REFERENCE: U-5748

PROJECT: 50168

SEE SHEET 3 FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

CONTENTS

LINE	STATION	PLAN	PROFILE
-L-	15+50 TO 85+17	4-8	17-28
-LI-	19+00 TO 73+74	12-16	29-30
-YI-	10+00 TO 13+74	5,9	31
-Y2-	12+00 TO 34+17	6,10,11	32-33
-Y3-	11+00 TO 15+11	10	34
-Y4-	10+50 TO 17+70	5	35

CROSS SECTIONS

LINE	STATION	SHEETS
-L-	18+50 TO 23+00	36-40
-L-	26+50	41
-L-	28+50	42
-L-	30+00 TO 32+00	43-45
-L-	35+00 TO 42+00	46-56
-L-	43+00 TO 47+00	57-61
-L-	49+00 TO 52+50	62-65
-L-	58+50 TO 60+50	66-67
-L-	75+00 TO 82+00	68-73
-LI-	24+50	74
-LI-	26+50	75
-LI-	28+50 TO 31+00	76-77
-LI-	49+50	78
-LI-	56+50	79
-YI-	12+00 TO 13+50	80-81
-Y2-	17+00 TO 21+50	82-85
-Y2-	22+50 TO 31+50	86-90
-Y3-	12+50 TO 14+93	91-92

APPENDICES

APPENDIX	TITLE	SHEETS
A	SOIL TEST RESULTS	93-96
B	ROCK CORE PHOTOGRAPHS	97-99

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

ROADWAY SUBSURFACE INVESTIGATION

COUNTY *WAKE*

PROJECT DESCRIPTION *US 401 (LOUISBURG RD) AT SR 2044 (LIGON MILL RD) /SR 2224 (MITCHELL MILL RD) AND SR 2006 (PERRY CREEK ROAD) INTERSECTION IMPROVEMENTS*

INVENTORY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5748	1	99

CAUTION NOTICE

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

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

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

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

PERSONNEL

R. DOYLE

A. LOZADA

A. PITZER

SUMMIT GEOTECHNICS

INVESTIGATED BY *A. PITZER*

DRAWN BY *A. PITZER*

CHECKED BY *R. DOYLE*

SUBMITTED BY *AECOM*

DATE *NOVEMBER 2022*

NORTH CAROLINA PROFESSIONAL SEAL 045161 ENGINEER RYAN PATRICK DOYLE

SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
U-5748	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	—		—	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
	6 MX		NP	10 MX	10 MX	11 MN	11 MN	10 MX	10 MX	11 MN	11 MN			
GROUP INDEX	0		0	0		4 MX		8 MX	12 MX	16 MX	NO MX			
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL, AND SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS		CLAYEY SOILS				
GEN. RATING AS SUBGRADE	EXCELLENT TO GOOD							FAIR TO POOR				FAIR TO POOR	POOR	UNSUITABLE

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

CONSISTENCY OR DENSENESS

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTENCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH ($TONS/FT^2$)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE	< 4	
	LOOSE	4 TO 10	
	MEDIUM DENSE	10 TO 30	
	DENSE	30 TO 50	
	VERY DENSE	> 50	N/A
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT	< 2	< 0.25
	SOFT	2 TO 4	0.25 TO 0.5
	MEDIUM STIFF	4 TO 8	0.5 TO 1.0
	STIFF	8 TO 15	1 TO 2
	VERY STIFF	15 TO 30	2 TO 4
	HARD	> 30	> 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	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
SL — SHRINKAGE LIMIT		
	- 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
- 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
- [ ] CME-550
- [ ] VANE SHEAR TEST
- [ ] PORTABLE HOIST
- [X] DIEDRICH D-50
- [X] CME 450

ADVANCING TOOLS:
- [ ] CLAY BITS
- [ ] 4" CONTINUOUS FLIGHT AUGER
- [ ] 8" HOLLOW AUGERS
- [ ] HARD FACED FINGER BITS
- [ ] TUNG.-CARBIDE INSERTS
- [ ] CASING [ ] W/ ADVANCER
- [X] TRICONE 3-7/8" STEEL TEETH
- [ ] TRICONE _____" TUNG.-CARB.
- [X] CORE BIT
- [X] 2-1/4" ID HOLLOW-STEM AUGER

HAMMER TYPE:
- [X] AUTOMATIC
- [ ] MANUAL

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

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

ROCK DESCRIPTION

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

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

WEATHERING

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

ROCK HARDNESS

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

FRACTURE SPACING

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

BEDDING

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

INDURATION

FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.

FRIABLE	RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
MODERATELY INDURATED	GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
INDURATED	GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
EXTREMELY INDURATED	SHARP HAMMER BLOWS REQUIRED TO BREAK SAMPLE; SAMPLE BREAKS ACROSS GRAINS.

TERMS AND DEFINITIONS

ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.

AQUIFER - A WATER BEARING FORMATION OR STRATA.

ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.

ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.

ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND SURFACE.

CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.

COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM OF SLOPE.

CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.

DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT ROCKS OR CUTS MASSIVE ROCK.

DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.

DIP DIRECTION (DIP AZIMUTH) - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.

FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.

FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.

FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL.

FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.

FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.

JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.

LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.

LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.

MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.

PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.

RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.

ROCK QUALITY DESIGNATION (RQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.

SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT ROCK.

SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.

SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT OR SLIP PLANE.

STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.

STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.

STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.

TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.

BENCH MARK:

ELEVATION: FEET

NOTES:

ADDITIONAL ABBREVIATIONS:

WOH - WEIGHT OF HAMMER

FIAD - FILLED IMMEDIATELY AFTER DRILLING

ROADWAY BORING ELEVATIONS BASED OFF u5748_ls_tin.tin FILE DATED 7/15/2019

DATE: 8-15-14

PROJECT REFERENCE NO.	SHEET NO.
U-5748	2A

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

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

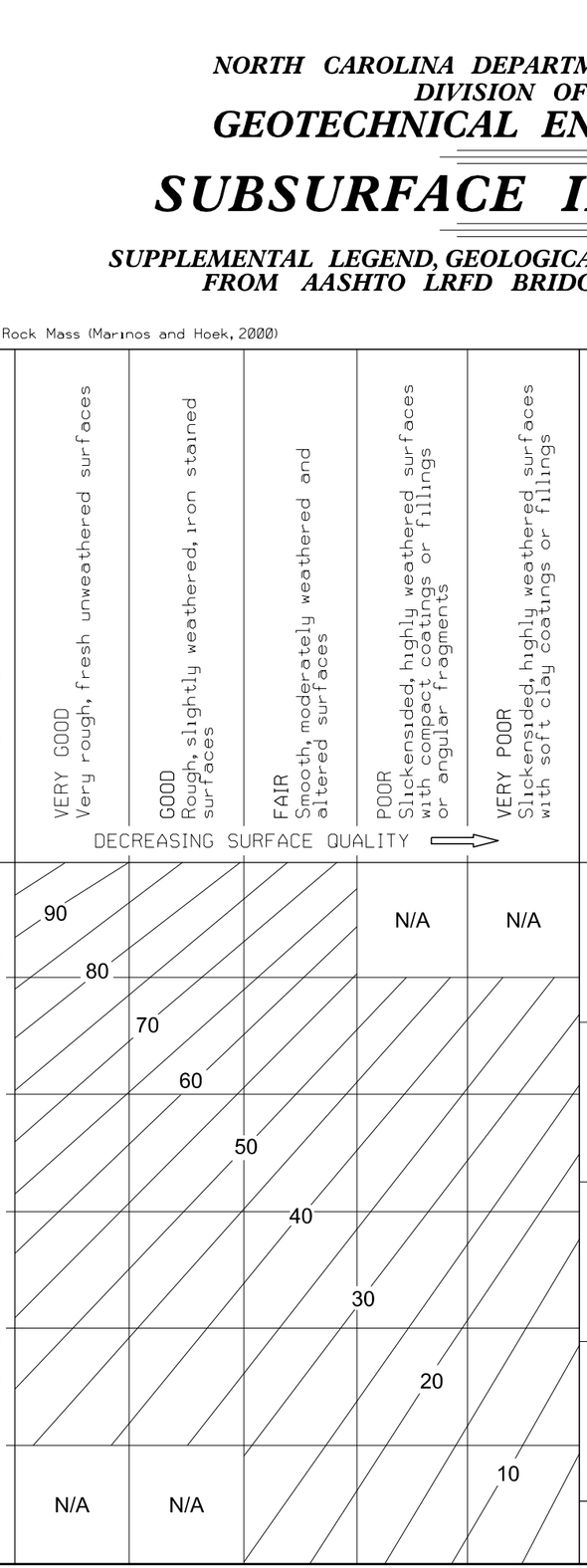
AASHTO LRFD Figure 10.4.6.4-1 — Determination of GSI for Jointed Rock Mass (Marinos and Hoek, 2000)

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

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

STRUCTURE

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

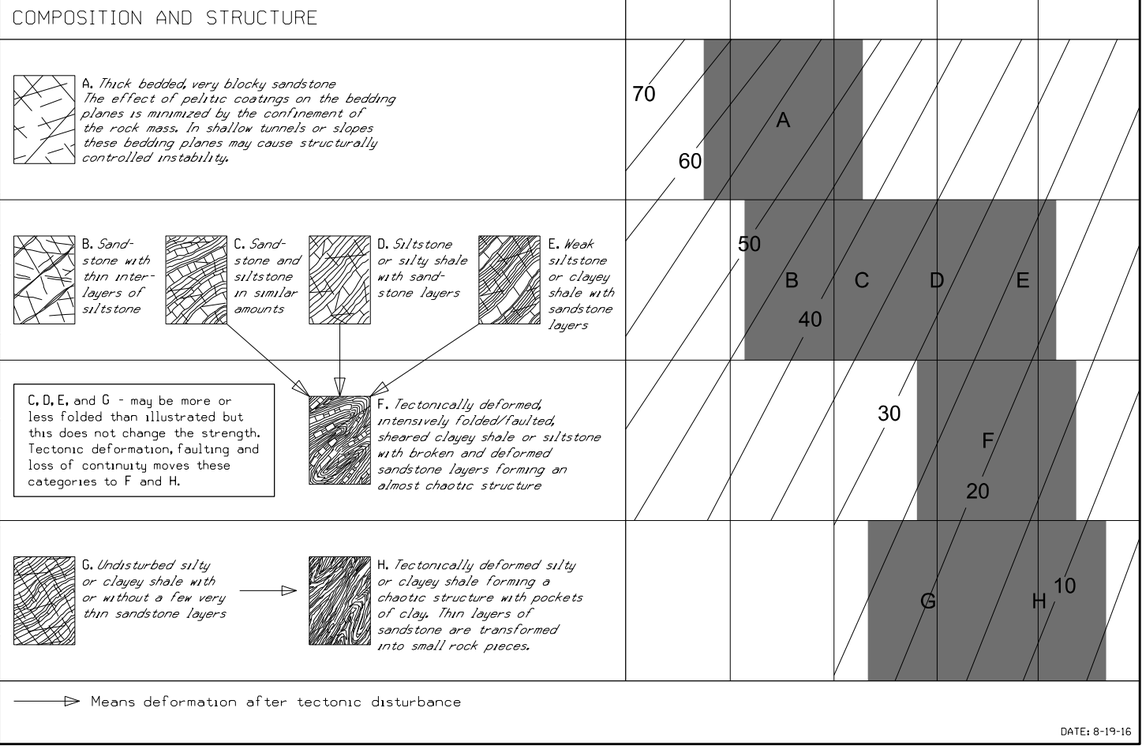


AASHTO LRFD Figure 10.4.6.4-2 — Determination of GSI for Tectonically Deformed Heterogeneous Rock Masses (Marinos and Hoek, 2000)

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

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

COMPOSITION AND STRUCTURE



DATE: 8-19-16

TIP PROJECT: U-5748

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

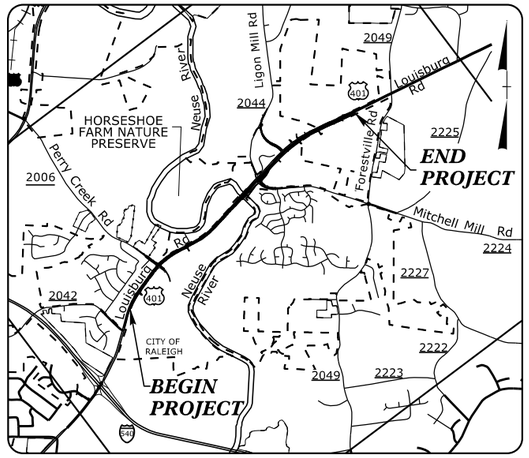
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5748	3	99

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
50168.1.1		PE
50168.2.1		R/W

LOCATION: US 401 (LOUISBURG RD) AT SR 2044 (LIGON MILL RD) / SR 2224 (MITCHELL MILL RD) AND SR 2006 (PERRY CREEK ROAD) INTERSECTION IMPROVEMENTS

TYPE OF WORK: GRADING, DRAINAGE, PAVING, SIGNALS, AND STRUCTURES

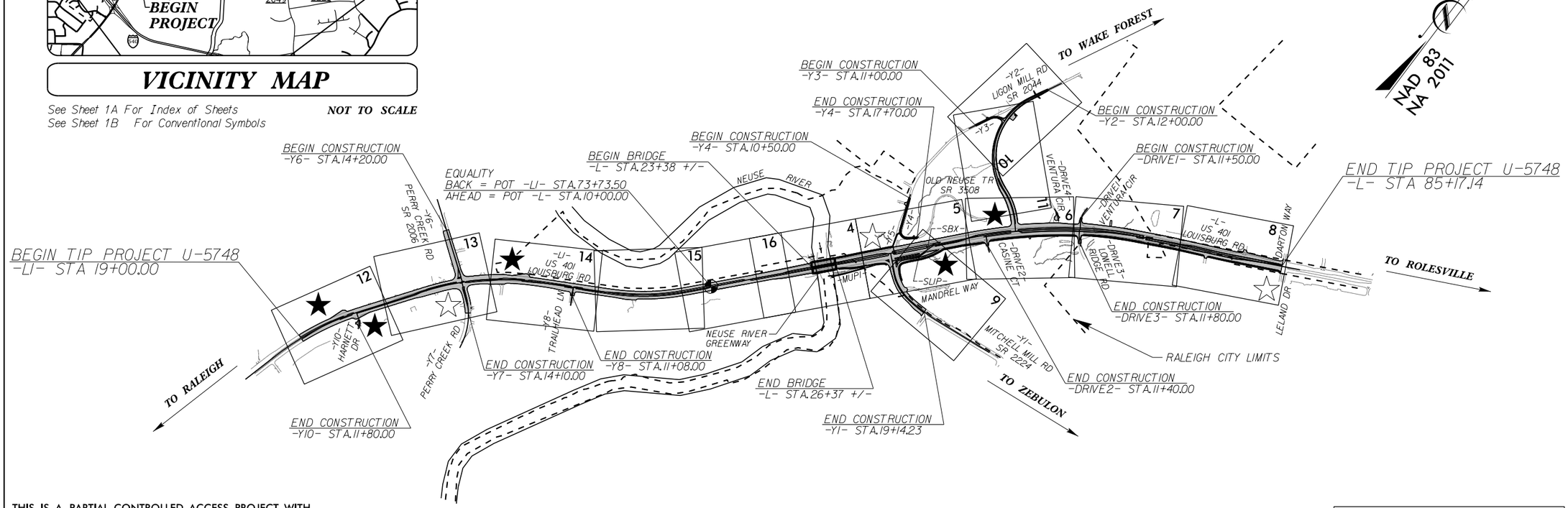
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



VICINITY MAP

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Symbols

NOT TO SCALE



THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS LIMITED TO POINTS AS SHOWN ON THE PLANS.

CLEARING ON THE PROJECT SHALL BE TO THE LIMITS ESTABLISHED USING METHOD III.

A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF RALEIGH.

SUBMITTAL: 75% ROADWAY PLANS
DATE: MARCH 4, 2022

★ PROPOSED SIGNAL
☆ EXISTING SIGNAL

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 2022 = 38,425
ADT 2042 = 58,842
K = 10 %
D = 55 %
T = 3% % *
V = 50 MPH
* TTST =1% DUAL 2%
FUNC CLASS =
PRINCIPAL ARTERIAL
REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-5748 = 2.403 MI
LENGTH STRUCTURE TIP PROJECT U-5748 = 0.057 MI
TOTAL LENGTH TIP PROJECT U-5748 = 2.460 MI

Prepared In the Office of :
AECOM
NC FIRM LICENSE No: F-0342
5438 Wade Park Blvd., Suite 200
Raleigh, NC 27607
(919) 854-6200 - (919) 854-6259(FAX)

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JANUARY 8, 2021

LETTING DATE: MARCH 21, 2023

ED EDENS, P.E.
PROJECT ENGINEER

ELIZABETH WARGO, P.E.
PROJECT DESIGN ENGINEER

JENNIFER EVANS, P.E
NCDOT PROJECT ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

AECOM – North Carolina
1600 Perimeter Park Drive, Suite 400
Morrisville, NC 27560
Tel: 919-461-1100
Fax: 919-461-1415

October 4, 2022

WBS NO.: 50168.1.1
NCDOT TIP: U-5748
COUNTY: Wake

DESCRIPTION: US 401 (Louisburg Rd) from South of SR 2044 (Ligon Mill Rd)/SR 2224 (Michell Mill Rd) to Leland Dr & US 401 at SR 2006 (Perry Creek Rd) Intersection Improvements

SUBJECT: Geotechnical Report – Roadway Inventory

Project Description

The proposed project consists of widening 2.44 miles of US-401 starting from about 1/2 mile south of Perry Creek Road and ending at the intersection of US-401/Leland Drive in Wake Forest, Wake County, North Carolina. The intersection of US 401 and Perry Creek Road will be upgraded to a superstreet configuration. Also, to improve traffic flow near the existing US-401/Ligon Mill Rd/Mitchell Mill Rd intersection, this project includes realigning Ligon Mill Rd so that it intersects US-401 about 0.30 miles northeast from its current location and reconfiguring the Mitchell Mill Rd side of the intersection. Maximum cut and fill thicknesses on the project are approximately 25-ft and 30-ft, respectively.

Two geotechnical investigations were conducted. The initial investigation was conducted from December 9, 2019 through March 12, 2020 and the second investigation was conducted from January 11, 2022 to January 14, 2022. Summit Design and Engineering Services from Hillsborough, North Carolina were contracted for both investigations to provide drilling services.. A total of 94 hollow stem auger borings and 32 hand-auger borings were conducted. Standard penetration testing (SPT) was performed in the majority of the hollow stem auger borings. Representative soil samples were collected for visual classification in the field and select samples were submitted for laboratory analysis. AECOM subcontracted Geotechnics, Inc. of Raleigh, North Carolina to provide laboratory services for this project. The following alignments were investigated:

Line	Station(±)
-L-	15+50 to 85+17
-L1-	19+00 to 73+74
-Y1-	10+00 to 13+74
-Y2-	12+00 to 34+17
-Y3-	11+00 to 15+11
-Y4-	10+50 to 17+70

[1]https://mrdata.usgs.gov/geology/state/sgmc-unit.php?unit=NCPPAmg%3B8

Physiography and Geology

The project is located in the Piedmont Physiographic Province. Along the project corridor the terrain is relatively flat to slightly undulated and land use mostly consists of existing roadways and adjacent commercial and private properties. According to the US Geological Survey[1], the near surface geology consists primarily of foliated to massive granitic rock. Foliated to massive granitic rock is described as megacrystic to equigranular. According to the North Carolina Geological Survey[2], the igneous units along the project corridor are Late-Paleozoic-aged Rolesville granitoid (*Prg)*. *Prg* is described as medium-to coarse-grained to megacrystic monzogranite, granite, and granodiorite. Alluvial material is also located within the project limits as the Neuse River crosses near the southern part of the project. Alluvium in this area is described as tan to light gray, unconsolidated, with poorly sorted and stratified deposits of angular to subrounded gravel, sand, silt, and clay.

Soil Properties

The project encountered the following soil types: Roadway Embankment, Alluvium, Residuum, and Artificial Fill.

Roadway Embankment soils consisted of brown to orange to gray, dry to wet, sand and fine sand (A-1-b, A-3), silty to clayey sand (A-2-4, A-2-6), sandy silt (A-4), and sandy clay (A-6). N-values ranged from 2 to 19 blows per foot (bpf), indicating very loose to medium dense conditions for granular soils and soft to very stiff consistencies for fine soils. The average N-value is 11 bpf.

Alluvial deposits were mainly found in the area around the Neuse River. These deposits consisted of brown to tan to gray, moist to saturated, silty to clayey sand (A-2-4, A-2-6), sandy to clayey silt (A-4, A-5), and sandy to silty clay (A-6, A-7). N-values ranged from 2 to 25 bpf, indicating very loose to medium dense conditions for granular deposits and soft to very stiff consistencies for fine soils. The average N-value is 9 bpf.

Residual soils were encountered throughout the entire project and consisted of brown to orange to gray, dry to wet, sand (A-1-b), silty to clayey sand (A-2-4, A-2-6, A-2-7), sandy silty (A-4), and sandy to silty clay (A-6, A-7-5, A-7-6). SPT N-values indicate the consistency and densities of the soils ranged from soft to hard for fines and very loose to very dense for granular soils. These soils appeared to be broken down Rolesville granite.

Artificial Fill was encountered in few areas across the project: (1) a man-made soil mound near the proposed -Y2-/-Y3- intersection consists of brown and gray, saturated, sandy clay (A-6); (2) the right side of US 401, near STA 77+00, consists of brown to orange, dry to moist, silty sand (A-2-4); and (3) the right side of US 401, near STA 82+80, consists of dark brown to olive gray, moist to saturated, silty to clayey sand (A-2-4, A-2-6).

[2]https://files.nc.gov/ncdeq/Energy%20Mineral%20and%20Land%20Resources/Geological%20Survey/OFRs_Geological_Survey/NCGS_OFR_2004-02_Raleigh_100k_bedrock_geopdf.pdf

Rock Properties

Rolesville granite was the predominant rock type encountered across the project. Rolesville granite generally consists of highly competent, fine-grained granite which is often exposed at the surface and weathers to sandy soils.

Groundwater Properties

Groundwater was encountered in 19 of the borings. In these borings, depth to groundwater ranged from 0.6-ft to 22.9-ft below ground surface (bgs) with an average depth of 7.2-ft bgs.
The Neuse River crosses the -L- alignment at STA 25+00. A drainage ditch, running parallel to the -L- alignment on the right side, flows back station towards the Neuse River beginning at STA 45+48 and ending at STA 37+17 where it flows into an existing culvert, which transports it underneath US-401 and towards the Neuse River. A stream that flows south, into an existing culvert crosses US-401 (-L-) near STA 64+50 where the toe of the embankment is expected to widen approximately 70-ft. A stream that flows into a farm pond crosses the proposed -Y2- alignment near STA 25+00.

Areas of Special Geotechnical Interest

1) Shallow Rock: The following sections were found to contain rock above or within 6 feet of grade:

Line	Stations (±)	Offset
-L-	31+50 to 34+00	RT
-L-	38+50 to 40+00	LT
-L-	70+50 to 75+50	LT
-L-	76+50 to 77+50	RT
-L-	78+75 to 79+25	LT

2) Highly Plastic Soils: Highly plastic soils were encountered in few areas and at various individual borings throughout the project. Atterberg limit tests for 24 samples had plasticity indices greater than or equal to 26. The following alignments were found to contain highly plastic soils:

Line	Stations (±)	Offset
-L-	30+25 to 31+75	RT
-L-	39+25 to 41+75	LT
-L-	43+25 to 46+75	LT
-L-	49+25 to 56+50	RT
-L-	51+75 to 55+75	LT
-L-	58+95 to 60+10	LT
-L-	65+50 to 67+50	LT
-L-	75+50 to 77+75	LT
-L-	78+00 to 80+75	RT
-L-	80+50 to 81+50	LT
-L-	82+00 to 83+75	RT
-L1-	28+75 to 30+75	RT
-L1-	55+75 to 57+25	RT
-Y1-	12+25 to 14+25	LT
-Y2-	17+25 to 22+00	LT to RT
-Y2-	25+75 to 31+50	LT to RT
-Y3-	14+00 to 15+00	LT to RT
-Y4-	11+75 to 15+75	LT

3) Soft Soils: Soft soils were found in the following alignments:

Line	Stations (±)	Offset
-L-	27+00 to 29+50	LT
-L-	34+50 to 37+43	RT
-L-	38+00 to 40+00	RT
-L-	58+95 to 60+10	LT
-L-	82+00 to 83+75	RT

4) Loose Sands: Loose sands were found in the following alignments:

Line	Stations (±)	Offset
-L-	17+00 to 19+50	LT to RT
-L-	26+41 to 29+50	RT
-L-	29+50 to 31+50	LT to RT
-L-	34+00 to 44+25	LT
-L-	35+50 to 44+50	RT
-L-	46+00 to 49+75	LT
-L-	47+50 to 48+50	RT
-L-	51+25 to 52+75	LT
-L-	54+25 to 61+50	LT
-L-	54+50 to 56+25	RT
-L-	62+50 to 66+50	LT
-L-	67+50 to 69+50	LT
-L-	73+75 to 77+50	LT
-L-	76+75 to 77+25	RT
-L-	79+50 to 82+00	LT
-L-	80+25 to 83+75	RT
-Y1-	12+25 to 14+25	LT
-Y2-	17+25 to 33+50	LT to RT

5) High Water: The following areas encountered water within 6-ft of proposed grade:

Line	Stations (±)	Offset
-L-	35+25 to 35+75	RT
-L-	36+25 to 36+50	LT
-L-	40+50 to 41+50	LT to RT
-L-	46+00 to 47+50	LT

6) Wet Soils: The following areas had wet to saturated soils near the surface that could potentially affect construction of proposed embankment widening.

Line	Stations (±)	Offset	Moisture
-L-	38+75 to 39+75	RT	W-Sat.
-L-	41+75 to 44+75	RT	M-W

Bulk Samples

Bulk samples were collected at the following locations and submitted for testing.

Line	Sample No.	Station	Offset	Depth (ft)	Test
-L-	BULK-02	48+00	95' RT	0.5-2.0	Standard Proctor/CBR
-L-	BULK-03	77+00	70' LT	0.5-2.0	Standard Proctor/CBR
-L-	BULK-04	78+00	95' LT	0.1-1.0	Standard Proctor
-L-	BULK-05	52+00	108' LT	0.5-2.0	Standard Proctor/CBR
-L-	BULK-06	36+32	123’ LT	0.1-1.0	Standard Proctor/CBR
-L1-	BS-001	49+46	70’ LT	0.5-2.0	Standard Proctor/CBR
-L1-	BS-002	26+48	65’ RT	0.5-2.0	Standard Proctor/CBR
-Y2-	BULK-01	28+50	0' CL	1.3-3.0	Standard Proctor
-Y3-	BULK-07	14+13	36' RT	0.5-2.0	Standard Proctor/CBR

PROJECT REFERENCE NO.	SHEET NO.
U-5748	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

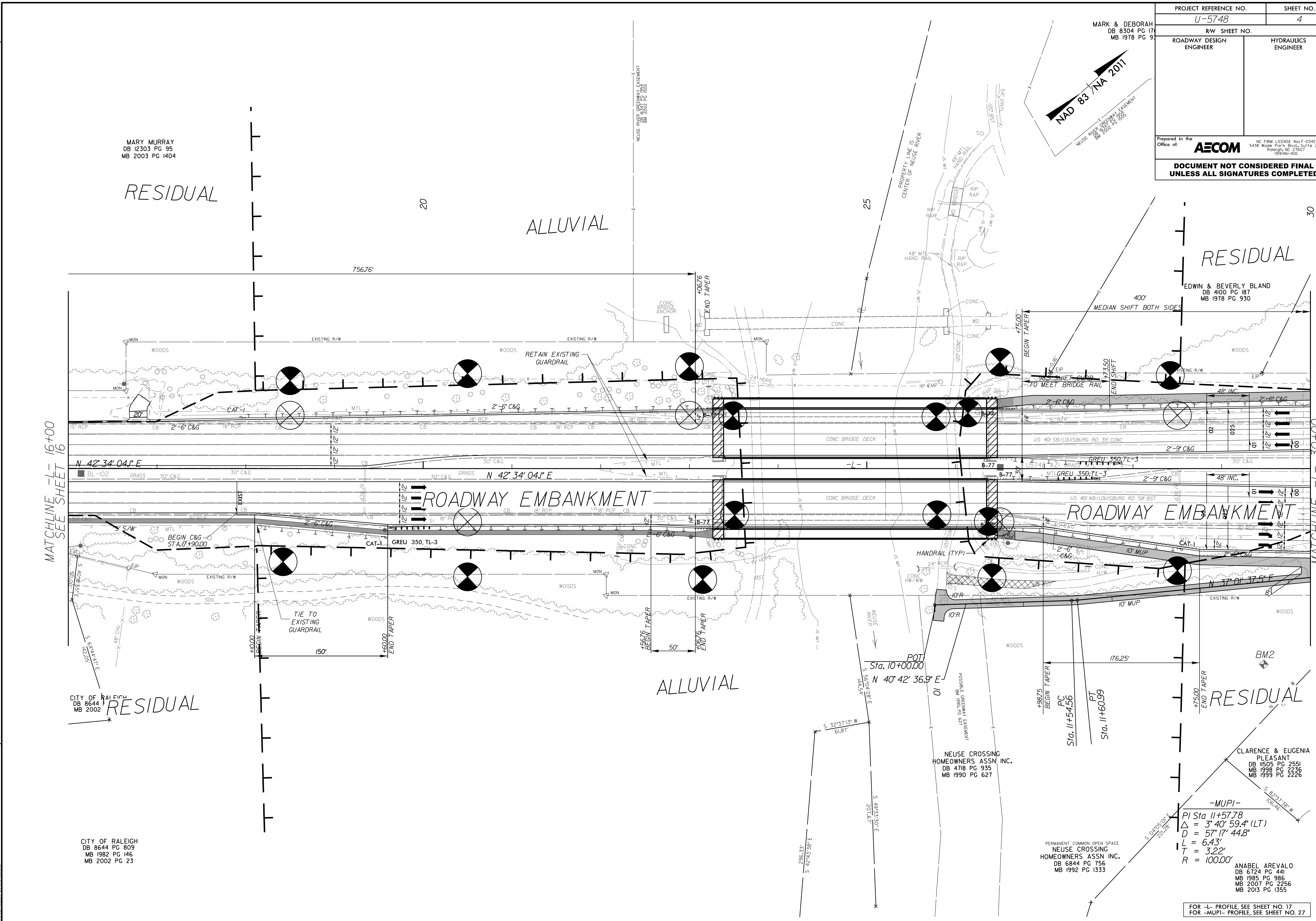
Prepared in the Office of: AECOM — NC FIRM LICENSE No. F-0342, 5438 Wade Park Blvd., Suite 200, Raleigh, NC 27607

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

ROW REV. – March 11, 2021 – Parcel 1: Rev. owner info, rev PUE, add R/W. Parcel 2: Rev. owner info, rev. PUE, rev. TCE, add R/W. Parcel 3: Rev. PUE, add R/W. Parcel 4: Rev. PUE, add R/W. Parcel 49: Rev. R/W. Parcel 50: Rev. R/W.

ROW REV. – July 14, 2021 – Parcel 50: Combined Parcels 49 and 50. Eliminated Parcel 49.



FOR -L- PROFILE, SEE SHEET NO. 17
FOR -MUPI- PROFILE, SEE SHEET NO. 27

5/14/99
10/21/2022
U5748_GEO_RDWY\CADD_GEOTECH\PlanProf\U5748_rdy_psh04.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-5748	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: AECOM — NC FIRM LICENSE No: F-0342, 5438 Wade Park Blvd., Suite 200, Raleigh, NC 27607, (919)461-1100

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

ROW REV. – March 11, 2021 – Parcel 4–Rev. PUE, added R/W. Parcel 5: Rev. PUE, rev. PDE, added R/W. Parcel 7: Rev. PUE. Parcel 8: Rev. PUE. Parcel 9: Rev. PUE. Parcel 23: Corrected Parcel 24 to parcel 23 near -SBX- PT Sta. 10+69.61, rev. R/W. Parcel 24: Rev. R/W, rev. PDE, added DUE, added PUE. Parcel 25: Rev. PUE. Parcel 50: Rev. R/W.

ROW REV. – July 14, 2021 – Parcel 23: Combined parcels 23 and 24. Added Proposed Noise Wall. Eliminated Parcel 24.

ROW REV. – Oct. 29, 2021 – Parcel 23: Added TCE.

Curve Data

-L-

PI Sta 31+05.33
Δ = 0° 33' 54.4" (LT)
D = 0° 17' 11.3"
L = 197.26'
T = 98.63'
R = 20,000.00'
e = NC

PIs Sta 44+20.76
θs = 0° 54' 13.4"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

-Y4-

PI Sta 15+94.58
Δ = 106° 18' 22.6" (LT)
D = 63° 39' 43.1"
L = 166.99'
T = 120.10'
R = 90.00'
e = 0.04 FT/FT
R.O. = 60'

PI Sta 17+47.92
Δ = 17° 44' 30.3" (LT)
D = 18° 56' 36.1"
L = 93.66'
T = 47.21'
R = 302.46'
e = 0.03 FT/FT
R.O. = 45'

-Y5-

PI Sta 12+59.85
Δ = 56° 38' 24.9" (RT)
D = 143° 14' 22.0"
L = 39.54'
T = 21.56'
R = 40.00'

PI Sta 10+88.62
Δ = 31° 23' 48.0" (RT)
D = 286° 28' 44.0"
L = 10.96'
T = 5.62'
R = 20.00'

-Y1-

PI Sta 14+64.69
Δ = 35° 44' 35.1" (LT)
D = 8° 57' 08.9"
L = 399.25'
T = 206.36'
R = 640.00'
e = 0.04 FT/FT
R.O. = 168'

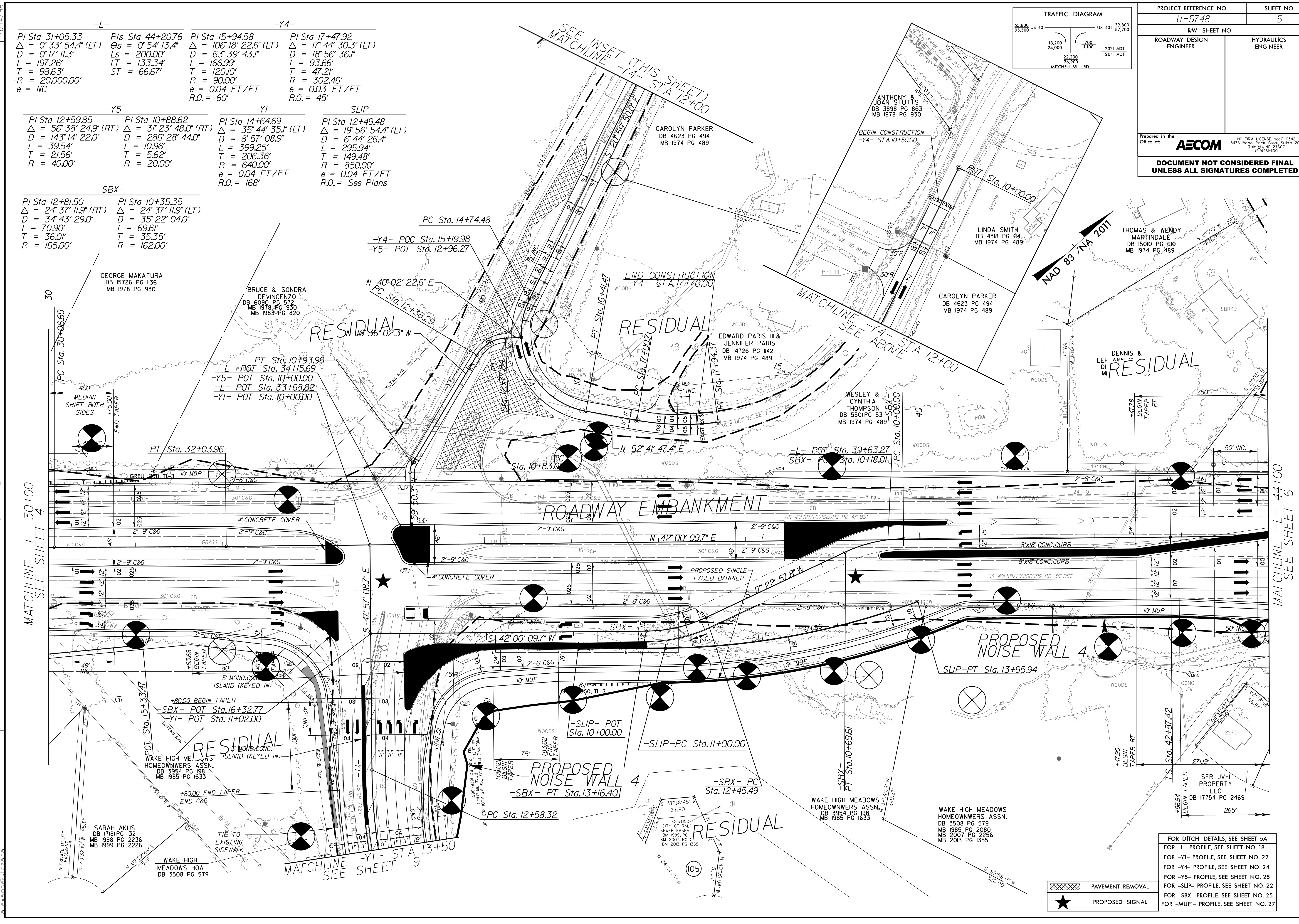
-SLIP-

PI Sta 12+49.48
Δ = 19° 56' 54.4" (LT)
D = 6° 44' 26.4"
L = 295.94'
T = 149.48'
R = 850.00'
e = 0.04 FT/FT
R.O. = See Plans

-SBX-

PI Sta 12+81.50
Δ = 24° 37' 11.9" (RT)
D = 34° 43' 29.0"
L = 70.90'
T = 36.01'
R = 165.00'

PI Sta 10+35.35
Δ = 24° 37' 11.9" (LT)
D = 35° 22' 04.0"
L = 69.61'
T = 35.35'
R = 162.00'



FOR DITCH DETAILS, SEE SHEET 5A
FOR -L- PROFILE, SEE SHEET NO. 18
FOR -Y1- PROFILE, SEE SHEET NO. 22
FOR -Y4- PROFILE, SEE SHEET NO. 24
FOR -Y5- PROFILE, SEE SHEET NO. 25
FOR -SLIP- PROFILE, SEE SHEET NO. 22
FOR -SBX- PROFILE, SEE SHEET NO. 25
FOR -MUP1- PROFILE, SEE SHEET NO. 27

Symbol	Legend
(hatch)	PAVEMENT REMOVAL
★	PROPOSED SIGNAL

5/14/99

10/4/2022 ...\U5748_GEO_RDWY\CADD_GEOTECH\PlanProf\U5748_rdy_psh05.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-5748	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: AECOM
NC FIRM LICENSE No: F-0342
5438 Wade Park Blvd, Suite 200
Raleigh, NC 27607
(919)461-1100

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

ROW REV. – March 11, 2021 – Parcel 9: Rev. PUE. Parcel 10: Rev. PUE. Parcel 12: Rev. owner info, rev. access point. Parcel 13: Rev. PUE Parcel 14: Rev. R/W, rev. PUE. Parcel 24: Rev. R/W, rev. PDE, add DUE, add PUE. Parcel 25: Rev. PUE, add DUE. Parcel 28, Corrected Parcel 28 to Parcel 24, eliminated parcel 28. Parcel 29: Rev. owner info, rev. R/W, rev. PUE. Parcel 30: Rev. R/W, rev. PDE. Parcel 31: Rev. PDE. Parcel 44: Rev. Owner info. Parcel 44: Added Label for 44 and corrected sta/offset.
ROW REV. – July 14, 2021 – Parcel 15: Rev. R/W. Parcel 23, Combined parcels 23 and 24. Eliminated Parcel 24. Parcels 23, 27, & 29: Added proposed noise walls.
ROW REV. – August 17, 2021 – Parcel 14: Eliminated PUE and added TCE.
ROW REV. – August 24, 2021 – Parcel 13: Added
ROW REV. – August 26, 2021 – Parcel 44: Added
ROW REV. – August 29, 2022 – Parcel 30: Added PDE

5/14/99

TRAFFIC DIAGRAM

-Y2-
13,800 / 20,000 — 2021 ADT / 2041 ADT
10,100 / 16,500 — 1,000 / 1,600
65,800 / 99,500 +L+ — 39,800 / 57,700

-L-	-Y2-	-DRIVE2-
PIs Sta 44+20.76	PI Sta 52+57.33	PI Sta 30+82.49	PI Sta 11+14.56
Θs = 0° 54' 13.4"	Δ = 13° 50' 51.7" (RT)	Δ = 27° 14' 39.9" (RT)	Δ = 4° 28' 37.1" (LT)
Ls = 200.00'	D = 0° 54' 13.4"	D = 6° 21' 58.3"	D = 15° 54' 55.8"
LT = 133.34'	L = 1,532.30'	L = 427.95'	L = 28.13'
ST = 66.67'	T = 769.90'	T = 218.10'	T = 14.07'
	R = 6,340.00'	R = 900.00'	R = 360.00'
	e = RC	e = 0.06 FT/FT	
		R.O. = 2.52'	

NAD 83 /NA 2011

MATCHLINE -Y2- STA 31+00
SEE SHEET 11

ROADWAY EMBANKMENT

NCDOT
DB 17599 PG 213
MB 1992 PG 1180

MB 1974 PG 489

BY3-100

-L- POC Sta. 46+27.85
-DRIVE2- POT Sta. 10+00.00

ALBERT & JOY ROWLAND
DB 4349 PG 109
MB 1974 PG 489

PT
Sta. 32+92.34

NCDOT
DB 13244
PG 484

-Y2-
BY4-126

+73.14
-Y2-
END C&G

+64.59
-Y2-
BEGIN C&G

5' MONO.CONC.ISLAND
(KEYED IN)

NCDOT
DB 17599 PG 213

RESIDUAL

SOUTHEASTERN ADVERTISING & SALES SYSTEMS INC.
DB 3703 PG 302
MB 1986 PG 178
MB 1985 PG 2246

461.49'

ACCESS POINT

BEG. FENCE +65

END FENCE +65

ROOSEVELT WESTMORELAND III & MYRA WESTMORELAND
DB 12143 PG 1102
MB 1985 PG 2246

JAMES & TERECA RIDOUT
DB 5021 PG 300
MB 1985 PG 2246

PT
Sta. 11+59.67

POT
Sta. 11+75.00

PC
Sta. 10+51.96

+46.00
BEGIN TAPER

+10.00
END TAPER

30'R

150'

MATCHLINE -L- STA 44+00
SEE SHEET 5

MATCHLINE -L- STA 58+10
SEE SHEET 7

PROPOSED NOISE WALL 4

PROPOSED NOISE WALL 6

PROPOSED SINGLE FACED BARRIER

PROPOSED SINGLE FACED BARRIER

PC Sta. 11+00.49

+44.42 -L-
BEGIN C&G

BM5
PT Sta. 11+28.62

END CONSTRUCTION
-DRIVE2- STA. 11+40.00

+12.81 -L-
END C&G

+19.09
END TAPER

+61.84
END TAPER

SC Sta. 44+87.42

S 50° 18' 05.6" E

POT Sta. 12+30.16

-L- POC Sta. 50+14.31
-Y2- POT Sta. 34+16.68

BEGIN FENCE
TIE TO WALL

END FENCE +65

ACCESS POINT

ABENER VELASQUEZ & MARIA RODRIGUEZ
DB 17982 PG 1504

NCDOT
DB 13244 PG 484

BRIGHTON COMMUNITY ASSN. INC.
DB 10933 PG 717
MB 2003 PG 871

ARIEL MONTEALEGRE
DB 17331 PG 2080
MB 1985 PG 2080

JUNIUS WYNDER JR. & LORETTA WYNDER
DB 16813 PG 1530
MB 1985 PG 2080

WAKE HIGH MEADOWS HOMEOWNERS ASSN.
DB 3508 PG 579
MB 1985 PG 2080
MB 2007 PG 2256
MB 2013 PG 1355

XIANG ZHONG & JIYIN LIU
DB 14571 PG 954
MB 1985 PG 2080

NCDOT
DB 12131 PG 998
MB 1985 PG 2080

WAKE HIGH MEADOWS HOMEOWNERS ASSN.
DB 3508 PG 579
MB 1985 PG 2080
MB 2007 PG 2256
MB 2013 PG 1355

(117) FLORENCE SEREM
DB 8354 PG 204
MB 1985 PG 2080

(118) FILIPE GODOI
DB 16822 PG 2265
MB 1985 PG 2080

(119) THEODORE & COLLEEN HESSAH
DB 15940 PG 624
MB 1985 PG 2080

★ PROPOSED SIGNAL

FOR -L- PROFILE, SEE SHEET NO. 19
FOR -Y2- PROFILE, SEE SHEET NO. 23
FOR -DRIVE2- PROFILE, SEE SHEET NO. 26
FOR -DRIVE4- PROFILE, SEE SHEET NO. 27

10/4/2022
J:\Projects\3754-U-5748\Kill\400-Technical\431.Geotechnical\Roadway\Plans\Prof\U5748_rdy_psh06.dgn
Alexander, Miranda

PROJECT REFERENCE NO.	SHEET NO.
U-5748	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: AECOM — NC FIRM LICENSE No: F-0342, 5438 Wade Park Blvd, Suite 200, Raleigh, NC 27607, (919)461-1100

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS

ROW REV – March 11, 2021 – Parcel 16: Rev. R/W, Parcel 17: Rev. R/W, Parcel 18: Rev. owner info, rev. R/W, rev. PUE, rev. TCE, Parcel 19: Rev. owner info, rev. R/W, rev. PUE, rev. TCE, Parcel 20: Rev. R/W, rev. PUE, Rev TCE. Parcel 30: Rev. R/W, rev. PDE. Parcel 31: Rev. PDE.
ROW REV – May 11, 2022 – Parcel 18: Added access point, Parcel 19: Eliminated Parcels 18 and 19. Eliminated Parcel19, Parcels 18 & 20 – Added proposed noise wall.
ROW REV – March 01, 2022 – Parcel 18: Added driveway, Parcels 16, 17, 18: Rev. drainage.
ROW REV – August 29, 2022 – Parcel 18: Added driveway, Parcels 16, 17, 18: Rev. drainage.

