

REFERENCE: R-3300B

PROJECT: 40237

SEE SHEET 3 FOR PLAN SHEET LAYOUT
AT TIME OF INVESTIGATION

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-Y31-	18+20 to 46+00	14	81-82
-Y31DET-	19+50 to 45+71	14	83-84
-Y31RPA-	5+00 to 15+90	14	85
-Y31RPB-	5+00 to 19+37	13-14	86-87
-Y31RPC-	5+00 to 23+22	13-14	88-89
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-Y32LPA2-	5+00 to 14+33	23	96
-Y25-	10+00 to 10+98	25	-
-Y35-	10+80 to 11+62	27	97
-Y38-	17+15 to 25+00	9	97
-Y40-	231+00 to 256+67	23,33	98-99
-Y41-	10+14 to 11+30	33	100
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CROSS SECTIONS

LINE	STATION	SHEETS
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-LI-	648+50 to 658+00	125-133
-LI-	659+50 to 665+50	134-140
-LI-	677+00 to 677+50	141
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-LI-	710+00 to 715+50	143-147
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-LI-	731+50 to 741+50	149-156
-LI-	779+00 to 820+00	157-182
-LI.NORTHERN-	820+00 to 836+00	183-193
-LI.NORTHERN-	840+50 to 851+50	194-200
-LI.NORTHERN-	861+00 to 864+00	201-203
-Y30-	41+50 to 47+50	204-213
-Y30-	55+00 to 59+50	214-218
-Y30DET-	18+00 to 21+00	219-221
-Y30DET-	44+00 to 46+50	222-224
-Y30DET-	60+00 to 61+50	225-226
-Y30RPA-	14+00 to 19+50	227-232
-Y30RPB-	13+50 to 17+50	233-237
-Y30RPC-	7+00 to 25+50	238-264
-Y30RPD-	12+50 to 20+00	265-274
-Y31-	19+50 to 21+00	275-276
-Y31-	32+00	277
-Y31DET-	20+00 to 21+50	278-279
-Y31RPA-	11+00 to 11+50	280
-Y32-	19+00 to 21+00	281-284
-Y32-	26+50 to 39+00	285-298
-Y32RPBI-	13+00 to 22+50	299-312
-Y32LPA2-	5+50 to 14+00	313-320
-SR4-	10+50 to 11+00	321
-SR5-	10+50 to 11+50	322
-SR6-	24+50 to 28+00	323-326
-SR7-	15+50 to 22+00	327-333
-SR7-	27+00 to 30+00	334-337
-SR7-	34+50 to 37+50	338-340
-SR7-	44+50 to 57+00	341-353
-SR8-	14+50 to 18+50	354-358
-SR8-	21+50 to 23+00	359-362

APPENDIX I

CPT LOGS

SHEETS

I-88

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

ROADWAY
SUBSURFACE INVESTIGATION

COUNTY PENDER

PROJECT DESCRIPTION NC 417 (HAMPSTEAD BYPASS)
FROM SOUTH OF NC 210 TO US-17
NORTH OF HAMPSTEAD

INVENTORY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3300B	1	363

CAUTION NOTICE

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

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

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PERSONNEL

CATLIN PERSONNEL

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DATE MARCH 2020



SIGNATURE DATE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

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-4, A-5	
SYMBOL	A-1-a	A-1-b	A-2-4		A-2-5		A-2-6		A-2-7						A-7-5, A-7-6		A-3	
% 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	36 MN	36 MN	36 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT	
MATERIAL PASSING #40 LL PI	— 6 MX		— NP		40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER			HIGHLY ORGANIC SOILS		
GROUP INDEX	0		0		0		4 MX		8 MX		12 MX		16 MX		NO MX			
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. OF 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 RESISTANCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH (TONS/FT ²)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	< 4 4 TO 10 10 TO 30 30 TO 50 > 50	N/A
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD	< 2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 > 30	< 0.25 0.25 TO 0.5 0.5 TO 1.0 1 TO 2 2 TO 4 > 4

TEXTURE OR GRAIN SIZE

U.S. STD. SIEVE SIZE OPENING (MM)	4	10	40	60	200	270
	4.75	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

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

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
LL PLASTIC RANGE (PI) PL	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
	- WET - (W)	SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE
	- MOIST - (M)	SOLID; AT OR NEAR OPTIMUM MOISTURE
OM SL	- 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	MODERATELY COMPRESSIBLE	HIGHLY COMPRESSIBLE
LL < 31	LL = 31 - 50	LL > 50

PERCENTAGE OF MATERIAL

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

GROUND WATER

WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING

STATIC WATER LEVEL AFTER 24 HOURS

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

DIP & DIP DIRECTION OF ROCK STRUCTURES

SPT DMT VST PMT TEST BORING

AUGER BORING

CORE BORING

MONITORING WELL

PIEZOMETER INSTALLATION

SLOPE INDICATOR INSTALLATION

CONE PENETROMETER TEST

SOUNDING ROD

TEST BORING WITH CORE

SPT N-VALUE

RECOMMENDATION SYMBOLS

UNDERCUT

SHALLOW UNDERCUT

UNCLASSIFIED EXCAVATION - UNSUITABLE WASTE

UNCLASSIFIED EXCAVATION - ACCEPTABLE DEGRADABLE ROCK

UNCLASSIFIED EXCAVATION - ACCEPTABLE, BUT NOT TO BE USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL

ABBREVIATIONS

AR - AUGER REFUSAL
BT - BORING TERMINATED
CL - CLAY
CPT - CONE PENETRATION TEST
CSE - COARSE
DMT - DILATOMETER TEST
DPT - DYNAMIC PENETRATION TEST
e - VOID RATIO
F - FINE
FOSS - FOSSILIFEROUS
FRAC - FRACTURED, FRACTURES
FRAGS - FRAGMENTS
HL - 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 - TRI-CONE REFUSAL
w - MOISTURE CONTENT
V - VERY

VST - VANE SHEAR TEST
WEA. - WEATHERED
γ_u - 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
☒ CME-45B
☐

ADVANCING TOOLS:
☒ CLAY BITS
☐ 6" CONTINUOUS FLIGHT AUGER
☐ 8" HOLLOW AUGERS
☐ HARD FACED FINGER BITS
☐ TUNG-CARBIDE INSERTS
☒ CASING ☐ W/ ADVANCER
☒ TRICONE 2 15/16" STEEL TEETH
☐ TRICONE " TUNG.-CARB.
☐ CORE BIT
☒ CPT RIG

HAMMER TYPE:
☒ AUTOMATIC ☐ MANUAL

CORE SIZE:
☐ -B ☐ -H ☐ -N

HAND TOOLS:
☐ POST HOLE DIGGER
☒ HAND AUGER
☐ SOUNDING ROD
☐ VANE SHEAR TEST
☒ SOIL PROBE

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)

CRYSTALLINE ROCK (CR)

NON-CRYSTALLINE ROCK (NCR)

COASTAL PLAIN SEDIMENTARY ROCK (CP)

NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > 100 BLOWS PER FOOT IF TESTED.

FINE TO COARSE GRAIN IGNEOUS AND METAMORPHIC ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES GRANITE, GNEISS, GABBRO, SCHIST, ETC.

FINE TO COARSE GRAIN METAMORPHIC AND NON-COASTAL PLAIN SEDIMENTARY ROCK THAT WOULD YIELD SPT REFUSAL IF TESTED. ROCK TYPE INCLUDES PHYLLITE, SLATE, SANDSTONE, ETC.

COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD SPT REFUSAL. ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.

WEATHERING

FRESH
VERY SLIGHT (V SL.)
SLIGHT (SL.)
MODERATE (MOD.)
MODERATELY SEVERE (MOD. SEV.)
SEVERE (SEV.)
VERY SEVERE (V SEV.)
COMPLETE

ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING. ROCK RINGS UNDER HAMMER IF CRYSTALLINE.
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.
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.
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.
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*
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*
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*
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
HARD
MODERATELY HARD
MEDIUM HARD
SOFT
VERY SOFTCANNOT BE SCRATCHED BY KNIFE OR SHARP PICK. BREAKING OF HAND SPECIMENS REQUIRES SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.
CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.
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.
CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PIECES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.
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.
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

BEDDING

INDURATION

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

FRIABLE
MODERATELY INDURATED
INDURATED
EXTREMELY INDURATEDRUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE.
GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.
GRAINS ARE DIFFICULT TO SEPARATE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.
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 DISLOGGED FROM PARENT MATERIAL.
FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE FIELD.
JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO ITS LATERAL EXTENT.
LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.
PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE OF AN INTERVENING IMPERVIOUS STRATUM.
RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
ROCK QUALITY DESIGNATION (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 DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.
STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.

BENCH MARK: r3300Bb.ls.tn.i810i6.tin dated 1/2/19

ELEVATION: FEET

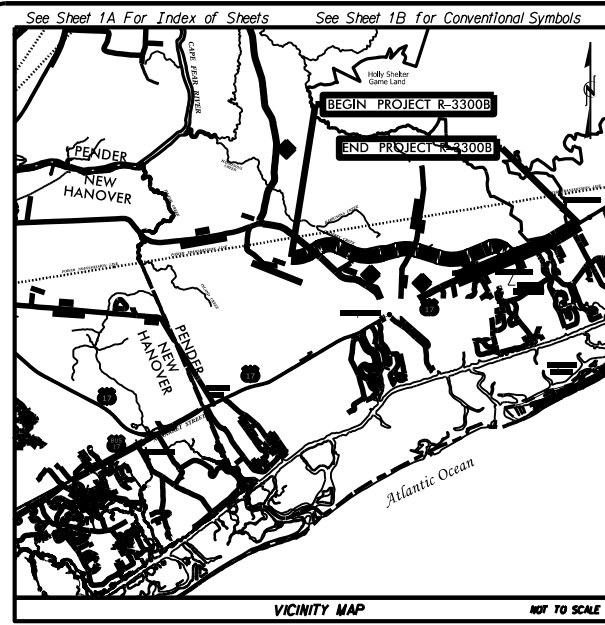
NOTES:
U.C.P. = UNDIVIDED COASTAL PLAIN = UNDIVIDED C.P.
NM = NO MEASUREMENT
FIAD = FILLED IMMEDIATELY AFTER DRILLING
C.H.F. = CASTLE HAYNE FORMATION

APPROXIMATE LIMIT OF ORGANIC SOILS

DATE: 8-15-14

19-FEB-2020 12:15
C:\Users\Lee\Stone\Share\NR3300B.GEO\RDWY\CADD\GEO\TECH\Site&Sub\NR3300B_rdy_tsh.dgn
Lee Stone AT LSTONE-CAD-PC

CONTRACT: **TIP PROJECT: R-3300B**



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

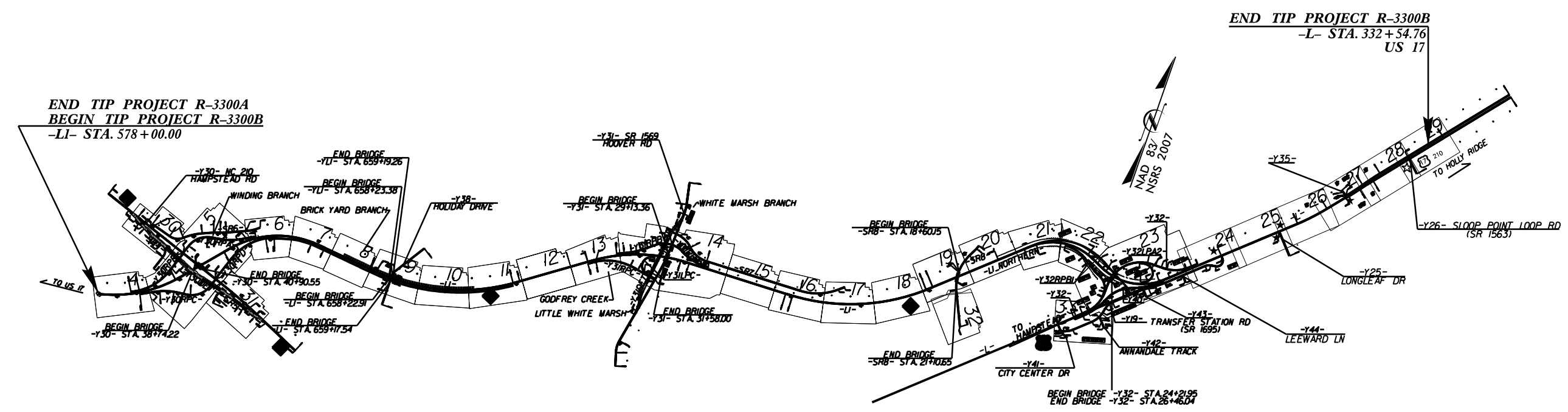
PENDER COUNTY



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-3300B	3	363
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
40237.1.1	N/A	PE	
40237.2.1	N/A	R/W	

LOCATION: NC 417 (HAMPSTEAD BYPASS) FROM SOUTH OF NC 210
TO EAST OF SR 1563 (SLOOP POINT LOOP ROAD).

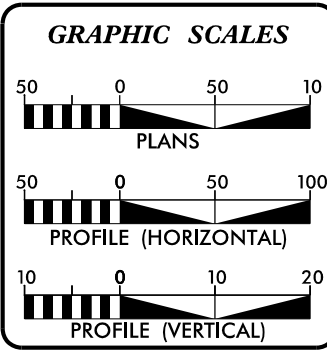
TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES,
SIGNALS, AND CULVERTS



☆ UPDATE EXISTING SIGNAL
★ PROPOSED SIGNAL

-PART OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF HAMPSTEAD.
-THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.
-CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY MODIFIED METHOD III.

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



DESIGN DATA

ADT 2016	=	N/A
ADT 2040	=	55,400
DHV	=	8 %
D	=	60 %
T	=	6 % *
V	=	70 MPH
*(TTST 2% + DUALS 4%)		
FUNC CLASS = FREEWAY		
REGIONAL TIER		

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-3300B	=	6.893 MILES
LENGTH STRUCTURE TIP PROJECT R-3300B	=	0.023 MILES
TOTAL LENGTH TIP PROJECT R-3300B	=	6.916 MILES

PREPARED IN THE OFFICE OF:
STANTEC CONSULTING
801 Jones Franklin Road | Suite 300 | Raleigh, NC 27606
Tel. (919) 851-6866 | Fax. (919) 851-7024 | www.stantec.com
License No. F-0672

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 1, 2019

LETTING DATE:
SEPTEMBER 10, 2020

MICHAEL D. LINDGREN, P.E.
PROJECT ENGINEER

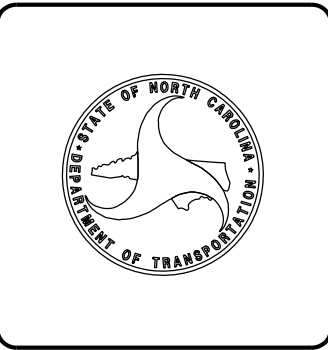
TRACE HOWELL, P.E.
NCDOT DIVISION 3 CONTACT

HYDRAULICS ENGINEERS

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



WBS Number: 40237.1.1
TIP Number: R-3300B
F.A .Project N/A
County: Pender
Description: NC 417 (Hampstead Bypass) From South of NC 210 to US-17 North of Hampstead

CATLIN Number: 217060

SUBJECT: Geotechnical Inventory Report

Project Description

This project begins at the northern terminus of NCDOT TIP Project R-3300A, north of Wilmington and extends northward for approximately 6± miles. This Geotechnical Investigation was confined to areas of proposed construction.

Fieldwork was conducted from July of 2018 through January 2020. Standard Penetration Tests (SPT) borings, Cone Penetration Tests (CPT) borings, hand auger borings, and soil probes were completed along and at various offsets from the proposed project alignments. Representative soil samples have been collected for visual classification in the field and for laboratory analysis.

The following alignments were investigated. Subsurface profiles and selected cross sections of these alignments are included in this report.

Line	Station (±)
-L1-	578+00 to 820+00
-LINORTHERN-	820+00 to 874+60
-L-*	220+39 to 231+00
-L-*	264+00 to 307+44
-LLT-*	307+44 to 332+55
-LRT-*	307+44 to 332+55
-Y19-	10+55 to 59+26
-Y20-*	10+11 to 11+09
-Y25-*	10+00 to 10+98
-Y26-*	10+26 to 12+25
-Y30-	22+25 to 59+00
-Y30DET-	18+31 to 60+96
-Y30RPA-	5+00 to 25+04
-Y30RPB-	5+00 to 21+88
-Y30RPC-	5+00 to 25+88
-Y30RPD-	5+00 to 23+80
-Y31-	18+20 to 46+00
-Y31DET-	19+50 to 45+71

Line	Station (±)
-Y31RPA-	5+00 to 15+90
-Y31RPB-	5+00 to 19+37
-Y31RPC-	5+00 to 23+22
-Y31LPC-	5+00 to 14+40
-Y32-	10+00 to 47+12
-Y32RPB1-	5+00 to 22+88
-Y32LPA2-	5+00 to 14+33
-Y35-*	10+80 to 11+62
-Y38-	17+15 to 25+00
-Y40-	231+00 to 256+67
-Y41-	10+14 to 11+30
-Y42-	10+12 to 11+40
-Y43-	10+12 to 11+00
-Y44-	10+12 to 11+75
-SR4-	10+10 to 27+65
-SR5-	10+26 to 21+20
-SR6-	10+26 to 39+89
-SR7	10+15 to 57+20
-SR8-	12+55 to 32+81

*Investigated under TIP U-5732 by Falcon Engineering.

Areas of Special Geotechnical Interest

- 1) All but the following sections of the project exhibit high groundwater.

Line	Station (±)
-L1-	631+00 to 634+00
-L1-	675+00 to 677+00
-L-	220+39 to 225+00
-L-	278+00 to 283+00
-LLT-	327+00 to 332+55
-LRT-	327+00 to 332+55
-Y30DET-	21+00 to 24+50
-Y31-	21+50 to 24+00
-SR4-	11+00 to 16+50
-SR6-	12+00 to 14+00

- 2) The following sections contain organic soils that have the potential to cause embankment/subgrade and or slope stability problems during construction.

Line	Station (±)
-L1-	580+87 to 582+19
-L1-	586+62 to 588+48
-L1-	590+75 to 598+17
-L1-	611+00 to 614+06

Line	Station (±)
-L1-	641+53 to 642+46
-L1-	648+53 to 652+12
-L1-	653+00 to 658+49
-L1-	658+89 to 665+22
-L1-	710+01 to 715+15
-L1-	731+83 to 741+41
-L1-	779+11 to 791+78
-L1-	793+20 to 820+00
-L1NORTHERN-	820+00 to 824+33
-L1NORTHERN-	826+69 to 828+34
-L1NORTHERN-	830+55 to 835+78
-L1NORTHERN-	840+95 to 851+25
-L1NORTHERN-	860+77 to 864+00
-Y30-	41+41 to 42+98
-Y30-	44+15 to 47+15
-Y30-	55+02 to 56+74
-Y30DET-	43+77 to 46+02
-Y30DET-	55+71 to 56+91
-Y30RPA-	14+12 to 19+12
-Y30RPB-	5+03 to 6+75
-Y30RPB-	13+52 to 17+44
-Y30RPC-	7+30 to 23+84
-Y30RPC-	24+45 to 25+90
-Y30RPD-	12+75 to 16+34
-Y30RPD-	17+79 to 19+99
-Y31-	20+11 to 21+02
-Y31-	28+87 to 31+37
-Y31DET-	20+07 to 21+44
-Y31RPA-	6+24 to 11+36
-Y31RPC-	5+00 to 9+56
-Y32-	19+20 to 20+75
-Y32-	26+25 to 38+75
-Y32RPB1-	7+79 to 22+84
-Y32LPA2-	5+29 to 14+33
-Y19-	23+93 to 25+28
-SR6-	24+78 to 27+48
-SR7-	15+69 to 19+44
-SR7	21+07 to 21+96
-SR7-	26+93 to 29+55
-SR7-	34+62 to 37+47
-SR7-	44+59 to 57++68
-SR8-	14+51 to 22+70

3) All but the following sections contain cohesive soils that have the potential to cause embankment/subgrade and or slope stability problems during construction.

Line	Station (±)
-L1-	685+89 to 695+10
-L1-	696+62 to 703+52
-L1-	728+43 to 731+05
-L1-	733+82 to 741+40
-L1-	749+59 to 750+11
-L1-	755+68 to 757+10
-L1-	768+56 to 771+09
-L1-	775+70 to 787+30
-L1-	803+85 to 805+26
-L1-	807+89 to 812+99
-L1 NORTHERN-	821+34 to 826+34
-L1 NORTHERN-	839+06 to 841+12
-L1 NORTHERN-	845+69 to 874+60
-L-	220+39 to 231+00
-L-	264+00 to 307+44
-LLT-	307+44 to 332+55
-LRT-	307+44 to 332+55
-Y19-	11+27 to 59+26
-Y20-	10+11 to 11+09
-Y26-	10+26 to 12+25
-Y31-	19+42 to 20+00
-Y31-	38+82 to 39+81
-Y31-	41+98 to 46+00
-Y31DET-	19+35 to 20+08
-Y31DET-	23+56 to 32+29
-Y31DET-	36+22 to 37+40
-Y31DET-	40+61 to 45+71
-Y31RPA-	5+59 to 9+44
-Y31RPB-	9+65 10+10
-Y31RPB-	12+57 to 12+78
-Y31RPC-	9+85 to 10+98
-Y31RPC-	13+11 to 22+14
-Y32-	10+00 to 20+17
-Y32-	22+91 to 26+20
-Y32-	29+83 to 47+12
-Y32RPB1-	5+00 to 9+43
-Y32RPB1-	10+87 to 14+71
-Y32RPB1-	17+25 to 20+42
-Y32RPB1-	21+72 to 22+88
-Y32LPA2-	5+00 to 14+33
-Y35-	10+80 to 11+62
-Y38-	17+15 to 25+00
-Y40-	231+00 to 239+51
-Y40-	248+13 to 256+67
-Y42-	10+12 to 11+40
-Y43-	10+12 to 11+10
-Y44-	10+12 to 11+75

Line	Station (±)
-SR6-	34+63 to 38+03
-SR7-	47+90 to 57+20
-SR8-	12+55 to 13+22
-SR8-	26+98 to 32+81

4) Water Wells were encountered at the following locations.

Line	Station/Offset (±)
-Y30-	33+22, 82’ RT
-Y30RPD-	21+95, 47’ RT
-Y30RPD-	21+85, 6’ LT
-Y31-	38+30, 42’ RT
-SR4-	14+64, 5’ LT

5) Ponds were encountered at the following locations.

Line	Station (±)
-L1-	603+55 to 604+91
-L1-	676+62 to 677+75
-L1-	700+70 to 702+18
-Y31-	27+36 to 28+09
-SR4-	17+90 to 18+15

Physiography and Geology

This project corridor is located within the Coastal Plain Physiographic Province. Topography along the project is nearly flat to gently sloping. Ground elevations range from 20± to 65± feet above sea level.

Surficial soils in this area are generally classified as alluvial and undivided coastal plain sediments.

Ground Water

Ground water data was collected from July of 2018 through July of 2019 and was found to be within 6’ of natural ground throughout much of the project area. It should be noted that in 2018 this area received record rainfall.

Soils

Soils encountered along the project site include roadway embankment, artificial fill, alluvial, undivided coastal plain sediments, and those belonging to the Castle Hayne Formation.

- Roadway Embankment soils were identified beneath and adjacent to existing roadways and consists of 1± to 6± feet of loose to medium dense, sand and silty sand (A-3 and A-2-4).

- Artificial fill consisting of 1± to 3± feet of very loose to loose sand and gravel (A-2-4, A-3, A-1-b) was encountered along several soil roads that bisect the project area and in an abandoned industrial facility near the southern end of the project area.
- Alluvial soils were found adjacent to several creeks that cross the project corridor. These soils are composed of 1± to 8± feet of very loose to loose sand (A-3, A-2-4), 5± feet of very soft to medium stiff sandy silt, up to 5± feet of very loose sands (A-2, A-3) with trace to little organic content, and up to 2± feet of very soft sandy silt (A-4) with little to moderate content.
- Undivided Coastal Plain (U.C.P) soils primarily consist of up to 26± feet of very loose to dense sand and clayey sand (A-3, A-2-4 and A-2-6) and very soft to medium stiff silts and clays (A-4, A-6, A-7-6). Laboratory analysis of these cohesive soils returned moisture values ranging from 2% to 87%. Organic soils were also encountered throughout much of the project area. They are primarily comprised of 1± to 12± feet of very soft to stiff sandy silt with little to moderate organic matter, along with 3± feet or less of very loose to medium dense silty sand with trace to moderate organic matter, and up to 9± feet of very soft and very loose muck. Laboratory analysis of these organic soils returned organic contents ranging from 1% up to 78%, and moisture values from 9% to 68%.
- The Castle Hayne Formation underlies the U.C.P. soils throughout the project area. It is primarily composed of up to 19± feet of very soft to medium stiff silts and clays (A-4, A-6, A-7-6) and very loose to medium dense sands (A-2-4, A-3), interbedded with very soft to very hard limestone. The thickness of the limestone layers ranges from 1± to 25± feet.

Culvert at -L1- Sta. 612+13±

Natural ground elevations range from 25± feet along the bed of the creek to 30± feet along the adjacent floodplain. Borings completed in the vicinity show approximately 12± feet of very soft to medium stiff sandy silt with trace organic matter (A-4) and up to 4± feet of loose sand (A-2-4) with trace organic matter at the surface. These soils are underlain by 5± feet of soft sandy clay (A-6,) and 8 or more feet of very loose to medium dense sand. (A-2-4).

Culvert at -L1- Sta. 660+85±

Natural ground elevations range from 22± feet along the bed of the creek to 26± feet along the adjacent floodplain. Borings completed in the vicinity show up to ±1 foot of very soft, moderately organic, sandy silt (A-4) at the surface, underlain by 8± feet of loose sand (A-2-4) and 9± feet of soft silty clay (A-7-6). Very soft to moderately hard limestone was encountered at a depth of 20± feet (approximately 5 feet above sea level and continued down to a depth of 45± feet or -20± feet below sea level.

Culvert at -L1- Sta. 712+62±

Natural ground elevations range from 34± feet along the bed of the creek to 37± feet along the adjacent floodplain. Borings completed in the vicinity show up to ±9 feet of very soft muck at the surface, underlain by up to 20± feet of very loose to medium dense sand (A-2-4), 7± to 12± feet of very soft sandy silt, (A-4) and silty clay (A-7-6), and 9± feet of soft silty clay (A-7-6) and 4± to 7 or more feet of very soft to moderately hard limestone. The limestone layers were encountered at elevations ranging from 8± feet above sea level to -9± feet below sea level. Interbedded in this limestone was 5± feet of stiff to very stiff sandy clay (A-6).

Culvert at -Y30RPA- Sta. 16+22±

Natural ground elevations range from 19± feet along the bed of the creek to 22± feet along the adjacent floodplain. Borings completed in the vicinity show approximately 4± feet of very loose sand (A-2-4) with little organic matter at the surface. These soils are underlain by 5± feet of very soft to stiff sandy silt (A-4), and 1± to 11 or more feet of very loose to medium dense sand (A-2-4).

Culvert at -Y30RPD- Sta. 19+49±

Natural ground elevations range from 23± feet along the bed of the creek to 27± feet along the adjacent floodplain. Borings completed in the vicinity show approximately 4± feet of very loose muck at the surface. These soils are underlain by 15± feet of very soft sandy silt (A-4) and silty clay (A-7), and 7 or more feet of very loose to medium dense sand (A-2-4).

Culvert at -Y38- Sta. 19+80±

Natural ground elevations range from 24± feet along the bed of the creek to 28± feet along the adjacent roadway embankment. Borings completed in the vicinity show approximately 2± feet of very loose sand with little organics (A-4-4), underlain by very loose to loose sand. (A-2-4).

Undisturbed Samples

Undisturbed thin wall shelby tube samples were collected at the following locations and submitted for testing.

Sample No.	Station	Depth (ft)	Test
ST-01A	-SR6- 26+05, 10’ RT	7.0 - 9.0	Consolidation, UU
ST-01B	-Y30RPB-, 21+00, CL	20.6 - 22.6	Consolidation, UU
ST-02B	-L1-, 594+05, CL	6.0 -7.4	Consolidation, UU
ST-03B	-L1-, 712+25, 90’ LT	16.0 - 18.0	Consolidation, UU
ST-04B	-L1-, 714+00, 60’ LT	20.3 - 22.3	Consolidation, UU
ST-05B	-Y31RPB-, 17+05, CL	21.0 - 23.0	Consolidation, UU
ST-06B	-L1- ,768+05, CL	4.5 - 6.1	Consolidation, UU
ST-07B	-SR8-, 22+05, CL	25.0 - 27.0	Consolidation, UU
ST-08B	-Y32RPB1-, 21+00, 4’ LT	25.0 - 27.0	Consolidation, UU
ST-09	-Y30RPA-, 16+22, 1’ LT	5.4 - 7.4	Consolidation, UU
ST-09B	-Y30-, 38+05, 5’ RT	20.6 - 22.0	Consolidation, CU
ST-10B	-Y30RPC-, 24+00, 5’ RT	23.0 - 25.0	Consolidation, UU
ST-11B	-L1-, 642+00, 5’ RT	15.0 - 17.0	Consolidation, CU
ST-12B	-L1-, 657+00, CL	11.0- 13.0	Consolidation, CU
ST-14B	-SR8-, 18+05, CL	27.0 - 29.0	Consolidation, UU



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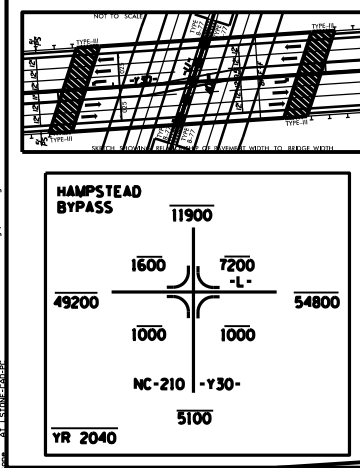
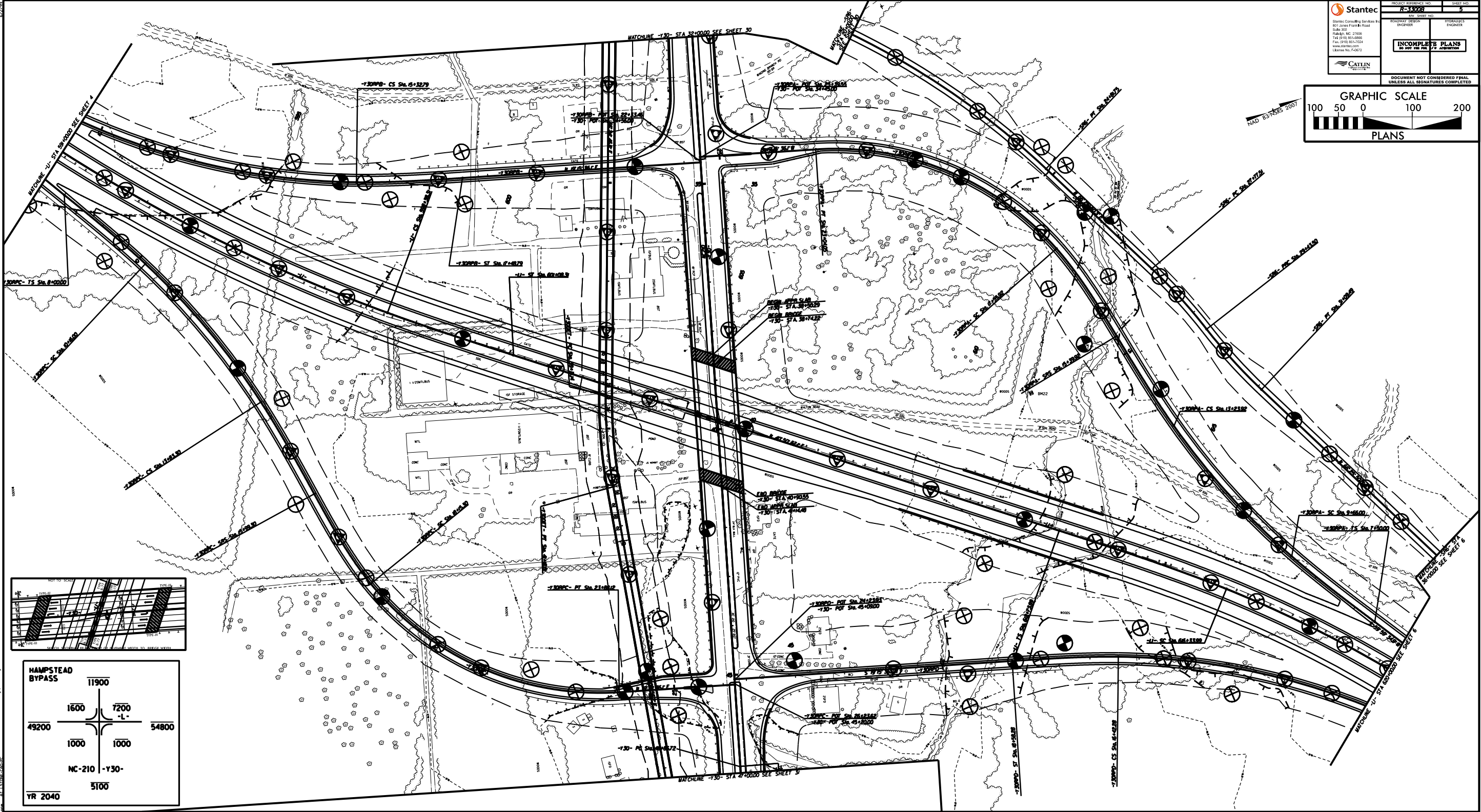
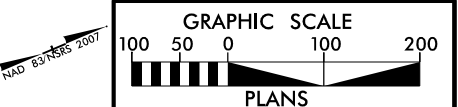
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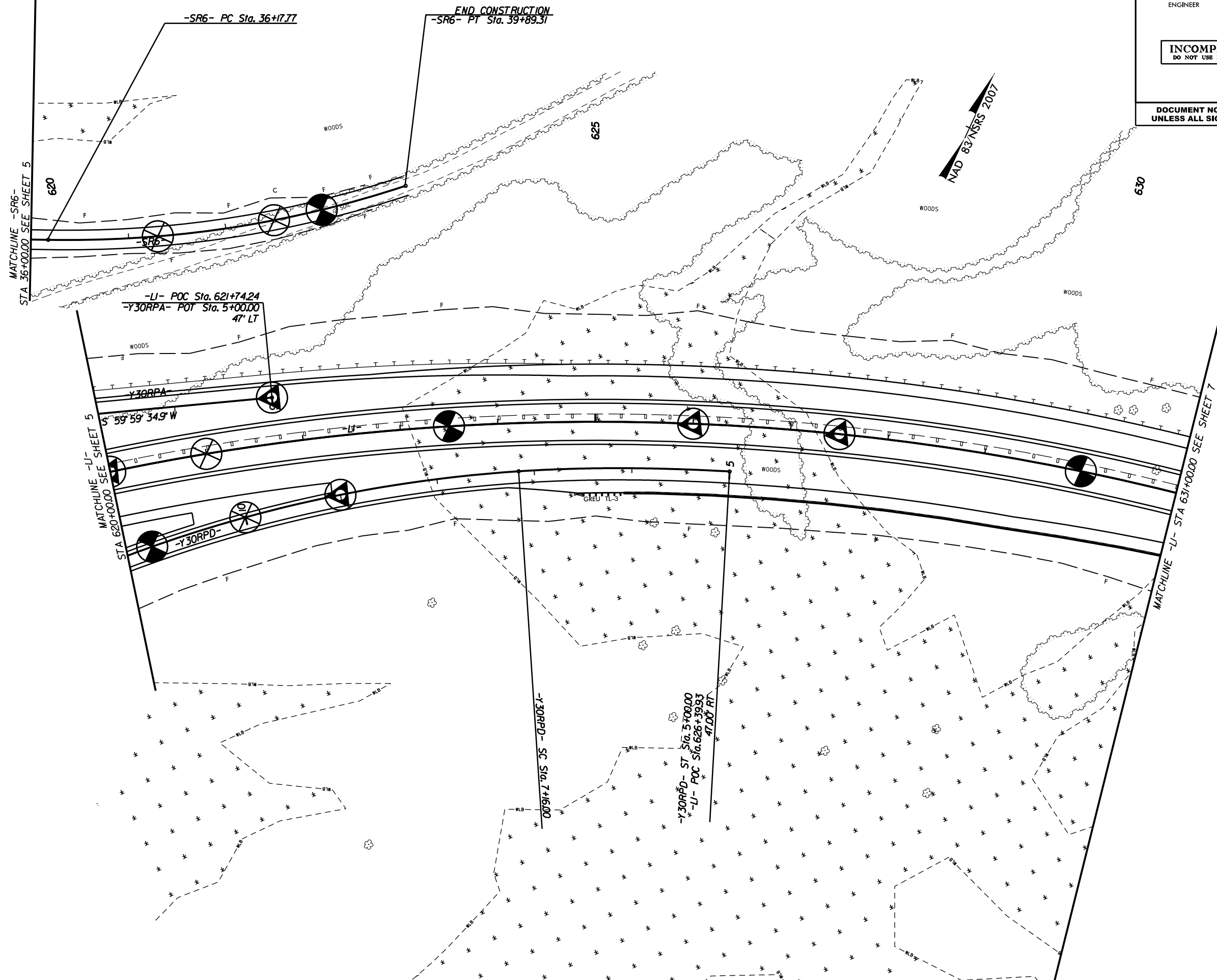
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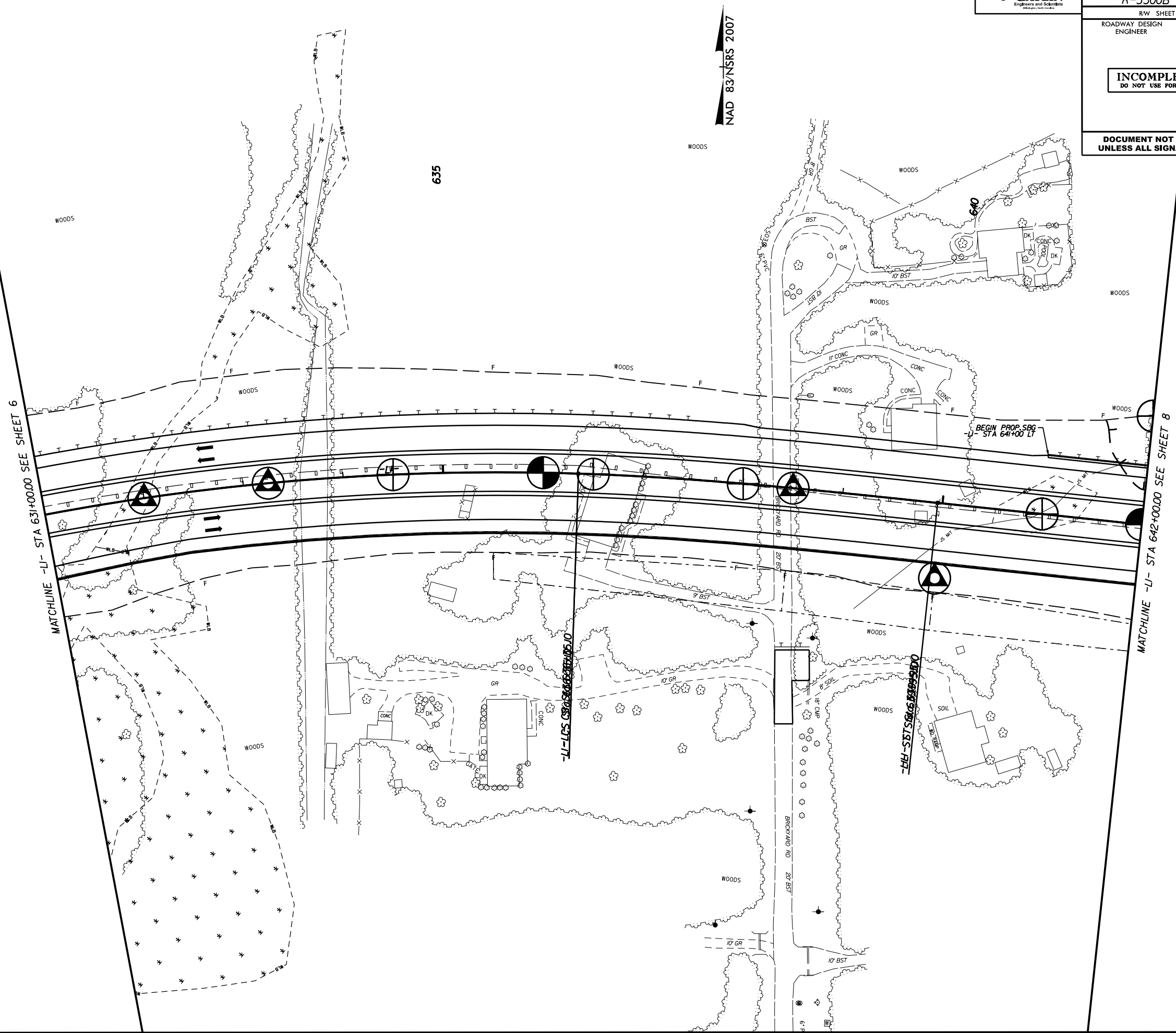
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



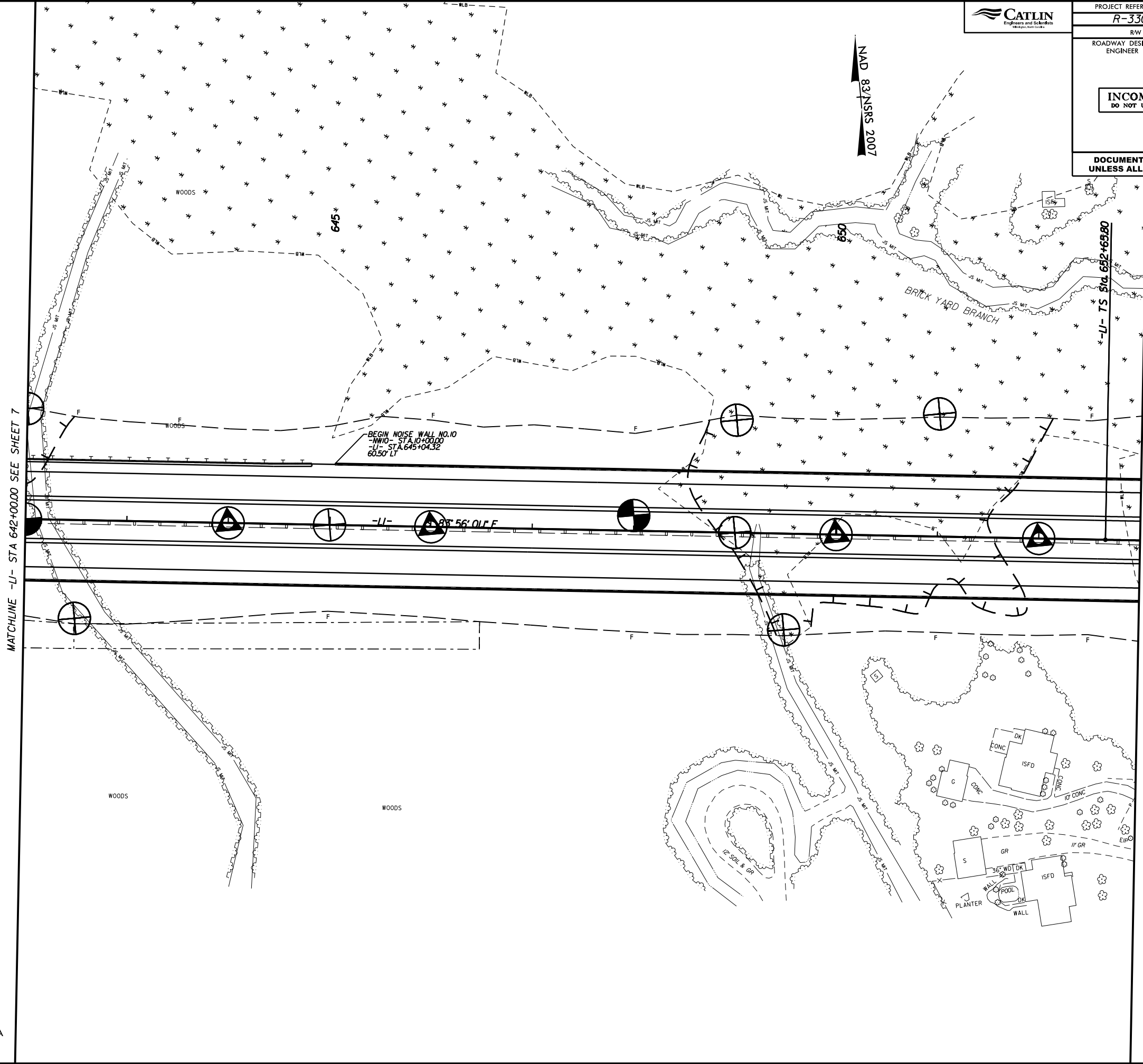




5/14/99

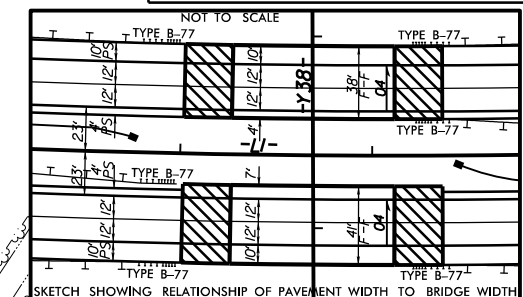


PROJECT REFERENCE NO.		SHEET NO.	
R-3300B		8	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



SEE SHEET 2B-1 FOR HORIZONTAL CURVE DATA
SEE SHEET 36 FOR -LI- PROFILE

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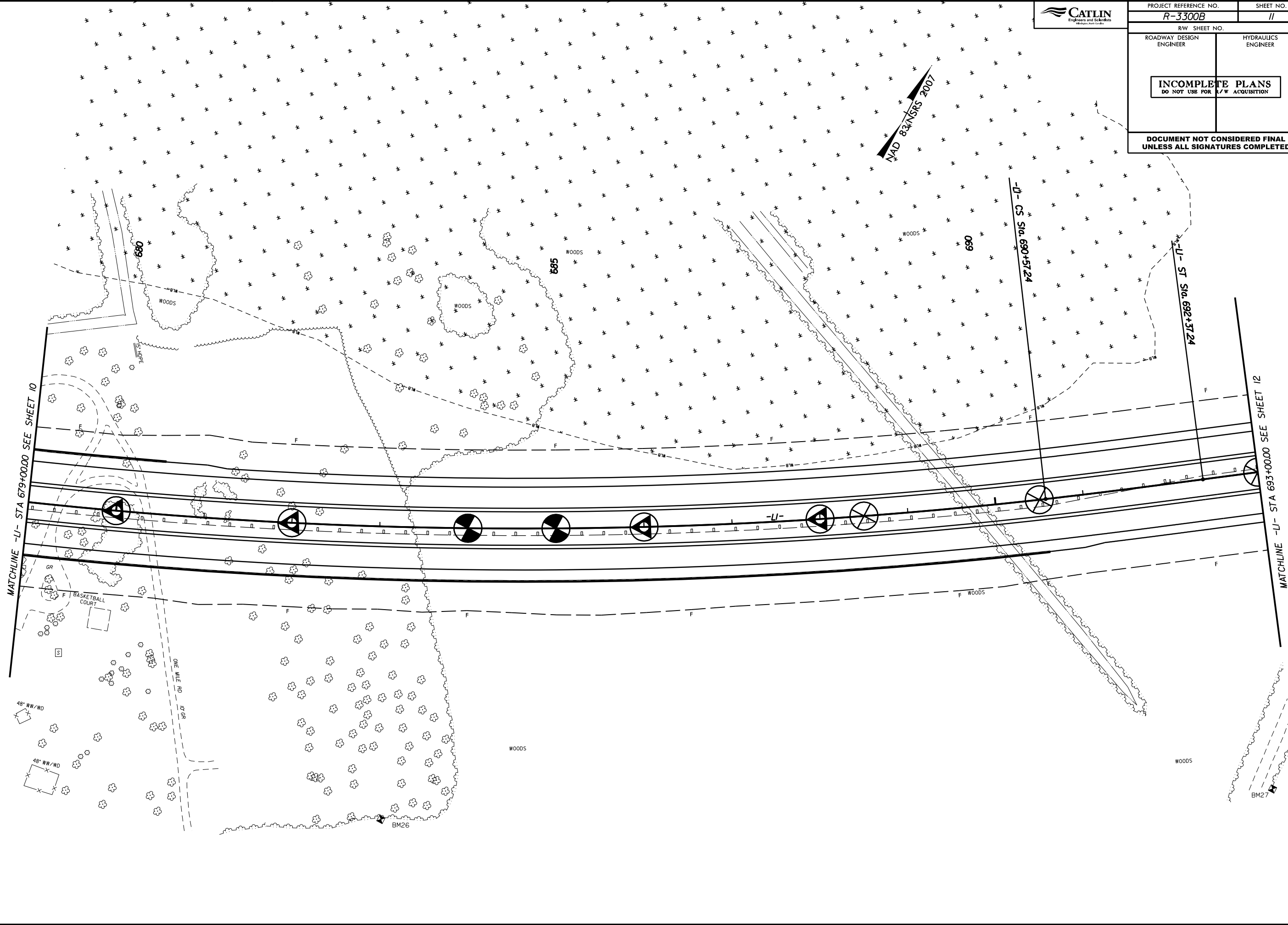




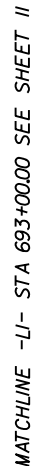
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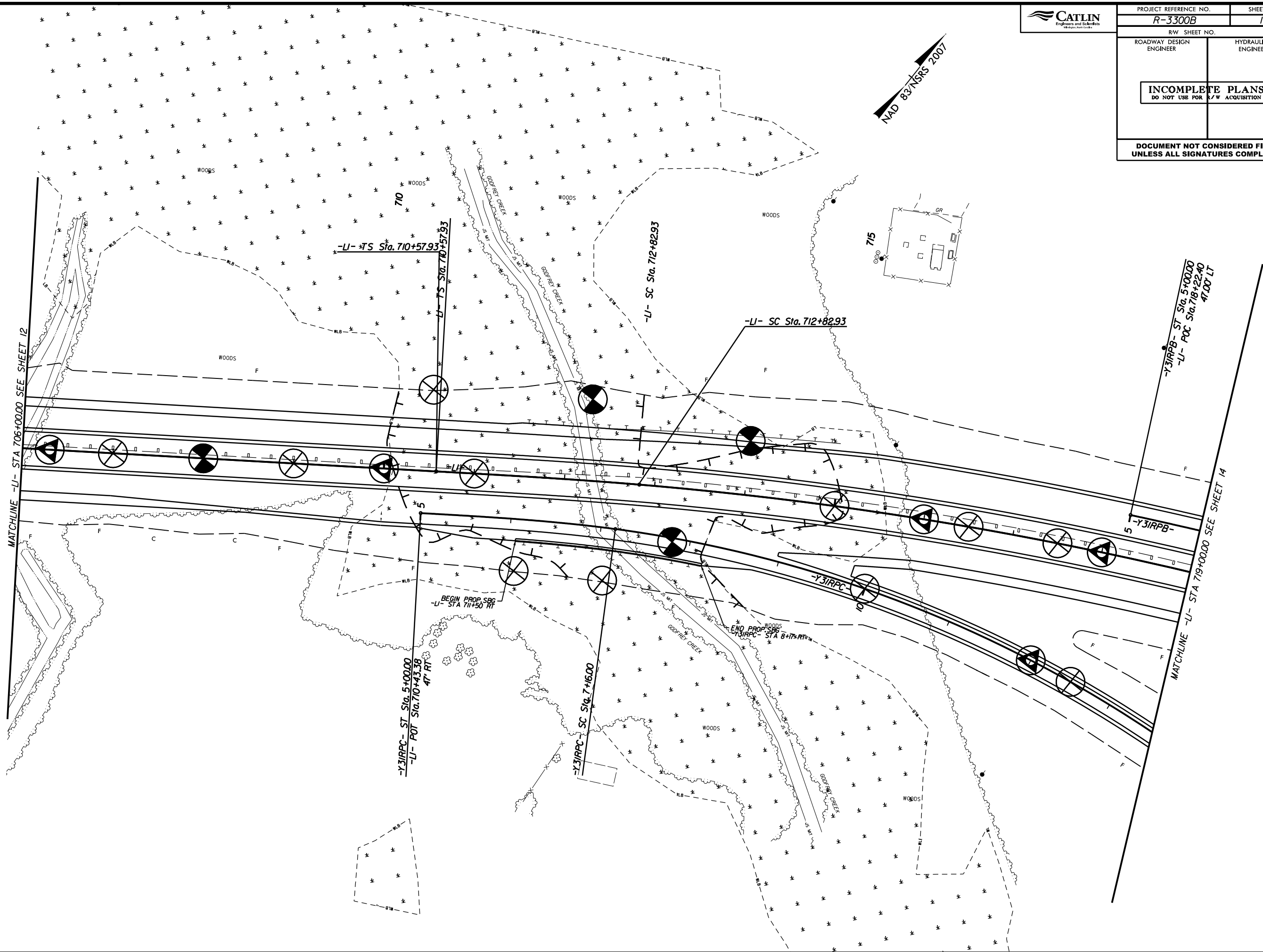


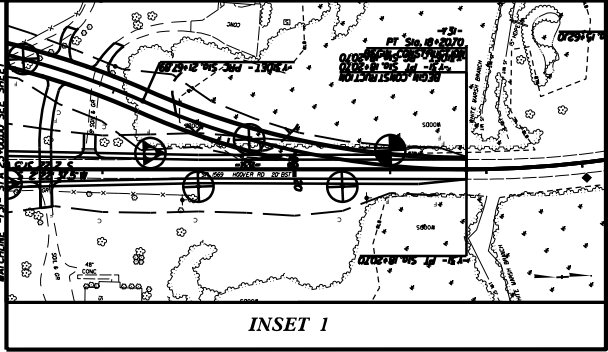
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R-3300B		11
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



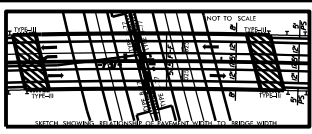
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R3300B_GEO_ROW_CADD
R3300B_GEO_ROW_CADD







INSET 1



INSET 2

Stantec Consulting Services Inc.
2000 Lakeshore Blvd. East
Suite 200
Burlington, ON L7R 4A6
Tel: (905) 335-8888
Fax: (905) 335-8889
www.stantec.com
Licence No. F-0073

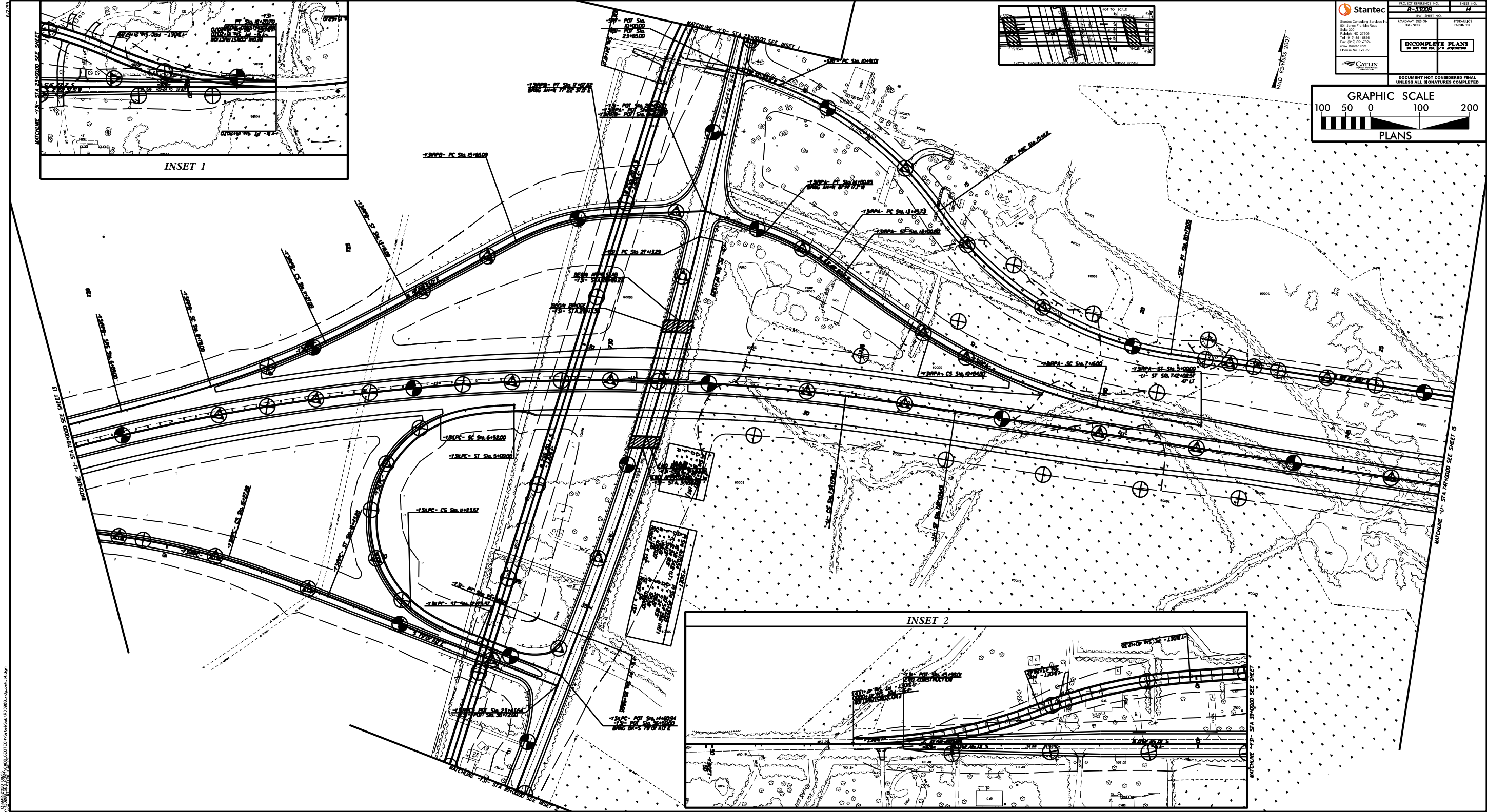
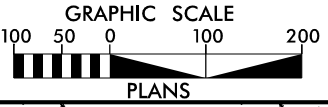
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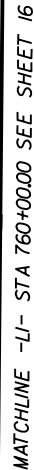
ROADWAY DESIGN
INCHES

HYDRAULICS
INCHES

INCOMPLETE PLANS
DO NOT FOR CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED





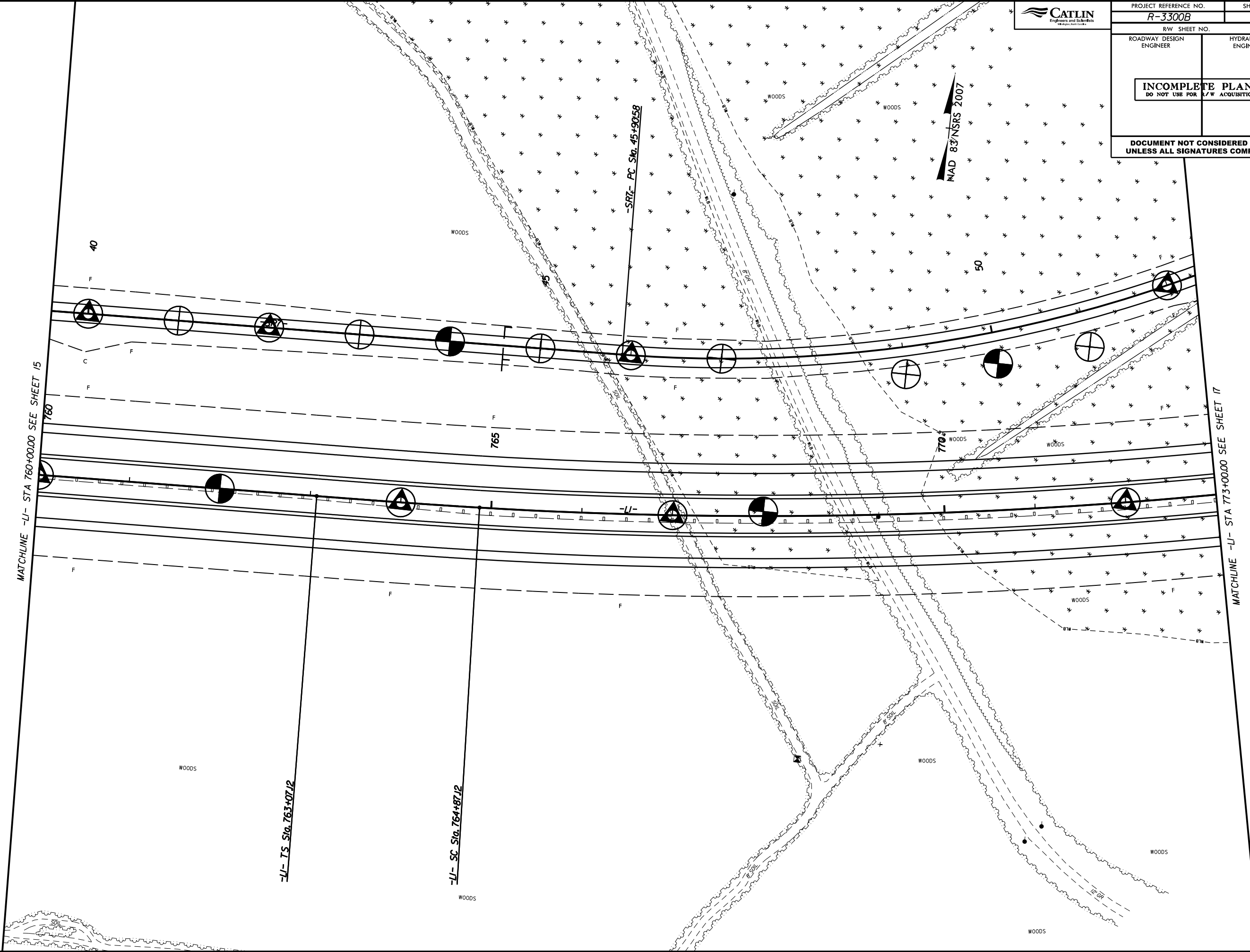
5/14/99



PROJECT REFERENCE NO.		SHEET NO.
R-3300B		16
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

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MATCHLINE -LI- STA 773+00.00 SEE SHEET 17

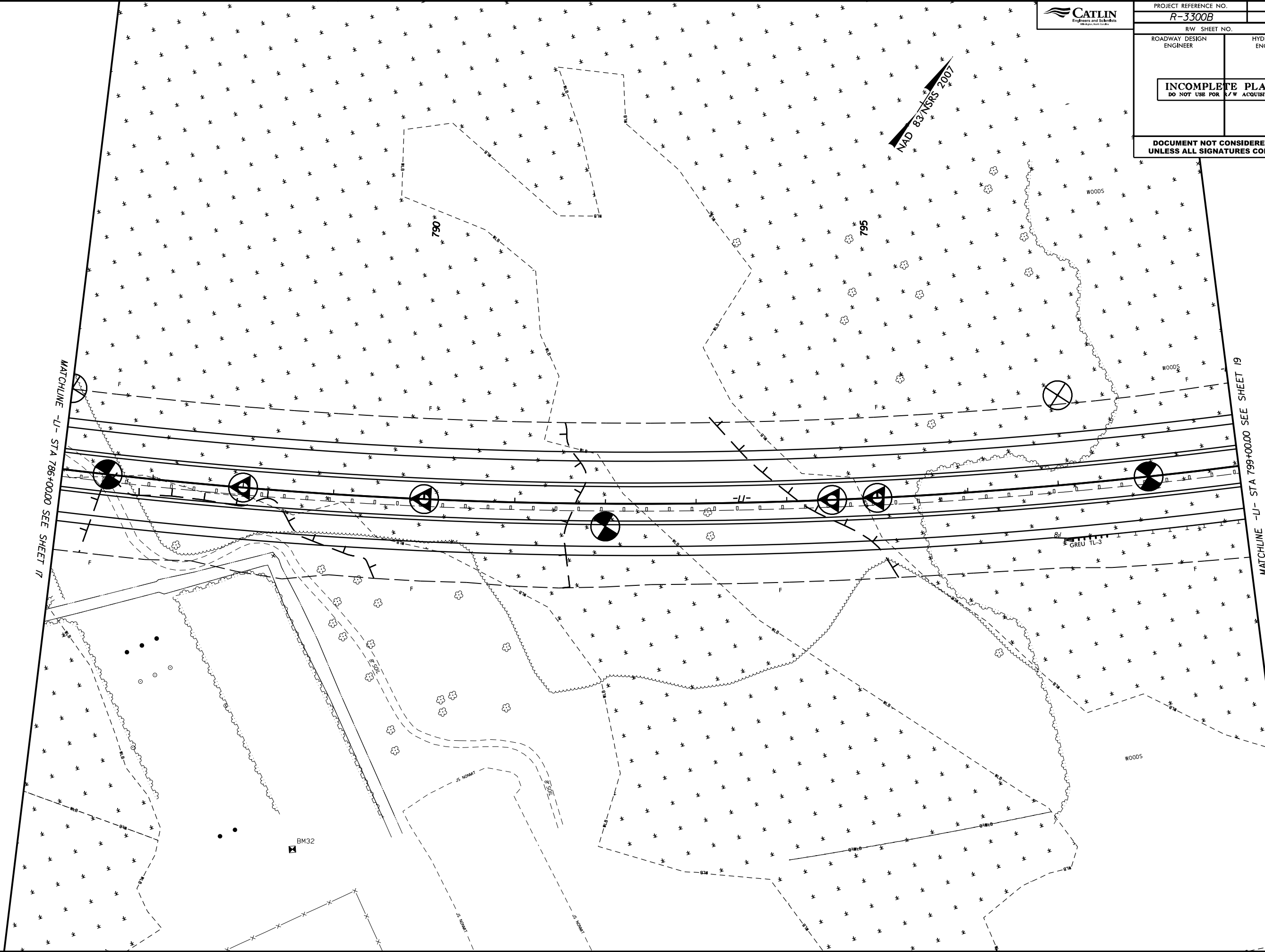




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R/W SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		





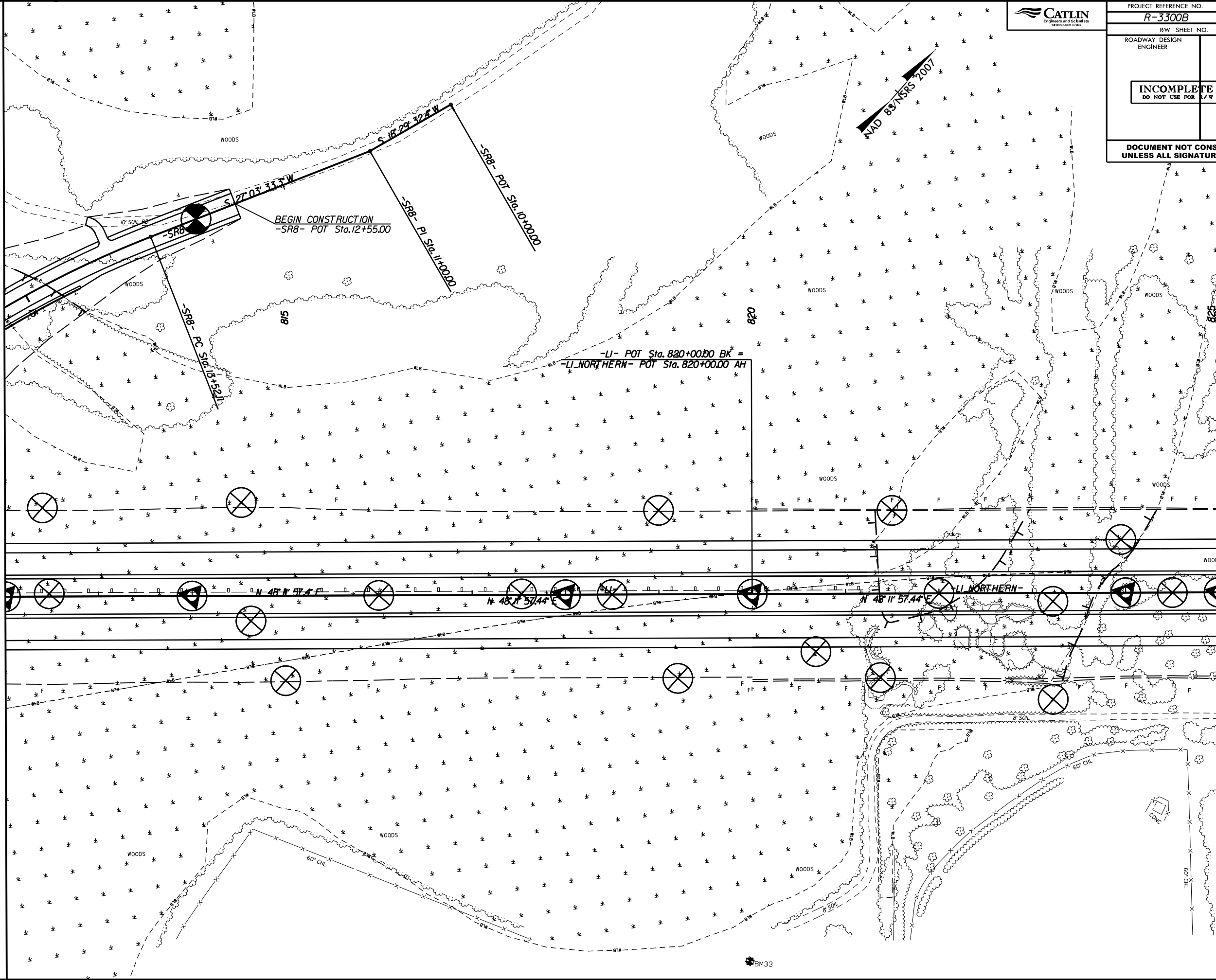
5/14/99



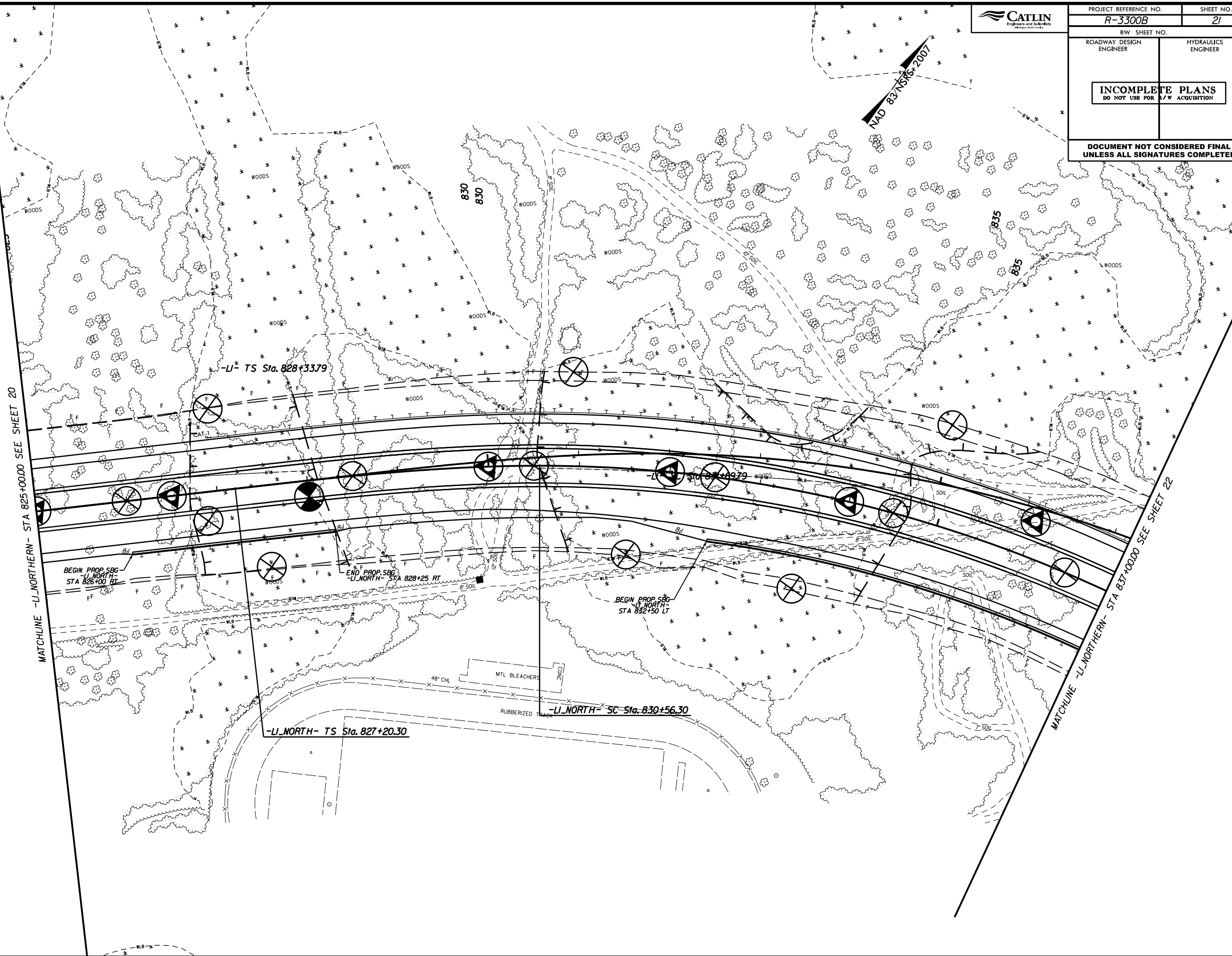
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R/W SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		

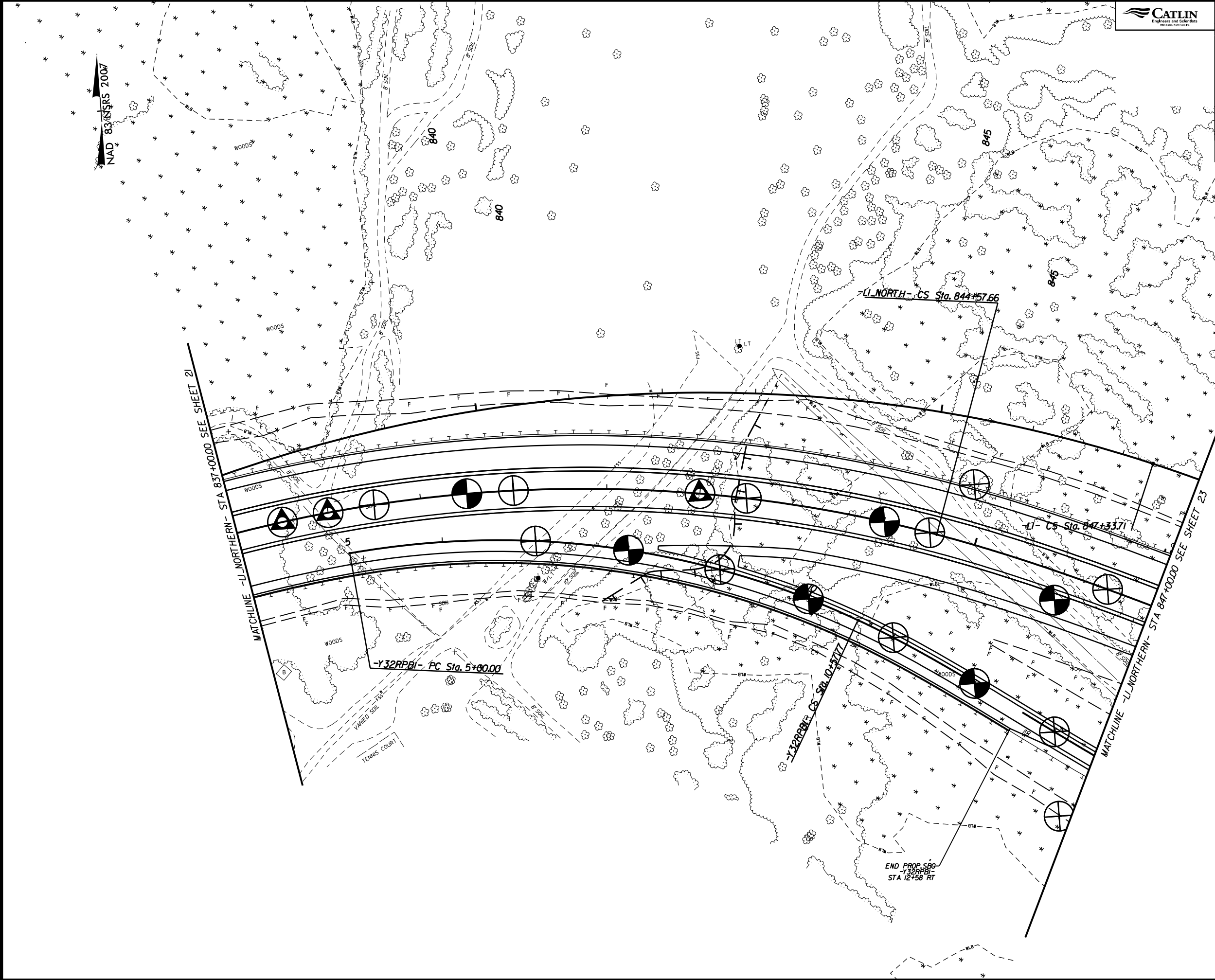
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MATCHLINE -LI- STA 812+00.00 SEE SHEET 19



MATCHLINE -LI-NORTHERN- STA 825+00.00 SEE SHEET 21

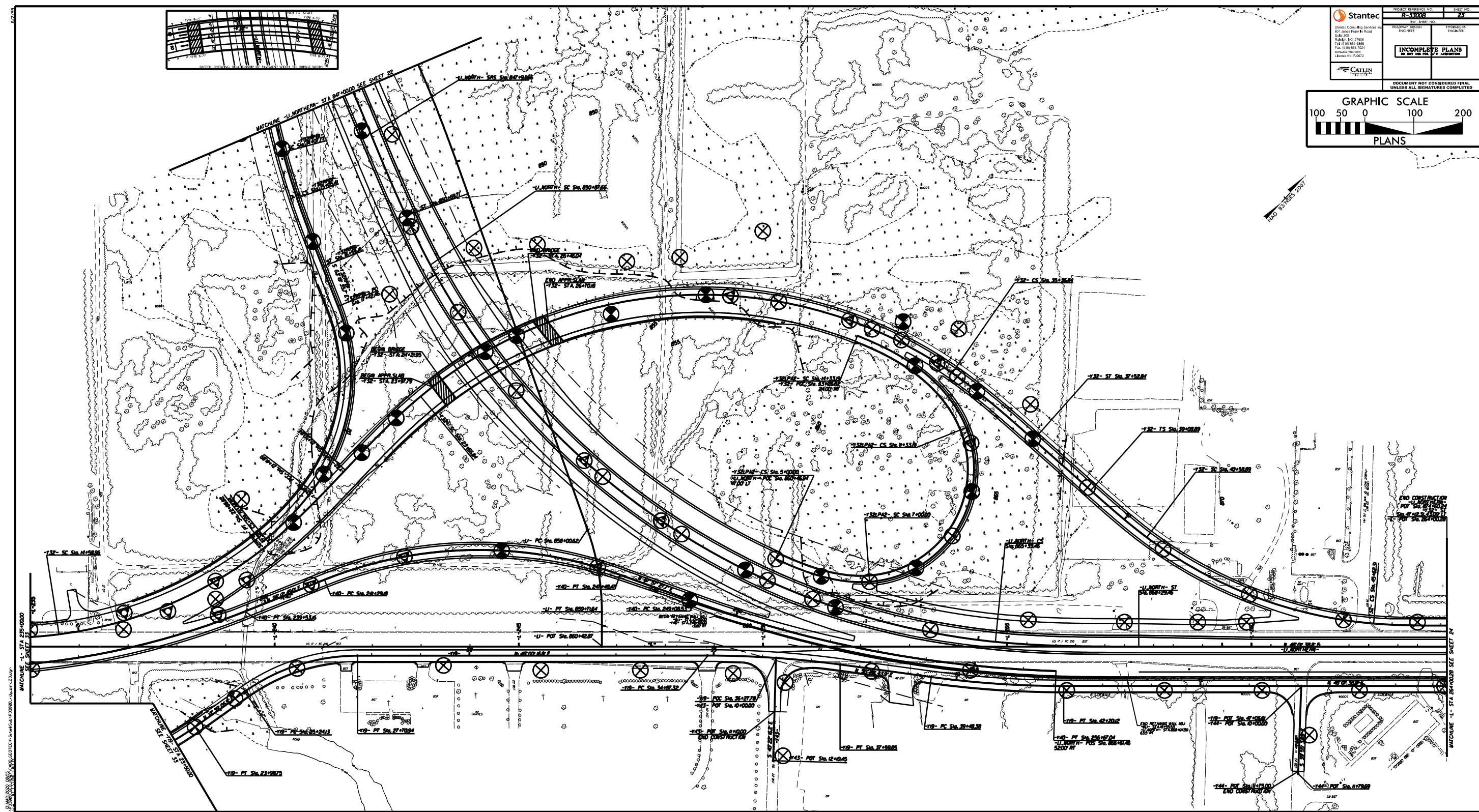






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PROJECT REFERENCE NO. R-3300B		SHEET NO. 22
R/W SHEET NO.		
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION		
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		



-L- POT Sta. 272+08.20
-Y19- POT Sta. 60+00.62
BRNG BK=N 41° 58' 21.2" W

MATCHLINE -L- STA 264+00.28 SEE SHEET 23

MATCHLINE -L- STA 276+00.00 SEE SHEET 25

★ ~~PROPOSED~~ SIGNAL

DRIVEWAY RADII ARE 10' UNLESS NOTED* OTHERWISE

REVISIONS	
03/15/2019	- R/W REVISION: ADDED ROW, DUE, PUE & TDE ON PARCEL 183; ADDED ROW & PUE ON PARCEL 184. - STANTEC

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type AT\\STONE-CAD-PC

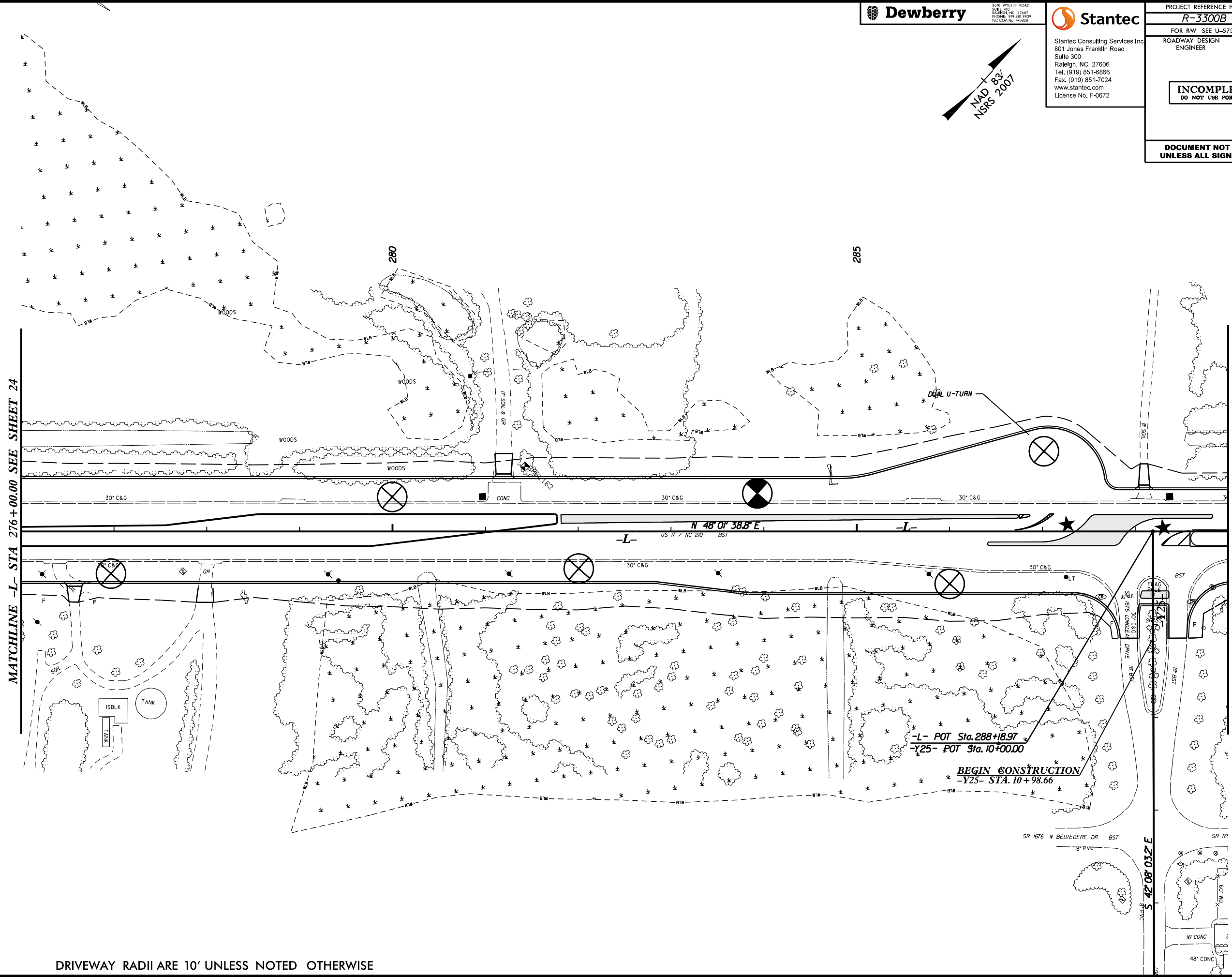


2610 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9922
NC COA No. F-0929

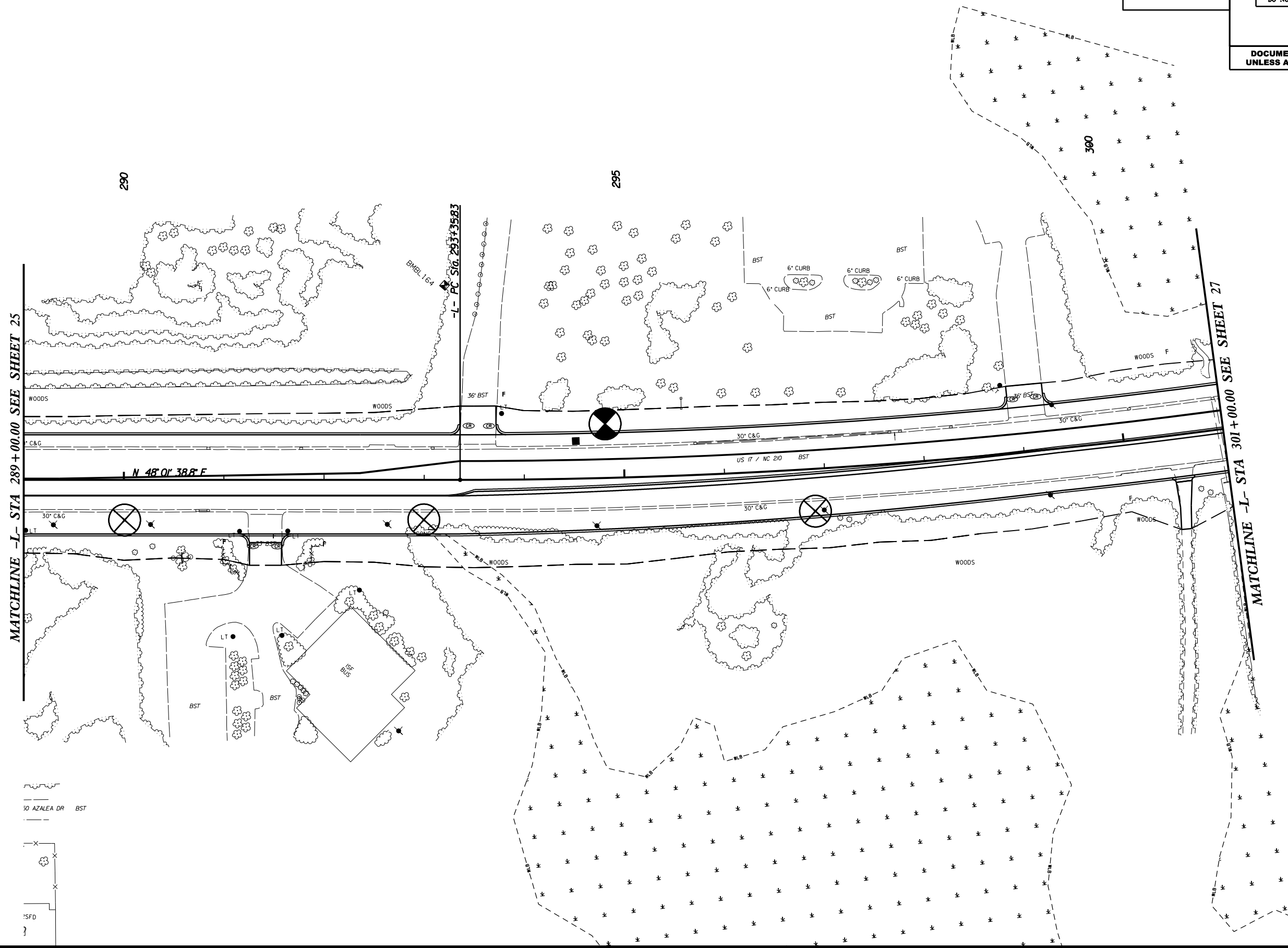
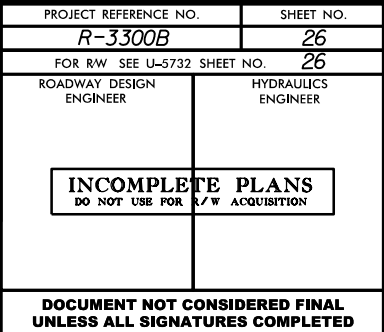


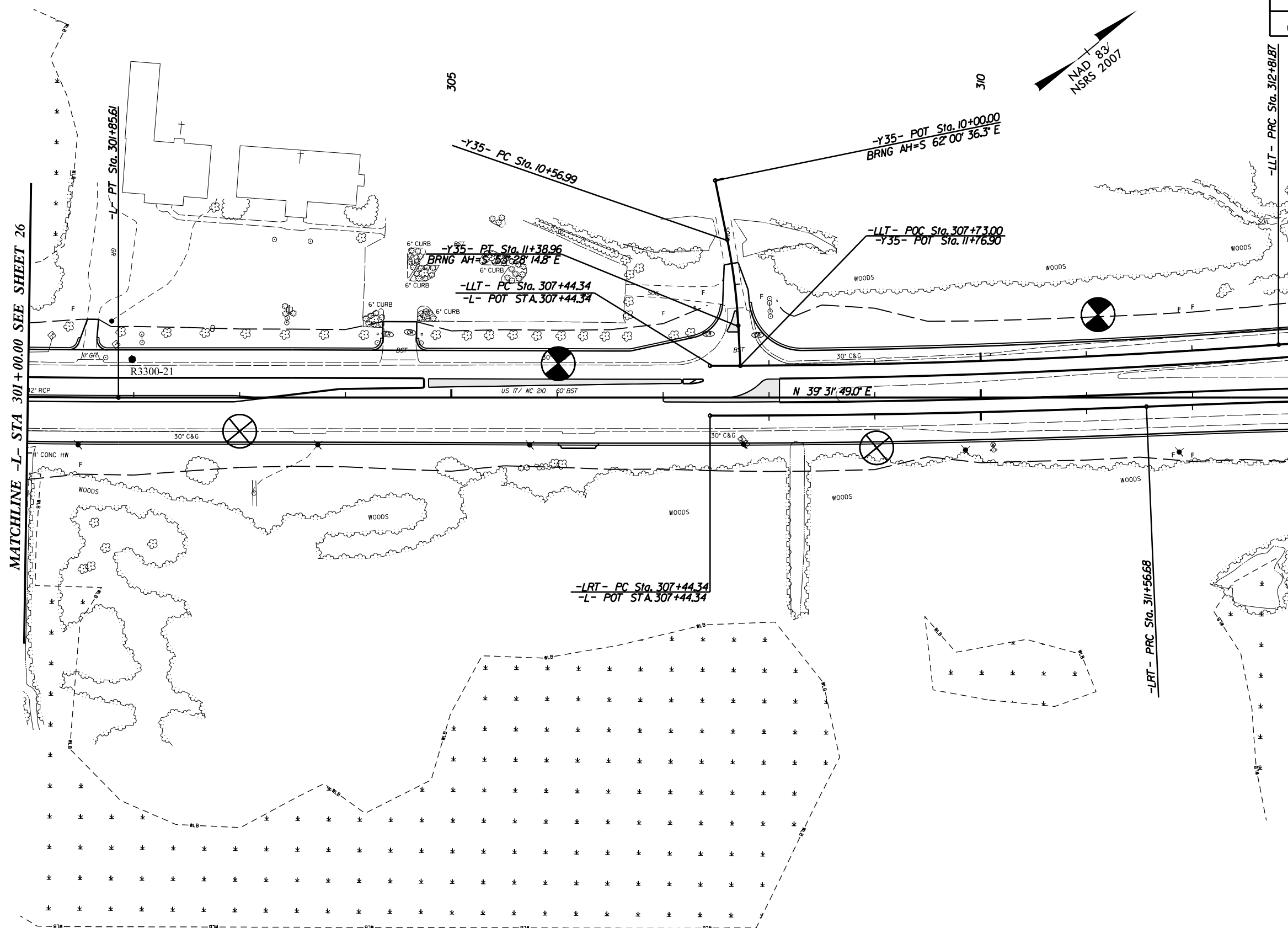
Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

PROJECT REFERENCE NO.	SHEET NO.
<i>R-3300B</i>	<i>25</i>
FOR R/W SEE U-5732	SHEET NO. <i>25</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



DRIVEWAY RADII ARE 10' UNLESS NOTED OTHERWISE





REVISIONS

1/28/2018 - RW REVISION: ADDED PARCEL NUMBER 227. - STANTEC

13-MAR-2020 08:55
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REVISIONS
11/28/2018 - RW REVISION: ADDED "DO NOT DISTURB" NOTES FOR THE PUMP HOUSE, LIGHT, FUEL PUMP & TIRE AIR STATION ON PARCEL 198. - STANTEC

5/14/2019

13-MAR-2020 08:55
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611 SITE PLAN

Dewberry

2410 WYCLIFF ROAD
SUITE 410
RALEIGH, NC 27607
PHONE: 919.881.9199
NC COA No. F-3529

Stantec

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801 Jones Franklin Road
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Raleigh, NC 27606
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Fax. (919) 851-7024
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PROJECT REFERENCE NO.

