

SEE SHEET 3 FOR PLAN SHEET LAYOUT
AT TIME OF INVESTIGATION

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-4707	1	130

CAUTION NOTICE

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

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

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

- NOTES:
- 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.
 - 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.

ROADWAY
SUBSURFACE INVESTIGATION

COUNTY GUILFORD
PROJECT DESCRIPTION US 29 AND SR 4771 (REEDY
FORK PARKWAY) INTERCHANGE IMPROVEMENTS
INVENTORY

CONTENTS

LINE	STATION	PLAN	PROFILE
-L-	20+00.00 - 90+25.00	4-7	N/A
-Y-	21+00.00 - 58+80.00	6, 8-9	10-11
-RPA-	10+00.00 - 27+72.73	6-7	11-12
-SPA-	25+49.04 - 28+95.09	6	12
-RPB-	10+00.00 - 42+79.14	4-6	12, 13, 13A
-SPB-	40+71.32 - 45+74.12	6	13A
-RPC-	10+00.00 - 25+32.29	5-6	14
-SPC-	23+50.00 - 27+30.07	6, 9	14
-RPD-	10+00.00 - 26+12.52	6-7	15
-SPD-	23+62.73 - 26+74.20	6, 9	15
-Y1-	10+00.00 - 34+50.00	6, 8-9	16
-Y1A-	26+50.00 - 31+95.67	6	17
-Y2-	10+50.00 - 20+28.26	9	17
-Y3A-	11+90.00 - 17+20.21	8	18
-Y3B-	10+65.00 - 14+02.98	8	18
-Y4-	10+00.00 - 14+65.00	6, 8	18
-Y5-	10+25.00 - 12+10.00	9	N/A
-DRI-	10+15.00 - 13+27.18	8	18

CROSS SECTIONS

LINE	STATION	SHEETS
-L-	24+00.00	19
-L-	27+50.00	19
-L-	32+00.00	19
-L-	33+00.00 - 36+00.00	19-21
-L-	37+50.00 - 38+50.00	21-22
-L-	40+00.00	22
-L-	42+00.00	22
-L-	43+00.00	23
-L-	44+00.00 - 50+00.00	23-26
-L-	54+00.00	27
-L-	64+00.00	27
-L-	67+00.00	27
-L-	69+00.00	27
-L-	72+50.00 - 75+00.00	28-29
-L-	76+50.00 - 77+00.00	30
-L-	79+00.00	30
-L-	80+00.00	31
-L-	82+00.00	31
-L-	83+00.00	31
-L-	86+00.00	32
-Y-	21+00.00 - 24+50	33-34
-Y-	26+00.00	35
-Y-	28+00.00	35
-Y-	30+00.00 - 33+50.00	35-37
-Y-	35+00.00 - 37+50.00	38-39
-Y-	39+00.00	39
-Y-	40+00.00	40
-Y-	43+50.00 - 47+00.00	41-44
-Y-	48+00.00	45
-Y-	49+00.00 - 53+50.00	45-48
-Y-	57+00.00	48
-RPA-	18+00.00	49
-RPA-	25+00.00	49
-SPA-	26+00.00 - 27+50.00	50
-RPB-	29+00.00 - 31+50.00	51-52
-RPB-	32+50.00 - 39+00.00	52-56
-RPC-	15+00.00 - 18+00.00	57-58
-RPC-	19+50.00 - 24+50.00	58-62
-SPC-	24+50.00 - 26+00.00	63-64
-RPD-	15+00.00 - 16+00.00	65
-SPD-	25+00.00 26+00.00	66-67
-Y1-	10+50.000 - 12+00.00	68
-Y1-	13+50.00 - 14+00.00	69
-Y1-	18+00.00	69
-Y1-	20+00.00	70
-Y1-	22+00.00	70
-Y1-	23+50.00 - 35+00.00	70-77
-Y2-	11+00.00 - 20+00.00	78-85
-Y5-	11+50.00	86
-DRI-	10+00.00 - 13+00.00	87-88

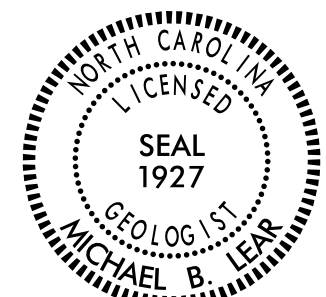
SUMMARY OF LAB TEST RESULTS 89-126

REFERENCE: R-4707

PROJECT: 36599

PERSONNEL
J. HOWARD
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M. LEAR
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INVESTIGATED BY WOOD E&IS, INC.
CHECKED BY S. JOHNSON
SUBMITTED BY M. LEAR
DATE FEBRUARY, 2019

wood.
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DocuSigned by:
Michael B. Lear 2/8/2019

SR0000029442... DATE
NC Engineering F-1253 NC Geology C-247

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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

| SOIL DESCRIPTION

 | GRADATION | ROCK DESCRIPTION | TERMS AND DEFINITIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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<p>SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT ACCORDING TO THE STANDARD PENETRATION TEST (ASTM T 206, ASTM D1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, <i>VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6</i></p>

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| SOIL LEGEND AND AASHTO CLASSIFICATION

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 | | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2">GENERAL CLASS.</th> <th colspan="5">GRANULAR MATERIALS (≤ 35% PASSING #200)</th> <th colspan="5">SILT-CLAY MATERIALS (> 35% PASSING #200)</th> <th colspan="3">ORGANIC MATERIALS</th> </tr> <tr> <th>GROUP CLASS.</th> <th>SYMBOL</th> <th>A-1</th> <th>A-1-b</th> <th>A-2</th> <th>A-2-4</th> <th>A-2-5</th> <th>A-2-6</th> <th>A-2-7</th> <th>A-4</th> <th>A-5</th> <th>A-6</th> <th>A-7</th> <th>A-1, A-2</th> <th>A-3</th> <th>A-4, A-5</th> <th>A-6, A-7</th> <th></th> </tr> <tr> <td>% PASSING #10 #40 #200</td> <td></td> <td>50 MX 30 MX 15 MX</td> <td>50 MX 25 MX</td> <td>51 MN 35 MX</td> <td>35 MX 35 MX</td> <td>35 MX 35 MX</td> <td>35 MX 35 MX</td> <td>36 MN 36 MN</td> <td>36 MN 36 MN</td> <td>36 MN 36 MN</td> <td>36 MN 36 MN</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>MATERIAL PASSING #40 LL PI</td> <td></td> <td>— 6 MX</td> <td>— 4P</td> <td>40 MX 10 MX</td> <td>41 MN 10 MX</td> <td>40 MX 11 MN</td> <td>41 MN 11 MN</td> <td>40 MX 10 MX</td> <td>41 MN 10 MX</td> <td>40 MX 11 MN</td> <td>41 MN 11 MN</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>GROUP INDEX</td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>4 MX</td> <td>0</td> <td>0</td> <td>8 MX</td> <td>12 MX</td> <td>16 MX</td> <td>NO MX</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>USUAL TYPES OF MAJOR MATERIALS</td> <td></td> <td>STONE FRAGS. GRAVEL, AND SAND</td> <td>FINE SAND</td> <td>SILTY OR CLAYEY GRAVEL AND SAND</td> <td>SILTY SOILS</td> <td>CLAYEY SOILS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>GEN. RATING AS SUBGRADE</td> <td></td> <td colspan="3">EXCELLENT TO GOOD</td> <td colspan="3">FAIR TO POOR</td> <td>FAIR TO POOR</td> <td>POOR</td> <td>UNSATURABLE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;">PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30</td> </tr> <tr> <td colspan="4" style="text-align: center;">CONSISTENCY OR DENSENESS</td> </tr> <tr> <td colspan="4"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>PRIMARY SOIL TYPE</th> <th>COMPACTNESS OR CONSISTENCY</th> <th>RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)</th> <th>RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT²)</th> </tr> <tr> <td>GENERALLY GRANULAR MATERIAL (NON-COHESIVE)</td> <td>VERY LOOSE
LOOSE
MEDIUM DENSE
DENSE
VERY DENSE</td> <td>< 4
4 TO 10
10 TO 30
30 TO 50
> 50</td> <td>N/A</td> </tr> <tr> <td>GENERALLY SILT-CLAY MATERIAL (COHESIVE)</td> <td>VERY SOFT
SOFT
MEDIUM STIFF
STIFF
VERY STIFF
HARD</td> <td>< 2
2 TO 4
4 TO 8
8 TO 15
15 TO 30
> 30</td> <td>< 0.25
0.25 TO 0.5
0.5 TO 1.0
1 TO 2
2 TO 4
> 4</td> </tr> </table> </td> </tr> <tr> <td colspan="4" style="text-align: center;">TEXTURE OR GRAIN SIZE</td> </tr> <tr> <td colspan="4"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>U.S. STD. SIEVE SIZE OPENING (MM)</th> <th>4</th> <th>10</th> <th>40</th> <th>60</th> <th>200</th> <th>270</th> </tr> <tr> <td></td> <td>4.76</td> <td>2.00</td> <td>0.42</td> <td>0.25</td> <td>0.075</td> <td>0.053</td> </tr> <tr> <td>BOULDER (BLDR.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>COBBLE (COB.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>GRAVEL (GR.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>COARSE SAND (CSE. SD.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FINE SAND (F SD.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SILT (SL.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CLAY (CL.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>GRAIN SIZE</td> <td>305</td> <td>75</td> <td>2.0</td> <td>0.25</td> <td>0.05</td> <td>0.005</td> </tr> <tr> <td>MM</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>IN.</td> <td>12</td> <td>3</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> </td> </tr> <tr> <td colspan="4" style="text-align: center;">SOIL MOISTURE - CORRELATION OF TERMS</td> </tr> <tr> <td colspan="4"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>SOIL MOISTURE SCALE (ATTERBERG LIMITS)</th> <th>FIELD MOISTURE DESCRIPTION</th> <th>GUIDE FOR FIELD MOISTURE DESCRIPTION</th> </tr> <tr> <td>LL - LIQUID LIMIT</td> <td>- SATURATED - (SAT.)</td> <td>USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE</td> </tr> <tr> <td>PL - PLASTIC LIMIT</td> <td>- WET - (W)</td> <td>SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE</td> </tr> <tr> <td>OM - OPTIMUM MOISTURE SHRINKAGE LIMIT</td> <td>- MOIST - (M)</td> <td>SOLID; AT OR NEAR OPTIMUM MOISTURE</td> </tr> <tr> <td>SL - SHRINKAGE LIMIT</td> <td>- DRY - (D)</td> <td>REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE</td> </tr> </table> </td> </tr> <tr> <td colspan="4" style="text-align: center;">PLASTICITY</td> </tr> <tr> <td colspan="4"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NON PLASTIC</th> <th>PLASTICITY INDEX (PI)</th> <th>DRY STRENGTH</th> </tr> <tr> <td>SLIGHTLY PLASTIC</td> <td>0-5</td> <td>VERY LOW</td> </tr> <tr> <td>MODERATELY PLASTIC</td> <td>6-15</td> <td>SLIGHT</td> </tr> <tr> <td>HIGHLY PLASTIC</td> <td>16-25</td> <td>MEDIUM</td> </tr> <tr> <td></td> <td>26 OR MORE</td> <td>HIGH</td> </tr> </table> </td> </tr> <tr> <td colspan="4" style="text-align: center;">COLOR</td> </tr> <tr> <td colspan="4"> <p>DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">GRADATION</td> </tr> <tr> <td colspan="4"> <p>WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.
 UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE.
 GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">ANGULARITY OF GRAINS</td> </tr> <tr> <td colspan="4"> <p>THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">MINERALOGICAL COMPOSITION</td> </tr> <tr> <td colspan="4"> <p>MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">COMPRESSIBILITY</td> </tr> <tr> <td colspan="4"> <p>SLIGHTLY COMPRESSIBLE LL < 31
 MODERATELY COMPRESSIBLE LL = 31 - 50
 HIGHLY COMPRESSIBLE LL > 50</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">PERCENTAGE OF MATERIAL</td> </tr> <tr> <td colspan="4"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>ORGANIC MATERIAL</th> <th>GRANULAR SOILS</th> <th>SILT - CLAY SOILS</th> <th>OTHER MATERIAL</th> </tr> <tr> <td>TRACE OF ORGANIC MATTER</td> <td>2 - 3%</td> <td>3 - 5%</td> <td>TRACE 1 - 10%</td> </tr> <tr> <td>LITTLE ORGANIC MATTER</td> <td>3 - 5%</td> <td>5 - 12%</td> <td>LITTLE 10 - 20%</td> </tr> <tr> <td>MODERATELY ORGANIC</td> <td>5 - 10%</td> <td>12 - 20%</td> <td>SOME 20 - 35%</td> </tr> <tr> <td>HIGHLY ORGANIC</td> <td>> 10%</td> <td>> 20%</td> <td>HIGHLY 35% AND ABOVE</td> </tr> </table> </td> </tr> <tr> <td colspan="4" style="text-align: center;">GROUND WATER</td> </tr> <tr> <td colspan="4"> <p>▽ WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING
 ▼ STATIC WATER LEVEL AFTER 24 HOURS
 ▽ PW PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA
 ○ SPRING OR SEEP</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">MISCELLANEOUS SYMBOLS</td> </tr> <tr> <td colspan="4"> <p>ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION
 SOIL SYMBOL
 ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT
 INFERRED SOIL BOUNDARY
 INFERRED ROCK LINE
 ALLUVIAL SOIL BOUNDARY</p> </td> </tr> <tr> <td colspan="4"> <p>DIP & DIP DIRECTION OF ROCK STRUCTURES
 SPT TEST BORING
 AUGER BORING
 CORE BORING
 MONITORING WELL
 PIEZOMETER INSTALLATION</p> </td> </tr> <tr> <td colspan="4"> <p>SLOPE INDICATOR INSTALLATION
 CONE PENETROMETER TEST
 SOUNDING ROD
 TEST BORING WITH CORE
 SPT N-VALUE</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">RECOMMENDATION SYMBOLS</td> </tr> <tr> <td colspan="4"> <p>UNDERCUT EXCAVATION
 SHALLOW UNDERCUT
 UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE
 UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK
 UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">ABBREVIATIONS</td> </tr> <tr> <td colspan="4"> <p>AR - AUGER REFUSAL
 BT - BORING TERMINATED
 CL - CLAY
 CPT - COARSE PENETRATION TEST
 CSE - COARSE
 DMT - DILATOMETER TEST
 DPT - DYNAMIC PENETRATION TEST
 e - VOID RATIO
 F - FINE
 FOSS. - FOSSILIFEROUS
 FRAC. - FRACTURED, FRACTURES
 FRAGS. -
FRAGMENTS
 HI. - HIGHLY</p> </td> </tr> <tr> <td colspan="4"> <p>MED. - MEDIUM
 MICA - MICACEOUS
 MOD. - MODERATELY
 NP - NON PLASTIC
 ORG. - ORGANIC
 PMT - PRESSUREMETER TEST
 SAP. - SAPROLITIC
 SD. - SAND, SANDY
 SL. - SILT, SILTY
 SLI. - SLIGHTLY
 TCR - TRIAXIAL REFUSAL
 w - MOISTURE CONTENT
 V - VERY</p> </td> </tr> <tr> <td colspan="4"> <p>VST - VANE SHEAR TEST
 WEA. - WEATHERED
 % - UNIT WEIGHT
 %g - DRY UNIT WEIGHT</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">EQUIPMENT USED ON SUBJECT PROJECT</td> </tr> <tr> <td colspan="4"> <p>DRILL UNITS:
 <input type="checkbox"/> CME-45C
 <input checked="" type="checkbox"/> CME-55
 <input type="checkbox"/> CME-550
 <input type="checkbox"/> VANE SHEAR TEST
 <input type="checkbox"/> PORTABLE HOIST
 <input checked="" type="checkbox"/> D-50</p> </td> </tr> <tr> <td colspan="4"> <p>ADVANCING TOOLS:
 <input type="checkbox"/> CLAY BITS
 <input type="checkbox"/> 6" CONTINUOUS FLIGHT AUGER
 <input checked="" type="checkbox"/> 8" HOLLOW AUGERS
 <input type="checkbox"/> HARD FACED FINGER BITS
 <input type="checkbox"/> TUNG-CARBIDE INSERTS
 <input type="checkbox"/> CASING <input type="checkbox"/> W/ ADVANCER
 <input type="checkbox"/> TRICONE 3"-4" STEEL TEETH
 <input type="checkbox"/> TRICONE * TUNG-CARB.
 <input type="checkbox"/> CORE BIT</p> </td> </tr> <tr> <td colspan="4"> <p>HAMMER TYPE:
 <input checked="" type="checkbox"/> AUTOMATIC <input type="checkbox"/> MANUAL
 CORE SIZE:
 <input type="checkbox"/> -B <input type="checkbox"/> -H <input type="checkbox"/> -N
 HAND TOOLS:
 <input type="checkbox"/> POST HOLE DIGGER
 <input checked="" type="checkbox"/> HAND AUGER
 <input checked="" type="checkbox"/> SOUNDING ROD
 <input type="checkbox"/> VANE SHEAR TEST</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">ROCK DESCRIPTION</td> </tr> <tr> <td colspan="4"> <p>HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:</p> </td> </tr> <tr> <td colspan="4"> <p>WEATHERED ROCK (WR)
 CRYSTALLINE ROCK (CR)
 NON-CRYSTALLINE ROCK (NCR)
 COASTAL PLAIN SEDIMENTARY ROCK (CP)</p> </td> </tr> <tr> <td colspan="4"> <p>NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.
 FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.
 FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.
 COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">WEATHERING</td> </tr> <tr> <td colspan="4"> <p>FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.
 VERY SLIGHT (V SLI.) ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN. CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.
 SLIGHT (SLI.) ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.
 MODERATE (MOD.) SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN 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 WITH FRESH ROCK.
 MODERATELY SEVERE (MOD. SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK. IF TESTED, WOULD YIELD SPT REFUSAL
 SEVERE (SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF
 VERY SEVERE (V SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF
 COMPLETE ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">ROCK HARDNESS</td> </tr> <tr> <td colspan="4"> <p>VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
 HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.
 MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.
 MEDIUM HARD CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.
 SOFT CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.
 VERY SOFT CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">ROCK HARDNESS</td> </tr> <tr> <td colspan="4"> <p>VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
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 FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
 MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE;
BREAKS EASILY WHEN HIT WITH HAMMER.
 INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
 EXTREMELY INDURATED SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">TERMS AND DEFINITIONS</td> </tr> <tr> <td colspan="4"> <p>ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
 AQUIFER - A WATER BEARING FORMATION OR STRATA.
 ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
 ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.
 ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.
 CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
 COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.
 CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
 DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.
 DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.
 DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.
 FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.
 FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.
 FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOGGED FROM PARENT MATERIAL.
 FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
 FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.
 JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
 LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.
 LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
 MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.
 PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.
 RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
 ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
 SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.
 SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.
 SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.
 STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.
 STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
 STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
 TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.</p> </td> </tr> <tr> <td colspan="4" style="text-align: center;">BENCH MARK: ELEVATIONS DETERMINED FROM PROVIDED ELECTRONIC FILES (r4707_ls_tin_180531.tin)</td> </tr> <tr> <td colspan="4" style="text-align: right;">ELEVATION: N/A FEET</td> </tr> <tr> <td colspan="4" style="text-align: center;">NOTES:</td> </tr> <tr> <td colspan="4" style="text-align: center;">F.I.A.D. - FILLED IMMEDIATELY AFTER DRILLING</td> </tr> </table> | | | | GENERAL CLASS. | | GRANULAR MATERIALS (≤ 35% PASSING #200) | | | | | SILT-CLAY MATERIALS (> 35% PASSING #200) | | | | | ORGANIC MATERIALS | | | GROUP CLASS. | SYMBOL | A-1 | A-1-b | A-2 | A-2-4 | A-2-5 | A-2-6 | A-2-7 | A-4 | A-5 | A-6 | A-7 | A-1, A-2 | A-3 | A-4, A-5 | A-6, A-7 | | % PASSING #10 #40 #200 | | 50 MX 30 MX 15 MX | 50 MX 25 MX | 51 MN 35 MX | 35 MX 35 MX | 35 MX 35 MX | 35 MX 35 MX | 36 MN 36 MN | 36 MN 36 MN | 36 MN 36 MN | 36 MN 36 MN | | | | | | | MATERIAL PASSING #40 LL PI | | — 6 MX | — 4P | 40 MX 10 MX | 41 MN 10 MX | 40 MX 11 MN | 41 MN 11 MN | 40 MX 10 MX | 41 MN 10 MX | 40 MX 11 MN | 41 MN 11 MN | | | | | | | GROUP INDEX | | 0 | 0 | 0 | 4 MX | 0 | 0 | 8 MX | 12 MX | 16 MX | NO MX | | | | | | | USUAL TYPES OF MAJOR MATERIALS | | STONE FRAGS. GRAVEL, AND SAND | FINE SAND | SILTY OR CLAYEY GRAVEL AND SAND | SILTY SOILS | CLAYEY SOILS | | | | | | | | | | | | GEN. RATING AS SUBGRADE | | EXCELLENT TO GOOD | | | FAIR TO POOR | | | FAIR TO POOR | POOR | UNSATURABLE | | | | | | | | PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30 | | | | CONSISTENCY OR DENSENESS | | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>PRIMARY SOIL TYPE</th> <th>COMPACTNESS OR CONSISTENCY</th> <th>RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)</th> <th>RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT²)</th> </tr> <tr> <td>GENERALLY GRANULAR MATERIAL (NON-COHESIVE)</td> <td>VERY LOOSE
LOOSE
MEDIUM DENSE
DENSE
VERY DENSE</td> <td>< 4
4 TO 10
10 TO 30
30 TO 50
> 50</td> <td>N/A</td> </tr> <tr> <td>GENERALLY SILT-CLAY MATERIAL (COHESIVE)</td> <td>VERY SOFT
SOFT
MEDIUM STIFF
STIFF
VERY STIFF
HARD</td> <td>< 2
2 TO 4
4 TO 8
8 TO 15
15 TO 30
> 30</td> <td>< 0.25
0.25 TO 0.5
0.5 TO 1.0
1 TO 2
2 TO 4
> 4</td> </tr> </table> | | | | PRIMARY SOIL TYPE | COMPACTNESS OR CONSISTENCY | RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE) | RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²) | GENERALLY GRANULAR MATERIAL (NON-COHESIVE) | VERY LOOSE
LOOSE
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VERY DENSE | < 4
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SOFT
MEDIUM STIFF
STIFF
VERY STIFF
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2 TO 4
4 TO 8
8 TO 15
15 TO 30
> 30 | < 0.25
0.25 TO 0.5
0.5 TO 1.0
1 TO 2
2 TO 4
> 4 | TEXTURE OR GRAIN SIZE | | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>U.S. STD. SIEVE SIZE OPENING (MM)</th> <th>4</th> <th>10</th> <th>40</th> <th>60</th> <th>200</th> <th>270</th> </tr> <tr> <td></td> <td>4.76</td> <td>2.00</td> <td>0.42</td> <td>0.25</td> <td>0.075</td> <td>0.053</td> </tr> <tr> <td>BOULDER (BLDR.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>COBBLE (COB.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>GRAVEL (GR.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>COARSE SAND (CSE. SD.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FINE SAND (F SD.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SILT (SL.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CLAY (CL.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>GRAIN SIZE</td> <td>305</td> <td>75</td> <td>2.0</td> <td>0.25</td> <td>0.05</td> <td>0.005</td> </tr> <tr> <td>MM</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>IN.</td> <td>12</td> <td>3</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> | | | | U.S. STD. SIEVE SIZE OPENING (MM) | 4 | 10 | 40 | 60 | 200 | 270 | | 4.76 | 2.00 | 0.42 | 0.25 | 0.075 | 0.053 | BOULDER (BLDR.) | | | | | | | COBBLE (COB.) | | | | | | | GRAVEL (GR.) | | | | | | | COARSE SAND (CSE. SD.) | | | | | | | FINE SAND (F SD.) | | | | | | | SILT (SL.) | | | | | | | CLAY (CL.) | | | | | | | GRAIN SIZE |
305 | 75 | 2.0 | 0.25 | 0.05 | 0.005 | MM | | | | | | | IN. | 12 | 3 | | | | | SOIL MOISTURE - CORRELATION OF TERMS | | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>SOIL MOISTURE SCALE (ATTERBERG LIMITS)</th> <th>FIELD MOISTURE DESCRIPTION</th> <th>GUIDE FOR FIELD MOISTURE DESCRIPTION</th> </tr> <tr> <td>LL - LIQUID LIMIT</td> <td>- SATURATED - (SAT.)</td> <td>USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE</td> </tr> <tr> <td>PL - PLASTIC LIMIT</td> <td>- WET - (W)</td> <td>SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE</td> </tr> <tr> <td>OM - OPTIMUM MOISTURE SHRINKAGE LIMIT</td> <td>- MOIST - (M)</td> <td>SOLID; AT OR NEAR OPTIMUM MOISTURE</td> </tr> <tr> <td>SL - SHRINKAGE LIMIT</td> <td>- DRY - (D)</td> <td>REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE</td> </tr> </table> | | | | SOIL MOISTURE SCALE (ATTERBERG LIMITS) | FIELD MOISTURE DESCRIPTION | GUIDE FOR FIELD MOISTURE DESCRIPTION | LL - LIQUID LIMIT | - SATURATED - (SAT.) | USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE | PL - PLASTIC LIMIT | - WET - (W) | SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE | OM - OPTIMUM MOISTURE SHRINKAGE LIMIT | - MOIST - (M) | SOLID; AT OR NEAR OPTIMUM MOISTURE | SL - SHRINKAGE LIMIT | - DRY - (D) | REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE | PLASTICITY | | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NON PLASTIC</th> <th>PLASTICITY INDEX (PI)</th> <th>DRY STRENGTH</th> </tr> <tr> <td>SLIGHTLY PLASTIC</td> <td>0-5</td> <td>VERY LOW</td> </tr> <tr> <td>MODERATELY PLASTIC</td> <td>6-15</td> <td>SLIGHT</td> </tr> <tr> <td>HIGHLY PLASTIC</td> <td>16-25</td> <td>MEDIUM</td> </tr> <tr> <td></td> <td>26 OR MORE</td> <td>HIGH</td> </tr> </table> | | | | NON PLASTIC | PLASTICITY INDEX (PI) | DRY STRENGTH | SLIGHTLY PLASTIC | 0-5 | VERY LOW | MODERATELY PLASTIC | 6-15 | SLIGHT | HIGHLY PLASTIC | 16-25 | MEDIUM | | 26 OR MORE | HIGH | COLOR | | | | <p>DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.</p> | | | | GRADATION | | | | <p>WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.
 UNIFORMLY GRADED - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE.
 GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.</p> | | | | ANGULARITY OF GRAINS | | | | <p>THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.</p> | | | | MINERALOGICAL COMPOSITION | | | | <p>MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.</p> | | | | COMPRESSIBILITY | | | | <p>SLIGHTLY COMPRESSIBLE LL < 31
 MODERATELY COMPRESSIBLE LL = 31 - 50
 HIGHLY COMPRESSIBLE LL > 50</p> | | | | PERCENTAGE OF MATERIAL | | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>ORGANIC MATERIAL</th> <th>GRANULAR SOILS</th> <th>SILT - CLAY SOILS</th> <th>OTHER MATERIAL</th> </tr> <tr> <td>TRACE OF ORGANIC MATTER</td> <td>2 - 3%</td> <td>3 - 5%</td> <td>TRACE 1 - 10%</td> </tr> <tr> <td>LITTLE ORGANIC MATTER</td> <td>3 - 5%</td> <td>5 - 12%</td> <td>LITTLE 10 - 20%</td> </tr> <tr> <td>MODERATELY ORGANIC</td> <td>5 - 10%</td> <td>12 - 20%</td> <td>SOME 20 - 35%</td> </tr> <tr> <td>HIGHLY ORGANIC</td> <td>> 10%</td> <td>> 20%</td> <td>HIGHLY 35% AND ABOVE</td> </tr> </table> | | | | ORGANIC MATERIAL | GRANULAR SOILS | SILT - CLAY SOILS | OTHER MATERIAL | TRACE OF ORGANIC MATTER | 2 - 3% | 3 - 5% | TRACE 1 - 10% | LITTLE ORGANIC MATTER | 3 - 5% | 5 - 12% | LITTLE 10 - 20% | MODERATELY ORGANIC | 5 - 10% | 12 - 20% | SOME 20 - 35% | HIGHLY ORGANIC | > 10% | > 20% | HIGHLY 35% AND ABOVE | GROUND WATER | | | | <p>▽ WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING
 ▼ STATIC WATER LEVEL AFTER 24 HOURS
 ▽ PW PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA
 ○ SPRING OR SEEP</p> | | | | MISCELLANEOUS SYMBOLS | | | | <p>ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION
 SOIL SYMBOL
 ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT
 INFERRED SOIL BOUNDARY
 INFERRED ROCK LINE
 ALLUVIAL SOIL BOUNDARY</p> | | | | <p>DIP & DIP DIRECTION OF ROCK STRUCTURES
 SPT TEST BORING
 AUGER BORING
 CORE BORING
 MONITORING WELL
 PIEZOMETER INSTALLATION</p> | | | | <p>SLOPE INDICATOR INSTALLATION
 CONE PENETROMETER TEST
 SOUNDING ROD
 TEST BORING WITH CORE
 SPT N-VALUE</p> | | | | RECOMMENDATION SYMBOLS | | | | <p>UNDERCUT EXCAVATION
 SHALLOW UNDERCUT
 UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE
 UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK
 UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL</p> | | | | ABBREVIATIONS | | | | <p>AR - AUGER REFUSAL
 BT - BORING TERMINATED
 CL - CLAY
 CPT - COARSE PENETRATION TEST
 CSE - COARSE
 DMT - DILATOMETER TEST
 DPT - DYNAMIC PENETRATION TEST
 e - VOID RATIO
 F - FINE
 FOSS. - FOSSILIFEROUS
 FRAC. - FRACTURED, FRACTURES
 FRAGS. - FRAGMENTS
 HI. - HIGHLY</p> | | | | <p>MED. - MEDIUM
 MICA - MICACEOUS
 MOD. - MODERATELY
 NP - NON PLASTIC
 ORG. - ORGANIC
 PMT - PRESSUREMETER TEST
 SAP. - SAPROLITIC
 SD. - SAND, SANDY
 SL. - SILT, SILTY
 SLI. - SLIGHTLY
 TCR - TRIAXIAL REFUSAL
 w - MOISTURE CONTENT
 V - VERY</p> | | | | <p>VST - VANE SHEAR TEST
 WEA. - WEATHERED
 % - UNIT WEIGHT
 %g - DRY UNIT WEIGHT</p> | | | | EQUIPMENT USED ON SUBJECT PROJECT | | | | <p>DRILL UNITS:
 <input type="checkbox"/> CME-45C
 <input checked="" type="checkbox"/> CME-55
 <input type="checkbox"/> CME-550
 <input type="checkbox"/> VANE SHEAR TEST
 <input type="checkbox"/> PORTABLE HOIST
 <input checked="" type="checkbox"/> D-50</p> | | | | <p>ADVANCING TOOLS:
 <input type="checkbox"/> CLAY BITS
 <input type="checkbox"/> 6" CONTINUOUS FLIGHT AUGER
 <input checked="" type="checkbox"/> 8" HOLLOW AUGERS
 <input type="checkbox"/> HARD FACED FINGER BITS
 <input type="checkbox"/> TUNG-CARBIDE INSERTS
 <input type="checkbox"/> CASING <input type="checkbox"/> W/ ADVANCER
 <input type="checkbox"/> TRICONE 3"-4" STEEL TEETH
 <input type="checkbox"/> TRICONE * TUNG-CARB.
 <input type="checkbox"/> CORE BIT</p> | | | | <p>HAMMER TYPE:
 <input checked="" type="checkbox"/> AUTOMATIC <input type="checkbox"/> MANUAL
 CORE SIZE:
 <input type="checkbox"/> -B <input type="checkbox"/> -H <input type="checkbox"/> -N
 HAND TOOLS:
 <input type="checkbox"/> POST HOLE DIGGER
 <input checked="" type="checkbox"/> HAND AUGER
 <input checked="" type="checkbox"/> SOUNDING ROD
 <input type="checkbox"/> VANE SHEAR TEST</p> | | | | ROCK DESCRIPTION | | | | <p>HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:</p> | | | | <p>WEATHERED ROCK (WR)
 CRYSTALLINE ROCK (CR)
 NON-CRYSTALLINE ROCK (NCR)
 COASTAL PLAIN SEDIMENTARY ROCK (CP)</p> | | | | <p>NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.
 FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.
 FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.
 COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.</p> | | | | WEATHERING | | | | <p>FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.
 VERY SLIGHT (V SLI.) ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN. CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.
 SLIGHT (SLI.) ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.
 MODERATE (MOD.) SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN 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 WITH FRESH ROCK.
 MODERATELY SEVERE (MOD. SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION.
ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK. IF TESTED, WOULD YIELD SPT REFUSAL
 SEVERE (SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF
 VERY SEVERE (V SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF
 COMPLETE ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.</p> | | | | ROCK HARDNESS | | | | <p>VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
 HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.
 MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.
 MEDIUM HARD CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.
 SOFT CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.
 VERY SOFT CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.</p> | | | | ROCK HARDNESS | | | | <p>VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
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 FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
 MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
 INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
 EXTREMELY INDURATED SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.</p> | | | | TERMS AND DEFINITIONS | | | | <p>ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
 AQUIFER - A WATER BEARING FORMATION OR STRATA.
 ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
 ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.
 ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.
 CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
 COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.
 CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
 DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.
 DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.
 DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.
 FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.
 FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.
 FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOGGED FROM PARENT MATERIAL.
 FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
 FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.
 JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
 LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.
 LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
 MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.
 PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.
 RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
 ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
 SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.
 SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.
 SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.
 STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.
 STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
 STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
 TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.</p> | | | | BENCH MARK:
ELEVATIONS DETERMINED FROM PROVIDED ELECTRONIC FILES (r4707_ls_tin_180531.tin) | | | | ELEVATION: N/A FEET | | | | NOTES: | | | | F.I.A.D. - FILLED IMMEDIATELY AFTER DRILLING | | | |
| GENERAL CLASS.

 | | GRANULAR MATERIALS (≤ 35% PASSING #200) | | | | | SILT-CLAY MATERIALS (> 35% PASSING #200) | | | | | ORGANIC MATERIALS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| GROUP CLASS.

 | SYMBOL | A-1 | A-1-b | A-2 | A-2-4 | A-2-5 | A-2-6 | A-2-7 | A-4 | A-5 | A-6 | A-7 | A-1, A-2 | A-3 | A-4, A-5 | A-6, A-7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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 | | 50 MX 30 MX 15 MX | 50 MX 25 MX | 51 MN 35 MX | 35 MX 35 MX | 35 MX 35 MX | 35 MX 35 MX | 36 MN 36 MN | 36 MN 36 MN | 36 MN 36 MN | 36 MN 36 MN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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 | | — 6 MX | — 4P | 40 MX 10 MX | 41 MN 10 MX | 40 MX 11 MN | 41 MN 11 MN | 40 MX 10 MX | 41 MN 10 MX | 40 MX 11 MN | 41 MN 11 MN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| GROUP INDEX

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| USUAL TYPES OF MAJOR MATERIALS

 | | STONE FRAGS. GRAVEL, AND SAND | FINE SAND | SILTY OR CLAYEY GRAVEL AND SAND | SILTY SOILS | CLAYEY SOILS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| GEN. RATING AS SUBGRADE

 | | EXCELLENT TO GOOD | | | FAIR TO POOR | | | FAIR TO POOR | POOR | UNSATURABLE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30

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| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>PRIMARY SOIL TYPE</th> <th>COMPACTNESS OR CONSISTENCY</th> <th>RANGE OF STANDARD PENETRATION RESISTANCE (N-VALUE)</th> <th>RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT²)</th> </tr> <tr> <td>GENERALLY GRANULAR MATERIAL (NON-COHESIVE)</td> <td>VERY LOOSE
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| GENERALLY SILT-CLAY MATERIAL (COHESIVE)

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2 TO 4
4 TO 8
8 TO 15
15 TO 30
> 30 | < 0.25
0.25 TO 0.5
0.5 TO 1.0
1 TO 2
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| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>U.S. STD. SIEVE SIZE OPENING (MM)</th> <th>4</th> <th>10</th> <th>40</th> <th>60</th> <th>200</th> <th>270</th> </tr> <tr> <td></td> <td>4.76</td> <td>2.00</td> <td>0.42</td> <td>0.25</td> <td>0.075</td> <td>0.053</td> </tr> <tr> <td>BOULDER (BLDR.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>COBBLE (COB.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>GRAVEL (GR.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>COARSE SAND (CSE. SD.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FINE SAND (F SD.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SILT (SL.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CLAY (CL.)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>GRAIN SIZE</td> <td>305</td> <td>75</td> <td>2.0</td> <td>0.25</td> <td>0.05</td> <td>0.005</td> </tr> <tr> <td>MM</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>IN.</td> <td>12</td> <td>3</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>

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 | | | | SOIL MOISTURE SCALE (ATTERBERG LIMITS) | FIELD MOISTURE DESCRIPTION | GUIDE FOR FIELD MOISTURE DESCRIPTION | LL - LIQUID LIMIT | - SATURATED - (SAT.) | USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE | PL - PLASTIC LIMIT | - WET - (W) | SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE | OM - OPTIMUM MOISTURE SHRINKAGE LIMIT | - MOIST - (M) | SOLID; AT OR NEAR OPTIMUM MOISTURE | SL - SHRINKAGE LIMIT | - DRY - (D) | REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| SOIL MOISTURE SCALE (ATTERBERG LIMITS)

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| LL - LIQUID LIMIT

 | - SATURATED - (SAT.) | USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| PL - PLASTIC LIMIT

 | - WET - (W) | SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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 | - MOIST - (M) | SOLID; AT OR NEAR OPTIMUM MOISTURE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| SL - SHRINKAGE LIMIT

 | - DRY - (D) | REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>NON PLASTIC</th> <th>PLASTICITY INDEX (PI)</th> <th>DRY STRENGTH</th> </tr> <tr> <td>SLIGHTLY PLASTIC</td> <td>0-5</td> <td>VERY LOW</td> </tr> <tr> <td>MODERATELY PLASTIC</td> <td>6-15</td> <td>SLIGHT</td> </tr> <tr> <td>HIGHLY PLASTIC</td> <td>16-25</td> <td>MEDIUM</td> </tr> <tr> <td></td> <td>26 OR MORE</td> <td>HIGH</td> </tr> </table>

 | | | | NON PLASTIC | PLASTICITY INDEX (PI) | DRY STRENGTH | SLIGHTLY PLASTIC | 0-5 | VERY LOW | MODERATELY PLASTIC | 6-15 | SLIGHT | HIGHLY PLASTIC | 16-25 | MEDIUM | | 26 OR MORE | HIGH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <p>DESCRIPTIONS MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY). MODIFIERS SUCH AS LIGHT, DARK, STREAKED, ETC. ARE USED TO DESCRIBE APPEARANCE.</p>

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| <p>WELL GRADED - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE.
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| <p>THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.</p>

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| <p>MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC. ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.</p>

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| <p>SLIGHTLY COMPRESSIBLE LL < 31
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| PERCENTAGE OF MATERIAL

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| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>ORGANIC MATERIAL</th> <th>GRANULAR SOILS</th> <th>SILT - CLAY SOILS</th> <th>OTHER MATERIAL</th> </tr> <tr> <td>TRACE OF ORGANIC MATTER</td> <td>2 - 3%</td> <td>3 - 5%</td> <td>TRACE 1 - 10%</td> </tr> <tr> <td>LITTLE ORGANIC MATTER</td> <td>3 - 5%</td> <td>5 - 12%</td> <td>LITTLE 10 - 20%</td> </tr> <tr> <td>MODERATELY ORGANIC</td> <td>5 - 10%</td> <td>12 - 20%</td> <td>SOME 20 - 35%</td> </tr> <tr> <td>HIGHLY ORGANIC</td> <td>> 10%</td> <td>> 20%</td> <td>HIGHLY 35% AND ABOVE</td> </tr> </table>

 | | | | ORGANIC MATERIAL | GRANULAR SOILS | SILT - CLAY SOILS | OTHER MATERIAL | TRACE OF ORGANIC MATTER | 2 - 3% | 3 - 5% | TRACE 1 - 10% | LITTLE ORGANIC MATTER | 3 - 5% | 5 - 12% | LITTLE 10 - 20% | MODERATELY ORGANIC | 5 - 10% | 12 - 20% | SOME 20 - 35% | HIGHLY ORGANIC | > 10% | > 20% | HIGHLY 35% AND ABOVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| ORGANIC MATERIAL

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| TRACE OF ORGANIC MATTER

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| HIGHLY ORGANIC

 | > 10% | > 20% | HIGHLY 35% AND ABOVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <p>▽ WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING
 ▼ STATIC WATER LEVEL AFTER 24 HOURS
 ▽ PW PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA
 ○ SPRING OR SEEP</p>

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| MISCELLANEOUS SYMBOLS

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| <p>ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION
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 INFERRED SOIL BOUNDARY
 INFERRED ROCK LINE
 ALLUVIAL SOIL BOUNDARY</p>

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| <p>DIP & DIP DIRECTION OF ROCK STRUCTURES
 SPT TEST BORING
 AUGER BORING
 CORE BORING
 MONITORING WELL
 PIEZOMETER INSTALLATION</p>

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| RECOMMENDATION SYMBOLS

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| <p>UNDERCUT EXCAVATION
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| ABBREVIATIONS

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| <p>AR - AUGER REFUSAL
 BT - BORING TERMINATED
 CL - CLAY
 CPT - COARSE PENETRATION TEST
 CSE - COARSE
 DMT - DILATOMETER TEST
 DPT - DYNAMIC PENETRATION TEST
 e - VOID RATIO
 F - FINE
 FOSS. - FOSSILIFEROUS
 FRAC. - FRACTURED, FRACTURES
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| <p>MED. - MEDIUM
 MICA - MICACEOUS
 MOD. - MODERATELY
 NP - NON PLASTIC
 ORG. - ORGANIC
 PMT - PRESSUREMETER TEST
 SAP. - SAPROLITIC
 SD. - SAND, SANDY
 SL. - SILT, SILTY
 SLI. - SLIGHTLY
 TCR - TRIAXIAL REFUSAL
 w - MOISTURE CONTENT
 V - VERY</p>

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| <p>VST - VANE SHEAR TEST
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| EQUIPMENT USED ON SUBJECT PROJECT

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| <p>DRILL UNITS:
 <input type="checkbox"/> CME-45C
 <input checked="" type="checkbox"/> CME-55
 <input type="checkbox"/> CME-550
 <input type="checkbox"/> VANE SHEAR TEST
 <input type="checkbox"/> PORTABLE HOIST
 <input checked="" type="checkbox"/> D-50</p>

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| <p>ADVANCING TOOLS:
 <input type="checkbox"/> CLAY BITS
 <input type="checkbox"/> 6" CONTINUOUS FLIGHT AUGER
 <input checked="" type="checkbox"/> 8" HOLLOW AUGERS
 <input type="checkbox"/> HARD FACED FINGER BITS
 <input type="checkbox"/> TUNG-CARBIDE INSERTS
 <input type="checkbox"/> CASING <input type="checkbox"/> W/ ADVANCER
 <input type="checkbox"/> TRICONE 3"-4" STEEL TEETH
 <input type="checkbox"/> TRICONE * TUNG-CARB.
 <input type="checkbox"/> CORE BIT</p>

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| <p>HAMMER TYPE:
 <input checked="" type="checkbox"/> AUTOMATIC <input type="checkbox"/> MANUAL
 CORE SIZE:
 <input type="checkbox"/> -B <input type="checkbox"/> -H <input type="checkbox"/> -N
 HAND TOOLS:
 <input type="checkbox"/> POST HOLE DIGGER
 <input checked="" type="checkbox"/> HAND AUGER
 <input checked="" type="checkbox"/> SOUNDING ROD
 <input type="checkbox"/> VANE SHEAR TEST</p>

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| ROCK DESCRIPTION

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| <p>HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED, AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL. SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN REPRESENTED BY A ZONE OF WEATHERED ROCK. ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:</p>

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| <p>WEATHERED ROCK (WR)
 CRYSTALLINE ROCK (CR)
 NON-CRYSTALLINE ROCK (NCR)
 COASTAL PLAIN SEDIMENTARY ROCK (CP)</p>

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| <p>NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.
 FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.
 FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.
 COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.</p>

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| <p>FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.
 VERY SLIGHT (V SLI.) ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN. CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY. ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.
 SLIGHT (SLI.) ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO 1 INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.
 MODERATE (MOD.) SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN 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 WITH FRESH ROCK.
 MODERATELY SEVERE (MOD. SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. IN GRANITOID ROCKS, ALL FELDSPARS DULL AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION. ROCK SHOWS SEVERE LOSS OF STRENGTH AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES "CLUNK" SOUND WHEN STRUCK. IF TESTED, WOULD YIELD SPT REFUSAL
 SEVERE (SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN. IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF
 VERY SEVERE (V SEV.) ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC ELEMENTS ARE DISCERNIBLE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK REMAINING. SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF
 COMPLETE ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS ALSO AN EXAMPLE.</p>

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| <p>VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
 HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.
 MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.
 MEDIUM HARD CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.
 SOFT CAN BE GROOVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE.
 VERY SOFT CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGER NAIL.</p>

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 | | | | TERM | SPACING | TERM | THICKNESS | VERY WIDE | MORE THAN 10 FEET | VERY THICKLY BEDDED | 4 FEET | WIDE | 3 TO 10 FEET | THICKLY BEDDED | 1.5 - 4 FEET | MODERATELY CLOSE | 1 TO 3 FEET | THINLY BEDDED | 0.16 - 1.5 FEET | CLOSE | 0.16 TO 1 FOOT | VERY THINLY BEDDED | 0.03 - 0.16 FEET | VERY CLOSE | LESS THAN 0.16 FEET | THICKLY LAMINATED | 0.008 - 0.03 FEET | | | THINLY LAMINATED | < 0.008 FEET | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <p>FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.
 FRIABLE RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
 MODERATELY INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
 INDURATED GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
 EXTREMELY INDURATED SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.</p>

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| TERMS AND DEFINITIONS

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| <p>ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
 AQUIFER - A WATER BEARING FORMATION OR STRATA.
 ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
 ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.
 ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.
 CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
 COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.
 CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
 DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.
 DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.
 DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.
 FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.
 FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.
 FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLOGGED FROM PARENT MATERIAL.
 FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
 FORMATION (FM) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.
 JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
 LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.
 LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
 MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.
 PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.
 RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
 ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
 SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.
 SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.
 SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.
 STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.
 STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
 STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
 TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.</p>

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| BENCH MARK: ELEVATIONS DETERMINED FROM PROVIDED ELECTRONIC FILES (r4707_ls_tin_180531.tin)

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| F.I.A.D. - FILLED IMMEDIATELY AFTER DRILLING

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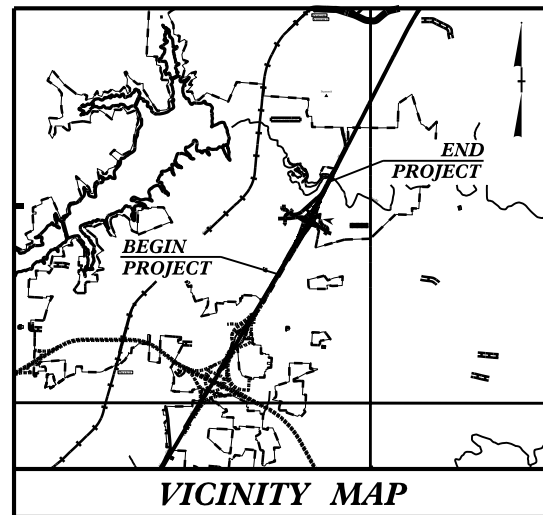
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-4707	3	130
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
36599.1.5	NA	PE	

25% PLANS

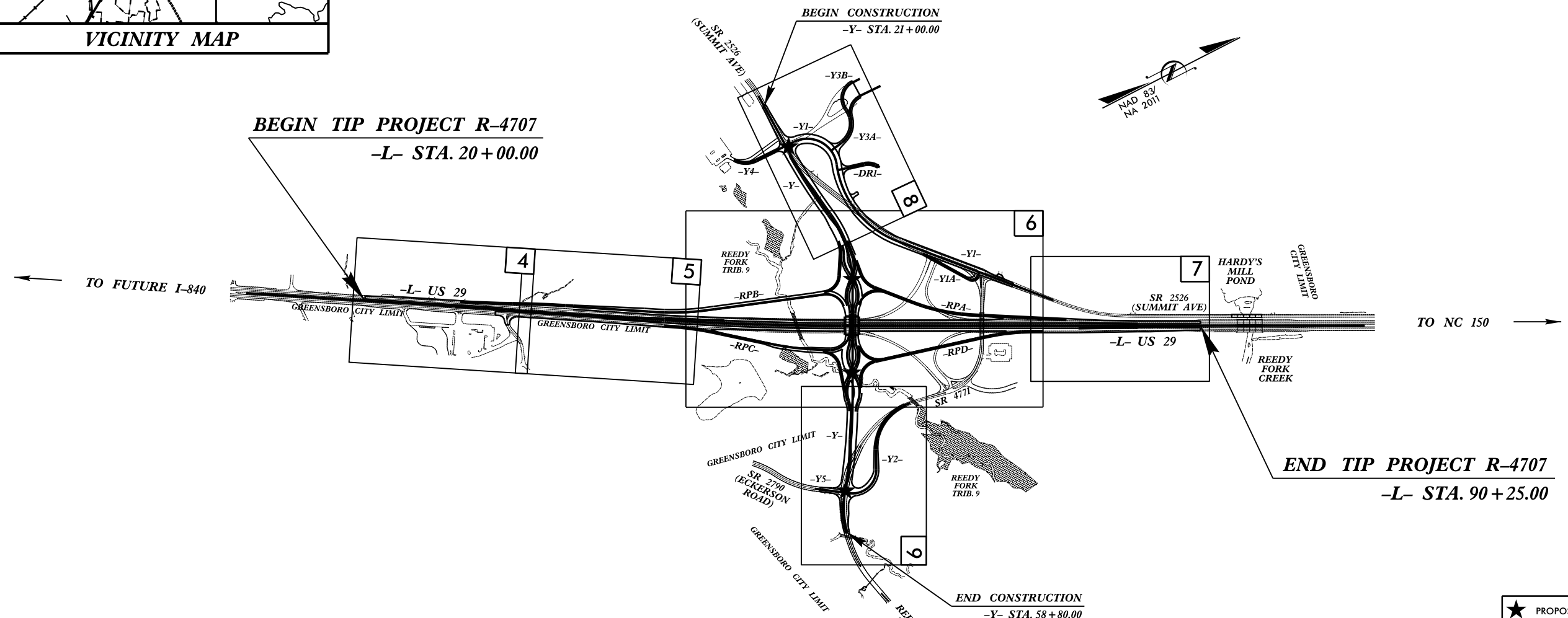
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GUILFORD COUNTY

LOCATION: US 29 AND SR 4771 (REEDY FORK PARKWAY)
INTERCHANGE IMPROVEMENTS; IMPROVE ROADWAY,
MODIFY INTERCHANGE AND REPLACE BRIDGE 360
TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNALS AND STRUCTURE



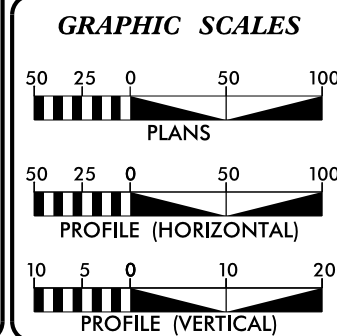
TIP PROJECT: R-4707



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD ____.
THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
A PORTION OF THIS PROJECT IS LOCATED WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF GREENSBORO.

★ PROPOSED SIGNAL
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

CONTRACT:



DESIGN DATA

ADT 2020 =	40,200
ADT 2040 =	49,000
K =	9 %
D =	60 %
T =	18 % *
V =	60 MPH
* TTST = 9% + DUAL 9%	
FUNC CLASS =	FUTURE INTERSTATE
STATEWIDE TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-4707	=	1.330 MILES
LENGTH STRUCTURE TIP PROJECT R-4707	=	0.029 MILES
TOTAL LENGTH TIP PROJECT R-4707	=	1.359 MILES

Prepared for NCDOT In the Office of:

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Raleigh, North Carolina 27601
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NC License No. F-1235

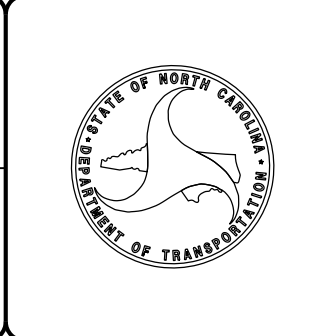
2018 STANDARD SPECIFICATIONS	RICK DECOLA, PE PROJECT ENGINEER
RIGHT OF WAY DATE: MARCH 15, 2019	TRAVIS COOK, PE PROJECT DESIGN ENGINEER
LETTING DATE: JUNE 16, 2020	LAURA SUTTON, PE NCDOT CONTACT

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



08-FEB-2019 12:44 P:\Transportation\Projects\Road\NC-DOT\2018\R-4707 - Reedy Fork Parkway - 6468-18-8042\6.0 Deliverables\CADD_GEO\TECH\Site&Sub\R4707_GEO_inv_tsh.dgn paul.zhang AT MC039903



January 25, 2019

WBS Number: 36599.1.5
 TIP Number: R-4707
 COUNTY: Guilford
 DESCRIPTION: US 29 and SR 4771 (Reedy Fork Parkway) Interchange Improvements
 WOOD E&IS Number: 6468188042

SUBJECT: Geotechnical Inventory Report

-Y1A- 26+50 to 31+96
 -Y2- 10+50 to 20+28
 -Y3A- 11+90 to 17+20
 -Y3B- 10+65 to 14+03
 -Y4- 10+00 to 14+65
 -Y5- 10+25 to 12+10
 -DR1- 10+15 to 13+27

Project Description

The project consists of proposed interchange improvements for the SR 4771 (Reedy Fork Parkway) interchange with US 29, located approximately 8.3 miles northeast of downtown Greensboro in Guilford County. The proposed new interchange will be a diverging diamond interchange design on new alignment crossing over existing US 29 (-L-) and to be constructed southwest of the existing interchange ramps, loops, and bridge. Reedy Fork Parkway (-Y-) will be realigned south of the existing interchange. Summit Avenue (-Y1-) will be realigned to accommodate the new interchange, as well as the creation of new driveways, entrances, and access roads for adjoining commercial properties (-Y2-, -Y3A-, Y3B-, -Y4-, -Y5-, and -DR1-). Minor improvements to the shoulders, including widening, and widening of the median is proposed for -L- within the project corridor. The project includes construction of a new bridge to carry Reedy Fork Parkway over US 29 as well as new culverts and extensions to existing culverts where the project alignments cross the tributary to Reedy Fork and were not part of this investigation.

The geotechnical field investigation for the roadway portion of the project was conducted during May to August 2018. Three ATV type drill machines, a Diedrich D-50, a CME-550X, and a CME-55, all equipped with automatic hammers were used during the investigation. Hollow-stem auger drilling procedures were used to advance borings to the required depths. Standard Penetration Tests (SPT) were performed at approximately 2.5-foot to 5.0-foot intervals to termination in selected borings. Hand auger borings were performed to investigate areas that could not be accessed with drilling equipment due to site constraints. Hand auger borings were typically advanced to depths ranging from six to eight feet. Representative soil samples were collected for visual classification in the field and selected samples were submitted for laboratory analysis.

The following alignments, totalling approximately 5.0 miles, were explored. Subsurface profiles and/or cross sections of these alignments are included in this report.

<u>Alignment</u>	<u>Station (±)</u>
-L-	20+00 to 90+25
-Y-	21+00 to 58+80
-RPA-	10+00 to 27+73
-SPA-	25+49 to 28+95
-RPB-	10+00 to 42+79
-SPB-	40+71 to 45+74
-RPC-	10+00 to 25+32
-SPC-	23+50 to 27+30
-RPD-	10+00 to 26+13
-SPD-	23+63 to 26+74
-Y1-	10+00 to 34+50

Areas of Special Geotechnical Interest

- 1) Highly Plastic Clays: Highly plastic clays (PI>25) were encountered on the project at the following locations.

<u>Line</u>	<u>Stations (±)</u>	<u>Offsets (ft.)</u>
-Y-	21+00 to 24+75	LT
-Y-	27+50 to 29+00	LT to RT
-Y-	30+75 to 33+25	LT to RT
-Y-	35+25 to 36+00	LT
-Y-	36+00 to 38+75	LT to RT
-Y-	48+27 to 53+50	LT to RT
-Y-	53+50 to 56+50	LT
-RPA-	14+84 to 16+50	LT to RT
-SPA-	25+49 to 29+89	LT to RT
-RPB-	26+92 to 31+31	LT to RT
-RPB-	32+75 to 35+23	LT to RT
-SPB-	40+71 to 45+74	LT to RT
-RPC-	12+50 to 17+27	LT to RT
-RPD-	12+50 to 15+96	LT to RT
-Y1-	10+00 to 11+75	LT to RT
-Y1-	24+00 to 34+50	LT to RT
-Y1A-	26+50 to 32+16	LT to RT
-Y2-	14+60 to 20+67	LT to RT
-DR1-	10+15 to 12+50	LT to RT

- 2) Soft Fine Grained Soils: The following sections contain soft, typically fine grained/cohesive soils which have the potential to cause embankment/subgrade and/or slope stability problems during construction.

<u>Line</u>	<u>Stations (±)</u>	<u>Offsets (ft.)</u>
-Y-	44+20 to 45+91	LT to RT
-RPB-	15+22 to 15+92	LT
-RPB-	16+91 to 17+13	LT
-RPB-	19+89 to 20+36	LT
-RPB-	36+05 to 38+85	LT to RT
-RPC-	19+70 to 24+50	LT to RT
-SPC-	23+50 to 26+48	LT to RT
-SPD-	25+14 to 27+09	LT to RT



- 3) **Crystalline Rock:** The crystalline rock on this project consists of metamorphosed gabbro and was encountered within 6 feet of proposed grades at the following locations:

<u>Line</u>	<u>Stations (±)</u>	<u>Offsets (ft.)</u>
-RPB-	33+80 to 34+18	LT to RT
-Y2-	12+00 to 14+31	LT to RT

Excavation of crystalline rock may require blasting (for further details see the discussion of Rock Properties below).

- 4) **Artificial Fill:** Artificial fill was encountered at the following locations:

<u>Line</u>	<u>Stations (±)</u>	<u>Offsets (ft.)</u>
-Y-	21+00 to 24+00	LT
-RPD-	10+00 to 14+75	RT
-Y1A-	10+50 to 12+00	LT

Several smaller areas of artificial fill are present throughout the project corridor and are related to gravel and soil driveways or previous infrastructure construction.

- 5) **Organic Soils:** The following areas were found to contain soils with organic content greater than 3%:

<u>Line</u>	<u>Stations (±)</u>	<u>Offsets (ft.)</u>
-Y-	44+20 to 45+91	LT to RT
-RPB-	36+05 to 38+85	LT to RT
-RPC-	19+70 to 24+50	LT to RT
-SPC-	23+50 to 26+48	LT to RT
-SPD-	25+14 to 27+09	LT to RT

- 6) **Ground Water:** The following areas exhibit a high water table, seasonal high ground water or the potential for ground water related construction problems:

<u>Line</u>	<u>Stations (±)</u>	<u>Offsets (ft.)</u>
-Y-	43+00 to 46+00	LT to RT
-RPB-	36+44 to 38+84	LT to RT
-RPC-	19+72 to 25+50	LT to RT
-SPC-	23+50 to 26+48	LT to RT
-SPD-	25+14 to 27+09	LT to RT

- 7) **Ponds:** Three ponds occur on or within close proximity to the right of way on this project at the following locations:

<u>Line</u>	<u>Station (±)</u>	<u>Offset (ft.)</u>
-L-	48+34 to 53+97	300 RT to 817 RT
-L-	75+03 to 95+40	412 LT to 796 LT
-Y4-	14+65 to 15+47	37 LT to 101 LT

Physiography and Geology

The project site is located within the Piedmont Physiographic Province. The topography along the project is irregular with gently rolling hills dissected with steep sided drainage areas. A tributary to Reedy Fork crosses the southern portion of the site and flows in an east to northeast direction. Elevations along the project alignments range from 684± feet in the floodplain adjacent to the tributary to Reedy Fork to 807± feet on the southern end of the project. Surface waters from this area are generally collected in ditches and flow into the tributary to Reedy Fork, which joins with Reedy Fork to the northeast of the project site. A mixture of commercial properties, farmland, and woods occur along the project corridor.

Geologically, the project is located within the Carolina Slate Belt. Residual soils within the Carolina Slate Belt are derived from in-situ weathering of the underlying metamorphosed granitic intrusions. Rocks in this belt are generally foliated to massive, and trend in a northeasterly direction. Alluvial soils are restricted to areas in and around stream crossings, major drainage features, and ponds.

Soil Properties

Soils encountered during this investigation have been divided into four categories based on origin, including roadway embankment, artificial fill, alluvial, and residual soils.

Roadway embankment soils are present along existing US 29 (-L-) and intersecting ramps, loops, and -Y- lines and consist of red, orange, brown, and tan, medium stiff to stiff, dry to moist, sandy and silty clay (A-6, A-7-5, A-7-6) and sandy and clayey silt (A-4), typically with trace gravel. These soils exhibit low to high plasticity with plastic indices from 13 to 29.

Artificial fill soils are present locally along the project corridor. These areas are listed in "Areas of Special Geotechnical Interest." Artificial fill is soil fill material placed outside the roadway embankment by entities other than the NCDOT, typically for commercial infrastructure or construction purposes. The artificial fill, where encountered, consists of red, orange, and brown, soft to stiff, dry to moist, sandy and silty clay (A-6) and clayey silt (A-4), typically with trace gravel. These soils typically exhibit low plasticity.

Alluvial soils are present in the floodplain of the tributary to Reedy Fork as well as several small drainages that intersect the project corridor. The alluvial soils encountered primarily consist of red, orange, brown, tan, and gray, very soft to stiff, moist to wet, sandy, silty clay (A-6, A-7-6) and clayey silt (A-4) and very loose to dense, moist to wet, silty, fine to coarse sand and gravel (A-2-4, A-3, A-1-b). Samples of these soils were observed to contain trace to little amounts of organic matter (3.5% to 5.5%) and exhibit low to moderate plasticity with plastic indices from 2 to 18. The floodplain of the tributary to Reedy Fork varies in width and ranges from approximately 240 feet to 475 feet wide where it crosses the project alignments -L-, -Y-, -RPB-, -RPC-, -SPC-, and -SPD-.

Residual soils are derived from the weathering of the underlying metamorphosed igneous intrusions. These soils consist of red, orange, yellow, brown, tan, white, gray, green, and black, soft to hard, dry to wet, silty clay (A-6, A-7-5, A-7-6) and clayey silt (A-4, A-5), locally with fine to coarse sand and relic quartz vein rock fragments. Smaller amounts of tan, orange, brown, gray, and greenish gray, medium dense to very dense, dry to wet, silty, fine to coarse sand (A-2-4), locally with weathered rock fragments, was encountered in some of the borings. The surficial residual silty clays exhibit low to high plasticity with plastic indices from 11 to 40. Samples of these soils typically exhibit saprolitic structure.

Rock Properties

Weathered rock and crystalline rock occur in several areas of the project. The weathered rock and crystalline rock encountered on this project were identified by SPT sampling and/or auger refusal as no rock coring was performed for the roadway investigation. Where encountered, the weathered rock and crystalline rock consists of tan, brown, gray, and greenish gray metamorphosed gabbro. The depth to weathered rock ranged from 5.5 to 31.0 feet and the elevation for the top of weathered rock ranged from 761.9 feet to 656.8 feet. The depth to crystalline rock ranged from 5.0 to 33.5 feet and the elevation for the top of crystalline rock ranged from 760.9 feet to 654.3 feet. Areas of crystalline rock within 6 feet of proposed grades are listed in "Areas of Special Geotechnical Interest."


Ground Water

Ground water was encountered in less than 25 percent of the completed borings. Areas that exhibit high groundwater are listed in "Areas of Special Geotechnical Interest." Ground water is generally shallow in the alluvial and residual soils encountered in the floodplain of the tributary to Reedy Fork and occurs within 3.0± to 6.0± feet of existing ground surface, with ground water elevations ranging from 684.5 feet to 676.8 feet, at these locations. Ground water levels may fluctuate with seasonal precipitation.

Ponds

Several ponds are found on or near the project right of way. These ponds are listed by alignment, station, and offsets in the "Areas of Special Geotechnical Interest". None of these ponds was found to cross any of the project alignments. Standing water was observed in the flood plain associated with the tributary to Reedy Fork, adjacent to the -RPC- alignment, in areas of proposed fill.

Prepared By,

DocuSigned by:

 080B6C28A029442
 Michael B. Lear, PG
 Senior Geologist

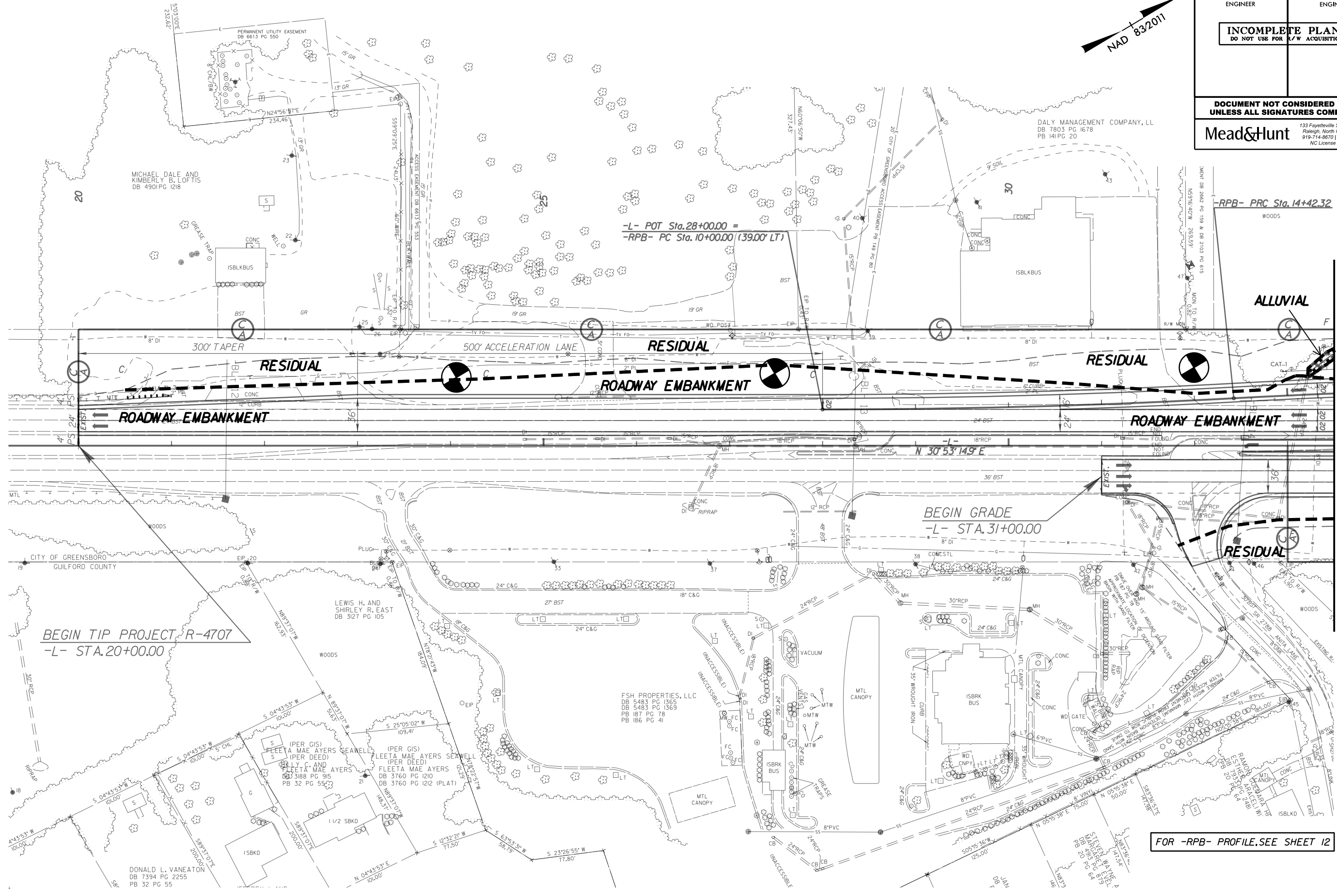
UNDISTURBED SAMPLES

The following undisturbed samples were taken for tests to determine the engineering properties of the soil:

<u>Sample No.</u>	<u>Location</u>	<u>Depth (ft)</u>	<u>Test</u>
ST-1	-Y-, 43+43, 57' RT	4.0 – 6.0	Consolidation
ST-3	-RPB-, 38+21, 4' LT	4.0 – 6.0	Consolidation
ST-2	-RPC-, 23+92, CL	3.0 – 5.0	Consolidation
ST-4	-RPD-, 14+17, 72' LT	8.0 – 10.0	Consol./Triaxial Shear



PROJECT REFERENCE NO. R-4707	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
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BEGIN TIP PROJECT R-4707
-L- STA. 20+00.00

-L- POT Sta. 28+00.00 =
-RPB- PC Sta. 10+00.00 (39.00' LT)

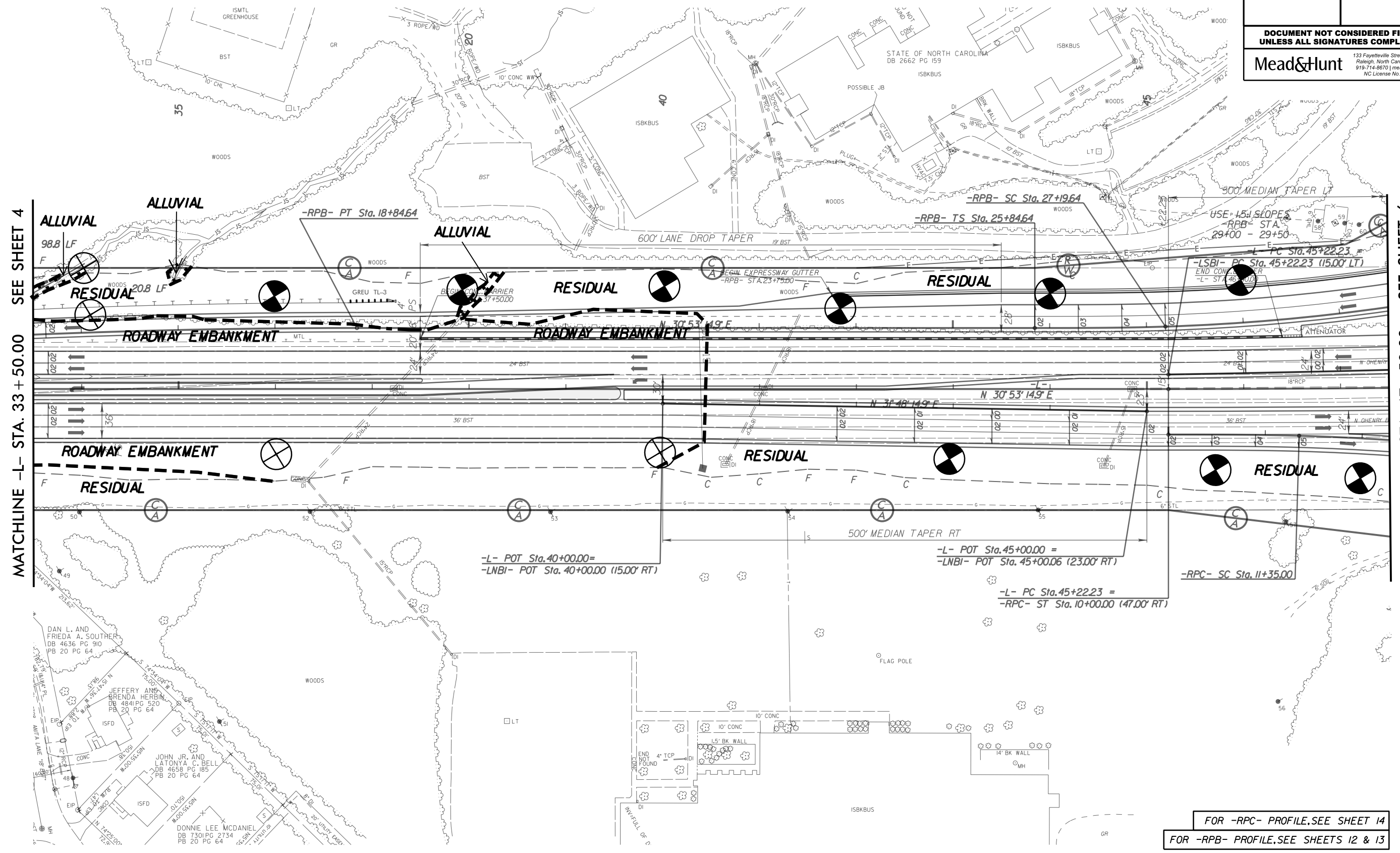
BEGIN GRADE
-L- STA. 31+00.00

FOR -RPB- PROFILE, SEE SHEET 12

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MATCHLINE -L- STA. 33 + 50.00 SEE SHEET 5

PROJECT REFERENCE NO. R-4707	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
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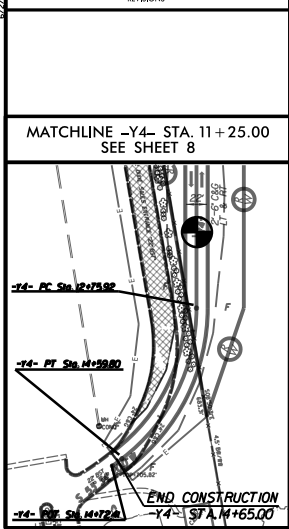
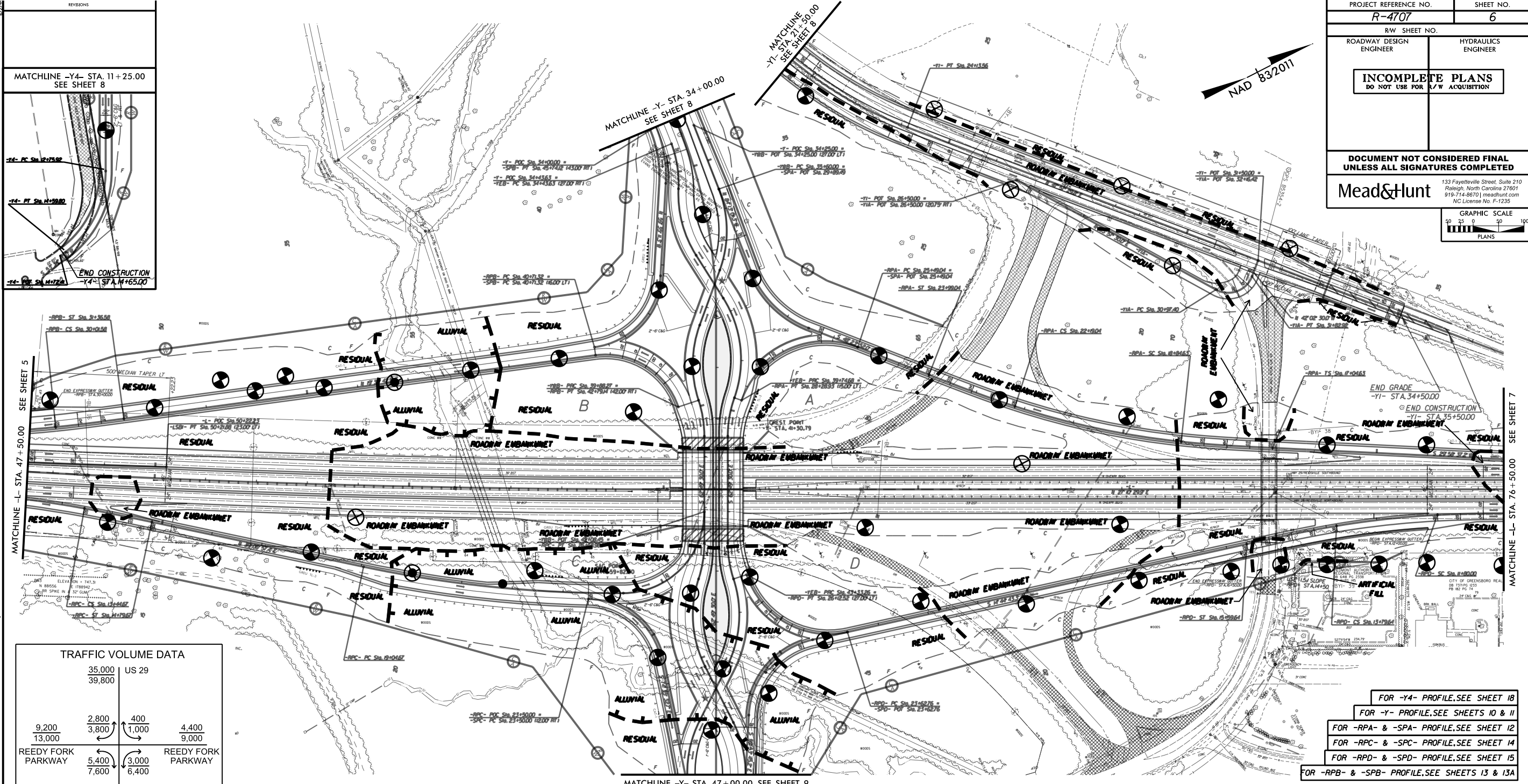
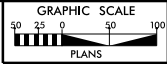
MATCHLINE -L- STA. 33 + 50.00 SEE SHEET 4

MATCHLINE -L- STA. 47 + 50.00 SEE SHEET 6

FOR -RPC- PROFILE, SEE SHEET 14
FOR -RPB- PROFILE, SEE SHEETS 12 & 13

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PROJECT REFERENCE NO. R-4707	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
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MATCHLINE -L- STA. 47+50.00 SEE SHEET 5

MATCHLINE -L- STA. 76+50.00 SEE SHEET 7

	35,000	US 29	
	39,800		
	2,800	400	4,400
	3,800	1,000	9,000
REEDY FORK PARKWAY	5,400	3,000	6,400
	7,600	6,400	
2020 AADT	40,200	US 29	
2040 AADT	49,000		

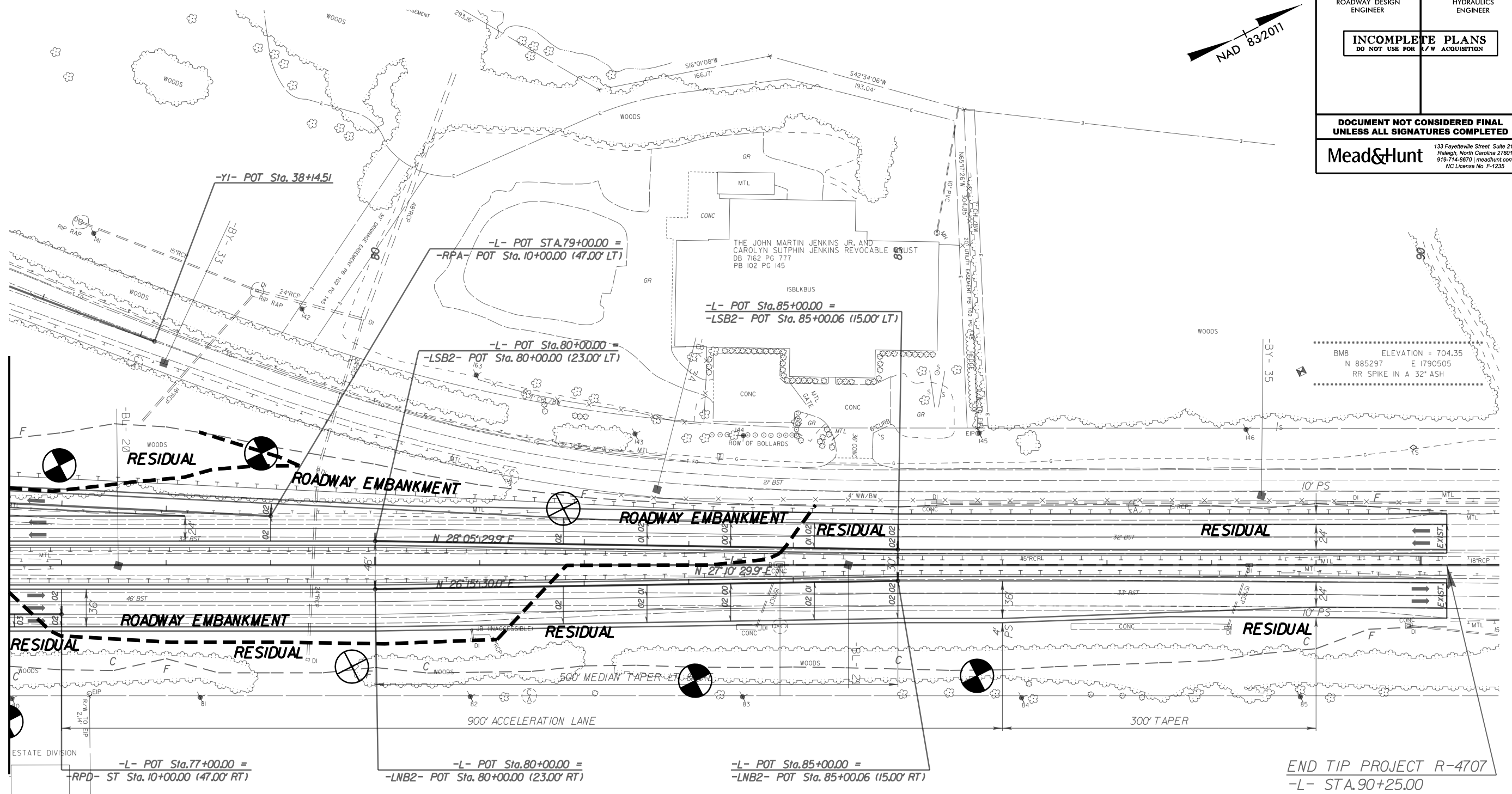
- FOR -Y4- PROFILE, SEE SHEET 18
- FOR -Y- PROFILE, SEE SHEETS 10 & 11
- FOR -RPA- & -SPA- PROFILE, SEE SHEET 12
- FOR -RPC- & -SPC- PROFILE, SEE SHEET 14
- FOR -RPD- & -SPD- PROFILE, SEE SHEET 15
- FOR -RPB- & -SPB- PROFILE, SEE SHEETS 13 & 13A

MATCHLINE -Y- STA. 47+00.00 SEE SHEET 9

PROJECT REFERENCE NO. R-4707	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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MATCHLINE -L- STA. 76 + 50.00 SEE SHEET 6

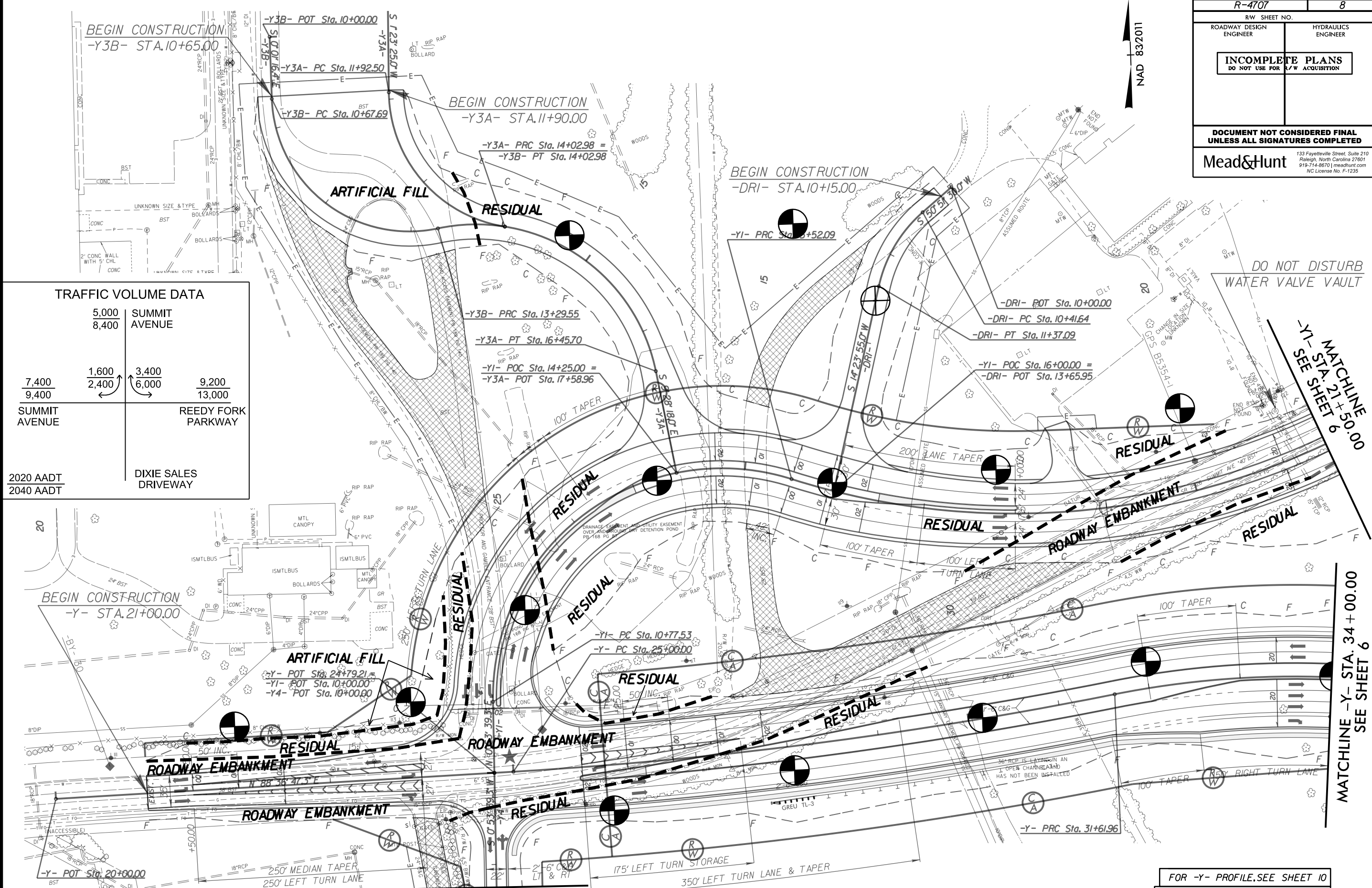


END TIP PROJECT R-4707
-L- STA. 90+25.00

FOR -RPA- PROFILE, SEE SHEET 11
FOR -RPD- PROFILE, SEE SHEET 15

25-JAN-2019 15:21 P:\Transportation\Projects\Road\NC-DOT\2018\4707 - Reedy Fork Parkway - 6468-18-8042\6.0 Deliverables\CADD\GEO\TECH\Plan\Prof\4707_GEO_inv_07.dgn

PROJECT REFERENCE NO. R-4707	SHEET NO. 8
RW SHEET NO.	
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TRAFFIC VOLUME DATA

5,000	SUMMIT AVENUE
8,400	
1,600	3,400
2,400	6,000
7,400	9,200
9,400	13,000
SUMMIT AVENUE	REEDY FORK PARKWAY
2020 AADT	DIXIE SALES DRIVEWAY
2040 AADT	

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 8/17/18

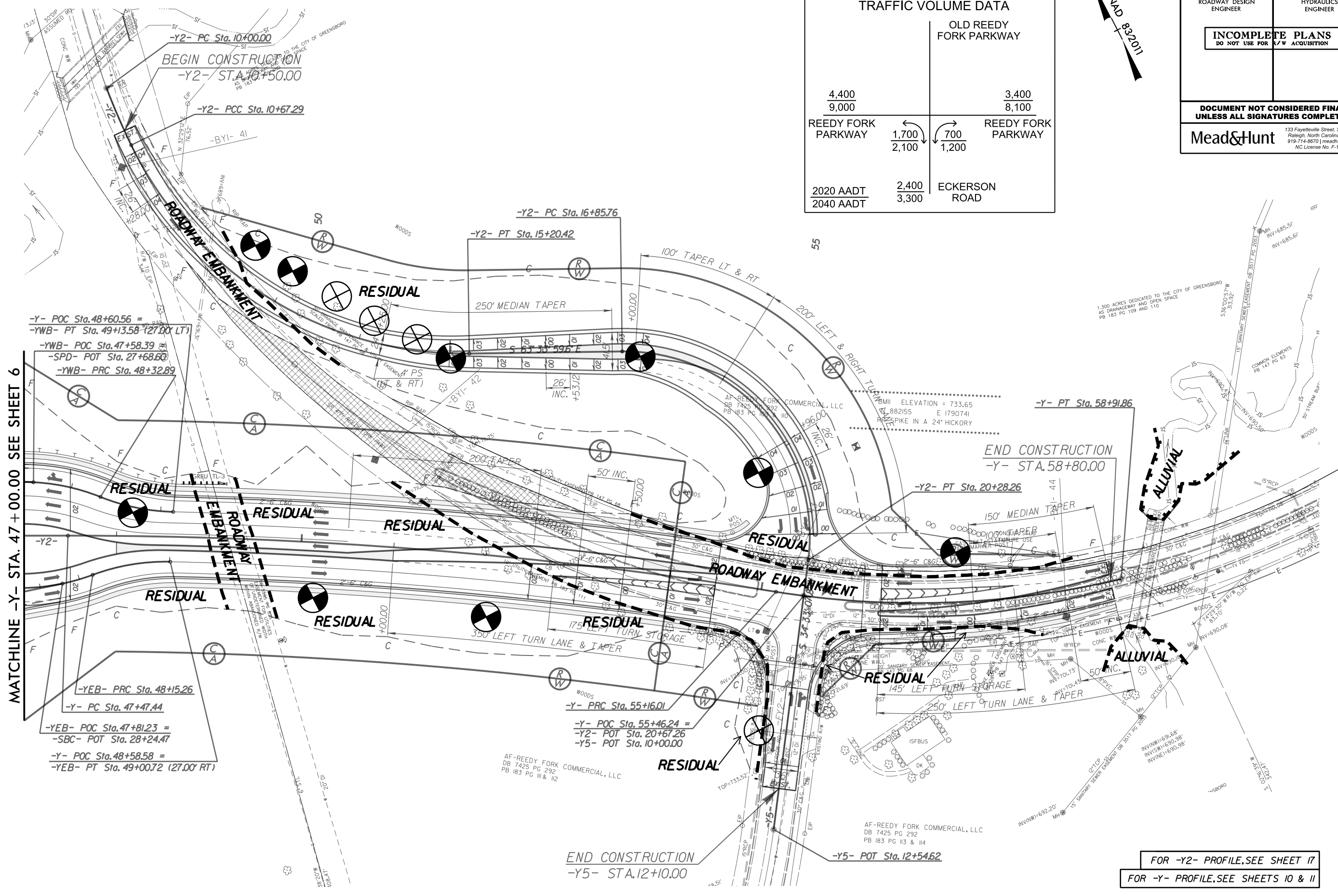
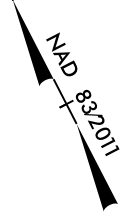
MATCHLINE
-Y4- STA. 11+25.00
SEE INSET ON SHEET 6

MATCHLINE -Y- STA. 34+00.00
SEE SHEET 6

FOR -Y- PROFILE, SEE SHEET 10
 FOR -Y1- PROFILE, SEE SHEET 16
 FOR -Y4- PROFILE, SEE SHEET 18

PROJECT REFERENCE NO. R-4707	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Mead&Hunt	
133 Fayetteville Street, Suite 210 Raleigh, North Carolina 27601 919-714-8670 meadhunt.com NC License No. F-1235	

TRAFFIC VOLUME DATA			
		OLD REEDY FORK PARKWAY	
		4,400 9,000	3,400 8,100
REEDY FORK PARKWAY	← 1,700 2,100	← 700 1,200	REEDY FORK PARKWAY
2020 AADT	2,400	ECKERSON ROAD	
2040 AADT	3,300		



MATCHLINE -Y- STA. 47 + 00.00 SEE SHEET 6

-Y- POC Sta. 48+60.56 =
 -YWB- PT Sta. 49+13.58 (27.00' LT)
 -YWB- POC Sta. 47+58.39 =
 -SPD- POT Sta. 27+68.60
 -YWB- PRC Sta. 48+32.89

-YEB- PRC Sta. 48+15.26
 -Y- PC Sta. 47+47.44
 -YEB- POC Sta. 47+81.23 =
 -SBC- POT Sta. 28+24.47
 -Y- POC Sta. 48+58.58 =
 -YEB- PT Sta. 49+00.72 (27.00' RT)

-Y- PRC Sta. 55+16.01
 -Y- POC Sta. 55+46.24 =
 -Y2- POT Sta. 20+67.26
 -Y5- POT Sta. 10+00.00

AF-REEDY FORK COMMERCIAL, LLC
 DB 7425 PG 292
 PB 183 PG 113 & 114

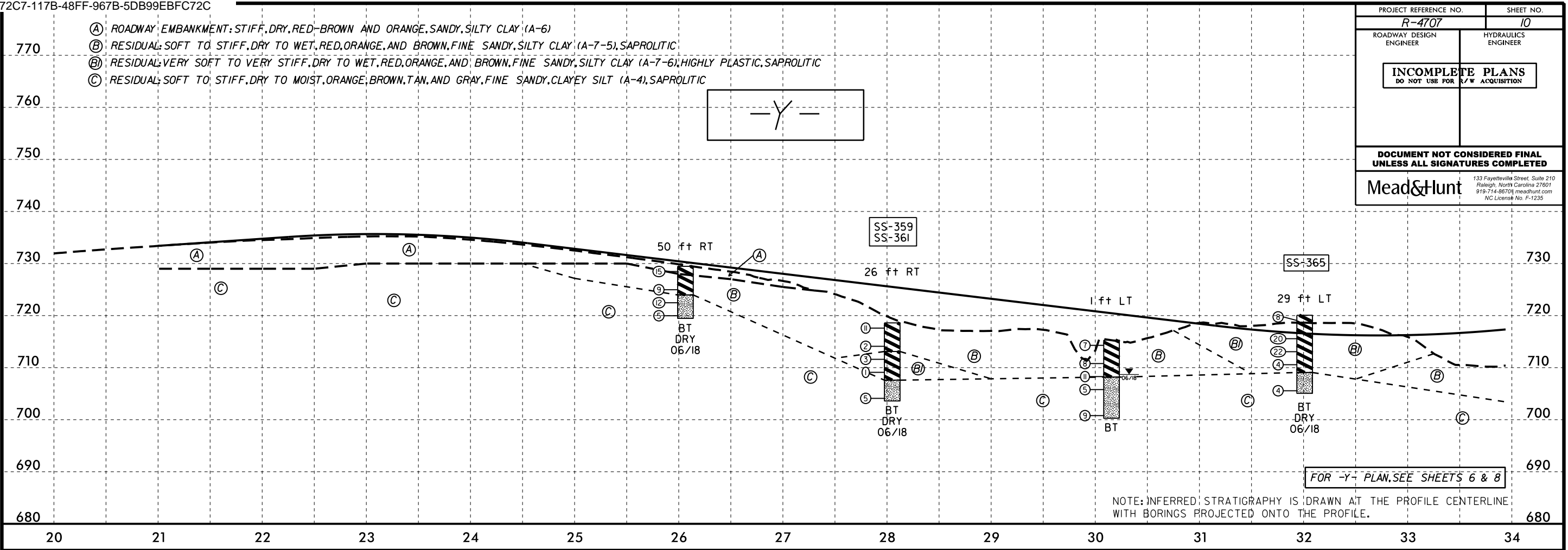
END CONSTRUCTION
 -Y5- STA. 12+10.00

FOR -Y2- PROFILE, SEE SHEET 17
 FOR -Y- PROFILE, SEE SHEETS 10 & 11

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PROJECT REFERENCE NO. R-4707	SHEET NO. 10
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Mead&Hunt	
133 Fayetteville Street, Suite 210 Raleigh, North Carolina 27601 919-774-8870 mead&hunt.com NC License No. F-1235	

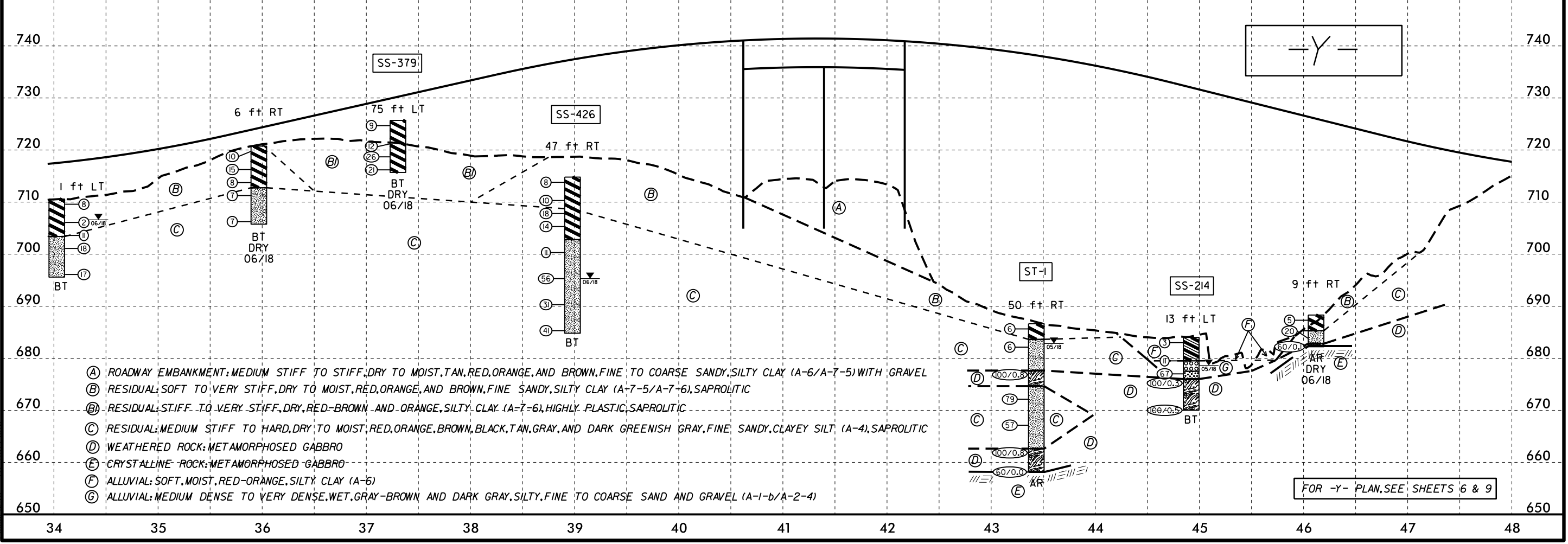
- (A) ROADWAY EMBANKMENT: STIFF, DRY, RED-BROWN AND ORANGE, SANDY, SILTY CLAY (A-6)
- (B) RESIDUAL: SOFT TO STIFF, DRY TO WET, RED, ORANGE, AND BROWN, FINE SANDY, SILTY CLAY (A-7-5), SAPROLITIC
- (B) RESIDUAL: VERY SOFT TO VERY STIFF, DRY TO WET, RED, ORANGE, AND BROWN, FINE SANDY, SILTY CLAY (A-7-6), HIGHLY PLASTIC, SAPROLITIC
- (C) RESIDUAL: SOFT TO STIFF, DRY TO MOIST, ORANGE, BROWN, TAN, AND GRAY, FINE SANDY, CLAYEY SILT (A-4), SAPROLITIC



FOR -Y- PLAN, SEE SHEETS 6 & 8

NOTE: INFERRED STRATIGRAPHY IS DRAWN AT THE PROFILE CENTERLINE WITH BORINGS PROJECTED ONTO THE PROFILE.

