STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5963A	1	

REFERENCE: R-5963A

PROJECT: 48599

SEE SHEET 3 FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

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

ROADWAY SUBSURFACE INVESTIGATION

COUNTY *CHATHAM*

PROJECT DESCRIPTION *NEW ROUTE FROM CHATHAM PARKWAY, US 15/US 501 SOUTH OF PITTSBORO TO US 64 BUSINESS, CONSTRUCT ROADWAY ON NEW LOCATION*

INVENTORY

CONTENTS

LINE	STATION	PLAN
-L-	10+00 - 179+16	4-19
-RBT-	10+00 - 13+45	9
-Y1-	13+06 - 30+30	4
-Y2-	11+25 - 12+75	5
-Y3-	11+25 - 12+75	7
-Y4-	10+00 - 10+73	8
-Y5-	11+25 - 12+75	8
-Y6-	10+00 - 10+73	9
-Y7-	13+25 - 20+30	9
-Y7A-	10+00 - 10+73	10
-Y7B-	10+00 - 10+70	10
-Y8-	11+25 - 12+75	10
-Y8A-	10+00 - 10+74	11
-Y8B-	11+26 - 12+00	11
-Y8C-	10+00 - 10+74	11
-Y9-	10+00 - 10+73	11
-Y9A-	11+25 - 12+00	12
-Y9B-	10+00 - 10+75	12
-Y10-	11+25 - 12+75	12
-Y10A-	11+25 - 12+00	13
-Y11-	10+00 - 11+01	13
-Y11A-	11+12 - 12+00	13
-Y11B-	11+12 - 12+00	14
-Y11C-	10+00 - 10+84	14
-Y11D-	11+12 - 12+00	14
-Y12-	11+12 - 12+96	15
-Y12A-	10+00 - 10+85	15
-Y13-	10+16 - 12+86	16
-Y13A-	10+00 - 10+85	16
-Y14-	11+48 - 31+05	17-19
-Y15-	13+40 - 15+00	18
-Y16-	10+00 - 14+37	19
-DRW1-	10+00 - 10+56	18

CROSS SECTIONS

LINE	STATION	SHEETS
-L-	10+00 - 177+00	20-100
-RBT-	10+00 - 13+40	101-107
-Y1-	14+00 - 30+50	108-126
-Y7-	14+00 - 20+00	127-128
-Y14-	12+00 - 27+00	129-132
-Y16-	11+00 - 12+50	133-134

APPENDICES

APPENDIX	TITLE	SHEETS
A	LAB TEST RESULTS	135-158
B	POND SURVEY	159-160
C	ROCK CORE PHOTOGRAPHS	161-163
D	BORE LOG	164-165

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.

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

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CG2 EXPLORATION

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SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

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

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS		
GROUP CLASS.	A-1		A-3	A-2				A-4	A-5	A-6	A-7	A-1, A-2 A-3	A-4, A-5 A-6, A-7	
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5 A-7-6			
SYMBOL														
% PASSING #10	50 MX											GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
#40	30 MX	50 MX	51 MN											
#200	15 MX	25 MX	10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN			
MATERIAL PASSING #40 LL	—		—	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
PI	6 MX		NP	10 MX	10 MX	11 MN	11 MN	10 MX	10 MX	11 MN	11 MN			
GROUP INDEX	0		0	0		4 MX		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	UNSUITABLE

PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ; PI OF A-7-6 SUBGROUP IS > LL - 30

CONSISTENCY OR DENSENESS

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTENCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH ($TONS/FT^2$)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	< 4 4 TO 10 10 TO 30 30 TO 50 > 50	N/A
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD	< 2 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

U.S. STD. SIEVE SIZE	4	10	40	60	200	270
OPENING (MM)	4.76	2.00	0.42	0.25	0.075	0.053

BOULDER (BLDR.)	COBBLE (COB.)	GRAVEL (GR.)	COARSE SAND (CSE. SD.)	FINE SAND (F SD.)	SILT (SL.)	CLAY (CL.)

GRAIN SIZE MM: 305 | 75 | 2.0 | 0.25 | 0.05 | 0.005
GRAIN SIZE IN.: 12 | 3

SOIL MOISTURE - CORRELATION OF TERMS

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

PLASTICITY

	PLASTICITY INDEX (PI)	DRY STRENGTH
NON PLASTIC	0-5	VERY LOW
SLIGHTLY PLASTIC	6-15	SLIGHT
MODERATELY PLASTIC	16-25	MEDIUM
HIGHLY PLASTIC	26 OR MORE	HIGH

COLOR

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.

GRADATION

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.

ANGULARITY OF GRAINS

THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS: ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.

MINERALOGICAL COMPOSITION

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

COMPRESSIBILITY

SLIGHTLY COMPRESSIBLE	LL < 31
MODERATELY COMPRESSIBLE	LL = 31 - 50
HIGHLY COMPRESSIBLE	LL > 50

PERCENTAGE OF MATERIAL

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

- 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

MISCELLANEOUS SYMBOLS

- ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION
- SOIL SYMBOL
- ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT
- INFERRED SOIL BOUNDARY
- INFERRED ROCK LINE
- ALLUVIAL SOIL BOUNDARY
- 25/025 DIP & DIP DIRECTION OF ROCK STRUCTURES
- SPT DPT DMT VST PMT TEST BORING
- AUGER BORING
- CORE BORING
- MW MONITORING WELL
- PIEZOMETER INSTALLATION
- SLOPE INDICATOR INSTALLATION
- CONE PENETROMETER TEST
- SOUNDING ROD
- TEST BORING WITH CORE
- SPT N-VALUE

RECOMMENDATION SYMBOLS

- UNDERCUT
- 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

ABBREVIATIONS

AR - AUGER REFUSAL
BT - BORING TERMINATED
CL. - CLAY
CPT - CONE 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
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 - TRICONE REFUSAL
w - MOISTURE CONTENT
V - VERY
VST - VANE SHEAR TEST
WEA. - WEATHERED
γ - UNIT WEIGHT
γ_d - DRY UNIT WEIGHT

SAMPLE ABBREVIATIONS
S - BULK
SS - SPLIT SPOON
ST - SHELBY TUBE
RS - ROCK
RT - RECOMPACTED TRIAXIAL
CBR - CALIFORNIA BEARING RATIO

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:
- [ ] CME-45C
- [ ] CME-55
- [X] CME-550X
- [ ] VANE SHEAR TEST
- [ ] PORTABLE HOIST
- [X] MOBILE B-29
- [X] DIEDRICH D50

ADVANCING TOOLS:
- [ ] CLAY BITS
- [ ] 6" CONTINUOUS FLIGHT AUGER
- [X] 8" HOLLOW AUGERS
- [ ] HARD FACED FINGER BITS
- [ ] TUNG.-CARBIDE INSERTS
- [X] CASING [ ] W/ ADVANCER
- [ ] TRICONE ____" STEEL TEETH
- [ ] TRICONE ____" TUNG.-CARB.
- [X] CORE BIT
- [ ] ____

HAMMER TYPE:
- [X] AUTOMATIC [ ] MANUAL

CORE SIZE:
- [ ] -B _____ [ ] -H _____
- [X] -N Q _____

HAND TOOLS:
- [ ] POST HOLE DIGGER
- [ ] HAND AUGER
- [ ] SOUNDING ROD
- [ ] VANE SHEAR TEST
- [ ] ____

ROCK DESCRIPTION

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:

WEATHERED ROCK (WR)	NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.
CRYSTALLINE ROCK (CR)	FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.
NON-CRYSTALLINE ROCK (NCR)	FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YEILD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.
COASTAL PLAIN SEDIMENTARY ROCK (CP)	COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.

WEATHERING

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.

ROCK HARDNESS

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 PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.
SOFT	CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN 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 FINGERNAIL.

FRACTURE SPACING

TERM	SPACING
VERY WIDE	MORE THAN 10 FEET
WIDE	3 TO 10 FEET
MODERATELY CLOSE	1 TO 3 FEET
CLOSE	0.16 TO 1 FOOT
VERY CLOSE	LESS THAN 0.16 FEET

BEDDING

TERM	THICKNESS
VERY THICKLY BEDDED	4 FEET
THICKLY BEDDED	1.5 - 4 FEET
THINLY BEDDED	0.16 - 1.5 FEET
VERY THINLY BEDDED	0.03 - 0.16 FEET
THICKLY LAMINATED	0.008 - 0.03 FEET
THINLY LAMINATED	< 0.008 FEET

INDURATION

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.

TERMS AND DEFINITIONS

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 DISLODGED 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 (RQD) - 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 (SRQD) - 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.

BENCH MARK:

ELEVATION: FEET

NOTES:

ROADWAY DESIGN FILES PROVIDED BY NCDOT DATED 07/18/2024.

ROADWAY BORING COLLAR ELEVATIONS OBTAINED USED PROVIDED .TIN FILE (R5963A_LS_TIN.TIN).

STRUCTURE BORING COLLAR ELEVATIONS OBTAINED USING CARLSON BRX-7 (SURVEY GRADE GPS).

CT = CORING TERMINATED

NM = NOT MEASURED

REF = REFUSAL

DATE: 8-15-14

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	2A

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SUPPLEMENTAL LEGEND, GEOLOGICAL STRENGTH INDEX (GSI) TABLES FROM AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

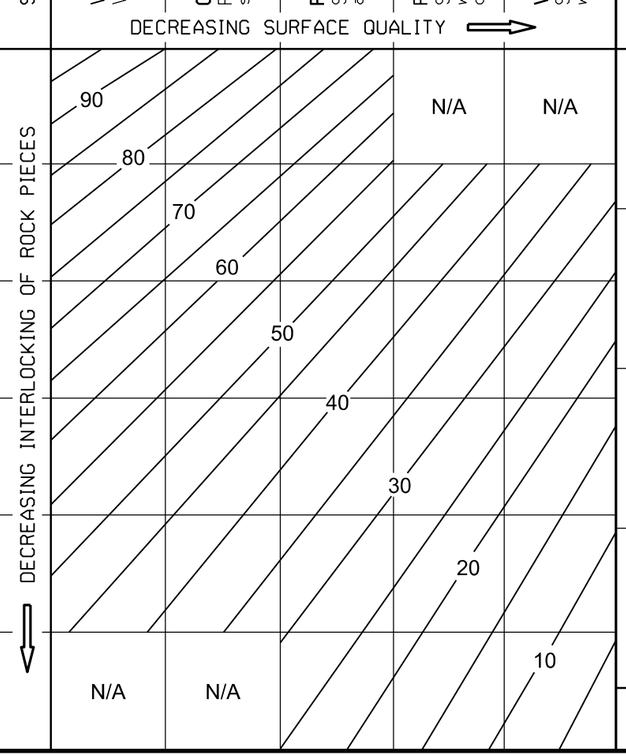
AASHTO LRFD Figure 10.4.6.4-1 — Determination of GSI for Jointed Rock Mass (Marinos and Hoek, 2000)

GEOLOGICAL STRENGTH INDEX (GSI) FOR JOINTED ROCKS (Hoek and Marinos, 2000)

From the lithology, structure and surface conditions of the discontinuities, estimate the average value of GSI. Do not try to be too precise. Quoting a range from 33 to 37 is more realistic than stating that GSI = 35. Note that the table does not apply to structurally controlled failures. Where weak planar structural planes are present in an unfavorable orientation with respect to the excavation face, these will dominate the rock mass behaviour. The shear strength of surfaces in rocks that are prone to deterioration as a result of changes in moisture content will be reduced if water is present. When working with rocks in the fair to very poor categories, a shift to the right may be made for wet conditions. Water pressure is dealt with by effective stress analysis.

STRUCTURE

- INTACT OR MASSIVE - intact rock specimens or massive in situ rock with few widely spaced discontinuities
- BLOCKY - well interlocked undisturbed rock mass consisting of cubical blocks formed by three intersecting discontinuity sets
- VERY BLOCKY - interlocked, partially disturbed mass with multi-faceted angular blocks formed by 4 or more joint sets
- BLOCKY/DISTURBED/SEAMY - folded with angular blocks formed by many intersecting discontinuity sets. Persistence of bedding planes or schistosity
- DISINTEGRATED - poorly interlocked, heavily broken rock mass with mixture of angular and rounded rock pieces
- LAMINATED/SHEARED - Lack of blockiness due to close spacing of weak schistosity or shear planes

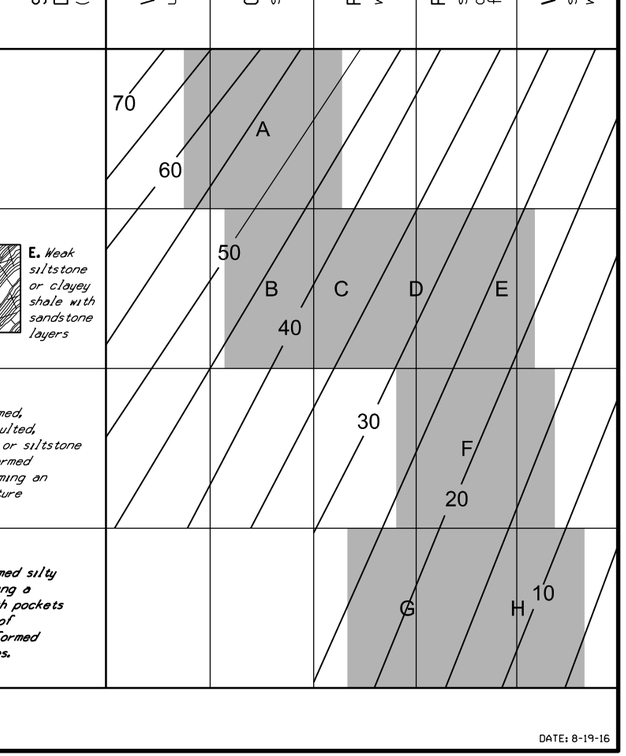


AASHTO LRFD Figure 10.4.6.4-2 — Determination of GSI for Tectonically Deformed Heterogeneous Rock Masses (Marinos and Hoek, 2000)

GSI FOR HETEROGENEOUS ROCK MASSES SUCH AS FLYSCH (Marinos. P and Hoek E., 2000)

From a description of the lithology, structure and surface conditions (particularly of the bedding planes), choose a box in the chart. Locate the position in the box that corresponds to the condition of the discontinuities and estimate the average value of GSI from the contours. Do not attempt to be too precise. Quoting a range from 33 to 37 is more realistic than giving GSI = 35. Note that the Hoek-Brown criterion does not apply to structurally controlled failures. Where unfavourably oriented continuous weak planar discontinuities are present, these will dominate the behaviour of the rock mass. The strength of some rock masses is reduced by the presence of groundwater and this can be allowed for by a slight shift to the right in the columns for fair, poor and very poor conditions. Water pressure does not change the value of GSI and it is dealt with by using effective stress analysis.

COMPOSITION AND STRUCTURE



DATE: 8-19-16

09/08/99

TIP PROJECT: R-5963A

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5963A	3	

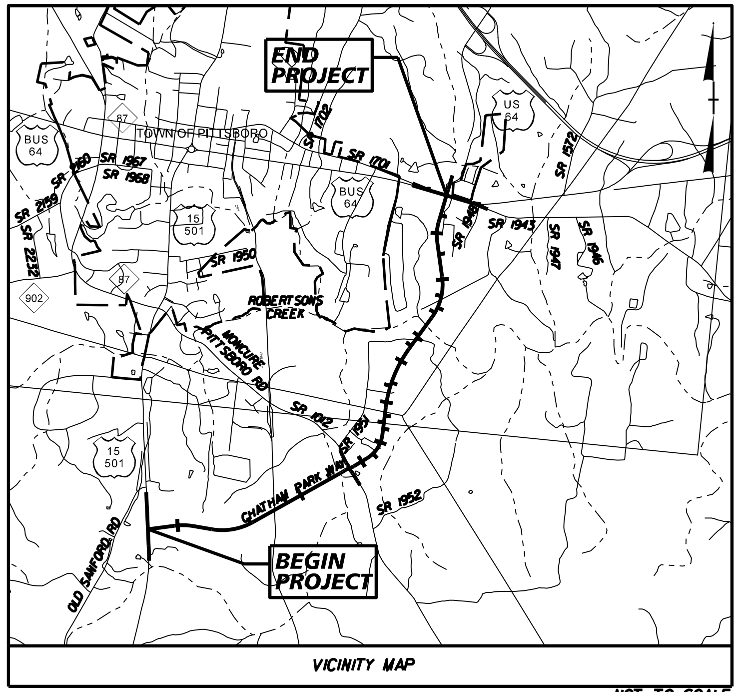
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
48599.1.1		P.E.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CHATHAM COUNTY

LOCATION: NEW ROUTE, FROM CHATHAM PARKWAY, US 15/US 501 SOUTH OF PITTSBORO TO US 64 BUSINESS, CONSTRUCT ROADWAY ON NEW LOCATON

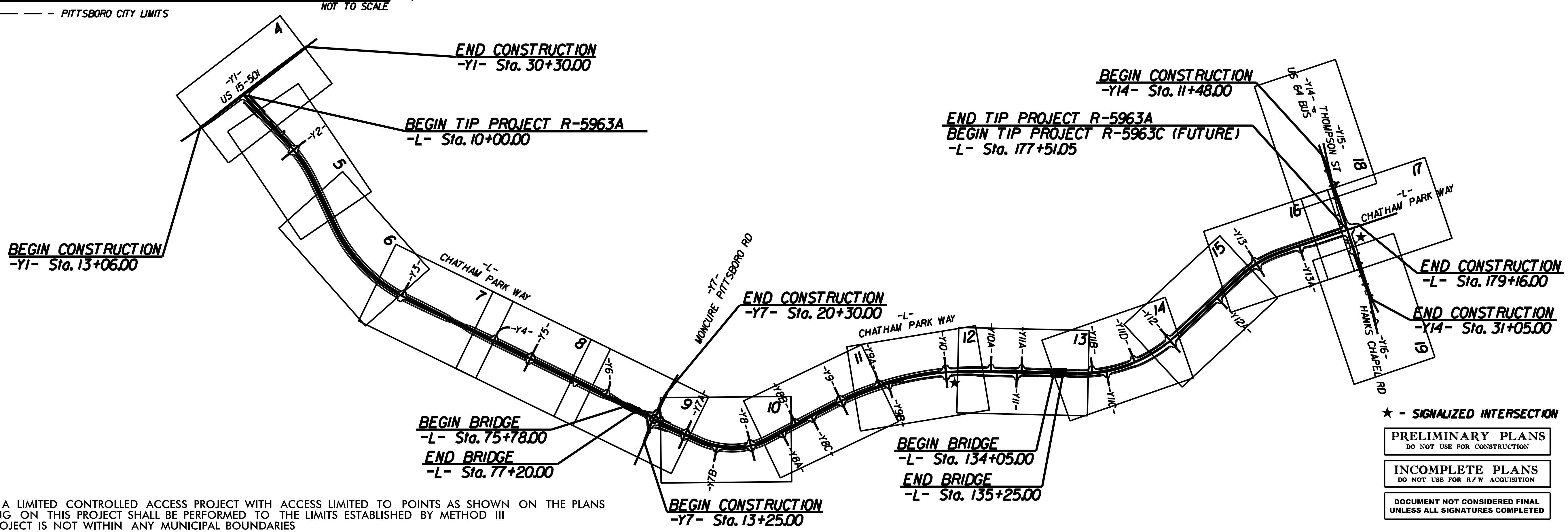
TYPE OF WORK: GRADING, DRAINAGE, BRIDGES, PAVING, SIGNALS, AND RETAINING WALLS



— — - PITTSBORO CITY LIMITS

R/W PLANS

NC GRID
NAD 1983/NA 2011



★ - SIGNALIZED INTERSECTION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

THIS IS A LIMITED CONTROLLED ACCESS PROJECT WITH ACCESS LIMITED TO POINTS AS SHOWN ON THE PLANS
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

R-5963A DESIGN DATA

ADT 2025 = 0
ADT 2045 = 31000
K = 7%
D = 55
T = 5%*
V = 50 MPH
* (TTST 2% + DUAL 3%)
FUNCTIONAL CLASSIFICATION:
RURAL
MAJOR COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-5963A	=	3.114 MILES
LENGTH STRUCTURE TIP PROJECT R-5963A	=	0.059 MILES
TOTAL LENGTH TIP PROJECT R-5963A	=	3.173 MILES

PLANS PREPARED FOR THE NCDOT BY:

Kimley»Horn ©2024
NC LICENSE #F-0102
FAYETTEVILLE STREET, SUITE 600
RALEIGH, NORTH CAROLINA 27601
PHONE: (919) 677-2000

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JULY 19, 2024

LETTING DATE:
MARCH 18, 2025

VANCE W. BLANTON, P.E.
PROJECT ENGINEER

TYLER G. SPRING, P.E.
PROJECT DESIGN ENGINEER

JEFFREY A. STRODER, P.E.
PROJECT MANAGER
NCDOT HIGHWAY DIVISION 8

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA ★ DEPARTMENT OF TRANSPORTATION ★

CONTRACT:

$FILE$

$DATE$

11/15/2024

STATE PROJECT: 48599.1.1
TIP NO.: R-5963A
COUNTY: Chatham
DESCRIPTION: New Route from Chatham Parkway, US 15/US 501 South of Pittsboro to US 64 Business, Construct Roadway on New Location

SUBJECT: Geotechnical Roadway Inventory Report

PROJECT DESCRIPTION

The project consists of the proposed approximately 4.0-mile roadway which will extend from US 15-501 at a new intersection approximately 1,300 feet south of the intersection of US 15-501 and Old Sanford Road and extend northeast to tie into the intersection of US 64 Business and Chatham Park Way. The proposed roadway will also include a new roundabout intersection with Moncure Pittsboro Road.

The project will include improvements along US 15-501 (-Y1- alignment), Moncure Pittsboro Road (-Y7- alignment), and US 64 Business (-Y14- alignment) along with improvements to ancillary side roads Hanks Chapel Road (-Y16- alignment) and Thompson Road (-Y15- alignment) where they tie into US 64 Business. Additionally, a new single-span set of dual bridges over Robeson Creek, a new two-span bridge over an Unnamed Tributary to Robeson Creek, and six (6) retaining walls are proposed.

The proposed Chatham Park Way (-L- alignment) primarily traverses undeveloped farmers' fields that appear to be in operation. Preliminary plans indicate maximum cut and fill depths up to approximately 40 feet and 20 feet, respectively, for the project with a majority of the mass grading along the new -L- alignment.

The following alignments are included as part of this project:

Alignment	Station
-L- (Chatham Park Way)	10+00 to 177+51
-RBT-	10+00 to 13+45
-Y1- (US 15-501)	13+06 to 30+30
-Y2-	11+25 to 12+75
-Y3-	11+25 to 12+75
-Y4-	10+00 to 10+73
-Y5-	11+25 to 12+75
-Y6-	10+00 to 10+73
-Y7- (Moncure Pittsboro Road)	13+25 to 20+30
-Y7A-	10+00 to 10+73
-Y7B-	10+00 to 10+70
-Y8-	11+25 to 12+75
-Y8A-	10+00 to 10+74
-Y8B-	11+26 to 12+00
-Y8C-	10+00 to 10+74
-Y9-	10+00 to 10+73
-Y9A-	11+25 to 12+00
-Y9B-	10+00 to 10+75
-Y10-	11+25 to 12+75
-Y10A-	11+25 to 12+00
-Y11-	10+00 to 11+01
-Y11A-	11+12 to 12+00
-Y11B-	11+12 to 12+00
-Y11C-	10+00 to 10+84
-Y11D-	11+12 to 12+00
-Y12-	11+12 to 12+96
-Y12A-	10+00 to 10+85
-Y13-	10+16 to 12+86
-Y13A-	10+00 to 10+86
-Y14- (US 64 Business)	11+48 to 31+05
-Y15- (Thompson Street)	13+40 to 15+00
-Y16- (Hanks Chapel Road)	10+00 to 14+37
-DRW1-	10+00 to 10+56

Bridges were investigated at the following approximate locations:

Structure Location	Station	Structure Type
-L- (Chatham Park Way)	75+78 to 77+20	Two Spans
-L- (Chatham Park Way) NB	134+08 to 135+30	Single Span
-L- (Chatham Park Way) SB	134+00 to 135+22	Single Span

A total of six (6) Retaining Walls were investigated at the following approximate stations:

Wall ID	Alignment	Station
Wall No. 1 (-W1-)	-L-	10+62 LT to 13+50 LT
Wall No. 2 (-W2-)	-L-	10+62 RT to 13+50 RT
Wall No. 3 (-W3-)	-L-	80+39 LT to 81+87 LT
Wall No. 4 (-W4-)	-L-	80+31 RT to 81+87 RT
Wall No. 5 (-W5-)	-L-	174+00 LT to 176+98 LT
Wall No. 6 (-W6-)	-L-	174+00 RT to 176+69 LT

The geotechnical field investigation was conducted by CG2 during the period from July 2024 to September 2024. A truck-mounted Mobile B-29, an ATV-mounted CME 550X, and a Diedrich D50 track rig, each equipped with an automatic hammer, were used to advance a total of 171 soil test borings and rock soundings during this investigation. Standard Penetration Tests (SPT) were performed at selected depths

within each SPT boring. Representative soil samples were collected for visual-manual classification in the field and evaluated in the office by a staff professional under the supervision of a licensed engineer or geologist. Selected soil samples were submitted for laboratory analysis by an approved NCDOT M&T testing facility.

PHYSIOGRAGHY AND GEOLOGY

The project corridor is located within the Piedmont Physiographic Province of North Carolina. The Piedmont Physiographic Province generally consists of hills and ridges which are intertwined with an established system of draws, streams, and valleys. According to the 1985 Geologic Map of North Carolina, the bedrock under the site consists of felsic to intermediate metavolcanic rock. Crystalline rock and weathered rock encountered during this investigation consisted of Metavolcanic Rock.

Within the project alignment, much of the bedrock is overlain by near-surface material consisting of roadway embankment, artificial fill, alluvial, and residual soils. Residual soils are derived from in situ chemical and physical weathering of the rock in the area and vary in thickness. The residual soils in this region are typically finer grained with a higher clay content near the surface due to advanced weathering, and typically become coarser grained with increasing depth as the degree of weathering decreases. As the degree of weathering decreases, the residual soils generally retain the overall appearance and fabric of the parent rock (sometimes referred to as “saprolite”). The boundary between soil and rock is not always sharply defined. A transitional zone termed “weathered rock” is often found overlying the parent bedrock. Weathered rock is defined as material requiring 100 blows with less than one foot of penetration from the SPT hammer.

Alluvial soils are transported and deposited by water and are naturally variable in character, consistency/density, and often contain organic materials. Alluvial soil deposits of varying age were observed within the project alignment in low lying areas adjacent to Robeson Creek and were encountered within borings performed for the investigation. These alluvial materials contain variable amounts of rounded gravels, cobbles, and boulders, typical of stream terrace deposits.

In general, maximum existing grades occur near -L- Station 12+50 and grades generally decrease heading up-station. Along -L- at Stations 35+50, 59+00, 85+00, 115+50, 154+00 and 177+50, there are noted high points along the existing alignment. Generally, the site drains to lower elevation areas near -L- Stations 52+00, 76+50, 90+00, and 134+50. Generally, the existing topography in the cross-slope direction is relatively flat along the existing alignment, with some topographic features draining in both left and right directions.

Soil Properties

A generalized description of the soil and rock encountered is included below. Soils and rock encountered during the roadway investigation include roadway embankment, artificial fill, alluvial soils, residual soils, weathered rock, and crystalline rock.

Roadway Embankment soils are similar in nature to residual soils and may be derived from nearby sources. Roadway Embankment soils were encountered along the project corridor in areas where the existing state-maintained roadways are present. This material generally consists of soft to very stiff silty/sandy clays and medium dense silty sands with trace amounts of gravel. Laboratory testing of the roadway embankment soils indicated PI's ranging from 32 to 42 for the clayey (A-6, A-7-6) soils.

Artificial Fill soils are materials that have been moved and/or placed by man or mechanical means. Artificial fill soils were encountered along the project corridor within the residential property and farmland along the proposed corridor and adjacent to the existing state-maintained roadways. The artificial fill soils generally consist of medium stiff to stiff silty/sandy clays, sandy silty, and loose clayey sands, with trace amounts of organics, gravel, asphalt, and mica. Laboratory testing of the artificial fill soils indicated a PI of 12 for the sandy (A-2-6) soils and PI's ranging from 15 to 29 for the clayey (A-6, A-7-5, A-7-6) soils.

Alluvial soils were observed in proximity to Robeson Creek and the various drainage features. Alluvial soils were encountered in Borings L_13465_EB1-A, L_13465_EB1-B, L_13465_EB1-C, L_7675_B1-A, L_7675_B1-B, and L_7675_B1-C. The alluvial soils generally consist of very soft to stiff sandy/silty clays, sandy silts, and loose to medium dense silty sands, and sands. Variable amounts of gravel and organics were encountered within the alluvial soils. The silty alluvial soils (A-4) encountered had a PI test result of 8.

Residual soils were encountered across the site at the surface or underlying the artificial fill, roadway embankment, and/or alluvial soils. The residual soils generally consist of soft to hard silty/sandy clays, sandy silts, and loose to very dense silty/clayey sands. Trace mica and gravel-sized rock fragments were encountered within the residual soils. Laboratory testing of the residual soils indicated PI's ranging from 10 to 18 for the sandy (A-2-4, A-2-6, A-2-7) soils; PI's ranging from 4 to 10 for the silty (A-4) soils; and PI's ranging from 11 to 61 for the clayey (A-6, A-7-5, A-7-6) soils.

Weathered rock was encountered extensively along the project corridor from near ground surface (L_7300_RT, L_8400_RT, Y1_1400_RT, and Y1_2600_LT) to beginning depths ranging from 1.5 to 38.5 feet below the ground surface. The weathered rock consisted of Metavolcanic Rock. The top of weathered rock depth corresponds to an elevation ranging from approximately EL 302 to EL 499 ft.

Crystalline rock was encountered along the project corridor at depths from approximately 3.3 to 41.3 feet below existing ground surface. The crystalline rock consisted of Metavolcanic Rock. This top of rock depth corresponds to an elevation ranging from approximately EL 298 to EL 487 ft.

Groundwater

Groundwater measurements were taken during July through September 2024. Groundwater measurements were attempted at the completion of drilling in each boring and rod sounding, at which time groundwater was encountered in eleven (11) of the borings at depths ranging from approximately 4.1 to 34.7 feet below the existing grades. Subsequent groundwater measurements were attempted after at least 24 hours following the completion of drilling where possible. At the time of subsequent water level measurements, groundwater was encountered at depths ranging from 0.2 to 40.4 feet below existing grades in sixty-four (64) of the borings. The remaining borings were either recorded as dry or filled in after drilling due to our demobilization from the project site. The soils encountered were generally described as dry to saturated above and below groundwater elevation.

AREAS OF SPECIAL GEOTECHNICAL INTEREST

Very soft to soft soils were encountered along the project corridor at the following locations:

Alignment	Stations	Offsets (ft)
-L-	20+75 to 21+25	LT to RT
-L-	26+25 to 27+25	LT to RT
-L-	54+75 to 56+25	LT to RT
-L-	81+20 to 81+75	LT to RT
-L-	91+75 to 92+25	LT to RT
-L-	95+00 to 99+00	LT to RT
-L-	109+00 to 113+00	LT to RT
-L-	133+65 to 134+16	LT to RT
-L-	167+00 to 169+00	LT to RT
-RBT-	10+00 to 12+10	LT to RT
-Y7-	19+00 to 20+30	LT to RT
-Y14-	11+48 to 31+05	LT to RT

Highly plastic soils (PI>25) were encountered throughout the project corridor, and were specifically encountered at the following locations:

Alignment	Stations	Offsets (ft)
-L-	11+25 to 13+25	LT to RT
-L-	23+75 to 26+25	LT to RT
-L-	29+75 to 51+75	LT to RT
-L-	56+25 to 60+25	LT to RT
-L-	71+75 to 74+75	LT to RT
-L-	82+25 to 89+25	LT to RT
-L-	101+25 to 105+25	LT to RT
-L-	116+75 to 119+75	LT to RT
-L-	126+75 to 129+75	LT to RT
-L-	152+75 to 154+25	LT to RT
-L-	172+75 to 174+25	LT
-RBT-	10+10 to 12+10	LT to RT
-Y14-	16+75 to 18+75	LT to RT

Shallow groundwater was encountered within 6 feet of proposed subgrade at the following locations:

Alignment	Stations	Offsets (ft)
-L-	10+00 to 18+00	LT to RT
-L-	25+00 to 29+00	LT to RT
-L-	44+00 to 55+00	LT to RT
-L-	80+00 to 95+00	LT to RT
-L-	99+00 to 101+00	LT to RT
-Y1-	15+00 to 17+00	LT to RT
-Y1-	20+00 to 26+00	LT to RT
-Y14-	15+00 to 19+00	LT to RT
-Y14-	23+00 to 28+00	LT to RT

Alluvial soils were encountered on the project at the following locations:

Alignment	Stations	Offsets
-L-	64+15 to 68+81	LT
-L-	75+99 to 76+99	LT to RT
-L-	89+58 to 92+67	LT to RT
-L-	133+65 to 137+32	LT to RT
-L-	163+74 to 165+58	LT
-Y7-	19+21 to 20+70	RT

Artificial Fill soils were encountered on the project at the following locations:

Alignment	Stations	Offsets (ft)
-L-	11+40 to 11+70	LT to RT
-L-	78+89 to 79+42	LT to RT
-L-	80+03 to 81+85	LT to RT
-RBT-	10+00 to 10+28	LT to RT
-RBT-	12+64 to 13+45	LT to RT
-Y7-	14+42 to 16+85	LT to RT
-Y14-	10+00 to 21+26	LT to RT
-Y16-	11+25 to 12+25	LT to RT

Crystalline rock was encountered above or within 6 feet of proposed grade at the following locations.

Alignment	Stations	Offsets (ft)
-L-	10+00 to 14+00	LT to RT
-L-	33+25 to 35+25	LT
-L-	35+75 to 36+25	LT
-L-	58+75 to 59+25	LT to RT
-L-	81+20 to 81+75	LT to RT
-L-	82+75 to 83+25	LT to RT
-L-	151+25 to 153+25	LT to RT
-L-	153+75 to 154+25	LT to RT
-Y1-	25+00 to 30+30	LT to RT

Rock outcrops were observed at the following locations:

Alignment	Stations	Offsets (ft)
-L-	75+40 to 76+65	LT to RT
-L-	84+18 t0 85+51	RT
-L-	135+00 to 135+60	LT

Water Wells: There are several residences near the project site which could indicate that water wells may be present. Water wells were observed within the proposed construction corridor at the following locations.

Alignment	Stations	Offsets (ft)
-L-	15+95	7 LT
-Y7-	21+26	62 LT
-Y14-	18+65	161 RT

Please note, water wells could be encountered at other locations due to the presence of dwellings and businesses.

Several ponds were observed along the project corridor at the following approximate locations:

Alignment	Reported WSE (ft)	Stations	Offsets (ft)
-L-	383.0	86+43 to 92+63	LT
-L-	391.0	89+58 to 92+67	LT to RT
-L-	392.7	90+99 to 91+46	LT to RT
-L-	392.7	90+81 to 91+82	RT

The new alignment will also extend through an existing irrigation pond approximately at -L- station 89+00 to 93+00. We understand plans are to mechanically drain the pond during construction for embankment construction, permanent dewatering of the ponds is not currently planned; therefore, they will be allowed to refill post-embankment construction.

CG2 performed probes within the pond at the following locations:

Test Location	North (ft)	East (ft)	Groundline Elevation (ft)	Water Depth (ft)	Measured Muck Thickness (ft)
PO-01	708129	1954230	390.1	3.0	0.7
PO-02	708235	1954306	930.0	2.2	0.3
PO-03	708186	1954246	389.0	4.1	0.4
PO-04	708291	1954297	389.8	2.4	0.8
PO-05	708214	1954403	391.8	2.1	1.9
PO-06	708279	1954376	390.4	2.7	2.0

GEOTECHNICAL TESTING

Two (2) thin-wall Shelby tube samples were collected during the investigation and consolidation testing was performed.

Sample No.	Alignment	Stations	Offsets (ft)	Sample Depth (ft)
ST-02	-L-	65+00	CL	4.0-6.0
ST-01	-L-	134+16	47 LT	1.0-3.0

Sincerely,
Carolinas Geotechnical Group, PLLC

DocuSigned by:
Matt Brewer, PE
386129C0A4C1462...
D. Matthew Brewer, PE
Senior Project Engineer

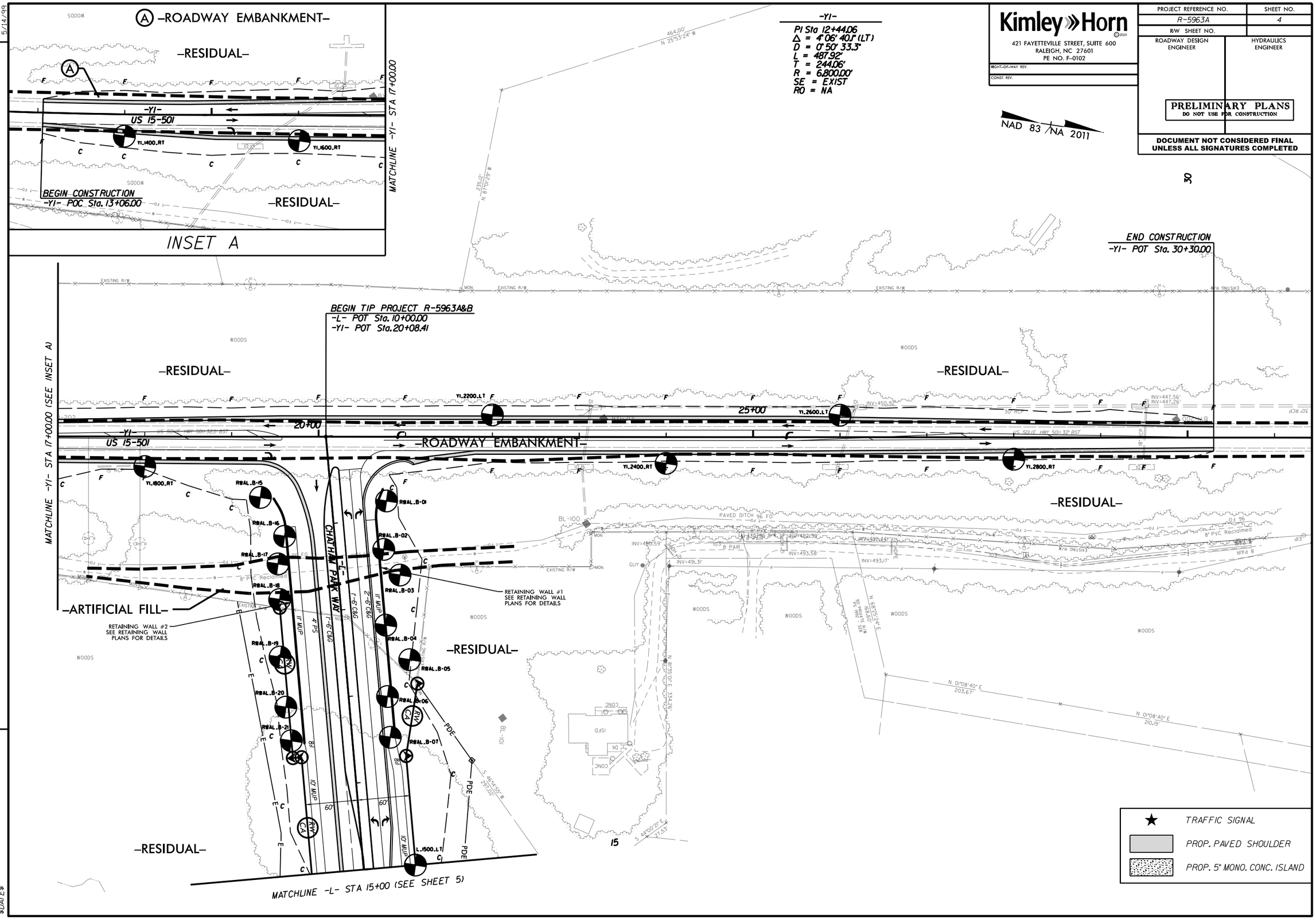
Signed by:
Michael J. Walko, PE
B0BEC14A5D19492...
Michael J. Walko, PE
Principal Engineer

5/14/99

REVISIONS

$FILE$

$DATE$



Kimley»Horn ©2024
421 FAYETTEVILLE STREET, SUITE 600
RALEIGH, NC 27601
PE NO. F-0102

RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83 /NA 2011

-Y2-
PI Sta 13+65.93
Δ = 7° 49' 11.5" (RT)
D = 11° 27' 33.0"
L = 68.24'
T = 34.17'
R = 500.00'

-L-
PI Sta 21+56.57
Δ = 17° 17' 57.4" (RT)
D = 2° 51' 53.2"
L = 603.86'
T = 304.24'
R = 2,000.00'
SE = 3.5%
RO = 168'

CPF, LLC

CARLOS GONZALEZ AND WIFE SANDRA HIMENEZ

333.00' S 46°12'35" W

S 44°00'21" E 40.35'

S 32°29'08" E 253.02'

PUBLIC UTILITY ACCESS

-L- PC Sta. 18+52.32

-Y2- PT Sta. 14+00.00

-Y2- PC Sta. 13+31.76

-L- POC Sta. 19+59.26

-Y2- POT Sta. 12+00.00

-RESIDUAL-

N 10° 47' 29" W

N 45° 47' 10" W

-Y2- POT Sta. 10+00.00

-L- PT Sta. 24+56.18

-L-
CHATHAM PARK WAY

N 76° 37' 21.9" E

S 86° 04' 40.7" E

L.1500.LT
L.1700
L.1900
L.200
L.2300
L.2500
L.2700
L.2900.RT

10' MUP
2'-6" C&G
1'-6" C&G
4' PS
20' R
PDE
RW CA
CR
BL 1603

MATCHLINE -L- STA 15+00 (SEE SHEET 4)

MATCHLINE -L- STA 29+00 (SEE SHEET 6)

WOODS

CPF, LLC

★ TRAFFIC SIGNAL
PROP. PAVED SHOULDER
PROP. 5" MONO. CONC. ISLAND

REVISIONS

$FILE$

$DATE$

5/14/99

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RALEIGH, NC 27601
PE NO. F-0102

RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-
PI Sta 37+64.11
Δ = 38° 48' 21.1" (LT)
D = 2° 51' 53.2"
L = 1,354.58'
T = 704.43'
R = 2,000.00'
SE = 3.5%
RO = 168'

NAD 83 / NA 2011

CPF, LLC
BM-2
30
35
40
-L- PC Sta. 30+59.68
WOODS
-RESIDUAL-
BL-106
MATCHLINE -L- STA 29+00 (SEE SHEET 5)
MATCHLINE -L- STA 42+00 (SEE SHEET 7)
10' MUP
4' PS
1'-6" C&G
S 86°04'40" E
L.2900.RT
L.300.LT
L.300.RT
L.3300
RS.L.3400.LT
L.3500.LT
RS.L.3600.LT
L.3700.LT
L.3900
L.400.LT
-L-
CHATHAM PARK WAY
RS.L.3450
RS.L.3550
RS.L.3400.RT
RS.L.3500.RT
RS.L.3600.RT
RW
CA
PDE
CPF, LLC
-RESIDUAL-
WOODS
S 88°42'52" W
2411.43'

★ TRAFFIC SIGNAL
PROP. PAVED SHOULDER
PROP. 5" MONO. CONC. ISLAND

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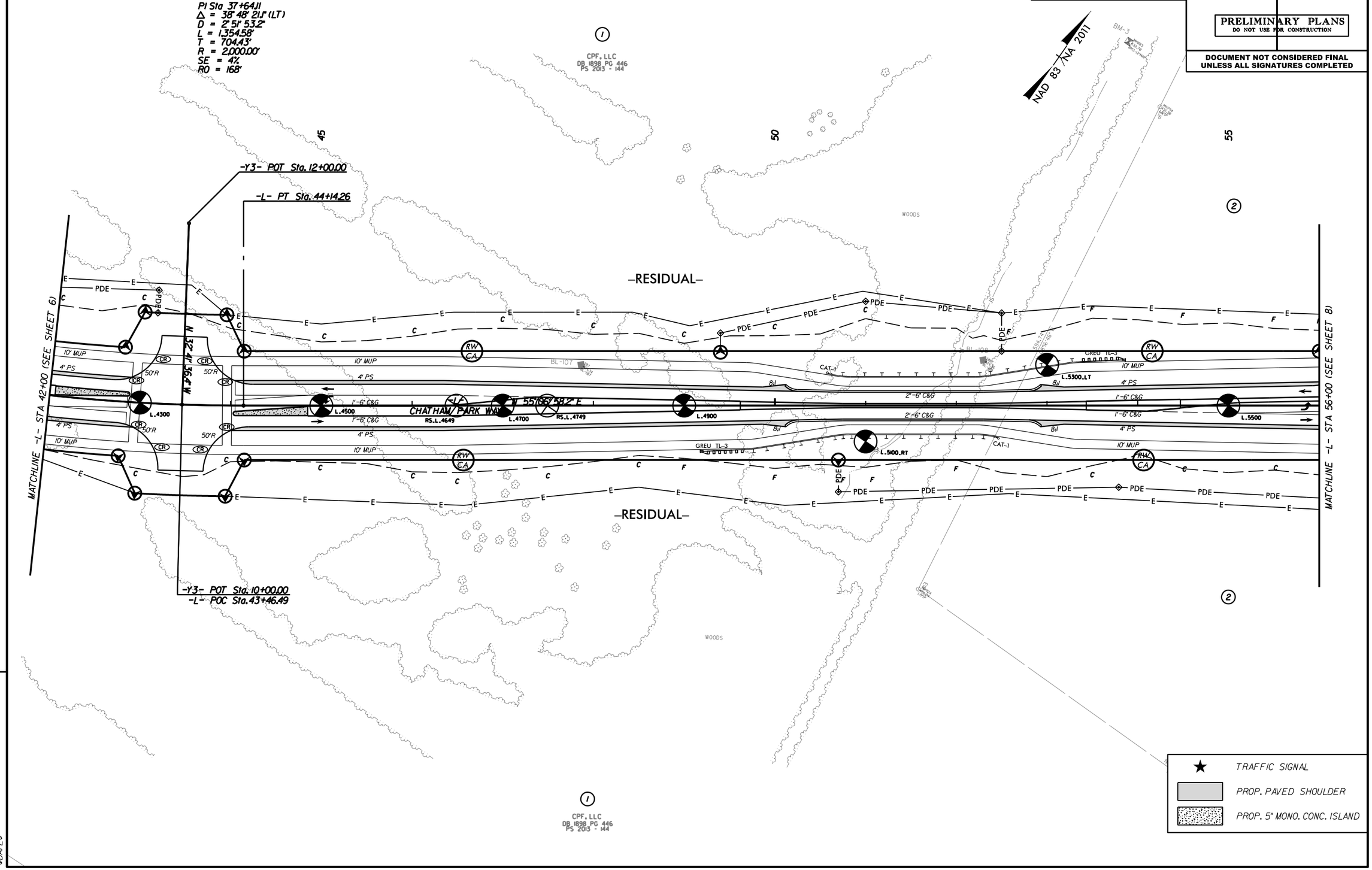
PE NO. F-0102

RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



REVISIONS

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$FILE$

$DATE$

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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PE NO. F-0102

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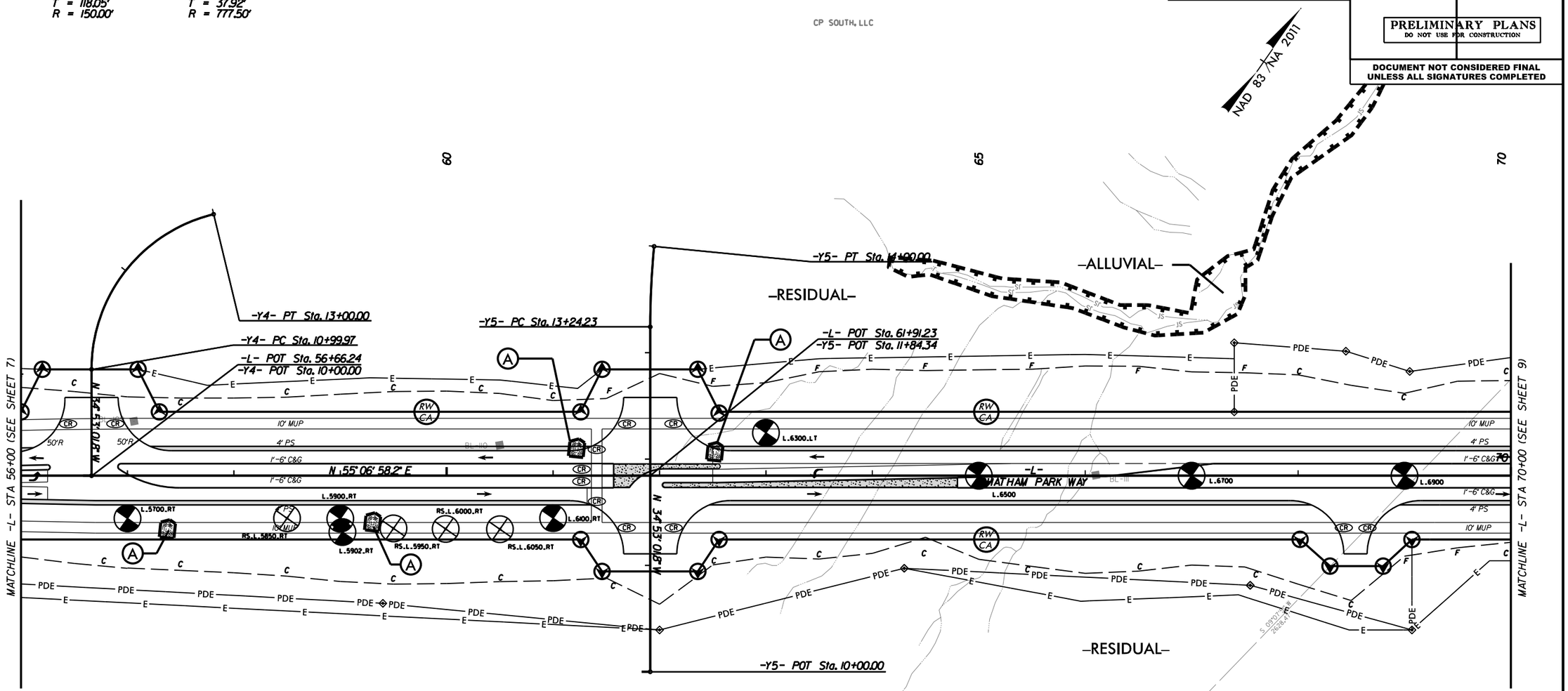
CONST. REV.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y4-	-Y5-
PI Sta 12+18.02	PI Sta 13+62.14
Δ = 76° 24' 19.1" (RT)	Δ = 5° 35' 01.4" (RT)
D = 38° 11' 49.9"	D = 7° 22' 09.2"
L = 200.03'	L = 75.77'
T = 118.05'	T = 37.92'
R = 150.00'	R = 777.50'



Ⓐ -CRYSTALLINE ROCK- (OUTCROP)

CP SOUTH, LLC

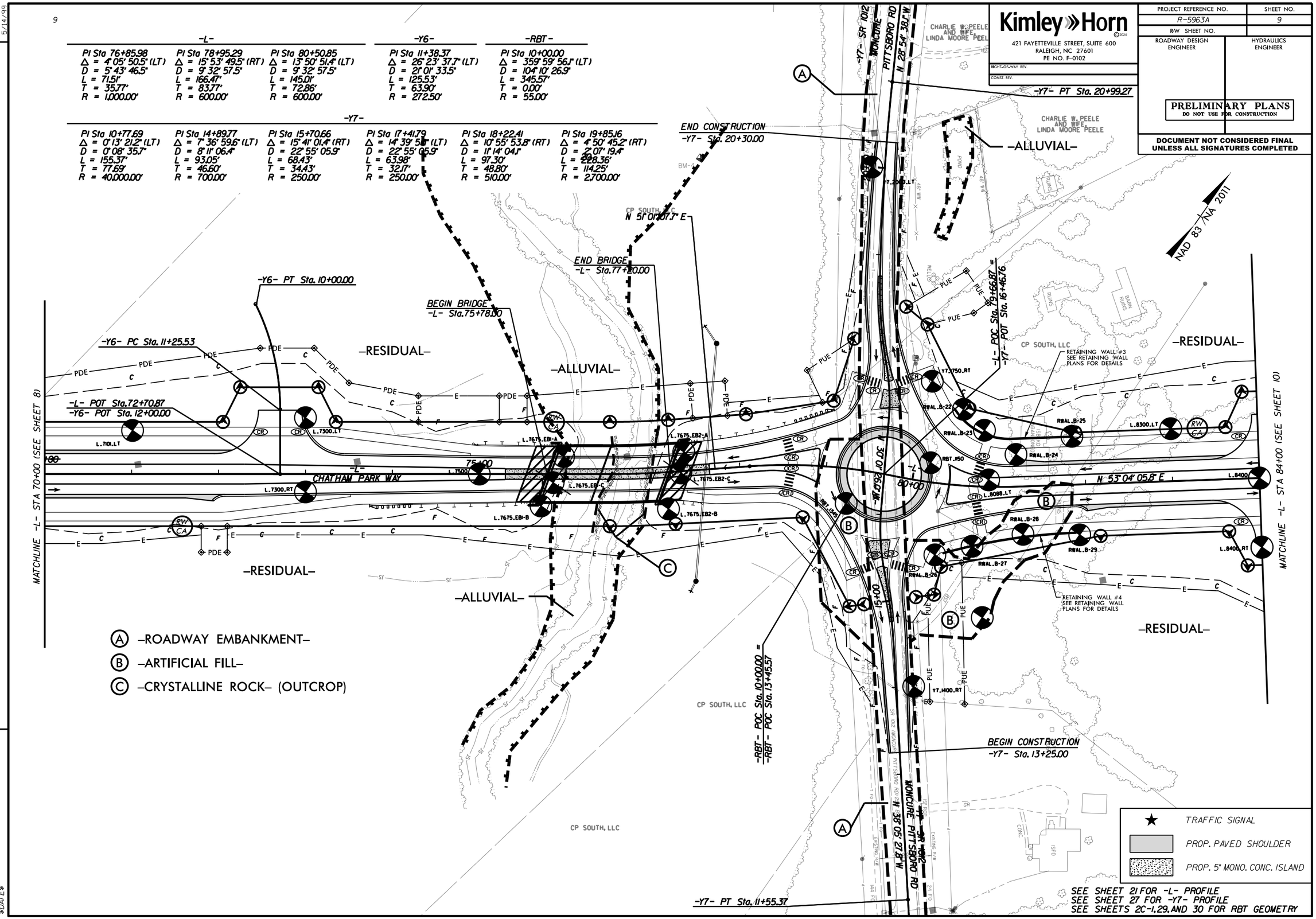
★ TRAFFIC SIGNAL
PROP. PAVED SHOULDER
PROP. 5" MONO. CONC. ISLAND

REVISIONS
5/14/99
$FILE$
$DATE$

-L-			-Y6-	-RBT-
PI Sta 76+85.98	PI Sta 78+95.29	PI Sta 80+50.85	PI Sta 11+38.37	PI Sta 10+00.00
Δ = 4° 05' 50.5" (LT)	Δ = 15° 53' 49.5" (RT)	Δ = 13° 50' 51.4" (LT)	Δ = 26° 23' 37.7" (LT)	Δ = 359° 59' 56.5" (LT)
D = 5° 43' 46.5"	D = 9° 32' 57.5"	D = 9° 32' 57.5"	D = 21° 01' 33.5"	D = 104° 10' 26.9"
L = 71.51'	L = 166.47'	L = 145.01'	L = 125.53'	L = 345.57'
T = 35.77'	T = 83.77'	T = 72.86'	T = 63.90'	T = 0.00'
R = 1,000.00'	R = 600.00'	R = 600.00'	R = 272.50'	R = 55.00'

-Y7-

PI Sta 10+77.69	PI Sta 14+89.77	PI Sta 15+70.66	PI Sta 17+41.79	PI Sta 18+22.41	PI Sta 19+85.16
Δ = 0° 13' 21.2" (LT)	Δ = 7° 36' 59.6" (LT)	Δ = 15° 41' 01.4" (RT)	Δ = 14° 39' 58.1" (LT)	Δ = 10° 55' 53.8" (RT)	Δ = 4° 50' 45.2" (RT)
D = 0° 08' 35.7"	D = 8° 11' 06.4"	D = 22° 55' 05.9"	D = 22° 55' 05.9"	D = 11° 14' 04.1"	D = 2° 07' 19.4"
L = 155.37'	L = 93.05'	L = 68.43'	L = 63.98'	L = 97.30'	L = 228.36'
T = 77.69'	T = 46.60'	T = 34.43'	T = 32.17'	T = 48.80'	T = 114.25'
R = 40,000.00'	R = 700.00'	R = 250.00'	R = 250.00'	R = 510.00'	R = 2,700.00'



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PE NO. F-0102

RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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REVISIONS
$FILE$
$DATE$

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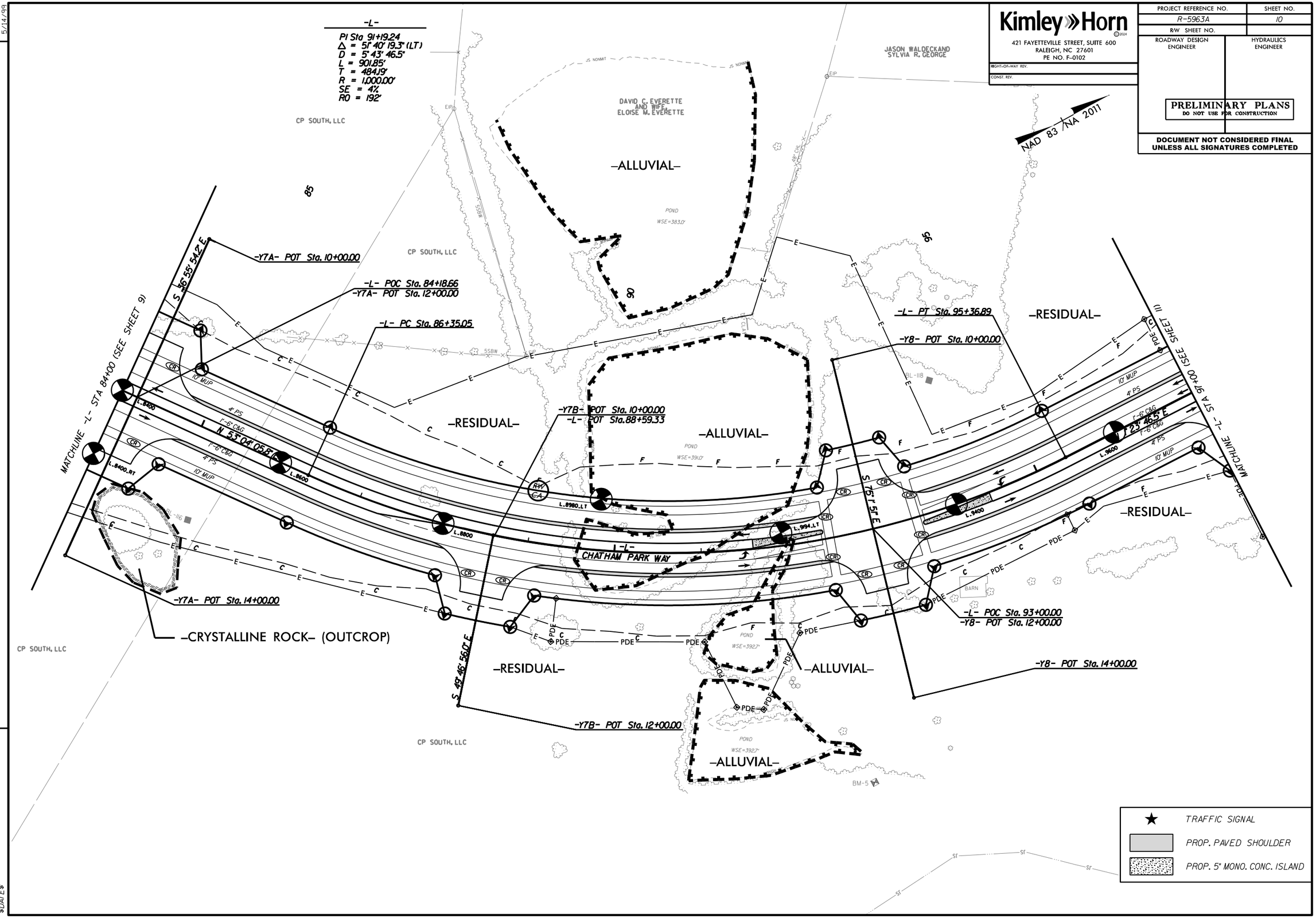
PE NO. F-0102

RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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$DATE$

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PE NO. F-0102

RIGHT-OF-WAY REV.
CONST. REV.

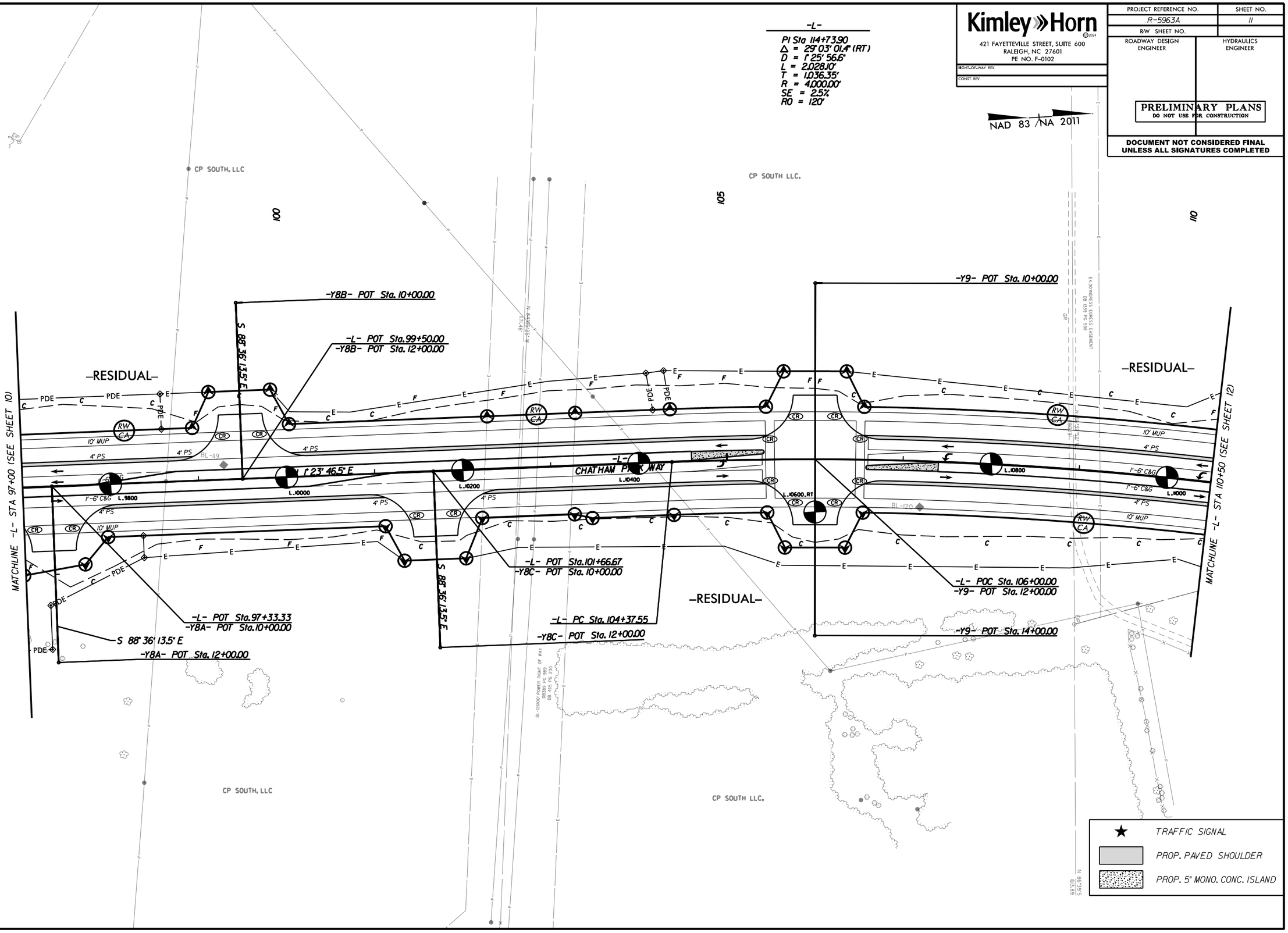
PROJECT REFERENCE NO.	SHEET NO.
R-5963A	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-
PI Sta 114+73.90
Δ = 29° 03' 01.4" (RT)
D = 1° 25' 56.6"
L = 2,028.10'
T = 1,036.35'
R = 4,000.00'
SE = 2.5%
RO = 120'

NAD 83 / NA 2011



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PE NO. F-0102

RIGHT-OF-WAY REV.
CONST. REV.

