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**CONTENTS** 

**DESCRIPTION** 

LEGEND (SOIL & ROCK)

TITLE SHEET

SITE PLAN

BORE LOGS

PROFILE

SHEET NO.

5-15

5898 186/B ~ Ò REFERENCE

STATE OF NORTH CAROLINA

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

### **STRUCTURE** SUBSURFACE INVESTIGATION

COUNTY \_ **HAYWOOD** 

PROJECT DESCRIPTION US 23/US 74/US 19 (GREAT SMOKY MOUNTAIN HWY) FROM WEST OF NC 209 (CRABTREE RD.) TO EAST OF RUSS AVE. SITE DESCRIPTION RETAINING WALL #3 FROM -Y1RT-STA.29+34.68 TO 40+54.00

STATE PROJECT REFERENCE NO. TOTAL SHEETS 15 B-3186/B-5898

#### **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 1991 707-6850. 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 LABDRATORY 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 NIDICATED 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 WARRAYT OR CUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE TO MATERIALS AND CONDITIONS TO 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 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.

| R. DUGGER          |
|--------------------|
| N. YACOBI          |
| GEOTECHNOLOGY, INC |
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INVESTIGATED BY \_\_C. SWAFFORD

DRAWN BY \_\_T. LYNN

CHECKED BY K. BUSSEY

SUBMITTED BY \_HDR

DATE NOVEMBER 2021



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kenneth R. Bussey, Jr. SIGNATURE

9/6/2023

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** 

PROJECT REFERENCE NO.

B-3186/B-5898

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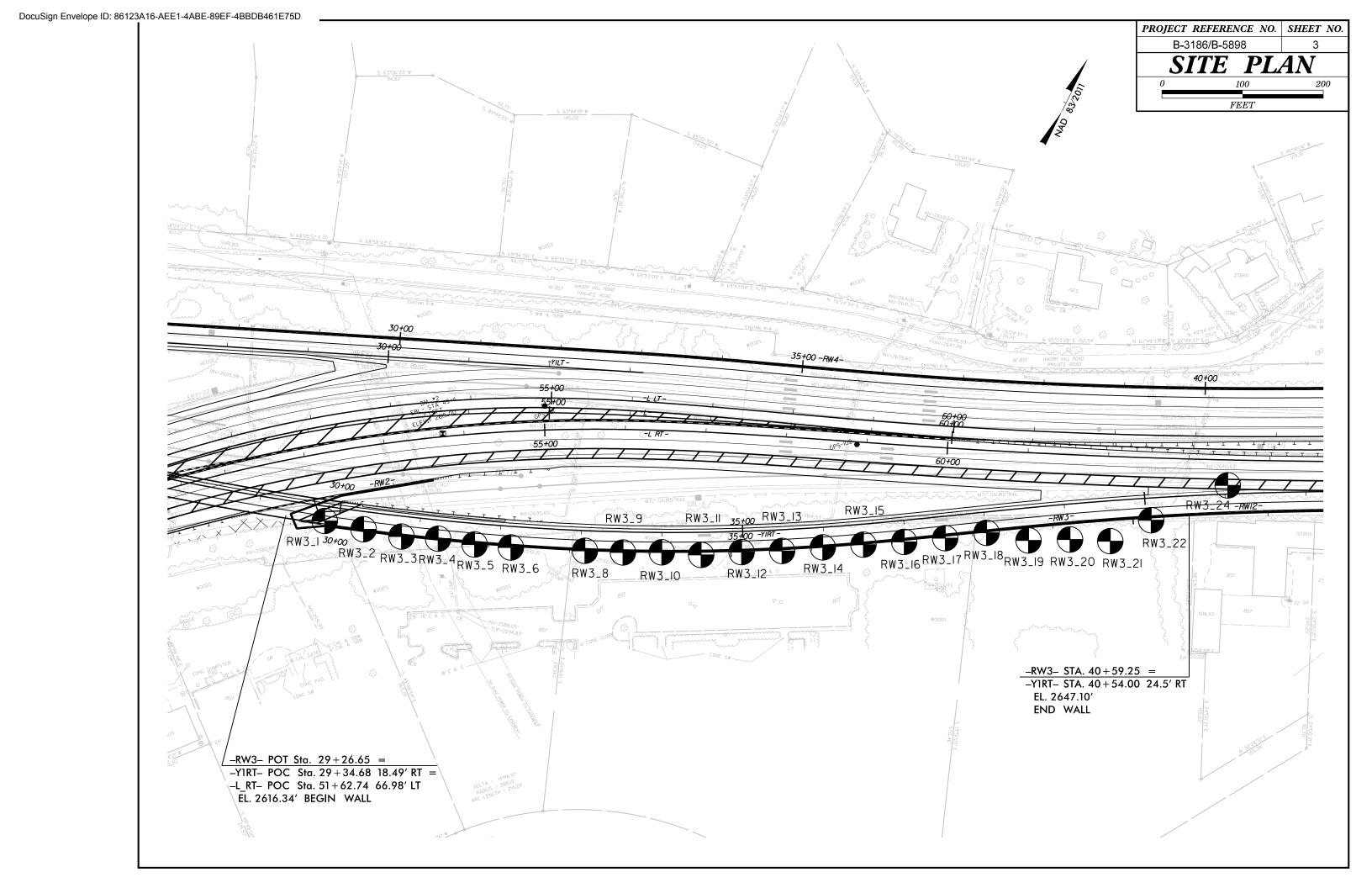
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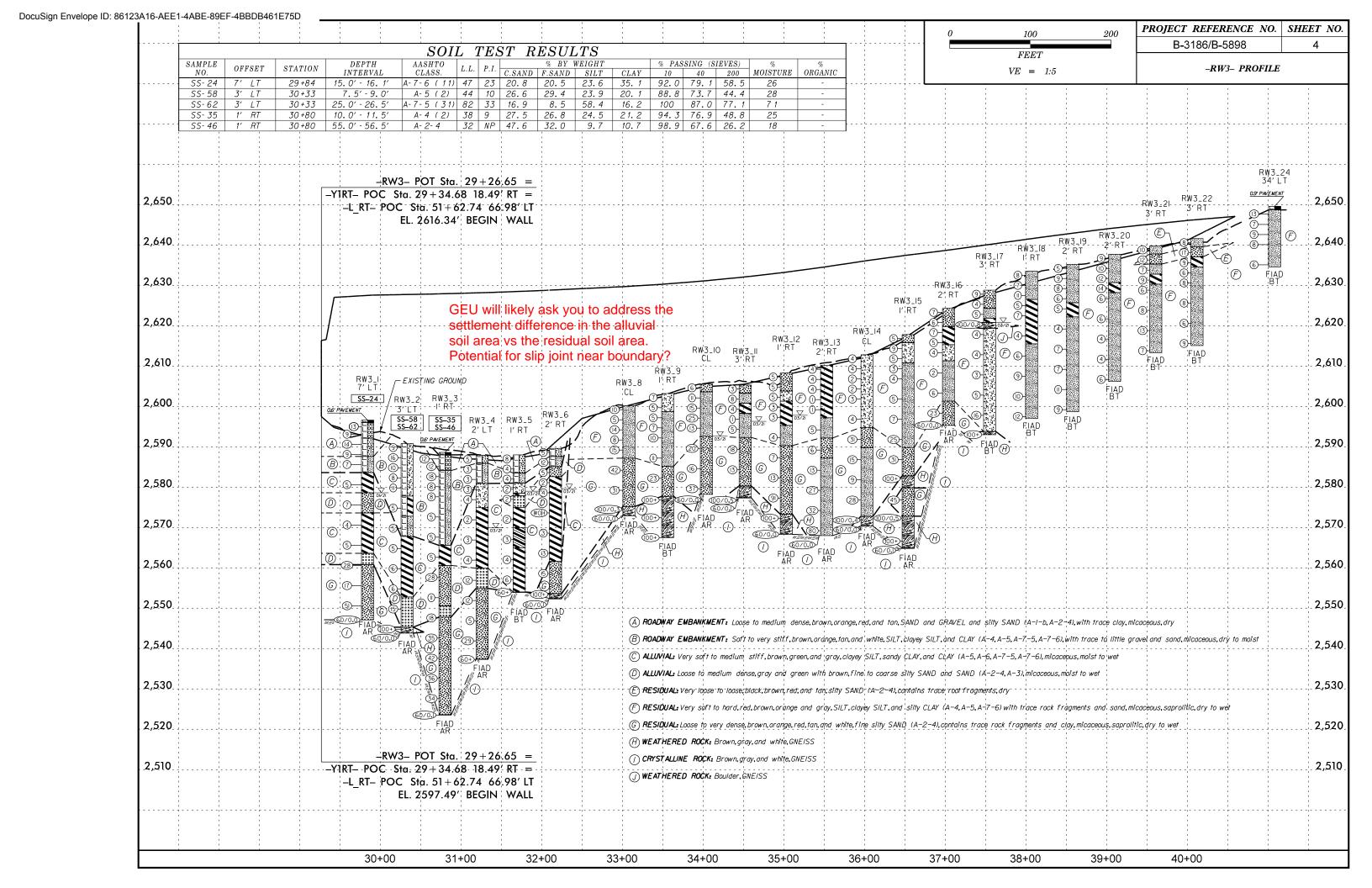
GEOTECHNICAL ENGINEERING UNIT

