STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3159	1	10

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

STRUCTURE SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 38331.1.1 (B-3159) F.A. PROJ. STPNHS-0052(31)

COUNTY DAVIDSON

PROJECT DESCRIPTION BRIDGE NO. 27 OVER US 29-64-70 /I-85 BUS. ON NC 8 /US 52

SITE DESCRIPTION RETAINING WALL #1 & RETAINING WALL #2

ID: B-3159

PROJECT: 38331.1.1

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PERSONNEL

J.K. STICKNEY

C.L. SMITH

INVESTIGATED BY J.E. BEVERLY

CHECKED BY C.B. LITTLE

SUBMITTED BY C.B. LITTLE

DATE APRIL 2014

NORTH CAROLINA LICENSED SEAL 1104 GEOLOGIST CLINTON B. LITTLE

4-30-14

DRAWN BY: J.K. McCLURE

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PROJECT REFERENCE NO.	SHEET NO.
38331.1.1 (B-3159)	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 TO BE THE 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 STANDARD PENETRATION TEST (AASHTO T206, ASTM D-1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. 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											GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
#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			
LIQUID LIMIT	6 MX		NP	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
PLASTIC INDEX				10 MX	10 MX	11 MN	11 MN	10 MX	10 MX	11 MN	11 MN			
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 A 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	N/A
	LOOSE	4 TO 10	
	MEDIUM DENSE	10 TO 30	
	DENSE	30 TO 50	
	VERY DENSE	>50	
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT	<2	<0.25
	SOFT	2 TO 4	0.25 TO 0.50
	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
NONPLASTIC	0-5	VERY LOW
LOW PLASTICITY	6-15	SLIGHT
MED. PLASTICITY	16-25	MEDIUM
HIGH PLASTICITY	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.
UNIFORM - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. (ALSO POORLY GRADED)
GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLES 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 WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.

COMPRESSIBILITY

SLIGHTLY COMPRESSIBLE	LIQUID LIMIT LESS THAN 31
MODERATELY COMPRESSIBLE	LIQUID LIMIT EQUAL TO 31-50
HIGHLY COMPRESSIBLE	LIQUID LIMIT GREATER THAN 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 / DPT / DMT / VST / PMT — TEST BORING
- AUGER BORING
- CORE BORING
- MW — MONITORING WELL
- PIEZOMETER INSTALLATION
- SLOPE INDICATOR INSTALLATION
- CONE PENETROMETER TEST
- SOUNDING ROD
- TEST BORING W/ CORE
- SPT N-VALUE
- REF — SPT REFUSAL

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:
- [ ] MOBILE B-___
- [ ] BK-51
- [ ] CME-45C
- [X] CME-550
- [ ] PORTABLE HOIST
- [ ] _____
- [ ] _____

ADVANCING TOOLS:
- [ ] CLAY BITS
- [ ] 6" CONTINUOUS FLIGHT AUGER
- [X] 8" HOLLOW AUGERS
- [ ] HARD FACED FINGER BITS
- [X] TUNG.-CARBIDE INSERTS
- [X] CASING [X] W/ ADVANCER
- [ ] TRICONE _____" STEEL TEETH
- [X] TRICONE 2 15/16 " TUNG.-CARB.
- [ ] CORE BIT
- [ ] _____

HAMMER TYPE:
- [X] AUTOMATIC [ ] MANUAL

CORE SIZE:
- [ ] -B_____
- [ ] -N_____
- [ ] -H_____

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

ROCK DESCRIPTION

HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT IF TESTED, WOULD YIELD SPT REFUSAL. 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, YIELDS SPT N VALUES > 100 BPF*
VERY SEVERE (V SEV.)	ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT THE MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE SUCH THAT ONLY MINOR VESTIGES OF THE ORIGINAL ROCK FABRIC REMAIN. *IF TESTED, YIELDS 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 FEET
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 THE 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, 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 IN 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: BL-4
16+48.89 -BL- = 14+40.18 -L- 8.70 LT.
N 761415.7978 E 1628499.4195 ELEVATION: 786.98 FT.

NOTES:
SOIL STRATIGRAPHY IS THROUGH THE BORINGS FOR CROSS-SECTIONS.

