ID: B–5131

ROJECT: 42290.1.1

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

CONTENTS

HEET	DESCRIPTION
ı	TITLE SHEET
2	LEGEND
3	SITE PLAN
4	PROFILE
5-7	BORE LOG REPORTS
8	SITE PHOTOGRAPHS

STRUCTURE SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO	42290.1.1	(B-5131)	F.A. PROJ.	BRZ-1128(8)
COUNTY SCOTLAND				
PROJECT DESCRIPTION _	BRIDGE .	NO. 63 ON	SR 1128	
OVER JOE'S CREEK				
SITE DESCRIPTION				
	Ý		,	
,		·		

1	STATE	STATE PROJECT REFERENCE NO.	SHEBT NO.	TOTAL SHEETS
	N.C.	B-5131 (42290.1.1)	1	8

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 BORNE LOGS, ROCK CORES, AND SOUL TEST DATA AVAILABLE MAY BE REVEWED OR INSPECTED IN RALEGHE BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT 1919; 20-0408. RETHER THE SUBSURFACE PLANS AND REPORTS, NOR THE FIELD BORING LOGS, ROCK CORES, OR SOIL TEST DATA ARE 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 BORENOLE. THE LABORATORY SAMPLE DATA AND THE IN STILL UN-PLACE) TEST DATA CAN BE RELED ON ONLY TO THE DEGREE OF RELIABLITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOSTURE CONDITIONS NIDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION, THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS AND 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 OF SOME 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 INCESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THIS PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OF FOR AN EXENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

	_	R. DeLOST
		F. WOODARD
	_	
	_	
	-	
	-	
	-	
	INVECTION TED I	TOOLOGT.
	INVESTIGATED E	R. DeLOST
	CHECKED BY	S. PROVANCE
	SUBMITTED BY_	S. PROVANCE
	DATE	6/2012
WILL CAR	14/11	

PERSONNEL

M. GRAGG

NOTE - THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N. C. DEPARTMENT OF TRANSPORTATION AS BEING ACCURATE NOR IT IS CONSIDERED TO BE PART OF THE PLANS, SPECIFICATIONS, OR CONTRACT FOR THE PROJECT.

NOTE - 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.

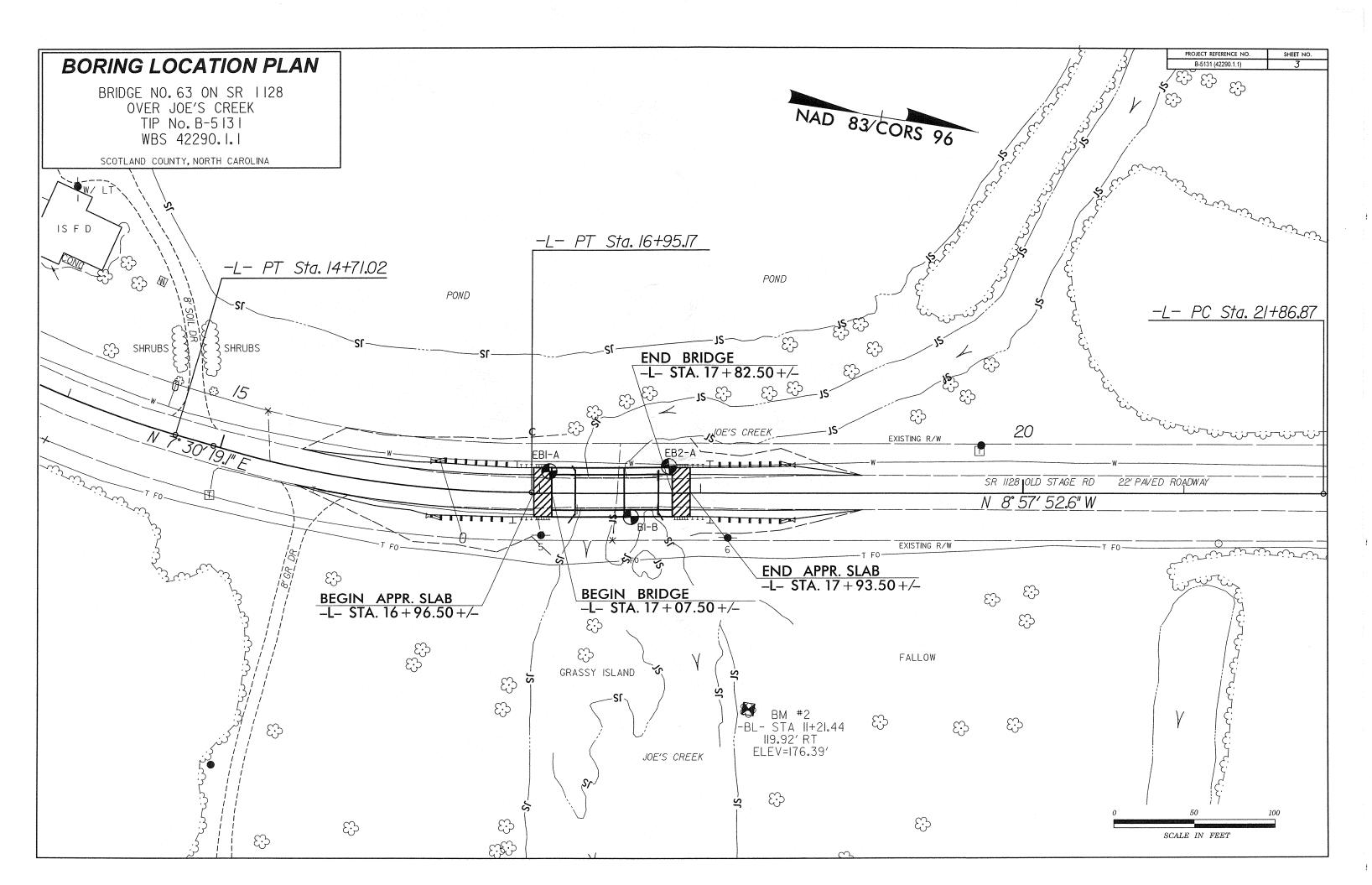
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

