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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION **DIVISION OF HIGHWAYS CONTENTS** GEOTECHNICAL ENGINEERING UNIT C SHEET NO. **DESCRIPTION 4B**(TITLE SHEET **STRUCTURE** LEGEND 2 SITE PLAN ٦ SUBSURFACE INVESTIGATION Ň 4-6 CROSS SECTIONS 7-13 BORE LOGS う SITE PHOTOGRAPHS N COUNTY_GUILFORD PROJECT DESCRIPTION GREENSBORO WESTERN LOOP (I-73 CONNECTOR) FROM I-73/I-840 TO SR 2085 (BRYAN BOULEVARD) INTERCHANGE E SITE DESCRIPTION BRIDGE NO. 743 OVER SR 2085 **REFERENC** (BRYAN BOULEVARD) ON SR 2140 (INMAN ROAD) 4820 3

PROJEC

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U–2524BC	1	14

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 SOLI TEST DATA AVAILABLE MAY BE REVEWED OR INSPECTED IN RALEICH BY CONTACTING THE N.C. DEPARTMENT OF TRANSPORTATION, GEOTECHNICAL ENGINEERING UNIT AT 1991 707-6800. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

CENERAL 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 STIU (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 SOLL MOISTURE CONDITIONS INDICATED IN THE SUBSURFACE INVESTIGATIONS ARE AS RECORDED AT THE TIME OF THE INVESTIGATION. THESE WATER LEVELS OR SOL 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 OF 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 INTERRETATIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MARE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY IMMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THA CAULAL CONDENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE SUBSURFACE INFORMATION.

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PERSONNEL

B. WORLEY, PG

B. SMITH, PG

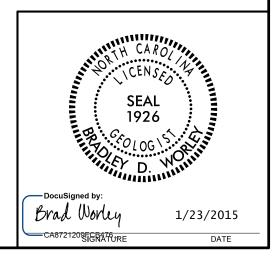
J. ELLIOTT, PE

J. BARE

T. BRIGMAN

INVESTIGATED BY <u>B.</u> WORLEY, PG

DRAWN BY _____ B. WORLEY & M. BRANDON CHECKED BY _D. DEWEY, PE Summit Design and SUBMITTED BY Engineering Services, PLLC