## 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<br>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.          | ALLUYIUM (ALLUY.) - 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 WON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES >  | 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  | MINERALOGICAL COMPOSITION  MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAQLIN, ETC.  | CRYSTALLINE FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE,   | WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.  |
| CLASS.     (≤ 35% PASSING *200)     (> 35% PASSING *200)       GROUP     A-1     A-3     A-2     A-4     A-5     A-6     A-7     A-1, A-2     A-4, A-5  | ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.   | GNEISS, GABBRO, SCHIST, ETC.  | CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.   |
| CLASS. A-1-0 A-1-b A-2-4 A-2-5 A-2-6 A-2-7 A-7-5 A-3 A-6, A-7   | COMPRESSIBILITY  | NON-CRYSTALLINE FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YELLD SPT REFUSAL IF TESTED.   | COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM   |
| SYMBOL 0000 d0000 d00000 d0000 d00000 d0000 d00000 d0000 d0000 d0000 d0000 d0000 d0000 d0000 d0000 d0000 d000000  | SLIGHTLY COMPRESSIBLE LL < 31 MODERATELY COMPRESSIBLE LL = 31 - 50   | ROCK (NCR) ROCK THEN WOLLD FELLO STATE TO THE TESTED.  ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.  COASTAL PLAIN COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD         | OF SLOPE.   |
| 7. PASSING  | HIGHLY COMPRESSIBLE LL > 50  | 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 SILT- MUCK, *40 30 MX 50 MX 51 MN SOILS CALY PEAT  | PERCENTAGE OF MATERIAL   | CCP) SHELL BEDS, ETC. WEATHERING  | DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT  |
| #200 15 MX 25 MX 10 MX 35 MX 35 MX 35 MX 35 MX 36 MN 36 MN 36 MN 36 MN 36 MN  | GRANULAR SILT - CLAY ORGANIC MATERIAL 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% LITTLE ORGANIC MATTER 3 - 5% 5 - 12% LITTLE 10 - 20%   | HAMMER IF CRYSTALLINE.  | DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.   |
| PASSING *40   | 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, (V SLI.) CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF | DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE   |
| PI 6 MX NP 10 MX 10 MX 11 MN 11 MN 10 MX 10 MX 11 MN 11 MN 10 MX 10 MX 11 MN 11 MN MODERATE ORGANIC   | HIGHLY ORGANIC > 10% > 20% HIGHLY 35% AND ABOVE  | 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 (SLI.) 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR                  | FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.                                  |
| OF MAIOR CRAVEL AND FINE SILTY OR CLAYEY SILTY CLAYEY MATTER  | WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING  | CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.  | FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.   |
| MATERIALS SAND SAND GRAVEL AND SAND SOILS SOILS   | lacktright static water level after $24$ hours   | MODERATE SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN   | FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM   |
| GEN. RATING EXCELLENT TO GOOD FAIR TO POOR POOR UNSUITABLE  | <u> </u>   | (MOD.) GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED                       | PARENT MATERIAL.  |
| AS SUBGRADE   EACELLERY TO 50000   FHIN TO FOOK   POOR   FOOK   ORSOTHABLE  | SPRING OR SEEP   | WITH FRESH ROCK.  | 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 |
| CONSISTENCY OR DENSENESS  | MISCELLANEOUS SYMBOLS  | MODERATELY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL SEVERE AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH     | FIELD.  |
| COMPACTNESS OF RANGE OF STANDARD RANGE OF UNCONFINED  | ETT 25 / 425   | MOD.SEV.) AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK, ROCK GIVES "CLUNK" SOUND WHEN STRUCK.   | JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.  |
| PRIMARY SOIL TYPE CONFIDENCY PENETRATION RESISTENCE COMPRESSIVE STRENGTH (N-VALUE) (TONS/FT <sup>2</sup> )  | ROADWAY EMBANKMENT (RE)  25/025 DIP & DIP DIRECTION OF ROCK STRUCTURES   | IF TESTED, WOULD YIELD SPT REFUSAL  SEVERE ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED, ROCK FABRIC CLEAR AND EVIDENT BUT  | LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.   |
| GENERALLY VERY LOOSE < 4  | SOIL SYMBOL SPIT MI TEST BORING SLOPE INDICATOR INSTALLATION   | (SEV.) REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED  | LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.   |
| GRANULAR MEDIUM DENSE 10 TO 30 N/A  | N 1  | TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN.  IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF  | MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS   |
| MATERIAL DENSE 30 TO 50   | ARTIFICIAL FILL (AF) OTHER AUGER BORING CONE PENETROMETER TEST   | VERY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE   | USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.  |
| VERT DENSE 2 20   |  | SEVERE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK (V SEV.) REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR             | PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.  |
| VERY SOFT   | - INFERRED SOIL BOUNDARY - CORE BORING SOUNDING ROD  | VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. <u>IF TESTED, WOULD YIELD SPT N VALUES &lt; 100 BPF</u>  | RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.  |
| SILT-CLAY   MEDIUM STIFF   4 TO 8   0.5 TO 1.0   MATERIAL   STIFF   8 TO 15   1 TO 2  | INFERRED ROCK LINE MONITORING WELL TEST BORING WITH CORE   | COMPLETE ROCK REDUCED TO SOIL, ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND  | ROCK QUALITY DESIGNATION (RQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF   |
| (COHESIVE) VERY STIFF 15 TO 30 2 TO 4   | TTTTT ALLUVIAL SOIL BOUNDARY A PIEZOMETER INSTALLATION - SPT N-VALUE   | SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.  | ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.  |
| HARD > 30 > 4   |  | ROCK HARDNESS   | SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT   |
| TEXTURE OR GRAIN SIZE   | RECOMMENDATION SYMBOLS   | VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES   | ROCK.   |
| U.S. STD. SIEVE SIZE 4 10 40 60 200 270 OPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.053  | UNDERCUT UNCLASSIFIED EXCAVATION - UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE ACCEPTABLE, BUT NOT TO BE  | SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.   | 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        |
| COARSE FINE   | SHALLOW UNCLASSIFIED EXCAVATION - USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL   | HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY, HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.  | THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.   |
| BOULDER   COBBLE   GRAVEL   SAND   SAND   SILT   CLAY   SAND   CLAY   CLAY |  | MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE  | SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.   |
| GRAIN MM 305 75 2.0 0.25 0.05 0.005   | ABBREVIATIONS  AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST   | HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED 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  | MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT.   | A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL  |
| SOIL MOISTURE - CORRELATION OF TERMS  | CL CLAY  MOD MODERATELY  7 - UNIT WEIGHT  CPT - CONE PENETRATION TEST  NP - NON PLASTIC  7 - DRY UNIT WEIGHT   | HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.  | WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.   |
| SOIL MOISTURE SCALE FIELD MOISTURE GUIDE FOR FIELD MOISTURE DESCRIPTION   | CSE COARSE ORG ORGANIC   | SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS  | STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY   |
| (ATTERBERG LIMITS) DESCRIPTION SOIDE FOR THEED HOLDSTONE BESCHIPTION  | DMT - DILATOMETER TEST PMT - PRESSUREMETER TEST SAMPLE ABBREVIATIONS  DPT - DYNAMIC PENETRATION TEST SAP SAPROLITIC S - BULK   | FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.  | TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.  STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL                               |
| - SATURATED - USUALLY LIQUID; VERY WET, USUALLY (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   | LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY   |
| LL LIQUID LIMIT   | F - FINE SL SILTY ST - SHELBY TUBE FOSS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK   | SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL.   | THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.  TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.   |
| PLASTIC   SEMISOLID; REQUIRES DRYING TO   | FRAC FRACTURED, FRACTURES TCR - TRICONE REFUSAL RT - RECOMPACTED TRIAXIAL FRACS FRAGMENTS W - MOISTURE CONTENT CBR - CALIFORNIA BEARING                                    | FRACTURE SPACING BEDDING  |   |
| (PI) PLASTIC LIMIT ATTAIN OPTIMUM MOISTURE  | HI HIGHLY V - VERY RATIO   | TERM SPACING TERM THICKNESS   | BENCH MARK: N/A   |
| - MOICT - (M) COLID. AT OR NEAR ORTIMIN MOICTURE  | 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   |
| OM _ OPTIMUM MOISTURE SULLS HI OK NEHA OPTIMUM MOISTURE SL _ SHRINKAGE LIMIT  | DRILL UNITS: ADVANCING TOOLS: HAMMER TYPE:   | MODERATELY CLOSE 1 TO 3 FEET THINLY BEDDED 0.16 - 1.5 FEET  | NOTES:  |
| REQUIRES ADDITIONAL WATER TO  | CME-45C CLAY BITS X AUTOMATIC MANUAL   | 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   |   |
| - DRY - (D) ATTAIN OPTIMUM MOISTURE   | X CME-55 CONTINUOUS FLIGHT AUGER CORE SIZE:  | THINLY LAMINATED < 0.008 FEET   | BORING ELEVATIONS OBTAINED USING<br>b3l86_br0022_r4047_Merged_I-i2-21.tin   |
| PLASTICITY  | X 8* HOLLOW AUGERS   | INDURATION  | FIAD - FILLED IMMEDIATELY AFTER DRILLING  |
| PLASTICITY INDEX (PI) DRY STRENGTH  | X CME-550X HARD FACED FINGER BITS -N   | FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.   |   |
| NON PLASTIC 0-5 VERY LOW SLIGHTLY PLASTIC 6-15 SLIGHT   | VANE SHEAR TEST TUNGCARBIDE INSERTS HAND TOOLS:  | FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.  |   |
| MODERATELY PLASTIC 16-25 MEDIUM   | CASING W/ ADVANCER POST HOLE DIGGER  | MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE:  |   |
| HIGHLY PLASTIC 26 OR MORE HIGH  | PORTABLE HOIST TRICONE STEEL TEETH HAND AUGER  | BREAKS EASILY WHEN HIT WITH HAMMER.   |   |
| COLOR   | X CME-I7 TRICONE TUNGCARB. SOUNDING ROD  | INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE:  DIFFICULT TO BREAK WITH HAMMER.   |   |
| DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY).   | CORE BIT VANE SHEAR TEST   | CHARP HAMMER BLOWS REQUIRED TO RREAK SAMPLE.  |   |
| MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.  |  | EXTREMELY INDURATED SAMPLE BREAKS ACROSS GRAINS.  | DATE: 8-15-14   |





