

REFERENCE: R-2707E

PROJECT: 34497

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

STRUCTURE
SUBSURFACE INVESTIGATION

COUNTY CLEVELAND
 PROJECT DESCRIPTION US 74, SHELBY BYPASS FROM
EXISTING US 74 WEST OF SR 2238 (LONG BRANCH
ROAD) TO WEST OF SR 1001

SITE DESCRIPTION STRUCTURE #7 - BRIDGE NO. 494
OVER US 74 (DIXON BLVD.) ON -Y42- BETWEEN
SR 2041 (WILLIAMS RD.) AND US 74 BUSINESS
(E. MARION ST.)

CONTENTS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
2	LEGEND
3	SITE PLAN
4	PROFILE
5-7	CROSS SECTIONS
8-12	BORE LOGS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2707E	1	12

CAUTION NOTICE

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

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

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

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

PERSONNEL

HPC

GOODNIGHT, D.J.

INVESTIGATED BY GOODNIGHT, D.J.

DRAWN BY CROCKETT, S.C.

CHECKED BY HAMM, J.R.

SUBMITTED BY FALCON ENG.

DATE MARCH 2019



DocuSigned by:
 Jeremy R Hamm

3/20/2019

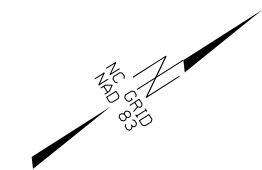
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SIGNATURE

DATE

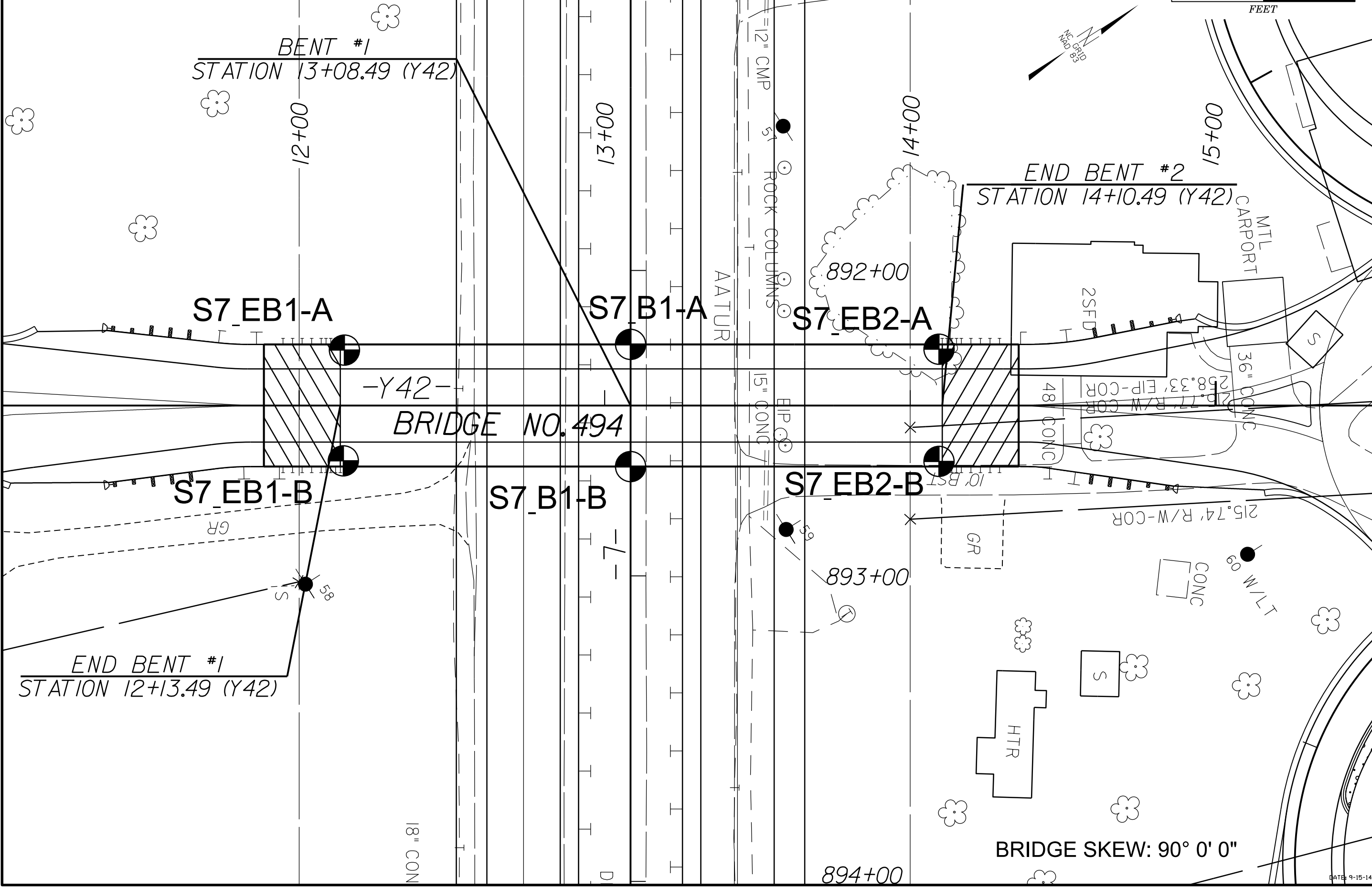
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT
SUBSURFACE INVESTIGATION
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS**

SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS																																																																																																																																																																																																																											
<p>SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, <i>VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6</i></p>	<p>WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.</p>	<p>HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:</p>	<p>ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER. AQUIFER - A WATER BEARING FORMATION OR STRATA. ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND. ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC. ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE. CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE. COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE. CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE. DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK. DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL. DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH. FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE. FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES. FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOADED FROM PARENT MATERIAL. FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM. FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD. JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED. LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT. LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS. MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE. PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIUOUS STRATUM. RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK. 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 RUN AND EXPRESSED AS A PERCENTAGE. SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK. SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS. SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (IN OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (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 THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.</p>																																																																																																																																																																																																																											
<p style="text-align: center;">SOIL LEGEND AND AASHTO CLASSIFICATION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">GENERAL CLASS.</th> <th colspan="7">GRANULAR MATERIALS (≤ 35% PASSING #200)</th> <th colspan="4">SILT-CLAY MATERIALS (> 35% PASSING #200)</th> <th colspan="3">ORGANIC MATERIALS</th> </tr> <tr> <th>A-1</th> <th>A-3</th> <th>A-2</th> <th>A-2-4</th> <th>A-2-5</th> <th>A-2-6</th> <th>A-2-7</th> <th>A-4</th> <th>A-5</th> <th>A-6</th> <th>A-7</th> <th>A-1, A-2</th> <th>A-3</th> <th>A-4, A-5</th> <th>A-6, A-7</th> </tr> </thead> <tbody> <tr> <td>GROUP CLASS.</td> <td>A-1-a</td> <td>A-1-b</td> <td>A-2</td> <td>A-2-4</td> <td>A-2-5</td> <td>A-2-6</td> <td>A-2-7</td> <td>A-4</td> <td>A-5</td> <td>A-6</td> <td>A-7</td> <td>A-1, A-2</td> <td>A-3</td> <td>A-4, A-5</td> <td>A-6, A-7</td> </tr> <tr> <td>SYMBOL</td> <td>[Symbol]</td> <td>[Symbol]</td> <td>[Symbol]</td> <td>[Symbol]</td> <td>[Symbol]</td> <td>[Symbol]</td> <td>[Symbol]</td> <td>[Symbol]</td> <td>[Symbol]</td> <td>[Symbol]</td> <td>[Symbol]</td> <td>[Symbol]</td> <td>[Symbol]</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>% PASSING #10 #40 #200</td> <td>50 MX 30 MX 15 MX</td> <td>50 MX 25 MX</td> <td>51 MN 35 MX 35 MX</td> <td>40 MX 10 MX</td> <td>41 MN 10 MX</td> <td>41 MN 11 MN</td> <td>40 MX 11 MN</td> <td>40 MX 10 MX</td> <td>41 MN 10 MX</td> <td>41 MN 11 MN</td> <td>40 MX 11 MN</td> <td>40 MX 11 MN</td> <td>40 MX 11 MN</td> <td>40 MX 11 MN</td> <td>40 MX 11 MN</td> </tr> <tr> <td>MATERIAL PASSING #40 LL PI</td> <td>-</td> <td>-</td> <td>NP</td> <td>40 MX 10 MX</td> <td>41 MN 10 MX</td> <td>41 MN 11 MN</td> <td>40 MX 11 MN</td> <td>40 MX 10 MX</td> <td>41 MN 10 MX</td> <td>41 MN 11 MN</td> <td>40 MX 11 MN</td> <td>40 MX 11 MN</td> <td>40 MX 11 MN</td> <td>40 MX 11 MN</td> <td>40 MX 11 MN</td> </tr> <tr> <td>GROUP INDEX</td> <td>0</td> <td>0</td> <td>0</td> <td>4 MX</td> <td>8 MX</td> <td>12 MX</td> <td>16 MX</td> <td>NO MX</td> <td>NO MX</td> <td>NO MX</td> <td>NO MX</td> <td>NO MX</td> <td>NO MX</td> <td>NO MX</td> <td>NO MX</td> </tr> <tr> <td>USUAL TYPES OF MAJOR MATERIALS</td> <td>STONE FRAGS. GRAVEL, AND SAND</td> <td>FINE SAND</td> <td>SILTY OR CLAYEY GRAVEL AND SAND</td> <td>SILTY SOILS</td> <td>CLAYEY SOILS</td> <td colspan="3">SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER</td> <td colspan="3">HIGHLY ORGANIC SOILS</td> <td colspan="3">MUCK, PEAT</td> </tr> <tr> <td>GEN. RATING AS SUBGRADE</td> <td colspan="3">EXCELLENT TO GOOD</td> <td colspan="4">FAIR TO POOR</td> <td>FAIR TO POOR</td> <td>POOR</td> <td colspan="3">UNSATURABLE</td> </tr> <tr> <td colspan="16">PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30</td> </tr> </tbody> </table>	GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS			A-1	A-3	A-2	A-2-4	A-2-5	A-2-6	A-2-7	A-4	A-5	A-6	A-7	A-1, A-2	A-3	A-4, A-5	A-6, A-7	GROUP CLASS.	A-1-a	A-1-b	A-2	A-2-4	A-2-5	A-2-6	A-2-7	A-4	A-5	A-6	A-7	A-1, A-2	A-3	A-4, A-5	A-6, A-7	SYMBOL	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	[Symbol]	% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX	51 MN 35 MX 35 MX	40 MX 10 MX	41 MN 10 MX	41 MN 11 MN	40 MX 11 MN	40 MX 10 MX	41 MN 10 MX	41 MN 11 MN	40 MX 11 MN	40 MX 11 MN	40 MX 11 MN	40 MX 11 MN	40 MX 11 MN	MATERIAL PASSING #40 LL PI	-	-	NP	40 MX 10 MX	41 MN 10 MX	41 MN 11 MN	40 MX 11 MN	40 MX 10 MX	41 MN 10 MX	41 MN 11 MN	40 MX 11 MN	40 MX 11 MN	40 MX 11 MN	40 MX 11 MN	40 MX 11 MN	GROUP INDEX	0	0	0	4 MX	8 MX	12 MX	16 MX	NO MX	NO MX	NO MX	NO MX	NO MX	NO MX	NO MX	NO MX	USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL, AND SAND	FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND	SILTY SOILS	CLAYEY SOILS	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER			HIGHLY ORGANIC SOILS			MUCK, PEAT			GEN. RATING AS SUBGRADE	EXCELLENT TO GOOD			FAIR TO POOR				FAIR TO POOR	POOR	UNSATURABLE			PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30																<p style="text-align: center;">MINERALOGICAL COMPOSITION</p> <p>MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.</p> <p style="text-align: center;">COMPRESSIBILITY</p> <p>SLIGHTLY COMPRESSIBLE LL < 31 MODERATELY COMPRESSIBLE LL = 31 - 50 HIGHLY COMPRESSIBLE LL > 50</p> <p style="text-align: center;">PERCENTAGE OF MATERIAL</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>ORGANIC MATERIAL</th> <th>GRANULAR SOILS</th> <th>SILT - CLAY SOILS</th> <th>OTHER MATERIAL</th> </tr> </thead> <tbody> <tr> <td>TRACE OF ORGANIC MATTER</td> <td>2 - 3%</td> <td>3 - 5%</td> <td>TRACE 1 - 10%</td> </tr> <tr> <td>LITTLE ORGANIC MATTER</td> <td>3 - 5%</td> <td>5 - 12%</td> <td>LITTLE 10 - 20%</td> </tr> <tr> <td>MODERATELY ORGANIC</td> <td>5 - 10%</td> <td>12 - 20%</td> <td>SOME 20 - 35%</td> </tr> <tr> <td>HIGHLY ORGANIC</td> <td>> 10%</td> <td>> 20%</td> <td>HIGHLY 35% AND ABOVE</td> </tr> </tbody> </table> <p style="text-align: center;">GROUND WATER</p> <p>▽ WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING ▽ 24 HOURS STATIC WATER LEVEL AFTER 24 HOURS ▽ PW PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA ○ SPRING OR SEEP</p> <p style="text-align: center;">MISCELLANEOUS SYMBOLS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION</td> <td>DIP & DIP DIRECTION OF ROCK STRUCTURES</td> <td>SLOPE INDICATOR INSTALLATION</td> </tr> <tr> <td>SOIL SYMBOL</td> <td>SPT TEST BORING</td> <td>CONE PENETROMETER TEST</td> </tr> <tr> <td>ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT</td> <td>AUGER BORING</td> <td>SOUNDING ROD</td> </tr> <tr> <td>INFERRED SOIL BOUNDARY</td> <td>CORE BORING</td> <td>TEST BORING WITH CORE</td> </tr> <tr> <td>INFERRED ROCK LINE</td> <td>MONITORING WELL</td> <td>SPT N-VALUE</td> </tr> <tr> <td>ALLUVIAL SOIL BOUNDARY</td> <td>PIEZOMETER INSTALLATION</td> <td></td> </tr> </table>	ORGANIC MATERIAL	GRANULAR SOILS	SILT - CLAY SOILS	OTHER MATERIAL	TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%	TRACE 1 - 10%	LITTLE ORGANIC MATTER	3 - 5%	5 - 12%	LITTLE 10 - 20%	MODERATELY ORGANIC	5 - 10%	12 - 20%	SOME 20 - 35%	HIGHLY ORGANIC	> 10%	> 20%	HIGHLY 35% AND ABOVE	ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION	DIP & DIP DIRECTION OF ROCK STRUCTURES	SLOPE INDICATOR INSTALLATION	SOIL SYMBOL	SPT TEST BORING	CONE PENETROMETER TEST	ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT	AUGER BORING	SOUNDING ROD	INFERRED SOIL BOUNDARY	CORE BORING	TEST BORING WITH CORE	INFERRED ROCK LINE	MONITORING WELL	SPT N-VALUE	ALLUVIAL SOIL BOUNDARY	PIEZOMETER INSTALLATION		<p style="text-align: center;">ROCK HARDNESS</p> <p>VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK. HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN. MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM HARD CAN BE GROUDED OR GOUGED 0.25 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROUDED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY SOFT CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>TERM</th> <th>SPACING</th> <th>TERM</th> <th>THICKNESS</th> </tr> </thead> <tbody> <tr> <td>VERY WIDE</td> <td>MORE THAN 10 FEET</td> <td>VERY THICKLY BEDDED</td> <td>4 FEET</td> </tr> <tr> <td>WIDE</td> <td>3 TO 10 FEET</td> <td>THICKLY BEDDED</td> <td>1.5 - 4 FEET</td> </tr> <tr> <td>MODERATELY CLOSE</td> <td>1 TO 3 FEET</td> <td>THINLY BEDDED</td> <td>0.16 - 1.5 FEET</td> </tr> <tr> <td>CLOSE</td> <td>0.16 TO 1 FOOT</td> <td>VERY THINLY BEDDED</td> <td>0.03 - 0.16 FEET</td> </tr> <tr> <td>VERY CLOSE</td> <td>LESS THAN 0.16 FEET</td> <td>THICKLY LAMINATED</td> <td>0.008 - 0.03 FEET</td> </tr> <tr> <td></td> <td></td> <td>THINLY LAMINATED</td> <td>< 0.008 FEET</td> </tr> </tbody> </table> <p style="text-align: center;">INDURATION</p> <p>FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.</p> <p>FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE. MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER. INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER. EXTREMELY INDURATED SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.</p>	TERM	SPACING	TERM	THICKNESS	VERY WIDE	MORE THAN 10 FEET	VERY THICKLY BEDDED	4 FEET	WIDE	3 TO 10 FEET	THICKLY BEDDED	1.5 - 4 FEET	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	VERY CLOSE	LESS THAN 0.16 FEET	THICKLY LAMINATED	0.008 - 0.03 FEET			THINLY LAMINATED	< 0.008 FEET
GENERAL CLASS.		GRANULAR MATERIALS (≤ 35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS																																																																																																																																																																																																																	
	A-1	A-3	A-2	A-2-4	A-2-5	A-2-6	A-2-7	A-4	A-5	A-6	A-7	A-1, A-2	A-3	A-4, A-5	A-6, A-7																																																																																																																																																																																																															
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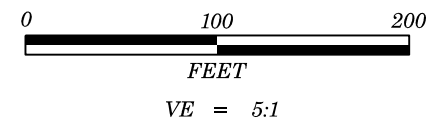
BENT #1
STATION 13+08.49 (Y42)