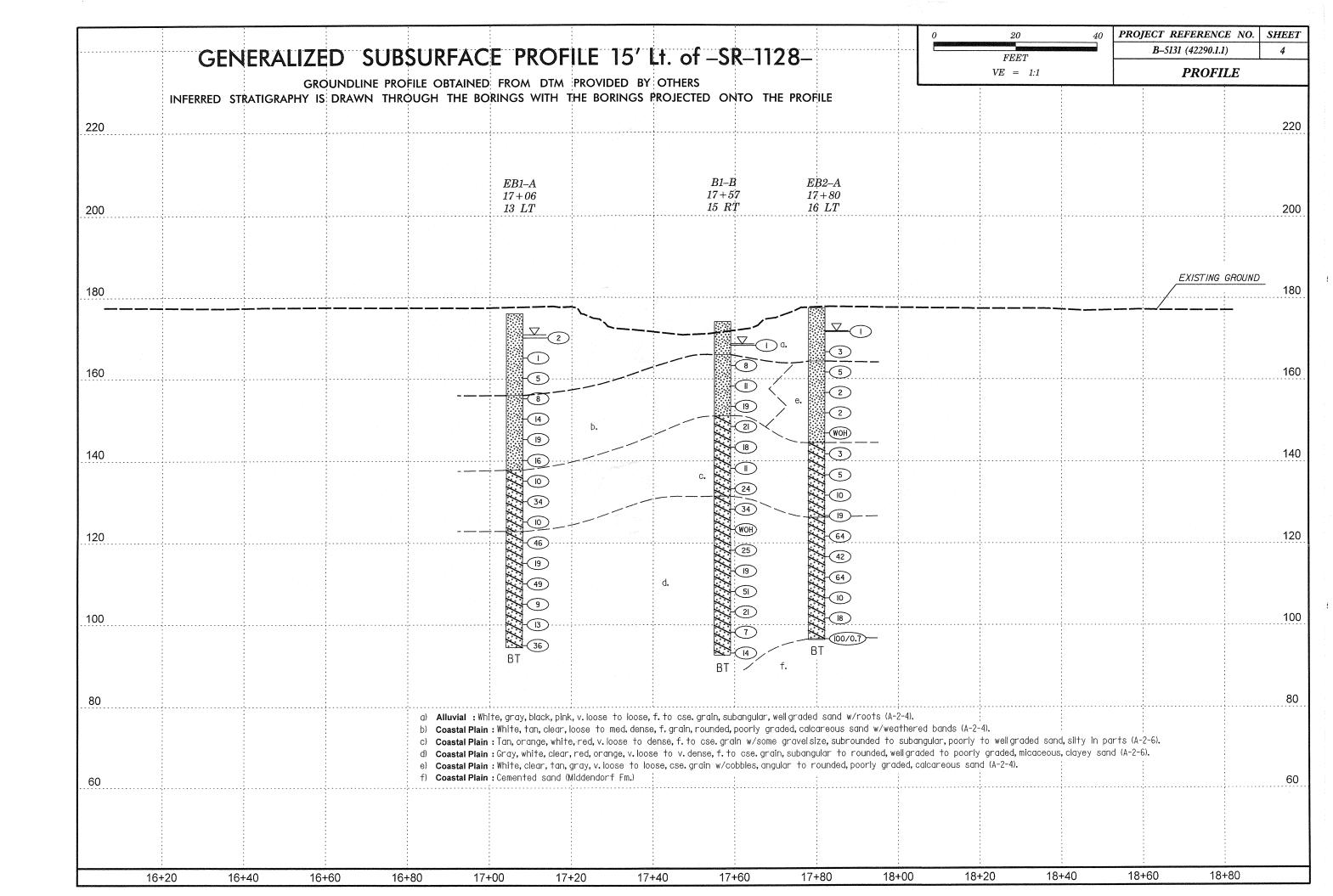
DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