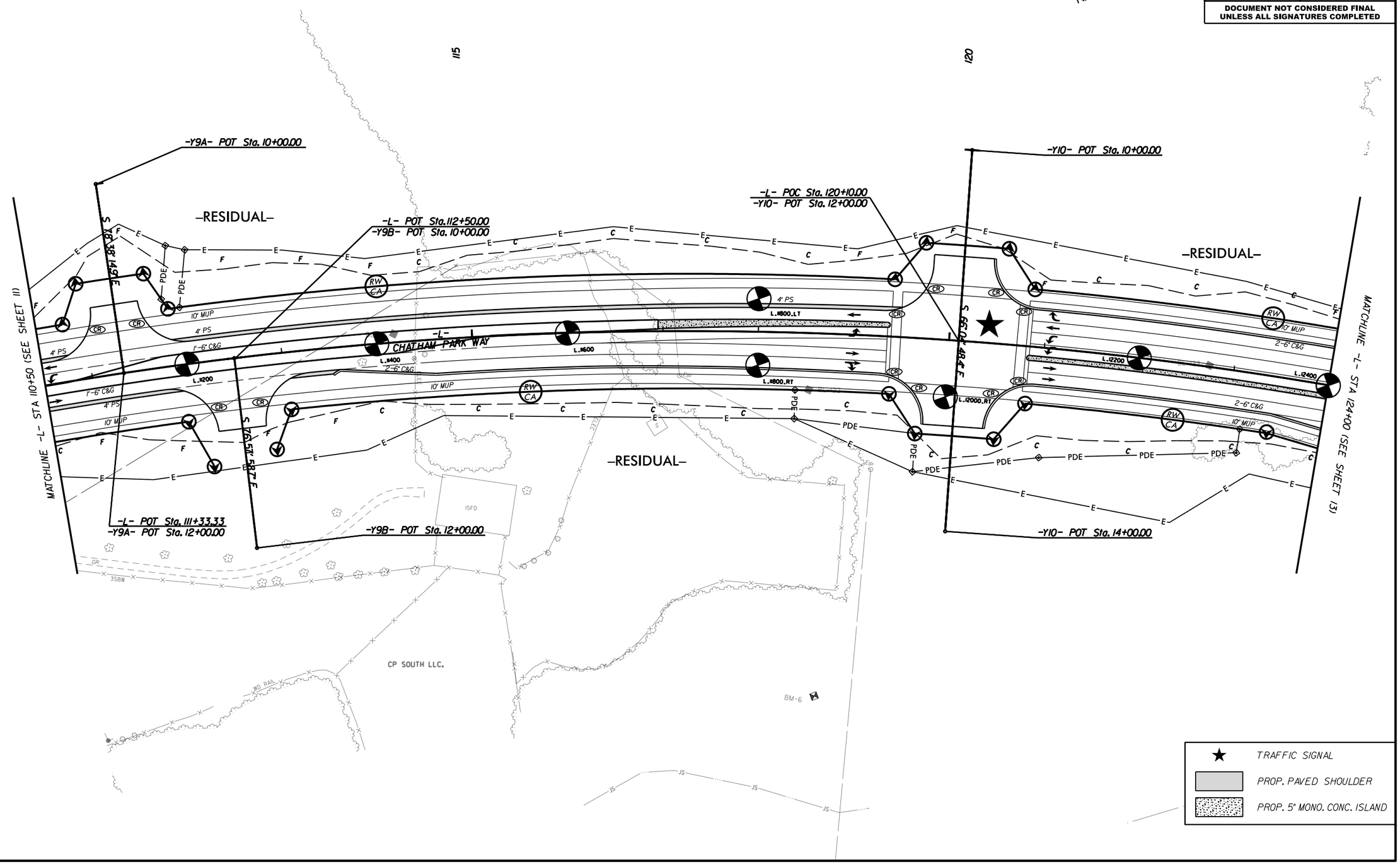
PROJECT REFERENCE NO.	SHEET NO.
R-5963A	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83 / NA 2011

-L-
PI Sta 114+73.90
Δ = 29° 03' 01.4" (RT)
D = 1° 25' 56.6"
L = 2,028.10'
T = 1,036.35'
R = 4,000.00'
SE = 2.5%
RO = 120'



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$FILE$

$DATE$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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PE NO. F-0102

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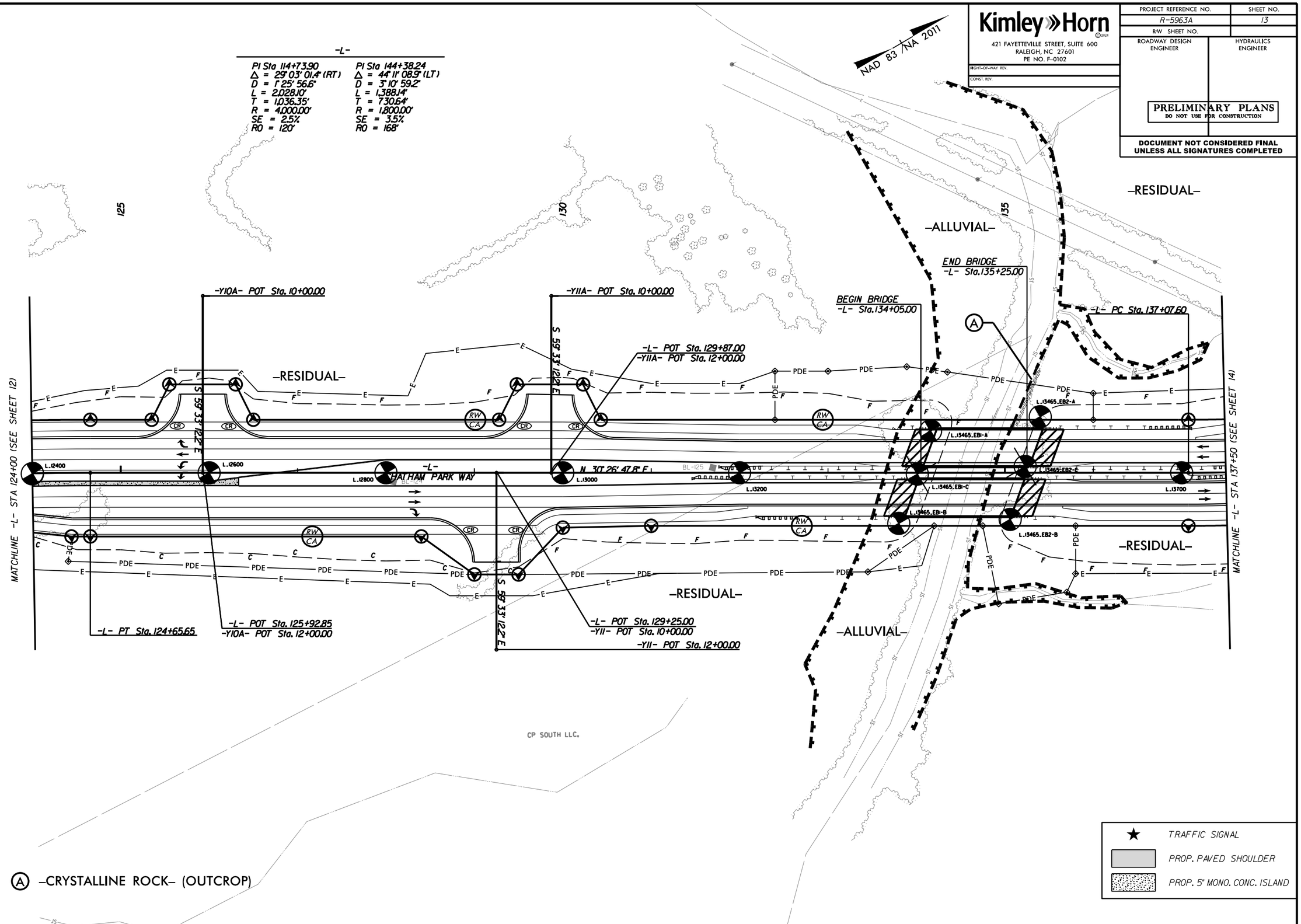
CONST. REV.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



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PE NO. F-0102

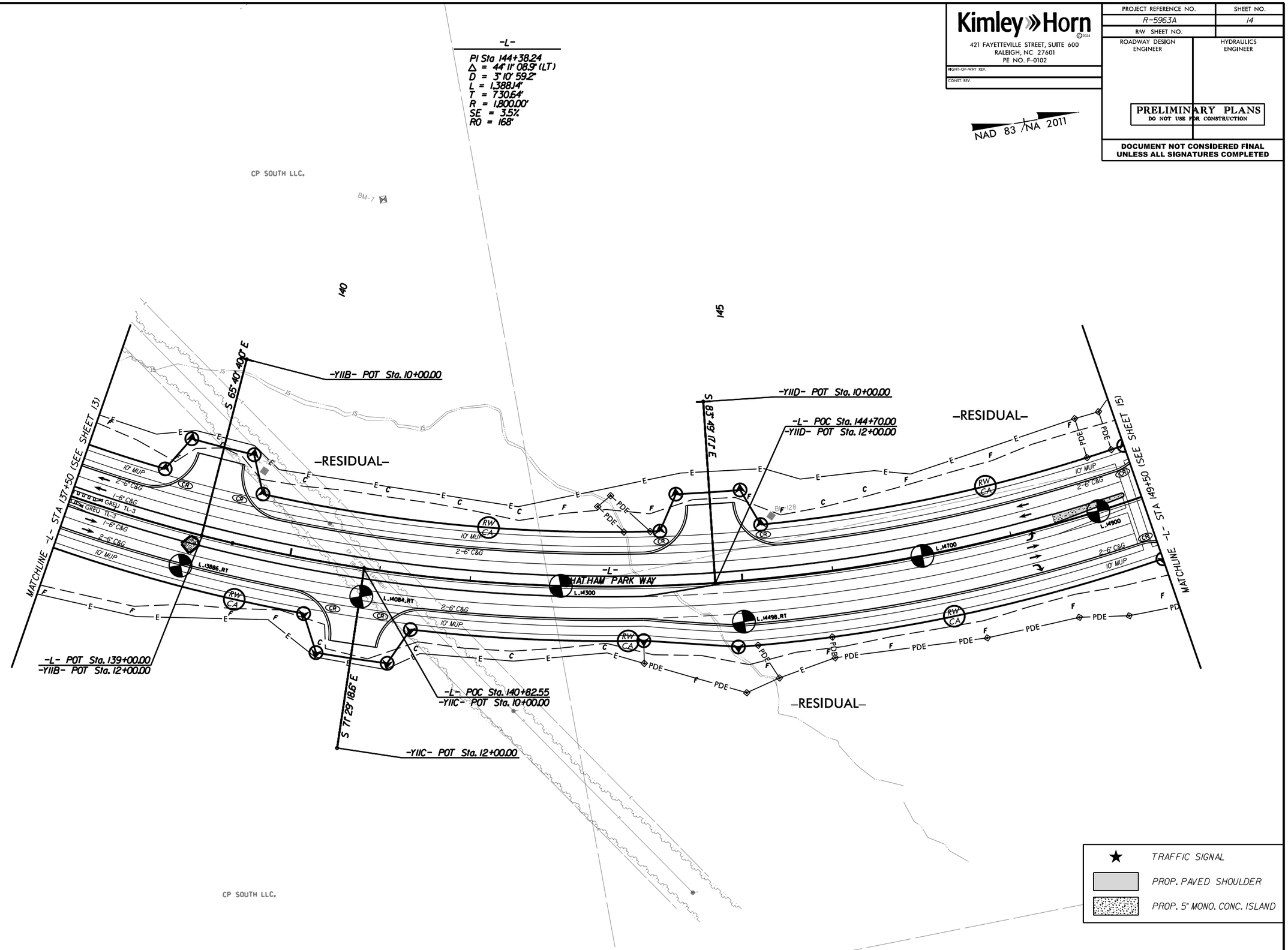
RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83 /NA 2011



REVISIONS

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$FILE$

$DATE$

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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PE NO. F-0102

RIGHT-OF-WAY REV.
CONST. REV.

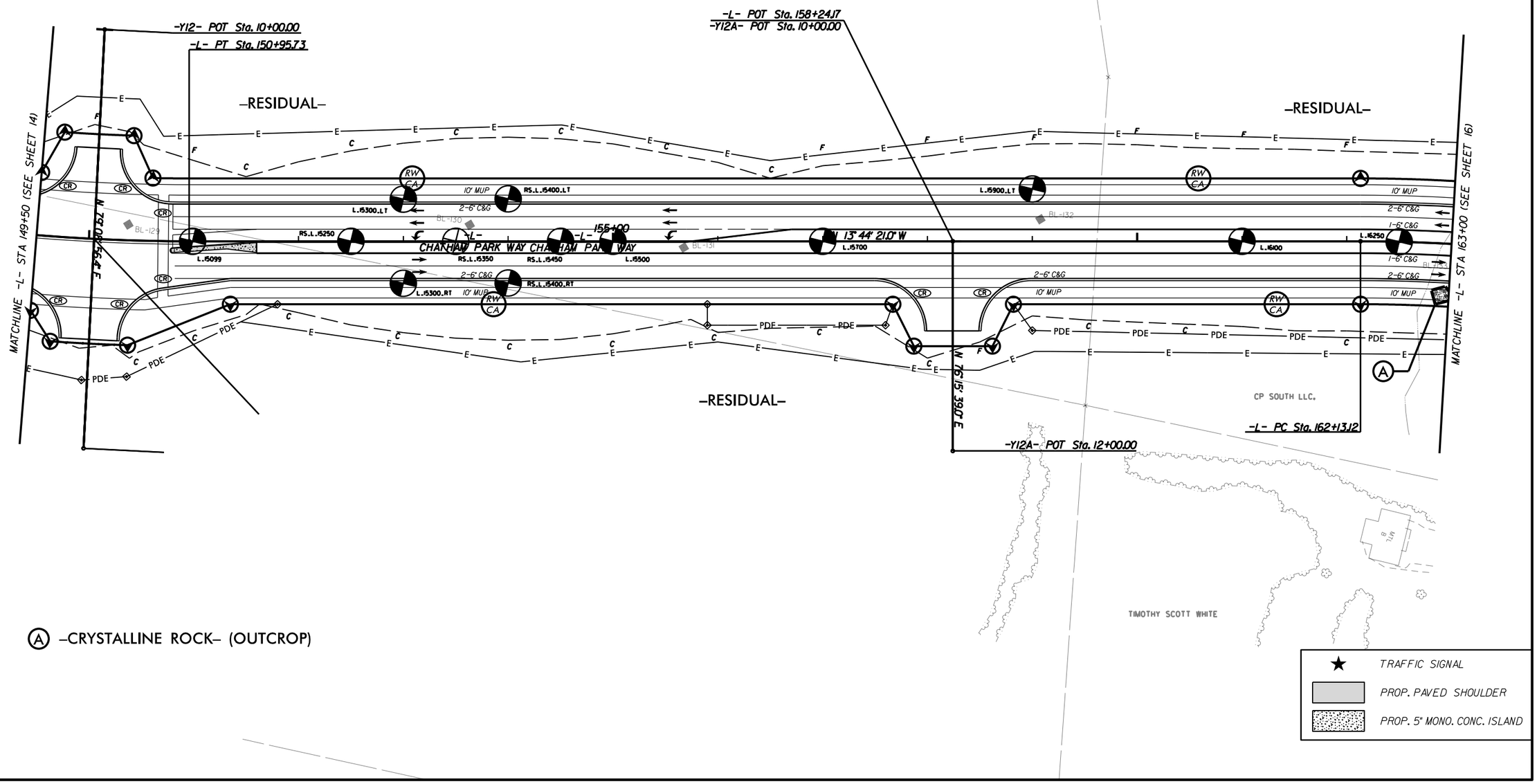
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011

-L-

PI Sta 144+38.24	PI Sta 165+36.44
Δ = 44° 11' 08.9" (LT)	Δ = 24° 19' 40.4" (RT)
D = 3° 10' 59.2"	D = 3° 49' 11.0"
L = 1,388.14'	L = 636.90'
T = 730.64'	T = 323.32'
R = 1,800.00'	R = 1,500.00'
SE = 3.5%	SE = 4%
RO = 168'	RO = 190'



REVISIONS

5/14/99

$FILE$

$DATE$

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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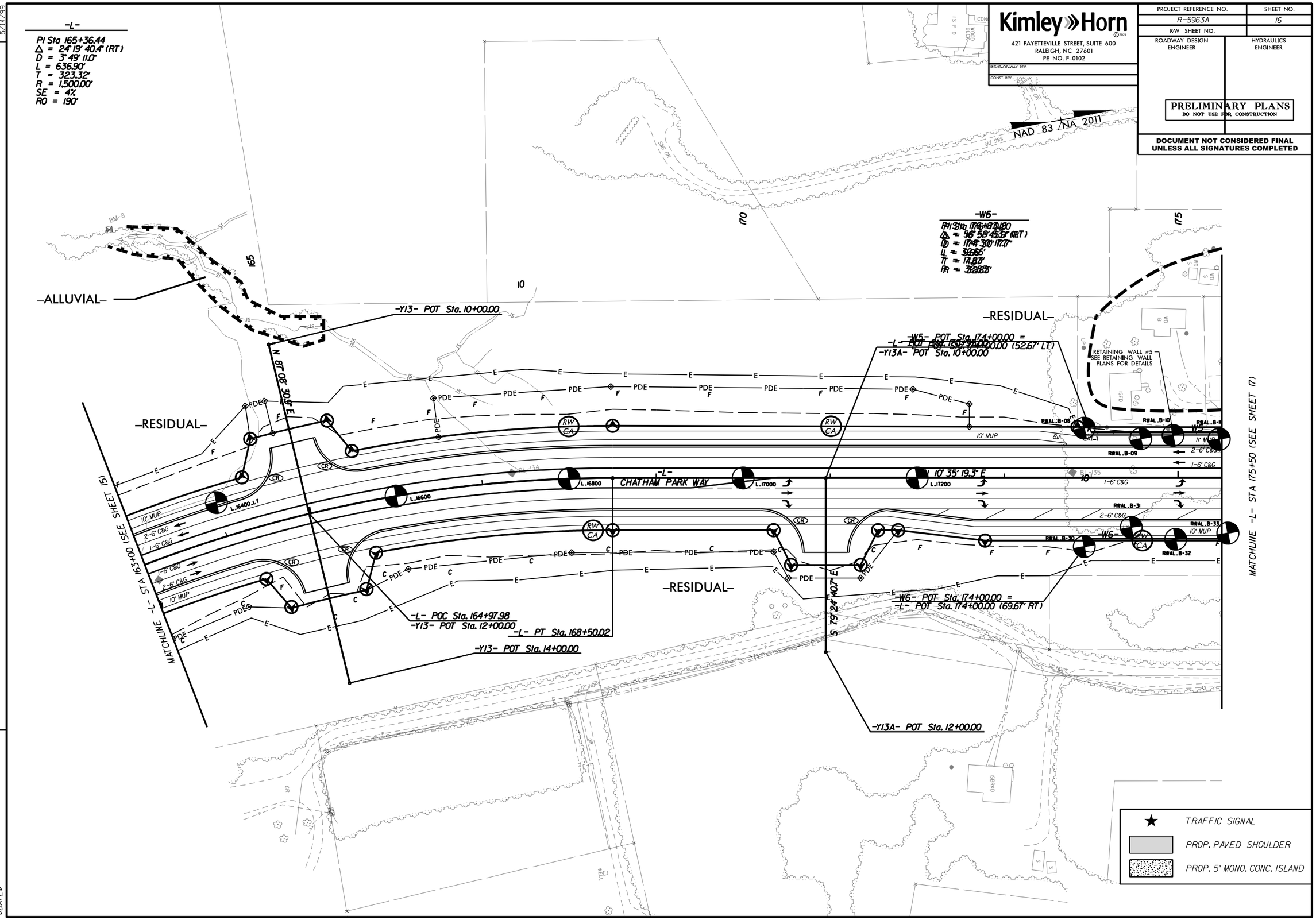
PE NO. F-0102

RIGHT-OF-WAY REV.
CONST. REV.



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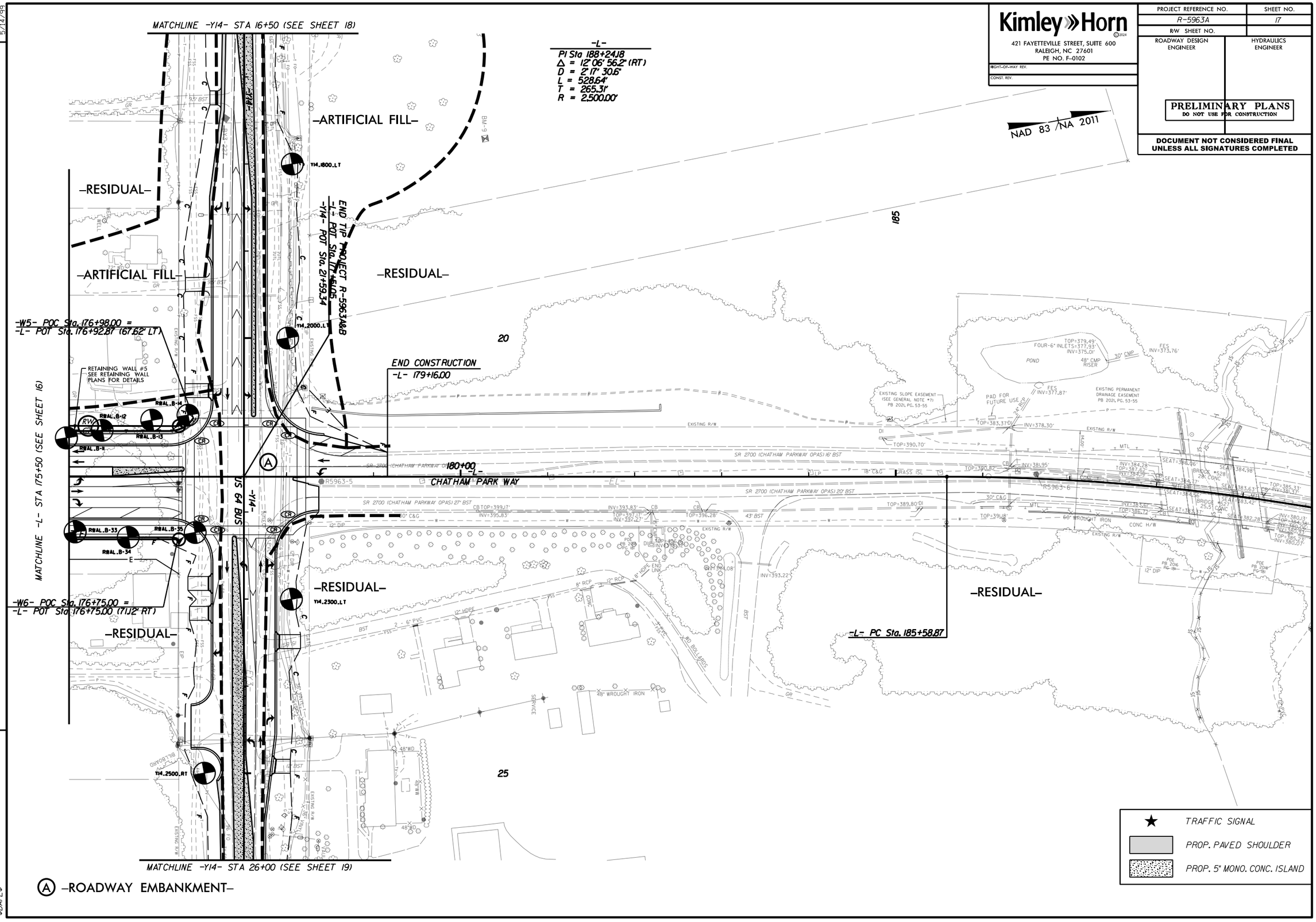
PE NO. F-0102

RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	17
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



Ⓐ -ROADWAY EMBANKMENT-

REVISIONS

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$DATE$

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PE NO. F-0102

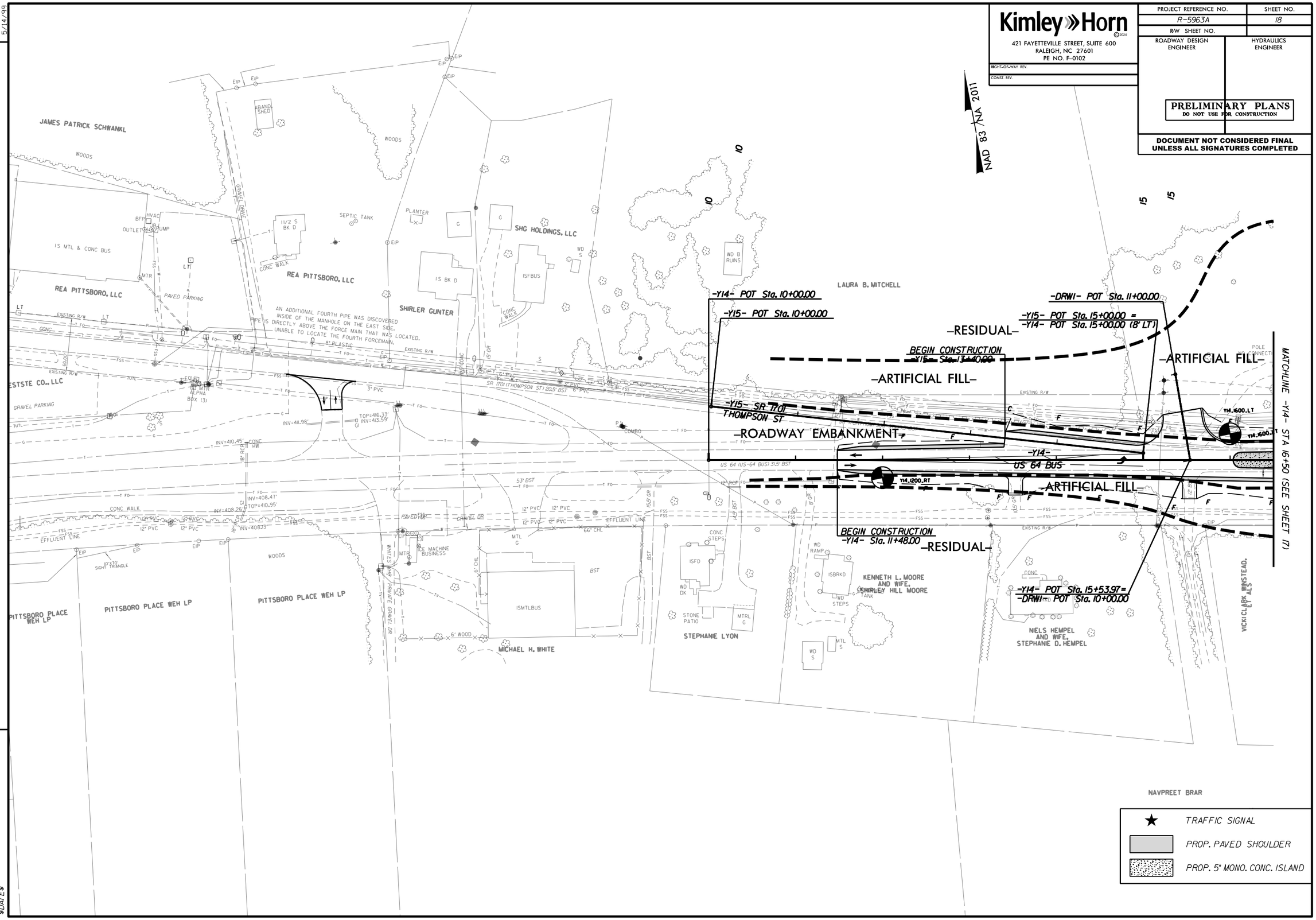
RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83/NA 2011



★ TRAFFIC SIGNAL
PROP. PAVED SHOULDER
PROP. 5" MONO. CONC. ISLAND

REVISIONS

$FILE$

$DATE$ 5/14/99

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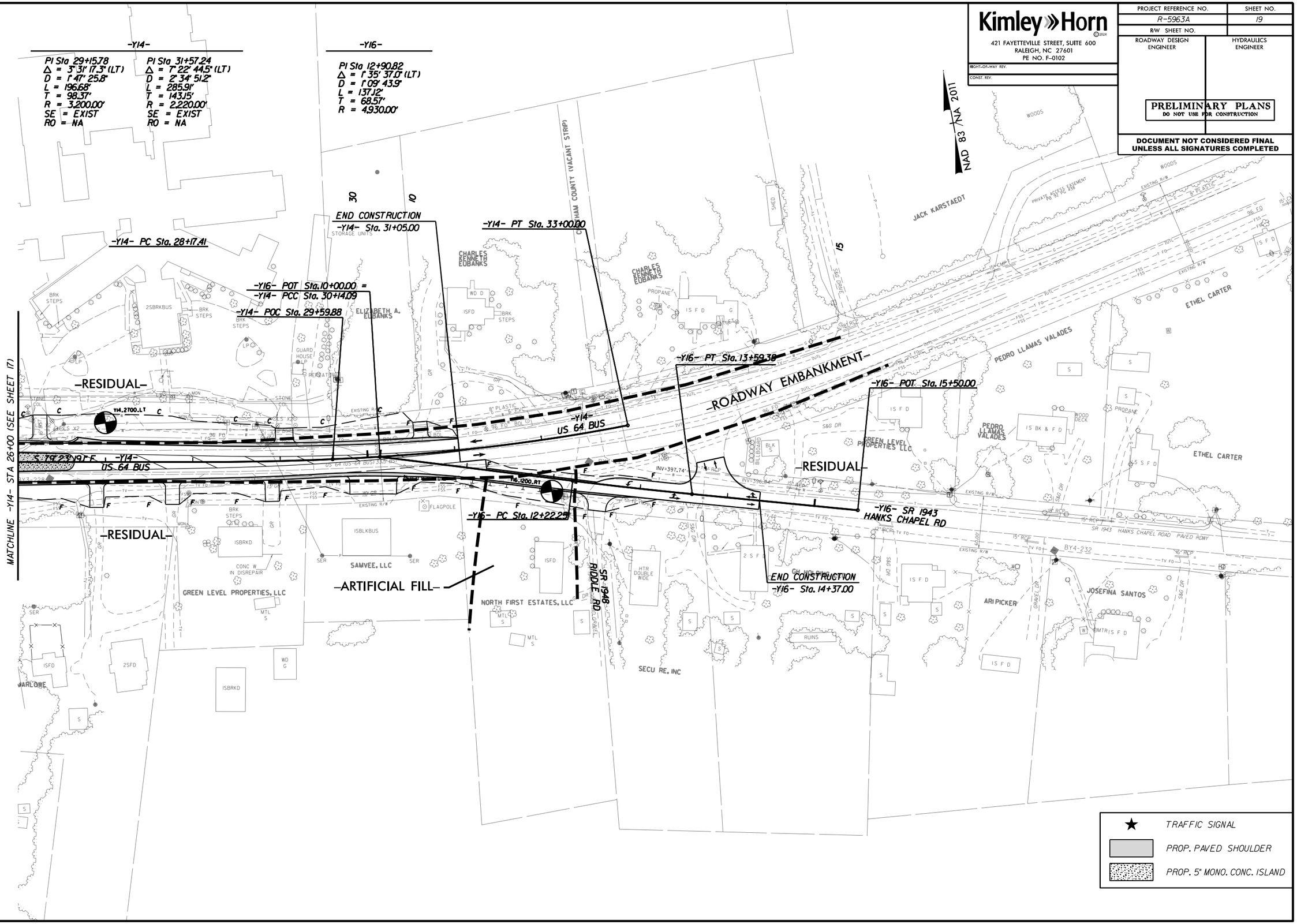
PE NO. F-0102

RIGHT-OF-WAY REV.
CONST. REV.

PROJECT REFERENCE NO.	SHEET NO.
R-5963A	19
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



REVISIONS
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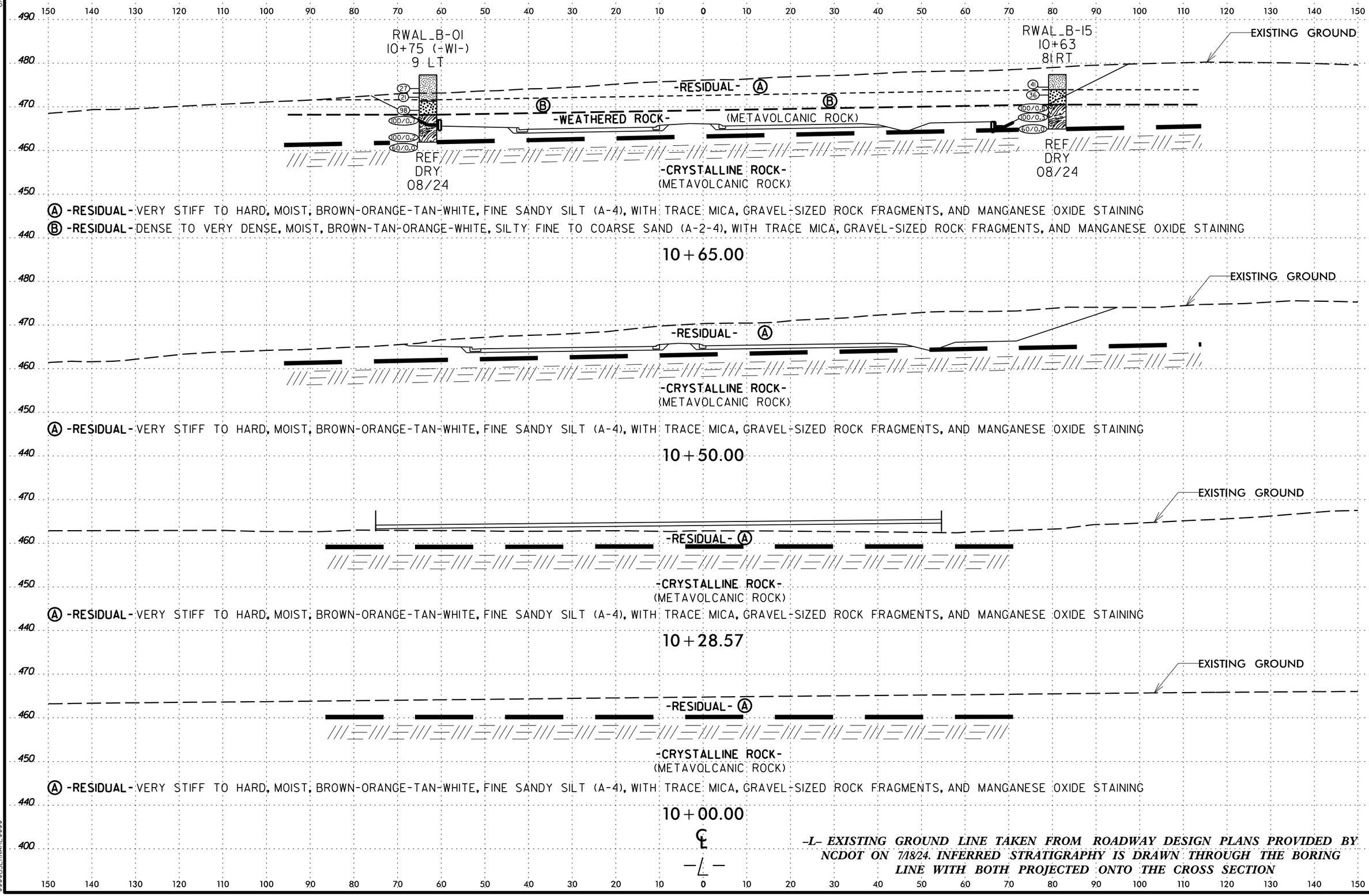
$FILE$
$DATE$

PROJ. REFERENCE NO.	SHEET NO.
R-5963A	20

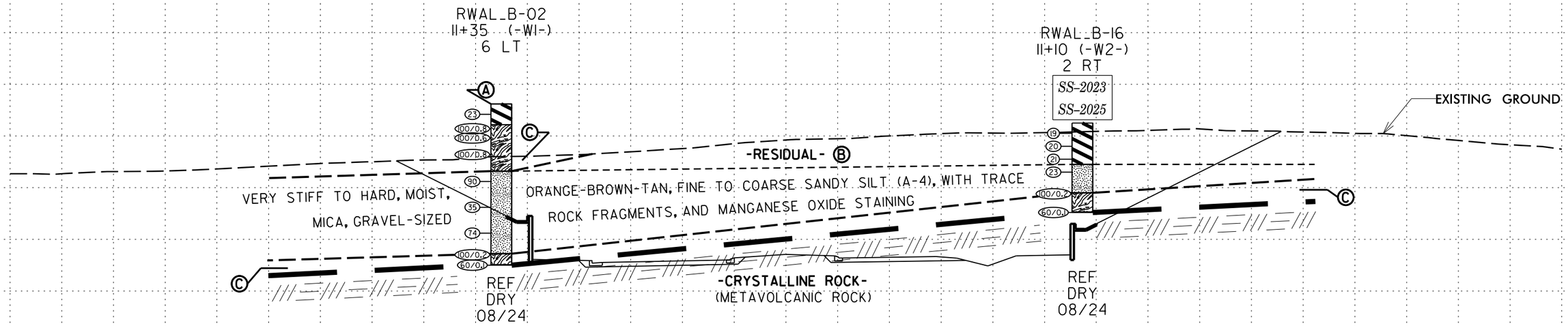


-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16
14-NOV-2024 18:53
C:\Users\KelludeMontbrun\Carolinas Geotechnical Group, PLLC\Matt Brewer - Projects\0252 - R-5963A_RDY_PDI_NCDOT GEU\CADD_GEOTECH\xsc\R-5963A_GEO_XS1.dgn
$$$$USERNAME$$$$

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL_B-16	SS-2023	2' RT	11+10 -W2-	1.0-2.5	A-7-5(29)	58	23	1.2%	1.7%	44.0%	53.1%	99.3%	98.5%	96.8%	31.9%	ND
RWAL_B-16	SS-2025	2' RT	11+10 -W2-	6.0-7.5	A-7-5(24)	53	23	3.8%	2.2%	45.0%	49.0%	95.9%	93.0%	90.5%	28.7%	ND



Ⓐ **-RESIDUAL-** VERY STIFF, MOIST, TAN-ORANGE-BROWN, SILTY CLAY (A-7), WITH TRACE MICA, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING

Ⓑ **-RESIDUAL-** VERY STIFF, MOIST, ORANGE-RED-TAN, MODERATELY PLASTIC SILTY CLAY (A-7-5), WITH TRACE MICA, ORGANICS, AND MANGANESE OXIDE STAINING

Ⓒ **-WEATHERED ROCK-** (METAVOLCANIC ROCK)

11+00.00

℄

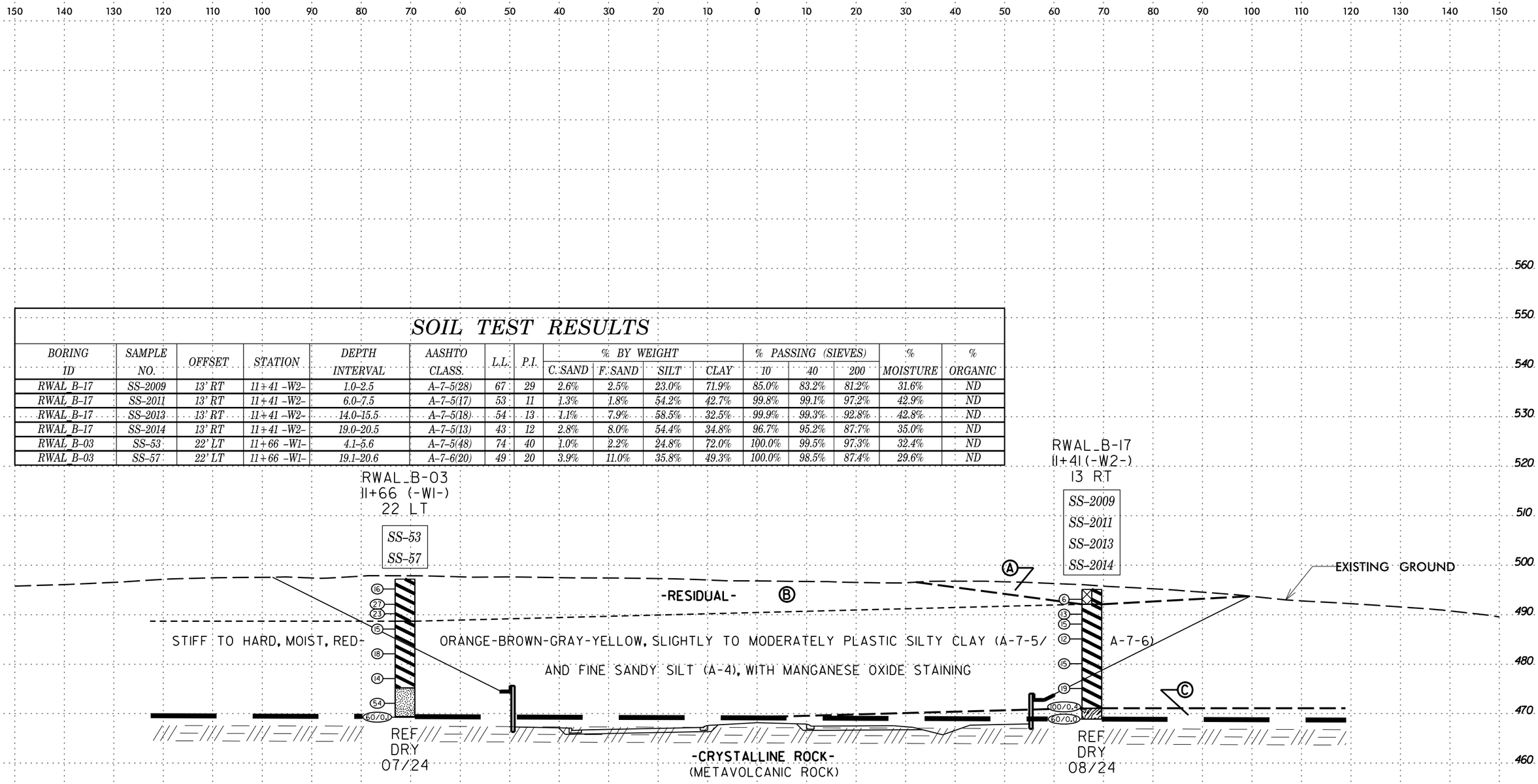
-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16
14-NOV-2024 18:53
C:\Users\KelludeMontbrun\Carolinas Geotechnical Group,PLLC\Matt Brewer - Projects\0252 - R-5963A_RDY_PDI_NCDOT GEU\CADD_GEOTECH\xsc\R-5963A_GEO_XS1.dgn
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
R-5963A	22

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL B-17	SS-2009	13' RT	11+41 -W2-	1.0-2.5	A-7-5(28)	67	29	2.6%	2.5%	23.0%	71.9%	85.0%	83.2%	81.2%	31.6%	ND
RWAL B-17	SS-2011	13' RT	11+41 -W2-	6.0-7.5	A-7-5(17)	53	11	1.3%	1.8%	54.2%	42.7%	99.8%	99.1%	97.2%	42.9%	ND
RWAL B-17	SS-2013	13' RT	11+41 -W2-	14.0-15.5	A-7-5(18)	54	13	1.1%	7.9%	58.5%	32.5%	99.9%	99.3%	92.8%	42.8%	ND
RWAL B-17	SS-2014	13' RT	11+41 -W2-	19.0-20.5	A-7-5(13)	43	12	2.8%	8.0%	54.4%	34.8%	96.7%	95.2%	87.7%	35.0%	ND
RWAL B-03	SS-53	22' LT	11+66 -W1-	4.1-5.6	A-7-5(48)	74	40	1.0%	2.2%	24.8%	72.0%	100.0%	99.5%	97.3%	32.4%	ND
RWAL B-03	SS-57	22' LT	11+66 -W1-	19.1-20.6	A-7-6(20)	49	20	3.9%	11.0%	35.8%	49.3%	100.0%	98.5%	87.4%	29.6%	ND



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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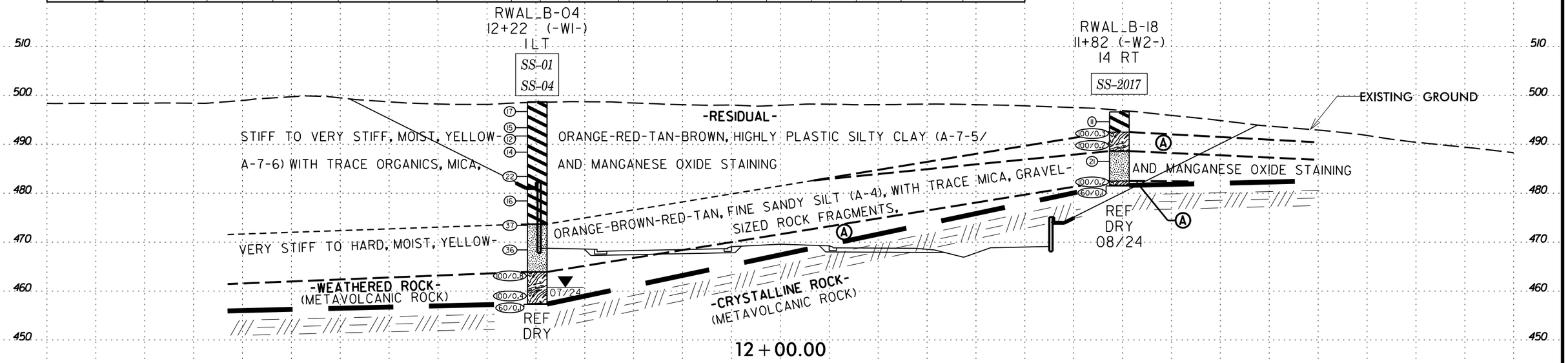
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL_B-18	SS-2017	14' RT	11+82 -W2-	1.0-2.5	A-7-6(40)	67	41	2.8%	1.3%	28.5%	67.4%	91.6%	89.4%	88.1%	28.9%	ND
RWAL_B-04	SS-01	1' LT	12+22 -W1-	1.0-2.5	A-7-5(47)	78	45	5.3%	7.0%	16.6%	71.1%	99.6%	96.0%	89.2%	35.2%	ND
RWAL_B-04	SS-04	1' LT	12+22 -W1-	9.3-10.8	A-7-5(33)	63	31	4.5%	7.4%	27.8%	60.3%	100.0%	97.4%	89.8%	35.3%	ND



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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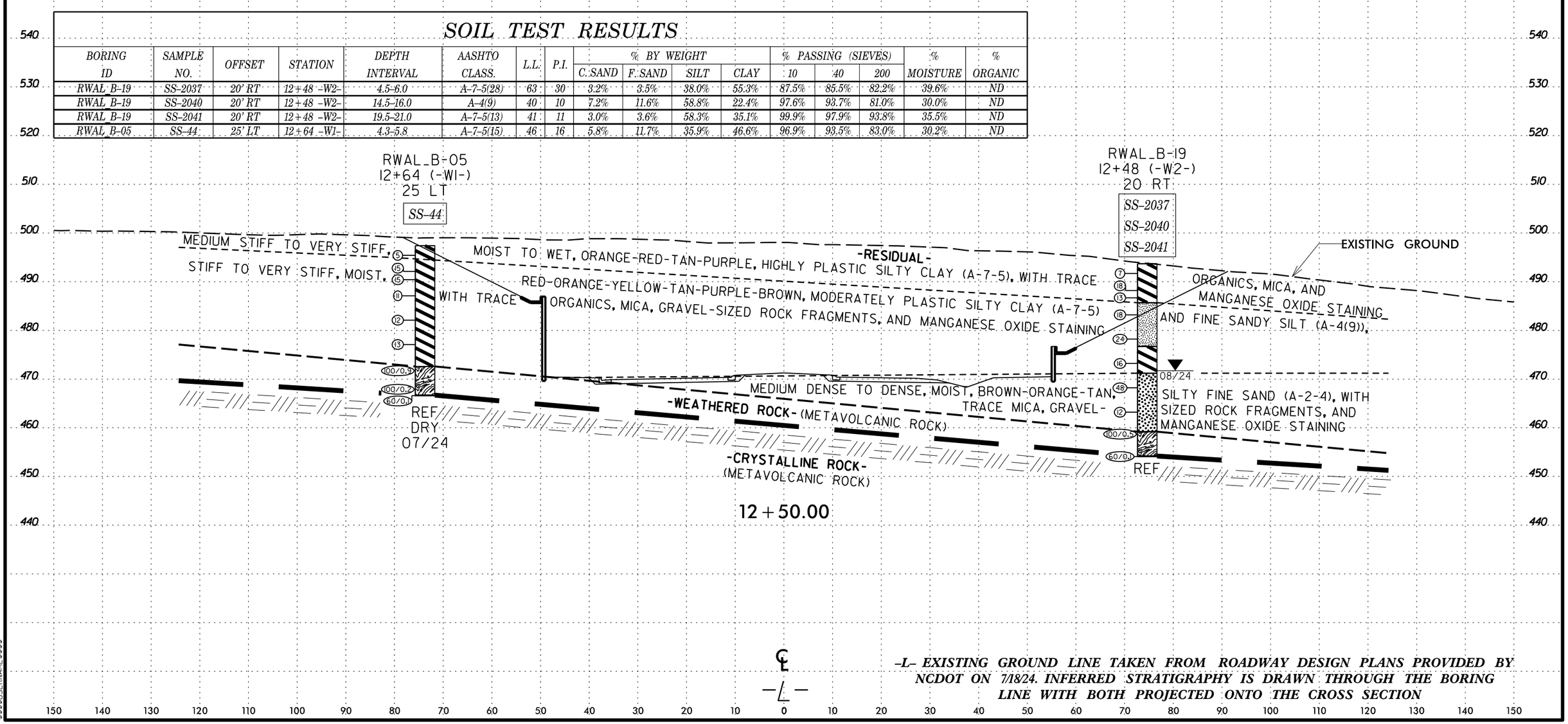
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL_B-19	SS-2037	20' RT	12+48 -W2-	4.5-6.0	A-7-5(28)	63	30	3.2%	3.5%	38.0%	55.3%	87.5%	85.5%	82.2%	39.6%	ND
RWAL_B-19	SS-2040	20' RT	12+48 -W2-	14.5-16.0	A-4(9)	40	10	7.2%	11.6%	58.8%	22.4%	97.6%	93.7%	81.0%	30.0%	ND
RWAL_B-19	SS-2041	20' RT	12+48 -W2-	19.5-21.0	A-7-5(13)	41	11	3.0%	3.6%	58.3%	35.1%	99.9%	97.9%	93.8%	35.5%	ND
RWAL_B-05	SS-44	25' LT	12+64 -W1-	4.3-5.8	A-7-5(15)	46	16	5.8%	11.7%	35.9%	46.6%	96.9%	93.5%	83.0%	30.2%	ND



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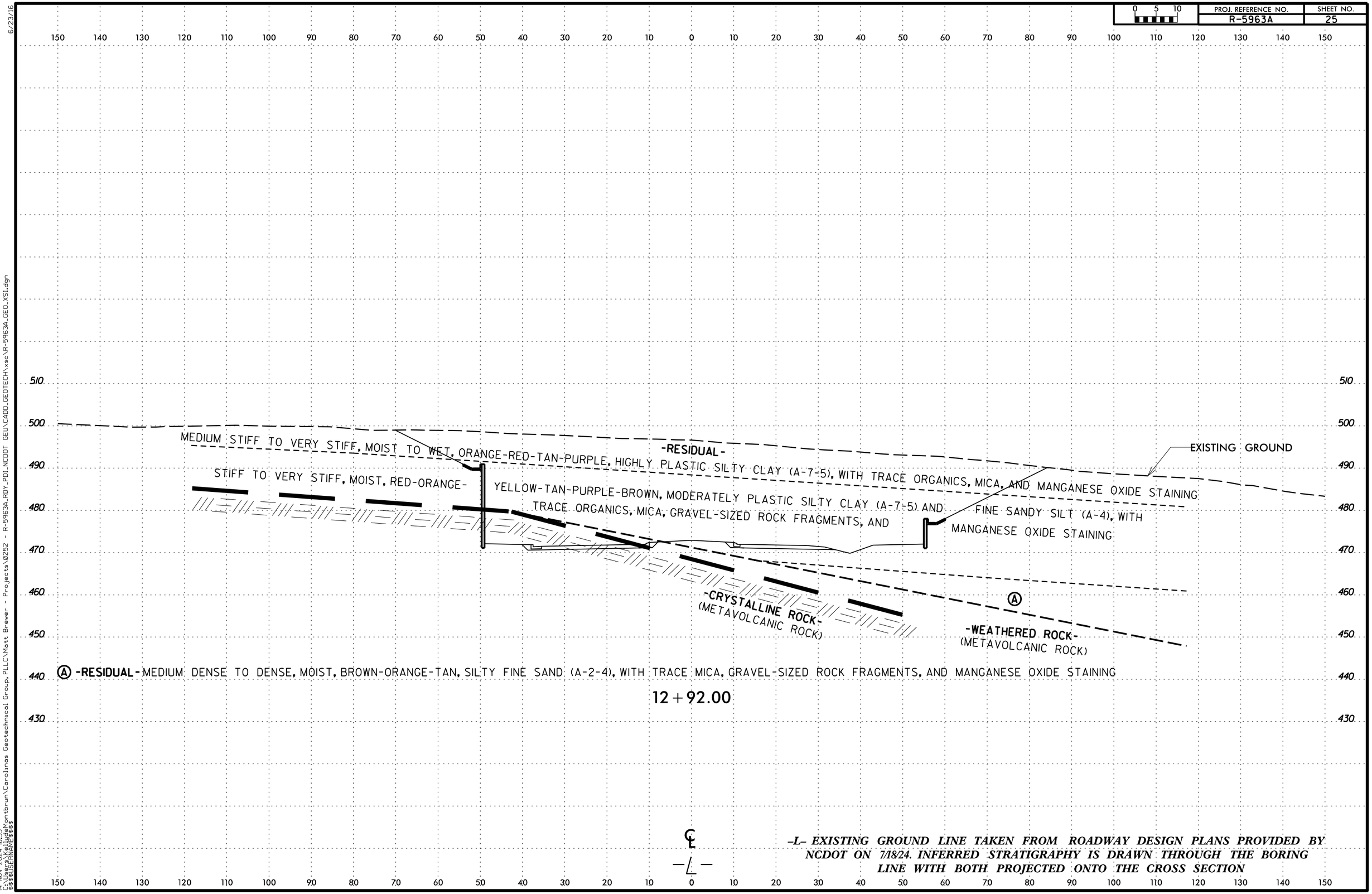
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	25



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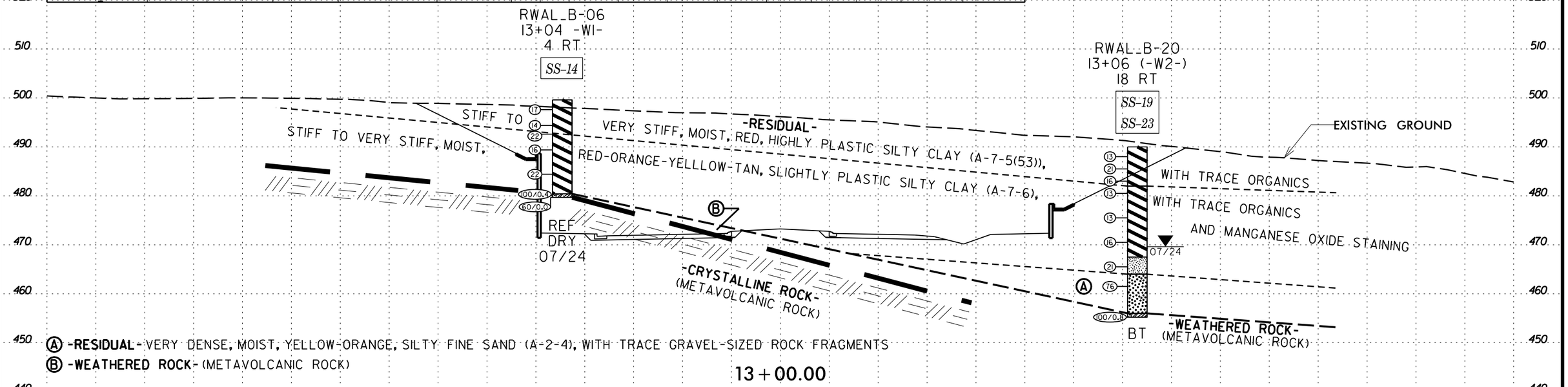
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL_B-06	SS-14	4' RT	13+04 -W1-	6.0-7.5	A-7-6(11)	42	13	8.8%	17.2%	32.5%	41.5%	99.9%	95.8%	77.7%	25.3%	ND
RWAL_B-20	SS-19	18' RT	13+06 -W2-	1.0-2.5	A-7-5(53)	81	50	3.0%	2.9%	14.7%	79.4%	96.3%	94.2%	91.5%	32.3%	ND
RWAL_B-20	SS-23	18' RT	13+06 -W2-	13.5-15.0	A-7-6(11)	41	14	9.4%	15.0%	36.6%	39.0%	100.0%	94.9%	78.4%	34.2%	ND



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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PROJ. REFERENCE NO.	SHEET NO.
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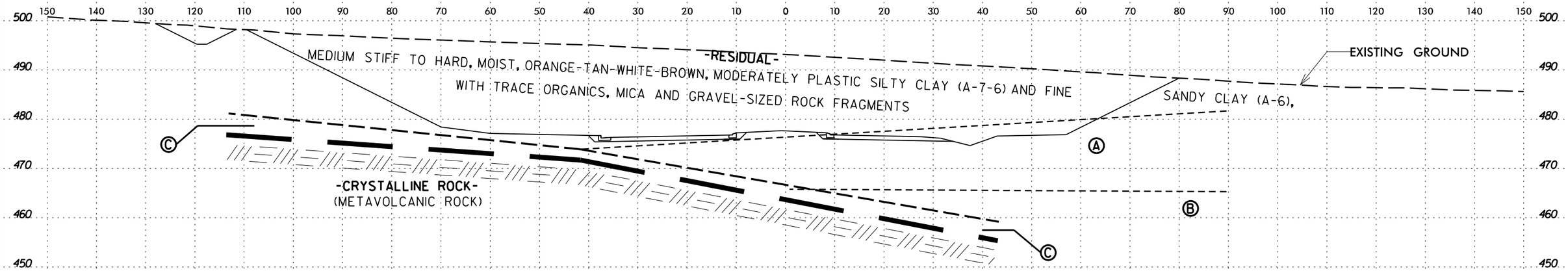


Ⓐ -RESIDUAL- DENSE TO VERY DENSE, MOIST, ORANGE-TAN-WHITE, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE MICA, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING

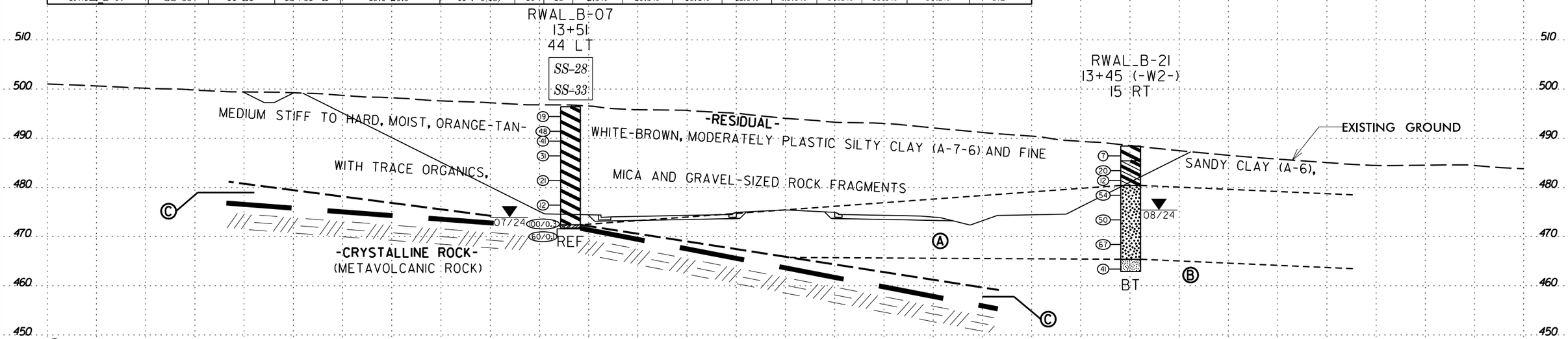
Ⓑ -RESIDUAL- HARD, MOIST, TAN-ORANGE-BROWN, FINE SANDY SILT (A-4), WITH TRACE MICA, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING

Ⓒ -WEATHERED ROCK- (METAVOLCANIC ROCK)

14+00.00

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL_B-07	SS-28	44' LT	13+51 -L-	1.0-2.5	A-7-6(11)	41	19	11.3%	16.8%	32.9%	39.0%	85.8%	79.9%	65.0%	20.2%	ND
RWAL_B-07	SS-33	44' LT	13+51 -L-	19.0-20.5	A-7-6(18)	46	18	2.3%	10.3%	46.4%	41.0%	98.3%	96.8%	89.3%	39.1%	ND



Ⓐ -RESIDUAL- DENSE TO VERY DENSE, MOIST, ORANGE-TAN-WHITE, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE MICA, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING

Ⓑ -RESIDUAL- HARD, MOIST, TAN-ORANGE-BROWN, FINE SANDY SILT (A-4), WITH TRACE MICA, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING

Ⓒ -WEATHERED ROCK- (METAVOLCANIC ROCK)

13+50.00

℄ -L-

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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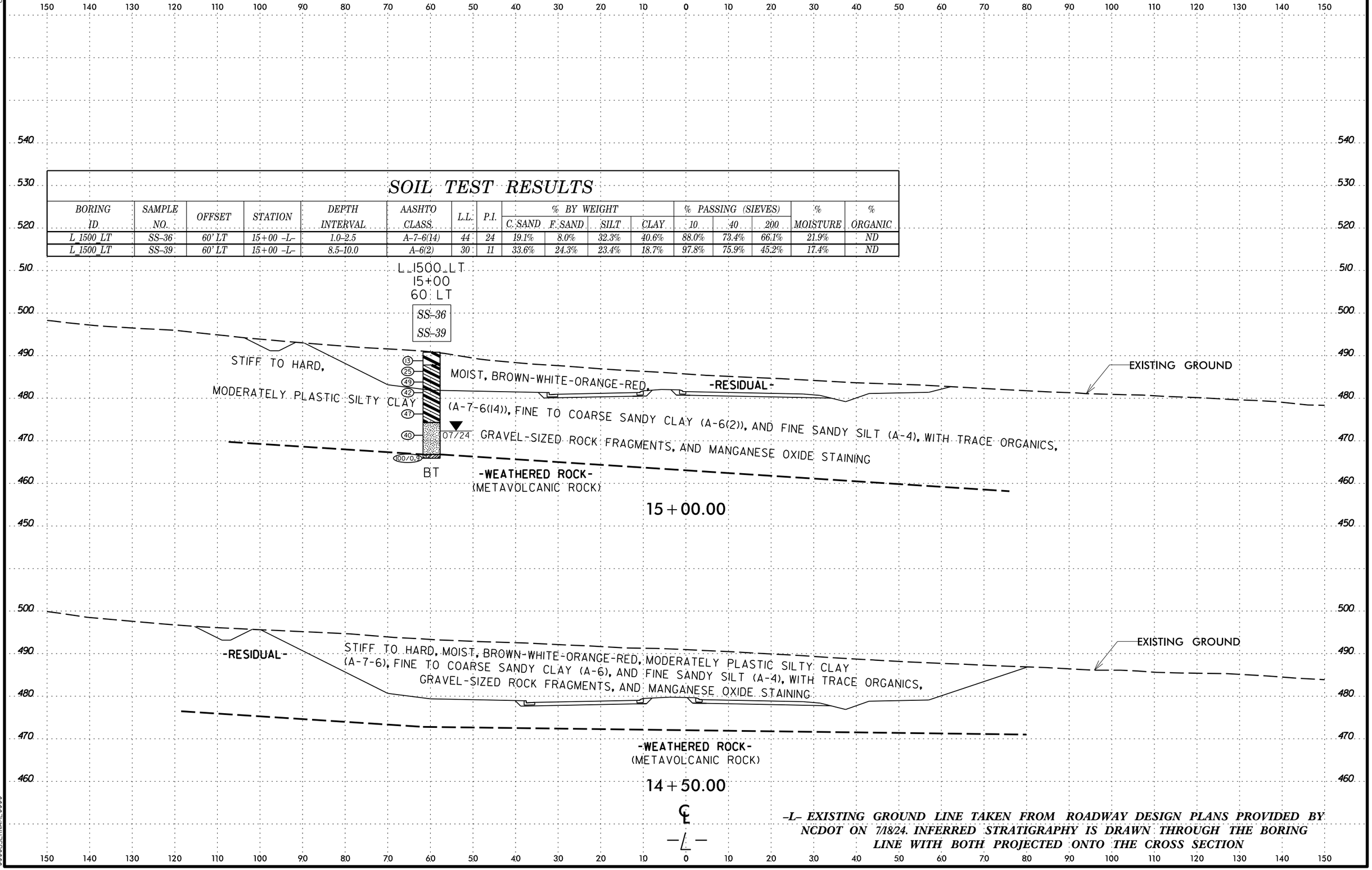
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	28

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_1500_LT	SS-36	60' LT	15+00 -L-	1.0-2.5	A-7-6(14)	44	24	19.1%	8.0%	32.3%	40.6%	88.0%	73.4%	66.1%	21.9%	ND
L_1500_LT	SS-39	60' LT	15+00 -L-	8.5-10.0	A-6(2)	30	11	33.6%	24.3%	23.4%	18.7%	97.8%	75.9%	45.2%	17.4%	ND



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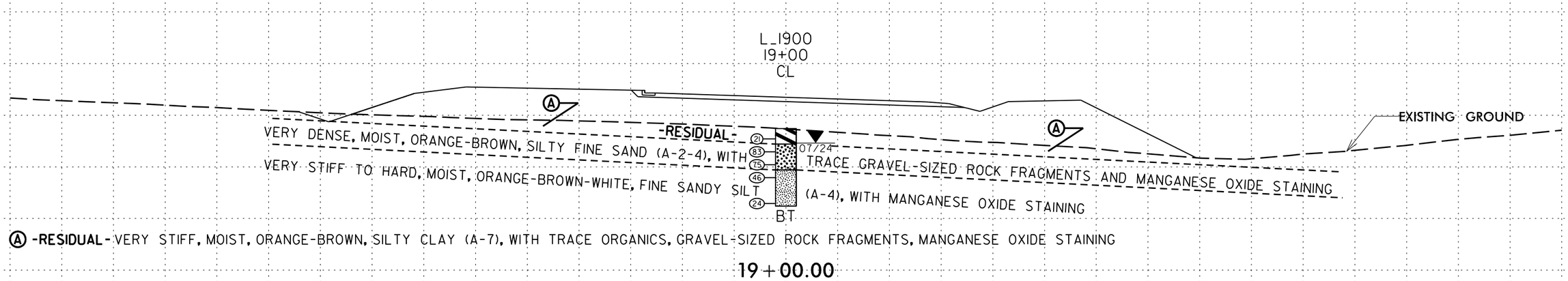
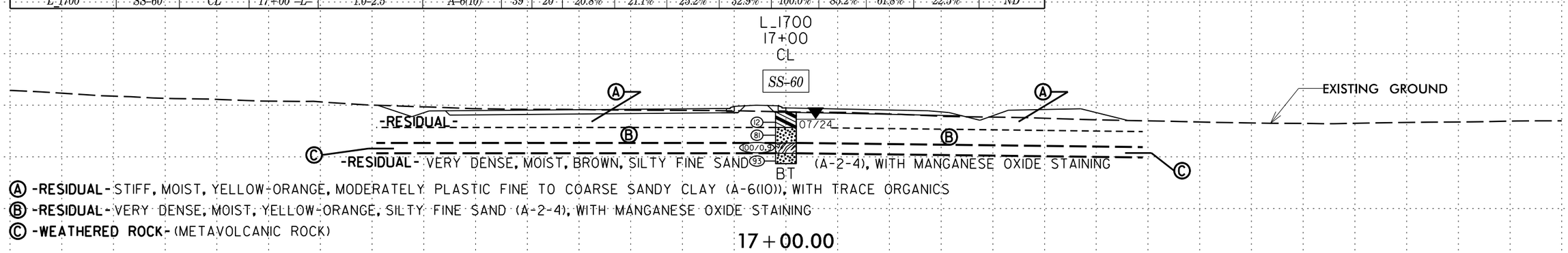


SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_1700	SS-60	CL	17+00 -L-	1.0-2.5	A-6(10)	39	20	20.8%	21.1%	25.2%	32.9%	100.0%	85.2%	61.8%	22.5%	ND



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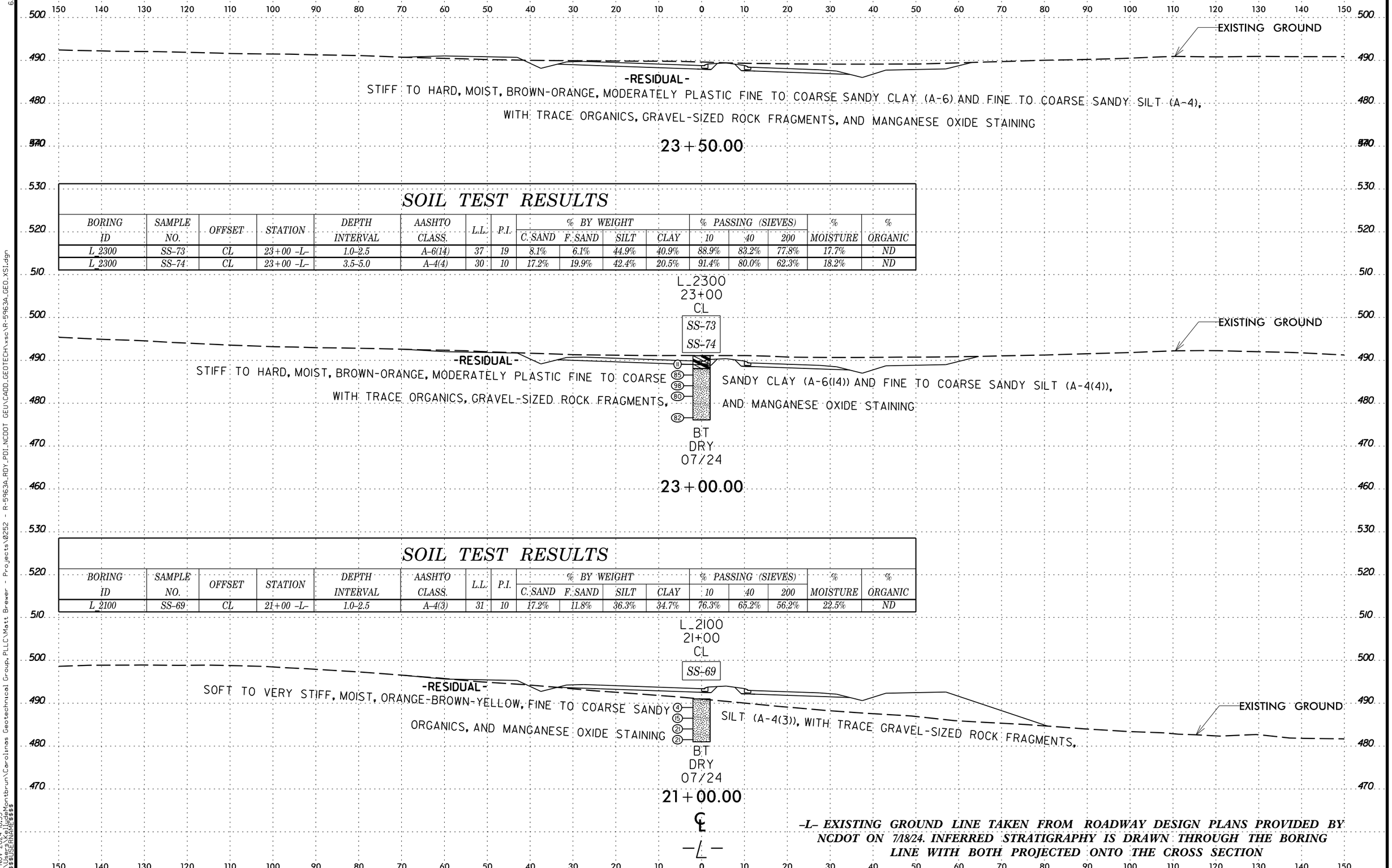