REVISED 09/23/09

PROJECT REFERENCE NO.	SHEET
38331.1.1 (B-3159)	3

SITE PLAN

0 50 100
FEET

-RPC- PT Sta. 19+08.96

-LPC- CS Sta. 15+16.89

-LPC- SC Sta. 13+36.10

BEGIN BARRIER
-Y- STA. 24+87.00

-L- POT Sta. 10+00.00

-RPC- POT Sta. 21+22.18

-LPC- CS Sta. 11+52.10

-LPC- ST Sta. 17+00.89

BEGIN RETAINING WALL #3 / BEGIN BARRIER
-LPC- STA. 11+50.00
-L- POT Sta. 13+41.72
-Y- POC Sta. 25+44.00
Δ = 89° 37' 49.98"

-Y3- PRC Sta. 14+11.99

-Y-POC Sta. 24+50.00, 36.00' LT
-LPA- PC Sta. 10+00.00
-LPA- CS Sta. 10+04.64

BEGIN RETAINING WALL #2 / BEGIN BARRIER
-LPA- STA. 10+05.00

-Y3- PT Sta. 16+41.52

N 80° 26' 04.3" E

S 86° 48' 32.7" W

N 2° 14' 33.7" W

N 1° 52' 24.5" W

S 88° 25' 03.1" W

S 88° 07' 35.5" W

S 77° 27' 59.7" E

-L- POT Sta. 10+00.00
-Y2- POT Sta. 12+36.06, 14' RT
-Y2- PT Sta. 12+07.25

-L- POT Sta. 10+28.00
-LPC- POT Sta. 17+91.43
-LPC- PC Sta. 10+10.00

END RETAINING WALL #1 / END BARRIER
-Y- STA. 26+25.00
-Y- POC Sta. 26+10.00, 36.00' RT
-LPC- POT Sta. 10+00.00

END BARRIER
-Y- STA. 25+95.00

-L- POT Sta. 16+97.67
-LPA- POT Sta. 19+35.77

END RETAINING WALL #2 / END BARRIER
-LPA- STA. 11+75.00
-LPA- SRS Sta. 11+88.64

-LPA- ST Sta. 18+42.95

END BARRIER
-Y- STA. 25+95.00

-LPA- SC Sta. 13+72.64

DAVID GERALD HUNT
AND WIFE
MARTHA MANNING HUNT
DB 10[illegible] PG 183
PB [illegible] PG 21

A

WINSTON ROAD / NC 8

TO LEXINGTON DOWNTOWN

TO WINSTON-SALEM

BRIDGE #2 CONC AND STEEL

B-1 B-2 EB1-C EB1-B EB2-C EB2-B

US 29 / 70 BUS 85 NBL
TOP=767.93'
INV=762.02'

US 29 / 70 BUS 85 SBL
TO SALISBURY

TO THOMASVILLE

TO POSSIBLE JB

ABANDONED

TEMPLE ST

NAD 83/NSRS 2007 NC GRID

EXISTING R/W

CONC CURB

BREATHER

AIR COMPRESSOR

RECYCLED OIL

8' BLK WALL

15 BLK BUS

4 BK BUS

PROJECT REFERENCE NO.	SHEET
38331.1.1 (B-3159)	4

Section Through End Bent One
Sta. 12+66.97 -L- (W.P. #1)
Skew = 89°37'50"

0 10 20
FEET

800
790
780
770
760
750
740
730
720

SS-1
SS-2
B-1
12+67 -L-
76.0 LT.
ELEV. 777.5

GROUND SURFACE

ROADWAY EMBANKMENT (FILL)

TAN-YELLOW-WHITE MED. STIFF MOIST SANDY SILTY CLAY (A-6)

5

RESIDUAL

9

CAVED 05/10

TAN-BRN-GRAY LOOSE TO MED. DENSE MOIST CLAYEY SILTY SAND (A-2)

11

27

GRAY-WHITE V. STIFF TO HARD MOIST CLAYEY SANDY SILT (A-4)

36

100/.8

WEATHERED ROCK
SEVERELY WEATHERED CRYSTALLINE ROCK

100/.8

100/.7

100

50

BT

GRAY-WHITE HARD MOIST CLAYEY SANDY SILT (A-4) (W/HARD & SOFT LAYERS)

SS-22
EB1-C
12+68 -L-
16.0 RT.
ELEV. 778.1

RESIDUAL

BRN-GRAY V. STIFF MOIST CLAYEY SANDY SILT (A-5) W/SOME MICA.

