45610 2 PROJEC

S S 56. Ŕ REFERENCE

## SEE SHEET 3 FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

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STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION **DIVISION OF HIGHWAYS** GEOTECHNICAL ENGINEERING UNIT

# **ROADWAY** SUBSURFACE INVESTIGATION

COUNTY EDGECOMBE

PROJECT DESCRIPTION <u>REPLACE BRIDGE NO. 11</u> OVER TOWN CREEK ON NC 111/NC 122

**INVENTORY** 

STATE PROJECT REFERENCE NO. STATE SHEETS 5 N.C **B-5655** 1

#### CAUTION NOTICE

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

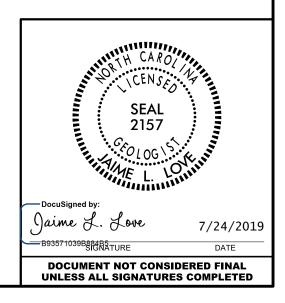
GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND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

THE BIDDER OR CONTRACTOR IS CALITORIED 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 WARANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPNION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONSTRUCTION STO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISTY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OF FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDENSATIONS FOR ANY EXTENSION OF TIME FOR ANY RESON RESULTING FOR THE ACTUAL CONDITIONS ENCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- NOTES: I. 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

A. N. KINTNER	
J. DEAN	
D. G. PINTER	
NVESTIGATED BY I. LOVE	
DRAWN BY <u>A. N. KINTNER</u>	
CHECKED BY <u>N. T. ROBERSON</u>	
SUBMITTED BY <u>N. T. ROBERSON</u>	
DATE	



## NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT SUBSURFACE INVESTIGATION

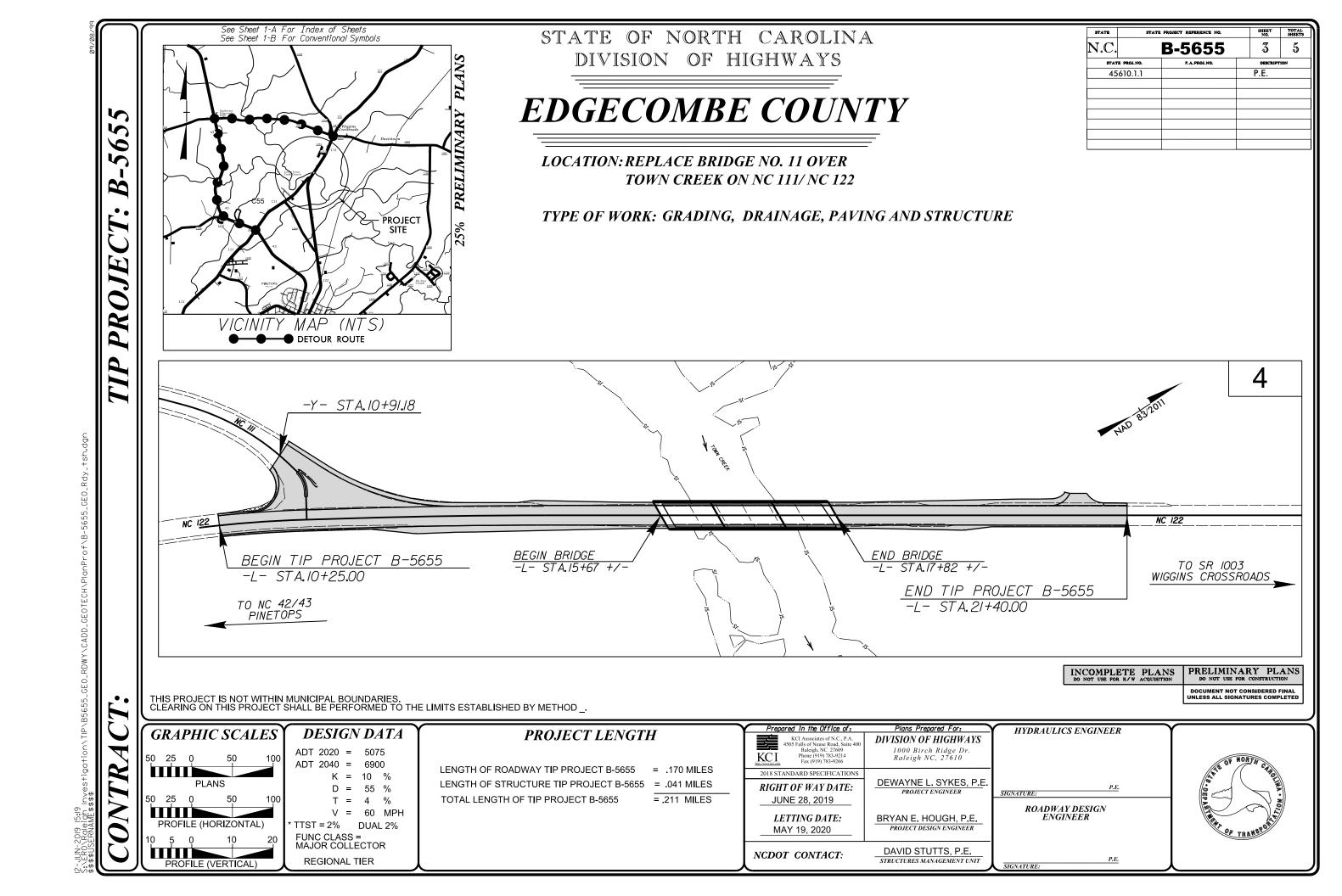
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