|   |                       |                |                 |        | _  |            |            |                | _        |       |  |       | .OG   |         |      |              | _                    |  |                  |                               |                  |  |                     |         |          |             |             |             |          |              |        |        |      | _       |             |                     |              |       |              |          |       |       |        |              |           |  |                 |           |                                |                    |                          |         |                                 |                  |   |
|---|-----------------------|----------------|-----------------|--------|----|------------|------------|----------------|----------|-------|--|-------|-------|---------|------|--------------|----------------------|--|------------------|-------------------------------|------------------|--|---------------------|---------|----------|-------------|-------------|-------------|----------|--------------|--------|--------|------|---------|-------------|---------------------|--------------|-------|--------------|----------|-------|-------|--------|--------------|-----------|--|-----------------|-----------|--------------------------------|--------------------|--------------------------|---------|---------------------------------|------------------|---|
| -   | 38332.1               |                |                 |        |    | B-318      |            |                |          |       |  | WOO   | DD    |         |      |              | GEO                  | LOG  | SIST             | R. Du                         | ugger            |  |                     |         |          |             | -           | <b>S</b> 38 |          |              |        |        |      |         |             | 3186                |              |       | COU          |          |       | NOO   | D      |              |           |  | GEC             | LOGIST    | r R. D                         | Ougger             | •                        | 1       |                                 |                  |   |
|   | DESCRIP               |                |                 | ing Wa | _  |            |            |                | 29+3     |       |  |       |       |         |      |              | _                    |  |                  |                               |                  |  | -                   |         | ) WTR    | (ft)        | -           | E DES       |          |              |        | aining | g Wa | _       |             |                     |              | STA 2 | 29+35        |          |       |       |        |              |           | -  |                 |           |                                |                    |                          | +       | DUND                            | WT               | R (ft                                   |
|   | NG NO.                |                |                 |        | _  | ATION      |            |                |          |       | OFFS   |       |       |         |      |              | +                    |  | ENT -            |                               |                  |  |                     | HR.     |          | 8.0         |             | RING N      |          |              |        |        |      | +       |             | <b>N</b> 30         |              |       |              |          | OFFSE |       |        |              |           | -  |                 | SNMEN     |                                |                    |                          | 0 H     |                                 |                  | Dry                                     |
|   | AR ELE                |                |                 |        |    | TAL DE     |            |                |          |       | NORT   | HING  |       |         |      |              | 1                    |  | 819              | ,622                          |                  |  | 24                  |         |          | IAD         |             | LLAR        |          |              |        |        |      |         |             | DEPT                |              |       |              | N        | NORTH |       | 666,9  |              |           |  |                 | TING      | 819,670                        |                    |                          | 24 H    |                                 |                  | FIAD                                    |
| DRILL   | RIG/HAMIN             | /IER EFF.      | /DATE           | GTC9   |    |            | •          |                |          |       |  |       | DRILL | MET     | HOD  | HS           | S. Augers            | S  |                  |                               |                  | HAMIN                                    | MER T               | YPE /   | Automati | ic          | DRI         | LL RIG/I    | HAMIV    | NER EF       | F./DAT | TE G   | TC90 |         |             |                     |              |       |              |          |       |       | DRILLI |              |           | H.S.   | Augers          | 3         |                                |                    | HAMIN                    | ER TY   | PE A                            | utom             | atic                                    |
|   | ER L.\                |                |                 |        |    | ART DA     |            |                |          |       | COMP   | DA    |       |         |      |              | SURI                 | FAC  | E WA             | TER [                         | DEPT             | H N                                      | l/A                 |         |          |             | DR          | ILLER       |          |              |        |        |      |         | ART         | DATE                |              |       |              |          | COMP. | DAT   | E 01/  | _            | 21        |  | SUR             | FACE V    | VATER                          | DEPT               | TH N                     | Ά       |                                 |                  |   |
| ELEV<br>(ft)  | DRIVE<br>ELEV<br>(ft) | OEPTH_<br>(ft) | BLOW<br>0.5ft ( |        |    | 0          | 25<br>     | BLOWS          | 50       |       | 75<br>   | 100   |       | P. /    | /    | O<br>G       | ELEV. (              | (ft)   | SOIL             | . AND                         | ROC              | K DES                                    | SCRIP               | TION    | DEP      | ΓΗ (ft)     | ELE<br>(ft) |             | - v I    | EPTH<br>(ft) | O.5ft  | 0.5    |      |         | 0           | 2                   | BL0<br>25    |       | PER FC<br>50 | OOT<br>7 | 5     | 100   | NO.    | 1 /          | /OI       | O<br>G   |                 | S         | OIL ANI                        | D ROC              | K DES                    | CRIPT   | ION                             |                  |   |
| 2600  |                       |                |                 |        |    |            |            |                |          |       |  |       |       |         |      | E            | <del>-</del>         |  |                  |                               |                  |  |                     |         |          |             | 259         | 5           | <u> </u> |              |        |        |      |         |             |                     |              |       |              |          |       |       |        |              |           | F  |                 |           |                                |                    |                          |         |                                 |                  |   |
| 0505  | 2,596.0               | 0.6            |                 | _      |    |            | -          |                | .   -    |       | T  |       |       | +       | ļ    |              | 2,596.6<br>2,596.0   |  |                  |                               |                  | SURF<br>VEME                             |                     |         |          | 0.0<br>0.6  | 050         | 2.59        | 0.8      | 0.0          |        |        |      |         |             |                     |              |       |              |          |       |       |        |              |           |  | 2,590.8         | 3         |                                | ROUND              |                          |         |                                 |                  | 0                                       |
| 2595  | 2,594.1               | 2.5            | 8               | ′      | 6  | <b>1</b>   | 3-         |                | +-       |       | +  |       |       |         | D L  |              | <del>-</del>         | _  | Roose            | OADW                          | VAY E            | MBAN                                     | KME                 |         |          |             | 259         |             | +        | 0.5          | 4      | 4      |      | 5       |             | 9                   | +            |       | +::          |          |       |       |        | N            | иL        | - Ni-  |                 | Mediu     | ROAD<br>m stiff to             |                    |                          |         |                                 | ge,              |   |
|   | 2.591.6+              | 5.0            | 3               | 4      | ٦  | - 49 -     | :          | <br>           | :   :    | : : : |  |       |       |         | D L  |              | 2,592.1              |  | orange           |                               | ND an            | d GRA                                    | ÁVEL (              |         |          | 4.5         |             | 2,58        | 8.3      | 2.5          | 5      | 8      |      | 8       |             | . <b>\</b> .<br>•16 |              |       |              |          |       |       |        | N            | иĽ        | - \frac{1}{\cdot \cdot \ |                 | fine<br>I | to coars                       | se sand<br>vel and | ly SILT<br>I clav. r     | (A-5)(2 | 2), with                        | ì                |   |
| 2590  | · †                   |                | 7               | 7      | 7  | · · · •    | 14         |                |          |       | <u> </u>   |       |       |         | D    |              |                      |  | oose to          |                               | ium d            |  | brown               |         |          |             | 258         | 2,58        | 5.8      | 5.0          | 5      | 5      | +    | 5       |             | ·/· ·               | <u> </u>     |       | <u> </u>     |          |       |       |        |              | лL        |  |                 |           | 3                              |                    | ,                        |         |                                 |                  |   |
| -   | 2,589.1               | 7.5            | 6               | 5      | 4  | . 9.       | :          | <br>           | :   :    |       |  |       |       |         | D L  |              | 2,587.6              | ;  | orange           | ara                           | avel. n          | niċace                                   | eous                |         |          | 9.0         |             | 2,58        | 3.3      | 7.5          | 3      | 2      |      | _       | : [         |                     |              |       |              |          |       |       |        |              | ŀ         |  |                 |           |                                |                    |                          |         |                                 |                  |   |
|   | 2,586.6               | 10.0           | 3               | 3      | 4  | :F :       | -          |                | :   :    |       |  |       |       |         | D l  | E            |                      | N  | /ledium          |                               |                  | , browr                                  |                     |         | LT -     |             |             | 2,58        | 1 an     | 10.0         | 3      | 3      |      | ١       | . •\        | 8                   | : :          |       |              |          |       | - 1   | SS-58  | 28           | 3% L<br>L | -  <u> </u> -  -   |                 |           |                                |                    |                          |         |                                 |                  |   |
| 2585  | $\pm$                 |                |                 |        | .  | <b>●</b> 7 | -          | <del></del>    | +-       |       |  |       |       |         | ן ל  |              | _<br>· 2,583.6       | :  | (/-4)            | , with                        | uacc             | sanu,                                    | micac               | Jeous   |          | 13.0        | 258         | 0,22        | +        | 10.0         | 3      | 5      |      | 6       |             | 11                  | <del> </del> |       | +            |          |       | _     |        | N            | иĻ        | -\ <u>`</u> -  |                 |           |                                |                    |                          |         |                                 |                  |   |
|   | <del>.</del> .        | 45.0           |                 |        |    |            | -          |                |          |       |  |       |       |         |      | 1            | 2,363.0              |  |                  |                               |                  | UVIAL                                    |                     |         |          | <u>13.0</u> |             |             | Ŧ        |              |        |        |      |         | : /         |                     | : :          |       | : :          |          |       |       |        |              | Ļ         | <b>- 1</b>   | <u>2,577.8</u>  | <u></u>   | lium stiff                     | f brown            | n and                    | range   |                                 |                  | _ 13                                    |
| 2580  | 2,581.6+<br>+         | 15.0           | 3               | 2      | 3  | <b>1</b>   | -          |                | .   .    | : : : | : :  |       | SS-2  | 24 2    | 6%   | 3            |                      | N  | Medium           |                               |                  | nd gray<br>-6)(11)                       |                     | ay CLA  | ΛY       |             | 257         | 2,57        | 5.8      | 15.0         | 1      | 2      |      | 2       | ;/:         |                     | : :          |       | : :          |          |       | - 1   |        | ١.           | . [       |  |                 | IVICC     | ilulii Suli                    | (A-                | -7-6)                    | nange,  | OLAT                            |                  |   |
| 2000  | Ŧ                     |                |                 |        |    | 1          | -          |                |          |       |  |       |       |         | abla |              | _<br>2 <u>,578.6</u> | <u>.                                    </u> |                  |                               |                  |  |                     |         |          | 18.0        |             |             | ‡        |              | '      | ^      |      | ١       | 5           |                     | 1            |       | 1            |          |       |       |        | l M          | ۷ إ       |  | 0 570 0         | ,         |                                |                    |                          |         |                                 |                  | 10                                      |
|   | 2,576.6               | 20.0           |                 |        |    | 1          |            | <br>           | .   .    | : : : |  |       |       |         |      |              |                      | Lo   | ose, br          | own a                         |                  | ay, silt<br>iceous                       |                     | ID (A-2 | 2-4),    |             |             |             | ‡        |              |        |        |      |         | .           |                     | : :          |       | : :          |          |       |       |        |              | F         |  | <u> 2,512.0</u> | Mediu     | m stiff, b                     | orown a            | and ora                  | nge, SI | LT (A-                          | <del>-4</del> ), | _ 10.                                   |
| 2575  | ‡                     |                | 3               | 3      | 4  | <b>•</b> 7 | -          |                | <u> </u> |       |  |       |       | '       | W    | ***          | <del>-</del>         |  |                  |                               |                  |  |                     |         |          |             | 257         | 0 2,57      | 0.8      | 20.0         | 2      | 2      |      | 3       | j .         |                     | ļ::          | - :   | ļ : :        |          |       |       |        | l N          | иĽ        |  |                 |           | with tr                        | race cla           | ay, mic                  | aceous  | 3                               |                  |   |
|   | ‡                     |                |                 |        |    | ; ; ;      |            | <br>           | :   :    |       |  |       |       |         | •    | <b>*</b>     | 2,573.6              | S- Sc  | oft to m         | <br>edium                     | n stiff.         | brown                                    | T. CLA              | Y (A-7- | -6).     | 23.0        |             |             | ‡        |              |        |        |      |         | T°.         |                     |              | • •   | : :          |          |       |       |        |              | L         | <u>- III                                 </u>  | 2,567.8         | <u> </u>  |                                |                    |                          |         |                                 | _                | 23.                                     |
|   | 2,571.6               | 25.0           | 1               | 2      | 2  | 1          | -          | <br>           | :   :    |       |  |       |       | Ι,      | w    |              |                      |  |                  |                               |                  | ceous                                    |                     | . (     | -,,      |             |             | 2 56        | 5.8      | 25.0         |        |        |      |         | :           |                     | : :          |       | : :          |          |       | - 1   |        |              |           |  |                 | Me        | edium st                       |                    | <b>UVIAL</b><br>v. hiahl |         | CLAY                            |                  |   |
| 2570  | $\pm$                 |                |                 | _      | -  | 4          | -          |                | +-       |       | +  |       |       |         | ٧٧   |              | _                    |  |                  |                               |                  |  |                     |         |          |             | 256         | 5 -,20      | +        |              | 2      | 2      |      | 3       | <b>\$</b> 5 |                     | <del> </del> |       | +            |          |       |       | SS-62  | 71           | %         |  |                 | (A-7-5    | 5)(31), w                      | ith son            | ne fine                  | to coar | se sar                          | nd,              |   |
|   | Ŧ                     |                |                 |        |    | [ : :      |            |                |          |       |  |       |       |         |      | S            |                      |  |                  |                               |                  |  |                     |         |          |             |             |             | Ŧ        |              |        |        |      |         | į :         |                     | : :          |       | : :          |          |       |       |        |              |           |  |                 |           |                                | IIIICa             | iceous                   |         |                                 |                  |   |
| 2565  | 2,566.6               | 30.0           | WOH             | 2      | 3  | 5          | -          |                | .   .    |       | : :  |       |       |         | w    | 3            |                      |  |                  |                               |                  |  |                     |         |          |             | 256         | 2,56        | 0.8      | 30.0         |        | 1      |      | $\perp$ | :           |                     | : :          |       |              |          |       | - 1   |        |              |           | 3  |                 |           |                                |                    |                          |         |                                 |                  |   |
| 2303  | ‡                     |                |                 |        |    | <b>T</b>   | -          |                | +-       |       | <b>.</b>   |       |       |         |      |              | _<br>_ 2,563.6       | 6  |                  |                               |                  |  |                     |         |          | 33.0        | 230         |             | ‡        |              | 1      | 2      |      | 4       | <b>•</b> 6  |                     | <del> </del> |       | <del> </del> |          |       |       |        | l N          | И         | 7  |                 |           |                                |                    |                          |         |                                 |                  |   |
|   | 2.561.6+              | 35.0           |                 |        |    | j : :      | :          | <br>           | :   :    | : : : | : :  |       |       |         | 0    |              |                      |  | Medi             | um de                         | ense,            | gray, S                                  | SAND                | (A-3)   |          |             |             |             | ‡        |              |        |        |      |         | ; ;         |                     | : :          |       | : :          | : :      |       |       |        |              |           | 7  |                 |           |                                |                    |                          |         |                                 |                  |   |
| 2560  | <u></u>               | 00.0           | 4               | 15     | 13 | ـــا       | · -        | 28             | -   -    |       |  |       |       | '       | W    |              | 2,560.8              | 3  |                  |                               | RES              | IDUAL                                    | _                   |         |          | 35.8        | 255         | 2,55        | 5.8      | 35.0         | 2      | 2      |      | 4       | 1.          |                     |              |       |              |          |       |       |        | <sub>N</sub> | ,         | H  |                 |           |                                |                    |                          |         |                                 |                  |   |
|   | Ŧ                     |                |                 |        |    |            | ·/         |                | .   -    |       |  |       |       |         |      | F            |                      |  | Mediui<br>orange |                               | ise to           | very d                                   | lense,              |         |          |             |             |             | Ŧ        |              |        |        |      |         | . /-        |                     |              |       |              |          |       | - 1   |        | "            | · [       |  | 2 552 8         | <b>R</b>  |                                |                    |                          |         |                                 |                  | 38                                      |
|   | 2,556.6               | 40.0           | _               | 7      | 40 | : : :      | <i>j</i> / | <br>           |          |       |  |       |       |         |      |              |                      | СО   | ntains t         | trace i                       | rock f           | ragme                                    | ents, m             | nicaceo | ous,     |             |             | 0.55        | Ţ        | 40.0         |        |        |      |         | : :         | ./                  | : :          |       | : :          |          |       |       |        |              | 000       | 000  | 2,002.0         |           | edium de                       | ense, b            | orown,                   | SAND    | ( <del>A</del> - <del>3</del> ) |                  | _ ===================================== |
| 2555  | ‡                     |                | 5               | ′      | 10 |            | 17         |                | 4-       |       |  |       |       |         | М    | ‡            | _                    |  |                  |                               | sap              | rolitic                                  |                     |         |          |             | 255         | 0 2,55      | 0.8      | 40.0         | 7      | 7      | ٠    | 11      | ļ.,         | 18                  | 3            |       | 1::          |          |       | _     |        | l v          | 10        |  |                 |           |                                |                    |                          |         |                                 |                  |   |
|   | ‡                     |                |                 |        |    |            | : \        |                | :   :    | : : : |  |       |       |         |      |              |                      |  |                  |                               |                  |  |                     |         |          |             |             |             | ‡        |              |        |        |      |         | : :         |                     |              |       | : :          |          |       |       |        |              | 0         |  |                 |           |                                |                    |                          |         |                                 |                  |   |
|   | 2,551.6               | 45.0           | 18              | 19     | 32 |            | -          | : : <b>:</b> : |          |       |  |       |       |         | м    |              |                      |  |                  |                               |                  |  |                     |         |          |             |             | _ 2.54      | 5.8      | 45.0         |        |        |      |         | : :         | .<br>  <u>.</u>     | <u> </u>     | · ·   | <u> </u>     |          |       |       |        |              | 0 0       | 000-   | 2,545.8         | 3         |                                |                    |                          |         |                                 |                  | 45                                      |
| 2550  | +                     |                |                 |        |    |            |            |                | 951      |       | <del>                                     </del> |       |       |         | '''  | ::: <u> </u> | <del>-</del>         |  |                  |                               |                  |  |                     |         |          |             | 254         | 5           | +        | 47 0         | 6      | 100/0  | 0.3  |         | <u> </u>    |                     | <del> </del> |       | +            |          |       | 00+   |        |              | 7         |  | 2,543.8         | 3         |                                | EATHE              |                          |         |                                 |                  | 47.                                     |
| 7   | 2,547.1               | 49.5           |                 |        |    |            |            |                | ll.      |       |  | ]     |       | $\perp$ |      |              | 2,547.1              |  |                  |                               |                  |  |                     |         |          | 49.5        |             | ,,,,-       | +        |              | 60/0.0 |        |      |         |             |                     |              |       |              |          | 60    | 0.0.0 |        |              |           | -  |                 | L         | Boring Te                      | ermina             | ted wit                  | n Stanc |                                 |                  |   |
| OT BORE DOUBLE B3186_GEO_SPT.GPJ NC_DOT.GDT 8/11/21 |                       | 49.3           | 50/0.0          |        |    |            |            |                | -        |       | 6  | 0/0.0 |       |         |      |              | -                    | •  | Penetr.,547.1    | ation <sup>-</sup><br>ft on C | Test f<br>Crysta | ted wit<br>Refusæ<br>Illine R<br>epth of | al at El<br>Rock (C | evatior | n<br>S). |             |             |             |          |              |        |        |      |         |             |                     |              |       |              |          |       |       |        |              |           |  |                 |           | netration<br>3.8 ft on<br>A.R. |                    | Illine R                 | ock (GI |                                 |                  |   |