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

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

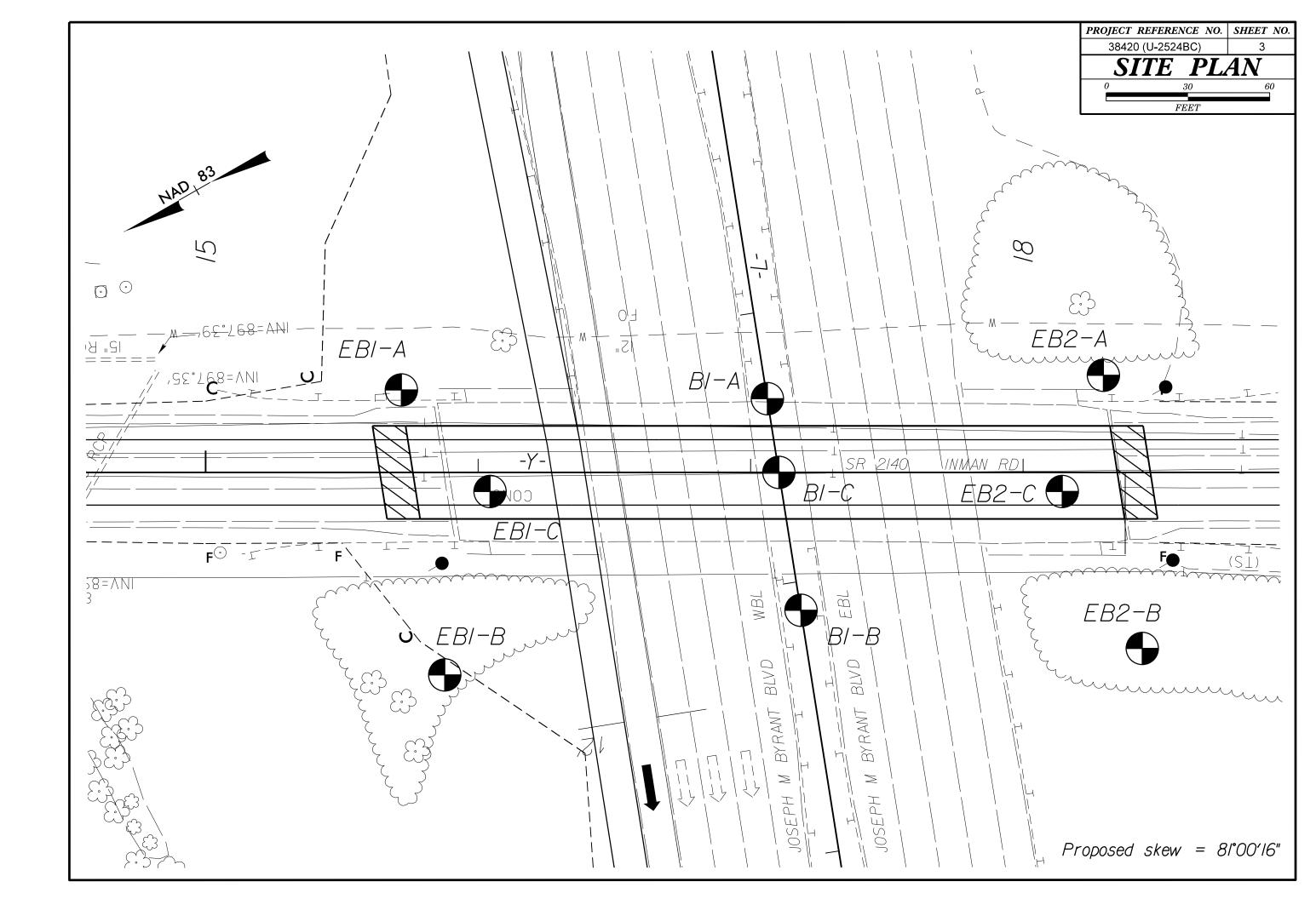
SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS
SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT	WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE.	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.	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
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:	GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES 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	AQUIFER - A WATER BEARING FORMATION OR STRATA.
CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH	ANGULARITY OF GRAINS	REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:	ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
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	THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS:	WEATHERED WALLEY DIVIDED AS FOLLOWS:	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.
SOIL LEGEND AND AASHTO CLASSIFICATION	ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.	ROCK (WR) 100 BLOWS PER FOOT IF TESTED.	ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT
GENERAL GRANULAR MATERIALS SILT-CLAY MATERIALS ORGANIC MATERIALS		CRYSTALLINE	WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.
CLASS. (≤ 35%, PASSING *200) (> 35%, PASSING *200) (> 35%, PASSING *200) Otomatic finite fin	MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.	ROCK (CR) WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, 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 CLASS. A-1-b A-2-4 A-2-6 A-2-7 A-7, A-7, A-7, A-7, A-7, A-7, A-7, A-7,	COMPRESSIBILITY	NON-CRYSTALLINE FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN	COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM
SYMBOL BOOCOCCOUNT AND STATES	SLIGHTLY COMPRESSIBLE LL < 31	ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.	OF SLOPE.
00000000000000000000000000000000000000	MODERATELY COMPRESSIBLE LL = 31 - 50 HIGHLY COMPRESSIBLE LL > 50	COASTAL PLAIN COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, 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.
*10 50 MX GRANULAR SILLT	PERCENTAGE OF MATERIAL		DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT
•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 56 MN	ORGANIC MATERIAL GRANULAR SILT - CLAY SOILS SOILS OTHER MATERIAL	FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER	ROCKS OR CUTS MASSIVE ROCK.
MATERIAL	TRACE OF ORGANIC MATTER 2 - 3% 3 - 5% TRACE 1 - 10%	HAMMER IF CRYSTALLINE.	DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.
PASSING #40 SOLLS 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 THE
LL 40 MX 41 MN LITTLE OR PI 6 MX NP 10 MX 10 MX 11 MN 11 MN 10 MX 10 MX 11 MN 11 MN MODERATE 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 OF A CRYSTALLINE NATURE.	LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.
GROUP INDEX 0 0 0 4 MX 8 MX 12 MX 16 MX NO MX AMOUNTS OF SOILS	GROUND WATER	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. THE STITY OF CLAVEY STITY CLAVEY MATTER	✓ WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING	(SLI.) 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.	SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. <u>FISSILE</u> - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.
OF MAJOR GRAVEL, AND SAND GRAVEL AND SAND SOILS SOILS	STATIC WATER LEVEL AFTER <u>24</u> HOURS	MODERATE SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN	FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM
CEN RATING	∇ PW PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA	(MOD.) GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY, ROCK HAS	PARENT MATERIAL.
AS SUBGRADE EXCELLENT TO GOOD FAIR TO POOR POOR UNSUITABLE	- OM- Spring or seep	DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED 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		MODERATELY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL	FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.
CONSISTENCY OR DENSENESS	MISCELLANEOUS SYMBOLS	SEVERE AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH (MOD.SEV.) AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES 'CLUNK' SOUND WHEN STRUCK.	J <u>OINT</u> - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
PRIMARY SOIL TYPE COMPACTNESS OR COMPACTNESS OR COMPACTNESS OR COMPACTNESS OR COMPACTNESS OR COMPACTNESS OR COMPACTNESS OF COM	ROADWAY EMBANKMENT (RE) 25/025 DIP & DIP DIRECTION	IF TESTED, WOULD YIELD SPT REFUSAL	LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO
		SEVERE ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED, ROCK FABRIC CLEAR AND EVIDENT BUT	ITS LATERAL EXTENT.
GENERALLY VERY LOOSE < 4 CRANN AD LOOSE 4 TO 10	SOIL SYMBOL	(SEV.) REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN.	LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
MANULAR MEDIUM DENSE 10 TO 30 N/A		IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF	MOTILED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTILING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.
(NON-COHESIVE) DENSE 30 TO 50 VERY DENSE > 50		VERY ALL ROCK EXCEPT OUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE SEVERE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK	PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE
VERY SOFT < 2 < 0.25	INFERRED SOIL BOUNDARY - CORE BORING • SOUNDING ROD	(V SEV.) REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR	OF AN INTERVENING IMPERVIOUS STRATUM.
GENERALLY SOFT 2 TO 4 0.25 TO 0.5 SILT-CLAY MEDIUM STIFF 4 TO 8 0.5 TO 1.0		VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. <u>IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF</u> 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.
MATERIAL STIFF 8 TO 15 1 TO 2		SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS, SAPROLITE IS	ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE
(COHESIVE) VERY STIFF 15 TO 30 2 TO 4 HARD > 30 > 4	TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	ALSO AN EXAMPLE.	RUN AND EXPRESSED AS A PERCENTAGE.
TEXTURE OR GRAIN SIZE	RECOMMENDATION SYMBOLS	ROCK HARDNESS	SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.
U.S. STD. SIEVE SIZE 4 10 40 60 200 270	UNDERCUT UNCLASSIFIED EXCAVATION - UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE	VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REOUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.	SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND
OPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.053		HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED	RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO
BOULDER COBBLE GRAVEL COARSE FINE SILT CLAY	SHALLOW UNCLASSIFIED EXCAVATION - USED IN THE TOP 3 FEEL OF UNDERCUT UNCLASSIFIED EXCAVATION - EMBANKMENT OR BACKFILL	TO DETACH HAND SPECIMEN.	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT
(BLDR.) (COB.) (GR.) (CSE. SD.) (F SD.) (SL.) (CL.)	ABBREVIATIONS	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK, GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED	OR SLIP PLANE.
GRAIN MM 305 75 2.0 0.25 0.05 0.005	AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST	BY MODERATE BLOWS.	STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF
SIZE IN. 12 3	BT - BORING TERMINATED MICA MICACEOUS WEA WEATHERED CL CLAY MOD MODERATELY γ - UNIT WEIGHT	MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE	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
SOIL MOISTURE - CORRELATION OF TERMS	_ CPT - CONE PENETRATION TEST NP - NON PLASTIC $\dot{\gamma}_{ m d}$ - DRY UNIT WEIGHT	POINT OF A GEOLOGIST'S PICK.	TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.
SOIL MOISTURE SCALE FIELD MOISTURE (ATTERBERG LIMITS) DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION	CSE COARSE ORG ORGANIC DMT - DILATOMETER TEST PMT - PRESSUREMETER TEST <u>SAMPLE ABBREVIATIONS</u>	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	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	DPT - DYNAMIC PENETRATION TEST SAP SAPROLITIC S - BULK	PIECES CAN BE BROKEN BY FINGER PRESSURE.	STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY
(SAT.) FROM BELOW THE GROUND WATER TABLE	e - VOID RATIO SD SAND, SANDY SS - SPLIT SPOON F - FINE SL SILT, SILTY ST - SHELBY TUBE	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	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.
	FOSS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK	FINGERNAIL.	TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.
RANGE - WET - (W) SEMISULID: REQUIRES DRYING TO	FRAC FRACTURED, FRACTURES TCR - TRICONE REFUSAL RT - RECOMPACTED TRIAXIAL FRAGS FRAGMENTS w - MOISTURE CONTENT CBR - CALIFORNIA BEARING	FRACTURE SPACING BEDDING	BENCH MARK: See NOTE
	HIHIGHLY V-VERY RATIO	TERM SPACING TERM THICKNESS	
OM _ OPTIMUM MOISTURE - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE	EQUIPMENT USED ON SUBJECT PROJECT	VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDED 4 FEET WIDE 3 TO 10 FEET THICKLY BEDDED 1.5 - 4 FEET	ELEVATION: FEET
SL SHRINKAGE LIMIT	DRILL UNITS: ADVANCING TOOLS: HAMMER TYPE: CME-45C CLAY BITS AUTOMATIC X MANUAL	MODERATELY CLOSE 1 TO 3 FEET THINLY BEDDED 0.16 - 1.5 FEET CLOSE 0.16 TO 1 FOOT VERY THINLY BEDDED 0.03 - 0.16 FEET	NOTES:
- DRY - (D) REQUIRES ADDITIONAL WATER TO		VERY CLOSE LESS THAN 0.16 FEET THICKLY LAMINATED 0.008 - 0.03 FEET	Boring collar elevations obtained using TIN file.
ATTAIN UPTIMUM MUISTURE	CME-55	THINLY LAMINATED < 0.008 FEET	(u2524bc_ls_tin.tin)
PLASTICITY			F.I.A.D. = Filled In After Drilling
PLASTICITY INDEX (PI) DRY_STRENGTH	CME-550 HARD FACED FINGER BITS	FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.	
NON PLASTIC Ø-5 VERY LOW SLIGHTLY PLASTIC 6-15 SLIGHT	VANE SHEAR TEST TUNG-CARBIDE INSERTS HAND TOOLS:	FRIABLE GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.	Borings EBI-C, BI-C, and EB2-C are from the original1989
MODERATELY PLASTIC 16-25 MEDIUM HIGHLY PLASTIC 26 OR MORE HIGH	CASING W/ ADVANCER	MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE;	Inman Rd.Bridge Inventory, completed by the NCDOT GEU
	PORTABLE HOIST	BREAKS EASILY WHEN HIT WITH HAMMER.	Raleigh Geotechnical Field Office. Boring names were changed
COLOR		INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.	to reflect current proposed bent designations.
DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY).		SHARD HANNER DI DUS REQUIDED TO REFAY SAMPLE.	
MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.		EXTREMELY INDURATED SHARP HAMMER BLOWS REGULATION BRAKE SHAPELE;	DATE: 8-15-14

SHEET NO.

