median

S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

Project No.: 48662.1.1	*I.D. No : U-6202*	*County*: New Hanover	*Dates:1/4/22 to 1/7/22*
Site Description: SR 2048 (Gordon Road) From US 17 (Market Street) to I-40			
Consultant: S&ME, Inc.	*Core Size*: 4 - inch	*Drill Machine:* CME-55	
Geologist / Engineer: Jarett Swartley			



Notes:

OSL = Outside Lane
ISL = Inside Lane
RTL = Right Turn Lane
OSS = Outside Shoulder
ACCEL = Acceleration Lane
PS = Paved Shoulder
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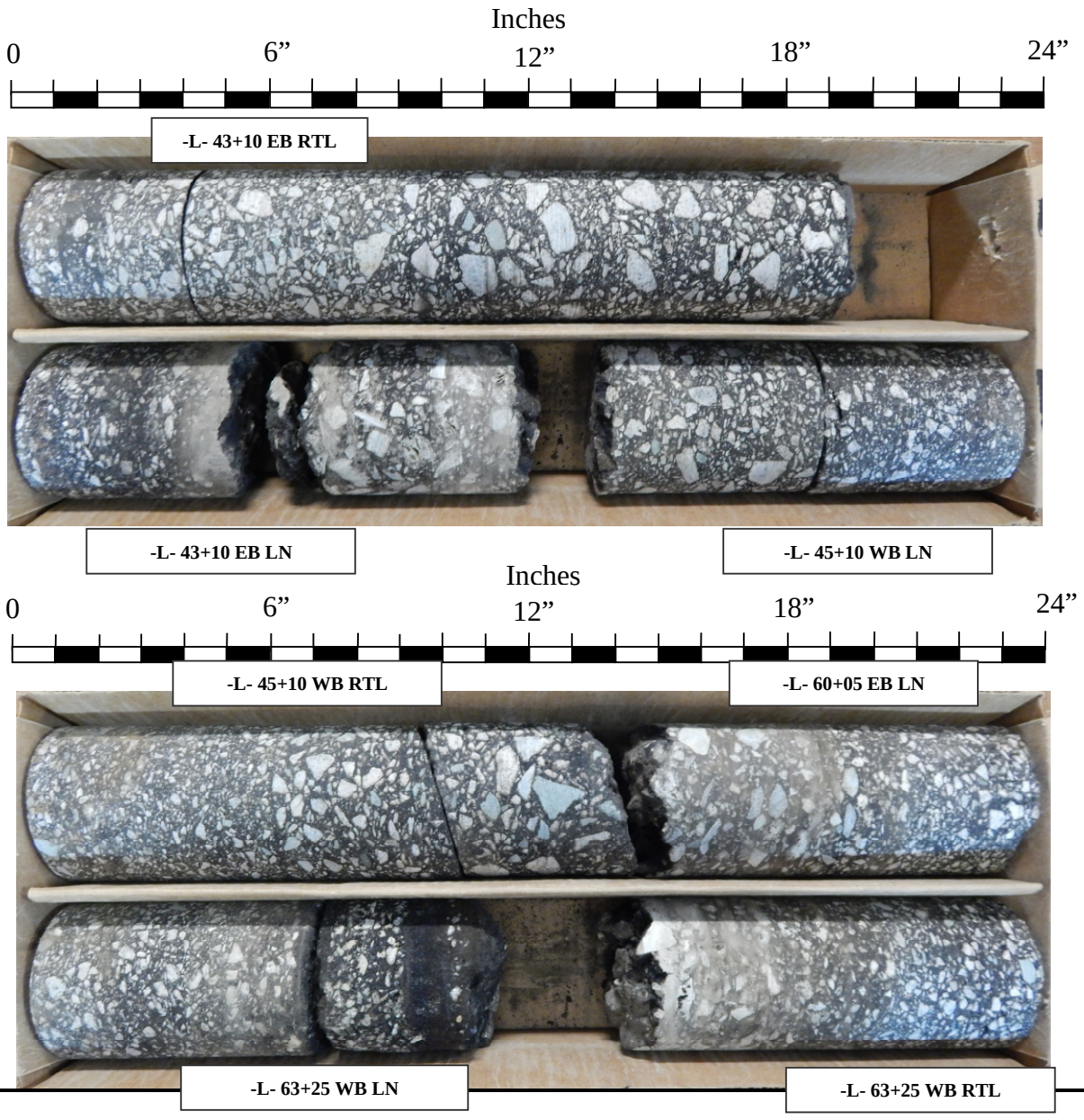
S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

Project No.: 48662.1.1	*I.D. No : U-6202*	*County*: New Hanover	*Dates:1/4/22 to 1/7/22*
Site Description: SR 2048 (Gordon Road) From US 17 (Market Street) to I-40			
Consultant: S&ME, Inc.	*Core Size*: 4 - inch	*Drill Machine:* CME-55	
Geologist / Engineer: Jarett Swartley			



Notes:

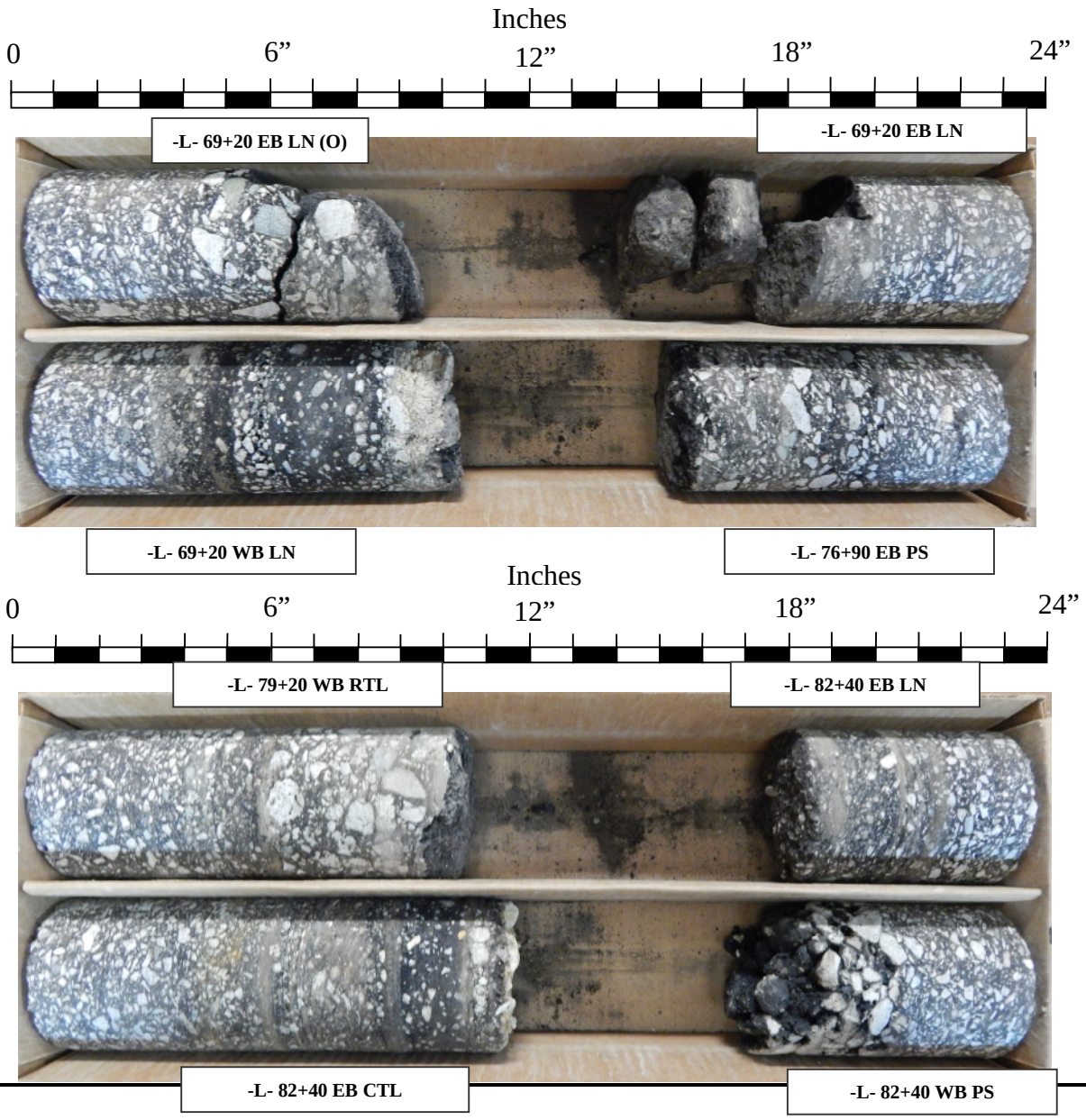
OSL = Outside Lane
ISL = Inside Lane
RTL = Right Turn Lane
OSS = Outside Shoulder

ACCEL = Acceleration Lane
PS = Paved Shoulder
LTL = Left Turn Lane
ISS = Inside Shoulder

MED = Median

S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

Project No.: 48662.1.1	*I.D. No : U-6202*	*County*: New Hanover	*Dates:1/4/22 to 1/7/22*
Site Description: SR 2048 (Gordon Road) From US 17 (Market Street) to I-40			
Consultant: S&ME, Inc.	*Core Size*: 4 - inch	*Drill Machine:* CME-55	
Geologist / Engineer: Jarett Swartley			



Notes:

OSL = Outside Lane
ISL = Inside Lane
RTL = Right Turn Lane
OSS = Outside Shoulder

ACCEL = Acceleration Lane
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LTL = Left Turn Lane
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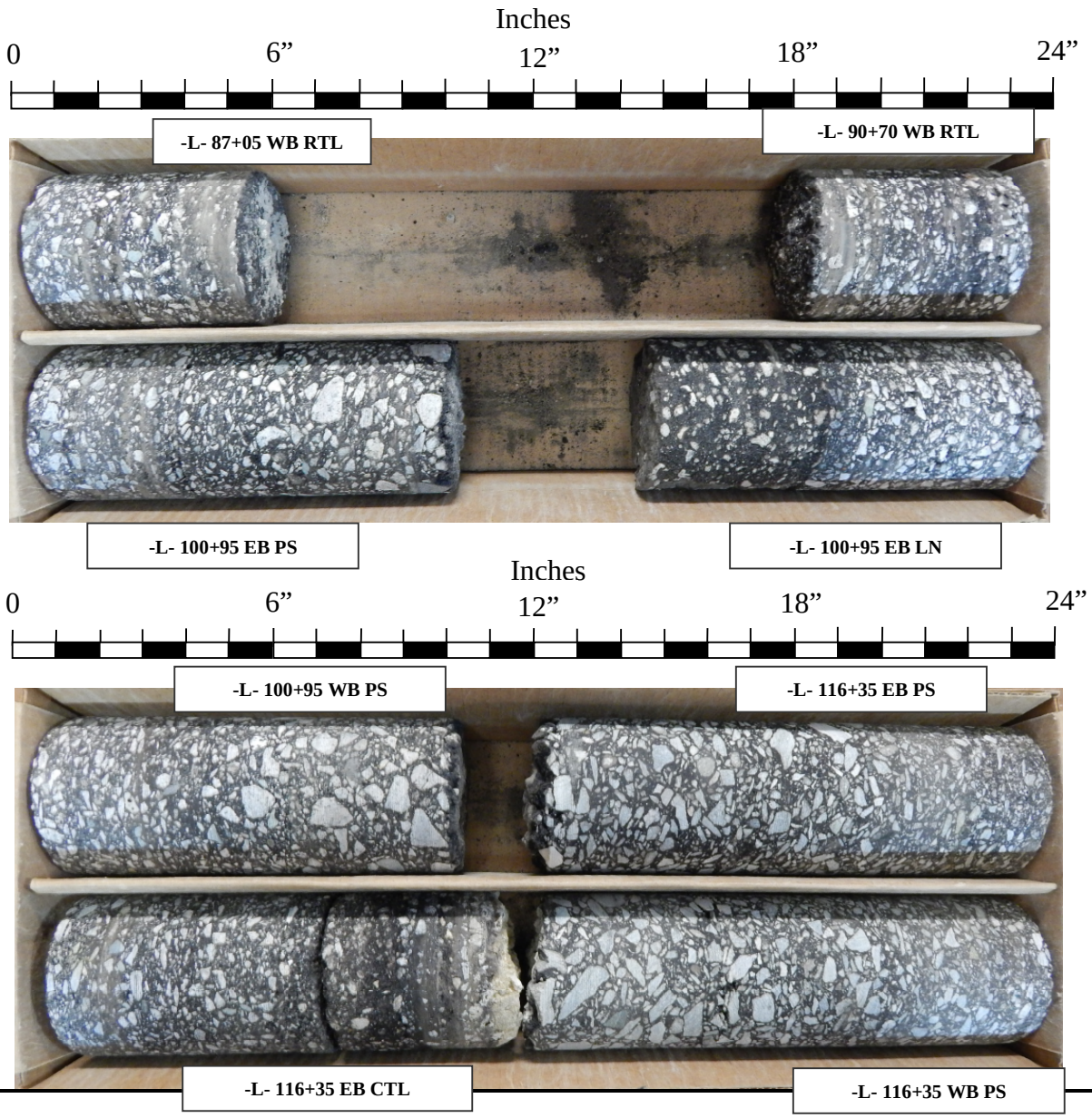
MED = Median

S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

Project No.: 48662.1.1	*I.D. No : U-6202*	*County*: New Hanover	*Dates:1/4/22 to 1/7/22*
Site Description: SR 2048 (Gordon Road) From US 17 (Market Street) to I-40			
Consultant: S&ME, Inc.	*Core Size*: 4 - inch	*Drill Machine:* CME-55	
Geologist / Engineer: Jarett Swartley			



Notes:

OSL = Outside Lane
ISL = Inside Lane
RTL = Right Turn Lane
OSS = Outside Shoulder

ACCEL = Acceleration Lane
PS = Paved Shoulder
LTL = Left Turn Lane
ISS = Inside Shoulder

MED = Median

S&ME, Inc.
3201 Spring Forest Road
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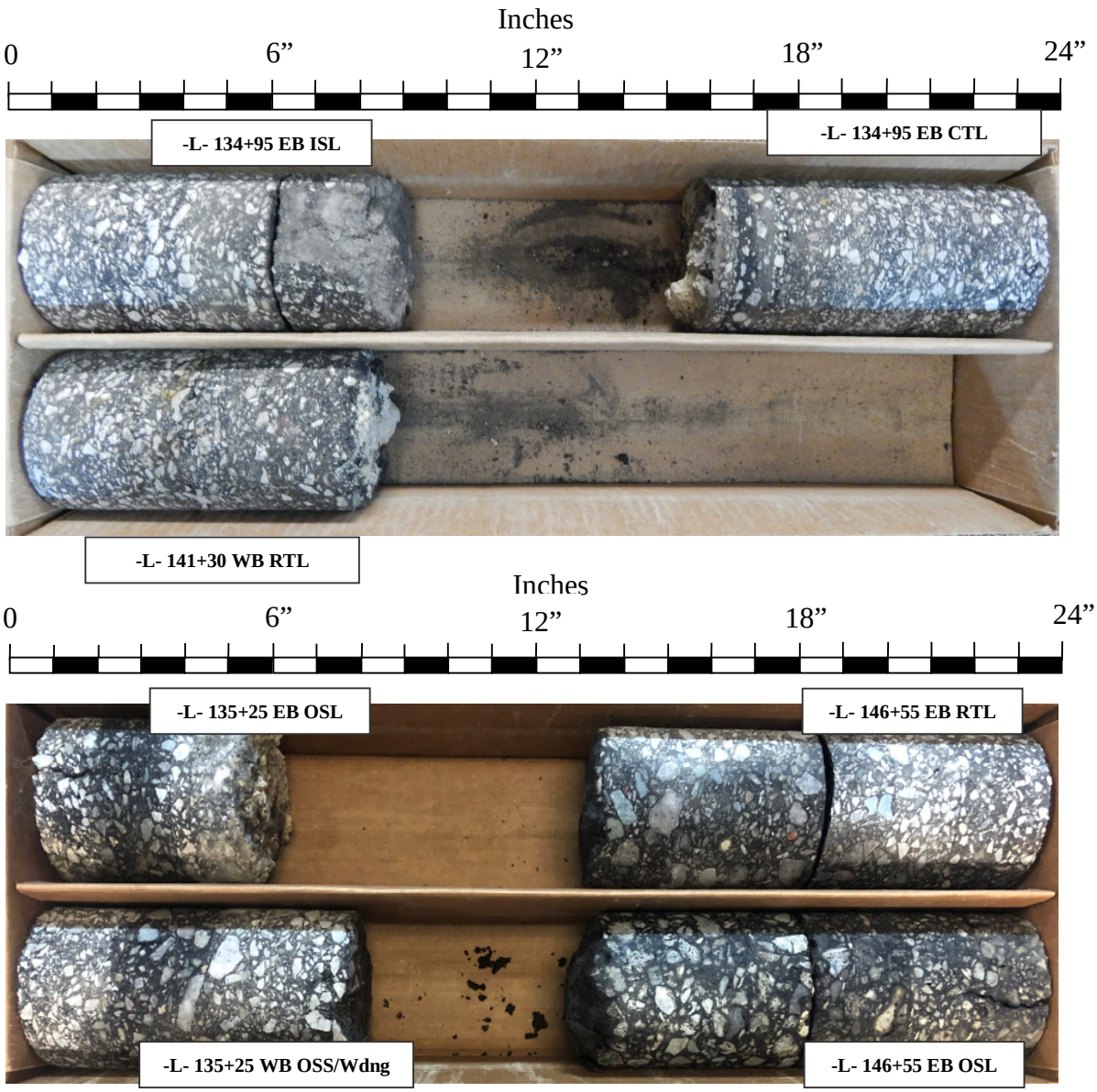

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S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

Project No.: 48662.1.1	*I.D. No : U-6202*	*County*: New Hanover	*Dates:1/4/22 to 1/7/22*
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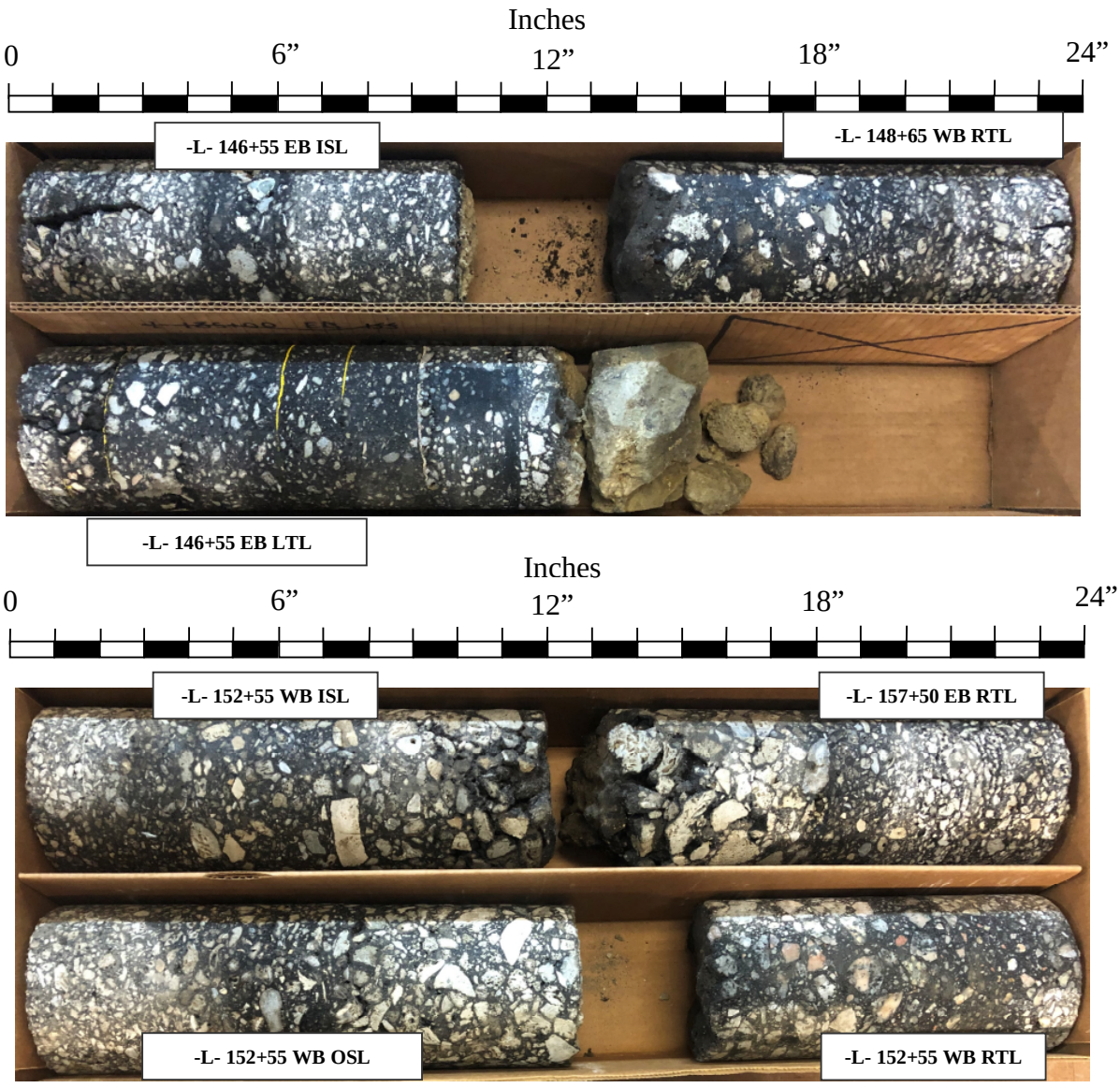

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S&ME, Inc.
3201 Spring Forest Road
Raleigh, North Carolina 27616

SUMMARY OF LABORATOTY TEST DATA

Soil Classification and Gradation

S&ME, Inc. Raleigh, 3201 Spring Forest Road, Raleigh, North Carolina 27616

S&ME Project #:	21050067			Date Report	2/18/2022
State Project No.:	U-6202	County:	New Hanover	Date Tested	1/13-1/20/2022
Federal ID No.:		TIP No.:	U-6202		
Project Name:	SR 2048 (Gordon Road) From US 17 (Market Street) to I-40				
Client Name:	NCDOT	Client Address:	Raleigh, NC		

Station No.	Sample No.	Boring No.	Offset	Alignment	Sample Depth (ft)	AASHTO Classification	Total % Passing Sieve #				Total Mortar Fraction (%)				LL	PL	PI	Moist. %
							10	40	60	200	Coarse Sand	Fine Sand	Silt	Clay				
-L- 14+95 EB PS	S-1	C-1	N/A	N/A	0-1.5	A-2-4 (0)	97	94	86	17.5	11	76	3	10	N.P.	N.P.	N.P.	14.0
-L- 18+75 WB LN	S-3	C-4	N/A	N/A	0-3	A-2-4 (0)	100	100	94	14.1	6	82	4	8	N.P.	N.P.	N.P.	19.9
'-L- 26+70 WB RTL	S-5	C-8	N/A	N/A	0-3	A-2-4 (0)	100	93	75	16.0	25	62	6	7	N.P.	N.P.	N.P.	9.6
-L- 30+80 EB ISL	S-4	C-10	N/A	N/A	0-2.9	A-2-4 (0)	100	97	85	12.6	15	74	2	9	N.P.	N.P.	N.P.	8.4
'-L- 40+50 WB LN	S-7	C-14	N/A	N/A	0-3	A-2-4 (0)	100	99	88	13.5	12	76	3	9	N.P.	N.P.	N.P.	18.0
-L- 45+10 WB RTL	S-9	C-19	N/A	N/A	0-1	A-2-4 (0)	100	95	74	10.8	26	65	2	7	N.P.	N.P.	N.P.	13.0
-L- 63+25 WB RTL	S-10	C-22	N/A	N/A	0-1.5	A-2-4 (0)	99	95	82	11.5	18	73	2	7	N.P.	N.P.	N.P.	4.0
-L- 76+90 EB PS	S-13	C-26	N/A	N/A	0-3.3	A-2-4 (0)	99	92	68	7.9	31	62	2	5	N.P.	N.P.	N.P.	8.3
-L- 82+40 EB CTL	S-14	C-29	N/A	N/A	0-2.8	A-2-4 (0)	94	89	76	21.5	19	63	5	13	N.P.	N.P.	N.P.	6.6
-L- 100+95 EB LN	S-16	C-34	N/A	N/A	0-3.1	A-2-4 (0)	99	92	75	18.1	24	61	4	11	N.P.	N.P.	N.P.	8.8
-L- 116+35 EB CTL	S-17	C-37	N/A	N/A	0-3	A-2-4 (0)	100	97	86	21.8	14	69	7	10	N.P.	N.P.	N.P.	10.4
-L- 134+95 EB CTL	S-18	C-40	N/A	N/A	0-3	A-2-4 (0)	99	95	81	24.6	19	59	9	13	N.P.	N.P.	N.P.	13.6
-L- 32+35 OES	BULK-4	N/A	N/A	N/A	0-2	A-2-4 (0)	97	90	74	13.0	24	67	2	7	N.P.	N.P.	N.P.	14.0
-L- 45+65 OES	BULK-1	N/A	N/A	N/A	0-2	A-2-4 (0)	98	95	80	12.0	19	72	2	7	N.P.	N.P.	N.P.	8.2
-L- 117+80 OES	BULK-2	N/A	N/A	N/A	0-2	A-2-4 (0)	100	95	79	22.5	21	61	9	9	N.P.	N.P.	N.P.	22.0
-L- 134+10 OES	BULK-3	N/A	N/A	N/A	0-2	A-2-4 (0)	100	97	84	25.6	16	61	10	13	N.P.	N.P.	N.P.	21.5

References / Comments / Deviations: NP=Non-Plastic

AASHTO T88: Particle Size Analysis of Soils as Modified by the NCDOT

AASHTO T89: Determining the Liquid Limit of Soils

AASHTO T90: Determining the Plastic Limit & Plasticity Index of Soils

AASHTO T265: Laboratory Determination of Moisture Content of Soils

AASHTO M145: The Classification of Soils and Soil Aggregate Mixtures for Highway Construction Purposes