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_2300	SS-73	CL	23+00 -L-	1.0-2.5	A-6(14)	37	19	8.1%	6.1%	44.9%	40.9%	88.9%	83.2%	77.8%	17.7%	ND
L_2300	SS-74	CL	23+00 -L-	3.5-5.0	A-4(4)	30	10	17.2%	19.9%	42.4%	20.5%	91.4%	80.0%	62.3%	18.2%	ND

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_2100	SS-69	CL	21+00 -L-	1.0-2.5	A-4(3)	31	10	17.2%	11.8%	36.3%	34.7%	76.3%	65.2%	56.2%	22.5%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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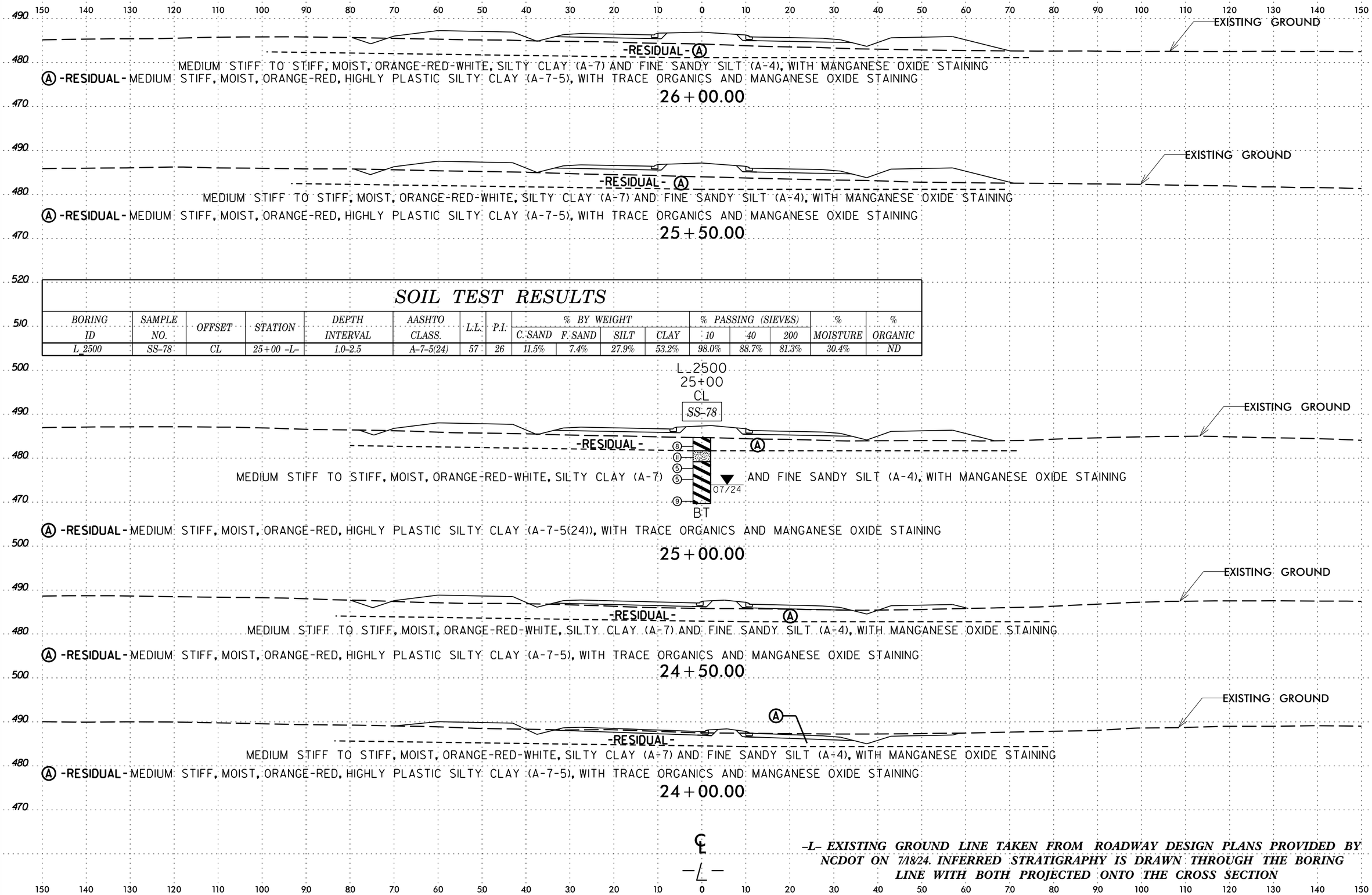

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_2500	SS-78	CL	25+00 -L-	1.0-2.5	A-7-5(24)	57	26	11.5%	7.4%	27.9%	53.2%	98.0%	88.7%	81.3%	30.4%	ND

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SOIL TEST RESULTS

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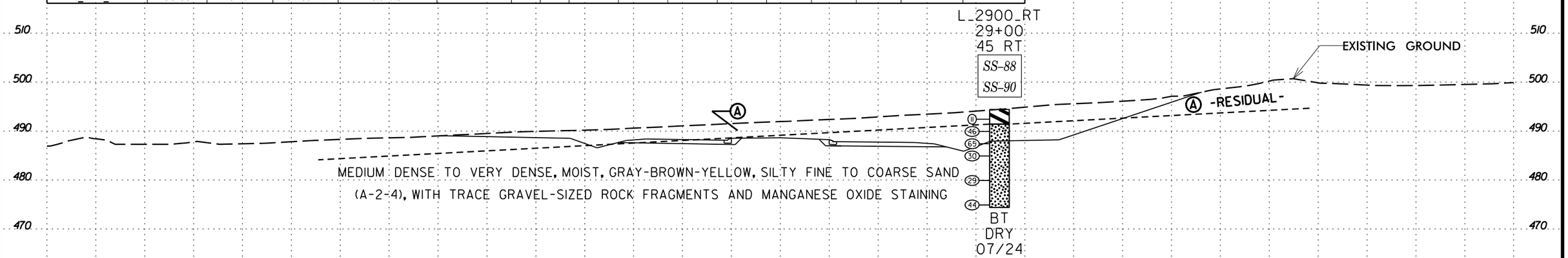
L_2900_RT	SS-88	45' RT	29+00 -L-	1.0-2.5	A-7-6(9)	44	21	24.1%	15.5%	23.5%	36.9%	89.9%	73.4%	57.1%	27.0%	ND
L_2900_RT	SS-90	45' RT	29+00 -L-	6.0-7.5	A-2-4	26	10	38.8%	22.9%	17.9%	20.4%	81.8%	59.1%	34.1%	10.5%	ND



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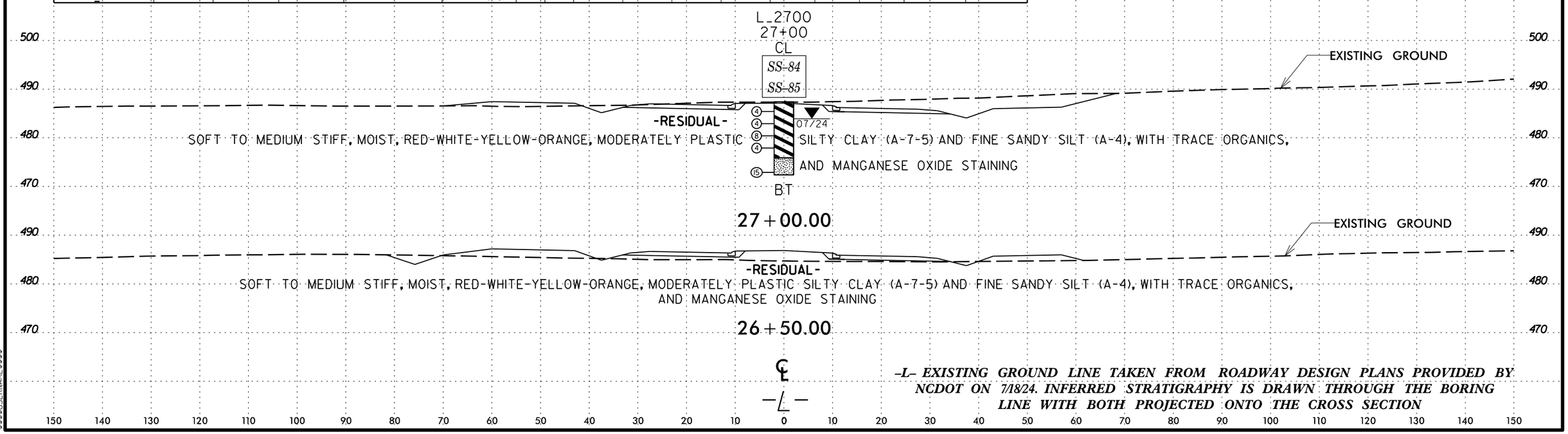
L_2700	SS-84	CL	27+00 -L-	3.5-5.0	A-7-5(29)	55	25	1.3%	5.3%	42.4%	51.0%	99.9%	99.4%	94.6%	42.7%	ND
L_2700	SS-85	CL	27+00 -L-	6.0-7.5	A-7-5(21)	54	20	4.8%	8.0%	52.7%	34.5%	99.9%	97.6%	87.3%	43.7%	ND



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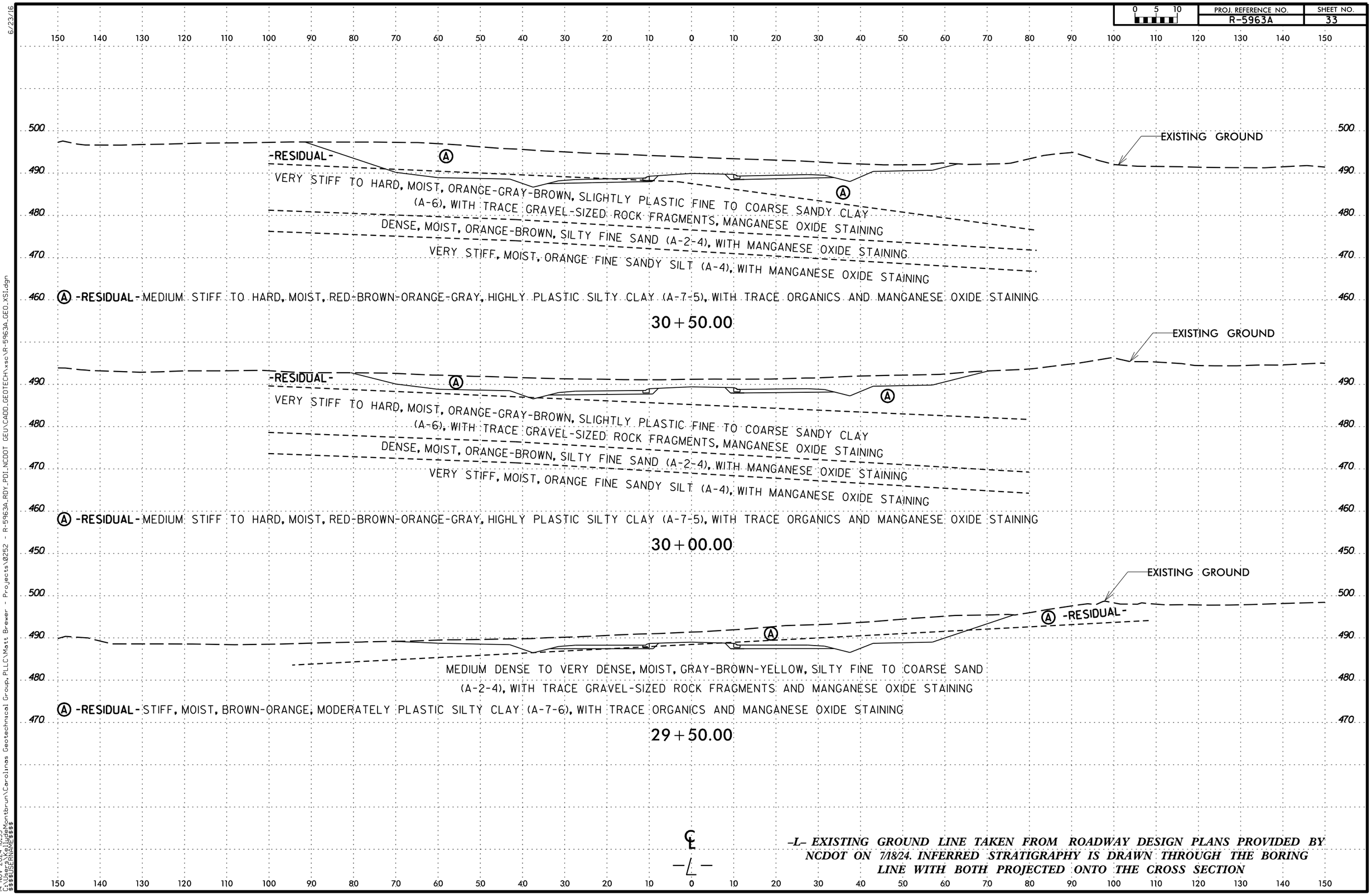

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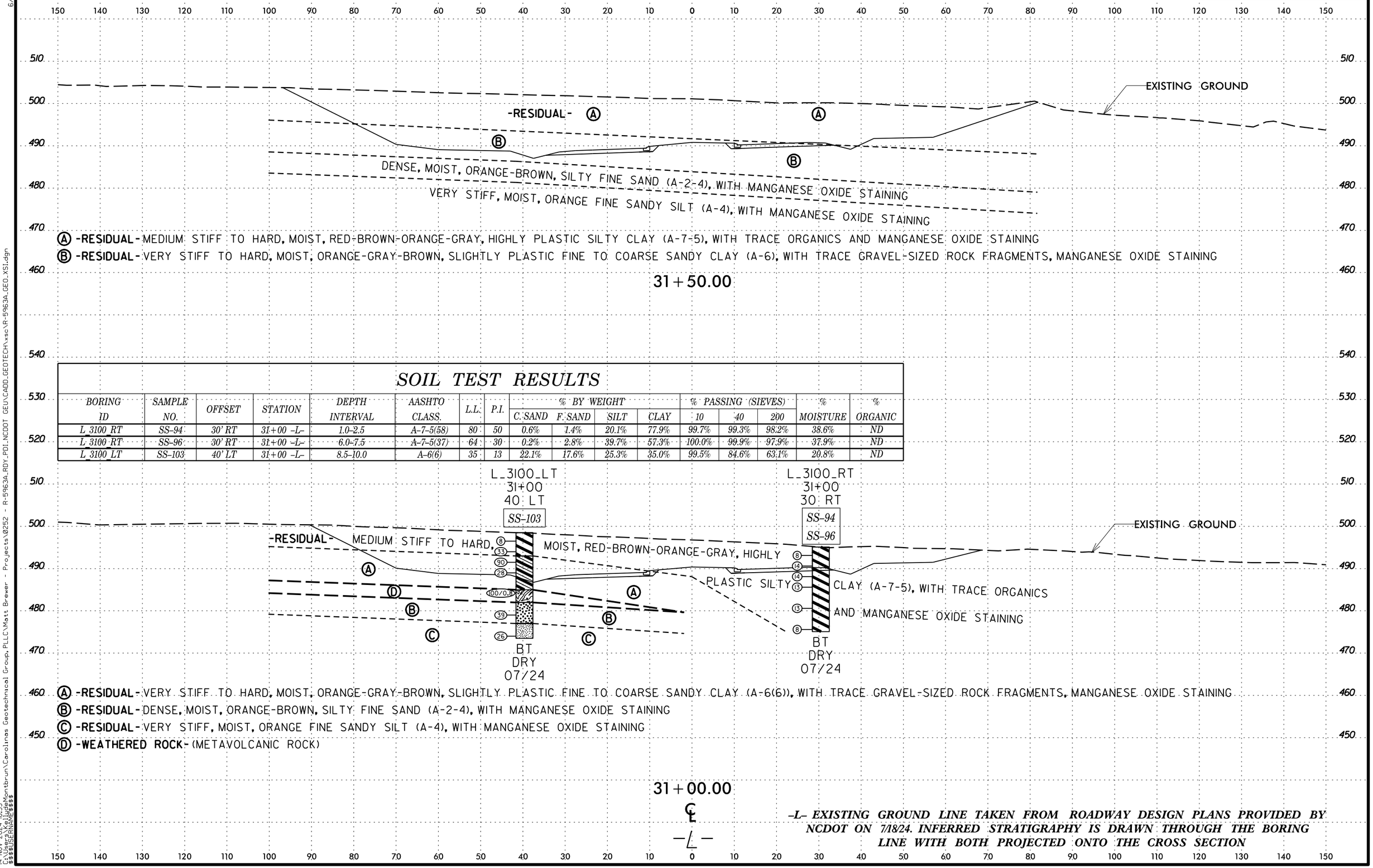

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_3100_RT	SS-94	30' RT	31+00 -L-	1.0-2.5	A-7-5(58)	80	50	0.6%	1.4%	20.1%	77.9%	99.7%	99.3%	98.2%	38.6%	ND
L_3100_RT	SS-96	30' RT	31+00 -L-	6.0-7.5	A-7-5(37)	64	30	0.2%	2.8%	39.7%	57.3%	100.0%	99.9%	97.9%	37.9%	ND
L_3100_LT	SS-103	40' LT	31+00 -L-	8.5-10.0	A-6(6)	35	13	22.1%	17.6%	25.3%	35.0%	99.5%	84.6%	63.1%	20.8%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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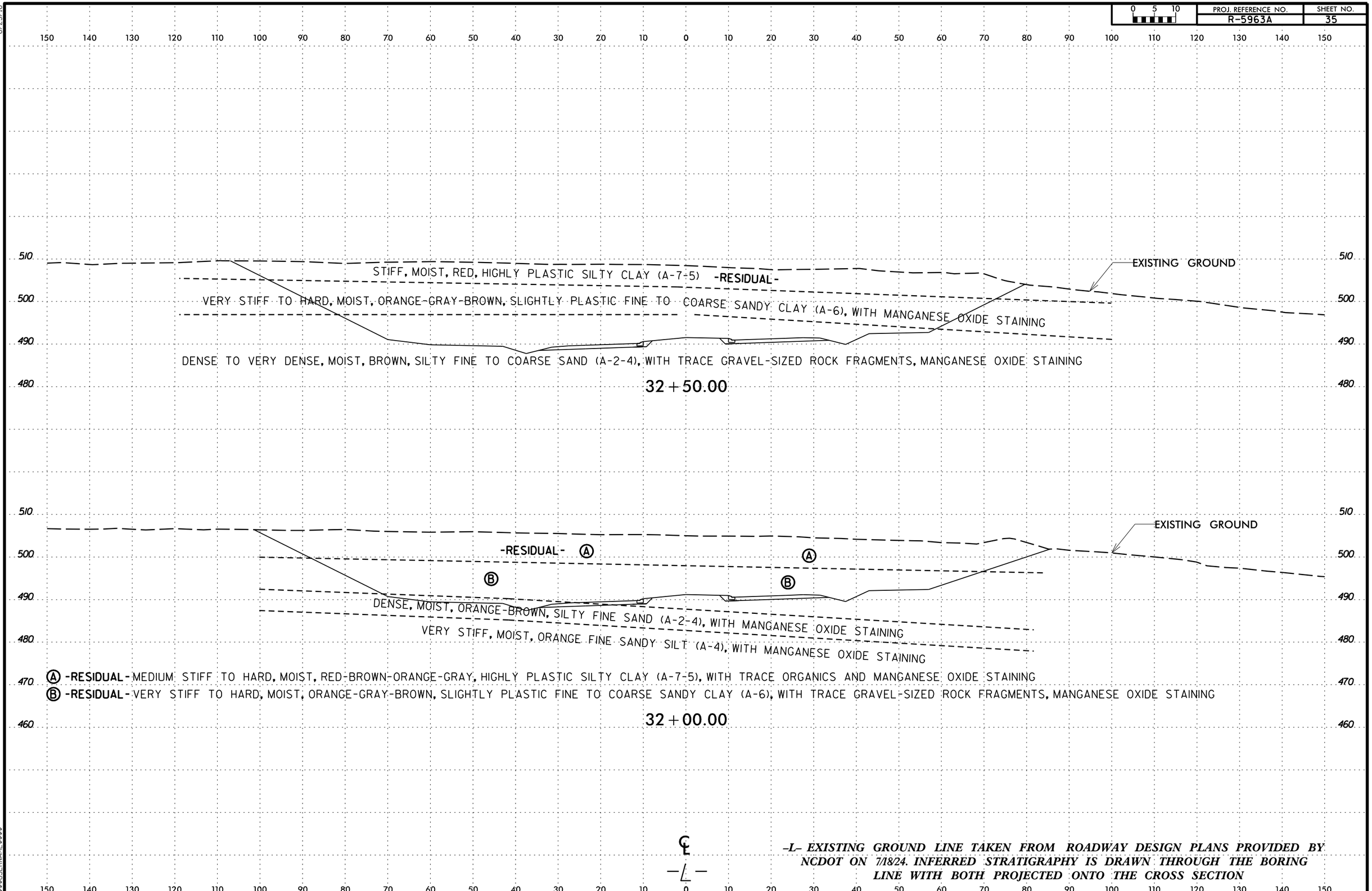
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	35



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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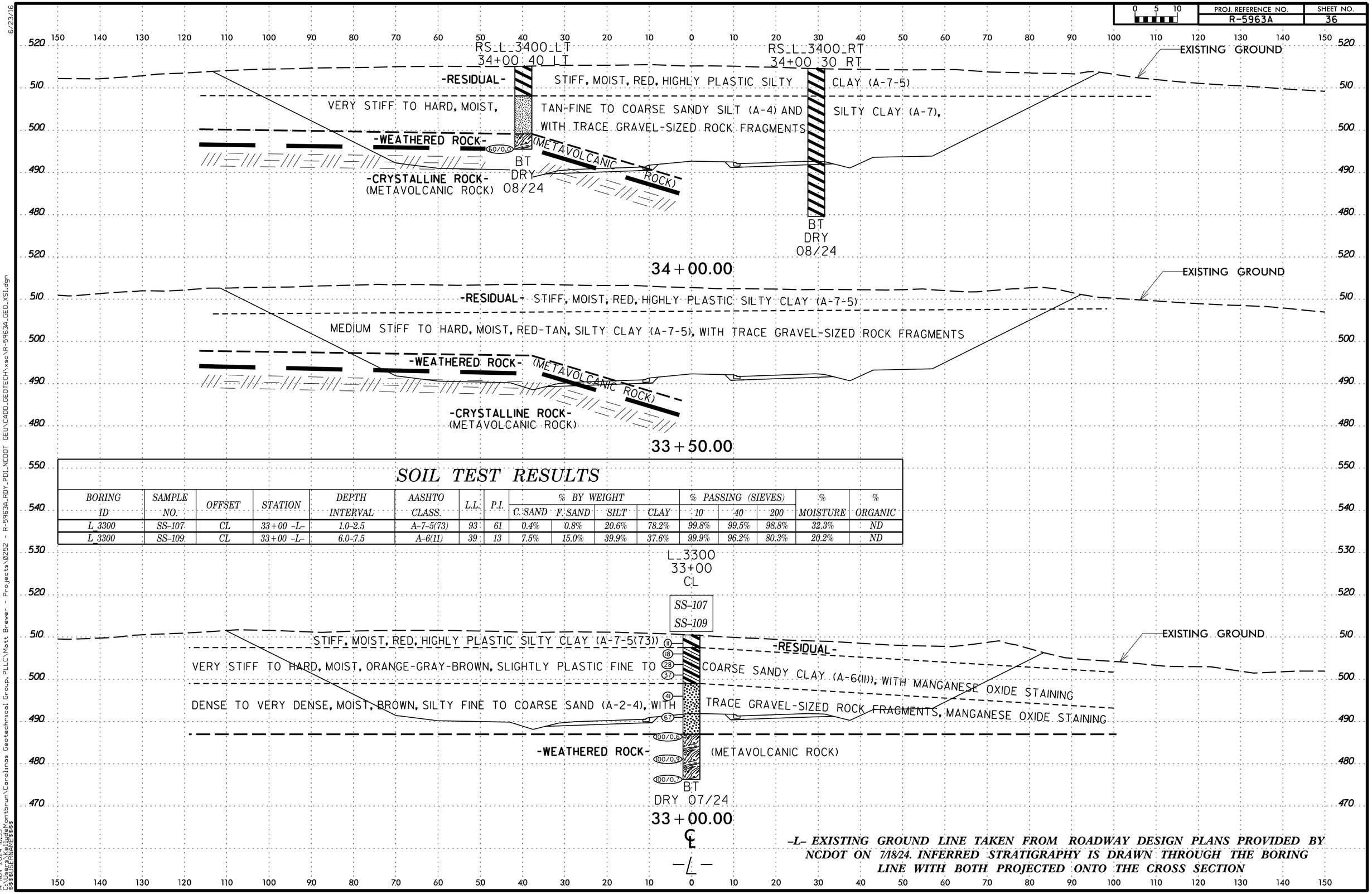
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	36



SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_3300	SS-107	CL	33+00 -L-	1.0-2.5	A-7-5(73)	93	61	0.4%	0.8%	20.6%	78.2%	99.8%	99.5%	98.8%	32.3%	ND
L_3300	SS-109	CL	33+00 -L-	6.0-7.5	A-6(11)	39	13	7.5%	15.0%	39.9%	37.6%	99.9%	96.2%	80.3%	20.2%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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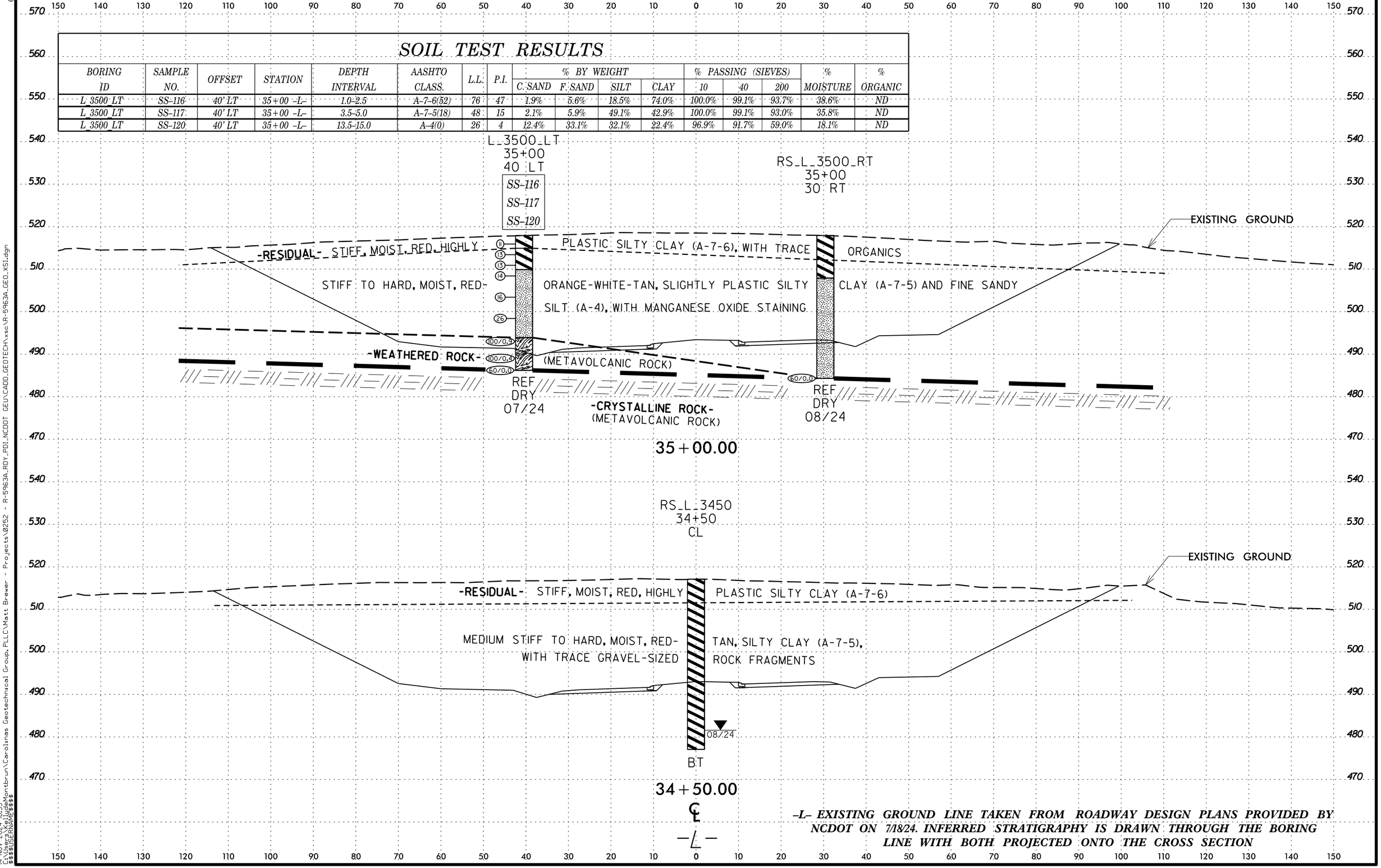
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_3500_LT	SS-116	40' LT	35+00 -L-	1.0-2.5	A-7-6(32)	76	47	1.9%	5.6%	18.5%	74.0%	100.0%	99.1%	93.7%	38.6%	ND
L_3500_LT	SS-117	40' LT	35+00 -L-	3.5-5.0	A-7-5(18)	48	15	2.1%	5.9%	49.1%	42.9%	100.0%	99.1%	93.0%	35.8%	ND
L_3500_LT	SS-120	40' LT	35+00 -L-	13.5-15.0	A-4(0)	26	4	12.4%	33.1%	32.1%	22.4%	96.9%	91.7%	59.0%	18.1%	ND



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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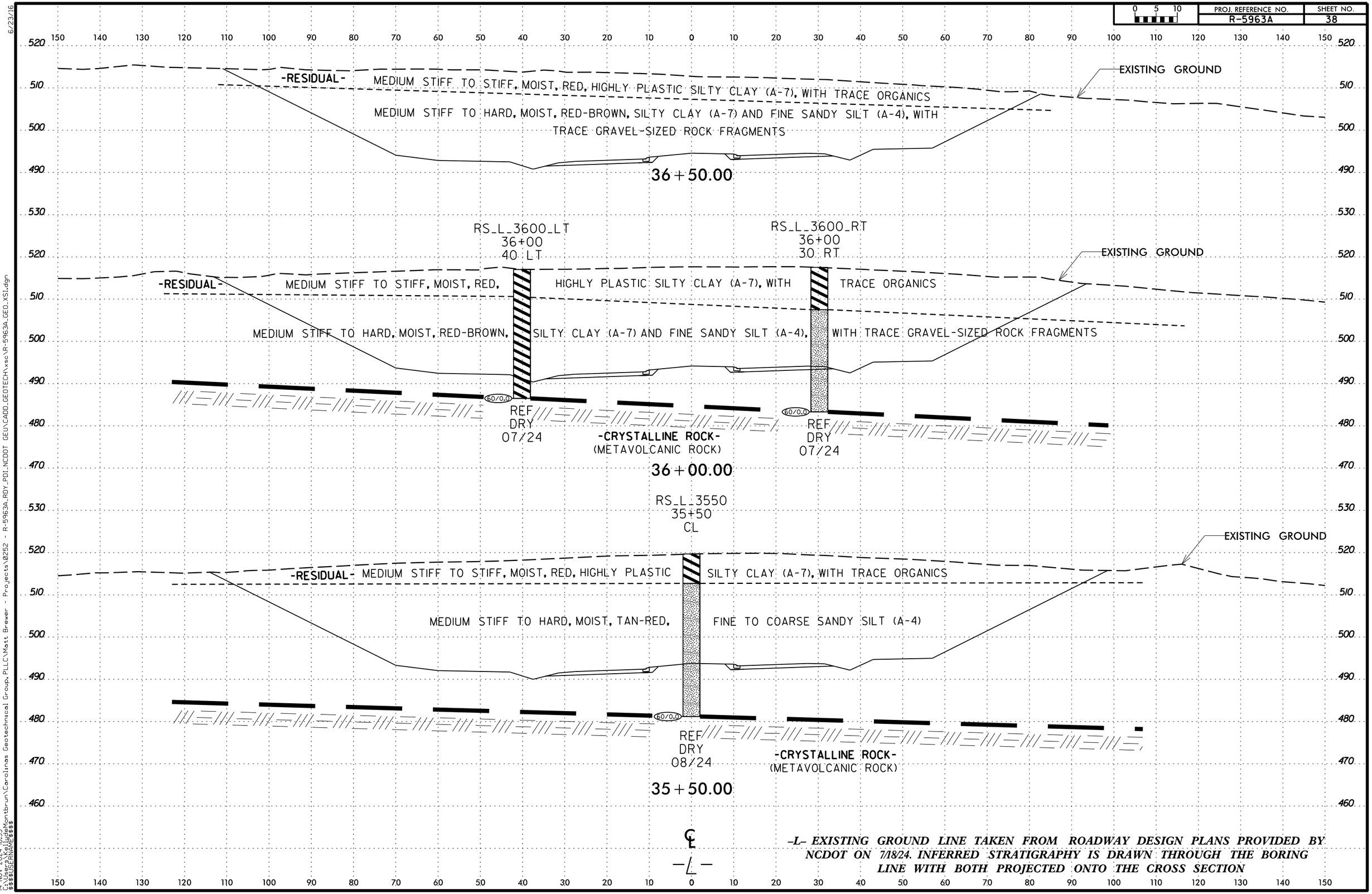
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	38



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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PROJ. REFERENCE NO.	SHEET NO.
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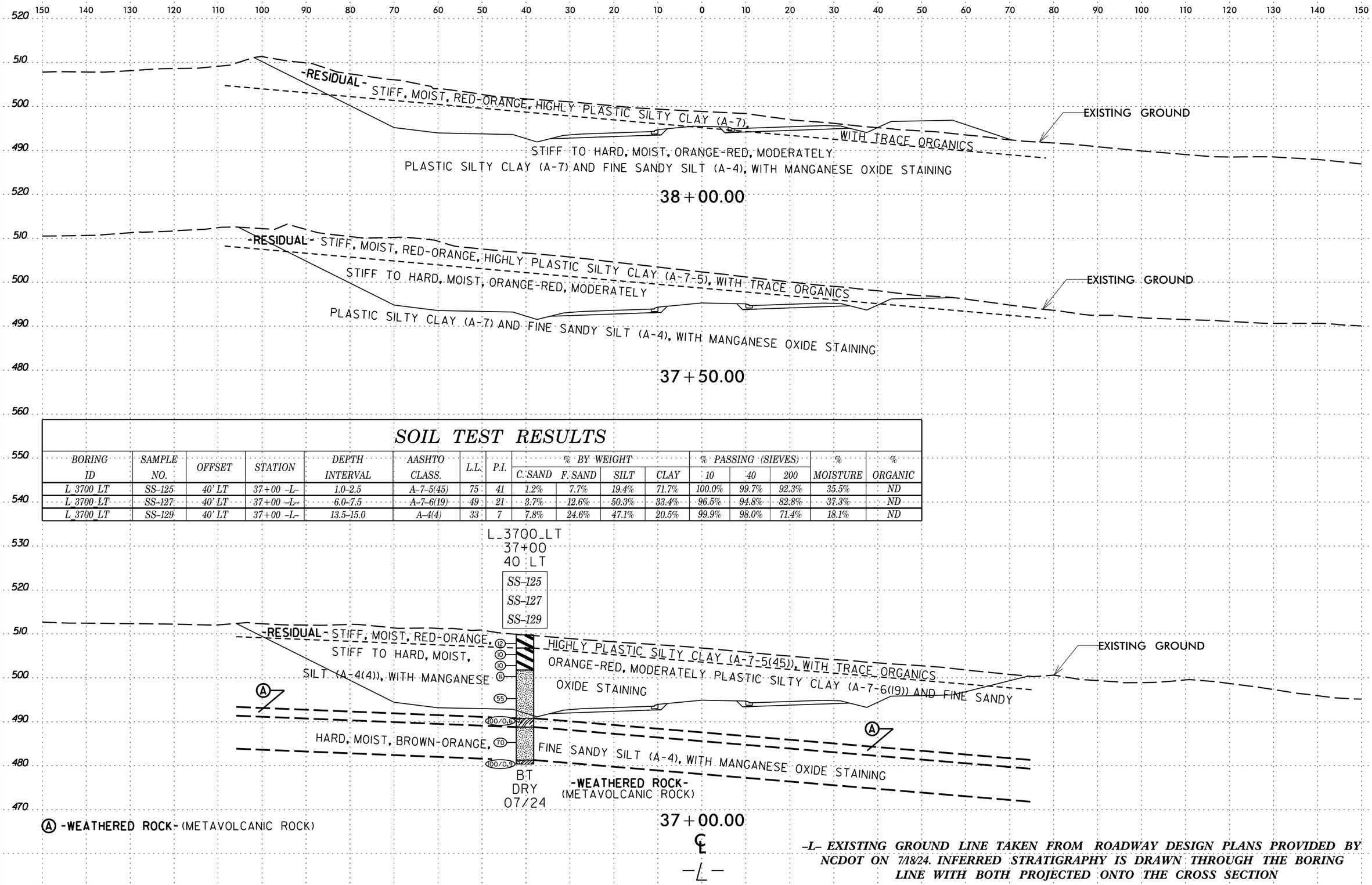

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_3700_LT	SS-125	40' LT	37+00 -L-	1.0-2.5	A-7-5(45)	75	41	1.2%	7.7%	19.4%	71.7%	100.0%	99.7%	92.3%	35.5%	ND
L_3700_LT	SS-127	40' LT	37+00 -L-	6.0-7.5	A-7-6(19)	49	21	3.7%	12.6%	50.3%	33.4%	96.5%	94.8%	82.8%	37.3%	ND
L_3700_LT	SS-129	40' LT	37+00 -L-	13.5-15.0	A-4(4)	33	7	7.8%	24.6%	47.1%	20.5%	99.9%	98.0%	71.4%	18.1%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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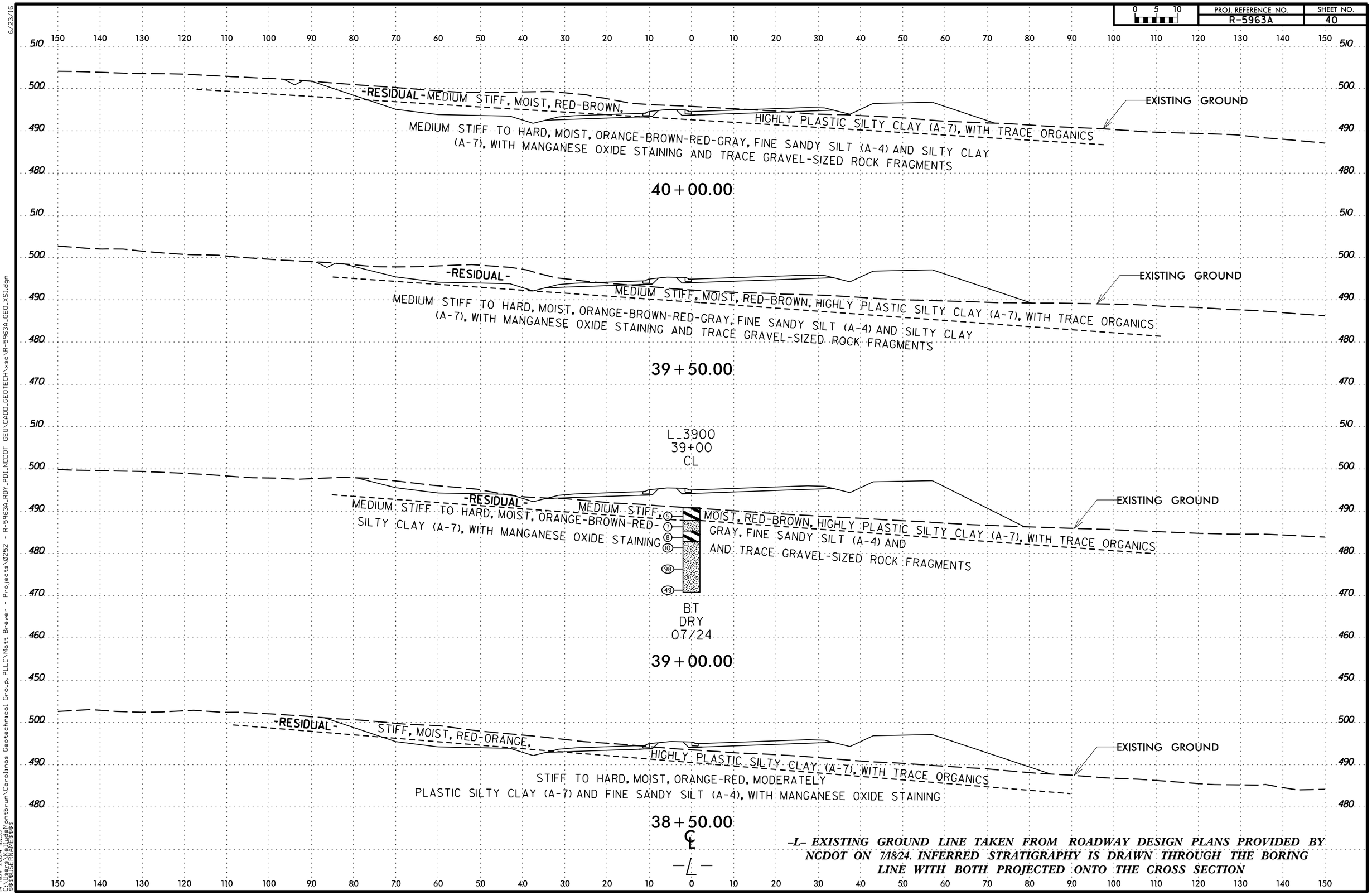

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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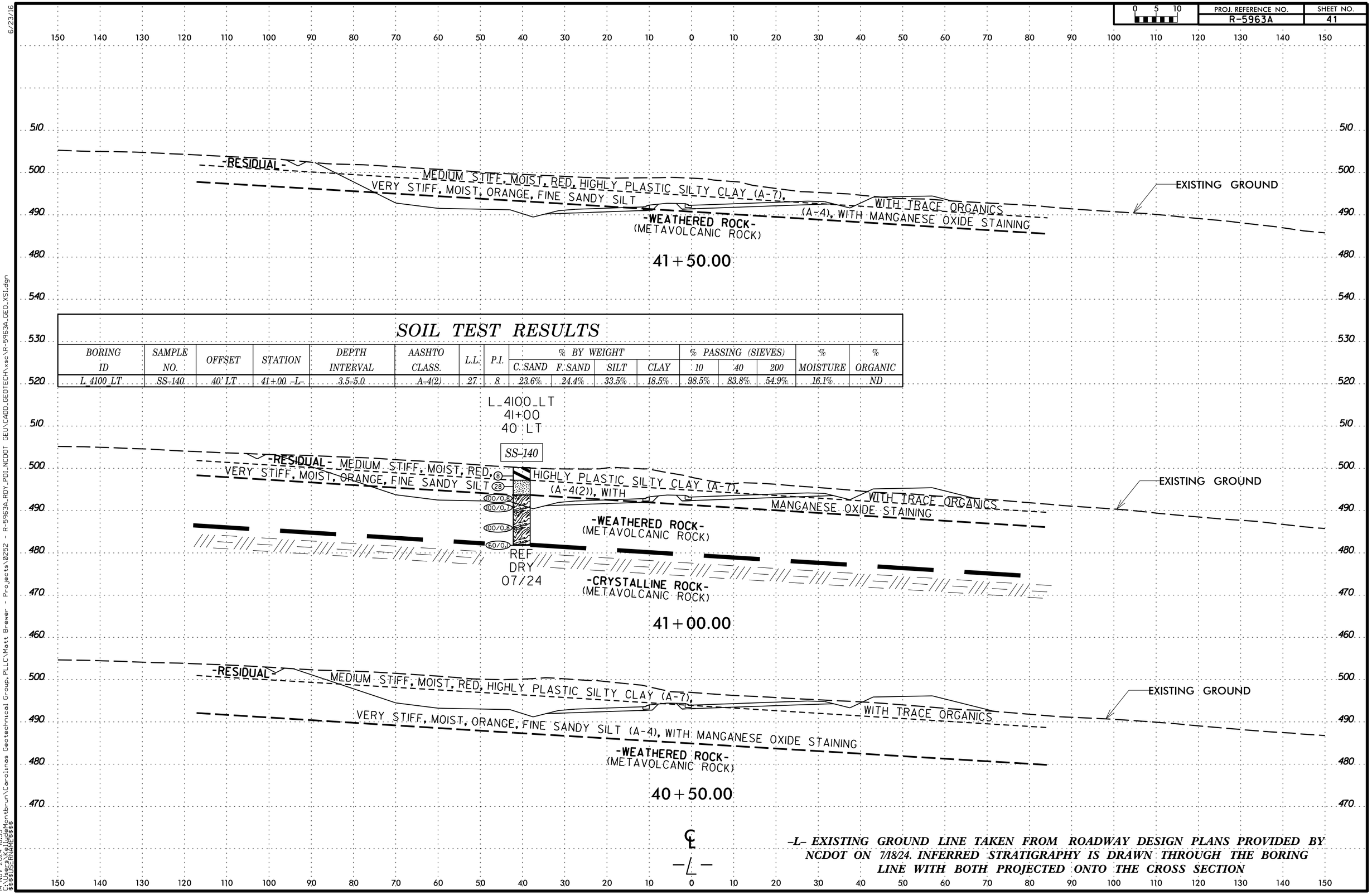

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_4100_LT	SS-140	40' LT	41+00 -L-	3.5-5.0	A-4(2)	27	8	23.6%	24.4%	33.5%	18.5%	98.5%	83.8%	54.9%	16.1%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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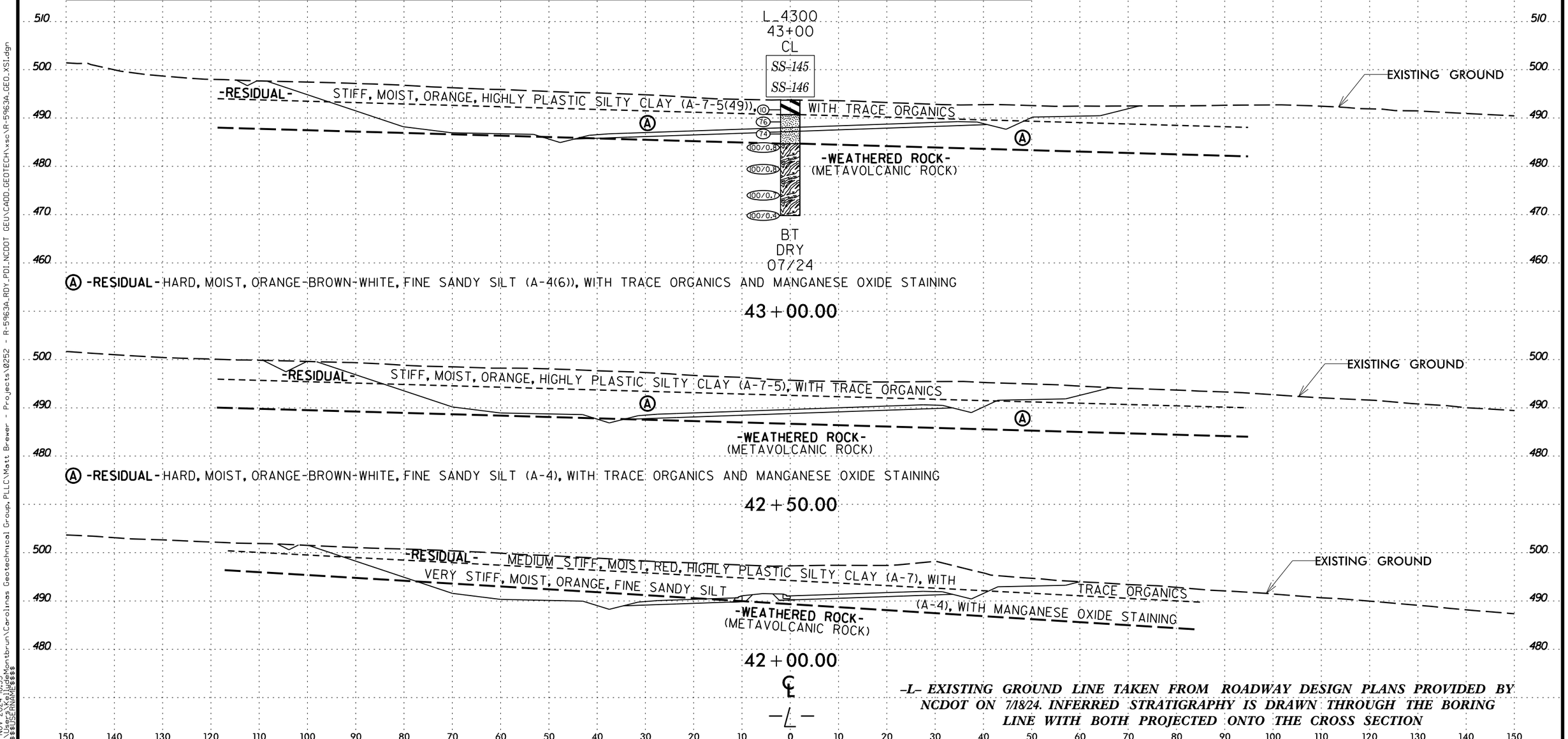
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	42

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_4300	SS-145	CL	43+00 -L-	1.0-2.5	A-7-5(49)	88	57	3.4%	2.7%	14.5%	79.4%	83.0%	80.8%	78.5%	31.9%	ND
L_4300	SS-146	CL	43+00 -L-	3.5-5.0	A-4(6)	33	9	13.0%	10.0%	58.3%	18.7%	96.1%	87.3%	75.8%	12.0%	ND



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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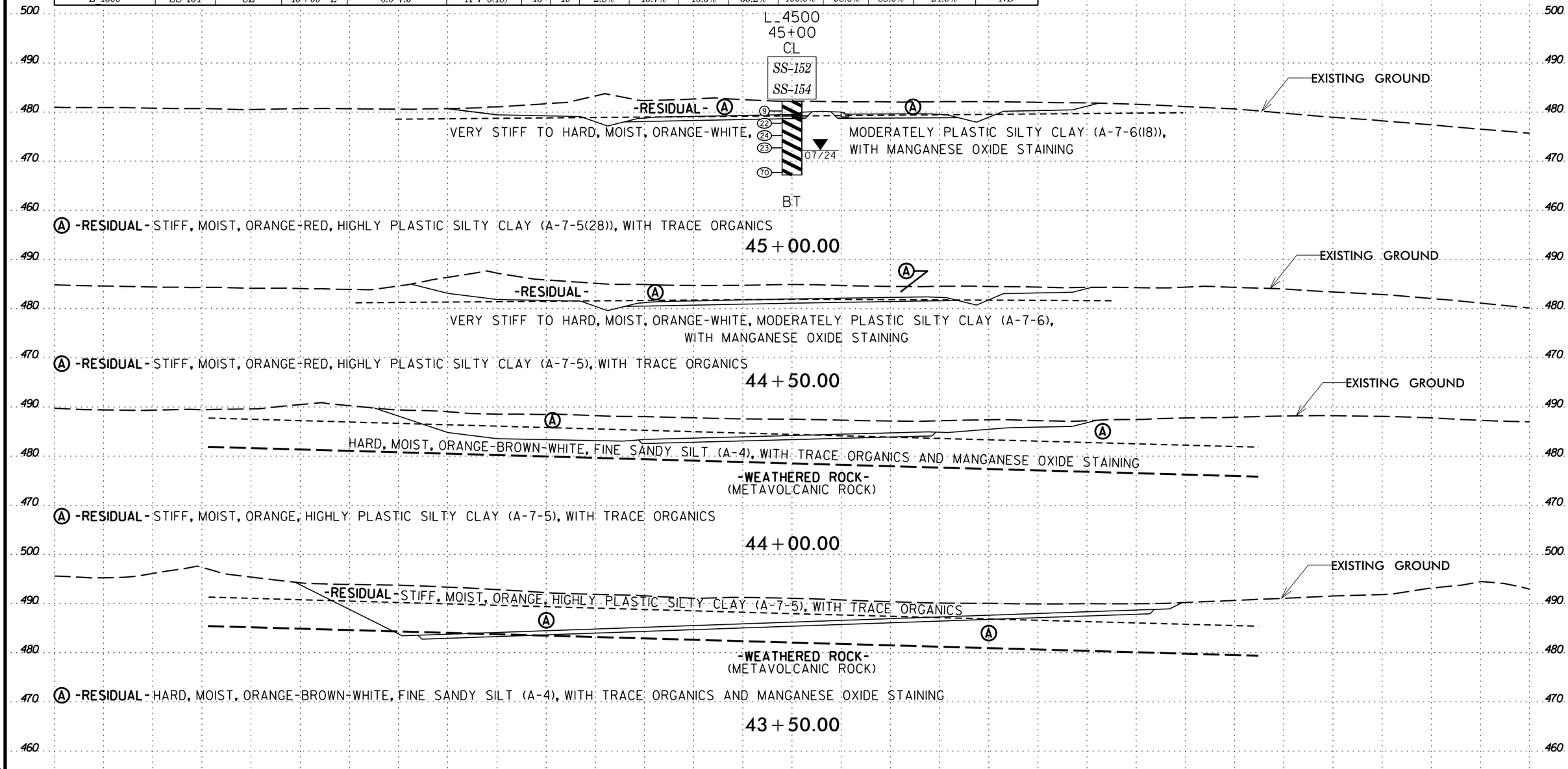
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	43

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_4500	SS-152	CL	45+00 -L-	1.0-2.5	A-7-5(28)	71	38	1.0%	1.8%	16.1%	81.1%	71.9%	71.3%	70.2%	30.7%	ND
L_4500	SS-154	CL	45+00 -L-	6.0-7.5	A-7-6(18)	43	19	2.8%	15.7%	46.3%	35.2%	100.0%	98.6%	88.0%	24.9%	ND



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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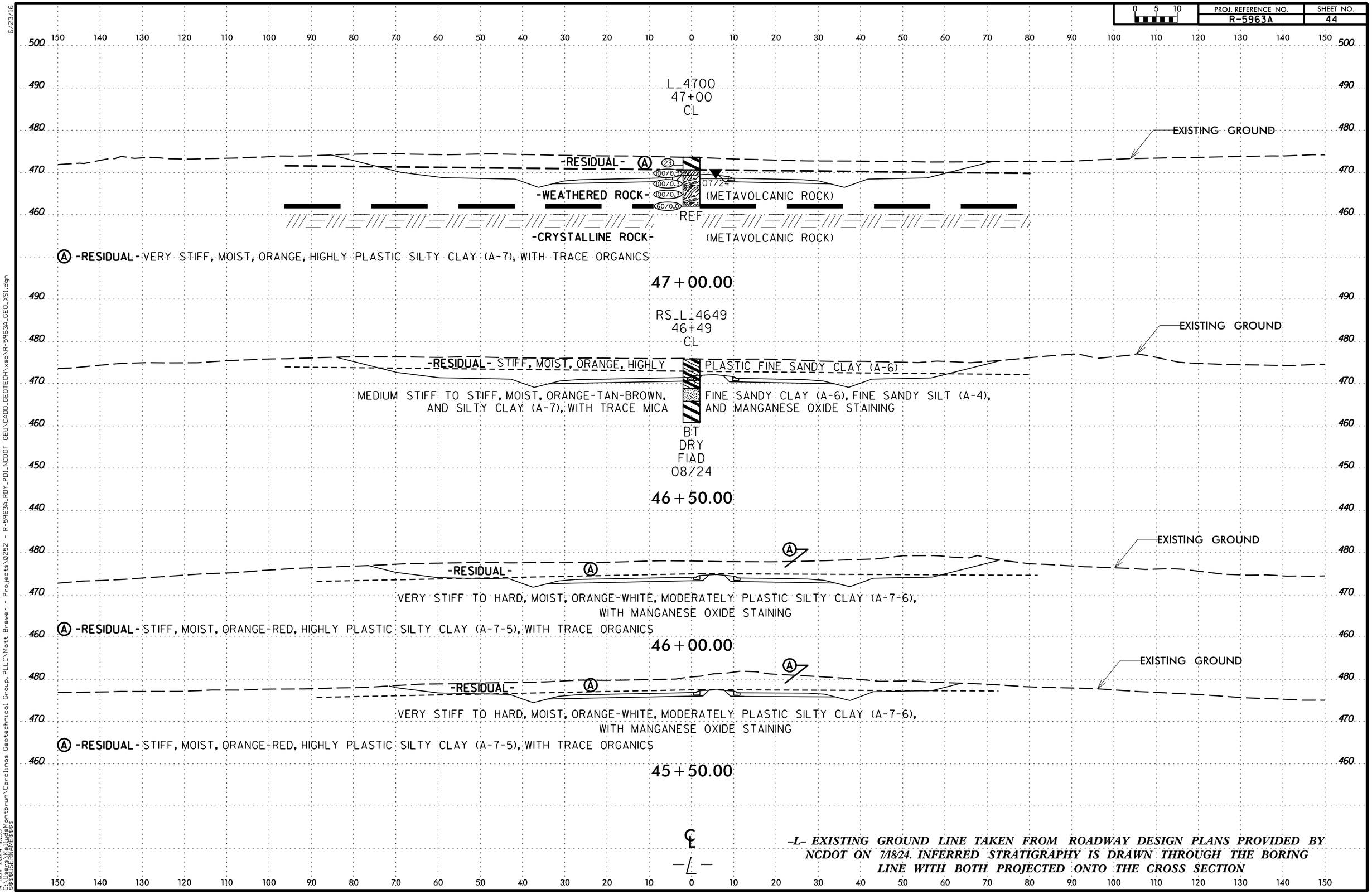
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	44



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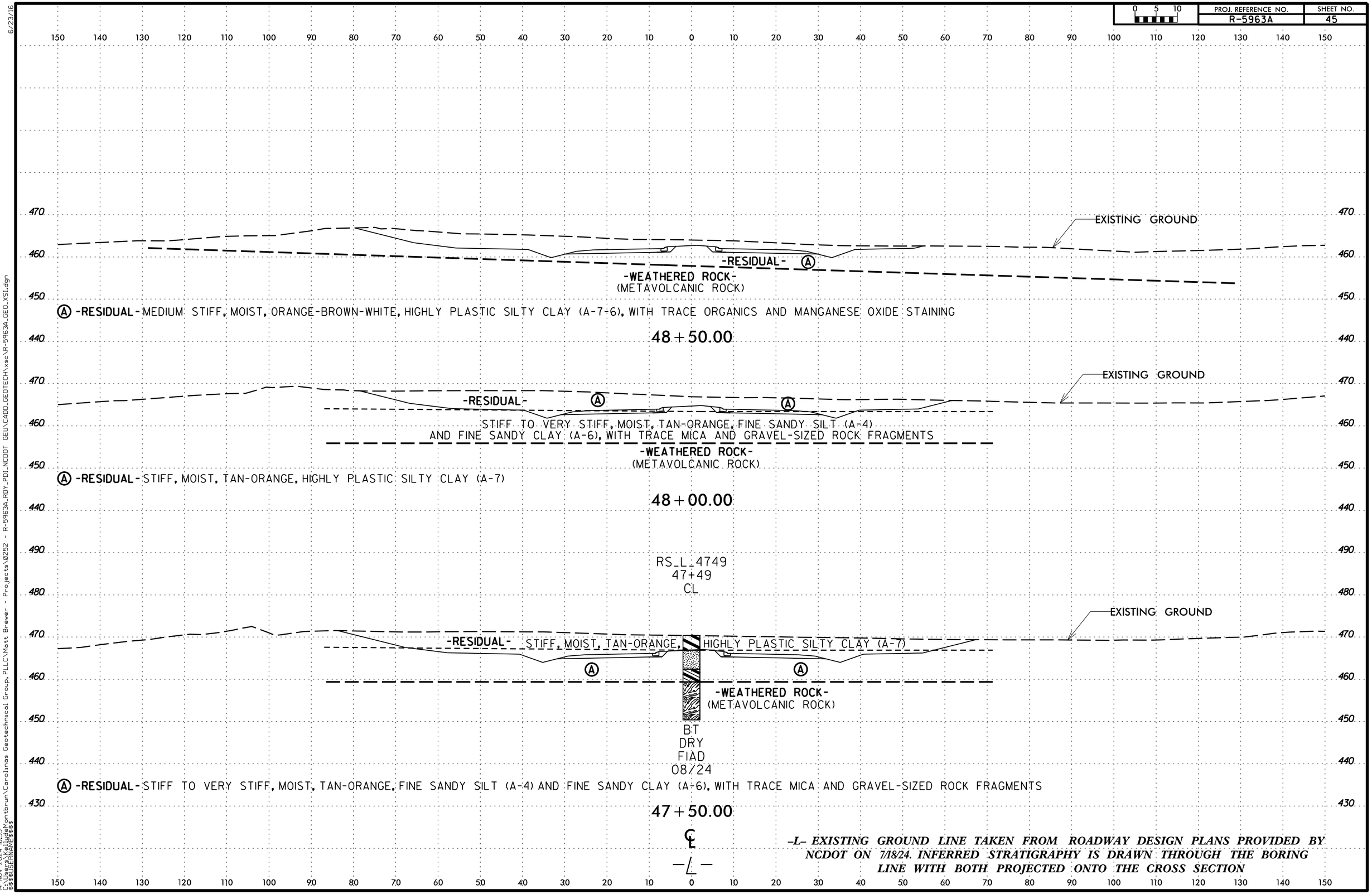
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	45



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PROJ. REFERENCE NO.	SHEET NO.
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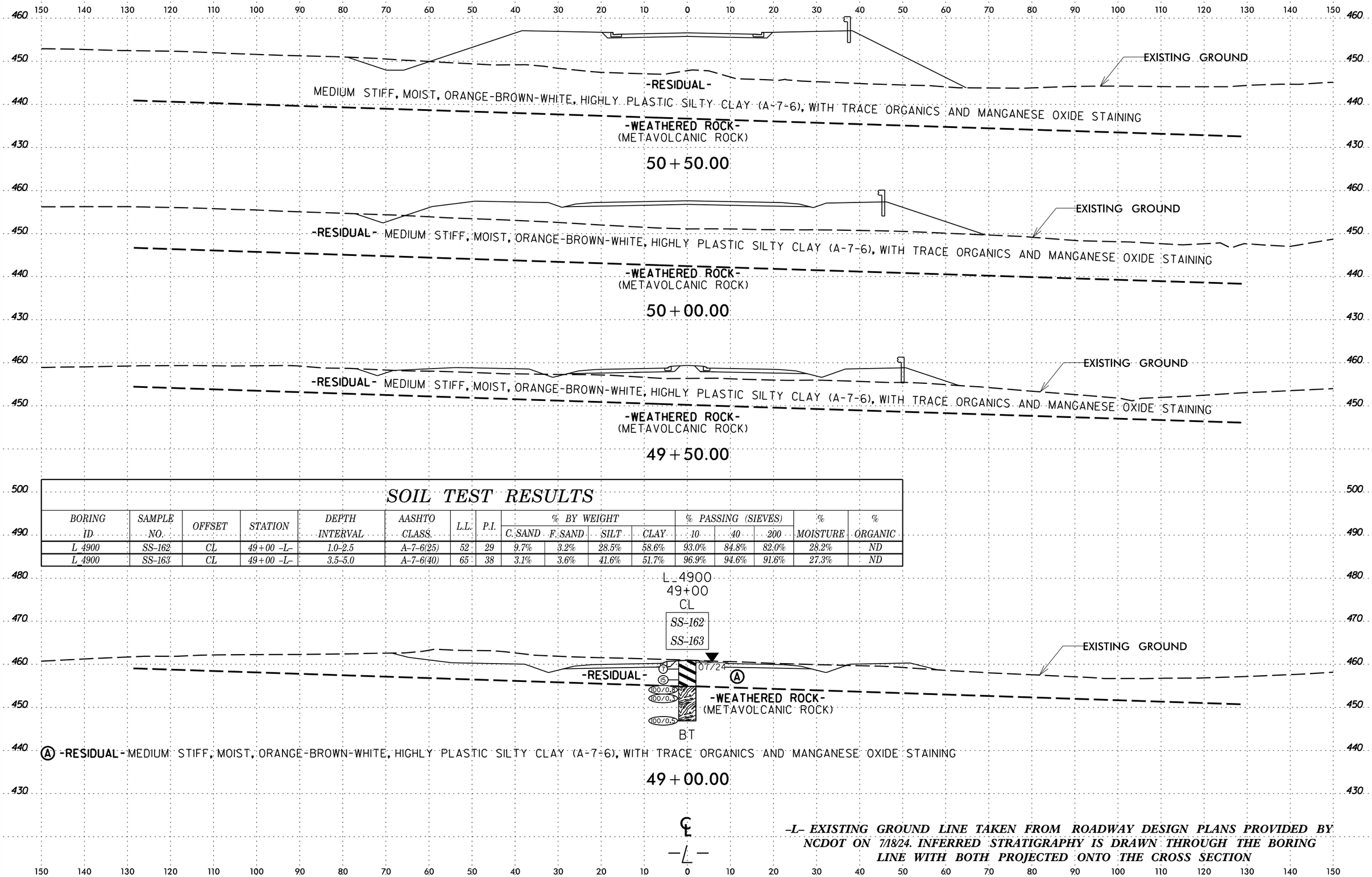

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_4900	SS-162	CL	49+00 -L-	1.0-2.5	A-7-6(25)	52	29	9.7%	3.2%	28.5%	58.6%	93.0%	84.8%	82.0%	28.2%	ND
L_4900	SS-163	CL	49+00 -L-	3.5-5.0	A-7-6(40)	65	38	3.1%	3.6%	41.6%	51.7%	96.9%	94.6%	91.6%	27.3%	ND

Ⓐ -RESIDUAL- MEDIUM STIFF, MOIST, ORANGE-BROWN-WHITE, HIGHLY PLASTIC SILTY CLAY (A-7-6), WITH TRACE ORGANICS AND MANGANESE OXIDE STAINING