5/14/99

-DRIVE1-
PI Sta 11+43.79
△ = 33° 51' 28.6" (LT)
D = 23° 52' 23.7"
L = 141.82'
T = 73.05'
R = 240.00'
e = 0.04 FT/FT

-DRIVE3-
PI Sta 11+04.98
△ = 11° 20' 55.3" (LT)
D = 15° 54' 55.8"
L = 71.31'
T = 35.77'
R = 360.00'

PI Sta 52+57.33
△ = 13° 50' 51.7" (RT)
D = 0° 54' 13.4"
L = 1,532.30'
T = 769.90'
R = 6,340.00'
e = RC

-L-
PIs Sta 60+74.11
Θs = 0° 27' 06.7"
Θs = 0° 46' 27.4"
Ls = 100.00'
LT = 54.38'
ST = 45.62'

PIs Sta 64+47.63
Θs = 1° 32' 54.7"
Ls = 200.00'
LT = 133.34'
ST = 66.67'

PI Sta 62+50.40
△ = 4° 02' 43.2" (RT)
D = 1° 32' 54.7"
L = 261.24'
T = 130.67'
R = 3,700.00'
e = 0.025 FT/FT

PI Sta 70+00.23
△ = 2° 21' 30.6" (RT)
D = 0° 39' 44.6"
L = 356.07'
T = 178.06'
R = 8,650.00'
e = NC

NAD 83 /NA 2011

JOHN GUERRIERO
DB 9856 PG 2207
MB 1985 PG 2246

DONALD & HEIDI MORAVCIK
DB 12215 PG 1957
MB 1985 PG 2246

ALEXANDRA ACEVEDO
DB 15545 PG 1045
MB 1985 PG 2246

JAMES & TERECA RIDOUT
DB 5021 PG 300
MB 1985 PG 2246

SHADY AL-AWAR
DB 15894 PG 1450
MB 1981 PG 65

SYCAMORE GROVE APARTMENTS LLC
DB 18224 PG 194
MB 1981 PG 65

THE TOWNHOMES AT HIGHLAND CREEK ASSN, INC.
DB 16950 PG 1448
MB 2012 PG 1053

DANIEL & JULIE KENNEDY
DB 15759 PG 2569
MB 2012 PG 1053

THE TOWNHOMES AT HIGHLAND CREEK ASSN, INC.
DB 16950 PG 1448
MB 2012 PG 1053

BM6

POT Sta. 10+00.00
PC Sta. 10+70.74
BEGIN CONSTRUCTION -DRIVE1- STA. 11+50.00
-L- POC Sta. 58+53.75
-DRIVE1- POT Sta. 13+08.09
-L- POC Sta. 58+43.55
-DRIVE3- POT Sta. 10+00.00
PC Sta. 10+69.23
PT Sta. 11+40.52
END CONSTRUCTION -DRIVE3- STA. 11+80.00
S 46° 11' 12.1" E
POT Sta. 12+20.85
PT 12+12.56
CS Sta. 60+19.72
SC Sta. 61+19.72
CS Sta. 63+80.96
ST Sta. 65+80.96
PC Sta. 68+22.27
PT Sta. 71+78.24

PROPOSED NOISE WALL 7
RESIDUAL
ROADWAY EMBANKMENT

MATCHLINE -L- STA 58+10 SEE SHEET 9
MATCHLINE -L- STA 72+00 SEE SHEET 8

BRIGHTON COMMUNITY ASSOCIATION, INC.
DB 10933 PG 717
MB 2003 PG 1632

NZINGA SUKIDI & VUNDA MADIAMBA
DB 12951 PG 1652
MB 2003 PG 1632

GLORIA SINGLETON
DB 11048 PG 1369
MB 2003 PG 1632

VICK TA
DB 13811 PG 111
MB 2003 PG 1632

ISAAC & LIS ESTEVES
DB 11086 PG 521
MB 2003 PG 1632

PAMELA WALTON
DB 14997 PG 1781
MB 2003 PG 1632

WILLIAM SMALLWOOD
DB 11093 PG 916
MB 2003 PG 1632

JOCELYN ALIAFERRO
DB 11101 PG 1716
MB 2003 PG 1632

JANNIE BOIS
DB 13904 PG 2742
MB 2003 PG 1632

AMH 2014-2 BORROWER, LLC
DB 15793 PG 2259
MB 2003 PG 1632

KELVIN VASQUEZ
DB 15827 PG 1807
MB 2003 PG 1632

IVAN DEL ROSARIO & OMARY SABILLON
DB 17142 PG 1150
MB 2003 PG 1632

S VELEAN HOLNESS
DB 14206 PG 1517
MB 2003 PG 1632

BRIGHTON COMMUNITY ASSN. INC.
DB 10933 PG 717
MB 2003 PG 1632

BENJAMIN & ELIDA ESTEVES
DB 14950 PG 1147

ROGER HONBARRIER INVESTMENTS, INC.
DB 10094 PG 2535
MB 2003 PG 2157

5' MONO.CONC.ISLAND (KEYED IN) (NO BREAK IN FENCE)

END FENCE TIE TO WALL

REMOVE EXISTING SINGLE FACED BARRIER

PROPOSED SINGLE FACED BARRIER

TRESCA CROSSING (PRIVATE STREET EASEMENT)

NO RECORDS FROM GAS COMPANY TO DETERMINE SIZE OR MATERIAL.

EXISTING PRIVATE DRAINAGE EASEMENT BM 2012 1053

FOR -L- PROFILE, SEE SHEET NO. 20
FOR -DRIVE1- PROFILE, SEE SHEET NO. 25
FOR -DRIVE3- PROFILE, SEE SHEET NO. 26

PROJECT REFERENCE NO.	SHEET NO.
U-5748	8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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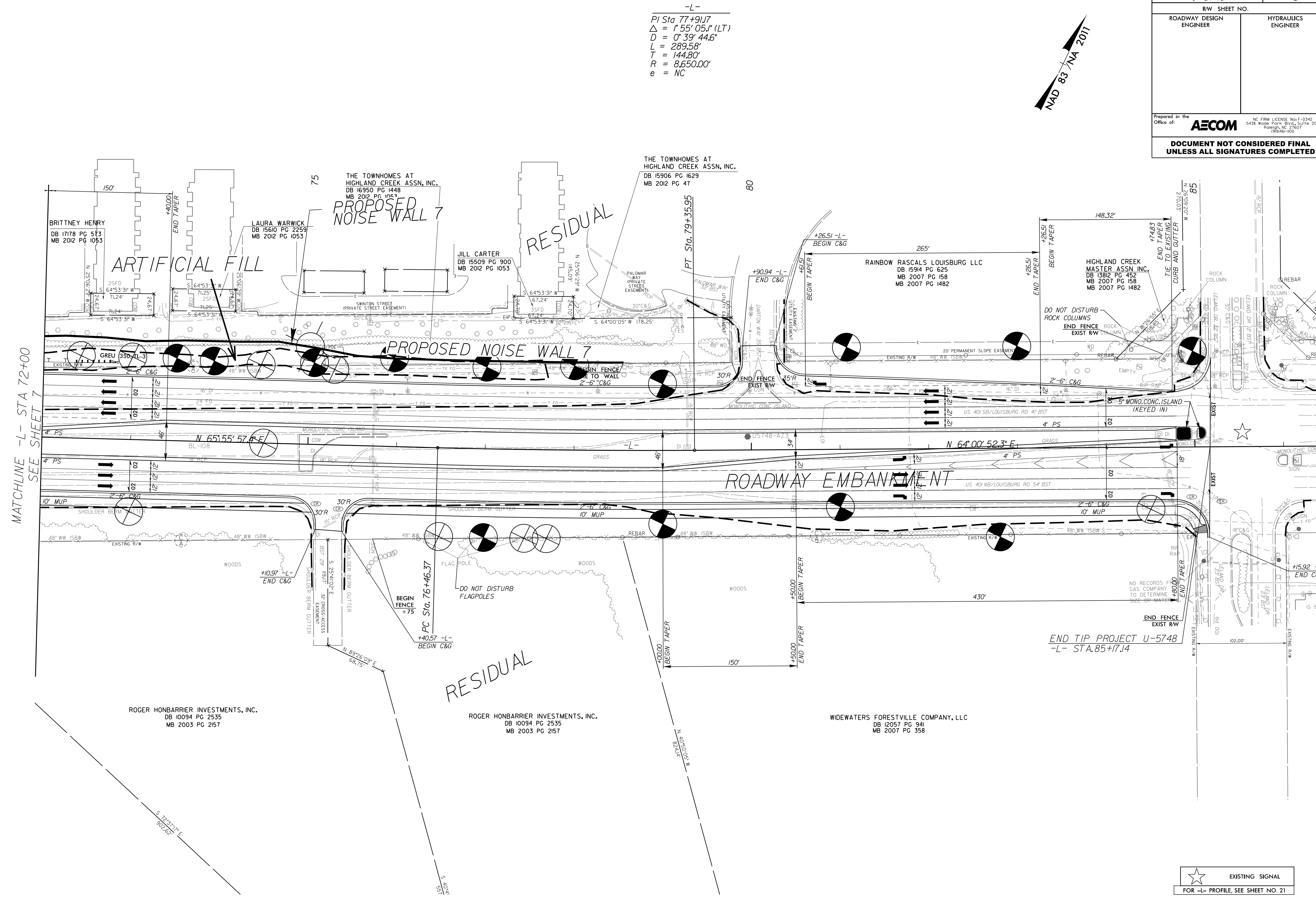
REVISIONS

ROW REV. – March 11, 2021 – Parcel 20: Rev. R/W, rev. PUE, rev. TCE. Parcel 21: Corrected Parcel 21 to Parcel 20. Eliminated Parcel 21. Parcel 22: Rev. R/W, rev. TCE.

ROW REV. – July 14, 2021 – Parcel 33: Combined Parcels 33 and 34. Eliminated Parcel 34. Parcel 51: Added previously omitted Parcel 51. Added TCE. Parcel 20 – Added proposed noise wall.

5/14/99



10/4/2022
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PROJECT REFERENCE NO.	SHEET NO.
U-5748	9
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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Raleigh, NC 27607
(919)461-1100

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NAD 83 /NA 2011

REVISIONS
5/14/99
ROW REV. – March 11, 2021 – Parcel 23: Revised Parcel 51 to parcel 23. Eliminated parcel 51.
ROW REV. – July 14, 2021 – Parcel 23: Added proposed noise wall.

MATCHLINE -Y1- STA 13+50 SEE SHEET 5

-Y1- 90 105' LT
+25 -Y1-
END C&G
END S/W

EX. R/W 100' LT

PROPOSED NOISE WALL 4

MATCHLINE -Y1- STA 18+50 SEE SHEET 10

13+25 RI
86.0000

Sta. 16+57.58 BCC

END CONSTRUCTION
-Y1- STA 19+14.23

PI Sta 14+64.69
△ = 35° 44' 35.1" (LT)
D = 8° 57' 08.9"
L = 399.25'
T = 206.36'
R = 640.00'
e = 0.04 FT/FT
R.O. = 168'

PI Sta 18+74.27
△ = 11° 46' 57.9" (LT)
D = 2° 43' 42.1"
L = 431.86'
T = 216.69'
R = 2,100.00'

FOR -Y1- PROFILE, SEE SHEET NO. 22

101 MARIA HERNANDEZ
DB 15519 PG 1137
MB 1985 PG 986
MB 2007 PG 2256
MB 2013 PG 1355

102 NAT HUNT, JR. FAMILY TRUST
DB 16204 PG 2354
MB 1985 PG 986
MB 2007 PG 2256
MB 2013 PG 1355

103 ANGELA GUNN
DB 8293 PG 1462
MB 1985 PG 986
MB 2007 PG 2256
MB 2013 PG 1355

104 LISA DUEBLER
DB 13967 PG 2466
MB 1985 PG 986
MB 2007 PG 2256
MB 2013 PG 1355

108 GLENN LISSNER
DB 12954 PG 1463
MB 1985 PG 986
MB 2007 PG 2256
MB 2013 PG 1355

109 KATHERINE BRICKELL
DB 7766 PG 356
MB 1985 PG 986
MB 2007 PG 2256
MB 2013 PG 1355

110 VICTOR CARAPIA & ANGELA ROMERO
DB 15519 PG 1481
MB 1985 PG 986
MB 2007 PG 2256
MB 2013 PG 1355

111 BONITA HEAD
DB 8379 PG 724
MB 1985 PG 986
MB 2007 PG 2256
MB 2013 PG 1355

WAKE HIGH MEADOWS HOMEOWNERS ASSN.
DB 3508 PG 579

C. J. BURTON HEIRS
MB 1985 PG 986
MB 2007 PG 2256
MB 2013 PG 1355

JOZEF GRABOWSKI JR. & SARAH MCKELLAR
DB 16673 PG 2232
MB 1982 PG 367

ADAM & SARAH UPTON
DB 17360 PG 731
MB 1982 PG 367

ELBERT & GERALDINE WILSON
DB 3221 PG 299
MB 1982 PG 367

THOMAS & REBECCA HARRISON
DB 7331 PG 735
MB 1982 PG 367

CEMETERY

WAKE HIGH MEADOWS HOMEOWNERS ASSN.
DB 3508 PG 579
MB 1985 PG 986
MB 2007 PG 2256
MB 2013 PG 1355

NEUSE CROSSING HOMEOWNERS ASSN INC.
OPEN SPACE
DB 8026 PG 517
MB 1992 PG 1388

NEUSE CROSSING HOMEOWNERS ASSN.
DB 8305 PG 108
MB 1998 PG 2236

GINA SCIACCHITANO
DB 14039 PG 458
MB 1992 PG 1388

BRIEN & ROBIN WEINKE
DB 13482 PG 2469
MB 1992 PG 1388

MALCOLM & KIMBERLY BISHOP
DB 13442 PG 1466
MB 1992 PG 1388

THURSTON & AMY MILES
DB 16120 PG 1010

JOHN & SHARON BEADNELL
DB 8624 PG 749
MB 1998 PG 2236

GERALD & SHERRIE PEACOCK
DB 9354 PG 2434
MB 1998 PG 2236

CHRISTOPHER & SHANNON PLYMOUTH
DB 10562 PG 1606
MB 1998 PG 2236

JIHAD BAGHDADI & MIRVAT IBRAHIM EL-LAWAND
DB 9436 PG 157
MB 1998 PG 2236

ARLISA GALLOWAY
DB 13355 PG 419
MB 1998 PG 2236

JAMES & LISA PETRIE
DB 14835 PG 119
MB 1998 PG 2236

2018-3 IH BORROWER LP
DB 17172 PG 1300
MB 1998 PG 2236
MB 1999 PG 2226

DENNIS & ENID MITCHELL
DB 17032 PG 1834
MB 1998 PG 2236
MB 1999 PG 2226

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10/4/2021
Alexander Lozada

PROJECT REFERENCE NO.	SHEET NO.
U-5748	10
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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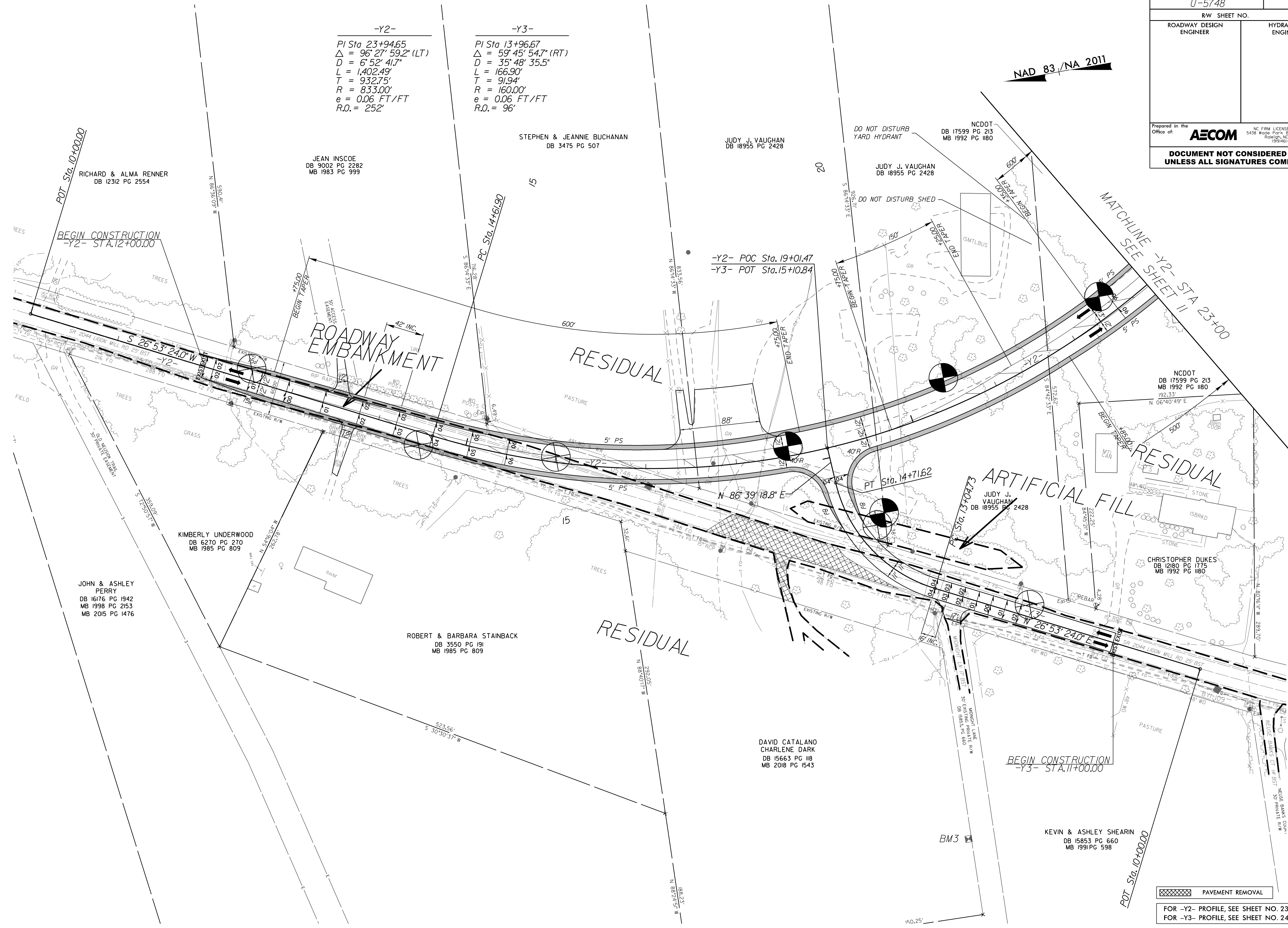
REVISIONS

ROW REV - March 11, 2021 - Parcel 40: Corrected TCE labels. Parcel 41: Rev. owner info.
ROW REV - July 14, 2021 - Parcel 39: Combined Parcel 39 and 40. Eliminated Parcel 40. Parcel 43: Updated owner name. Parcel 47: Removed TCE. Eliminated Parcel 47. Parcel 48: Removed TCE. Eliminated Parcel 48.
ROW REV - February 08, 2022 - Parcel 39: Revised PUE and TCE.
ROW REV - February 24, 2022 - Parcel 39: Revised PUE.
ROW REV - May 3, 2022 - Parcel 39: Added additional PUE, revised owner name and deed book info. Parcel 45Z: Added parcel for additional PUE. Parcel 46Z: Added parcel for additional PUE.



▨	PAVEMENT REMOVAL

FOR -Y2- PROFILE, SEE SHEET NO. 23
FOR -Y3- PROFILE, SEE SHEET NO. 24

PROJECT REFERENCE NO.	SHEET NO.
U-5748	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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NAD 83/NA 2011

REVISIONS

5/14/99

ROW REV. – March 11, 2021 – Parcel 41: Rev. owner info. Parcel 42: Corrected Parcel 42 to 41, diminated parcel 42. Parcel 44: Rev. owner info, added PDE.
ROW REV. – July 14, 2021 – Parcel 39: Combained Parcels 39 and 40. Eliminated Parcel 40.
ROW REV. – July 14, 2021 – Parcel 39: Combained Parcels 39 and 40. Eliminated Parcel 40.

-Y2-

PI Sta 23+94.65
Δ = 96° 27' 59.2" (LT)
D = 6° 52' 41.7"
L = 1,402.49'
T = 932.75'
R = 833.00'
e = 0.06 FT/FT
R.O. = 252'

PI Sta 30+82.49
Δ = 27° 14' 39.9" (RT)
D = 6° 21' 58.3"
L = 427.95'
T = 218.10'
R = 900.00'
e = 0.06 FT/FT
R.O. = 252'

AQUA NC, INC
WELL LOT
MB 1986 PG 178

S 00°04'23" E
179.92'

S 80°13'50" E
106.38'

JUDY J. VAUGHAN
DB 18955 PG 2428

NCDOT
DB 17599 PG 213
MB 1992 PG 1180

RESIDUAL

600'

S 40°28'49" W
290.37'

S 80°15'58" E
652.42'

PDE STA. 28+64.29

END TAPER +35.00

MATCHLINE -Y2- STA 23+00
SEE SHEET 10

MATCHLINE -Y2- STA 31+00
SEE SHEET 6

WOODS

CAT-1

GREU 350, TL-3

5' PS

42" INC.

-Y2

R=2'

BY4-123

BY4-124

BY4-125

BY4-122

BY4-121

RUIN

5" MONO.CONC.ISLAND (KEYED IN)

BEGIN TAPER +35.00

END TAPER +35.00

BEGIN TAPER +85.00

END TAPER +85.00

150'

200'

500'

N 80°16'11" W
195.05'

POND
WE-227.07

2SFD

OR

NCDOT
DB 17599 PG 213
MB 1992 PG 1180

S 87°46'11" E
240.24'

GARY & MARY MUSSER
DB 2474 PG 45
MB 1974 PG 489

SEE INSET (THIS SHEET)

MATCHLINE SEE BELOW

S 87°46'11" E
452.12'

FOR -Y2- PROFILE, SEE SHEET NO. 23

10/4/2022
J:\9754-U-5748\Highway\11\400-Technical\431_Geotechnical\U5748_GEO_RDWY\CADD_GEOTECH\PlanProf\U5748_rdy_psh11.dgn
Alexander.Grado

PROJECT REFERENCE NO.	SHEET NO.
U-5748	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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(919)461-1100

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NAD 83 /NA 2011

REVISIONS
5/14/99

Design REV. – April 2022 – Changed project limits and added Sheet 12. Parcel 52: added C/A and TCE. Parcel 53: added C/A and TCE. Parcel 61: added C/A and TCE. Parcel 62: added C/A. Parcel 63: added C/A and PDE.
ROW REV. – August 29, 2022 – Parcel 64: Removed PDE. Eliminated claim on Parcel 64.

BEGIN TIP PROJECT U-5748
-LI- STA 19+00.00

WT 401, LLC
DB 10513 PG 2305
BM 1995 PG 957

WT 401, LLC
DB 10513 PG 2308
BM 1995 PG 957

JAMES P. NGO
DB 17269 PG 2382
BM 1995 PG 957

SUSAN G. AYCOCK ET ALS
DB 9461 PG 448
DB 7590 PG 209
BM 1986 PG 2198

BM9 ELEVATION = 250.62'
N 773,007 E 2,135,101
BL STATION 21+16.00
OFFSET 241' LEFT
RRSPIKE IN 13" GUM

-LI- POT Sta. 26+92.49
-Y10- POT Sta. 10+00.00

PT Sta. 27+34.68

RED DOG ASSOCIATES, LLC
DB 13337 PG 2669
BM 1979 PG 131

DANIEL B. QUINN
DB 2750 PG 368
BM 1979 PG 424

VIRGINIA H. WILLOUGHBY
DB 11715 PG 2221
BM 1979 PG 424

RESIDUAL

ROADWAY EMBANKMENT

SB US 401/LOUISBURG RD 36' BST

NB US 401/LOUISBURG RD 47' BST

5' MONO.CONC. ISLAND (KEYED IN)

ABANDONED TEL

MATCHLINE -LI- 31+00 SEE SHEET 13

MICHAEL J. CHASE AND WIFE, HEATHER C. CHASE
DB 12487 PG 267
BM 1998 PG 2051

SKYLER M. EVERETT
DB 17169 PG 330
BM 1998 PG 2051

SCOTT A. REAMS AND SPOUSE, RANDI C. BARBOUR
DB 18646 PG 560
BM 1998 PG 2051

DANIEL S. PANACCIONE AND SPOUSE, THERESA S. PANACCIONE
DB 12844 PG 2236
BM 1998 PG 2051

ASHLEE ANNE FREEMAN AND STEPHEN D. WEBSTER, III
DB 17452 PG 1496
BM 1998 PG 2051

ELSA E. MONZON AND JAIRO G. BARRIOS
DB 16631 PG 556
BM 1998 PG 2051

FREDERICKA CALDWELL AND HUSBAND, CLAUDUS CALDWELL
DB 1987 PG 205
BM 1998 PG 2051

JERMAIN D. McQUEEN AND SPOUSE, TIFFANIE McQUEEN
DB 16501 PG 1242
BM 1998 PG 2051

YECENIA B. RODRIGUEZ AND SPOUSE, JOSE E. BANEGAS
DB 17265 PG 2747
BM 1998 PG 2051

THI QUANG PHAN
DB 8417 PG 310
BM 1998 PG 2051

THOMAS K. BROWN
DB 13608 PG 2671
BM 1996 PG 1732

PAUL A. RISTEFF
DB 1720 PG 1837
BM 1996 PG 1732

BAKULBHAI PATEL
DB 9060 PG 765
BM 1996 PG 485

LEONARD ROWE
DB 16266 PG 1408
BM 1996 PG 1732

ANNET LACOUR
DB 14716 PG 1421
BM 1996 PG 485

ROBERT RODGERS
DB 8305 PG 230
BM 1996 PG 1732

PC Sta. 10+68.97

END CONSTRUCTION
-Y10- STA. 11+80.00

PT Sta. 12+21.53

NEIGHBORHOOD SIGN TO BE REMOVED

30" VALLEY GUTTER SEE DETAIL SHEET

-LI-	-Y10-
PI Sta 21+32.83	PI Sta 11+47.63
△ = 20° 30' 59.4" (RT)	△ = 34° 22' 23.2" (RT)
D = 1° 41' 09.6"	D = 22° 31' 50.8"
L = 1,216.87'	L = 152.56'
T = 615.02'	T = 78.65'
R = 3,398.32'	R = 254.30'
e = EXIST.	e = EXIST.

★ PROPOSED SIGNAL
FOR -LI- PROFILE, SEE SHEET NO. 28
FOR -Y10- PROFILE, SEE SHEET NO. 31

PROJECT REFERENCE NO.	SHEET NO.
U-5748	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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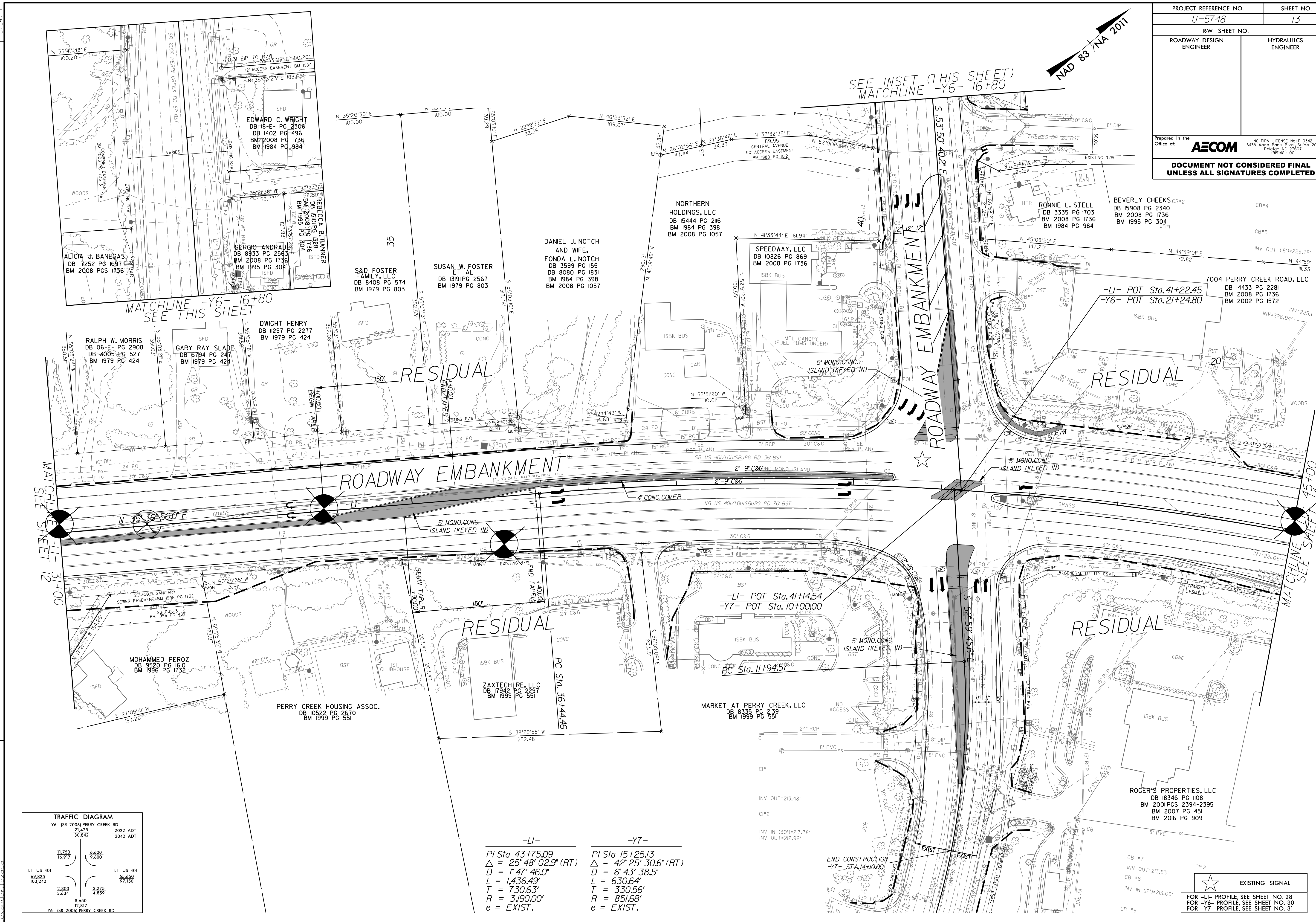
REVISIONS

Design REV. - April, 2022 - Changed project limits and added Sheet 13. Parcel 55: added R/W.
ROW REV. - June 10, 2022 - Eliminated claim on Parcel 55.

5/14/99



TRAFFIC DIAGRAM

Approach	Volumes
-Y6- (SR 2006) PERRY CREEK RD (north)	21,425 / 30,842
Year	2022 ADT / 2042 ADT
Left-upper movement	11,750 / 16,917
Right-upper movement	6,600 / 9,600
-L- US 401 (west)	69,825 / 103,242
-L- US 401 (east)	65,650 / 97,150
Left-lower movement	2,300 / 3,634
Right-lower movement	3,275 / 4,859
-Y6- (SR 2006) PERRY CREEK RD (south)	8,650 / 12,817

-L-	-Y7-
PI Sta 43+75.09	PI Sta 15+25.13
Δ = 25° 48' 02.9" (RT)	Δ = 42° 25' 30.6" (RT)
D = 1° 47' 46.0"	D = 6° 43' 38.5"
L = 1,436.49'	L = 630.64'
T = 730.63'	T = 330.56'
R = 3,190.00'	R = 851.68'
e = EXIST.	e = EXIST.

☆ EXISTING SIGNAL

FOR -L- PROFILE, SEE SHEET NO. 28
FOR -Y6- PROFILE, SEE SHEET NO. 30
FOR -Y7- PROFILE, SEE SHEET NO. 31

10/4/2022
...U5748_GEO_RDWY\CADD_GEOTECH\PlanProf\U5748_rdy_psh13.dgn

PROJECT REFERENCE NO.	SHEET NO.
U-5748	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Prepared in the Office of: AECOM
NC FIRM LICENSE No: F-0342
5438 Wade Park Blvd, Suite 200
Raleigh, NC 27607
(919)461-1100

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

5/14/99

REVISIONS

Design REV. - April, 2022 - Changed project limits and added Sheet 14. Parcel 56: added C/A and TCE. Parcel 57: added C/A and TCE. Parcel 58: added PDE. Parcel 65: added C/A.

I:\U5748-U-5748\10\2022\04\11\400-Technical\431.Geotechnical\U5748.GEO.RDWY.CADD.GEOTECH\PlanProf\U5748_rdy_psh14.dgn
Alexander Lazado

NAD 83/NA 2011

BM10 ELEVATION = 228.05'
N 774,985 E 2,136,958
BL STATION 47+53.00
OFFSET 289' LEFT
RRSPIKE IN 45" OAK

-LI- PI Sta 43+75.09
Δ = 25° 48' 02.9" (RT)
D = 1° 47' 46.0"
L = 1,436.49'
T = 730.63'
R = 3,190.00'
e = EXIST.

-LI- POT Sta. 55+70.60
-Y8- POT Sta. 10+00.00

-Y8- POT Sta. 12+39.94

-Y8- ST.A 11+08.00

MATCHLINE SHEET -LI- 45+00

MATCHLINE SHEET -LI- 59+00

MATCHLINE SHEET -Y8- 15

DORIS P. AVERETT
DB 10-E- PG 205
DB 1315 PG 361

MENAL LOUIES AND
AAFA PROPERTIES, LLC
DB 16875 PG 1829
DB 1948 PG 318

HAROLD C. CHAMBLEE
AND WIFE,
LIFFIE B. CHAMBLEE
DB 1764 PG 412

NEW BREED COMMUNITY CHURCH
DB 13923 PG 256

JAMES E. NELMS
AND WIFE,
PATRICIA A. NELMS
DB 1709 PG 268

SHOPPES AT GREENWAY OWNERS ASSOCIATION, INC.
DB 15217 PG 741
DB 15951PG 2278
BM 2001PGS 2394-2395
BM 2007 PG 451

SOUTHALL COMMONS
HOMEOWNERS ASSOCIATION, INC.
DB 13395 PG 2490
BM 1987 PGS 1121
BM 2001PGS 2394-2395
BM 2006 PGS 797-801

SOUTHALL COMMONS
HOMEOWNERS ASSOCIATION, INC.
DB 13395 PG 2490
BM 1987 PGS 1121
BM 2001PGS 2394-2395
BM 2006 PGS 797-801

SLOPE EASEMENT
BM 2001PG 2394

PROPOSED SIGNAL

FOR -LI- PROFILE, SEE SHEET NO. 29
FOR -Y8- PROFILE, SEE SHEET NO. 31

PROJECT REFERENCE NO.	SHEET NO.
U-5748	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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Raleigh, NC 27607
(919)461-1100

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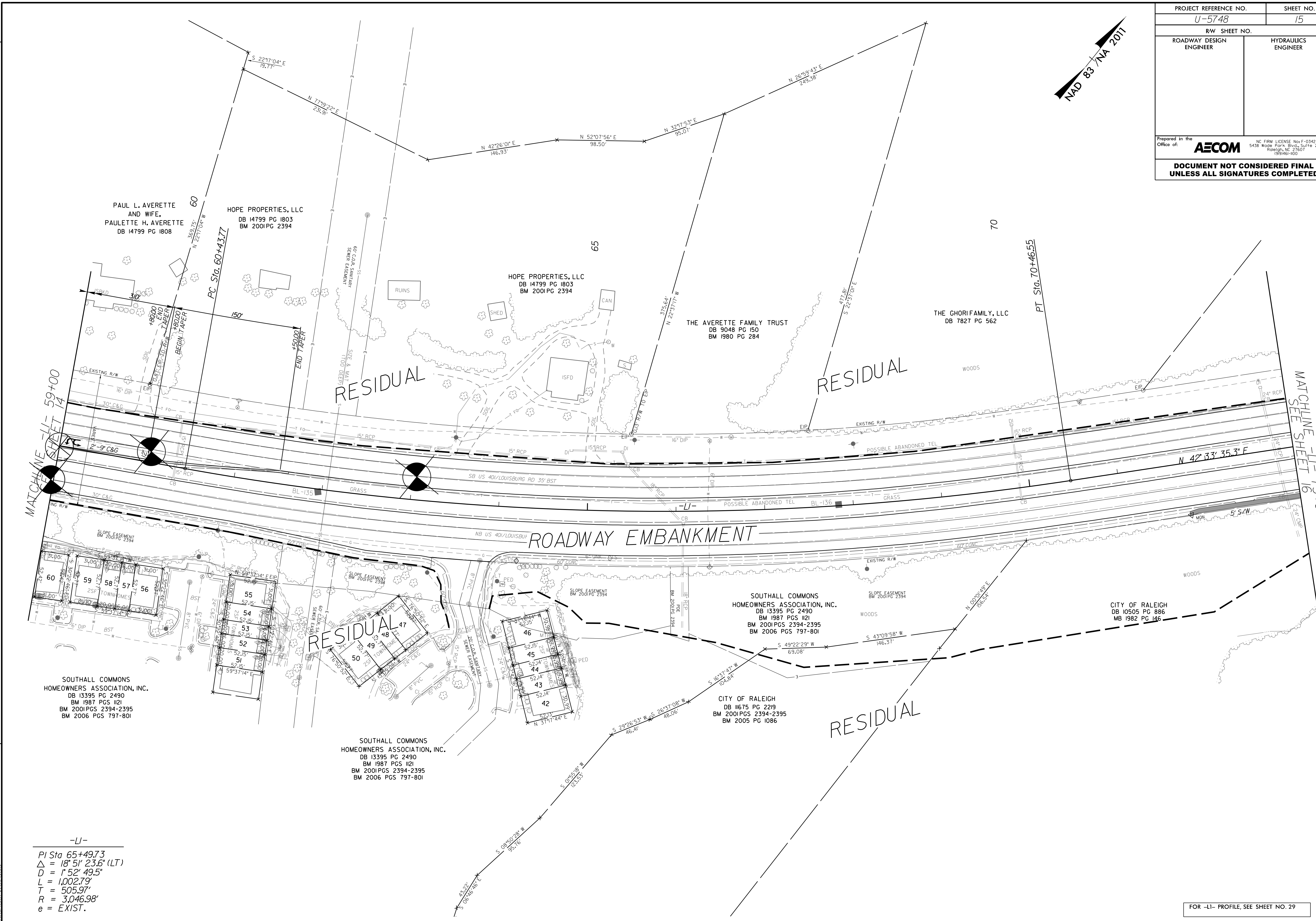
REVISIONS

Design REV. - April, 2022 - Changed project limits and added Sheet 15. Parcel 59: added TCE.