Mal Krajan, ET		104-01-0703	Vlad Mitchev, P.E.	Project Manager
Technician Name:	Signature	Certification #	Technical Responsibility:	Position

Form No. TR-D698-2
Revision No. : 1
Revision Date: 07/25/17

MOISTURE - DENSITY REPORT

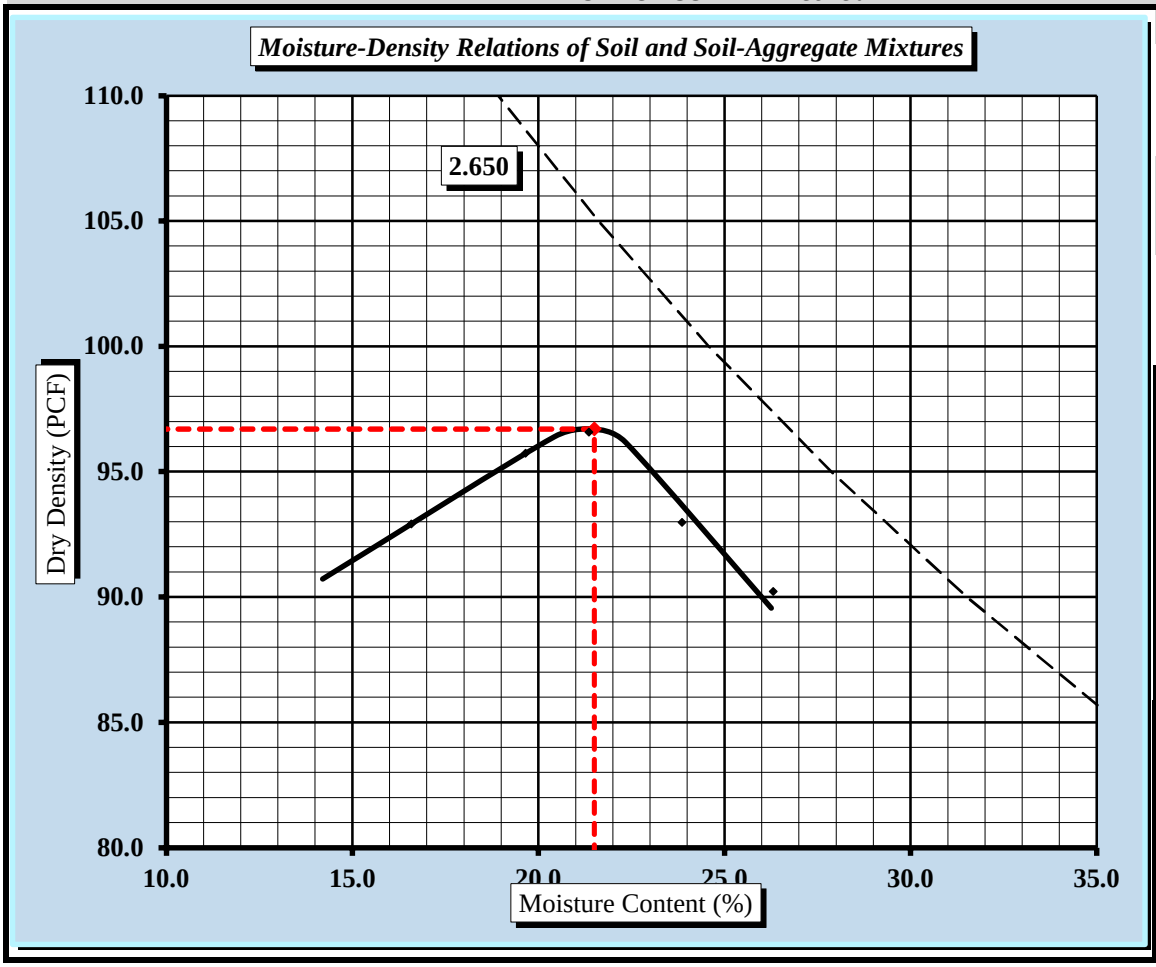
Quality Assurance

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

S&ME Project #:	21050067	NCDOT Preject #: U-6202		Report Date:	1/24/22
Project Name:	SR 2048 (Gordon Road) From US 17 (Market Street) to I-40			Test Date(s):	1/21-1/24/22
Client Name:	NCDOT				
Client Address:	Raleigh, NC				
Boring #:	-L- 32+35 OES	Sample #:	Bulk-4	Sample Date:	N/A
Location:	Roadway	Offset:	N/A	Depth (ft):	0'-2'
Sample Description:	Black Silty Clayey Coarse to Fine Sand (A-2-4) (0)				

Maximum Dry Density 96.7 PCF. Optimum Moisture Content 21.5%

AASHTO T99 - - Method A



Soil Properties	
Natural Moisture Content	14.0%
Assumed Specific Gravity	2.650
Liquid Limit	N.P.
Plastic Limit	N.P.
Plastic Index	N.P.

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	98.0%
#10	97.0%
#40	90.0%
#60	74.0%
#200	13.0%

Oversize Fraction
Bulk Gravity
% Moisture
% Oversize
MDD
Opt. MC

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☐ Manual Rammer ☒ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: N.P.=Nonplastic.

AASHTO T265: Laboratory Determination of Moisture Content of Soils

AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Mal Krajan, ET		Laboratory Manager	1/24/2022
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. : 1
Revision Date: 07/25/17

MOISTURE - DENSITY REPORT

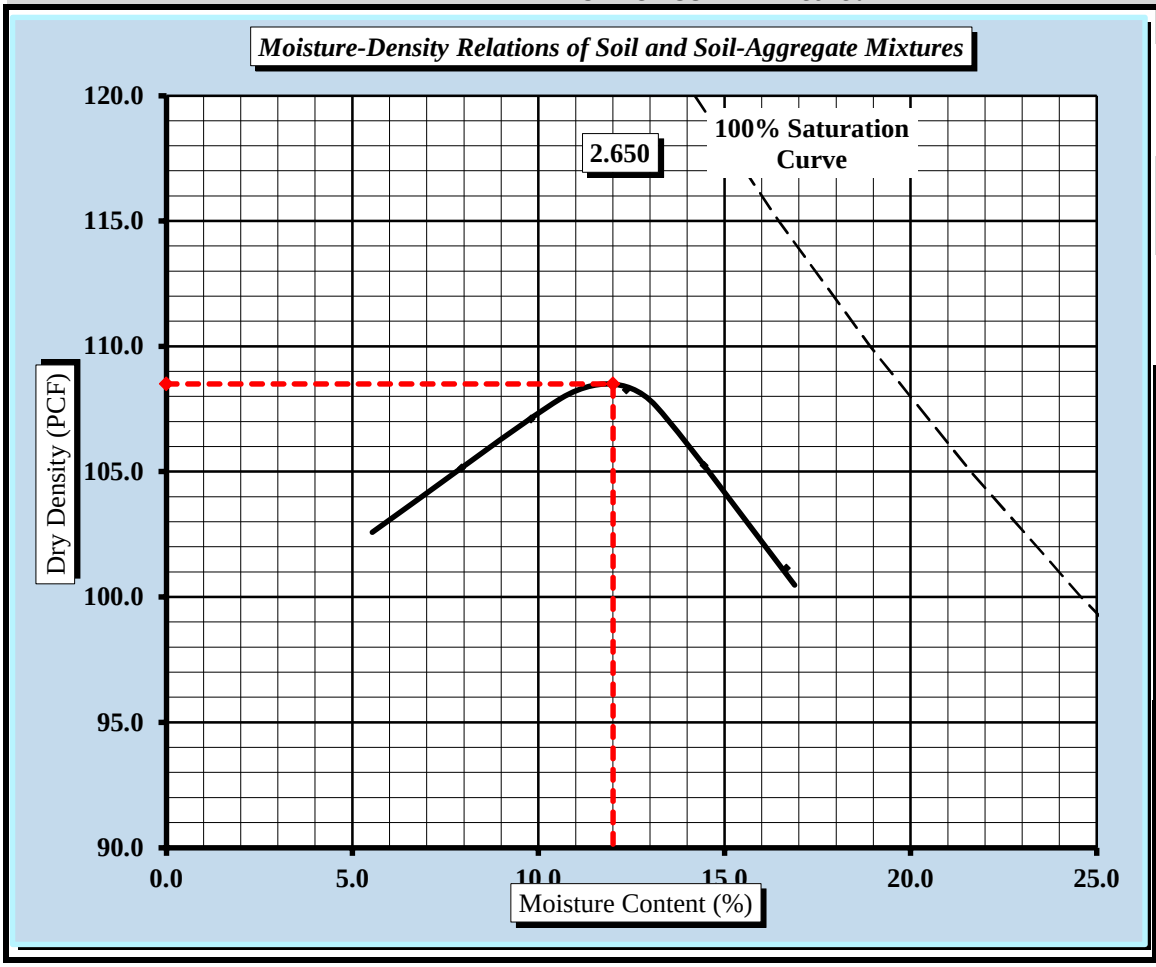
Quality Assurance

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

S&ME Project #:	21050067	NCDOT Preject #: U-6202		Report Date:	1/24/22
Project Name:	SR 2048 (Gordon Road) From US 17 (Market Street) to I-40			Test Date(s):	1/21-1/24/22
Client Name:	NCDOT				
Client Address:	Raleigh, NC				
Boring #:	-L- 45+65 OES	Sample #:	Bulk-1	Sample Date:	N/A
Location:	Roadway	Offset:	N/A	Depth (ft):	0'-2'
Sample Description:	Black Silty Clayey Coarse to Fine Sand (A-2-4) (0)				

Maximum Dry Density 108.5 PCF. Optimum Moisture Content 12.0%

AASHTO T99 - - Method A



Soil Properties	
Natural Moisture Content	8.2%
Assumed Specific Gravity	2.650
Liquid Limit	N.P.
Plastic Limit	N.P.
Plastic Index	N.P.
% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	98.0%
#40	95.0%
#60	80.0%
#200	12.0%
Oversize Fraction	
Bulk Gravity	
% Moisture	
% Oversize	
MDD	
Opt. MC	

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☐ Manual Rammer ☒ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: N.P.=Nonplastic.

AASHTO T265: Laboratory Determination of Moisture Content of Soils

AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Mal Krajan, ET		Laboratory Manager	1/24/2022
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. : 1
Revision Date: 07/25/17

MOISTURE - DENSITY REPORT

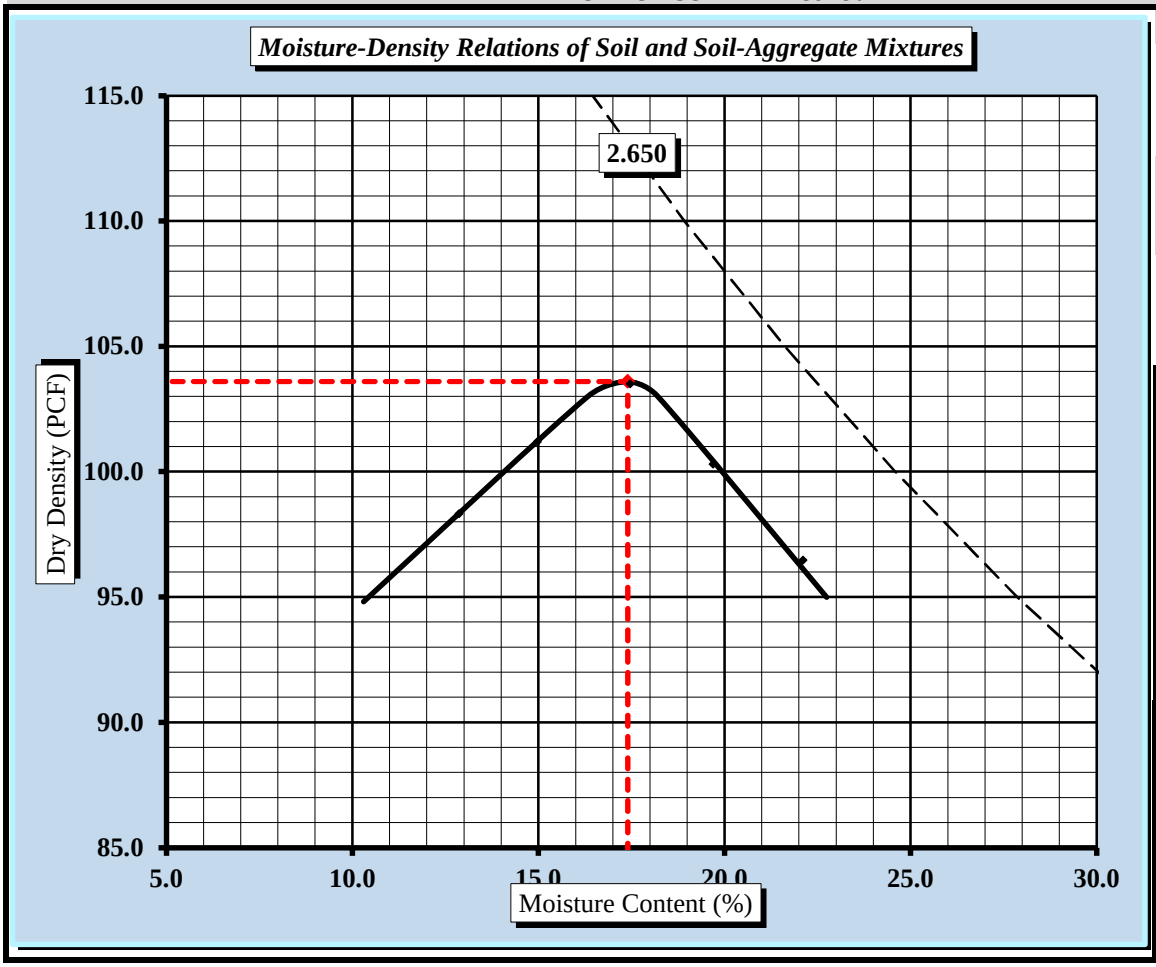
Quality Assurance

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

S&ME Project #:	21050067	NCDOT Preject #: U-6202		Report Date:	1/24/22
Project Name:	SR 2048 (Gordon Road) From US 17 (Market Street) to I-40			Test Date(s):	1/21-1/24/22
Client Name:	NCDOT				
Client Address:	Raleigh, NC				
Boring #:	-L- 117+80 OES	Sample #:	Bulk-2	Sample Date:	N/A
Location:	Roadway	Offset:	N/A	Depth (ft):	0'-2'
Sample Description:	Black Silty Clayey Coarse to Fine Sand (A-2-4) (0)				

Maximum Dry Density 103.6 PCF. Optimum Moisture Content 17.4%

AASHTO T99 - - Method A



Soil Properties	
Natural Moisture Content	22.0%
Assumed Specific Gravity	2.650
Liquid Limit	N.P.
Plastic Limit	N.P.
Plastic Index	N.P.

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	100.0%
#40	95.0%
#60	79.0%
#200	22.5%

Oversize Fraction
Bulk Gravity
% Moisture
% Oversize
MDD
Opt. MC

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☐ Manual Rammer ☒ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: N.P.=Nonplastic.

AASHTO T265: Laboratory Determination of Moisture Content of Soils

AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Mal Krajan, ET		Laboratory Manager	1/24/2022
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. : 1
Revision Date: 07/25/17

MOISTURE - DENSITY REPORT

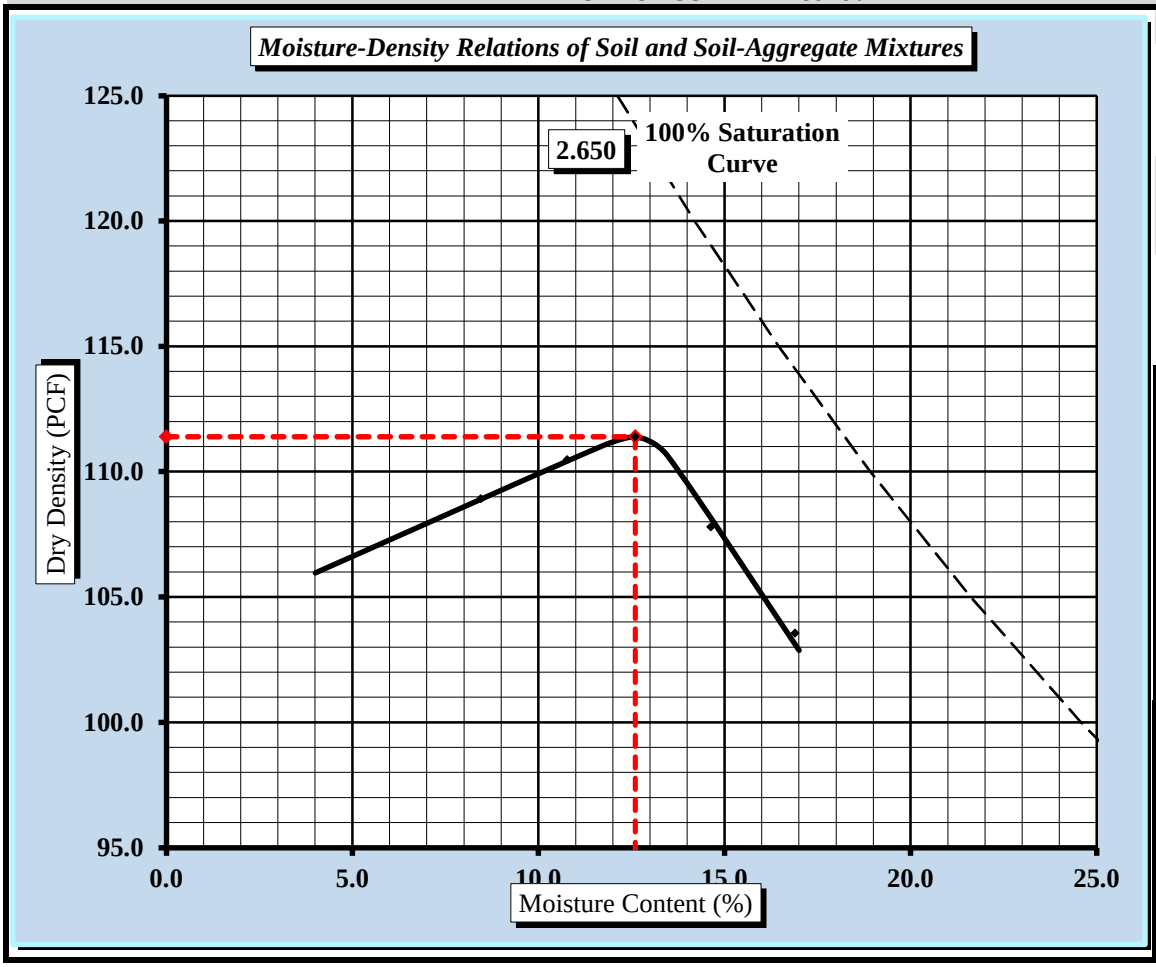
Quality Assurance

S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

S&ME Project #:	21050067	NCDOT Preject #: U-6202		Report Date:	1/24/22
Project Name:	SR 2048 (Gordon Road) From US 17 (Market Street) to I-40			Test Date(s):	1/21-1/24/22
Client Name:	NCDOT				
Client Address:	Raleigh, NC				
Boring #:	-L- 134+10 OES	Sample #:	Bulk-3	Sample Date:	N/A
Location:	Roadway	Offset:	N/A	Depth (ft):	0'-2'
Sample Description:	Tan Silty Clayey Coarse to Fine Sand (A-2-4) (0)				

Maximum Dry Density 111.4 PCF. Optimum Moisture Content 12.6%

AASHTO T99 - - Method A



Soil Properties	
Natural Moisture Content	21.5%
Assumed Specific Gravity	2.650
Liquid Limit	N.P.
Plastic Limit	N.P.
Plastic Index	N.P.

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	100.0%
#40	97.0%
#60	84.0%
#200	25.6%

Oversize Fraction
Bulk Gravity
% Moisture
% Oversize
MDD
Opt. MC

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☐ Manual Rammer ☒ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: N.P.=Nonplastic.

AASHTO T265: Laboratory Determination of Moisture Content of Soils

AASHTO T 99: Moisture-Density Relations of Soil Using a 5.5 Lb. Rammer and a 12" Drop

Mal Krajan, ET		Laboratory Manager	1/24/2022
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D1883-T193-3
Revision No. 2
Revision Date: 08/11/17

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T 193

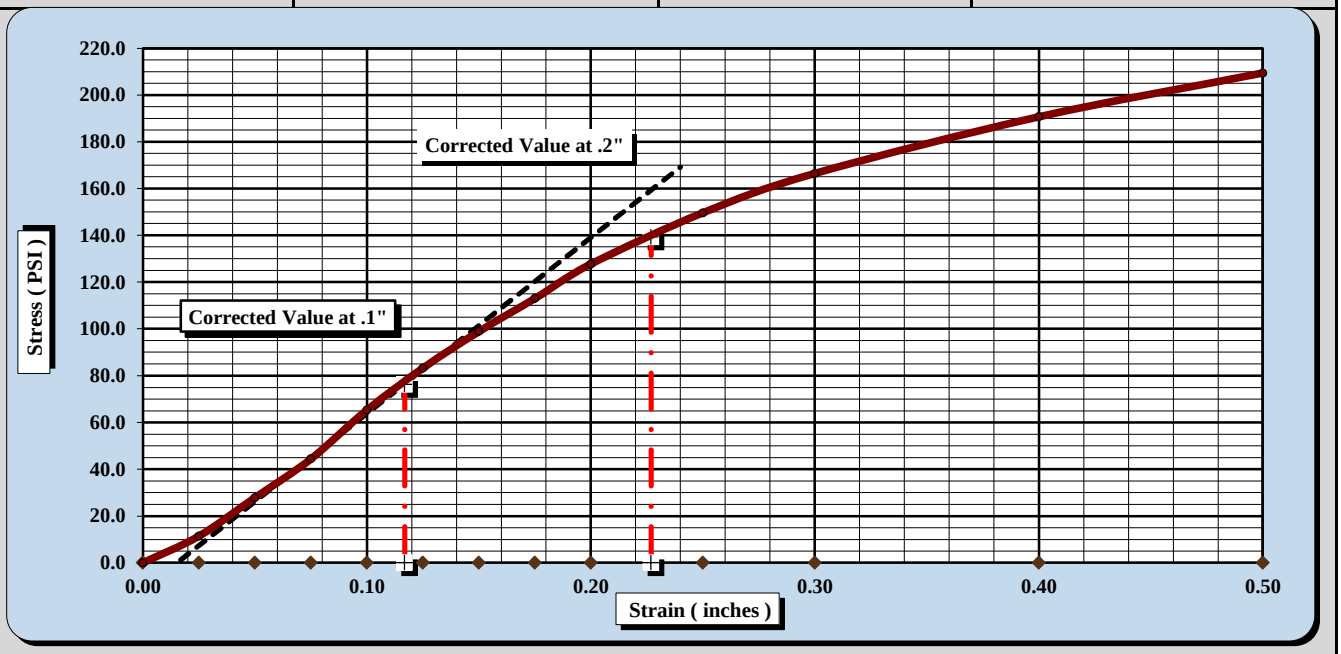
S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

Project #:	21050067	Report Date:	1/29/2022
Project Name:	SR 2048 (Gordon Road) From US 17 (Market Street) to I-40	Test Date(s)	1/24-1/29/2022
Client Name:	NCDOT		
Client Address:	Raleigh, NC		
Boring #:	-L- 32+35 OES	Sample #: Bulk-4	Sample Date: N/A
Location:	Roadway	Offset: N/A	Depth (ft): 0'-2'
Sample Description:	Black Silty Clayey Coarse to Fine Sand (A-2-4) (0)		

AASHTO T99 *Method A* Maximum Dry Density: 96.7 PCF Optimum Moisture Content: 21.5%

Compaction Test performed on grading complying with CBR spec. % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in. 6.5	CBR at 0.2 in. 8.5	CBR at 0.1 in. 7.6	CBR at 0.2 in. 9.3



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		*After Soaking*	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	96.9
Initial Dry Density (PCF)	96.8	Average Final Moisture Content	22.6%
Moisture Content of the Compacted Specimen	21.8%	Moisture Content (top 1" after soaking)	24.1%
Percent Compaction	100.1%	Percent Swell	0.1%

Soak Time: 96 hrs. Surcharge Weight 10.0 Surcharge Wt. per sq. Ft. 50.9

Liquid Limit N.P. Plastic Index N.P.

Notes/Deviations/References: N.P.=Nonplastic.

Test specimen compacted to 100% at optimum moisture.