	COUL AND DOOR LECEND TERM	IC CYMDOLC AND ADDRESS AMIONG	
		IS, SYMBOLS, AND ABBREVIATIONS	
SOIL DESCRIPTION	GRADATION STATE A COOR DESCRIPTION OF PARTICLE COURSE	ROCK DESCRIPTION	TERMS AND DEFINITIONS
SOIL IS CONSIDERED TO BE THE UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS	<u>WELL GRADED</u> - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. <u>UNIFORM</u> - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE, (ALSO	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.	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER, AND YIELD LESS THAN 188 BLOWS PER FOOT ACCORDING TO STANDARD PENETRATION TEST (AASHTO 1286, ASTM D-1586). SOIL	POORLY GRADED) GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLES OF TWO OR MORE SIZES.	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	AGUIFER - A WATER BEARING FORMATION OR STRATA.
CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE:	ANGULARITY OF GRAINS	OF WEATHERED ROCK.	ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. EXAMPLE:	THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR,	ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:	ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS,
VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6	SUBANGULAR, SUBROUNDED, OR ROUNDED.	WEATHERED NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 ROCK (WR)	OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, AS SHALE, SLATE, ETC.
SOIL LEGEND AND AASHTO CLASSIFICATION	MINERALOGICAL COMPOSITION		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
GENERAL GRANULAR MATERIALS SILT-CLAY MATERIALS ORGANIC MATERIALS	MINERAL NAMES SUCH AS QUARTZ, FELOSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS	ROCK (CR) WOULD YIELD SPT REFUSAL IF TESTED, ROCK TYPE INCLUDES GRANITE,	GROUND SURFACE.
CLASS. (≤35% PASSING #200) (> 35% PASSING #200) UNGANIC MATERIALS	WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.	GNEISS, GABBRO, SCHIST, ETC.	CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
GROUP A-1 A-3 A-2 A-4 A-5 A-6 A-7 A-1, A-2 A-4, A-5	COMPRESSIBILITY	NUN-CHTSTALLINE SEDIMENTARY ROCK THAT WOULD YEILD SPT REFUSAL IF TESTED. ROCK TYPE	COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM
CLASS. A-1-a A-1-b A-2-4 A-2-5 A-2-6 A-2-7 A-7-6 A-3 A-6, A-7	SLIGHTLY COMPRESSIBLE LIQUID LIMIT LESS THAN 31 MODERATELY COMPRESSIBLE LIQUID LIMIT EQUAL TO 31-50	COASTAL PLAIN COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD	OF SLOPE.
SYMBOL 000000000000000000000000000000000000	HIGHLY COMPRESSIBLE LIQUID LIMIT GREATER THAN 50	SEDIMENTARY ROCK SPT REFUSAL ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.	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.
X PASSING SILT-	PERCENTAGE OF MATERIAL	WEATHERING	DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT
10 50 MX GRANULAR CLAY MUCK.	ORGANIC MATERIAL GRANULAR SILT - CLAY SOILS SOILS OTHER MATERIAL		ROCKS OR CUTS MASSIVE ROCK.
# 200 15 MX 25 MX 18 MX 35 MX 35 MX 35 MX 36 MN 36 MN 36 MN 36 MN 36 MN 36 MN	TRACE OF ORGANIC MATTER 2 - 3% 3 - 5% TRACE 1 - 10%	FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.	DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.
LIQUID LIMIT 48 MX 41 MN 48 MX 41 MN 48 MX 41 MN 48 MX 41 MN SOILS WITH	LITTLE ORGANIC MATTER 3 - 5% 5 - 12% LITTLE 10 - 20% MODERATELY ORGANIC 5 - 10% 12 - 20% SOME 20 - 35%	VERY SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN,	DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF
PLASTIC INDEX 6 MX NP 18 MX 18 MX 11 MN 11 MN 18 MX 18 MX 11 MN 11 MN LITTLE OR HIGHLY	HIGHLY ORGANIC >10% >20% HIGHLY 35% AND ABOVE	(V SLI.) CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF	THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.
GROUP INDEX Ø Ø Ø 4 MX 8 MX 12 MX 16 MX No MX MODERATE ORGANIC	GROUND WATER	OF A CRYSTALLINE NATURE. - SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO	FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE
USUAL TYPES STONE FRAGS. FINE SILTY OR CLAYEY SILTY CLAYEY ORGANIC SOILS	WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING	(SLI.) 1 INCH, OPEN JOINTS MAY CONTAIN CLAY, IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR	SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.
OF MAJOR GRAVEL, AND SAND GRAVEL AND SAND SOILS SOILS MATTER	STATIC WATER LEVEL AFTER 24 HOURS	CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.	FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.
CEN DATING	——————————————————————————————————————	MODERATE SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY, ROCK HAS	FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM
AS A EXCELLENT TO GOOD FAIR TO POOR POOR UNSUITABLE	LE	DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED	PARENT MATERIAL.
SUBGRADE	SPRING OR SEEP	WITH FRESH ROCK.	FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
PI OF A-7-5 SUBGROUP IS ≤ LL - 30; PI OF A-7-6 SUBGROUP IS > LL - 30 CONSISTENCY OR DENSENESS	MISCELLANEOUS SYMBOLS	MODERATELY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL SEVERE AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH	FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN
BANCE OF STANDARD BANCE OF UNCONFINED		(MOD. SEV.) AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK, ROCK GIVES CLUNK SOUND WHEN STRUCK,	THE FIELO.
PRIMARY SOIL TYPE COMPACTNESS OR CONSISTENCY PENETRATION RESISTENCE (N-VALUE) COMPRESSIVE STRENGTH	ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION ROADWAY EMBANKMENT (RE) OPT ONT TEST BORING W/ CORE	IF TESTED, WOULD YIELD SPT REFUSAL	JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
VERY LONGE	ALIGOR SOOTING STATE ALIGORIAN	SEVERE 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	LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO
GENERALLY LOOSE 4 TO 10	SOIL SYMBOL AUGER BURING STIN-VALUE	EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN.	ITS LATERAL EXTENT.