-L1-

PI Sta 65+49.73
Δ = 18° 51' 23.6" (LT)
D = 1° 52' 49.5"
L = 1,002.79'
T = 505.97'
R = 3,046.98'
e = EXIST.

FOR -L1- PROFILE, SEE SHEET NO. 29

5/14/99

10/4/2022
9754-U-5748_Lignon_Mill\400-Technical\431_Geotechnical\U5748_GEO_RDWY\CADD_GEOTECH\PlanProf\U5748_rdy_psh15.dgn
alexander.lozada

PROJECT REFERENCE NO.	SHEET NO.
U-5748	16
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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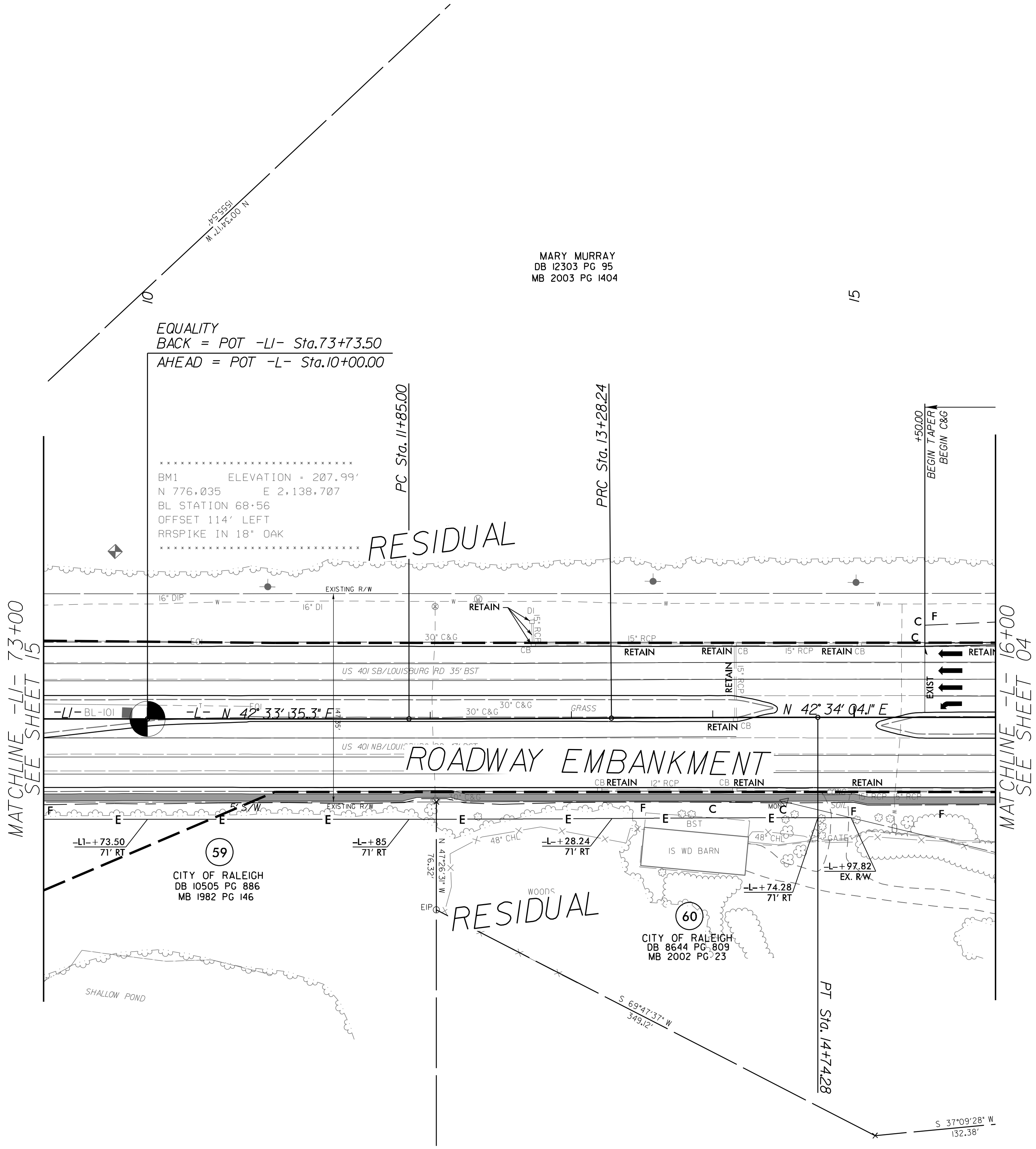


-L-	
PI Sta 12+56.62	PI Sta 14+01.26
Δ = 0° 24' 37.3" (LT)	Δ = 0° 25' 06.1" (RT)
D = 0° 17' 11.3"	D = 0° 17' 11.3"
L = 143.24'	L = 146.04'
T = 71.62'	T = 73.02'
R = 20,000.00'	R = 20,000.00'
e = EXIST.	e = EXIST.

FOR -L1- PROFILE, SEE SHEET NO. 30

REVISIONS

Design REV. - April, 2022 - Changed project limits and added Sheet 16. Parcel 59: added TCE. Parcel 60: added TCE.

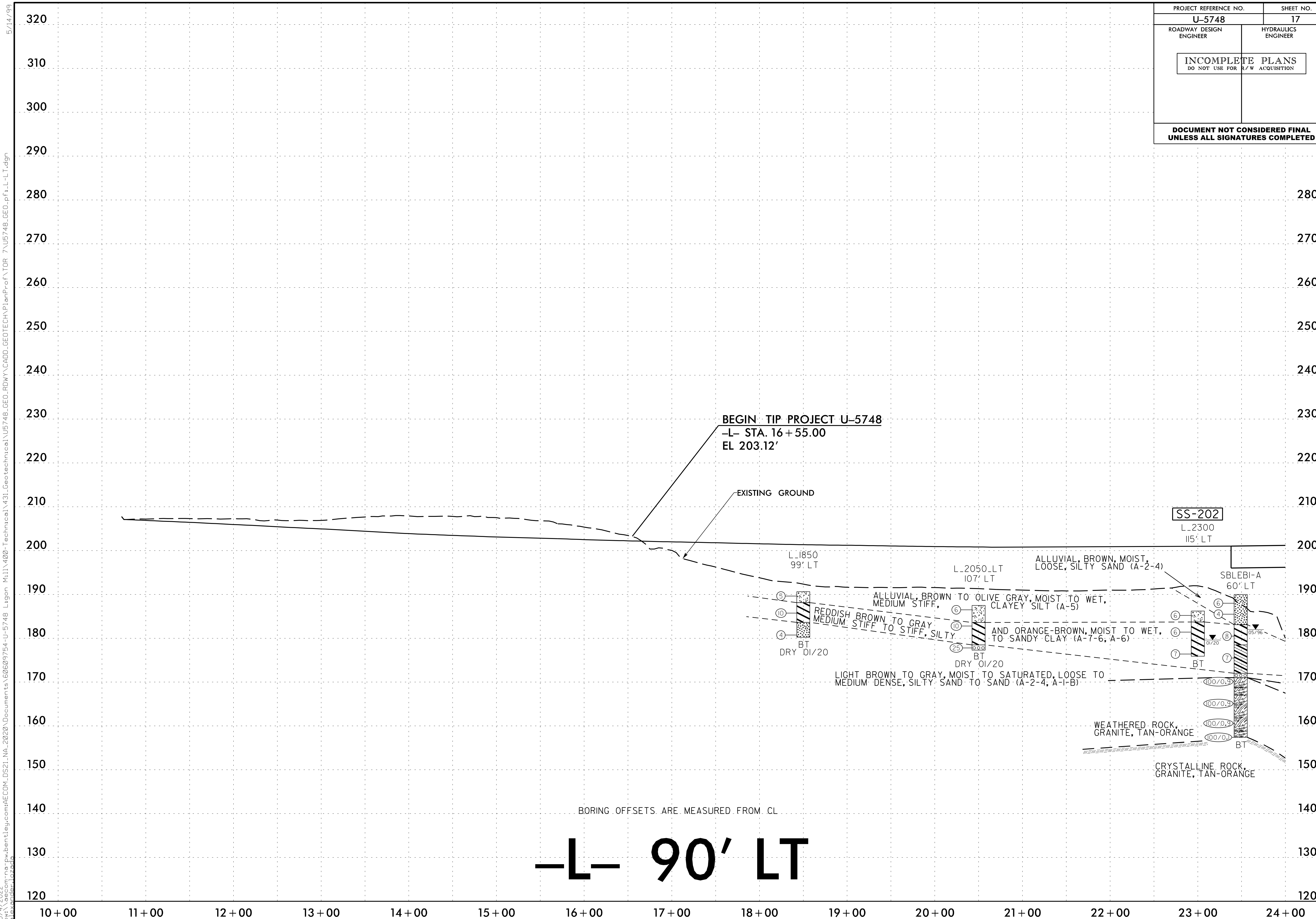
5/14/99

10/4/2022
9754-U-5748_Lyon_Mill\400-Technical\431_Geotechnical\U5748_GEO_RDWY\CADD_GEOTECH\PlanProf\U5748_rdy_psh16.dgn
alexander.lozada

PROJECT REFERENCE NO.	SHEET NO.
U-5748	17
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L- 90' LT

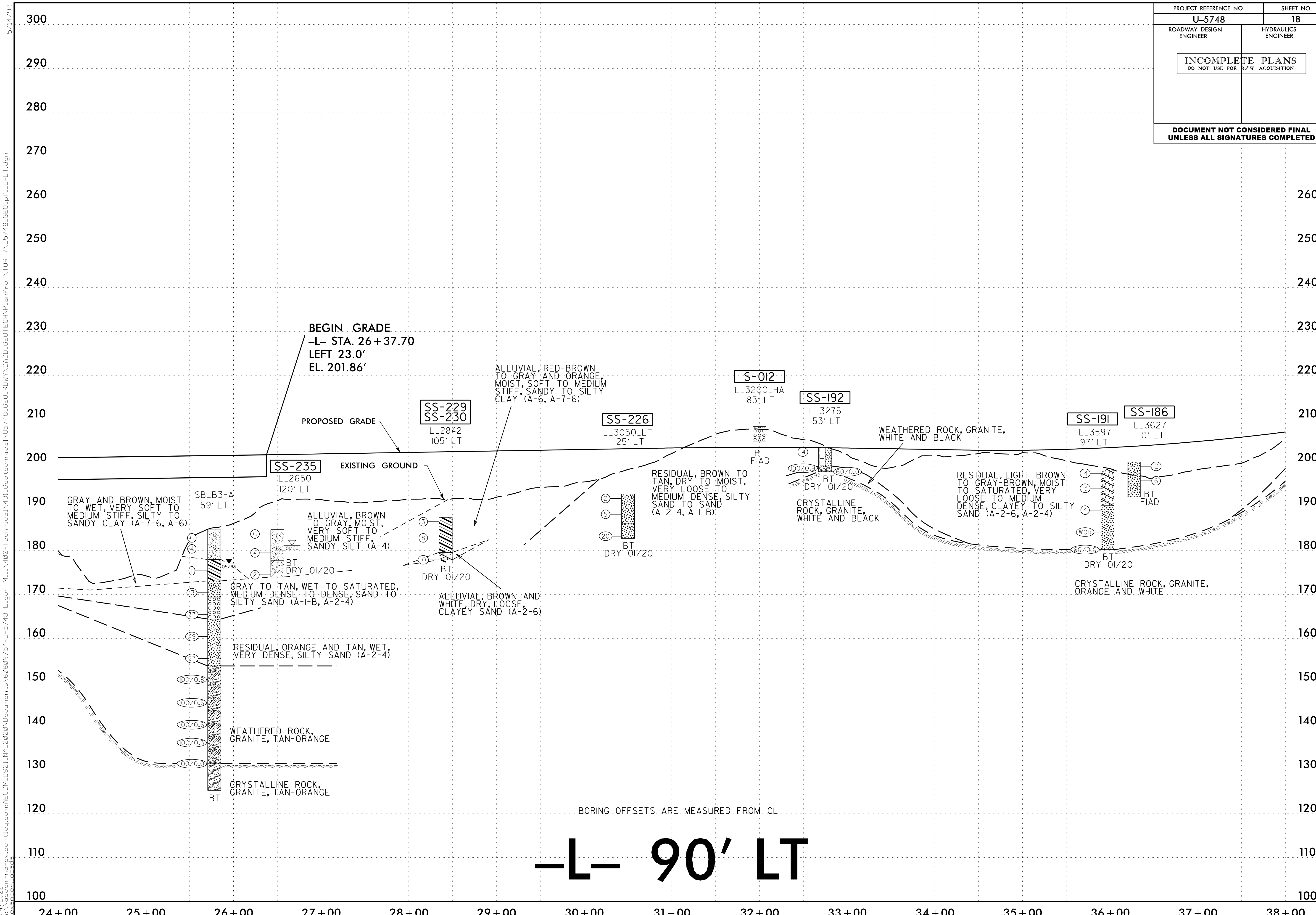
PROJECT REFERENCE NO.	SHEET NO.
U-5748	18

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



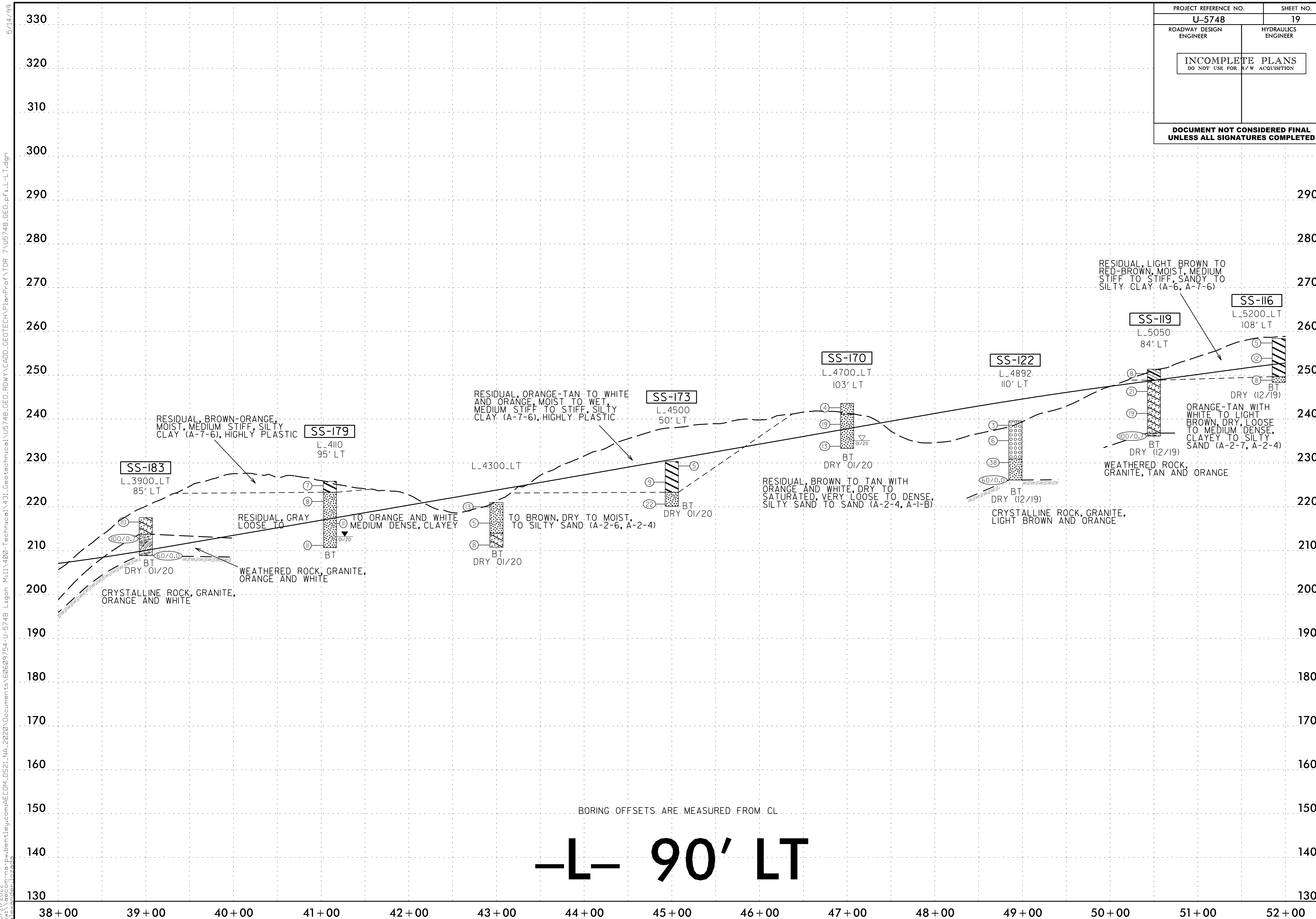
PROJECT REFERENCE NO.	SHEET NO.
U-5748	19

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L- 90' LT

5/14/99

10/21/2022

PROJECT REFERENCE NO.	SHEET NO.
U-5748	20
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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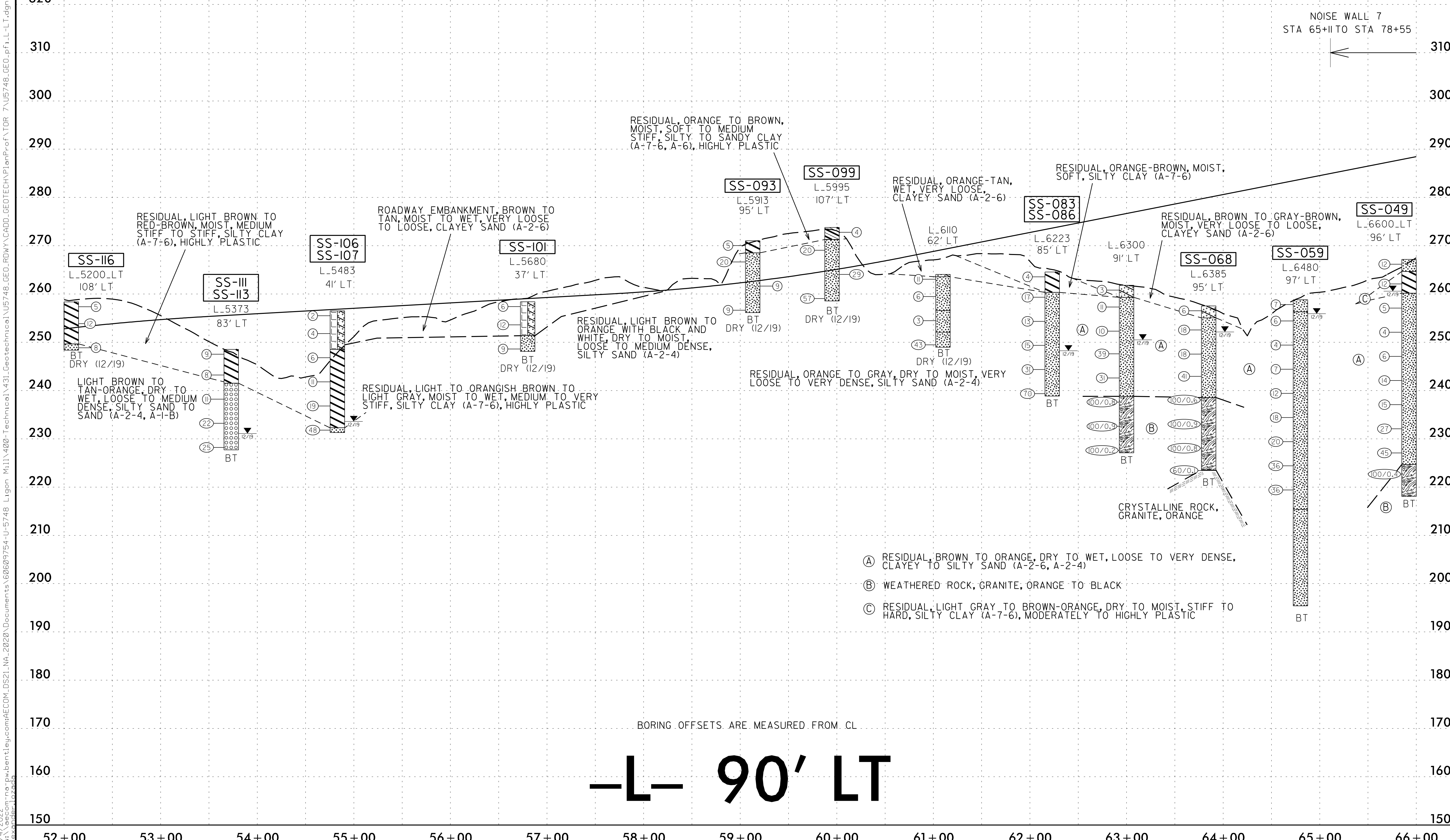


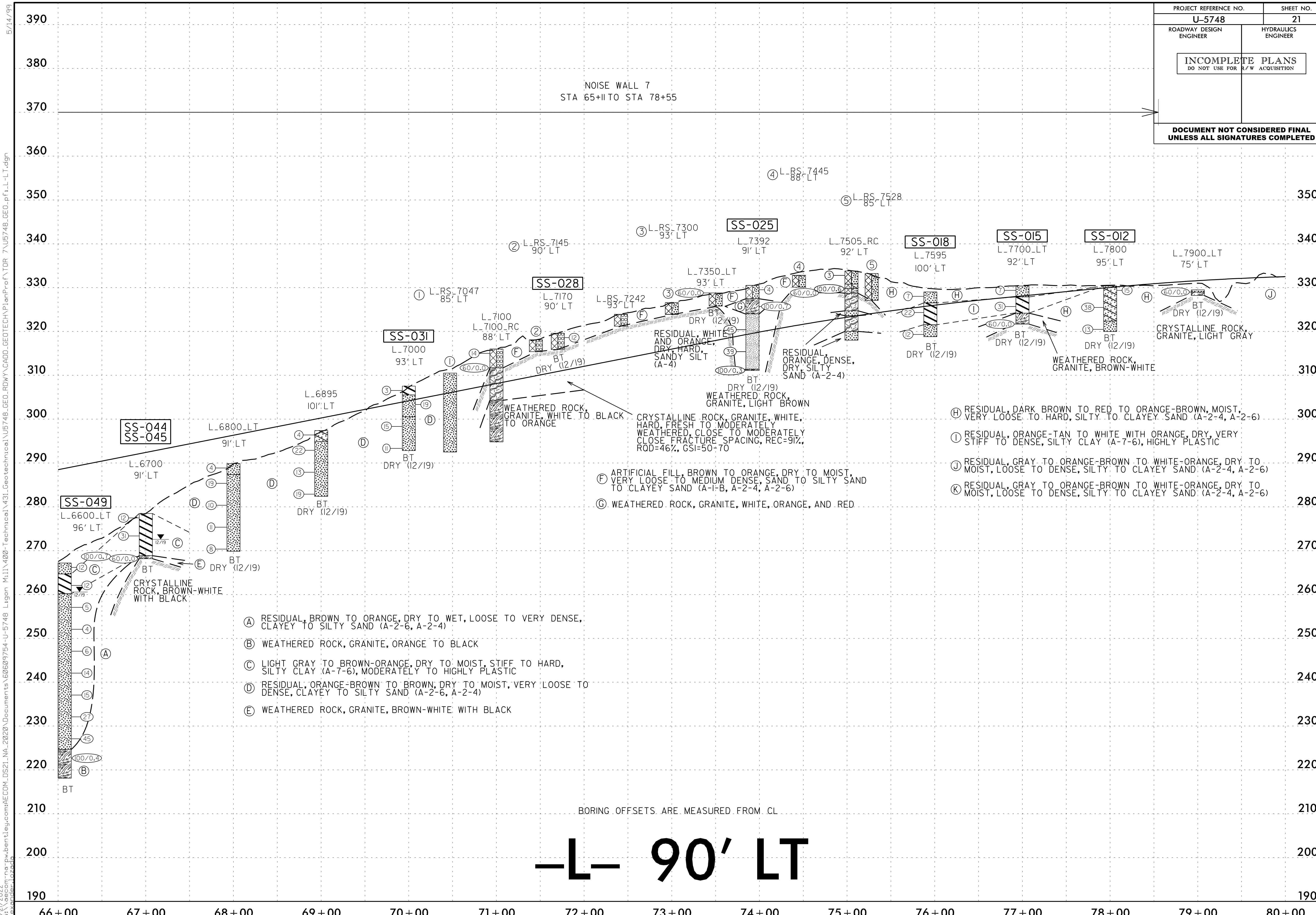
-L- 90' LT

PROJECT REFERENCE NO.	SHEET NO.
U-5748	21

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



–L– 90' LT

5/14/99

10/21/2022
pw:\\aecom-na-pw.bentley.com:AECOM_DS21_NA_2020\Documents\60609754-U-5748 Ligon Mill\400-Technical\431_Geotechnical\U5748_GEO_RDWY\CADD_GEOTECH\PlanProf\TOR 7\U5748_GEO_pfl_L-LT.dgn
alexander.lozada

PROJECT REFERENCE NO.	SHEET NO.
U-5748	22
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RESIDUAL, ORANGE TO RED AND TAN, MOIST, VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

SS-008
L_8108
115' LT

L_8300_LT
115' LT

RESIDUAL, ORANGE, MOIST, MEDIUM STIFF, SILTY CLAY (A-7-6)

SS-002
L_8498
108' LT

(J) RESIDUAL, GRAY TO ORANGE-BROWN TO WHITE-ORANGE, DRY TO MOIST, LOOSE TO DENSE, SILTY TO CLAYEY SAND (A-2-4, A-2-6)

WEATHERED ROCK, GRANITE, WHITE AND BLACK

BORING OFFSETS ARE MEASURED FROM CL

–L– 90' LT

PROJECT REFERENCE NO.	SHEET NO.
U-5748	23
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120

BEGIN TIP PROJECT U-5748
-L- STA. 16+55.00
EL 195.91'

EXISTING GROUND

Ⓗ ALLUVIAL, BROWN, MOIST, LOOSE, SILTY SAND (A-2-4)

Ⓘ ALLUVIAL, TAN AND GRAY, MOIST TO WET, DENSE, SAND AND GRAVEL (A-1-B)

L_1842
105' RT

SS-207
L_2050_RT
122' RT

SS-211
L_2315
125' RT

NBLEBI-B
53' RT

ALLUVIAL, BROWN AND BLACK, MOIST, MEDIUM STIFF TO STIFF, SANDY SILT (A-4)

5 8 3

BT
DRY 01/20

ALLUVIAL, LIGHT BROWN, MOIST TO SATURATED, SILTY SAND TO SAND AND GRAVEL

5 14 20

BT
DRY 01/20

ALLUVIAL, LIGHT BROWN AND GRAY, MOIST TO WET, MEDIUM TO VERY STIFF, SANDY CLAY (A-6)

VERY LOOSE TO DENSE, (A-2-4, A-1-B)

Ⓗ 6 9 14 05/96

17 24

BT
DRY 01/20

Ⓘ 41 67 96 73 100/0.3 100/0.3 100/0.1

RESIDUAL, ORANGE AND BROWN, MOIST TO WET, VERY DENSE, SAND AND GRAVEL TO SILTY SAND (A-1-B, A-2-4)

WEATHERED ROCK, GRANITE, ORANGE-TAN

BT

CRYSTALLINE ROCK, GRANITE, TAN AND PINK

BORING OFFSETS ARE MEASURED FROM CL

-L- 90' RT

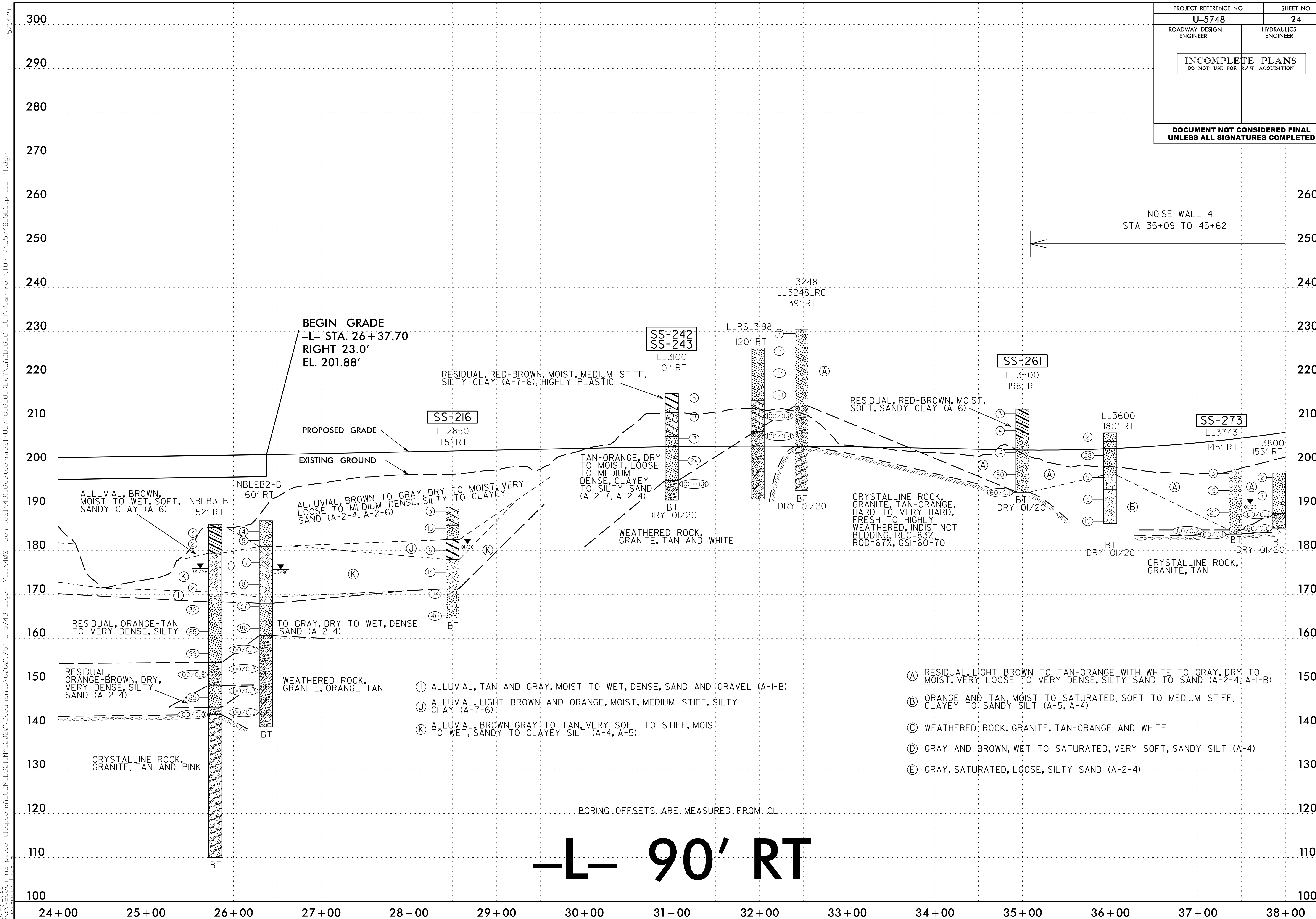
10 + 00 11 + 00 12 + 00 13 + 00 14 + 00 15 + 00 16 + 00 17 + 00 18 + 00 19 + 00 20 + 00 21 + 00 22 + 00 23 + 00 24 + 00

5/14/99
10/4/2022
c:\Users\alexander.lozada.com-na-pw.bentley.com#ECOM.DS21.NA.2020\Documents\60609754-U-5748 Ligon Mill\400-Technical\431_Geotechnical\U5748_GEO_RDWY\CADD_GEOTECH\PlanProf\TOR 7\U5748_GEO_pf1_L-RT.dgn

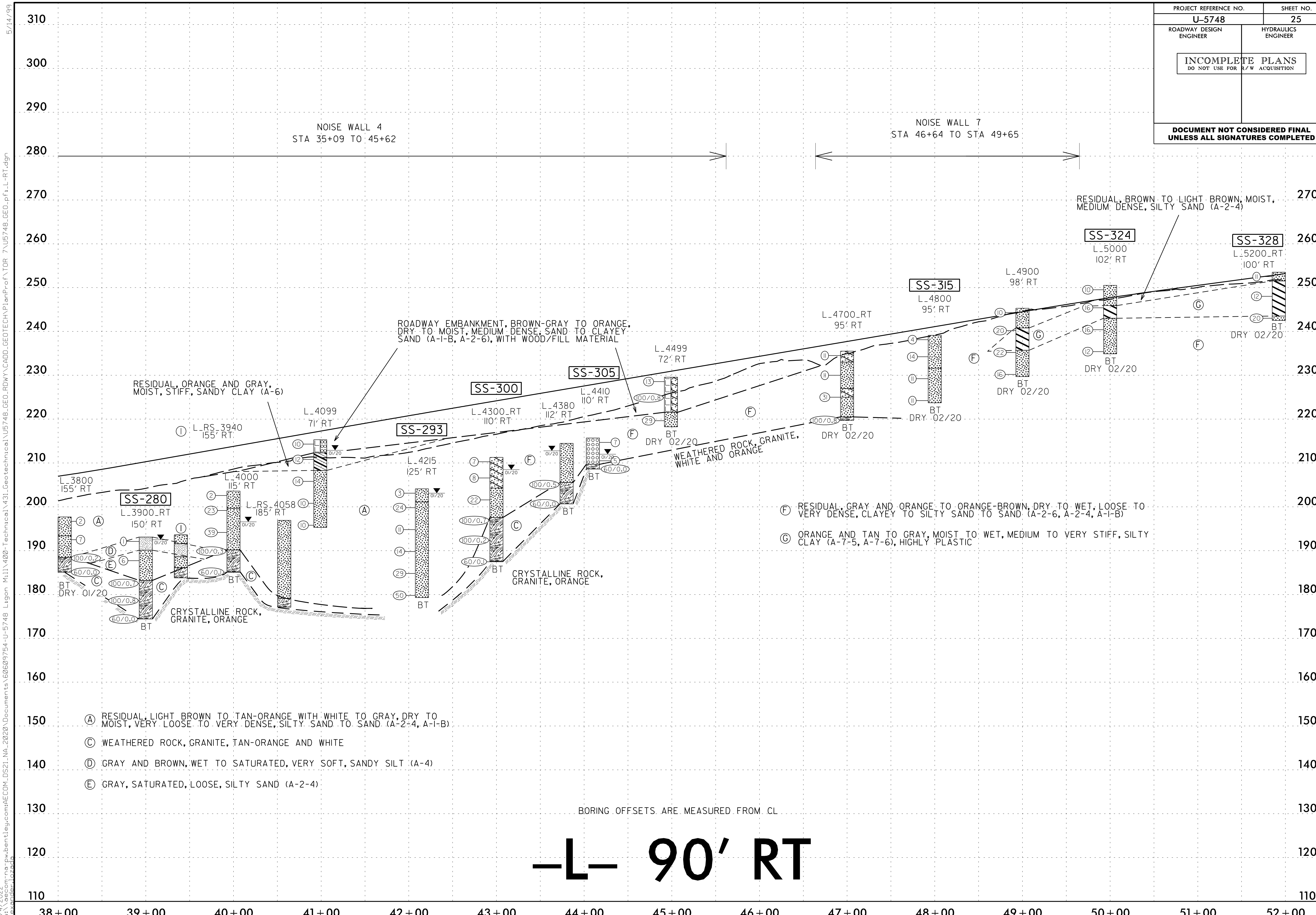
PROJECT REFERENCE NO.	SHEET NO.
U-5748	24
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L- 90' RT


PROJECT REFERENCE NO. U-5748
SHEET NO. 25
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
NOISE WALL 4
STA 35+09 TO 45+62
NOISE WALL 7
STA 46+64 TO STA 49+65
RESIDUAL, BROWN TO LIGHT BROWN, MOIST, MEDIUM DENSE, SILTY SAND (A-2-4)
ROADWAY EMBANKMENT, BROWN-GRAY TO ORANGE, DRY TO MOIST, MEDIUM DENSE, SAND TO CLAYEY SAND (A-1-B, A-2-6), WITH WOOD/FILL MATERIAL
RESIDUAL, ORANGE AND GRAY, MOIST, STIFF, SANDY CLAY (A-6)
SS-280
SS-293
SS-300
SS-305
SS-315
SS-324
SS-328
L_3800 155' RT
L_3900_RT 150' RT
L_RS_3940 155' RT
L_4000 115' RT
L_RS_4058 185' RT
L_4099 71' RT
L_4215 125' RT
L_4300_RT 110' RT
L_4380 112' RT
L_4410 110' RT
L_4499 72' RT
L_4700_RT 95' RT
L_4800 95' RT
L_4900 98' RT
L_5000 102' RT
L_5200_RT 100' RT
BT
DRY 01/20
DRY 02/20
CRYSTALLINE ROCK, GRANITE, ORANGE
WEATHERED ROCK, GRANITE, WHITE AND ORANGE
(A) RESIDUAL, LIGHT BROWN TO TAN-ORANGE WITH WHITE TO GRAY, DRY TO MOIST, VERY LOOSE TO VERY DENSE, SILTY SAND TO SAND (A-2-4, A-1-B)
(C) WEATHERED ROCK, GRANITE, TAN-ORANGE AND WHITE
(D) GRAY AND BROWN, WET TO SATURATED, VERY SOFT, SANDY SILT (A-4)
(E) GRAY, SATURATED, LOOSE, SILTY SAND (A-2-4)
(F) RESIDUAL, GRAY AND ORANGE TO ORANGE-BROWN, DRY TO WET, LOOSE TO VERY DENSE, CLAYEY TO SILTY SAND TO SAND (A-2-6, A-2-4, A-1-B)
(G) ORANGE AND TAN TO GRAY, MOIST TO WET, MEDIUM TO VERY STIFF, SILTY CLAY (A-7-5, A-7-6), HIGHLY PLASTIC
BORING OFFSETS ARE MEASURED FROM CL
-L- 90' RT
310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110
38+00 39+00 40+00 41+00 42+00 43+00 44+00 45+00 46+00 47+00 48+00 49+00 50+00 51+00 52+00

PROJECT REFERENCE NO.	SHEET NO.
U-5748	26
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ROADWAY EMBANKMENT, GRAY-BROWN WITH ORANGE, MOIST TO WET, LOOSE, SILTY SAND TO CLAYEY SAND (A-2-4, A-2-6), TO SOFT TO MEDIUM STIFF, SANDY CLAY (A-6)

ROADWAY EMBANKMENT, GRAY AND BROWN TO ORANGE-BROWN, DRY TO WET, VERY LOOSE TO MEDIUM DENSE, SILTY TO CLAYEY SAND TO FINE SAND (A-2-4, A-2-6, A-3) TO SOFT, SANDY CLAY (A-6)