Mal Krajan, ET		Laboratory Manager	1/29/2022
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D1883-T193-3
Revision No. 2
Revision Date: 08/11/17

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T 193

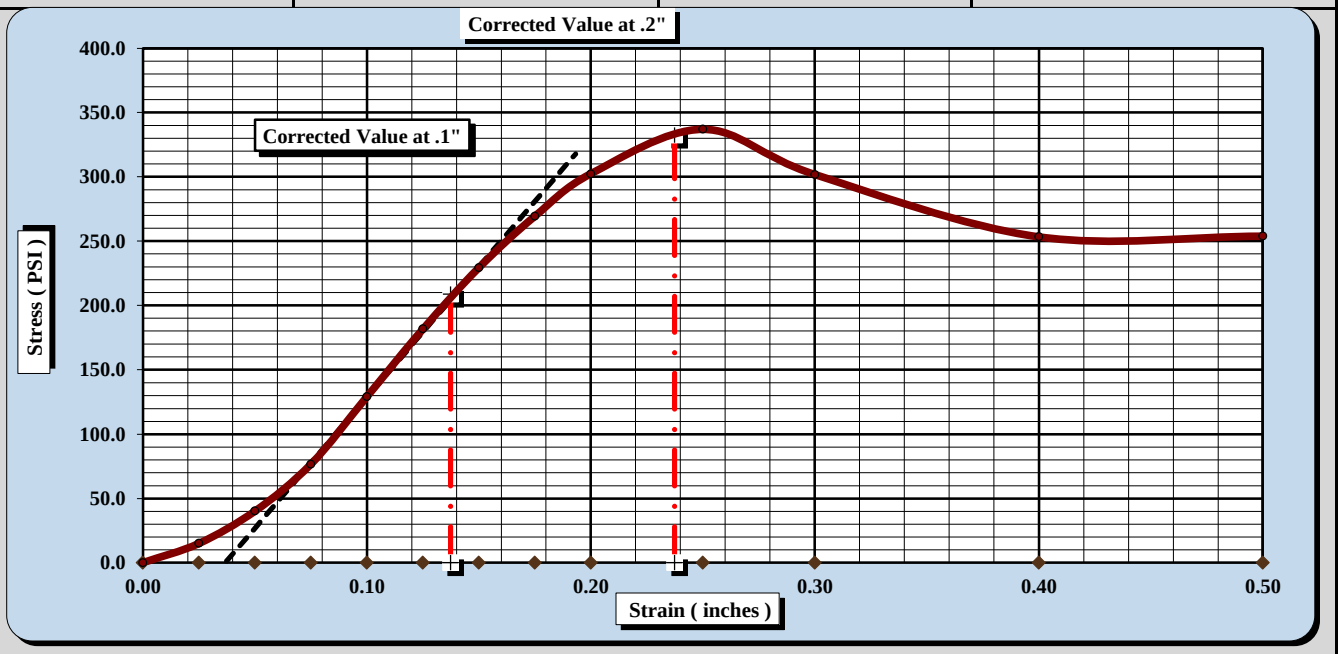
S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

Project #:	21050067	Report Date:	1/29/2022
Project Name:	SR 2048 (Gordon Road) From US 17 (Market Street) to I-40	Test Date(s)	1/24-1/29/2022
Client Name:	NCDOT		
Client Address:	Raleigh, NC		
Boring #:	-L- 45+65 OES	Sample #: Bulk-1	Sample Date: N/A
Location:	Roadway	Offset: N/A	Depth (ft): 0'-2'
Sample Description:	Black Silty Clayey Coarse to Fine Sand (A-2-4) (0)		

AASHTO T99 *Method A* Maximum Dry Density: 108.5 PCF Optimum Moisture Content: 12.0%

Compaction Test performed on grading complying with CBR spec. % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in. 12.9	CBR at 0.2 in. 20.2	CBR at 0.1 in. 20.9	CBR at 0.2 in. 22.2



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		*After Soaking*	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	108.7
Initial Dry Density (PCF)	108.5	Average Final Moisture Content	13.7%
Moisture Content of the Compacted Specimen	11.8%	Moisture Content (top 1" after soaking)	15.6%
Percent Compaction	100.0%	Percent Swell	0.1%

Soak Time: 96 hrs. Surcharge Weight 10.0 Surcharge Wt. per sq. Ft. 50.9

Liquid Limit N.P. Plastic Index N.P.

Notes/Deviations/References: N.P.=Nonplastic

Test specimen compacted to 100% at optimum moisture.

Mal Krajan, ET		Laboratory Manager	1/29/2022
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D1883-T193-3
Revision No. 2
Revision Date: 08/11/17

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T 193

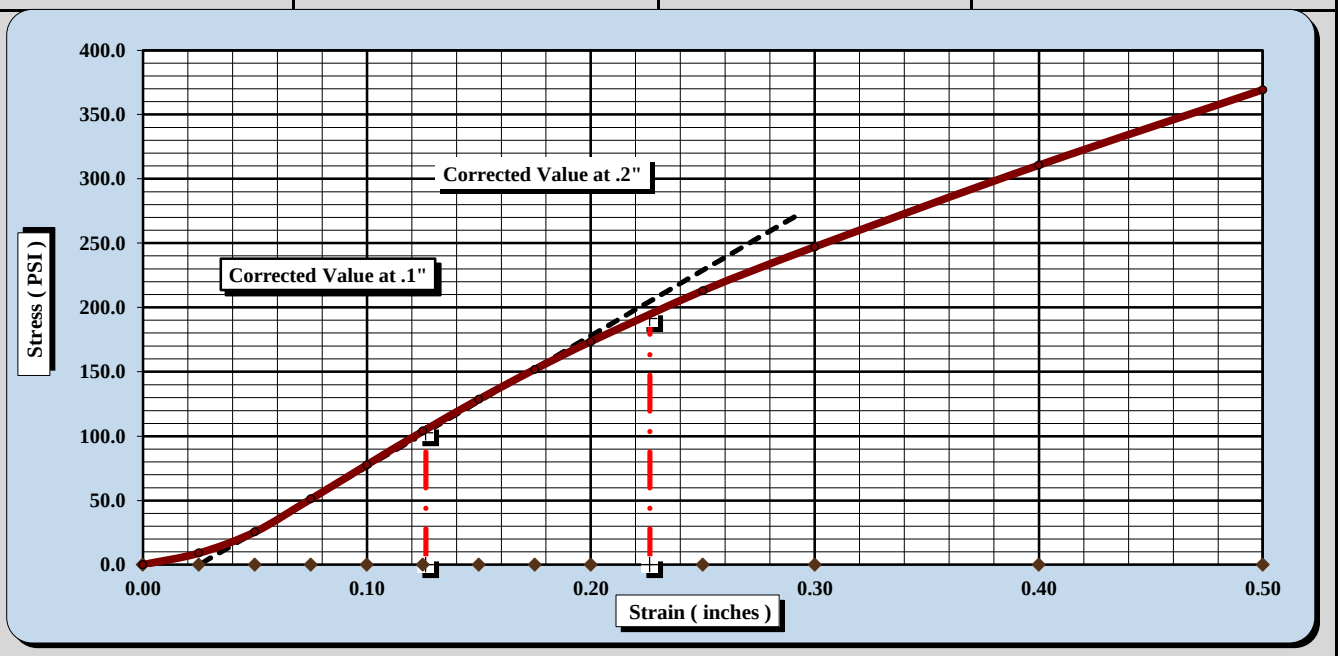
S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

Project #:	21050067	Report Date:	1/29/2022
Project Name:	SR 2048 (Gordon Road) From US 17 (Market Street) to I-40	Test Date(s)	1/24-1/29/2022
Client Name:	NCDOT		
Client Address:	Raleigh, NC		
Boring #:	-L- 117+80 OES	Sample #: Bulk-2	Sample Date: N/A
Location:	Roadway	Offset: N/A	Depth (ft): 0'-2'
Sample Description:	Black Silty Clayey Coarse to Fine Sand (A-2-4) (0)		

AASHTO T99 *Method A* Maximum Dry Density: 103.6 PCF Optimum Moisture Content: 17.4%

Compaction Test performed on grading complying with CBR spec. % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in. 7.8	CBR at 0.2 in. 11.6	CBR at 0.1 in. 10.2	CBR at 0.2 in. 12.8



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		*After Soaking*	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	103.4
Initial Dry Density (PCF)	103.6	Average Final Moisture Content	18.8%
Moisture Content of the Compacted Specimen	17.6%	Moisture Content (top 1" after soaking)	18.6%
Percent Compaction	100.0%	Percent Swell	0.4%

Soak Time: 96 hrs. Surcharge Weight 10.0 Surcharge Wt. per sq. Ft. 50.9

Liquid Limit N.P. Plastic Index N.P.

Notes/Deviations/References: N.P.=Nonplastic.

Test specimen compacted to 100% at optimum moisture.

Mal Krajan, ET		Laboratory Manager	1/29/2022
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D1883-T193-3
Revision No. 2
Revision Date: 08/11/17

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

AASHTO T 193

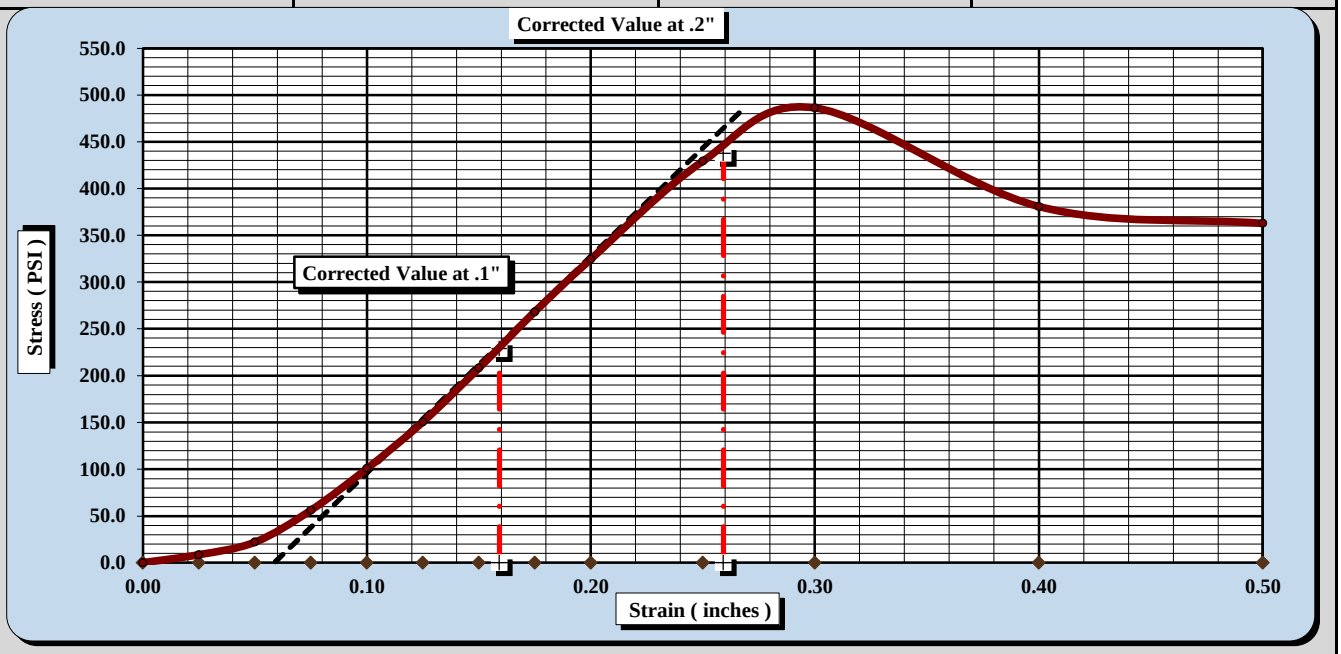
S&ME, Inc. Raleigh: 3201 Spring Forest Road, Raleigh, NC 27616

Project #:	21050067	Report Date:	1/29/2022
Project Name:	SR 2048 (Gordon Road) From US 17 (Market Street) to I-40	Test Date(s)	1/24-1/29/22
Client Name:	NCDOT		
Client Address:	Raleigh, NC		
Boring #:	-L- 134+10 OES	Sample #: Bulk-3	Sample Date: N/A
Location:	Roadway	Offset: N/A	Depth (ft): 0'-2'
Sample Description:	Tan Silty Clayey Coarse to Fine Sand (A-2-4) (0)		

AASHTO T99 *Method A* Maximum Dry Density: 111.4 PCF Optimum Moisture Content: 12.6%

Compaction Test performed on grading complying with CBR spec. % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in. 10.1	CBR at 0.2 in. 21.6	CBR at 0.1 in. 22.9	CBR at 0.2 in. 29.2



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		*After Soaking*	
Compactive Effort (Blows per Layer)	56	Final Dry Density (PCF)	110.9
Initial Dry Density (PCF)	110.8	Average Final Moisture Content	13.5%
Moisture Content of the Compacted Specimen	12.5%	Moisture Content (top 1" after soaking)	14.2%
Percent Compaction	99.5%	Percent Swell	0.0%

Soak Time: 96 hrs. Surcharge Weight 10.0 Surcharge Wt. per sq. Ft. 50.9

Liquid Limit N.P. Plastic Index N.P.

Notes/Deviations/References: N.P.=Nonplastic.

Test specimen compacted to 100% at optimum moisture.

Mal Krajan, ET		Laboratory Manager	1/29/2022
Technical Responsibility	*Signature*	*Position*	*Date*

CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 1

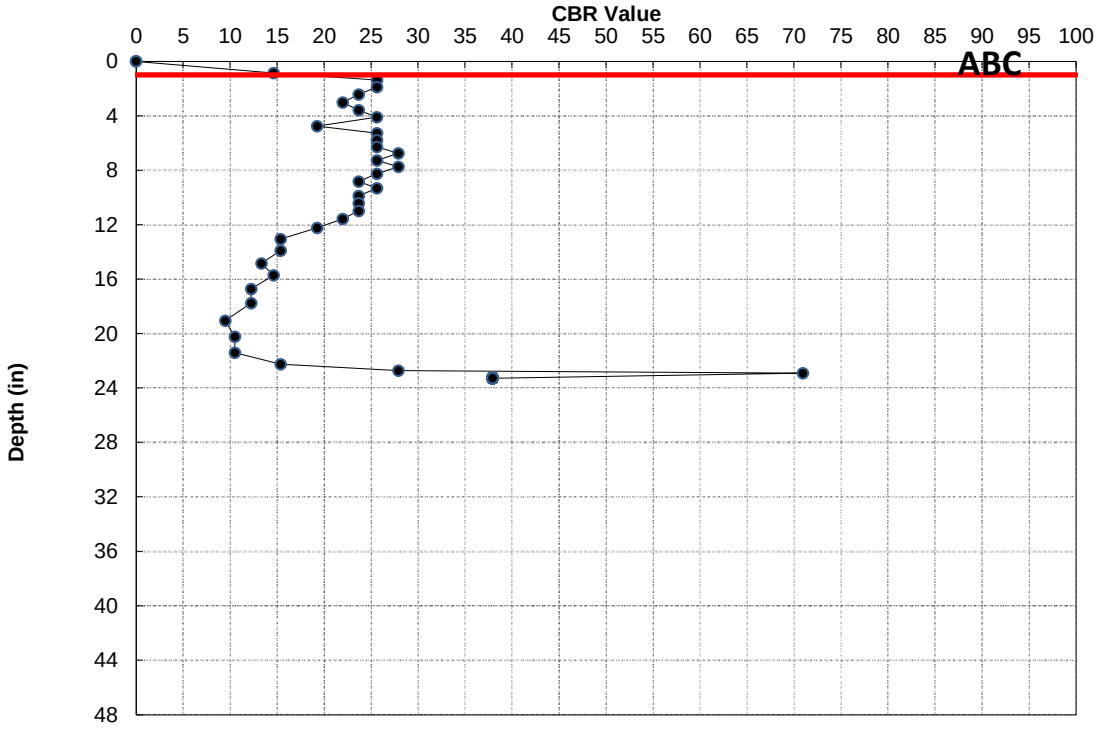
-L- 14+95 EB PS

1

Datum = ABC
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.9	
# of Values	2
Avg CBR	7.3
Wghtd Avg.	30.6
Max CBR	14.6
Min CBR	0.0

Interval 0.9 to 23.3	
# of Values	34
Avg CBR	22.8
Wghtd Avg.	19.6
Max CBR	70.9
Min CBR	9.5



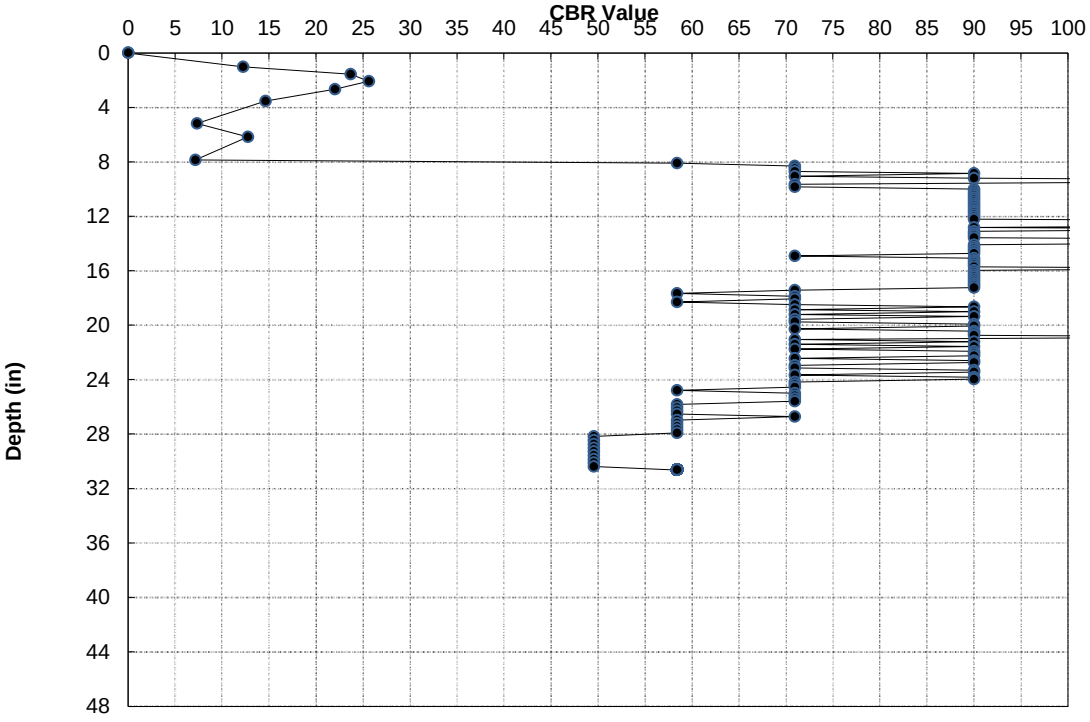
-L- 14+95 WB LN

2

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 30.6	
# of Values	134
Avg CBR	78.0
Wghtd Avg.	60.5
Max CBR	100+
Min CBR	7.2



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 1

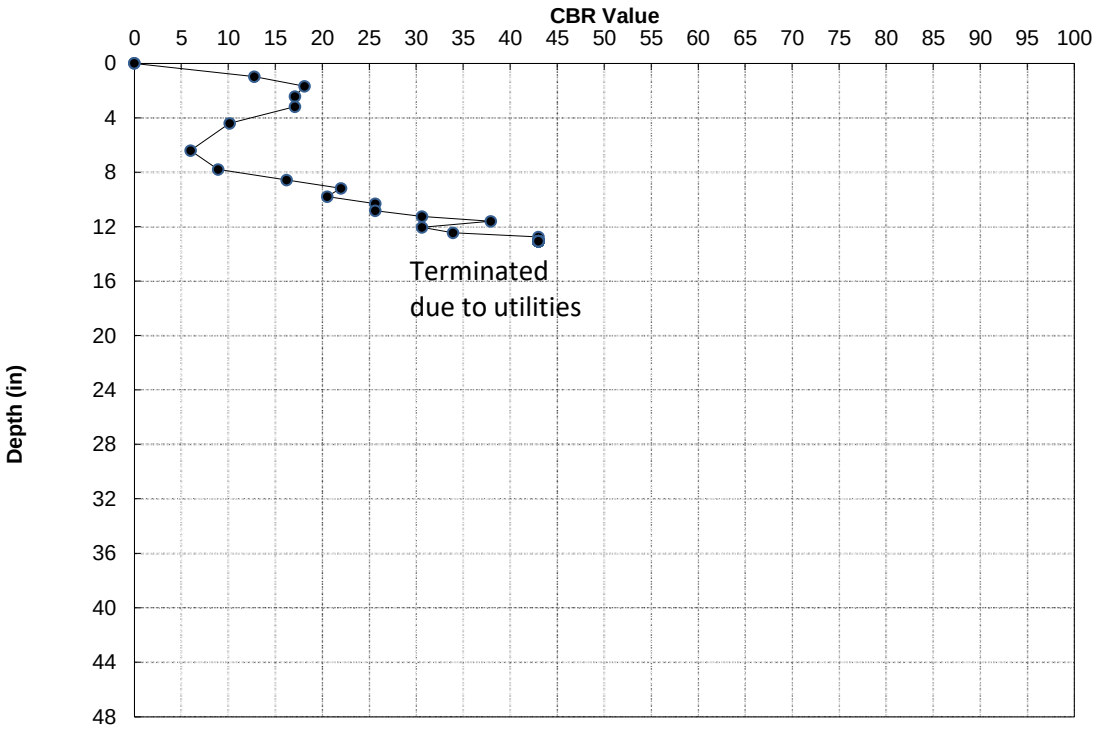
-L- 14+95 WB PS

3

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 13.1	
# of Values	18
Avg CBR	23.3
Wghtd Avg.	17.6
Max CBR	43.0
Min CBR	6.0



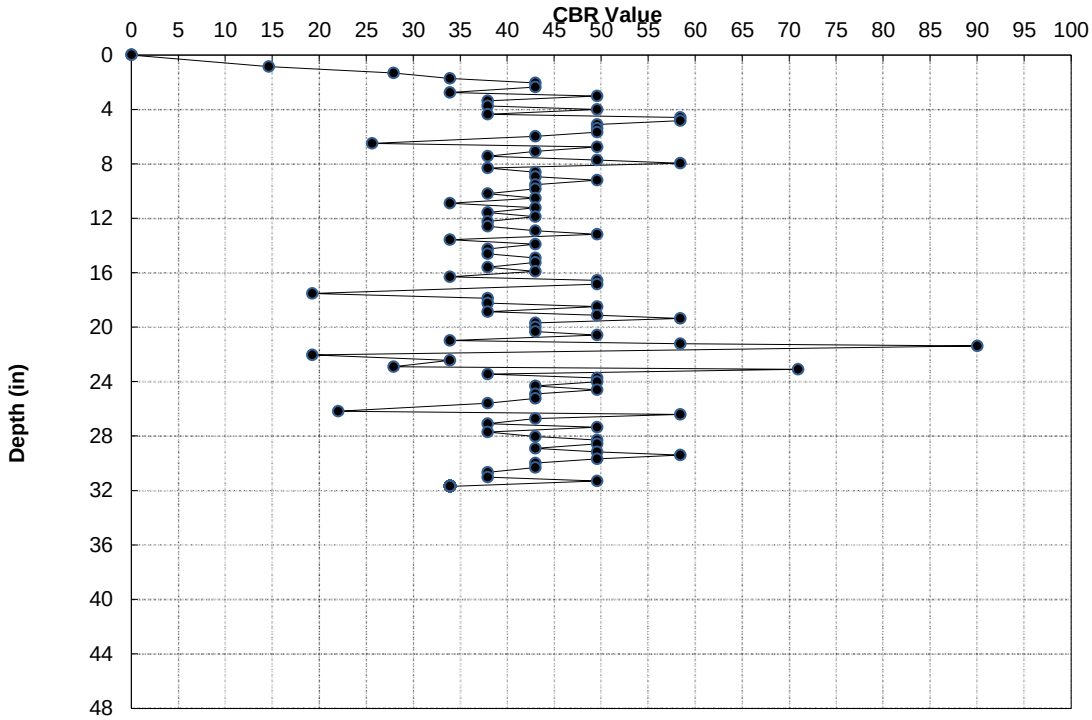
-L- 18+75 WB LN

4

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 31.7	
# of Values	95
Avg CBR	43.1
Wghtd Avg.	40.4
Max CBR	90.0
Min CBR	14.6



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 1

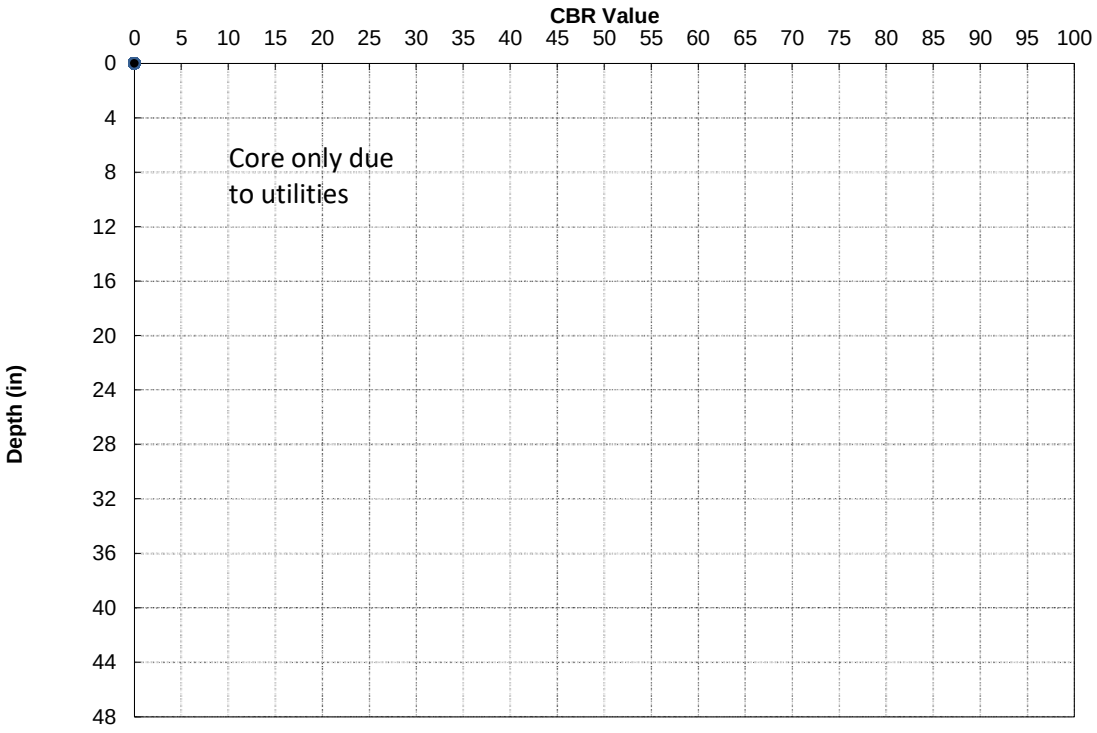
5

-L- 21+15 EB PS

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0



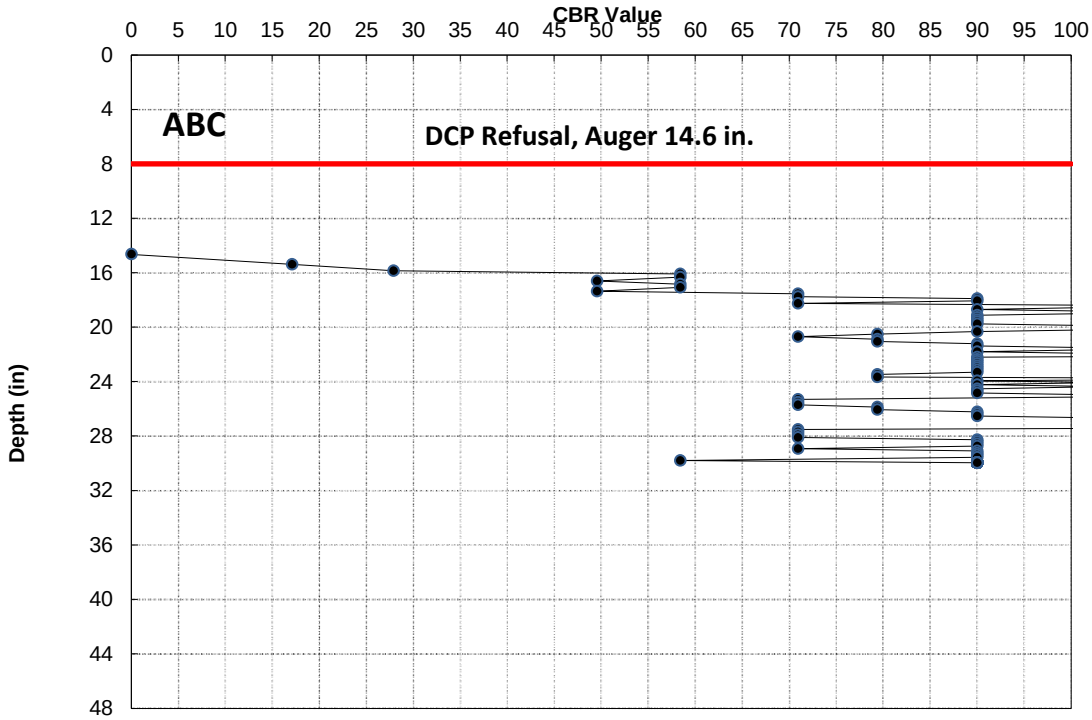
6

-L- 26+70 WB LTL

Datum = ABC
RAW
FILL
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 14.6 to 30.0	
# of Values	88
Avg CBR	88.8
Wghtd Avg.	80.9
Max CBR	100+
Min CBR	17.1