MATERIAL MEDION DENSE 10 10 30	ARTIFICIAL FILL (AF) OTHER - CORE BORING REF SPT REFUSAL	IF TESTED, YIELDS SPT N VALUES > 100 BPF	LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
(NON-COHESIVE) DENSE 3Ø TO 5Ø VERY DENSE >5Ø	THAN ROADWAY EMBANKMENT	VERY SEVERE ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT (V SEV.) THE MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK	MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS, MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.
VERY SOFT <2 <0.25	INFERRED SOIL BOUNDARY OMONITORING WELL	REMAINING, SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE SUCH THAT ONLY MINOR	PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN
GENERALLY SOFT 2 TO 4 0.25 TO 0.50	INFERRED ROCK LINE A PIEZOMETER	VESTIGES OF THE ORIGINAL ROCK FABRIC REMAIN. IF TESTED, YIELDS SPT N VALUES < 188 BPF	INTERVENING IMPERVIOUS STRATUM.
SILT-CLAY MEDIUM STIFF 4 TO 8 Ø.5 TO 1.Ø MATERIAL STIFF 8 TO 15 1 TO 2	INSTALLATION TITLE ALLUVIAL SOIL BOUNDARY SLOPE INDICATOR	COMPLETE ROCK REDUCED TO SOIL, ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND	RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
(COHESIVE) VERY STIFF 15 TO 30 2 TO 4	INSTALLATION	SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.	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
HARD >3Ø >4	25/825 DIP & DIP DIRECTION OF ROCK STRUCTURES CONE PENETROMETER TEST	ROCK HARDNESS	EXPRESSED AS A PERCENTAGE.
TEXTURE OR GRAIN SIZE	THOR STREET TEST	VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK, BREAKING OF HAND SPECIMENS REQUIRES	SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE
U.S. STD. SIEVE SIZE 4 10 40 60 200 270	SOUNDING ROD	SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.	PARENT ROCK.
OPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.053	ABBREVIATIONS	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED	SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL
BOULDER COBBLE GRAVEL COARSE FINE SILT CLAY	AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST	TO DETACH HAND SPECIMEN.	TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.
(BLDR.) (COB.) (GR.) (CSE. SD.) (F SD.) (SL.) (CL.)	BT - BORING TERMINATED MICA MICACEOUS WEA WEATHERED	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK, GOUGES OR GROOVES TO Ø.25 INCHES DEEP CAN BE HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED	SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR
GRAIN MM 3Ø5 75 2.Ø Ø.25 Ø.Ø5 Ø.Ø05	CL CLAY MOD MODERATELY 7 - UNIT WEIGHT CPT - CONE PENETRATION TEST NP - NON PLASTIC 7 - DRY UNIT WEIGHT	HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.	SLIP PLANE.
SIZE IN. 12 3	CSE COARSE ORG ORGANIC	MEDIUM CAN BE GROOVED OR GOUGED Ø.Ø5 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT.	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
SOIL MOISTURE - CORRELATION OF TERMS	DMT - DILATOMETER TEST PMT - PRESSUREMETER TEST SAMPLE ABBREVIATIONS	HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.	A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER, SPT REFUSAL IS PENETRATION EQUAL TO OR LESS
SOIL MOISTURE SCALE FIELD MOISTURE GUIDE FOR FIELD MOISTURE DESCRIPTION	DPT - DYNAMIC PENETRATION TEST SAP SAPROLITIC S - BULK • - VOID RATIO SD SAND, SANDY SS - SPLIT SPOON	SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS	THAN Ø.1 FOOT PER 60 BLOWS.
(ATTERBERG LIMITS) DESCRIPTION SOME TONY IEEE FIGURE SECOND FISH	F - FINE SL SILT, SILTY ST - SHELBY TUBE	FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN	STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
- SATURATED - USUALLY LIQUID; VERY WET, USUALLY	FOSS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK FRAC FRACTURED, FRACTURES TCR - TRICONE REFUSAL RT - RECOMPACTED TRIAXIAL	PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK, PIECES 1 INCH	STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY
LL _ LIQUID LIMIT	FRAGS FRAGMENTS W - MOISTURE CONTENT CBR - CALIFORNIA BEARING	VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY 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.
PLASTIC CEMICAL ID. DECLINES DOVING TO	HI HIGHLY V - VERY RATIO	FINGERNAIL.	TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.
HANGE - WET - (W) ATTAIN OPTIMUM MOISTURE	EQUIPMENT USED ON SUBJECT PROJECT	FRACTURE SPACING BEDDING	
PLL + PLASTIC LIMIT -	DRILL UNITS: ADVANCING TOOLS: HAMMER TYPE:	TERM SPACING TERM THICKNESS VERY THICKLY BEDDED > 4 FEET	BENCH MARK: BM 2 - RR SPIKE IN BASE OF 14" CYPRESS TREE
OM OPTIMUM MOISTURE - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE	AUTOMATIC MANUAL	WERY WIDE MURE THAN 10 FEET THICKLY BEDDED 1.5 - 4 FEET	BL- STA. 11+21.44, 119.92′ RT.
SL SHRINKAGE LIMIT	MOBILE B-	MODERATELY CLOSE 1 TO 3 FEET IHINLY BEDDED 0.16 - 1.5 FEET WEDV TIMEN V DEEDED 0.03 - 0.16 FEET	ELEVATION: 176,39 FT.
- DRY - (D) REQUIRES ADDITIONAL WATER TO	6 CONTINUOUS FLIGHT AUGER CORE SIZE:	VEDV CLOSE U.16 IU 1 FEET THICKLY LAMINATED 0.008 - 0.03 FEET	NOTES:
- URY - (U) ATTAIN OPTIMUM MOISTURE	BK-51 8' HOLLOW AUGERS -B	THINLY LAMINATED C 0.008 FEET	
PLASTICITY	CME-45C HARD FACED FINGER BITS	INDURATION	
PLASTICITY INDEX (PI) DRY STRENGTH	TUNGCARBIDE INSERTS	FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF THE MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.	
NONPLASTIC Ø-5 VERY LOW	CME-550 TUNGCARBIDE INSERTS -H	FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.	
LOW PLASTICITY 6-15 SLIGHT MED. PLASTICITY 16-25 MEDIUM	HAND TOULS:		
HIGH PLASTICITY 26 OR MORE HIGH	PORTABLE HOIST TRICONE STEEL TEETH POST HOLE DIGGER	MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.	
COLOR	TRICONE TUNGCARB. HAND AUGER	INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE;	
DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY).	CORE BIT SOUNDING ROD	DIFFICULT TO BREAK WITH HAMMER.	
MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.	34' HOLLOW AUGERS VANE SHEAR TEST	EXTREMELY INDURATED SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE REPOYS ACROSS GRAINS	