R-3300B

SHEET NO.

29

FOR RW SEE U-5732 SHEET NO.

29

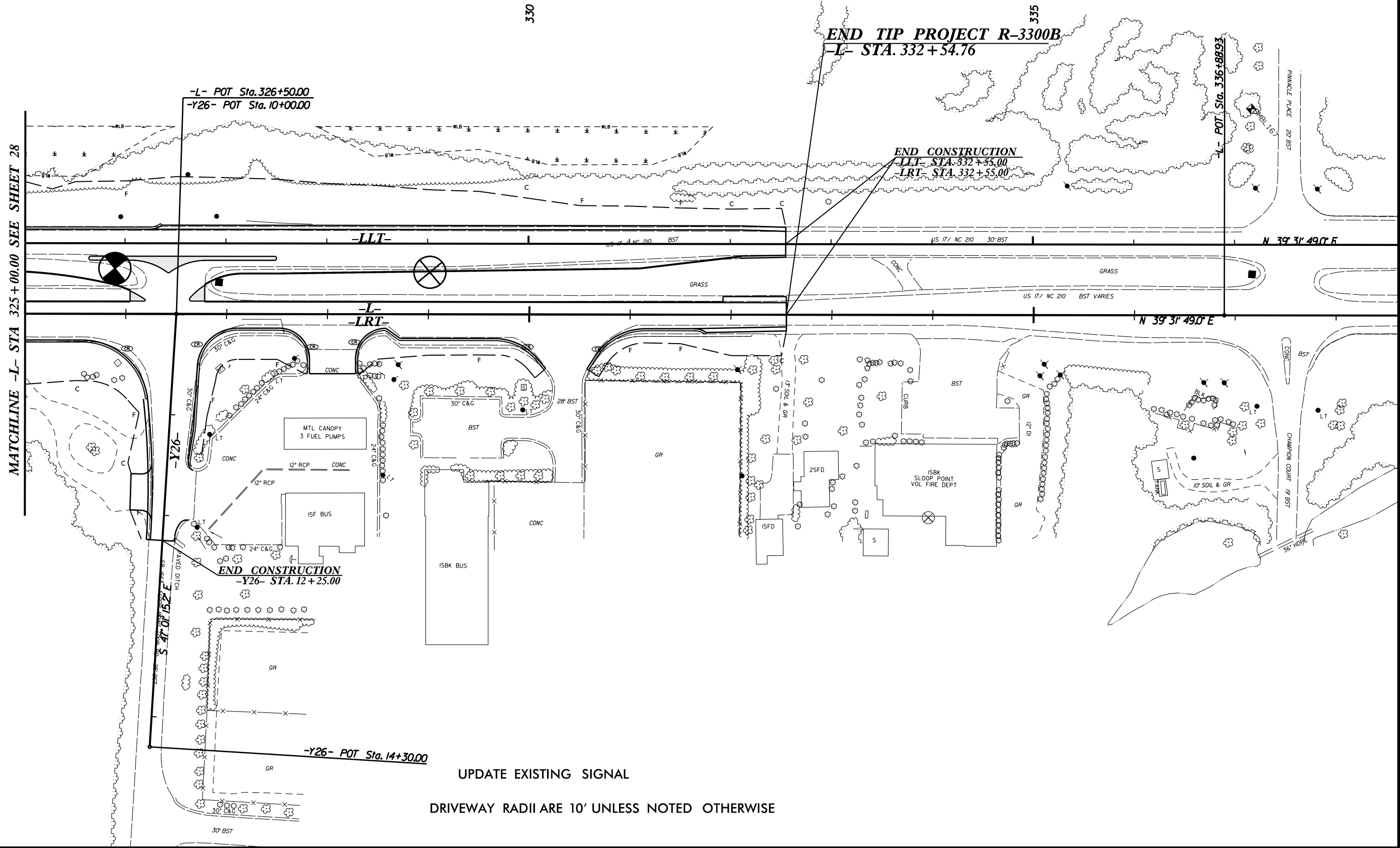
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR A/W ACQUISITION

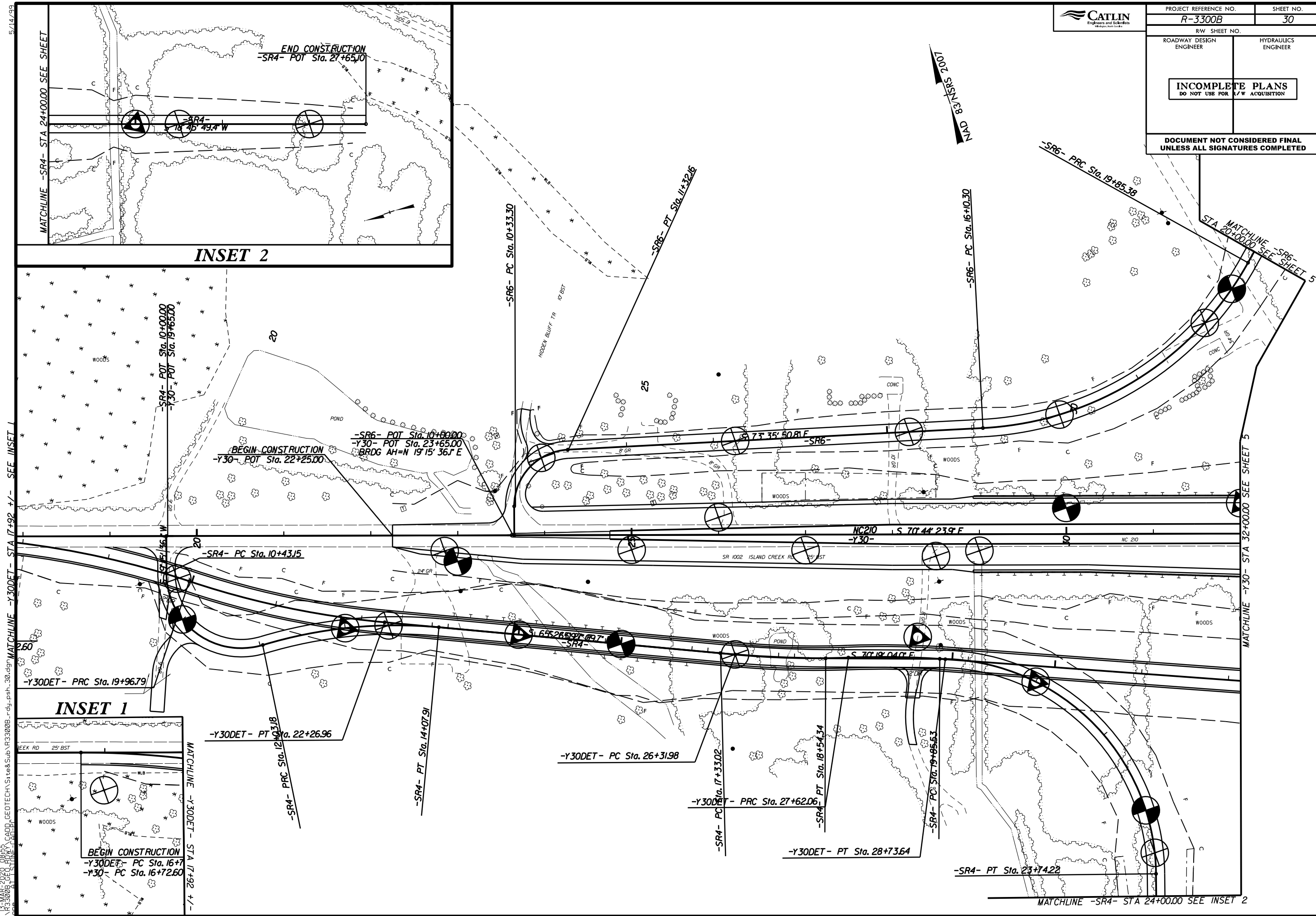
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

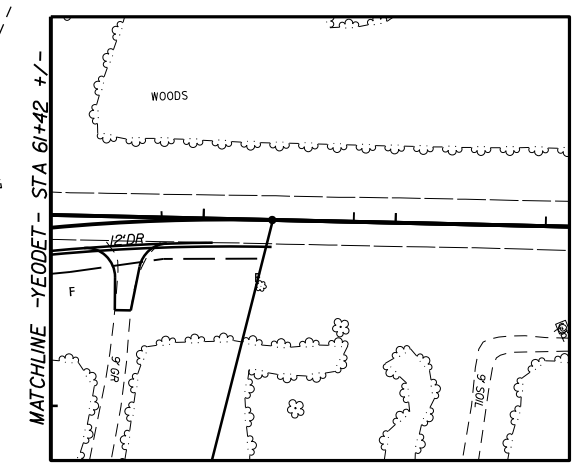
NAD 83
NSRS 2007



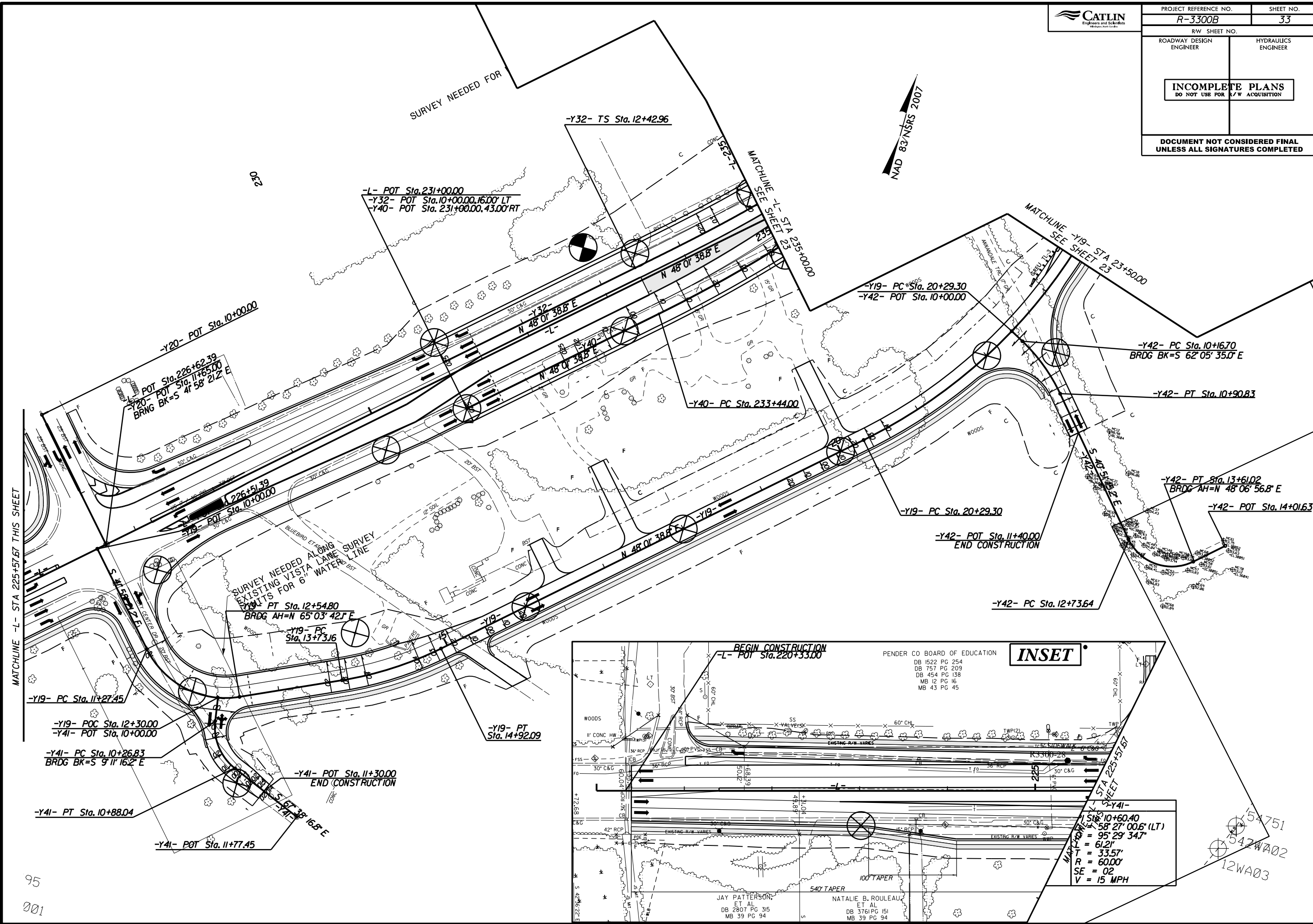
UPDATE EXISTING SIGNAL

DRIVEWAY RADII ARE 10' UNLESS NOTED OTHERWISE

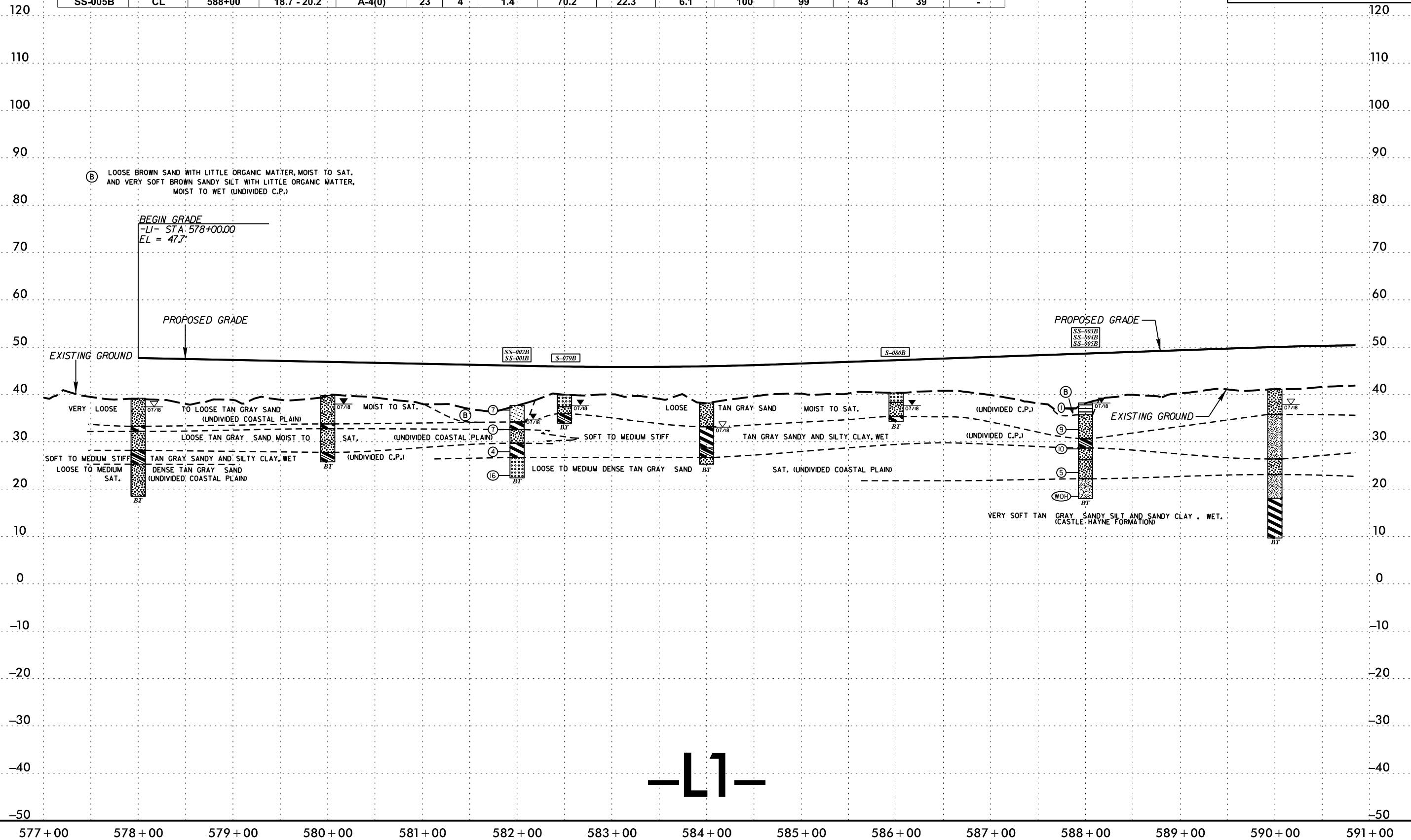




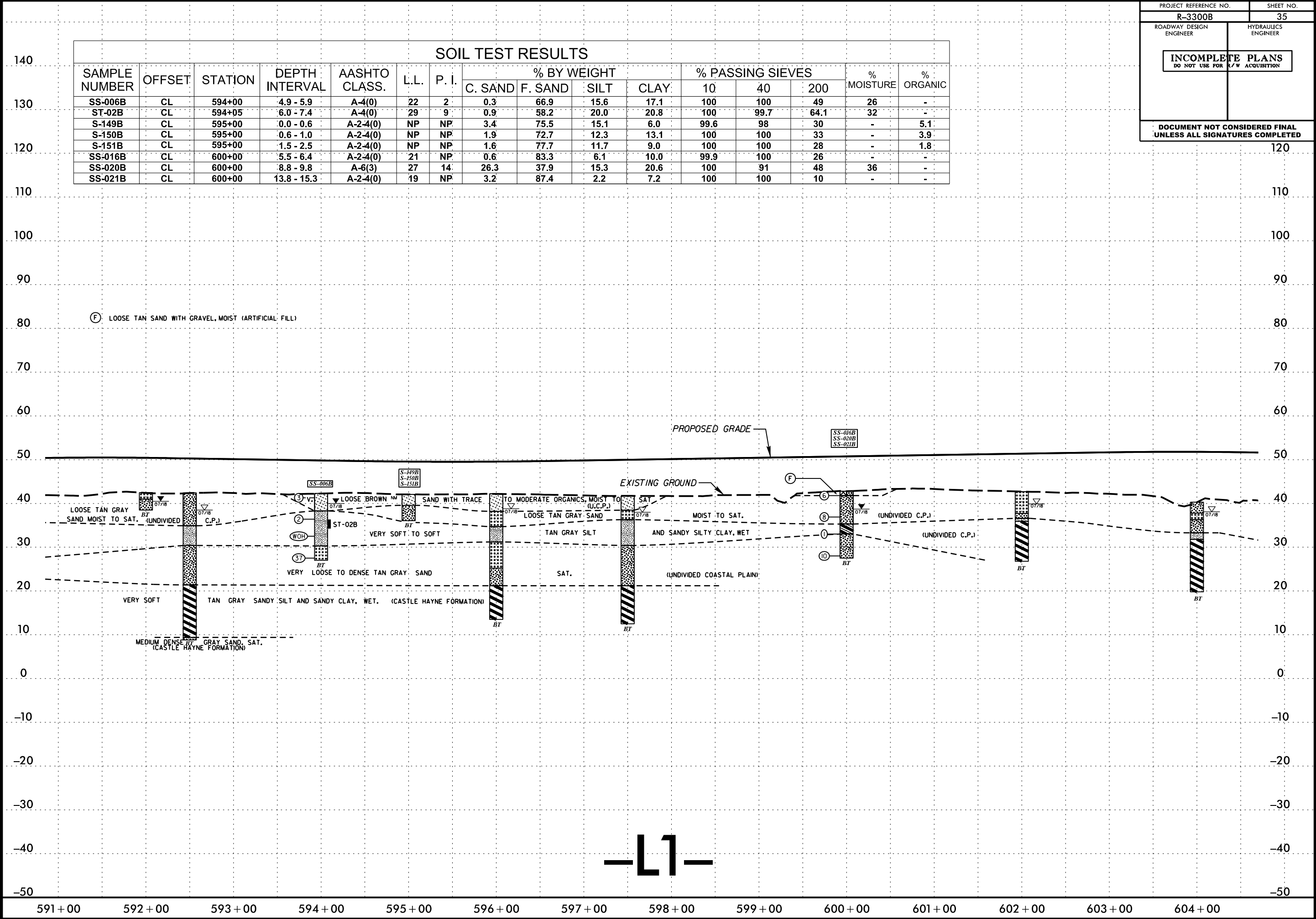




SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-002B	CL	582+00	0.0 - 1.5	A-2-4(0)	24	NP	4.8	76.7	14.4	4.0	99.6	98	31	-	4.8
SS-001B	CL	582+00	4.1 - 5.1	A-7-6(26)	56	33	3.1	23.1	21.1	52.7	100	99	77	40	-
S-079B	CL	582+50	4.0 - 4.5	A-6(7)	30	15	2.6	50.9	20.3	26.3	100	99	64	21	-
S-080B	CL	586+00	2.5 - 3.0	A-2-4(0)	14	NP	0.7	83.8	4.4	11.1	100	100	22	-	-
SS-003B	CL	588+00	0.0 - 1.5	A-4(0)	22	0	2.5	63.2	22.1	12.2	99.9	99	44	43	9.6
SS-004B	CL	588+00	9.5 - 10.2	A-2-4(0)	22	NP	6.1	86.5	-4.8	12.1	100	99	24	25	-
SS-005B	CL	588+00	18.7 - 20.2	A-4(0)	23	4	1.4	70.2	22.3	6.1	100	99	43	39	-



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Lee Stone
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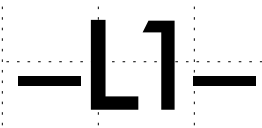


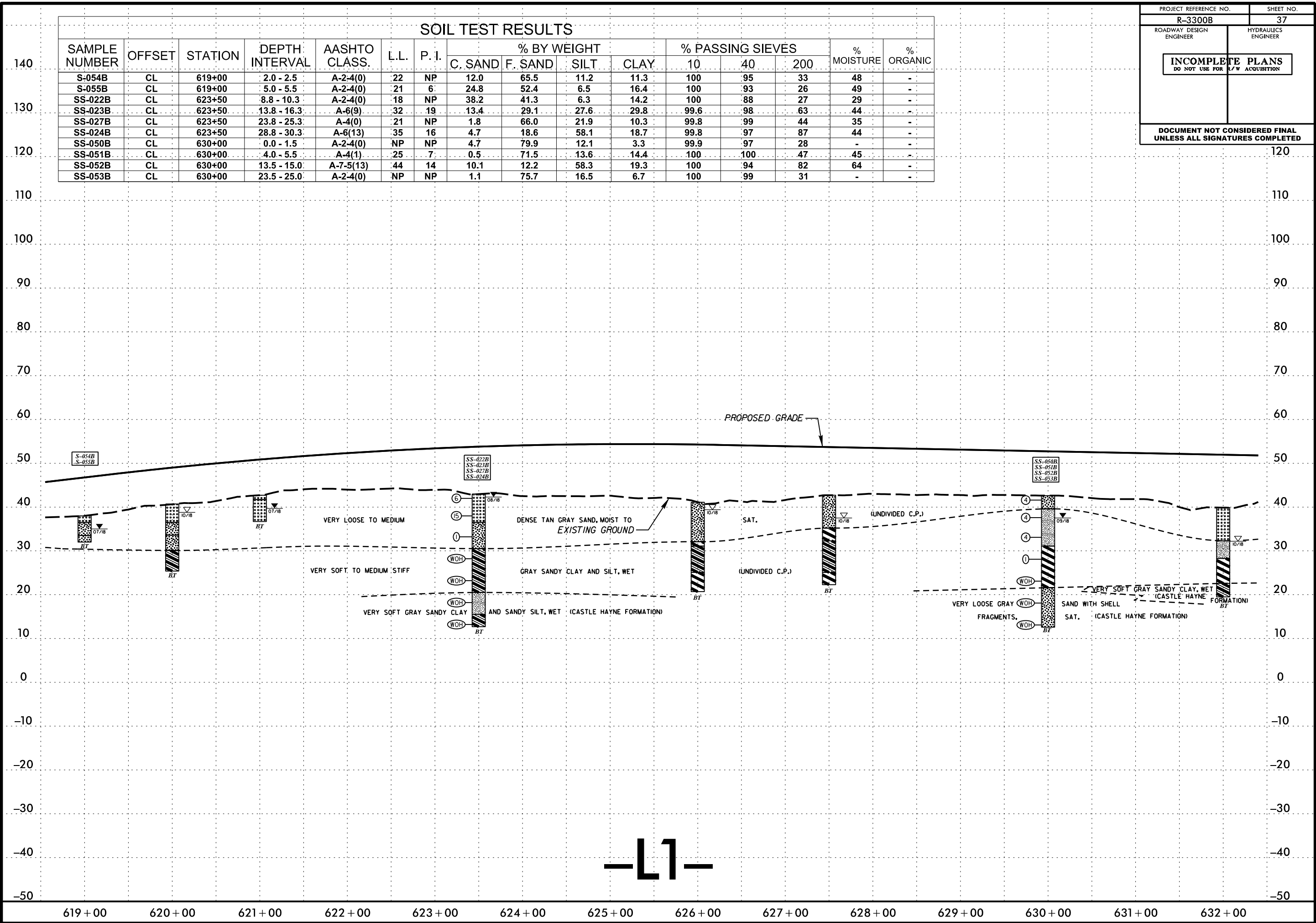
SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-006B	CL	594+00	4.9 - 5.9	A-4(0)	22	2	0.3	66.9	15.6	17.1	100	100	49	26	-
ST-02B	CL	594+05	6.0 - 7.4	A-4(0)	29	9	0.9	58.2	20.0	20.8	100	99.7	64.1	32	-
S-149B	CL	595+00	0.0 - 0.6	A-2-4(0)	NP	NP	3.4	75.5	15.1	6.0	99.6	98	30	-	5.1
S-150B	CL	595+00	0.6 - 1.0	A-2-4(0)	NP	NP	1.9	72.7	12.3	13.1	100	100	33	-	3.9
S-151B	CL	595+00	1.5 - 2.5	A-2-4(0)	NP	NP	1.6	77.7	11.7	9.0	100	100	28	-	1.8
SS-016B	CL	600+00	5.5 - 6.4	A-2-4(0)	21	NP	0.6	83.3	6.1	10.0	99.9	100	26	-	-
SS-020B	CL	600+00	8.8 - 9.8	A-6(3)	27	14	26.3	37.9	15.3	20.6	100	91	48	36	-
SS-021B	CL	600+00	13.8 - 15.3	A-2-4(0)	19	NP	3.2	87.4	2.2	7.2	100	100	10	-	-

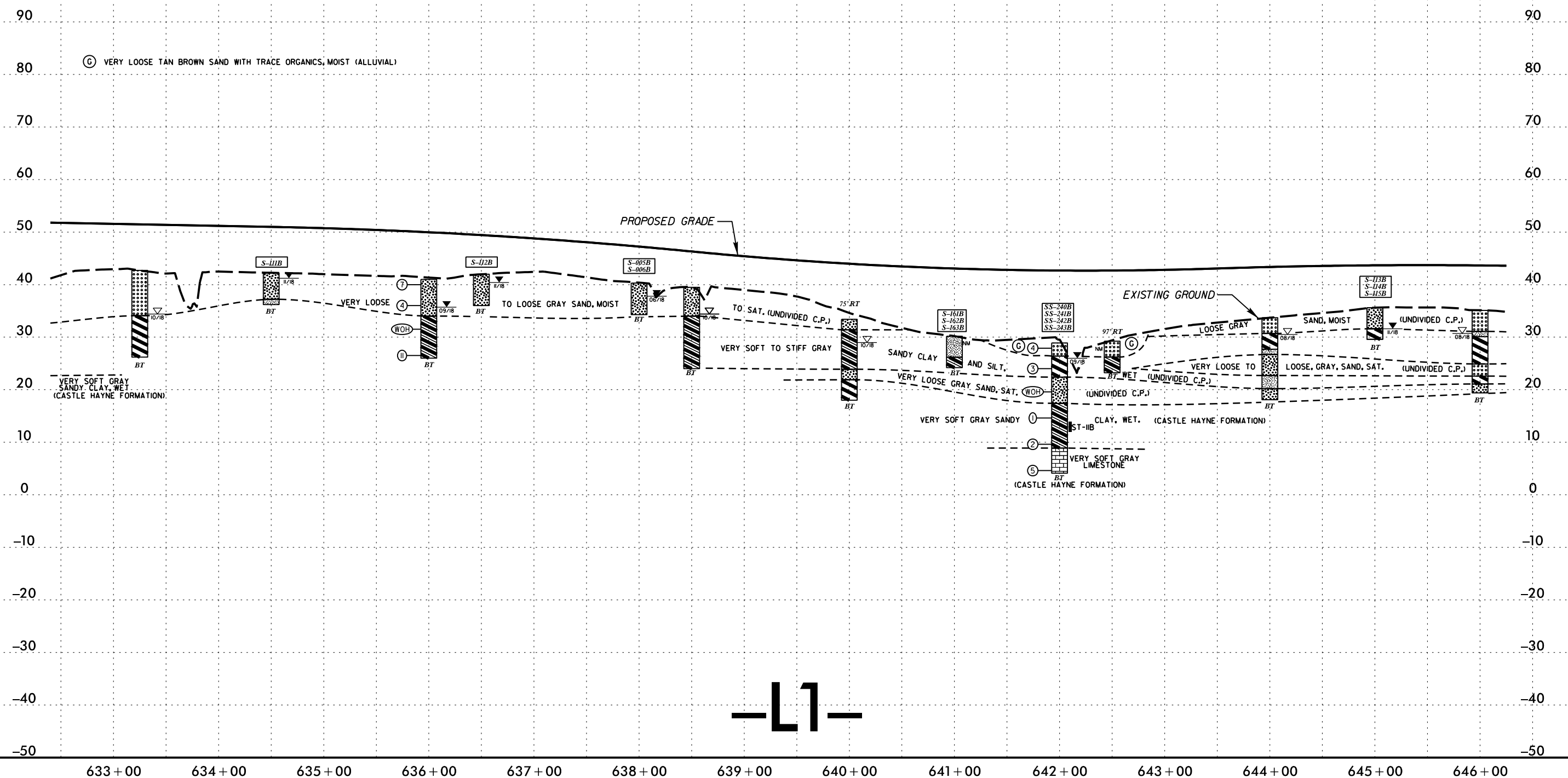
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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-208B	CL	606+00	0.0 - 1.5	A-2-4(0)	NP	NP	3.6	80.9	11.5	4.0	99.7	99	23	-	2.9
SS-209B	CL	606+00	4.3 - 5.8	A-2-4(0)	NP	NP	3.2	76.3	9.5	11.0	99.9	98	33	-	-
SS-210B	CL	606+00	8.2 - 9.7	A-2-4(0)	21	7	44.2	32.8	7.0	16.0	99.9	87	25	-	-
SS-211B	CL	606+00	13.2 - 14.7	A-7-5(23)	61	21	4.4	12.4	38.8	44.4	99.9	99	86	-	-
SS-212B	CL	606+00	18.2 - 19.7	A-2-4(0)	NP	NP	7.7	66.9	18.2	7.2	99.9	96	33	-	-
SS-046B	CL	612+00	0.0 - 1.5	A-4(0)	NP	NP	14.2	48.0	22.4	15.4	99.5	95	44	-	-
SS-047B	CL	612+00	4.0 - 5.5	A-4(0)	NP	NP	25.0	25.7	14.3	35.0	99.7	89	51	36	-
SS-048B	CL	612+00	8.8 - 10.3	A-4(0)	26	5	2.7	74.0	5.8	17.5	99.6	99	37	48	-
SS-049B	CL	612+00	13.8 - 15.3	A-6(12)	34	16	7.6	18.9	50.8	22.7	99.6	95	83	56	-
S-158B	CL	613+50	0.5 - 1.0	A-2-4(0)	NP	NP	16.6	59.3	18.2	5.8	99.7	95	31	-	1.8
S-159B	CL	613+50	1.0 - 2.0	A-4(0)	19	8	15.2	55.6	15.2	14.0	99.9	95	36	-	1.3
S-160B	CL	613+50	4.0 - 5.0	A-4(0)	20	3	12.6	32.9	19.9	34.7	98.8	96	58	-	-
S-050B	CL	617+00	1.0 - 1.5	A-6(2)	29	11	13.7	55.3	9.5	21.5	100	95	44	52	-
S-051B	CL	617+00	4.0 - 4.5	A-7-6(9)	41	24	15.8	33.7	15.0	35.6	99.4	97	53	42	-





SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-111B	CL	634+50	5.0 - 6.0	A-4(0)	NP	NP	0.7	63.1	26.1	10.0	100	100	56	-	-
S-112B	CL	636+50	0.0 - 1.0	A-2-4(0)	NP	NP	2.2	77.6	12.3	7.8	99.9	99	31	21	-
S-005B	CL	638+00	0.5 - 1.5	A-2-4(0)	16	NP	1.9	75.0	14.9	8.2	99.9	99	35	-	-
S-006B	CL	638+00	5.0 - 6.0	A-2-4(0)	18	NP	1.7	78.9	10.3	9.1	100	100	31	-	-
S-161B	CL	641+00	1.0 - 1.5	A-4(0)	24	6	7.1	64.0	12.7	16.2	99.9	97	37	-	-
S-162B	CL	641+00	1.5 - 2.5	A-4(0)	27	9	7.4	61.3	11.0	20.3	99.9	97	38	-	-
S-163B	CL	641+00	4.5 - 5.5	A-6(9)	36	20	5.9	38.3	24.9	30.9	99.7	99	59	-	-
SS-240B	CL	642+00	3.9 - 5.4	A-7-6(14)	42	25	4.0	33.5	28.4	34.0	99.7	99	66	-	-
SS-241B	CL	642+00	8.3 - 9.8	A-2-4(0)	NP	NP	3.7	71.0	18.2	7.1	99.9	98	35	-	-
SS-242B	CL	642+00	13.3 - 14.8	A-6(16)	37	18	1.3	19.0	54.3	25.4	99.8	99	89	-	-
SS-243B	CL	642+00	18.3 - 19.8	A-6(4)	32	14	7.4	47.1	26.2	19.3	99.8	96	53	-	-
ST-11B	5' RT	642+00	15.0-17.0	A-7-6(31)	48	31	0.4	16.5	47.4	35.8	99	99	96	48	-
S-113B	CL	645+00	0.0 - 1.0	A-2-4(0)	NP	NP	11.5	81.0	5.7	1.8	100	96	13	11	-
S-114B	CL	645+00	3.0 - 4.0	A-2-4(0)	27	10	33.2	45.8	4.1	16.9	99.7	85	24	-	-
S-115B	CL	645+00	4.0 - 5.0	A-7-6(37)	54	35	0.4	6.3	37.7	55.7	100	100	97	-	-



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Lee Stone

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-206B	15 ft RT	648+00	0.0 - 1.5	A-2-4(0)	NP	NP	16.5	66.7	12.8	4.0	100	96	18	-	-
SS-054B	15 ft RT	648+00	8.8 - 10.3	A-6(10)	31	14	3.2	28.8	49.9	18.1	99.6	98	81	-	-
SS-055B	15 ft RT	648+00	18.8 - 20.3	A-2-4(0)	24	9	60.4	16.7	15.4	7.5	82.6	66	25	-	-
S-172B	CL	649+00	0.5 - 1.5	A-2-4(0)	NP	NP	17.8	64.5	10.7	7.0	99.7	94	22	-	4.0
S-173B	CL	649+00	1.5 - 2.5	A-6(0)	26	11	13.9	54.5	9.4	22.1	99.6	94	35	-	-
S-178B	CL	649+00	3.5 - 4.5	A-2-4(0)	NP	NP	18.7	69.3	5.2	6.8	99.9	95	14	-	-
ST-12B	CL	657+00	11.0 - 13.0	A-6(11)	34	17	10.2	24.7	37.6	27.5	100	93	75	34	-

PROJECT REFERENCE NO.
R-3300B

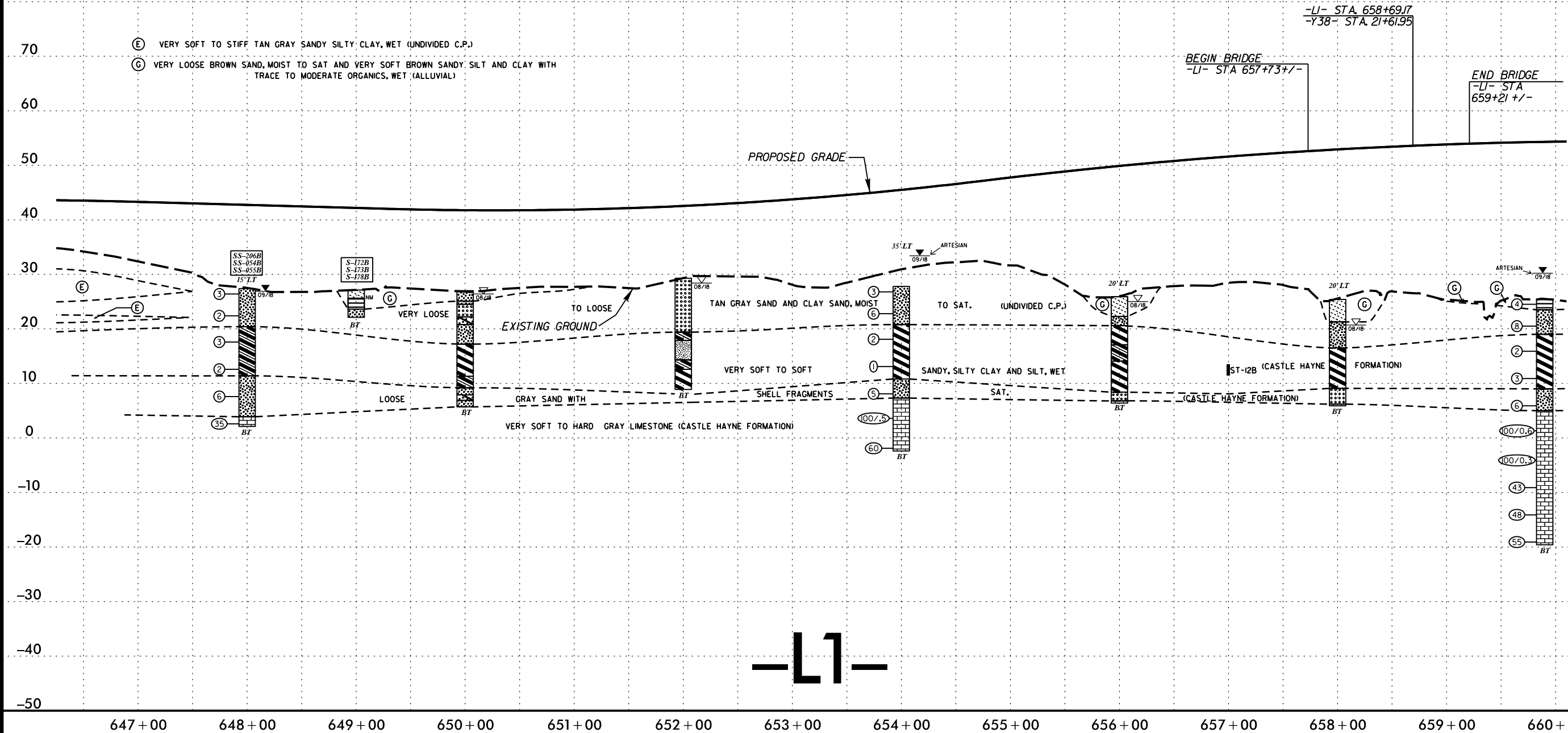
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39

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

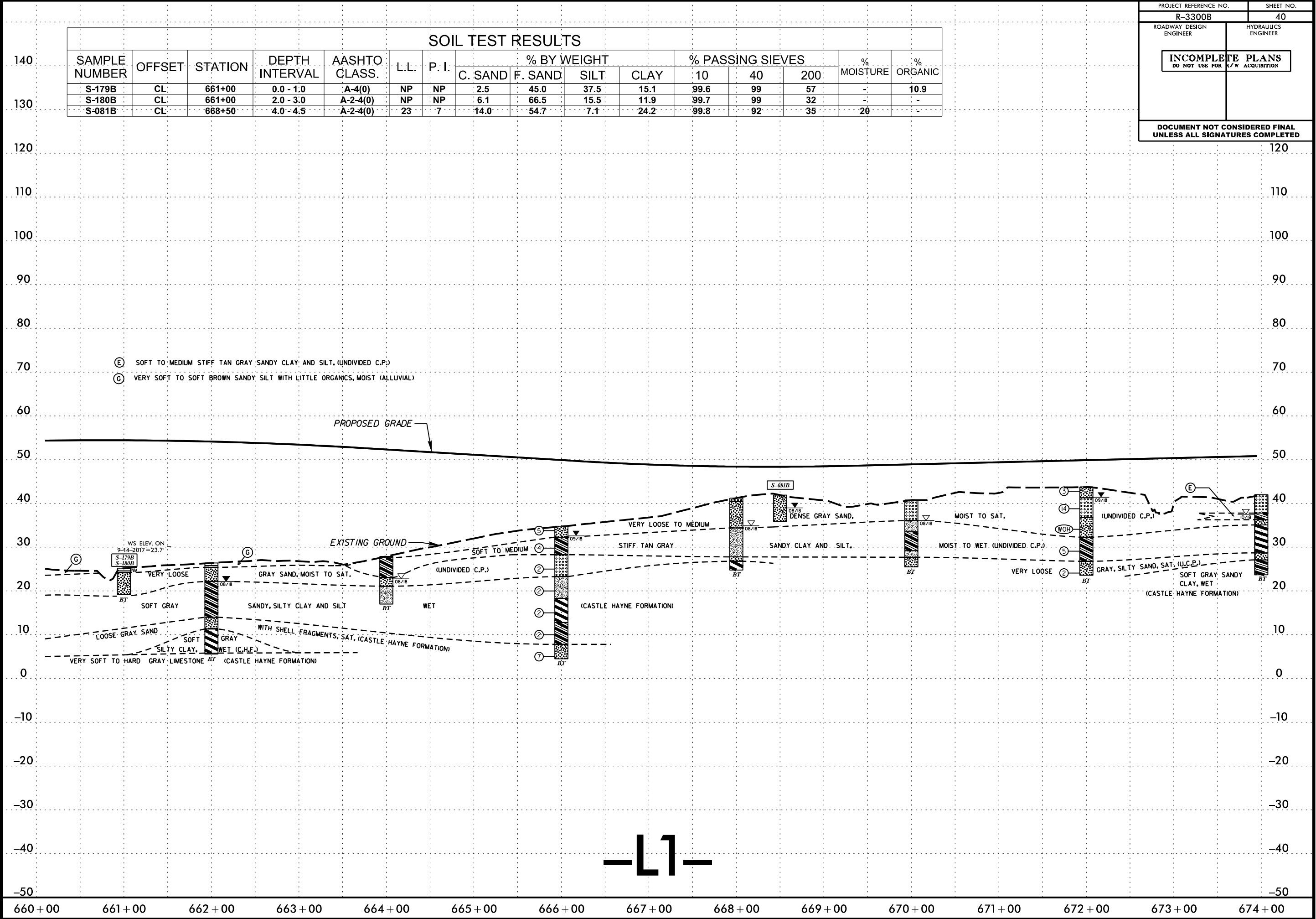
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



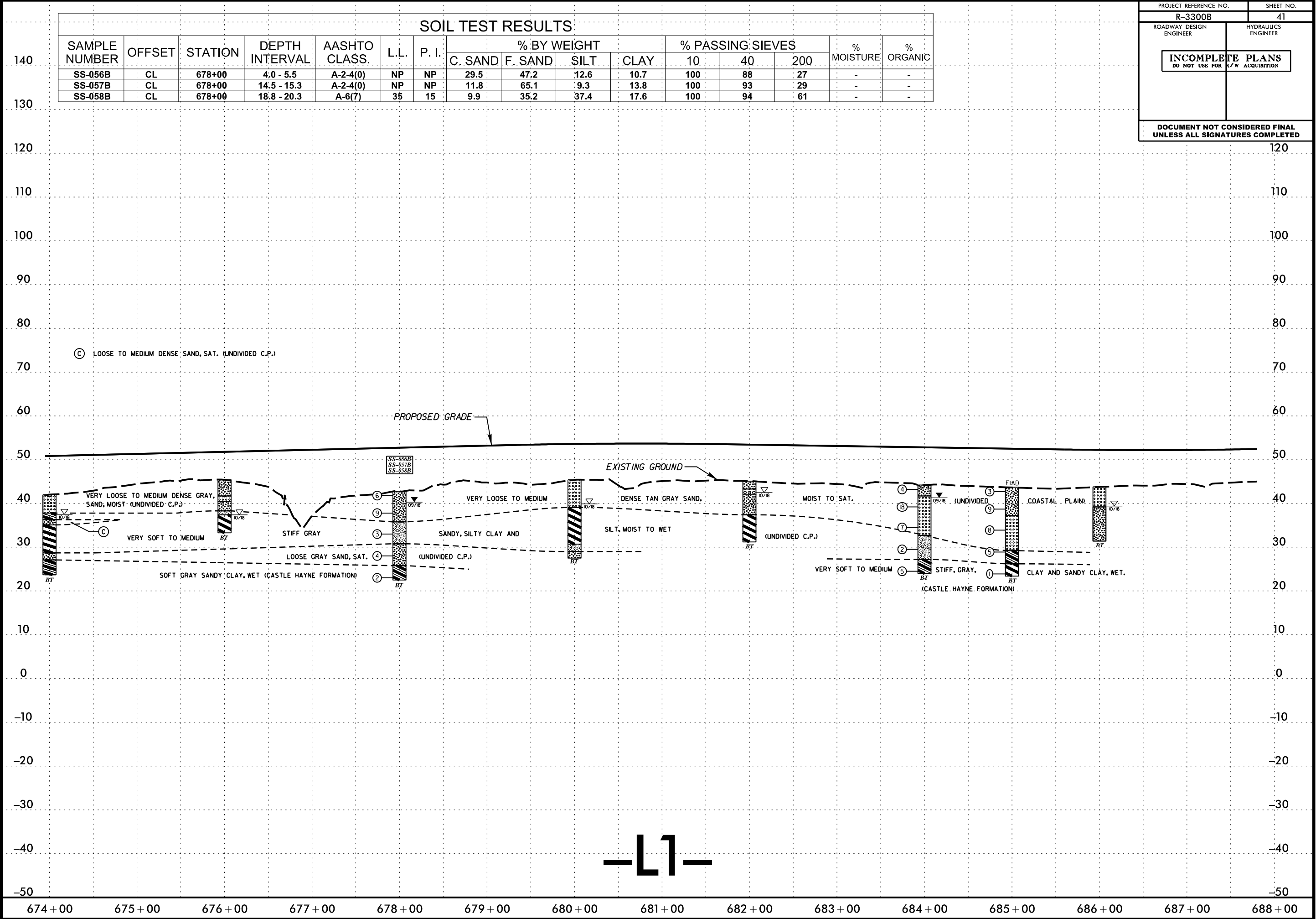
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Lee Stone
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-L1-

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Lee Stone
AL STONE



-L1-

5/14/99

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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-116B	CL	690+50	4.0 - 5.0	A-2-4(0)	NP	NP	30.0	49.3	11.7	9.0	100	87	25	-	-
S-117B	CL	690+50	5.0 - 6.0	A-2-4(0)	NP	NP	28.1	47.7	14.2	10.0	100	88	28	-	-
S-118B	CL	693+00	0.0 - 1.0	A-2-4(0)	NP	NP	28.8	55.2	14.0	2.0	99.9	90	20	16	2.1
S-119B	CL	693+00	2.0 - 3.0	A-2-4(0)	NP	NP	32.7	52.9	7.6	6.8	100	87	18	18	-
SS-101B	CL	696+00	0.0 - 1.5	A-4(0)	NP	NP	37.5	45.4	9.1	8.1	100	85	36	-	-
SS-102B	CL	696+00	8.8 - 10.3	A-2-4(0)	NP	NP	18.3	61.9	5.8	14.1	99.7	99	22	-	-
S-182B	CL	701+50	1.0 - 1.5	A-2-4(0)	NP	NP	40.5	41.2	7.2	11.1	100	82	20	-	1.5

PROJECT REFERENCE NO.
R-3300B

SHEET NO.
42

ROADWAY DESIGN ENGINEER

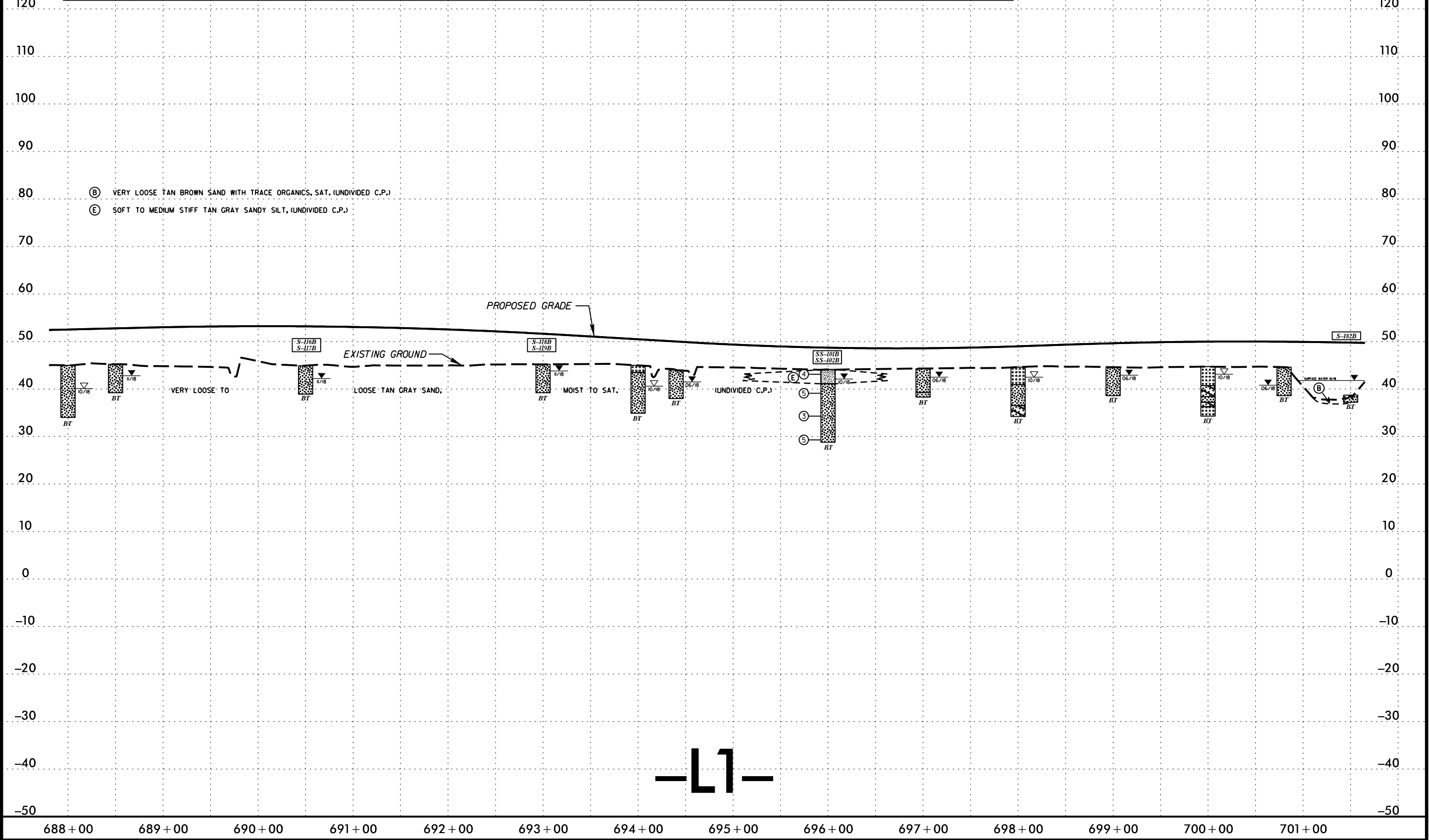
HYDRAULICS ENGINEER

INCOMPLETE PLANS

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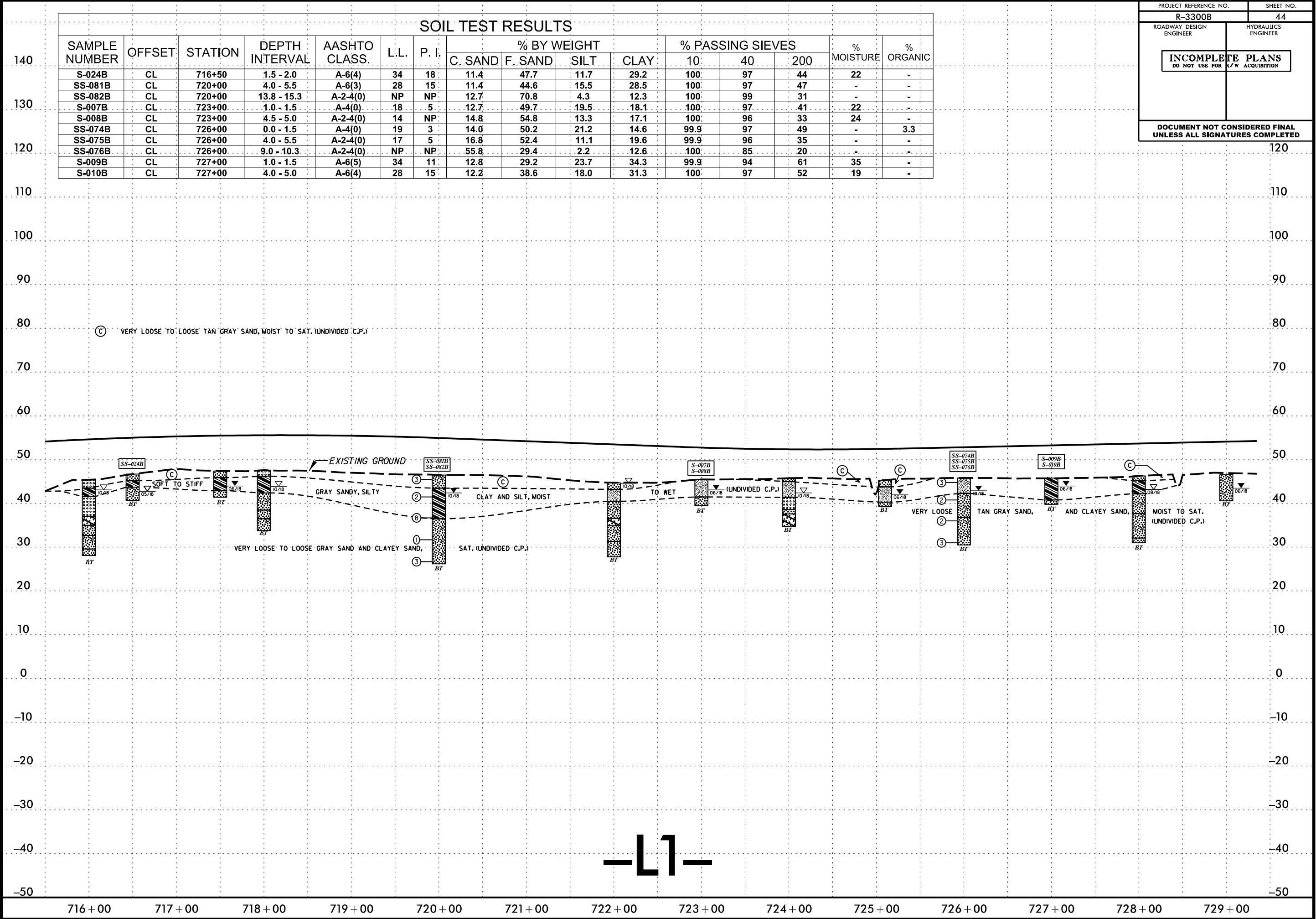
SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-086B	40 ft RT	702+00	0.0 - 1.5	A-2-4(0)	NP	NP	44.2	43.2	7.3	5.3	99.7	80	15	-	2.8
SS-087B	40 ft RT	702+00	4.0 - 5.5	A-3(0)	NP	NP	64.6	26.2	0.9	8.3	99.9	70	10	-	-
SS-088B	40 ft RT	702+00	8.8 - 10.3	A-2-4(0)	NP	NP	3.8	72.2	8.4	15.6	99.9	100	32	-	-
S-033B	CL	705+00	1.5 - 2.0	A-6(2)	31	15	26.8	37.1	9.0	27.1	98.5	87	39	18	-
S-032B	CL	705+00	4.0 - 4.5	A-2-4(0)	20	7	24.0	46.4	11.5	18.1	98.8	89	34	22	-
SS-085B	CL	708+00	4.0 - 5.5	A-4(2)	24	10	26.5	42.0	9.3	22.3	99.8	89	48	-	-
S-034B	CL	709+00	1.0 - 1.5	A-6(2)	25	12	9.8	46.6	15.1	28.5	100	97	47	-	-
S-183B	CL	711+00	0.0 - 1.0	A-2-4(0)	NP	NP	12.5	57.8	20.2	9.5	99.8	97	33	-	12.5
SS-064B	90 ft LT	712+25	0.0 - 1.5	A-4(0)	NP	NP	25.1	40.5	30.5	3.9	93.7	85	37	-	21.7
SS-065B	90 ft LT	712+25	4.0 - 5.5	A-2-4(0)	NP	NP	0.2	81.1	6.6	12.1	100	100	25	-	-
SS-066B	90 ft LT	712+25	13.7 - 15.2	A-2-4(0)	NP	NP	10.9	69.7	15.3	4.1	99.8	96	32	-	-
ST-03B	90 ft LT	712+25	16.0 - 18.0	A-4(2)	27	5	0.7	47.9	37.9	13.6	100	99	66	42	-
SS-067B	90 ft LT	712+25	23.7 - 25.2	A-7-6(17)	43	22	4.7	29.4	47.4	18.5	99.8	96	80	-	-
SS-068B	90 ft LT	712+25	33.7 - 35.2	A-6(3)	30	11	23.2	31.1	19.4	26.3	100	84	52	-	-
SS-069B	60 ft RT	713+25	4.0 - 5.5	A-2-4(0)	NP	NP	15.5	71.2	4.3	9.0	100	98	17	21	-
SS-070B	60 ft RT	713+25	13.8 - 15.3	A-2-4(0)	NP	NP	22.1	61.6	11.3	5.0	99.3	90	23	32	-
SS-071B	60 ft RT	713+25	23.8 - 25.3	A-7-6(17)	45	24	9.4	32.6	39.6	18.3	100	93	75	65	-
ST-04B	60 ft LT	714+00	20.3 - 22.3	A-7-6(39)	54	36	0.4	16.5	56.9	26.2	100	99	92	56	-

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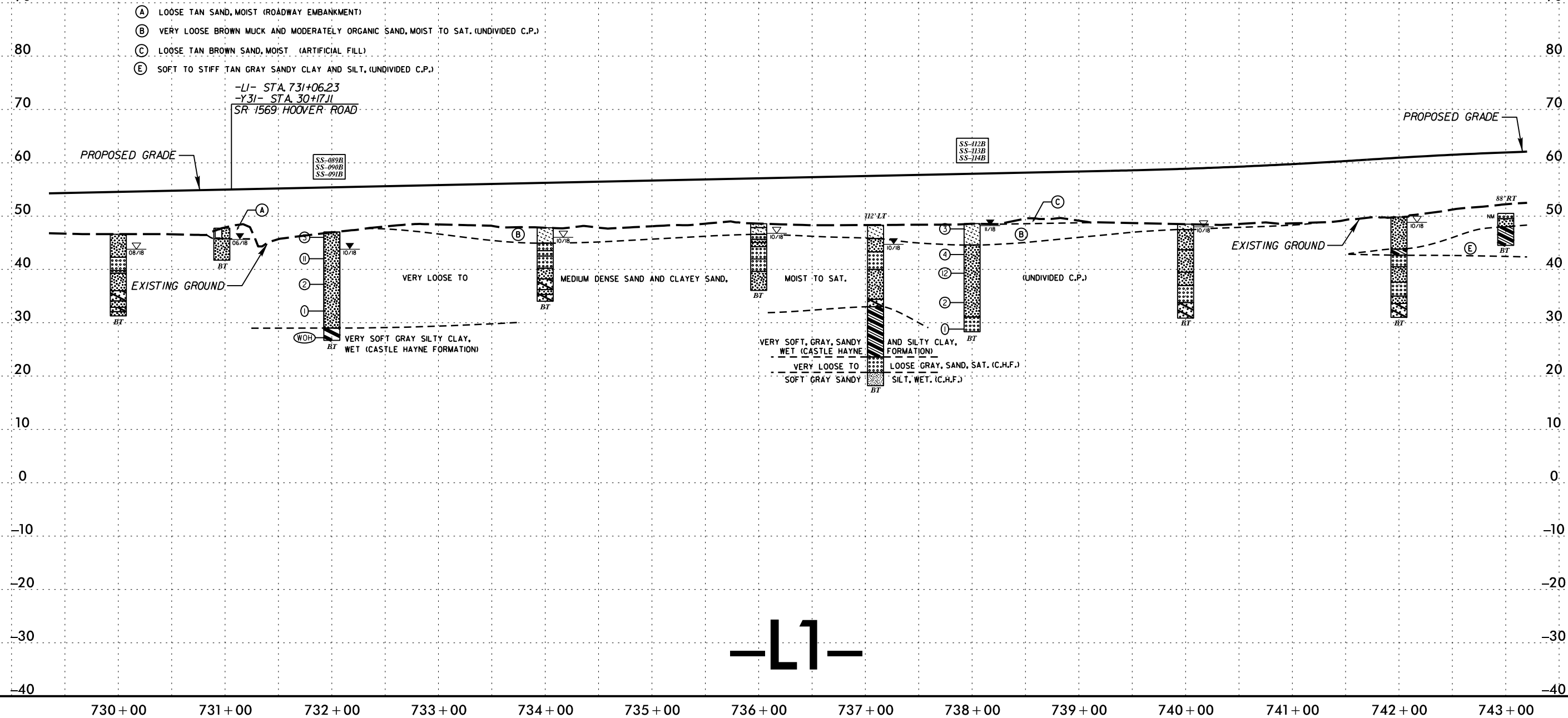
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							C. SAND	F. SAND	SILT	CLAY	10'	40	200		
S-024B	CL	716+50	1.5 - 2.0	A-6(4)	34	18	11.4	47.7	11.7	29.2	100	97	44	22	-
SS-081B	CL	720+00	4.0 - 5.5	A-6(3)	28	15	11.4	44.6	15.5	28.5	100	97	47	-	-
SS-082B	CL	720+00	13.8 - 15.3	A-2-4(0)	NP	NP	12.7	70.8	4.3	12.3	100	99	31	-	-
S-007B	CL	723+00	1.0 - 1.5	A-4(0)	18	5	12.7	49.7	19.5	18.1	100	97	41	22	-
S-008B	CL	723+00	4.5 - 5.0	A-2-4(0)	14	NP	14.8	54.8	13.3	17.1	100	96	33	24	-
SS-074B	CL	726+00	0.0 - 1.5	A-4(0)	19	3	14.0	50.2	21.2	14.6	99.9	97	49	-	3.3
SS-075B	CL	726+00	4.0 - 5.5	A-2-4(0)	17	5	16.8	52.4	11.1	19.6	99.9	96	35	-	-
SS-076B	CL	726+00	9.0 - 10.3	A-2-4(0)	NP	NP	55.8	29.4	2.2	12.6	100	85	20	-	-
S-009B	CL	727+00	1.0 - 1.5	A-6(5)	34	11	12.8	29.2	23.7	34.3	99.9	94	61	35	-
S-010B	CL	727+00	4.0 - 5.0	A-6(4)	28	15	12.2	38.6	18.0	31.3	100	97	52	19	-

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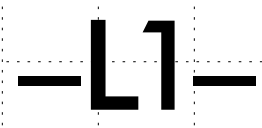
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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-089B	CL	732+00	4.0 - 5.5	A-2-4(0)	NP	NP	26.9	56.6	6.5	10.0	100	95	20	-	-
SS-090B	CL	732+00	8.8 - 10.3	A-2-4(0)	NP	NP	48.1	36.8	3.1	12.0	100	89	24	-	-
SS-091B	CL	732+00	18.8 - 20.3	A-7-6(23)	52	27	7.1	20.6	38.6	33.6	100	95	81	-	-
SS-112B	CL	738+00	0.5 - 1.5	A-2-4(0)	NP	NP	15.5	53.9	25.4	5.2	99.8	97	34	-	5.1
SS-113B	CL	738+00	4.8 - 6.3	A-2-4(0)	NP	NP	11.4	60.0	18.1	10.5	100	98	34	-	-
SS-114B	CL	738+00	18.8 - 20.3	A-3(0)	NP	NP	56.3	40.3	3.2	0.2	99.7	86	4	-	-



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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-115B	CL	744+00	4.8 - 6.3	A-6(7)	35	20	27.6	22.0	15.6	34.8	99.9	89	51	-	-
SS-116B	CL	744+00	13.2 - 14.7	A-3(0)	NP	NP	71.2	23.7	2.9	2.2	100	78	5	-	-
SS-117B	CL	750+00	0.0 - 1.5	A-3(0)	NP	NP	31.3	62.8	5.7	0.2	99.9	93	7	-	-
SS-118B	CL	750+00	4.4 - 5.9	A-2-4(0)	NP	NP	32.5	52.2	8.1	7.3	99.9	87	16	-	-
S-107B	CL	750+50	0.0 - 1.0	A-3(0)	NP	NP	33.1	61.8	5.1	0.0	99.8	90	6	0	-
S-108B	CL	750+50	2.0 - 3.0	A-2-4(0)	NP	NP	26.2	49.5	18.3	6.0	100	93	25	9	1.9
S-109B	CL	750+50	4.0 - 5.0	A-6(2)	29	12	25.0	31.5	13.1	30.4	99.8	90	44	-	-
S-110B	CL	754+50	0.0 - 1.0	A-2-4(0)	NP	NP	31.1	45.5	15.5	8.0	99.7	88	25	11	2.7
SS-119B	CL	756+00	0.0 - 1.5	A-2-4(0)	18	3	28.2	49.6	12.8	9.4	99.9	89	24	-	-
SS-120B	CL	756+00	8.9 - 10.4	A-2-4(0)	NP	NP	10.9	73.3	6.1	9.6	100	97	18	-	-
SS-121B	CL	756+00	18.9 - 20.4	A-2-4(0)	NP	NP	7.8	81.4	4.4	6.4	100	98	13	-	-



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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-122B	CL	762+00	0.0 - 1.5	A-2-4(0)	NP	NP	23.0	60.6	7.5	8.8	99.9	92	17	-	-
SS-123B	CL	762+00	8.1 - 9.6	A-4(0)	NP	NP	8.7	56.0	18.3	16.9	100	95	38	-	-
SS-124B	CL	762+00	18.1 - 19.6	A-2-4(0)	NP	NP	8.7	69.6	8.9	12.9	100	97	26	-	-
ST-06B	CL	768+05	4.5 - 6.1	A-2-4(0)	16	3	39.6	38.4	5.1	16.9	99.9	77.2	22.9	-	-

PROJECT REFERENCE NO.
R-3300B

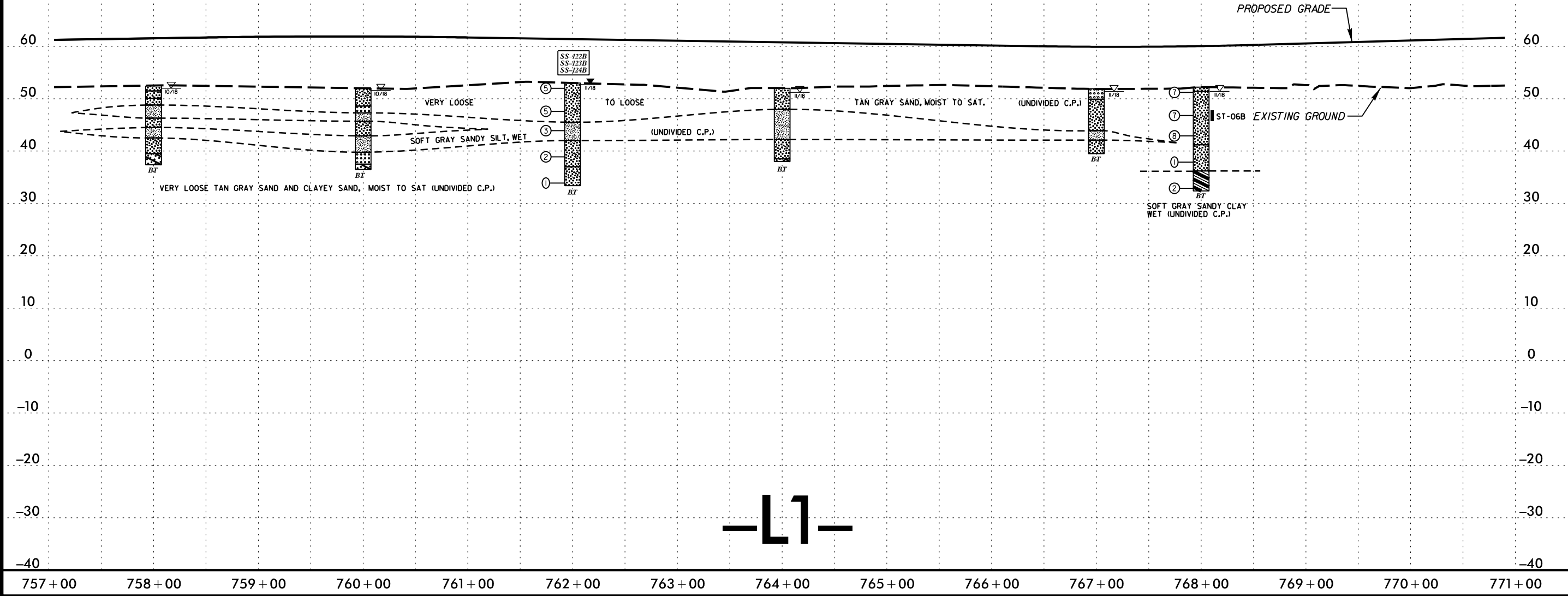
SHEET NO.
47

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

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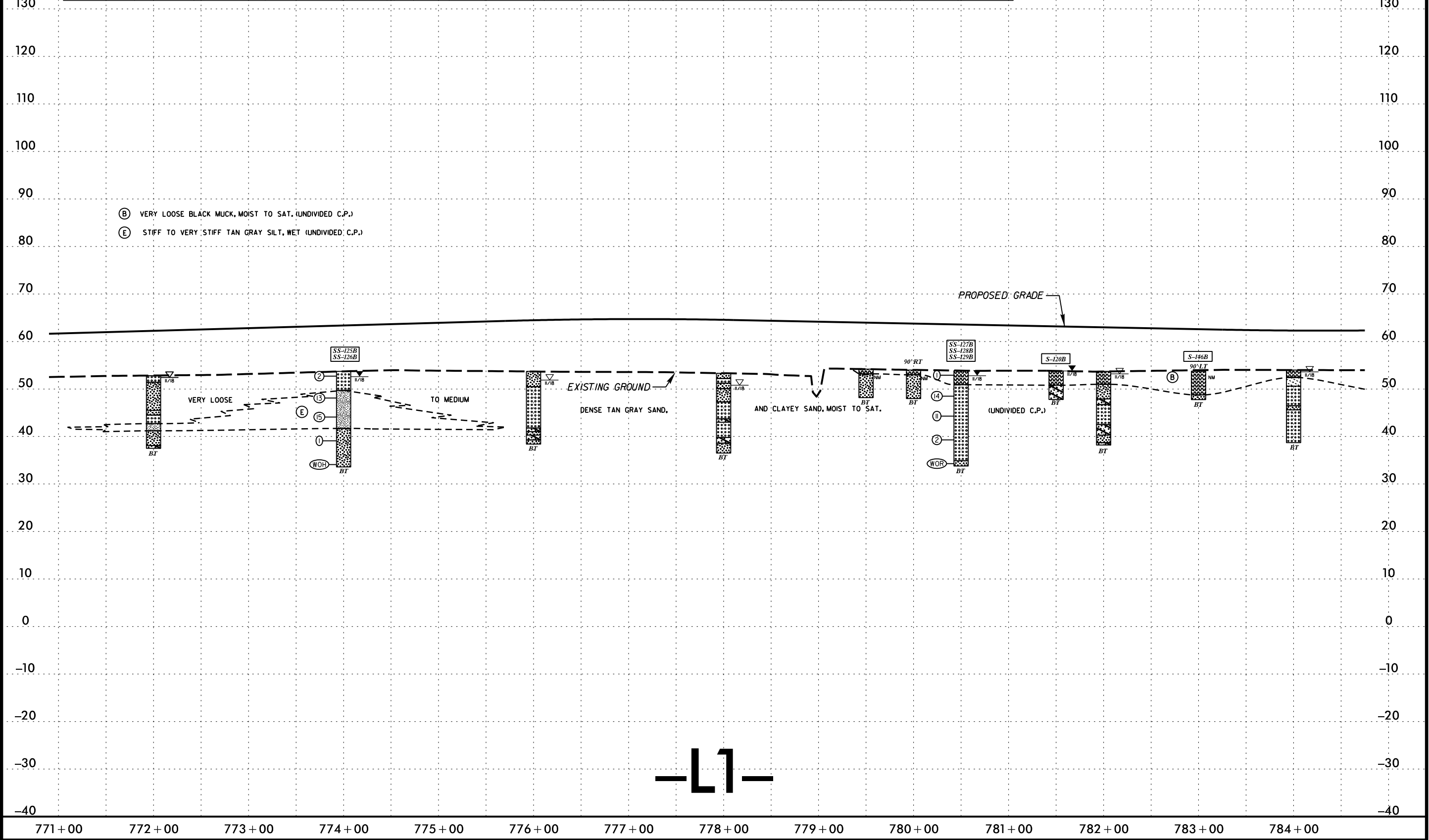


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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-125B	CL	774+00	4.6 - 6.1	A-4(0)	NP	NP	26.5	15.1	48.0	10.4	99.8	90	59	-	-
SS-126B	CL	774+00	13.6 - 15.1	A-2-4(0)	NP	NP	72.0	16.5	5.1	6.4	100	68	12	-	-
SS-127B	CL	780+50	4.4 - 5.9	A-3(0)	NP	NP	53.8	37.2	2.5	6.4	100	84	9	-	-
SS-128B	CL	780+50	13.6 - 15.1	A-3(0)	NP	NP	83.4	9.6	1.9	5.1	97	44	7	-	-
SS-129B	CL	780+50	19.0 - 20.1	A-2-4(0)	19	6	40.3	30.6	11.7	17.4	100	91	33	-	-
S-120B	CL	781+50	0.0 - 1.0	A-2-4(0)	NP	NP	26.0	41.5	27.6	4.9	99.6	89	34	45	12.4
S-146B	90 LT	783+00	0.0 - 5.0	A-2-4(0)	NP	NP	44.6	41.0	13.8	0.6	88.8	79	17	-	51.6

PROJECT REFERENCE NO.		SHEET NO.	
R-3300B		48	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-153B	CL	786+50	0.0 - 1.5	A-2-4(0)	NP	NP	43.5	38.6	9.7	8.2	99.7	76	19	2	-
SS-154B	CL	786+50	8.7 - 10.2	A-2-4(0)	NP	NP	5.8	83.5	6.7	4.0	99.9	98	12	-	-
SS-155B	25 ft RT	792+00	0.0 - 1.5	A-3(0)	NP	NP	40.7	52.9	6.4	0.0	99.9	88	7	-	-
SS-156B	25 ft RT	792+00	8.7 - 10.2	A-6(5)	37	15	17.9	31.9	15.6	34.6	99.9	89	51	-	-
SS-157B	25 ft RT	792+00	18.7 - 20.2	A-3(0)	NP	NP	90.5	5.8	-0.3	3.9	98.0	29	4	-	-
SS-158B	CL	798+00	0.0 - 1.5	A-2-4(0)	NP	NP	26.5	52.1	12.7	8.7	98.8	88	23	9	-
SS-159B	CL	798+00	8.8 - 10.3	A-6(4)	38	13	30.4	21.5	16.5	31.6	98.5	77	49	-	-
SS-160B	CL	798+00	13.8 - 15.3	A-2-4(0)	NP	NP	50.8	39.7	3.5	6.0	99.2	81	10	-	-