END BENT #2
STATION 14+10.49 (Y42)

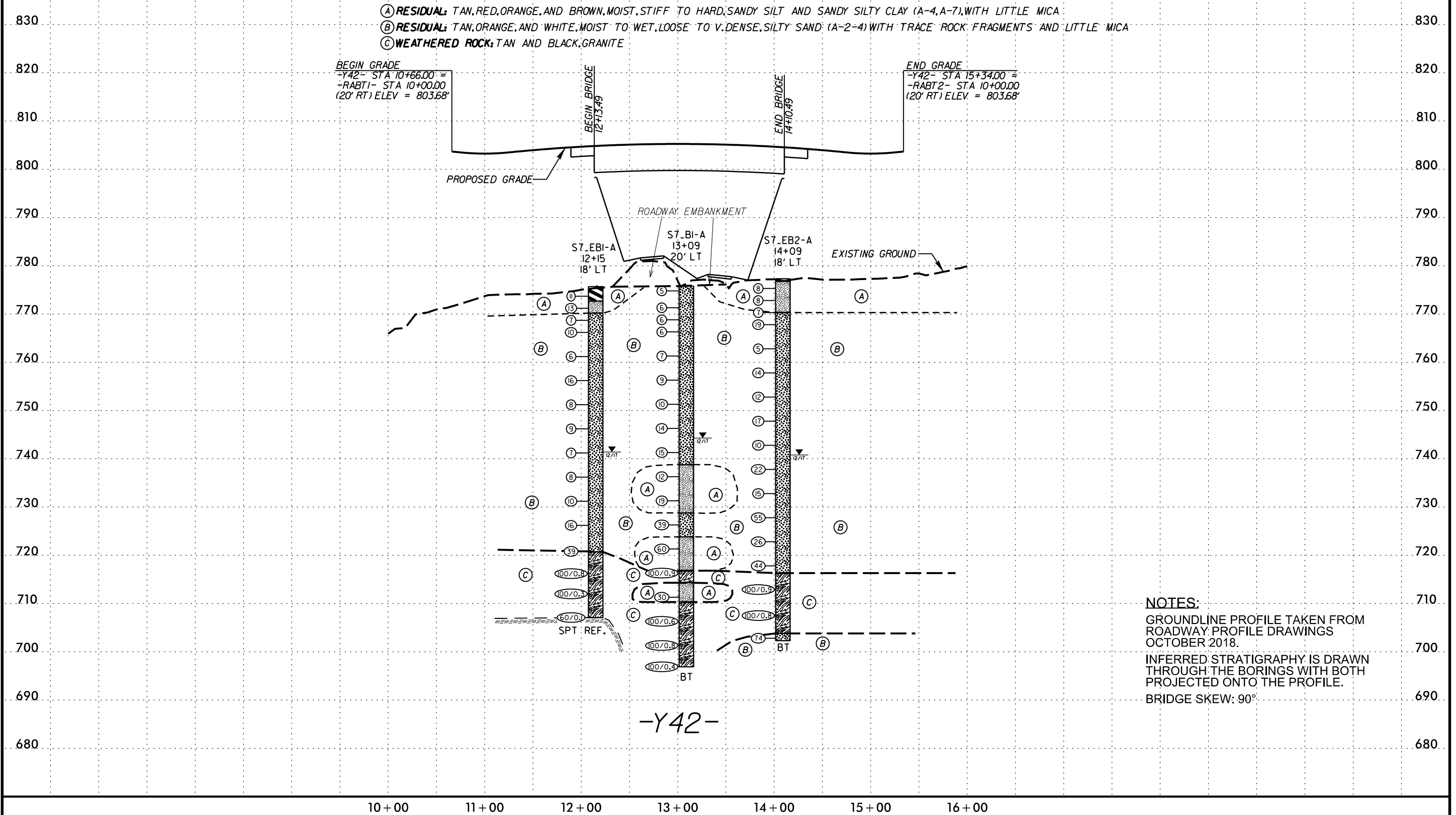


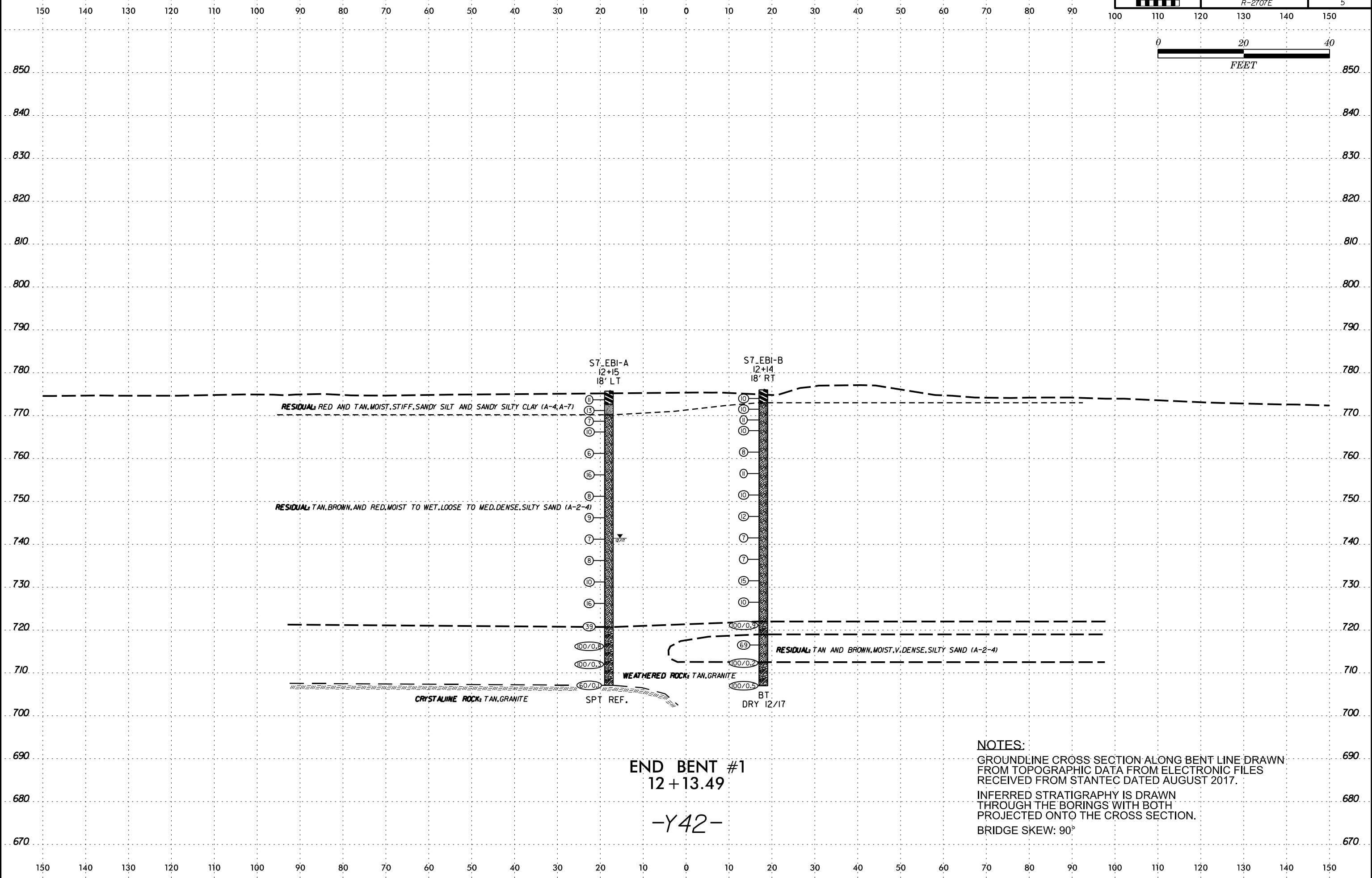
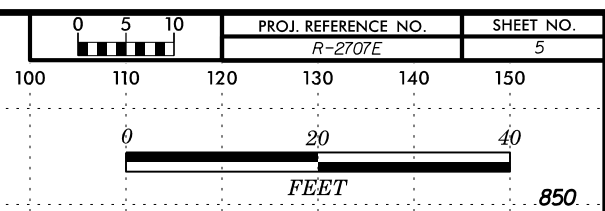
END BENT #1
STATION 12+13.49 (Y42)

BRIDGE SKEW: 90° 0' 0"



PROJECT REFERENCE NO.	SHEET NO.
R-2707E	4
STRUCTURE #7, BRIDGE OVER US 74 ON -Y42- BETWEEN 2041 AND US 74 BUS.	





ST_EBI-A
12+15
18' LT

ST_EBI-B
12+14
18' RT