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 1

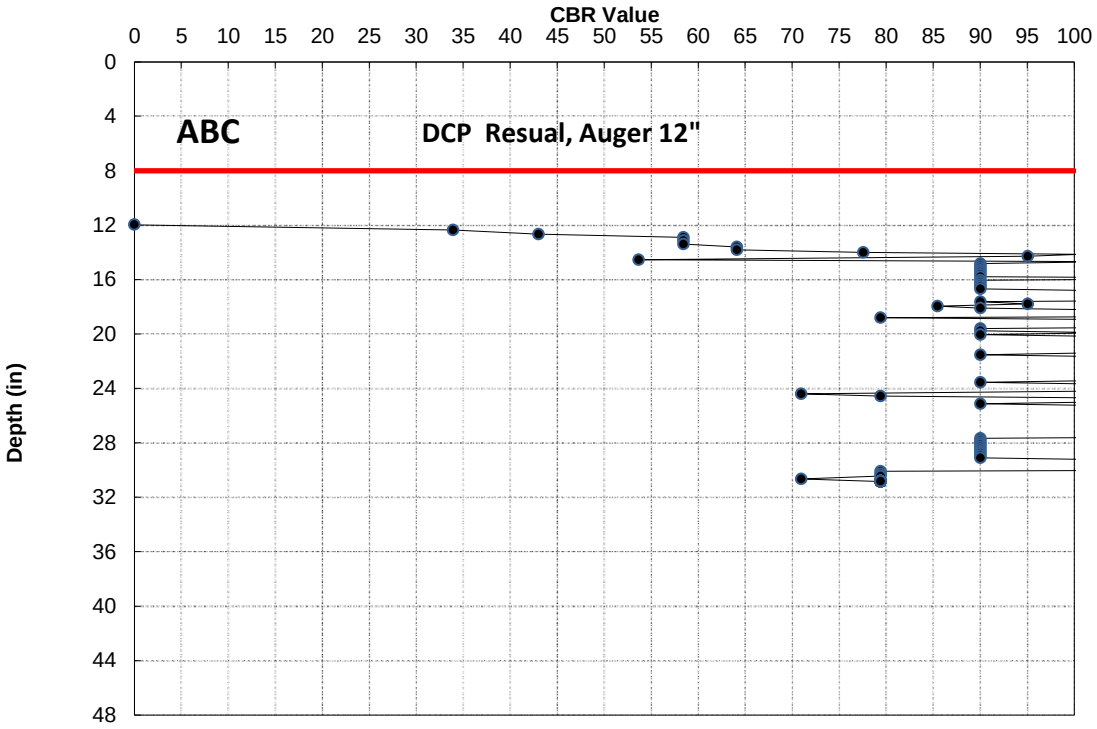
7

-L- 26+70 WB LN

Datum = ABC
RAW
FILL
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 12.0 to 30.8	
# of Values	127
Avg CBR	100+
Wghtd Avg.	95.8
Max CBR	100+
Min CBR	33.9



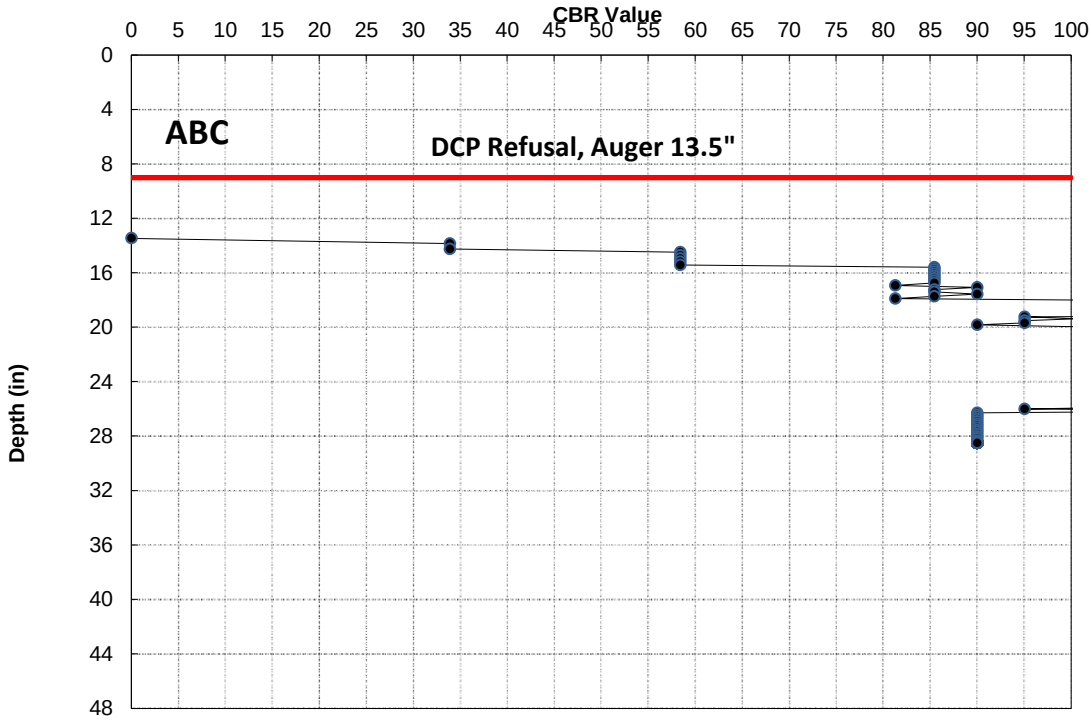
8

-L- 26+70 WB RTL

Datum = ABC
RAW
FILL
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 13.5 to 28.5	
# of Values	102
Avg CBR	100+
Wghtd Avg.	96.5
Max CBR	100+
Min CBR	33.9



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 1

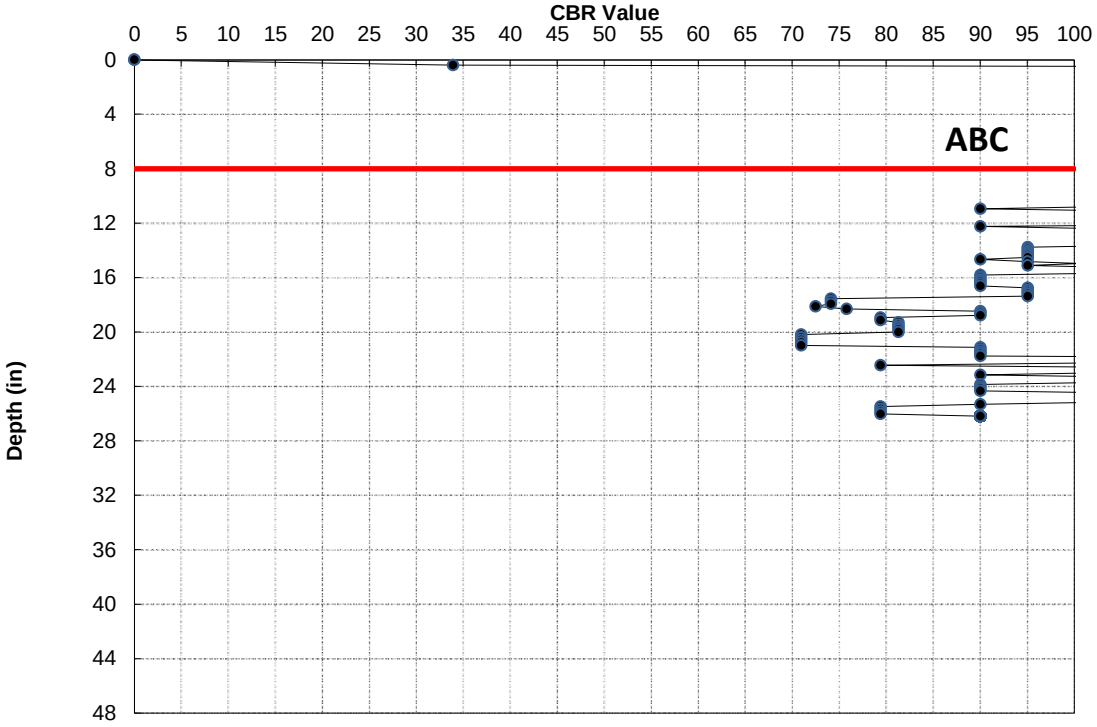
9

-L- 30+80 EB OSL

Datum = ABC
RAW
FILL
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 26.2	
# of Values	196
Avg CBR	100+
Wghtd Avg.	100+
Max CBR	100+
Min CBR	33.9



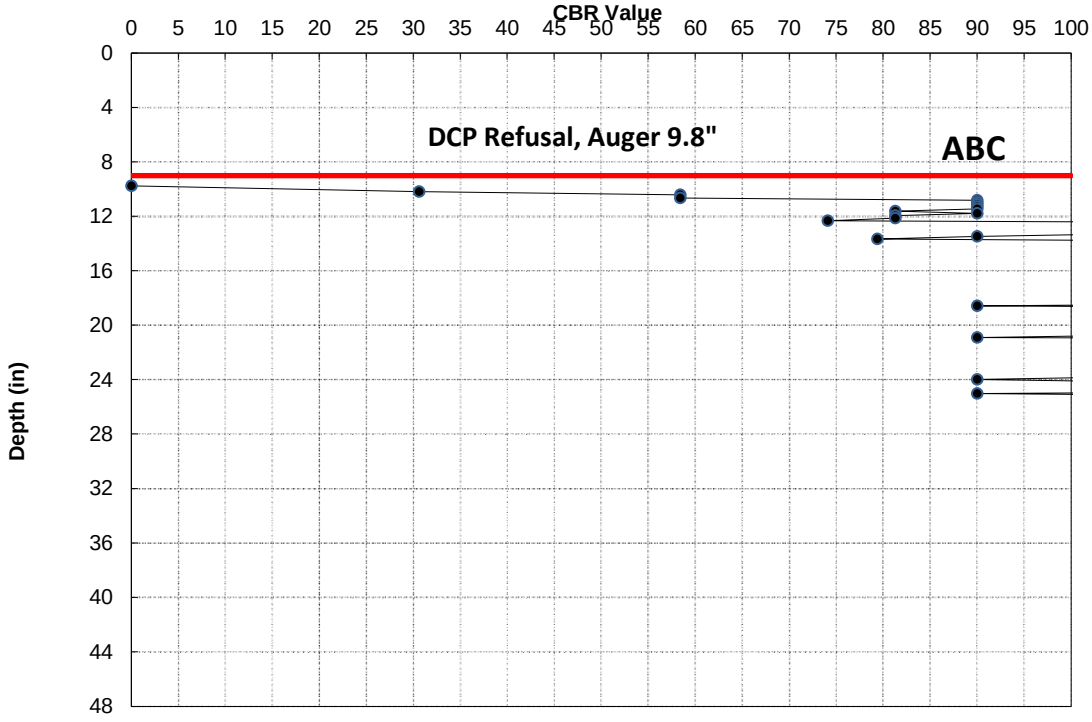
10

-L- 30+80 EB ISL

Datum = ABC
RAW
FILL
1/4/2022

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 9.8 to 27.6	
# of Values	133
Avg CBR	100+
Wghtd Avg.	100+
Max CBR	100+
Min CBR	30.6



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
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COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 1

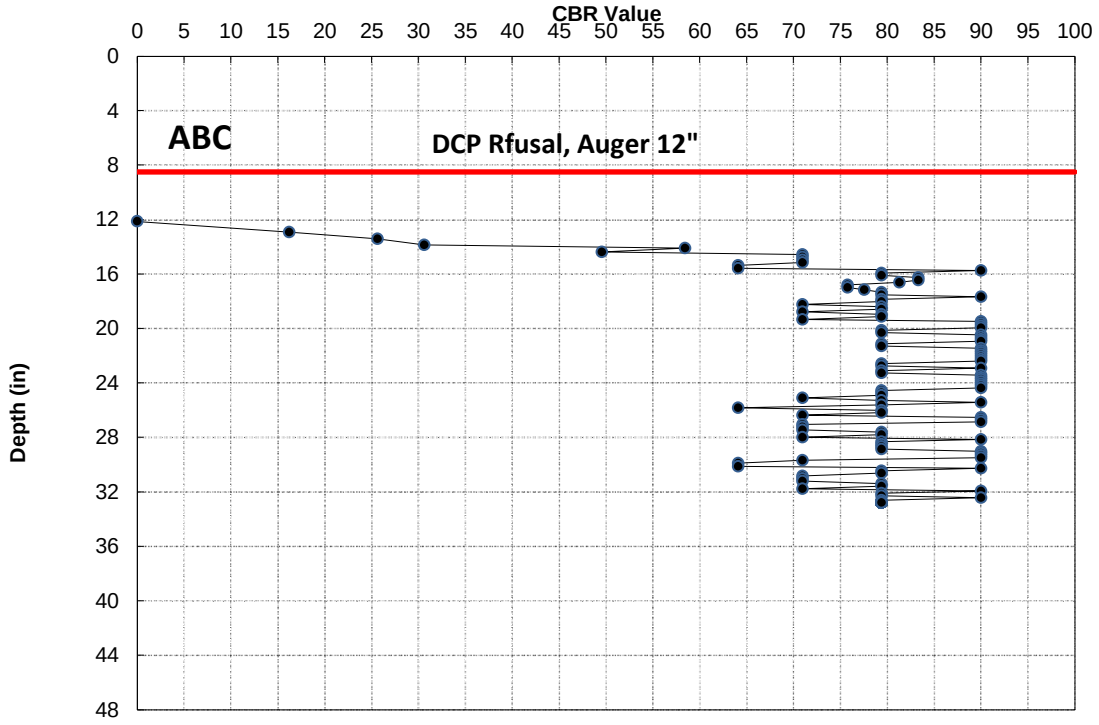
11

-L- 30+80 EB LTL

Datum = ABC
RAW
FILL
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 12.1 to 32.8	
# of Values	110
Avg CBR	78.9
Wghtd Avg.	74.5
Max CBR	90.0
Min CBR	16.2



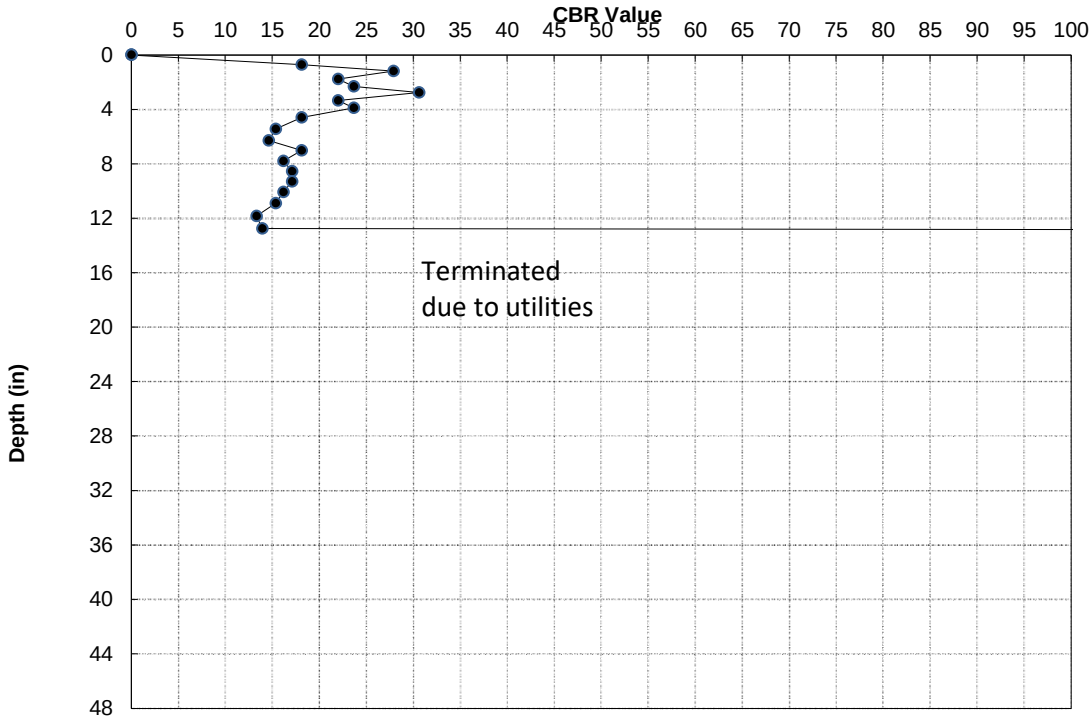
12

-L- 34+75 WB RTL PS

Datum = SG
RAW
FILL
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 12.9	
# of Values	19
Avg CBR	25.8
Wghtd Avg.	19.0
Max CBR	100+
Min CBR	13.3



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 1

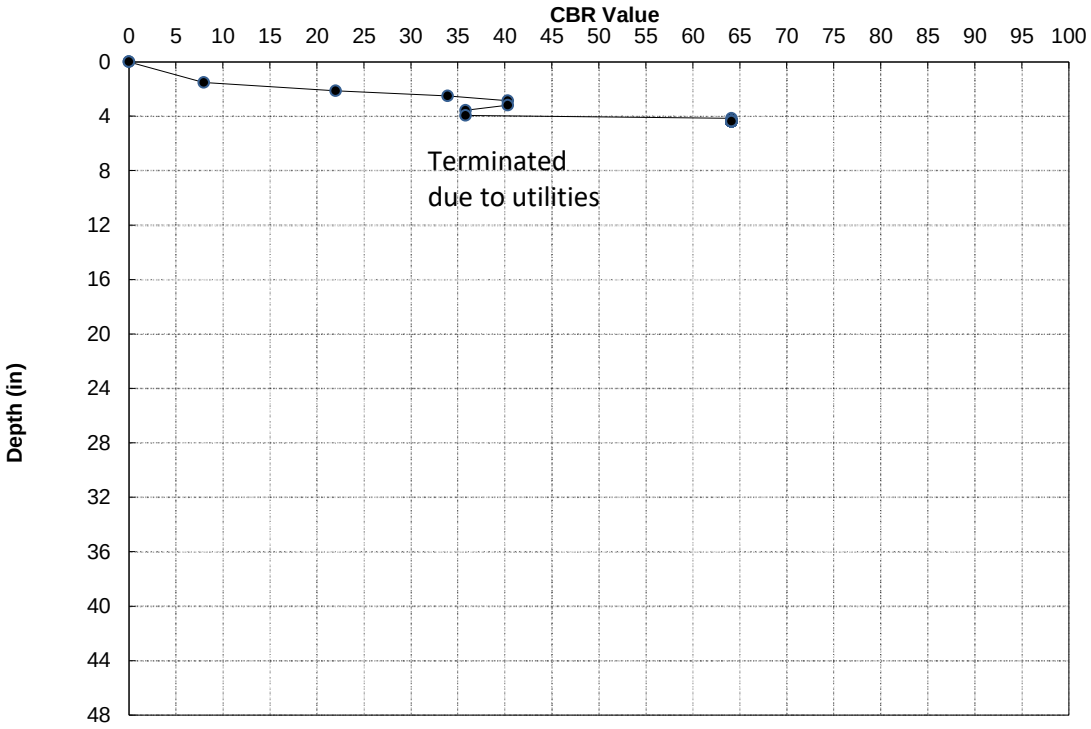
13

-L- 37+55 EB PS

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 4.4	
# of Values	9
Avg CBR	38.2
Wghtd Avg.	27.1
Max CBR	64.1
Min CBR	7.9



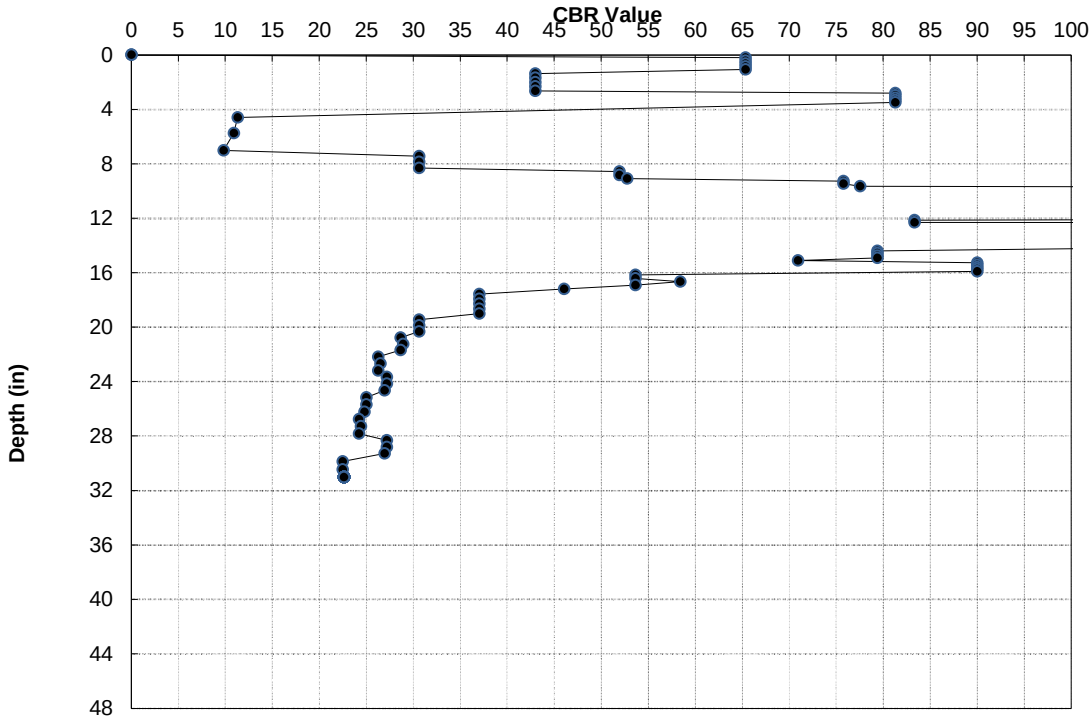
14

-L- 40+50 WB LN

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 31.0	
# of Values	114
Avg CBR	84.4
Wghtd Avg.	50.2
Max CBR	100+
Min CBR	9.8



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 1

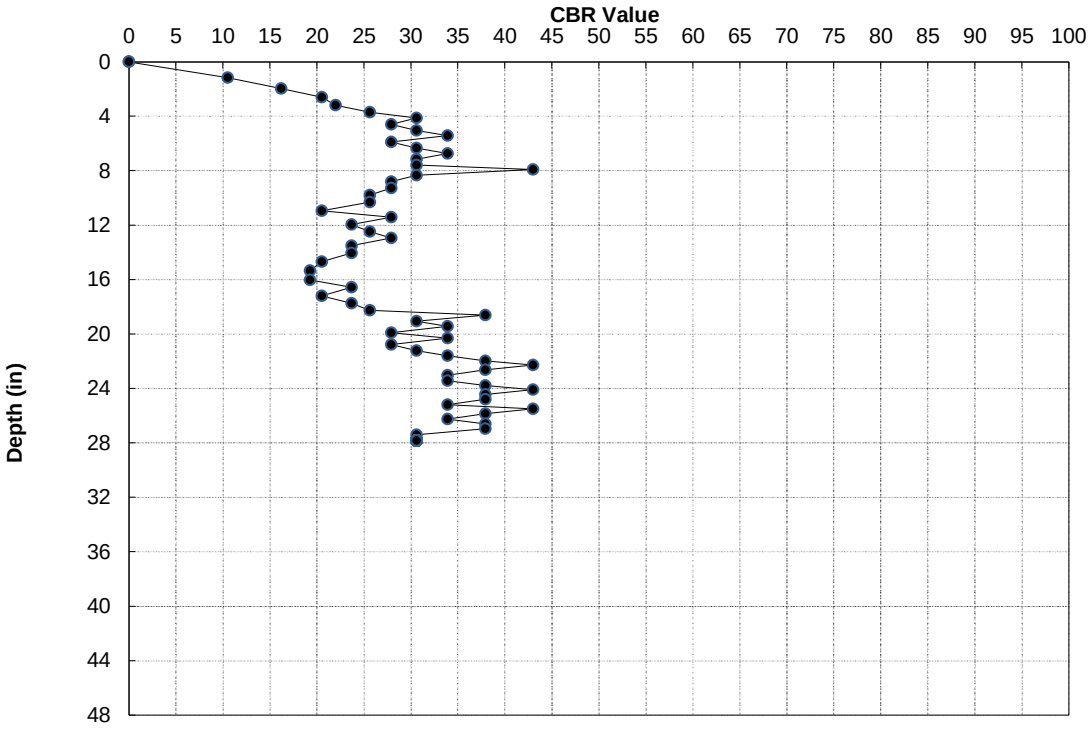
15

-L- 40+50 WB OSL

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 27.8	
# of Values	59
Avg CBR	29.9
Wghtd Avg.	27.9
Max CBR	43.0
Min CBR	10.5