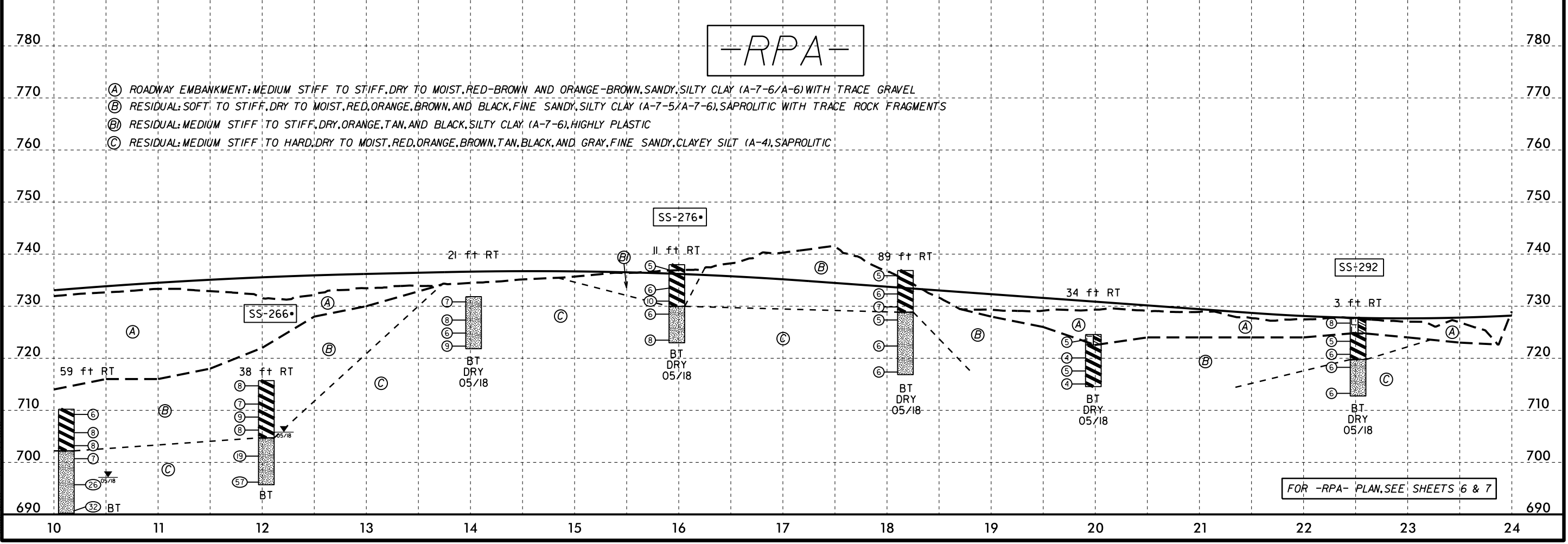
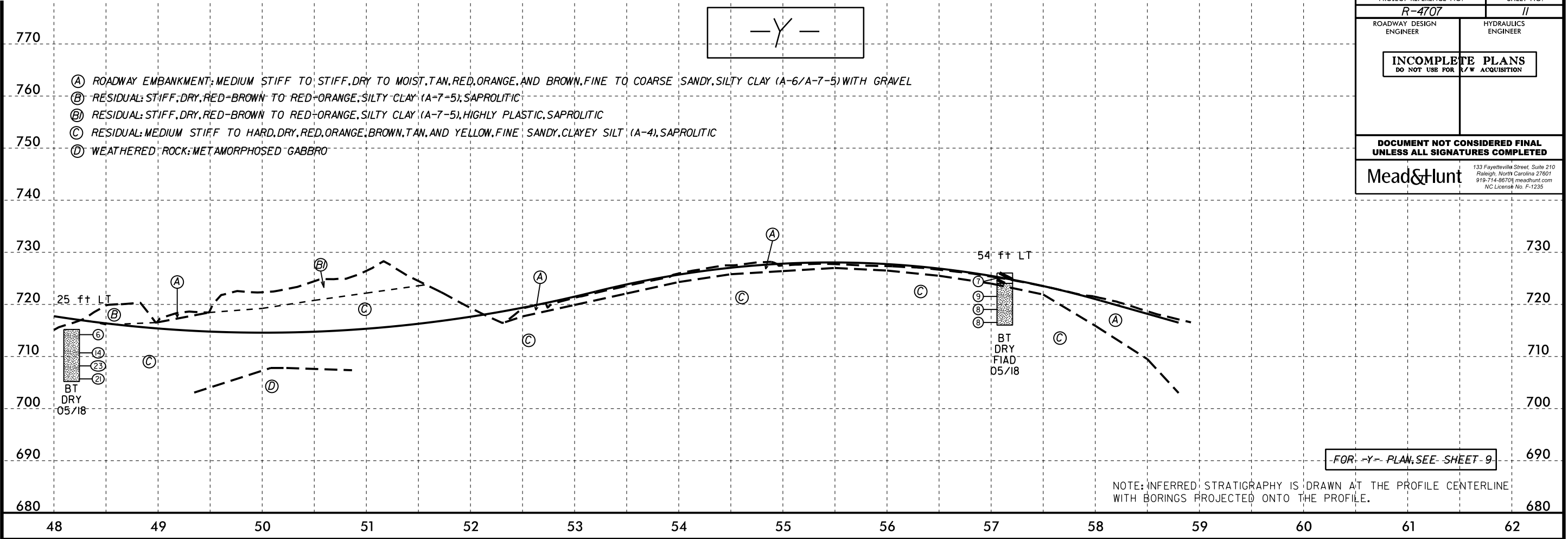
- (A) ROADWAY EMBANKMENT: MEDIUM STIFF TO STIFF, DRY TO MOIST, TAN, RED, ORANGE, AND BROWN, FINE TO COARSE SANDY, SILTY CLAY (A-6/A-7-5) WITH GRAVEL
- (B) RESIDUAL: SOFT TO VERY STIFF, DRY TO MOIST, RED, ORANGE, AND BROWN, FINE SANDY, SILTY CLAY (A-7-5/A-7-6), SAPROLITIC
- (B) RESIDUAL: STIFF TO VERY STIFF, DRY, RED-BROWN AND ORANGE, SILTY CLAY (A-7-6), HIGHLY PLASTIC, SAPROLITIC
- (C) RESIDUAL: MEDIUM STIFF TO HARD, DRY TO MOIST, RED, ORANGE, BROWN, BLACK, TAN, GRAY, AND DARK GREENISH GRAY, FINE SANDY, CLAYEY SILT (A-4), SAPROLITIC
- (D) WEATHERED ROCK: METAMORPHOSED GABBRO
- (E) CRYSTALLINE ROCK: METAMORPHOSED GABBRO
- (F) ALLUVIAL: SOFT, MOIST, RED-ORANGE, SILTY CLAY (A-6)
- (G) ALLUVIAL: MEDIUM DENSE TO VERY DENSE, WET, GRAY-BROWN AND DARK GRAY, SILTY, FINE TO COARSE SAND AND GRAVEL (A-1-b/A-2-4)



FOR -Y- PLAN, SEE SHEETS 6 & 9

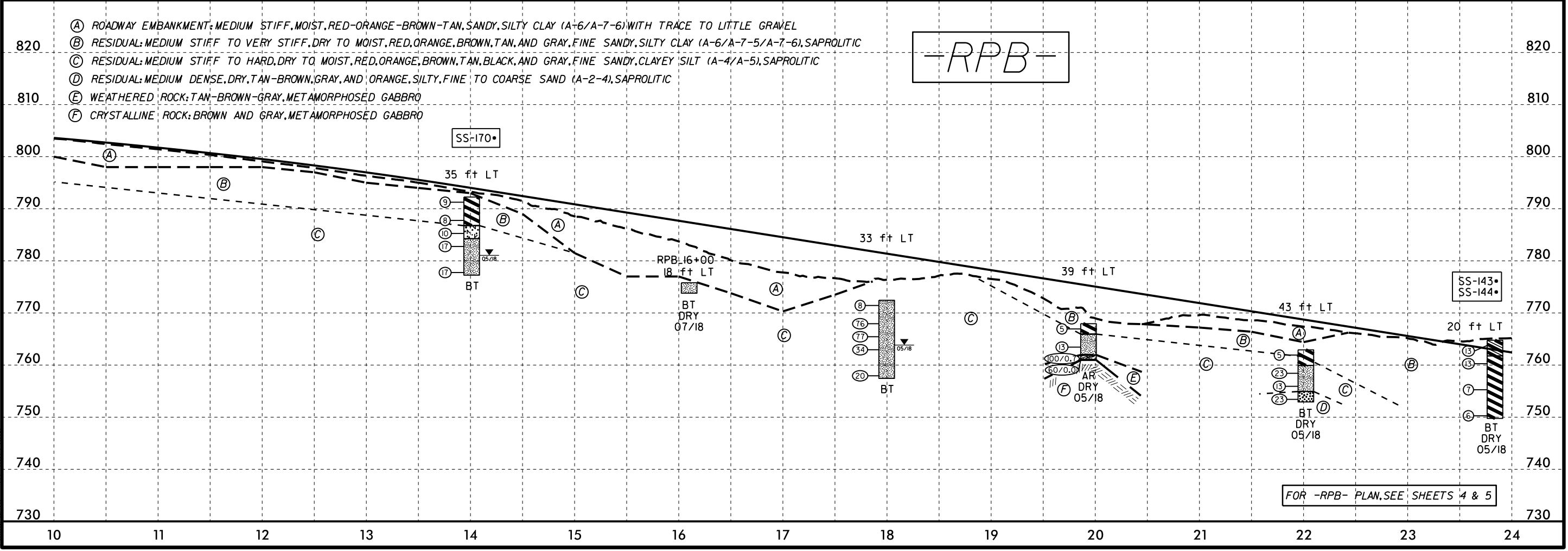
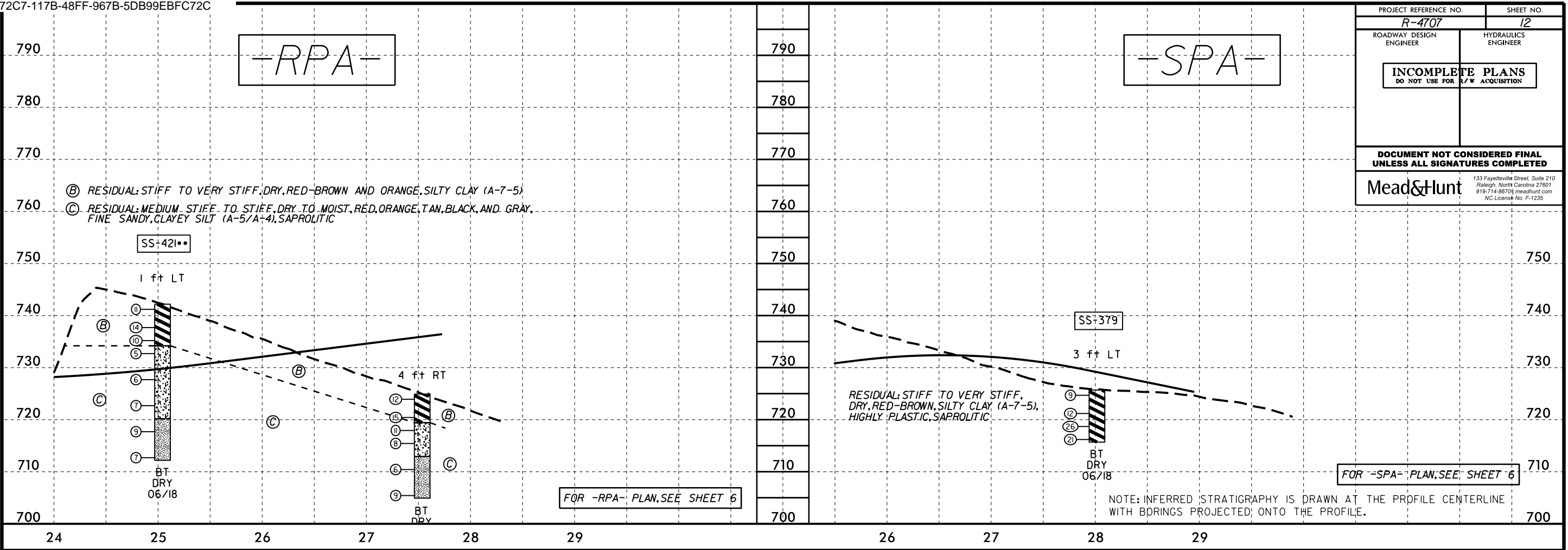
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 5/28/18

PROJECT REFERENCE NO. R-4707	SHEET NO. 11
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Mead&Hunt	
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 5/28/18

PROJECT REFERENCE NO. R-4707	SHEET NO. 12
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Mead&Hunt	
133 Fayetteville Street, Suite 210 Raleigh, North Carolina 27601 919-774-8870 meadandhunt.com NC License No. F-1235	

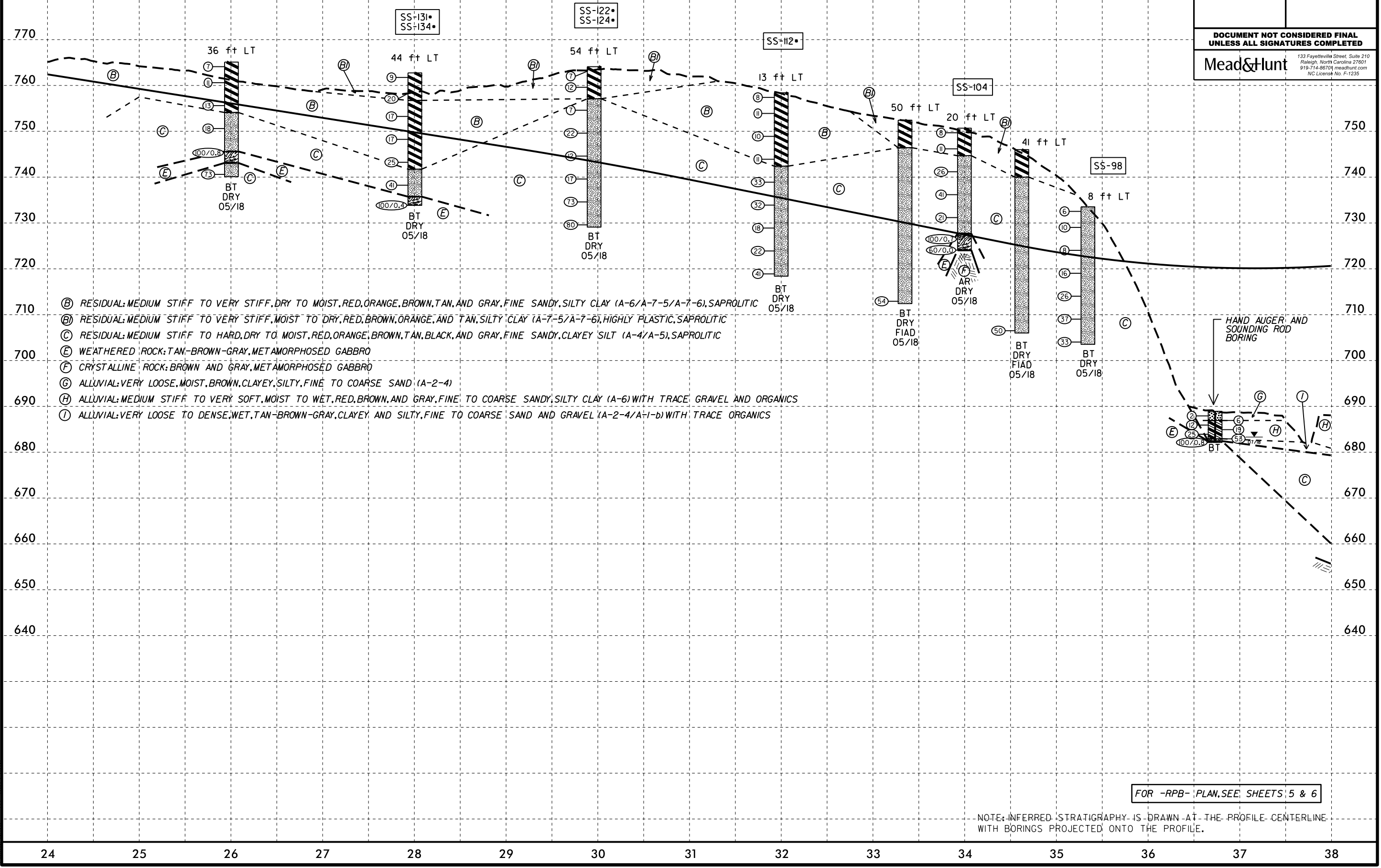


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5/28/18
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-RPB-

PROJECT REFERENCE NO. R-4707	SHEET NO. 13
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Mead&Hunt <small>133 Fayetteville Street, Suite 210 Raleigh, North Carolina 27601 919-714-8870 meadandhunt.com NC License No. F-1235</small>	



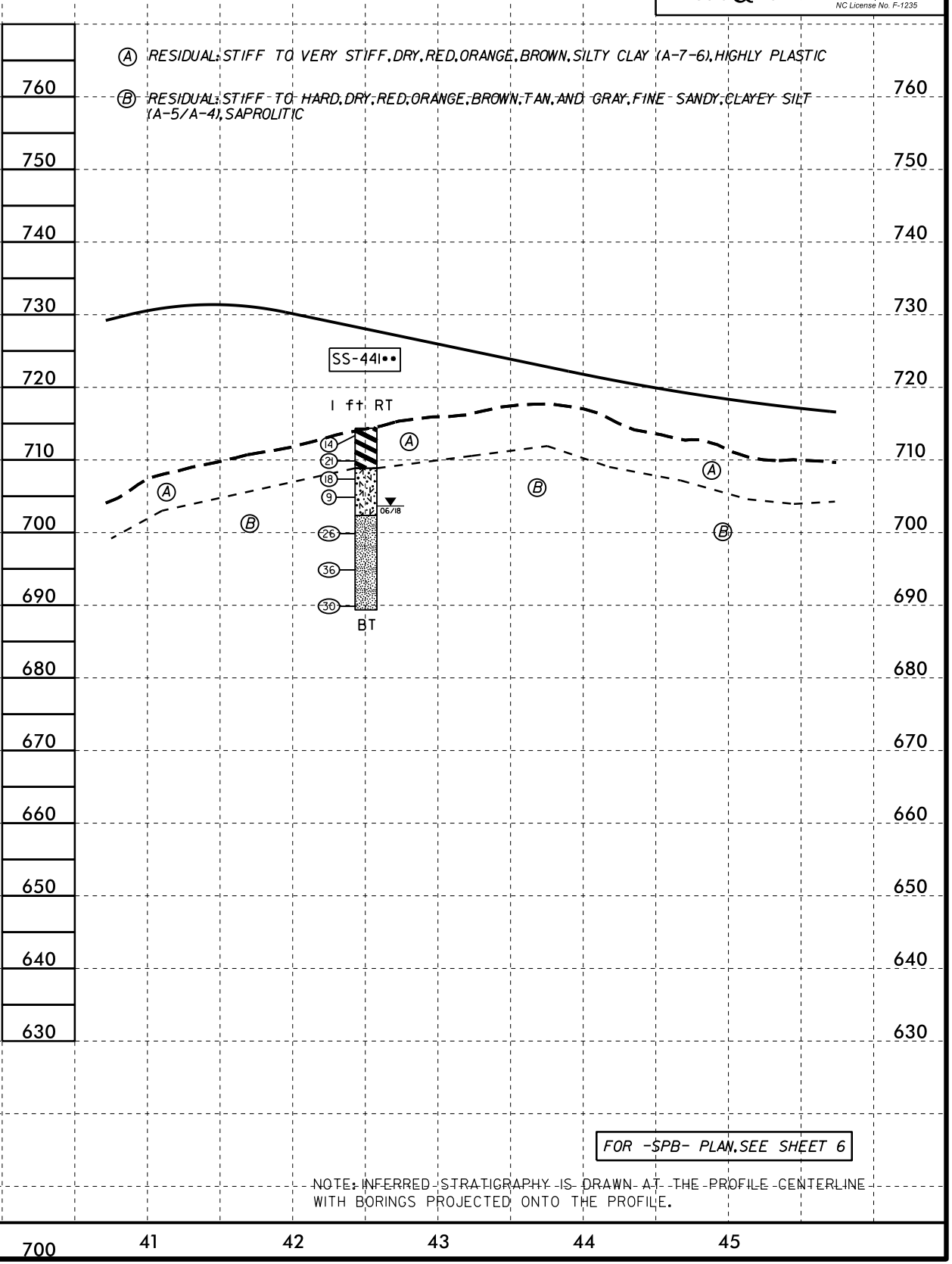
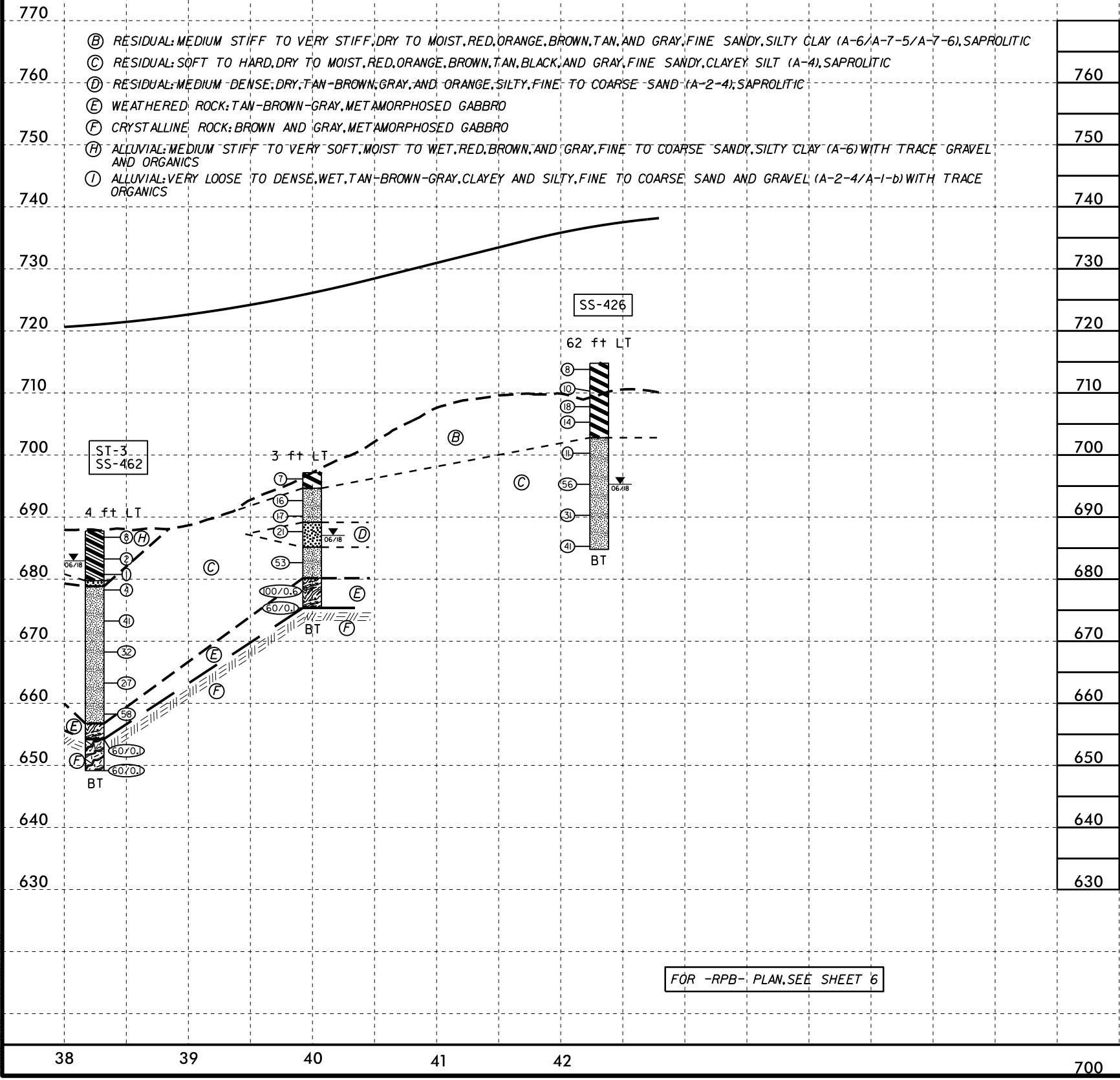
FOR -RPB- PLAN, SEE SHEETS 5 & 6

NOTE: INFERRED STRATIGRAPHY IS DRAWN AT THE PROFILE CENTERLINE WITH BORINGS PROJECTED ONTO THE PROFILE.

PROJECT REFERENCE NO. R-4707	SHEET NO. 13A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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-RPB-

-SPB-



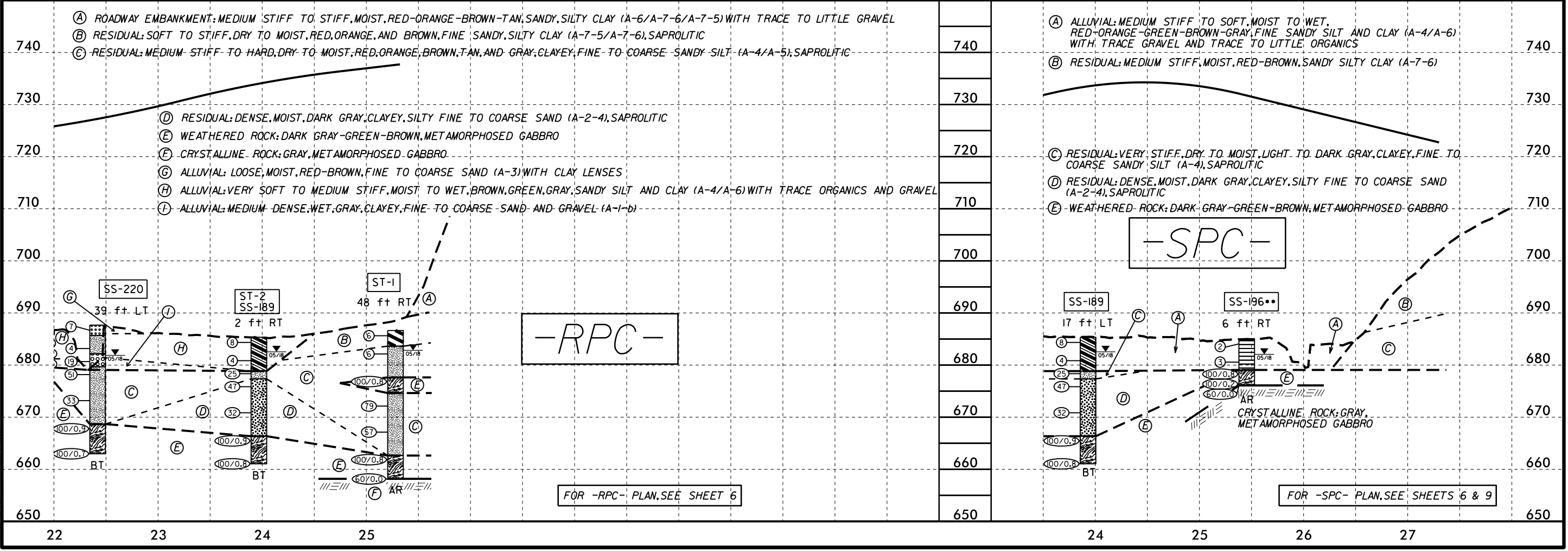
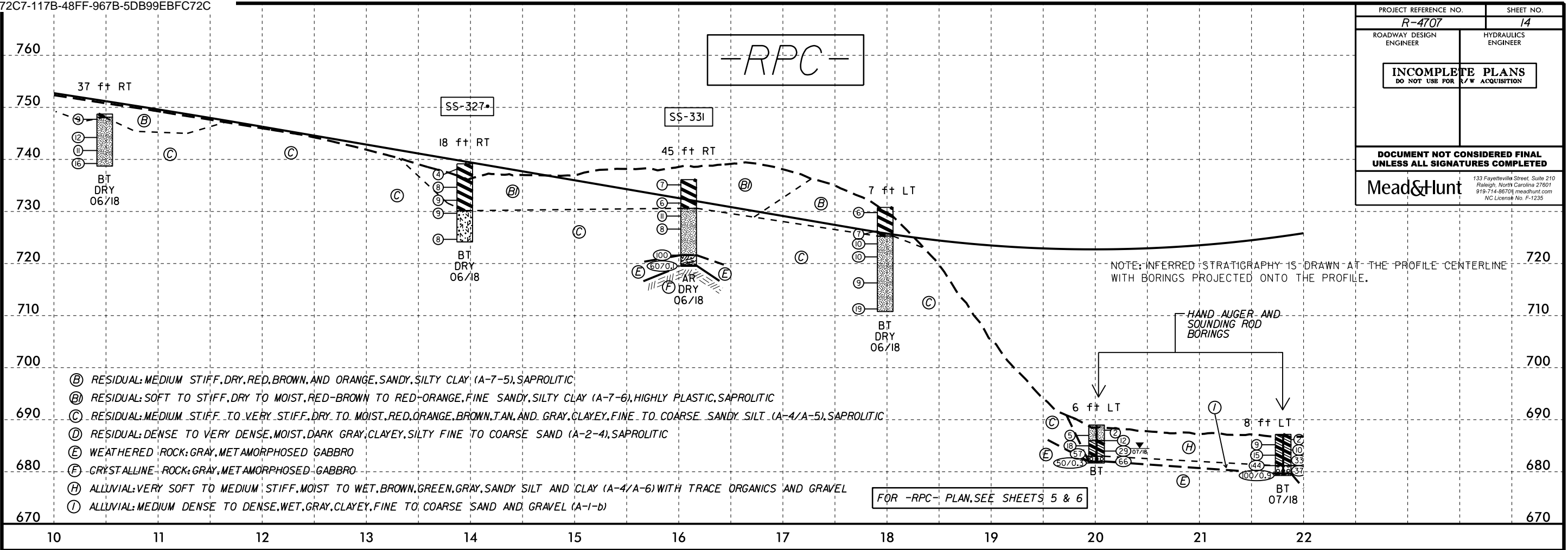
FOR -RPB- PLAN, SEE SHEET 6

FOR -SPB- PLAN, SEE SHEET 6


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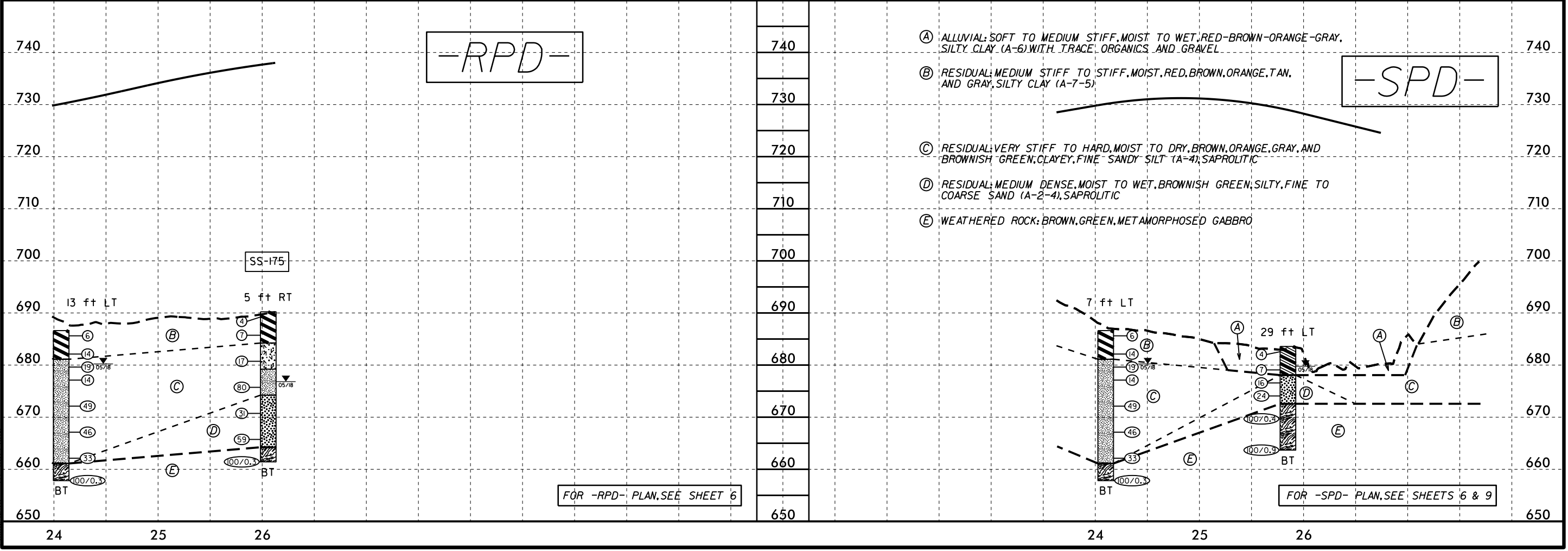
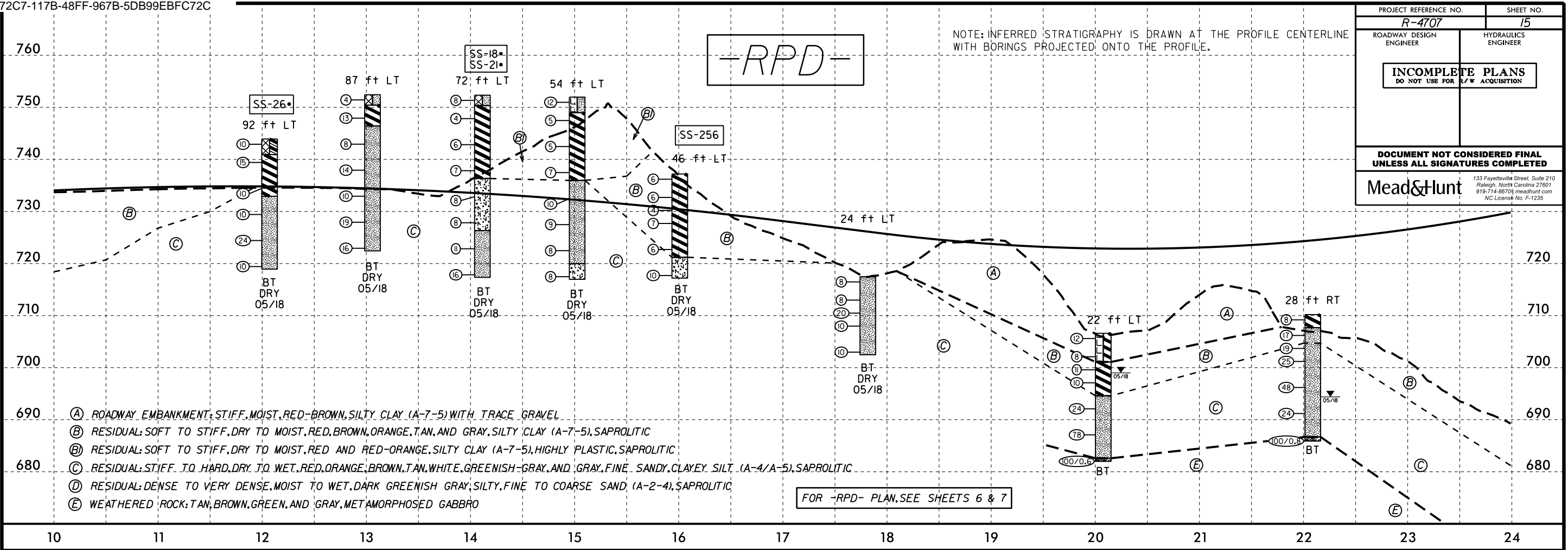
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 5/28/18

PROJECT REFERENCE NO. R-4707	SHEET NO. 14
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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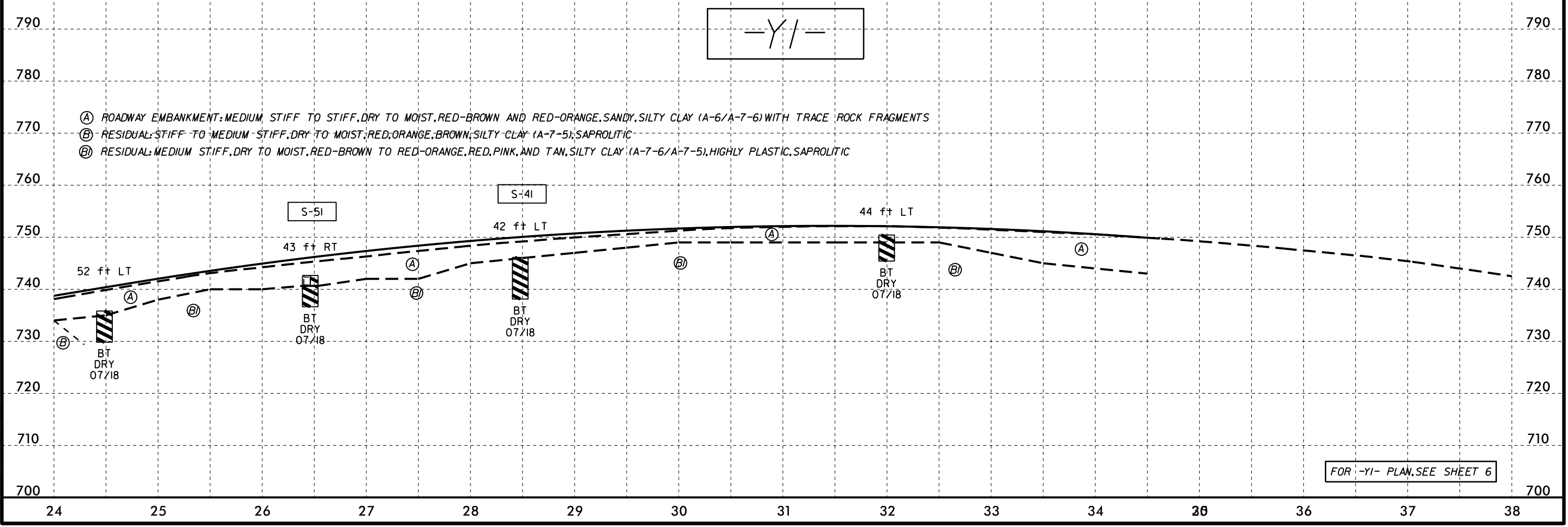
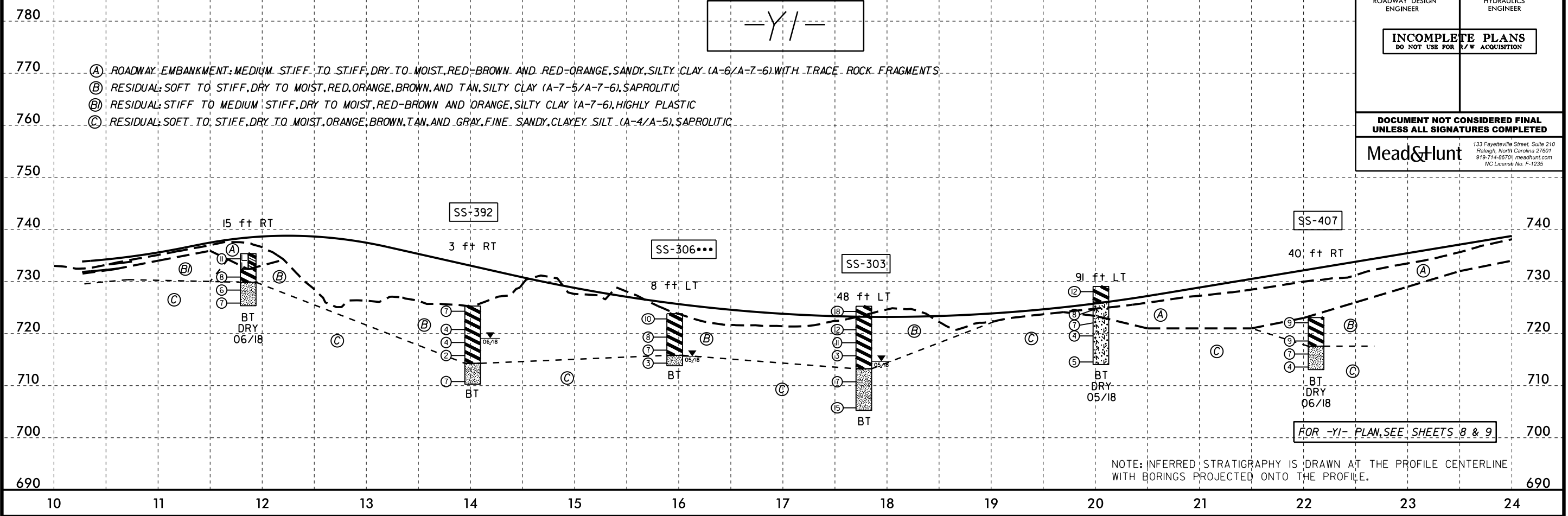
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 5/28/18

PROJECT REFERENCE NO. R-4707	SHEET NO. 15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR E/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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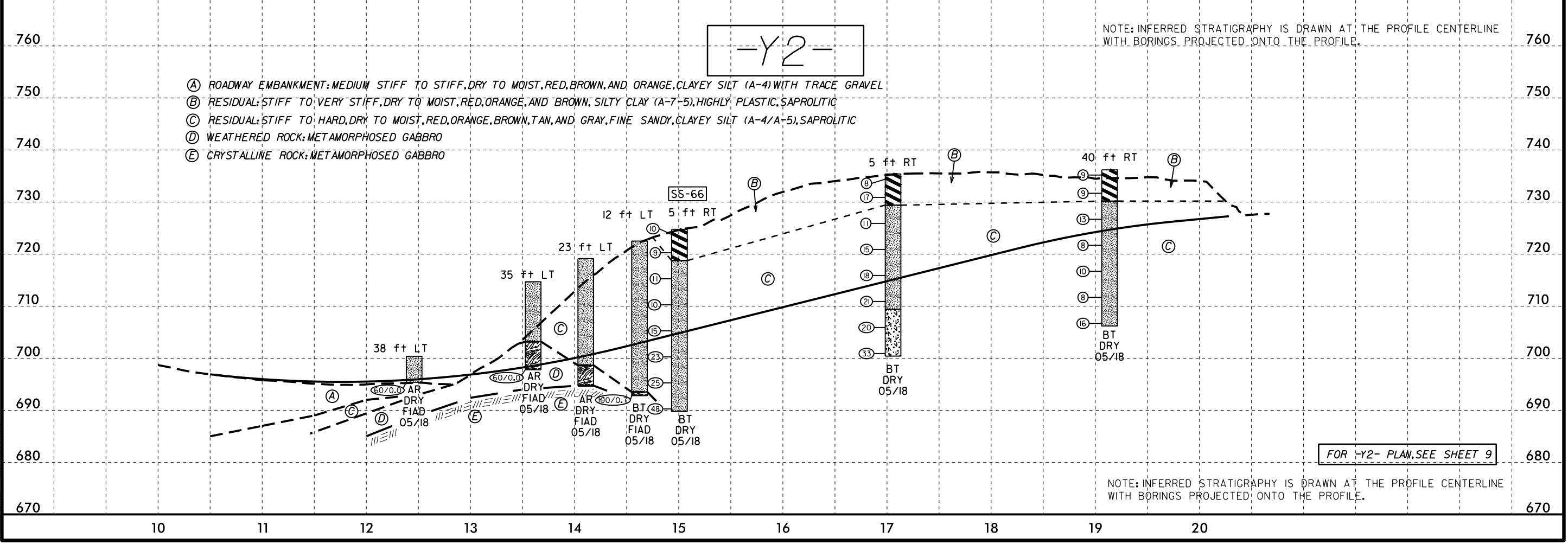
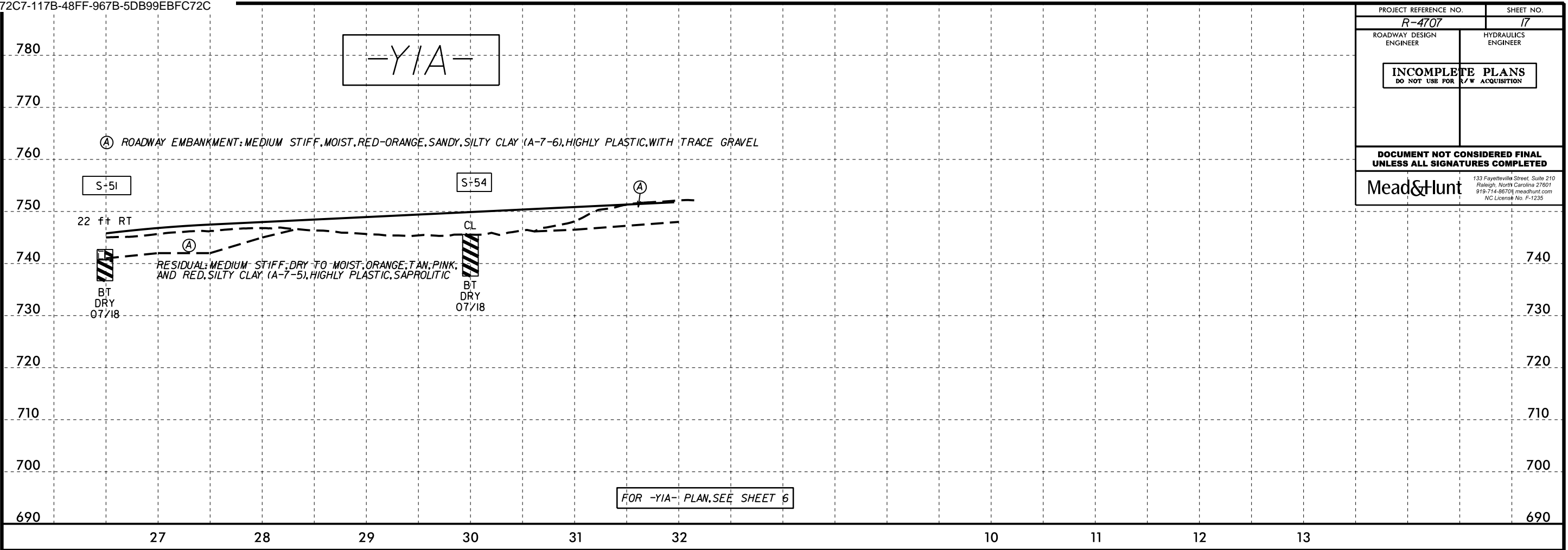
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 5/28/18

PROJECT REFERENCE NO. R-4707	SHEET NO. 16
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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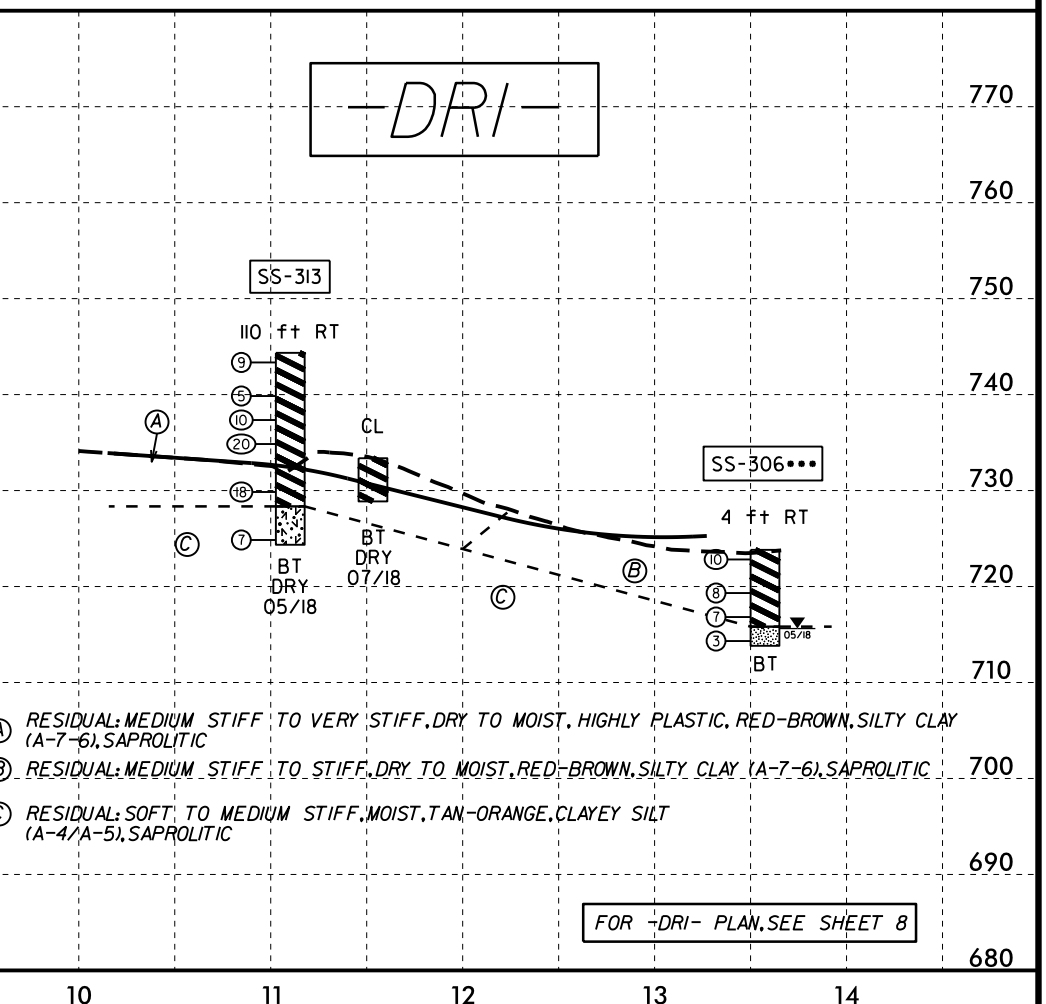
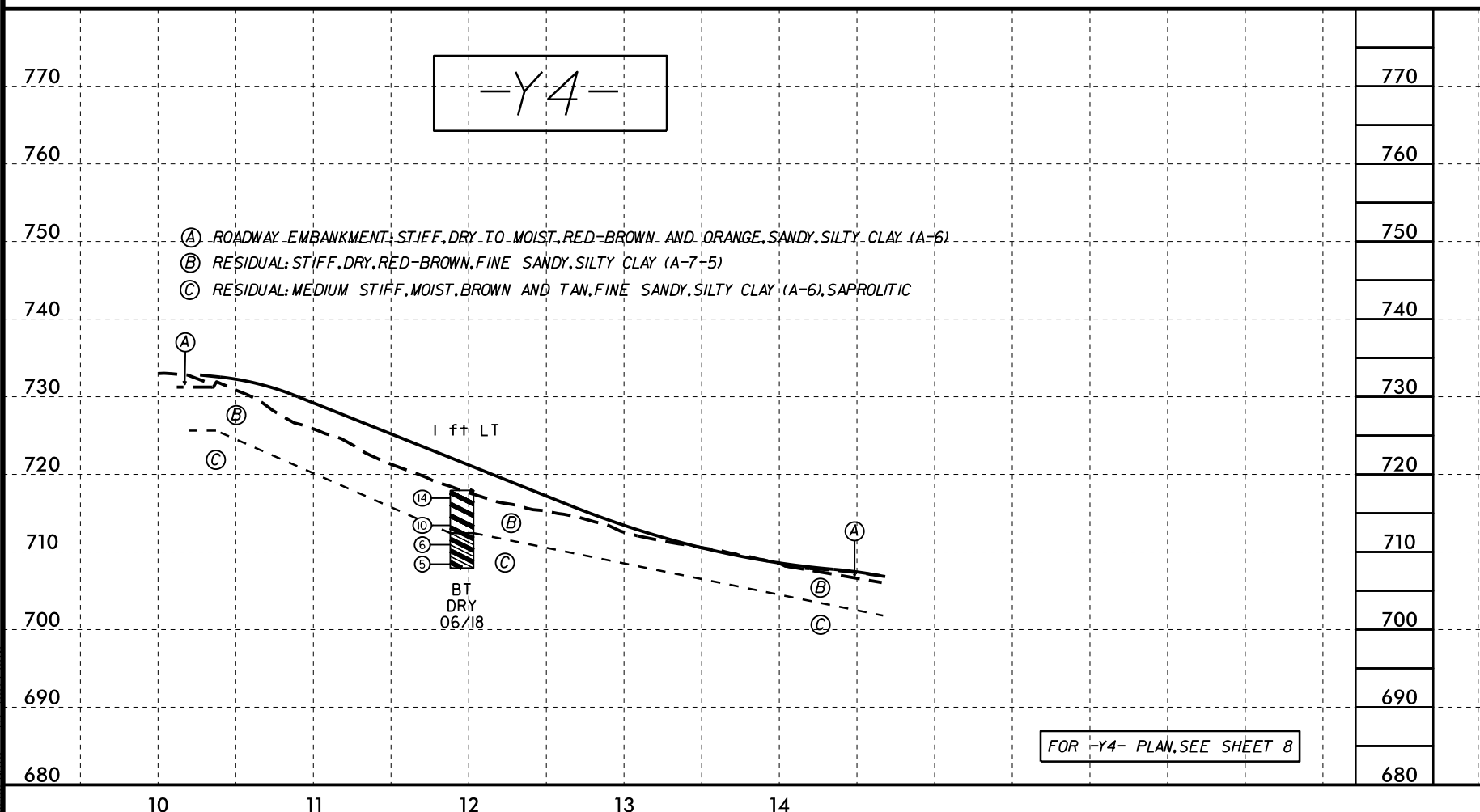
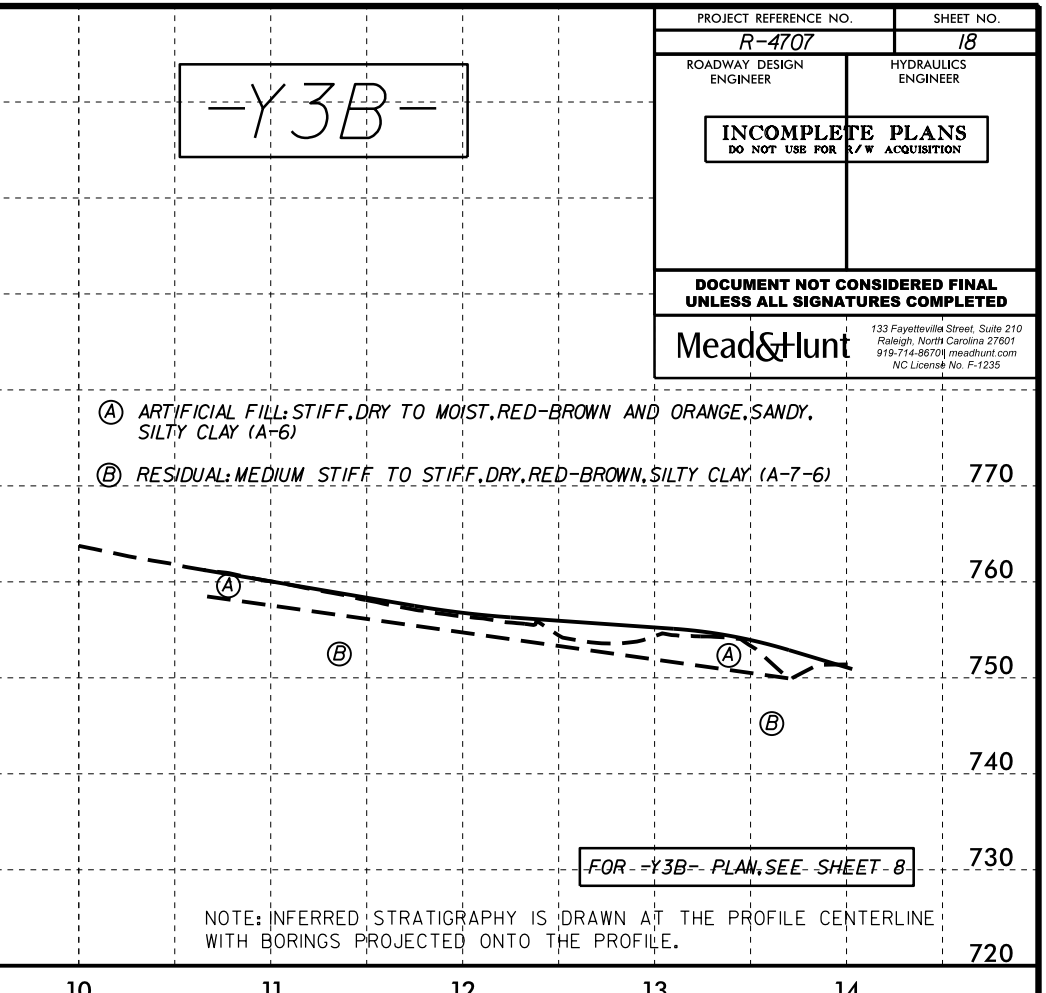
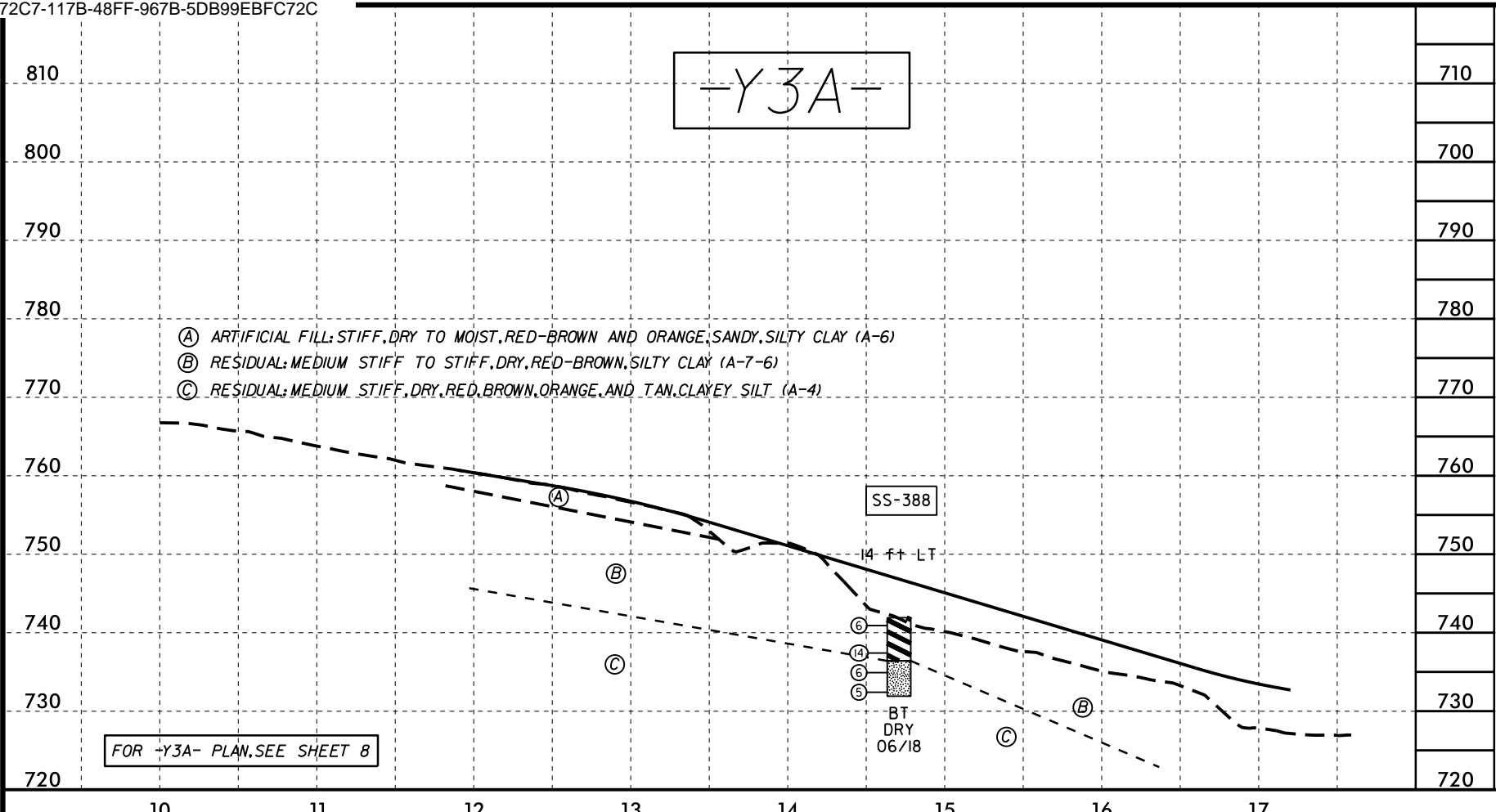
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 5/28/18

PROJECT REFERENCE NO. R-4707	SHEET NO. 17
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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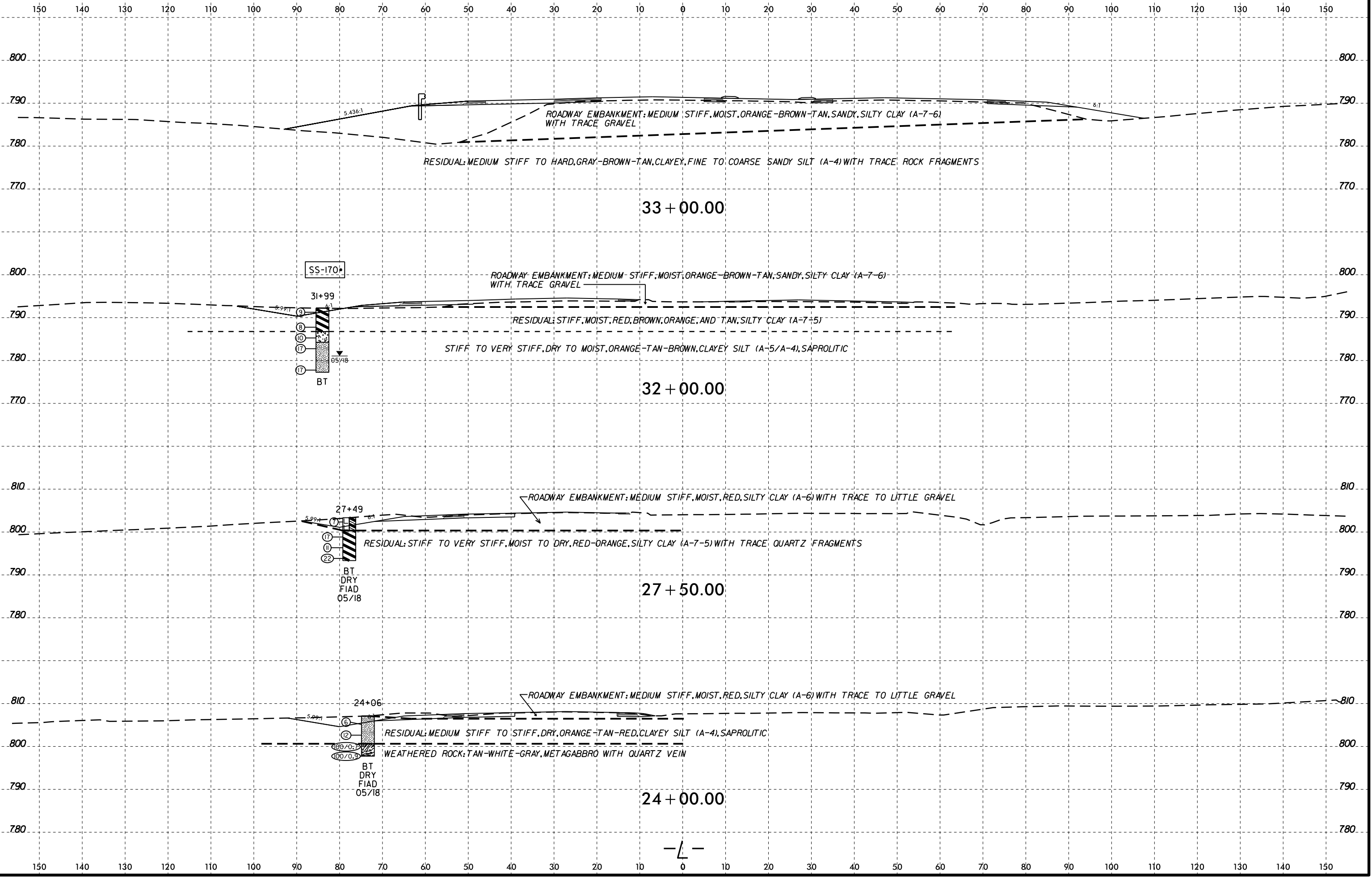


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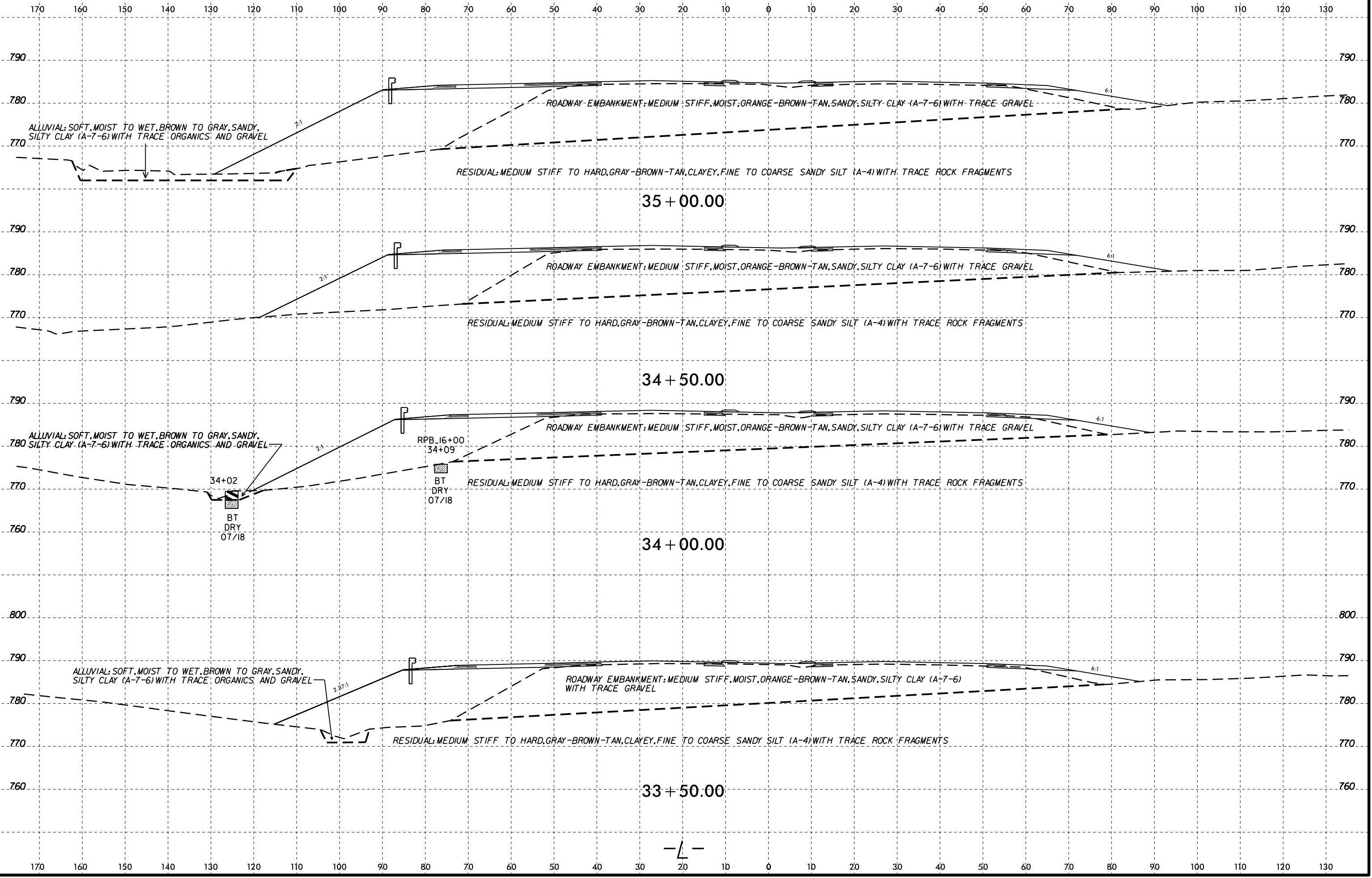
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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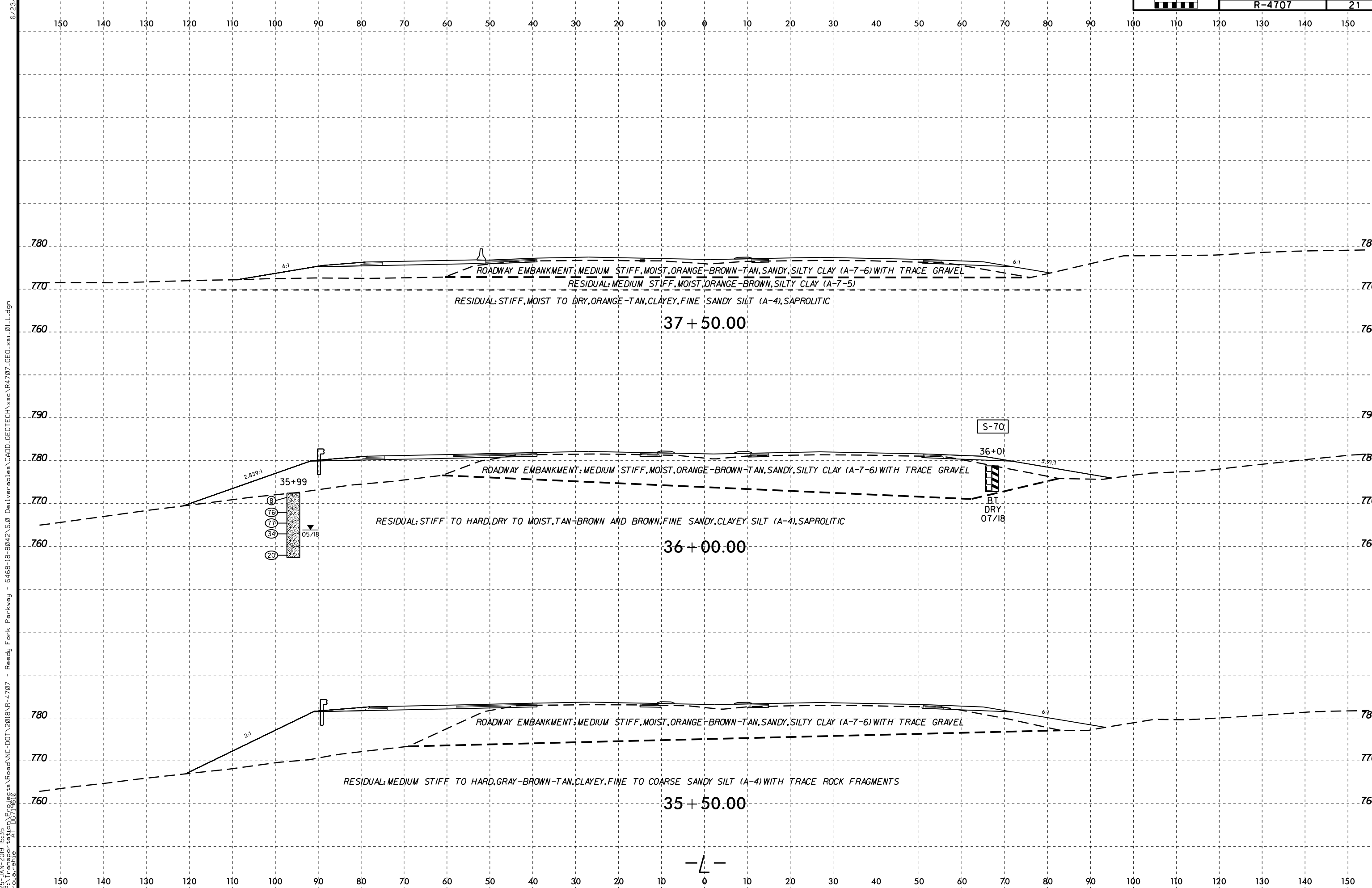
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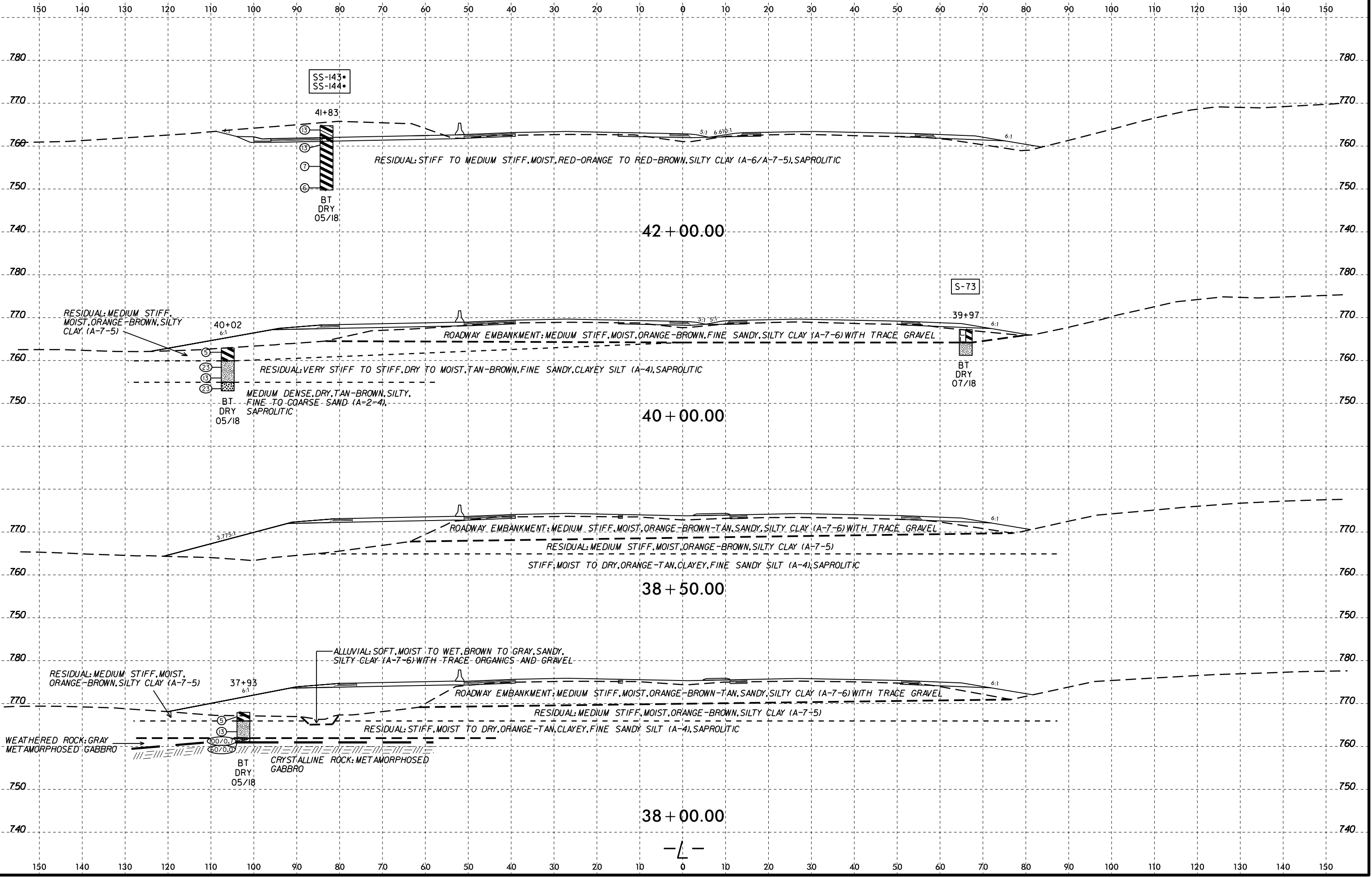
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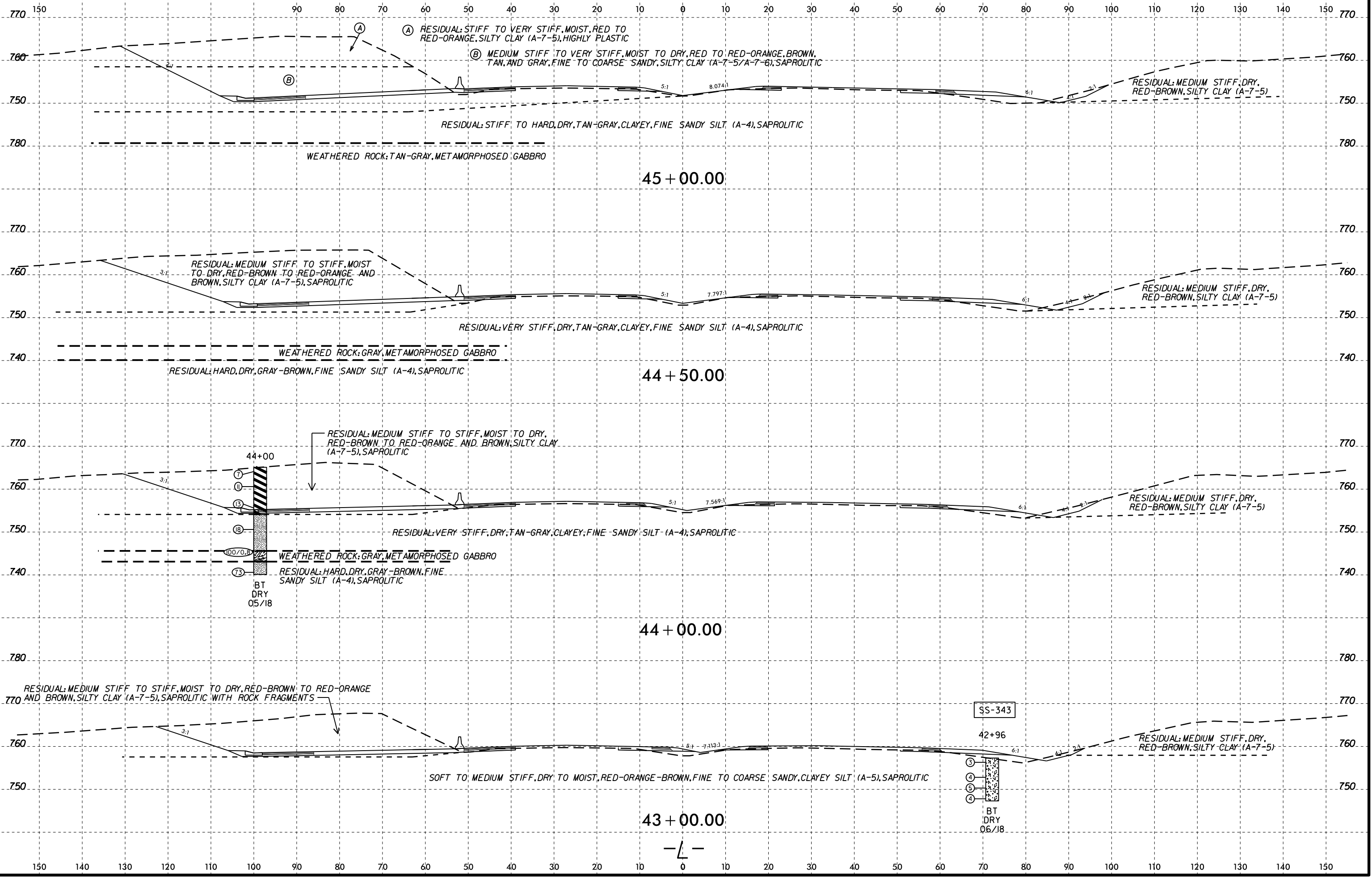
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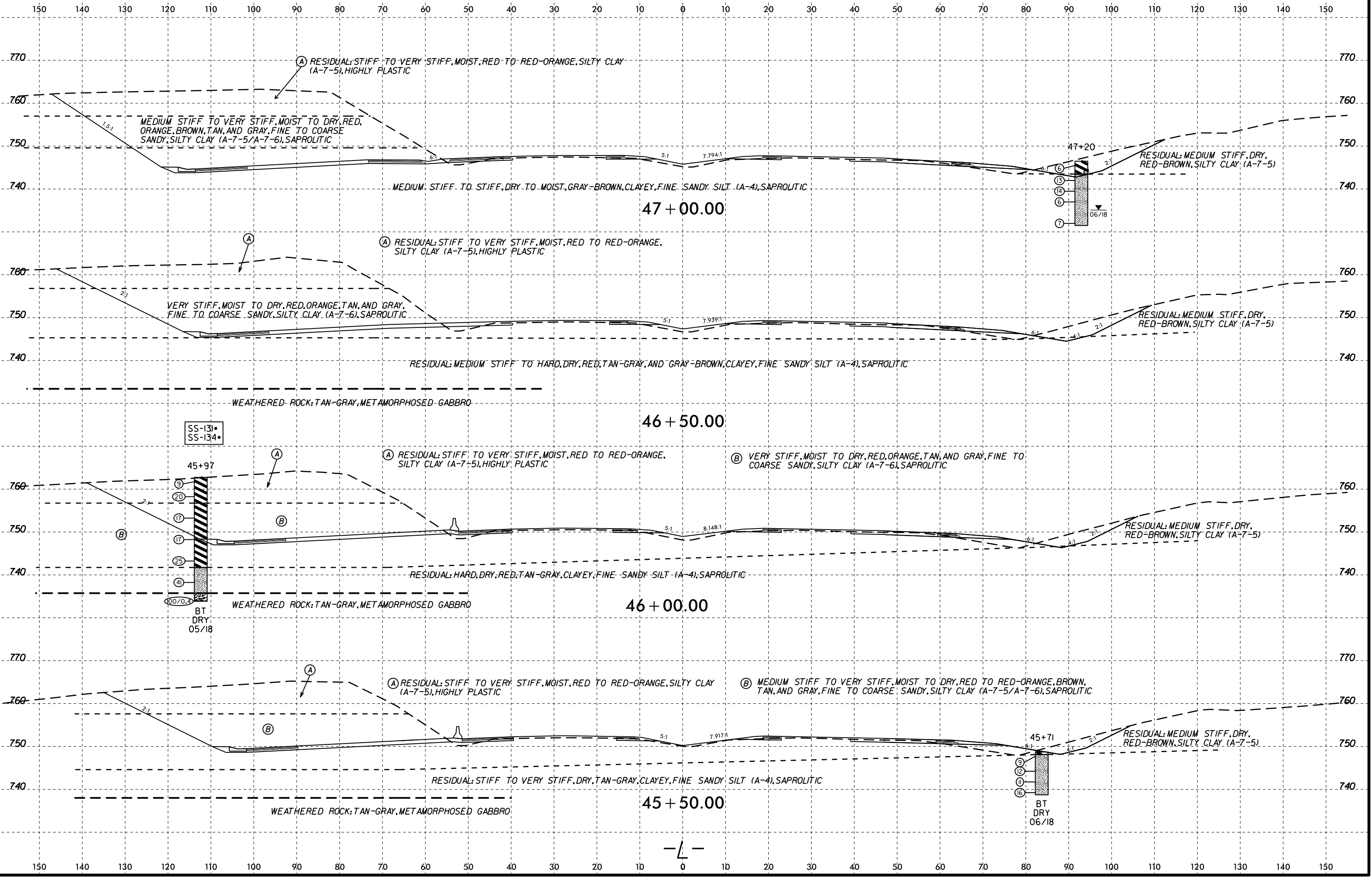
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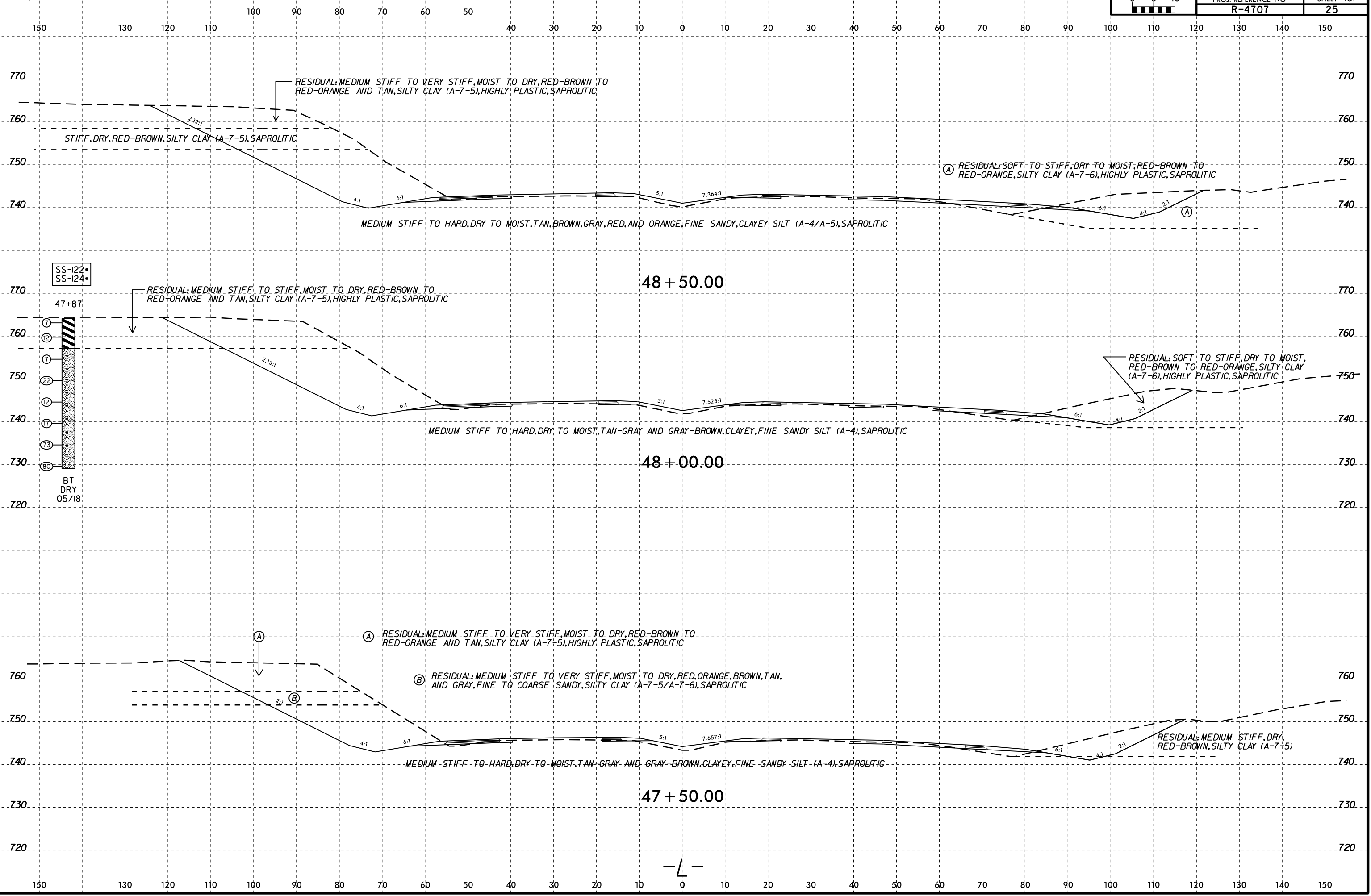
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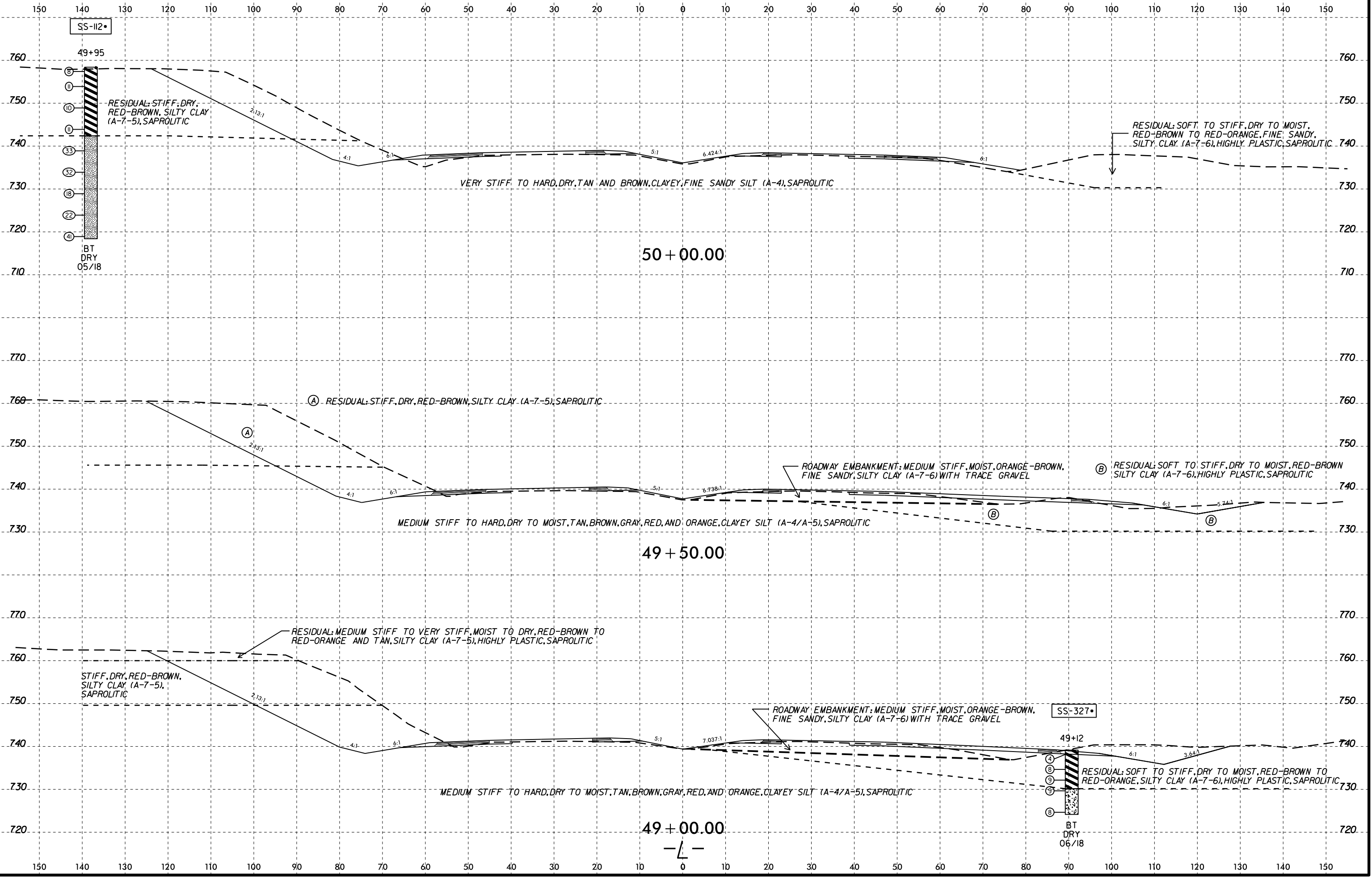
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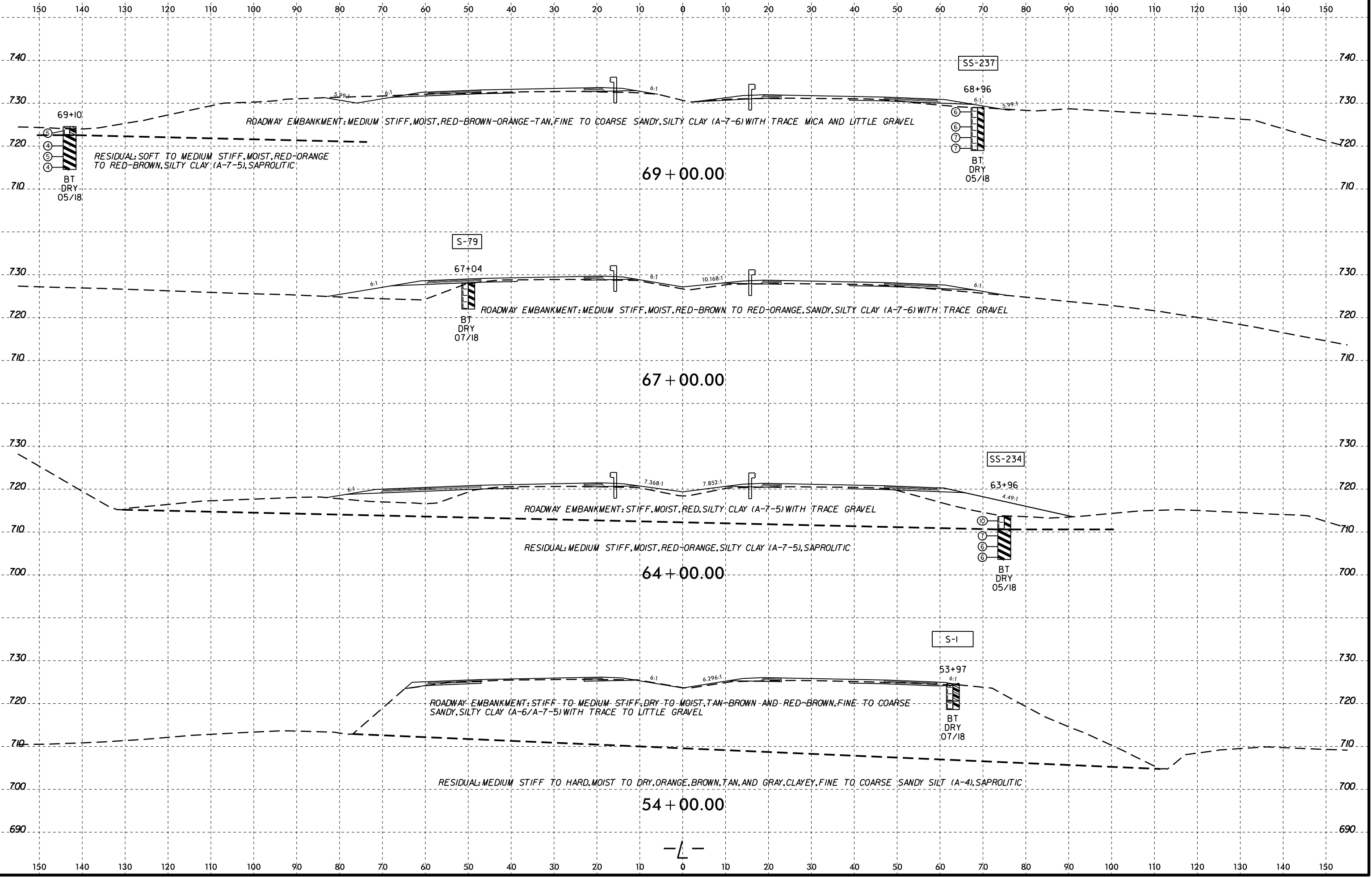
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06/18/2018