RESIDUAL RED AND TAN, MOIST, STIFF, SANDY SILT AND SANDY SILTY CLAY (A-4, A-7)

RESIDUAL TAN, BROWN, AND RED, MOIST TO WET, LOOSE TO MED. DENSE, SILTY SAND (A-2-4)

RESIDUAL TAN AND BROWN, MOIST, V. DENSE, SILTY SAND (A-2-4)

WEATHERED ROCK, TAN, GRANITE

CRYSTALLINE ROCK, TAN, GRANITE

SPT REF.

BT
DRY 12/17

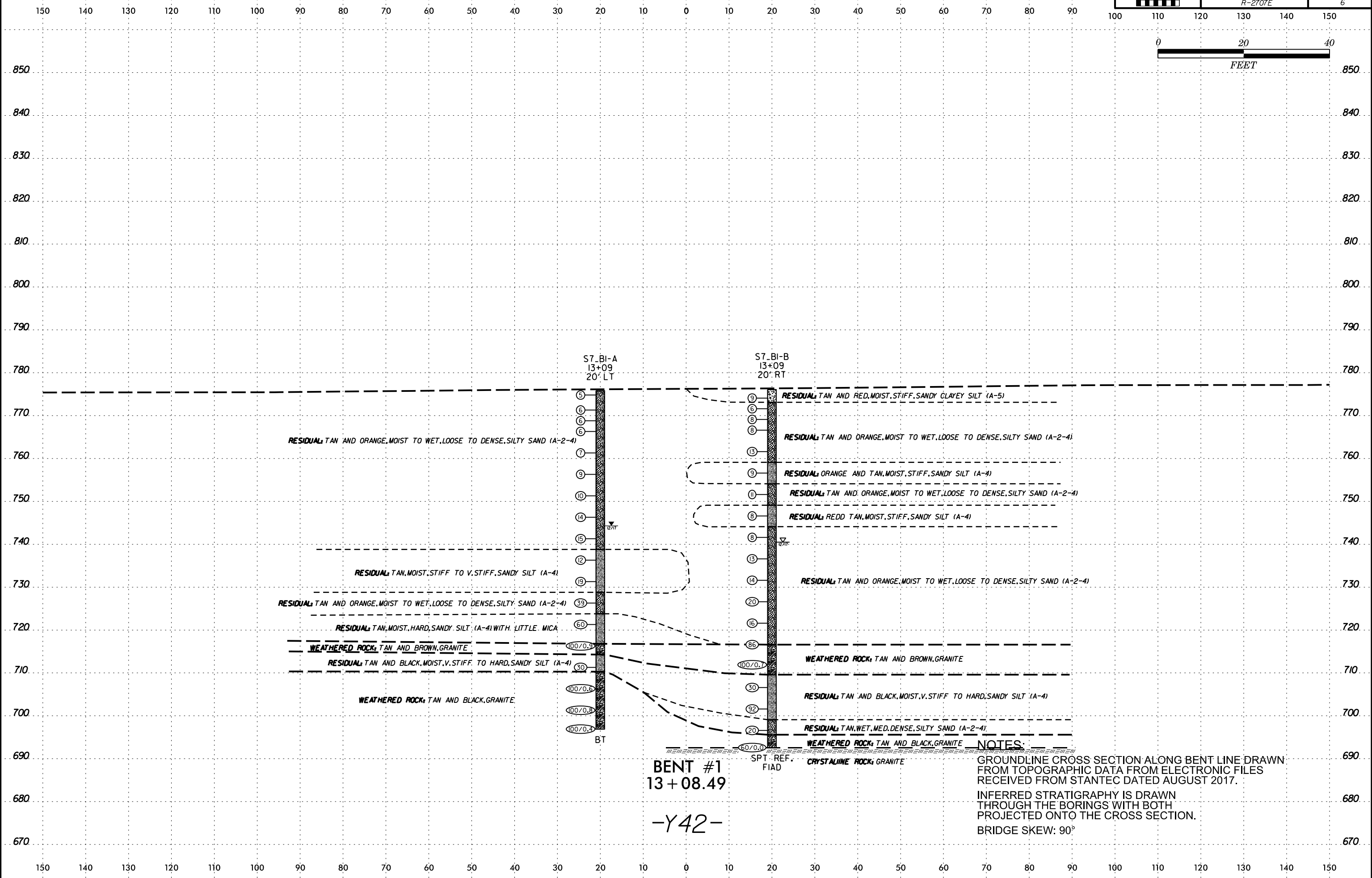
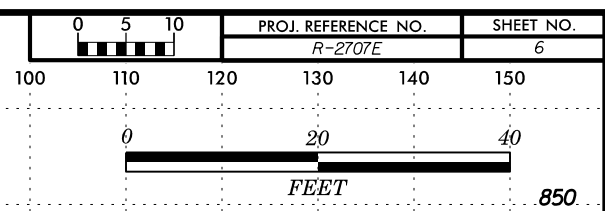
END BENT #1
12+13.49