			9	SOIL DE	ESCR	IPTION							GR	ADATION						RC	DCK DES	CRIPTION
	CONSIDERED										WELL GRADED - INDICAT											DULD YIELD SPT REFUSAL IF TESTE TAL PLAIN MATERIAL WOULD YIELD
ACCORE	ING TO THE	STANDA	RD PENETR	ATION TES	T (AASH	ITO T 206	ASTM D	586). SOIL	CLASSIFIC	CATION	UNIFORMLY GRADED - IN GAP-GRADED - INDICATES						SPT REFUSAL	. IS PEI	NETRATION E	BY A SPLIT	SPOON SAM	APLER EQUAL TO OR LESS THAN 0.1 ISITION BETWEEN SOIL AND ROCK
CONSIST	BASED ON T ENCY, COLOR	, TEXTUR	E, MOISTURE	E, AASHTO	CLASSIF	ICATION.	AND OTHE	R PERTINE	NT FACTOR				ANGULAR	TY OF GRAIN	١S		REPRESENTED	BY A	ZONE OF WE	EATHERED R	OCK.	
	AS MINERALO													SOIL GRAINS IS DE	SIGNATED E	Y THE TERMS:	ROCK MATERI	ALS AR	FICALLY	4		
			EGEND								ANGULAR, SUBAN						WEATHERED ROCK (WR)					I MATERIAL THAT WOULD YIELD SP1 DT IF TESTED.
GENERAL			MATERIALS			-CLAY MATE		ORC	GANIC MATERI	ALS				CAL COMPOSI		570	CRYSTALLINE		2.2	FINE TO	COARSE GF	RAIN IGNEOUS AND METAMORPHIC RO
CLASS.	A-1	(≤ 35% PA	SSING =200) A-2		(>3 A-4	A-5 A-				T				FELDSPAR, MICA, T THEY ARE CONSID			ROCK (CR)		H.M.	GNEISS,	GABBRO, SCH	
GROUP CLASS.	A-1-a A-1-b		-2-4 A-2-5		-	H-0 H-1	0 H-7 A-7-5, A-7-6	A-1. A-2 A-3	A-4, A-5 A-6, A-7				COMPR	RESSIBILITY			NON-CRYSTAL	LINE	===			RAIN METAMORPHIC AND NON-COASTA THAT WOULD YEILD SPT REFUSAL
SYMBOL	000000000000000000000000000000000000000										SLIG-	HTLY CO	MPRESSIBLE	-	LL < 31	50	ROCK (NCR)			ROCK TY	PE INCLUDE	S PHYLLITE, SLATE, SANDSTONE, ET
% PASSING	66666666666		800 000 <b>1</b>	and the second		11							COMPRESSIBLI PRESSIBLE	E	LL = 31 · LL > 50	- 50	COASTAL PLA SEDIMENTARY			SPT REF	USAL. ROCK	DIMENTS CEMENTED INTO ROCK, BUT TYPE INCLUDES LIMESTONE, SANDS
<b>=</b> 10	50 MX							GRANULAR	SILT- CLAY	MUCK,		P	ERCENTAC	GE OF MATER	IAL		(CP)			SHELL B	WEATH	FRINC
=40 =200	30 MX 50 MX 15 MX 25 MX		5 MX 35 MX 3	35 MX 35 M>	36 MN	36 MN 36 I	MN 36 MN	SOILS	SOILS	PEAT	ORGANIC MATERIAL		GRANULAR SOILS	SILT - CLAY SOILS	OTHE	R MATERIAL	FRESH	POCK (				5 MAY SHOW SLIGHT STAINING. ROCK
MATERIAL				-							TRACE OF ORGANIC MA	ATTER	2 - 3%	3 - 5%	TRACE	1 - 10%	FRESH		R IF CRYSTA		FEW JOINT:	) MHT SHOW SEIGHT STHINING, NOCK