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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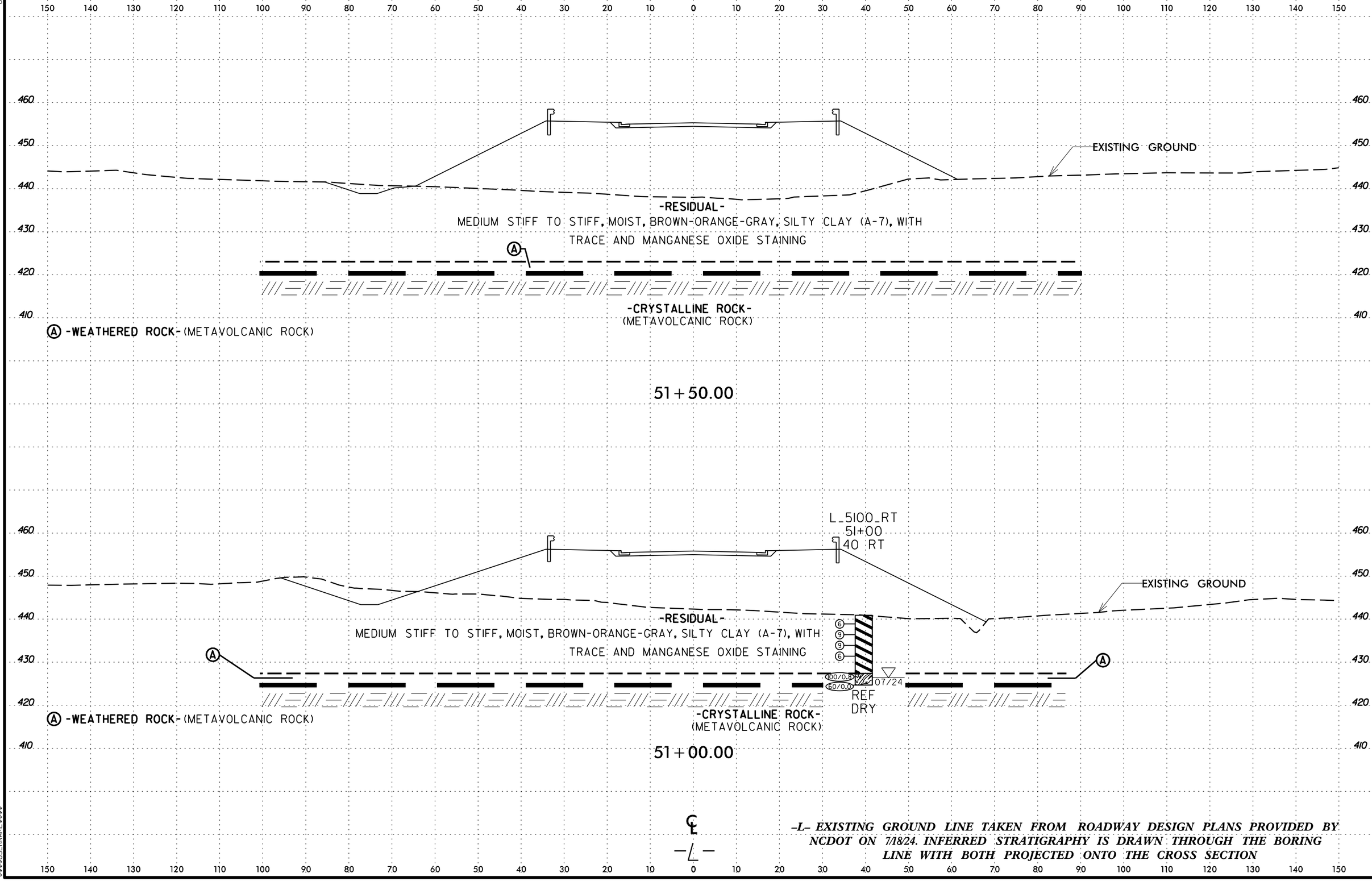
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	47



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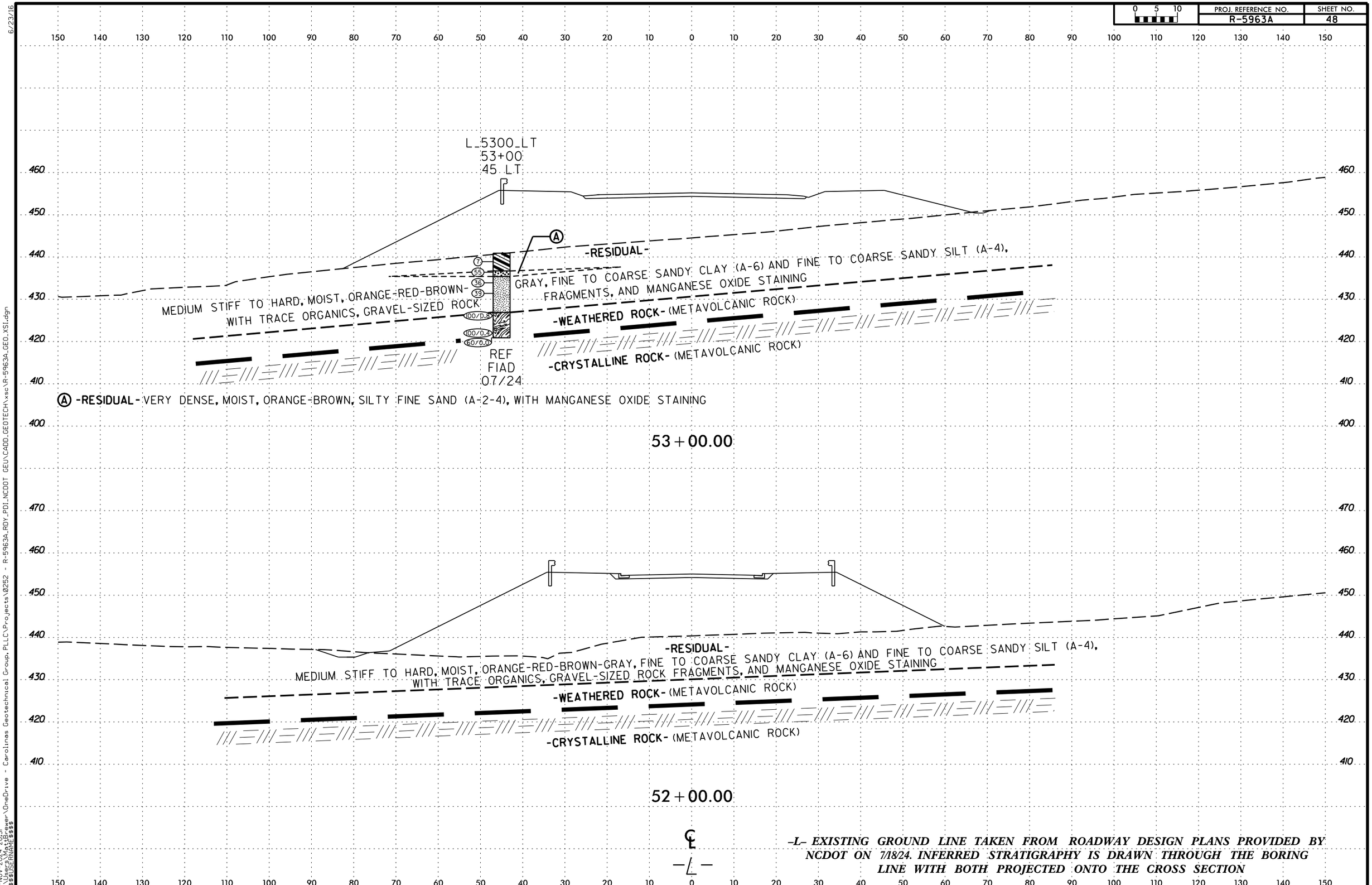

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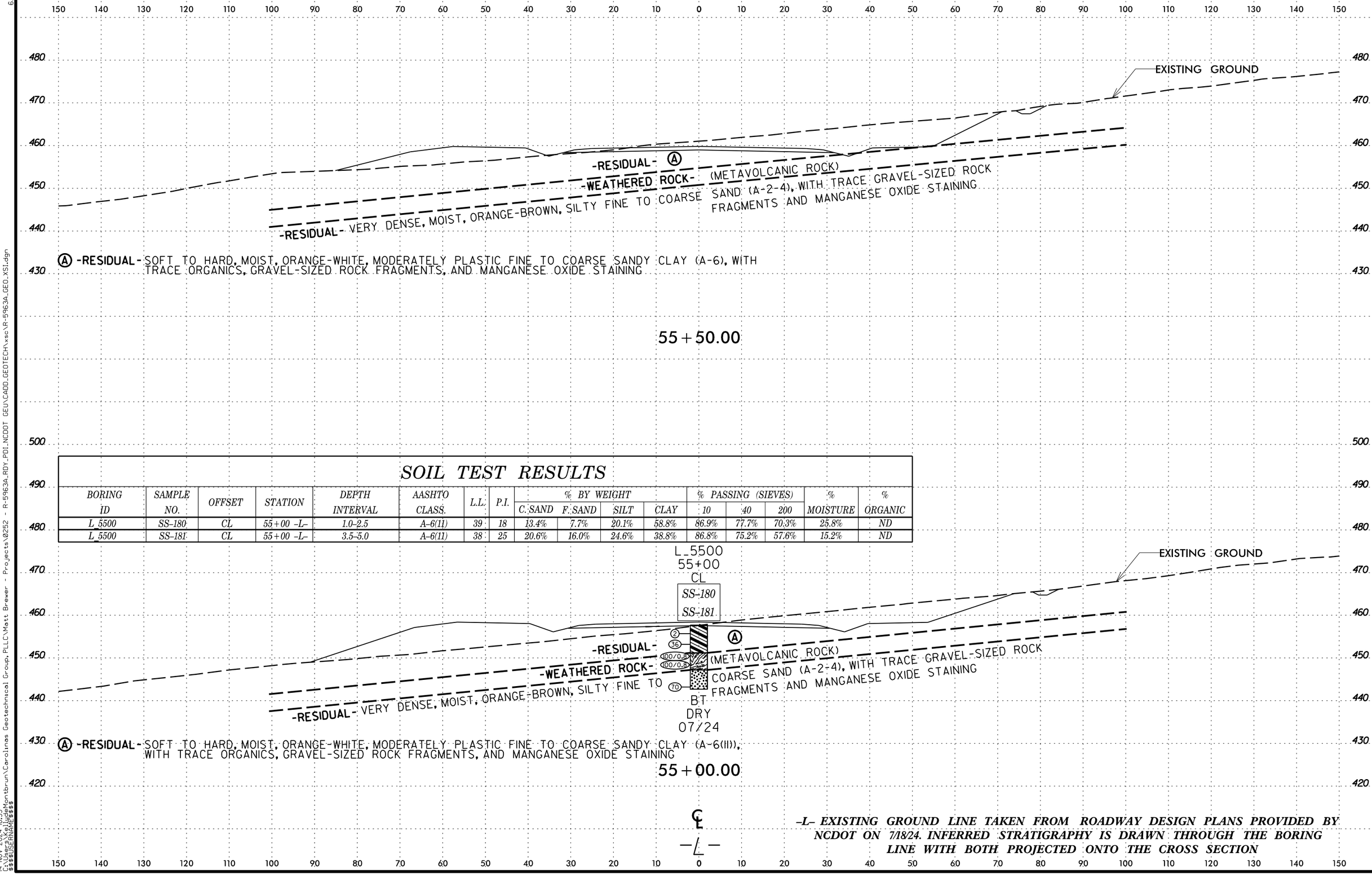
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	49



SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_5500	SS-180	CL	55+00 -L-	1.0-2.5	A-6(11)	39	18	13.4%	7.7%	20.1%	58.8%	86.9%	77.7%	70.3%	25.8%	ND
L_5500	SS-181	CL	55+00 -L-	3.5-5.0	A-6(11)	38	25	20.6%	16.0%	24.6%	38.8%	86.8%	75.2%	57.6%	15.2%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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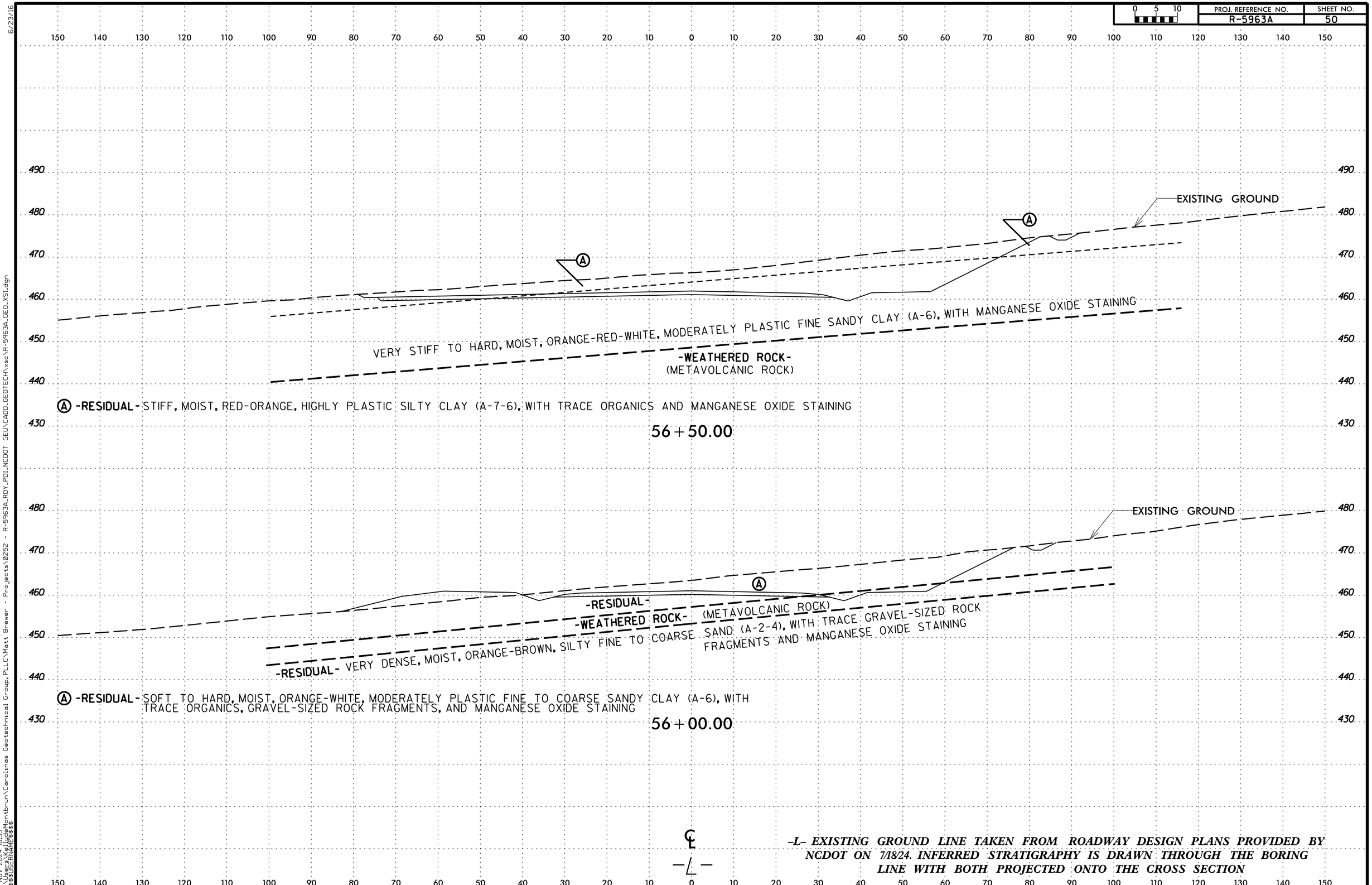
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	50



–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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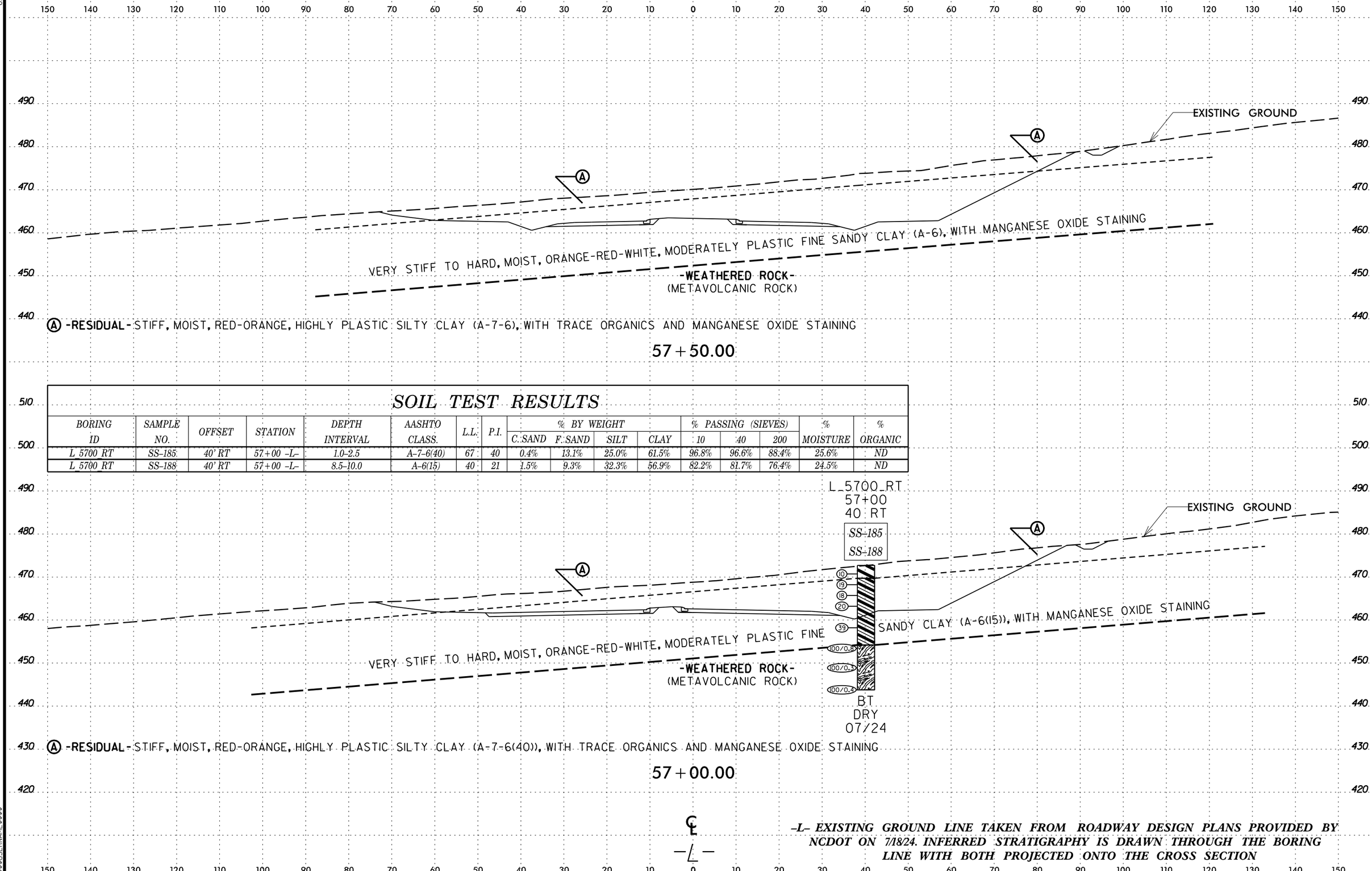

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_5700_RT	SS-185	40' RT	57+00 -L-	1.0-2.5	A-7-6(40)	67	40	0.4%	13.1%	25.0%	61.5%	96.8%	96.6%	88.4%	25.6%	ND
L_5700_RT	SS-188	40' RT	57+00 -L-	8.5-10.0	A-6(15)	40	21	1.5%	9.3%	32.3%	56.9%	82.2%	81.7%	76.4%	24.5%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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PROJ. REFERENCE NO.	SHEET NO.
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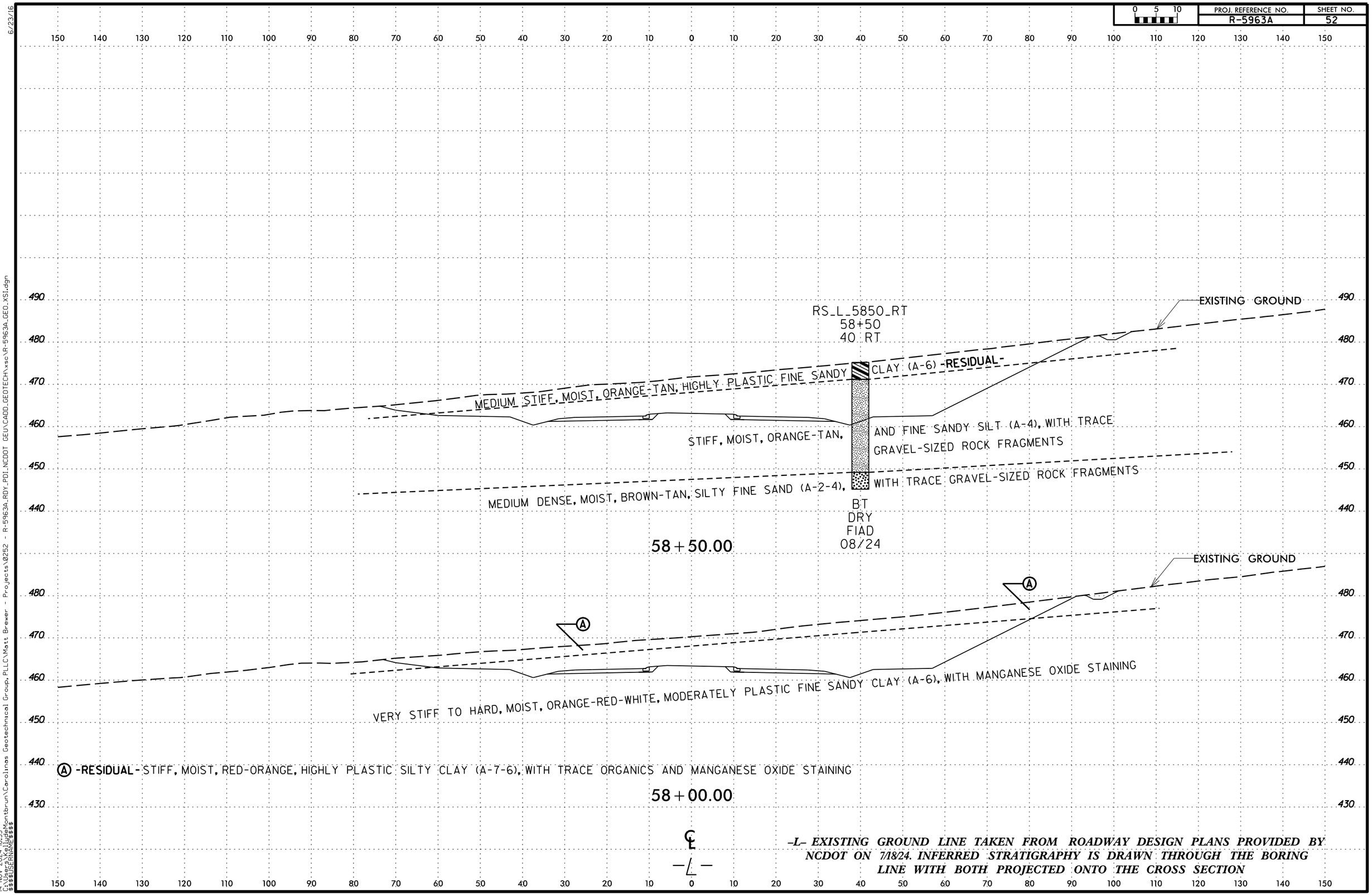

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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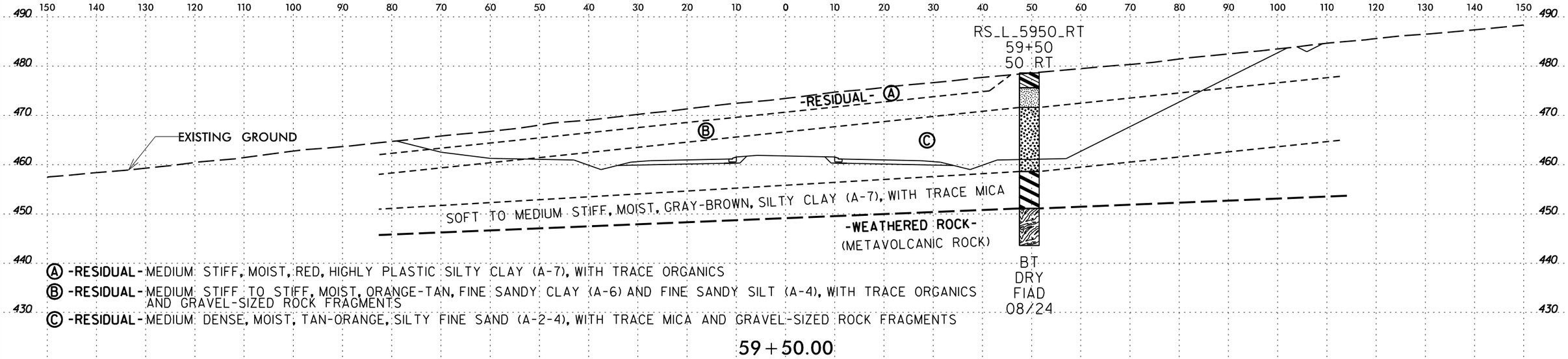
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	53



Ⓐ **-RESIDUAL-** MEDIUM STIFF, MOIST, RED, HIGHLY PLASTIC SILTY CLAY (A-7), WITH TRACE ORGANICS

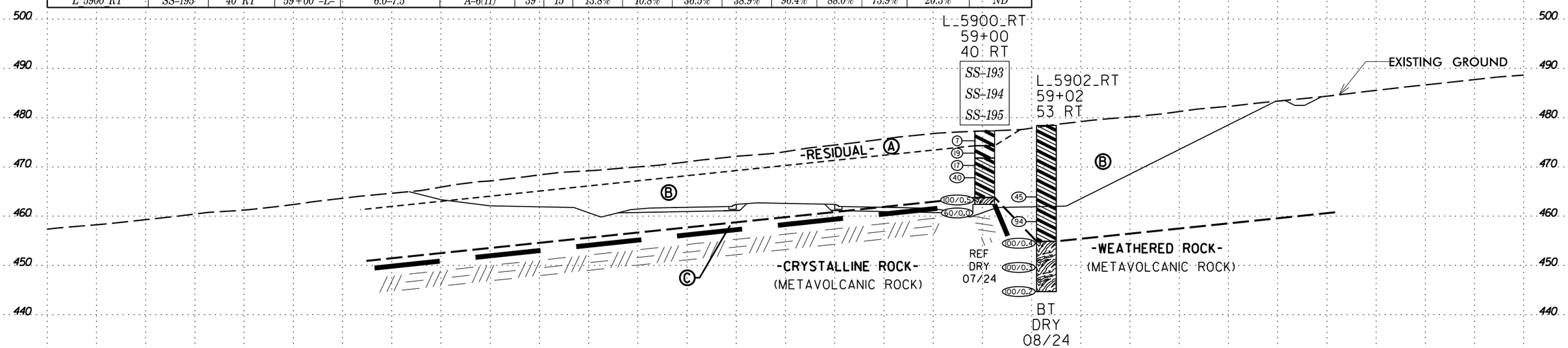
Ⓑ **-RESIDUAL-** MEDIUM STIFF TO STIFF, MOIST, ORANGE-TAN, FINE SANDY CLAY (A-6) AND FINE SANDY SILT (A-4), WITH TRACE ORGANICS AND GRAVEL-SIZED ROCK FRAGMENTS

Ⓒ **-RESIDUAL-** MEDIUM DENSE, MOIST, TAN-ORANGE, SILTY FINE SAND (A-2-4), WITH TRACE MICA AND GRAVEL-SIZED ROCK FRAGMENTS

59 + 50.00

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L 5900 RT	SS-193	40' RT	59+00 -L-	1.0-2.5	A-7-5(41)	69	38	3.8%	5.0%	21.4%	69.8%	98.4%	96.2%	90.5%	35.3%	ND
L 5900 RT	SS-194	40' RT	59+00 -L-	3.5-5.0	A-7-5(23)	49	19	0.3%	2.5%	48.3%	48.9%	99.1%	99.0%	97.5%	26.1%	ND
L 5900 RT	SS-195	40' RT	59+00 -L-	6.0-7.5	A-6(11)	39	15	13.8%	10.8%	36.5%	38.9%	96.4%	88.0%	73.9%	20.3%	ND



Ⓐ **-RESIDUAL-** MEDIUM STIFF, MOIST, RED, HIGHLY PLASTIC SILTY CLAY (A-7-5(41)), WITH TRACE ORGANICS

Ⓑ **-RESIDUAL-** VERY STIFF TO HARD, MOIST, ORANGE-RED-GRAY-BROWN, MODERATLY PLASTIC SILTY CLAY (A-7-5(23)) AND SLIGHTLY PLASTIC FINE TO COARSE SANDY CLAY (A-6(11)), WITH TRACE ORGANICS, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING

Ⓒ **-WEATHERED ROCK-** (METAVOLCANIC ROCK)

59 + 00.00

℄ -L-

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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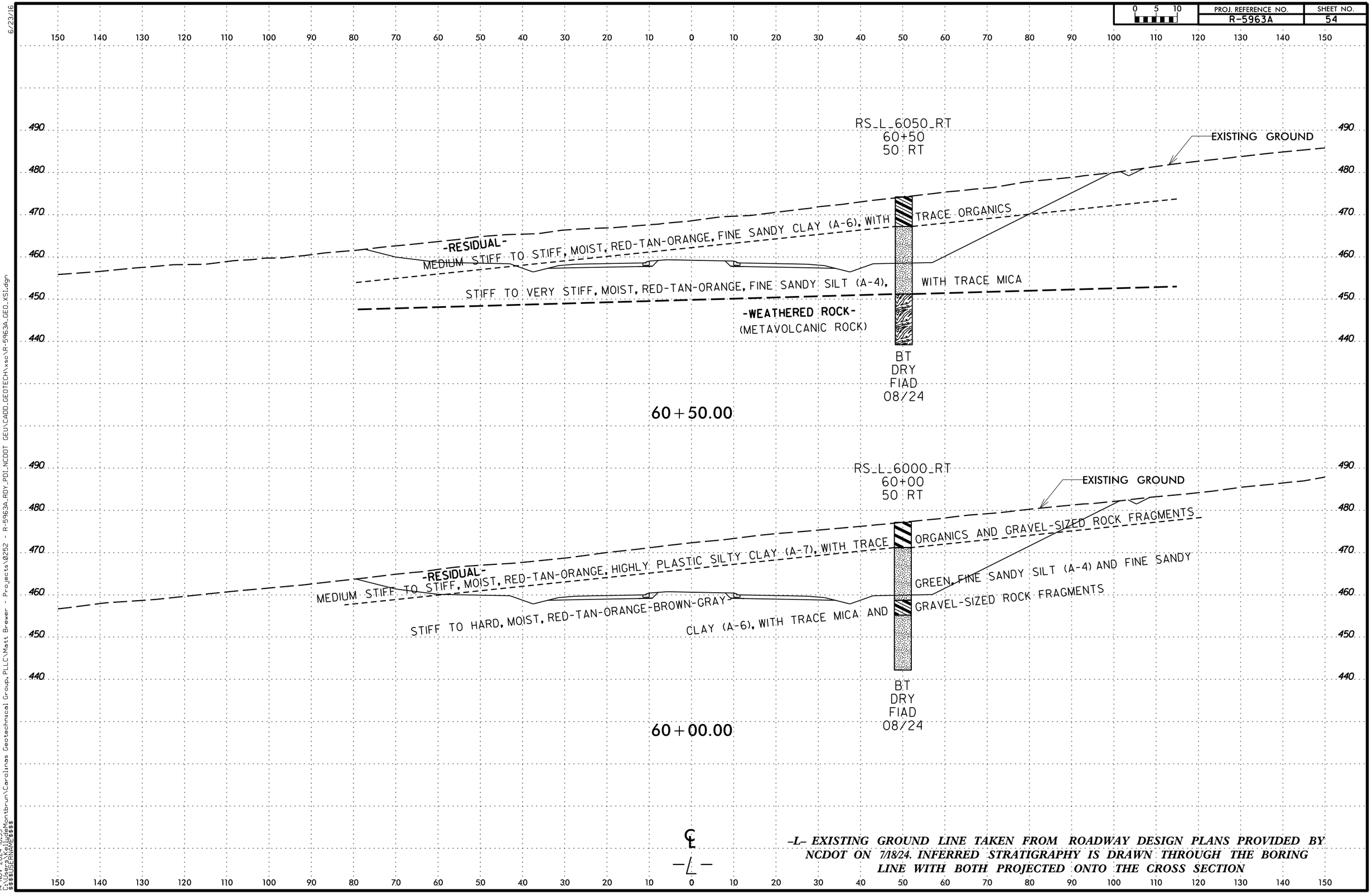
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	54



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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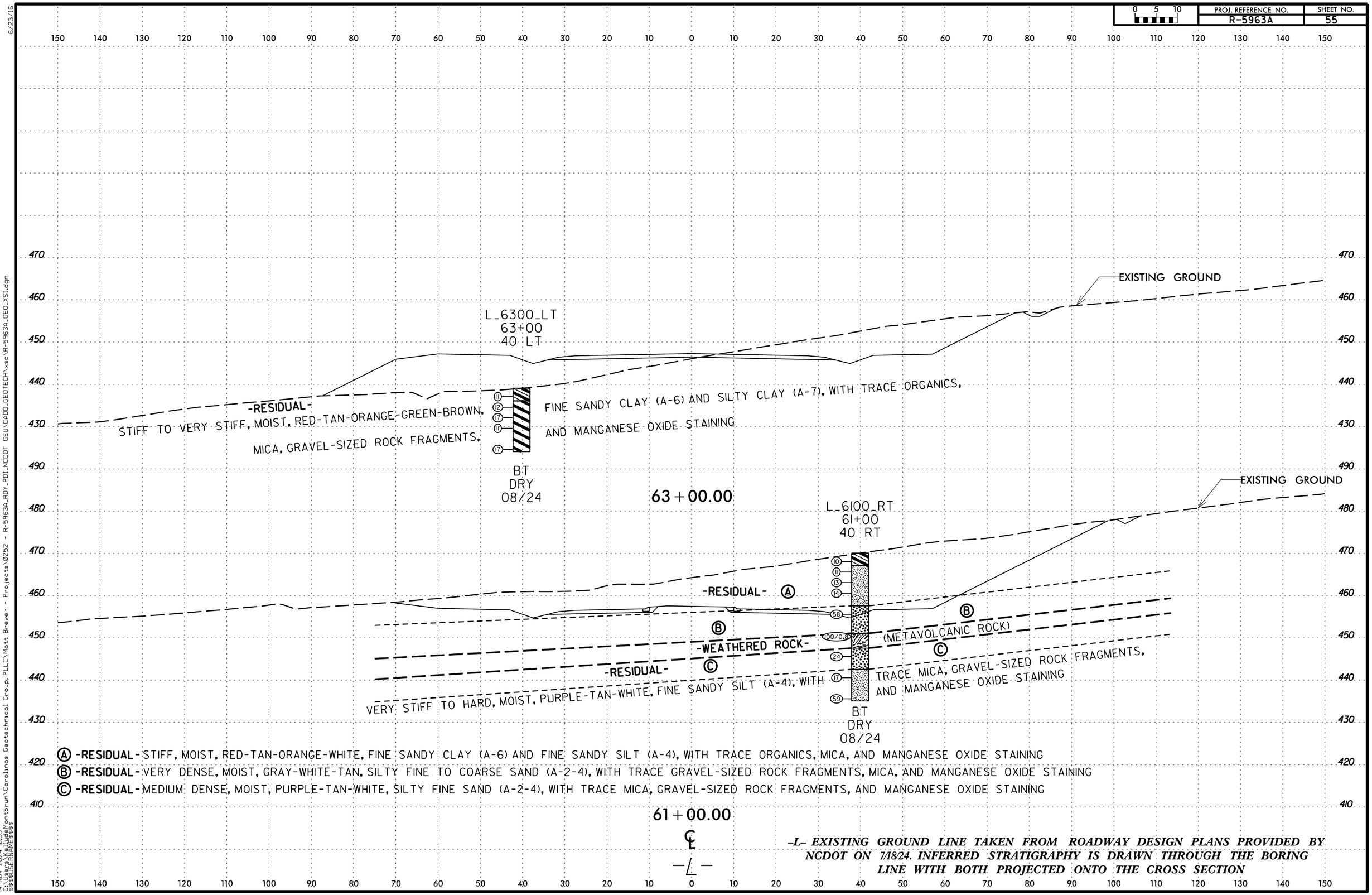

Ⓐ **-RESIDUAL-** STIFF, MOIST, RED-TAN-ORANGE-WHITE, FINE SANDY CLAY (A-6) AND FINE SANDY SILT (A-4), WITH TRACE ORGANICS, MICA, AND MANGANESE OXIDE STAINING

Ⓑ **-RESIDUAL-** VERY DENSE, MOIST, GRAY-WHITE-TAN, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS, MICA, AND MANGANESE OXIDE STAINING

Ⓒ **-RESIDUAL-** MEDIUM DENSE, MOIST, PURPLE-TAN-WHITE, SILTY FINE SAND (A-2-4), WITH TRACE MICA, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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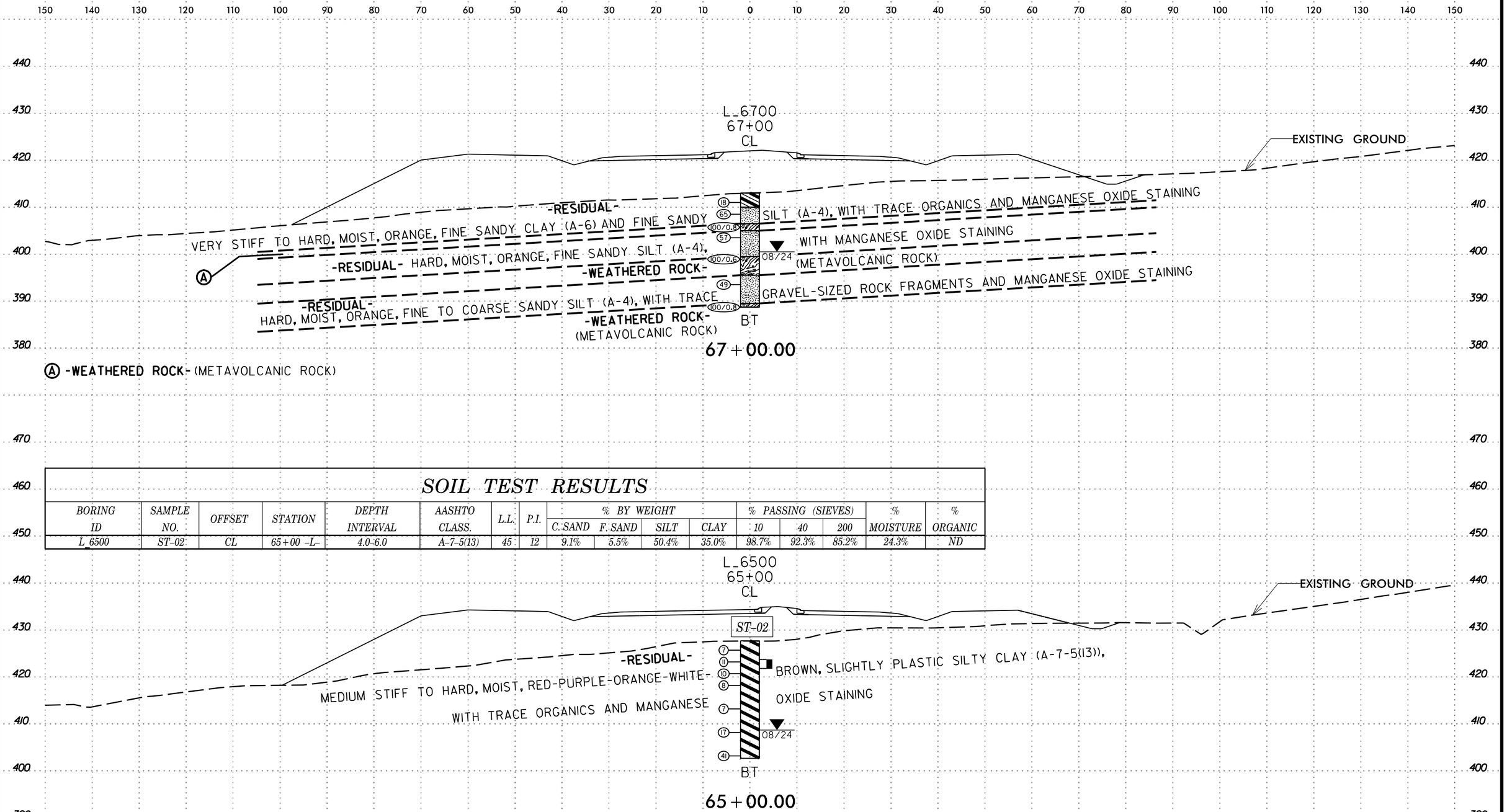
R-5963A	56



SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_6500	ST-02	CL	65+00 -L-	4.0-6.0	A-7-5(13)	45	12	9.1%	5.5%	50.4%	35.0%	98.7%	92.3%	85.2%	24.3%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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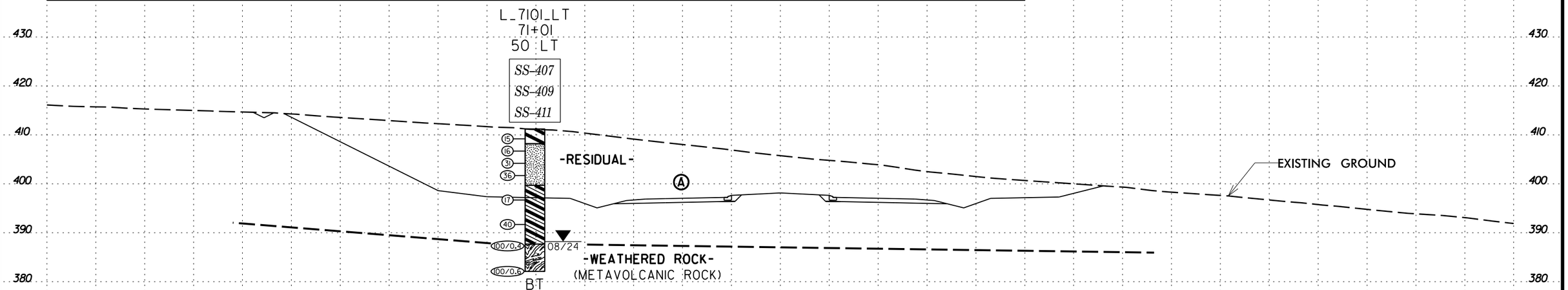
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	57

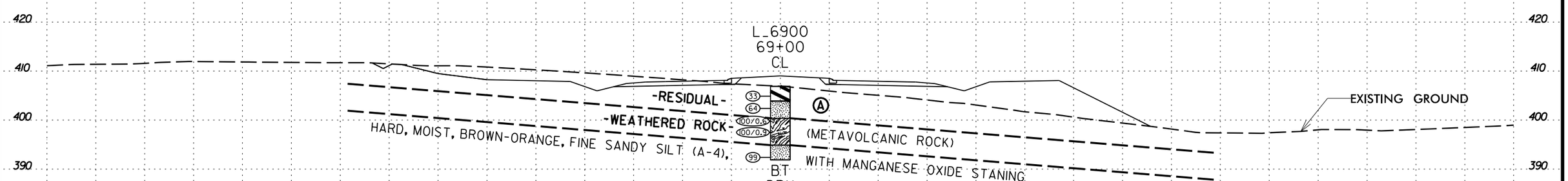
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_7101_LT	SS-407	50' LT	71+01 -L-	1.0-2.5	A-7-5(21)	50	20	6.8%	3.8%	44.7%	44.7%	98.7%	93.5%	88.9%	31.3%	ND
L_7101_LT	SS-409	50' LT	71+01 -L-	6.0-7.5	A-4(9)	37	9	6.4%	7.5%	57.7%	28.4%	99.5%	96.0%	86.8%	23.8%	ND
L_7101_LT	SS-411	50' LT	71+01 -L-	13.5-15.0	A-6(7)	37	11	14.9%	20.8%	27.4%	36.9%	96.0%	85.2%	67.7%	27.4%	ND



A -RESIDUAL- STIFF TO HARD, MOIST, RED-GRAY-BROWN-ORANGE, MODERATELY PLASTIC SILTY CLAY (A-7-5(21)), FINE SANDY SILT (A-4(9)), AND SLIGHTLY PLASTIC FINE TO COARSE SANDY CLAY (A-6(7)), WITH TRACE ORGANICS, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING

71+00.00



A -RESIDUAL- HARD, MOIST, ORANGE-WHITE, SILTY CLAY (A-7) AND FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS AND MANGANESE OXIDE STAINING

69+00.00

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-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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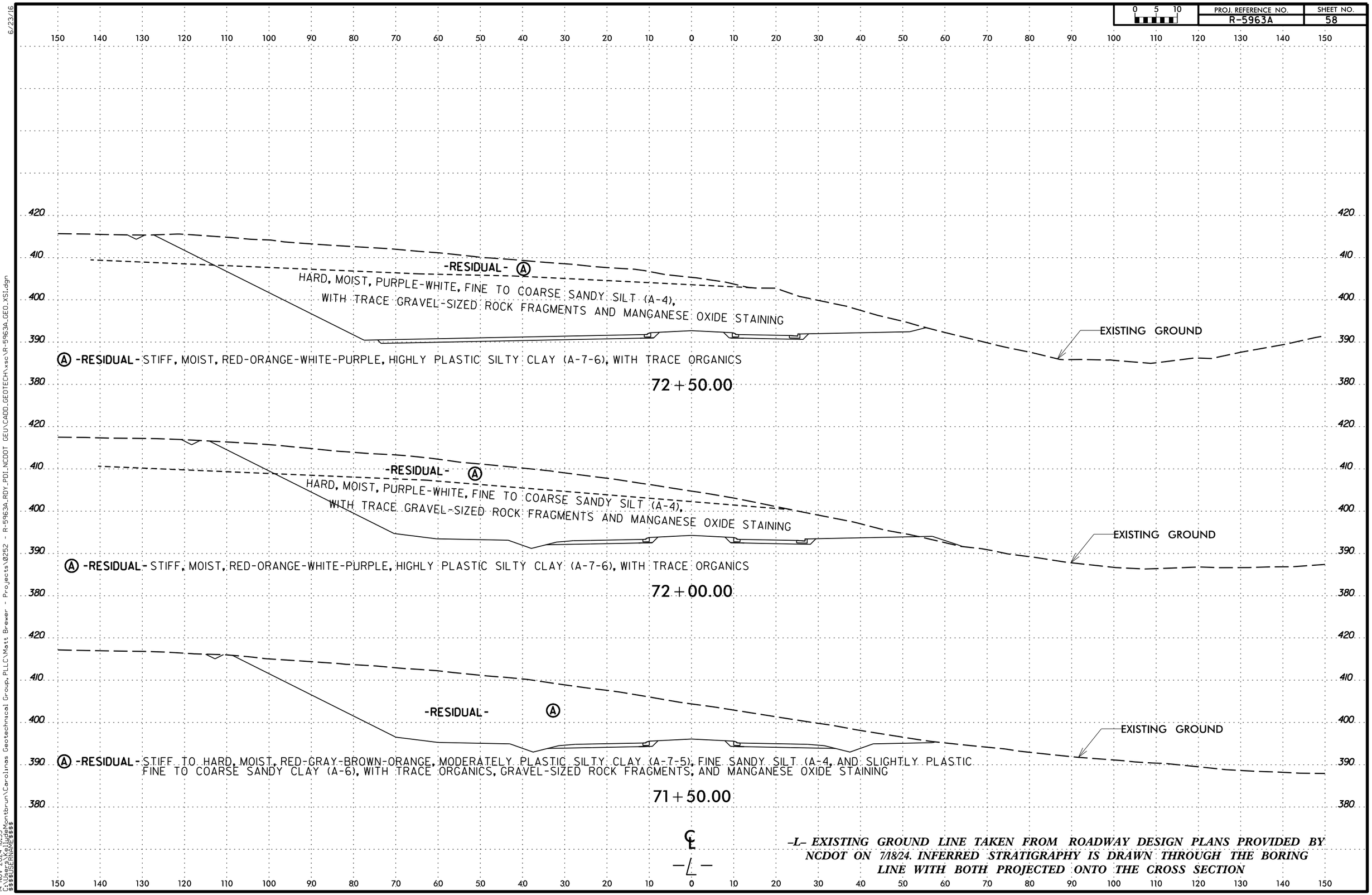
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	58



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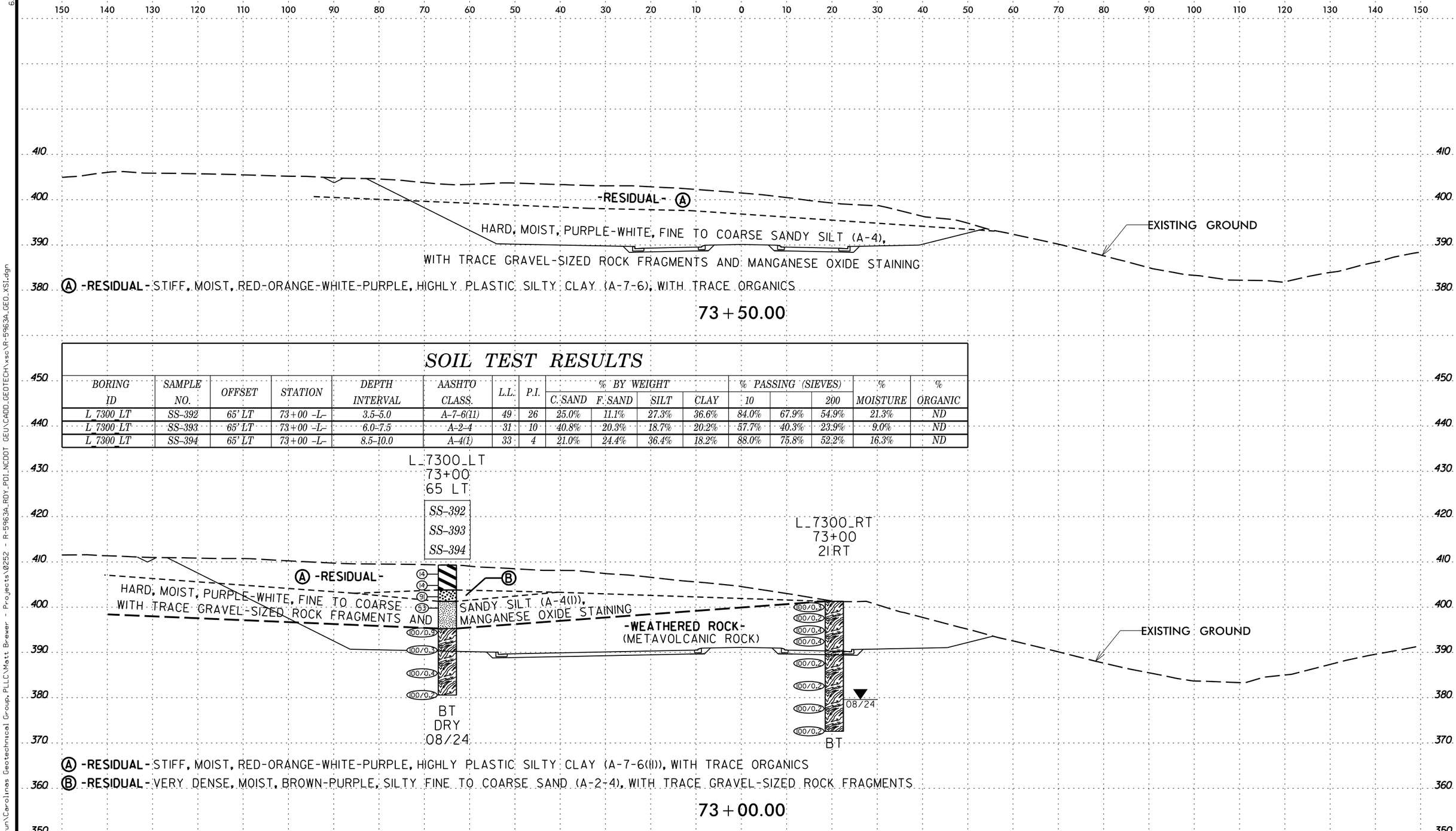

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10		200	% MOISTURE	% ORGANIC
L_7300_LT	SS-392	65' LT	73+00 -L-	3.5-5.0	A-7-6(11)	49	26	25.0%	11.1%	27.3%	36.6%	84.0%	67.9%	54.9%	21.3%	ND
L_7300_LT	SS-393	65' LT	73+00 -L-	6.0-7.5	A-2-4	31	10	40.8%	20.3%	18.7%	20.2%	57.7%	40.3%	23.9%	9.0%	ND
L_7300_LT	SS-394	65' LT	73+00 -L-	8.5-10.0	A-4(1)	33	4	21.0%	24.4%	36.4%	18.2%	88.0%	75.8%	52.2%	16.3%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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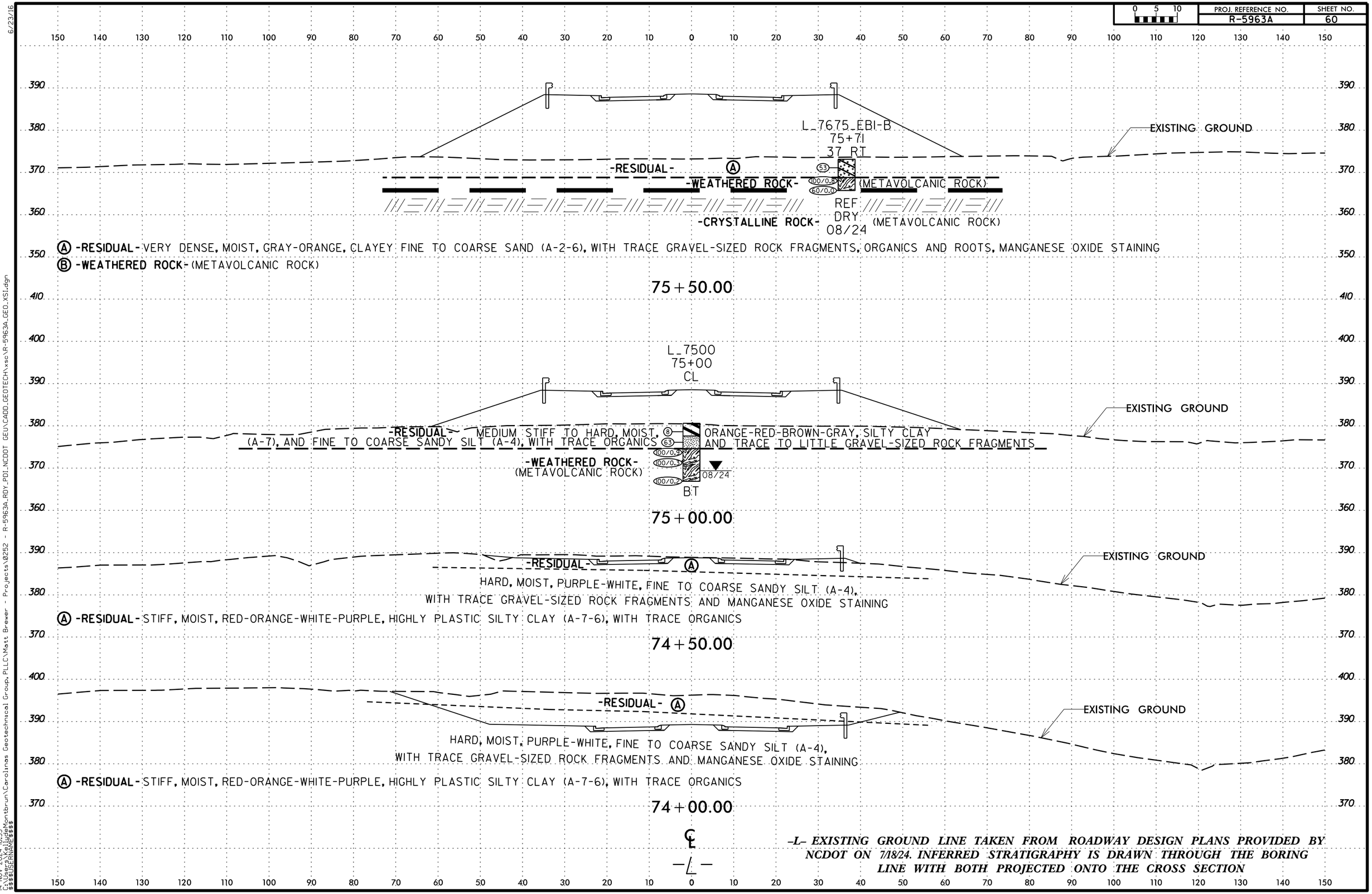

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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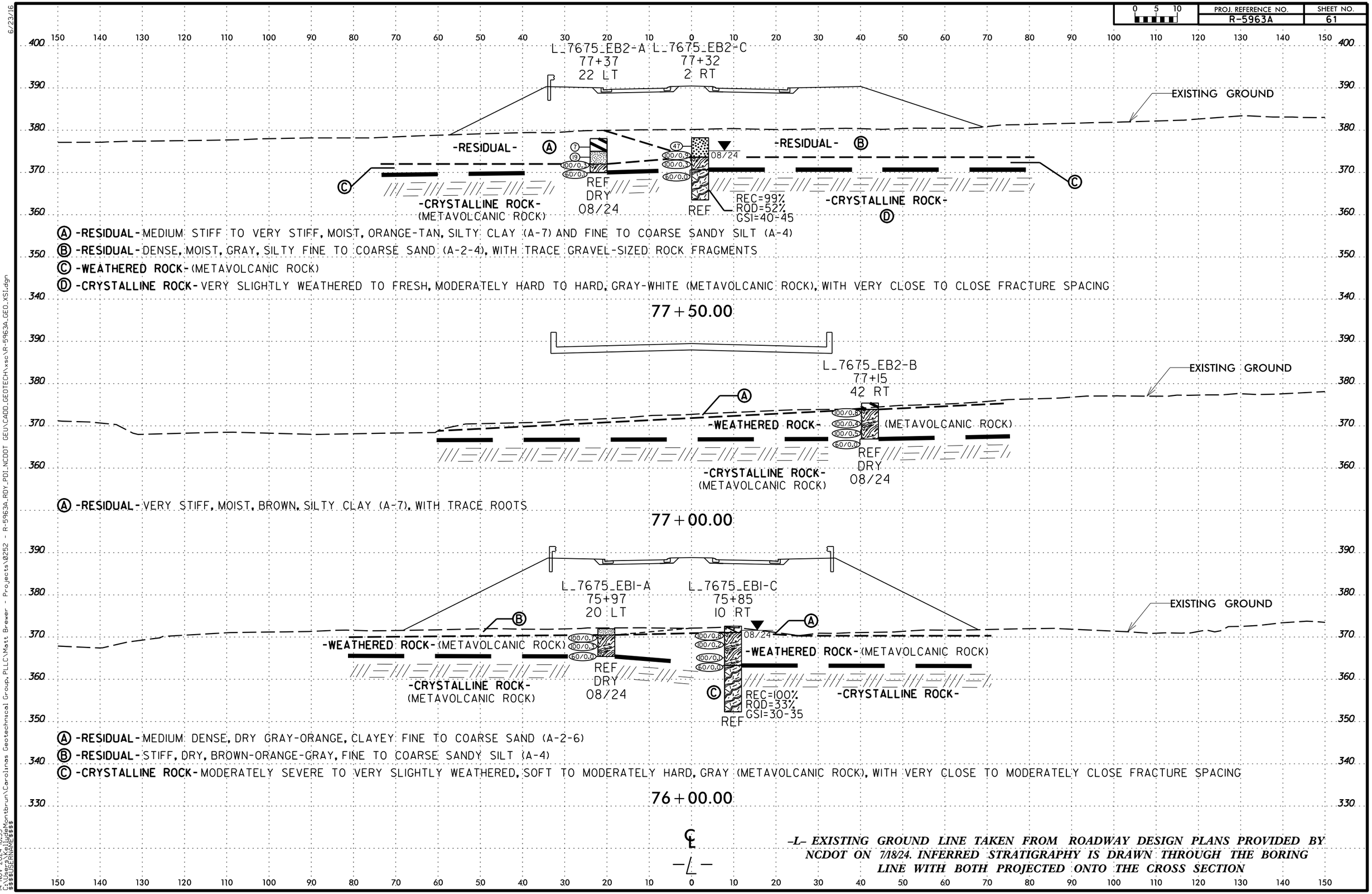

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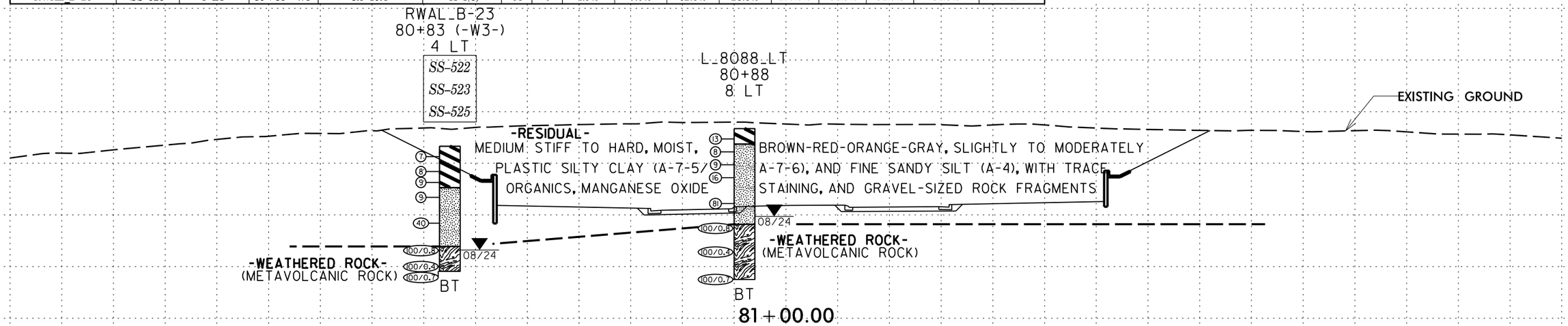
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	62

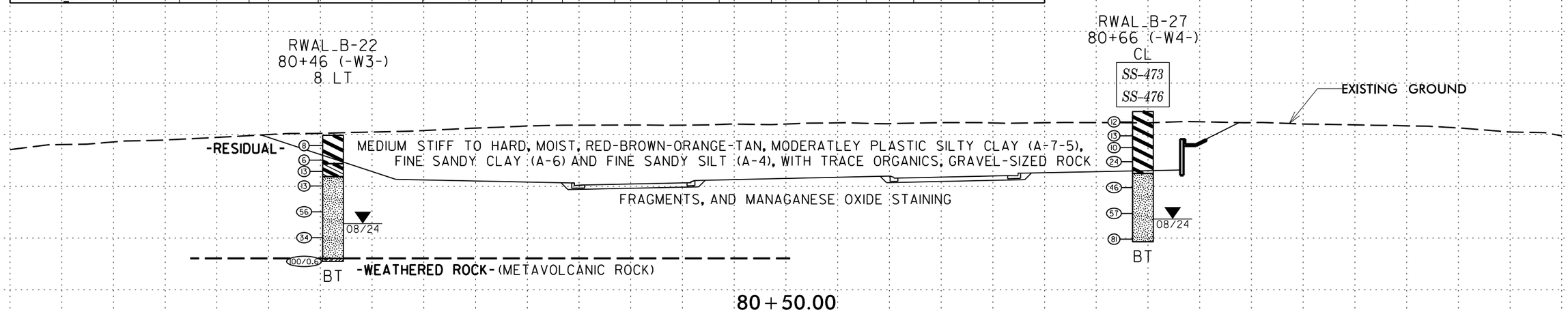
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL_B-23	SS-522	4' LT	80+83 -W3-	1.0-2.5	A-7-6(14)	47	20	10.1%	4.5%	32.3%	53.1%	81.0%	74.4%	69.9%	18.9%	ND
RWAL_B-23	SS-523	4' LT	80+83 -W3-	3.9-5.4	A-7-5(21)	55	14	0.3%	0.6%	66.3%	32.8%	100.0%	99.9%	99.2%	45.4%	ND
RWAL_B-23	SS-525	4' LT	80+83 -W3-	8.9-10.4	A-4(8)	38	6	1.9%	7.0%	62.3%	28.8%	100.0%	98.9%	94.0%	34.5%	ND



SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL_B-27	SS-473	CL	80+66 -W4-	3.7-5.2	A-7-5(24)	53	21	2.7%	4.1%	50.2%	43.0%	99.0%	97.1%	93.3%	36.2%	ND
RWAL_B-27	SS-476	CL	80+66 -W4-	13.7-15.2	A-4(7)	33	8	4.0%	9.9%	69.7%	16.4%	99.4%	96.6%	89.2%	16.9%	ND



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–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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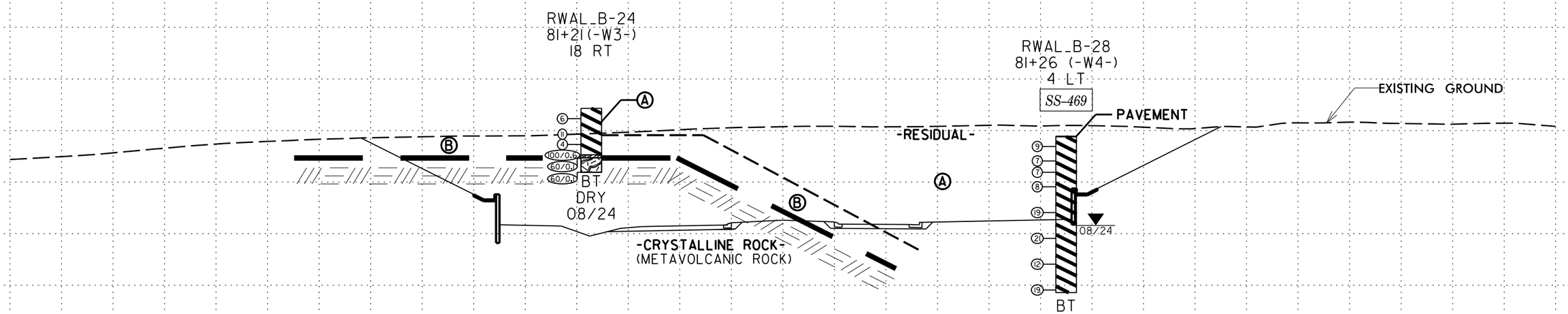
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL_B-28	SS-469	4' LT	81+26 -W4-	18.8-20.3	A-7-5(10)	42	11	7.8%	7.2%	66.5%	18.5%	93.2%	88.0%	80.9%	26.2%	ND



Ⓐ **-RESIDUAL-** SOFT TO VERY STIFF, MOIST, BROWN-RED-ORANGE, SLIGHTLY PLASTIC SILTY CLAY (A-7-5(10)), WITH TRACE ORGANICS, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING

Ⓑ **-WEATHERED ROCK-** (METAVOLCANIC ROCK)

81+50.00
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-L-

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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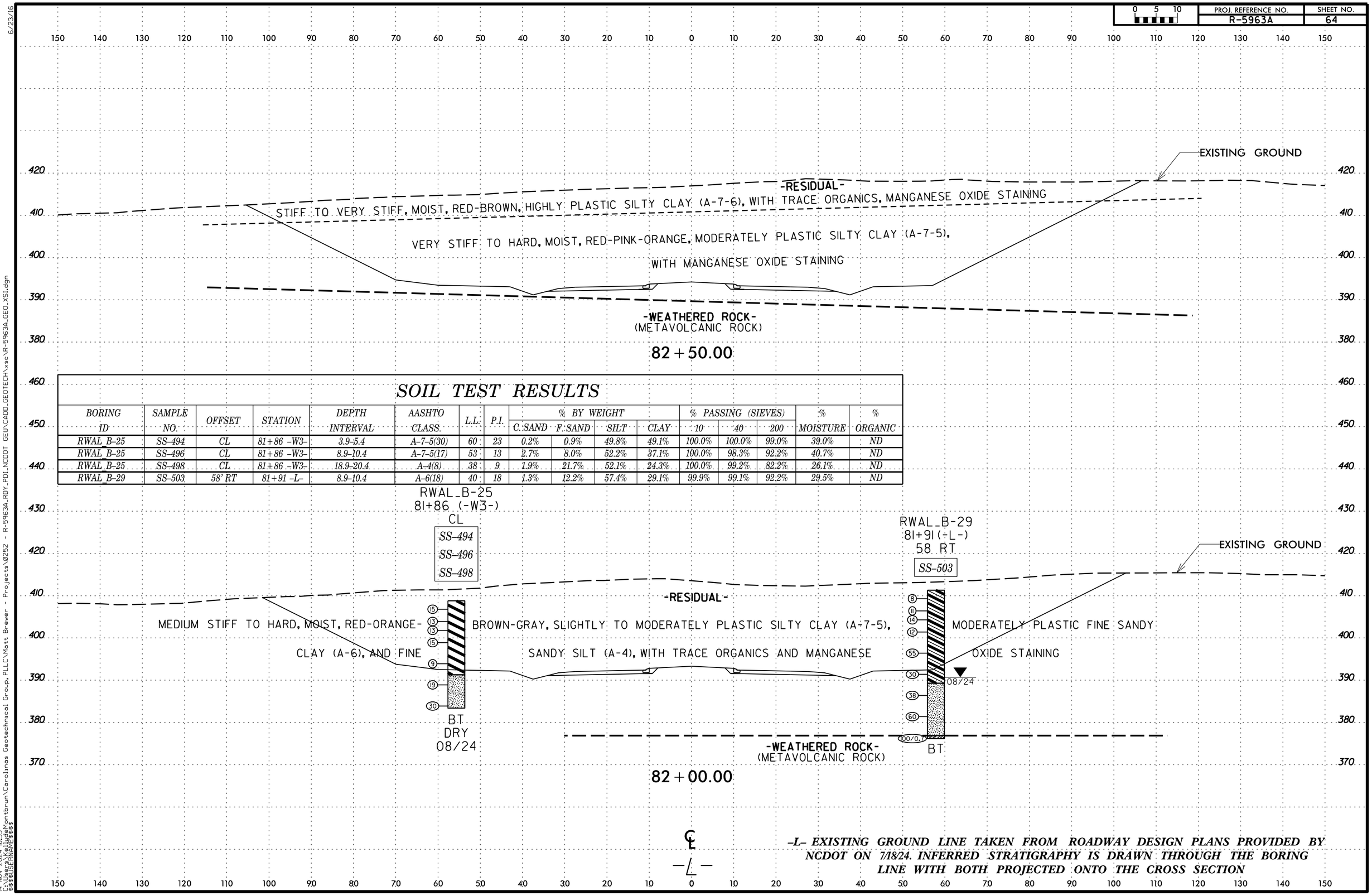
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	64



SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL_B-25	SS-494	CL	81+86 -W3-	3.9-5.4	A-7-5(30)	60	23	0.2%	0.9%	49.8%	49.1%	100.0%	100.0%	99.0%	39.0%	ND
RWAL_B-25	SS-496	CL	81+86 -W3-	8.9-10.4	A-7-5(17)	53	13	2.7%	8.0%	52.2%	37.1%	100.0%	98.3%	92.2%	40.7%	ND
RWAL_B-25	SS-498	CL	81+86 -W3-	18.9-20.4	A-4(8)	38	9	1.9%	21.7%	52.1%	24.3%	100.0%	99.2%	82.2%	26.1%	ND
RWAL_B-29	SS-503	58' RT	81+91 -L-	8.9-10.4	A-6(18)	40	18	1.3%	12.2%	57.4%	29.1%	99.9%	99.1%	92.2%	29.5%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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PROJ. REFERENCE NO.	SHEET NO.
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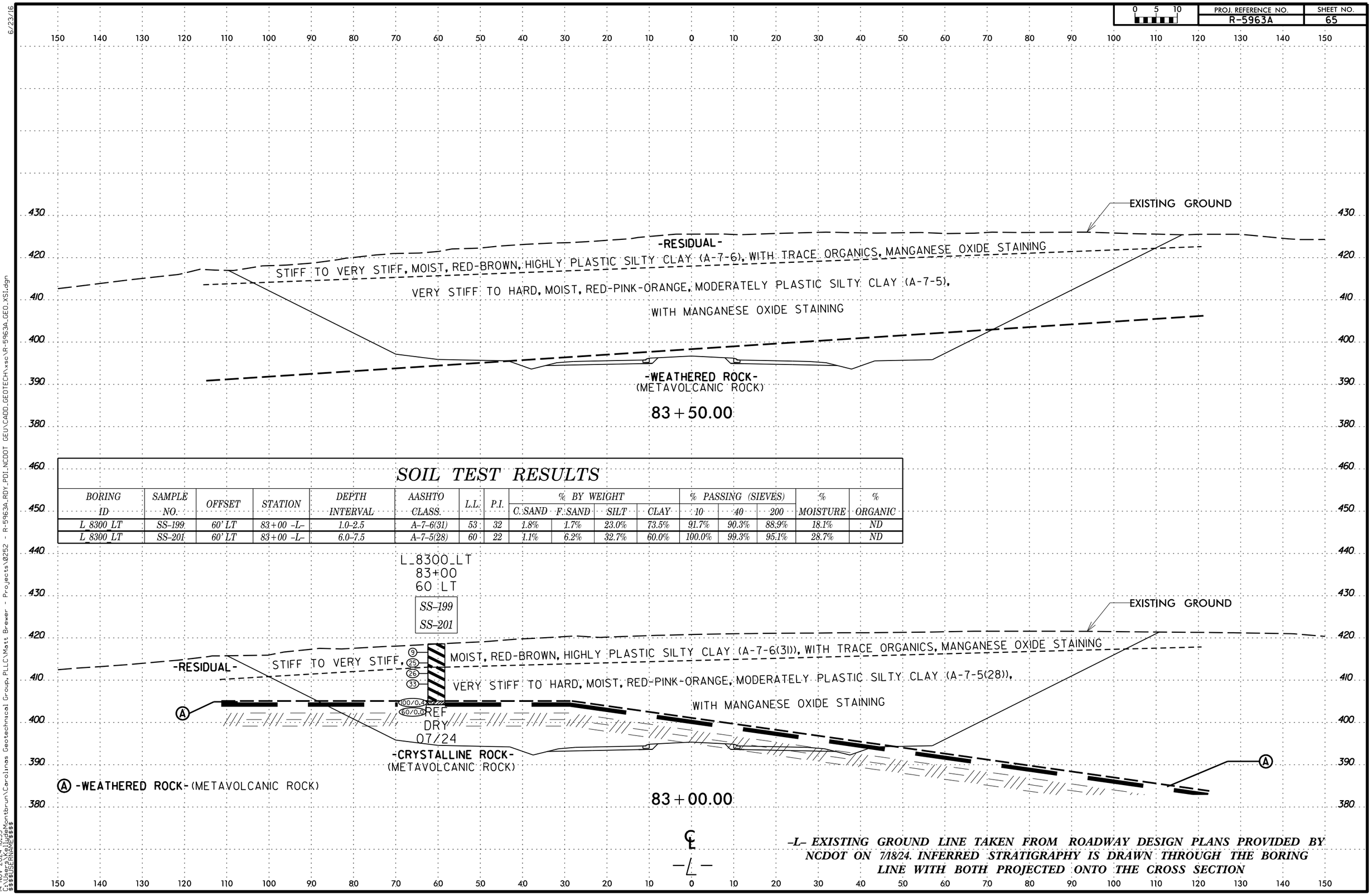

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
								C. SAND	F. SAND	SILT	CLAY	10	40	200		
L_8300_LT	SS-199	60' LT	83+00 -L-	1.0-2.5	A-7-6(31)	53	32	1.8%	1.7%	23.0%	73.5%	91.7%	90.3%	88.9%	18.1%	ND
L_8300_LT	SS-201	60' LT	83+00 -L-	6.0-7.5	A-7-5(28)	60	22	1.1%	6.2%	32.7%	60.0%	100.0%	99.3%	95.1%	28.7%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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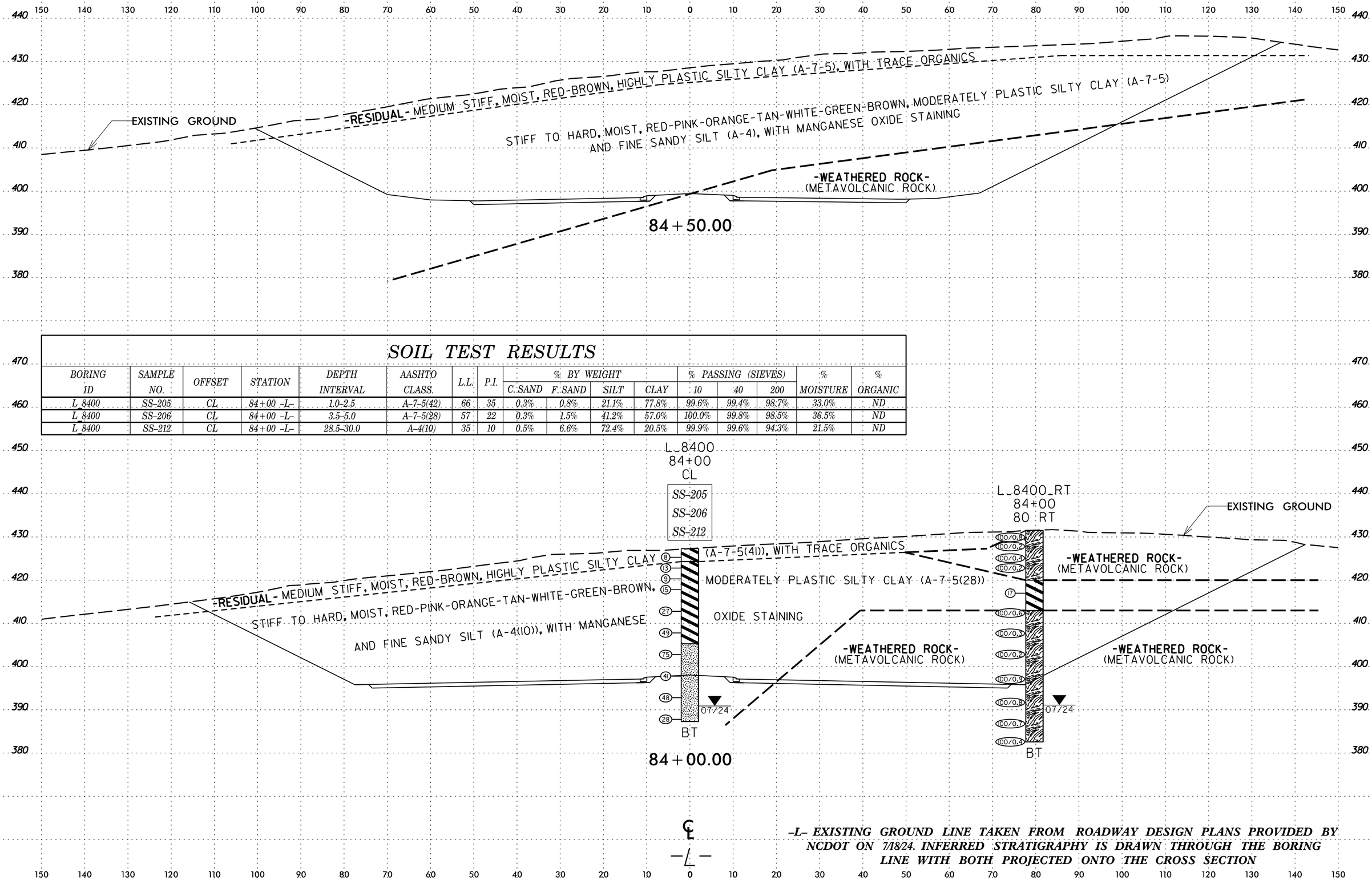

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_8400	SS-205	CL	84+00 -L-	1.0-2.5	A-7-5(42)	66	35	0.3%	0.8%	21.1%	77.8%	99.6%	99.4%	98.7%	33.0%	ND
L_8400	SS-206	CL	84+00 -L-	3.5-5.0	A-7-5(28)	57	22	0.3%	1.5%	41.2%	57.0%	100.0%	99.8%	98.5%	36.5%	ND
L_8400	SS-212	CL	84+00 -L-	28.5-30.0	A-4(10)	35	10	0.5%	6.6%	72.4%	20.5%	99.9%	99.6%	94.3%	21.5%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
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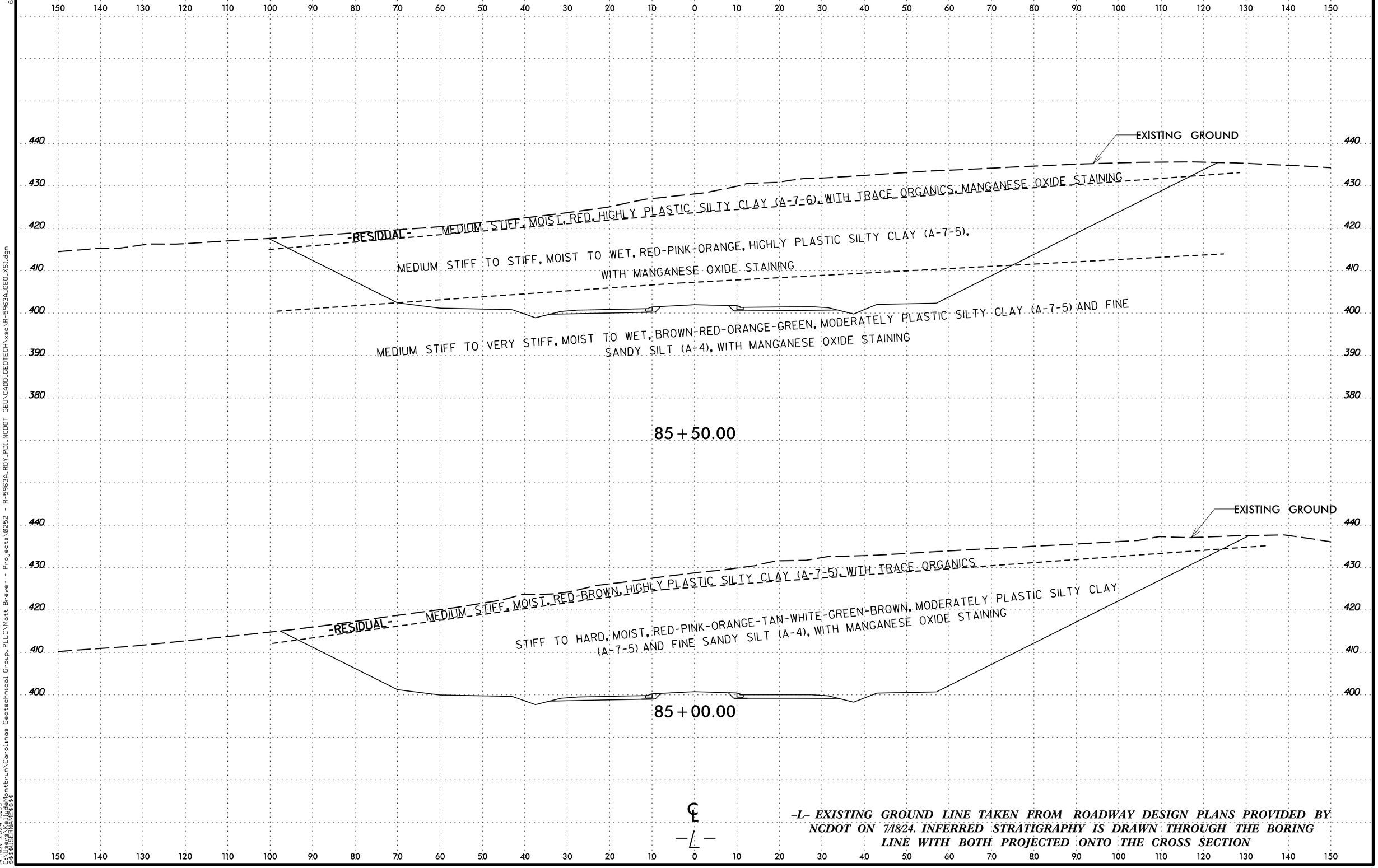

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–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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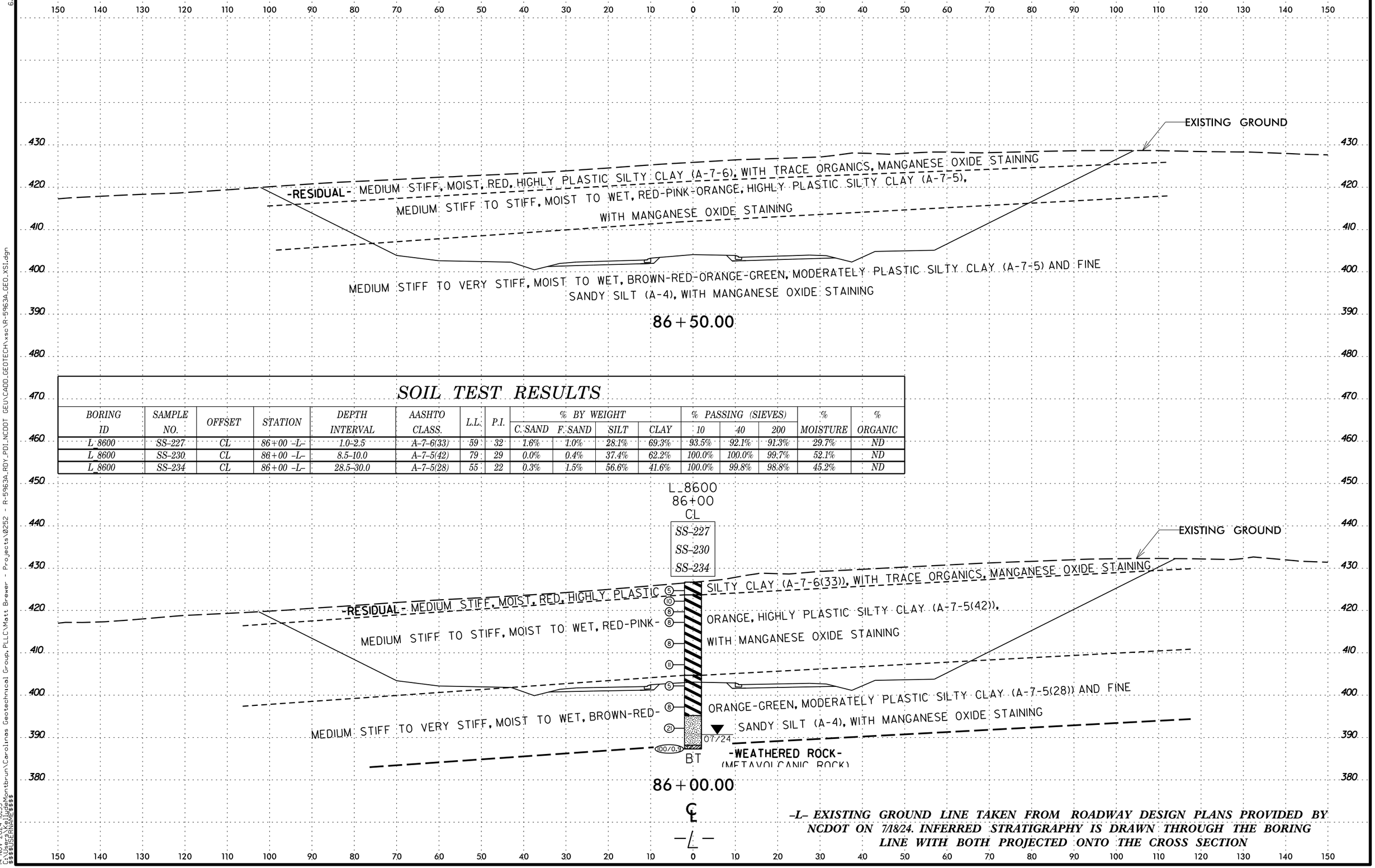
R-5963A	68



SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_8600	SS-227	CL	86+00 -L-	1.0-2.5	A-7-6(33)	59	32	1.6%	1.0%	28.1%	69.3%	93.5%	92.1%	91.3%	29.7%	ND
L_8600	SS-230	CL	86+00 -L-	8.5-10.0	A-7-5(42)	79	29	0.0%	0.4%	37.4%	62.2%	100.0%	100.0%	99.7%	52.1%	ND
L_8600	SS-234	CL	86+00 -L-	28.5-30.0	A-7-5(28)	55	22	0.3%	1.5%	56.6%	41.6%	100.0%	99.8%	98.8%	45.2%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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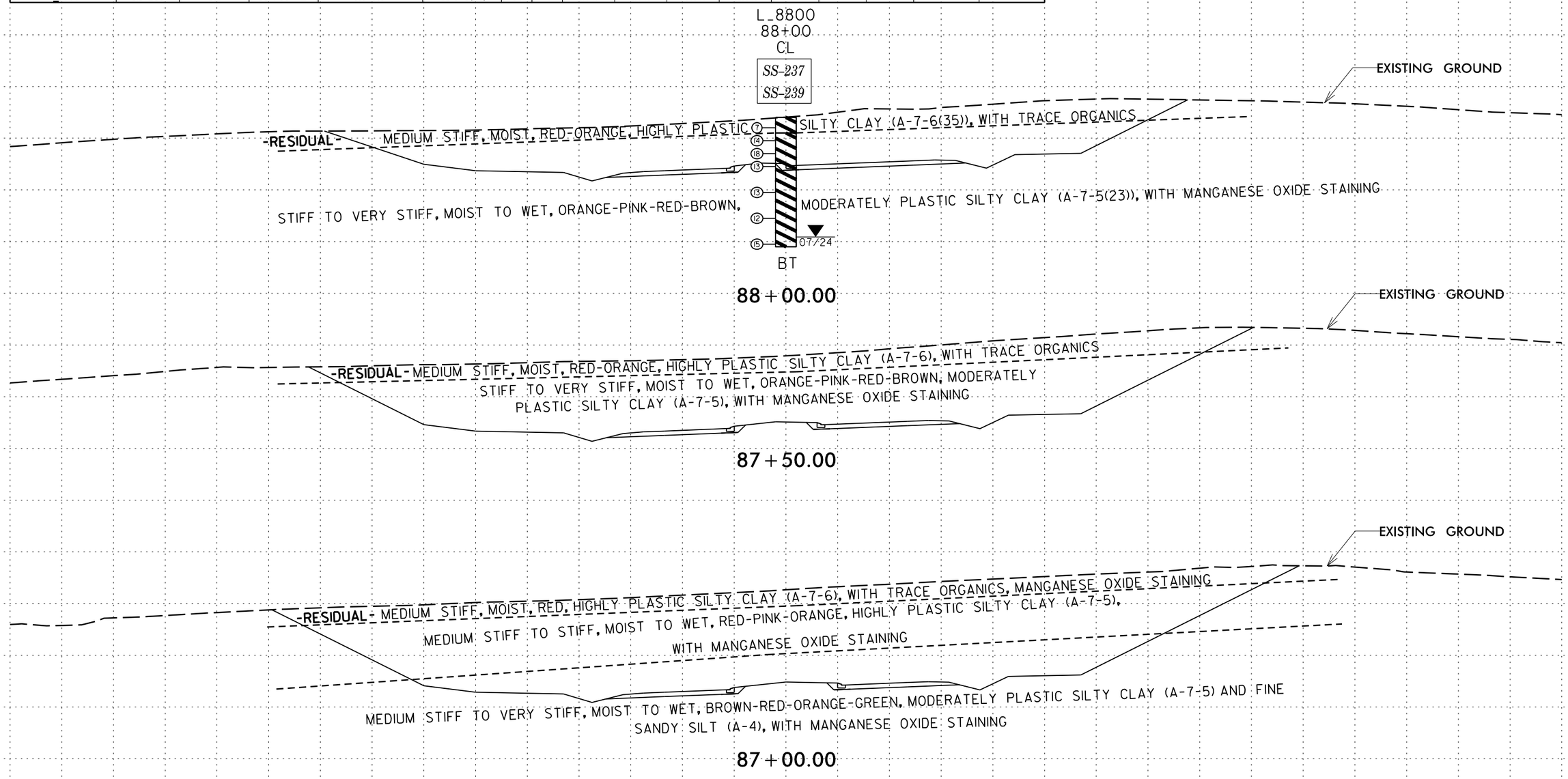
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_8800	SS-237	CL	88+00 -L-	1.0-2.5	A-7-6(35)	59	31	2.1%	2.0%	32.8%	63.1%	99.6%	97.9%	95.9%	31.2%	ND
L_8800	SS-239	CL	88+00 -L-	6.0-7.5	A-7-5(23)	56	17	1.7%	1.8%	55.5%	41.0%	99.9%	98.8%	96.7%	37.1%	ND



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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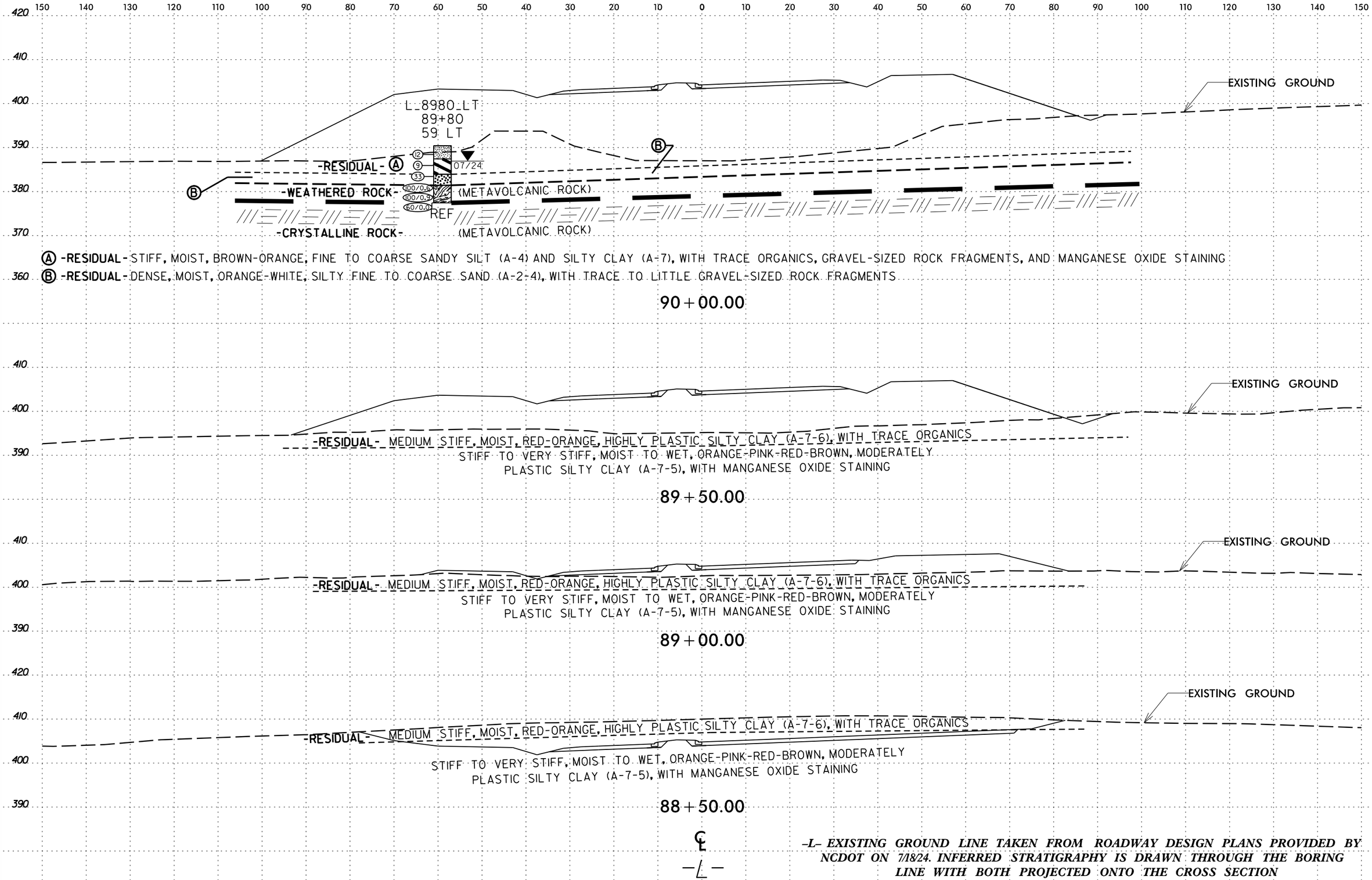
R-5963A	70



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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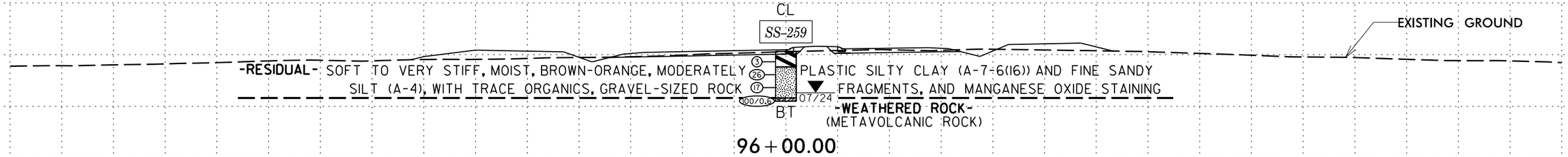
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	71

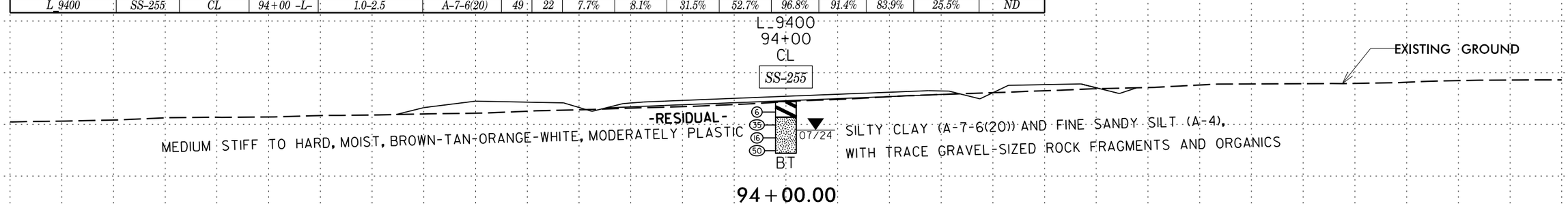
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_9600	SS-259	CL	96+00 -L-	1.0-2.5	A-7-6(16)	42	18	7.2%	5.2%	38.5%	49.1%	95.3%	89.7%	84.6%	29.2%	ND



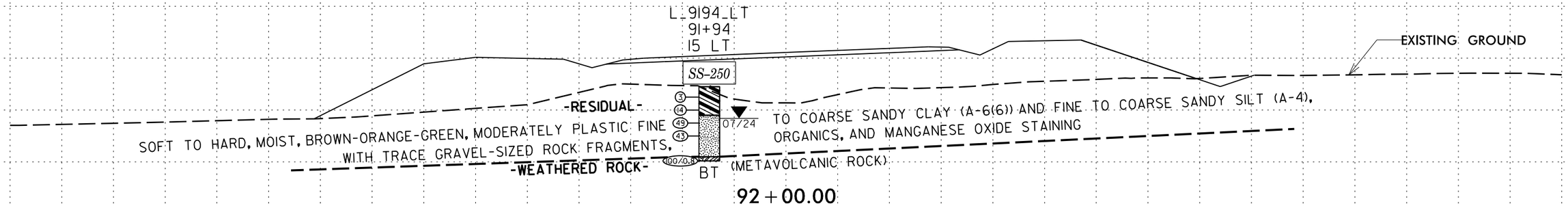
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_9400	SS-255	CL	94+00 -L-	1.0-2.5	A-7-6(20)	49	22	7.7%	8.1%	31.5%	52.7%	96.8%	91.4%	83.9%	25.5%	ND



SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_9194_LT	SS-250	15' LT	91+94 -L-	1.0-2.5	A-6(6)	36	17	13.4%	12.8%	36.7%	37.1%	68.7%	61.8%	52.8%	18.5%	ND



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-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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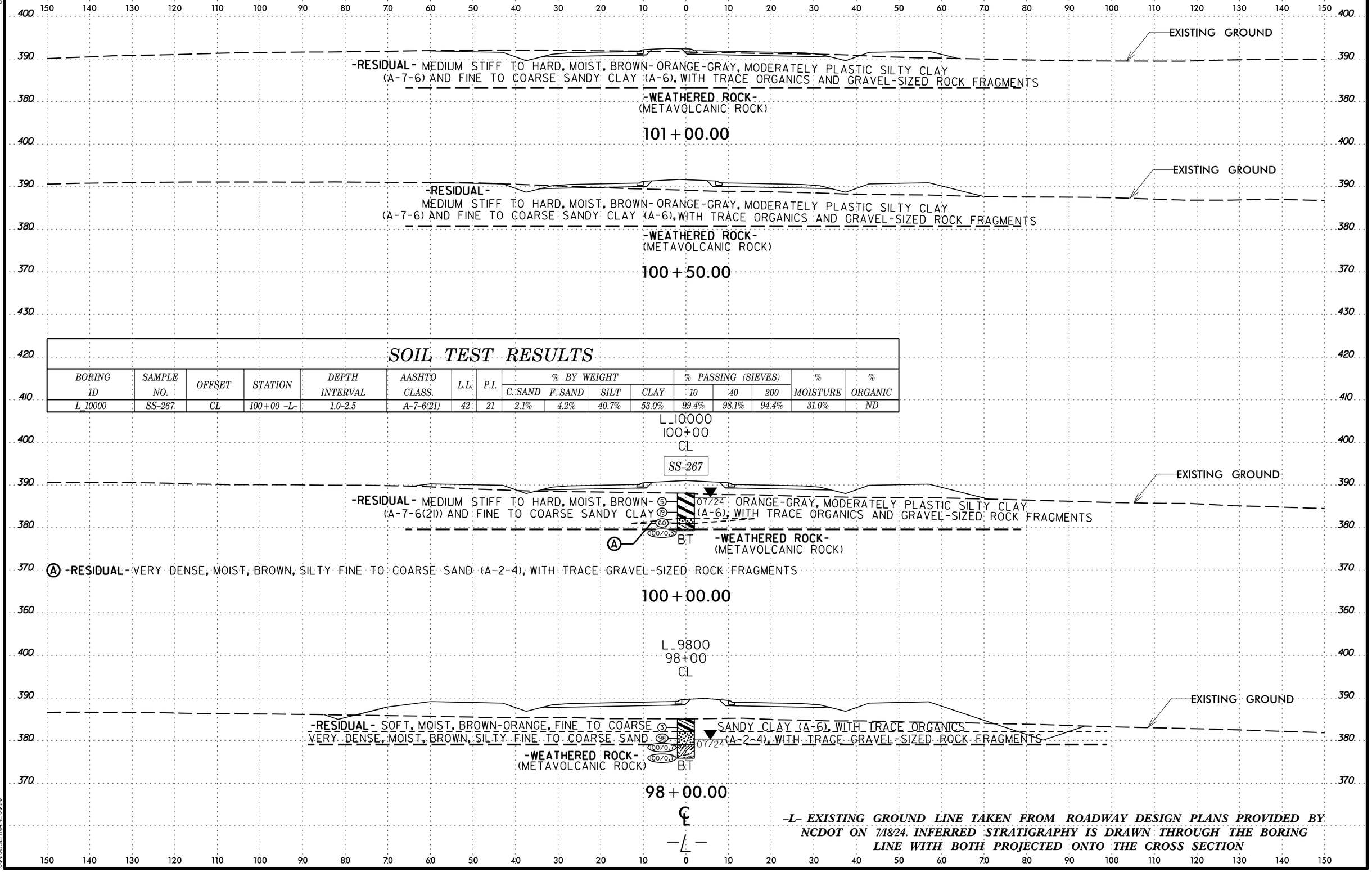

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_10000	SS-267	CL	100+00 -L-	1.0-2.5	A-7-6(21)	42	21	2.1%	4.2%	40.7%	53.0%	99.4%	98.1%	94.4%	31.0%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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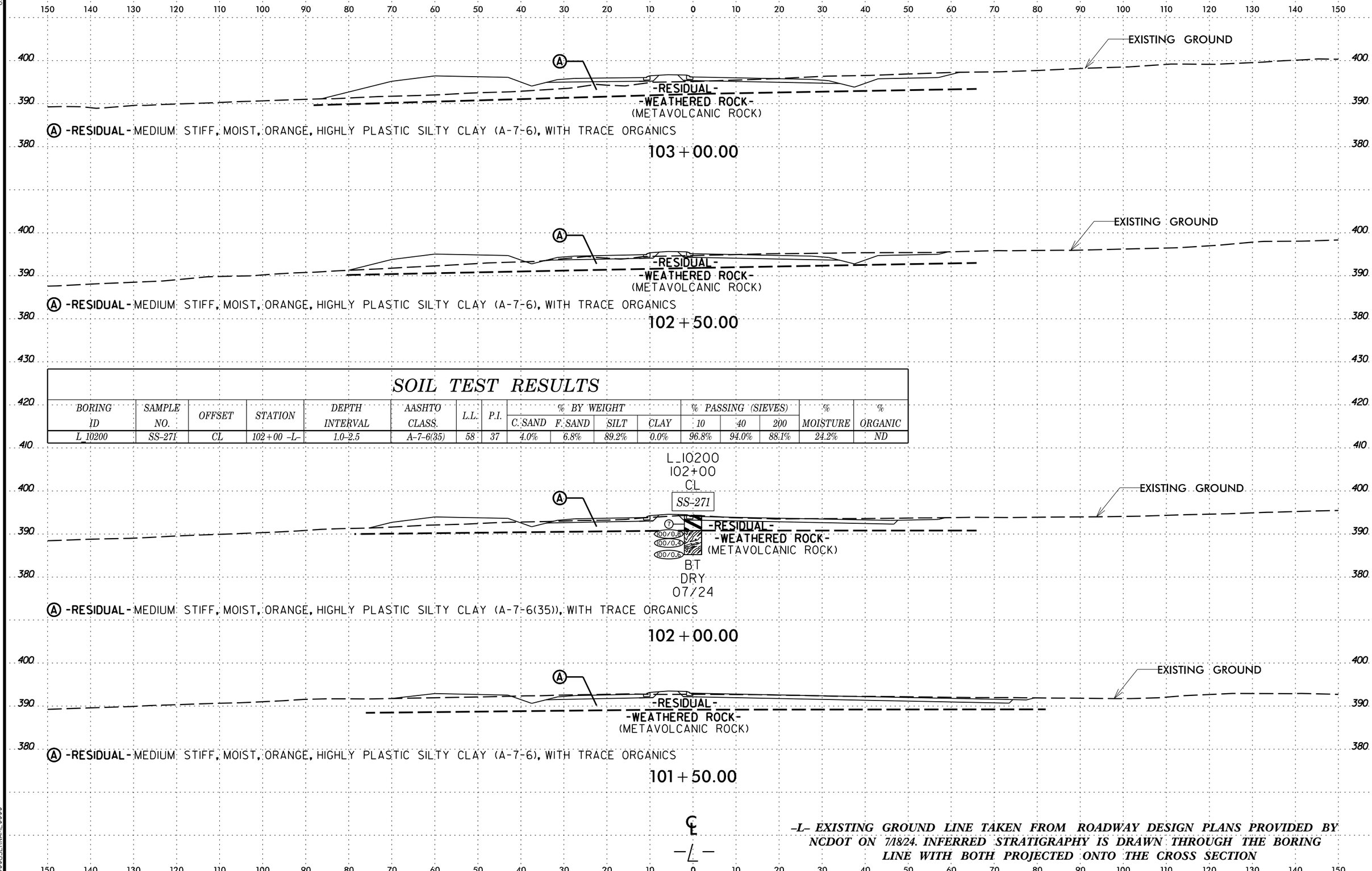

SOIL TEST RESULTS

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L_10200	SS-271	CL	102+00 -L-	1.0-2.5	A-7-6(35)	58	37	4.0%	6.8%	89.2%	0.0%	96.8%	94.0%	88.1%	24.2%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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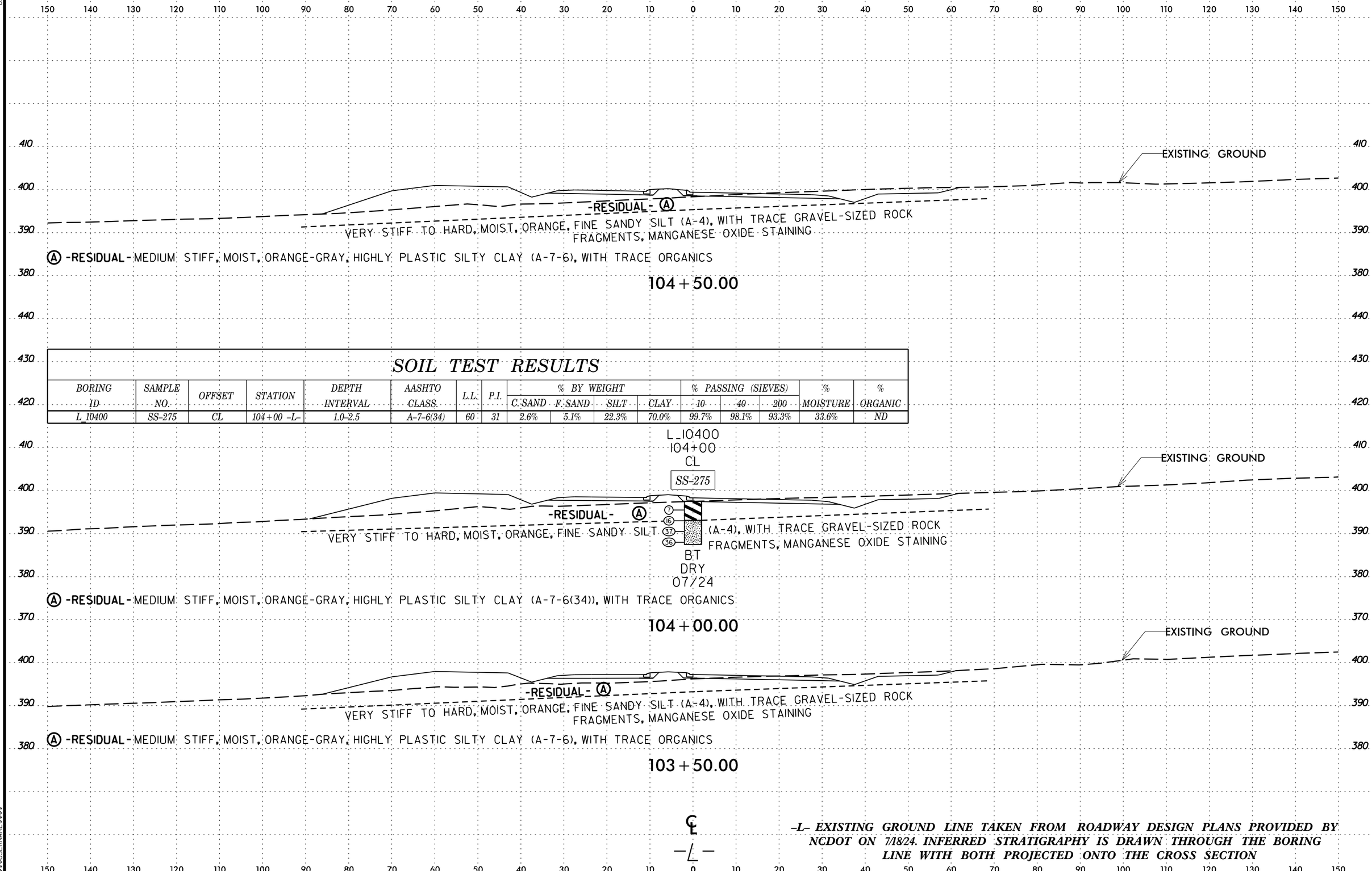

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_10400	SS-275	CL	104+00 -L-	1.0-2.5	A-7-6(34)	60	31	2.6%	5.1%	22.3%	70.0%	99.7%	98.1%	93.3%	33.6%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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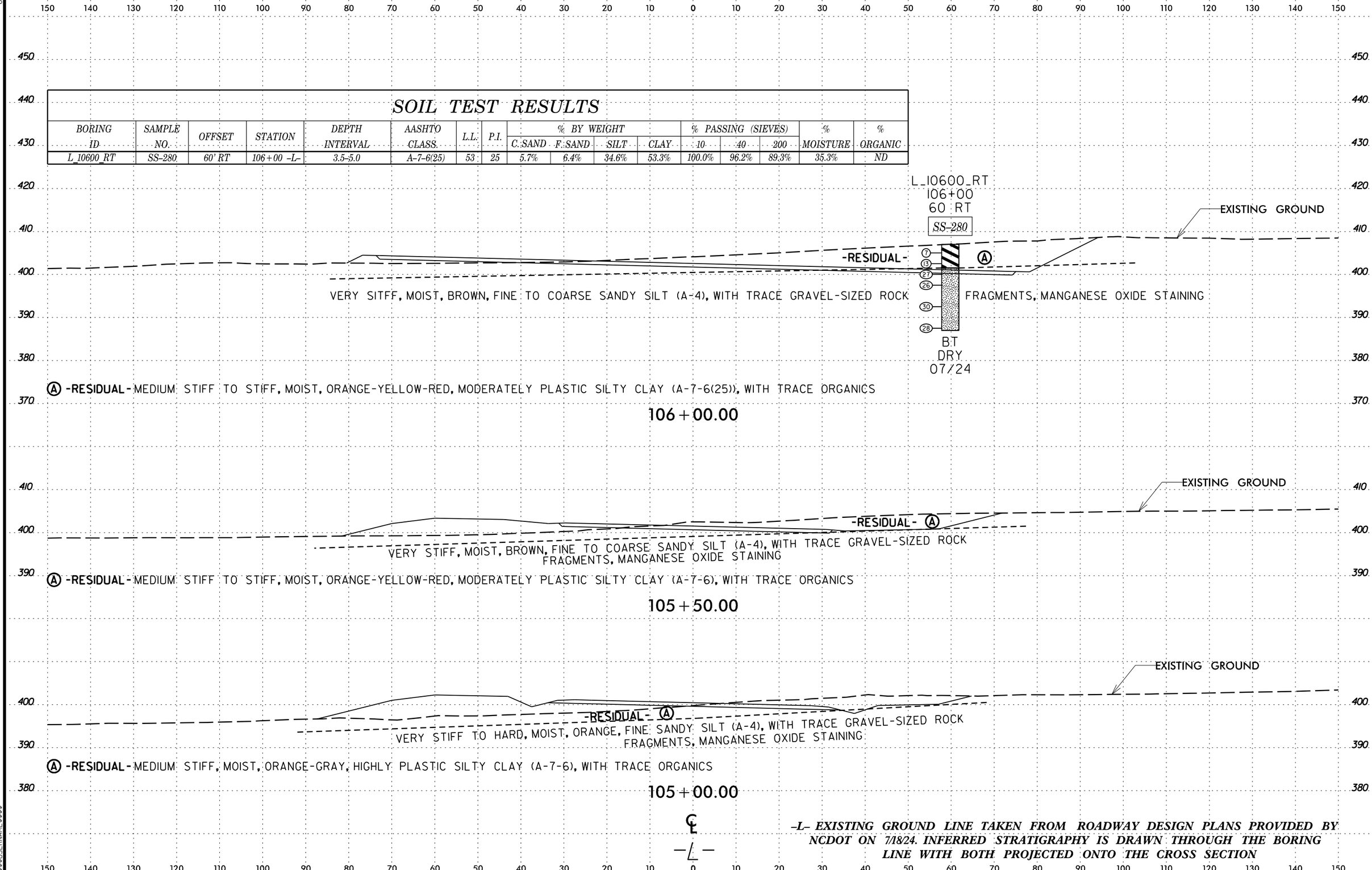
BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_10600_RT	SS-280	60' RT	106+00 -L-	3.5-5.0	A-7-6(25)	53	25	5.7%	6.4%	34.6%	53.3%	100.0%	96.2%	89.3%	35.3%	ND



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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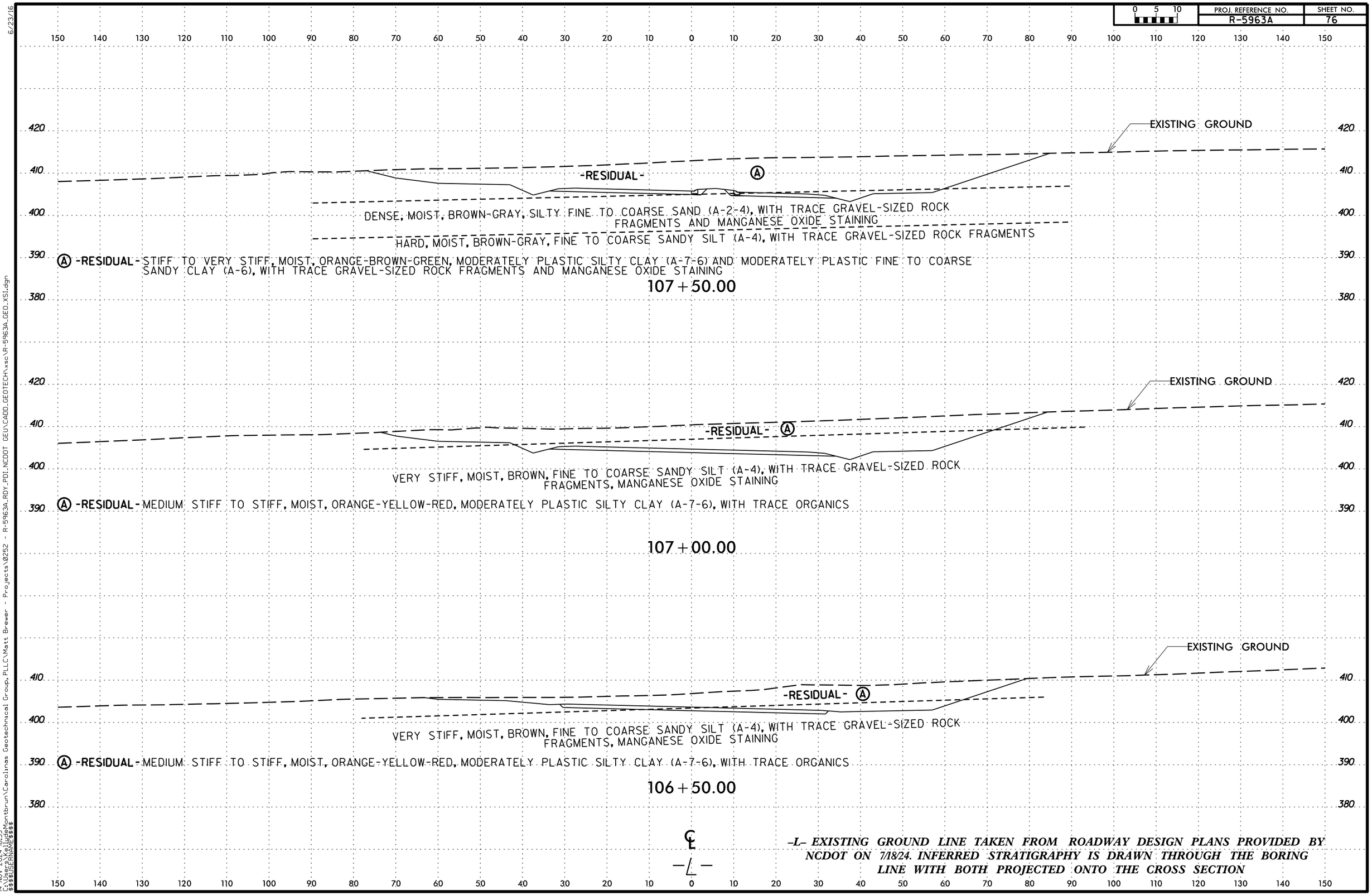
R-5963A	76



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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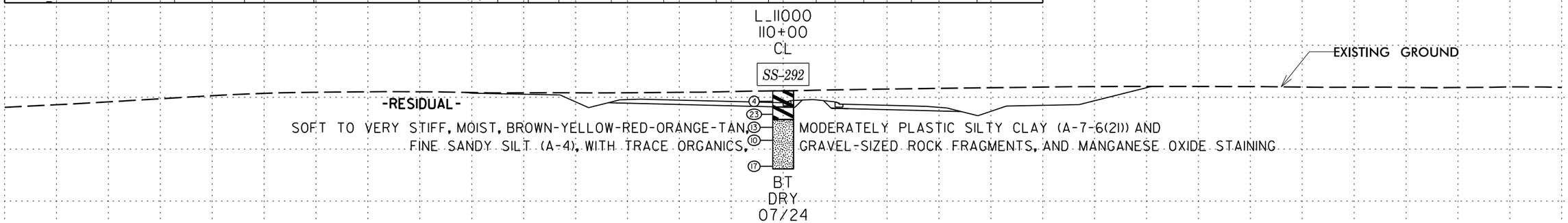
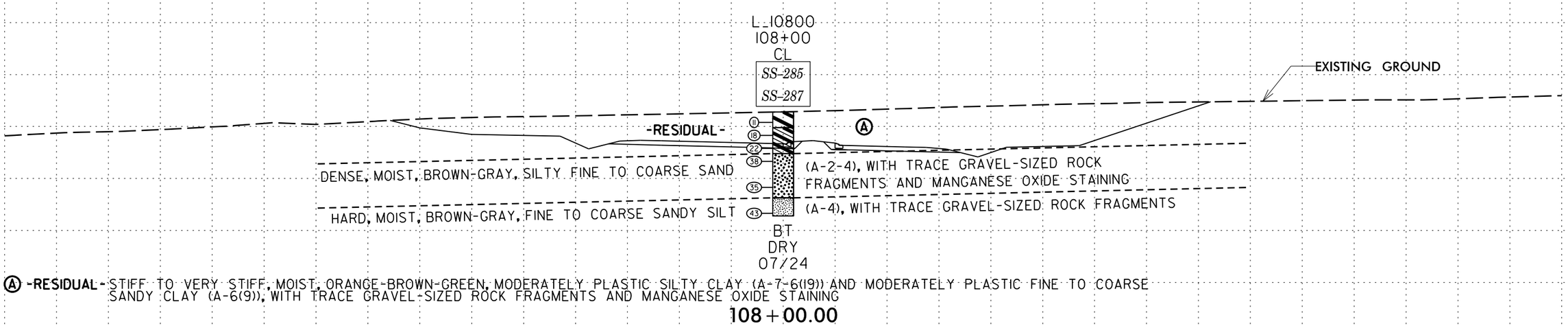
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_11000	SS-292	CL	110+00 -L-	3.5-5.0	A-7-6(21)	48	19	3.0%	3.0%	45.1%	48.9%	97.9%	95.6%	92.8%	32.4%	ND



SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_10800	SS-285	CL	108+00 -L-	1.0-2.5	A-7-6(19)	44	23	8.8%	10.8%	27.0%	53.4%	98.8%	92.9%	81.9%	29.6%	ND
L_10800	SS-287	CL	108+00 -L-	6.0-7.5	A-6(9)	33	17	13.5%	18.7%	37.0%	30.8%	93.1%	84.1%	66.9%	13.3%	ND



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—L—

–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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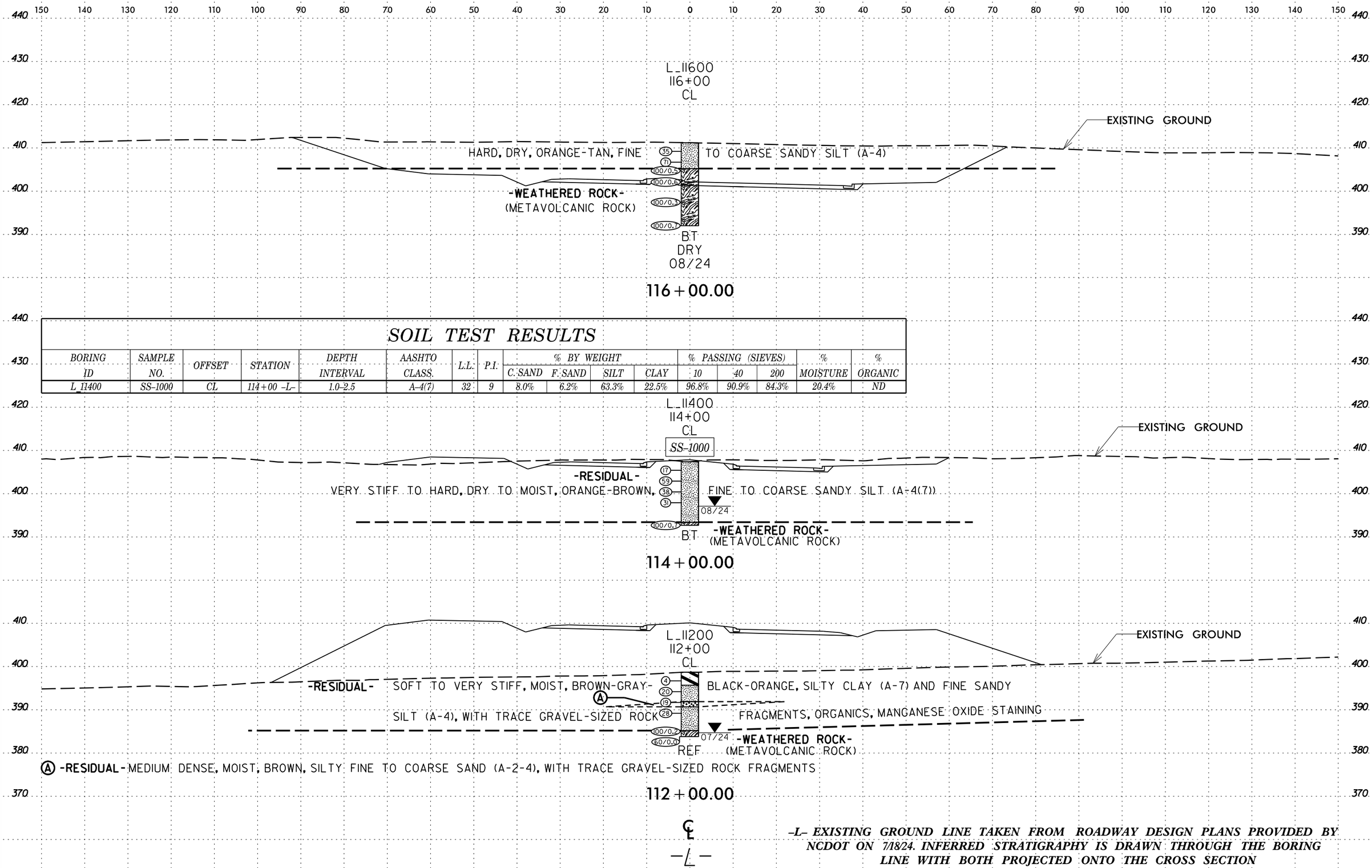
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	78



SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_11400	SS-1000	CL	114+00 -L-	1.0-2.5	A-4(7)	32	9	8.0%	6.2%	63.3%	22.5%	96.8%	90.9%	84.3%	20.4%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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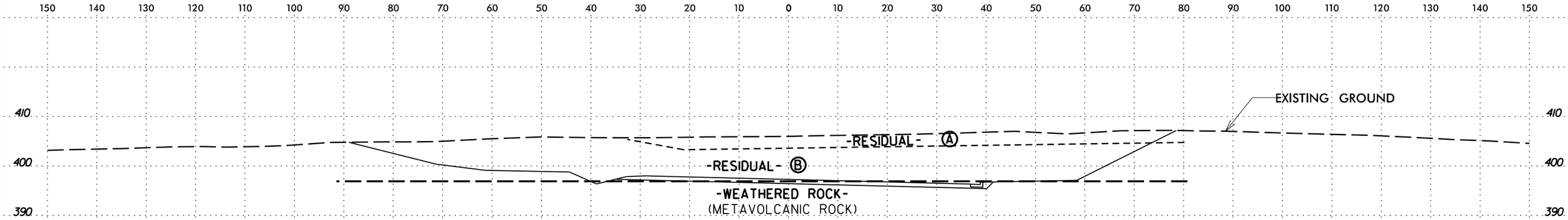
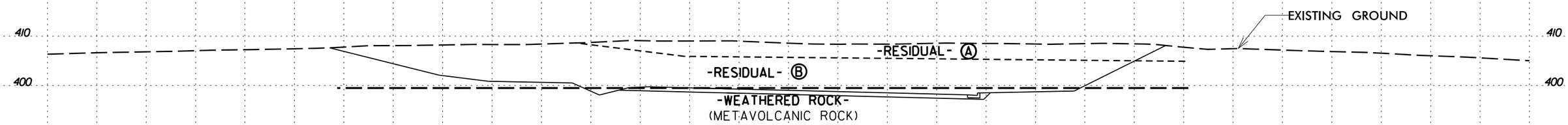


Ⓐ **-RESIDUAL-** VERY STIFF, MOIST, RED-ORANGE, HIGHLY PLASTIC SILTY CLAY (A-7-6), WITH TRACE ORGANICS

Ⓑ **-RESIDUAL-** STIFF TO HARD, DRY TO MOIST, RED-ORANGE-BROWN, SLIGHTLY TO MODERATELY PLASTIC SILTY CLAY (A-7-5/A-7-6), WITH TRACE ORGANICS AND MANGANESE OXIDE STAINING

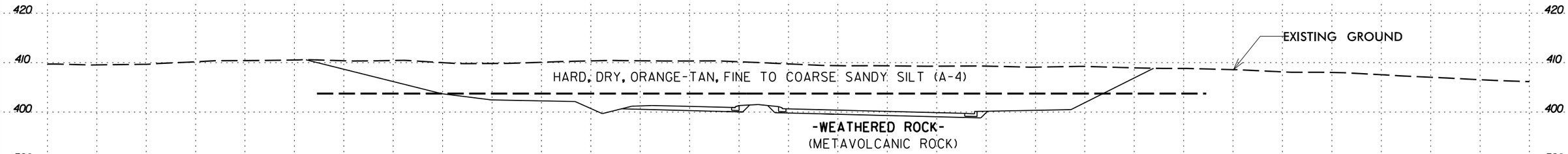
117 + 50.00



Ⓐ **-RESIDUAL-** VERY STIFF, MOIST, RED-ORANGE, HIGHLY PLASTIC SILTY CLAY (A-7-6), WITH TRACE ORGANICS

Ⓑ **-RESIDUAL-** STIFF TO HARD, DRY TO MOIST, RED-ORANGE-BROWN, SLIGHTLY TO MODERATELY PLASTIC SILTY CLAY (A-7-5/A-7-6), WITH TRACE ORGANICS AND MANGANESE OXIDE STAINING

117 + 00.00



116 + 50.00

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-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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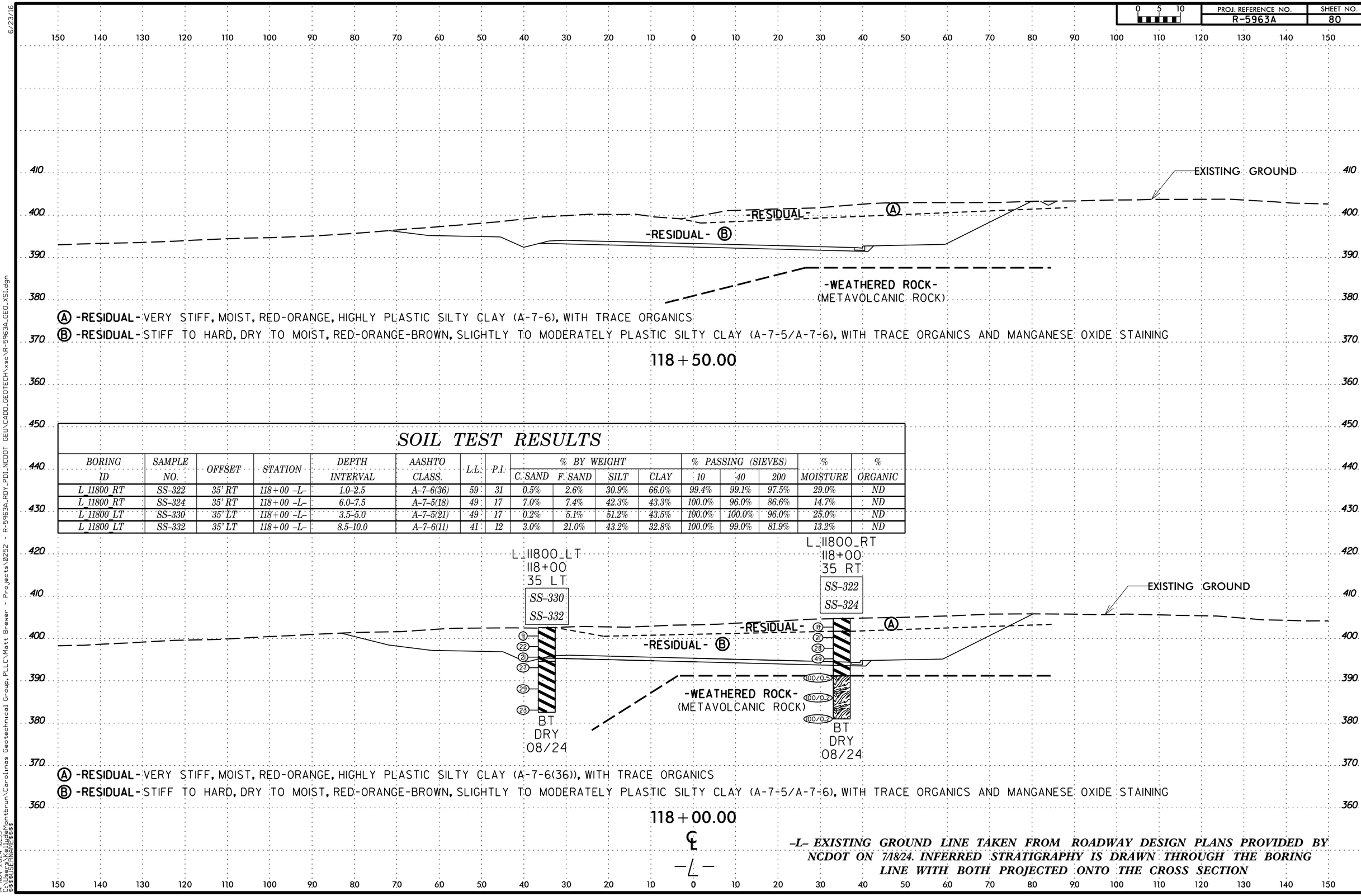
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	80



SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_11800_RT	SS-322	35' RT	118+00 -L-	1.0-2.5	A-7-6(36)	59	31	0.5%	2.6%	30.9%	66.0%	99.4%	99.1%	97.5%	29.0%	ND
L_11800_RT	SS-324	35' RT	118+00 -L-	6.0-7.5	A-7-5(18)	49	17	7.0%	7.4%	42.3%	43.3%	100.0%	96.0%	86.6%	14.7%	ND
L_11800_LT	SS-330	35' LT	118+00 -L-	3.5-5.0	A-7-5(21)	49	17	0.2%	5.1%	51.2%	43.5%	100.0%	100.0%	96.0%	25.0%	ND
L_11800_LT	SS-332	35' LT	118+00 -L-	8.5-10.0	A-7-6(11)	41	12	3.0%	21.0%	43.2%	32.8%	100.0%	99.0%	81.9%	13.2%	ND

Ⓐ -RESIDUAL- VERY STIFF, MOIST, RED-ORANGE, HIGHLY PLASTIC SILTY CLAY (A-7-6(36)), WITH TRACE ORGANICS

Ⓑ -RESIDUAL- STIFF TO HARD, DRY TO MOIST, RED-ORANGE-BROWN, SLIGHTLY TO MODERATELY PLASTIC SILTY CLAY (A-7-5/A-7-6), WITH TRACE ORGANICS AND MANGANESE OXIDE STAINING

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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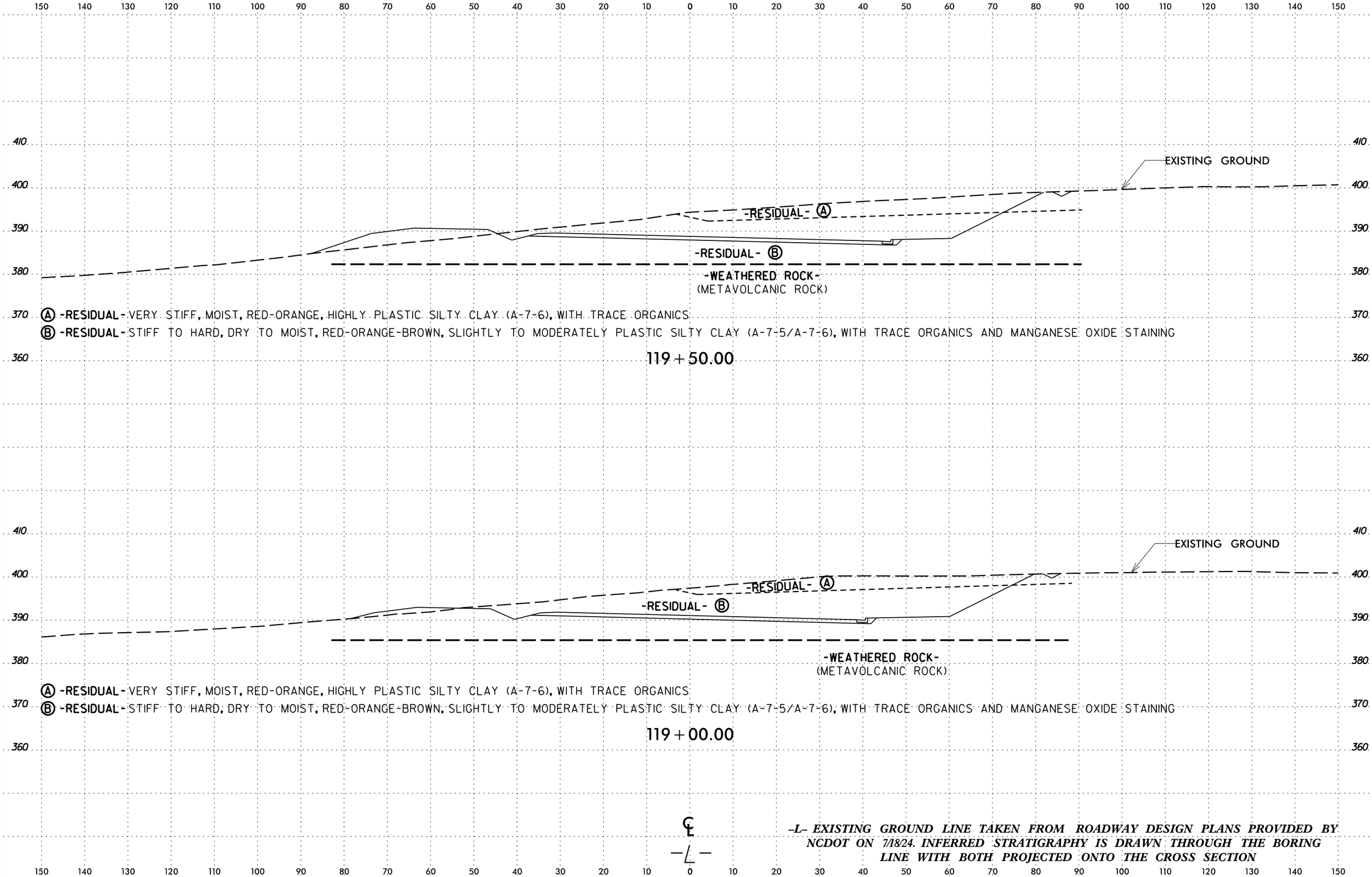
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	81