SS-328
L_5200_RT
100' RT
BT
DRY

SS-355
L_5320
120' RT
RESIDUAL, GRAY TO VERY
BT
DRY 02/20

SS-334
L_5547
78' RT
TO TAN-ORANGE, DRY TO MOIST, DENSE, SILTY SAND (A-2-4)
BT
02/20

L_5687
90' RT
MEDIUM
BT
DRY 02/20

S-010
L_5900_HA
37' RT
BT
DRY 02/20

S-009
L_6200_HA
36' RT
BT
DRY 02/20

S-008
L_6400_HA
38' RT
BT
DRY 02/20

S-006
L_6600_HA
29' RT
BT
DRY 02/20

WEATHERED ROCK, GRANITE, WHITE AND ORANGE

© ORANGE AND TAN TO GRAY, MOIST TO WET, MEDIUM TO VERY STIFF, SILTY CLAY (A-7-5, A-7-6), HIGHLY PLASTIC

BORING OFFSETS ARE MEASURED FROM CL

–L– 90' RT

360 350 340 330 320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160

52+00 53+00 54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00 66+00

5/14/99

10/4/2022
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alexander.lozada

PROJECT REFERENCE NO.	SHEET NO.
U-5748	27
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
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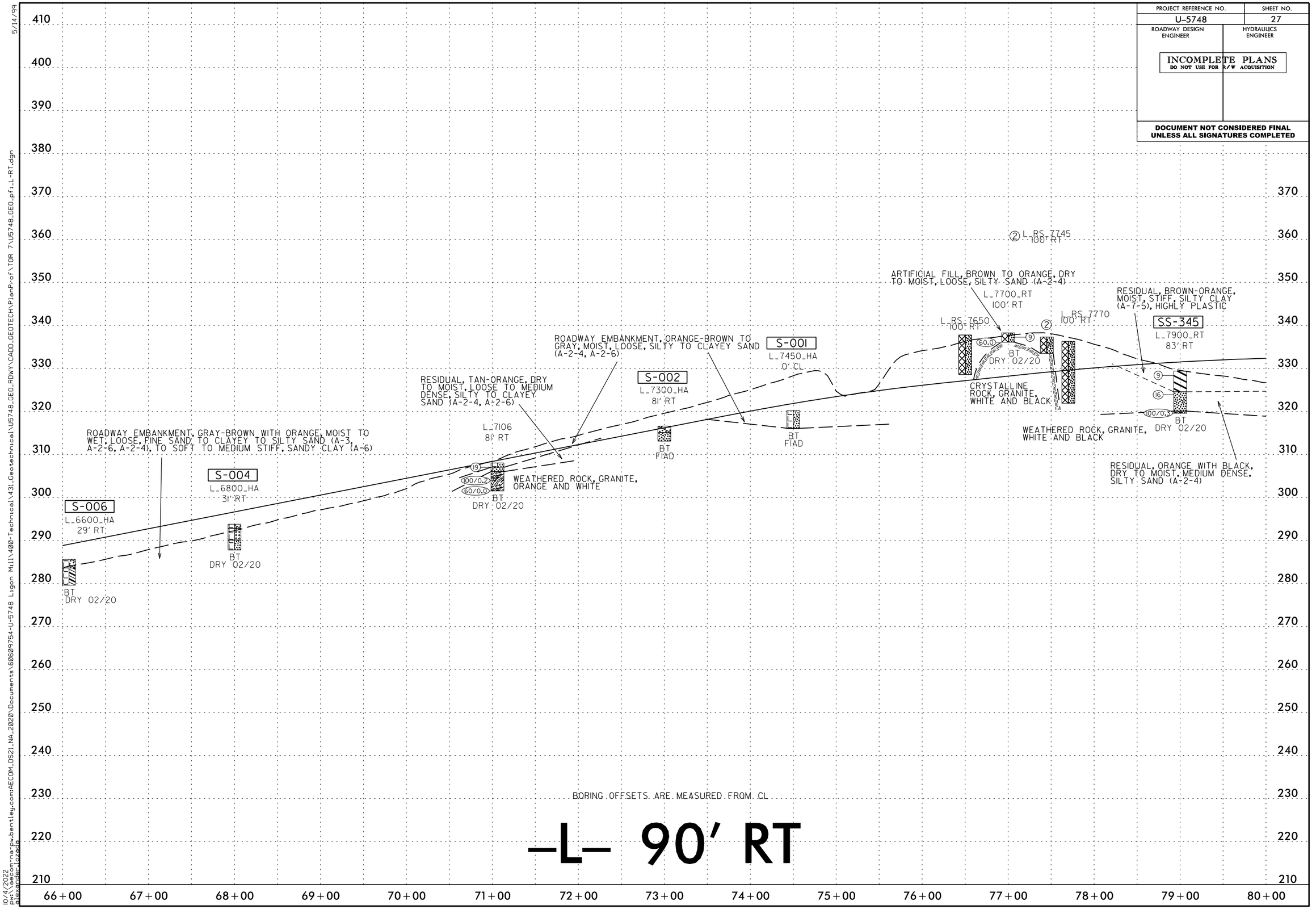


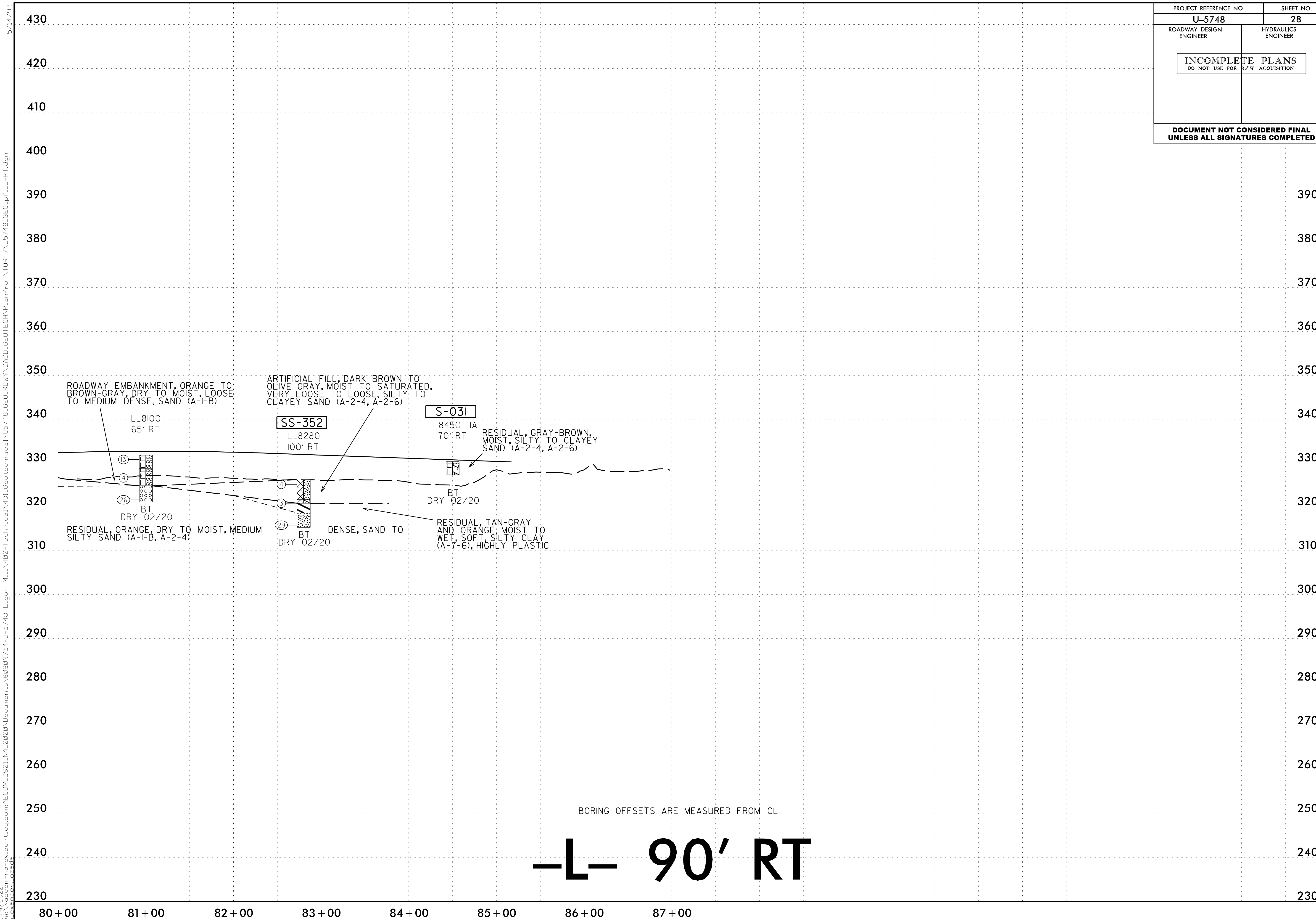
BORING OFFSETS ARE MEASURED FROM CL

–L– 90' RT

PROJECT REFERENCE NO.	SHEET NO.
U-5748	28
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-L- 90' RT

5/14/99

10/4/2022
pw:\\aecom-na-pw.bentley.com:AECOM_DS21_NA_2020\Documents\60609754-U-5748 Ligon Mill\400-Technical\431_Geotechnical\U5748_GEO_RDWY\CADD_GEOTECH\PlanProf\TOR 7\U5748_GEO_pfl_L-RT.dgn
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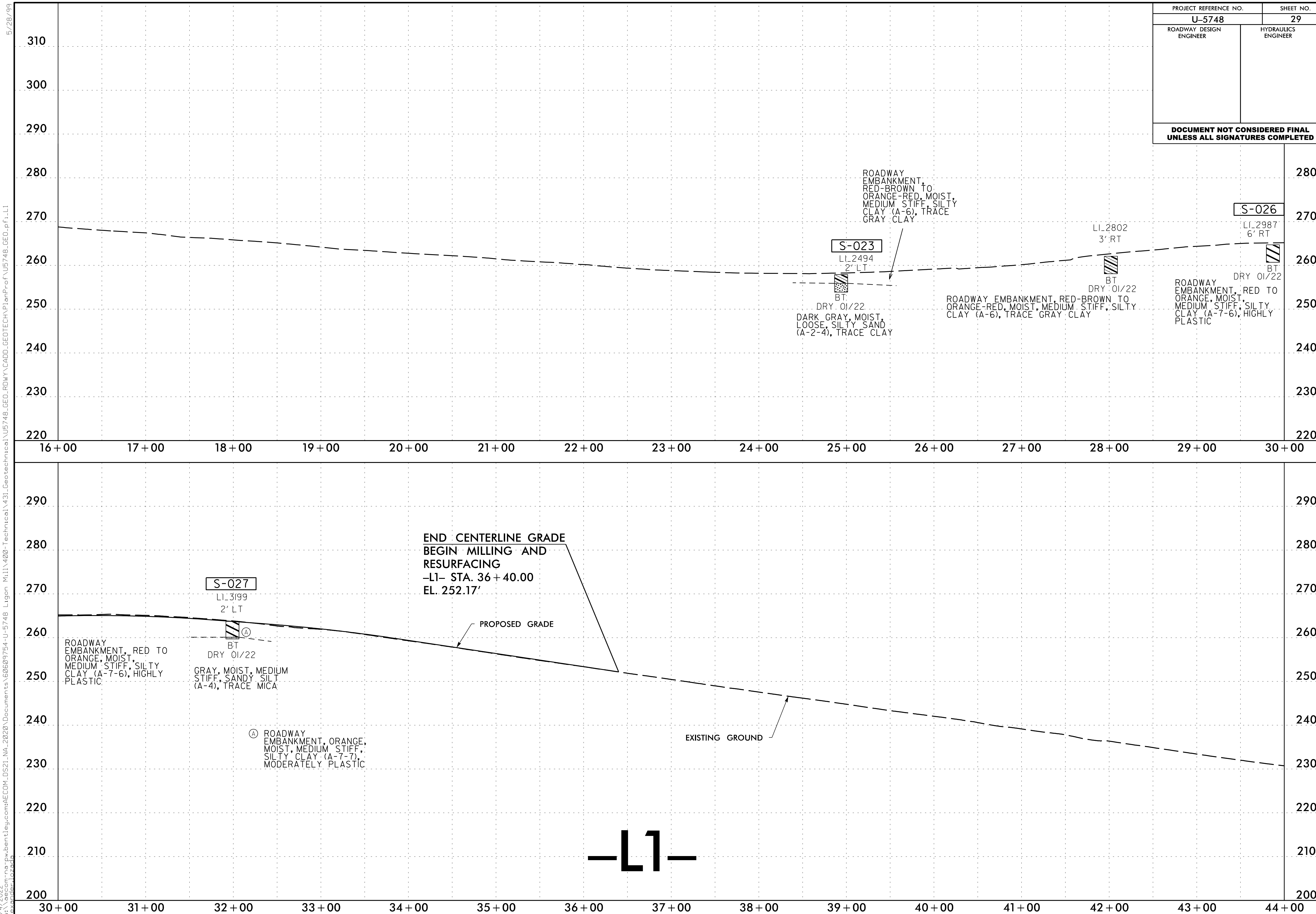
PROJECT REFERENCE NO.	SHEET NO.
U-5748	29
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



5/28/99

10/4/2022
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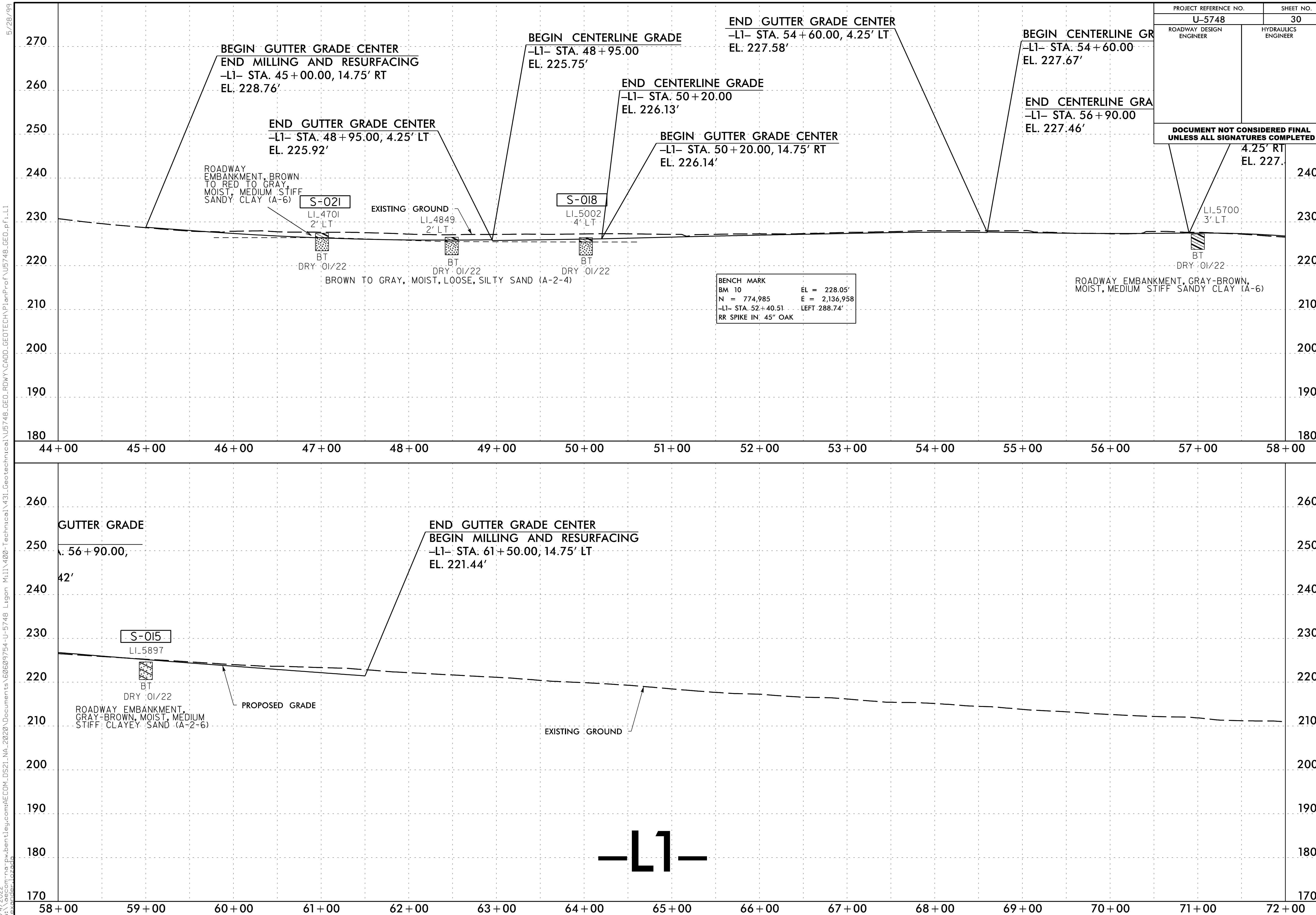
alexander.lozada

PROJECT REFERENCE NO.	SHEET NO.
U-5748	30
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



5/28/99

10/4/2022
pw:\\aecom-na-pw.bentley.com:AECOM_DS21_NA_2020\Documents\60609754-U-5748 Ligon Mill\400-Technical\431_Geotechnical\U5748_GEO_RDWY\CADD_GEOTECH\PlanProf\U5748_GEO_pfl_L1
alexander.lozada

PROJECT REFERENCE NO.	SHEET NO.
U-5748	31
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOISE WALL 4
STA. 11+99 TO STA 14+78

END GRADE
-Y1- STA. 13+20.00
EL = 213.20'

END OVERLAY
END CONSTRUCTION
-Y1- STA. 19+14.23
EL = 250.15'

Y1_1300
90' LT

RESIDUAL, RED-BROWN, MOIST, STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

PROPOSED GRADE

RESIDUAL, ORANGE, MOIST TO WET, LOOSE, CLAYEY SAND (A-2-6)

BT
DRY 01/20

EXISTING GROUND

BEGIN GRADE
-Y1- STA. 10+23.00
EL = 203.45'

-Y1- STA. 10+00.00 =
-L- STA. 33+68.82

BEGIN OVERLAY
-Y1- STA. 13+20.00
EL = 213.20'

-Y1-

310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140 130 120 110

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00

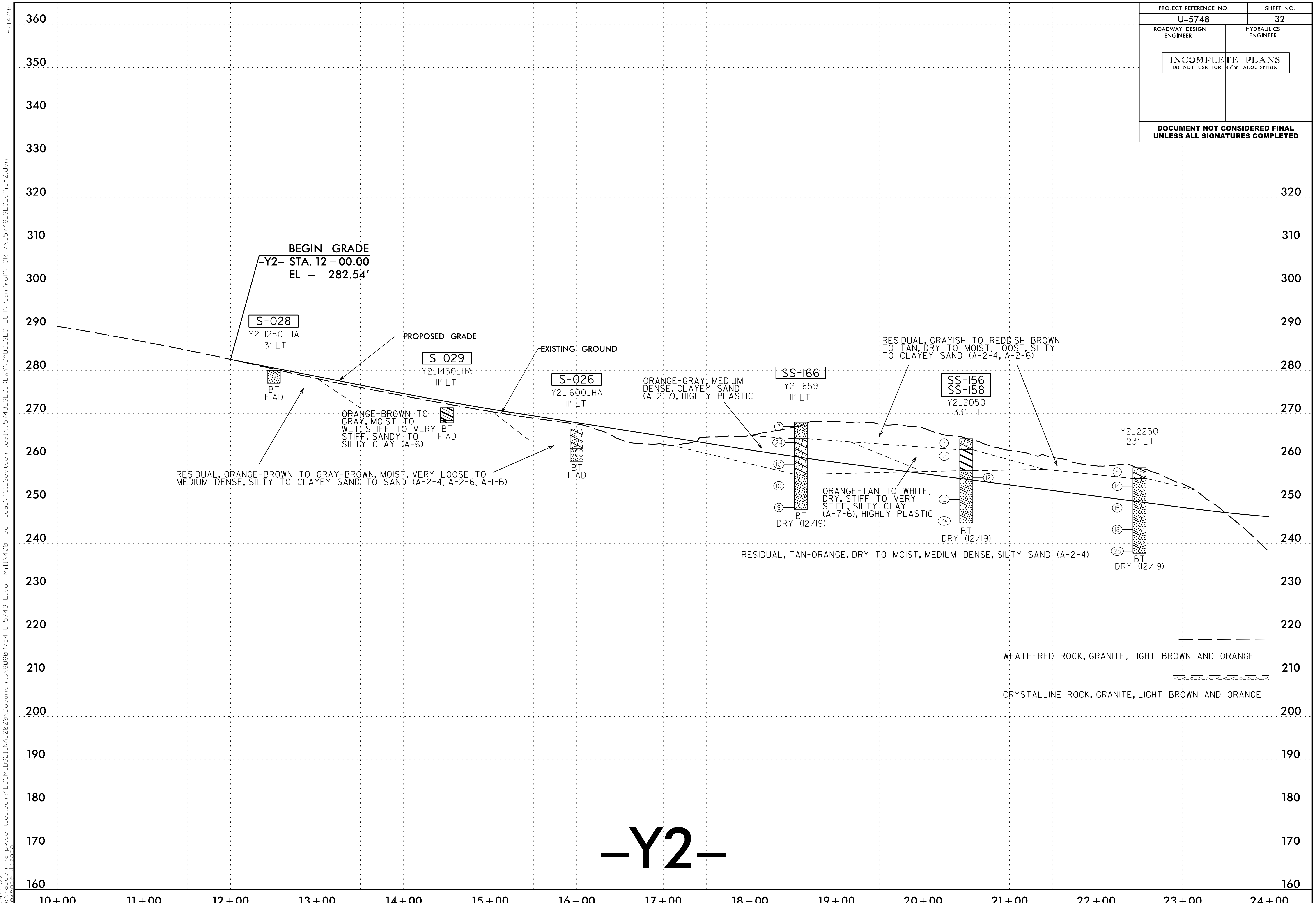
5/14/99

10/4/2022
pw:\\bentley.com:narpw.bentley.com:AECOM_DS21_NA_2020\Documents\606097754-U-5748 Ligon Mill\400-Technical\431.Geotechnical\U5748.GEO.ROWY\CADD.GEOTECH\PlanProf\TOR 7\U5748.GEO_pf1_Y1.dgn
alexander.lozada

PROJECT REFERENCE NO.	SHEET NO.
U-5748	32
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



PROJECT REFERENCE NO.	SHEET NO.
U-5748	33
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REDDISH BROWN TO GRAY-BROWN, MOIST, VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

RESIDUAL, LIGHT TO DARK BROWN, MOIST, VERY LOOSE TO LOOSE, SILTY SAND (A-2-4)

END GRADE
–Y2– STA. 33+45.68
EL = 248.83'

–Y2– STA. 33+93.69 =
–L– STA. 50+14.31
EL = 247.87

–Y2– STA. 34+16.68 =
–L– STA. 50+14.31
EL = 247.41

SS-141
Y2_2650

SS-135
Y2_2850

SS-129
SS-131
Y2_3050

Y2_3250

SS-145
Y2_2430

EXISTING GROUND

PROPOSED GRADE

BT
DRY (12/19)

RESIDUAL, BROWN TO RED-BROWN TO TAN-ORANGE, DRY TO WET, VERY LOOSE TO VERY DENSE, SILTY SAND (A-2-4)

WEATHERED ROCK, GRANITE, LIGHT BROWN AND ORANGE

CRYSTALLINE ROCK, GRANITE, LIGHT BROWN AND ORANGE

–Y2–

340 330 320 310 300 290 280 270 260 250 240 230 220 210 200 190 180 170 160 150 140

24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00

5/14/99

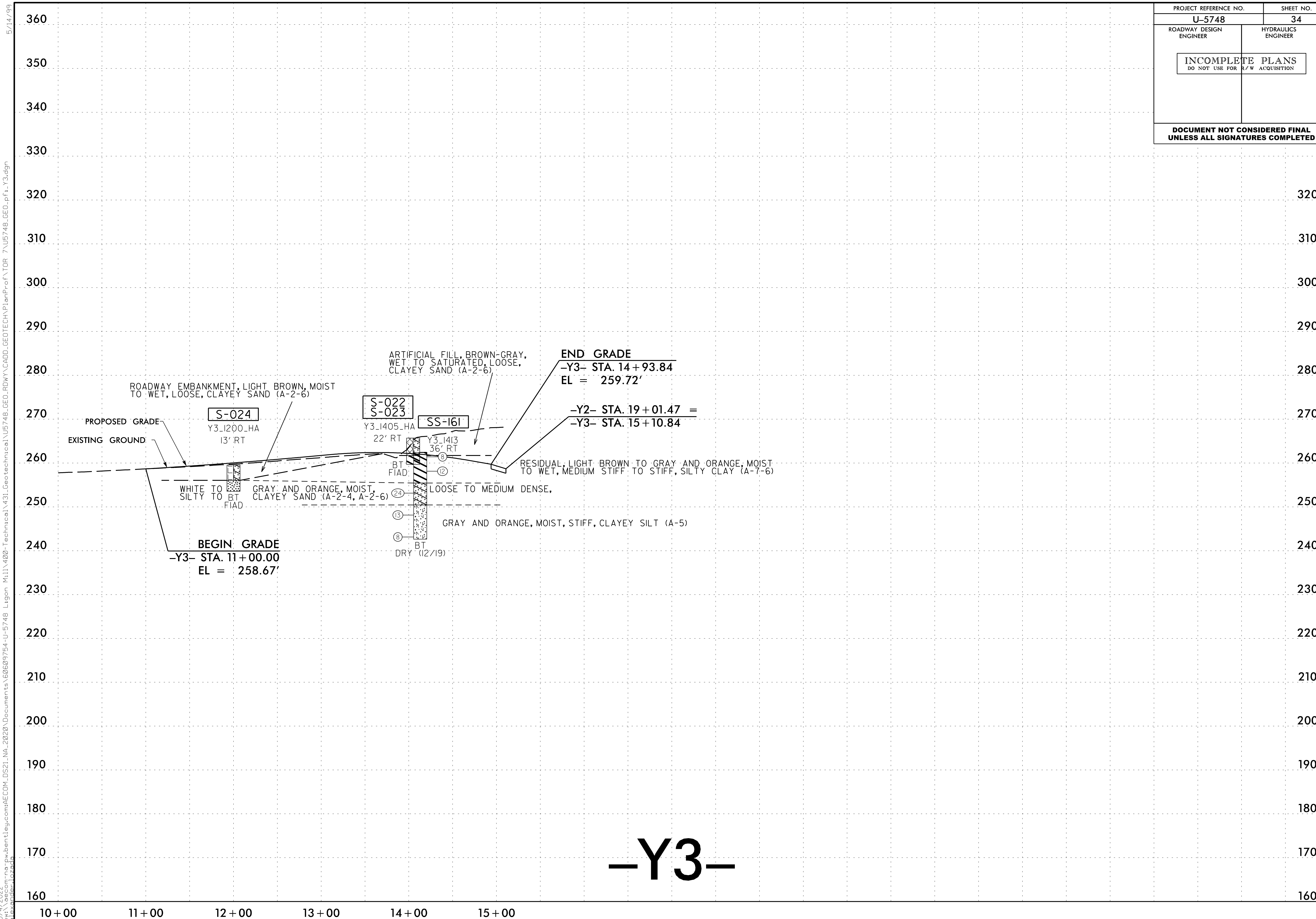
PROJECT REFERENCE NO.	SHEET NO.
U-5748	34

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-Y3-

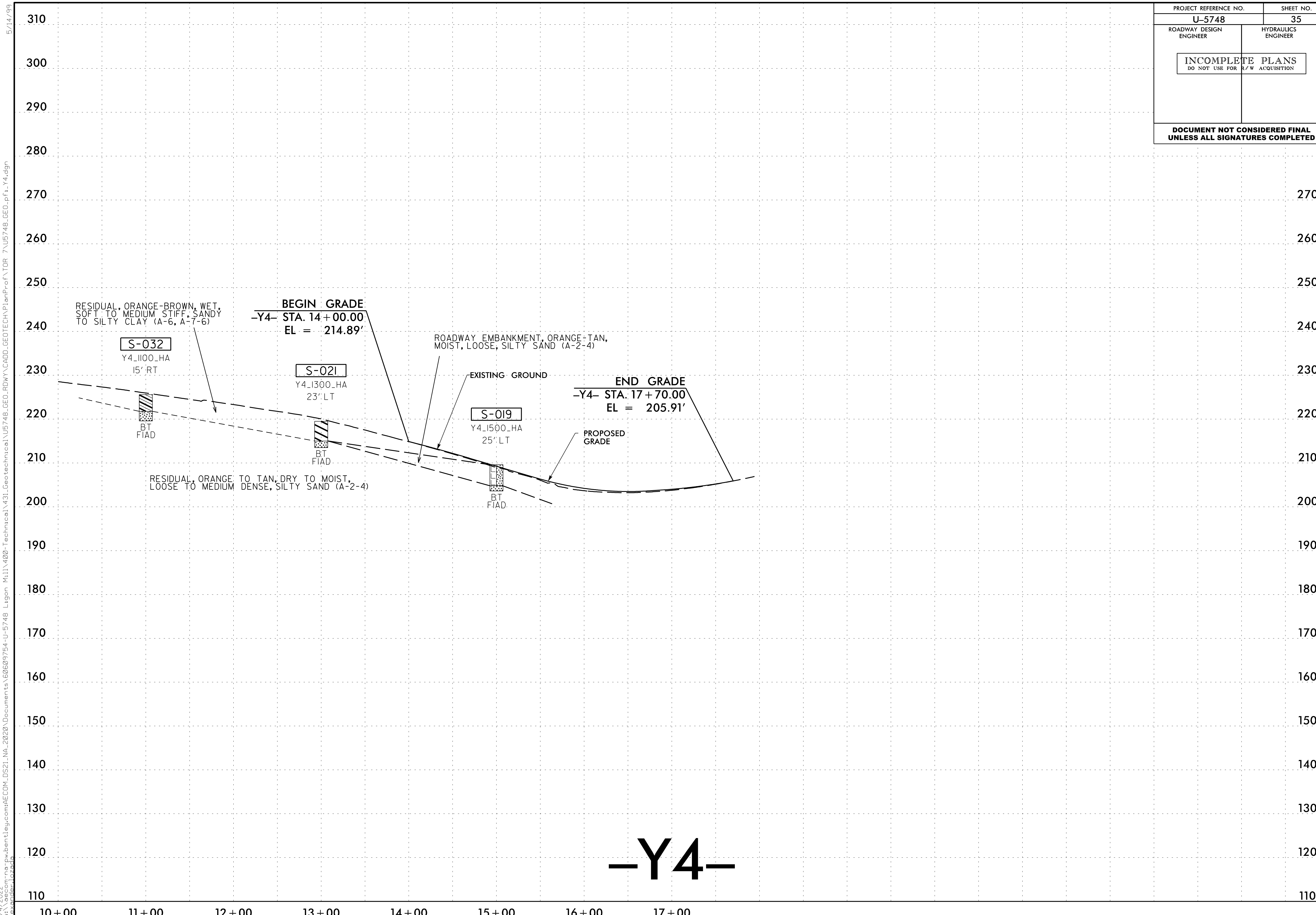
PROJECT REFERENCE NO.	SHEET NO.
U-5748	35

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



5/14/99

10/4/2022
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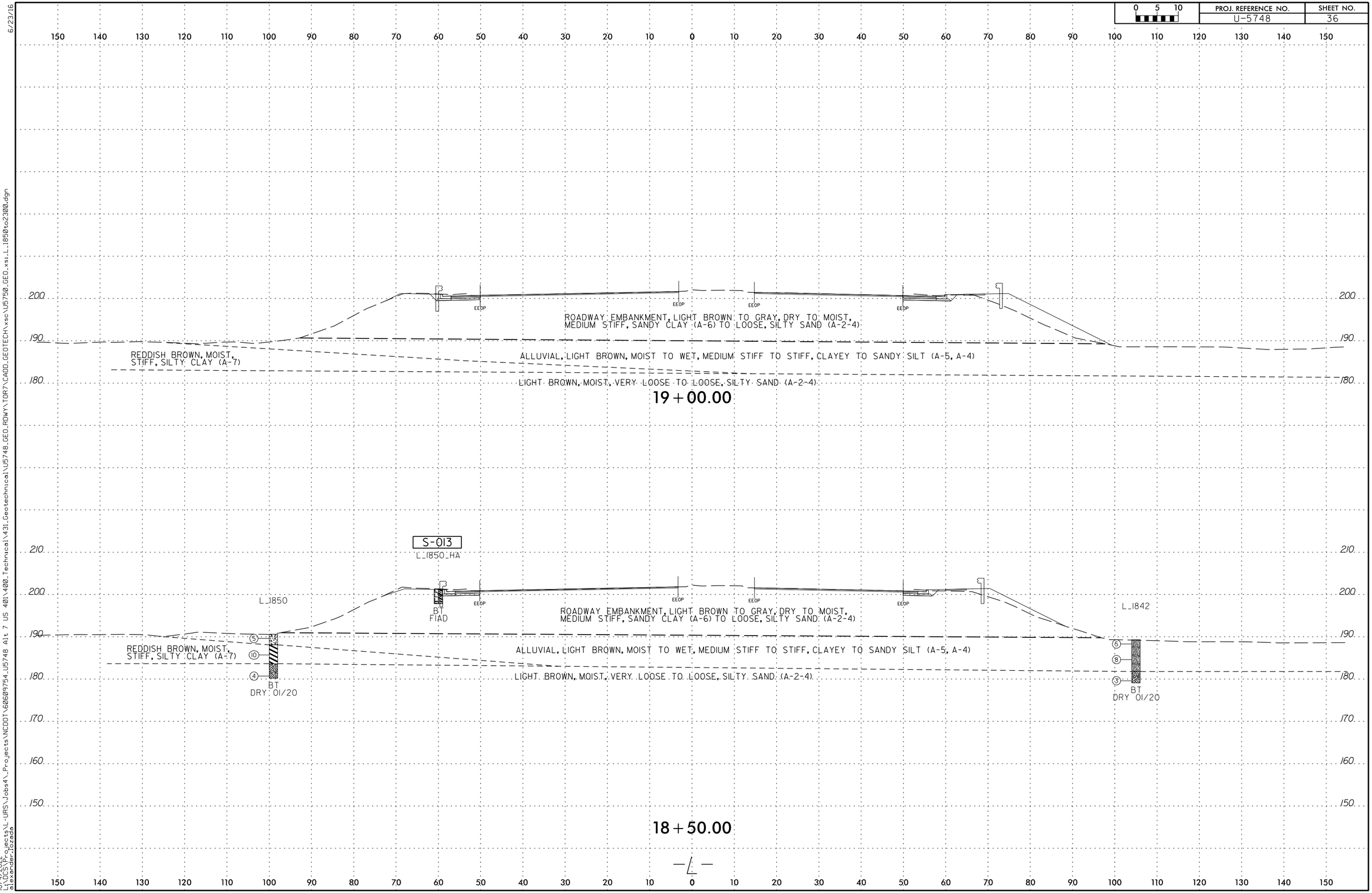
alexander.lozada



0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-5748	37

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

200
190
180
170

EEOP EEOP EEOP EEOP

ROADWAY EMBANKMENT, ORANGE-TAN AND GRAY, MOIST TO WET, LOOSE, CLAYEY SAND (A-2-6)

REDDISH BROWN, MOIST, STIFF, SILTY CLAY (A-7)

ALLUVIAL, BROWN TO REDDISH BROWN, MOIST TO WET, MEDIUM STIFF, CLAYEY TO SANDY SILT (A-5, A-4)

BROWN TO REDDISH BROWN WITH WHITE, DRY, MEDIUM DENSE, SAND TO SILTY SAND (A-1-B, A-2-4)

LIGHT BROWN, WET, MEDIUM DENSE, SAND (A-1-B), TRACE SUBROUND GRAVEL

20+00.00

EEOP EEOP EEOP EEOP

ROADWAY EMBANKMENT, ORANGE-BROWN TO GRAY, DRY TO WET, STIFF, SANDY CLAY (A-6) TO LOOSE, SILTY TO CLAYEY SAND (A-2-4, A-2-6)

REDDISH BROWN, MOIST, STIFF, SILTY CLAY (A-7)

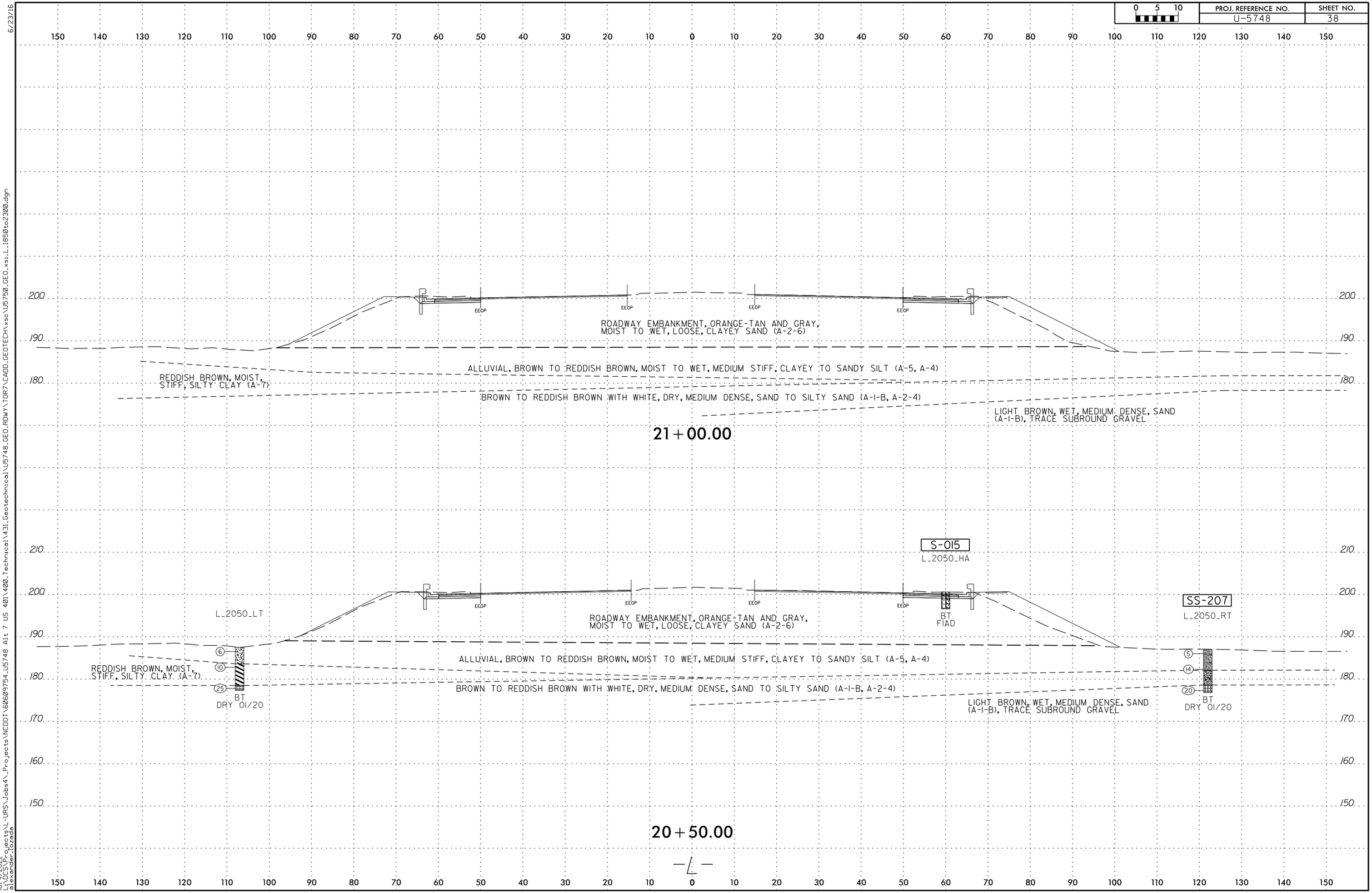
ALLUVIAL, LIGHT BROWN TO REDDISH BROWN, MOIST TO WET, MEDIUM STIFF, CLAYEY TO SANDY SILT (A-5, A-4)

LIGHT BROWN TO REDDISH BROWN WITH WHITE, DRY TO MOIST, VERY LOOSE TO MEDIUM DENSE, SILTY SAND TO SAND (A-2-4, A-1-B)

LIGHT BROWN, WET, MEDIUM DENSE, SAND (A-1-B), TRACE SUBROUND GRAVEL

19+50.00

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-5748	38



6/23/16

10/4/2022
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alexander.lozada

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-5748	39

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

200
190
180
170
160
150

EEOP EEOP EEOP EEOP

ROADWAY EMBANKMENT

ALLUVIAL, BROWN TO REDDISH BROWN, MOIST TO WET, MEDIUM STIFF, CLAYEY TO SANDY SILT (A-5, A-4)

GRAY WITH ORANGE TO LIGHT BROWN, MOIST TO WET, MEDIUM STIFF TO STIFF, SILTY TO SANDY CLAY (A-7, A-6)

REDDISH BROWN TO LIGHT BROWN, DRY TO WET, LOOSE TO MEDIUM DENSE, SAND TO SILTY SAND (A-1-B, A-2-4), TRACE SUBROUND GRAVEL

RESIDUAL, ORANGE AND BROWN, MOIST TO WET, VERY DENSE, SAND AND GRAVEL TO SILTY SAND (A-1-B, A-2-4)