| MIDO         | 38332.1               | EQ1         |                 |           | <b>P</b> B-3186 | / D 5000       | 00      | UNTY H     |        |        |  |                | EOLOGIST R. Dugger   |                      | WPS       | 20222.4  | EQ4            |                 |        | TID   | B-3186       | D FOOD      | COLINIT  | Y HAYWO        | <b>3D</b>    |     | OF C           | OLOGIST N. Yacob                      |                           |                              |
|--------------|-----------------------|-------------|-----------------|-----------|-----------------|----------------|---------|------------|--------|--------|--|----------------|--|----------------------|-----------|--|----------------|-----------------|--------|-------|--------------|-------------|--|----------------|--------------|-----|----------------|---------------------------------------|---------------------------|------------------------------|
|              |                       |             | ) _ 4 _ i _ i \ |           |                 |                |         |            |        | טט     |  | G              | EOLOGIST R. Dugger   | GROUND WTR (ft)      | <b>—</b>  | 38332.1.   |                | Dataini         | \\\    |       |              |             | 29+35 to   |                | טט           |     | GEC            | DLOGIST N. Yacob                      |                           | CDOUND WITD (6               |
|              | DESCRIP               |             | tetaining v     |           |                 |                | IA 40+: |            |        | 4 # DT |  |                | LICAMENT DIAGO   | ⊣ `´I                |           |  |                |                 | ng vva | _     |              |             | 29+35 10   |                | 0.61.T       |     | A1.16          | CARACAIT DIAG                         |                           | GROUND WTR (f                |
|              | ING NO.               |             |                 |           | ATION 3         |                |         |            | SET    |        |  |                | LIGNMENT -RW3-   | <b>0 HR</b> . Dry    | -         | NG NO.   |                |                 |        | +     | ATION 3      |             | -  | OFFSET         |              |     |                | GNMENT -RW3-                          |                           | <b>0 HR.</b> 18.             |
|              | LAR ELEV              |             |                 |           | TAL DEP         |                |         | NOF        | RTHING | 667,0  |  | I              | <b>ASTING</b> 819,716  | 24 HR. FIAD          |           | AR ELEV  |                |                 | OTTOO  | 1     | TAL DEPT     |             |  | NORTHING       | ,            |     | I              | STING 819,758                         |                           | 24 HR. FIAI                  |
|              | _RIG/HAMM             |             |                 |           |                 |                |         | 1          |        |        | METHOD   |                |  | MER TYPE Automatic   | -         | RIG/HAMMI  |                |                 | GIC82  |       |              |             |  | T              |              |     | D H.S. Auger   |                                       |                           | RTYPE Automatic              |
| -            | LER L. V              |             |                 |           | ART DAT         |                |         |            | MP. DA | TE 01/ | 28/21  |                | JRFACE WATER DEPTH N   | //A                  |           | ER L. W  |                |                 |        |       | ART DATE     |             |  | COMP. DA       |              |     | SUF            | RFACE WATER DEI                       | PTH N/A                   |                              |
| ELEV<br>(ft) | DRIVE<br>ELEV<br>(ft) | EPTH E      | 5ft 0.5ft       |           | 0               | 25<br>         | S PER F | -001<br>75 | 100    |        | MOI  | 0              | SOIL AND ROCK DES  | SCRIPTION DEPTH (ft) | ELEV (ft) | DRIVE<br>ELEV<br>(ft)                            | EPTH<br>(ft) ( | BLOW<br>0.5ft 0 |        | ).5ft | 0 2          | BLOWS       | 50<br>50   | 75 100         | SAMP.<br>NO. | MO  | O<br>G         | SOIL AND RO                           | OCK DESCF                 | RIPTION                      |
| 2590         |                       |             |                 |           |                 |                |         |            |        |        |  |                |  |                      | 2590      |  |                |                 |        |       |              |             |  |                |              |     |                |                                       |                           |                              |
|              | 2,588.0               | 0.6         | 5 4             |           |                 |                |         | .          |        |        |  | - 2,58<br>2,58 | 88.6 GROUND SURF   |                      | 1         | 2,587.9  | 0.0            |                 |        |       |              |             |  |                |              |     | 2,587.         |                                       | ID SURFAC                 |                              |
| 2505         | 2,586.1               | 2.5         | 5 5             | 0 7       | - <b>♦</b> 12 - |                |         |            |        |        |  | -{S-<br>-{S-   | ROADWAY EMBAN<br>Medium dense, brown and                       |                      | 0505      | +<br>2,585.4                                     |                | 2               | 2      | 3     | 5:           |             |  | .              |              | D   | 2,585.         | 9 Loose, brown and                    | tan, silty S              | AND (A-2-4) 2                |
| 2585         | 2.583.6               | 50          | "   "           | '         | 12-             | 1              |         |            |        |        |  | 2,58           | 34.1 and GRAVEL (A   | \-1-b) 4.5           |           | I  |                | 1               | 2      | 1     | <b>4</b> 3   |             |  |                |              | D   |                | Soft, brown a                         | and tan, SIL              | T (A-4)                      |
|              | +                     | 7           | 7 9             | 9         | 1 : : :>1       | 8              |         |            |        |        |  |                | Medium stiff to very stiff, borange, f-c sandy SILT (A-        | 4)(2), with trace    |           | 2,582.9  | 5.0            | 1               | 2      | 1     | 3            |             |  |                |              | D   |                |                                       |                           |                              |
| 2580         | 2,581.1               | 7.5         | 3 3             | 5         | /               | 1              |         | -          |        |        |  | <b>上</b>       | gravel and some clay,  | micaceous            | 2580      | 2,580.4  | 7.5            | 1               | 1      | _     | <u> </u>     |             |  |                |              | М   | 2,580.         | AL                                    | LÜVÏAL                    |                              |
|              | 2,578.6               | 10.0        | 4 4             | 4         | -               |                |         |            |        | SS-35  | 25%  |                |  |                      | 2         | 2,577.9  | 10.0           |                 |        |       | •3 · · ·     |             |  |                |              | IVI | 1 1            | Soft, dark gray<br>mi                 | /, clayey SIL<br>caceous  | _T (A-5),                    |
|              | l ±                   |             |                 |           | J               |                | -       |            |        | 33-33  | 23/0   |                |  |                      |           | · ±  |                | 1               | 2      | 2     | •4           |             |  |                |              | М   |                |                                       |                           |                              |
| 2575         | 2.573.6               | 15.0        |                 |           | +               | +              |         |            |        |        |  | <u> </u>       |  |                      | 2575      | $\pm$  |                |                 |        |       | <del> </del> |             | <del>                                     </del> | <del></del>    |              |     | 2,574.         | 9Very soft to medi                    | um stiff. dar             | <u> 13</u><br>rk grav. siltv |
|              | 2,5/3.6               | 15.0        | 2 2             | 3         | <b>•</b> 5      |                |         | .          |        |        |  |                |  |                      | 2         | 2,572.9  | 15.0           | 1               | 1      | 1     | <u> </u>     |             |  |                |              | М   |                | CLA                                   | Y (A-7-6)                 | 3 ,, ,                       |
| 2570         | <del> </del>          |             |                 |           |                 | 1              | -   - : |            |        |        |  | <u>-</u>       |  |                      | 2570      | Ŧ  |                |                 |        | Ηľ    | 1            |             |  |                |              |     |                |                                       |                           |                              |
|              | 2,568.6               | 20.0        | 3 2             | 3         | 1               |                |         |            |        |        |  | F              |  |                      |           | Z.567.9  | 20 0           |                 |        |       | Ţ            |             |  |                |              | ľ   |                |                                       |                           |                              |
|              |                       | '           | 3   2           |           | <b>•</b> 5      | : : :          |         | .          |        |        |  | - F            | NF 0   | 20.0                 |           | 2,507.9= 7                                       | 20.0           | 2               | 1      | 2     | 3            |             |  | .              |              | w   |                |                                       |                           |                              |
| 2565         | ‡                     |             |                 |           | H               | ļ : : :        |         |            |        |        |  | 2,56           | ALLUVIAL   |                      | 2565      | ‡  |                |                 |        |       | ¦····        |             | 1  |                |              |     |                |                                       |                           |                              |
|              | 2,563.6+              | 25.0        | 3 2             | 3         | 5               |                |         | .          |        |        | М  | 3              | Medium stiff, gray, silty (<br>micaceous                       |                      | 2         | 2,562.9  | 25.0           | 1               | 2      | _     | ļ : : : :    |             |  |                |              | l   |                |                                       |                           |                              |
| 2560         | ‡                     |             |                 |           |                 |                | -       |            |        |        |  | -<br>2,56      | 60.6   |                      | 2560      | ‡  |                | '               | _      | _     | 4:::         |             |  |                |              | W   | 3              | 0                                     |                           | 01                           |
| 2300         | 2.558.6               | 30.0        |                 |           | ;               |                |         |            |        |        |  | -              | Medium dense, brown, fi<br>(A-2-4), micace                     | ne silty SAND        |           | ‡  |                |                 |        | 11    | -\           |             |  |                |              |     | 2,559.         | Medium dense, g                       | ray, coarse               | SAND (A-3)                   |
|              | 1                     | 3           | 3 3             | 25        |                 | €28            |         |            |        |        | W  |                | , ,,   |                      |           | 2,557.9  |                | 4               | 6      | 6     | . 12.        |             |  |                |              | w   | 0000           |                                       |                           |                              |
| 2555         | 1 1                   |             |                 |           | ,               | <u> </u>       | -       | -          |        |        |  |                |  |                      | 2555      | 1  |                |                 |        |       | T:           |             |  |                |              |     | 2,554.         | 9                                     |                           | 33                           |
|              | 2,553.6               | 35.0        | 4 4             | 7         | / .             |                |         | .          |        |        |  |                |  |                      |           | 2.552.9  | 35.0           |                 |        |       |              |             |  | .              |              |     |                | RE<br>Loose to mediur                 | SIDUAL<br>n dense. tai    | n. red. and                  |
|              | +                     |             | .   .           |           | - 11 -          |                | -       | .          |        |        |  |                | 50.6   | 20.0                 |           | +  |                | 3               | 5      | 7     | · •12·       |             |  | .              |              | D   | -              | brown, silty SAN                      | D (A-2-4), r<br>aprolitic | nicaceous,                   |
| 2550         | 1 —                   | 40.0        |                 |           |                 | 1              |         |            |        |        | 0 0  | 2,53           | Medium dense, gray, coar                                       | se SAND (A-3)        | 2550      | Ŧ  |                |                 |        |       |              |             |  |                |              |     |                |                                       | аргонио                   |                              |
|              | 2,548.6               | 40.0        | 11 8            | 10        | 1               | 8              | -       | .          |        |        | W  | 2,54           | 17.8 RESIDUAL  | 40.8                 | 1         | 2,547.9  | 10.0           | 2               | 2      | 3     | <i></i>      |             |  | .              |              | M   |                |                                       |                           |                              |
| 2545         |                       |             |                 |           | : : : :         |                |         |            |        |        |  | ii.            | Medium dense to dense. It                                      | brown, tan, and      | 2545      | Ŧ  |                |                 |        | · []  | 5            |             |  | I              |              | IVI |                |                                       |                           |                              |
| 20.0         | 2,543.6               | 45.0        |                 |           |                 | 1              |         |            |        |        |  |                | orange, fine to coarse SAN<br>little silt and clay, with trace | rock fragments,      |           | a 540 a T  | 45.0           |                 |        |       | /            |             |  |                |              |     |                |                                       |                           |                              |
|              | ‡                     | 2           | 20   15         | 20        |                 | 35             | -       | -          |        |        | M  |                | micaceous, sap   | rolitic              |           | 2,542.9  | 15.0           | 6               | 12     | 17    |              | <b>●</b> 29 |  |                |              | D   |                |                                       |                           |                              |
| 2540         |                       |             |                 |           |                 | 1/.            |         |            |        |        |  |                |  |                      | 2540      | ‡  |                |                 |        |       |              | ļi : : :    |  |                |              |     |                |                                       |                           |                              |
|              | 2,538.6               | 50.0        | 14 18           | 24        |                 |                |         | .          |        |        | D  |                |  |                      | 1         | 2,537.9<br>2,537.3                               | 50.0           | 40 40           | 0/0.4  |       |              |             |  | .              |              |     | 2,537.         | 4                                     |                           | 50                           |
| 2535         | ‡                     |             |                 |           |                 | :: i           |         |            |        |        | -  | <b>:::</b> ‡   |  |                      |           | <del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del> | 60             | 0/0.0           | 0/0.1  |       |              |             |  | 100+<br>60/0.0 | •            |     | ± 2,537.       | 3∕\ WEATH                             | IERED ROC                 | CK 50                        |
|              | 2.533.6               | 55.0        |                 |           |                 | <del> /.</del> |         |            |        | L      |  | <b>::</b>      |  |                      |           | ‡  |                |                 |        |       |              |             |  |                |              |     | -              | Boring Termin                         | nated with S              |                              |
| T.GDT        | <u> </u>              | 1           | 11 17           | 19        |                 | <b>∮</b> 36    |         |            |        | SS-46  | 18%  |                |  |                      |           | ‡  |                |                 |        |       |              |             |  |                |              |     |                | Penetration Tes<br>2,537.3 ft on Crys | talline Rock              | k (GNEISS).                  |
| 2530         | ±                     |             |                 |           |                 | :   :          | 1       |            |        |        |  | <u></u>        |  |                      |           | <u></u>  |                |                 |        |       |              |             |  |                |              |     | <u> </u>       | A.R. at a                             | depth of 50               | ).6'.                        |
| N 2330       | 2,528.6               | 60.0        | 6 18            | 16        |                 | .   .          | 1       |            |        |        | D  |                |  |                      |           | 1  |                |                 |        |       |              |             |  |                |              |     |                |                                       |                           |                              |
| T.GPJ        | l ±                   | `           |                 |           |                 | <b>●</b> 34    | -       | -          |        |        |  |                |  |                      |           | $\pm$  |                |                 |        |       |              |             |  |                |              |     | <u> </u>       |                                       |                           |                              |
| 2525         | 2.523.6               | 65.0        |                 |           |                 |                |         |            |        |        |  | 2,52           | 23.6   | 65.0                 |           | Ŧ  |                |                 |        |       |              |             |  |                |              |     | <del>[</del> - |                                       |                           |                              |
| GEO          | 2,523.6               | 65.0<br>60/ | /0.1            | $\dagger$ | 1               | <u> </u>       |         |            | 60/0.1 | +      | <del>                                     </del> | 2,52           | 23.5/\ CRYSTALLINE F   | ROCK \(\_65.1\)      |           | Ŧ  |                |                 |        |       |              |             |  |                |              |     | F              |                                       |                           |                              |
| B3186        | ‡                     |             |                 |           |                 |                |         |            |        |        |  | F              | Gray, GNEIS  Boring Terminated wit                             | th Standard          |           | Ŧ  |                |                 |        |       |              |             |  |                |              |     | F              |                                       |                           |                              |
| E B          | ‡                     |             |                 |           |                 |                |         |            |        |        |  | F              | Penetration Test Refusa<br>2,523.5 ft in Crystalline Re        | ock (GNEISS).        |           | Ŧ  |                |                 |        |       |              |             |  |                |              |     | 1 F            |                                       |                           |                              |
| DOUBI        | ‡                     |             |                 |           |                 |                |         |            |        |        |  | F              | A.R. at a depth of   | f 65.Ò'.             |           | ‡  |                |                 |        |       |              |             |  |                |              |     |                |                                       |                           |                              |
| RE D         | ‡                     |             |                 |           |                 |                |         |            |        |        |  | Ė              |  |                      |           | ‡  |                |                 |        |       |              |             |  |                |              |     | -              |                                       |                           |                              |
| T BO         | ‡                     |             |                 |           |                 |                |         |            |        |        |  | Ė              |  |                      |           | ‡  |                |                 |        |       |              |             |  |                |              |     |                |                                       |                           |                              |
| CDO          | ‡                     |             |                 |           |                 |                |         |            |        |        |  | ļ.             |  |                      |           | ‡  |                |                 |        |       |              |             |  |                |              |     |                |                                       |                           |                              |
| z            |                       |             |                 | 1         |                 |                |         |            |        |        |  |                |  |                      |           |  |                |                 |        |       |              |             |  |                |              | 1   | 1 L            |                                       |                           |                              |