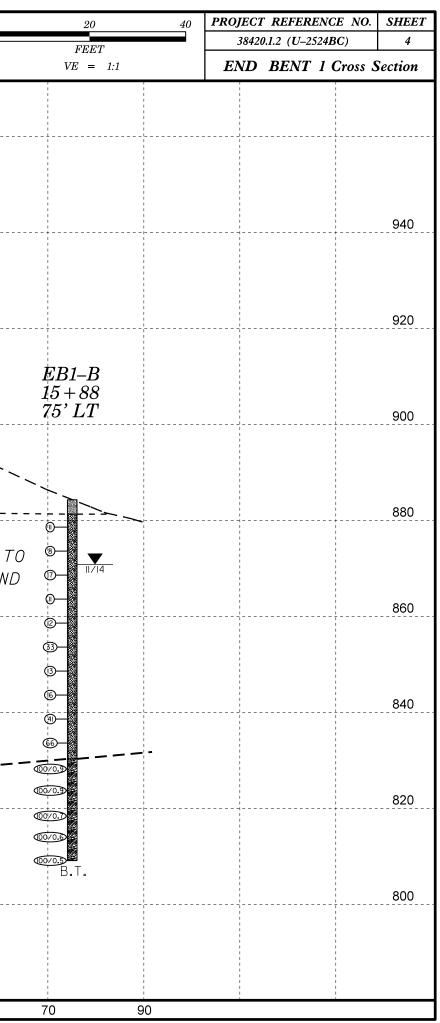
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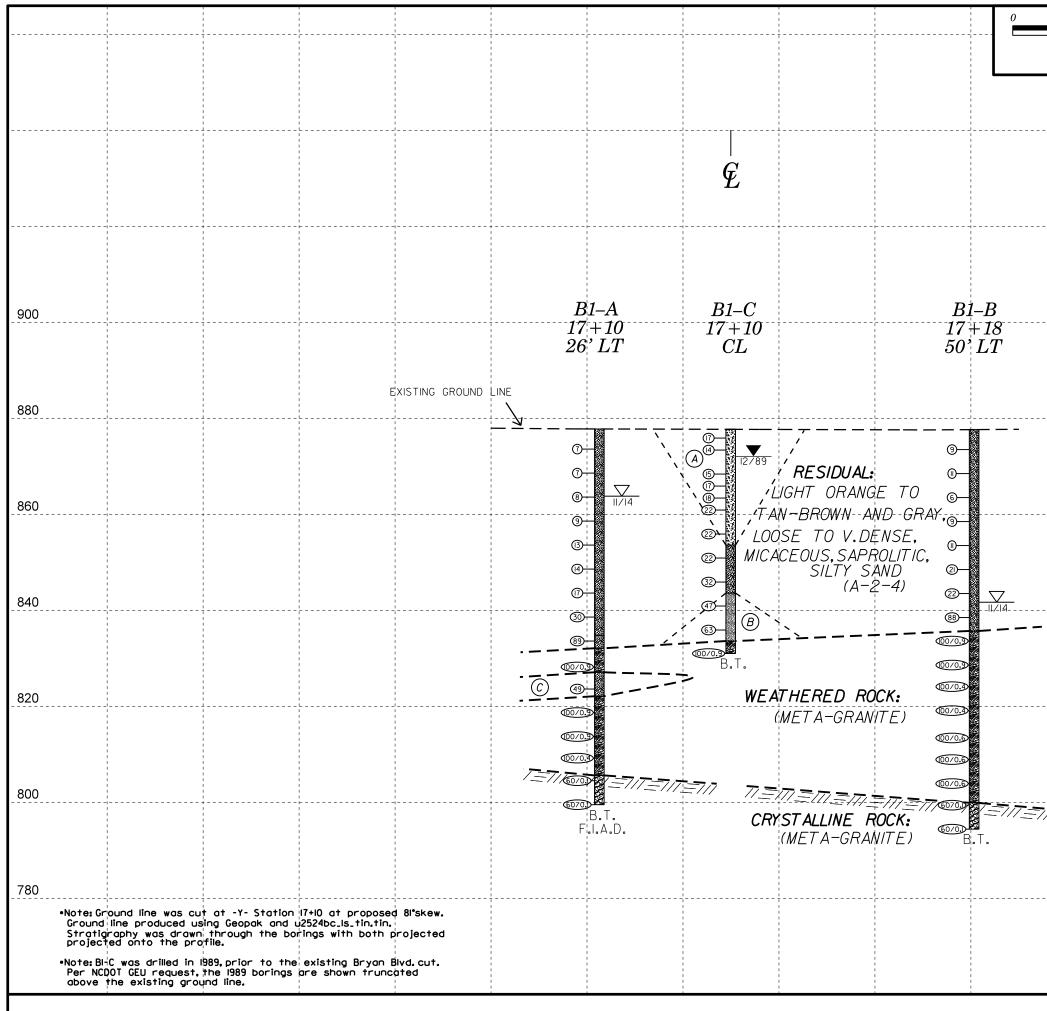
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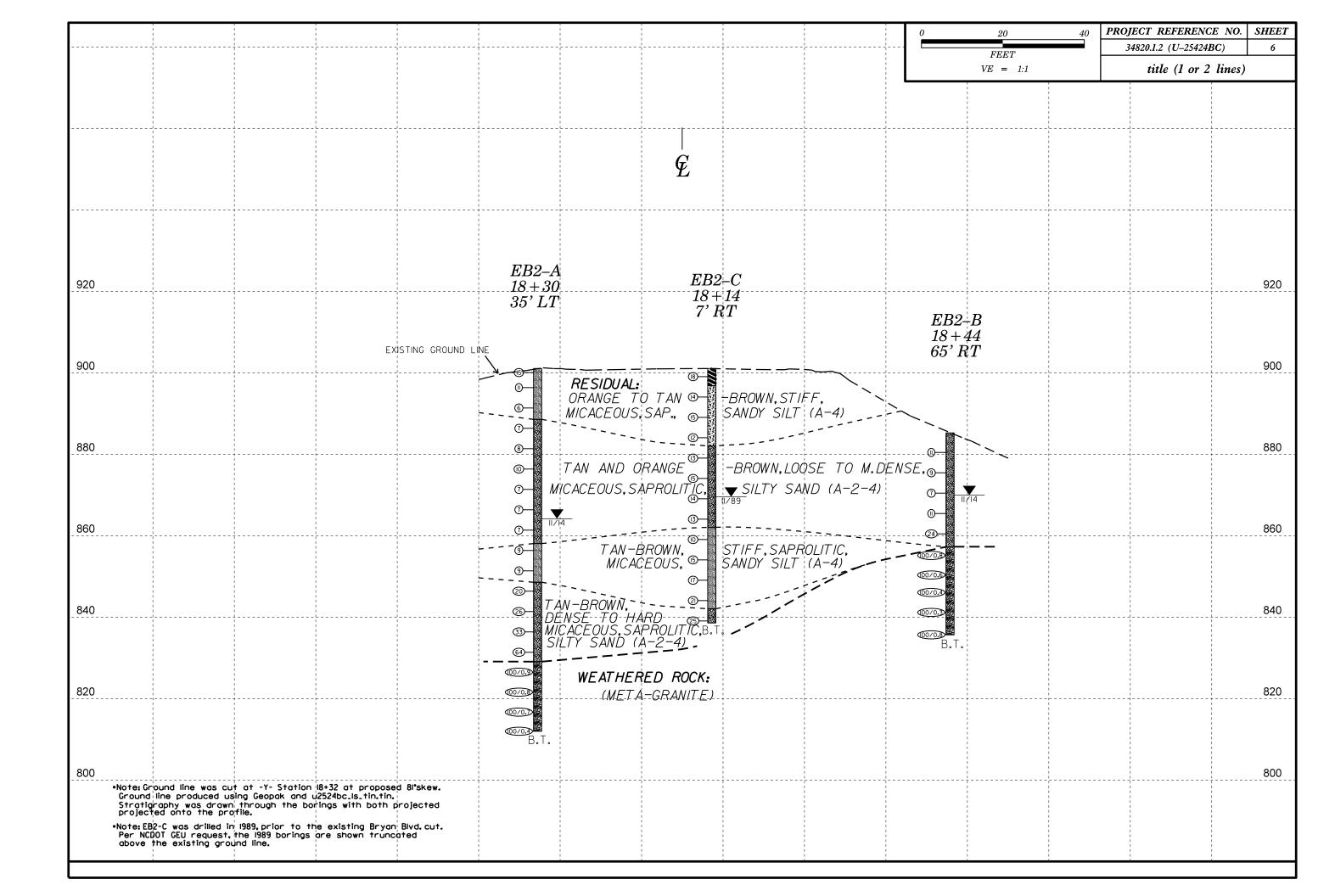