PASSING #40		- 40			10.44	41 101 101		SOILS	WITH		LITTLE ORGANIC MATT MODERATELY ORGANIC		3 - 5% 5 - 10%	5 - 12% 12 - 20%	LITTLE SOME	10 - 20% 20 - 35%						SOME JOINTS MAY SHOW THIN CLAY C
LL PI	6 MX		9 MX 41 MN 4 1 MX 10 MX					LITTL MODE		HIGHLY	HIGHLY ORGANIC		> 10%	> 20%	HIGHLY	35% AND ABOVE	(V SLI.)		ALS UN A BRI CRYSTALLINE		MEN FACE SI	HINE BRIGHTLY. ROCK RINGS UNDER H
GROUP INDEX	0	0	0	4 MX	8 MX	12 MX 16 I	MX NO MX	AMOUN	TS OF	ORGANIC SOILS			GROU	IND WATER			SLIGHT	ROCK (	GENERALLY F	RESH, JOINTS	S STAINED A	ND DISCOLORATION EXTENDS INTO RO
USUAL TYPES	STONE FRAGS.	FINE	SILTY OR		SIL	τγ (	LAYEY	orga Mat		50125	$\nabla$	WATE	R LEVEL IN B	ORE HOLE IMMEDIA	TELY AFTER	DRILLING	(SLI.)					N GRANITOID ROCKS SOME OCCASIONA STALLINE ROCKS RING UNDER HAMMER
OF MAJOR MATERIALS	GRAVEL, AND SAND	SAND	GRAVEL AN		SOI		SOILS				▼	STAT	IC WATER LEV	EL AFTER 24	IOURS		MODERATE					COLORATION AND WEATHERING EFFECTS
GEN. RATING		5×651151		-		FAIR TO PO		FAIR TO	0000			PERC	HED WATER, SA	TURATED ZONE, OR	WATER BEA	RING STRATA	(MOD.)	GRANIT	TOID ROCKS,M	MOST FELDSF	PARS ARE DL	JLL AND DISCOLORED, SOME SHOW CLA
AS SUBGRADE		EXCELLEN	IT TO GOOD			FAIR TU PU	UK	POOR	POOR	UNSUITABLE		SPRIM	NG OR SEEP						FRESH ROCK.	C HAMMER BL	UWS AND SF	IOWS SIGNIFICANT LOSS OF STRENGTH
		PIOF A-7	-5 SUBGROUP					> LL - 30			0.00.						MODERATELY					STAINED. IN GRANITOID ROCKS, ALL F
			CONSIS	STENCY							╉──────		MISCELLA	NEOUS SYMBO	ILS		SEVERE (MOD. SEV.)					AOLINIZATION. ROCK SHOWS SEVERE L T'S PICK. ROCK GIVES "CLUNK" SOUND
PRIMARY	SOIL TYPE		MPACTNESS			GE OF STA RATION RE	SISTENCE		E OF UNC	TRENGTH	ROADWAY EMB	ANKMEN	T (RE) 25/02						STED, WOULD			
		_				(N-VALUE	)	_	(TONS/FT	2)		SCRIPTI		CDT	CTURES		SEVERE (SEV.)					STAINED. ROCK FABRIC CLEAR AND E N GRANITOID ROCKS ALL FELDSPARS 4
GENERA			VERY LOOS LOOSE	Ē		< 4 4 TO 10	9				SOIL SYMBOL			DPT DMT TEST BOF		SLOPE INDICATOR INSTALLATION	(SEV.)	TO SOM	ME EXTENT. S	SOME FRAGM	ENTS OF ST	RONG ROCK USUALLY REMAIN.
GRANUL MATERI		м	EDIUM DEN	SE		10 TO 3	Ø		N/A					AUGER BORING		CONE PENETROMETER			STED, WOULD			