|  |                            | ORE LOG             | 1   |   |  |  |                                    |                              |  |   |
|--|----------------------------|---------------------|---|---|--|--|------------------------------------|------------------------------|--|---|
| <b>WBS</b> 38332.1.FS1   | TIP B-3186 / B-5898 COUNT  |                     | GEOLOGIST N. Yacobi   |   | <b>WBS</b> 38332.1.F                       |  |                                    | ITY HAYWOOD                  | GEOLOGIST N. Yacobi  |   |
| SITE DESCRIPTION Retaining Wa  | 1                          |                     | 1   | GROUND WTR (ft)                               |  |  | Vall No. 3 from -Y1RT- STA 29+35 t |                              |  | GROUND WTR (ft)   |
| BORING NO. RW3_5   | STATION 31+72              | OFFSET 1 ft RT      | ALIGNMENT -RW3-   | <b>0 HR.</b> 9.0                              | BORING NO. R                               |  | STATION 32+17                      | OFFSET 2 ft RT               | ALIGNMENT -RW3-  | <b>0 HR.</b> 10.0   |
| COLLAR ELEV. 2,588.0 ft  | TOTAL DEPTH 34.1 ft        | NORTHING 667,041    | <b>EASTING</b> 819,802  | 24 HR. FIAD                                   | COLLAR ELEV.                               | ,  | TOTAL DEPTH 37.3 ft                | NORTHING 667,058             | <b>EASTING</b> 819,844   | 24 HR. FIAD   |
| DRILL RIG/HAMMER EFF./DATE GTC82   | ·                          | DRILL METHOD H.S    | i. Augers HAMM  | MERTYPE Automatic                             |  |  | 08255 CME-55 93%(11/24/2020)       | DRILL METHOD                 | H.S. Augers HAMI   | MER TYPE Automatic  |
| DRILLER L. Wanstrath   | <b>START DATE</b> 03/02/21 | COMP. DATE 03/12/21 | SURFACE WATER DEPTH N/  | /A  | DRILLER L. Wa                              |  | START DATE 03/12/21                | COMP. DATE 03/12/21          | SURFACE WATER DEPTH N  | I/A   |
| ELEV (ft) DEPTH BLOW COUNTY (ft) (ft) 0.5ft 0.5ft 0  |                            | 75 100 NO. MOI G    | SOIL AND ROCK DES   | SCRIPTION  DEPTH (ft)                         | ELEV DRIVE ELEV (ft) (ft)                  | PTH BLOW COU<br>ft) 0.5ft 0.5ft                        |                                    | OT SAMP. NO. MOI             | SOIL AND ROCK DES  | SCRIPTION   |
| 2580  2,588.0  2,588.0  2,588.5  2,583.0  2,583.0  2,580.5  2,573.0  1  2,573.0  1  2,573.0  1  2,573.0  1  2,568.0  2,568.0  2,563.0 | 2                          | M M                 | 2,588.0 GROUND SURF  ROADWAY EMBAN  Loose, brown and tan, silty with trace clay, mice 2,583.5  Soft to medium stiff, brow 2,581.0  Soft, gray and green, clays micaceous  Very loose, gray and green with a layer of clay 10.  Soft, gray, fine sandy Company to red-ora (A-7-6), micaceous | WMENT / SAND (A-2-4), caceous  vn, SILT (A-4) | 2,579.6 10                                 | 2.5 10 7<br>5.0 3 2<br>7.5 1 1<br>0.0 1 2<br>5.0 1 WOH | WOH 0                              | M L D L M M M M M M M M Sat. | 2,589.6 GROUND SUR  ROADWAY EMBAI Loose, red and brown, silt Stiff, brown and white, S 2,585.1 trace sand ALLUVIAL Very soft to stiff, gray, silt with trace sand, mi  | 23.6    SAND (A-2-4)  |
| 2555<br>2,558.0 30.0 5 1<br>2555<br>2,554.0 34.0 100/0.1   | 5                          | 60+ W               | 2,554.0  2,553.9  CRYSTALLINE R Gray, GNEISS Boring Terminated with Penetration Test Refusal 2,553.9 ft in Crystalline Ro A.R. at a depth of NOTES Split spoons at 15.0' and 3- no recovery   | h Standard all at Elevation lock (GNEISS).    | 2555 2,559 6 36<br>2,559 6 36<br>2,552 4 3 | 5.0  |                                    | D D                          | Medium dense, brown and SAND (A-2-4), sa | ROCK SS ROCK SS Hock SS th Standard al at Elevation ock (GNEISS). f 37.2' resulted in |
|  |                            |                     | -   |   |  |  |                                    |                              |  |   |

|   | <i></i>                             | BORE LOG                |   |   |                           |   |                                |                         |                        |  |
|---|-------------------------------------|-------------------------|---|---|---------------------------|---|--------------------------------|-------------------------|------------------------|--|
| <b>WBS</b> 38332.1.FS1  | TIP B-3186 / B-5898 COUNT           | Y HAYWOOD               | GEOLOGIST N. Yacobi   |   | <b>WBS</b> 38332.1.FS     | <u>.1</u>   | TIP B-3186 / B-5898 COUN       | TY HAYWOOD              | GEOLOGIST N. Yacobi    |  |
| SITE DESCRIPTION Retaining W  | /all No. 3 from -Y1RT- STA 29+35 to | 40+54                   |   | GROUND WTR (ft)   | SITE DESCRIPTION          | N Retaining Wall  | No. 3 from -Y1RT- STA 29+35 to | 40+54                   |                        | GROUND WTR (ft)  |
| <b>BORING NO.</b> RW3_8   | STATION 33+08                       | OFFSET CL               | ALIGNMENT -RW3-   | <b>0 HR.</b> Dry  | BORING NO. RW             | 3_9   | STATION 33+56                  | OFFSET 1 ft RT          | ALIGNMENT -RW3-        | 0 HR. Dry  |
| <b>COLLAR ELEV.</b> 2,600.2 ft  | TOTAL DEPTH 27.3 ft                 | <b>NORTHING</b> 667,094 | <b>EASTING</b> 819,928  | 24 HR. FIAD   | COLLAR ELEV.              | 2,603.2 ft  | TOTAL DEPTH 35.7 ft            | <b>NORTHING</b> 667,113 | <b>EASTING</b> 819,971 | 24 HR. FIAD  |
| DRILL RIG/HAMMER EFF/DATE GTO   | 3255 OME-55 93% (11/24/2020)        | DRILL METHOD H.S        | S. Augers HAMIN   | MERTYPE Automatic   | DRILL RIG/HAMMER          | EFF/DATE GTC8255  | 5 CME-55 93%(11/24/2020)       | DRILL METHOD H          | H.S. Augers HAM        | IMER TYPE Automatic  |
| DRILLER L. Wansrath   | <b>START DATE</b> 03/12/21          | COMP. DATE 03/12/21     | SURFACE WATER DEPTH N/  | /A  | DRILLER L. Wan            | srath   | <b>START DATE</b> 03/12/21     | COMP. DATE 03/12/21     | SURFACE WATER DEPTH    | N/A  |
| ELEV CRIP CRIP CRIP CRIP CRIP CRIP CRIP CRIP  |                                     | T SAMP. V L O NO. MOI G | SOIL AND ROCK DES   | SCRIPTION<br>DEPTH (ft)   | ELEV DRIVE ELEV (ft) (ft) | BLOW COUNT 0.5ft 0.5ft 0.5ft  |                                | 75 100 NO. MOI G        |                        | SCRIPTION  |
| (ft) (ft) (ft) 0.5ft 0.5ft  2605  2600 2,600.2 0.0 12 6 2,597.7 2.5 2 2 2595 2,595.2 5.0 4 7 2,592.7 7.5 2 3 2590 2,590.2 10.0 7 7 2585 2,585.2 15.0 10 18 2580 2,580.2 20.0 10 11 2575 2,575.2 25.0 50 100/0.3 2,572.9 27.3 60/0.0 | 4 . 10                              | 75 100 NO. MOI G        | 2,600.2 GROUND SURF RESIDUAL Medium stiff to very stiff, red and gray, SILT (A-4), wit fragments and sand, micac  2,587.2 Dense, brown, red, and w SAND (A-2-4), with trace trace rock fragments,  2,575.2 WEATHERED R Gray, GNEIS Gray, GNEIS Penetration Test Refusa 2,572.9 ft on Crystalline R A.R, at a depth of | DEPTH (ft)  FACE 0.0  1, brown, orange th trace rock seous, saprolitic  white, fine silty clay, contains saprolitic  OCK  25.0  COCK  27.3  h Standard  Il at Elevation |                           | 0.5ft | 77                             | 75 100 NO. MOI G        |                        | AFACE 0.0 L nge, clayey SILT d, saprolitic Wn/orange, fine A-4)  and white, silty aprolitic  25.5  ROCK natic GNEISS |
| NCDOT BORE DOUBLE B3186_GEO_SPT.GPJ NC_DOT.GDT 8/11/21  |                                     |                         |   |   |                           |   |                                |                         |                        |  |

| BORE LOG  |  |                                 |   |   |  |
|---|--|---------------------------------|---|---|--|
| WBS         38332.1.FS1         TIP         B-3186 / B-5898         COUNTY         HAYWOOD  | GEOLOGIST N. Yacobi  | <b>WBS</b> 38332.1.FS1          | <b>TIP</b> B-3186 / B-5898 <b>COUNT</b>       | Y HAYWOOD   | GEOLOGIST N. Yacobi  |
| SITE DESCRIPTION Retaining Wall No. 3 from -Y1RT- STA 29+35 to 40+54  | GROUND WTR (ft)  | SITE DESCRIPTION Retaining V    | Wall No. 3 from -Y1RT- STA 29+35 to           |   | GROUND WTR (ft)  |
| BORING NO. RW3_10 STATION 34+04 OFFSET CL   | <b>ALIGNMENT</b> -RW3- <b>0 HR.</b> 13.0   | BORING NO. RW3_11               | STATION 34+52                                 | OFFSET 3 ft RT                                    | <b>ALIGNMENT</b> -RW3- <b>0 HR.</b> 9.0  |
| COLLAR ELEV.         2,605.6 ft         TOTAL DEPTH         27.4 ft         NORTHING         667,135  | <b>EASTING</b> 820,014 <b>24 HR.</b> FIAD  | COLLAR ELEV. 2,605.3 ft         | TOTAL DEPTH 28.0 ft                           | <b>NORTHING</b> 667,153                           | <b>EASTING</b> 820,060 <b>24 HR.</b> FIAD  |
| DRILL RIG/HAMMER EFF/DATE GTC8255 CIVE-55 93%(11/24/2020)  DRILL METHOD H.S   | S. Augers HAMMER TYPE Automatic  | DRILL RIG/HAMMER EFF/DATE GTO   | 08255 CME-55 93% (11/24/2020)                 | DRILL METHOD                                      | H.S. Augers HAMMER TYPE Automatic  |
| DRILLERL. WanstrathSTART DATE03/13/21COMP. DATE03/13/21   | SURFACE WATER DEPTH N/A  | DRILLER L. Wanstrath            | <b>START DATE</b> 03/13/21                    | <b>COMP. DATE</b> 03/13/21                        | SURFACE WATER DEPTH N/A  |
| ELEV (ft)   DRIVE   ELEV (ft)   O.5ft   O.5ft | SOIL AND ROCK DESCRIPTION  | ELEV DRIVE DEPTH BLOW COU       |   | T SAMP. L O NO. MOI G                             |  |
| (ii) (ft) (ii) 0.5tt 0.5tt 0.5tt 0 25 50 75 100 NO. MOI G   | ELEV. (ft) DEPTH (ft)  | 2610                            |   | , wor   | _  |
| 2605 2,605.6 0.0 2 3 3 D  | . 2,605.6 GROUND SURFACE 0.0<br><b>RESIDUAL</b>  | 2605 2,605.3 0.0                |   |   | 2,605.3 GROUND SURFACE 0.0   |
| 2,603.1 2.5   | - 2,603.6 Loose, red and brown, silty SAND (A-2-4) 2.0                                   | II   2.602.8 <b>∔</b> 2.5 I I I | 3   | D   | RESIDUAL 2.603.3 Loose, red, silty SAND (A-2-4), contains2.0   |
| 3 5 6 1 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  | Stiff to very stiff, gray, brown, and orange,<br>SILT (A-4), with trace sand, micaceous, |                                 | 5   | .       D   | trace roots/   |
| 1 6 6 9 1 15 1 D  | saprolitic   | 2600 2,600.3 5.0 2 2            | 2 4   | <del>                                      </del> | brown, SILT (A-4)  |
| 2,598.1 7.5   | :  | 2,597.8 7.5 1 0                 | 1   <u>                                  </u> |   | 2,598.3 Soft to medium stiff, orange and brown, silty CLAY (A-7-6)  Very soft to medium stiff, orange and white, |
| 2595 2,595.6 10.0 10 5 8 D  |  | 2595 2,595.3 10.0 2 2           | 3   |   | Very soft to medium stiff, orange and white, SILT (A-4)  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | -<br>- 2,592.6 13.0  |                                 | 5   |   | 2 502 2  |
|   | Medium dense to dense, brown, tan, and white, fine silty SAND (A-2-4), micaceous,        |                                 |   |   | 2,592.3 13.0 Medium dense, orange, brown, and white,   |
| 2590 2,590.6 15.0 5 8 12 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  | saprolitic   | 2590 2,590.3 15.0 5 11          | 7 • 18  | - <del> </del>      w 🔯                           | fine silty SAND (Ă-2-4), saprolitic  |
|   |  |                                 |   |   |  |
| 2585 2,585.6 20.0 4 6 10  | _  | 2585 2,585.3 20.0               |   | .   | <u></u>  |
| 4 6 10 1 M  |  | 3 4                             | 9 • 13  | W   | 2,580.3  |
|   |  |                                 | i   |   | <del>-</del>   |
| 2580 2,580.6+ 25.0 15 17 20 037 MM  | -<br>-   | 2580 2,580.3 25.0 100/0.5       | <u> </u>                                      |   |  |
| 2.578.2 27.4 60/0.0 60/0.0  | 27.4 Boring Terminated with Standard   |                                 |   | .   ]   🦸   | Black, gray, and orange, GNEISS 27.9   |
|   | Penetration Test Refusal at Elevation  | 60/0.1                          |   | 60/0.1  | CRYSTALLINE ROCK GNEISS  |
|   | 2,578.2 ft on Crystalline Rock (GNEISS).<br>A.R. at a depth of 27.4'.                    |                                 |   |   | Boring Terminated with Standard  |
|   |  |                                 |   |   | Penetration Test Refusal at Elevation<br>2,577.3 ft in Crystalline Rock (GNEISS).<br>A.R. at a depth of 27.9'.   |
|   | _  |                                 |   |   | A.R. at a depth of 27.9'.  |
|   |  |                                 |   |   | -  |
|   |  |                                 |   |   | F  |
|   | -<br>-   |                                 |   |   | F  |
|   |  |                                 |   |   | F  |
|   |  |                                 |   |   | -  |
|   | <u>-</u>   |                                 |   |   | -  |
| <sup>2</sup>  |  |                                 |   |   | L  |
|   |  |                                 |   |   | Ł  |
|   |  |                                 |   |   | -  |
|   |  |                                 |   |   | F  |
|   | -<br>-   |                                 |   |   | F  |
|   |  |                                 |   |   | F  |
|   |  |                                 |   |   | -  |
|   | -  |                                 |   |   | F  |
|   |  |                                 |   |   | ļ.   |
|   | _  |                                 |   |   | L  |
|   |  |                                 |   |   | t  |
|   |  |                                 |   |   | Ł  |
|   | -  |                                 |   |   | F  |
|   |  |                                 |   |   | F  |
| ğ    †  |  | $  \   \   \   \   \  $         |   |   | F  |