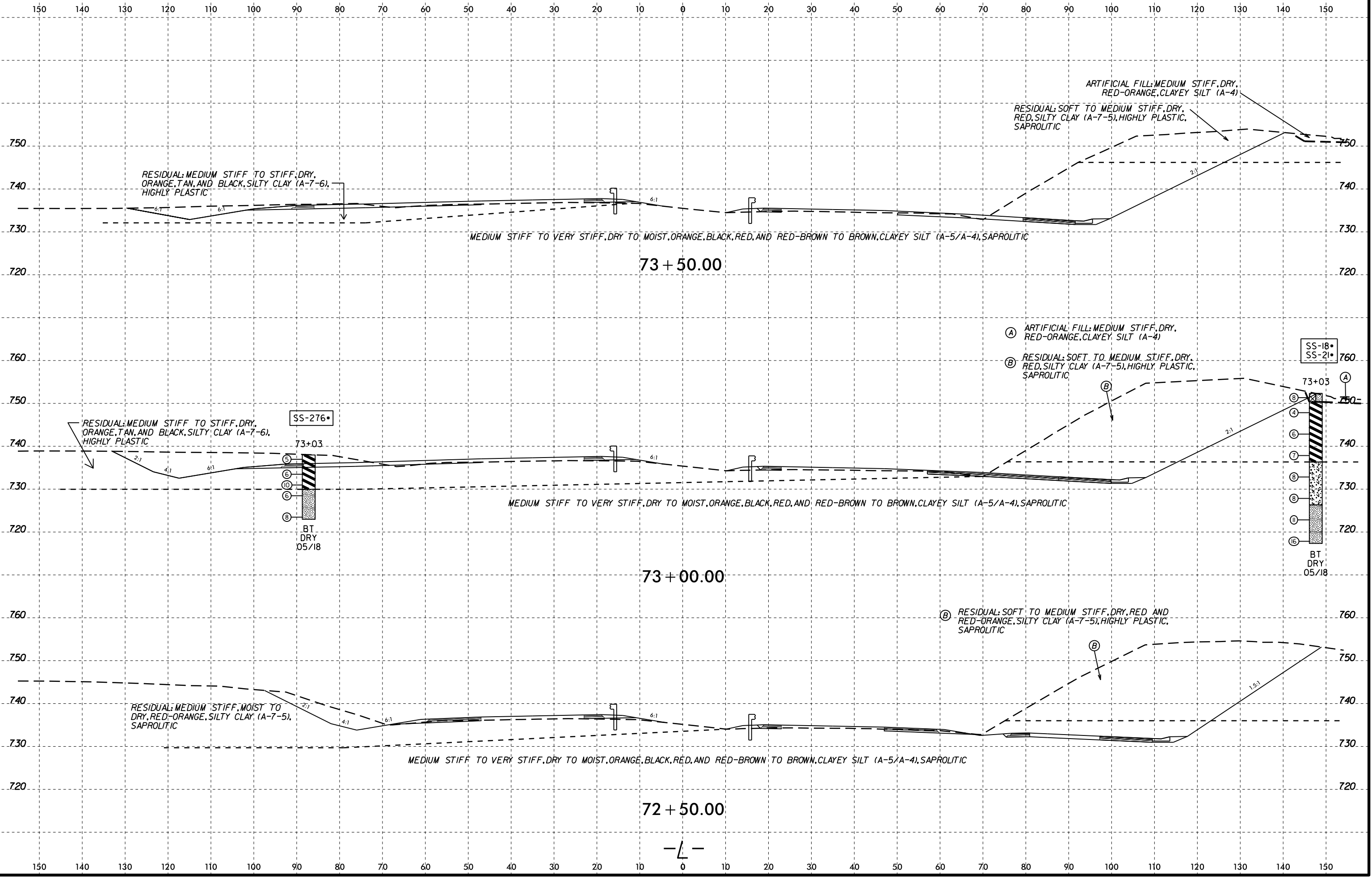
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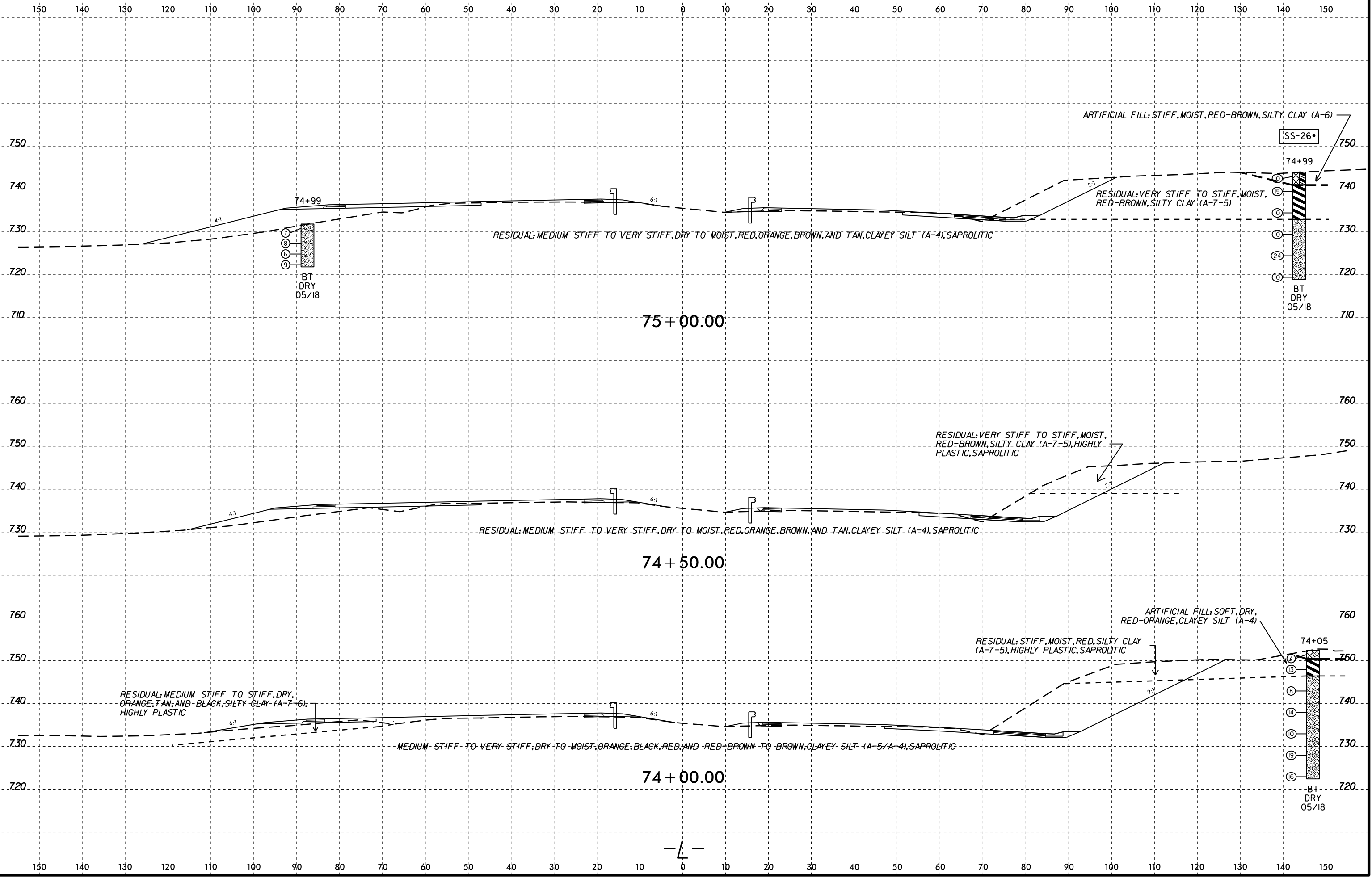


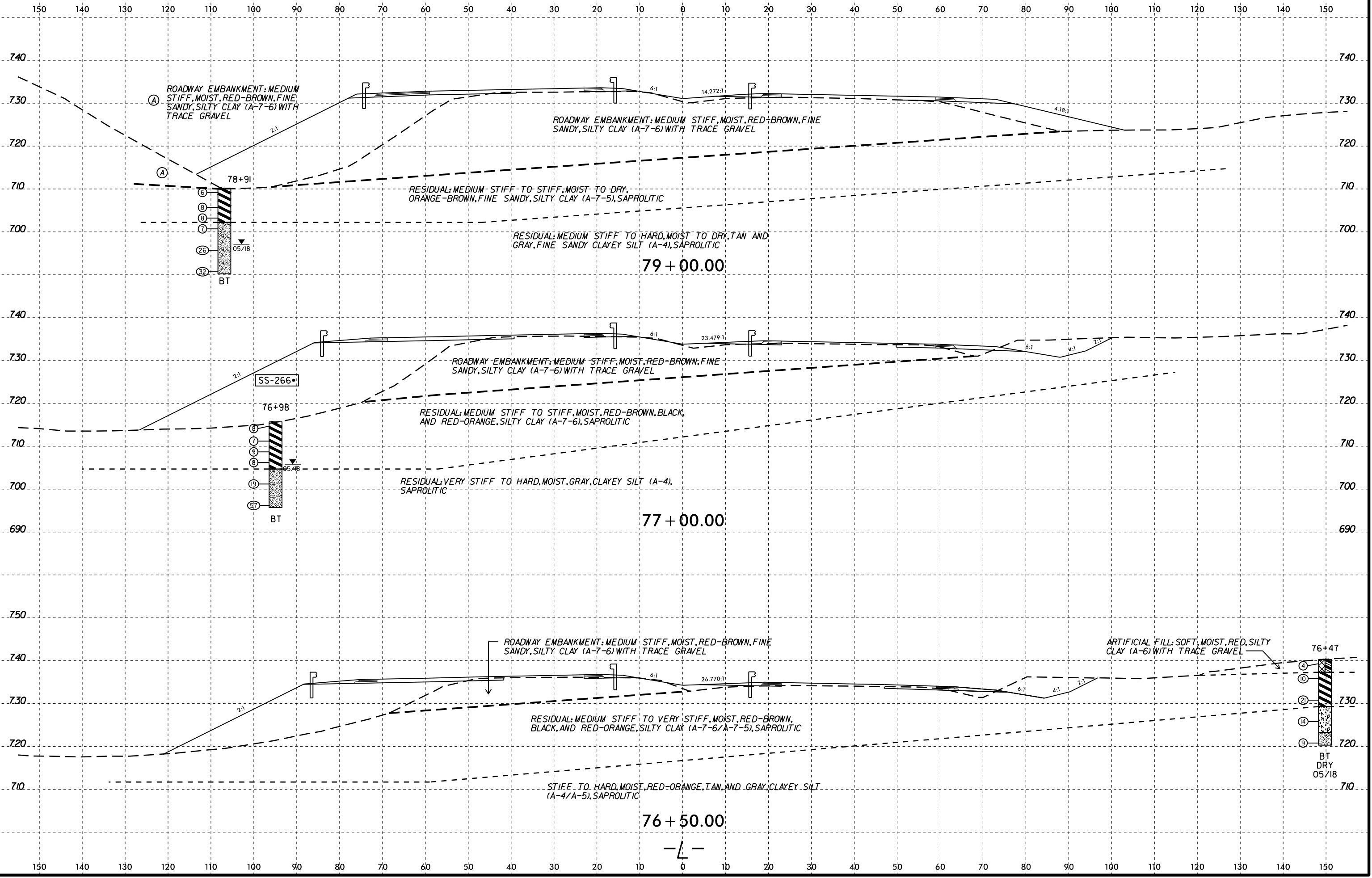
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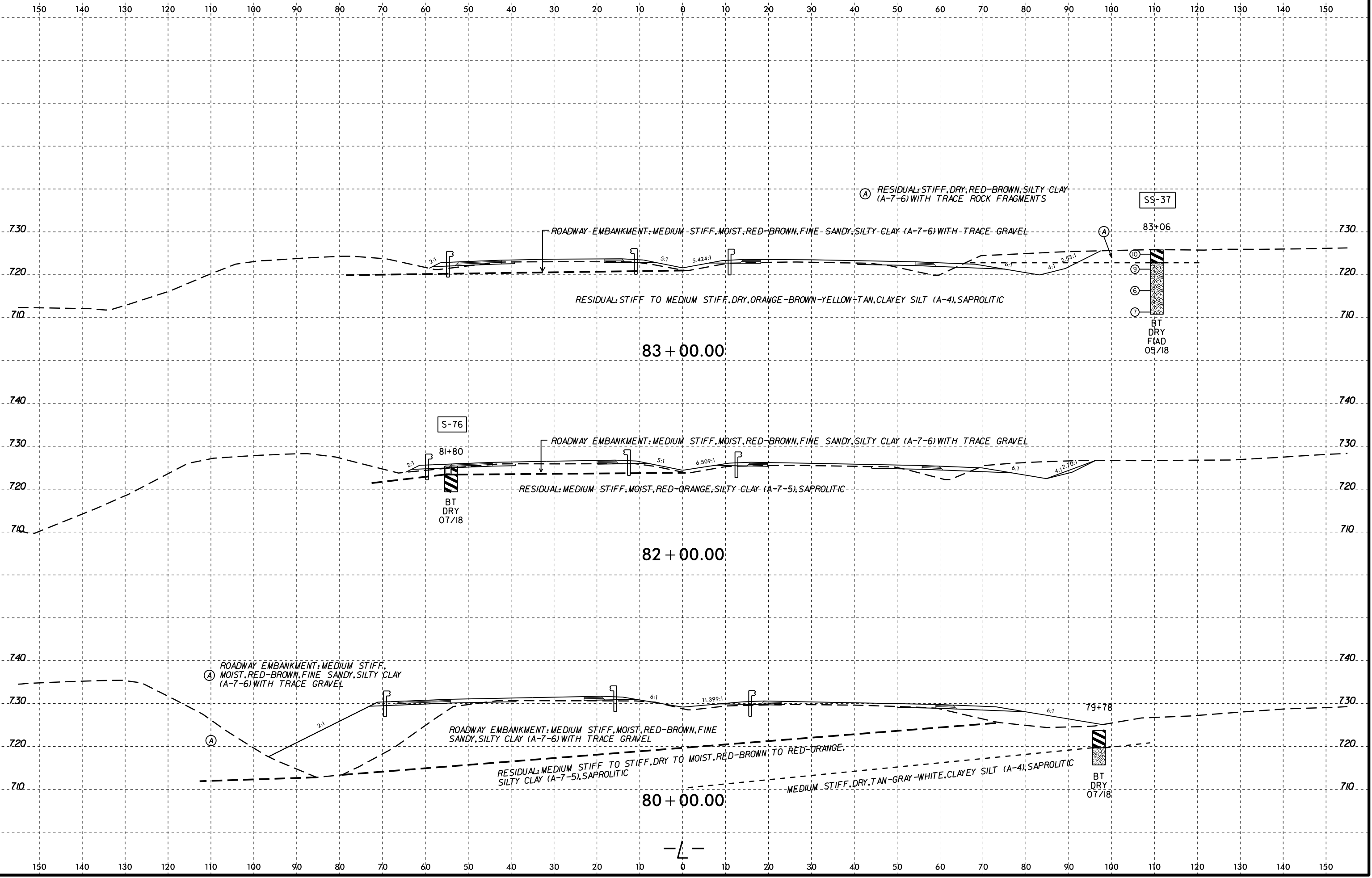
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 06/23/18

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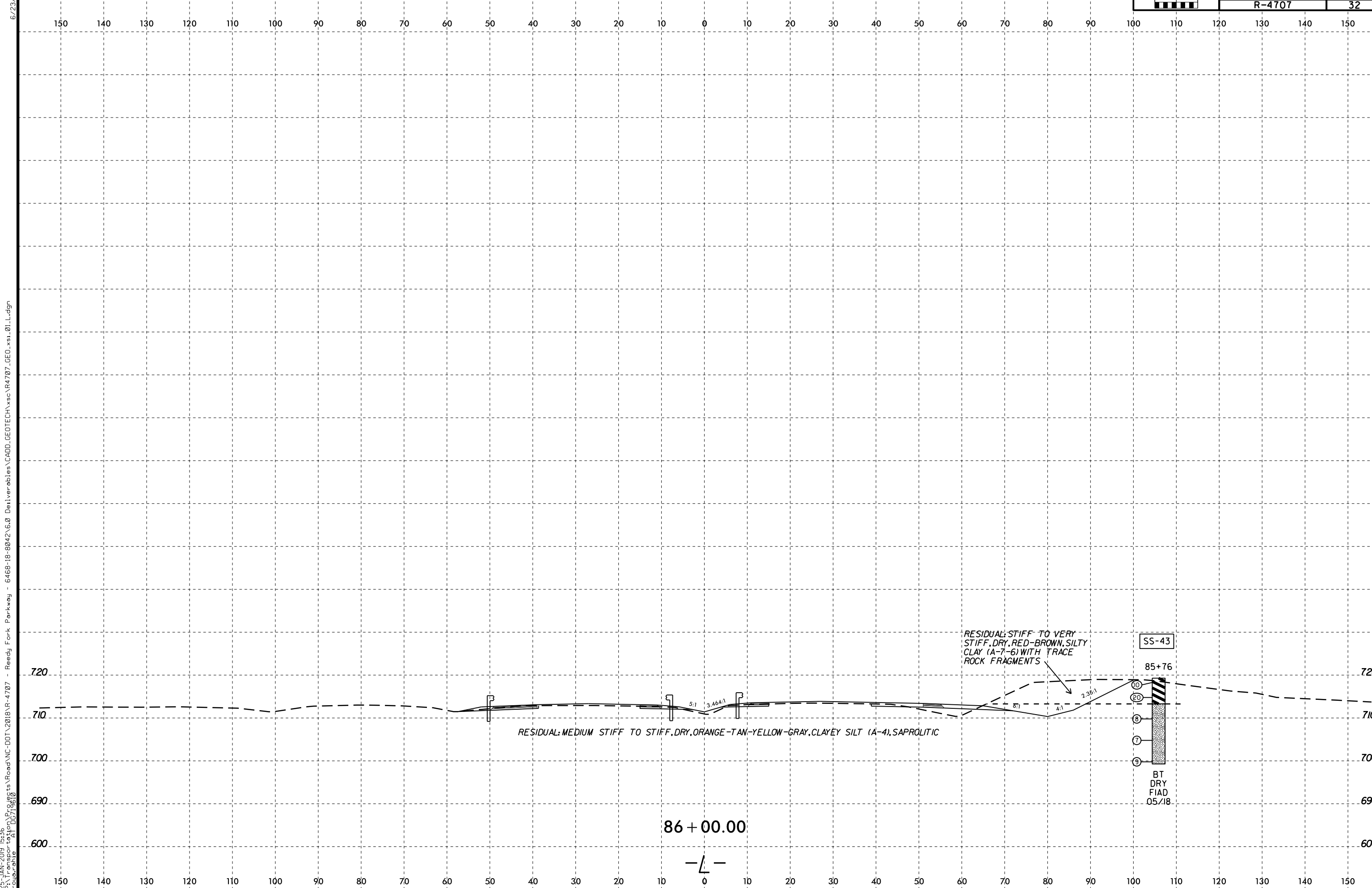




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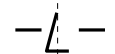


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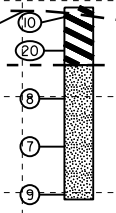


RESIDUAL: STIFF TO VERY STIFF, DRY, RED-BROWN, SILTY CLAY (A-7-6) WITH TRACE ROCK FRAGMENTS

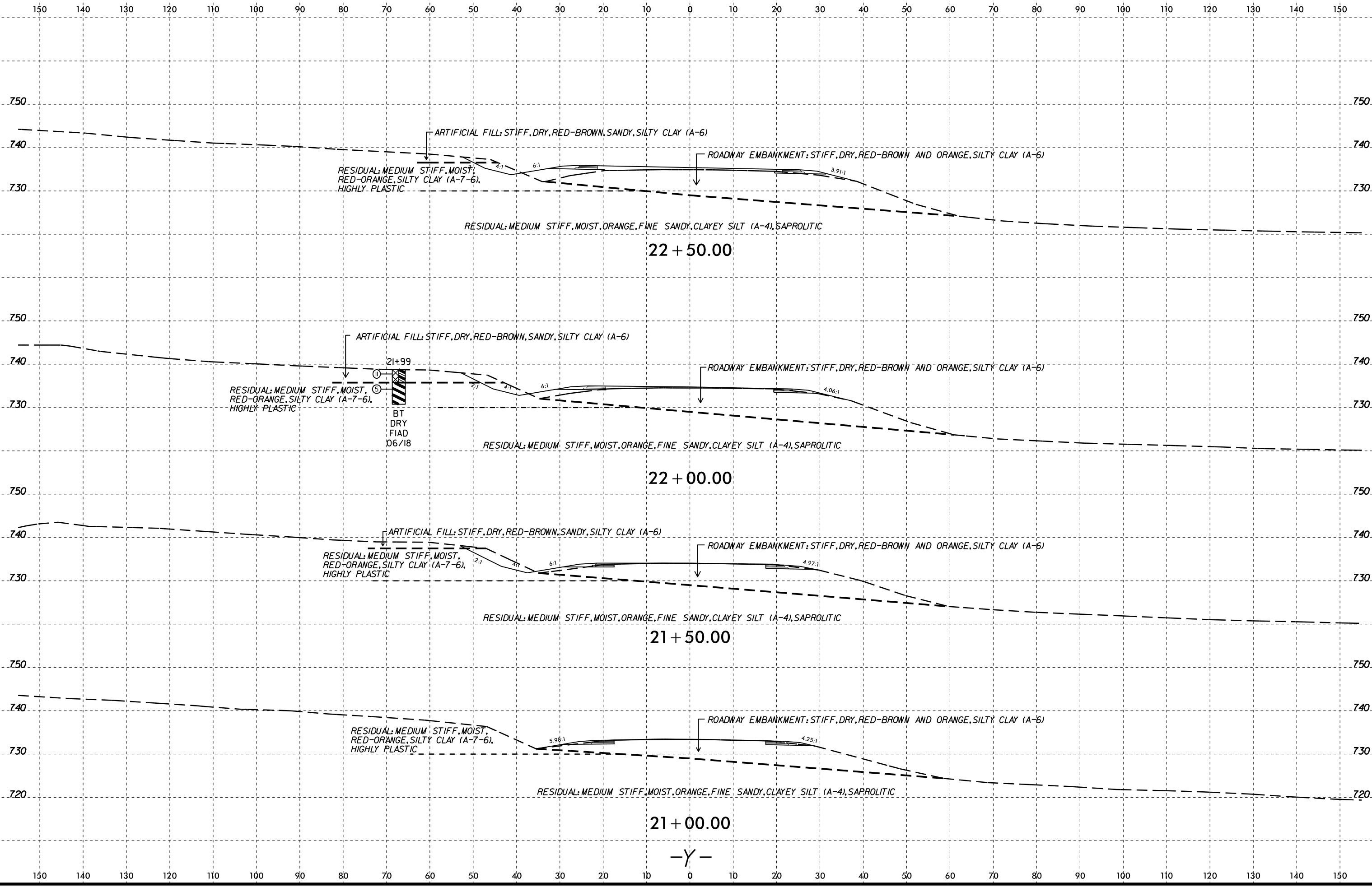
RESIDUAL: MEDIUM STIFF TO STIFF, DRY, ORANGE-TAN-YELLOW-GRAY, CLAYEY SILT (A-4), SAPROLITIC

SS-43

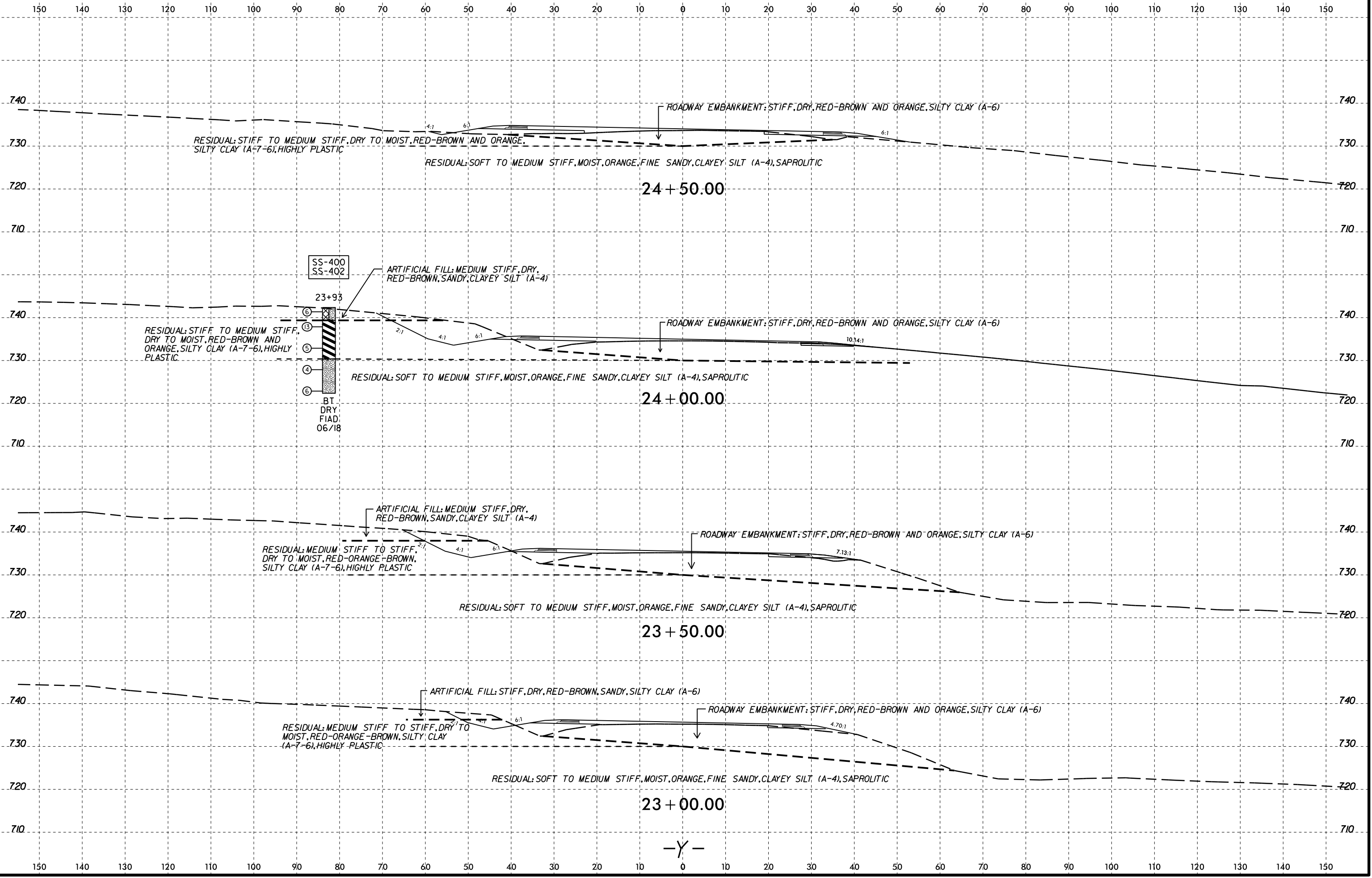
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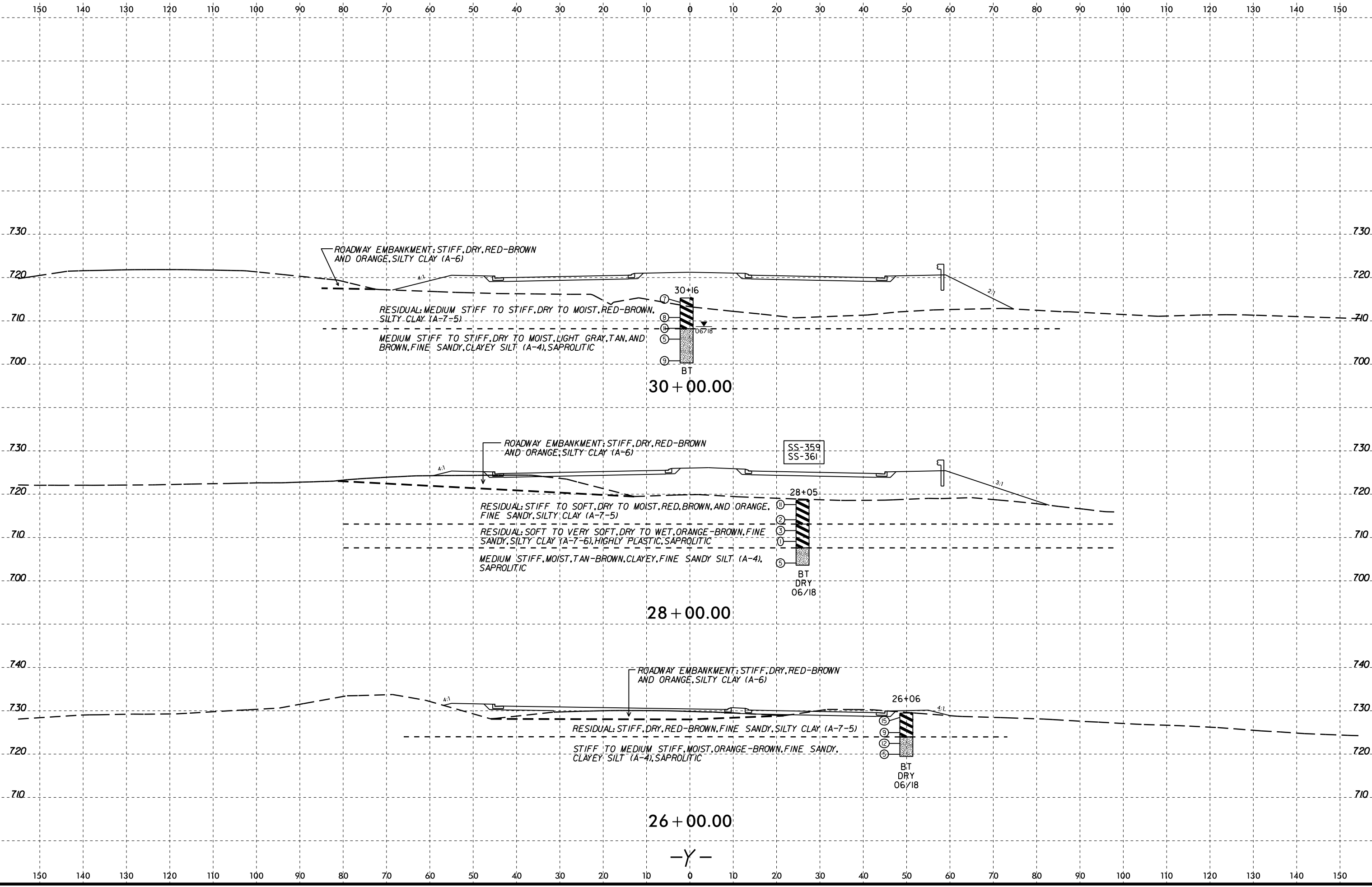


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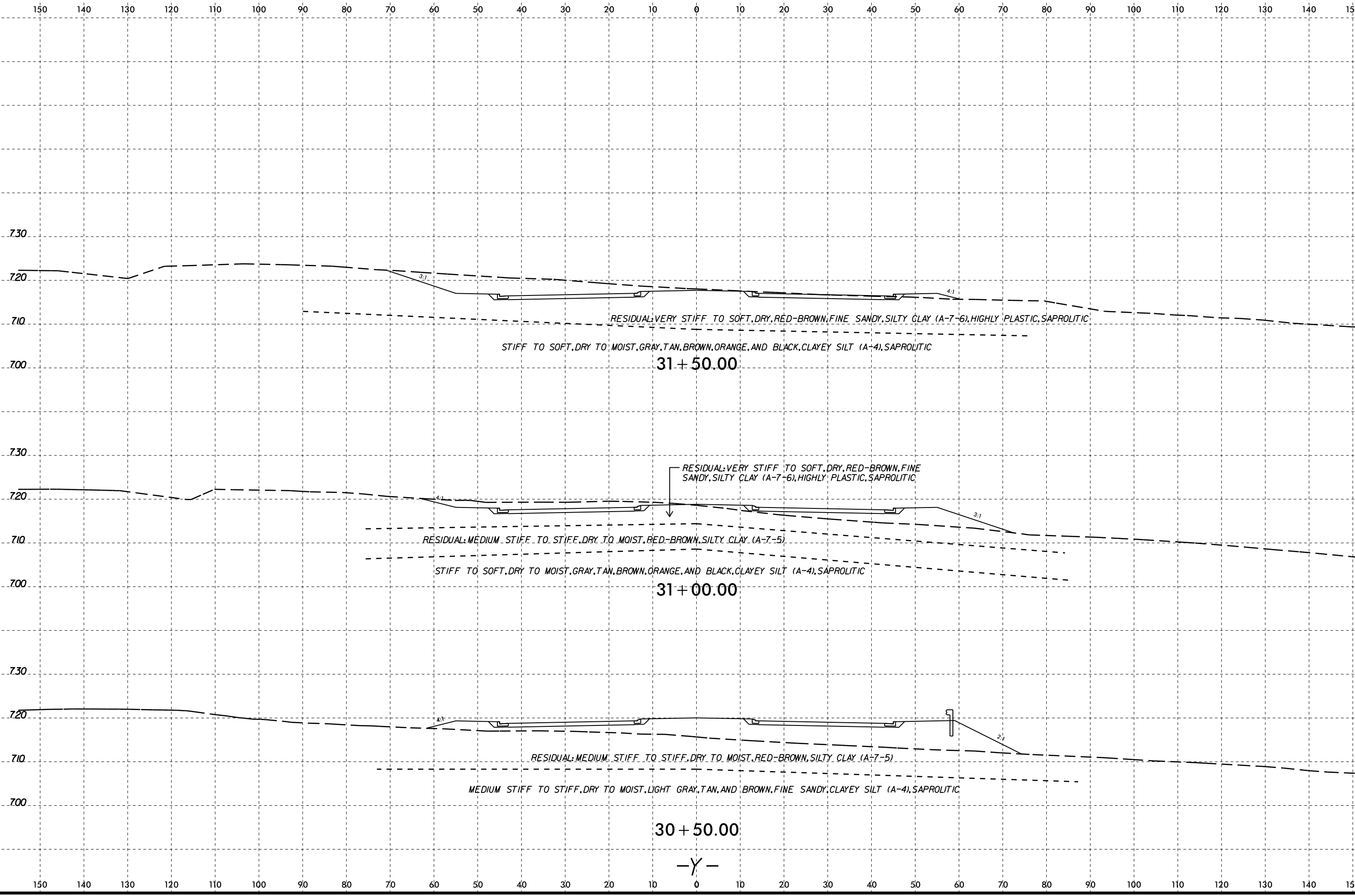
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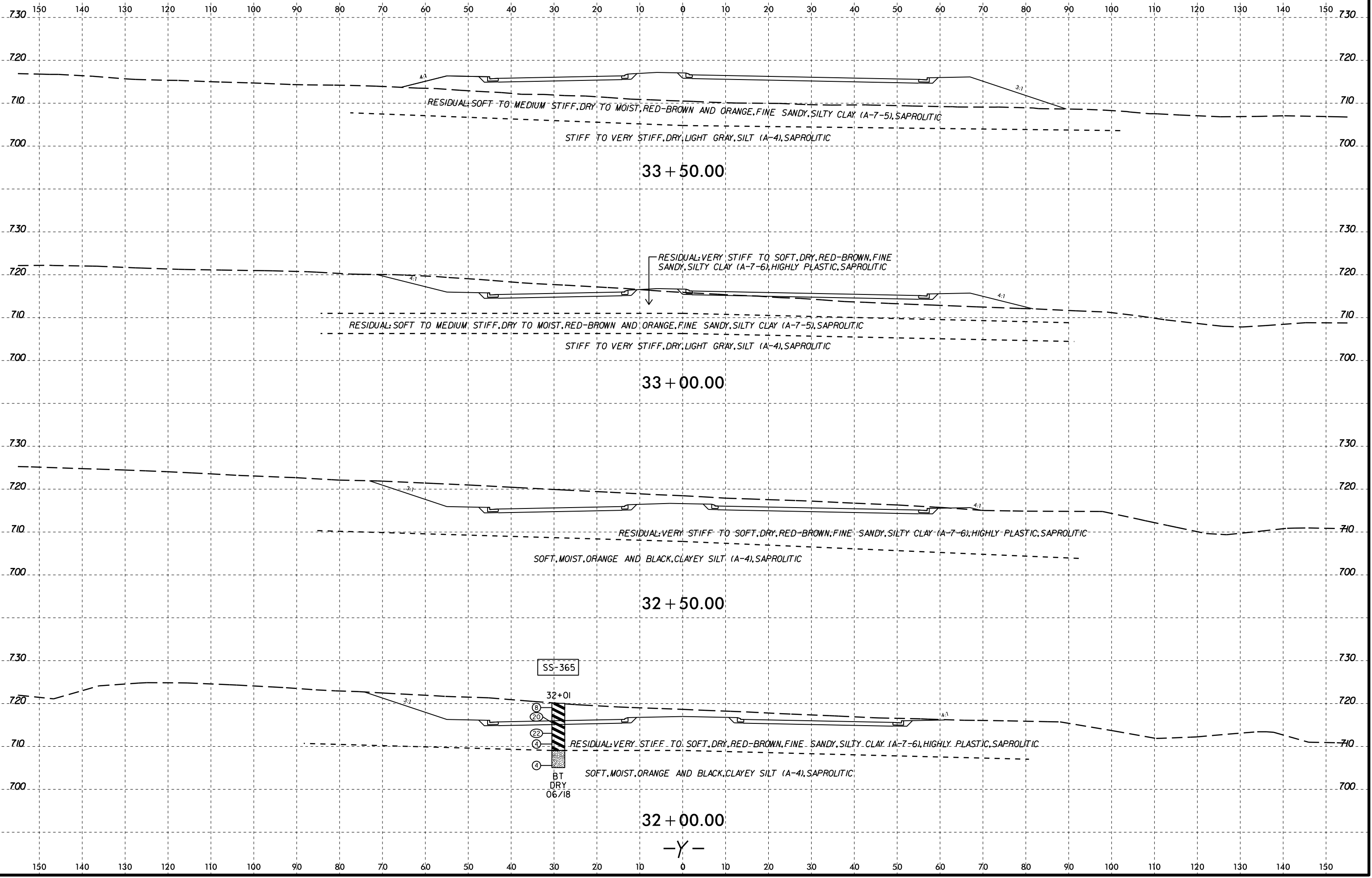


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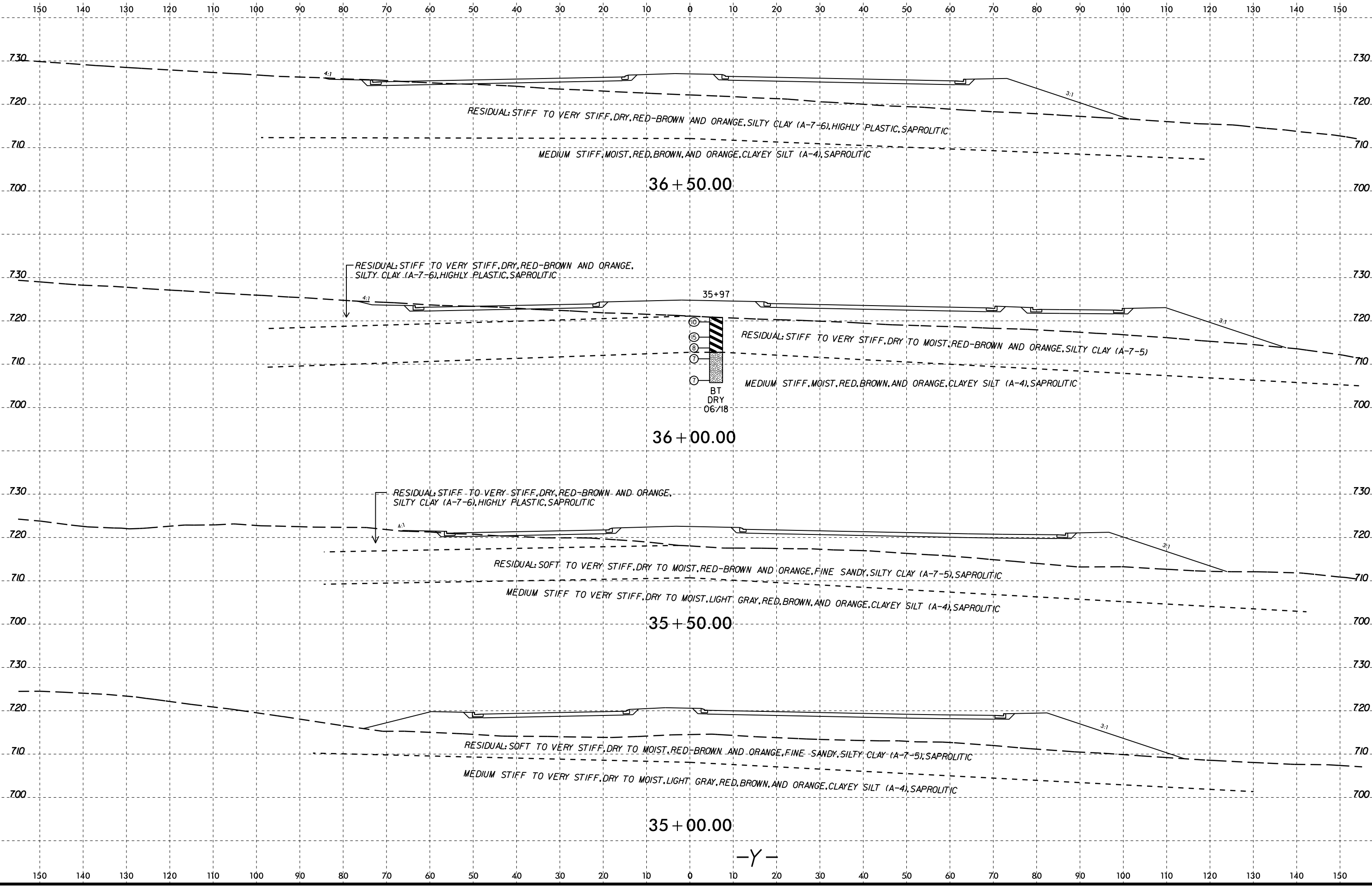


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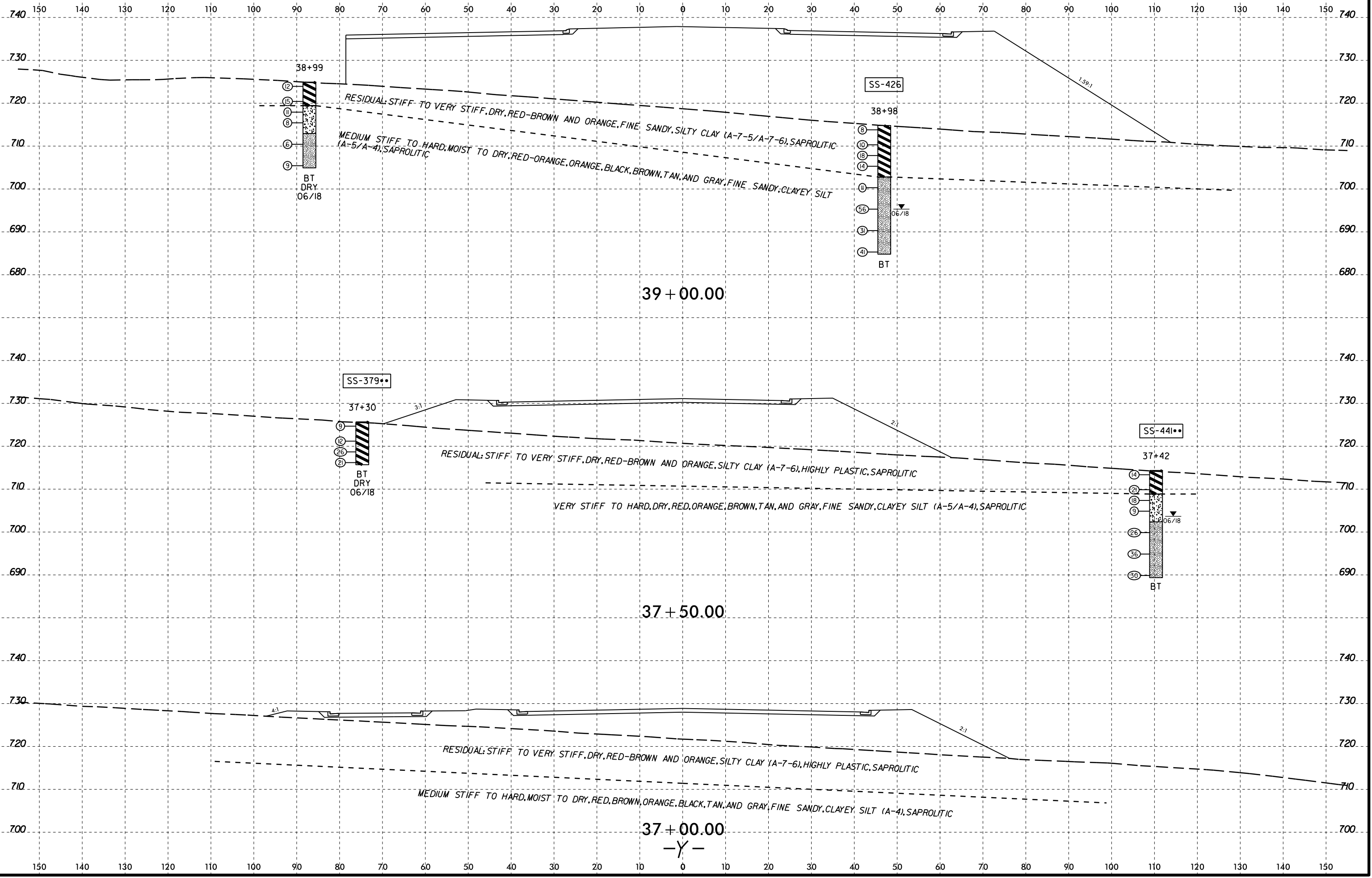
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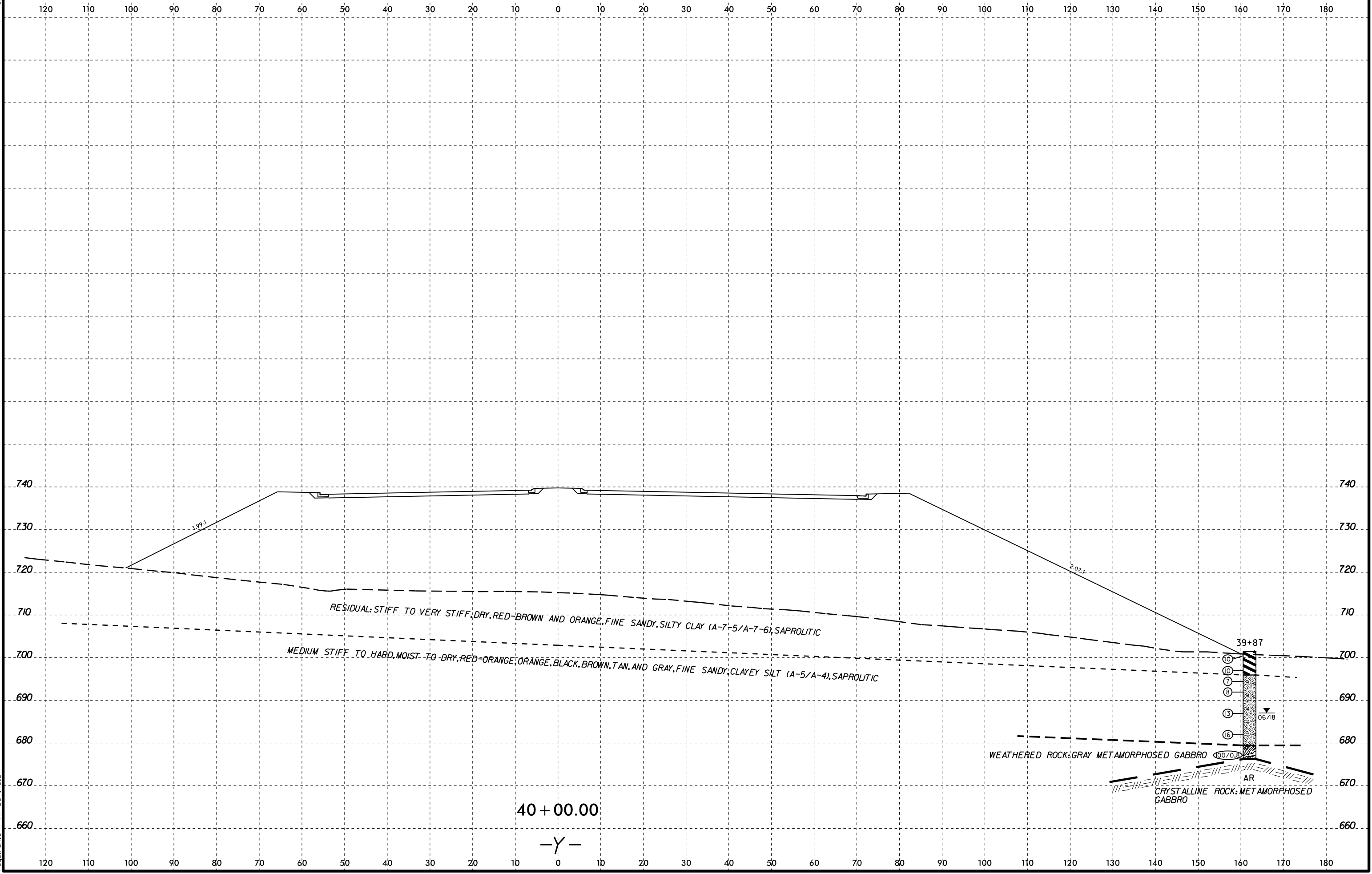
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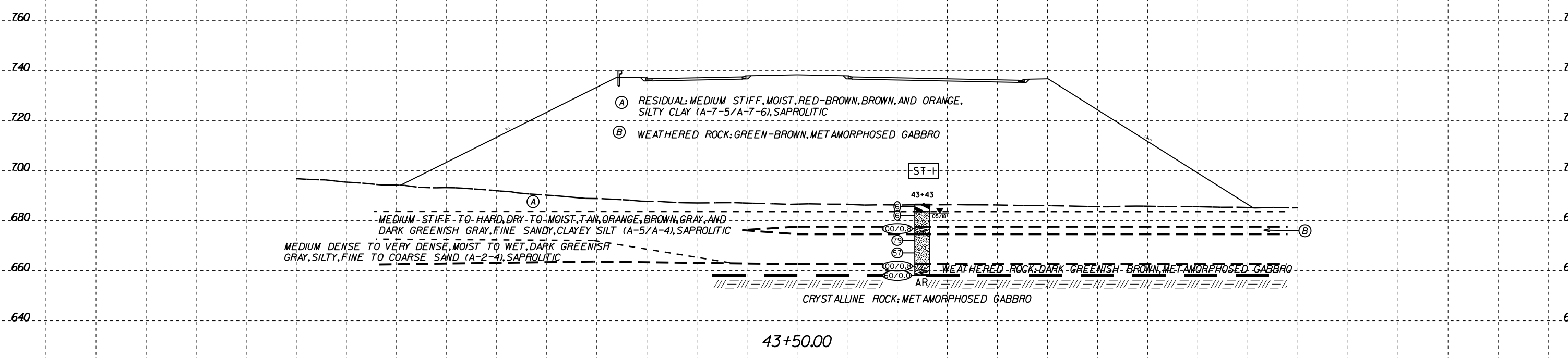
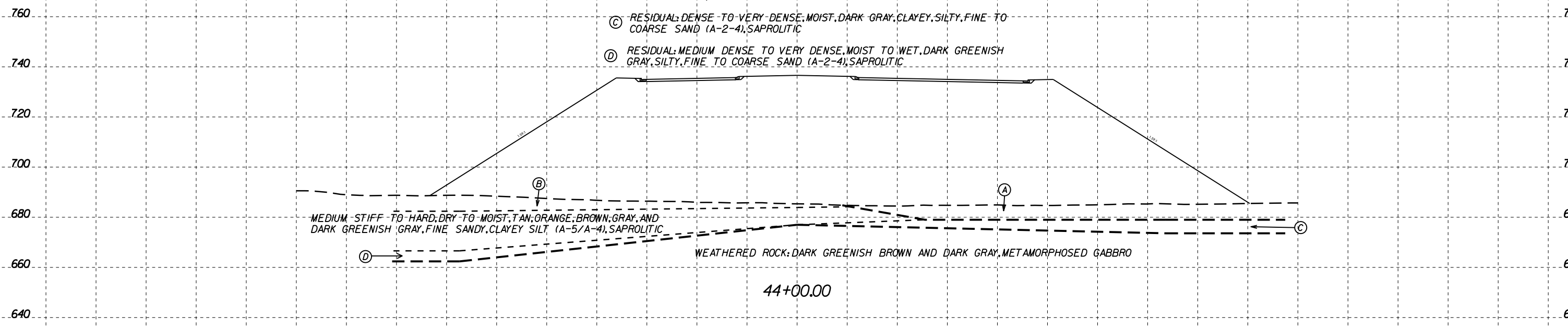
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WEATHERED ROCK: GRAY METAMORPHOSED GABBRO

CRYSTALLINE ROCK: METAMORPHOSED GABBRO

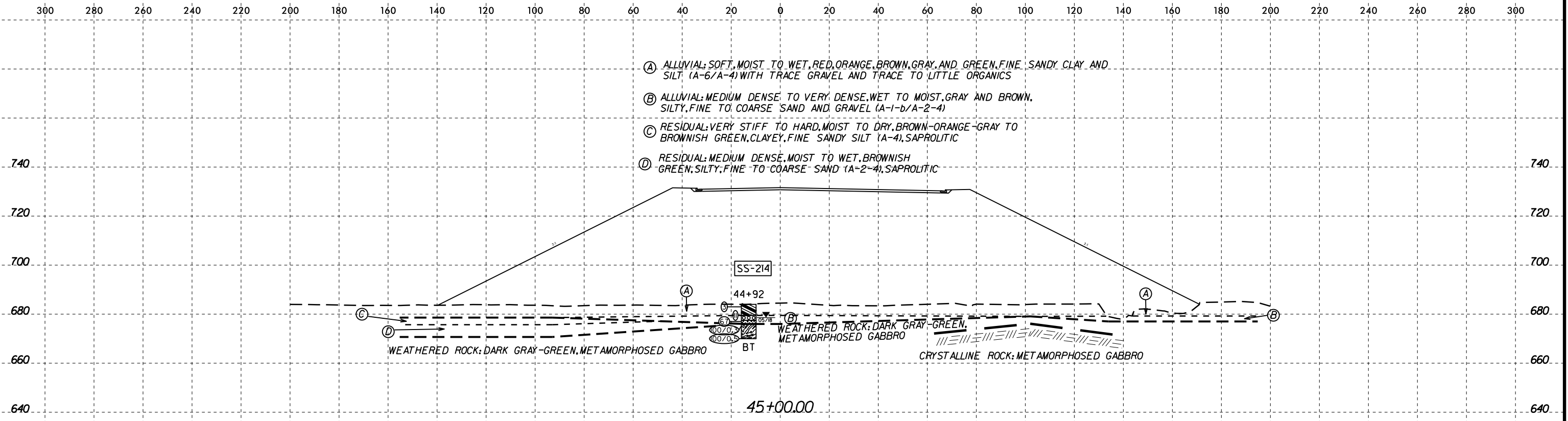
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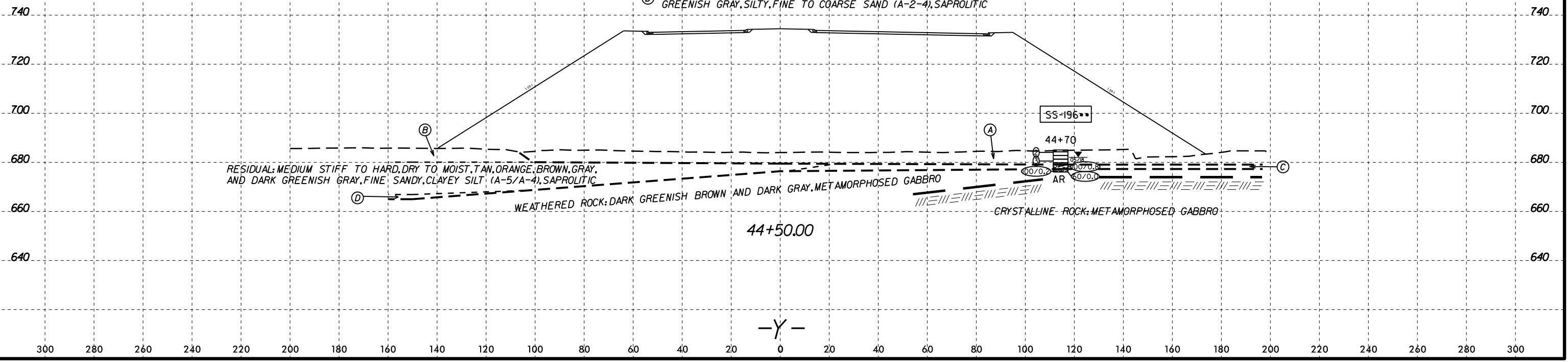
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- (A) ALLUVIAL: SOFT, MOIST TO WET, RED, ORANGE, BROWN, GRAY, AND GREEN, FINE SANDY CLAY AND SILT (A-6/A-4) WITH TRACE GRAVEL AND TRACE TO LITTLE ORGANICS
- (B) ALLUVIAL: MEDIUM DENSE TO VERY DENSE, WET TO MOIST, GRAY AND BROWN, SILTY, FINE TO COARSE SAND AND GRAVEL (A-1-b/A-2-4)
- (C) RESIDUAL: VERY STIFF TO HARD, MOIST TO DRY, BROWN-ORANGE-GRAY TO BROWNISH GREEN, CLAYEY, FINE SANDY SILT (A-4), SAPROLITIC
- (D) RESIDUAL: MEDIUM DENSE TO VERY DENSE, MOIST TO WET, BROWNISH GREEN, SILTY, FINE TO COARSE SAND (A-2-4), SAPROLITIC



- (A) ALLUVIAL: SOFT, MOIST TO WET, RED, ORANGE, BROWN, GRAY, AND GREEN, FINE SANDY CLAY AND SILT (A-6/A-4) WITH TRACE GRAVEL AND TRACE TO LITTLE ORGANICS
- (B) RESIDUAL: MEDIUM STIFF, MOIST, RED-BROWN, BROWN, AND ORANGE, SILTY CLAY (A-7-5/A-7-6), SAPROLITIC
- (C) RESIDUAL: DENSE TO VERY DENSE, MOIST, DARK GRAY, CLAYEY, SILTY, FINE TO COARSE SAND (A-2-4), SAPROLITIC
- (D) RESIDUAL: MEDIUM DENSE TO VERY DENSE, MOIST TO WET, DARK GREENISH GRAY, SILTY, FINE TO COARSE SAND (A-2-4), SAPROLITIC



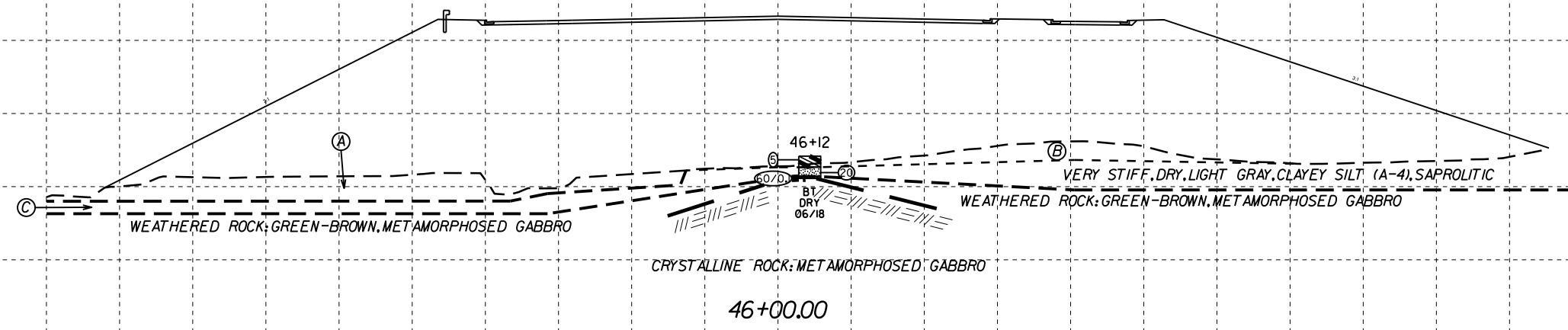
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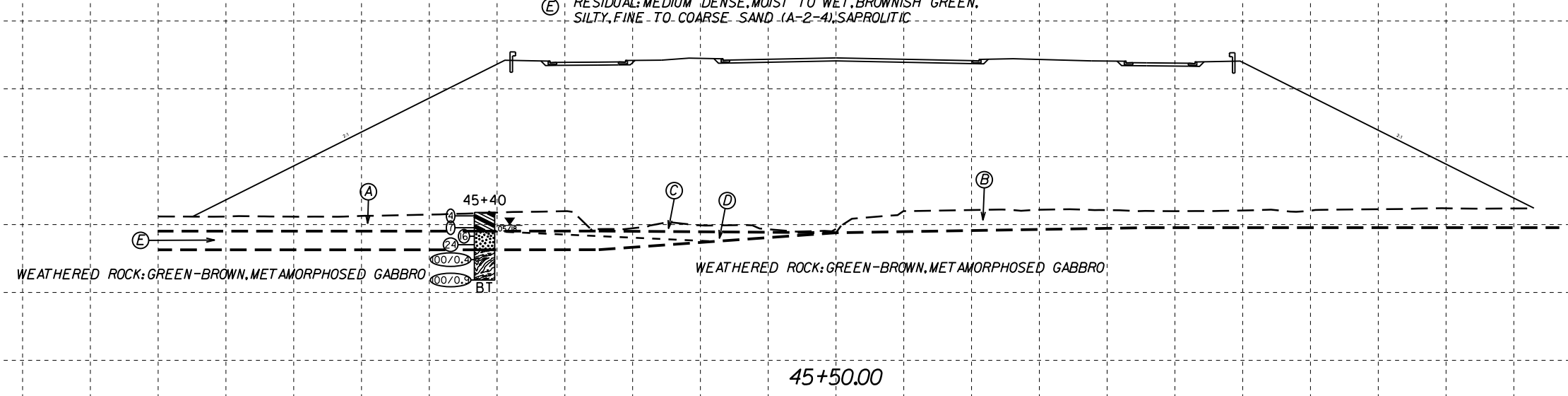
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- (A) ALLUVIAL: SOFT TO MEDIUM STIFF, MOIST TO WET, RED-BROWN-ORANGE-GRAY, SILTY CLAY (A-6) WITH TRACE GRAVEL AND TRACE TO LITTLE ORGANICS
- (B) RESIDUAL: MEDIUM STIFF, MOIST, RED-BROWN, SANDY, SILTY CLAY (A-7-6)
- (C) RESIDUAL: VERY STIFF, DRY, LIGHT GRAY, CLAYEY SILT (A-4), SAPROLITIC



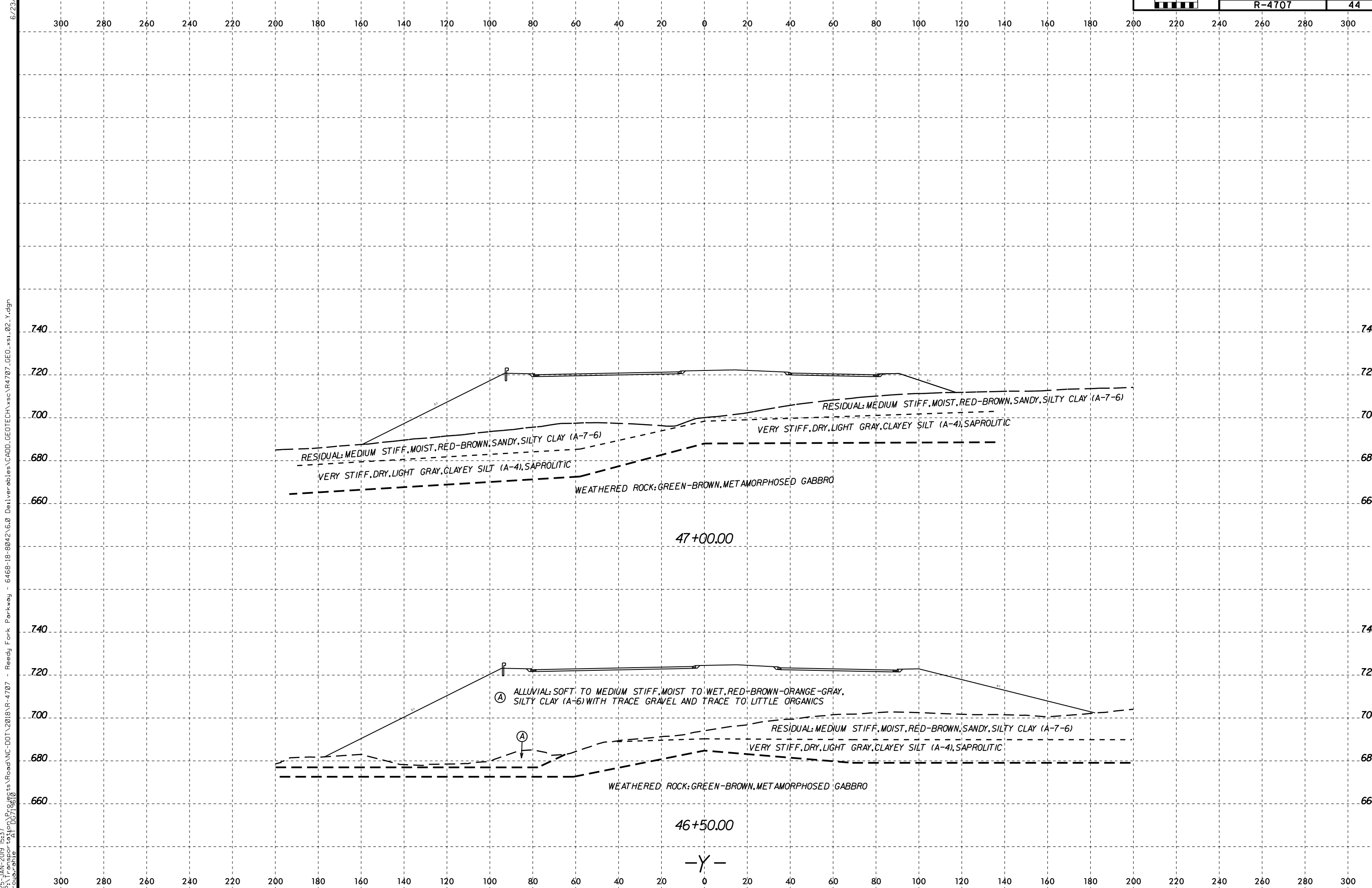
- (A) ALLUVIAL: SOFT TO MEDIUM STIFF, MOIST TO WET, RED-BROWN-ORANGE-GRAY, SILTY CLAY (A-6) WITH TRACE GRAVEL AND TRACE TO LITTLE ORGANICS
- (B) ALLUVIAL: SOFT, MOIST TO WET, RED-ORANGE-BROWN-GRAY, FINE SANDY SILT AND CLAY (A-4/A-6) WITH TRACE GRAVEL AND LITTLE ORGANICS
- (C) ALLUVIAL: MEDIUM DENSE TO VERY DENSE, WET TO MOIST, GRAY AND BROWN, SILTY, FINE TO COARSE SAND AND GRAVEL (A-1-B/A-2-4)
- (D) RESIDUAL: VERY STIFF TO HARD, MOIST TO DRY, BROWN-ORANGE-GRAY TO BROWNISH GREEN, CLAYEY, FINE SANDY SILT (A-4), SAPROLITIC
- (E) RESIDUAL: MEDIUM DENSE, MOIST TO WET, BROWNISH GREEN, SILTY, FINE TO COARSE SAND (A-2-4), SAPROLITIC



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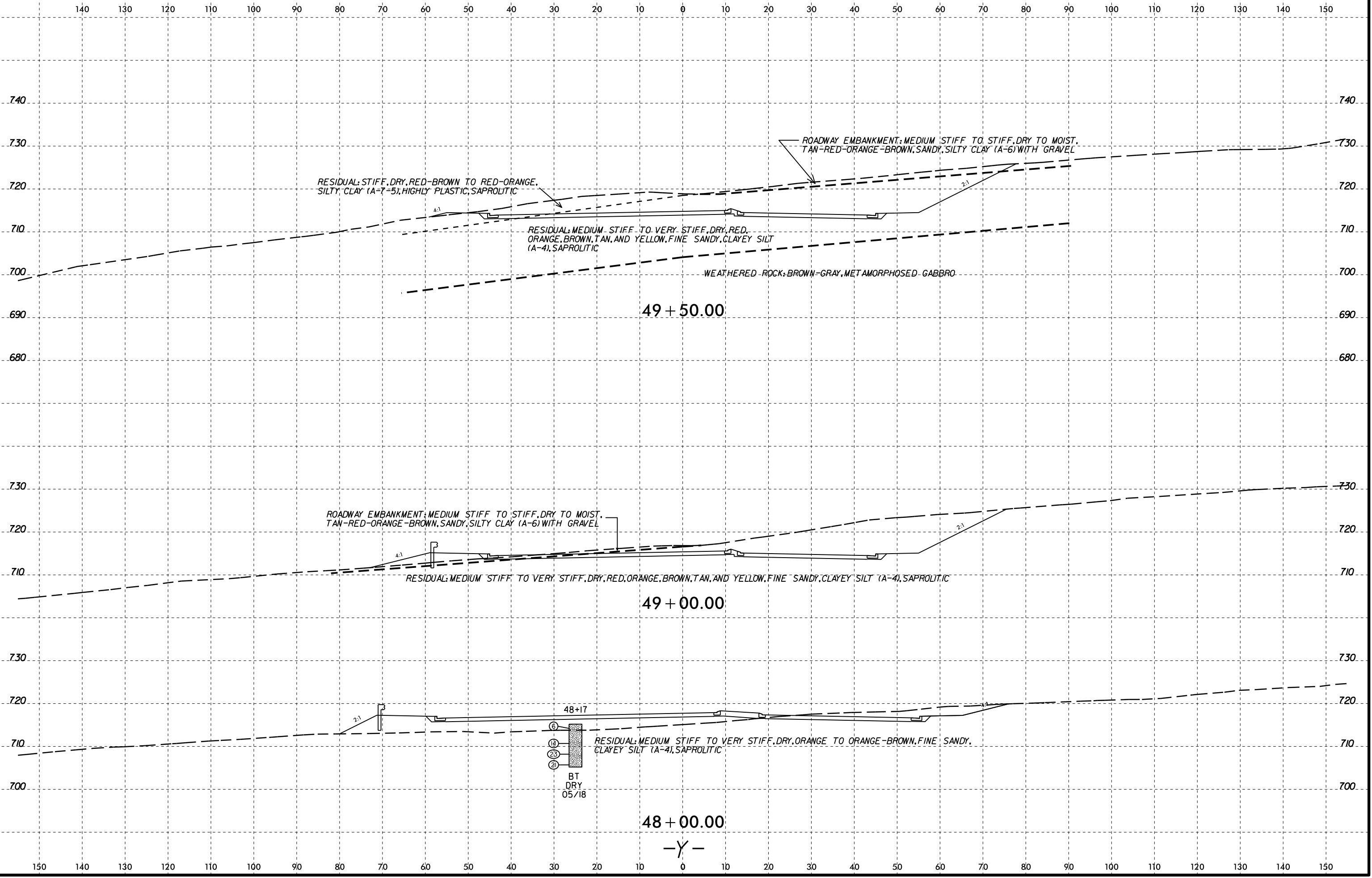
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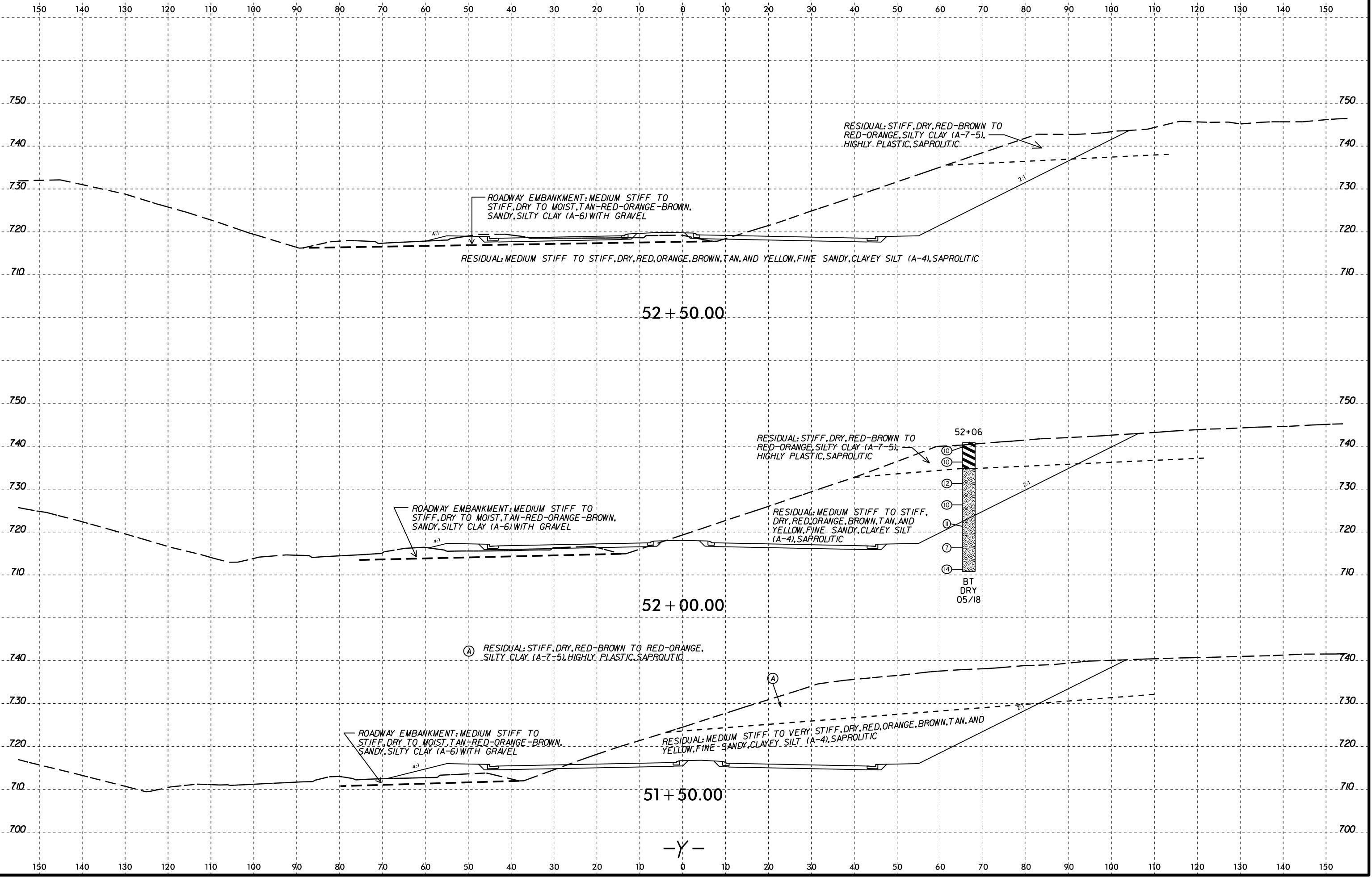


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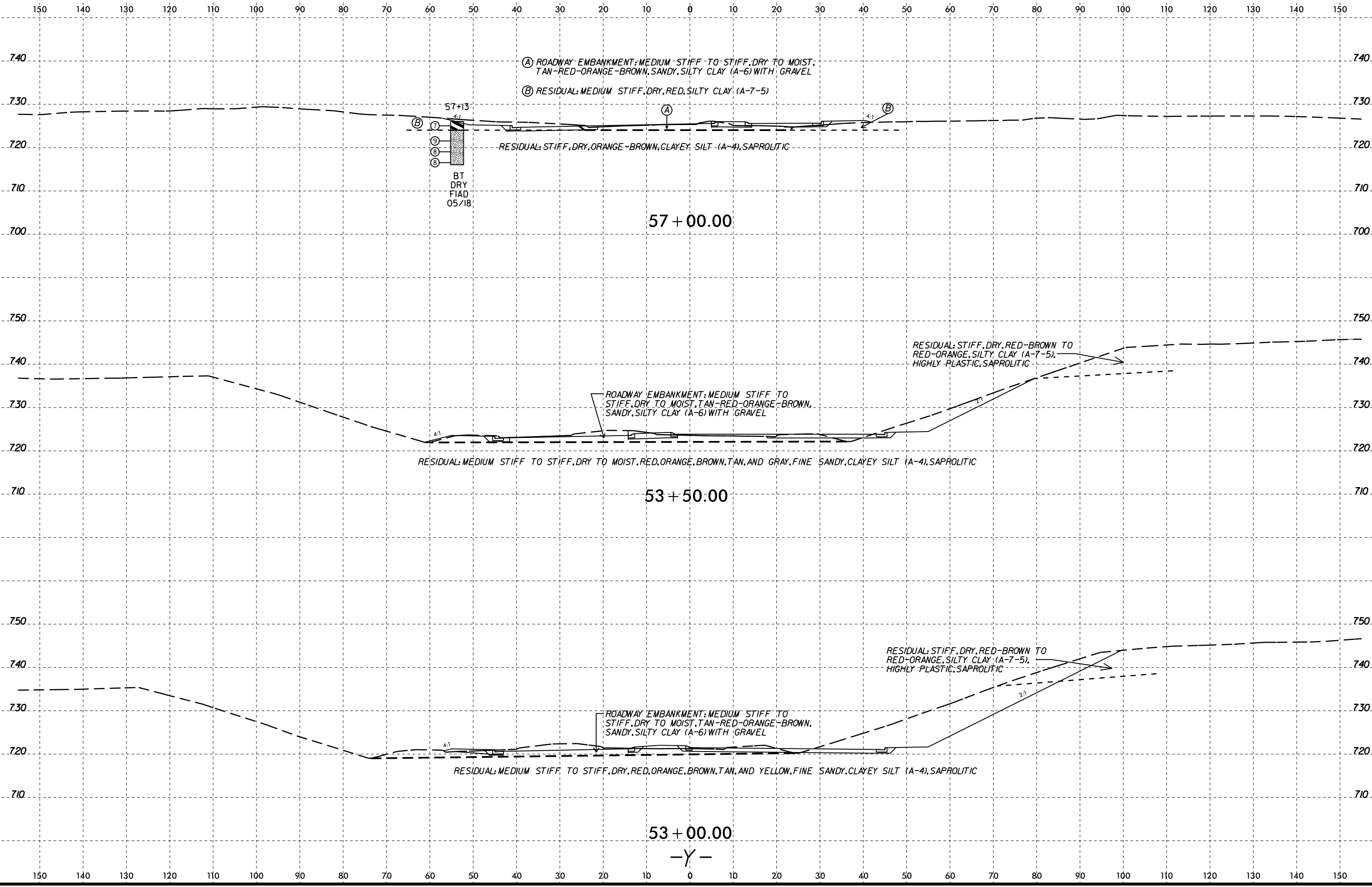
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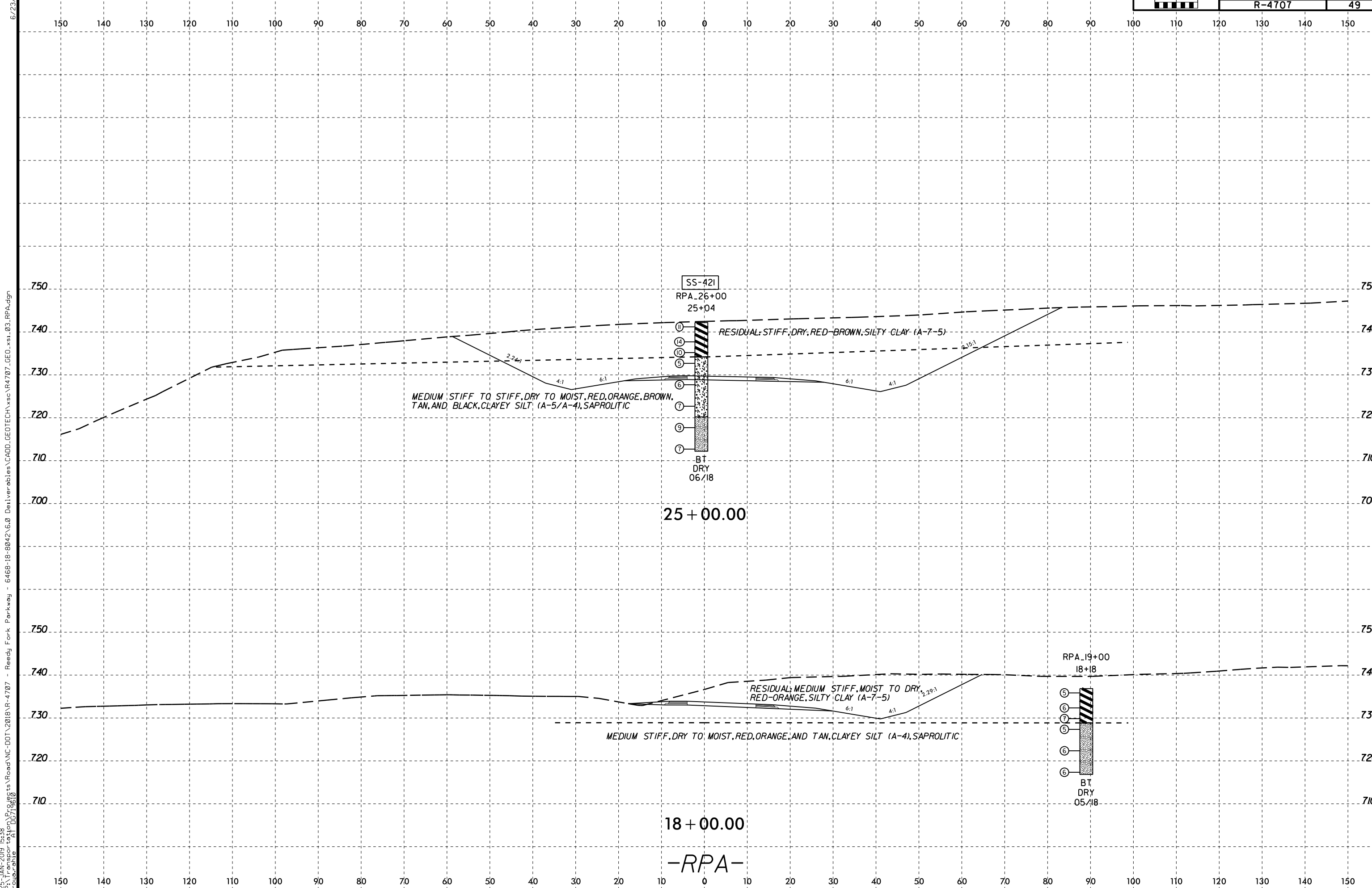
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SS-421
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 DRY
 06/18

MEDIUM STIFF TO STIFF, DRY TO MOIST, RED, ORANGE, BROWN, TAN, AND BLACK, CLAYEY SILT (A-5/A-4), SAPROLITIC

RESIDUAL, STIFF, DRY, RED-BROWN, SILTY CLAY (A-7-5)

25 + 00.00

RPA_19+00
 18+18
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 DRY
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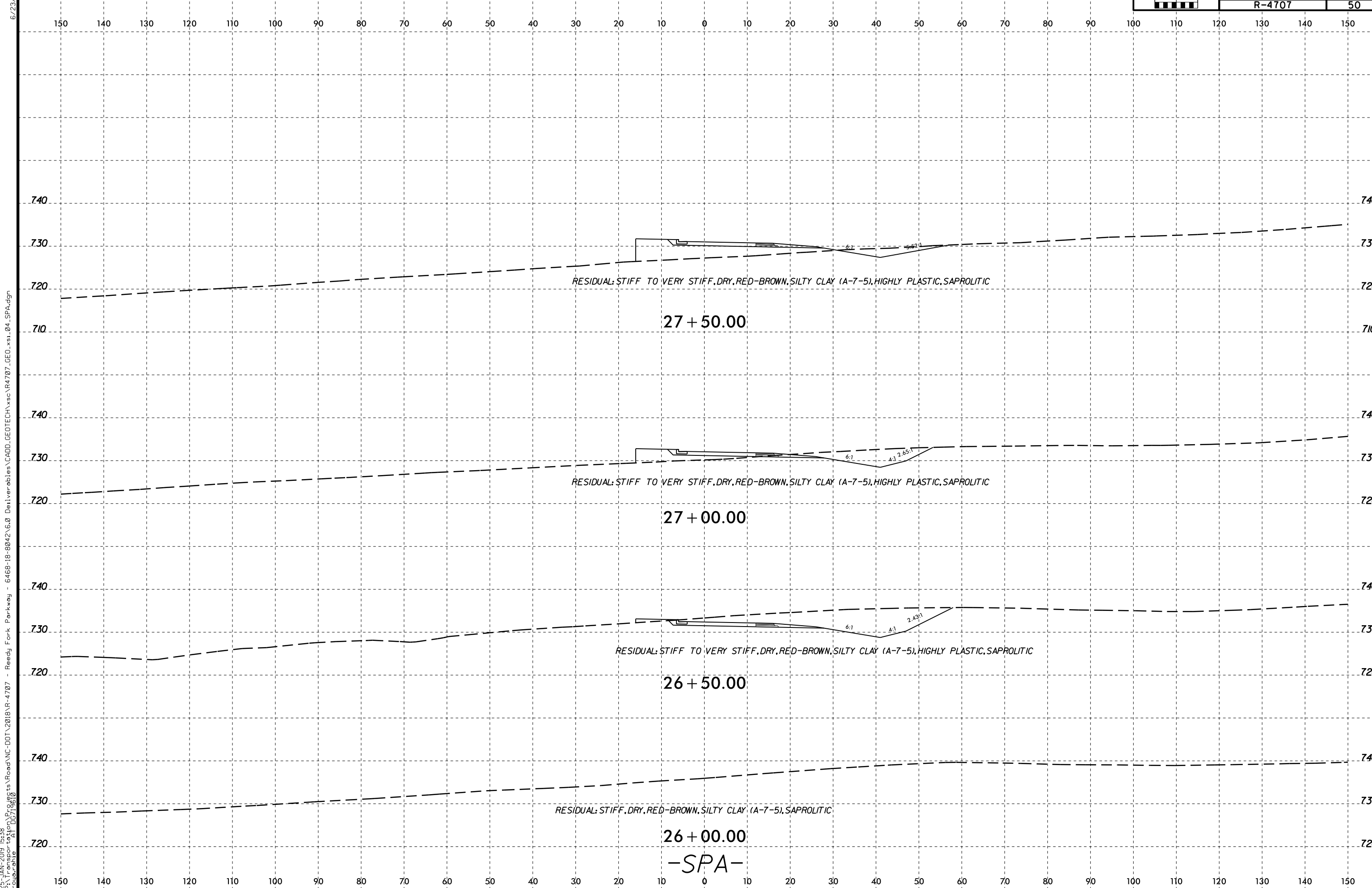
RESIDUAL, MEDIUM STIFF, MOIST TO DRY, RED-ORANGE, SILTY CLAY (A-7-5)