18

17

BRN-WHITE MED. DENSE TO V. DENSE MOIST MICA. SILTY SAND (A-2-4)

52

02/14

100/.7

WEATHERED ROCK
BRN-WHITE, SEV. WEATH. CRYSTALLINE ROCK

AR

CRYSTALLINE ROCK

SS-9
SS-10
SS-11
EB1-B
12+68 -L-
42.0 RT.
ELEV. 775.8

BRN-GRAY MED. STIFF MOIST LOW PLASTIC CLAYEY SANDY SILT (A-5) W/SOME MICA.

5 (PI=0)

CAVED 03/14

7

TAN-BRN-WHITE STIFF TO MED. STIFF MOIST LOW PLASTIC SILTY SANDY CLAY (A-7-6) W/SOME MICA.

9 (PI=12)

6

8

GRAY-WHITE V. STIFF MOIST SANDY SILT (A-4)

23

100/.1

AR

CRYSTALLINE ROCK

90 80 70 60 50 40 30 20 10 0 10 20 30 40 50

PROJECT REFERENCE NO.	SHEET
38331.1.1 (B-3159)	5

Section Through End Bent Two
Sta. 14+17.14 -L- (W.P. #3)
Skew = 89°37'50"

0 10 20
FEET

800
790
780
770
760
750
740
730
720
710

70 60 50 40 30 20 10 0 10 20 30 40 50 60

SS-3
SS-4

B-2
14+07 -L-
6.0 LT.
ELEV. 776.4

EB2-C
14+16 -L-
17.0 RT.
ELEV. 777.1

SS-23
SS-24
SS-25

EB2-B
14+16 -L-
46.0 RT.
ELEV. 776.6

GROUND SURFACE

ROADWAY EMBANKMENT (FILL)

TAN-YELLOW-WHITE STIFF
MOIST SANDY SILTY CLAY (A-6)

RESIDUAL

14
8
16
16
24
32

05/10

TAN-BRN-GRAY LOOSE TO DENSE MOIST
SOME MICA, CLAYEY SILTY SAND (A-2)

WEATHERED ROCK
SEVERELY WEATHERED
CRYSTALLINE ROCK

100/.9
100/.8
100/.8

BT
NM
(5/13/10)

3
7
9
10
9
13
24
45
71
100/.8
100
100/.6

RESIDUAL

CAVED
03/14

TAN-BRN-GRAY &
GRAY-GREEN-TAN W/BLK MODELING
SOFT TO STIFF MOIST TO WET
SANDY SILTY CLAY (A-7)

TAN-ORANGE-WHITE
STIFF TO HARD
MOIST TO WET
SANDY SILT (A-4)

02/14

WEATHERED ROCK
TAN-ORANGE-WHITE
SEV. WEATHERED
CRYSTALLINE ROCK

BT

3 (PI=22)
5
9
16 (PI=14)
16
19
11
84

RESIDUAL

02/14

TAN-BRN-GRAY
SOFT TO V. STIFF
MOIST TO WET
MED. TO LOW PLASTIC
SANDY SILTY CLAY (A-7-5)
W/BLACK MODELING @ 18.5

TAN-ORANGE-WHITE
HARD MOIST SANDY
SILT (A-4)