|  |  | BORE LOG  |   |                     |                      |                     |          |                    |                  |                        |                 |                  |     |            |   |                                    |
|--|--|---|---|---------------------|----------------------|---------------------|----------|--------------------|------------------|------------------------|-----------------|------------------|-----|------------|---|------------------------------------|
| <b>WBS</b> 38332.1.FS1                                 | TIP B-3186 / B-5898 COUN   |   | GEOLOGIST N. Yacobi   |                     | WBS 38332            |                     |          |                    |                  |                        | OUNTY HAY       | VOOD             |     |            | GEOLOGIST N. Yacobi   |                                    |
|  | ng Wall No. 3 from -Y1RT- STA 29+35 t  |   |   | GROUND WTR (ft)     | SITE DESCR           |                     |          |                    |                  |                        |                 |                  |     |            |   | GROUND WTR (ft                     |
| BORING NO. RW3_12                                      | STATION 35+03  | OFFSET 1 ft RT                                      | 1   | <b>0 HR.</b> 10.5   | BORING NO.           |                     |          |                    | TATION 3         |                        |                 | <b>T</b> 2 ft RT |     |            | ALIGNMENT -RW3-   | <b>0 HR.</b> Dry                   |
| COLLAR ELEV. 2,608.3 ft                                | TOTAL DEPTH 40.0 ft  | <b>NORTHING</b> 667,178                             | 1   | 24 HR. FIAD         | COLLAR EL            |                     |          |                    | OTAL DEP         |                        | NORTH           | IING 667         |     |            | <b>EASTING</b> 820,147  | 24 HR. FIAD                        |
| DRILL RIG/HAMMER EFF/DATE                              | GTC8255 CME-55 93% (11/24/2020)  | DRILL METHOD H.                                     | S. Augers HAMMEI  | RTYPE Automatic     | DRILL RIG/HAI        |                     |          |                    |                  |                        |                 |                  |     |            | S. Augers HA  | MIMER TYPE Automatic               |
| DRILLER L. Wanstrath                                   | <b>START DATE</b> 03/13/21   | COMP. DATE 03/13/21                                 | SURFACE WATER DEPTH N/A                                     | ١                   | DRILLER L            |                     |          |                    | TART DATI        | E 03/13/21             |                 | DATE 0           |     | !1         | SURFACE WATER DEPTH   | N/A                                |
| ELEV CRIP DEPTH BLOW (ft) 0.5ft (                      | COUNT BLOWS PER FO  .5ft 0.5ft 0 25 50   | OT   SAMP.   L O NO.   MOI G                        | SOIL AND ROCK DESCI   | RIPTION DEPTH (ft)  | ELEV DRIVE ELEV (ft) | DEPTH_<br>(ft)      | 0.5ft 0. | COUNT<br>5ft 0.5ft | 0                | BLOWS PE<br>25 50      |                 | 100 NO           | /   | O<br>101 G | SOIL AND ROCK D   | ESCRIPTION                         |
| 2,608.3 0.0 2  | 2 3 45   | D 838   | - 2,608.3 GROUND SURFA(                                     |                     | 2615                 |                     |          |                    |                  |                        |                 |                  |     |            | -   |                                    |
| 2,605.8 2.5 3  | 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  |   | Loose, red and brown, silty S                               | SAND (A-2-4)        | 2610 2.610.2         | ‡ ,,                |          |                    |                  |                        |                 |                  |     |            | F 2,610.2 GROUND SU   | RFACE 0                            |
| 2,603.3 5.0  | 3 2 5  | D   |   | 4.5                 |                      | ĪΙ                  | 1 2      | 2 2                | 4                |                        |                 | 1 1              | М   |            | RESIDU<br>Very soft to medium stiff   | AL                                 |
|  | 2 3 5  | : :   : : : :     M   N   N   N   N   N   N   N   N | Medium stiff, red and orange                                | 7.0                 | 2,607.7              | <del>+</del> 2.5 +  | 2        | 1 3                |                  |                        |                 | 11               | М   | , []       | brown, silty CLAY (A-7-6  | s), with trace sand,               |
| 2600 2,600.8 7.5                                       | 1 2  | ·· ···  | Soft, orange and brown, silty                               | CLAY (A-7-6)        | 2605 2,605.2         | 5.0                 | 2 2      | 2 2                | Ț. · · ·         |                        | · · · ·   · · · |                  | ١,, | . [3       | micaceo   | us                                 |
| 2,598.3 10.0   | 1 2   1  |   |   |                     | 2.602.7              | † <sub>7.5</sub>    |          |                    | ]   • 4          |                        |                 |                  | M   |            | <b>-</b><br>-   |                                    |
|  | $\begin{bmatrix} 1 \\ 1 \end{bmatrix} \begin{bmatrix} \mathbf{q} \\ \mathbf{q} \end{bmatrix} \begin{bmatrix} $ |   | _<br>- 2,595.3  | 12.0                | ,                    | + [                 | 1 (      | 0 1                | ]   1            |                        |                 | 11               | M   |            | -   |                                    |
| 2595   | <del>                              </del>  | <del>    </del>           <b> </b>                  | Soft to medium stiff, orange                                |                     | 2600 2,600.2         | 10.0                | 1 (      | 0 1                | 1                | <del>  : : : :  </del> |                 |                  | М   |            | _   |                                    |
| 2,593.3 15.0   | 2 2 4  | :: ::::     M                                       | brown, SILT (A-4), with tra<br>micaceous, saproli           | race sand,<br>litic |                      | <u>†</u>            |          |                    |                  |                        |                 | .                |     |            | 2,597.2   | 13                                 |
| 2590   |  |   | 2,590.3 Loose to very dense, black.                         | 18.0                | 2595 2,595.2         | 15.0                |          |                    | 1 1 1 1 1 1 1    |                        |                 |                  |     |            | Medium stiff, brown, or<br>SILT (A-4), with trace s                                 |                                    |
| 2,588.3 20.0   | 1  |   | brown, silty SAND (A-2-4), saprolitic                       | micaceous,          |                      | Ŧ                   | 1   3    | 3 2                | <b>♦</b> 5       |                        |                 | 1 1              | M   | 1          | -   |                                    |
| 7 2  | 3 4 7  | M   | saprolitic  |                     |                      | Ŧ                   |          |                    |                  |                        |                 | -                |     |            | 2,592.2<br>Loose, gray and white  | , fine silty SAND                  |
| 2585   |  |   | <u></u>   |                     | 2590 2,590.2         | 20.0                | 2 3      | 3 3                | 1                |                        |                 |                  | l D | ,          | (A-2-4), sap  | rolitic                            |
| 2,583.3 7 25.0 5                                       | 5 8  |   |   |                     |                      | ‡                   |          |                    | .\( \).          |                        |                 |                  |     |            | 2,587.2   | 23                                 |
| 2580   |  |   | <del>-</del><br><del>-</del>                                |                     | 2585 2,585.2         | ‡ 25.0              |          |                    | :\:::            |                        |                 | 11               |     |            | Stiff to hard, brown, rec<br>(A-4), with trace sand ar                              | I, and white, SILT                 |
| 2,578.3 30.0   |  |   | <del>-</del><br>-   |                     | 2303 2,303.2         | <del>†</del> 23.0 † | 3 !      | 5 8                | 13.              |                        |                 |                  | D   | )          | micaceo   |                                    |
| 2,378.3 30.0 24  | 38 53  |   | _   |                     |                      | ‡                   |          |                    | : : <u>`</u> ``; |                        |                 |                  |     |            | -   |                                    |
| 2575   |  |   |   |                     | 2580 2,580.2         | 30.0                | 44       | 14                 |                  |                        |                 |                  |     |            | _   |                                    |
| 2,573.3 35.0   | 70 400/0 5   |   | 2,573.3   | 35.0                |                      | <u>†</u>            | 14 1     | 14 13              | : : : :          | 27                     |                 | 11               | D   | )          | _   |                                    |
| †  | 72 100/0.5   | · ·   · · 100+                                      | WEATHERED ROO<br>Dark brown with white, (                   |                     |                      | Ŧ                   |          |                    |                  | <del> </del>           |                 | -                |     |            |   |                                    |
| 2570   |  | M M   | _   |                     | 2575 2,575.2         | 35.0                | 6 6      | 6 26               | 1                | 32                     |                 |                  | l D | , 🎆        | -   |                                    |
| 2,568.3  40.0  60/0.0                                  |  | 60/0.0  | Boring Terminated with                                      |                     |                      | Ŧ                   |          |                    |                  | > _ ]                  |                 | -                |     |            |   |                                    |
|  |  |   | Penetration Test Refusal a<br>2,568.3 ft on Crystalline Roc | at Elevation        | 2570 2,570.2         | ‡400                |          |                    |                  |                        | S.(.:           | 11               |     |            | -   |                                    |
|  |  |   | A.R. at a depth of 40                                       | 0.0'.               | 2.568.0              | I I                 | 30 3     | 30 50              | 1                |                        |                 | -                | D   | )          | 2.568.0   | 42                                 |
|  |  |   | <u>-</u>  |                     | 2,568.0              | 1 422 6             | 0/0.0    |                    |                  | <u> </u>               | 60              | /0.0◆            |     | \$0000     | Boring Terminated   | with Standard                      |
| NCDOI BORE DOUBLE BS186_GEO_SP1.GPJ NC_DOI.GDJ 8/11/21 |  |   |   |                     |                      |                     | 0/0.0    |                    |                  |                        |                 | 0.0 -            |     |            | Boring I erminated Penetration Test Refu- 2,568.0 ft on Crystalline A.R. at a depth | sal at Elevation<br>Rock (GNEISS). |

|   |                              | BORE LOG                                |  |  |  |            |                                  |   |                    |              |                   |                 |  |  |            |
|---|------------------------------|---|--|--|--|------------|----------------------------------|---|--------------------|--------------|-------------------|-----------------|--|--|------------|
| <b>WBS</b> 38332.1.FS1  | TIP B-3186 / B-5898 COUNT    |   | GEOLOGIST N. Yacobi  |  | <b>WBS</b> 38332   |            |                                  |   | B-5898 <b>COUN</b> |              | DD                | GI              | EOLOGIST N. Yao  |  |            |
| SITE DESCRIPTION Retaining Wa   |                              |   |  | GROUND WTR (ft)  | SITE DESCR   | IPTION F   | Retaining Wall                   | No. 3 from -Y1F   | RT- STA 29+35 to   |              |                   |                 |  | GROUNI   | D WTR (ft) |
| BORING NO. RW3_14   | STATION 36+03                | OFFSET CL                               | ALIGNMENT -RW3-  | <b>0 HR.</b> Dry   | BORING NO.   | RW3_15     | 5                                | STATION 36-   | +54                | OFFSET       | 1 ft RT           | Al              | LIGNMENT -RW3-   | 0 HR.  | Dry        |
| COLLAR ELEV. 2,612.8 ft   | TOTAL DEPTH 42.5 ft          | <b>NORTHING</b> 667,228                 | <b>EASTING</b> 820,191   | 24 HR. FIAD  | COLLAR ELE   |            |                                  | TOTAL DEPTH   |                    | NORTHING     |                   | I .             | <b>ASTING</b> 820,235  | 24 HR.   | FIAD       |
| DRILL RIG/HAMMER EFF/DATE GTC8  | 3255 CME-55 93% (11/24/2020) | DRILL METHOD H.S                        | S. Augers HAMM   | MER TYPE Automatic   | DRILL RIG/HAM  | MER EFF./I | DATE GTC8255                     | 5 CME-55 93% (11  | 1/24/2020)         |              | DRILL METI-       | HOD H.S. Aug    | gers   | HAMMER TYPE  | Automatic  |
| DRILLER L. Wanstrath  | <b>START DATE</b> 03/13/21   | <b>COMP. DATE</b> 03/13/21              | SURFACE WATER DEPTH N/   | /A   | DRILLER L.   | Wanstrati  | h                                | START DATE  | 03/14/21           | COMP. DA     | <b>TE</b> 03/14/2 | :1 SU           | JRFACE WATER D   | EPTH N/A   |            |
| ELEV (ft) DEPTH BLOW COULD (ft) 0.5ft 0.5ft 0   |                              | 75 100 NO. MOI G                        | SOIL AND ROCK DES  | SCRIPTION DEPTH (ft)                                       | ELEV DRIVE ELEV (ft)   | DEPTH 0    | BLOW COUNT .5ft 0.5ft 0.5        |   | BLOWS PER FOO      | OT<br>75 100 | SAMP.             | L<br>0<br>101 G | SOIL AND I   | ROCK DESCRIPTION   |            |
| 2615  2,612.8 0.0  2 2  2610  2,610.3 2.5  5 2  2,607.8 5.0  2 1  2605  2,605.3 7.5  1 1            | 2 4                          | M N N N N N N N N N N N N N N N N N N N | - 2,612.8 GROUND SURF RESIDUAL Very soft to medium stiff, b clayey SILT (A-5), mi  | brown and red,   | 2620<br>2,617.8-<br>2615 2,615.3<br>2,612.8-<br>2610 2,610.3 | 2.5        | 2 2 3<br>2 4 5<br>2 2 3<br>2 1 2 | ,5°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°°  |                    |              |                   | ) N L 2.61      | 5.8 Loose, broven Stiff to medium and to very stiff to very stife. | UND SURFACE RESIDUAL wn, silty SAND (A-2-4) stiff, brown and red, cla SILT (A-5)                                     | ayey       |
| 2,602.8 10.0 2 1<br>2600 2 1<br>2,597.8 15.0 1 2<br>2595 2,592.8 20.0 3 11<br>2590 2,587.8 25.0 4 5 | 2                            | M                                       | Dense, red, brown, and wh (A-2-4), micaceous, s  2,589.8 Stiff to very stiff, red, brown SILT (A-4), with trace          | saprolitic   | 2,607.8-<br>2605<br>2,602.8-<br>2600<br>2,597.8-<br>2595     | 15.0       | 2 2 2<br>2 2 3<br>2 3 4          | \$\\ \frac{\psi_3}{4} \cdots \c |                    |              | N<br>N            |                 | SILT (A-4), WIT  | h trace sand, micaceou<br>saprolitic   | us,        |
| 2585<br>2,582.8 30.0 2 3<br>2580<br>2,577.8 35.0 6 11   | 6                            | M M                                     | -  |  | 2590<br>2,587.8-<br>2585<br>2,582.8-                         | 35.0       | 22 10 21                         |   | 931                | 100+         | N                 | 2,58            | i2.8<br><b>WEA</b><br>Gray, black an                               | White, silty SAND (A-2 saprolitic  THERED ROCK d red, GNEISS with SIL (A-4)  | 35.0       |
| 2,572 8 40.0 100/0.4<br>2,570.3 42.5 60/0.0   |                              | 60/0.0                                  | Black and white, migmat  Boring Terminated with Penetration Test Refusal 2,570.3 ft on Crystalline Ro A.R. at a depth of | titic GNEISS 42.5 h Standard il at Elevation ock (GNEISS). | 2,577.8-<br>2,572.8-<br>2,572.8-<br>2,567.8-                 | 45.0       | 20 20 25                         |   | 45                 |              |                   | <b>:</b> ::::↓  | Dense, gray and  | RESIDUAL I white, silty SAND (A-2 saprolitic  THERED ROCK red, GNEISS, with silt (                                   | 45.        |
| NCDOT BORE DOUBLE B3186_GEO_SPT.GPJ NC_DOT.GDT 8/11/2   |                              |   |  |  | 2565 2,564.9   | 1 1        |                                  | J.4   |                    | 400.         |                   | 2,56            | White a Boring Terr Penetration T 2,564.8 ft in Cr                 | TALLINE ROCK nd black, GNEISS minated with Standard est Refusal at Elevatio ystalline Rock (GNEISS a depth of 52.9'. | n          |