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SHEET NO.
49

ROADWAY DESIGN ENGINEER

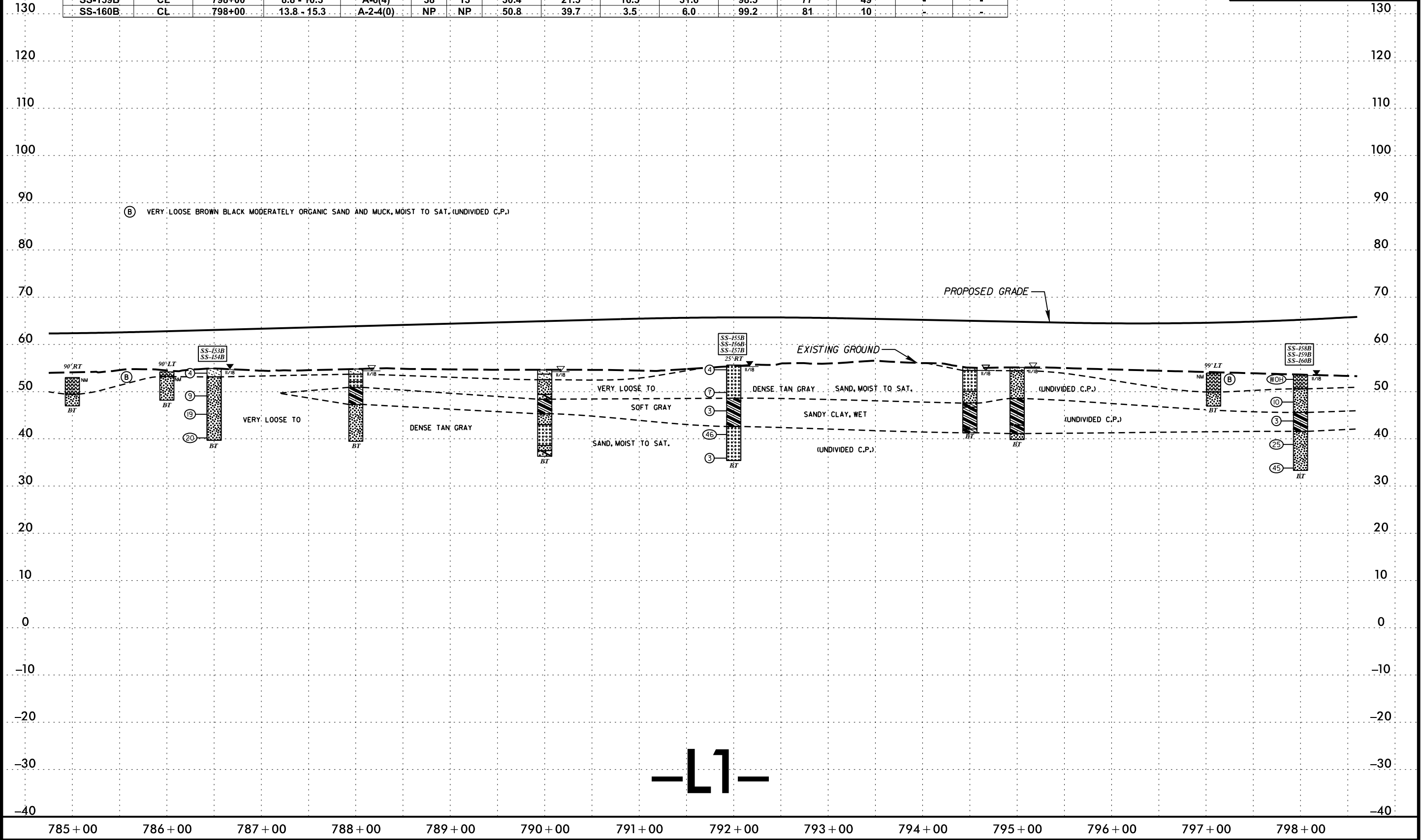
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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-274B	CL	804+00	3.8 - 5.3	-	NEM	-	-	-	-	-	NEM	NEM	NEM	-	22.3
SS-275B	CL	804+00	10.0 - 11.5	A-4(0)	NP	NP	9.9	49.4	29.0	11.8	98.8	96	43	-	13.5
SS-276B	CL	804+00	15.0 - 16.5	A-6(3)	30	11	3.7	48.6	23.9	23.8	99.2	97	51	-	4.9
SS-277B	CL	804+00	20.0 - 21.5	A-3(0)	NP	NP	10.6	84.9	1.3	3.3	99.0	97	5	-	-
S-123B	CL	808+00	0.0 - 1.0	A-3(0)	NP	NP	28.7	65.3	5.6	0.5	94	90	8	52	18.8
S-124B	CL	808+00	1.0 - 2.0	A-2-4(0)	NP	NP	28.0	60.7	6.8	4.5	100	91	12	28	4.2
S-125B	CL	808+50	0.0 - 1.0	A-2-4(0)	NP	NP	28.9	57.5	11.3	2.3	99.6	91	15	68	8.1
S-126B	CL	808+50	1.0 - 2.0	A-2-4(0)	NP	NP	35.2	51.2	9.3	4.3	99.9	88	14	24	3.9

PROJECT REFERENCE NO.
R-3300B

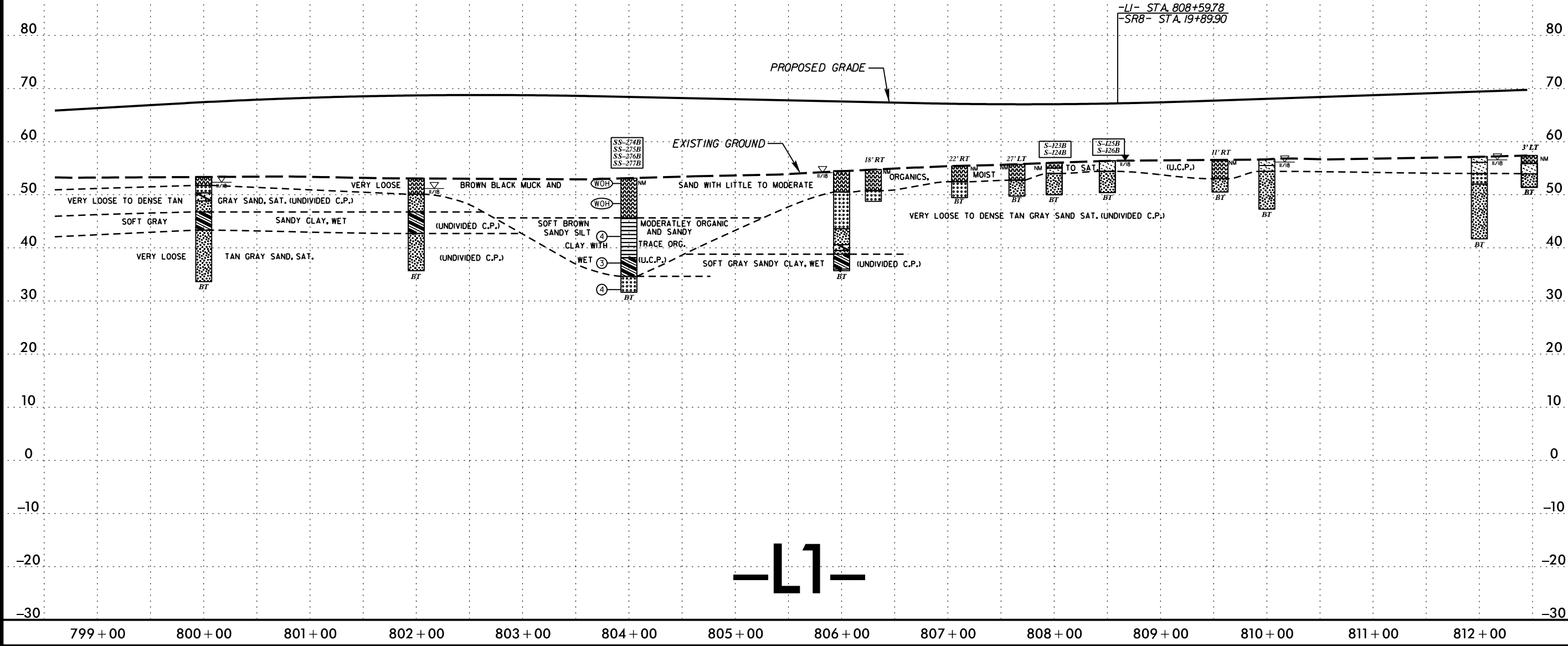
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50

ROADWAY DESIGN ENGINEER

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SOIL TEST RESULTS															
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							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-127B	CL	816+00	0.0 - 1.0	A-2-4(0)	NP	NP	31.6	58.5	8.6	1.3	99.4	89	11	57	15.1
S-128B	CL	816+00	1.0 - 2.0	A-2-4(0)	NP	NP	35.2	53.2	8.3	3.3	99.5	85	12	23	3.4
S-129B	CL	818+50	3.0 - 4.0	A-2-4(0)	NP	NP	25.8	60.6	10.8	2.8	99.4	91	14	-	-
S-130B	CL	822+00	0.0 - 1.0	A-2-4(0)	NP	NP	9.1	81.8	8.1	1.0	100	97	11	40	-
S-131B	CL	822+00	4.0 - 5.0	A-2-4(0)	NP	NP	22.2	49.1	18.4	10.3	99.3	89	31	-	-

PROJECT REFERENCE NO.
R-3300B

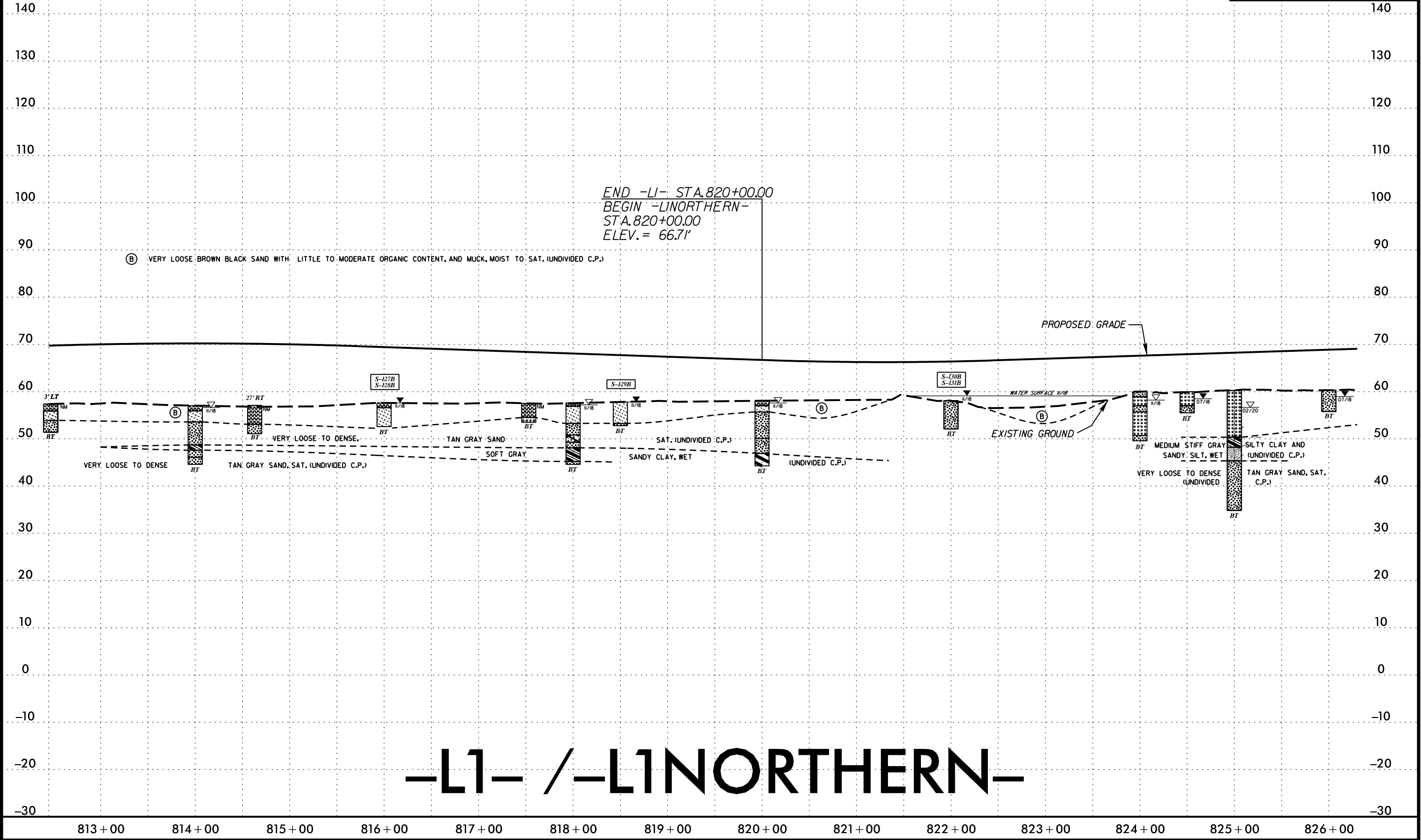
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51

ROADWAY DESIGN
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PROJECT REFERENCE NO.
R-3300B

SHEET NO.
52

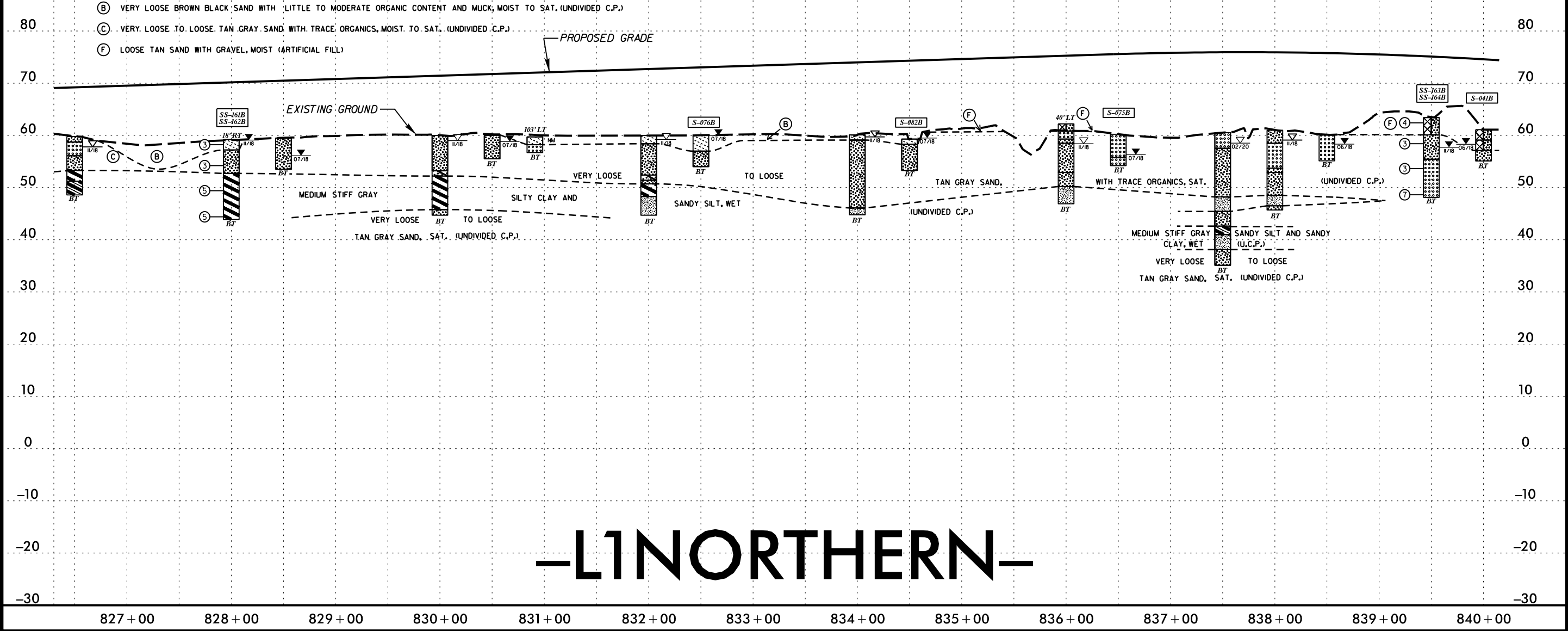
ROADWAY DESIGN
ENGINEER

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ENGINEER

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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-161B	18 ft RT	828+00	0.0 - 1.5	A-2-4(0)	NP	NP	40.3	39.3	12.5	8.0	99.4	83	21	-	5.8
SS-162B	18 ft RT	828+00	8.8 - 10.3	A-7-6(13)	41	14	6.7	10.6	41.1	41.7	94.4	97	84	-	-
S-076B	CL	832+50	2.0 - 3.0	A-2-4(0)	23	NP	34.4	39.9	14.1	11.6	99.9	89	26	36	8.4
S-082B	CL	834+50	4.5 - 6.0	A-2-4(0)	15	NP	50.1	37.3	5.5	7.1	100	86	13	23	-
S-075B	CL	836+50	5.0 - 5.5	A-3(0)	17	NP	47.7	48.0	1.9	2.4	99.9	84	5	-	2.3
SS-163B	CL	839+50	0.0 - 1.5	A-2-4(0)	NP	NP	26.6	63.8	3.6	6.0	99.7	93	10	10	-
SS-164B	CL	839+50	8.8 - 10.3	A-3(0)	NP	NP	17.7	78.1	2.2	2.0	98.6	88	5	-	-
S-041B	CL	840+00	2.0 - 2.5	A-2-4(0)	20	3	12.5	62.7	5.5	19.3	99.9	98	25	-	-



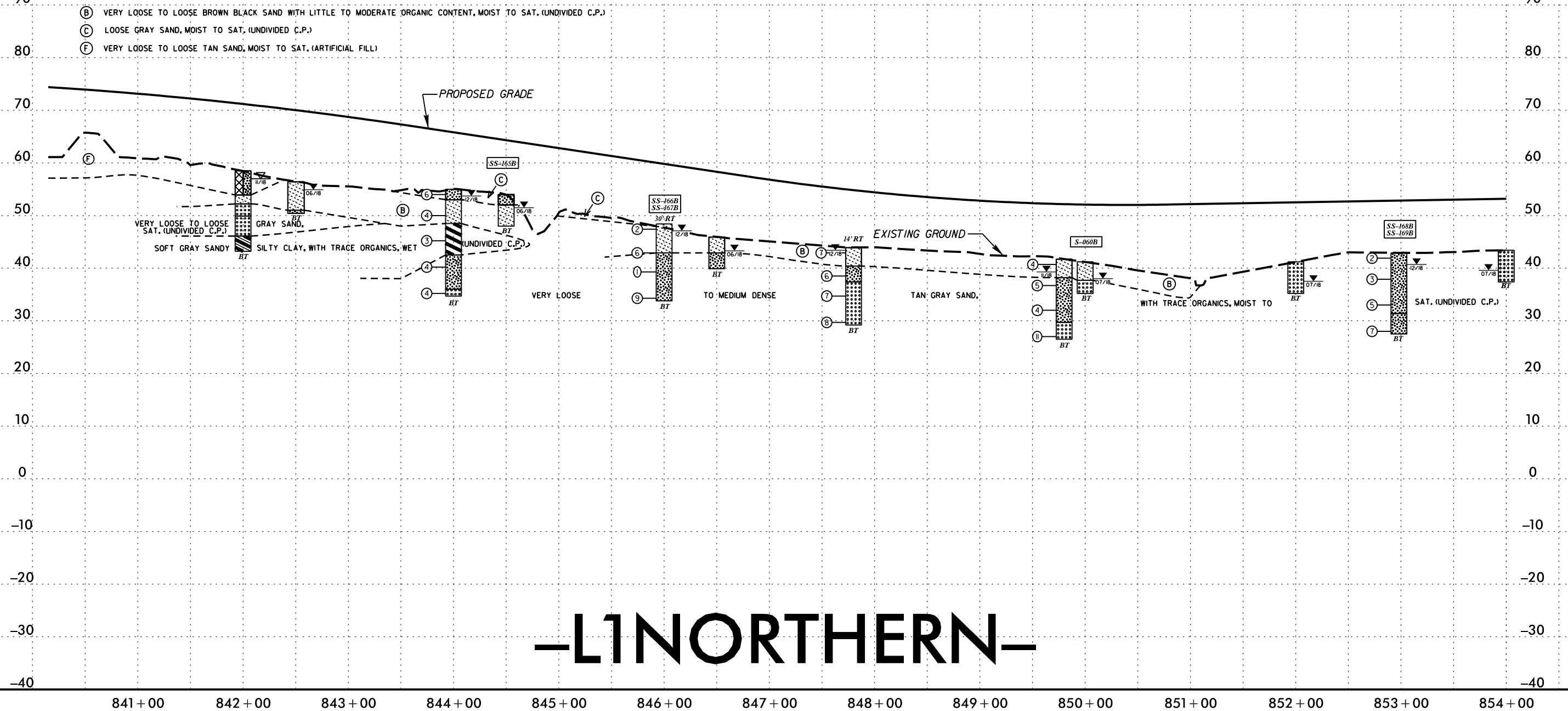
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ENGINEER

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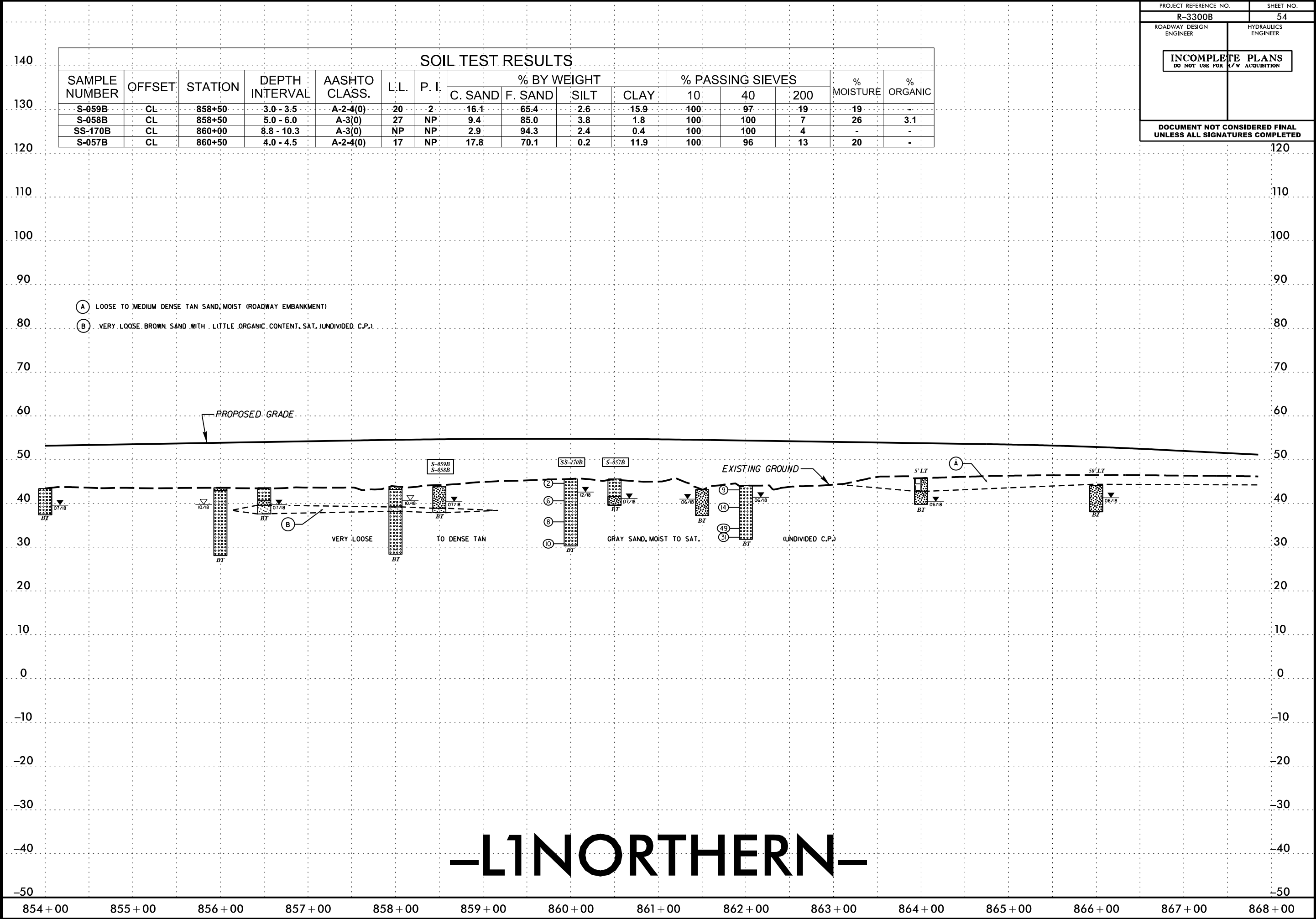
SOIL TEST RESULTS

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-165B	CL	844+50	4.0 - 5.5	A-3(0)	NP	NP	22.9	69.8	4.3	3.0	99.7	95	8	-	6.0
SS-166B	30 ft RT	846+00	0.0 - 1.5	A-2-4(0)	NP	NP	23.7	65.9	9.2	1.2	99.7	94	12	-	4
SS-167B	30 ft RT	846+00	8.1 - 9.6	A-2-4(0)	NP	NP	47.5	33.2	7.3	12.0	99.5	84	21	-	-
S-060B	CL	850+00	2.0 - 2.5	A-2-4(0)	24	6	31.3	49.2	1.2	18.4	100	95	21	13	-
SS-168B	CL	852+98	4.0 - 5.5	A-2-4(0)	NP	NP	7.4	84.8	5.0	2.8	100	99	10	-	2.7
SS-169B	CL	852+98	13.9 - 15.4	A-2-4(0)	NP	NP	5.3	65.8	11.1	17.7	98.4	98	34	-	-



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Lee Stone



140

130

120

110

100

90

80

70

60

50

40

30

20

10

0

-10

-20

-30

-40

-50

854+00

855+00

856+00

857+00

858+00

859+00

860+00

861+00

862+00

863+00

864+00

865+00

866+00

867+00

868+00

PROPOSED GRADE

EXISTING GROUND

VERY LOOSE

TO DENSE TAN

GRAY SAND, MOIST TO SAT.

(UNDIVIDED C.P.)

5' LT

50' LT

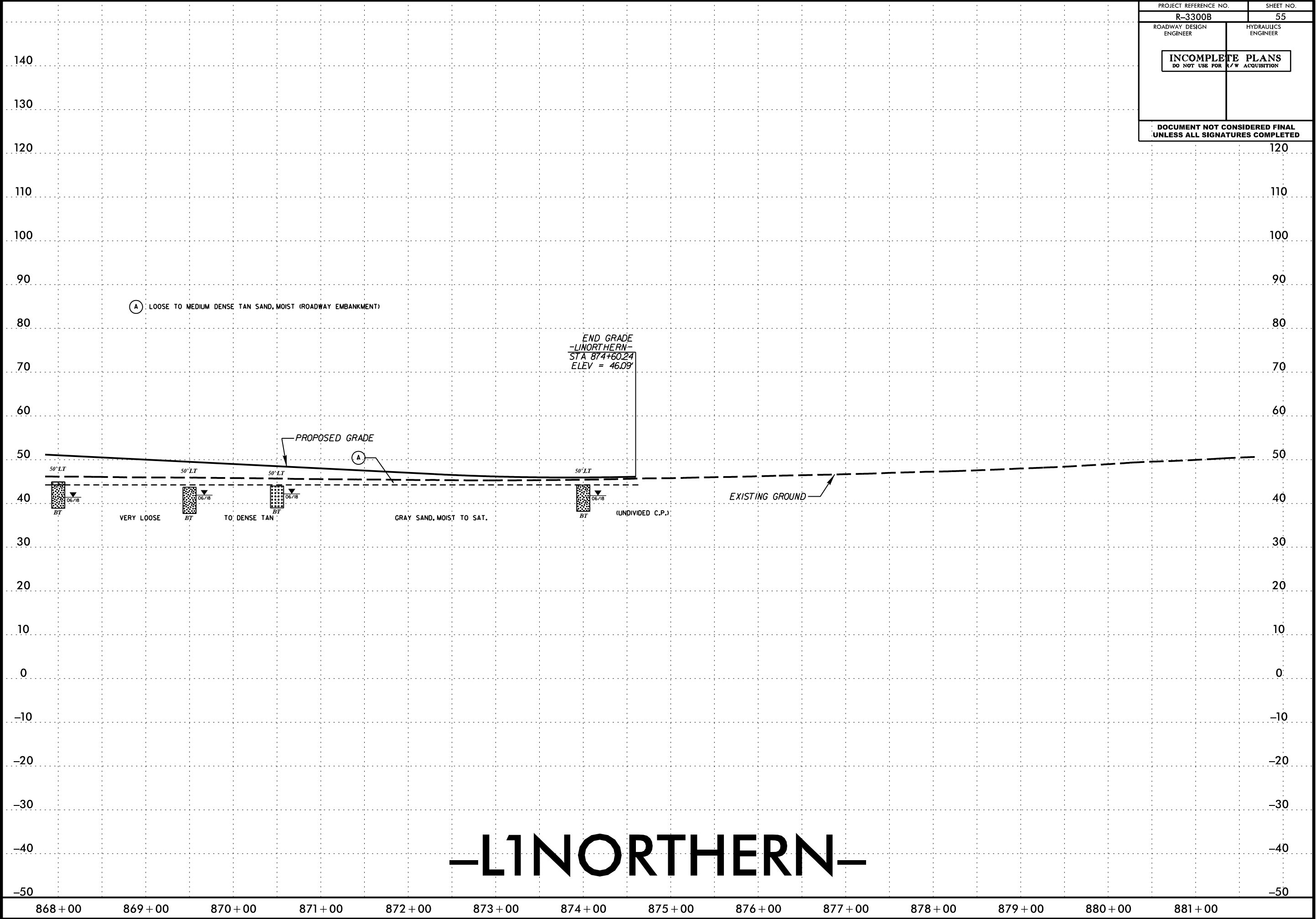
(A) LOOSE TO MEDIUM DENSE TAN SAND, MOIST (ROADWAY EMBANKMENT)

(B) VERY LOOSE BROWN SAND WITH LITTLE ORGANIC CONTENT, SAT. (UNDIVIDED C.P.)

-L1NORTHERN-

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PROJECT REFERENCE NO.		SHEET NO.	
R-3300B		55	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
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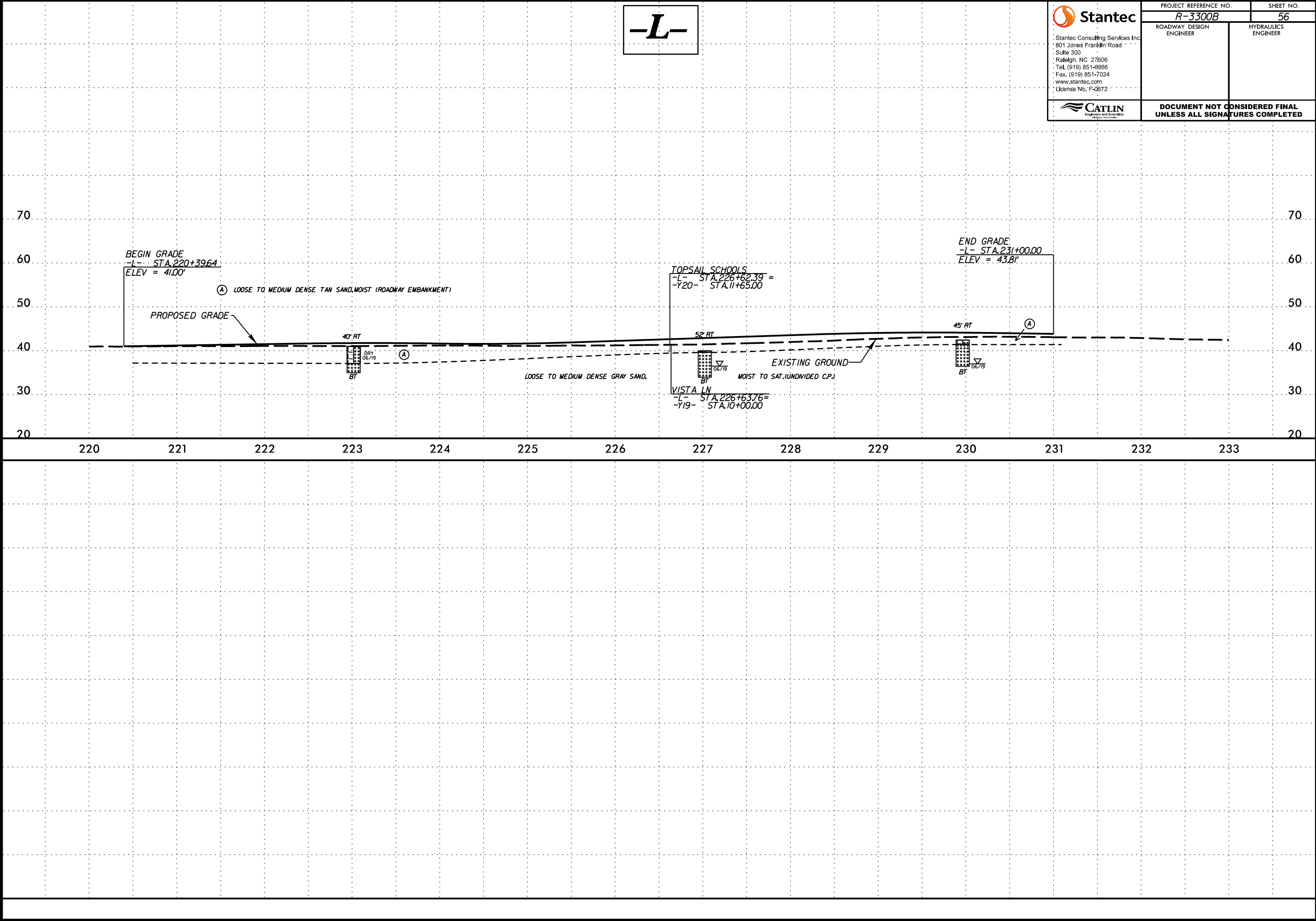
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PROJECT REFERENCE NO.		SHEET NO.
R-3300B		56
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER	
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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-25	41 LT	271+03	8.5-10.0	A-2-4(0)	ND	NP	-	-	-	-	100	97	13	17	-
SS-26	62 RT	272+44	8.5-10.0	A-3(0)	ND	NP	-	-	-	-	100	99	6	26	-
SS-27	41 LT	283+93	3.5-5.0	A-3(0)	ND	NP	-	-	-	-	100	98	9	21	-



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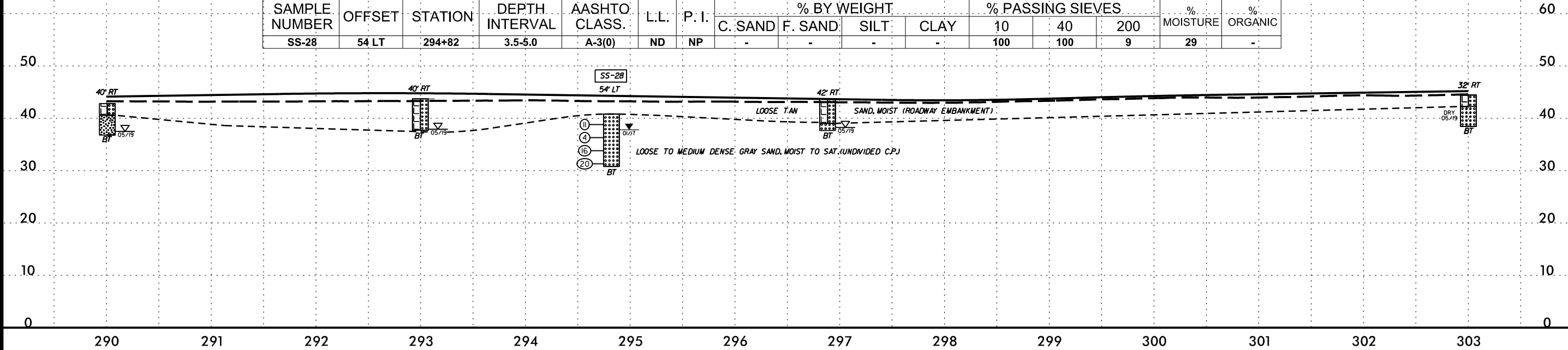
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ROADWAY DESIGN
ENGINEER

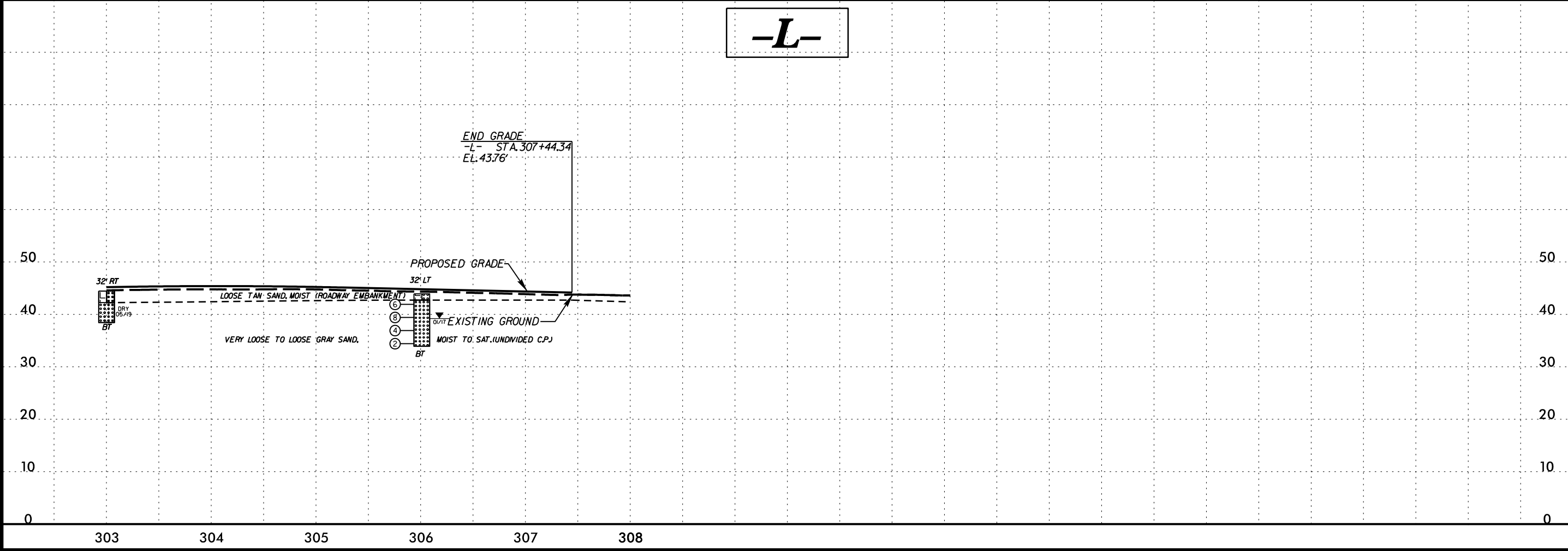
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SOIL TEST RESULTS															
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							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-28	54 LT	294+82	3.5-5.0	A-3(0)	ND	NP	-	-	-	-	100	100	9	29	-



-L-



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SHEET NO.
59

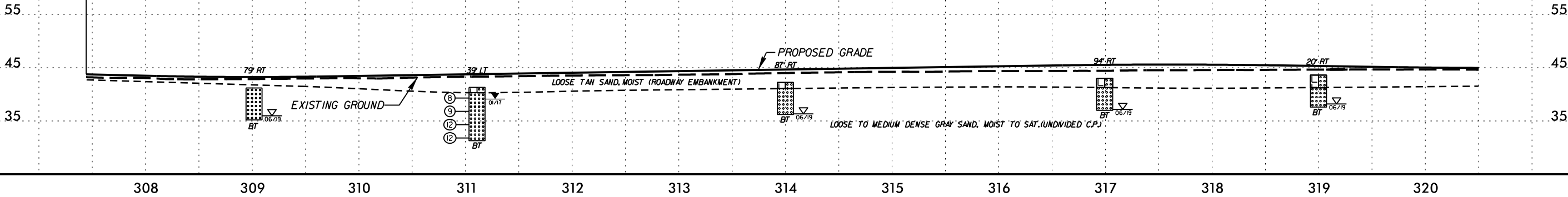
ROADWAY DESIGN
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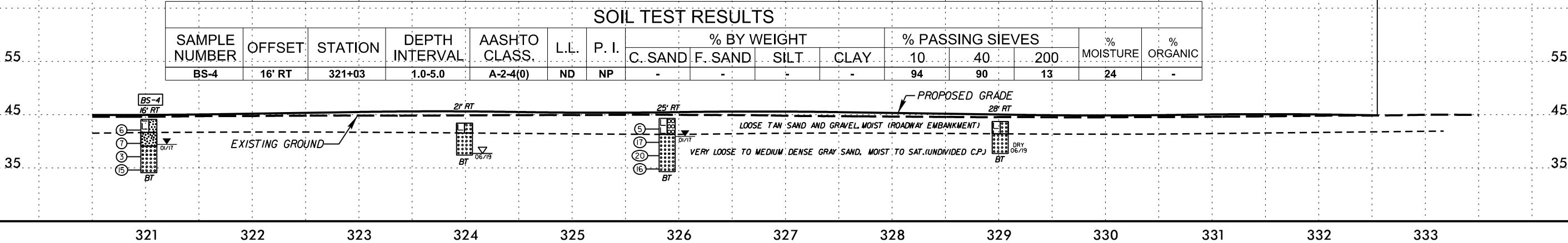
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BEGIN GRADE
-L- STA 307+44.34 =
-LLT- STA 307+44.34
ELEV = 43.73'



-LLT-

END GRADE
-LLT- STA 332+55.00
ELEV = 44.88'



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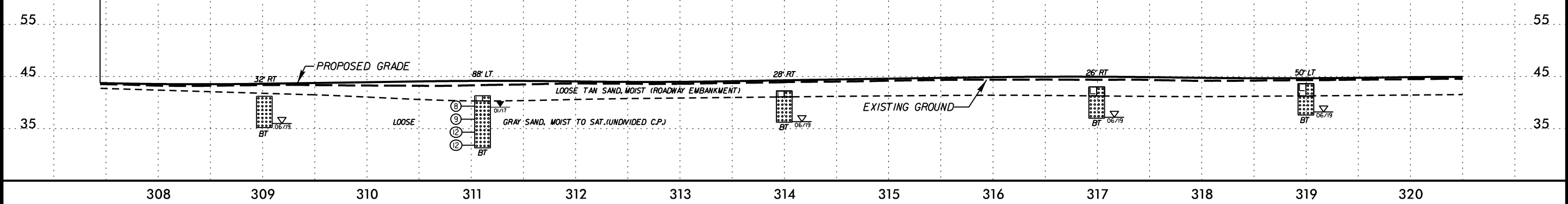
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60

HYDRAULICS
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BEGIN GRADE
-L- STA 307+44.34 =
-LRT- STA 307+44.34
ELEV = 43.73'

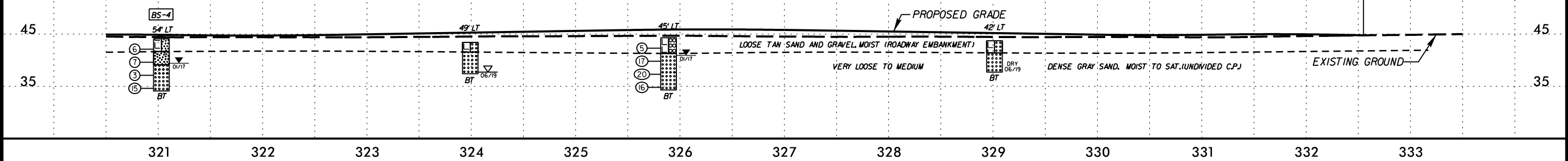


-LRT-

SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
BS-4	54' LT	321+03	1.0-5.0	A-2-4(0)	ND	NP	-	-	-	-	94	90	13	24	-

END GRADE
-LRT- STA 332+55.00
ELEV = 44.76'



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SHEET NO.
61

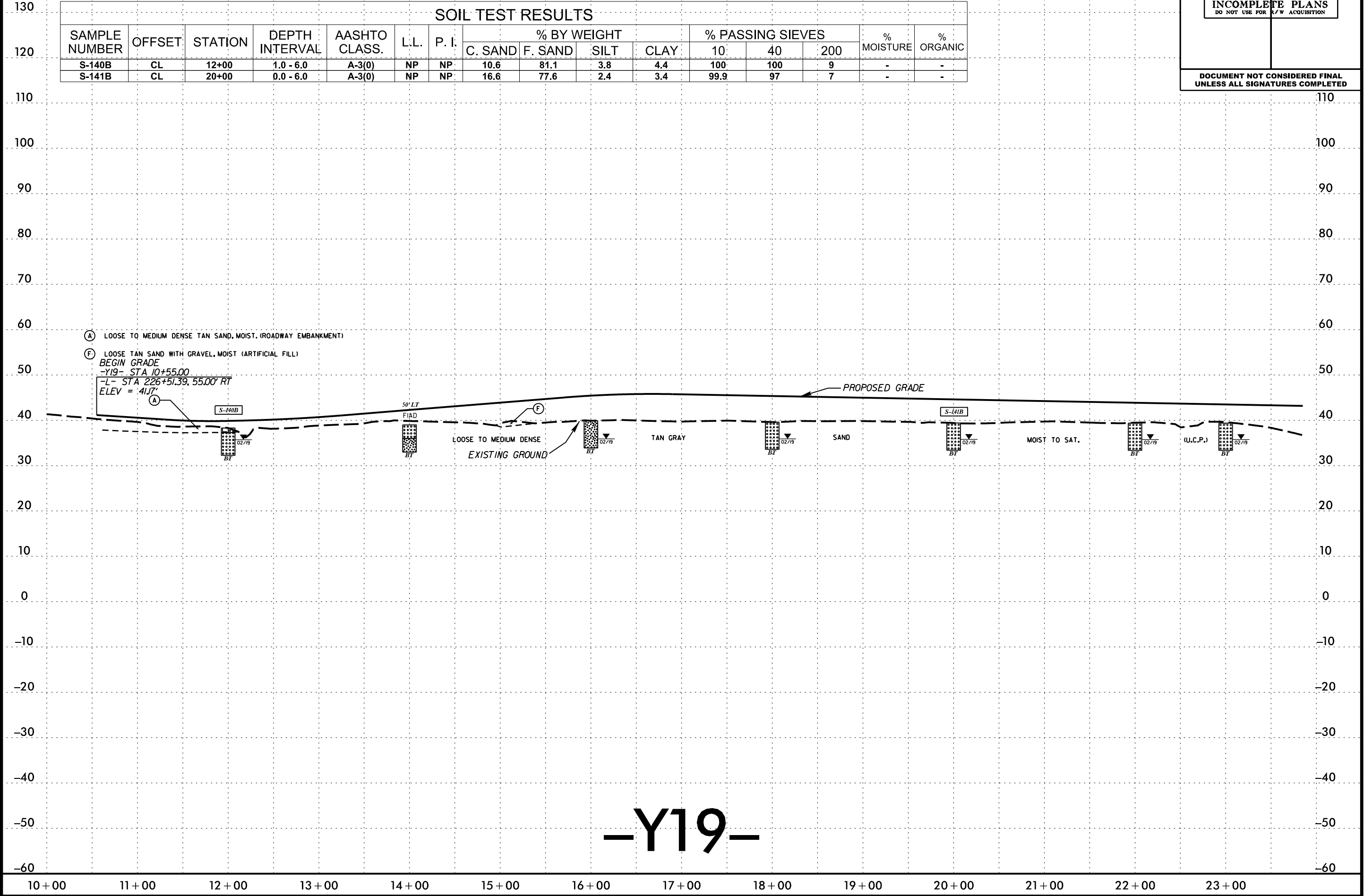
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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-140B	CL	12+00	1.0 - 6.0	A-3(0)	NP	NP	10.6	81.1	3.8	4.4	100	100	9	-	-
S-141B	CL	20+00	0.0 - 6.0	A-3(0)	NP	NP	16.6	77.6	2.4	3.4	99.9	97	7	-	-



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SHEET NO.
62

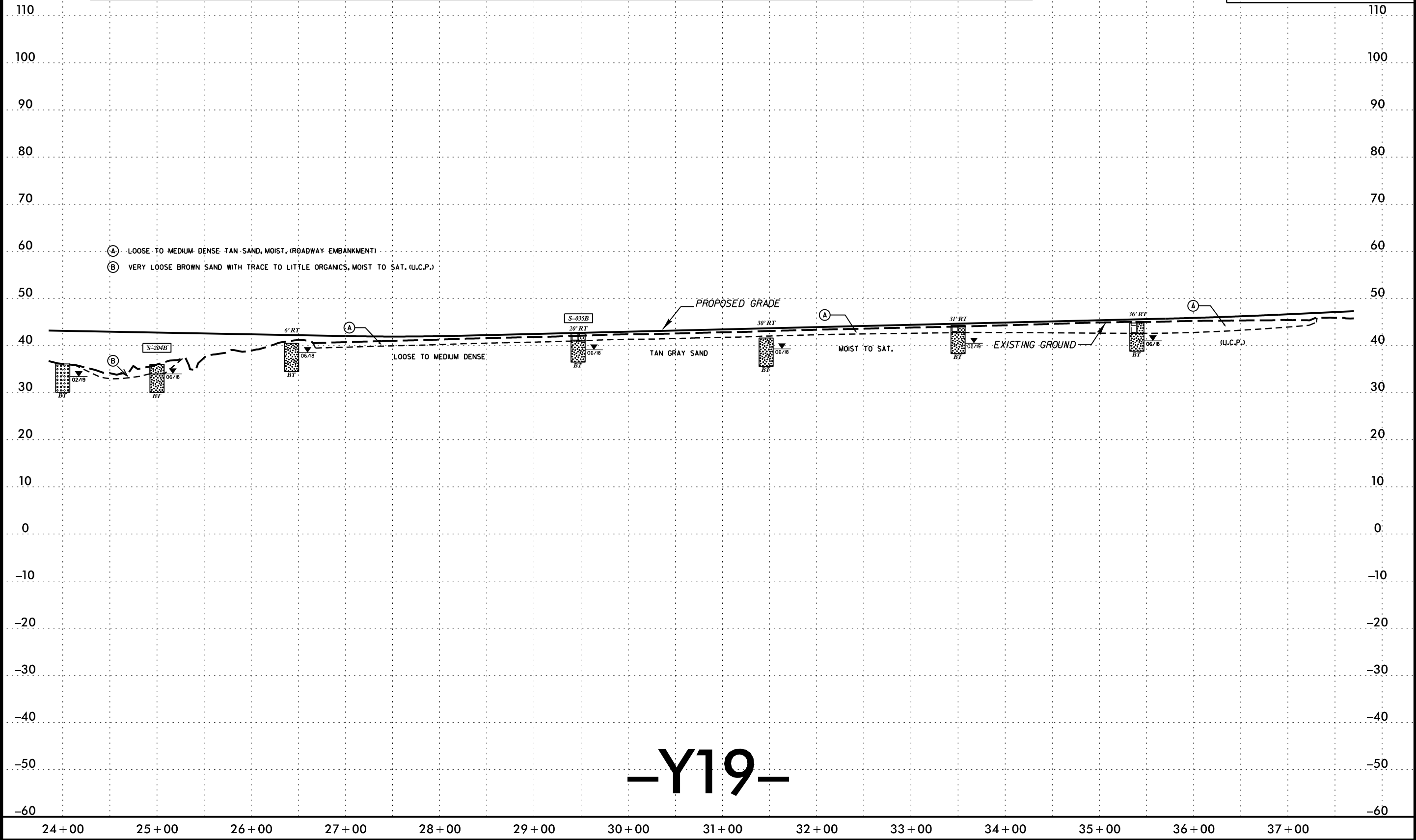
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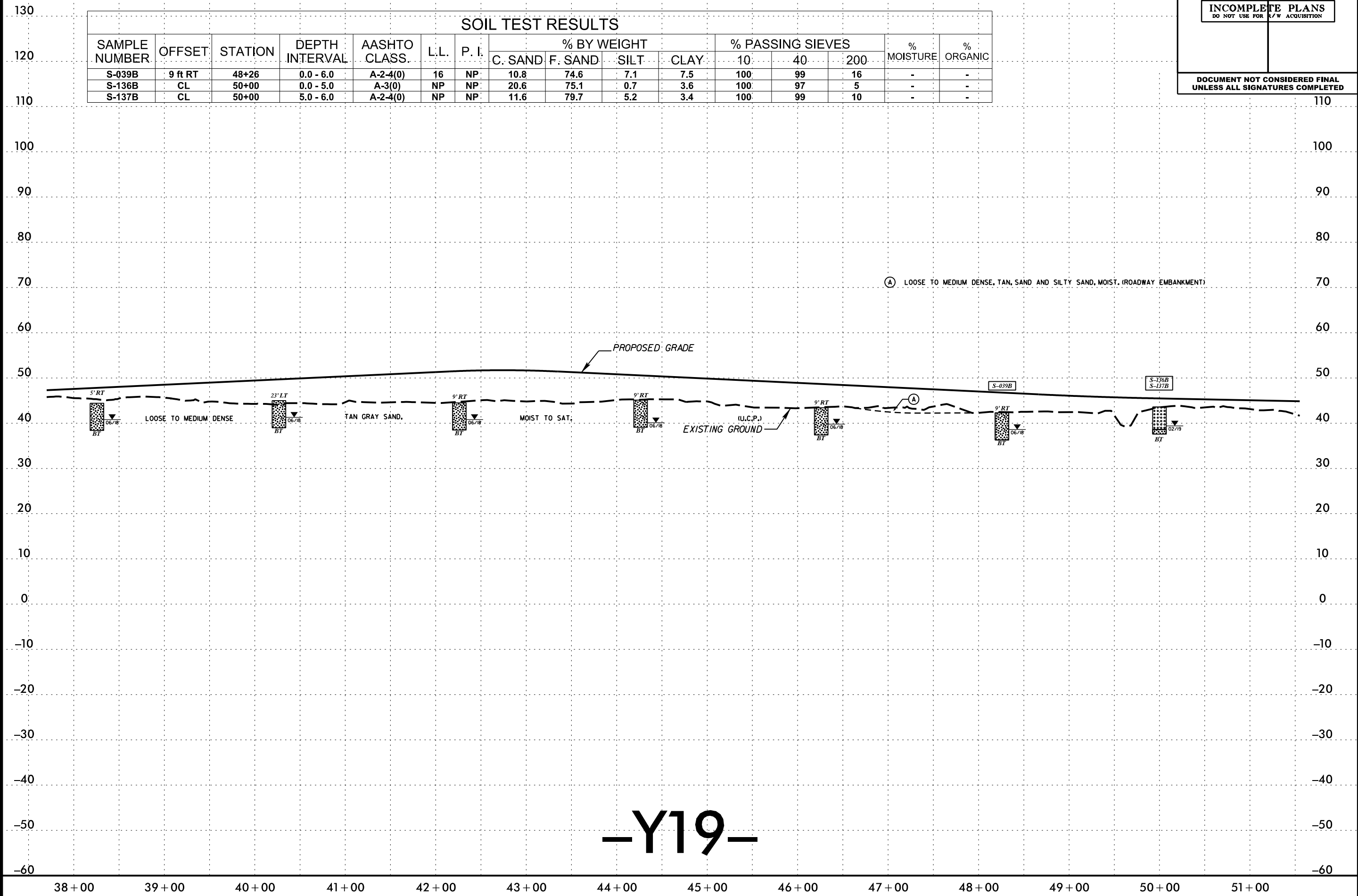
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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-204B	CL	25+00	1.5 - 2.0	A-2-4(0)	NP	NP	12.0	77.0	5.4	5.5	99.9	99	12	-	2.5
S-035B	20 ft RT	29+47	4.0 - 4.5	A-2-4(0)	15	NP	11.6	74.1	8.1	6.2	100	99	15	-	-

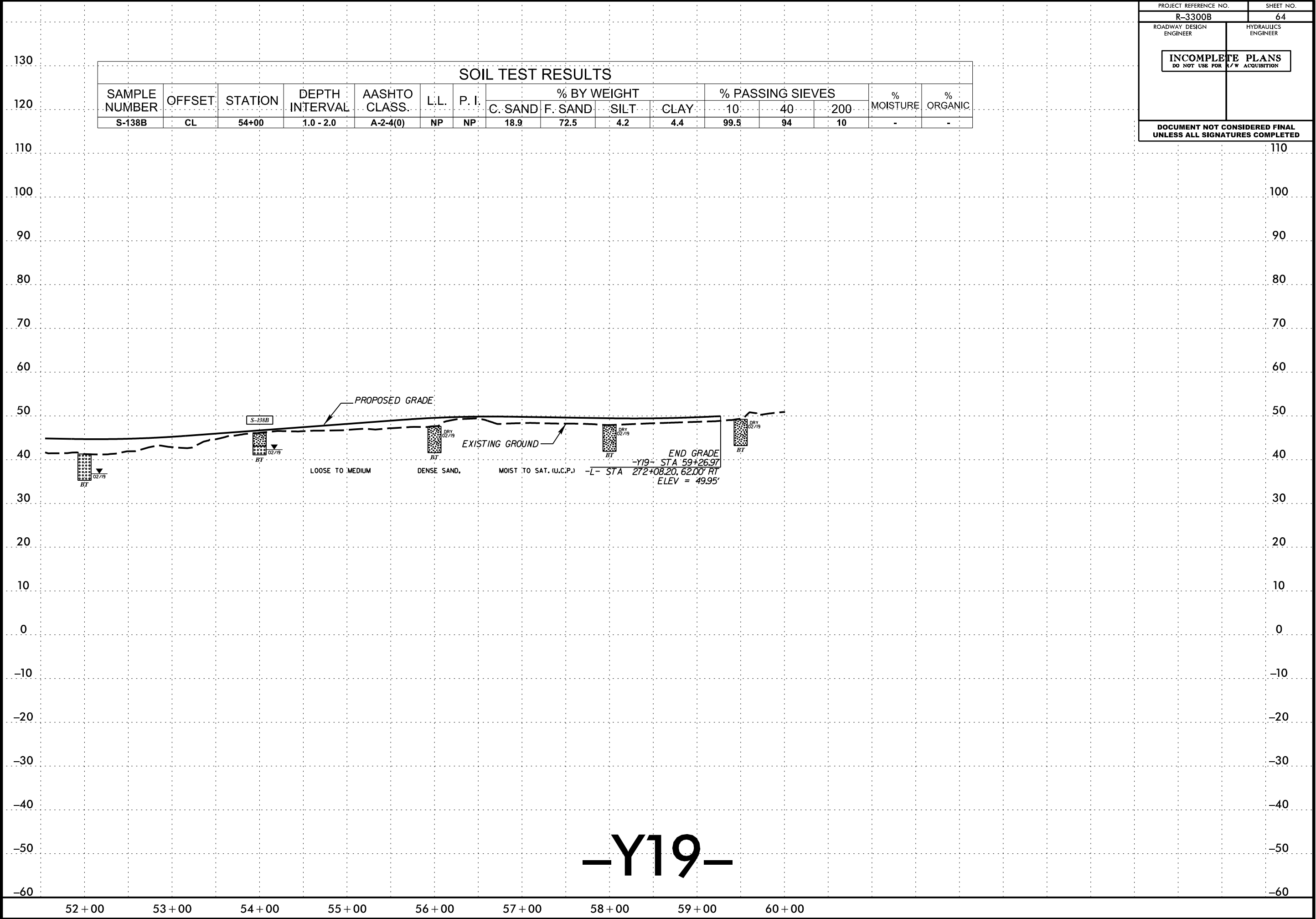


SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-039B	9 ft RT	48+26	0.0 - 6.0	A-2-4(0)	16	NP	10.8	74.6	7.1	7.5	100	99	16	-	-
S-136B	CL	50+00	0.0 - 5.0	A-3(0)	NP	NP	20.6	75.1	0.7	3.6	100	97	5	-	-
S-137B	CL	50+00	5.0 - 6.0	A-2-4(0)	NP	NP	11.6	79.7	5.2	3.4	100	99	10	-	-



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R-3300B

SHEET NO.
65

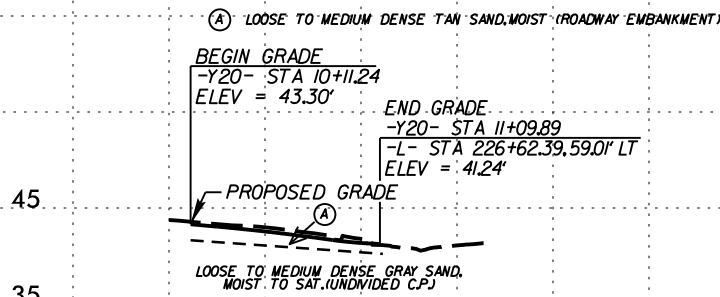
ROADWAY DESIGN
ENGINEER

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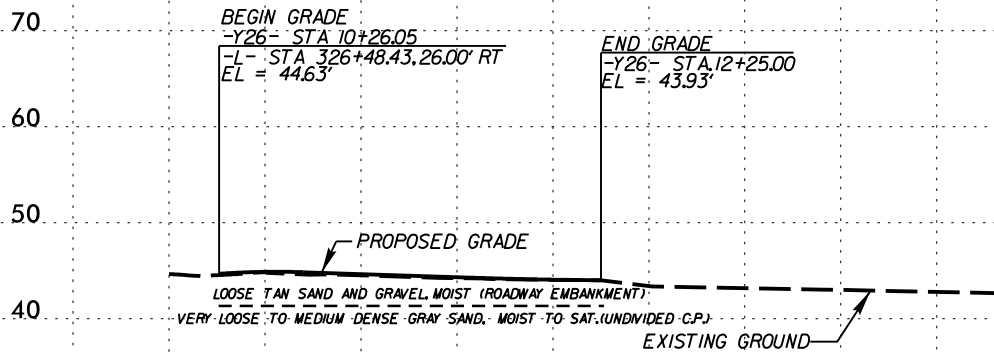
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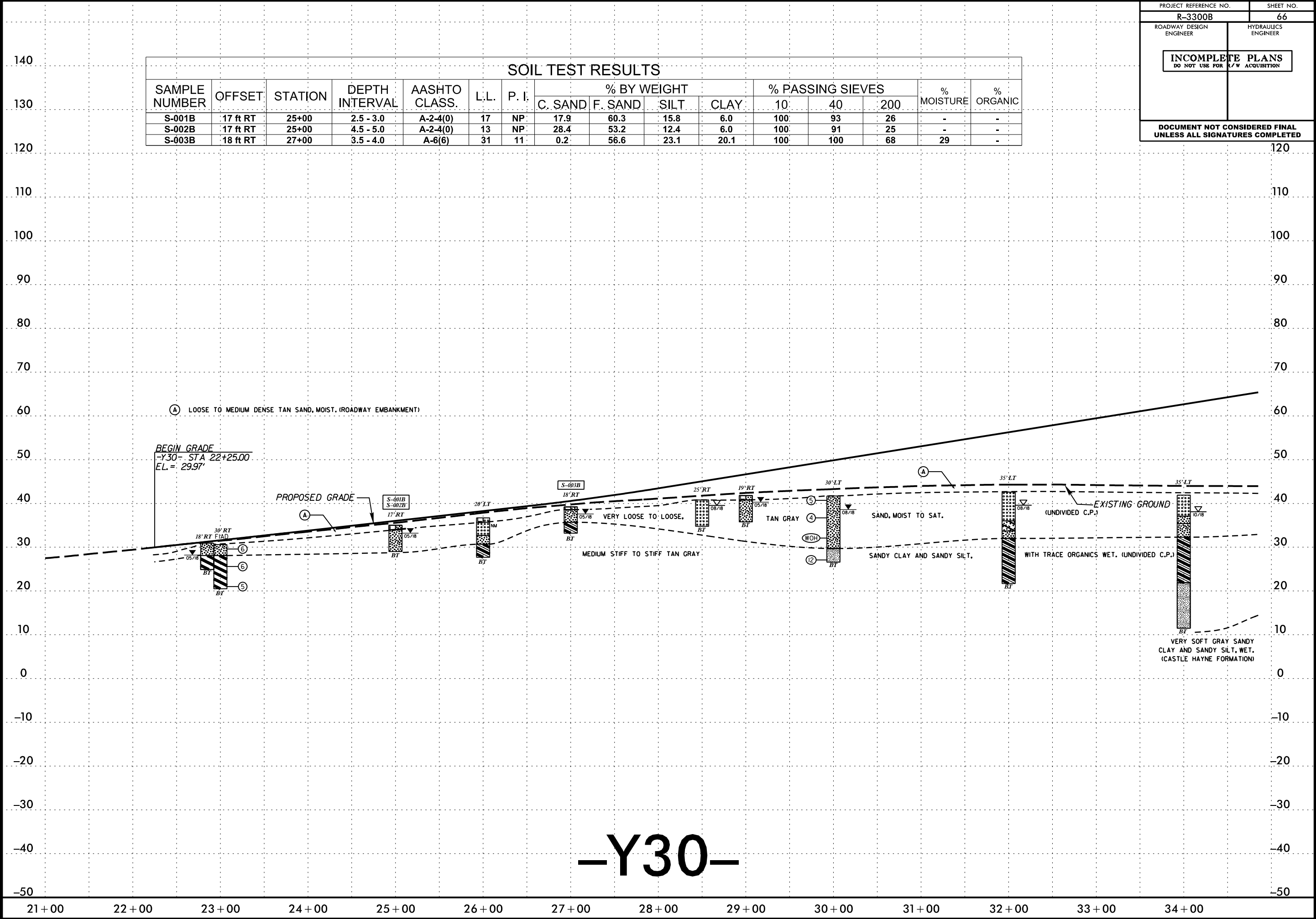
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PROJECT REFERENCE NO.
R-3300B

SHEET NO.
67

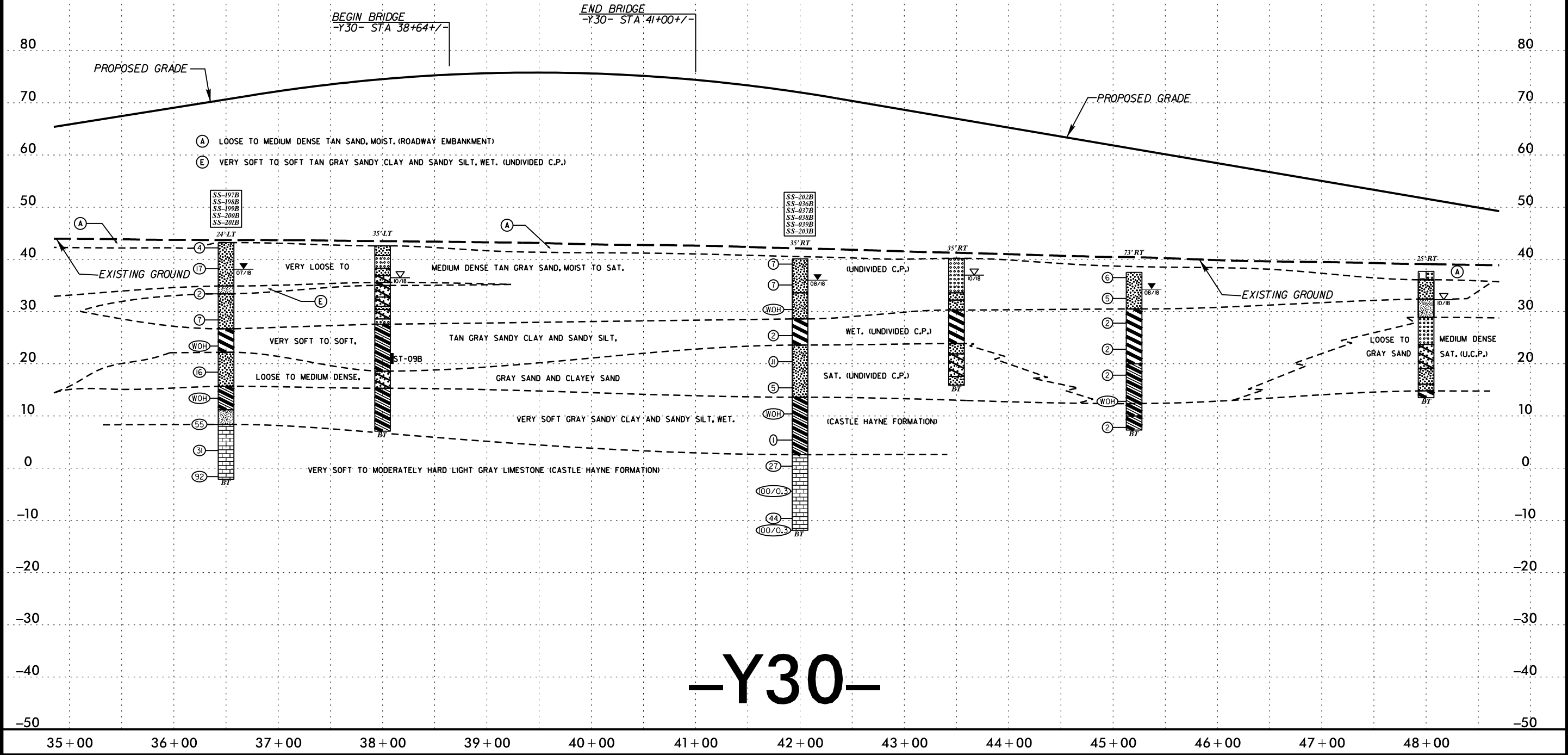
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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10:	40	200		
SS-197B	24 ft LT	36+50	0.0 - 1.5	A-2-4(0)	NP	NP	1.8	79.0	17.8	1.4	99.9	100	21	-	-
SS-198B	24 ft LT	36+50	8.8 - 9.8	A-4(1)	23	8	25.0	26.7	29.8	18.5	100	92	50	57	-
SS-199B	24 ft LT	36+50	18.8 - 20.3	A-7-6(20)	44	24	0.6	85.8	0.7	12.9	100	100	84	47	-
SS-200B	24 ft LT	36+50	28.8 - 30.3	A-6(17)	38	17	1.3	4.8	74.9	19.0	100	99	94	65	-
SS-201B	24 ft LT	36+50	33.8 - 34.8	A-4(0)	NP	NP	22.1	37.4	26.7	13.7	99.5	91	42	77	-
ST-09B	5' RT	38+05	20.6 - 22.0	A-6(2)	27	11	8.3	46.6	20.3	24.7	99	97	47	62	-
SS-202B	35 ft RT	42+00	0.0 - 1.5	A-2-4(0)	NP	NP	2.6	74.1	18	5.3	100	99	24	-	-
SS-036B	35 ft RT	42+00	8.7 - 10.2	A-2-4(0)	20	5	35.6	42.6	6.8	15.0	99.2	78	24	27	-
SS-037B	35 ft RT	42+00	13.7 - 15.2	A-7-6(15)	44	19	4.1	23.4	31.5	41.0	99.4	99	77	62	-
SS-038B	35 ft RT	42+00	18.7 - 20.2	A-2-4(0)	NP	NP	13.4	73.7	9.8	3.0	99.9	93	19	-	-
SS-039B	35 ft RT	42+00	28.7 - 30.2	A-6(16)	37	17	1.2	14.2	67.8	16.8	99.9	99	93	-	-
SS-203B	35 ft RT	42+00	38.7 - 40.2	A-2-4(0)	NP	NP	59.2	17.2	11.6	12	100	54	24	-	-



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Lee Stone

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-004B	17 ft RT	50+50	2.5 - 3.0	A-4(3)	25	8	0.2	54.1	22.6	23.1	100	100	62	23	-
SS-042B	20 ft LT	52+00	0.0 - 1.5	A-4(0)	NP	NP	4.6	72.0	15.1	8.3	99.7	98	36	-	-
SS-043B	20 ft LT	52+00	8.7 - 10.2	A-2-4(0)	NP	NP	17.1	65.2	11.7	6.0	99.8	93	25	-	-
S-134B	19 ft RT	54+00	2.0 - 3.0	A-4(0)	21	6	8.4	61.9	10.4	19.3	99.6	96	38	-	-
S-135B	19 ft RT	54+00	4.0 - 5.0	A-7-6(17)	48	29	1.4	36.2	15.0	47.4	99.9	100	66	-	-
S-011B	19 ft RT	54+50	1.0 - 1.5	A-2-4(0)	18	NP	10.3	72.4	11.3	6.0	99.8	97	27	-	-
S-012B	19 ft RT	54+50	2.5 - 3.0	A-4(1)	24	10	6.7	61.0	10.2	22.0	100	97	41	-	-
S-013B	19 ft RT	54+50	3.5 - 4.0	A-4(0)	21	4	7.9	64.7	9.3	18.1	100	96	35	-	-
S-014B	19 ft RT	54+50	4.5 - 5.0	A-7-6(13)	43	27	2.5	41.9	13.6	42.0	100	99	61	-	-

PROJECT REFERENCE NO.
R-3300B

SHEET NO.
68

ROADWAY DESIGN ENGINEER

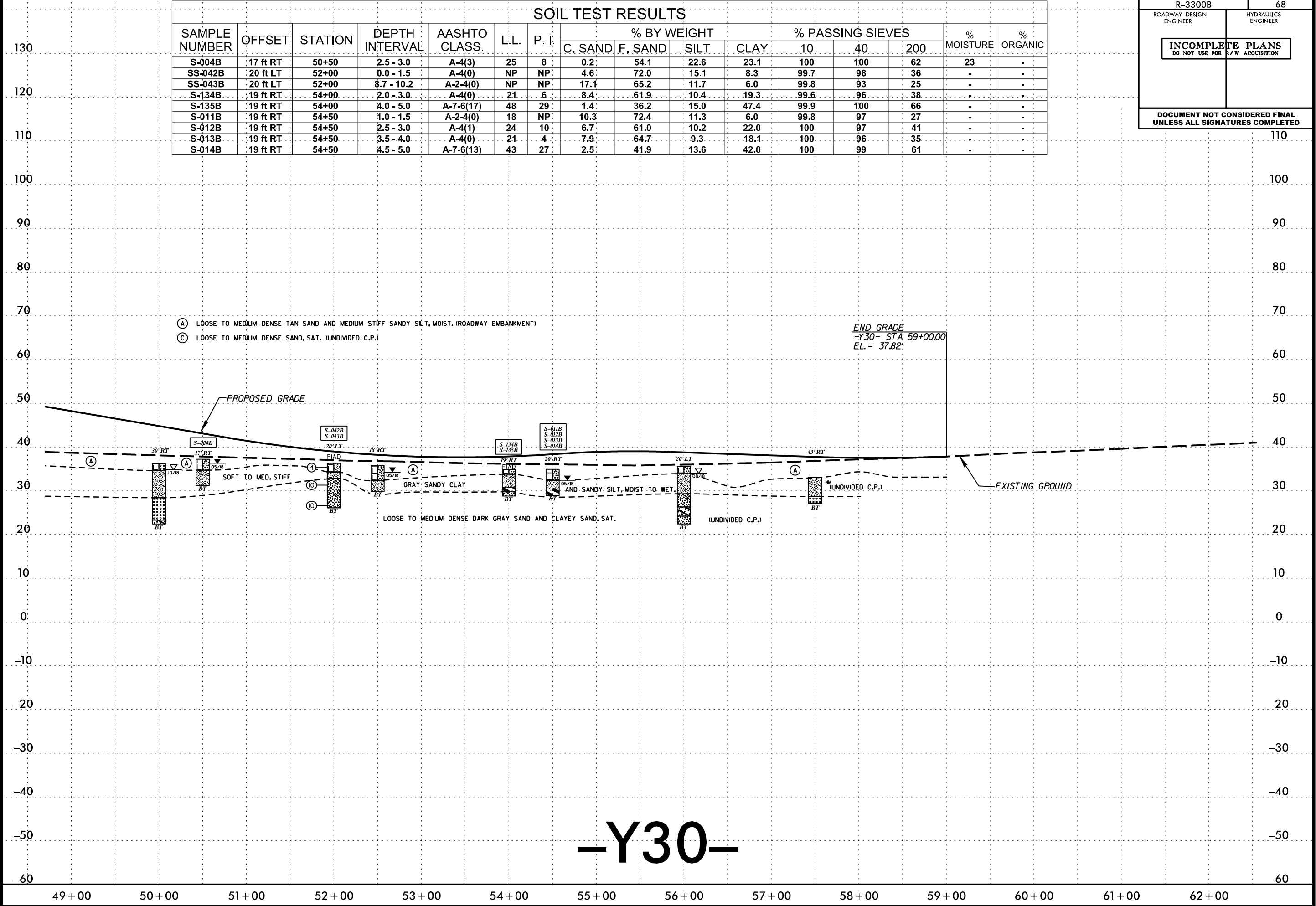
HYDRAULICS ENGINEER

INCOMPLETE PLANS

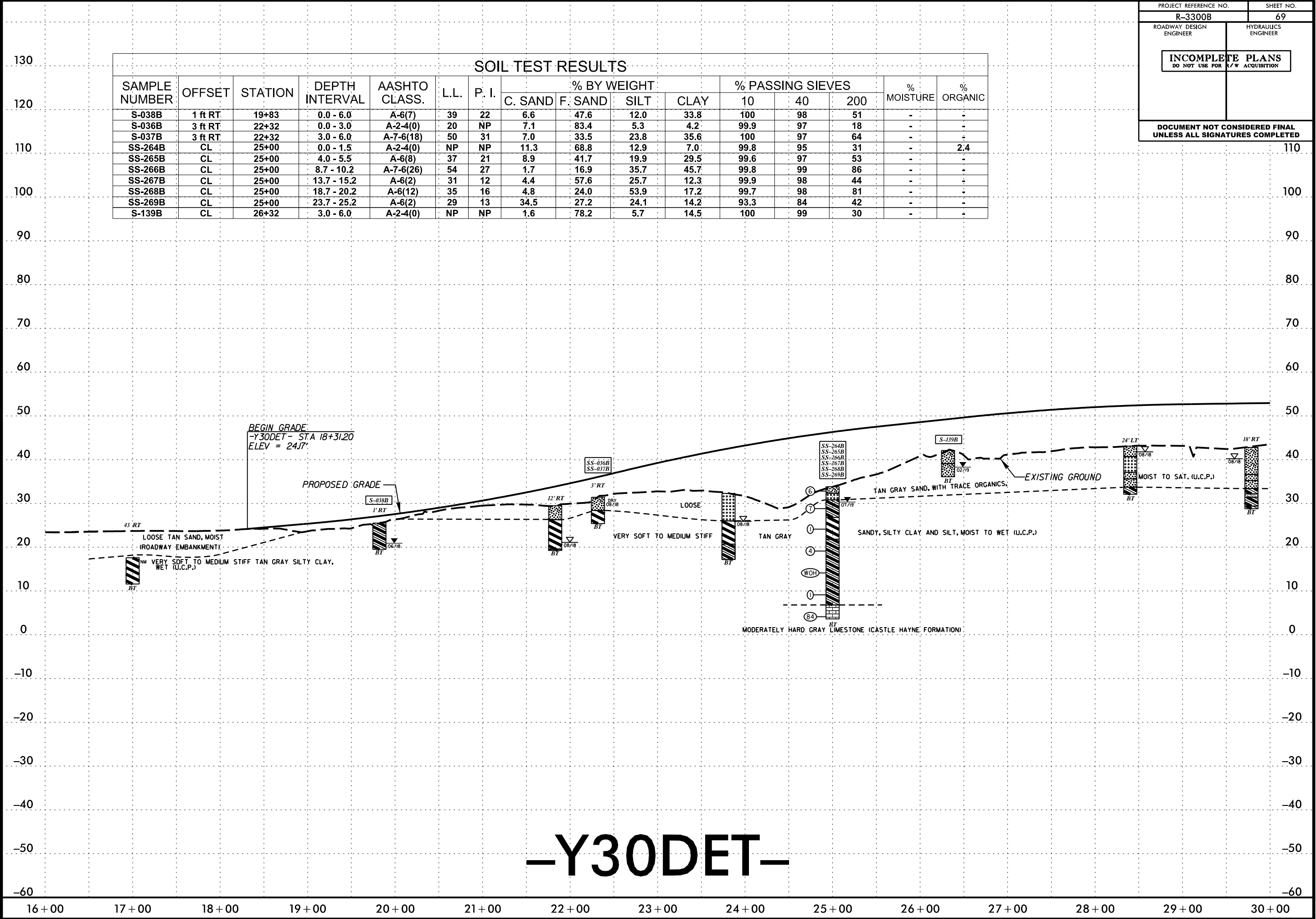
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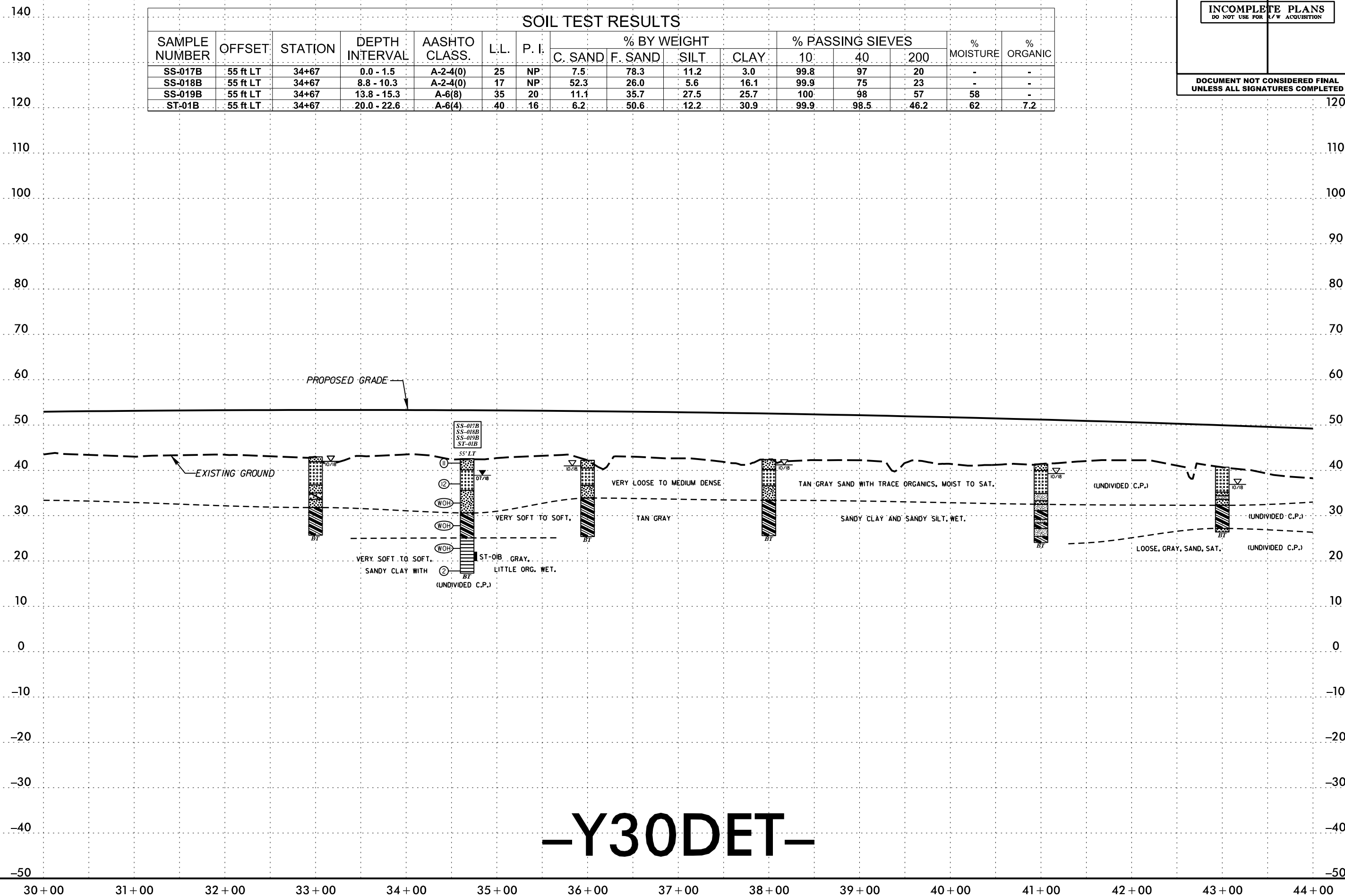


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13-MAR-2020 09:03
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Lee Stone
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Lee Stone

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

16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-017B	55 ft LT	34+67	0.0 - 1.5	A-2-4(0)	25	NP	7.5	78.3	11.2	3.0	99.8	97	20	-	-
SS-018B	55 ft LT	34+67	8.8 - 10.3	A-2-4(0)	17	NP	52.3	26.0	5.6	16.1	99.9	75	23	-	-
SS-019B	55 ft LT	34+67	13.8 - 15.3	A-6(8)	35	20	11.1	35.7	27.5	25.7	100	98	57	58	-
ST-01B	55 ft LT	34+67	20.0 - 22.6	A-6(4)	40	16	6.2	50.6	12.2	30.9	99.9	98.5	46.2	62	7.2



—Y30DET—

5/14/99

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Lee Stone

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-271B	CL	45+00	5.1 - 6.6	A-4(3)	27	9	3.1	49.3	22.4	25.2	99.8	99	63	-	-
SS-272B	CL	45+00	8.8 - 10.3	A-7-6(13)	42	25	8.7	30.6	24.5	36.2	99.9	99	63	-	-
SS-273B	CL	45+00	13.8 - 15.3	A-2-4(0)	NP	NP	5.9	82.6	5.5	6.0	99.9	98	13	-	-
S-048B	36 ft RT	48+74	5.0 - 5.5	A-4(0)	22	NP	0.2	74.4	12.1	13.3	100	100	42	-	-
S-047B	1 ft RT	55+66	5.0 - 5.5	A-6(9)	35	20	7.2	44.2	15.8	32.8	99.6	96	58	-	-
S-046B	1 ft RT	55+66	5.5 - 6.0	A-7-6(25)	48	29	2.0	19.8	29.8	48.4	99.9	99	84	37	-