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Grou	e:Ground line was cut at -Y- Statio bund line produced using Geopak and atigraphy was drawn through the b jected onto the profile.	1 12524bc le tio tio	1	00/0.0					
	e:EBI-C was drilled in 1989, prior to t NCDOT GEU request, the 1989 boring ove the existing ground line.				• 1 1 1 1 1 1			, 	
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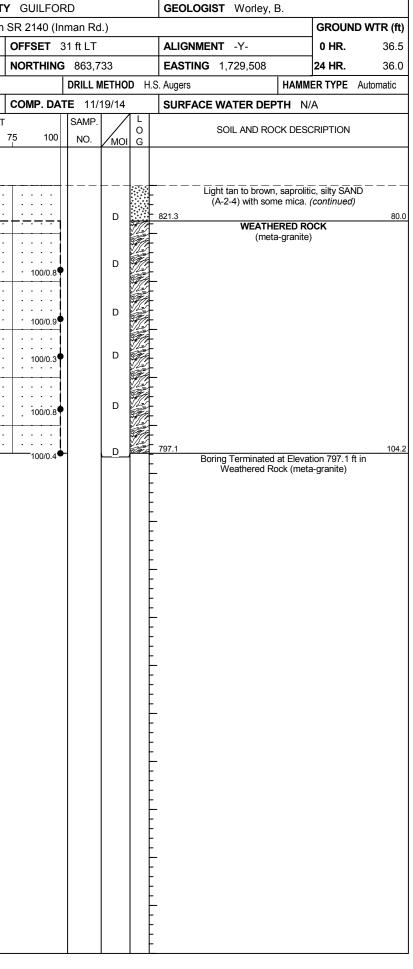




	20	40	PROj	IECT REI	FERENC	E NO.	SHEET
F	TEET			38420.1.2 (U–2524B	C)	5
	= 1:1			BENT	1 Cros	ss Secti	on
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A		AL: RE	D-GF	AY, MIC	CACEO	US,SA	NDY
 	SILT T RFSINI	(A-5) 1 81	<u> </u>	א <i>רב</i> יתי	~~~~~~		780
) RESIDU SILT	(A-4)	w, <i>W</i> //C	AUEUU	3,3A/	γDI	
	RESIDU	IAL:		1 		, , , ,	
		WHITE				ROLIT I	С,
1	DENSE	SILTY	SAND	(A-2-	-4)		