| WEST SERVICE   The STANES AND   CONTINUE   WEST SERVICE   THE STANES AND   CONTINUE   WEST SERVICE   THE STANES AND   CONTINUE   WEST SERVICE   WEST SERV   | BORE LOG   |  |  | _                |                                   |                                |                                       |  |                                       |
|---|--|--|--|------------------|-----------------------------------|--------------------------------|---------------------------------------|--|---------------------------------------|
| DORLING NO. NY3_16  | WBS         38332.1.FS1         TIP         B-3186 / B-5898         COUNTY         HAYWOOD   | GEOLOGIST N. Yacobi                                |  | <b>-</b>         |                                   |                                |                                       | GEOLOGIST N. Yacobi                                    |                                       |
| COLLAR PLANE   SUPPLANE   SUPPL  | SITE DESCRIPTION Retaining Wall No. 3 from -Y1RT- STA 29+35 to 40+54   |  | GROUND WTR (ft)                                | SITE DESCRIPTION | ON Retaining Wall                 | No. 3 from -Y1RT- STA 29+35 to | 0 40+54                               | GI   | ROUND WTR (ft)                        |
| DRILLER   L. Vanshush   | BORING NO. RW3_16 STATION 37+04 OFFSET 2 ft RT   | ALIGNMENT -RW3-                                    | <b>0 HR.</b> Dry                               | BORING NO. R     | V3_17                             | STATION 37+55                  | OFFSET 3 ft RT                        | ALIGNMENT -RW3- 0                                      | <b>HR.</b> 8.0                        |
| START DATE   03/14/21   COMP. DATE   03/14/21   COMP  | ·  | · · · · · · · · · · · · · · · · · · ·              |  |                  | •                                 |                                | <b>NORTHING</b> 667,305               | <b>EASTING</b> 820,322 <b>24</b>                       | HR. FIAD                              |
| ELEV   ONCE   PRINT   BLOWN SPER FOOT   BLOWN SP  | DRILL RIG/HAMMER EFF/DATE GTC8255 CME-55 93% (11/24/2020)  DRILL   | HOD H.S. Augers HAM                                | MINIER TYPE Automatic                          | DRILL RIG/HAMMER | REFF/DATE GTC825                  | 5 CIVIE-55 93% (11/24/2020)    | DRILL METHO                           | DD H.S. Augers HAMMER T                                | YPE Automatic                         |
| W   (i)   W   0.8f   |  | SURFACE WATER DEPTH                                | N/A  |                  |                                   |                                | COMP. DATE 03/14/21                   | SURFACE WATER DEPTH N/A                                |                                       |
| 2003 T. 0.0 1 2 3 3 4 9   | ELEV (ft)   DRIVE   BLOW COUNT   BLOWS PER FOOT   SAMI   S | /   O   SOIL AND ROCK DE                           |  |                  | OTH BLOW COUNT<br>0.5ft 0.5ft 0.5 |                                | /                                     |  | PTION                                 |
| Residual   Loses from and true, sity SAND (A-24)   Lose from and true, sity SAND (A-24)  | 2,624.3 0.0  |  |  | 7                |                                   |                                |                                       |  |                                       |
| 2819 2 5 0 3 3 3 3 4 2 2 2 3 4 3 4 4 4 4 4 4 4 4 4  | +  |  |  |                  | 2 5 4                             | 1 1 👿 9 1 1 1                  | · · · · · D                           | RESIDUAL   |                                       |
| 2.619.3   | $\begin{vmatrix} 2620 \end{vmatrix}$ $\begin{vmatrix} 1 & 1 & 3 & 3 & 3 & 4 & 46 & \cdots & 1 & \cdots & 1 & 1 & 1 & 1 & 1 & 1 & 1$  | 2 6 1 9 8  | 4 5  | 1 10005          | 5 3 2 2                           |                                | .       D                             |  | (112-4)                               |
| 2615 2.618.5 7.5 2 3 9  | 2,619.3 5.0 4 3 4  | Medium stiff, brown and or                         | orange, silty CLAY                             |                  | 0 2 3 2                           |                                |                                       | Medium stiff, brown and tan, S                         | <u>ILT (A-4),</u> —— — <sup>4</sup> . |
| Ref   S   2614.37   10.0  | 2,616.8+ 7.5   1   | . 🔀  |  | 2,621.3 7.       | 5                                 | Ψ <sup>5</sup>                 |                                       | 828222 <b>L</b> 2,021.0                                | 7.<br>(A-7-6) 8.                      |
| 2810 2.609.3 15.0 2 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 2 2 1 1 1 1 1 2 2 1 1 1 1 1 2 2 1   | 2.614.3 10.0   | Medium stiff, light gray, c                        | clayey SILT (A-4) —— 9.0                       | 2620             | 1 1 1                             | ).3                            | 100/0.8                               | 2.619.3 contains few rock fragments, m                 | nicaceous 9                           |
| 2610 2.609.3 15.0 2 1 1 1   | $  $ $  $ $  $ $  $ $  $ $  $ $ $  |  |  | +                | 2 2 2                             | •                              |                                       | Gray, BOULDER  |                                       |
| 2605 2,604.3 20.0 2 2 4 4 250   | 2610 +   | Soft to medium stiff, red, b                       | brown, and black,                              |                  |                                   |                                |                                       | RESIDUAL Soft to very stiff, gray, orange, a           | and black,                            |
| 2605 2,604.3 20.0 2 2 4   |  |  | and, micaceous                                 | 2,613.8 15       | .0 1 2 2                          |                                |                                       | clayey SILT (Ā-5), with trace micaceous, saprolitic    | e sand,                               |
| 2605 2,604.3 20.0 2 2 4 66  | $ \cdot \cdot$   | F  |  |                  |                                   |                                | .                                     | 7.7.   |                                       |
| 2600 2.599.\$\frac{5}{2.593.\$\frac{1}{2}}\$ 2.593.\$\frac{6}{3}\$ 2.593.\$\frac{1}{2}\$ 2.593.\$\frac{1}{2}\$ 3.593.\$\frac{1}{2}\$ 3.59 | 2.604.3 20.0   | F  |  | I <del>-</del>   |                                   |                                | <del>-    </del>                      |  |                                       |
| 2600 2.599.3 25.0 6 9 14 23 Medium dense, red, brown, and tan, silty SAND (A-2-4), micaceous, saprolitic  2595.3 29.0 60/0.0  |  | 1000T  |  | +                | 2 1 2                             |                                | ·   · · · ·     W                     |  |                                       |
| 2.595.3   | 2600   | Medium dense, red, brow                            | wn, and tan, silty                             |                  |                                   |                                |                                       |  |                                       |
| 2,595.3 29.0 60/0.0 Boring Terminated with Standard Penetration Test Refusal at Elevation 2,595.3 ft on Crystalline Rock (GNEISS). A.R. at a depth of 29.0. 2595. 3 ft on Crystalline Rock (GNEISS). A.R. at a depth of 29.0. 3 5 11 2,593.8 435.0 58 100/0.3 5.593.8 435.0 58 100/0.3 5.593.8 435.0 58 100/0.3 5.593.8 435.0 58 100/0.3 5.593.8 435.0 58 100/0.3 5.593.8 435.0 58 100/0.3 5.593.8 5.0 58 100/0.3 5.0 58 100/0.3 5.0 58 100/0.3 5.0 58 100/0.3 5.0 58 100/0.3 5.0 58 100/0.3 5.0 58 100/0.3 5.0 58 100/0.3 5.0 58 100/0.3 5.0 58  | 2,599.3 25.0 6 9 14  |  | eous, saprolitic                               |                  | .0 1 2 3                          |                                |                                       |  |                                       |
| 2,595.3 29.0 60/0.0 Boring Terminated with Standard Penetration Test Refusal at Elevation 2,595.3 ft on Crystalline Rock (GNEISS).  A.R. at a depth of 29.0'.  2,598.8 30.0 3 5 11  |  |  |  |                  |                                   | 5                              |                                       | 7.7.   |                                       |
| 2,595.3 ft on Crystalline Rock (GNEISS). A.R. at a depth of 29.0'.  2595  2,593.8—35.0  2595  2,593.8—35.0  3   | 2,595.31 29.0  | Boring Terminated w                                | rith Standard                                  | 1 2000           |                                   | 1                              |                                       |  |                                       |
| 2595<br>2,593.8 35.0<br>58 100/0.3<br>100+<br>100+<br>100+<br>100+<br>100+<br>100+<br>100+<br>100   |  | Penetration Test Refus 2,595.3 ft on Crystalline F | sal at Elevation<br>Rock (GNEISS).<br>of 29.0' | 2,330.04 30      | 3 5 11                            | 1 16                           | ·   · · · ·         W                 |  |                                       |
|   |  | A.ix. at a deptific                                | 01 29.0 .                                      |                  |                                   | -                              |                                       |  |                                       |
| Brown and orange, GNEISS / Boring Terminated at Elevation 2,592.5 ft in   |  |  |  | 2,593.8+ 35      | .0 58 100/0.3                     |                                | · · · · · · · · · · · · · · · · · · · | WEATHERED ROCK   | 35.                                   |
| Weathered Roox (GMEISS)   |  |  |  |                  |                                   |                                | 100+\$                                | Brown and orange, GNE Boring Terminated at Elevation 2 | ISS<br>2,592.5 ft in                  |
|   |  |  |  |                  |                                   |                                |                                       |  |                                       |
|   |  | <u> </u>   |  |                  |                                   |                                |                                       | <u> </u>   |                                       |
|   |  | <u> </u>   |  |                  |                                   |                                |                                       | <u>E</u>   |                                       |
|   |  | E  |  |                  |                                   |                                |                                       | E  |                                       |
|   |  | I F  |  |                  |                                   |                                |                                       | F  |                                       |
|   |  | I F  |  |                  |                                   |                                |                                       | F  |                                       |
|   |  | F  |  |                  |                                   |                                |                                       |  |                                       |
|   |  | F  |  |                  |                                   |                                |                                       |  |                                       |
|   |  |  |  |                  |                                   |                                |                                       |  |                                       |
|   |  |  |  |                  |                                   |                                |                                       | ‡  |                                       |
|   |  |  |  |                  |                                   |                                |                                       |  |                                       |
|   |  |  |  |                  |                                   |                                |                                       |  |                                       |
|   |  |  |  |                  |                                   |                                |                                       |  |                                       |
|   |  |  |  |                  |                                   |                                |                                       |  |                                       |
|   |  |  |  |                  |                                   |                                |                                       |  |                                       |
|   |  | I E  |  |                  |                                   |                                |                                       | <u> </u>   |                                       |
|   | <u> </u>   | l F  |  |                  |                                   |                                |                                       | F  |                                       |
|   |  | F  |  | ‡                |                                   |                                |                                       | F  |                                       |
|   |  | -  |  | ‡                |                                   |                                |                                       | -  |                                       |
|   |  |  |  | ‡                |                                   |                                |                                       |  |                                       |
|   |  |  |  |                  |                                   |                                |                                       |  |                                       |