(NON-C	DHESIVE)		DENSE VERY DENS	ε		30 TO 5 > 50	Ø				THAN ROADWAY	Y EMBAN	NKMENT U	) HOULIN DOMINO	$\mathbf{\Theta}$	TEST	VERY SEVERE					STAINED. ROCK FABRIC ELEMENTS AF DIL STATUS,WITH ONLY FRAGMENTS O
			VERY SOF	r		< 2			< 0.25		- INFERRED SOIL	L BOUN	DARY -	)- CORE BORING	•	SOUNDING ROD	(V SEV.)	REMAIN	NING. SAPROL	ITE IS AN E	XAMPLE OF	ROCK WEATHERED TO A DEGREE THAT
GENERA SILT-C		м	SOFT IEDIUM STI	FF		2 TO 4 4 TO 8			0.25 TO 0		INFERRED ROC	'K I INF	MW O	MONITORING WE	ш 📥	TEST BORING	COMPLETE					IN. <u>IF TESTED, WOULD YIELD SPT N V</u> DISCERNIBLE, OR DISCERNIBLE ONLY
MATER	AL		STIFF			8 TO 15	5		1 TO 2		_			PIEZOMETER	$\Psi$	WITH CORE	COMPETE	SCATTE	ERED CONCEN			BE PRESENT AS DIKES OR STRINGERS
(COHES	IVE)		VERY STIF HARD	·		15 TO 3 > 30	Ø		2 TO 4 > 4		ALLUVIAL SOIL	L BOUND	DARY 🛆	INSTALLATION	$\bigcirc$	- SPT N-VALUE		ALSO A	AN EXAMPLE.			
			TEX	TUREO	R GF	RAIN S	IZE					R	ECOMMEN	DATION SYMB	OLS		1				ROCK HA	
U.S. STD. S	EVE SIZE		4	10	40	60	200	270					CLASSIFIED EX	CAVATION -		SIFIED EXCAVATION -	VERY HARD		AL HARD BLO			P PICK. BREAKING OF HAND SPECIMEN S PICK.
OPENING (N	1M)		4.76	2.00	0.42			0.053					SUITABLE WAS		USED I	ABLE, BUT NOT TO BE N THE TOP 3 FEET OF	HARD				OR PICK ONL	Y WITH DIFFICULTY. HARD HAMMER B
BOULD		BBLE	GRAVE		COARS SAND		F INE SAND		SILT	CLAY			CEPTABLE DEG	CAVATION - RADABLE ROCK	EMBANK	MENT OR BACKFILL	MODEDATELY		TACH HAND SI			
(BLDR	.) ()	COB.)	(GR.)		(CSE. S		(F SD		SL.)	(CL.)				EVIATIONS			MODERATELY HARD					UGES OR GROOVES TO 0.25 INCHES DE T'S PICK. HAND SPECIMENS CAN BE D
GRAIN M		75		2.0		0.25		0.05	0.005		AR - AUGER REFUSAL	_	MED I			- VANE SHEAR TEST			DERATE BLOW			
SIZE IN		3									BT - BORING TERMINATED CL CLAY	J		MICACEOUS MODERATELY		- WEATHERED UNIT WEIGHT	MEDIUM HARD					DEEP BY FIRM PRESSURE OF KNIFE C TICES 1 INCH MAXIMUM SIZE BY HARD
			MOISTU			LATIO	N OF	TERMS			CPT - CONE PENETRATION	N TEST	NP - N(	ON PLASTIC		DRY UNIT WEIGHT		POINT	OF A GEOLOG	GIST'S PICK.		
	MOISTURE			FIELD MOI DESCRIP		GUI	DE FOR F	IELD MOIS	STURE DES	CRIPTION	CSE COARSE DMT - DILATOMETER TES	т		DRGANIC PRESSUREMETER TE	ST <u>SA</u>	MPLE ABBREVIATIONS	SOF T					NIFE OR PICK. CAN BE EXCAVATED IN BY MODERATE BLOWS OF A PICK POIN