WEATHERED ROCK, GRANITE, ORANGE-TAN

22 + 00.00

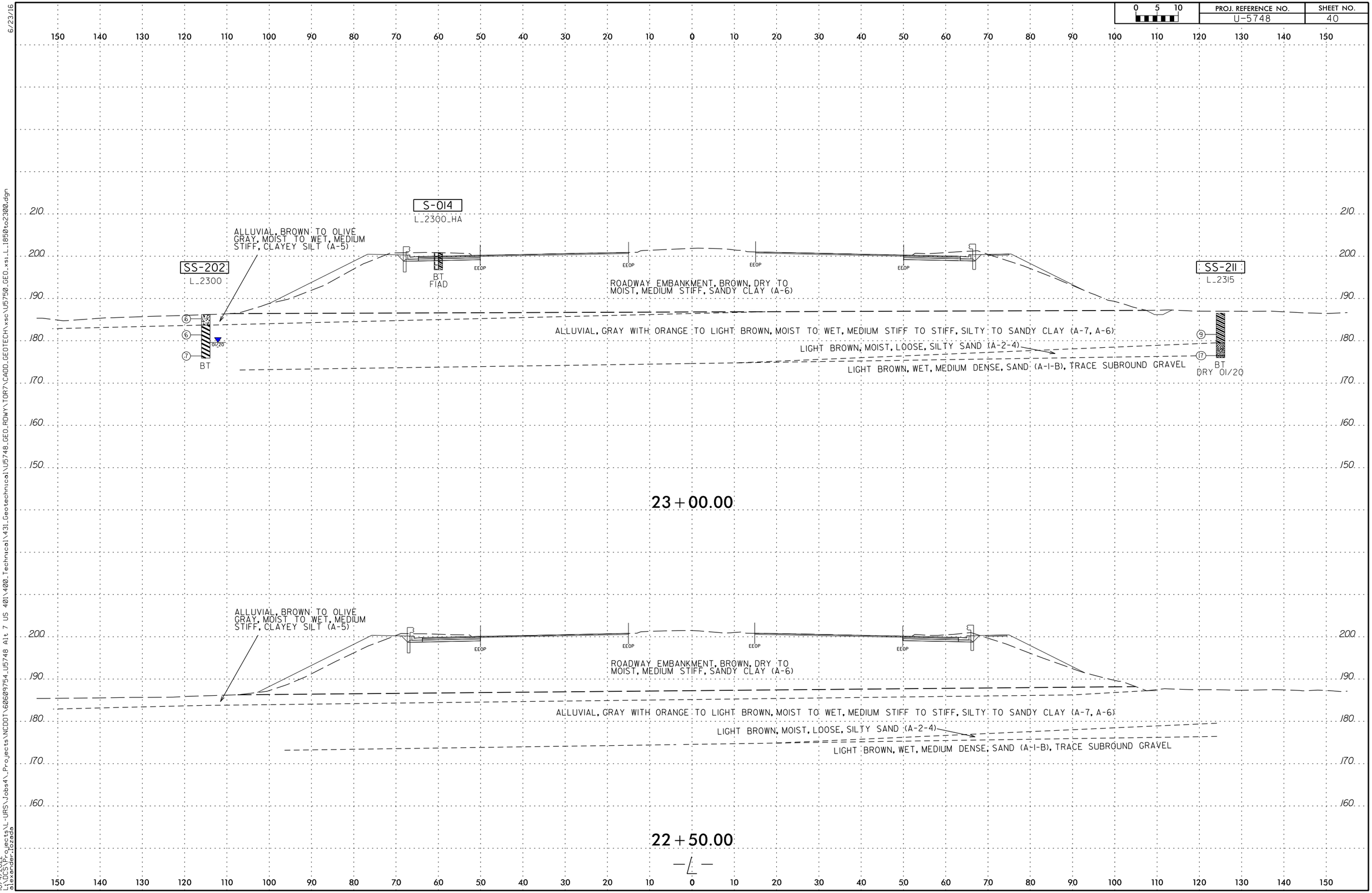
200
190
180
EEOP EEOP EEOP EEOP
ROADWAY EMBANKMENT
ALLUVIAL, BROWN TO REDDISH BROWN, MOIST TO WET, MEDIUM STIFF, CLAYEY TO SANDY SILT (A-5, A-4)
GRAY WITH ORANGE TO LIGHT BROWN, MOIST TO WET, MEDIUM STIFF TO STIFF, SILTY TO SANDY CLAY (A-7, A-6)
REDDISH BROWN TO LIGHT BROWN, DRY TO WET, LOOSE TO MEDIUM DENSE, SAND TO SILTY SAND (A-1-B, A-2-4), TRACE SUBROUND GRAVEL

21 + 50.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

10/4/2022
L:\DOT\Projects\L-URS\Jobs4_Projects\NCDOT\60609754_U5748 Alt 7 US 40\400_Technical\43_Geotechnical\U5748_GEO_RDWY_TOR7\CADD_GEOTECH\xsc\U5750_GEO_xs1_L_1850to2300.dgn
alexander.lozada



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210 200 190 180 170 160 150

SS-235
L_2650

S-018
L_2650_HA

EEOP EEOP EEOP EEOP

ROADWAY EMBANKMENT, BROWN, MOIST, MEDIUM STIFF, SANDY CLAY (A-6), TO LOOSE, SILTY SAND (A-2-4)

BT
FIAD
NBLEB2-B
26+37

L_2641

ALLUVIAL, BROWN TO LIGHT BROWN, DRY TO SATURATED, LOOSE, SILTY SAND TO SAND (A-2-4, A-1-B)

GRAY AND ORANGE, MOIST, MEDIUM STIFF, SILTY CLAY (A-7-6)

TAN AND GRAY, MOIST TO WET, DENSE, SAND AND GRAVEL (A-1-B)

LIGHT GRAY, LOOSE, MOIST TO WET, SILTY SAND (A-2-4)

RESIDUAL, ORANGE-TAN, MOIST TO WET, DENSE TO VERY DENSE, SILTY SAND (A-2-4)

WEATHERED ROCK, GRANITE, ORANGE-TAN

BT
DRY 01/20

BT
DRY 01/20

BT

26+50.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

210 200 190 180 170 160 150

S-016
L_2850_HA

SS-229
SS-230
L_2842

BT
FIAD

EEOP EEOP EEOP EEOP

ROADWAY EMBANKMENT, ORANGE-TAN TO GRAY, MOIST TO WET, LOOSE, CLAYEY TO SILTY SAND (A-2-6, A-2-4)

SS-216
L_2850

ALLUVIAL, RED AND GRAY TO LIGHT BROWN, TO MEDIUM DENSE, CLAYEY TO SILTY SAND

DRY TO MOIST, VERY LOOSE (A-2-6, A-2-4)

3 8 10
BT
DRY 01/20

3 15 6 14 24 40
01/20
BT

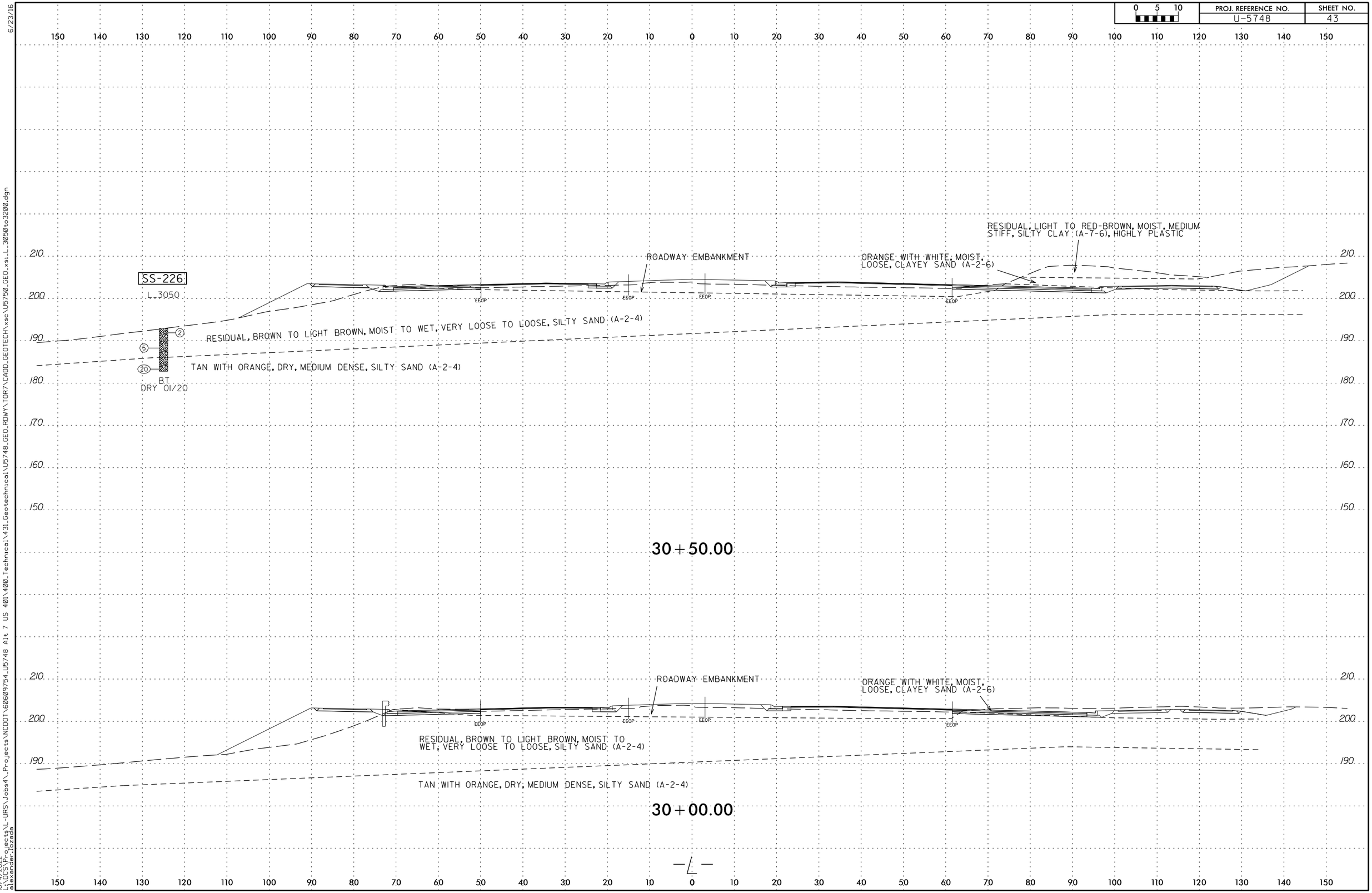
RED-BROWN TO GRAY AND LIGHT BROWN WITH ORANGE MOTTLING, MOIST, SOFT TO MEDIUM STIFF, SANDY TO SILTY CLAY (A-6, A-7)

GRAY WITH ORANGE MOTTLING, MOIST, STIFF, CLAYEY SILT (A-5)

BROWN WITH WHITE TO GRAY AND ORANGE, DRY, LOOSE TO MEDIUM DENSE, CLAYEY TO SILTY SAND (A-2-6, A-2-4)

TAN TO GRAY, MOIST, MEDIUM STIFF, SILTY CLAY (A-7-6)

28+50.00



0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-5748	44

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

230 220 210 200 190

ROADWAY EMBANKMENT

RESIDUAL, LIGHT TO RED-BROWN, MOIST, MEDIUM STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

ORANGE WITH WHITE, MOIST, LOOSE, CLAYEY SAND (A-2-6)

TAN WITH WHITE, DRY, MEDIUM DENSE, SILTY SAND (A-2-4)

WEATHERED ROCK, GRANITE, TAN WITH WHITE

EEOP EEOP EEOP EEOP

31+50.00

230 220 210 200 190 180

ROADWAY EMBANKMENT

SS-242
SS-243

RESIDUAL, LIGHT TO RED-BROWN, MOIST, MEDIUM STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

L_3100

ORANGE WITH WHITE, MOIST, LOOSE, CLAYEY SAND (A-2-6)

8 9 13 24 100/0.8

TAN WITH WHITE, DRY, MEDIUM DENSE, SILTY SAND (A-2-4)

WEATHERED ROCK, GRANITE, TAN WITH WHITE

BT
DRY 01/20

EEOP EEOP EEOP EEOP

31+00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

L:\DCS\Projects\L-URS\Jobs4_Projects\NCDOT\60609754_U5748 Alt 7 US 401\400_Technical\431_Geotechnical\U5748_GEO_RDWY_TOR7\CADD_GEOTECH\xsc\U5750_GEO_xsi_L_3050to3200.dgn

10/4/2022
alexander.lozada

S-012

L_3200_HA

RESIDUAL, LIGHT BROWN, DRY TO MOIST, LOOSE, SAND (A-1-B)

ROADWAY EMBANKMENT

RESIDUAL, LIGHT BROWN TO ORANGE AND WHITE, DRY TO MOIST, LOOSE TO MEDIUM DENSE, SILTY SAND TO CLAYEY SAND (A-2-4, A-2-6)

L_RS_3198

WEATHERED ROCK, GRANITE, TAN WITH WHITE

BT

FIAD

EEOP

EEOP

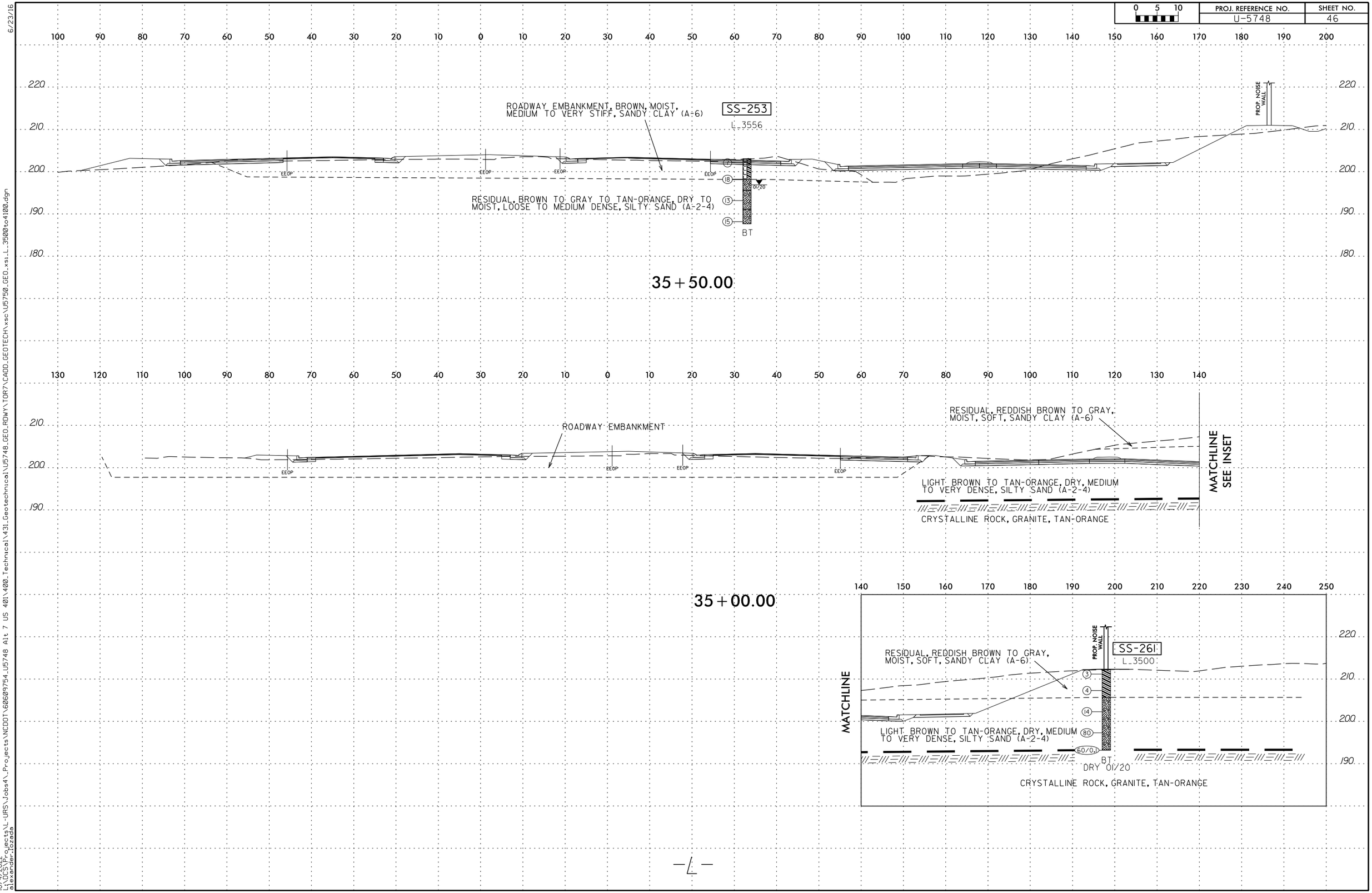
EEOP

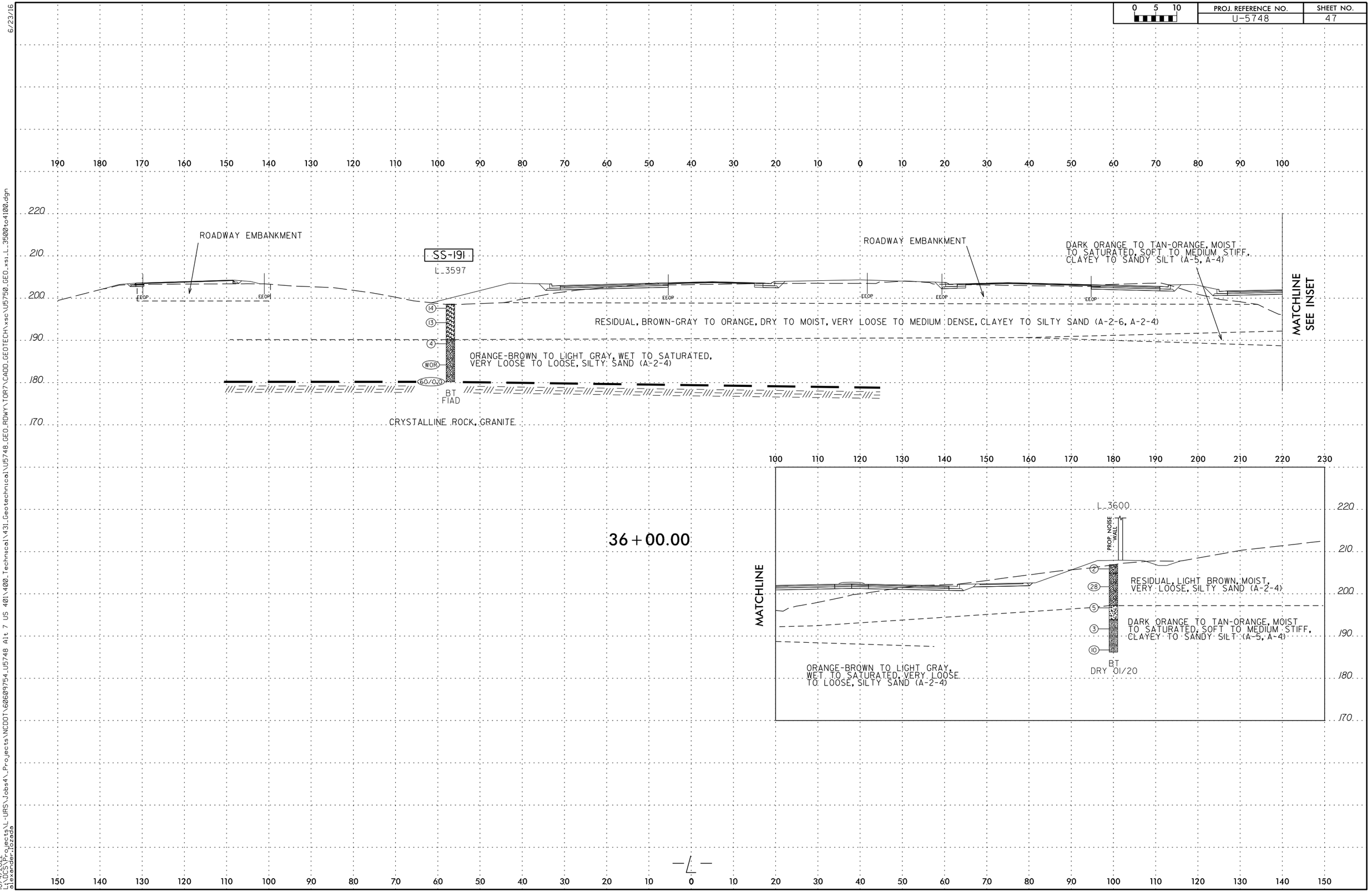
EEOP

BT

32+00.00

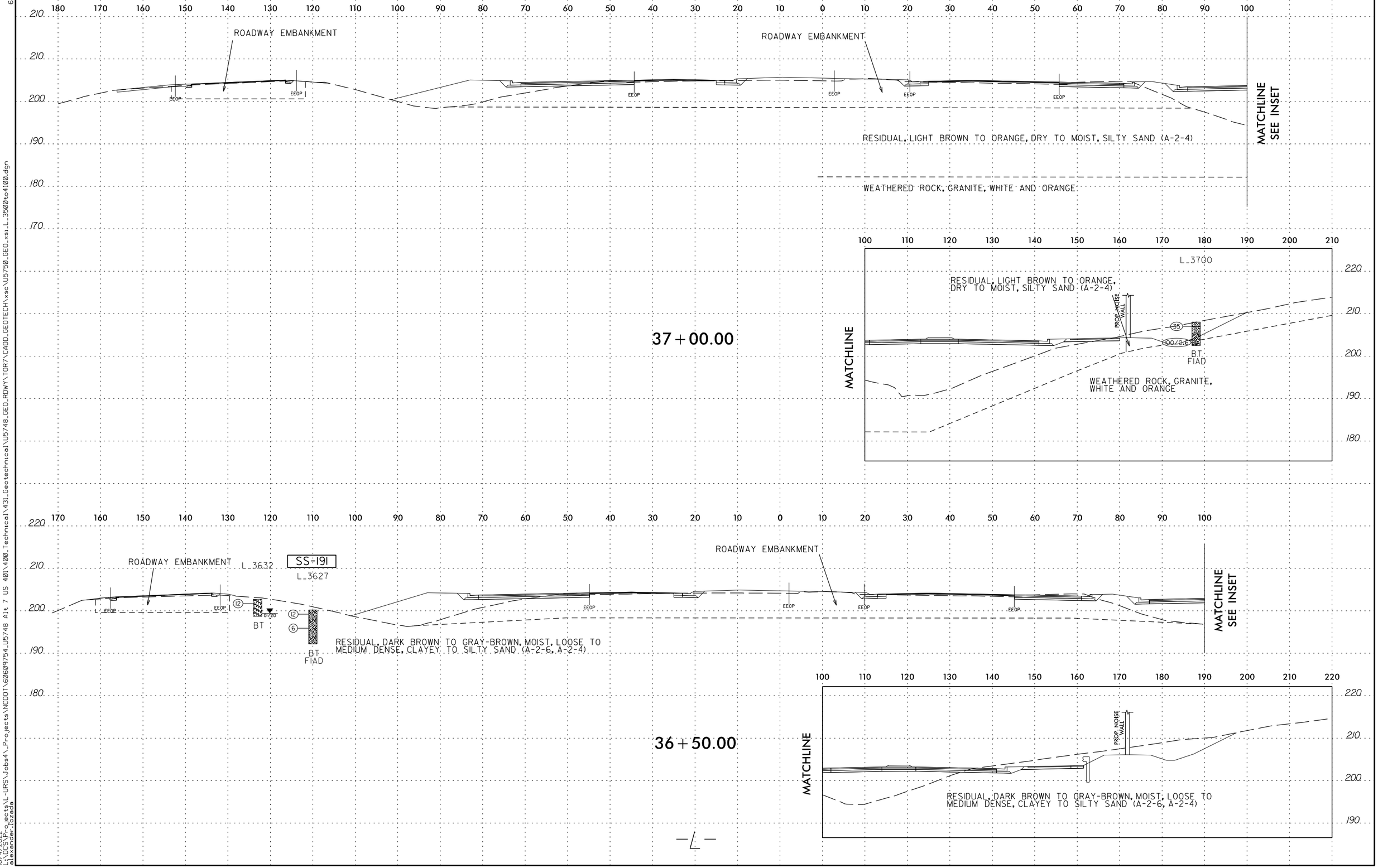
—L—





PROJ. REFERENCE NO.	SHEET NO.
U-5748	48

0 5 10



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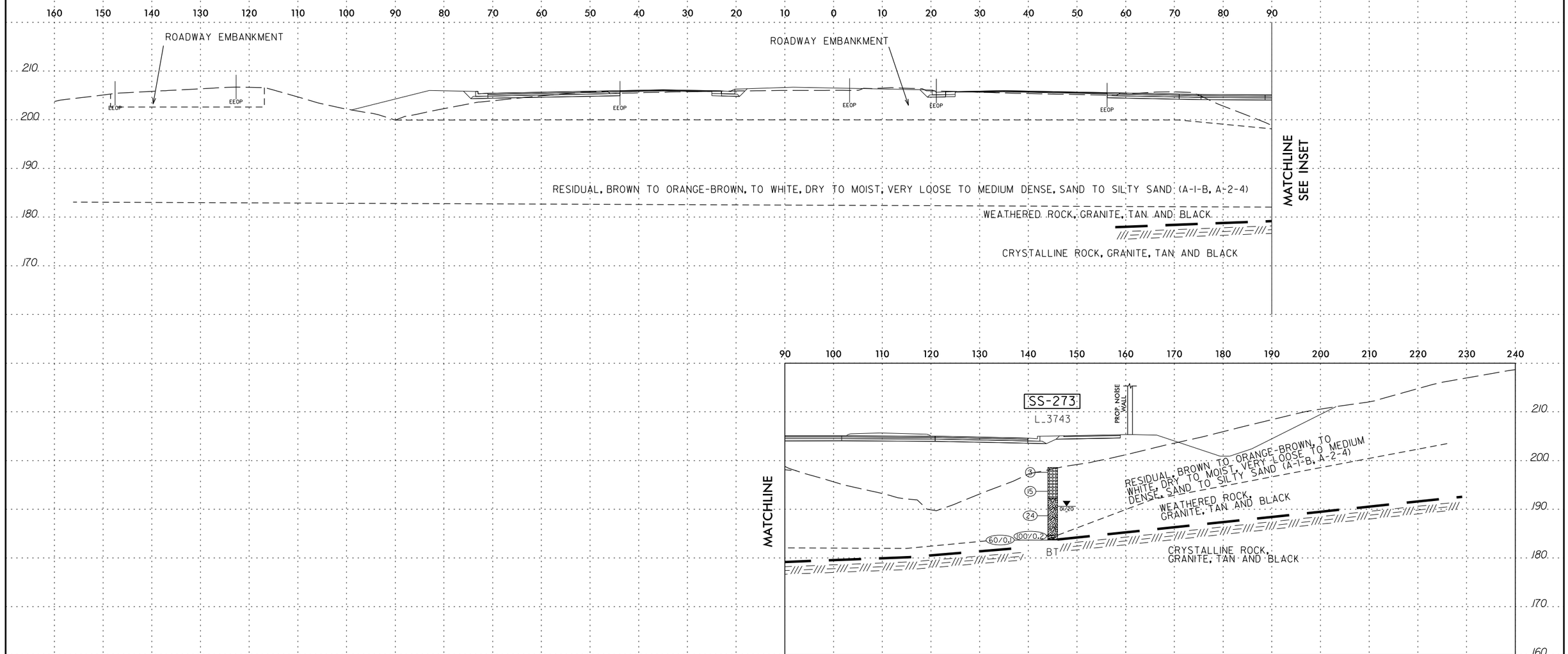
	U-5748	49



37+50.00

—L—

6/23/16

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10/4/2022
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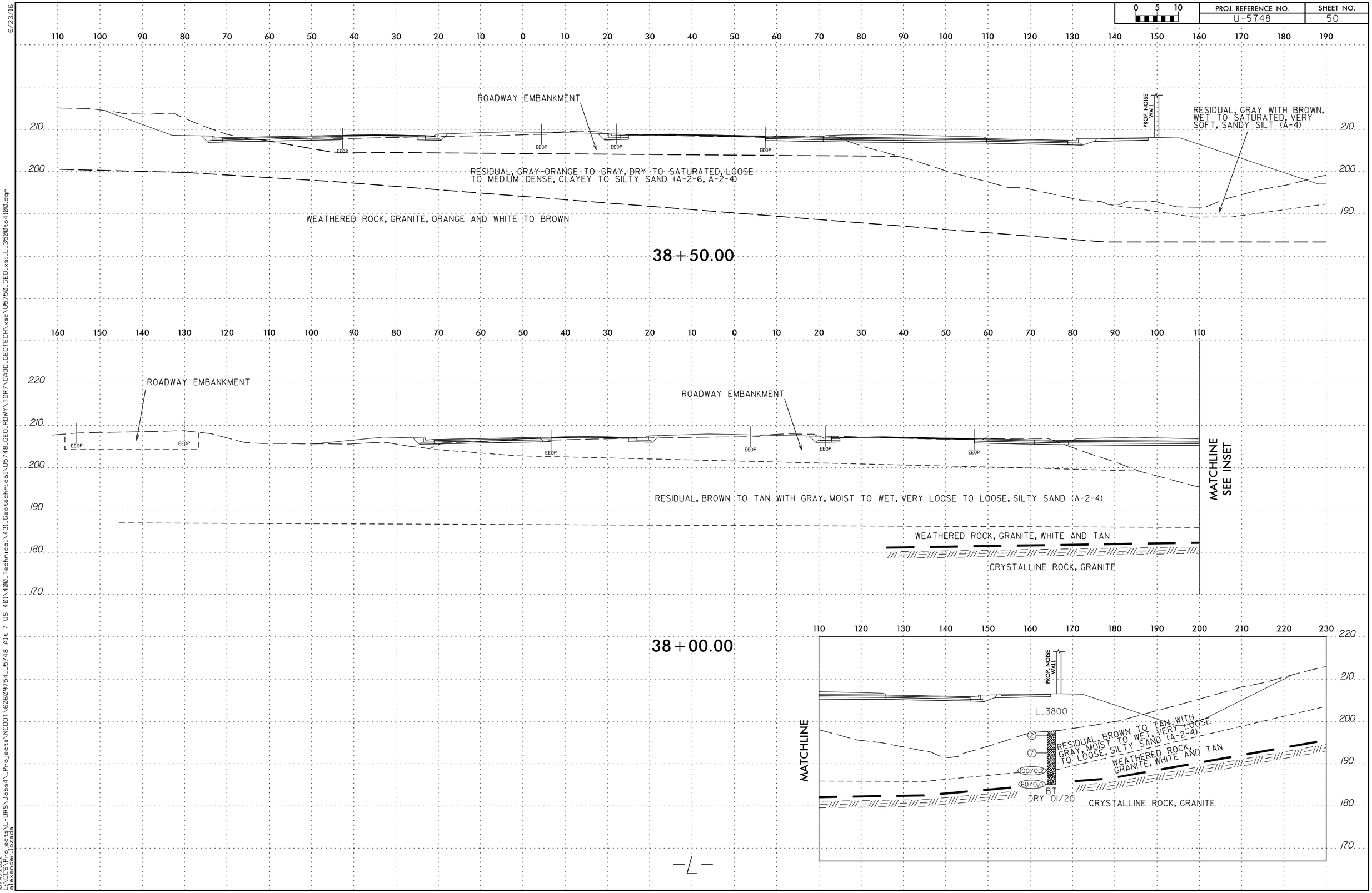
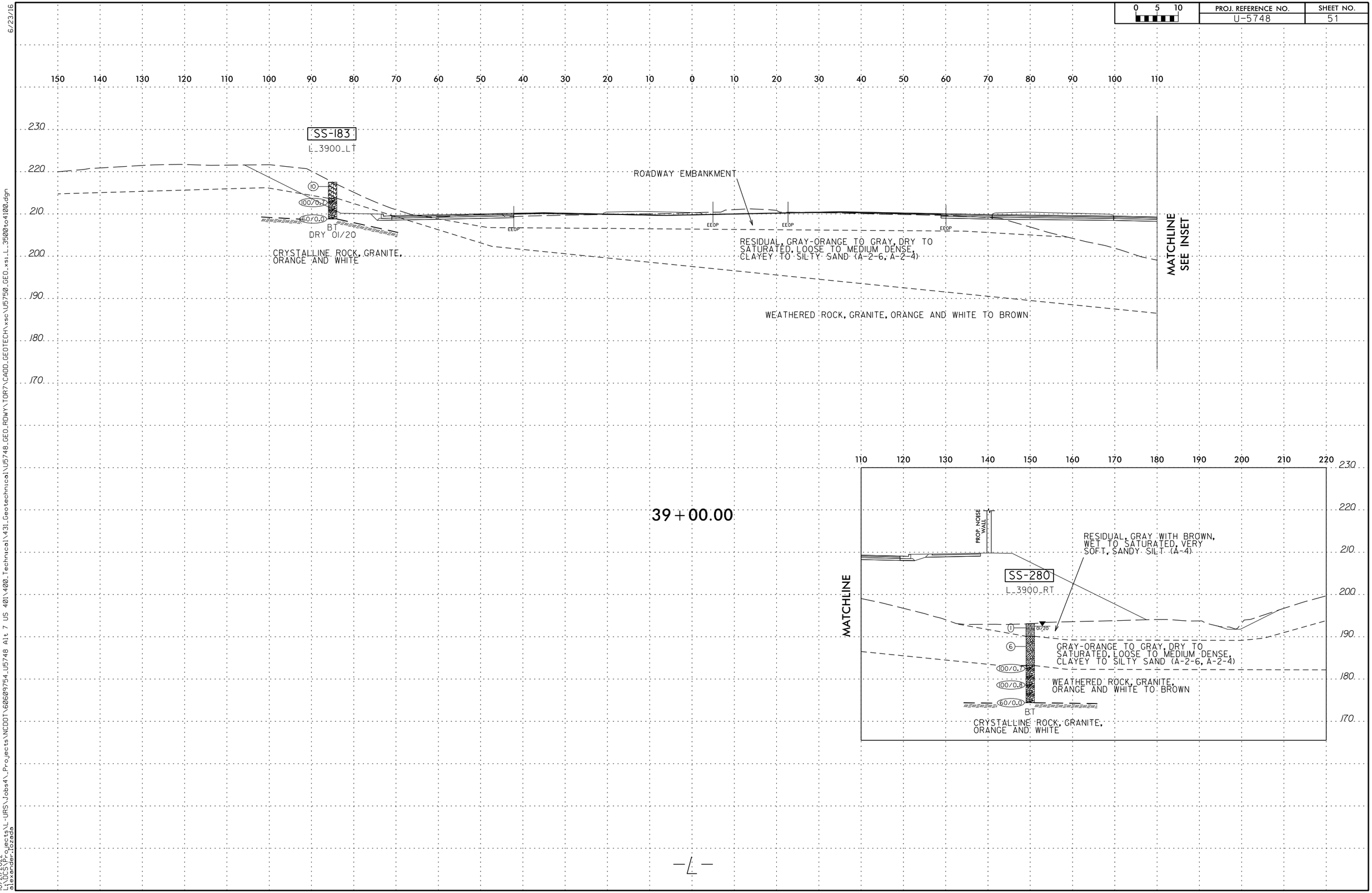
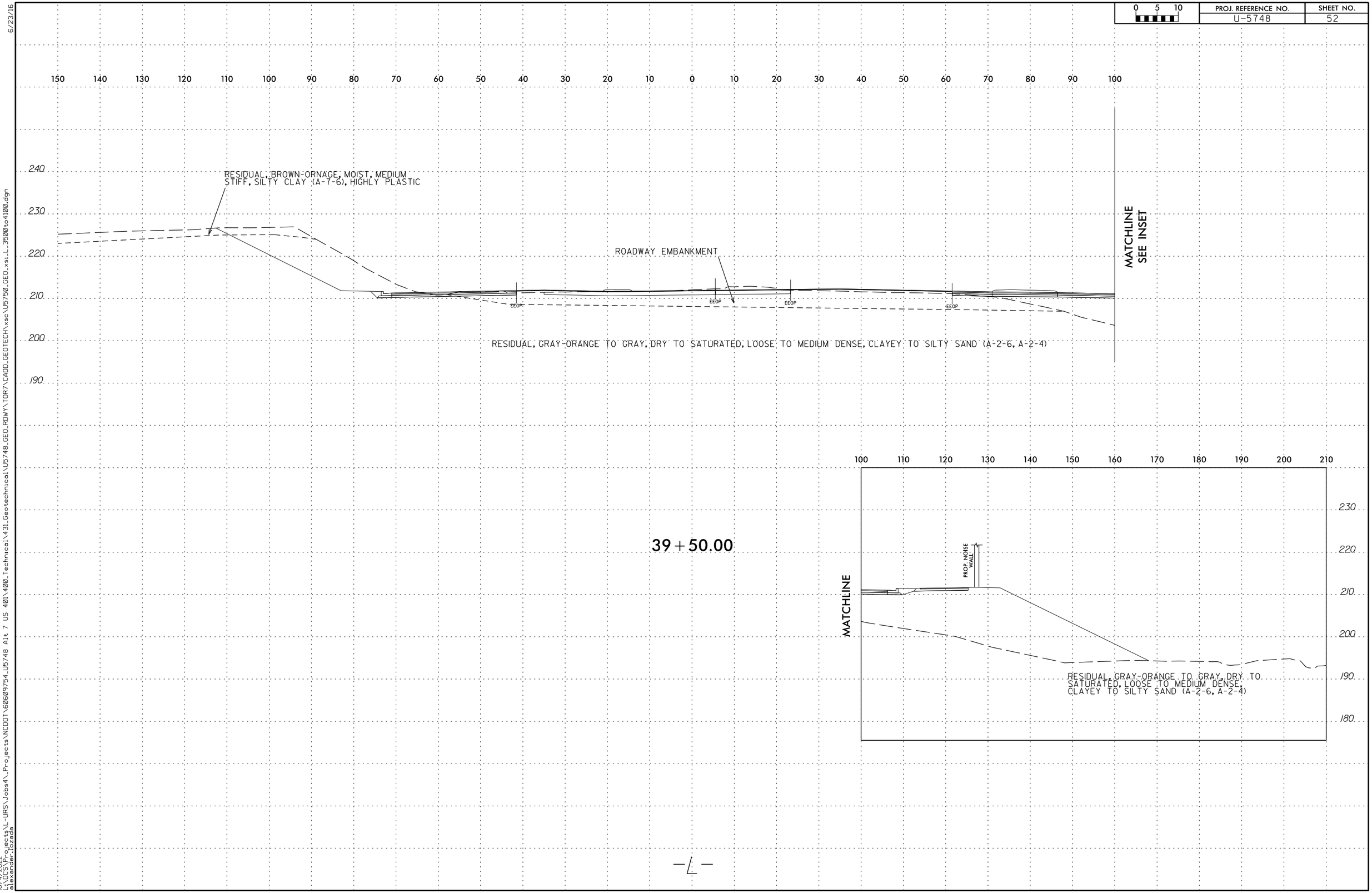
alexander.lozada

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-5748	50







0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-5748	53

RESIDUAL, BROWN-ORNAGE, MOIST, MEDIUM STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

ROADWAY EMBANKMENT

EEOP

EEOP

EEOP

EEOP

PROP. NOISE WALL

L_4000

RESIDUAL, LIGHT BROWN TO TAN-ORANGE, DRY TO MOIST, VERY LOOSE TO DENSE, SILTY SAND (A-2-4)