|  | SORE LOG<br>Y HAYWOOD                 | GEOLOGIST R. Dugger   |   | WBS  | <b>3</b> 38332.1  | FS1   |               | TIP      | P B-3186 / B-5898 COU    | NTY HAYWO  | OD              |                                       | GEOL          | OGIST R. Dugg   | er  |               |
|--|---------------------------------------|---|---|--|---|---|---------------|----------|--------------------------|------------|-----------------|---------------------------------------|---------------|---|---|---------------|
| SITE DESCRIPTION Retaining Wall No. 3 from -Y1RT- STA 29+35 to 4 | 40+54                                 |   | GROUND WTR (ft)   | SITE   | DESCRIP   | ΓΙΟΝ Re                                       | etaining V    | Wall No. | 3 from -Y1RT- STA 29+35  | to 40+54   |                 |                                       | <u>_</u>      |   |   | UND WTR       |
| BORING NO. RW3_18 STATION 38+07                                  | OFFSET 1 ft RT                        | ALIGNMENT -RW3-   | <b>0 HR.</b> 23.0   | BOR  | RING NO.  | RW3_19  |               | STA      | <b>ATION</b> 38+58       | OFFSET     | 2 ft RT         |                                       | ALIG          | NMENT -RW3-   | 0 HF  | ₹.            |
| COLLAR ELEV. 2,633.5 ft TOTAL DEPTH 36.5 ft                      | <b>NORTHING</b> 667,333               | <b>EASTING</b> 820,365  | 24 HR. FIAD   | COL  | LAR ELEV  | 2,635.  | 2 ft          | то       | TAL DEPTH 36.5 ft        | NORTHING   | <b>3</b> 667,35 | 59                                    | EAST          | ING 820,409   | 24 HF   | <b>R.</b> F   |
| DRILL RIG/HAMMER EFF/DATE GTC8255 CME-55 93% (11/24/2020)        | DRILL METHOD H.S                      | S. Augers HAMM  | /IER TYPE Automatic   | DRIL   | L RIG/HAMM  | ER EFF/D/                                     | ATE GTO       | 08255 OV | /E-55 93% (11/24/2020)   | · ·        | DRILL M         | ETHO                                  | D H.S. Augers |   | HAMMER TYP  | E Automat     |
| DRILLER L. Wansrath START DATE 03/24/21                          | COMP. DATE 03/24/21                   | SURFACE WATER DEPTH N/  | /A  | DRIL   | LER L. W  | /ansrath                                      |               | STA      | <b>ART DATE</b> 03/23/21 | COMP. DA   | TE 03/2         | 23/21                                 | SURF          | ACE WATER DE  | PTH N/A   |               |
| DRIVE   Color   DEPTH   BLOW COUNT   BLOWS PER FOOT              | T SAMP. V L O NO. MOI G               | SOIL AND ROCK DES   | SCRIPTION<br>DEPTH (ft)   | ELEV<br>(ft)                                 | DRIVE DI  | EPTH B (ft) 0.5                               | LOW CO        | 0.5ft    | BLOWS PER F0             | OOT 75 100 | SAMP.<br>NO.    | MOI                                   | 0<br>1 G      | SOIL AND RO   | OCK DESCRIPTION   | ON            |
| 2635   | M M M M M M M M M M M M M M M M M M M | 2,633.5 GROUND SURF RESIDUAL Medium stiff to stiff, brown, trace rock fragments, r  2,626.5  Medium stiff, brown and gr (A-7-6), with trace rock fr sand, micaceo  2,615.5  Medium stiff to stiff, brown, or SILT (A-4), micaceo  2,597.0  Boring Terminated at Elevat SILT | SILT (A-4), with micaceous  Tray, silty CLAY ragments and ous  Tray, and tan, ceous | 2635<br>2630<br>2625<br>2620<br>2615<br>2610 | 2,635.2<br>2,630.2<br>2,630.2<br>2,627.7<br>2,625.2<br>2,610.2<br>2,600.2 | 2.5 3 5.0 3 7.5 2 10.0 2 15.0 2 20.0 2 25.0 3 | 3 3 2 2 3 3 4 | 4        | ◆5                       |            |                 | M M M M M M M M M M M M M M M M M M M |               | Medium stiff, bro  Medium stiff, bro  (A-7-6  Medium stiff to stiff  SILT (A- | vn and gray, silty<br>, micaceous<br>brown, tan, and<br>4), micaceous | CLAY  orange, |

| <b>WBS</b> 38332.1.FS1       | TIP B-3186 / B-5898 COUN                | TY HAYWOOD          | GEOLOGIST R. Dugger   | <b>WBS</b> 38332.1.FS1                   | TIP B-3186 / B-5898 COUN                      | JTY HAYWOOD               | GEOLOGIST R. Dugger  |
|------------------------------|---|---------------------|---|--|---|---------------------------|--|
|                              | Wall No. 3 from -Y1RT- STA 29+35 to     |                     | GROUND WTR (ft)   | SITE DESCRIPTION Retaining W             |   |                           | GROUND WTR (f  |
| BORING NO. RW3 20            | <b>STATION</b> 39+10                    | OFFSET 2 ft RT      | ALIGNMENT -RW3- 0 HR. Dry   | BORING NO. RW3 21                        | <b>STATION</b> 39+61                          | OFFSET 3 ft RT            | ALIGNMENT -RW3- 0 HR. D  |
| COLLAR ELEV. 2,637.7 ft      | TOTAL DEPTH 31.5 ft                     | NORTHING 667,387    | <b>EASTING</b> 820,453 <b>24 HR.</b> FIAD                                       | COLLAR ELEV. 2,639.8 ft                  | TOTAL DEPTH 26.5 ft                           | NORTHING 667,412          | <b>EASTING</b> 820,497 <b>24 HR</b> . FIA  |
| DRILL RIG/HAMMER EFF/DATE GT |   | DRILL METHOD H      | 1, 1, 1   | DRILL RIG/HAMMER EFF/DATE GTO            |   | DRILL METHOD H            |  |
| DRILLER L. Wansrath          | <b>START DATE</b> 03/24/21              | COMP. DATE 03/24/21 | SURFACE WATER DEPTH N/A   | DRILLER L. Wansrath                      | START DATE 03/24/21                           | COMP. DATE 03/24/21       | SURFACE WATER DEPTH N/A  |
| ELEV CHIP (ft) DEPTH BLOW CO | DUNT BLOWS PER FOO                      | OT SAMP.            | SOIL AND ROCK DESCRIPTION  ELEV. (ft) DEPTH (ft)                                | ELEV (ft) DRIVE ELEV (ft) DEPTH BLOW COU | JNT BLOWS PER FO                              |                           | SOIL AND ROCK DESCRIPTION  |
| 2640                         |   |                     | _   | 2640 0.0 3 5                             | 5   | M (30)                    | 2,639.8 GROUND SURFACE RESIDUAL  |
| 2,637.7 + 0.0 2 3            | 6                                       | -       M           | _ 2,637.7   | 2,637.3 2.5 3 5                          | 7   |                           | 2.637.8 Stiff, brown and orange, SILT (A-4), with trace rock fragments and sand, micaceous |
| 2635 2,635.2 2.5 5 4         | 6                                       |                     | Stiff, brown, tan, and orange, SILT (A-4), with trace sand and rock fragments,  | 2635 2,634.8 5.0                         | <u>• • • • • • • • • • • • • • • • • • • </u> |                           | 2,635.3 Medium dense, brown and orange, silty SAND (A-2-4)                                 |
| 2.632.7+ 5.0                 | 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 - |                     | micaceous   | 2,632.37 7.5                             | 4   •7 · ·   · · · ·   · · · ·                | "" 🙋                      | 2,632.8 Medium stiff, brown and orange, fine sandy SILT (A-4), with trace clay, micaceous  |
| 2630 2,630.2 7.5             | 4                                       | ·   · · · · ·     M |   | 2630 2,629.8 10.0                        | 5 . • 9                                       | [: ::::   M               | Stiff, brown and black, silty CLAY (A-7-6), micaceous                                      |
| 2.627.7+ 10.0                | 11 14                                   |                     | - <sub>2.628.2</sub> with trace sand, micaceous <sub>9.5</sub>                  | 2,629.6 10.0 2 2                         | 4   | - ·   · · · · ·     M     | Medium stiff to stiff, brown and tan, SILT   |
| 2   3                        |   | -       м           | Medium stiff, orange, brown, and tan, SILT<br>(A-4), with trace rock fragments, |  |   |                           | (A-4), with trace rock fragments, micaceous  |
| 2625                         |   |                     | micaceous, saprolitic   | 2625 2,624.8 15.0 2 4                    | 4   |                           |  |
| 2,622.7 15.0 2 3             | 3                                       | .           M       |   |  |   |                           | -<br>-<br>-  |
| 2620                         | 1 |                     |   | 2620 2,619.8 20.0                        | 1       |                           | -<br>-   |
| 2,617.7+ 20.0                |   | .                   |   |  | 9   | · ·   · · · ·           M |  |
| 2615 2 1                     | 3   64                                  | ·   · · · ·     M   |   | 2615                                     | :#:: :::: :::                                 |                           | -<br>-   |
| T I I                        |   |                     |   | 2615 2,614.8 25.0 3 3                    | 4   |                           | -<br>- 2,613.3   |
| 2,612.7+ 25.0 2 1            | 1 4                                     | -       м           |   |  |   |                           | Boring Terminated at Elevation 2,613.3 ft in SILT  |
| 2610                         |   |                     |   |  |   |                           | <u>-</u>   |
| 2,607.7 30.0                 |   | -                   |   |  |   |                           | ļ.   |
| 2 2                          | 4     •6                                | ·   · · · ·     M   | 2,606.2 31.5  Boring Terminated at Elevation 2,606.2 ft in                      |  |   |                           | -  |
|                              |   |                     | SILT  |  |   |                           | -  |
|                              |   |                     |   |  |   |                           | -  |
|                              |   |                     |   | ‡  |   |                           | _  |
|                              |   |                     |   |  |   |                           | -  |
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|                              |   |                     | -   |  |   |                           | -  |
|                              |   |                     |   |  |   |                           | -  |
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|                              |   |                     |   | $        \overline{1}         $          |   |                           | Ł  |
|                              |   |                     | _   | $        rac{1}{2}         $            |   |                           | E  |
| +                            |   |                     | <u>-</u>  |  |   |                           | -  |
|                              |   |                     |   | $        rac{1}{2}         $            |   |                           | Ł  |
|                              |   |                     | -   |  |   |                           | -  |

| ELEV   DRIVE   CHT   C   | -RW12- GROUND WTR (fi   |
|--|---|
| BORING NO. RW3_22  | -RW12- 0,630 24 HR. FIAI HAMMER TYPE Automatic ATER DEPTH N/A L AND ROCK DESCRIPTION  GROUND SURFACE 0.9' Pavement RESIDUAL |
| COLLAR ELEV. 2,641.6 ft TOTAL DEPTH 26.5 ft NORTHING 667,437 EASTING 820,542 24 HR. FIAD DRILL RIGHAMMER EFF, DATE GT03255 CME-55 93% (11/24/2020) DRILL METHOD HS. Augers HAMMER TYPE Automatic DRILL RIGHAMMER EFF, DATE GT03255 CME-55 93% (11/24/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL METHOD HS. Augers DRILL RIGHAMMER EFF, DATE GT03277 CME-75 83% (09/15/2020) DRILL RIGHAMMER EFF, DATE GT03277 CME-75 8  | Q,630  24 HR. FIAI  HAMMER TYPE Automatic  ATER DEPTH N/A  L AND ROCK DESCRIPTION  GROUND SURFACE 0.9' Pavement RESIDUAL    |
| DRILL RIGHAMMER EFF/DATE         GTC3225 CME-55 93% (11/24/2020)         DRILL METHOD         H.S. Augers         HAMMER TYPE         Automatic           DRILLER         L. Wansrath         START DATE         03/24/21         COMP. DATE         03/24/21         SURFACE WATER DEPTH         N/A           ELEV (ft)         ELEV (ft)         ELEV (ft)         DEPTH (ft)         BLOW COUNT (ft)         BLOW SPER FOOT NO. 5ft         0.5ft  | HAMMER TYPE Automatic ATER DEPTH N/A  L AND ROCK DESCRIPTION  GROUND SURFACE  0.9' Pavement  RESIDUAL                       |
| DRILLER L. Wansrath         START DATE 03/24/21         COMP. DATE 03/24/21         SURFACE WATER DEPTH N/A           ELEV (ft)         DRIVE (ELEV (ft)         DEPTH (ft)         BLOW COUNT (ft)         BLOW SPER FOOT (ft)         SAMP. (ft)         SOIL AND ROCK DESCRIPTION (ft)         DEPTH (ft)         BLOW COUNT (ft)         BLOW SPER FOOT (ft)         SAMP. (ft)         SAMP. (ft)         SOIL AND ROCK DESCRIPTION (ft)         DEPTH (ft)         DEPTH (ft)         BLOW COUNT (ft)         BLOW SPER FOOT (ft)         SAMP. (ft)         SAMP. (ft)         SOIL AND ROCK DESCRIPTION (ft)         DEPTH (f  | GROUND SURFACE  0.9' Pavement  RESIDUAL   |
| ELEV   DRIVE   ELEV   (ft)   O.5ft   O | GROUND SURFACE  0.9' Pavement  RESIDUAL   |
| (ft)   Color   | GROUND SURFACE (0.9' Pavement 00 RESIDUAL   |
| 2645   | 0.9' Pavement 0   |
| 2,648.7 - 0.9   - 1.1  | 0.9' Pavement 0   |
| 2,648.7+ 0.9   | 0.9' Pavement 0   |
| I I O CAMO I O O I I I I I I I I I I I I I I I I   |   |
| PESIDIAI 2,646.1 3.5 Medi  | e, SILT (A-4), with trace sand,   |
| 2,639.1 2.5 7 8 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  | micaceous   |
| 2,636.6+ 5.0   1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.  |   |
| 2635   2624   75   0   0   0   0   0   0   0   0   0   |   |
|  |   |
| 2630 2,631.6 + 10.0 3 4 4 5 D Medium stiff to stiff, brown, tan, orange, and white, SILT (A-4), micaceous  | 15  |
|  | erminated at Elevation 2,634.6 ft in SILT   |
| 2,626.6 + 15.0   | <u> </u>  |
| $egin{array}{c c c c c c c c c c c c c c c c c c c $   |   |
| $\left  \begin{array}{c cccccccccccccccccccccccccccccccccc$  |   |
| 2620   |   |
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| Boring Terminated at Elevation 2,615.1 ft in SILT  |   |
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