-Y42-

NOTES:
GROUNDLINE CROSS SECTION ALONG BENT LINE DRAWN FROM TOPOGRAPHIC DATA FROM ELECTRONIC FILES RECEIVED FROM STANTEC DATED AUGUST 2017.
INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.
BRIDGE SKEW: 90°

8/23/19

8/23/19



ST_BI-A
13+09
20' LT

ST_BI-B
13+09
20' RT

BENT #1
13 + 08.49

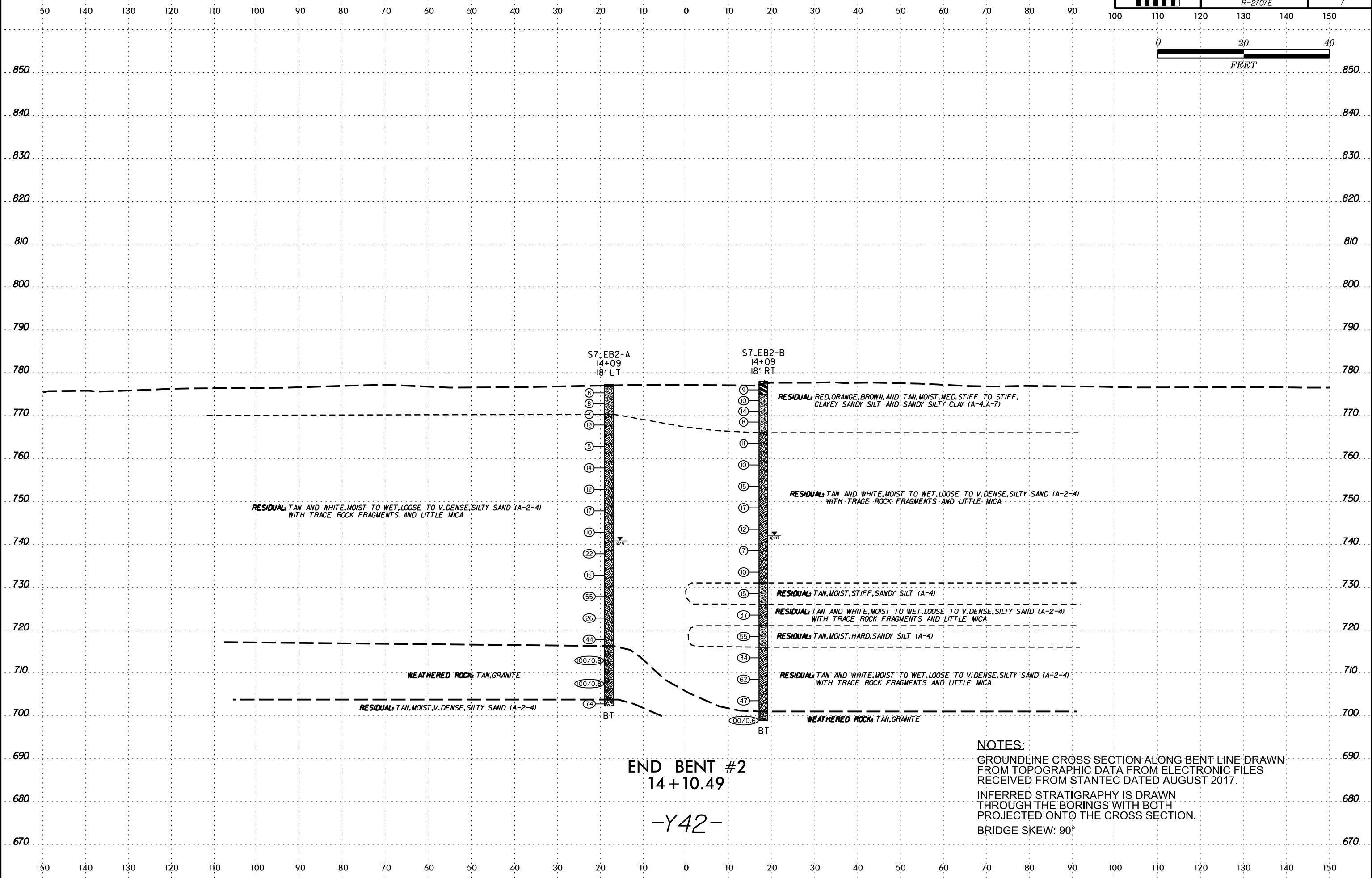
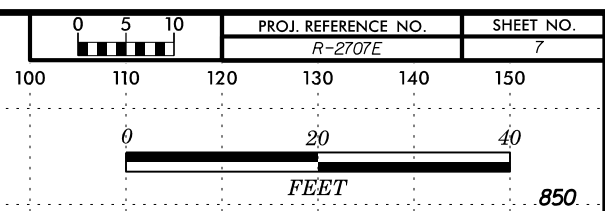
-Y42-

NOTES:

GROUNDLINE CROSS SECTION ALONG BENT LINE DRAWN FROM TOPOGRAPHIC DATA FROM ELECTRONIC FILES RECEIVED FROM STANTEC DATED AUGUST 2017.
INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.
BRIDGE SKEW: 90°

8/23/19

SDATES



END BENT #2
14 + 10.49

-Y42-

NOTES:
 GROUNDLINE CROSS SECTION ALONG BENT LINE DRAWN FROM TOPOGRAPHIC DATA FROM ELECTRONIC FILES RECEIVED FROM STANTEC DATED AUGUST 2017.
 INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORINGS WITH BOTH PROJECTED ONTO THE CROSS SECTION.
 BRIDGE SKEW: 90°

8/23/19

GEOTECHNICAL BORING REPORT BORE LOG

WBS 34497.1.1		TIP R-2707E		COUNTY CLEVELAND		GEOLOGIST Goodnight, D. J.	
SITE DESCRIPTION Bridge No. 494 over US 74 (Dixon Blvd.) on -Y42- Between SR 2041 and US 74 Bus. (E. Marion St.)							GROUND WTR (ft)
BORING NO. S7_EB1-A		STATION 12+15		OFFSET 18 ft LT		ALIGNMENT -Y42-	
COLLAR ELEV. 775.7 ft		TOTAL DEPTH 68.6 ft		NORTHING 554,619		EASTING 1,269,385	
DRILL RIG/HAMMER EFF./DATE HPC2473 CME-550 92% 12/09/2015		DRILL METHOD H.S. Augers		HAMMER TYPE Automatic			
DRILLER Cain, J.		START DATE 12/05/17		COMP. DATE 12/05/17		SURFACE WATER DEPTH N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
780																
775	774.7	1.0	4	4	7								M	775.7	0.4' TOPSOIL	0.0
	772.2	3.5	4	6	7								M	772.7	RESIDUAL RED, SANDY SILTY CLAY (A-7)	3.0
770	769.7	6.0	3	4	3								M	770.2	RED AND TAN, FINE SANDY SILT (A-4)	5.5
	767.2	8.5	3	4	6								M		TAN, SILTY SAND (A-2-4)	
765													M			
	762.2	13.5	3	2	4								M			
760													M			
	757.2	18.5	4	8	8								M			
755													M			
	752.2	23.5	3	4	4								M			
750													M			
	747.2	28.5	4	4	5								M			
745													M			
	742.2	33.5	3	3	4								M			
740													M			
	737.2	38.5	2	4	4								W			
735													W			
	732.2	43.5	3	4	6								W			
730													W			
	727.2	48.5	4	6	10								W			
725													W			
	722.2	53.5	13	15	24								M	720.7	WEATHERED ROCK TAN, GRANITE	55.0
720													M			
	717.2	58.5	32	57	43/0.3								M			
715													M			
	712.2	63.5	100/0.3										M			
710													M			
	707.2	68.5	60/0.1										M	707.2	CRYSTALLINE ROCK TAN, GRANITE	68.5
													M	707.1		68.6