PROJECT REFERENCE NO.
R-3300B

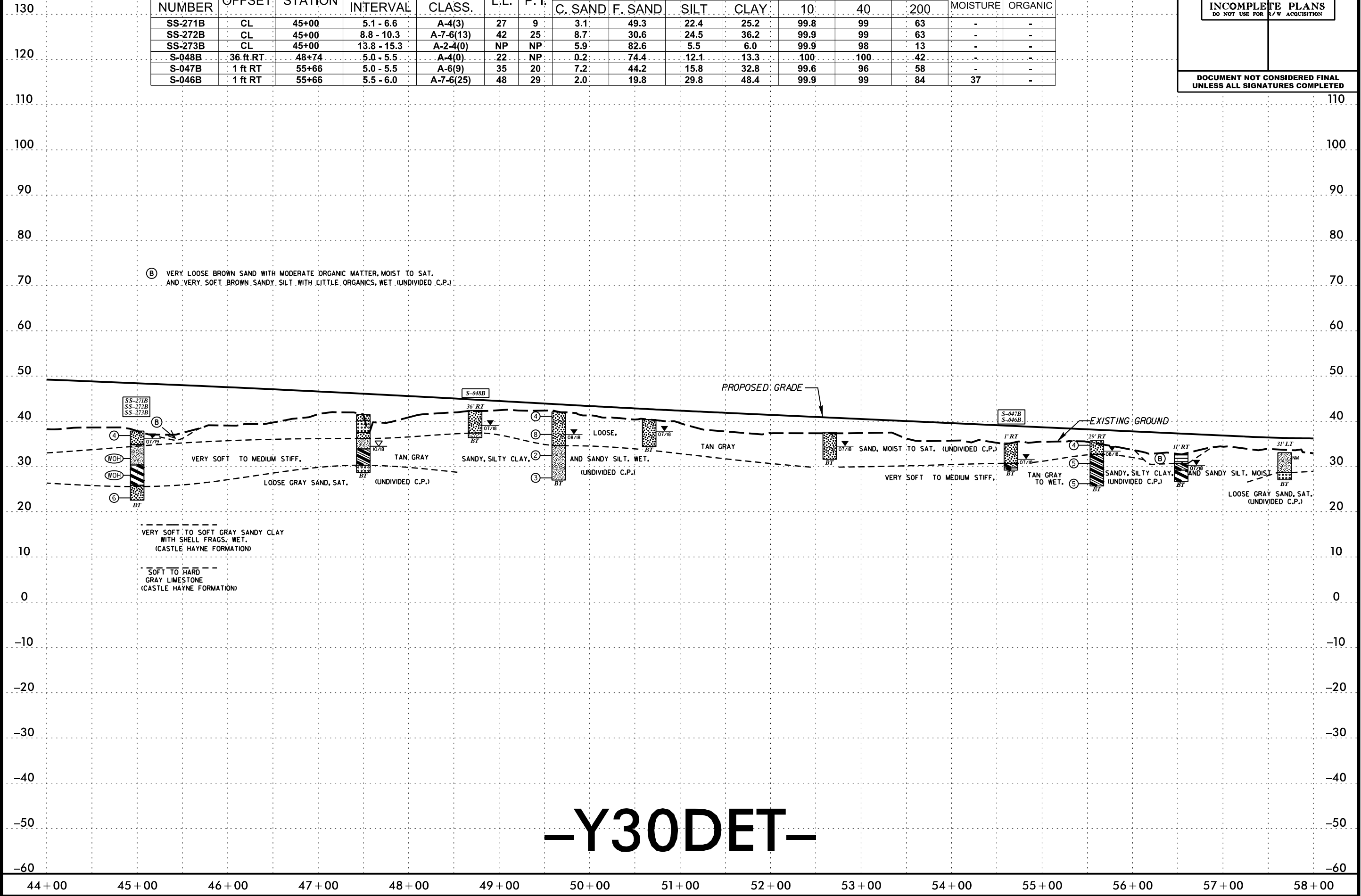
SHEET NO.
71

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

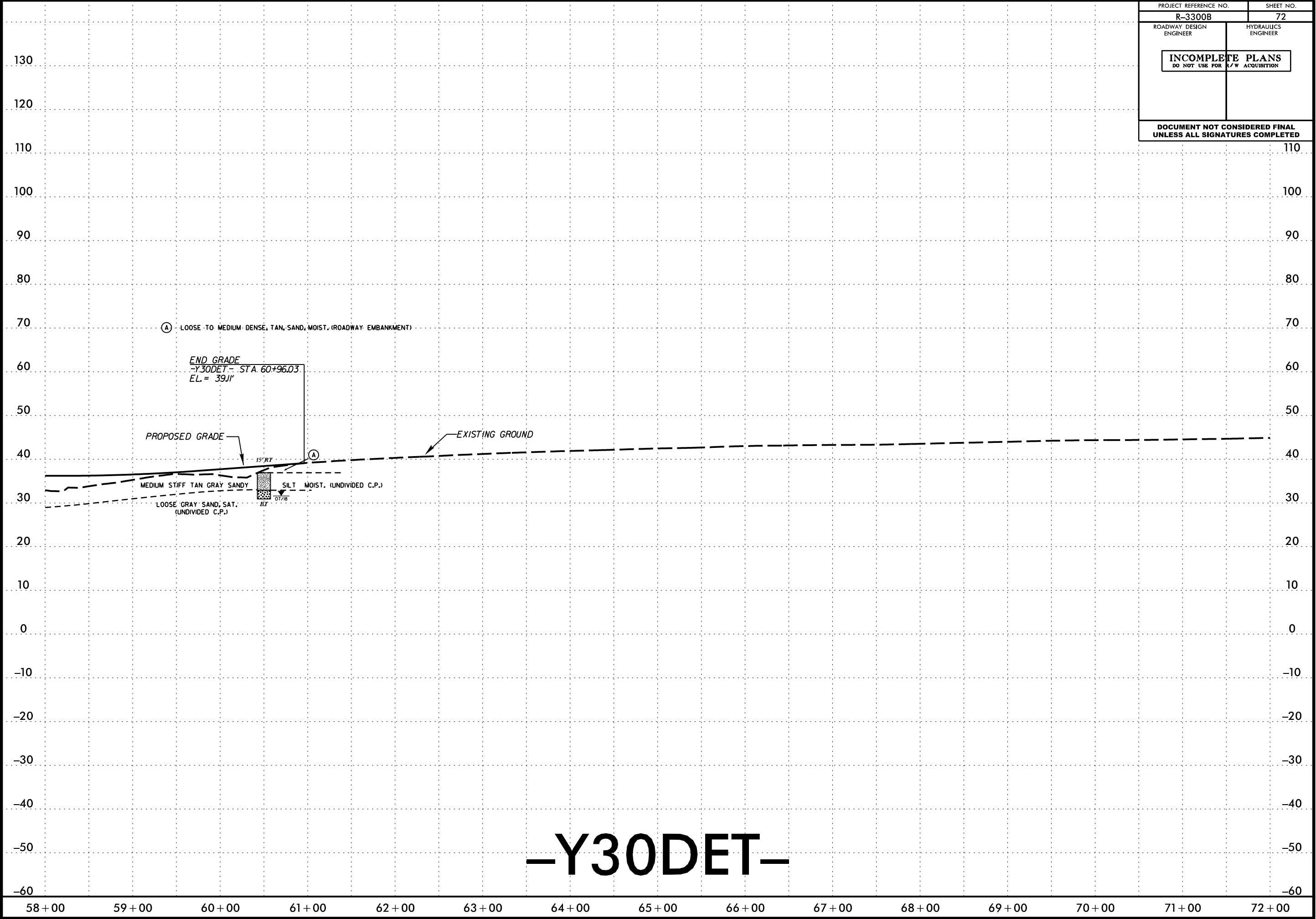
INCOMPLETE PLANS
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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-3300B	72
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



-Y30DET-

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Lee Stone
5/14/99

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC.
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-221B	CL	11+00	0.0 - 1.5	A-2-4(0)	NP	NP	30.3	51.2	8.6	9.9	98.6	91	24	-	1.9
SS-222B	CL	11+00	5.0 - 6.0	A-6(4)	31	14	21.7	33.9	24.4	20.0	90.3	93	49	-	-
SS-223B	CL	11+00	8.8 - 10.3	A-6(3)	30	16	20.4	41.2	18.5	19.9	98.9	90	43	-	-
SS-224B	CL	11+00	13.8 - 15.3	A-4(0)	NP	NP	1.1	68.6	24.3	6.0	99.9	99	42	-	-
SS-225B	CL	11+00	18.8 - 20.3	A-7-6(8)	41	12	15.7	25.2	46.0	13.1	99.9	89	67	-	-
ST-09	1' LT	16+22	5.4 - 7.4	A-7-6(0)	42	28	-	-	-	-	-	-	-	48.6	-
S-152B	CL	19+00	0.5-1.0	A-2-4(0)	NP	NP	9.0	72.8	13.5	4.7	98.8	96	25	-	4.6

PROJECT REFERENCE NO.
R-3300B

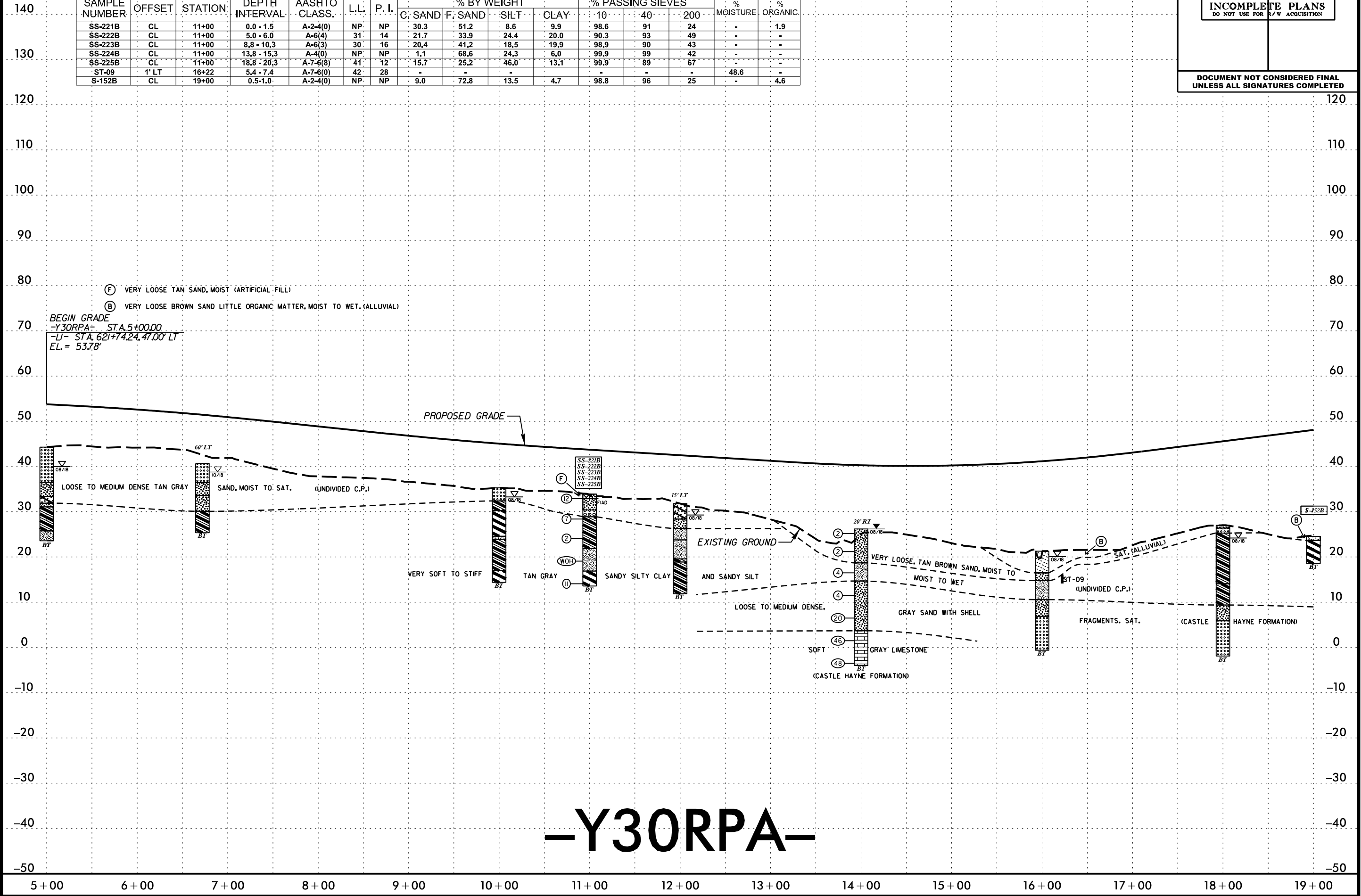
SHEET NO.
73

ROADWAY DESIGN
ENGINEER

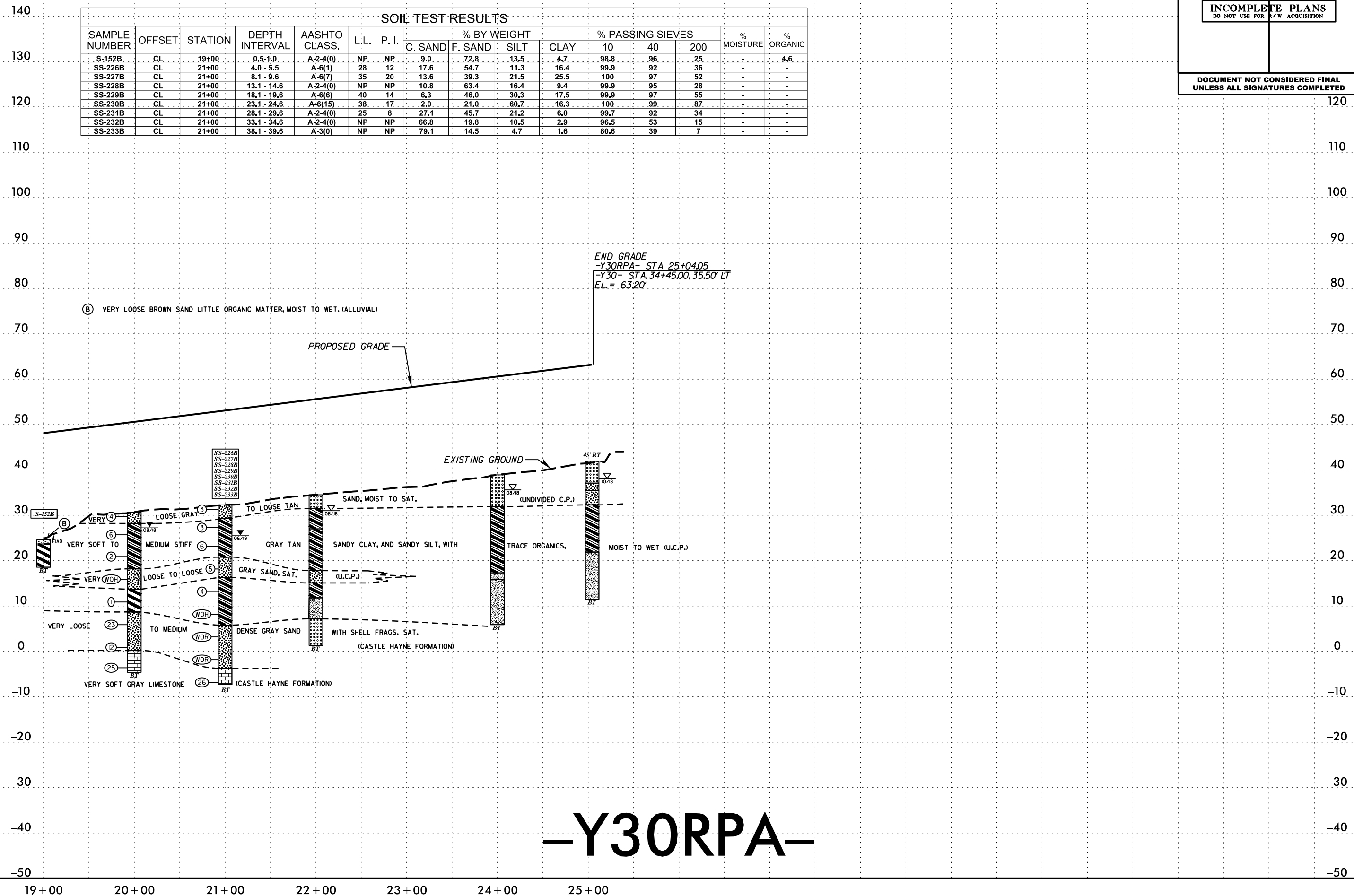
HYDRAULICS
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SOIL TEST RESULTS																
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC	
							C. SAND	F. SAND	SILT	CLAY	10	40	200			
S-152B	CL	19+00	0.5-1.0	A-2-4(0)	NP	NP	9.0	72.8	13.5	4.7	98.8	96	25	-	4.6	
SS-226B	CL	21+00	4.0 - 5.5	A-6(1)	28	12	17.6	54.7	11.3	16.4	99.9	92	36	-	-	
SS-227B	CL	21+00	8.1 - 9.6	A-6(7)	35	20	13.6	39.3	21.5	25.5	100	97	52	-	-	
SS-228B	CL	21+00	13.1 - 14.6	A-2-4(0)	NP	NP	10.8	63.4	16.4	9.4	99.9	95	28	-	-	
SS-229B	CL	21+00	18.1 - 19.6	A-6(6)	40	14	6.3	46.0	30.3	17.5	99.9	97	55	-	-	
SS-230B	CL	21+00	23.1 - 24.6	A-6(15)	38	17	2.0	21.0	60.7	16.3	100	99	87	-	-	
SS-231B	CL	21+00	28.1 - 29.6	A-2-4(0)	25	8	27.1	45.7	21.2	6.0	99.7	92	34	-	-	
SS-232B	CL	21+00	33.1 - 34.6	A-2-4(0)	NP	NP	66.8	19.8	10.5	2.9	96.5	53	15	-	-	
SS-233B	CL	21+00	38.1 - 39.6	A-3(0)	NP	NP	79.1	14.5	4.7	1.6	80.6	39	7	-	-	



PROJECT REFERENCE NO.		SHEET NO.	
R-3300B		75	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
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PROJECT REFERENCE NO.
R-3300B

SHEET NO.
76

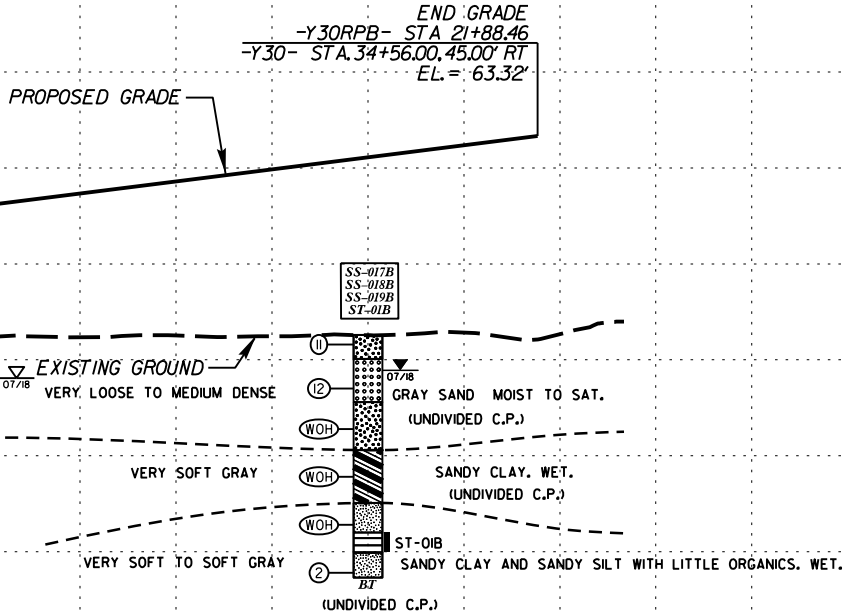
ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10'	40	200		
SS-017B	CL	21+00	0.0 - 1.5	A-2-4(0)	25	NP	7.5	78.3	11.2	3.0	99.8	97	20	-	-
SS-018B	CL	21+00	8.8 - 10.3	A-2-4(0)	17	NP	52.3	26.0	5.6	16.1	99.9	75	23	-	-
SS-019B	CL	21+00	13.8 - 15.3	A-6(8)	35	20	11.1	35.7	27.5	25.7	100	98	57	58	-
ST-01B	CL	21+00	20.6 - 22.6	A-6(4)	40	16	6.2	50.6	12.2	30.9	99.9	98.5	46.2	62	7.2



-Y30RPB-

5/14/99

PROJECT REFERENCE NO.
R-3300B

SHEET NO.
77

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

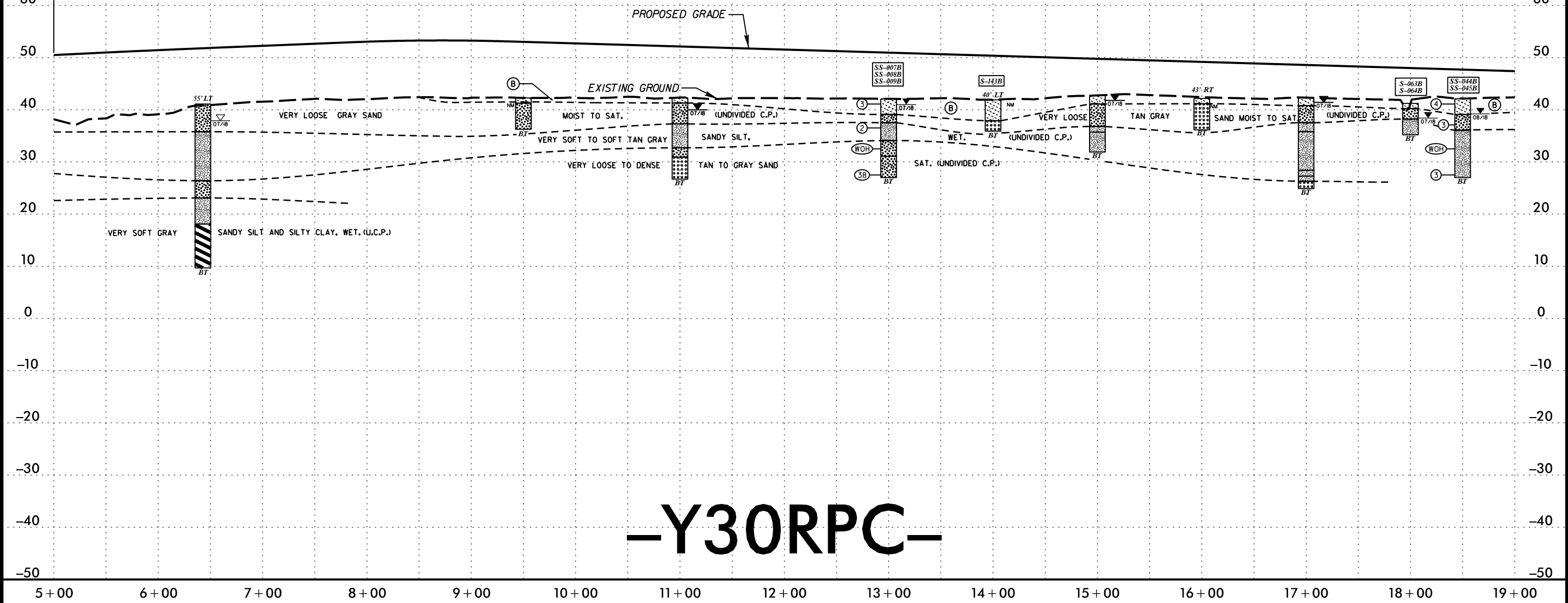
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-007B	CL	13+00	0.0 - 1.5	A-2-4(0)	19	NP	1.8	76.6	11.5	10.1	100	100	28	21	3.1
SS-008B	CL	13+00	4.6 - 5.6	A-4(0)	24	NP	0.4	71.7	12.7	15.1	100	100	48	30	-
SS-009B	CL	13+00	8.6 - 10.1	A-2-4(0)	18	NP	47.9	35.5	4.5	12.0	99.7	78	17	34	-
S-143B	40 ft LT	14+00	0.0 - 4.0	A-2-4(0)	NP	NP	2.2	73.9	17.9	6.0	99.7	99	31	-	7.6
S-063B	CL	18+00	0.0 - 1.0	A-2-4(0)	30	NP	3.5	75.6	17.8	3.0	99.8	98	28	-	-
S-064B	CL	18+00	3.5 - 4.0	A-4(0)	22	NP	0.5	76.5	12.9	10.0	99.8	100	46	-	-
SS-044B	CL	18+50	0.0 - 1.5	A-2-4(0)	NP	NP	3.9	74.1	16.0	6.0	98.8	98	28	-	-
SS-045B	CL	18+50	8.6 - 10.1	A-4(0)	25	4	0.4	68.7	14.9	16.1	100	100	54	-	-

(B) VERY LOOSE BROWN SAND WITH LITTLE TO MODERATE ORGANICS, MOIST TO SAT. (UNDIVIDED C.P.)

BEGIN GRADE
-Y30RPC- STA. 5+00.00
-LI- STA. 588+55.13, 47.00' RT
EL. = 50.48'



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Lee Stone 5/14/99

5/14/99

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Lee Stone

PROJECT REFERENCE NO.
R-3300B

SHEET NO.
79

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

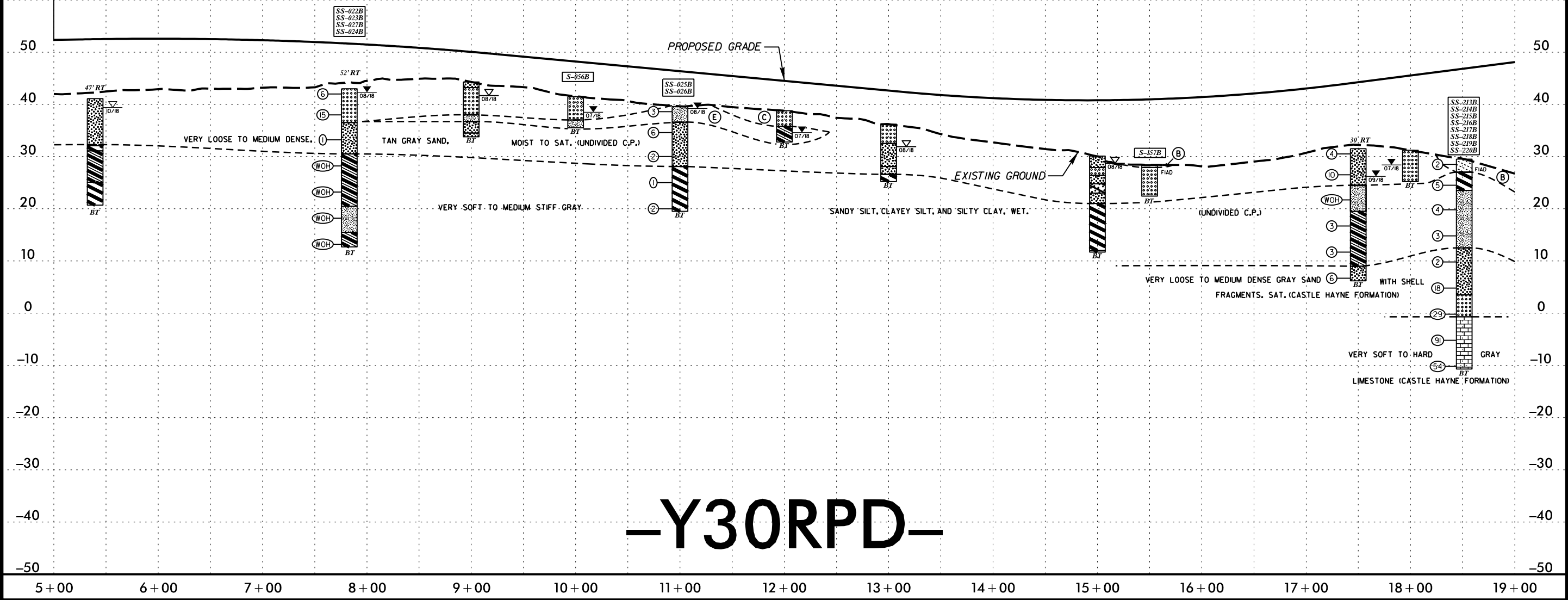
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

SOIL TEST RESULTS																
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC	
							C. SAND	F. SAND	SILT	CLAY	10	40	200			
SS-022B	52 ft RT	7+82	8.8 - 10.3	A-2-4(0)	18	NP	38.2	41.3	6.3	14.2	100	88	27	29	-	
SS-023B	52 ft RT	7+82	13.8 - 16.3	A-6(9)	32	19	13.4	29.1	27.6	29.8	99.6	98	63	44	-	
SS-027B	52 ft RT	7+82	23.8 - 25.3	A-4(0)	21	NP	1.8	66.0	21.9	10.3	99.8	99	44	35	-	
SS-024B	52 ft RT	7+82	28.8 - 30.3	A-6(13)	35	16	4.7	18.6	58.1	18.7	99.8	97	87	44	-	
S-056B	CL	10+00	4.5 - 5.0	A-4(2)	25	7	0.7	54.4	22.4	22.4	100	100	66	45	-	
SS-025B	CL	11+00	8.6 - 10.1	A-2-4(0)	15	NP	26.4	47.0	9.2	17.4	99.8	96	28	33	-	
SS-026B	CL	11+00	13.6 - 15.1	A-7-5(9)	44	14	24.3	12.0	42.4	21.3	99.4	83	66	87	-	
S-157B	CL	15+50	0.0 - 0.5	A-4(0)	NP	NP	19.8	48.3	28.1	3.8	98.9	93	39	-	6.5	
SS-213B	CL	18+50	0.0 - 1.5	A-2-4(0)	NP	NP	16.0	69.5	11.3	3.2	98.6	94	22	-	9.7	
SS-214B	CL	18+50	4.0 - 5.5	A-7-5(47)	85	38	0.8	7.2	31.8	60.2	99.8	100	94	-	-	
SS-215B	CL	18+50	8.7 - 10.2	A-4(0)	NP	NP	3.5	70.9	20.6	5.0	99.5	98	39	-	-	
SS-216B	CL	18+50	13.7 - 15.2	A-4(11)	38	10	1.6	14.6	51.1	32.8	99.7	99	92	-	-	
SS-217B	CL	18+50	18.7 - 20.2	A-2-4(0)	NP	NP	36.0	37.0	13.7	13.3	99.6	90	31	-	-	
SS-218B	CL	18+50	23.7 - 25.2	A-2-4(0)	NP	NP	63.5	23.5	7.9	5.1	98.7	63	14	-	-	
SS-219B	CL	18+50	28.7 - 30.2	A-3(0)	NP	NP	74.1	17.5	4.8	3.6	69.7	48	9	-	-	
SS-220B	CL	18+50	33.7 - 35.2	A-2-4(0)	NP	NP	59.3	19.4	16.7	4.5	45.1	53	24	-	-	

- (B) VERY SOFT BROWN SANDY SILT WITH LITTLE ORGANIC MATTER, MOIST AND VERY LOOSE BROWN MODERATELY ORGANIC SAND, MOIST. (UNDIVIDED C.P.)
- (C) LOOSE TO MEDIUM DENSE, SAND AND SILTY SAND, SAT. (UNDIVIDED C.P.)
- (E) SOFT, TAN AND GRAY, SANDY CLAY AND SANDY SILT, WET. (UNDIVIDED C.P.)

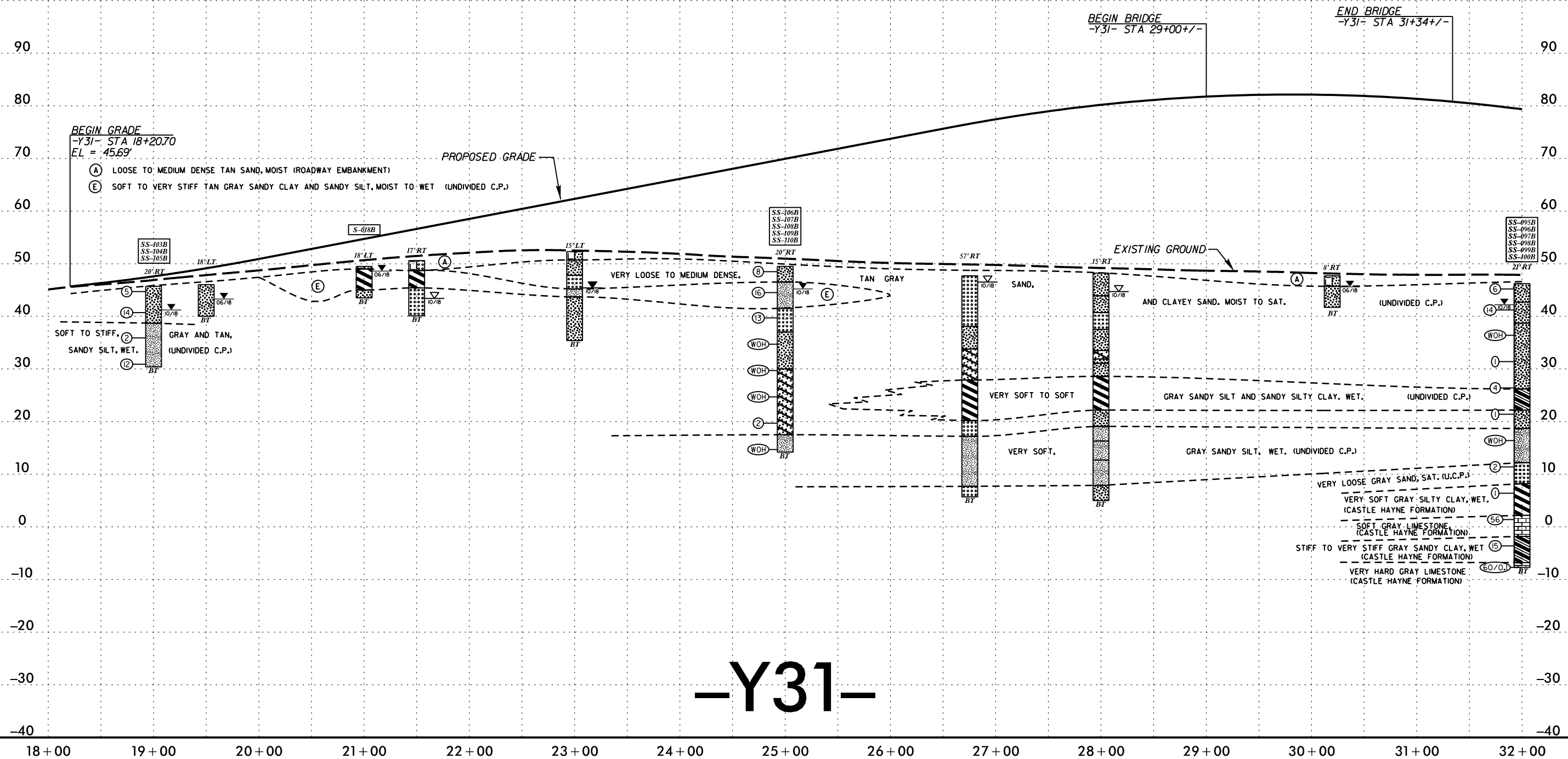
BEGIN GRADE
-Y30RPD- STA. 5+00.00
-LI- STA. 626+39.93, 47.00' RT
EL. = 52.34'



DO NOT USE FOR R/W ACQUISITION

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

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-103B	20 ft RT	19+00	0.0 - 1.5	A-2-4(0)	NP	NP	30.5	58.0	6.5	5.0	99.1	91	15	-	-
SS-104B	20 ft RT	19+00	8.8 - 10.3	A-4(0)	NP	NP	35.0	51.7	3.3	10.0	100	96	39	-	-
SS-105B	20 ft RT	19+00	13.8 - 15.3	A-4(0)	NP	NP	28.3	54.9	3.7	13.1	100	96	37	-	-
S-018B	18 ft LT	21+00	0.5 - 1.0	A-7-6(16)	47	30	12.4	26.7	15.1	45.7	100	96	62	-	-
SS-106B	20 ft RT	25+00	4.0 - 5.5	A-4(0)	NP	NP	12.7	57.9	16.4	13.0	100	98	36	-	-
SS-107B	20 ft RT	25+00	8.8 - 10.3	A-3(0)	NP	NP	68.7	28.3	1.0	2.0	100	87	4	-	-
SS-108B	20 ft RT	25+00	13.8 - 15.3	A-2-4(0)	NP	NP	27.9	58.7	4.4	9.0	100	98	14	-	-
SS-109B	20 ft RT	25+00	23.8 - 25.3	A-2-7(0)	45	13	54.3	18.2	15.3	12.2	98.0	58	30	-	-
SS-110B	20 ft RT	25+00	33.8 - 35.3	A-4(1)	30	5	10.7	48.5	31.0	9.8	100	91	53	-	-
SS-095B	20 ft RT	32+00	4.0 - 5.5	A-2-4(0)	NP	NP	71.2	24.8	0.7	3.3	100	83	18	-	-
SS-096B	20 ft RT	32+00	8.8 - 10.3	A-2-4(0)	NP	NP	46.3	38.1	3.3	12.3	100	90	28	-	-
SS-097B	20 ft RT	32+00	24.0 - 25.3	A-2-4(0)	NP	NP	10.4	79.5	6.1	4.0	99.9	97	17	-	-
SS-098B	20 ft RT	32+00	28.8 - 30.3	A-4(1)	28	6	8.3	55.4	27.2	9.1	100	95	51	-	-
SS-099B	20 ft RT	32+00	38.8 - 40.3	A-7-6(22)	46	23	11.9	14.7	48.6	24.8	100	90	88	-	-
SS-100B	20 ft RT	32+00	48.8 - 50.3	A-6(8)	32	16	19.8	28.1	20.0	32.1	99.4	85	68	-	-



—Y31—

**HYDRAULICS
ENGINEER**

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

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10'	40	200		
SS-095B	20 ft RT	32+00	4.0 - 5.5	A-2-4(0)	NP	NP	71.2	24.8	0.7	3.3	100	83	18	-	-
SS-096B	20 ft RT	32+00	8.8 - 10.3	A-2-4(0)	NP	NP	46.3	38.1	3.3	12.3	100	90	28	-	-
SS-097B	20 ft RT	32+00	24.0 - 25.3	A-2-4(0)	NP	NP	10.4	79.5	6.1	4.0	99.9	97	17	-	-
SS-098B	20 ft RT	32+00	28.8 - 30.3	A-4(1)	28	6	8.3	55.4	27.2	9.1	100	95	51	-	-
SS-099B	20 ft RT	32+00	38.8 - 40.3	A-7-6(22)	46	23	11.9	14.7	48.6	24.8	100	90	88	-	-
SS-100B	20 ft RT	32+00	48.8 - 50.3	A-6(8)	32	16	19.8	28.1	20.0	32.1	99.4	85	68	-	-
SS-092B	15 ft RT	38+00	0.0 - 1.5	A-2-4(0)	NP	NP	23.3	56.9	11.3	8.5	99.8	94	25	-	-
SS-093B	15 ft RT	38+00	8.8 - 10.3	A-2-4(0)	NP	NP	47.8	37.2	3.7	11.3	100	88	15	-	-
SS-094B	15 ft RT	38+00	19.0 - 20.3	A-6(6)	30	14	7.9	48.1	16.4	27.5	99.3	98	64	-	-
S-019B	17 ft LT	41+00	3.0 - 3.5	A-4(2)	23	10	11.4	40.3	20.4	27.9	100	98	52	-	-
S-020B	16 ft LT	43+00	0.5 - 1.0	A-2-4(0)	20	NP	37.5	38.0	8.2	16.4	99.9	89	27	-	-
S-021B	16 ft LT	43+00	3.0 - 3.5	A-2-4(0)	21	8	33.4	37.5	9.7	19.4	100	89	31	-	-



5/14/99

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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10'	40	200		
SS-103B	16 ft RT	19+02	0.0 - 1.5	A-2-4(0)	NP	NP	30.5	58.0	6.5	5.0	99.1	91	15	-	-
SS-104B	16 ft RT	19+02	8.8 - 10.3	A-4(0)	NP	NP	35.0	51.7	3.3	10.0	100	96	39	-	-
SS-105B	16 ft RT	19+02	13.8 - 15.3	A-4(0)	NP	NP	28.3	54.9	3.7	13.1	100	96	37	-	-
S-202B	CL	20+50	0.0 - 1.0	A-2-4(0)	NP	NP	38.4	45.4	13.7	2.5	99.2	88	17	-	4.3
S-028B	CL	23+00	2.5 - 3.0	A-2-4(0)	15	4	28.2	41.0	12.5	18.2	99.8	90	32	2	-
S-029B	CL	23+00	4.0 - 4.5	A-6(2)	27	14	23.4	36.1	11.1	29.4	99.9	92	41	10	-

PROJECT REFERENCE NO.
R-3300B

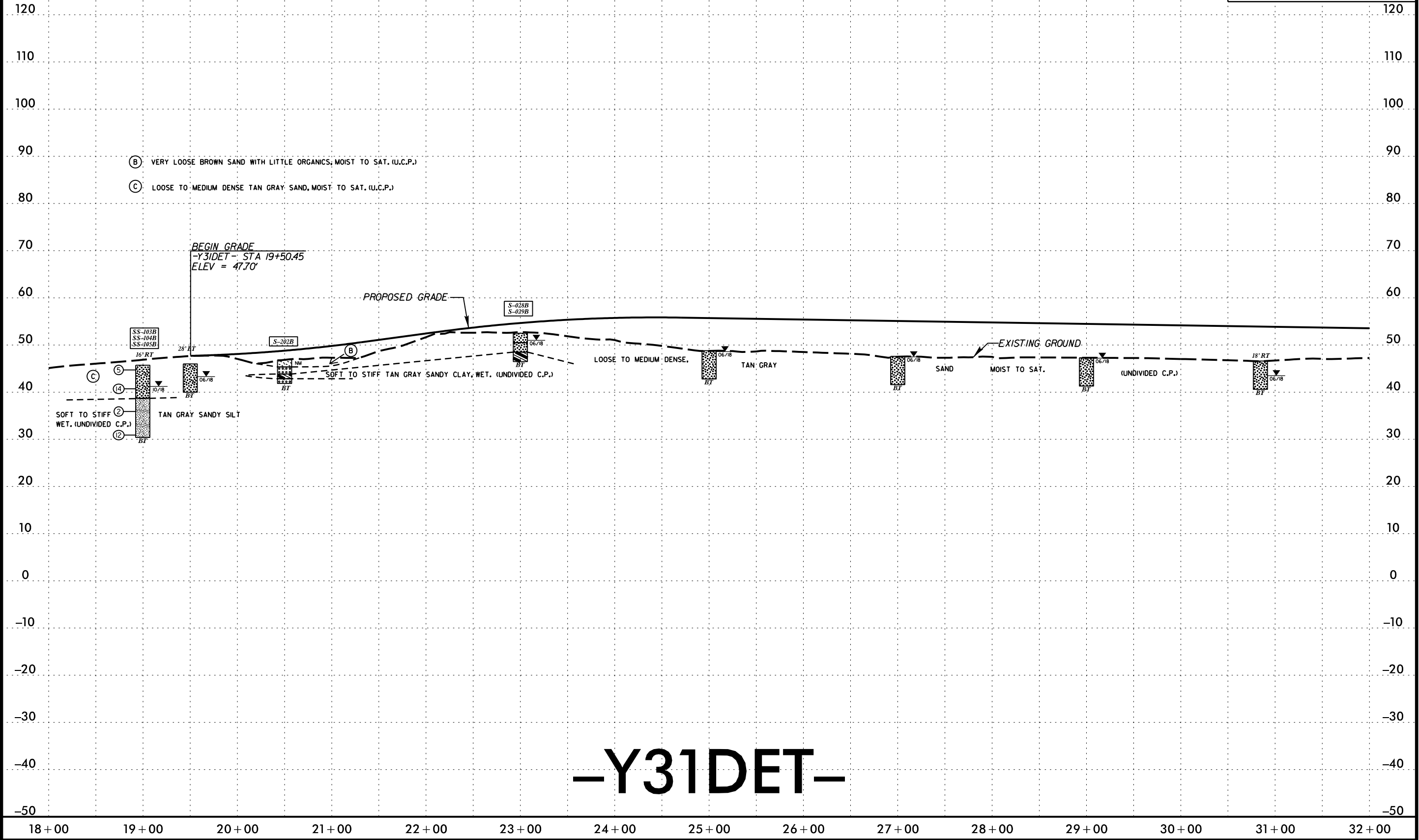
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83

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-030B	CL	33+00	3.0 - 3.5	A-4(0)	19	6	15.2	49.0	15.4	20.4	100	96	39	2	-
S-031B	CL	33+00	4.5 - 5.0	A-2-4(0)	13	NP	18.5	55.4	11.0	15.1	99.7	96	29	20	-
S-027B	CL	39+00	1.5 - 2.0	A-4(0)	20	7	12.9	49.0	18.0	20.1	100	97	42	-	-

PROJECT REFERENCE NO.
R-3300B

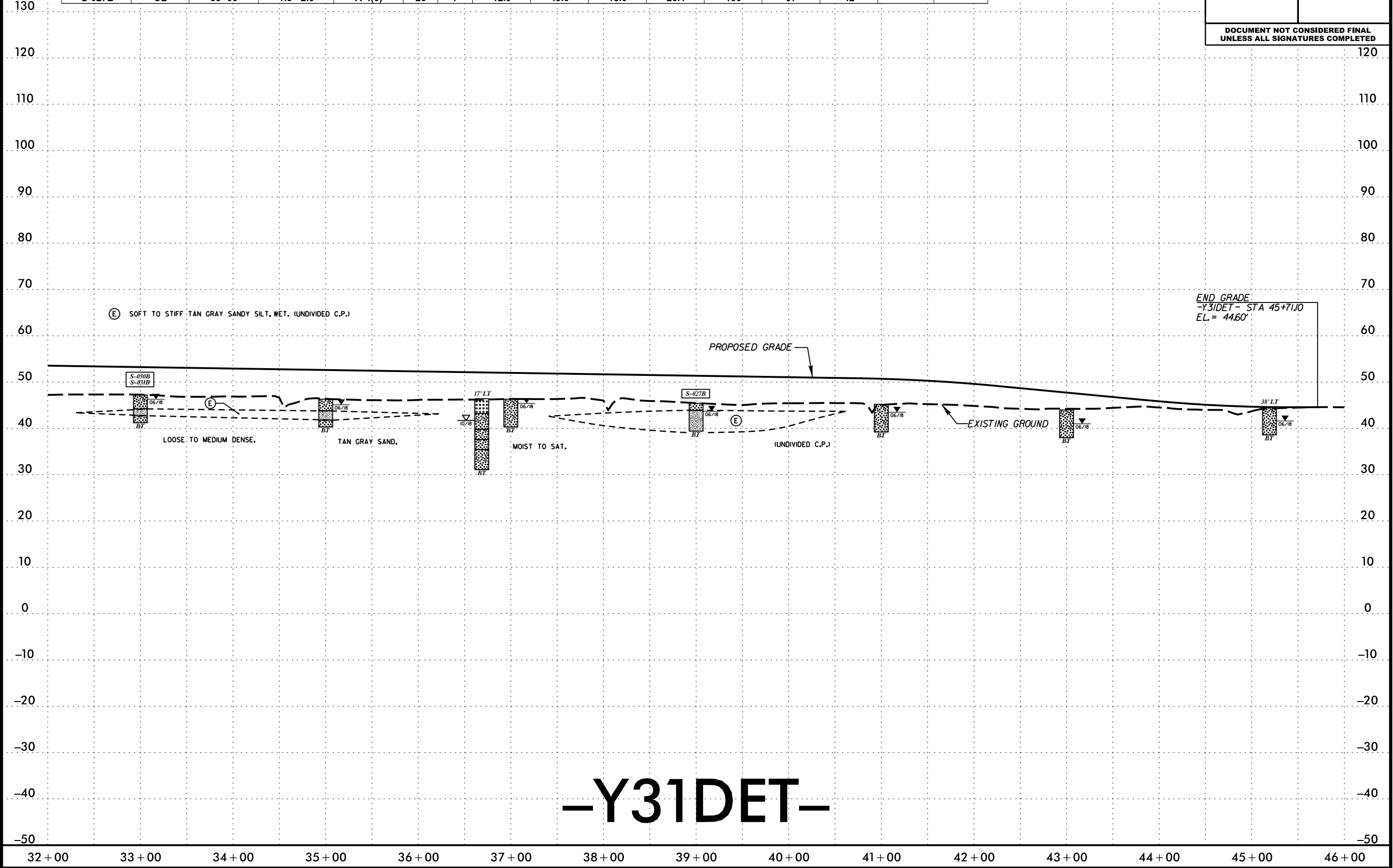
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ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

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-Y31DET-

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SOIL TEST RESULTS



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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-081B	48 ft RT	6+79	4.0 - 5.5	A-6(3)	28	15	11.4	44.6	15.5	28.5	100	97	47	-	-
SS-082B	48 ft RT	6+79	13.8 - 15.3	A-2-4(0)	NP	NP	12.7	70.8	4.3	12.3	100	99	31	-	-
SS-083B	CL	11+00	0.0 - 1.5	A-4(0)	NP	NP	16.3	58.8	16.6	8.2	99.8	96	38	-	2.7
SS-084B	CL	11+00	8.8 - 10.3	A-2-4(0)	NP	NP	53.4	33.2	2.1	11.2	100	87	21	-	-
SS-077B	CL	17+00	8.8 - 10.3	A-2-4(0)	NP	NP	47.9	37.3	2.2	12.6	100	88	15	-	-
SS-078B	CL	17+00	18.8 - 20.3	A-7-6(23)	54	28	9.7	16.7	41.1	32.5	99.9	92	77	-	-
ST-05B	CL	17+05	21.0 - 23.0	A-2-7(0)	42	22	14.4	68.5	10.3	6.8	99.9	95.8	20.5	48	-
SS-079B	CL	17+00	23.8 - 25.3	A-3(0)	NP	NP	41.6	52.3	2.6	3.5	99.5	83	8	-	-
SS-080B	CL	17+00	28.8 - 30.2	A-4(2)	27	9	25.8	46.9	17.2	10.1	96.4	81	50	-	-

PROJECT REFERENCE NO.
R-3300B

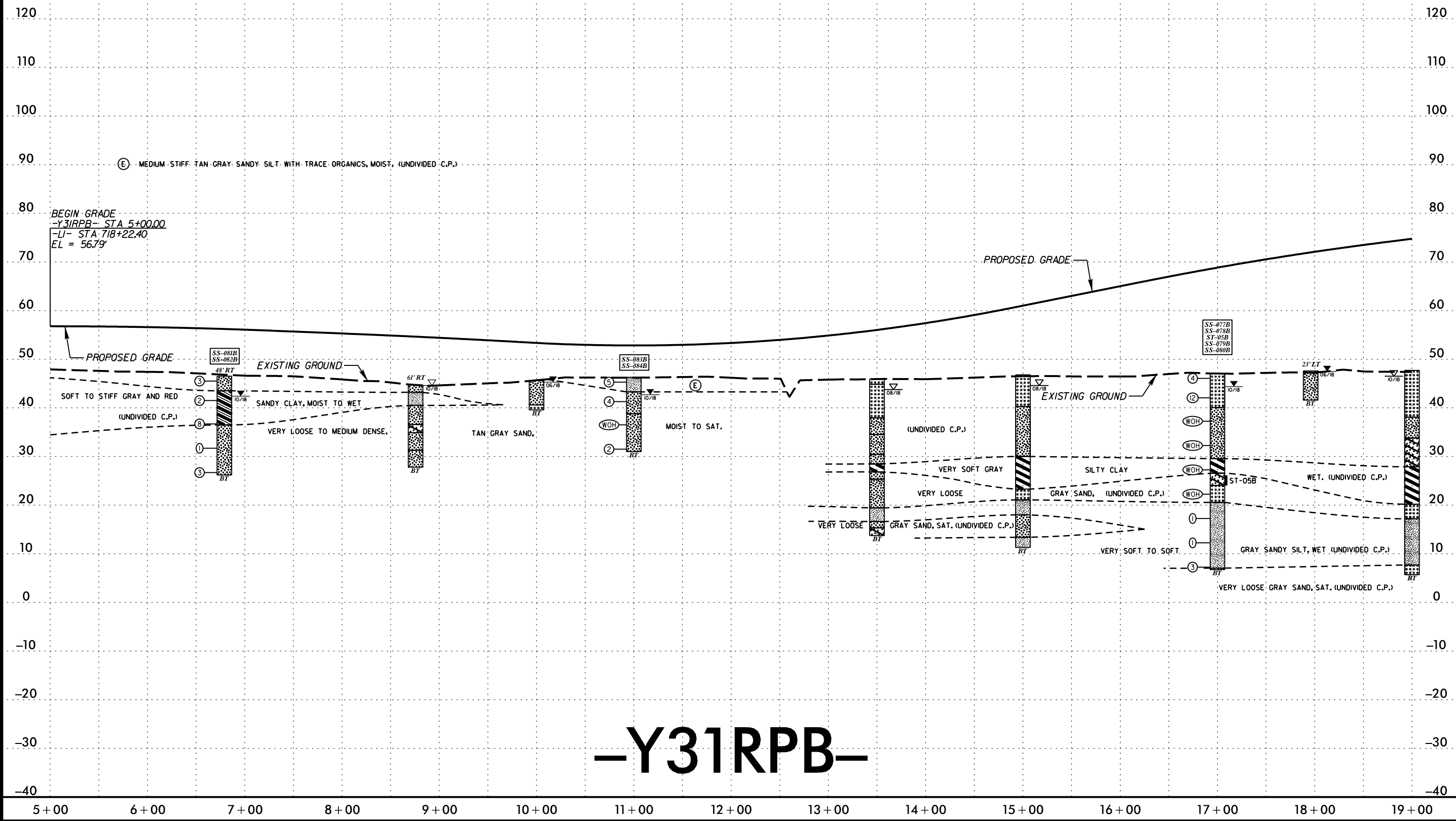
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86

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
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PROJECT REFERENCE NO.	SHEET NO.
R-3300B	87
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

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

19 + 00

END GRADE
-Y31RPB- STA 19+37.91
-Y31- STA 26+65.56, 20.75' RT
EL. = 75.71'

(A) LOOSE TO MEDIUM DENSE TAN SAND, MOIST (ROADWAY EMBANKMENT)

10/18

VERY LOOSE TO MEDIUM DENSE,
TAN GRAY SAND, MOIST TO SAT,
(UNDIVIDED C.P.)

VERY SOFT GRAY SILTY CLAY, WET, (UNDIVIDED C.P.)

VERY LOOSE GRAY SAND, SAT, (UNDIVIDED C.P.)

BT

VERY SOFT TO SOFT GRAY SANDY SILT, WET
(UNDIVIDED C.P.)

VERY LOOSE GRAY SAND, SAT, (UNDIVIDED C.P.)

-Y31RPB-

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

**HYDRAULICS
ENGINEER**

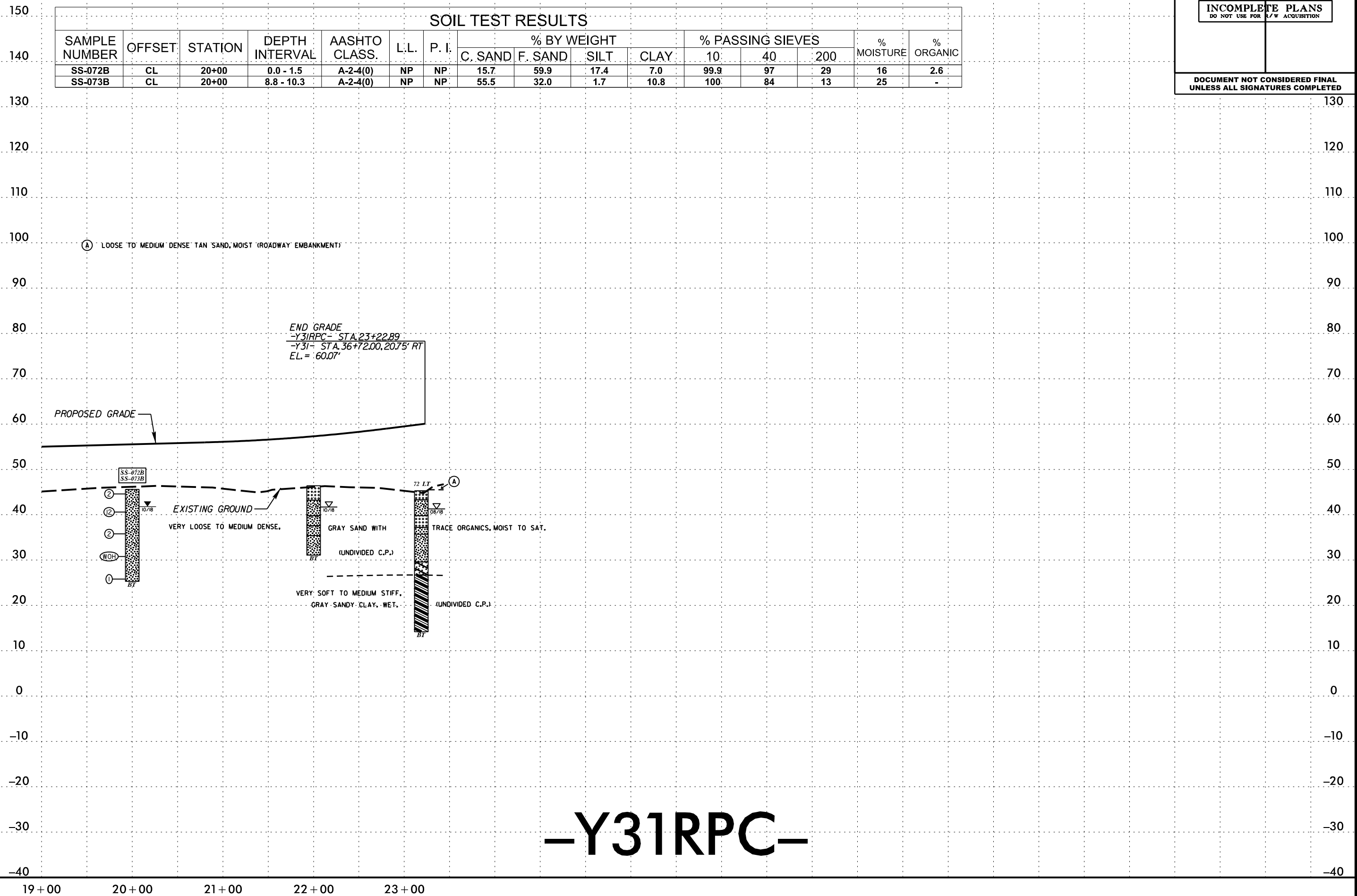
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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-183B	47 LT	5+56	0.0-1.0	A-2-4(0)	NP	NP	12.5	57.8	20.2	9.5	99.8	97	33	-	12.5
SS-069B	4 ft RT	7+80	4.0 - 5.5	A-2-4(0)	NP	NP	15.5	71.2	4.3	9.0	100	98	17	21	-
SS-070B	4 ft RT	7+80	13.8 - 15.3	A-2-4(0)	NP	NP	22.1	61.6	11.3	5.0	99.3	90	23	32	-
SS-071B	4 ft RT	7+80	23.8 - 25.3	A-7-6(17)	45	24	9.4	32.6	39.6	18.3	100	93	75	65	-



SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-072B	CL	20+00	0.0 - 1.5	A-2-4(0)	NP	NP	15.7	59.9	17.4	7.0	99.9	97	29	16	2.6
SS-073B	CL	20+00	8.8 - 10.3	A-2-4(0)	NP	NP	55.5	32.0	1.7	10.8	100	84	13	25	-



–Y31RPC–

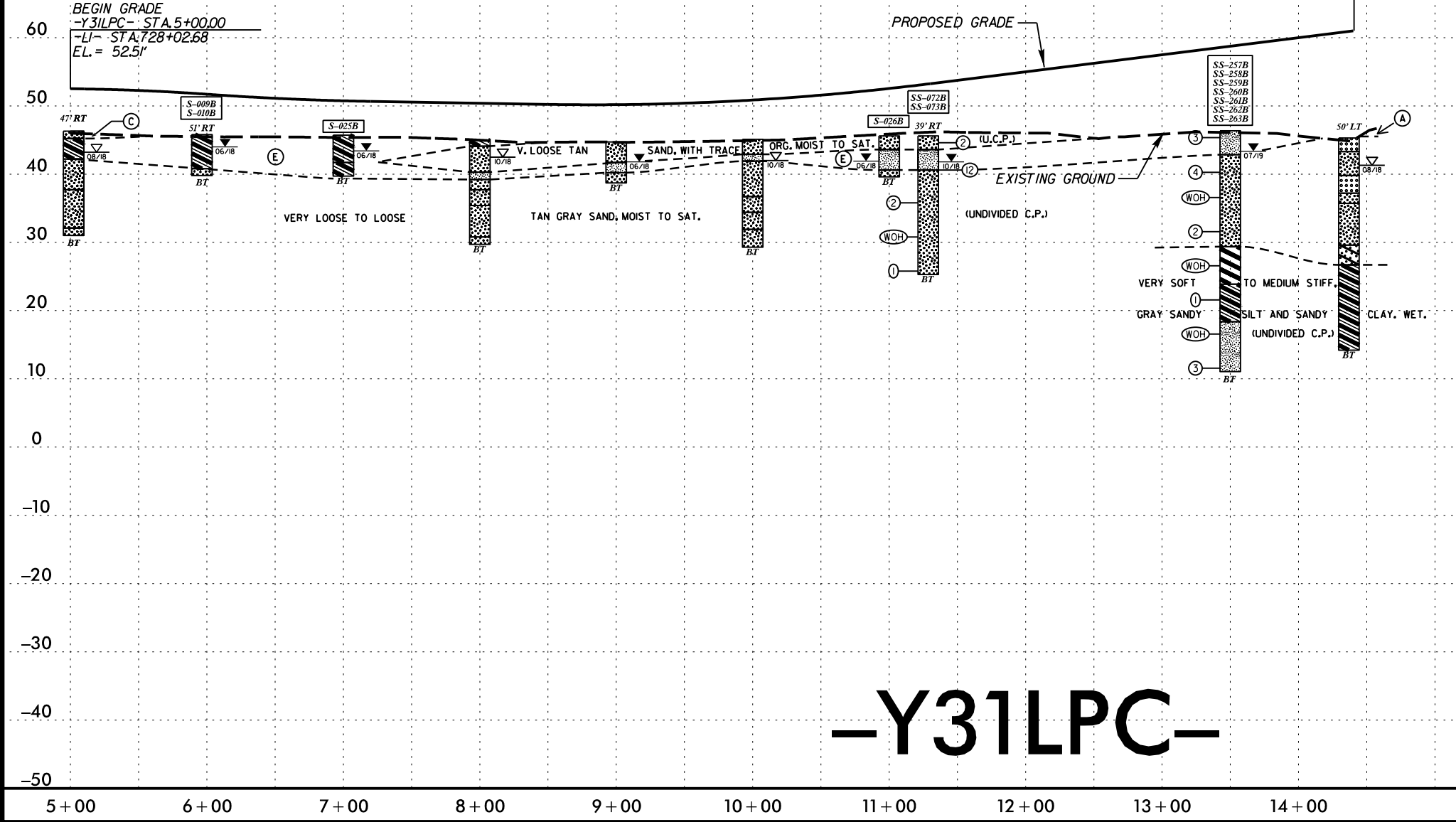
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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10'	40	200		
S-009B	51 ft RT	5+95	1.0 - 1.5	A-6(5)	34	11	12.8	29.2	23.7	34.3	99.9	94	61	35	-
S-010B	51 ft RT	5+95	4.0 - 5.0	A-6(4)	28	15	12.2	38.6	18.0	31.3	100	97	52	19	-
S-025B	CL	7+00	2.0 - 3.0	A-6(2)	24	11	13.0	43.5	17.2	26.3	100	97	47	25	-
S-026B	CL	11+00	2.5 - 3.0	A-4(0)	16	2	14.5	54.8	15.6	15.1	100	97	35	-	-
SS-072B	39 ft RT	11+29	0.0 - 1.5	A-2-4(0)	NP	NP	15.7	59.9	17.4	7.0	99.9	97	29	16	2.6
SS-073B	39 ft RT	11+29	8.8 - 10.3	A-2-4(0)	NP	NP	55.5	32.0	1.7	10.8	100	84	13	25	-
SS-257B	CL	13+50	0.0 - 1.5	A-4(0)	NP	NP	20.5	46.7	20.3	12.5	100	95	37	-	1.5
SS-258B	CL	13+50	5.1 - 6.6	A-2-4(0)	NP	NP	27.7	45.7	14.4	12.3	100	94	30	-	-
SS-259B	CL	13+50	13.8 - 15.3	A-2-4(0)	NP	NP	1.2	75.4	10.3	13.1	99.9	100	28	-	-
SS-260B	CL	13+50	18.8 - 20.3	A-7-5(33)	62	31	3.0	8.1	53.0	35.9	99.9	99	90	-	-
SS-261B	CL	13+50	23.8 - 25.3	A-6(2)	30	11	22.3	38.5	27.2	12.0	97.2	82	48	-	-
SS-262B	CL	13+50	28.8 - 30.3	A-4(3)	28	9	4.0	51.6	34.1	10.3	99.7	96	58	-	-
SS-263B	CL	13+50	33.8 - 35.3	A-4(0)	NP	NP	17.8	51.0	22.2	9.1	99.6	85	41	-	-

- (A) LOOSE TO MEDIUM DENSE TAN SAND, MOIST (ROADWAY EMBANKMENT)
(C) LOOSE TO MEDIUM DENSE GRAY SAND, MOIST, (UNDIVIDED C.P.)
(E) SOFT TO STIFF TAN GRAY SANDY CLAY AND SANDY SILT WITH TRACE ORGANICS, MOIST TO WET, (UNDIVIDED C.P.)

BEGIN GRADE
-Y31LPC- STA. 5+00.00
-LI- STA. 728+02.68
EL. = 52.5'

END GRADE
-Y31LPC- STA. 14+40.19
-Y31- STA. 36+50.00, 20.75' RT
EL. = 61.00'



PROJECT REFERENCE NO.	SHEET NO.
R-3300B	90
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10'	40	200		
SS-184B	27 ft LT	21+14	0.0 - 1.5	A-2-4(0)	NP	NP	10.1	77.0	3.0	9.8	100	99	14	-	-
SS-207B	27 ft LT	21+14	8.7 - 10.2	A-3(0)	NP	NP	2.4	96.4	0.2	1.0	99.9	99	1	-	-
SS-185B	27 ft LT	21+14	23.7 - 25.2	A-6(13)	35	16	2.4	23.6	55.3	18.7	100	99	84	-	-
SS-186B	27 ft LT	21+14	33.7 - 35.2	A-2-4(0)	NP	NP	41.0	31.1	14.8	13.1	91.3	76	33	-	-
SS-187B	27 ft LT	21+14	43.7 - 45.2	A-2-4(0)	NP	NP	26.5	64.1	2.7	6.7	96.2	85	10	-	-
ST-08B	23 ft LT	21+15	25.0 - 27.0	A-6(14)	39	-	0.4	37.4	34.5	27.7	100	99.8	73.0	-	-

PROJECT REFERENCE NO.
R-3300B

SHEET NO.
91

ROADWAY DESIGN
ENGINEER

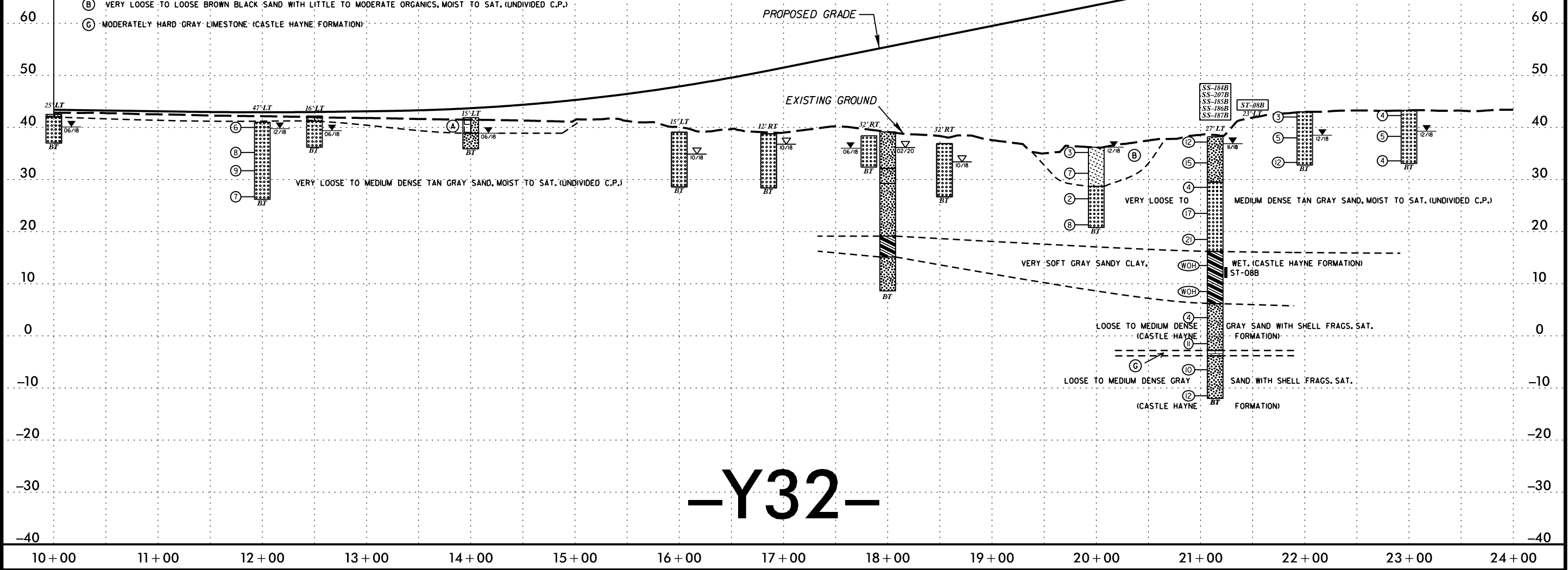
HYDRAULICS
ENGINEER

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BEGIN GRADE
-Y32- STA 10+00.00
L- STA 231+00.00, 16.00' LT
EL = 43.41'

- (A) LOOSE TAN SAND, MOIST (ROADWAY EMBANKMENT)
- (B) VERY LOOSE TO LOOSE BROWN BLACK SAND WITH LITTLE TO MODERATE ORGANICS, MOIST TO SAT. (UNDIVIDED C.P.)
- (C) MODERATELY HARD GRAY LIMESTONE (CASTLE HAYNE FORMATION)



-Y32-

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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10'	40	200		
SS-168B	CL	25+28	4.0 - 5.5	A-2-4(0)	NP	NP	7.4	84.8	5.0	2.8	100	99	10	-	2.7
SS-169B	CL	25+28	13.9 - 15.4	A-2-4(0)	NP	NP	5.3	65.8	11.1	17.7	98.4	98	34	-	-
SS-171B	20 ft RT	28+00	0.0 - 1.5	A-3(0)	NP	NP	12.1	83.3	3.2	1.4	100	97	5	-	0.6
SS-172B	20 ft RT	28+00	8.7 - 10.2	A-3(0)	NP	NP	35.3	63.2	1.3	0.2	98.8	85	2	-	-
SS-173B	20 ft RT	28+00	13.7 - 15.2	A-2-4(0)	NP	NP	3.9	72.1	6.0	18.1	100	100	26	-	-
SS-174B	20 ft RT	28+00	23.7 - 25.2	A-2-4(0)	NP	NP	3.4	83.3	4.9	8.4	100	100	17	-	-
SS-175B	20 ft RT	28+00	28.7 - 30.2	A-6(6)	29	12	2.3	42.0	44.0	11.7	100	99	66	-	-
SS-192B	28 ft RT	34+64	0.0 - 1.5	A-2-4(0)	NP	NP	11.9	78.3	3.6	6.8	99.8	99	11	-	2.8
SS-193B	28 ft RT	34+64	8.8 - 10.3	A-3(0)	NP	NP	21.7	76.3	-1.0	0.2	99.8	98	2	-	-
SS-176B	CL	36+00	0.0 - 1.5	A-2-4(0)	NP	NP	8.5	80.2	6.5	4.8	99.6	98	12	-	5.8
SS-177B	CL	36+00	4.0 - 5.0	A-2-4(0)	NP	NP	11.4	74.4	10.4	3.8	97.9	97	16	-	12.1

PROJECT REFERENCE NO.
R-3300B

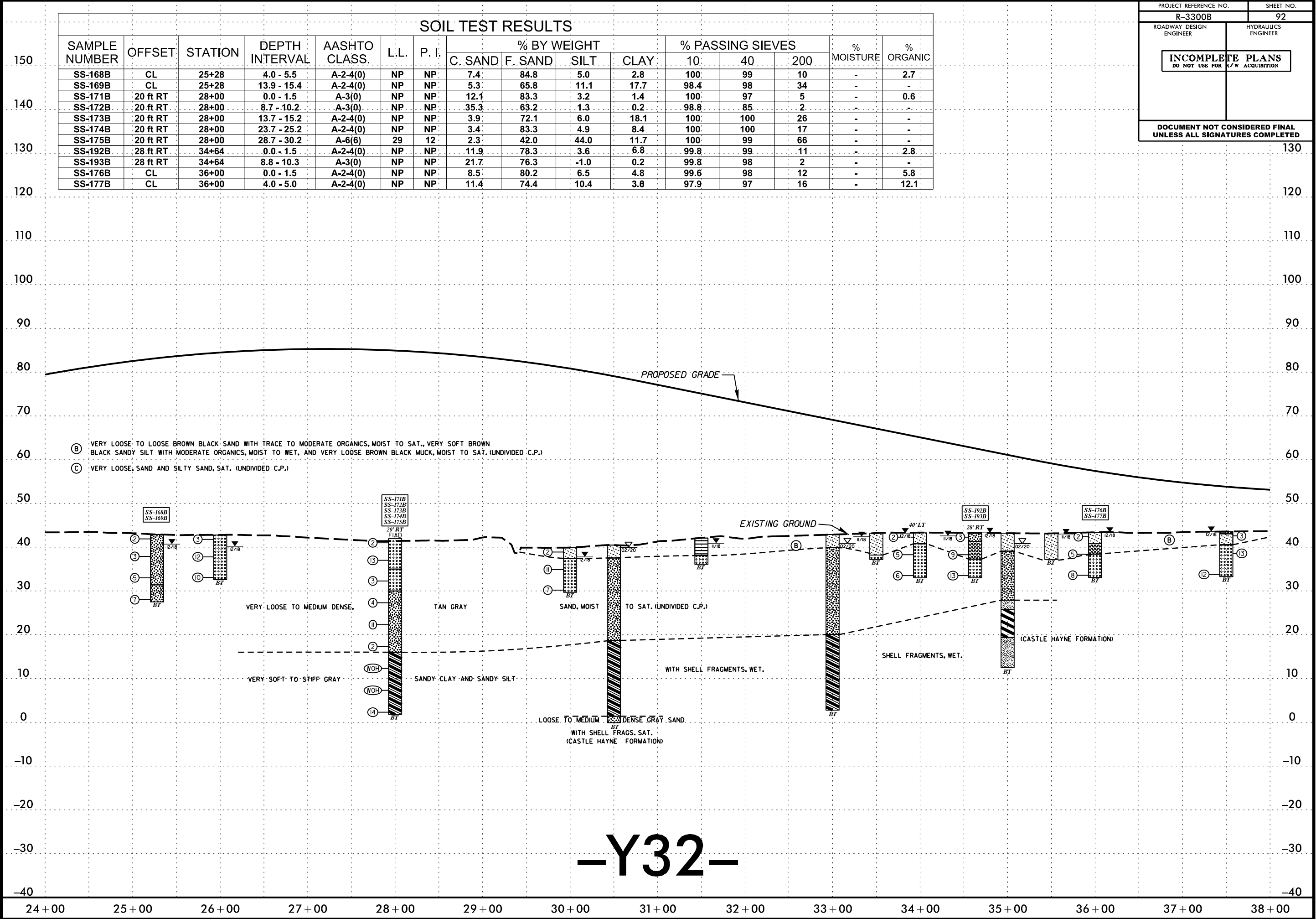
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92

ROADWAY DESIGN
ENGINEER

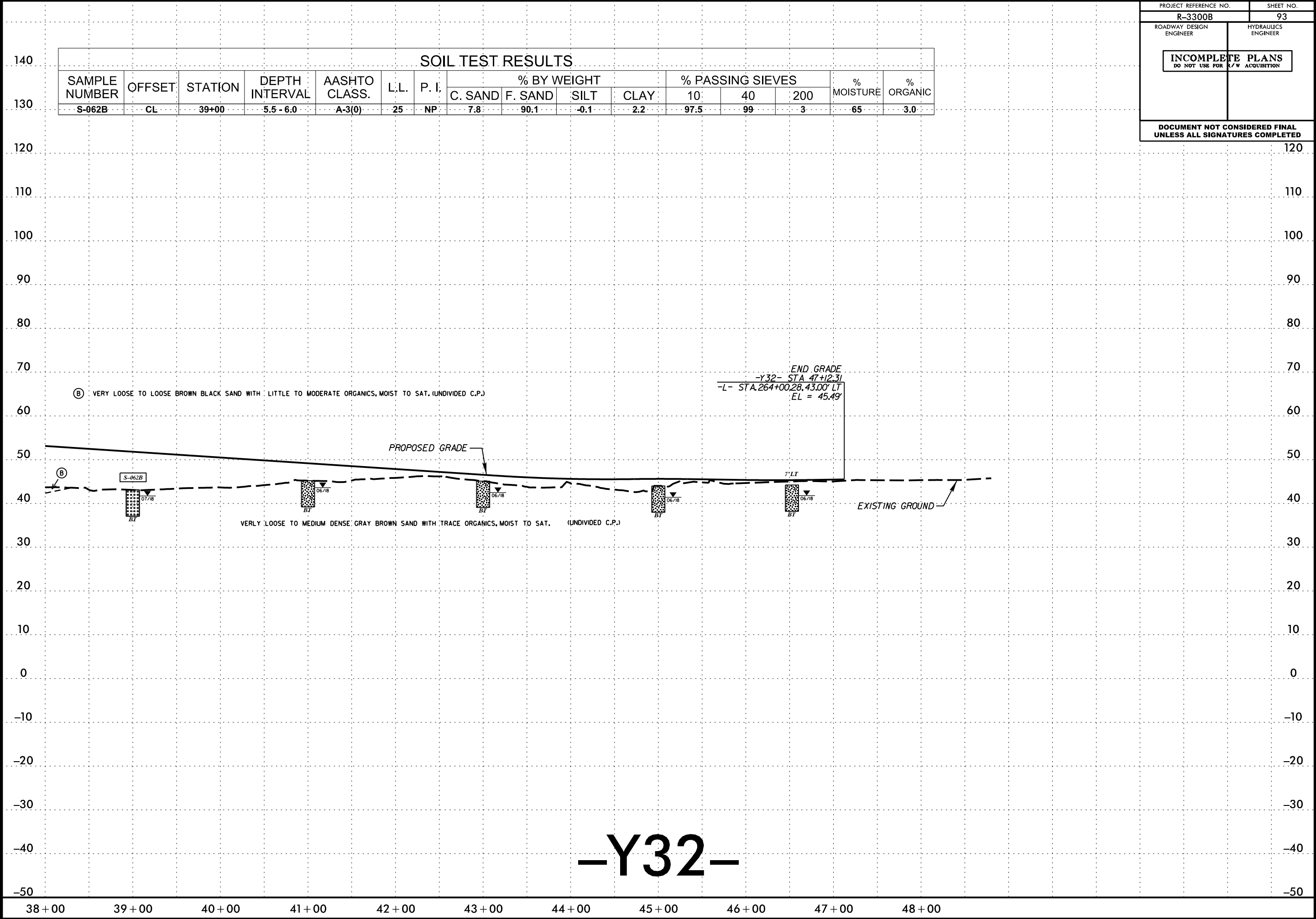
HYDRAULICS
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PROJECT REFERENCE NO.
R-3300B

SHEET NO.
94

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

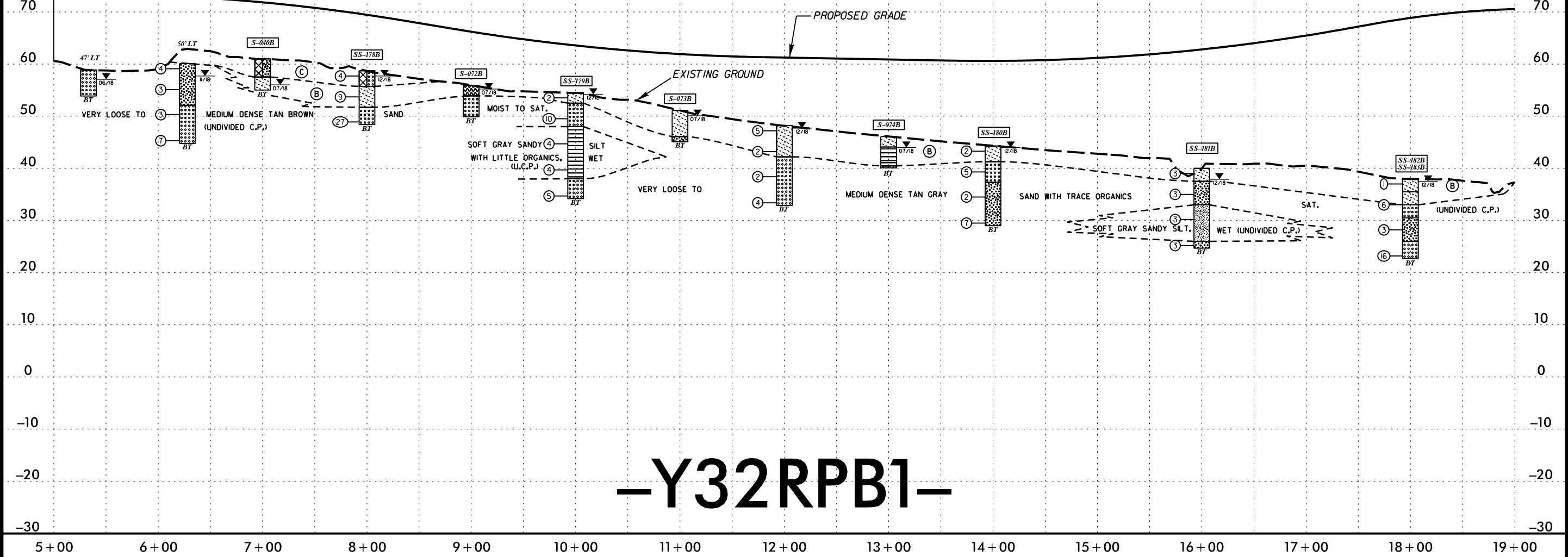
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-040B	CL	7+00	3.5 - 4.0	A-3(0)	18	NP	15.4	76.4	5.2	3.0	100	99	9	-	3.4
SS-178B	CL	8+00	4.0 - 5.5	A-3(0)	NP	NP	10.6	84.4	3.1	1.8	100	99	6	-	3.6
S-072B	CL	9+00	1.0 - 1.5	A-3(0)	17	NP	22.4	69.4	2.1	6.1	99.9	93	9	26	13.6
SS-179B	CL	10+00	8.8 - 10.3	A-4(0)	NP	NP	0.7	31.0	56.3	11.9	100	100	69	28	6.4
S-073B	CL	11+00	4.0 - 4.5	A-3(0)	24	NP	20.1	71.3	5.5	3.0	99.8	94	10	43	5.8
S-074B	CL	13+00	4.0 - 4.5	A-4(0)	32	NP	12.7	53.6	15.9	17.8	100	96	36	50	8.2
SS-180B	CL	14+00	13.8 - 15.3	A-2-4(0)	NP	NP	4.6	65.4	10.0	19.9	100	100	33	-	-
SS-181B	CL	16+00	8.8 - 10.3	A-4(0)	22	3	8.1	61.7	11.7	18.5	99.9	97	36	34	-
SS-182B	CL	18+00	4.0 - 5.0	A-2-4(0)	NP	NP	18.9	61.9	9.1	10.1	98.3	92	21	-	4.9
SS-183B	CL	18+00	8.8 - 10.3	A-2-4(0)	19	6	21.9	49.0	10.9	18.2	98.1	92	32	-	-

- (B) VERY LOOSE TO LOOSE BROWN BLACK SAND WITH LITTLE TO MODERATE ORGANICS AND MUCK, MOIST TO SAT. AND SOFT BROWN SANDY SILT WITH LITTLE ORGANIC MATTER, WET (UNDIVIDED C.P.)
- (C) VERY LOOSE TO LOOSE TAN SAND, MOIST TO SAT. (ARTIFICIAL FILL)

BEGIN GRADE
-Y32RPB1- STA 5+00.00 =
-LI_NORTHERN- STA 838+15.4 (47' LT)
EL = 73.96'



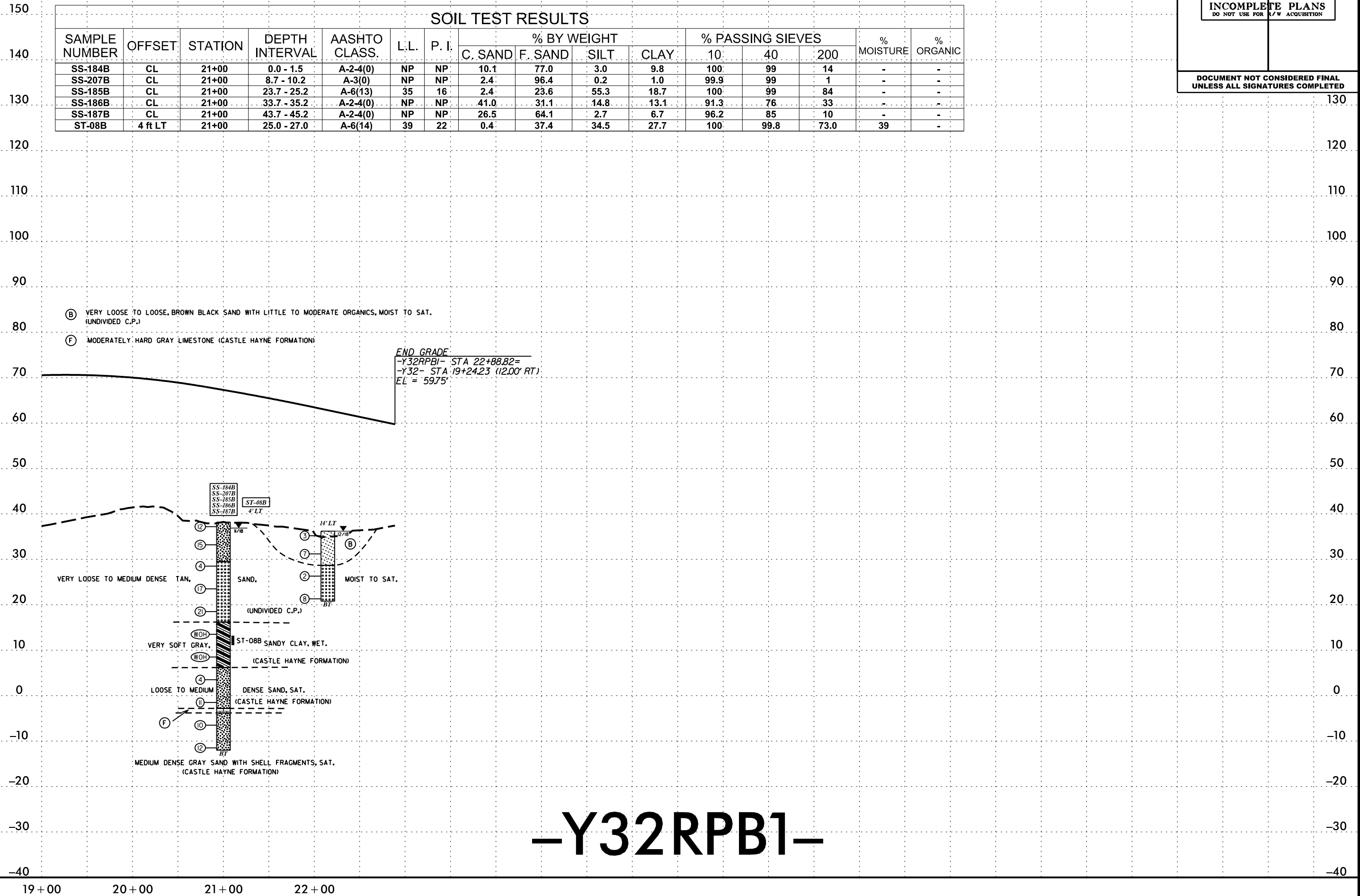
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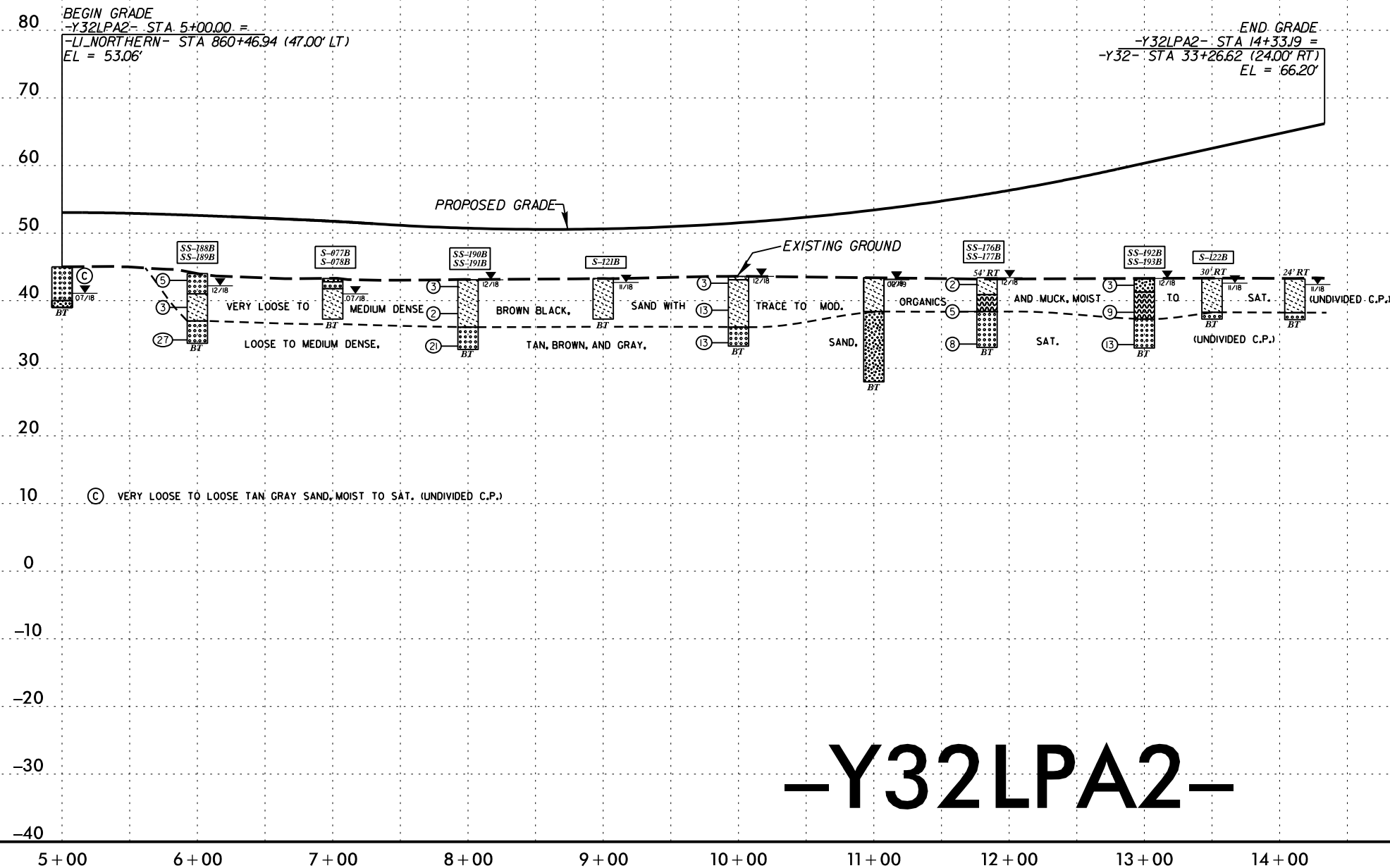
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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-184B	CL	21+00	0.0 - 1.5	A-2-4(0)	NP	NP	10.1	77.0	3.0	9.8	100	99	14	-	-
SS-207B	CL	21+00	8.7 - 10.2	A-3(0)	NP	NP	2.4	96.4	0.2	1.0	99.9	99	1	-	-
SS-185B	CL	21+00	23.7 - 25.2	A-6(13)	35	16	2.4	23.6	55.3	18.7	100	99	84	-	-
SS-186B	CL	21+00	33.7 - 35.2	A-2-4(0)	NP	NP	41.0	31.1	14.8	13.1	91.3	76	33	-	-
SS-187B	CL	21+00	43.7 - 45.2	A-2-4(0)	NP	NP	26.5	64.1	2.7	6.7	96.2	85	10	-	-
ST-08B	4 ft LT	21+00	25.0 - 27.0	A-6(14)	39	22	0.4	37.4	34.5	27.7	100	99.8	73.0	39	-



–Y32RPB1–

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-188B	CL	6+00	0.0 - 1.5	A-3(0)	NP	NP	18.3	73.2	4.3	4.2	99.3	96	9	-	2.9
SS-189B	CL	6+00	4.0 - 5.5	A-2-4(0)	NP	NP	10.1	75.6	7.2	7.1	100	99	15	-	3.5
S-077B	CL	7+00	2.0 - 2.5	A-2-4(0)	22	NP	12.2	72.2	6.5	9.1	100	98	17	-	5.9
S-078B	CL	7+00	4.0 - 4.5	A-2-4(0)	18	NP	7.3	80.8	6.9	5.0	100	99	13	-	3.1
SS-190B	CL	8+00	0.0 - 1.5	A-2-4(0)	NP	NP	17.0	72.4	8.3	2.2	99.7	95	12	-	6.8
SS-191B	CL	8+00	4.0 - 5.5	A-2-4(0)	NP	NP	6.7	76.8	11.2	5.3	100	99	18	-	6.1
S-121B	CL	9+00	1.0 - 2.0	A-2-4(0)	NP	NP	11.6	75.0	8.2	5.3	99.7	99	14	24	4
SS-176B	54 ft RT	11+84	0.0 - 1.5	A-2-4(0)	NP	NP	8.5	80.2	6.5	4.8	99.6	98	12	-	5.8
SS-177B	54 ft RT	11+84	4.0 - 5.0	A-2-4(0)	NP	NP	11.4	74.4	10.4	3.8	97.9	97	16	-	12.1
SS-192B	CL	13+00	0.0 - 1.5	A-2-4(0)	NP	NP	11.9	78.3	3.6	6.2	99.8	99	11	-	2.8
SS-193B	CL	13+00	8.8 - 10.3	A-3(0)	NP	NP	21.7	76.3	-1.0	3.0	99.8	98	2	-	-
S-122B	30 ft RT	13+50	5.0 - 6.0	A-3(0)	NP	NP	6.1	90.9	2.8	0.2	100	99	4	-	-



–Y32LPA2–

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PROJECT REFERENCE NO.
R-3300B

SHEET NO.
97

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

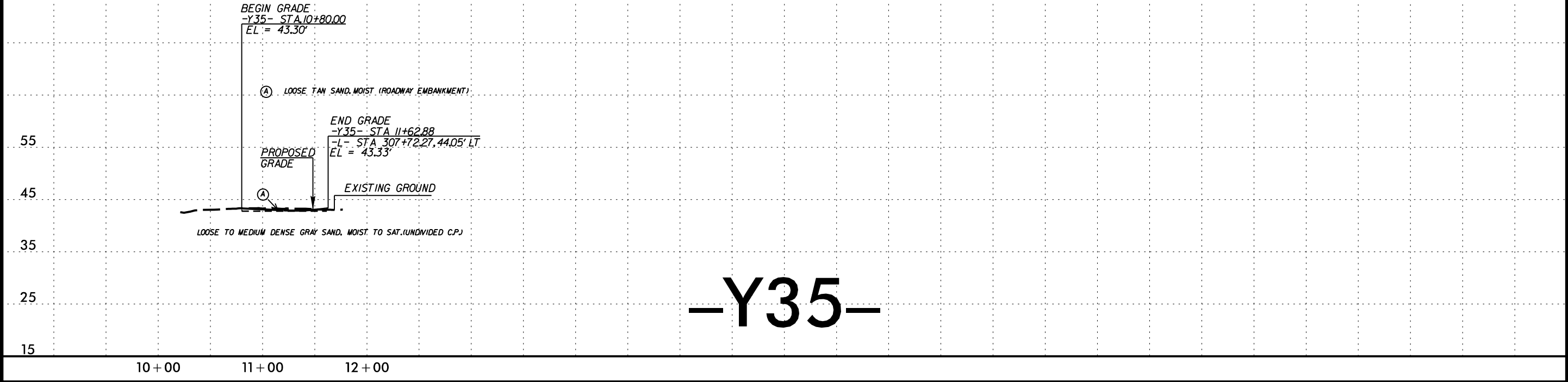
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DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

SOIL TEST RESULTS															
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							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-022B	17 ft LT	19+50	2.5 - 3.0	A-2-4(0)	19	NP	12.2	65.6	9.8	12.3	98.3	96	26	-	4.1
S-023B	12 ft LT	21+50	3.5 - 4.0	A-2-4(0)	24	NP	16.8	54.0	12.1	17.0	99.8	95	33	-	-

120
110
100
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70
60
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0



-Y35-

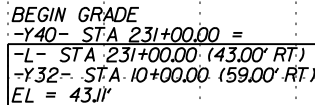
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**HYDRAULICS
ENGINEER**

40

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

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-195B	CL	245+00	23.8 - 25.3	A-4(3)	21	7	2.5	23.0	63.0	11.5	100	98	81	31	-
SS-194B	CL	245+00	28.8 - 30.3	A-2-6(1)	30	13	38.1	33.0	22.6	6.3	100	91	32	37	-
SS-196B	CL	245+00	38.8 - 40.3	A-2-4(0)	NP	NP	65.1	23.0	6.4	5.5	91.4	62	15	-	-



(A) LOOSE TAN SAND, MOIST (ROADWAY EMBANKMENT)

- PROPOSED GRADE

-EXISTING GROUND

VERY LOOSE TO MEDIUM DENSE.