AR

CRYSTALLINE ROCK

NCDOT GEOTECHNICAL ENGINEERING UNIT
BORELOG REPORT

WBS 38331.1.1	**TIP** B-3159	**COUNTY** DAVIDSON	**GEOLOGIST** Stickney, J. K.	
SITE DESCRIPTION BRIDGE NO. 027 OVER US 29-64-70 / I-85 BUS. ON NC 8 / US 52				**GROUND WTR (ft)**
BORING NO. B-1	**STATION** 12+67	**OFFSET** 76 ft LT	**ALIGNMENT** -L-	**0 HR.** NM
COLLAR ELEV. 777.5 ft	**TOTAL DEPTH** 50.7 ft	**NORTHING** 761,241	**EASTING** 1,628,438	**24 HR.** CV@13.0
DRILL RIG/HAMMER EFF./DATE CME-550X		**DRILL METHOD** NW Casing w/ Advancer/ SPT	**HAMMER TYPE** Automatic	
DRILLER Smith, C. L.	**START DATE** 05/11/10	**COMP. DATE** 05/11/10	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
780										777.5 GROUND SURFACE 0.0
										ROADWAY EMBANKMENT TAN-YELLOW-WHITE MED. STIFF MOIST SANDY SILTY CLAY (A-6)
775	773.3	4.2	2	2	3	5		M		
770	768.3	9.2	2	4	5	9	SS-1	M		768.3 9.2 **RESIDUAL** TAN-BRN-GRAY LOOSE TO MED. DENSE MOIST CLAYEY SILTY SAND (A-2)
765	763.3	14.2	4	5	6	11		M		
760	758.3	19.2	8	12	15	27	SS-2	M		759.5 18.0 **RESIDUAL** GRAY-WHITE V. STIFF TO HARD MOIST CLAYEY SANDY SILT (A-4)
755	753.3	24.2	9	15	21	36		M		
750	748.3	29.2	50	50/.3		100/.8		M		748.3 29.2 **WEATHERED ROCK** SEVERELY WEATHERED CRYSTALLINE ROCK
745	743.3	34.2	42	58/.3		100/.8		M		
740	738.3	39.2	35	65/.2		100/.7		M		
735	733.3	44.2	29	37	63/.5	100		M		
730	728.3	49.2	8	25	25	50		M		729.5 48.0 **RESIDUAL** GRAY-WHITE HARD MOIST CLAYEY SANDY SILT (A-4) (W/ HARD & SOFT LAYERS) 726.8 50.7

Boring Terminated at Elevation 726.8 ft IN GRAY-WHITE HARD MOIST CLAYEY SANDY SILT (A-4)

BORING ELEVATION OBTAINED FROM THE B3159_LS_TIN.TIN FILE.

WBS 38331.1.1	**TIP** B-3159	**COUNTY** DAVIDSON	**GEOLOGIST** Stickney, J. K.	
SITE DESCRIPTION BRIDGE NO. 027 OVER US 29-64-70 / I-85 BUS. ON NC 8 / US 52				**GROUND WTR (ft)**
BORING NO. EB1-C	**STATION** 12+68	**OFFSET** 16 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 778.1 ft	**TOTAL DEPTH** 21.2 ft	**NORTHING** 761,245	**EASTING** 1,628,530	**24 HR.** 16.1
DRILL RIG/HAMMER EFF./DATE HFO0072 CME-550 88% 03/19/2014		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER Smith, C. L.	**START DATE** 02/25/14	**COMP. DATE** 02/25/14	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
780										778.1 GROUND SURFACE 0.0
										RESIDUAL BRN-GRAY V. STIFF MOIST CLAYEY SANDY SILT (A-5) W/ SOME MICA.
775	774.8	3.3	6	8	10	18		M		
770	769.8	8.3	3	7	10	17	SS-22	M		771.1 7.0 **RESIDUAL** BRN-WHITE MED. DENSE TO V. DENSE MOIST MICA. SILTY SAND (A-2-4)
765	764.8	13.3	15	21	31	52		M		
760	759.8	18.3	26	74/0.2		100/.7				759.8 18.3 **WEATHERED ROCK** BRN-WHITE SEV. WEATH. CRYSTALLINE ROCK 756.9 21.2