	34820					I P U-2				OUNT						GEO	DLOGIST Worley, B.	1			34820					P U-2524		COUNTY
				ge No		over SR			an Blv	/d.) on				,				-	D WTR (ft)					lge No				Blvd.) on S
	NG NO				_	TATION							31 ft LT			_	GNMENT -Y-	0 HR.	36.5		ING NO.					TATION 1		(
	AR EL					OTAL D					NOR	THING	863,				STING 1,729,508	24 HR.	36.0		LAR ELI					DTAL DEPT		
			FF./DA	TE SL		3 DIEDRIG				2014						H.S. Auge		IER TYPE	Automatic				FF./DA	TE SI		DIEDRICH D		
						TART D	ATE					P. DA	TE 11		4 ∕/∟		RFACE WATER DEPTH N	I/A			LER B	1						
ELEV (ft)	DRIVE ELEV	DEPTH (ft)	·	0.5ft			25		S PEF 50	R FOOT	75	100	SAMP NO.	1.7	0		SOIL AND ROCK DES	CRIPTION		ELEV (ft)	DRIVE ELEV	DEPTH (ft)		0.5ft	_	0 2		PER FOOT
	(ft)		0.011	0.011	0.011								110.		DI G	ELEV.	(ft)		DEPTH (ft)		(ft)		0.51	0.51	0.51	+		
905																				825							Mate	ch Line
905		ŧ														F				025		+		+	+			
		ŧ														- 901.3	GROUND SURF	ACE	0.0		822.5	- 78.8 -	19	23	33			
900	-	ŧ					•••		•		· · ·	· ·				-	RESIDUAL Orange-brown, micaceous		ШΤ	820		ŧ					· · · ·	
	897.5	+ + 3.8] :i		· · · · · ·		 		· · ·				- -	(A-4).	, n oundy of			817.5	- 83.8						
895		ŧ	2	4	5	9	•••	· · · · · ·	• •	· · · · · · · ·		· · ·		D		-				815	-	ŧ	27	55	45/0.3			
	-	ŧ														-				010		ŧ						
	892.5	+ 8.8 +	2	2	2		•••	· · · · · ·	: :	 				D		-					812.5	+ 88.8 +	27	41	59/0.4			
890	-	ŧ					•••		· · ·	· · · ·		• •				888.8			12.5	810		ŧ					· · · ·	
	887.5	+ + 13.8				· \ ·		· · · · · ·		 						<u> </u>	Light tan to brown, saproli		ND 12.3		807.5	93.8						
885		ŧ	2	4	5	9	•••	· · · · · ·		· · · · · · · ·		•••		D			(A-2-4) with some	mica.		805	-	Ŧ	100/0.3					
	-	Ŧ				<u>.</u>					· · ·					-					-	Ŧ						
	882.5	+ 18.8 +	1	3	6			· · · · · ·		· · · · ·				D							802.5 -	<u>† 98.8</u> T	52	48/0.3				
880	-	Ŧ				$\left \frac{\cdot T}{T} \right $		· · ·		· · · ·		•••								800	-	Ŧ						· · · ·
	877.5	23.8	2	5	9																797.5	103.8	100/0 /					· · · · ·
875		Ŧ		5	9		14							D								Ŧ	100/0.4					
		Ŧ														F					-	Ŧ						
	8/2.5	+ 28.8 	2	4	6	 	ġ :							D								Ŧ						
870	-	Ŧ							-		+										-	Ē						
	867.5	33.8	2	3	5		•••					· · ·									-	ł						
865	_	ŧ	-	Ŭ	Ū		•••		• •						_						-	<u>l</u>						
	862.5	+ 38.8					· ·	· · ·	· ·	 		· ·									-	ŧ						
000	002.0	- <u>50.0</u>	2	2	3	• 5	· ·	· · ·	• •	 	· ·	•••		м							-	ŧ						
860	-	ŧ				<u> 1</u>					1.					-					-	ŧ						
	857.5	43.8	2	3	6		· ·	· · · · · ·		 	· ·	· · ·		М							-	ŧ						
855	-	‡				· ¶9	• •		• •		· · ·	• •										÷						
	852.5	+ + 48.8				: <u>;</u>		· · · · · ·	: :	· · · · · · · ·		· ·				- -					-	ŧ						
850		ŧ	2	3	6	1	•••	· · · · · ·	· · ·	· · · · · · · ·		· · · ·		M							-	ŧ						
000	-	ŧ									1					-					-	ŧ						
	847.5	+ 53.8 +	3	6	8	::\		· · · · · ·		 		•••		м							-	ŧ						
845	-	ŧ							· · ·	· · · ·	· ·	• •									-	ŧ						
	842.5	+ + 58.8		_				· · · · · ·		 		•••				- -					-	ŧ						
840		ŧ	4	5	8	::•	13	· · · · · ·		· · · · ·		•••		M							-	ŧ						
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	837.5	+ 63.8 T	4	9	12									м							-	Ŧ						
835	-	Ŧ					\			· · · · ·	+ • •					E					-	Ŧ						
	832.5	68.8	11	13	16			N: : :	. .	· · · ·				_							-	Ē						
830	· -	£			10			Q 29		 				D							-	É						
	007 5	±						1				: :]									-	ŧ						
<u>830</u> 825	827.5	<u>+ 73.8</u> _	9	14	20			●34		 		•••		D								ŧ						
825		Ĺ						<u> </u>																				



NCDOT GEOTECHNICAL ENGINEERING UNIT

WBS	34820).1.2			ТІ	P U-25	524B0	С	С	OUNT	Y GL	JILFO	RD			GE	OLOGIST Pilipchuk	i, J.L.	•	WBS	34820	.1.2			TI	P U-2524	3C	COUNT	ſY
	DESCR			ge No					an Blv	/d.) on				d.)					GROUND WTR (ft)					lge No		over SR 208		Blvd.) or	n Sl
BOR	ING NO.	. EB1-	-C		_	TATION					OFF	SET	7 ft RT			AL	GNMENT -Y-		0 HR. 36.0	BOR	ING NO.	EB1	-В		S	TATION 15	;+88		
COL	LAR ELI	EV. 90	04.9 ft		т	OTAL DI	EPTH	60.4	4 ft		NOR	THING	3 863,	541		EA	STING 1,729,335		24 HR. N/A	COL	LAR ELE	EV. 88	34.3 ft		т	OTAL DEPT	H 75.2 ft	t	N
DRILL	RIG/HA	MMER E	FF./DA	TE CN	1E 45B								DRILL	METH	OD H	H.S. Aug	ers	HAMM	ER TYPE Manual	DRIL	RIG/HAI	MMER E	FF./DA	TE SI	JM0093	DIEDRICH D	50 86% 10/	10/2014	
DRIL	LER C	conley,	-			TART D						IP. DA	TE 12		9	SU	RFACE WATER DEP	TH N/	Ά	DRIL	LER B	are, J.				TART DATE			C
ELEV	DRIVE ELEV	DEPTH	<u> </u>	W COL						R FOOT		100	SAMP				SOIL AND ROO	CK DESC	CRIPTION	ELEV	DRIVE ELEV	DEPTH	· – – – – – – – – – – – – – – – – – – –				BLOWS F		
(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25		50		75	100	NO.	И	DI G	ELEV	. (ft)		DEPTH (ft)	(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0 2	25 5	50	75
905																904.9	GROUNI	D SURFA	ACE 0.0	885									
	904.9	0.0	1	3	5	. 😽 .								М		F		SIDUAL	CIAY(A-7-6)		-	-				· · · ·	· · · ·		·Τ
l	901.0	3.9														902.2	Red, white, and bro		2.1		-	-							
900	-	+	5	9	11			· · · ·						M	V V	÷	SIL	T (A-5).		880	879.6 -	4.7	3	4	7				
		Ŧ					· [·]								N N	E					-	E			'	1 1			
895	896.0	8.9	5	7	11									м	N N	E				875	874.6								
	-	Ŧ					· [·					• •			N N N	E					0/4.0	<u>9.7</u>	2	3	5				•
	891.0	13.9			-		!:	· · ·				•••			N V N						-					·		· · ·	
890	_	÷	4	6	8		14—							M	N N N	÷				870	869.6 -	- 14.7	4	6	11	· · · · · ·			-
	-	ŧ					۱. ۱.	· · ·	· · ·						N N	÷					-					$ \cdot \cdot$:
885	886.0	18.9	5	8	11		· . - 19–		• •		· ·	• •		м	N N N	÷				865	- 864.6	- 19 7				· · /			·
	-	ŧ					. I .	· · ·	· ·						N N N N	882.9			22.0			- 10.7	3	5	6				:
	881.0	23.9		_	40		· · ·	· ·	 		•••					Tan, white, and gray silty SA	∕, micace ND (A-2-	eous, saprolitic, 4).		-								
880	-	ŧ	5	· /	10		• 17+				+			M						860	859.6 -	- 24.7	2	5	7	12			
	-	†				:: <i>!</i>	! .	· · ·	· · ·	 											-	-				$\left \begin{array}{ccc} \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \cdot \\ \cdot \cdot \cdot \\ \cdot \cdot \\ \cdot \cdot \\ \cdot \cdot \\ \cdot \\$		· · · ·	
875	876.0	28.9	3	5	6	/ . ∳1	 1——		• •		· ·	• •		w						855	- 854.6	- 29.7				· · · · · · · · · · · · · · · · · · ·	<u> </u>		·
	-	ŧ				· · · · ·		· · · · · ·		 		•••									-		7	12	21	· · · ·	9 33	· · · · · ·	:
870	871.0	33.9	3	6	6			· · · · · ·	· · ·	 		•••								850	-	-				· · · ·		· · · · · ·	
0/0	-	ŧ		Ŭ	U		12				1.			W						0.00	849.6 -	- 34.7	4	4	9	· · · · · · · · · · · · · · · · · · ·			
1	866.0	+ 38.9						· · · · · ·		 		•••									-	-							
865		- 30.9	3	5	7	i -	 12		· ·	· · · ·				w						845	- 844.6	- 39.7					· · · · ·	· · · ·	·
1	-	ŧ					X.	· · ·		· · · ·						ļ					-	-	3	5	11	16			:
860	861.0	43.9	5	10	15		\	· · ·				•••		l w		ļ.				840	-	- 							
	-	Ŧ		-				25						**		ļ.					839.6 -	- 44.7 -	10	17	24		• • • • 41		
	856.0	48.9										•••									-	-				· · · · ·			
855	-	+	14	23	46					\rightarrow	69			W		F				835	834.6 -	49.7	13	28	38				
		Ŧ					•••					•••				Ē					-	E		20	00				36
850	851.0	53.9	17	21	23				. / .			• • •		l w		į.				830	- 829.6								•
	-	ŧ						· · · ·	ار.												- 029.0		24	38	62/0.4			· · ·	
	. 846.0	58.9						· · ·	: \ :			•••									-							· · ·	
845	-	+	18	19	35			· · · ·	•	54				W		844.5	Boring Terminated	at Elevat	60.4 tion 844 5 ft in	825	824.6	- 59.7	30	70/0.4	-				-
	-	ŧ														Ł	micaceous Si	ity SAND	D (A-2-4)		-								
	-	†														F	*Boring completed investigation for ex			820	- 819.6	647							·
	-	ŧ														F	Byran Blvd. bridge.	Boring c	originally called		-		23	47	53/0.2				:
	-	ŧ														Ę	"EB2-CR" becaus		erent design.	045	-	_						· · · ·	
	-	ŧ														F				815	814.6	- 69.7 -	85	15/0.1					.
	-	‡														þ					-	ŀ						· · · ·	
	-	‡														F				810	- - 809.6	- 74.7					· · · ·		•
	-	‡														F					-		100/0.5					1	
	-	‡														F					-	ŀ							
	I	L	1			1							1			L					I	L	I	I		l			