NCDOT GEOTECHNICAL ENGINEERING UNIT BORELOG REPORT

WBS	42290	0.1.1			T	ГІР B-5131	COUNTY	SCOTLA	ND			GEOLOGIST DeLost, R.		
SITE	DESCR	RIPTION	Brid	ge No.	. 63 on	n -L- (SR 1128) Over Jo	e's Creek						GROUND	WTR (ft
BOR	ING NO.	EB1-	——— А	~	S	STATION 17+06		OFFSET	13 ft LT			ALIGNMENT -L-	0 HR.	5.2
COL	LAR EL	EV. 17	76.1 ft			FOTAL DEPTH 81.5 f	+	NORTHING		41		EASTING 1,835,577	24 HR.	N/A
						CME-45C 87.6% 08/15/20			T		D 110	<u> </u>	AMMER TYPE Au	
				L 100				COMP DA	1		11.0			iomatic
	LER V	T	·	OW CC		START DATE 04/15/1	PER FOOT	COMP. DA	SAMP.		11	SURFACE WATER DEPTH	N/A	
ELEV (ft)	ELEV	DEPTH (ft)	0.5ft					75 100	NO.	17	0	SOIL AND ROCK I		
	(ft)	<u> </u>	0.510	10.511	0.511			100	NO.	MO	I G	ELEV. (ft)	·	DEPTH (

180	<u> </u>	╁				Part of the second seco					1 }			
		‡						-			1	<u>-</u> -		
4 TO PT		<u> </u>					· · · · · ·			<u> </u>	<u> </u>	176.1 GROUND SI		0
175	1 -	<u> </u>					 	1				ALLUV White & gray, v. loose		
		+										grain, subangular, w w/roots (A	ell-graded sand	
170	171.1	5.0	WOH	1	 					D		-	(2.4).	
110	1 -	‡		1		2		1				·····		
		<u> </u>										• •		
165	166.1	10.0	WOH	WOH	1					Sat.		•		
		F				\\\\\\						•		
	161.1	15.0					: : : :					• •		
160		L1.JU	1	1	4	4 5				Sat.		•* •••		
		‡				1					Ŀ			
	156.1	20.0		İ		1 1					-	155.9		20
155		_	3	4	4	8				Sat.		COASTAL	PLAIN	
	:	ļ.				1 : 1 : : : : : : : : : : : : : : : : :					l::I	White, loose to med rounded, poorly graded	d calcareous sand	
	151.1	25.0			ļ	1 - 1						w/weathered bar	nds (A-2-4).	
150	-	<u> </u>	4	7	7	14				Sat.	-			
	-										F			
45	146.1	30.0	3	9	10	4 : : : : : : : : : : : : : : : : : :				0-4				
-10	-	-				19				Sat.				
	-													
40	141.1	35.0	2	9	7	416				Sat.				
	-	-				1 7					F	137.8		20
	136.1	40.0				::/:: :::::					SŦ	Tan, med. dense to der	and the same of the same	38.
35	_	-	2	4	6	10-				Sat.	\mathbb{N}	w/some gravel size, - subangular, poorly to v	vell-graded sand,	
	-	-										silty in parts	(A-2-6).	
20	131.1	45.0		45				: : : :						
30	-	-	4	13	21	3 4				Sat.		-		
		-									\searrow			
25	_126.1_	50.0	5	5	5	1 /				C-4	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			
		-				10				Sat.		<u>-</u>		
	15							::::			X	Gray & red, loose to den	se, f, to ose arain	<u>53</u> .
20	121.1	55.0	7	16	30	- > \	6			Sat.		subangular to rounder	d, well-graded to	ı
	7	-										poorly graded, micace (A-2-6)	ous, crayey sand I.	
	116.1	600						: : : :						
15		- 60.0	2	4	15	19				Sat.		-		
	1	_									///			
	111.1	65.0									//			
10	1	-	8	19	30		49			Sat.				
	‡	:	1											
۱	106.1	70.0								l	\searrow			
05	+	-	3	5	4	4 9				w				
	1	.								l	1			
	101.1	75.0	1	1						ľ	· * 4			