				- SATURAT	ED -			UID. VERY	WET, USUA		DPT - DYNAMIC PENETRAT e - VOID RATIO	TION TE		SAPROLITIC AND, SANDY	S - E				5 CAN BE BRO			
				(SAT.)	20				UND WATE		F - FINE			ILT, SILTY		SPLIT SPOON SHELBY TUBE	VERY SOFT					VATED READILY WITH POINT OF PICK. ( FINGER PRESSURE. CAN BE SCRATCH
PLASTIC		LIMIT									<ul> <li>FOSS FOSSILIFEROUS</li> <li>FRAC FRACTURED, FRAC</li> </ul>	TURES		SLIGHTLY TRICONE REFUSAL	RS -	ROCK RECOMPACTED TRIAXIAL	3011	FINGER		NE33 CHIN DE	DRUKEN BI	FINGER FRESSORE, CHN BE SCHATCH
RANGE <				- WET - (\	W)			EQUIRES L MUM MOIS	DRYING TO TURE		FRAGS FRAGMENTS	TONES		ISTURE CONTENT		- CALIFORNIA BEARING	F	RACT	TURE SP	ACING		BEDDING
(PI) PL	. + PLAST	IC LIMIT									HI HIGHLY		V - VEF			RATIO	TERM	-		SPACING		
0			TURE	- MOIST -	(M)	SOL	ID; AT OF	NEAR OP	тімим мо	ISTURE				ON SUBJECT			VERY WIDE WIDE	•		E THAN 10 3 TO 10 FEE		VERY THICKLY BEDDED THICKLY BEDDED 1
											DRILL UNITS:		NCING TOOLS: CLAY BITS		HAMMER	TYPE:	MODERATE CLOSE	LY CLO		1 TO 3 FEE .16 TO 1 FO		THINLY BEDDED 0.1 VERY THINLY BEDDED 0.0
				- DRY - (C	וכ				WATER TO	)				FLIGHT AUGER			VERY CLO	SE		THAN 0.16		THICKLY LAMINATED 0.00
							AIN OPT)	MUM MOIS	IURE		CME-55		8 HOLLOW AUG		CORE SIZ	_						THINLY LAMINATED <
					STICI								HARD FACED F		∐-в _	L-+						ATIUN NG OF MATERIAL BY CEMENTING,HE
	N PLASTIC			PLASTIC	0-5	DEX (PI)			VERY LOW		CME-550				□-N _				UCKS, INDUR			INGER FREES NUMEROUS GRAINS:
SL	GHTLY PLA				6-15				SLIGHT		VANE SHEAR TEST		TUNGCARBIDE		HAND TO	OLS:	FRIABL	.E				Y HAMMER DISINTEGRATES SAMPLE.
	DERATELY F GHLY PLAST				16-25 OR MO	IRE			MEDIUM HIGH							ST HOLE DIGGER	MODER	ATELY	INDURATED			SEPARATED FROM SAMPLE WITH ST
											PORTABLE HOIST			STEEL TEETH	тан 🗙	ND AUGER						WHEN HIT WITH HAMMER.
L				<u></u>							1		TRICONE	TUNGCARB.		JNDING ROD	INDURA	ITED				FICULT TO SEPARATE WITH STEEL REAK WITH HAMMER.
	TIONS MAY ODIFIERS S												CORE BIT			NE SHEAR TEST		MEL 97 -				BLOWS REQUIRED TO BREAK SAMPLE
M	UDIFIERS S	ULH AS	LIGHI, DAR	C, STREAK	ED, EIC	. ARE US		SURIBE A	FFEARANCE	•		$  \sqcup  $			$  \sqcup  $		EXTRE	MELY IN	NDURATED			ACROSS GRAINS.