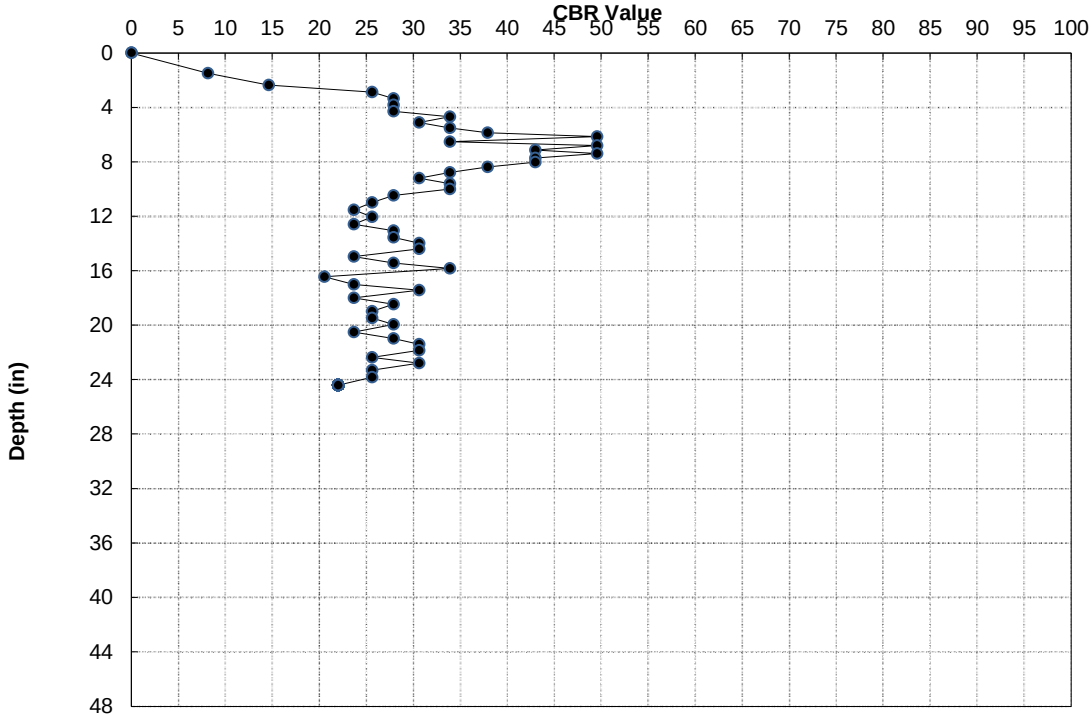
16

-L- 43+10 EB RTL

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 24.4	
# of Values	51
Avg CBR	29.9
Wghtd Avg.	27.5
Max CBR	49.6
Min CBR	8.2



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 1

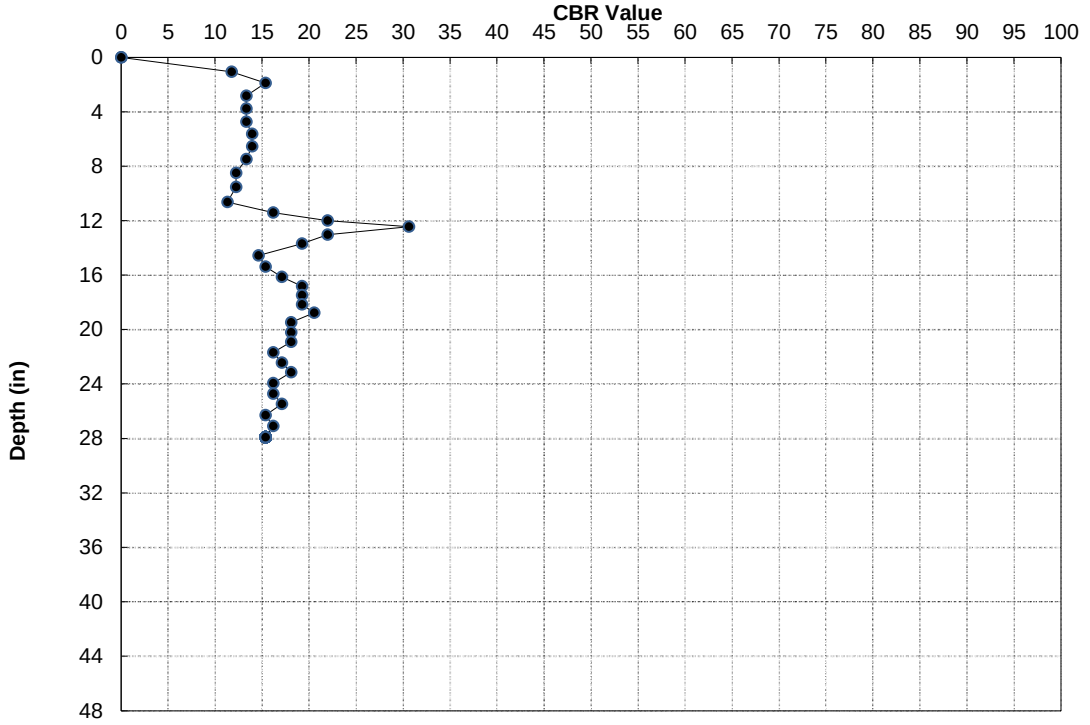
17

-L- 43+10 EB LN

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 27.9	
# of Values	35
Avg CBR	16.6
Wghtd Avg.	16.0
Max CBR	30.6
Min CBR	11.3



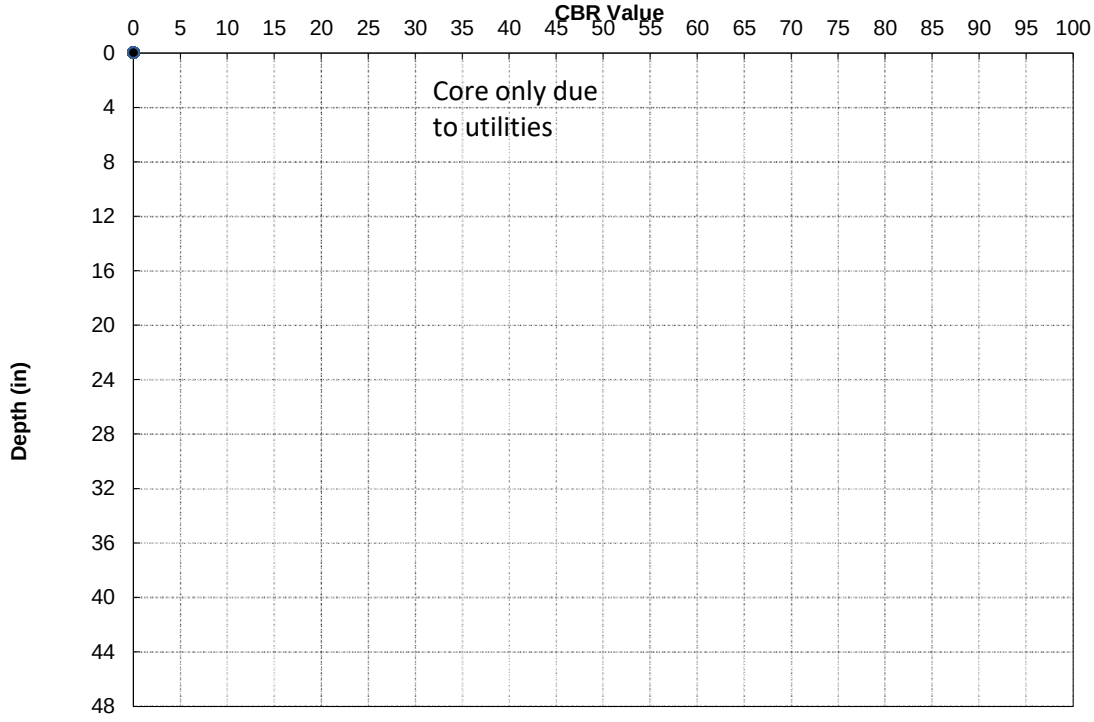
18

-L- 45+10 WB LN

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 1

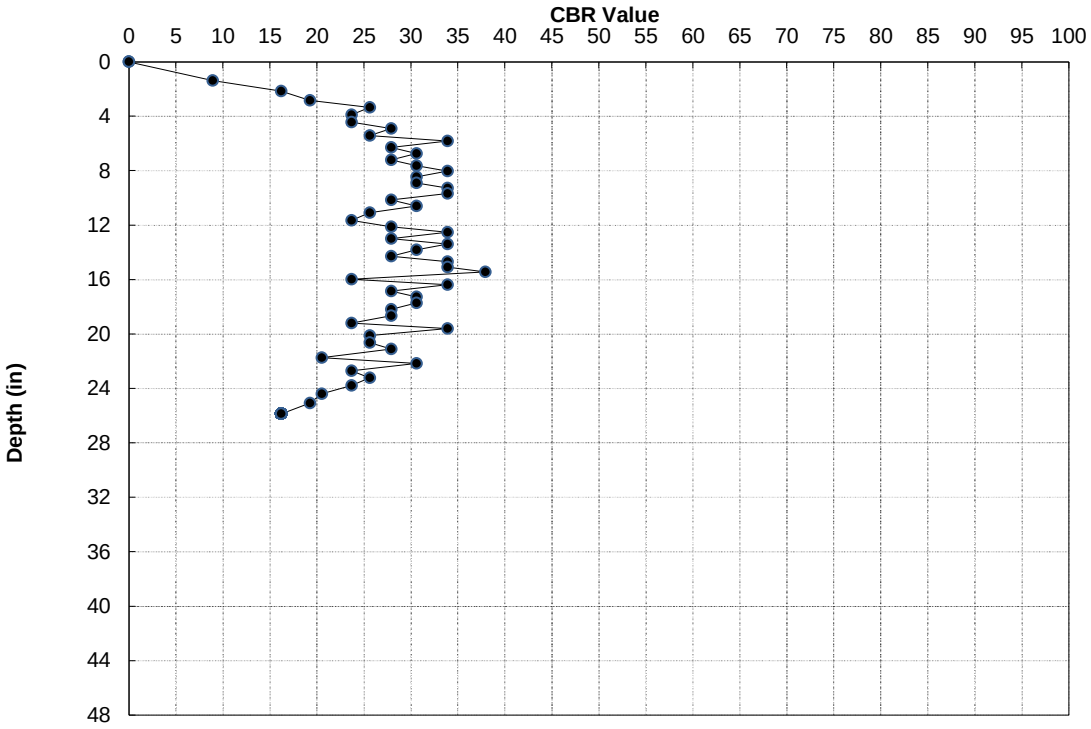
19

-L- 45+10 WB RTL

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 25.9	
# of Values	51
Avg CBR	27.4
Wghtd Avg.	25.9
Max CBR	37.9
Min CBR	8.9



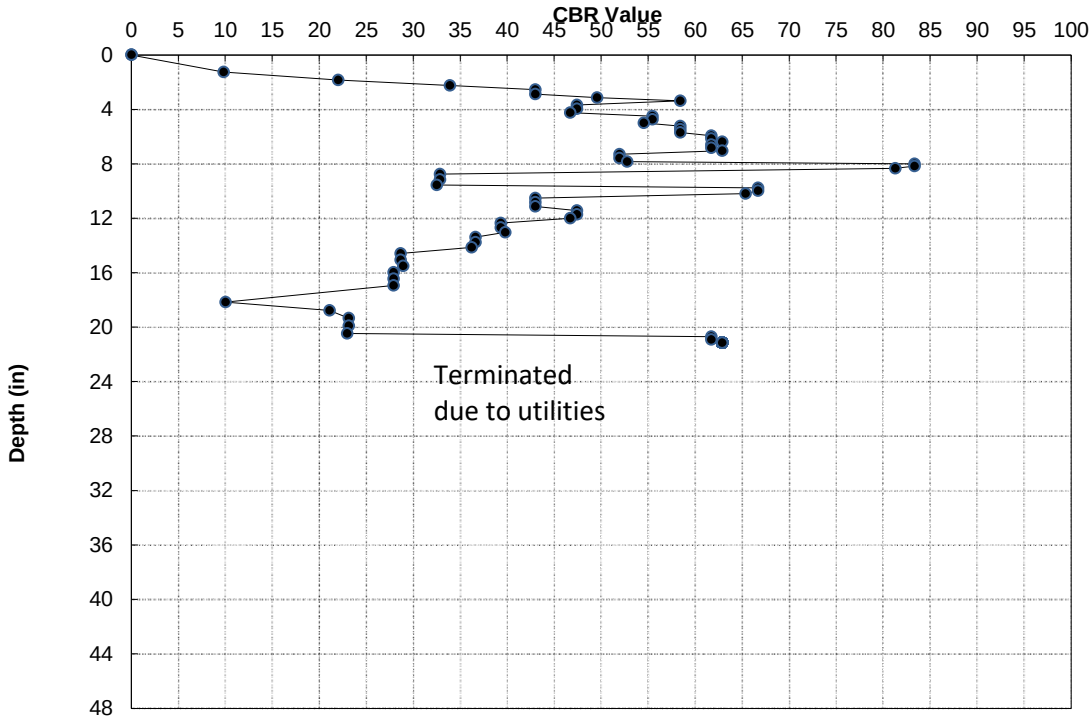
20

-L- 60+05 EB LN

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 21.1	
# of Values	60
Avg CBR	46.2
Wghtd Avg.	38.1
Max CBR	83.3
Min CBR	9.8



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 2

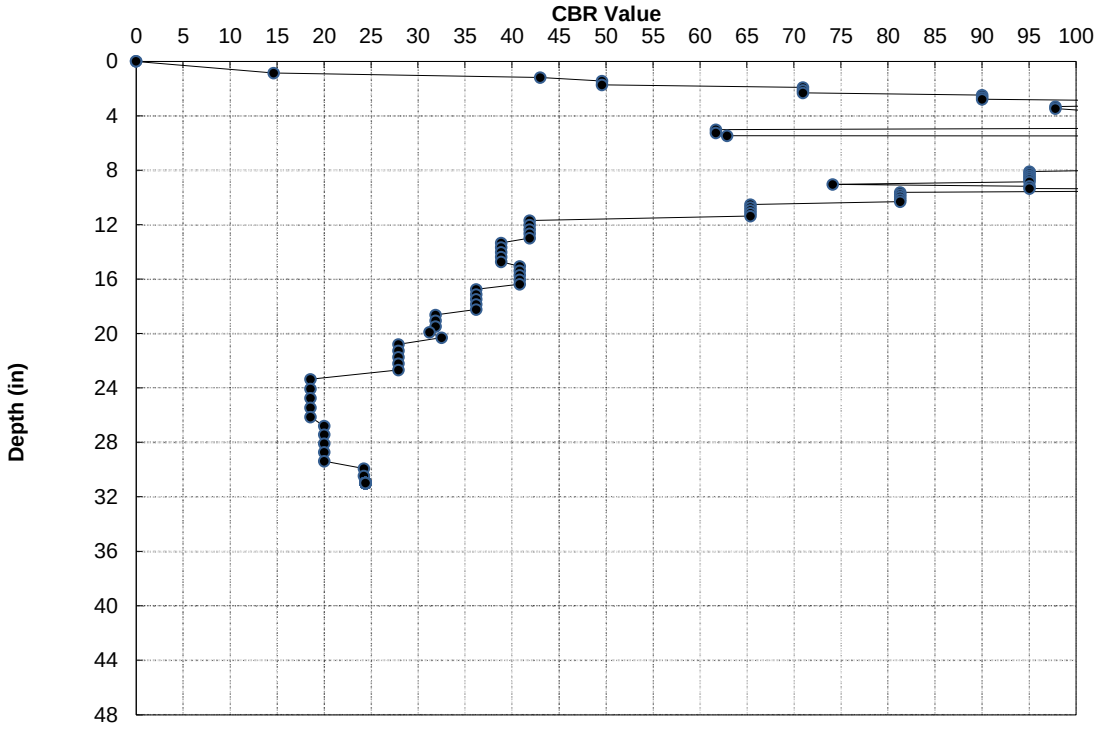
-L- 63+25 WB LN

1

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 31.0	
# of Values	118
Avg CBR	84.3
Wghtd Avg.	52.2
Max CBR	100+
Min CBR	14.6



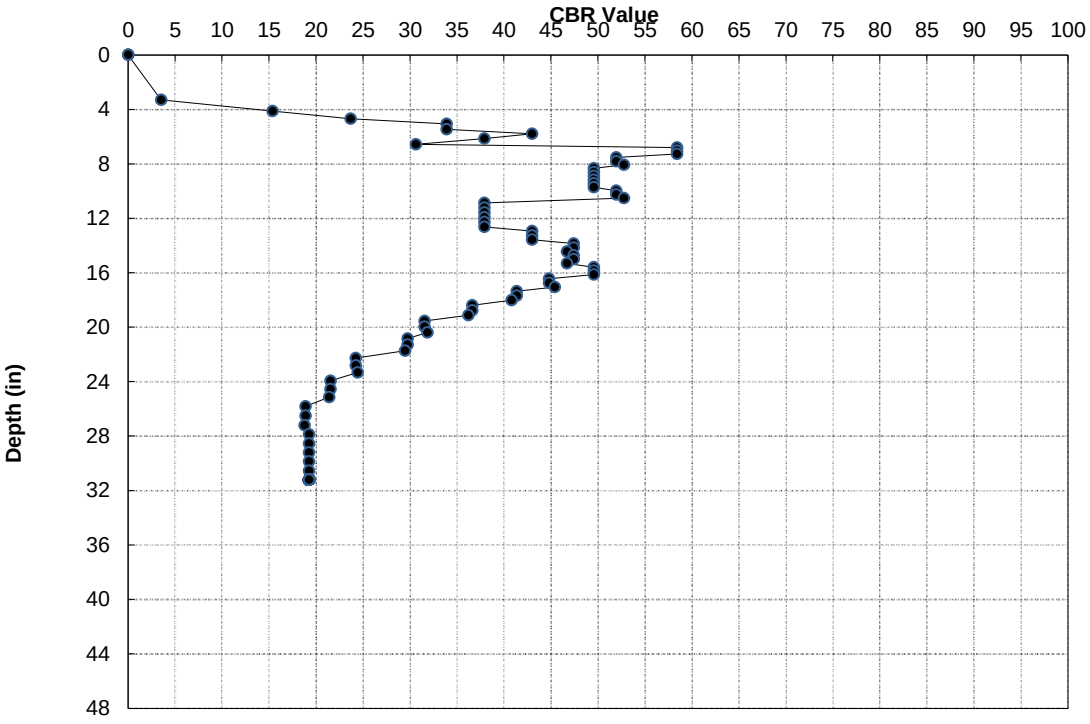
-L- 63+25 WB RTL

2

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 31.2	
# of Values	71
Avg CBR	37.4
Wghtd Avg.	30.1
Max CBR	58.4
Min CBR	3.5



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

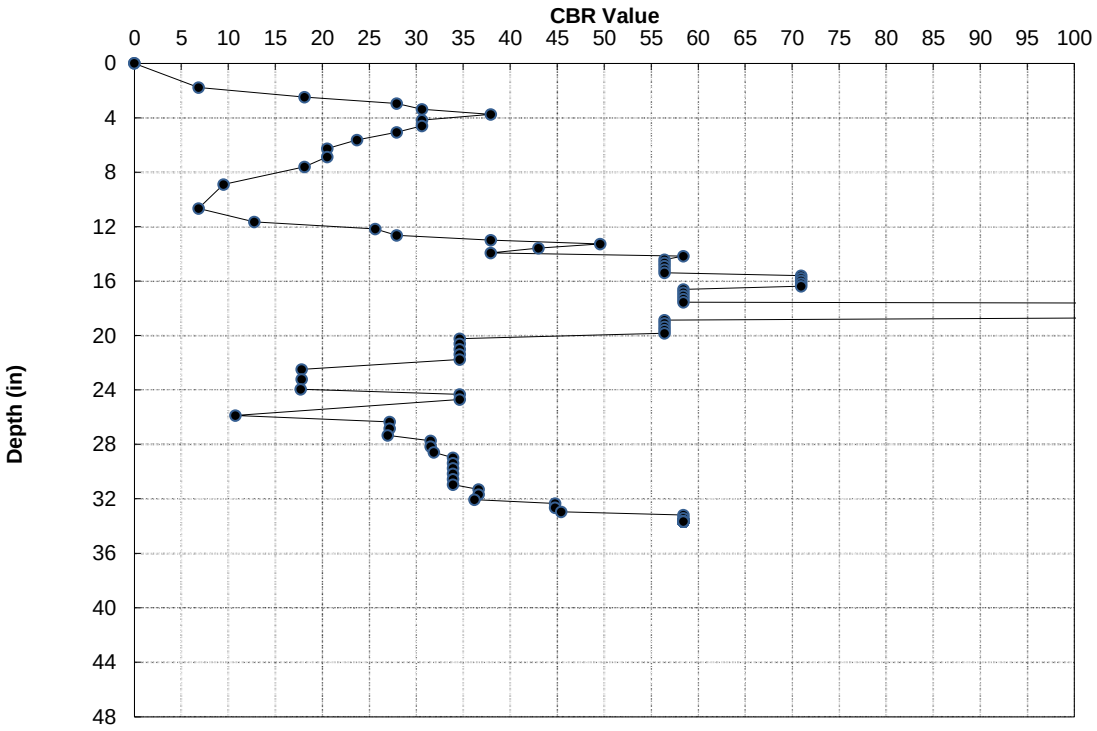
FILE	U6202 DCP Graphs 2

-L- 69+20 EB LN (O)

Datum = SG
RAW
FILL
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 33.7	
# of Values	84
Avg CBR	51.1
Wghtd Avg.	33.3
Max CBR	100+
Min CBR	6.8

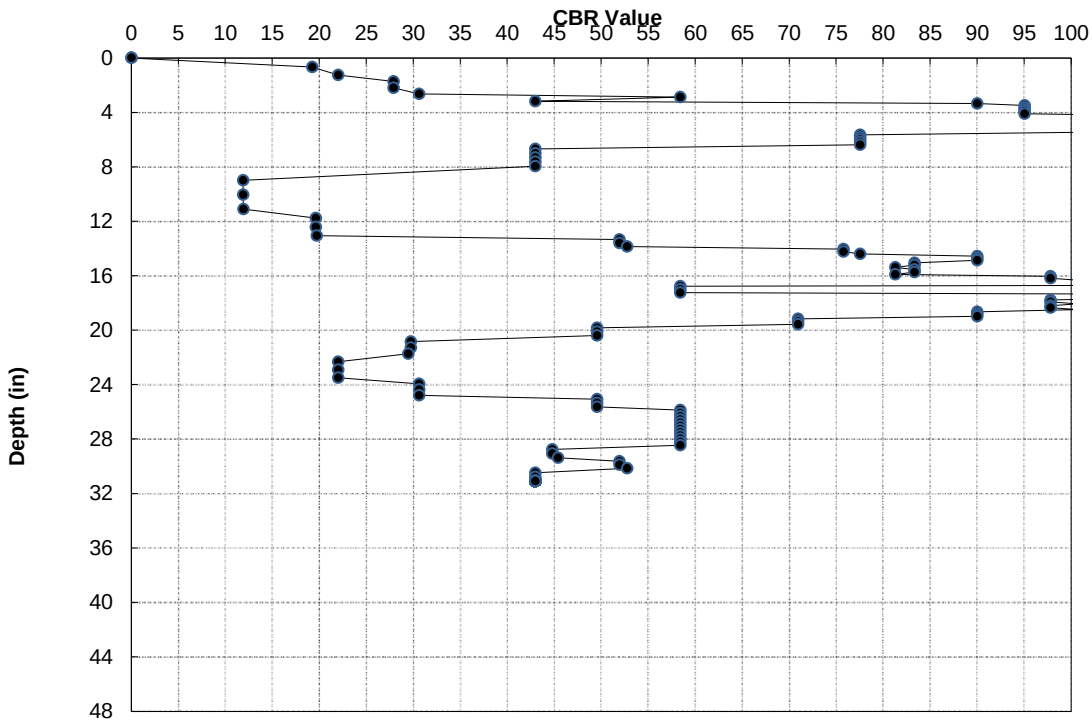


-L- 69+15 EB LN

Datum = SG
RAW
FILL
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 31.1	
# of Values	114
Avg CBR	69.4
Wghtd Avg.	50.1
Max CBR	100+
Min CBR	11.9