MEDIUM STIFF, DRY TO MOIST, RED, ORANGE, AND TAN, CLAYEY SILT (A-4), SAPROLITIC

18 + 00.00

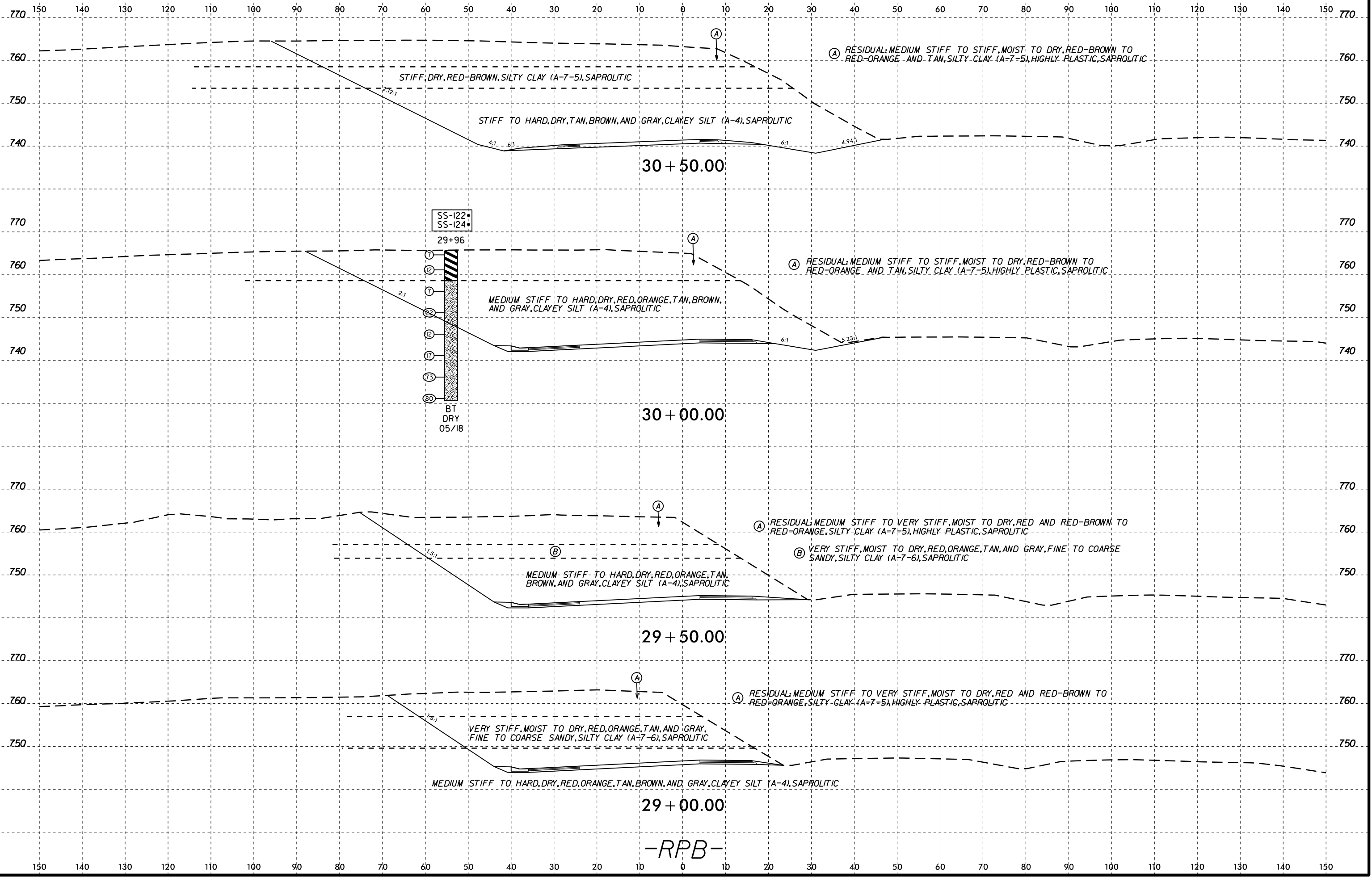
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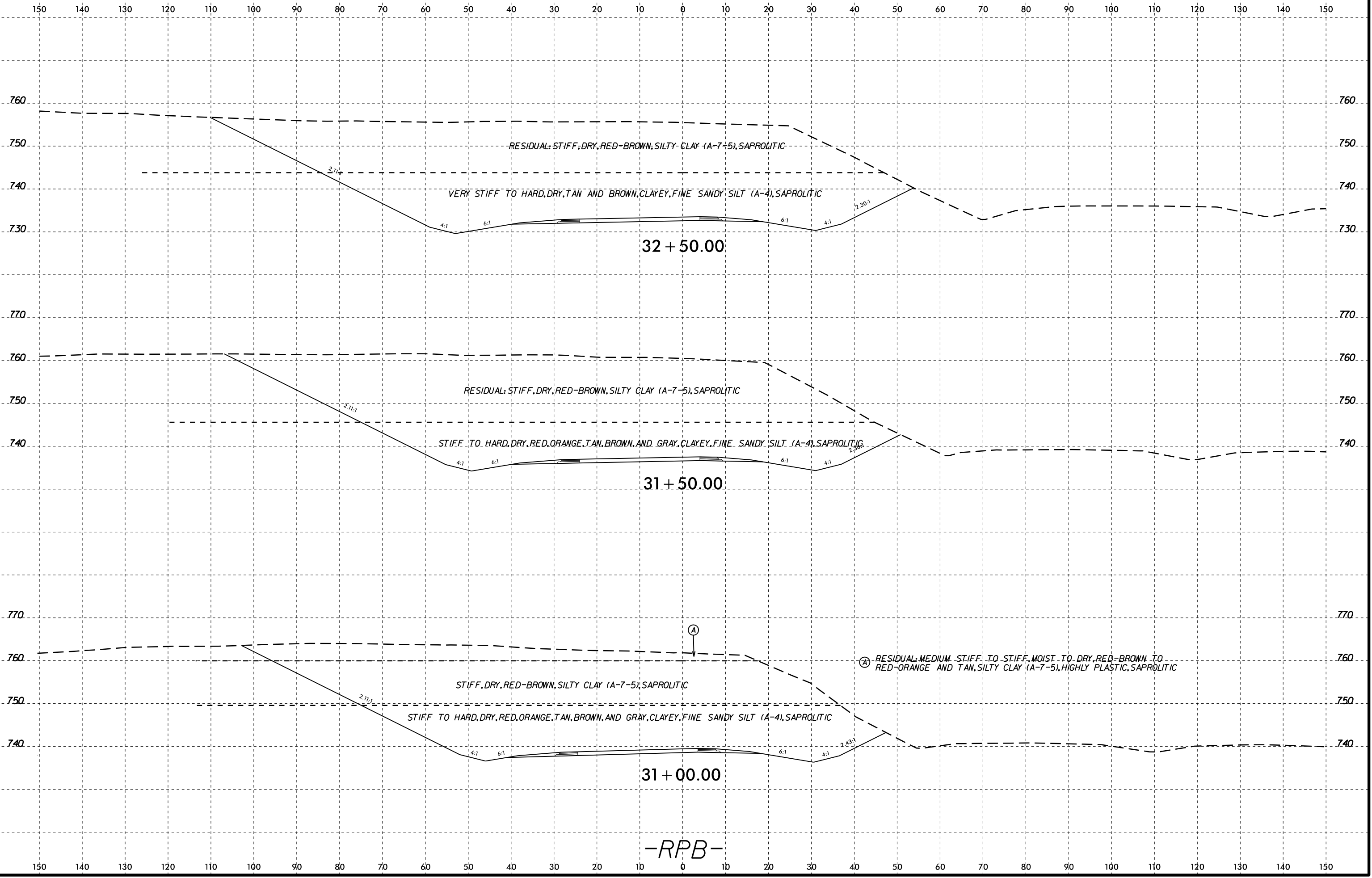
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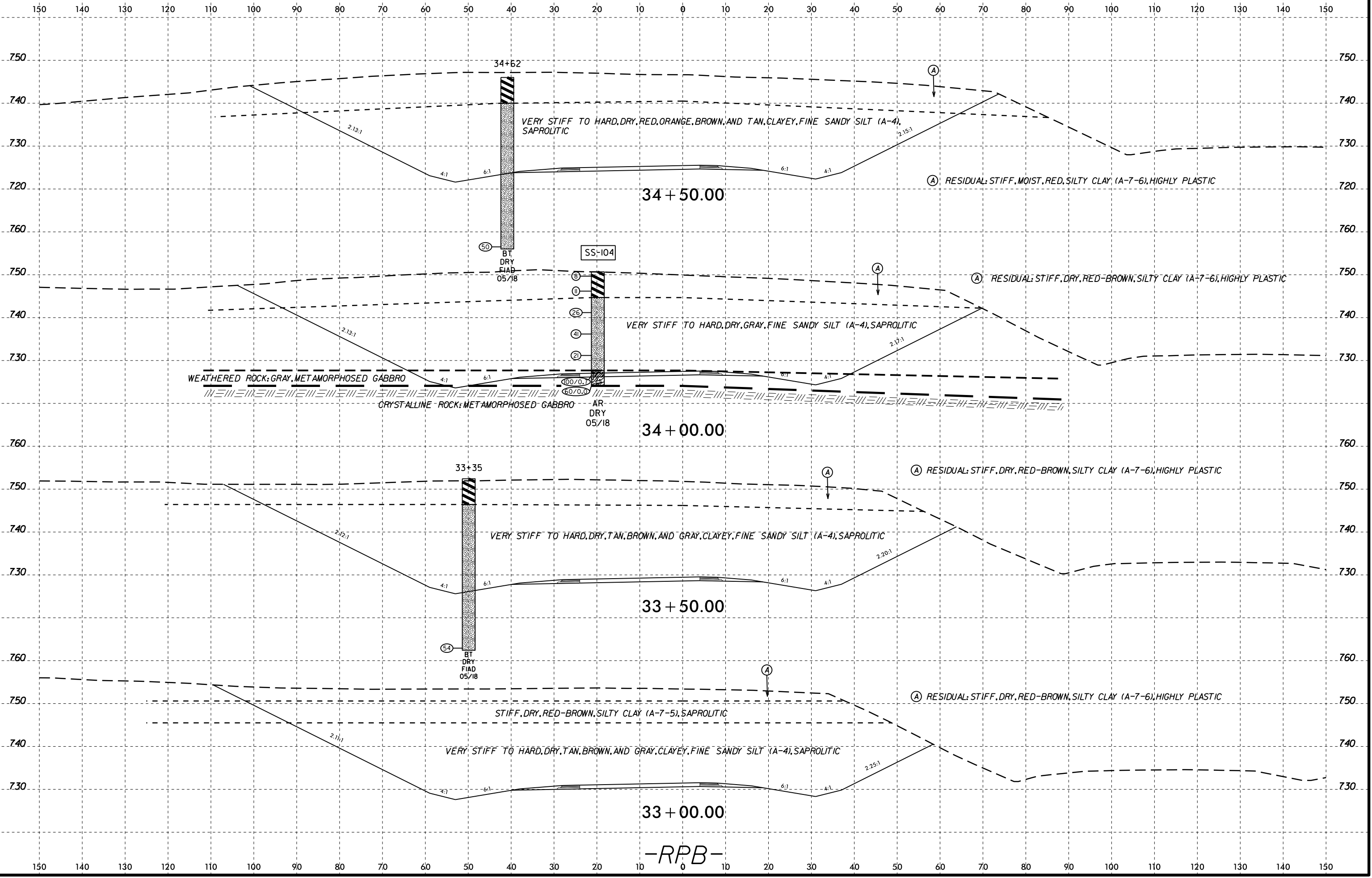
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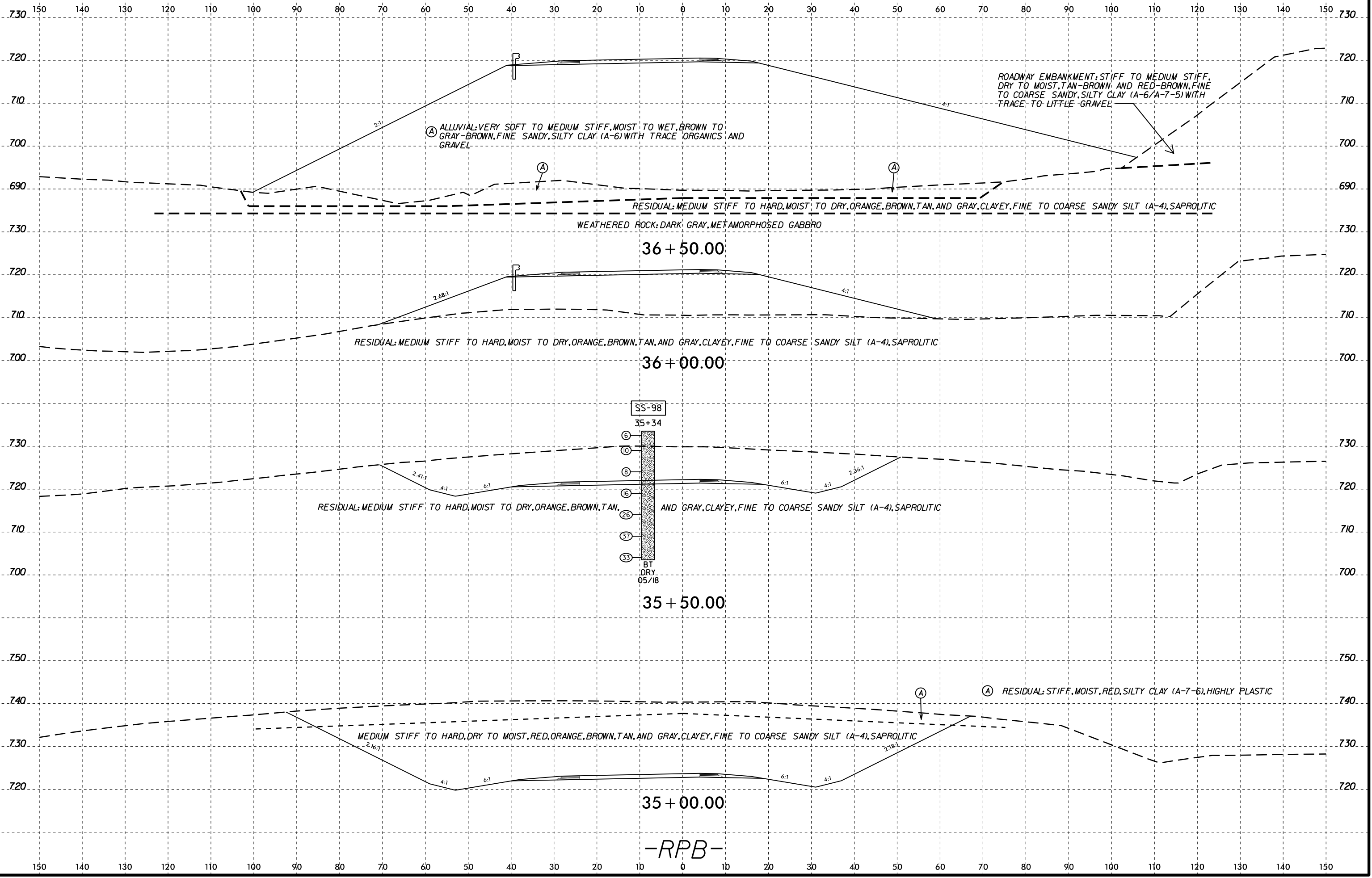
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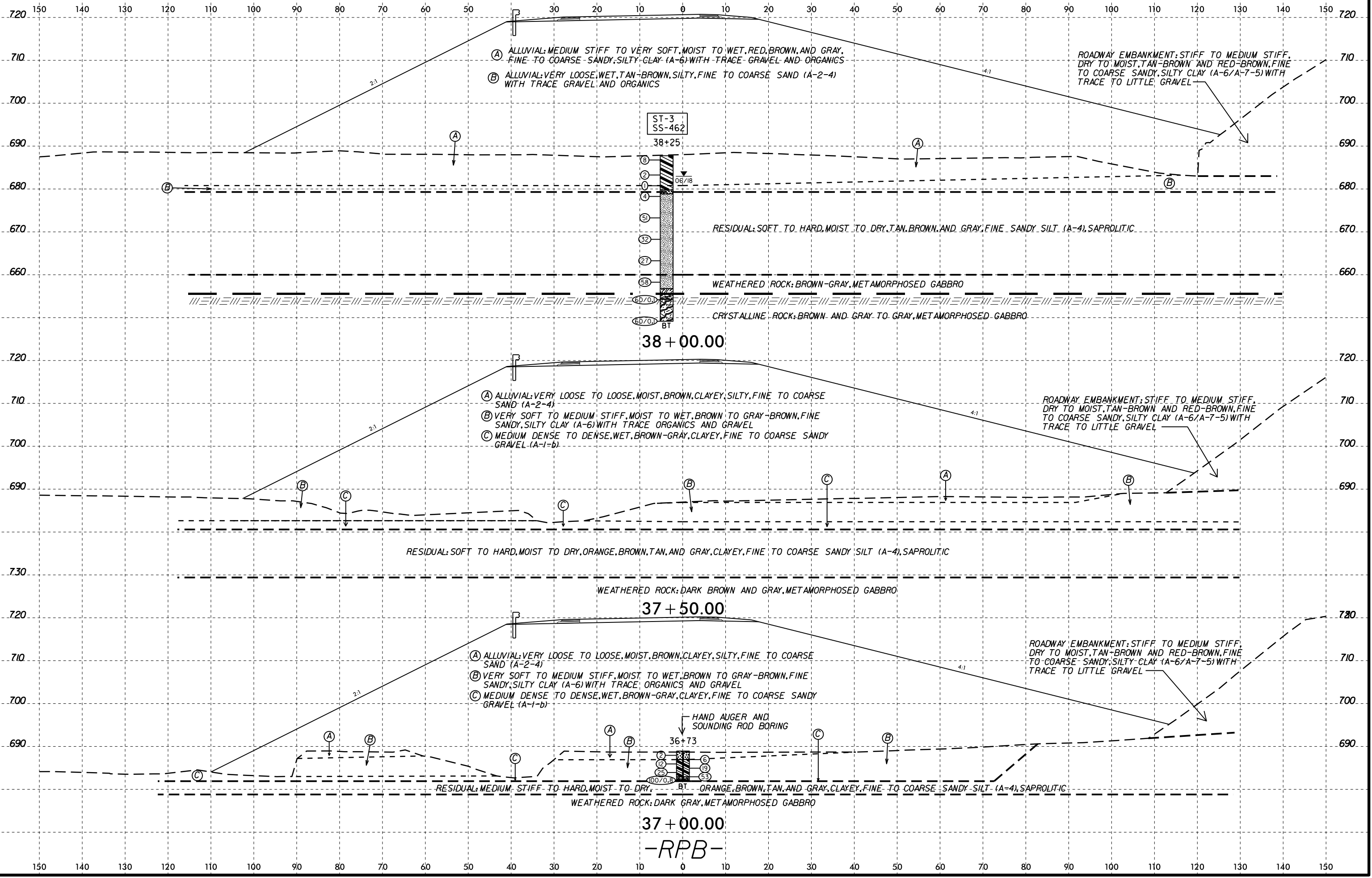
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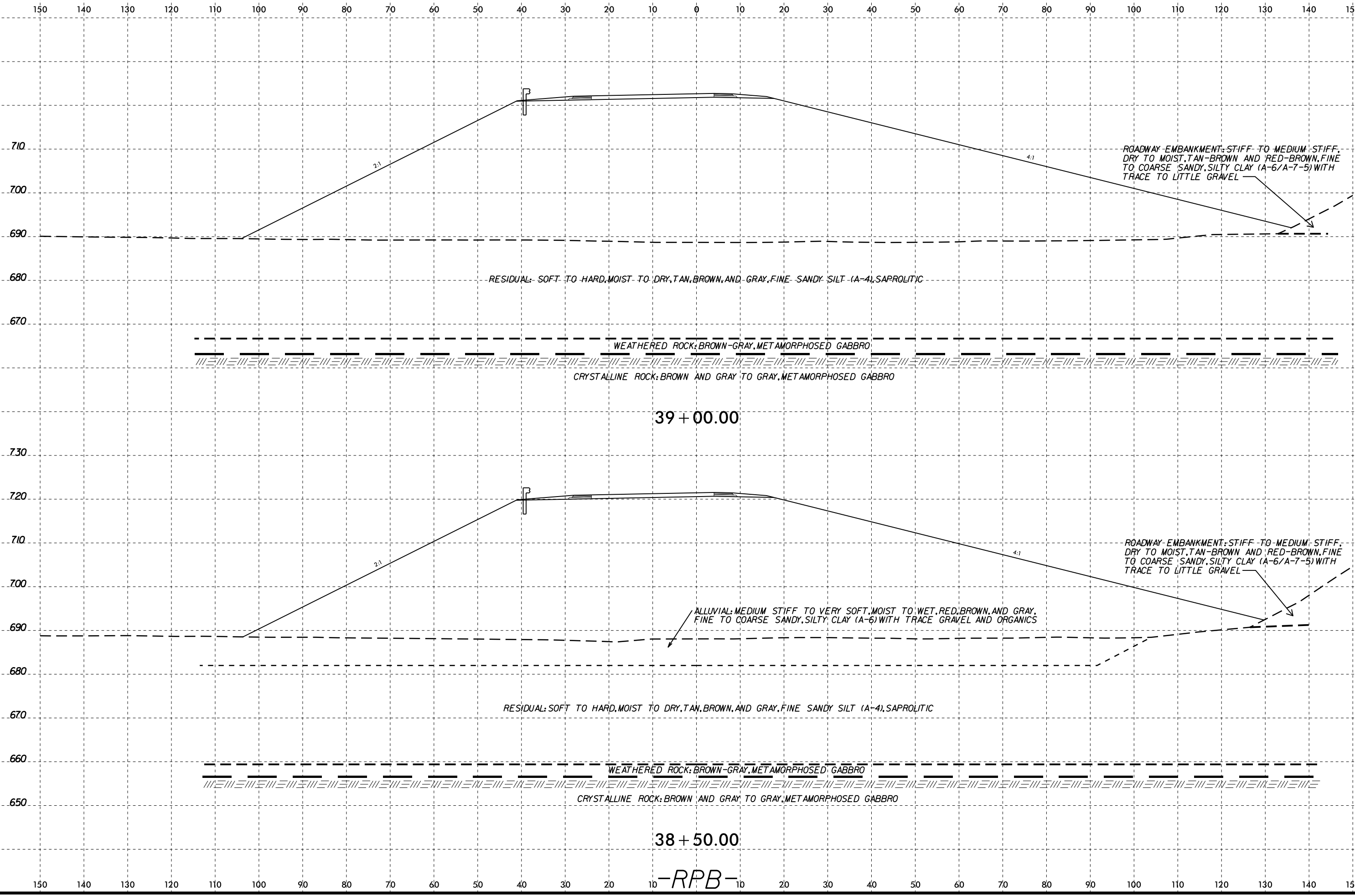
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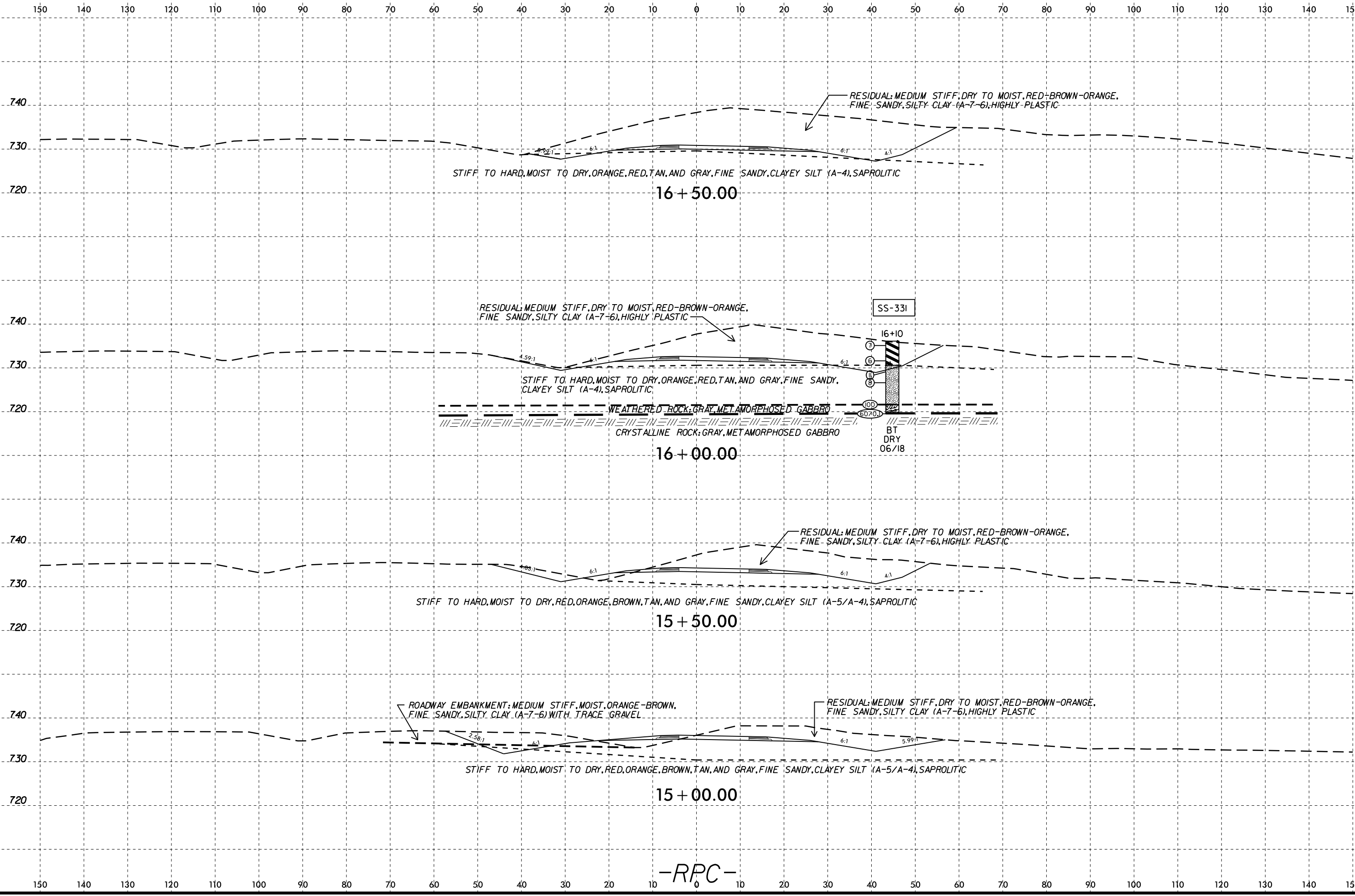


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38 + 50.00

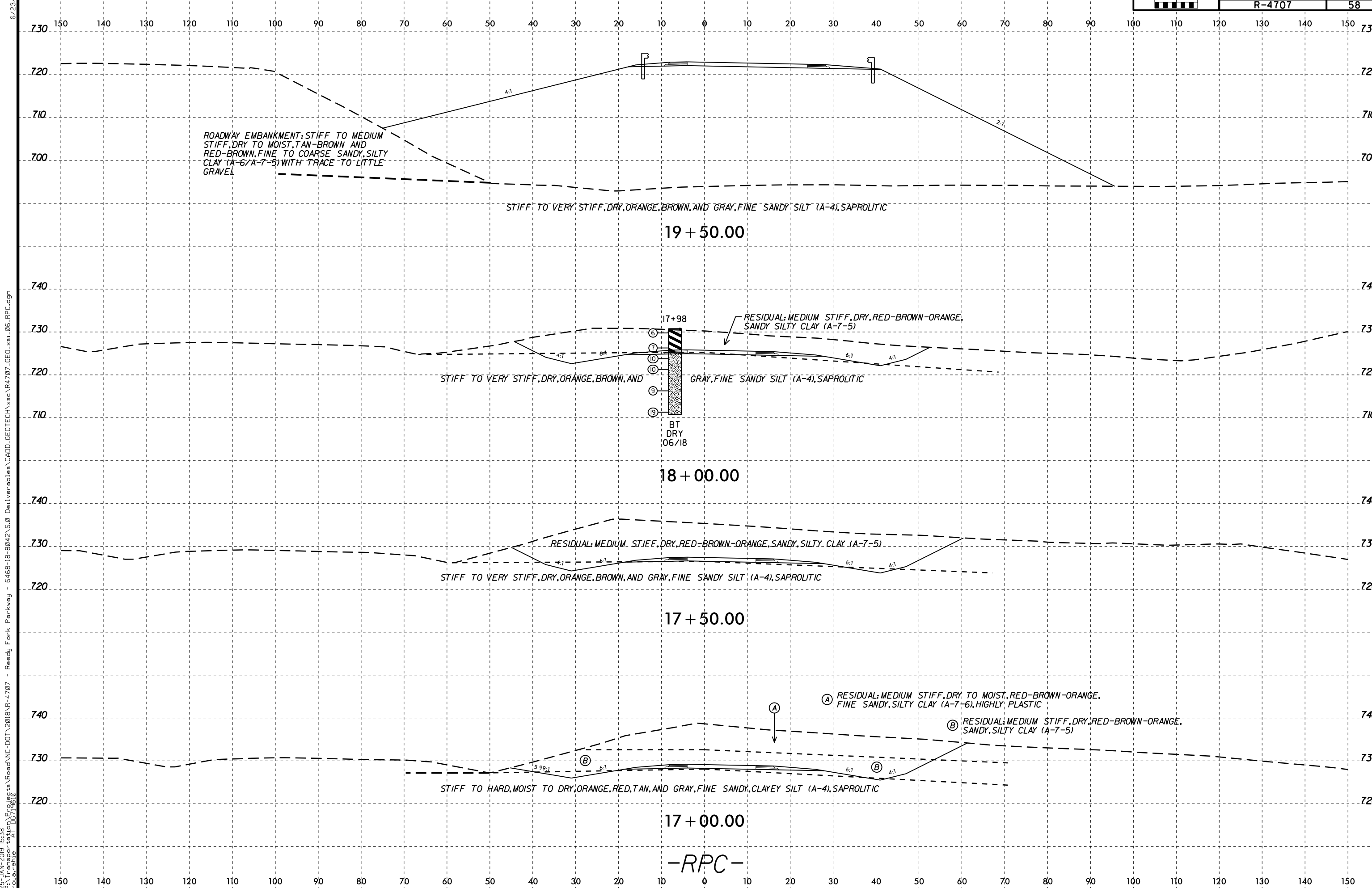
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ROADWAY EMBANKMENT: STIFF TO MEDIUM STIFF, DRY TO MOIST, TAN-BROWN AND RED-BROWN, FINE TO COARSE SANDY, SILTY CLAY (A-6/A-7-5) WITH TRACE TO LITTLE GRAVEL

STIFF TO VERY STIFF, DRY, ORANGE, BROWN, AND GRAY, FINE SANDY SILT (A-4), SAPROLITIC

19 + 50.00

RESIDUAL: MEDIUM STIFF, DRY, RED-BROWN-ORANGE, SANDY, SILTY CLAY (A-7-5)

STIFF TO VERY STIFF, DRY, ORANGE, BROWN, AND

GRAY, FINE SANDY SILT (A-4), SAPROLITIC

BT
DRY
06/18

18 + 00.00

RESIDUAL: MEDIUM STIFF, DRY, RED-BROWN-ORANGE, SANDY, SILTY CLAY (A-7-5)

STIFF TO VERY STIFF, DRY, ORANGE, BROWN, AND GRAY, FINE SANDY SILT (A-4), SAPROLITIC

17 + 50.00

(A) RESIDUAL: MEDIUM STIFF, DRY TO MOIST, RED-BROWN-ORANGE, FINE SANDY, SILTY CLAY (A-7-6), HIGHLY PLASTIC

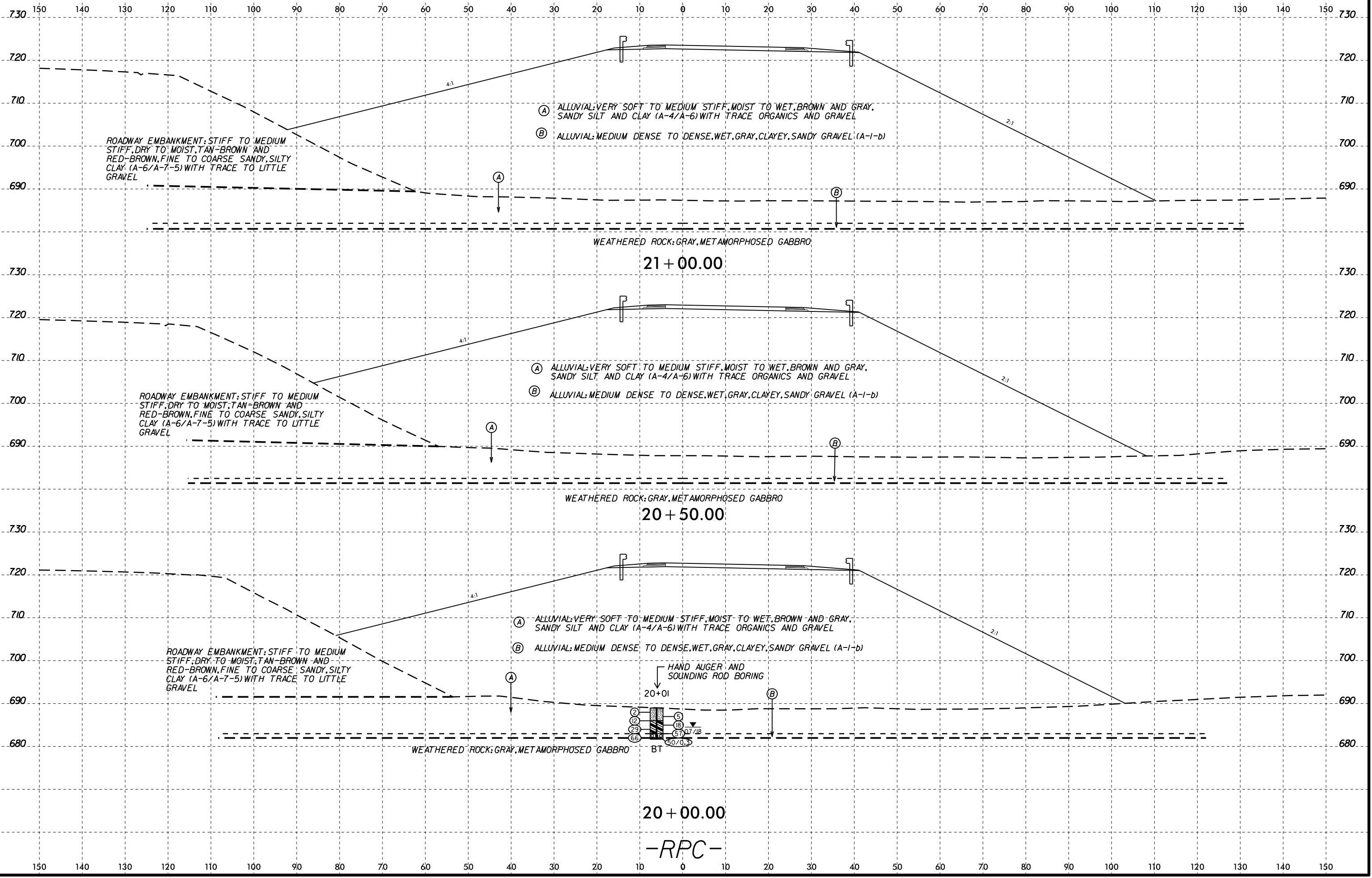
(B) RESIDUAL: MEDIUM STIFF, DRY, RED-BROWN-ORANGE, SANDY, SILTY CLAY (A-7-5)

STIFF TO HARD, MOIST TO DRY, ORANGE, RED, TAN, AND GRAY, FINE SANDY, CLAYEY SILT (A-4), SAPROLITIC

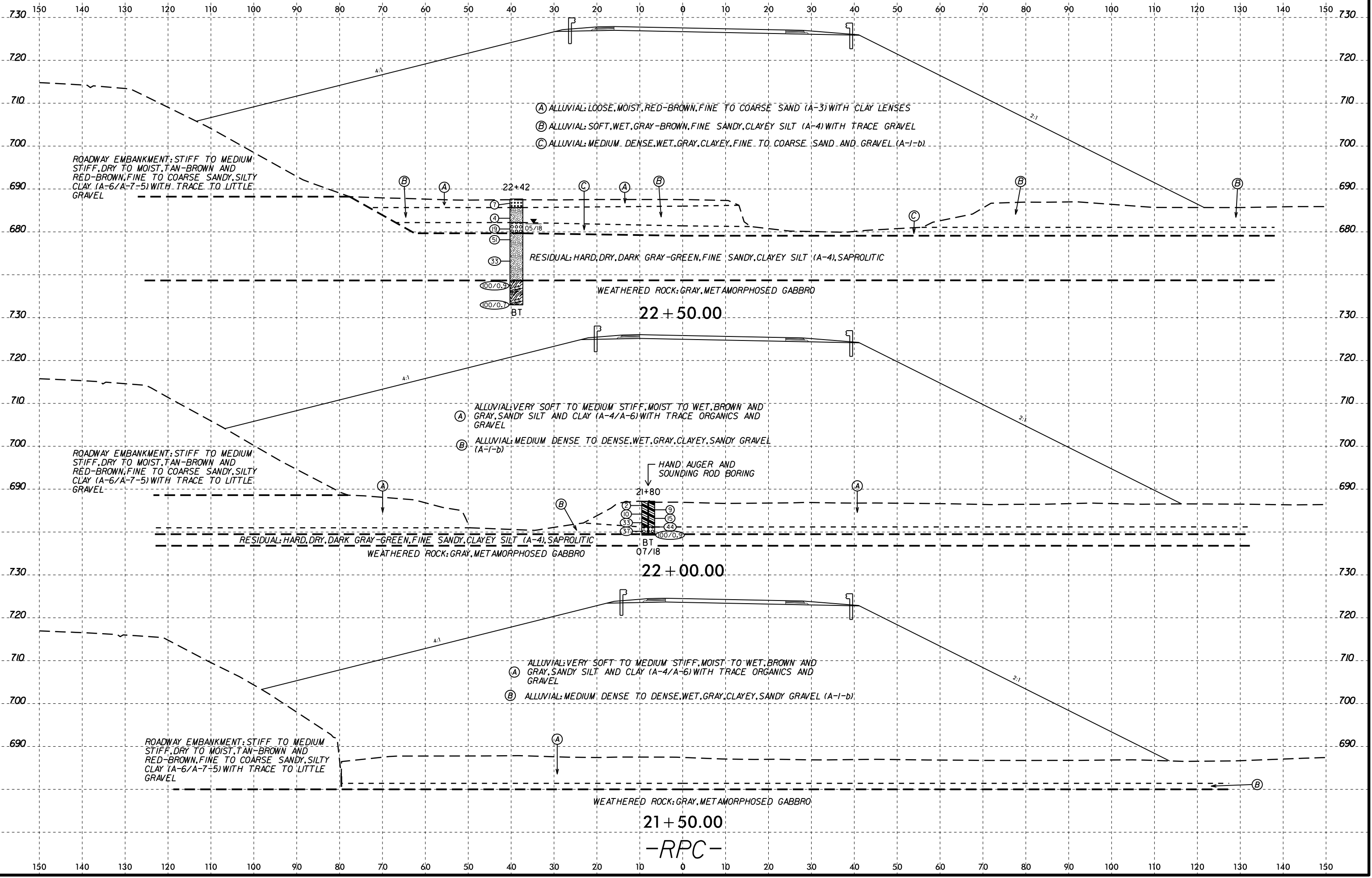
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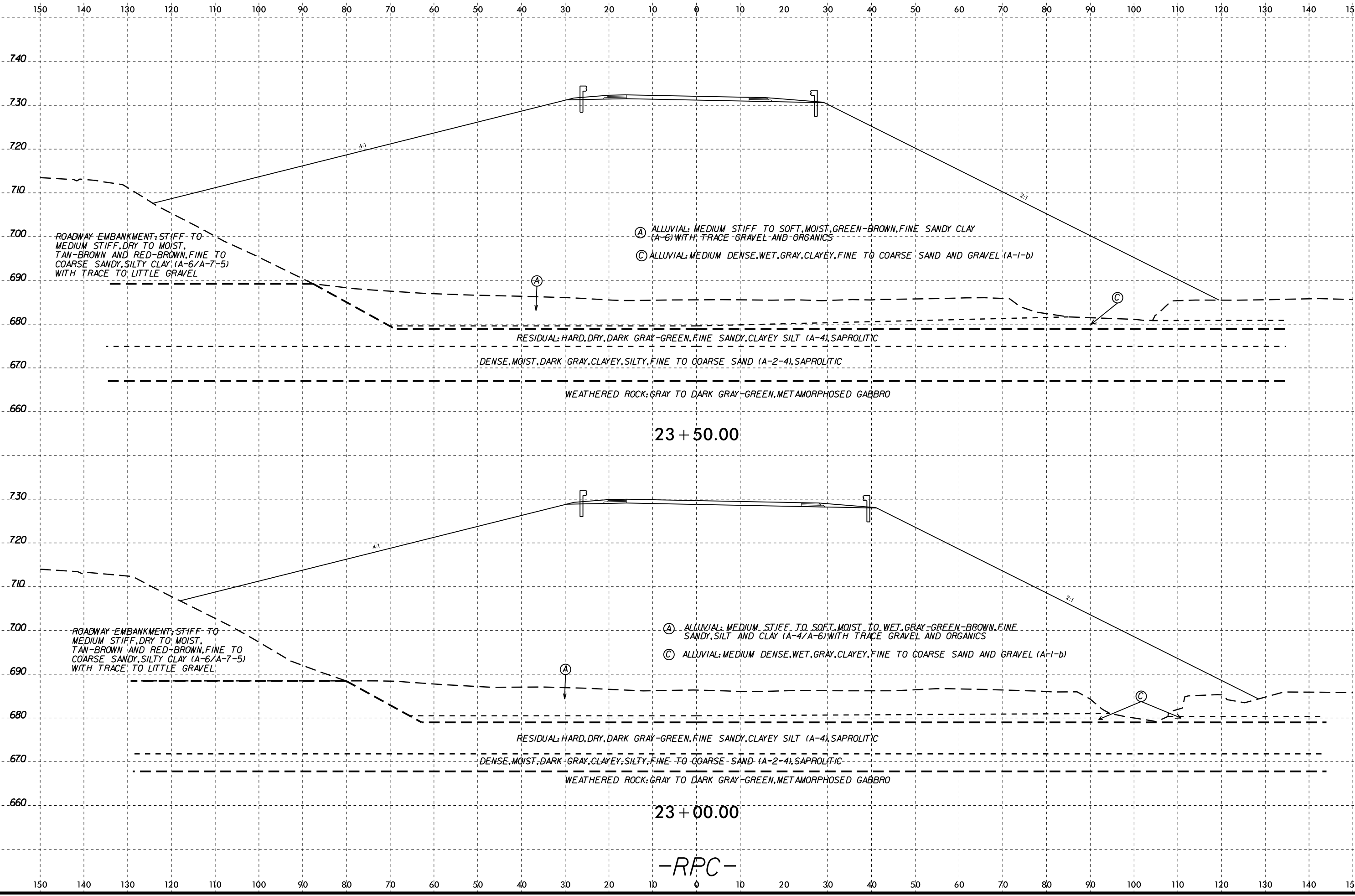


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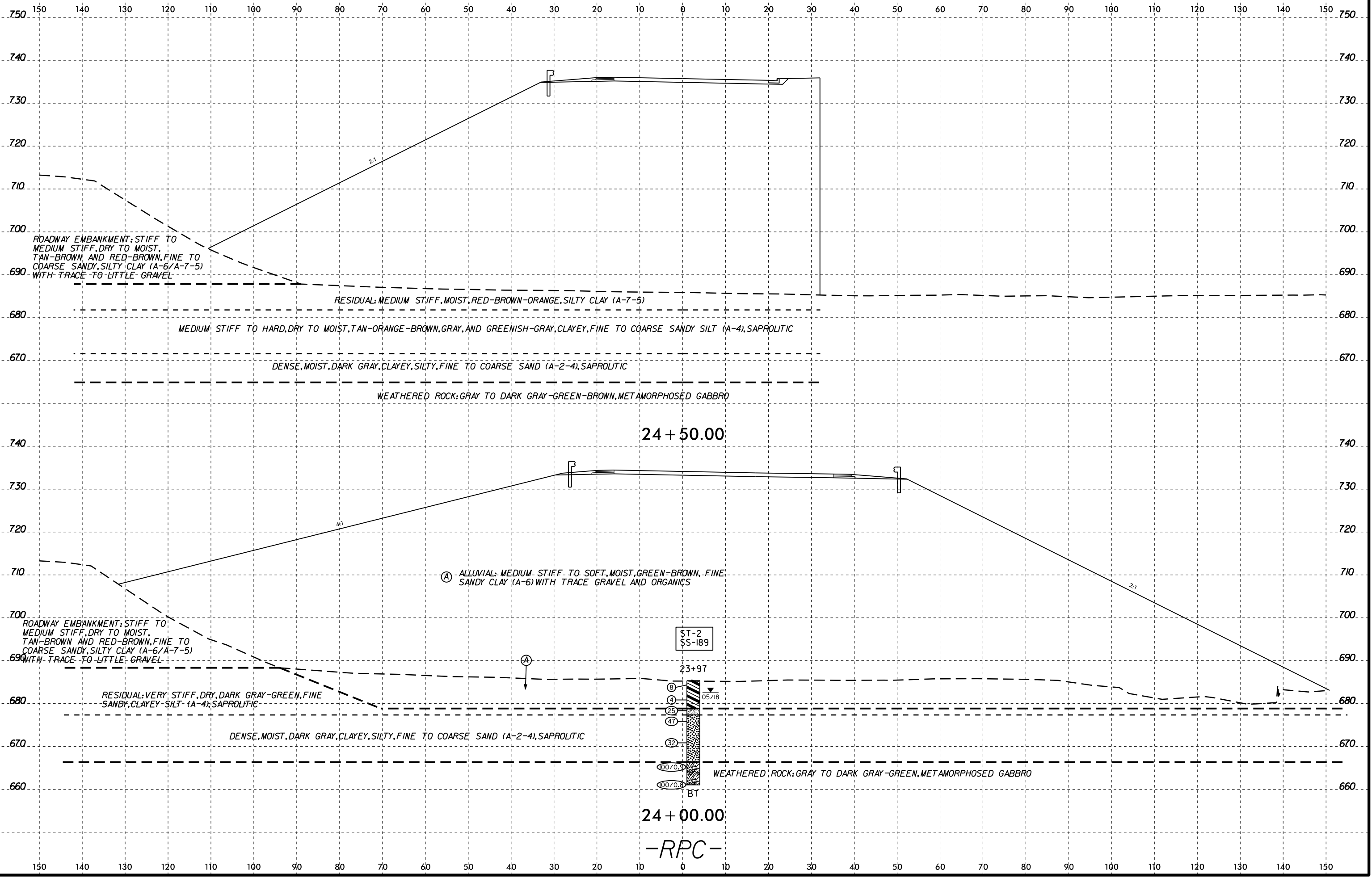
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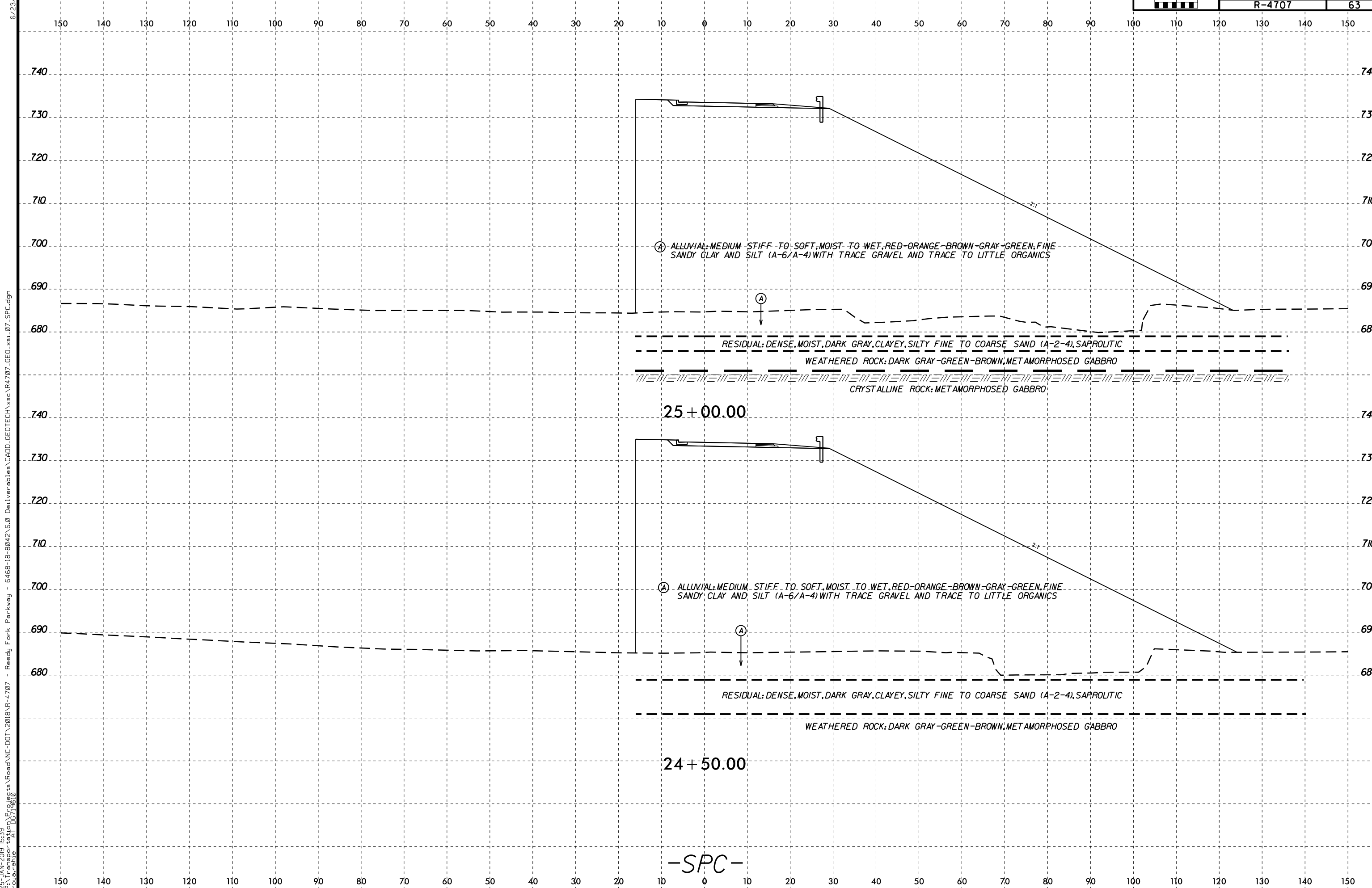
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(A) ALLUVIAL: MEDIUM STIFF TO SOFT, MOIST TO WET, RED-ORANGE-BROWN-GRAY-GREEN, FINE SANDY CLAY AND SILT (A-6/A-4) WITH TRACE GRAVEL AND TRACE TO LITTLE ORGANICS

RESIDUAL: DENSE, MOIST, DARK GRAY, CLAYEY, SILTY FINE TO COARSE SAND (A-2-4), SAPROLITIC

WEATHERED ROCK: DARK GRAY-GREEN-BROWN, METAMORPHOSED GABBRO

CRYSTALLINE ROCK: METAMORPHOSED GABBRO

25 + 00.00

(A) ALLUVIAL: MEDIUM STIFF TO SOFT, MOIST TO WET, RED-ORANGE-BROWN-GRAY-GREEN, FINE SANDY CLAY AND SILT (A-6/A-4) WITH TRACE GRAVEL AND TRACE TO LITTLE ORGANICS

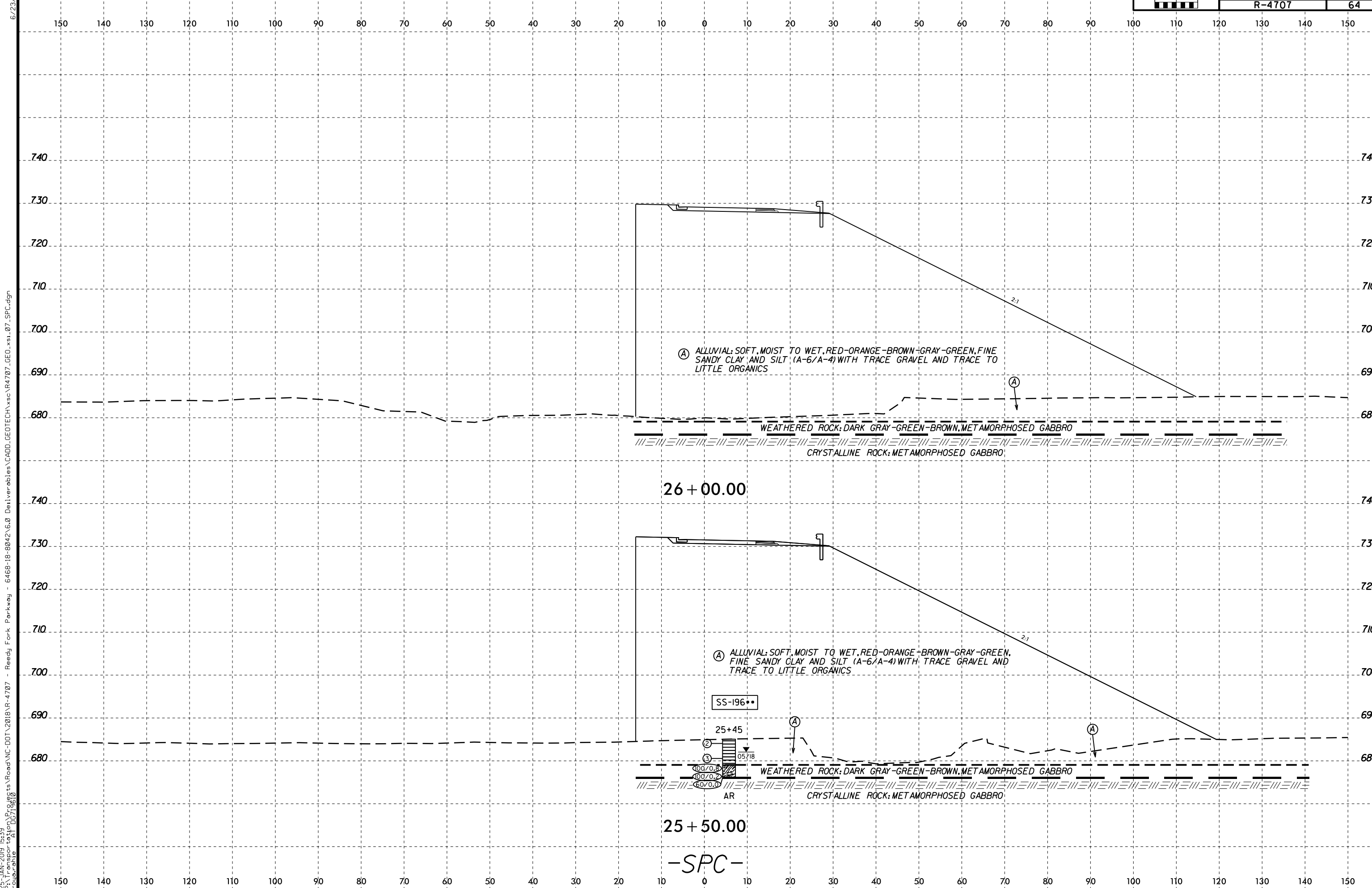
RESIDUAL: DENSE, MOIST, DARK GRAY, CLAYEY, SILTY FINE TO COARSE SAND (A-2-4), SAPROLITIC

WEATHERED ROCK: DARK GRAY-GREEN-BROWN, METAMORPHOSED GABBRO

24 + 50.00

-SPC-

25-JAN-2019 16:39
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 Author: A100719610



26 + 00.00

25 + 50.00

-SPC-

(A) ALLUVIAL: SOFT, MOIST TO WET, RED-ORANGE-BROWN-GRAY-GREEN, FINE SANDY CLAY AND SILT (A-6/A-4) WITH TRACE GRAVEL AND TRACE TO LITTLE ORGANICS

(A) ALLUVIAL: SOFT, MOIST TO WET, RED-ORANGE-BROWN-GRAY-GREEN, FINE SANDY CLAY AND SILT (A-6/A-4) WITH TRACE GRAVEL AND TRACE TO LITTLE ORGANICS

SS-196

25+45

05/18

100/0.8

100/0.2

60/0.0

AR

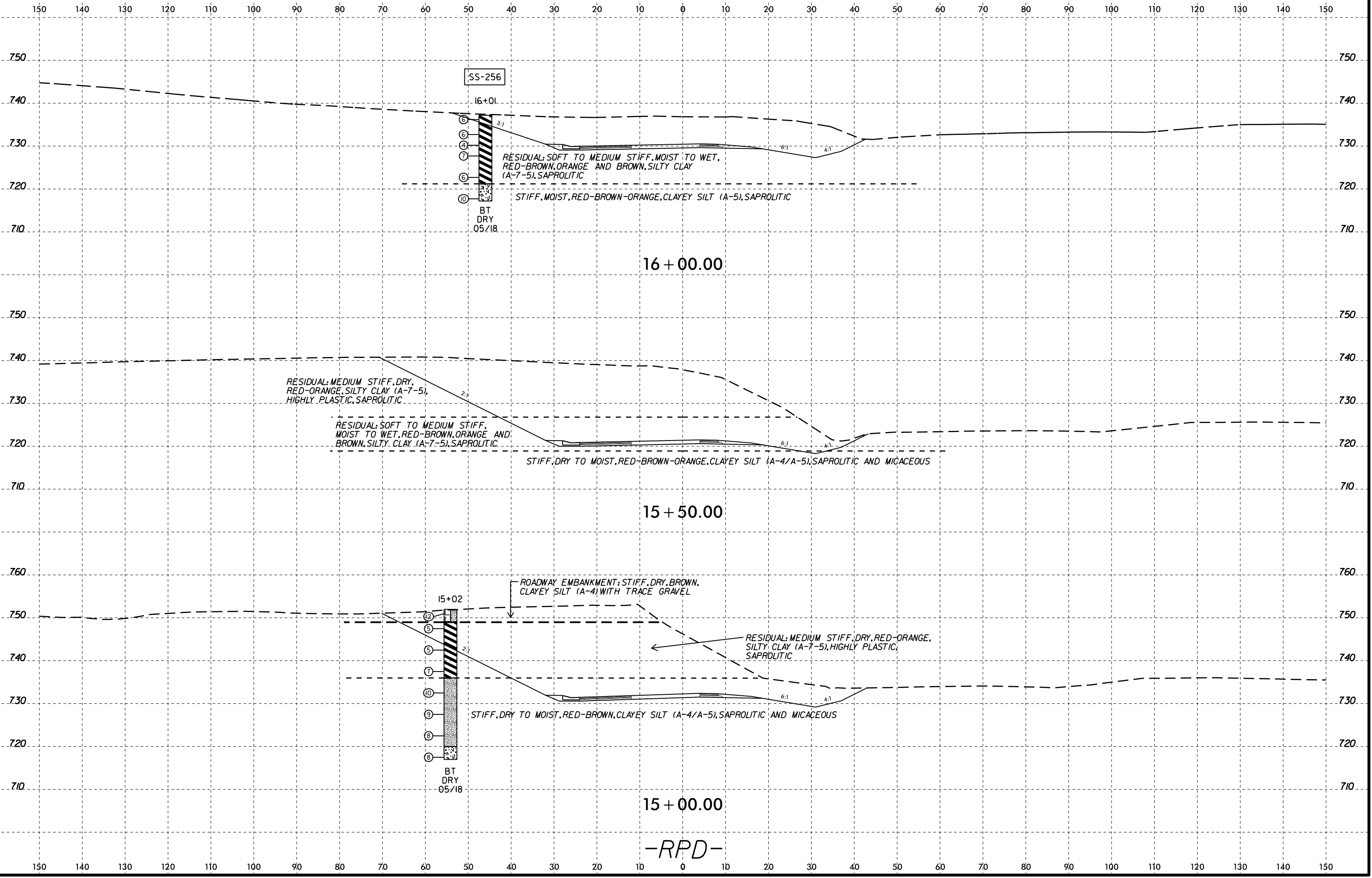
WEATHERED ROCK: DARK GRAY-GREEN-BROWN, METAMORPHOSED GABBRO

CRYSTALLINE ROCK: METAMORPHOSED GABBRO

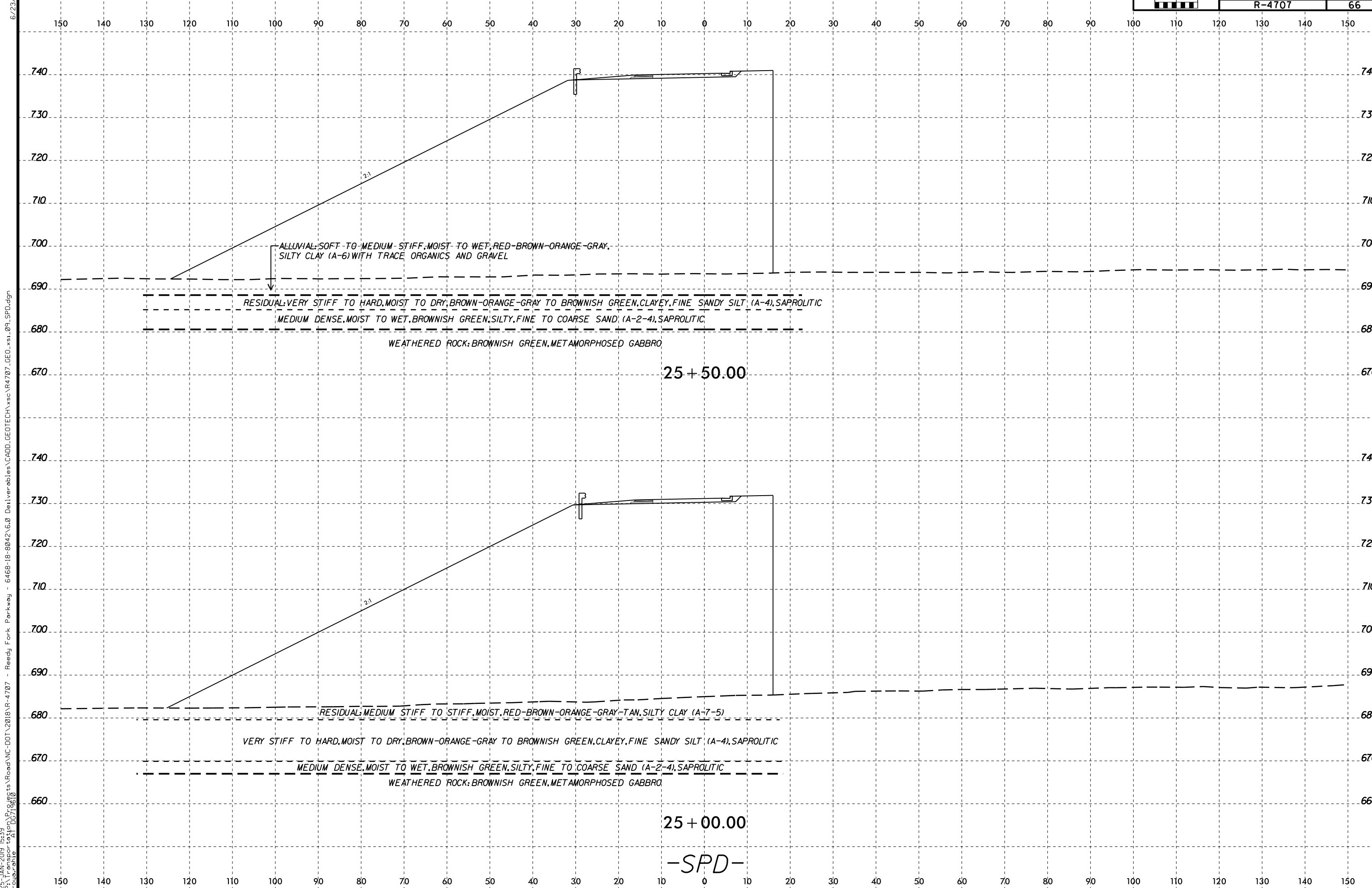
WEATHERED ROCK: DARK GRAY-GREEN-BROWN, METAMORPHOSED GABBRO

CRYSTALLINE ROCK: METAMORPHOSED GABBRO

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 6/23/18
 05/18/18

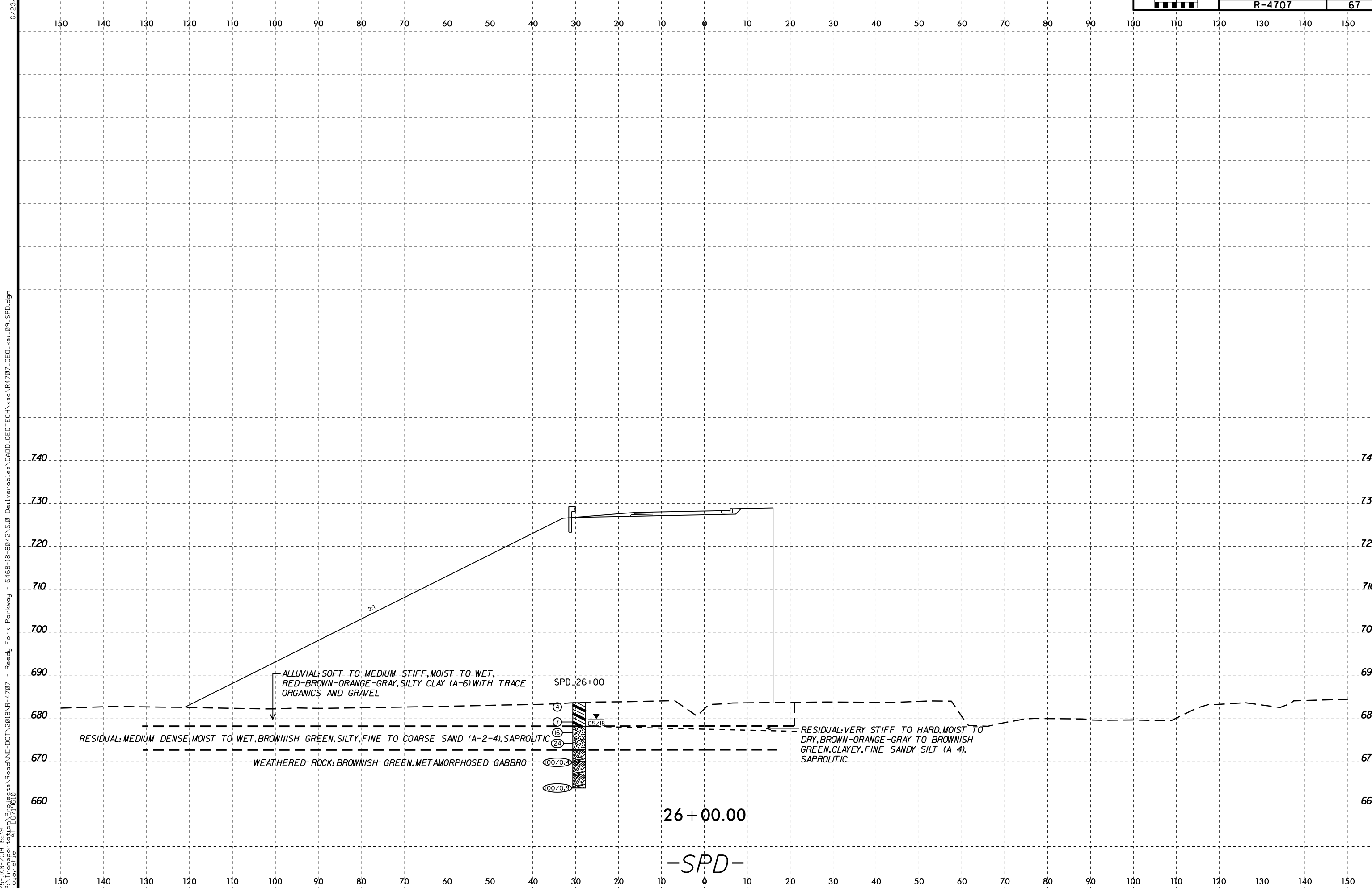


25 + 50.00

25 + 00.00

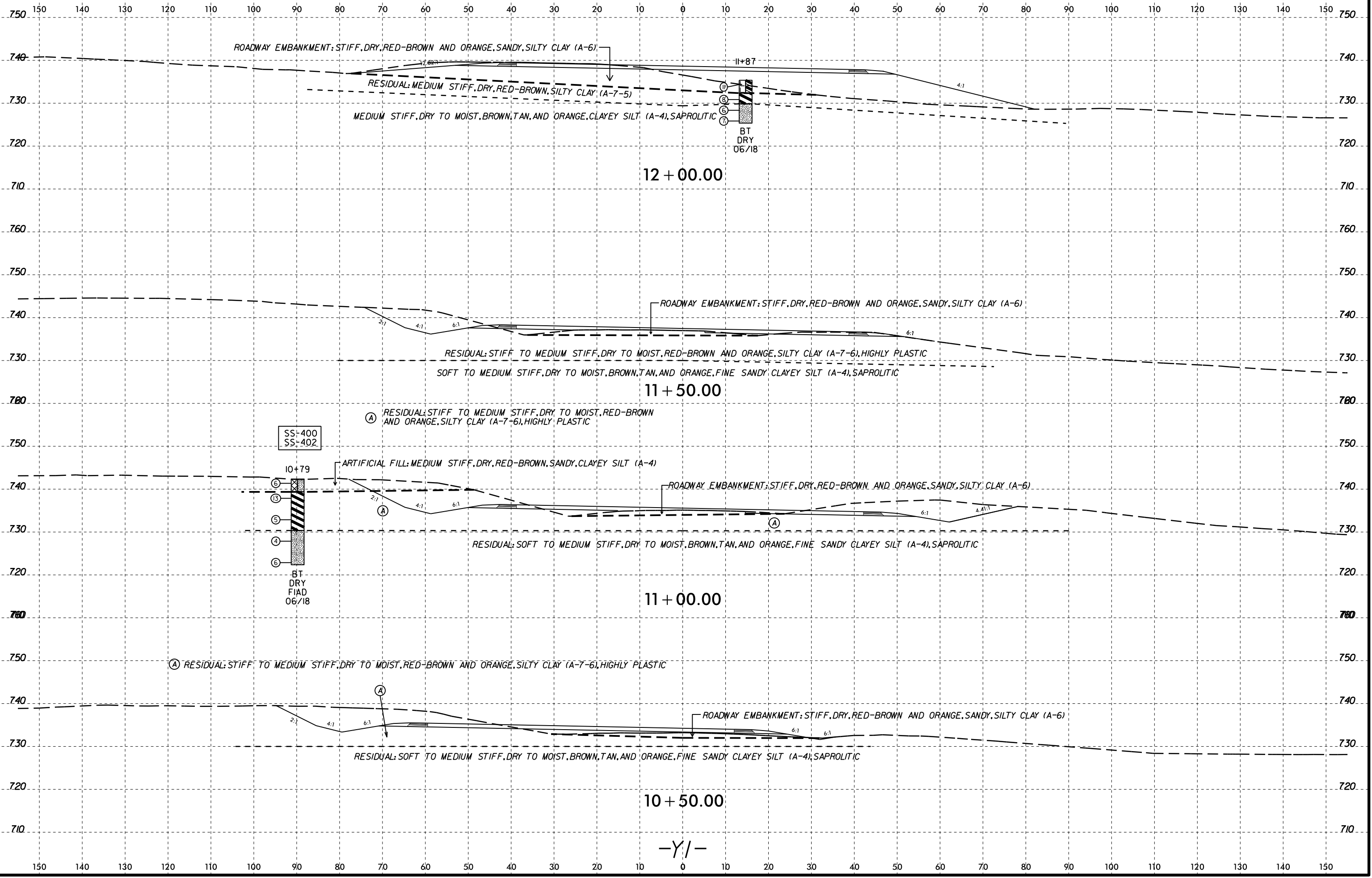
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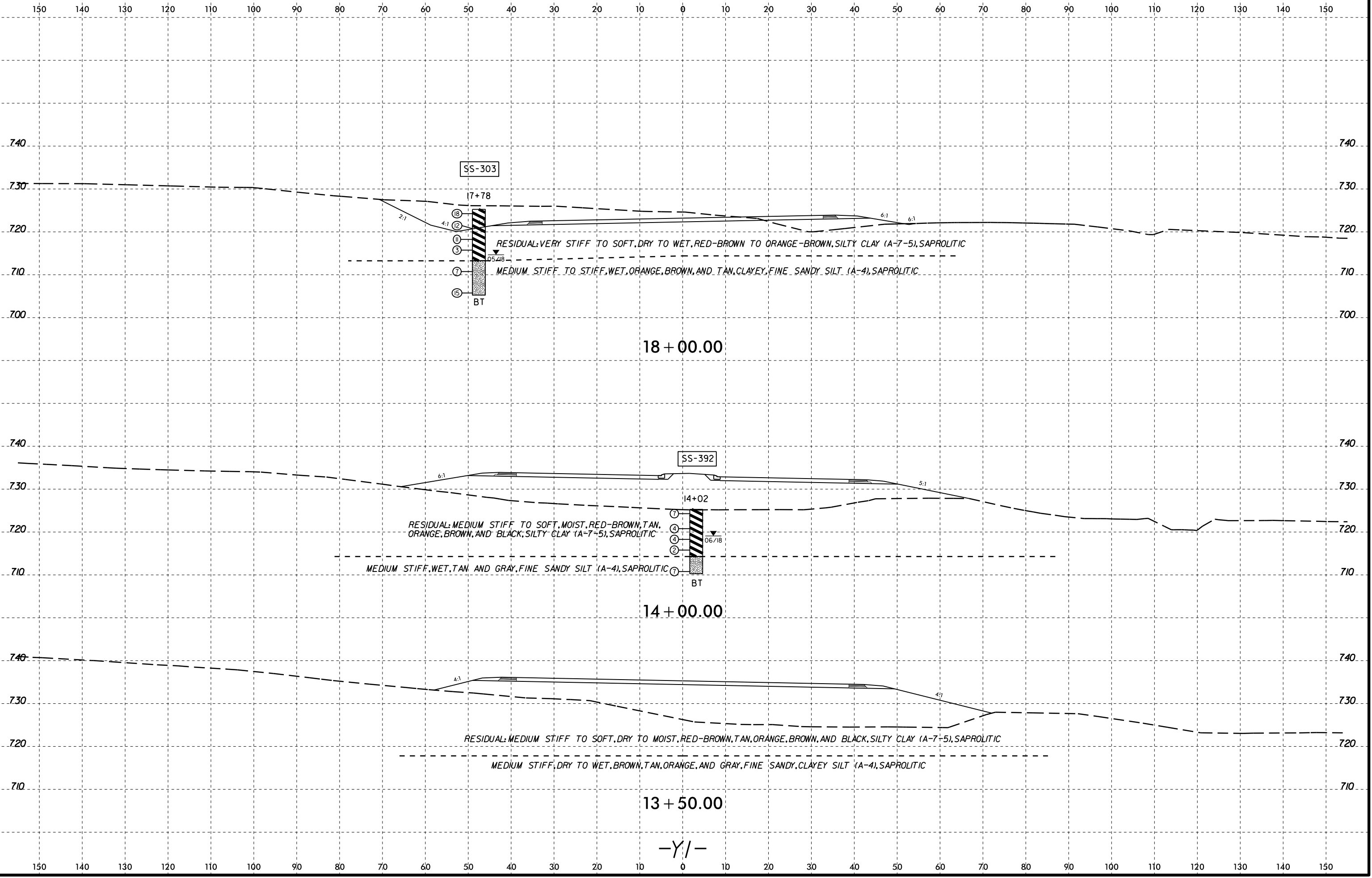


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26 + 00.00
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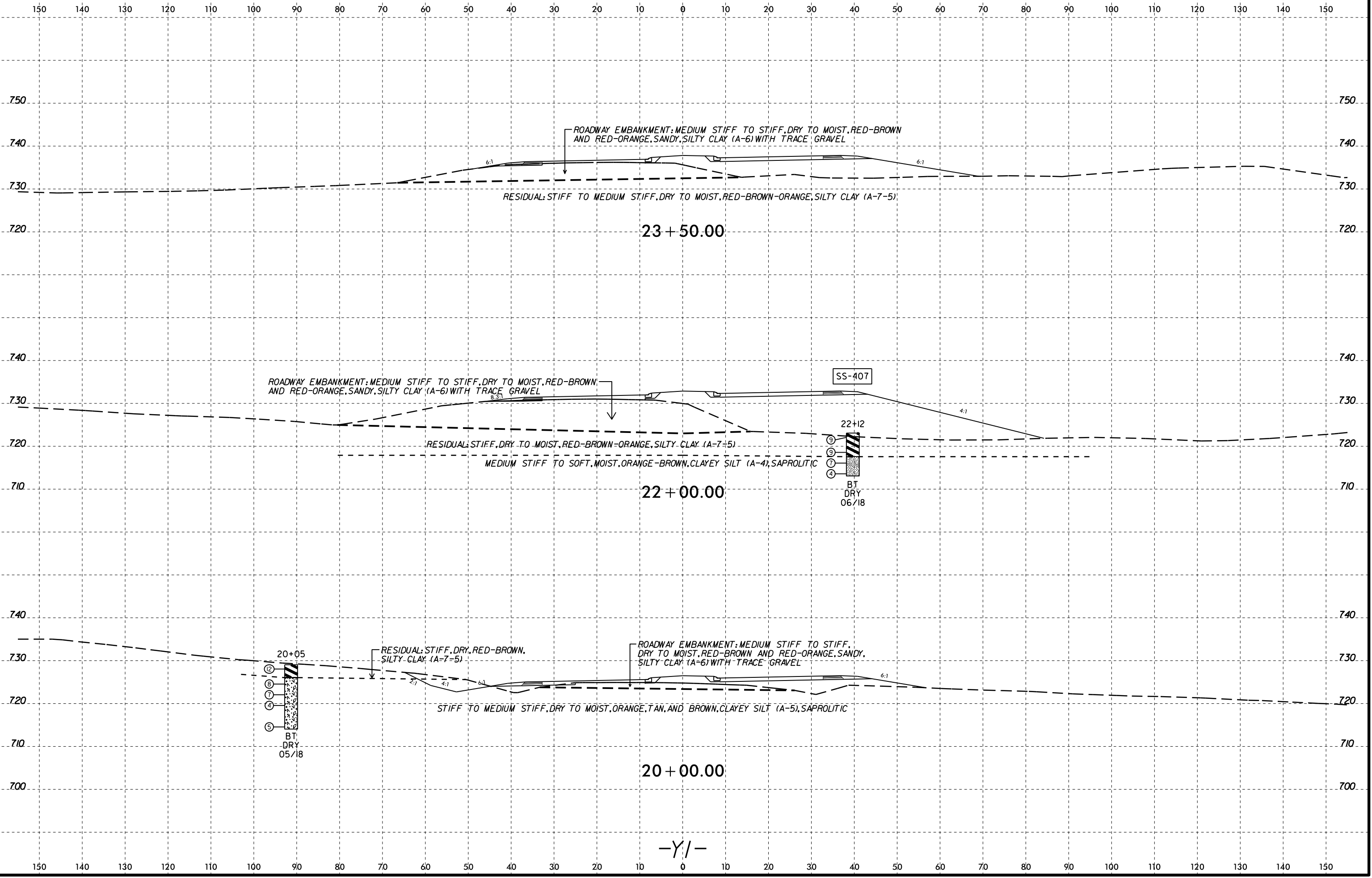


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 6/23/18
 06/27/18



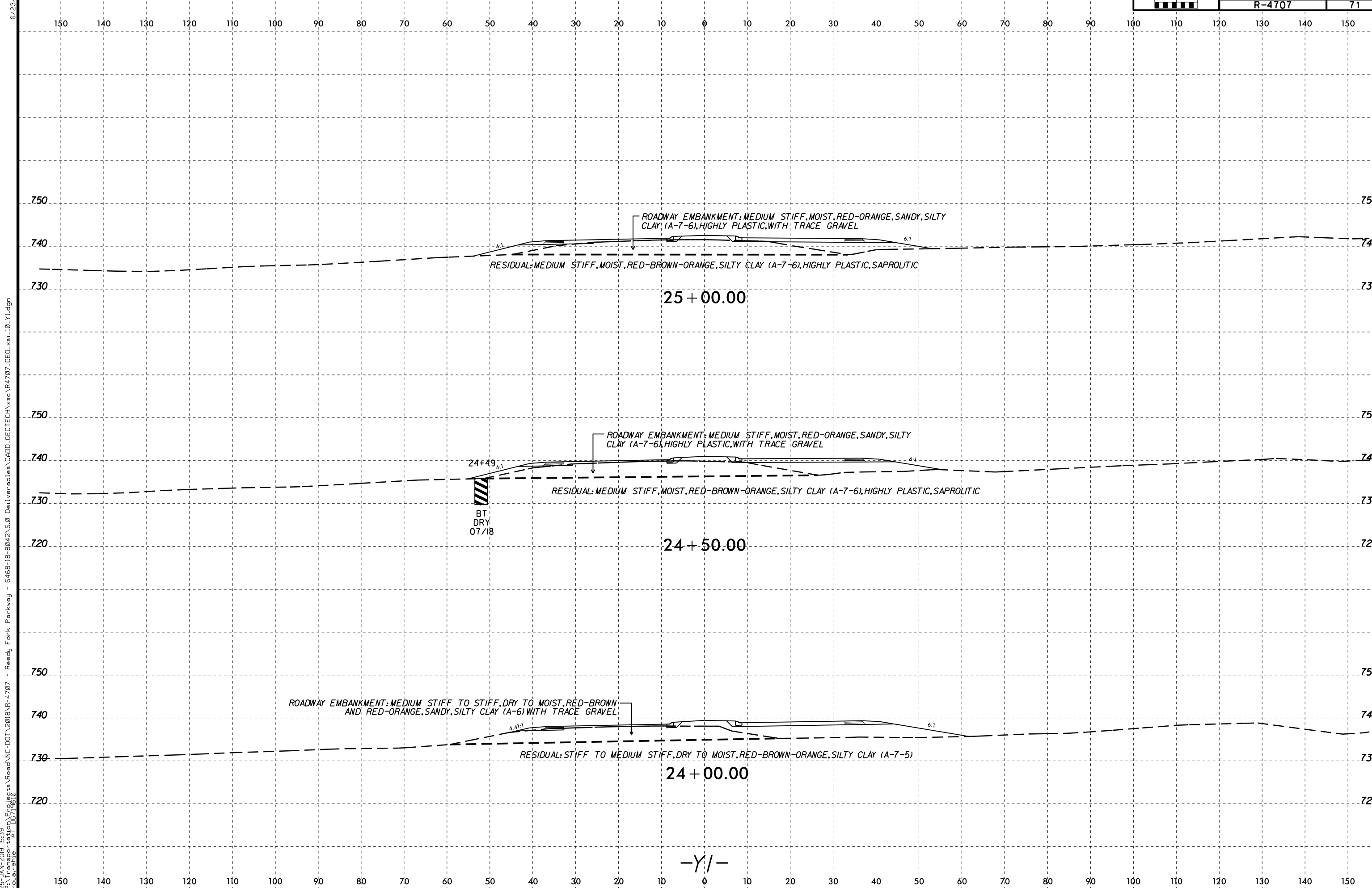
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-Y/-



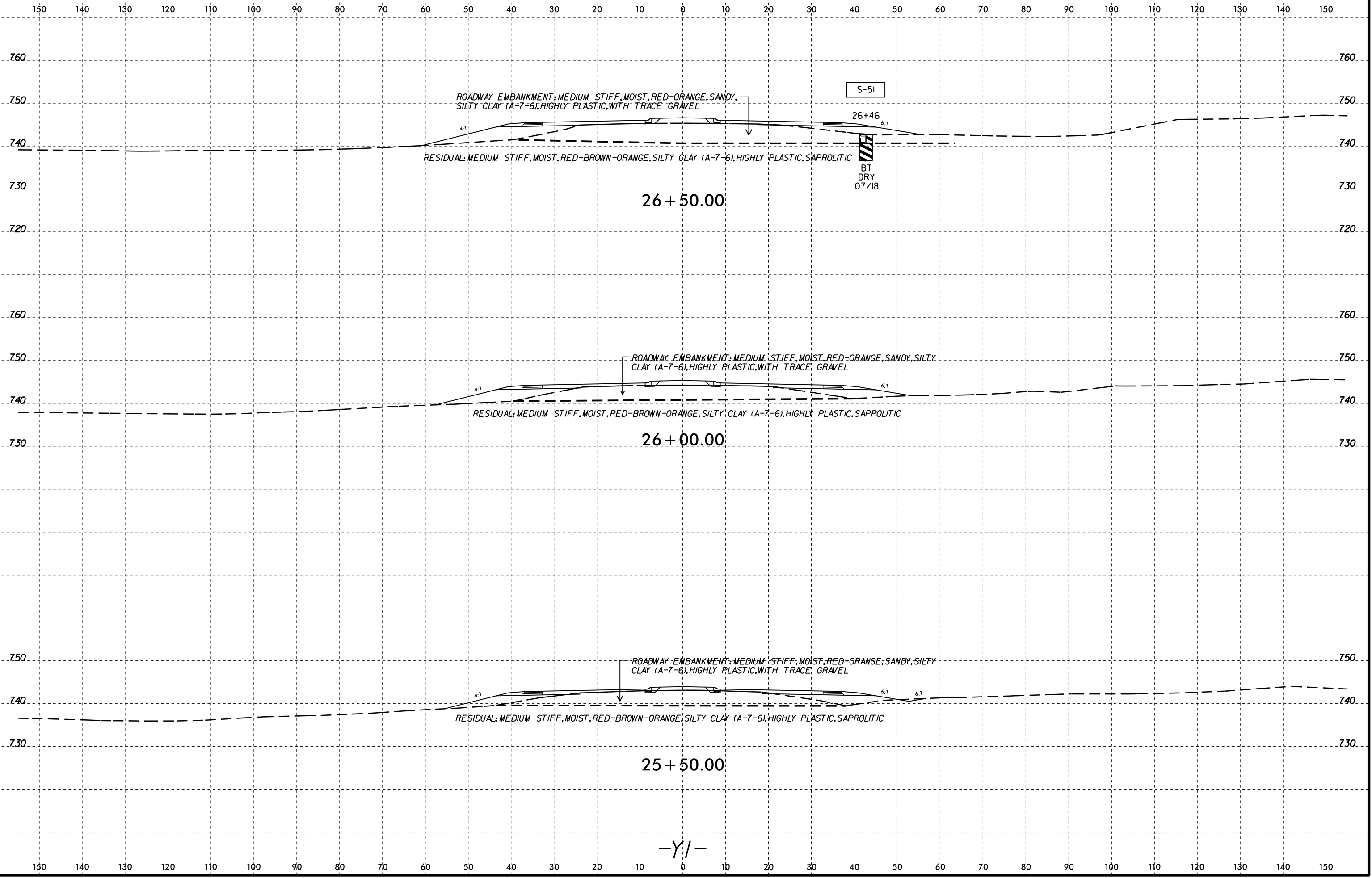
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-Y/-



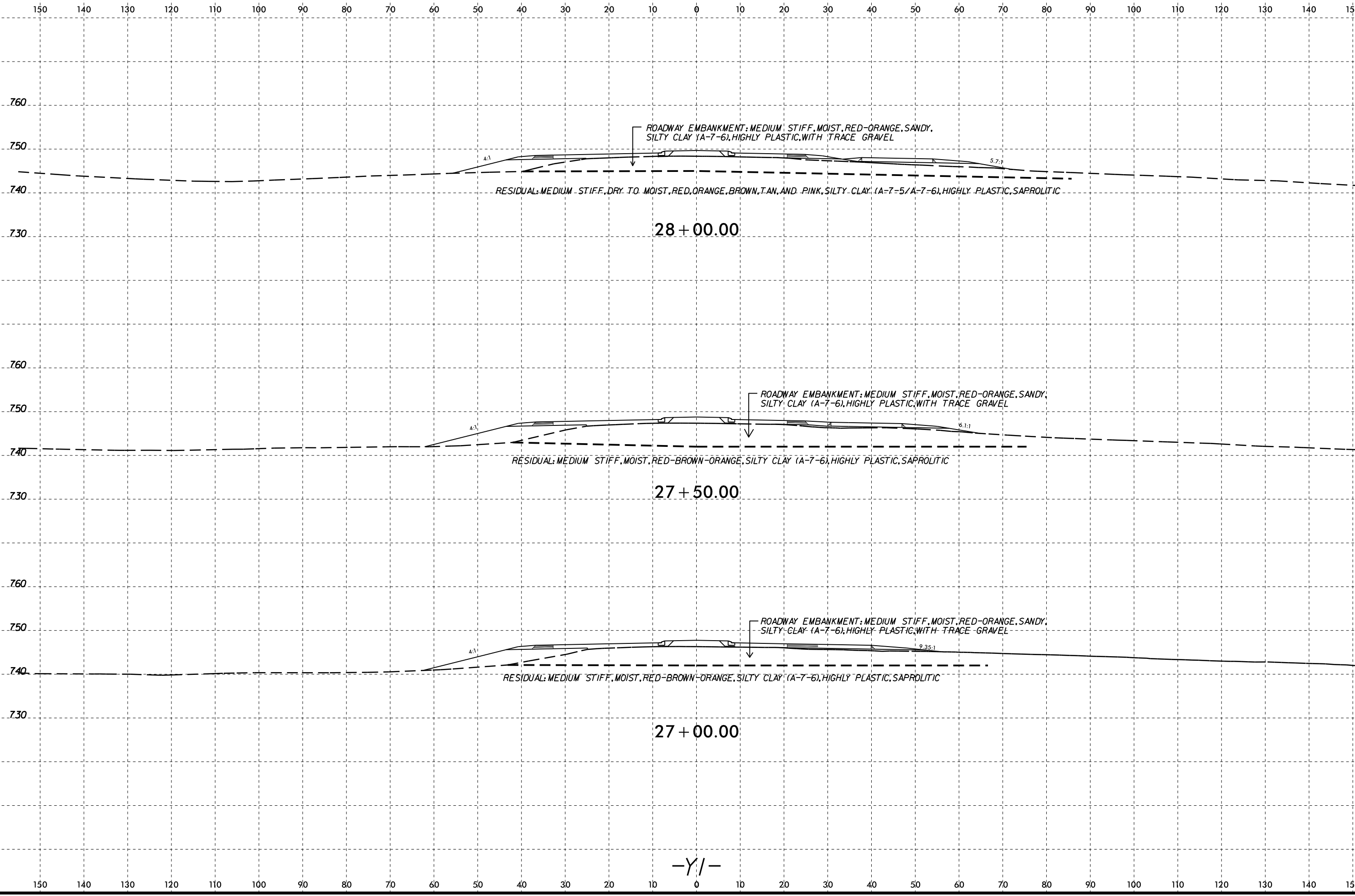
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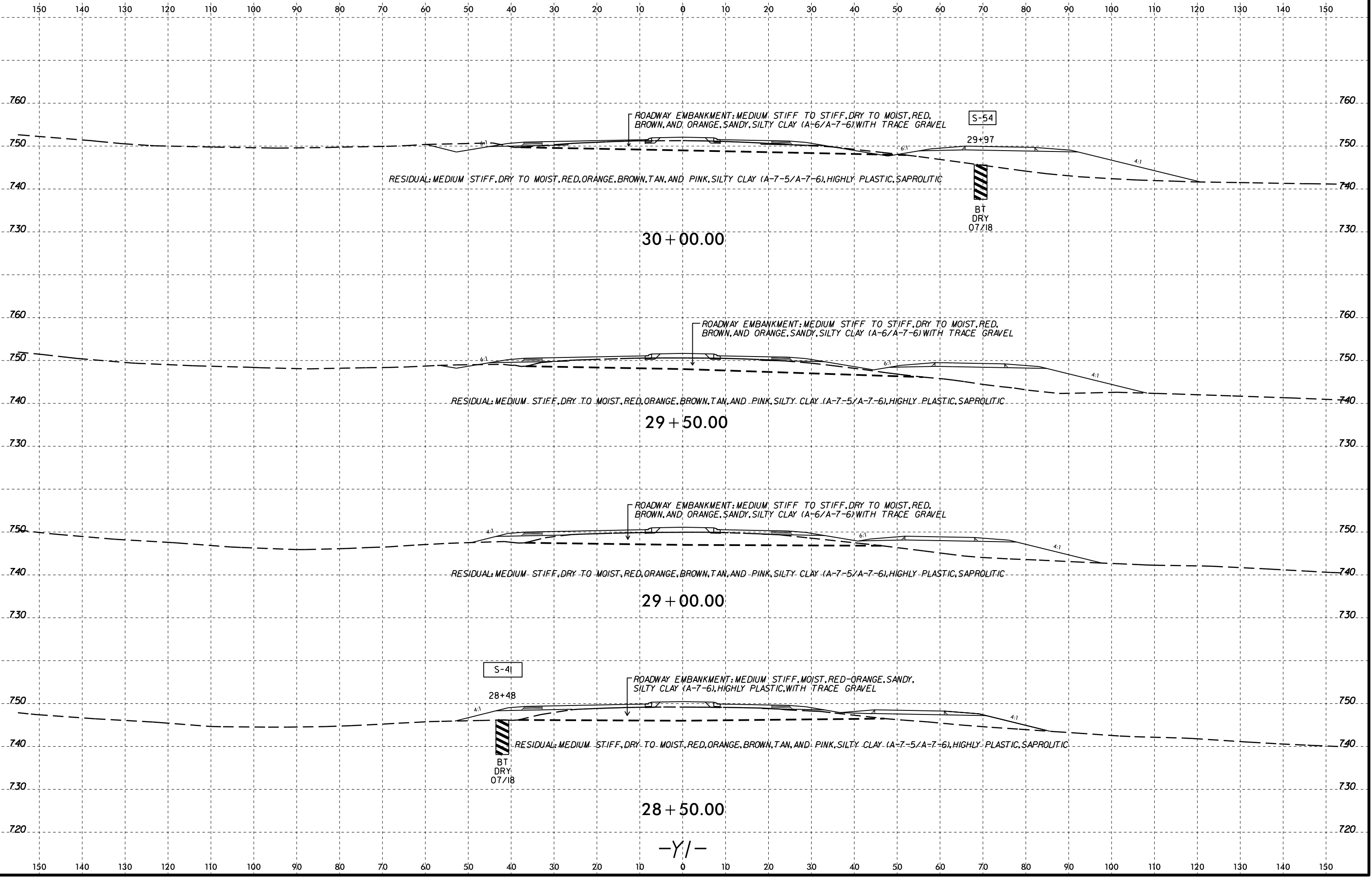