TAN GRAY

SAND, MOIST TO SAT

(UNDIVIDED C.P.)

VERY SOFT TO SOFT

GRAY SANDY SILT, WET.
(CASTLE HAYNE FORMATION

VERY LOOSE TO MEDIUM DENSE

GRAY SAND

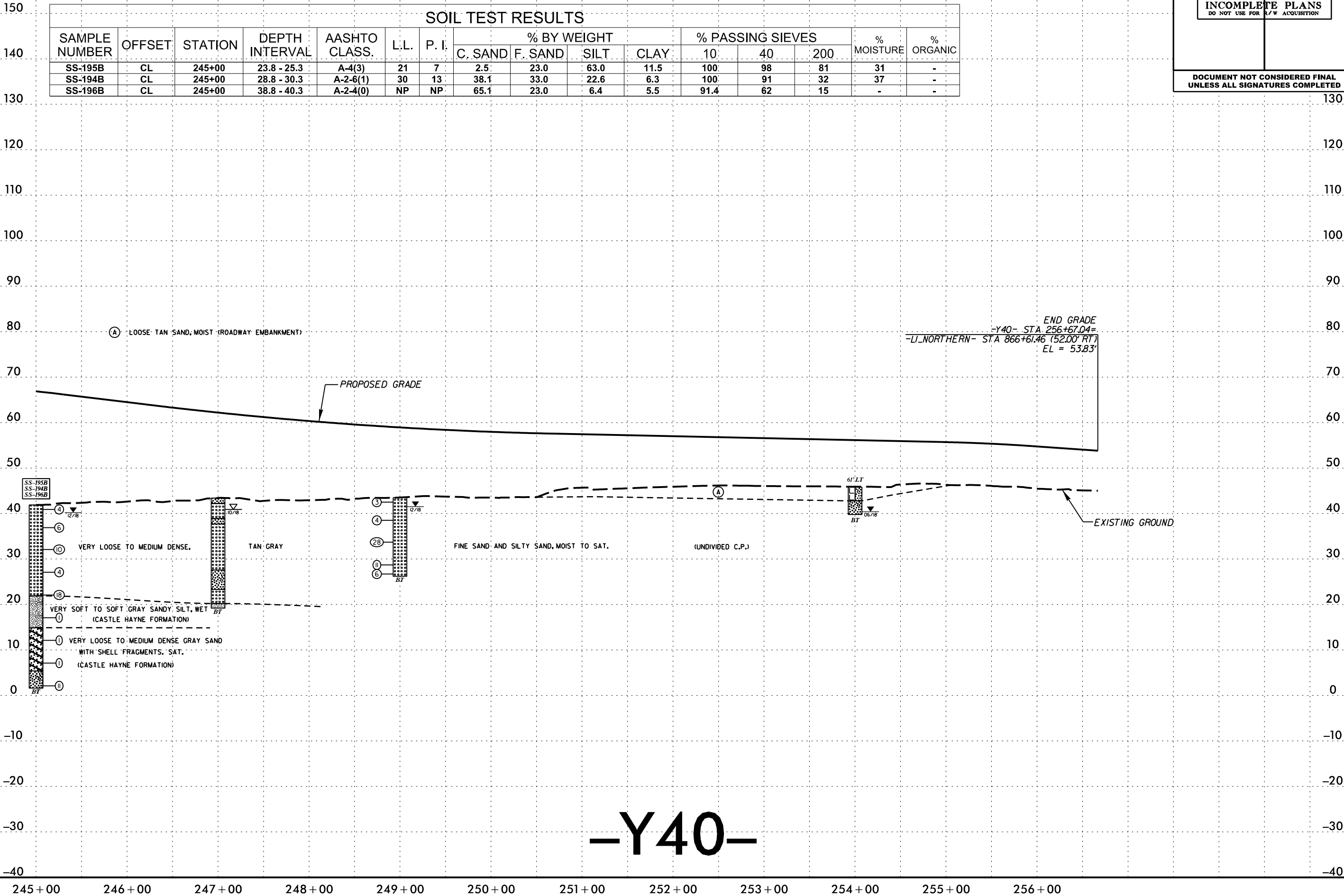
WITH SHELL FRAGMENTS. SAT
(CASTLE HAYNE FORMATION)

-Y40-

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Lee Stone
Lee Stone

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10'	40	200		
SS-195B	CL	245+00	23.8 - 25.3	A-4(3)	21	7	2.5	23.0	63.0	11.5	100	98	81	31	-
SS-194B	CL	245+00	28.8 - 30.3	A-2-6(1)	30	13	38.1	33.0	22.6	6.3	100	91	32	37	-
SS-196B	CL	245+00	38.8 - 40.3	A-2-4(0)	NP	NP	65.1	23.0	6.4	5.5	91.4	62	15	-	-

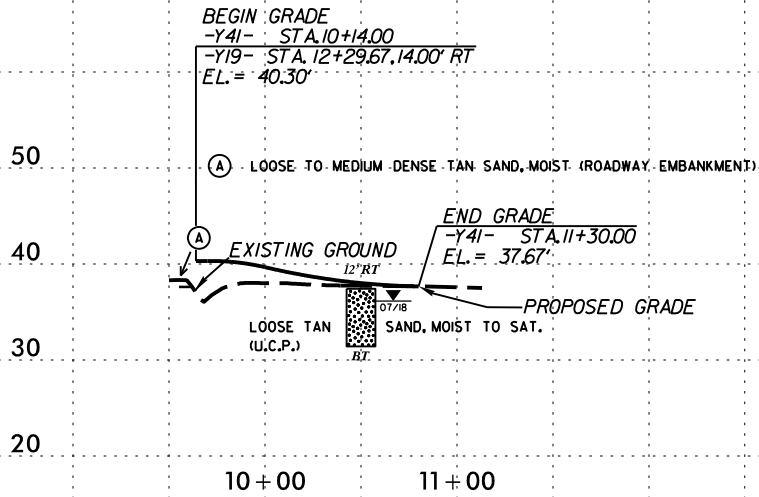
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R-3300B		99	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



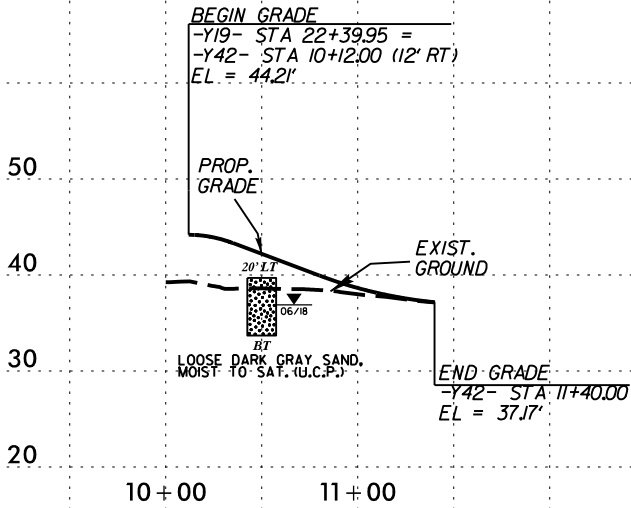
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PROJECT REFERENCE NO.		SHEET NO.	
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INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

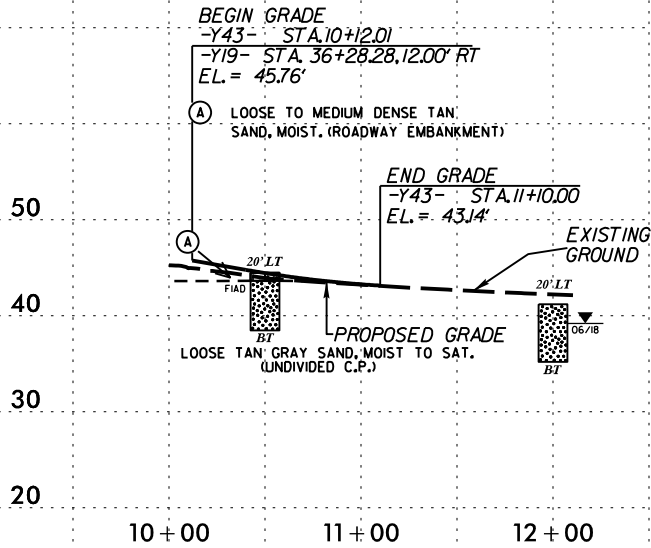
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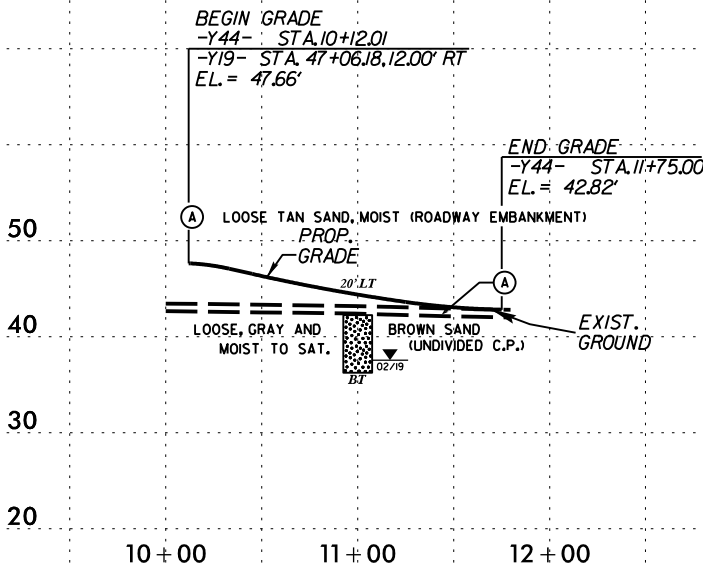
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-Y43-



-Y44-



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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-033B	CL	11+00	0.0 - 1.5	A-2-4(0)	21	NP	13.2	64.5	17.3	5.0	99.3	94	30	-	-
SS-034B	CL	11+00	4.0 - 5.5	A-2-6(0)	25	11	31.7	39.7	7.2	21.4	99.8	96	32	33	-
SS-035B	CL	11+00	13.5 - 15.0	A-2-4(0)	28	7	28.6	44.1	18.2	9.1	99.6	91	34	-	-
S-036B	CL	13+50	0.0 - 3.0	A-2-4(0)	20	NP	7.1	83.4	5.3	4.2	99.9	97	18	-	-
S-037B	CL	13+50	3.0 - 6.0	A-7-6(18)	50	31	7.0	33.5	23.8	35.6	100	97	64	-	-
S-139B	CL	17+50	3.0 - 6.0	A-2-4(0)	NP	NP	1.6	78.2	5.7	14.5	100	99	30	-	-
SS-013B	CL	23+00	4.5 - 6.0	A-2-4(0)	22	NP	0.7	84.9	6.2	8.2	99.9	100	27	25	-
SS-014B	CL	23+00	8.5 - 10.0	A-2-4(0)	16	NP	51.4	34.2	2.3	12.1	100	76	15	28	-
SS-015B	CL	23+00	13.5 - 15.0	A-6(4)	28	14	12.1	42.5	20.9	24.5	100	98	52	24	-

PROJECT REFERENCE NO.
R-3300B

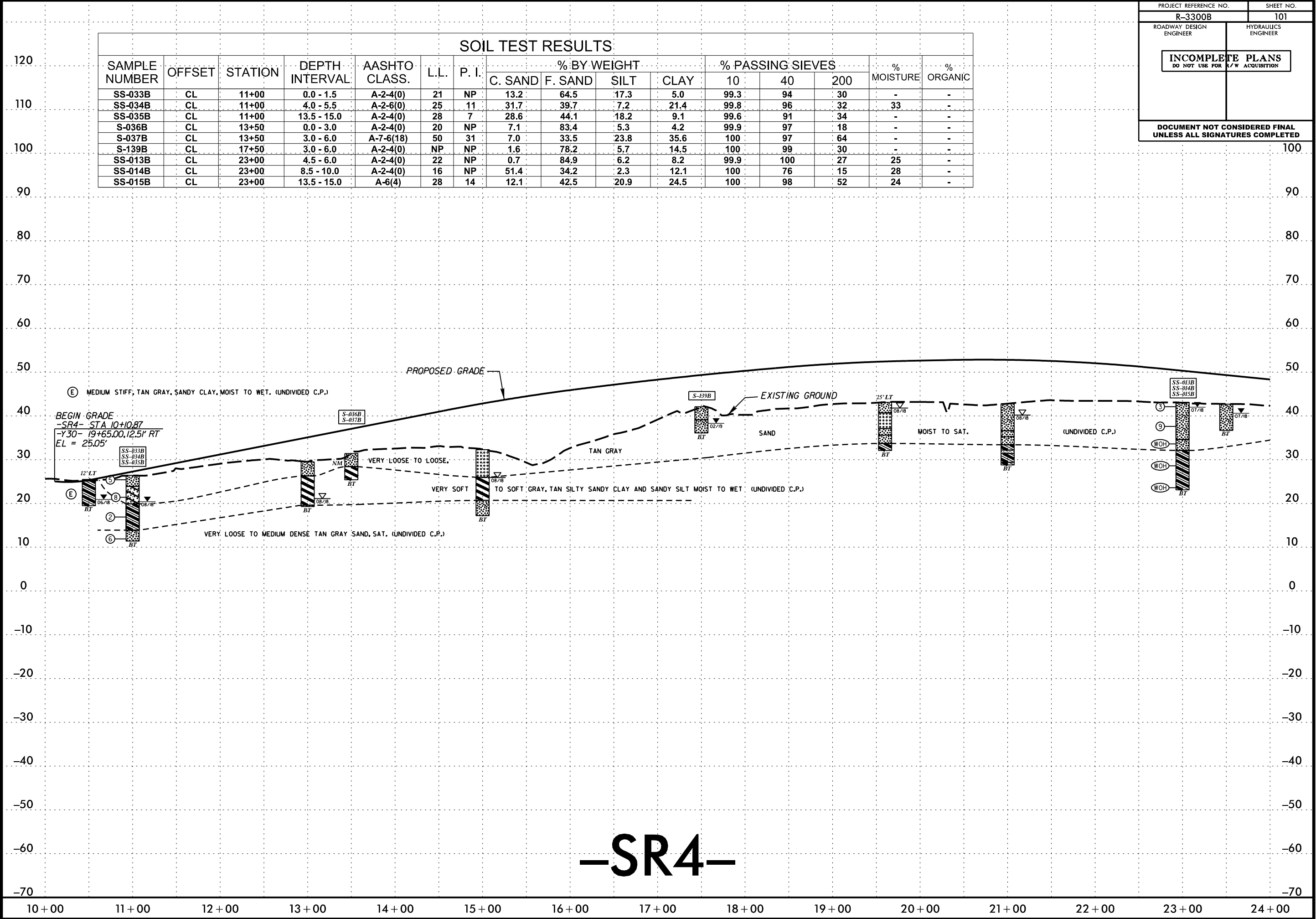
SHEET NO.
101

ROADWAY DESIGN
ENGINEER

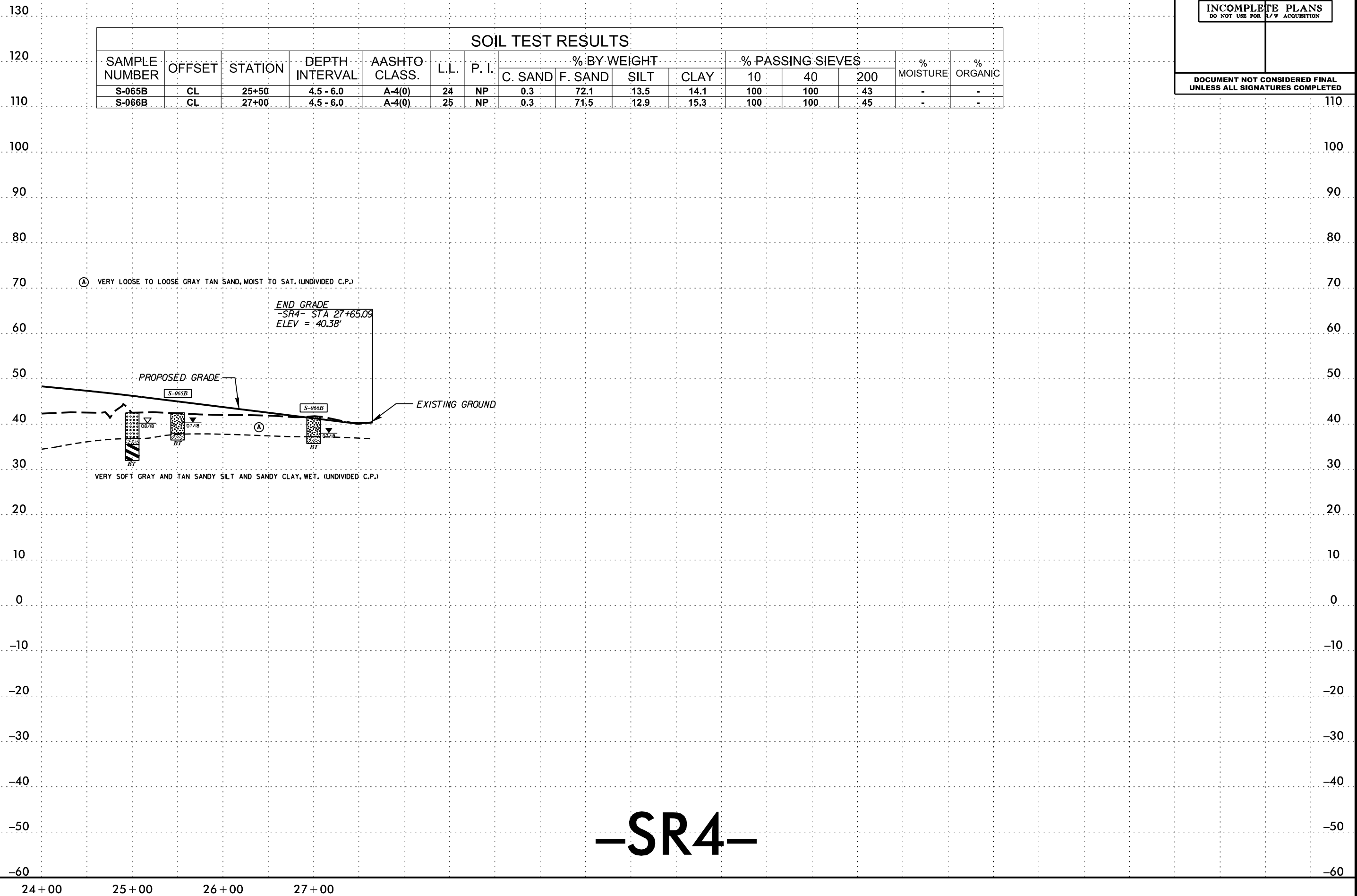
HYDRAULICS
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-065B	CL	25+50	4.5 - 6.0	A-4(0)	24	NP	0.3	72.1	13.5	14.1	100	100	43	-	-
S-066B	CL	27+00	4.5 - 6.0	A-4(0)	25	NP	0.3	71.5	12.9	15.3	100	100	45	-	-



—SR4—

5/14/99

PROJECT REFERENCE NO.
R-3300B

SHEET NO.
103

ROADWAY DESIGN
ENGINEER

HYDRAULICS
ENGINEER

INCOMPLETE PLANS
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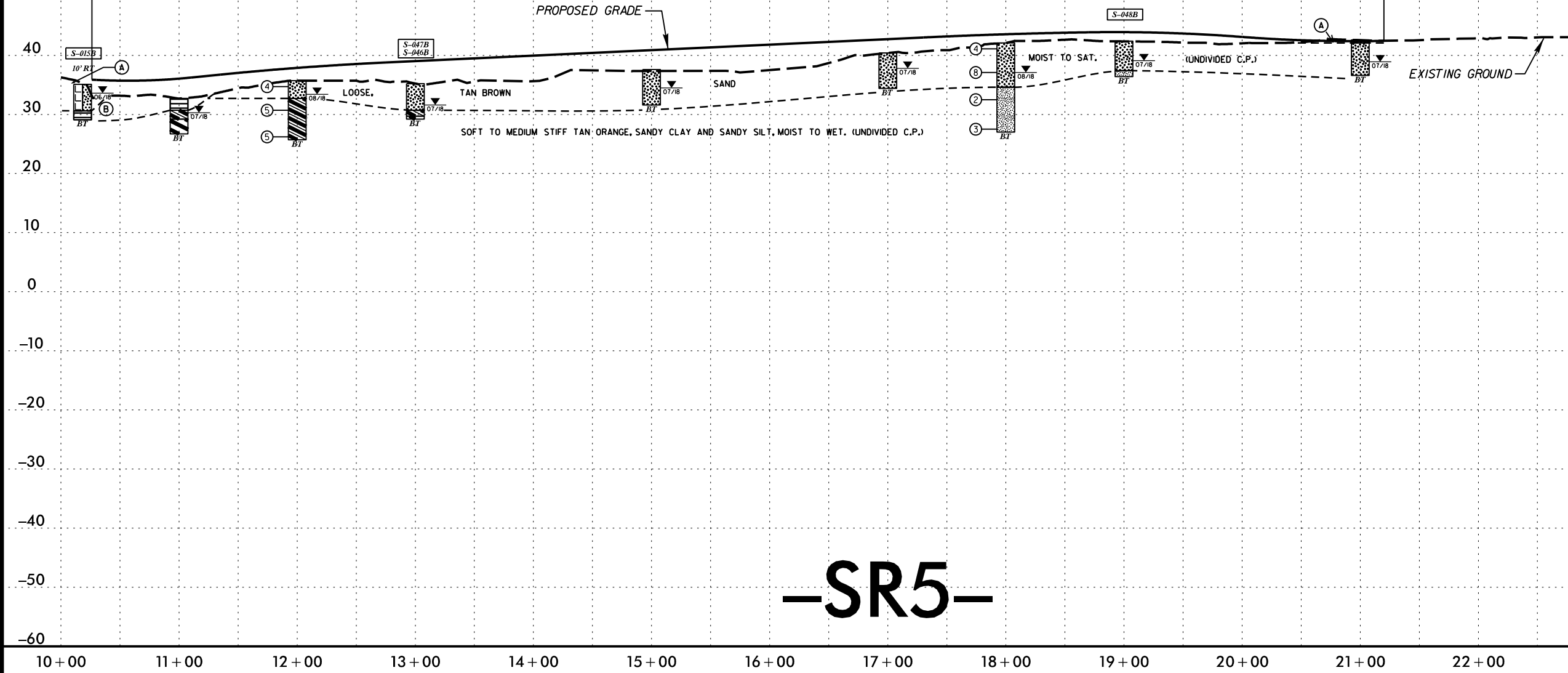
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UNLESS ALL SIGNATURES COMPLETED

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-015B	10 ft RT	10+18	4.5 - 5.0	A-5(0)	41	NP	6.8	50.7	37.0	5.5	99.6	98	50	-	17.8
S-047B	CL	13+00	5.0 - 5.5	A-6(9)	35	20	7.2	44.2	15.8	32.8	99.6	96	58	-	-
S-046B	CL	13+00	5.5 - 6.0	A-7-6(25)	48	29	2.0	19.8	29.8	48.4	99.9	99	84	37	-
S-048B	CL	19+00	5.0 - 5.5	A-4(0)	22	NP	0.2	74.4	12.1	13.3	100	100	42	-	-

- (A) LOOSE TO MEDIUM DENSE TAN SAND, MOIST. (ROADWAY EMBANKMENT)
(B) VERY SOFT BROWN BLACK SANDY SILT WITH MODERATE ORGANICS, MOIST TO WET (U.C.P.)

BEGIN GRADE
-SR5- STA 10+26.13
-Y30- 56+60.00, 261.3' RT
EL = 35.88'

END GRADE
-SR5- STA 21+20.00
ELEV = 42.45'



-SR5-

5/14/99

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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-042B	CL	11+00	1.0 - 1.5	A-6(2)	30	13	23.6	41.9	8.8	25.7	100	91	39	20	-
S-043B	CL	13+25	5.0 - 6.0	A-2-4(0)	20	6	42.9	38.1	4.5	14.5	100	83	23	16	-
SS-031B	CL	19+50	0.0 - 1.5	A-2-4(0)	19	NP	4.6	83.5	6.4	5.5	99.9	98	17	-	-
SS-032B	CL	19+50	8.5 - 10.0	A-4(1)	25	6	2.6	56.6	19.2	21.6	99.7	99	61	38	-
S-044B	CL	23+00	1.5 - 2.0	A-6(3)	31	14	10.8	47.1	13.2	28.9	100	98	46	27	-
S-045B	CL	23+00	3.5 - 4.0	A-6(11)	40	22	10.1	31.2	20.4	38.3	100	98	61	30	-

PROJECT REFERENCE NO.
R-3300B

SHEET NO.
104

ROADWAY DESIGN ENGINEER

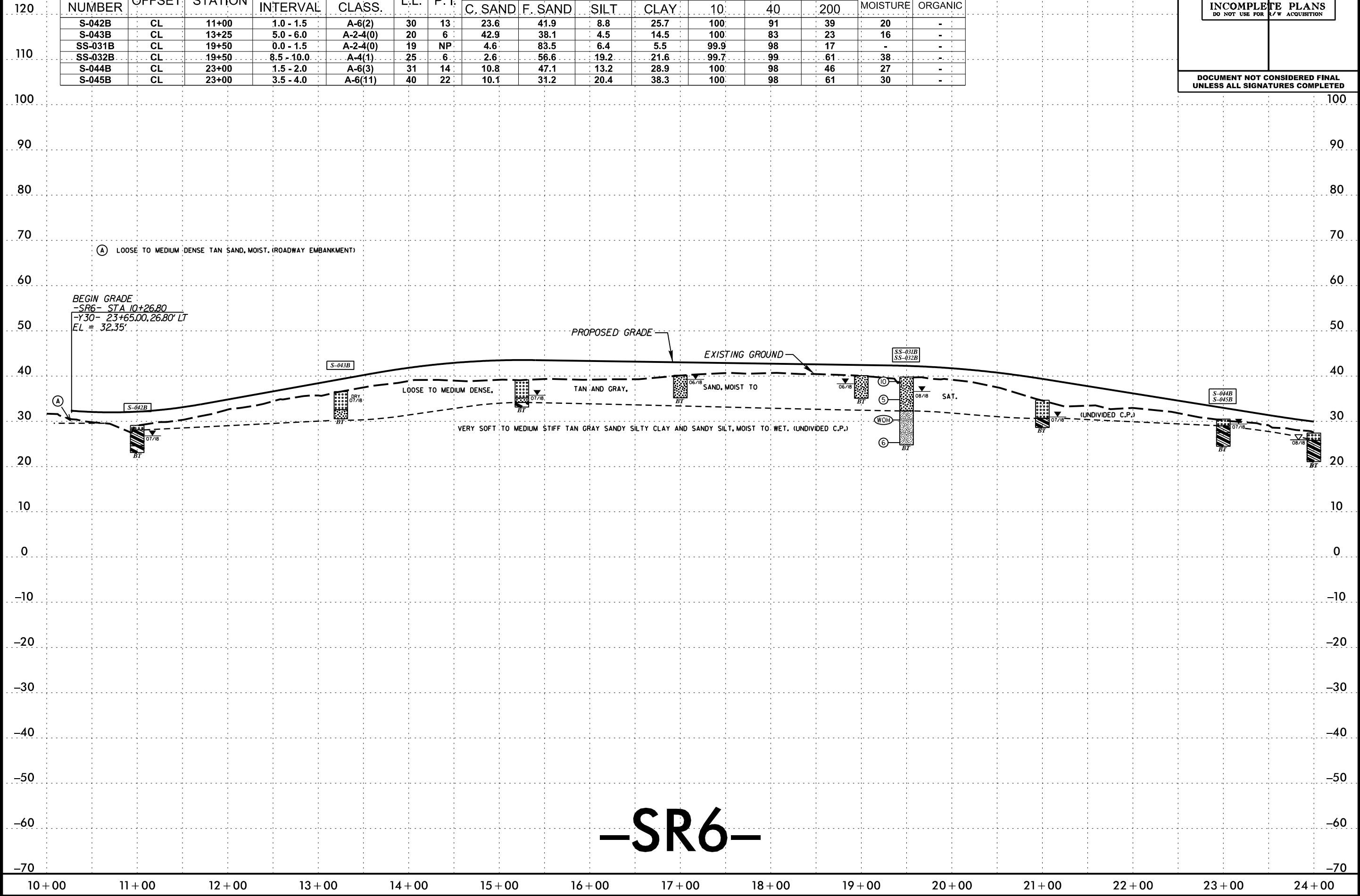
HYDRAULICS ENGINEER

INCOMPLETE PLANS

DO NOT USE FOR R/W ACQUISITION

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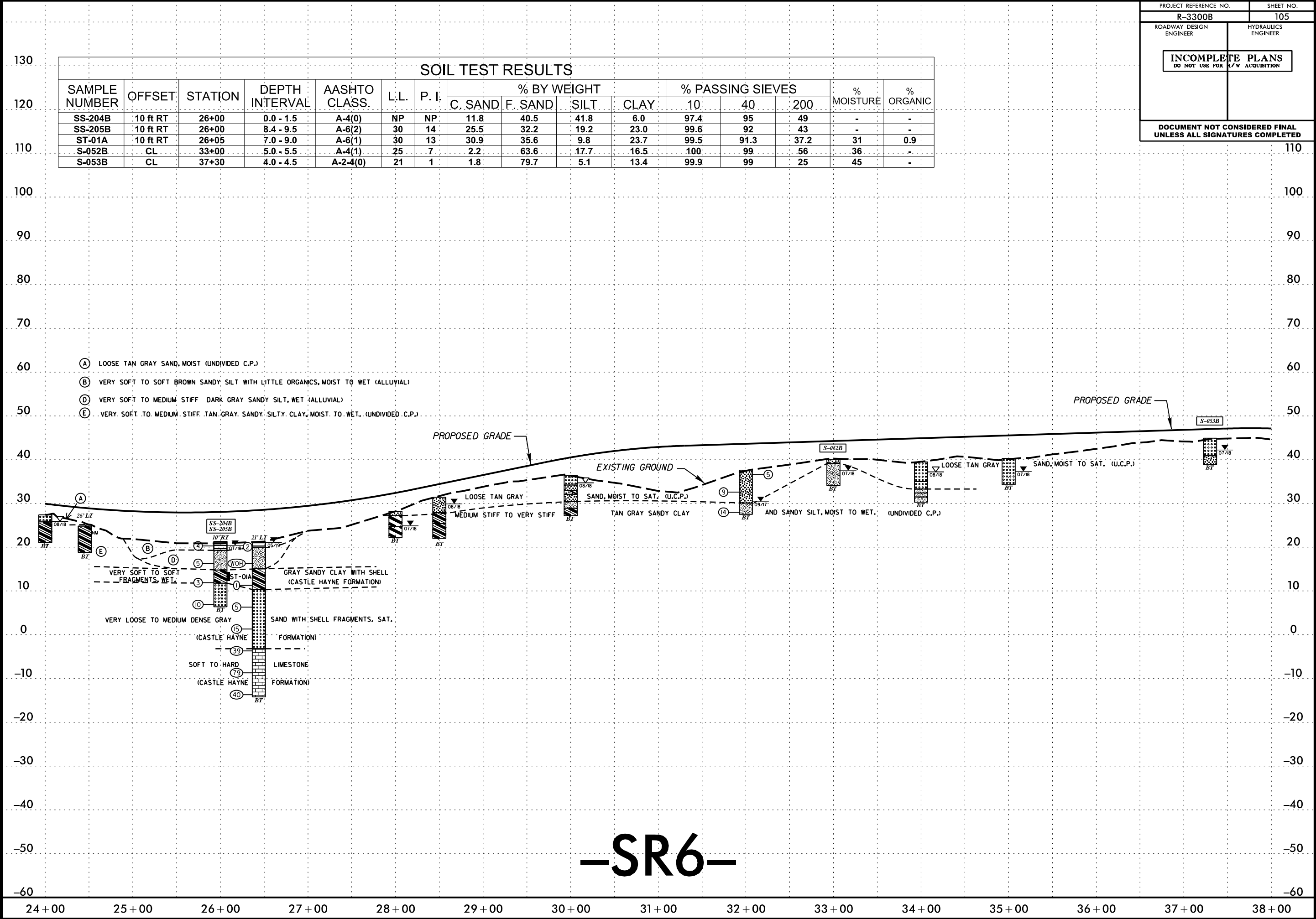
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-SR6-

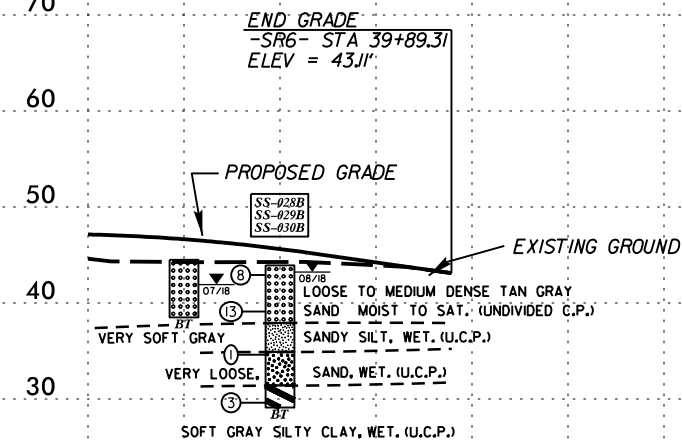
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-SR6-

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-028B	CL	39+00	0.0 - 1.5	A-2-4(0)	21	NP	3.8	87.8	3.4	5.1	100	99	15	-	-
SS-029B	CL	39+00	8.3 - 9.0	A-4(0)	21	4	26.4	42.8	15.5	15.3	99.9	91	46	32	-
SS-030B	CL	39+00	13.3 - 14.8	A-7-6(25)	49	28	6.0	12.0	46.8	35.2	99.9	99	84	54	-



—SR6—

BEGIN GRADE
-SR7- STA 10+15.04
-Y31- STA 23+67.09 14.89' LT
EL = 64.50'

(B) VERY LOOSE BROWN BLACK LITTLE TO MODERATELY ORGANIC SAND AND MUCK, MOIST TO SAT. (UNDIVIDED C.P.)

(C) VERY LOOSE TO LOOSE TAN SAND, MOIST TO SAT. (UNDIVIDED C.P.)



5/14/99

PROJECT REFERENCE NO.
R-3300B

SHEET NO.
108

ROADWAY DESIGN
ENGINEER

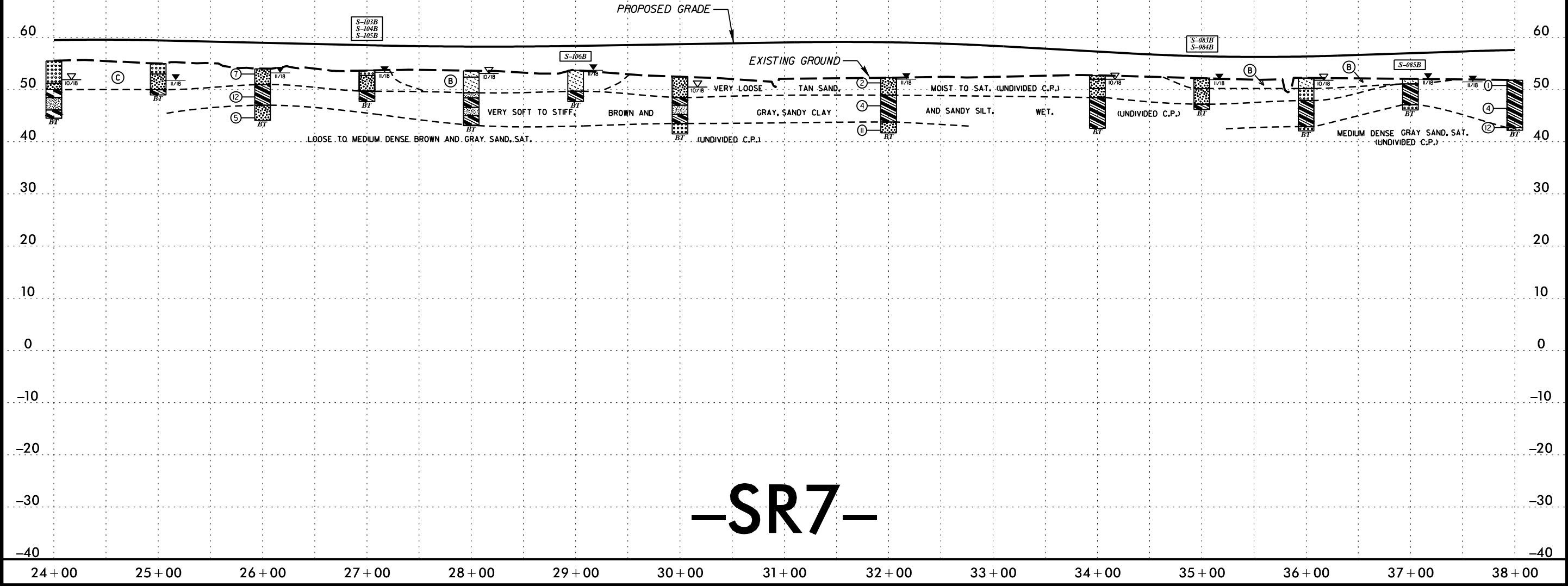
HYDRAULICS
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

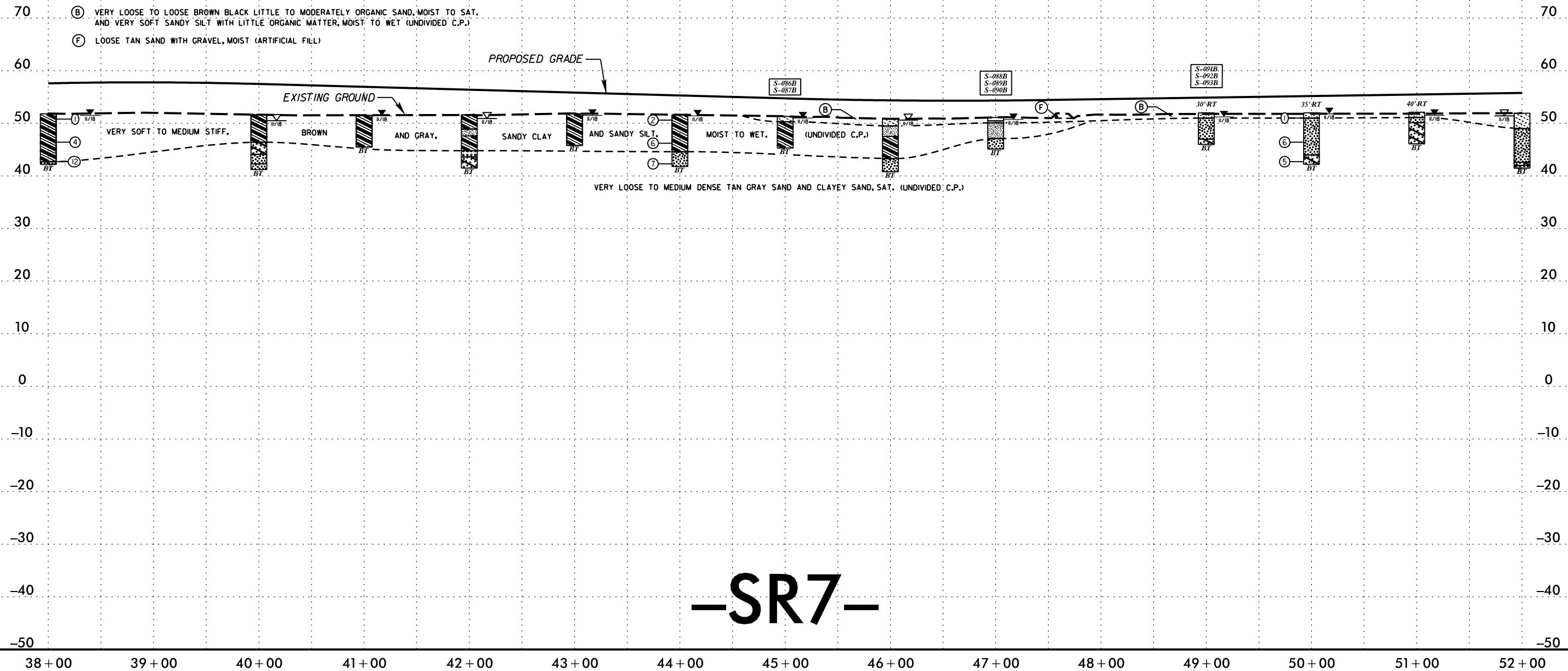
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SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10'	40	200		
S-103B	CL	27+00	0.0 - 1.0	A-3(0)	NP	NP	38.1	55.3	3.9	2.7	99.9	89	7	-	-
S-104B	CL	27+00	3.0 - 4.0	A-2-4(0)	NP	NP	28.3	44.6	13.6	13.5	99.6	90	28	-	-
S-105B	CL	27+00	5.0 - 6.0	A-6(6)	32	14	13.5	28.7	11.3	46.5	100	94	58	-	-
S-106B	CL	29+00	2.0 - 3.0	A-2-4(0)	NP	NP	28.4	51.4	12.1	8.1	100	90	21	21	4.8
S-083B	CL	35+00	1.0 - 2.0	A-2-4(0)	NP	NP	24.7	52.3	11.0	12.0	99.7	91	25	16	2.0
S-084B	CL	35+00	5.0 - 6.0	A-6(1)	25	11	24.8	38.5	11.4	25.3	99.9	89	38	-	-
S-085B	CL	37+00	0.0 - 1.0	A-2-4(0)	21	7	23.8	47.6	16.4	12.3	99.9	90	30	21	4.9

- (B) VERY LOOSE TO LOOSE BROWN BLACK SAND WITH TRACE TO LITTLE ORGANICS, MOIST TO SAT. (UNDIVIDED C.P.)
- (C) LOOSE TAN SAND, MOIST TO SAT. (UNDIVIDED C.P.)



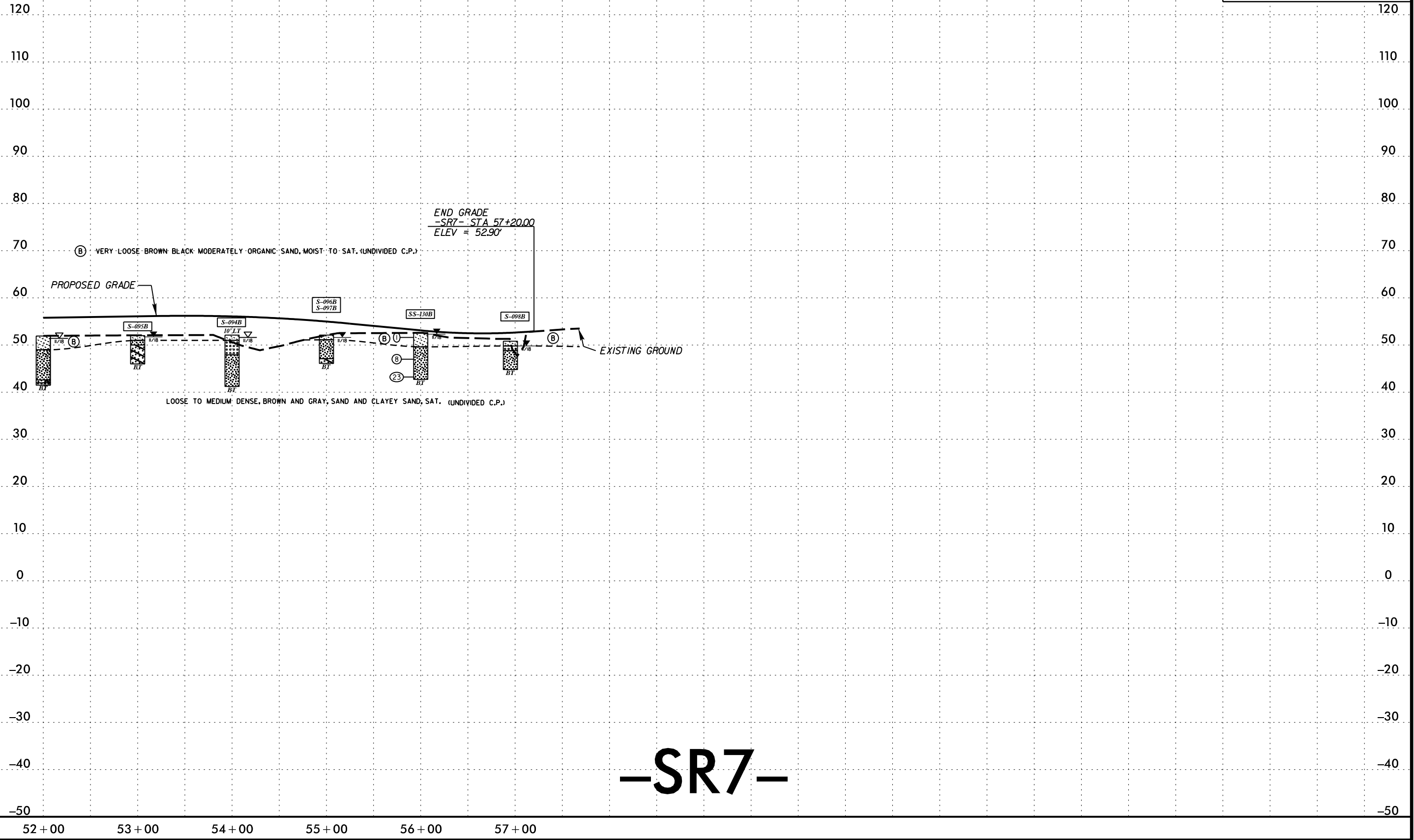
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SOIL TEST RESULTS															
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							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-086B	CL	45+00	0.0 - 1.0	A-2-4(0)	24	7	26.8	42.0	18.2	13.0	99.7	86	33	25	4.4
S-087B	CL	45+00	5.0 - 6.0	A-6(5)	33	20	25.2	31.3	13.2	30.3	99.6	87	44	-	-
S-088B	CL	47+00	0.0 - 1.0	A-4(0)	NP	NP	24.8	36.0	29.9	9.3	99.5	88	41	58	8.3
S-089B	CL	47+00	1.0 - 2.0	A-4(0)	21	8	27.8	34.7	17.2	20.3	99.7	85	39	25	-
S-090B	CL	47+00	5.0 - 6.0	A-2-4(0)	NP	NP	34.2	53.7	3.9	8.2	99.8	94	13	-	-
S-091B	30 ft RT	49+00	0.0 - 1.0	A-2-4(0)	NP	NP	26.9	43.6	21.3	8.2	99.4	89	31	40	7.4
S-092B	30 ft RT	49+00	2.0 - 3.0	A-2-4(0)	NP	NP	30.7	44.0	12.3	13.0	99.7	86	27	14	-
S-093B	30 ft RT	49+00	5.0 - 6.0	A-2-6(0)	24	11	32.1	36.8	8.8	22.3	99.8	85	32	-	-



—SR7—

PROJECT REFERENCE NO.		SHEET NO.	
R-3300B		110	
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

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Lee Stone

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-142B	CL	13+00	0.0 - 1.5	A-3(0)	NP	NP	62.9	35.8	0.3	1.0	99.7	71	1	-	-
SS-143B	CL	13+00	8.8 - 10.3	A-2-4(0)	NP	NP	61.4	28.2	6.8	3.6	98.9	65	11	-	-
SS-145B	CL	17+00	0.0 - 1.5	A-3(0)	NP	NP	35.9	62.3	1.1	0.7	99.5	88	2	-	-
SS-146B	CL	17+00	4.0 - 5.5	A-2-4(0)	NP	NP	27.5	56.4	11.3	4.7	99.8	90	17	-	5.8
SS-147B	CL	17+00	13.8 - 15.3	A-7-5(9)	44	13	12.0	23.2	24.8	40.0	98.4	91	67	-	-
SS-148B	CL	17+00	18.8 - 20.3	A-3(0)	NP	NP	33.4	63.7	1.9	1.0	100	93	4	-	-
SS-149B	CL	17+00	28.8 - 30.3	A-3(0)	NP	NP	59.4	38.8	1.1	0.7	99.5	75	2	-	-
SS-150B	CL	17+00	33.8 - 35.2	A-2-4(0)	NP	NP	26.2	60.3	4.7	8.8	97.5	97	15	-	-
ST-14B	CL	18+05	27.0 - 29.0	A-6(11)	35	20	0.2	42.8	25.2	31.7	100	99	67	55	-
S-125B	8 ft RT	19+96	0.0 - 1.0	A-2-4(0)	NP	NP	28.9	57.5	11.3	2.3	99.6	91	15	68	8.1
S-126B	8 ft RT	19+96	1.0 - 2.0	A-2-4(0)	NP	NP	35.2	51.2	9.3	4.3	99.9	88	14	24	3.9
SS-131B	CL	22+00	0.0 - 1.5	A-3(0)	NP	NP	32.3	64.1	2.6	1.0	100	89	4	-	-
SS-132B	CL	22+00	4.3 - 5.8	A-3(0)	NP	NP	46.8	47.4	2.8	3.0	99.2	73	6	-	-
SS-133B	CL	22+00	13.5 - 15.0	A-2-4(0)	NP	NP	43.0	47.9	4.2	4.9	97.4	72	10	-	-
SS-134B	CL	22+00	18.5 - 20.0	A-2-4(0)	NP	NP	73.9	12.8	2.3	11.0	100	58	13	-	-
SS-135B	CL	22+00	23.5 - 25.0	A-4(0)	23	7	5.2	60.1	16.6	18.1	100	99	43	-	-
ST-07B	CL	22+05	25.0 - 27.0	A-6(2)	29	17	17.5	51.3	11.5	19.8	99.9	96.1	36.9	-	-
SS-136B	CL	22+00	34.0 - 35.0	A-2-4(0)	NP	NP	44.7	40.9	5.4	9.0	100	89	17	-	-
SS-137B	CL	22+00	43.5 - 45.0	A-2-4(0)	NP	NP	6.9	83.3	5.6	4.3	99.3	96	15	-	-
SS-138B	CL	22+00	48.5 - 50.0	A-2-4(0)	NP	NP	0.5	75.4	15.8	8.4	100	100	33	-	-
SS-139B	CL	22+00	58.5 - 60.0	A-2-4(0)	NP	NP	47.6	25.7	13.2	13.5	95.4	70	28	-	-

PROJECT REFERENCE NO.
R-3300B

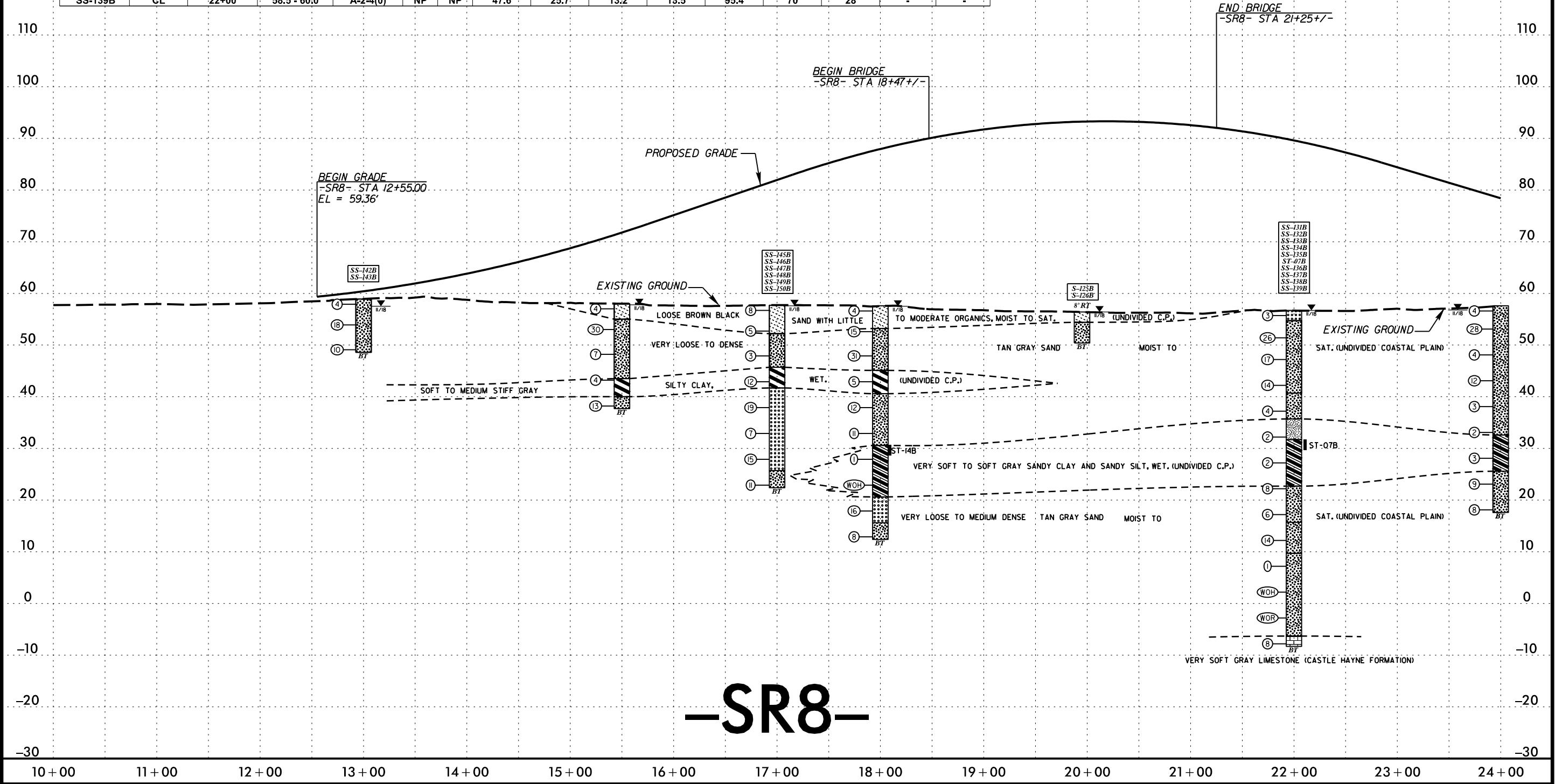
SHEET NO.
111

ROADWAY DESIGN
ENGINEER

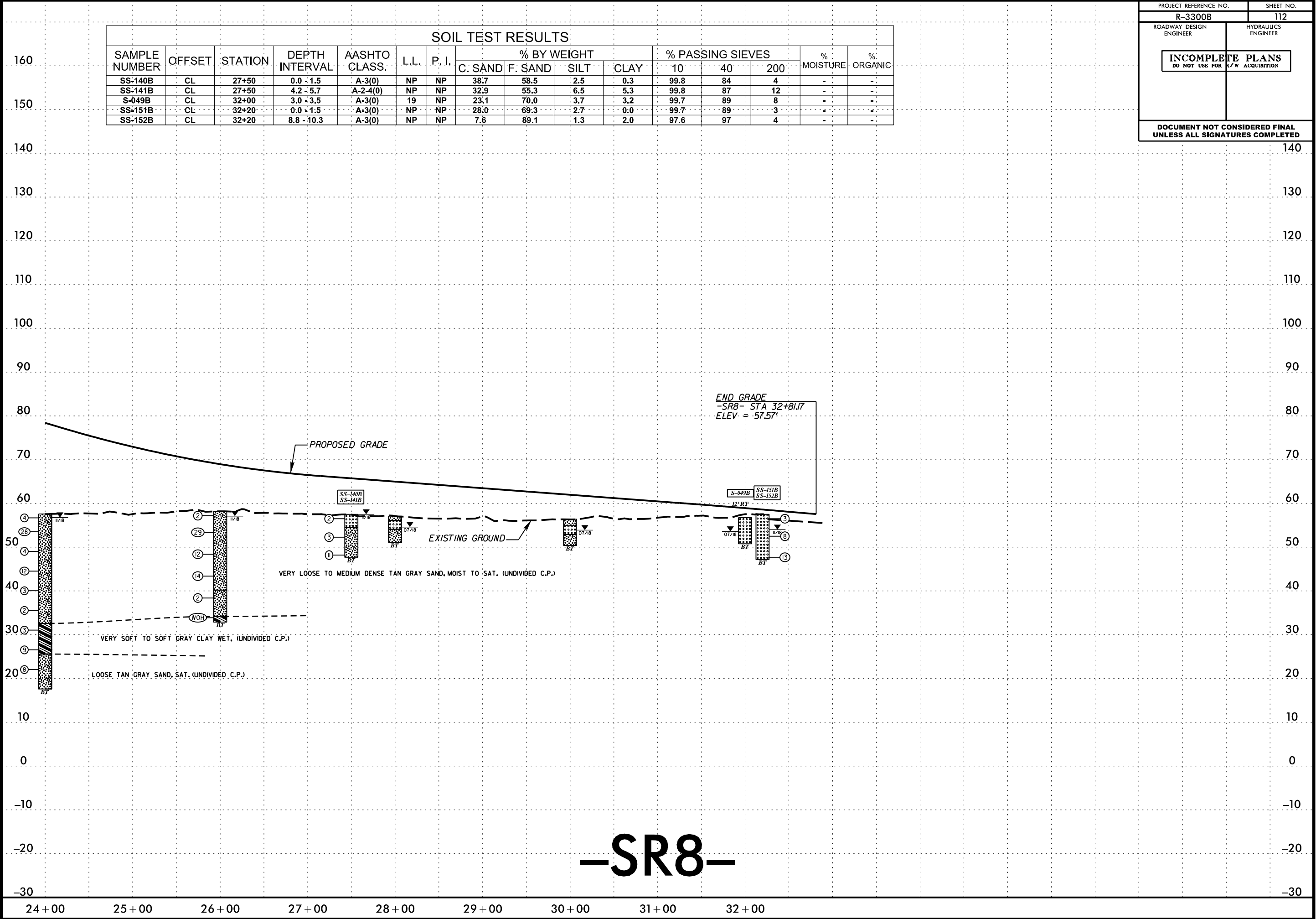
HYDRAULICS
ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

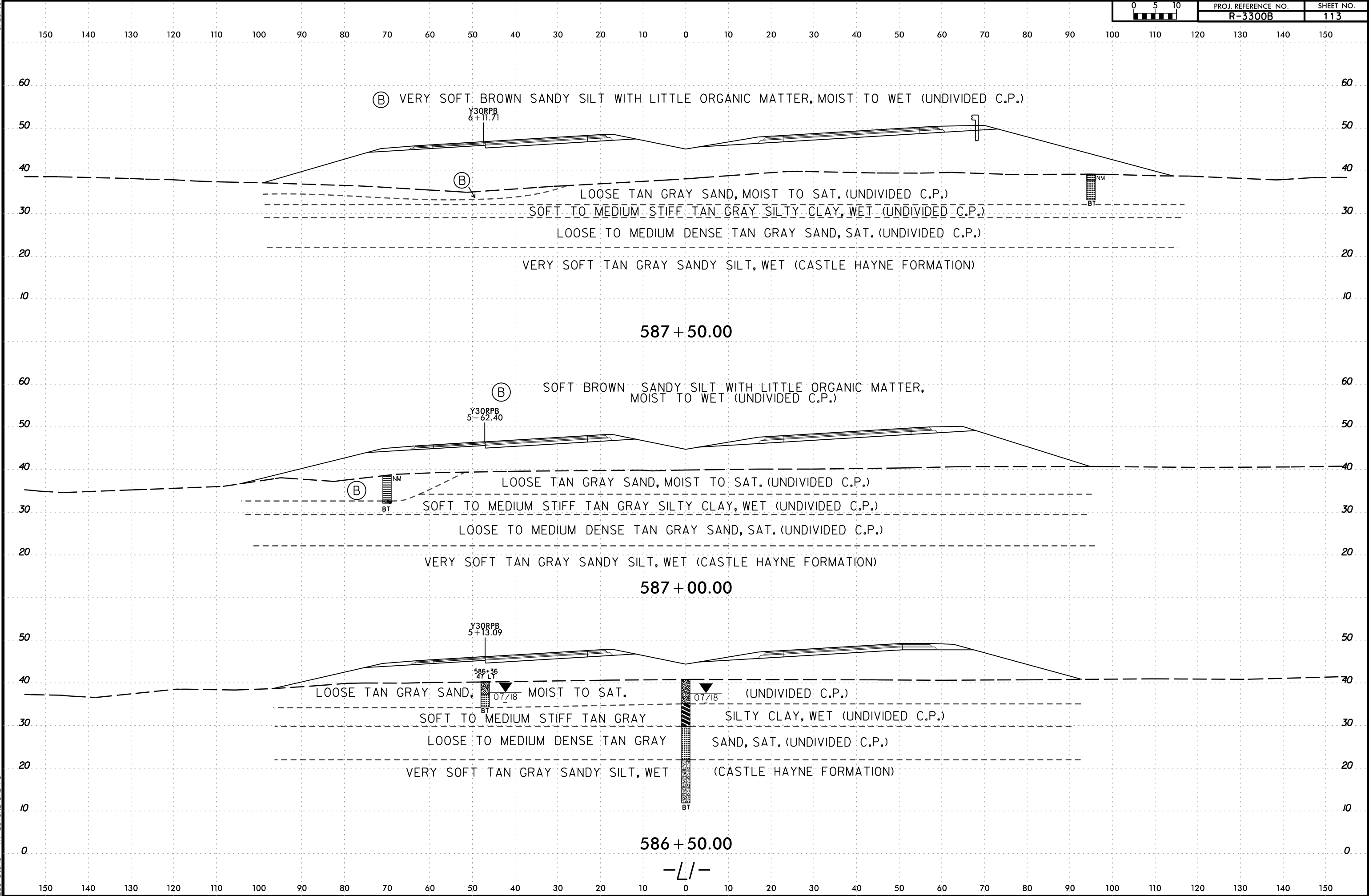
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UNLESS ALL SIGNATURES COMPLETED



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Lee Stone
112

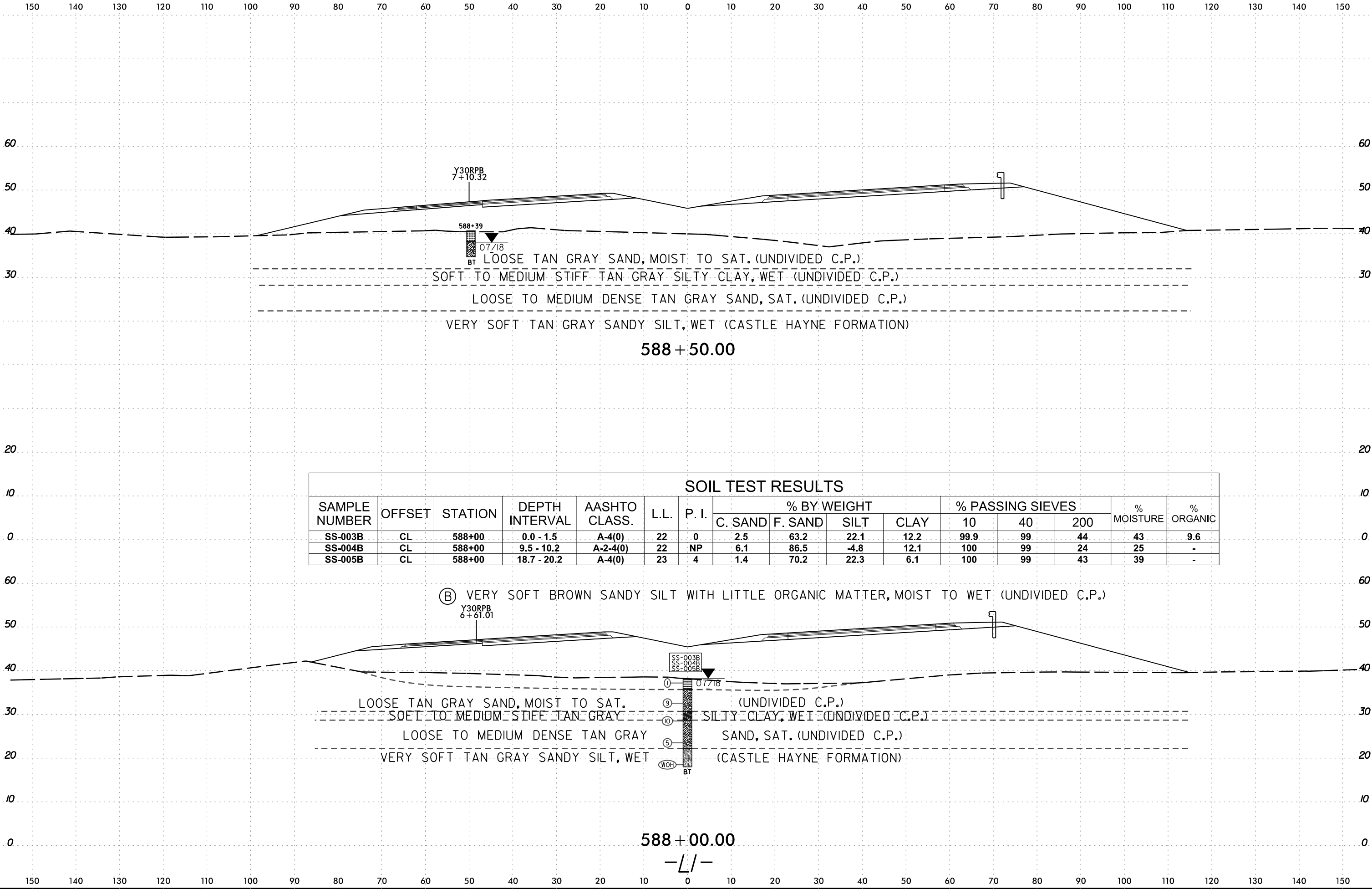


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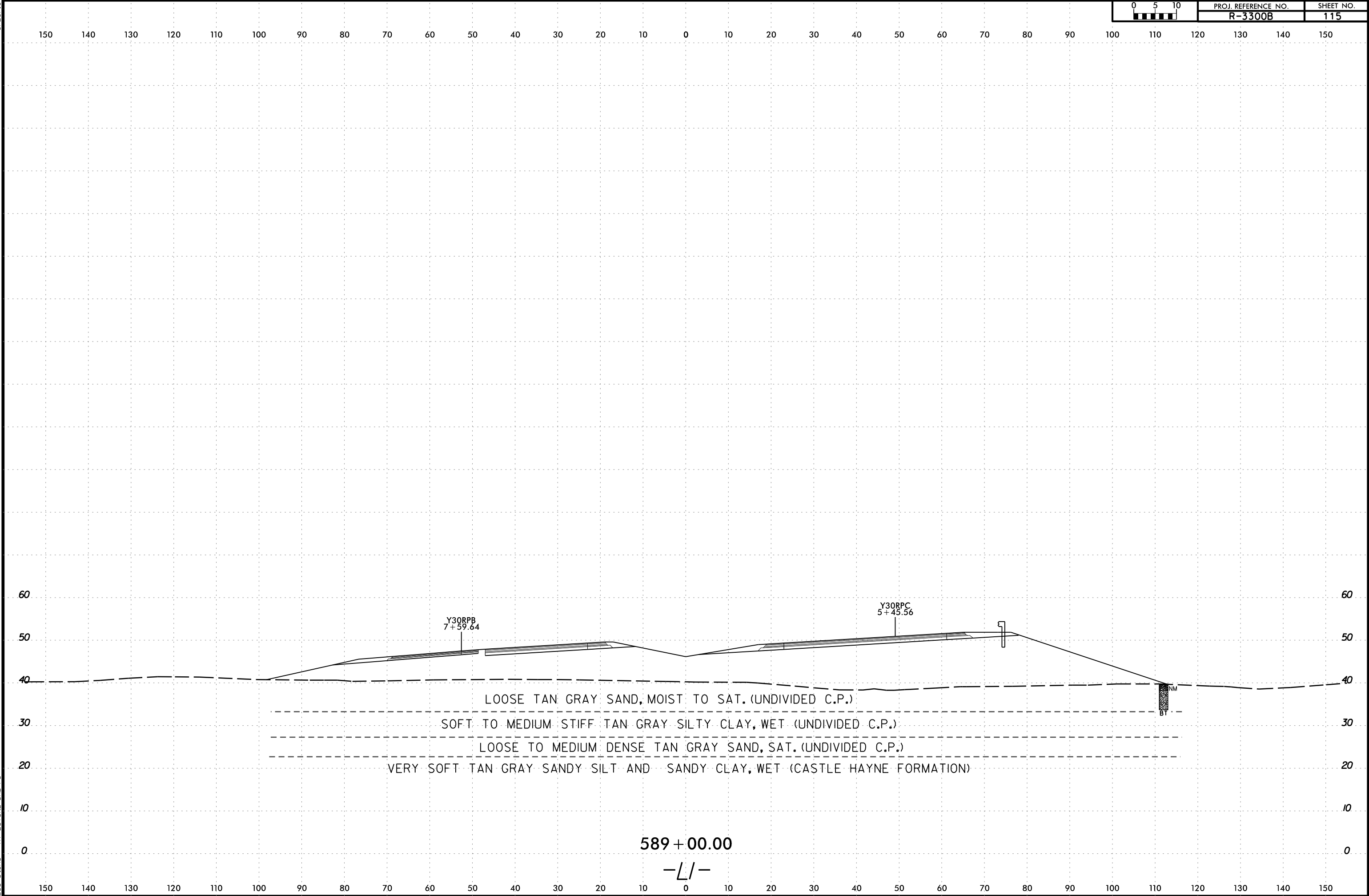
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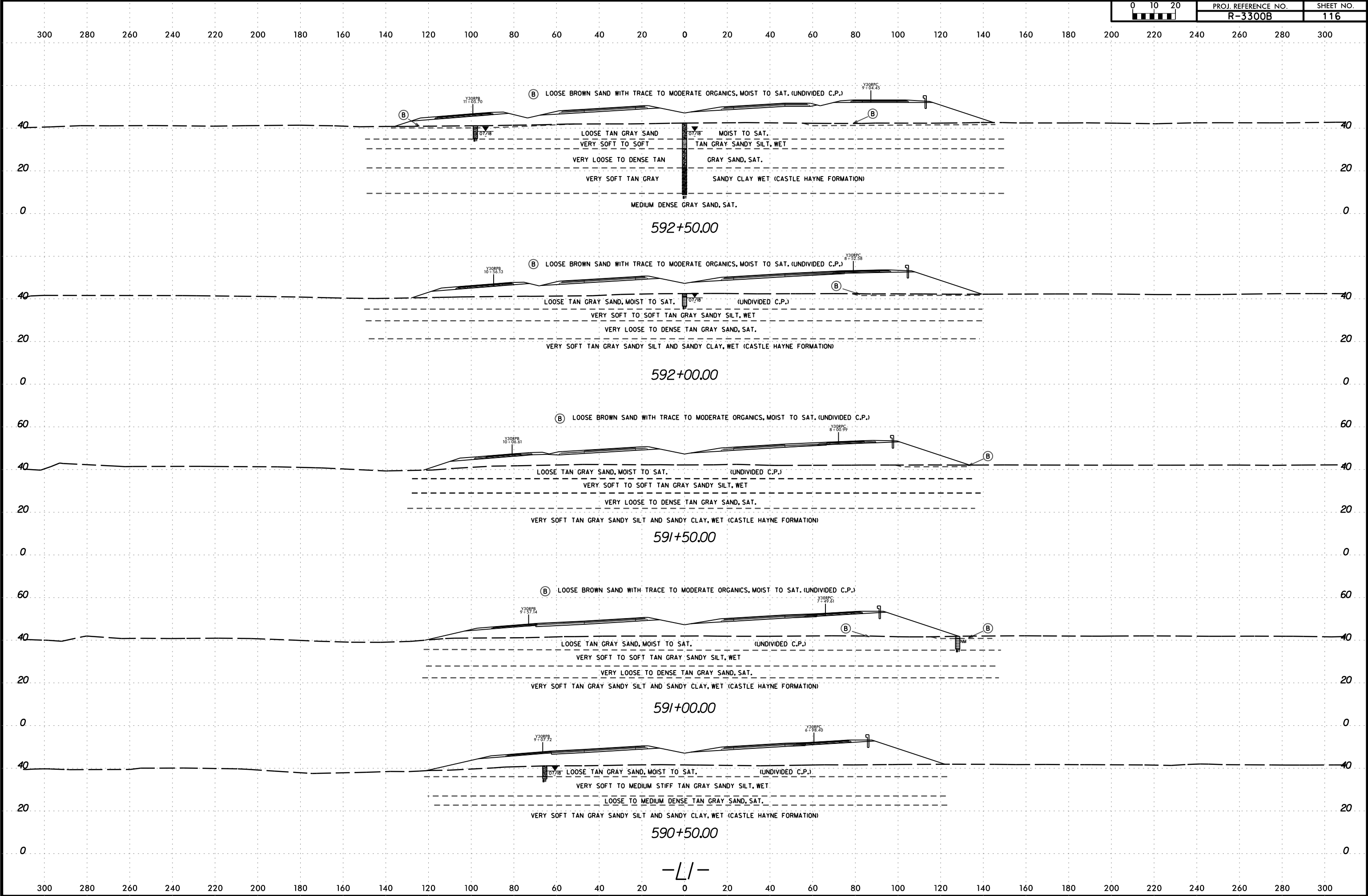
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Lee Stone AT LSTONE-CAD-PC

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-3300B	115



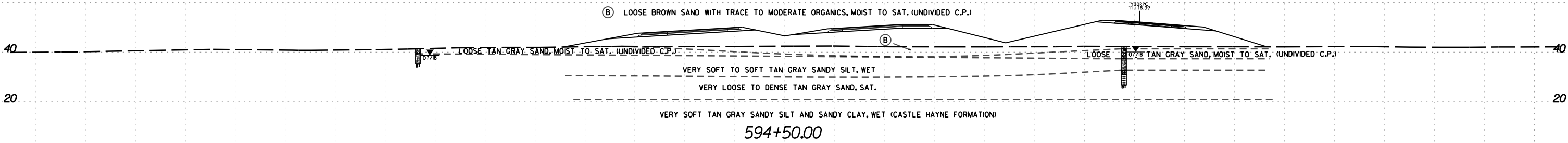
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Lee Stone AT LSTONE-CAD-PC

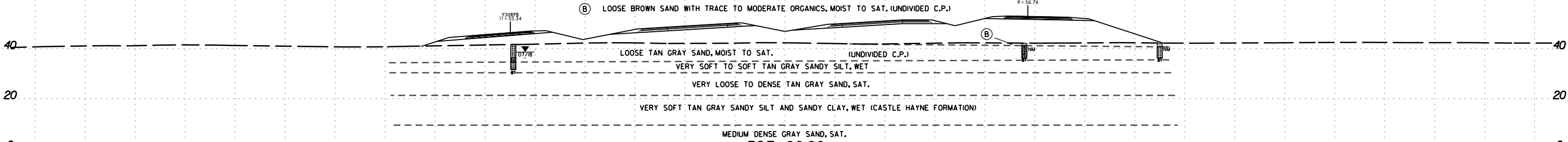
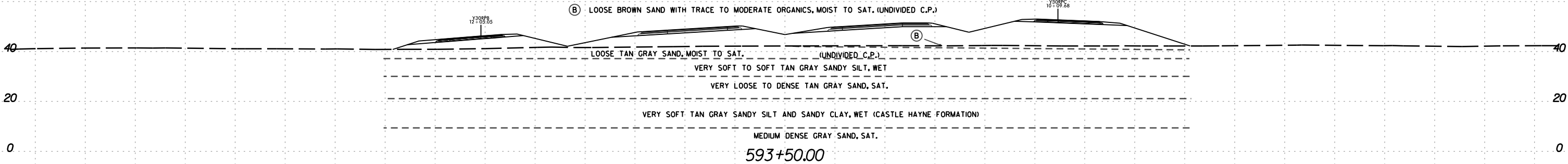
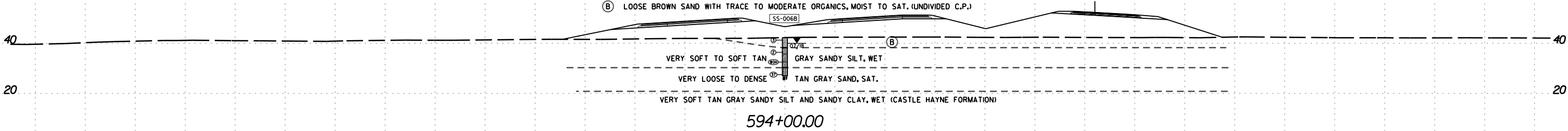


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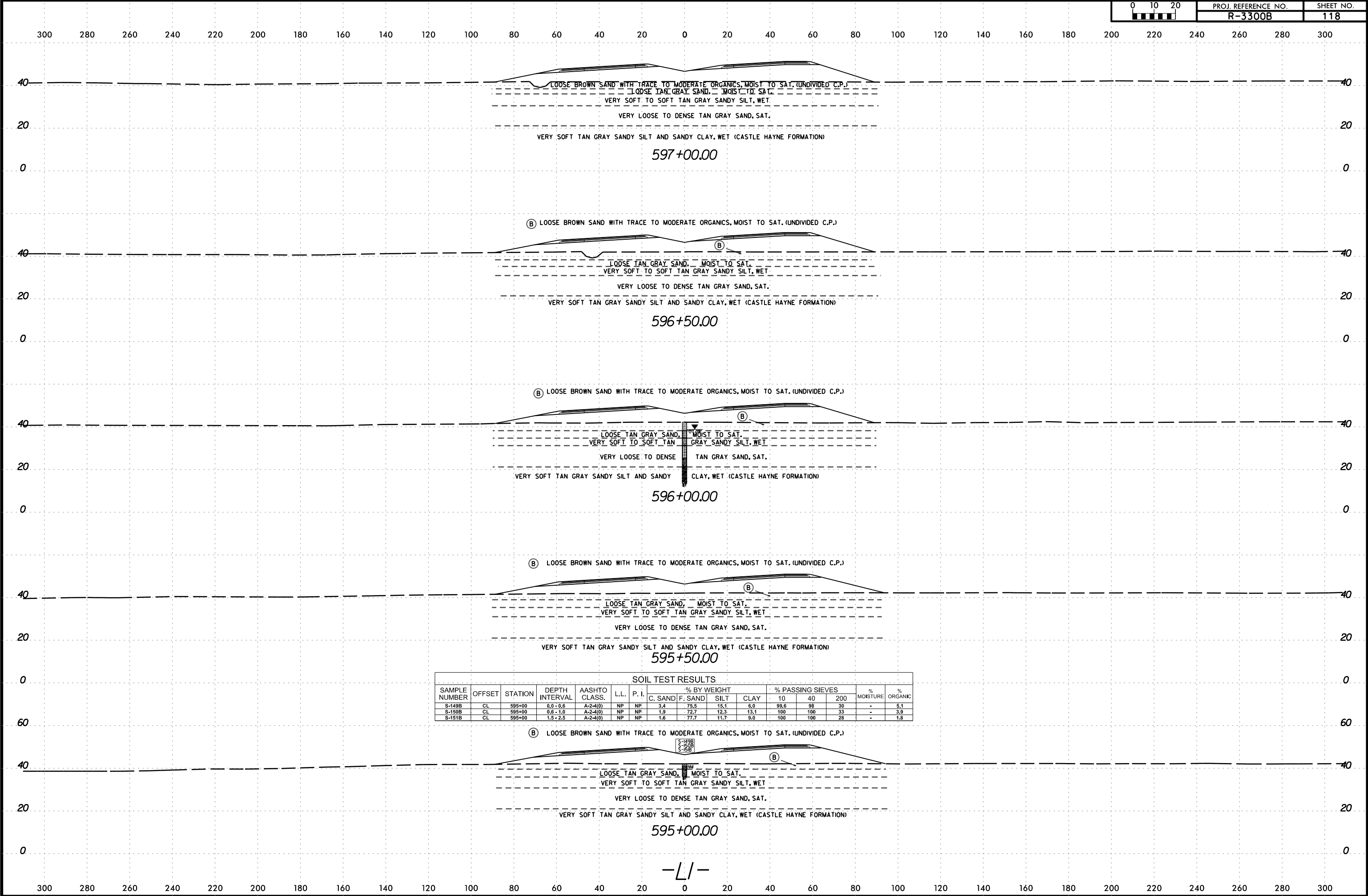
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							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-006B	CL	594+00	4.9 - 5.9	A-4(0)	22	2	0.3	66.9	15.6	17.1	100	100	49	26	-

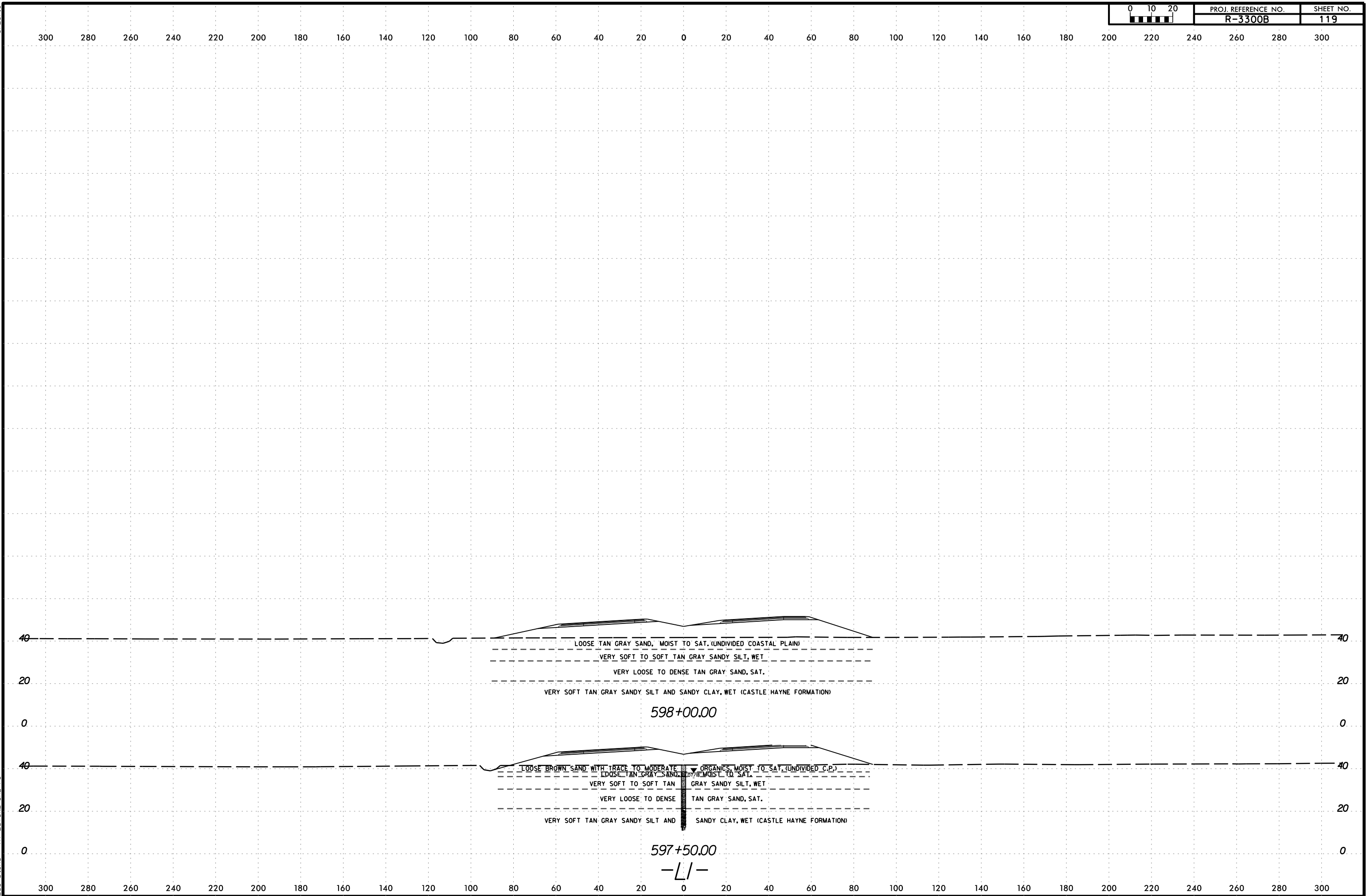


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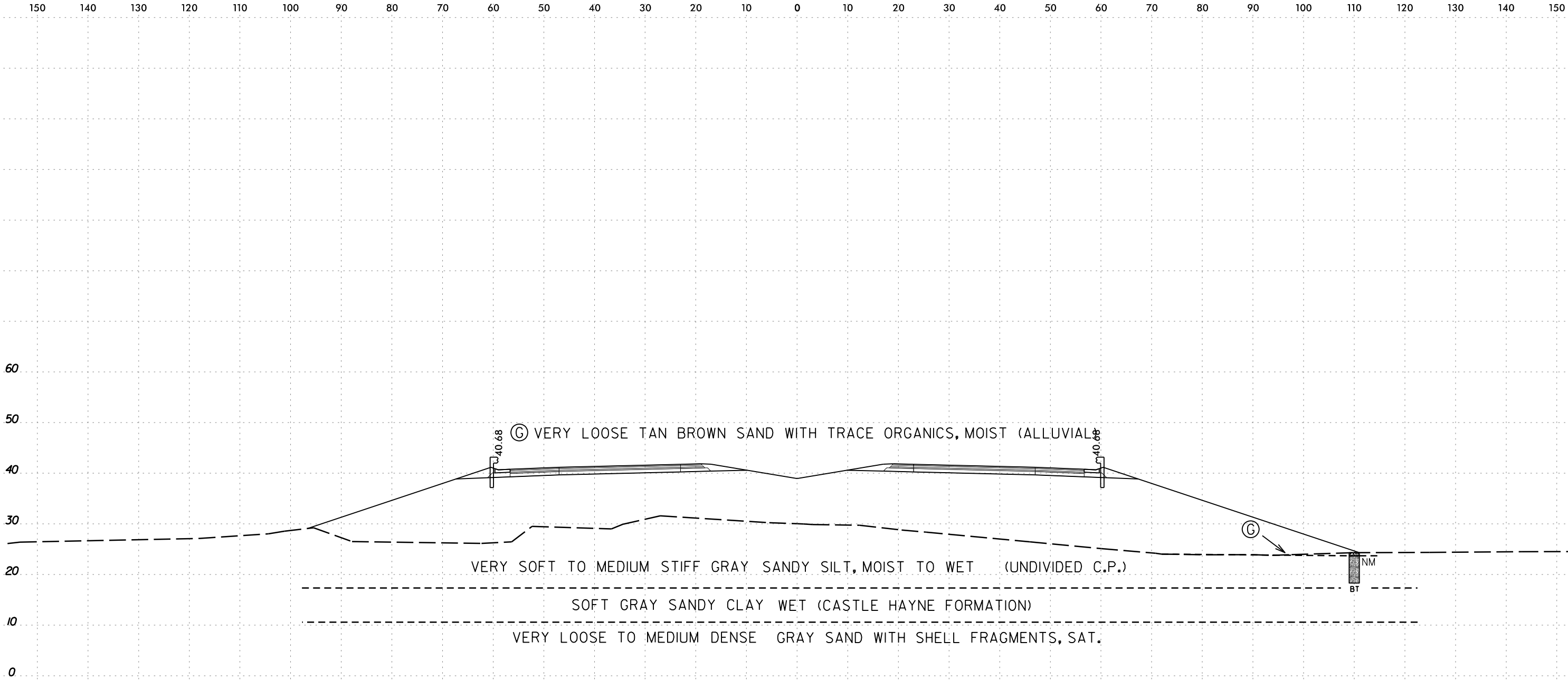
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Lee Stone AT LSTONE-CAD-PC





6/23/16



611 + 50.00

—L/—

6/23/16

SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-022B	CL	623+50	8.8 - 10.3	A-2-4(0)	18	NP	38.2	41.3	6.3	14.2	100	88	27	29	-
SS-023B	CL	623+50	13.8 - 16.3	A-6(9)	32	19	13.4	29.1	27.6	29.8	99.6	98	63	44	-
SS-027B	CL	623+50	23.8 - 25.3	A-4(0)	21	NP	1.8	66.0	21.9	10.3	99.8	99	44	35	-
SS-024B	CL	623+50	28.8 - 30.3	A-6(13)	35	16	4.7	18.6	58.1	18.7	99.8	97	87	44	-

SS-022B
SS-023B
SS-027B
SS-024B

LI-62350

Y30RPD
7+84.29

08/18

VERY LOOSE TO MEDIUM DENSE

TAN GRAY SAND, MOIST TO SAT.