Boring Terminated WITH STANDARD PENETRATION TEST REFUSAL at Elevation 707.1 ft IN CRYSTALLINE ROCK: GRANITE

NCDOT BORE SINGLE R2707_GEO_BORINGS COPY.GPJ NC_DOT.GDT 3/18/19

GEOTECHNICAL BORING REPORT BORE LOG

WBS 34497.1.1		TIP R-2707E		COUNTY CLEVELAND		GEOLOGIST Goodnight, D. J.	
SITE DESCRIPTION Bridge No. 494 over US 74 (Dixon Blvd.) on -Y42- Between SR 2041 and US 74 Bus. (E. Marion St.)							GROUND WTR (ft)
BORING NO. S7_EB1-B		STATION 12+14		OFFSET 18 ft RT		ALIGNMENT -Y42-	
COLLAR ELEV. 776.0 ft		TOTAL DEPTH 69.0 ft		NORTHING 554,599		EASTING 1,269,410	
DRILL RIG/HAMMER EFF./DATE HPC2473 CME-550 92% 12/09/2015		DRILL METHOD H.S. Augers		HAMMER TYPE Automatic			
DRILLER Cain, J.		START DATE 12/05/17		COMP. DATE 12/05/17		SURFACE WATER DEPTH N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100				ELEV. (ft)	DEPTH (ft)	
780																
775	775.0	1.0	3	5	5								M	776.0	0.4' TOPSOIL	0.0
	772.5	3.5	3	4	6								M	773.0	RESIDUAL RED AND TAN, SANDY SILTY CLAY (A-7)	3.0
770	770.0	6.0	3	5	6								M		TAN, BROWN, AND RED, SILTY SAND (A-2-4)	
	767.5	8.5	3	5	5								M			
765													M			
	762.5	13.5	3	4	4								M			
760													M			
	757.5	18.5	4	6	5								M			
755													M			
	752.5	23.5	4	5	5								M			
750													M			
	747.5	28.5	5	6	6								M			
745													M			
	742.5	33.5	3	3	4								M			
740													M			
	737.5	38.5	3	3	4								W			
735													W			
	732.5	43.5	3	6	9								W			
730													W			
	727.5	48.5	3	4	6								W			
725													W			
	722.5	53.5	21	45	55/0.4								M	722.0	WEATHERED ROCK TAN, GRANITE	54.0
720													M	719.0	RESIDUAL TAN AND BROWN, SILTY SAND (A-2-4)	57.0
	717.5	58.5	8	14	55								M			
715													M			
	712.5	63.5	100/0.2										M	712.5	WEATHERED ROCK TAN, GRANITE	63.5
710													M			
	707.5	68.5	100/0.5										M	707.0		69.0