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6/23/2019 16:39
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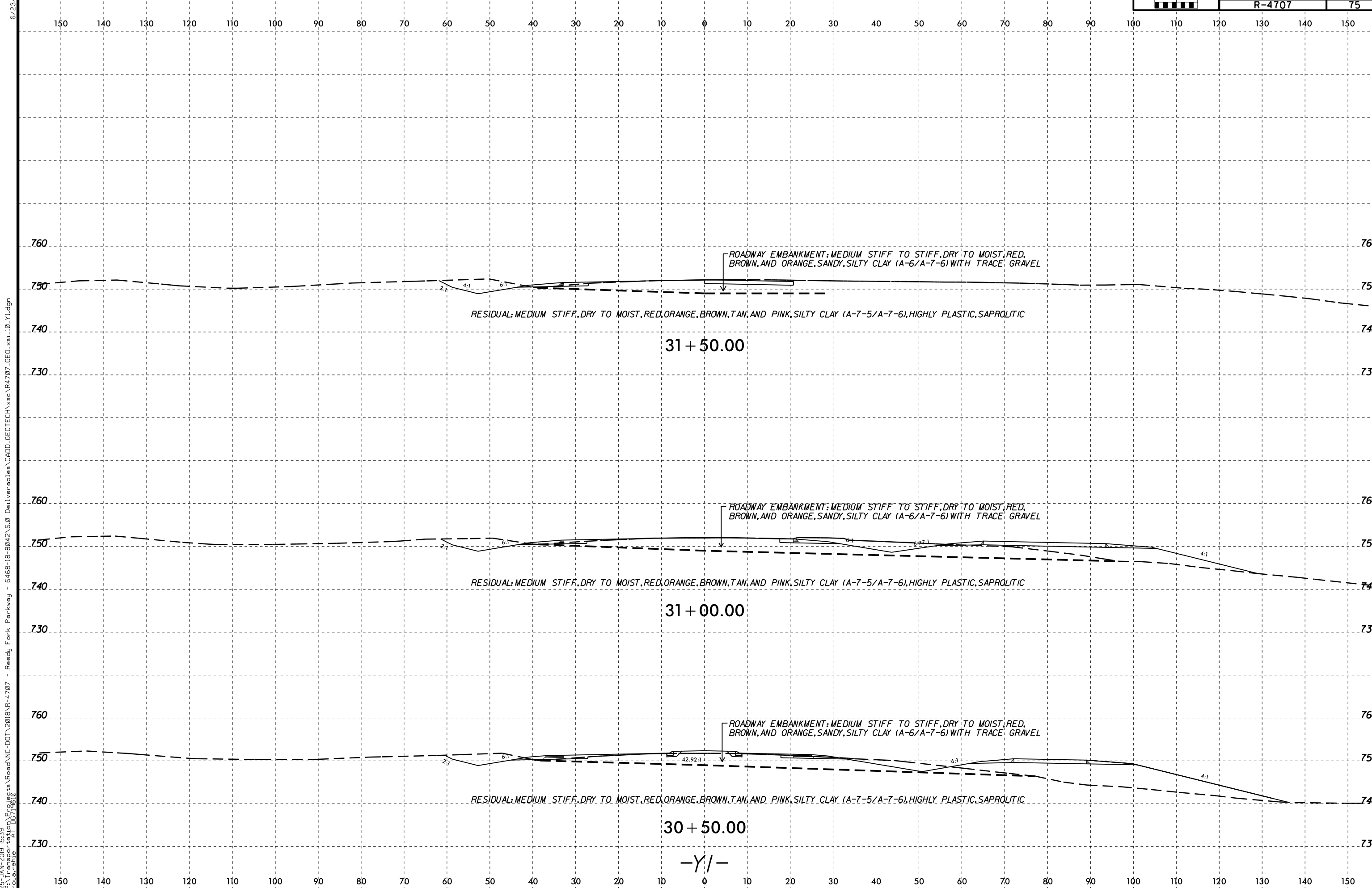
30 + 00.00

29 + 50.00

29 + 00.00

28 + 50.00

-Y/-



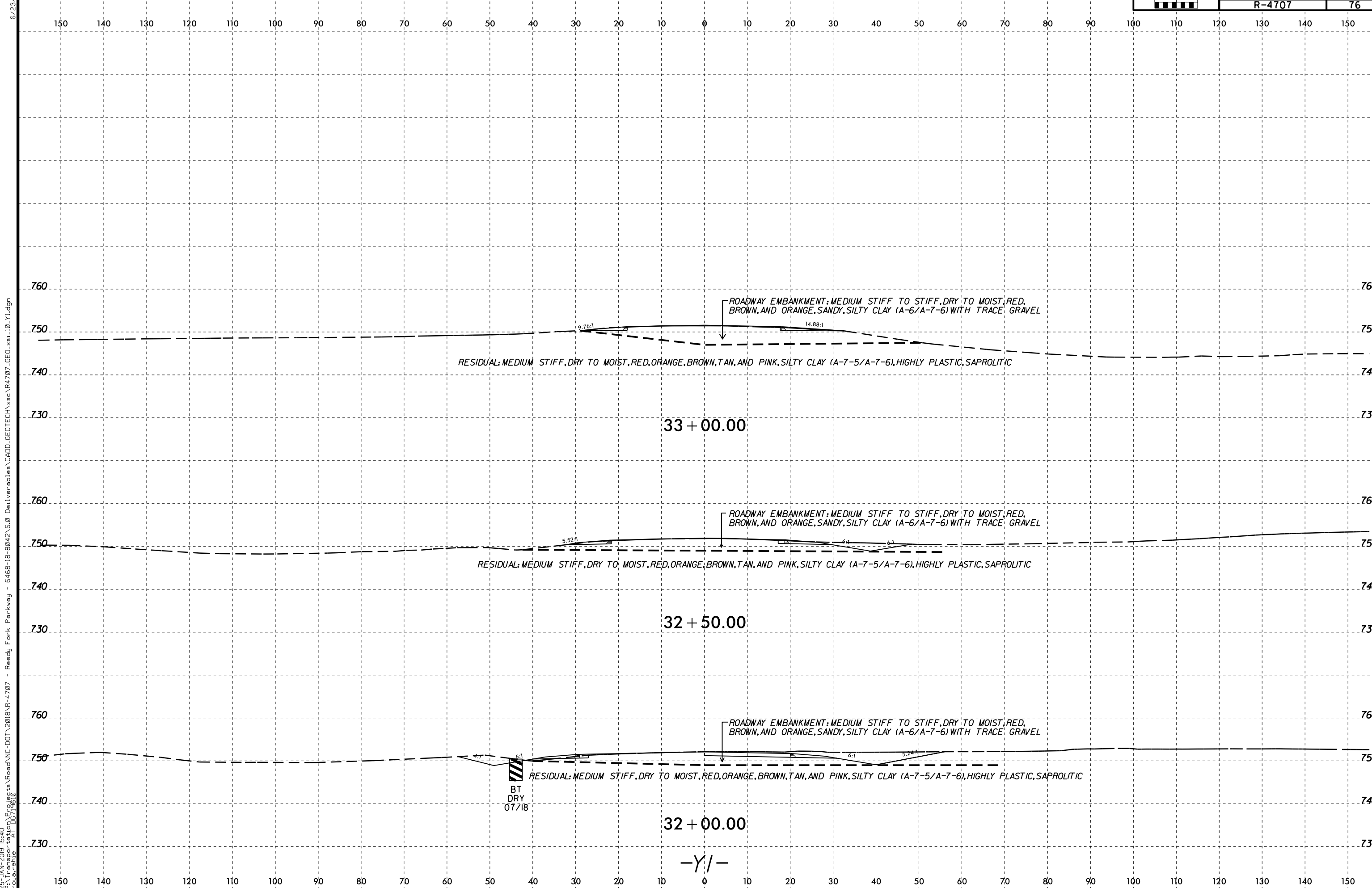
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31 + 00.00

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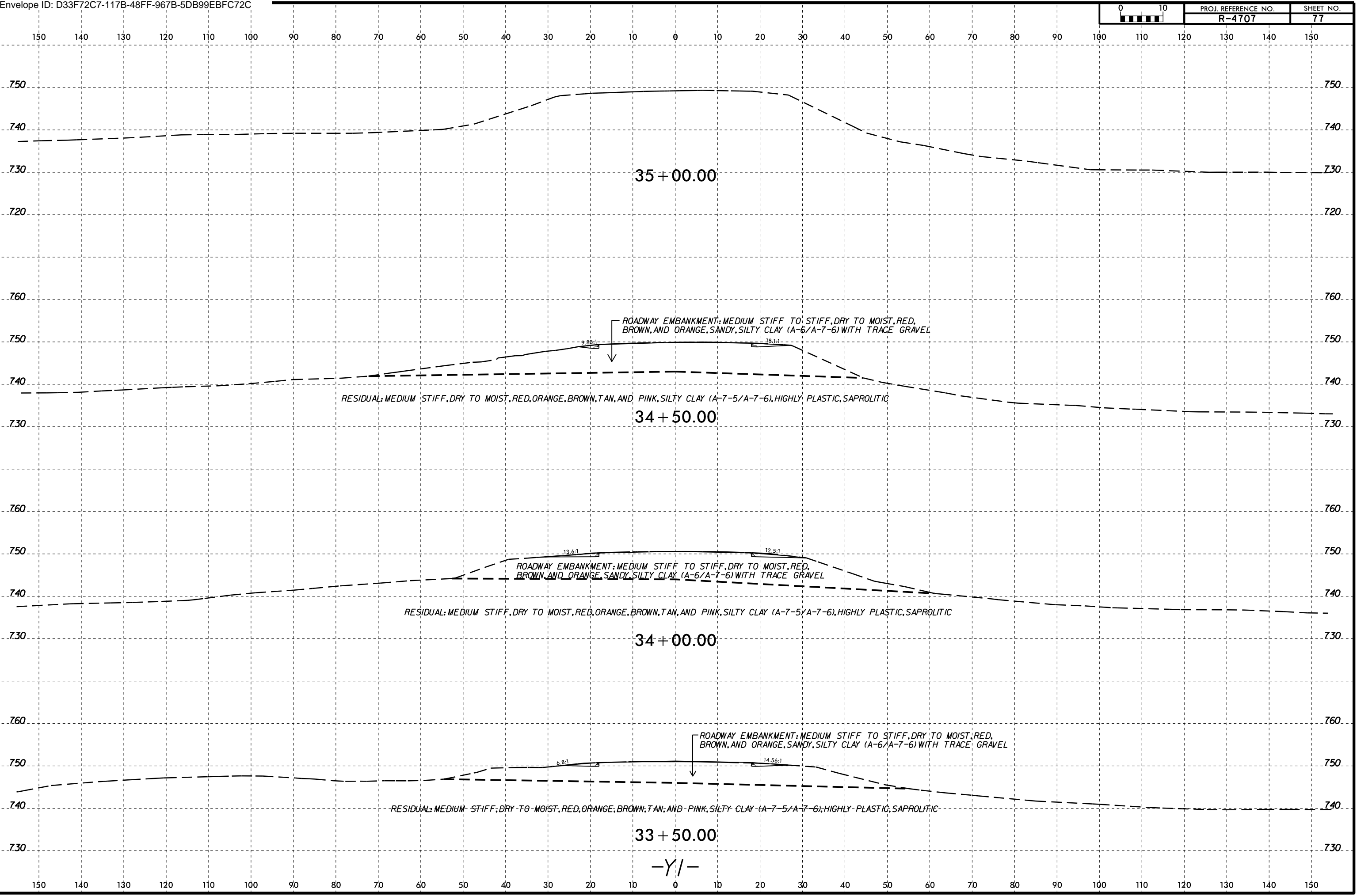
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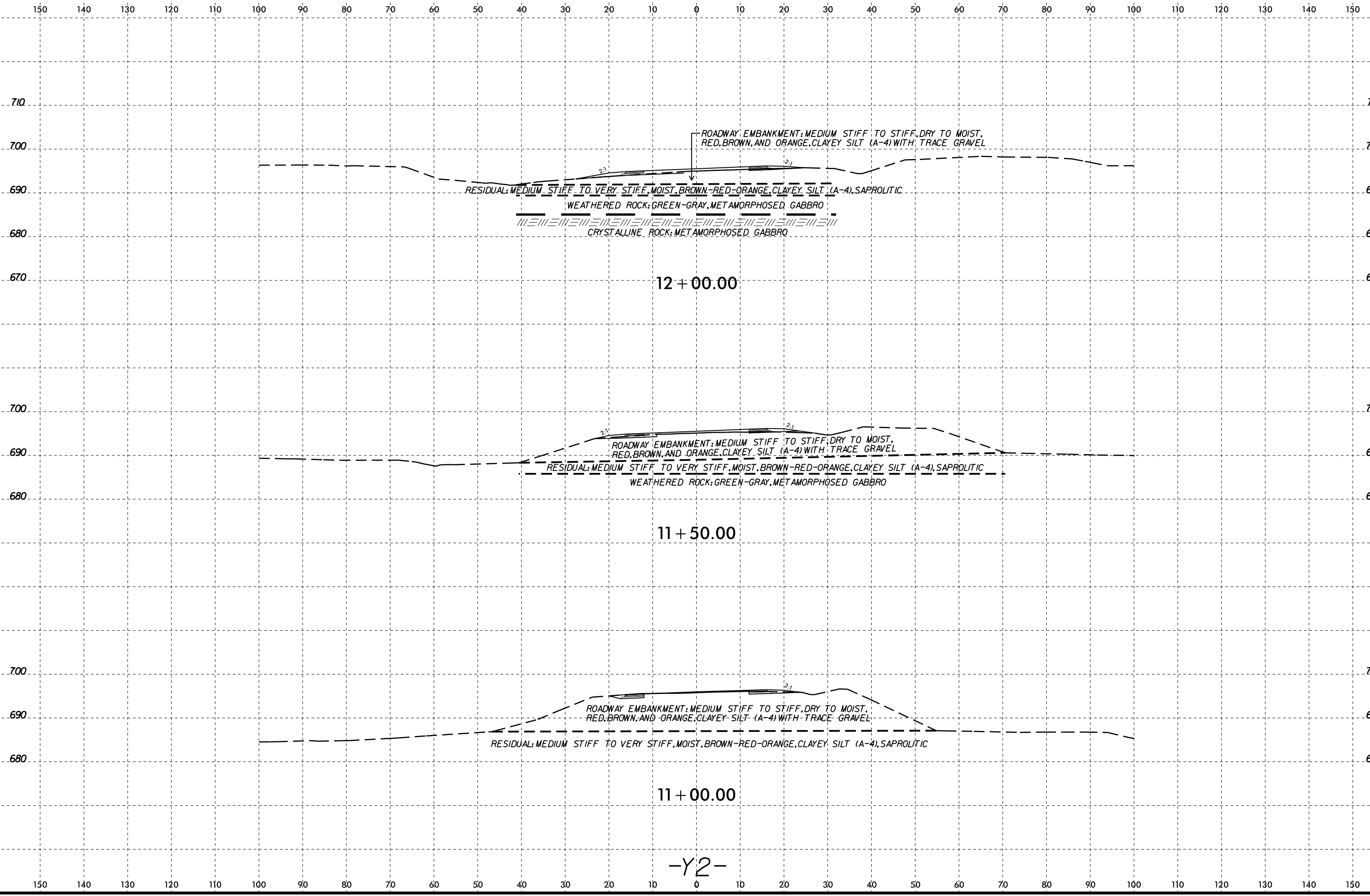
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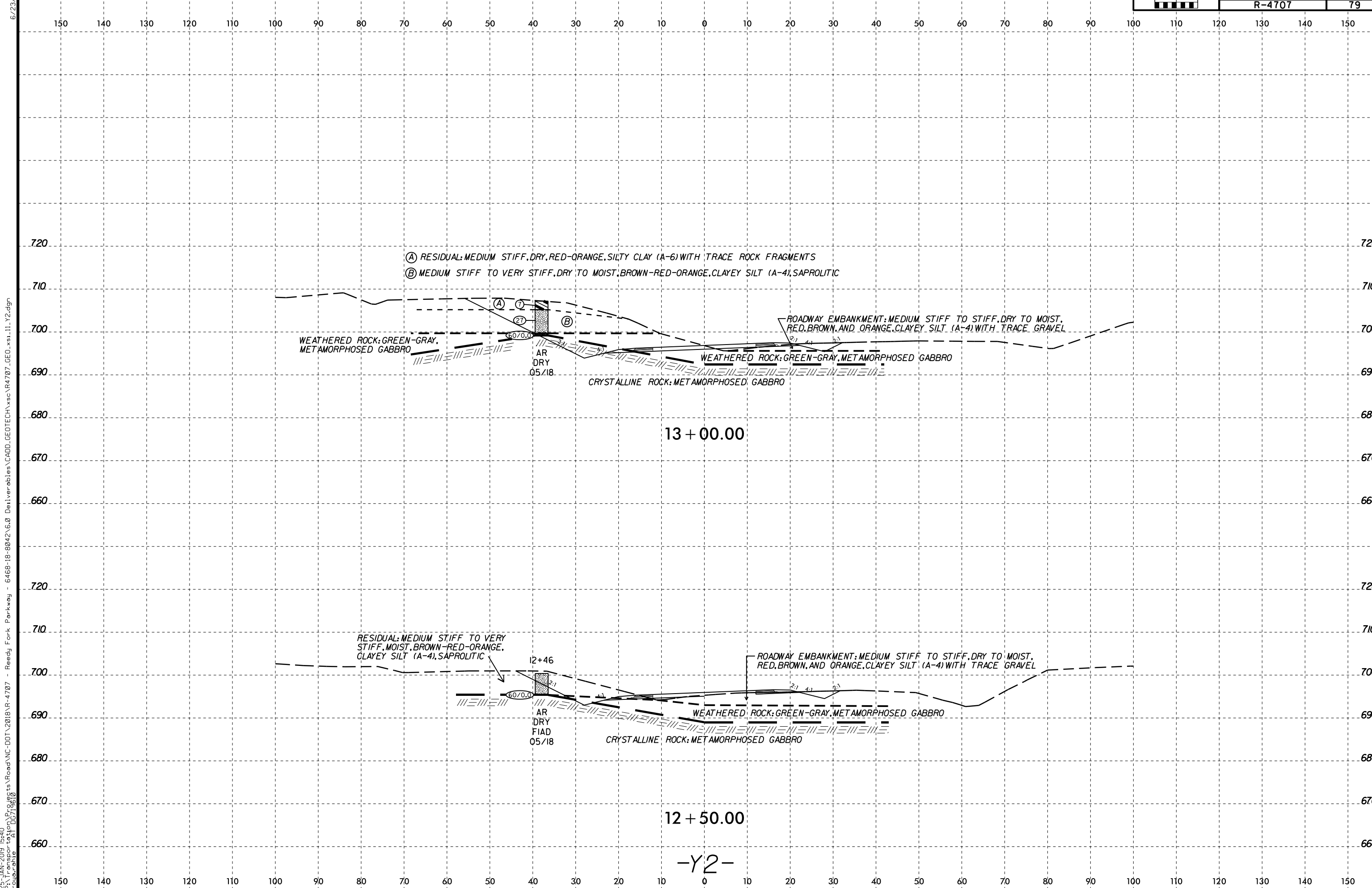
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- (A) RESIDUAL; MEDIUM STIFF, DRY, RED-ORANGE, SILTY CLAY (A-6) WITH TRACE ROCK FRAGMENTS
- (B) MEDIUM STIFF TO VERY STIFF, DRY TO MOIST, BROWN-RED-ORANGE, CLAYEY SILT (A-4), SAPROLITIC

WEATHERED ROCK: GREEN-GRAY, METAMORPHOSED GABBRO

AR
DRY
05/18

CRYSTALLINE ROCK: METAMORPHOSED GABBRO

WEATHERED ROCK: GREEN-GRAY, METAMORPHOSED GABBRO

ROADWAY EMBANKMENT: MEDIUM STIFF TO STIFF, DRY TO MOIST, RED, BROWN, AND ORANGE, CLAYEY SILT (A-4) WITH TRACE GRAVEL

13 + 00.00

RESIDUAL; MEDIUM STIFF TO VERY STIFF, MOIST, BROWN-RED-ORANGE, CLAYEY SILT (A-4), SAPROLITIC

12+46
AR
DRY
FIAD
05/18

CRYSTALLINE ROCK: METAMORPHOSED GABBRO

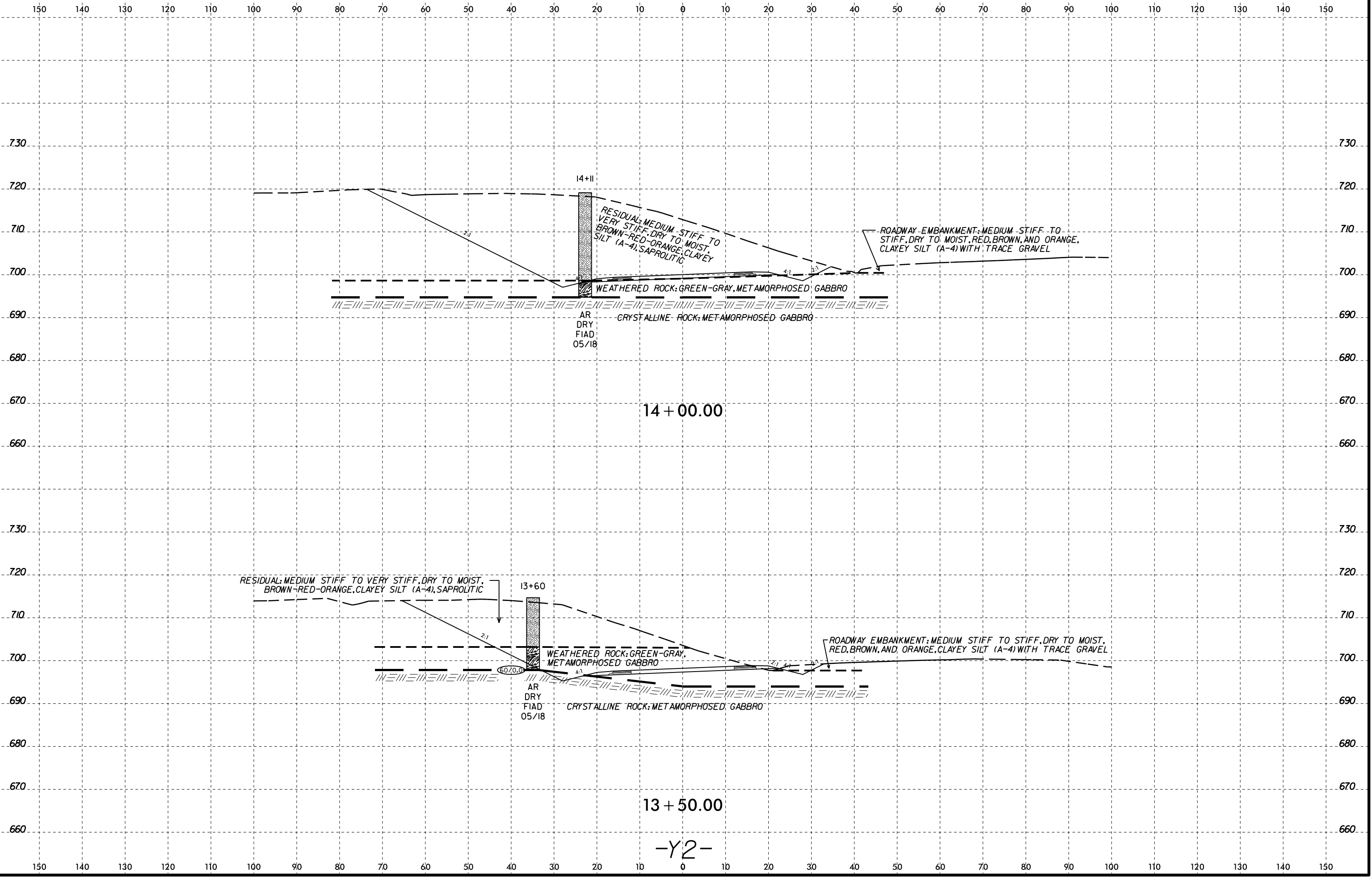
WEATHERED ROCK: GREEN-GRAY, METAMORPHOSED GABBRO

ROADWAY EMBANKMENT: MEDIUM STIFF TO STIFF, DRY TO MOIST, RED, BROWN, AND ORANGE, CLAYEY SILT (A-4) WITH TRACE GRAVEL

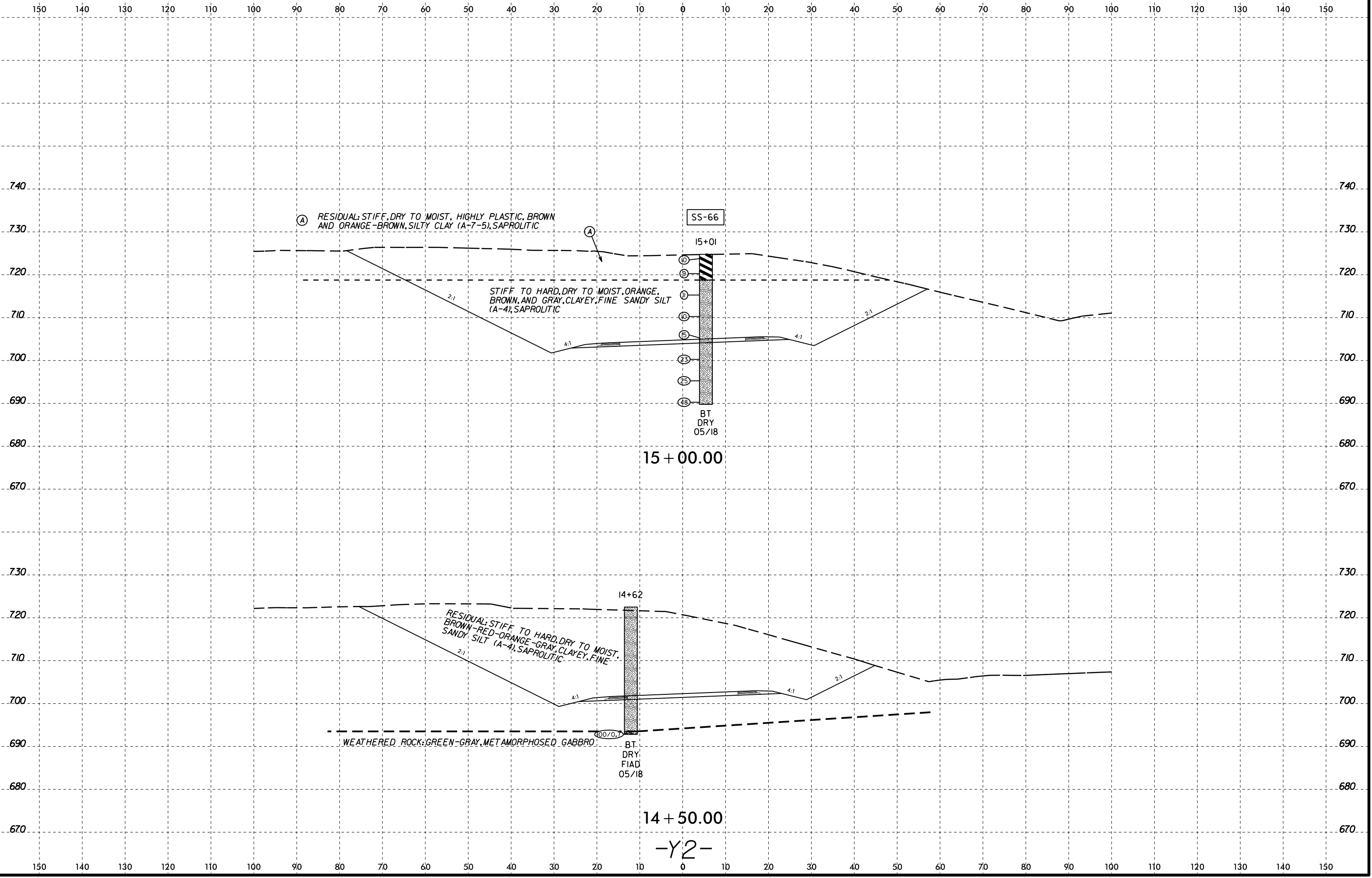
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-Y2-

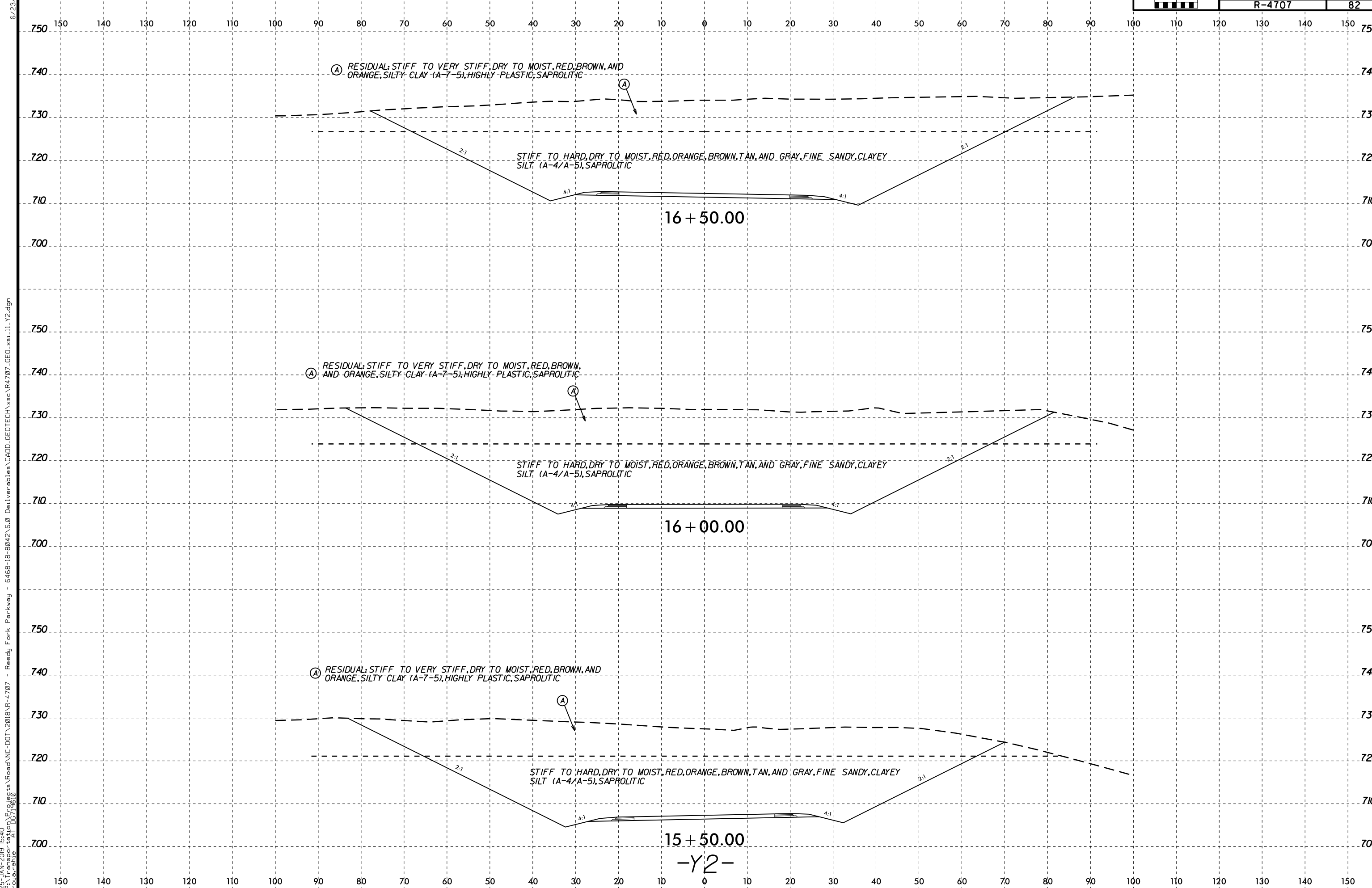
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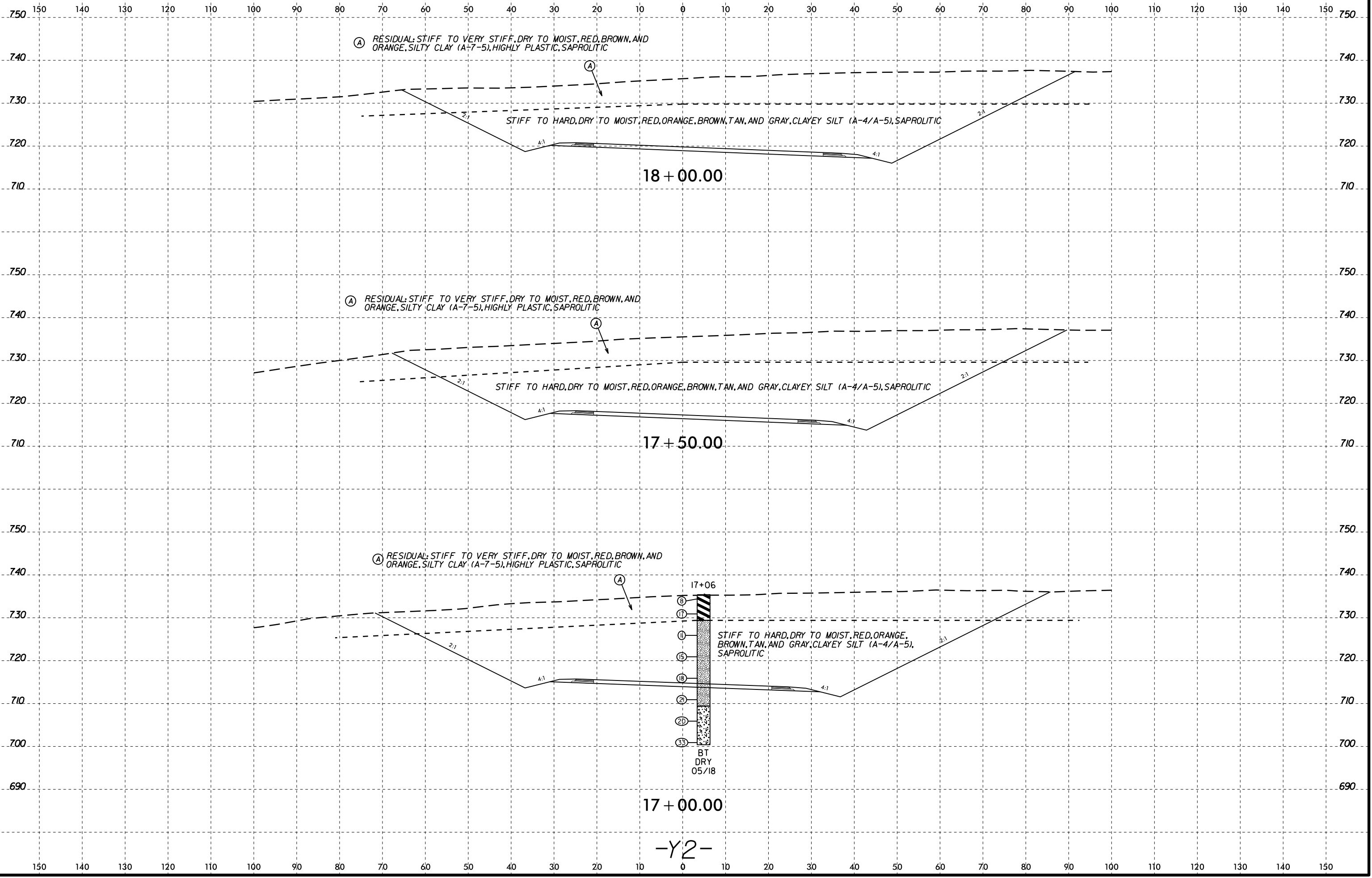


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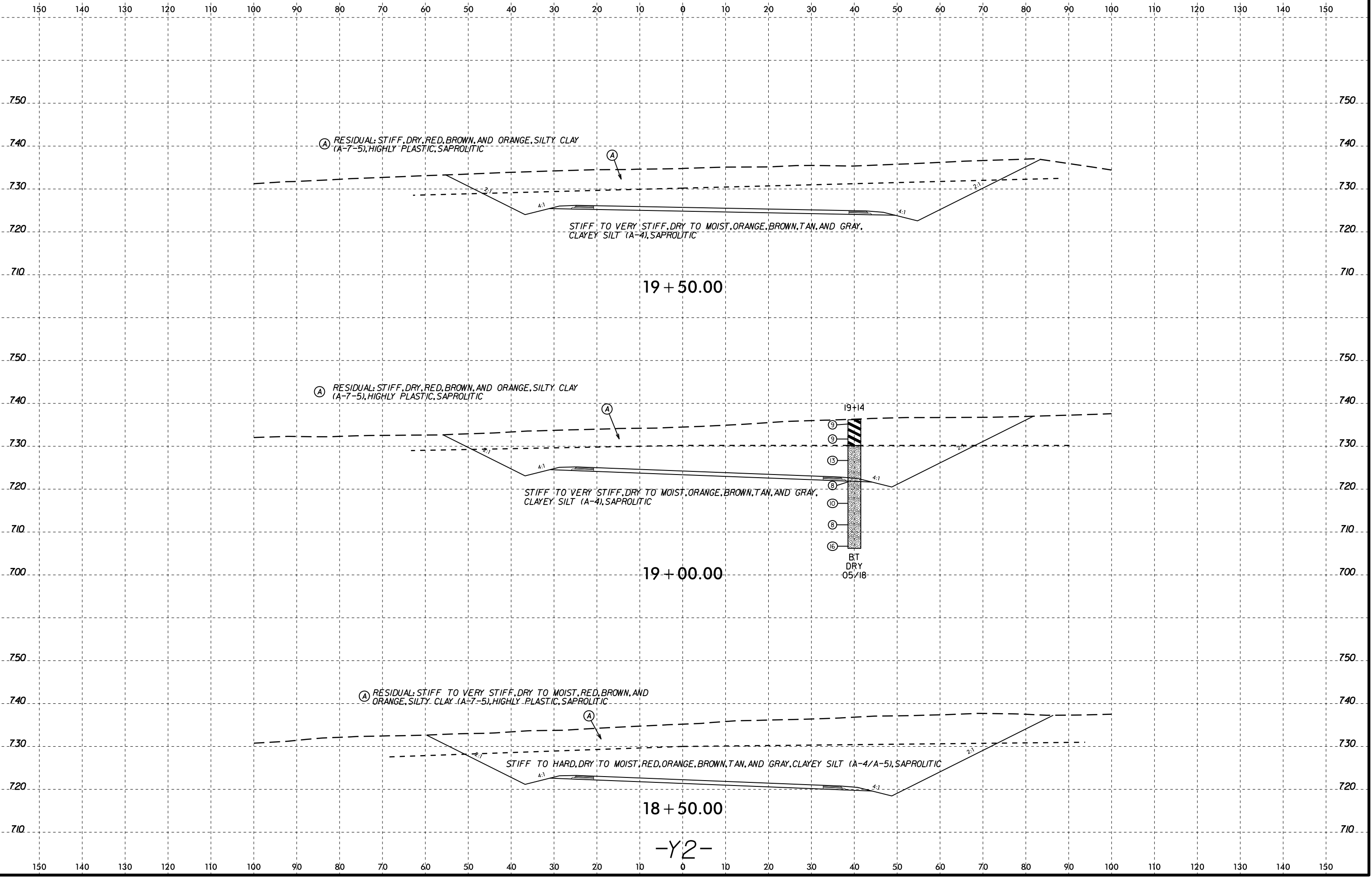


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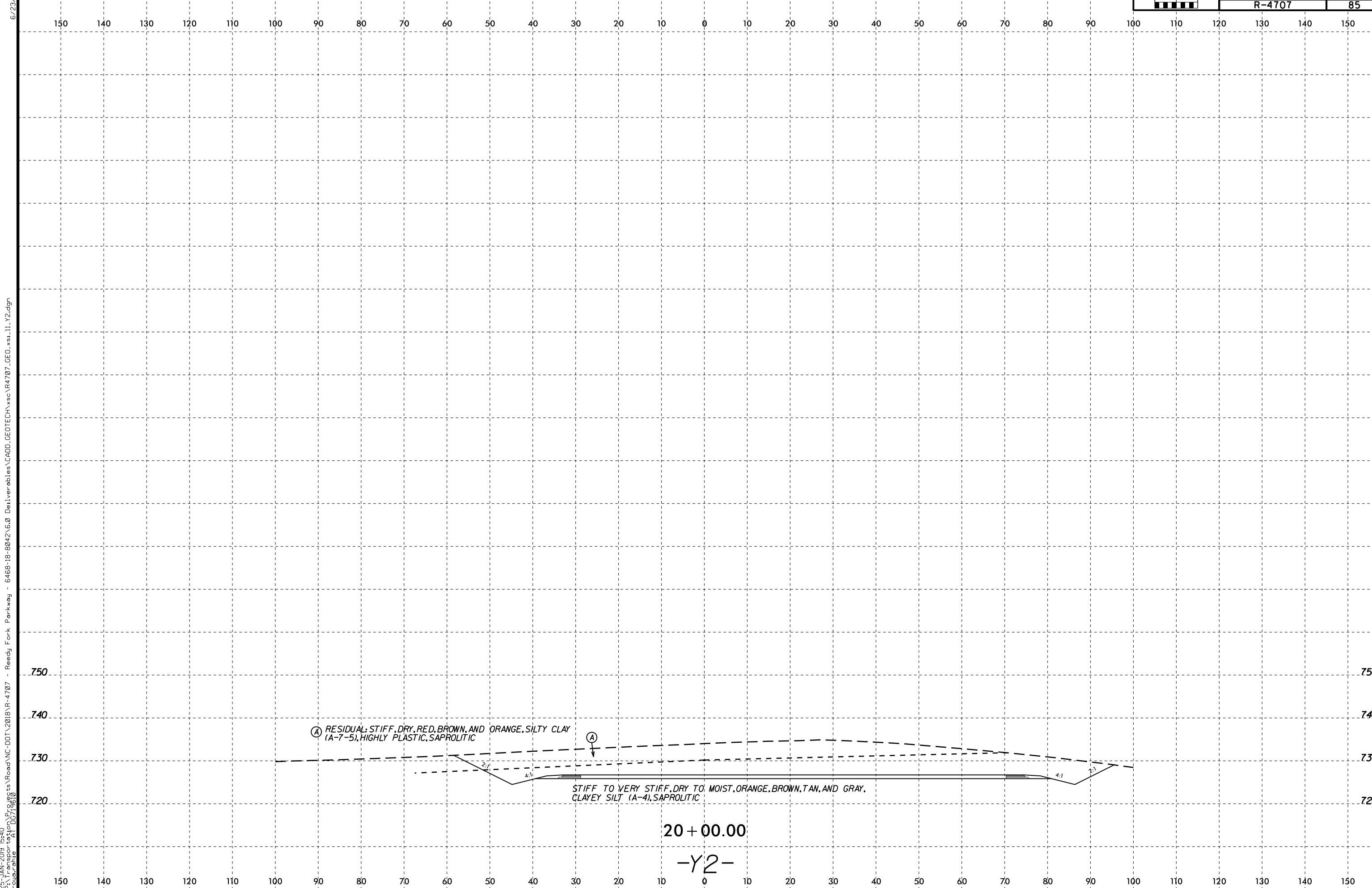
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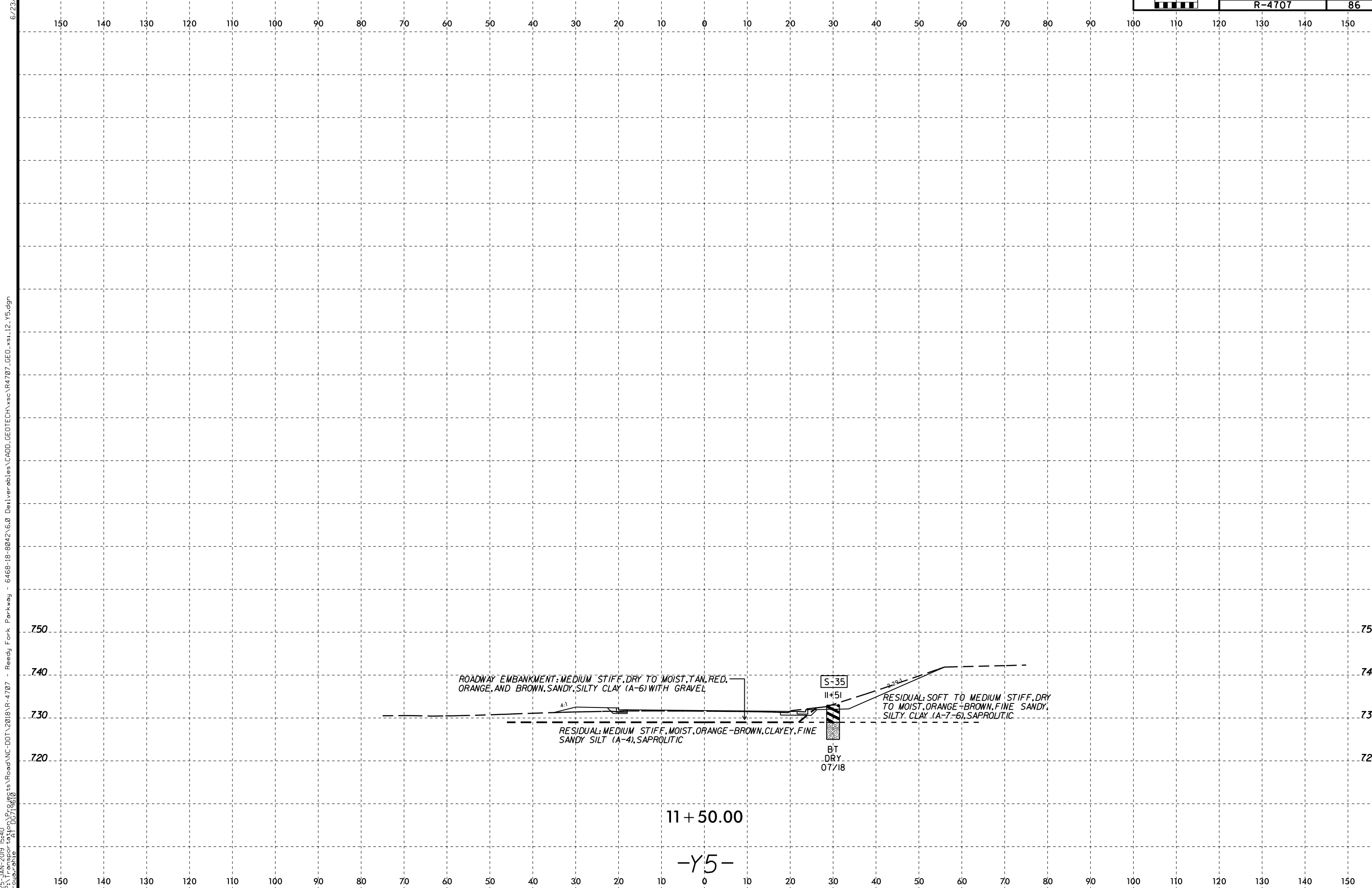
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ROADWAY EMBANKMENT: MEDIUM STIFF, DRY TO MOIST, TAN, RED, ORANGE, AND BROWN, SANDY, SILTY CLAY (A-6) WITH GRAVEL

RESIDUAL: MEDIUM STIFF, MOIST, ORANGE-BROWN, CLAYEY, FINE SANDY SILT (A-4), SAPROLITIC

RESIDUAL: SOFT TO MEDIUM STIFF, DRY TO MOIST, ORANGE-BROWN, FINE SANDY, SILTY CLAY (A-7-6), SAPROLITIC

S-35

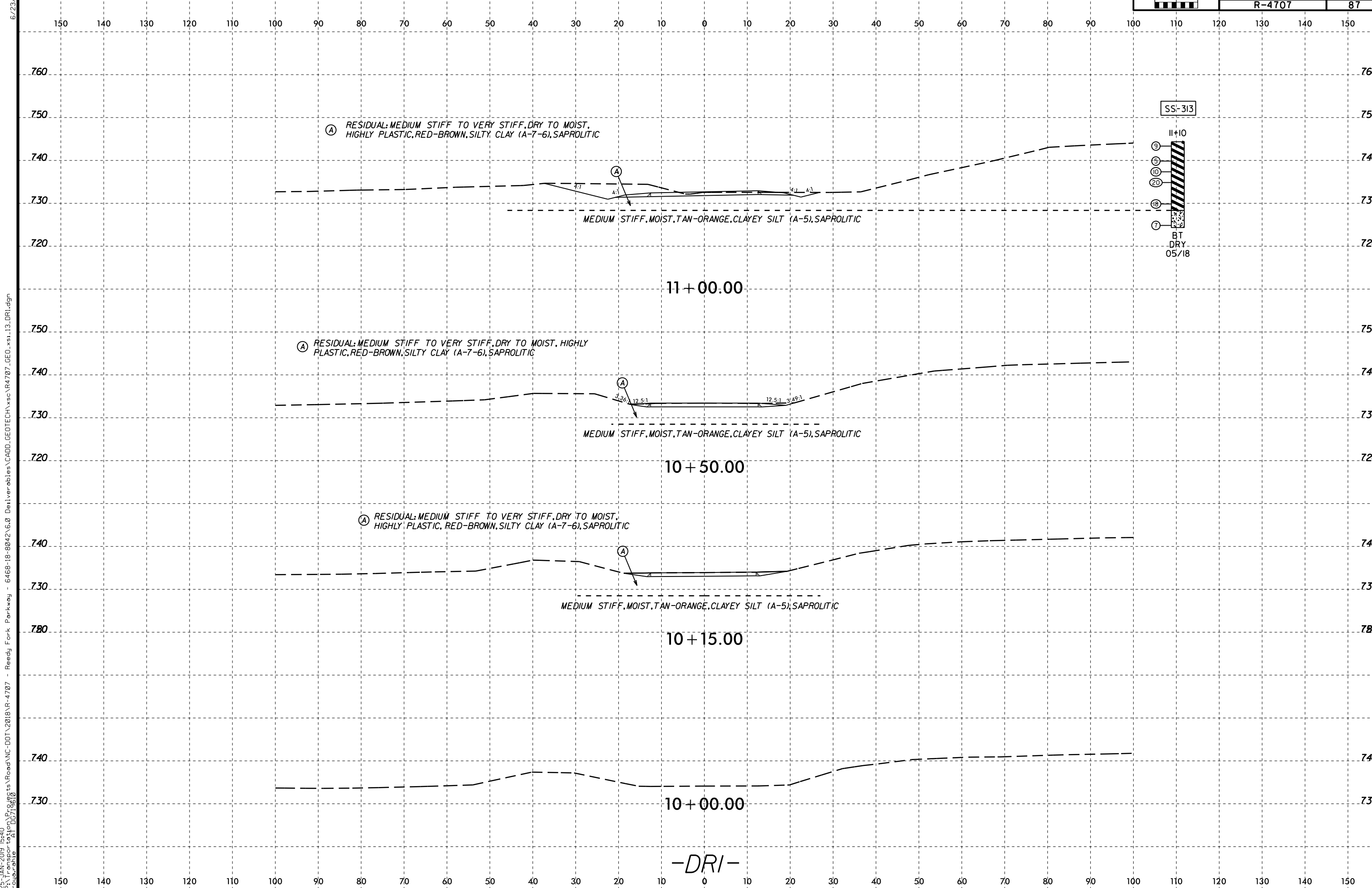
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DRY
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11 + 50.00

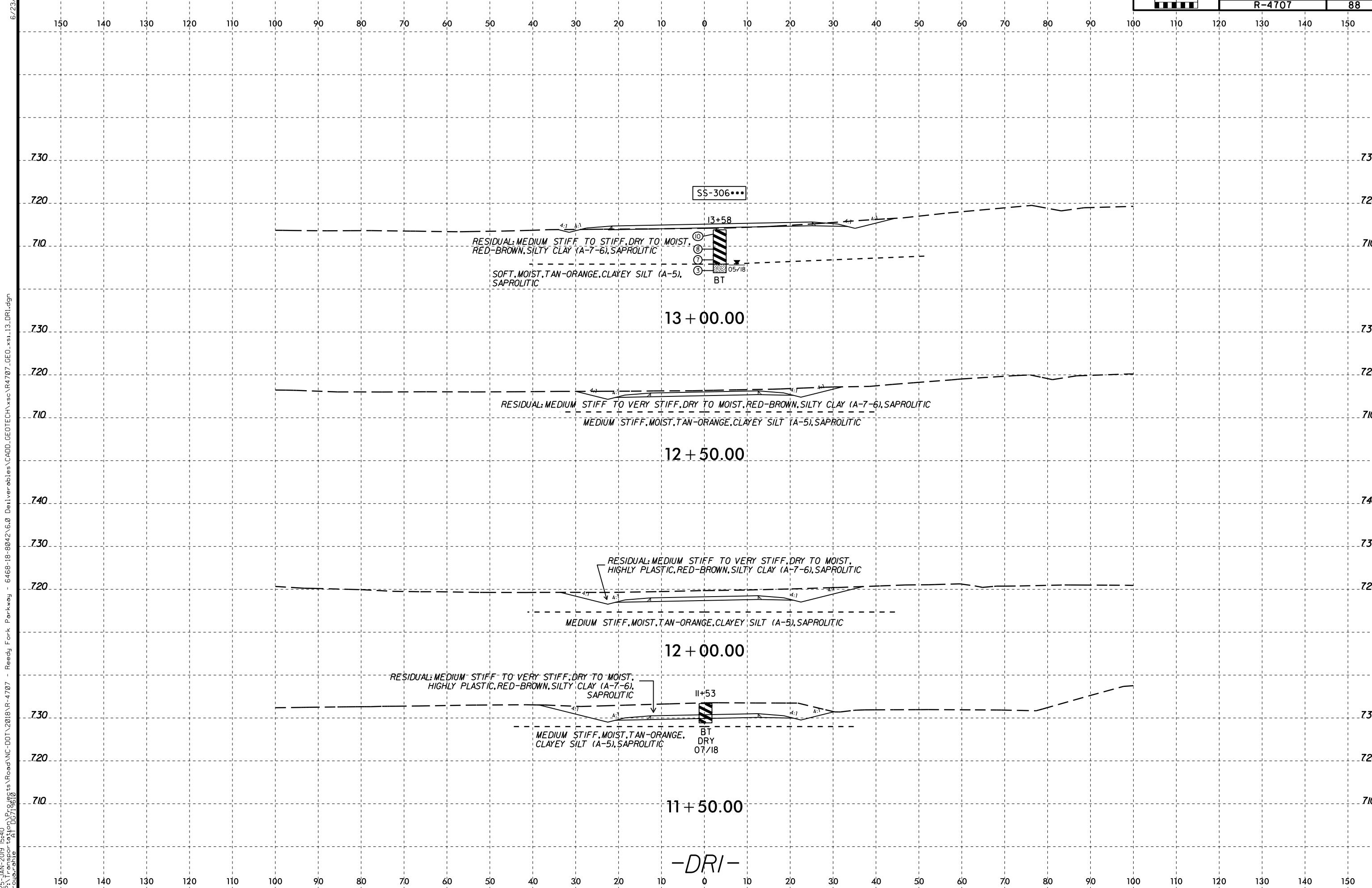
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R-4707 - US 29 AND SR 4771 (REEDY FORK PARKWAY) INTERCHANGE IMPROVEMENTS

SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	LINE	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVES			% Moisture	% ORGANIC
								C. SAND	F. SAND	SILT	CLAY	10.0	40	200.0		
S-70	36+01	67' RT	-L-	0.0-2.0	A-7-6(19)	45	21	5.5	6.7	38.3	49.5	96.0	95.3	85.5	22.3	-
S-73	39+97	66' RT	-L-	0.0-2.0	A-7-6(26)	52	25	3.4	8.0	48.6	40.0	99.8	99.6	90.2	27.4	-
SS-343	42+96	72' RT	-L-	0.0-1.5	A-5(11)	48	10	10.2	11.3	40.0	38.5	100.0	93.2	79.9	35.6	-
S-1	53+97	63' RT	-L-	0.0-2.0	A-6(9)	32	14	11.1	11.9	51.6	25.5	98.6	97.9	77.6	7.9	-
SS-234	63+96	75' RT	-L-	3.5-5.0	A-7-5(29)	63	20	0.1	1.6	54.2	44.1	100.0	99.9	99.4	51.6	-
S-79	67+04	50' LT	-L-	0.0-2.0	A-7-6(21)	42	19	0.1	0.7	61.0	38.1	98.3	98.3	97.9	26.2	-
SS-237	68+96	69' RT	-L-	0.0-1.5	A-7-6(10)	42	13	7.4	7.6	42.3	42.7	82.9	78.2	73.2	26.6	-
S-76	81+80	54' LT	-L-	0.0-2.0	A-7-6(21)	44	19	1.1	3.5	63.9	31.4	99.0	98.9	95.7	19.3	-
SS-37	83+06	111' RT	-L-	0.0-1.5	A-7-6(19)	45	21	6.3	6.3	43.4	44.0	95.2	90.9	86.0	22.3	-
SS-43	85+76	106' RT	-L-	8.5-10.0	A-4(8)	33	7	0.3	4.3	77.3	18.1	100.0	99.8	97.9	16.0	-
SS-400	23+93	82' LT	-Y-	0.0-1.5	A-4(6)	26	10	10.4	12.8	48.9	27.9	98.2	92.4	78.9	15.6	-
SS-402	23+93	82' LT	-Y-	8.5-10.0	A-7-6(28)	49	26	0.6	4.6	55.6	39.2	99.5	99.1	96.9	38.1	-
SS-359	28+05	26' RT	-Y-	3.5-5.0	A-7-5(20)	50	15	0.2	3.8	60.8	35.2	100.0	99.9	98.0	49.6	-
SS-361	28+05	26' RT	-Y-	8.5-10.0	A-7-6(33)	48	31	0.2	4.0	75.6	20.2	100.0	99.9	97.7	47.8	-
SS-365	32+01	29' LT	-Y-	6.0-7.5	A-7-6(27)	49	28	3.1	6.2	42.1	48.7	97.5	95.7	89.6	15.4	-
SS-426	38+98	47' RT	-Y-	3.5-5.0	A-7-6(22)	46	25	7.4	10.5	40.0	42.1	100.0	96.0	85.3	20.3	-
ST-1	43+43	57' RT	-Y-	4.0-6.0	A-4(1)	27	6	6.4	47.7	25.7	20.2	100.0	99.0	55.4	21.1	-
SS-214	44+92	13' LT	-Y-	0.0-1.5	A-6(16)	39	15	0.4	4.4	66.5	28.7	100.0	99.9	97.5	28.0	-
SS-266*	12+04	38' RT	-RPA-	3.5-5.0	A-7-6(23)	43	23	2.7	4.0	47.8	45.4	98.9	97.2	93.9	22.3	-
SS-276*	15+98	11' RT	-RPA-	3.5-5.0	A-7-6(28)	46	26	0.2	2.8	77.9	19.1	100.0	100.0	98.9	36.7	-
SS-292	22+52	3' RT	-RPA-	6.0-7.5	A-7-5(18)	54	13	4.4	5.8	69.8	20.0	100.0	97.5	92.1	53.8	-
SS-421	25+04	1' LT	-RPA-	13.5-15.0	A-5(11)	42	7	0.3	5.1	70.1	24.5	100.0	99.8	97.8	32.2	-
SS-379**	28+02	3' LT	-SPA-	3.5-5.0	A-7-6(34)	56	33	4.1	4.8	58.0	33.0	99.3	96.9	92.1	20.2	-
SS-170*	14+01	35' LT	-RPB-	3.5-5.0	A-7-5(30)	65	22	1.6	3.6	56.8	38.0	99.6	98.7	95.7	21.3	-
SS-143*	23+84	20' LT	-RPB-	0.0-1.5	A-6(12)	37	17	19.6	2.6	41.3	36.5	99.2	88.6	77.2	16.6	-
SS-144*	23+84	20' LT	-RPB-	3.5-5.0	A-7-5(21)	57	20	10.3	6.8	46.1	36.8	100.0	94.1	84.6	30.8	-
SS-131*	28+01	44' LT	-RPB-	3.5-5.0	A-7-5(29)	63	26	4.1	7.5	43.1	45.2	99.9	98.4	90.3	29.5	-
SS-134*	28+01	44' LT	-RPB-	18.5-20.0	A-7-6(13)	41	15	12.5	7.4	71.4	8.7	100.0	94.4	81.6	9.9	-
SS-122*	29+96	54' LT	-RPB-	0.0-1.5	A-7-5	70	40	-	-	-	-	-	-	-	32.6	-
SS-124*	29+96	54' LT	-RPB-	8.5-10.0	A-4	40	5	-	-	-	-	-	-	-	12.1	-
SS-112*	32+00	13' LT	-RPB-	3.5-5.0	A-7-5	56	21	-	-	-	-	-	-	-	24.6	-
SS-104	34+00	20' LT	-RPB-	0.0-1.5	A-7-6	59	34	-	-	-	-	-	-	-	25.2	-
SS-98	35+35	8' LT	-RPB-	3.5-5.0	A-4(8)	39	10	14.0	14.4	58.3	13.3	99.9	91.5	74.8	25.7	-
ST-3	38+21	4' LT	-RPB-	4.0-6.0	A-6(3)	28	12	20.4	32.9	24.0	22.7	94.3	84.4	50.1	25.8	-
SS-462	38+24	4' LT	-RPB-	3.5-5.0	A-6(10)	33	13	10.6	11.4	52.8	25.2	100.0	94.1	80.9	26.1	3.5
SS-441**	42+51	1' RT	-SPB-	3.5-5.0	A-7-6(31)	52	29	1.2	3.6	41.5	53.7	100.0	99.6	96.4	32.3	-
SS-327*	13+95	18' RT	-RPC-	3.5-5.0	A-7-6(27)	49	37	10.0	11.7	36.3	42.0	95.9	90.7	77.1	27.9	-
SS-331	16+10	45' RT	-RPC-	0.0-1.5	A-7-6	51	26	-	-	-	-	-	-	-	23.2	-
SS-220	22+42	39' LT	-RPC-	3.5-5.0	A-4(0)	21	4	13.7	20.3	45.9	20.0	97.5	90.8	70.2	19.6	-
ST-2	23+92	CL	-RPC-	3.0-5.0	A-6(10)	36	18	11.0	24.1	38.1	26.8	97.1	91.7	69.1	25.5	-
SS-189	23+97	2' RT	-RPC-	3.5-5.0	A-6(9)	31	12	8.0	6.6	53.5	31.9	98.5	93.7	86.1	21.7	-
SS-196**	25+45	6' RT	-SPC-	3.5-5.0	A-4(0)	20	2	10.3	26.6	47.0	16.0	99.9	96.7	68.3	26.4	5.5

* =Boring presented on -L- Cross Sections

** =Boring presented on -Y- Cross Sections

R-4707 - US 29 AND SR 4771 (REEDY FORK PARKWAY) INTERCHANGE IMPROVEMENTS

SOIL TEST RESULTS

SAMPLE NO.	STATION	OFFSET	LINE	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVES			% Moisture	% ORGANIC
								C. SAND	F. SAND	SILT	CLAY	10.0	40	200.0		
SS-26*	12+07	92' LT	-RPD-	8.5-10.0	A-7-5(22)	55	16	1.8	4.2	46.2	47.8	100.0	99.0	96.0	34.2	-
SS-18*	14+11	72' LT	-RPD-	8.5-10.0	A-7-5	68	38	-	-	-	-	-	-	-	34.9	-
SS-21*	14+11	72' LT	-RPD-	23.5-25.0	A-5(10)	46	6	4.4	5.3	71.8	18.4	97.2	93.8	90.1	36.9	-
SS-256	16+01	46' LT	-RPD-	8.5-10.0	A-7-5(17)	49	13	0.6	7.2	69.5	22.7	100.0	99.8	94.6	47.0	-
SS-175**	26+06	5' RT	-RPD-	3.5-5.0	A-7-6(11)	42	14	13.3	13.7	51.0	22.0	98.3	90.1	75.2	25.2	-
SS-392	14+02	3' RT	-Y1-	3.5-5.0	A-7-5(18)	46	15	0.5	7.2	73.8	18.5	100.0	99.8	96.0	36.3	-
SS-306***	15+96	8' LT	-Y1-	0.0-1.5	A-7-6(22)	43	22	3.4	5.5	40.5	50.6	99.7	97.5	92.9	22.0	-
SS-303	17+78	48' LT	-Y1-	8.5-10.0	A-7-5(22)	58	18	2.1	10.3	70.6	17.0	99.2	98.4	89.1	69.9	-
SS-407	22+12	40' RT	-Y1-	0.0-1.5	A-7-5(17)	55	11	4.3	4.0	37.6	54.1	100.0	96.8	93.2	35.9	-
S-51	26+46	43' RT	-Y1-	0.0-2.0	A-7-6(30)	53	29	2.7	4.3	45.1	47.8	99.5	99.3	93.1	21.8	-
S-41	28+48	42' LT	-Y1-	0.0-2.0	A-7-6(32)	51	30	1.3	2.5	35.5	60.6	99.6	99.2	96.8	23.9	-
S-54	30+00	CL	-Y1A-	0.0-2.0	A-7-6(35)	72	27	1.9	4.6	41.5	52.0	100.0	99.9	95.2	24.5	-
SS-66	15+01	5' RT	-Y2-	3.5-5.0	A-7-5(44)	72	39	3.0	5.2	42.7	49.1	99.6	98.3	93.1	41.1	-
SS-388	14+71	14' LT	-Y3A-	3.5-5.0	A-7-6(25)	50	24	3.8	6.3	32.2	57.7	100.0	98.0	91.6	30.8	-
S-35	11+51	30' RT	-Y5-	2.0-4.0	A-7-6(15)	44	18	3.3	19.6	65.9	11.2	100.0	99.8	80.3	20.0	-
SS-313	11+10	110' RT	-DR1-	8.5-10.0	A-7-6(40)	63	37	2.2	5.1	30.5	62.2	100.0	98.8	94.6	23.4	-

* =Boring presented on -L- Cross Sections

** =Boring presented on -Y- Cross Sections

*** =Boring presented on -DR1- Cross Sections

SS-18* representative for ST-4 quality sample

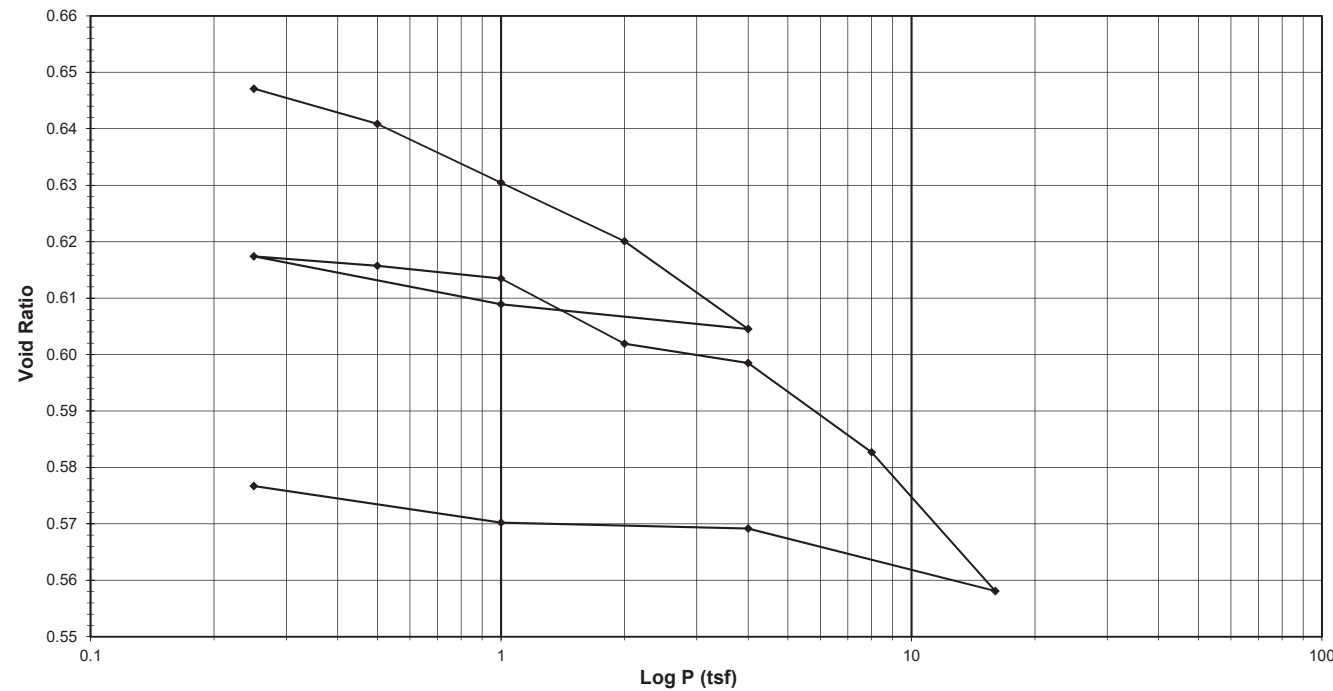


ONE DIMENSIONAL CONSOLIDATION

AASHTO T-216

Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Reference R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Tested By 129-04-0411 Date 6/19/18 Approved By MPS Date 7/5/18

ONE DIMENSIONAL CONSOLIDATION

AASHTO T-216

Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Reference R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED

Consolidometer No. R487
 1 Division = 0.0001 (in.)

Sample Properties	Initial		Final		Test Data Summary							
					Applied Pressure (tsf)	Final Dial Reading (div)	Machine Deflection (div)	Corrected Reading (div)	Height of Sample (mm)	Volume (cc)	Dry Density (g/cc)	Void Ratio
<i>Water Content</i>												
Tare Number	815	906										
Wt. Tare & WS (g)	378.71	257.89										
Wt. Tare & DS (g)	336.49	232.14										
Wt. Water (g)	42.22	25.75										
Wt. Tare (g)	136.03	102.37										
Wt. DS (g)	200.46	129.77										
Water Content (%)	21.06	19.84										
<i>Sample Parameters</i>												
Sample Diameter (in)	2.5	2.5										
Sample Height (in)	1.0000	0.9516										
Sample Volume (cc)	80.44	76.55										
Wt. Wet Sample + Ring (g)	371.59	370.01										
Wt. of Ring (g)	214.66	214.66										
Wt. of Wet Sample (g)	156.93	155.35										
Wet Density (pcf)	121.74	126.64										
Wet Density (g/cc)	1.95	2.03										
Water Content (%)	21.06	19.84										
Wt. of Dry Sample (g)	129.63	129.63										
Dry Density (pcf)	100.56	105.67										
Dry Density (g/cc)	1.61	1.69										
Void Ratio	0.6568	0.5767										
Saturation (%)	85.61	91.87										
Specific Gravity	2.67	Measured										

Tested By 129-04-0411 Date 6/19/18 Input Checked By GEM Date 7/5/18



ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216

Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Reference R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

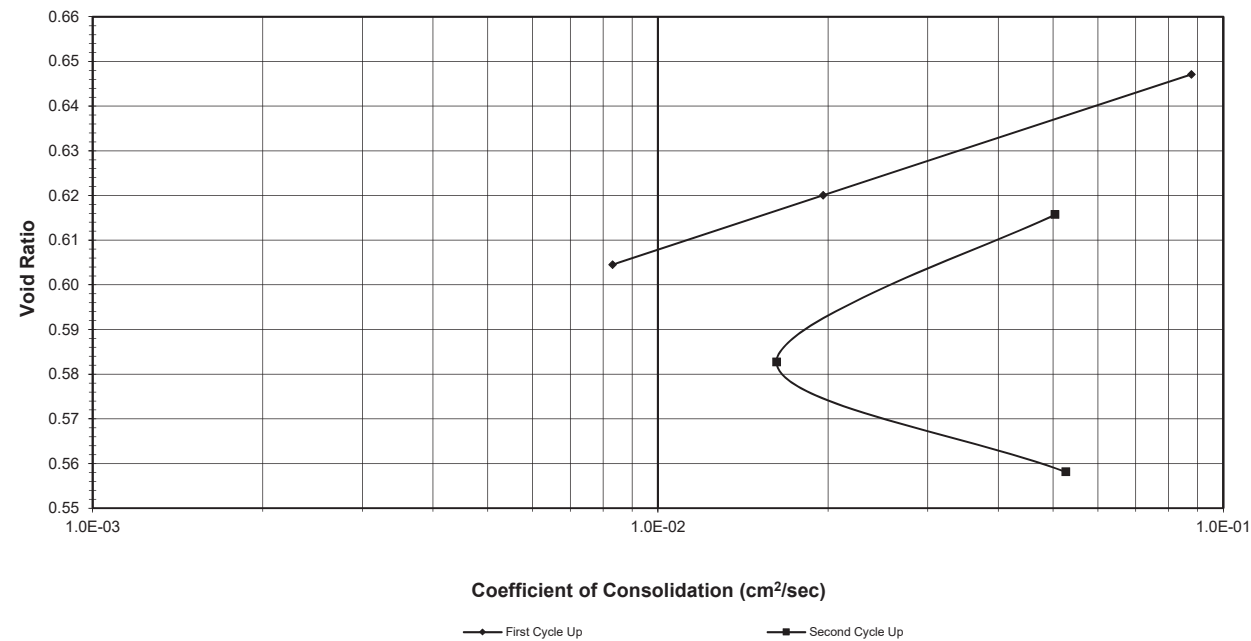
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216

Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Reference R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED

Consolidometer No. R487
 1 Division = 0.0001 (in.)



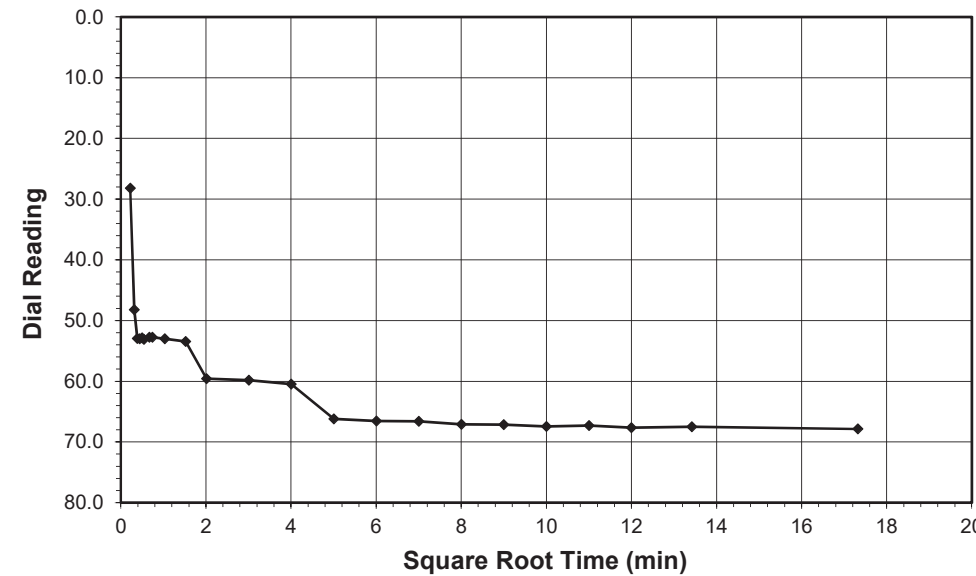
Sample Properties	Initial	Final	C _v Test Data Summary					Time t ₅₀ (min.)	C _v (cm ² /sec)	
			Load Increment (tsf)	Dial Reading @ t ₅₀ (div)	Machine Deflection (div)	Corrected Dial Reading @ t ₅₀ (div)	Sample Height @ t ₅₀ (cm)			
Water Content										
Tare Number	815	906								
Wt. Tare & WS (g)	378.71	257.89								
Wt. Tare & DS (g)	336.49	232.14								
Wt. Water (g)	42.22	25.75	0 - 0.25	34.0	9.0	25.0	2.534	0.06	0.08782	
Wt. Tare (g)	136.03	102.37	0.25 - 0.5	NA	21.0	NA	NA	NA	NA	
Wt. DS (g)	200.46	129.77	0.5 - 1.0	NA	40.0	NA	NA	NA	NA	
Water Content (%)	21.06	19.84	1.0 - 2.0	251.3	59.6	191.7	2.491	0.26	0.01959	
			2.0 - 4.0	379.2	85.0	294.2	2.465	0.60	0.00831	
			4.0 - 1.0	NA	83.6	NA	NA	NA	NA	
			1.0 - 0.25	NA	70.2	NA	NA	NA	NA	
Sample Parameters			0.25 - 0.5	311.1	65.2	245.9	2.478	0.10	0.05038	
Sample Diameter (in)	2.5	2.5	0.5 - 1.0	NA	65.0	NA	NA	NA	NA	
Sample Height (in)	1.000	0.952	1.0 - 2.0	NA	66.7	NA	NA	NA	NA	
Sample Volume (cc)	80.44	76.55	2.0 - 4.0	NA	82.2	NA	NA	NA	NA	
Wt. Wet Sample + Ring (g)	371.59	370.01	4.0 - 8.0	541.5	123.4	418.1	2.434	0.30	0.01621	
Wt. of Ring (g)	214.66	214.66	8.0 - 16.0	728.9	187.7	541.2	2.403	0.09	0.05264	
Wt. of Wet Sample (g)	156.93	155.35	16.0 - 4.0	NA	163.3	NA	NA	NA	NA	
Wet Density (pcf)	121.74	126.64	4.0 - 1.0	NA	113.1	NA	NA	NA	NA	
Wet Density (g/cc)	1.95	2.03	1.0 - 0.25	NA	78.9	NA	NA	NA	NA	
Water Content (%)	21.06	19.84								
Wt. of Dry Sample (g)	129.63	129.63								
Dry Density (pcf)	100.56	105.67								
Dry Density (g/cc)	1.61	1.69								
Void Ratio	0.6568	0.5767								
Saturation (%)	85.61	91.87								
Specific Gravity	2.67	Measured								
			Tested By	129-04-0411	Date	6/19/18	Input Checked By	GEM	Date	7/5/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



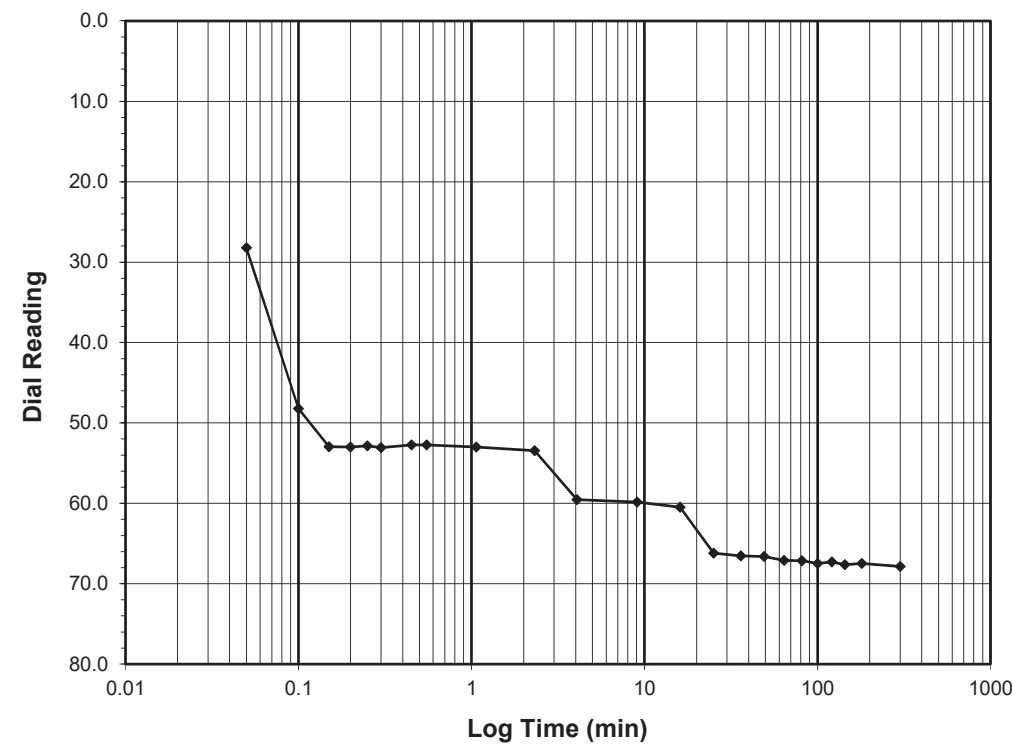
Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.0-0.25
 Final Reading (div) 67.9
 Consolidometer No. R487
 1 Division (in) 0.0001
 Start Date 6/19/18
 Start Time 16:39:36

Elapsed Time (min)	Dial Reading (div)
Initial	0.0
0.05	28.2
0.10	48.2
0.15	53.0
0.20	53.0
0.25	52.8
0.30	53.1
0.45	52.7
0.55	52.7
1.07	53.0
2.32	53.5
4.07	59.6
9.07	59.8
16.07	60.5
25.07	66.2
36.07	66.5
49.07	66.6
64.07	67.1
81.07	67.1
100.07	67.5
121.07	67.3
144.07	67.6
180.07	67.5
300.07	67.9



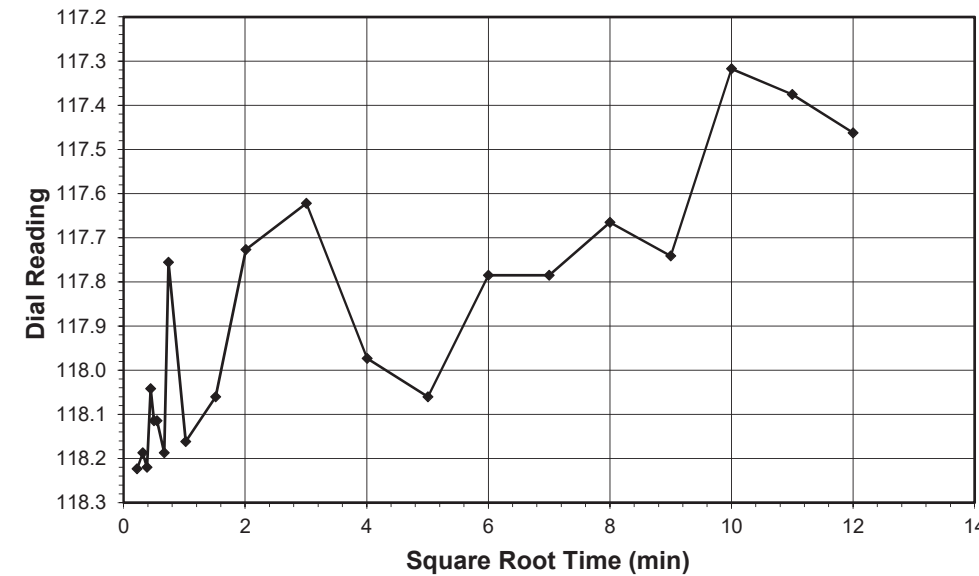
Tested By 129-04-0411 Date 6/19/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



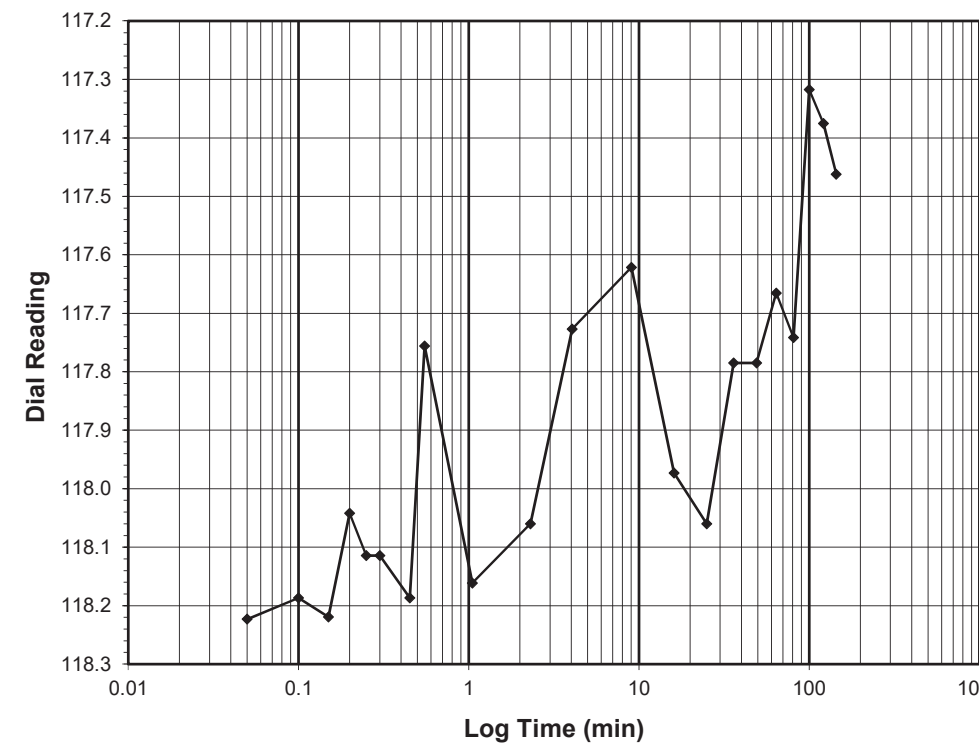
Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.25-0.5
 Final Reading (div) 117.5
 Consolidometer No. R487
 1 Division (in) 0.0001
 Start Date 6/19/18
 Start Time 23:39:43

Elapsed Time (min)	Dial Reading (div)
Initial	67.9
0.05	118.2
0.10	118.2
0.15	118.2
0.20	118.0
0.25	118.1
0.30	118.1
0.45	118.2
0.55	117.8
1.05	118.2
2.30	118.1
4.05	117.7
9.05	117.6
16.05	118.0
25.05	118.1
36.05	117.8
49.05	117.8
64.05	117.7
81.05	117.7
100.05	117.3
121.05	117.4
144.05	117.5



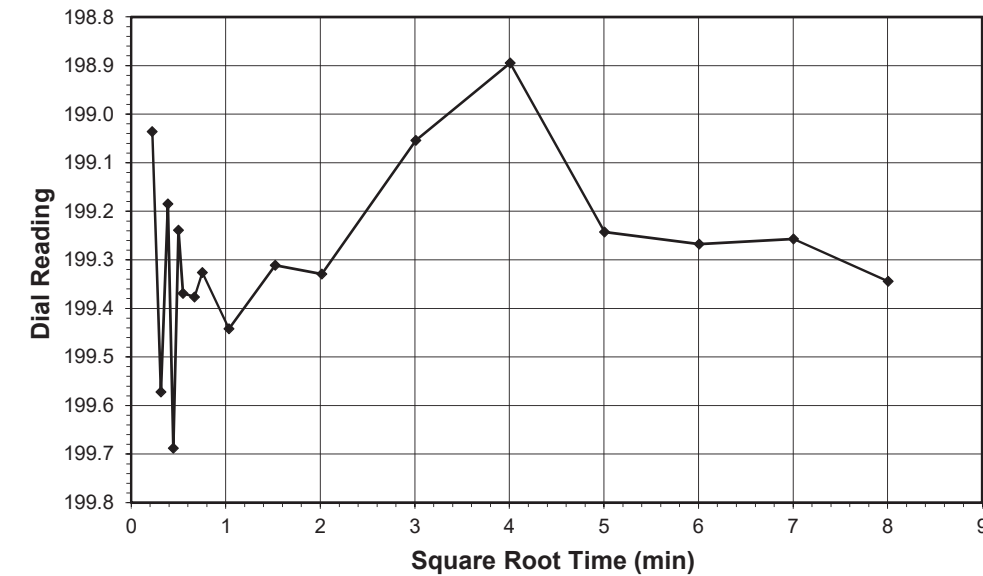
Tested By 129-04-0411 Date 6/19/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



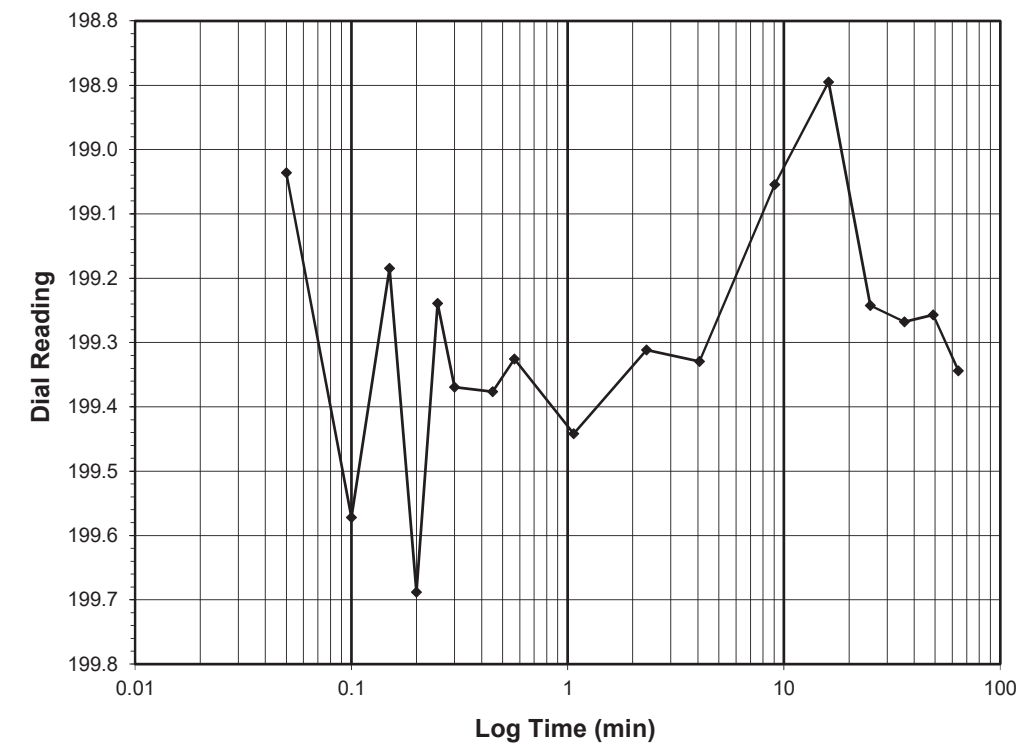
Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.5-1.0
Final Reading (div) 199.3
 Consolidometer No. **R487**
 1 Division (in) 0.0001
 Start Date 6/20/18
 Start Time 6:40:12

Elapsed Time (min)	Dial Reading (div)
Initial	117.5
0.05	199.0
0.10	199.6
0.15	199.2
0.20	199.7
0.25	199.2
0.30	199.4
0.45	199.4
0.57	199.3
1.07	199.4
2.32	199.3
4.07	199.3
9.07	199.1
16.07	198.9
25.07	199.2
36.07	199.3
49.07	199.3
64.07	199.3