(UNDIVIDED

C.P.)

VERY SOFT GRAY

SANDY CLAY, WET

VERY SOFT GRAY SANDY CLAY AND

SANDY SILT, WET (CASTLE HAYNE FORMATION)

BT

623 + 50.00

-L/-

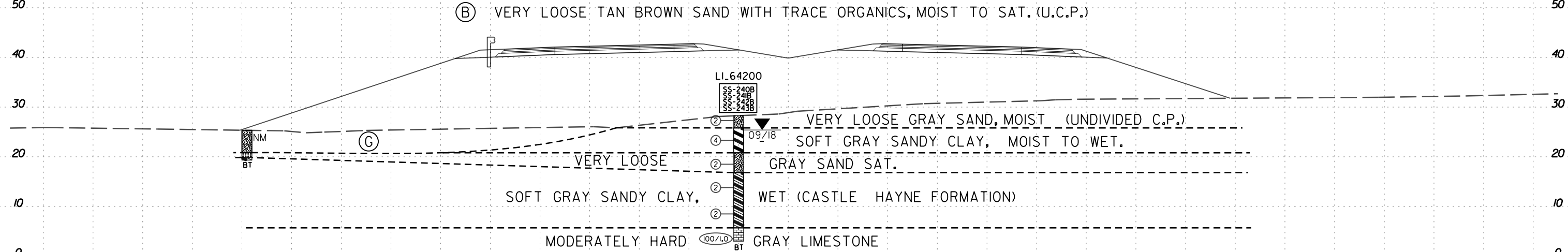


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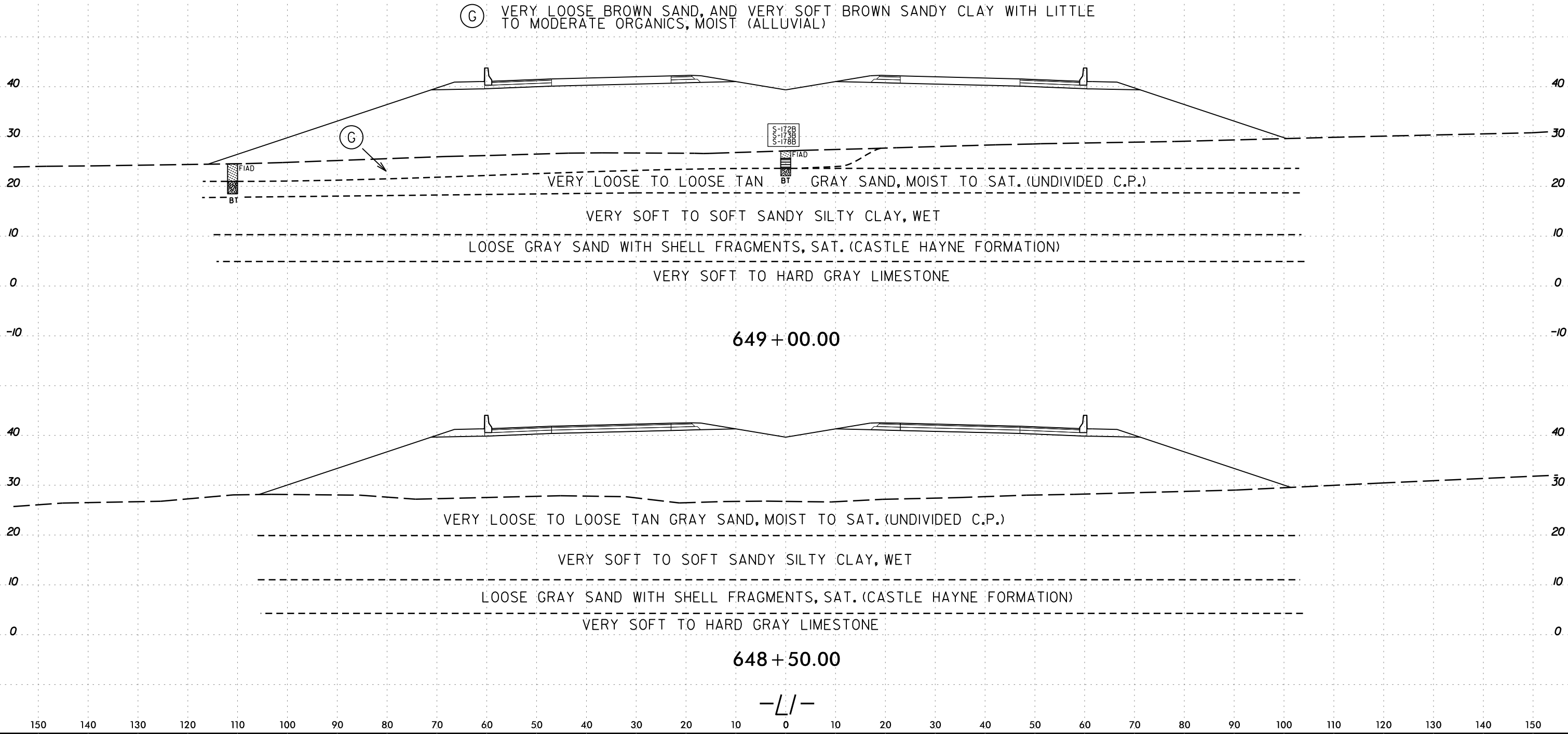
SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-240B	CL	642+00	3.9 - 5.4	A-7-6(14)	42	25	4.0	33.5	28.4	34.0	99.7	99	66	-	-
SS-241B	CL	642+00	8.3 - 9.8	A-2-4(0)	NP	NP	3.7	71.0	18.2	7.1	99.9	98	35	-	-
SS-242B	CL	642+00	13.3 - 14.8	A-6(16)	37	18	1.3	19.0	54.3	25.4	99.8	99	89	-	-
SS-243B	CL	642+00	18.3 - 19.8	A-6(4)	32	14	7.4	47.1	26.2	19.3	99.8	96	53	-	-

Ⓑ VERY LOOSE TAN BROWN SAND WITH TRACE ORGANICS, MOIST TO SAT. (U.C.P.)



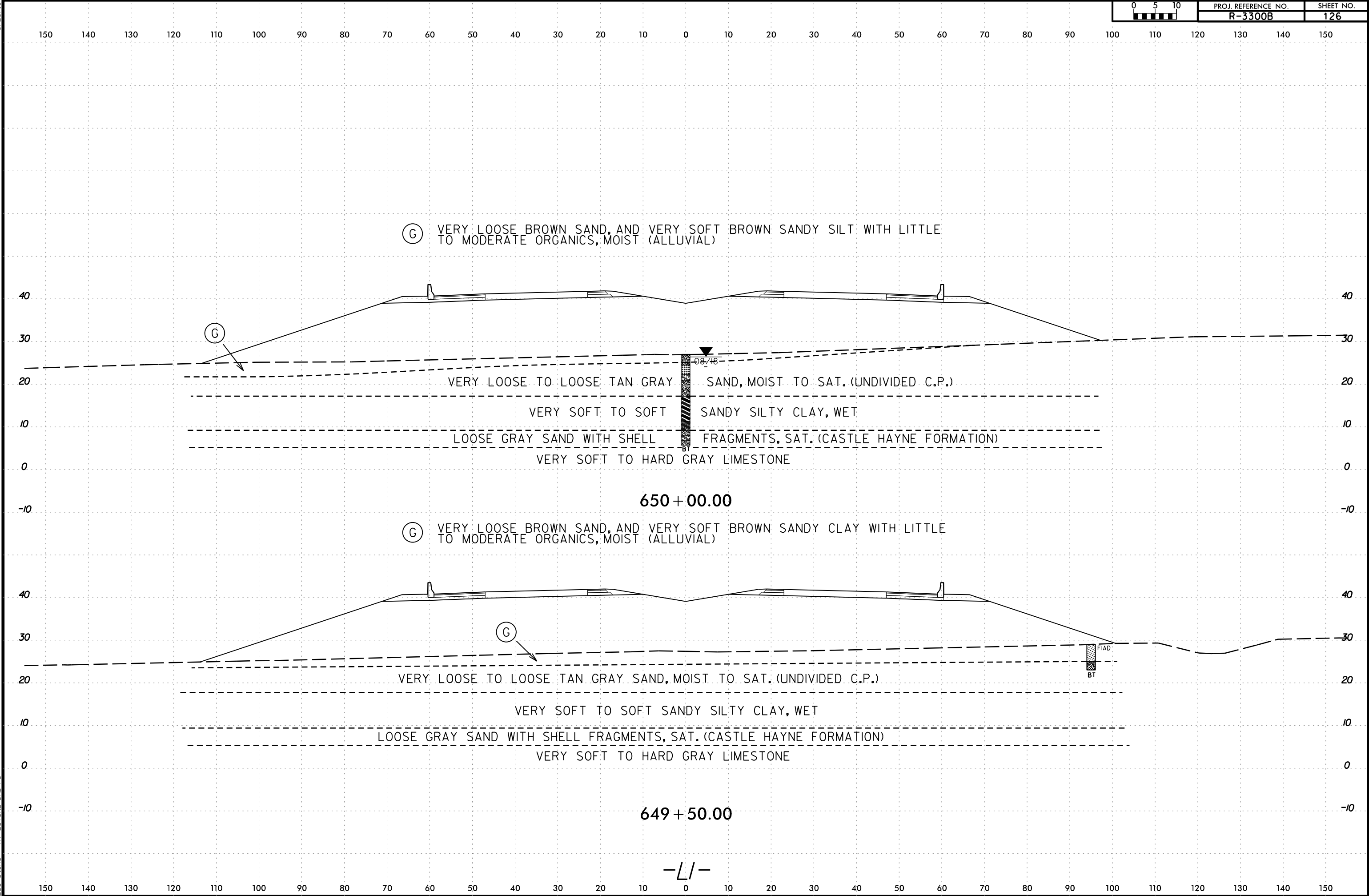
642 + 00.00

-L/-

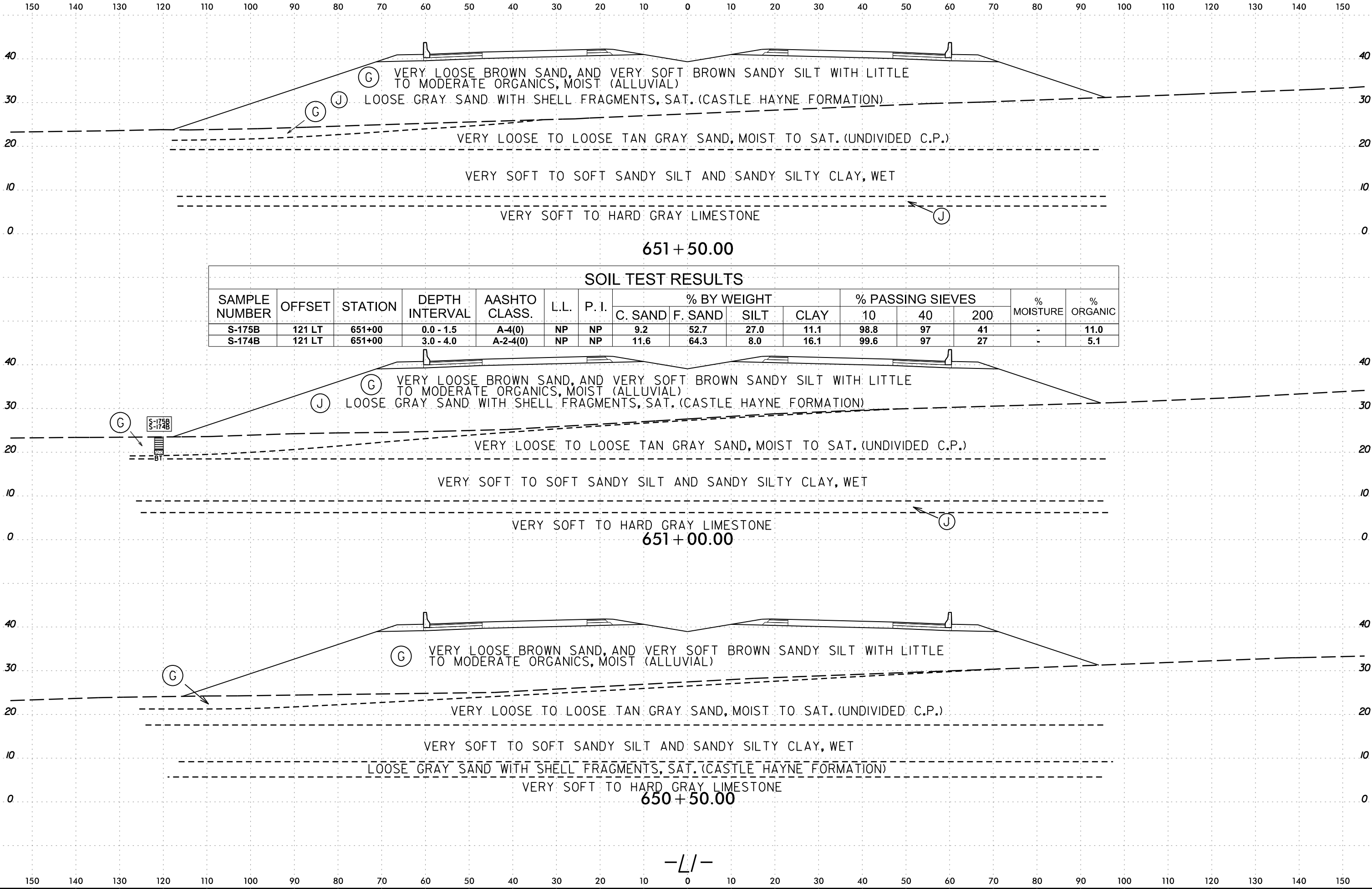


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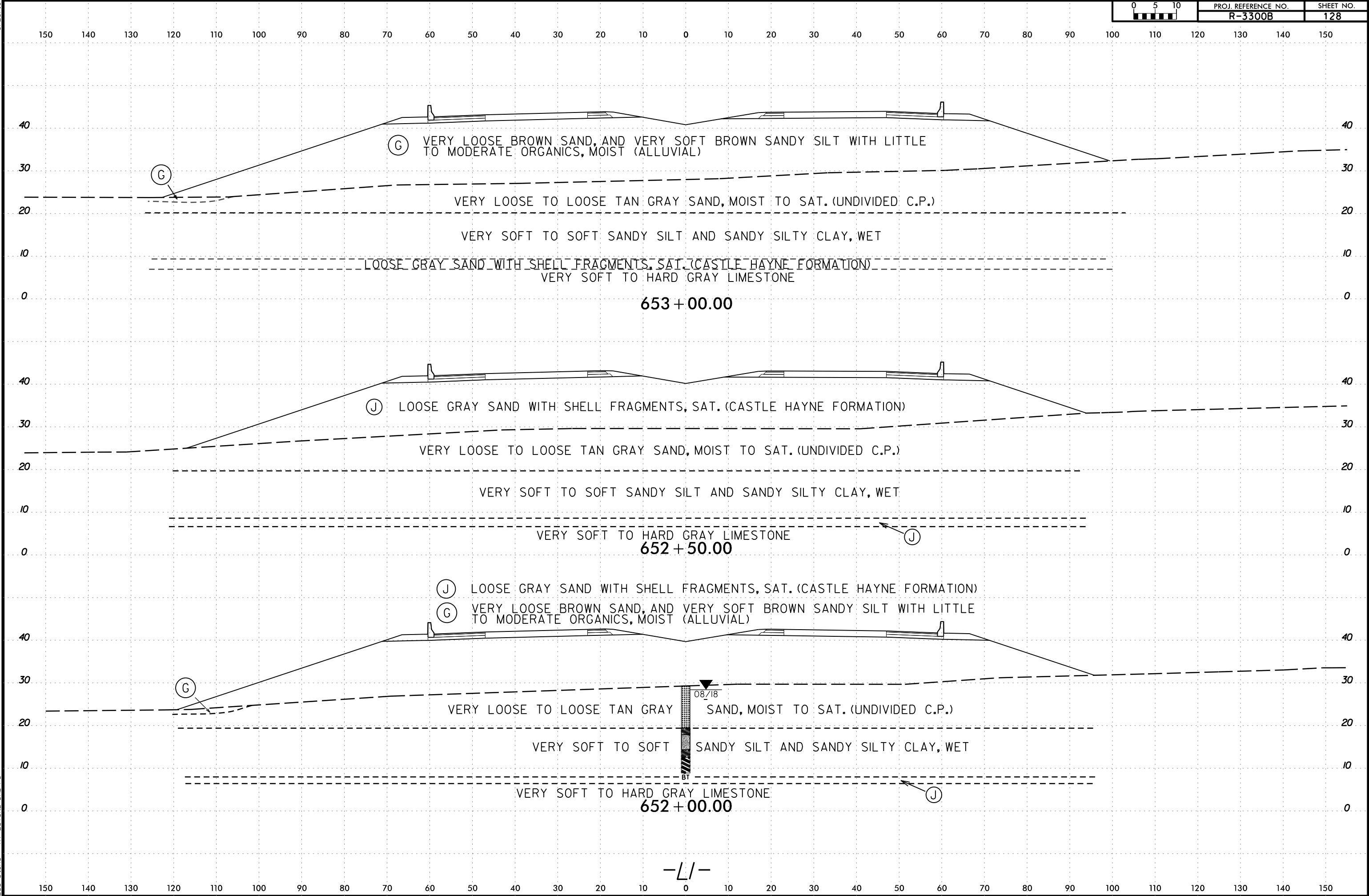
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Lee Stone AT LSTONE-CAD-PC



6/23/16

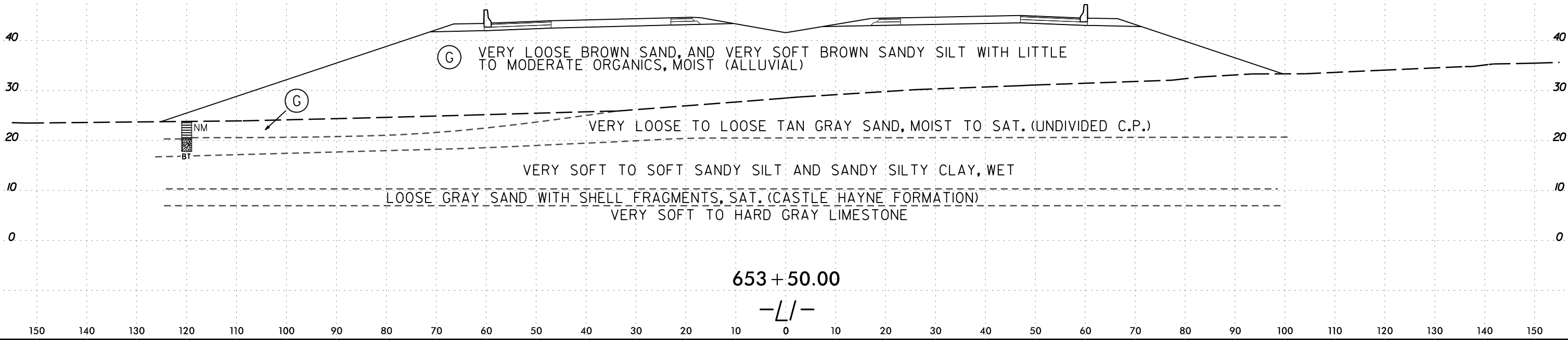
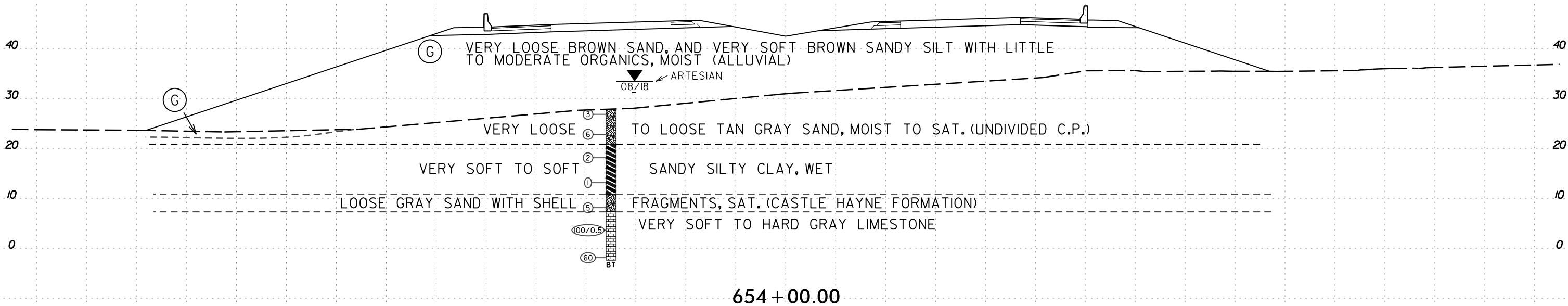


6/23/16



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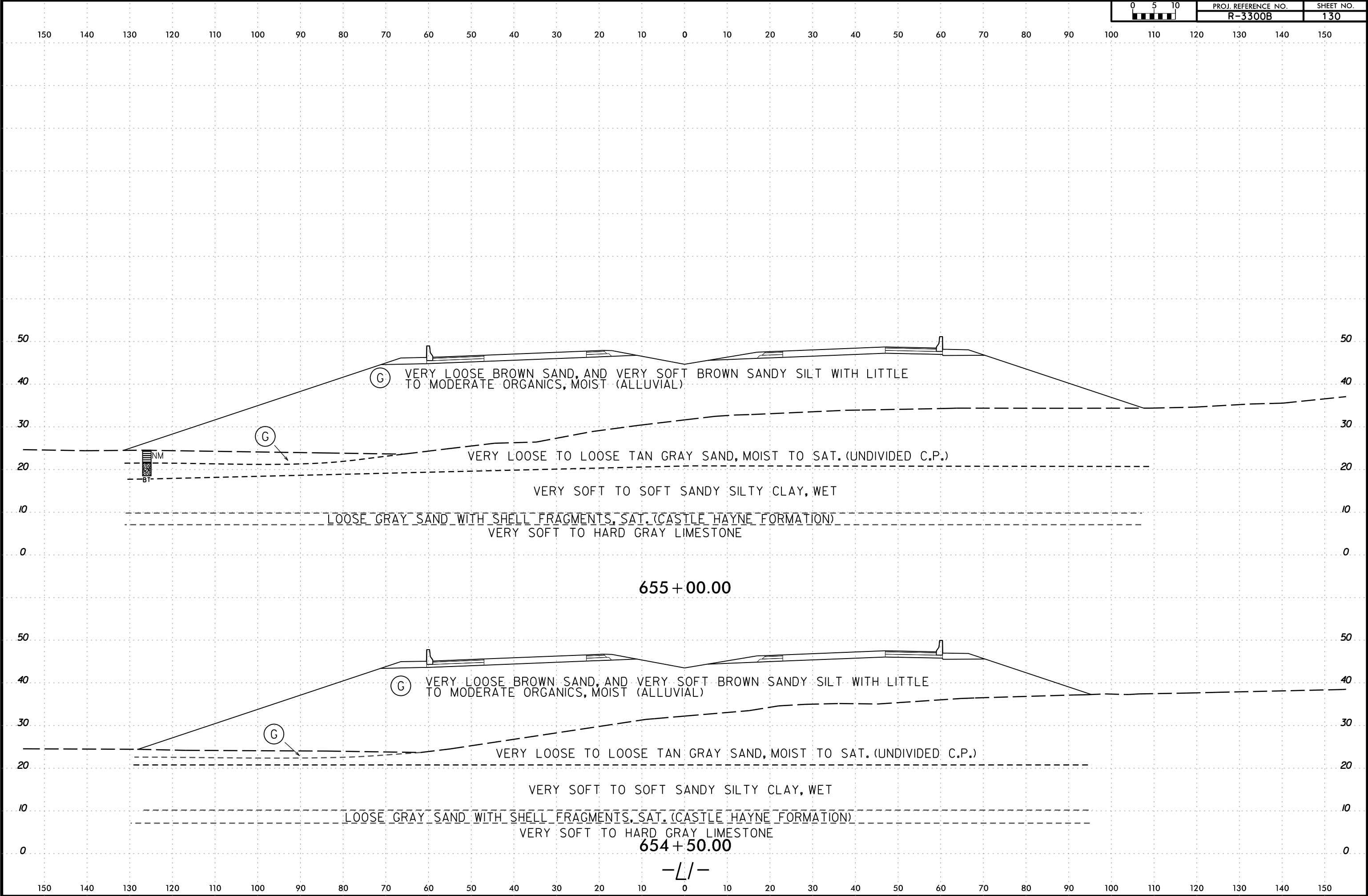
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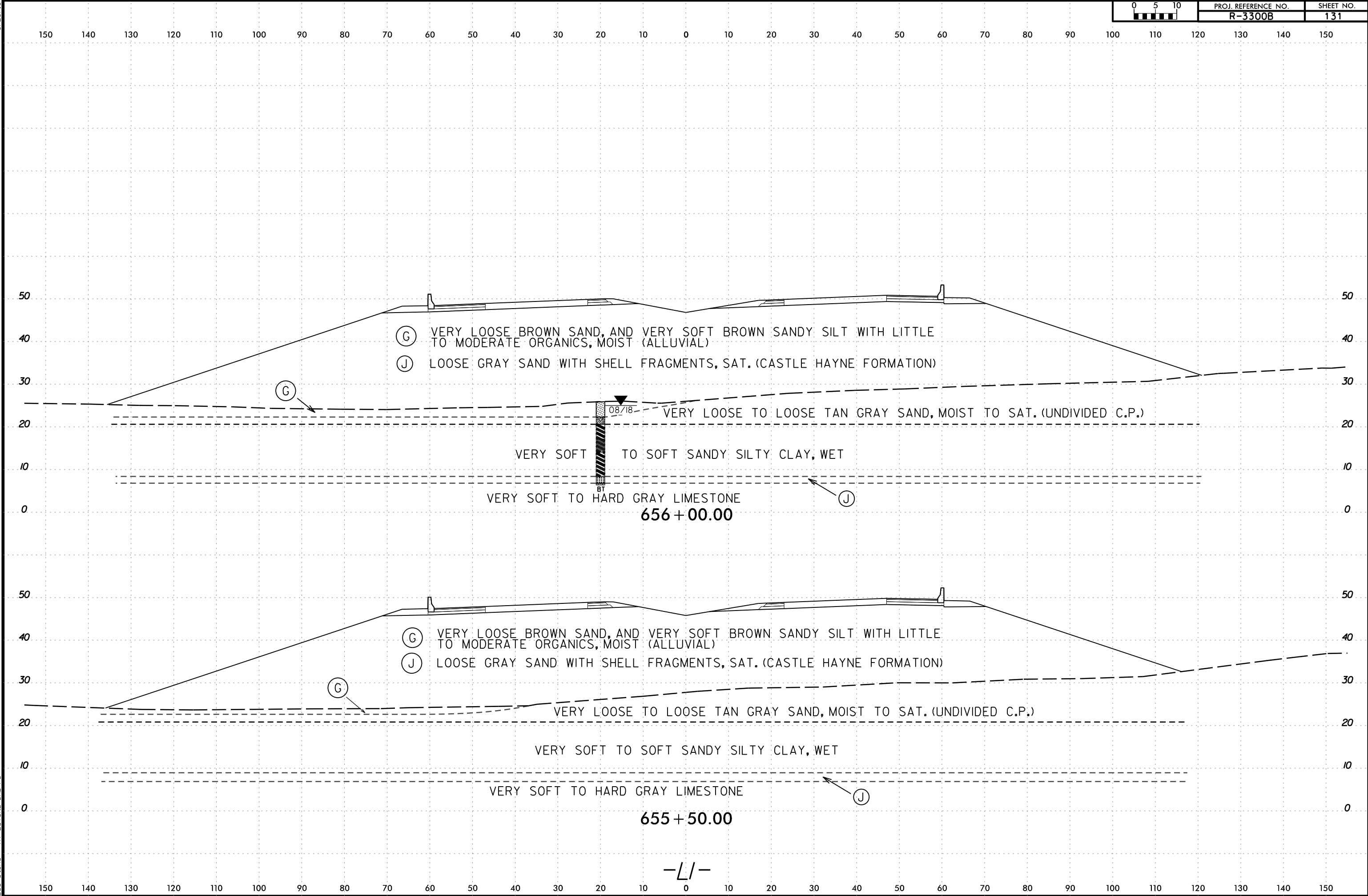
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Lee Stone AT LSTONE-CAD-PC

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-3300B	130



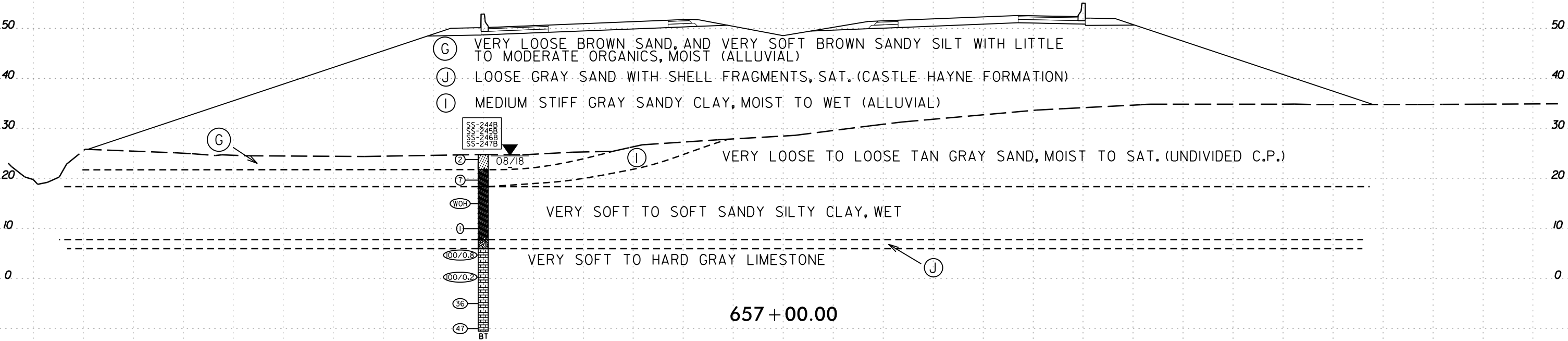
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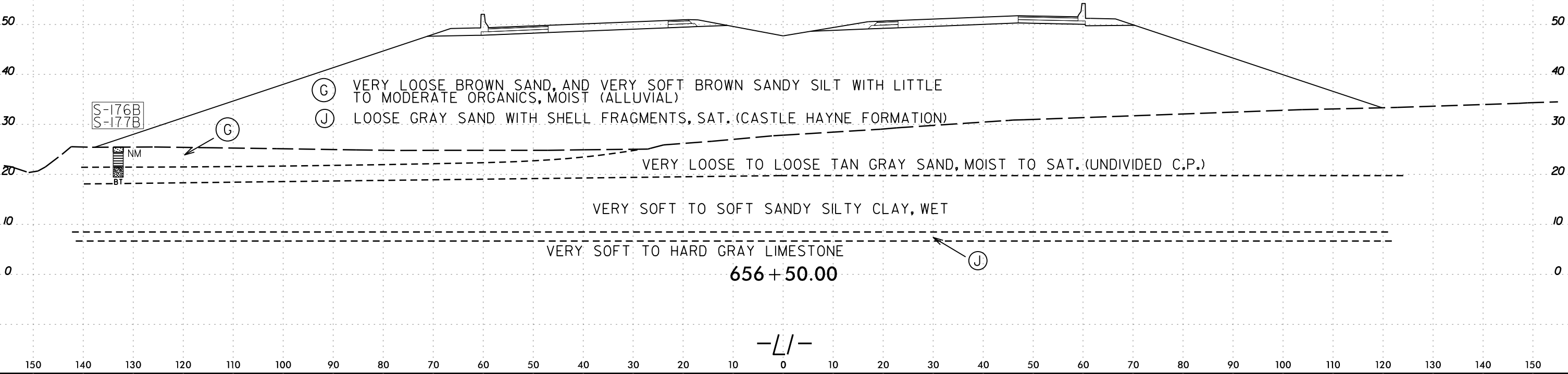
6/23/16

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

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-244B	60 ft LT	657+00	0.0 - 1.5	A-2-4(0)	NP	NP	3.7	70.8	12.4	13.1	99.4	99	29	-	5.1
SS-245B	60 ft LT	657+00	8.8 - 10.3	A-6(20)	39	20	0.2	10.0	61.2	28.6	100	100	96	-	-
SS-246B	60 ft LT	657+00	13.8 - 15.3	A-6(3)	30	13	14.3	45.9	23.6	16.2	99.7	91	46	-	-
SS-247B	60 ft LT	657+00	18.8 - 19.6	A-2-4(0)	NP	NP	58.9	18.3	17.0	5.8	52.5	59	25	-	-

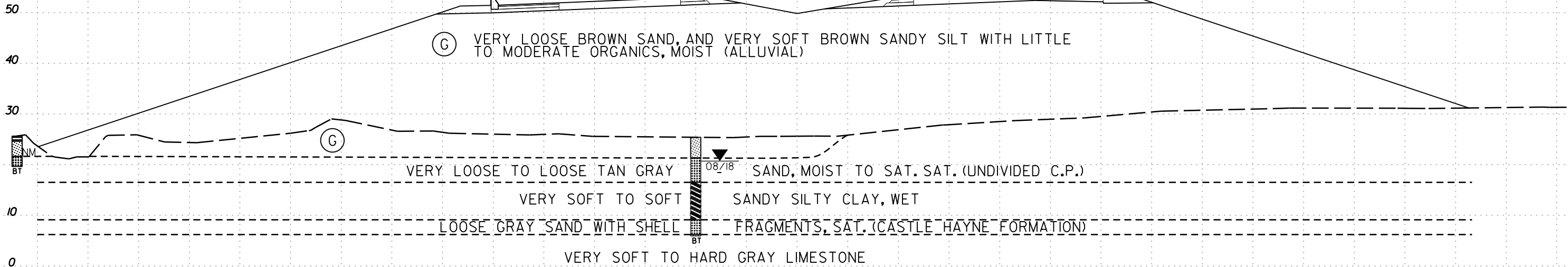


SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-176B	133 LT	656+00	1.0 - 2.0	A-4(0)	NP	NP	1.7	65.9	17.5	15.0	99.9	100	37	-	6.3
S-177B	133 LT	656+00	4.0 - 5.0	A-2-4(0)	NP	NP	13.4	75.4	5.3	5.8	100	99	14	-	-

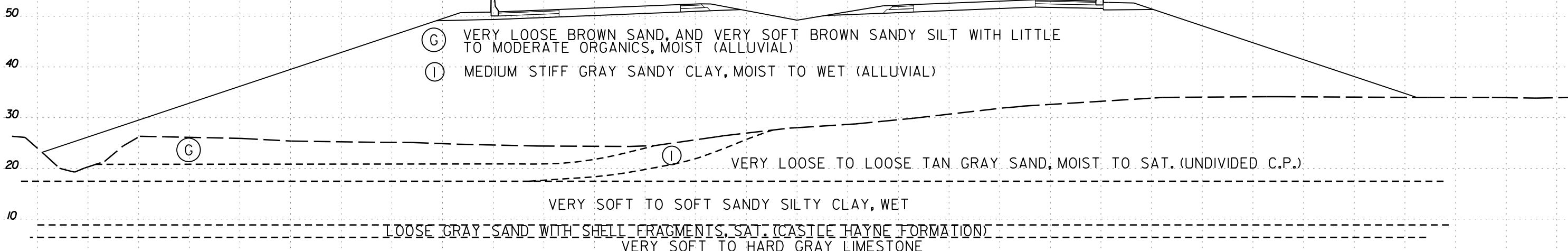


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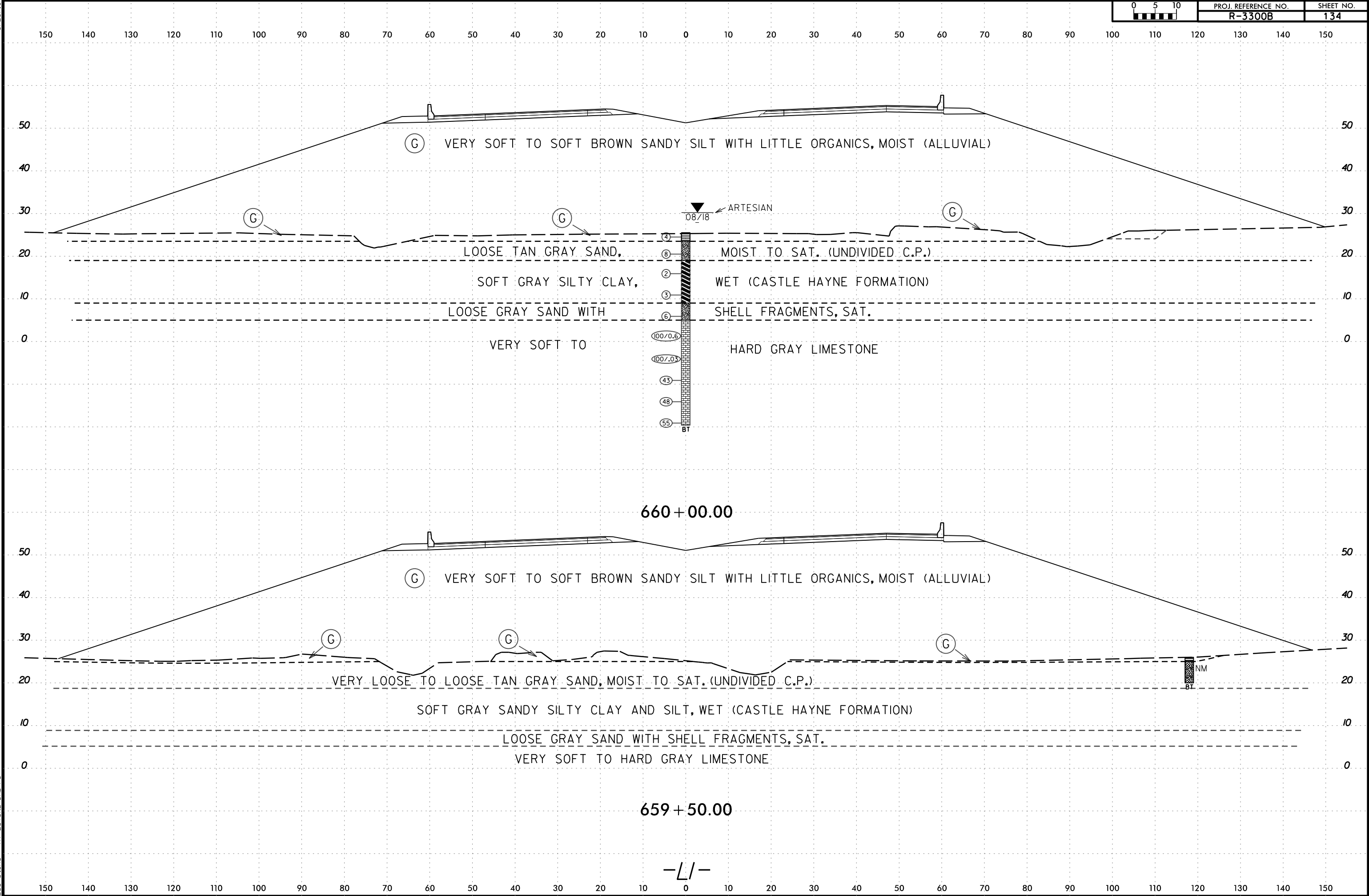
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657 + 50.00

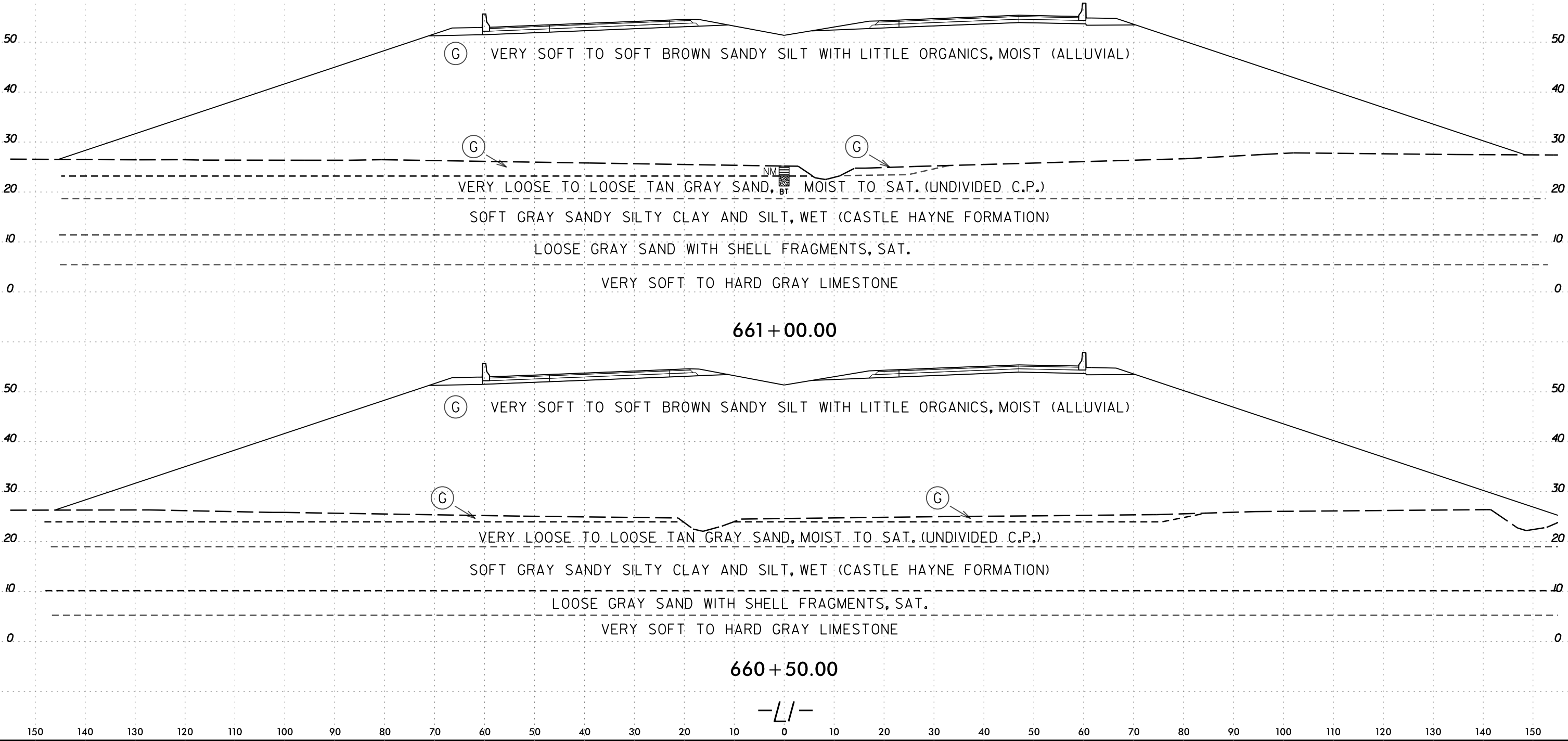
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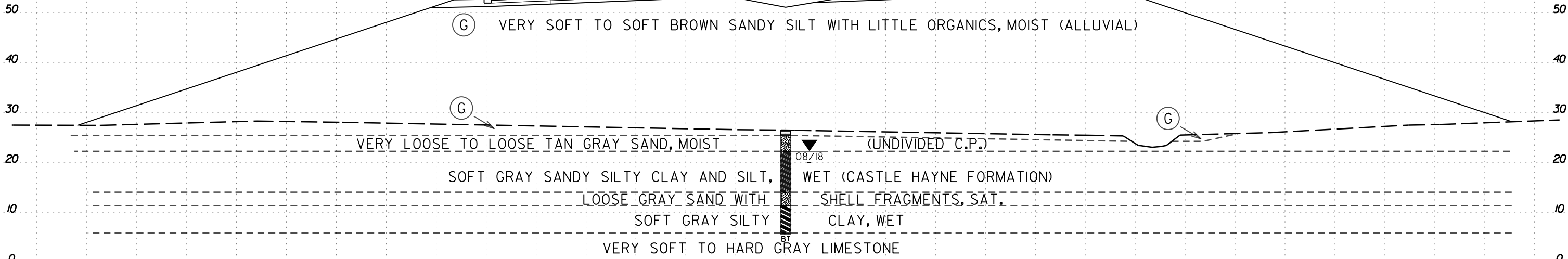
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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-179B	CL	661+00	0.0 - 1.0	A-4(0)	NP	NP	2.5	45.0	37.5	15.1	99.6	99	57	-	10.9
S-180B	CL	661+00	2.0 - 3.0	A-2-4(0)	NP	NP	6.1	66.5	15.5	11.9	99.7	99	32	-	-

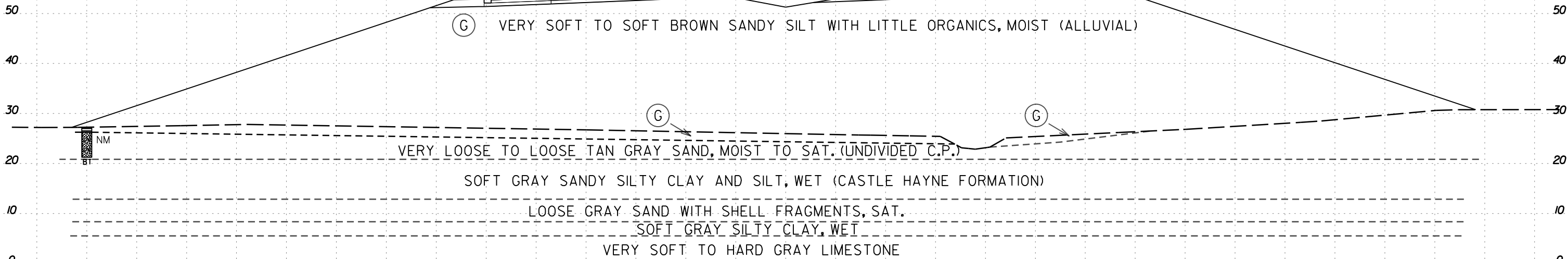


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662 + 00.00



661 + 50.00

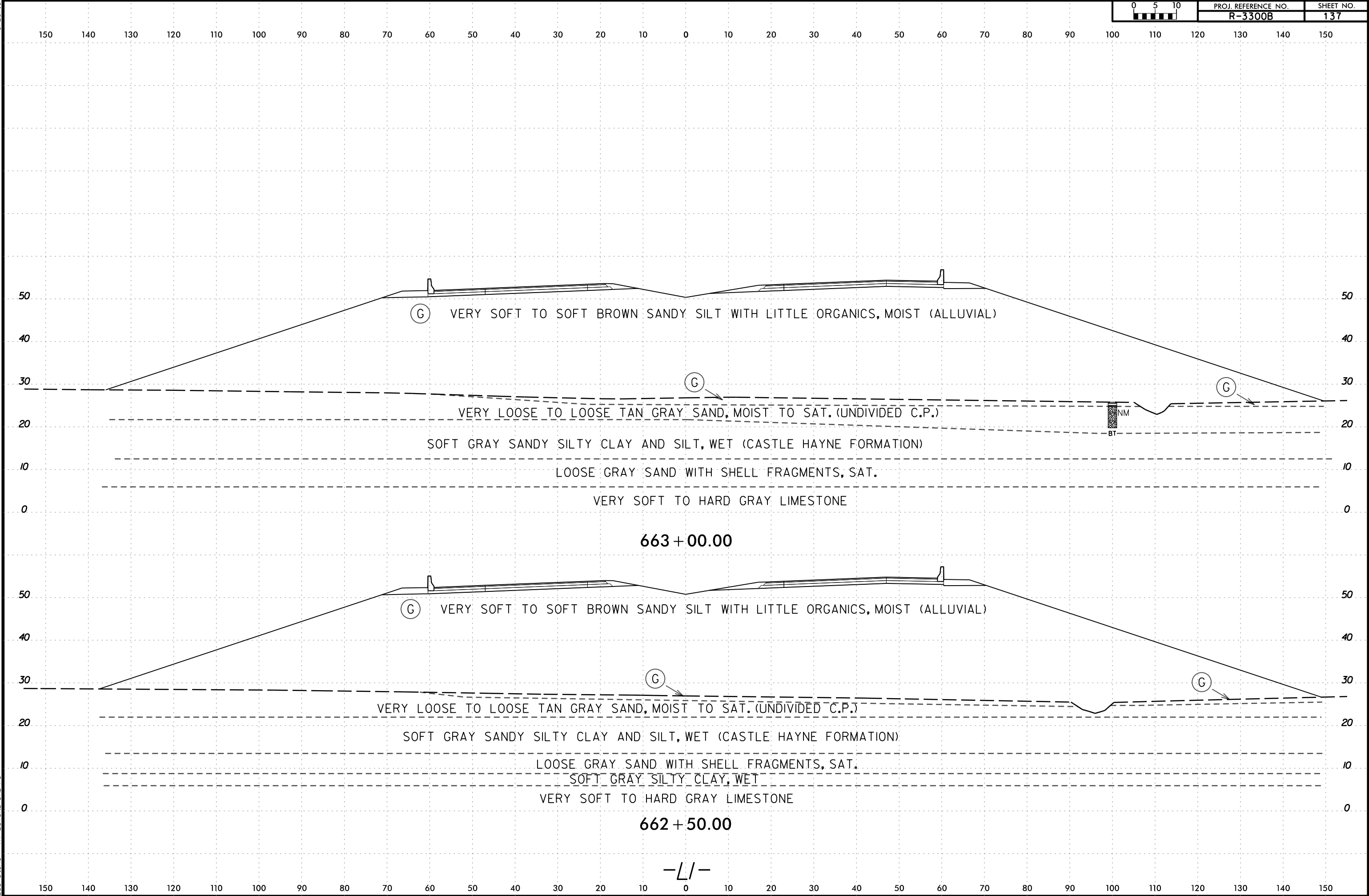
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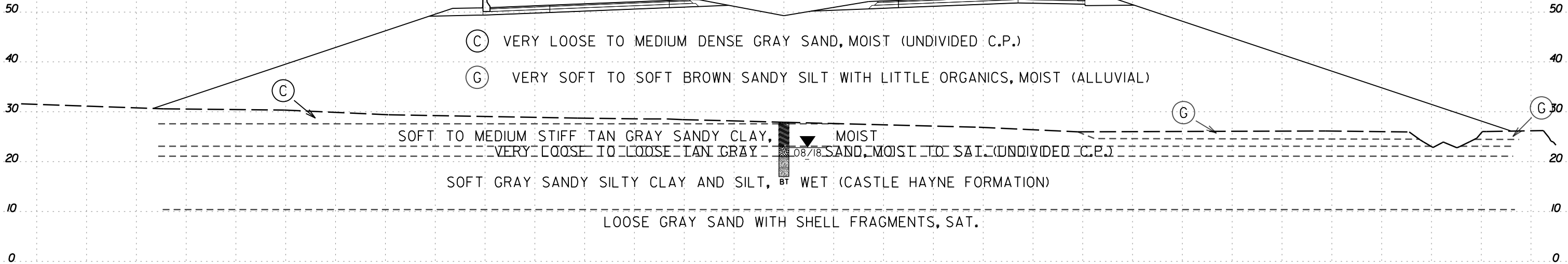
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-3300B	137

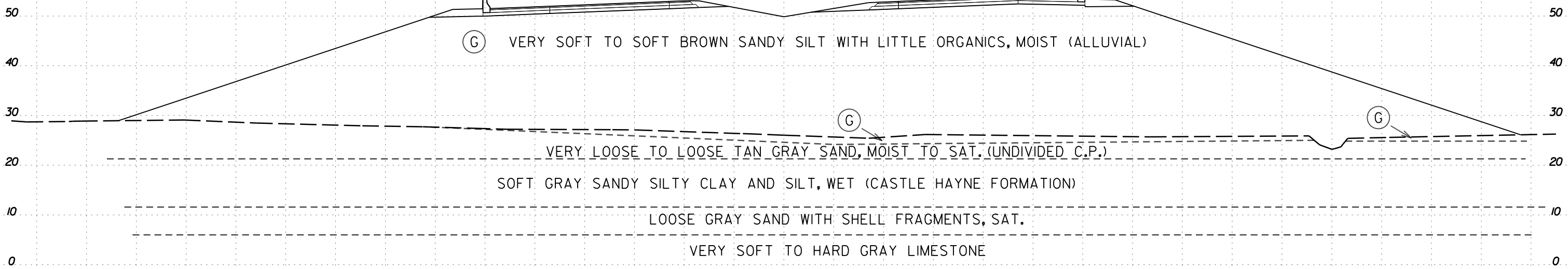


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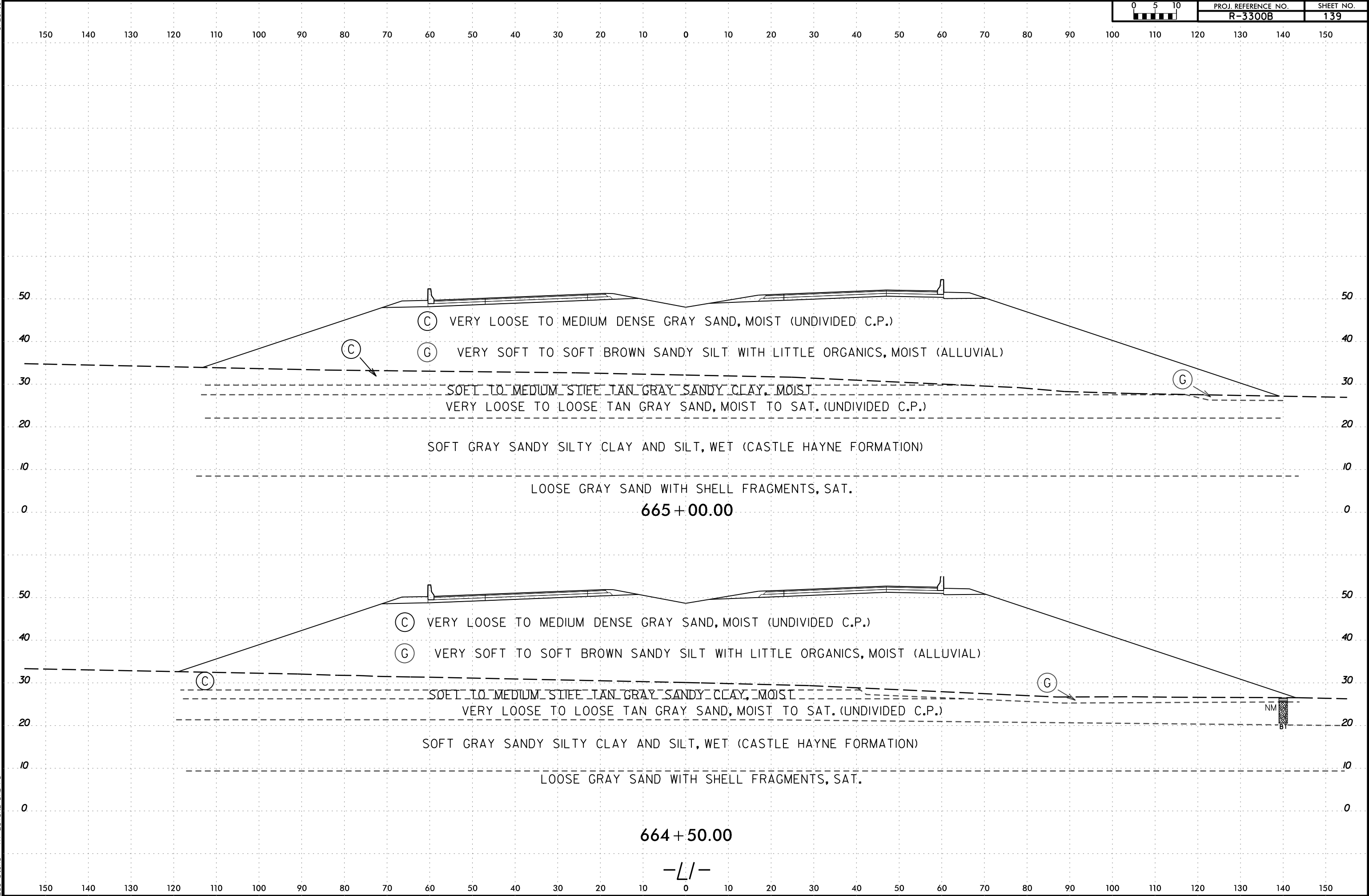
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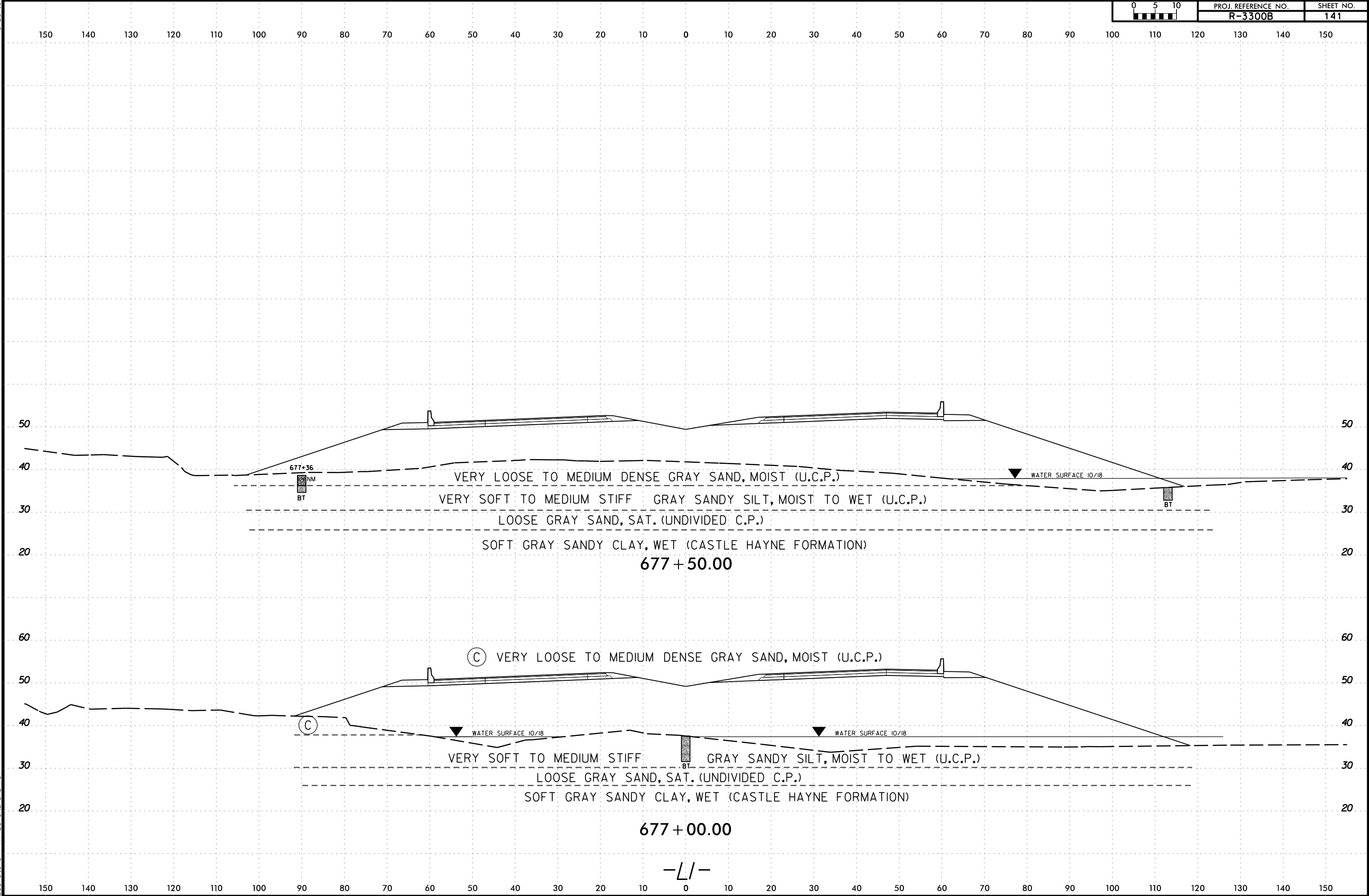
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-L/-

6/23/16



6/23/16



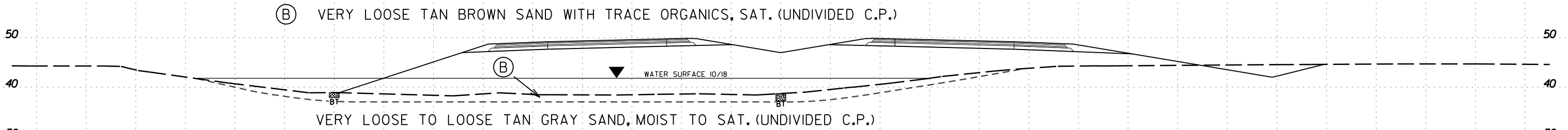
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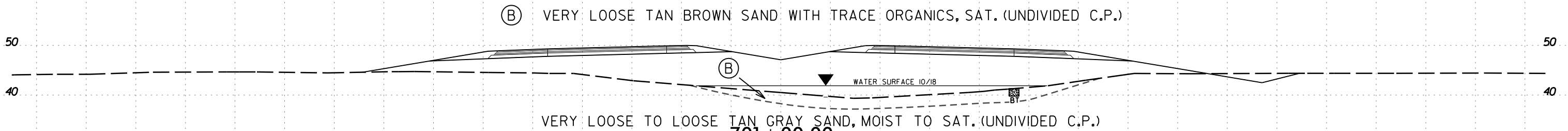
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R-3300B

SHEET NO.
142

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701+50.00



701+00.00

-L/-

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Lee Stone AT LSTONE-CAD-PC

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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-183B	CL	711+00	0.0 - 1.0	A-2-4(0)	NP	NP	12.5	57.8	20.2	9.5	99.8	97	33	-	12.5

Y31RPC
5+56.58

S-183

FIAD

BT

Ⓑ VERY SOFT BROWN BLACK MUCK, MOIST TO SAT. (ALLUVIAL)

VERY LOOSE TO MEDIUM DENSE TAN GRAY SAND, SAT.

VERY SOFT TO SOFT GRAY SANDY SILTY CLAY AND SANDY SILT, WET
(CASTLE HAYNE FORMATION)

711 + 00.00

Ⓑ VERY SOFT BROWN BLACK MUCK, MOIST TO SAT.

FIAD

BT

VERY LOOSE TO MEDIUM DENSE TAN GRAY SAND, SAT.

VERY SOFT TO SOFT GRAY SANDY SILTY CLAY AND SANDY SILT, WET
(CASTLE HAYNE FORMATION)

710 + 50.00

SOFT TO MEDIUM

10/18

STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED C.P.)

VERY LOOSE TO MEDIUM DENSE TAN GRAY SAND, SAT.