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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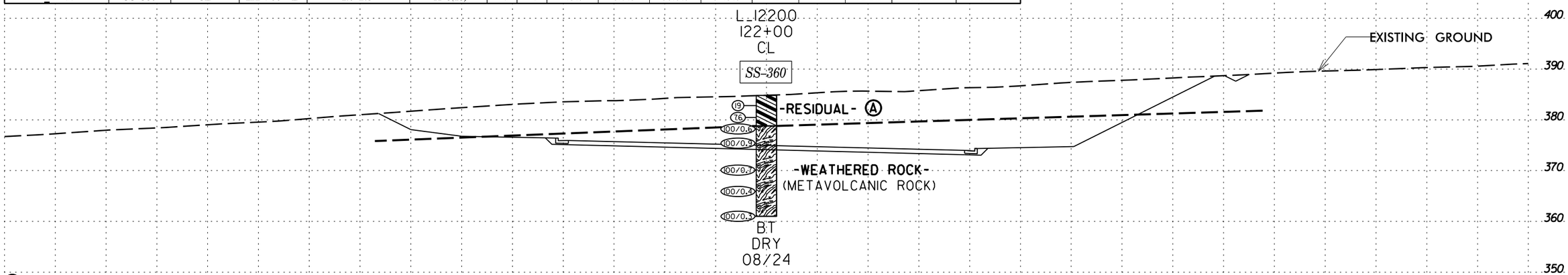
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	82

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_12200	SS-360	CL	122+00 -L-	1.0-2.5	A-6(13)	40	20	1.8%	8.7%	56.6%	32.9%	77.2%	76.5%	72.1%	11.8%	ND

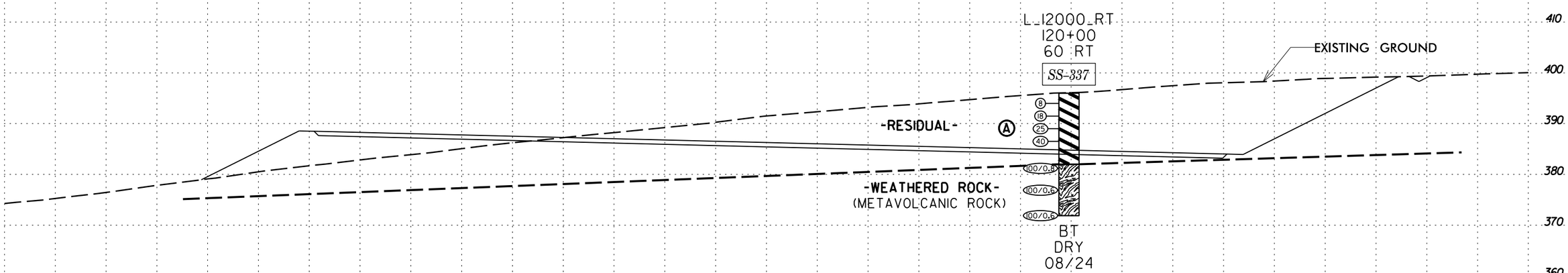


Ⓐ **-RESIDUAL-** VERY STIFF TO HARD, MOIST, ORANGE-TAN, MODERATELY PLASTIC FINE SANDY CLAY (A-6(13)), WITH TRACE ORGANICS, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING

122+00.00

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_12000_RT	SS-337	60' RT	120+00 -L-	6.0-8.5	A-7-6(15)	41	15	2.8%	10.1%	50.0%	37.1%	100.0%	98.2%	89.7%	18.3%	ND



Ⓐ **-RESIDUAL-** MEDIUM STIFF TO HARD, DRY TO MOIST, TAN-RED-ORANGE-BROWN, SLIGHTLY PLASTIC SILTY CLAY (A-7-6(15)), WITH TRACE ORGANICS AND MANGANESE OXIDE STAINING

120+00.00

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-L-

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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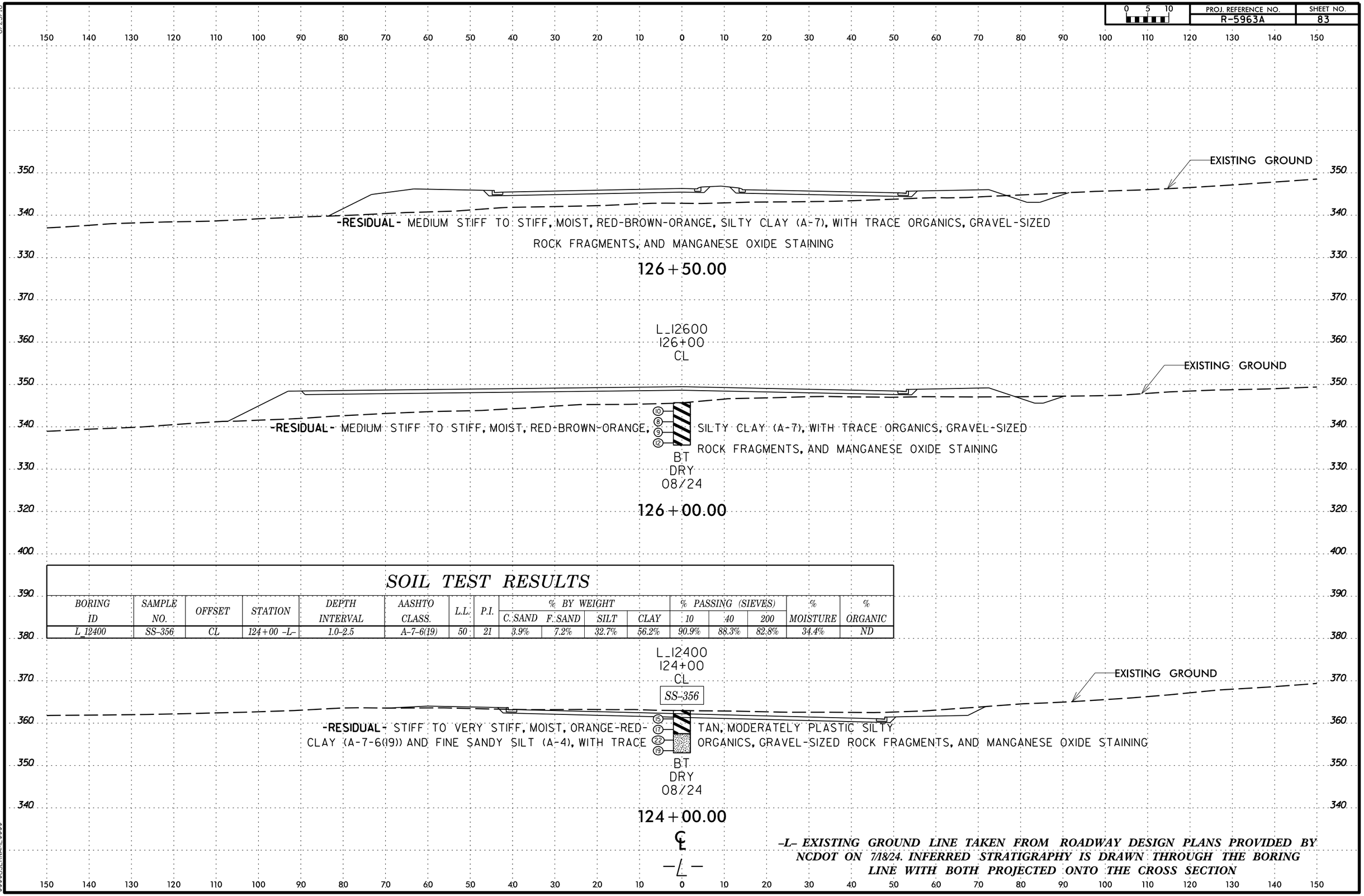
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	83



SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_12400	SS-356	CL	124+00 -L-	1.0-2.5	A-7-6(19)	50	21	3.9%	7.2%	32.7%	56.2%	90.9%	88.3%	82.8%	34.4%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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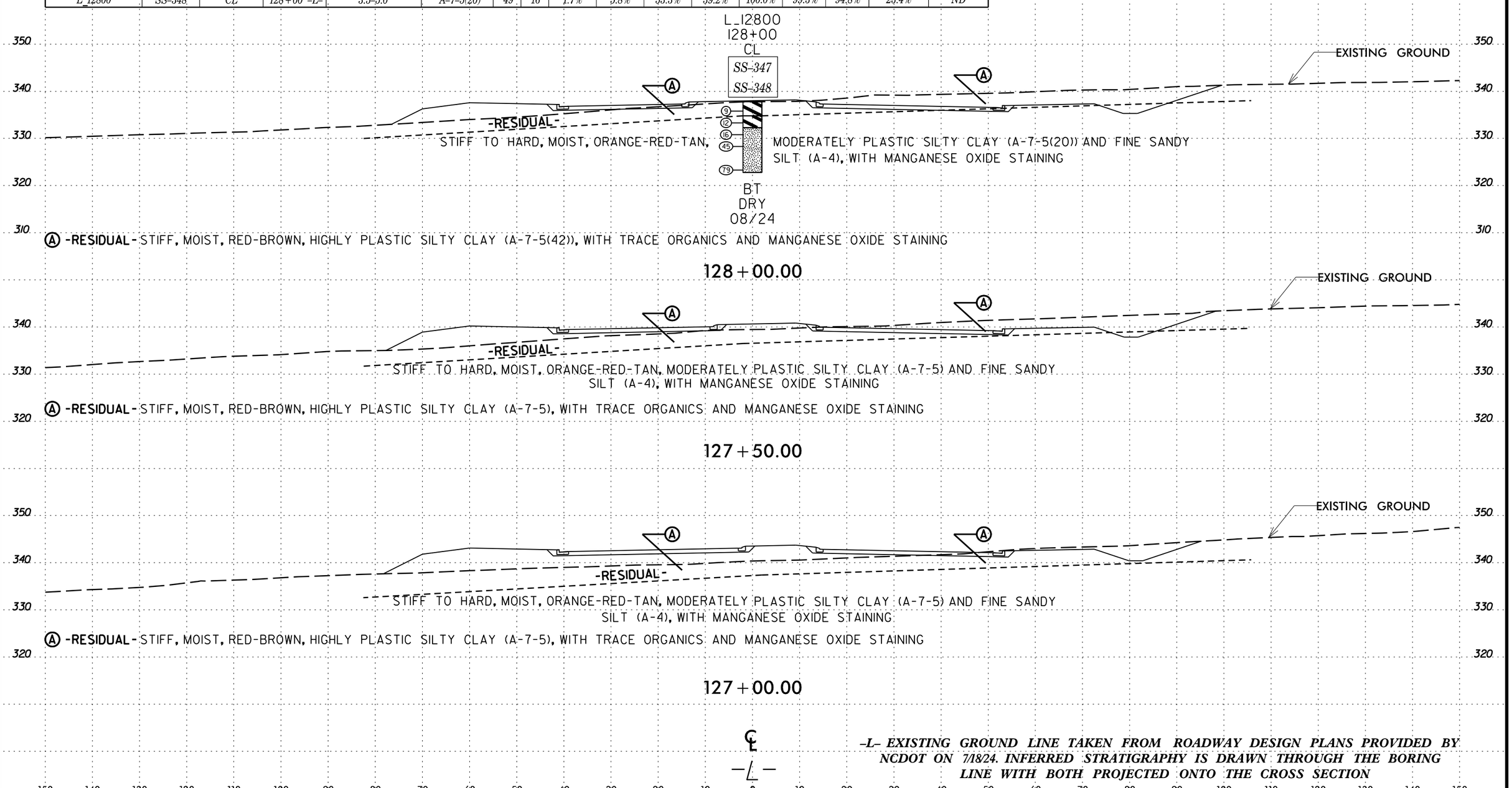
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_12800	SS-347	CL	128+00 -L-	1.0-2.5	A-7-5(42)	69	37	1.9%	1.7%	27.7%	68.7%	98.4%	97.0%	95.3%	41.6%	ND
L_12800	SS-348	CL	128+00 -L-	3.5-5.0	A-7-5(20)	49	16	1.7%	5.8%	53.3%	39.2%	100.0%	99.3%	94.8%	23.4%	ND



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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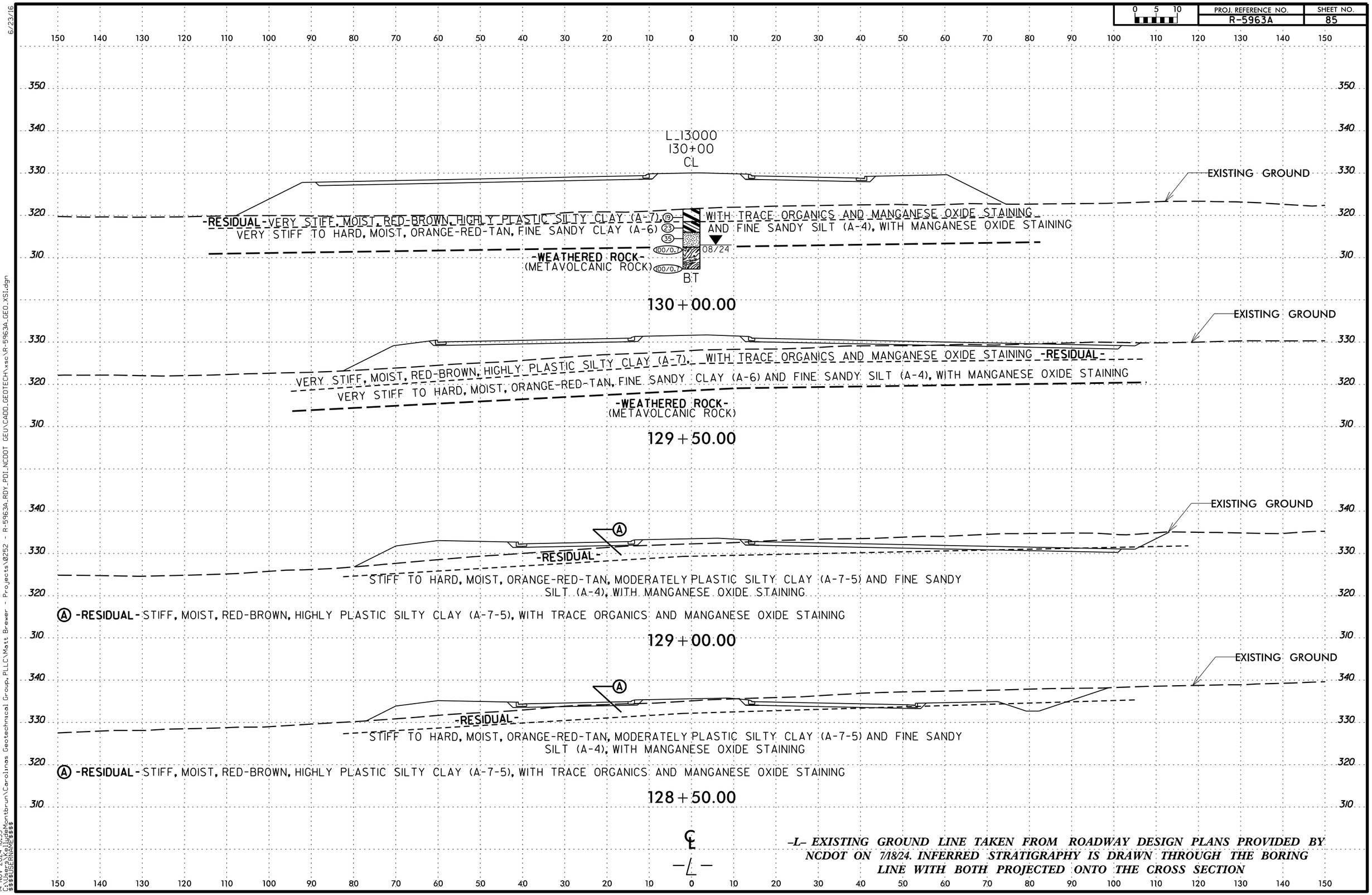

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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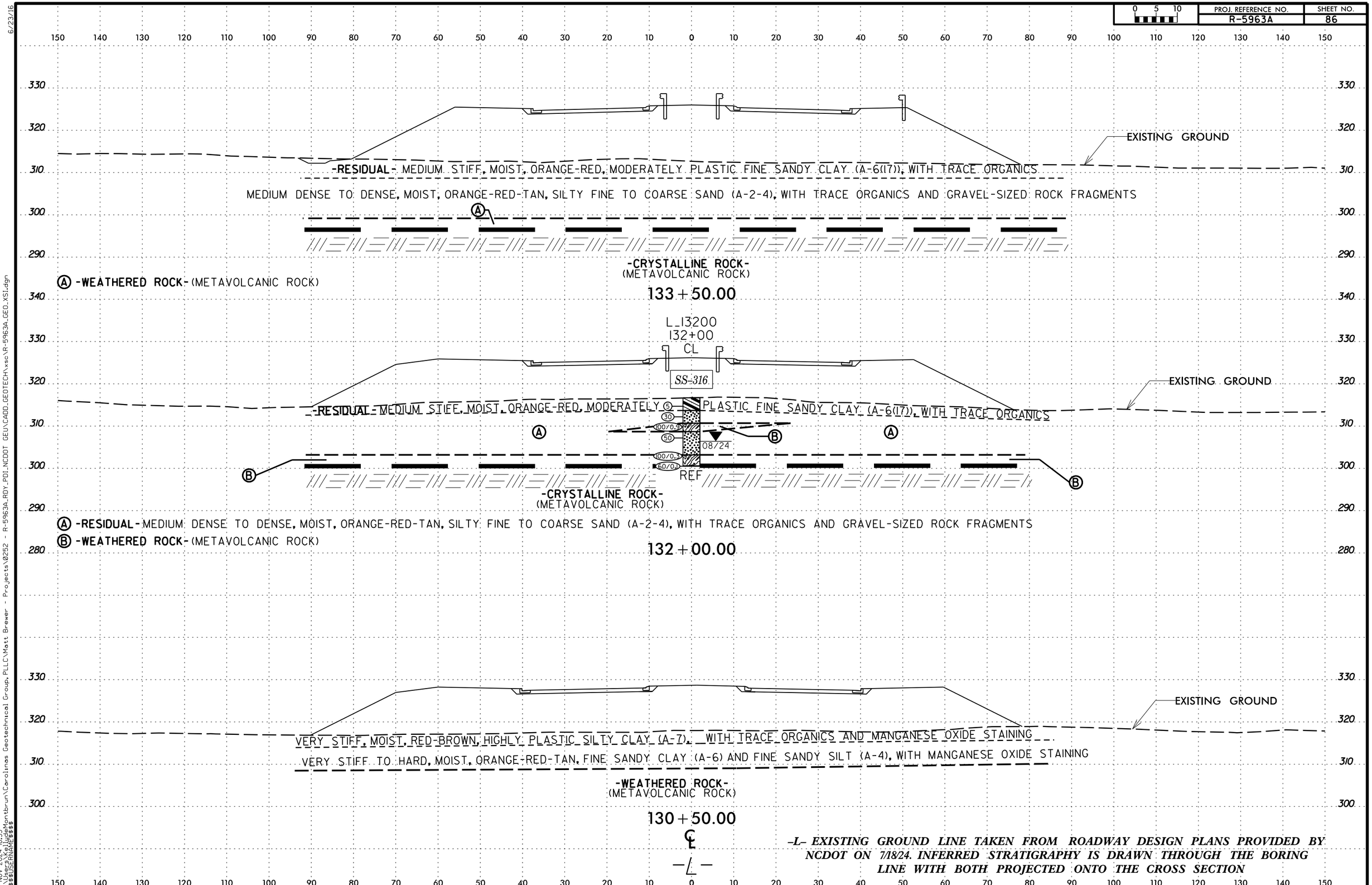

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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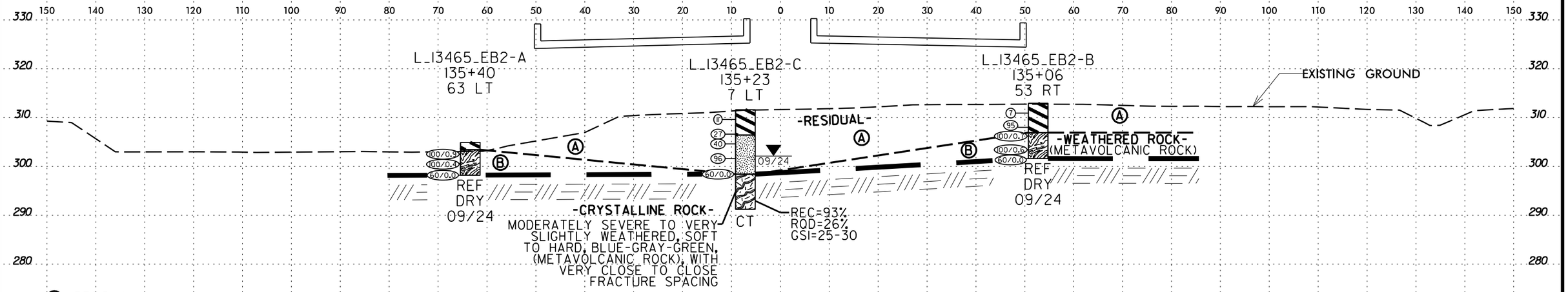


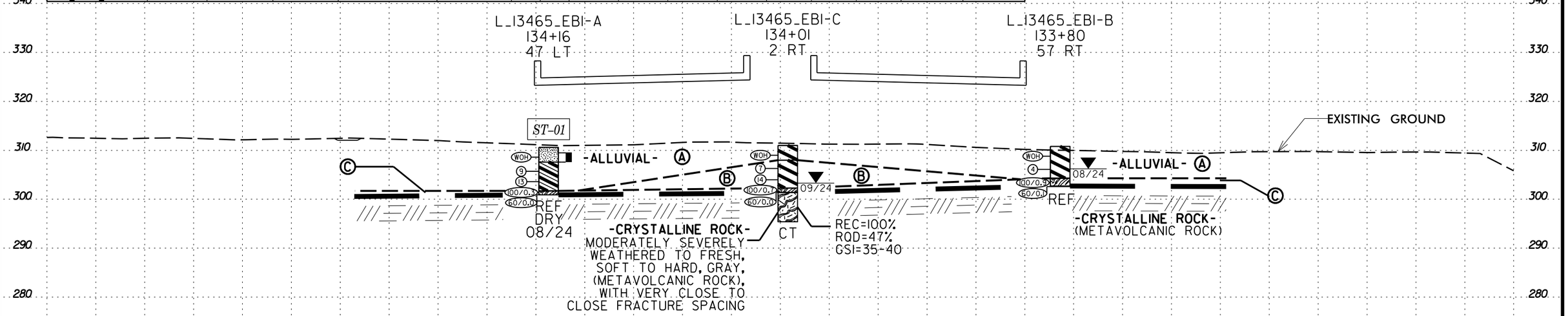
Ⓐ -RESIDUAL- MEDIUM STIFF TO HARD, DRY TO MOIST, RED-ORANGE-GREEN-BROWN, SILTY CLAY (A-7) AND FINE SANDY SILT (A-4), WITH TRACE ORGANICS, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING

Ⓑ -WEATHERED ROCK- (METAVOLCANIC ROCK)

135+00.00

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L 13456 EB1-A	ST-01	47' LT	134+16 -L-	1.0-3.0	A-4(4)	26	8	7.8%	22.9%	35.0%	34.3%	100.0%	98.1%	73.8%	22.0%	2.4%



Ⓐ -ALLUVIAL- VERY SOFT TO STIFF, MOIST, ORANGE-TAN-BROWN-GRAY, SILTY CLAY (A-7), FINE TO COARSE SANDY CLAY (A-6), AND FINE SANDY SILT (A-4), WITH TRACE ORGANICS AND ROOTS

Ⓑ -RESIDUAL- MEDIUM STIFF TO STIFF, MOIST, ORANGE-BROWN-GRAY, SILTY CLAY (A-7), WITH TRACE ORGANICS

Ⓒ -WEATHERED ROCK- (METAVOLCANIC ROCK)

134+00.00

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-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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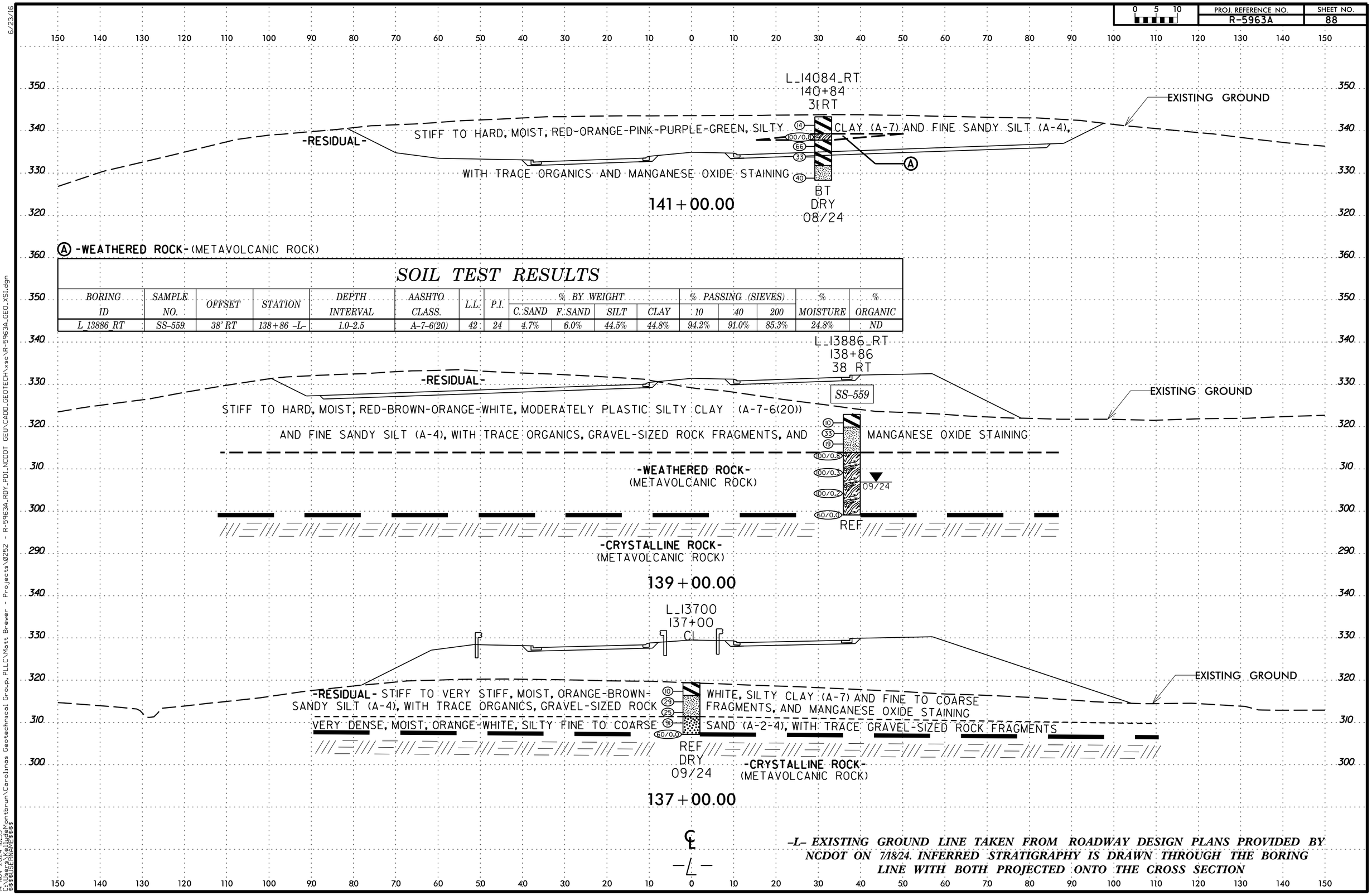

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_13886_RT	SS-559	38' RT	138+86 -L-	1.0-2.5	A-7-6(20)	42	24	4.7%	6.0%	44.5%	44.8%	94.2%	91.0%	85.3%	24.8%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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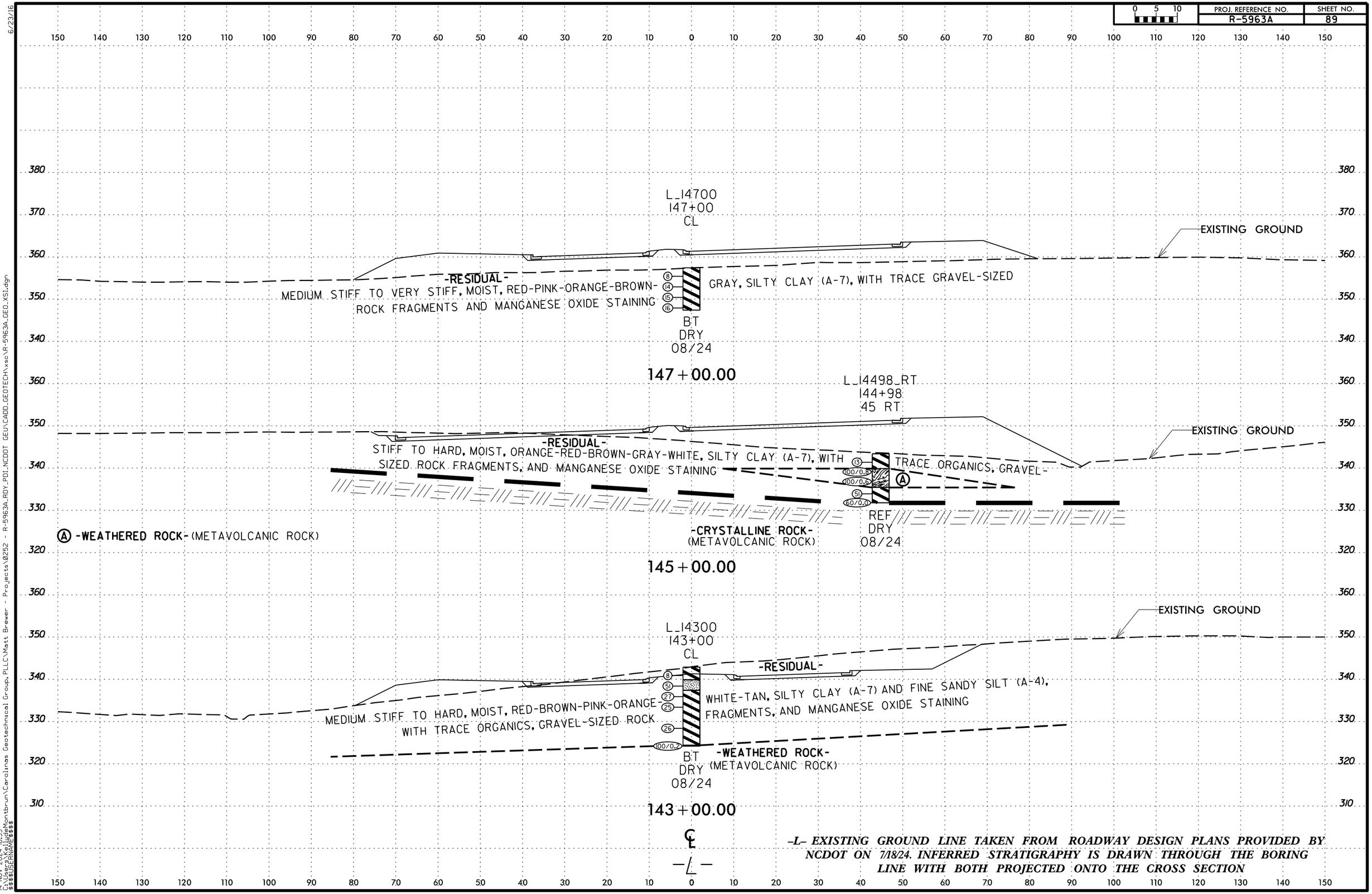

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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PROJ. REFERENCE NO.	SHEET NO.
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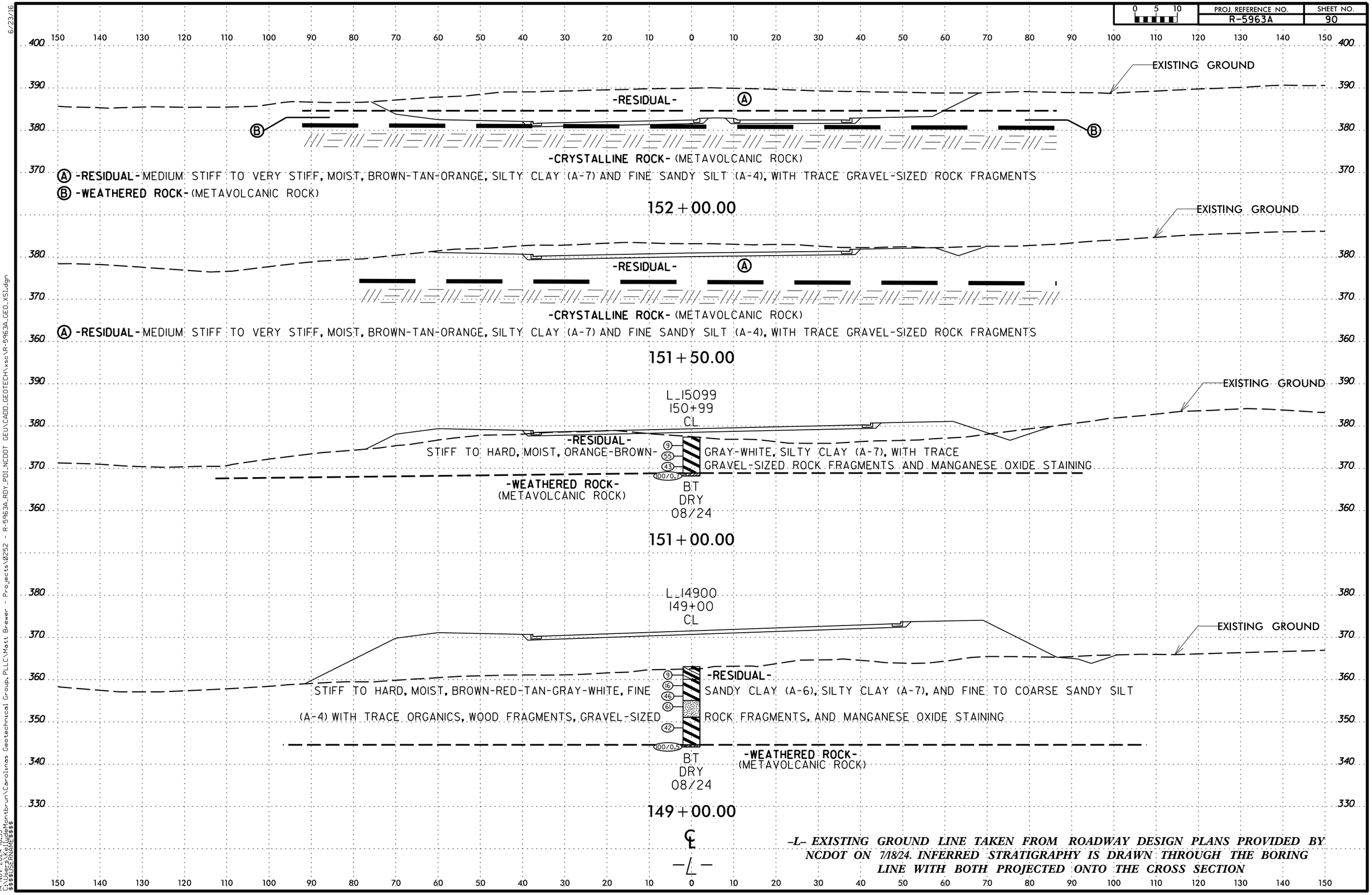

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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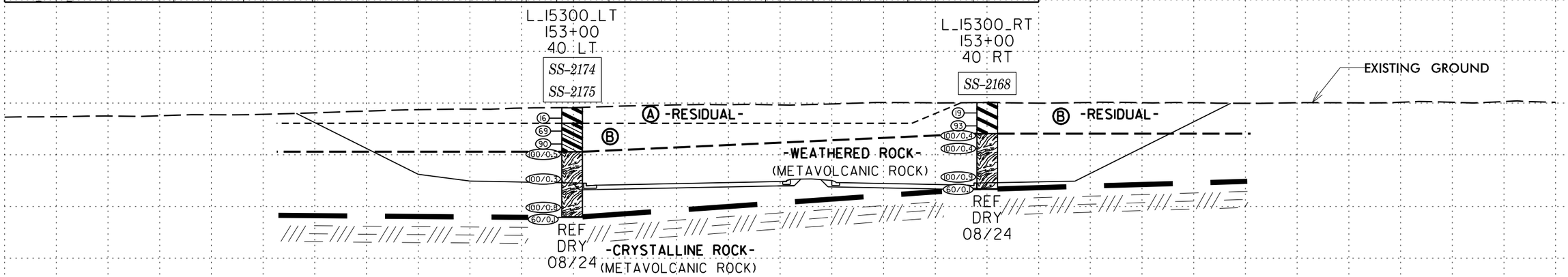
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	91

SOIL TEST RESULTS

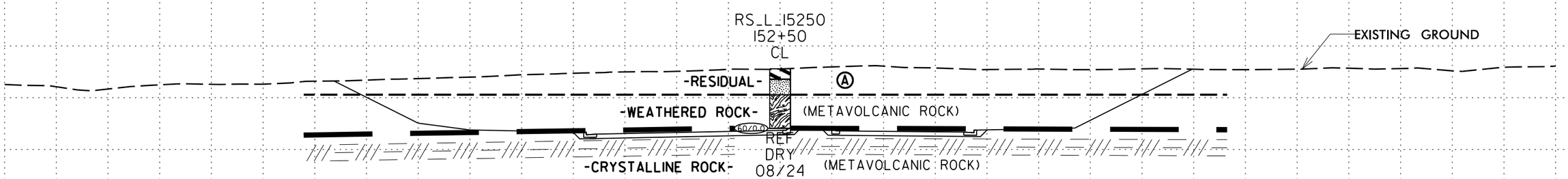
BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L 15300 RT	SS-2168	40' RT	153+00 -L-	1.0-2.5	A-7-6(8)	43	25	20.5%	13.5%	27.0%	39.0%	71.0%	59.9%	49.3%	20.1%	ND
L 15300 LT	SS-2174	40' LT	153+00 -L-	1.0-2.5	A-7-6(21)	55	34	10.7%	6.3%	23.1%	59.9%	78.8%	72.1%	66.8%	33.5%	ND
L 15300 LT	SS-2175	40' LT	153+00 -L-	3.5-5.0	A-6(13)	38	20	12.2%	15.6%	43.2%	29.0%	97.4%	90.1%	74.4%	35.4%	ND



Ⓐ **-RESIDUAL-** VERY STIFF, MOIST, ORANGE-TAN, HIGHLY PLASTIC SILTY CLAY (A-7-6(21)), WITH TRACE MICA AND MANGANESE OXIDE STAINING

Ⓑ **-RESIDUAL-** VERY STIFF TO HARD, MOIST, ORANGE-TAN-WHITE, MODERATELY PLASTIC FINE TO COARSE SANDY CLAY (A-6(13)) AND MODERATELY PLASTIC SILTY CLAY (A-7-6(8)), WITH TRACE MICA, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING

153+00.00



Ⓐ **-RESIDUAL-** MEDIUM STIFF TO VERY STIFF, MOIST, BROWN-TAN-ORANGE, SILTY CLAY (A-7) AND FINE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

152+50.00

℄ -L-

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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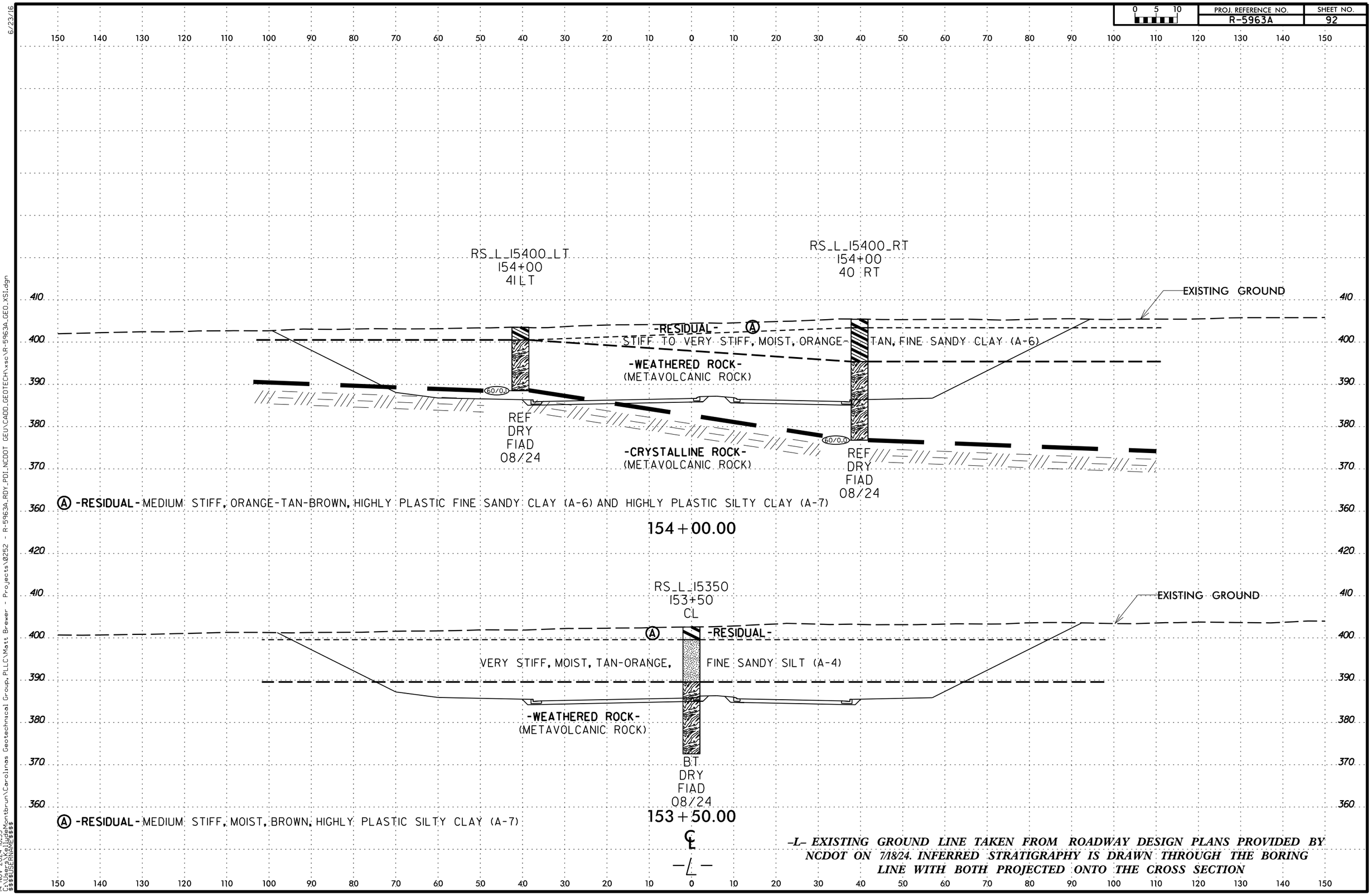

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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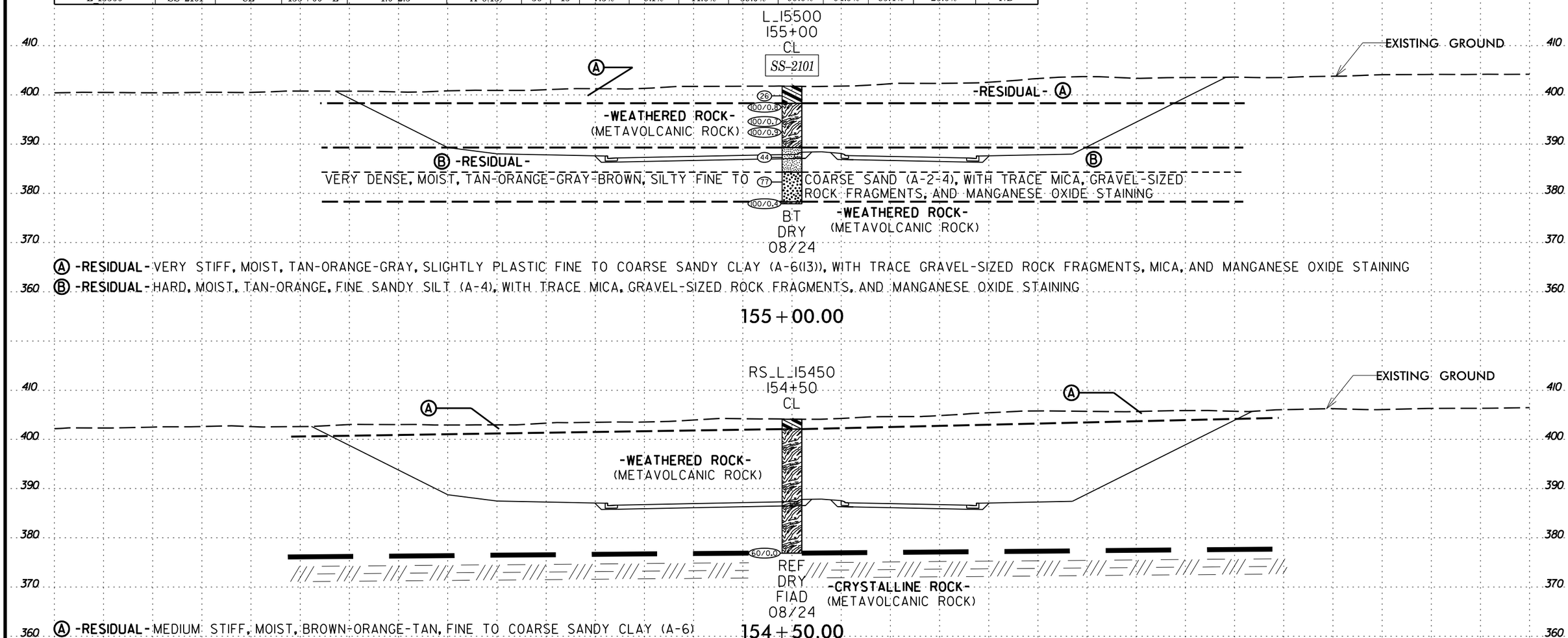
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L_15500	SS-2101	CL	155+00 -L-	1.0-2.5	A-6(13)	36	15	7.3%	9.1%	44.6%	39.0%	99.6%	94.9%	85.4%	25.6%	ND



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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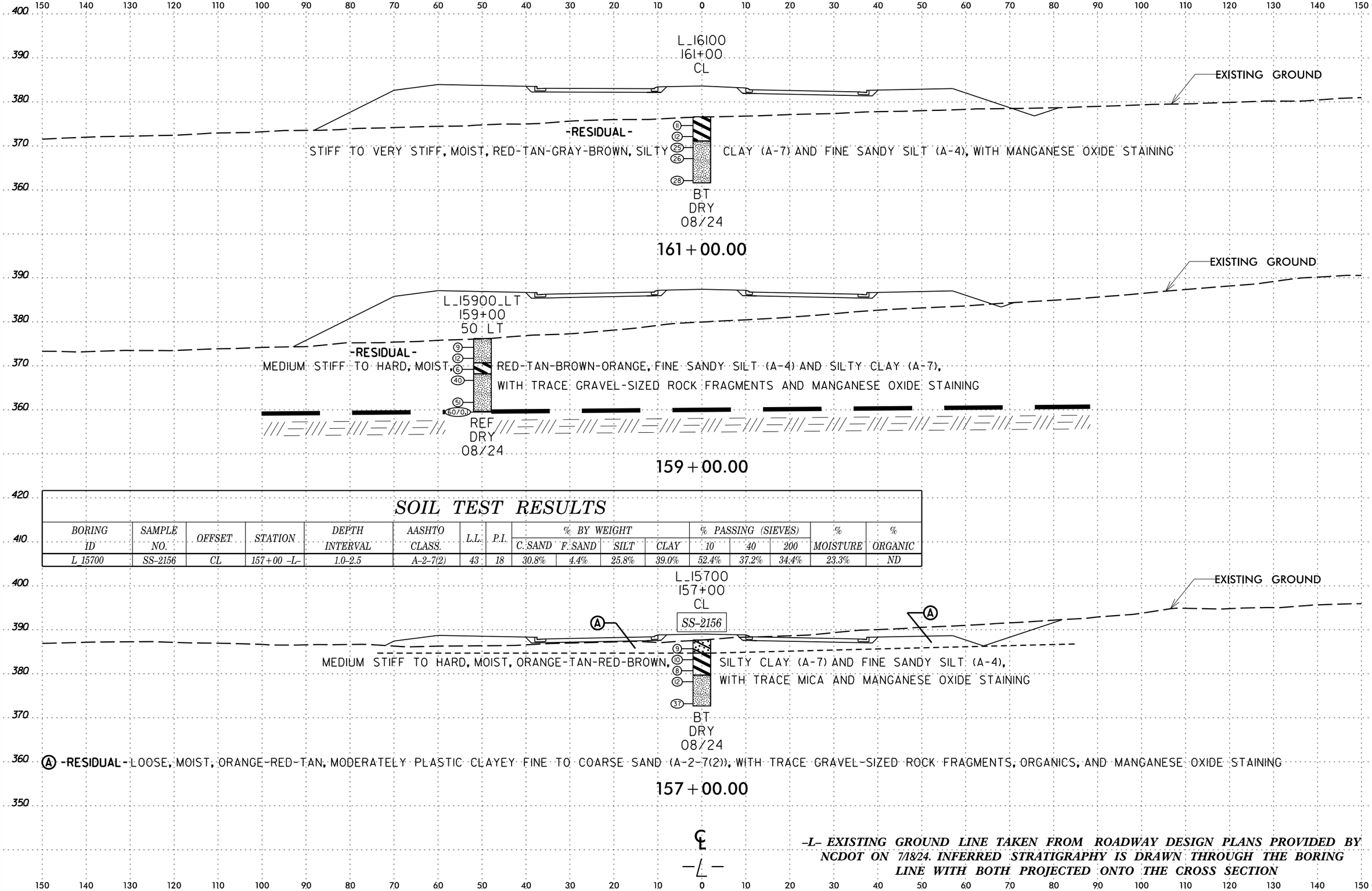
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	94



SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
L_15700	SS-2156	CL	157+00 -L-	1.0-2.5	A-2-7(2)	43	18	30.8%	4.4%	25.8%	39.0%	52.4%	37.2%	34.4%	23.3%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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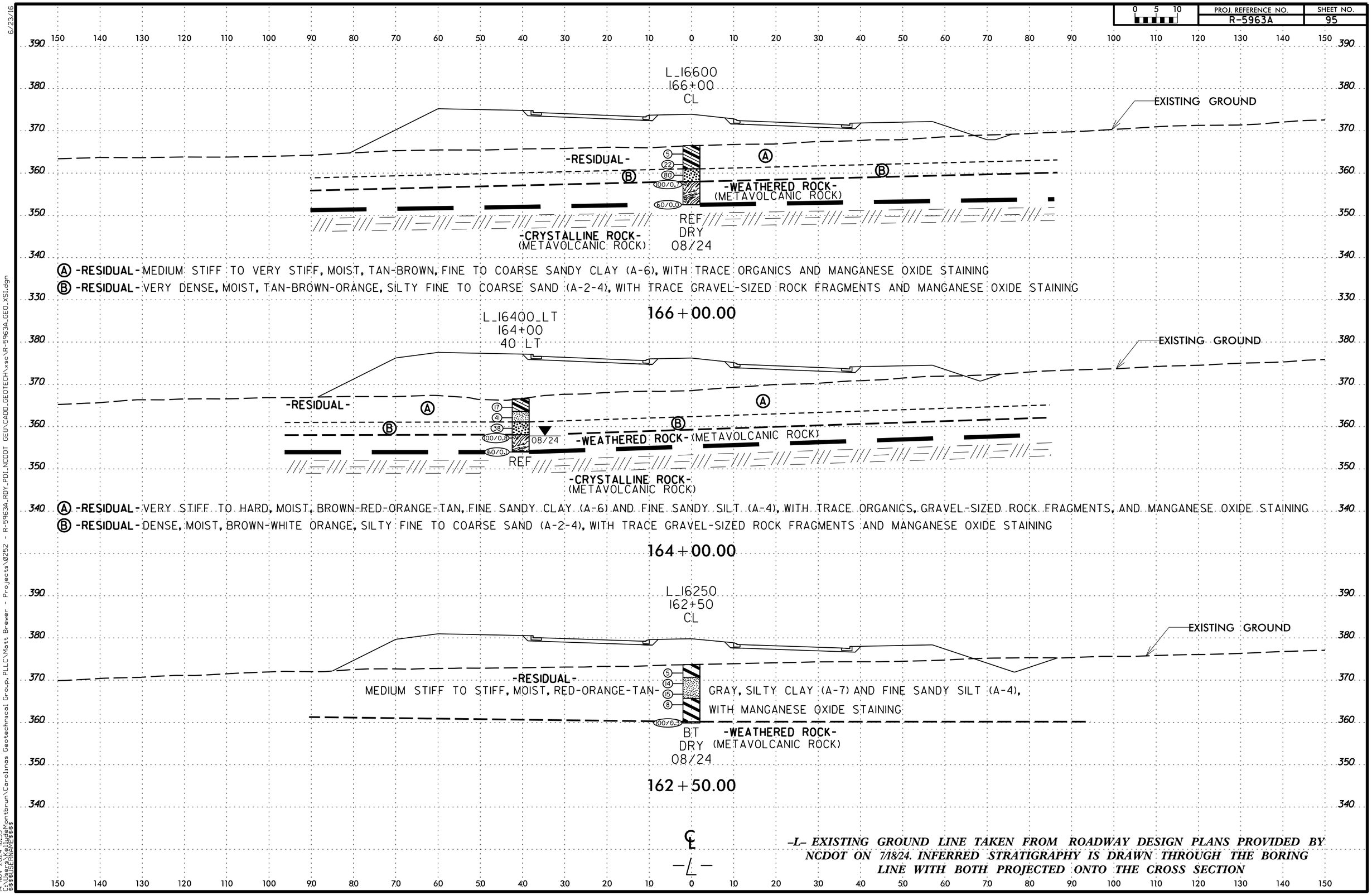

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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PROJ. REFERENCE NO.	SHEET NO.
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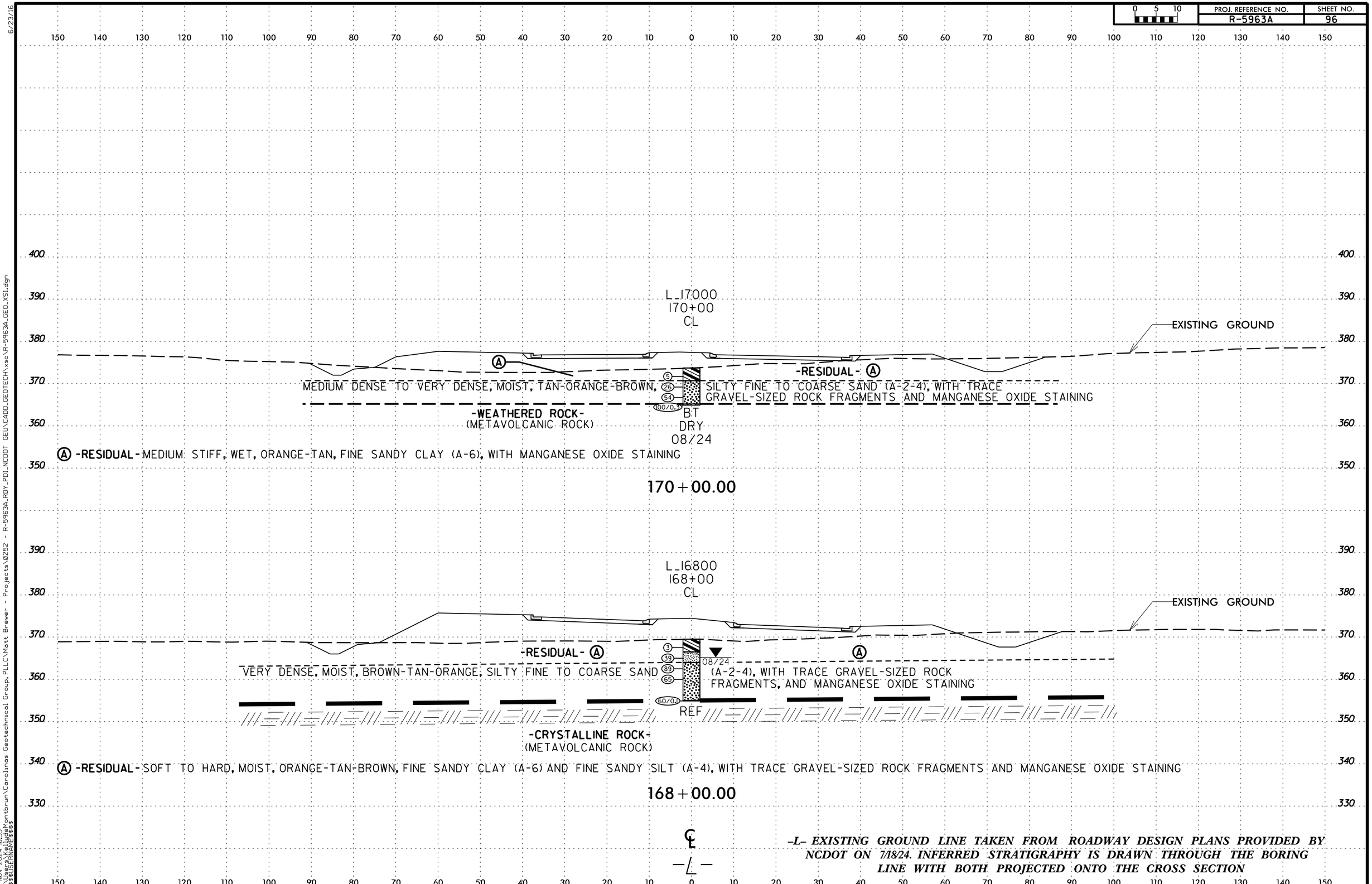

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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PROJ. REFERENCE NO.	SHEET NO.
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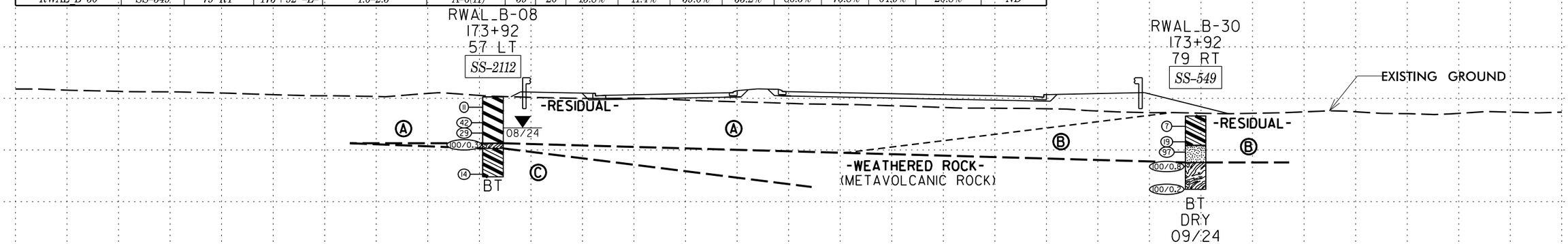
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL B-08	SS-2112	57' LT	173+92 -L-	1.0-2.5	A-7-6(29)	56	28	5.0%	3.6%	34.1%	57.3%	96.9%	92.8%	89.6%	24.0%	ND
RWAL B-30	SS-549	79' RT	173+92 -L-	1.0-2.5	A-6(11)	39	20	15.8%	11.4%	39.6%	33.2%	86.3%	75.8%	64.9%	20.8%	ND



Ⓐ **-RESIDUAL-** STIFF TO HARD, MOIST, ORANGE-RED-BROWN-TAN, HIGHLY PLASTIC SILTY CLAY (A-7-6(29)), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS AND MANGANESE OXIDE STAINING

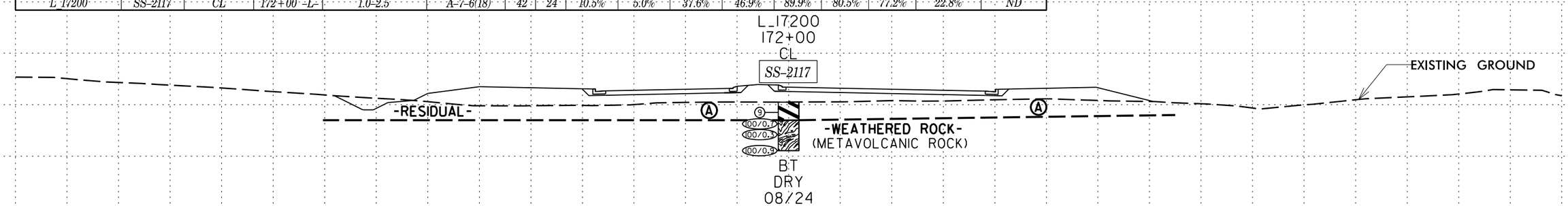
Ⓑ **-RESIDUAL-** MEDIUM STIFF TO HARD, MOIST, BROWN-ORANGE-TAN-WHITE-RED-GRAY, MODERATELY PLASTIC FINE SANDY CLAY (A-6(11)) AND FINE TO COARSE SANDY SILT (A-4), WITH TRACE ORGANICS AND GRAVEL-SIZED ROCK FRAGMENTS

Ⓒ **-RESIDUAL-** STIFF, MOIST, BROWN-ORANGE, FINE TO COARSE SANDY CLAY (A-6), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS AND MANGANES OXIDE STAINING

174+00.00

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
L 17200	SS-2117	CL	172+00 -L-	1.0-2.5	A-7-6(18)	42	24	10.5%	5.0%	37.6%	46.9%	89.9%	80.5%	77.2%	22.8%	ND



Ⓐ **-RESIDUAL-** STIFF, MOIST, TAN-ORANGE, MODERATELY PLASTIC SILTY CLAY (A-7-6(18)), WITH TRACE ORGANICS, GRAVEL-SIZED ROCK FRAGMENTS, AND MANGANESE OXIDE STAINING

172+00.00

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—L—

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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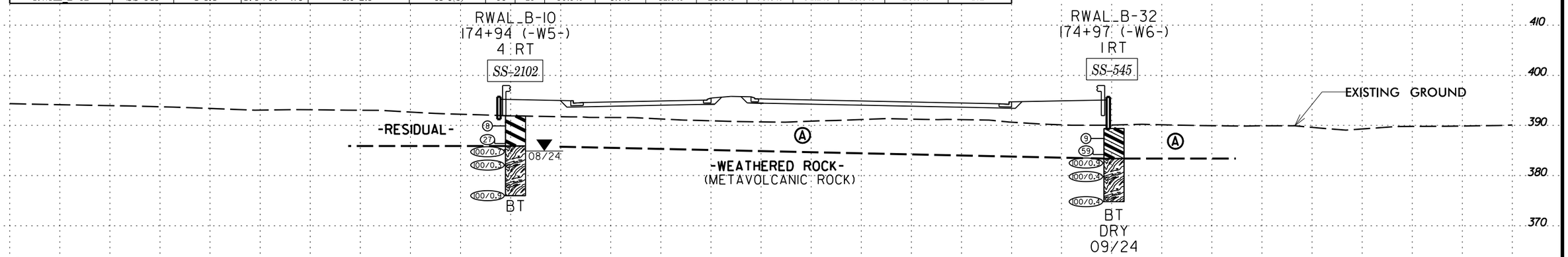
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL_B-10	SS-2102	4' RT	174+94 -W5-	1.0-2.5	A-7-6(17)	46	19	9.0%	4.4%	47.8%	38.8%	93.7%	86.8%	82.0%	28.8%	ND
RWAL_B-32	SS-545	1' RT	174+97 -W6-	1.0-2.5	A-6(3)	38	15	30.9%	8.7%	31.7%	28.7%	73.3%	54.2%	45.5%	25.7%	ND

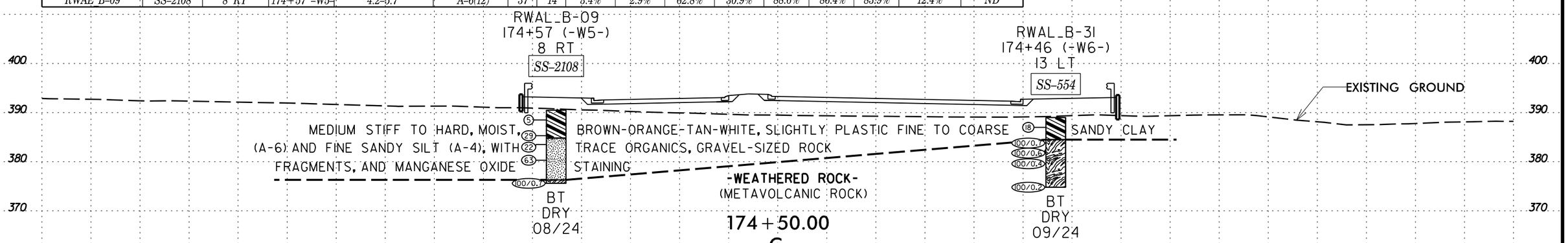


Ⓐ **-RESIDUAL-** MEDIUM STIFF TO HARD, MOIST, ORANGE-TAN-BROWN-WHITE, MODERATELY PLASTIC SILTY CLAY (A-7-6(17)) AND SLIGHTLY PLASTIC FINE TO COARSE SANDY CLAY (A-6(3)), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS AND MANGANESE OXIDE STAINING

175+00.00

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL_B-31	SS-554	13' LT	174+46 -W6-	1.0-2.5	A-6(11)	38	14	6.7%	8.8%	59.8%	24.7%	91.6%	87.4%	79.8%	18.6%	ND
RWAL_B-09	SS-2108	8' RT	174+57 -W5-	4.2-5.7	A-6(12)	37	14	3.4%	2.9%	62.8%	30.9%	88.6%	86.4%	83.9%	12.4%	ND



174+50.00

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-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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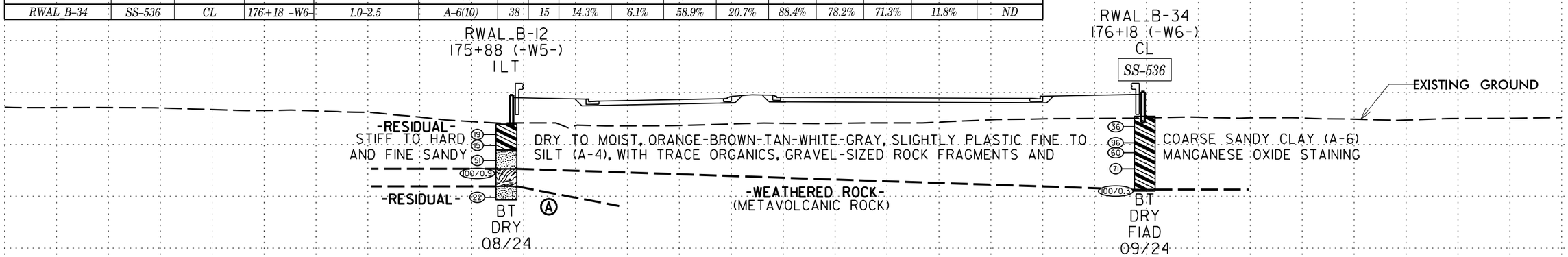
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL_B-34	SS-536	CL	176+18 -W6-	1.0-2.5	A-6(10)	38	15	14.3%	6.1%	58.9%	20.7%	88.4%	78.2%	71.3%	11.8%	ND

