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REFERENCE: A-0009CA

PROJECT: 32572

SEE SHEET 3 FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

CONTENTS

CROSS SECTIONS

APPENDICES

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

ROADWAY SUBSURFACE INVESTIGATION

COUNTY *GRAHAM*

PROJECT DESCRIPTION *UPGRADE US 129 FROM SOUTH OF SR 1275 TO NC 143 AND UPGRADE NC 143 FROM US 129 TO SR 1223*

INVENTORY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	A-0009CA	1	172

CAUTION NOTICE

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

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

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

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

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CG2 EXPLORATION

BRECCIA

INVESTIGATED BY *CG2, PLLC*

DRAWN BY *M. BREWER, P.E.*

CHECKED BY *R. KRAL, P.E.*

SUBMITTED BY *CG2, PLLC*

DATE *APRIL 2022*

Prepared in the Office of:

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SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	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 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX	51 MN 10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
MATERIAL PASSING #40 LL PI	— 6 MX		— NP	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
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
	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)	- WET-(W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
PL — PLASTIC LIMIT		
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] DIEDRICH D50
- [X] MOBILE B-29

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 0

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: N/A

ELEVATION: FEET

NOTES:

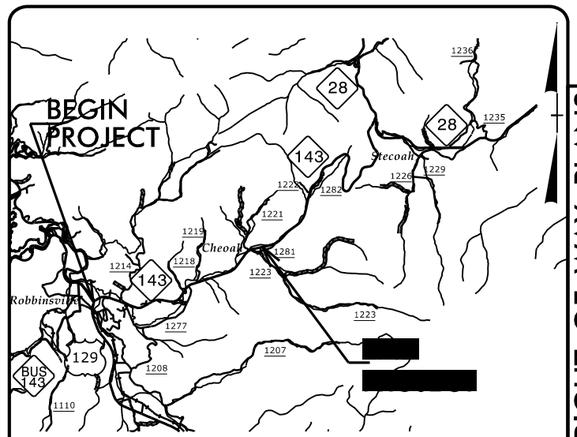
ROADWAY DESIGN FILES DATED 11/15/2021 PROVIDED BY TGS ENGINEERS

DATE: 8-15-14

TIP PROJECT: A-0009CA

CONTRACT:

See Sheet 1A For Index of Sheets



VICINITY MAP

RIGHT OF WAY PLANS

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

GRAHAM COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	A-0009CA	3	172

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
32572.1.13	APD-0074(178)	PE
32572.2.13	APD-0074(178)	ROW,UTIL.
32572.3.13	APD-0074(178)	CONST.

LOCATION: UPGRADE US 129 FROM SOUTH OF SR 1275 (FIVE POINTS ROAD) TO NC 143 AND UPGRADE NC 143 FROM US 129 TO SR 1223 (BEECH CREEK ROAD)

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

NAD 83/2011

PROPOSED SIGNAL

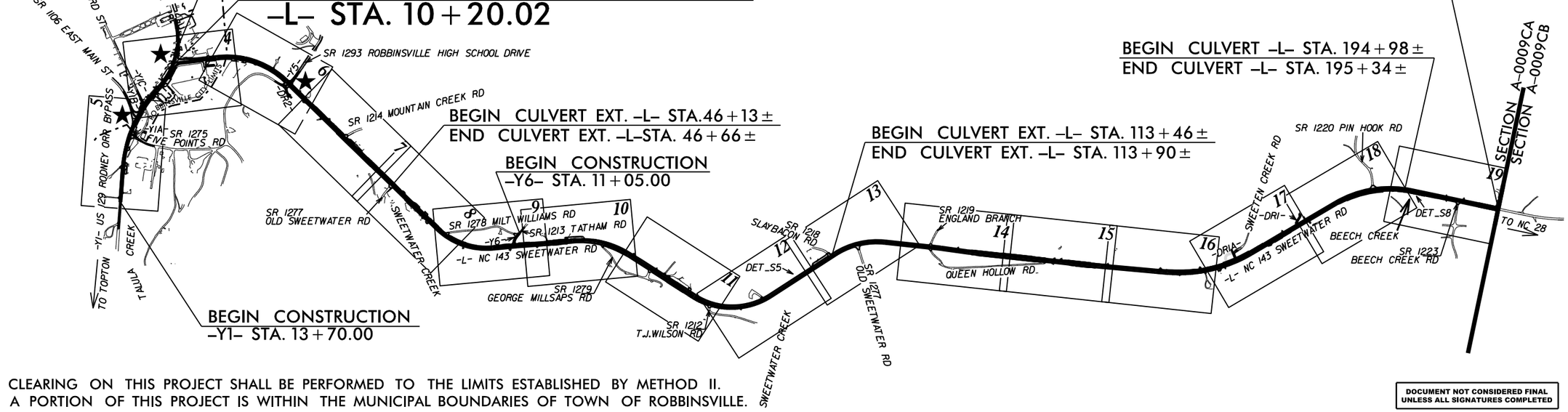
END CONSTRUCTION
–Y1– STA. 36+70.00

BEGIN TIP PROJECT A-0009CA
–L– STA. 10+20.02

END TIP PROJECT A-0009CA
–L– STA. 208+00.00

BEGIN CULVERT –L– STA. 194+98±
END CULVERT –L– STA. 195+34±

END SECTION A-0009CA
BEGIN SECTION A-0009CB



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF TOWN OF ROBBINSVILLE.

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2019 = 6300
ADT 2045 = 8800
K = 11 %
D = 57.5%
T = 7 % *
V = 50MPH – BEGIN PROJECT TO FIVE POINTS RD
60MPH – FIVE POINTS RD TO END OF PROJECT
* TTST =2% DUAL =5%
FUNC CLASS = RURAL ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT A-0009CA	=	3.746 MILES
LENGTH STRUCTURE TIP PROJECT A-0009CA	=	0.027 MILES
TOTAL LENGTH TIP PROJECT A-0009CA	=	3.746 MILES

NCDOT CONTACT: WANDA H. AUSTIN, PE

PLANS PREPARED BY:
TGS ENGINEERS
201 W. MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

PLANS PREPARED FOR:
NORTH CAROLINA DEPARTMENT OF TRANSPORATION
DIVISION 14
252 Webster Rd
Sylva, NC 28779

RIGHT OF WAY DATE: JULY 16, 2021

LETTING DATE: AUGUST 16, 2022

2018 STANDARD SPECIFICATIONS

JIMMY L. TERRY, PE
PROJECT ENGINEER

AUSTIN TURNER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

P.E.
SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.
SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

4/28/2022

STATE PROJECT: 35272.1.FS10
TIP NUMBER: A-0009CA
F/A NUMBER: APD-0074(178)
COUNTY: GRAHAM
DESCRIPTION: UPGRADE US 129 FROM SOUTH OF SR 1275 (FIVE POINTS ROAD) TO NC 143 AND UPGRADE NC 143 FROM US 129 TO SR 1223 (BEECH CREEK ROAD)

SUBJECT: Geotechnical Roadway Inventory Report

PROJECT DESCRIPTION

This roadway widening project consists of improvements to NC 143 beginning at the intersections of US 129 and extending to just east of SR 1223 (Beech Creek Road). The project is approximately 3.8 miles in length, measured along -L- (NC 143) from Station 10+00 to 208+00. Additionally, work will be performed along -Y1- (US 129) from Station 13+70 to 36+70. The construction consists of widening the existing two-lane facility to accommodate additional lanes, full depth paved shoulders, secondary roadway and driveway improvements, additional sidewalk, and supporting infrastructure for the widening. The following alignments are included as part of this investigation:

Alignment	Stations
-L- (NC 143)	10+00 to 208+00
-Y1- (US 129)	13+70 to 36+70
-Y6- (Tatham Road)	11+05 to 13+03
-DR1-	10+20 to 11+89
-DR1A- (Sweeten Creek Road)	10+05 to 11+25
-DR2-	10+00 to 11+60

Some boring locations were planned in archeological areas; however, these areas could not be accessed at the time of the investigation.

The following structures are included as part of this investigation:

Culvert	Stations (Alignment)
Structure over Sweetwater Creek	46+41 (-L-)
Structure over Upper Tributary to Sweetwater Creek	57+14 (-L-)
Structure over Slay Bacon Branch	108+27 (-L-)
Structure over Sweetwater Creek	113+69 (-L-)
Structure over Harwood Branch	144+74 (-L-)
Structure over Beech Creek	195+16 (-L-)
Structure over Sweetwater Creek	10+59 (-DR1A-)

The following retaining walls are included as part of this investigation:

Wall	Stations (Alignment)	Offset
Retaining wall #1	32+55 to 34+16 (-Y1-)	42' RT to 54' RT
Retaining wall #2	11+79 to 12+50 (-L-)	36' LT to 40' LT
Retaining wall #4	167+75 to 171+75 (-L-)	33' LT
Retaining wall #5	175+35 to 176+65 (-L-)	28' RT
Retaining wall #6	186+75 to 192+05 (-L-)	34' RT

The following 1.5:1 (H:V) sliver fill slopes are included as part of this investigation:

Stations (Alignment)	Offset
16+75 to 17+75 (-L-)	RT
17+25 to 17+75 (-L-)	LT
14+75 to 18+25 (-Y1-)	LT

The following 1.5:1 (H:V) fill slopes with rock plating are included as part of this investigation:

Stations (Alignment)	Offset
42+25 to 45+75 (-L-)	LT
44+75 to 45+25 (-L-)	RT
46+75 to 48+15 (-L-)	RT
55+75 to 58+25 (-L-)	RT
56+75 to 59+75 (-L-)	LT

The following 1.5:1 (H:V) sliver cut slopes are included as part of this investigation:

Stations (Alignment)	Offset
38+25 to 39+75 (-L-)	RT

The following 1.5:1 (H:V) soil cut slopes are included as part of this investigation:

Stations (Alignment)	Offset
60+25 to 63+75 (-L-)	RT
70+25 to 71+25 (-L-)	RT
74+25 to 77+75 (-L-)	RT
86+75 to 87+25 (-L-)	LT
192+50 (-L-)	RT

All other project slopes are 2:1 (H:V) or flatter.

The project has been divided into sections to describe the change in grades in a more descriptive manner across the entire project. A summary of the proposed grade changes and construction improvements are listed below:

Section No. 1: -Y1- Station 13+70 to 36+70

Along -Y1- (US 129), this section of the project contains relatively flat grades, resulting in proposed cuts and fills on the order of 5 feet or less. One large existing rock cut is located along the left side of the alignment from Station 20+24 to 25+00. Construction along -Y1- will not impact this slope. The new construction for this section contains improvements to several secondary intersections with the addition of new and widened turn lanes and widened travel lanes. Grade changes along -Y1- are minimal; however, a new curb and gutter will be constructed to accommodate the widening. Retaining Wall #1 is located in this section of the project just south of the intersection with NC 143.

Section No. 2: -L- Station 10+00 to 60+00

This section of the project is a combination of rural and urban. The construction on this section of the project consists of symmetrical widening of the existing route. A portion of NC 143 is supported by a built-up roadway embankment section on the order of 15 to 25 feet in height near several water crossings. In order to accommodate the widening, fill sections will be constructed on both sides of existing NC 143 along -L- in these areas. These proposed fills range from 5 to 27 feet in height. This section also contains Retaining Wall #2 and culvert extensions for several of the water crossings.

Section No. 3: -L- Station 60+00 to 103+00

The majority of this section of the project contains large cut slopes on both sides of existing NC 143 and intermittent fill slopes due to the variable topography through this section. The existing cut slope geometry ranges from 1:1 (H:V) to 1.5:1 (H:V). The proposed cuts through this section are on the order of 5 to 60 feet in height. Typical fill heights are on the order to 15 to 25 feet. A larger fill section will be constructed between -L- 88+50 and 94+50 and fills on the order of 10 to 50 feet are anticipated. Also, a large cut will be constructed near the end of this section on the left side of the alignment from 92+00 to 100+00. The new construction for this section includes improvements to the intersections along -L- with the addition of new turn lanes and widened travel lanes.

Section No. 4: -L- Station 103+00 to 208+00:

This section of the project contains relatively minimal grade changes, resulting in proposed cuts and fills on the order of 10 to 15 feet or less. Larger cuts are present along the alignment near -L- Station 121+00, from 152+00 to 156+00, and from -L- Station 171+50 to 174+50, which contains cuts on the order of 20 to 25 feet. The new construction for this section of the project includes improvements to the intersections of -L- with existing drives and with the addition of widened travel lanes. Several culverts and culvert widenings will be constructed in this section as part of the construction. Retaining Wall #4 will be constructed as a fill wall along the left side of the alignment in this section. Retaining Wall #5 and #6 will be constructed as cut walls along the right side of the alignment through this section of the project. Retaining Wall #6 will be constructed in a rock cut.

The geotechnical field investigation was conducted by CG2 during the period of September 2020 through December 2021. This investigation was performed in several phases due to project schedule and other demands which required moving equipment around to various sections of the project. Subcontracted drill crews were used to drill, sample, and log 140 of the borings in this report. The drill rigs used were ATV-mounted CME-550 and CME 550X, truck-mounted Mobile B-29, and track-mounted Diedrich D-50 equipped with automatic hammers. Standard Penetration Tests were performed at selected depths for the 140 borings. Hand auger borings were performed at sixteen locations due to utility and access conflicts. Rock coring was performed in one boring to evaluate the consistency of the bedrock behind a large cut wall. Representative soil samples were collected for visual-manual classification in the field and selected samples were submitted for laboratory analysis by an approved NCDOT M&T testing facility.

PHYSIOGRAGHY AND GEOLOGY

This widening project is not located entirely within NCDOT right-of-way. In general, a majority of the project corridor is rolling terrain consistent with the mountain region that is moderately wooded with intermittent mountainous slopes at variable distances along the alignment.

The project corridor is located within the Blue Ridge Physiographic Province of North Carolina. According to the 1985 Geologic Map of North Carolina, the bedrock under the site consists of Metasandstone, Metagraywacke, Metasiltstone and Mica Schist of the Ocoee Supergroup, Great Smokey Group. The rock encountered during the investigation was classified as Mica Schist, Schist, Metasiltstone, and Metasandstone. The rock units encountered in this section of the project do not produce acidic runoff.

Much of the project footprint contains near surface soils with varying ages of alluvial deposits primarily from Tulula Creek, Sweetwater Creek, and several other creeks and streams present on the project. The older, weathered alluvial deposits are also referred to as fans or stream terraces. These stream terraces cover a large portion of the project footprint and are primarily located in the areas that will require new fill slopes. In areas immediately adjacent to existing waterways, younger alluvial deposits (floodplain soils) were encountered at lower elevations than terrace deposits or residual soils. Colluvial deposits (gravity deposited) were also observed within a portion of the project footprint. It is common for colluvial soils to be present at the bases of ridges and slopes within this area. These gravity deposited soils are typically the result of mass soil movement and long-term soil creep, which can occur frequently in this geographical area at the base of hills, slopes, and mountain ridges.

Residual soils are derived from the continued in situ chemical and physical weathering of the rocks in the area. Residual soils are typically finer grained and have higher clay content near the surface because of the advanced weathering. Similarly, the soils typically become coarser grained with increasing depth because of decreased weathering. As the degree of weathering decreases, the residual soils generally retain the overall appearance and fabric of the parent rock. The boundary between soil and rock is not always sharply defined. A transitional zone termed "weathered rock" is normally found overlying the parent bedrock.

SOIL PROPERTIES

Soils and rock encountered during this investigation include roadway embankment, artificial fill, alluvial, colluvial, residual, weathered rock, and crystalline rock.

Roadway Embankment soils are similar in nature to residual soils and may be derived from nearby sources. The fine-grained roadway embankment soils consist of very soft to hard, sandy silt (A-4), sandy, clayey silt (A-5), sandy clay (A-6), and slightly plastic, silty clay (A-7-5) with trace organics, trace to little gravel, trace to some roots and wood fragments, and trace mica. The coarse-grained soils encountered consist of loose to very dense, silty sand (A-2-4), clayey sand (A-2-6), and sandy gravel (A-1-a), with trace organics and trace to little gravel.

Artificial Fill soils are materials that have been moved and/or placed by man or mechanical means. The fine-grained artificial fill soils consist of soft to very stiff, sandy silt (A-4), sandy clay (A-6), and silty clay (A-7-5), with trace organics and trace to little gravel. The coarse-grained soils consist of dense, silty sand (A-2-4), with trace gravel. The soils appeared to be sourced locally.

Alluvial soils (floodplain and stream terrace) were encountered in many of the borings across the project footprint. The fine-grained alluvial soils consist of very soft to hard, non-plastic to slightly plastic, sandy silt (A-4), clayey silt (A-5), slightly plastic, sandy clay (A-6), and slightly plastic, silty clay (A-7-5), trace to little pea gravel and gravel, trace organics, and trace mica. The coarse-grain soils encountered consist of very loose to very dense, sandy gravel (A-1-a), silty gravelly sand (A-1-b), silty sand (A-2-4), and clayey sand (A-2-6), with trace organics, trace to little pea gravel and gravel, and trace to little mica. Alluvial boulders were also encountered infrequently across the project.

Colluvial soils were encountered as unconsolidated soils deposited at the base of hillsides by creep and/or water flow. These soils were encountered in L_7800L, L_7900L, L_7900R, L_9000R, L_12600L, and L_12800R. The fine-grained colluvial soils consist of very soft to very stiff, sandy silt (A-4),with trace to little gravel. The coarse-grained soils consist of very loose to medium dense, silty sand (A-2-4), with trace to little gravel.

Residual soils are derived from the weathering of underlying rock in the area. The residual fine-grained soils consist of very soft to hard, non-plastic to slightly plastic, sandy silt (A-4), non-plastic to slightly plastic, sandy, clayey silt (A-5), slightly plastic, sandy clay (A-6), and slightly plastic, silty clay (A-7-5), with trace mica and trace to little gravel-sized rock fragments. The coarse-grained soils consist of loose to very dense, sandy gravel (A-1-a) and silty sand (A-2-4) with trace amounts of mica, and trace to little gravel-sized rock fragments.

Weathered rock was also encountered along the project corridor within fifty-five boring locations. The weathered rock consists of Schist, Mica Schist, Metasandstone, and Metasiltstone . The top of weathered rock was encountered at depths ranging from the existing ground surface to 63.5 feet below existing grades.

Crystalline rock was encountered along the project corridor within twenty of the project borings. The crystalline rock was classified as Mica Schist, Schist, Metasandstone, and Metasiltstone and was encountered at depths ranging from 2.1 to 43.5 feet below existing grades.

GROUNDWATER

Groundwater measurements were taken between September 2020 through December 2021. Groundwater was encountered in 54 of the borings and hand augers at depths ranging from 2.2 feet to 45.0 feet below existing grades at the completion of drilling activities. Groundwater was encountered in 46 of the borings and hand augers at depths ranging from 0.5 feet to 36.5 feet below existing grades after a stabilization period of at least 24 hours. Fifty-five of the borings were backfilled immediately upon completion of drilling activities for safety reasons. Those reasons included boreholes being located in an active roadway and/or at the request of the property owner. The remaining hand augers and borings were recorded as dry at the bottom of the boring cylinder. Groundwater is expected to cause significant impacts for construction. The soils encountered were generally described as moist to wet above the groundwater elevation and moist to saturated below groundwater elevation.

Water wells were encountered within the project corridor. Water wells could be encountered at other locations due to the presence of dwellings and businesses.

Alignment	Stations	Offsets (ft)
-L-	75+71	54′ LT
-L-	89+06	158′ RT
-L-	132+16	140′ LT
-L-	145+29	62′ LT
-L-	179+88	76′ LT
-L-	200+00	131′ RT
-L-	207+82	254′ LT

A spring and/or seep was encountered within the project corridor at the following location:

Type	Alignment	Stations	Offsets (ft)
Seep	-L-	124+48	20′ RT
Spring	-L-	64+98	65′ LT
Spring	-L-	129+96	52′ RT
Spring	-L-	164+82	85′ RT

AREAS OF SPECIAL GEOTECHNICAL INTEREST

The following borehole locations encountered very soft to soft or very loose to loose soils which have the potential to cause embankment stability and/or long-term settlement problems:

Alignment	Stations	Offsets (ft)
-L-	11+00 to 12+37	23 LT to 21 RT
-L-	16+89 to 17+77	21 LT to 15 RT
-L-	21+00 to 23+00	21LT to 21 RT
-L-	31+00	25 RT
-L-	35+50 to 36+50	10 LT
-L-	42+00	25 LT
-L-	45+77 to 46+93	19 LT to 52 RT
-L-	53+00 to 62+00	25 LT to 73 RT
-L-	71+00 to 72+50	64 LT to 59 RT
-L-	77+68 to 78+00	97 RT
-L-	81+00 to 82+00	29RT to 67 RT
-L-	88+00 to 90+00	27 RT to 112 RT
-L-	107+00 to 109+00	43 LT to 20 RT
-L-	113+17	22 RT
-L-	113+80 to 119+00	13 LT to 23 RT
-L-	126+00 to 130+00	35 LT to 22 RT
-L-	133+50 to 139+00	40 RT to 55 RT
-L-	149+50 to 150+50	64 LT
-L-	157+50 to 160+50	15 LT to 13 LT
-L-	163+00 to 164+50	16 LT
-L-	168+79 to 169+84	15 LT
-L-	172+00 to 173+50	65 LT
-L-	176+62	46 RT
-L-	179+50 to 181+00	30 LT
-L-	181+50 to 187+50	22 RT to 32 RT

Alignment	Stations	Offsets (ft)
-L-	194+95 to 198+00	22 RT 29 RT
-L-	204+00 to 208+00	25 LT to 25 RT
-Y1-	15+50	16 RT
-Y1-	19+50	58 RT
-Y1-	27+50	20 RT
-Y1-	31+50	21 RT
-Y1-	33+50 to 35+00	20 LT to 42 RT
-DR1A-	10+27	27 LT

Highly Plastic Soils: Highly plastic soils (PI > 25) were not encountered in the borings on the project.

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

Alignment	Stations	Offsets (ft)
-L-	126+00 to 132+00	35 LT to 55 RT
-L-	192+56	29 RT
-L-	206+00	25 LT

In addition, shallow groundwater may be encountered within 3 feet of the existing ground at the following locations:

Alignment	Stations	Offsets (ft)
-L-	57+00	72 RT
-L-	90+00	112 RT
-L-	105+00	19 RT
-L-	108+40	20 RT
-L-	113+17	22 RT
-L-	114+11	13 LT
-L-	134+00 to 138+00	40 RT to 55 RT
-L-	164+00	16 LT
-L-	167+75 to 171+75	15 LT
-L-	173+05	65 LT
-L-	178+00 to 180+00	21 LT to 18 LT
-L-	192+56 to 198+00	55 LT to 29 RT
-L-	206+00 to 208+00	25 LT to 25 RT
-Y1-	36+66	35 LT

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

Alignment	Stations	Offsets (ft)
-L-	14+94	59 RT
-L-	29+00	38 RT
-L-	42+00	25 LT
-L-	93+00	59 LT
-L-	95+00	68 LT
-L-	97+00	95 LT
-L-	107+00	35 LT
-L-	108+24	43 LT
-L-	175+33	43 RT
-Y1-	23+54	162 RT

Colluvial soils were encountered on the project at the following borehole locations:

Alignment	Stations	Offsets (ft)
-L-	78+00	32 LT
-L-	79+00	32 LT
-L-	90+00	18 RT
-L-	126+00	35 LT
-L-	128+00	22 RT

Rock outcrops were observed on the project at the following locations:

Outcrop Number	Alignment	Stations	Offsets (ft)
1	-Y1-	20+24 to 25+00	LT
2	-L-	53+00 to 54+84	LT
3	-L-	60+79 to 61+41	RT
4	-L-	74+82 to 75+38	RT
5A	-L-	96+46	LT
5B	-L-	97+89 to 102+10	LT
6	-L-	121+75 to 123+63	RT
7	-L-	174+39 to 174+68	RT
8	-L-	186+37 to 192+19	RT

Rock was encountered within 6 feet of the proposed cut elevation at the following borehole locations:

Alignment	Stations	Offsets (ft)
-L-	187+76 to 191+21	8 RT 66 RT

Sincerely,
Carolinas Geotechnical Group, PLLC

DocuSigned by:
8AD703B2A8484F4...
Robert E. Kral, PE
Senior Project Engineer

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

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

8/17/99

REVISIONS

-Y1- CURVE DATA

PI Sta 24+35.36
Δ = 38° 00' 53.8" (RT)
D = 3° 10' 59.2"
L = 1,194.27'
T = 620.05'
R = 1,800.00'
SE = 0.03
DS = 45 MPH

PI Sta 36+22.21
Δ = 59° 11' 14.3" (LT)
D = 5° 52' 35.4"
L = 1,007.19'
T = 553.73'
R = 975.00'
SE = 0.04
DS = 50 MPH

-L- CURVE DATA

PI Sta 21+39.93
Δ = 51° 06' 09.7" (RT)
D = 4° 56' 21.4"
L = 1,034.62'
T = 554.57'
R = 1,160.00'
SE = 0.04
DS = 50 MPH

END CONSTRUCTION
-Y1- STA. 37+20.00

BEGIN TIP PROJECT A-0009CA
-L- STA. 10+20.02

-L- POT 10+00.00 =
-Y1- POC 34+56.63

BEGIN CONSTRUCTION
-Y1C- STA. 11+71.27

-Y1- PC 30+68.48
-Y1C- POT 10+00.00

-Y1- POC 27+35.52
-Y1C- POT 12+40.07

-Y1- PT 30+09.58

-L- PC 15+85.36

MATCH LINE STA -L- 16+00.00
MATCH TO SHEET NO.6

MATCH LINE STA -Y1- 27+00.00
MATCH TO SHEET NO.5

NAD 83/2011

PROP. RETAINING WALL #2
BEGIN -L- STA. 11+79±
END -L- STA. 12+50±

PROP. RETAINING WALL #1
BEGIN -Y1- STA. 32+55±
END -Y1- STA. 34+16±

MILL & RESURFACE

PROP. CURB CUT THROUGH

PROP. 16' GRAVEL DRIVE
(PAVE APRON TO GATE)

PROP. 72" BLACK POWDER COATED CHAINLINK FENCE WITH GATE

DO NOT DISTURB LIGHT

BM#1 ELEV. 1993.80'
-BL- STA. 8+98.00 54' LT.
SPIKE NAIL SET IN BASE OF 18" MAPLE

DB 240 PG 696
DB 215 PG 185
DB 333 PG 343
IS BR BUS
DB 147 PG 525
DB 158 PG 239
DB 142 PG 172
DB 360 PG 414
DB 360 PG 417
DB 308 PG 527
DB 378 PG 205
DB 354 PG 246
DB 369 PG 625
(DB 129 PG 335)
DB 356 PG 754
DB 130 PG 244

-ALLUVIAL-
(STREAM TERRACE)

4S F&MAS BUS
(HOTEL)

IS BLK BUS

IS MTL BUS

IS BRAMTL BUS

MTL CANOPY
(GAS PUMPS)

PROP. DRIVE

PROP. ASPHALT DRIVE

PROP. CONC. DRIVE

PROP. CONC SIDEWALK

PROPOSED SIGNAL

ELIGIBLE AND UNASSESSED SITES

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED. END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.

Ⓐ -ARTIFICIAL FILL-
Ⓑ -ALLUVIAL-
Ⓒ -ROADWAY EMBANKMENT-
Ⓓ -RESIDUAL-

AVERAGE DAILY TRAFFIC

	9,500 / 12,900		
200 / 300		3,600 / 4,300	7,200 / 8,500
COMMERCIAL DRIVE			-L- NC 143
700 / 900			
400 / 500		3,500 / 4,100	
	-Y1- US 129		
	9,600 / 12,900		

2019 ADT
2045ADT

FOR -L- PROFILE, SEE SHEET NO. 20

FOR -Y1- PROFILE, SEE SHEET NO. 28

25-MAR-2022 17:02
C:\Users\mbrewer_OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\PlanProf\A-0009CA_Rdy_psh_04.dgn
$$$$ICENSE$$$$

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

REVISIONS 8/17/99

-Y1A- CURVE DATA
PI Sta 12+48.39
Δ = 27° 40' 40.3" (LT)
D = 10° 31' 56.3"
L = 262.79'
T = 134.01'
R = 544.00'
③ -Y1A- PC 11+14.38

-Y1B- CURVE DATA
PI Sta 10+93.09
Δ = 7° 33' 51.9" (RT)
D = 7° 09' 43.1"
L = 105.62'
T = 52.89'
R = 800.00'

PI Sta 13+65.73
Δ = 40° 16' 26.4" (LT)
D = 57° 17' 44.8"
L = 70.29'
T = 36.67'
R = 100.00'
① -Y1B- PC 13+29.06
② -Y1B- PT 13+99.35

-Y1- CURVE DATA
PI Sta 24+35.36
Δ = 38° 00' 53.8" (RT)
D = 3° 10' 59.2"
L = 1,194.27'
T = 620.05'
R = 1,800.00'
SE = 0.03
DS = 45 MPH

Ⓐ -ARTIFICIAL FILL-
Ⓑ -ALLUVIAL-
Ⓒ -ROADWAY EMBANKMENT-
Ⓓ -RESIDUAL-

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED. END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.

NAD 83/2011

BEGIN CONSTRUCTION
-Y1- STA. 13+70.00

BEGIN CONSTRUCTION
-Y1B- STA. 13+13.92

END CONSTRUCTION
-Y1A- STA. 10+62.95

MATCH LINE STA -Y1- 27+00.00
MATCH TO SHEET NO. 4

-Y1- PC 18+15.31

-Y1- POC 23+20.33 =
-Y1A- POT 10+00.00

-Y1- POC 25+54.61 =
-Y1B- POT 14+16.85

-Y1B- PT 11+45.83

-Y1A- PT 13+77.17

N 19° 52' 00.0" W

S 46° 03' 35.5" E

S 66° 20' 01.5" E

S 75° 28' 22.5" E

-ALLUVIAL- (STREAM TERRACE)

-RESIDUAL-

ROCK OUTCROP

ROBBINSVILLE CITY LIMIT

100' TAPER TO EXIST.

PROP. DRIVE

TREE CLEARING SHALL BE LIMITED TO 5' PAST THE SLOPE STAKES WITHIN THE HPB. PLACE PROTECTION FENCING PRIOR TO CONSTRUCTION.

DO NOT DISTURB BILLBOARD

IS MTL BUS (STORAGE UNITS)

PROP. 72" BLACK POWDER COATED CHAINLINK FENCE WITH GATE

PROP. DRIVE (GRAVEL BEHIND FENCE)

JACKIE L. CRISP DB 243 PG 515

J & J SOUTHLAND REALTY, INC. DB 277 PG 7

PROP CONC MONOLITHIC ISLAND (SURFACE MOUNT)

PROP CONC SIDEWALK

PROPOSED SIGNAL

SA ELIGIBLE AND UNASSESSED SITES

FOR -Y1- PROFILE, SEE SHEET NO. 27

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

-L- CURVE DATA

PI Sta 21+39.93
Δ = 51° 06' 09.7" (RT)
D = 4° 56' 21.4"
L = 1,034.62'
T = 554.57'
R = 1,160.00'
SE = 0.04
DS = 50 MPH

-Y5- CURVE DATA

PI Sta 11+51.55	PI Sta 12+96.74
Δ = 9° 49' 14.7" (RT)	Δ = 78° 27' 45.3" (RT)
D = 9° 32' 57.5"	D = 49° 49' 20.7"
L = 102.84'	L = 157.48'
T = 51.55'	T = 93.90'
R = 600.00'	R = 115.00'

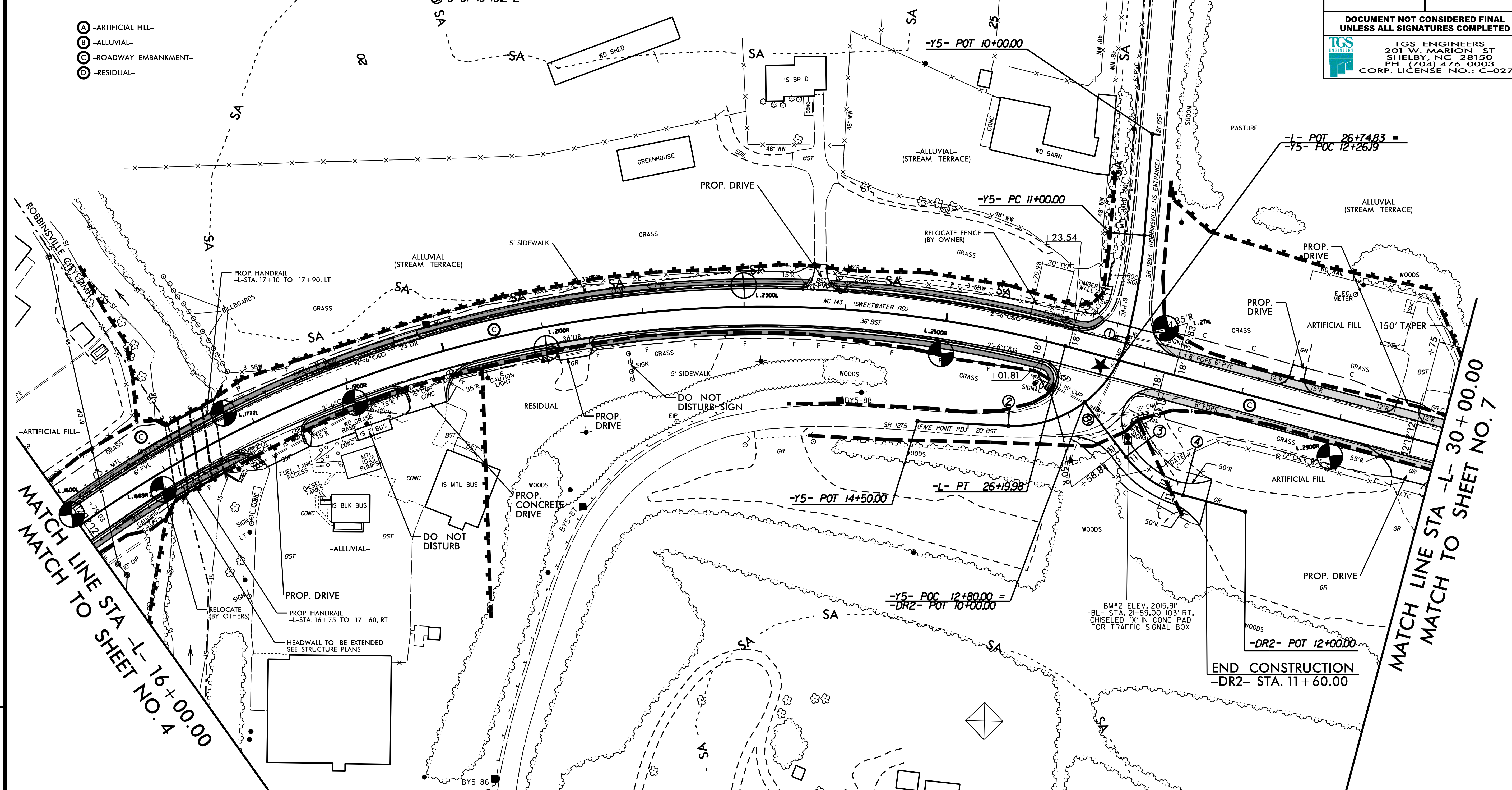
(1) -Y5- PCC 12+02.84
(2) -Y5- PT 13+60.33

-DR2- CURVE DATA

PI Sta 11+03.23
Δ = 37° 57' 56.5" (LT)
D = 55° 05' 31.5"
L = 68.91'
T = 35.78'
R = 104.00'
SE = NC
(3) -DR2- PC 10+67.46
(4) -DR2- PT 11+36.37
(B1) S 31° 49' 15.2" E

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED. END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.

(A) -ARTIFICIAL FILL-
(B) -ALLUVIAL-
(C) -ROADWAY EMBANKMENT-
(D) -RESIDUAL-



Legend	
(shaded)	PROP CONC SIDEWALK
	PROPOSED SIGNAL
- - - SA - - -	ELIGIBLE AND UNASSESSED SITES

FOR -L- PROFILE, SEE SHEET NO. 20
FOR -DR2- PROFILE, SEE SHEET NO. 28

REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	7

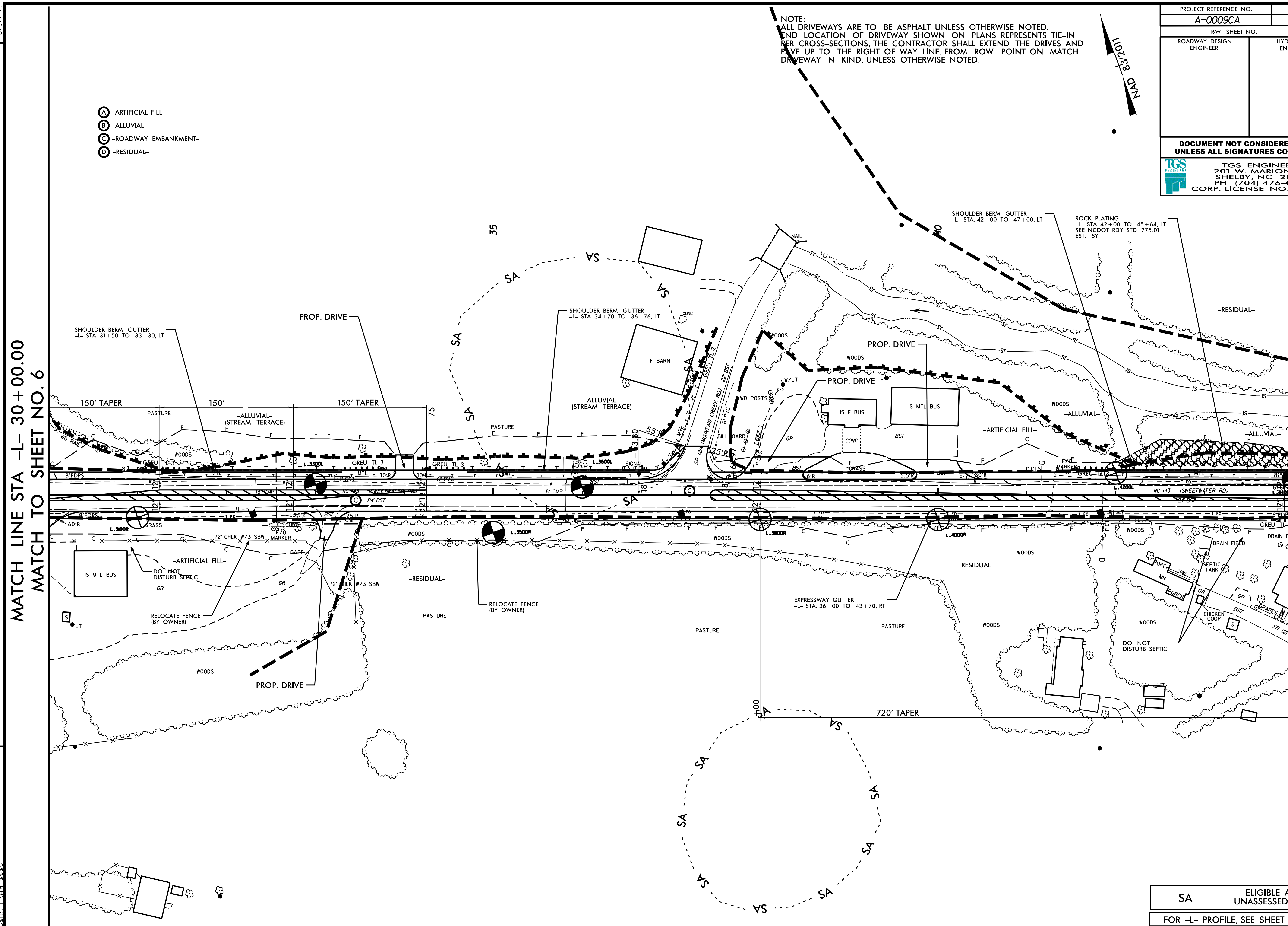
RW SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED.
END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.



NAD 83/2011
Ⓐ -ARTIFICIAL FILL-
Ⓑ -ALLUVIAL-
Ⓒ -ROADWAY EMBANKMENT-
Ⓓ -RESIDUAL-
MATCH LINE STA -L- 30+00.00
MATCH TO SHEET NO. 6
MATCH LINE STA -L- 44+00.00
MATCH TO SHEET NO. 8
SHOULDER BERM GUTTER -L- STA. 31+50 TO 33+30, LT
PROP. DRIVE
SHOULDER BERM GUTTER -L- STA. 34+70 TO 36+76, LT
SHOULDER BERM GUTTER -L- STA. 42+00 TO 47+00, LT
ROCK PLATING -L- STA. 42+00 TO 45+64, LT SEE NCDOT RDY STD 275.01 EST. SY
150' TAPER
150'
150' TAPER
-ALLUVIAL- (STREAM TERRACE)
F BARN
IS F BUS
IS MTL BUS
-ARTIFICIAL FILL-
-RESIDUAL-
PASTURE
WOODS
NC 143 (SWEETWATER RDJ)
SR 1214 (MOUNTAIN CREEK RD)
DO NOT DISTURB SEPTIC
RELOCATE FENCE (BY OWNER)
EXPRESSWAY GUTTER -L- STA. 36+00 TO 43+70, RT
DRAIN FIELD
SEPTIC TANK
CHICKEN COOP
720' TAPER
SA

SA	ELIGIBLE AND UNASSESSED SITES

FOR -L- PROFILE, SEE SHEET NO. 21

REVISIONS

8/17/99

25-MAR-2022 17:02

Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\PlanProf\A-0009CA_Rdy_psh_07.dgn

-L- CURVE DATA
PI Sta 59+31.02
Δ = 49° 37' 23.2" (LT)
D = 5° 58' 05.9"
L = 831.44'
T = 443.82'
R = 960.00'
SE = 0.08
DS = 55 MPH

(A) –ARTIFICIAL FILL–
(B) –ALLUVIAL–
(C) –ROADWAY EMBANKMENT–
(D) –RESIDUAL–

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED.
END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

MATCH LINE STA –L– 44+00.00
MATCH TO SHEET NO. 7

MATCH LINE STA –L– 56+00.00
MATCH TO SHEET NO. 9

12 JACK MILLSAPS DB 327 PG 22

15 JAMES HALL DB 253 PG 537

ROCK PLATING –L– STA. 42+00 TO 45+64, LT SEE NCDOT RDY STD 275.01 EST. SY

SHOULDER BERM GUTTER –L– STA. 42+00 TO 47+00, LT

DO NOT DISTURB BILLBOARD

PROP. DRIVE

–L– PC 54+87.20

EXPRESSWAY GUTTER –L– STA. 52+25 TO 55+50 LT

ROCK OUTCROP 2

DO NOT DISTURB SIGN

DO NOT DISTURB SEPTIC

720' TAPER

PROP. CONCRETE DRIVE

ROCK PLATING –L– STA. 44+50 TO 45+00, RT SEE NCDOT RDY STD 275.01 EST. SY

ROCK PLATING –L– STA. 47+14 TO 48+00, RT SEE NCDOT RDY STD 275.01 EST. SY

BM#3 ELEV. 2016.23' –BL– STA. 43+76.00 34' RT. SPIKE NAIL IN BASE OF 10" POPLAR

S 69° 47' 11.7" E

NC 143 (SWEETWATER RD)

SR 1127 (OLD SWEETWATER RD)

12'X9' TRIPLE BARREL CONC. BOX CULVERT

FOR –L– PROFILE, SEE SHEET NO. 21

REVISIONS 8/17/99

25-MAR-2022 17:02
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PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	9

RW SHEET NO.

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

NAD 83/2011

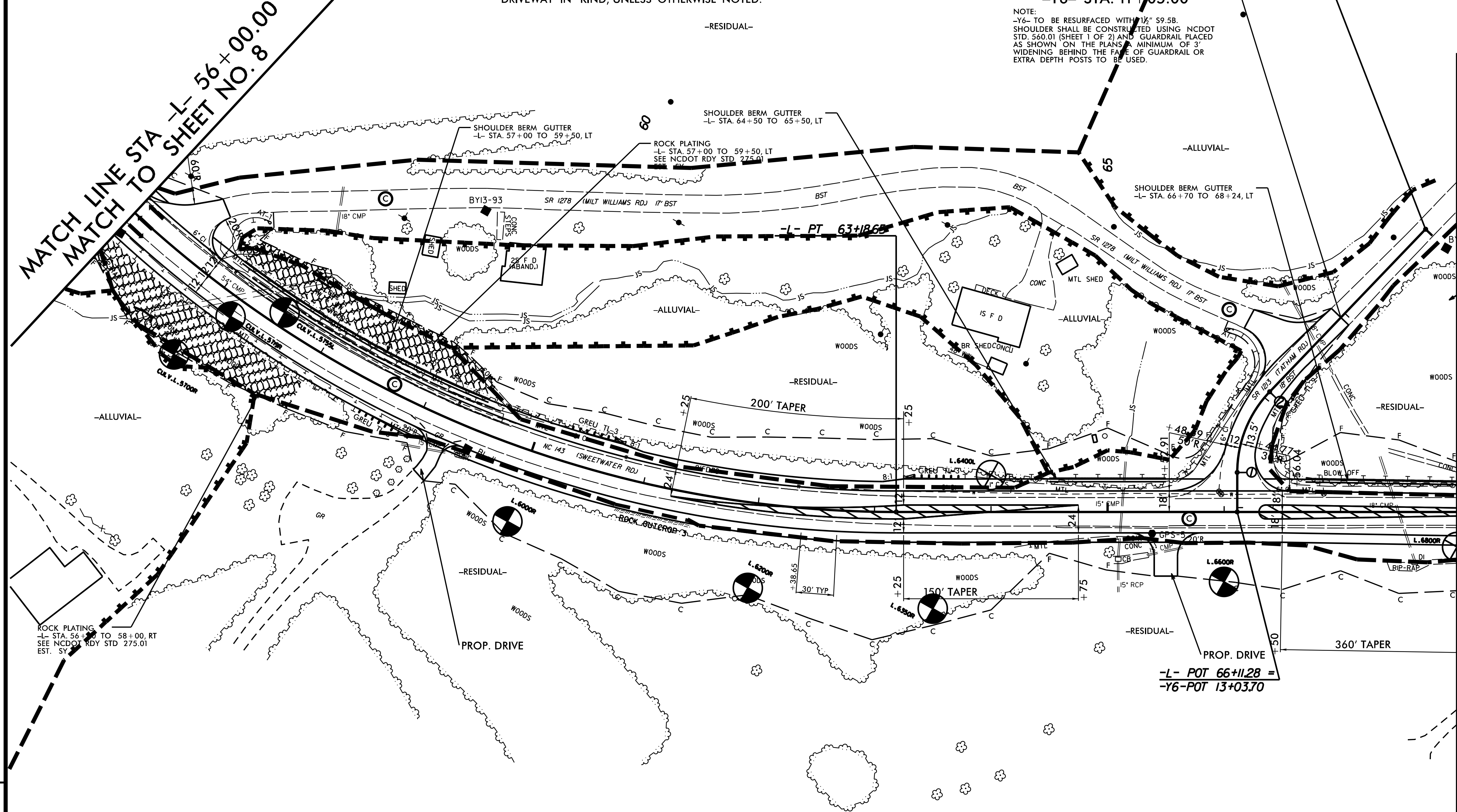
-L- CURVE DATA

PI Sta 59+31.02
Δ = 49° 37' 23.2" (LT)
D = 5° 58' 05.9"
L = 831.44'
T = 443.82'
R = 960.00'
SE = 0.08
DS = 55 MPH

-Y3- CURVE DATA

PI Sta 12+33.55
Δ = 43° 48' 04.8" (LT)
D = 57° 17' 44.8"
L = 76.45'
T = 40.20'
R = 100.00'
① -Y3- PC 12+93.35
② -Y3- PT 11+69.80
(B1) S 29° 24' 34.8" E

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED. END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.


MATCH LINE STA -L- 56+00.00
MATCH TO SHEET NO. 8
-Y6- POT 10+00.00
BEGIN CONSTRUCTION
-Y6- STA. 11+05.00
NOTE:
-Y6- TO BE RESURFACED WITH 1½" S9.5B.
SHOULDER SHALL BE CONSTRUCTED USING NCDOT STD. 560.01 (SHEET 1 OF 2) AND GUARDRAIL PLACED AS SHOWN ON THE PLANS. A MINIMUM OF 3' WIDENING BEHIND THE FACE OF GUARDRAIL OR EXTRA DEPTH POSTS TO BE USED.
-RESIDUAL-
-ALLUVIAL-
SHOULDER BERM GUTTER
-L- STA. 57+00 TO 59+50, LT
ROCK PLATING
-L- STA. 57+00 TO 59+50, LT
SEE NCDOT RDY STD 275.01
SHOULDER BERM GUTTER
-L- STA. 64+50 TO 65+50, LT
SHOULDER BERM GUTTER
-L- STA. 66+70 TO 68+24, LT
-L- PT 63+18.65
SR 1278 (MILT WILLIAMS RD) 17' BST
BILLY K. ANDERSON
DB 149 PG 543
MATCH LINE STA -L- 68+00.00
MATCH TO SHEET NO. 10
200' TAPER
150' TAPER
360' TAPER
30' TYP
NC 143 (SWEETWATER RD)
SR 1213 (TATHAM RD)
PROP. DRIVE
PROP. DRIVE
-L- POT 66+11.28 =
-Y6-POT 13+03.70
ROCK PLATING
-L- STA. 56+00 TO 58+00, RT
SEE NCDOT RDY STD 275.01
EST. SY
WOODS
L.6400L
L.6000R
L.6200R
L.6350R
L.6600R
L.6800R

(A) -ARTIFICIAL FILL-
(B) -ALLUVIAL-
(C) -ROADWAY EMBANKMENT-
(D) -RESIDUAL-

FOR -L- PROFILE, SEE SHEET NO. 22

REVISIONS

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED. END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.

-L- CURVE DATA
PI Sta 78+21.51
Δ = 38° 02' 00.5" (RT)
D = 4° 46' 28.7"
L = 796.57'
T = 413.59'
R = 1,200.00'
SE = 0.08
DS = 60 MPH

NAD 83/2011

MATCH LINE STA -L- 68+00.00
MATCH TO SHEET NO. 9

MATCH LINE STA -L- 82+00.00
MATCH TO SHEET NO. 11

PROP. DRIVE
SHOULDER BERM GUTTER -L- STA. 66+70 TO 68+24, LT
SHOULDER BERM GUTTER -L- STA. 71+38 TO 72+50, LT
SHOULDER BERM GUTTER -L- STA. 71+38 TO 72+44, RT
SHOULDER BERM GUTTER -L- STA. 79+00 TO 81+40, RT
360' TAPER
720' TAPER
-RESIDUAL-
WOODS
GRASS
W/LT
MTL SHED
WD DECK
MTL GARAGE
IS F&BR D
DRAIN FIELD
SEPTIC TANK
OIL CHANGE PIT
IS F&MTL BUS
NC 143 (SWEETWATER RD)
24' BST
GREU TL-3
ROCK OUTCROP 4
BM#4 ELEV. 2108.41'
-BL- STA. 67+90.00 50' RT.
SPIKE NAIL IN BASE OF 14" PINE
-L- PC 74+07.92
SR 1979 (GEORGE MILLSAPS RD)
BY15-95
FOR -L- PROFILE, SEE SHEET NO. 22

(A) -ARTIFICIAL FILL-
(B) -ALLUVIAL-
(C) -ROADWAY EMBANKMENT-
(D) -RESIDUAL-

REVISIONS 8/17/99

25-MAR-2022 17:02
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$$$$USERNAME$$$$

-L- CURVE DATA
PI Sta 78+21.51
Δ = 38° 02' 00.5" (RT)
D = 4° 46' 28.7"
L = 796.57'
T = 413.59'
R = 1,200.00'
SE = 0.08
DS = 60 MPH

-L- CURVE DATA
PI Sta 98+90.11
Δ = 65° 35' 01.6" (LT)
D = 5° 58' 05.9"
L = 1,098.87'
T = 618.49'
R = 960.00'
SE = 0.08
DS = 55 MPH

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED.
END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.

NAD 83/2011

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	11
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

REVISIONS 8/17/99

25-MAR-2022 17:02
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$$$$USERNAME$$$$

MATCH LINE STA -L- 82+00.00
MATCH TO SHEET NO. 10

MATCH LINE STA -L- 96+00.00
MATCH TO SHEET NO. 12

-L- PT 82+04.49

-L- PC 92+71.62

720' TAPER

720' TAPER

PROP. DRIVE

PROP. DRIVE

PROP. DRIVE

EXPRESSWAY GUTTER
-L- 89+60 TO 91+60, LT

SHOULDER BERM GUTTER
-L- STA. 88+50 TO 91+16, RT

S 81° 22' 34.3" E

NC 1143 (SWEETWATER RD)

SR 1279 (GEORGE MILLSAPS RD)

IS F&MTL BUS

IS F&MTL SHED

IS F&BR CHURCH

IS F D

-RESIDUAL-

-ARTIFICIAL FILL-

-ALLUVIAL-
(STREAM TERRACE)

BY16-96

BY16-97

BY16-98

BM#5 ELEV. 2132.48'
-BL- STA. 90+59.00 66' RT.
SPIKE NAIL IN BASE OF 15" DBL. OAK

(A) -ARTIFICIAL FILL-
(B) -ALLUVIAL-
(C) -ROADWAY EMBANKMENT-
(D) -RESIDUAL-

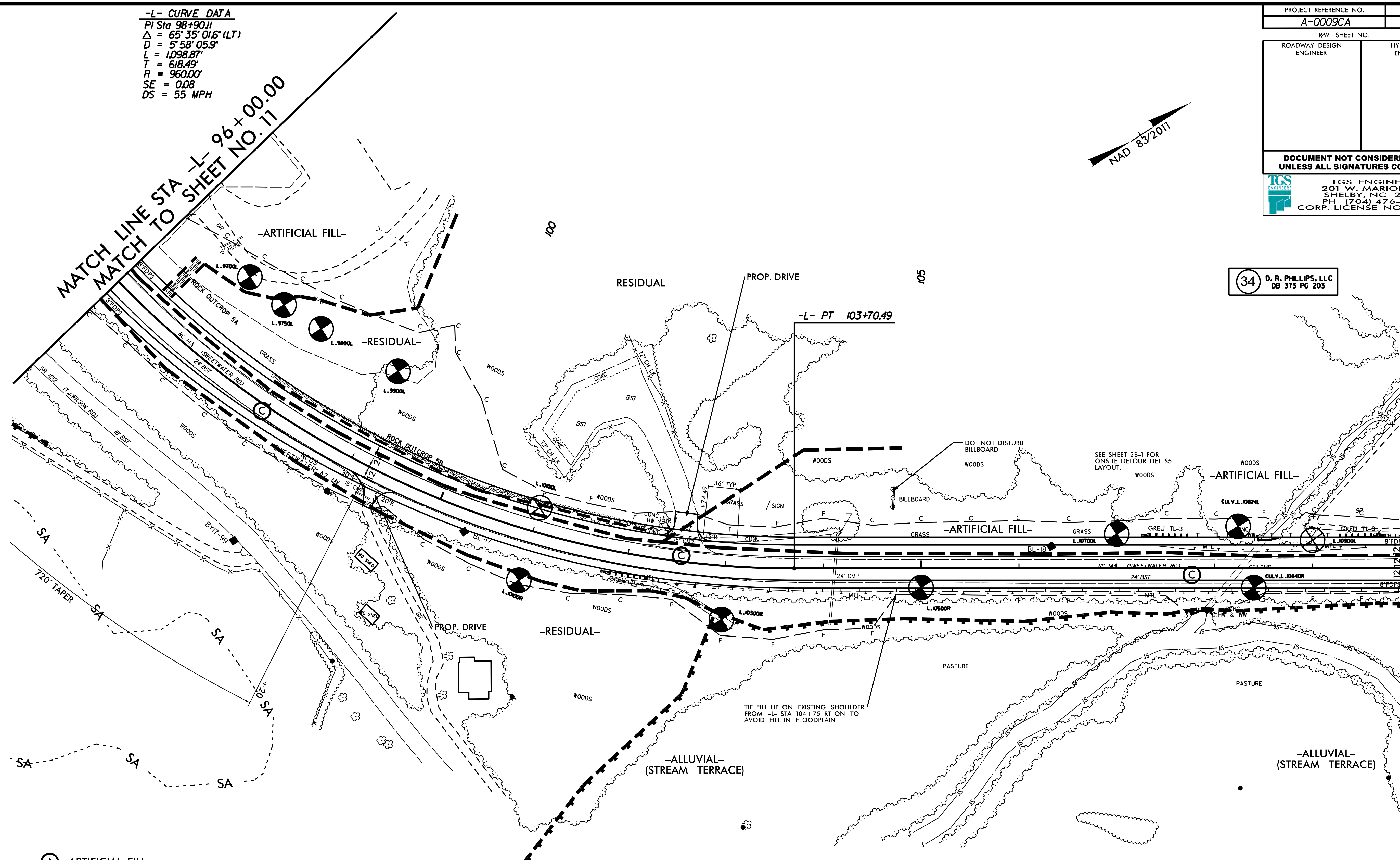
FOR -L- PROFILE, SEE SHEET NO. 23

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	12
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

-L- CURVE DATA
PI Sta 98+90.11
Δ = 65° 35' 01.6" (LT)
D = 5° 58' 05.9"
L = 1,098.87'
T = 618.49'
R = 960.00'
SE = 0.08
DS = 55 MPH


MATCH LINE STA -L- 96+00.00
MATCH TO SHEET NO. 11
-ARTIFICIAL FILL-
-RESIDUAL-
ROCK OUTCROP 5A
ROCK OUTCROP 5B
NC 143 (SWEETWATER RD)
24' BST
SR 1212 (T. WILSON RD)
18' BST
PROP. DRIVE
-L- PT 103+70.49
36' TYP
DO NOT DISTURB BILLBOARD
BILLBOARD
SEE SHEET 2B-1 FOR ONSITE DETOUR DET 5S LAYOUT.
-ARTIFICIAL FILL-
GREU TL-3
BL-17
BL-18
24" CMP
720' TAPER
PASTURE
TIE FILL UP ON EXISTING SHOULDER FROM -L- STA 104+75 RT ON TO AVOID FILL IN FLOODPLAIN
-ALLUVIAL-
(STREAM TERRACE)
34 D. R. PHILLIPS, LLC DB 373 PG 203
NAD 83/2011
MATCH LINE STA -L- 110+00.00
MATCH TO SHEET NO. 13
100
105
WOODS
GRASS
SA

Ⓐ -ARTIFICIAL FILL-
Ⓑ -ALLUVIAL-
Ⓒ -ROADWAY EMBANKMENT-
Ⓓ -RESIDUAL-

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED. END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.

SEE SHEET 2B-1 FOR ONSITE DETOUR DET 5S

---- SA ---- ELIGIBLE AND UNASSESSED SITES

FOR -L- PROFILE, SEE SHEET NO. 23

REVISIONS

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

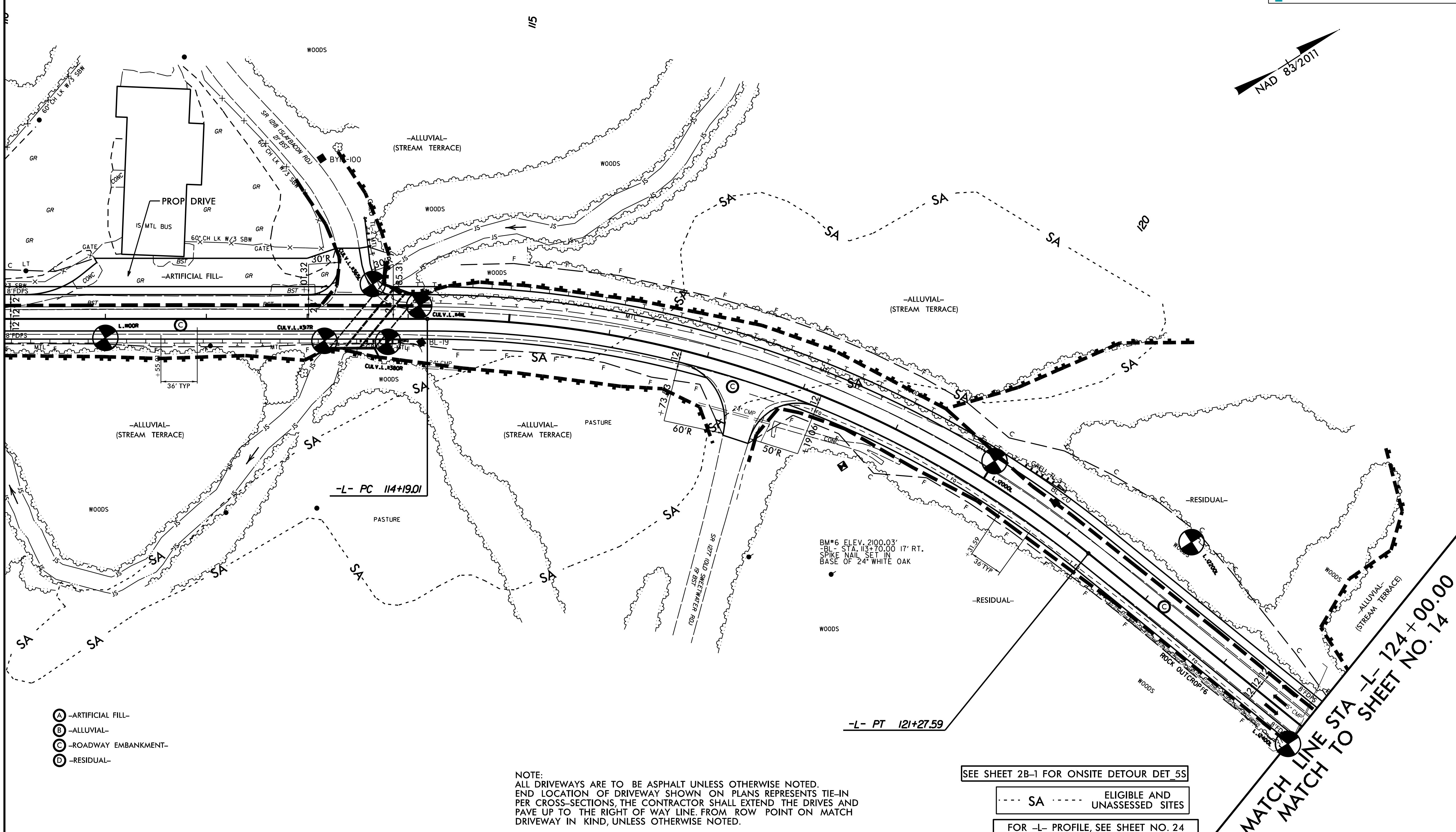
TGS ENGINEERS
201 W. MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

REVISIONS

8/17/99

-L- CURVE DATA
PI Sta 117+87.67
Δ = 39° 02' 13.1" (RT)
D = 5° 30' 33.2"
L = 708.58'
T = 368.66'
R = 1,040.00'
SE = 0.08
DS = 55 MPH

MATCH LINE STA -L- 110+00.00
MATCH TO SHEET NO. 12



MATCH LINE STA -L- 124+00.00
MATCH TO SHEET NO. 14

Ⓐ -ARTIFICIAL FILL-
Ⓑ -ALLUVIAL-
Ⓒ -ROADWAY EMBANKMENT-
Ⓓ -RESIDUAL-

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED.
END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.