BT

710 + 00.00

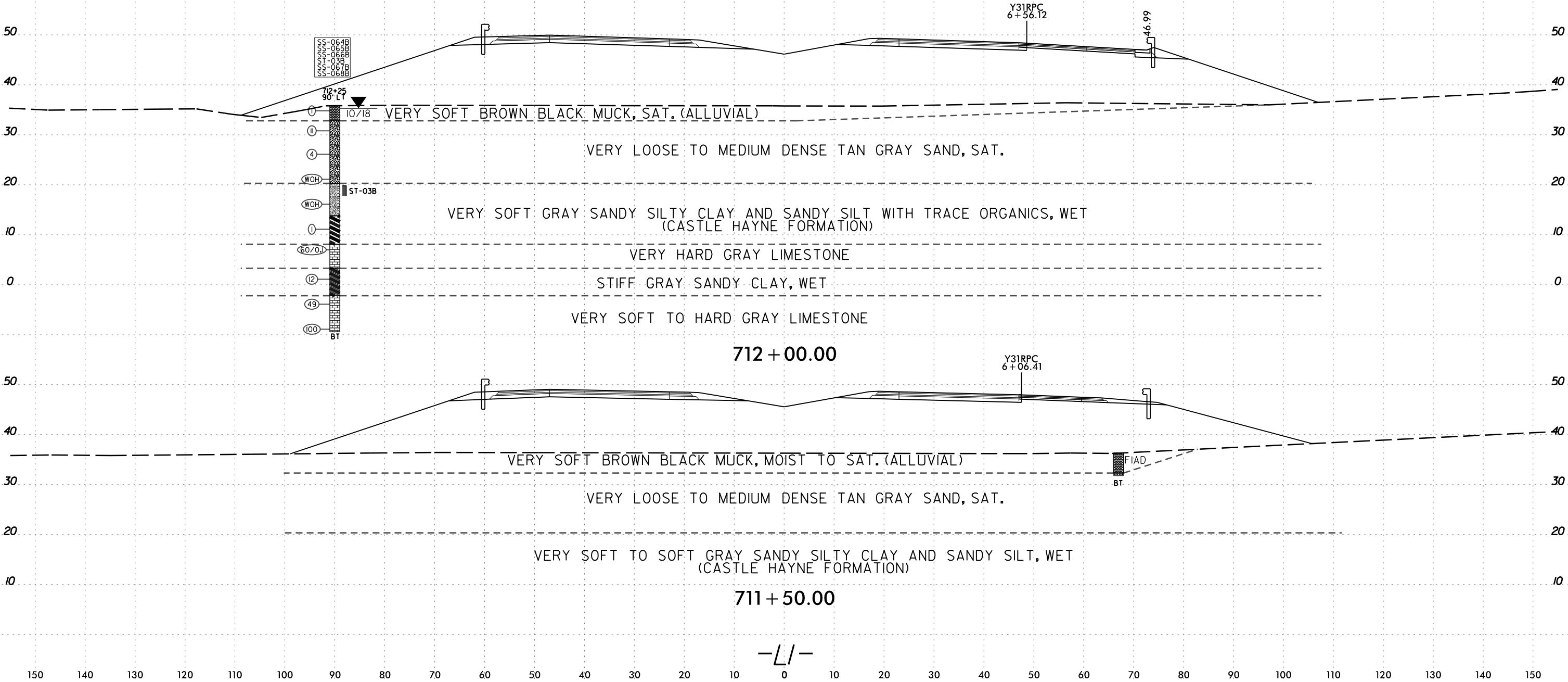
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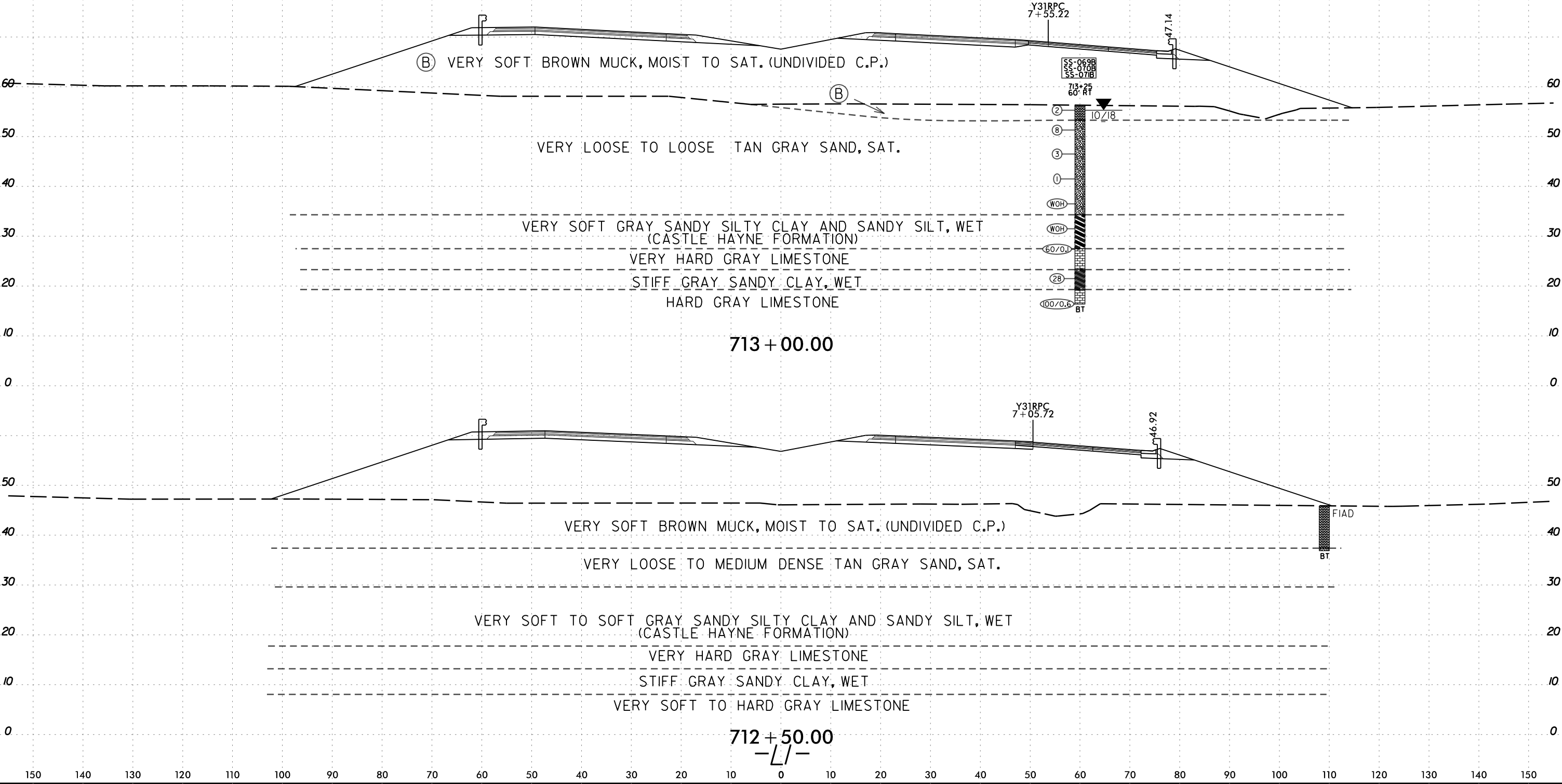
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SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-064B	90 ft LT	712+25	0.0 - 1.5	A-4(0)	NP	NP	25.1	40.5	30.5	3.9	93.7	85	37	-	21.7
SS-065B	90 ft LT	712+25	4.0 - 5.5	A-2-4(0)	NP	NP	0.2	81.1	6.6	12.1	100	100	25	-	-
SS-066B	90 ft LT	712+25	13.7 - 15.2	A-2-4(0)	NP	NP	10.9	69.7	15.3	4.1	99.8	96	32	-	-
ST-03B	90 ft LT	712+25	16.0 - 18.0	A-4(0)	27	5	0.7	47.9	37.69	13.6	100	99	66	66	-
SS-067B	90 ft LT	712+25	23.7 - 25.2	A-7-6(17)	43	22	4.7	29.4	47.4	18.5	99.8	96	80	-	-
SS-068B	90 ft LT	712+25	33.7 - 35.2	A-6(3)	30	11	23.2	31.1	19.4	26.3	100	84	52	-	-



6/23/16

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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-069B	60 ft RT	713+25	4.0 - 5.5	A-2-4(0)	NP	NP	15.5	71.2	4.3	9.0	100	98	17	21	-
SS-070B	60 ft RT	713+25	13.8 - 15.3	A-2-4(0)	NP	NP	22.1	61.6	11.3	5.0	99.3	90	23	32	-
SS-071B	60 ft RT	713+25	23.8 - 25.3	A-7-6(17)	45	24	9.4	32.6	39.6	18.3	100	93	75	65	-



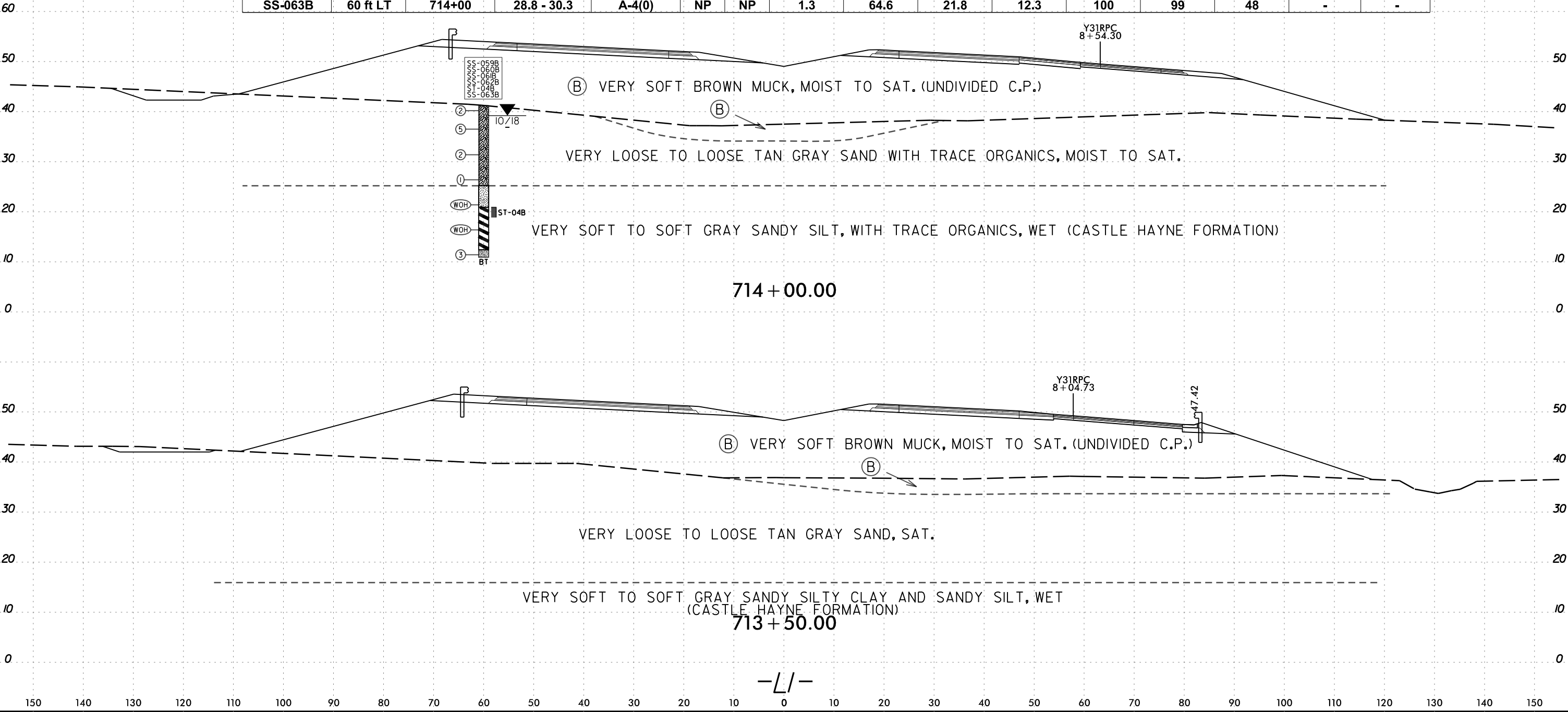
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SOIL TEST RESULTS

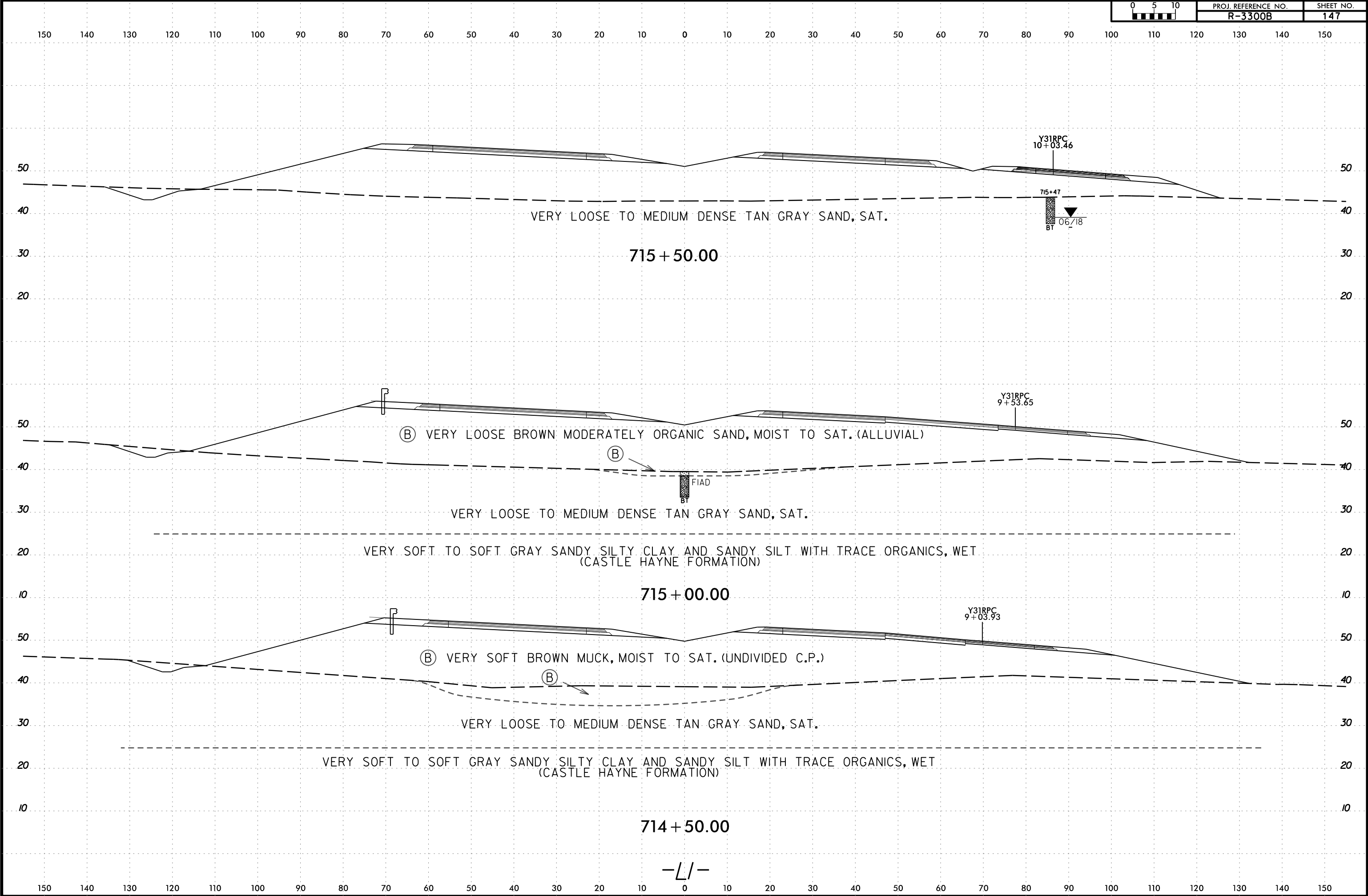
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							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-059B	60 ft LT	714+00	0.0 - 1.5	A-2-4(0)	NP	NP	39.5	49.0	9.5	2.0	99.8	86	14	-	2.8
SS-060B	60 ft LT	714+00	3.7 - 5.2	A-2-4(0)	NP	NP	13.8	66.8	6.3	13.0	99.8	98	23	-	-
SS-061B	60 ft LT	714+00	13.8 - 15.3	A-2-4(0)	NP	NP	0.1	82.7	7.2	10.1	100	100	24	-	-
SS-062B	60 ft LT	714+00	18.8 - 20.3	A-4(0)	NP	NP	1.9	54.3	34.6	9.2	100	99	58	-	-
ST-04B	60 ft LT	714+00	20.3 - 22.3	A-7-6(39)	54	36	0.5	16.5	56.9	26.2	100	99	92	56	1.8
SS-063B	60 ft LT	714+00	28.8 - 30.3	A-4(0)	NP	NP	1.3	64.6	21.8	12.3	100	99	48	-	-



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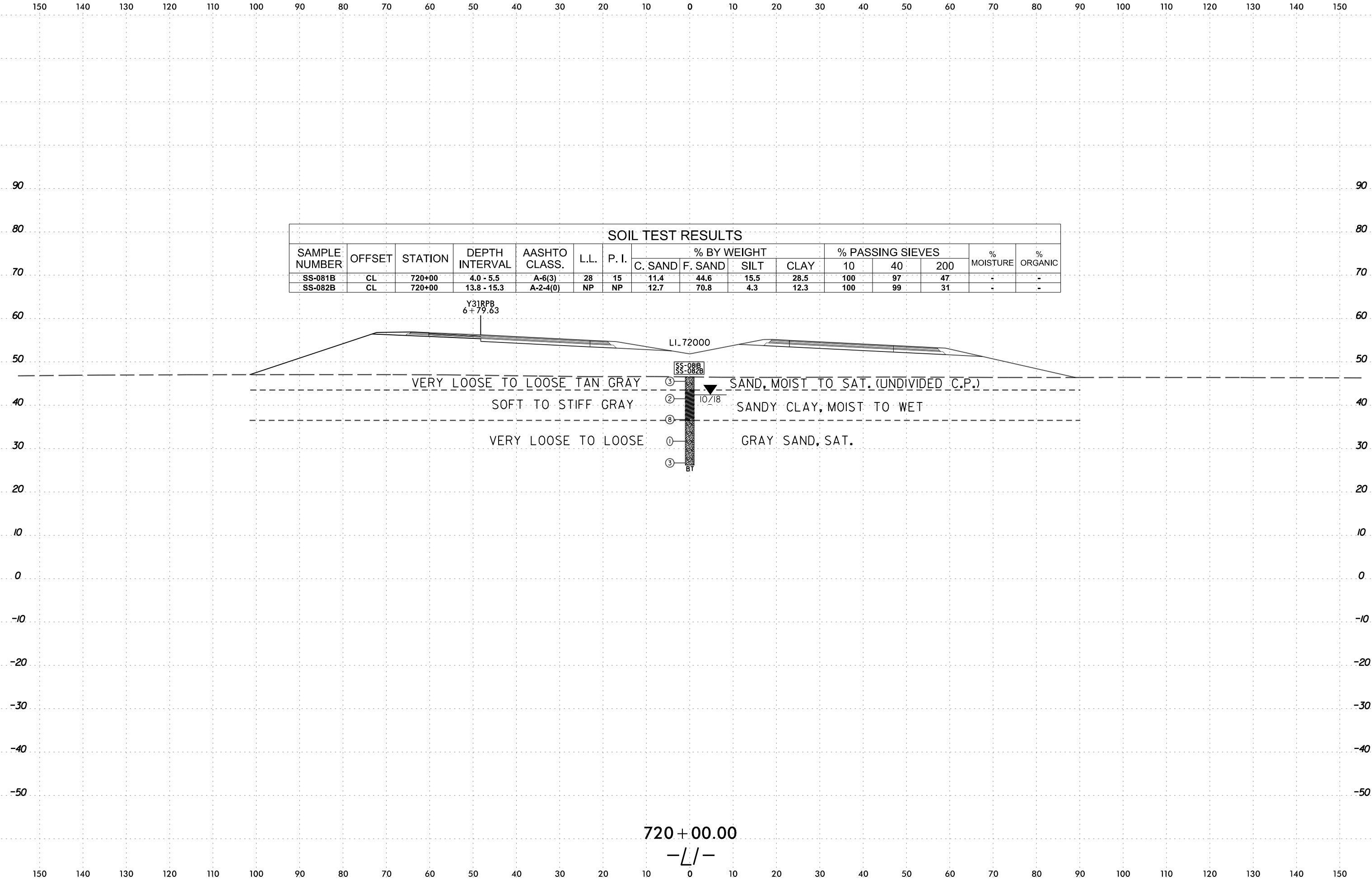
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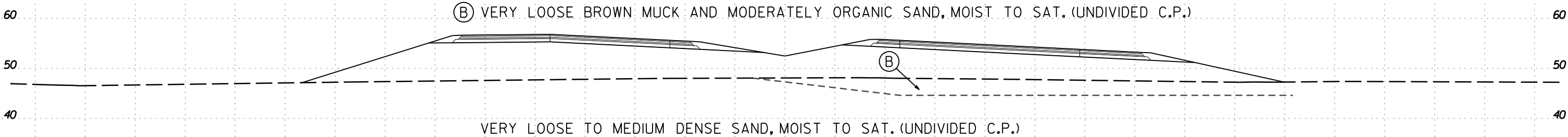
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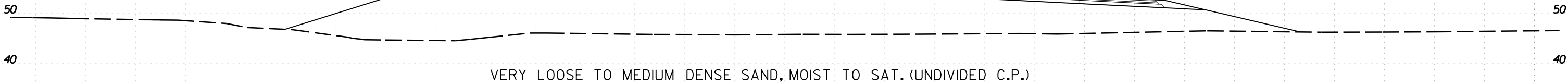
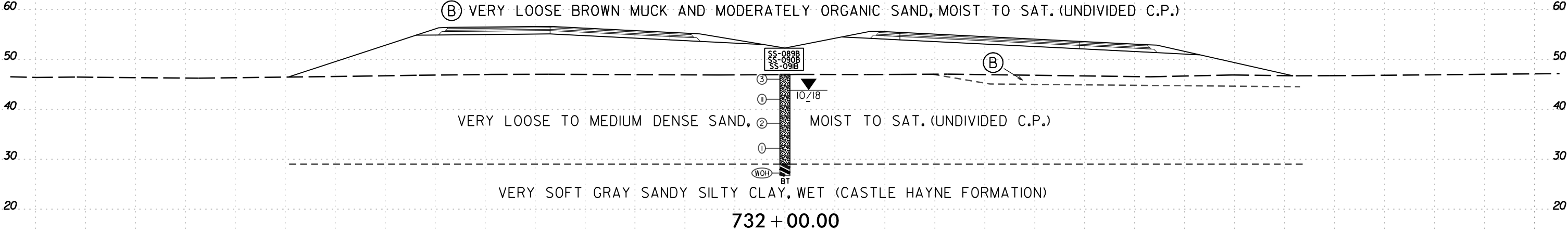


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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-089B	CL	732+00	4.0 - 5.5	A-2-4(0)	NP	NP	26.9	56.6	6.5	10.0	100	95	20	-	-
SS-090B	CL	732+00	8.8 - 10.3	A-2-4(0)	NP	NP	48.1	36.8	3.1	12.0	100	89	24	-	-
SS-091B	CL	732+00	18.8 - 20.3	A-7-6(23)	52	27	7.1	20.6	38.6	33.6	100	95	81	-	-



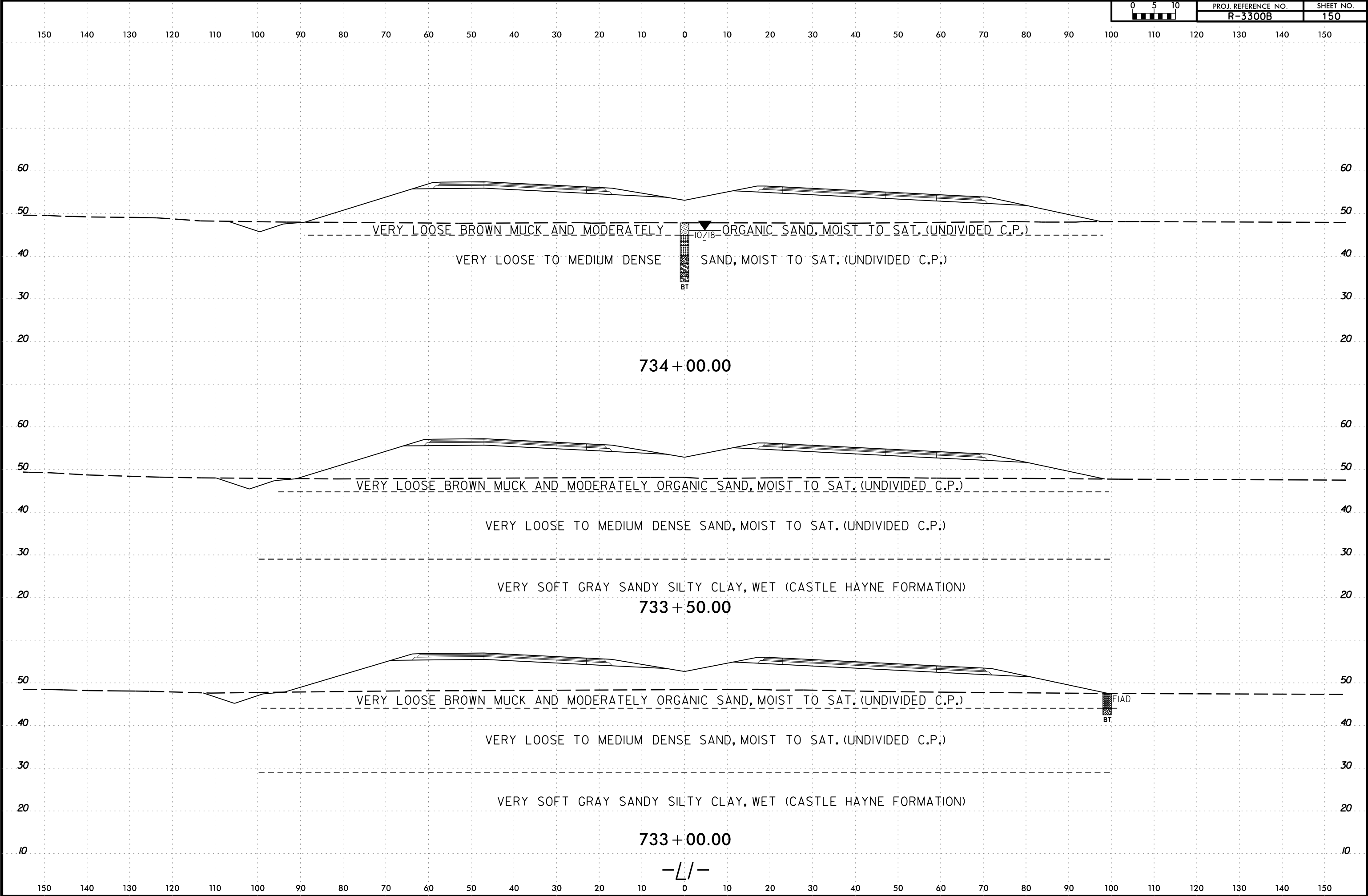
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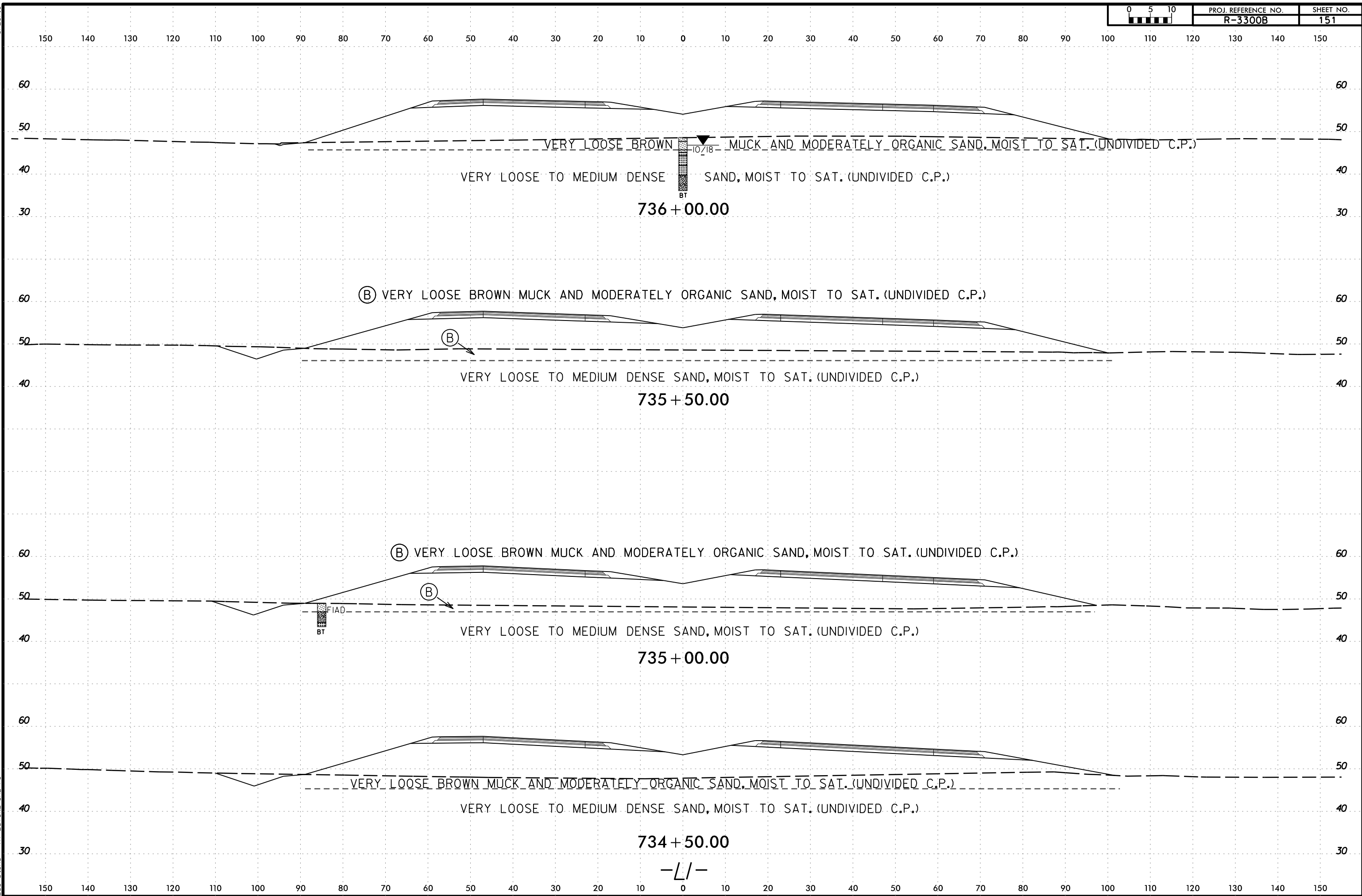
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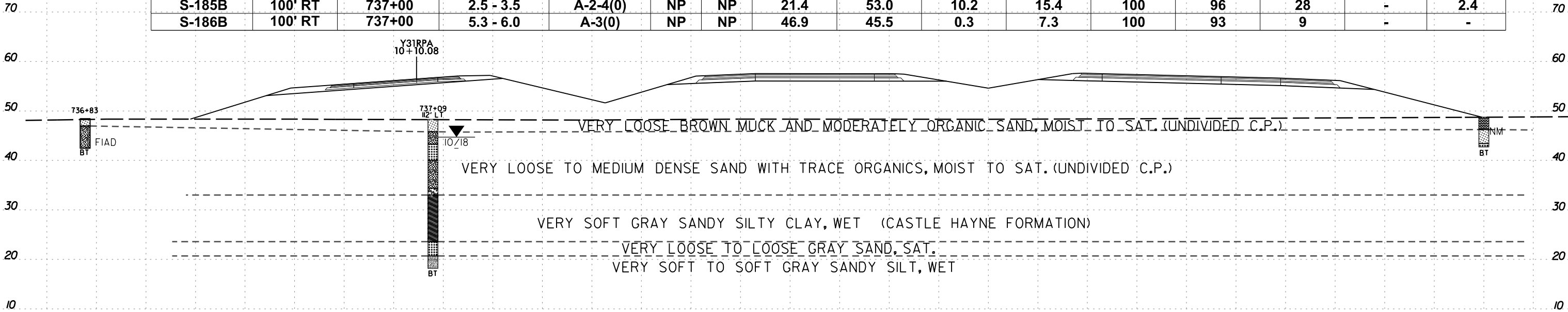


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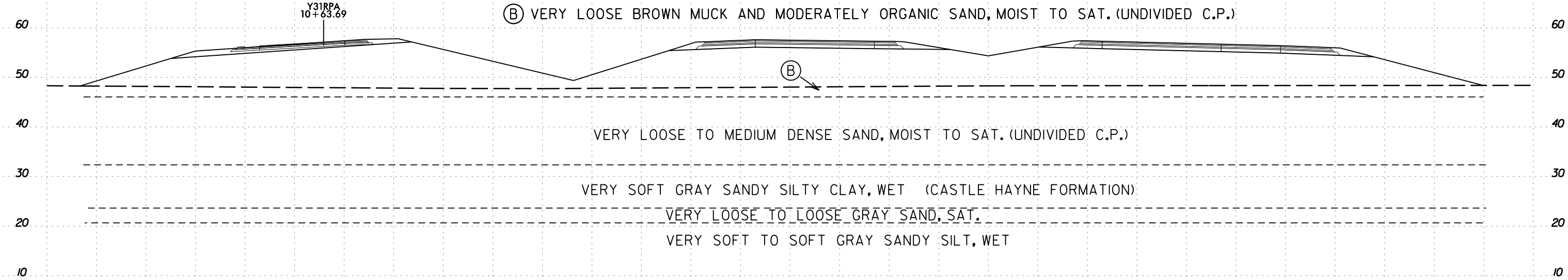
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SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-184B	100' RT	737+00	0.5 - 1.5	A-2-4(0)	NP	NP	24.8	49.1	16.6	9.5	99.7	94	29	-	10.7
S-185B	100' RT	737+00	2.5 - 3.5	A-2-4(0)	NP	NP	21.4	53.0	10.2	15.4	100	96	28	-	2.4
S-186B	100' RT	737+00	5.3 - 6.0	A-3(0)	NP	NP	46.9	45.5	0.3	7.3	100	93	9	-	-



737 + 00.00



736 + 50.00

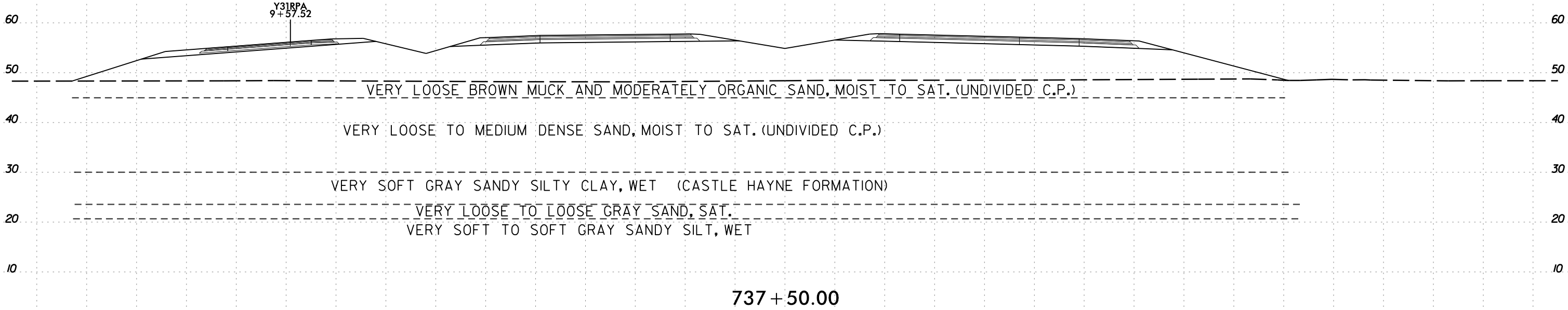
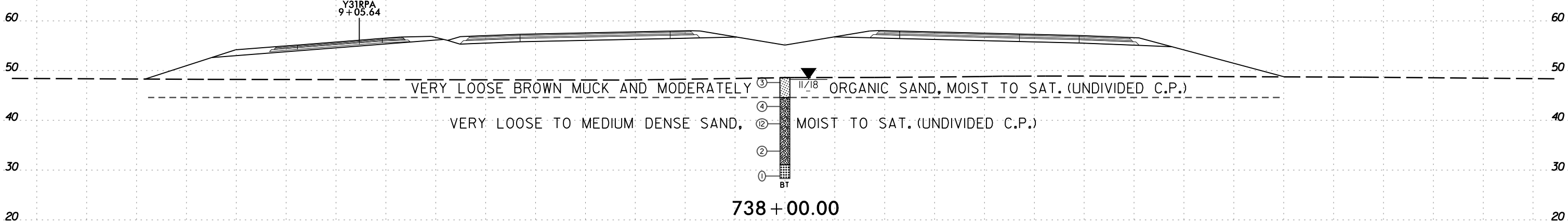
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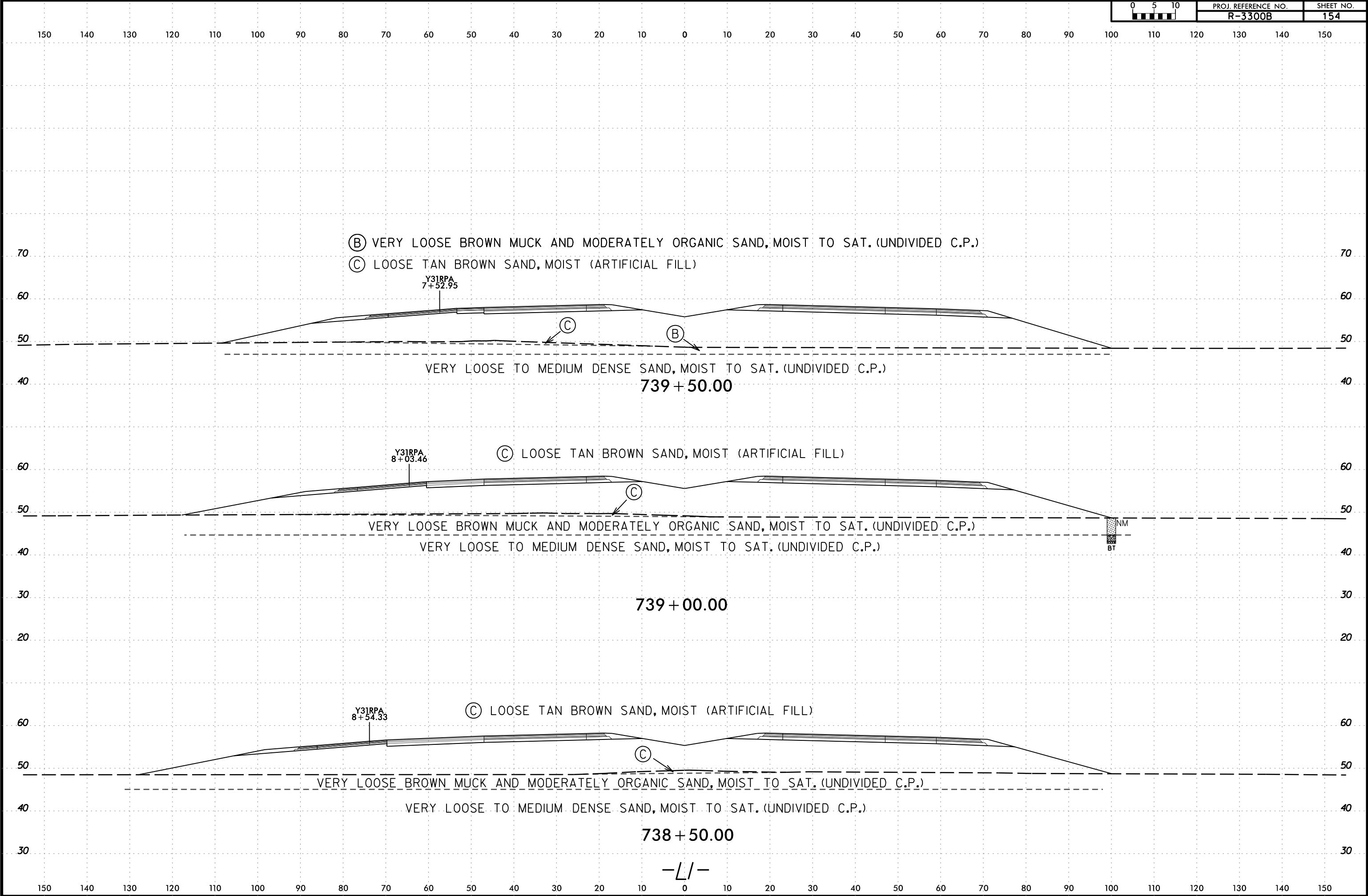
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SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.I.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-112B	CL	738+00	0.5 - 1.5	A-2-4(0)	NP	NP	15.5	53.9	25.4	5.2	99.8	97	34	-	5.1
SS-113B	CL	738+00	4.8 - 6.3	A-2-4(0)	NP	NP	11.4	60.0	18.1	10.5	100	98	34	-	-
SS-114B	CL	738+00	18.8 - 20.3	A-3(0)	NP	NP	56.3	40.3	3.2	0.2	99.7	86	4	-	-



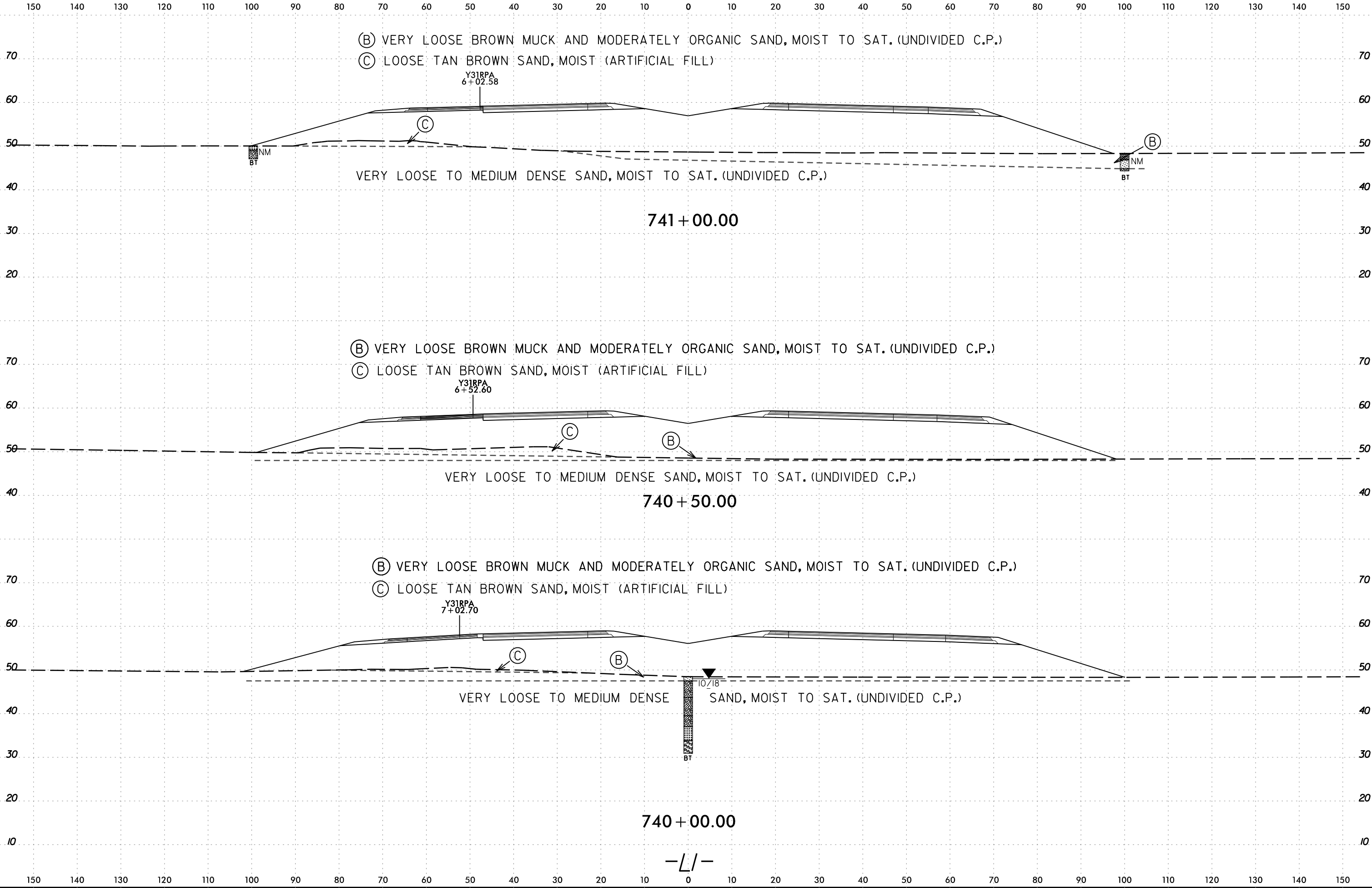
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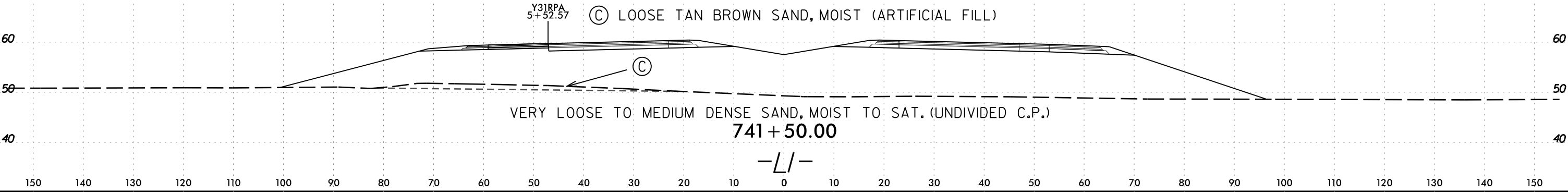


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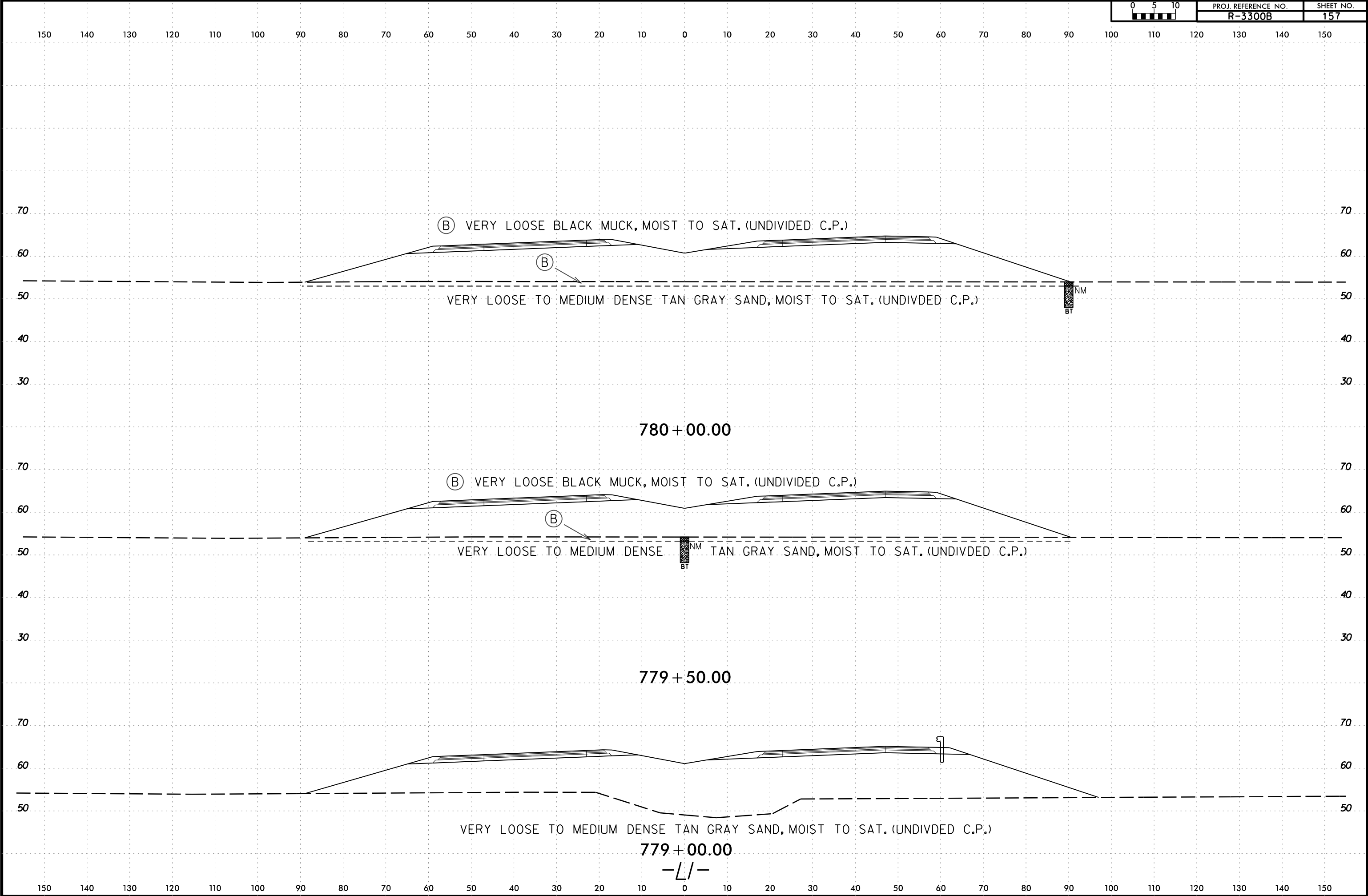
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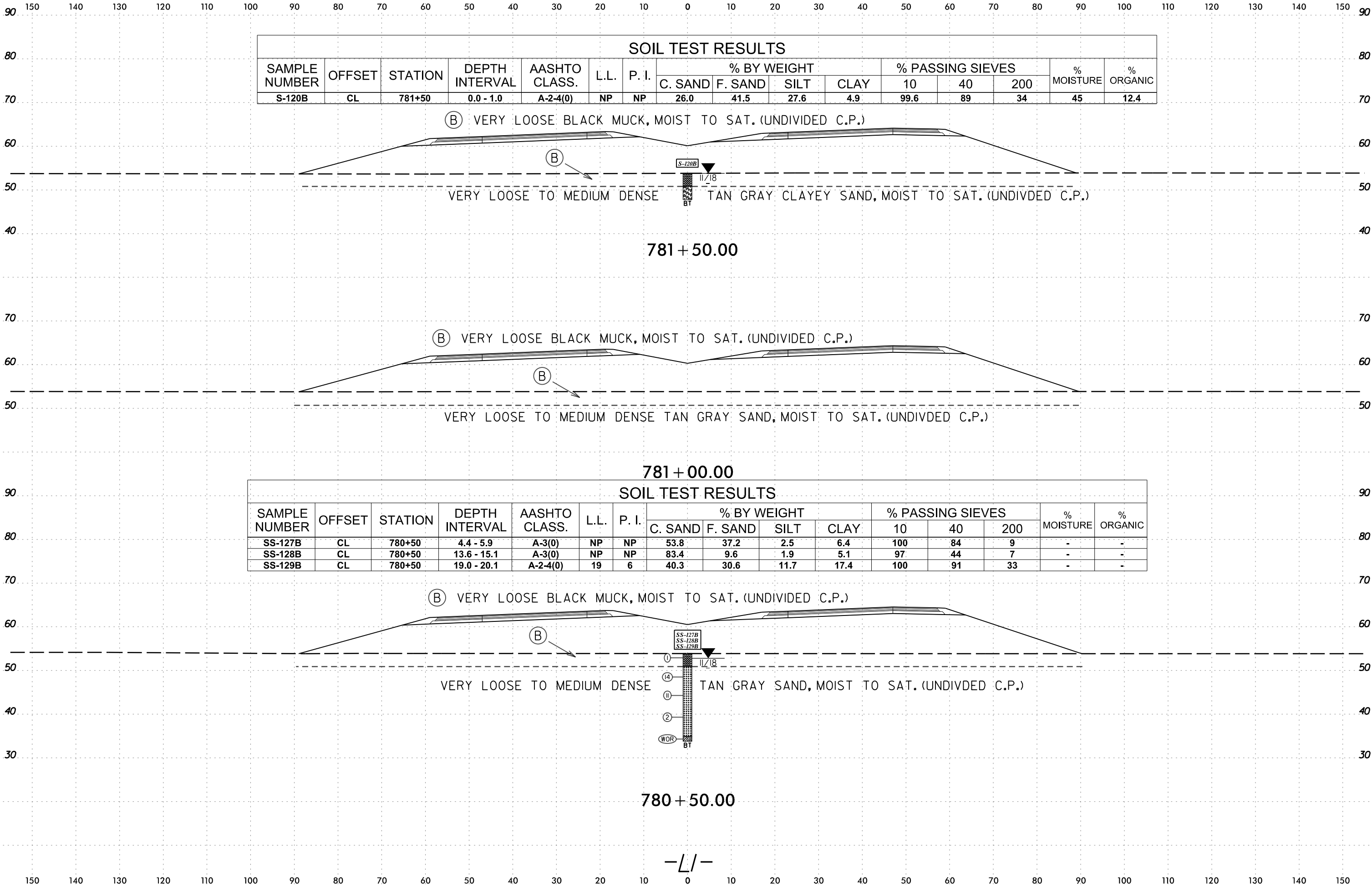
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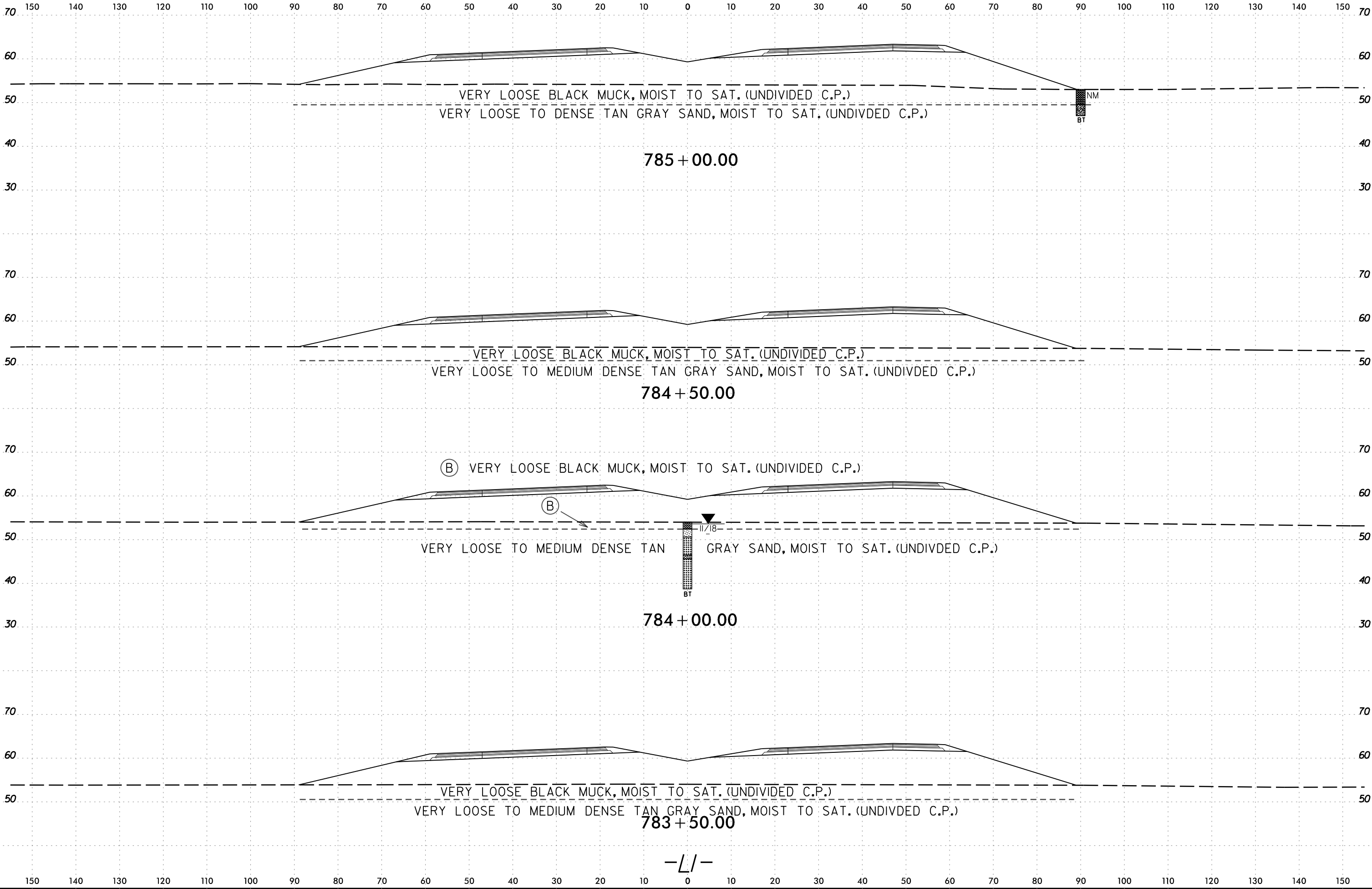


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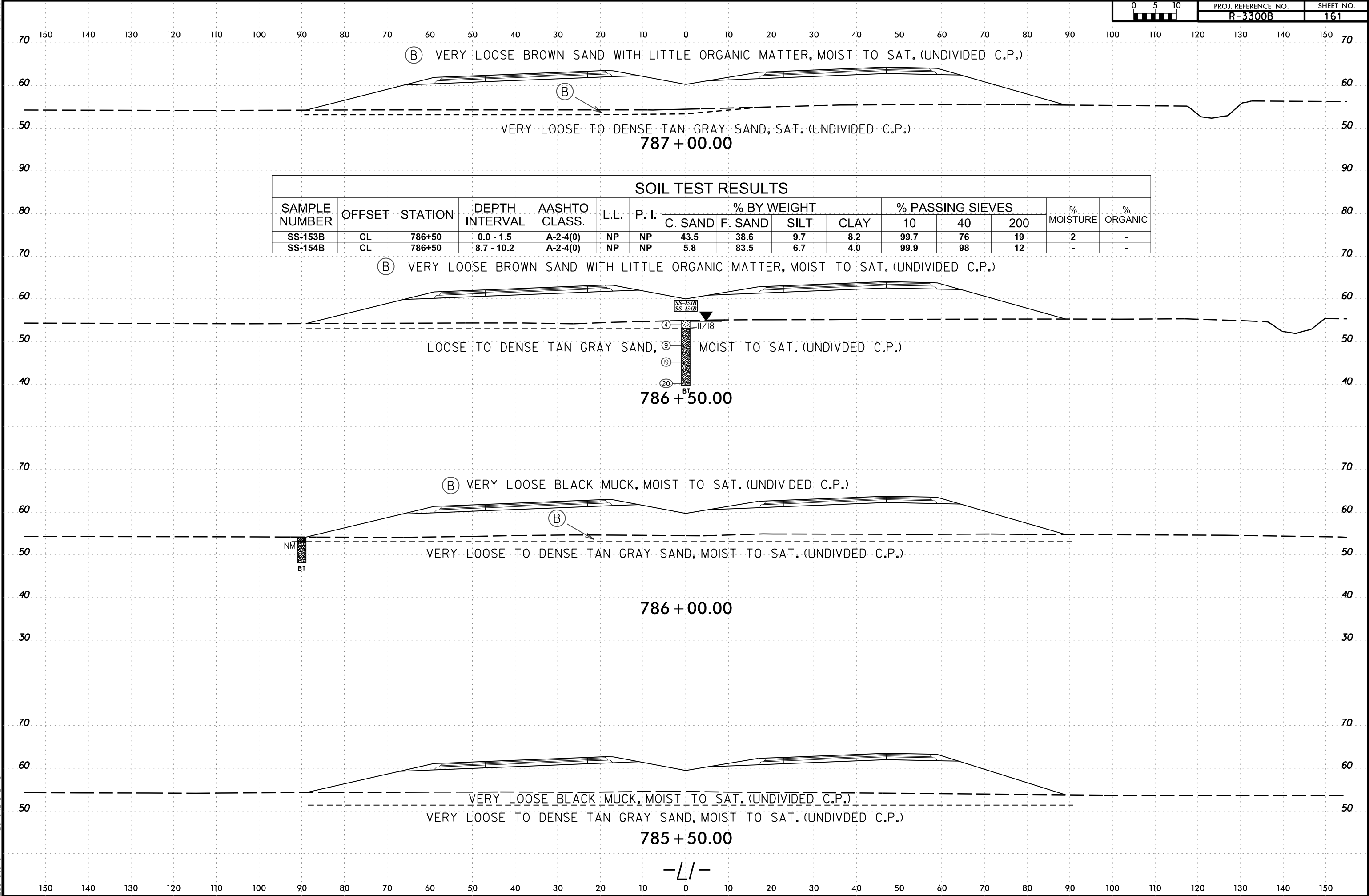


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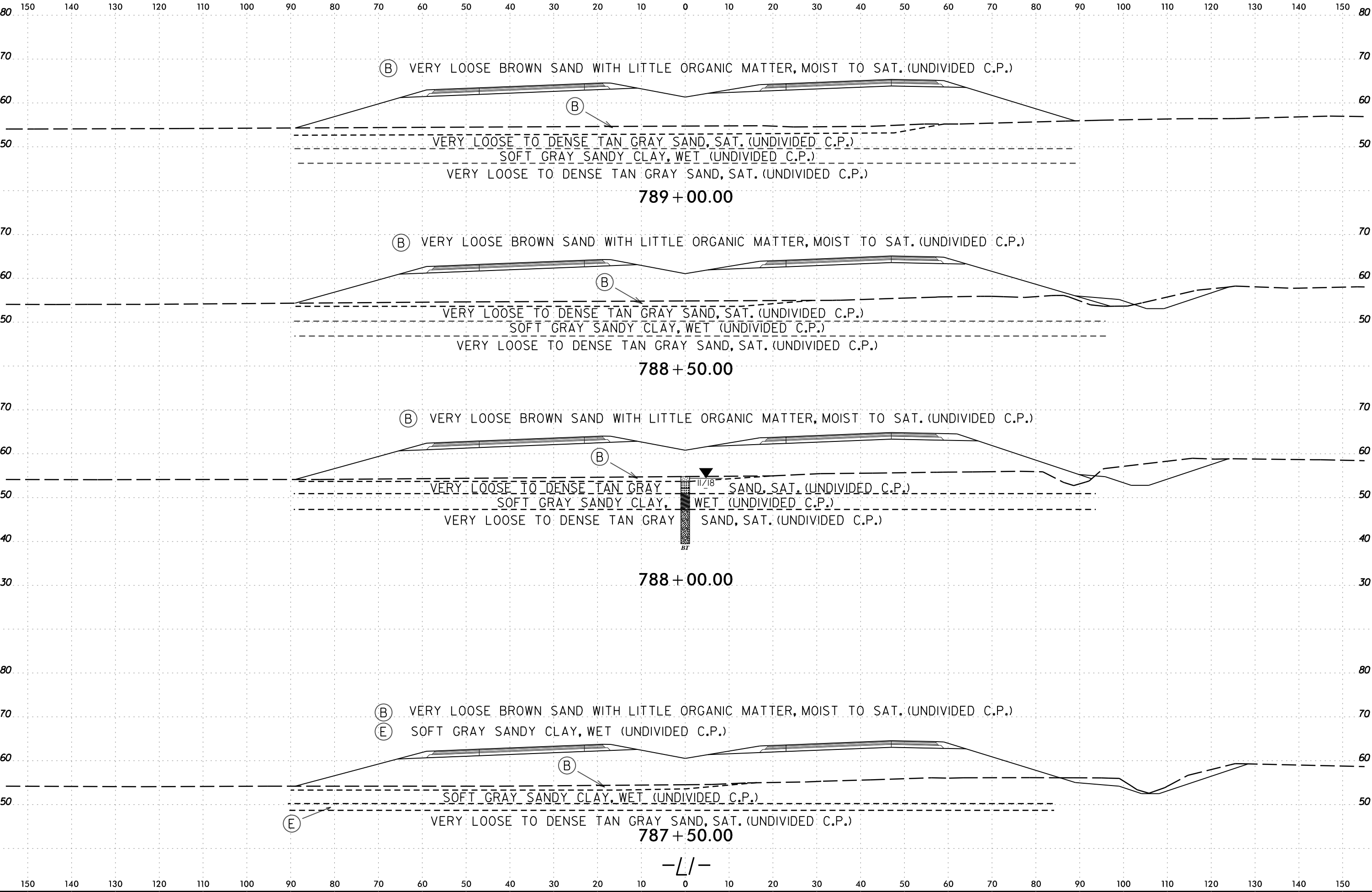
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80 80

70 70

60 60

50 50

Ⓑ VERY LOOSE BROWN SAND WITH LITTLE ORGANIC MATTER, MOIST TO SAT. (UNDIVIDED C.P.)

Ⓑ

VERY LOOSE TO DENSE TAN GRAY SAND, SAT. (UNDIVIDED C.P.)
SOFT GRAY SANDY CLAY, WET (UNDIVIDED C.P.)
VERY LOOSE TO DENSE TAN GRAY SAND, SAT. (UNDIVIDED C.P.)

790 + 50.00

70 70

60 60

50 50

Ⓑ VERY LOOSE BROWN SAND WITH LITTLE ORGANIC MATTER, MOIST TO SAT. (UNDIVIDED C.P.)

Ⓑ

VERY LOOSE TO DENSE TAN GRAY SAND, SAT. (UNDIVIDED C.P.)
SOFT GRAY SANDY CLAY, WET (UNDIVIDED C.P.)
VERY LOOSE TO DENSE TAN GRAY SAND, SAT. (UNDIVIDED C.P.)



790 + 00.00

30 30

70 70

60 60

50 50

Ⓑ VERY LOOSE BROWN SAND WITH LITTLE ORGANIC MATTER, MOIST TO SAT. (UNDIVIDED C.P.)

Ⓑ

VERY LOOSE TO DENSE TAN GRAY SAND, SAT. (UNDIVIDED C.P.)
SOFT GRAY SANDY CLAY, WET (UNDIVIDED C.P.)
VERY LOOSE TO DENSE TAN GRAY SAND, SAT. (UNDIVIDED C.P.)

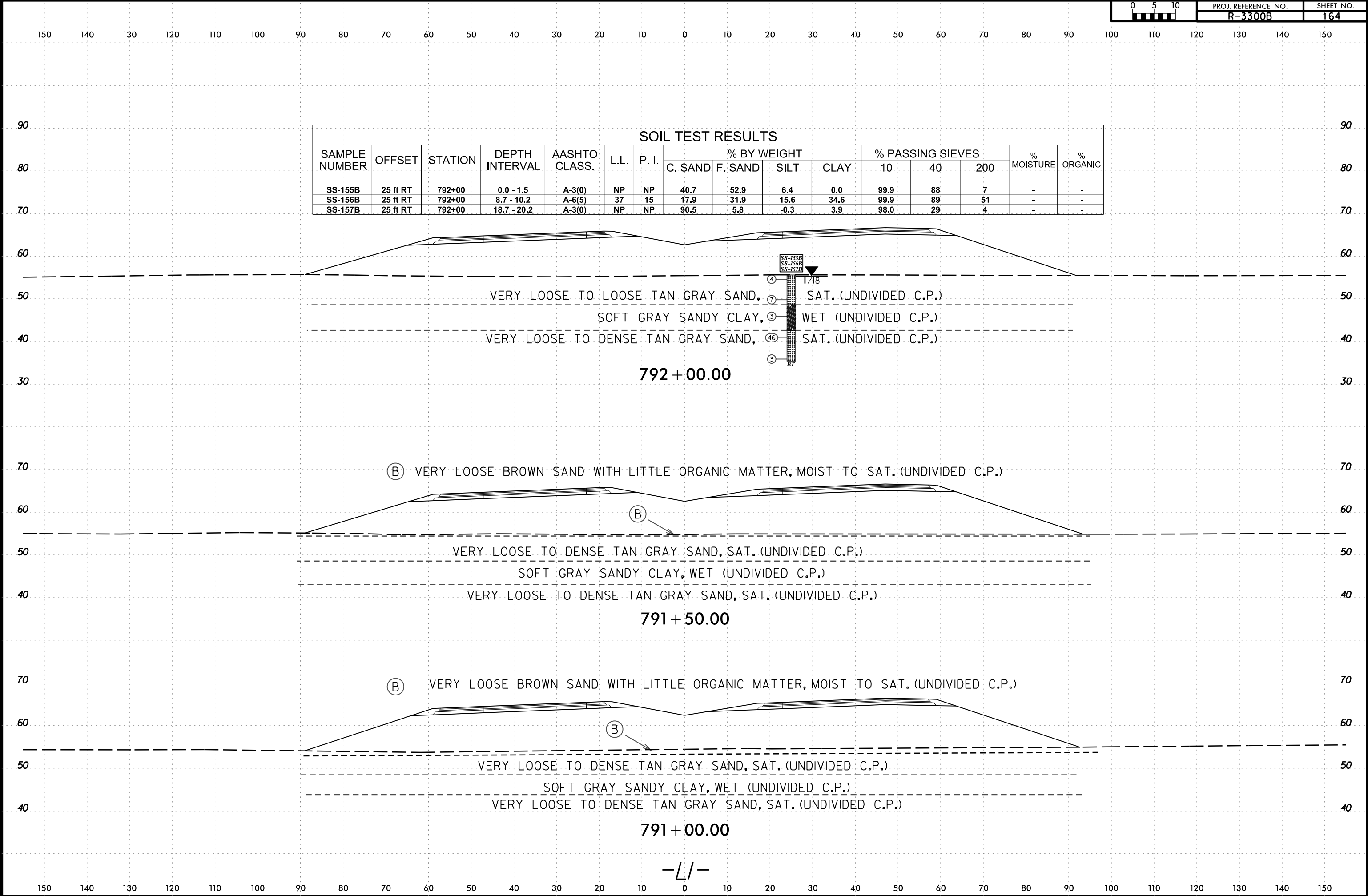
789 + 50.00

-L/-

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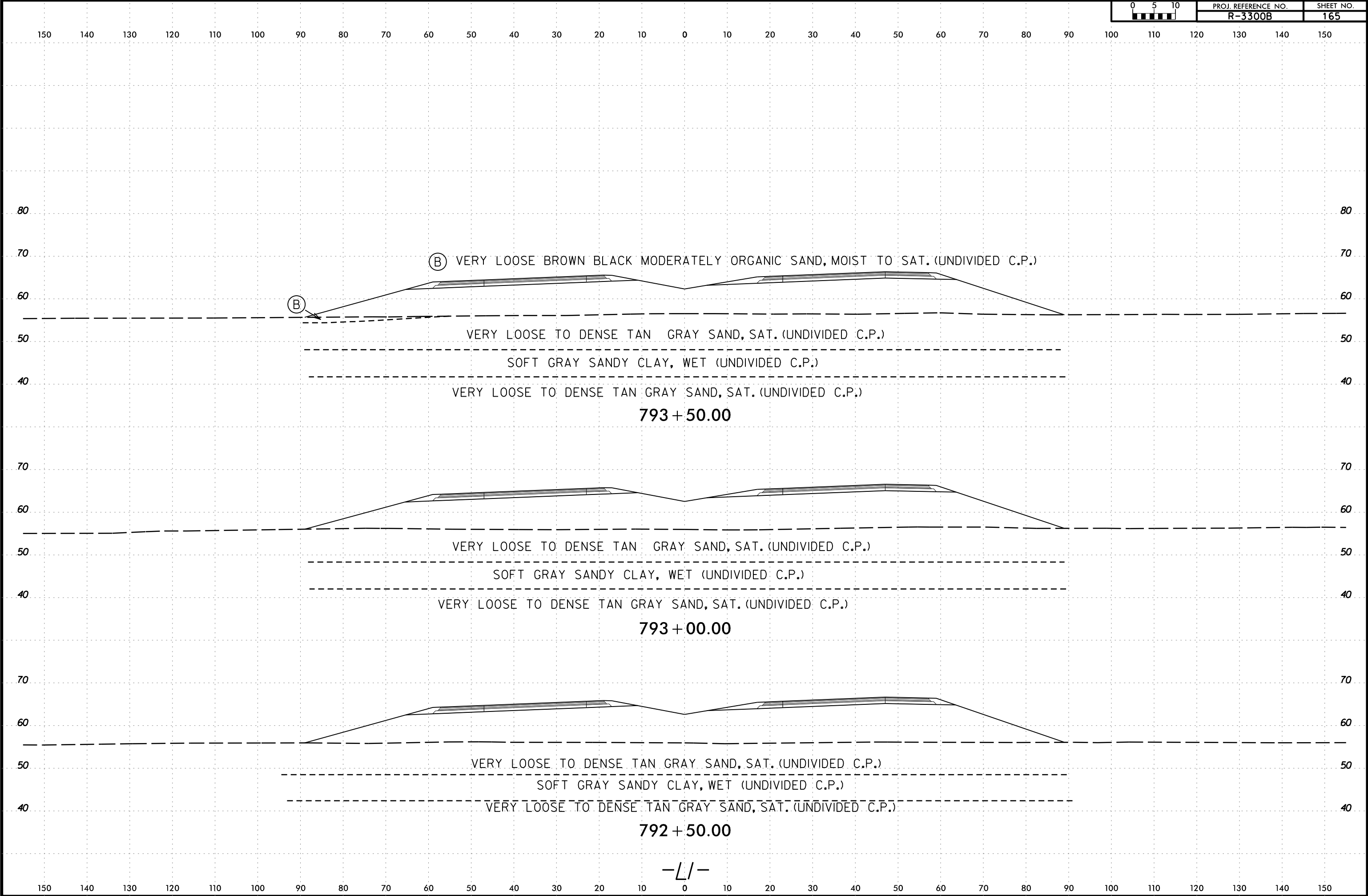
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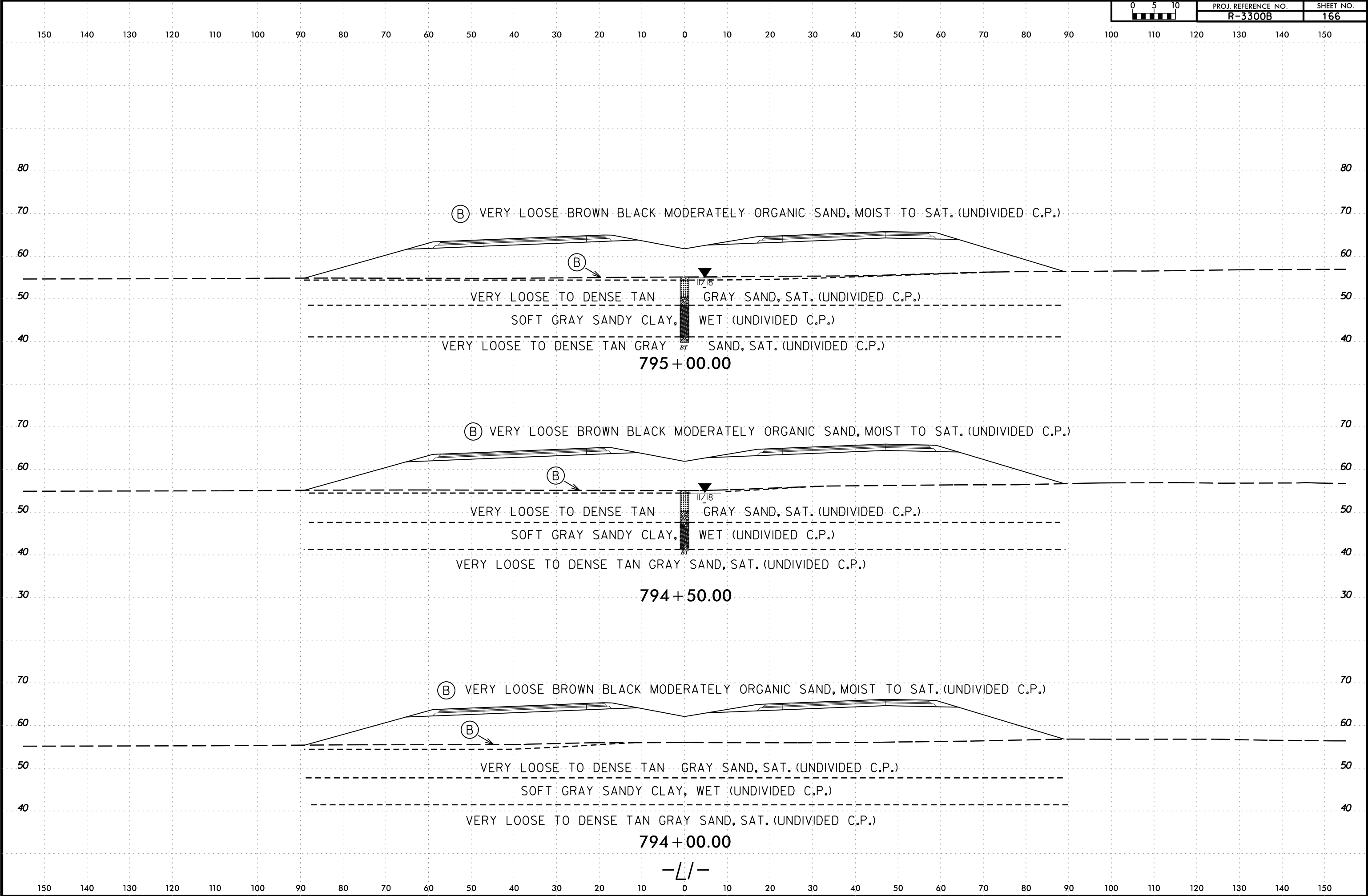
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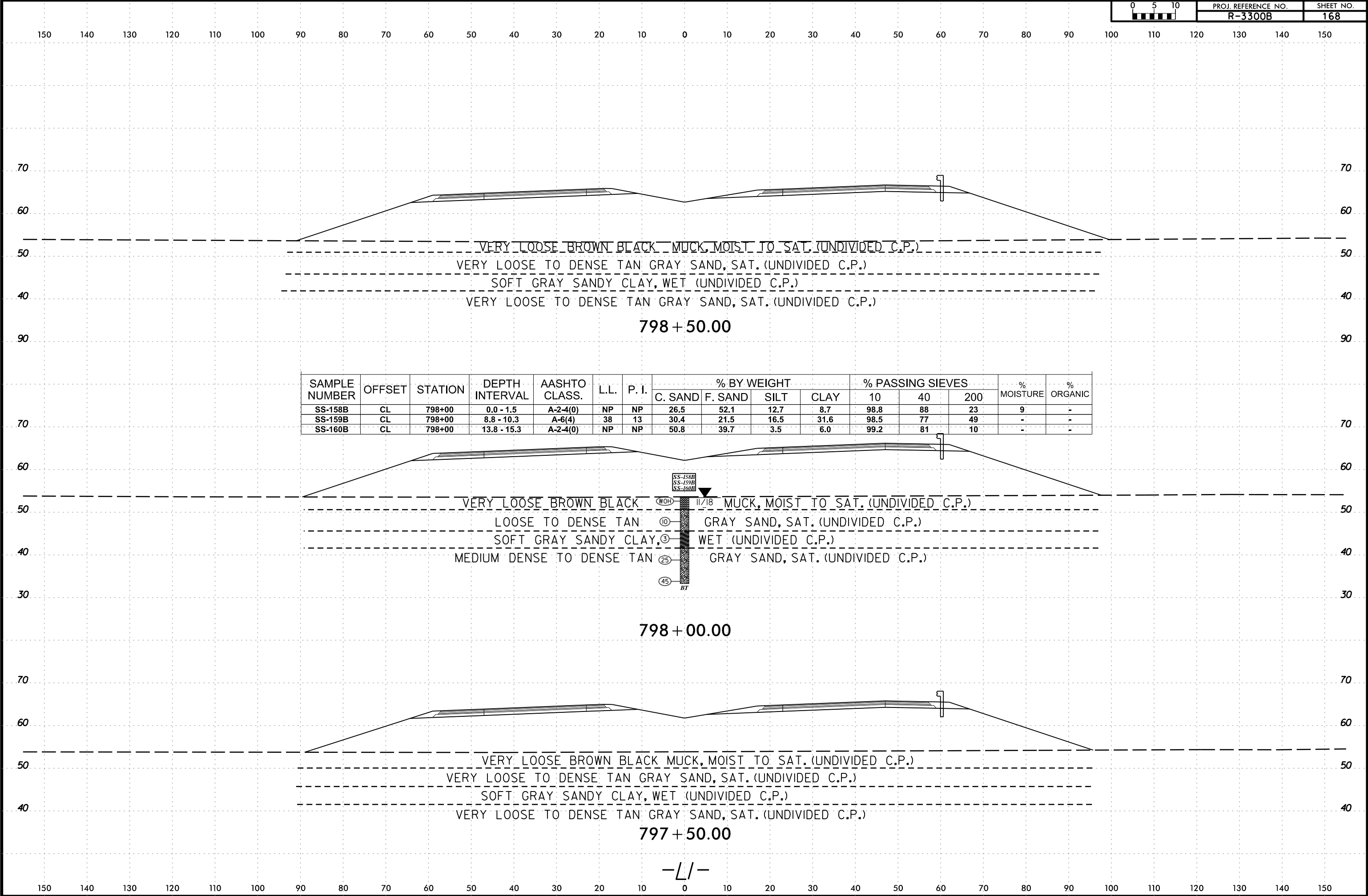
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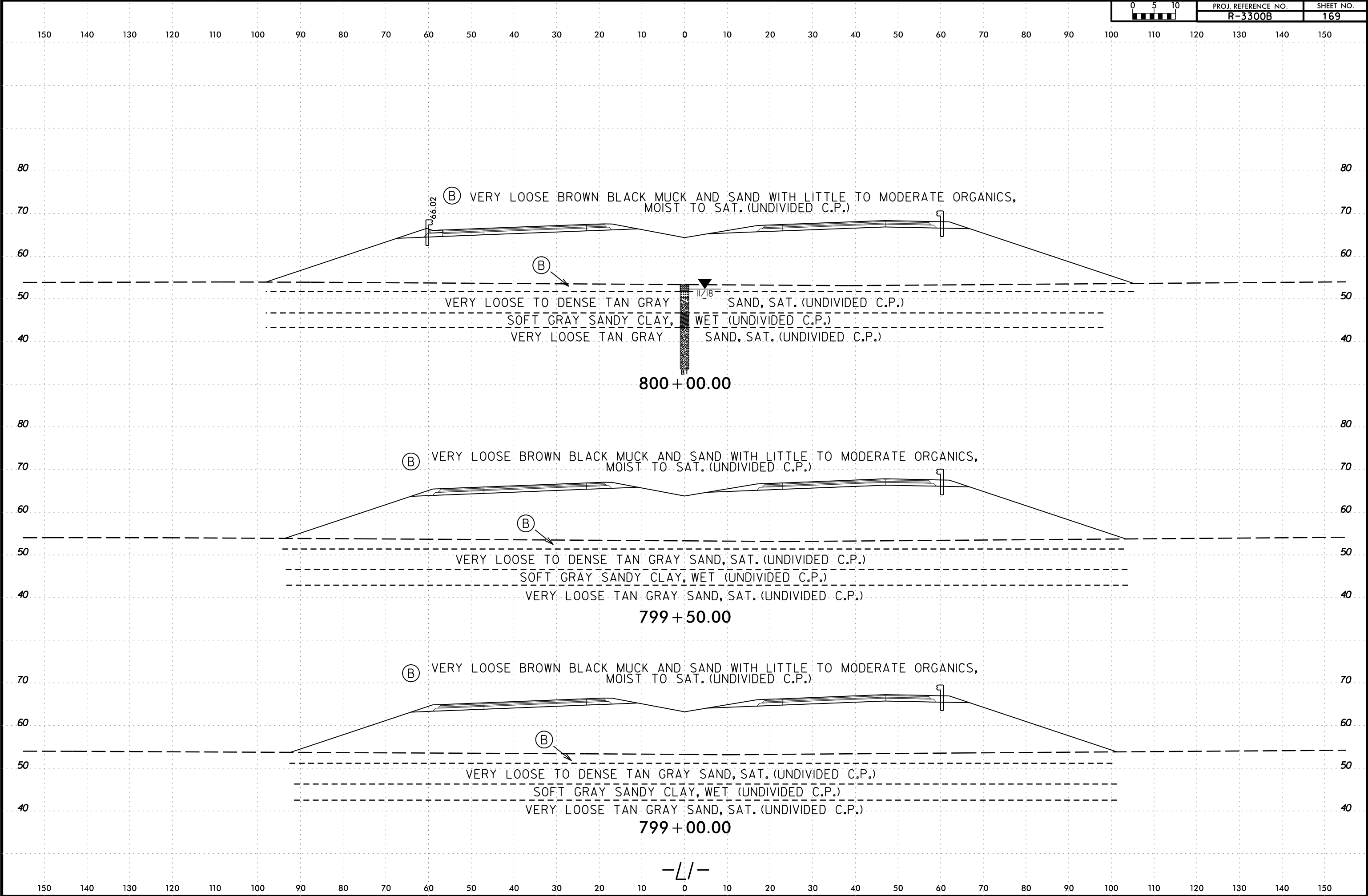
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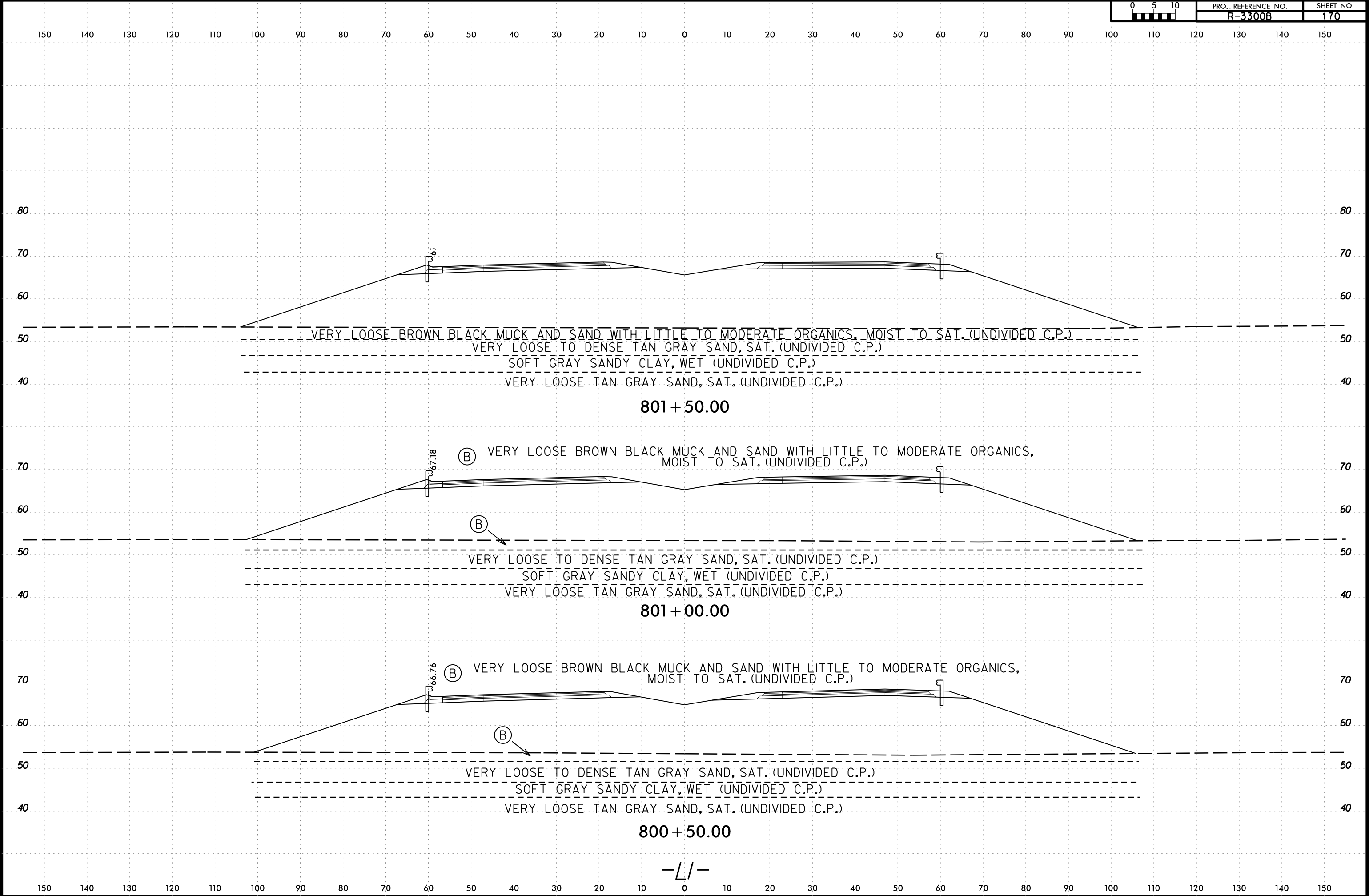


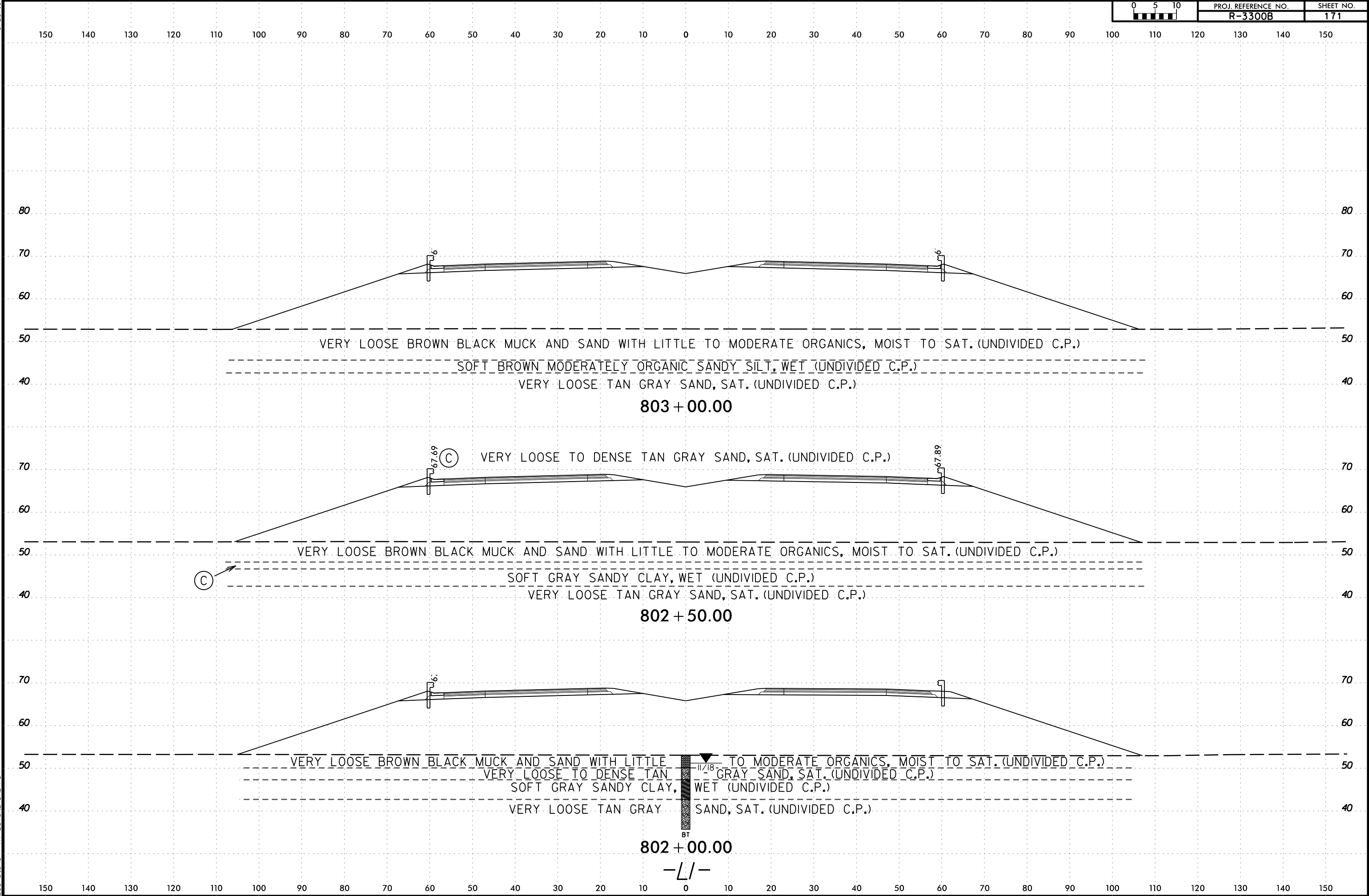
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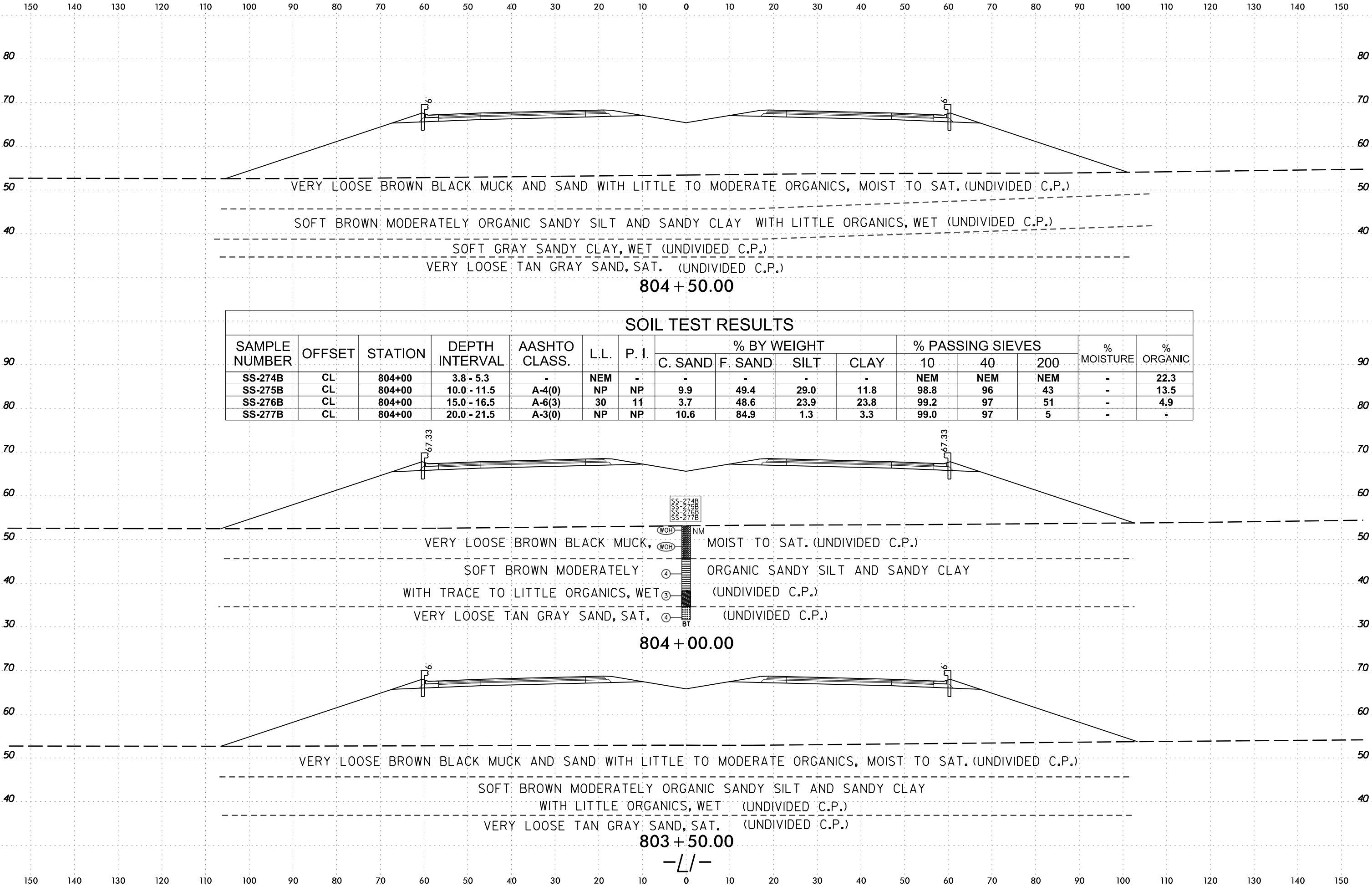