## PROJECT REFERENCE NO.



D. AN INFERRED									
SPT REFUSAL. FOOT PER 60	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. ADUIFER - A WATER BEARING FORMATION OR STRATA.								
IS OFTEN	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								
N VALUES >	A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.								
in incoco y	ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT								
CK THAT	WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.								
CLUDES GRANITE,	CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.								
L PLAIN IF TESTED.	COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM								
	OF SLOPE.								
MAY NOT YIELD TONE, CEMENTED	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.								
RINGS UNDER	DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE								
DATINGS IF OPEN,	HORIZONTAL.								
AMMER BLOWS IF	DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.								
CK UP TO _ FELDSPAR	FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.								
BLOWS.	FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.								
S. IN Y. ROCK HAS	FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM								
AS COMPARED	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								
ELDSPARS DULL DSS OF STRENGTH	FIELD.								
WHEN STRUCK.	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								
VIDENT BUT RE KAOLINIZED	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								
E DISCERNIBLE	USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.								
STRONG ROCK	PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE								
ONLY MINOR ALUES < 100 BPF	OF AN INTERVENING IMPERVIOUS STRATUM.								
IN SMALL AND	<u>RESIDUAL (RES.)SOIL</u> - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. ROCK OUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF								
. SAPROLITE IS	ROCK SEMENTS EQUAL TO OR OREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.								
S REQUIRES	SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.								
S NEGOTIES	SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND								
OWS REQUIRED	RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.								
EP CAN BE ETACHED	<u>SLICKENSIDE</u> - 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								
R PICK POINT. BLOWS OF THE	WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL								
	TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.								
FRAGMENTS T. SMALL, THIN	<u>STRATA CORE RECOVERY (SREC.)</u> - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.								
PIECES 1 INCH	<u>STRATA ROCK QUALITY DESIGNATION (SROD)</u> - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY								
ED READILY BY	THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.								
	TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.								
	BENCH MARK: N/A								
THICKNESS 4 FEET									
5 - 4 FEET	ELEVATION: N/A FEET								
6 - 1.5 FEET 3 - 0.16 FEET	NOTES:								
8 - 0.03 FEET	BORING ELEVATIONS TAKEN FROM TIN FILE b5655_Is_tol.tin								
0.008 FEET	DATED 11/11/2016.								
AT, PRESSURE, ETC.									
EEL PROBE:									
PROBE:									
:									
	DATE: 8-15-14								





## STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

**ROY COOPER** GOVERNOR

June 10, 2019

JAMES H. TROGDON, III

SECRETARY

STATE PROJECT: 45610.1.1 (B-5655) FEDERAL PROJECT: COUNTY: EDGECOMBE **DESCRIPTION:** Replace Bridge No. 11 over Town Creek on NC 111/NC 122 SUBJECT: Geotechnical Report – Inventory

The Geotechnical Engineering Unit has completed a subsurface investigation for this roadway project and presents the following inventory.

## **Project Description**

This project consists of widening of existing NC 111/NC 122 (-L-) and NC 111 (-Y-). The types of work include grading, drainage, paving, and structure. The structure inventory will be completed at a later date.

A geotechnical investigation was conducted during May of 2019. Five hand auger borings were performed by the Geotechnical Engineering Unit. Representative soil samples were collected for visual classification in the field.

The following alignment, totaling 0.17 miles, was investigated. Subsurface plans and a profile of this alignment are included in this report.

Line	<b>Stations</b>
-L-	10+25 to 21+40

## **Physiography and Geology**

The project is located 2.4 miles north of the town of Pinetops and within the Coastal Plain Province. Soils consist of sands originating from Coastal Plain. The terrain is relatively flat. The widening project mostly consists of woods and grassy areas.

## **Soils Properties**

Soils encountered during this investigation are roadway embankment, Undivided Coastal Plain, and alluvial.

Roadway Embankment soils are present throughout the project. These soils primarily consist of tan-brown, moist, very loose to loose, silty sand (A-2-4).