SEE SHEET 2B-1 FOR ONSITE DETOUR DET_5S

---- SA ---- ELIGIBLE AND UNASSESSED SITES

FOR -L- PROFILE, SEE SHEET NO. 24

25-MAR-2022 17:02
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PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	14
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

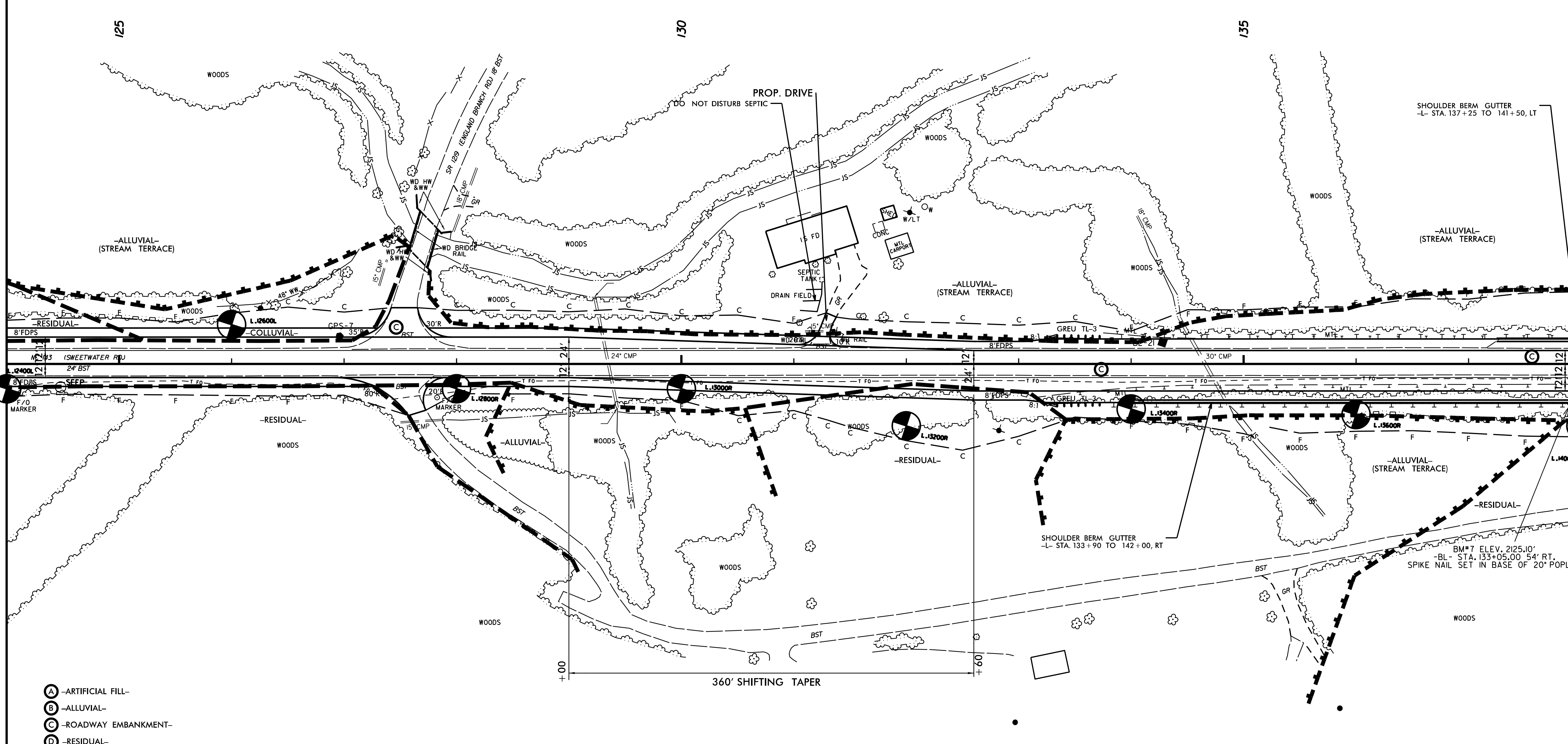
TGS ENGINEERS
201 W. MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED. END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.

NAD 83/2011

MATCH LINE STA -L- 124+00.00
MATCH TO SHEET NO. 13

MATCH LINE STA -L- 138+00.00
MATCH TO SHEET NO. 15



Ⓐ -ARTIFICIAL FILL-
Ⓑ -ALLUVIAL-
Ⓒ -ROADWAY EMBANKMENT-
Ⓓ -RESIDUAL-

FOR -L- PROFILE, SEE SHEET NO. 24

REVISIONS

8/17/99

25-MAR-2022 17:02
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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	15
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

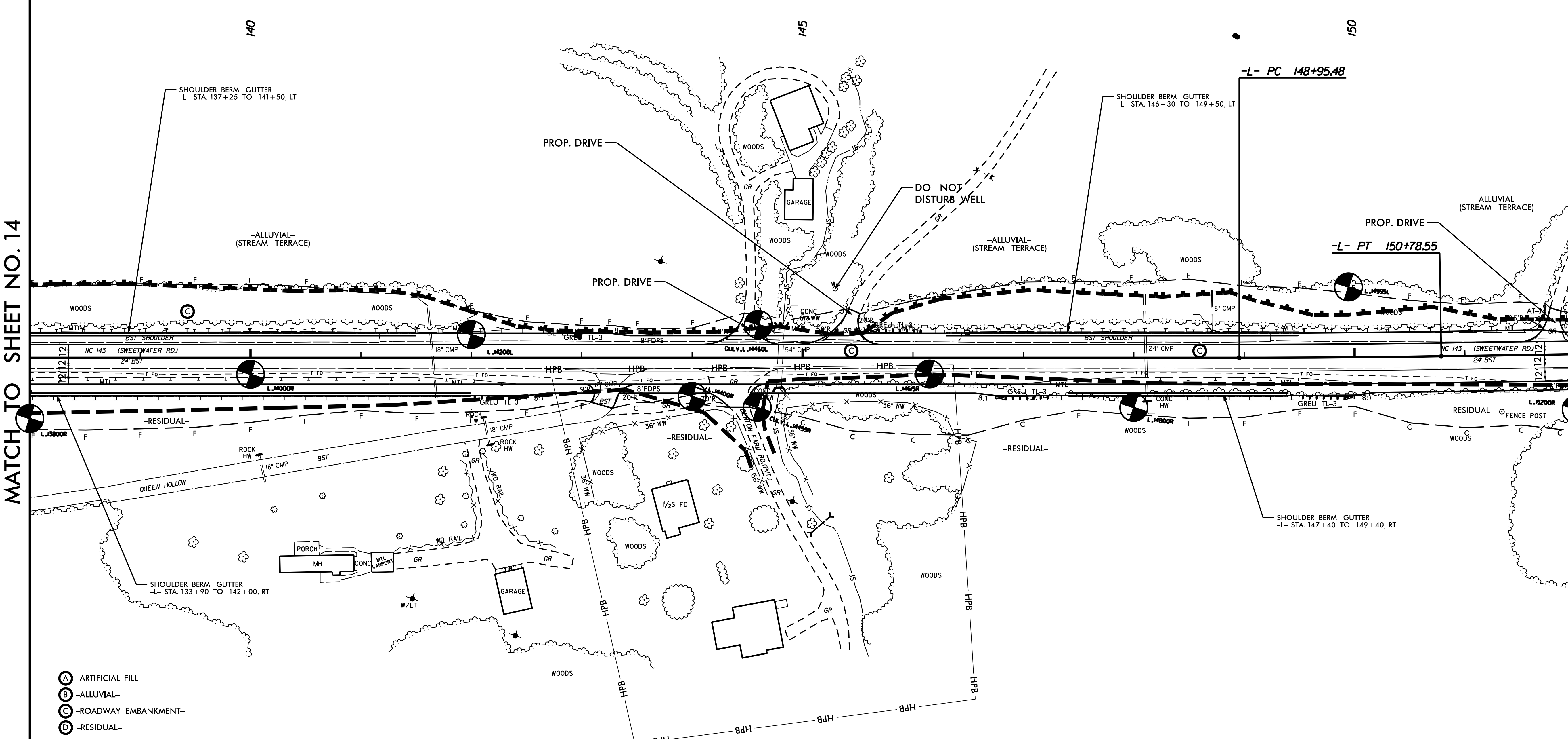
-L- CURVE DATA
PI Sta 149+87.02
Δ = 0° 52' 26.7" (LT)
D = 0° 28' 38.9"
L = 183.07'
T = 91.54'
R = 12,000.00'
SE = NC
DS = 60 MPH

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED.
END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.

NAD 83/2011

REVISIONS

MATCH LINE STA -L- 138+00.00
MATCH TO SHEET NO. 14



MATCH LINE STA -L- 152+00.00
MATCH TO SHEET NO. 16

Ⓐ -ARTIFICIAL FILL-
Ⓑ -ALLUVIAL-
Ⓒ -ROADWAY EMBANKMENT-
Ⓓ -RESIDUAL-

FOR -L- PROFILE, SEE SHEET NO. 25

8/17/99
25-MAR-2022 17:02
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

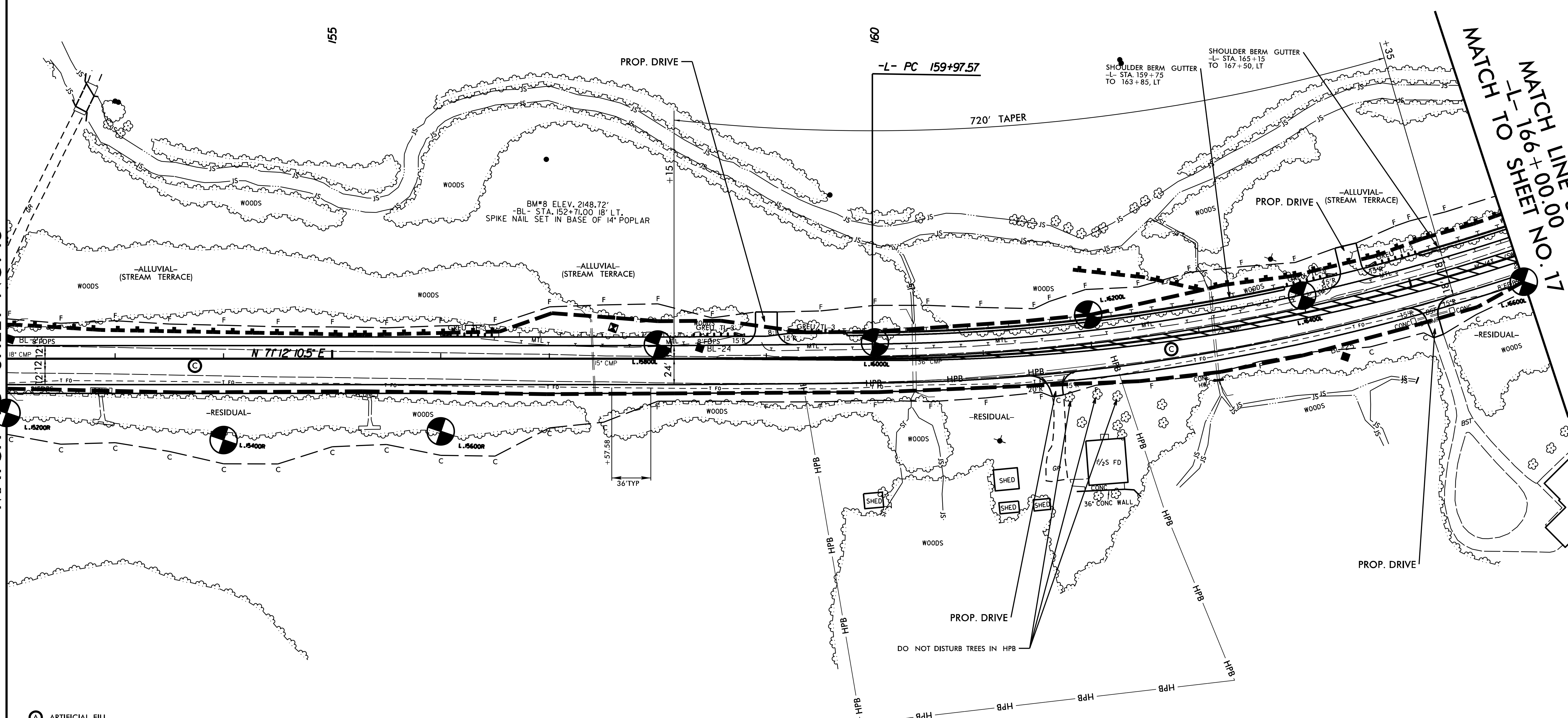
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

-L- CURVE DATA

PI Sta 166+10.36
Δ = 35° 44' 58.6" (LT)
D = 3° 00' 56.0"
L = 1,185.50'
T = 612.76'
R = 1,900.00'
SE = 0.07
DS = 60 MPH

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED.
END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.



Ⓐ -ARTIFICIAL FILL-
Ⓑ -ALLUVIAL-
Ⓒ -ROADWAY EMBANKMENT-
Ⓓ -RESIDUAL-

FOR -L- PROFILE, SEE SHEET NO. 25

REVISIONS

8/17/99
25-MAR-2022 17:02
C:\Users\...\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\PlanProf\A-0009CA_Rdy_psh_16.dgn

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	17
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

-L- CURVE DATA

PI Sta 166+10.36
Δ = 35° 44' 58.6" (LT)
D = 3° 00' 56.0"
L = 1,185.50'
T = 612.76'
R = 1,900.00'
SE = 0.07
DS = 60 MPH

-DRI- CURVE DATA

PI Sta 10+41.97	PI Sta 11+53.03
Δ = 48° 49' 47.4" (RT)	Δ = 62° 08' 27.9" (LT)
D = 190° 59' 09.4"	D = 190° 59' 09.4"
L = 25.57'	L = 32.54'
T = 13.62'	T = 18.08'
R = 30.00'	R = 30.00'

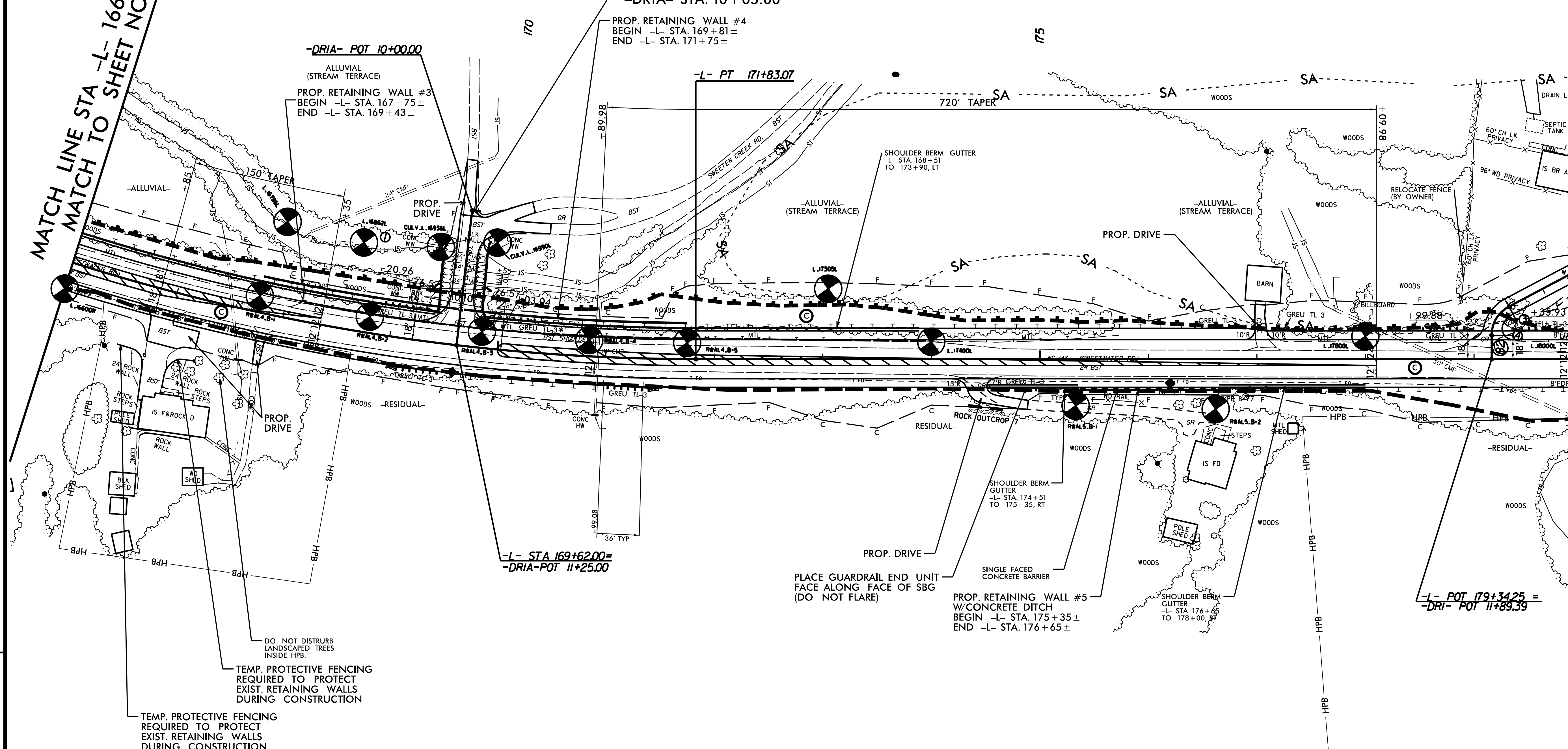
③ -DRI- PC 11+34.96
④ -DRI- PT 11+67.50

NAD 83/2011

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED.
END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.

*[1] PLACE GUARDRAIL END UNIT FACE ALONG FACE OF SBG (DO NOT FLARE)

BEGIN CONSTRUCTION
-DR1A- STA. 10+05.00


MATCH LINE STA -L- 166+00.00
MATCH TO SHEET NO. 16
MATCH LINE STA -L- 180+00.00
MATCH TO SHEET NO. 18
-DRIA- POT 10+00.00
-ALLUVIAL-
(STREAM TERRACE)
PROP. RETAINING WALL #3
BEGIN -L- STA. 167+75±
END -L- STA. 169+43±
PROP. RETAINING WALL #4
BEGIN -L- STA. 169+81±
END -L- STA. 171+75±
-L- PT 171+83.07
720' TAPER
150' TAPER
SWEETEN CREEK RD.
SHOULDER BERM GUTTER
-L- STA. 168+51
TO 173+90, LT
PROP. DRIVE
-L- STA 169+62.00=
-DRIA-POT 11+25.00
36' TYP
DO NOT DISTURB LANDSCAPED TREES INSIDE HPB.
TEMP. PROTECTIVE FENCING REQUIRED TO PROTECT EXIST. RETAINING WALLS DURING CONSTRUCTION
TEMP. PROTECTIVE FENCING REQUIRED TO PROTECT EXIST. RETAINING WALLS DURING CONSTRUCTION
PLACE GUARDRAIL END UNIT FACE ALONG FACE OF SBG (DO NOT FLARE)
SHOULDER BERM GUTTER
-L- STA. 174+51
TO 175+35, RT
SINGLE FACED CONCRETE BARRIER
PROP. RETAINING WALL #5
W/CONCRETE DITCH
BEGIN -L- STA. 175+35±
END -L- STA. 176+65±
SHOULDER BERM GUTTER
-L- STA. 176+65
TO 178+00, RT
-L- POT 179+34.25 =
-DRI- POT 11+89.39
RELOCATE FENCE (BY OWNER)
BARN
IS FD
POLE SHED
IS BR APTS
SEPTIC TANK
DRAIN LINES
ROCK OUTCROP
-RESIDUAL-
WOODS
HPB
SA

Ⓐ -ARTIFICIAL FILL-
Ⓑ -ALLUVIAL-
Ⓒ -ROADWAY EMBANKMENT-
Ⓓ -RESIDUAL-

- - - SA - - - -	ELIGIBLE AND UNASSESSED SITES

FOR -L- PROFILE, SEE SHEET NO. 26
FOR -DR1A- PROFILE, SEE SHEET NO. 28
FOR -DR1- PROFILE, SEE SHEET NO. 28

REVISIONS

8/17/99

25-MAR-2022 17:02
C:\Users\...\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74, TGS\A-0009CA\CADD_GEOTECH\PlanProf\A-0009CA_Rdy_psh_17.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED.
END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS. THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.

-L- CURVE DATA
PI Sta 190+83.76
Δ = 42° 18' 27.4" (RT)
D = 3° 57' 05.2"
L = 1,070.69'
T = 561.07'
R = 1,450.00'
SE = 0.08
DS = 60 MPH

-DRI- CURVE DATA
PI Sta 10+41.97
Δ = 48° 49' 47.4" (RT)
D = 190° 59' 09.4"
L = 25.57'
T = 13.62'
R = 30.00'
Ⓢ -DRI- PC 10+28.35
Ⓒ -DRI- PT 10+53.92

-DRI- POT 10+00.00

BEGIN CONSTRUCTION
-DRI- STA. 10+20.00

RICHARD C. GRINDSTAFF
DB 366 PG 462

51 MELANIE O. CRUSE
DB 373 PG 105

NAD 83/2011

MATCH LINE STA -L- 180+00.00
MATCH TO SHEET NO. 17

MATCH LINE STA -L- 194+00.00
MATCH TO SHEET NO. 19

-L- PC 185+22.66

PROP. RETAINING WALL #6
BEGIN -L- STA. 186+75±
END -L- STA. 192+05±

BM#9 ELEV. 2183.22'
-BL- STA. 175+70.00 51' RT.
SPIKE NAIL SET IN BASE OF 30" MAPLE

Ⓐ -ARTIFICIAL FILL-
Ⓑ -ALLUVIAL-
Ⓒ -ROADWAY EMBANKMENT-
Ⓓ -RESIDUAL-

SEE SHEET 2B-2 FOR ONSITE DETOUR DET_8S

SA ELIGIBLE AND UNASSESSED SITES

FOR -L- PROFILE, SEE SHEET NO. 26

FOR -DRI- PROFILE, SEE SHEET NO. 28

REVISIONS 8/17/99

25-MAR-2022 17:02
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$$$$USERNAME$$$$

8/17/99

REVISIONS

-L- CURVE DATA

PI Sta 190+83.76
Δ = 42° 18' 27.4" (RT)
D = 3° 57' 05.2"
L = 1,070.69'
T = 561.07'
R = 1,450.00'
SE = 0.08
DS = 60 MPH

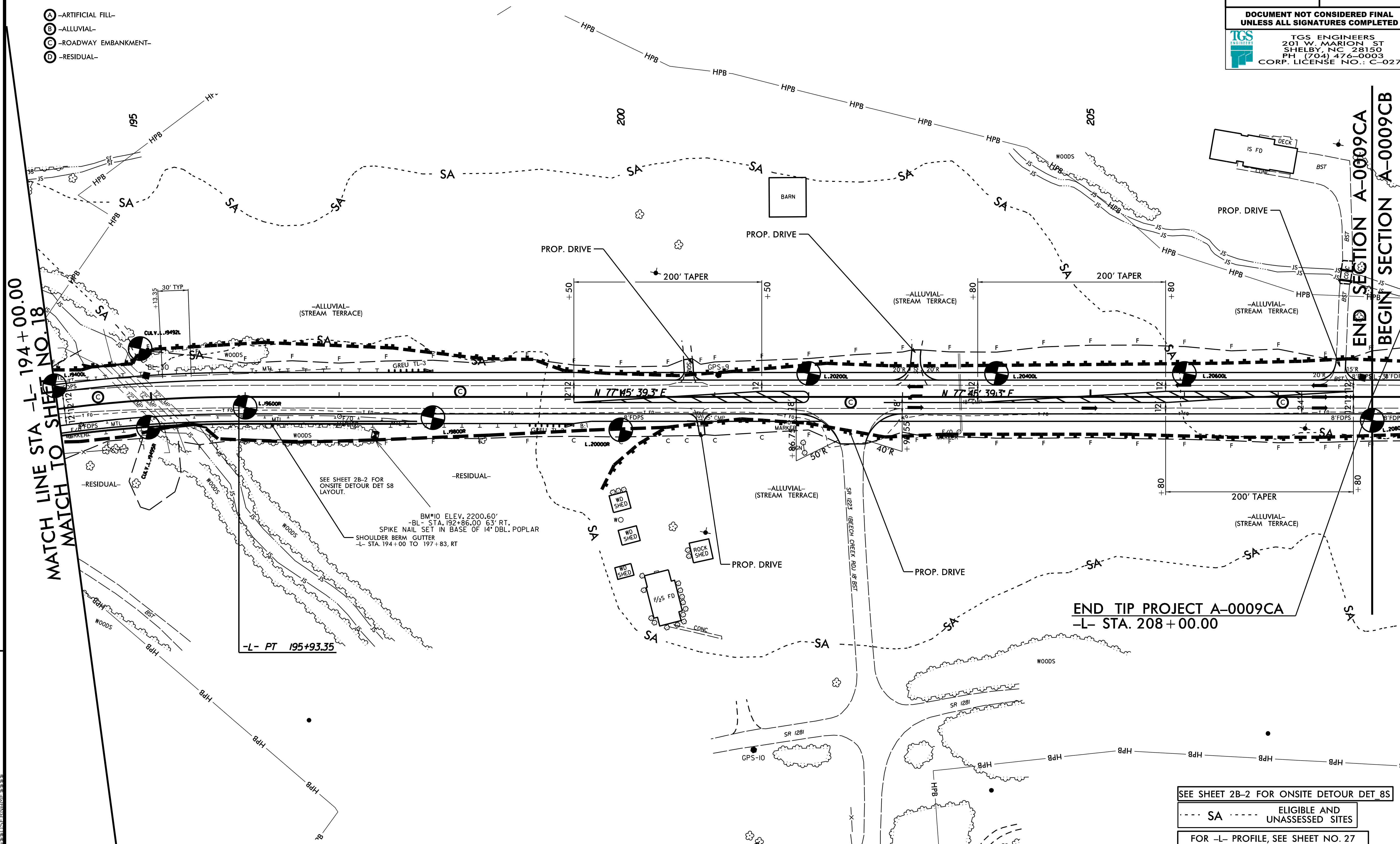
(A) -ARTIFICIAL FILL-
(B) -ALLUVIAL-
(C) -ROADWAY EMBANKMENT-
(D) -RESIDUAL-

NOTE:
ALL DRIVEWAYS ARE TO BE ASPHALT UNLESS OTHERWISE NOTED.
END LOCATION OF DRIVEWAY SHOWN ON PLANS REPRESENTS TIE-IN PER CROSS-SECTIONS, THE CONTRACTOR SHALL EXTEND THE DRIVES AND PAVE UP TO THE RIGHT OF WAY LINE. FROM ROW POINT ON MATCH DRIVEWAY IN KIND, UNLESS OTHERWISE NOTED.

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	19
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

TGS ENGINEERS
201 W. MARION ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275



SEE SHEET 2B-2 FOR ONSITE DETOUR DET 8S

- - - SA - - - ELIGIBLE AND UNASSESSED SITES

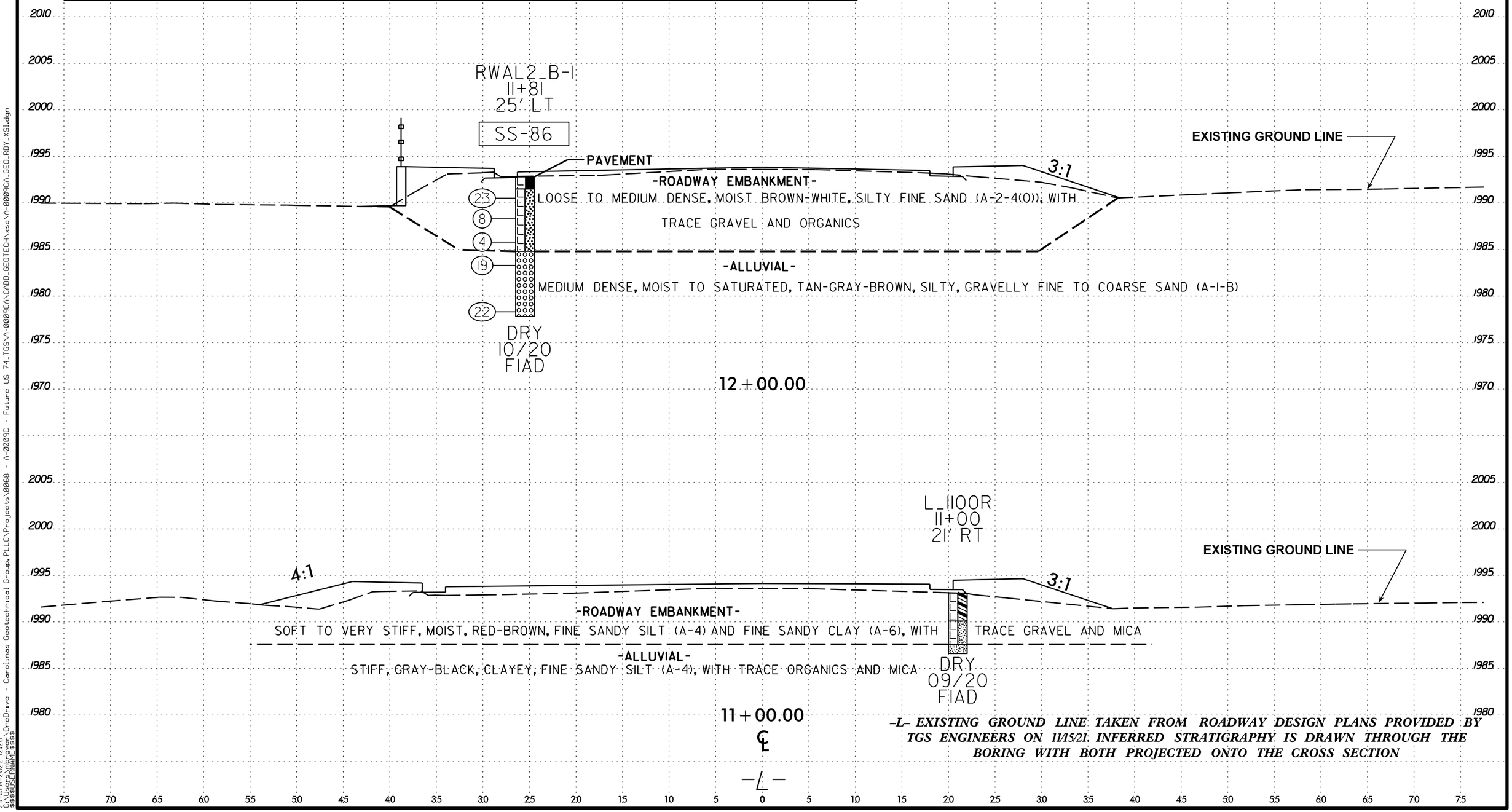
FOR -L- PROFILE, SEE SHEET NO. 27

25-MAR-2022 17:02
C:\Users\...\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\PlanProf\A-0009CA_Rdy_psh_19.dgn
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	20

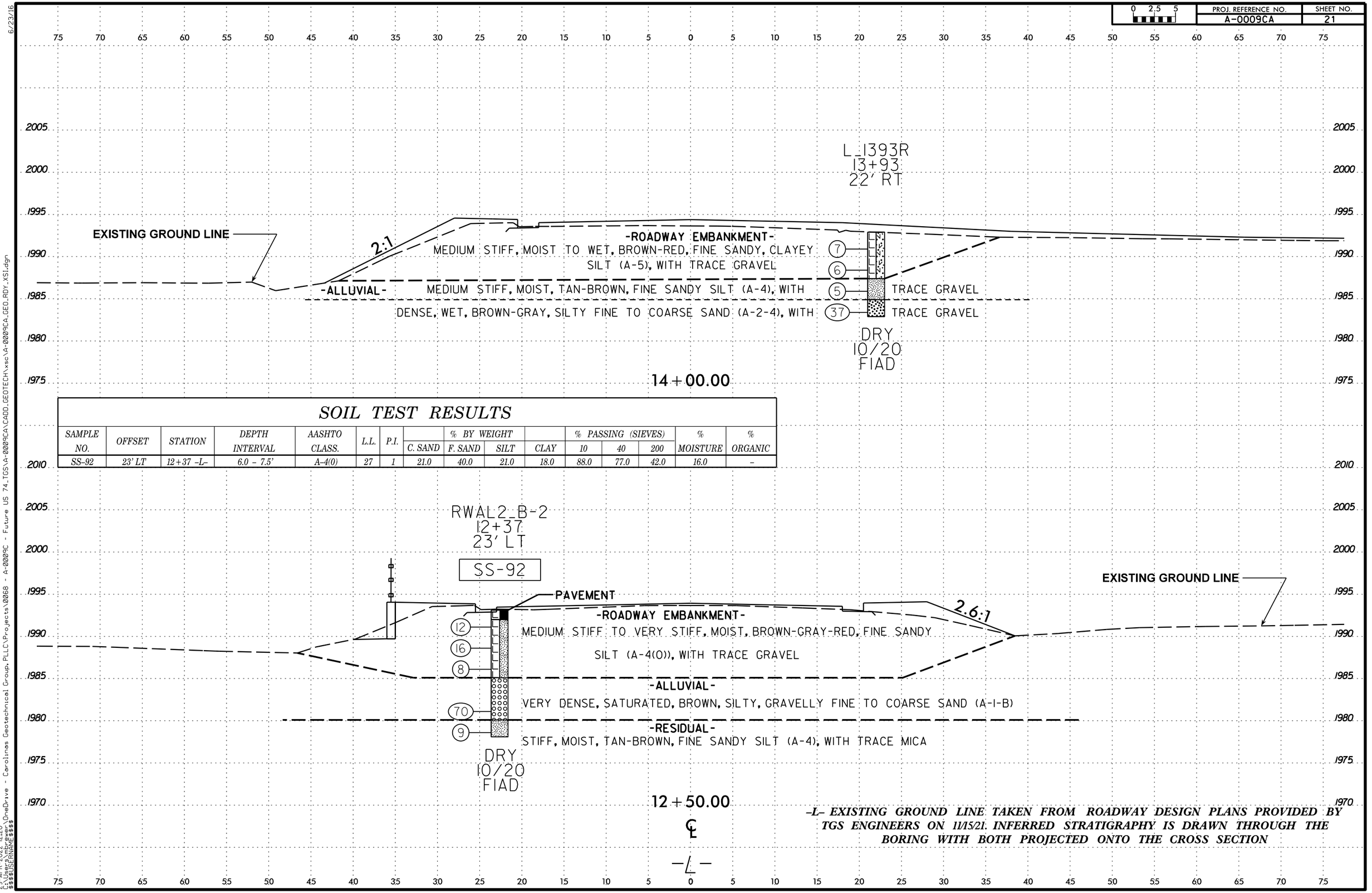
SOIL TEST RESULTS

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
SS-86	25' LT	11+81 -L-	3.5 - 5.0'	A-2-4(0)	27	1	25.0	49.0	14.0	12.0	95.0	82.0	34.0	11.0	-



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	21



SOIL TEST RESULTS

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		
SS-92	23' LT	12+37 -L-	6.0 - 7.5'	A-4(0)	27	1	21.0	40.0	21.0	18.0	88.0	77.0	42.0	16.0	-

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	22

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2005
2000
1995
1990
1985
1980
1975
1970
1965

L_1494R
14+94
59' RT

EXISTING GROUND LINE

2:1

4:1

-ROADWAY EMBANKMENT-
MEDIUM STIFF, MOIST TO WET, BROWN-RED, FINE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

-ARTIFICIAL FILL-
Ⓐ

-ALLUVIAL-
STIFF TO HARD, WET, BROWN, SLIGHTLY PLASTIC, SILTY, FINE SANDY CLAY (A-6) AND COARSE TO FINE SANDY SILT (A-4), WITH TRACE ORGANICS AND TRACE

SUBROUNDED PEA-GRAVEL
11/21

DENSE, WET, GRAY-ORANGE-BROWN, SILTY, GRAVELLY, COARSE TO FINE SAND (A-1-B)

-RESIDUAL-
MEDIUM STIFF TO STIFF, WET, BROWN-TAN-ORANGE, FINE TO COARSE SANDY SILT (A-4), WITH TRACE MICA

14
17
10
8
48
31
6
14

BT
FIAD

Ⓐ-ARTIFICIAL FILL- STIFF TO VERY STIFF, MOIST, ORANGE-BROWN, FINE SANDY SILT (A-4), WITH TRACE ORGANICS, TRACE MICA AND TRACE GRAVEL

15+00.00

℄

—L—

65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85

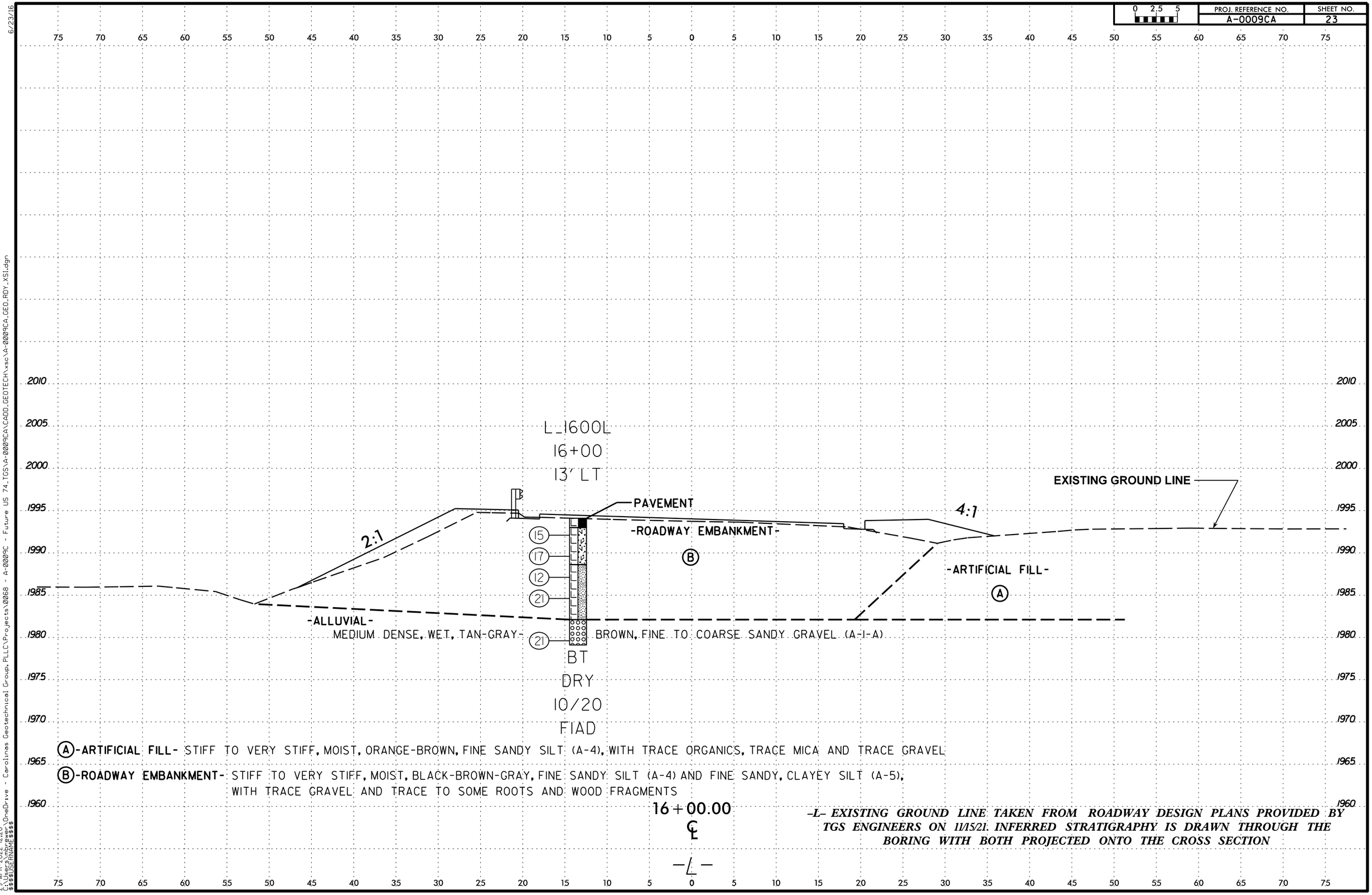
-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

C:\Users\$USERNAME$\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74 TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn
29-APR-2022 12:20
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	23

0 2.5 5



Ⓐ-**ARTIFICIAL FILL-** STIFF TO VERY STIFF, MOIST, ORANGE-BROWN, FINE SANDY SILT (A-4), WITH TRACE ORGANICS, TRACE MICA AND TRACE GRAVEL

Ⓑ-**ROADWAY EMBANKMENT-** STIFF TO VERY STIFF, MOIST, BLACK-BROWN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL AND TRACE TO SOME ROOTS AND WOOD FRAGMENTS

16+00.00
℄
—L—

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	24

L_1689R
16+89
15' RT

PAVEMENT

-ROADWAY EMBANKMENT-

2:1

1.5:1

SOFT TO STIFF, MOIST, BROWN-TAN-RED, FINE SANDY SILT (A-4) AND FINE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

(12) (12) (8) (4)

EXISTING GROUND LINE

-ALLUVIAL-

100/0.9

DENSE TO VERY DENSE, MOIST TO SATURATED, BROWN-GRAY, FINE TO COARSE GRAVEL (A-1-A), BOULDER FROM 13.5-16.0 FT

(61)

60/0.0

BT

-CRYSTALLINE ROCK-
(SCHIST)

DRY
10/20
FIAD

17+00.00
℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

29-APR-2022 12:20
C:\Users\$USERNAME$\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	25

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2010 2005 2000 1995 1990 1985 1980 1975 1970 1965 1960 1955 1950

L_177L
17+77
21' LT

EXISTING GROUND LINE

3:1

PAVEMENT

12
9
4
4

-ROADWAY EMBANKMENT-

SOFT TO STIFF, MOIST, BROWN-ORANGE-BLACK-TAN, FINE SANDY SILT (A-4)

AND FINE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

-ALLUVIAL-

8 MEDIUM STIFF, MOIST, BROWN-ORANGE-GRAY, FINE SANDY, SILTY CLAY (A-7-5)

-RESIDUAL-

19 STIFF TO HARD, WET, GRAY-BROWN-ORANGE-TAN, FINE SANDY SILT (A-4)

10/20

13
31
62

BT
FIAD

18+00.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

C:\Users\$$$$USERNAME$$$$\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn
20-APR-2022 12:20

6/23/16

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2015 2010 2005 2000 1995 1990 1985 1980

L_2100R
21+00
21' RT

EXISTING GROUND LINE

3:1

4:1

-ROADWAY EMBANKMENT-
SOFT TO MEDIUM STIFF, MOIST, RED-BROWN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL
-RESIDUAL-
SOFT TO MEDIUM STIFF, MOIST, TAN-GRAY, FINE SANDY SILT (A-4), WITH TRACE MICA

BT
DRY
9/20
FIAD

21+00.00

2010 2005 2000 1995 1990 1985 1980 1975

L_1900R
19+00
21' RT

EXISTING GROUND LINE

3:1

4:1

-ROADWAY EMBANKMENT-
MEDIUM STIFF TO VERY STIFF, MOIST, BROWN-RED-TAN, FINE SANDY, CLAYEY SILT (A-5), AND FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL

16
6
15
9

BT
DRY
10/20

19+00.00

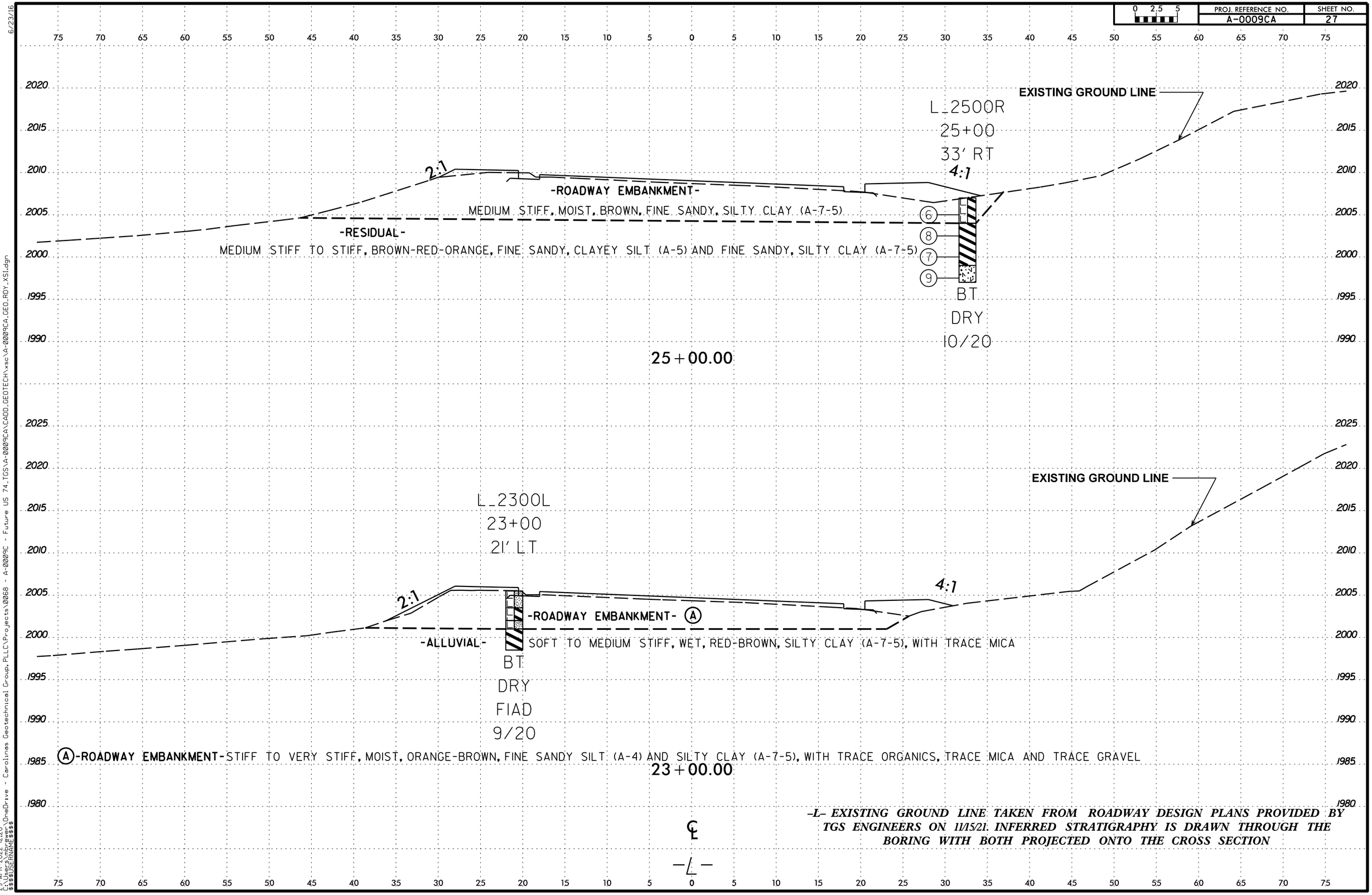
℄

—L—

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

29-APR-2022 12:20
C:\Users\$$$$USERNAME$$$$\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn

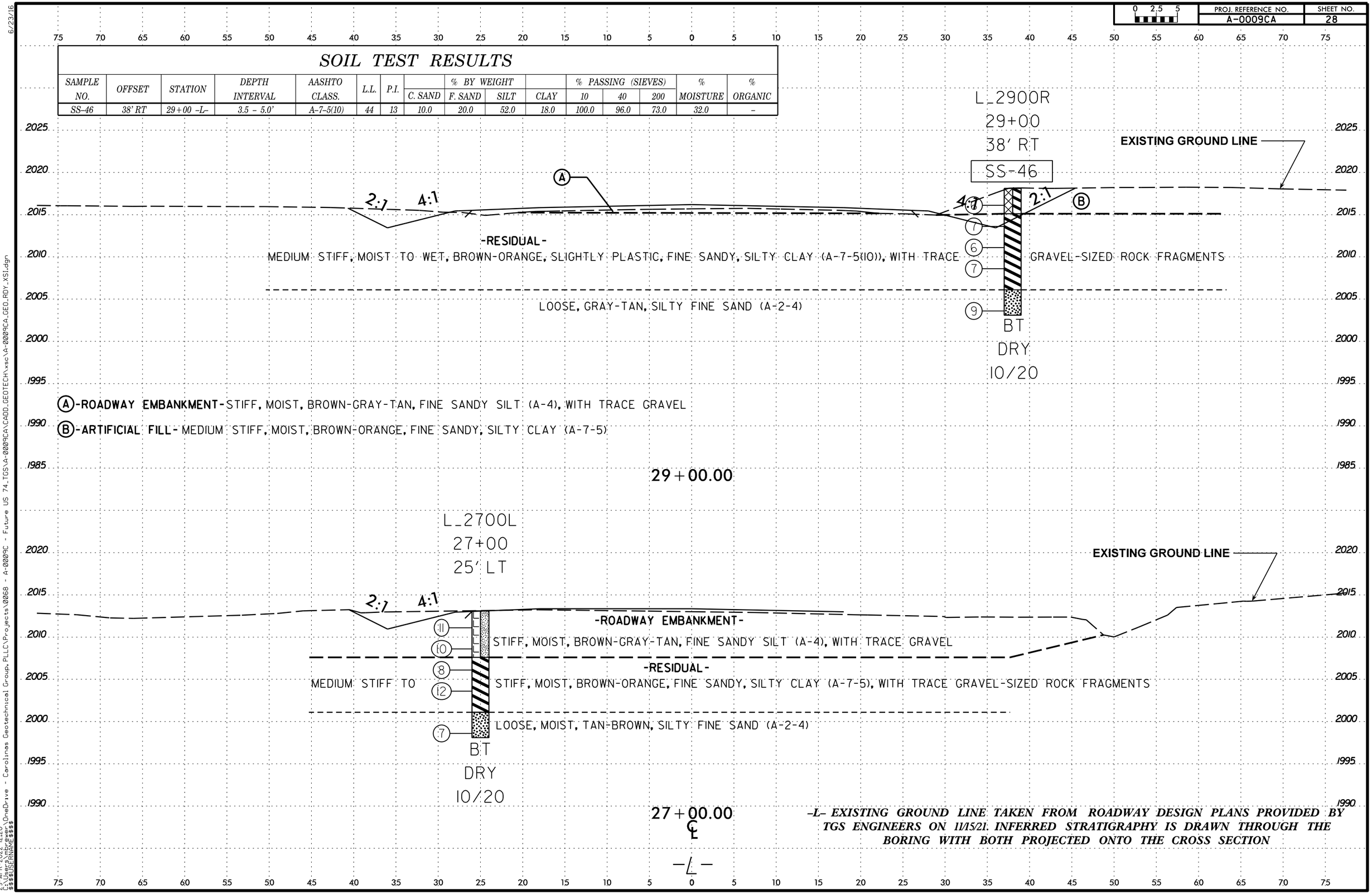


-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	28

SOIL TEST RESULTS

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		
SS-46	38' RT	29+00 -L-	3.5 - 5.0'	A-7-5(10)	44	13	10.0	20.0	52.0	18.0	100.0	96.0	73.0	32.0	-



(A)-ROADWAY EMBANKMENT- STIFF, MOIST, BROWN-GRAY-TAN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

(B)-ARTIFICIAL FILL- MEDIUM STIFF, MOIST, BROWN-ORANGE, FINE SANDY, SILTY CLAY (A-7-5)

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	29

0 2.5 5

L_3300L
33+00
12' LT

EXISTING GROUND LINE

PAVEMENT

-ROADWAY EMBANKMENT-
STIFF, MOIST, BROWN-GRAY-TAN-ORANGE-RED, FINE (A-5) AND FINE SANDY, SILTY CLAY (A-7-5),

MEDIUM STIFF TO SANDY, CLAYEY SILT WITH TRACE GRAVEL

2:1

8.4:1

13
11
7
9

-ALLUVIAL-
7 MEDIUM STIFF, MOIST, RED-ORANGE-YELLOW, FINE SANDY, CLAYEY SILT (A-5)

-RESIDUAL-
13 MEDIUM DENSE TO VERY DENSE, WET, TAN-GRAY, SILTY FINE SAND (A-2-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS
63

10/20

100/0.8

-WEATHERED ROCK-
(MICA SCHIST)

BT
FIAD

33+00.00

L_3100R
31+00
25' RT

EXISTING GROUND LINE

40:1
4:1
4:1
2:1

-ROADWAY EMBANKMENT-
SOFT TO MEDIUM STIFF, MOIST, RED-BROWN, FINE SANDY SILT (A-4)

-RESIDUAL-
LOOSE TO MEDIUM DENSE, MOIST, GRAY-WHITE-BROWN, SILTY FINE SAND (A-2-4), WITH TRACE MICA

BT
DRY
09/20

31+00.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	30

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2025 2020 2015 2010 2005 2000 1995 1990 1985 1980

EXISTING GROUND LINE

2:1

4:1

2:1

-ROADWAY EMBANKMENT-

STIFF, MOIST TO WET, BROWN-RED-GRAY, FINE SANDY, CLAYEY SILT (A-5) AND FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL

-ALLUVIAL-

VERY SOFT TO SOFT, WET, RED-BROWN-BLACK-ORANGE, FINE TO COARSE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

35+50.00

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			%	%
							C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-106	42' RT	35+00 -L-	6.0 - 7.5'	A-4(0)	29	1	10.0	46.0	28.0	16.0	86.0	82.0	51.0	18.0	-

L_3500R
35+00
42' RT

SS-106

15
44
14
19
43
67
100/0.8
100/0.9

3/21

BT
DRY

EXISTING GROUND LINE

-ROADWAY EMBANKMENT-

STIFF, MOIST, BROWN-RED-GRAY, FINE SANDY, SILTY CLAY (A-7-5) AND FINE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

-RESIDUAL-

MEDIUM DENSE TO VERY DENSE, MOIST, TAN-ORANGE-BROWN, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

-WEATHERED ROCK-
(SCHIST)

35+00.00

Ⓐ -RESIDUAL- STIFF TO VERY STIFF, MOIST, TAN-ORANGE-GRAY, FINE TO COARSE SANDY SILT (A-4(0))

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

29-APR-2022 12:20
C:\Users\$$$$USERNAME$$$$\OneDrive - Carolines Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	31

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2030 2025 2020 2015 2010 2005 2000 1995 1990 1985 1980 1975 1970

L_3600L
36+00
10' LT

EXISTING GROUND LINE

PAVEMENT

-ROADWAY EMBANKMENT-

STIFF, MOIST TO WET, BROWN-RED-GRAY, FINE SANDY, CLAYEY SILT (A-5) AND FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL

2:1

-ALLUVIAL-

CLAYEY SILT (A-5), WITH TRACE GRAVEL

VERY SOFT TO SOFT, WET, RED-BROWN-BLACK-ORANGE, FINE TO COARSE SANDY,

-RESIDUAL-
(A-4), WITH TRACE MICA

VERY STIFF, WET TO SATURATED, TAN-ORANGE, FINE SANDY SILT

11 9 9 11 2 3 1 22 29

10/20

BT
FIAD

36+00.00

℄

–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

29-APR-2022 12:20
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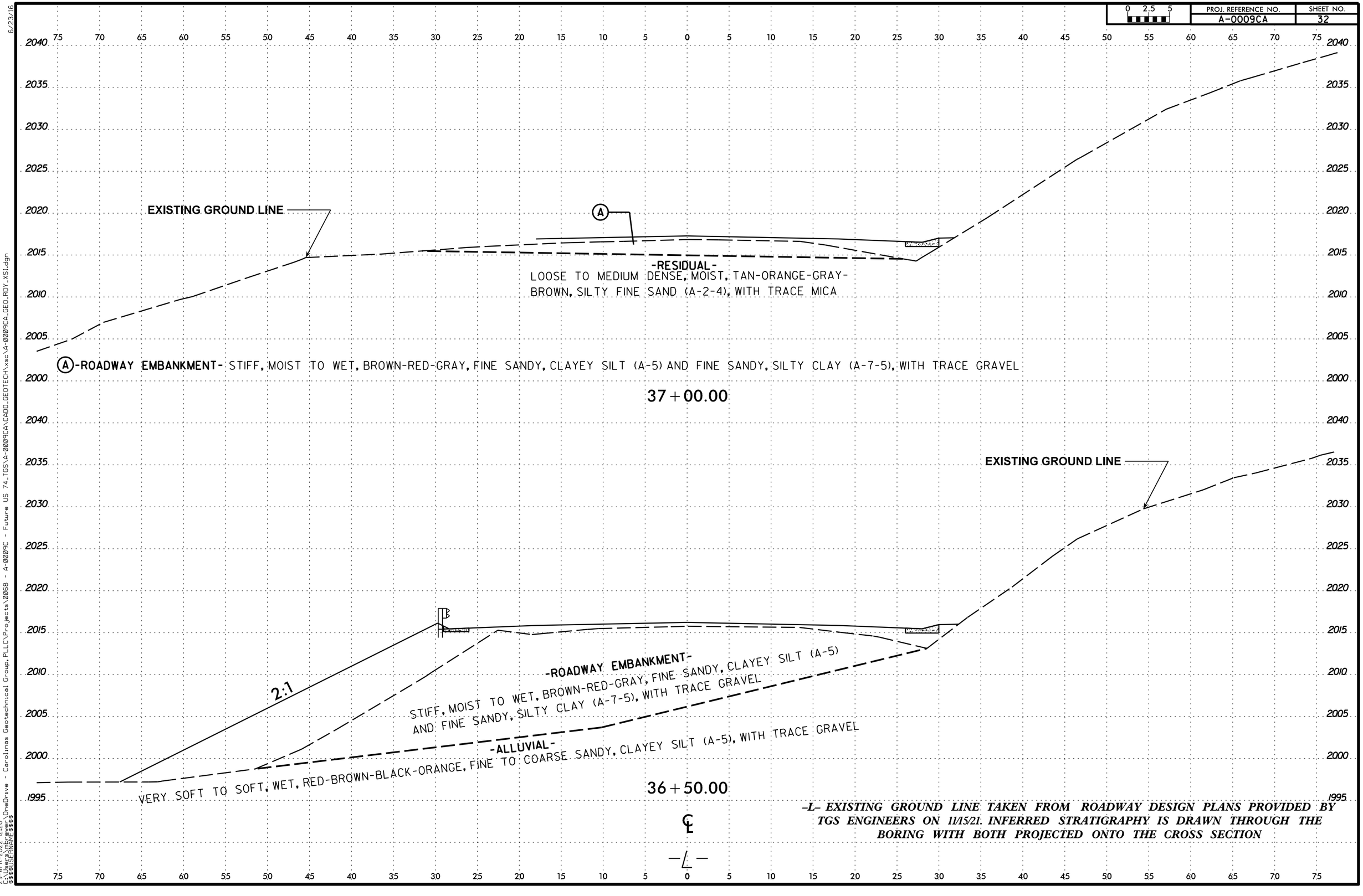
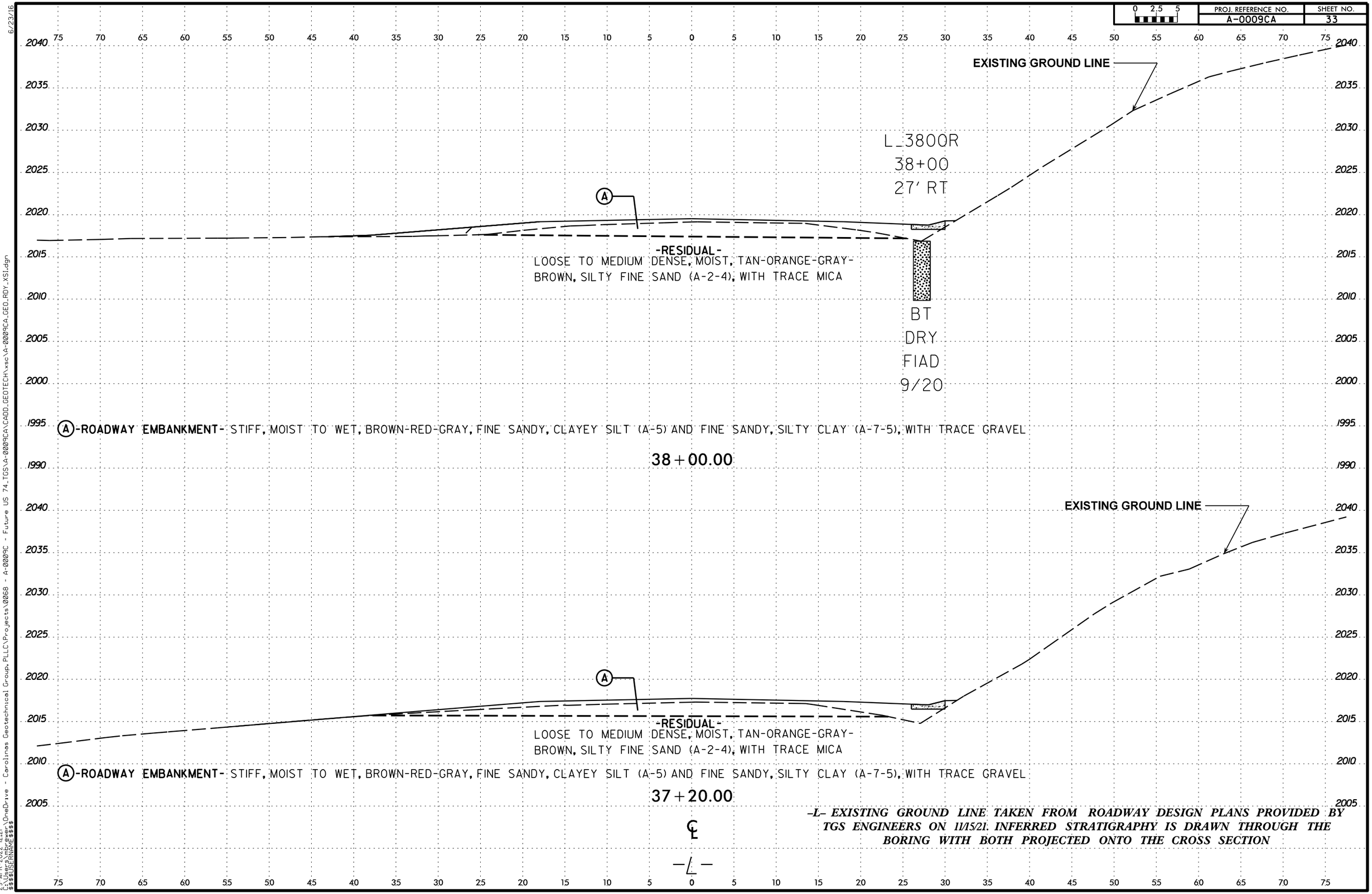


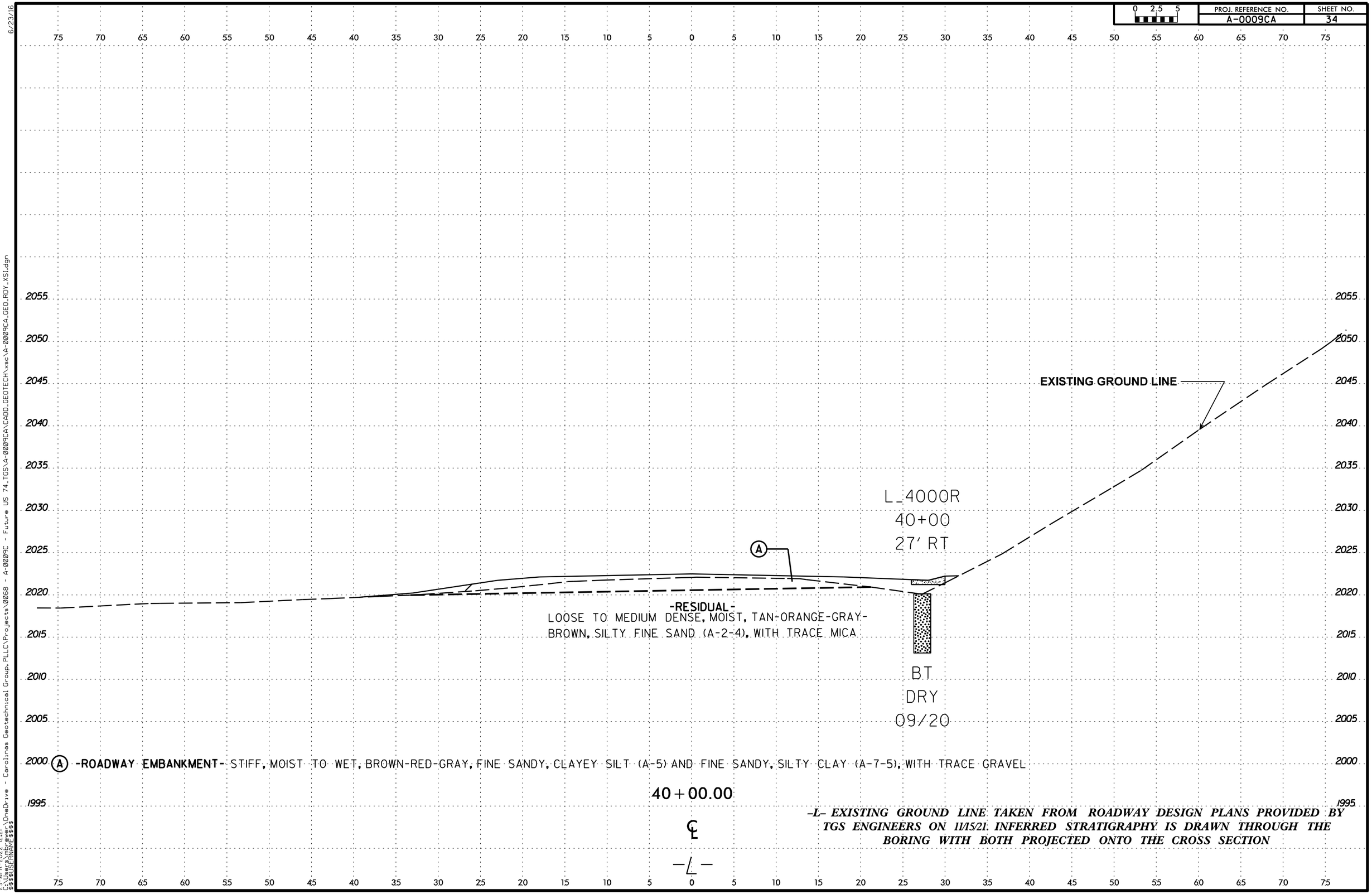
-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	33