WEATHERED ROCK, GRANITE, ORANGE AND WHITE

2
23
39
100/0.3
60/0.1
07/20
BT

CRYSTALLINE ROCK, GRANITE, ORANGE AND WHITE

240 230 220 210 200 190 180 170

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170

40+00.00

—L—

6/23/16

10/21/2022
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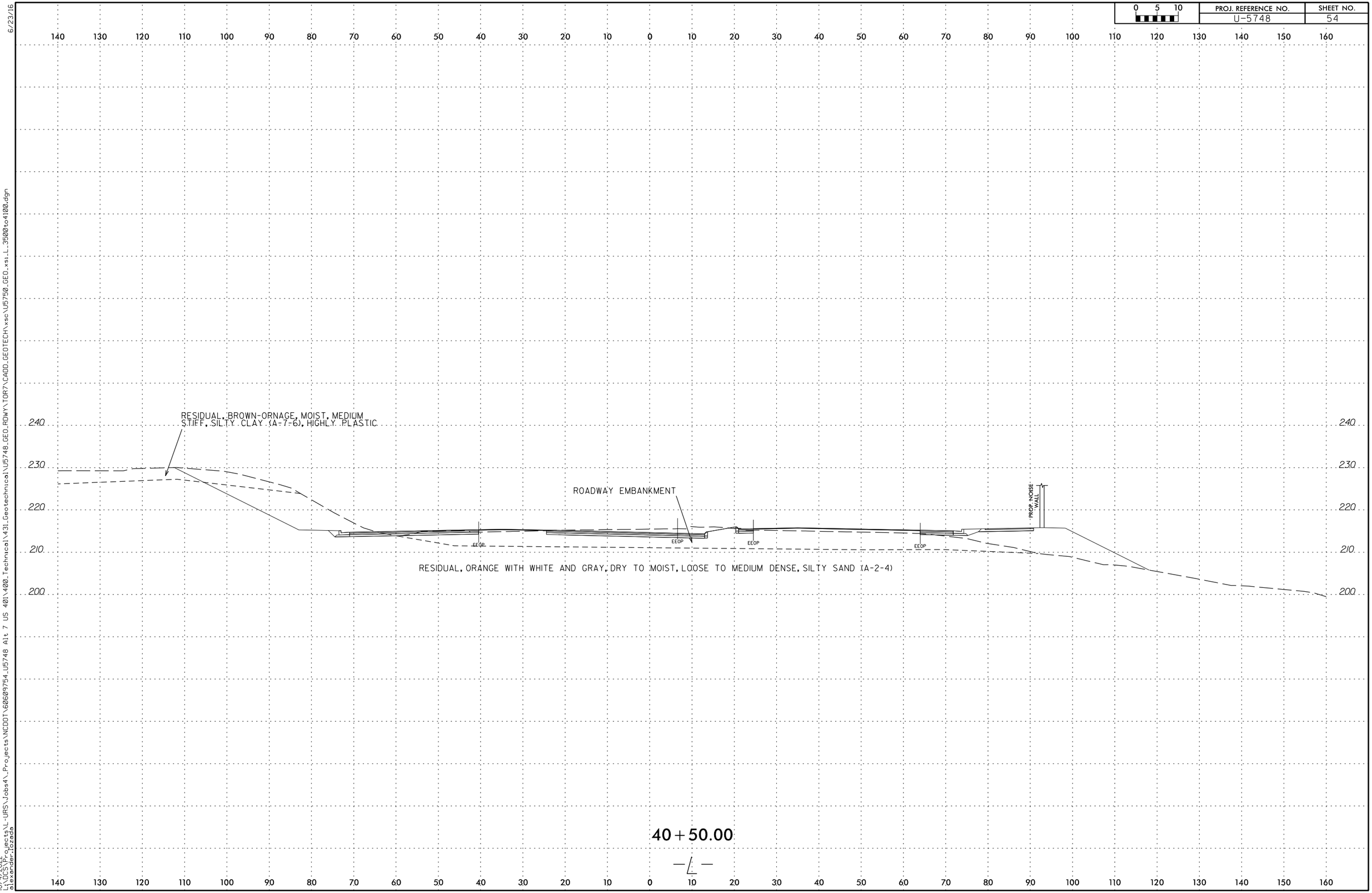
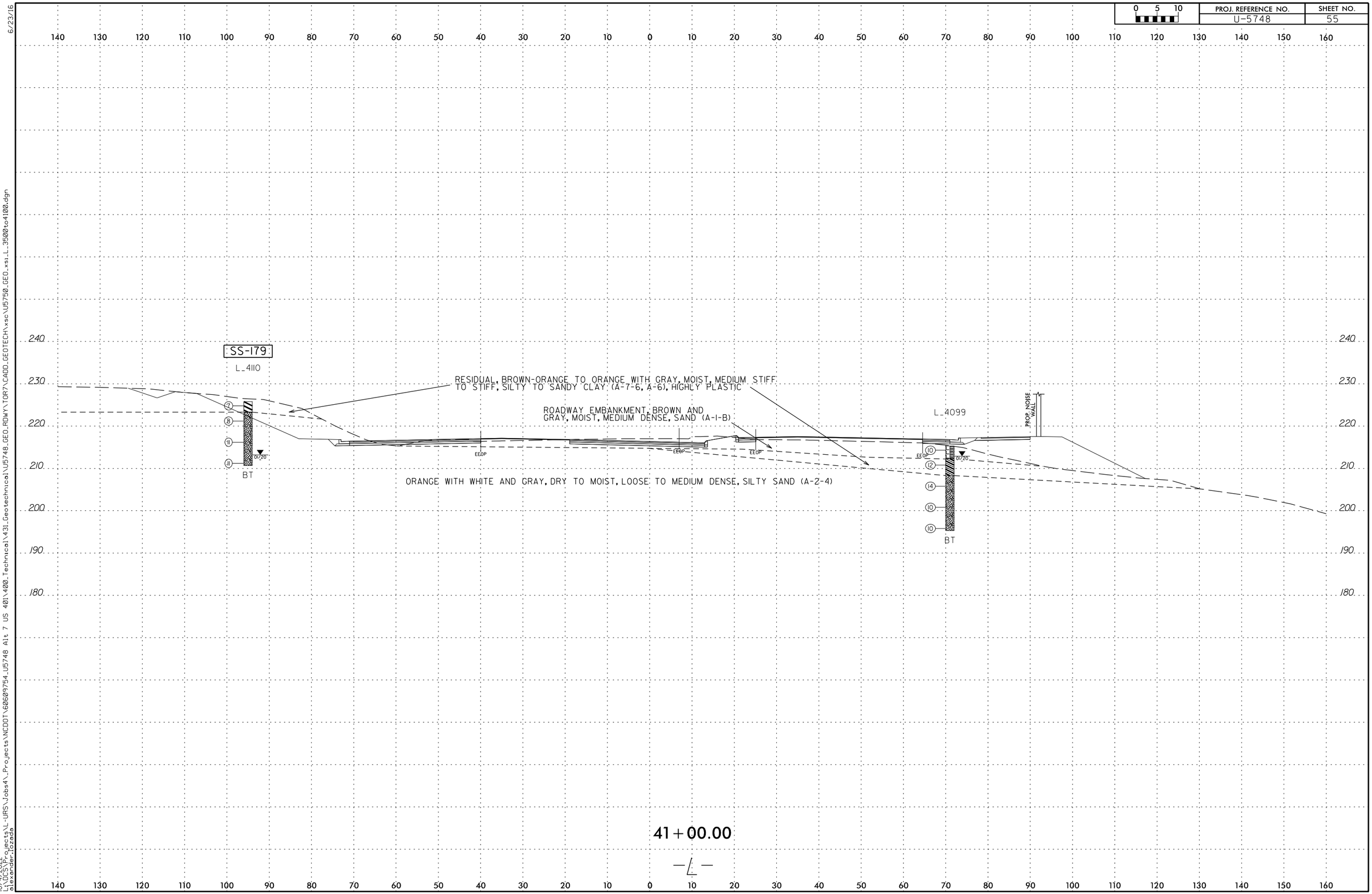
alexander.lozada



40+50.00

—L—



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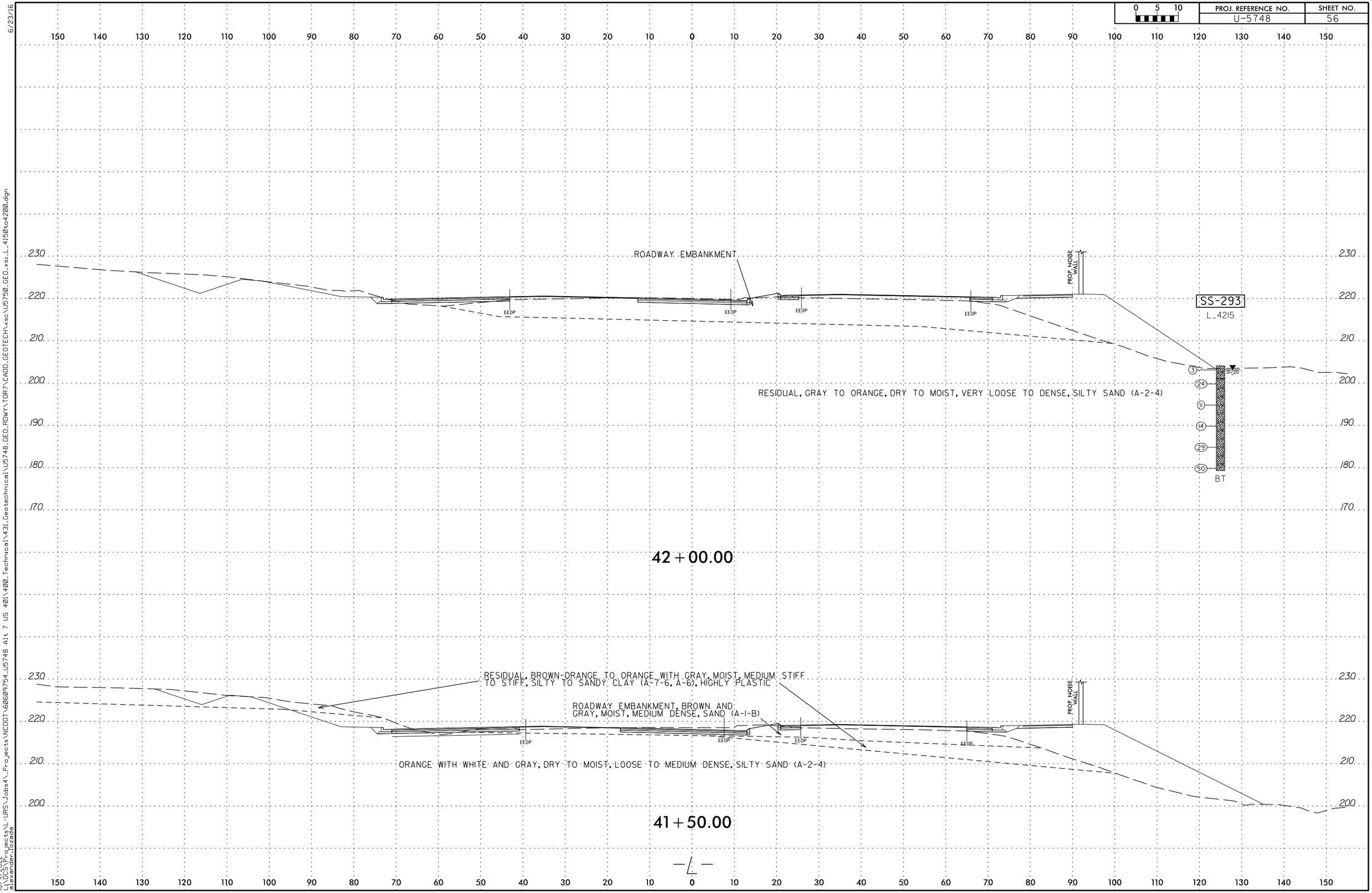
	U-5748	56



6/23/16

10/4/2022
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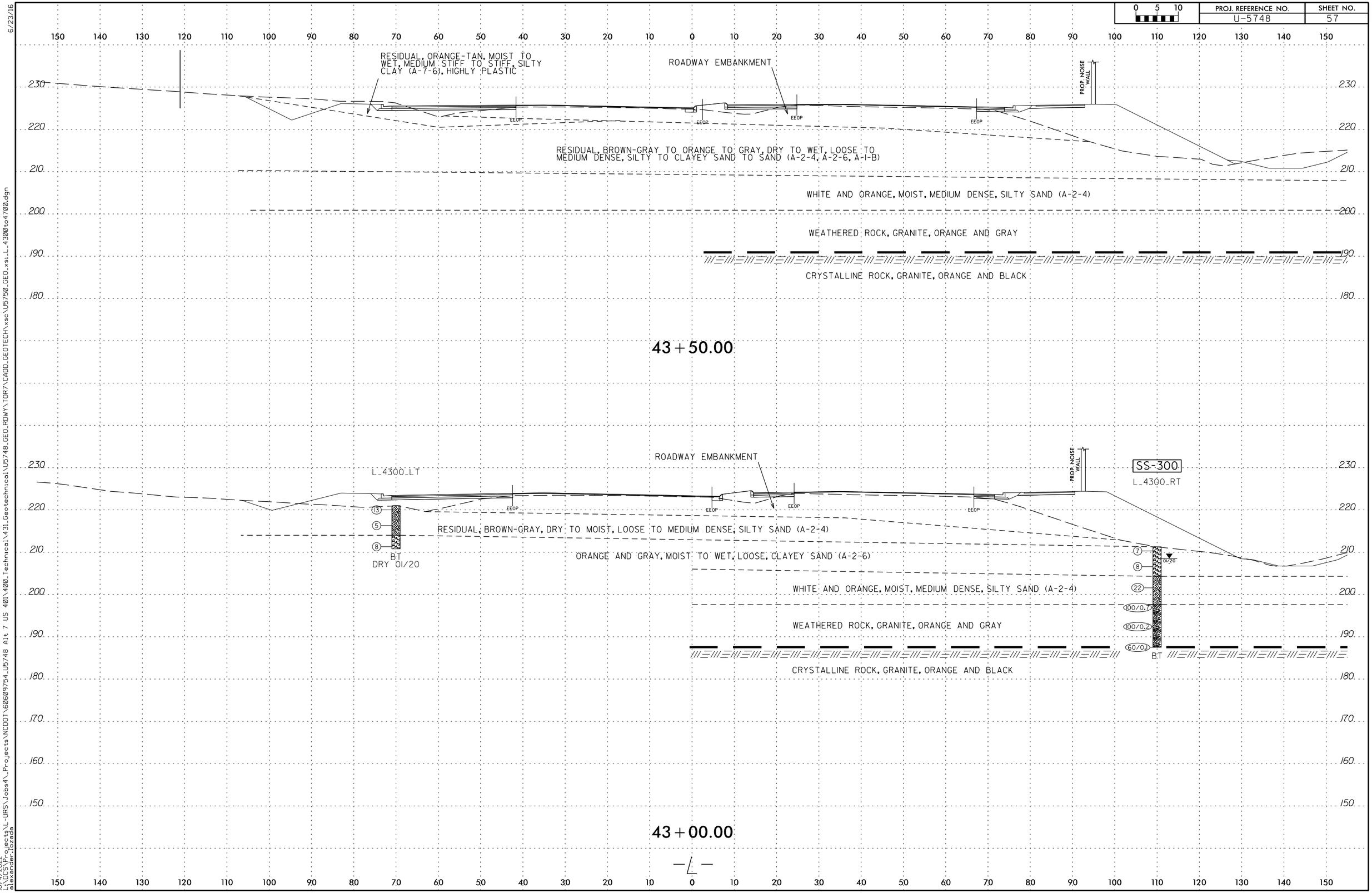
alexander.lozada



6/23/16

10/4/2022
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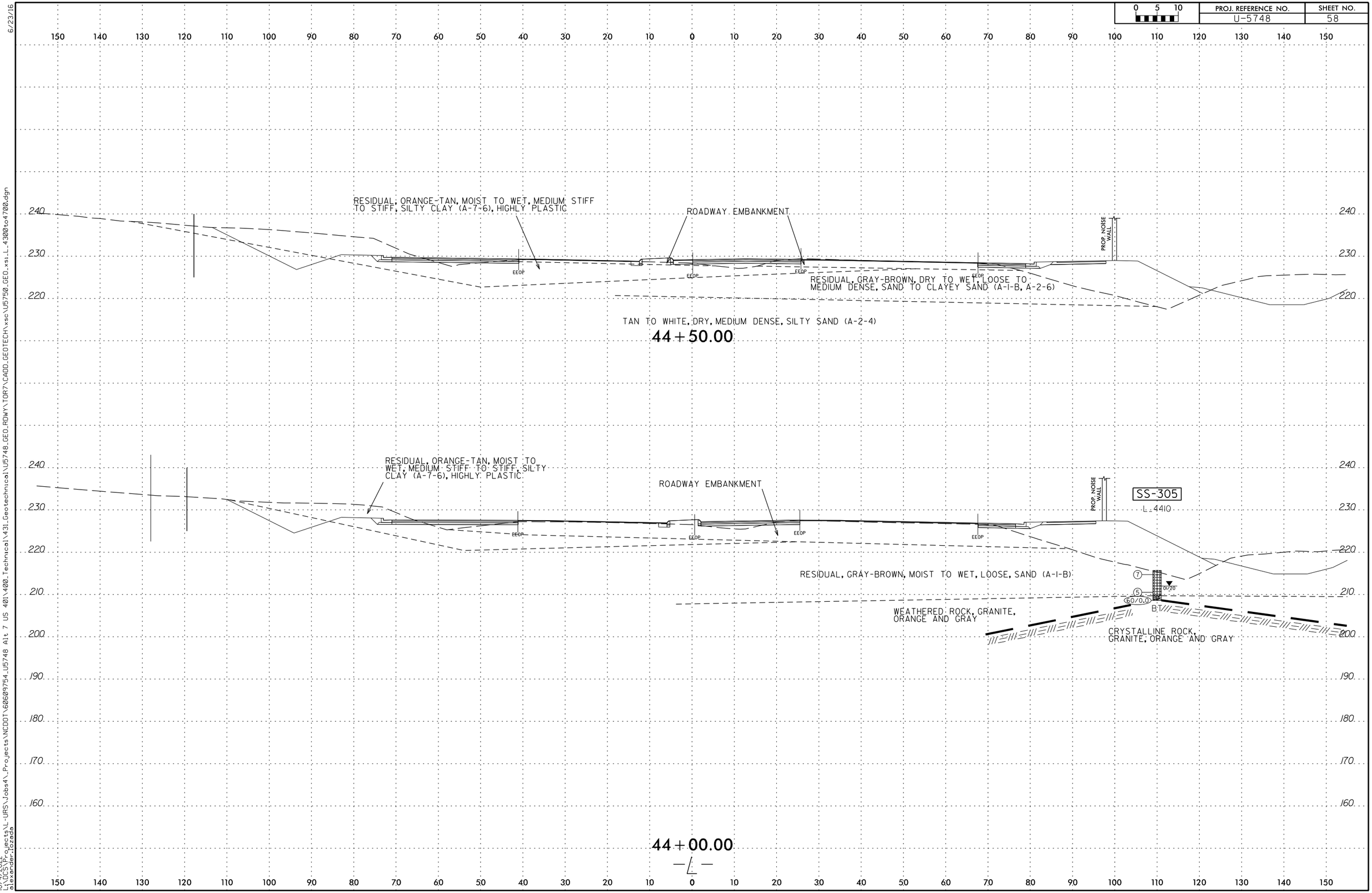
alexander.lozada



6/23/16

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10/4/2022
alexander.lozada

RESIDUAL, ORANGE-TAN, MOIST TO WET, MEDIUM STIFF TO STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

ROADWAY EMBANKMENT

RESIDUAL, LIGHT GRAY-BROWN, DRY TO MOIST, MEDIUM DENSE, CLAYEY SAND (A-2-6)

PROP. NOISE WALL

EEOP

TAN TO WHITE, DRY, MEDIUM DENSE, SILTY SAND (A-2-4)

45+50.00

SS-173

L_4500

L_4499

(5) (9) (22)

(5) (100/0.8) (29)

BT
DRY 01/20

BT
DRY 02/20

45+00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

250
240
230
220

ROADWAY EMBANKMENT

EEOP EEOP EEOP EEOP

RESIDUAL, BROWN TO TAN, MOIST TO SATURATED, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

RESIDUAL, ORANGE TO WHITE, DRY TO MOIST, MEDIUM DENSE TO DENSE, SILTY TO CLAYEY SAND (A-2-4, A-2-6)

WEATHERED ROCK, GRANITE, WHITE AND ORANGE

46+50.00

RESIDUAL, ORANGE-TAN, MOIST TO WET, MEDIUM STIFF TO STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

ROADWAY EMBANKMENT

ROADWAY EMBANKMENT

EEOP EEOP EEOP EEOP EEOP EEOP

RESIDUAL, BROWN TO TAN, MOIST TO SATURATED, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

RESIDUAL, ORANGE TO WHITE, DRY TO MOIST, MEDIUM DENSE TO DENSE, SILTY TO CLAYEY SAND (A-2-4, A-2-6)

46+00.00

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-5748	61

SS-170

L_4700_LT

BT
DRY 01/20

RESIDUAL, BROWN TO TAN, MOIST TO SATURATED, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

ROADWAY EMBANKMENT

EEOP

L_4700_RT

PROP. NOISE WALL

RESIDUAL, ORANGE TO WHITE, DRY TO MOIST, MEDIUM DENSE TO DENSE, SILTY TO CLAYEY SAND (A-2-4, A-2-6)

WEATHERED ROCK, GRANITE, WHITE AND ORANGE

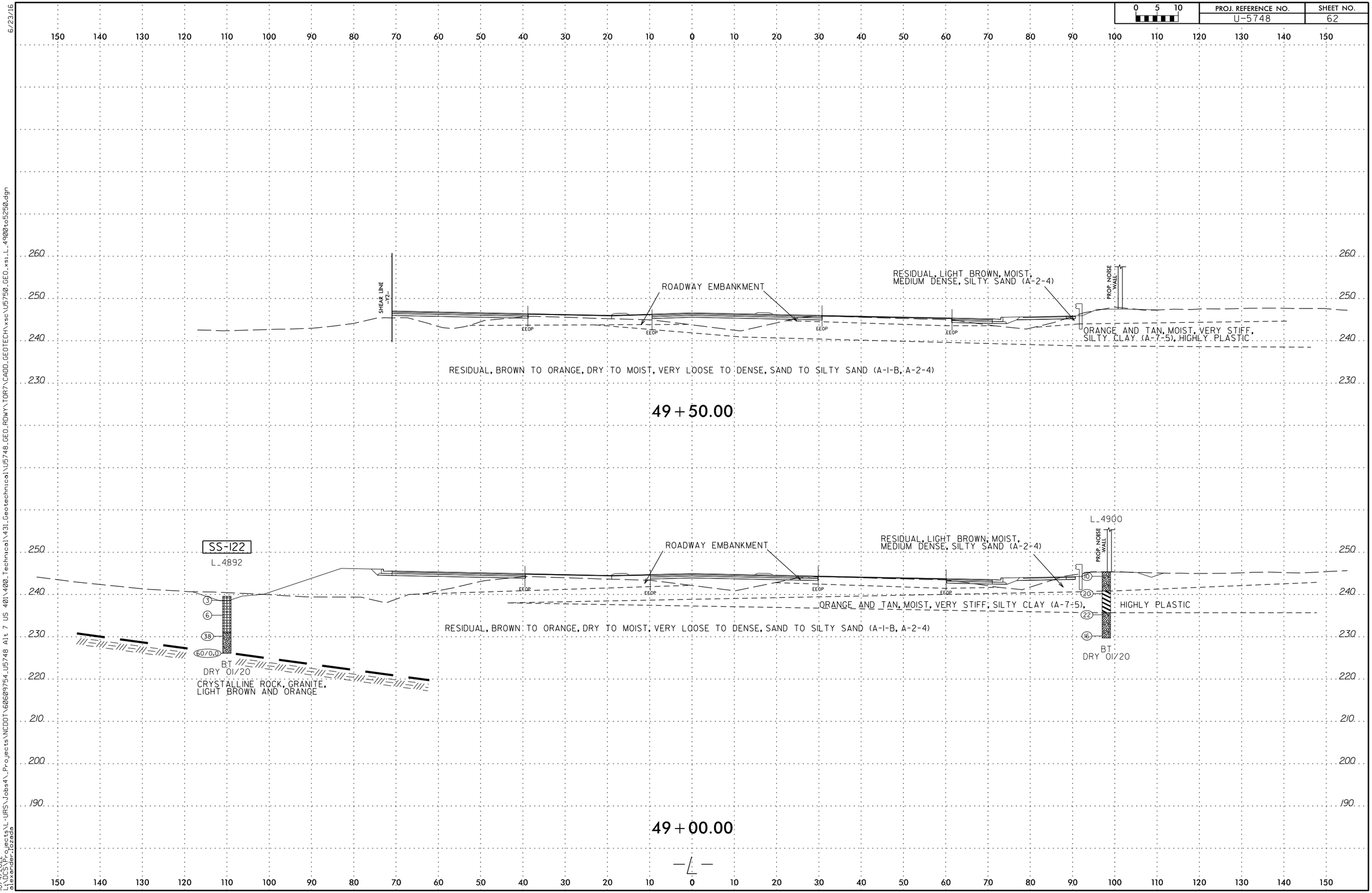
BT
DRY 02/20

47+00.00

6/23/16

10/4/2022
L:\DCS\Projects\L-URS\Jobs4_Projects\NCDOT\60609754_U5748 Alt 7 US 401\400_Technical\431_Geotechnical\U5748_GEO_RDWY\TOR7\CADD_GEOTECH\xsc\U5750_GEO_xsi_L_4300to4700.dgn
alexander.lozada

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-5748	62



6/23/16

10/4/2022
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alexander.lozada

PROJ. REFERENCE NO.	SHEET NO.
U-5748	63

0 5 10

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

260 250 240 230 220 210 200

SS-119
L 5050

RESIDUAL, LIGHT TO REDDISH BROWN, MOIST, MEDIUM STIFF, SANDY CLAY (A-6)

SHEAR LINE -Y2-

(8) (21) (19) (100/0.7)

BT
DRY 01/20

ROADWAY EMBANKMENT

EEOP EEOP EEOP EEOP

ORANGE AND TAN, MOIST, VERY STIFF, SILTY CLAY (A-7-5), HIGHLY PLASTIC

PROP. NOISE WALL

RESIDUAL, BROWN, MOIST, MEDIUM DENSE, SILT

ORANGE-TAN TO WHITE, DRY, MEDIUM DENSE, CLAYEY SAND (A-2-7)

WEATHERED ROCK, GRANITE, TAN AND ORANGE

50+50.00

SS-122
L 5000

SHEAR LINE -Y2-

ROADWAY EMBANKMENT

EEOP EEOP EEOP EEOP

ORANGE AND TAN, MOIST, VERY STIFF, SILTY CLAY (A-7-5), HIGHLY PLASTIC

PROP. NOISE WALL

(10) (16) (16) (12)

BT
DRY 01/20

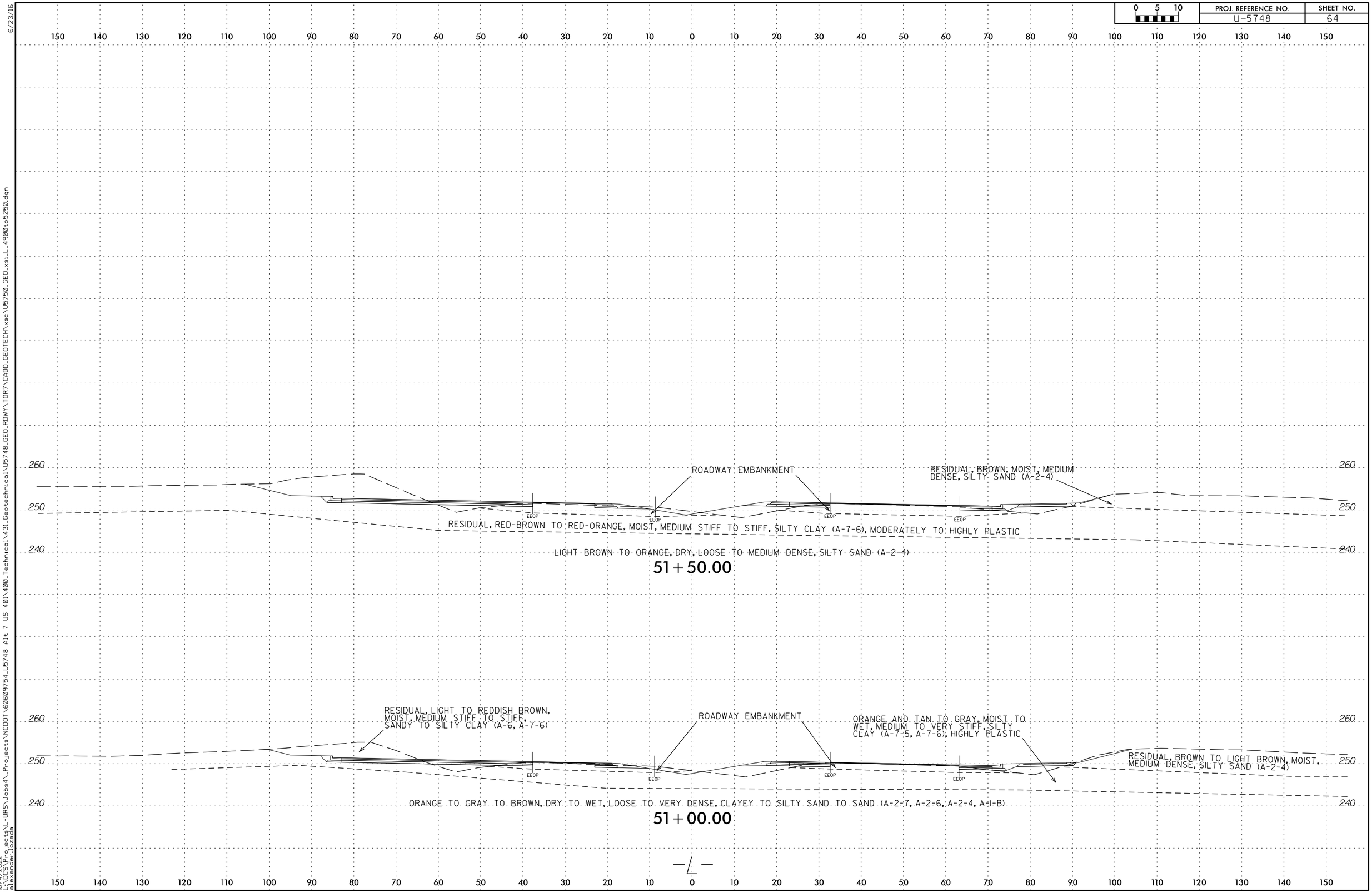
RESIDUAL, BROWN, MOIST, MEDIUM DENSE, SILTY SAND (A-2-4)

ORANGE, DRY TO MOIST, MEDIUM DENSE, SILTY SAND (A-2-4)

50+00.00

260 250 240 230 220 210 200

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

260
250
240
230
220

ROADWAY EMBANKMENT

EEOP EEOP EEOP EEOP

RESIDUAL, ORANGE-TAN, MOIST, STIFF, SILTY CLAY (A-7-6)

GRAY AND ORANGE-TAN, DRY, MEDIUM TO VERY DENSE, SILTY SAND (A-2-4)

WEATHERED ROCK, GRANITE, BROWN AND ORANGE

52+50.00

270
260
250
240
230
220
210
200

SS-116
L_5200_LT
5
12
8
BT
DRY 01/20

ROADWAY EMBANKMENT

EEOP EEOP EEOP EEOP

RESIDUAL, RED-BROWN TO RED-ORANGE, MOIST, MEDIUM STIFF TO STIFF, SILTY CLAY (A-7-6), MODERATELY TO HIGHLY PLASTIC

LIGHT BROWN TO ORANGE, DRY, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

SS-328
L_5200_RT
RESIDUAL, BROWN, MOIST, MEDIUM DENSE, SILTY SAND (A-2-4)
11
12
20
BT
DRY 01/20

52+00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

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10/4/2022
alexander.lozada

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

280 270 260 250

RESIDUAL, ORANGE TO DARK BROWN TO TAN, MOIST, SOFT TO MEDIUM STIFF, SILTY TO SANDY CLAY (A-7-6, A-6), HIGHLY PLASTIC

ROADWAY EMBANKMENT

EXIST. NOISE WALL

EEOP

ORANGE WITH WHITE AND BLACK, DRY, LOOSE TO VERY DENSE, SILTY SAND (A-2-4)

59+50.00

SS-093
L_5913

RESIDUAL, ORANGE, MOIST, MEDIUM STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

5
20
9
9

BT
DRY 12/19

ROADWAY EMBANKMENT, BROWN TO GRAY TO RED-ORANGE, MOIST, SOFT, SANDY CLAY (A-6), TO LOOSE, FINE SAND (A-3)

S-010
L_5900_HA

BT
FIAD

ORANGE WITH WHITE AND BLACK, DRY, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

59+00.00

SHEAR LINE -DRIVE-

ROADWAY EMBANKMENT

RESIDUAL, ORANGE WITH WHITE AND BLACK, DRY, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

58+50.00

PROJ. REFERENCE NO.	SHEET NO.
U-5748	67

0 5 10

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

280
270
260
250

EEOP
EEOP
EEOP
EEOP
EXIST. NOISE WALL

RESIDUAL, ORANGE WITH WHITE AND BLACK, DRY, MEDIUM TO VERY DENSE, SILTY SAND (A-2-4)

ROADWAY EMBANKMENT

60+50.00

SS-099
L-5995

RESIDUAL, DARK BROWN TO TAN, MOIST, SOFT, SANDY CLAY (A-6)

4
20
29
57

BT
DRY 12/19

280
270
260
250
240
230
220
210

EEOP
EEOP
EEOP
EEOP
EXIST. NOISE WALL

RESIDUAL, ORANGE WITH WHITE AND BLACK, DRY, MEDIUM TO VERY DENSE, SILTY SAND (A-2-4)

ROADWAY EMBANKMENT

60+00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

10/4/2022
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alexander.lozada

PROJ. REFERENCE NO.	SHEET NO.
U-5748	68

0 5 10

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

340
330
320
310
300

RESIDUAL, ORANGE-TAN, DRY, VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

PROP. NOISE WALL

ARTIFICIAL FILL

ROADWAY EMBANKMENT

EEOP

ORANGE-WHITE, DRY TO MOIST, MEDIUM DENSE, SILTY SAND (A-2-4)

75+50.00

PROP. NOISE WALL

L_7505

3

100/0.0

60/0.0

ARTIFICIAL FILL, DARK BROWN TO ORANGE, DRY TO MOIST, VERY LOOSE TO MEDIUM DENSE, SILTY TO CLAYEY SAND (A-2-4, A-2-6)

ROADWAY EMBANKMENT

RESIDUAL, ORANGE, DENSE, SILTY SAND (A-2-4)

BT

GRANITE, WHITE, VERY HARD, FRESH, INDISTINCT BEDDING, CLOSE TO WIDE FRACTURES (FLAT TO SHALLOW), REC=72.4%, RQD=62.0%, GSI=60-65

75+00.00

—/.—

6/23/16

10/4/2022
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alexander.lozada

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

340
330
320

RESIDUAL, ORANGE-TAN TO WHITE WITH ORANGE, DRY, VERY STIFF TO HARD, SILTY CLAY (A-7-6), HIGHLY PLASTIC

PROP. NOISE WALL

ARTIFICIAL FILL

ROADWAY EMBANKMENT

EEOP

ARTIFICIAL FILL

ORANGE-WHITE, DRY TO MOIST, MEDIUM DENSE, SILTY SAND (A-2-4)

WEATHERED ROCK, GRANITE, BROWN-WHITE

76+50.00

350
340
330
320
310
300

SS-018

L 7595

RESIDUAL, ORANGE-TAN, DRY, VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

ARTIFICIAL FILL, BROWN, MOIST, LOOSE, SILTY SAND (A-2-4)

PROP. NOISE WALL

7
22
12

BT
DRY 12/19

ROADWAY EMBANKMENT

EEOP

ARTIFICIAL FILL

ORANGE-WHITE, DRY TO MOIST, MEDIUM DENSE, SILTY SAND (A-2-4)

76+00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

10/4/2022
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alexander.lozada

PROJ. REFERENCE NO.	SHEET NO.
U-5748	70

0 5 10

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

350
340
330

RESIDUAL, WHITE WITH ORANGE, DRY, HARD, SILTY CLAY (A-7-6), HIGHLY PLASTIC

PROP. NOISE WALL

ARTIFICIAL FILL, LIGHT BROWN, MOIST, LOOSE, SILTY SAND (A-2-4)

ROADWAY EMBANKMENT

ARTIFICIAL FILL, BROWN TO ORANGE, DRY TO MOIST, LOOSE, SILTY SAND (A-2-4)

EEOP EEOP EEOP EEOP

WEATHRED ROCK, GRANITE, BROWN-WHITE

77+50.00

350
340
330
320
310
300

RESIDUAL, WHITE WITH ORANGE, DRY, HARD, SILTY CLAY (A-7-6), HIGHLY PLASTIC

SS-015

L_7700_LT

PROP. NOISE WALL

ARTIFICIAL FILL, LIGHT BROWN, MOIST, LOOSE, SILTY SAND (A-2-4)

ROADWAY EMBANKMENT

ARTIFICIAL FILL, BROWN TO ORANGE, DRY TO MOIST, LOOSE, SILTY SAND (A-2-4)

L_7700_RT

7 31 60/0.0 BT DRY 12/19

9 60/0.0 BT FIAD

EEOP EEOP EEOP EEOP

WEATHRED ROCK, GRANITE, BROWN-WHITE

CRYSTALLINE ROCK, GRANITE

77+00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

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10/4/2022
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150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

340 330 320 310

L_7900_LT

ROADWAY EMBANKMENT

SS-345

L_7900_RT

RESIDUAL, BROWN-ORANGE, MOIST, STIFF, SILTY CLAY (A-7-5), HIGHLY PLASTIC

RESIDUAL, DARK BROWN TO ORANGE, DRY TO MOIST, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

WEATHERED ROCK, GRANITE, WHITE AND BLACK

60/0.0'

BT

CRYSTALLINE ROCK, GRANITE, LIGHT GRAY

EEOP

9

16

100/0.3'

BT

DRY 02/20

79+00.00

PROP. NOISE WALL

ROADWAY EMBANKMENT

RESIDUAL, BROWN-ORANGE, MOIST, STIFF, SILTY CLAY (A-7-5), HIGHLY PLASTIC

DARK BROWN TO ORANGE, DRY TO MOIST, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

WEATHERED ROCK, GRANITE, WHITE AND BLACK

78+50.00

SS-012

L_7800

PROP. NOISE WALL

15

38

13

BT

DRY 12/19

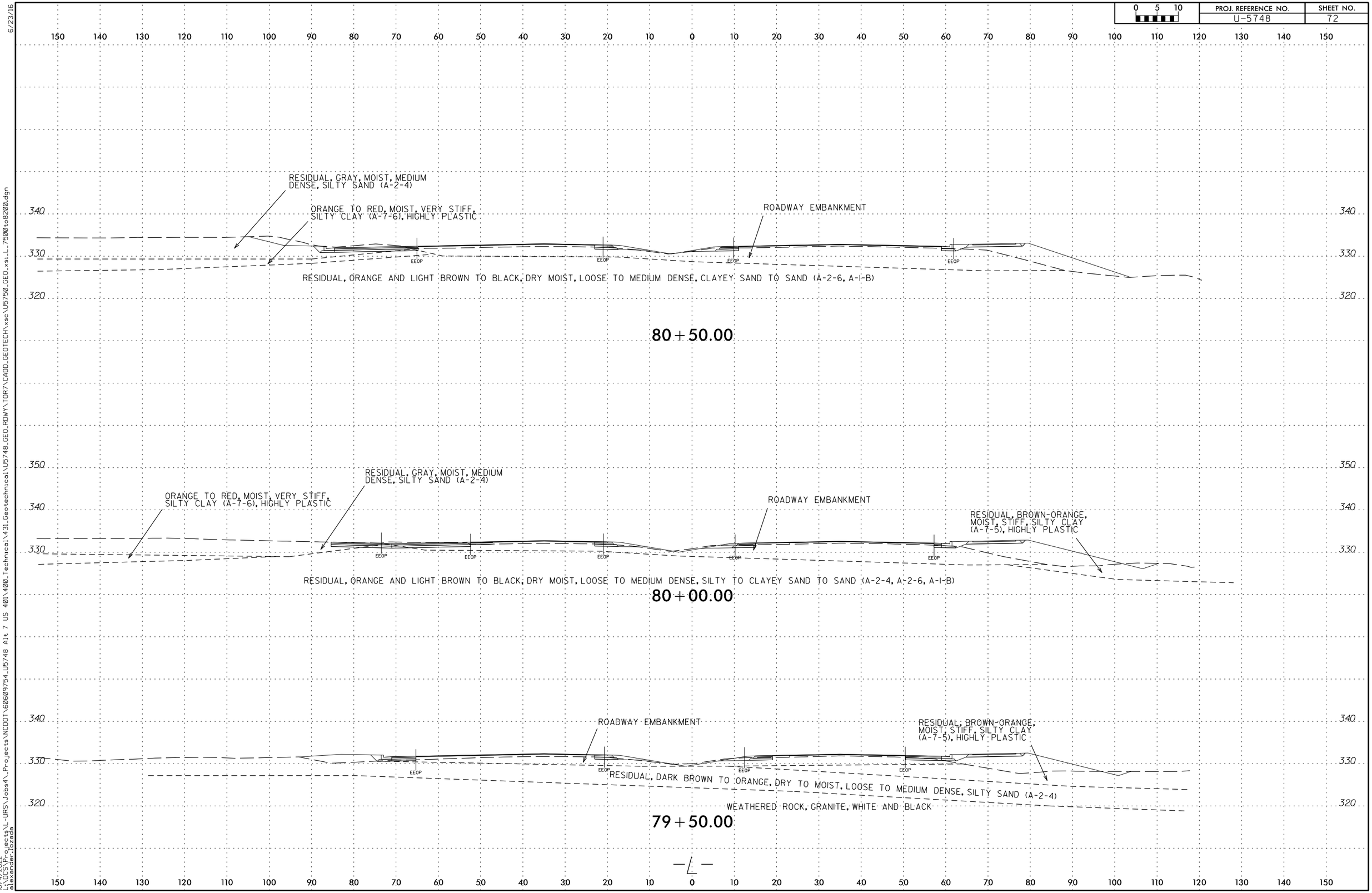
ROADWAY EMBANKMENT

ARTIFICIAL FILL

RESIDUAL, ORANGE-BROWN TO RED, MOIST, MEDIUM DENSE TO DENSE, CLAYEY SAND (A-2-6)

RED, DRY, MEDIUM DENSE, SILTY SAND (A-2-4)

78+00.00



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10/4/2022
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alexander.lozada

PROJ. REFERENCE NO.	SHEET NO.
U-5748	73

0 5 10

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

350
340
330

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

ORANGE TO RED, MOIST, VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

ROADWAY EMBANKMENT

ARTIFICIAL FILL

EEOP

GRAY TO ORANGE-BROWN TO WHITE-ORANGE, DRY TO MOIST, LOOSE TO DENSE, SILTY TO CLAYEY SAND TO SAND (A-2-4, A-2-6, A-1-B)

82+00.00

350
340
330

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

ORANGE TO RED, MOIST, VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

ROADWAY EMBANKMENT

ARTIFICIAL FILL

EEOP

GRAY TO ORANGE-BROWN TO WHITE-ORANGE, DRY TO MOIST, LOOSE TO DENSE, SILTY TO CLAYEY SAND TO SAND (A-2-4, A-2-6, A-1-B)

81+50.00

350
340
330
320
310
300

SS-008

L_8108

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

ORANGE TO RED, MOIST, VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

ROADWAY EMBANKMENT, ORANGE TO BROWN-GRAY, DRY TO MOIST, SOFT, SANDY CLAY (A-6), TO LOOSE TO MEDIUM DENSE, SAND (A-1-B)