Boring Terminated BY AUGER REFUSAL at Elevation 756.9 ft ON CRYSTALLINE ROCK

NCDOT GEOTECHNICAL ENGINEERING UNIT
BOREHOLE REPORT

WBS 38331.1.1	**TIP** B-3159	**COUNTY** DAVIDSON	**GEOLOGIST** Stickney, J. K.	
SITE DESCRIPTION BRIDGE NO. 027 OVER US 29-64-70 / I-85 BUS. ON NC 8 / US 52				**GROUND WTR (ft)**
BORING NO. EB1-B	**STATION** 12+68	**OFFSET** 42 ft RT	**ALIGNMENT** -L-	**0 HR.** Dry
COLLAR ELEV. 775.8 ft	**TOTAL DEPTH** 33.4 ft	**NORTHING** 761,245	**EASTING** 1,628,556	**24 HR** Caved @ 6.1
DRILL RIG/HAMMER EFF./DATE HFO0072 CME-550 88% 03/19/2014		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER Smith, C. L.	**START DATE** 02/25/14	**COMP. DATE** 02/25/14	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
780										
775										775.8 GROUND SURFACE 0.0
	772.6	3.2	1	2	3	5	SS-9	M		**RESIDUAL** BRN-GRAY MED. STIFF MOIST LOW (PI=10) PLASTIC CLAYEY SANDY SILT (A-5) W/ SOME MICA.
770										
	767.6	8.2	2	3	4	7		M		
765										763.8 12.0
	762.6	13.2	2	3	6	9	SS-10	M		**RESIDUAL** TAN-BRN-WHITE STIFF TO MED. STIFF MOIST LOW (PI=12) PLASTIC SILTY SANDY CLAY (A-7-5) W/ SOME MICA.
760										
	757.6	18.2	2	3	3	6		M		
755										
	752.6	23.2	2	3	5	8		M		
750										748.8 27.0
	747.6	28.2	2	6	17	23	SS-11	M		**RESIDUAL** GRAY-WHITE V. STIFF MOIST SANDY SILT (A-4)
745										742.8 33.0
	742.6	33.2	100/0.1			100/.1				742.4 33.4 **CRYSTALLINE ROCK**
										Boring Terminated BY AUGER REFUSAL at Elevation 742.4 ft IN CRYSTALLINE ROCK

WBS 38331.1.1	**TIP** B-3159	**COUNTY** DAVIDSON	**GEOLOGIST** Stickney, J. K.	
SITE DESCRIPTION BRIDGE NO. 027 OVER US 29-64-70 / I-85 BUS. ON NC 8 / US 52				**GROUND WTR (ft)**
BORING NO. B-2	**STATION** 14+07	**OFFSET** 6 ft LT	**ALIGNMENT** -L-	**0 HR.** 11.5
COLLAR ELEV. 776.4 ft	**TOTAL DEPTH** 45.2 ft	**NORTHING** 761,383	**EASTING** 1,628,503	**24 HR.** NM
DRILL RIG/HAMMER EFF./DATE CME-550X		**DRILL METHOD** NW Casing w/ Advancer/ SPT	**HAMMER TYPE** Automatic	
DRILLER Smith, C. L.	**START DATE** 05/13/10	**COMP. DATE** 05/13/10	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
780										
775										776.4 GROUND SURFACE 0.0
	772.0	4.4	4	6	8	14	SS-3	M		**ROADWAY EMBANKMENT** TAN-YELLOW-WHITE STIFF MOIST SANDY SILTY CLAY (A-6)
770										768.0 8.4
	767.0	9.4	2	3	5	8	SS-4	M		**RESIDUAL** TAN-BRN-GRAY LOOSE TO DENSE MOIST SOME MICA. CLAYEY SILTY SAND (A-2)
765										
	762.0	14.4	4	6	10	16		M		
760										
	757.0	19.4	3	8	8	16		M		
755										
	752.0	24.4	8	10	14	24		M		
750										
	747.0	29.4	8	13	19	32		M		745.4 31.0 **WEATHERED ROCK** SEVERELY WEATHERED CRYSTALLINE ROCK
745										
	742.0	34.4	20	47	53/.4	100/.9		D		
740										
	737.0	39.4	33	49	51/.3	100/.8		D		
735										
	732.0	44.4	61	39/.3		100/.8		D		731.2 45.2
										Boring Terminated at Elevation 731.2 ft IN SEVERELY WEATHERED CRYSTALLINE ROCK
										BORING ELEVATION OBTAINED FROM THE B3159_LS_TIN.TIN FILE.