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	34



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	35

0 2.5 5

EXISTING GROUND LINE

1.5:1

-ROADWAY EMBANKMENT-

(A)

-ALLUVIAL-

MEDIUM STIFF, MOIST, ORANGE-TAN-BROWN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

-CRYSTALLINE ROCK-
(MICA SCHIST)

(A) **-ROADWAY EMBANKMENT-** MEDIUM STIFF TO VERY STIFF, MOIST, TAN-ORANGE-BROWN, SLIGHTLY PLASTIC, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

42+50.00

EXISTING GROUND LINE

L_4200L
42+00
25' LT

2:1

(A)

-ARTIFICIAL FILL-

SOFT TO MEDIUM STIFF, MOIST TO WET, RED-BROWN, FINE SANDY SILT (A-4)
AND FINE SANDY CLAY (A-6), WITH TRACE ORGANICS AND GRAVEL

BT
DRY
FIAD
09/20

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

42+00.00
℄

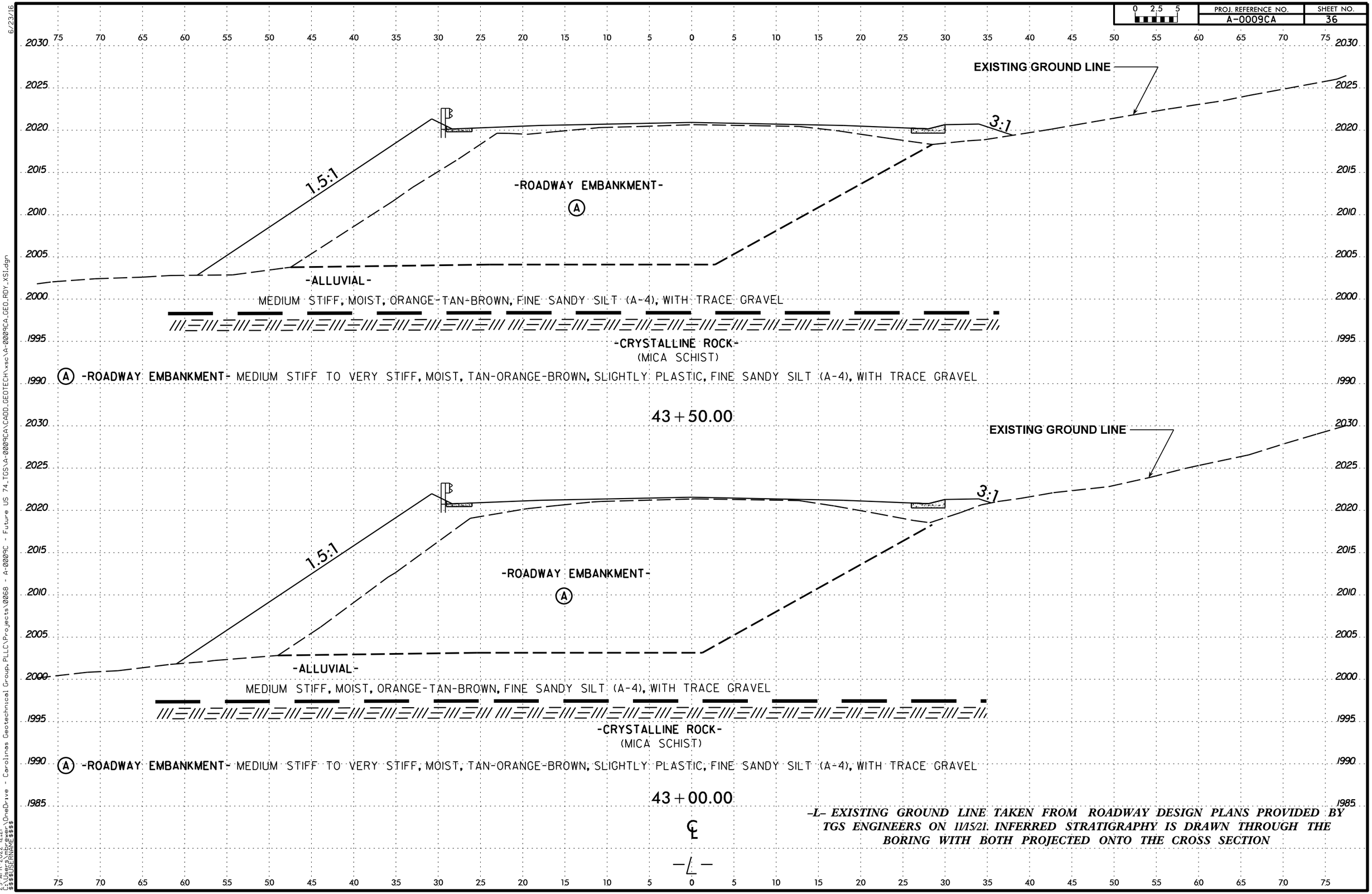
-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

-L-

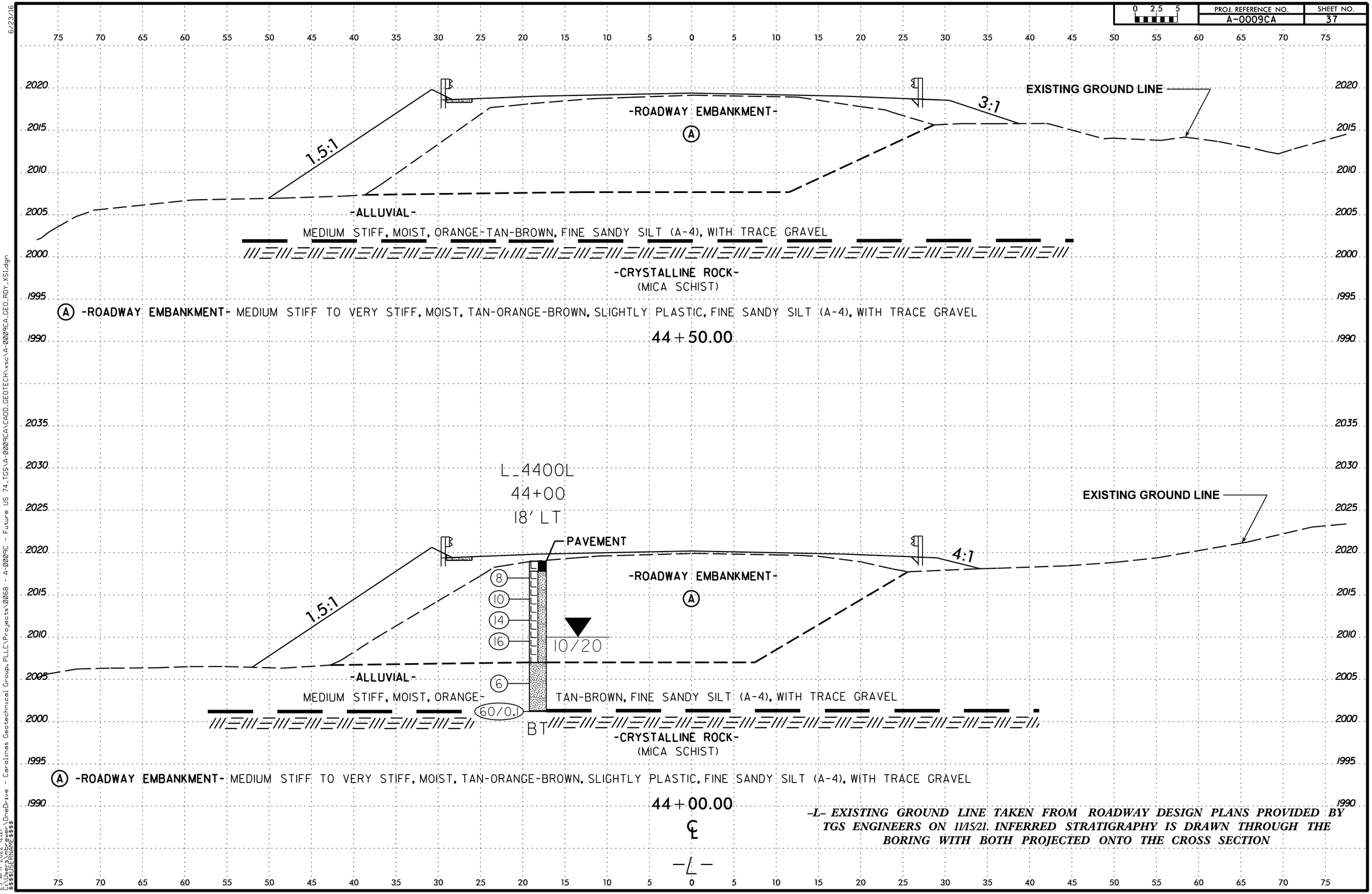
2035 2030 2025 2020 2015 2010 2005 2000 1995

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

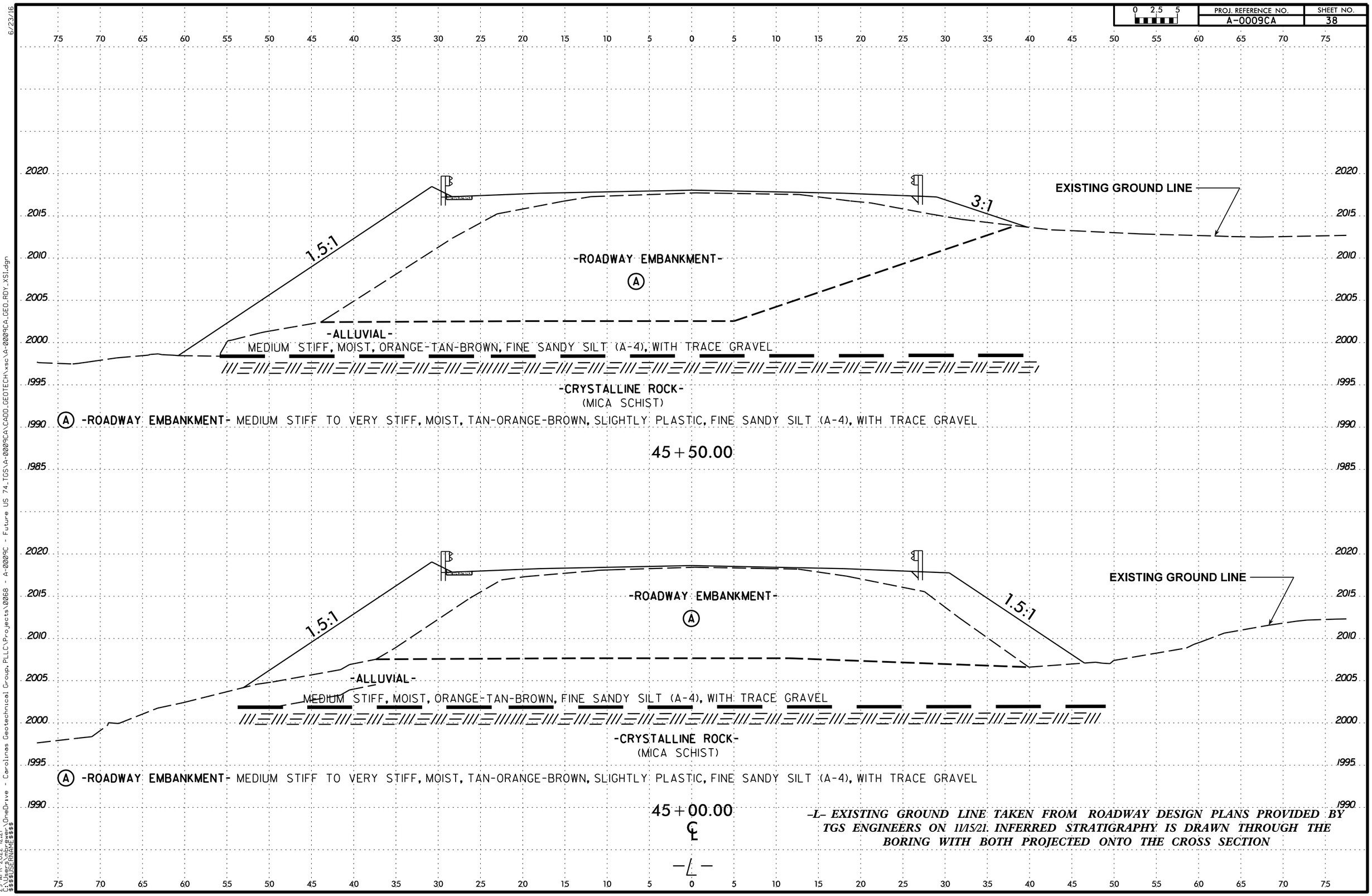
6/23/16



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/5/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

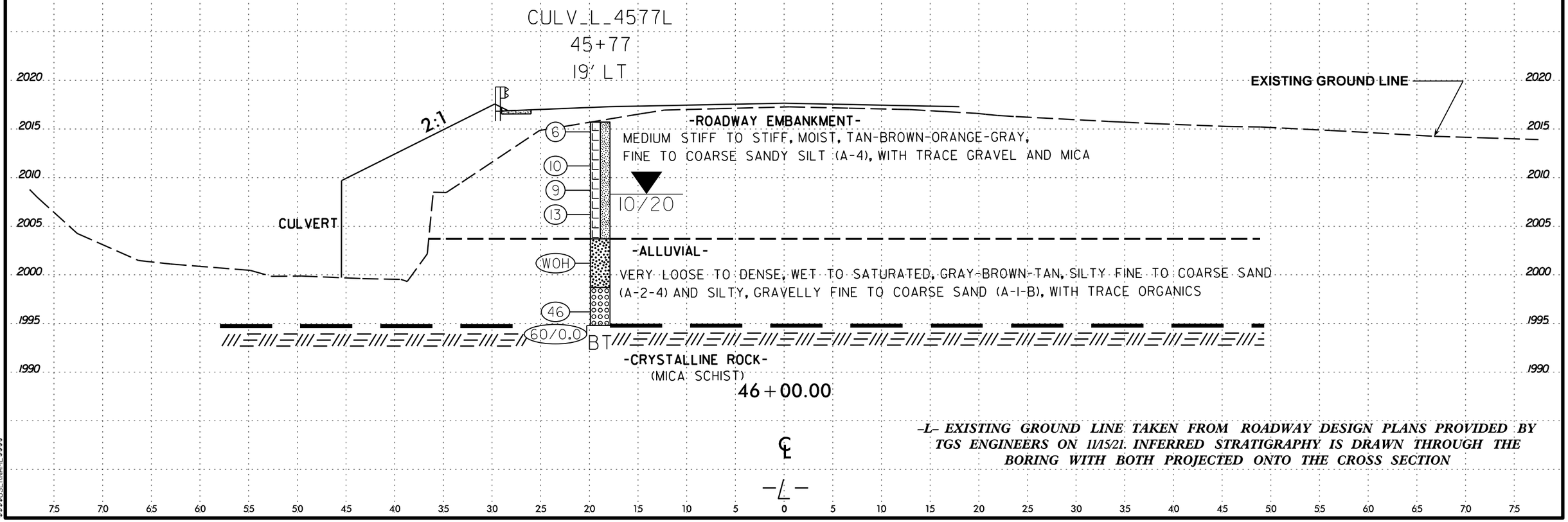
6/23/16

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	39

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

CULV_L_4577L
45+77
19' LT



46+00.00

℄

—L—

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	40

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2030 2025 2020 2015 2010 2005 2000 1995 1990 1985 1980 1975

CULV_L_4653L
46+53
19' LT

CULV_L_4652R
46+52
52' RT

EXISTING GROUND LINE

2:1

PAVEMENT

-ROADWAY EMBANKMENT-

VERY SOFT TO VERY STIFF, MOIST, TAN-BROWN-GRAY, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL, ORGANICS, AND MICA

9
23
10
7
6
10/20

VERY LOOSE TO LOOSE, WET, GRAY-
-ALLUVIAL-
-RESIDUAL-
VERY STIFF TO HARD, MOIST TO

7
26
100/0.9

-WEATHERED ROCK-
(MICA SCHIST)

BT

BROWN-TAN, SILTY FINE TO COARSE SAND (A-2-4) AND SILTY, GRAVELLY FINE TO COARSE SAND (A-1-B), WITH TRACE ORGANICS AND GRAVEL

WET, TAN-GRAY-BROWN, FINE SANDY SILT (A-4), WITH TRACE MICA AND LITTLE GRAVEL-SIZED ROCK FRAGMENTS

55
20
25
1
3
10/20
18
36
39

BT
FIAD

(A) -ROADWAY EMBANKMENT- MEDIUM DENSE TO VERY DENSE, MOIST, GRAY-TAN-BROWN, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE GRAVEL

46+50.00

℄

—L—

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

29-APR-2022 12:21
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PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	41

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2030 2025 2020 2015 2010 2005 2000 1995 1990 1985 1980

L_4900L
49+00
25' LT

EXISTING GROUND LINE

4:1

3:1

-ROADWAY EMBANKMENT-

MEDIUM STIFF TO STIFF, MOIST, BROWN, FINE SANDY SILT (A-4) AND FINE SANDY, CLAYEY SILT (A-5)

-ALLUVIAL-

MEDIUM STIFF, WET, BROWN-GRAY, FINE SANDY SILT (A-4)

10/20

LOOSE, MOIST, BROWN-GRAY, SILTY FINE SAND (A-2-4)

6 11 5 9

BT

49+00.00

CULV_L_4693R
46+93
16' RT

EXISTING GROUND LINE

3:1

1.5:1

-ROADWAY EMBANKMENT-

SOFT TO HARD, MOIST, ORANGE-TAN-GRAY-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

17 33 15 3 4

10/20

-ALLUVIAL-

VERY STIFF, MOIST, ORANGE-GRAY-TAN, FINE TO COARSE SANDY SILT (A-4), WITH LITTLE GRAVEL

28

-RESIDUAL-

MEDIUM STIFF TO VERY STIFF, MOIST TO WET, BROWN-TAN-ORANGE, FINE SANDY SILT (A-4), WITH TRACE MICA

6 18

BT

47+00.00

℄

—L—

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

29-APR-2022 12:21
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75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2035 2030 2025 2020 2015 2010 2005 2000

L_5300L
53+00
25' LT

4:1 2:1 4:1

EXISTING GROUND LINE

-ROADWAY EMBANKMENT-
MEDIUM STIFF TO STIFF, MOIST, BROWN-GRAY, FINE SANDY SILT (A-4)

-RESIDUAL-
SOFT, MOIST, BROWN-TAN, FINE SANDY SILT (A-4), WITH TRACE MICA

(12) (8) (4) (3)

BT
DRY
10/20

53+00.00

L_5100L
51+00
25' LT

EXISTING GROUND LINE

A 3:1

-RESIDUAL-
MEDIUM STIFF TO VERY STIFF, BROWN-TAN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS AND MICA

(21) (18) (20) (8)

BT
DRY
FIAD
10/20

(A) -ROADWAY EMBANKMENT- MEDIUM STIFF TO STIFF, MOIST, BROWN, FINE SANDY SILT (A-4) AND FINE SANDY, CLAYEY SILT (A-5)

51+00.00

℄

—L—

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

29-APR-2022 12:21
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$$$$USERNAME$$$$

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2040
2035
2030
2025
2020
2015
2010
2005

EXISTING GROUND LINE

L_5500R
55+00
40' RT

2:1

-ROADWAY EMBANKMENT-
LOOSE TO MEDIUM DENSE, MOIST, BLACK-BROWN-TAN-MAROON, SILTY FINE SAND (A-2-4), WITH TRACE GRAVEL

-ARTIFICIAL FILL-

5
10
14
17

10/20

WOH

-ALLUVIAL-
VERY SOFT TO MEDIUM STIFF, WET, BLACK-BROWN-TAN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, CLAYEY SILT (A-5), WITH TRACE ORGANICS

8

BT

55+00.00

℄

-L-

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2045 2040 2035 2030 2025 2020 2015 2010 2005

EXISTING GROUND LINE

1.5:1

-ROADWAY EMBANKMENT-
STIFF TO VERY STIFF, MOIST, BROWN-TAN-GRAY, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

-ALLUVIAL- SOFT, WET, GRAY-BROWN, FINE SANDY SILT (A-4)

56+55.00

EXISTING GROUND LINE

5.7:1

4:1

1.5:1

-ROADWAY EMBANKMENT-
LOOSE TO MEDIUM DENSE, MOIST, BLACK-BROWN-TAN-MAROON, SILTY FINE SAND (A-2-4), WITH TRACE GRAVEL

-ARTIFICIAL FILL-

-ALLUVIAL-
VERY SOFT TO MEDIUM STIFF, WET, BLACK-BROWN-TAN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, CLAYEY SILT (A-5), WITH TRACE ORG

56+00.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

CULV_L_5719R
57+19
17' RT

CULV_L_5700R
57+00
72' RT

EXISTING GROUND LINE

1.5:1

1.5:1

-ROADWAY EMBANKMENT-
STIFF TO VERY STIFF, MOIST, BROWN-TAN-GRAY, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

14
15
20
26
18
100/0.8
4
13
60/0.1

10/20
ROCK FRAGMENTS

BT

-CRYSTALLINE ROCK-
(METASANDSTONE)

-ALLUVIAL-
SOFT, WET, GRAY-BROWN, FINE SANDY SILT (A-4)

-RESIDUAL-
STIFF, SATURATED, GRAY-BROWN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED

37
100/0.9
60/0.1

A
B

BT
DRY
1/21

Ⓐ **-RESIDUAL-** DENSE, MOIST, BROWN-TAN, SILTY FINE SAND (A-2-4), WITH LITTLE GRAVEL-SIZED ROCK FRAGMENTS

Ⓑ **-WEATHERED ROCK-** (METASANDSTONE)

57+00.00

℄

—L—

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	46

CULV_L_5755L
57+55
13' LT

PAVEMENT

-ROADWAY EMBANKMENT-

1.5:1

1.5:1

EXISTING GROUND LINE

10
36
19
10
12
4
2
100/0.9
60/0.0

STIFF TO HARD, MOIST, ORANGE-BROWN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

-ALLUVIAL-
SOFT, WET, BROWN, FINE SANDY SILT (A-4)

10/20

-WEATHERED ROCK- (METASANDSTONE)

-WEATHERED ROCK- (METASANDSTONE)

BT
FIAD

-CRYSTALLINE ROCK-
(METASANDSTONE)

57+50.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

28-APR-2022 12:21
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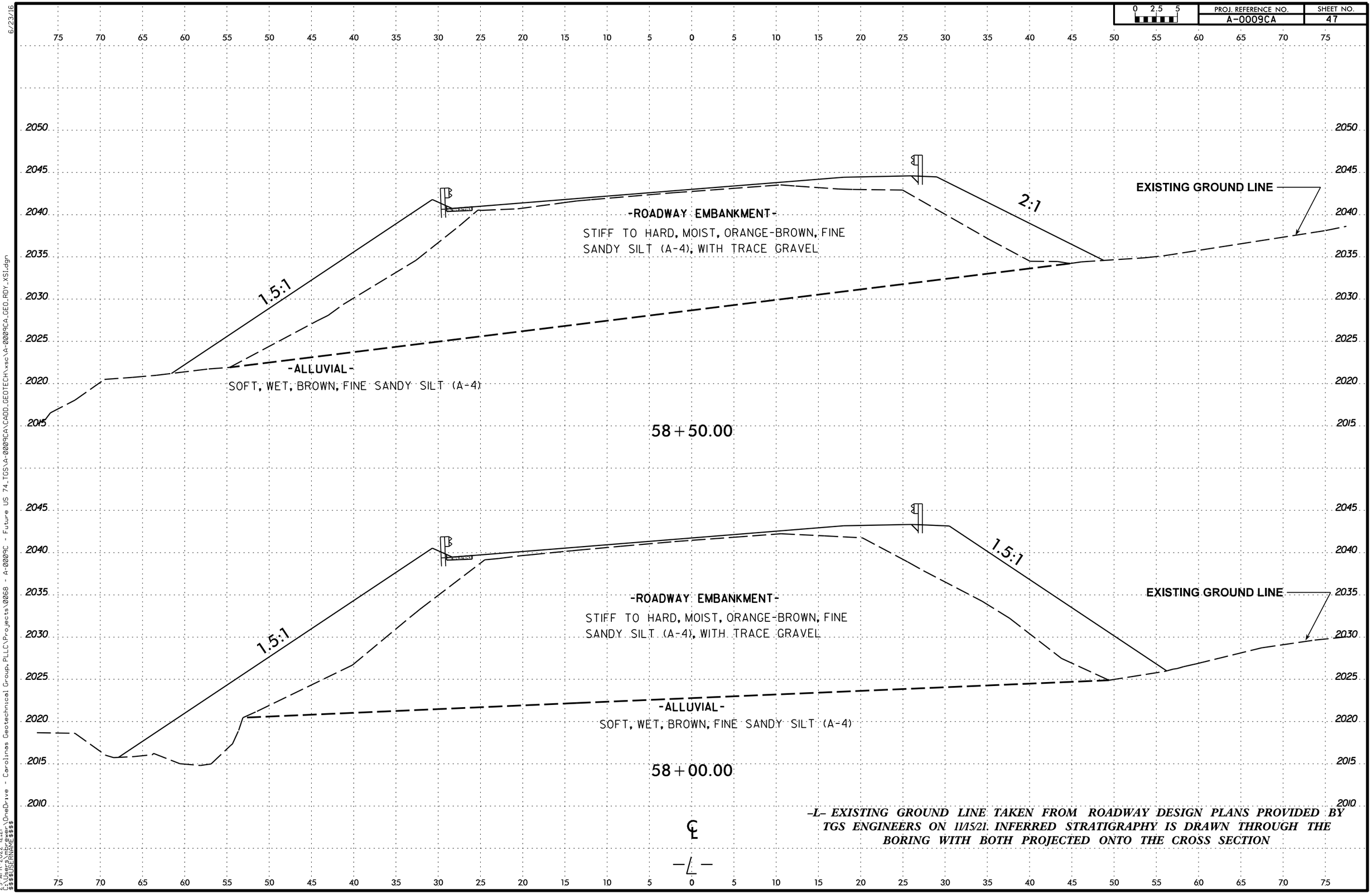
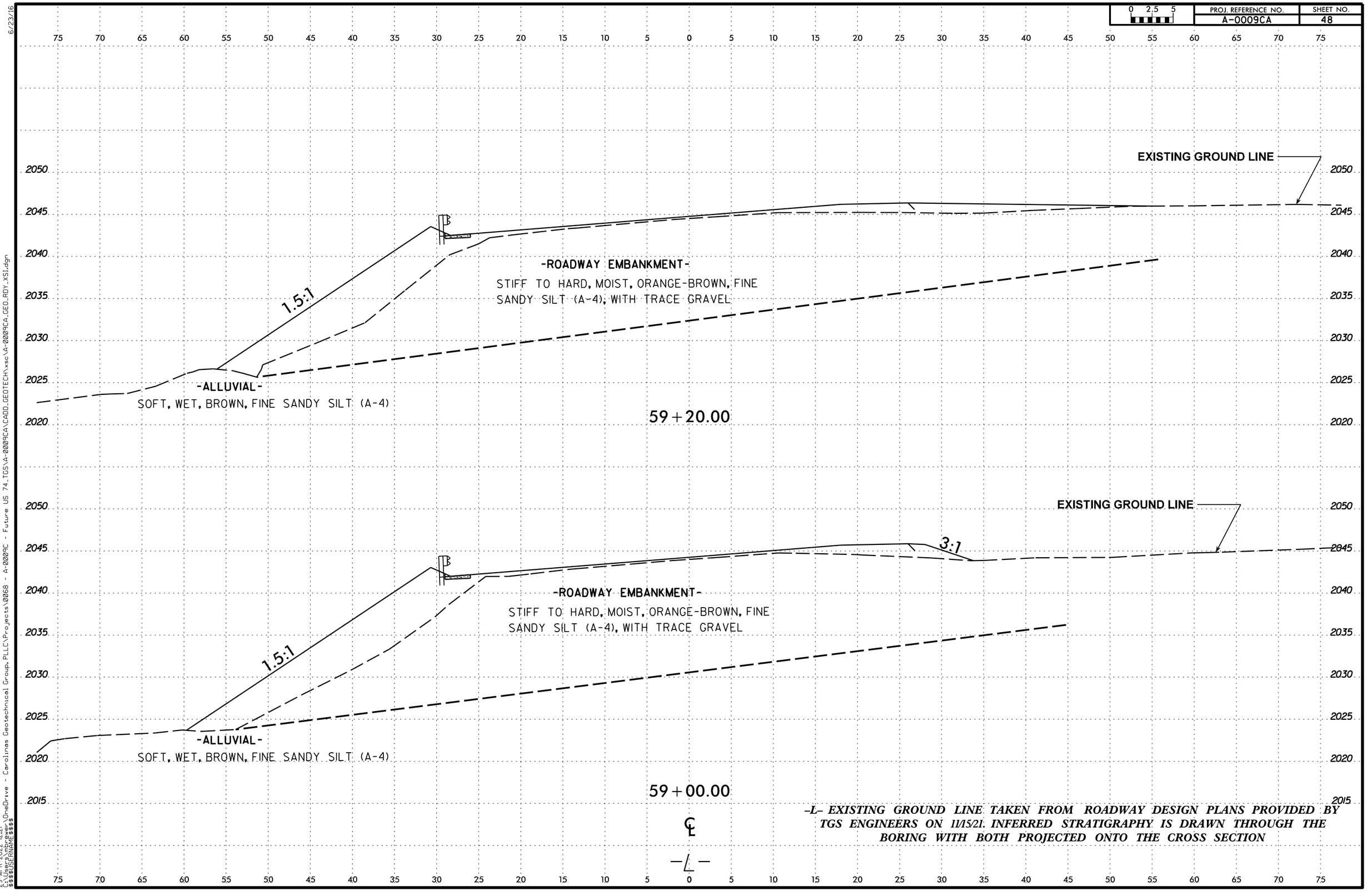


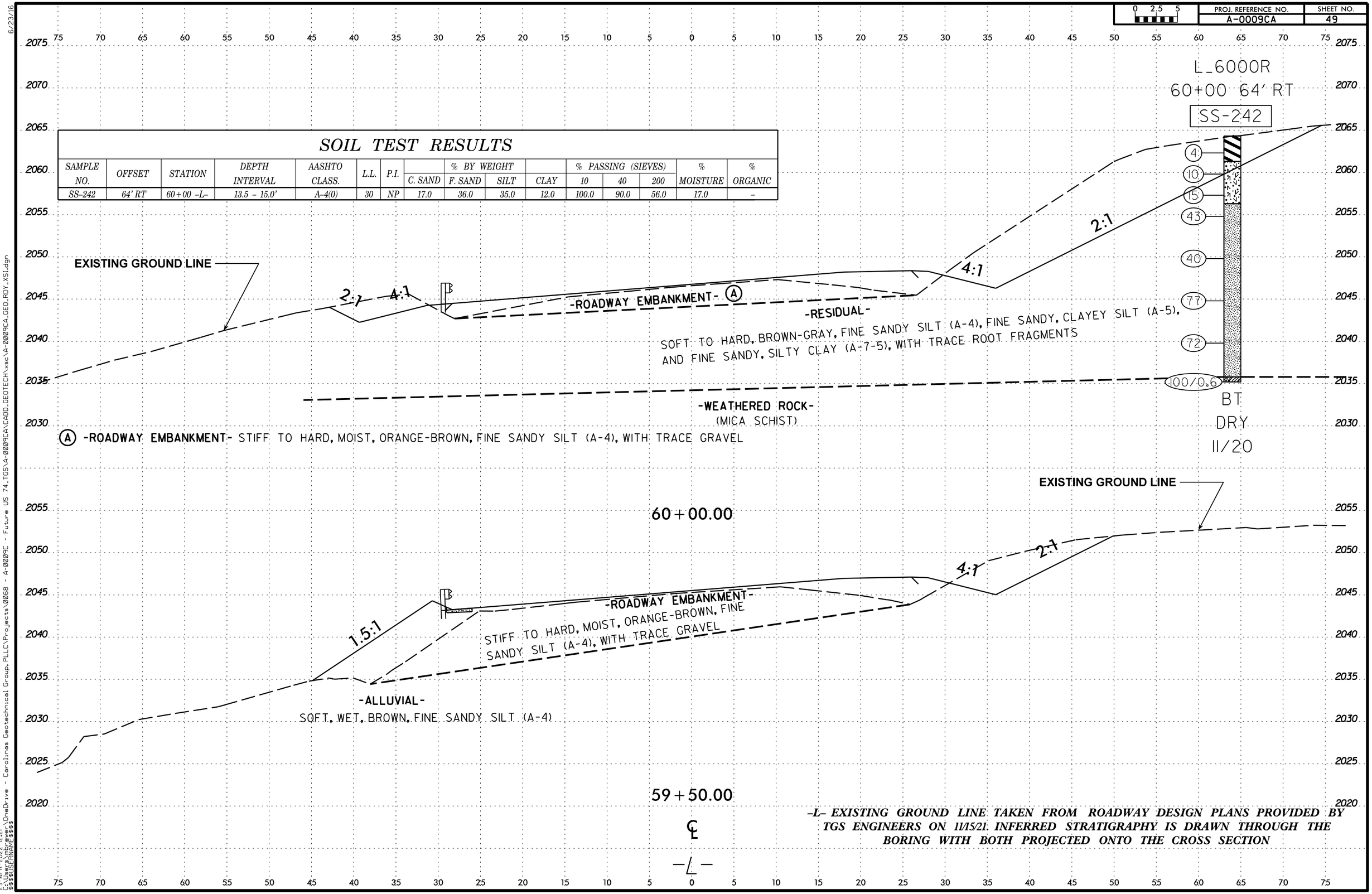
-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

SOIL TEST RESULTS

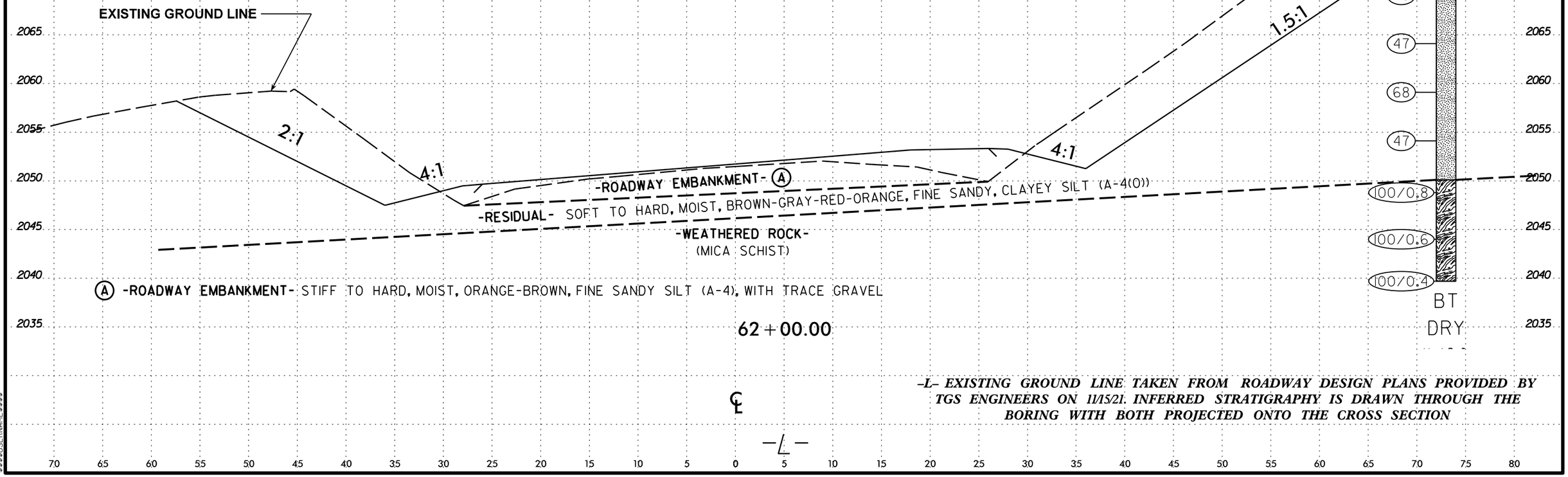
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-242	64' RT	60+00 -L-	13.5 - 15.0'	A-4(0)	30	NP	17.0	36.0	35.0	12.0	100.0	90.0	56.0	17.0	-



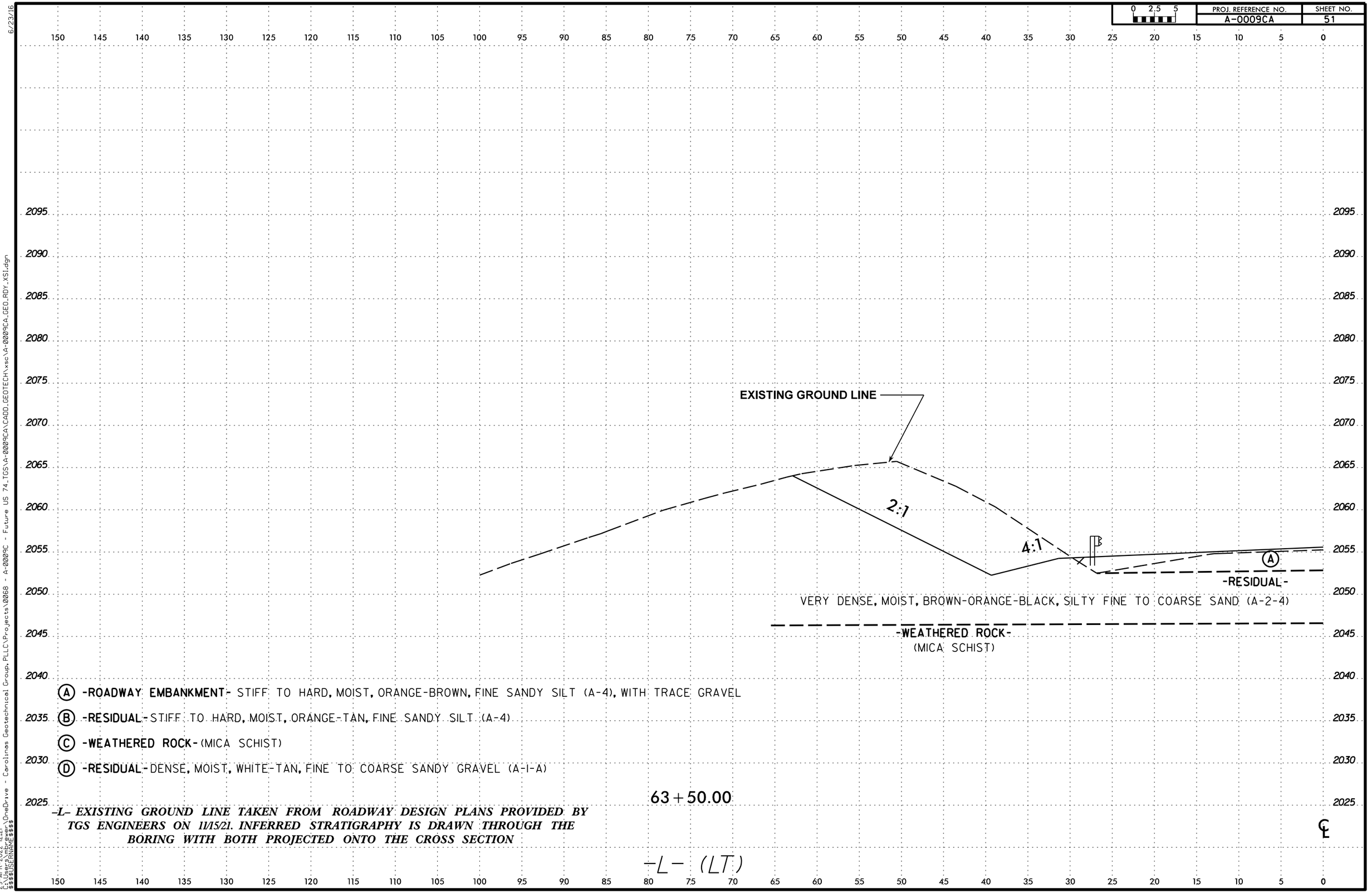
-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

SOIL TEST RESULTS

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		
SS-228	62' RT	62+00 -L-	1.0 - 2.5'	A-4(3)	33	7	16.0	28.0	25.0	31.0	100.0	91.0	64.0	25.0	-
SS-234	62' RT	62+00 -L-	23.5 - 25.0'	A-4(0)	33	NP	11.0	40.0	35.0	14.0	100.0	94.0	63.0	19.0	-



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



Ⓐ **-ROADWAY EMBANKMENT-** STIFF TO HARD, MOIST, ORANGE-BROWN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

Ⓑ **-RESIDUAL-** STIFF TO HARD, MOIST, ORANGE-TAN, FINE SANDY SILT (A-4)

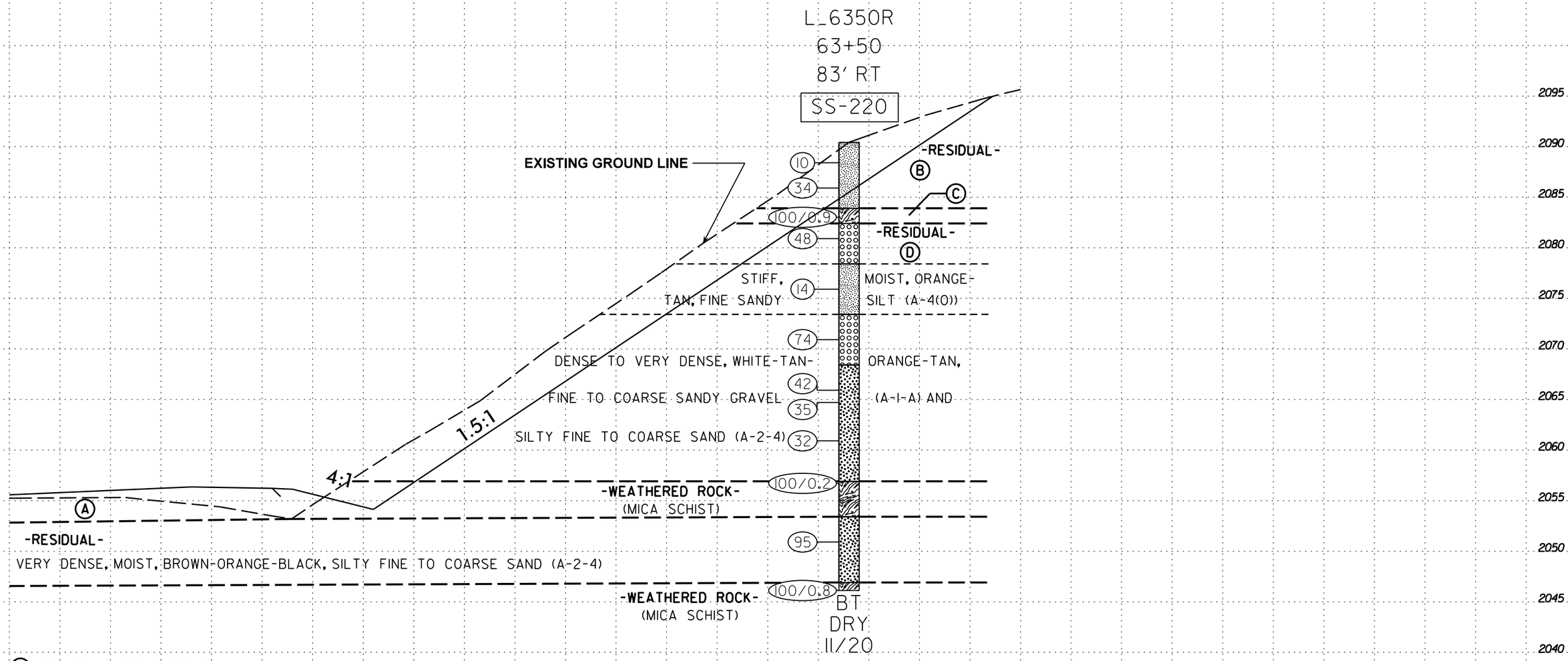
Ⓒ **-WEATHERED ROCK-** (MICA SCHIST)

Ⓓ **-RESIDUAL-** DENSE, MOIST, WHITE-TAN, FINE TO COARSE SANDY GRAVEL (A-1-A)

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

SOIL TEST RESULTS

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
SS-220	83' RT	63+50 -L-	13.5 - 15.0'	A-4(0)	35	NP	8.0	41.0	38.0	13.0	100.0	96.0	64.0	17.0	-



(A) **-ROADWAY EMBANKMENT-** STIFF TO HARD, MOIST, ORANGE-BROWN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

(B) **-RESIDUAL-** STIFF TO HARD, MOIST, ORANGE-TAN, FINE SANDY SILT (A-4)

(C) **-WEATHERED ROCK-** (MICA SCHIST)

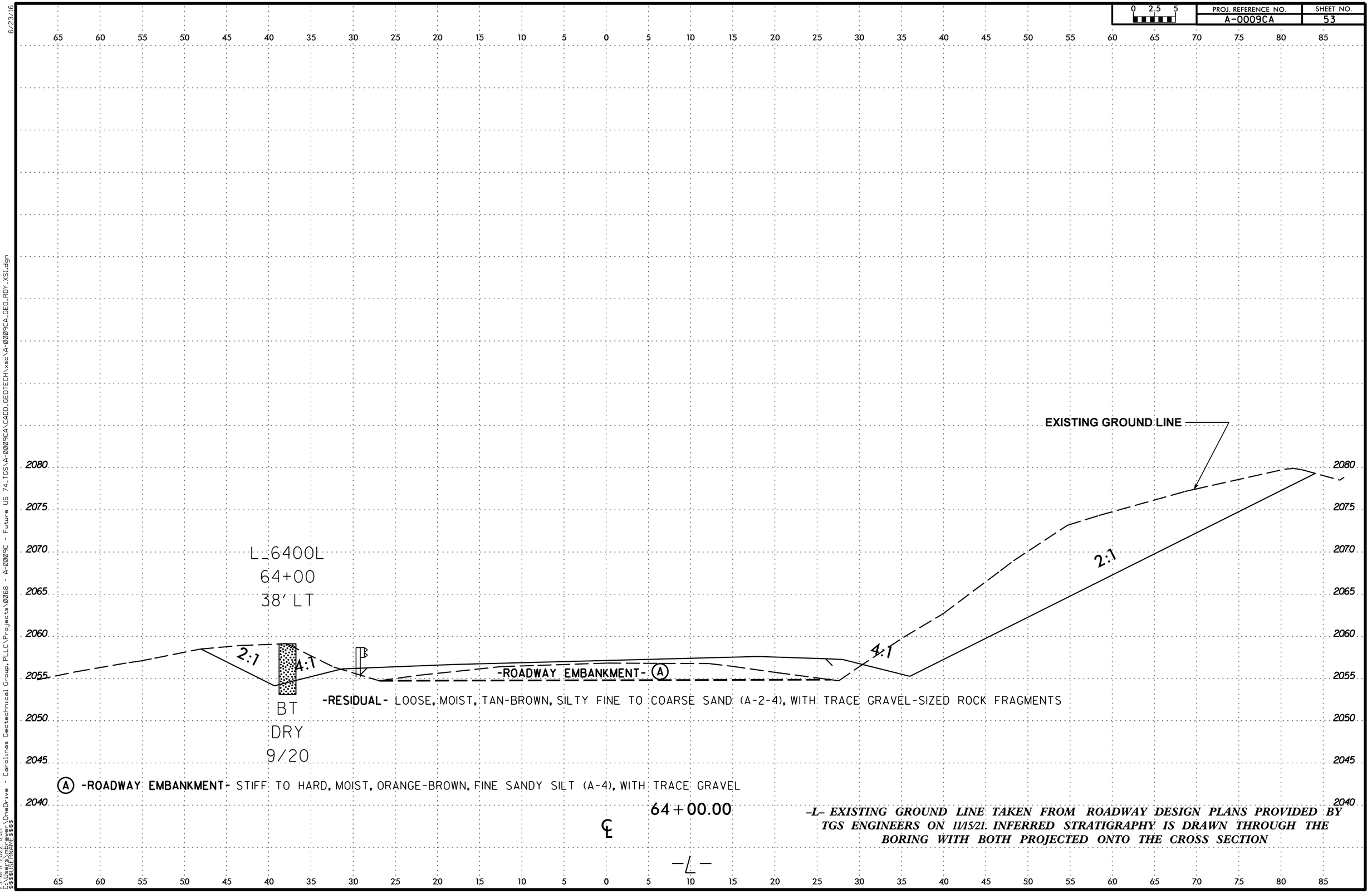
(D) **-RESIDUAL-** DENSE, MOIST, WHITE-TAN, FINE TO COARSE SANDY GRAVEL (A-1-A)

63+50.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

-L- (RT)



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

L_6800R
68+00
30' RT

EXISTING GROUND LINE

2:1

-ROADWAY EMBANKMENT- (A)

4:1

2:1

-RESIDUAL-
LOOSE TO MEDIUM DENSE, MOIST, TAN-BROWN, FINE SANDY SILT (A-4), WITH TRACE MICA

BT
DRY
FIAD
09/20

(A) **-ROADWAY EMBANKMENT-** SOFT TO MEDIUM STIFF, MOIST, RED-BROWN, FINE TO COARSE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

68+00.00

SOIL TEST RESULTS

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		
SS-258	60' RT	66+00 -L-	6.0 - 7.5'	A-4(1)	35	1	4.0	51.0	37.0	8.0	100.0	98.0	65.0	12.0	-

L_6600R
66+00
60' RT
SS-258

EXISTING GROUND LINE

2:1

4:1

29
33
40
29
48
78
67

BT
DRY
11/20

-ROADWAY EMBANKMENT- (A)

-RESIDUAL- VERY STIFF TO HARD, MOIST, BROWN-GRAY-TAN-ORANGE, FINE SANDY SILT (A-4(I))

(A) **-ROADWAY EMBANKMENT-** STIFF TO HARD, MOIST, ORANGE-BROWN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

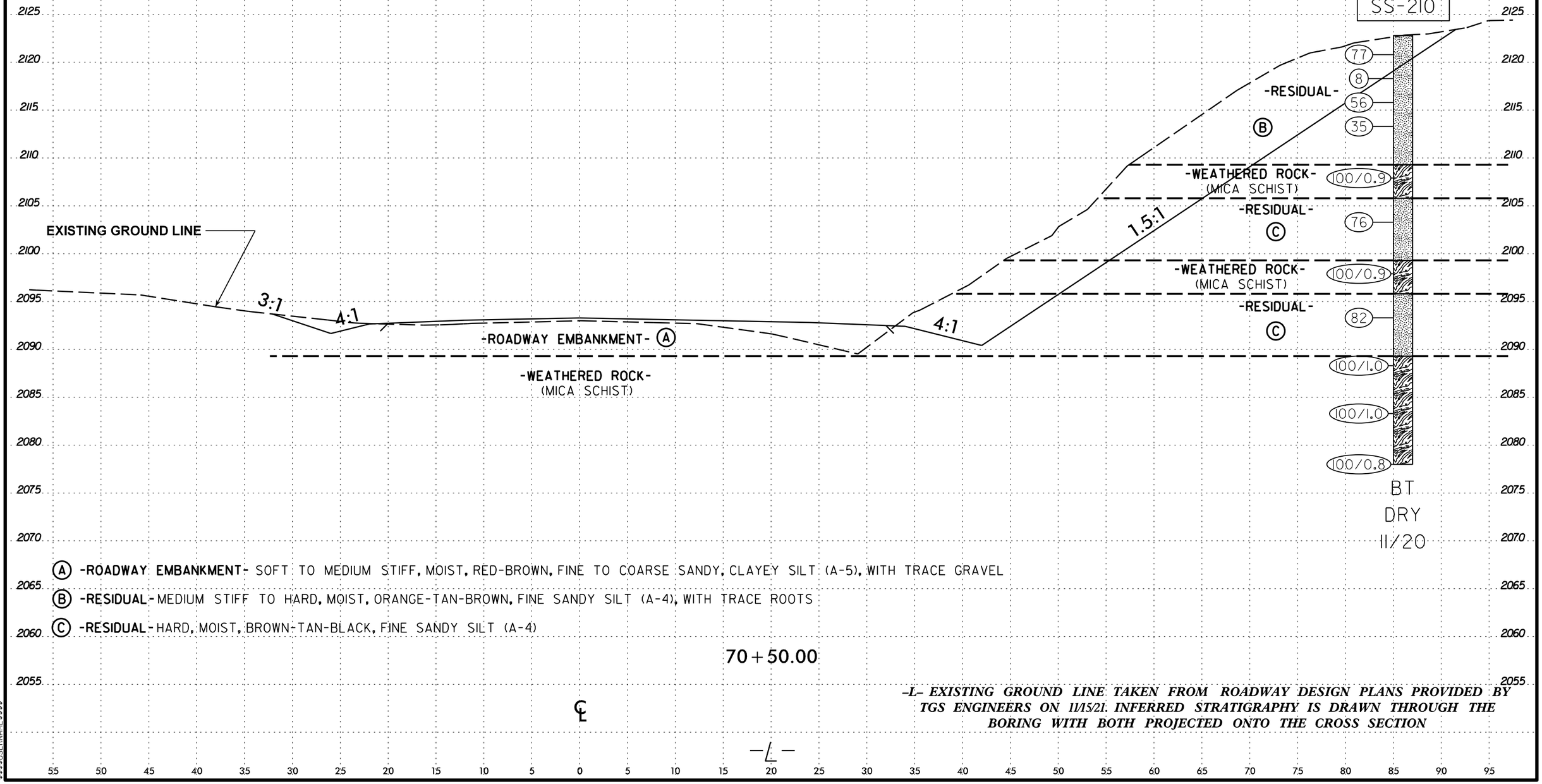
66+10.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

SOIL TEST RESULTS

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
SS-210	86' RT	70+50 -L-	28.5 - 30.0'	A-4(0)	34	NP	4.0	44.0	39.0	13.0	100.0	97.0	70.0	14.0	-



(A) **-ROADWAY EMBANKMENT-** SOFT TO MEDIUM STIFF, MOIST, RED-BROWN, FINE TO COARSE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

(B) **-RESIDUAL-** MEDIUM STIFF TO HARD, MOIST, ORANGE-TAN-BROWN, FINE SANDY SILT (A-4), WITH TRACE ROOTS

(C) **-RESIDUAL-** HARD, MOIST, BROWN-TAN-BLACK, FINE SANDY SILT (A-4)

70+50.00

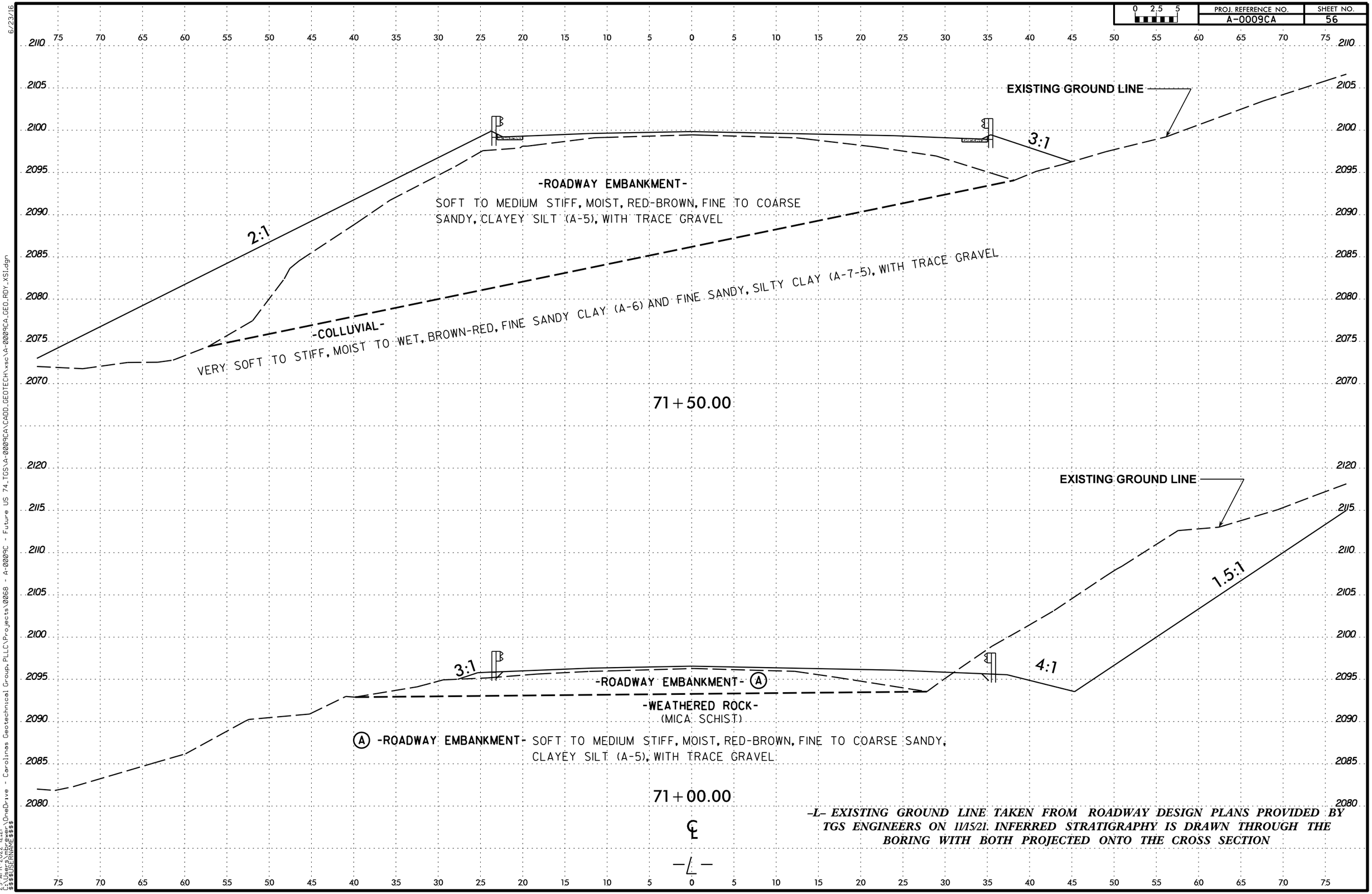
℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

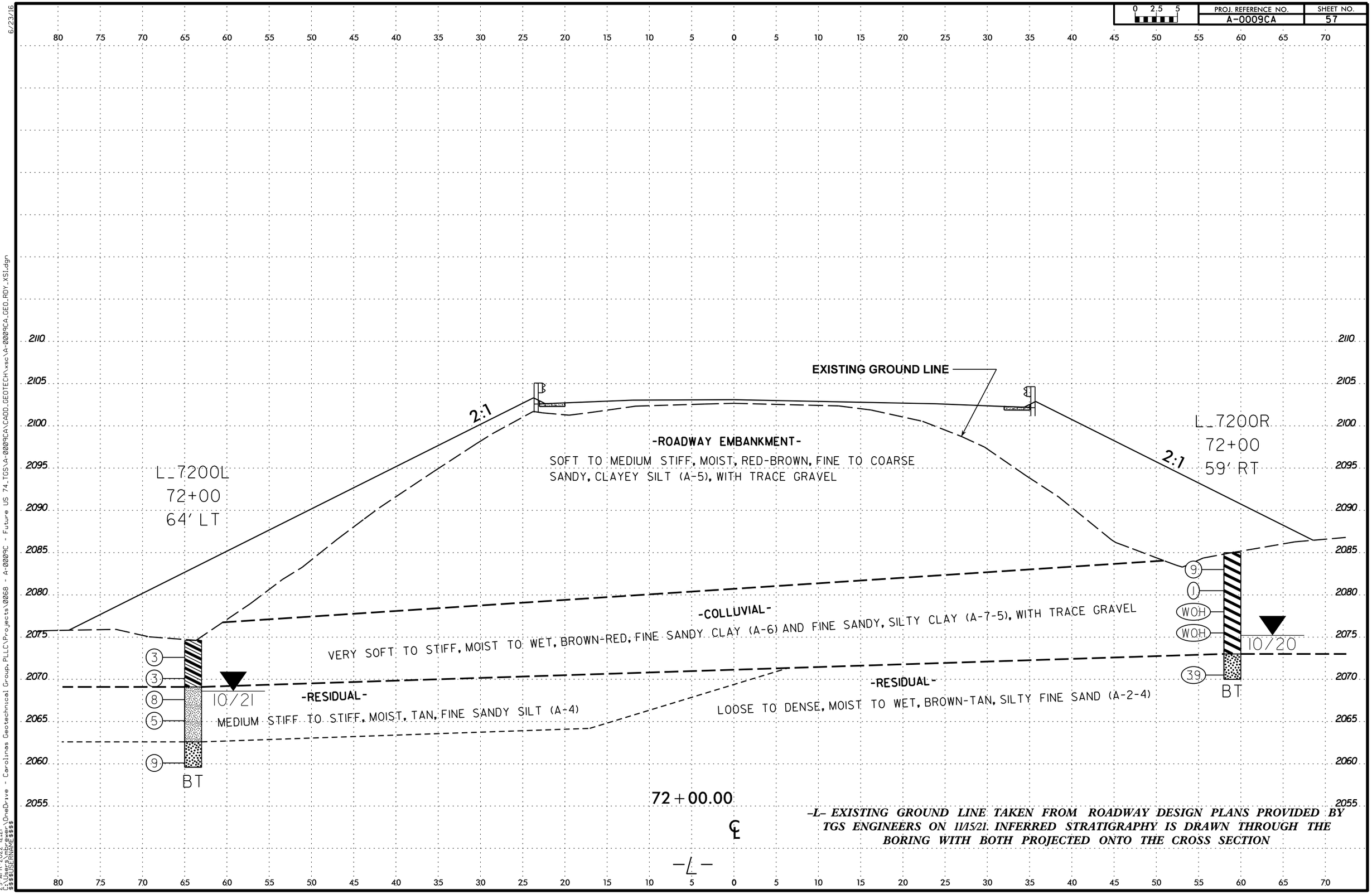
-L-

6/23/16

28-APR-2022 12:21
C:\Users\...\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn
$$$$USERNAME$$$$



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	58

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2140 2135 2130 2125 2120 2115 2110 2105 2100 2095 2090 2085 2080

EXISTING GROUND LINE

2:1 4:1 -ROADWAY EMBANKMENT- (A) 4:1 2:1

-RESIDUAL-

VERY STIFF TO HARD, VERY STIFF TO HARD, MOIST, BROWN-GRAY-ORANGE-TAN-BLACK, FINE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

(A) -ROADWAY EMBANKMENT- SOFT TO MEDIUM STIFF, MOIST, RED-BROWN, FINE TO COARSE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

73+00.00

2:1

-ROADWAY EMBANKMENT-

SOFT TO MEDIUM STIFF, MOIST, RED-BROWN, FINE TO COARSE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

EXISTING GROUND LINE

3:1

-COLLUVIAL-

VERY SOFT TO STIFF, MOIST TO WET, BROWN-RED, FINE SANDY CLAY (A-6) AND FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL

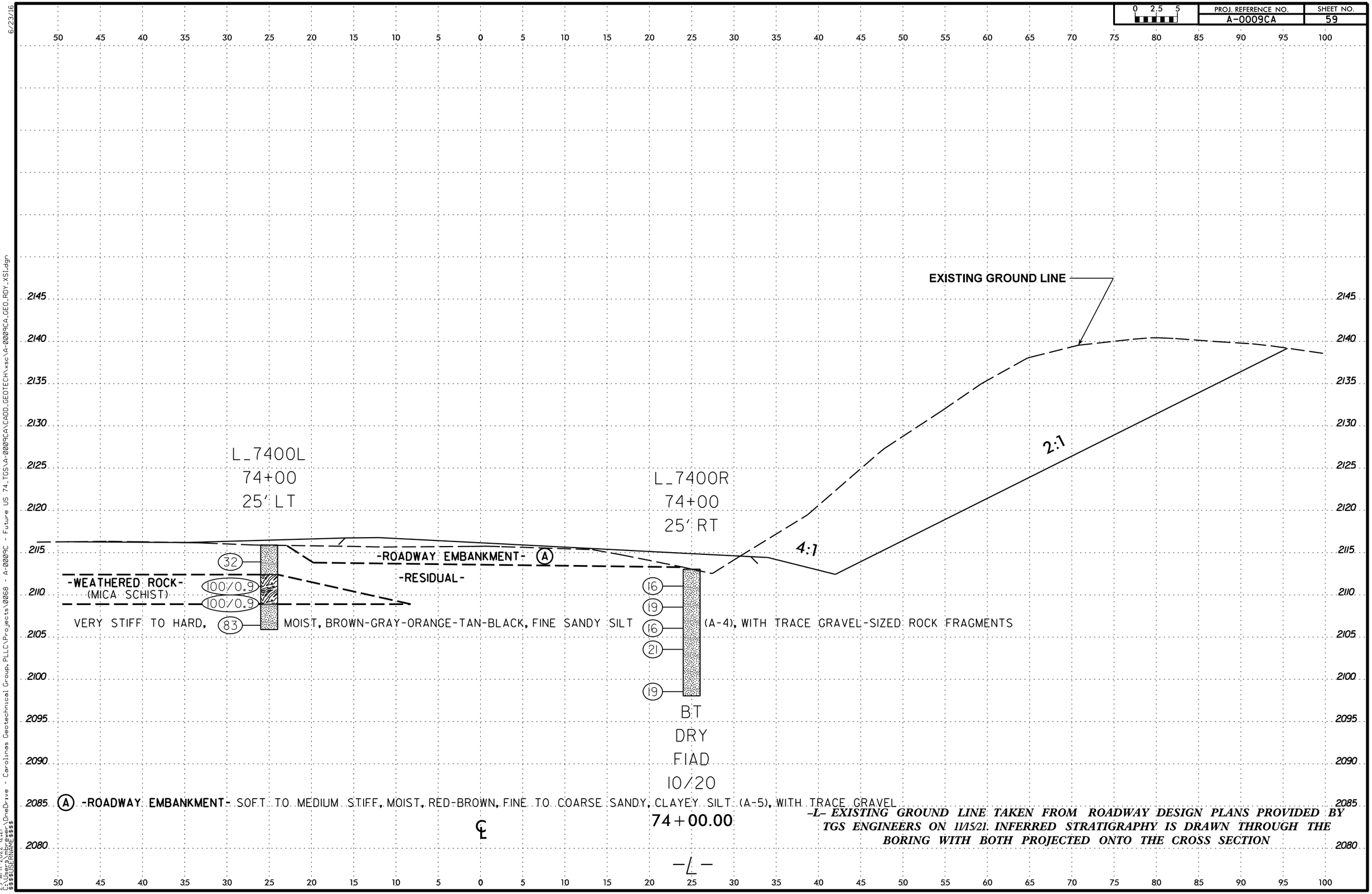
72+50.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

-L-

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	59



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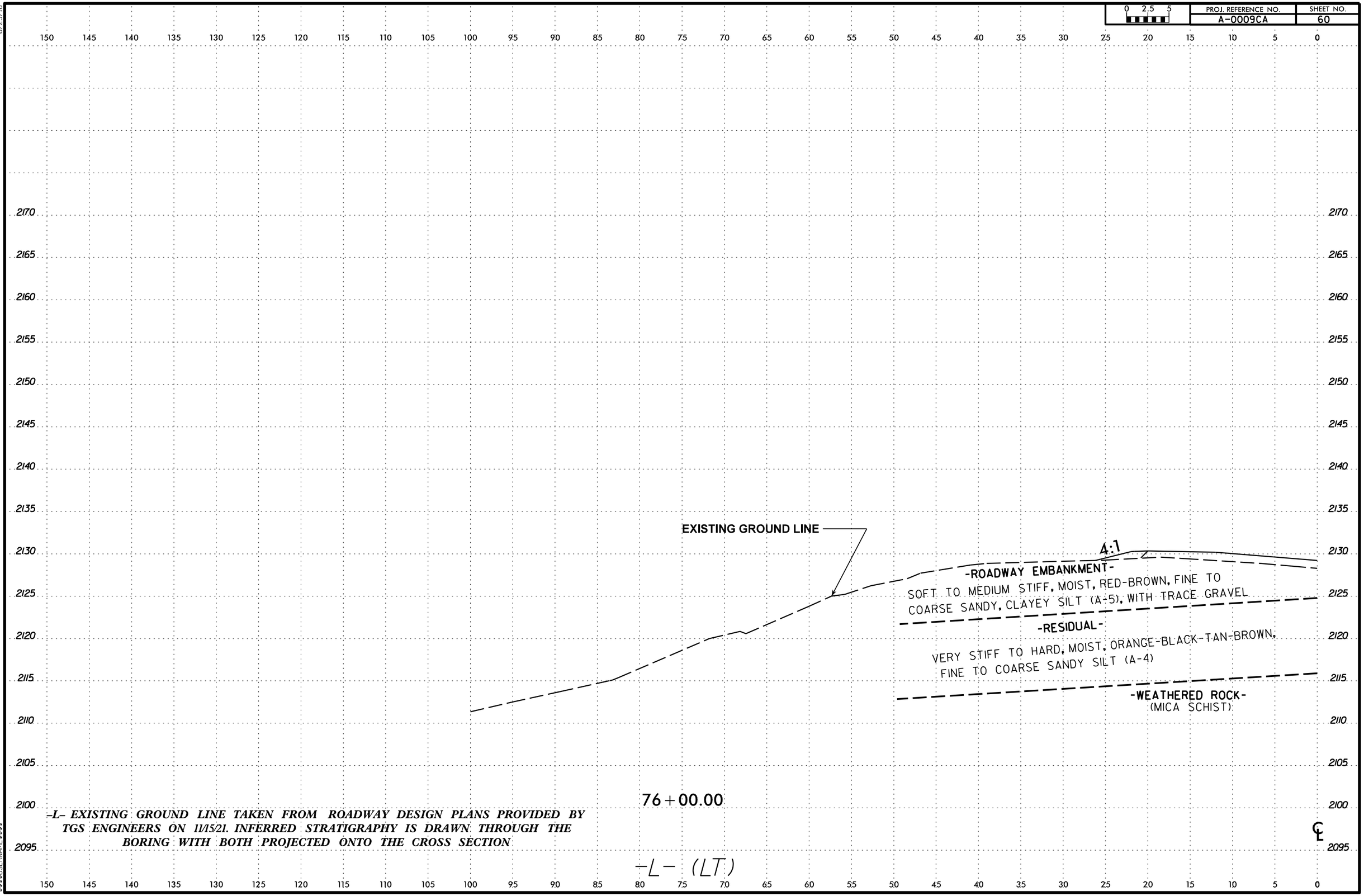
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	60



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	61

SOIL TEST RESULTS

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		
SS-200	112' RT	76+00 -L-	23.5 - 25.0'	A-4(0)	35	NP	16.0	44.0	33.0	7.0	100.0	91.0	54.0	10.0	-

L_7600R2
76+00 112' RT
SS-200

5
15
35
44
36
25
50
59
43
100/0.6
60/0.1
60/0.0

EXISTING GROUND LINE

-RESIDUAL-

1.5:1

AND QUARTZ FRAGMENTS

RED-TAN-GRAY-BLACK, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED ROCK

-WEATHERED ROCK-
(MICA SCHIST)

-CRYSTALLINE ROCK-
(MICA SCHIST)

Ⓑ

BT
DRY
10/20

L_7600R
76+00
18' RT

4:1

Ⓐ

MEDIUM STIFF TO
HARD, MOIST, BROWN-ORANGE-

33
30
77
100/0.8
100/0.8

-WEATHERED ROCK-
(MICA SCHIST)

BT
DRY
FIAD
1/21

Ⓐ **-ROADWAY EMBANKMENT-** SOFT TO MEDIUM STIFF, MOIST, RED-BROWN, FINE TO COARSE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

Ⓑ **-RESIDUAL-** DENSE, MOIST, BROWN-GRAY, SILTY FINE SAND (A-2-4)

76+00.00

-L- (RT)

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

EXISTING GROUND LINE

1.5:1

4:1

L_7700L
77+00
33' LT

PAVEMENT

-ROADWAY EMBANKMENT-

(13) (31) (13) STIFF TO HARD, MOIST, RED-ORANGE-TAN-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO SOME GRAVEL

(22) (17) -RESIDUAL-

VERY STIFF, MOIST, ORANGE-TAN, FINE SANDY SILT (A-4)

(21)

(30) MEDIUM DENSE, MOIST, GRAY-ORANGE-TAN, SILTY FINE TO COARSE SAND (A-2-4)

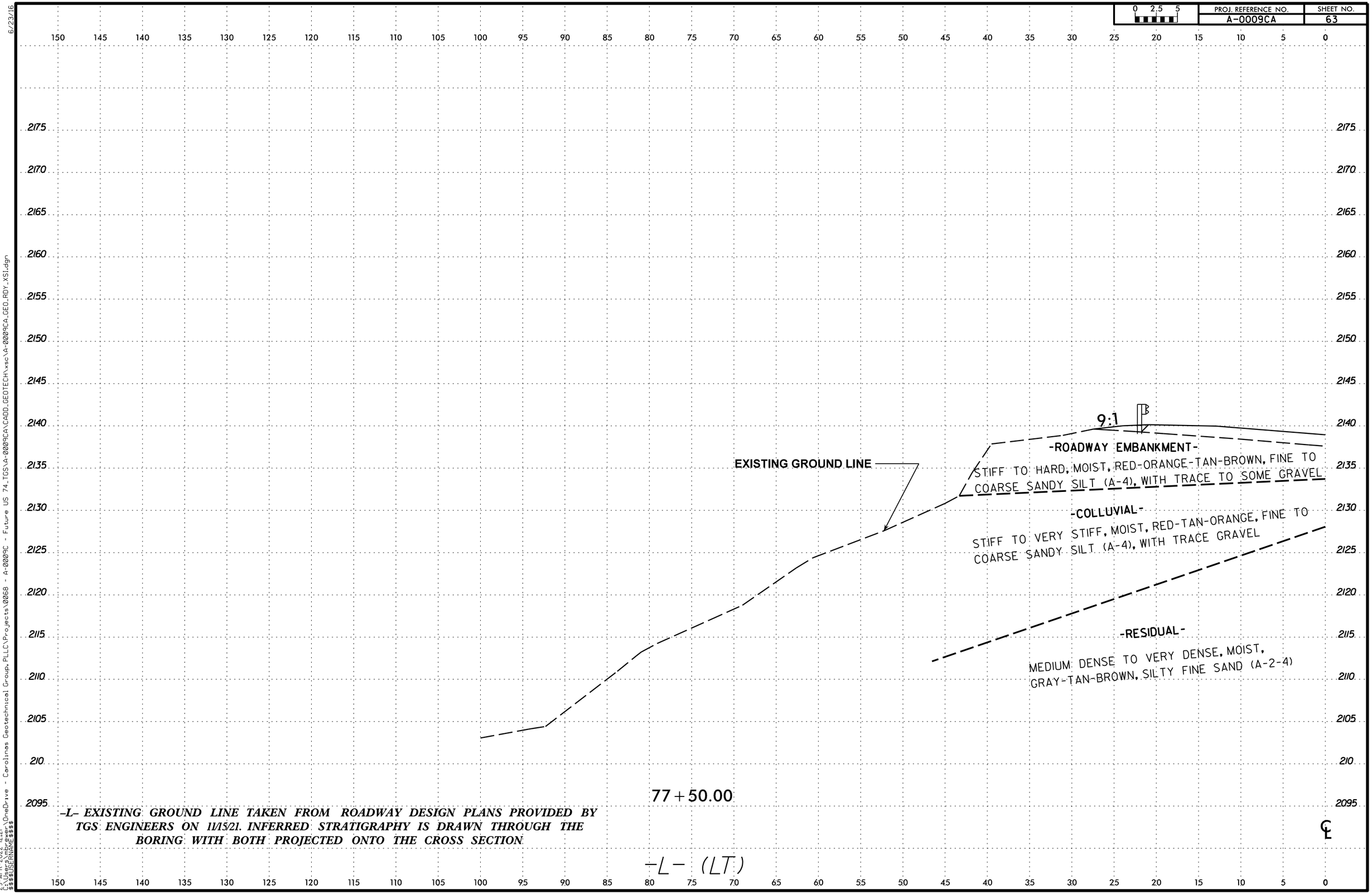
BT
DRY
10/20

77+00.00

℄

—L—

–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	64

L_7768R
77+68
97' RT

EXISTING GROUND LINE

1.5:1

4:1

-RESIDUAL-
SOFT TO HARD, MOIST, BROWN-ORANGE-GRAY-RED-TAN, FINE SANDY SILT (A-4)

-RESIDUAL-
MEDIUM DENSE TO VERY DENSE, MOIST, GRAY-TAN-BROWN, SILTY FINE SAND (A-2-4)

-WEATHERED ROCK-
(MICA SCHIST)

3	
4	
14	
14	
15	
14	
100/0.9	
83	
76	
19	
87	

BT
DRY
10/20

Ⓐ **-ROADWAY EMBANKMENT-** STIFF TO HARD, MOIST, RED-ORANGE-TAN-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO SOME GRAVEL

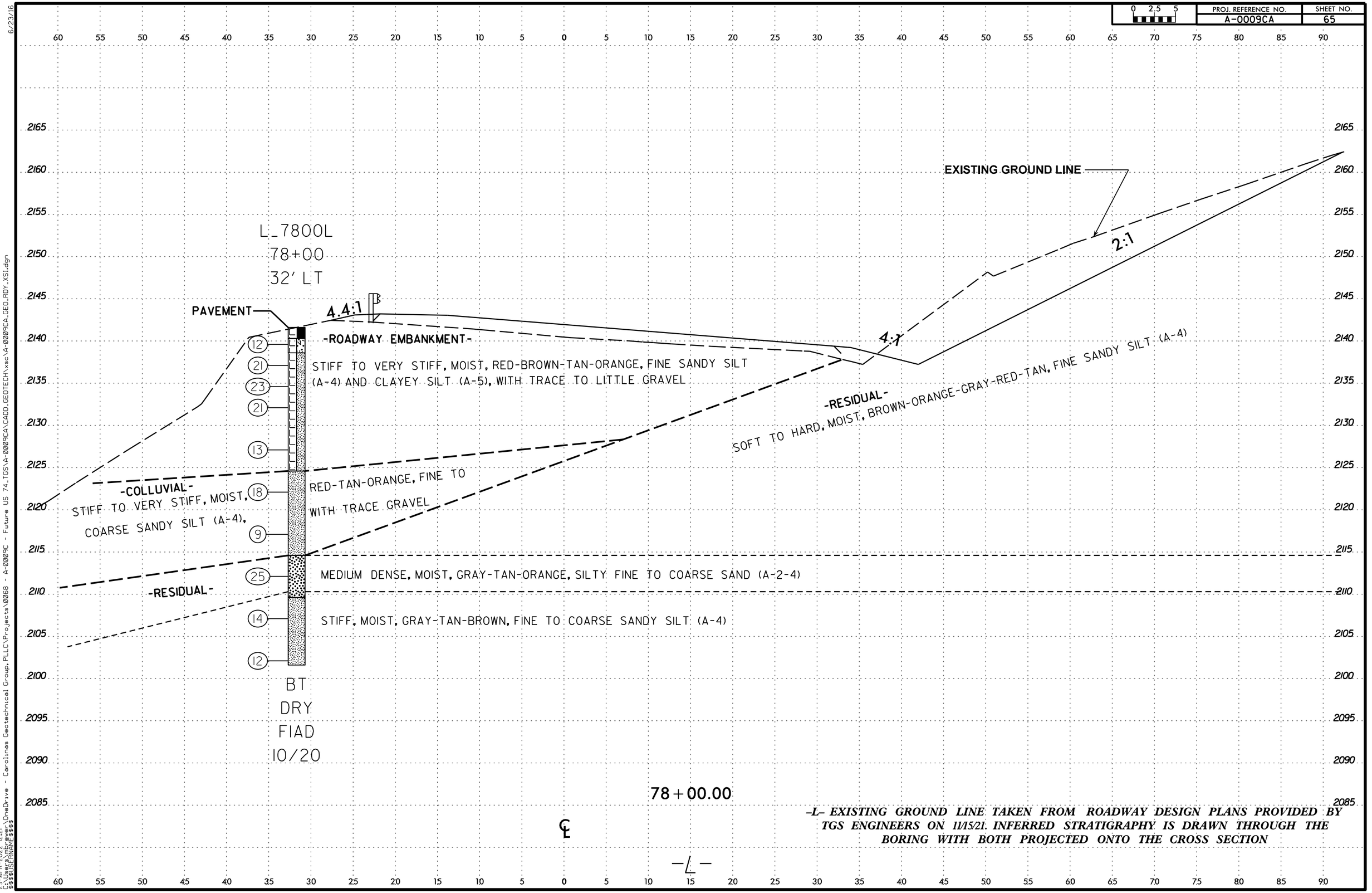
Ⓑ **-COLLUVIAL-** STIFF TO VERY STIFF, MOIST, RED-TAN-ORANGE, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL

77+50.00

℄

-L- (RT)

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	66

L_7900L
79+00
32' LT

PAVEMENT

4:1

9
16
19
19
22
26
18
16
17
15
12
10
11
33
100/0.3
BT
DRY
FIAD
10/20

-ROADWAY EMBANKMENT-

STIFF TO VERY STIFF, MOIST, RED-BROWN-TAN, FINE SANDY SILT (A-4) AND CLAYEY SILT (A-5), WITH TRACE TO LITTLE GRAVEL

-COLLUVIAL-

STIFF TO VERY STIFF, MOIST, RED-BROWN-TAN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL

-RESIDUAL-

STIFF TO HARD, MOIST, RED-ORANGE-GRAY-BROWN-TAN, FINE TO COARSE SANDY SILT (A-4), WITH LITTLE GRAVEL-SIZED ROCK FRAGMENTS

L_7900R
79+00
35' RT

2:1

EXISTING GROUND LINE

6
11
A 60/0
BT
DRY
FIAD
10/20

-CRYSTALLINE ROCK-
(METASANDSTONE)

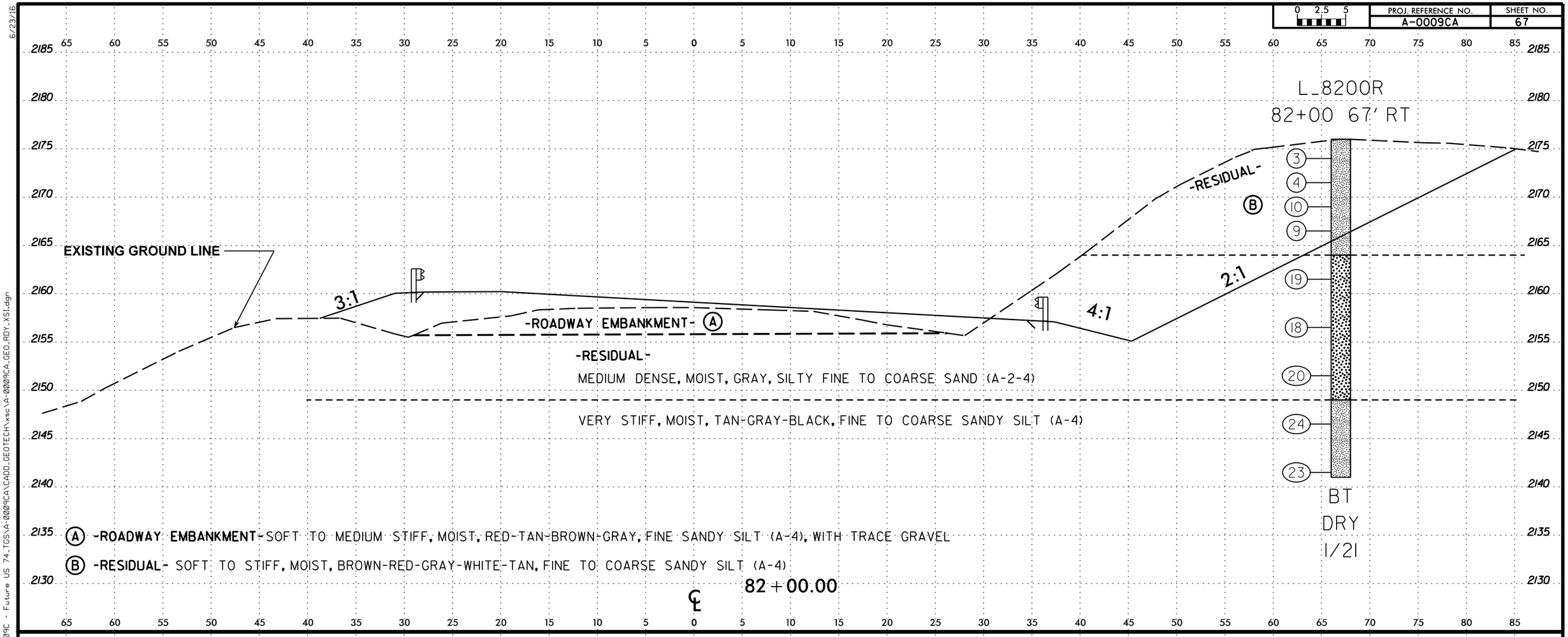
B

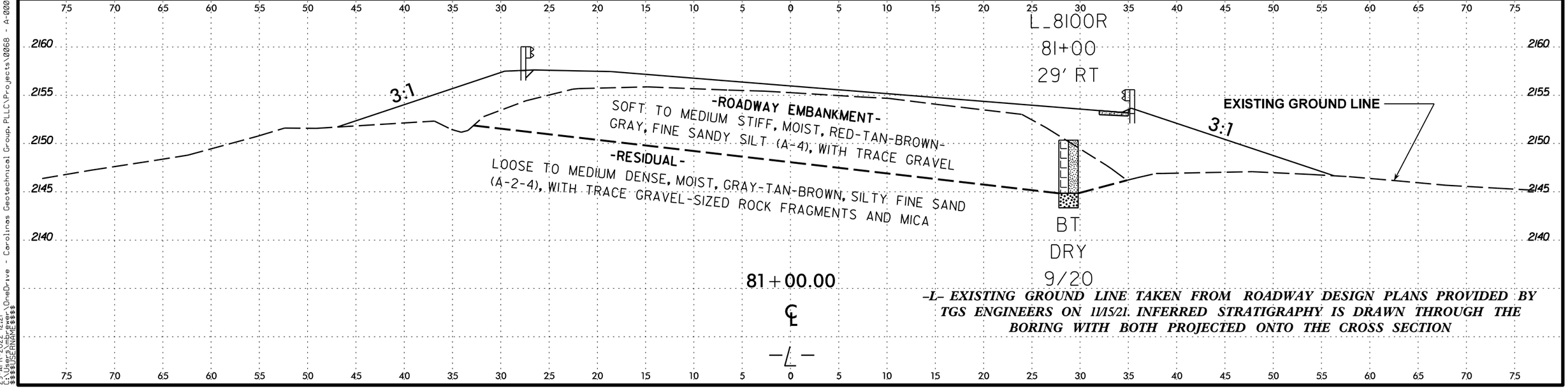
Ⓐ -COLLUVIAL- MEDIUM DENSE, MOIST, SILTY FINE SAND (A-2-4), WITH LITTLE GRAVEL

Ⓑ -WEATHERED ROCK- (METASANDSTONE)

79+00.00
℄
—L—

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION





-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	68

150 145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

2195 2190 2185 2180 2175 2170 2165 2160 2155 2150 2145 2140 2135 2130

EXISTING GROUND LINE

2:1

4:1

Ⓐ

-RESIDUAL-

STIFF TO HARD, MOIST, RED-PURPLE-BLACK-TAN-GRAY-WHITE, FINE TO COARSE SANDY, CLAYEY SILT (A-5(4))

Ⓐ **-ROADWAY EMBANKMENT-** SOFT TO MEDIUM STIFF, MOIST, RED-TAN-BROWN-GRAY, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

84+00.00

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

℄

-L- (LT)

6/23/16

SOIL TEST RESULTS

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
SS-494	88' RT	84+00 -L-	8.5 - 10.0'	A-5(4)	50	11	4.0	41.0	36.0	19.0	100.0	99.0	69.0	22.0	-

L_8400R
84+00
88' RT
SS-494

20
18
14
15
23
24
25
27
42
42
54
65

BT
DRY
1/21

EXISTING GROUND LINE

2:1

4:1

A -RESIDUAL-
STIFF TO HARD, MOIST, RED-PURPLE-BLACK-TAN-GRAY-WHITE, FINE TO COARSE SANDY, CLAYEY SILT (A-5(4))

A -ROADWAY EMBANKMENT- SOFT TO MEDIUM STIFF, MOIST, RED-TAN-BROWN-GRAY, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

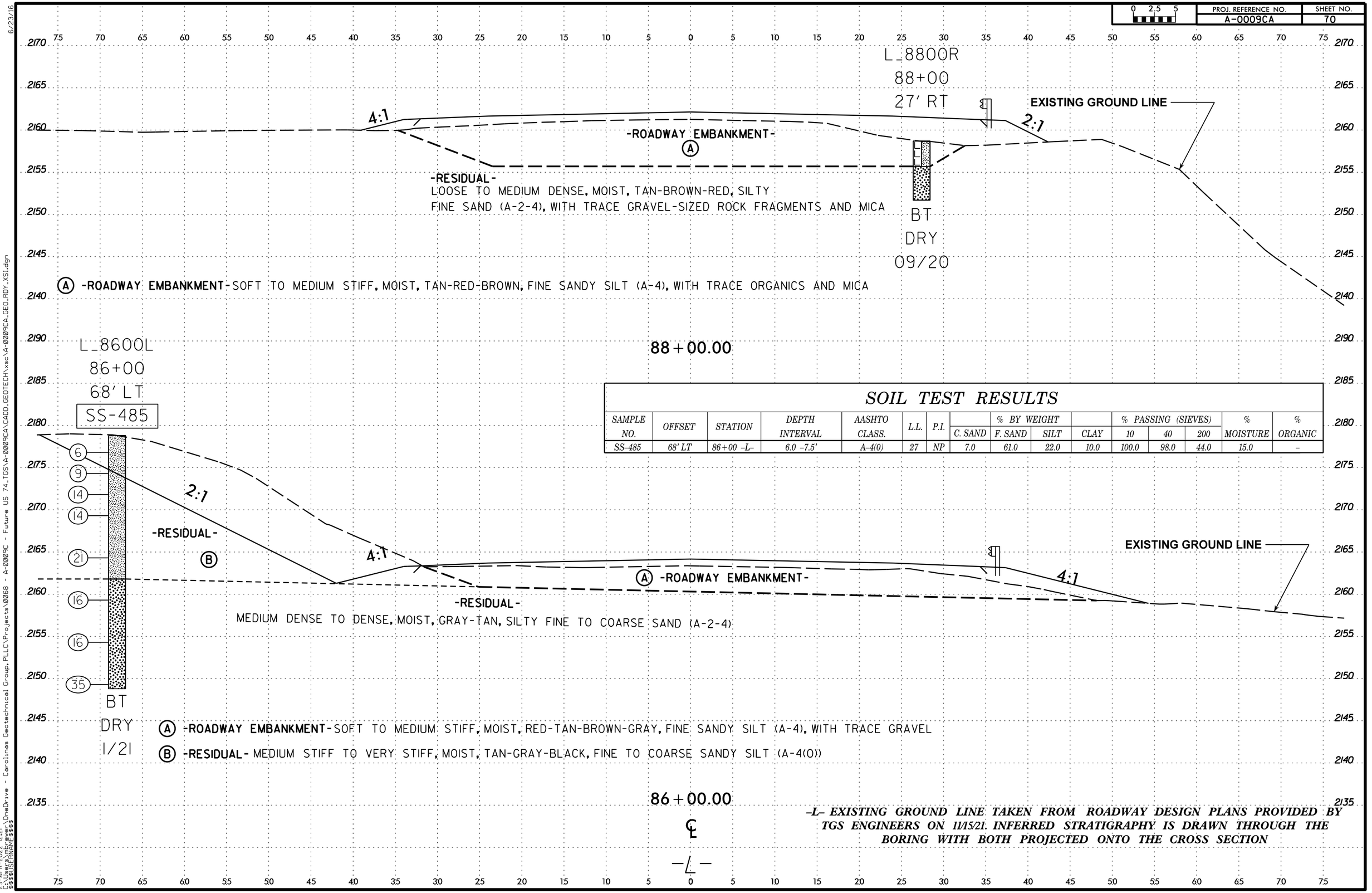
℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

-L- (RT)

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150

2200 2195 2190 2185 2180 2175 2170 2165 2160 2155 2150 2145 2140 2135 2130



SOIL TEST RESULTS

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		
SS-485	68' LT	86+00 -L-	6.0 -7.5'	A-4(0)	27	NP	7.0	61.0	22.0	10.0	100.0	98.0	44.0	15.0	–

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

EXISTING GROUND LINE

4:1

-ROADWAY EMBANKMENT-
MEDIUM STIFF TO VERY STIFF, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL (BOULDER ENCOUNTERED AT 13.5 FT)

-COLLUVIAL-
MEDIUM STIFF TO STIFF, MOIST, RED-TAN-ORANGE, FINE SANDY SILT (A-4), WITH TRACE GRAVEL AND MICA

-ALLUVIAL-
MEDIUM STIFF, MOIST TO SATURATED, BROWN-GRAY-BLACK-RED, FINE SANDY SILT (A-4) AND CLAYEY SILT (A-5), WITH TRACE ORGANICS

-RESIDUAL- STIFF TO HARD, ORANGE-RED-YELLOW-TAN-GRAY-BROWN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

-WEATHERED ROCK-
(MICA SCHIST)

90+00.00

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

-L- (LT)

℄

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	72

0 2.5 5

L_9000R
90+00
18' RT

8
22
18
18
100/0.6
14
14
10
14
10/20
15
6
VERY SOFT TO 4
10
100/0.3
BT

-ROADWAY EMBANKMENT-

MEDIUM STIFF TO VERY STIFF, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL (BOULDER ENCOUNTERED AT 13.5 FT)

-COLLUVIAL-

MEDIUM STIFF TO STIFF, MOIST, RED-TAN-ORANGE, FINE SANDY SILT (A-4), WITH TRACE GRAVEL AND MICA

MEDIUM STIFF, MOIST TO SATURATED, BROWN-GRAY-BLACK-RED, FINE SANDY SILT (A-4) AND CLAYEY SILT (A-5), WITH TRACE ORGANICS

-RESIDUAL-

STIFF TO HARD, ORANGE-RED-YELLOW-TAN-GRAY-BROWN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

-WEATHERED ROCK-
(MICA SCHIST)

90+00.00

2:1

EXISTING GROUND LINE

L_9000R2
90+00
112' RT

8
2
1
1
18
35
10/20
BT

-ALLUVIAL-

-RESIDUAL- MEDIUM DENSE, SATURATED, GRAY-TAN, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

-L- (RT)

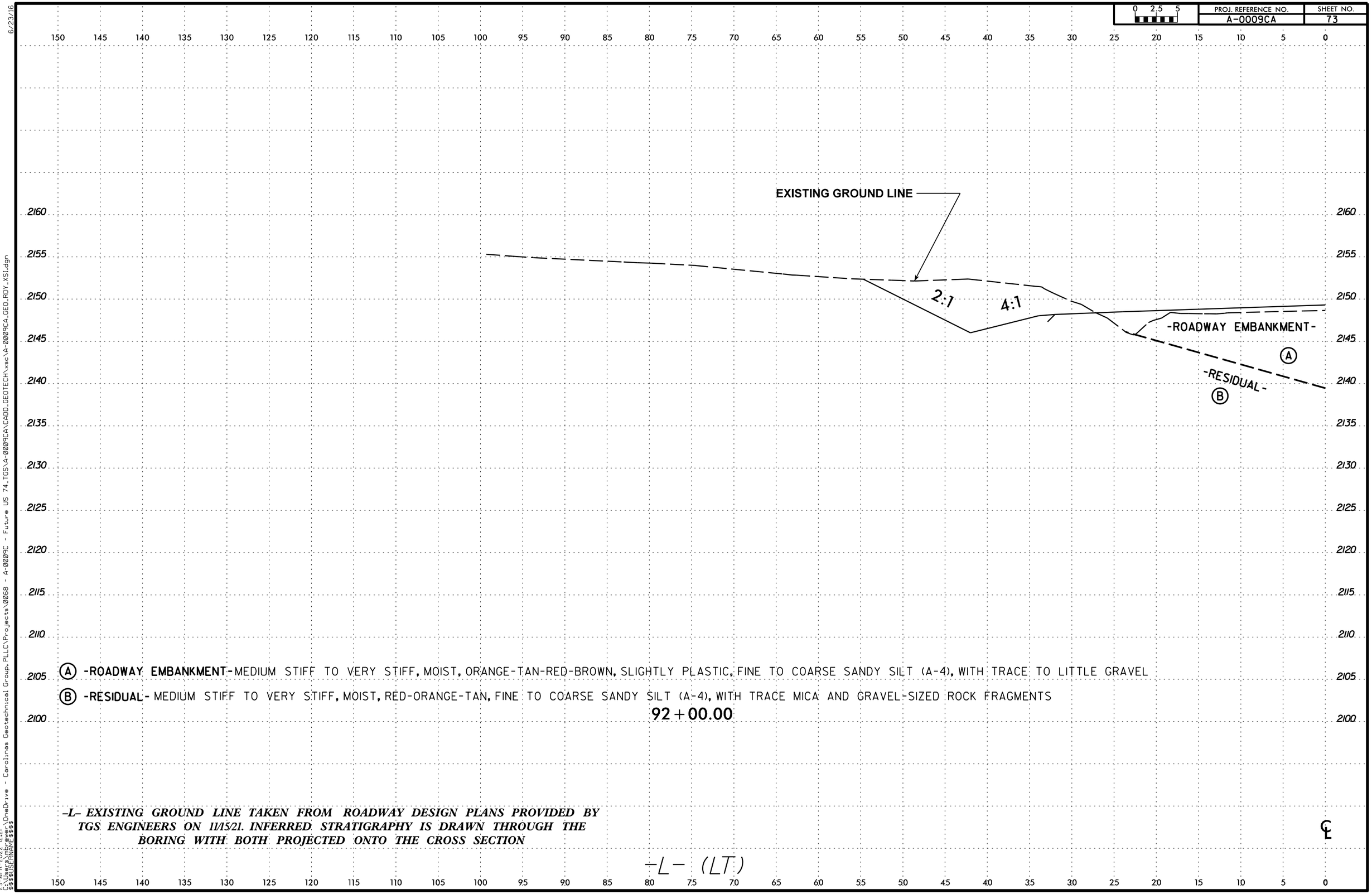
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150

2170 2165 2160 2155 2150 2145 2140 2135 2130 2125 2120 2115 2110 2105 2100 2095 2090 2085

6/23/16

28-APR-2022 12:21
C:\Users\$$$$USERNAME$$$$\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	73



0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	74

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150

2160 2155 2150 2145 2140 2135 2130 2125 2120 2115 2110 2105 2100

-ROADWAY EMBANKMENT-

MEDIUM STIFF TO VERY STIFF, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

2:1

MEDIUM STIFF TO VERY STIFF, MOIST, RED-ORANGE-TAN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE MICA AND GRAVEL-SIZED ROCK FRAGMENTS

-RESIDUAL-

L_9200R
92+00
78' RT

19
6
7
11
13

BT
DRY
10/20

EXISTING GROUND LINE

92+00.00

-L- (RT)

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

29-APR-2022 12:21
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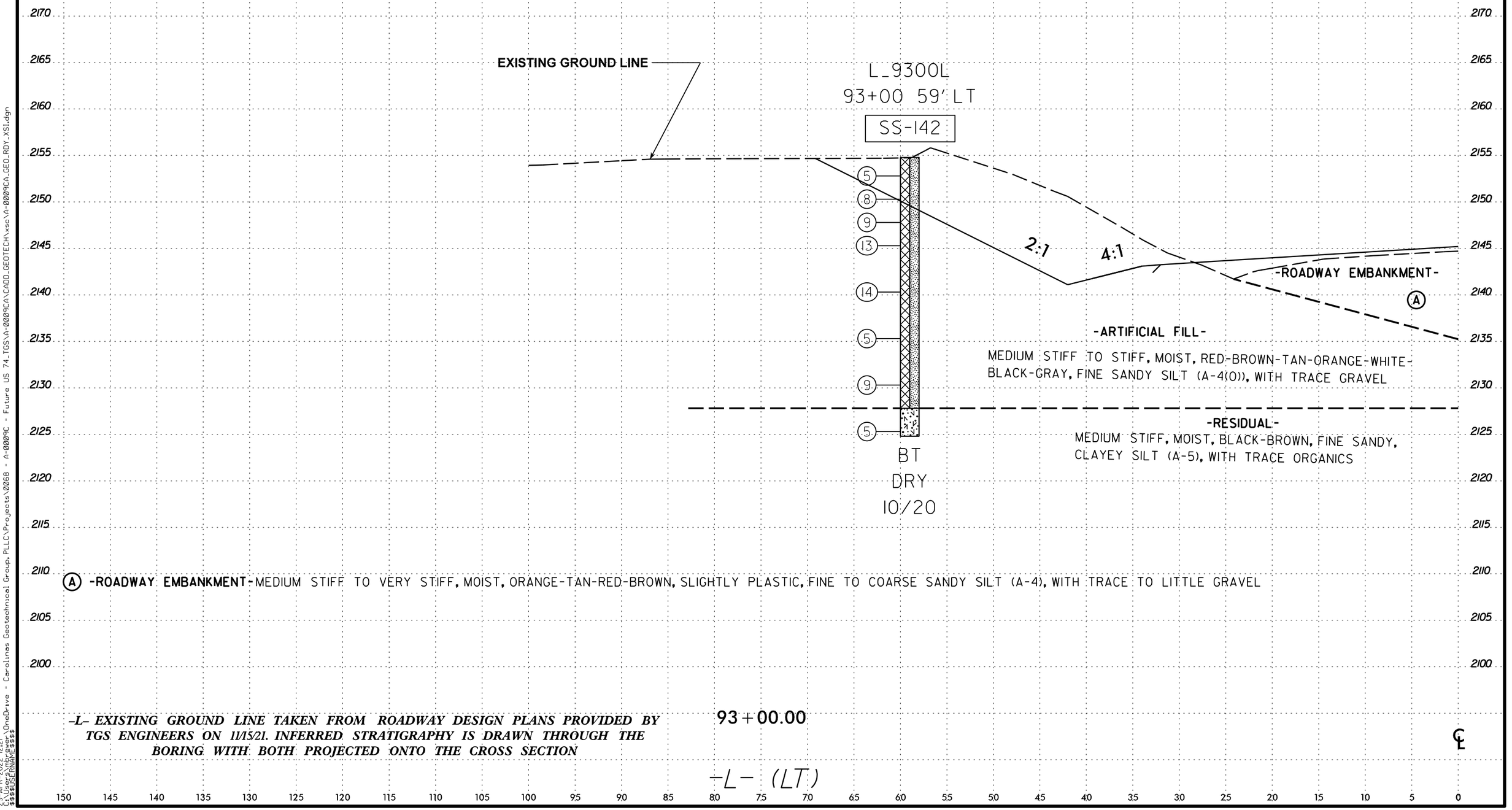
6/23/16

SOIL TEST RESULTS

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		
SS-142	59' LT	93+00 -L-	8.5 - 10.0'	A-4(0)	32	NP	19.0	41.0	28.0	12.0	100.0	88.0	52.0	19.0	-



Ⓐ **-ROADWAY EMBANKMENT-** MEDIUM STIFF TO VERY STIFF, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

93+00.00

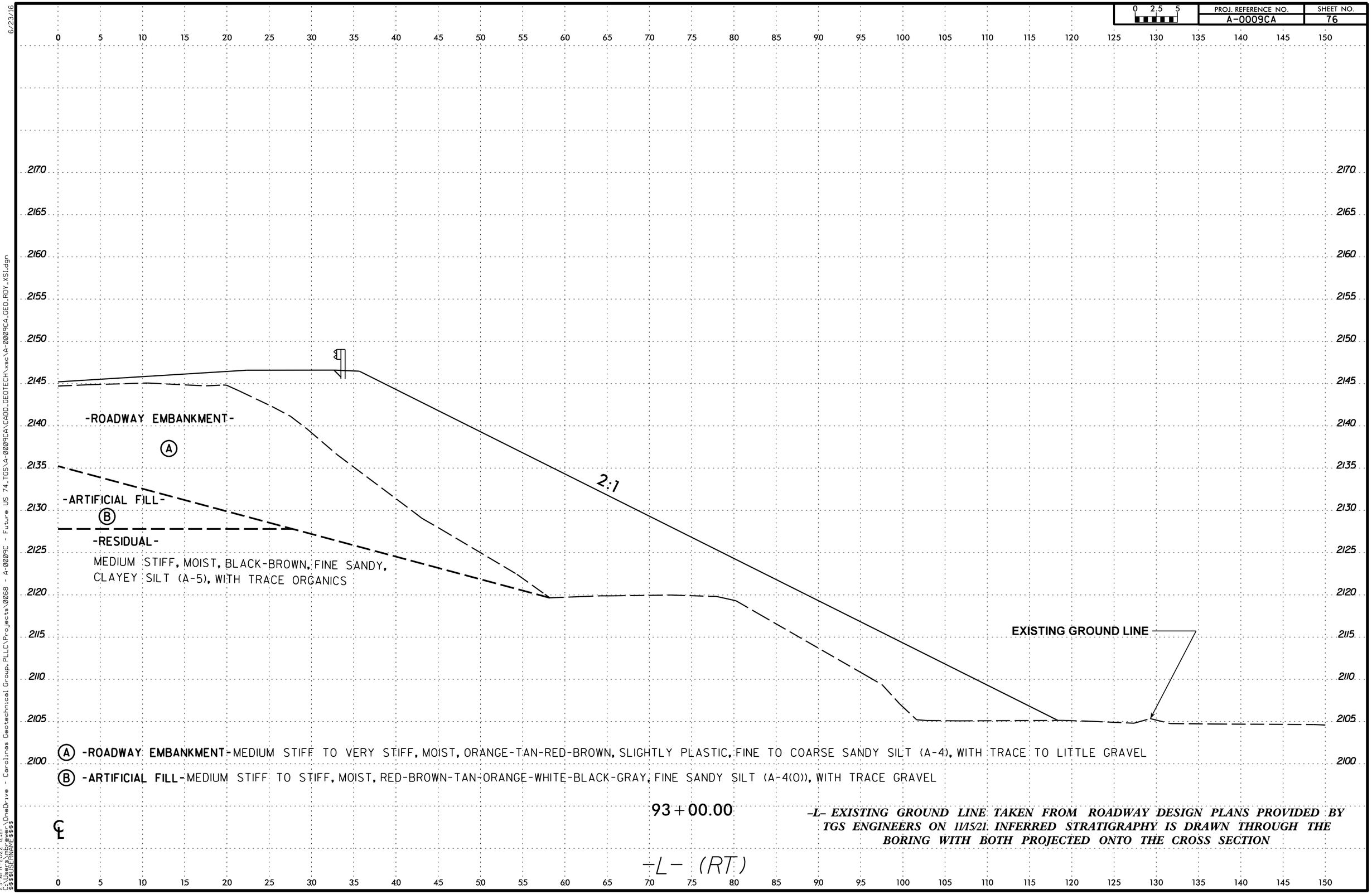
-L- (LT)

℄

150 145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

29-APR-2022 12:21
C:\Users\$$$$USERNAME$$$$\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74 TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn

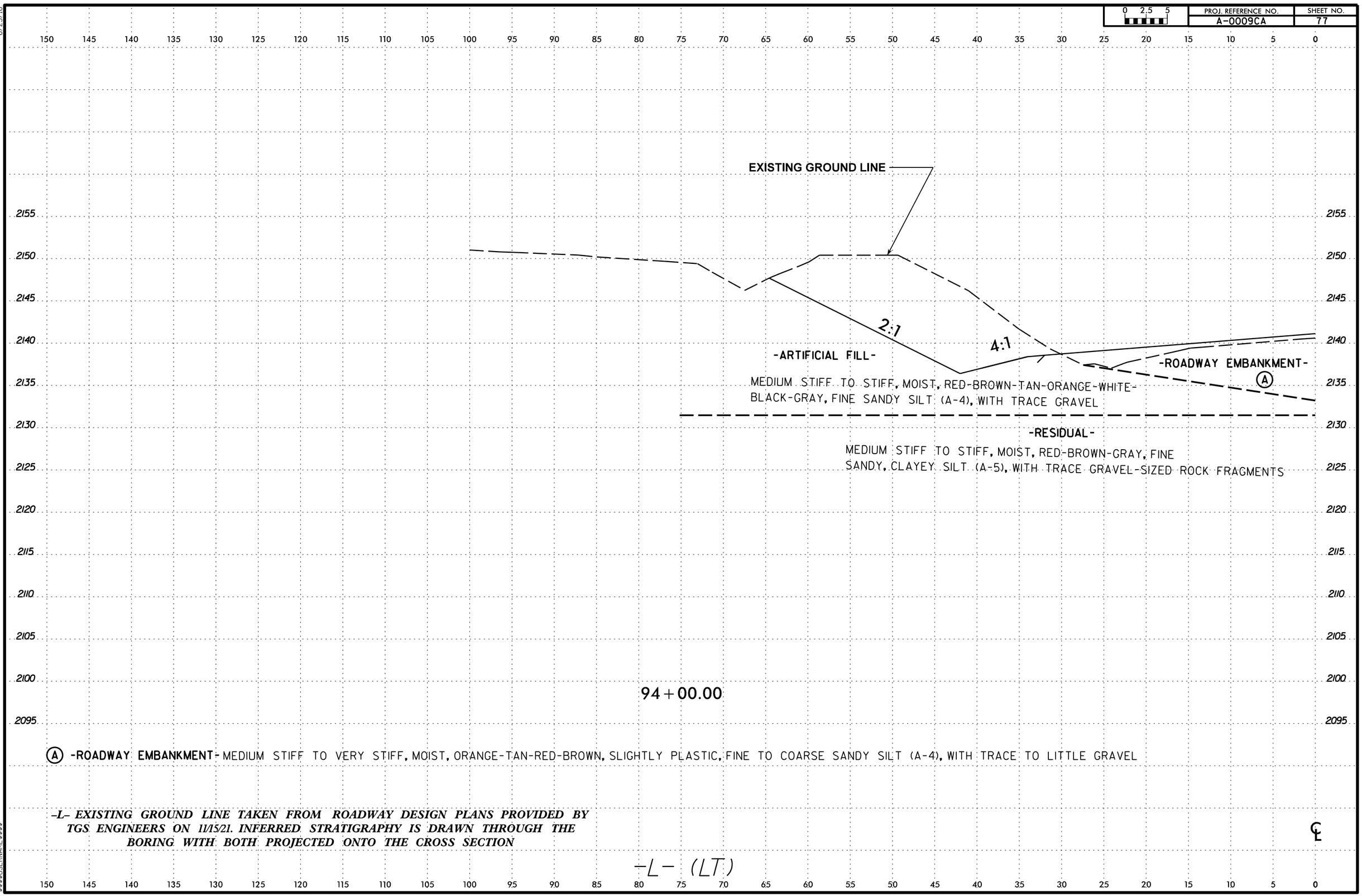
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	76

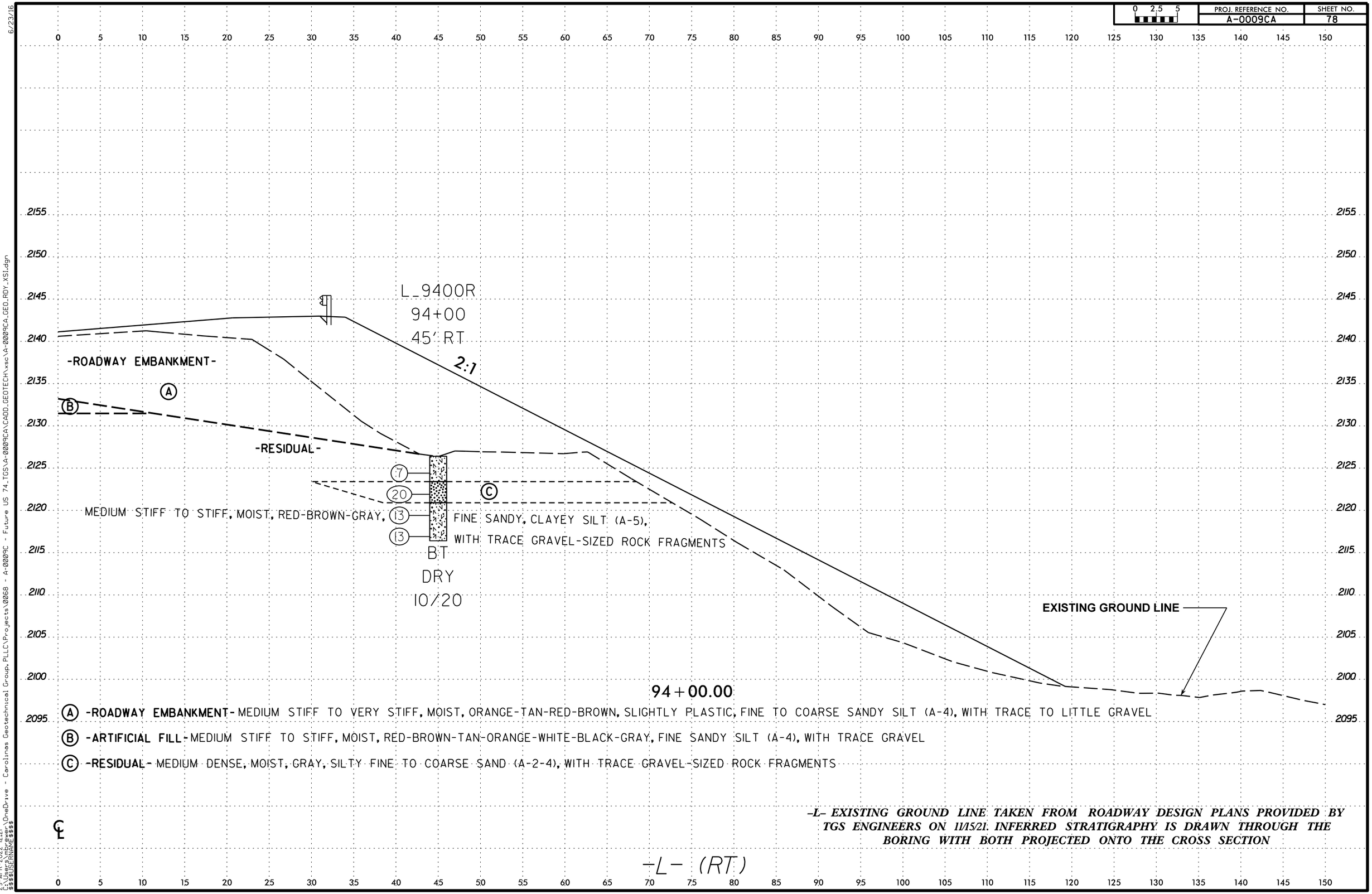


A -**ROADWAY EMBANKMENT**-MEDIUM STIFF TO VERY STIFF, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

B -**ARTIFICIAL FILL**-MEDIUM STIFF TO STIFF, MOIST, RED-BROWN-TAN-ORANGE-WHITE-BLACK-GRAY, FINE SANDY SILT (A-4(0)), WITH TRACE GRAVEL

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION





94+00.00

(A) **-ROADWAY EMBANKMENT-** MEDIUM STIFF TO VERY STIFF, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

(B) **-ARTIFICIAL FILL-** MEDIUM STIFF TO STIFF, MOIST, RED-BROWN-TAN-ORANGE-WHITE-BLACK-GRAY, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

(C) **-RESIDUAL-** MEDIUM DENSE, MOIST, GRAY, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

℄

-L- (RT)

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	79

L_9500L
95+00
68' LT

-ARTIFICIAL FILL-

-RESIDUAL-

BT
DRY
10/20

EXISTING GROUND LINE

-ROADWAY EMBANKMENT-

MEDIUM STIFF TO HARD, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL-SIZED ROCK FRAGMENTS

Ⓐ **-ROADWAY EMBANKMENT-** MEDIUM STIFF TO VERY STIFF, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

Ⓑ **-ARTIFICIAL FILL-** MEDIUM STIFF TO HARD, MOIST, BROWN-ORANGE-RED, FINE SANDY SILT (A-4), WITH TRACE GRAVEL AND ROOTS

95+00.00
℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

29-APR-2022 12:21
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150 145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

EXISTING GROUND LINE

L_9700L
97+00
95' LT

2165 2160 2155 2150 2145 2140 2135 2130 2125 2120 2115 2110 2105 2100 2095

2:1 2:1

-RESIDUAL-
MEDIUM DENSE TO VERY DENSE, MOIST, GRAY-TAN-BROWN, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

43 20 19 34 79 100/0.3 100/0.3 100/0.2 100/0.6 100/0.3 100/0.4 60/0.0

Ⓑ

2:1

4:1

Ⓐ

-WEATHERED ROCK-
(MICA SCHIST)

-CRYSTALLINE ROCK-
(MICA SCHIST)

BT
DRY
10/20

Ⓐ **-ROADWAY EMBANKMENT-** MEDIUM STIFF TO VERY STIFF, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

Ⓑ **-ARTIFICIAL FILL-** DENSE, MOIST, TAN-ORANGE, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE GRAVEL

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

97+00.00

-L- (LT)

℄

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	81

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150

2165 2160 2155 2150 2145 2140 2135 2130 2125 2120 2115 2110 2105 2100 2095

4:1 2:1

EXISTING GROUND LINE

Ⓐ

-WEATHERED ROCK-
(MICA SCHIST)

Ⓐ **-ROADWAY EMBANKMENT-** MEDIUM STIFF TO VERY STIFF, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

97+00.00

℄

-L- (RT)

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

29-APR-2022 12:21
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$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	82

0 2.5 5

150 145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

L_9750L
97+50
94' LT

EXISTING GROUND LINE

2:1

2165
2160
2155
2150
2145
2140
2135
2130
2125
2120
2115
2110
2105
2100

-RESIDUAL-

MEDIUM DENSE TO VERY DENSE, MOIST, GRAY-
COARSE SAND (A-2-4), WITH TRACE

TAN-BROWN, SILTY FINE TO
GRAVEL-SIZED ROCK FRAGMENTS

2:1

-WEATHERED ROCK-
(MICA SCHIST)

4:1

Ⓐ

60/0.0
BT
DRY
10/20

-CRYSTALLINE ROCK-
(MICA SCHIST)

Ⓐ -ROADWAY EMBANKMENT- MEDIUM STIFF TO VERY STIFF, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

97+50.00

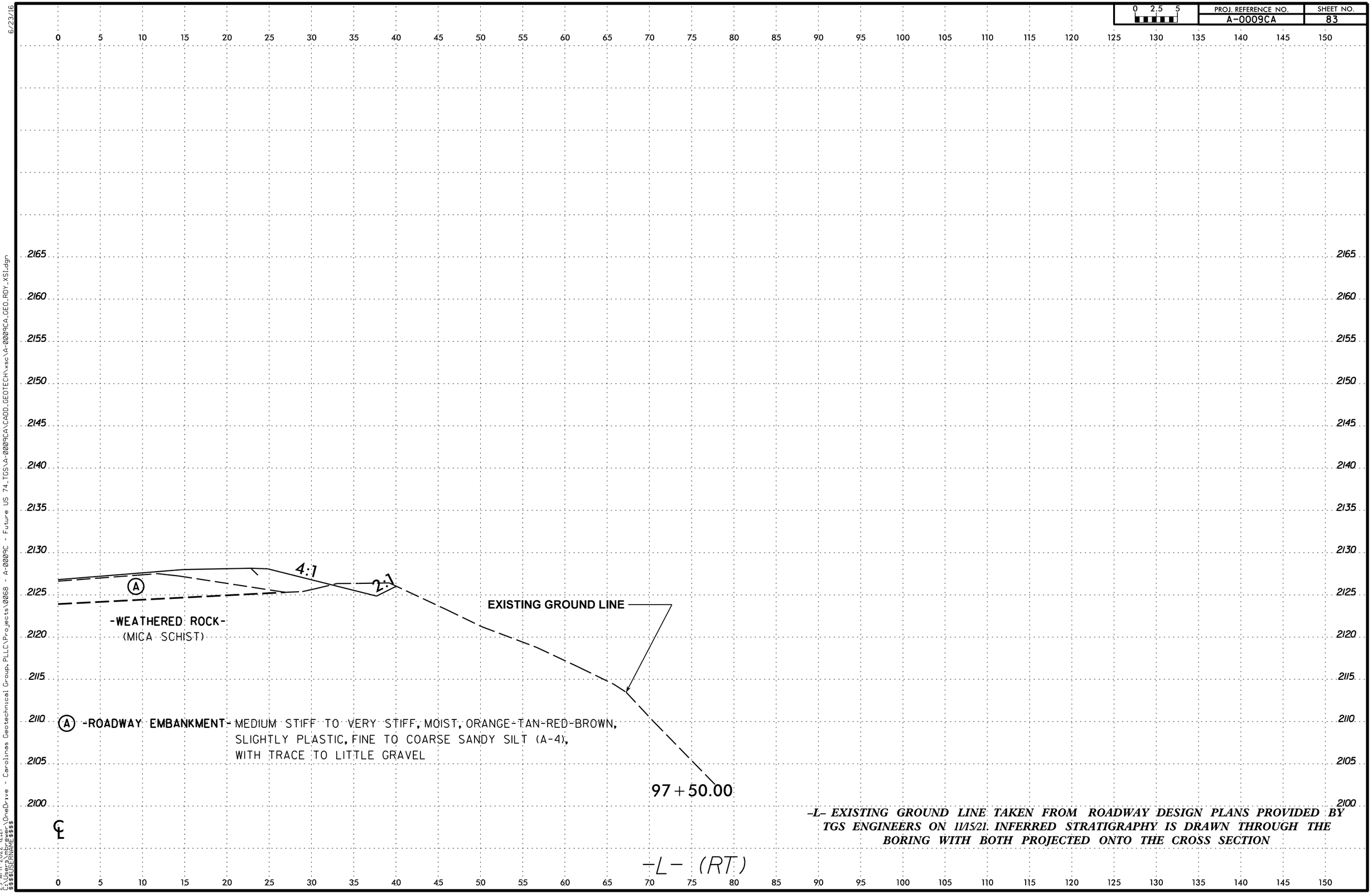
-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

-L- (LT)

150 145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	83

0 2.5 5



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	84

EXISTING GROUND LINE

L_9800L
98+00
97' LT

2:1

-RESIDUAL-

MEDIUM DENSE TO VERY DENSE, MOIST, GRAY-
COARSE SAND (A-2-4), WITH TRACE

TAN-BROWN, SILTY FINE TO
GRAVEL-SIZED ROCK FRAGMENTS

-WEATHERED ROCK-
(MICA SCHIST)

60/0.1

BT
DRY
10/20

-CRYSTALLINE ROCK-
(MICA SCHIST)

2:1 4:1

Ⓐ -RESIDUAL-

Ⓑ -CRYSTALLINE ROCK-
(MICA SCHIST)

Ⓐ **-ROADWAY EMBANKMENT-** MEDIUM STIFF TO VERY STIFF, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

Ⓑ **-RESIDUAL-** MEDIUM DENSE TO VERY DENSE, MOIST, GRAY-TAN-BROWN, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

98+00.00

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

-L- (LT.)