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 2

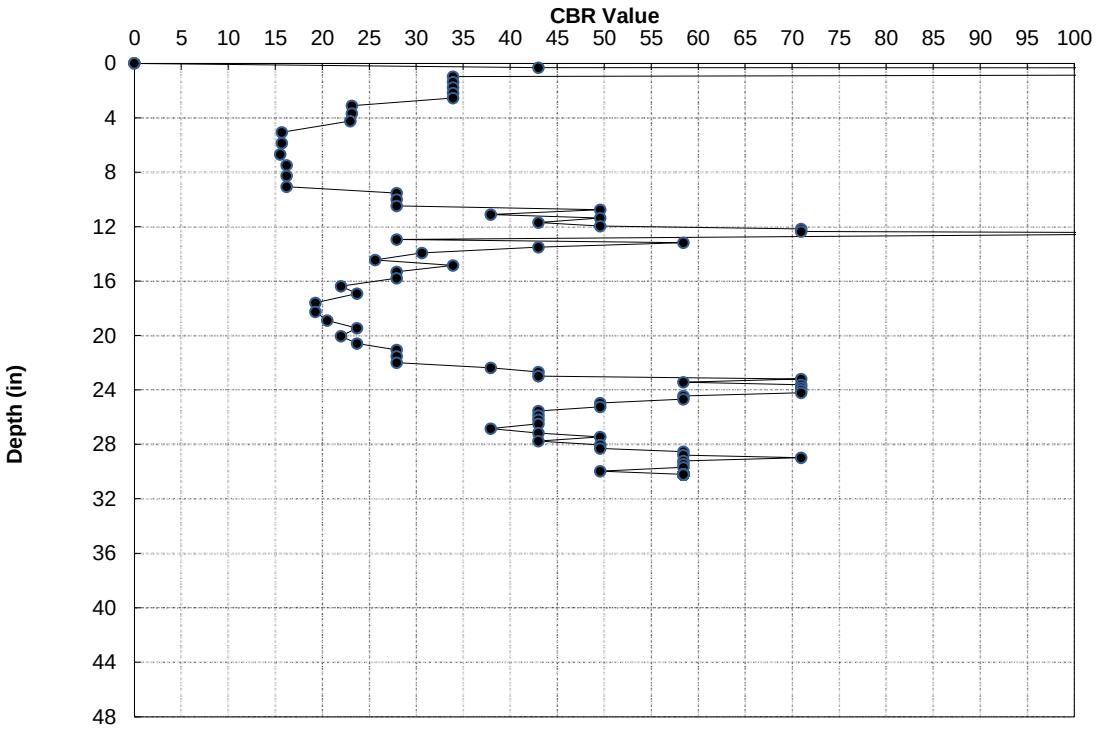
-L- 69+20 WB LN

5

Datum = SG
RAW
FILL
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 30.2	
# of Values	81
Avg CBR	56.0
Wghtd Avg.	35.9
Max CBR	100+
Min CBR	15.5



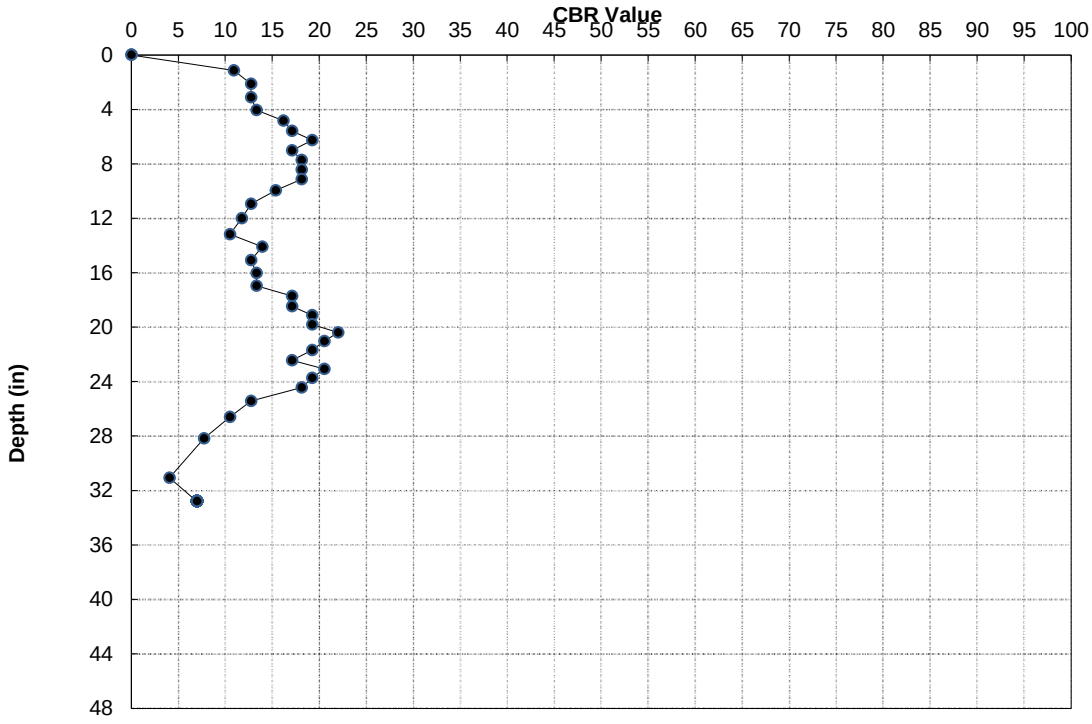
-L- 76+90 EB PS

6

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 32.8	
# of Values	35
Avg CBR	15.1
Wghtd Avg.	13.4
Max CBR	22.0
Min CBR	4.1



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 2

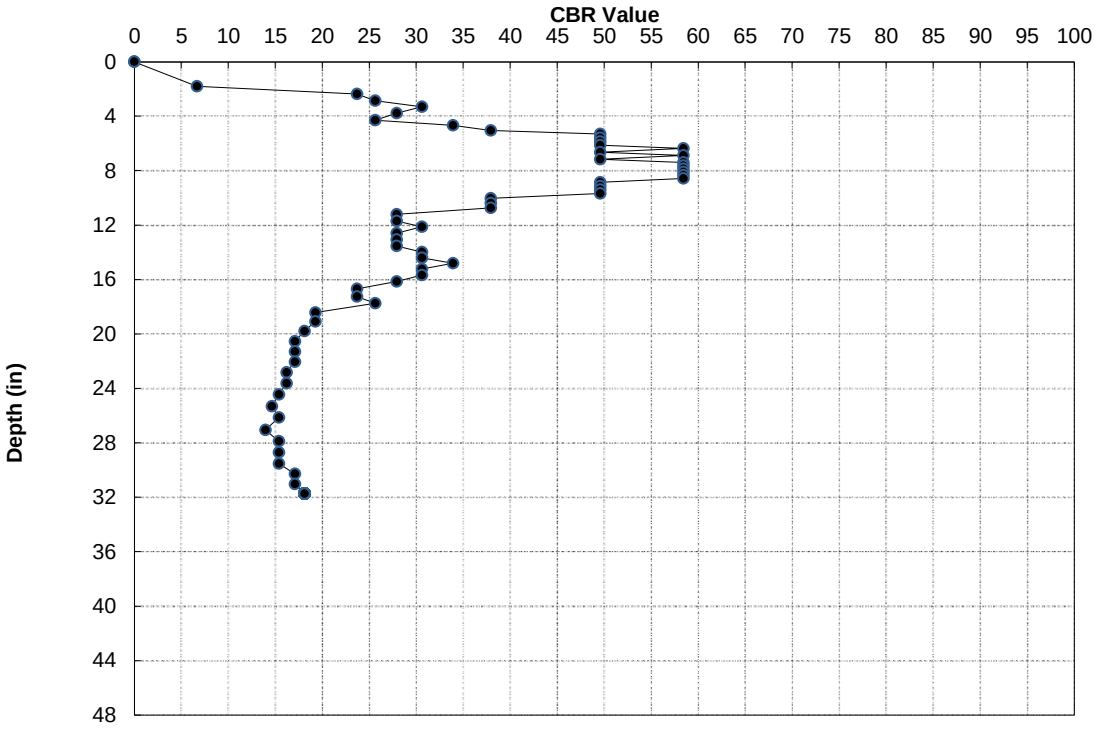
7

-L- 79+20 WB RTL

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 31.7	
# of Values	62
Avg CBR	32.5
Wghtd Avg.	25.6
Max CBR	58.4
Min CBR	6.7



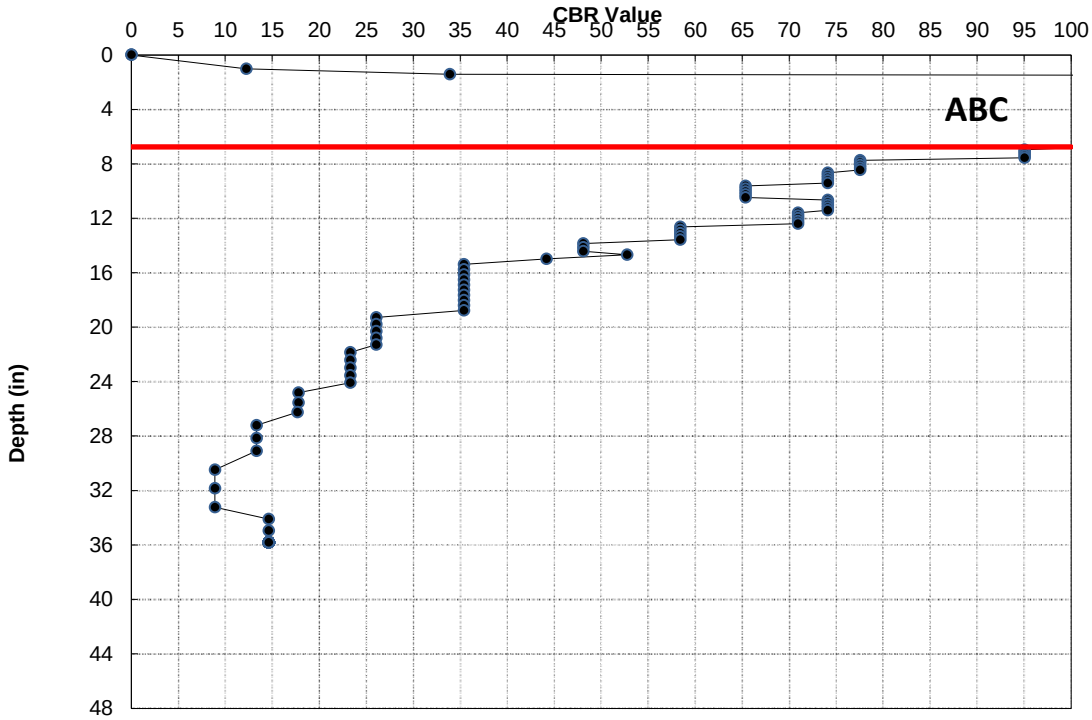
8

-L- 82+40 EB LN

Datum = ABC
RAW
AT GRADE
01/04/22

Interval 0.0 to 6.8	
# of Values	58
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 6.8 to 35.8	
# of Values	72
Avg CBR	49.8
Wghtd Avg.	33.1
Max CBR	95.0
Min CBR	8.9



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 2

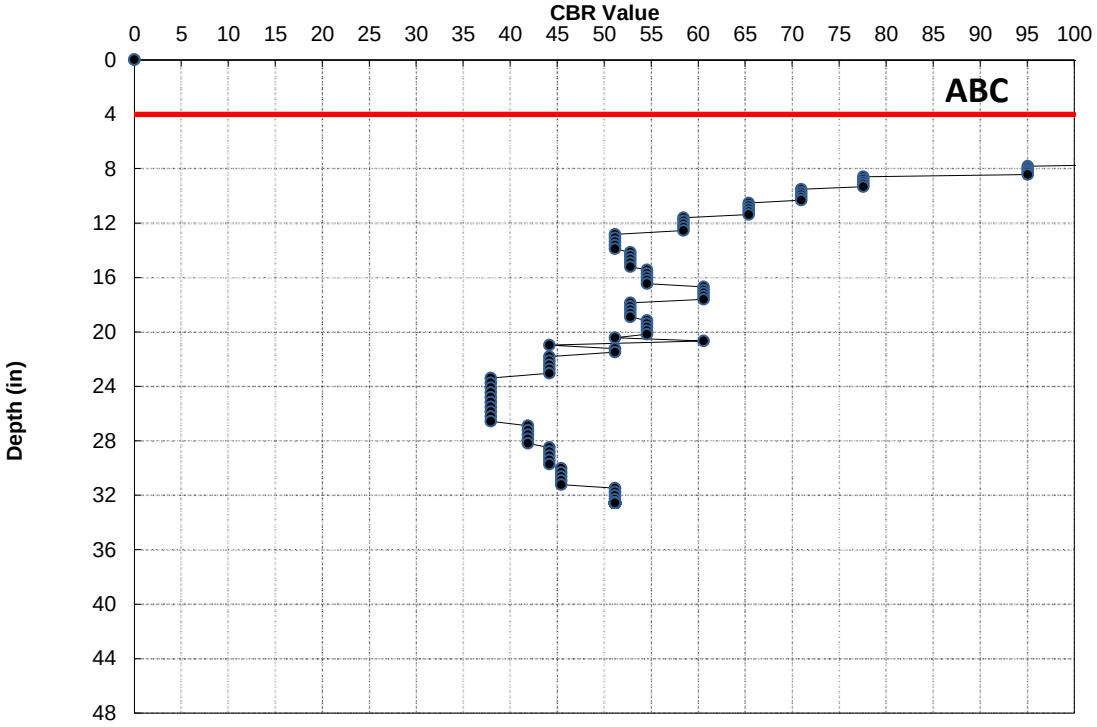
9

-L- 82+40 EB CTL

Datum = ABC
RAW
AT GRADE
01/04/22

Interval 0.0 to 4.0	
# of Values	49
Avg CBR	100+
Wghtd Avg.	100+
Max CBR	100+
Min CBR	0.0

Interval 4.0 to 32.6	
# of Values	137
Avg CBR	91.7
Wghtd Avg.	66.7
Max CBR	100+
Min CBR	37.9



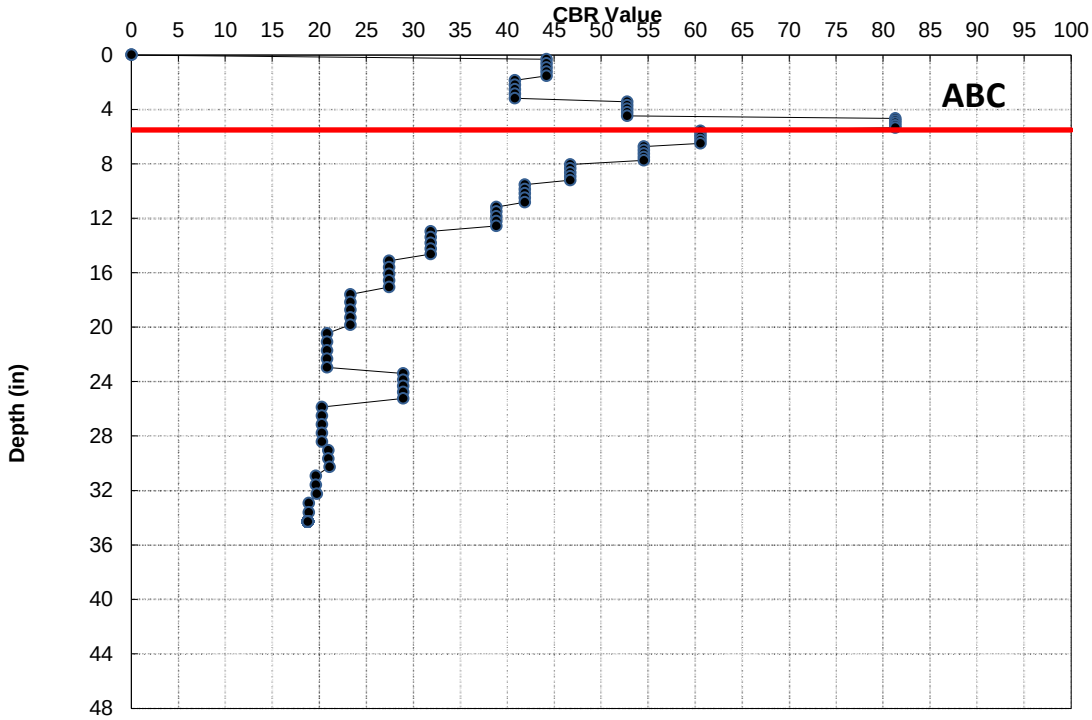
10

-L- 82+40 WB PS

Datum = ABC
RAW
AT GRADE
1/4/2022

Interval 0.0 to 5.6	
# of Values	22
Avg CBR	52.5
Wghtd Avg.	54.1
Max CBR	81.3
Min CBR	0.0

Interval 5.6 to 34.3	
# of Values	63
Avg CBR	33.2
Wghtd Avg.	29.0
Max CBR	60.6
Min CBR	18.8



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 2

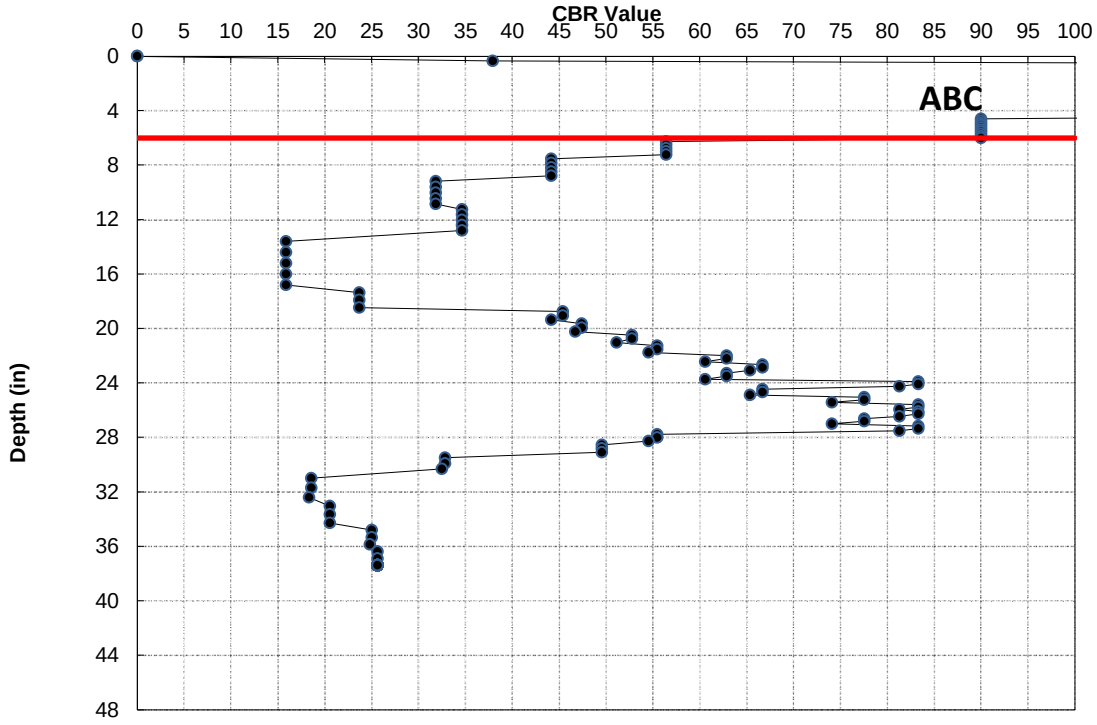
11

-L- 87+05 WB RTL

Datum = ABC
RAW
AT GRADE
01/04/22

Interval 0.0 to 6.0	
# of Values	57
Avg CBR	100+
Wghtd Avg.	100+
Max CBR	100+
Min CBR	0.0

Interval 6.0 to 37.4	
# of Values	91
Avg CBR	49.3
Wghtd Avg.	39.0
Max CBR	83.3
Min CBR	15.8



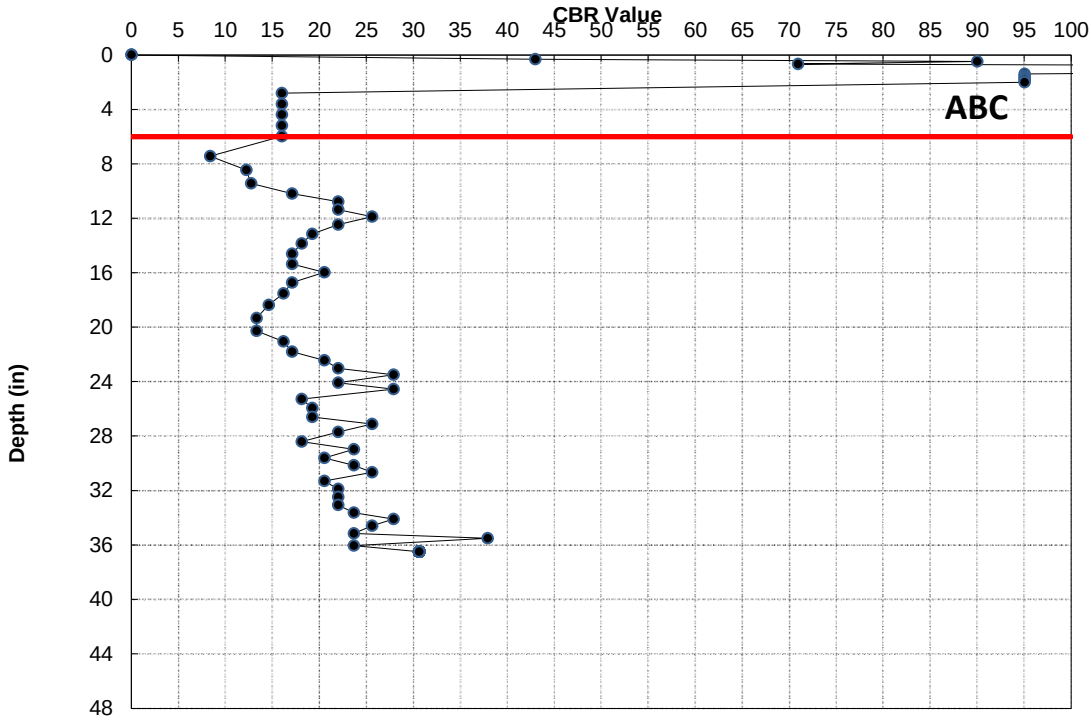
12

-L- 90+70 WB RTL

Datum = ABC
RAW
AT GRADE
01/04/22

Interval 0.0 to 6.0	
# of Values	19
Avg CBR	72.1
Wghtd Avg.	43.0
Max CBR	100+
Min CBR	0.0

Interval 6.0 to 36.5	
# of Values	46
Avg CBR	20.8
Wghtd Avg.	19.4
Max CBR	37.9
Min CBR	8.4



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 2

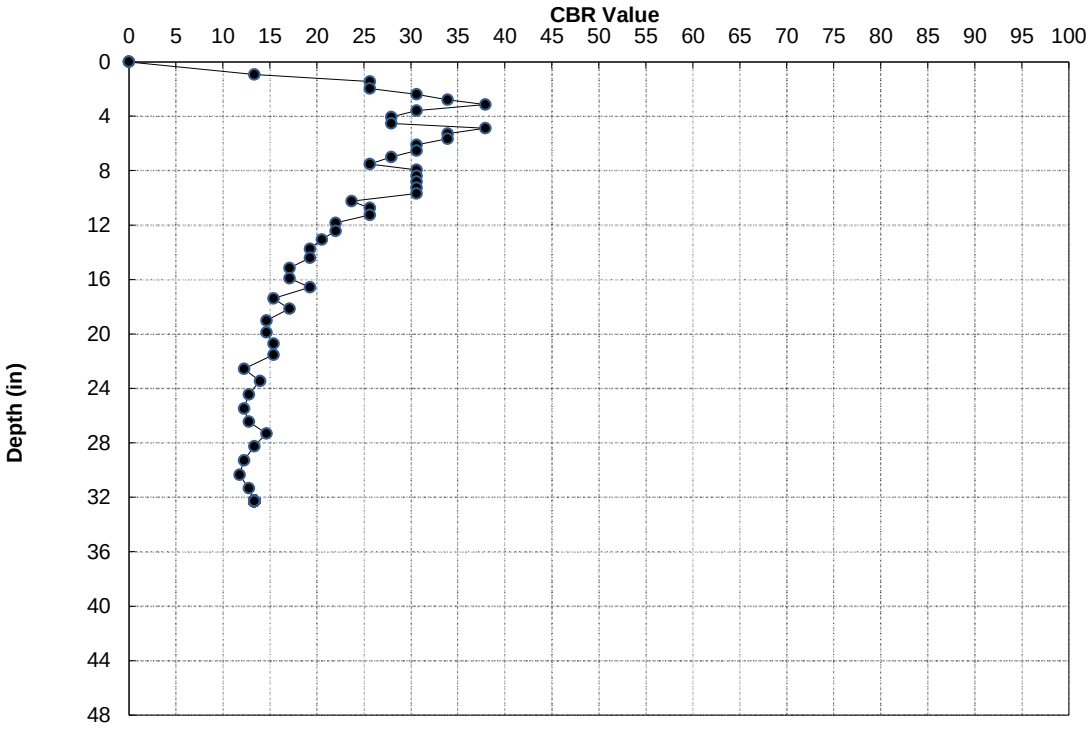
13

-L- 100+95 EB PS

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 32.3	
# of Values	49
Avg CBR	22.3
Wghtd Avg.	19.6
Max CBR	37.9
Min CBR	11.8



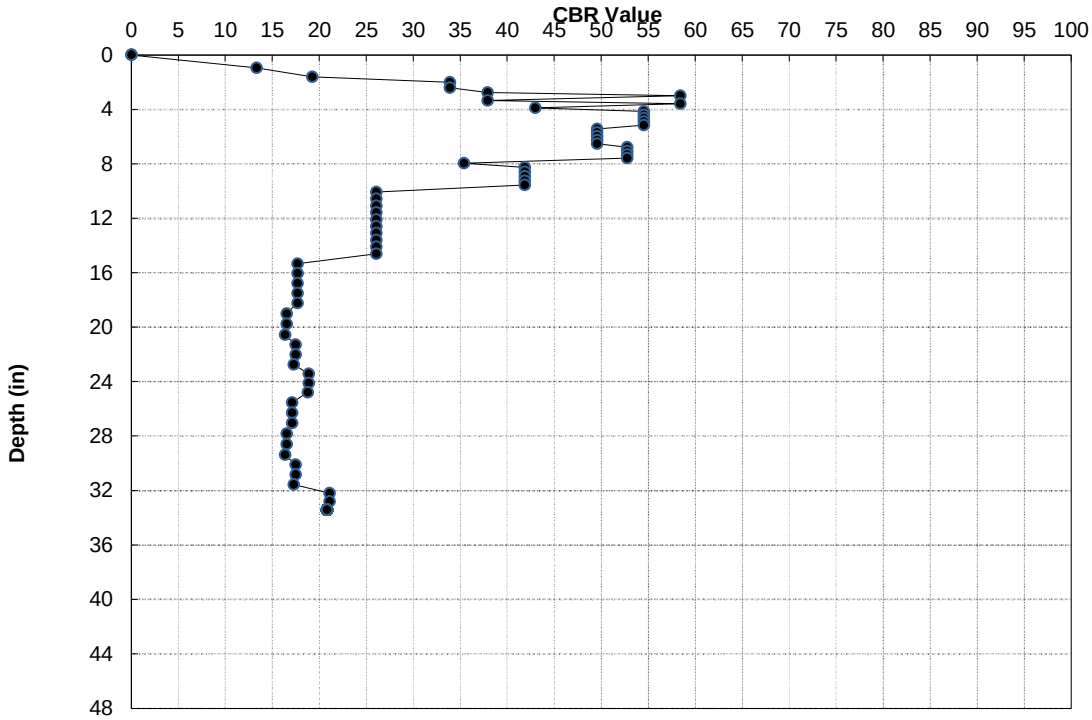
14

-L- 100+95 EB LN

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 33.4	
# of Values	65
Avg CBR	31.3
Wghtd Avg.	25.5
Max CBR	58.4
Min CBR	13.3