NCDOT GEOTECHNICAL ENGINEERING UNIT

SHEET 5 OF 8

	4229					IP B-5131	4	Y SCOTLA	ND			GEOLOGIST DeLost, R.	-	
SITE	DESC	RIPTION	Brid	ge No.	63 on	-L- (SR 1128) Over Jo	e's Creek						GROUND WT	R (f
BORI	NG NC). EB1-	Α		s	TATION 17+06		OFFSET	13 ft LT			ALIGNMENT -L-	0 HR.	5.
COLI	AR EL	.EV. 1	76.1 ft		T	OTAL DEPTH 81.5 ft		NORTHING	367,1	41		EASTING 1,835,577	24 HR.	N/
RILL	RIG/HA	MMER E	FF./DAT	E F&I	H0404 (CME-45C 87.6% 08/15/20	11		DRILL N	METHO) H.S	-1	MMER TYPE Autom	atic
PRIL		Woodard	i, F.		S	TART DATE 04/15/1	2	COMP. DA	TE 04/	20/12		SURFACE WATER DEPTH		
LEV	DRIVE ELEV	DEPTI	`	ow cc		4 1	PER FOOT	1	SAMP.	V	L	SOIL AND ROCK D	ESCRIPTION	
(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0 25	50	75 100	NO.	MOI		ELEV. (ft)		PTH
100		 	 	<u> </u>	ļ	Mato	h Line		<u></u>	<u></u>	k., .			
		‡										Gray & red, loose to den subangular to rounded	l, well-graded to	
95	96.1	\$80.0	11	18	18					l .,,		poorly graded, micace (A-2-6). (con	ous, clayey sand tinued)	
		‡-	 ``	-	-	▶ 36-			\blacksquare	W		-94.6 Boring Terminated at E	levation 94.6 ft in	81
		‡										Clayey Sa	ind.	
-		‡												
		‡												
		‡									-			
	,	Ŧ										····		
		Ŧ												
	. •	‡										· ••		
		‡												
		‡												
		‡					i kana					_	e de la composición	
		‡												
		‡										en e		
		‡				,								
		Ŧ								.				
-	•	Ŧ										-		
-		Ŧ												
		$\frac{1}{1}$									 	-		
		Ī									E			
	_	‡									Ŀ	_		
		1									L			
		‡									Ŀ			
	-	‡									L	-		
		Ī									L			
	_	Ī									F			
	_	Ŧ									F	•		
		Ŧ												
		‡									F	~		
		‡									F			
		‡									F			
	-	‡										•		
		‡									F			
		‡									Ł	-		
To a second		‡									E			
-		<u> </u>									F			
	-	Ī									F	-		
		Ŧ									F			
- [Ţ									F			

NCDOT GEOTECHNICAL ENGINEERING UNIT BORELOG REPORT

WBS	42290	0.1.1			T	IP B-5131	COUNT	SCOTLAI	ND			GEOLOGIST DeLost, R.		
SITE	DESCR	RIPTION	Brid	ge No.	. 63 on	-L- (SR 1128) Over Jo	e's Creek	····		***************************************			GROUN	ID WTR (ft
	ING NO.					TATION 17+57		OFFSET	15 ft RT			ALIGNMENT -L-	0 HR.	5.5
COL	LAR EL	EV. 1	74.1 ft		T	OTAL DEPTH 81.4 ft		NORTHING	367,1	95		EASTING 1,835,597	24 HR.	N/A
DRILL	L RIG/HAI	VIMER EI	FF./DAT	E F&l	H0404 (CME-45C 87.6% 08/15/20	11		DRILL N	METHO	D H.S	S. Augers HAM	MER TYPE	Automatic
DRIL	LER V	Voodard	i, F.	*************	s	TART DATE 04/16/1:	2	COMP. DA	TE 04/	16/12		SURFACE WATER DEPTH	I/A	
ELEV	DRIVE ELEV	DEPTH	BLO	ow co	TNUC	BLOWS F	PER FOOT		SAMP.	V/		SOIL AND ROCK DE	COUDTION	
(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0 25 5	50 	75 100	NO.	МО		ELEV. (ft)	JOINE HOW	DEPTH (
						1								
175		1										TATA A COOLIND OLID	TACE	2
		 	 	T	 				-			174.1 GROUND SUR ALLUVIAL	•	0.
170		‡										Black, v. loose, f. to cse. g well-graded, sand w/r	rain, subang oots (A-2-4)	gular,
170	169.2	4.9	1	WOH	1					77				
		‡	'	I WOI		1				Sat.		-		
165	104.0	‡										COASTAL PL		
	164.2	9.9	3	4	4	·\				Sat.		 Tan & clear, loose to med rounded, poorly graded, o 	alcareous s	rain, and
160		‡										- w/weathered band	(A-2-4).	
160	159.2	14.9	6	5	6	-						•		
		‡	ľ	ľ		- 11				Sat.		• •		
155	45.0	<u> </u>			****	\						• •		
	1.54.2	T 19.9	5	9	10					Sat.	l l			
		<u>†</u>										150.9		23.
150	149.2	24.9			10	 						Orange & red, med. dense w/some gravel size, su		rain
		l	10	11	10	21				Sat.	//	subangular, poorly to we silty in parts (A	I-graded sai	
145	-	ł										only in parto (A	2-0).	
	144.2	29.9	9	9	9	118				Sat.		•		
		Ŧ	ŀ			7.0						• •		
140	139.2	34.9										• -		
	-	Ŧ	2	5	6	11				Sat.		•		
135	-	Ŧ										• •		
	134.2	39.9	3	9	15					Sat.		- -		
	-	‡				24				Oat.	<i>//</i>	131.4		42.
130	129.2	449				\\.						White & gray, v. loose to v. grain, subangular to round	dense, f. to ed. well-gra	cse.
	_		8	16	18	34.				w	\mathbb{Z}	to poorly graded, micaceo (A-2-6).		
125	-	<u> </u>									\mathbb{Z}	, ((L 0).		
	124.2	49.9	WOH	WOH	WOH	/				Sat.		_		
	-	ļ.				\(\frac{1}{2} \)				Jai.	\sim			
120	119.2	54.9				- 3						•		
	-	-	5	12	13	25				W	$\backslash \backslash$			
115	-										\nearrow			
110	114.2	59.9	7	8	11					W	\searrow			
	1	-	·	Ü	• ,	• • 19				VV	\searrow			
110	109.2	64.0										~		
ľ		-	13	21	30		51			W	//			
105	-	-									\mathbb{Z}			
	104.2	69.9	10	11	10	1				w	X	-		
	+	-				21				۷V	\mathbb{N}			
100	99.2	- - 74.9				1-1-1-						-		
	1		1	2	5	4 7				Sat.	//			
1	+	-									\mathbb{Z}			