GUILFOR	D			GEOLOGI	ST Worley, E	3.		
SR 2140 (Inr	man Rd	.)					GROUN	D WTR (ft)
OFFSET 7	5 ft RT			ALIGNME	NT -Y-		0 HR.	18.0
NORTHING	863,7	71		EASTING	1,729,409		24 HR.	13.5
	DRILL N	IETHO	о н.	S. Augers		HAMM	ER TYPE	Automatic
COMP. DAT	E 11/2	20/14		SURFACE	WATER DEP	TH N/	4	
75 400	SAMP.		L O	•	SOIL AND ROC	K DESC	RIPTION	
75 100	NO.	/моі	G					
				- 884.3	GROUNE		CE	0.0
			F		RES Orange-brown,	IDUAL sandy S	LT (A-4).	
					ght tan to brown,	saprolitio	c, silty SAN	3.0 D
		D		-	(A-2-4) wit	h some r	nica.	
				-				
		D	F					
			F	_				
		D						
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· <u>``</u>				830.3	WEATHE	RED RO	СК	54.0
100/0.9					(meta	-granite)		
100/0.9				-				
+				-				
100/0.7								
				_				
100/0.6								
100/0.5			M	809.1	ing Transford in i	-1 51		75.2
100,0.0			ļ	BOI	ring Terminated a Weathered Ro	ai ⊏ievat ck (meta	-granite)	111
			F					

WBS	34820	0.1.2				P U-2524	BC	COUNT	ry Guilfo	ORD			GEO	LOGIST Smith, B.			WB	3 34820).1.2			TIF	• U-2524BC	COUNTY
			Brid	lae No					n SR 2140 (I		(d.)		1		GROUN	OWTR (ft)	-			Brid	ge No.		over SR 2085 (Bryan	
	ING NO.			<u> </u>		TATION 1		- , -	OFFSET		-		ALIG	NMENT -Y-	0 HR.	14.0		RING NO			0		ATION 17+10	.,
						OTAL DEPI		ft	NORTHIN				_	ING 1,729,439	24 HR.	FIAD		LAR EL					TAL DEPTH 78.3 f	ft N
				TE SI		DIEDRICH D						OD H	.S. Augers			Automatic					TE SU		DIEDRICH D-50 86% 10	
DRIL	LER B	are, J.			S		E 11/25	/14	COMP. DA						I/A		DRI	LLER B	are, J.			ST	ART DATE 11/25/1	14 0
ELEV	DRIVE ELEV	DEPTH	BLC	ow co	UNT		BLOWS	PER FOO	T	SAMF	P. ▼ ∕		-				ELEV		DEPTH	BLC	W COL			PER FOOT
(ft)	ELEV (ft)	(ft)	0.5ft	0.5ft	0.5ft	0 2	25	50	75 100	NO.	мс	DI G	ELEV. (f	SOIL AND ROCK DES	CRIPTION	DEPTH (ft)	(ft)	ELEV (ft)	(ft)	0.5ft	0.5ft	0.5ft	0 25	50 75
880		Ļ											_				800	700.0					Mate	ch Line
	-	<u> </u>											877.8	GROUND SURF	ACE	0.0		799.6	<u>, /0.2</u>	60/0.1			<u> </u>	
075	-	ŧ					· · · ·	. .					-	RESIDUAL Light orange-brown, br	own, white,				ŧ					
875	874.6	3.2	3	3	4					-	м		-	micaceous, saprolitic, silty	SAND (A-2-4	4).		-	+					
	-	‡					· · ·	. .	· · · · · ·				-					· ·	÷					
870	- 869.6 -	+ 8.2							· · · · ·				-						+					
	-	‡	3	3	4			 	· · · · · ·		м		-						ŧ					
865	-	‡					· · · ·	 	· · · · · ·				-						ŧ					
005	864.6 -	+ 13.2 +	2	3	5					-	м		-					-	ŧ					
	-	‡					· · · · · ·	· · · · ·	· · · · · ·				-						ŧ					
860	- 859.6	+ 18.2						· · · ·	· · · · ·	_			-					-	ŧ					
	-	ŧ	2	4	5		· · · ·		· · · · · ·		W		-						ŧ					
855	-	‡					· · · ·	· · · · ·	· · · · · ·				-						ŧ					
000	854.6	+ 23.2	2	4	9	•13					Sat.		-					-	+					
	-	‡					· · · · · ·	· · · · ·	· · · · · ·				-						ŧ					
850	- 849.6	28.2						· · · · ·	· · · · ·	-			-					-	+					
	-	ŧ	3	5	9	€14	· · · ·		· · · · · ·		Sat.		-						ŧ					
845	-	ŧ						· · · · ·	· · · · · ·				-						ŧ					
010	844.6	+ 33.2 +	3	6	11		,				Sat.		-					-	ŧ					
	-	ŧ						· · · · ·					-						ŧ					
840	- 839.6 -	38.2		40	10		$\begin{pmatrix} \cdot \cdot \cdot \cdot \\ \end{pmatrix}$	· · · · ·					-					-	ŧ					
	-	ŧ	6	12	18		•30				Sat.		-						ŧ					
835	-	Ŧ							· · · · · ·				- - 834.8			43.0			ŧ					
	834.6	+ 43.2 	16	37	52						Sat.		-	Brown, orange-brown, and w saprolitic, silty SAND				-	F					
2	-	Ŧ							· ·	-		977	832.1	WEATHERED R		45.7			Ŧ					
	829.6 -	48.2	22	42	58/0.4		+ • • •		· · · · · ·	-i			-	(meta-granite	e)			-	F					
825	-	Ŧ		42	50/0.4				100/0.9	•			827.1			50.7			F					
825	824.6-	I ca a											-	RESIDUAL brown and white, micaceous		silty			F					
820 820	824.0	 	13	17	32			49			Sat.		-	SAND (A-2-4).	-			E					
	-	Ŧ						. – – –		i		977 A	822.1	WEATHERED R		55.7			Ł					
820	819.6	58.2	32	68/0.4	-		+						_	(meta-granite	e)			-	Ł					
	-	Ŧ		00/0.4				· · · · ·		•			-						£					
	814.6	I and					· · ·		· · · · ·				-						Ē					
815	814.0	<u> </u>	31	69/0.4					100/0.9	•			-						E					
	-	Ŧ											-						Ł					
	809.6 -	68.2	100/0.4										-					-	Ł					
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805	804.6	- 72 0											- 805.6	CRYSTALLINE F	ROCK	72.2			Ł					
	804.6	- / <u>3.2</u>	60/0.1							•			-	(meta-granite				-	É					
805 800 800	-	Ī						· · · · ·					-						Ē					
800	-	Í								1			_						Ľ					