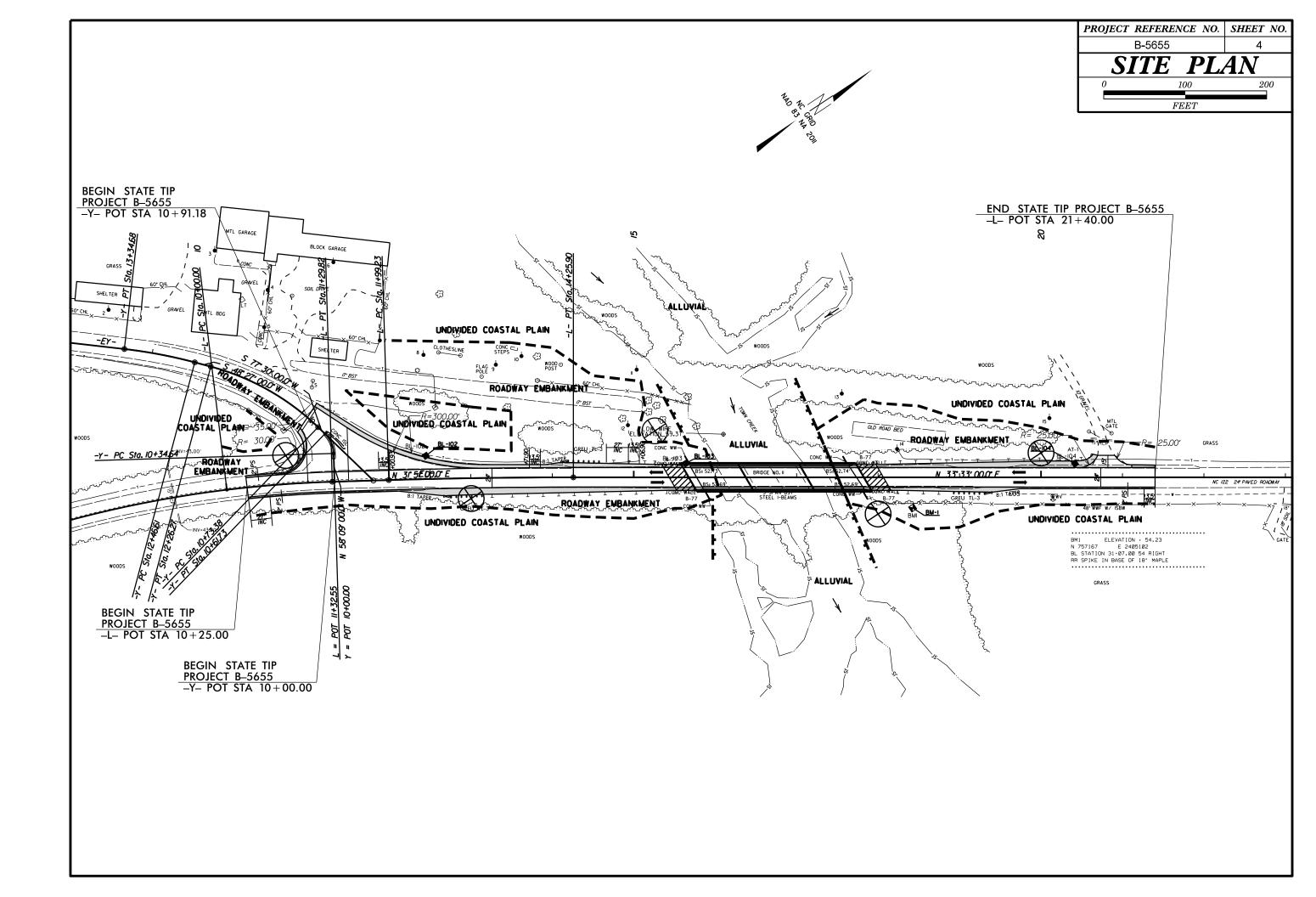
Mailing Address:	Telephone: 919-707-6850	Location:
NC DEPARTMENT OF TRANSPORTATION	Fax: 919-250-4237	CENTURY CENTER COMPLEX
GEOTECHNICAL ENGINEERING UNIT	Customer Service: 1-877-368-4968	ENTRANCE B-2
1589 MAIL SERVICE CENTER		1020 BIRCH RIDGE DRIVE
RALEIGH NC 27699-1589	Website: www.ncdot.gov	RALEIGH NC
	websue, www.ncdol.gov	