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 2

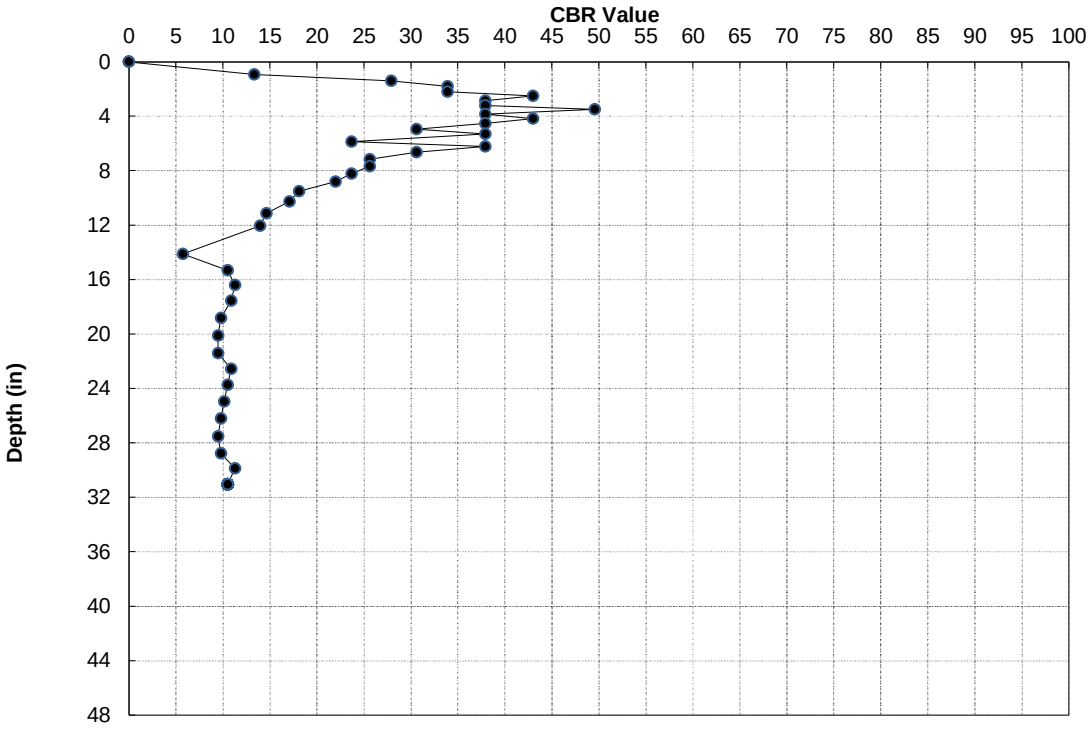
15

-L- 100+95 WB PS

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 31.1	
# of Values	39
Avg CBR	22.2
Wghtd Avg.	16.0
Max CBR	49.6
Min CBR	5.7



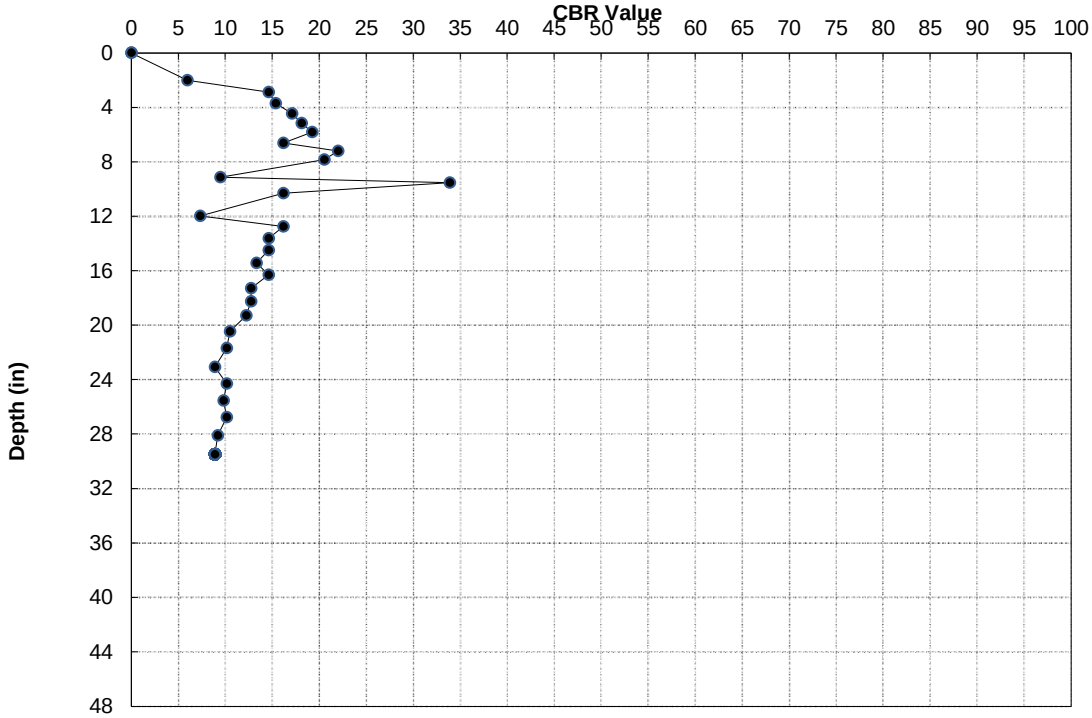
16

-L- 116+35 EB PS

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 29.5	
# of Values	29
Avg CBR	14.0
Wghtd Avg.	12.3
Max CBR	33.9
Min CBR	6.0



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 2

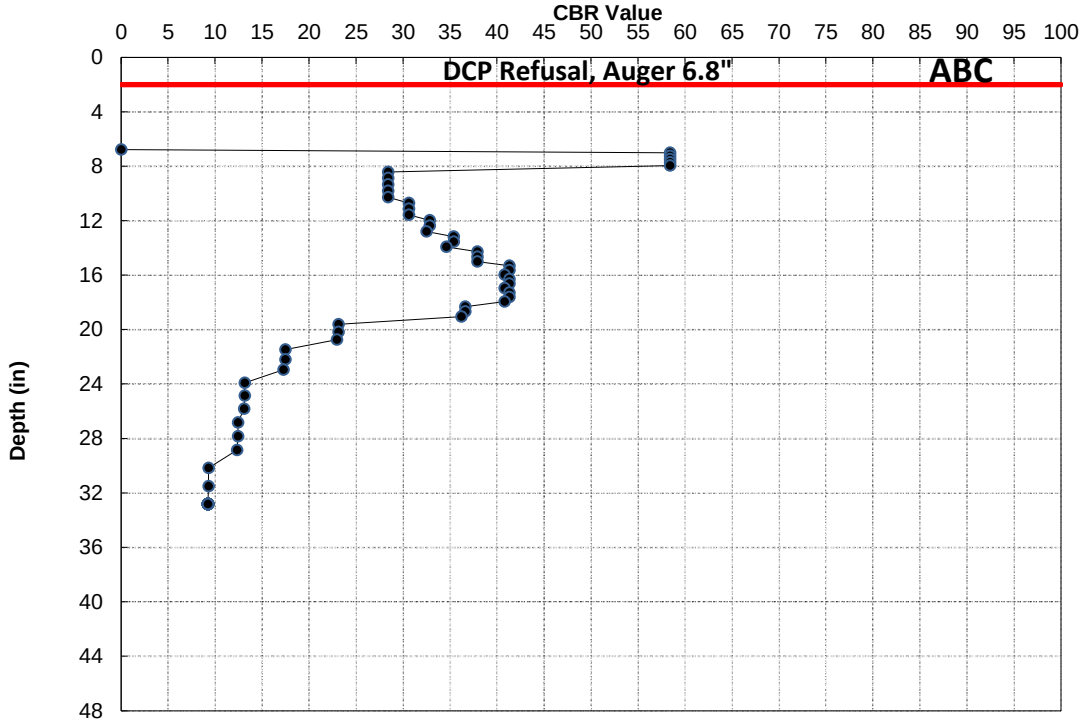
17

-L- 116+35 EB CTL

Datum = ABC
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 6.8 to 32.8	
# of Values	49
Avg CBR	31.6
Wghtd Avg.	24.6
Max CBR	58.4
Min CBR	9.3



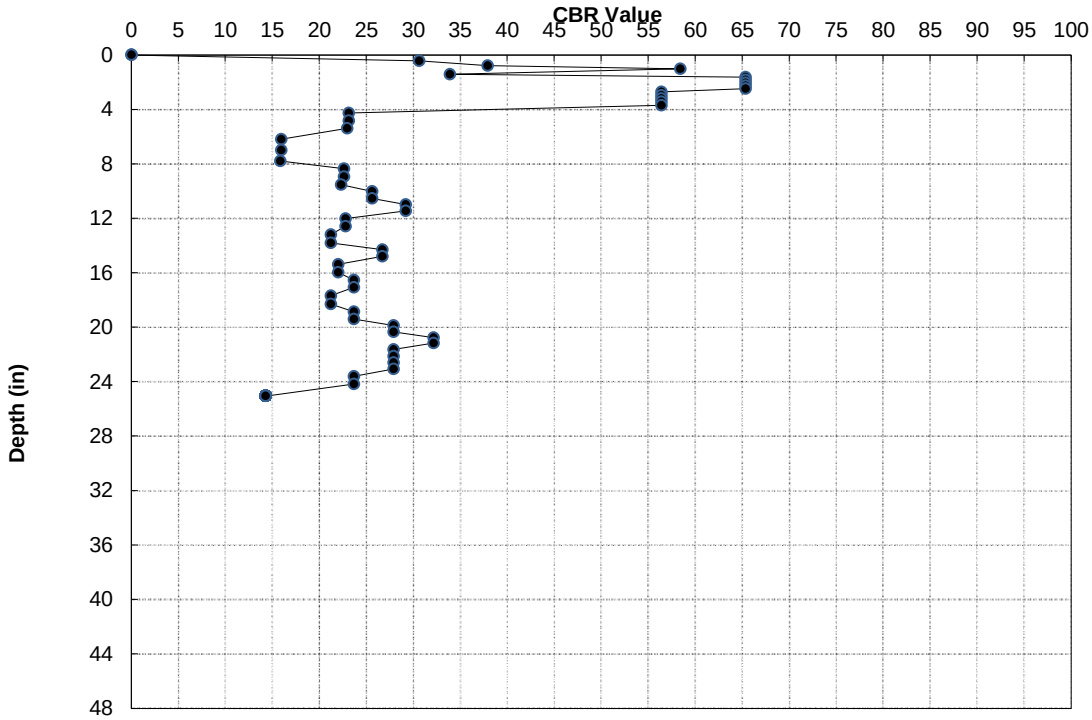
18

-L- 116+35 WB PS

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 25.1	
# of Values	52
Avg CBR	32.3
Wghtd Avg.	27.3
Max CBR	65.4
Min CBR	14.3



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 2

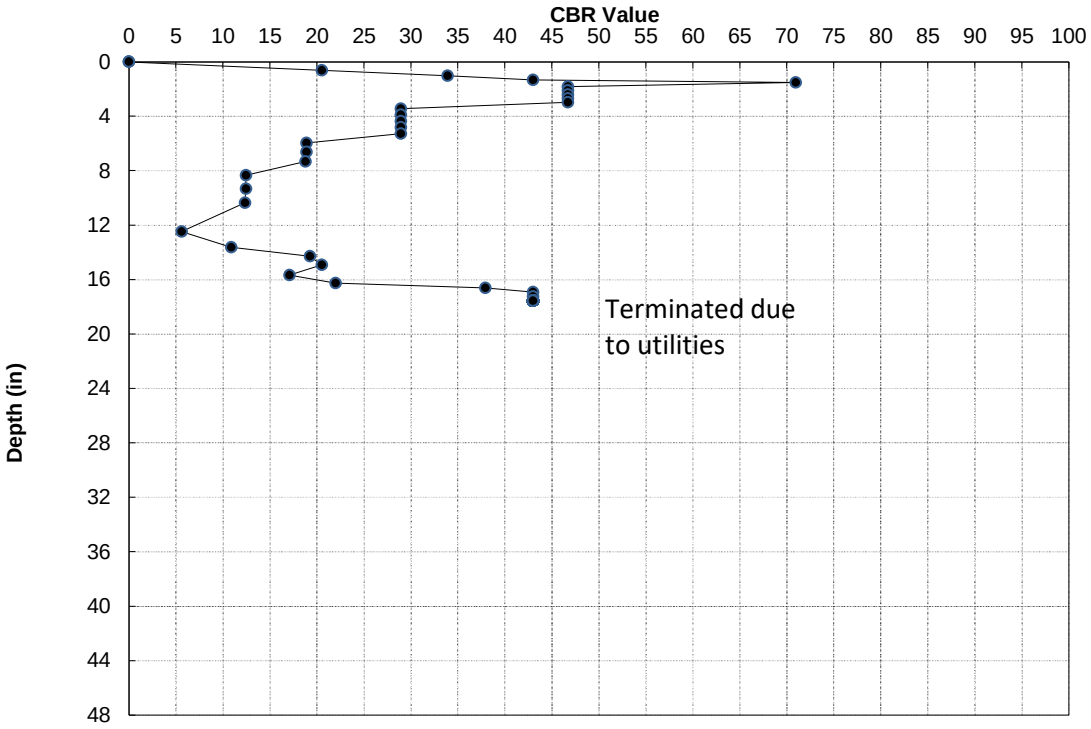
19

-L- 134+95 EB ISL

Datum = SG
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 17.6	
# of Values	30
Avg CBR	30.1
Wghtd Avg.	22.2
Max CBR	70.9
Min CBR	5.6



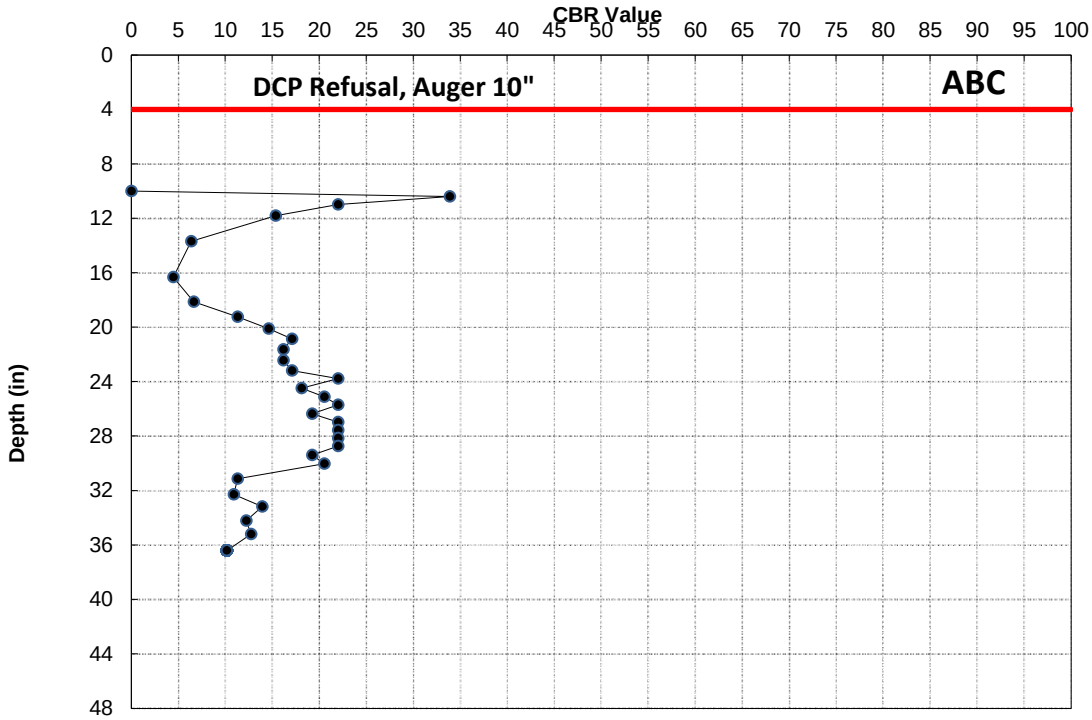
20

-L- 134+95 EB CTL

Datum = ABC
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 10.0 to 36.4	
# of Values	29
Avg CBR	16.6
Wghtd Avg.	13.9
Max CBR	33.9
Min CBR	4.5



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 3

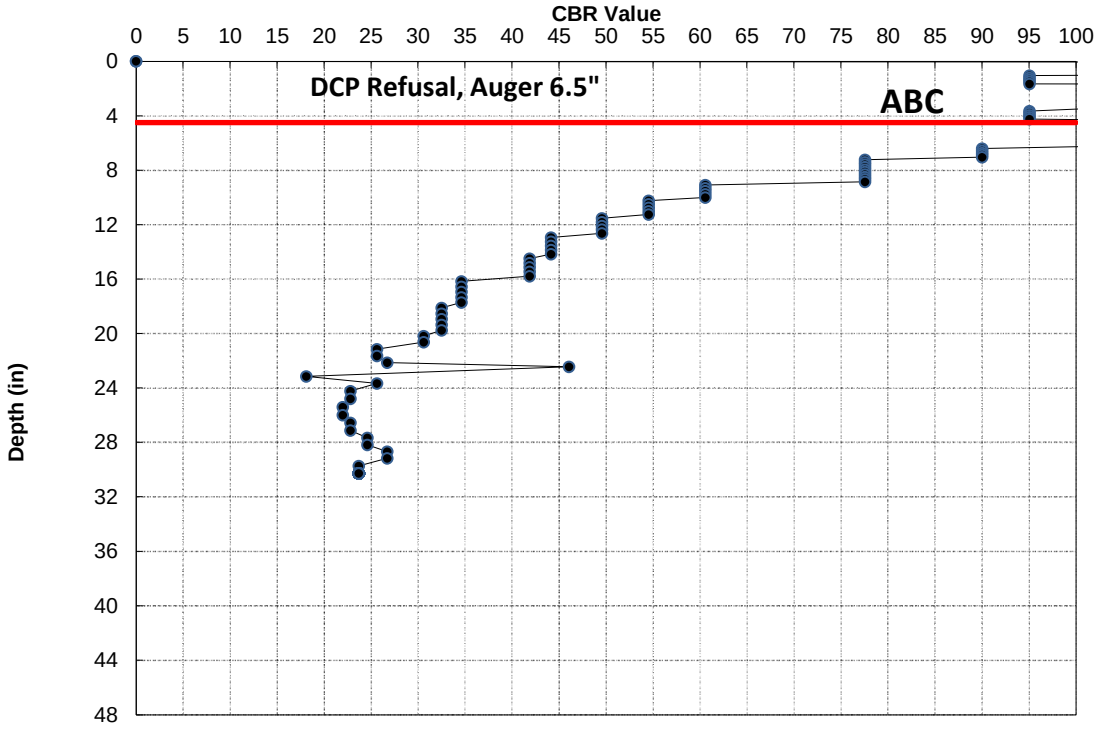
1

-L- 141+30 WB RTL

Datum = ABC
RAW
AT GRADE
01/04/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 6.5 to 30.3	
# of Values	120
Avg CBR	78.3
Wghtd Avg.	54.5
Max CBR	100+
Min CBR	18.1



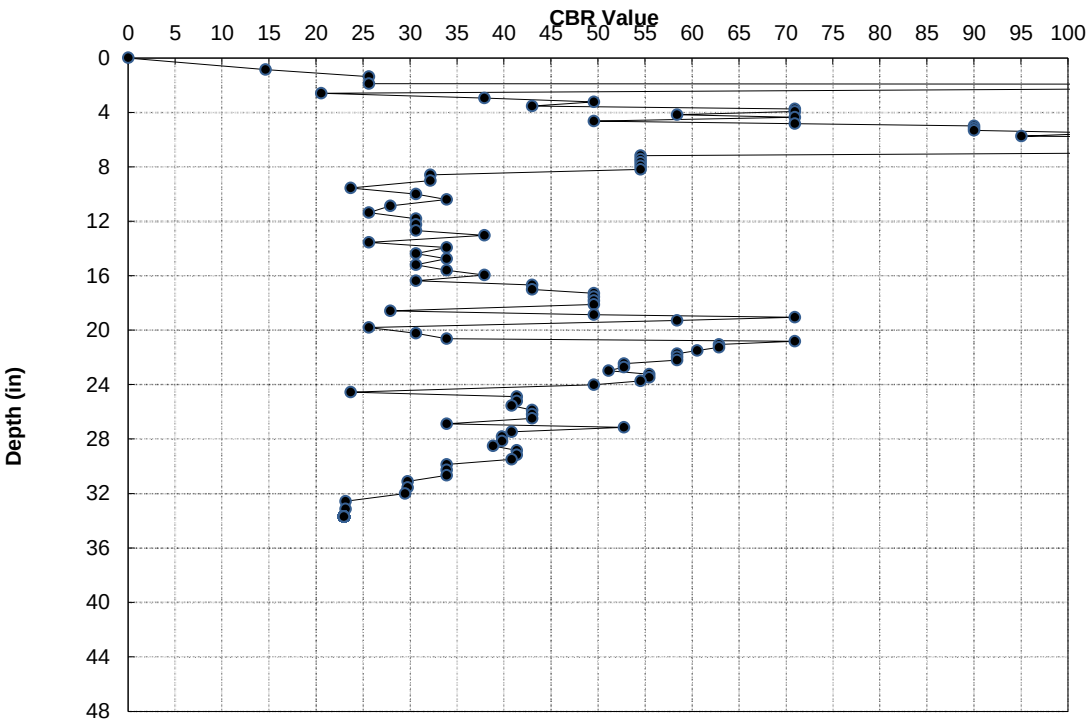
2

-L- 146+55 EB RTL

Datum = SG
RAW
AT GRADE
04/05/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 33.7	
# of Values	106
Avg CBR	54.2
Wghtd Avg.	42.6
Max CBR	100+
Min CBR	14.6



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

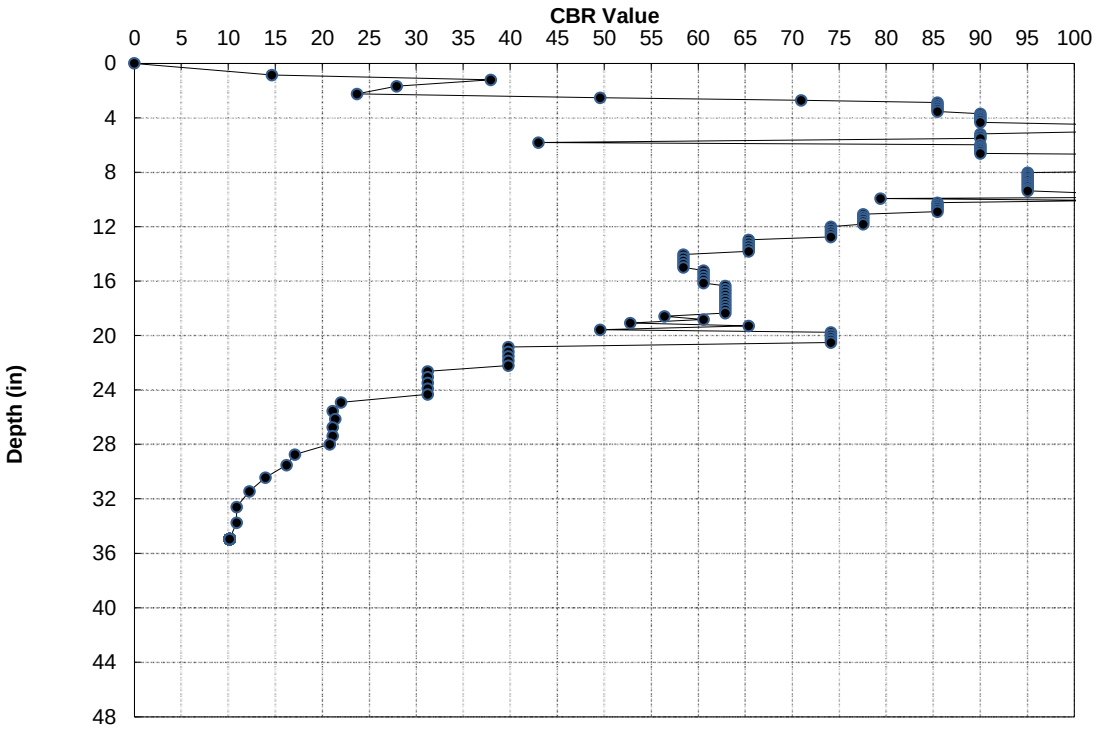
FILE	U6202 DCP Graphs 3

-L- 146+55 EB OSL

Datum = SG
RAW
AT GRADE
04/05/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 35.0	
# of Values	128
Avg CBR	69.9
Wghtd Avg.	50.0
Max CBR	100+
Min CBR	10.1