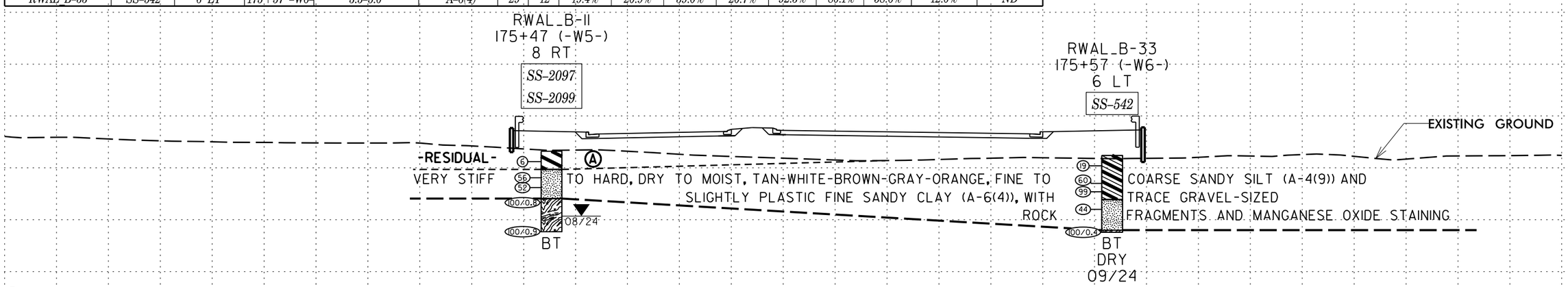


Ⓐ -RESIDUAL- VERY STIFF, MOIST, TAN-ORANGE-WHITE, FINE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS AND MANGANESE OXIDE STAINING

176+00.00

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL_B-11	SS-2097	8' RT	175+47 -W5-	1.0-2.5	A-7-6(22)	49	27	5.5%	5.5%	43.8%	45.2%	89.3%	85.3%	81.2%	30.8%	ND
RWAL_B-11	SS-2099	8' RT	175+47 -W5-	6.0-7.5	A-4(9)	36	10	7.5%	7.6%	68.3%	16.6%	98.5%	93.4%	85.5%	28.5%	ND
RWAL_B-33	SS-542	6' LT	175+57 -W6-	3.5-5.0	A-6(4)	29	12	19.4%	20.9%	39.0%	20.7%	92.3%	80.1%	58.6%	12.0%	ND



Ⓐ -RESIDUAL- MEDIUM STIFF, MOIST, BROWN-ORANGE, HIGHLY PLASTIC SILTY CLAY (A-7-6(22)), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS AND MANGANESE OXIDE STAINING

175+50.00

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-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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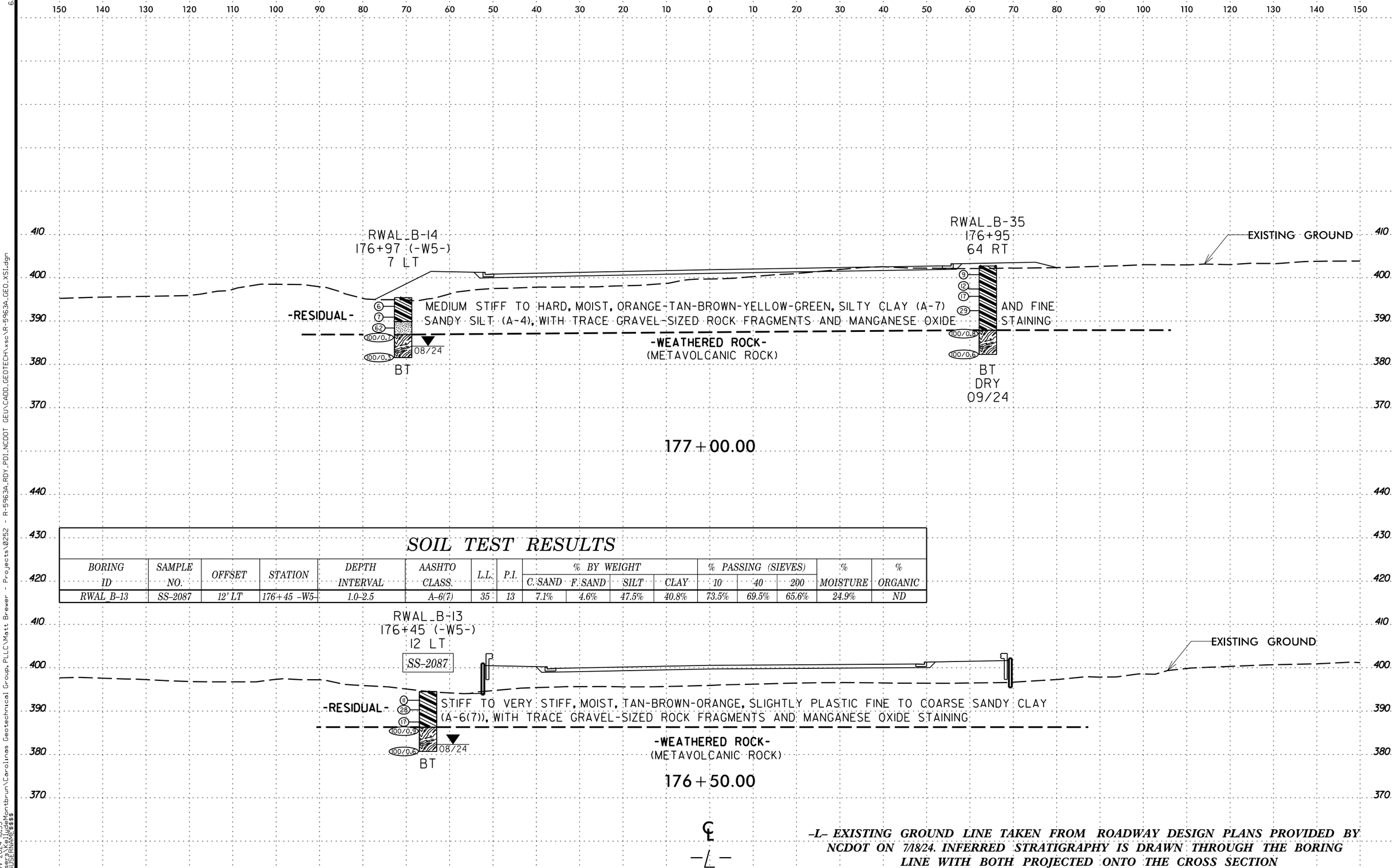

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RWAL B-13	SS-2087	12' LT	176+45 -W5-	1.0-2.5	A-6(7)	35	13	7.1%	4.6%	47.5%	40.8%	73.5%	69.5%	65.6%	24.9%	ND

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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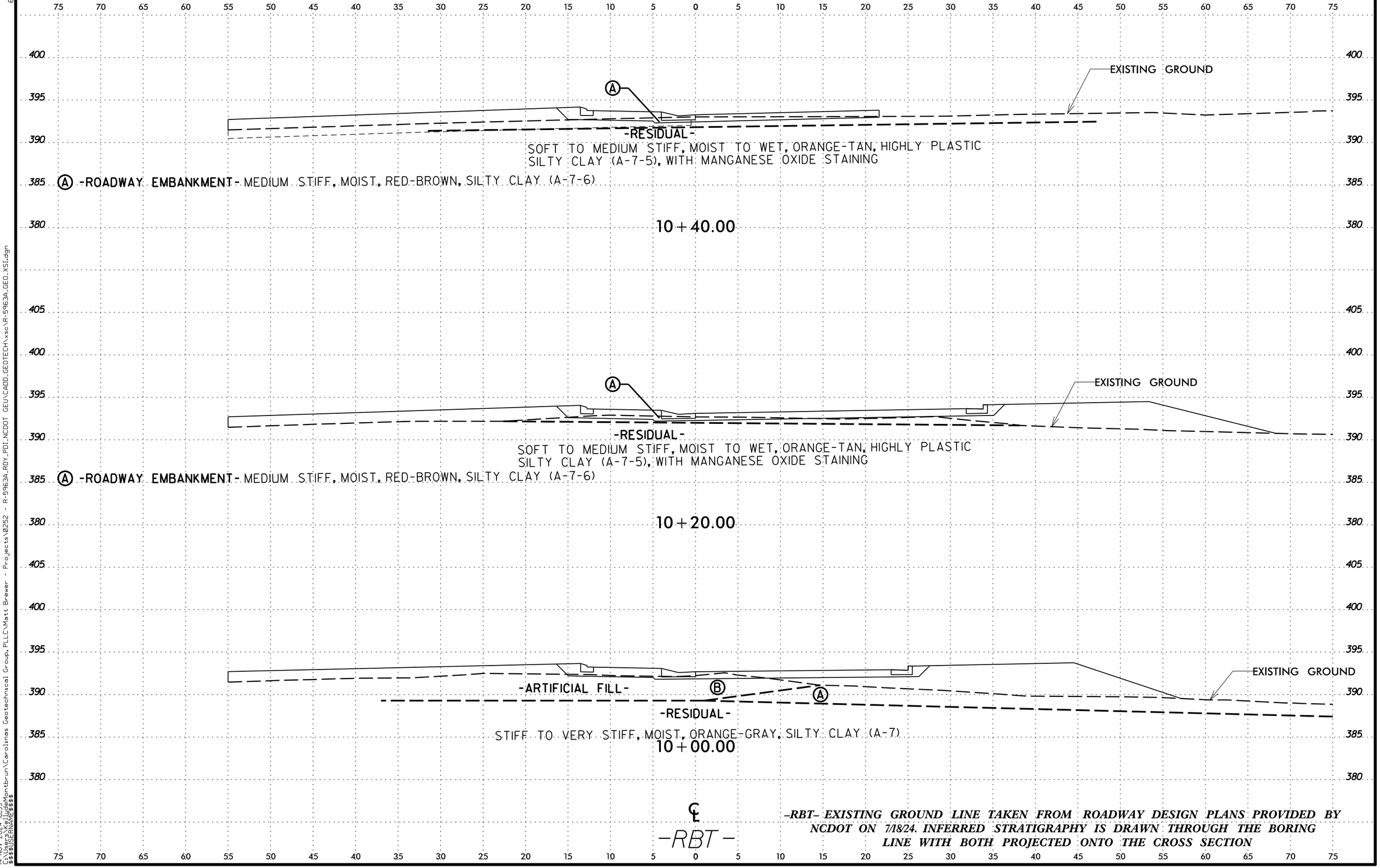

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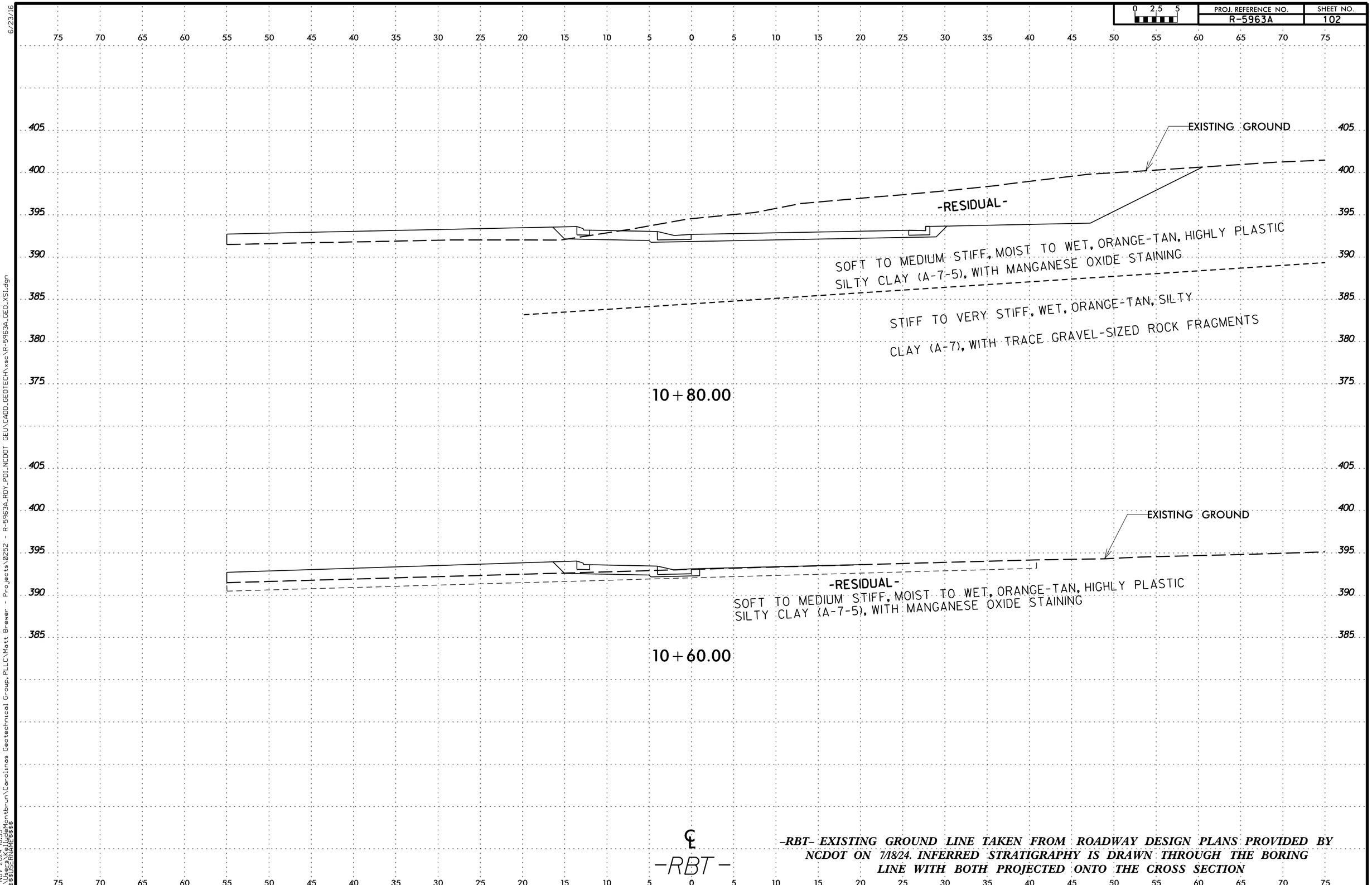
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	102



-RBT- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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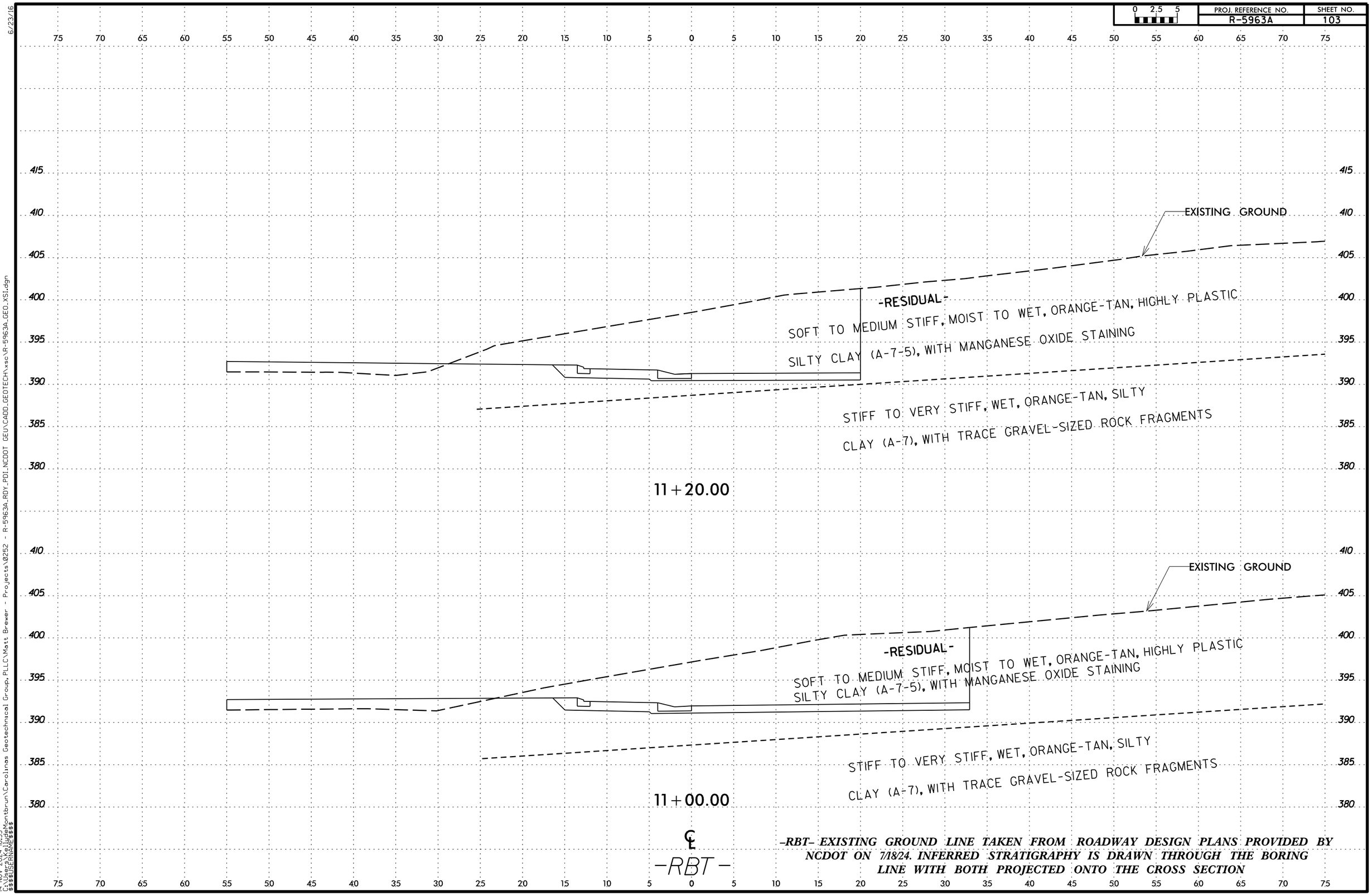
R-5963A	103



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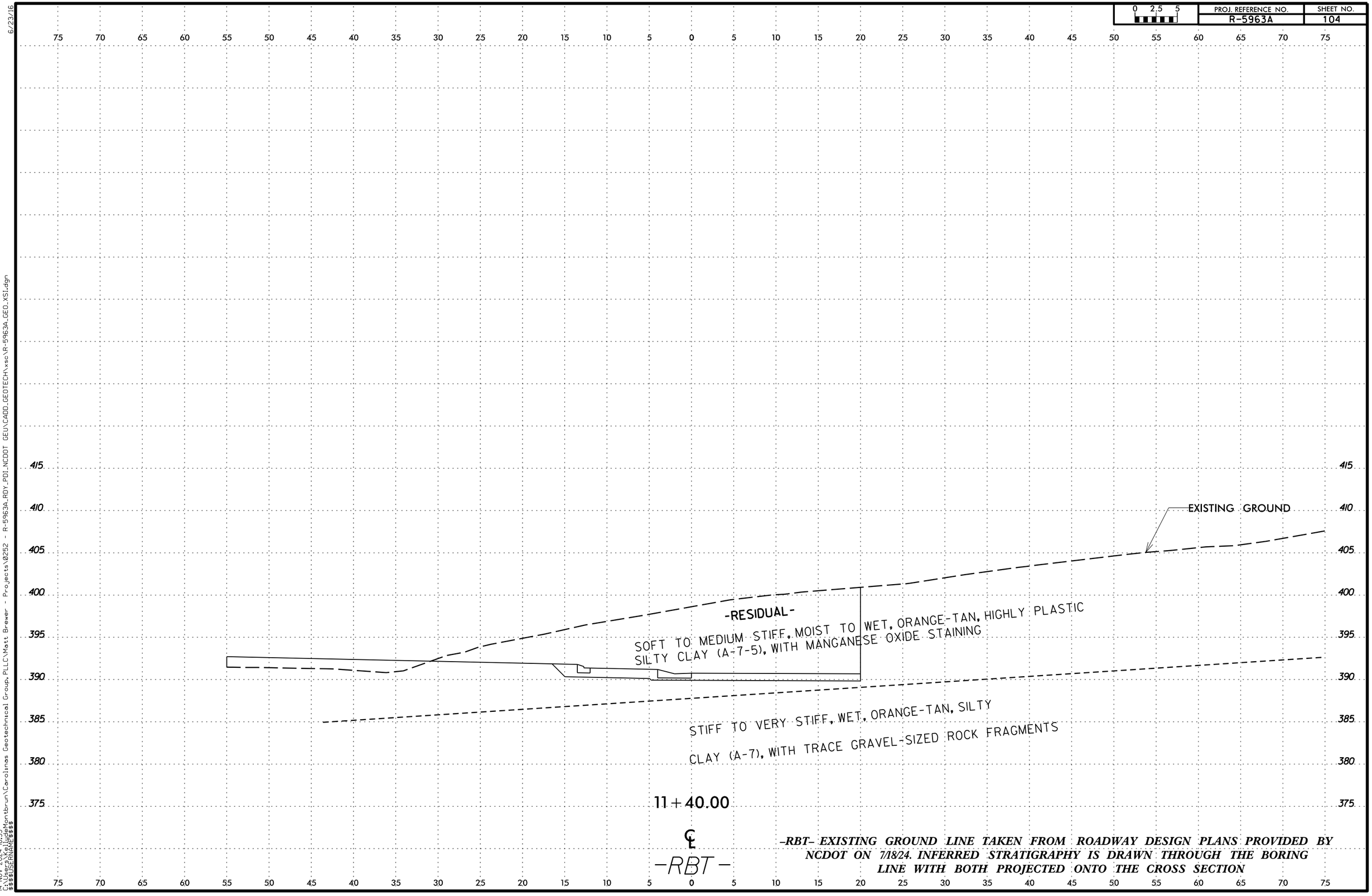

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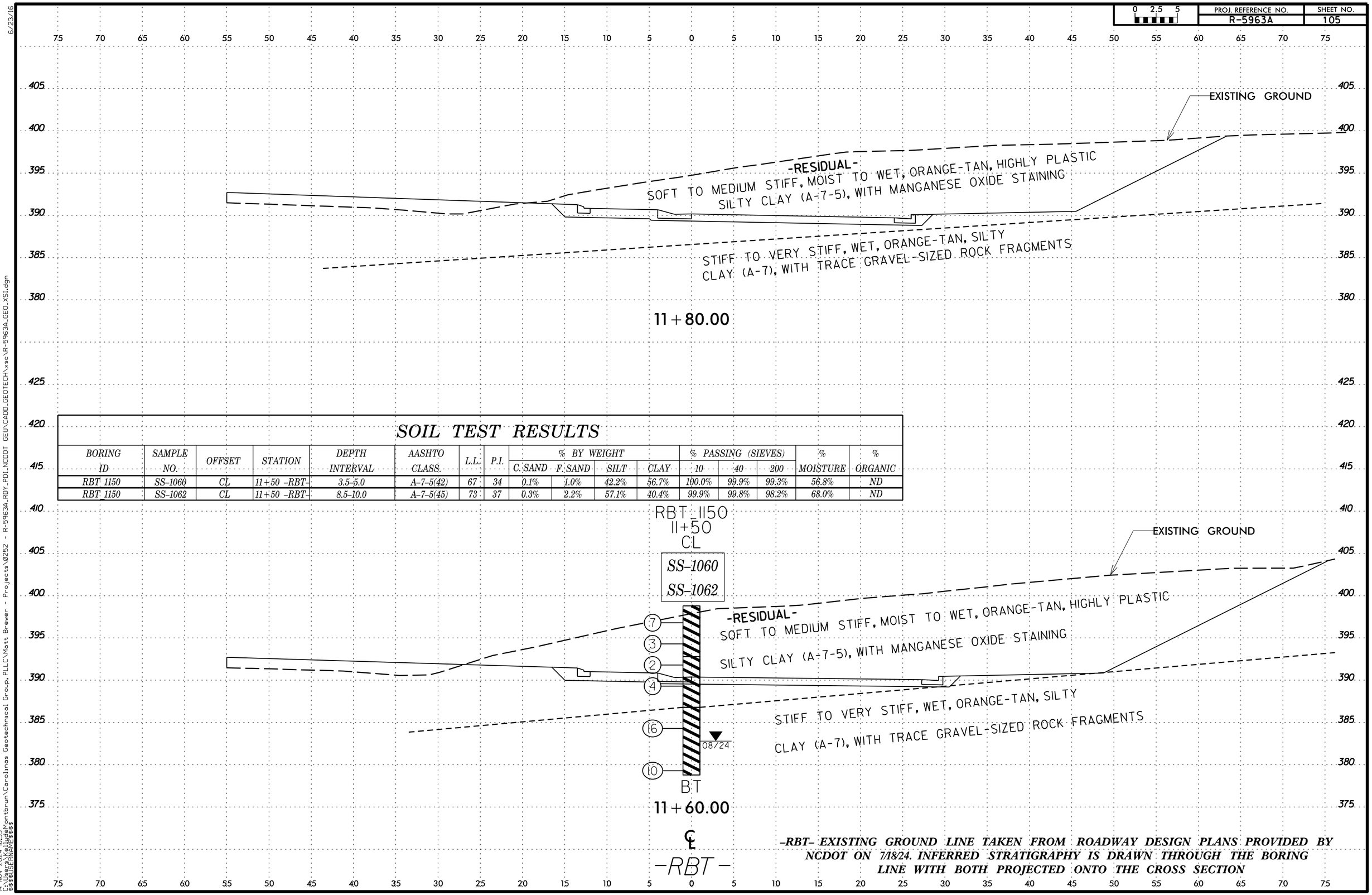

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
RBT 1150	SS-1060	CL	11+50 -RBT-	3.5-5.0	A-7-5(42)	67	34	0.1%	1.0%	42.2%	56.7%	100.0%	99.9%	99.3%	56.8%	ND
RBT 1150	SS-1062	CL	11+50 -RBT-	8.5-10.0	A-7-5(45)	73	37	0.3%	2.2%	57.1%	40.4%	99.9%	99.8%	98.2%	68.0%	ND

-RBT- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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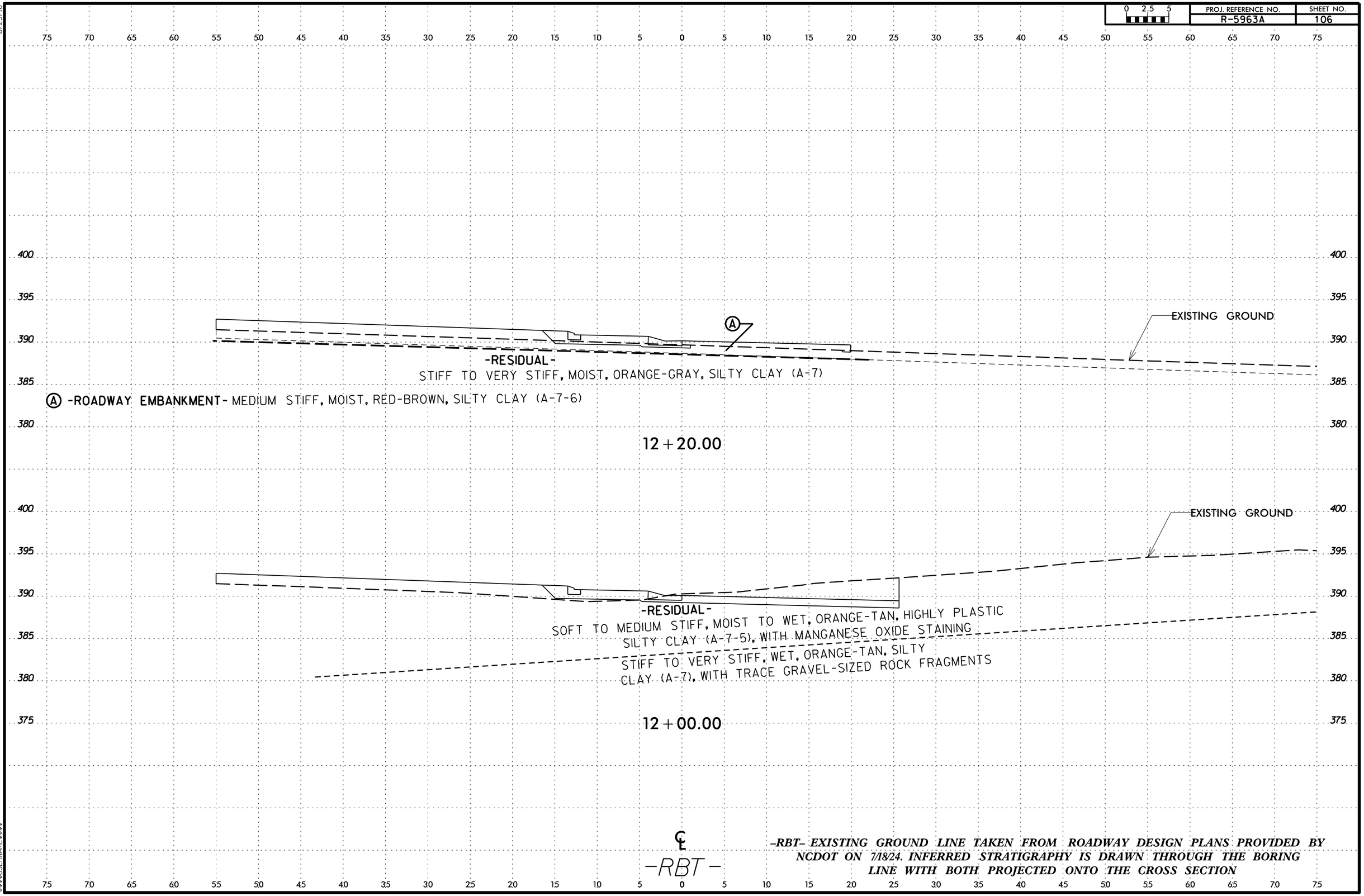

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PROJ. REFERENCE NO.	SHEET NO.
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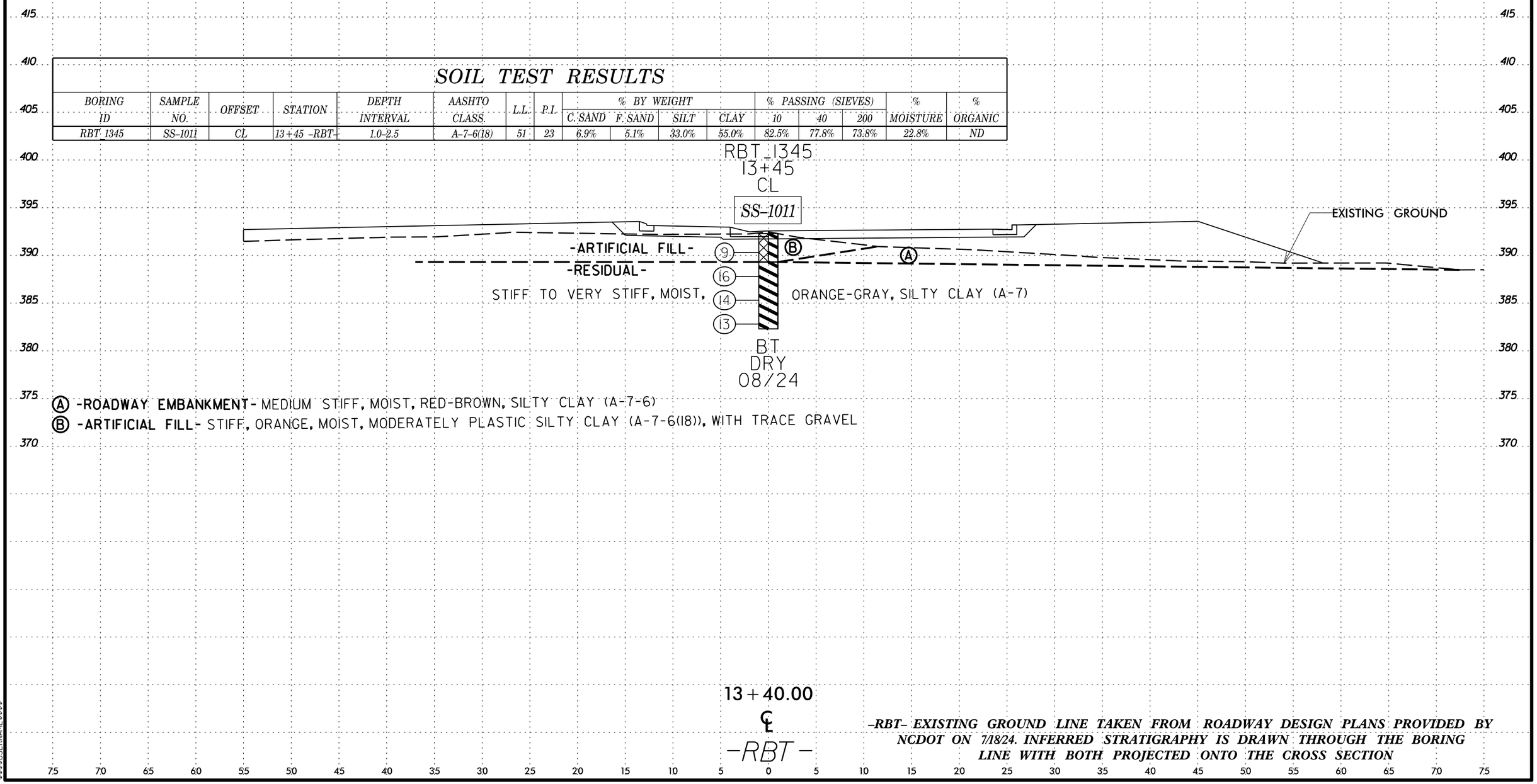
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
RBT 1345	SS-1011	CL	13+45 -RBT-	1.0-2.5	A-7-6(18)	51	23	6.9%	5.1%	33.0%	55.0%	82.5%	77.8%	73.8%	22.8%	ND



Ⓐ **-ROADWAY EMBANKMENT-** MEDIUM STIFF, MOIST, RED-BROWN, SILTY CLAY (A-7-6)

Ⓑ **-ARTIFICIAL FILL-** STIFF, ORANGE, MOIST, MODERATELY PLASTIC SILTY CLAY (A-7-6(18)), WITH TRACE GRAVEL

-RBT- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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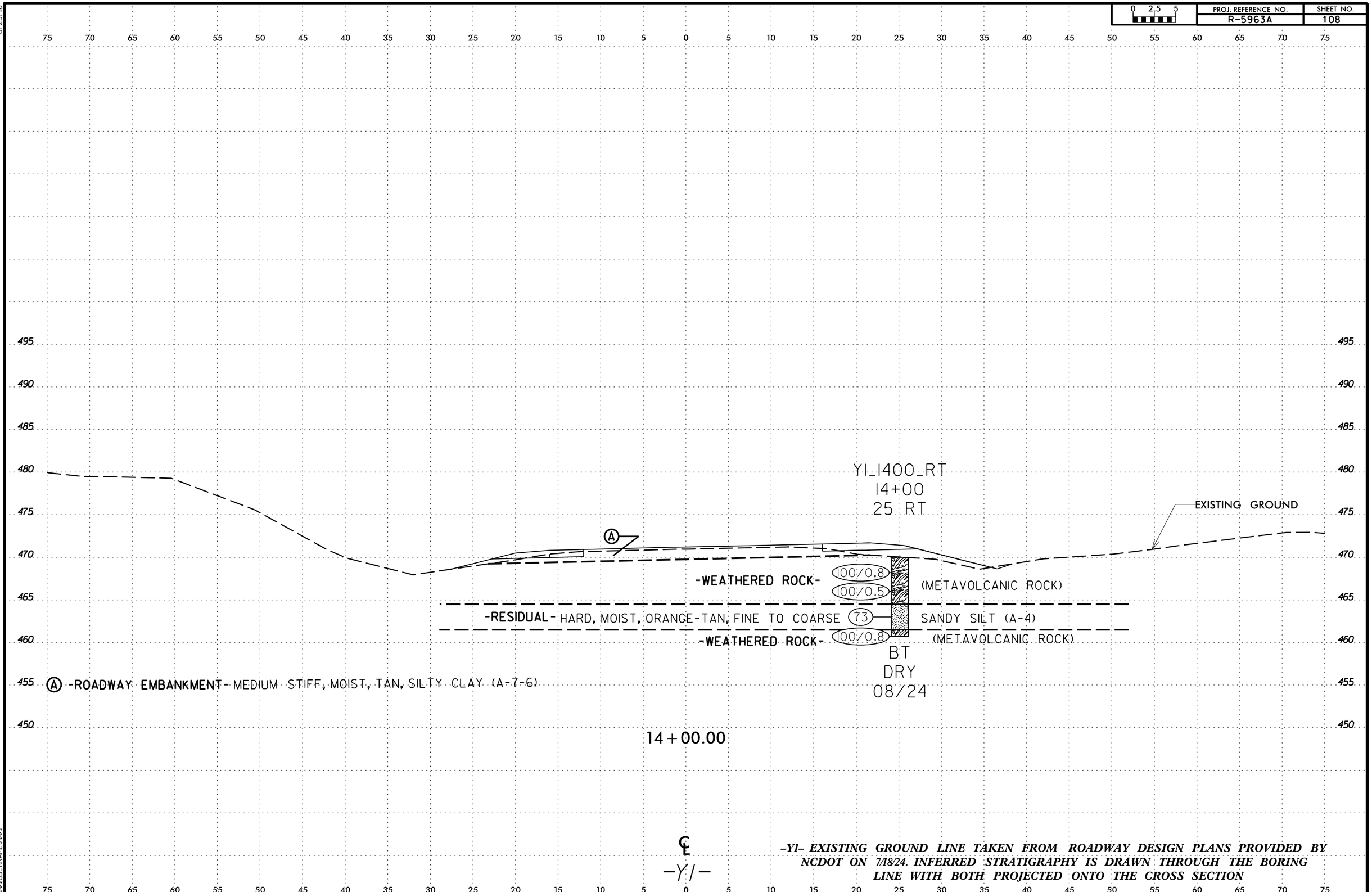

-Y1- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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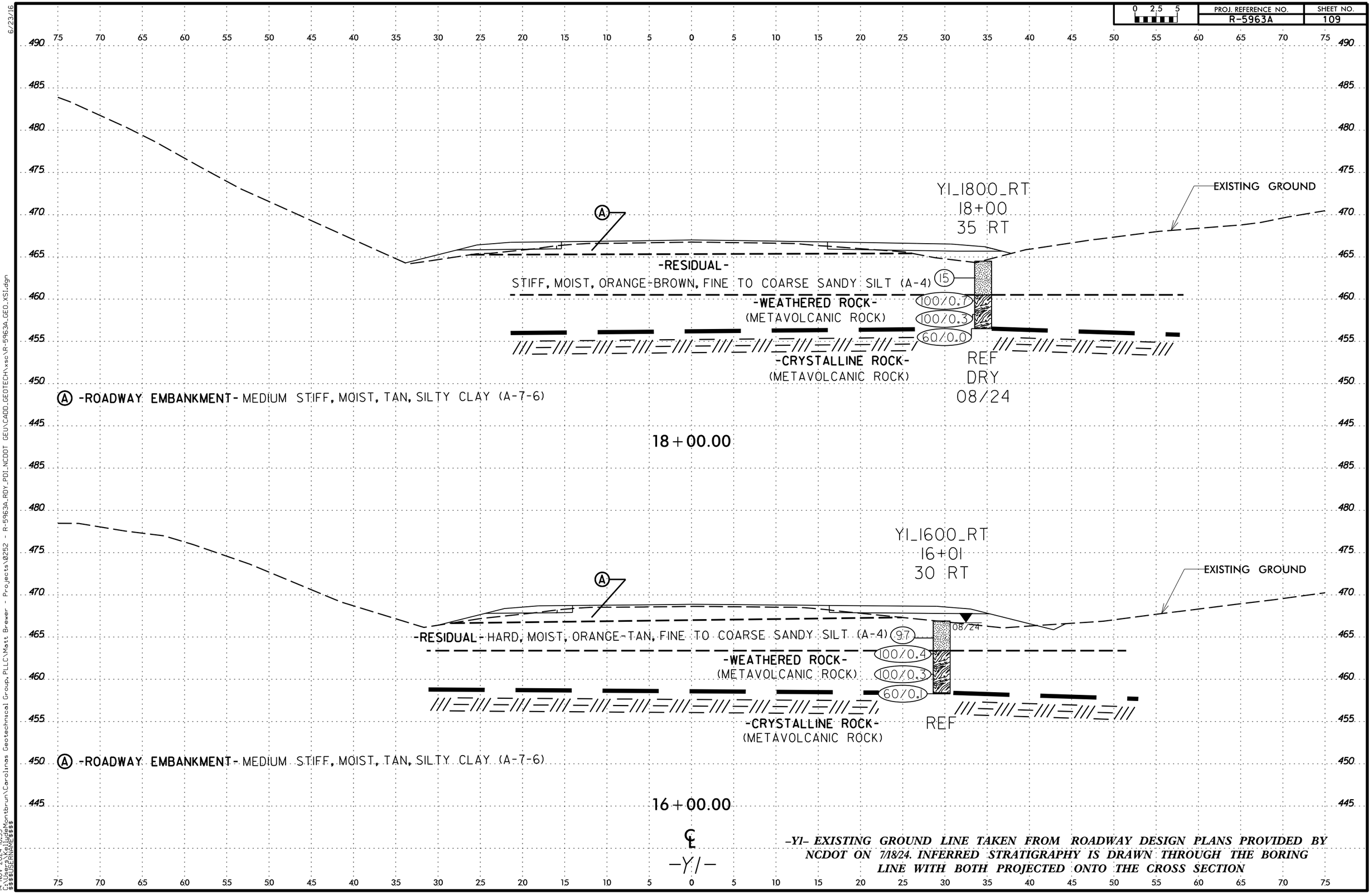

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PROJ. REFERENCE NO.	SHEET NO.
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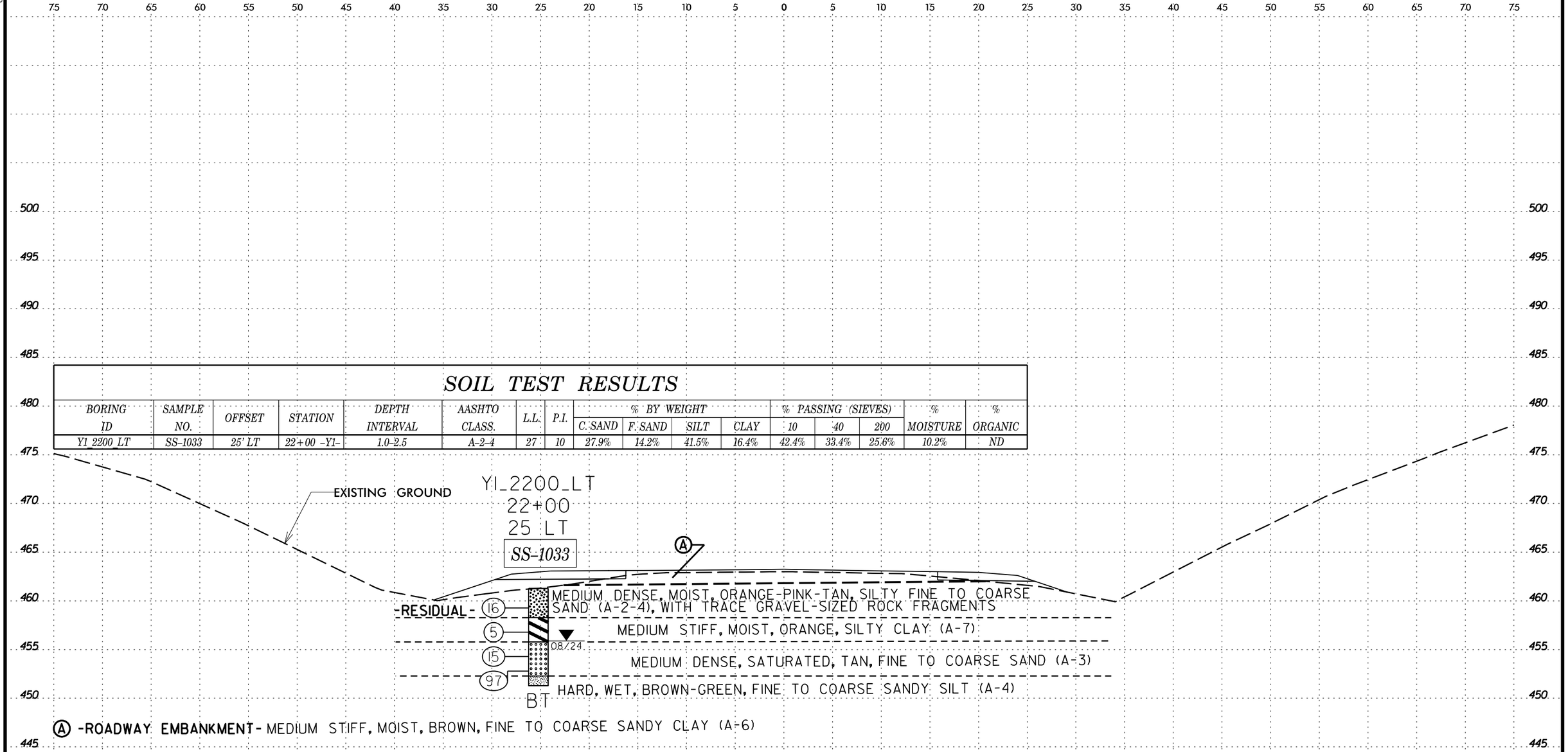
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
								C. SAND	F. SAND	SILT	CLAY	10	40	200		
Y1 2200 LT	SS-1033	25' LT	22+00 -Y1-	1.0-2.5	A-2-4	27	10	27.9%	14.2%	41.5%	16.4%	42.4%	33.4%	25.6%	10.2%	ND



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-Y1- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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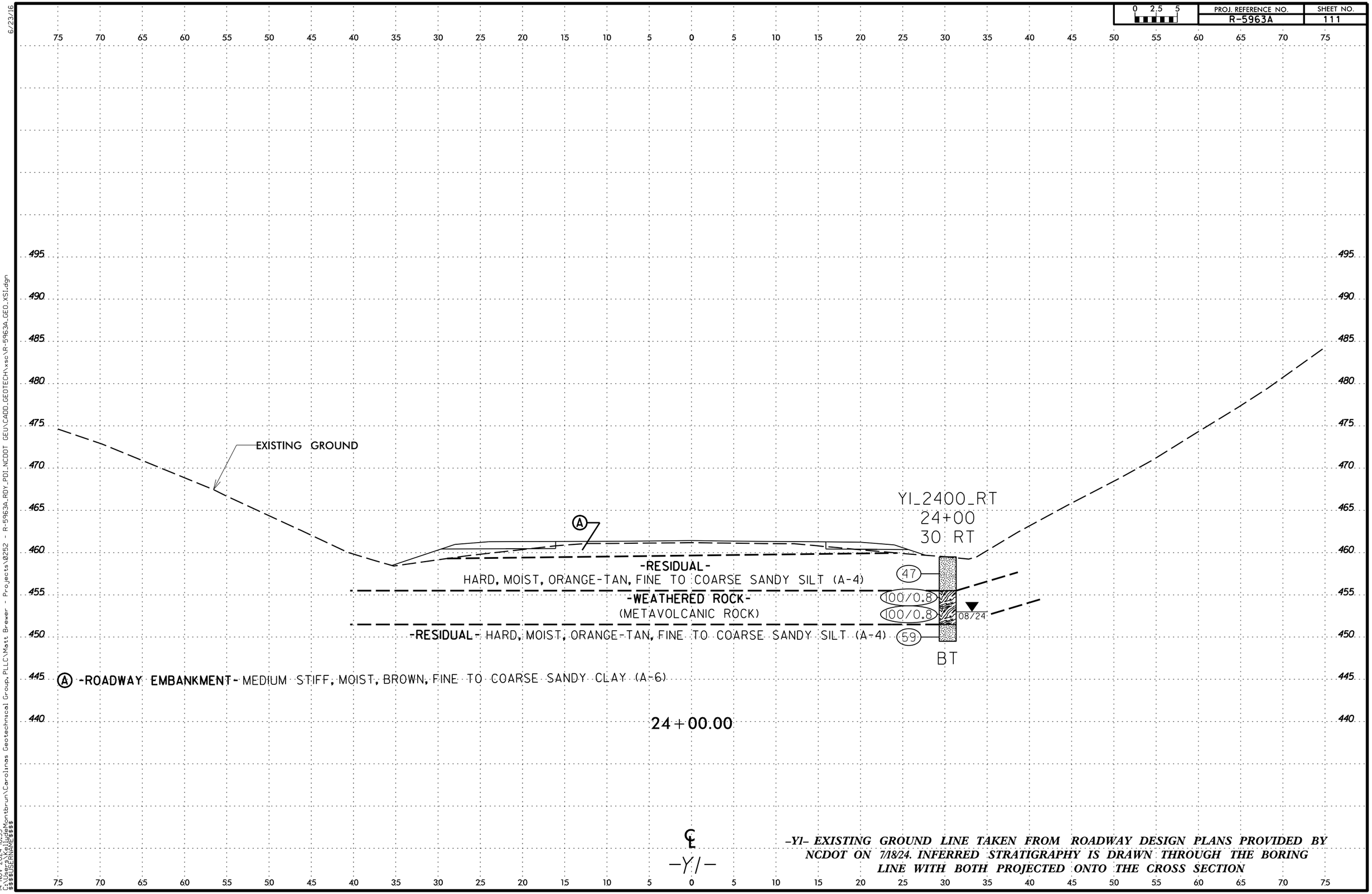

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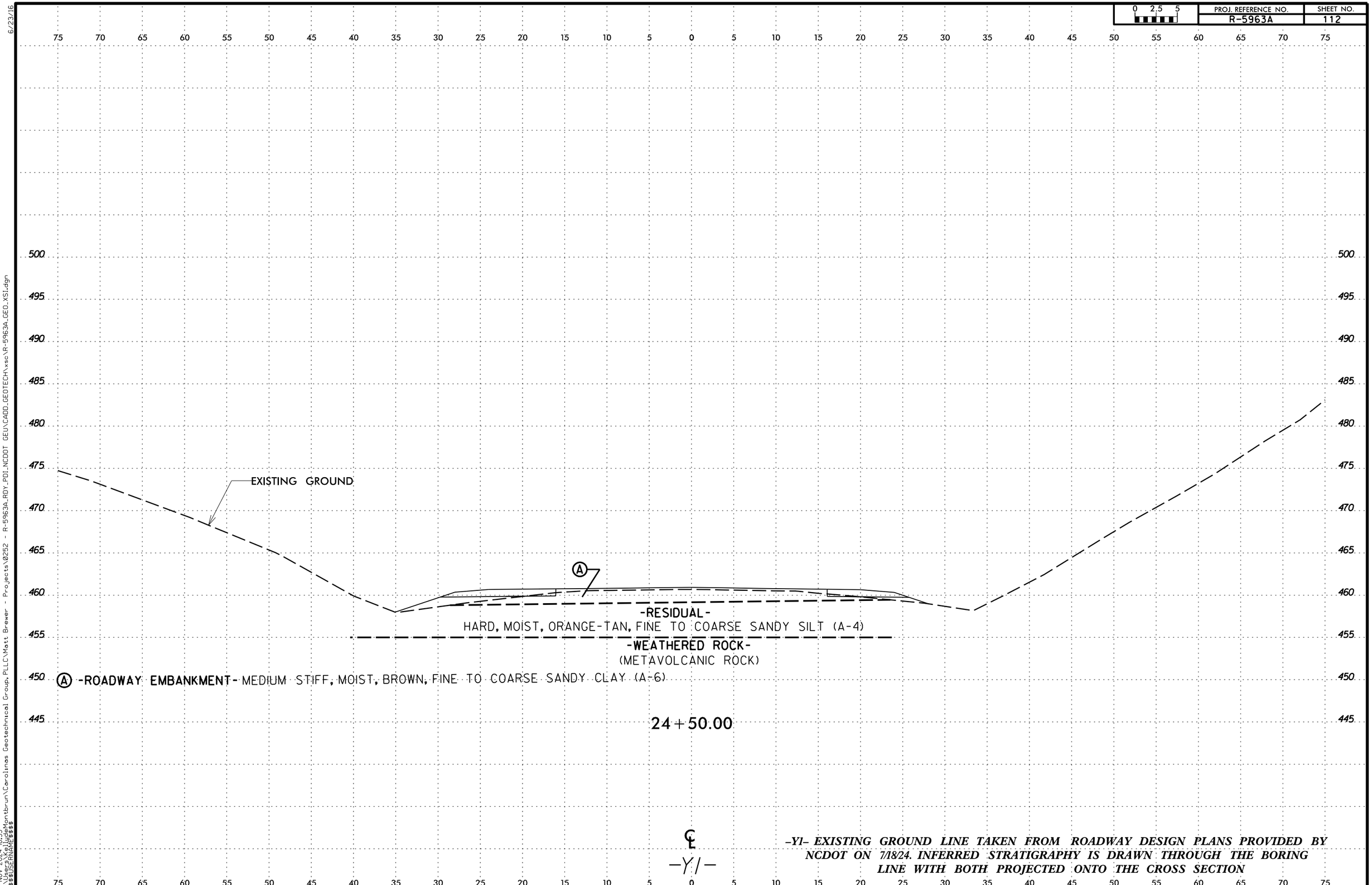

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PROJ. REFERENCE NO.	SHEET NO.
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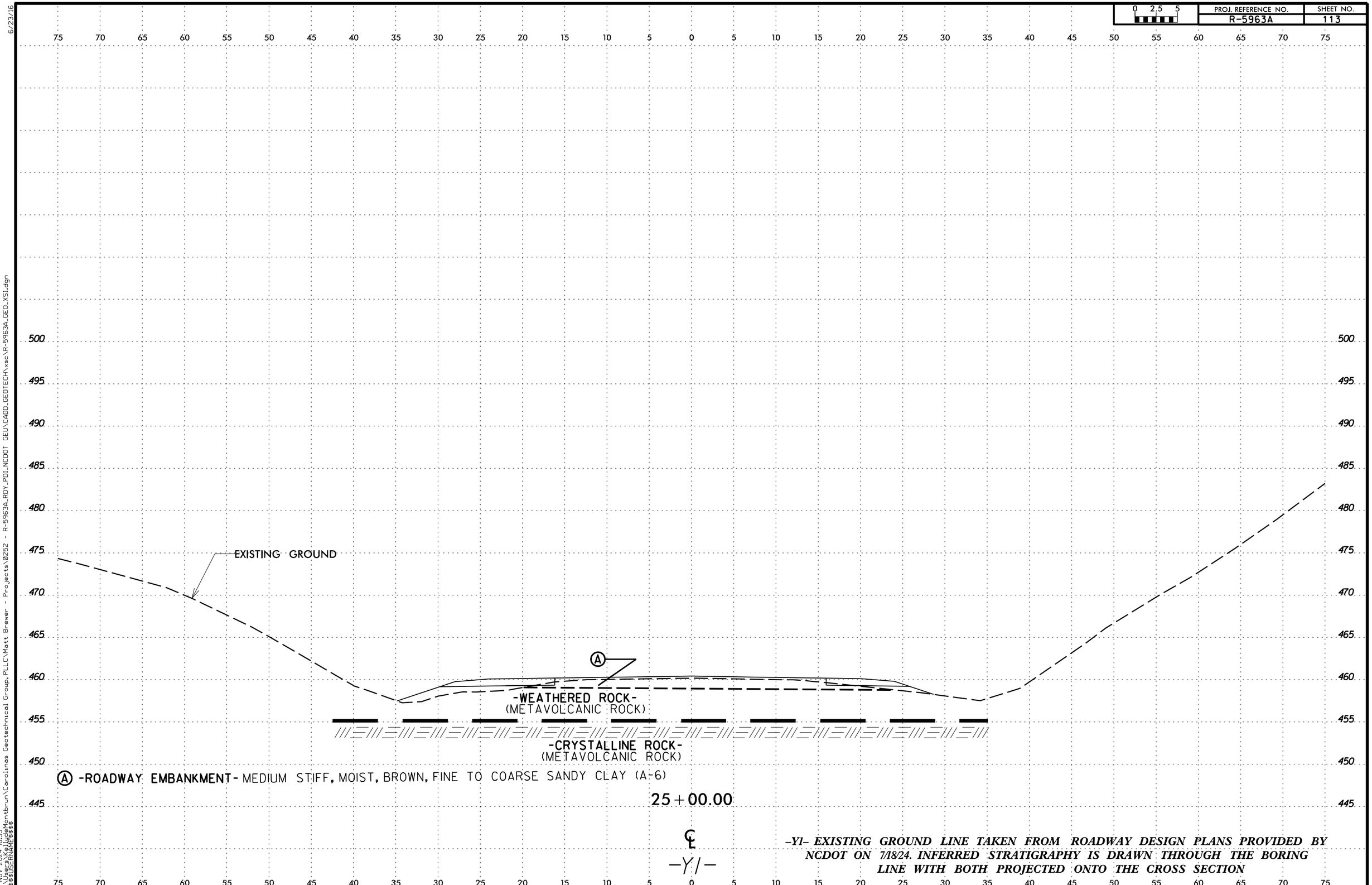

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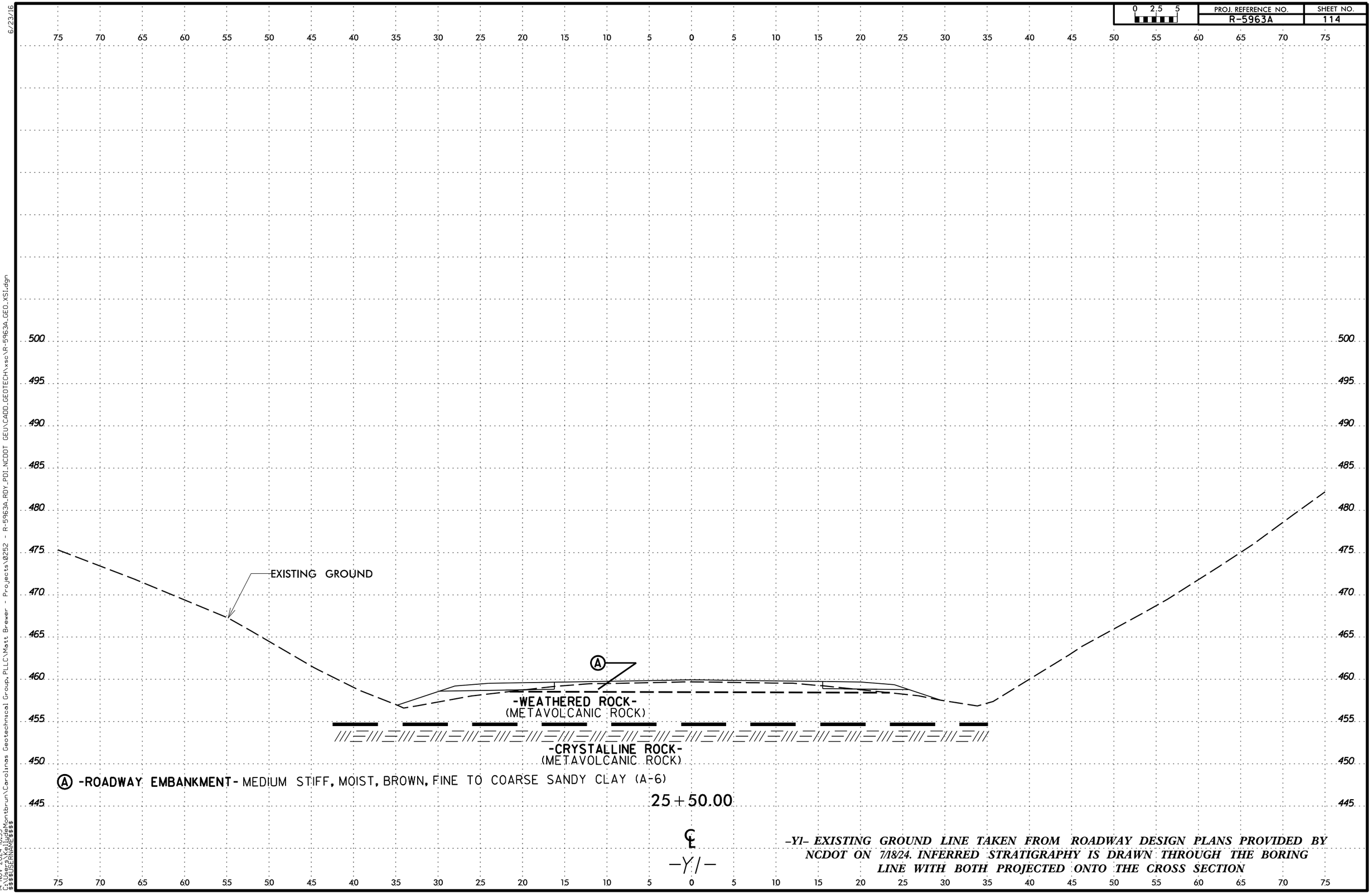

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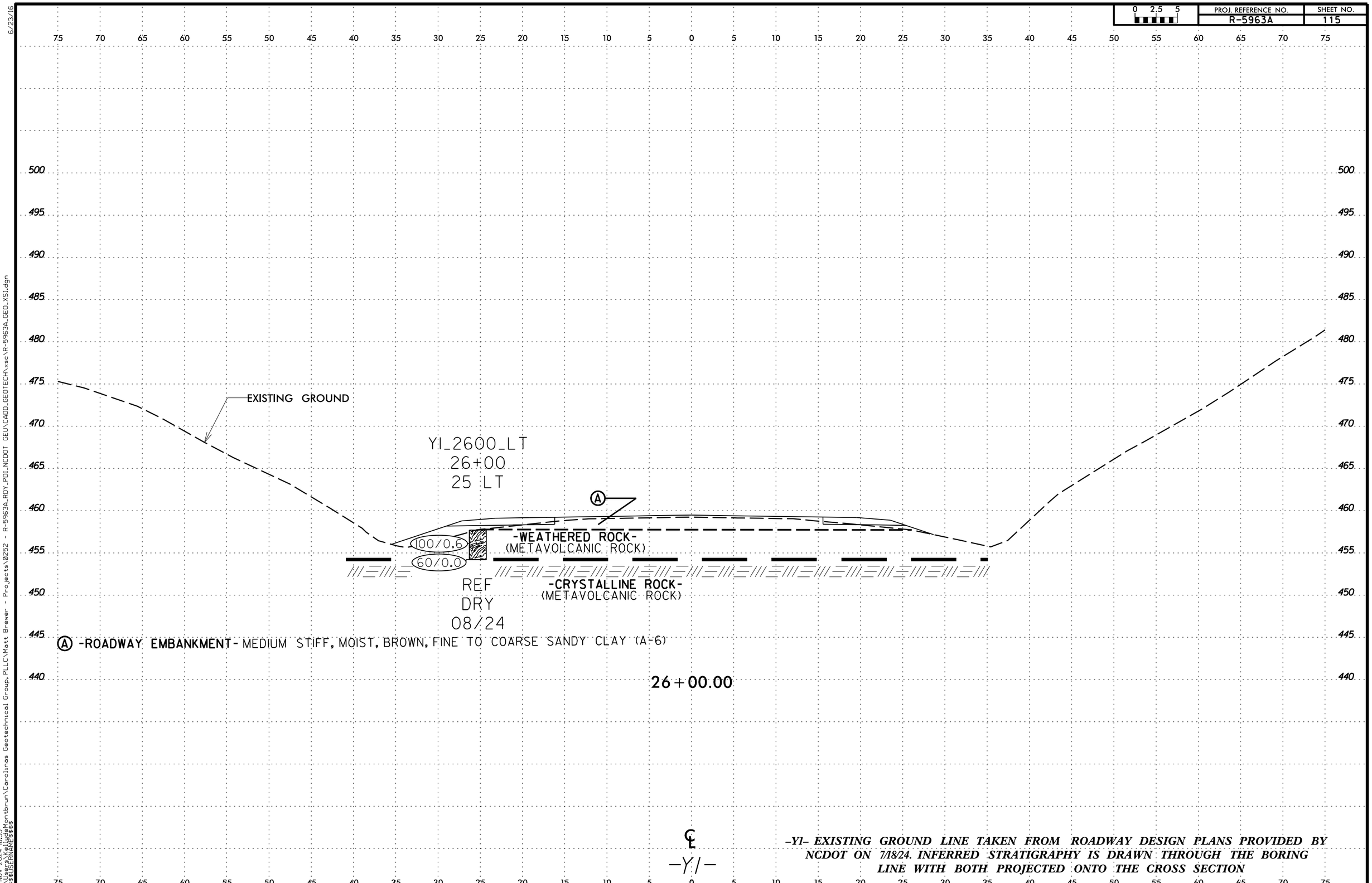

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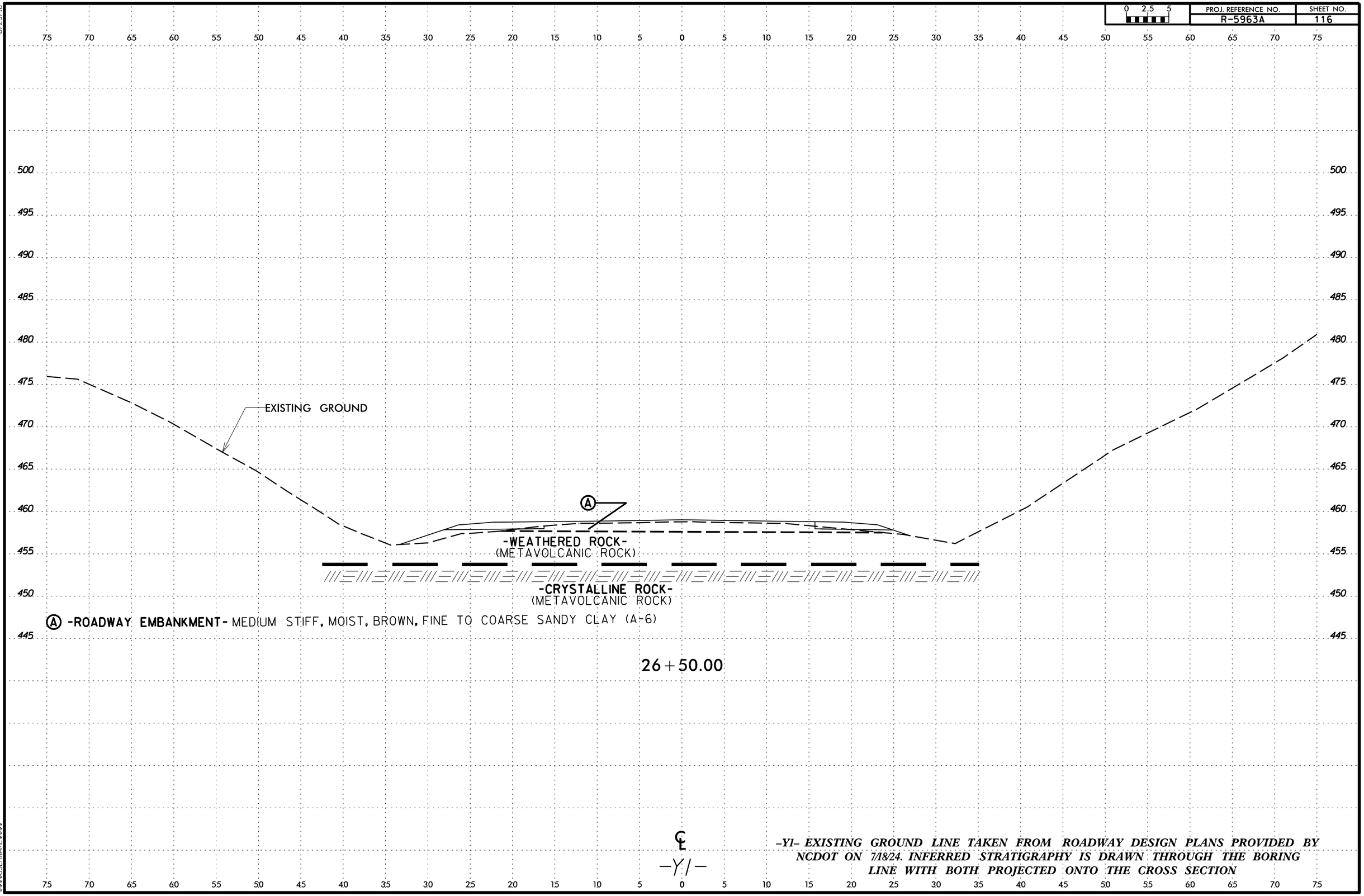