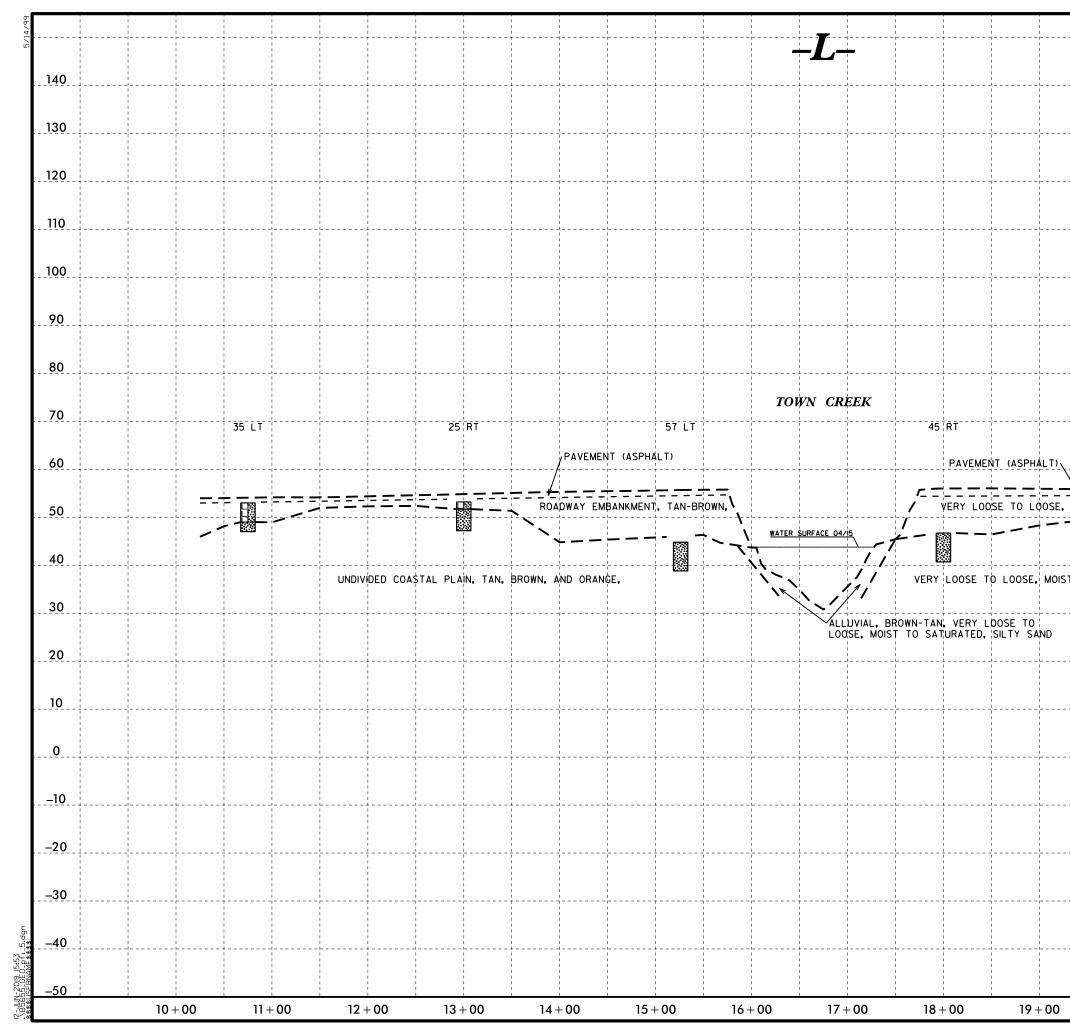
Alluvial soils are anticipated to be found in Town Creek and the immediate surrounding areas. These soils consist of brown-tan, moist to saturated, very loose to loose, silty sand (A-2-4).

Undivided Coastal Plain soils were encountered throughout the project. These soils are characterized by tan, brown, and orange, moist to saturated, very loose to loose, silty sand (A-2-4).

## Groundwater

Groundwater measurements were taken in May of 2019 during average rainfall conditions. Groundwater is anticipated to be similar in elevation to Town Creek.





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