0 2.5 5

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150

2165 2160 2155 2150 2145 2140 2135 2130 2125 2120 2115 2110 2105 2100

EXISTING GROUND LINE

4:1

2:1

Ⓐ

-RESIDUAL-

Ⓑ

-CRYSTALLINE ROCK-
(MICA SCHIST)

Ⓐ **-ROADWAY EMBANKMENT-** MEDIUM STIFF TO VERY STIFF, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

98+00.00

℄

-L- (RT)

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

150 145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

EXISTING GROUND LINE

L_9900L
99+00
100' LT

2170 2165 2160 2155 2150 2145 2140 2135 2130 2125 2120 2115 2110 2105 2100

-RESIDUAL-

MEDIUM DENSE TO VERY DENSE, MOIST, GRAY-TAN-ORANGE-WHITE, SILTY FINE SAND (A-2-4), WITH TRACE

13
19
11
6
20
25
100/1.0
100/0.4
60/0.0

BLACK-GRAY-BROWN-GRAVEL-SIZED ROCK FRAGMENTS

2:1

-WEATHERED ROCK-
(MICA SCHIST)

BT
DRY
10/20

-CRYSTALLINE ROCK-
(MICA SCHIST)

4:1

Ⓐ

-RESIDUAL-

-CRYSTALLINE ROCK-
(MICA SCHIST)

Ⓐ **-ROADWAY EMBANKMENT-** MEDIUM STIFF TO VERY STIFF, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

99+00.00

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

-L- (LT)

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	87

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150

2170 2165 2160 2155 2150 2145 2140 2135 2130 2125 2120 2115 2110 2105 2100

EXISTING GROUND LINE

4:1

2:1

2118.16

Ⓐ

-RESIDUAL-

Ⓐ -ROADWAY EMBANKMENT- MEDIUM STIFF TO VERY STIFF, MOIST, ORANGE-TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

99+00.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

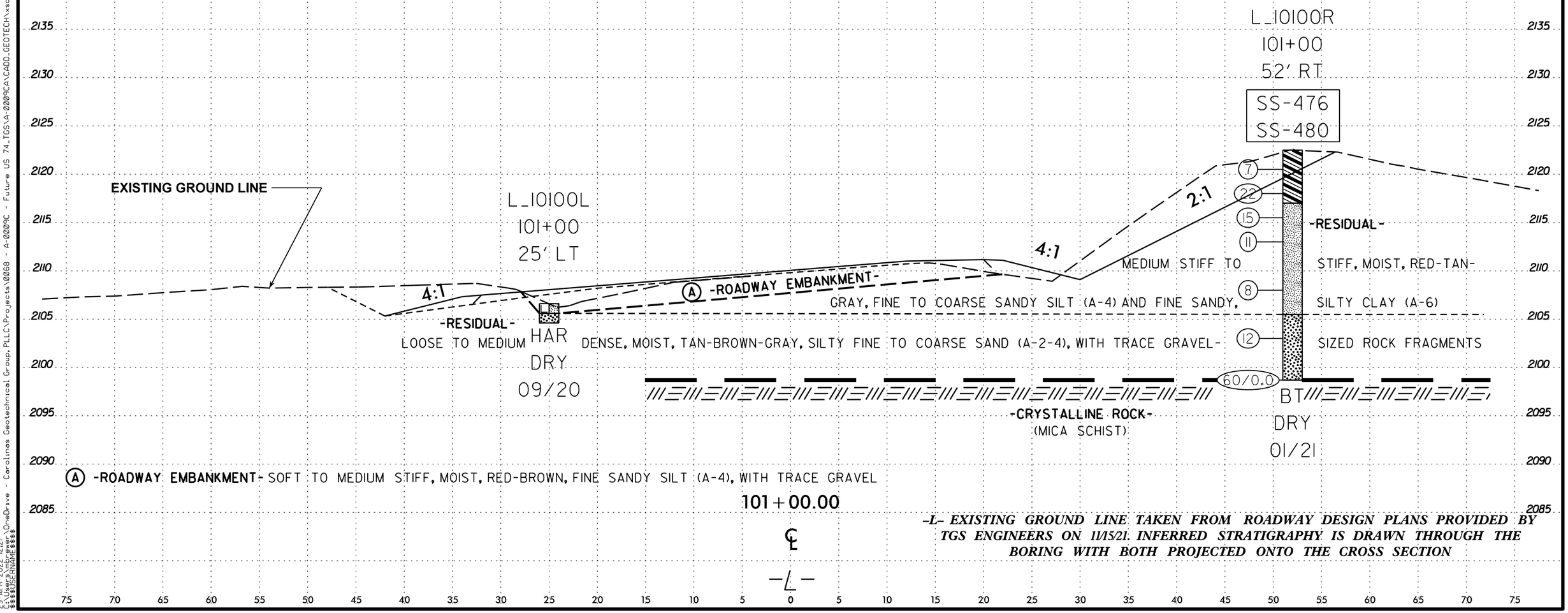
-L- (RT)

29-APR-2022 12:21
C:\Users\$USERNAME$\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn
$$$$USERNAME$$$$

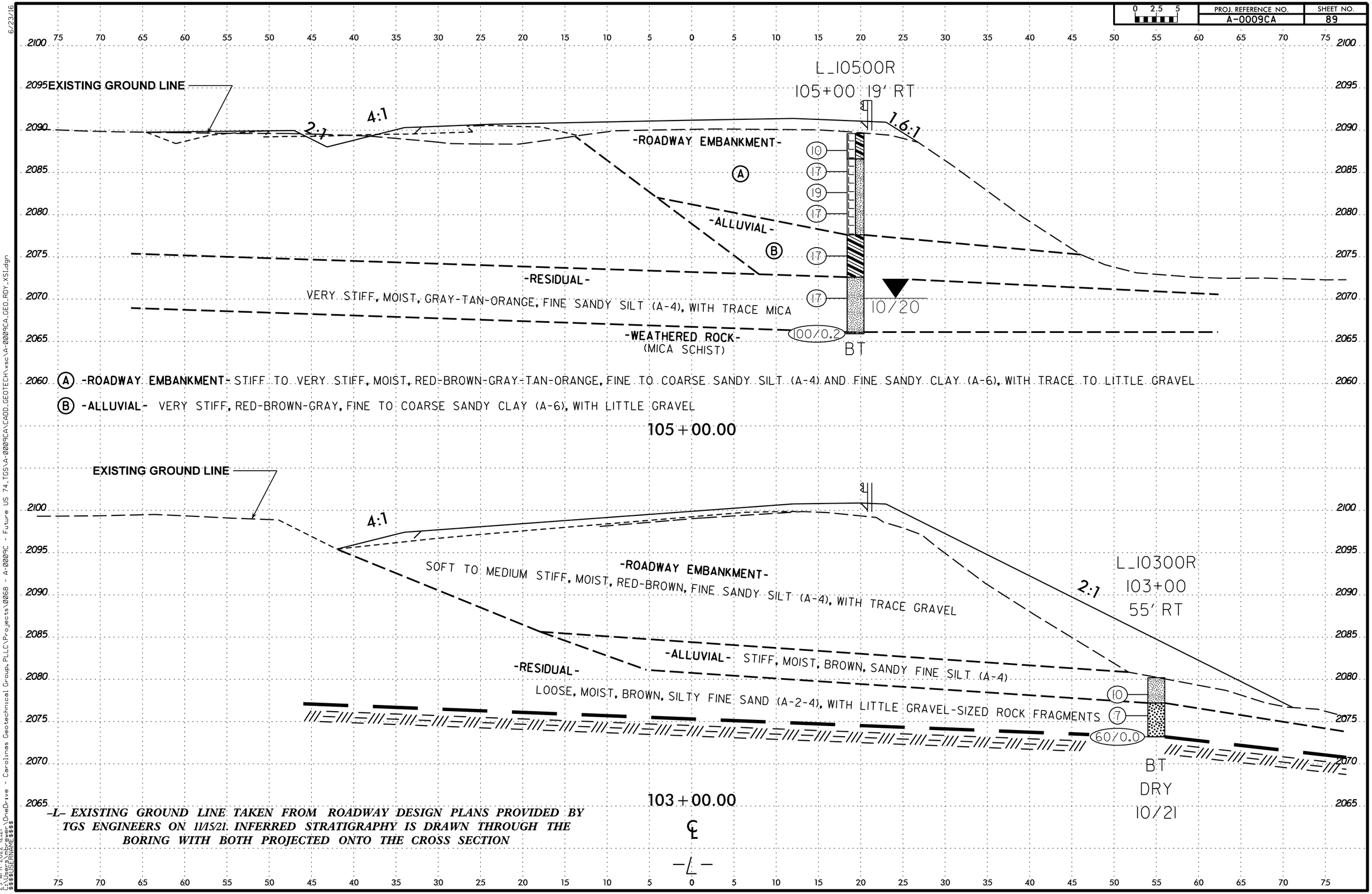
6/23/16

SOIL TEST RESULTS

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		
SS-476	52' RT	101+00 -L-	1.0 - 2.5'	A-6(7)	39	11	8.0	31.0	15.0	46.0	100.0	97.0	67.0	26.0	-
SS-480	52' RT	101+00 -L-	13.5 - 15.0'	A-4(0)	25	NP	21.0	52.0	17.0	10.0	100.0	89.0	37.0	14.0	-



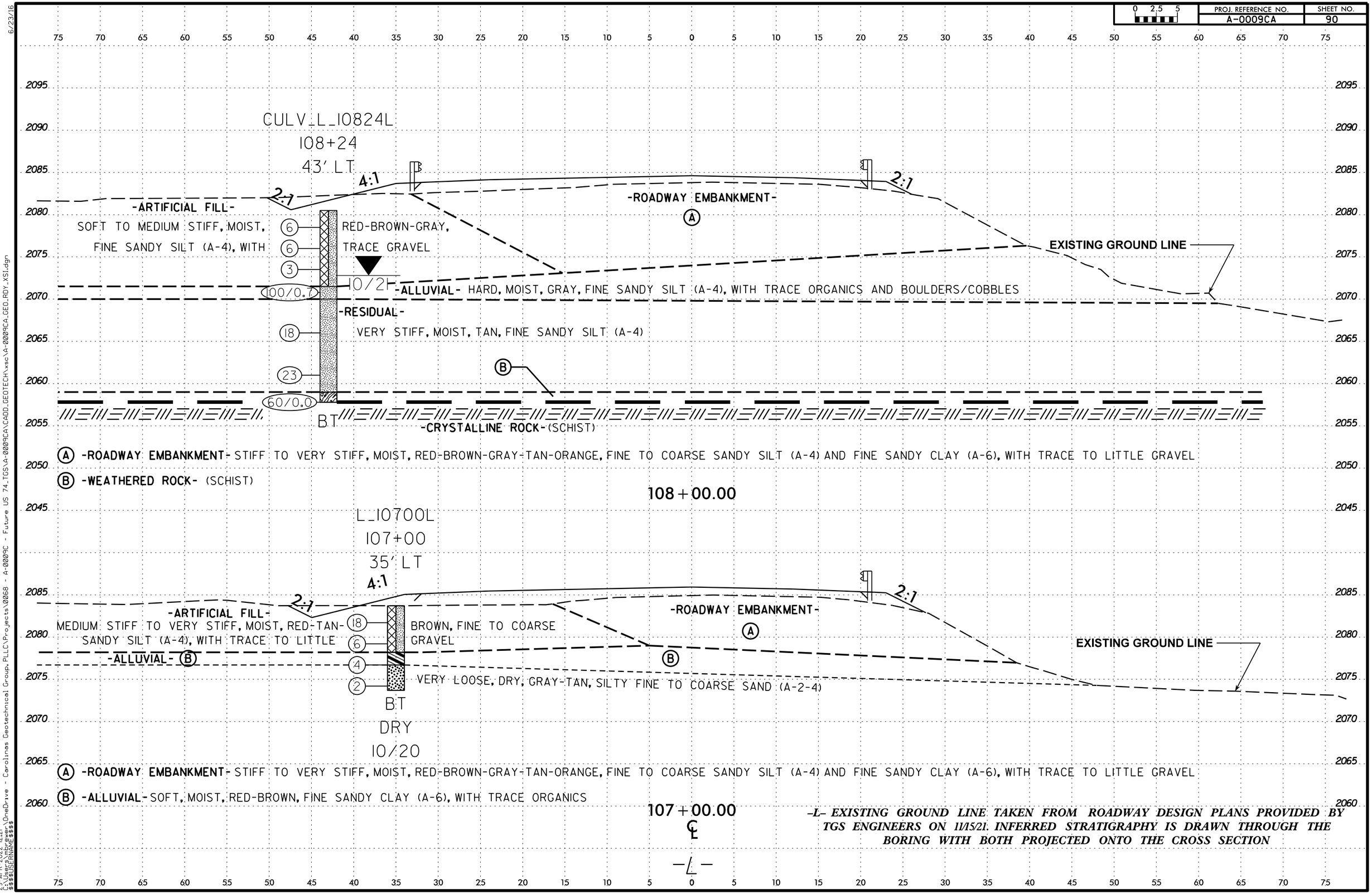
-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



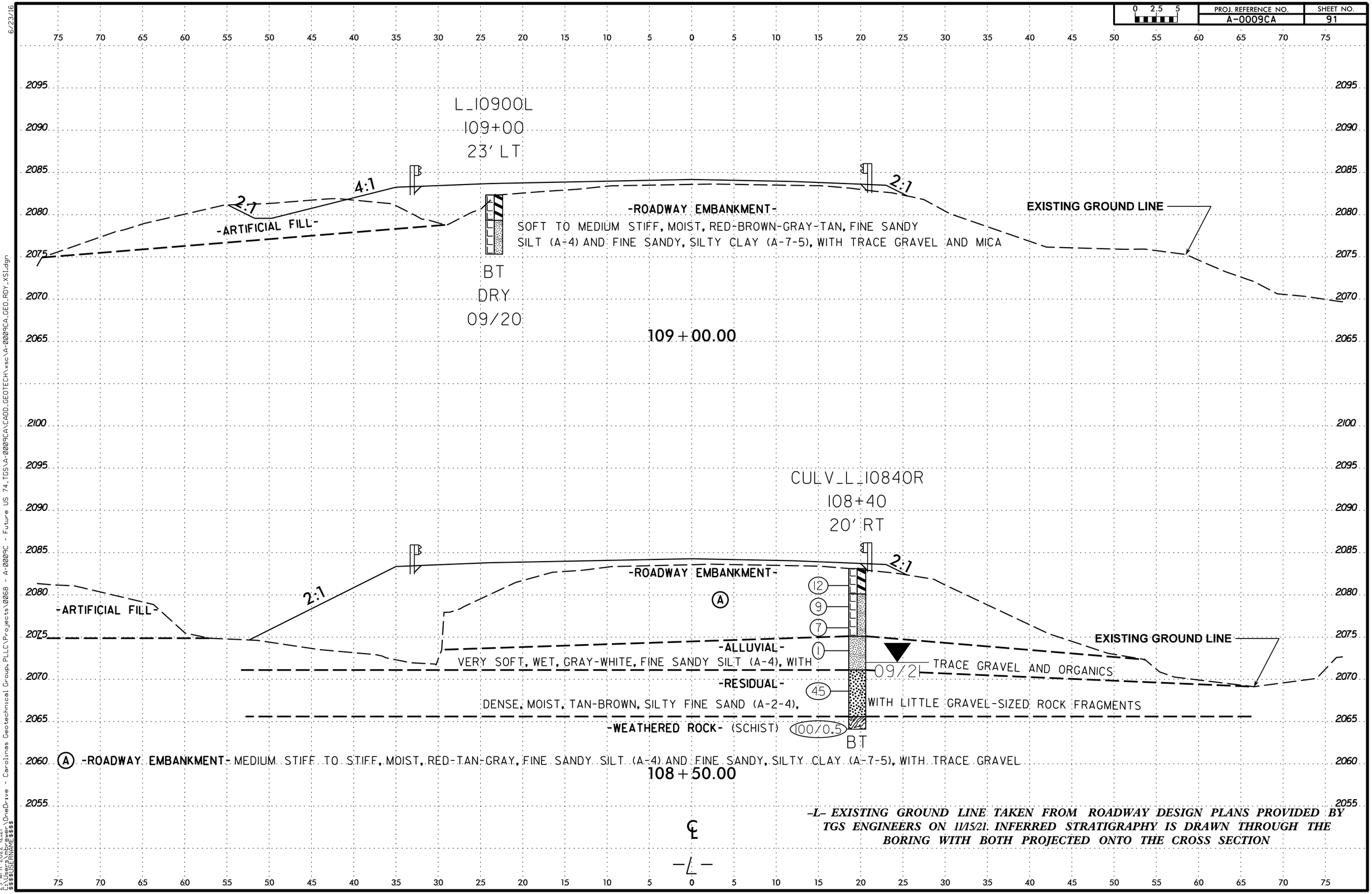
(A) **-ROADWAY EMBANKMENT-** STIFF TO VERY STIFF, MOIST, RED-BROWN-GRAY-TAN-ORANGE, FINE TO COARSE SANDY SILT (A-4) AND FINE SANDY CLAY (A-6), WITH TRACE TO LITTLE GRAVEL

(B) **-ALLUVIAL-** VERY STIFF, RED-BROWN-GRAY, FINE TO COARSE SANDY CLAY (A-6), WITH LITTLE GRAVEL

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

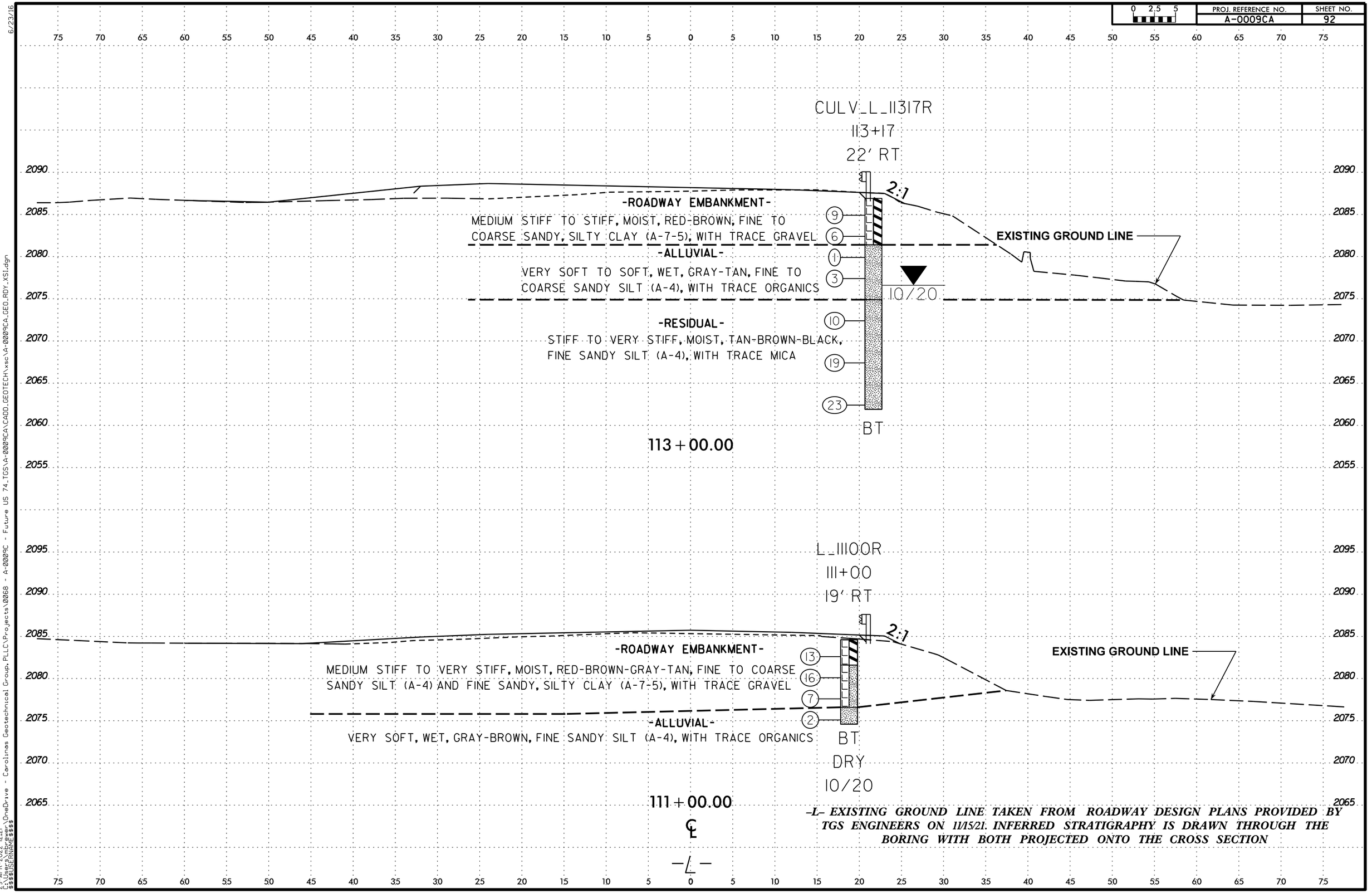


-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

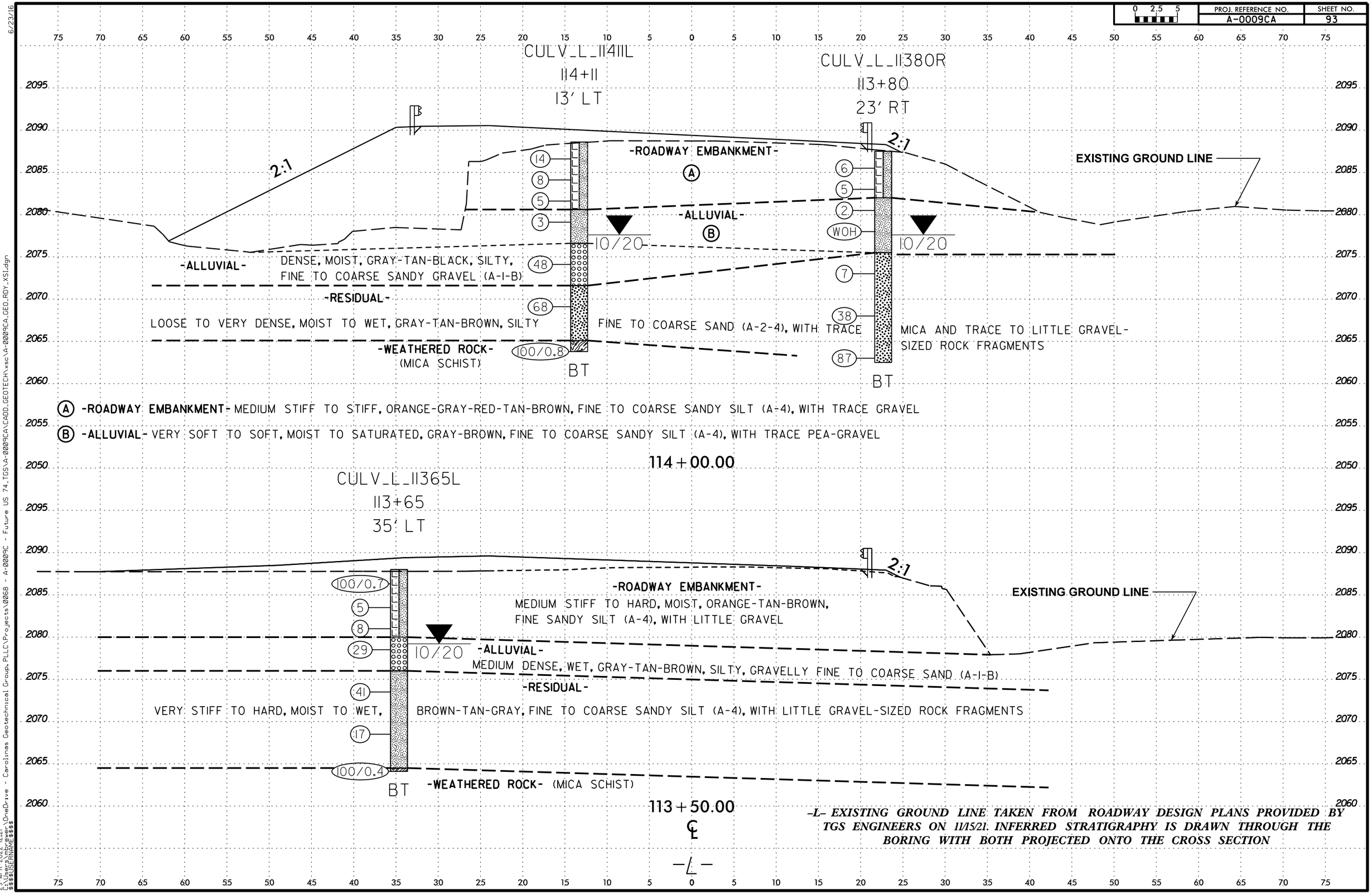


-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

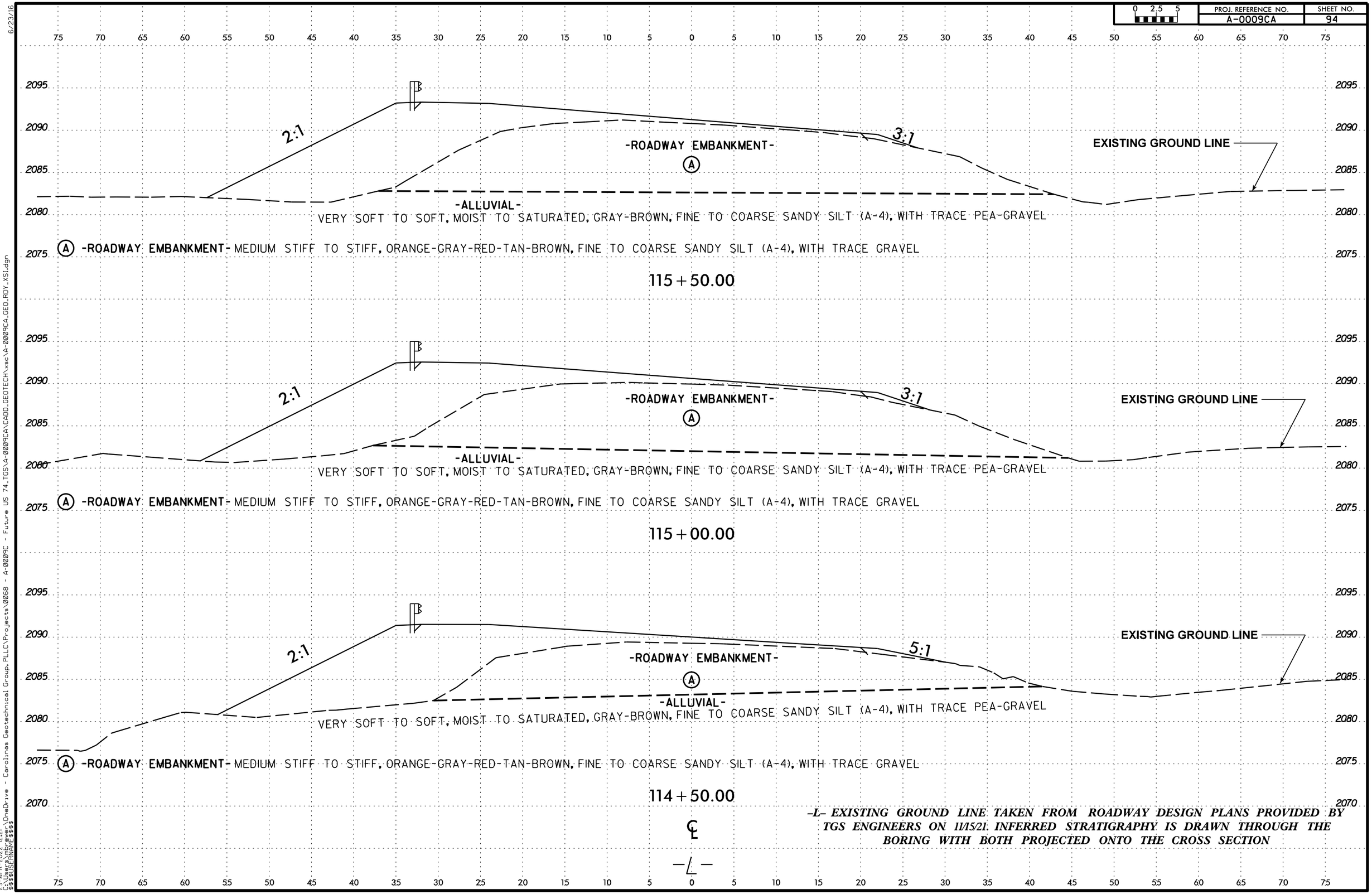
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	92



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	94



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2100 2095 2090 2085 2080 2075

2:1

2:9:1

-ROADWAY EMBANKMENT-

Ⓐ

116 + 50.00

EXISTING GROUND LINE

-ALLUVIAL-

VERY SOFT TO SOFT, MOIST TO SATURATED, GRAY-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE PEA-GRAVEL

Ⓐ -ROADWAY EMBANKMENT- MEDIUM STIFF TO STIFF, ORANGE-GRAY-RED-TAN-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL

2095 2090 2085 2080 2075 2070

2:1

3:1

-ROADWAY EMBANKMENT-

Ⓐ

EXISTING GROUND LINE

-ALLUVIAL-

VERY SOFT TO SOFT, MOIST TO SATURATED, GRAY-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE PEA-GRAVEL

Ⓐ -ROADWAY EMBANKMENT- MEDIUM STIFF TO STIFF, ORANGE-GRAY-RED-TAN-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL

116 + 00.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	96

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2100 2095 2090 2085 2080 2075

2:1

EXISTING GROUND LINE

-ROADWAY EMBANKMENT-

Ⓐ

-ALLUVIAL-

VERY SOFT TO SOFT, MOIST TO SATURATED, GRAY-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE PEA-GRAVEL

Ⓐ **-ROADWAY EMBANKMENT-** MEDIUM STIFF TO STIFF, ORANGE-GRAY-RED-TAN-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL

117 + 50.00

2100 2095 2090 2085 2080 2075

2:1

4:1

EXISTING GROUND LINE

-ROADWAY EMBANKMENT-

Ⓐ

-ALLUVIAL-

VERY SOFT TO SOFT, MOIST TO SATURATED, GRAY-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE PEA-GRAVEL

Ⓐ **-ROADWAY EMBANKMENT-** MEDIUM STIFF TO STIFF, ORANGE-GRAY-RED-TAN-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL

117 + 00.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

6/23/16

29-APR-2022 12:21
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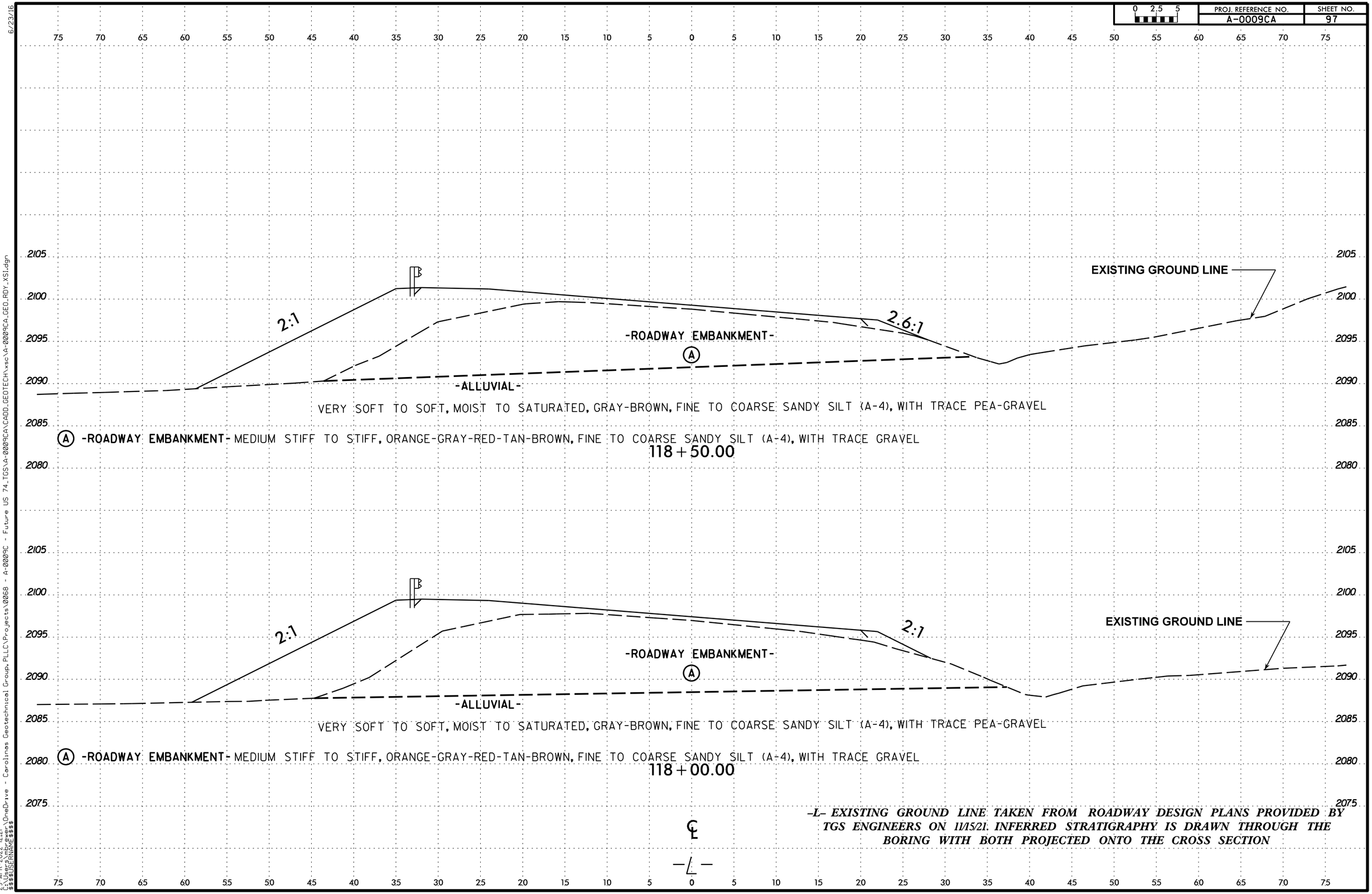

–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	98

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2115 2110 2105 2100 2095 2090 2085

EXISTING GROUND LINE

2:1

4:1

Ⓐ -ROADWAY EMBANKMENT-

-RESIDUAL- MEDIUM DENSE TO VERY DENSE, DRY, TAN-ORANGE-GRAY, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE MICA

119 + 50.00

EXISTING GROUND LINE

2:1

-ROADWAY EMBANKMENT-

Ⓐ

4:1

2:1

2096.11

-ALLUVIAL-

VERY SOFT TO SOFT, MOIST TO SATURATED, GRAY-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE PEA-GRAVEL

Ⓐ -ROADWAY EMBANKMENT- MEDIUM STIFF TO STIFF, ORANGE-GRAY-RED-TAN-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL

119 + 00.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

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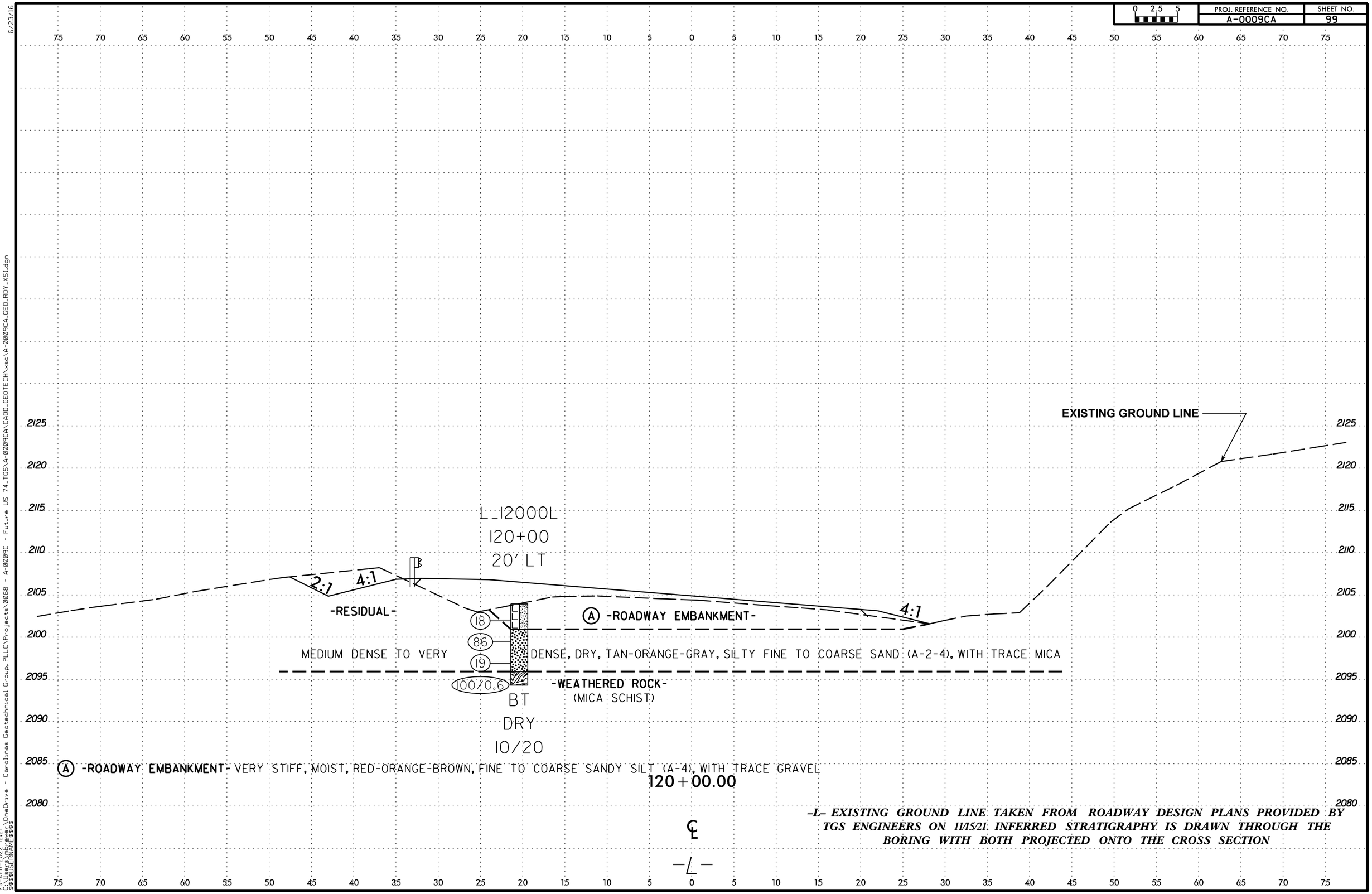
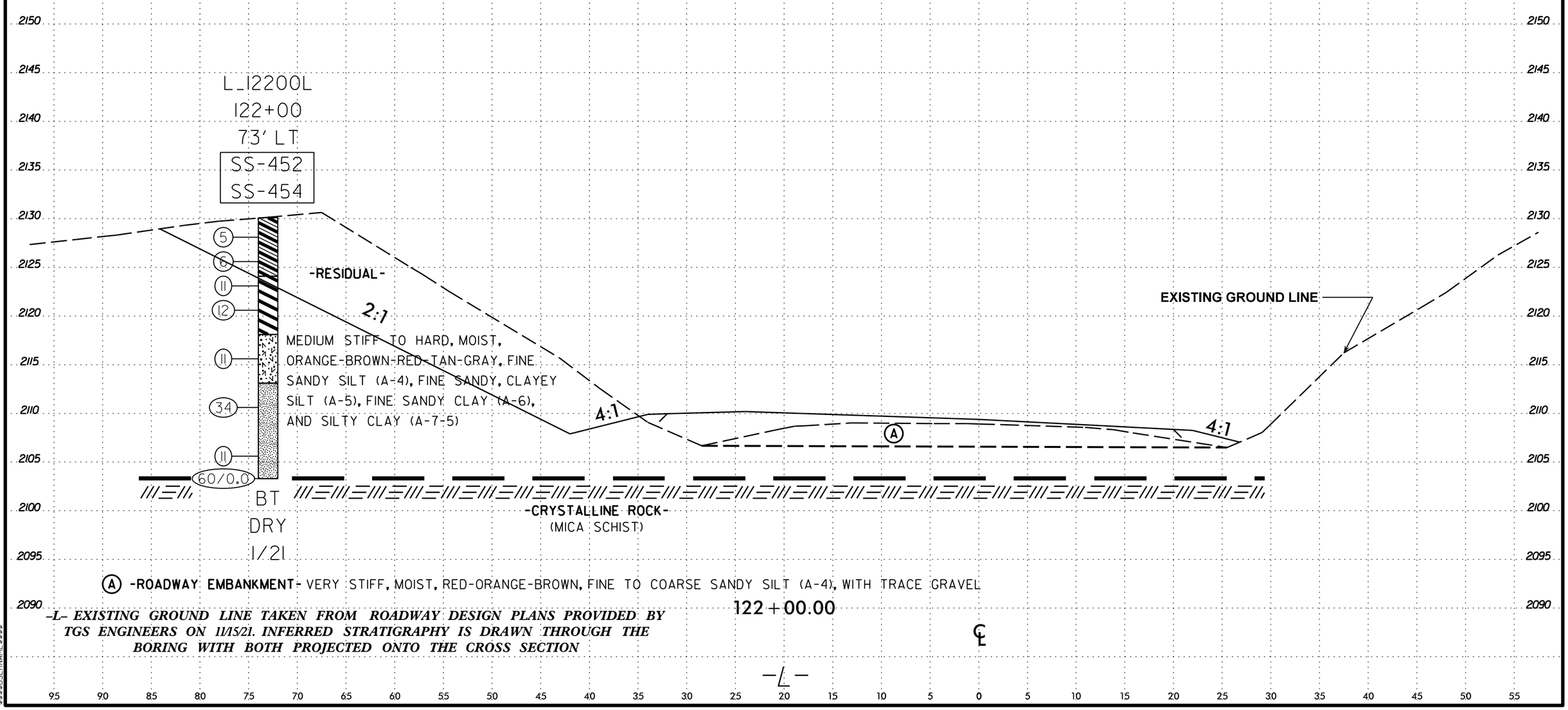


–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	100

SOIL TEST RESULTS

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		
SS-452	73' LT	122+00 -L-	3.5 - 5.0'	A-6(10)	39	12	6.0	21.0	25.0	48.0	100.0	97.0	78.0	25.0	-
SS-454	73' LT	122+00 -L-	8.5 - 10.0'	A-7-5(13)	49	12	6.0	17.0	12.0	65.0	100.0	97.0	81.0	34.0	-



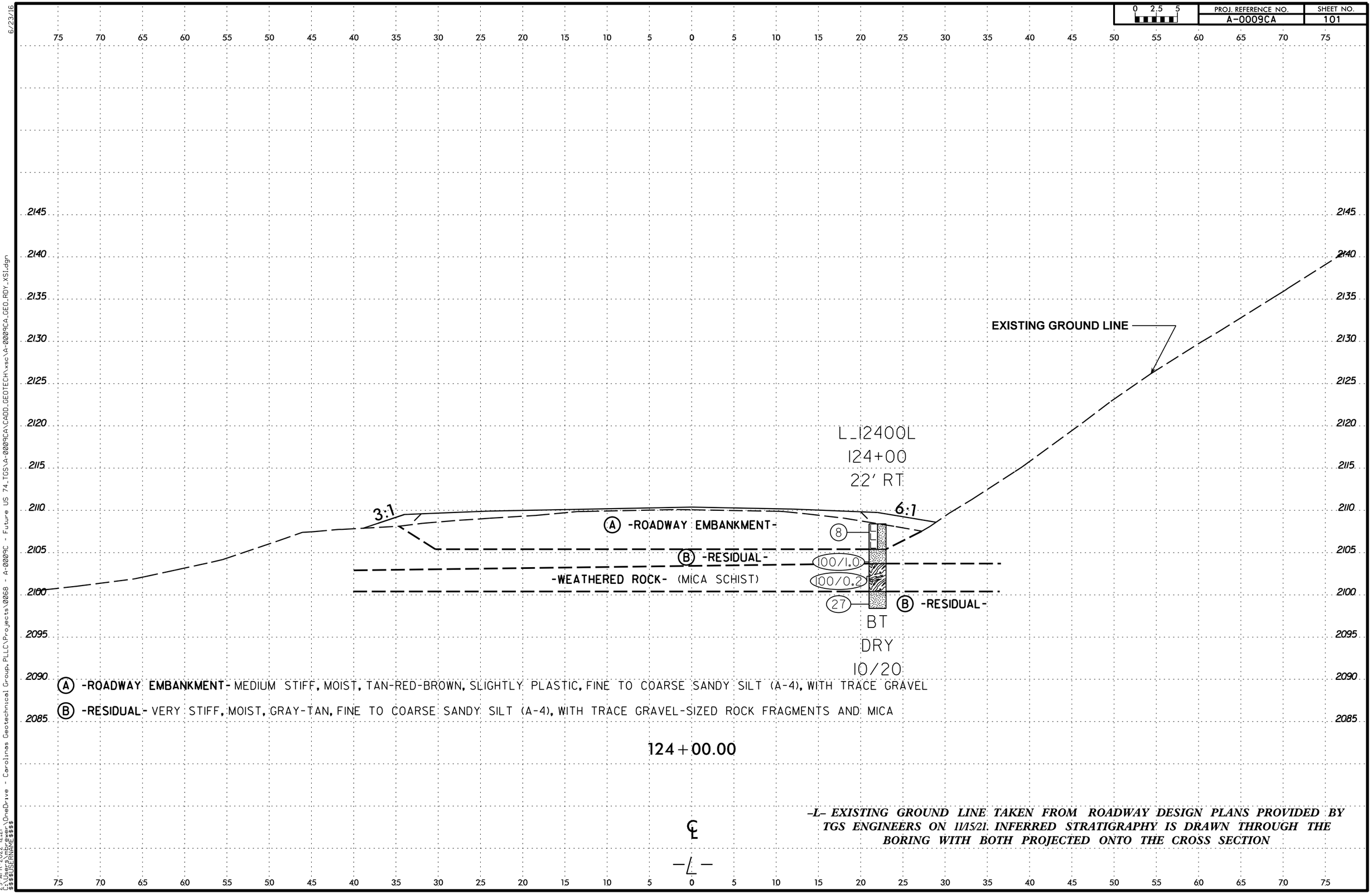
(A) **-ROADWAY EMBANKMENT-** VERY STIFF, MOIST, RED-ORANGE-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

122+00.00

℄

-L-



(A) **-ROADWAY EMBANKMENT-** MEDIUM STIFF, MOIST, TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL

(B) **-RESIDUAL-** VERY STIFF, MOIST, GRAY-TAN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS AND MICA

124+00.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	102

0 2.5 5

L_I2800R
I28+00
22' RT

EXISTING GROUND LINE

2:1 4:1 4:1

(A) -ROADWAY EMBANKMENT-

-COLLUVIAL-
VERY LOOSE, MOIST TO SATURATED, GRAY-TAN, SILTY FINE TO COARSE SAND (A-2-4)

-RESIDUAL- VERY STIFF, MOIST, ORANGE-TAN-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH LITTLE GRAVEL-SIZED ROCK FRAGMENTS

15 3 WOH 23 — 01/21 — BT

(A) -ROADWAY EMBANKMENT- STIFF, MOIST, TAN-BROWN, FINE TO COARSE SANDY, SILTY CLAY (A-7-5), WITH TRACE ORGANICS

128+00.00

L_I2600L
I26+00
35' LT

EXISTING GROUND LINE

2:1 4:1 4:1

(A) -ROADWAY EMBANKMENT-

-COLLUVIAL-
6 3 100/0.7 60/0.1 — 01/21 — BT

SOFT TO MEDIUM STIFF, WET TO SATURATED, BROWN-TAN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL

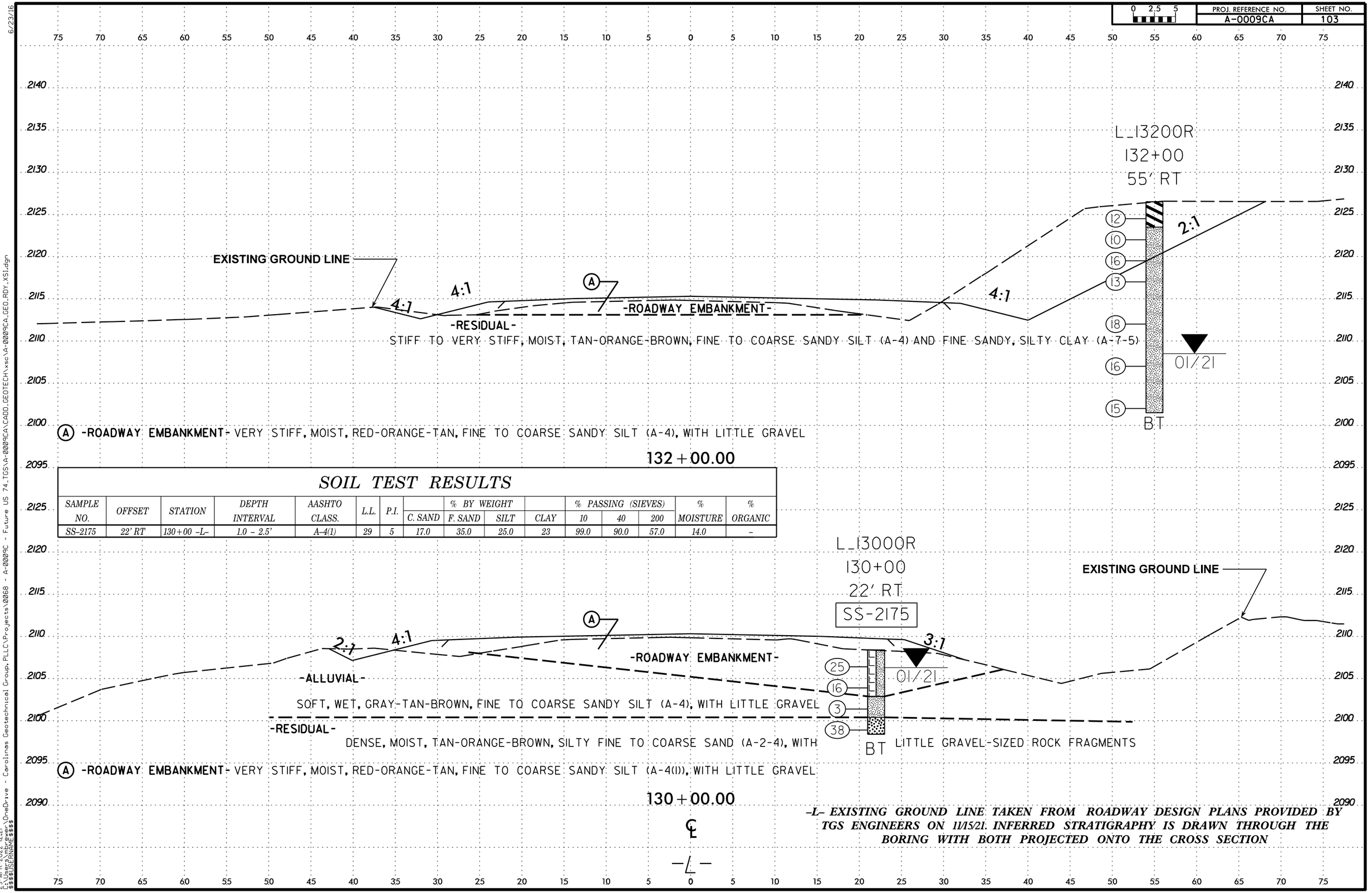
-WEATHERED ROCK- (MICA SCHIST)

-CRYSTALLINE ROCK-(MICA SCHIST)

(A) -ROADWAY EMBANKMENT- MEDIUM STIFF, MOIST, TAN-RED-BROWN, SLIGHTLY PLASTIC, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL

126+00.00

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



SOIL TEST RESULTS

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
SS-2175	22' RT	130+00 -L-	1.0 - 2.5'	A-4(1)	29	5	17.0	35.0	25.0	23	99.0	90.0	57.0	14.0	-

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	104

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2125 2120 2115 2110 2105 2090 2130 2125 2120 2115 2110 2105 2100 2125 2120 2115 2110

2:1

-ROADWAY EMBANKMENT-
VERY STIFF, MOIST, RED-ORANGE-TAN, FINE TO COARSE SANDY, CLAYEY SILT (A-4), WITH LITTLE GRAVEL

-ALLUVIAL-
SOFT, WET, BROWN-TAN, FINE SANDY, SILTY CLAY (A-7-5)

EXISTING GROUND LINE

134+50.00

L_13400R
134+00
40' RT

4:1

-ROADWAY EMBANKMENT-
VERY STIFF, MOIST, RED-ORANGE-TAN, FINE TO COARSE SANDY SILT (A-4), WITH LITTLE GRAVEL

-ALLUVIAL-
SOFT, WET, BROWN-TAN, FINE SANDY, SILTY CLAY (A-7-5)

LOOSE TO VERY DENSE, BROWN-TAN-GRAY, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE GRAVEL

2:1

EXISTING GROUND LINE

01/21

3
51
7
7

B.T

134+00.00

4:1 4:1

-ROADWAY EMBANKMENT-
VERY STIFF, MOIST, RED-ORANGE-TAN, FINE TO COARSE SANDY SILT (A-4), WITH LITTLE GRAVEL

-ALLUVIAL-
SOFT, WET, BROWN-TAN, FINE SANDY, SILTY CLAY (A-7-5)

3:1

EXISTING GROUND LINE

133+50.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

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6/23/16

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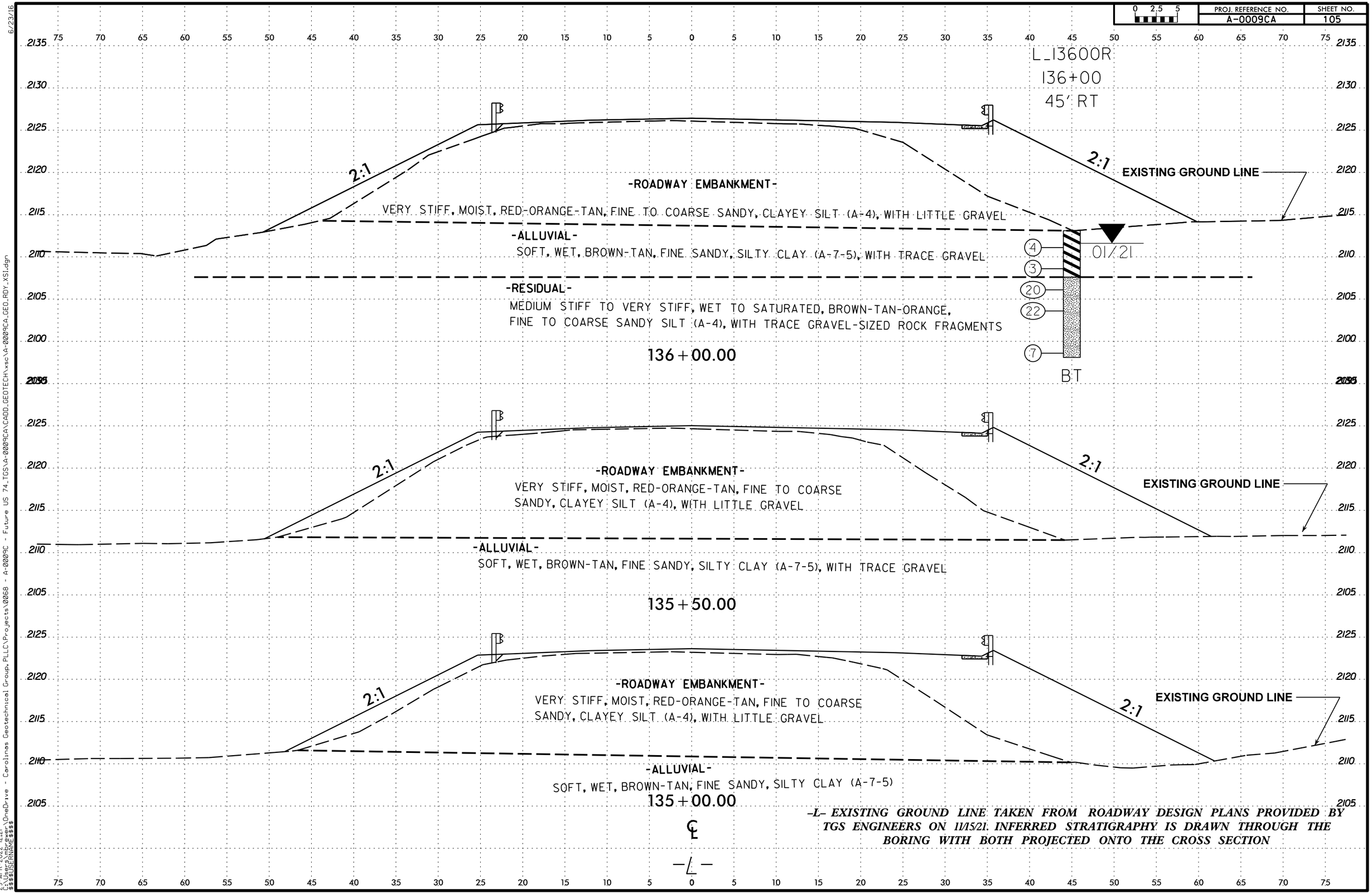

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	106

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2135 2130 2125 2120 2115 2110 2105

2:1

2:1

EXISTING GROUND LINE

-ROADWAY EMBANKMENT-

VERY STIFF, MOIST, RED-ORANGE-TAN, FINE TO COARSE SANDY, CLAYEY SILT (A-4), WITH LITTLE GRAVEL

-ALLUVIAL-

SOFT, WET, BROWN-TAN, FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL

137+50.00

2:1

2:1

EXISTING GROUND LINE

-ROADWAY EMBANKMENT-

VERY STIFF, MOIST, RED-ORANGE-TAN, FINE TO COARSE SANDY, CLAYEY SILT (A-4), WITH LITTLE GRAVEL

-ALLUVIAL-

SOFT, WET, BROWN-TAN, FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL

137+00.00

2:1

2:1

EXISTING GROUND LINE

-ROADWAY EMBANKMENT-

VERY STIFF, MOIST, RED-ORANGE-TAN, FINE TO COARSE SANDY, CLAYEY SILT (A-4), WITH LITTLE GRAVEL

-ALLUVIAL-

SOFT, WET, BROWN-TAN, FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL

136+50.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	107

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2135 2130 2125 2120 2115 2110 2105

2:1

2:1

EXISTING GROUND LINE

-ROADWAY EMBANKMENT-

STIFF TO VERY STIFF, MOIST, RED-BROWN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

-RESIDUAL-

SOFT TO HARD, MOIST TO WET, BROWN-TAN-ORANGE, FINE SANDY SILT (A-4), AND FINE SANDY, CLAYEY SILT (A-5) AND FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

138+50.00

EXISTING GROUND LINE

2:1

2:1

L_13800R
138+00
55' RT

-ROADWAY EMBANKMENT-

VERY STIFF, MOIST, RED-ORANGE-TAN, FINE TO COARSE SANDY, CLAYEY SILT (A-4), WITH LITTLE GRAVEL

-RESIDUAL-

SOFT TO HARD, MOIST TO WET, BROWN-TAN-ORANGE, FINE SANDY SILT (A-4), AND FINE SANDY, CLAYEY SILT (A-5) AND FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

138+00.00

3 6 18 43 8

01/21

BT

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

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-L-

6/23/16

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0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	108

L_14000R
140+00
15' RT

2:1

-ROADWAY EMBANKMENT-

STIFF TO VERY STIFF, MOIST, RED-BROWN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

-RESIDUAL-

VERY STIFF TO HARD, MOIST TO WET, BROWN-TAN-ORANGE, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

2:1

EXISTING GROUND LINE

24
11
14
15
19
32
21
16

BT
DRY
FIAD
1/21

140+00.00

2:1

-ROADWAY EMBANKMENT-

STIFF TO VERY STIFF, MOIST, RED-BROWN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

2:1 EXISTING GROUND LINE

-RESIDUAL-

SOFT TO HARD, MOIST TO WET, BROWN-TAN-ORANGE, FINE SANDY SILT (A-4), AND FINE SANDY, CLAYEY SILT (A-5) AND FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

139+00.00

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

℄

-L-

2150 2145 2140 2135 2130 2125 2120 2115 2110 2105 2100

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

L_I4400R
I44+00
35' RT

EXISTING GROUND LINE

4:1

4:1 2:1

-ROADWAY EMBANKMENT-
STIFF TO HARD, MOIST, BROWN-TAN-WHITE, FINE TO COARSE SANDY SILT (A-4), WITH LITTLE GRAVEL

-RESIDUAL- VERY STIFF, MOIST, TAN-BROWN-BLACK-RED, FINE SANDY SILT (A-4)

63
14
16
21

BT
DRY
FIAD
1/21

144+00.00

L_I4200L
I42+00
21' LT

2:1

22
27
15
38

BT
DRY
FIAD
1/21

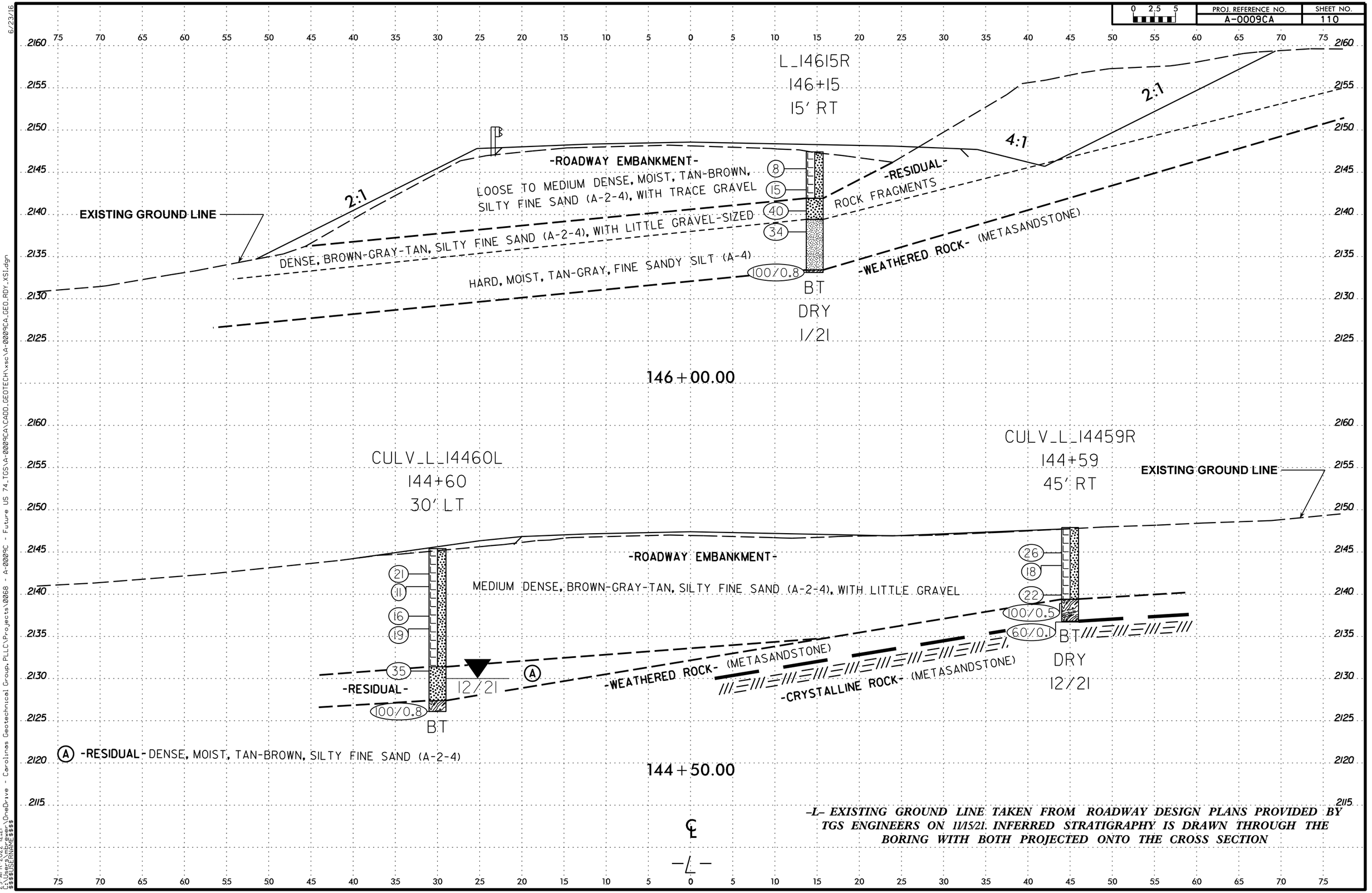
-ROADWAY EMBANKMENT-
STIFF TO HARD, MOIST, BROWN-RED-GRAY-YELLOW, FINE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

2:1

EXISTING GROUND LINE

142+00.00
℄
—L—

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	111

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2155 2150 2145 2140 2135 2130 2125

EXISTING GROUND LINE

2:1

-ROADWAY EMBANKMENT-

LOOSE TO MEDIUM DENSE, MOIST, TAN-BROWN, SILTY FINE SAND (A-2-4), WITH TRACE GRAVEL

-RESIDUAL-

MEDIUM STIFF, MOIST, RED-BROWN, SANDY SILT (A-4), WITH LITTLE GRAVEL-SIZED ROCK FRAGMENTS

149+00.00

2160 2155 2150 2145 2140 2135 2130 2125 2120

L_14800R
148+00
45' RT

EXISTING GROUND LINE

2:1

-ROADWAY EMBANKMENT-

LOOSE TO MEDIUM DENSE, MOIST, TAN-BROWN, SILTY FINE SAND (A-2-4), WITH TRACE GRAVEL

-RESIDUAL-

MEDIUM STIFF, MOIST, RED-BROWN, FINE SANDY SILT (A-4), WITH LITTLE GRAVEL-SIZED ROCK FRAGMENTS

-WEATHERED ROCK- (METASANDSTONE)

100/0.8
100/0.2
60/0
BT
DRY
10/21

148+00.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

29-APR-2022 12:21
C:\Users\$$$$USERNAME$$$$\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	112

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2160 2155 2150 2145 2140 2135 2130 2125 2120 2115

L_14995L
149+95
64' LT

2:1

-ALLUVIAL-

VERY SOFT TO SOFT, MOIST, TAN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, CLAYEY SILT (A-5)

-RESIDUAL- DENSE, MOIST, TAN-GRAY, SILTY FINE SAND (A-2-4), WITH LITTLE GRAVEL-SIZED ROCK FRAGMENTS

-CRYSTALLINE ROCK- (METASANDSTONE)

-ROADWAY EMBANKMENT-

LOOSE TO MEDIUM DENSE, MOIST, TAN-BROWN, SILTY FINE SAND (A-2-4), WITH TRACE GRAVEL

3:1

EXISTING GROUND LINE

2
3
2
36
60/0.1
BT
9/21

(A) -WEATHERED ROCK- (METASANDSTONE)

150+00.00

-ROADWAY EMBANKMENT-

2:1

LOOSE TO MEDIUM DENSE, MOIST, TAN-BROWN, SILTY FINE SAND (A-2-4), WITH TRACE GRAVEL

-ALLUVIAL-

VERY SOFT TO SOFT, MOIST, TAN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, CLAYEY SILT (A-5)

2:1

EXISTING GROUND LINE

149+50.00
℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

-L-

6/23/16

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	113

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2165 2160 2155 2150 2145 2140 2135 2130 2125

EXISTING GROUND LINE

2:1

4:1

2:1

-ROADWAY EMBANKMENT-

LOOSE TO MEDIUM DENSE, MOIST, TAN-BROWN, SILTY FINE SAND (A-2-4), WITH TRACE GRAVEL

-RESIDUAL-

LOOSE TO MEDIUM DENSE, MOIST, GRAY-TAN, SILTY FINE TO COARSE SAND (A-2-4)

151+00.00

EXISTING GROUND LINE

2:1

4:1

2:1

-ROADWAY EMBANKMENT-

LOOSE TO MEDIUM DENSE, MOIST, TAN-BROWN, SILTY FINE SAND (A-2-4), WITH TRACE GRAVEL

-RESIDUAL-

VERY SOFT TO SOFT, MOIST, TAN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, CLAYEY SILT (A-5)