Boring Terminated at Elevation 707.0 ft IN WEATHERED ROCK: GRANITE

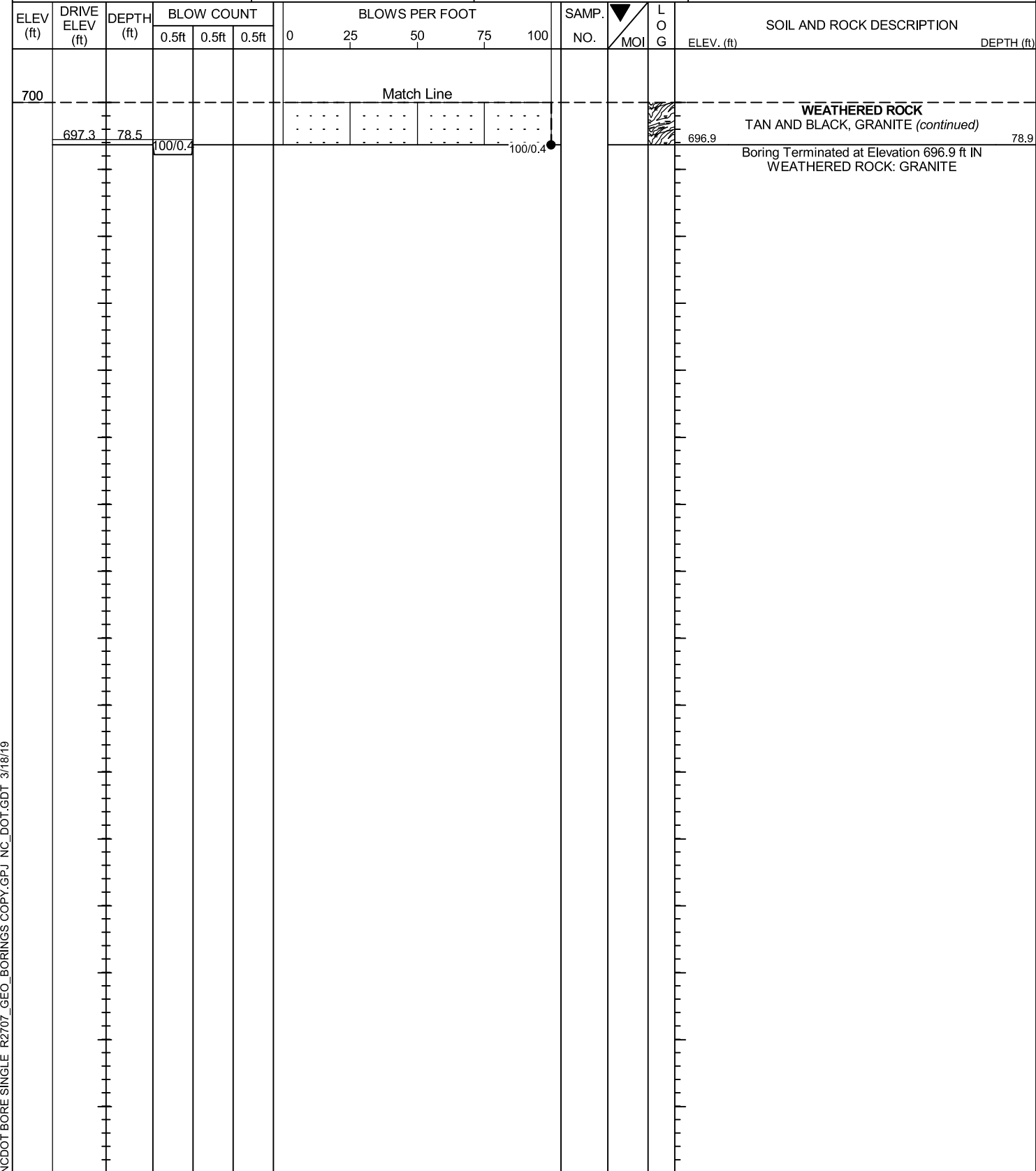
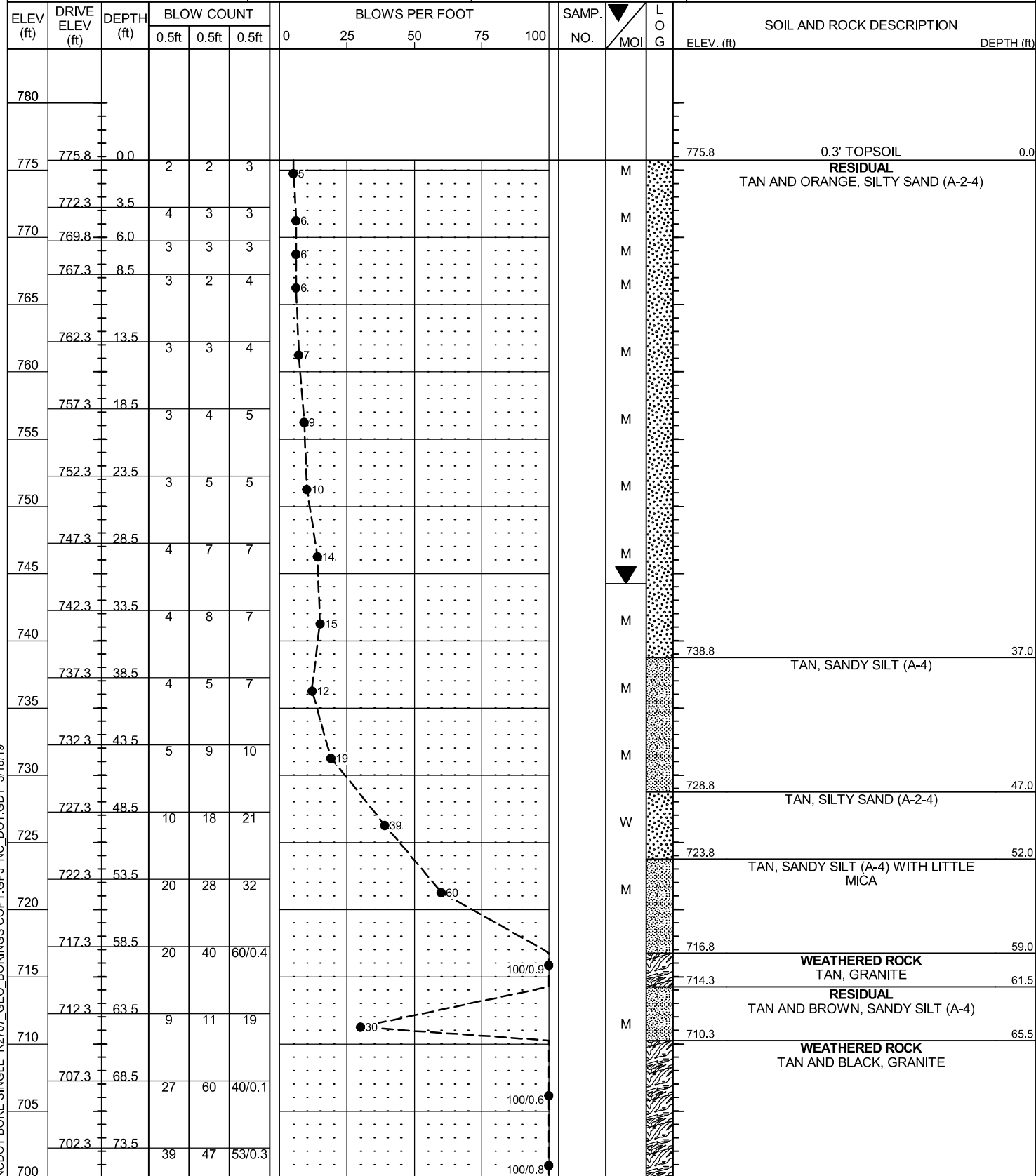
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GEOTECHNICAL BORING REPORT
BORE LOG

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 34497.1.1	TIP R-2707E	COUNTY CLEVELAND	GEOLOGIST Goodnight, D. J.	
SITE DESCRIPTION Bridge No. 494 over US 74 (Dixon Blvd.) on -Y42- Between SR 2041 and US 74 Bus. (E. Marion St.)				GROUND WTR (ft)
BORING NO. S7_B1-A	STATION 13+09	OFFSET 20 ft LT	ALIGNMENT -Y42-	0 HR. 23.5
COLLAR ELEV. 775.8 ft	TOTAL DEPTH 78.9 ft	NORTHING 554,691	EASTING 1,269,427	24 HR. 31.5
DRILL RIG/HAMMER EFF./DATE HPC2473 CME-550 92% 12/09/2015		DRILL METHOD Mud Rotary	HAMMER TYPE Automatic	
DRILLER Cain, J.	START DATE 12/12/17	COMP. DATE 12/12/17	SURFACE WATER DEPTH N/A	

WBS 34497.1.1	TIP R-2707E	COUNTY CLEVELAND	GEOLOGIST Goodnight, D. J.	
SITE DESCRIPTION Bridge No. 494 over US 74 (Dixon Blvd.) on -Y42- Between SR 2041 and US 74 Bus. (E. Marion St.)				GROUND WTR (ft)
BORING NO. S7_B1-A	STATION 13+09	OFFSET 20 ft LT	ALIGNMENT -Y42-	0 HR. 23.5
COLLAR ELEV. 775.8 ft	TOTAL DEPTH 78.9 ft	NORTHING 554,691	EASTING 1,269,427	24 HR. 31.5
DRILL RIG/HAMMER EFF./DATE HPC2473 CME-550 92% 12/09/2015		DRILL METHOD Mud Rotary	HAMMER TYPE Automatic	
DRILLER Cain, J.	START DATE 12/12/17	COMP. DATE 12/12/17	SURFACE WATER DEPTH N/A	



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GEOTECHNICAL BORING REPORT BORE LOG

WBS 34497.1.1		TIP R-2707E		COUNTY CLEVELAND		GEOLOGIST Goodnight, D. J.	
SITE DESCRIPTION Bridge No. 494 over US 74 (Dixon Blvd.) on -Y42- Between SR 2041 and US 74 Bus. (E. Marion St.)							GROUND WTR (ft)
BORING NO. S7_B1-B		STATION 13+09		OFFSET 20 ft RT		ALIGNMENT -Y42-	
COLLAR ELEV. 776.1 ft		TOTAL DEPTH 83.5 ft		NORTHING 554,669		EASTING 1,269,461	
DRILL RIG/HAMMER EFF./DATE HPC2473 CME-550 92% 12/09/2015				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic	
DRILLER Cain, J.		START DATE 12/07/17		COMP. DATE 12/07/17		SURFACE WATER DEPTH N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
780																
775	775.1	1.0	2	4	5											
	772.6	3.5	2	3	3											
770	770.1	6.0	2	4	4											
	767.6	8.5	2	4	4											
765																
	762.6	13.5	7	8	5											
760																
	757.6	18.5	4	4	5											
755																
	752.6	23.5	3	5	6											
750																
	747.6	28.5	3	4	4											
745																
	742.6	33.5	4	4	4											
740																
	737.6	38.5	5	5	8											
735																
	732.6	43.5	5	7	7											
730																
	727.6	48.5	7	10	10											
725																
	722.6	53.5	6	6	10											
720																
	717.6	58.5	20	38	48											
715																
	712.6	63.5	70	30/0.2												
710																
	707.6	68.5	8	13	17											
705																
	702.6	73.5	30	37	55											

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GEOTECHNICAL BORING REPORT BORE LOG