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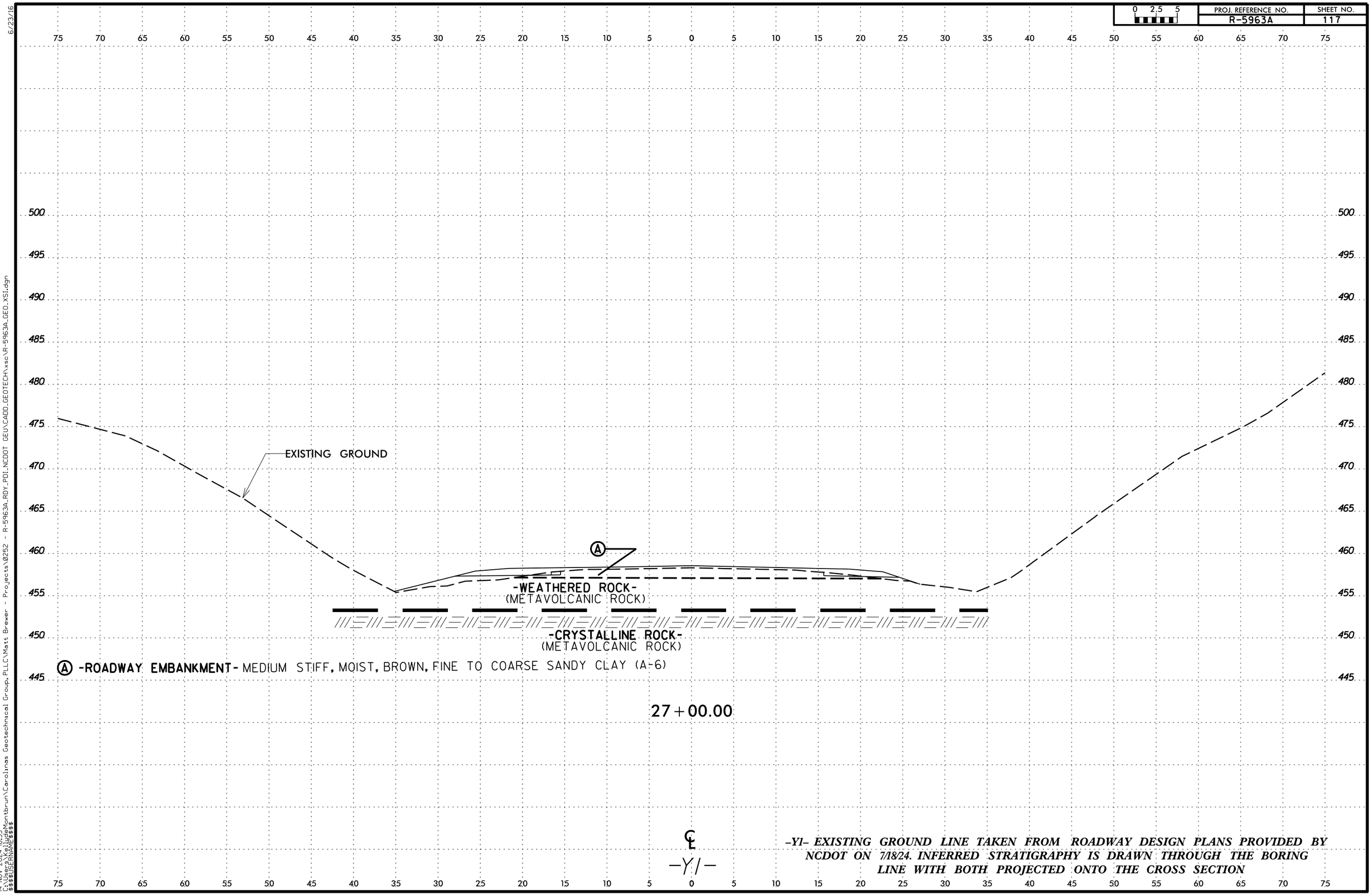

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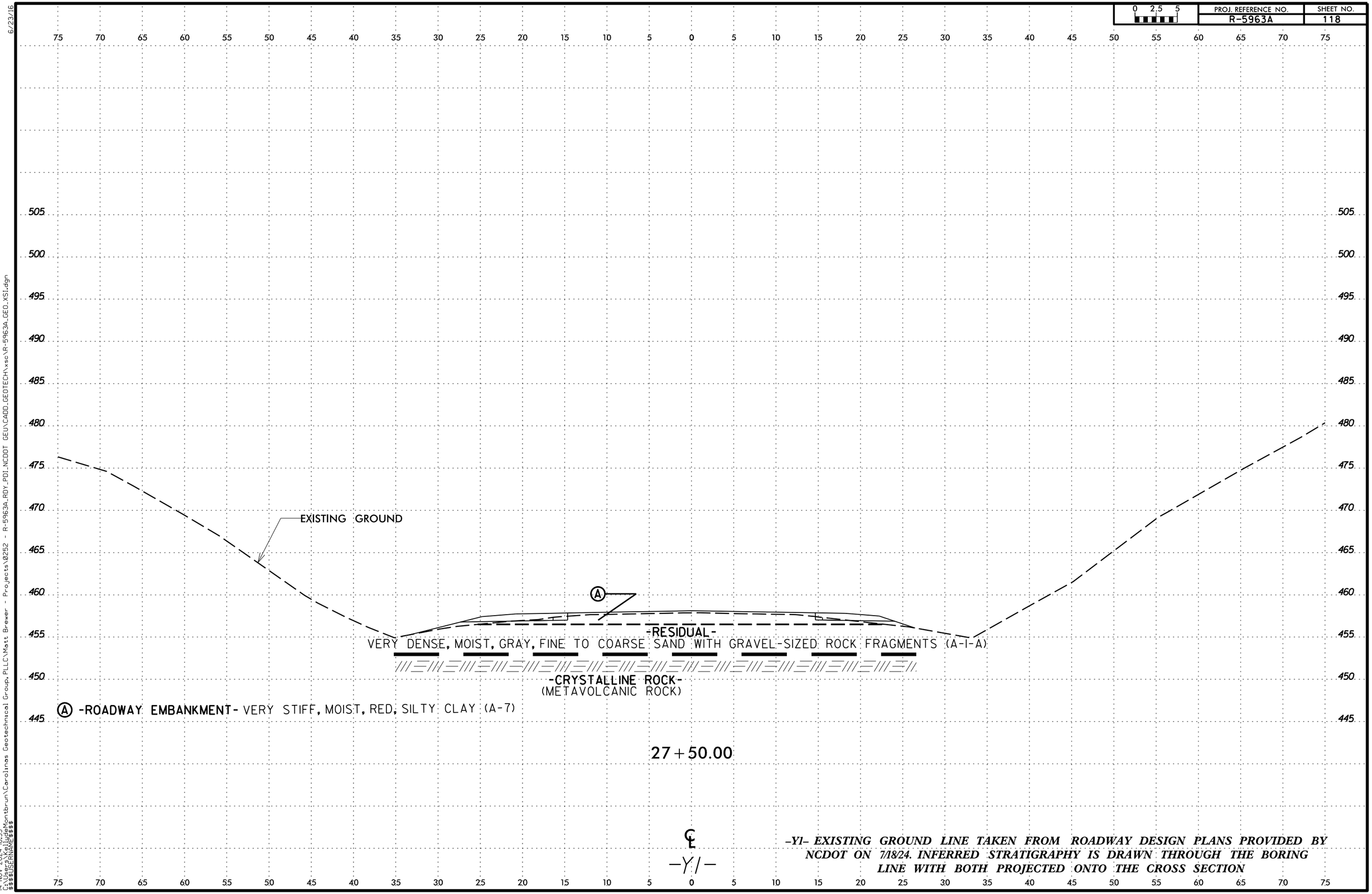

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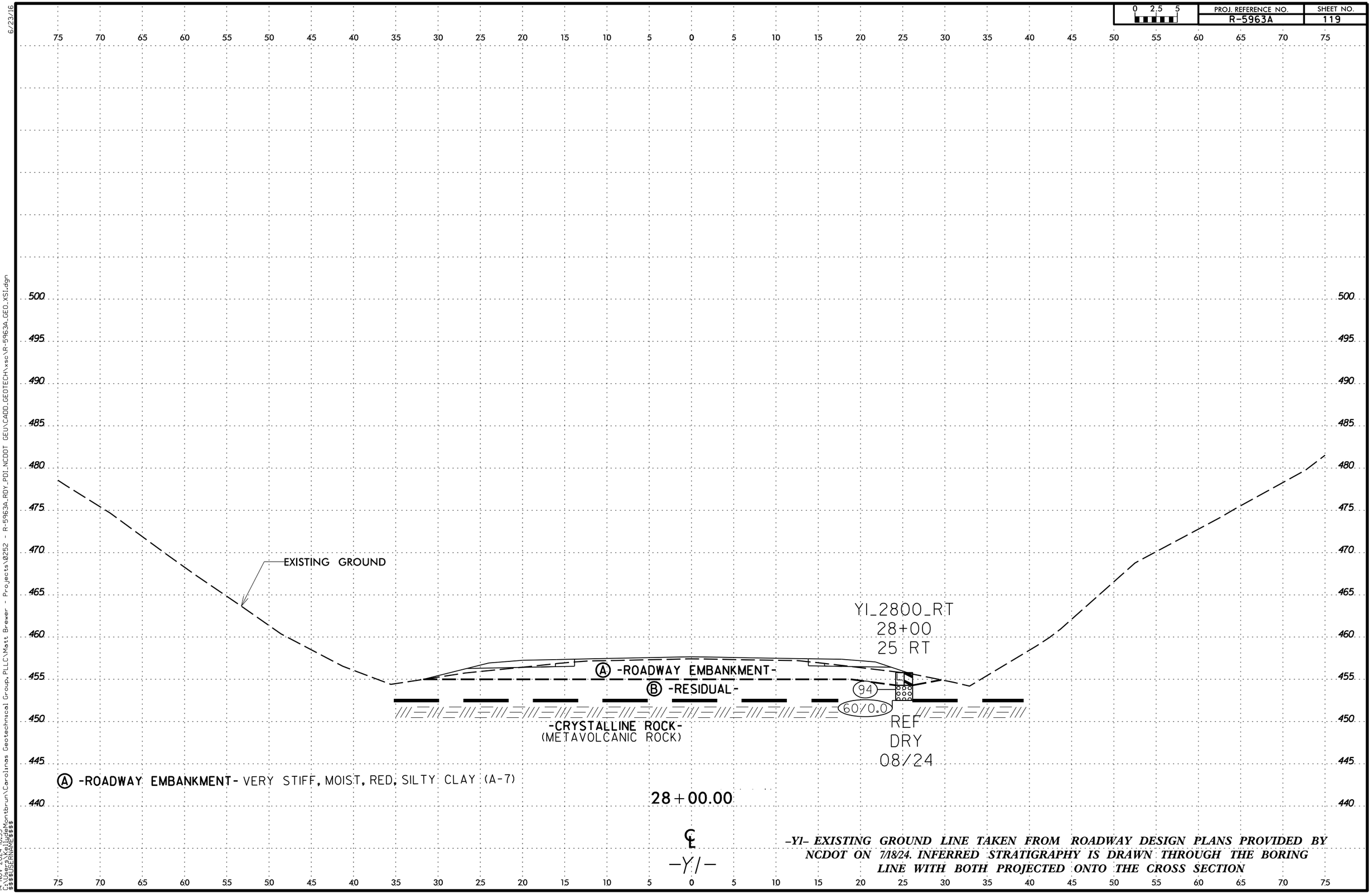

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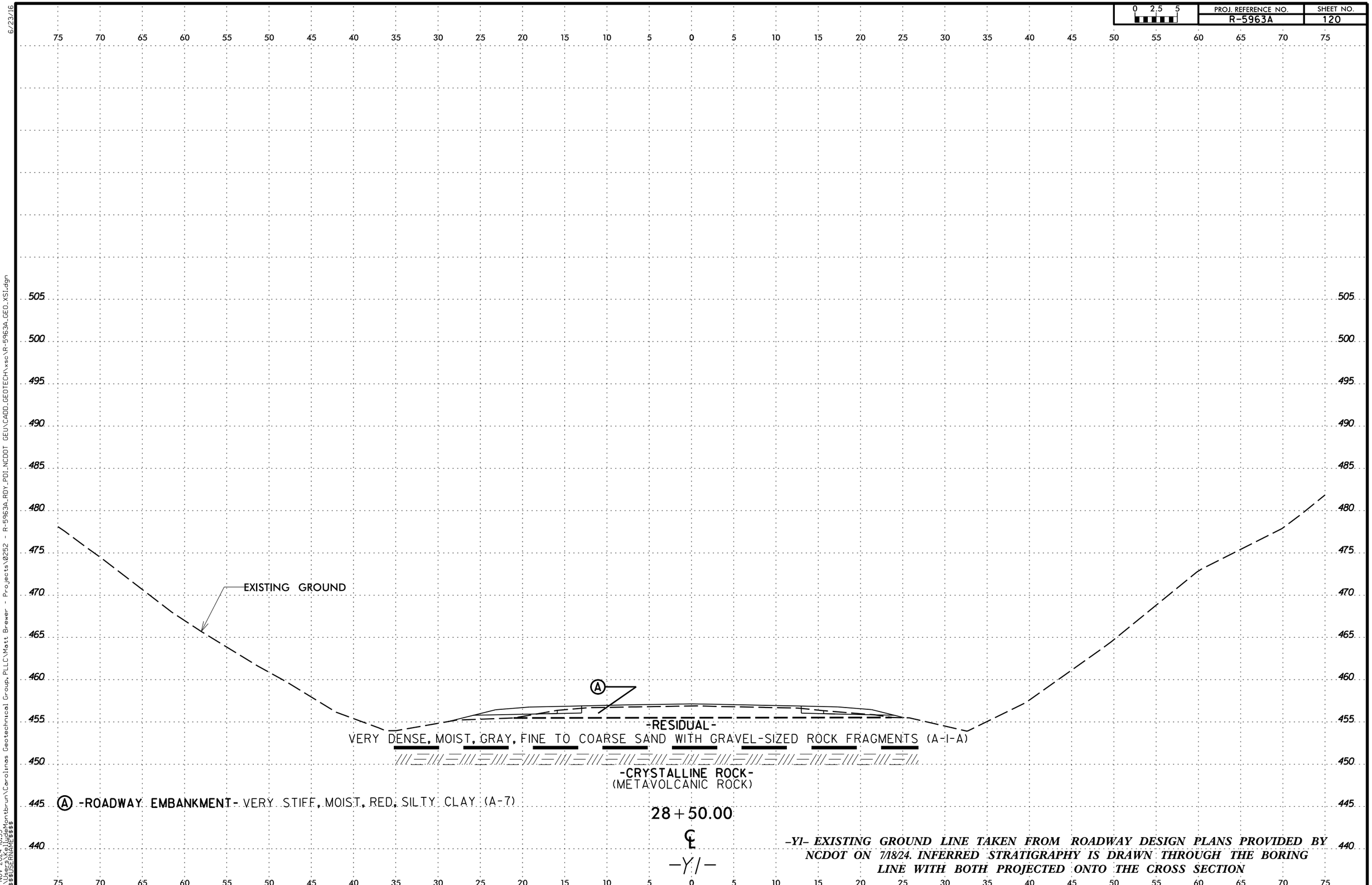

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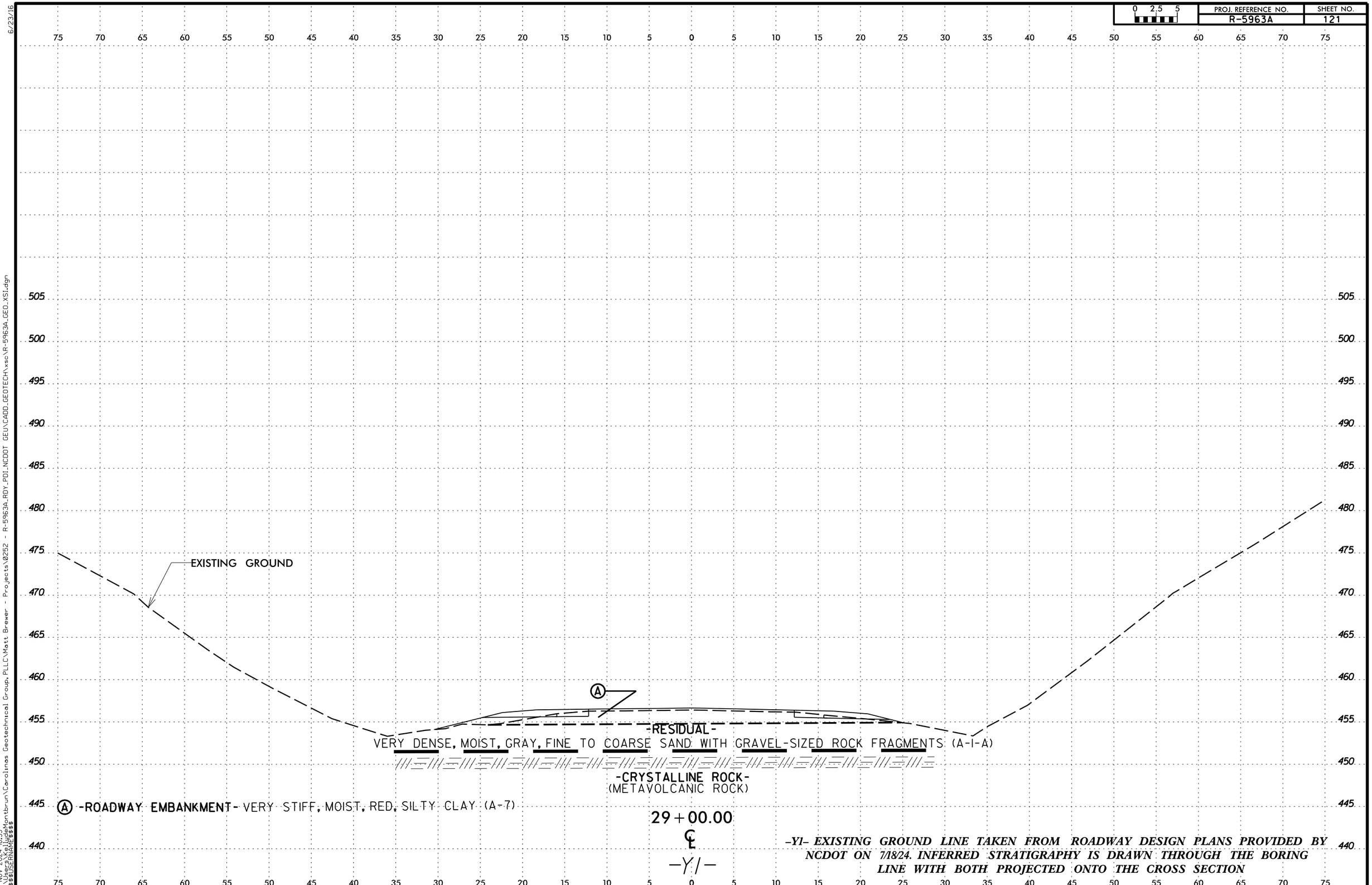

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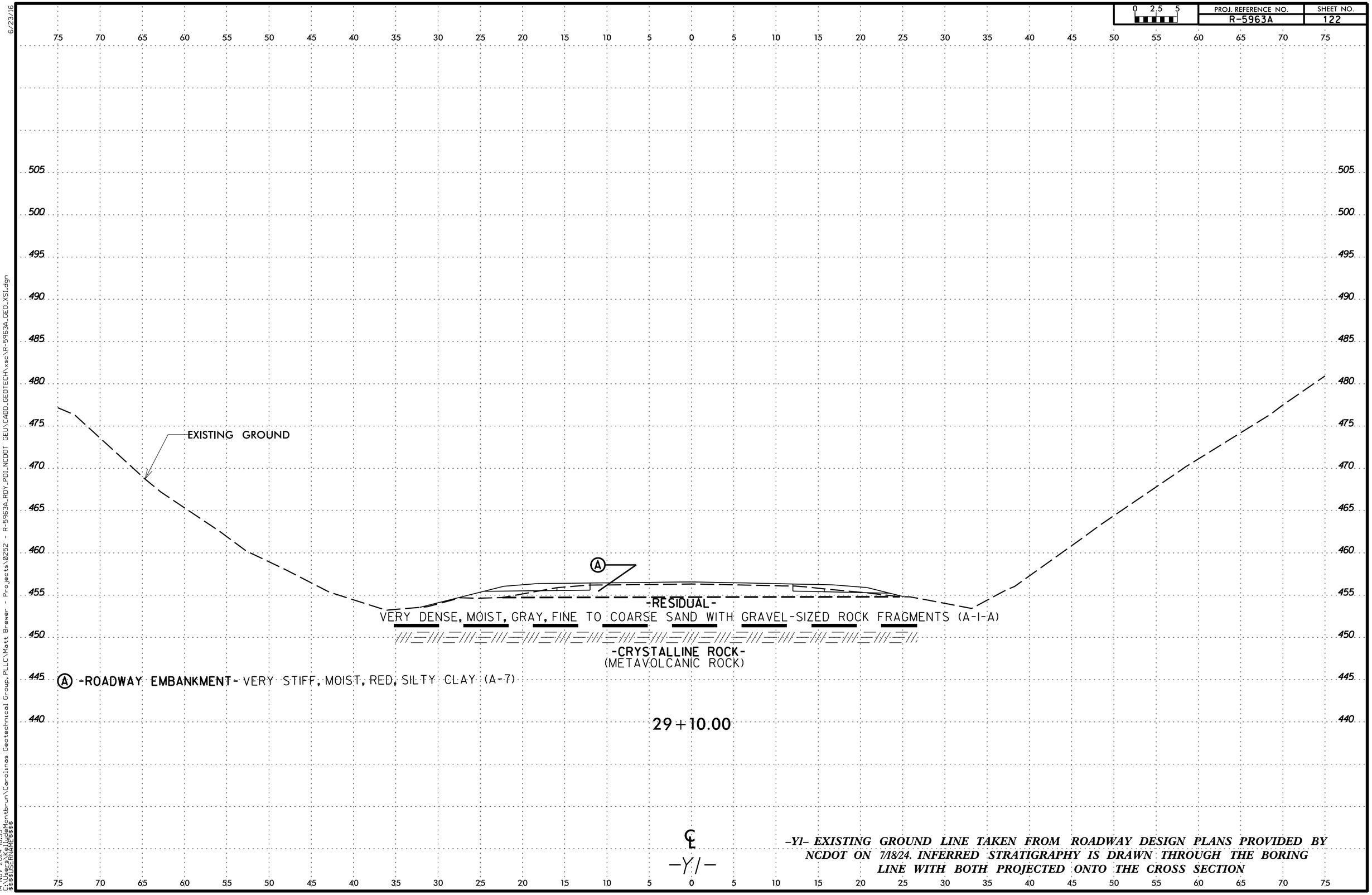

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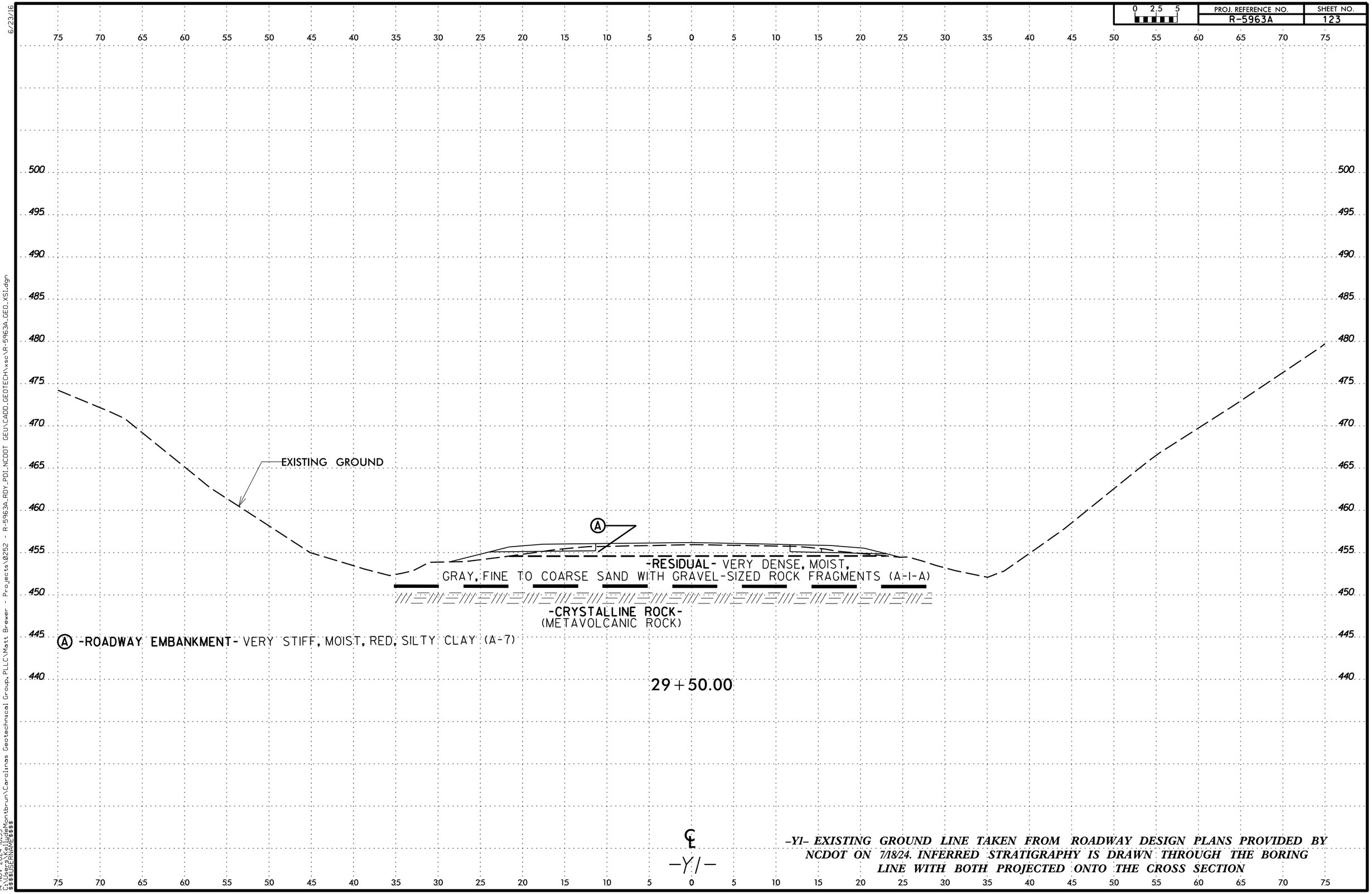

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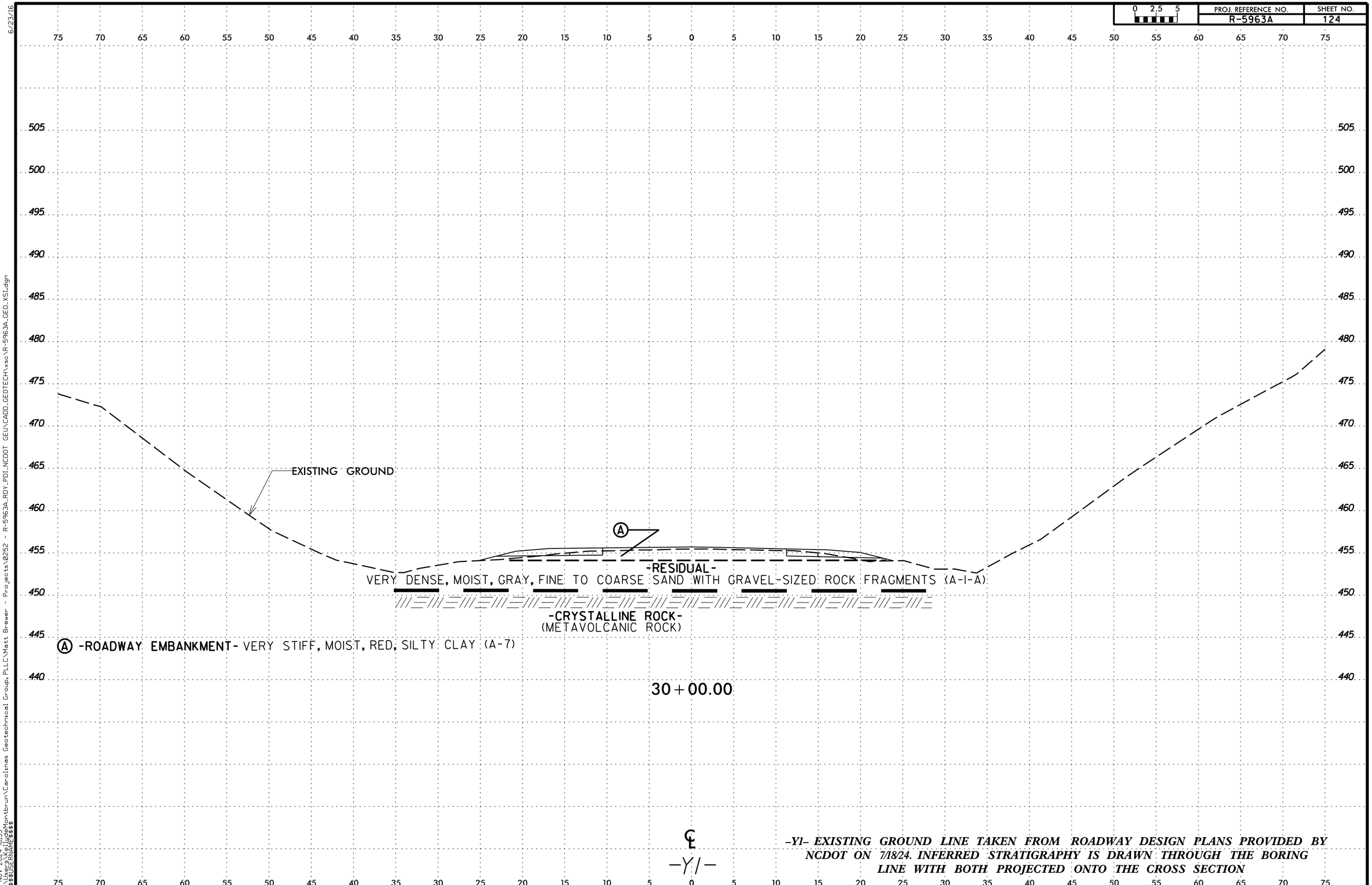
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	124



-Y1- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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PROJ. REFERENCE NO.	SHEET NO.
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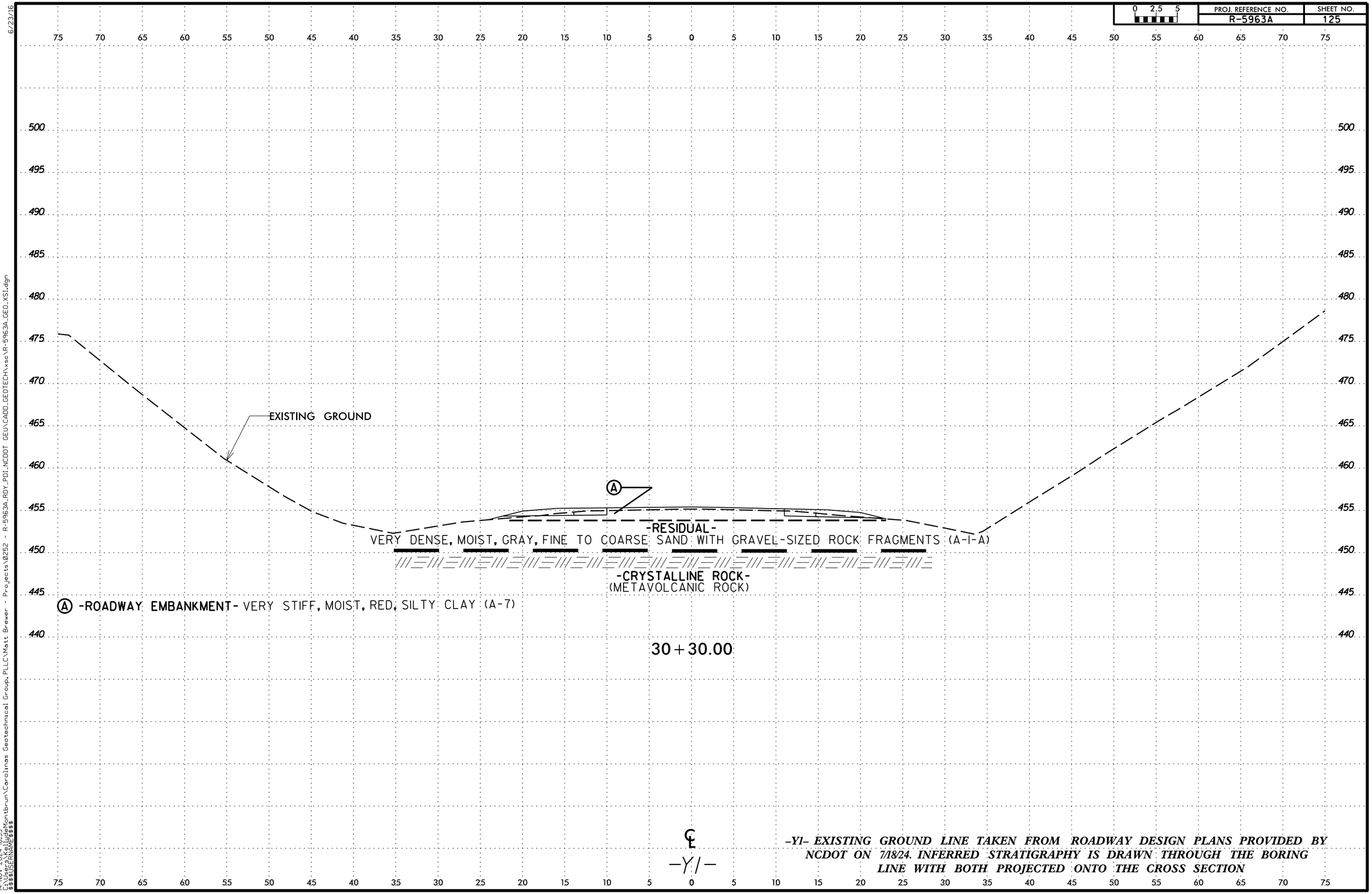

-Y1- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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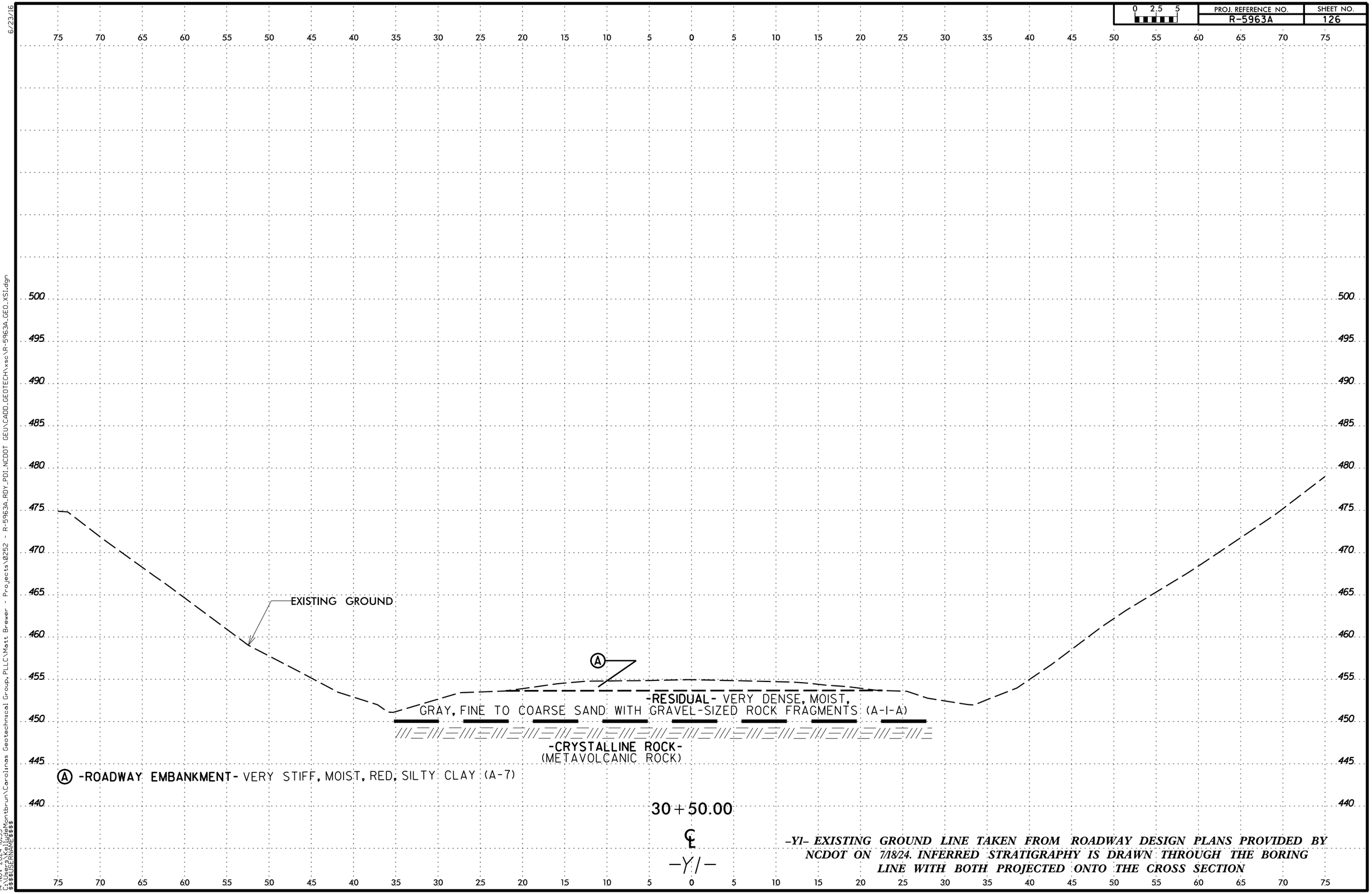

-Y1- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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PROJ. REFERENCE NO.	SHEET NO.
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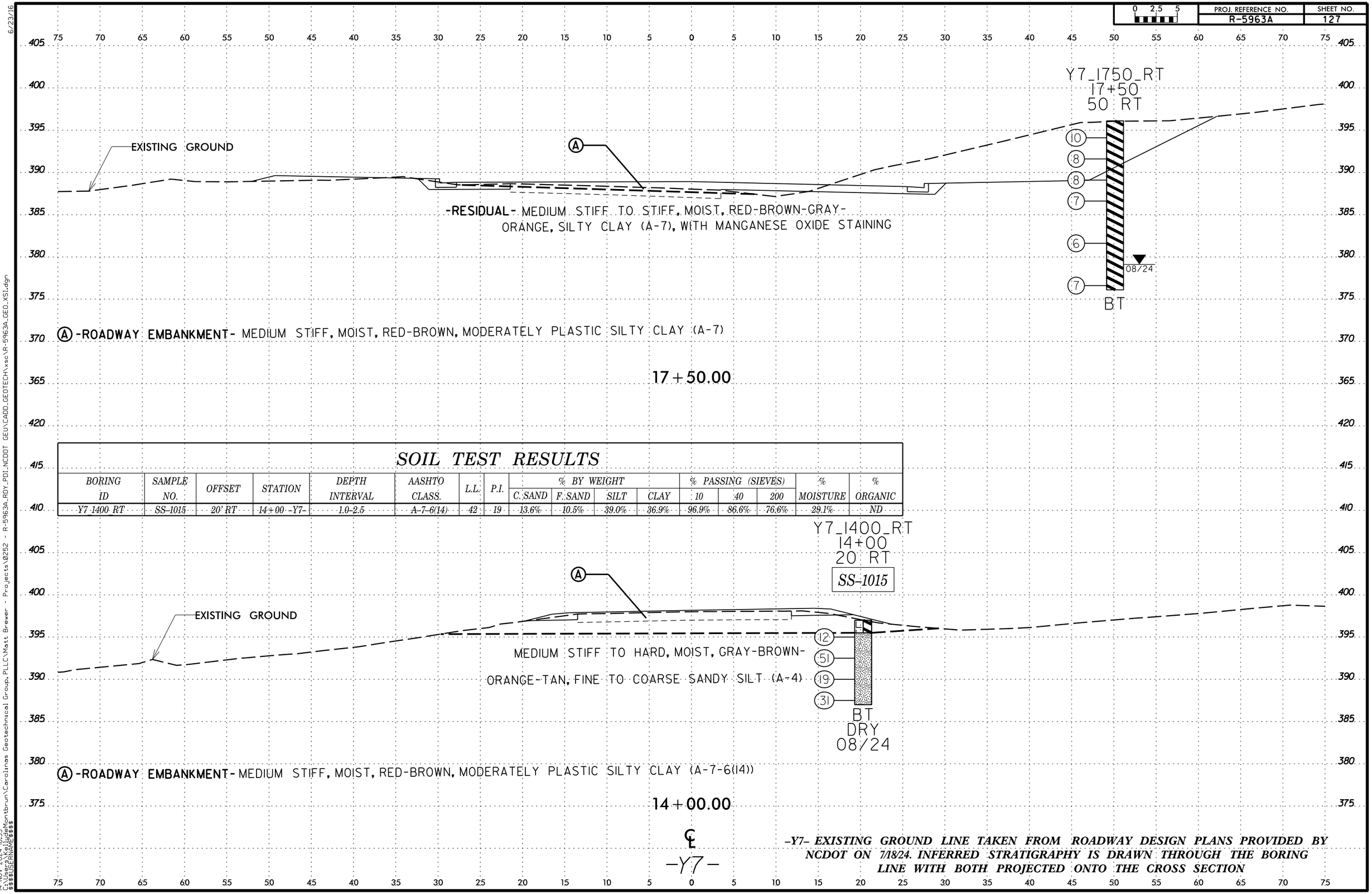

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
Y7 1400 RT	SS-1015	20' RT	14+00 -Y7-	1.0-2.5	A-7-6(14)	42	19	13.6%	10.5%	39.0%	36.9%	96.9%	86.6%	76.6%	29.1%	ND

-Y7- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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PROJ. REFERENCE NO.	SHEET NO.
R-5963A	128

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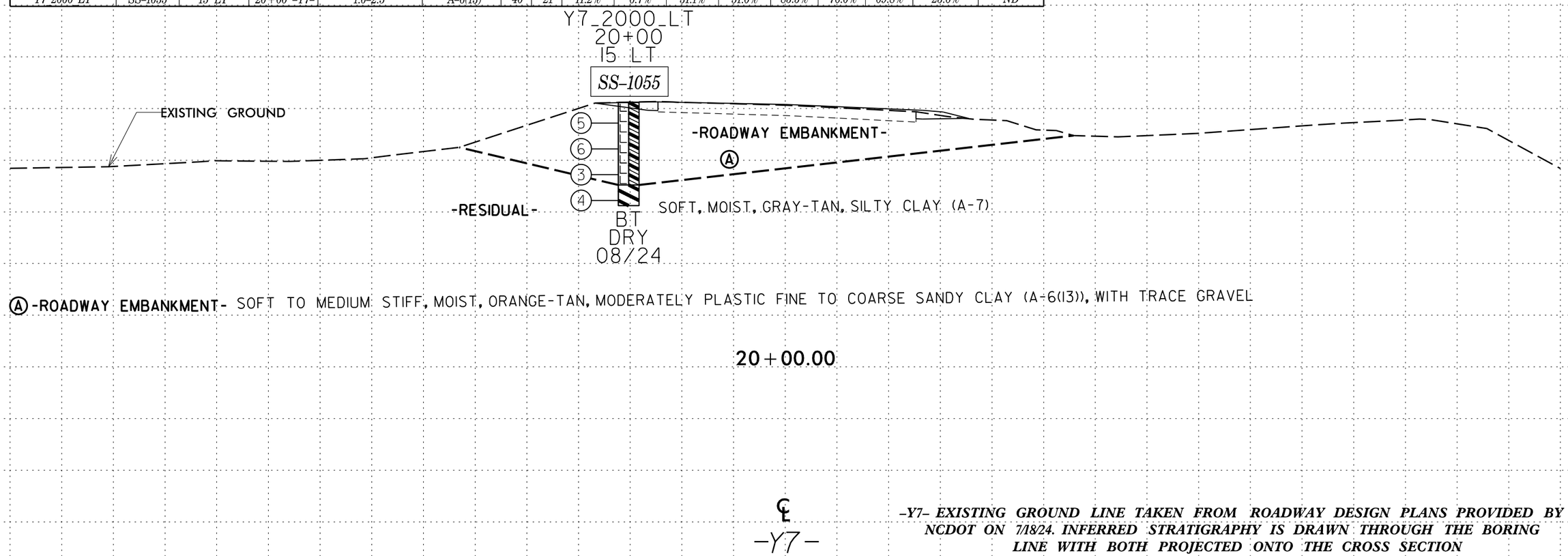
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
Y7 2000 LT	SS-1055	15' LT	20+00 -Y7-	1.0-2.5	A-6(13)	40	21	11.2%	6.7%	31.1%	51.0%	83.5%	76.0%	69.8%	23.6%	ND



-Y7- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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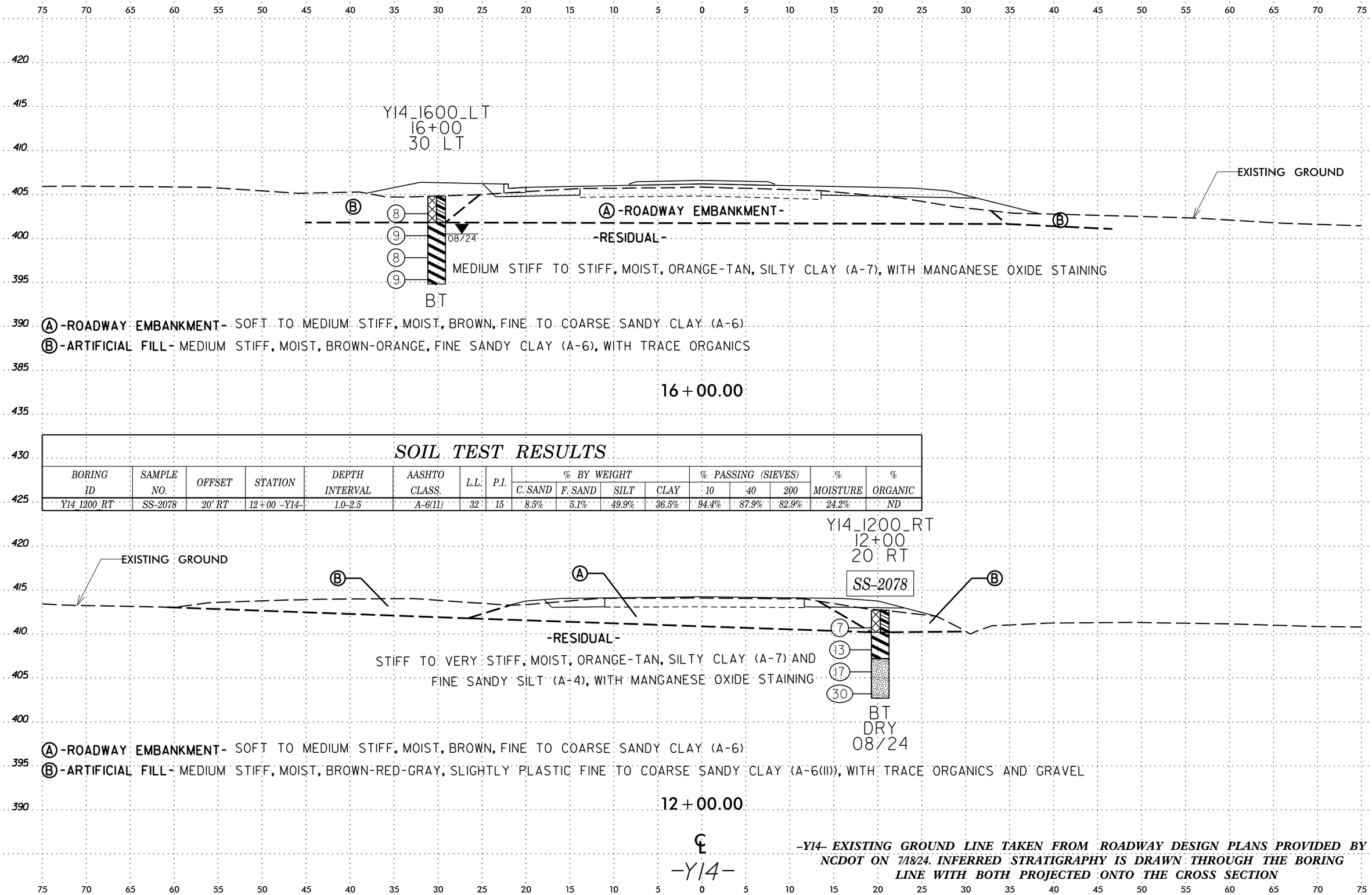
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	129



SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
Y14 1200 RT	SS-2078	20' RT	12+00 -Y14-	1.0-2.5	A-6(11)	32	15	8.5%	5.1%	49.9%	36.5%	94.4%	87.9%	82.9%	24.2%	ND

-Y14- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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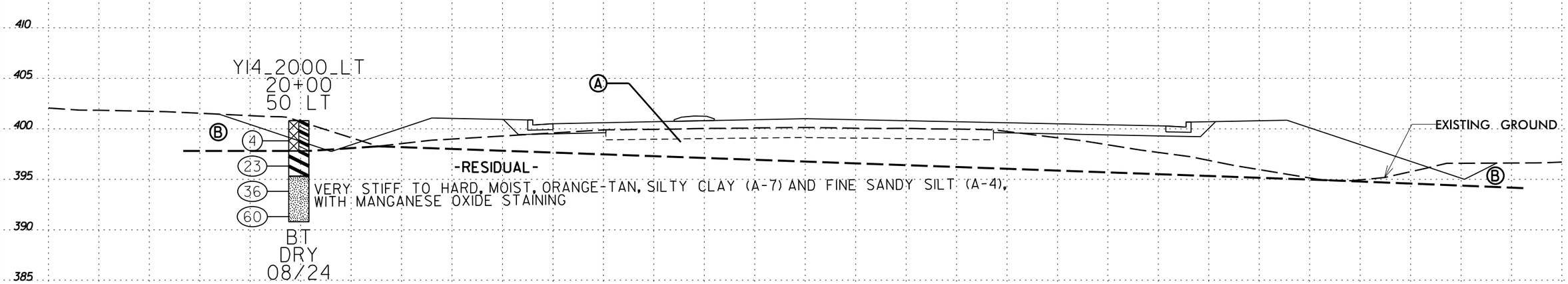
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	130



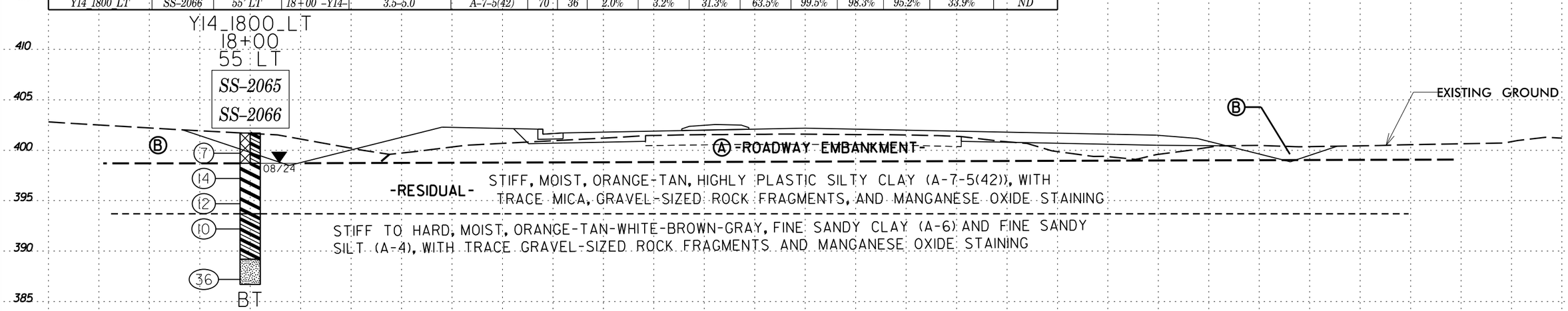
Ⓐ-ROADWAY EMBANKMENT- SOFT TO MEDIUM STIFF, MOIST, BROWN, FINE TO COARSE SANDY CLAY (A-6)

Ⓑ-ARTIFICIAL FILL- SOFT TO STIFF, MOIST, BROWN-ORANGE, FINE SANDY CLAY (A-6), WITH TRACE ORGANICS

20+00.00

SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
Y14 1800 LT	SS-2065	55' LT	18+00 -Y14-	1.0-2.5	A-6(16)	37	19	5.6%	4.6%	45.1%	44.7%	92.9%	89.0%	84.6%	23.2%	ND
Y14 1800 LT	SS-2066	55' LT	18+00 -Y14-	3.5-5.0	A-7-5(42)	70	36	2.0%	3.2%	31.3%	63.5%	99.5%	98.3%	95.2%	33.9%	ND



Ⓐ-ROADWAY EMBANKMENT- SOFT TO MEDIUM STIFF, MOIST, BROWN, FINE TO COARSE SANDY CLAY (A-6)

Ⓑ-ARTIFICIAL FILL- MEDIUM STIFF, MOIST, BROWN-RED, MODERATELY PLASTIC FINE TO COARSE SANDY CLAY (A-6(16)), WITH TRACE ORGANICS

18+00.00

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-Y14-

-Y14- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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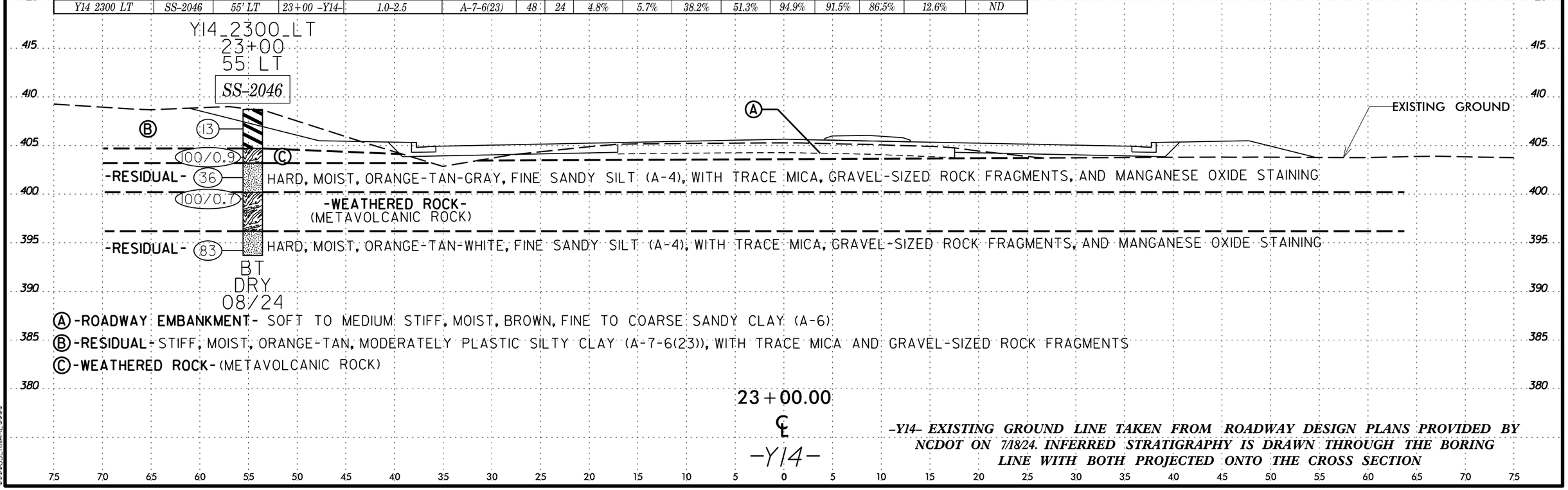
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
Y14 2300 LT	SS-2046	55' LT	23+00 -Y14-	1.0-2.5	A-7-6(23)	48	24	4.8%	5.7%	38.2%	51.3%	94.9%	91.5%	86.5%	12.6%	ND



-Y14- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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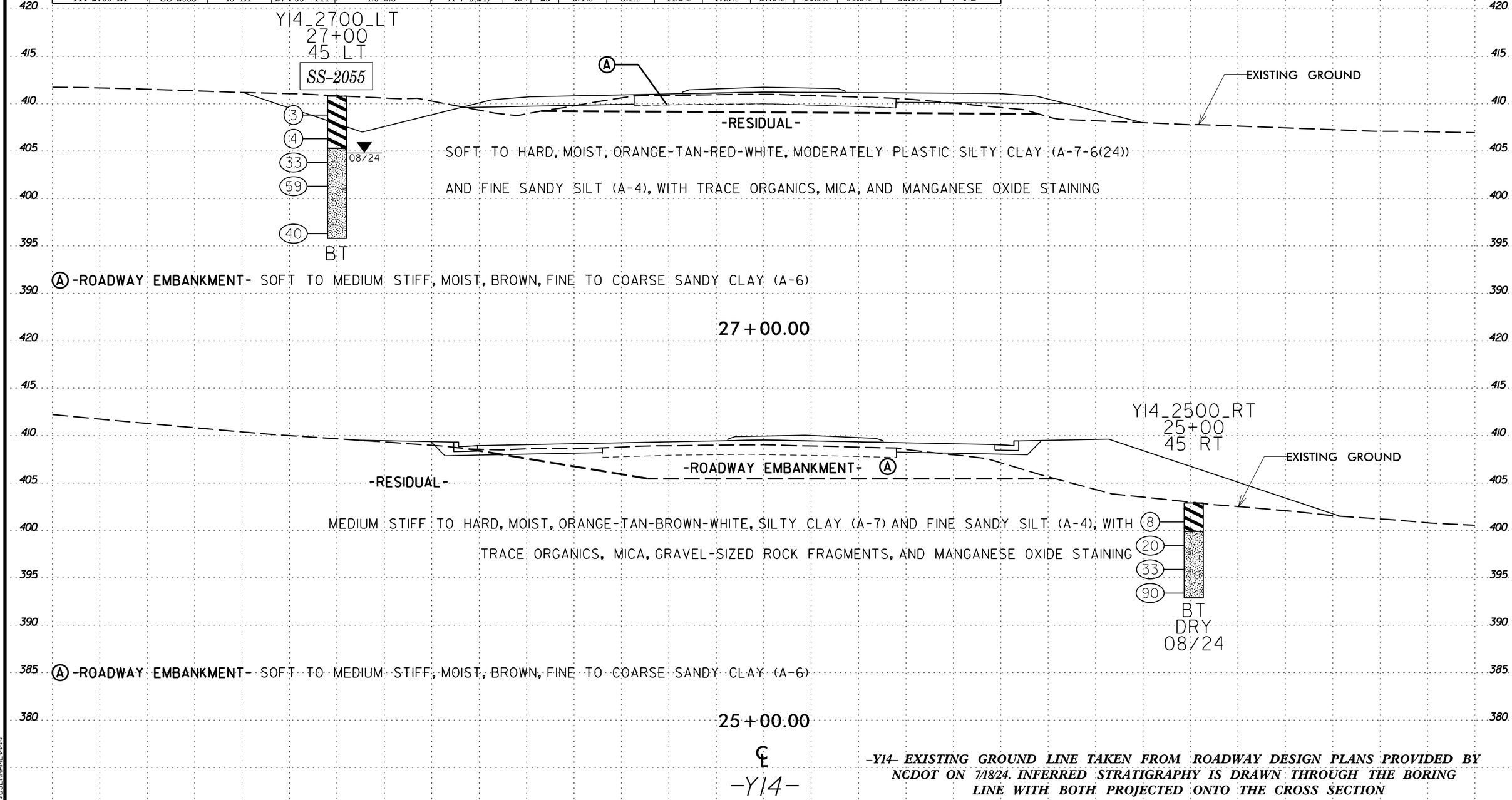
SOIL TEST RESULTS

BORING ID	SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
Y14 2700 LT	SS-2055	45' LT	27+00 -Y14-	1.0-2.5	A-7-6(24)	49	23	3.4%	5.1%	44.2%	47.3%	97.6%	95.5%	90.8%	38.6%	ND



-Y14- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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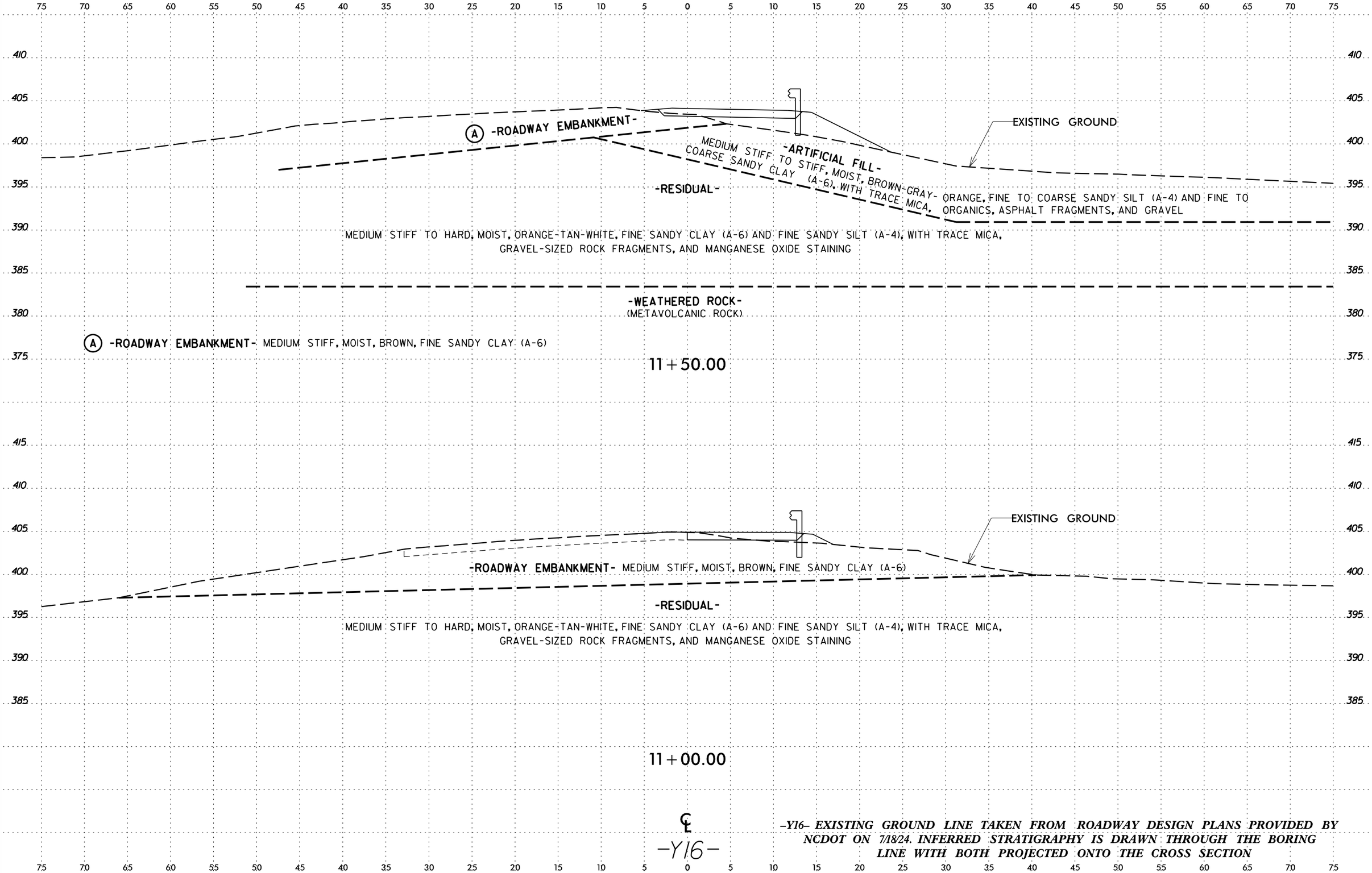
PROJ. REFERENCE NO.	SHEET NO.
R-5963A	133



-Y16- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY NCDOT ON 7/18/24. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING LINE WITH BOTH PROJECTED ONTO THE CROSS SECTION

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PROJ. REFERENCE NO.	SHEET NO.
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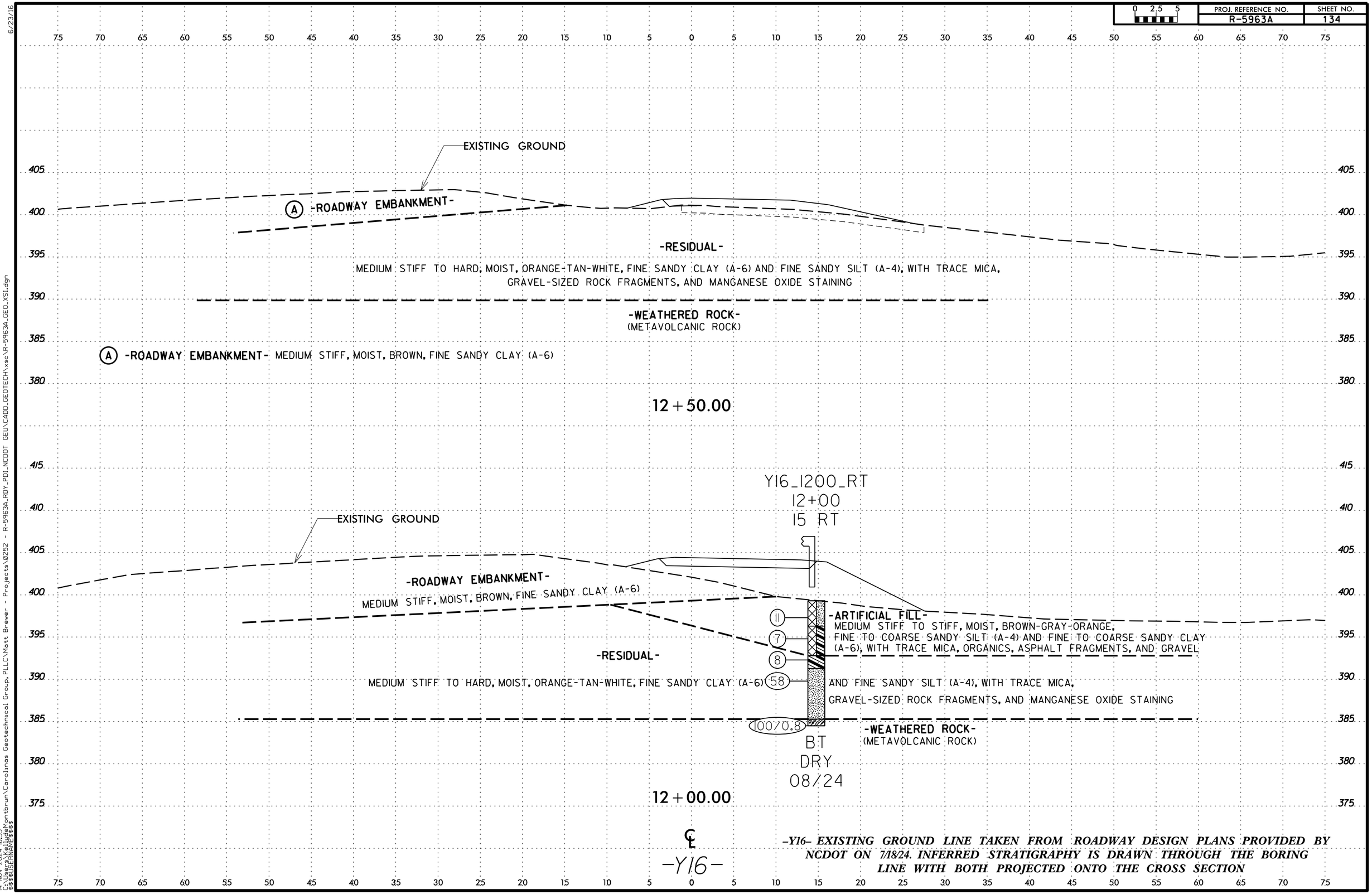

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