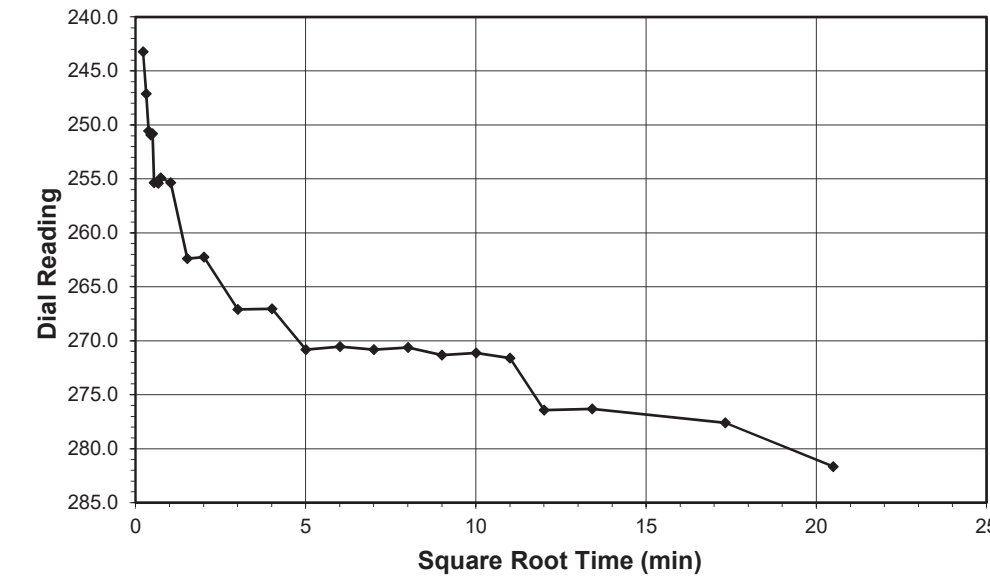


ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



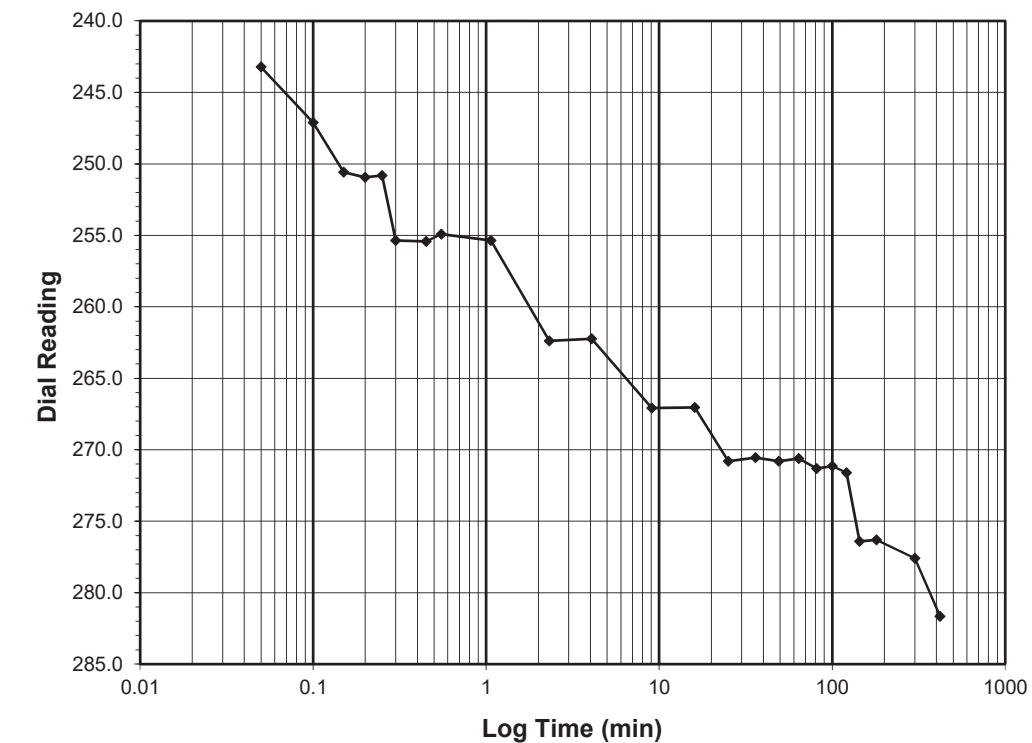
Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 1.0-2.0
Final Reading (div) 281.7
 Consolidometer No. **R487**
 1 Division (in) 0.0001
 Start Date 6/20/18
 Start Time 7:48:25

Elapsed Time (min)	Dial Reading (div)
Initial	199.3
0.05	243.2
0.10	247.1
0.15	250.6
0.20	250.9
0.25	250.8
0.30	255.4
0.45	255.4
0.55	254.9
1.07	255.4
2.32	262.4
4.07	262.2
9.07	267.1
16.07	267.0
25.07	270.8
36.07	270.6
49.07	270.8
64.07	270.6
81.07	271.3
100.07	271.1
121.07	271.6
144.07	276.4
180.07	276.3
300.07	277.6
420.07	281.7



Tested By 129-04-0411 Date 6/20/18 Checked By GEM Date 7/1/18

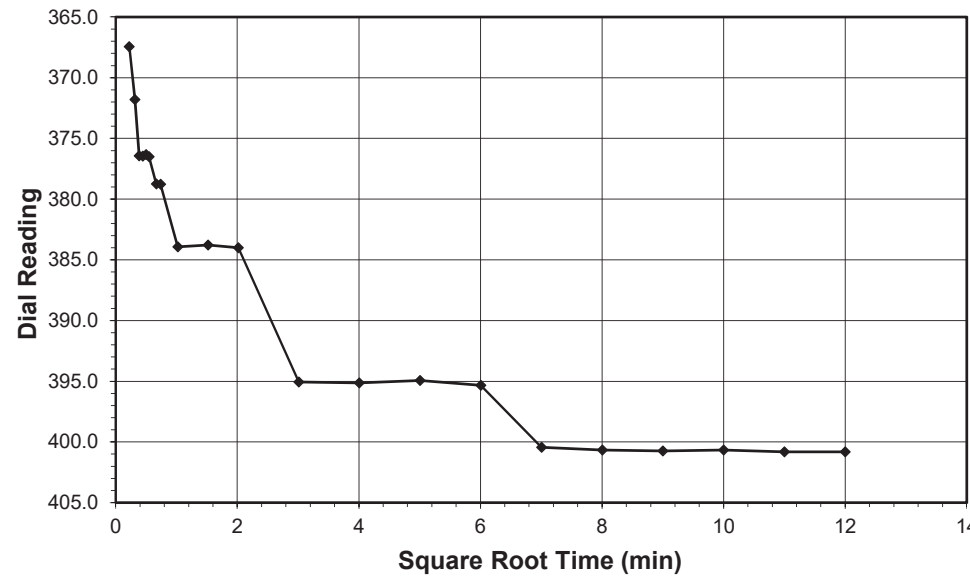
Tested By 129-04-0411 Date 6/20/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

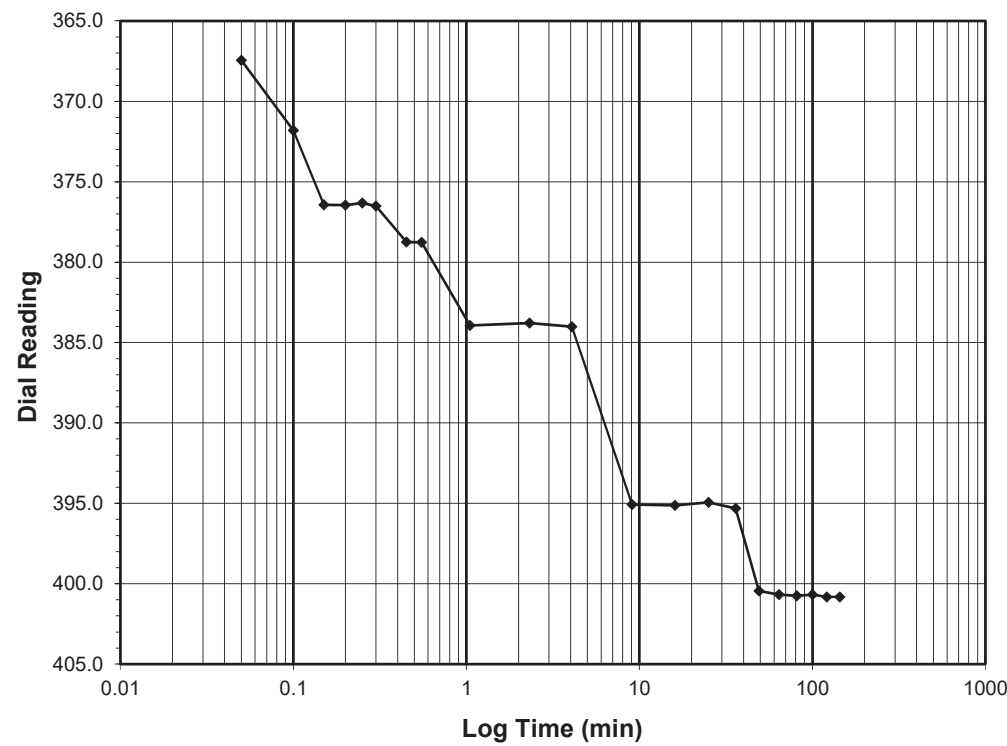
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 2.0-4.0
Final Reading (div) 400.8
 Consolidometer No. **R487**
 1 Division (in) 0.0001

Start Date 6/20/18
 Start Time 14:48:29

Elapsed Time (min)	Dial Reading (div)
Initial	281.7
0.05	367.4
0.10	371.8
0.15	376.4
0.20	376.5
0.25	376.3
0.30	376.5
0.45	378.8
0.55	378.8
1.05	383.9
2.32	383.8
4.07	384.0
9.07	395.1
16.07	395.1
25.07	394.9
36.07	395.3
49.07	400.4
64.07	400.7
81.07	400.7
100.07	400.7
121.07	400.8
144.07	400.8



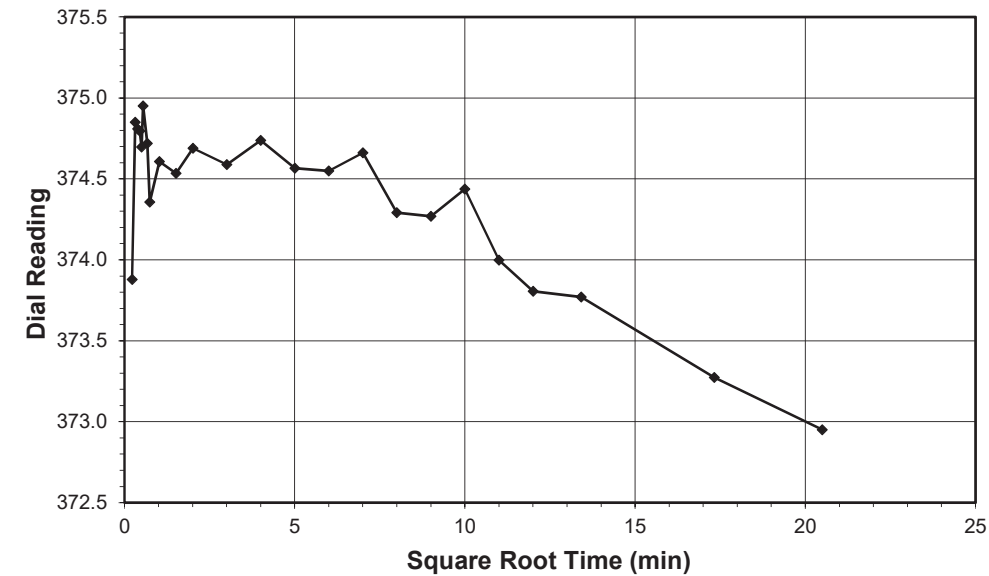
Tested By 129-04-0411 Date 6/20/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

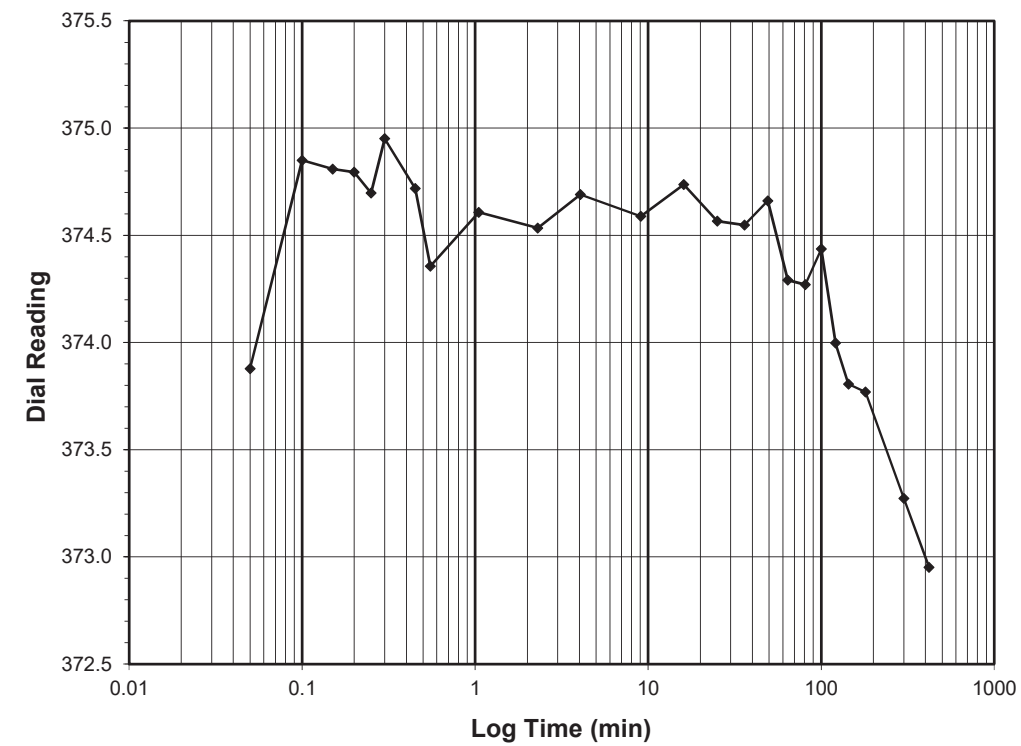
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 4.0-1.0
Final Reading (div) 373.0
 Consolidometer No. **R487**
 1 Division (in) 0.0001

Start Date 6/20/18
 Start Time 21:48:32

Elapsed Time (min)	Dial Reading (div)
Initial	400.8
0.05	373.9
0.10	374.8
0.15	374.8
0.20	374.8
0.25	374.7
0.30	375.0
0.45	374.7
0.55	374.4
1.05	374.6
2.30	374.5
4.05	374.7
9.05	374.6
16.05	374.7
25.05	374.6
36.05	374.5
49.05	374.7
64.05	374.3
81.05	374.3
100.05	374.4
121.07	374.0
144.07	373.8
180.07	373.8
300.07	373.3
420.13	373.0



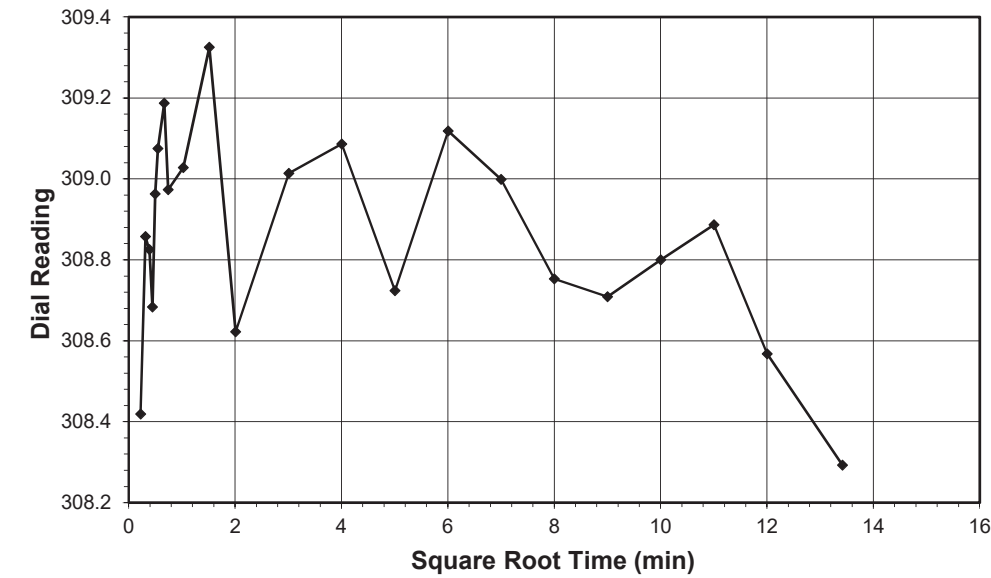
Tested By 129-04-0411 Date 6/20/18 Checked By GEM Date 7/1/18



ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216

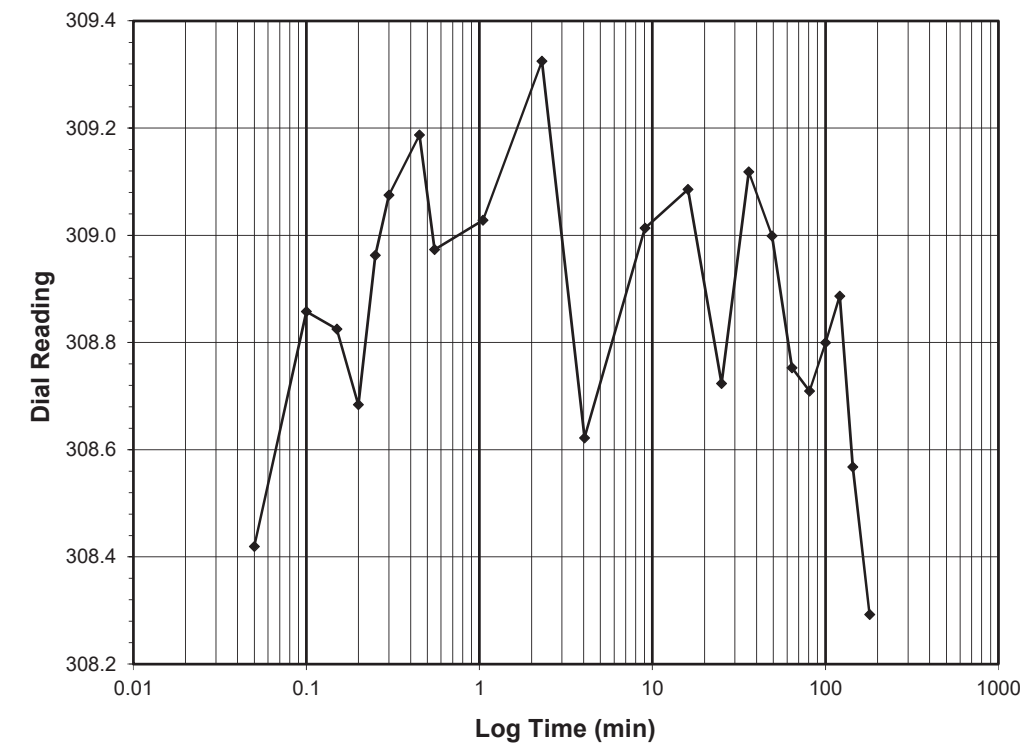
Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 1.0-0.25
 Final Reading (div) 308.3
 Consolidometer No. R487
 1 Division (in) 0.0001
 Start Date 6/21/18
 Start Time 4:48:40

Elapsed Time (min)	Dial Reading (div)
Initial	373.0
0.05	308.4
0.10	308.9
0.15	308.8
0.20	308.7
0.25	309.0
0.30	309.1
0.45	309.2
0.55	309.0
1.05	309.0
2.30	309.3
4.05	308.6
9.05	309.0
16.05	309.1
25.05	308.7
36.05	309.1
49.05	309.0
64.05	308.8
81.05	308.7
100.05	308.8
121.07	308.9
144.07	308.6
180.07	308.3



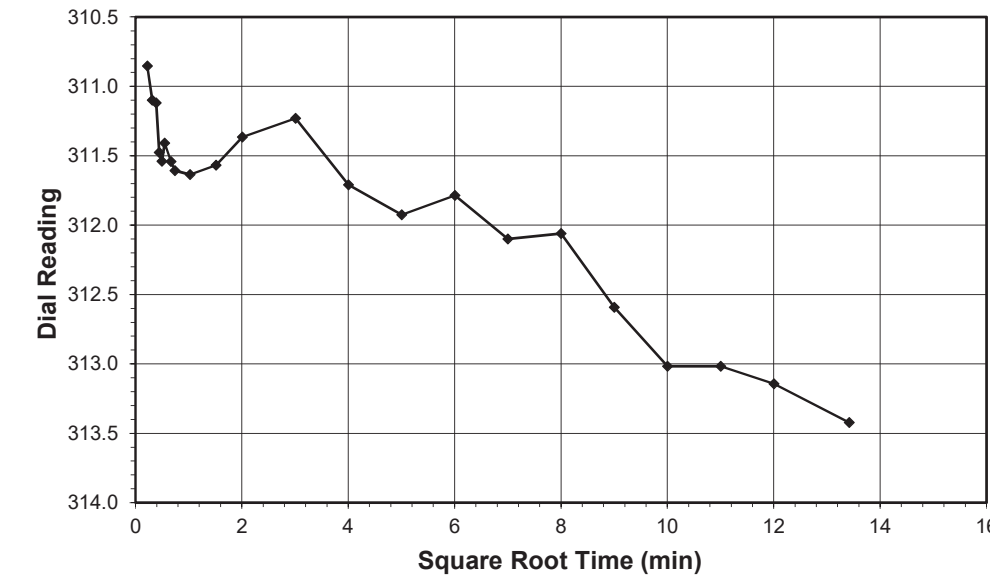
Tested By 129-04-0411 Date 6/21/18 Checked By GEM Date 7/1/18



ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216

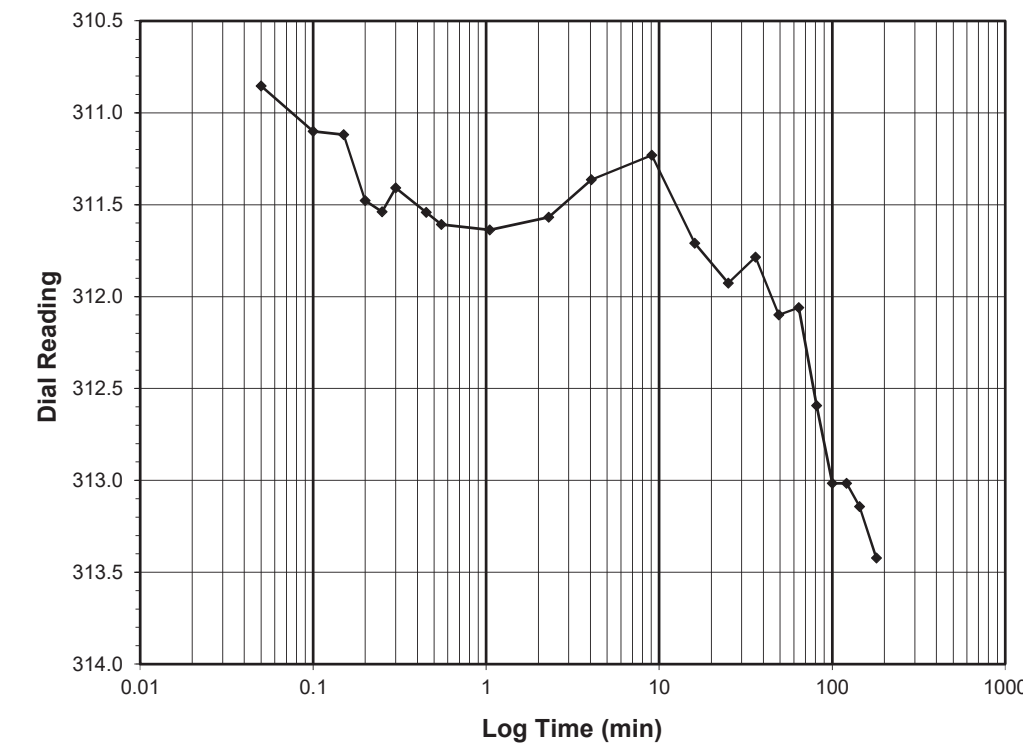
Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.25-0.5
 Final Reading (div) 313.4
 Consolidometer No. R487
 1 Division (in) 0.0001
 Start Date 6/21/18
 Start Time 11:48:45

Elapsed Time (min)	Dial Reading (div)
Initial	308.3
0.05	310.9
0.10	311.1
0.15	311.1
0.20	311.5
0.25	311.5
0.30	311.4
0.45	311.5
0.55	311.6
1.05	311.6
2.30	311.6
4.05	311.4
9.05	311.2
16.05	311.7
25.05	311.9
36.05	311.8
49.05	312.1
64.05	312.1
81.07	312.6
100.07	313.0
121.07	313.0
144.07	313.1
180.07	313.4



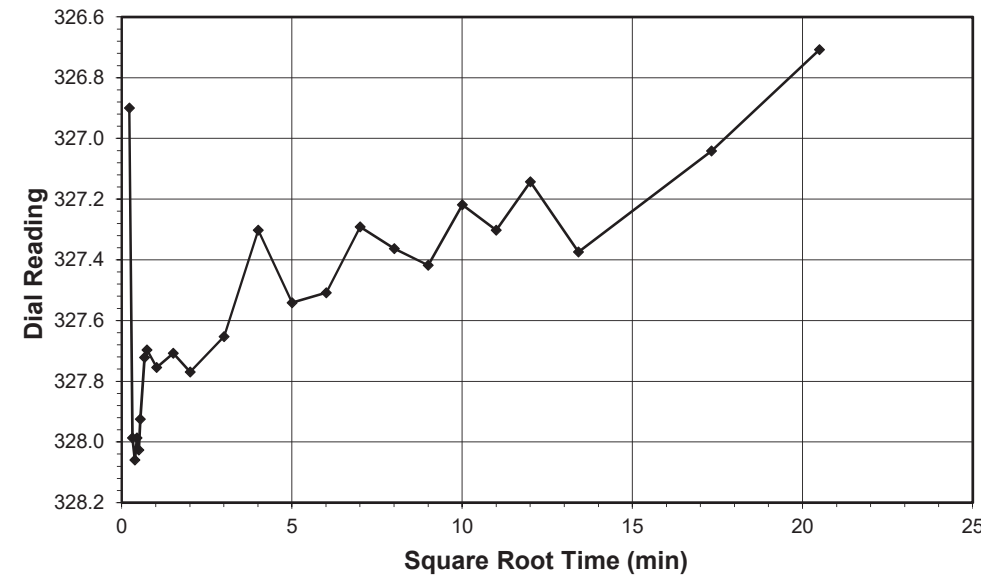
Tested By 129-04-0411 Date 6/21/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



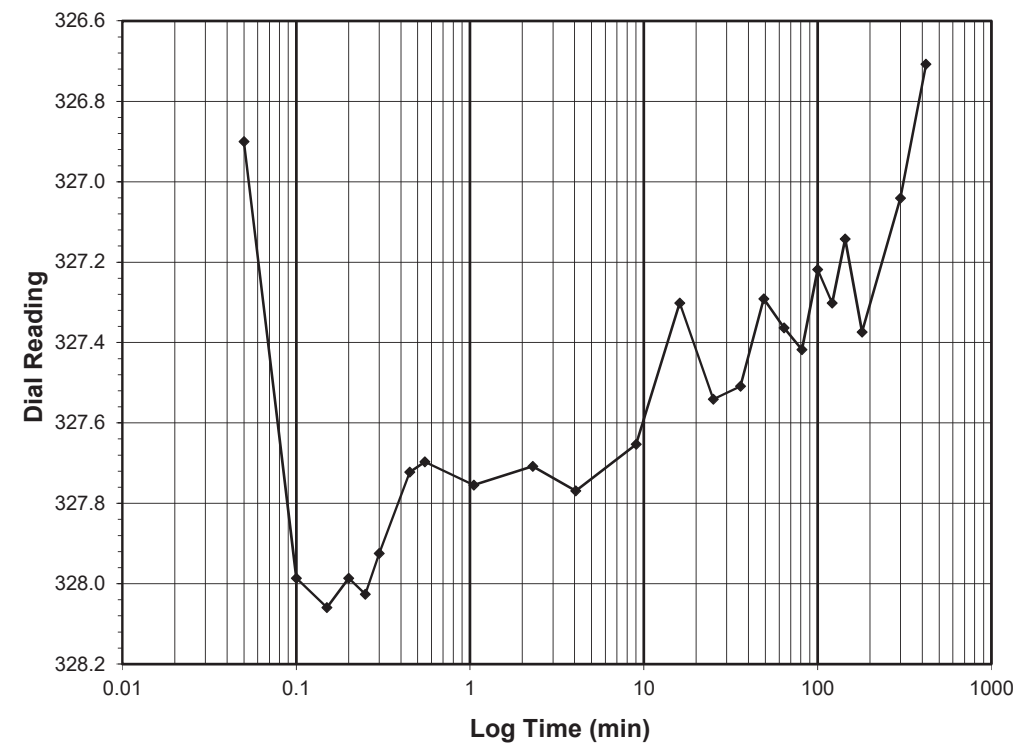
Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.5-1.0
 Final Reading (div) 326.7
 Consolidometer No. R487
 1 Division (in) 0.0001
 Start Date 6/21/18
 Start Time 18:49:16

Elapsed Time (min)	Dial Reading (div)
Initial	313.4
0.05	326.9
0.10	328.0
0.15	328.1
0.20	328.0
0.25	328.0
0.30	327.9
0.45	327.7
0.55	327.7
1.05	327.8
2.30	327.7
4.05	327.8
9.05	327.7
16.07	327.3
25.07	327.5
36.07	327.5
49.07	327.3
64.07	327.4
81.07	327.4
100.07	327.2
121.07	327.3
144.07	327.1
180.07	327.4
300.07	327.0
420.03	326.7



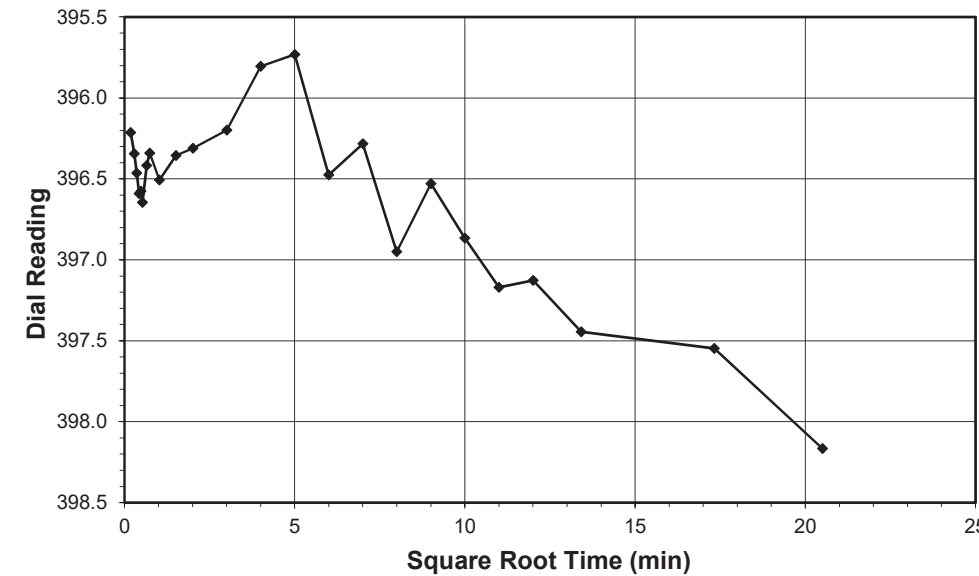
Tested By 129-04-0411 Date 6/21/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



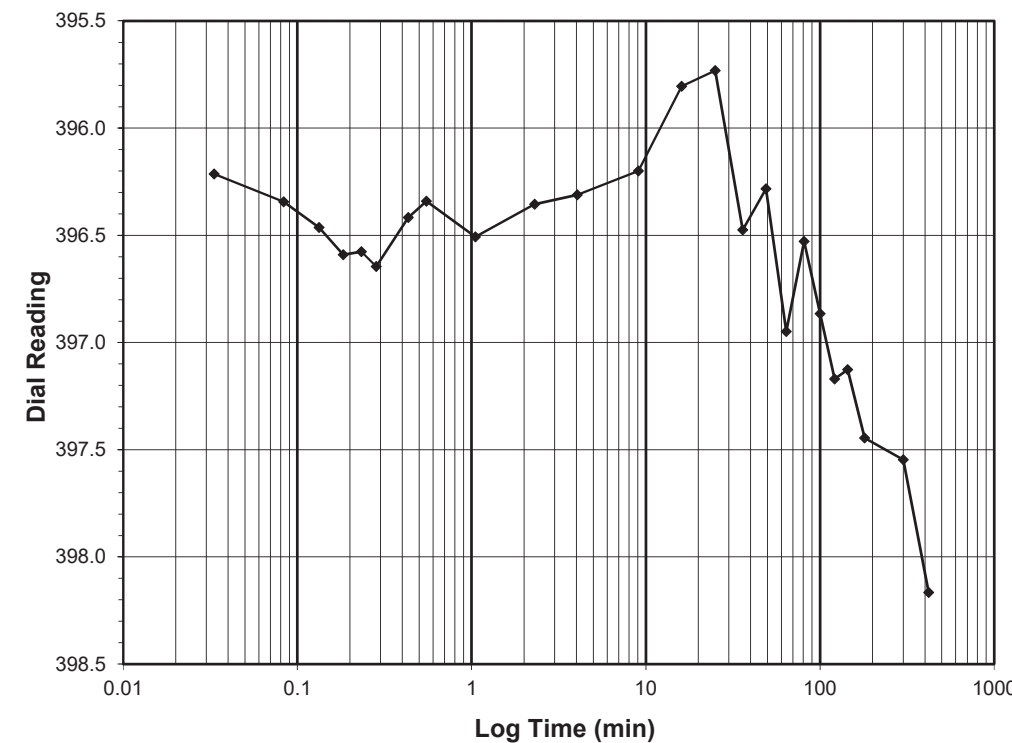
Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 1.0-2.0
 Final Reading (div) 398.2
 Consolidometer No. R487
 1 Division (in) 0.0001
 Start Date 6/22/18
 Start Time 1:49:18

Elapsed Time (min)	Dial Reading (div)
Initial	326.7
0.03	396.2
0.08	396.3
0.13	396.5
0.18	396.6
0.23	396.6
0.28	396.6
0.43	396.4
0.55	396.3
1.05	396.5
2.30	396.4
4.05	396.3
9.05	396.2
16.05	395.8
25.05	395.7
36.05	396.5
49.05	396.3
64.05	396.9
81.05	396.5
100.05	396.9
121.05	397.2
144.05	397.1
180.07	397.4
300.07	397.5
420.48	398.2



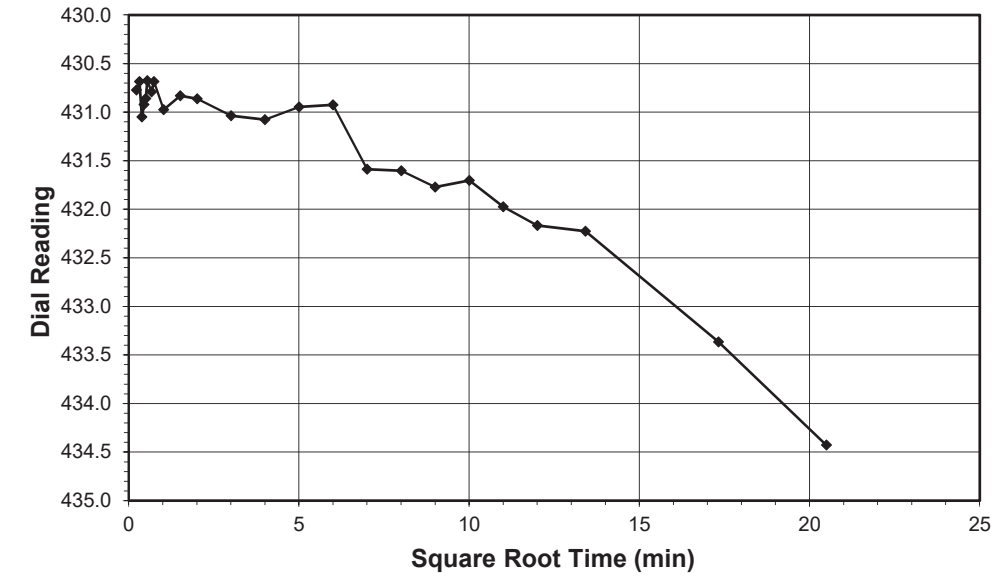
Tested By 129-04-0411 Date 6/22/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



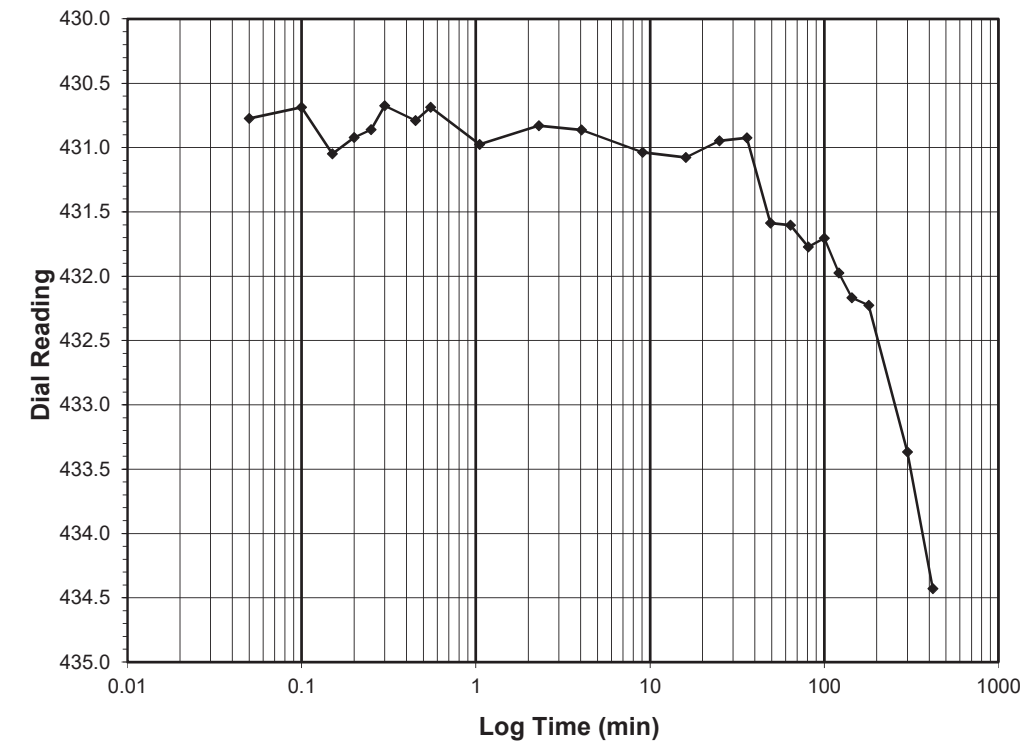
Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) **2.0-4.0**
 Final Reading (div) **434.4**
 Consolidometer No. **R487**
 1 Division (in) 0.0001
 Start Date 6/22/18
 Start Time 8:49:48

Elapsed Time (min)	Dial Reading (div)
Initial	398.2
0.05	430.8
0.10	430.7
0.15	431.0
0.20	430.9
0.25	430.9
0.30	430.7
0.45	430.8
0.55	430.7
1.05	431.0
2.30	430.8
4.05	430.9
9.05	431.0
16.05	431.1
25.05	430.9
36.05	430.9
49.07	431.6
64.07	431.6
81.07	431.8
100.07	431.7
121.07	432.0
144.07	432.2
180.07	432.2
300.07	433.4
420.07	434.4

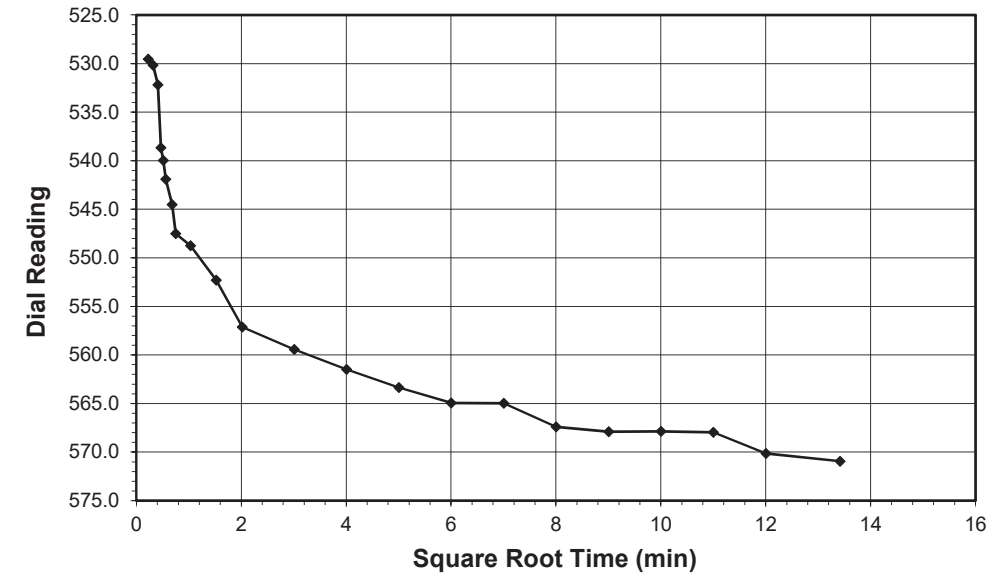


ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



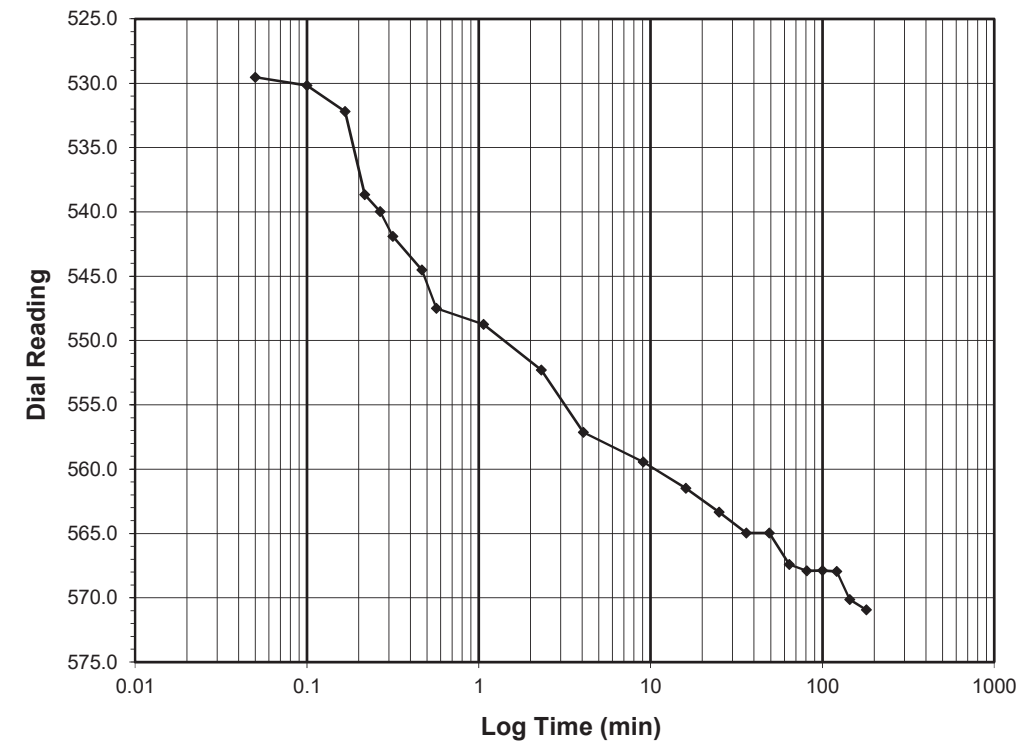
Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) **4.0-8.0**
 Final Reading (div) **570.9**
 Consolidometer No. **R487**
 1 Division (in) 0.0001
 Start Date 6/22/18
 Start Time 15:49:52

Elapsed Time (min)	Dial Reading (div)
Initial	434.4
0.05	529.5
0.10	530.2
0.17	532.2
0.22	538.7
0.27	540.0
0.32	541.9
0.47	544.5
0.57	547.5
1.07	548.8
2.32	552.3
4.07	557.1
9.07	559.4
16.07	561.5
25.07	563.3
36.07	565.0
49.08	565.0
64.08	567.4
81.08	567.9
100.08	567.9
121.08	568.0
144.08	570.1
180.08	570.9



Tested By 129-04-0411 Date 6/22/18 Checked By GEM Date 7/1/18

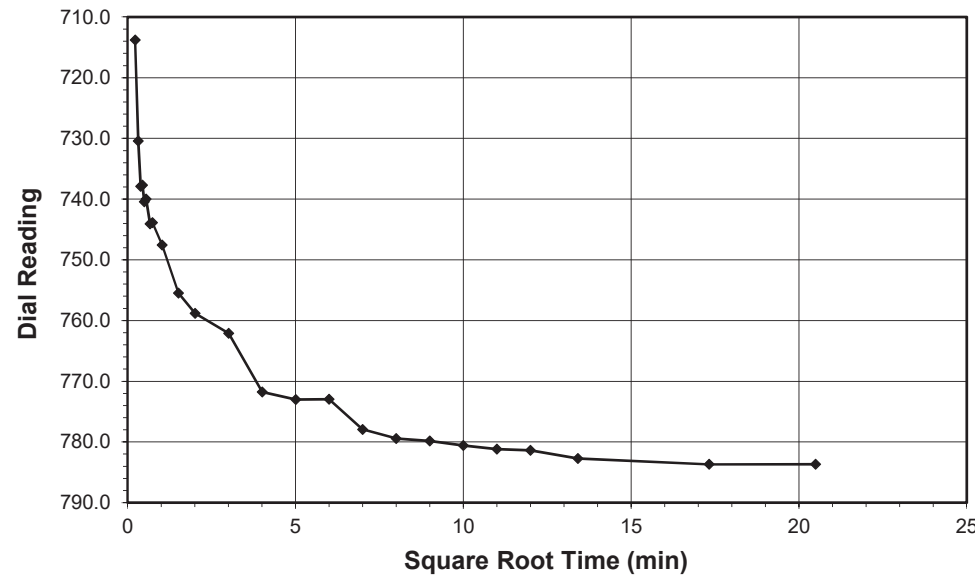
Tested By 129-04-0411 Date 6/22/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



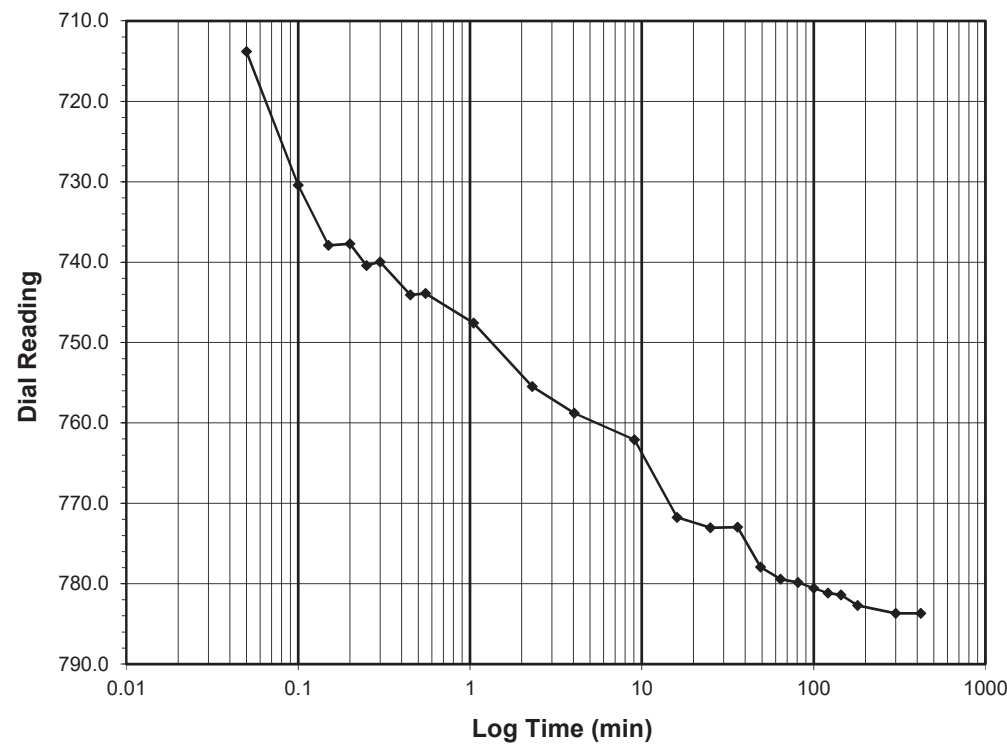
Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 8.0-16.0
 Final Reading (div) 783.7
 Consolidometer No. R487
 1 Division (in) 0.0001
 Start Date 6/22/18
 Start Time 22:50:04

Elapsed Time (min)	Dial Reading (div)
Initial	570.9
0.05	713.8
0.10	730.4
0.15	737.9
0.20	737.7
0.25	740.4
0.30	740.0
0.45	744.1
0.55	743.9
1.05	747.6
2.30	755.5
4.05	758.8
9.07	762.1
16.07	771.8
25.07	773.0
36.07	773.0
49.07	777.9
64.07	779.4
81.07	779.8
100.07	780.6
121.07	781.2
144.07	781.4
180.07	782.7
300.07	783.7
420.13	783.7



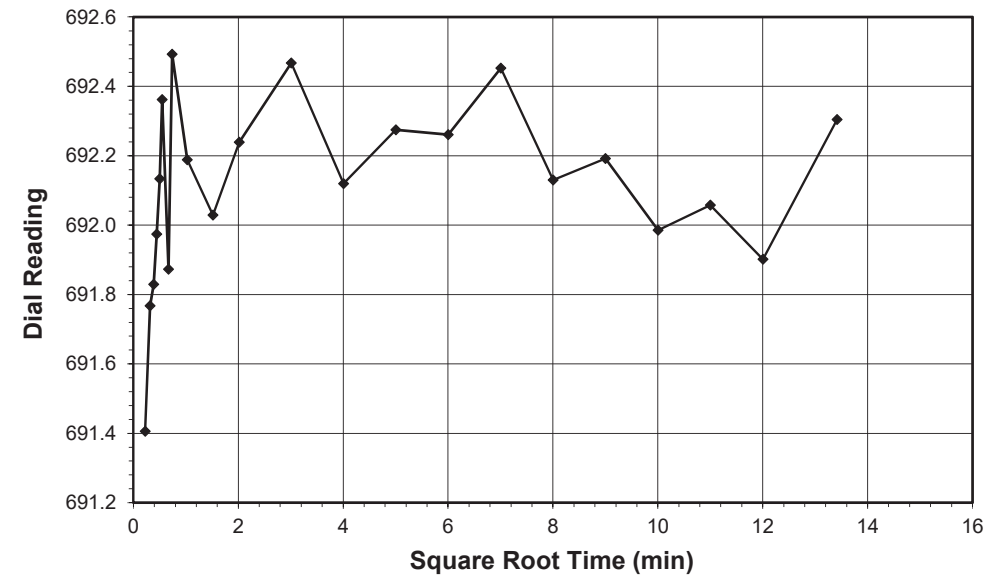
Tested By 129-04-0411 Date 6/22/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



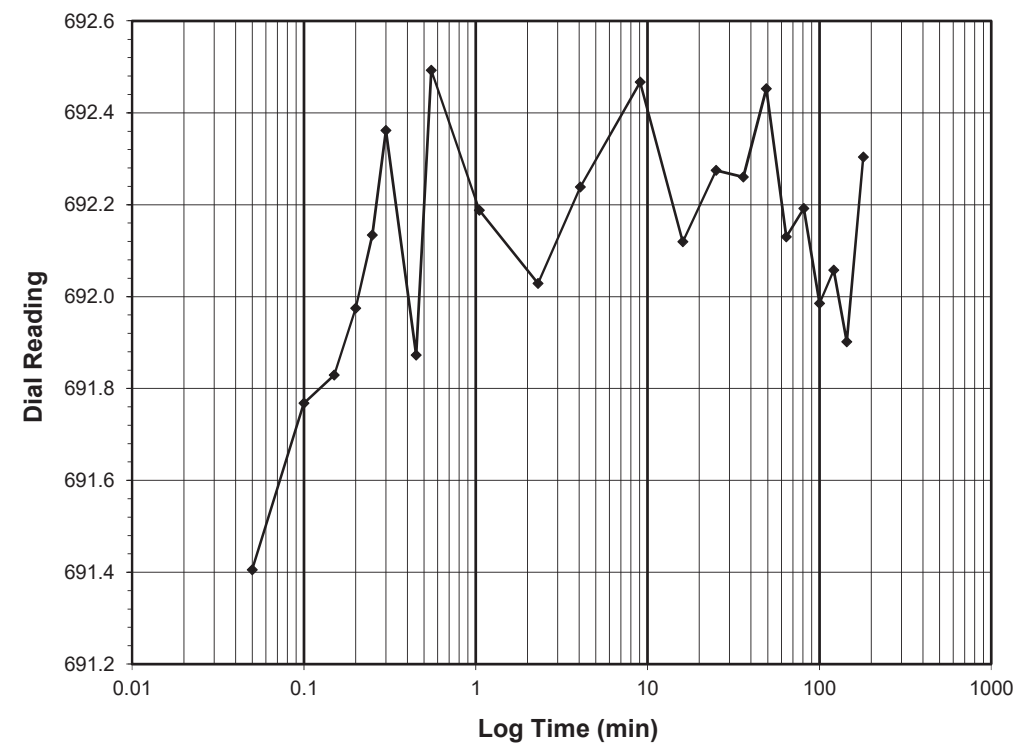
Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 16.0-4.0
 Final Reading (div) 692.3
 Consolidometer No. R487
 1 Division (in) 0.0001
 Start Date 6/23/18
 Start Time 5:50:12

Elapsed Time (min)	Dial Reading (div)
Initial	783.7
0.05	691.4
0.10	691.8
0.15	691.8
0.20	692.0
0.25	692.1
0.30	692.4
0.45	691.9
0.55	692.5
1.05	692.2
2.30	692.0
4.07	692.2
9.07	692.5
16.07	692.1
25.07	692.3
36.07	692.3
49.07	692.5
64.07	692.1
81.07	692.2
100.07	692.0
121.07	692.1
144.07	691.9
180.07	692.3



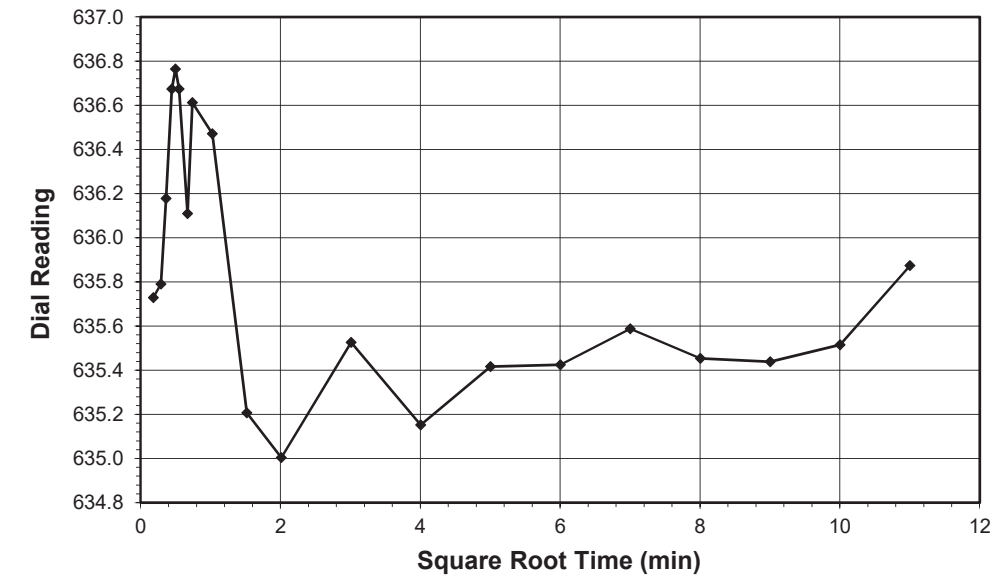
Tested By 129-04-0411 Date 6/23/18 Checked By GEM Date 7/1/18



ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216

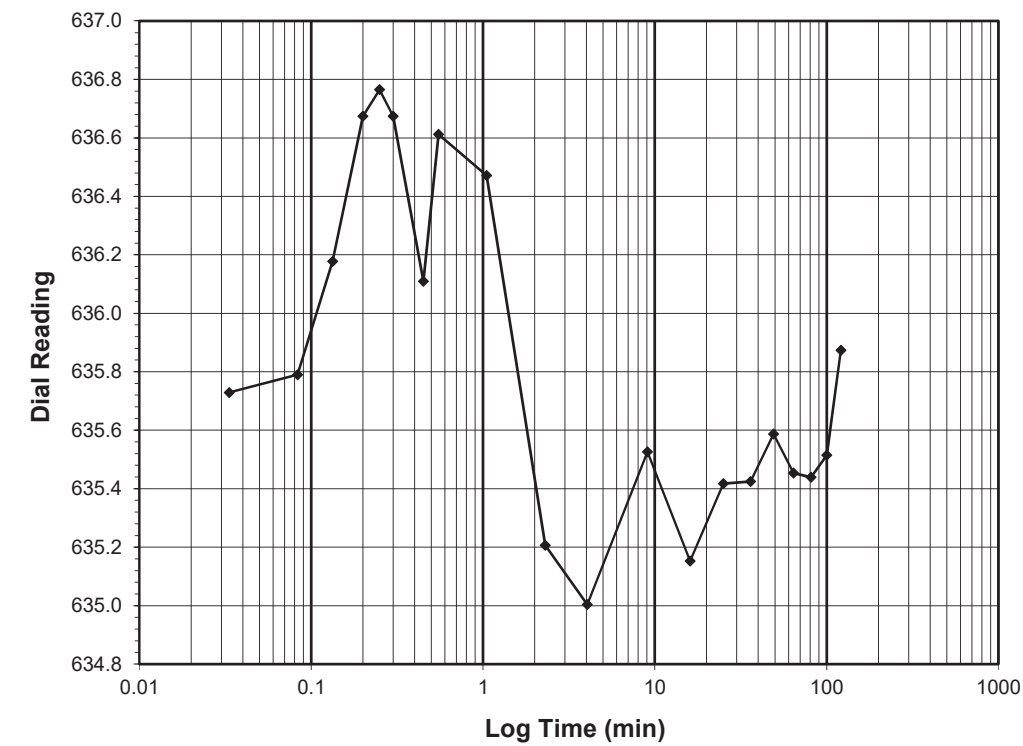
Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 4.0-1.0
 Final Reading (div) 635.9
 Consolidometer No. R487
 1 Division (in) 0.0001
 Start Date 6/23/18
 Start Time 12:50:16

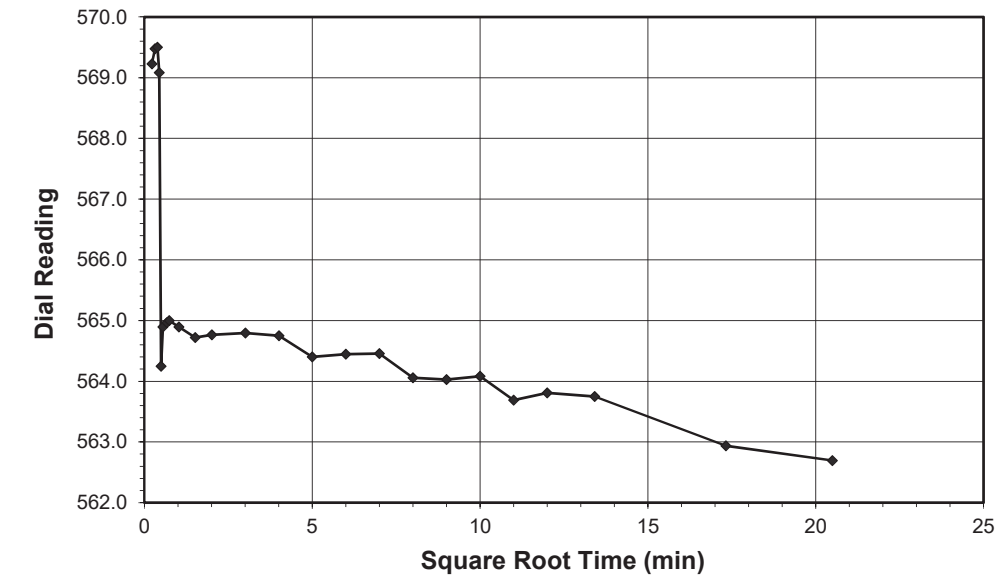
Elapsed Time (min)	Dial Reading (div)
Initial	692.3
0.03	635.7
0.08	635.8
0.13	636.2
0.20	636.7
0.25	636.8
0.30	636.7
0.45	636.1
0.55	636.6
1.05	636.5
2.30	635.2
4.05	635.0
9.05	635.5
16.05	635.2
25.05	635.4
36.05	635.4
49.05	635.6
64.05	635.5
81.07	635.4
100.07	635.5
121.07	635.9



ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216

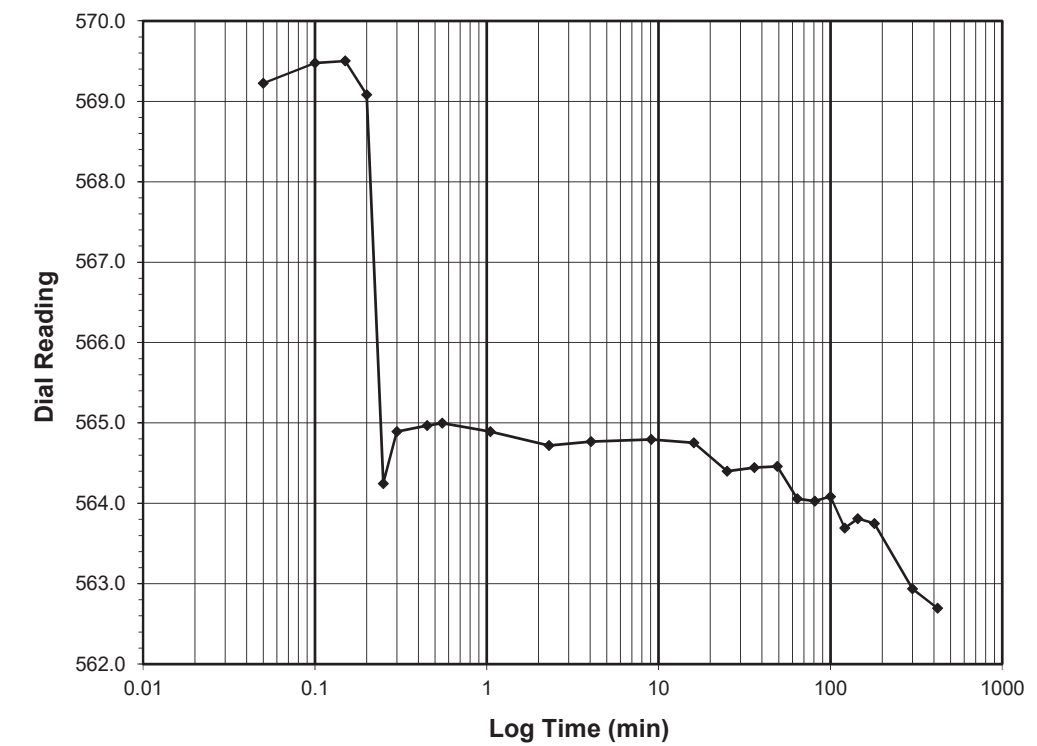
Client Wood E. & I. Solutions, Inc. Boring No. Y_43+50
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-1
 Lab ID R-2018-170-001-001 Visual Description TAN SAND

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 1.0-0.25
 Final Reading (div) 562.7
 Consolidometer No. R487
 1 Division (in) 0.0001
 Start Date 6/23/18
 Start Time 19:50:21

Elapsed Time (min)	Dial Reading (div)
Initial	635.9
0.05	569.2
0.10	569.5
0.15	569.5
0.20	569.1
0.25	564.2
0.30	564.9
0.45	565.0
0.55	565.0
1.05	564.9
2.30	564.7
4.05	564.8
9.05	564.8
16.05	564.8
25.05	564.4
36.07	564.4
49.07	564.5
64.07	564.1
81.07	564.0
100.07	564.1
121.07	563.7
144.07	563.8
180.07	563.7
300.07	562.9
420.22	562.7



Tested By 129-04-0411 Date 6/23/18 Checked By GEM Date 7/1/18

Tested By 129-04-0411 Date 6/23/18 Checked By GEM Date 7/1/18

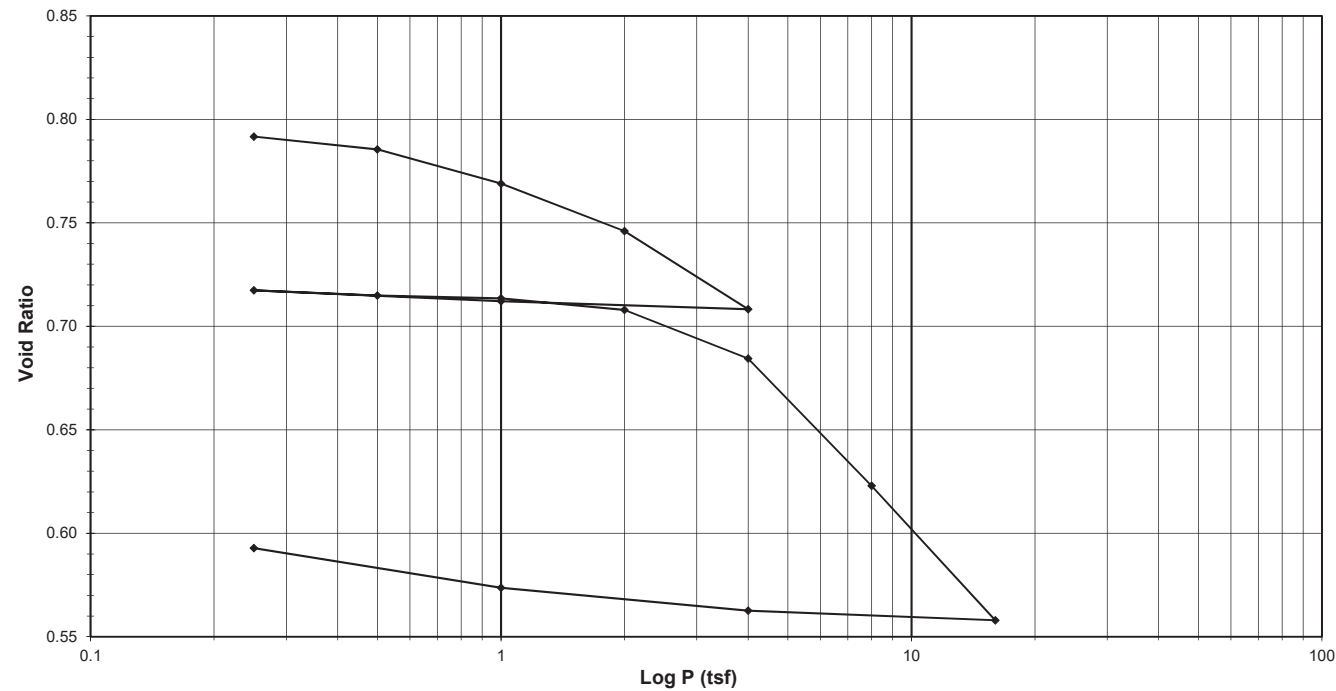


ONE DIMENSIONAL CONSOLIDATION

AASHTO T-216

Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Reference R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Tested By 129-04-0411 Date 6/19/18 Approved By MPS Date 7/5/18



ONE DIMENSIONAL CONSOLIDATION

AASHTO T-216

Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Reference R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED

Consolidometer No. R491
 1 Division = 0.0001 (in.)

Sample Properties	Initial	Final
<i>Water Content</i>		
Tare Number	826	902
Wt. Tare & WS (g)	504.47	243.17
Wt. Tare & DS (g)	429.16	217.61
Wt. Water (g)	75.31	25.56
Wt. Tare (g)	133.78	98.46
Wt. DS (g)	295.38	119.15
Water Content (%)	25.50	21.45
<i>Sample Parameters</i>		
Sample Diameter (in)	2.5	2.5
Sample Height (in)	1.0000	0.8806
Sample Volume (cc)	80.44	70.83
Wt. Wet Sample + Ring (g)	363.09	358.27
Wt. of Ring (g)	213.52	213.52
Wt. of Wet Sample (g)	149.57	144.75
Wet Density (pcf)	116.03	127.52
Wet Density (g/cc)	1.86	2.04
Water Content (%)	25.50	21.45
Wt. of Dry Sample (g)	119.18	119.18
Dry Density (pcf)	92.45	104.99
Dry Density (g/cc)	1.48	1.68
Void Ratio	0.8088	0.5928
Saturation (%)	84.48	96.99
Specific Gravity	2.68	Measured

Test Data Summary							
Applied Pressure (tsf)	Final Dial Reading (div)	Machine Deflection (div)	Corrected Reading (div)	Height of Sample (mm)	Volume (cc)	Dry Density (g/cc)	Void Ratio
Seating	0	0	0	25.400	80.440	1.48164	0.80880
0.25	115.8	21.0	94.8	25.159	79.677	1.49582	0.79166
0.5	163.4	34.6	128.8	25.073	79.403	1.50098	0.78550
1	273.5	52.9	220.5	24.840	78.666	1.51505	0.76891
2	428.4	81.1	347.3	24.518	77.646	1.53495	0.74598
4	659.6	103.5	556.1	23.988	75.967	1.56888	0.70822
1	611.5	77.1	534.4	24.043	76.141	1.56529	0.71214
0.25	549.0	43.5	505.5	24.116	76.374	1.56053	0.71737
0.5	570.4	51.0	519.5	24.081	76.261	1.56283	0.71484
1	593.0	66.2	526.9	24.062	76.202	1.56405	0.71350
2	642.9	85.0	557.9	23.983	75.952	1.56919	0.70788
4	792.5	104.5	688.0	23.653	74.906	1.59111	0.68436
8	1167.2	139.8	1027.4	22.790	72.175	1.65130	0.62297
16	1576.9	190.1	1386.8	21.877	69.284	1.72021	0.55795
4	1489.7	128.6	1361.1	21.943	69.491	1.71509	0.56260
1	1393.2	93.0	1300.2	22.097	69.981	1.70308	0.57362
0.25	1254.9	60.6	1194.3	22.366	70.833	1.68260	0.59278

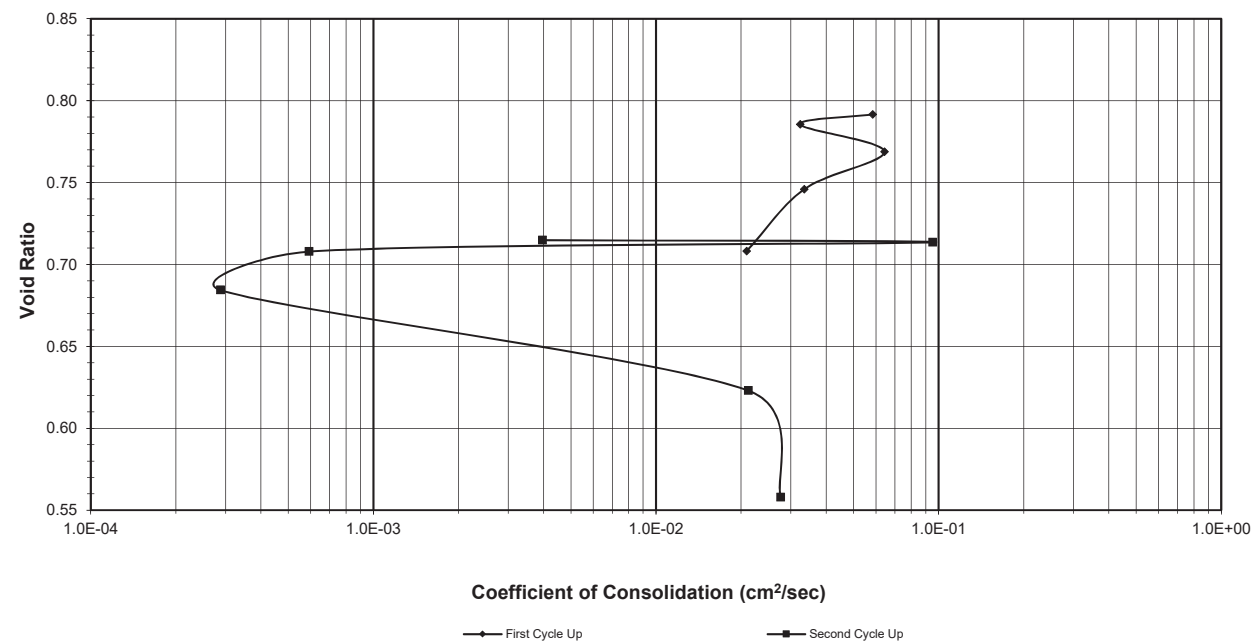
Tested By 129-04-0411 Date 6/19/18 Input Checked By GEM Date 7/5/18



ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216

Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Reference R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Tested By 129-04-0411 Date 6/19/18 Input Checked By GEM Date 7/5/18



ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216

Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Reference R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED

Consolidometer No. R491
 1 Division = 0.0001 (in.)

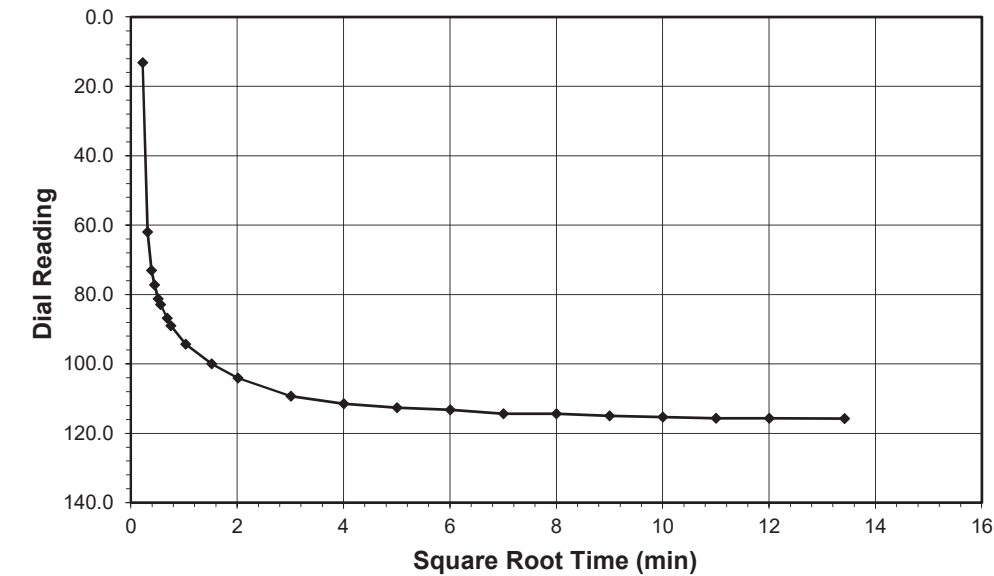
Sample Properties	Initial	Final	C _v Test Data Summary				Time t ₅₀ (min.)	C _v (cm ² /sec)		
			Load Increment (tsf)	Dial Reading @ t ₅₀ (div)	Machine Deflection (div)	Corrected Dial Reading @ t ₅₀ (div)			Sample Height @ t ₅₀ (cm)	
Water Content										
Tare Number	826	902								
Wt. Tare & WS (g)	504.47	243.17								
Wt. Tare & DS (g)	429.16	217.61								
Wt. Water (g)	75.31	25.56	0 - 0.25	57.9	21.0	36.9	2.531	0.09		
Wt. Tare (g)	133.78	98.46	0.25 - 0.5	140.1	34.6	105.5	2.513	0.16		
Wt. DS (g)	295.38	119.15	0.5 - 1.0	197.8	52.9	144.9	2.503	0.08		
Water Content (%)	25.50	21.45	1.0 - 2.0	348.5	81.1	267.4	2.472	0.15		
			2.0 - 4.0	569.2	103.5	465.7	2.422	0.23		
			4.0 - 1.0	NA	77.1	NA	NA	NA		
Sample Parameters			1.0 - 0.25	NA	43.5	NA	NA	NA		
Sample Diameter (in)	2.5	2.5	0.25 - 0.5	568.5	51.0	517.5	2.409	1.20		
Sample Height (in)	1.000	0.881	0.5 - 1.0	580.4	66.2	514.2	2.409	0.05		
Sample Volume (cc)	80.44	70.83	1.0 - 2.0	626.7	85.0	541.7	2.402	8.00		
Wt. Wet Sample + Ring (g)	363.09	358.27	2.0 - 4.0	748.5	104.5	644.0	2.376	16.10		
Wt. of Ring (g)	213.52	213.52	4.0 - 8.0	966.4	139.8	826.6	2.330	0.21		
Wt. of Wet Sample (g)	149.57	144.75	8.0 - 16.0	1344.6	190.1	1154.5	2.247	0.15		
Wet Density (pcf)	116.03	127.52	16.0 - 4.0	NA	128.6	NA	NA	NA		
Wet Density (g/cc)	1.86	2.04	4.0 - 1.0	NA	93.0	NA	NA	NA		
Water Content (%)	25.50	21.45	1.0 - 0.25	NA	60.6	NA	NA	NA		
Wt. of Dry Sample (g)	119.18	119.18								
Dry Density (pcf)	92.45	104.99								
Dry Density (g/cc)	1.48	1.68								
Void Ratio	0.8088	0.5928								
Saturation (%)	84.48	96.99								
Specific Gravity	2.68	Measured								
			Tested By	129-04-0411	Date	6/19/18	Input Checked By	GEM	Date	7/5/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



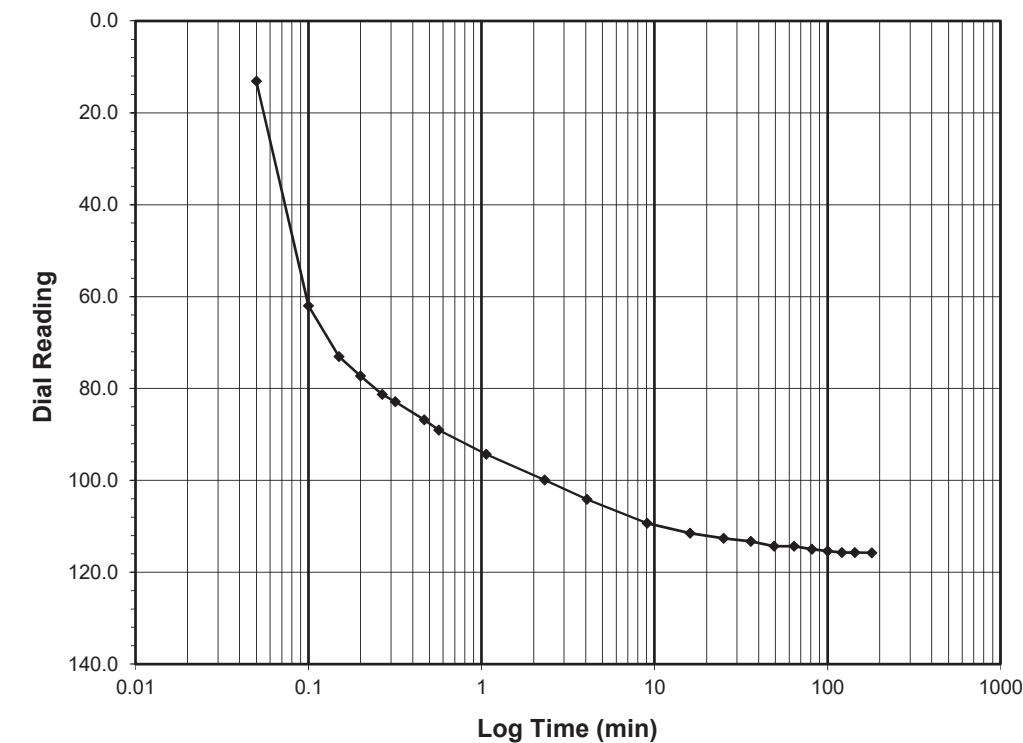
Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.0-0.25
 Final Reading (div) 115.8
 Consolidometer No. R491
 1 Division (in) 0.0001
 Start Date 6/19/18
 Start Time 16:39:40

Elapsed Time (min)	Dial Reading (div)
Initial	0.0
0.05	13.1
0.10	62.0
0.15	73.0
0.20	77.3
0.27	81.3
0.32	82.9
0.47	86.8
0.57	89.0
1.07	94.3
2.32	99.9
4.07	104.1
9.07	109.3
16.07	111.5
25.07	112.6
36.07	113.3
49.07	114.3
64.07	114.3
81.07	115.0
100.07	115.4
121.07	115.7
144.07	115.7
180.07	115.8



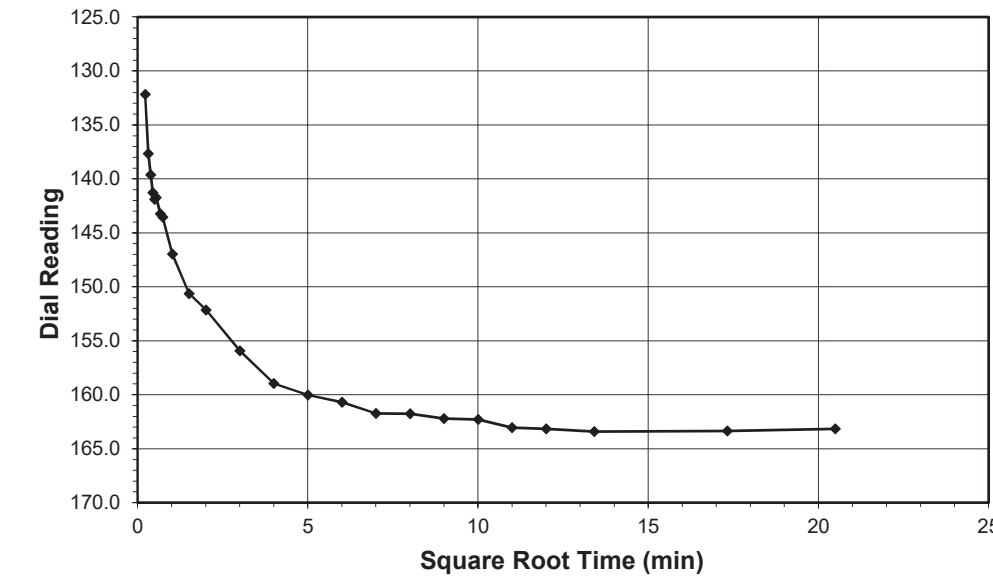
Tested By 129-04-0411 Date 6/19/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



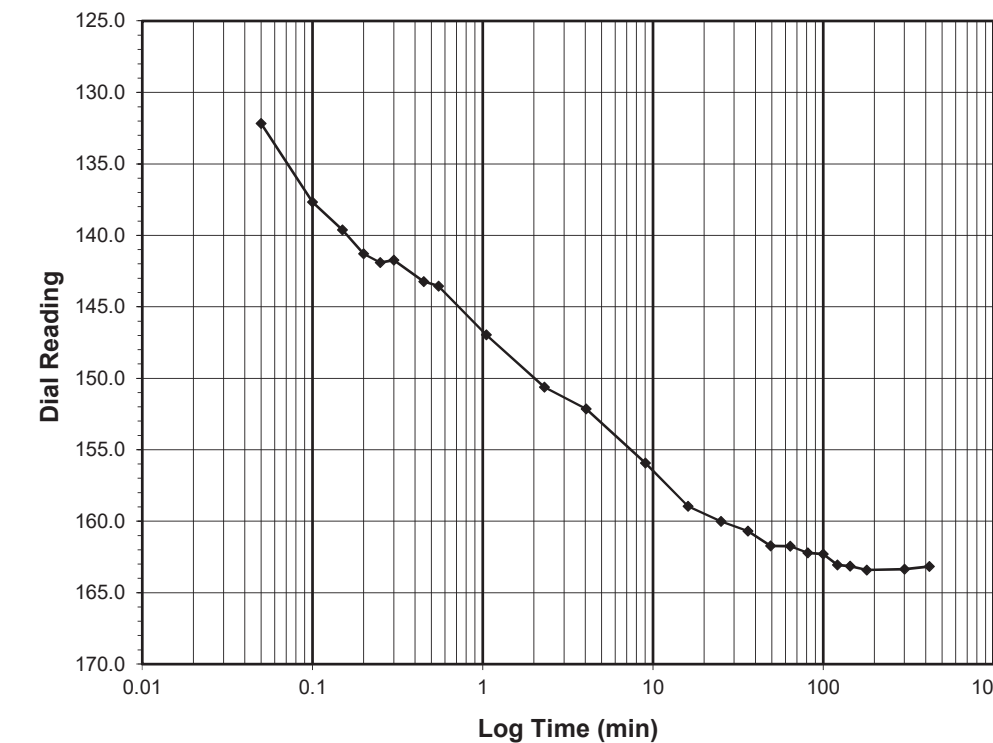
Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.25-0.5
 Final Reading (div) 163.4
 Consolidometer No. R491
 1 Division (in) 0.0001
 Start Date 6/19/18
 Start Time 23:39:46

Elapsed Time (min)	Dial Reading (div)
Initial	115.8
0.05	132.2
0.10	137.7
0.15	139.6
0.20	141.3
0.25	141.9
0.30	141.7
0.45	143.2
0.55	143.6
1.05	147.0
2.30	150.6
4.05	152.1
9.05	155.9
16.05	159.0
25.07	160.0
36.07	160.7
49.07	161.7
64.07	161.8
81.07	162.2
100.07	162.3
121.07	163.1
144.07	163.2
180.07	163.4
300.07	163.4
420.00	163.2



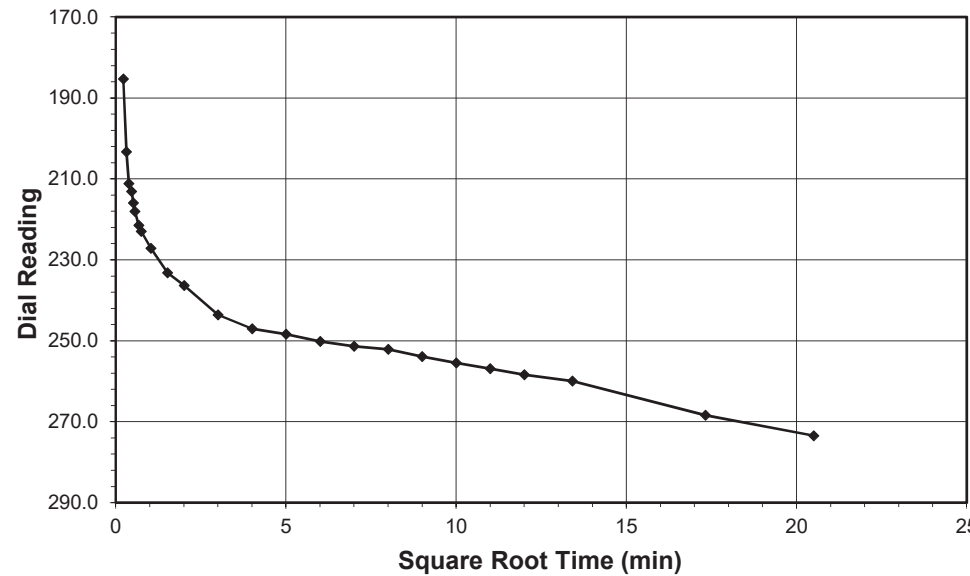
Tested By 129-04-0411 Date 6/19/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

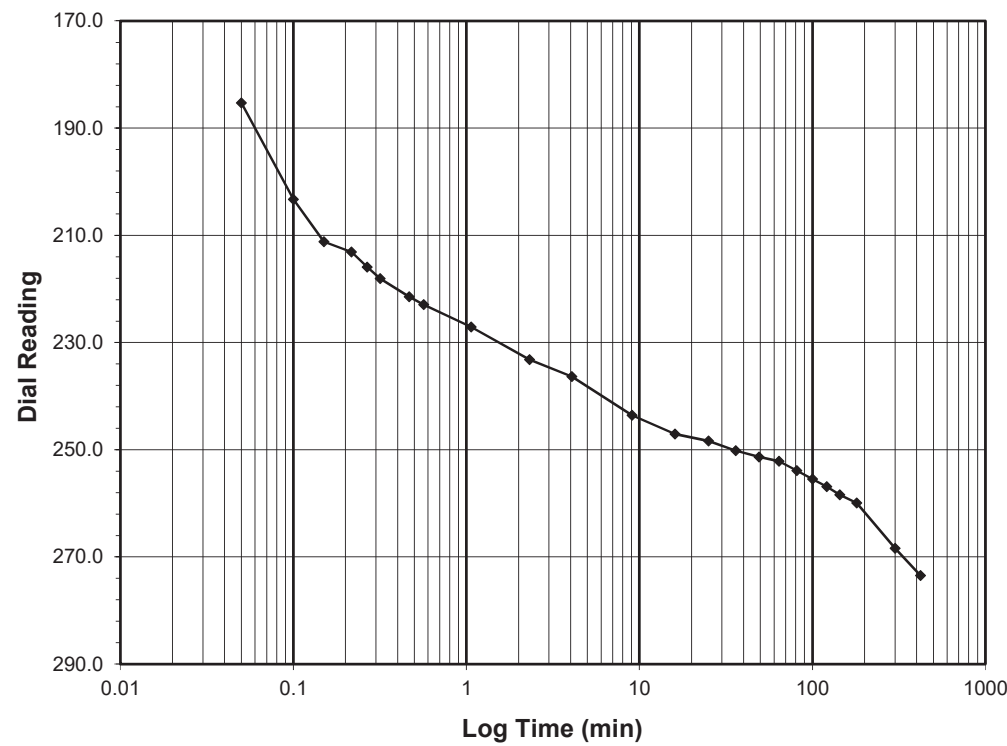
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.5-1.0
Final Reading (div) 273.5
 Consolidometer No. **R491**
 1 Division (in) 0.0001

Start Date 6/20/18
 Start Time 6:39:46

Elapsed Time (min)	Dial Reading (div)
Initial	163.4
0.05	185.3
0.10	203.3
0.15	211.2
0.22	213.1
0.27	215.9
0.32	218.1
0.47	221.5
0.57	222.9
1.07	227.1
2.32	233.2
4.07	236.3
9.07	243.6
16.07	247.1
25.07	248.4
36.07	250.2
49.07	251.4
64.07	252.1
81.07	253.9
100.07	255.5
121.07	256.9
144.07	258.4
180.07	259.9
300.07	268.4
420.48	273.5

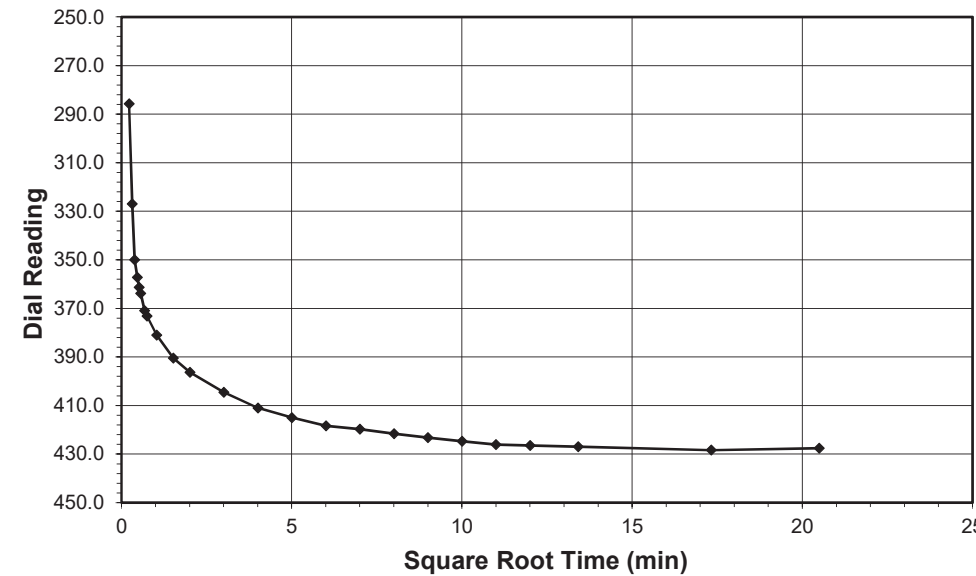


ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

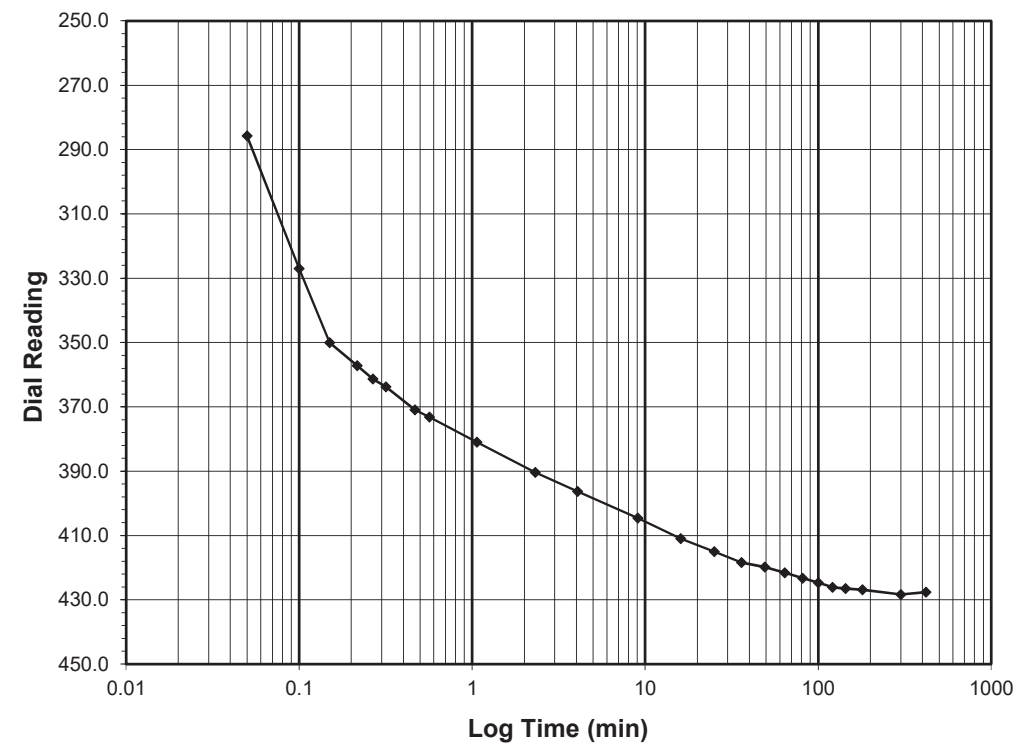
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 1.0-2.0
Final Reading (div) 428.4
 Consolidometer No. **R491**
 1 Division (in) 0.0001