WBS 34497.1.1		TIP R-2707E		COUNTY CLEVELAND		GEOLOGIST Goodnight, D. J.	
SITE DESCRIPTION Bridge No. 494 over US 74 (Dixon Blvd.) on -Y42- Between SR 2041 and US 74 Bus. (E. Marion St.)							GROUND WTR (ft)
BORING NO. S7_B1-B		STATION 13+09		OFFSET 20 ft RT		ALIGNMENT -Y42-	
COLLAR ELEV. 776.1 ft		TOTAL DEPTH 83.5 ft		NORTHING 554,669		EASTING 1,269,461	
DRILL RIG/HAMMER EFF./DATE HPC2473 CME-550 92% 12/09/2015				DRILL METHOD Mud Rotary		HAMMER TYPE Automatic	
DRILLER Cain, J.		START DATE 12/07/17		COMP. DATE 12/07/17		SURFACE WATER DEPTH N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
700																
	697.6	78.5	5	7	13											
695																
	692.6	83.5	60/0.0													

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GEOTECHNICAL BORING REPORT BORE LOG

WBS 34497.1.1		TIP R-2707E		COUNTY CLEVELAND		GEOLOGIST Goodnight, D. J.											
SITE DESCRIPTION Bridge No. 494 over US 74 (Dixon Blvd.) on -Y42- Between SR 2041 and US 74 Bus. (E. Marion St.)							GROUND WTR (ft)										
BORING NO. S7_EB2-A		STATION 14+09		OFFSET 18 ft LT		ALIGNMENT -Y42-											
COLLAR ELEV. 777.3 ft		TOTAL DEPTH 75.0 ft		NORTHING 554,775		EASTING 1,269,483											
DRILL RIG/HAMMER EFF./DATE HPC2473 CME-550 92% 12/09/2015			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic												
DRILLER Cain, J.		START DATE 12/04/17		COMP. DATE 12/04/17		SURFACE WATER DEPTH N/A											
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						ELEV. (ft)	DEPTH (ft)
780																	
775	776.3	1.0	3	3	5											0.5' TOPSOIL	0.0
	773.8	3.5	3	4	4											0.5' TOPSOIL WITH TRACE GRAVEL	0.5
	771.3	6.0	3	3	4											RESIDUAL RED AND TAN, CLAYEY SANDY SILT (A-4)	
770	768.8	8.5	7	10	9											TAN AND WHITE, SILTY FINE TO COARSE SAND (A-2-4) WITH TRACE ROCK FRAGMENTS AND LITTLE MICA (LARGE FLAKES)	7.0
765	763.8	13.5	3	2	3												
760	758.8	18.5	5	7	7												
755	753.8	23.5	4	5	7												
750	748.8	28.5	6	8	9												
745	743.8	33.5	5	5	5												
740	738.8	38.5	4	9	13												
735	733.8	43.5	5	6	9												
730	728.8	48.5	12	23	32												
725	723.8	53.5	12	10	16												
720	718.8	58.5	13	13	31												
715	713.8	63.5	35	65/0.4													WEATHERED ROCK TAN, GRANITE
710	708.8	68.5	22	48	52/0.3												
705	703.8	73.5	24	38	36												RESIDUAL TAN, SILTY SAND (A-2-4)

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GEOTECHNICAL BORING REPORT BORE LOG

WBS 34497.1.1		TIP R-2707E		COUNTY CLEVELAND		GEOLOGIST Goodnight, D. J.											
SITE DESCRIPTION Bridge No. 494 over US 74 (Dixon Blvd.) on -Y42- Between SR 2041 and US 74 Bus. (E. Marion St.)							GROUND WTR (ft)										
BORING NO. S7_EB2-A		STATION 14+09		OFFSET 18 ft LT		ALIGNMENT -Y42-											
COLLAR ELEV. 777.3 ft		TOTAL DEPTH 75.0 ft		NORTHING 554,775		EASTING 1,269,483											
DRILL RIG/HAMMER EFF./DATE HPC2473 CME-550 92% 12/09/2015			DRILL METHOD H.S. Augers		HAMMER TYPE Automatic												
DRILLER Cain, J.		START DATE 12/04/17		COMP. DATE 12/04/17		SURFACE WATER DEPTH N/A											
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION			
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						ELEV. (ft)	DEPTH (ft)
700																	
																	RESIDUAL SILTY SAND

NCDOT BORE SINGLE R2707_GEO_BORINGS COPY.GPJ NC_DOT.GDT 3/18/19

GEOTECHNICAL BORING REPORT BORE LOG

WBS 34497.1.1	TIP R-2707E	COUNTY CLEVELAND	GEOLOGIST Goodnight, D. J.
SITE DESCRIPTION Bridge No. 494 over US 74 (Dixon Blvd.) on -Y42- Between SR 2041 and US 74 Bus. (E. Marion St.)			GROUND WTR (ft)
BORING NO. S7_EB2-B	STATION 14+09	OFFSET 18 ft RT	ALIGNMENT -Y42-
COLLAR ELEV. 778.0 ft	TOTAL DEPTH 79.1 ft	NORTHING 554,755	EASTING 1,269,514
DRILL RIG/HAMMER EFF./DATE HPC2473 CME-550 92% 12/09/2015		DRILL METHOD H.S. Augers	HAMMER TYPE Automatic
DRILLER Cain, J.	START DATE 12/04/17	COMP. DATE 12/04/17	SURFACE WATER DEPTH N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
780																
777.0	777.0	1.0	4	4	5									0.3' TOPSOIL	0.0	
775	774.5	3.5	3	4	6									RESIDUAL RED AND BROWN, SANDY SILTY CLAY (A-7)	3.0	
770	772.0	6.0	4	6	8									ORANGE AND TAN, FINE SANDY CLAYEY SILT (A-4)		
765	769.5	8.5	4	4	4											
760	764.5	13.5	4	5	6									TAN, SILTY SAND (A-2-4)	12.0	
755	759.5	18.5	4	5	5											
750	754.5	23.5	4	6	9											
745	749.5	28.5	5	8	9											
740	744.5	33.5	4	4	8											
735	739.5	38.5	4	4	3											
730	734.5	43.5	2	4	6											
725	729.5	48.5	7	6	9									TAN, SANDY SILT (A-4)	47.0	
720	724.5	53.5	8	16	21									TAN, SILTY SAND (A-2-4)	52.0	
715	719.5	58.5	5	10	45									TAN, SANDY SILT (A-4)	57.0	
710	714.5	63.5	15	15	19									TAN, SILTY SAND (A-2-4)	62.0	
705	709.5	68.5	16	26	36											
700	704.5	73.5	18	27	20											

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GEOTECHNICAL BORING REPORT BORE LOG

WBS 34497.1.1	TIP R-2707E	COUNTY CLEVELAND	GEOLOGIST Goodnight, D. J.
SITE DESCRIPTION Bridge No. 494 over US 74 (Dixon Blvd.) on -Y42- Between SR 2041 and US 74 Bus. (E. Marion St.)			GROUND WTR (ft)
BORING NO. S7_EB2-B	STATION 14+09	OFFSET 18 ft RT	ALIGNMENT -Y42-
COLLAR ELEV. 778.0 ft	TOTAL DEPTH 79.1 ft	NORTHING 554,755	EASTING 1,269,514
DRILL RIG/HAMMER EFF./DATE HPC2473 CME-550 92% 12/09/2015		DRILL METHOD H.S. Augers	HAMMER TYPE Automatic
DRILLER Cain, J.	START DATE 12/04/17	COMP. DATE 12/04/17	SURFACE WATER DEPTH N/A

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	DEPTH (ft)	
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
700	699.5	78.5	70	30	0.1											
														WEATHERED ROCK TAN, GRANITE (continued)	79.1	

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