150+50.00

℄

—L—

–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

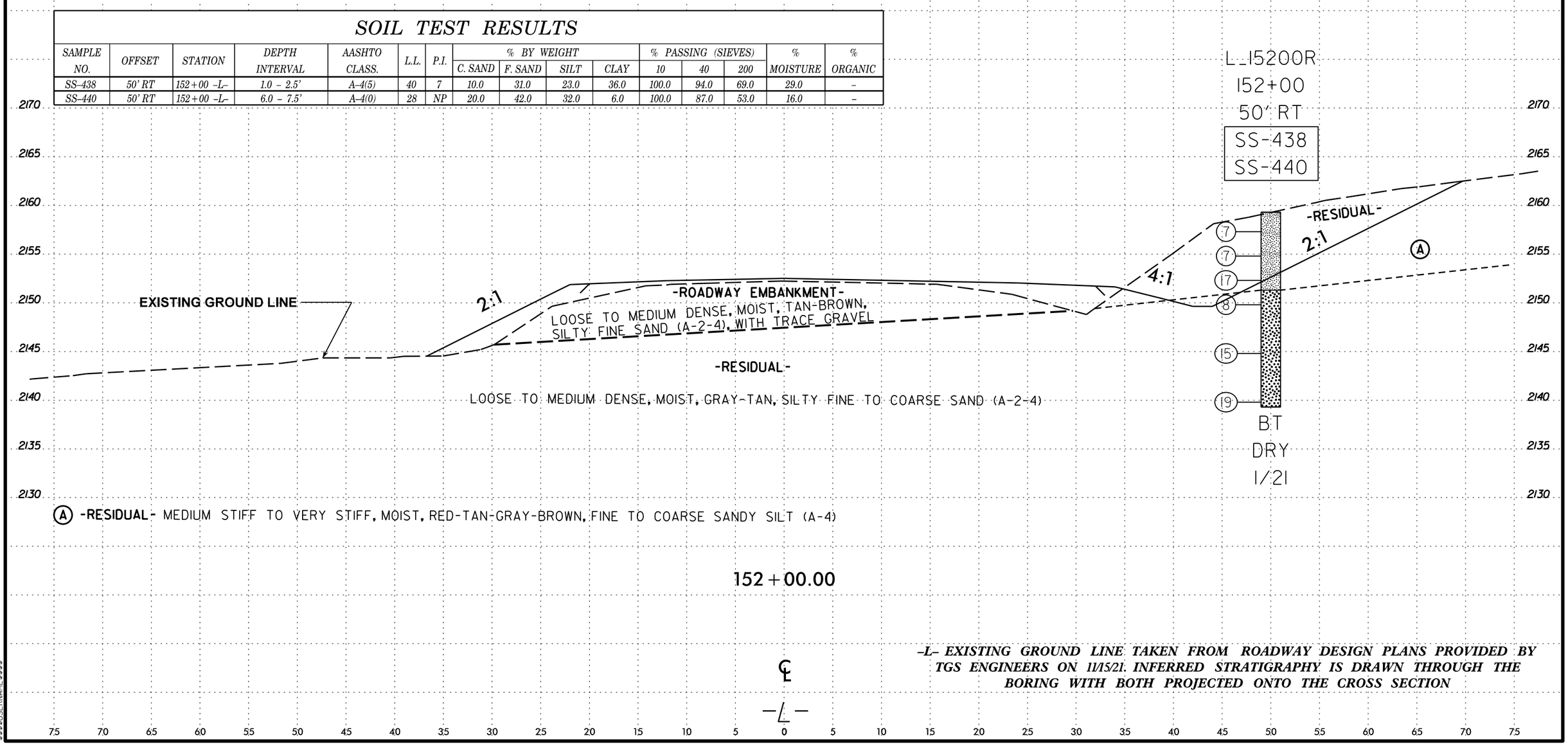
29-APR-2022 12:21
C:\Users\$$$$USERNAME$$$$\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn
$$$$USERNAME$$$$

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	114

0 2.5 5

SOIL TEST RESULTS

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		
SS-438	50' RT	152+00 -L-	1.0 - 2.5'	A-4(5)	40	7	10.0	31.0	23.0	36.0	100.0	94.0	69.0	29.0	-
SS-440	50' RT	152+00 -L-	6.0 - 7.5'	A-4(0)	28	NP	20.0	42.0	32.0	6.0	100.0	87.0	53.0	16.0	-



(A) **-RESIDUAL-** MEDIUM STIFF TO VERY STIFF, MOIST, RED-TAN-GRAY-BROWN, FINE TO COARSE SANDY SILT (A-4)

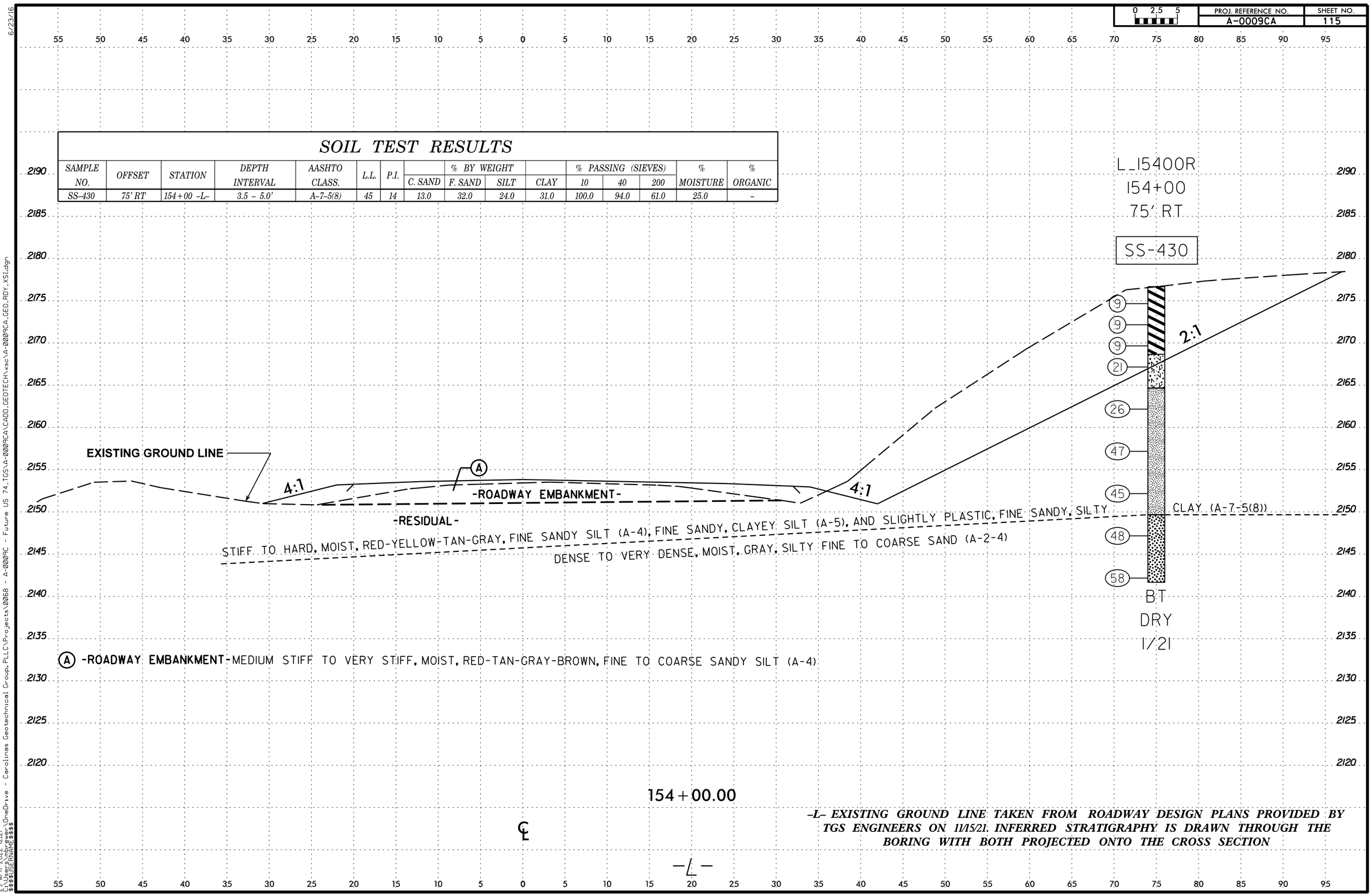
152+00.00

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

SOIL TEST RESULTS

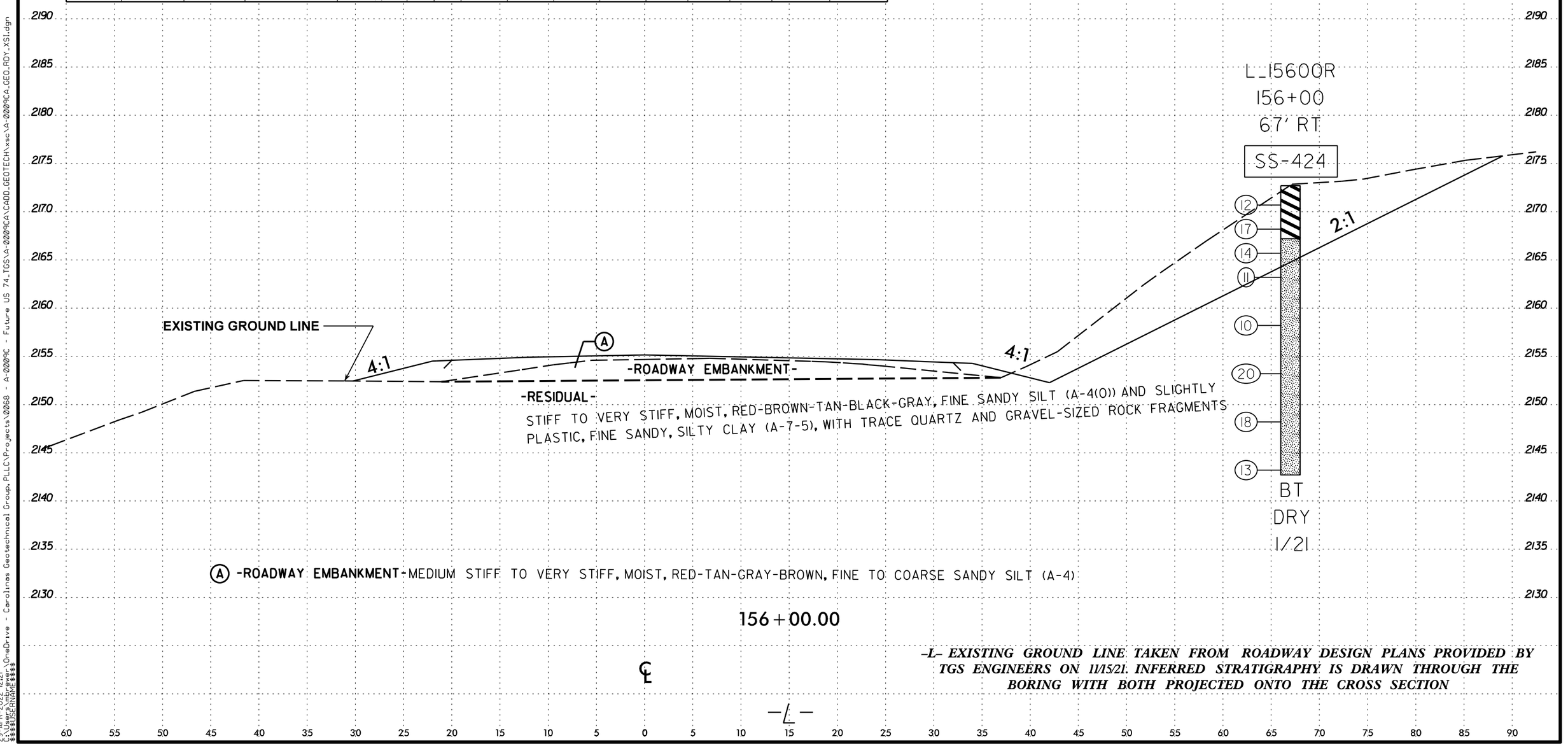
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-430	75' RT	154+00 -L-	3.5 - 5.0'	A-7-5(8)	45	14	13.0	32.0	24.0	31.0	100.0	94.0	61.0	25.0	-



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

SOIL TEST RESULTS

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		
SS-424	67' RT	156+00 -L-	8.5 - 10'	A-4(0)	39	NP	21.0	40.0	29.0	10.0	100.0	88.0	52.0	22.0	-



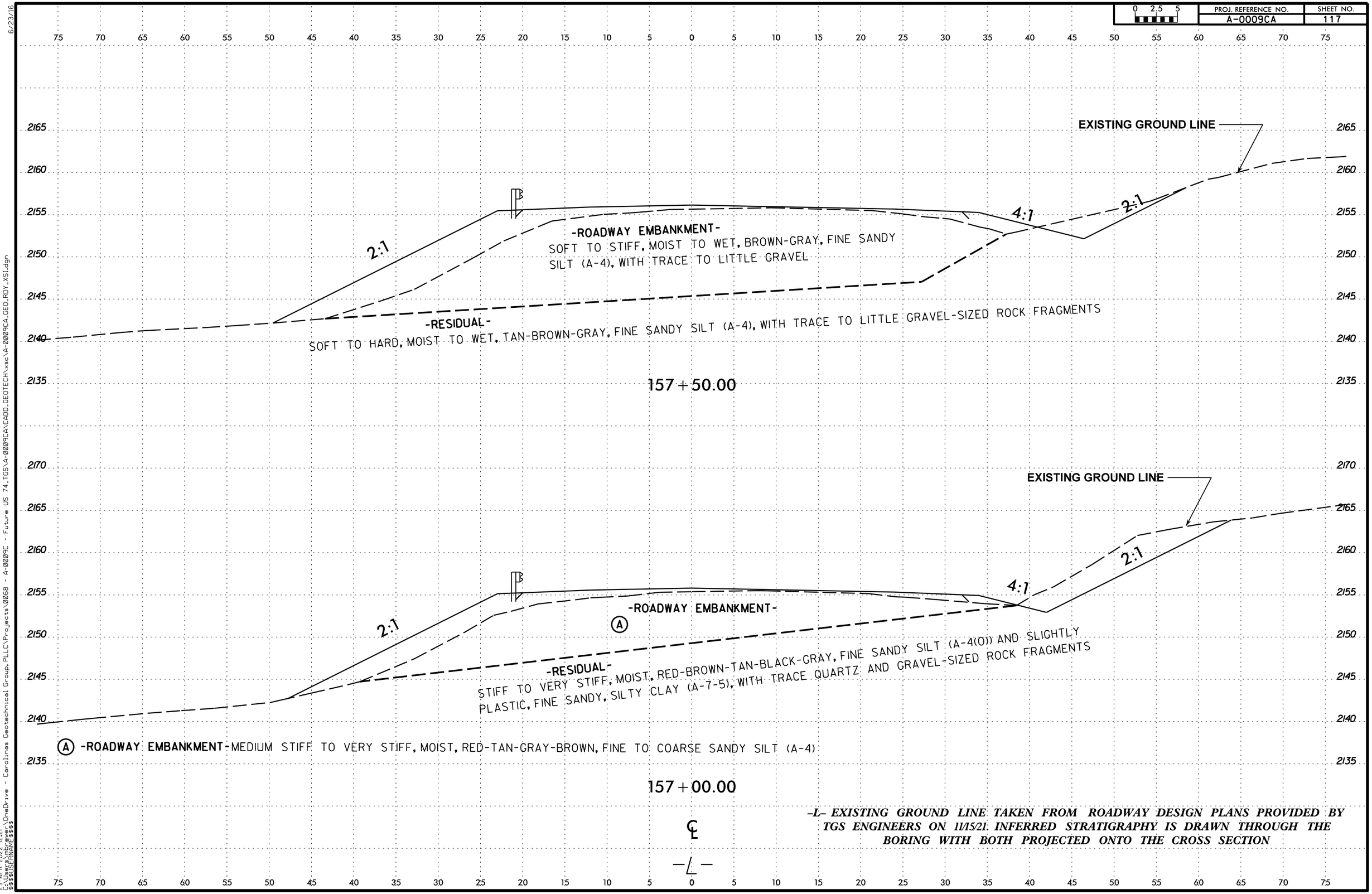
(A) **-ROADWAY EMBANKMENT-** MEDIUM STIFF TO VERY STIFF, MOIST, RED-TAN-GRAY-BROWN, FINE TO COARSE SANDY SILT (A-4)

156+00.00

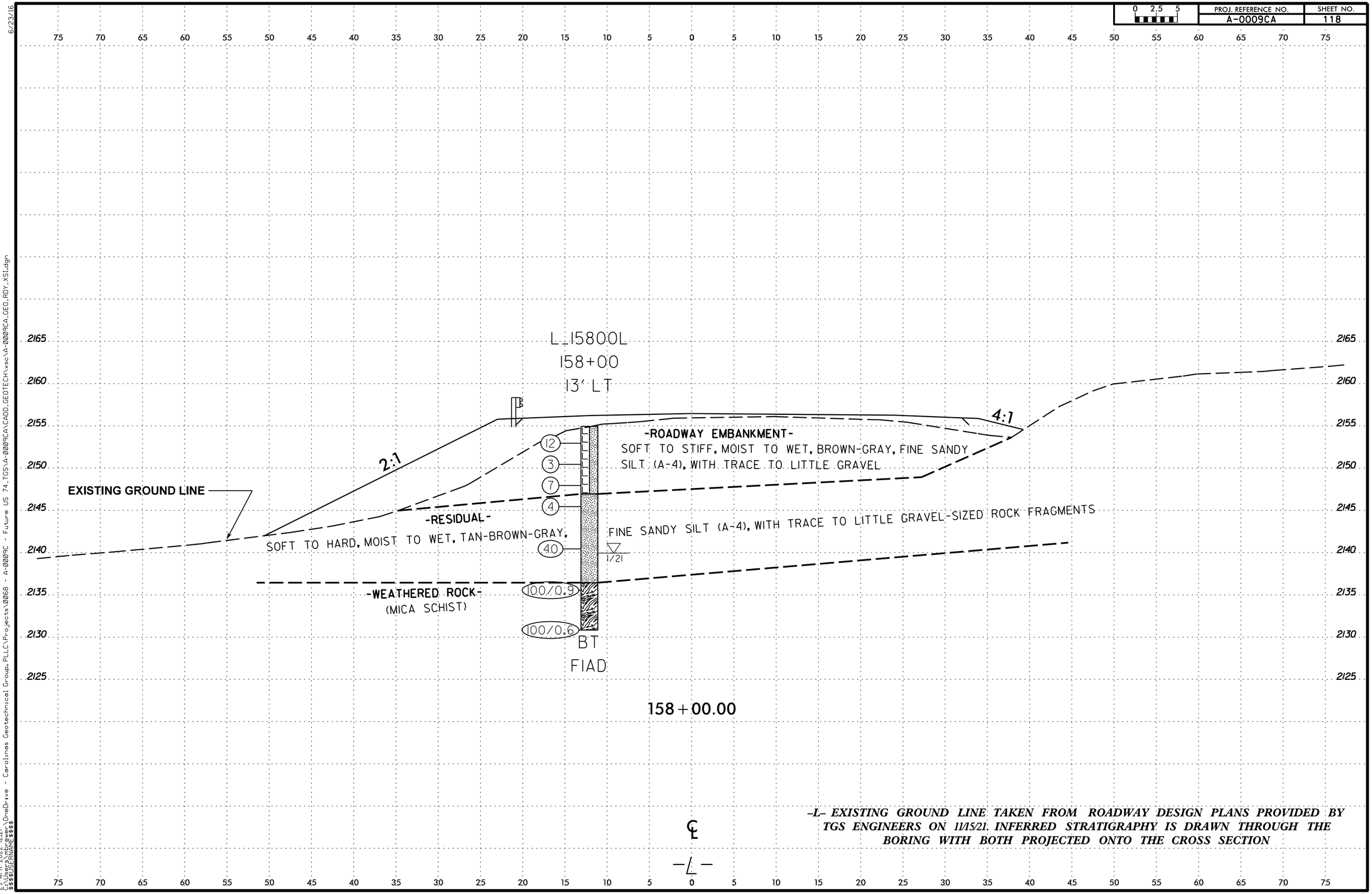
℄

-L-

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2175 2170 2165 2160 2155 2150 2145 2140

EXISTING GROUND LINE

4:1

-ROADWAY EMBANKMENT- (A)

-RESIDUAL-

SOFT TO HARD, MOIST TO WET, TAN-BROWN-GRAY, FINE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL-SIZED ROCK FRAGMENTS

(A)-ROADWAY EMBANKMENT- SOFT TO STIFF, MOIST TO WET, BROWN-GRAY, FINE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

159+00.00

EXISTING GROUND LINE

4:1

2:1

-ROADWAY EMBANKMENT-

SOFT TO STIFF, MOIST TO WET, BROWN-GRAY, FINE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

-RESIDUAL-

SOFT TO HARD, MOIST TO WET, TAN-BROWN-GRAY, FINE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL-SIZED ROCK FRAGMENTS

158+50.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	120

0 2.5 5

L_16000L
160+00
15' LT

EXISTING GROUND LINE

2:1

4:1

-ROADWAY EMBANKMENT-

STIFF TO VERY STIFF, MOIST, RED-BROWN-TAN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL

-RESIDUAL-

SOFT TO MEDIUM STIFF, MOIST TO WET, TAN, FINE SANDY SILT (A-4)

10
16
16
3
7

BT
DRY
FIAD
1/21

160+00.00

EXISTING GROUND LINE

2:1

4:1

-ROADWAY EMBANKMENT-

STIFF, MOIST, RED-BROWN-TAN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL

-RESIDUAL-

SOFT TO MEDIUM STIFF, MOIST TO WET, TAN, FINE SANDY SILT (A-4)

159+50.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	121

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2165 2160 2155 2150 2145 2140 2135

EXISTING GROUND LINE

2:1

4:1

-ROADWAY EMBANKMENT- (A)

-RESIDUAL-

STIFF TO VERY STIFF, MOIST, BROWN-GRAY, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

(A) **-ROADWAY EMBANKMENT-** STIFF TO VERY STIFF, MOIST, RED-BROWN-TAN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL

161+00.00

EXISTING GROUND LINE

2:1

4:1

-ROADWAY EMBANKMENT-

STIFF TO VERY STIFF, MOIST, RED-BROWN-TAN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL

-RESIDUAL-

SOFT TO MEDIUM STIFF, MOIST TO WET, TAN, FINE SANDY SILT (A-4)

160+50.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

28-APR-2022 12:22
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PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	122

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2170 2165 2160 2155 2150 2145 2140 2135 2130 2125

EXISTING GROUND LINE

2:1

3:1

-ROADWAY EMBANKMENT-

STIFF, MOIST, RED-BROWN-TAN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL

-RESIDUAL-

STIFF TO VERY STIFF, MOIST, BROWN-GRAY, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

162+50.00

L_I6200L
I62+00
30' LT

EXISTING GROUND LINE

2:1

3:1

-ROADWAY EMBANKMENT-

STIFF, MOIST, RED-BROWN-TAN-GRAY, FINE SANDY SILT (A-4) AND FINE SANDY, SILTY CLAY (A-7-5), WITH TRACE GRAVEL

-RESIDUAL-

STIFF TO VERY STIFF, MOIST, BROWN-GRAY, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

16
12
29
15

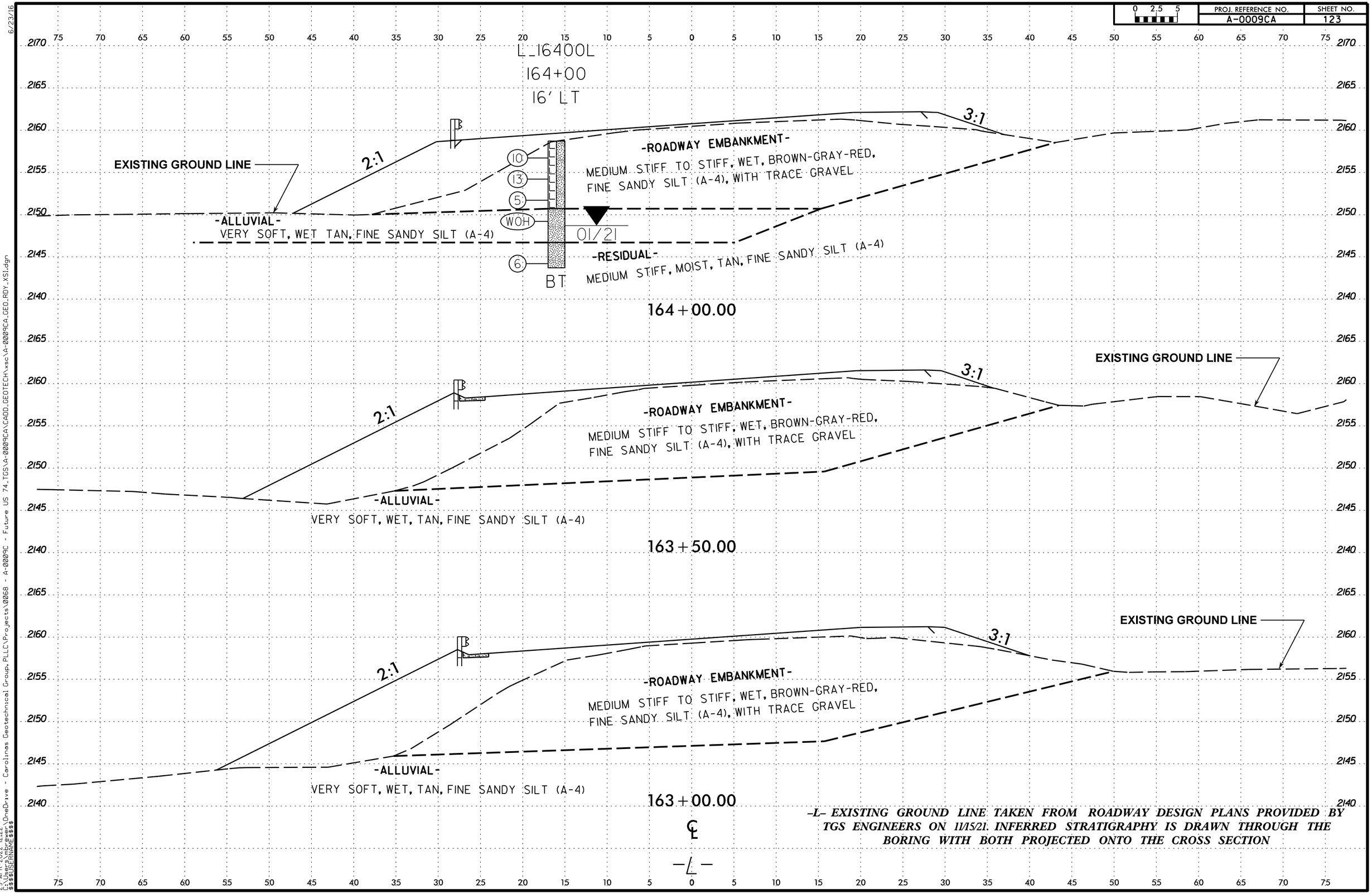
BT
DRY
FIAD
1/21

162+00.00

–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

20-APR-2022 12:22
C:\Users\$$$$USERNAME$$$$\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	124

0 2.5 5

L_I6600R
I66+00
25' RT

EXISTING GROUND LINE

2:1

4:1

-ROADWAY EMBANKMENT-

STIFF, MOIST, BROWN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

-RESIDUAL-

MEDIUM STIFF TO VERY STIFF, MOIST, BROWN-TAN, FINE SANDY SILT (A-4)

15 6 8 28

BT
DRY
FIAD
10/20

166+00.00

EXISTING GROUND LINE

2:1

4:1

-ROADWAY EMBANKMENT-

STIFF, MOIST, BROWN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

-RESIDUAL-

MEDIUM STIFF TO VERY STIFF, MOIST, BROWN-TAN, FINE SANDY SILT (A-4)

2160.76

165+00.00

EXISTING GROUND LINE

3:1

4:1

2:1

-ROADWAY EMBANKMENT-

MEDIUM STIFF TO STIFF, WET, BROWN-GRAY-RED, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

2159.56

-ALLUVIAL-

VERY SOFT, WET TAN, FINE SANDY SILT (A-4)

164+50.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

SOIL TEST RESULTS

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
SS-293	15' LT	167+75 -L-	1.0 - 2.5'	A-4(0)	30	1	20.0	35.0	28.0	17.0	75.0	66.0	41.0	18.0	-

RWAL4_B-1
167+75
15' LT
SS-293

L_16786L
167+86
87' LT

EXISTING GROUND LINE

4:1

-ROADWAY EMBANKMENT-
MEDIUM STIFF TO VERY STIFF, MOIST, BROWN-RED, FINE SANDY SILT (A-4(0)), WITH TRACE GRAVEL AND ORGANICS

-ALLUVIAL-
MEDIUM STIFF TO STIFF, WET TO SATURATED, GRAY-TAN-CLAYEY SILT (A-5) AND FINE TO COARSE SANDY SILT (A-4), WITH

-RESIDUAL-
BROWN, FINE SANDY, TRACE GRAVEL

FINE TO COARSE SAND (A-2-4), WITH TRACE TO LITTLE GRAVEL-SIZED ROCK FRAGMENTS

-WEATHERED ROCK- (SCHIST)

MEDIUM DENSE TO VERY DENSE, WET TO SATURATED, TAN-BROWN-ORANGE-GRAY, SILTY

-CRYSTALLINE ROCK- (SCHIST)

Ⓐ-ALLUVIAL- LOOSE TO MEDIUM DENSE, WET, BROWN-GRAY, SILTY FINE TO COARSE SAND (A-2-4), WITH LITTLE GRAVEL

Ⓑ-RESIDUAL- MEDIUM STIFF TO HARD, MOIST, BROWN-GRAY, FINE TO COARSE SANDY SILT (A-4), WITH LITTLE GRAVEL-SIZED ROCK FRAGMENTS

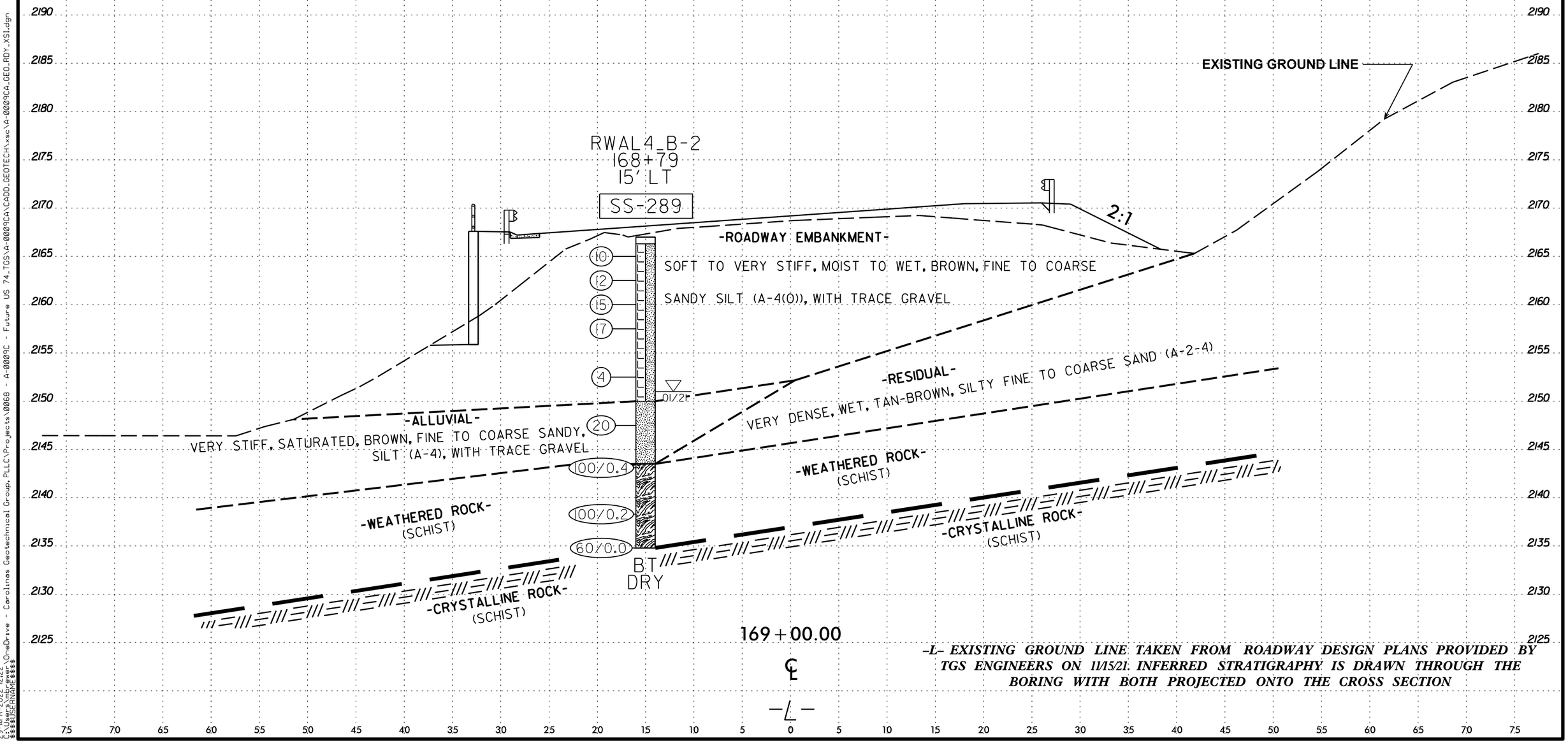
168+00.00

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

-L-

SOIL TEST RESULTS

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		
SS-289	15' LT	168+79 -L-	13.5 - 15.0'	A-4(0)	29	NP	22.0	33.0	26.0	19.0	95.0	81.0	51.0	29.0	-



169+00.00

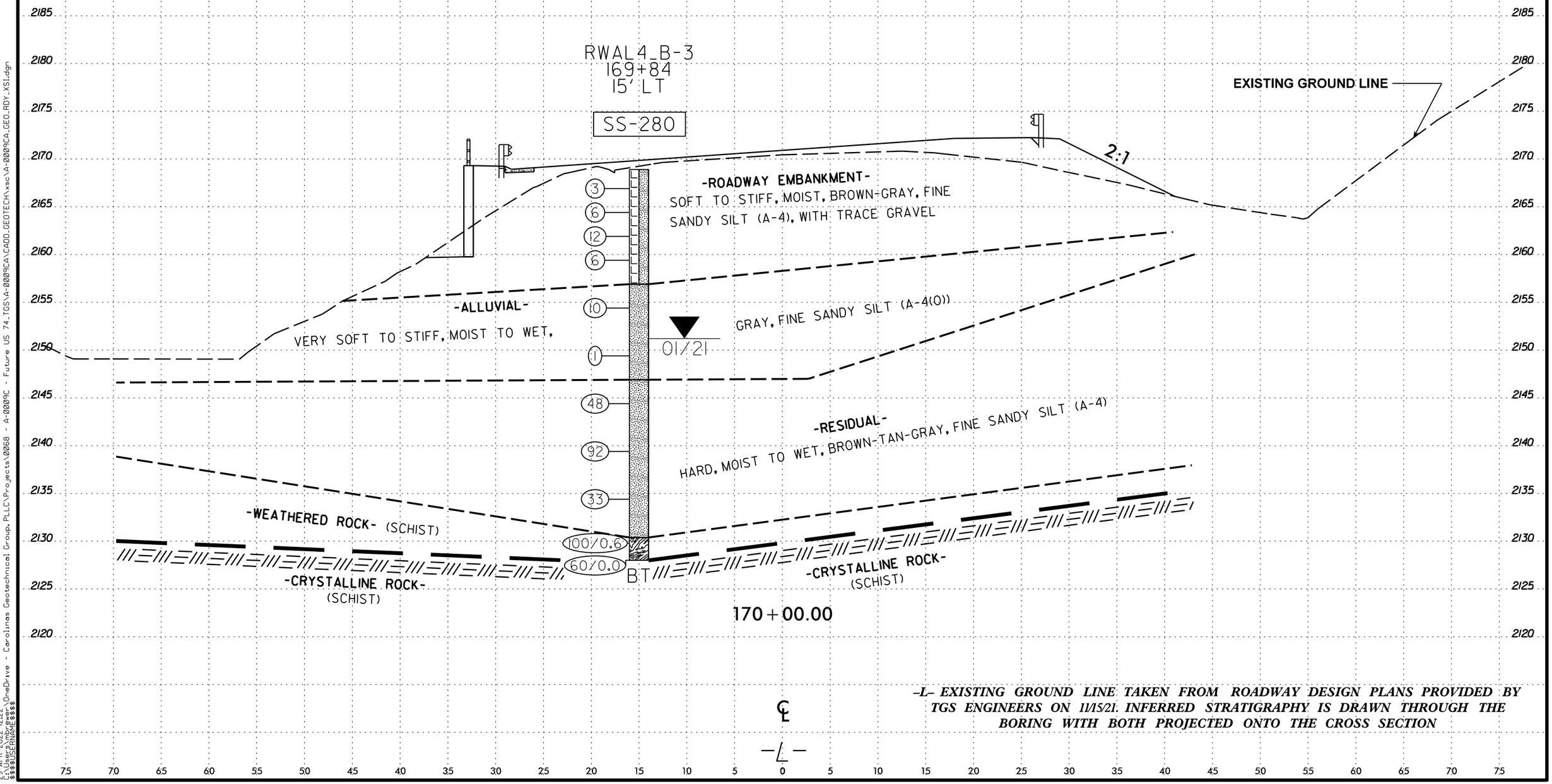
℄

—L—

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

SOIL TEST RESULTS

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		
SS-280	15' LT	169+84 -L-	18.5 - 20.0'	A-4(0)	31	NP	33.0	30.0	23.0	14.0	80.0	64.0	36.0	28.0	-

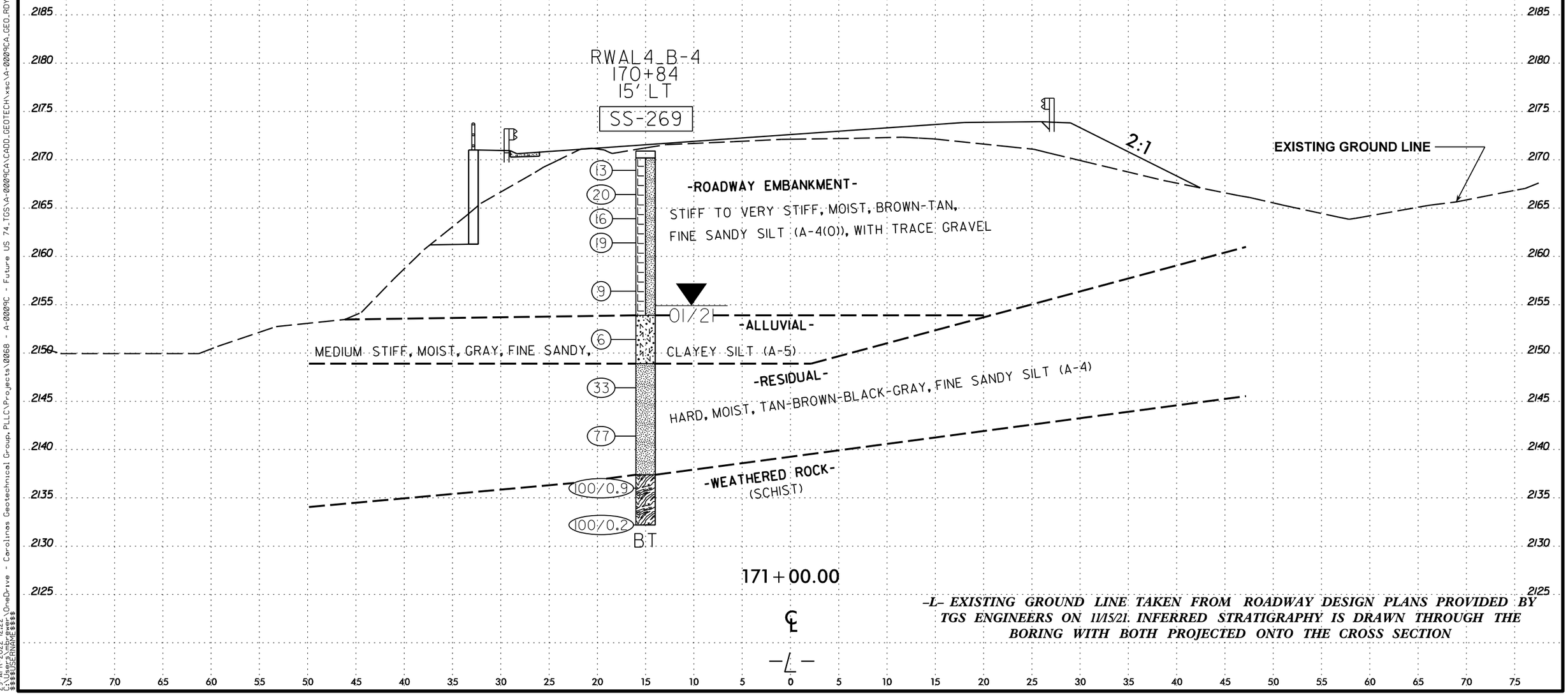


-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

℄
-L-

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			%	%
							C. SAND	F. SAND	SILT	CLAY	10	40	200	MOISTURE	ORGANIC
SS-269	15' LT	170+84 -L-	8.5 - 10.0'	A-4(0)	28	NP	16.0	37.0	30.0	17.0	65.0	59.0	38.0	18.0	-



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

SOIL TEST RESULTS

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
SS-261	15' LT	171+75 -L-	18.5 - 20.0'	A-4(6)	35	8	7.0	25.0	35.0	33.0	99.0	95.0	75.0	28.0	-

RWAL4_B-5
171+75
15' LT
SS-261

EXISTING GROUND LINE

2163.93

-ROADWAY EMBANKMENT-
STIFF TO HARD, MOIST, BROWN-RED-GRAY, FINE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

3:1
2:1
2:1
2:1

10
12
11
10
52
7
01/21
21
24
100/0.7
55
60/0.4
BT

-ALLUVIAL-
MEDIUM STIFF, WET, GRAY, CLAYEY, FINE SANDY SILT (A-4(6))

-RESIDUAL-
VERY STIFF, SATURATED, ORANGE-BROWN, FINE SANDY SILT (A-4)

-WEATHERED ROCK-
(SCHIST)

-RESIDUAL-

-CRYSTALLINE ROCK-
(SCHIST)

-WEATHERED ROCK-
(SCHIST)

-CRYSTALLINE ROCK-
(SCHIST)

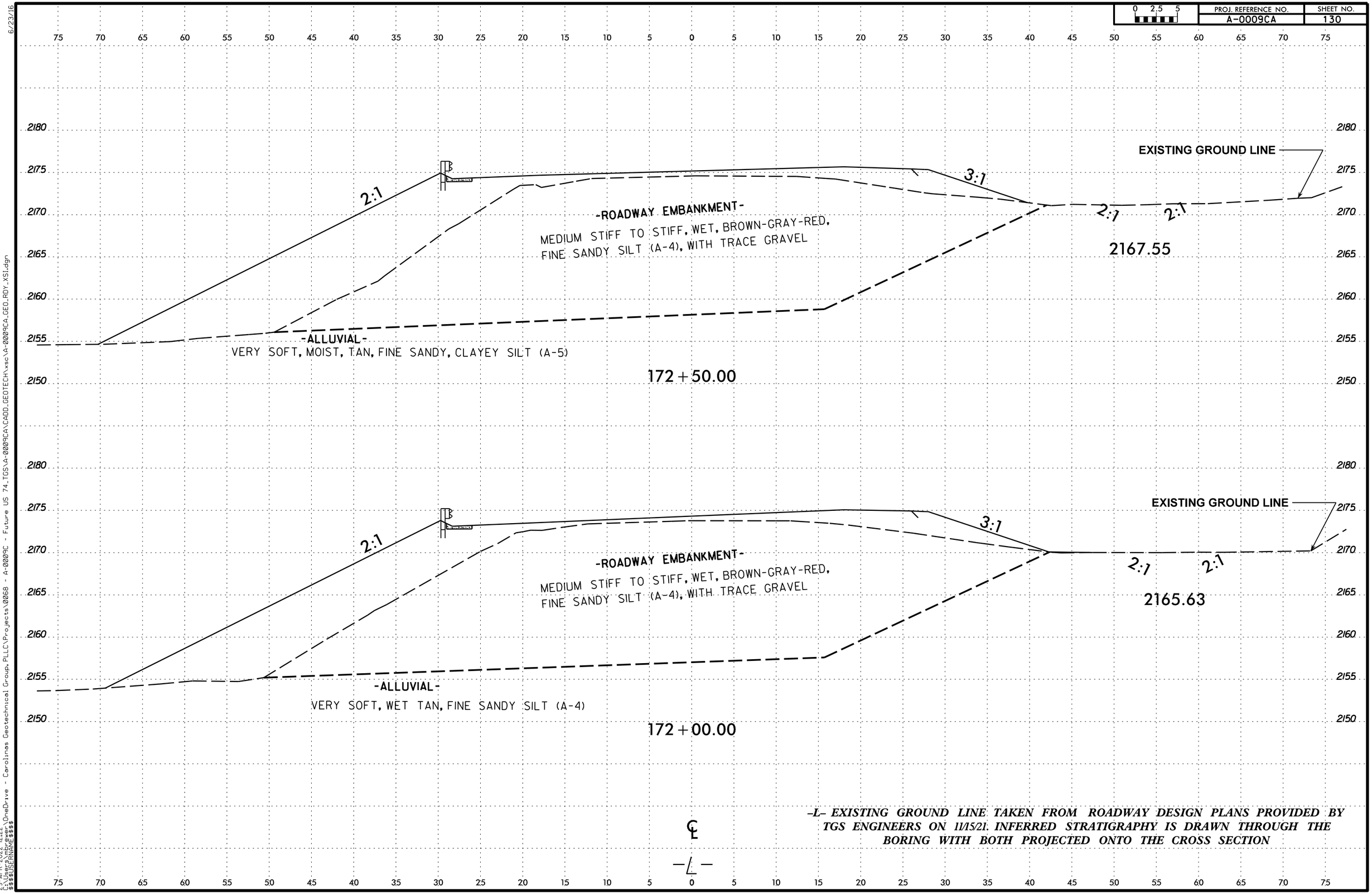
Ⓐ -RESIDUAL- VERY DENSE, SATURATED, BROWN-TAN, SILTY FINE TO COARSE SAND (A-2-4)

171+62.00

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

℄
-L-

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	130



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	131

EXISTING GROUND LINE

2:1

-ROADWAY EMBANKMENT-

MEDIUM STIFF TO STIFF, WET, BROWN-GRAY-RED, FINE SANDY SILT (A-4), WITH TRACE GRAVEL

4:1

1.8:1

2171.40

-ALLUVIAL-

VERY SOFT, MOIST, TAN, FINE SANDY, CLAYEY SILT (A-5)

173+50.00

EXISTING GROUND LINE

2:1

-ROADWAY EMBANKMENT-

STIFF TO HARD, MOIST, BROWN-RED-GRAY, FINE SANDY SILT (A-4), WITH TRACE TO LITTLE GRAVEL

3:1

2:1 2:1

2169.48

L_I7305L
173+05
65' LT

-ALLUVIAL- VERY SOFT, MOIST, TAN, FINE SANDY, CLAYEY SILT (A-5)

(1) (2)

(19) 09/2L

-RESIDUAL- MEDIUM DENSE, MOIST, TAN, SILTY FINE SAND (A-2-4)

(11)

MEDIUM STIFF TO STIFF, MOIST, TAN, FINE SANDY SILT (A-4)

(7)

(8)

BT

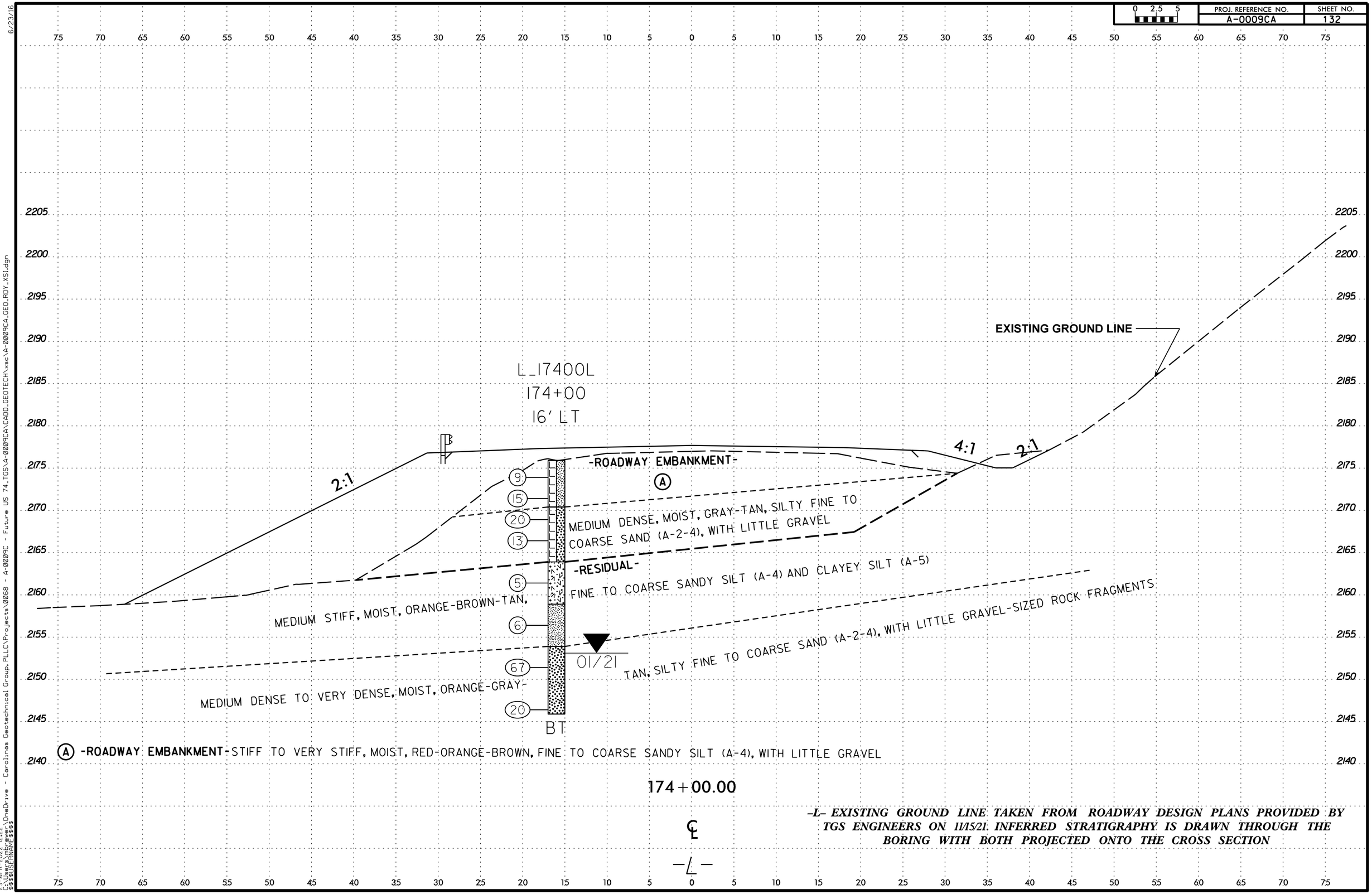
173+00.00

℄

–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

29-APR-2022 12:22
C:\Users\$$$$USERNAME$$$$\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn



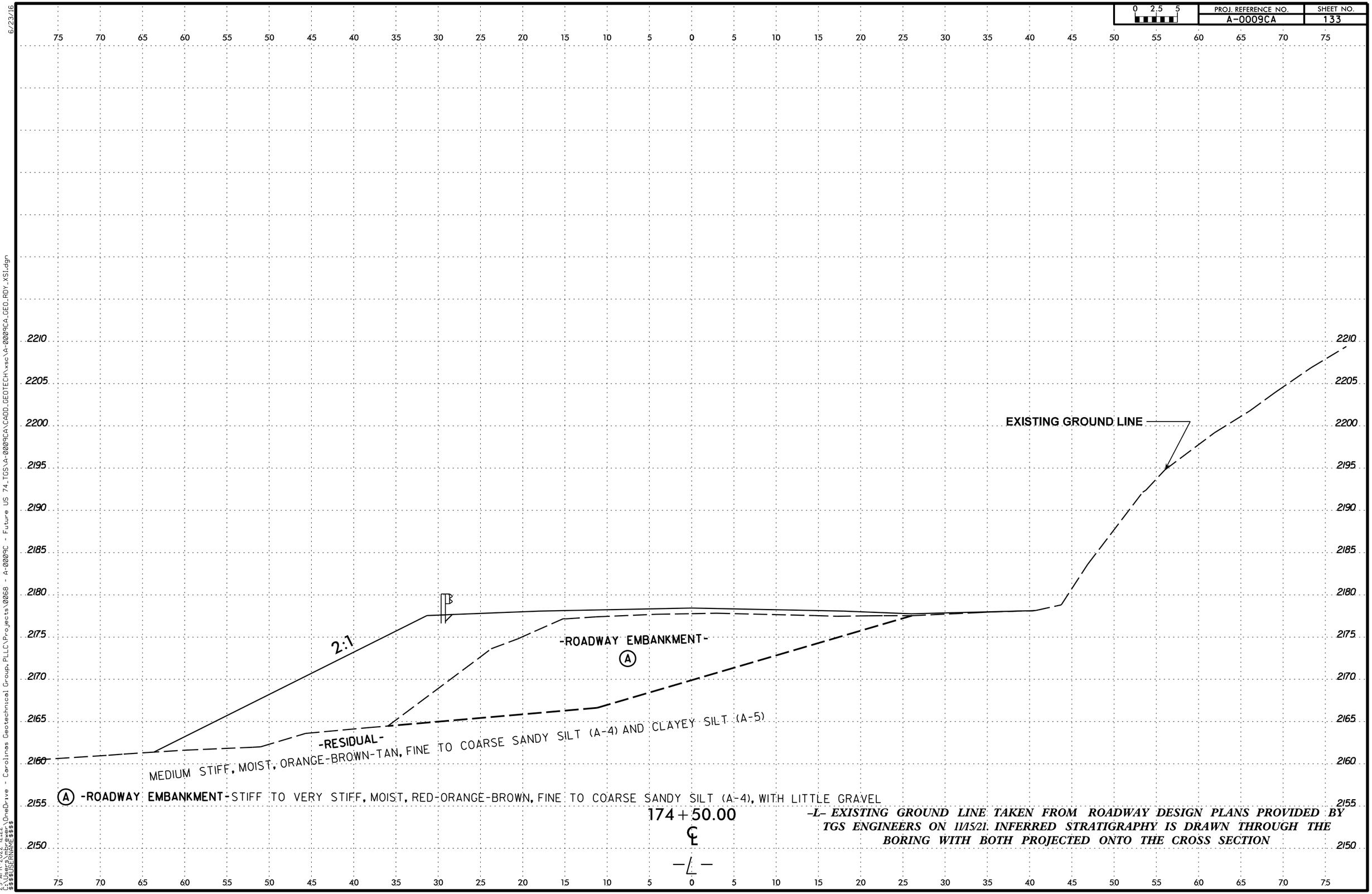
(A) **-ROADWAY EMBANKMENT-** STIFF TO VERY STIFF, MOIST, RED-ORANGE-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH LITTLE GRAVEL

174+00.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

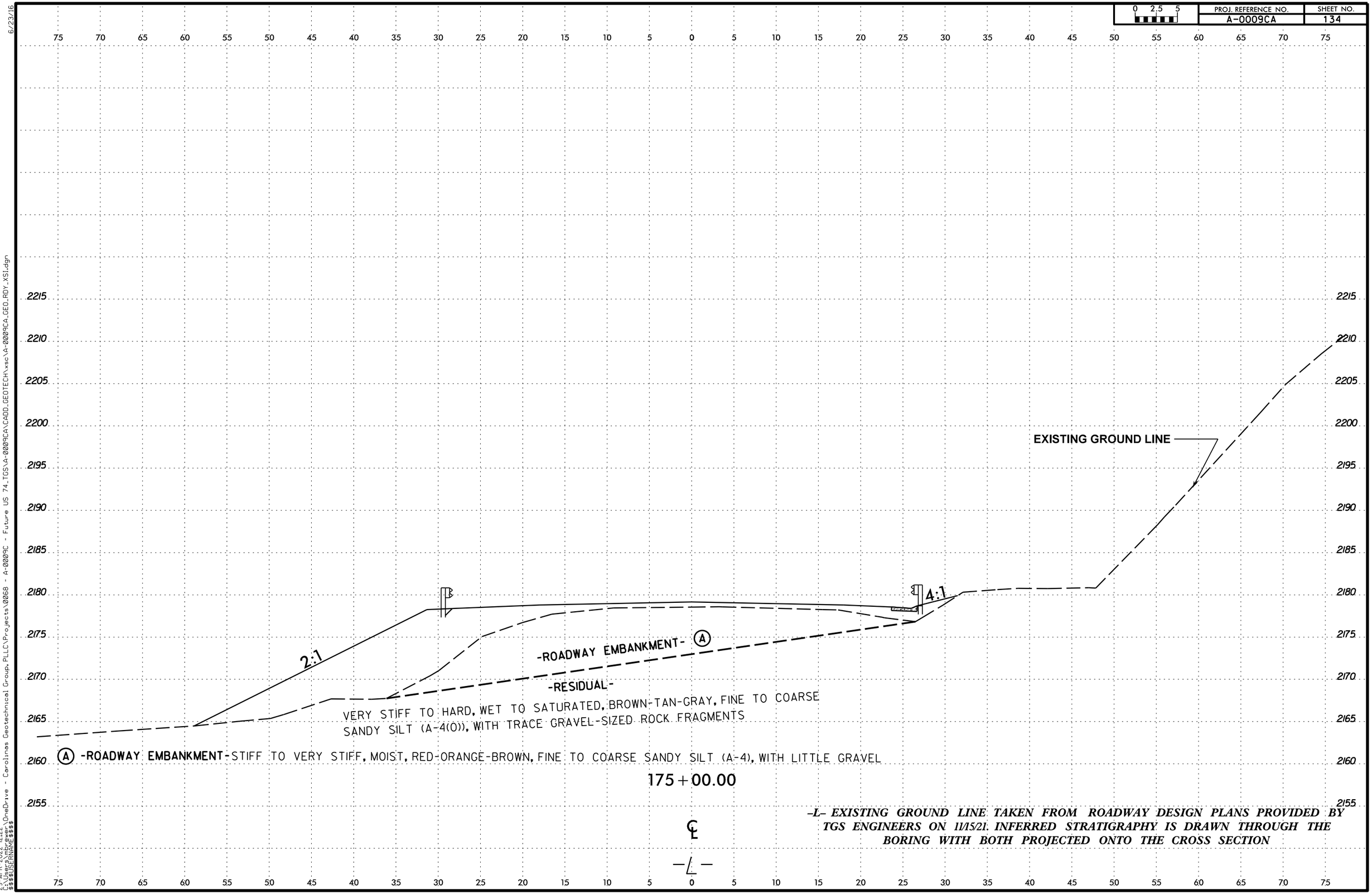
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	133



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	134

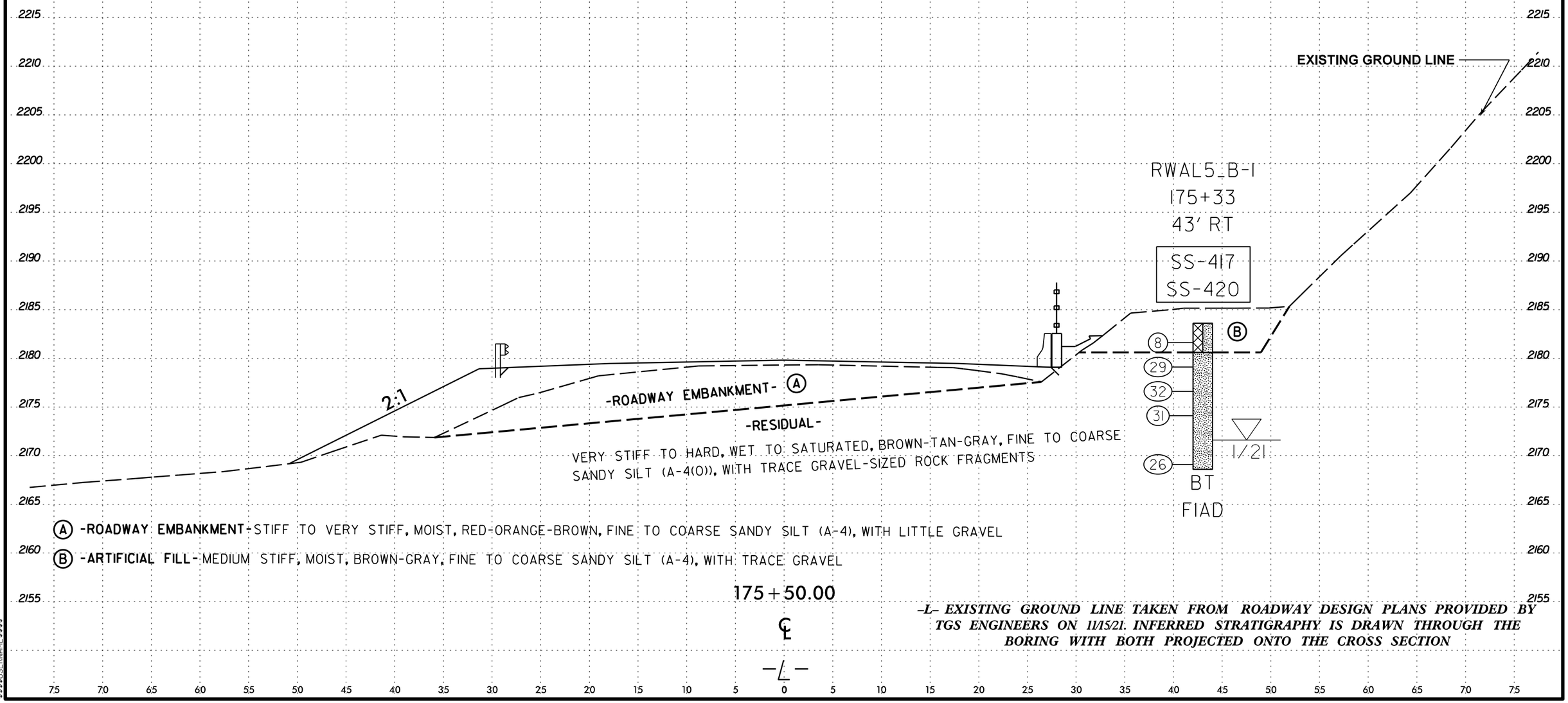
0 2.5 5



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

SOIL TEST RESULTS

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		
SS–417	43' RT	175+33 –L–	3.5 – 5.0'	A–4(0)	24	1	23.0	46.0	23.0	8.0	84.0	73.0	36.0	21.0	–
SS–420	43' RT	175+33 –L–	13.5 – 15.0'	A–4(0)	31	1	11.0	43.0	38.0	8.0	100.0	95.0	61.0	21.0	–