Start Date 6/20/18
 Start Time 13:40:15

Elapsed Time (min)	Dial Reading (div)
Initial	273.5
0.05	285.8
0.10	327.0
0.15	350.0
0.22	357.2
0.27	361.4
0.32	363.8
0.47	371.0
0.57	373.2
1.07	381.0
2.32	390.4
4.07	396.3
9.07	404.6
16.07	411.0
25.07	415.0
36.07	418.4
49.07	419.8
64.08	421.6
81.08	423.3
100.08	424.7
121.08	426.1
144.08	426.5
180.08	426.9
300.08	428.4
420.02	427.6



Tested By 129-04-0411 Date 6/20/18 Checked By GEM Date 7/1/18

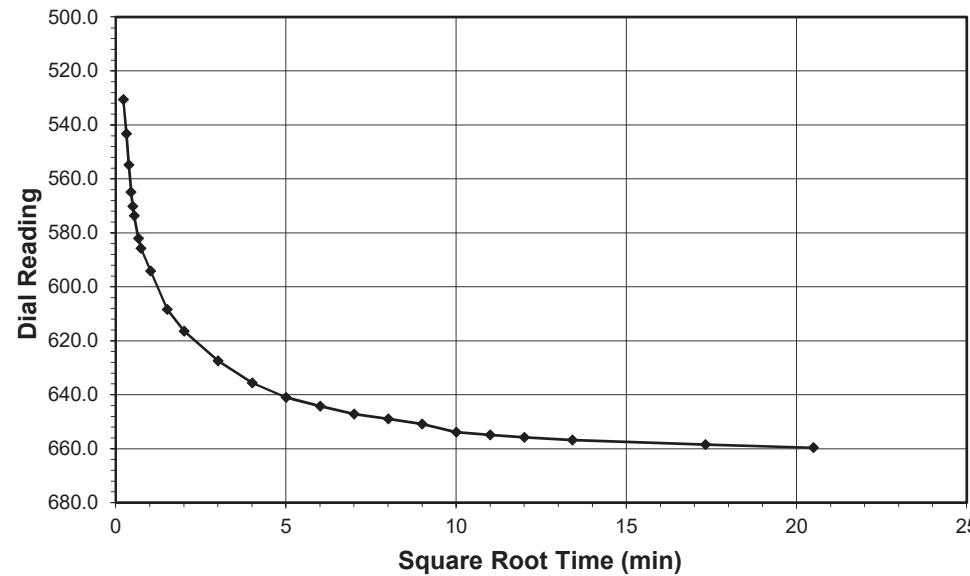
Tested By 129-04-0411 Date 6/20/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



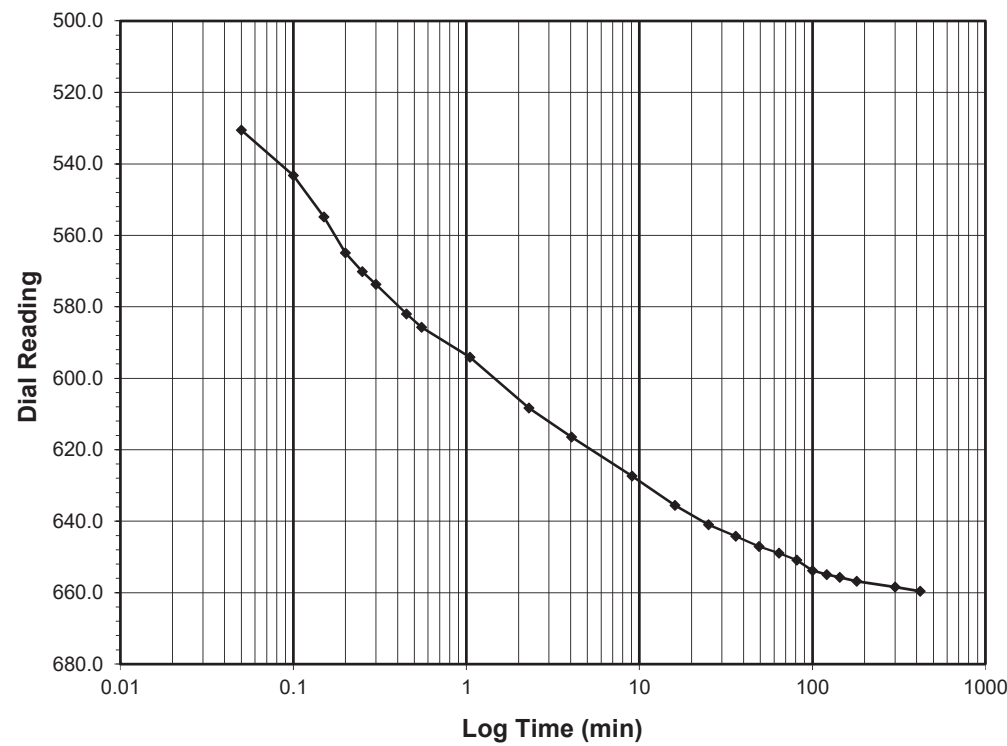
Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 2.0-4.0
 Final Reading (div) 659.6
 Consolidometer No. R491
 1 Division (in) 0.0001
 Start Date 6/20/18
 Start Time 20:40:16

Elapsed Time (min)	Dial Reading (div)
Initial	428.4
0.05	530.6
0.10	543.3
0.15	554.9
0.20	564.9
0.25	570.2
0.30	573.7
0.45	582.0
0.55	585.7
1.05	594.1
2.30	608.4
4.05	616.4
9.07	627.4
16.07	635.6
25.07	641.0
36.07	644.2
49.07	647.1
64.07	648.9
81.07	650.9
100.07	653.9
121.08	654.9
144.08	655.8
180.08	656.8
300.08	658.4
420.13	659.6

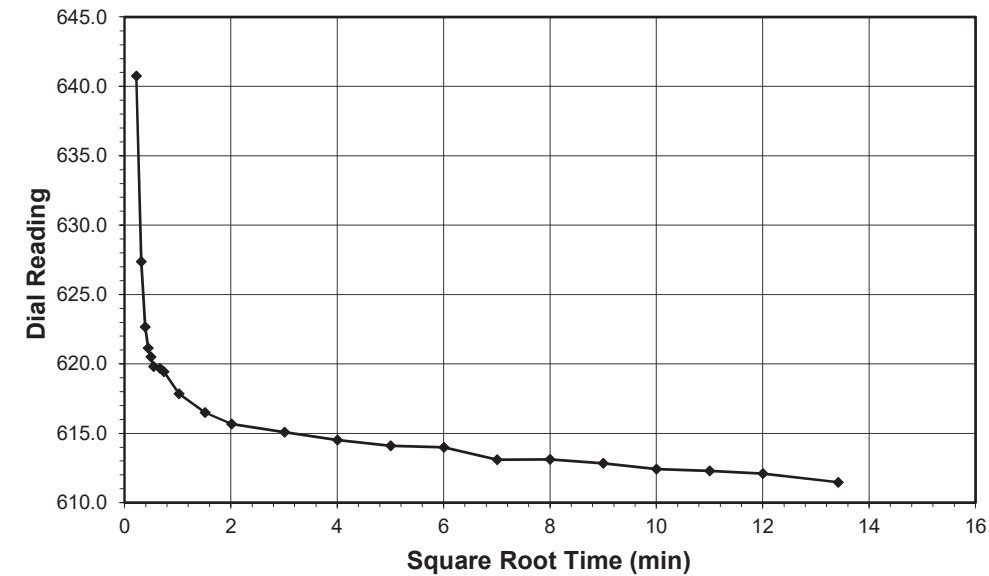


ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



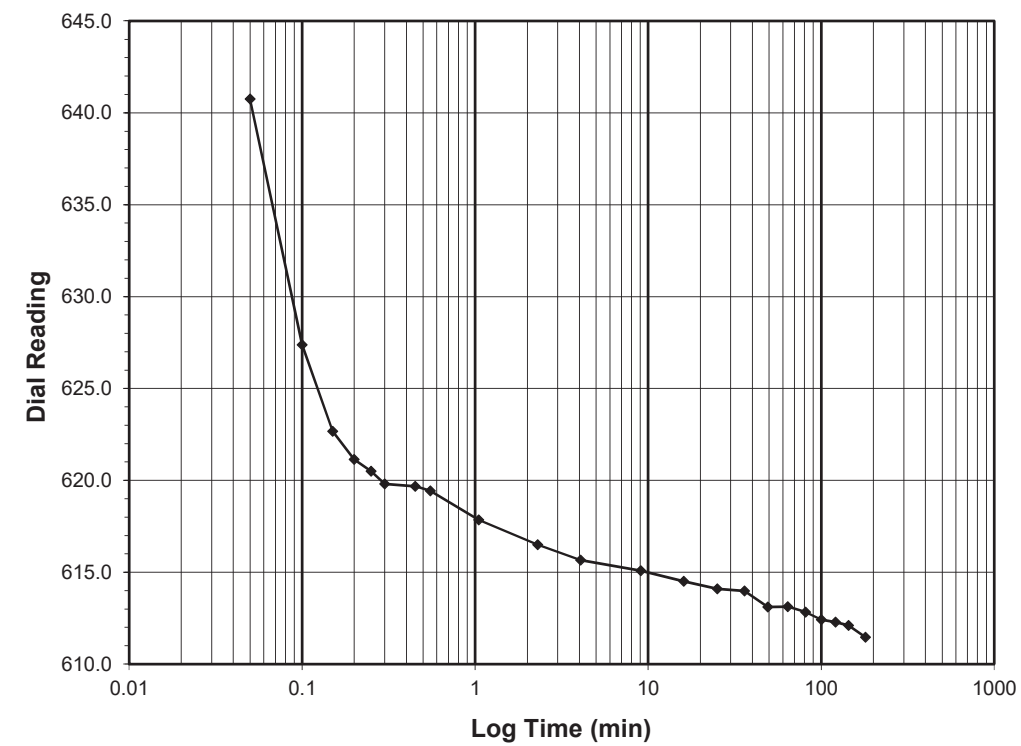
Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 4.0-1.0
 Final Reading (div) 611.5
 Consolidometer No. R491
 1 Division (in) 0.0001
 Start Date 6/21/18
 Start Time 3:40:24

Elapsed Time (min)	Dial Reading (div)
Initial	659.6
0.05	640.7
0.10	627.4
0.15	622.7
0.20	621.1
0.25	620.5
0.30	619.8
0.45	619.7
0.55	619.4
1.05	617.9
2.30	616.5
4.07	615.7
9.07	615.1
16.07	614.5
25.07	614.1
36.07	614.0
49.07	613.1
64.07	613.1
81.07	612.8
100.07	612.4
121.07	612.3
144.07	612.1
180.07	611.5



Tested By 129-04-0411 Date 6/20/18 Checked By GEM Date 7/1/18

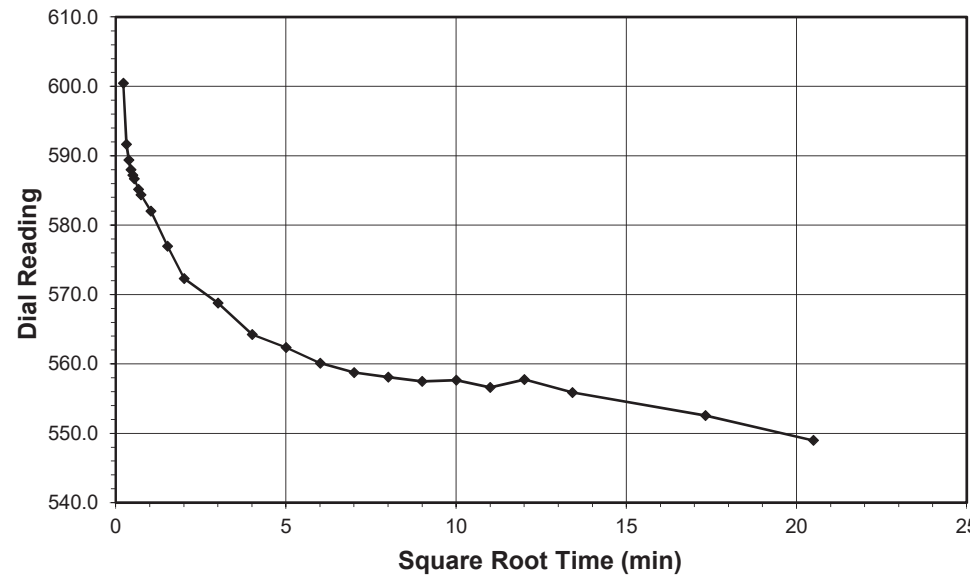
Tested By 129-04-0411 Date 6/21/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

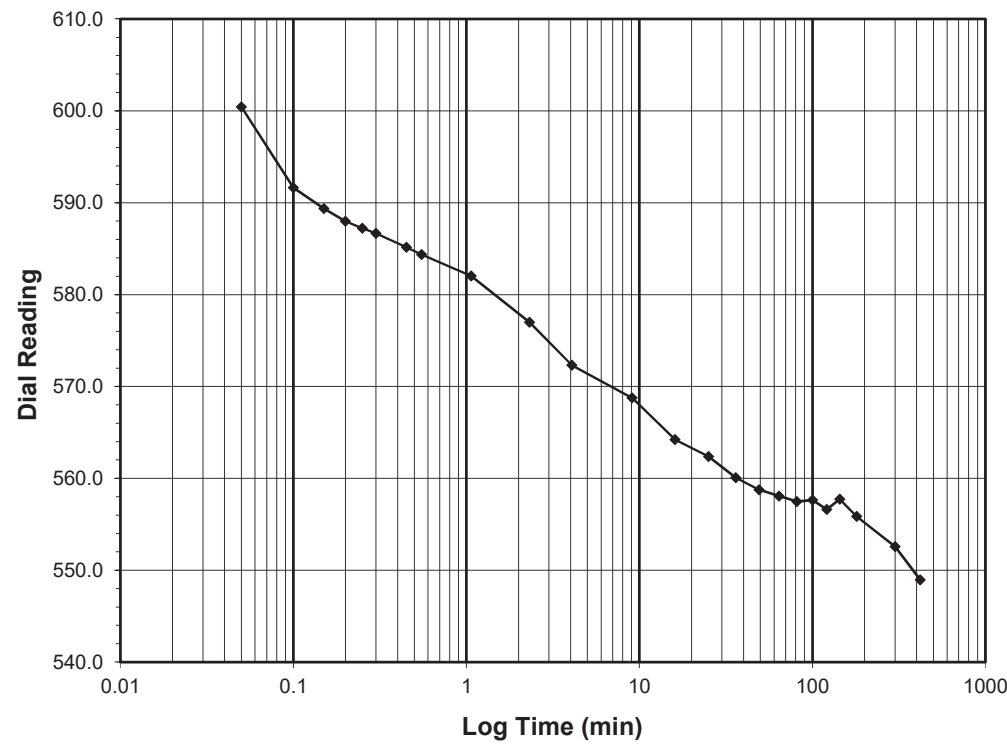
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 1.0-0.25
Final Reading (div) 549.0
 Consolidometer No. **R491**
 1 Division (in) 0.0001

Start Date 6/21/18
 Start Time 10:40:27

Elapsed Time (min)	Dial Reading (div)
Initial	611.5
0.05	600.4
0.10	591.6
0.15	589.4
0.20	588.0
0.25	587.2
0.30	586.7
0.45	585.2
0.55	584.4
1.07	582.0
2.32	577.0
4.07	572.3
9.07	568.8
16.07	564.2
25.07	562.4
36.07	560.1
49.07	558.7
64.07	558.1
81.07	557.5
100.07	557.6
121.07	556.6
144.07	557.7
180.07	555.9
300.08	552.6
420.03	549.0



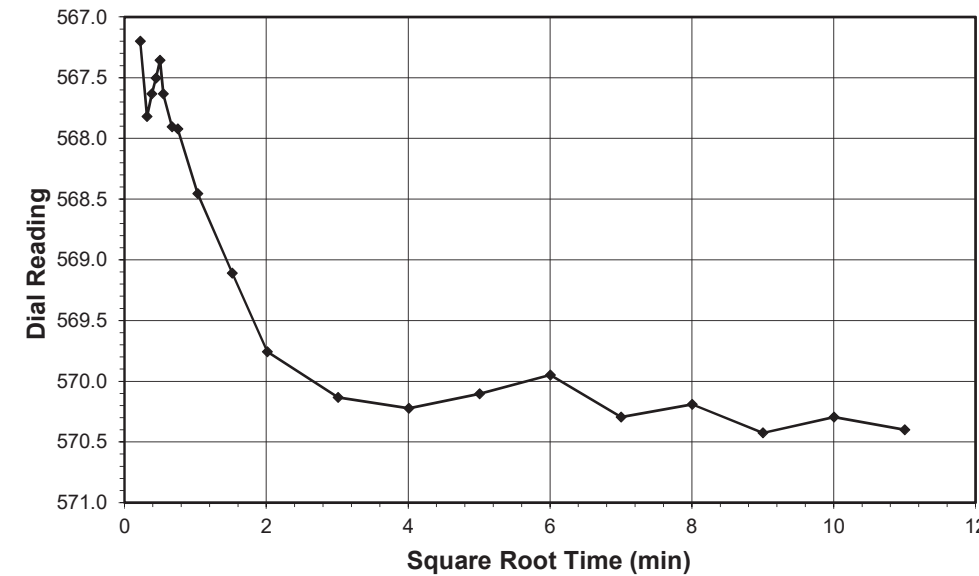
Tested By 129-04-0411 Date 6/21/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

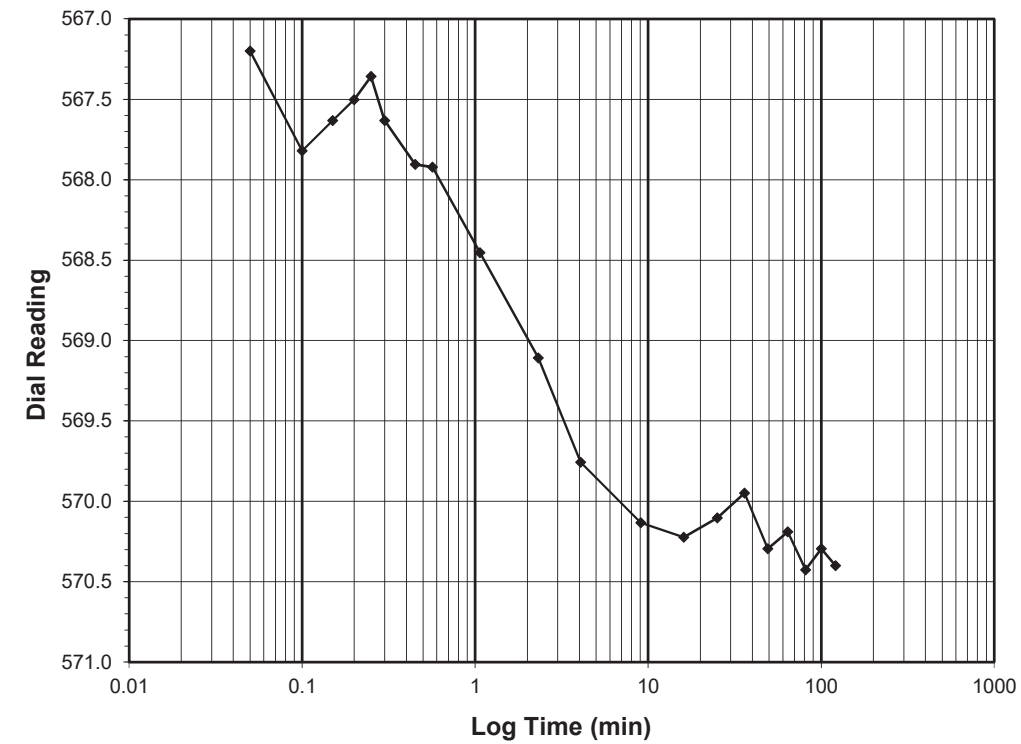
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.25-0.5
Final Reading (div) 570.4
 Consolidometer No. **R491**
 1 Division (in) 0.0001

Start Date 6/21/18
 Start Time 17:40:29

Elapsed Time (min)	Dial Reading (div)
Initial	549.0
0.05	567.2
0.10	567.8
0.15	567.6
0.20	567.5
0.25	567.4
0.30	567.6
0.45	567.9
0.57	567.9
1.07	568.5
2.32	569.1
4.07	569.8
9.07	570.1
16.07	570.2
25.07	570.1
36.07	569.9
49.07	570.3
64.07	570.2
81.07	570.4
100.07	570.3
121.07	570.4



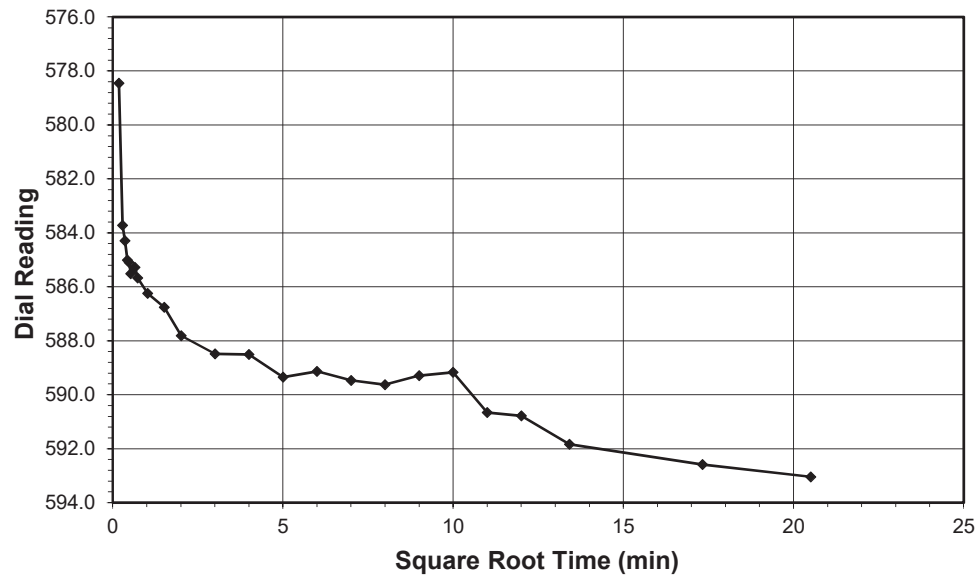
Tested By 129-04-0411 Date 6/21/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



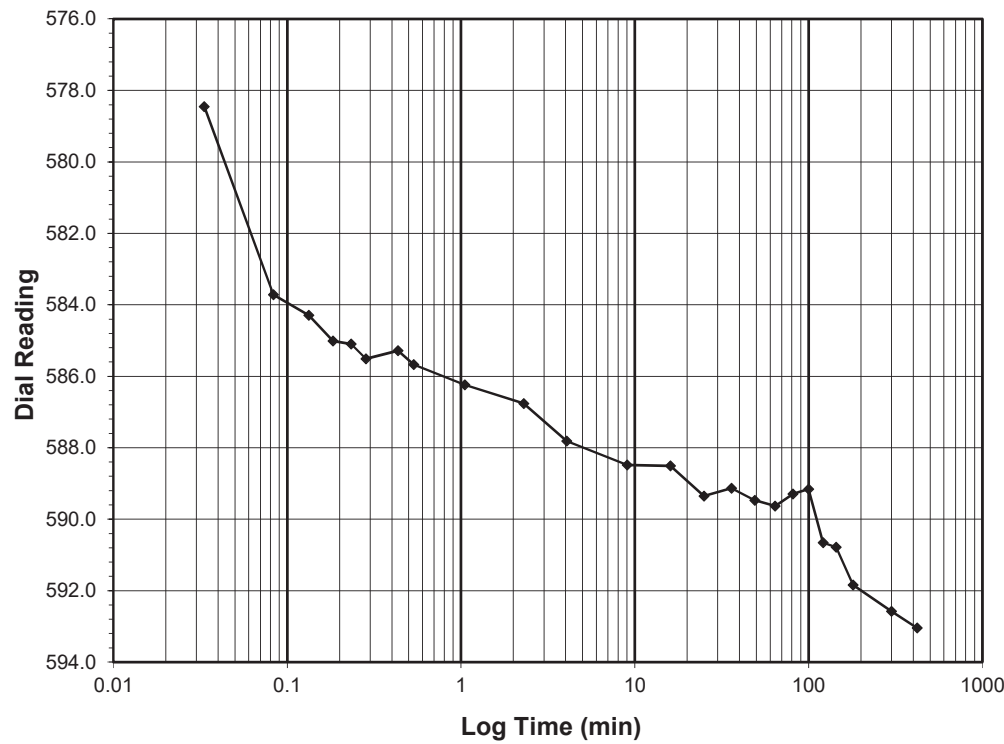
Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.5-1.0
Final Reading (div) 593.0
 Consolidometer No. **R491**
 1 Division (in) 0.0001
 Start Date 6/22/18
 Start Time 0:40:56

Elapsed Time (min)	Dial Reading (div)
Initial	570.4
0.03	578.5
0.08	583.7
0.13	584.3
0.18	585.0
0.23	585.1
0.28	585.5
0.43	585.3
0.53	585.7
1.05	586.2
2.30	586.8
4.05	587.8
9.05	588.5
16.05	588.5
25.05	589.4
36.05	589.1
49.05	589.5
64.05	589.6
81.05	589.3
100.05	589.2
121.05	590.7
144.05	591.8
180.05	591.8
300.05	592.6
420.48	593.0

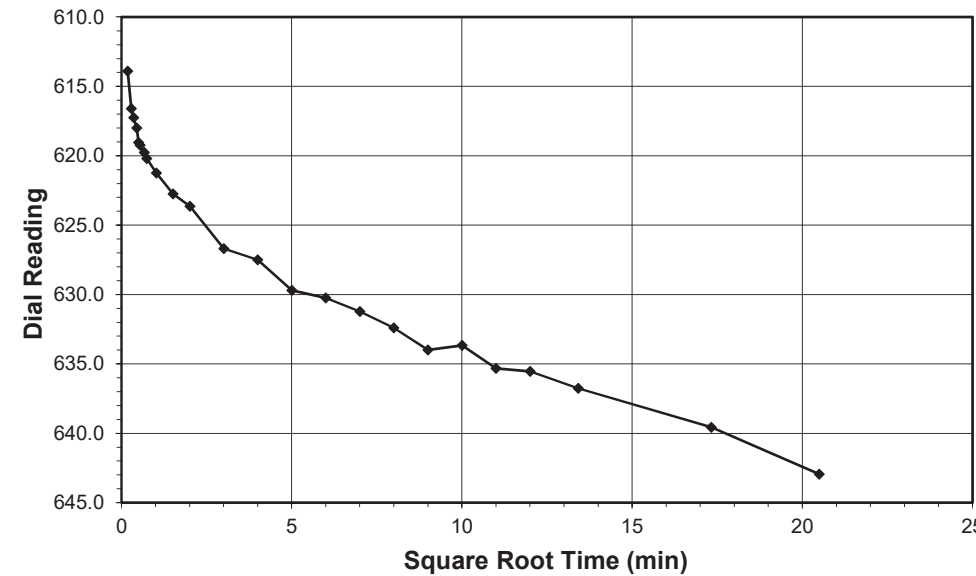


ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



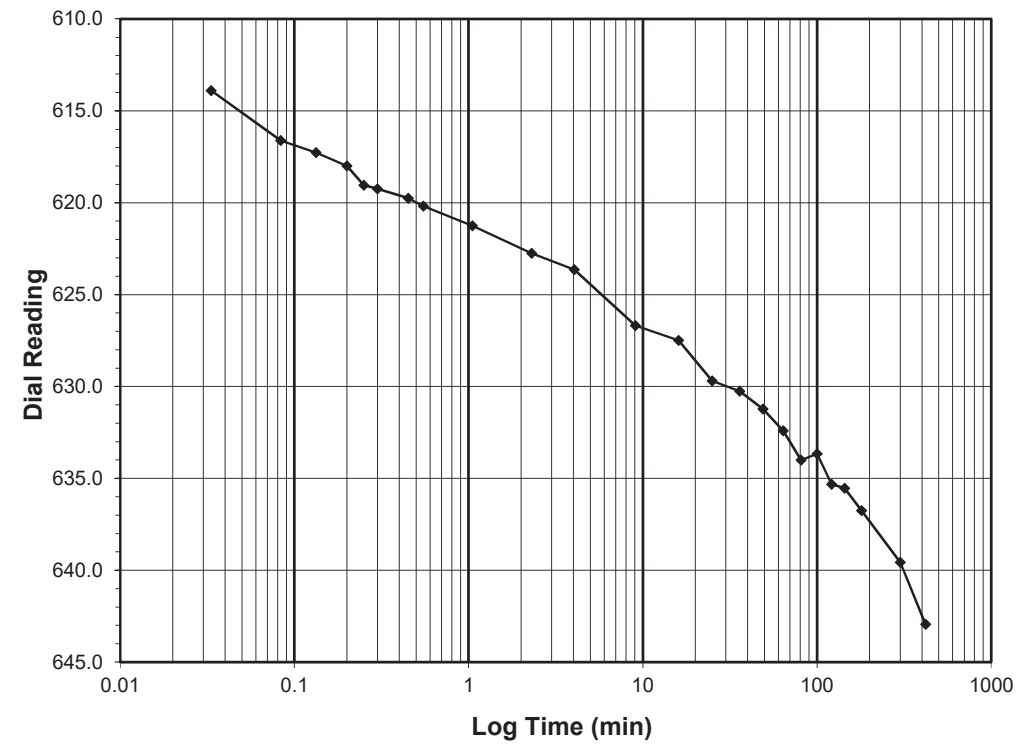
Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 1.0-2.0
Final Reading (div) 642.9
 Consolidometer No. **R491**
 1 Division (in) 0.0001
 Start Date 6/22/18
 Start Time 7:41:26

Elapsed Time (min)	Dial Reading (div)
Initial	593.0
0.03	613.9
0.08	616.6
0.13	617.3
0.20	618.0
0.25	619.0
0.30	619.2
0.45	619.8
0.55	620.2
1.05	621.3
2.30	622.8
4.05	623.6
9.05	626.7
16.05	627.5
25.05	629.7
36.05	630.3
49.05	631.2
64.05	632.4
81.07	634.0
100.07	633.7
121.07	635.3
144.07	635.5
180.07	636.8
300.07	639.6
420.02	642.9



Tested By 129-04-0411 Date 6/22/18 Checked By GEM Date 7/1/18

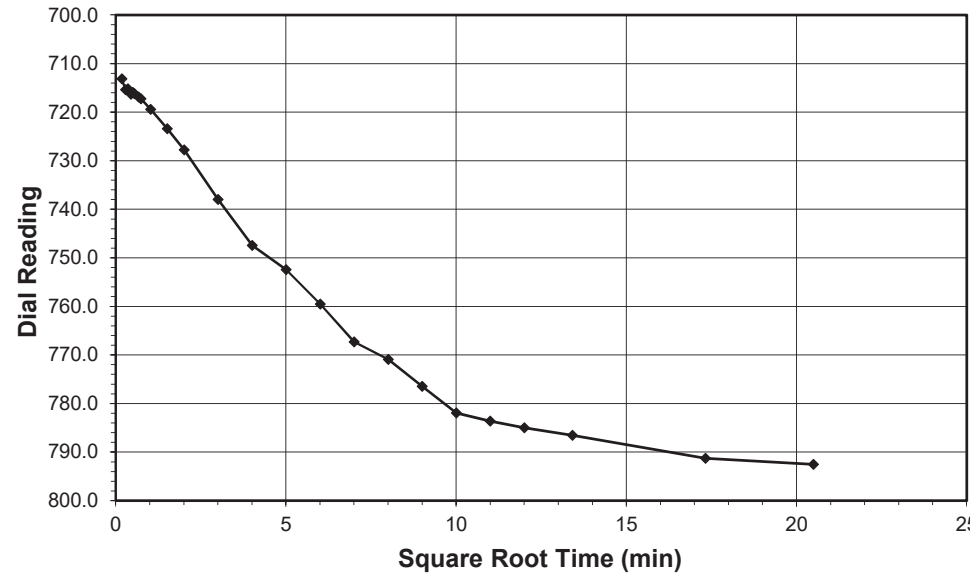
Tested By 129-04-0411 Date 6/22/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



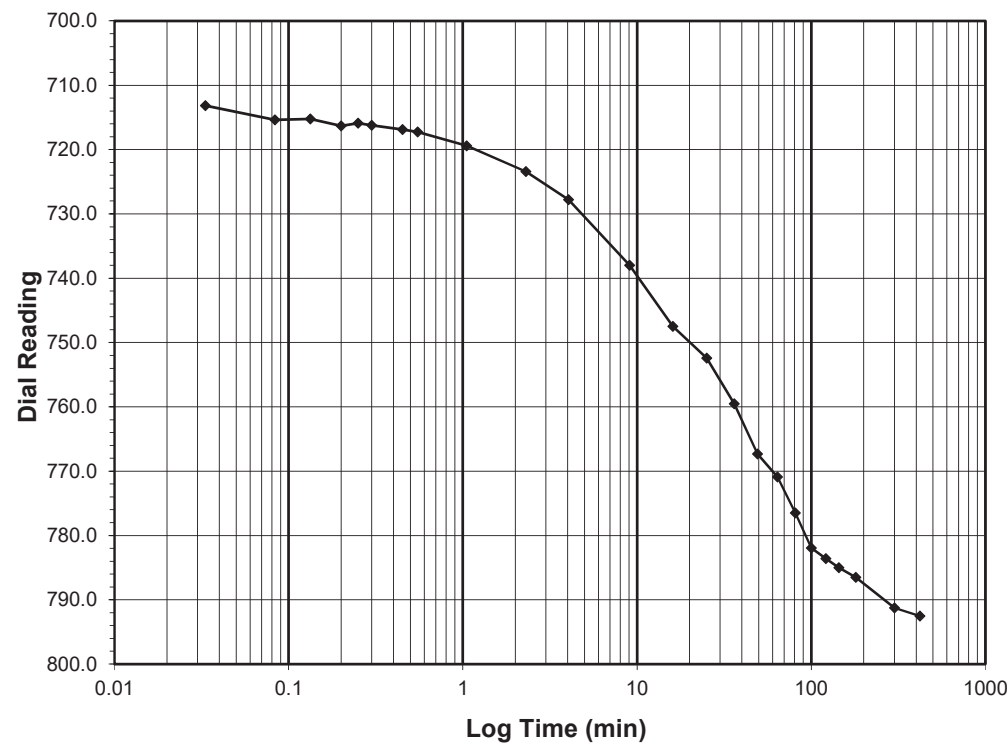
Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 2.0-4.0
Final Reading (div) 792.5
 Consolidometer No. **R491**
 1 Division (in) 0.0001
 Start Date 6/22/18
 Start Time 14:41:28

Elapsed Time (min)	Dial Reading (div)
Initial	642.9
0.03	713.2
0.08	715.4
0.13	715.2
0.20	716.3
0.25	715.9
0.30	716.2
0.45	716.9
0.55	717.2
1.05	719.4
2.30	723.4
4.05	727.8
9.05	738.0
16.07	747.5
25.07	752.4
36.07	759.5
49.07	767.3
64.07	770.9
81.07	776.5
100.07	781.9
121.07	783.6
144.07	785.0
180.07	786.5
300.07	791.3
420.17	792.5



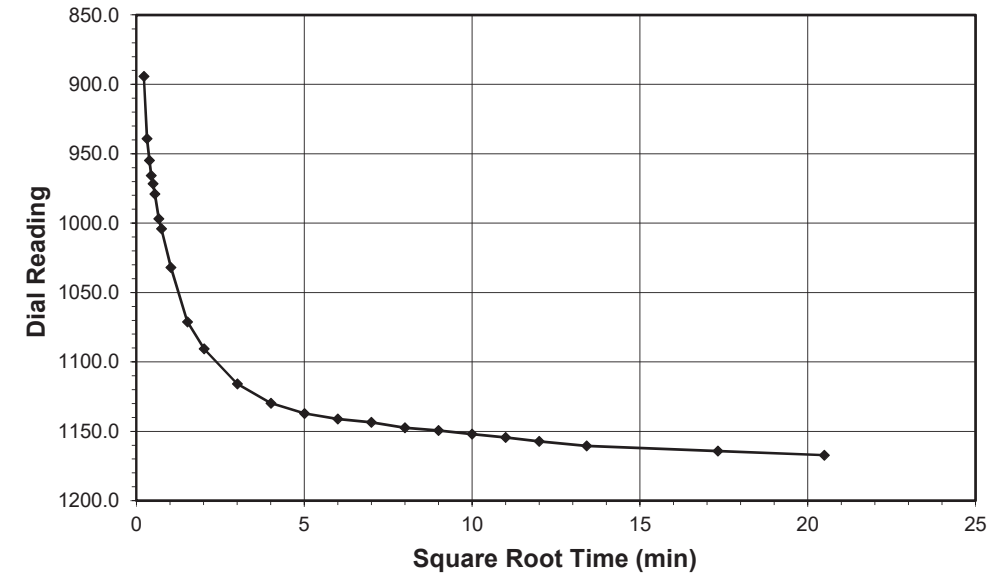
Tested By 129-04-0411 Date 6/22/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



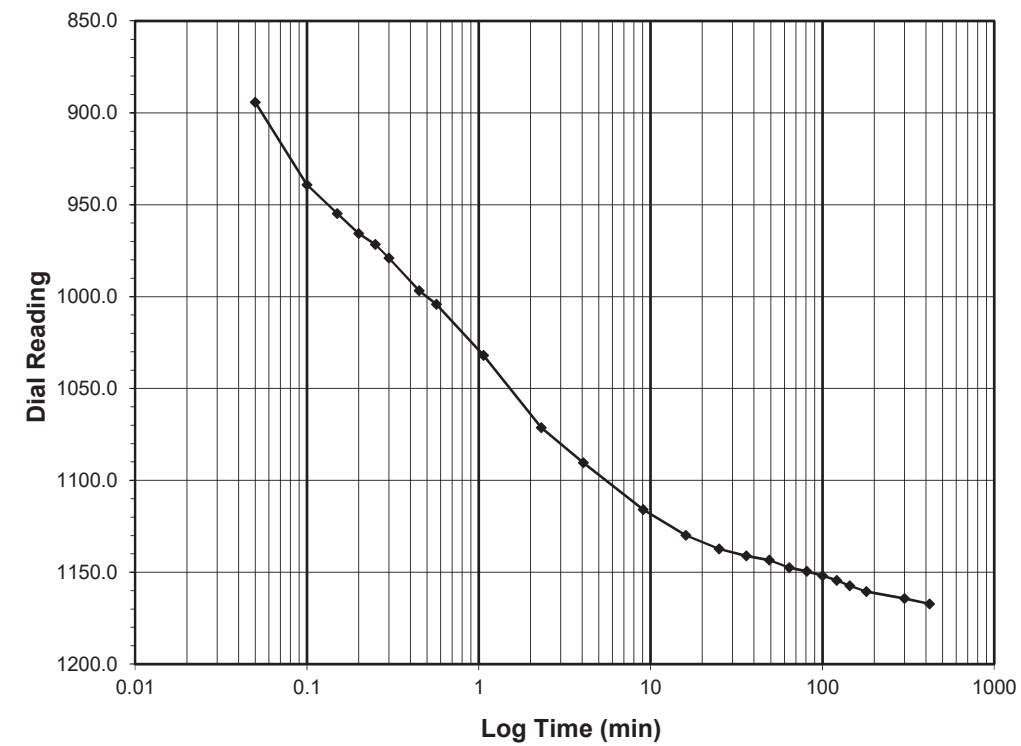
Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 4.0-8.0
Final Reading (div) 1167.2
 Consolidometer No. **R491**
 1 Division (in) 0.0001
 Start Date 6/22/18
 Start Time 21:41:39

Elapsed Time (min)	Dial Reading (div)
Initial	792.5
0.05	894.3
0.10	939.2
0.15	954.9
0.20	965.8
0.25	971.6
0.30	979.1
0.45	996.8
0.57	1004.2
1.07	1032.0
2.32	1071.3
4.07	1090.5
9.07	1115.9
16.07	1129.9
25.07	1137.3
36.07	1141.1
49.07	1143.4
64.07	1147.5
81.07	1149.5
100.07	1152.0
121.07	1154.4
144.08	1157.3
180.08	1160.5
300.08	1164.3
420.15	1167.2



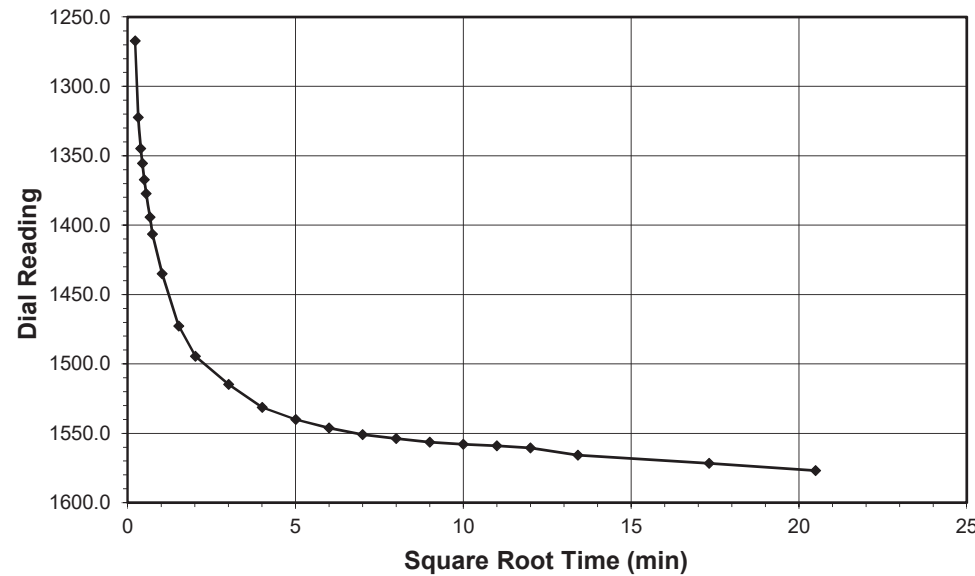
Tested By 129-04-0411 Date 6/22/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



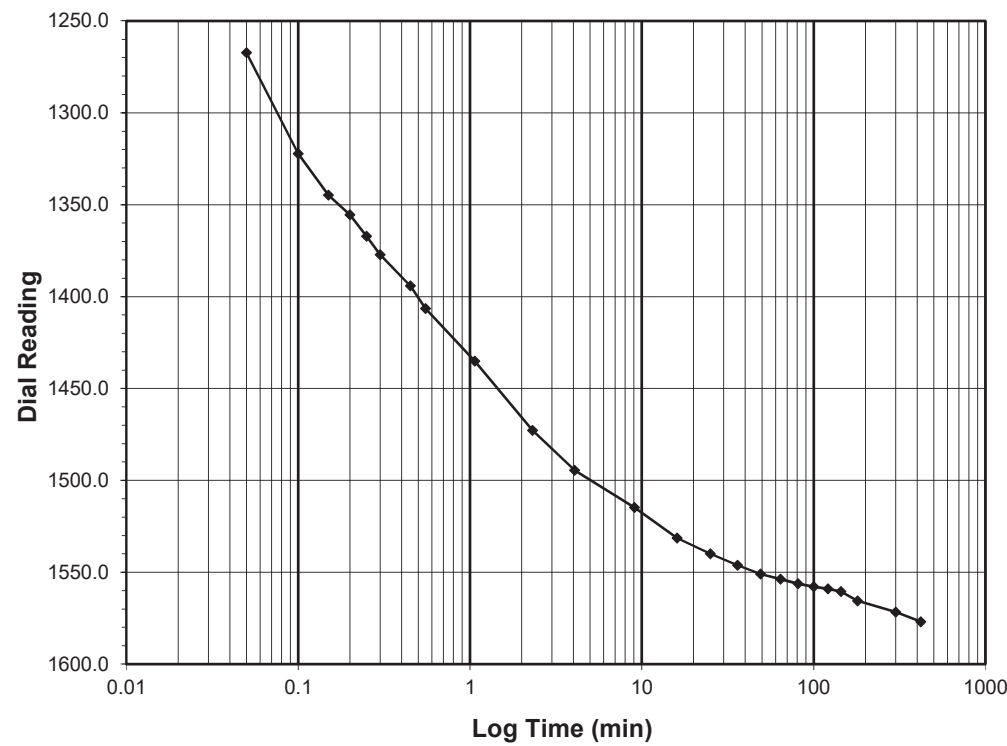
Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 8.0-16.0
 Final Reading (div) 1576.9
 Consolidometer No. R491
 1 Division (in) 0.0001
 Start Date 6/23/18
 Start Time 4:41:48

Elapsed Time (min)	Dial Reading (div)
Initial	1167.2
0.05	1267.3
0.10	1322.3
0.15	1344.8
0.20	1355.5
0.25	1367.2
0.30	1377.3
0.45	1394.2
0.55	1406.5
1.07	1435.1
2.32	1472.7
4.07	1494.5
9.07	1514.8
16.07	1531.4
25.07	1540.0
36.07	1546.2
49.07	1551.0
64.07	1553.8
81.07	1556.3
100.07	1557.9
121.07	1559.1
144.07	1560.4
180.07	1565.7
300.07	1571.7
420.13	1576.9

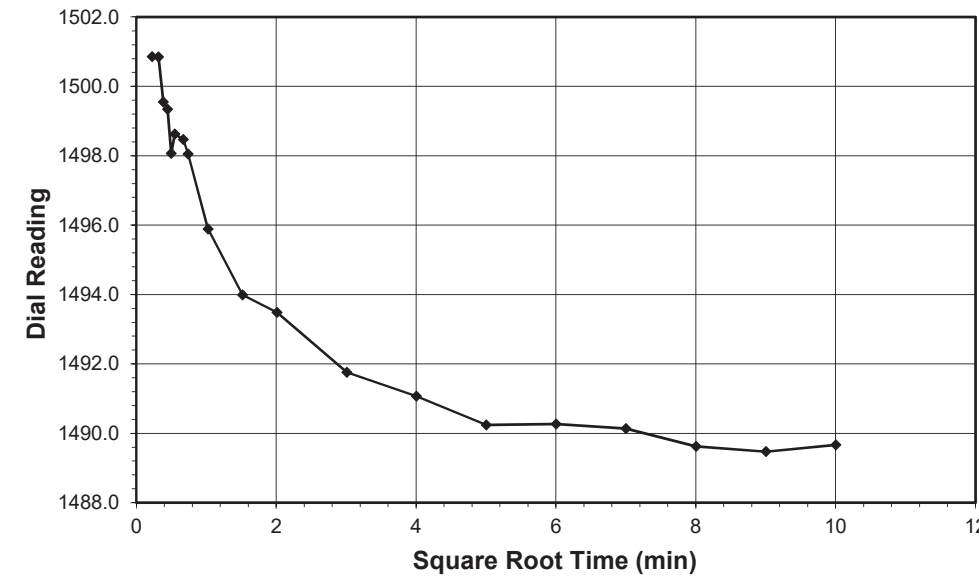


ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



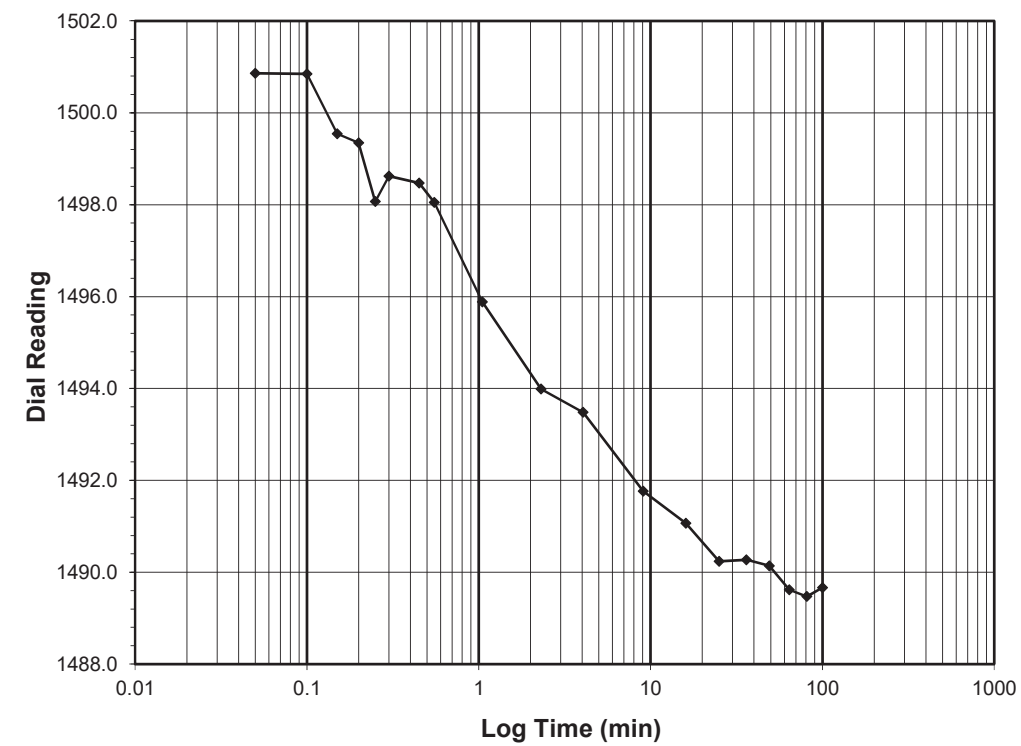
Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 16.0-4.0
 Final Reading (div) 1489.7
 Consolidometer No. R491
 1 Division (in) 0.0001
 Start Date 6/23/18
 Start Time 11:41:56

Elapsed Time (min)	Dial Reading (div)
Initial	1576.9
0.05	1500.9
0.10	1500.8
0.15	1499.5
0.20	1499.3
0.25	1498.1
0.30	1498.6
0.45	1498.5
0.55	1498.1
1.05	1495.9
2.30	1494.0
4.05	1493.5
9.05	1491.8
16.05	1491.1
25.05	1490.2
36.05	1490.3
49.05	1490.1
64.07	1489.6
81.07	1489.5
100.07	1489.7



Tested By 129-04-0411 Date 6/23/18 Checked By GEM Date 7/1/18

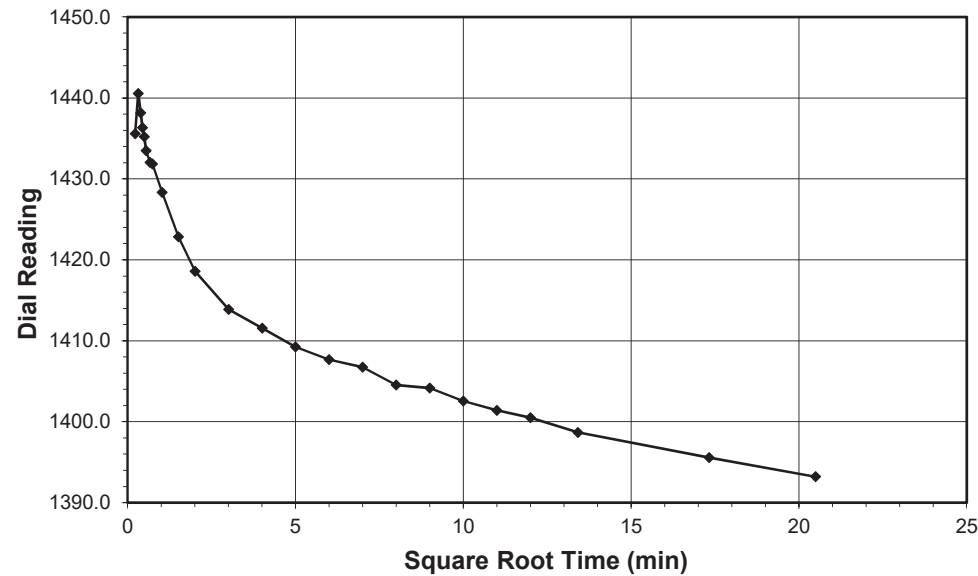
Tested By 129-04-0411 Date 6/23/18 Checked By GEM Date 7/1/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216

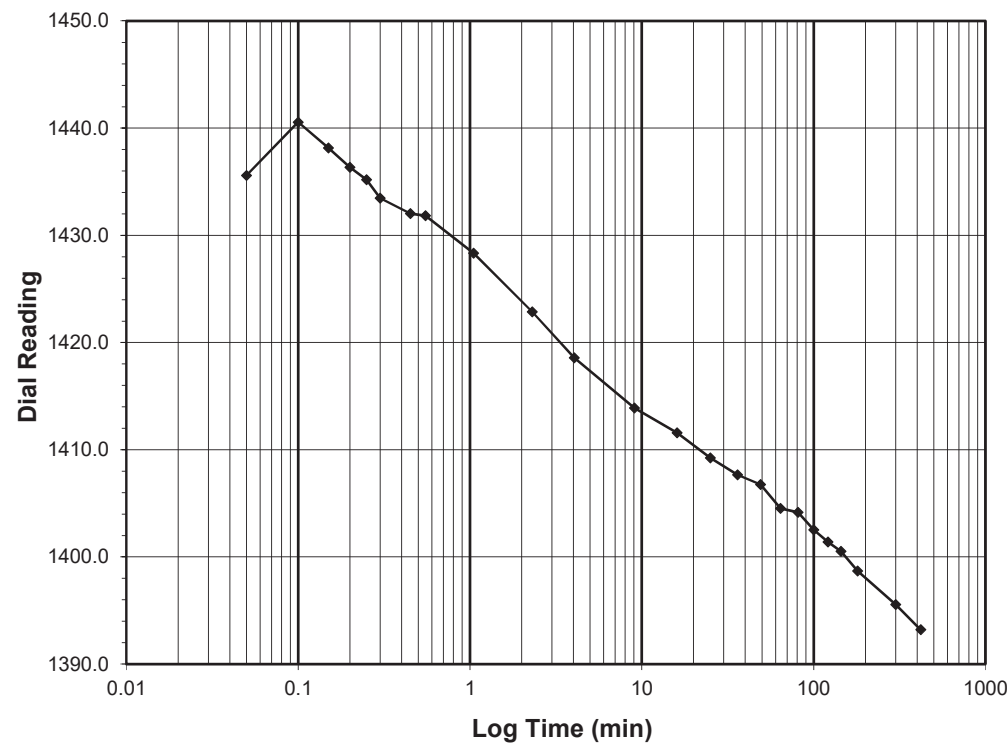


Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Elapsed Time (min)	Dial Reading (div)
Initial	1489.7
0.05	1435.6
0.10	1440.6
0.15	1438.2
0.20	1436.3
0.25	1435.2
0.30	1433.5
0.45	1432.0
0.55	1431.8
1.05	1428.3
2.30	1422.9
4.05	1418.6
9.05	1413.9
16.05	1411.6
25.05	1409.2
36.05	1407.7
49.05	1406.8
64.05	1404.5
81.05	1404.2
100.05	1402.5
121.05	1401.4
144.05	1400.5
180.07	1398.7
300.07	1395.6
420.15	1393.2

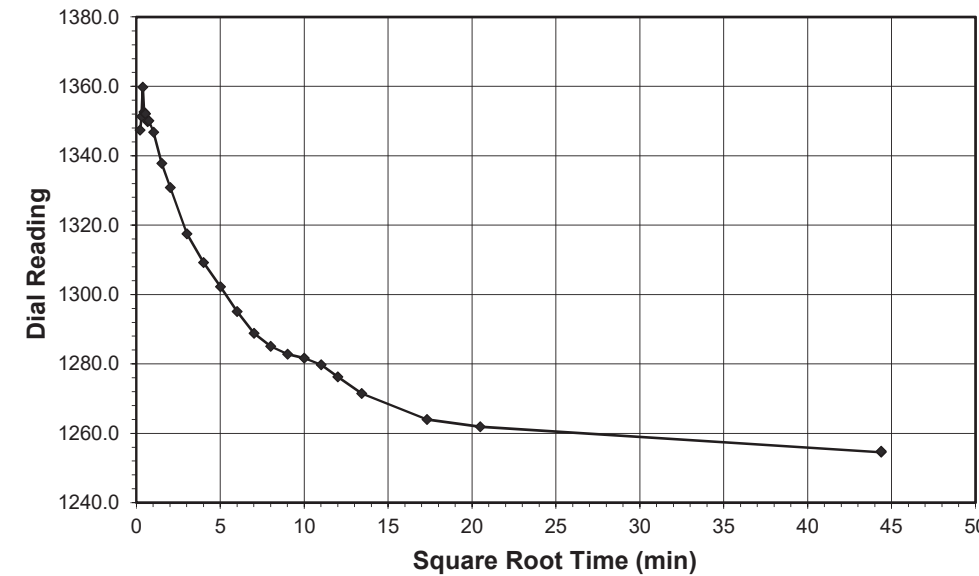


ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216

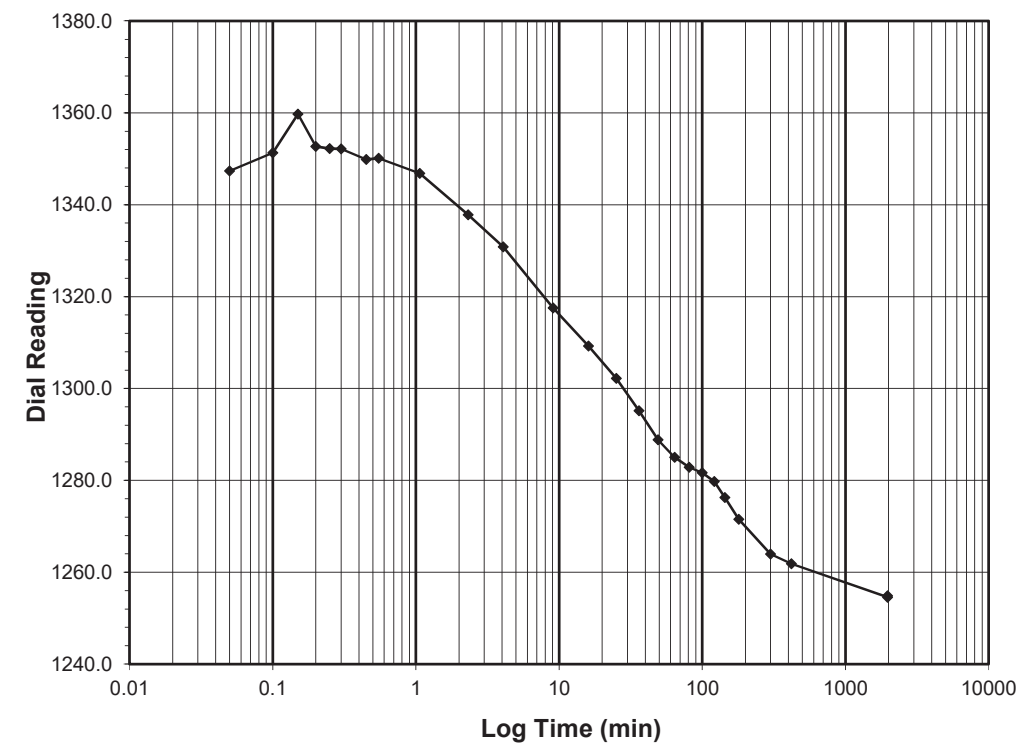


Client Wood E. & I. Solutions, Inc. Boring No. RPC_24+00
 Client Project R-4707 Reedy Creek Parkway Depth (ft) 3-5
 Project No. R-2018-170-001 Sample No. ST-2
 Lab ID R-2018-170-001-002 Visual Description BROWN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Elapsed Time (min)	Dial Reading (div)
Initial	1393.2
0.05	1347.4
0.10	1351.3
0.15	1359.7
0.20	1352.7
0.25	1352.2
0.30	1352.1
0.45	1349.8
0.55	1350.1
1.07	1346.8
2.32	1337.8
4.07	1330.8
9.07	1317.5
16.07	1309.2
25.07	1302.2
36.07	1295.1
49.07	1288.8
64.07	1285.0
81.07	1282.8
100.07	1281.6
121.07	1279.8
144.07	1276.3
180.07	1271.5
300.07	1264.0
420.03	1261.9
1969.53	1254.5
1969.58	1254.9



Tested By 129-04-0411 Date 6/23/18 Checked By GEM Date 7/1/18

Tested By 129-04-0411 Date 6/24/18 Checked By GEM Date 7/1/18

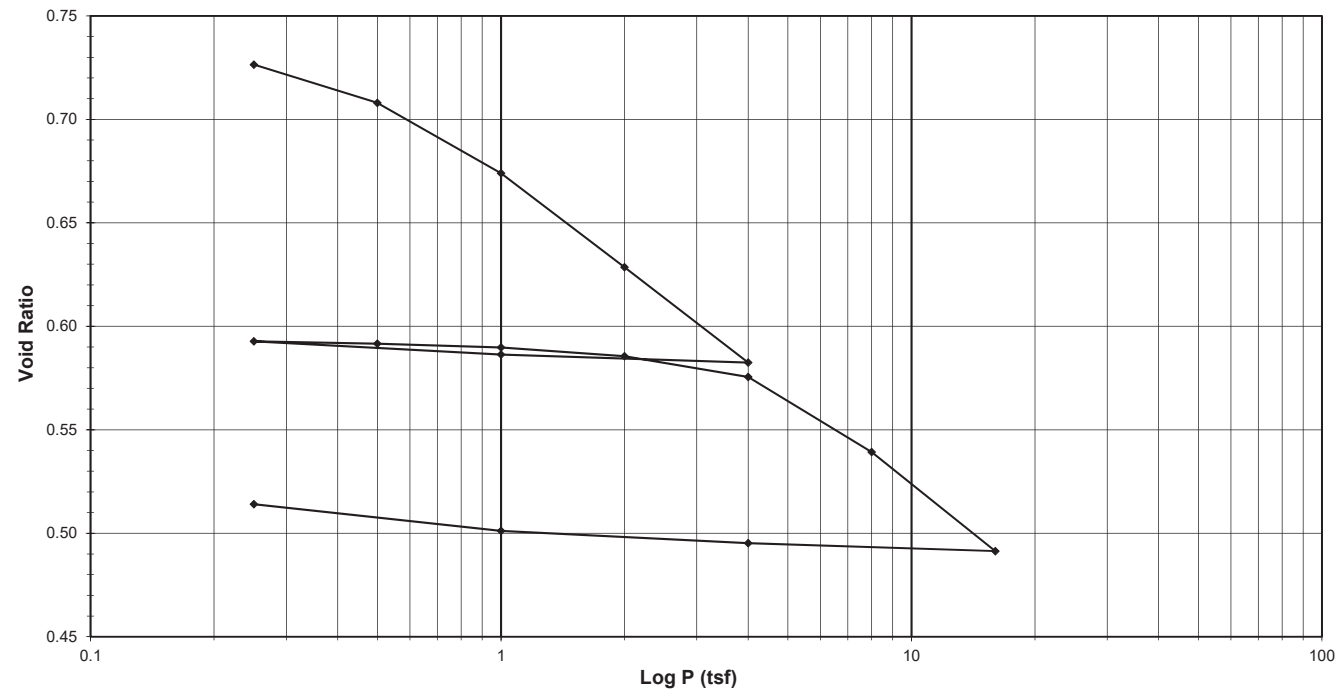


ONE DIMENSIONAL CONSOLIDATION

AASHTO T-216

Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Reference R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Tested By 129-04-0411 Date 6/26/18 Approved By MPS Date 7/6/18

ONE DIMENSIONAL CONSOLIDATION

AASHTO T-216

Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Reference R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED

Consolidometer No. R572
 1 Division = 0.0001 (in.)

Sample Properties	Initial	Final
<i>Water Content</i>		
Tare Number	307	815
Wt. Tare & WS (g)	523.61	281.15
Wt. Tare & DS (g)	438.85	257.65
Wt. Water (g)	84.76	23.50
Wt. Tare (g)	109.91	136.13
Wt. DS (g)	328.94	121.52
Water Content (%)	25.77	19.34
<i>Sample Parameters</i>		
Sample Diameter (in)	2.5	2.5
Sample Height (in)	1.0000	0.8619
Sample Volume (cc)	80.44	69.33
Wt. Wet Sample + Ring (g)	257.50	249.67
Wt. of Ring (g)	104.30	104.30
Wt. of Wet Sample (g)	153.20	145.37
Wet Density (pcf)	118.84	130.83
Wet Density (g/cc)	1.90	2.10
Water Content (%)	25.77	19.34
Wt. of Dry Sample (g)	121.81	121.81
Dry Density (pcf)	94.49	109.63
Dry Density (g/cc)	1.51	1.76
Void Ratio	0.7566	0.5141
Saturation (%)	90.60	100.07
Specific Gravity	2.66	Measured

Test Data Summary							
Applied Pressure (tsf)	Final Dial Reading (div)	Machine Deflection (div)	Corrected Reading (div)	Height of Sample (mm)	Volume (cc)	Dry Density (g/cc)	Void Ratio
Seating	0	0	0	25.400	80.440	1.51432	0.75656
0.25	196.4	25.0	171.3	24.965	79.062	1.54072	0.72647
0.5	313.8	37.2	276.6	24.698	78.215	1.55740	0.70798
1	531.7	61.3	470.4	24.205	76.656	1.58907	0.67394
2	820.6	91.7	728.9	23.549	74.577	1.63337	0.62853
4	1110.3	119.5	990.8	22.883	72.470	1.68086	0.58252
1	1055.6	86.5	969.2	22.938	72.644	1.67684	0.58632
0.25	989.3	56.9	932.5	23.032	72.939	1.67005	0.59277
0.5	1001.6	62.5	939.1	23.015	72.886	1.67127	0.59161
1	1026.9	77.6	949.3	22.989	72.804	1.67315	0.58981
2	1072.0	98.3	973.7	22.927	72.608	1.67767	0.58553
4	1153.2	122.3	1030.9	22.781	72.147	1.68839	0.57547
8	1397.8	160.8	1237.0	22.258	70.489	1.72809	0.53927
16	1727.4	217.8	1509.6	21.566	68.297	1.78357	0.49139
4	1641.2	153.5	1487.7	21.621	68.473	1.77899	0.49523
1	1557.7	104.0	1453.7	21.708	68.746	1.77191	0.50120
0.25	1446.3	65.8	1380.5	21.893	69.335	1.75687	0.51406

Tested By 129-04-0411 Date 6/26/18 Input Checked By GEM Date 7/6/18



ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216

Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Reference R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

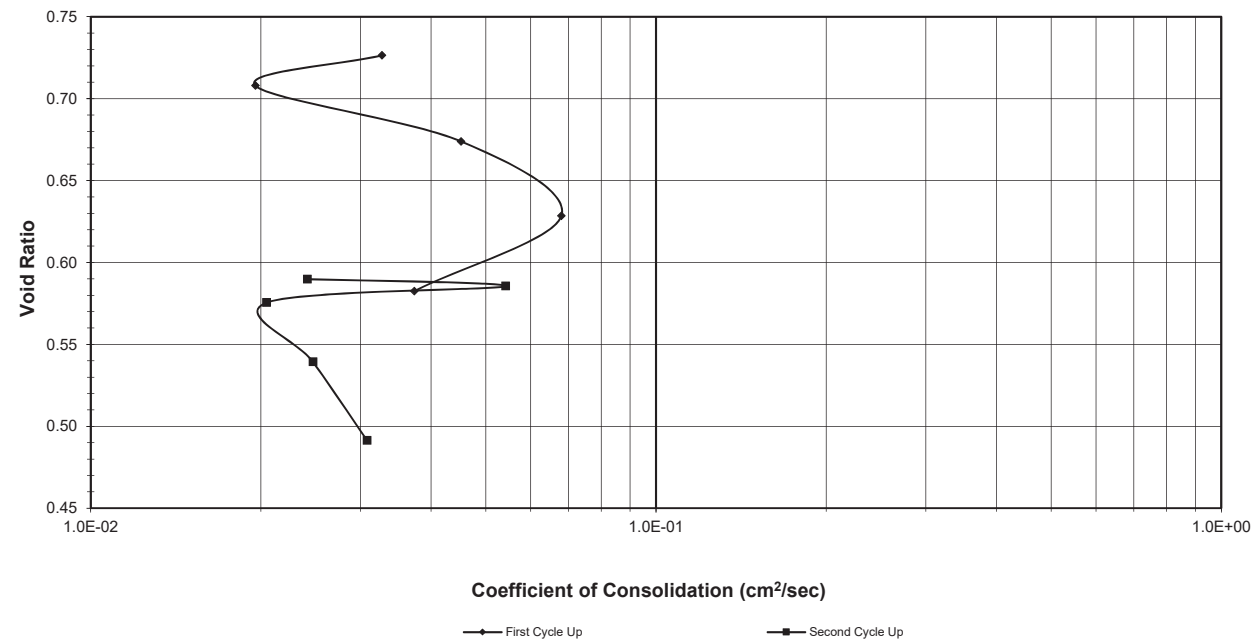
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216

Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Reference R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED

Consolidometer No. R572
 1 Division = 0.0001 (in.)



Sample Properties	Initial	Final	C _v Test Data Summary				Time t ₅₀ (min.)	C _v (cm ² /sec)		
			Load Increment (tsf)	Dial Reading @ t ₅₀ (div)	Machine Deflection (div)	Corrected Dial Reading @ t ₅₀ (div)			Sample Height @ t ₅₀ (cm)	
Water Content										
Tare Number	307	815								
Wt. Tare & WS (g)	523.61	281.15								
Wt. Tare & DS (g)	438.85	257.65								
Wt. Water (g)	84.76	23.50	0 - 0.25	78.0	25.0	53.0	2.527	0.16 0.03275		
Wt. Tare (g)	109.91	136.13	0.25 - 0.5	239.4	37.2	202.2	2.489	0.26 0.01955		
Wt. DS (g)	328.94	121.52	0.5 - 1.0	370.5	61.3	309.2	2.461	0.11 0.04521		
Water Content (%)	25.77	19.34	1.0 - 2.0	610.7	91.7	519.0	2.408	0.07 0.06800		
			2.0 - 4.0	917.2	119.5	797.7	2.337	0.12 0.03737		
			4.0 - 1.0	NA	86.5	NA	NA	NA NA		
Sample Parameters			1.0 - 0.25	NA	56.9	NA	NA	NA NA		
Sample Diameter (in)	2.5	2.5	0.25 - 0.5	NA	62.5	NA	NA	NA NA		
Sample Height (in)	1.000	0.862	0.5 - 1.0	1013.9	77.6	936.3	2.302	0.18 0.02417		
Sample Volume (cc)	80.44	69.33	1.0 - 2.0	1050.5	98.3	952.2	2.298	0.08 0.05419		
Wt. Wet Sample + Ring (g)	257.50	249.67	2.0 - 4.0	1114.6	122.3	992.3	2.288	0.21 0.02046		
Wt. of Ring (g)	104.30	104.30	4.0 - 8.0	1251.0	160.8	1090.2	2.263	0.17 0.02473		
Wt. of Wet Sample (g)	153.20	145.37	8.0 - 16.0	1520.0	217.8	1302.2	2.209	0.13 0.03082		
Wet Density (pcf)	118.84	130.83	16.0 - 4.0	NA	153.5	NA	NA	NA NA		
Wet Density (g/cc)	1.90	2.10	4.0 - 1.0	NA	104.0	NA	NA	NA NA		
Water Content (%)	25.77	19.34	1.0 - 0.25	NA	65.8	NA	NA	NA NA		
Wt. of Dry Sample (g)	121.81	121.81								
Dry Density (pcf)	94.49	109.63								
Dry Density (g/cc)	1.51	1.76								
Void Ratio	0.7566	0.5141								
Saturation (%)	90.60	100.07								
Specific Gravity	2.66	Measured								
			Tested By	129-04-0411	Date	6/26/18	Input Checked By	GEM	Date	7/6/18

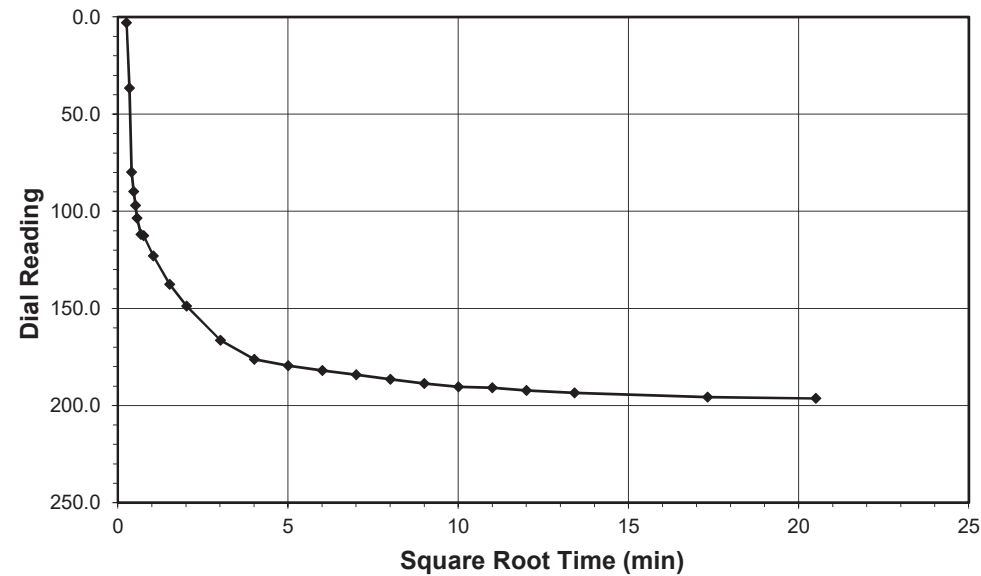
Tested By 129-04-0411 Date 6/26/18 Input Checked By GEM Date 7/6/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

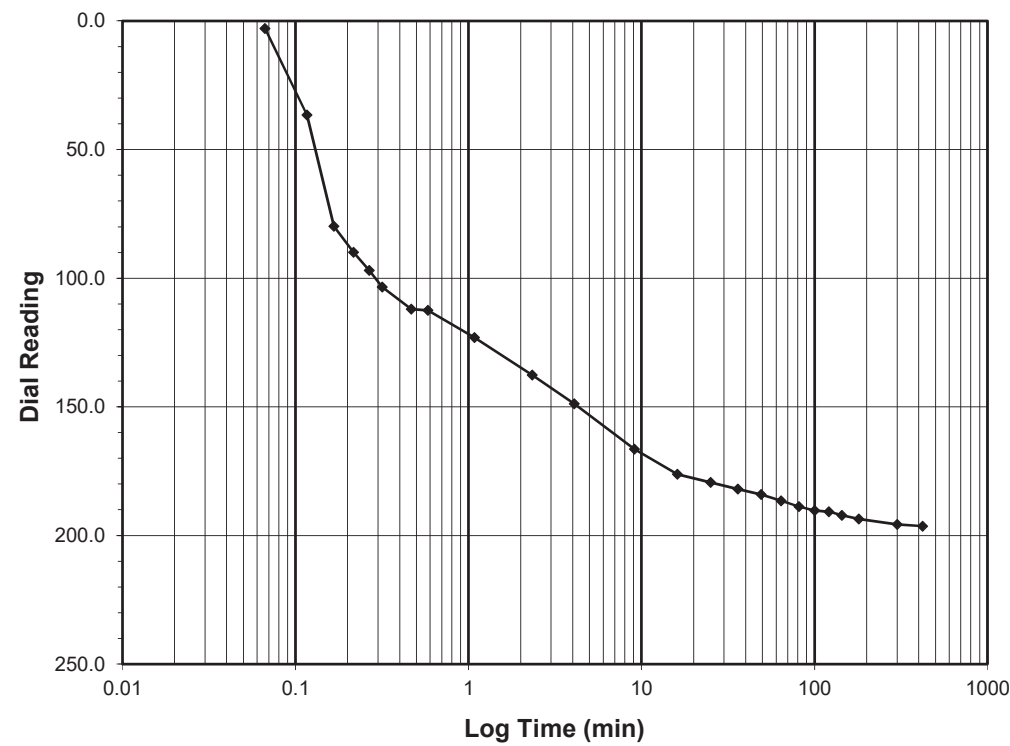
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.0-0.25
Final Reading (div) 196.4
 Consolidometer No. **R572**
 1 Division (in) 0.0001

Start Date 6/26/18
 Start Time 16:56:59

Elapsed Time (min)	Dial Reading (div)
Initial	0.0
0.07	2.9
0.12	36.6
0.17	79.8
0.22	89.9
0.27	97.0
0.32	103.4
0.47	112.0
0.58	112.5
1.08	123.0
2.33	137.7
4.08	148.8
9.08	166.5
16.08	176.2
25.08	179.4
36.08	182.0
49.08	184.1
64.08	186.5
81.08	188.7
100.08	190.3
121.08	190.8
144.08	192.2
180.10	193.5
300.10	195.7
420.48	196.4

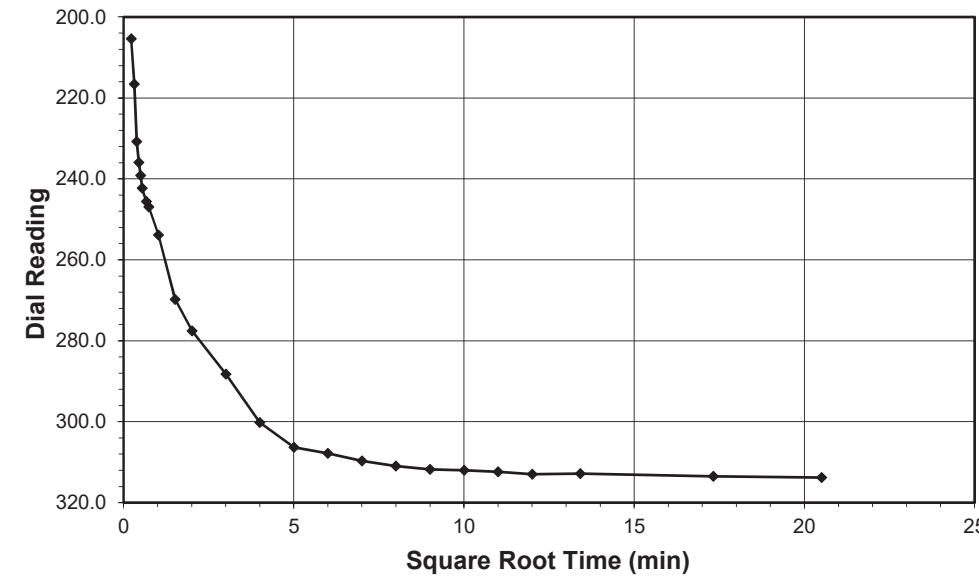


ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

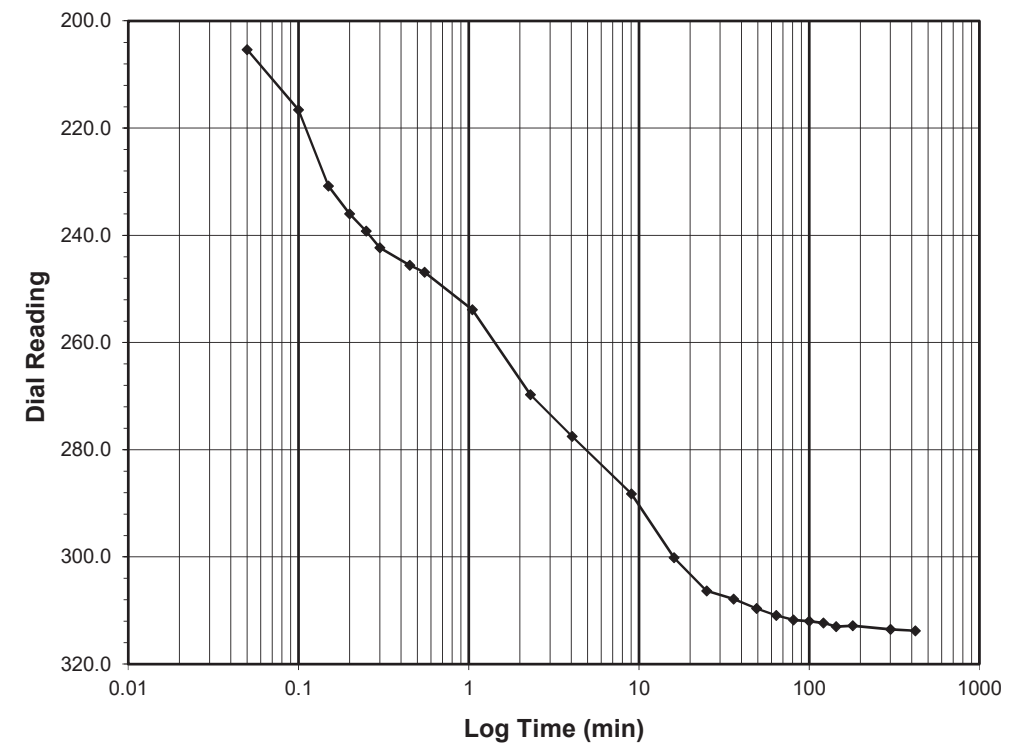
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.25-0.5
Final Reading (div) 313.8
 Consolidometer No. **R572**
 1 Division (in) 0.0001

Start Date 6/26/18
 Start Time 23:57:27

Elapsed Time (min)	Dial Reading (div)
Initial	196.4
0.05	205.4
0.10	216.6
0.15	230.8
0.20	236.0
0.25	239.2
0.30	242.3
0.45	245.6
0.55	246.9
1.05	253.9
2.30	269.8
4.05	277.5
9.05	288.2
16.05	300.2
25.05	306.3
36.05	307.9
49.05	309.6
64.05	310.9
81.05	311.8
100.07	312.0
121.07	312.4
144.07	313.0
180.07	312.8
300.07	313.5
420.45	313.8



Tested By 129-04-0411 Date 6/26/18 Checked By GEM Date 7/6/18

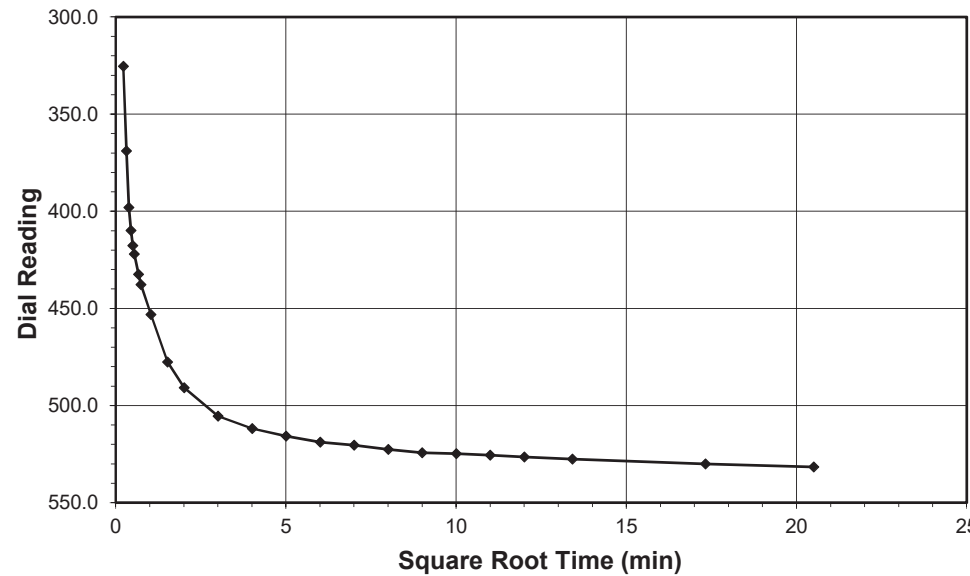
Tested By 129-04-0411 Date 6/26/18 Checked By GEM Date 7/6/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



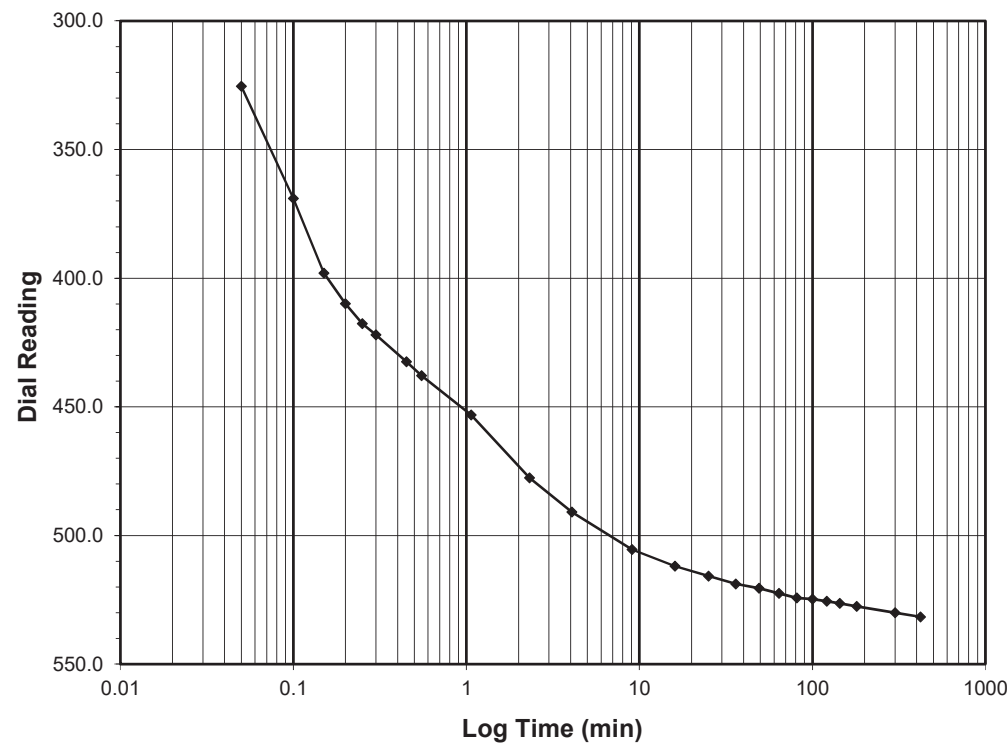
Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.5-1.0
Final Reading (div) 531.7
 Consolidometer No. **R572**
 1 Division (in) 0.0001
 Start Date 6/27/18
 Start Time 6:57:54

Elapsed Time (min)	Dial Reading (div)
Initial	313.8
0.05	325.4
0.10	369.0
0.15	398.0
0.20	409.9
0.25	417.7
0.30	422.0
0.45	432.4
0.55	437.8
1.07	453.1
2.32	477.6
4.07	490.9
9.07	505.5
16.07	511.9
25.07	515.8
36.07	518.9
49.08	520.5
64.08	522.5
81.08	524.3
100.08	524.8
121.08	525.6
144.08	526.4
180.08	527.6
300.08	530.0
420.45	531.7

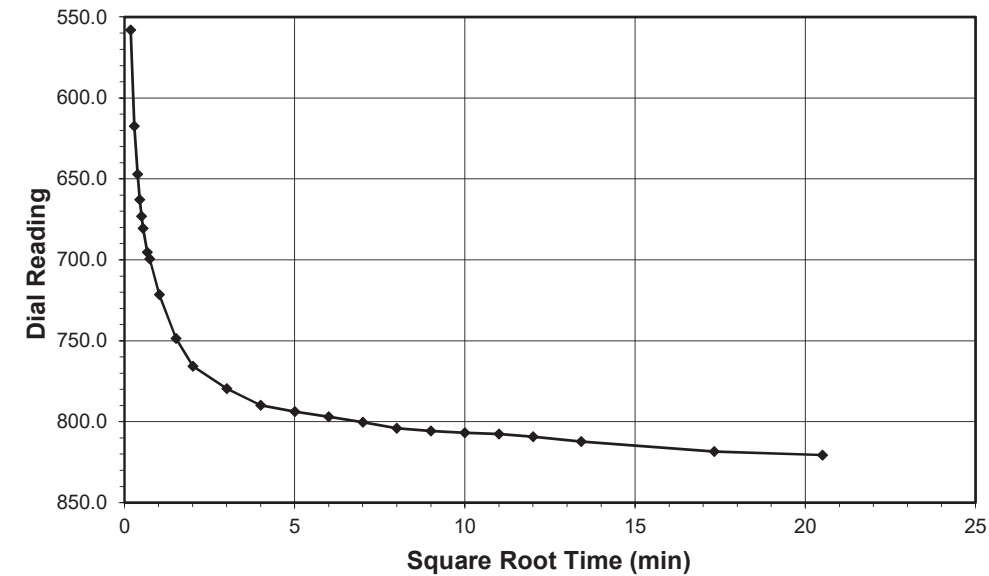


ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



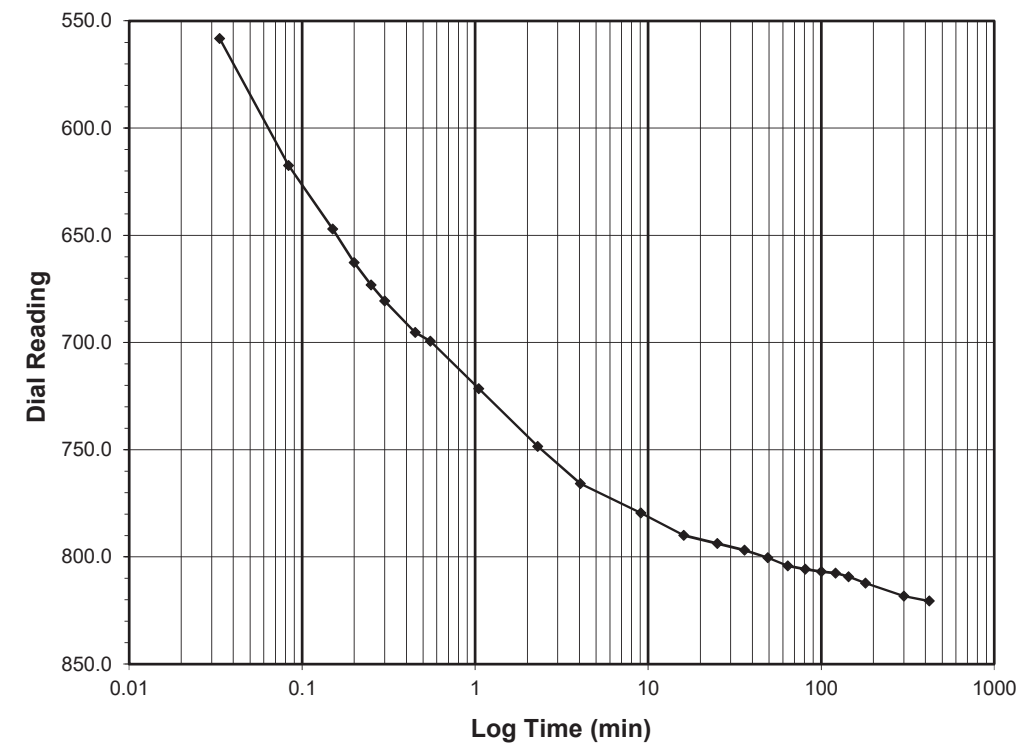
Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 1.0-2.0
Final Reading (div) 820.6
 Consolidometer No. **R572**
 1 Division (in) 0.0001
 Start Date 6/27/18
 Start Time 13:58:21

Elapsed Time (min)	Dial Reading (div)
Initial	531.7
0.03	558.1
0.08	617.4
0.15	647.1
0.20	662.8
0.25	673.2
0.30	680.5
0.45	695.3
0.55	699.4
1.05	721.6
2.30	748.5
4.05	765.8
9.05	779.5
16.05	789.9
25.05	793.7
36.05	796.8
49.05	800.3
64.05	804.1
81.05	805.8
100.05	806.9
121.05	807.6
144.05	809.3
180.05	812.2
300.05	818.3
420.40	820.6