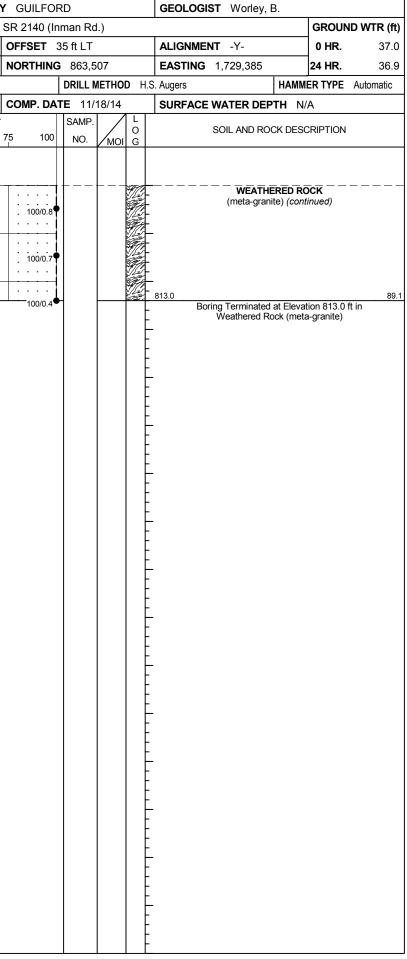
TY GUILFORD	GEOLOGIST Smith, B.	
n SR 2140 (Inman Rd.)		GROUND WTR (ft)
OFFSET 26 ft LT	ALIGNMENT -Y-	0 HR. 14.0
NORTHING 863,618	EASTING 1,729,439	24 HR. FIAD
DRILL METHOD H.S	Augers HAMM	ER TYPE Automatic
COMP. DATE 11/25/14	SURFACE WATER DEPTH N/	A
DT SAMP.	l.	
75 100 NO. MOI G	SOIL AND ROCK DESC	
60/0.1	799.5 Boring Terminated with	Standard 78.3
	Penetration Test Refusal at E ft in Crystalline Rock (me	eta-granite)
	*Very hard/slow drilling at 72 as top of CR	2', enterpreted
	as top of CR	
F		