SHEET 6 OF 8

	4229						B-5131			Y SCOTL	AN.	1D			GEOLOGIST DeLost	R.		
SITE	DESCF	RIPTION	l Brid	ge No.	63 on	-L-	- (SR 1128) Over	Joe's	s Creek						-		GROUND	WTR (ft)
BOR	ING NO	B1-B	3		S	TA	TION 17+57			OFFSET	1	5 ft RT	********		ALIGNMENT -L-		0 HR.	5.5
COL	LAR EL	EV. 1	74.1 ft		T	OT.	AL DEPTH 81.4	4 ft	***************************************	NORTHIN	١G	367,1	95		EASTING 1,835,597		24 HR.	N/A
DRILI	. RIG/HAI	MER E	FF./DAT	E F&l	10404 (CME	E-45C 87.6% 08/15	/2011		<u> </u>	T	DRILL N	IETHOL) Н.	S. Augers	HAMN	MERTYPE A	
DRIL	LER V	Voodard	d, F.		S	TA	RT DATE 04/16	5/12		COMP. D					SURFACE WATER DE			
ELEV	DRIVE ELEV	DEPTH	BLC	ow co		Π	····		R F001	L	T	SAMP.	·					
(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	(0 25	50		75 10	00	NO.	МОІ	O G	SOIL AND R ELEV. (ft)	OCK DES	SCRIPTION	DEPTH (ft

95							Ma	atch l	Line									
	94.2	79.9	WOH	5	9		- 14				1		Sat.		_ 92.7		TOTAL TRANSPORT STATES CONTRACT STATES	
			1			H						1	- Out.	\$ 2.0	- 92.7 - Boring Terminat - Cl	ed at Elev	vation 92.7 ft	81.4 in
	-	Ŧ												1 1	- Ci	ayey Sand	1.	
		‡													-			
		‡													-			
	-	‡													-			
		ţ													_			
	_	<u> </u>													~			
		ŧ																
		F													-			
	_	F																
		‡													-			
		‡											-		<u> </u>			
	-	<u> </u>													· 			
		<u> </u>																
															-			
		F													 -			
		<u> </u>													<u>.</u>			
	-	‡													-			
		<u> </u>													<u>.</u>			
		<u> </u>													··			
		L																
	-														~			
	-														-			
	-	-													·····			
	-														<u>.</u> -			
	-	_													-			
	-														~			
	-													F	-			
															•			
	-	-													. •			
	-	-													<u>.</u> -			
		-													-			
	_	-																
	_	_												L	<u>.</u>			
	-	_												F	•			
	-													F	= •			
	-	-			-										•			
	-	_			***************************************										•			
	_	_			-										• •			
	_	_			***************************************									H				
	7	-			-									F	- -			
		_													•			



WBS	42290).1.1			<u> </u>	ГІР B-5131	COUNTY S	COTLAN	ID	······································		GEOLOGIST DeLost, R.	***************************************	***************************************
SITE	DESCR	IPTION	Brid	ge No.	. 63 on	n -L- (SR 1128) Over Jo	e's Creek						GROUND	VTR (fi
BOR	ING NO.	EB2-	Α		S	STATION 17+80	OF	FSET 1	6 ft LT			ALIGNMENT -L-	0 HR.	5.7
COL	LAR ELI	EV. 17	77.5 ft		T	TOTAL DEPTH 81.1 ft	NOI	RTHING	367,2	14		EASTING 1,835,562	24 HR.	N/A
DRILI	RIG/HAIV	MER E	F./DAT	E F&I	H0404	CME-45C 87.6% 08/15/20	11		DRILL N	IETHOD) H.S	S. Augers HAMN	IER TYPE Au	tomatic
ORIL	LER V	/oodarc	I, F.		S	START DATE 04/14/1	2 COI	MP. DAT	E 04/	14/12		SURFACE WATER DEPTH N	/A	
LEV	DRIVE ELEV	DEPTH	BLO	ow co	TAUC	BLOWS	PER FOOT		SAMP.	V/	L	COU AND DOOK DEC	ODIDTION	***************************************
(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0 25	50 75	100	NO.	MOI	O G	SOIL AND ROCK DES	CRIPTION	DEPTH (
180								The state of the s						
	-	F												
	-	‡	-	 	+-	#	-					177.5 GROUND SURF		
175	_	-										Pink, v. loose, f. to cse. gra well-graded sand w/roo	in, subangular ots (A-2-4)	
	172.6 -	4.9								<u></u>		3. 4404 04.14 1110		
70	-	<u> </u>	1	WOH	1	1				-w-				
70	_	-												
	167.6	9.9	WOH	1	2					0				
65	_	L			1	9 3				Sat.				
	1000	44.5					-					COASTAL PLA	ūn — — — —	<u>13</u>
	162.6 - -	14.9	1	2	3	6 5	.			Sat.	K.F	White, clear, tan & gray, v. cse. grain w/cobbles, angu		
60	_	F										poorly graded, calcareous		
	157.6 -	19.9				1/::::					t			
55	7		2	1	1	φ <u>2</u>				Sat.	+			
	-	-									1	<u>-</u>		
	152.6	24.9	WOH	1	1					Sat.				
50	-	_				2				Jat.	_	·		
	147.6	- 29.9					-				Ł			
	147.0	- 29.9	1	WOH	WOH	0				Sat.	F			
15	_	_										144.3		33
	142.6	34.9	1	2	1							White & orange, v. loose to to cse. grain w/some g	med. dense, f ravel size.	•
10	1	_	,	4	'	9 3				Sat.		subrounded to subangul well-graded sand, silty in	ar, poorly to	
	-	_									///		pairto (/ / 2 0).	
	137.6	- 39.9 -	2	3	2	5		: : :		Sat.	///			
35	_	-				1 1				Ì		-		
	132.6	- - 44.9								ŀ				
30	1	-	2	4	6	10				Sat.				
	7	-				1 1	.					•		
	127.6	- 49.9 -	12	9	10	10		:		Sat.	\	126.2		EA
25		-					-				<u> </u>	White, clear & orange, loose		<u>51</u> .
	122.6	- 54.9					.	:			\	to cse. grain, subangular well-graded to poorly grade	d. micaceous.	
	1	-	50	30	34		3 64		l	Sat.	1	clayey sand (A-2	-6).	
20	+	-					/		ļ		V	•		
	117.6	59.9	11	18	24						\			
5	Ŧ		3 1	10	4 4	42	-]		Sat.	%			
	1						· · · · ·			10 10	\			
	112.6	64.9	14	28	36		64			D				
10	#	_								- 6.2	\mathbb{R}			
	107.6	69.9				: : : :				100	X			
ا م			3	4	6	10				Sat.	X			
05	\pm	-				 				8 2/4 2				
-	102.6	74.9	7	8	10			-		4 %	\mathbb{Z}			
00	Ţ	.	'	١	IV	• 18				Sat.	\			