Tested By 129-04-0411 Date 6/27/18 Checked By GEM Date 7/6/18

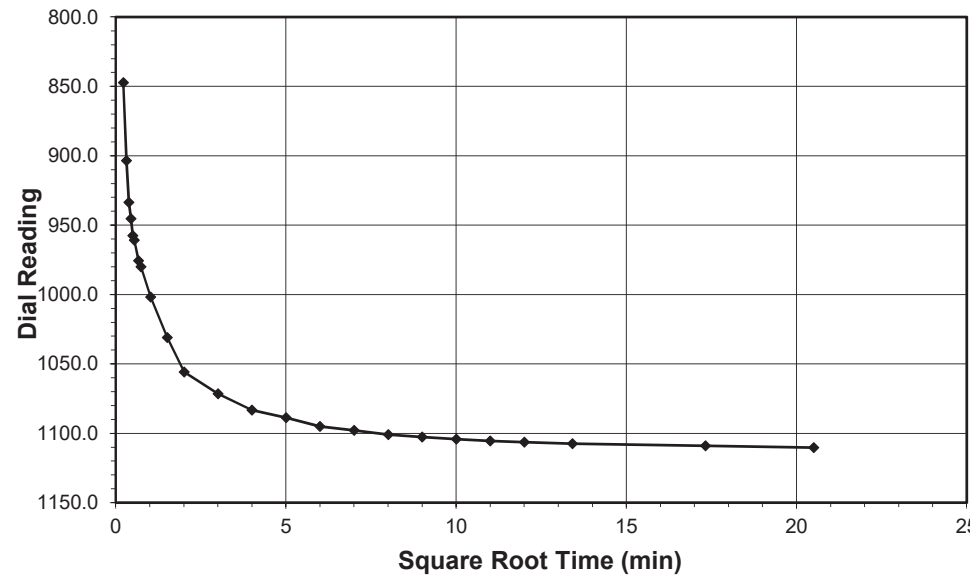
Tested By 129-04-0411 Date 6/27/18 Checked By GEM Date 7/6/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

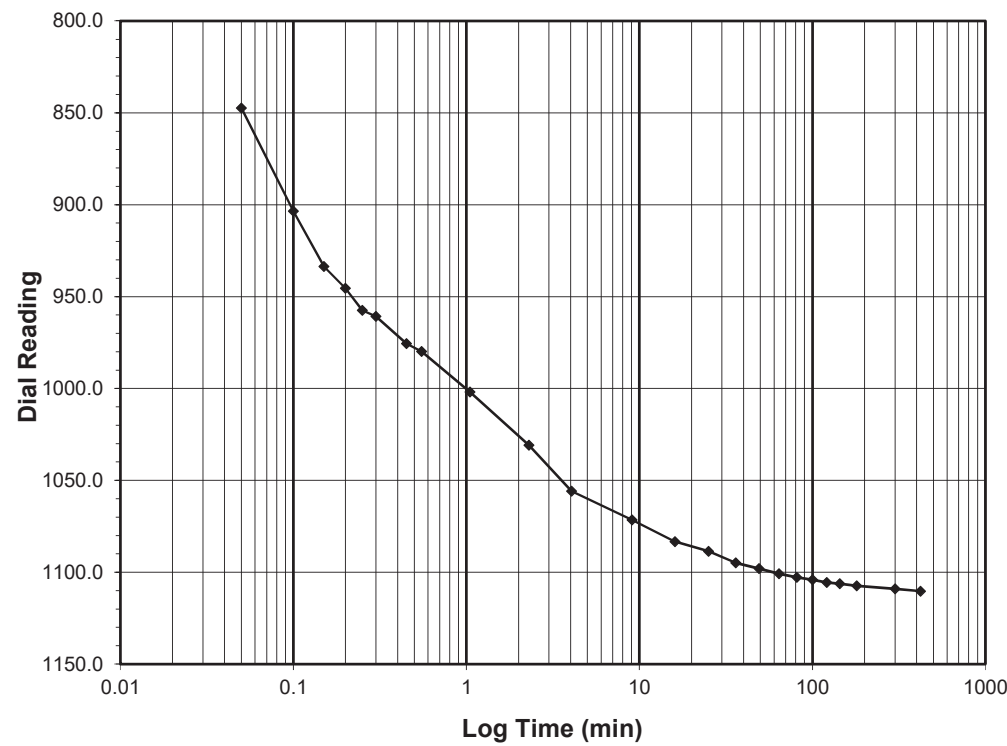
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 2.0-4.0
Final Reading (div) 1110.3
 Consolidometer No. **R572**
 1 Division (in) 0.0001

Start Date 6/27/18
 Start Time 20:58:46

Elapsed Time (min)	Dial Reading (div)
Initial	820.6
0.05	847.4
0.10	903.5
0.15	933.7
0.20	945.5
0.25	957.5
0.30	960.8
0.45	975.6
0.55	979.9
1.05	1001.9
2.30	1030.9
4.05	1055.9
9.05	1071.6
16.05	1083.3
25.05	1088.7
36.05	1095.0
49.07	1098.0
64.07	1100.9
81.07	1102.8
100.07	1104.2
121.07	1105.5
144.07	1106.3
180.07	1107.4
300.07	1109.0
420.43	1110.3

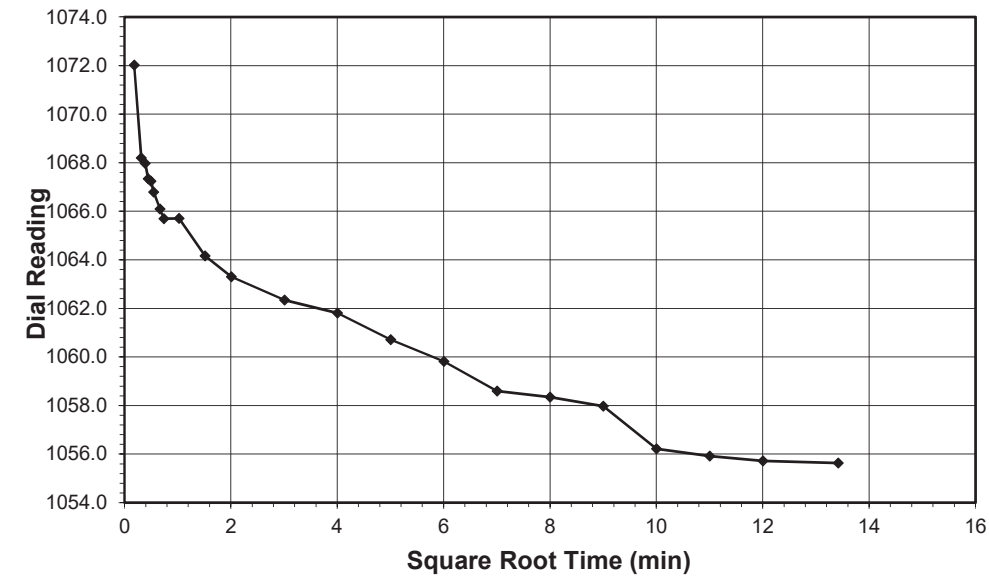


ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

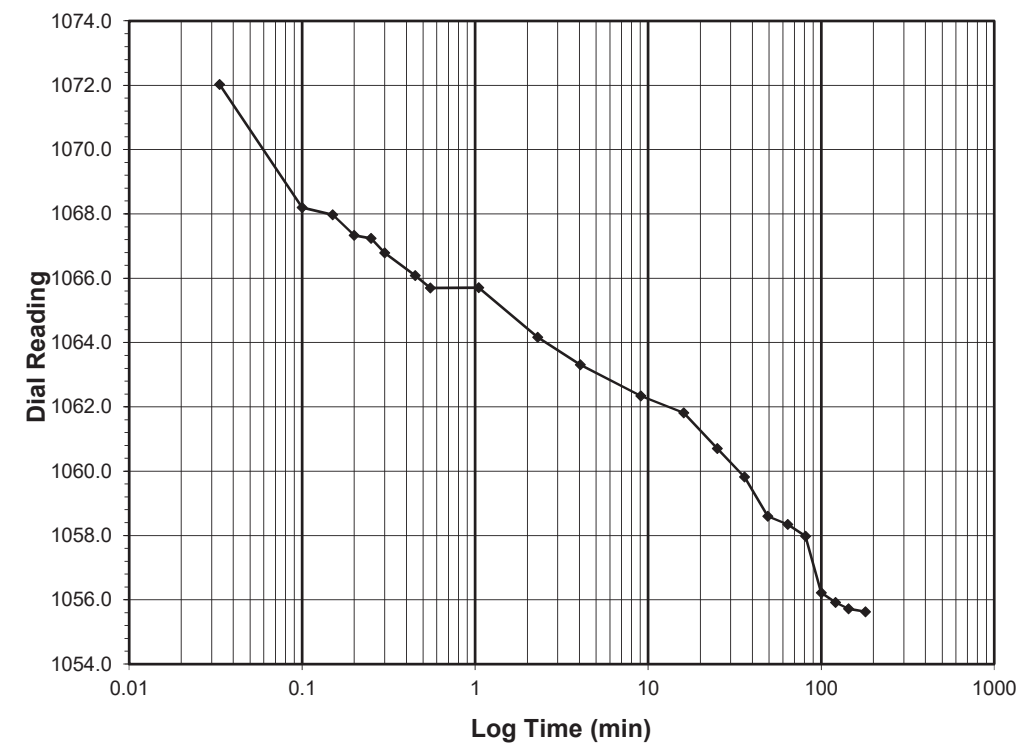
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 4.0-1.0
Final Reading (div) 1055.6
 Consolidometer No. **R572**
 1 Division (in) 0.0001

Start Date 6/28/18
 Start Time 3:59:11

Elapsed Time (min)	Dial Reading (div)
Initial	1110.3
0.03	1072.0
0.10	1068.2
0.15	1068.0
0.20	1067.3
0.25	1067.2
0.30	1066.8
0.45	1066.1
0.55	1065.7
1.05	1065.7
2.30	1064.2
4.05	1063.3
9.05	1062.3
16.05	1061.8
25.07	1060.7
36.07	1059.8
49.07	1058.6
64.07	1058.3
81.07	1058.0
100.07	1056.2
121.07	1055.9
144.07	1055.7
180.07	1055.6



Tested By 129-04-0411 Date 6/27/18 Checked By GEM Date 7/6/18

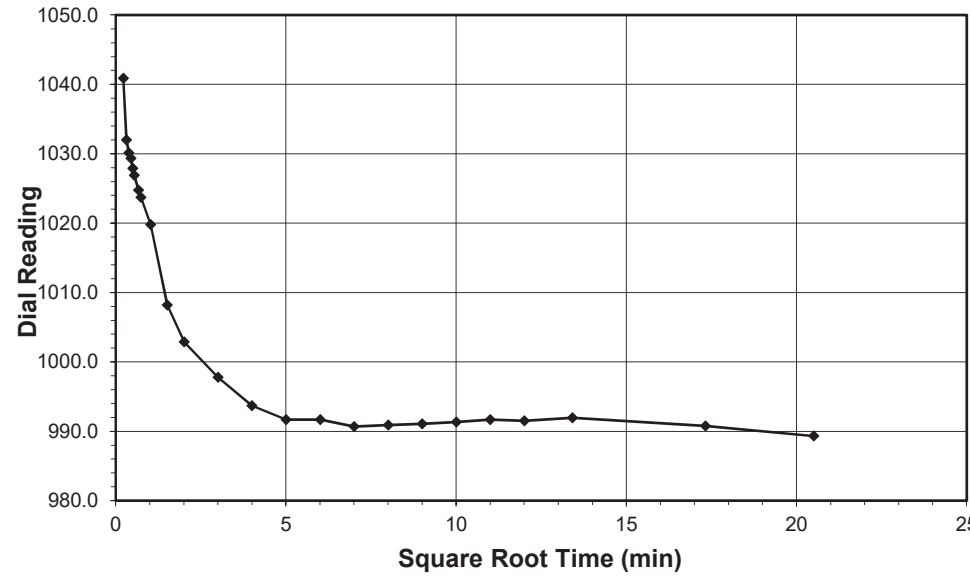
Tested By 129-04-0411 Date 6/28/18 Checked By GEM Date 7/6/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

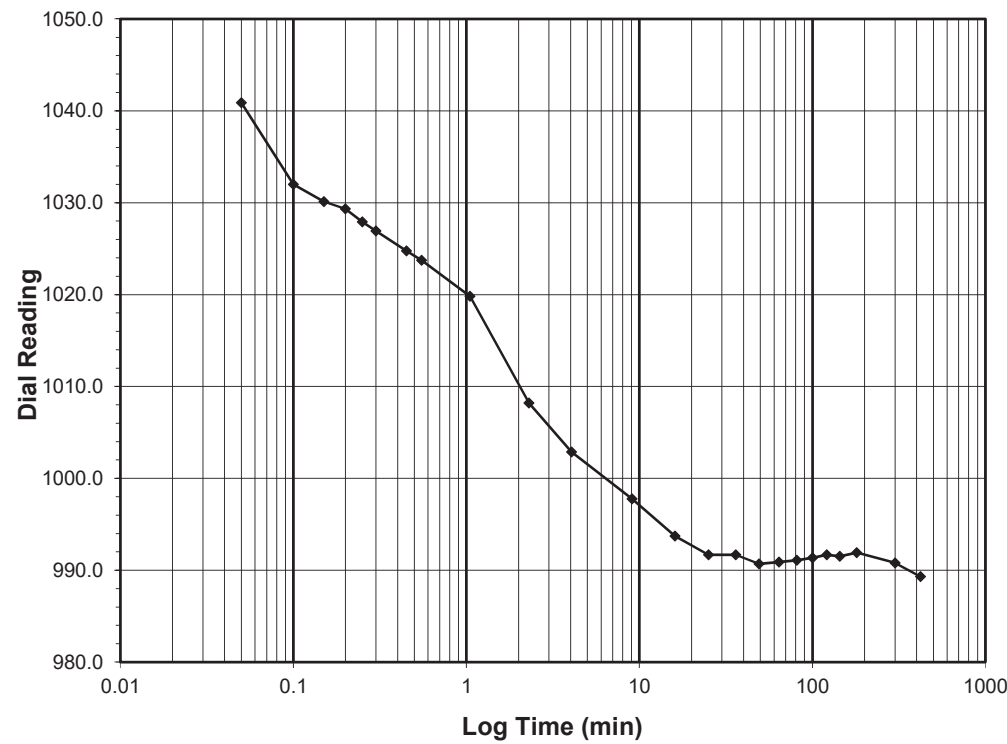
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 1.0-0.25
Final Reading (div) 989.3
 Consolidometer No. **R572**
 1 Division (in) 0.0001

Start Date 6/28/18
 Start Time 10:59:40

Elapsed Time (min)	Dial Reading (div)
Initial	1055.6
0.05	1040.9
0.10	1032.0
0.15	1030.1
0.20	1029.3
0.25	1027.9
0.30	1026.9
0.45	1024.7
0.55	1023.7
1.05	1019.8
2.30	1008.2
4.05	1002.9
9.05	997.8
16.05	993.7
25.07	991.7
36.07	991.7
49.07	990.7
64.07	990.9
81.07	991.1
100.07	991.3
121.08	991.7
144.08	991.5
180.08	991.9
300.08	990.8
420.43	989.3



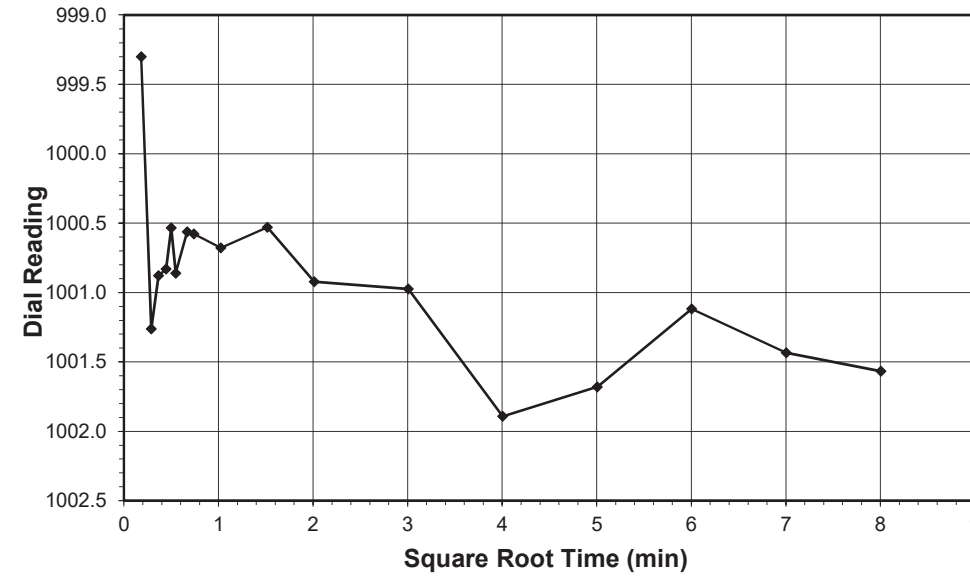
Tested By 129-04-0411 Date 6/28/18 Checked By GEM Date 7/6/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

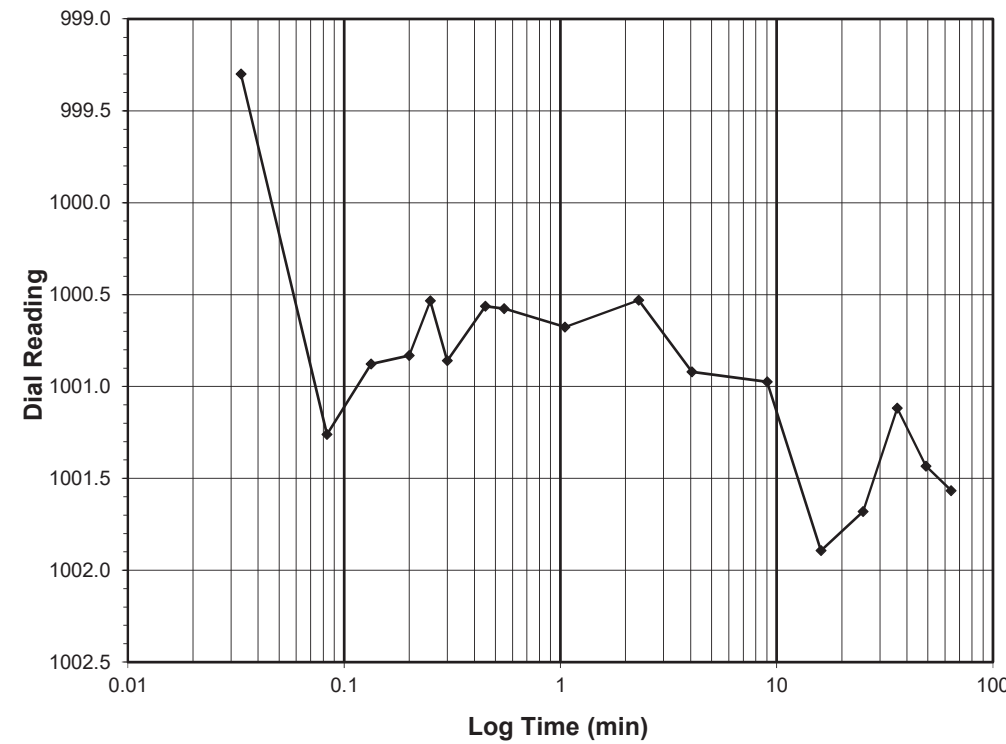
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.25-0.5
Final Reading (div) 1001.6
 Consolidometer No. **R572**
 1 Division (in) 0.0001

Start Date 6/28/18
 Start Time 18:00:06

Elapsed Time (min)	Dial Reading (div)
Initial	989.3
0.03	999.3
0.08	1001.3
0.13	1000.9
0.20	1000.8
0.25	1000.5
0.30	1000.9
0.45	1000.6
0.55	1000.6
1.05	1000.7
2.30	1000.5
4.05	1000.9
9.05	1001.0
16.05	1001.9
25.05	1001.7
36.05	1001.1
49.07	1001.4
64.07	1001.6



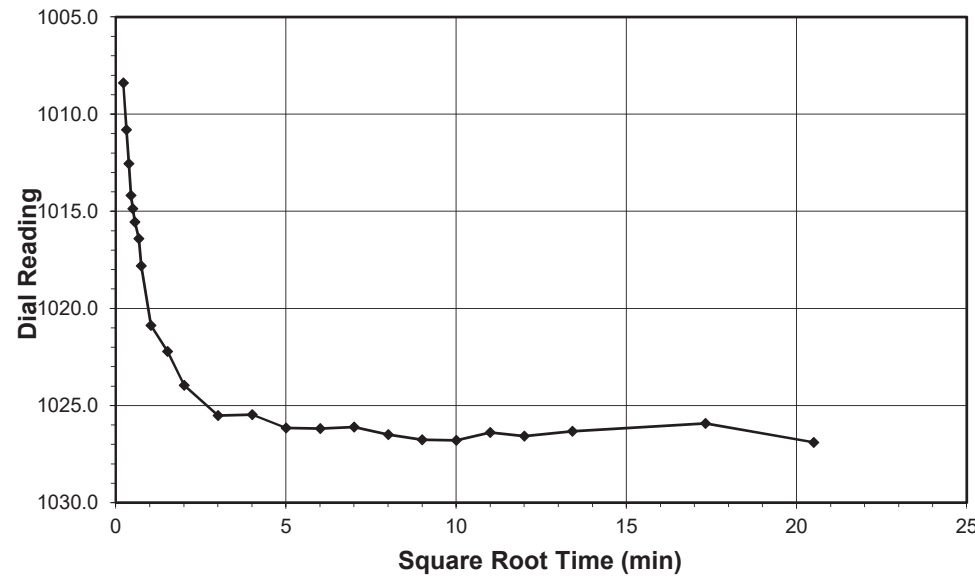
Tested By 129-04-0411 Date 6/28/18 Checked By GEM Date 7/6/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

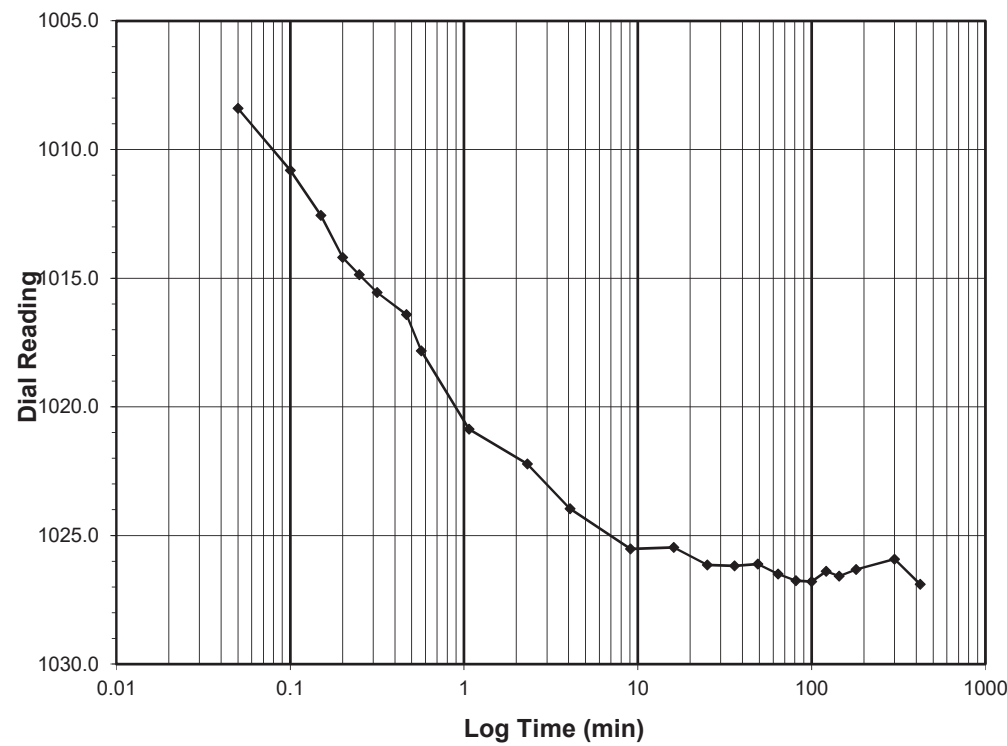
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 0.5-1.0
Final Reading (div) 1026.9
 Consolidometer No. **R572**
 1 Division (in) 0.0001

Start Date 6/29/18
 Start Time 1:00:34

Elapsed Time (min)	Dial Reading (div)
Initial	1001.6
0.05	1008.4
0.10	1010.8
0.15	1012.6
0.20	1014.2
0.25	1014.9
0.32	1015.6
0.47	1016.4
0.57	1017.8
1.07	1020.9
2.32	1022.2
4.07	1024.0
9.07	1025.5
16.07	1025.5
25.07	1026.1
36.07	1026.2
49.08	1026.1
64.08	1026.5
81.08	1026.8
100.08	1026.8
121.08	1026.4
144.08	1026.6
180.08	1026.3
300.08	1025.9
420.45	1026.9

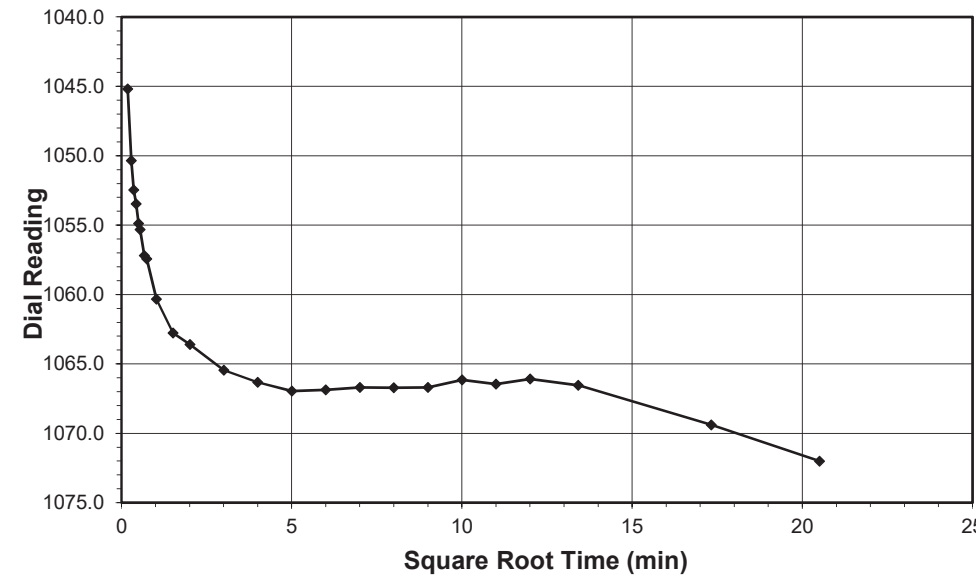


ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

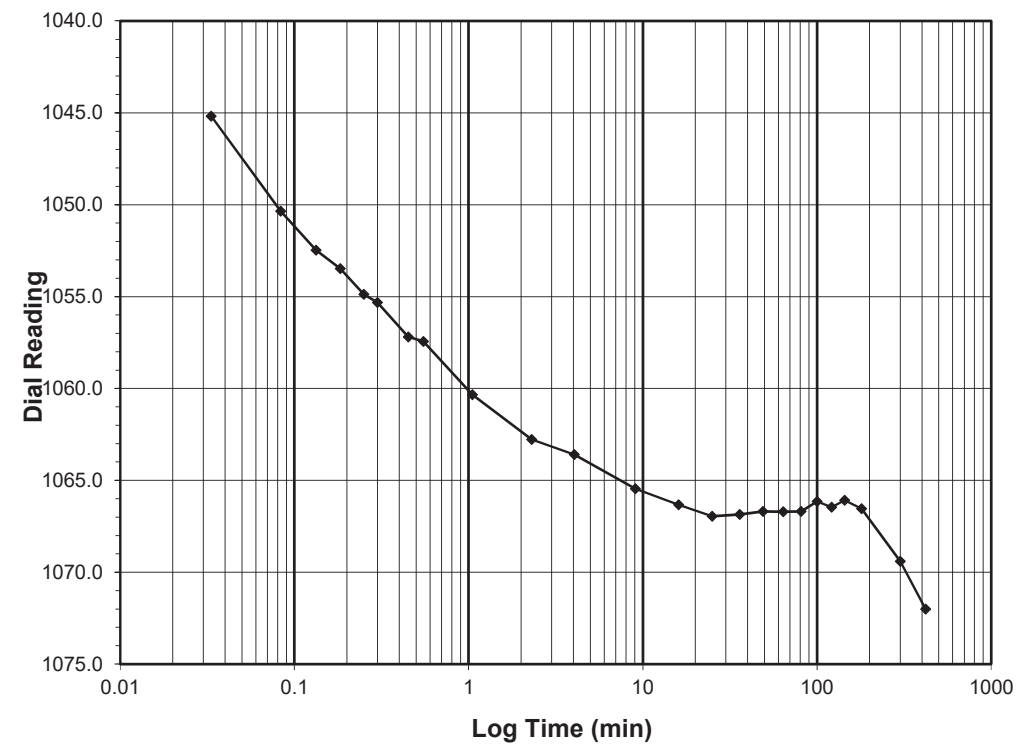
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 1.0-2.0
Final Reading (div) 1072.0
 Consolidometer No. **R572**
 1 Division (in) 0.0001

Start Date 6/29/18
 Start Time 8:01:01

Elapsed Time (min)	Dial Reading (div)
Initial	1026.9
0.03	1045.2
0.08	1050.4
0.13	1052.5
0.18	1053.5
0.25	1054.9
0.30	1055.3
0.45	1057.2
0.55	1057.4
1.05	1060.3
2.30	1062.8
4.05	1063.6
9.05	1065.5
16.05	1066.3
25.05	1067.0
36.05	1066.9
49.05	1066.7
64.05	1066.7
81.05	1066.7
100.07	1066.1
121.07	1066.5
144.07	1066.1
180.07	1066.5
300.07	1069.4
420.43	1072.0



Tested By 129-04-0411 Date 6/29/18 Checked By GEM Date 7/6/18

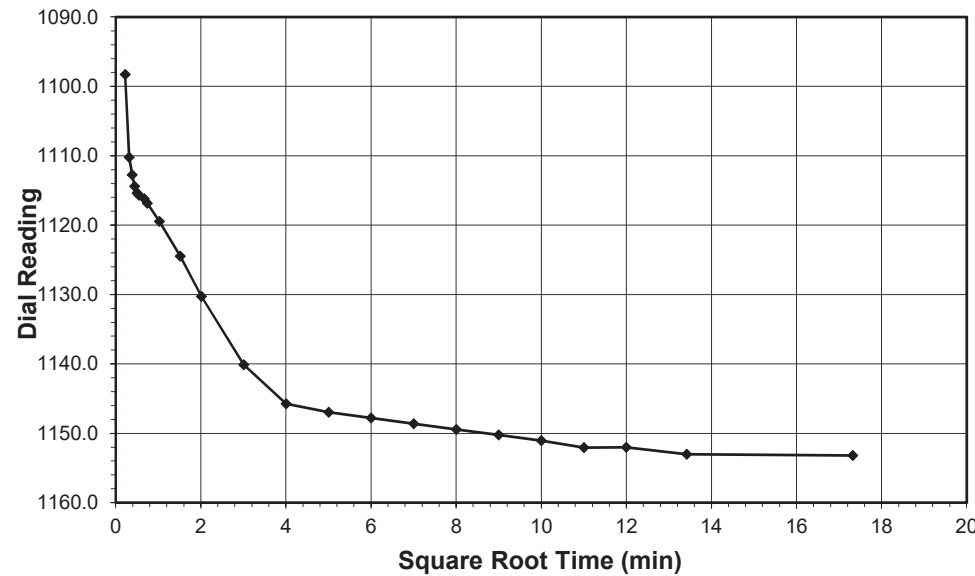
Tested By 129-04-0411 Date 6/29/18 Checked By GEM Date 7/6/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

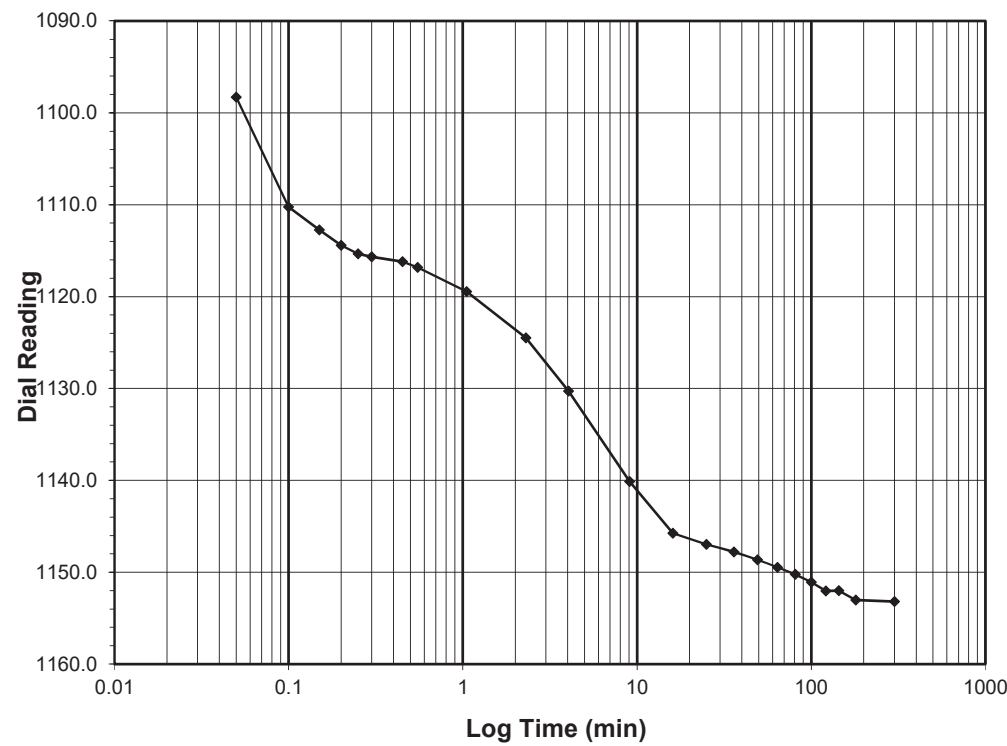
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 2.0-4.0
Final Reading (div) 1153.2
 Consolidometer No. **R572**
 1 Division (in) 0.0001

Start Date 6/29/18
 Start Time 15:01:28

Elapsed Time (min)	Dial Reading (div)
Initial	1072.0
0.05	1098.3
0.10	1110.2
0.15	1112.7
0.20	1114.4
0.25	1115.4
0.30	1115.7
0.45	1116.2
0.55	1116.8
1.05	1119.5
2.30	1124.5
4.05	1130.3
9.05	1140.1
16.05	1145.8
25.05	1147.0
36.05	1147.8
49.07	1148.6
64.07	1149.5
81.07	1150.2
100.07	1151.1
121.07	1152.0
144.07	1152.0
180.07	1153.0
300.07	1153.2

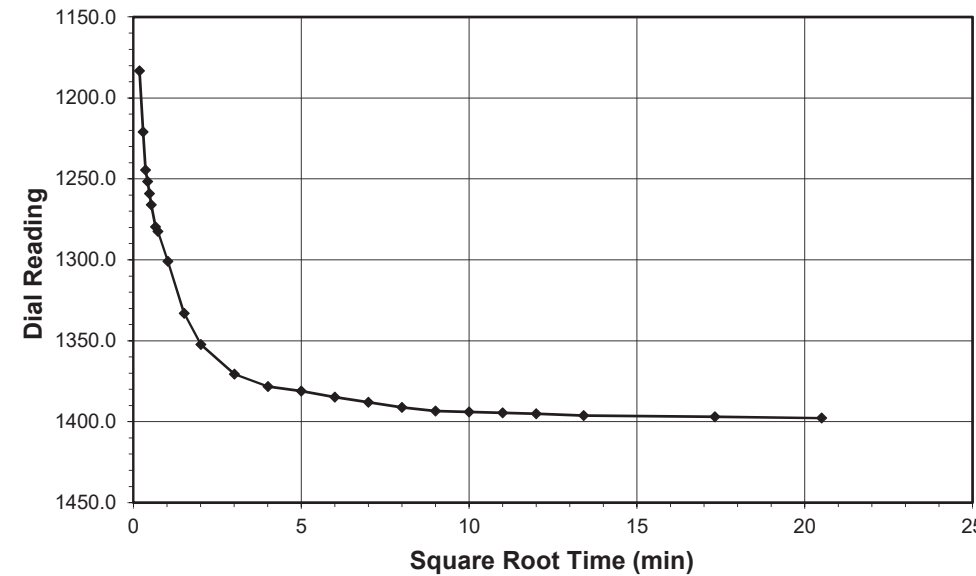


ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

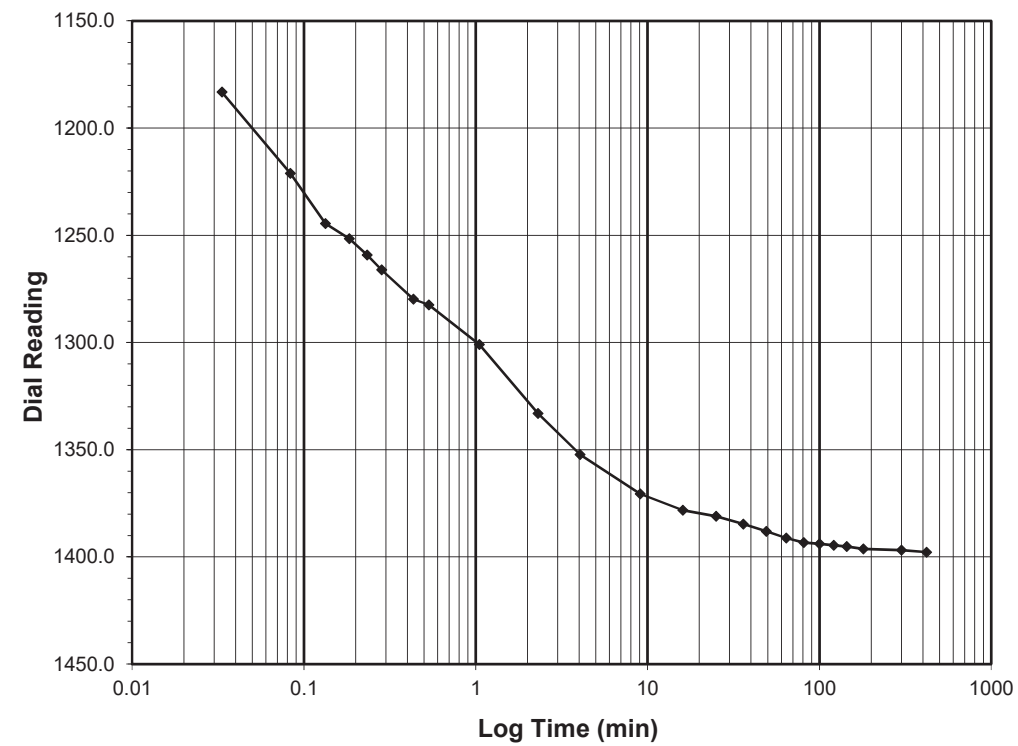
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 4.0-8.0
Final Reading (div) 1397.8
 Consolidometer No. **R572**
 1 Division (in) 0.0001

Start Date 6/29/18
 Start Time 22:01:53

Elapsed Time (min)	Dial Reading (div)
Initial	1153.2
0.03	1183.2
0.08	1221.0
0.13	1244.5
0.18	1251.6
0.23	1259.2
0.28	1266.1
0.43	1279.7
0.53	1282.4
1.05	1300.9
2.30	1333.1
4.05	1352.2
9.05	1370.6
16.05	1378.2
25.05	1381.1
36.05	1384.7
49.05	1388.1
64.05	1391.2
81.05	1393.3
100.05	1393.9
121.05	1394.5
144.05	1395.1
180.05	1396.2
300.05	1396.9
420.43	1397.8



Tested By 129-04-0411 Date 6/29/18 Checked By GEM Date 7/6/18

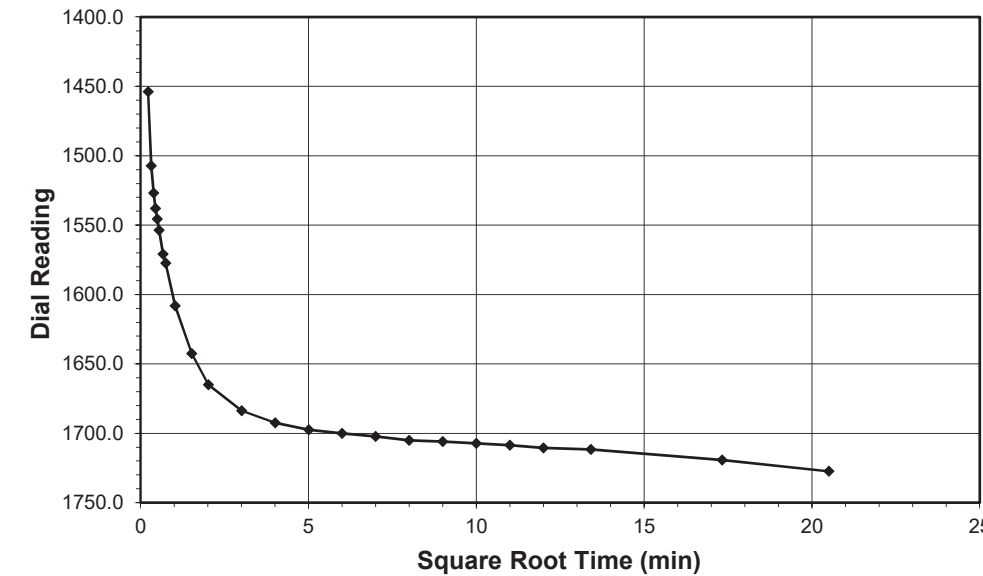
Tested By 129-04-0411 Date 6/29/18 Checked By GEM Date 7/6/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

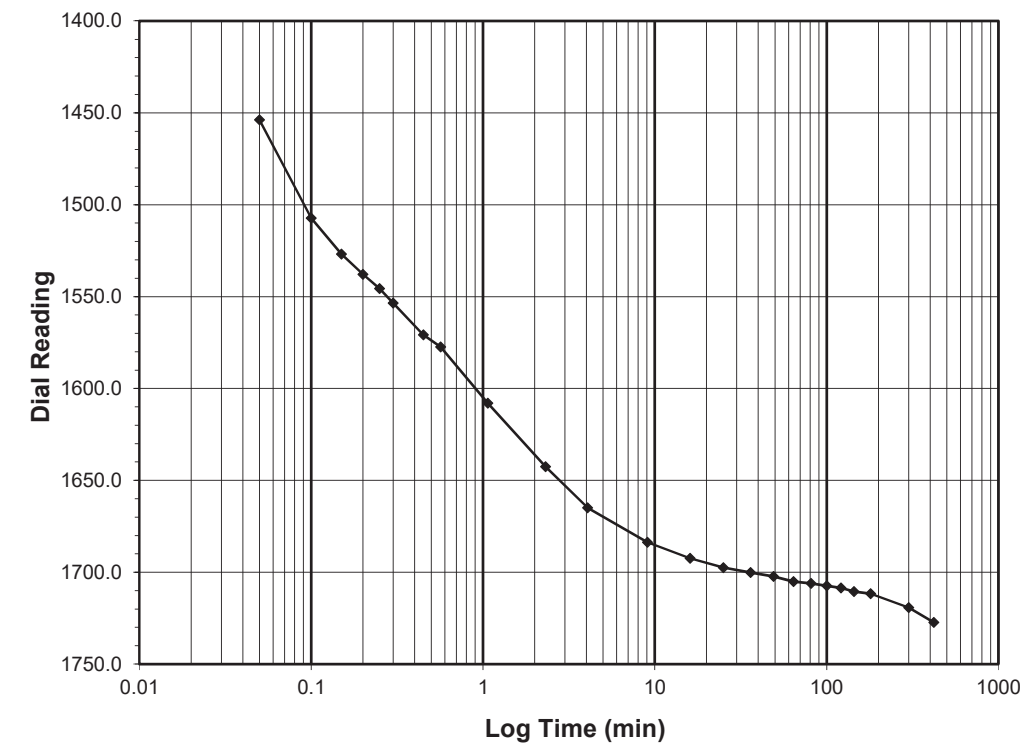
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 8.0-16.0
Final Reading (div) 1727.4
 Consolidometer No. **R572**
 1 Division (in) 0.0001

Start Date 6/30/18
 Start Time 5:02:20

Elapsed Time (min)	Dial Reading (div)
Initial	1397.8
0.05	1453.9
0.10	1507.3
0.15	1526.9
0.20	1537.9
0.25	1545.6
0.30	1553.5
0.45	1570.9
0.57	1577.5
1.07	1608.1
2.32	1642.5
4.07	1665.0
9.07	1683.7
16.07	1692.5
25.07	1697.5
36.07	1700.1
49.07	1702.3
64.07	1705.0
81.07	1706.0
100.07	1707.4
121.08	1708.5
144.08	1710.6
180.08	1711.7
300.08	1719.2
420.47	1727.4

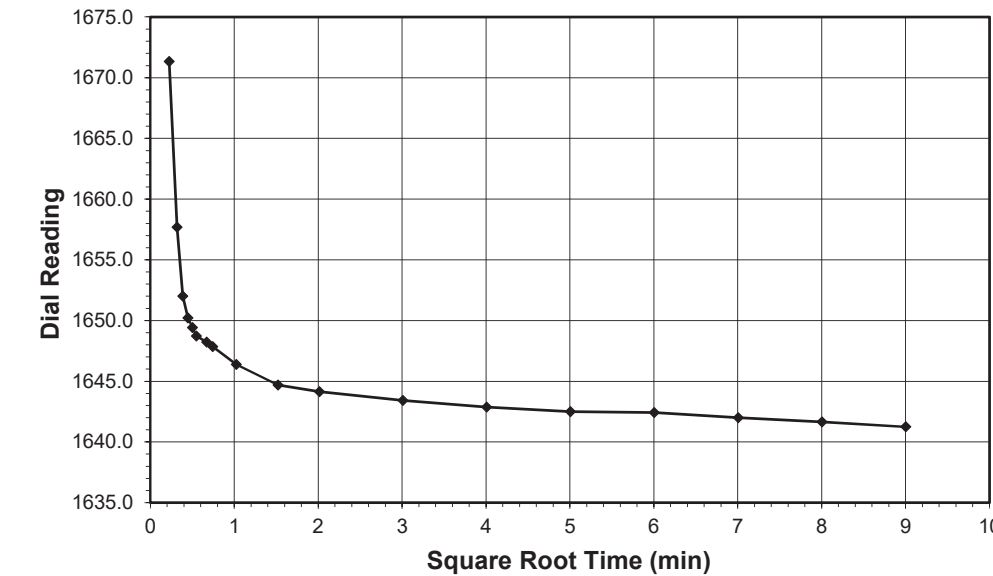


ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

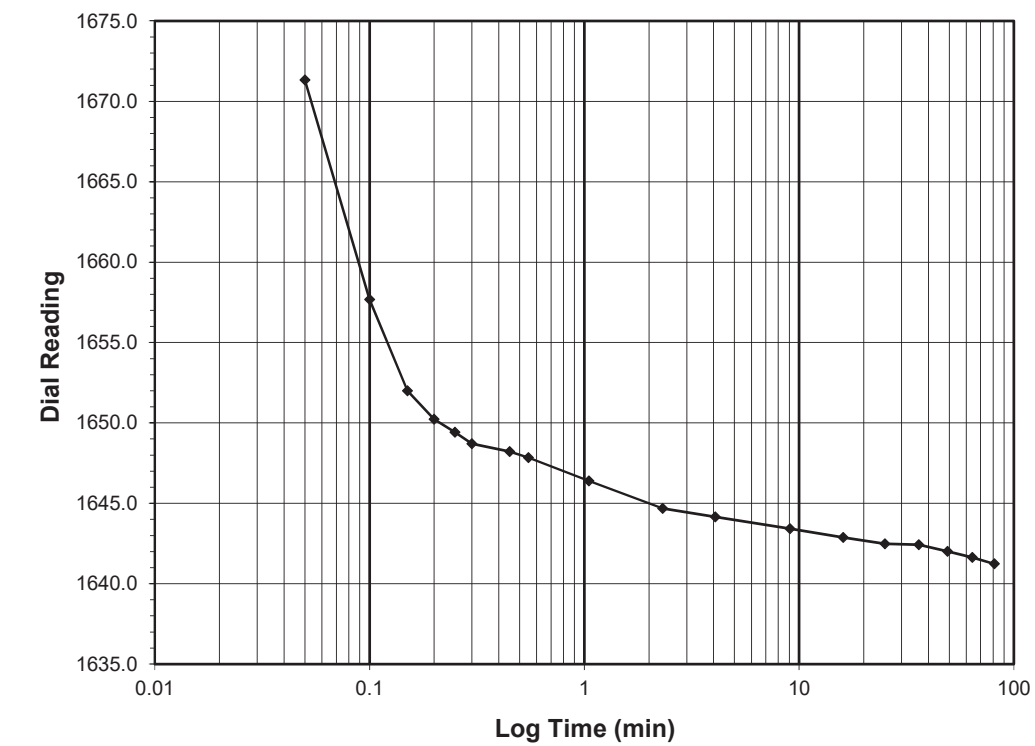
Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 16.0-4.0
Final Reading (div) 1641.2
 Consolidometer No. **R572**
 1 Division (in) 0.0001

Start Date 6/30/18
 Start Time 12:02:48

Elapsed Time (min)	Dial Reading (div)
Initial	1727.4
0.05	1671.3
0.10	1657.7
0.15	1652.0
0.20	1650.2
0.25	1649.4
0.30	1648.7
0.45	1648.2
0.55	1647.8
1.05	1646.4
2.32	1644.7
4.07	1644.2
9.07	1643.4
16.07	1642.9
25.07	1642.5
36.07	1642.4
49.07	1642.0
64.07	1641.6
81.07	1641.2



Tested By 129-04-0411 Date 6/30/18 Checked By GEM Date 7/6/18

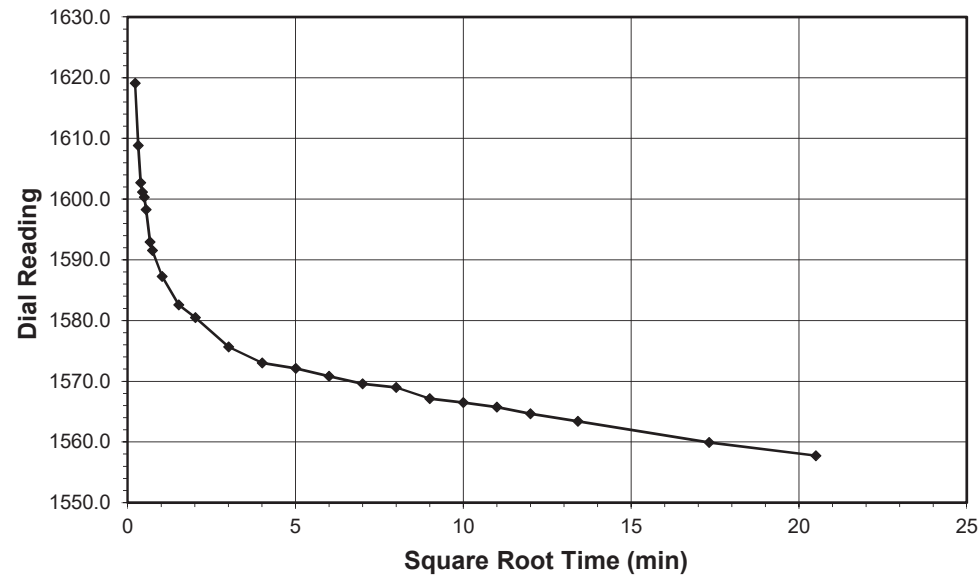
Tested By 129-04-0411 Date 6/30/18 Checked By GEM Date 7/6/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



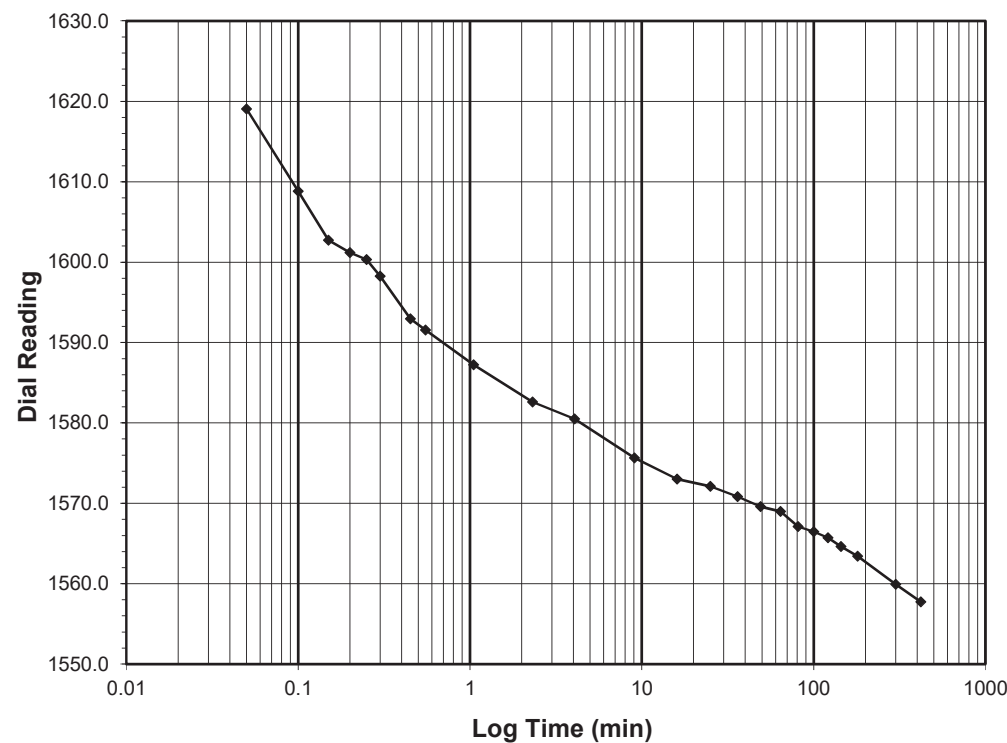
Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 4.0-1.0
 Final Reading (div) 1557.7
 Consolidometer No. R572
 1 Division (in) 0.0001
 Start Date 6/30/18
 Start Time 19:03:15

Elapsed Time (min)	Dial Reading (div)
Initial	1641.2
0.05	1619.1
0.10	1608.8
0.15	1602.7
0.20	1601.2
0.25	1600.3
0.30	1598.3
0.45	1593.0
0.55	1591.6
1.05	1587.2
2.32	1582.6
4.07	1580.5
9.07	1575.6
16.07	1573.0
25.07	1572.1
36.07	1570.8
49.07	1569.6
64.07	1569.0
81.07	1567.1
100.08	1566.5
121.08	1565.7
144.08	1564.6
180.08	1563.4
300.08	1559.9
420.45	1557.7



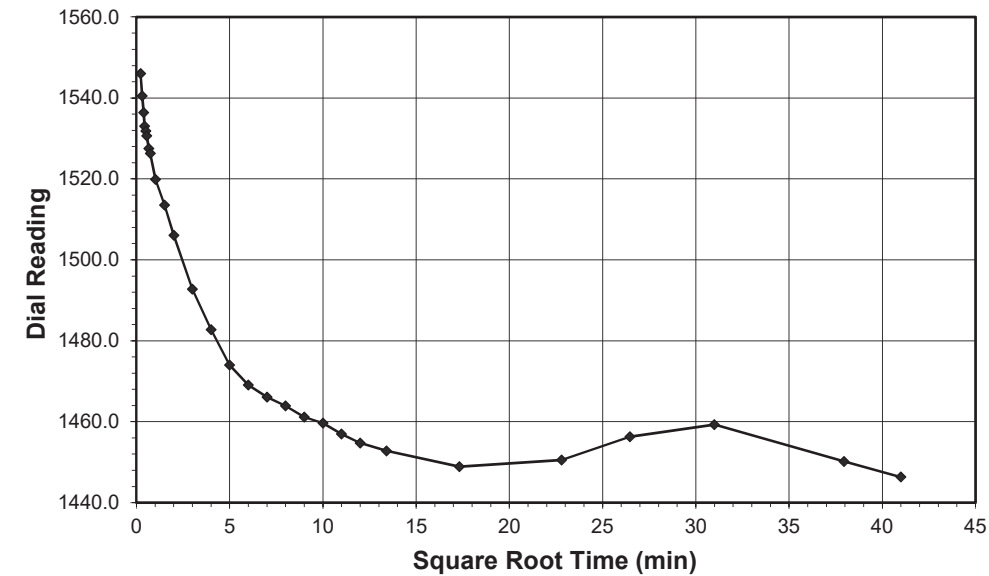
Tested By 129-04-0411 Date 6/30/18 Checked By GEM Date 7/6/18

ONE DIMENSIONAL CONSOLIDATION
AASHTO T-216



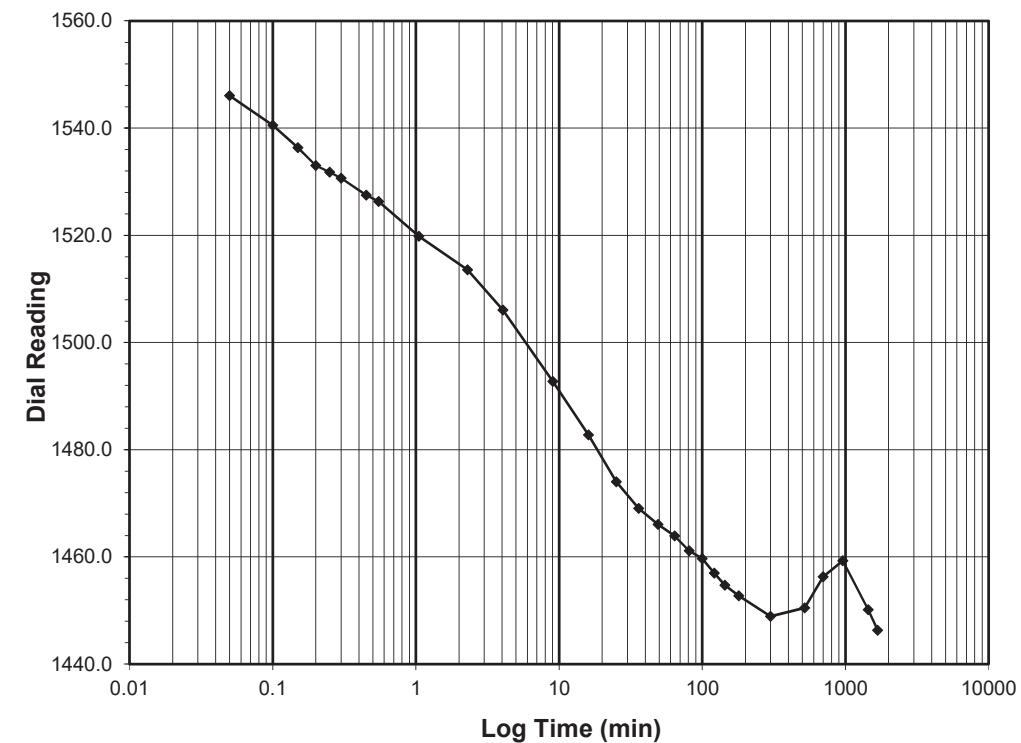
Client Wood E. & I. Solutions, Inc. Boring No. RPB_38+00
 Client Project R-4707 Reedy Fork Parkway Depth (ft) 4-6
 Project No. R-2018-170-001 Sample No. ST-3
 Lab ID R-2018-170-001-003 Visual Description TAN SANDY CLAY

Sample Conditions: UNDISTURBED, INUNDATED AND DOUBLE DRAINED



Test Load (tsf) 1.0-0.25
 Final Reading (div) 1446.3
 Consolidometer No. R572
 1 Division (in) 0.0001
 Start Date 7/1/18
 Start Time 2:03:42

Elapsed Time (min)	Dial Reading (div)
Initial	1557.7
0.05	1546.1
0.10	1540.5
0.15	1536.4
0.20	1533.0
0.25	1531.8
0.30	1530.7
0.45	1527.5
0.55	1526.3
1.05	1519.8
2.30	1513.5
4.05	1506.0
9.05	1492.7
16.05	1482.8
25.05	1474.0
36.05	1469.1
49.07	1466.1
64.07	1463.9
81.07	1461.1
100.07	1459.7
121.07	1457.0
144.08	1454.7
180.08	1452.7
300.08	1448.9
520.08	1450.5
700.08	1456.3
960.08	1459.3
1440.08	1450.1
1680.08	1446.3



Tested By 129-04-0411 Date 7/1/18 Checked By GEM Date 7/6/18



**CONSOLIDATED UNDRAINED TRIAXIAL TEST
WITH PORE PRESSURE READINGS
AASHTO T-297**

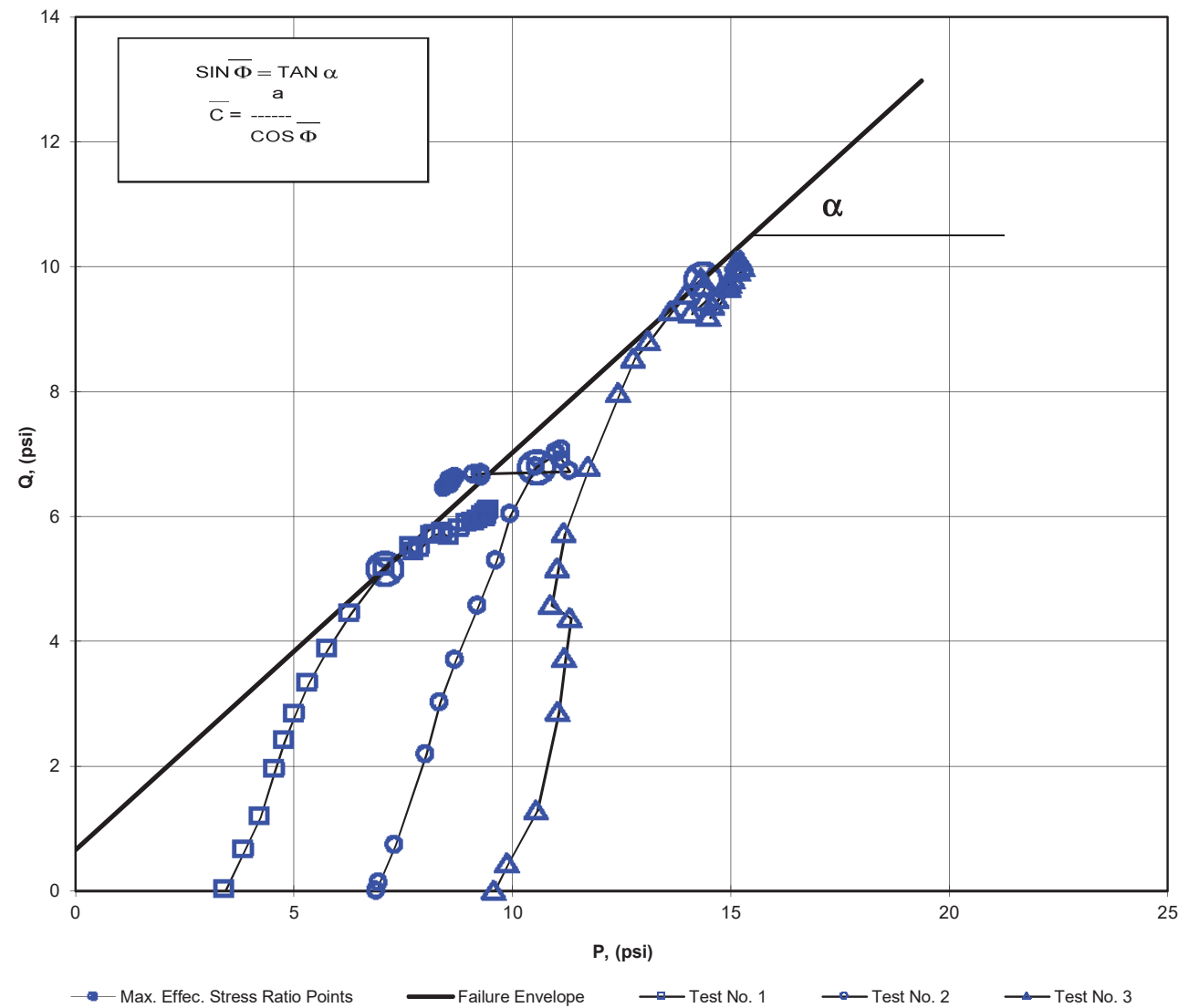
Client: Wood E. & I. Solutions, Inc. Boring No.: RPD_14+00
 Client Reference: R-4707 Reedy Fork Parkway Depth (ft): 8-10
 Project No.: R-2018-170-001 Sample No.: ST-4
 Lab ID: R-2018-170-001-004



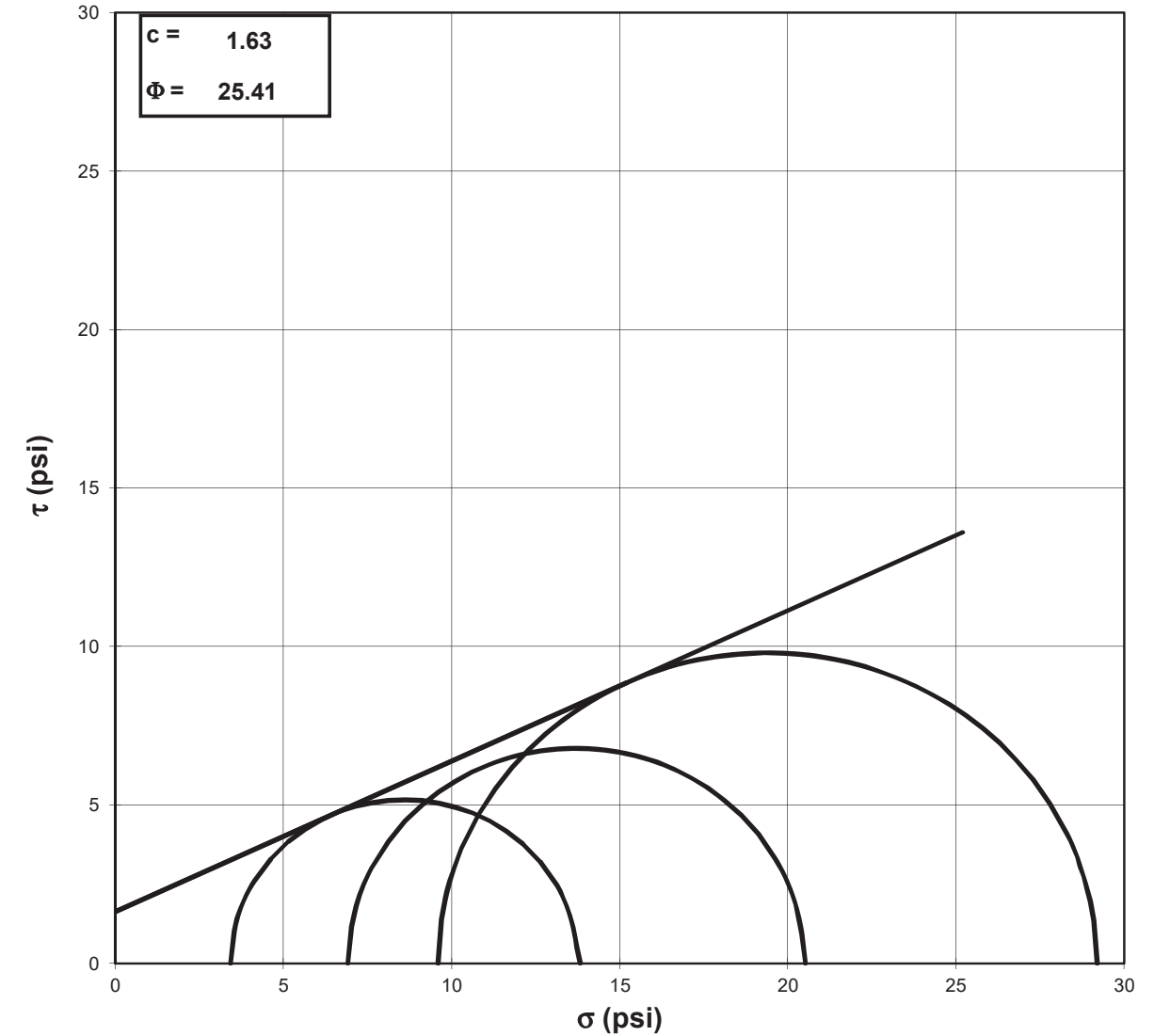
**MOHR TOTAL STRENGTH ENVELOPE
AASHTO T-297**

Client: Wood E. & I. Solutions, Inc. Boring No.: RPD_14+00
 Client Reference: R-4707 Reedy Fork Parkway Depth (ft): 8-10
 Project No.: R-2018-170-001 Sample No.: ST-4
 Lab ID: R-2018-170-001-004
 Visual Description: ORANGE SILT (UNDISTURBED)

Consolidated Undrained Triaxial Test with Pore Pressure



a	=	0.66	C̄	=	0.86
α	=	32.5	Φ̄	=	39.49



Failure Based on Maximum Effective Principal Stress Ratio

NOTE: GRAPH NOT TO SCALE

Tested By: 129-04-0411 Date: 6/21/18 Approved By: MPS Date: 6/29/18

Tested By: 129-04-0411 Date: 6/21/18 Approved By: MPS Date: 6/29/18

**CONSOLIDATED UNDRAINED TRIAXIAL TEST
WITH PORE PRESSURE READINGS**
AASHTO T-297



Client: Wood E. & I. Solutions, Inc. Boring No.: RPD_14+00
 Client Reference: R-4707 Reedy Fork Parkway Depth (ft): 8-10
 Project No.: R-2018-170-001 Sample No.: ST-4
 Lab ID: R-2018-170-001-004

Visual Description: ORANGE SILT (UNDISTURBED)

Stage No.	1
Test No.	1

INITIAL SAMPLE DIMENSIONS (in)

Length 1:	5.979	Diameter 1:	2.778
Length 2:	6.004	Diameter 2:	2.804
Length 3:	5.982	Diameter 3:	2.824
Length 4:	5.984	Diameter 4:	2.811
Avg. Length:	5.987	Avg. Diam.:	2.804

PRESSURES (psi)

Cell Pressure (psi)	63.4
Back Pressure (psi)	60.0
Eff. Conf. Pressure (psi)	3.4
Pore Pressure Response (%)	98

VOLUME CHANGE

Initial Burette Reading (ml)	24.0
Final Burette Reading (ml)	18.2
Final Change (ml)	5.8

MAXIMUM OBLIQUITY POINTS

\bar{P}	=	7.08	Initial Dial Reading (mil)	275
\bar{Q}	=	5.16	Dial Reading After Saturation (mil)	343
			Dial Reading After Consolidation (mil)	370

LOAD (LB)	DEFORMATION (IN)	PORE PRESSURE (PSI)
17.0	0.000	60.0
24.7	0.001	60.2
31.1	0.002	60.4
40.2	0.009	60.8
45.8	0.015	61.0
51.0	0.022	61.2
57.1	0.031	61.4
63.7	0.040	61.5
70.7	0.053	61.6
79.8	0.075	61.5
84.2	0.106	61.2
83.7	0.143	61.1
84.8	0.180	61.0
88.0	0.225	60.9
88.5	0.257	60.9
89.5	0.301	60.7
89.5	0.361	60.5
91.8	0.424	60.4
93.6	0.470	60.3
94.9	0.535	60.2
95.5	0.583	60.2
96.7	0.630	60.1
98.3	0.677	60.1
98.6	0.709	60.1
99.8	0.741	60.0
101.1	0.773	60.0
101.3	0.805	60.0
101.6	0.853	60.0
102.3	0.900	60.0
102.2	0.947	60.0
102.3	0.994	60.0

Tested By: 129-04-0411 Date: 6/21/18 Input Checked By: SFS Date: 6/29/18

**CONSOLIDATED UNDRAINED TRIAXIAL TEST
WITH PORE PRESSURE READINGS**
AASHTO T-297



Client: Wood E. & I. Solutions, Inc. Boring No.: RPD_14+00
 Client Reference: R-4707 Reedy Fork Parkway Depth (ft): 8-10
 Project No.: R-2018-170-001 Sample No.: ST-4
 Lab ID: R-2018-170-001-004

Visual Description: ORANGE SILT (UNDISTURBED)

Effective Confining Pressure (psi)	3.4	Stage No.	1
		Test No.	1

INITIAL DIMENSIONS

Initial Sample Length (in)	5.99
Initial Sample Diameter (in)	2.80
Initial Sample Area (in ²)	6.18
Initial Sample Volume (in ³)	36.98

VOLUME CHANGE

Volume After Consolidation (in ³)	35.36
Length After Consolidation (in)	5.89
Area After Consolidation (in ²)	6.002

Strain (%)	Deviation Stress	ΔU	$\bar{\sigma}_1$	$\bar{\sigma}_3$	Effective Principle Stress Ratio	\bar{A}	\bar{P}	\bar{Q}
0.02	1.27	0.19	4.51	3.2	1.392	0.16	3.87	0.63
0.04	2.34	0.36	5.41	3.1	1.763	0.16	4.24	1.17
0.15	3.85	0.78	6.51	2.7	2.451	0.21	4.58	1.93
0.25	4.77	1.03	7.18	2.4	2.986	0.22	4.79	2.39
0.37	5.63	1.22	7.84	2.2	3.547	0.22	5.03	2.82
0.52	6.63	1.42	8.65	2.0	4.291	0.22	5.33	3.32
0.68	7.72	1.52	9.63	1.9	5.041	0.20	5.77	3.86
0.90	8.86	1.57	10.72	1.9	5.763	0.18	6.29	4.43
1.27	10.32	1.52	12.24	1.9	6.390	0.15	7.08	5.16
1.80	10.99	1.25	13.17	2.2	6.034	0.12	7.68	5.49
2.43	10.83	1.10	13.17	2.3	5.644	0.10	7.75	5.42
3.06	10.94	1.02	13.36	2.4	5.535	0.09	7.89	5.47
3.81	11.37	0.94	13.85	2.5	5.568	0.08	8.17	5.68
4.36	11.39	0.88	13.94	2.6	5.466	0.08	8.25	5.70
5.11	11.45	0.74	14.15	2.7	5.251	0.07	8.42	5.73
6.12	11.34	0.54	14.23	2.9	4.921	0.05	8.56	5.67
7.19	11.56	0.42	14.58	3.0	4.837	0.04	8.80	5.78
7.98	11.74	0.32	14.85	3.1	4.776	0.03	8.98	5.87
9.08	11.79	0.24	14.98	3.2	4.698	0.02	9.08	5.89
9.89	11.78	0.17	15.04	3.3	4.609	0.01	9.15	5.89
10.69	11.85	0.12	15.15	3.3	4.584	0.01	9.23	5.92
11.49	11.98	0.10	15.31	3.3	4.595	0.01	9.32	5.99
12.03	11.96	0.08	15.31	3.3	4.571	0.01	9.33	5.98
12.57	12.05	0.05	15.43	3.4	4.565	0.00	9.41	6.03
13.12	12.17	0.05	15.55	3.4	4.594	0.00	9.47	6.08
13.66	12.12	0.04	15.52	3.4	4.573	0.00	9.45	6.06
14.47	12.05	0.02	15.46	3.4	4.538	0.00	9.43	6.03
15.27	12.03	0.02	15.44	3.4	4.528	0.00	9.43	6.02
16.07	11.91	-0.02	15.36	3.5	4.451	0.00	9.41	5.96
16.87	11.81	-0.04	15.28	3.5	4.403	0.00	9.37	5.90

**CONSOLIDATED UNDRAINED TRIAXIAL TEST
WITH PORE PRESSURE READINGS**
AASHTO T-297



Client: Wood E. & I. Solutions, Inc. Boring No.: RPD_14+00
 Client Reference: R-4707 Reedy Fork Parkway Depth (ft): 8-10
 Project No.: R-2018-170-001 Sample No.: ST-4
 Lab ID: R-2018-170-001-004

Visual Description: ORANGE SILT (UNDISTURBED)

Stage No.	1
Test No.	2

INITIAL SAMPLE DIMENSIONS (in)			
Length 1:	6.116	Diameter 1:	2.824
Length 2:	6.111	Diameter 2:	2.803
Length 3:	6.110	Diameter 3:	2.806
Length 4:	6.109	Diameter 4:	2.814
Avg. Length:	6.112	Avg. Diam.:	2.812

PRESSURES (psi)	
Cell Pressure (psi)	66.9
Back Pressure (psi)	60.0
Eff. Conf. Pressure (psi)	6.9
Pore Pressure Response (%)	95

VOLUME CHANGE	
Initial Burette Reading (ml)	24.0
Final Burette Reading (ml)	15.5
Final Change (ml)	8.5

MAXIMUM OBLIQUITY POINTS	
P	= 10.56
Q	= 6.78

LOAD (LB)	DEFORMATION (IN)	PORE PRESSURE (PSI)
11.0	0.000	60.0
12.6	0.001	60.1
20.0	0.002	60.3
37.7	0.008	61.1
47.9	0.014	61.6
56.3	0.019	61.9
67.0	0.028	62.3
75.9	0.037	62.6
85.2	0.048	63.0
94.8	0.068	63.1
98.6	0.098	62.8
98.5	0.134	62.9
99.2	0.170	62.9
99.5	0.211	62.9
98.6	0.239	62.7
97.0	0.279	62.3
97.4	0.337	64.3
98.1	0.395	64.5
98.3	0.440	64.2
99.1	0.498	64.8
99.2	0.543	64.9
100.2	0.588	64.9
101.0	0.632	64.8
101.5	0.659	64.8
101.2	0.688	64.8
101.0	0.719	64.8
101.5	0.750	64.8
101.8	0.794	64.9
102.3	0.837	64.9
103.4	0.865	64.9
102.3	0.915	64.9

Tested By: 129-04-0411 Date: 6/21/18 Input Checked By: SFS Date: 6/29/18

**CONSOLIDATED UNDRAINED TRIAXIAL TEST
WITH PORE PRESSURE READINGS**
AASHTO T-297



Client: Wood E. & I. Solutions, Inc. Boring No.: RPD_14+00
 Client Reference: R-4707 Reedy Fork Parkway Depth (ft): 8-10
 Project No.: R-2018-170-001 Sample No.: ST-4
 Lab ID: R-2018-170-001-004

Visual Description: ORANGE SILT (UNDISTURBED)

Effective Confining Pressure (psi)	6.9	Stage No.	1
		Test No.	2

INITIAL DIMENSIONS	
Initial Sample Length (in)	6.11
Initial Sample Diameter (in)	2.81
Initial Sample Area (in ²)	6.21
Initial Sample Volume (in ³)	37.95

VOLUME CHANGE	
Volume After Consolidation (in ³)	37.17
Length After Consolidation (in)	6.08
Area After Consolidation (in ²)	6.112

Strain (%)	Deviation Stress	Δ U	σ ₁	σ ₃	Effective Principle Stress Ratio	A	P	Q
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0.02	0.27	0.09	7.10	6.8	1.039	0.36	6.96	0.13
0.03	1.47	0.32	8.07	6.6	1.223	0.23	7.34	0.74
0.13	4.37	1.07	10.22	5.8	1.748	0.26	8.04	2.19
0.22	6.03	1.58	11.38	5.3	2.128	0.27	8.36	3.02
0.32	7.39	1.91	12.41	5.0	2.474	0.27	8.71	3.70
0.46	9.12	2.26	13.79	4.7	2.956	0.26	9.23	4.56
0.60	10.57	2.57	14.92	4.4	3.427	0.26	9.64	5.28
0.79	12.05	2.97	16.00	3.9	4.054	0.26	9.97	6.03
1.12	13.56	3.15	17.34	3.8	4.593	0.24	10.56	6.78
1.61	14.12	2.84	18.20	4.1	4.457	0.21	11.14	7.06
2.20	14.00	2.91	18.01	4.0	4.495	0.22	11.01	7.00
2.80	14.03	2.93	18.02	4.0	4.519	0.22	11.00	7.02
3.46	13.99	2.89	18.02	4.0	4.470	0.22	11.03	6.99
3.93	13.78	2.66	18.04	4.3	4.234	0.20	11.15	6.89
4.59	13.43	2.31	18.04	4.6	3.917	0.18	11.32	6.72
5.54	13.36	4.30	15.98	2.6	6.096	0.34	9.30	6.68
6.50	13.33	4.45	15.80	2.5	6.404	0.35	9.13	6.67
7.23	13.26	4.24	15.94	2.7	5.944	0.34	9.31	6.63
8.20	13.24	4.81	15.34	2.1	7.285	0.38	8.72	6.62
8.94	13.15	4.91	15.15	2.0	7.553	0.39	8.58	6.57
9.67	13.19	4.89	15.22	2.0	7.490	0.39	8.63	6.60
10.39	13.21	4.85	15.28	2.1	7.375	0.39	8.68	6.60
10.84	13.21	4.84	15.29	2.1	7.351	0.39	8.68	6.60
11.31	13.09	4.81	15.20	2.1	7.206	0.39	8.65	6.54
11.83	12.99	4.81	15.10	2.1	7.167	0.39	8.60	6.50
12.33	12.99	4.83	15.07	2.1	7.225	0.39	8.58	6.49
13.06	12.92	4.89	14.95	2.0	7.380	0.40	8.49	6.46
13.76	12.89	4.91	14.90	2.0	7.404	0.40	8.46	6.44
14.22	12.98	4.89	15.01	2.0	7.387	0.40	8.52	6.49
15.05	12.70	4.94	14.68	2.0	7.416	0.41	8.33	6.35

**CONSOLIDATED UNDRAINED TRIAXIAL TEST
WITH PORE PRESSURE READINGS**
AASHTO T-297



Client: Wood E. & I. Solutions, Inc. Boring No.: RPD_14+00
 Client Reference: R-4707 Reedy Fork Parkway Depth (ft): 8-10
 Project No.: R-2018-170-001 Sample No.: ST-4
 Lab ID: R-2018-170-001-004

Visual Description: ORANGE SILT (UNDISTURBED)

Stage No.	1
Test No.	3

INITIAL SAMPLE DIMENSIONS (in)			
Length 1:	6.378	Diameter 1:	2.821
Length 2:	6.374	Diameter 2:	2.848
Length 3:	6.281	Diameter 3:	2.838
Length 4:	6.282	Diameter 4:	2.812
Avg. Length:	6.329	Avg. Diam.:	2.830

PRESSURES (psi)	
Cell Pressure (psi)	69.6
Back Pressure (psi)	60.0
Eff. Conf. Pressure (psi)	9.6
Pore Pressure Response (%)	98

VOLUME CHANGE	
Initial Burette Reading (ml)	24.0
Final Burette Reading (ml)	8.4
Final Change (ml)	15.6

MAXIMUM OBLIQUITY POINTS

P	=	14.37
Q	=	9.80

LOAD (LB)	DEFORMATION (IN)	PORE PRESSURE (PSI)
10.6	0.000	60.0
15.8	0.001	60.1
26.2	0.002	60.3
45.4	0.009	61.4
55.9	0.015	62.1
63.8	0.022	62.6
66.4	0.031	63.3
73.7	0.040	63.7
80.7	0.053	64.1
94.1	0.075	64.6
109.0	0.106	65.1
116.5	0.143	65.3
120.7	0.180	65.3
127.5	0.225	65.2
131.5	0.257	65.1
135.7	0.301	65.0
135.2	0.361	64.9
131.1	0.424	64.7
134.7	0.470	64.6
144.4	0.535	64.5
145.8	0.583	64.4
142.2	0.630	64.4
138.3	0.677	64.4
140.4	0.709	64.3
144.5	0.741	64.3
146.4	0.773	64.3
148.9	0.805	64.3
151.1	0.853	64.3
147.6	0.900	64.2
141.8	0.931	64.3
136.0	0.962	64.3

Tested By: 129-04-0411 Date: 6/21/18 Input Checked By: SFS Date: 6/29/18

**CONSOLIDATED UNDRAINED TRIAXIAL TEST
WITH PORE PRESSURE READINGS**
AASHTO T-297



Client: Wood E. & I. Solutions, Inc. Boring No.: RPD_14+00
 Client Reference: R-4707 Reedy Fork Parkway Depth (ft): 8-10
 Project No.: R-2018-170-001 Sample No.: ST-4
 Lab ID: R-2018-170-001-004

Visual Description: ORANGE SILT (UNDISTURBED)

Effective Confining Pressure (psi)	9.6	Stage No.	1
		Test No.	3

INITIAL DIMENSIONS	
Initial Sample Length (in)	6.33
Initial Sample Diameter (in)	2.83
Initial Sample Area (in ²)	6.29
Initial Sample Volume (in ³)	39.80

VOLUME CHANGE	
Volume After Consolidation (in ³)	37.81
Length After Consolidation (in)	6.22
Area After Consolidation (in ²)	6.075

Strain (%)	Deviation Stress	Δ U	σ ₁	σ ₃	Effective Principle Stress Ratio	A	P	Q
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0.02	0.86	0.12	10.34	9.5	1.091	0.14	9.91	0.43
0.04	2.56	0.31	11.86	9.3	1.276	0.12	10.57	1.28
0.14	5.72	1.38	13.94	8.2	1.696	0.25	11.08	2.86
0.24	7.44	2.09	14.95	7.5	1.990	0.29	11.23	3.72
0.35	8.72	2.61	15.72	7.0	2.248	0.31	11.35	4.36
0.50	9.13	3.26	15.48	6.3	2.440	0.36	10.91	4.57
0.64	10.32	3.70	16.22	5.9	2.748	0.37	11.06	5.16
0.85	11.45	4.11	16.93	5.5	3.086	0.37	11.21	5.72
1.20	13.58	4.63	18.55	5.0	3.732	0.35	11.76	6.79
1.70	15.93	5.10	20.42	4.5	4.543	0.33	12.46	7.96
2.30	17.03	5.31	21.32	4.3	4.971	0.32	12.81	8.52
2.90	17.60	5.26	21.94	4.3	5.058	0.30	13.14	8.80
3.61	18.55	5.22	22.93	4.4	5.234	0.29	13.66	9.27
4.13	19.08	5.14	23.54	4.5	5.279	0.27	14.00	9.54
4.84	19.59	5.03	24.16	4.6	5.289	0.26	14.37	9.80
5.80	19.32	4.86	24.06	4.7	5.075	0.26	14.40	9.66
6.81	18.49	4.73	23.36	4.9	4.801	0.26	14.11	9.25
7.56	18.88	4.62	23.86	5.0	4.791	0.25	14.42	9.44
8.60	20.13	4.49	25.24	5.1	4.939	0.23	15.17	10.06
9.36	20.17	4.42	25.35	5.2	4.894	0.22	15.26	10.09
10.12	19.47	4.37	24.69	5.2	4.723	0.23	14.96	9.73
10.88	18.74	4.35	23.99	5.2	4.571	0.24	14.62	9.37
11.39	18.94	4.34	24.19	5.3	4.603	0.23	14.72	9.47
11.91	19.41	4.30	24.72	5.3	4.661	0.23	15.01	9.71
12.42	19.58	4.31	24.87	5.3	4.697	0.22	15.08	9.79
12.93	19.81	4.29	25.13	5.3	4.731	0.22	15.22	9.91
13.70	19.95	4.26	25.29	5.3	4.740	0.22	15.31	9.98
14.45	19.29	4.24	24.65	5.4	4.596	0.22	15.01	9.64
14.96	18.37	4.25	23.71	5.3	4.437	0.24	14.53	9.18
15.46	17.45	4.26	22.79	5.3	4.268	0.25	14.06	8.72

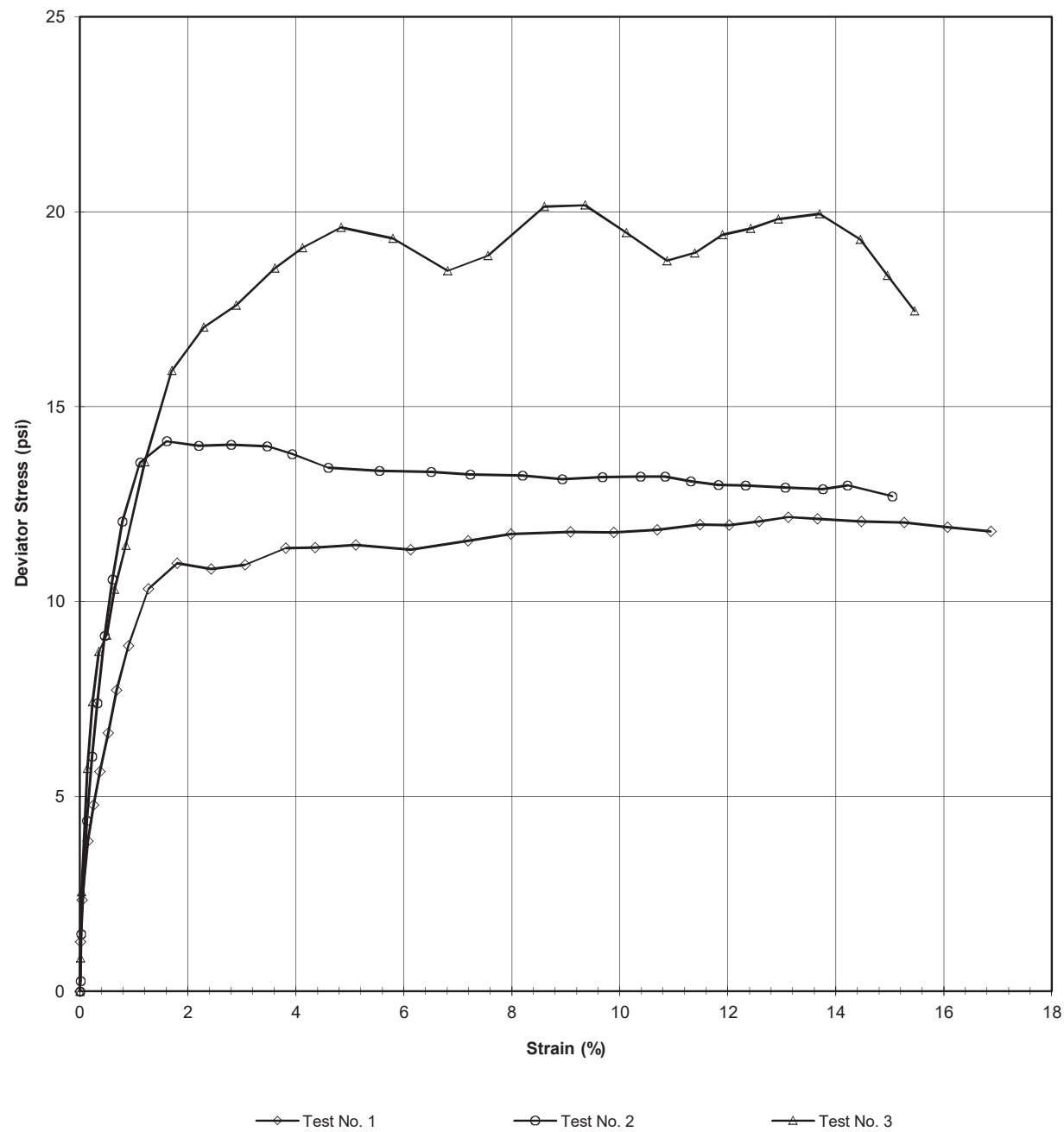
**CONSOLIDATED UNDRAINED TRIAXIAL TEST
WITH PORE PRESSURE READINGS
AASHTO T-297**



Client: Wood E. & I. Solutions, Inc. Boring No.: RPD_14+00
 Client Reference: R-4707 Reedy Fork Parkway Depth (ft): 8-10
 Project No.: R-2018-170-001 Sample No.: ST-4
 Lab ID: R-2018-170-001-004
 Visual Description: ORANGE SILT (UNDISTURBED)

**CONSOLIDATED UNDRAINED TRIAXIAL TEST
WITH PORE PRESSURE READINGS
AASHTO T-297**

Client: Wood E. & I. Solutions, Inc.
 Client Reference: R-4707 Reedy Fork Parkway
 Project No.: R-2018-170-001
 Lab ID: R-2018-170-001-004 Specific Gravity (Measured) 2.7
 Visual Description: ORANGE SILT (UNDISTURBED)



SAMPLE CONDITION SUMMARY

	RPD_14+00	RPD_14+00	RPD_14+00
Boring No.:	RPD_14+00	RPD_14+00	RPD_14+00
Depth (ft):	8-10	8-10	8-10
Sample No.:	ST-4	ST-4	ST-4
Test No.	T1	T2	T3
Deformation Rate (in/min)	0.002	0.002	0.002
Back Pressure (psi)	60.0	60.0	60.0
Consolidation Time (days)	1	1	1
Moisture Content (%) (INITIAL)	44.9	45.3	45.7
Total Unit Weight (pcf)	81.4	83.1	88.6
Dry Unit Weight (pcf)	56.2	57.2	60.8
Moisture Content (%) (FINAL)	75.6	82.2	66.9
Initial State Void Ratio, e	2.000	1.945	1.772
Void Ratio at Shear, e	1.869	1.885	1.633

Tested By: 129-04-0411 Date: 6/21/18 Approved By: MPS Date: 6/29/18

Tested By: 129-04-0411 Date: 6/21/18 Input Checked By: SFS Date: 6/29/18

**CONSOLIDATED UNDRAINED TRIAXIAL TEST
WITH PORE PRESSURE READINGS
AASHTO T-297**



Client: Wood E. & I. Solutions, Inc.
Client Reference: R-4707 Reedy Fork Parkway
Project No.: R-2018-170-001
Lab ID: R-2018-170-001-004

Boring No.: RPD_14+00
Depth (ft): 8-10
Sample No.: ST-4

TEST 1 INITIAL



TEST 1 FINAL



TEST 2 INITIAL



TEST 2 FINAL



TEST 3 INITIAL



TEST 3 FINAL



Tested By 129-04-0411 Date 6/21/18

Approved By MPS Date 6/29/18