WBS 34820.1.2	TIP U-2524BC COUN	TY GUILFORD	GEOLOGIST Pilipchuk, J.L.	•	WBS 34820.1	2	1	TIP U-2524BC CC	OUNTY GUILFO	RD	GEOLOGIST Pilipchuk, J.L.		
SITE DESCRIPTION Bridge No. 74	43 over SR 2085 (Bryan Blvd.) o	on SR 2140 (Inman Rd.)		GROUND WTR (ft)	SITE DESCRIP	FION Bridg	je No. 743	3 over SR 2085 (Bryan Blv	d.) on SR 2140 (Ir	nman Rd.)		GROUND WI	/TR (ft)
BORING NO. B1-C	STATION 17+10	OFFSET CL	ALIGNMENT -Y-	0 HR. 36.0	BORING NO.	31-C	5	STATION 17+10	OFFSET	CL	ALIGNMENT -Y-	0 HR.	36.0
COLLAR ELEV. 905.6 ft	TOTAL DEPTH 74.6 ft	NORTHING 863,628	EASTING 1,729,413	24 HR. 33.5		905.6 ft	ר	TOTAL DEPTH 74.6 ft	NORTHING	3 863,628	EASTING 1,729,413	24 HR.	33.5
DRILL RIG/HAMMER EFF./DATE CME	45B	DRILL METHOD H	.S. Augers HAMM	IER TYPE Manual	DRILL RIG/HAMM	ER EFF./DATE	E CME 45	δB		DRILL METHOD H.	.S. Augers HAM	MER TYPE Manu	nual
DRILLER Conley, H. R.	START DATE 11/30/89	COMP. DATE 11/30/89	SURFACE WATER DEPTH N	I/A	DRILLER Con	ley, H. R.	5	START DATE 11/30/89	COMP. DA	TE 11/30/89	SURFACE WATER DEPTH	I/A	
ELEV DRIVE DEPTH BLOW COUNT			SOIL AND ROCK DES	CRIPTION		EPTH BLOV	V COUNT	BLOWS PER		SAMP.	SOIL AND ROCK DE	SCRIPTION	
(ft) (ft) (ft) 0.5ft 0.5ft 0.	5ft 0 25 50	75 100 NO. MOI G		DEPTH (ft		(ft) 0.5ft	0.5ft 0.5ft	ft 0 25 50	75 100	NO. MOI G			
910			_		830		·	Match Li	ne		Weathered Rock (me		
			-								_		
905 905.6 - 0.0			905.6 GROUND SURF								*Boring completed during investigation for existing	nman Rd. over	
			 Residual Red-brown, highly plastic, mi CLAY (A-7-6) 	icaceous, sandy							Byran Blvd. bridge. Boring B2-C" because of diffe	erent design.	
901.9 3.7 6 11 1			- CLAY (A-7-6) -).							-		
900	<i>p</i> 25 · · · · <i>p</i> 25 · · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	- 	7 (-		
896.9 8.7			 Red, tan, gray, and white, mi 	icaceous, sandy	4 						-		
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870 869.4 36.2 4 6	9		_								_		
866.9 ± 38.7	$ \begin{bmatrix} \cdot & \cdot & \mathbf{\Psi}^{15} \\ \cdot & \cdot & \mathbf{\Psi}^{15} \end{bmatrix} \cdot \cdot \cdot \cdot \cdot \begin{bmatrix} \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot \end{bmatrix} \cdot \cdot \cdot \cdot \begin{bmatrix} \cdot & \cdot & \cdot \\ \cdot & \cdot & \cdot \end{bmatrix} $	- W λ ^ν	-								-		
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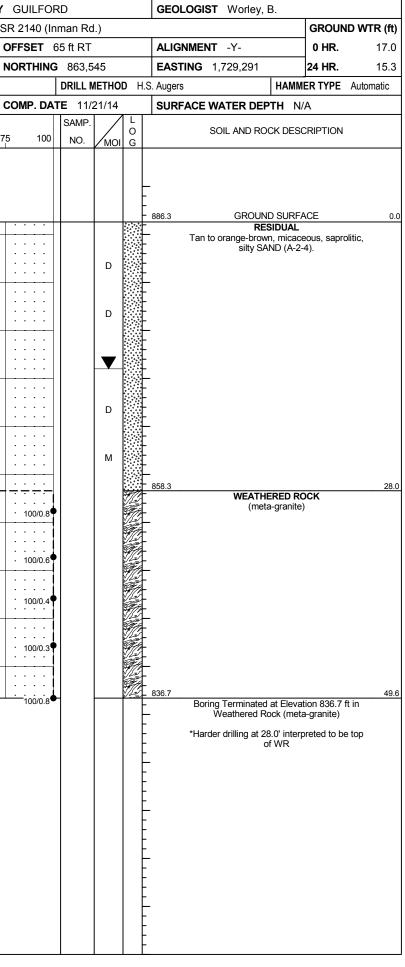
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	34820					P U-				COUN						GEO	OGIST Worley, B.				34820					P U-2524		COUNT	
				ge No					ryan I	Blvd.) o	_	-		-		AL 10			D WTR (ft)					ige No			085 (Bryan	Blvd.) on	-
	NG NO.								2 2 5		_		50 ft RT				NMENT -Y-	0 HR.	36.0 Day							TAL DED		F4	OF
											NOR	IHINC	3 863,0				ING 1,729,365	24 HR.	Dry								TH 83.3 f		NC
	RIG/HAN		FF./DA	IE SI												H.S. Augers		AMMER TYPE	Automatic				:FF./DA	TE SU			D-50 86% 10/		
	LER Ba						DATE			4 PER FOO		P. DA	TE 11	1	, И L		ACE WATER DEPTH	N/A			LER B	1					E 11/24/1		CC
ELEV (ft)	CLEV	DEPTH (ft)		W CO	0.5ft	0	2	всс 25		ек F00 Ю	75	100	NO.		O I G		SOIL AND ROCK	DESCRIPTION	DEDTU	ELEV (ft)	ELEV	DEPTH (ft)	·	0.5ft		0		PER FOOT 50	75
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875	874.5	- - 3.2							•••			•••				Ļ	Tan-brown to gray, sa (A-2-4) with s	prolitic, silty SAN	ND	795	- 794.5 -	+ 83.2					· · · ·		
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JNT	Y G	UILFOF	R)			GEOLOG	IST		Worley, E	3.		
) on	SR 2	140 (In	m	nan Rd	.)							GROUN	D WTR (ft)
	OFF	SET (50	ft RT			ALIGNM	ENT	•	-Y-		0 HR.	36.0
	NOF	RTHING	;	863,6	46		EASTING	; 1	,7	29,365		24 HR.	Dry
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WBS 34820.1.2 TIP U-2524BC COUNT SUFE DESCRIPTION Delides No. 742 state DE 2025 (Decem Physic) state Delides No. 742 state											GEOLOGIST Worley, B.				S 34820					P U-2524B	COUNTY			
SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) or									d.)		GROUND WTR							ge No		over SR 208	Blvd.) on S			
BORING NO. EB2-A STATION 18+30							OFFSET				ALIGNMENT -Y-		RING NO.					STATION 18+30						
COLLAR ELEV. 902.1 ft TOTAL DEPTH 89.1 ft DBUL DIC/LIANMED EFE DIATE CLIM0022 DIEDDICU D E0 96% 40/40/2014								3 863,5			EASTING 1,729,385	COLLAR ELEV. 902.1 ft TOTAL DEPTH 89.1 ft												
DRILL RIG/HAMMER EFF./DATE SUM0093 DIEDRICH D-50 86% 10/10/2014) Н.	· · · · · · · · · · · · · · · · · · ·		YPE Automatic				FF./DA	TE SU		0093 DIEDRICH D-50 86% 10/10/2014				
DRILLER Bare, J. START DATE 11/18/14 FLEV DRIVE DEPTH BLOW COUNT BLOWS PER FOOT								TE 11/		11	SURFACE WATER DEPTH		DRIVE					START DATE 11/18/14						
ELEV (ft)	ELEV	DEPTH (ft)	<u> </u>	0.5ft		BLOWS PER FOO 0 25 50	75 100	SAMP. NO.	/	0	SOIL AND ROCK DES	SCRIP		ELE ^v (ft)	ELEV	DEPTH (ft)		OW COU	-	0 25		PER FOOT		
	(ft)		0.511	0.511	0.51			110.	МОІ	G	ELEV. (ft)		DEPTH (ft)		(ft)		0.51	0.51	0.51			Ľ		
																					Mata	h Line		
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	902.1	0.0		7		++ • • • • • • • • • • • • • • • • • •					902.1 GROUND SURF		0.0		- 023.4	- /0./	56	44/0.3				· · · · ·		
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	898.4	3.7	3	4	7	<i> </i> - <i> </i>	 			8	and some mid	ca.			818.4	83.7	53	47/0.2	,					
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	888.4	13.7	2	2	5						Light tan-brown to light gr (A-2-4) with some		y SAND	1	-	ŧ								
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WBS 34820.1.2 TIP U-2524BC COUNT SITE DESCRIPTION Bridge No. 743 over SR 2085 (Bryan Blvd.) or										Y GUILFORD					GEOLOGIST Pilipchuk, J.L. GROUND WTR (ft)					3482		N Rric	lae Ni			-2524		COUNTY (Blvd.) on SR					
BORING NO. EB2-C STATION 18+14							_	OFFSET 7 ft RT					ALIGNMENT -Y- 0 HR. 34.5					ING NO			JUC IN			DN 18		· ·							
COLLAR ELEV. 905.1 ft TOTAL DEPTH 65.5 ft							_	NORTHING 863,724					EASTING 1,729,460 24 HR. 34.5												.6 ft		NC						
DRILL RIG/HAMMER EFF./DATE CME 45B								DRILL METHOD H.S.									COLLAR ELEV. 886.3 ft TOTAL DEPTH 49.6 ft DRILL RIG/HAMMER EFF./DATE SUM0093 DIEDRICH D-50 86% 10/10/20											_					
DRILLER Conley, H. R. START DATE 11/29/89							C	COMP. DATE 11/29/89					SURFACE WATER DEPTH N/A					DRILLER Bare, J. START DATE 11/21/14											СС				
ELEV	DRIVE	DEPTH	-	ow co	JNT			BLOV	VS PE	R FOC	тс		SAMP		$\langle \cdot \rangle$	L	-					ELEV	DRIVE ELEV		BLC	DW CC		Π			VS PER F		
(ft)	ELEV (ft)	(ft)	0.5ft	0.5ft	0.5ft	0	25	5	50)	75	5 100	NO.	Им		O G	ELEV. (ft	SOIL AND ROCK DE			DEPTH (ft)	(ft)	(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	2	25	50	7	75 I
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905	- 905.1															F	905.1	GROUND SUF	RFACE		0.0	885		†				$\left\ \cdot \right\ $	<u></u>	<u></u>	· · ·	• • •	<u> </u>
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SITE PHOTOGRAPHS

Bridge No. 743 over SR 2085 (Bryan Blvd.) on SR 2140 (Inman Rd.)



Looking East along -L- (Bryan Blvd.)



Looking West along -L- (Bryan Blvd.)



Looking South along -Y- (Inman Rd.)

SHEET 14 34820.1.2 (U-2524BC) Guilford Co.