NCDOT GEOTECHNICAL ENGINEERING UNIT
BOREHOLE REPORT

WBS 38331.1.1	**TIP** B-3159	**COUNTY** DAVIDSON	**GEOLOGIST** Stickney, J. K.	
SITE DESCRIPTION BRIDGE NO. 027 OVER US 29-64-70 / I-85 BUS. ON NC 8 / US 52				**GROUND WTR (ft)**
BORING NO. EB2-C	**STATION** 14+16	**OFFSET** 17 ft RT	**ALIGNMENT** -L-	**0 HR.** 39.0
COLLAR ELEV. 777.1 ft	**TOTAL DEPTH** 59.0 ft	**NORTHING** 761,392	**EASTING** 1,628,526	**24 HR** Caved @ 8.4
DRILL RIG/HAMMER EFF./DATE HFO0072 CME-550 88% 03/19/2014		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER Smith, C. L.	**START DATE** 02/28/14	**COMP. DATE** 02/28/14	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
780										777.1 GROUND SURFACE 0.0
										RESIDUAL
775	773.7	3.4	1	2	1	3		M		TAN-BRN-GRAY & GRAY-GREEN-TAN W/ BLK MODELING SOFT TO STIFF MOIST TO WET SANDY SILTY CLAY (A-7)
770	768.7	8.4	2	3	4	7		M		
765	763.7	13.4	2	4	5	9		M		
760	758.7	18.4	3	4	6	10		M/W		
755	753.7	23.4	4	4	5	9		M/W		
750	748.7	28.4	3	5	8	13		M/W		750.1 27.0 **RESIDUAL** TAN-ORANGE-WHITE STIFF TO HARD MOIST TO WET SANDY SILT (A-4)
745	743.7	33.4	7	10	14	24		M/W		
740	738.7	38.4	7	14	31	45		M/W		
735	733.7	43.4	9	26	45	71		M/W		
730	728.7	48.4	25	60	40/0.3	100/.8				728.7 48.4 **WEATHERED ROCK** TAN-ORANGE-WHITE SEV. WEATH. CRYSTALLINE ROCK
725	723.7	53.4	48	52/0.5		100				
720	718.7	58.4	71	29/0.1		100/.6				718.1 59.0 Boring Terminated at Elevation 718.1 ft IN TAN-ORANGE-WHITE SEV. WEATH. CRYSTALLINE ROCK

WBS 38331.1.1	**TIP** B-3159	**COUNTY** DAVIDSON	**GEOLOGIST** Stickney, J. K.	
SITE DESCRIPTION BRIDGE NO. 027 OVER US 29-64-70 / I-85 BUS. ON NC 8 / US 52				**GROUND WTR (ft)**
BORING NO. EB2-B	**STATION** 14+16	**OFFSET** 46 ft RT	**ALIGNMENT** -L-	**0 HR.** 28.0
COLLAR ELEV. 776.6 ft	**TOTAL DEPTH** 41.9 ft	**NORTHING** 761,393	**EASTING** 1,628,555	**24 HR.** 7.1
DRILL RIG/HAMMER EFF./DATE HFO0072 CME-550 88% 03/19/2014		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER Smith, C. L.	**START DATE** 02/26/14	**COMP. DATE** 02/26/14	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
780										776.6 GROUND SURFACE 0.0
										RESIDUAL
775	773.1	3.5	1	1	2	3	SS-23	M/W		TAN-BRN-GRAY SOFT TO V. STIFF MOIST TO WET MED. (PI=22) TO LOW (PI=14) PLASTIC SANDY SILTY CLAY (A-7-5) W/ BLACK MODELING @ 18.5
770	768.1	8.5	2	2	3	5		M/W		
765	763.1	13.5	2	3	6	9		M/W		
760	758.1	18.5	4	7	9	16	SS-24	M/W		
755	753.1	23.5	4	7	9	16		M/W		
750	748.1	28.5	7	8	11	19		M/W		
745	743.1	33.5	3	4	7	11		M/W		
740	738.1	38.5	46	43	41	84	SS-25	M		738.6 38.0 **RESIDUAL** TAN-ORANGE-WHITE HARD MOIST SANDY SILT (A-4)
735										734.7 41.9 Boring Terminated BY AUGER REFUSAL at Elevation 734.7 ft ON CRYSTALLINE ROCK

TEST RESULTS

PROJECT: 38331.1.1 (B-3159)
COUNTY: DAVIDSON
SITE DESCRIPTION: BRIDGE NO. 027 OVER US 29-64-70 / I-85 BUS. ON NC 8 / US 52
(RETAINING WALL #1 & RETAINING WALL #2)