L_8100

(11) (20) (9)

BT
DRY 12/19

EEOP

RESIDUAL, ORANGE AND LIGHT BROWN TO BLACK, DRY MOIST, LOOSE TO MEDIUM DENSE, CLAYEY SAND TO SAND (A-2-6, A-1-B)

(13) (4) (26)

BT
DRY 02/20

81+00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

10/4/2022
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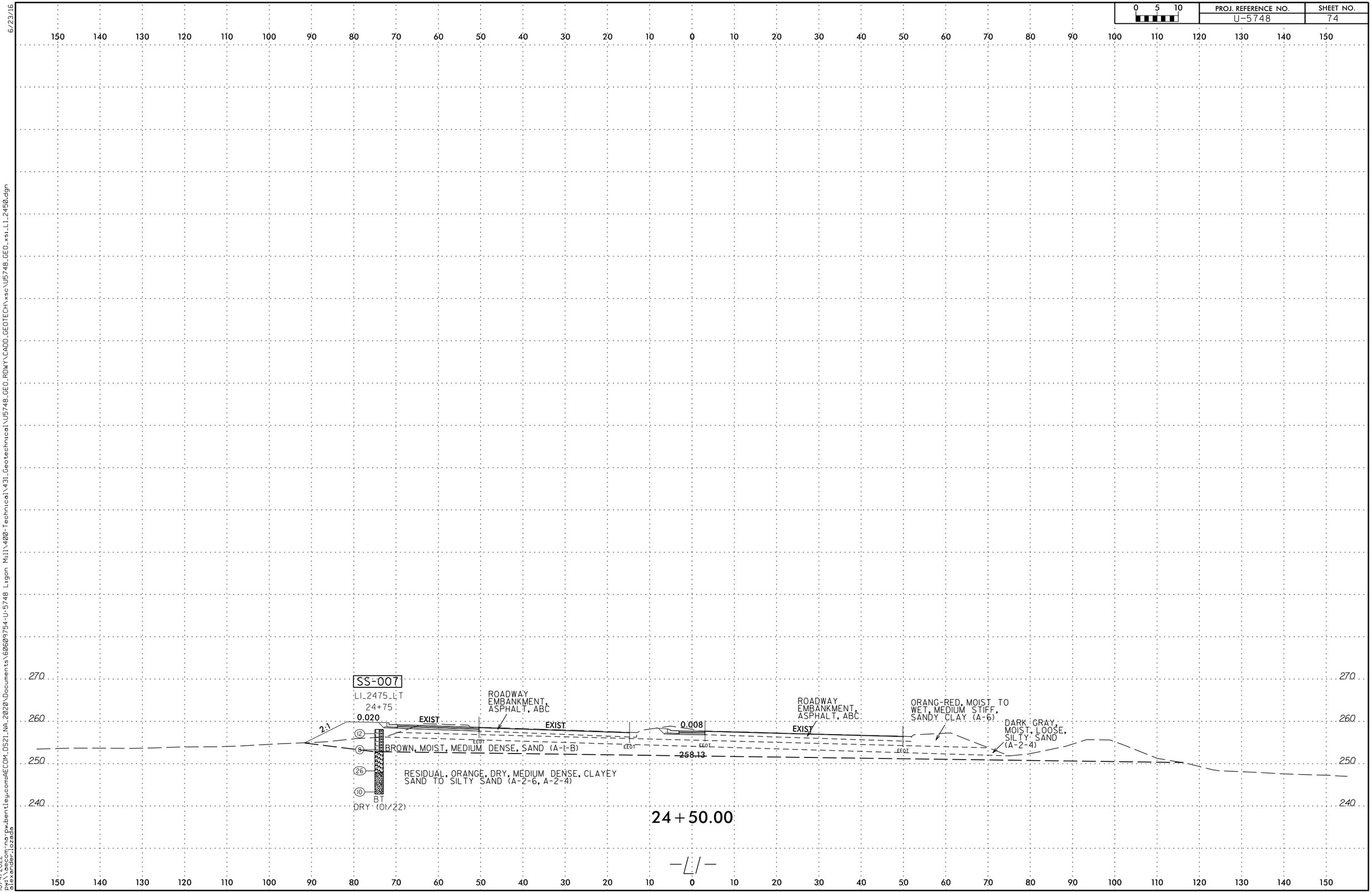
alexander.lozada



24+50.00

—L/—

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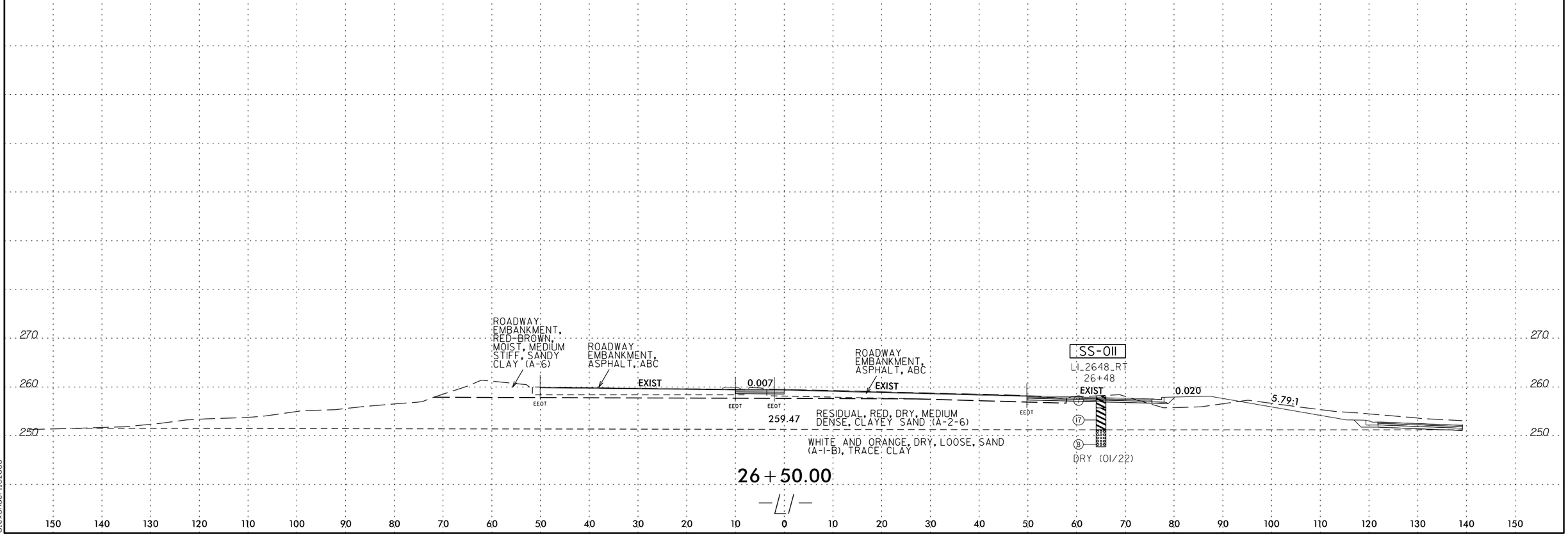


26+50.00

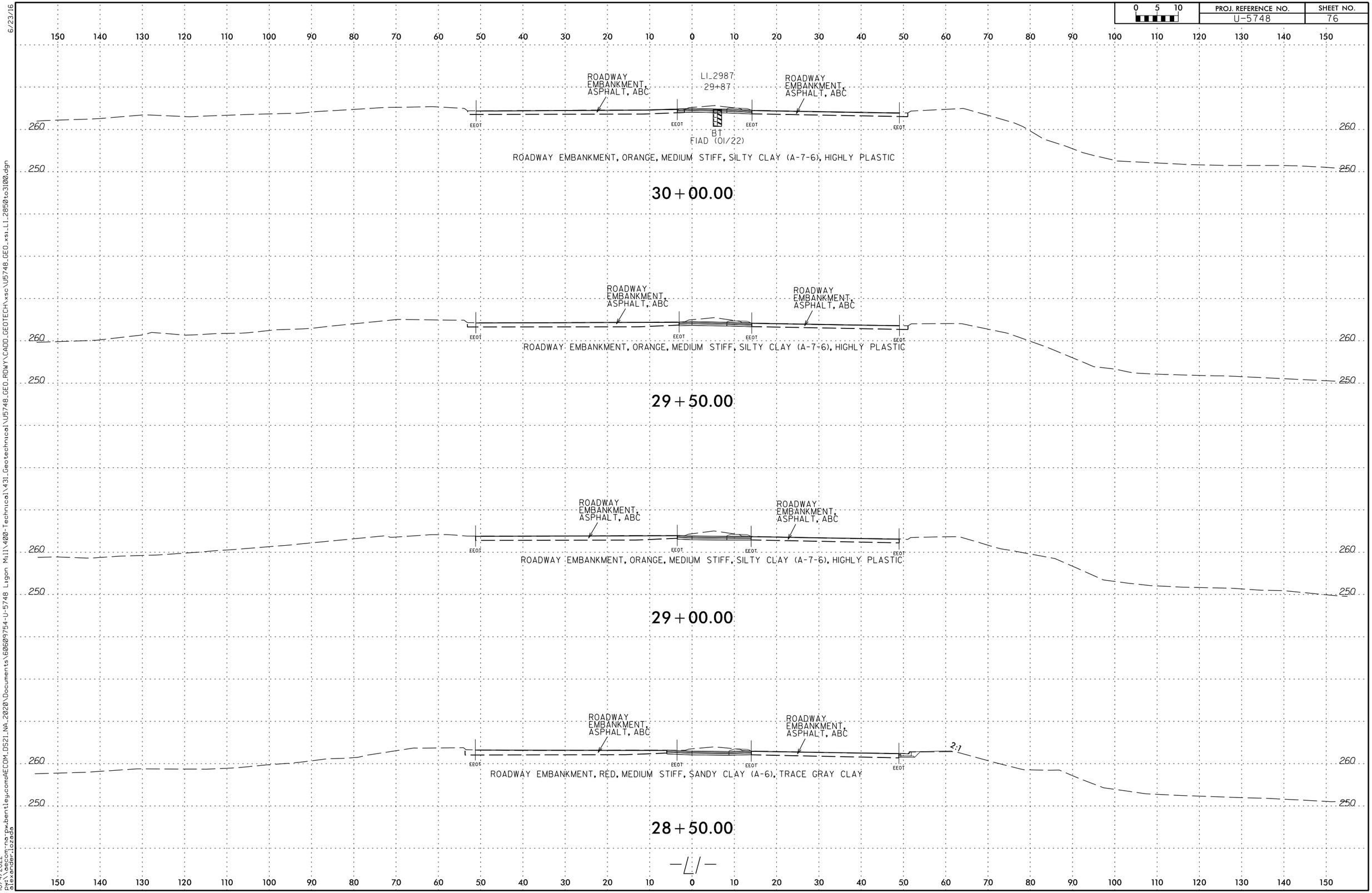
—L/—

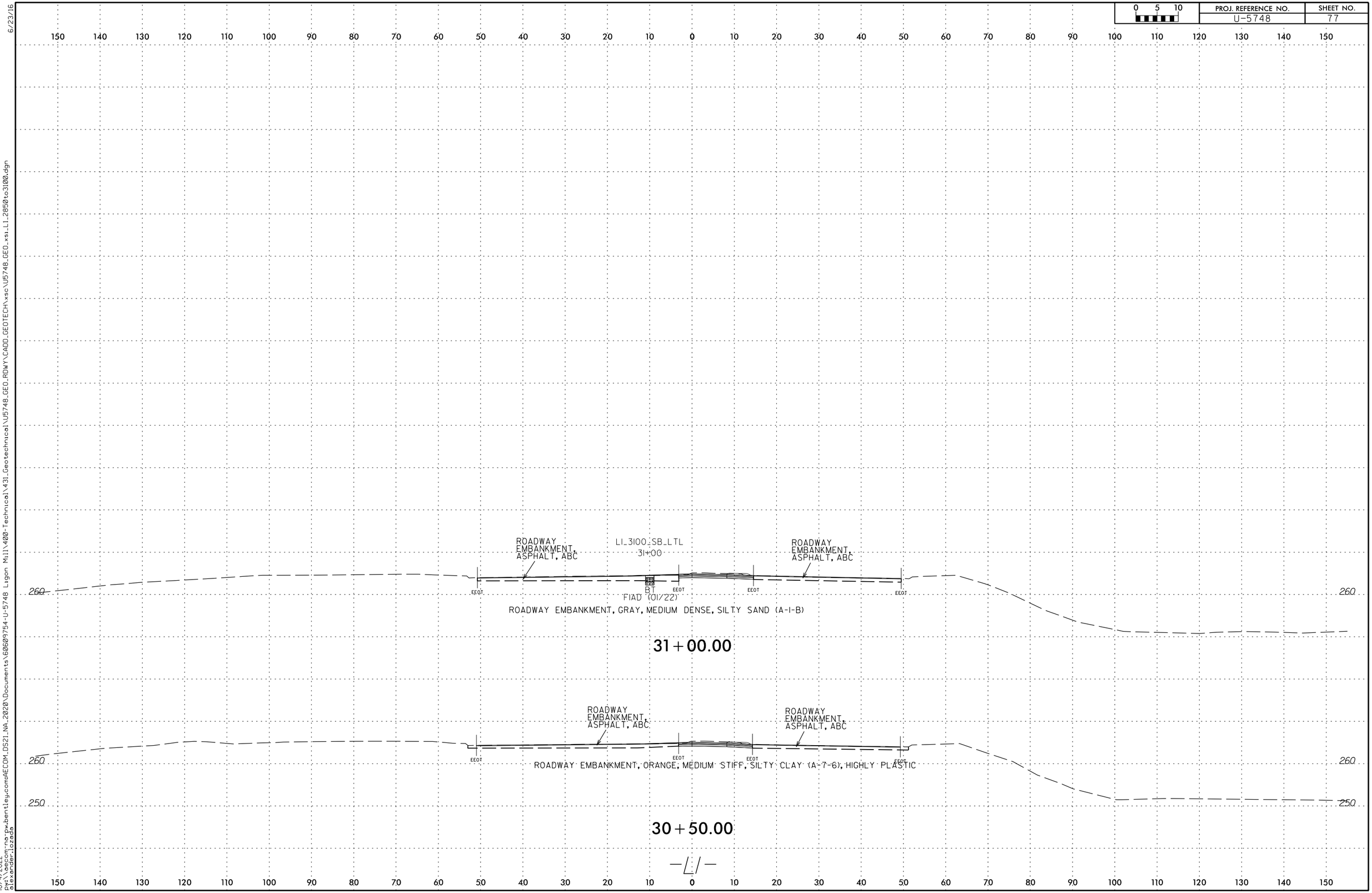
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

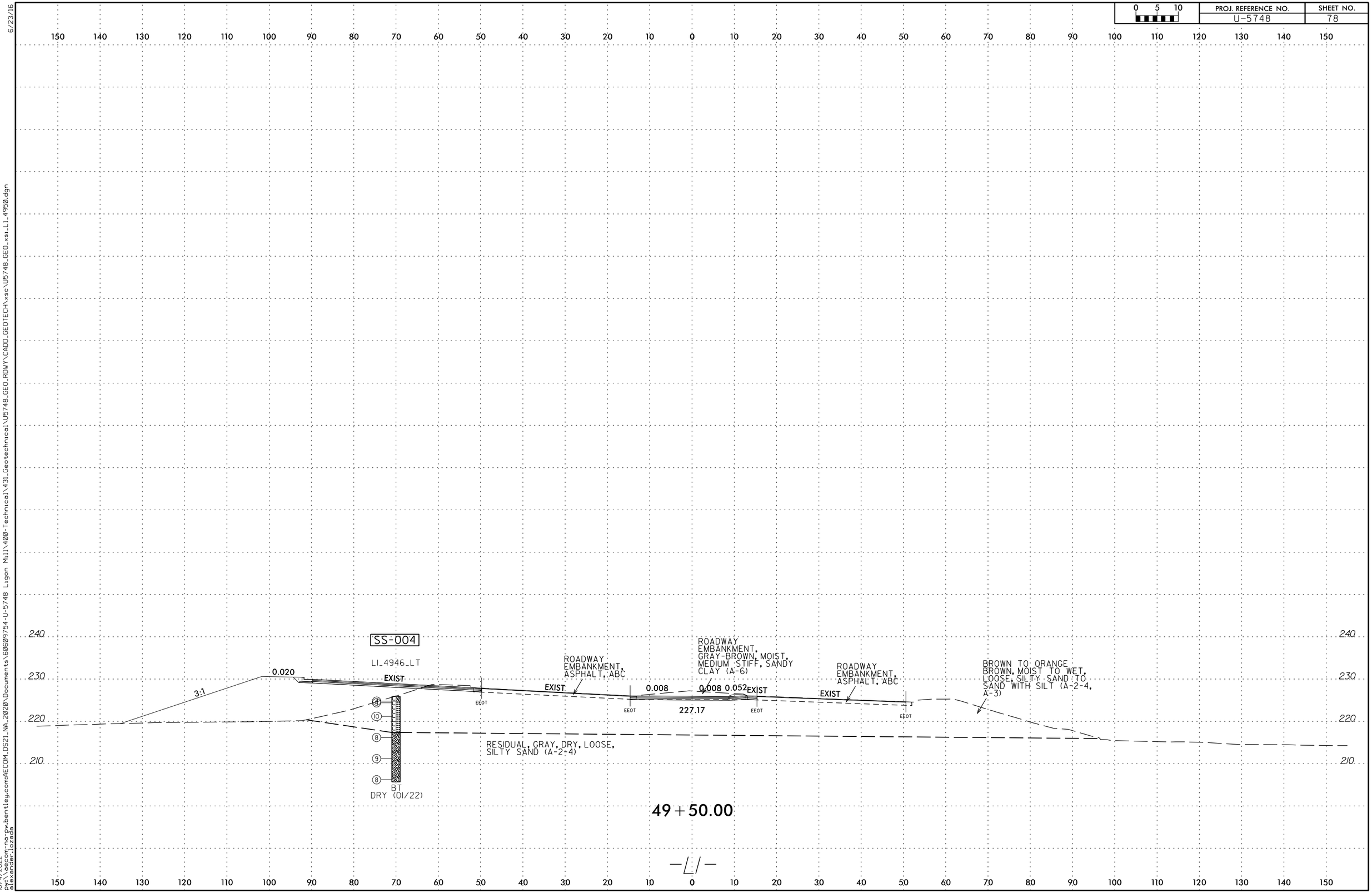
p:\\aecom-na-pw.bentley.com\AECOM.DS21.NA.2020\Documents\60609754-U-5748 Ligon Mill\400-Technical\431_Geotechnical\U5748_GEO_RDWY\CADD_GEOTECH\xsc\U5748_GEO_xs_LI_2650.dgn
10/4/2022
alexander.lozada

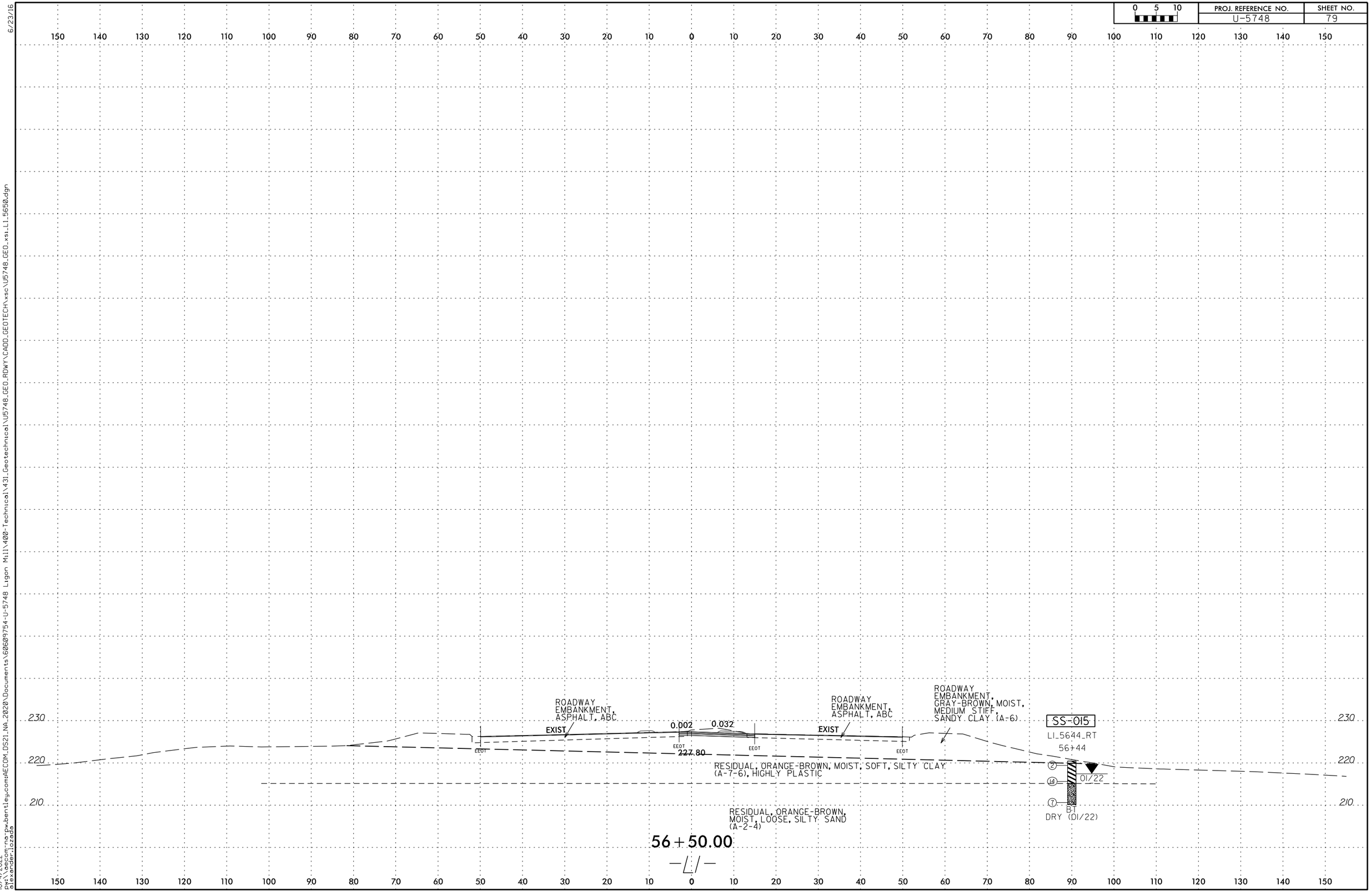
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-5748	76





0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-5748	78





6/23/16

10/4/2022
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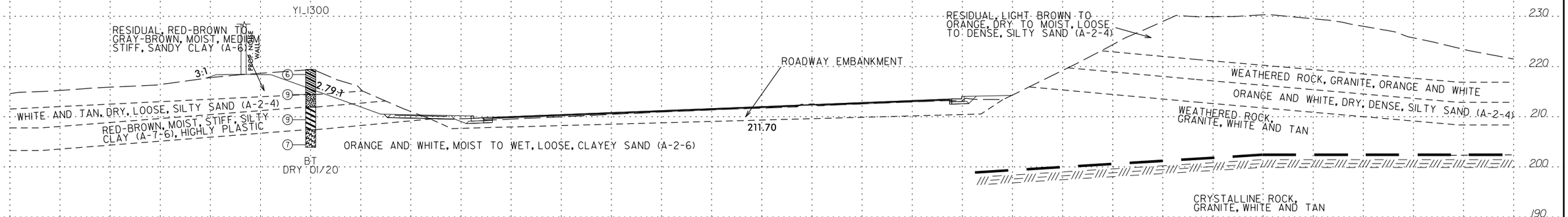
alexander.lozada

PROJ. REFERENCE NO.	SHEET NO.
U-5748	80

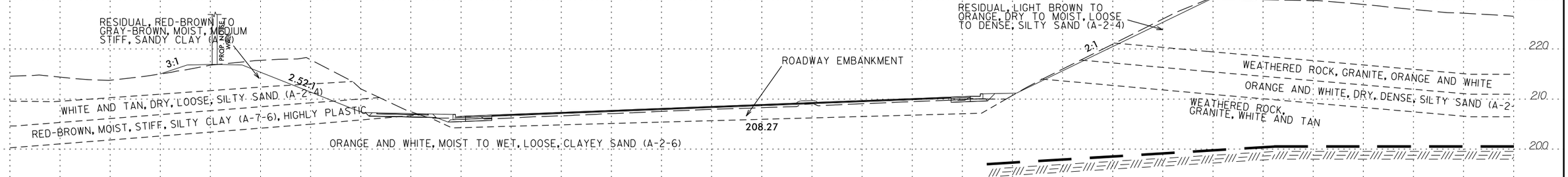
0 5 10

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

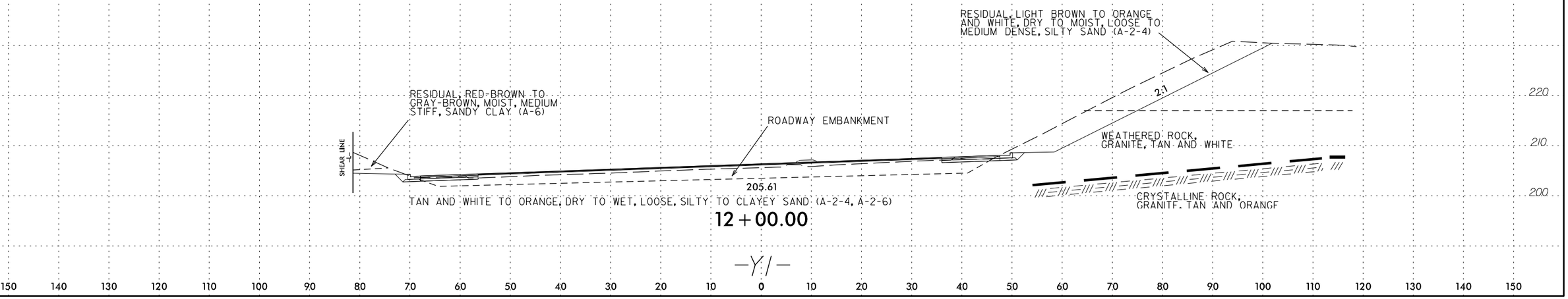
13 + 00.00



12 + 50.00



12 + 00.00



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

10/4/2022
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alexander.lozada

PROJ. REFERENCE NO.	SHEET NO.
U-5748	81

0 5 10

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

230
220
210
200

WHITE AND TAN, DRY, LOOSE, SILTY SAND (A-2-4)
RED-BROWN, MOIST, STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC
3:1
2:1
PROP. NOISE WALL
ROADWAY EMBANKMENT
215.55
WEATHERED ROCK, GRANITE, WHITE AND TAN
RESIDUAL, LIGHT BROWN TO ORANGE, DRY TO MOIST, LOOSE TO DENSE, SILTY SAND (A-2-4)
WEATHERED ROCK, GRANITE, ORANGE AND WHITE
ORANGE AND WHITE, DRY, DENSE, SILTY SAND (A-2-4)
CRYSTALLINE ROCK, GRANITE, WHITE AND TAN

13+50.00

RESIDUAL, RED-BROWN TO GRAY-BROWN, MOIST, MED TO STIFF, SANDY CLAY (A-6)
PROP. NOISE WALL
3:1
2.97:1
WHITE AND TAN, DRY, LOOSE, SILTY SAND (A-2-4)
RED-BROWN, MOIST, STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC
ROADWAY EMBANKMENT
213.20
ORANGE AND WHITE, MOIST TO WET, LOOSE, CLAYEY SAND (A-2-6)
WEATHERED ROCK, GRANITE, WHITE AND TAN
YI_1325
6
40
100/0.9
40
100/0.9
60/0.1
BT
DRY 01/20
RESIDUAL, LIGHT BROWN TO ORANGE, DRY TO MOIST, LOOSE TO DENSE, SILTY SAND (A-2-4)
WEATHERED ROCK, GRANITE, ORANGE AND WHITE
ORANGE AND WHITE, DRY, DENSE, SILTY SAND (A-2-4)
CRYSTALLINE ROCK, GRANITE, WHITE AND TAN

13+20.00

—Y1—

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

10/4/2022
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alexander.lozada

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-5748	82

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

270
260

6:1 6:1

RESIDUAL, ORANGE AND GRAY, MOIST, MEDIUM DENSE, CLAYEY SAND (A-2-7), HIGHLY PLASTIC

TAN AND ORANGE, MOIST, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

18+00.00

270
260
250

2:1 4:1 6:1

RESIDUAL, ORANGE AND GRAY, MOIST, MEDIUM DENSE, CLAYEY SAND (A-2-7), HIGHLY PLASTIC

TAN AND ORANGE, MOIST, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

17+50.00

270
260

6:1 6:1

ROADWAY EMBANKMENT

RESIDUAL, GRAY-BROWN TO TAN AND ORANGE, MOIST, VERY LOOSE TO MEDIUM DENSE, SAND TO SILTY SAND (A-1-B, A-2-4)

17+00.00

-Y2-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

10/4/2022
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alexander.lozada

PROJ. REFERENCE NO.	SHEET NO.
U-5748	83

0 5 10

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

270
260
250

RESIDUAL, GRAY-BROWN TO LIGHT BROWN, MOIST, LOOSE, SILTY SAND (A-2-4)

ORANGE AND GRAY, MOIST, MEDIUM DENSE, CLAYEY SAND (A-2-7), HIGHLY PLASTIC

2:1 4:1 6:1

SHEAR LINE
Y3

TAN AND ORANGE, MOIST, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

19+00.00

280
270
260
250
240
230

SS-166
Y2_1859

RESIDUAL, GRAY-BROWN TO LIGHT BROWN, MOIST, LOOSE, SILTY SAND (A-2-4)

ORANGE AND GRAY, MOIST, MEDIUM DENSE, CLAYEY SAND (A-2-7), HIGHLY PLASTIC

2:1 4:1 6:1 6:1 4:1 2:1

7
24
10
10
9

TAN AND ORANGE, MOIST, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

BT
DRY 12/19

18+50.00

-Y2-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

10/4/2022
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alexander.lozada

SS-156
SS-158

Y2_2050

RESIDUAL, GRAY-BROWN TO RED-BROWN, MOIST, LOOSE, CLAYEY SAND (A-2-6)

ORANGE-TAN TO WHITE, DRY, STIFF TO VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

TAN-ORANGE, DRY, MEDIUM DENSE, SILTY SAND (A-2-4)

(7) (18) (12) (12) (24)

BT
DRY 12/19

2:1 4:1 6:1 6:1 4:1 2:1

20+50.00

RESIDUAL, GRAY-BROWN TO RED-BROWN, MOIST, LOOSE, CLAYEY SAND (A-2-6)

ORANGE-TAN TO WHITE, DRY, STIFF TO VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

TAN-ORANGE, DRY, MEDIUM DENSE, SILTY SAND (A-2-4)

2:1 4:1 6:1 6:1 4:1 2:1

20+00.00

ORANGE-TAN TO WHITE, DRY, STIFF TO VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

RESIDUAL, GRAY-BROWN TO RED-BROWN, MOIST, LOOSE, SILTY TO CLAYEY SAND (A-2-4, A-2-6)

ORANGE AND GRAY, MOIST, MEDIUM DENSE, CLAYEY SAND (A-2-7), HIGHLY PLASTIC

TAN-ORANGE, DRY TO MOIST, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

2:1 4:1 6:1

SHEAR LINE -Y3-

19+50.00

-Y2-

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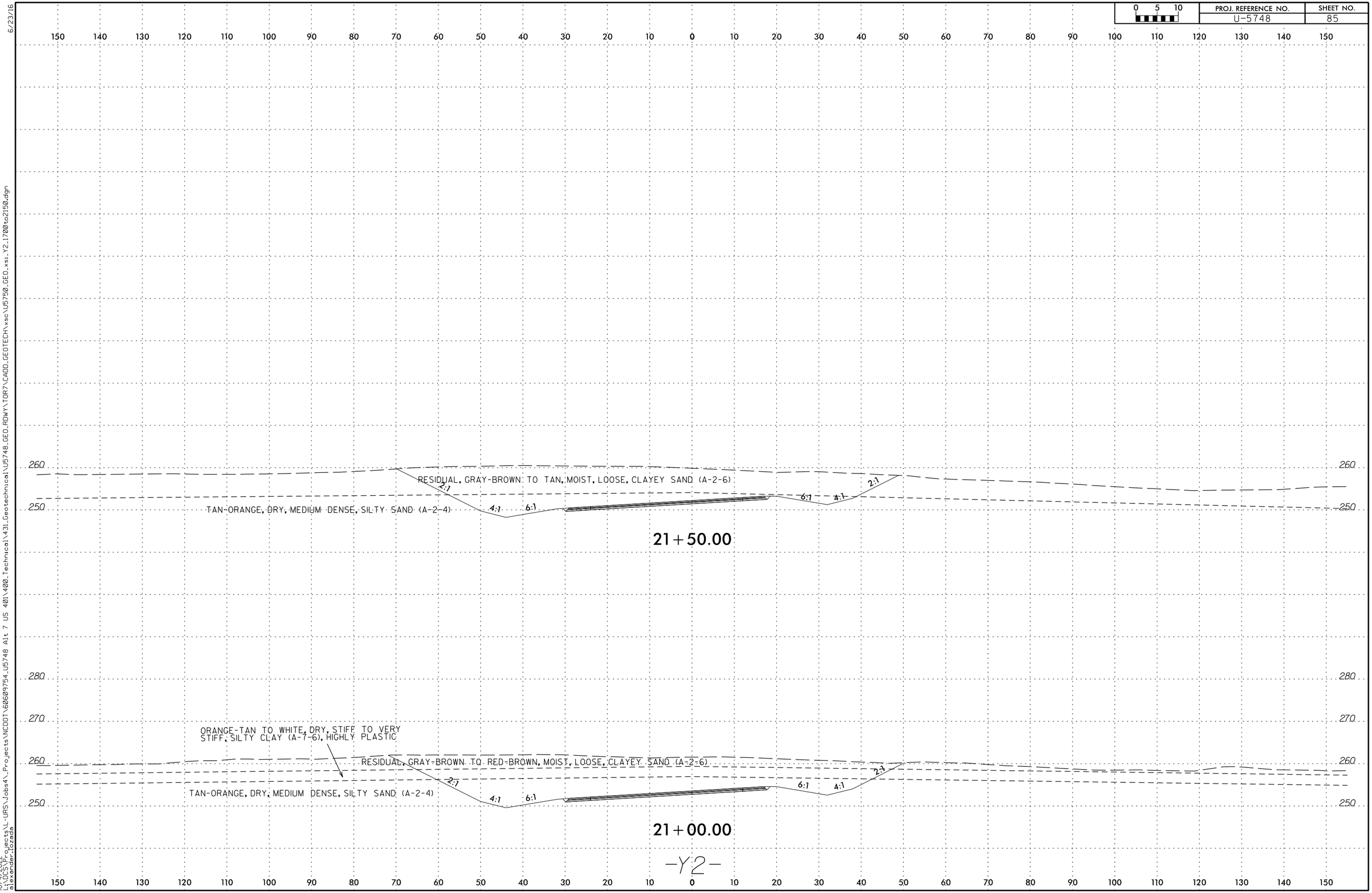
	U-5748	85



6/23/16

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alexander.lozada

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	U-5748	86

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

260
250
240
230
220
210

SS-141
Y2_2650

RESIDUAL, LIGHT BROWN, MOIST, VERY LOOSE, SILTY SAND (A-2-4)

RED-BROWN, MOIST, SOFT TO VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

RED-BROWN TO TAN-ORANGE, DRY, MEDIUM DENSE, SILTY SAND (A-2-4)

2:1 4:1 6:1 6:1 4:1 2:1

4 18 11 19 28

BT
DRY 12/19

26+50.00

RESIDUAL, RED-BROWN, MOIST, SOFT TO VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

RED-BROWN TO TAN-ORANGE, DRY, MEDIUM DENSE, SILTY SAND (A-2-4)

2:1 4:1 6:1

26+00.00

RESIDUAL, RED-BROWN TO TAN-ORANGE, DRY, MEDIUM DENSE, SILTY SAND (A-2-4)

2:1 4:1 6:1 3.12:1

25+50.00

-Y2-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

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10/4/2022
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alexander.lozada

PROJ. REFERENCE NO.	SHEET NO.
U-5748	87

0 5 10

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

270
260
250

RESIDUAL, LIGHT BROWN, MOIST, VERY LOOSE, SILTY SAND (A-2-4)

RED-BROWN, MOIST, MEDIUM TO VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

GRAY-BROWN TO TAN-ORANGE, DRY, LOOSE TO VERY DENSE, SILTY SAND (A-2-4)

2:1 4:1 6:1 6:1 4:1 2:1

28+00.00

260
250
240

RESIDUAL, LIGHT BROWN, MOIST, VERY LOOSE, SILTY SAND (A-2-4)

RED-BROWN, MOIST, SOFT TO VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

RED-BROWN TO TAN-ORANGE, DRY, LOOSE TO VERY DENSE, SILTY SAND (A-2-4)

2:1 4:1 6:1 6:1 4:1 2:1

27+50.00

260
250
240

RESIDUAL, LIGHT BROWN, MOIST, VERY LOOSE, SILTY SAND (A-2-4)

RED-BROWN, MOIST, SOFT TO VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

RED-BROWN TO TAN-ORANGE, DRY, MEDIUM DENSE, SILTY SAND (A-2-4)