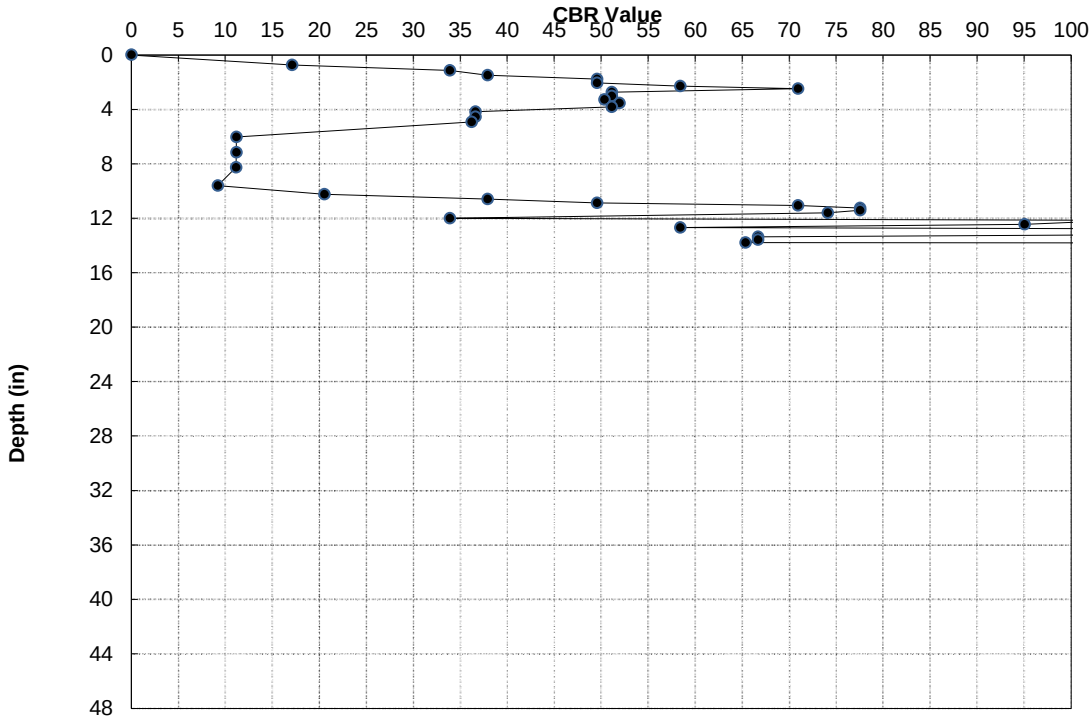


-L- 146+55 EB ISL

Datum = SG
RAW
AT GRADE
04/05/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 17.6	
# of Values	90
Avg CBR	100+
Wghtd Avg.	71.4
Max CBR	100+
Min CBR	9.2



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 3

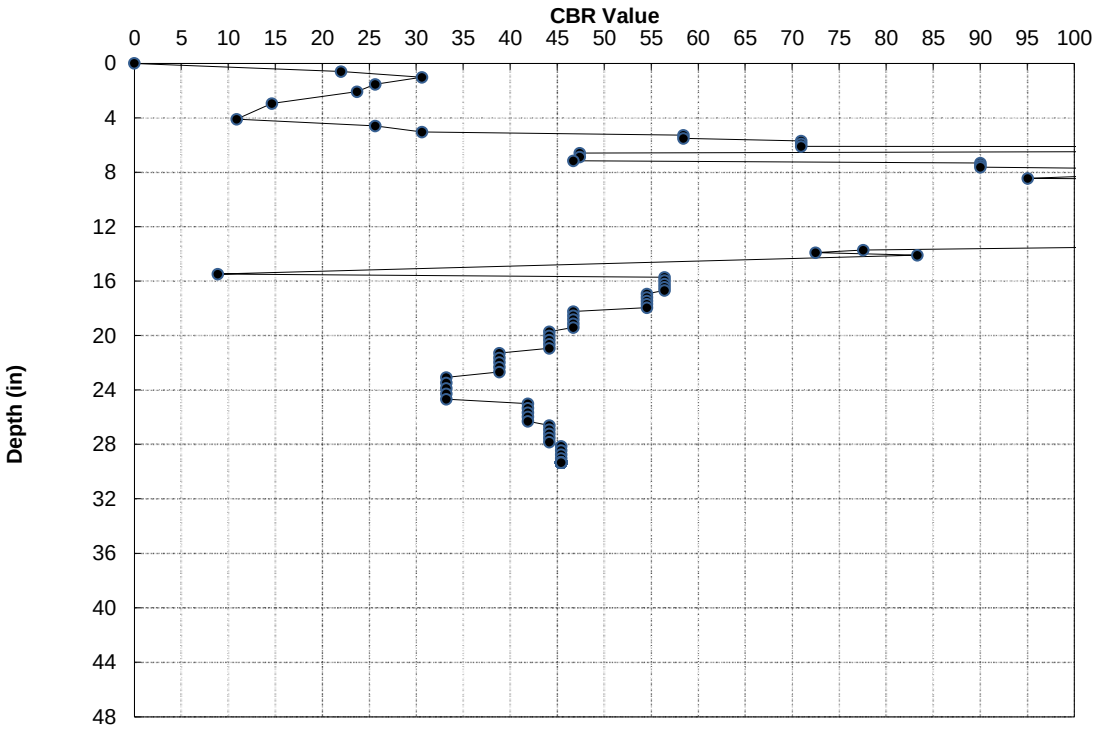
5

-L- 148+65 WB RTL

Datum = SG
RAW
AT GRADE
04/05/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 29.3	
# of Values	119
Avg CBR	80.7
Wghtd Avg.	55.8
Max CBR	100+
Min CBR	8.9



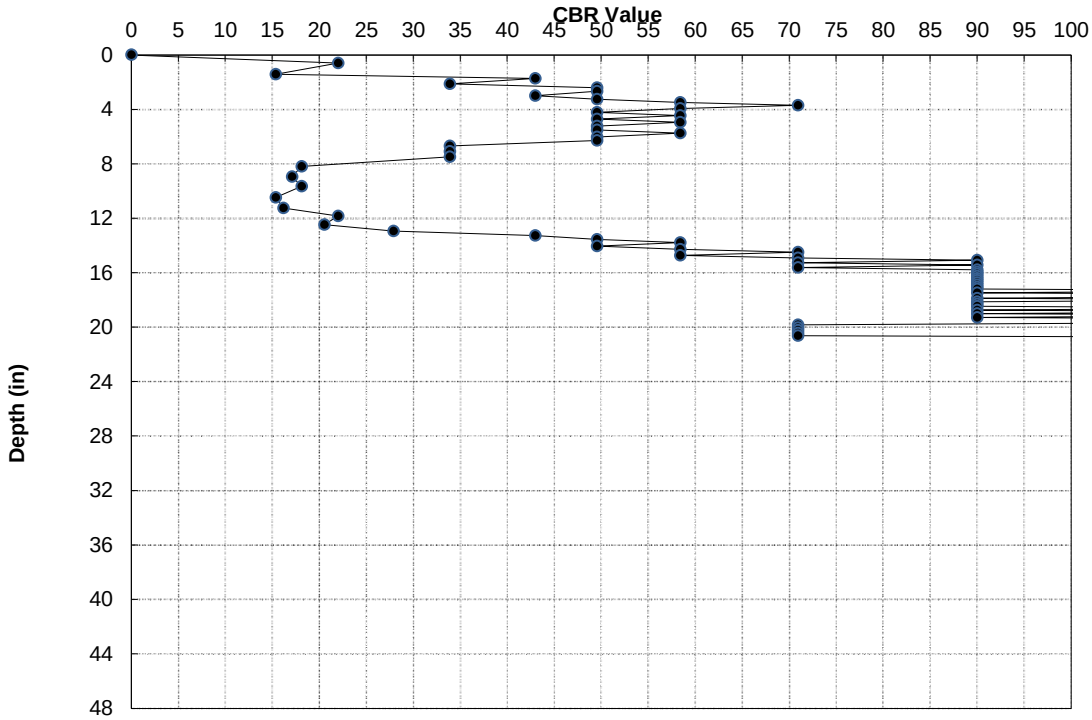
6

-L- 152+55 WB ISL

Datum = SG
RAW
AT GRADE
04/05/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 26.0	
# of Values	126
Avg CBR	97.2
Wghtd Avg.	67.5
Max CBR	100+
Min CBR	15.4



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 3

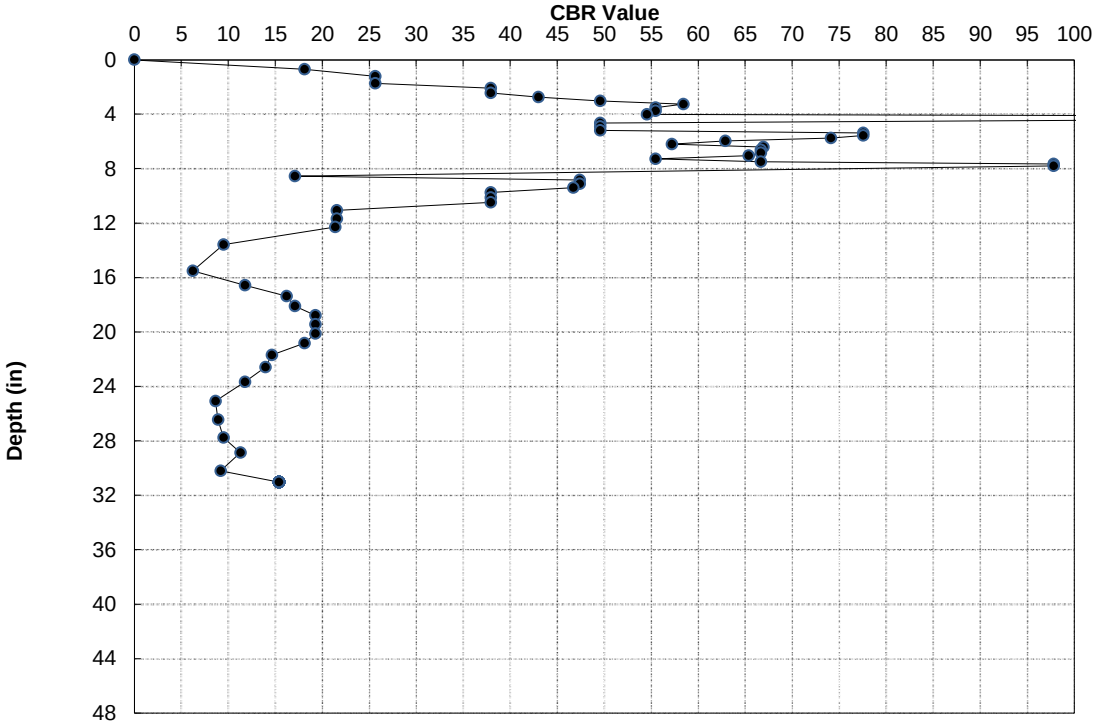
7

-L- 152+55 WB OSL

Datum = SG
RAW
AT GRADE
04/05/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 31.0	
# of Values	58
Avg CBR	42.9
Wghtd Avg.	24.4
Max CBR	100+
Min CBR	6.2



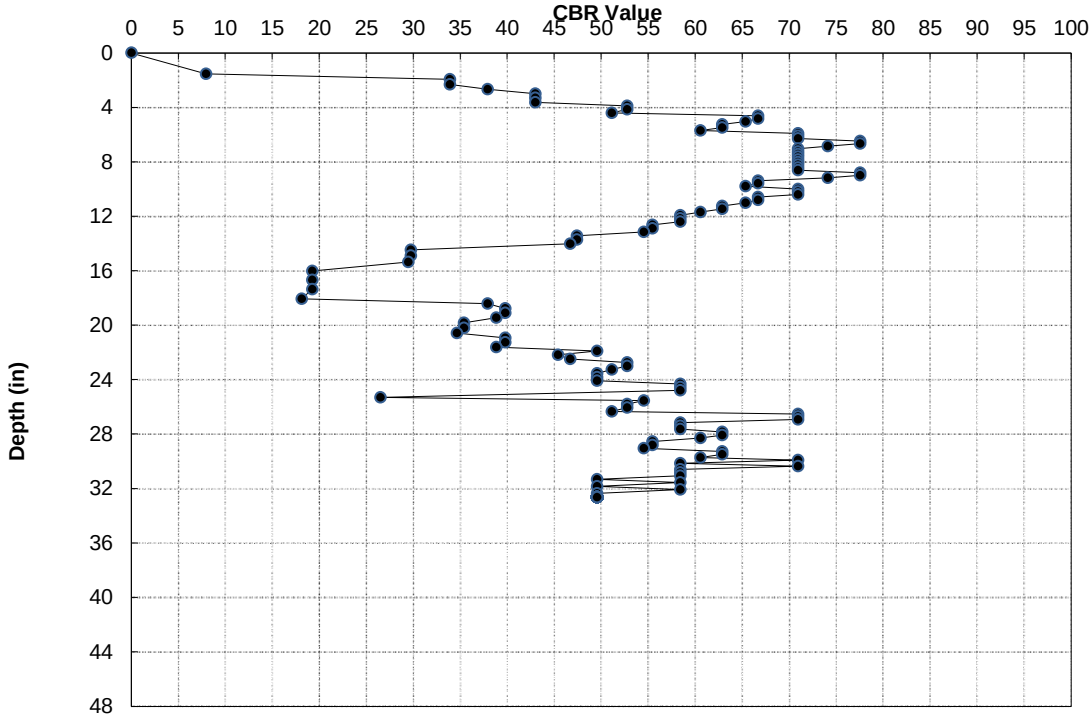
8

-L- 152+55 WB RTL

Datum = SG
RAW
AT GRADE
04/05/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 32.6	
# of Values	116
Avg CBR	55.1
Wghtd Avg.	48.5
Max CBR	77.5
Min CBR	7.9



CONE PENETROMETER RESULTS
NCDOT, GEOTECHNICAL ENGINEERING UNIT

PROJECT NO.	48662.1.1
PROJECT ID	U-6202
ROUTE	SR 2048 from US 17 to I-40
COUNTY	New Hanover

GEOLOGIST	LM Howard
GEOTECHS	SM&E

FILE	U6202 DCP Graphs 3

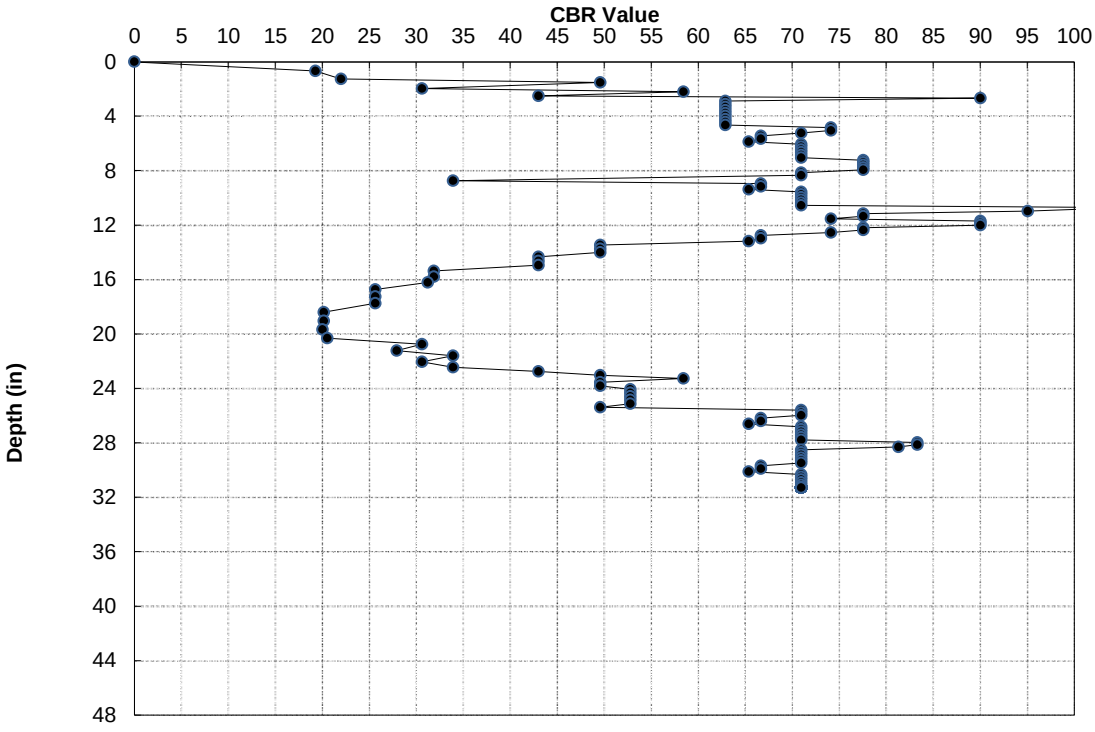
9

-L- 157+50 EB RTL

Datum = SG
RAW
AT GRADE
04/05/22

Interval 0.0 to 0.0	
# of Values	0
Avg CBR	#DIV/0!
Wghtd Avg.	#DIV/0!
Max CBR	0.0
Min CBR	0.0

Interval 0.0 to 31.3	
# of Values	122
Avg CBR	61.6
Wghtd Avg.	53.5
Max CBR	100+
Min CBR	19.2



PAVEMENT CORE EVALUATION

48662.1.1 (U-6202) New Hanover

LINE	STATION	ABC (in)	LAYER THICKNESS (in)	LAYER	LIFT(S)	REMARKS
-L-	14+95 EB PS	-	3.75	S	3	
	8.25" Asphalt		4.50	I	1	
-L-	14+95 WB LN	-	~6.0	S	-	top down crack, rubble, moderate to high oxidation and stripping
	6" Asphalt					
-L-	14+95 WB PS	-	3.00	S	2	
	9" Asphalt		6.00	I	1	low oxidation and stripping
-L-	18+75 WB LN	-	3.50	S	2+	lifts indistinguishable
	12" Asphalt		4.00	I	1	delaminated from base, stripping in bottom inch
			3.50	B	1	
-L-	21+15 EB PS	-	3.00	S	2	Low oxidation between lifts
	11.5" Asphalt		8.50	B	1	
-L-	26+70 WB LTL	8.00	2.25	S	1-2	lifts indistinguishable, low oxidation and bleeding
	4" Asphalt		1.75	B	1	limestone aggregate
-L-	26+70 WB LN	8.00	2.25	S	2?	low oxidation
	4" Asphalt		1.75	B	1	low severity oxidation limestone aggregate
-L-	26+70 WB RTL	9.00	2.50	S	1	low oxidation, moderate bleeding
	4" Asphalt		1.50	B	1	limestone aggregate
-L-	30+80 EB OSL	8.00	2.00	S	1	low oxidation
	4" Asphalt		2.00	B	1	bottom up crack through lift, low severity oxidation, limestone aggregate
-L-	30+80 EB ISL	9.00	2.75	S	2	
	4.75" Asphalt		2.00	B	1	limestone aggregate
-L-	30+80 EB LTL	8.50	2.75	S	2	low oxidation
	5.5" Asphalt		2.75	B	1	limestone aggregate
-L-	34+75 WB RTL PS	-	1.25	S	1	
	10" Asphalt		3.00	I	1	
			3.75	B	1	delaminated from lower surface lift
			1.00	S	1	
			1.00	B	1	
-L-	37+55 EB PS	-	2.00	S	2	
	11" Asphalt		2.50	I	1	delaminated from base
			6.50	B	1	
-L-	40+50 WB LN	-	9.50	S	~6	oxidized, bleeding, lift 1 delaminated, bottom up crack, missing part of core
	11" Asphalt		1.50	SA	1	
-L-	40+50 WB OSL	-	6.25	S	4	moderate bleeding in lower lift
	11.75" Asphalt		5.50	B	1	moderate bleeding, limestone asphalt
-L-	43+10 EB RTL	-	1.50	S	1	bleeding
	20" Asphalt		5.00	I	2	lift 1 and 2 delaminated
			12.00	B	1-2	lifts indistinguishable

PAVEMENT CORE EVALUATION

48662.1.1 (U-6202) New Hanover

LINE	STATION	ABC (in)	LAYER THICKNESS (in)	LAYER	LIFT(S)	REMARKS
-L-	43+10 EB LN	-	5.50	S	3	lifts indistinguishable, oxidized, bleeding, delaminated, last lift rubble
	12" Asphalt		6.50	B	1	moderate bleeding, limestone asphalt
-L-	45+10 WB LN	-	1.75	S	2	
	10" Asphalt		3.00	I	1	delaminated from base
			5.50	B	1	
-L-	45+10 WB RTL	-	5.50	S	4	
	14" Asphalt		4.50	I	1	
			4.00	B	1	base delaminated from upper lift
-L-	60+05 EB LN	-	4.00	S	3	lift 1 oxidized
	9.5" Asphalt		5.50	B	1	limestone asphalt
-L-	63+25 WB LN	-	5.50	S	4	lift 3 &4 moderate oxidation
	10" Asphalt		1.00	SA	1	oxidized, delaminated from lower surface lift
			2.00	S	1	moderate to high oxidation
			1.75	SA	1	oxidized
-L-	63+25 WB RTL	-	7.00	S	4	low oxidation
	10" Asphalt		3.00	B	1	limestone asphalt, low oxidation
-L-	69+20 EB LN (O)	-	3.75	S	3	
	8.75" Asphalt		~5	B	1	half of base broken in bottom up crack, crumbling, missing part of core
-L-	69+20 EB LN	-	5.50	S	~4	1" top down hairline crack, base of core rubble, high severity stripping
	6.5" Asphalt					
-L-	69+20 WB LN	-	5.00	S	3+	
	9.5" Asphalt		1.00	I	1	
			2.00	S	1	
			2.00	B	1	
-L-	76+90 EB PS	-	3.25	S	2	
	8" Asphalt		4.75	B	1	low severity stripping in top 1" of lift
-L-	79+20 WB RTL	-	5.50	S	5	
	10" Asphalt		4.50	B	1	limestone asphalt
-L-	82+40 EB LN	6.75	5.50	S	3	possibly 4 lifts, 2.75" of core indistinguishable and low oxidation
	5.25" Asphalt					
-L-	82+40 EB CTL	4.00	10.50	S	7	lift 7 sandy matrix
	11.5" Asphalt		1.00	MS	1	
-L-	82+40 WB PS	5.50	2.50	S	2	
	6.5" Asphalt		4.00	B	1	moderate to high stripping with missing aggregate
-L-	87+05 WB RTL	6.00	5.00	S	4	low oxidation
	5" Asphalt					
-L-	90+70 WB RTL	6.00	5.00	S	4	low oxidation and stripping in lift 1
	5" Asphalt					

PAVEMENT CORE EVALUATION

48662.1.1 (U-6202) New Hanover

LINE	STATION	ABC (in)	LAYER THICKNESS (in)	LAYER	LIFT(S)	REMARKS
-L-	100+95 EB PS	-	5.00	S	4	low oxidation and stripping at lift boundaries
	9.5" Asphalt		4.50	B	1	lots of small aggregate
-L-	100+95 EB LN	-	9.25	S	5-6	
	9.25" Asphalt					
-L-	100+95 WB PS	-	4.00	S	3	
	9.5" Asphalt		5.50	B	1	low oxidation
-L-	116+35 EB PS	-	3.50	S	3	
	12" Asphalt		8.50	B	2	
-L-	116+35 EB CTL	-	10.00	S	10.00	lift 4 delaminated from lift 5, lift 6 sandy matrix and thin mat seal; lift 4-6 low to moderate oxidation
	10" Asphalt					
-L-	116+35 WB PS	-	4.00	S	3	
	12.5" Asphalt		3.50	I	1	flat and elongated pieces
			4.50	B	1	flat and elongated pieces, some low stripping
-L-	134+95 EB ISL	-	8.50	S	5	low oxidation, last lift sand matrix and delaminated
	8.5" Asphalt					
-L-	134+95 EB CTL	4.00	8.00	S	6	last lift (1.5") sand matrix with .5" mat seal
	8" Asphalt					
-L-	141+30 WB RTL	4.50	7.50	S	5	lift 3 oxidized at bottom
	7.5" Asphalt					
-L-	135+25 EB OSL	7.00	4.25	S	5	Low oxidation, 1" top down crack
	4.25" Asphalt					
-L-	135+25 WBOSS/Wdng	-	2.25	S	2	1st lift missing, low oxidation
	7.25" Asphalt		5.00	B	1	
-L-	146+55 EB RTL	-	4.75	S	4	low oxidation, 1" top down crack
	10.25" Asphalt		5.50	B	1	minor bleeding
-L-	146+55 EB OSL	-	3.00	S	2	2.5" top down crack, half of lift 1 starting to delaminate, moderate oxidation
	11" Asphalt		2.00	I	1	delaminated from lower lift
			5.00	B	1	low to moderate oxidation and bleeding, core is all limestone aggregate
-L-	146+55 EB ISL	8.00	4.50	S	3	moderate oxidation, 3" top down crack
	9.75" Asphalt		1.25	B	1	
			4.00	S	2-3	low severity oxidation, lifts indistinguishable, core is all limestone aggregate
-L-	146+55 EB LTL	-	2.00	S	2	moderate oxidation and stripping, 2.5" top down crack
	12.75" Asphalt		1.50	I/B	1	moderate oxidation and stripping
			7.50	B	6+	moderate oxidation and low severity bleeding. Lift 5 is only 0.5"
			1.5+	I/B	1	
			2+	B	1	stripping, delaminated
-L-	-L- 148+65 WB RTL	-	5.00	S	5	5" top down crack, few lifts indistinguishable, lift 3 delaminating from 4, moderate oxidation & bleeding
	10" Asphalt		5.00	B	1	high bleeding

PAVEMENT CORE EVALUATION

48662.1.1 (U-6202) New Hanover

LINE	STATION	ABC (in)	LAYER THICKNESS (in)	LAYER	LIFT(S)	REMARKS
-L-	152+55 WB ISL	-	3.25	S	2-3	lift 1 low severity and oxidation
	11.5" Asphalt		3.00	I	1	porous limestone aggregate
			5.25	B	1	moderate to high stripping and oxidation
-L-	152+55 WB OSL	-	3.25	S	2-3	
	12" Asphalt		3.25	I	1-2	
			5.50	B	1	limestone aggregate, low to moderate bleeding and stripping
-L-	152+55 WB RTL	-	3.50	S	3	this core is made up of totally different aggregate than the other cores, completely granitic
	8.5" Asphalt		5.00	B	1	
-L-	157+50 EB RTL	-	2.50	S	4	low to moderate stripping and oxidation
	11.25" Asphalt		3.00	I	1	
			6+	B	1	moderate to high stripping and oxidation, missing aggregate, core is all limestone aggregate