SOIL SAMPLE RESULTS

SAMPLE NO.	*OFFSET*	*STATION*	*DEPTH INTERVAL*	*AASHTO CLASS*	*N*	*L.L.*	*P.I.*	*% BY WEIGHT*				*% PASSING SIEVES*			*% MOISTURE*	*% ORGANIC*	*UNIT WT. (d)*	*VOID RATIO*
								C. SAND	*F. SAND*	*SILT*	*CLAY*	*10*	*40*	*200*				
		B-1																
SS-1	76.0 LT	12+67 -L-	9.7-10.7	A-2-4(0)	9	39	3	30.2	44.3	19.4	6.1	98	82	33				
SS-2	76.0 LT	12+67 -L-	19.7-20.7	A-2-4(0)	27	25	NP	18.6	62.7	16.7	2	100	92	32				
		EB1-C																
SS-22	16.0 RT.	12+68 -L-	9.8-10.8	A-2-4(0)	17	29	NP	34.8	37.6	23.6	4.0	100	80	35	-	-		
		EB1-B																
SS-9	42.0 RT.	12+68 -L-	3.7-4.7	A-5(7)	5	52	10	7.1	43.7	39.1	10.1	100	97	61	-	-		
SS-10	42.0 RT.	12+68 -L-	13.7-14.7	A-7-5(1)	9	43	12	26.3	41.3	24.4	8.1	100	88	39	-	-		
SS-11	42.0 RT.	12+68 -L-	28.7-29.7	A-4(0)	23	30	NP	21.0	38.4	36.5	4.0	100	89	53	-	-		
		B-2																
SS-3	6.0 LT.	14+07 -L-	4.9-5.9	A-6(7)	14	39	21	18.6	35.5	19.4	26.5	99	91	52				
SS-4	6.0 LT.	14+07 -L-	9.9-10.9	A-2-4(0)	8	37	3	25.7	48	18.2	8.2	100	88	34				
		EB2-B																
SS-23	45.8 RT.	14+16 -L-	4.0-5.0	A-7-5(18)	3	60	22	6.3	29.3	40.1	24.3	100	97	73	-	-		
SS-24	45.8 RT.	14+16 -L-	19.0-20.0	A-7-5(9)	16	55	14	16.2	34.0	41.8	8.1	100	91	60	-	-		
SS-25	45.8 RT.	14+16 -L-	44.0-45.0	A-4(0)	84	32	NP	26.5	44.3	25.2	4.0	100	87	38	-	-		

ROCK SAMPLE RESULTS

SAMPLE NO.	*OFFSET*	*STATION*	*DEPTH INTERVAL*	*RQD*	*UNIT WT (pcf)*	Q(ksf)	E(MPsi)

BORINGS B-1 & B-2 ARE FROM PROJECT: 38331.1.1 (B-3159) PDEA

PROJECT REFERENCE NO.	SHEET
38331.1.1 (B-3159)	10

Aerial Photo

0 50 100
FEET

NAD 83/NSRS 2007 NC GRID

-LPC- CS Sta. 15+16.89
-LPC- SC Sta. 13+36.10
-LPC- CS Sta. 11+52.10
-LPC- ST Sta. 17+00.89
-RPC- PT Sta. 19+08.96
S 85° 52' 24.5" E
-L- POT Sta. 13+41.72
-Y- POC Sta. 25+44.00
Δ = 89° 37' 49.98"
B-1
WINSTON ROAD / NC 8
TO LEXINGTON DOWNTOWN
N 2° 14' 33.7" W
10+00
N 1° 52' 24.5" W
-L- POT Sta. 10+28.00
-LPC- POT Sta. 11+91.43
-L- POT Sta. 10+00.00
-RPC- POT Sta. 21+22.08
-L- POT Sta. 10+09.00
-Y2- POT Sta. 12+36.06, 14' RT
-Y2- PT Sta. 12+07.25
-LPC- PC Sta. 10+10.00
S 88° 25' 03.1" W
-Y- POC Sta. 26+10.00, 36.00' RT
-LPC- POT Sta. 10+00.00
EB1-C
EB1-B
TEMPLE ST
BST CURB
US 29 / 70 BUS 85 NBL 24' BST
US 29 / 70 BUS 85 SBL 24' BST TO SALISBURY
S 86° 48' 32.7" W
25+00
BRIDGE #27 - CONC AND STEEL
B-2
EB2-C
EB2-B
TO THOMASVILLE
-Y3- PRC Sta. 14+11.99
N 80° 26' 04.3" E
-Y- POC Sta. 24+50.00, 36.00' LT
-LPA- PC Sta. 10+00.00
-LPA- CS Sta. 10+04.64
-Y3- PT Sta. 16+41.52
15+00
N 1° 52' 24.5" W
TO WINSTON-SALEM
-L- POT Sta. 16+97.67
-LPA- POT Sta. 19+35.71
-LPA- SRS Sta. 11+88.64
-LPA- ST Sta. 18+42.95
-LPA- SC Sta. 13+72.64
S 88° 07' 35.5" W
CONC CURB
GR
28' BST
CONC