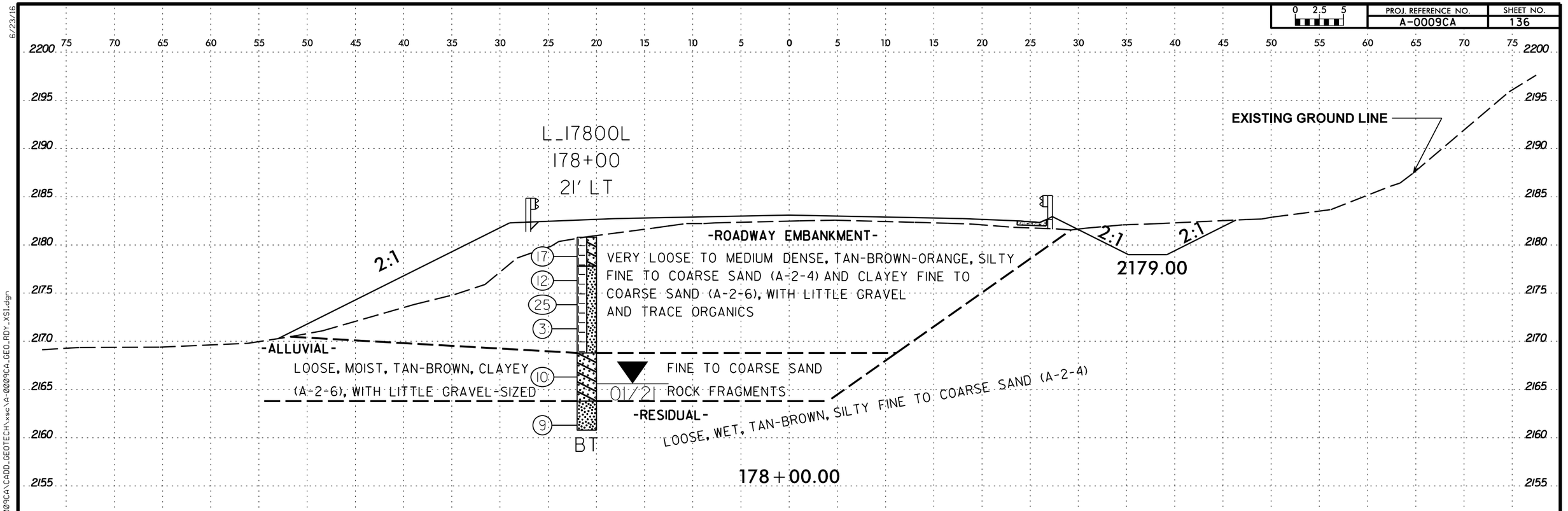
(A) **-ROADWAY EMBANKMENT-** STIFF TO VERY STIFF, MOIST, RED-ORANGE-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH LITTLE GRAVEL

(B) **-ARTIFICIAL FILL-** MEDIUM STIFF, MOIST, BROWN-GRAY, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL

175+50.00

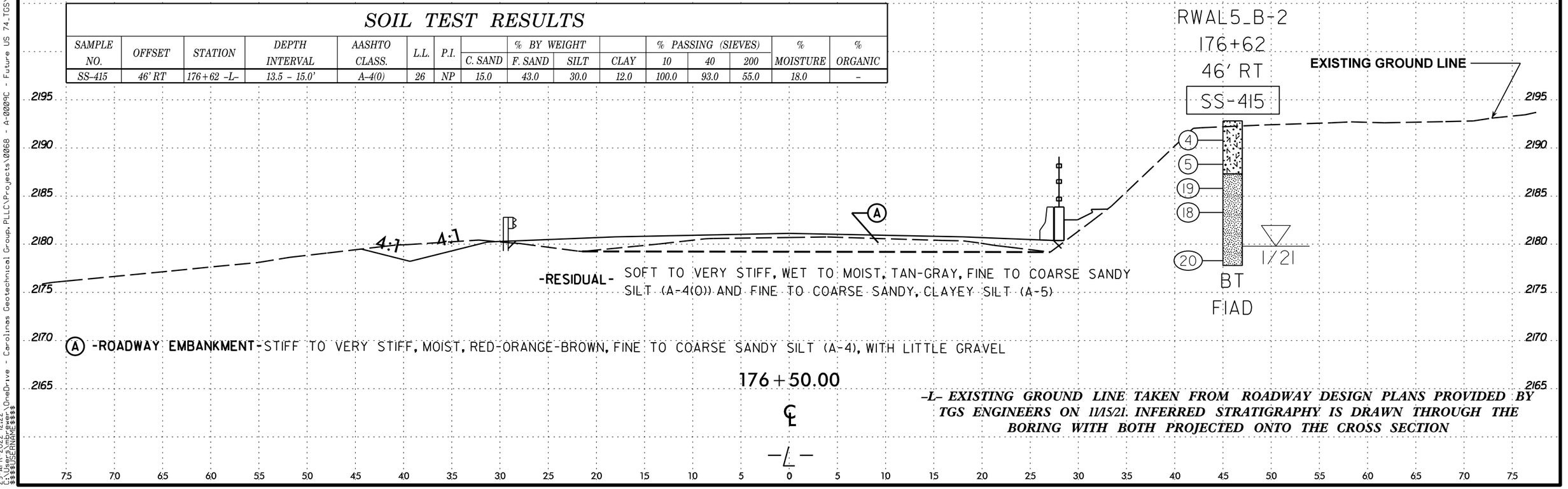
℄

–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

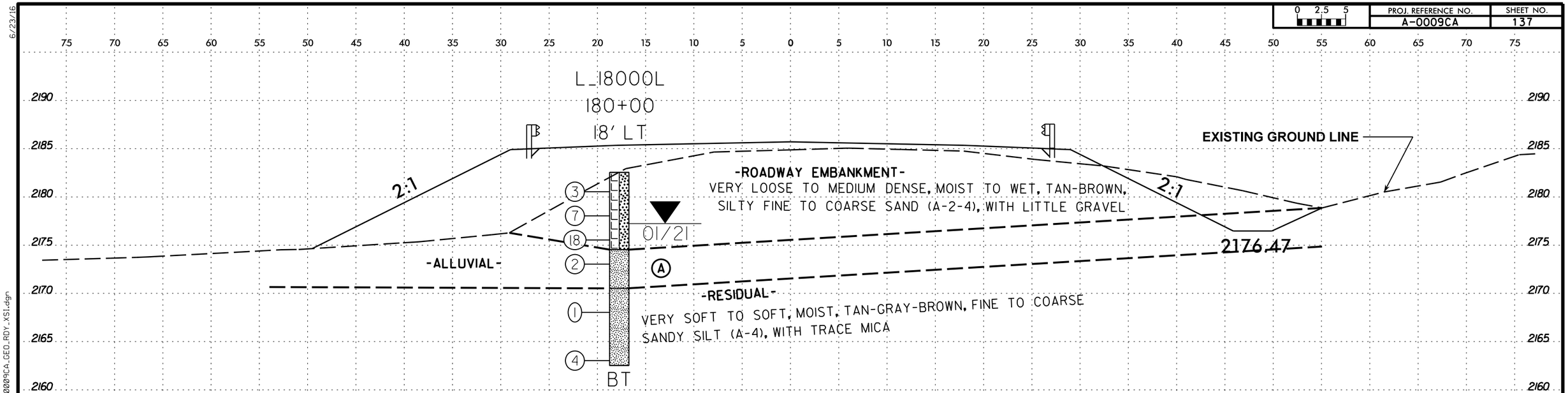


SOIL TEST RESULTS

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		
SS-415	46' RT	176+62 -L-	13.5 - 15.0'	A-4(0)	26	NP	15.0	43.0	30.0	12.0	100.0	93.0	55.0	18.0	-



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	138

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2190 2185 2180 2175 2195 2190

EXISTING GROUND LINE

2:1

4:1

-ROADWAY EMBANKMENT-
VERY LOOSE TO MEDIUM DENSE, MOIST TO WET, TAN-BROWN,
SILTY FINE TO COARSE SAND (A-2-4), WITH LITTLE GRAVEL

-ALLUVIAL- SOFT TO VERY STIFF, SATURATED, MOIST, RED-ORANGE-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH LITTLE GRAVEL

181+00.00

EXISTING GROUND LINE

2:1

-ROADWAY EMBANKMENT-
VERY LOOSE TO MEDIUM DENSE, MOIST TO WET, TAN-BROWN,
SILTY FINE TO COARSE SAND (A-2-4), WITH LITTLE GRAVEL

-ALLUVIAL- SOFT TO VERY STIFF, SATURATED, MOIST, RED-ORANGE-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH LITTLE GRAVEL

180+85.00

4:1

-ROADWAY EMBANKMENT-
VERY LOOSE TO MEDIUM DENSE, MOIST TO WET, TAN-BROWN,
SILTY FINE TO COARSE SAND (A-2-4), WITH LITTLE GRAVEL

2:1

3:1

EXISTING GROUND LINE

-ALLUVIAL- SOFT TO VERY STIFF, SATURATED, MOIST, RED-ORANGE-BROWN, FINE TO COARSE SANDY SILT (A-4), WITH LITTLE GRAVEL

180+50.00

2190 2185 2180 2175 2170

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

℄

—L—

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

6/23/16

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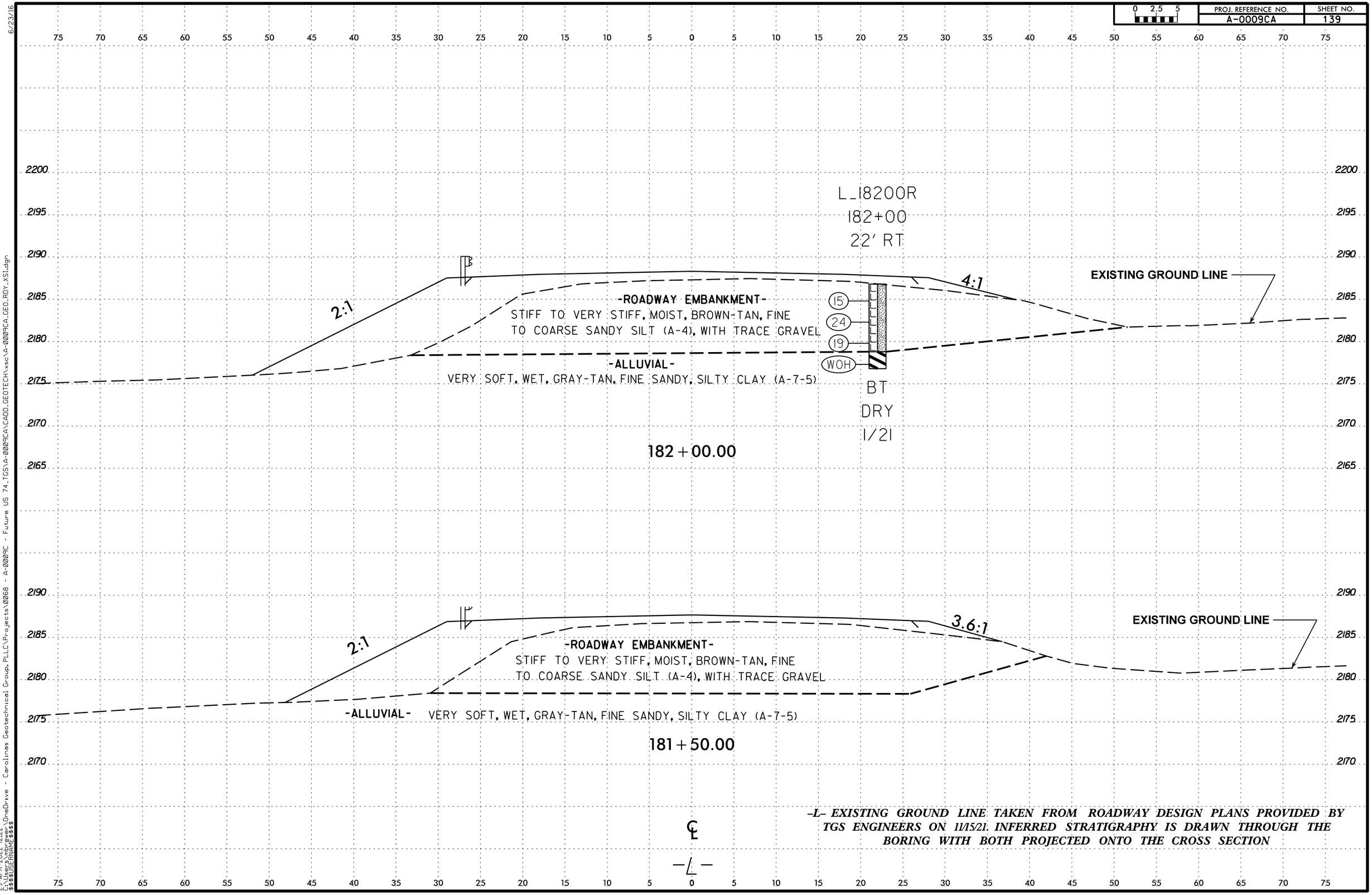
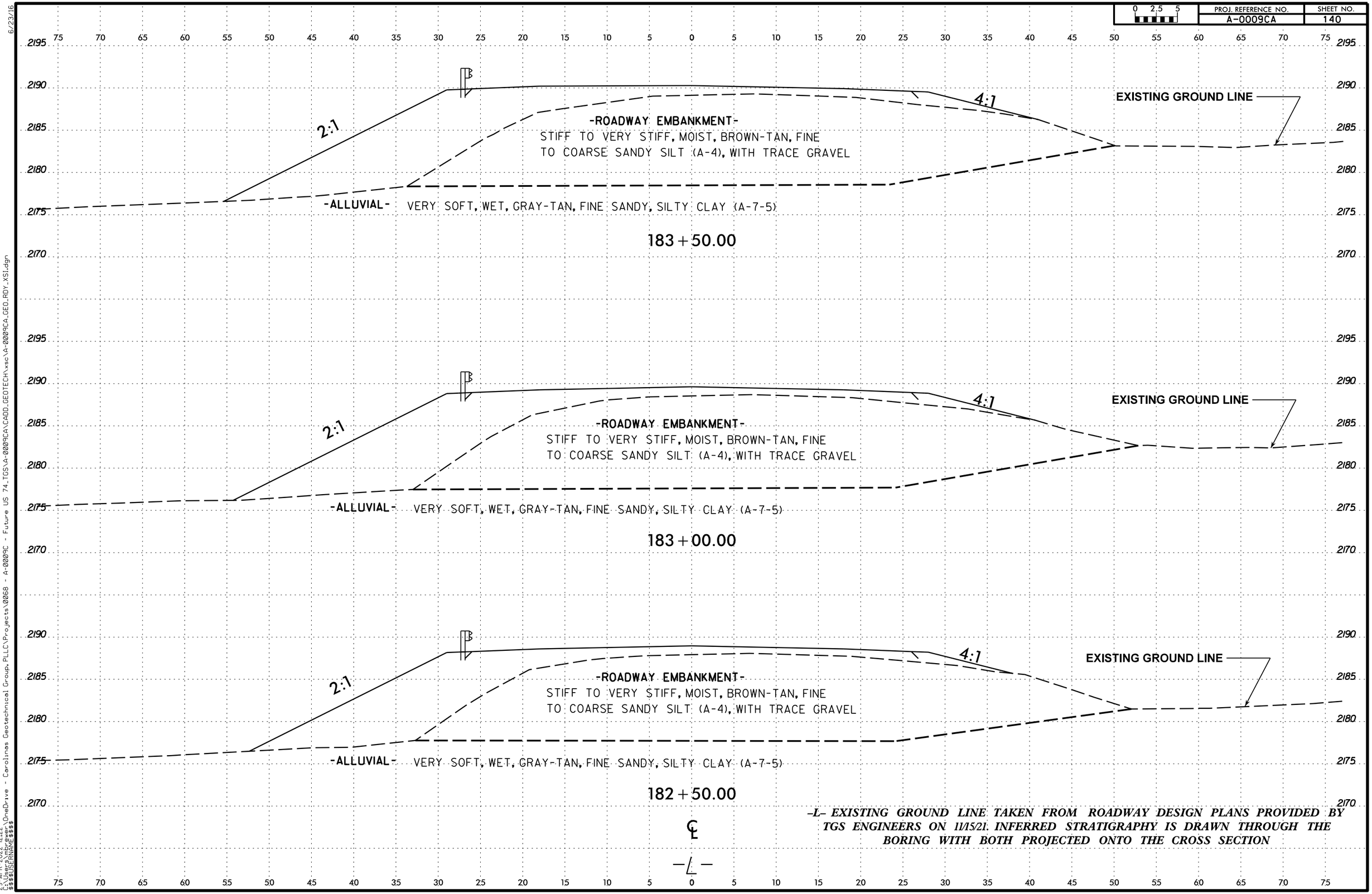


-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/5/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

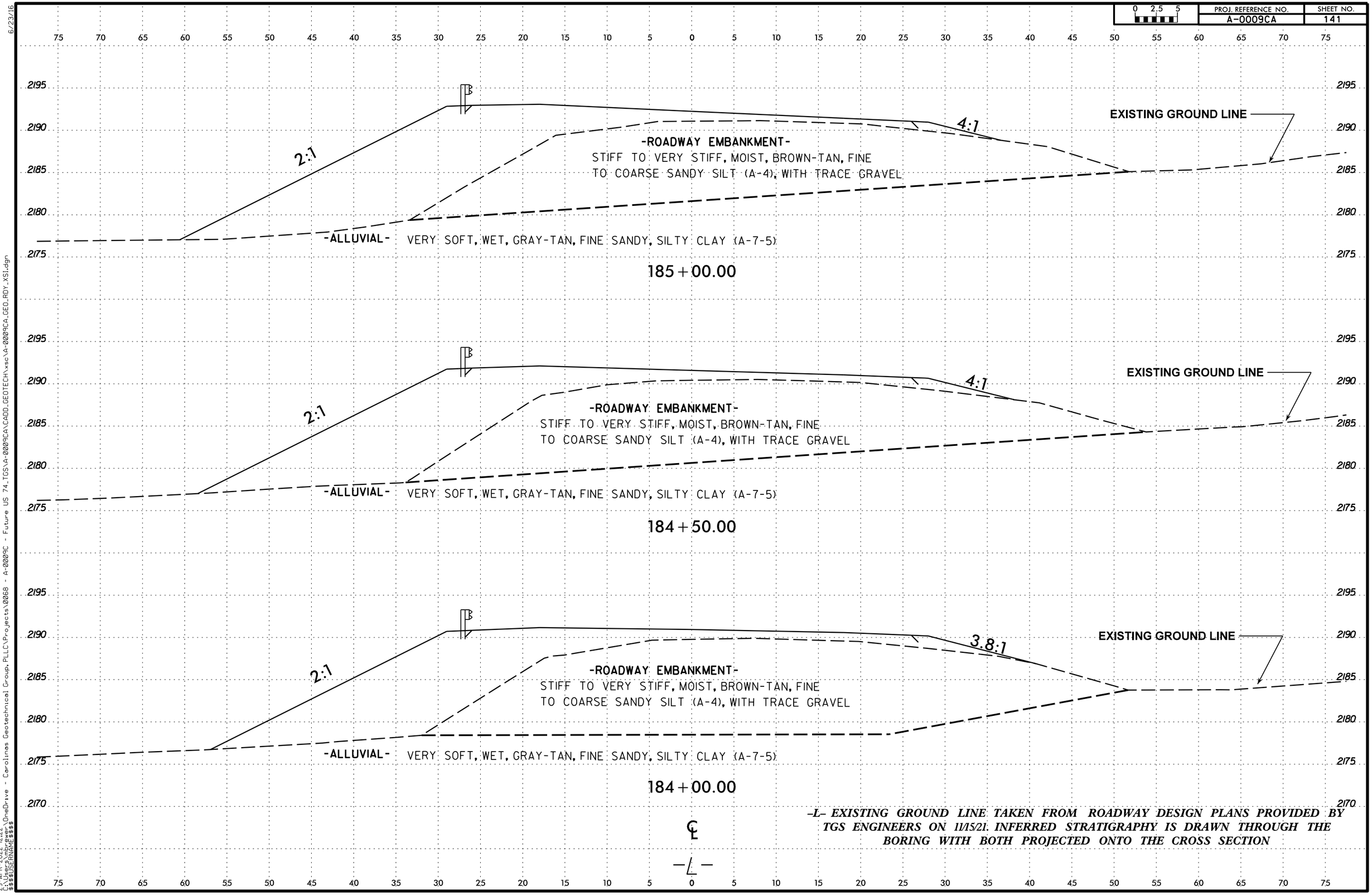
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	140



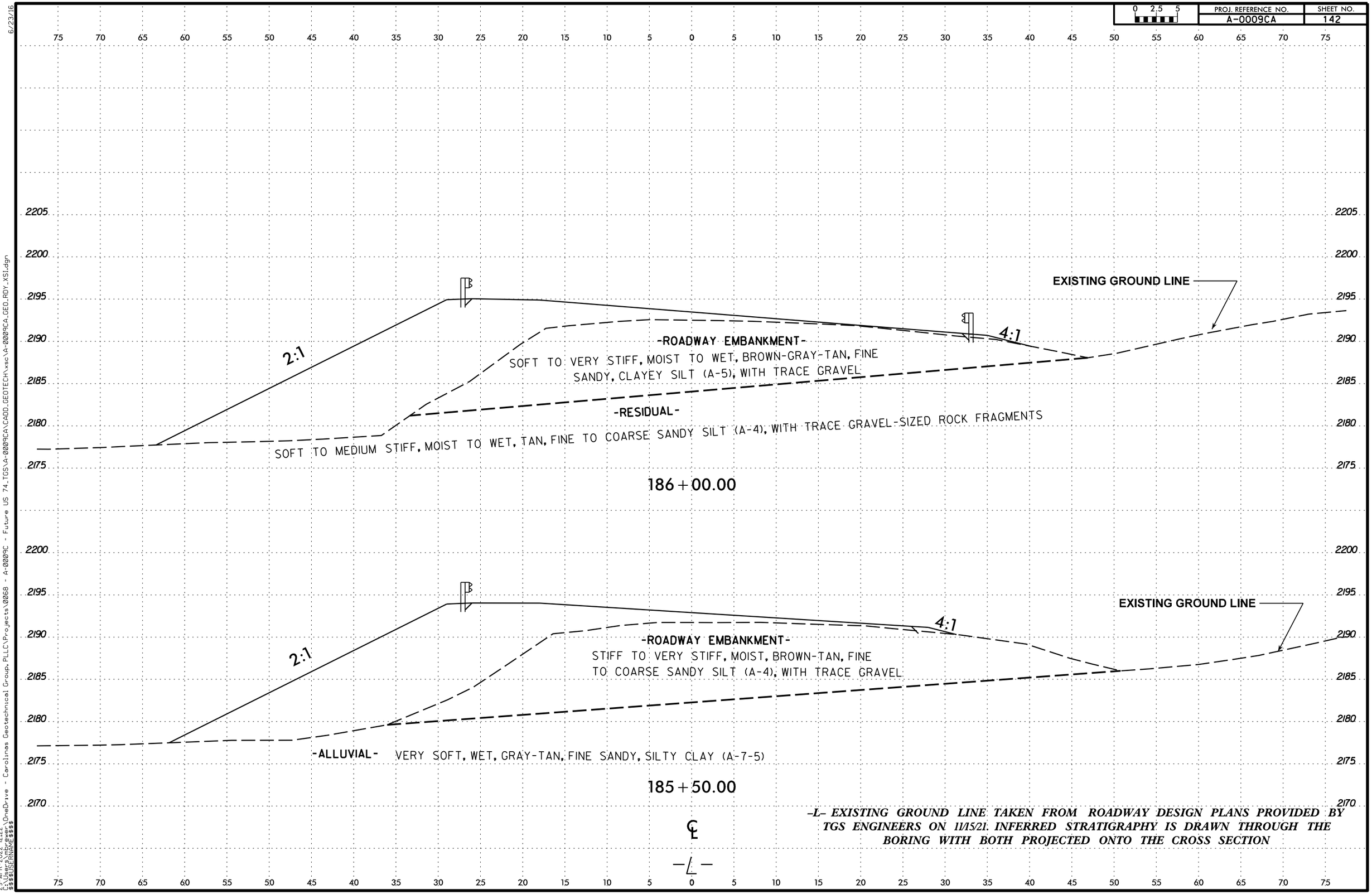
–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	141

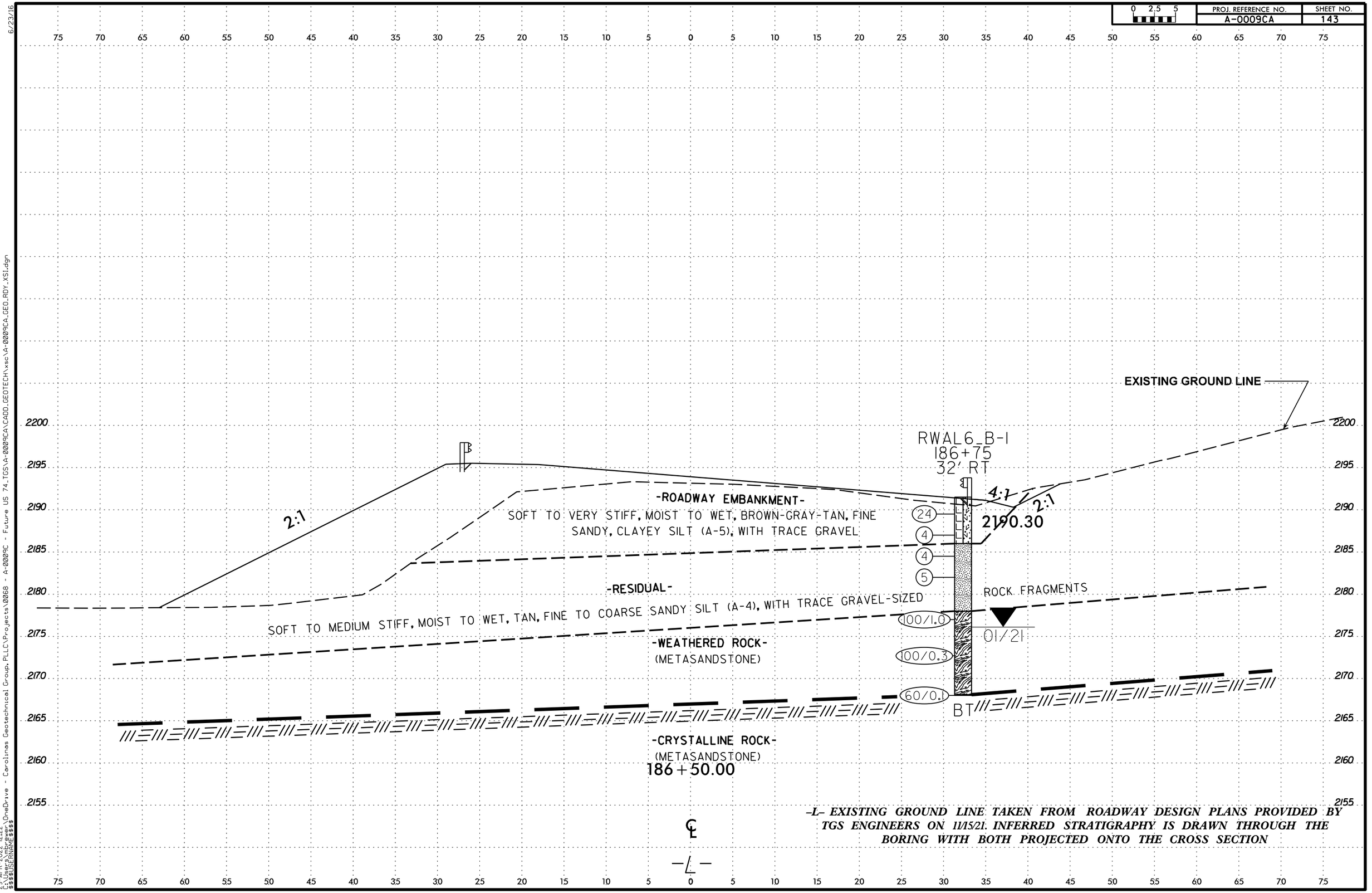
0 2.5 5



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	143



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	144

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2225 2220 2215 2210 2205 2200 2195 2190 2185 2180 2175 2170

2:1

EXISTING GROUND LINE

-ROADWAY EMBANKMENT-

SOFT TO VERY STIFF, MOIST TO WET, BROWN-GRAY-TAN, FINE SANDY, CLAYEY SILT (A-5), WITH TRACE GRAVEL

-RESIDUAL-

SOFT TO MEDIUM STIFF, MOIST TO WET, TAN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

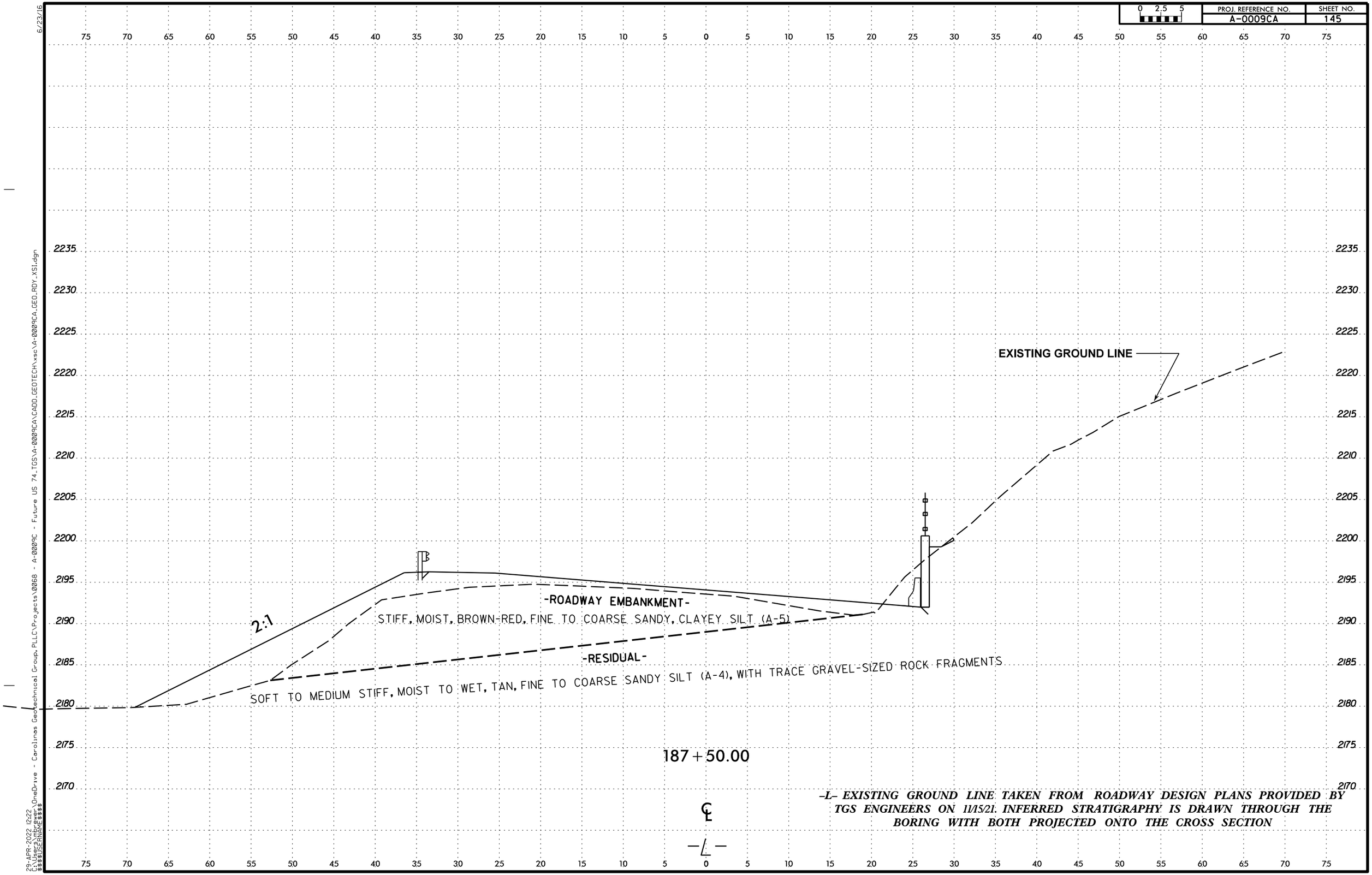
187+00.00

℄

-L-

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	145



–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	146

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2240 2235 2230 2225 2220 2215 2210 2205 2200 2195 2190 2185 2180 2175

-RESIDUAL-
LOOSE TO DENSE, MOIST
TAN-ORANGE-BROWN, SILTY
FINE TO COARSE SAND (A-2-4(0)), WITH
TRACE GRAVEL-SIZED ROCK FRAGMENTS

-WEATHERED ROCK-
(METASANDSTONE)

-CRYSTALLINE ROCK-
(METASANDSTONE)

RWAL6_B-2
187+76
17' RT

2.7:1

EXISTING GROUND LINE

-ROADWAY EMBANKMENT-
STIFF, MOIST, BROWN-RED, FINE TO COARSE SANDY, CLAYEY SILT (A-5)

9
60/0.1'
BT
DRY
01/21
FIAD

-CRYSTALLINE ROCK-
(METASANDSTONE)

188+00.00
℄
-L-

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

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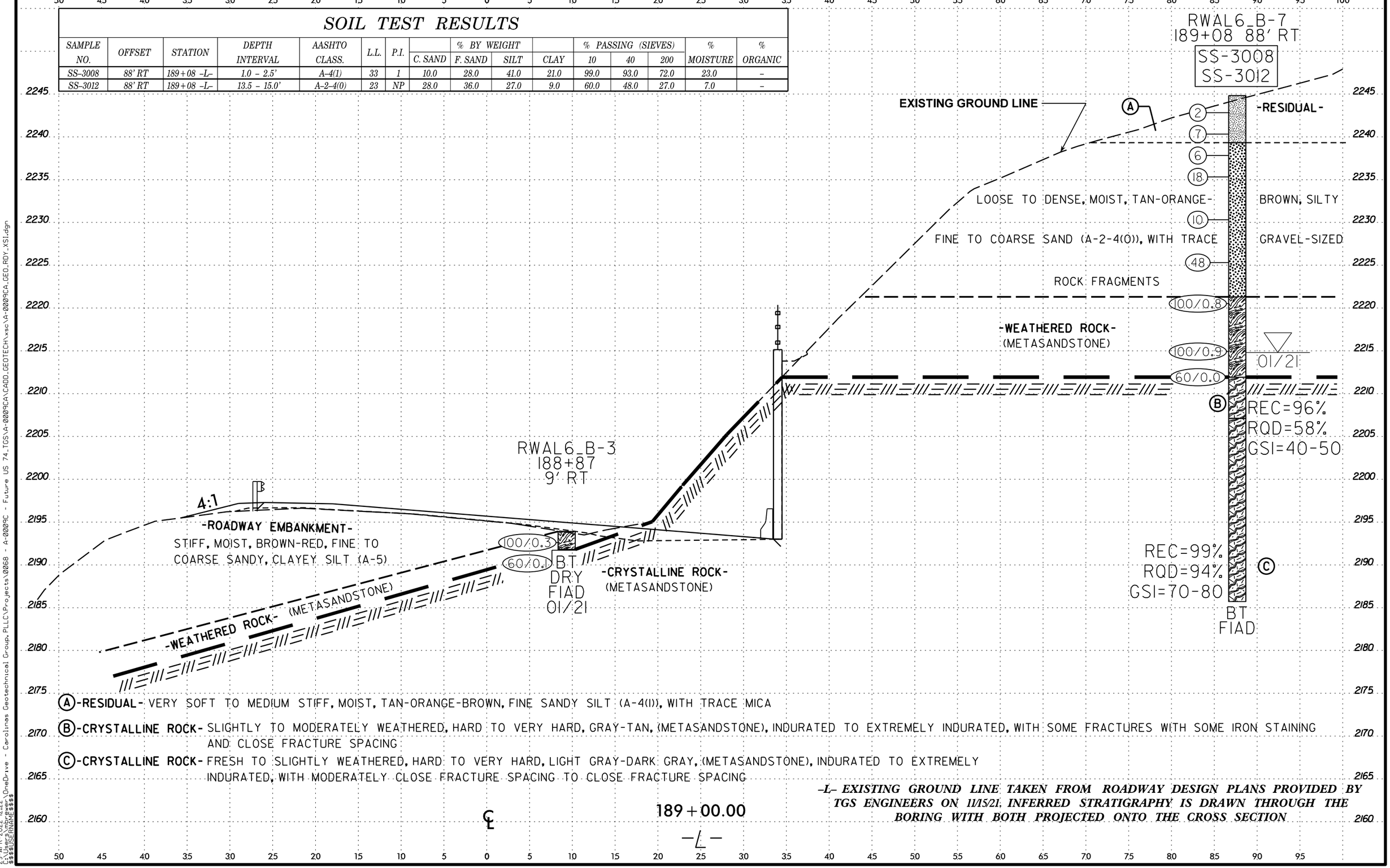
SOIL TEST RESULTS

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
SS-3008	88' RT	189+08 -L-	1.0 - 2.5'	A-4(1)	33	1	10.0	28.0	41.0	21.0	99.0	93.0	72.0	23.0	-
SS-3012	88' RT	189+08 -L-	13.5 - 15.0'	A-2-4(0)	23	NP	28.0	36.0	27.0	9.0	60.0	48.0	27.0	7.0	-



(A)-**RESIDUAL-** VERY SOFT TO MEDIUM STIFF, MOIST, TAN-ORANGE-BROWN, FINE SANDY SILT (A-4(1)), WITH TRACE MICA

(B)-**CRYSTALLINE ROCK-** SLIGHTLY TO MODERATELY WEATHERED, HARD TO VERY HARD, GRAY-TAN, (METASANDSTONE), INDURATED TO EXTREMELY INDURATED, WITH SOME FRACTURES WITH SOME IRON STAINING AND CLOSE FRACTURE SPACING

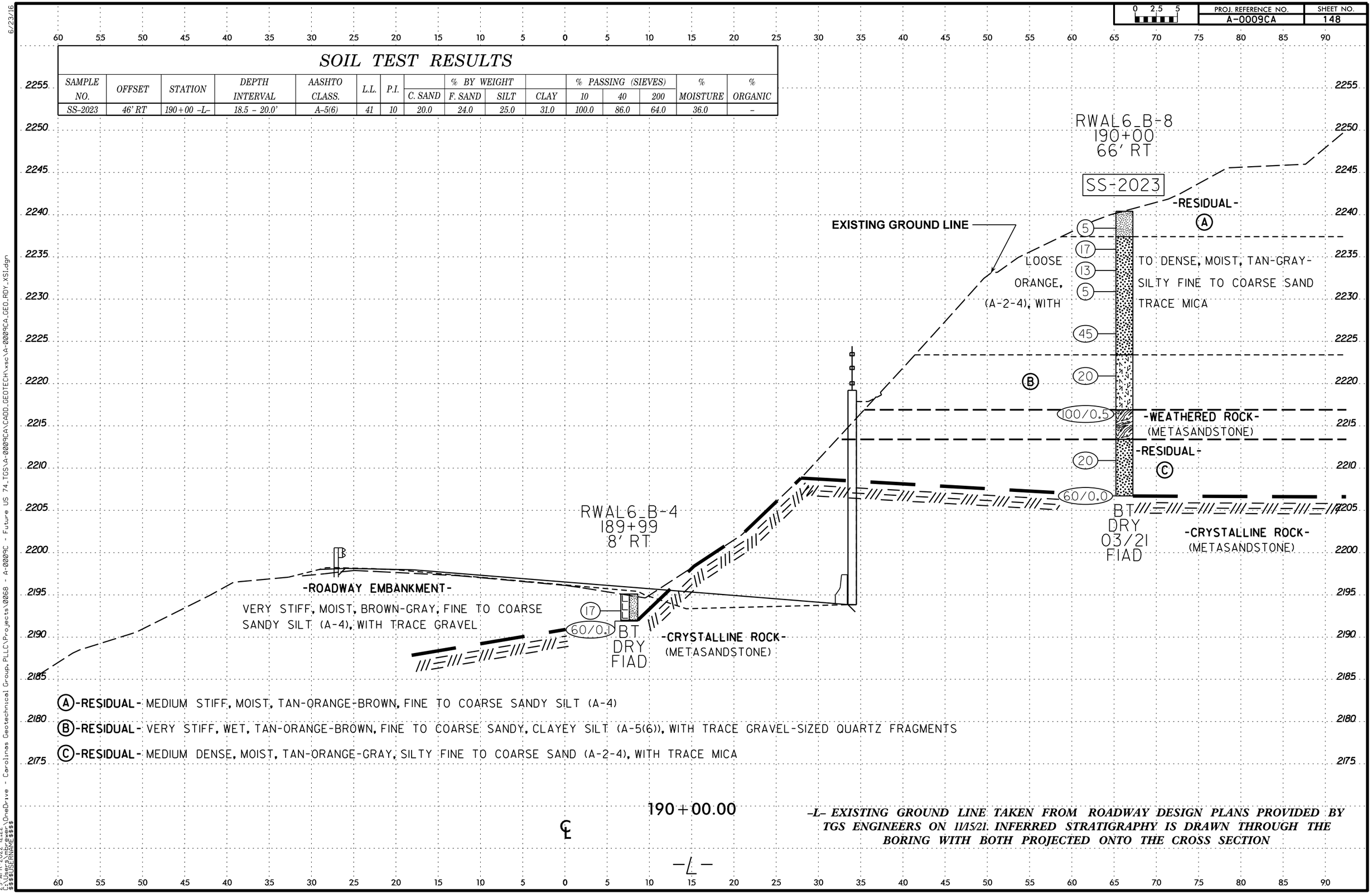
(C)-**CRYSTALLINE ROCK-** FRESH TO SLIGHTLY WEATHERED, HARD TO VERY HARD, LIGHT GRAY-DARK GRAY, (METASANDSTONE), INDURATED TO EXTREMELY INDURATED, WITH MODERATELY CLOSE FRACTURE SPACING TO CLOSE FRACTURE SPACING

℄ 189+00.00
-L-

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

SOIL TEST RESULTS

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
SS-2023	46' RT	190+00 -L-	18.5 - 20.0'	A-5(6)	41	10	20.0	24.0	25.0	31.0	100.0	86.0	64.0	36.0	-



Ⓐ **-RESIDUAL-** MEDIUM STIFF, MOIST, TAN-ORANGE-BROWN, FINE TO COARSE SANDY SILT (A-4)

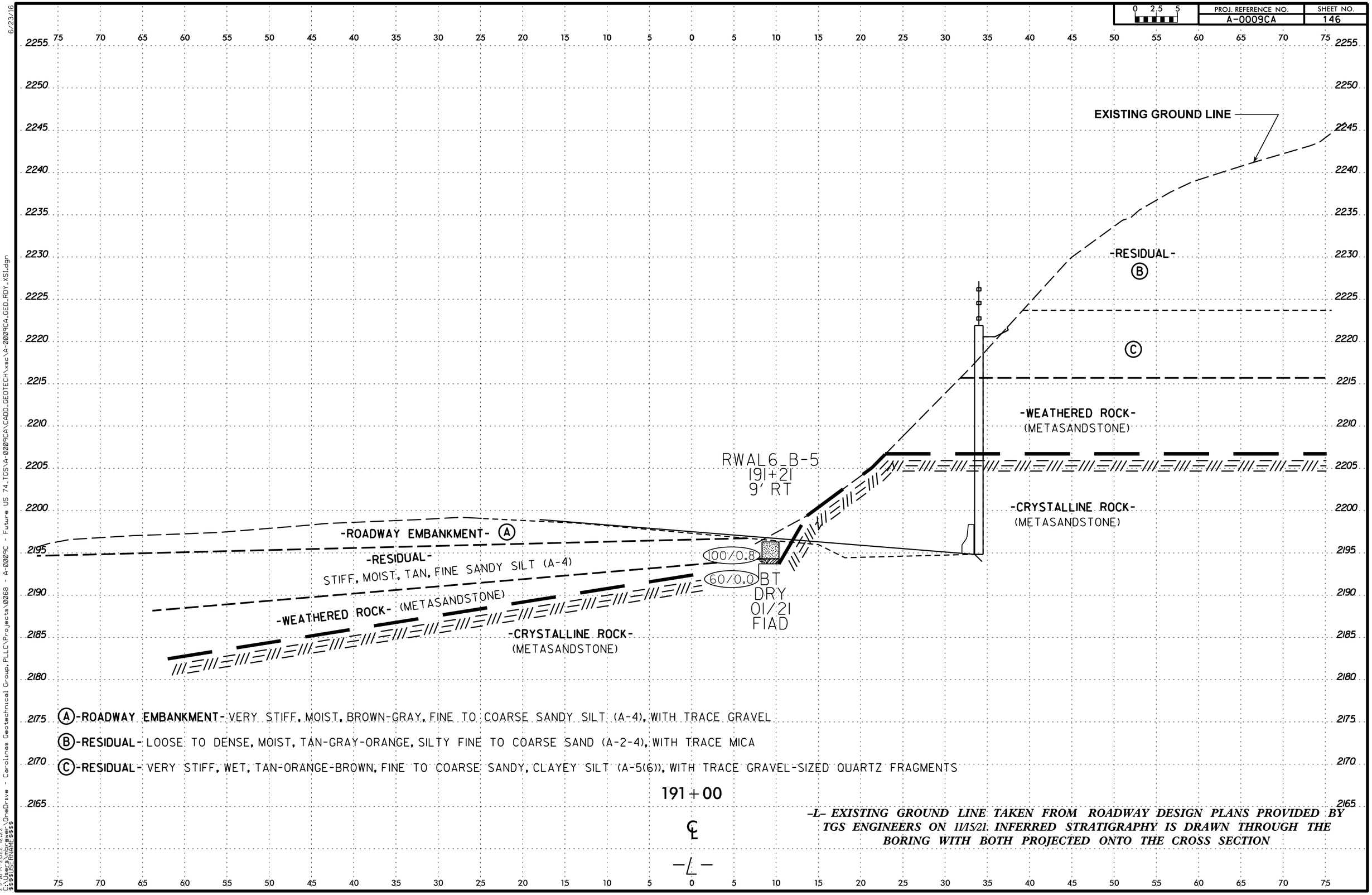
Ⓑ **-RESIDUAL-** VERY STIFF, WET, TAN-ORANGE-BROWN, FINE TO COARSE SANDY, CLAYEY SILT (A-5(6)), WITH TRACE GRAVEL-SIZED QUARTZ FRAGMENTS

Ⓒ **-RESIDUAL-** MEDIUM DENSE, MOIST, TAN-ORANGE-GRAY, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE MICA

℄ 190+00.00

—℄—

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



(A)-**ROADWAY EMBANKMENT**- VERY STIFF, MOIST, BROWN-GRAY, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL

(B)-**RESIDUAL**- LOOSE TO DENSE, MOIST, TAN-GRAY-ORANGE, SILTY FINE TO COARSE SAND (A-2-4), WITH TRACE MICA

(C)-**RESIDUAL**- VERY STIFF, WET, TAN-ORANGE-BROWN, FINE TO COARSE SANDY, CLAYEY SILT (A-5(6)), WITH TRACE GRAVEL-SIZED QUARTZ FRAGMENTS

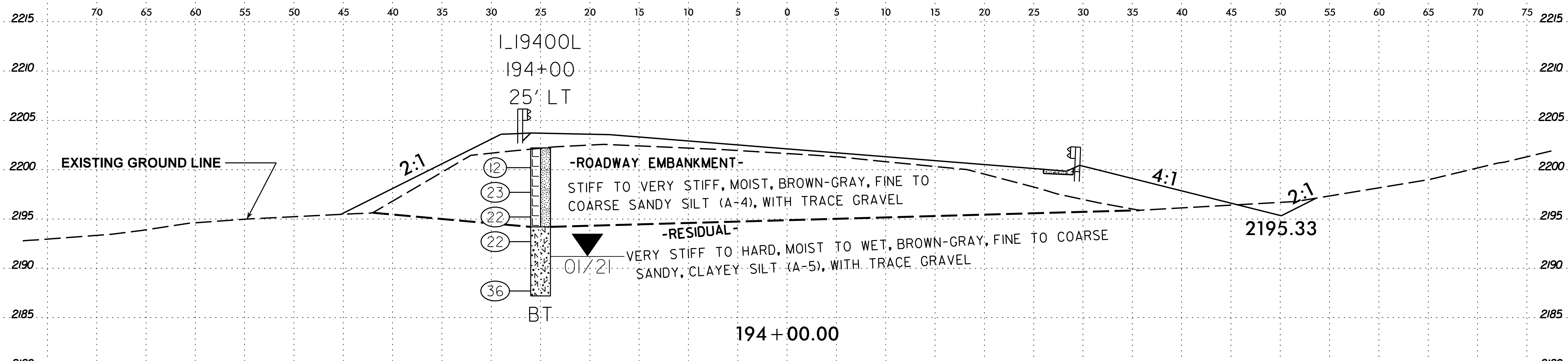
191+00

℄

—L—

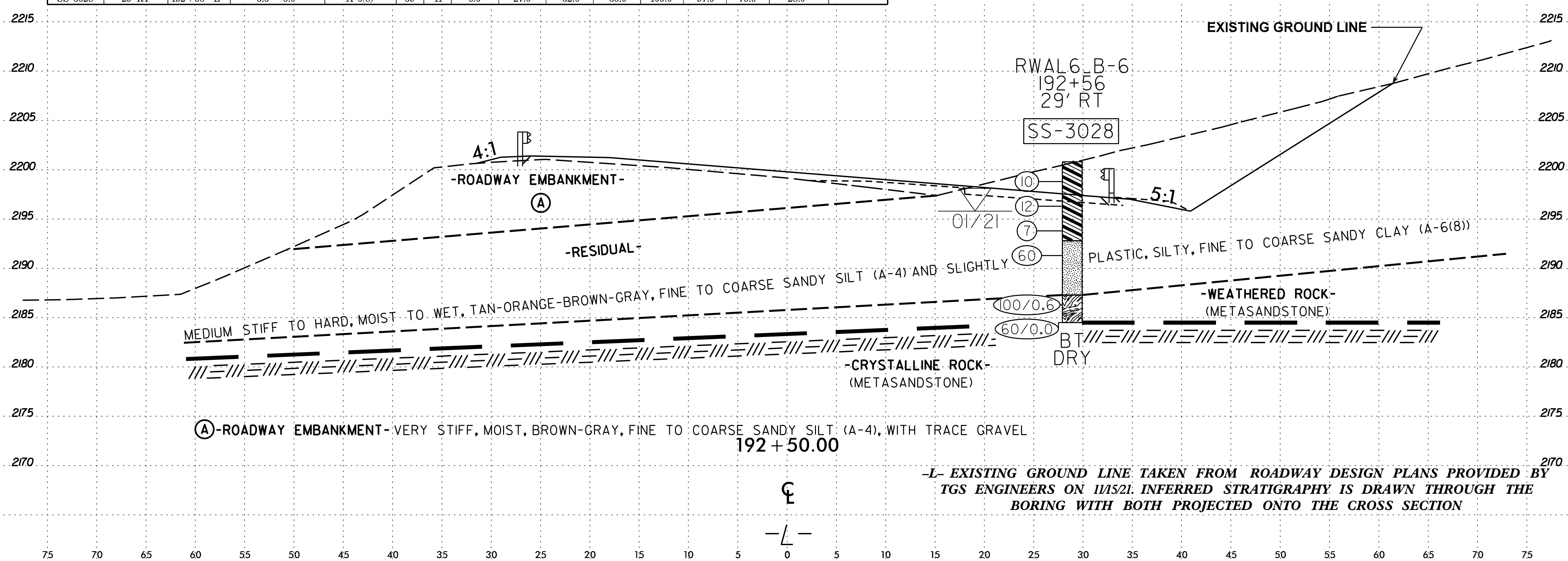
-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	150



SOIL TEST RESULTS

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
SS-3028	29' RT	192+56 -L-	3.5 - 5.0'	A-6(8)	39	11	6.0	27.0	32.0	35.0	100.0	97.0	75.0	28.0	–



–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	151

0 2.5 5

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

2220 2215 2210 2205 2200 2195 2190 2185 2180 2175 2170

L_19800R
198+00
22' RT

2:1

-ROADWAY EMBANKMENT-
SOFT TO VERY STIFF, MOIST, BROWN-ORANGE, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL

-ALLUVIAL-
MEDIUM DENSE TO VERY DENSE, WET, GRAY-BROWN, SILTY, GRAVELLY FINE TO COARSE SAND (A-1-B)

11
3
18
100/0.9
BT
01/21

EXISTING GROUND LINE

198+00.00

CULV_L_19492L
194+92
55' LT

2:1

-ALLUVIAL-
MEDIUM STIFF TO STIFF, MOIST, BROWN, FINE TO COARSE SANDY, SILTY CLAY (A-7-5), WITH LITTLE GRAVEL

8
9
67
79
12
100/0.8
BT
02/21

-RESIDUAL-
STIFF TO HARD, MOIST TO SATURATED, BROWN-TAN-ORANGE-RED-GRAY, FINE TO COARSE SANDY SILT (A-4)

-WEATHERED ROCK-
(METASANDSTONE)

CULV_L_19495R
194+95
29' RT

2:1

-ROADWAY EMBANKMENT-
SOFT TO MEDIUM STIFF, MOIST, BROWN, FINE SANDY SILT (A-4) AND FINE SANDY CLAY (A-6), WITH TRACE ORGANICS AND GRAVEL

4
2
3
3
48
100/0.2
BT
09/21

-ALLUVIAL-
DENSE, MOIST, BROWN-GRAY, SILTY, GRAVELLY FINE TO COARSE SAND (A-1-B)

DENSE, MOIST, GRAY-BROWN, SILTY FINE TO COARSE SAND (A-2-4), WITH LITTLE GRAVEL-SIZED ROCK FRAGMENTS

-RESIDUAL-

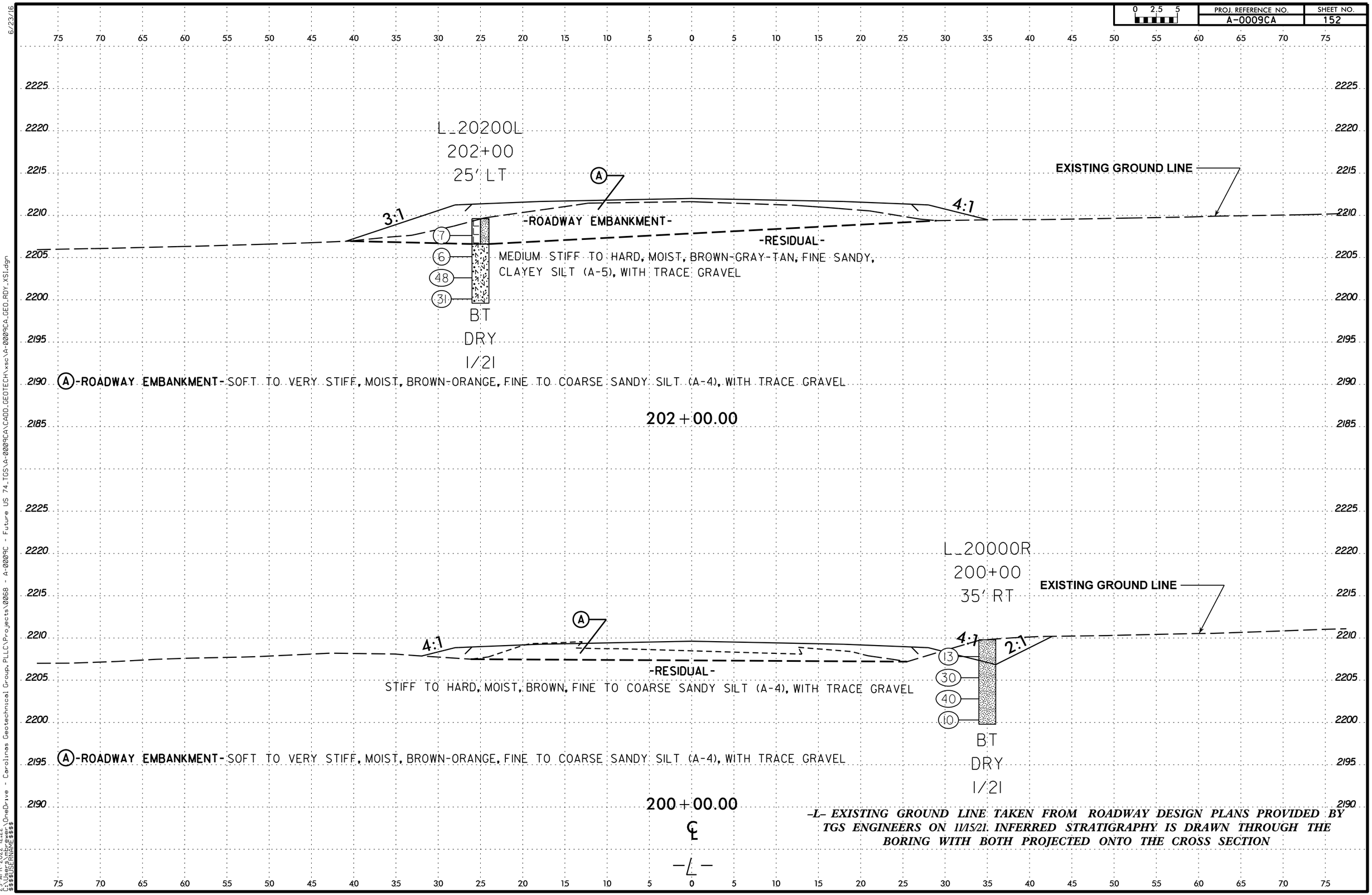
EXISTING GROUND LINE

195+00.00

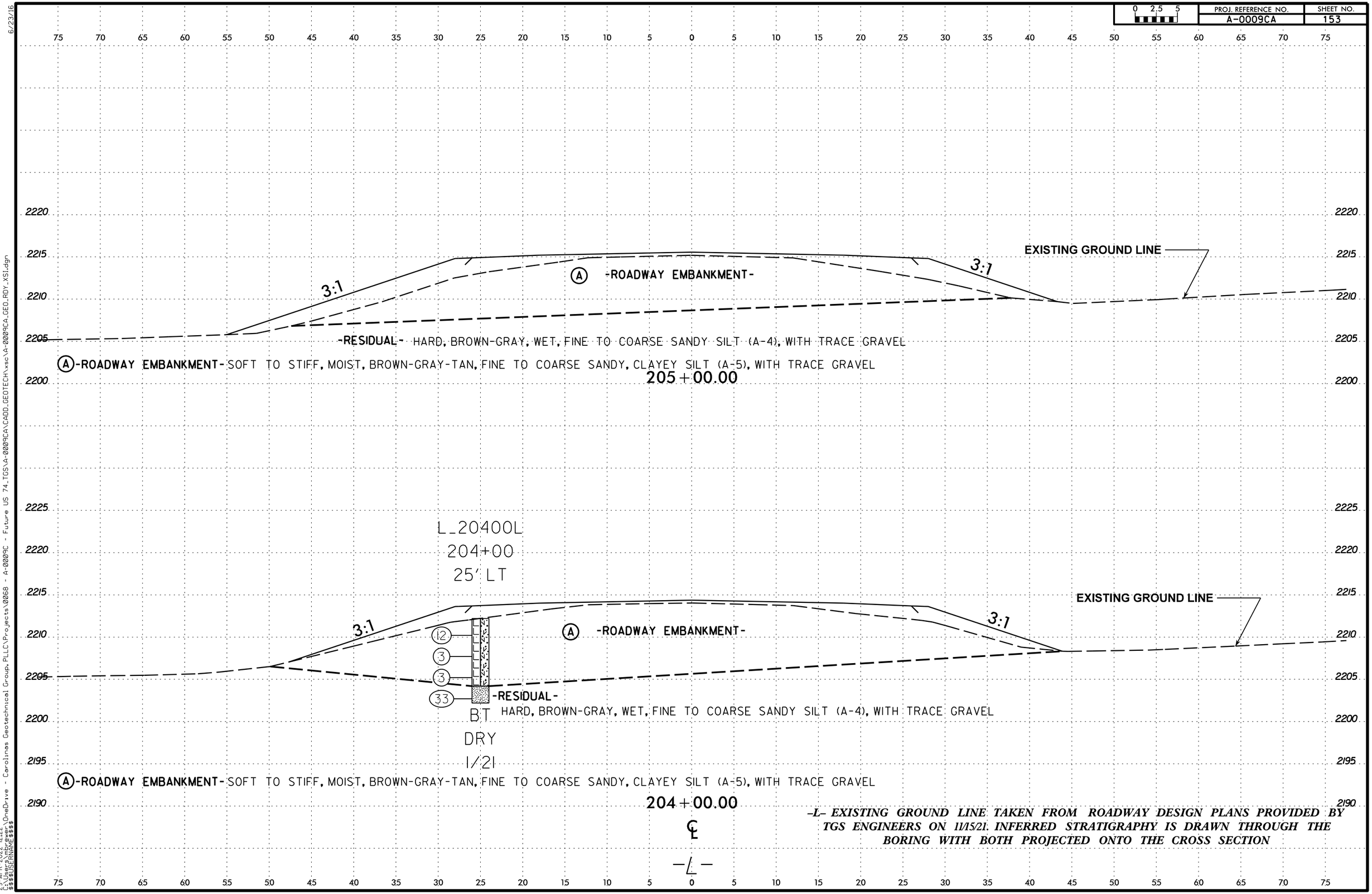
℄

—L—

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	154

0 2.5 5

L_20600L
206+00
25' LT

EXISTING GROUND LINE

3:1

3:1

20
16
10
WOH
01/21

Ⓐ -ROADWAY EMBANKMENT-

-ALLUVIAL- VERY SOFT, SATURATED, BROWN-TAN, FINE SANDY, CLAYEY SILT (A-5)

-RESIDUAL- WOH VERY SOFT TO HARD, SATURATED, GRAY-BROWN-TAN-WHITE, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

34
BT

Ⓐ-ROADWAY EMBANKMENT- STIFF TO VERY STIFF, MOIST TO WET, BROWN, FINE TO COARSE SANDY SILT (A-4) AND FINE TO COARSE SANDY, CLAYEY SILT (A-5)

206+00.00

EXISTING GROUND LINE

3:1

3:1

Ⓐ -ROADWAY EMBANKMENT-

-ALLUVIAL- VERY SOFT, SATURATED, BROWN-TAN, FINE SANDY, CLAYEY SILT (A-5)

Ⓐ-ROADWAY EMBANKMENT- STIFF TO VERY STIFF, MOIST TO WET, BROWN, FINE TO COARSE SANDY SILT (A-4) AND FINE TO COARSE SANDY, CLAYEY SILT (A-5)