2:1 4:1 6:1 6:1 4:1 2:1

27+00.00

-Y2-

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

6/23/16

10/4/2022
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alexander.lozada

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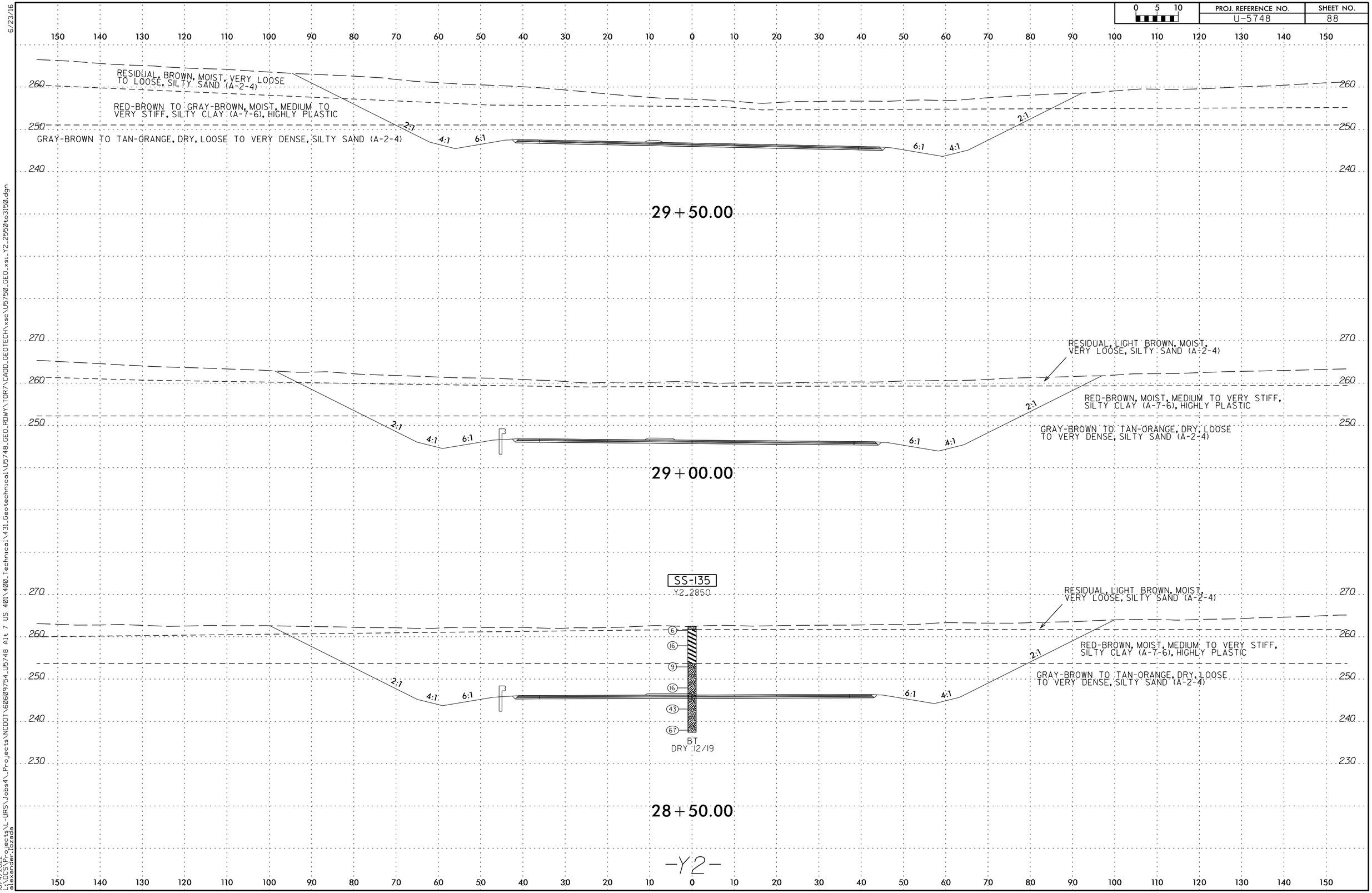
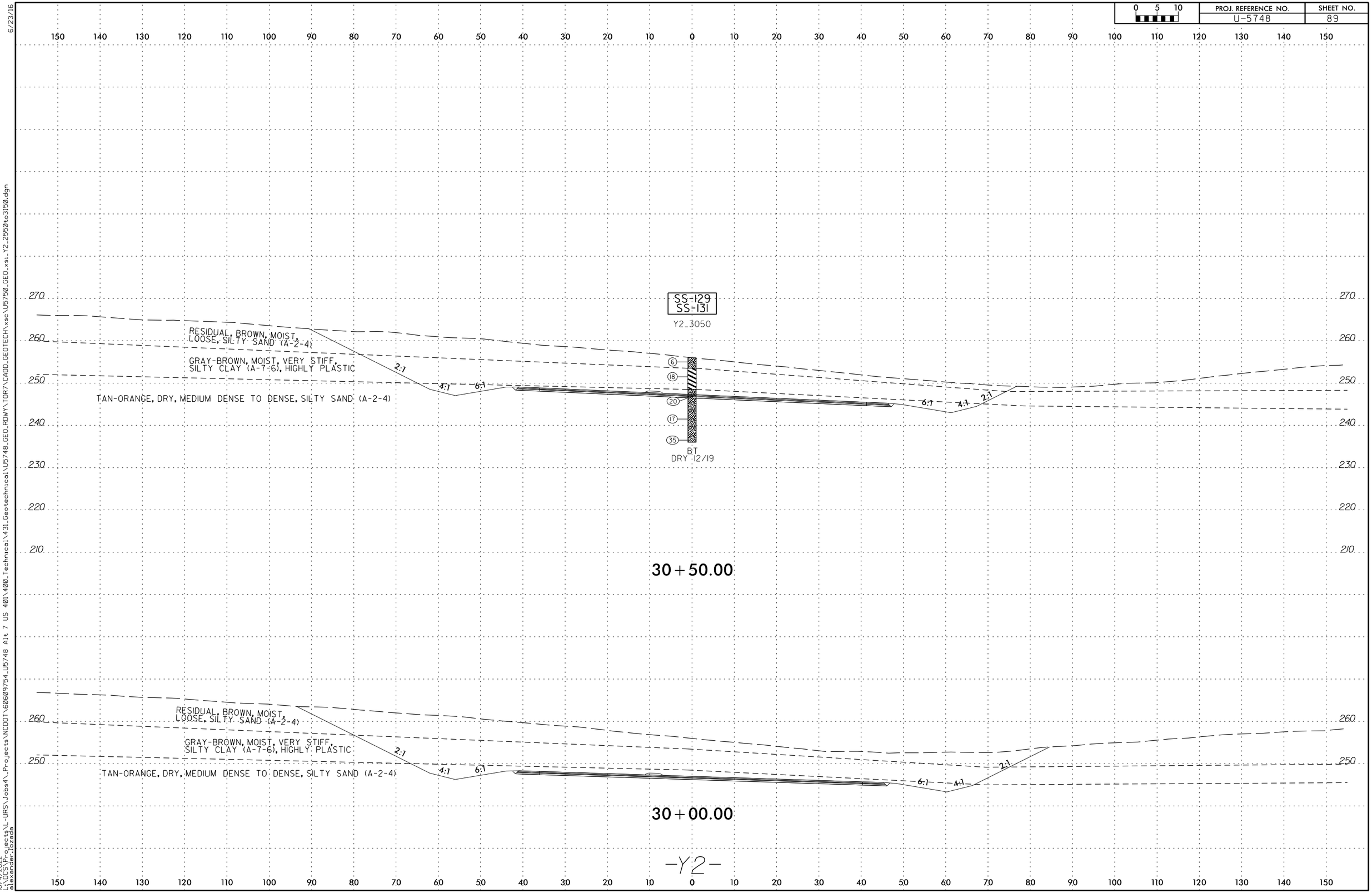
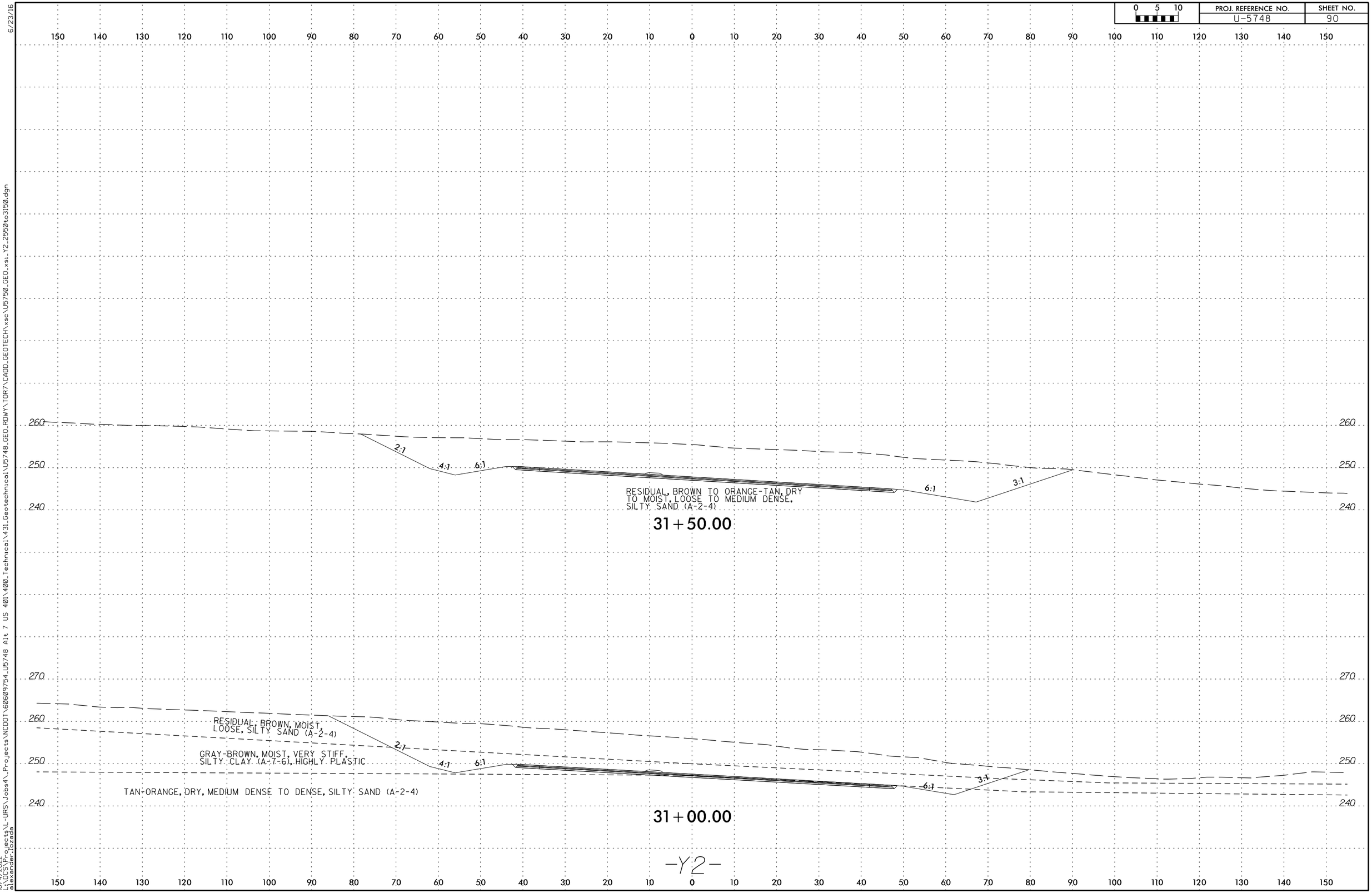
	U-5748	88







6/23/16

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alexander.lozada

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

270
260
250
240

ROADWAY EMBANKMENT, ASPHALT, ABC

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

RESIDUAL, BROWN TO GRAY, MOIST TO WET, SOFT TO STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

GRAY AND ORANGE, MOIST, MEDIUM DENSE, CLAYEY SAND (A-2-6)

GRAY AND ORANGE, MOIST, STIFF, CLAYEY SILT (A-5)

13+50.00

ROADWAY EMBANKMENT, MOIST TO WET, LIGHT BROWN, LOOSE, CLAYEY SAND (A-2-6)

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

RESIDUAL, BROWN TO GRAY, MOIST TO WET, SOFT TO STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

GRAY AND ORANGE, MOIST, MEDIUM DENSE, CLAYEY SAND (A-2-6)

GRAY AND ORANGE, MOIST, STIFF, CLAYEY SILT (A-5)

13+00.00

PROP. DRIVEWAY ADJUSTMENT

ROADWAY EMBANKMENT, MOIST TO WET, LIGHT BROWN, LOOSE, CLAYEY SAND (A-2-6)

4:1 2:1

RESIDUAL, WHITE AND ORANGE, MOIST, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

12+50.00

-Y3-

ORANGE-TAN TO WHITE, DRY, STIFF TO VERY STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

RESIDUAL, GRAY-BROWN TO RED-BROWN, MOIST, LOOSE, SILTY TO CLAYEY SAND (A-2-4, A-2-6)

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

ORANGE AND GRAY, MOIST, MEDIUM DENSE, CLAYEY SAND (A-2-7), HIGHLY PLASTIC

TAN-ORANGE, DRY TO MOIST, LOOSE TO MEDIUM DENSE, SILTY SAND (A-2-4)

14+93.84

RESIDUAL, GRAY-BROWN TO LIGHT BROWN, MOIST, LOOSE, SILTY SAND (A-2-4)

BROWN TO GRAY, MOIST TO WET, SOFT TO STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

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

GRAY AND ORANGE, MOIST, MEDIUM DENSE, CLAYEY SAND (A-2-6)

GRAY AND ORANGE TO TAN, MOIST, STIFF, CLAYEY SILT (A-5)

14+50.00

PROP. DRIVEWAY ADJUSTMENT

ARTIFICIAL FILL, BROWN AND GRAY, WET TO SATURATED, LOOSE, SILTY SAND (A-2-4)

S-022
S-023
Y3_I405_HA

SS-161
Y3_I413

4:1 2:1

BT
FIAD

(8) RESIDUAL, BROWN TO GRAY, MOIST TO WET, SOFT TO STIFF, SILTY CLAY (A-7-6), HIGHLY PLASTIC

(12)

(24) GRAY AND ORANGE, MOIST, MEDIUM DENSE, CLAYEY SAND (A-2-6)

(13) GRAY AND ORANGE, MOIST, STIFF, CLAYEY SILT (A-5)

(8)

BT
DRY 12/19

14+00.00

-Y3-

PROJECT REFERENCE NO.	SHEET NO.
U–5748	93

REFERENCE: U–5748

PROJECT: 50168

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

APPENDIX A
SOIL TEST RESULTS

AECOM

SOIL TEST RESULTS

Soil Classification and Gradation

5438 Wade Park Blvd Suite 200, Raleigh, NC 27607

WBS No.: 50168.1.1
Description: US 401 at Ligon Mill Rd/Mitchell Mill Rd and Perry Creek Rd Intersection Improvements
Client: NCDOT

County: Wake
TIP No: U-5748
Date(s) Tested: 2/3/2020 - 2/11/2022

						AASHTO					% BY WEIGHT				% FINER (SIEVES)				
BORING NO.	SAMPLE NO.	ALIGNMENT	STATION	OFFSET	DEPTH (FT)	CLASS	GI	LL	PL	PI	GRAVEL	C. SAND	F. SAND	FINES	10	40	200	% MOIST.	% ORG.
L_1850_HA	S-013	-L-	18+50	60' LT	1.0-2.5	A-6	2	36	17	19	11.3	23.8	29.3	35.6	88.7	64.9	35.6	14.5	--
L_2050_HA	S-015	-L-	20+50	60' RT	1.0-3.0	A-2-6	1	32	18	14	4.2	34.2	26.3	35.4	95.8	61.7	35.4	15.6	--
L_2050_RT	SS-207	-L-	20+50	122' RT	0.0-1.5	A-4	4	27	17	10	0.1	2.0	30.1	67.9	99.9	97.9	67.9	18.7	--
L_2300	SS-202	-L-	23+00	115' LT	3.8-5.3	A-7-6	4	45	22	23	0.0	0.1	60.3	39.6	100.0	99.9	39.6	25.2	--
L_2300_HA	S-014	-L-	23+00	60' LT	2.0-3.0	A-6	3	33	15	18	5.4	21.7	32.5	40.4	94.6	72.9	40.4	22.3	--
L_2315	SS-211	-L-	23+15	125' RT	4.0-5.5	A-6	4	34	18	16	0.0	0.8	53.6	45.6	100.0	99.2	45.6	23.2	--
L_2650	SS-235	-L-	26+50	120' LT	9.3-10.8	A-4	0	NP	NP	NP	0.1	0.4	50.8	48.8	100.0	99.6	48.8	24.9	--
L_2650_HA	S-018	-L-	26+50	60' RT	0.0-1.5	A-6	1	30	17	13	8.7	28.3	27.1	36.0	91.3	63.0	36.0	7.3	--
L_2842	SS-230	-L-	28+42	105' LT	3.7-5.2	A-6	13	36	16	20	0.1	1.7	25.3	72.9	99.9	98.2	72.9	18.4	3.1
L_2842	SS-229	-L-	28+42	105' LT	0.0-1.5	A-6	1	30	19	11	6.4	21.7	32.3	39.7	93.6	71.9	39.7	17.1	--
L_2850	SS-216	-L-	28+50	115' RT	8.9-10.4	A-7-6	18	41	21	20	0.1	1.3	12.6	86.0	99.9	98.6	86.0	24.7	3.5
L_2850_HA	S-016	-L-	28+50	60' LT	1.0-2.0	A-2-6	0	27	15	12	8.0	29.1	27.6	35.3	92.0	62.9	35.3	17.8	--
L_3050	SS-226	-L-	30+50	125' LT	0.0-1.5	A-2-4	0	21	17	4	8.8	37.1	27.9	26.2	91.2	54.1	26.2	10.9	--
L_3100	SS-243	-L-	31+00	101' RT	4.3-5.8	A-2-7	1	43	24	19	4.7	39.9	22.1	33.4	95.3	55.4	33.4	15.8	--
L_3100	SS-242	-L-	31+00	101' RT	0.0-1.5	A-7-6	12	51	22	29	2.5	21.3	22.2	54.0	97.5	76.2	54.0	14.0	--
L_3200_HA	S-012	-L-	32+00	83' LT	1.0-2.5	A-1-b	0	NP	NP	NP	19.6	31.1	31.9	17.4	80.4	49.4	17.4	9.0	--
L_3275	SS-192	-L-	32+75	53' LT	0.0-1.5	A-2-4	0	27	18	9	8.7	33.8	29.4	28.0	91.3	57.5	28.0	14.3	--
L_3500	SS-261	-L-	35+00	198' RT	0.0-1.5	A-6	2	37	18	19	10.1	29.1	23.6	37.2	89.9	60.9	37.2	16.4	--
L_3556	SS-256	-L-	35+56	63' RT	0.0-1.5	A-6	1	33	18	15	6.6	39.3	28.3	35.8	103.4	64.1	35.8	17.6	--
L_3597	SS-191	-L-	35+97	97' LT	13.4-14.9	A-2-4	0	NP	NP	NP	4.6	35.9	31.5	28.0	95.4	59.5	28.0	20.0	--
L_3627	SS-186	-L-	26+27	110' LT	3.3-4.8	A-2-4	0	28	18	10	13.2	33.6	24.8	28.4	86.8	53.2	28.4	13.6	--
L_3743	SS-273	-L-	37+43	145' RT	0.0-1.5	A-1-b	0	NP	NP	NP	8.5	44.1	27.6	19.8	91.5	47.4	19.8	16.3	--
L_3900_LT	SS-183	-L-	39+00	85' LT	0.0-1.5	A-2-6	0	33	17	16	6.9	35.6	27.8	29.8	93.1	57.5	29.8	15.4	--
L_3900_RT	SS-280	-L-	39+00	150' RT	0.0-1.5	A-4	0	35	30	5	2.3	26.5	32.2	39.0	97.7	71.2	39.0	60.2	--
L_4110	SS-179	-L-	41+00	95' LT	0.0-1.5	A-7-6	15	60	27	33	2.5	22.1	20.1	55.4	97.5	75.4	55.4	19.0	--
L_4215	SS-293	-L-	42+15	125' RT	0.0-1.5	A-2-4	0	29	24	5	4.2	35.5	28.5	31.8	95.8	60.3	31.8	18.4	--
L_4300_RT	SS-300	-L-	43+00	110' RT	3.7-5.2	A-2-6	0	40	24	16	8.5	42.0	23.3	26.2	91.5	49.5	26.2	20.7	--
L_4410	SS-305	-L-	44+10	110' RT	4.2-5.7	A-1-b	0	NP	NP	NP	7.5	48.9	25.1	18.5	92.5	43.6	18.5	15.1	--
L_4500	SS-173	-L-	45+00	50' LT	0.0-1.5	A-7-6	6	53	25	28	4.6	37.1	17.8	40.6	95.4	58.4	40.6	20.1	--
L_4700_LT	SS-170	-L-	47+00	103' LT	0.0-1.5	A-2-4	0	NP	NP	NP	4.3	41.5	29.3	24.9	95.7	54.2	24.9	12.4	--
L_4800	SS-315	-L-	48+00	95' RT	0.0-1.5	A-2-4	0	14	11	3	1.7	45.1	25.6	27.7	98.4	53.2	27.7	11.0	--
L_4892	SS-122	-L-	48+92	110' LT	0.0-1.5	A-1-b	0	NP	NP	NP	4.9	47.5	26.0	21.7	95.2	47.6	21.7	9.6	--
L_5000	SS-324	-L-	50+00	102' RT	4.6-5.6	A-7-5	9	65	31	34	2.3	31.1	24.0	42.6	97.7	66.6	42.6	21.6	--
L_5050	SS-119	-L-	50+50	84' LT	4.1-5.6	A-2-7	1	43	23	20	5.5	35.7	26.8	32.0	94.5	58.8	32.0	9.1	--
L_5200_LT	SS-116	-L-	52+00	108' LT	3.5-5.0	A-7-6	5	48	28	20	3.7	27.7	25.4	43.3	96.3	68.7	43.3	19.8	--

AECOM

SOIL TEST RESULTS

Soil Classification and Gradation

5438 Wade Park Blvd Suite 200, Raleigh, NC 27607

WBS No.: 50168.1.1
Description: US 401 at Ligon Mill Rd/Mitchell Mill Rd and Perry Creek Rd Intersection Improvements
Client: NCDOT

County: Wake
TIP No: U-5748
Date(s) Tested: 2/3/2020 - 2/11/2022

						AASHTO					% BY WEIGHT				% FINER (SIEVES)				
BORING NO.	SAMPLE NO.	ALIGNMENT	STATION	OFFSET	DEPTH (FT)	CLASS	GI	LL	PL	PI	GRAVEL	C. SAND	F. SAND	FINES	10	40	200	% MOIST.	% ORG.
L_5200_RT	SS-328	-L-	52+00	100' RT	4.5-6.0	A-7-6	8	53	26	27	3.0	30.0	20.9	46.1	97.0	67.0	46.1	19.6	--
L_5320	SS-355	-L-	53+20	120' RT	3.5-5.0	A-7-6	3	44	25	19	13.0	32.1	17.6	37.3	87.0	54.9	37.3	17.7	--
L_5373	SS-113	-L-	53+73	83' LT	14.3-15.8	A-1-b	0	NP	NP	NP	11.3	39.7	26.4	22.6	88.7	49.1	22.6	11.9	--
L_5373	SS-111	-L-	53+73	83' LT	4.3-5.8	A-7-6	11	56	24	32	1.6	26.1	25.1	47.2	98.4	72.3	47.2	20.0	--
L_5483	SS-106	-L-	54+83	41' LT	8.7-10.2	A-7-6	9	56	24	32	5.5	29.4	20.4	44.8	94.6	65.2	44.8	20.3	--
L_5483	SS-107	-L-	54+83	41' LT	13.7-15.2	A-7-6	6	42	15	27	1.7	34.5	21.6	42.2	98.3	63.8	42.2	11.0	--
L_5547	SS-334	-L-	55+47	78' RT	9.5-10.5	A-7-6	7	53	25	28	5.2	31.3	19.8	43.7	94.8	63.5	43.7	19.7	
L_5680	SS-101	-L-	56+80	37' LT	0.0-1.5	A-2-6	0	32	17	15	13.2	40.3	18.3	28.1	86.8	46.4	28.1	15.7	--
L_5900_HA	S-010	-L-	59+00	37' RT	0.0-0.5	A-6	1	33	19	14	7.3	35.4	21.5	35.8	92.7	57.3	35.8	14.7	--
L_5913	SS-093	-L-	59+13	95' LT	0.0-1.5	A-7-6	14	42	15	27	3.0	20.3	14.9	61.9	97.0	76.7	61.9	21.2	--
L_5995	SS-099	-L-	59+95	107' LT	8.7-10.2	A-2-4	0	28	24	4	7.7	37.7	30.2	24.5	92.3	54.7	24.5	5.7	--
L_6200_HA	S-009	-L-	62+00	36' RT	4.5-6.0	A-2-4	0	NP	NP	NP	17.0	22.8	45.7	14.5	83.1	60.2	14.5	11.3	
L_6223	SS-086	-L-	62+23	85' LT	14.2-15.7	A-2-4	0	32	26	6	9.9	35.3	28.2	26.6	90.1	54.8	26.6	16.1	--
L_6223	SS-083	-L-	62+23	85' LT	0.0-1.5	A-7-6	5	48	23	25	4.6	28.3	26.6	40.5	95.4	67.0	40.5	21.9	--
L_6385	SS-068	-L-	63+85	95' LT	4.0-5.5	A-2-4	0	21	14	7	11.6	40.9	21.5	26.1	88.4	47.6	26.1	8.8	--
L_6400_HA	S-008	-L-	64+00	38' RT	0.0-2.5	A-2-6	1	36	19	17	27.9	19.6	19.4	33.1	72.1	52.5	33.1	11.3	--
L_6480	SS-059	-L-	64+80	97' LT	3.4-4.9	A-2-5	0	45	35	10	10.0	35.2	23.8	31.1	90.0	54.9	31.1	25.5	--
L_6600_HA	S-006	-L-	66+00	29' RT	1.0-2.0	A-2-6	0	28	16	12	14.9	29.7	24.0	31.5	85.2	55.5	31.5	10.1	--
L_6600_LT	SS-049	-L-	66+00	96' LT	4.1-5.6	A-7-6	4	46	23	23	3.0	34.0	25.0	38.0	97.0	63.0	38.0	13.3	--
L_6700	SS-044	-L-	67+00	91' LT	0.0-1.5	A-7-6	12	61	21	40	3.2	24.5	27.7	44.6	96.8	72.3	44.6	16.7	--
L_6700	SS-045	-L-	67+00	91' LT	4.1-5.9	A-7-6	6	46	22	24	4.5	24.6	28.0	43.0	95.5	71.0	43.0	13.7	--
L_6800_HA	S-005	-L-	68+00	31' RT	4.0-5.0	A-2-4	0	NP	NP	NP	16.1	25.4	43.2	15.3	83.9	58.5	15.3	9.2	--
L_7000	SS-031	-L-	70+00	93' LT	0.0-1.5	A-7-6	5	42	20	22	3.7	24.3	29.6	42.3	96.3	72.0	42.3	21.9	--
L_7170	SS-028	-L-	71+70	90' LT	0.0-1.5	A-1-b	0	21	17	4	23.7	32.3	26.3	17.7	76.3	44.0	17.7	7.9	--
L_7300_HA	S-002	-L-	73+00	81' RT	0.0-1.5	A-2-6	1	35	19	16	17.1	28.4	21.0	33.5	82.9	54.5	33.5	17.5	
L_7392	SS-025	-L-	73+92	91' LT	14.1-15.6	A-4	0	29	22	7	1.2	31.8	30.6	36.4	98.8	67.0	36.4	12.3	--
L_7450_HA	S-001	-L-	74+50	0' CL	1.0-3.0	A-2-4	0	NP	NP	NP	16.9	24.3	44.2	14.6	83.1	58.8	14.6	7.4	--
L_7595	SS-018	-L-	75+95	100' LT	3.7-5.2	A-7-6	12	60	25	35	0.7	26.7	24.8	47.8	99.3	72.6	47.8	17.3	--
L_7700_LT	SS-015	-L-	77+00	92' LT	3.7-5.2	A-7-6	28	74	26	48	0.9	20.0	17.4	61.7	99.1	79.1	61.7	26.6	--
L_7800	SS-012	-L-	78+00	95' LT	3.9-5.4	A-2-6	0	39	25	14	2.9	36.6	28.6	31.9	97.1	60.5	31.9	27.3	--
L_7900_RT	SS-345	-L-	79+00	83' RT	0.0-1.5	A-7-5	38	75	30	45	0.4	11.8	10.7	77.1	99.6	87.8	77.1	29.5	
L_8108	SS-008	-L-	81+08	115' LT	3.5-5.0	A-7-6	12	56	29	27	0.7	19.1	25.1	55.0	99.3	80.2	55.0	21.0	--
L_8280	SS-352	-L-	82+80	100' RT	5.3-5.8	A-7-6	4	50	21	29	3.8	39.0	18.4	38.8	96.2	57.2	38.8	18.7	
L_8450_HA	S-031	-L-	84+50	70' RT	0.5-1.0	A-2-6	0	35	21	14	17.3	32.3	25.9	24.6	82.7	50.5	24.6	12.9	--
L_8498	SS-002	-L-	84+98	108' LT	3.7-5.2	A-7-6	5	50	27	23	3.1	28.1	28.4	40.3	96.9	68.7	40.3	25.0	--

AECOM

SOIL TEST RESULTS

Soil Classification and Gradation

5438 Wade Park Blvd Suite 200, Raleigh, NC 27607

WBS No.: 50168.1.1
Description: US 401 at Ligon Mill Rd/Mitchell Mill Rd and Perry Creek Rd Intersection Improvements
Client: NCDOT

County: Wake
TIP No: U-5748
Date(s) Tested: 2/3/2020 - 2/11/2022

						AASHTO					% BY WEIGHT				% FINER (SIEVES)				
BORING NO.	SAMPLE NO.	ALIGNMENT	STATION	OFFSET	DEPTH (FT)	CLASS	GI	LL	PL	PI	GRAVEL	C. SAND	F. SAND	FINES	10	40	200	% MOIST.	% ORG.
L1_2475_LT	SS-007	-L1-	24+75	74 LT	0.0-1.5	A-1-b	0	0	0	0	33.4	22.6	25.7	18.3	66.6	44.1	18.3	15.5	--
L1_2494	SS-023	-L1-	24+94	2 LT	0.0-2.0	A-6	5	38	19	19	2.1	28.6	24.5	44.8	97.9	69.3	44.8	18.3	--
L1_2648_RT	SS-011	-L1-	26+48	65 RT	0.0-1.5	A-6	4	36	17	19	0.7	27.4	27.8	44.1	99.3	71.9	44.1	15.8	--
L1_2987	SS-026	-L1-	29+87	6 RT	0.0-4.0	A-7-6	13	59	27	32	0.2	26.0	22.8	51.0	99.8	73.8	51.0	21.7	--
L1_3199	SS-027	-L1-	31+99	2 LT	0.0-3.6	A-7-7	7	47	22	25	0.9	28.6	25.5	44.9	99.1	70.5	44.9	18.8	--
L1_4701	SS-021	-L1-	47+01	2 LT	0.0-1.0	A-6	3	36	19	17	0.7	23.7	34.4	41.3	99.3	75.7	41.3	21.2	--
L1_4946_LT	S-004	-L1-	49+46	70 LT	8.7-10.2	A-2-4	0	0	0	0	0.7	35.6	31.9	31.9	99.3	63.8	31.9	16.3	--
L1_5002	SS-018	-L1-	50+02	4 LT	1.0-4.0	A-2-4	0	0	0	0	7.7	34.0	32.1	26.3	92.3	58.4	26.3	16.5	--
L1_5644_RT	SS-015	-L1-	56+44	70 RT	3.8-5.2	A-7-6	9	54	28	26	0.9	28.6	25.5	44.9	99.1	70.5	44.9	24.5	--
L1_5897	SS-015	-L1-	58+97	1 RT	0.0-4.0	A-2-6	1	35	16	19	4.4	33.9	29.3	32.3	95.6	61.7	32.3	16.5	--
Y1_1300	SS-257	-Y1-	13+00	90' LT	0.0-1.5	A-6	2	37	19	18	5.5	34.0	22.4	38.1	94.5	60.5	38.1	15.1	
Y1_1300	SS-259	-Y1-	13+00	90' LT	9.0-10.5	A-7-6	12	59	23	36	2.5	24.5	25.0	48.1	97.6	73.1	48.1	16.4	
Y2_1250_HA	S-028	-Y2-	12+50	13' LT	1.0-1.5	A-2-4	0	20	13	7	1.3	31.7	35.1	31.9	98.7	67.0	31.9	15.4	
Y2_1450_HA	S-029	-Y2-	14+50	14' RT	1.0-1.5	A-6	2	35	18	17	3.4	32.5	27.7	36.4	96.6	64.1	36.4	11.3	--
Y2_1600_HA	S-026	-Y2-	16+00	6' LT	1.0-2.5	A-2-6	0	28	15	13	4.1	33.0	34.2	28.7	95.9	62.9	28.7	24.0	--
Y2_1859	SS-166	-Y2-	18+59	11' LT	8.7-10.2	A-2-7	5	59	23	36	6.5	28.9	29.6	34.9	93.5	64.5	34.9	11.0	--
Y2_2050	SS-158	-Y2-	20+50	33' LT	13.0-14.5	A-2-4	0	35	30	5	6.3	35.7	26.4	31.6	93.8	58.1	31.6	16.2	
Y2_2050	SS-156	-Y2-	20+50	33' LT	3.0-4.5	A-7-6	4	50	24	26	2.1	32.5	27.9	37.5	98.0	65.4	37.5	13.5	--
Y2_2430	SS-145	-Y2-	24+30	0' CL	0.0-1.5	A-2-4	0	NP	NP	NP	7.2	40.1	32.8	19.9	92.8	52.8	19.9	8.9	--
Y2_2650	SS-141	-Y2-	26+50	0' CL	4.3-5.8	A-7-6	6	51	22	29	2.8	33.8	22.5	40.9	97.2	63.4	40.9	13.3	--
Y2_2850	SS-135	-Y2-	28+50	0' CL	3.6-5.1	A-7-6	8	55	25	30	2.6	30.3	23.8	43.2	97.4	67.0	43.2	15.1	
Y2_3050	SS-131	-Y2-	30+50	0' CL	13.5-15.0	A-2-4	0	33	25	8	8.0	34.3	27.0	30.7	92.0	57.7	30.7	12.5	--
Y2_3050	SS-129	-Y2-	30+50	0' CL	3.5-5.0	A-7-6	15	63	25	38	1.1	24.1	23.7	51.1	98.9	74.8	51.1	22.6	--
Y3_1200_HA	S-024	-Y3-	12+00	13' RT	1.0-2.5	A-2-6	0	27	15	12	14.3	36.6	21.4	27.6	85.7	49.1	27.6	13.1	
Y3_1405_HA	S-022	-Y3-	14+05	22' RT	1.0-2.5	A-2-4	0	27	17	10	10.7	28.1	30.5	30.7	89.3	61.2	30.7	20.0	--
Y3_1405_HA	S-023	-Y3-	14+05	22' RT	4.0-5.5	A-7-6	49	78	26	52	0.5	7.8	6.6	85.2	99.6	91.7	85.2	33.4	--
Y3_1413	SS-161	-Y3-	14+13	36' RT	3.3-4.8	A-7-6	4	43	23	20	2.9	31.3	23.5	42.3	97.1	65.8	42.3	--	--
Y4_1100_HA	S-032	-Y4-	11+00	15' RT	1.0-2.0	A-6	3	40	21	19	8.5	26.3	26.3	38.9	91.5	65.2	38.9	10.4	
Y4_1300_HA	S-021	-Y4-	13+00	23' LT	1.0-2.5	A-7-6	5	54	27	27	2.6	29.3	29.6	38.5	97.5	68.2	38.5	18.2	--
Y4_1500_HA	S-019	-Y4-	15+00	25' LT	1.0-2.5	A-2-4	0	20	17	3	12.6	29.5	26.6	31.3	87.4	57.9	31.3	16.0	--

TESTED BY: Michael P. Sm

NCDOT No.: 129-03-0411

PROJECT REFERENCE NO.	SHEET NO.
U–5748	97

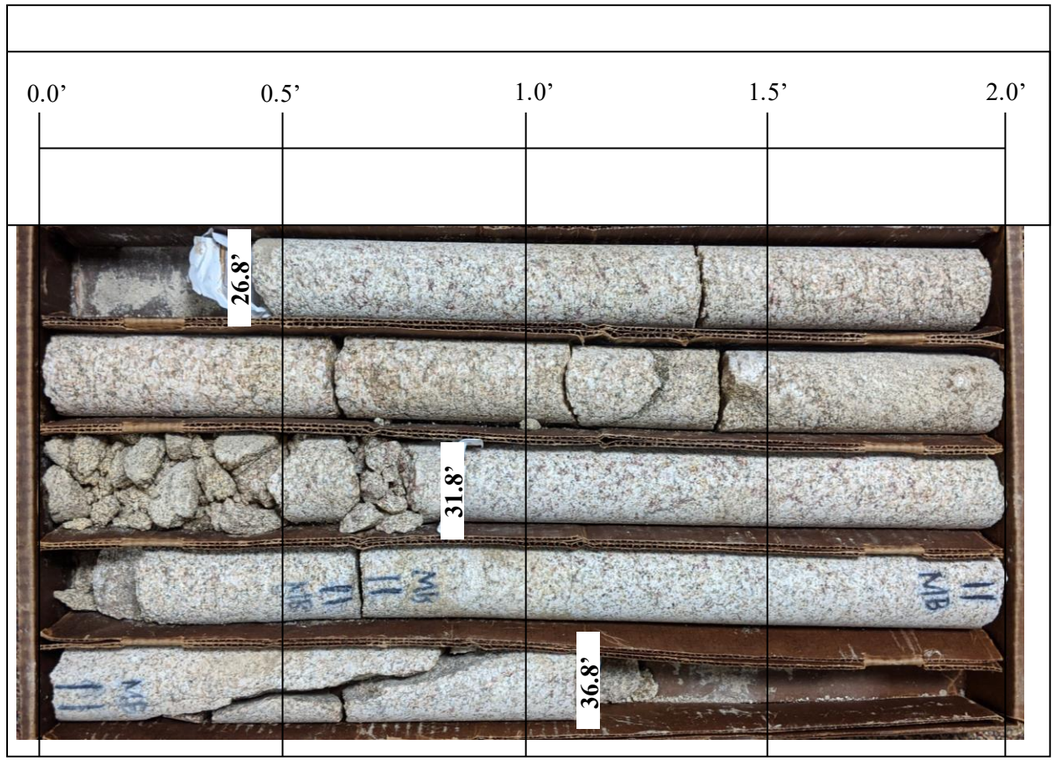
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

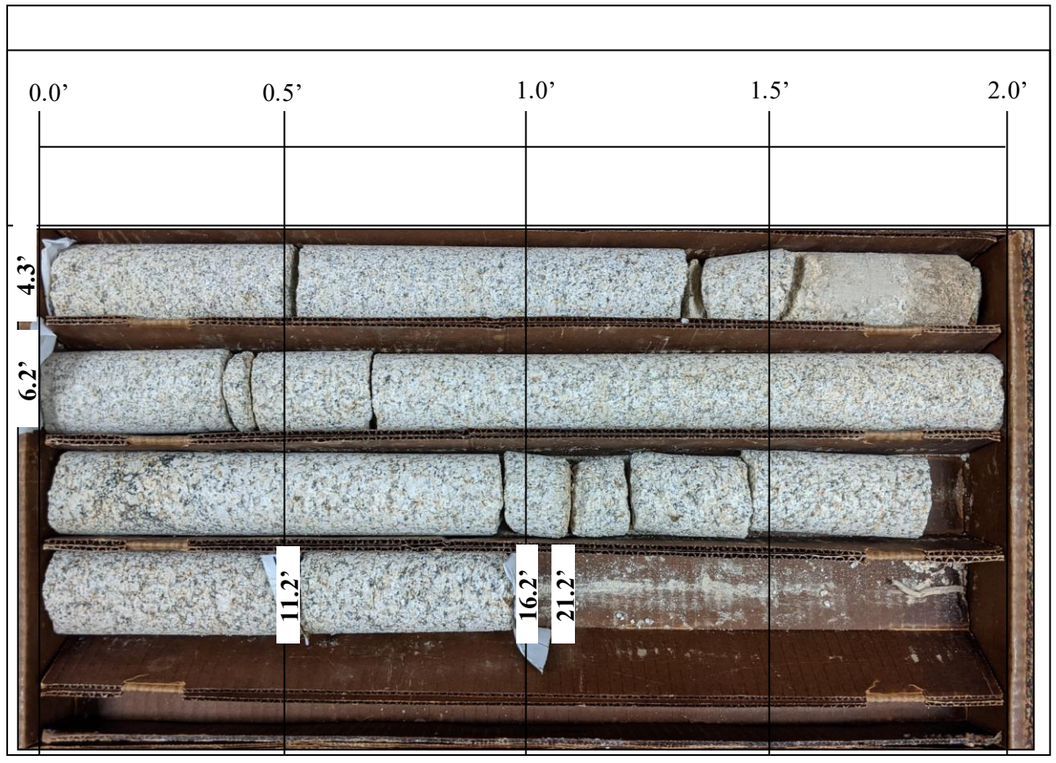
APPENDIX B
ROCK CORE PHOTOGRAPHS

REFERENCE: U–5748

PROJECT: 50168



Sta. 32+48 -L-, 139-ft RT, Box 1 of 1, 26.8-ft to 36.8-ft



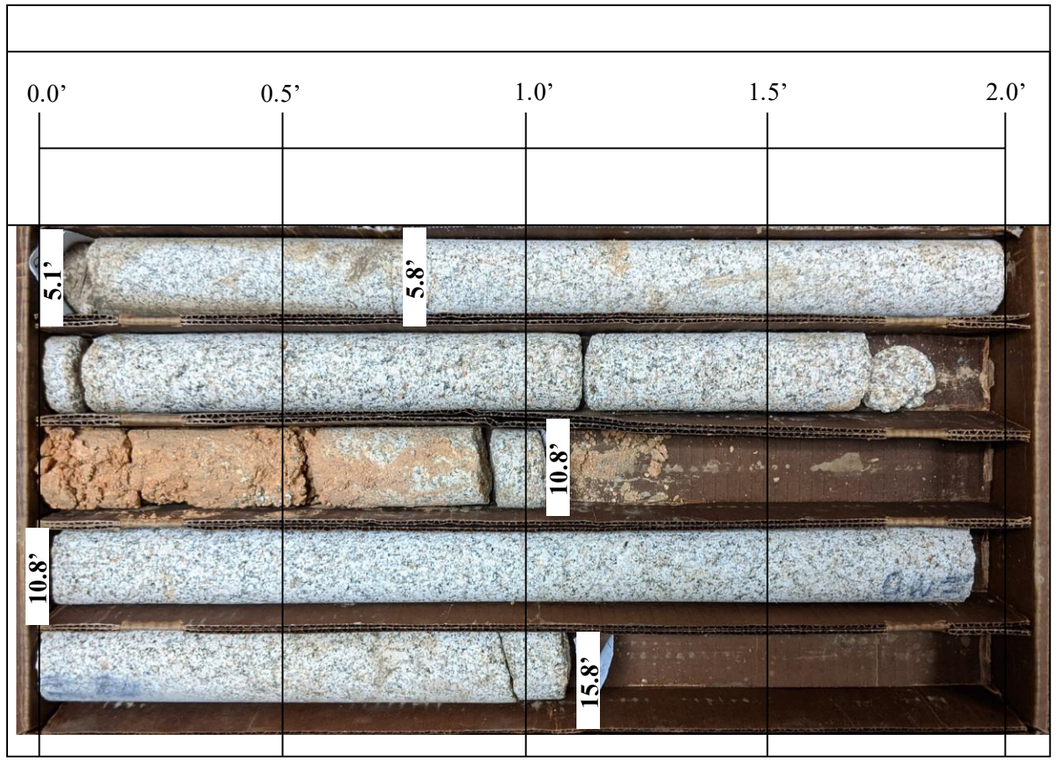
Sta. 71+00 -L-, 92-ft LT, Box 1 of 1, 4.3-ft to 21.2-ft

SCALE 1:40 (1”=4”)

ROCK CORE PHOTOGRAPHS

U.S. 401 AND LIGON MILL-MITCHELL MILL ROAD IMPROVEMENTS
WAKE COUNTY, NORTH CAROLINA
WBS NO.: 50168.1.1, TIP NO.: U-5748

AECOM
AECOM– North Carolina
1600 Perimeter Park Drive, Suite 400
Morrisville, NC 27560
Tel: 919-461-1100 Fax: 919-46-1415



Sta. 75+00 -L-, 110-ft LT, Box 1 of 1, 5.1-ft to 15.8-ft

SCALE 1:40 (1”=4”)

ROCK CORE PHOTOGRAPHS

U.S. 401 AND LIGON MILL-MITCHELL MILL ROAD IMPROVEMENTS
WAKE COUNTY, NORTH CAROLINA
WBS NO.: 50168.1.1, TIP NO.: U-5748

AECOM
AECOM– North Carolina
1600 Perimeter Park Drive, Suite 400
Morrisville, NC 27560
Tel: 919-461-1100 Fax: 919-46-1415