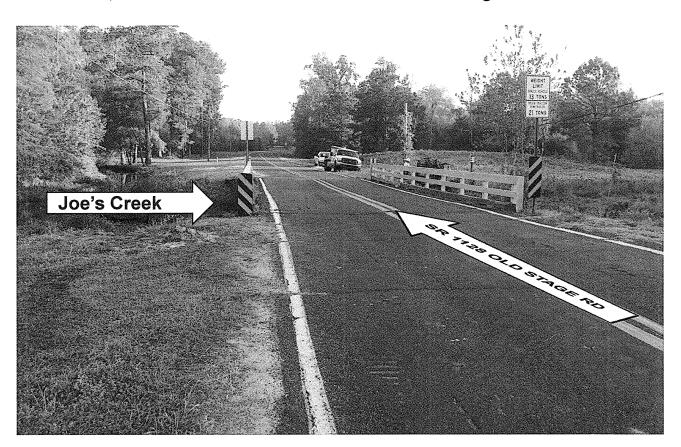


SHEET 7 OF 8

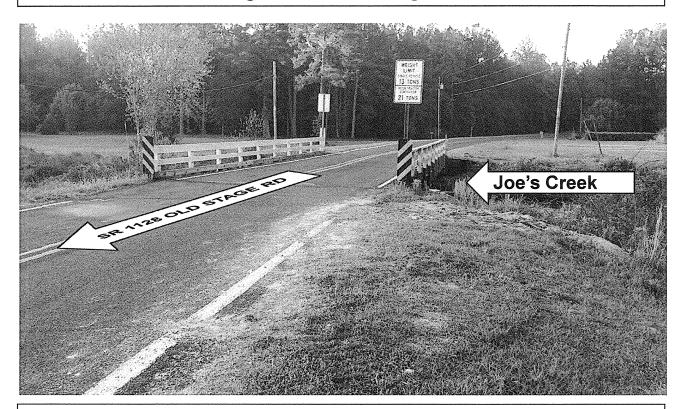
WBS 42290.1.1		DUNTY SCOTLAND	GEOLOGIST DeLost, R.	
SITE DESCRIPTION Bridge No. 63	on -L- (SR 1128) Over Joe's (GROUND WTR (fr
BORING NO. EB2-A	STATION 17+80	OFFSET 16 ft LT	ALIGNMENT -L-	0 HR. 5.
COLLAR ELEV. 177.5 ft	TOTAL DEPTH 81.1 ft	NORTHING 367,214	EASTING 1,835,562	24 HR. N/A
DRILL RIG/HAMMER EFF./DATE F&H040	04 CME-45C 87.6% 08/15/2011	DRILL METHOD H.S	. Augers HAMME	R TYPE Automatic
DRILLER Woodard, F.	START DATE 04/14/12	COMP. DATE 04/14/12	SURFACE WATER DEPTH N/A	\
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	T BLOWS PER 5ft 0 25 50	FOOT SAMP. L O NO. MOI G	SOIL AND ROCK DESC	RIPTION DEPTH (
100	Match Lir	ne		
97.6 79.9 43 50 50/			06.6	
43 50 50/	0.2	100/0.7	96.6 96.4 Cemented sand (Midden Boring Terminated at Eleva CP Cemented Sand (Midden CP Cemented Sand (Midden CP Cemented Sand (Midden CP Cemented Sand CP Cemented Sand CP Cemented Sand (Midden CP	tion 96.4 ft in

SITE PHOTOGRAPHIC RECORD

Bridge No. 63 – SR 1128 (Old Stage Road) – Over Joe's Creek



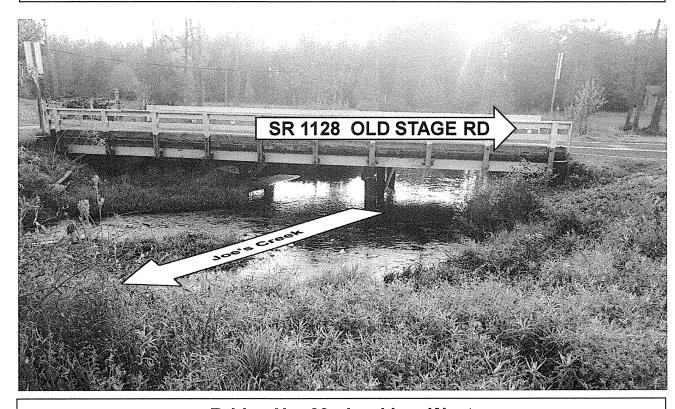
Bridge No. 63 – Looking North



Bridge No. 63 – Looking South



Bridge No. 63 – Looking East



Bridge No. 63 - Looking West