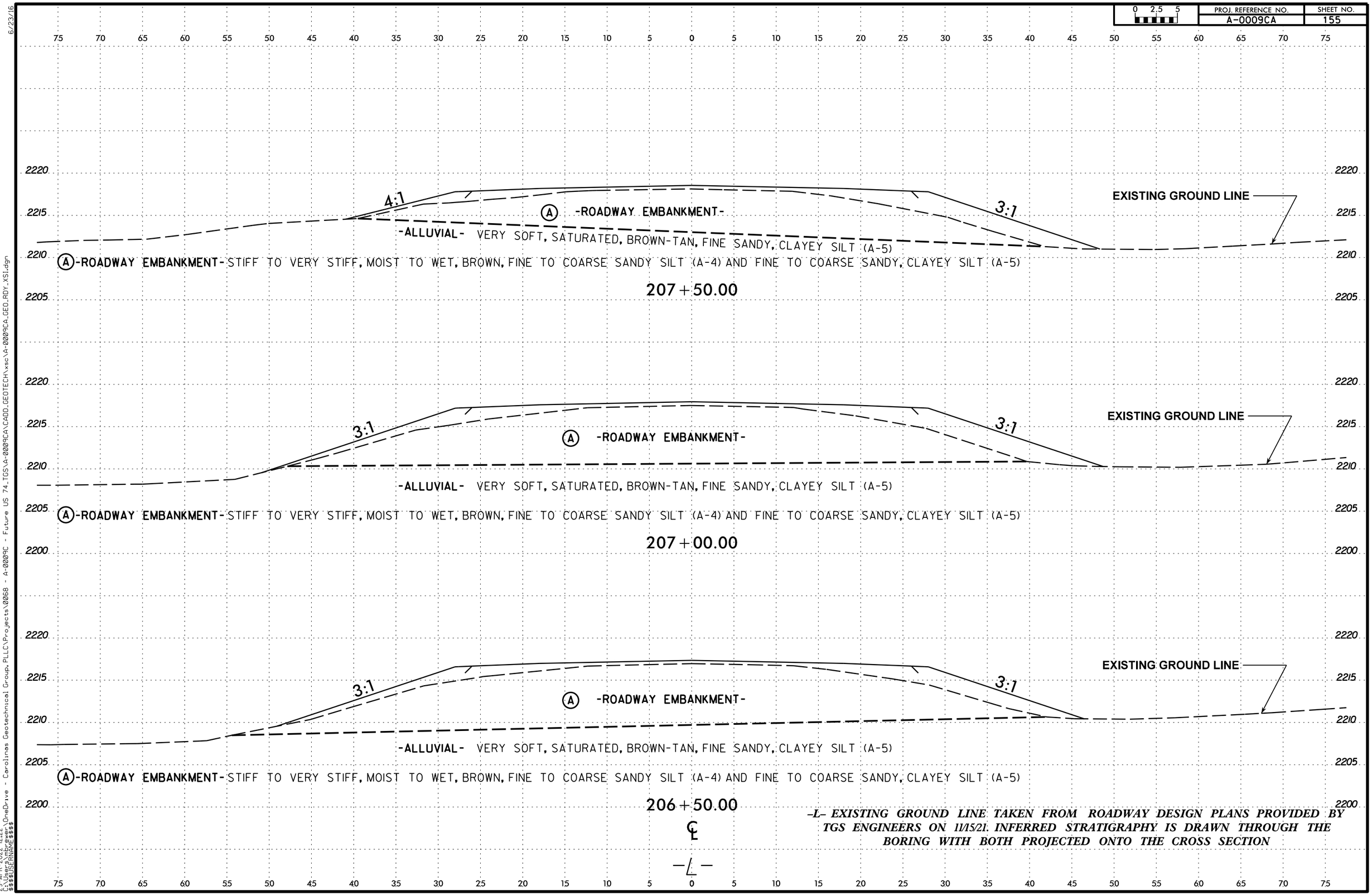
205+50.00

℄

-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

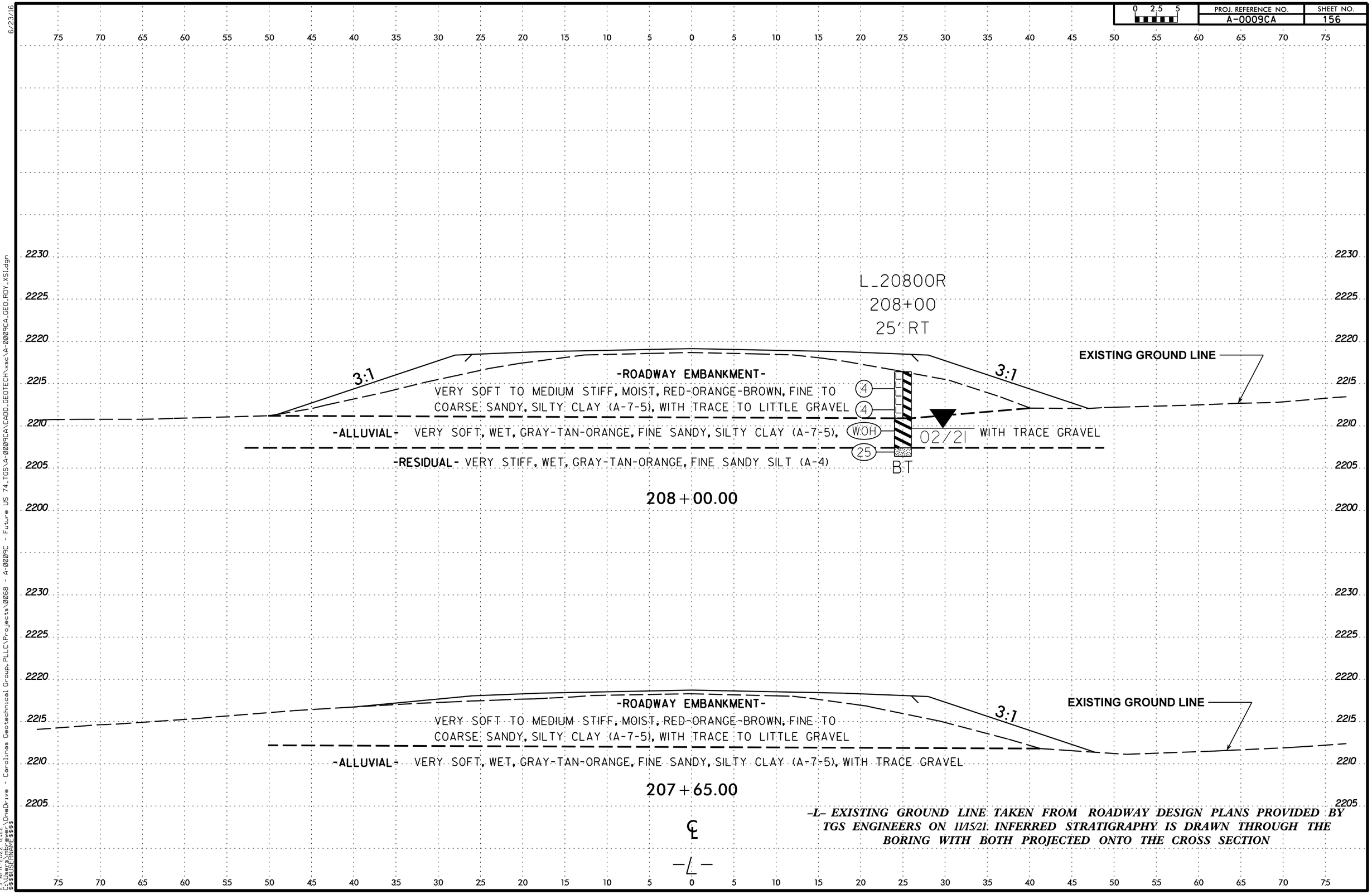
6/23/16

28-APR-2022 12:22
C:\Users\$$$$USERNAME$$$$\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn

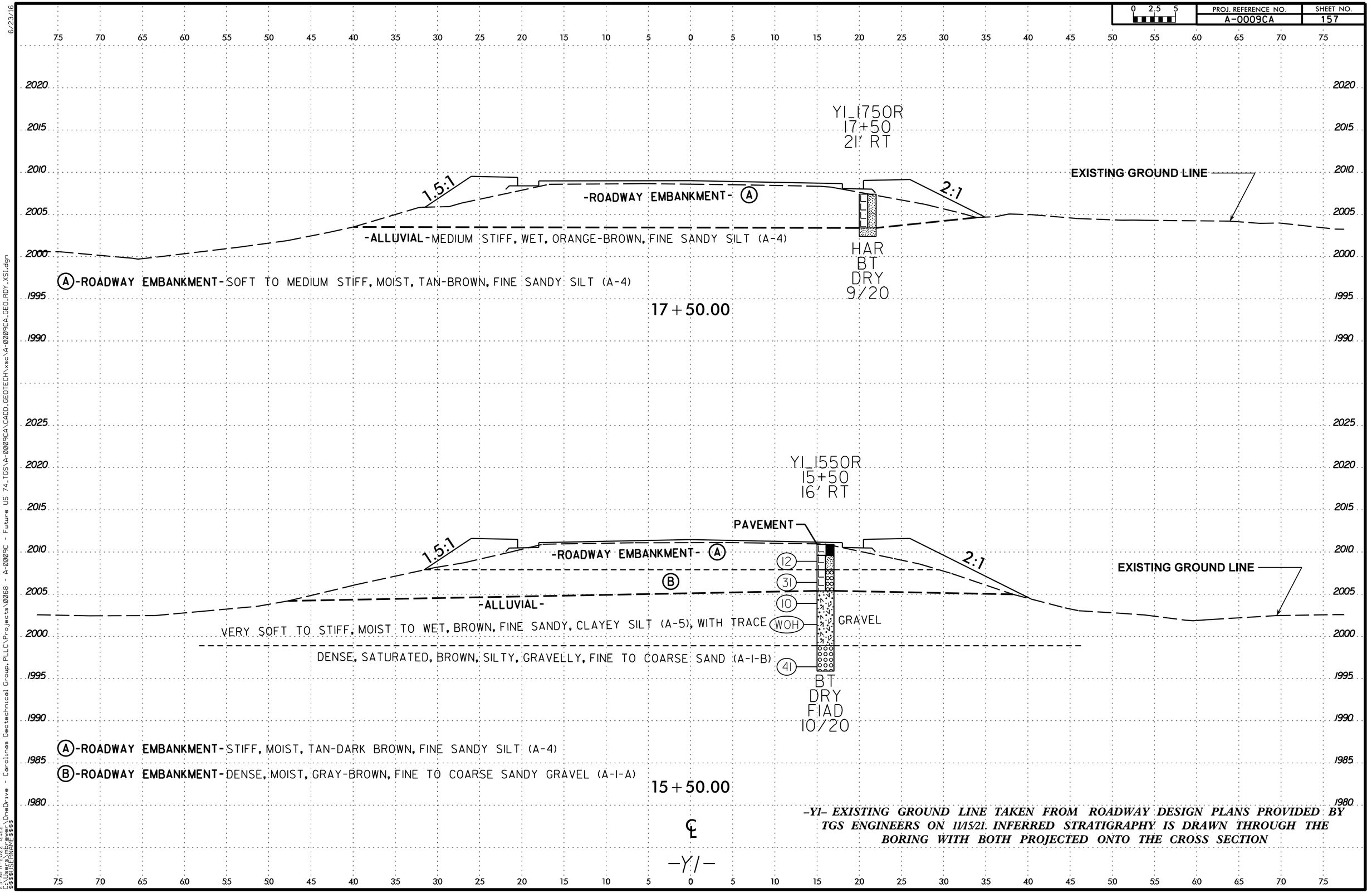


-L- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	156



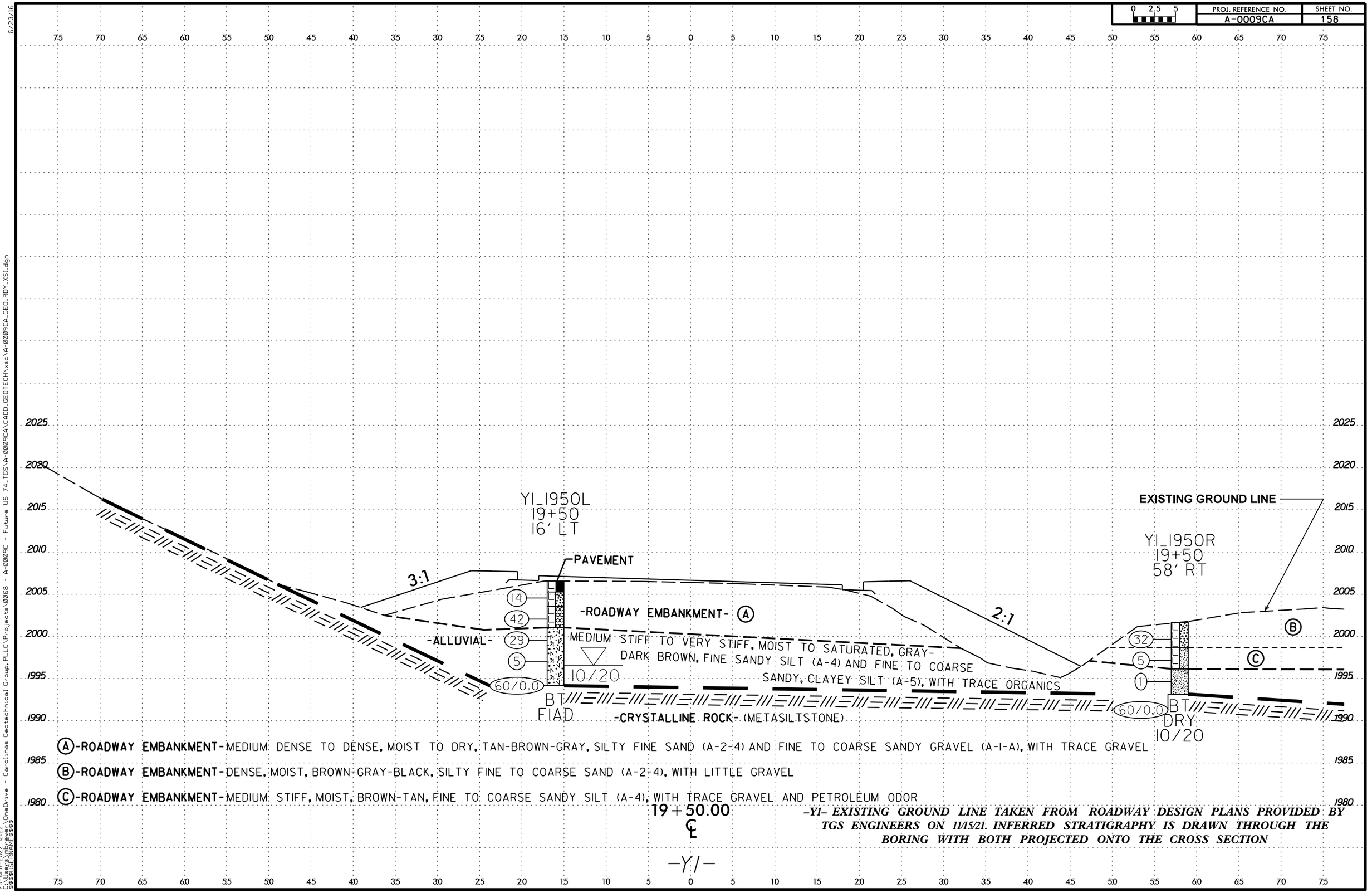
–L– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



-YI- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

6/23/16

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	158



(A)-ROADWAY EMBANKMENT- MEDIUM DENSE TO DENSE, MOIST TO DRY, TAN-BROWN-GRAY, SILTY FINE SAND (A-2-4) AND FINE TO COARSE SANDY GRAVEL (A-1-A), WITH TRACE GRAVEL

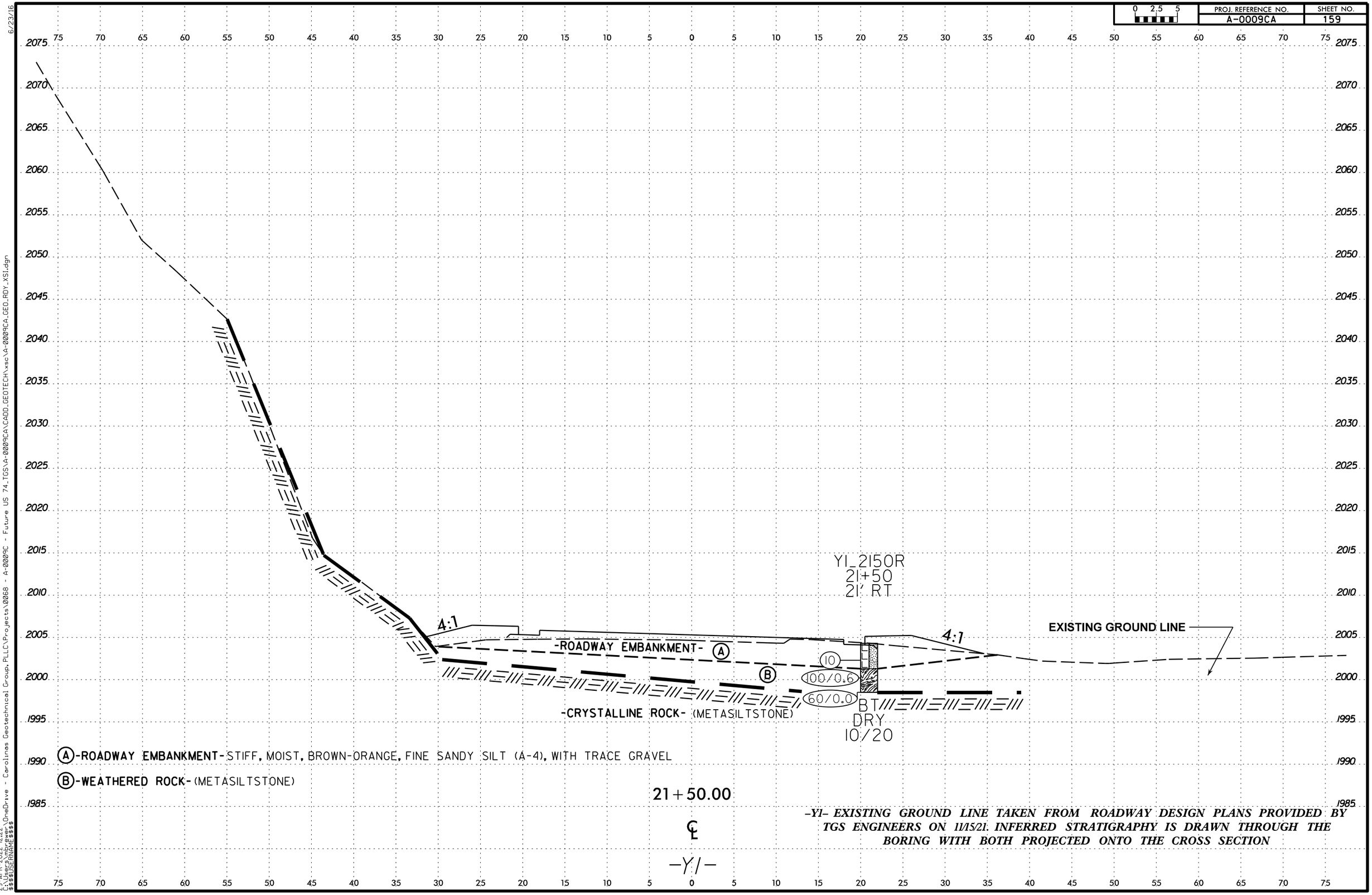
(B)-ROADWAY EMBANKMENT- DENSE, MOIST, BROWN-GRAY-BLACK, SILTY FINE TO COARSE SAND (A-2-4), WITH LITTLE GRAVEL

(C)-ROADWAY EMBANKMENT- MEDIUM STIFF, MOIST, BROWN-TAN, FINE TO COARSE SANDY SILT (A-4), WITH TRACE GRAVEL AND PETROLEUM ODOR

-YI- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

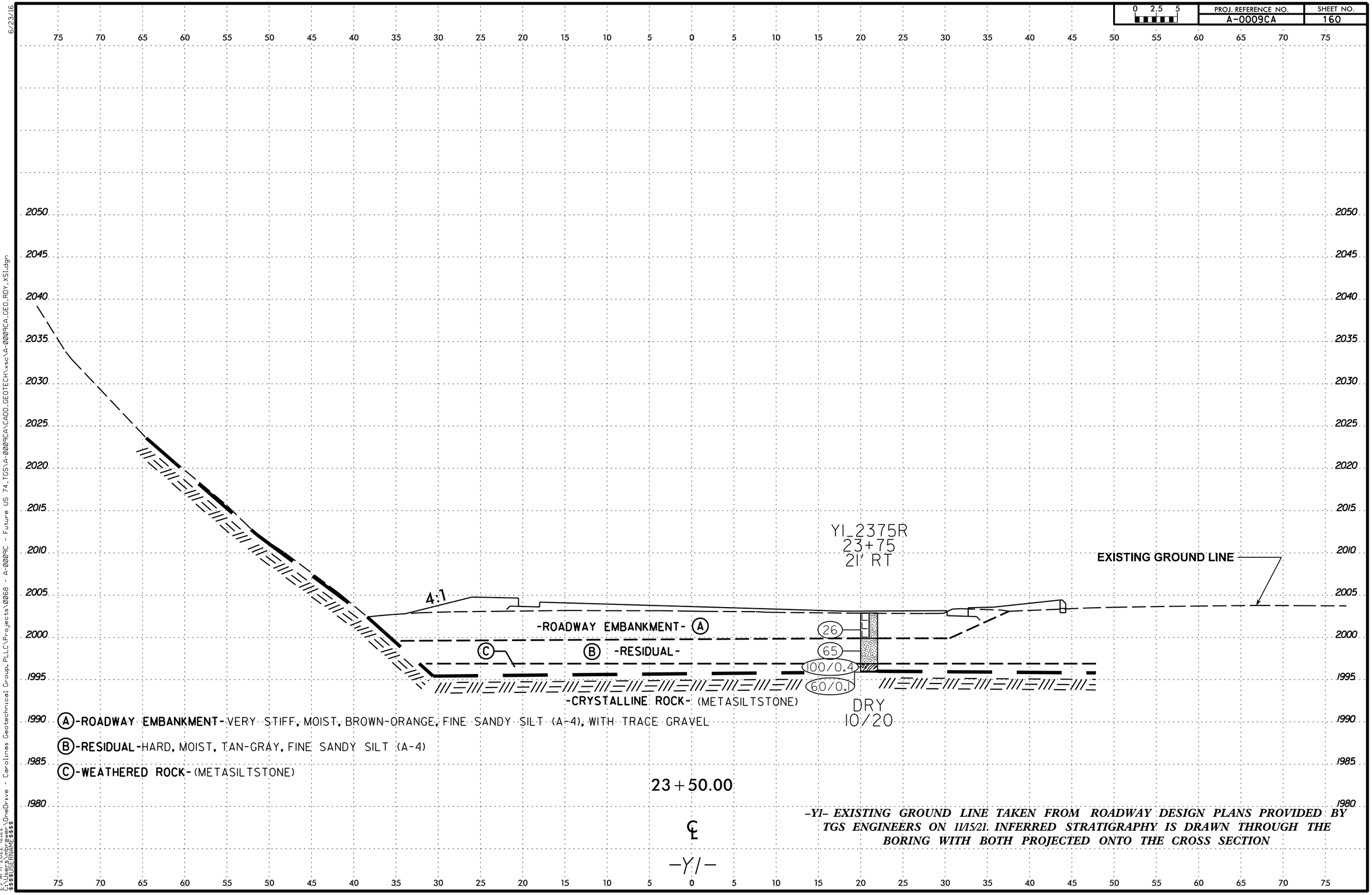
29-APR-2022 12:22
C:\Users\$USERNAME$\OneDrive - Carolinas Geotechnical Group, PLLC\Projects\0068 - A-0009C - Future US 74_TGS\A-0009CA\CADD_GEOTECH\xsc\A-0009CA_GEO_RDY_XSI.dgn
$$$$USERNAME$$$$

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	159

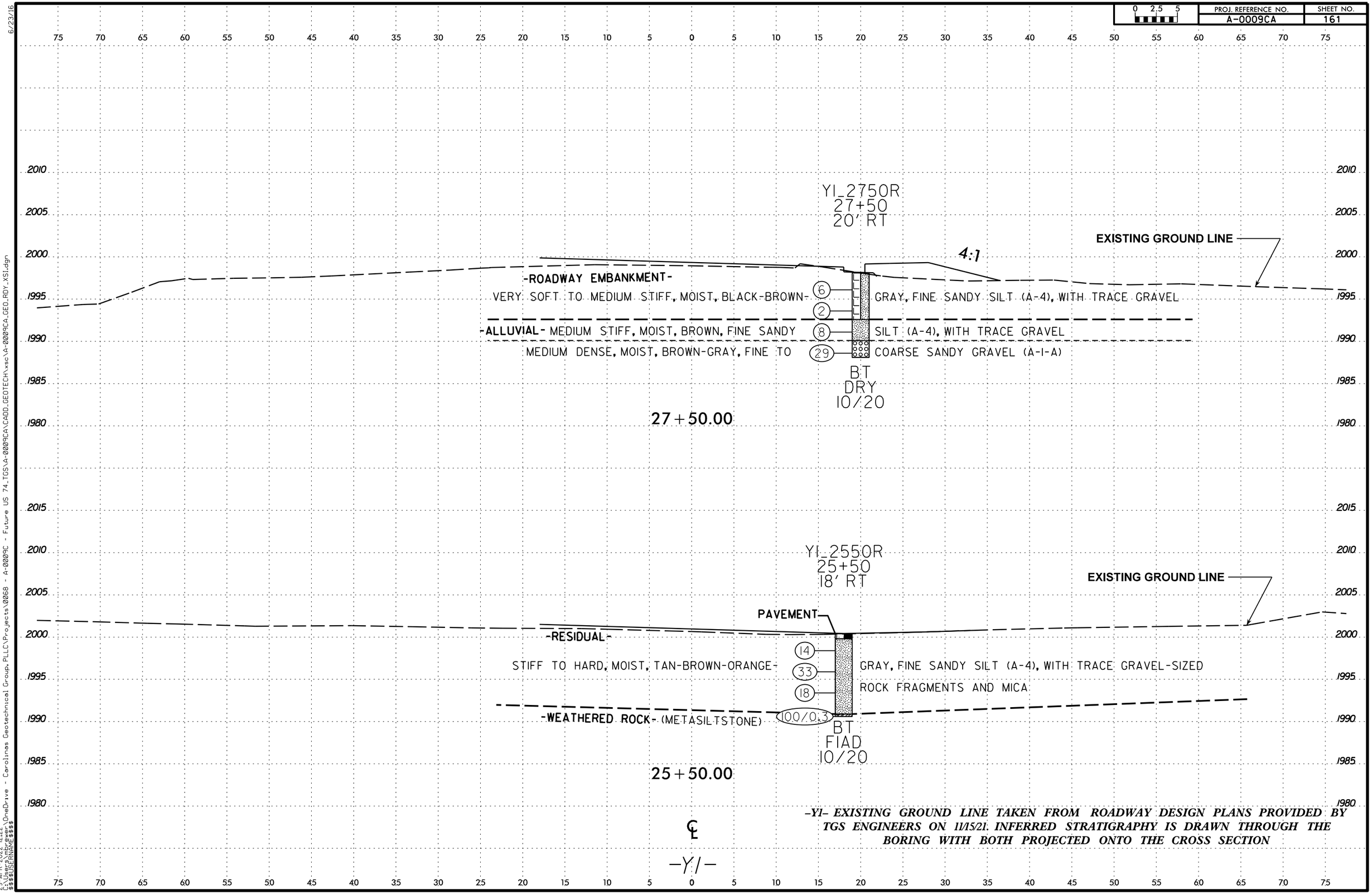


-Y1- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

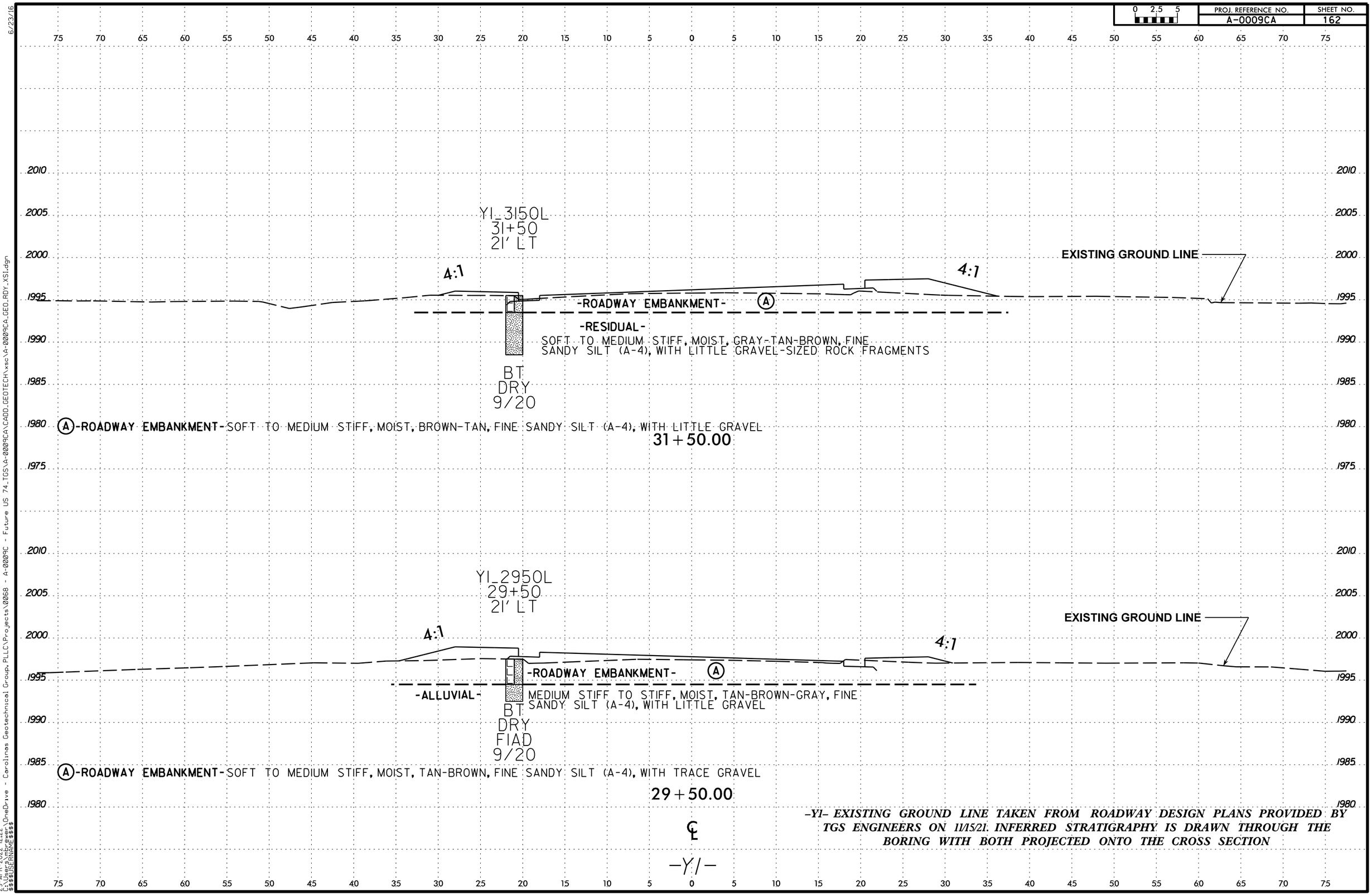
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	160



-YI- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



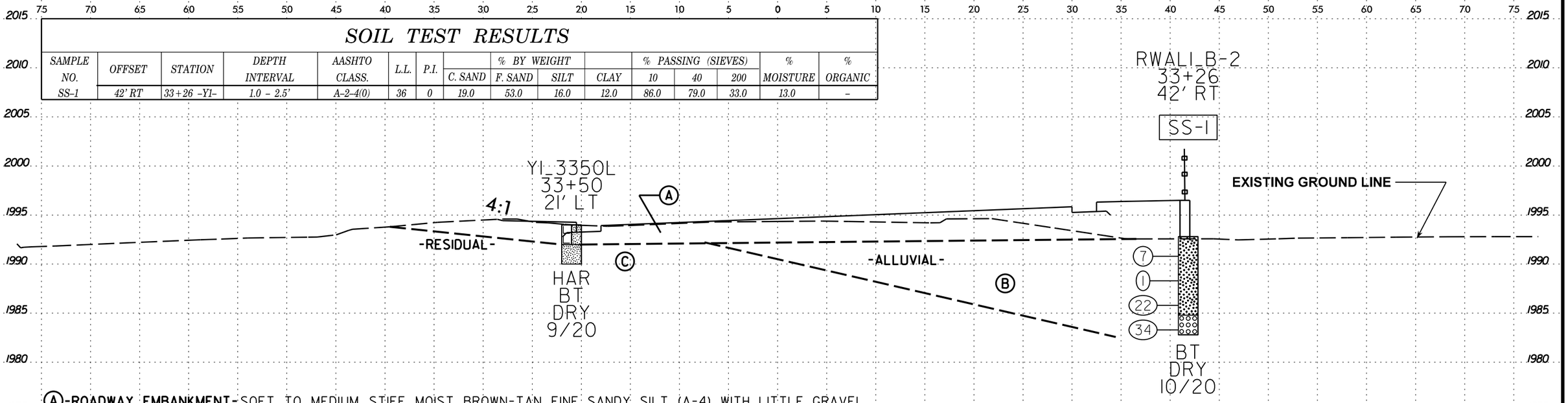
-YI- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



-Y1- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

SOIL TEST RESULTS

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
SS-1	42' RT	33+26 -Y1-	1.0 – 2.5'	A-2-4(0)	36	0	19.0	53.0	16.0	12.0	86.0	79.0	33.0	13.0	–

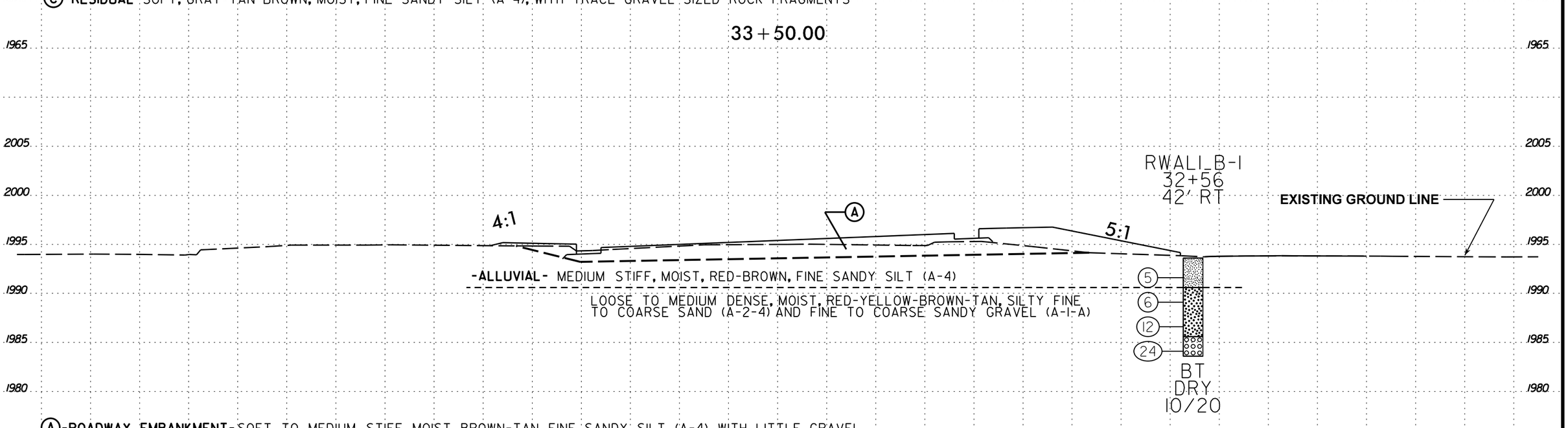


(A)-ROADWAY EMBANKMENT- SOFT TO MEDIUM STIFF, MOIST, BROWN-TAN, FINE SANDY SILT (A-4), WITH LITTLE GRAVEL

(B)-ALLUVIAL- LOOSE TO DENSE, MOIST, RED-YELLOW-BROWN-TAN, SILTY FINE TO COARSE SAND (A-2-4(0)) AND FINE TO COARSE SANDY GRAVEL (A-1-A)

(C)-RESIDUAL- SOFT, GRAY-TAN-BROWN, MOIST, FINE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

33+50.00



(A)-ROADWAY EMBANKMENT- SOFT TO MEDIUM STIFF, MOIST, BROWN-TAN, FINE SANDY SILT (A-4), WITH LITTLE GRAVEL

32+50.00

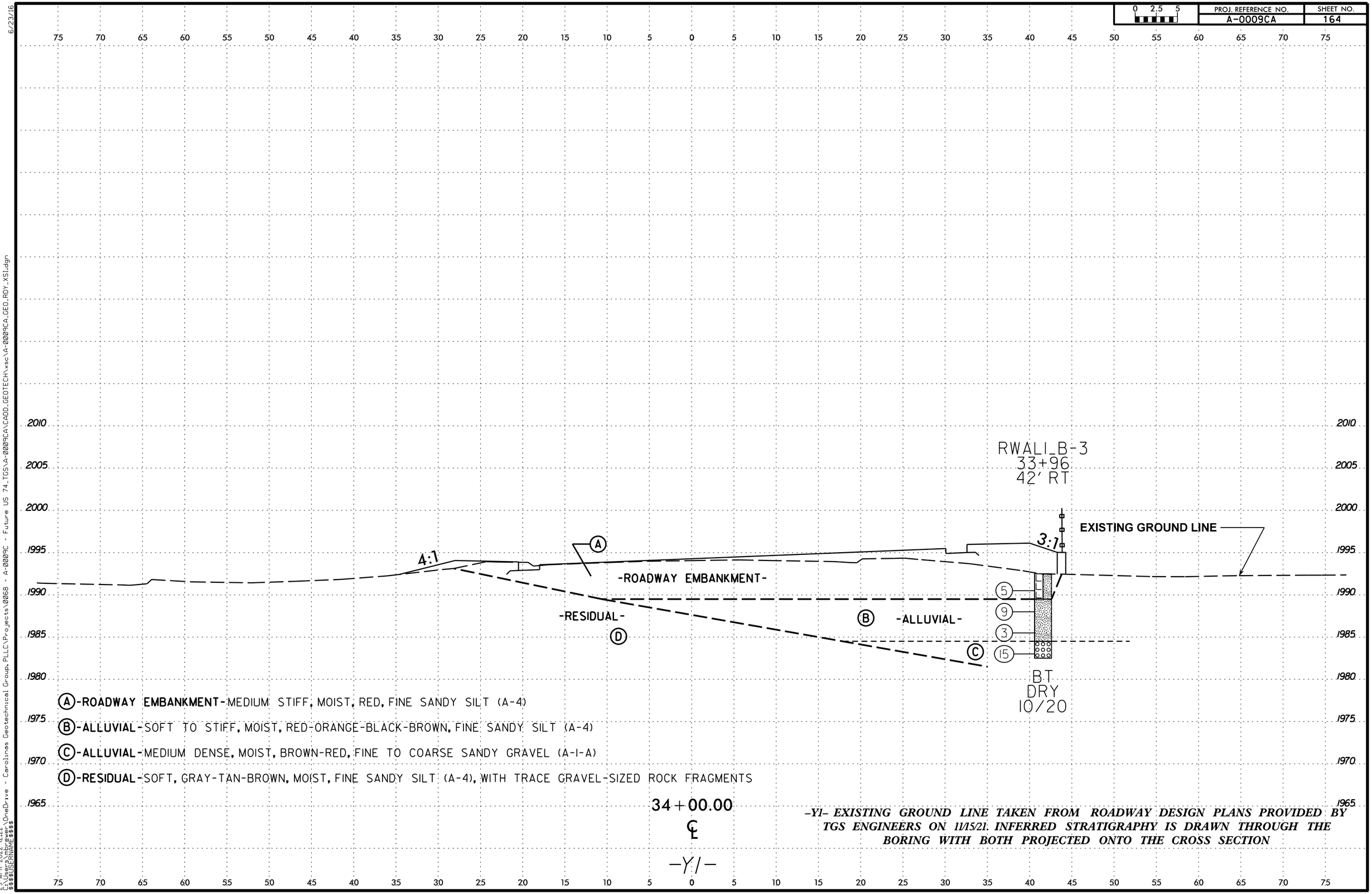
℄

–Y1–

–Y1– EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJ. REFERENCE NO.	SHEET NO.
A-0009CA	164

0 2.5 5



Ⓐ-**ROADWAY EMBANKMENT**-MEDIUM STIFF, MOIST, RED, FINE SANDY SILT (A-4)

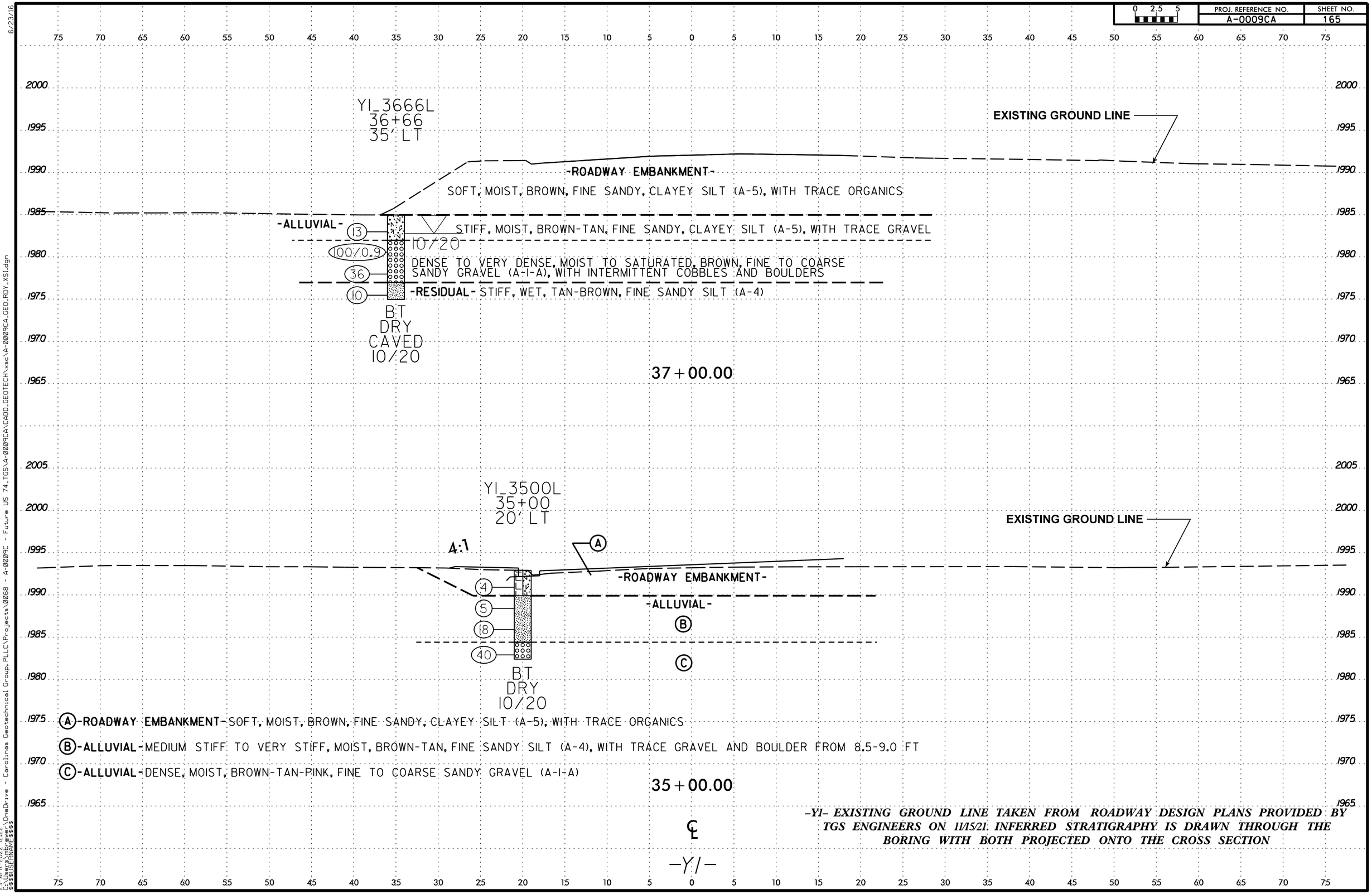
Ⓑ-**ALLUVIAL**-SOFT TO STIFF, MOIST, RED-ORANGE-BLACK-BROWN, FINE SANDY SILT (A-4)

Ⓒ-**ALLUVIAL**-MEDIUM DENSE, MOIST, BROWN-RED, FINE TO COARSE SANDY GRAVEL (A-1-A)

Ⓓ-**RESIDUAL**-SOFT, GRAY-TAN-BROWN, MOIST, FINE SANDY SILT (A-4), WITH TRACE GRAVEL-SIZED ROCK FRAGMENTS

34+00.00
℄
-Y1-

-Y1- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION



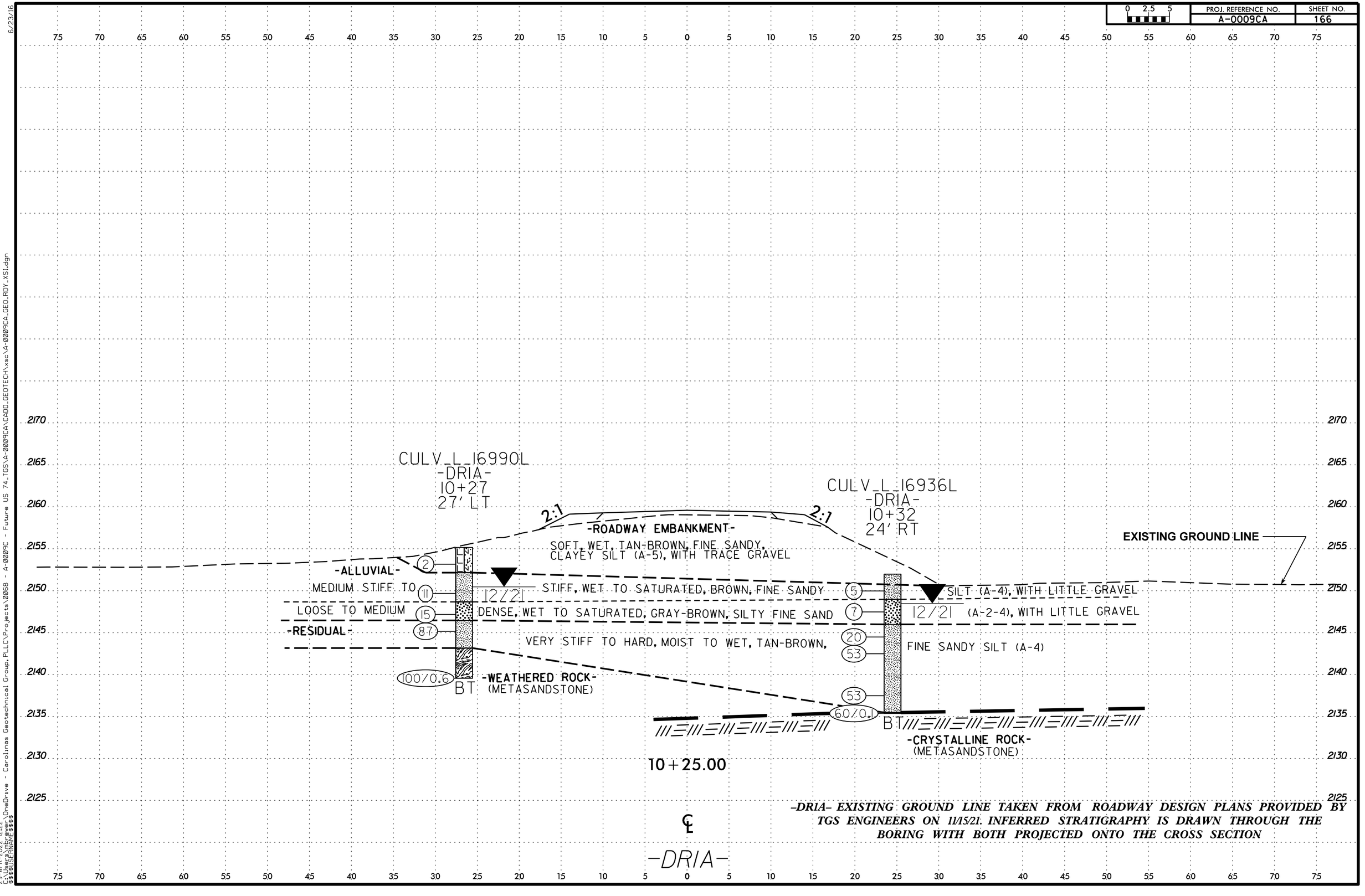
Ⓐ-**ROADWAY EMBANKMENT**-SOFT, MOIST, BROWN, FINE SANDY, CLAYEY SILT (A-5), WITH TRACE ORGANICS

Ⓑ-**ALLUVIAL**-MEDIUM STIFF TO VERY STIFF, MOIST, BROWN-TAN, FINE SANDY SILT (A-4), WITH TRACE GRAVEL AND BOULDER FROM 8.5-9.0 FT

Ⓒ-**ALLUVIAL**-DENSE, MOIST, BROWN-TAN-PINK, FINE TO COARSE SANDY GRAVEL (A-1-A)

-Y1- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	A-0009CA	166



-DRIA- EXISTING GROUND LINE TAKEN FROM ROADWAY DESIGN PLANS PROVIDED BY TGS ENGINEERS ON 11/15/21. INFERRED STRATIGRAPHY IS DRAWN THROUGH THE BORING WITH BOTH PROJECTED ONTO THE CROSS SECTION

PROJECT REFERENCE NO.	SHEET NO.
A–0009CA	167

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

APPENDIX A
BORE LOGS, CORE LOG, & ROCK CORE PHOTOS

REFERENCE: A–0009CA

PROJECT: 32572

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 32572.1.FS10	**TIP** A-0009CA	**COUNTY** GRAHAM	**GEOLOGIST** S. Patterson	
SITE DESCRIPTION Upgrade US 129 from South of SR 1275 to NC 143 and Upgrade NC 143 from US 129 to SR 1223				**GROUND WTR (ft)**
BORING NO. Y1_2354R	**STATION** 23+54	**OFFSET** 162 ft RT	**ALIGNMENT** Y1	**0 HR.** 7.1
COLLAR ELEV. 1,996.8 ft	**TOTAL DEPTH** 15.0 ft	**NORTHING** 606,425	**EASTING** 568,111	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG29022 Mobile B-29 81% 03/12/2021		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER M. Brewer	**START DATE** 11/05/21	**COMP. DATE** 11/05/21	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
2000										
	1,996.8	0.0	3	3	3	6		M		1,996.8 GROUND SURFACE 0.0
1995	1,994.8	2.0	1	1	2	3		W		**ARTIFICIAL FILL** Medium Stiff, Brown, Slightly Plastic, Fine Sandy, Silty CLAY (A-6) with trace organics and trace gravel 1,994.8 2.0
	1,992.8	4.0	0	3	5	8		W		**ALLUVIAL** Very Loose to Medium Dense, Gray-Brown-Black, Slightly Plastic, Clayey Fine SAND (A-2-6) with trace organics and trace gravel 1,988.8 8.0
1990	1,990.8	6.0	7	13	7	20		W		1,987.3 9.5
	1,988.8	8.0	12	17	21	38		M		Dense, Gray-Orange-Brown, Silty, Gravelly Coarse to Fine SAND (A-1-b) with trace mica and trace subangular to subrounded gravel
1985	1,983.3	13.5	13	12	20	32		M		**RESIDUAL** Hard, Brown-Tan, Fine to Coarse Sandy SILT (A-4) with trace mica 1,981.8 15.0
										Boring Terminated at Elevation 1,981.8 ft In Residual Sandy Silt (A-4)

WBS 32572.1.FS10	**TIP** A-0009CA	**COUNTY** GRAHAM	**GEOLOGIST** S. Braun	
SITE DESCRIPTION Upgrade US 129 from South of SR 1275 to NC 143 and Upgrade NC 143 from US 129 to SR 1223				**GROUND WTR (ft)**
BORING NO. L_16786L	**STATION** 167+86	**OFFSET** 87 ft LT	**ALIGNMENT** L	**0 HR.** 4.0
COLLAR ELEV. 1,993.3 ft	**TOTAL DEPTH** 30.9 ft	**NORTHING** 610,882	**EASTING** 582,230	**24 HR.** 2.9
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 89% 05/22/2019		**DRILL METHOD** H.S. Augers	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 01/25/21	**COMP. DATE** 01/25/21	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION (ELEV. (ft) / DEPTH (ft))
1995										
	1,992.3	1.0	1	2	6	8		W		1,993.3 GROUND SURFACE 0.0
1990	1,989.8	3.5	7	7	12	19		W		**ALLUVIAL** Loose to Medium Dense, Brown-Gray, Silty Fine to Coarse SAND (A-2-4), with little gravel
	1,987.3	6.0	11	3	4	7		M		1,987.8 5.5
1985	1,984.8	8.5	11	17	28	45		M		**RESIDUAL** Medium Stiff to Hard, Brown-Gray, Fine to Coarse Sandy SILT (A-4), with little gravel-sized rock fragments
1980	1,979.8	13.5	8	8	10	18		Sat.		1,981.3 12.0
1975	1,974.8	18.5	30	45	48	93		Sat.		Medium Dense to Very Dense, Tan-Orange-Gray, Silty Fine to Coarse SAND (A-2-4), with little gravel-sized rock fragments
1970	1,969.8	23.5	31	29	23	52		Sat.		
1965	1,964.8	28.5	16	28	40	68		W		
	1,962.4	30.9	60/0.0			60/0.0				1,962.4 30.9
										Boring Terminated with Standard Penetration Test Refusal at Elevation 1,962.4 ft On Crystalline Rock (SCHIST)

GEOTECHNICAL BORING REPORT
BORE LOG

WBS 32572.1.FS10	**TIP** A-0009CA	**COUNTY** GRAHAM	**GEOLOGIST** N. McLaren / D. Goodnight	
SITE DESCRIPTION Upgrade US 129 from South of SR 1275 to NC 143 and Upgrade NC 143 from US 129 to SR 1223				**GROUND WTR (ft)**
BORING NO. RWAL6_B-7	**STATION** 189+08	**OFFSET** 88 ft RT	**ALIGNMENT** L	**0 HR.** 30.0
COLLAR ELEV. 2,145.9 ft	**TOTAL DEPTH** 59.1 ft	**NORTHING** 612,420	**EASTING** 583,638	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 83% 06/16/2020		**DRILL METHOD** NW Casing W/SPT & Core	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 01/26/21	**COMP. DATE** 11/01/21	**SURFACE WATER DEPTH** N/A	

ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 25 50 75 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
										ELEV. (ft) DEPTH (ft)
2150										
2145	2,144.9	1.0								2,145.9 0.0 GROUND SURFACE
			3	1	1	2 2	SS-3008	23%		**RESIDUAL** Very Soft to Medium Stiff, Tan-Orange-Brown, Fine Sandy SILT (A-4(1)), with trace mica
	2,142.4	3.5				7				
2140			2	3	4			M		
	2,139.9	6.0	3	4	2	6		M		2,140.4 5.5 Loose to Dense, Tan-Orange-Brown, Silty Fine to Coarse SAND (A-2-4(0)), with trace gravel-sized rock fragments
	2,137.4	8.5	6	4	14	18				
2135								M		
	2,132.4	13.5	4	5	5	10	SS-3012	7%		
2130										
	2,127.4	18.5	22	18	30	48		M		
2125										
	2,122.4	23.5	43	57/0.3		100/0.8				2,122.4 23.5 **WEATHERED ROCK** Tan-Gray, (METASANDSTONE)
2120										
	2,117.4	28.5	11	27	73/0.4	100/0.9				
2115										
	2,113.0	32.9	60/0.0			60/0.0				2,113.0 32.9 **CRYSTALLINE ROCK** Gray-Tan, (METASANDSTONE) REC: 96% RQD: 58% GSI: 40-50
2110										
2105										2,108.2 37.7 Light to Dark Gray, (METASANDSTONE) REC: 99% RQD: 94% GSI: 70-80
2100										
2095										
2090										2,086.8 59.1 Boring Terminated at Elevation 2,086.8 ft In Crystalline Rock (METASANDSTONE)

WBS 32572.1.FS10	**TIP** A-0009CA	**COUNTY** GRAHAM	**GEOLOGIST** N. McLaren / D. Goodnight	
SITE DESCRIPTION Upgrade US 129 from South of SR 1275 to NC 143 and Upgrade NC 143 from US 129 to SR 1223				**GROUND WTR (ft)**
BORING NO. RWAL6_B-7	**STATION** 189+08	**OFFSET** 88 ft RT	**ALIGNMENT** L	**0 HR.** 30.0
COLLAR ELEV. 2,145.9 ft	**TOTAL DEPTH** 59.1 ft	**NORTHING** 612,420	**EASTING** 583,638	**24 HR.** FIAD
DRILL RIG/HAMMER EFF./DATE CG20446 Diedrich D50 83% 06/16/2020		**DRILL METHOD** NW Casing W/SPT & Core	**HAMMER TYPE** Automatic	
DRILLER C. Odom	**START DATE** 01/26/21	**COMP. DATE** 11/01/21	**SURFACE WATER DEPTH** N/A	
CORE SIZE NQ	**TOTAL RUN** 26.2 ft			

ELEV (ft)	RUN ELEV (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
											ELEV. (ft) DEPTH (ft)
2112.96											Begin Coring @ 32.9 ft
	2,113.0	32.9	1.2	*N=60/0.0*	(1.1)	(0.0)		(4.6)	(2.8)		2,113.0 32.9 **CRYSTALLINE ROCK**
	2,111.8	34.1	5.0	06:22/1.0	92%	0%		96%	58%		Slightly to Moderately Weathered, Hard to Very Hard, Gray-Tan, (METASANDSTONE), Indurated to Extremely Indurated, with some iron staining and close fracture spacing
2110				00:32/0.2							
				03:13/1.0	(4.9)	(4.2)					
				03:00/1.0	98%	84%					2,108.2 37.7
				02:24/1.0							
	2,106.8	39.1		02:38/1.0				(21.1)	(20.2)		Fresh to Slightly Weathered, Hard to Very Hard, Light Gray-Dark Gray, (METASANDSTONE) Indurated to Extremely Indurated, with moderately close fracture spacing to close fracture spacing
			5.0	07:03/1.0	(4.7)	(4.2)		99%	94%		
2105				05:00/1.0	94%	84%					
				03:15/1.0							
				02:37/1.0							
				03:02/1.0							
	2,101.8	44.1		04:31/1.0							
			5.0	04:11/1.0	(5.0)	(5.0)					
2100				03:52/1.0	100%	100%					
				04:00/1.0							
				03:45/1.0							
				03:44/1.0							
	2,096.8	49.1									
			5.0	03:14/1.0	(5.0)	(4.8)					
2095				04:04/1.0	100%	96%					
				03:35/1.0							
				03:47/1.0							
				03:21/1.0							
	2,091.8	54.1									
			5.0	02:49/1.0	(5.0)	(4.8)					
2090				03:09/1.0	100%	96%					
				02:43/1.0							
				02:51/1.0							
				02:53/1.0							
	2,086.8	59.1									2,086.8 59.1 Boring Terminated at Elevation 2,086.8 ft In Crystalline Rock (METASANDSTONE)

CAROLINAS GEOTECHNICAL GROUP

Upgrade US 129 from South of SR 1275 to NC 143 and Upgrade NC 143 from US 129 to SR 1223

Rock Core Photographs
Boring: RWAL6_B-7
32.9 to 49.1 Feet

0 1 2
FEET

Rock Core Photographs
Boring: RWAL6_B-7
49.1 to 59.1 Feet

0 1 2
FEET

PROJECT REFERENCE NO.	SHEET NO.
A–0009CA	171

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

APPENDIX B
SOIL TEST RESULTS

REFERENCE: A–0009CA

PROJECT: 32572

Prepared in the Office of:
FALCON ENGINEERS, INC
CARY, NORTH CAROLINA
NCDOT LAB CERT. NO. 105–0803

SOIL TEST RESULTS

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		
SS–86	25' LT	11+81 –L–	3.5 – 5.0'	A–2–4(0)	27	1	25.0	49.0	14.0	12.0	95.0	82.0	34.0	11.0	–
SS–92	23' LT	12+37 –L–	6.0 – 7.5'	A–4(0)	27	1	21.0	40.0	21.0	18.0	88.0	77.0	42.0	16.0	–
SS–46	38' RT	29+00 –L–	3.5 – 5.0'	A–7–5(10)	44	13	10.0	20.0	52.0	18.0	100.0	96.0	73.0	32.0	–
SS–106	42' RT	35+00 –L–	6.0 – 7.5'	A–4(0)	29	1	10.0	46.0	28.0	16.0	86.0	82.0	51.0	18.0	–
SS–242	64' RT	60+00 –L–	13.5 – 15.0'	A–4(0)	30	NP	17.0	36.0	35.0	12.0	100.0	90.0	56.0	17.0	–
SS–228	62' RT	62+00 –L–	1.0 – 2.5'	A–4(3)	33	7	16.0	28.0	25.0	31.0	100.0	91.0	64.0	25.0	–
SS–234	62' RT	62+00 –L–	23.5 – 25.0'	A–4(0)	33	NP	11.0	40.0	35.0	14.0	100.0	94.0	63.0	19.0	–
SS–220	83' RT	63+50 –L–	13.5 – 15.0'	A–4(0)	35	NP	8.0	41.0	38.0	13.0	100.0	96.0	64.0	17.0	–
SS–258	60' RT	66+00 –L–	6.0 – 7.5'	A–4(1)	35	1	4.0	51.0	37.0	8.0	100.0	98.0	65.0	12.0	–
SS–210	86' RT	70+50 –L–	28.5 – 30.0'	A–4(0)	34	NP	4.0	44.0	39.0	13.0	100.0	97.0	70.0	14.0	–
SS–200	112' RT	76+00 –L–	23.5 – 25.0'	A–4(0)	35	NP	16.0	44.0	33.0	7.0	100.0	91.0	54.0	10.0	–
SS–494	88' RT	84+00 –L–	8.5 – 10.0'	A–5(4)	50	11	4.0	41.0	36.0	19.0	100.0	99.0	69.0	22.0	–
SS–485	68' LT	86+00 –L–	6.0 –7.5'	A–4(0)	27	NP	7.0	61.0	22.0	10.0	100.0	98.0	44.0	15.0	–
SS–142	59' LT	93+00 –L–	8.5 – 10.0'	A–4(0)	32	NP	19.0	41.0	28.0	12.0	100.0	88.0	52.0	19.0	–
SS–476	52' RT	101+00 –L–	1.0 – 2.5'	A–6(7)	39	11	8.0	31.0	15.0	46.0	100.0	97.0	67.0	26.0	–
SS–480	52' RT	101+00 –L–	13.5 – 15.0'	A–4(0)	25	NP	21.0	52.0	17.0	10.0	100.0	89.0	37.0	14.0	–
SS–452	73' LT	122+00 –L–	3.5 – 5.0'	A–6(10)	39	12	6.0	21.0	25.0	48.0	100.0	97.0	78.0	25.0	–
SS–454	73' LT	122+00 –L–	8.5 – 10.0'	A–7–5(13)	49	12	6.0	17.0	12.0	65.0	100.0	97.0	81.0	34.0	–
SS–2175	22' RT	130+00 –L–	1.0 – 2.5'	A–4(1)	29	5	17.0	35.0	25.0	23	99.0	90.0	57.0	14.0	–
SS–438	50' RT	152+00 –L–	1.0 – 2.5'	A–4(5)	40	7	10.0	31.0	23.0	36.0	100.0	94.0	69.0	29.0	–
SS–440	50' RT	152+00 –L–	6.0 – 7.5'	A–4(0)	28	NP	20.0	42.0	32.0	6.0	100.0	87.0	53.0	16.0	–
SS–430	75' RT	154+00 –L–	3.5 – 5.0'	A–7–5(8)	45	14	13.0	32.0	24.0	31.0	100.0	94.0	61.0	25.0	–
SS–424	67' RT	156+00 –L–	1.0 – 2.5'	A–4(0)	39	NP	21.0	40.0	29.0	10.0	100.0	88.0	52.0	22.0	–
SS–293	15' LT	167+75 –L–	1.0 – 2.5'	A–4(0)	30	1	20.0	35.0	28.0	17.0	75.0	66.0	41.0	18.0	–
SS–289	15' LT	168+79 –L–	13.5 – 15.0'	A–4(0)	29	NP	22.0	33.0	26.0	19.0	95.0	81.0	51.0	29.0	–
SS–280	15' LT	169+84 –L–	18.5 – 20.0'	A–4(0)	31	NP	33.0	30.0	23.0	14.0	80.0	64.0	36.0	28.0	–
SS–269	15' LT	170+84 –L–	8.5 – 10.0'	A–4(0)	28	NP	16.0	37.0	30.0	17.0	65.0	59.0	38.0	18.0	–
SS–261	15' LT	171+75 –L–	18.5 – 20.0'	A–4(6)	35	8	7.0	25.0	35.0	33.0	99.0	95.0	75.0	28.0	–
SS–417	43' RT	175+33 –L–	3.5 – 5.0'	A–4(0)	24	1	23.0	46.0	23.0	8.0	84.0	73.0	36.0	21.0	–
SS–420	43' RT	175+33 –L–	13.5 – 15.0'	A–4(0)	31	1	11.0	43.0	38.0	8.0	100.0	95.0	61.0	21.0	–
SS–415	46' RT	176+62 –L–	13.5 – 15.0'	A–4(0)	26	NP	15.0	43.0	30.0	12.0	100.0	93.0	55.0	18.0	–
SS–3008	88' RT	189+08 –L–	1.0 – 2.5'	A–4(1)	33	1	10.0	28.0	41.0	21.0	99.0	93.0	72.0	23.0	–
SS–3012	88' RT	189+08 –L–	13.5 – 15.0'	A–2–4(0)	23	NP	28.0	36.0	27.0	9.0	60.0	48.0	27.0	7.0	–
SS–2023	66' RT	190+00 –L–	18.5 – 20.0'	A–5(6)	41	10	20.0	24.0	25.0	31.0	100.0	86.0	64.0	36.0	–
SS–3028	29' RT	192+56 –L–	3.5 – 5.0'	A–6(8)	39	11	6.0	27.0	32.0	35.0	100.0	97.0	75.0	28.0	–
SS–1	42' RT	33+26 –Y1–	1.0 – 2.5'	A–2–4(0)	36	0	19.0	53.0	16.0	12.0	86.0	79.0	33.0	13.0	–