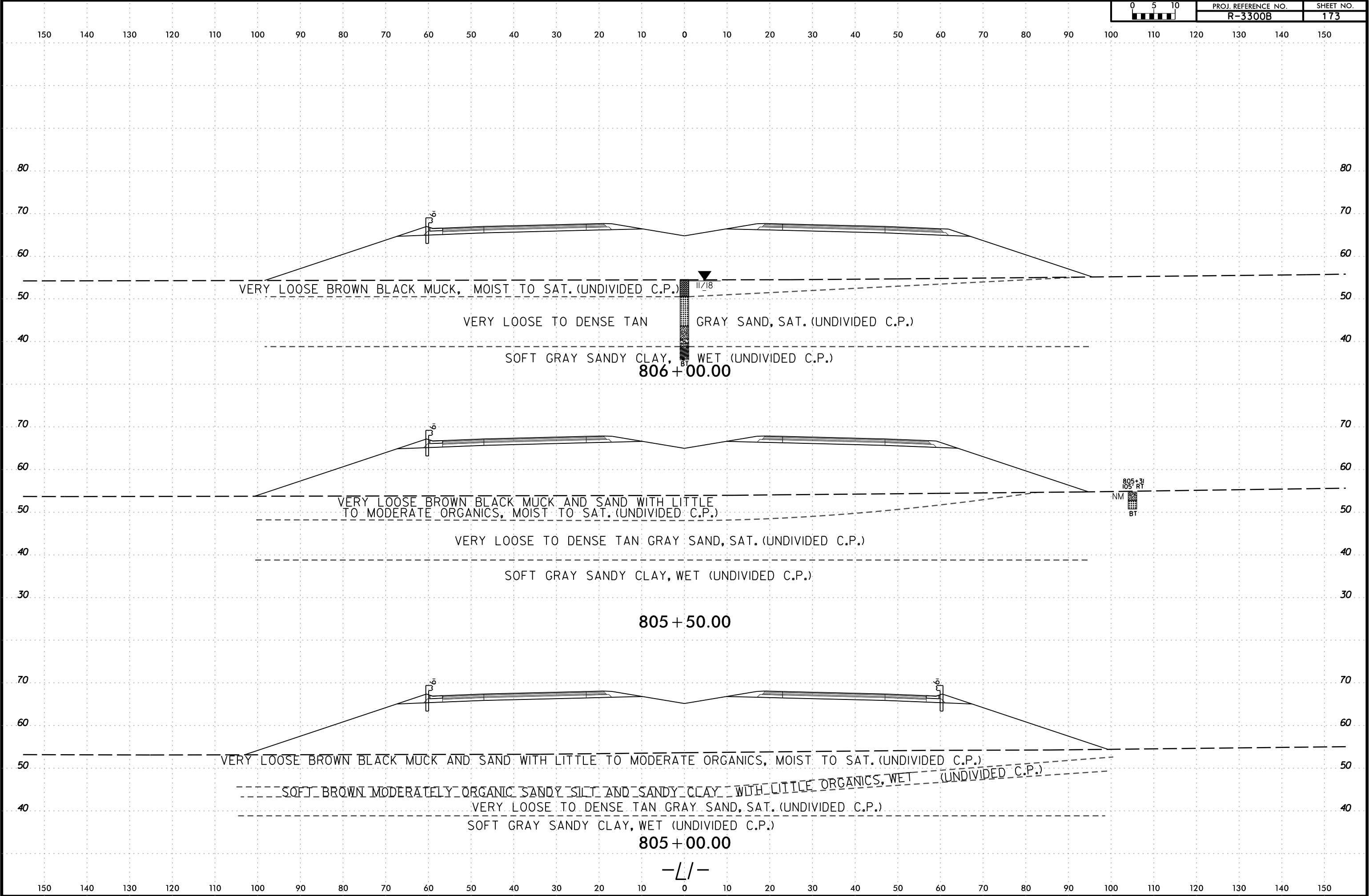
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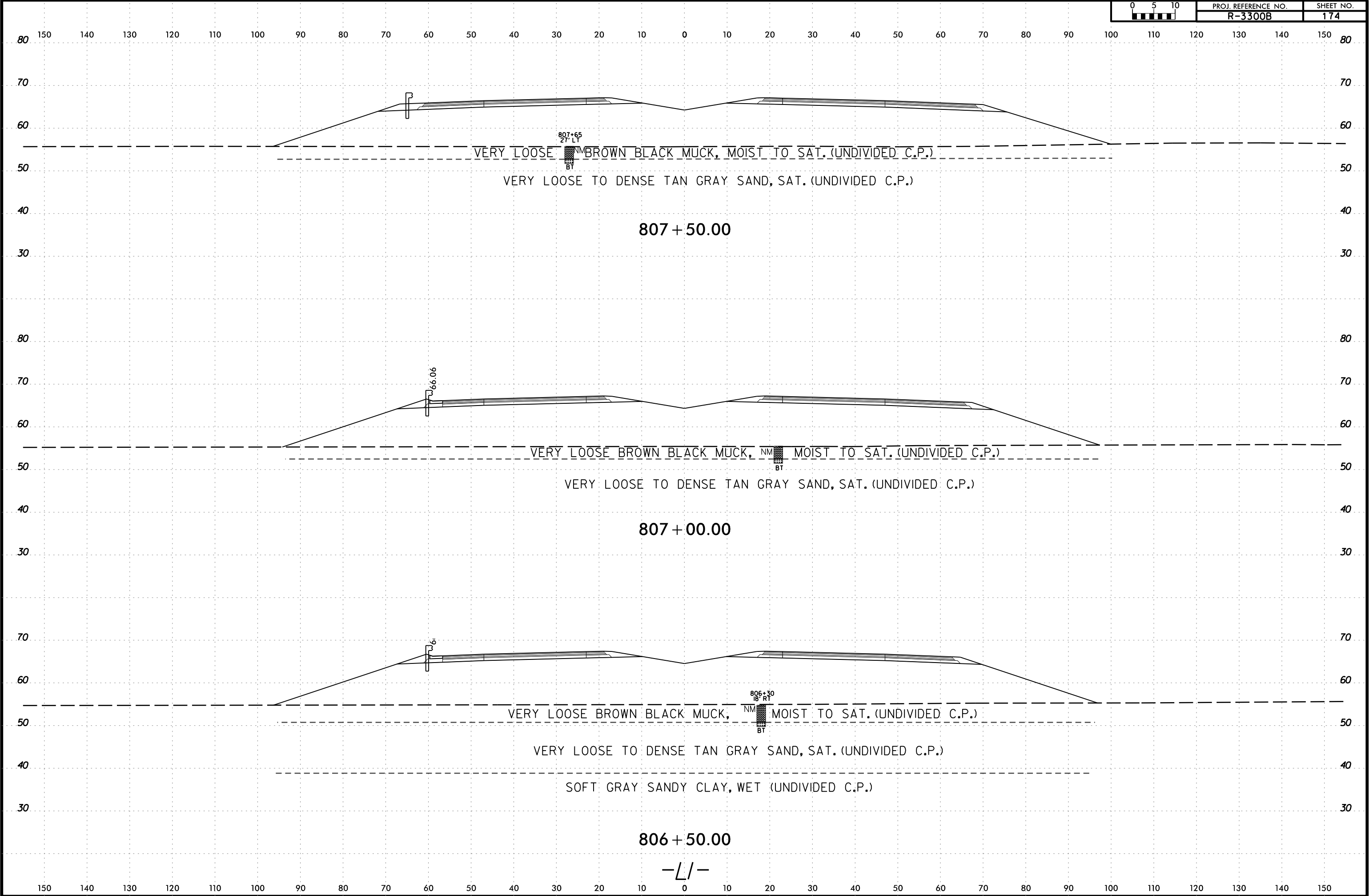
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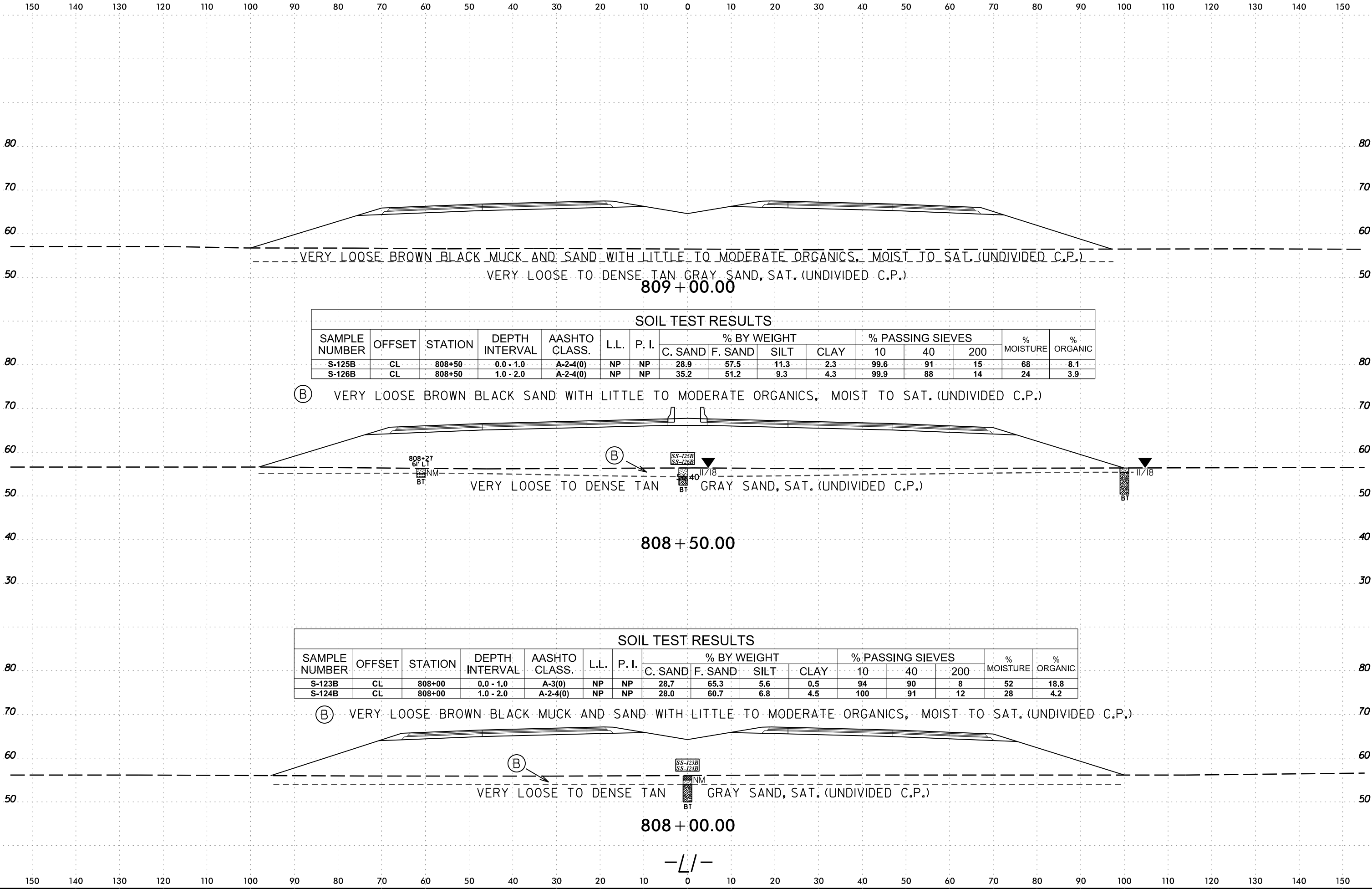
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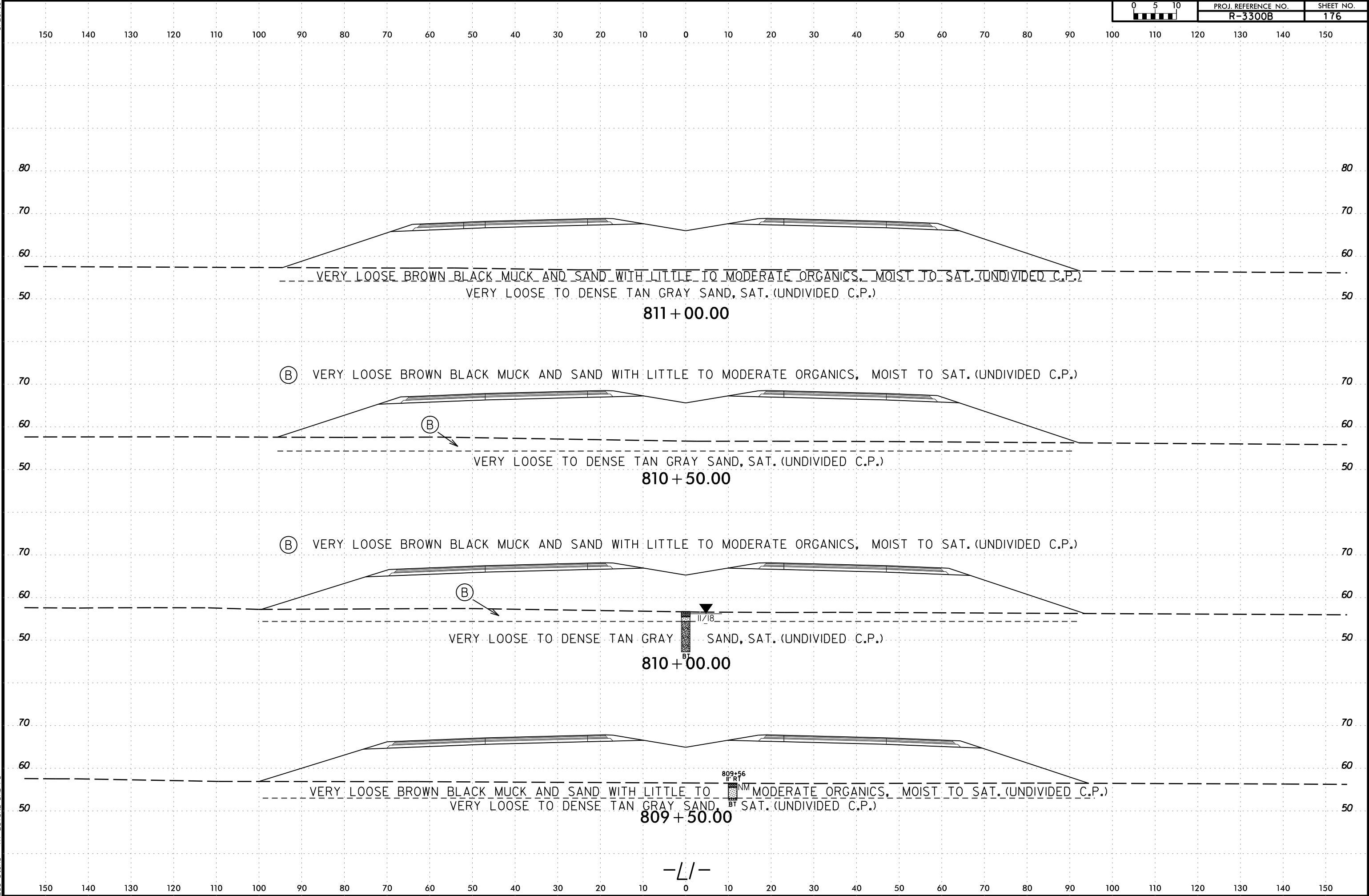




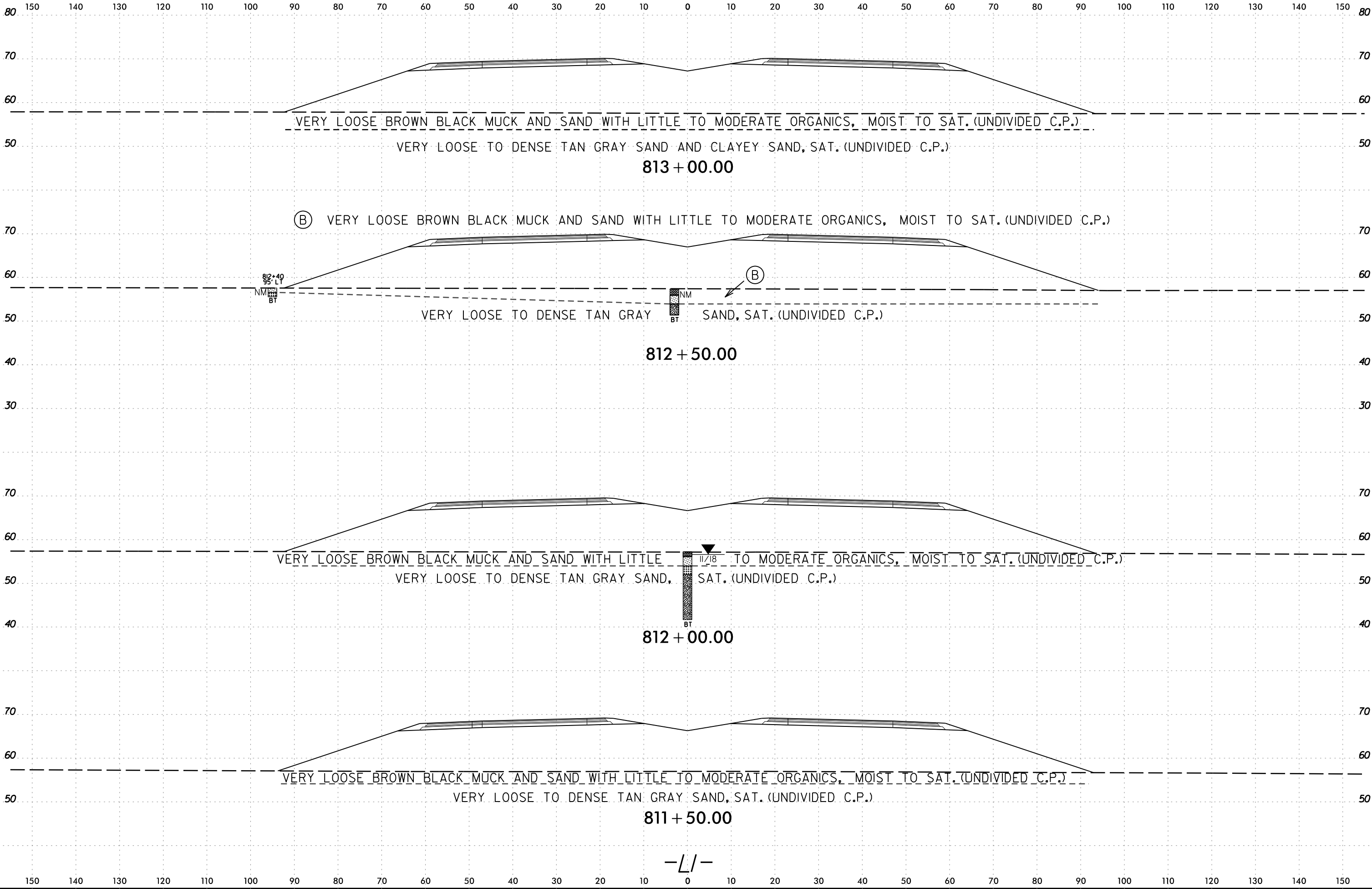
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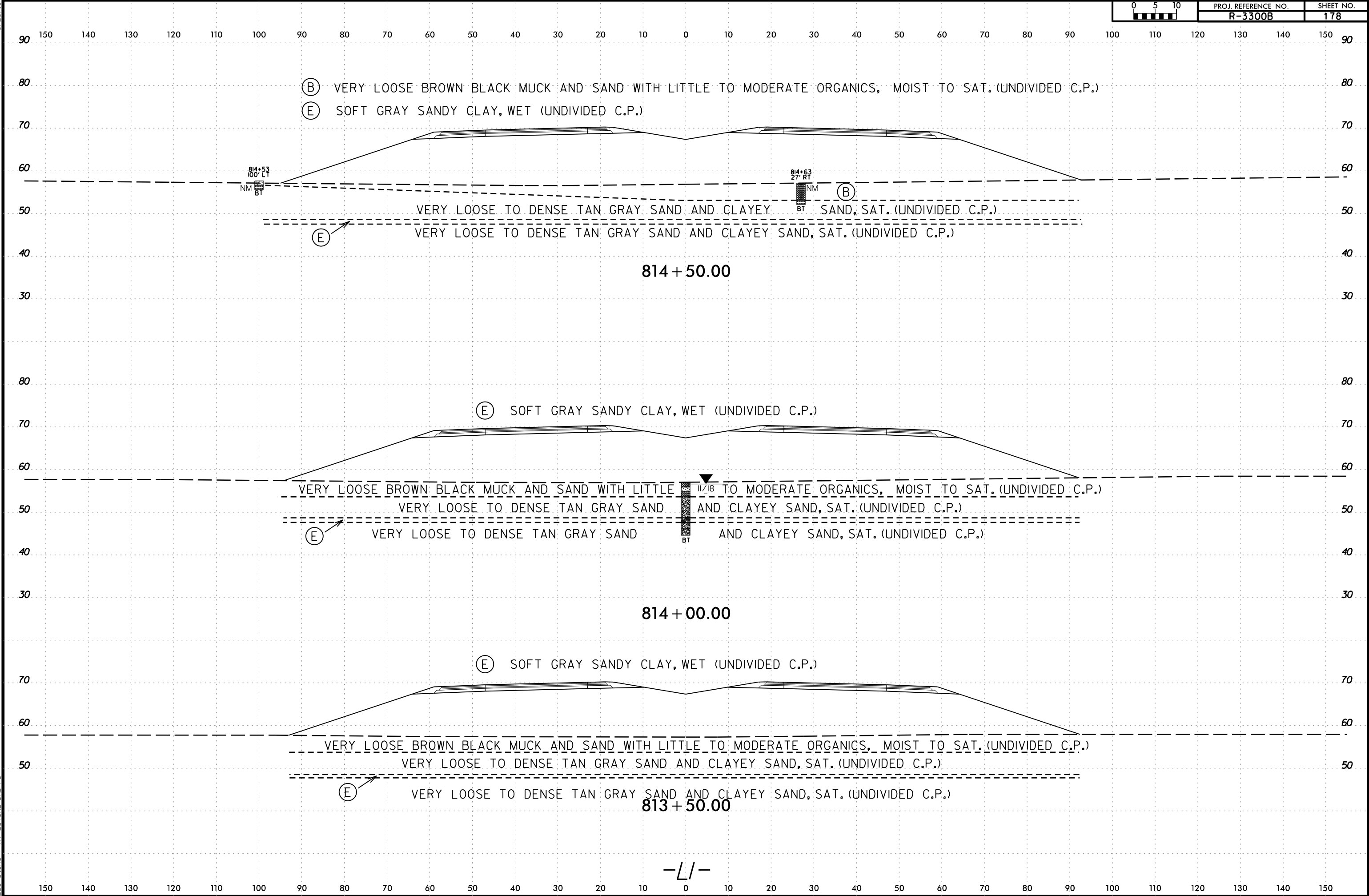




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Lee Stone AT LSTONE-CAD-PC

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SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-127B	CL	816+00	0.0 - 1.0	A-2-4(0)	NP	NP	31.6	58.5	8.6	1.3	99.4	89	11	57	15.1
S-128B	CL	816+00	1.0 - 2.0	A-2-4(0)	NP	NP	35.2	53.2	8.3	3.3	99.5	85	12	23	3.4

(E) SOFT GRAY SANDY CLAY, WET (UNDIVIDED C.P.)

S-127B
S-128B

11/18

VERY LOOSE BROWN BLACK MUCK AND SAND WITH LITTLE TO MODERATE ORGANICS, MOIST TO SAT. (UNDIVIDED C.P.)

VERY LOOSE TO DENSE TAN GRAY SAND AND CLAYEY SAND, SAT. (UNDIVIDED C.P.)

(E)

VERY LOOSE TO DENSE TAN GRAY SAND AND CLAYEY SAND, SAT. (UNDIVIDED C.P.)

816 + 00.00

(E) SOFT GRAY SANDY CLAY, WET (UNDIVIDED C.P.)

VERY LOOSE BROWN BLACK MUCK AND SAND WITH LITTLE TO MODERATE ORGANICS, MOIST TO SAT. (UNDIVIDED C.P.)

VERY LOOSE TO DENSE TAN GRAY SAND AND CLAYEY SAND, SAT. (UNDIVIDED C.P.)

(E)

VERY LOOSE TO DENSE TAN GRAY SAND AND CLAYEY SAND, SAT. (UNDIVIDED C.P.)

815 + 50.00

(B) VERY LOOSE BROWN BLACK MUCK AND SAND WITH LITTLE TO MODERATE ORGANICS, MOIST TO SAT. (UNDIVIDED C.P.)

(E) SOFT GRAY SANDY CLAY, WET (UNDIVIDED C.P.)

(B)

VERY LOOSE TO DENSE TAN GRAY SAND AND CLAYEY SAND, SAT. (UNDIVIDED C.P.)

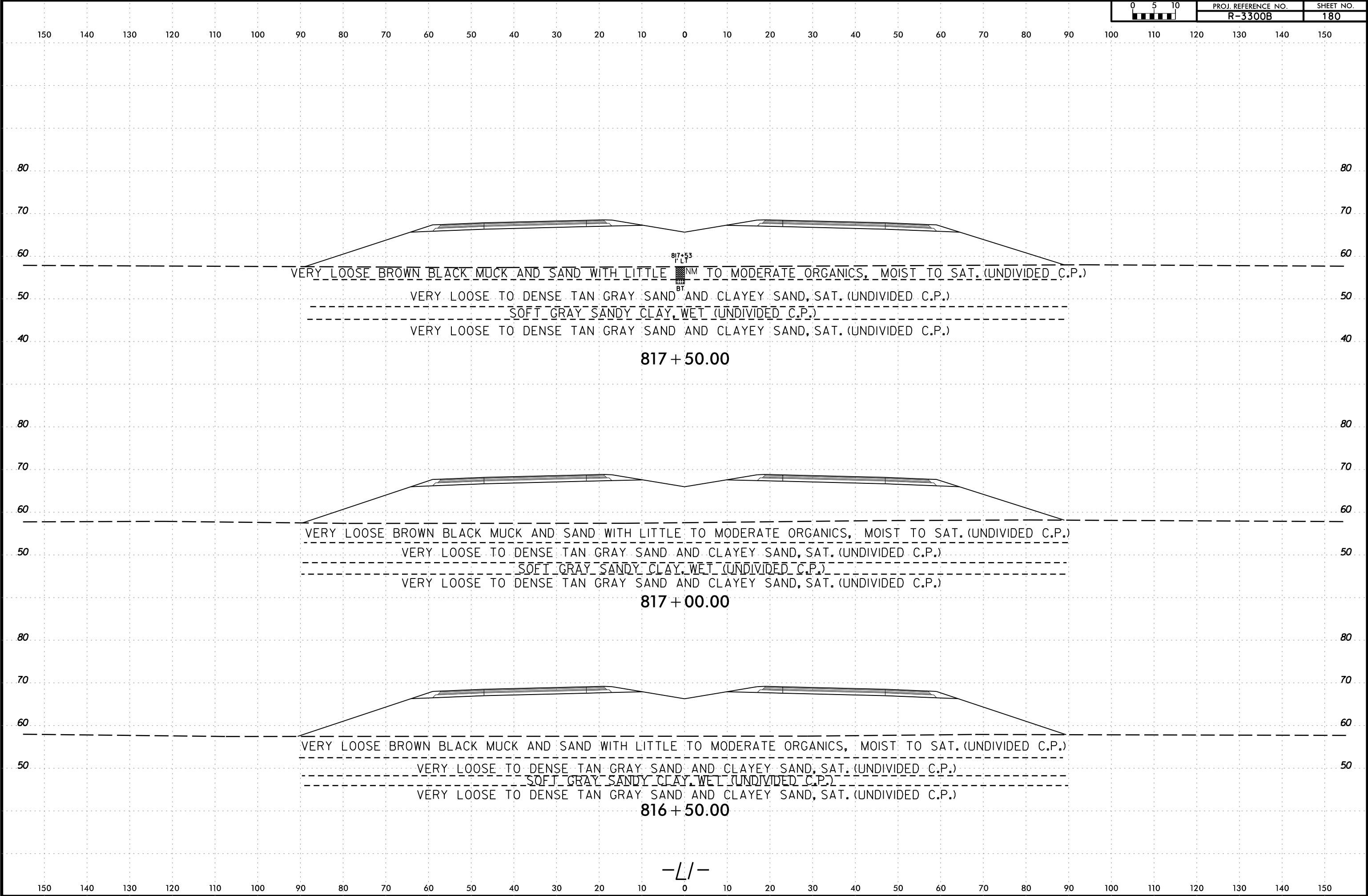
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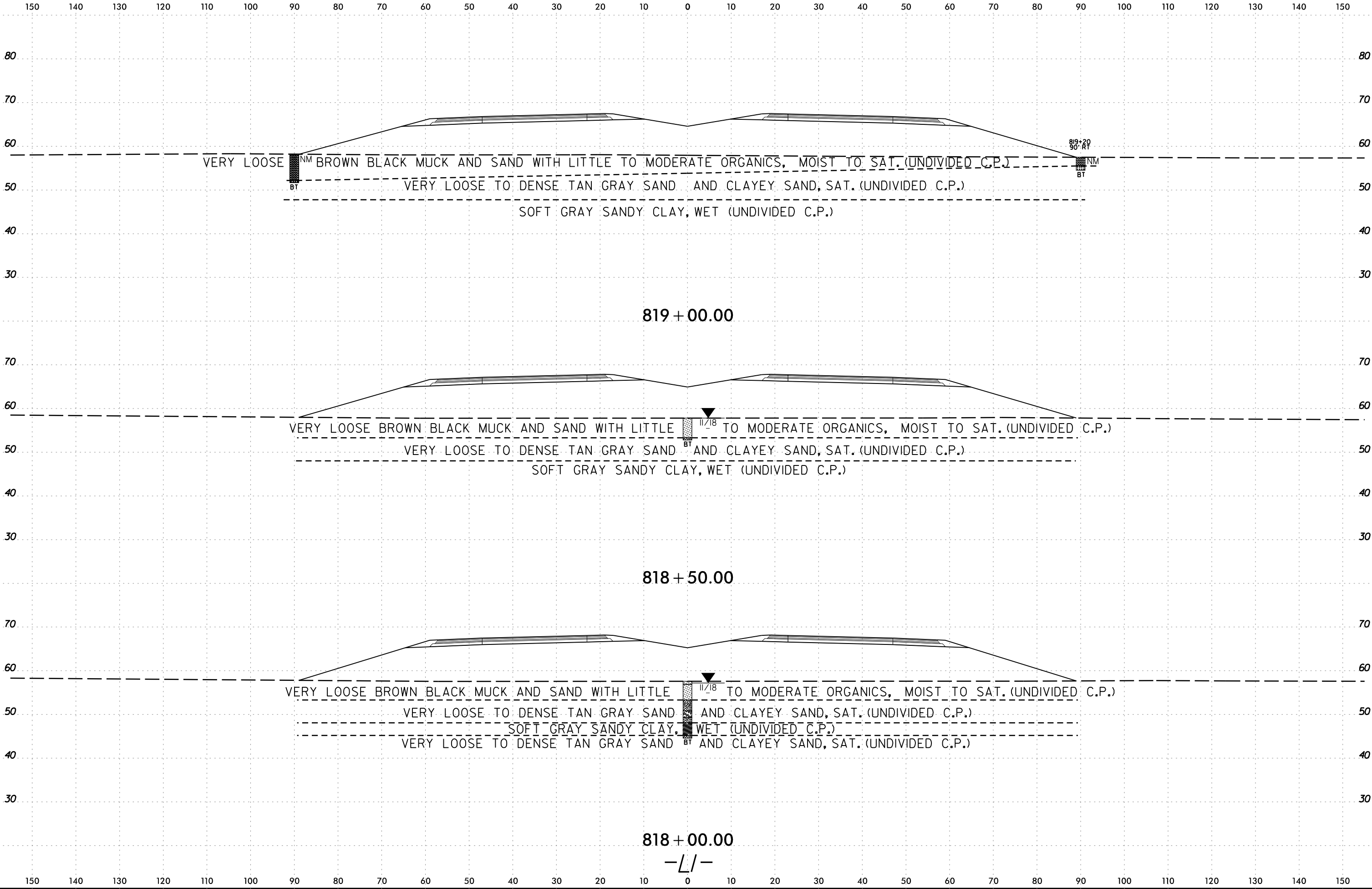
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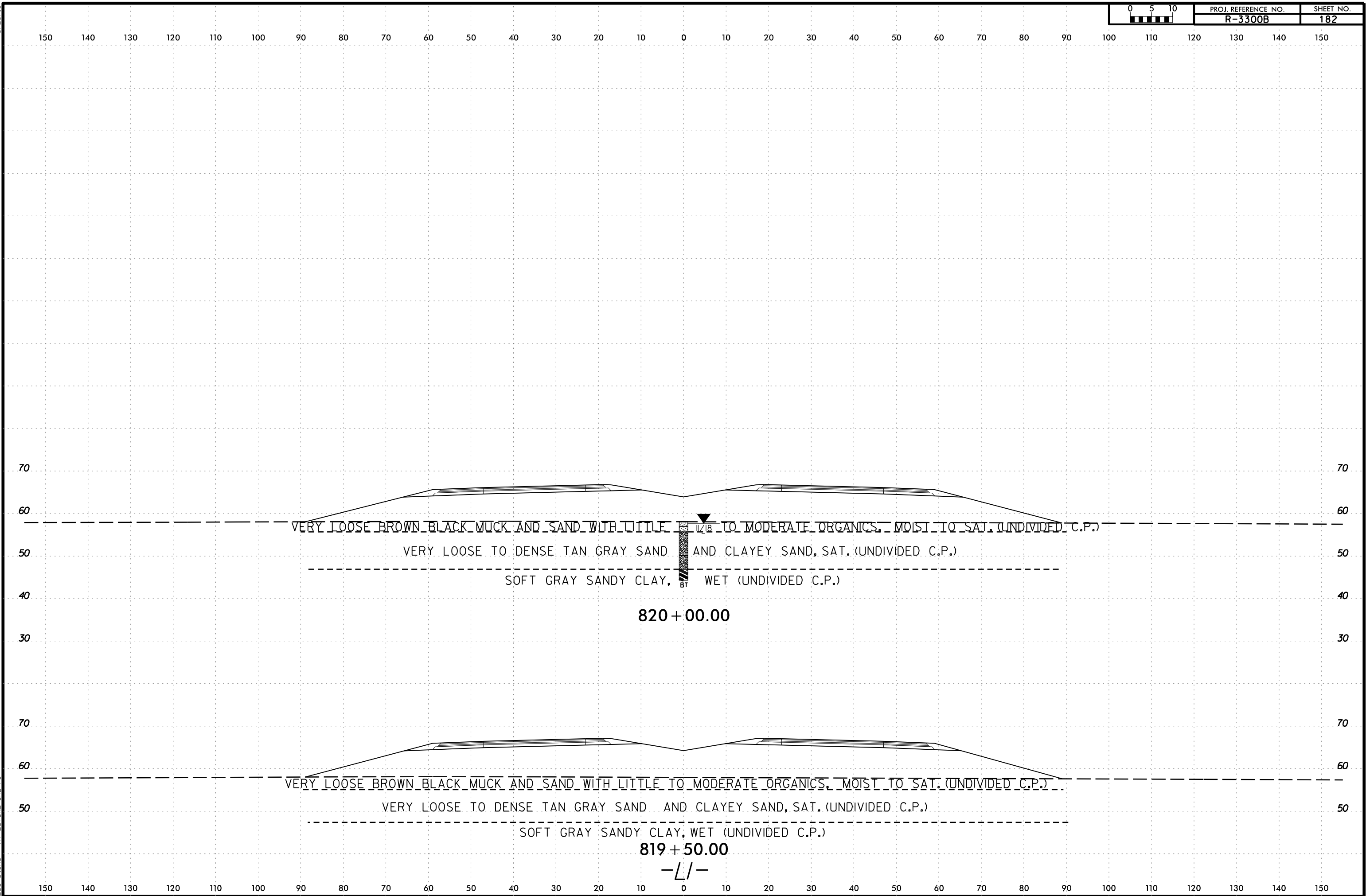
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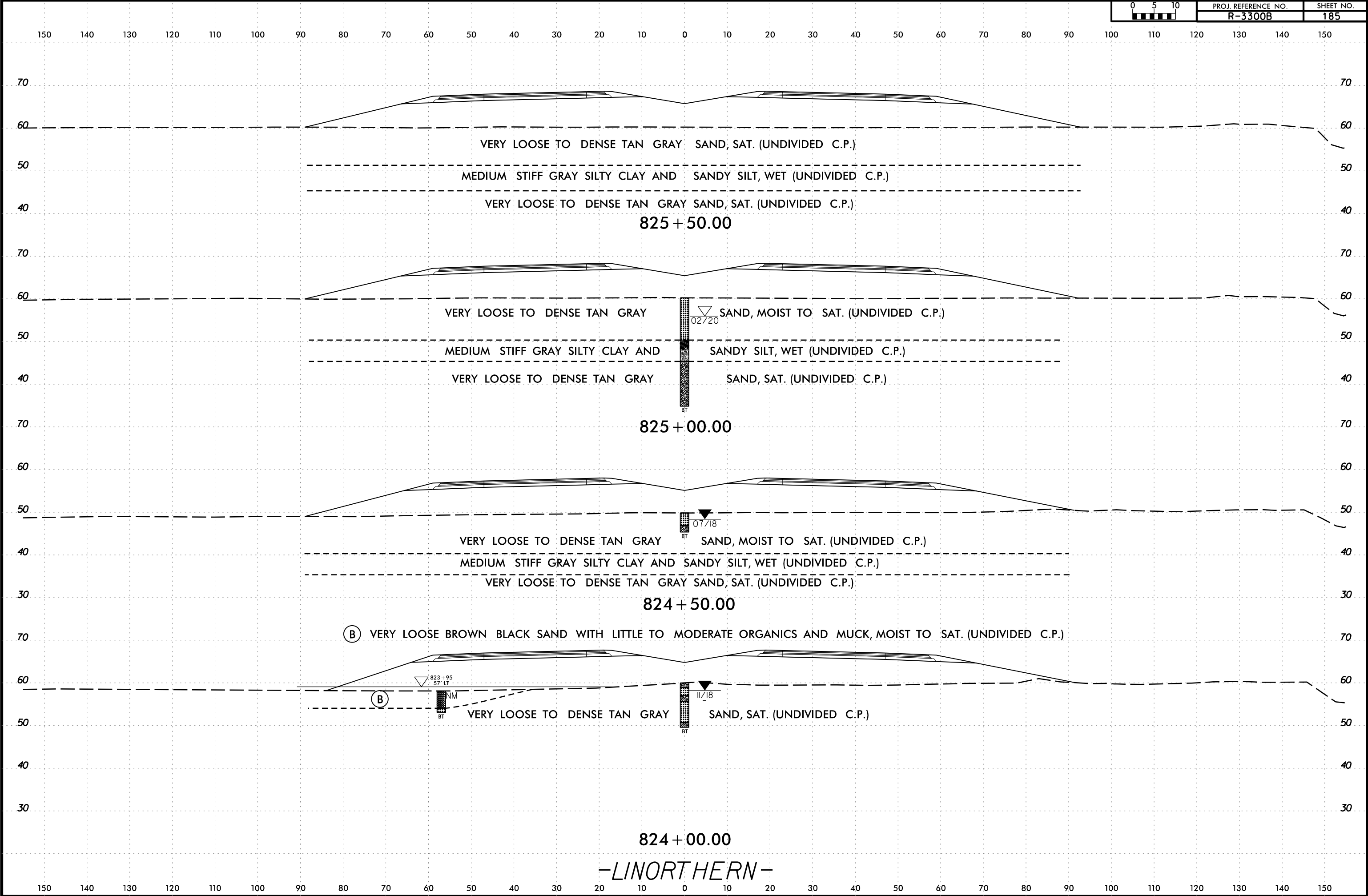




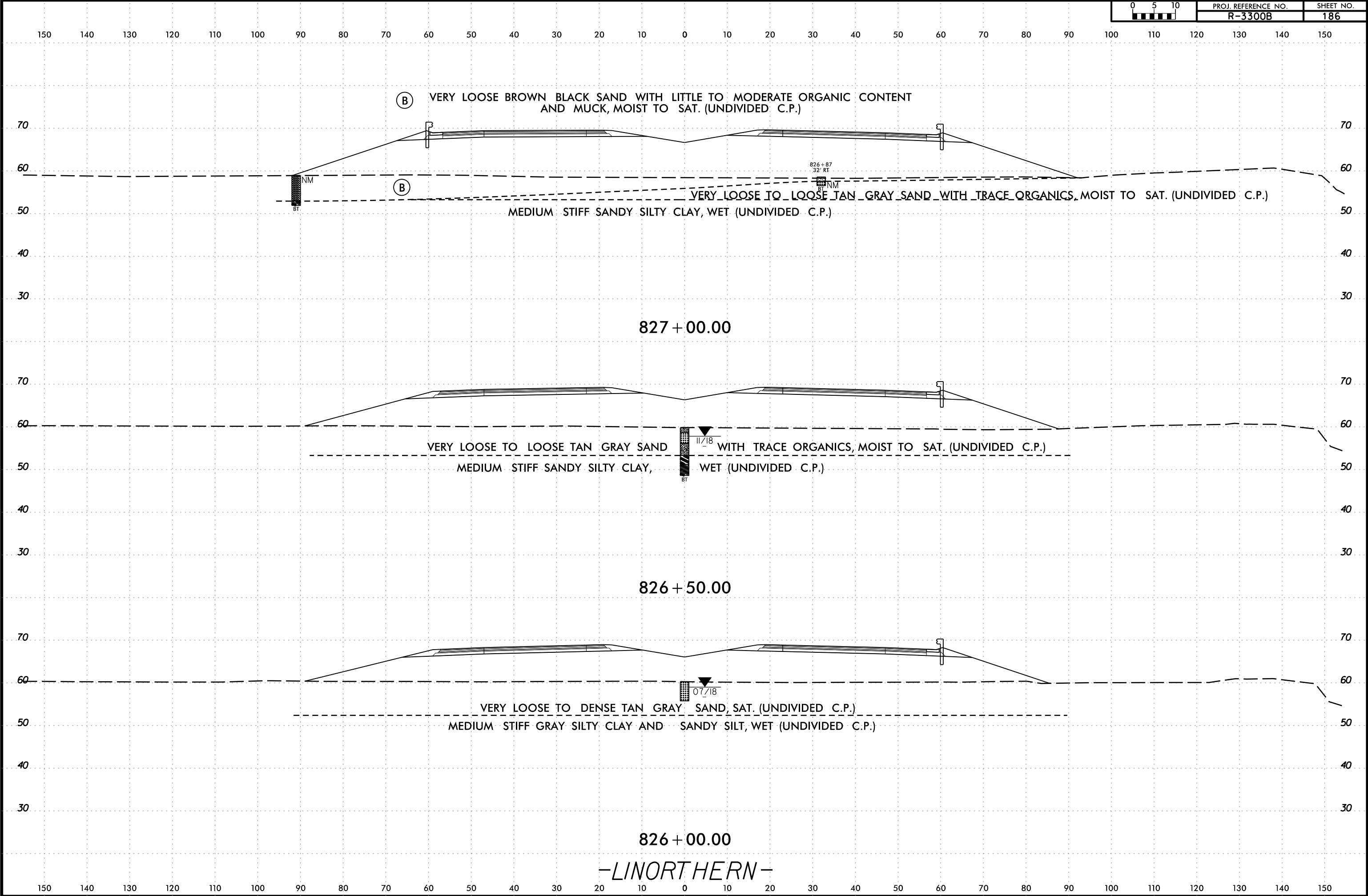
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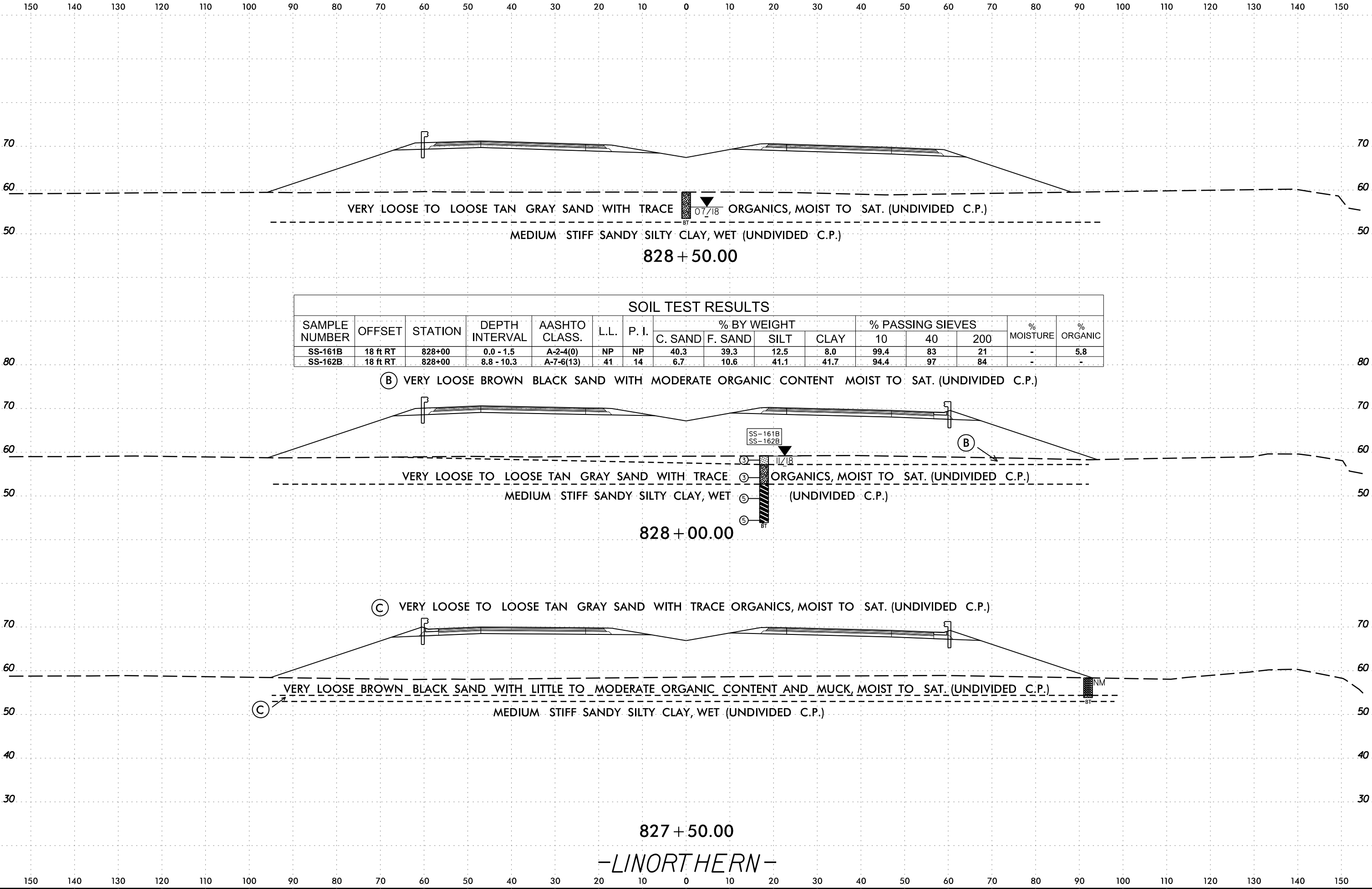


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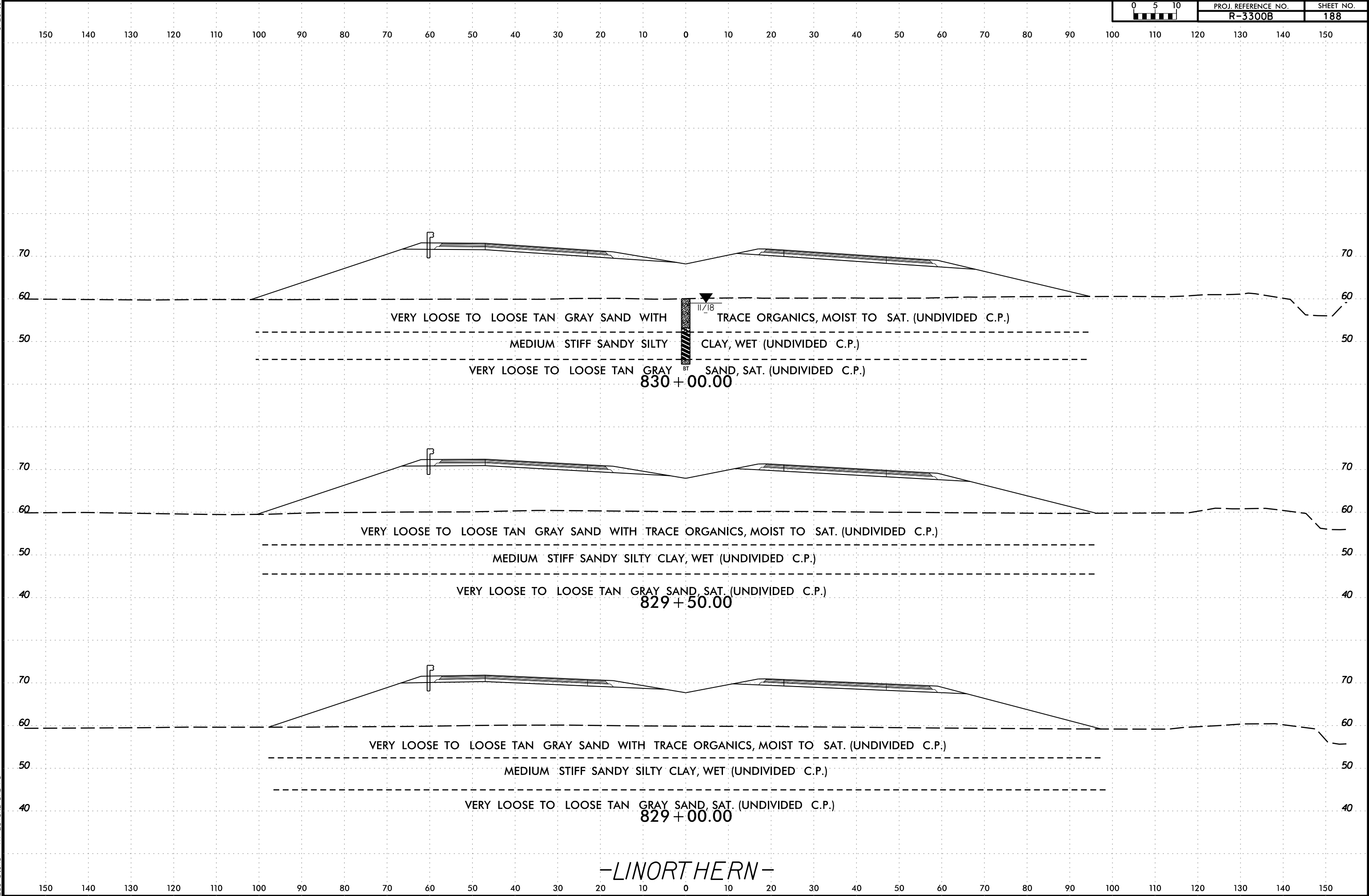
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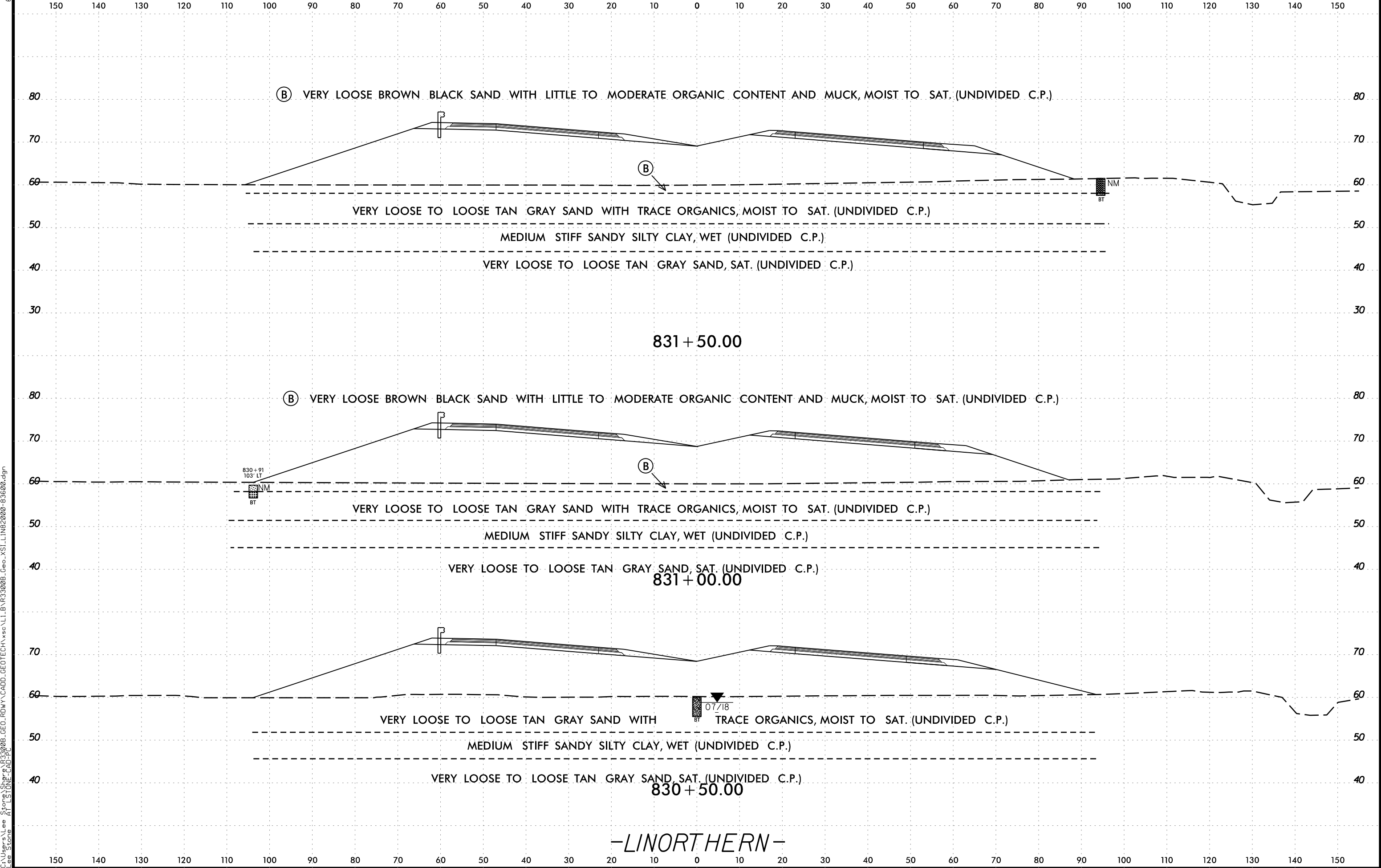
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Lee Stone AT LSTONE-CAD-PC

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	R-3300B	188



-LINORTHERN-

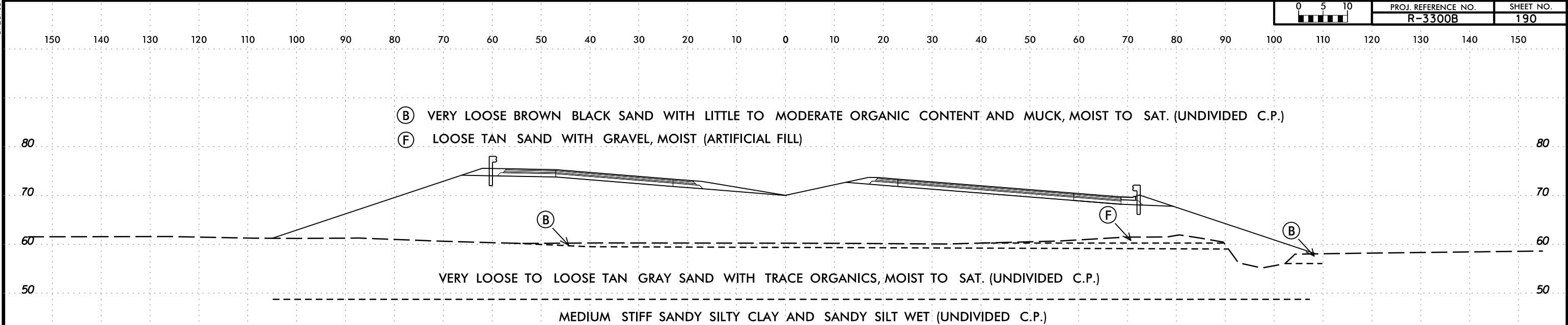
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6/23/16



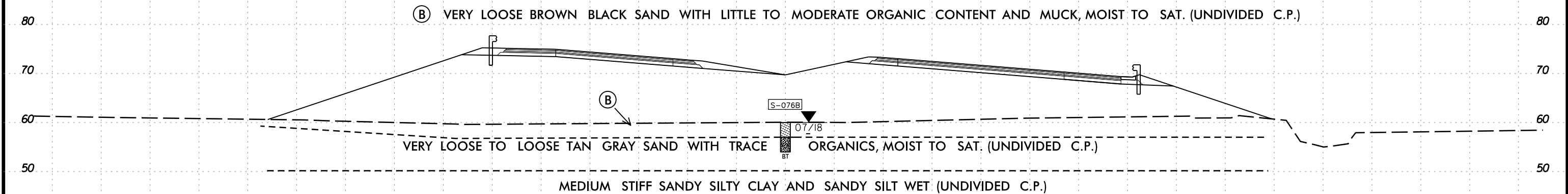
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R-3300B	190



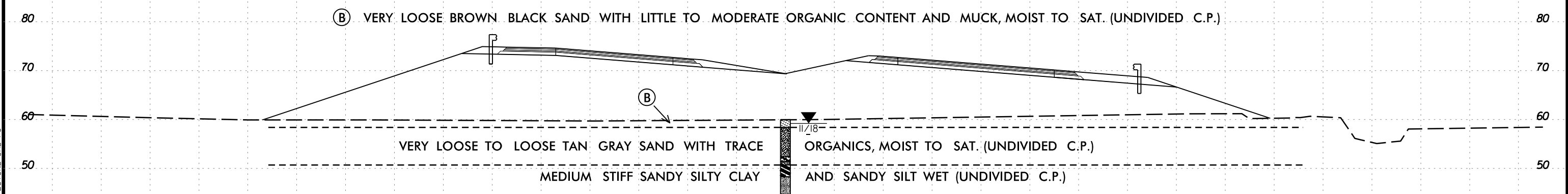
833 + 00.00

SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-076B	CL	832+50	2.0 - 3.0	A-2-4(0)	23	NP	34.4	39.9	14.1	11.6	99.9	89	26	36	8.4



832 + 50.00



832 + 00.00

-LINORTHERN-

6/23/16

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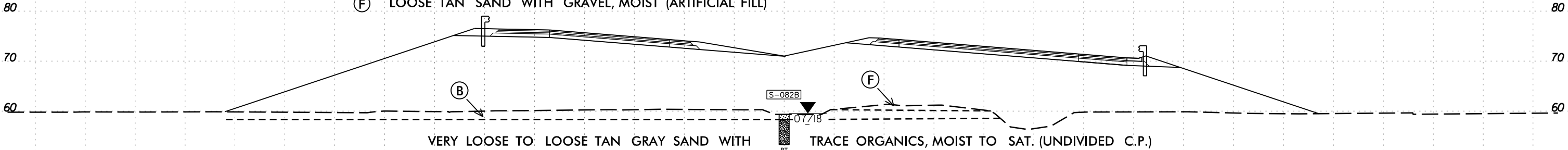
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R-3300B	191

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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-082B	CL	834+50	4.5 - 6.0	A-2-4(0)	15	NP	50.1	37.3	5.5	7.1	100	86	13	23	-

(B) VERY LOOSE BROWN BLACK SAND WITH LITTLE TO MODERATE ORGANIC CONTENT AND MUCK, MOIST TO SAT. (UNDIVIDED C.P.)

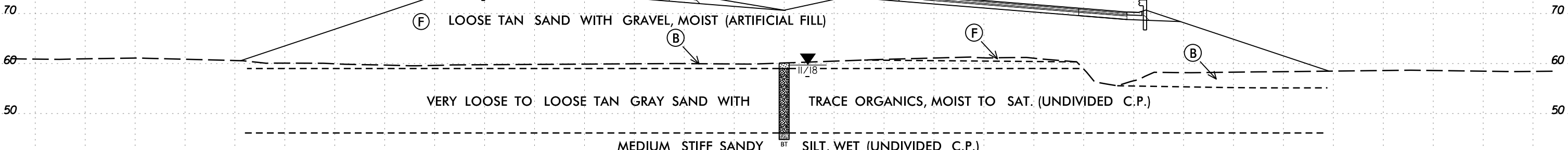
(F) LOOSE TAN SAND WITH GRAVEL, MOIST (ARTIFICIAL FILL)



834 + 50.00 MEDIUM STIFF SANDY SILT, WET (UNDIVIDED C.P.)

(B) VERY LOOSE BROWN BLACK SAND WITH LITTLE TO MODERATE ORGANIC CONTENT AND MUCK, MOIST TO SAT. (UNDIVIDED C.P.)

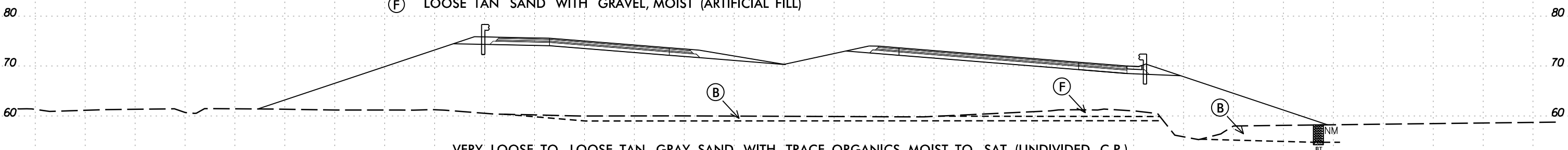
(F) LOOSE TAN SAND WITH GRAVEL, MOIST (ARTIFICIAL FILL)



MEDIUM STIFF SANDY SILT, WET (UNDIVIDED C.P.)
834 + 00.00

(B) VERY LOOSE BROWN BLACK SAND WITH LITTLE TO MODERATE ORGANIC CONTENT AND MUCK, MOIST TO SAT. (UNDIVIDED C.P.)

(F) LOOSE TAN SAND WITH GRAVEL, MOIST (ARTIFICIAL FILL)



VERY LOOSE TO LOOSE TAN GRAY SAND WITH TRACE ORGANICS, MOIST TO SAT. (UNDIVIDED C.P.)

MEDIUM STIFF SANDY SILTY CLAY AND SANDY SILT WET (UNDIVIDED C.P.)

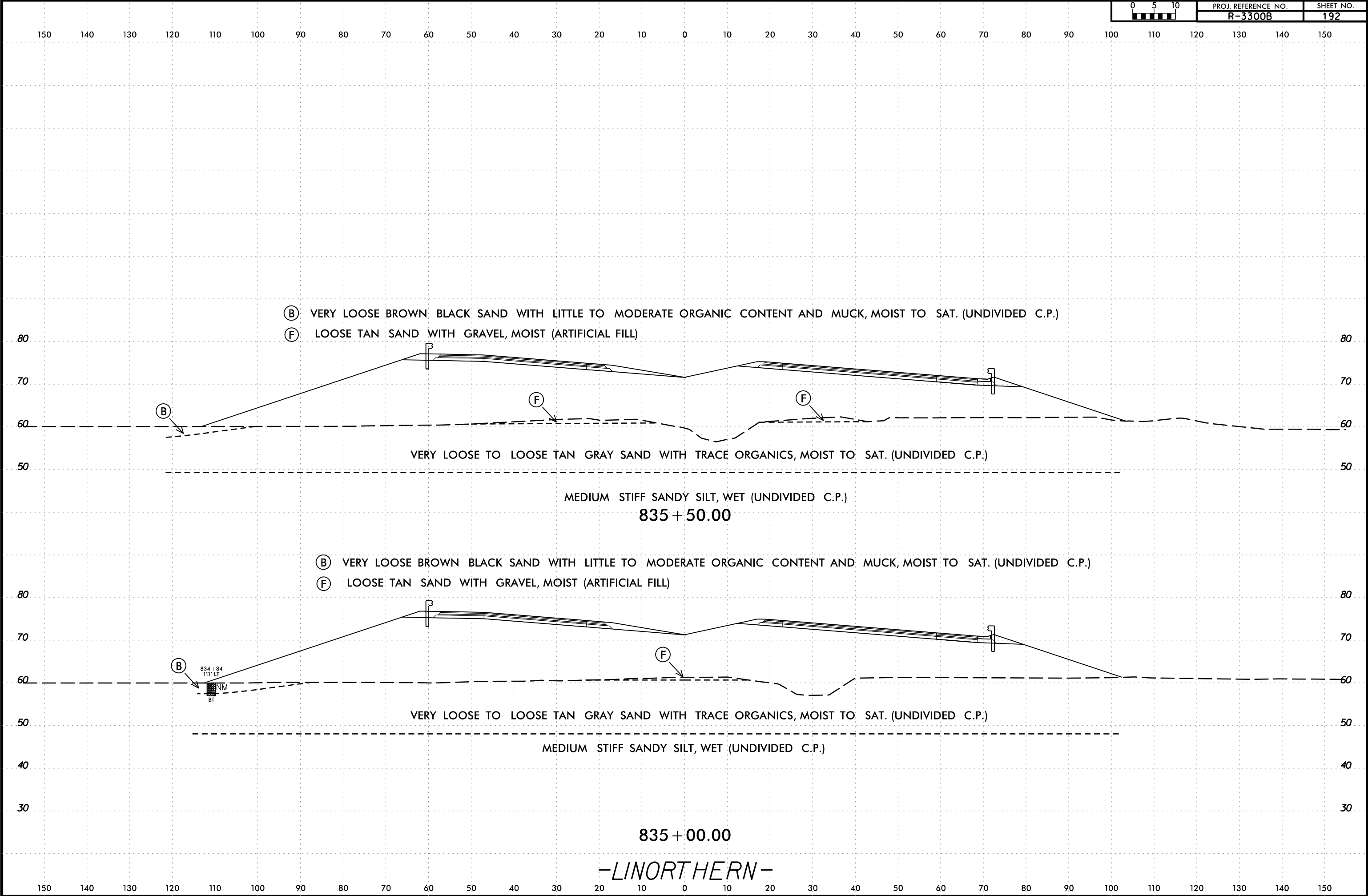
833 + 50.00

-LINORTHERN-

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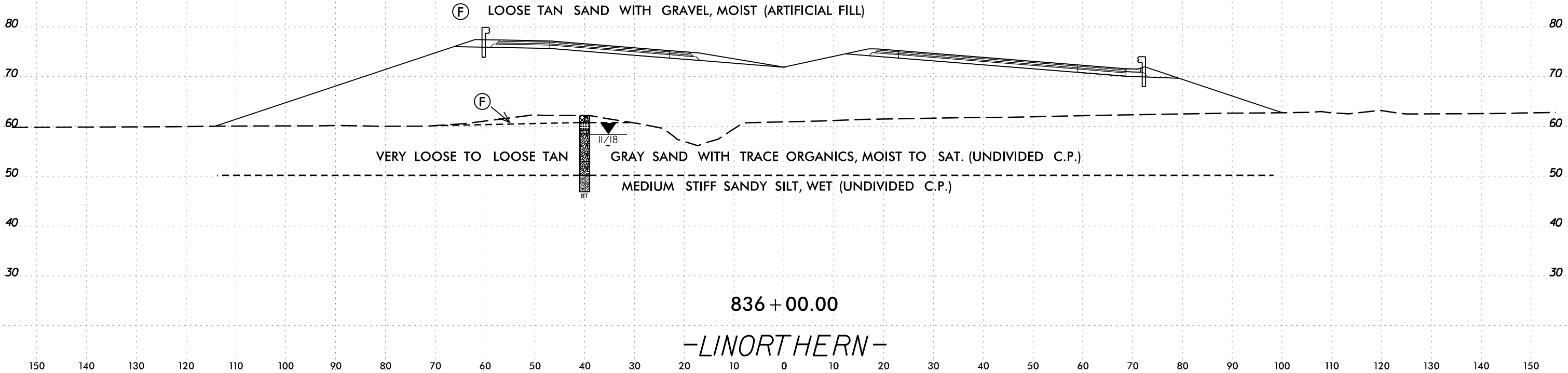
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6/23/16

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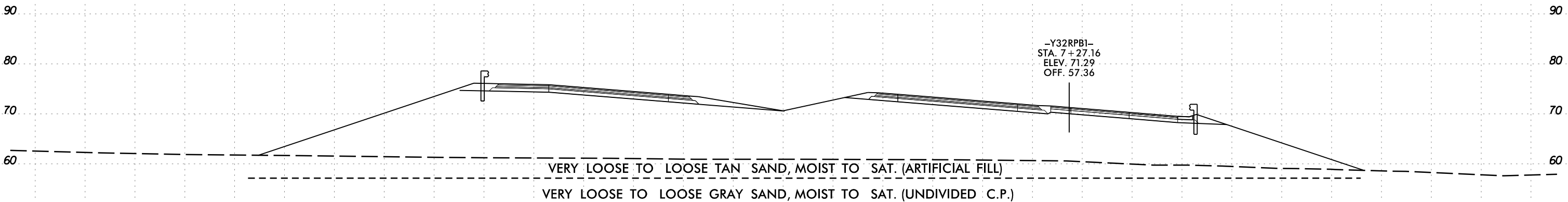
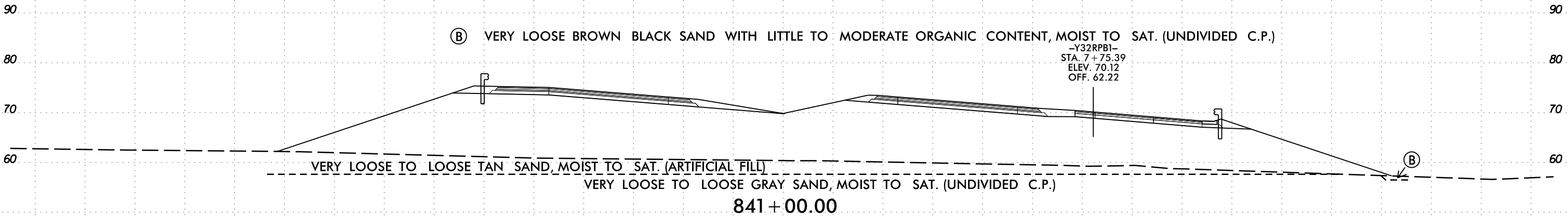
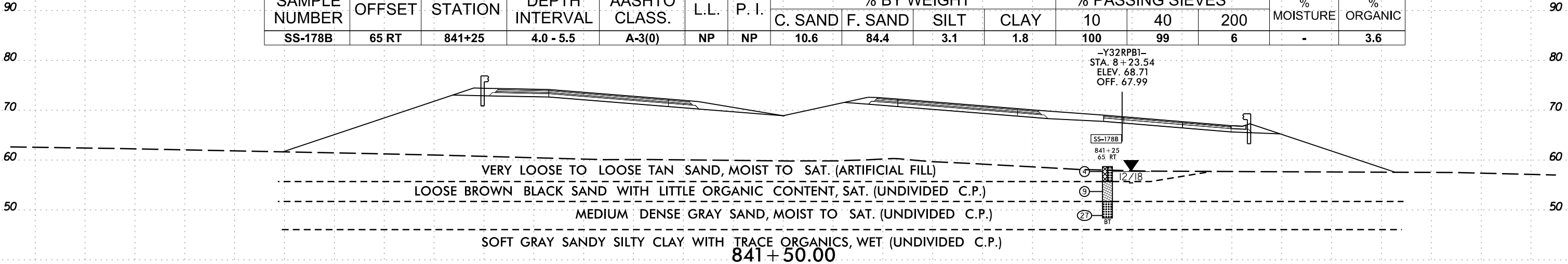


PROJ. REFERENCE NO.
R-3300B

SHEET NO.
194

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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-178B	65 RT	841+25	4.0 - 5.5	A-3(0)	NP	NP	10.6	84.4	3.1	1.8	100	99	6	-	3.6

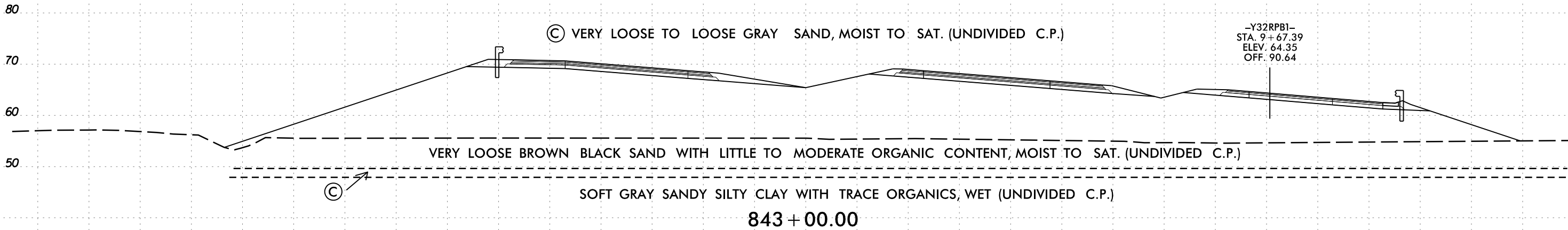


840+50.00
-LINORTHERN-

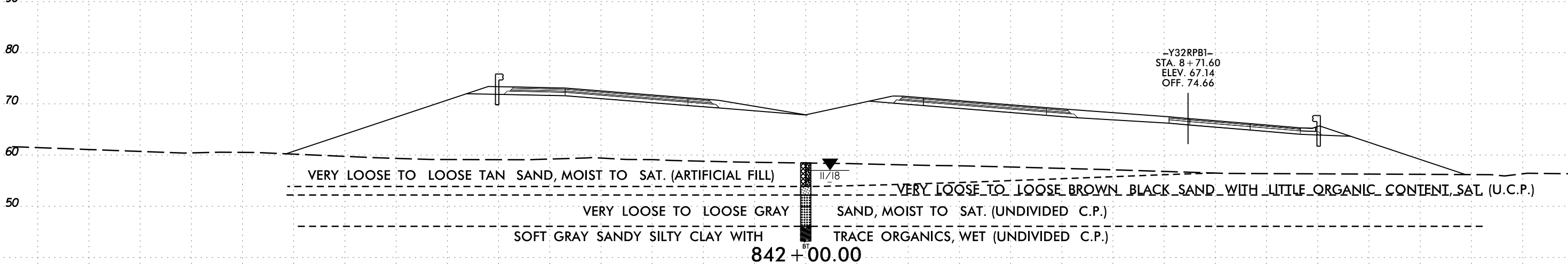
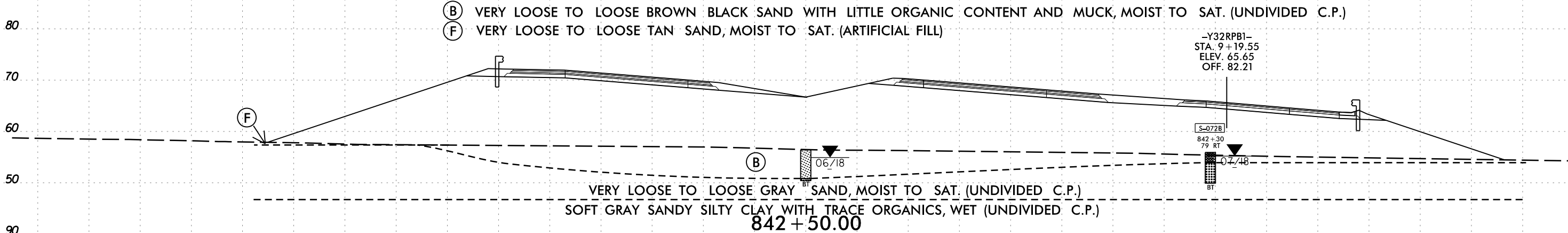
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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-072B	79 RT	842+30	1.0 - 1.5	A-3(0)	17	NP	22.4	69.4	2.1	6.1	99.9	93	9	26	13.6



-LINORTHERN-

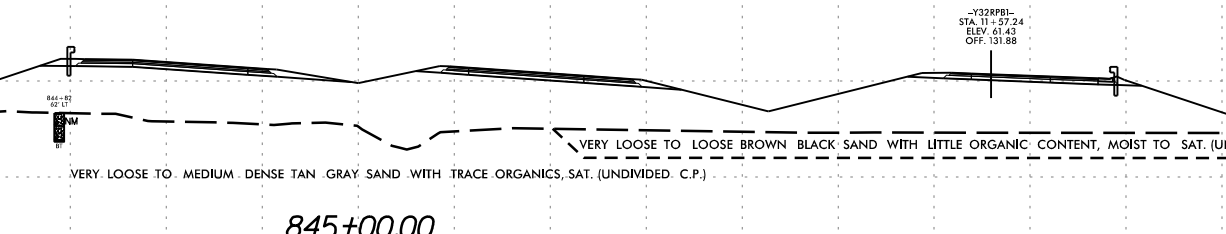
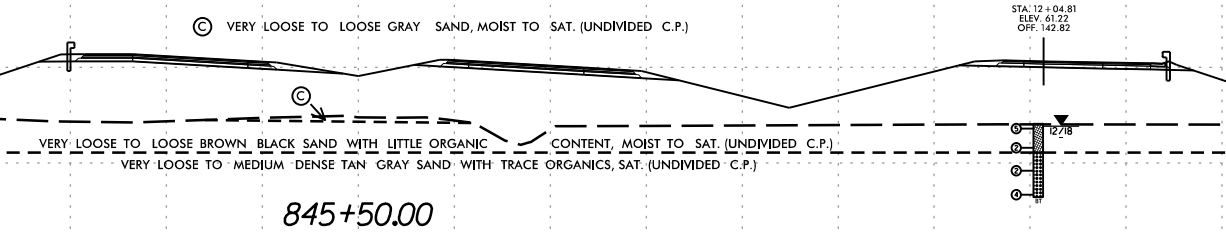
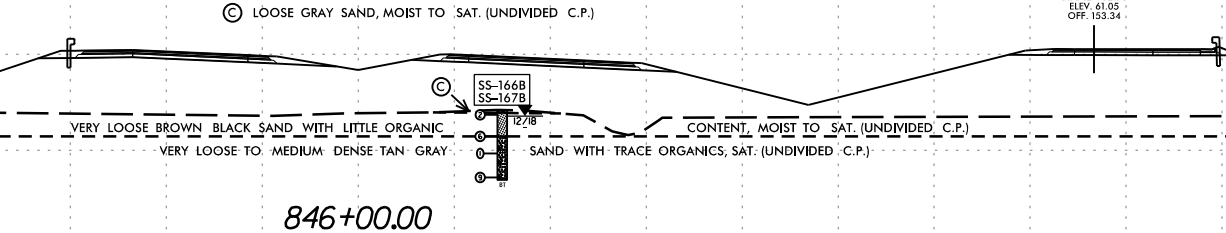


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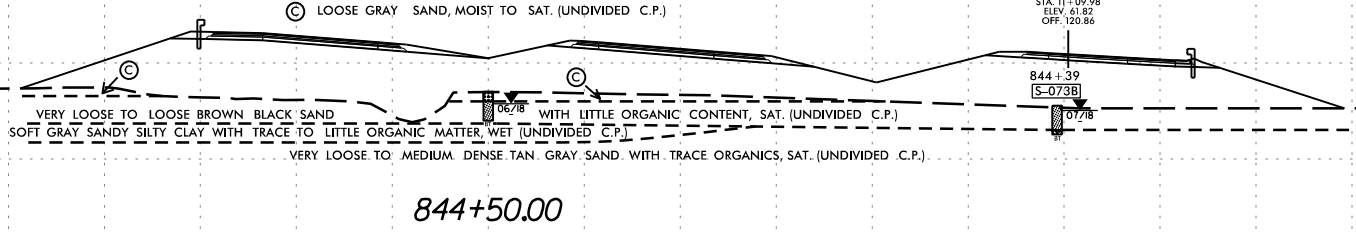


PROJ. REFERENCE NO.	SHEET NO.
R-3300B	197

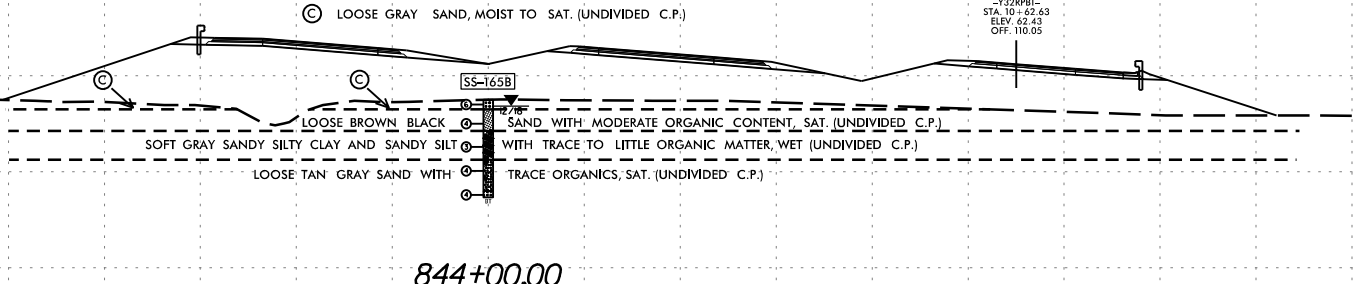
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SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-166B	30 ft RT	846+00	0.5 - 1.5	A-2-4(0)	NP	NP	23.7	65.9	9.2	1.2	99.9	94	12	-	4
SS-167B	30 ft RT	846+00	8.1 - 9.6	A-2-4(0)	NP	NP	47.5	33.2	7.3	12.0	99.5	84	21	-	-



SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-073B	119 RT	844+39	4.0 - 4.5	A-3(0)	24	NP	20.1	71.3	5.5	3.0	99.8	94	10	43	5.8



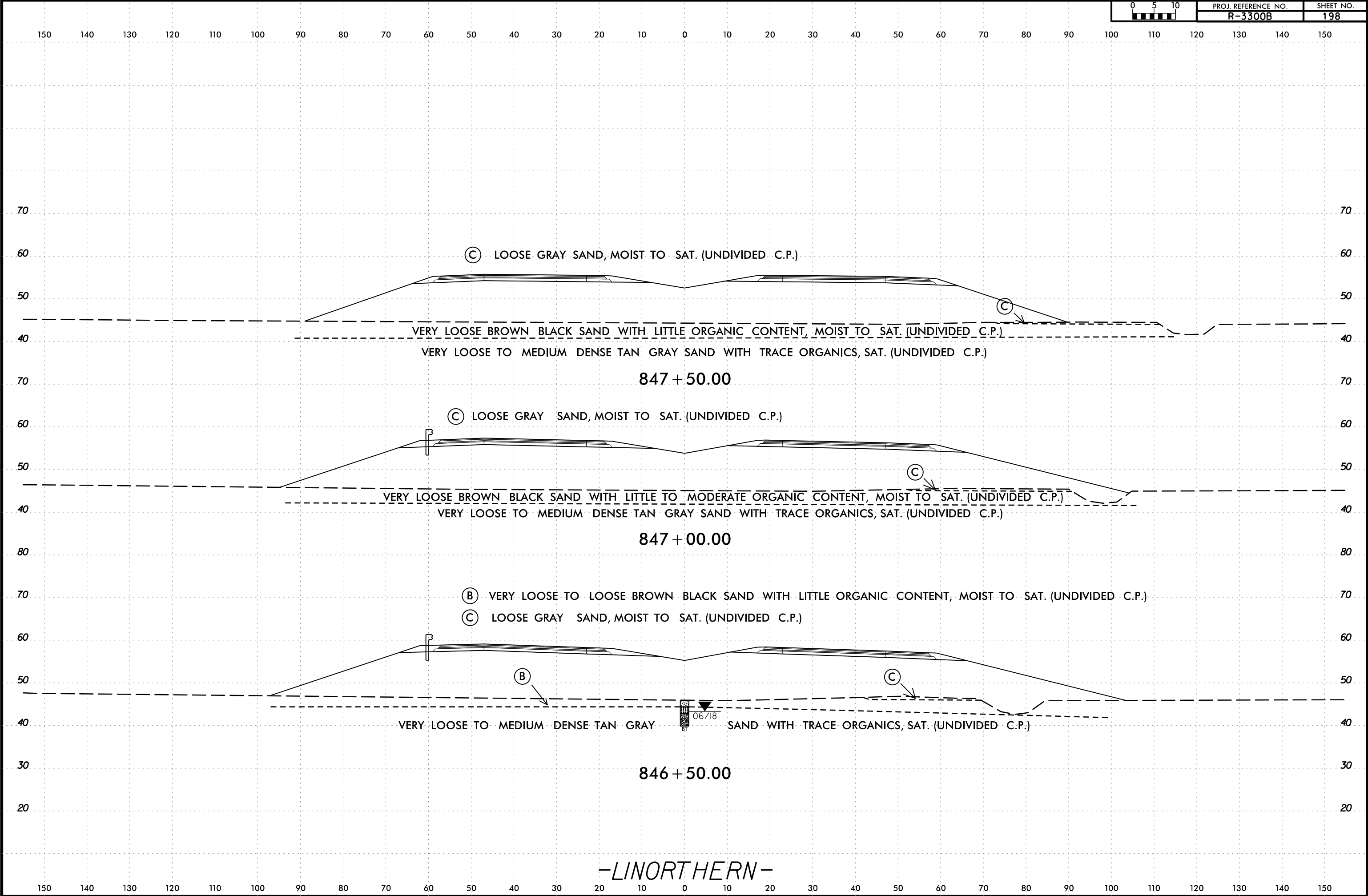
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							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-165B	CL	844+50	4.0 - 5.5	A-3(0)	NP	NP	22.9	69.8	4.3	3.0	99.7	95	8	-	6.0



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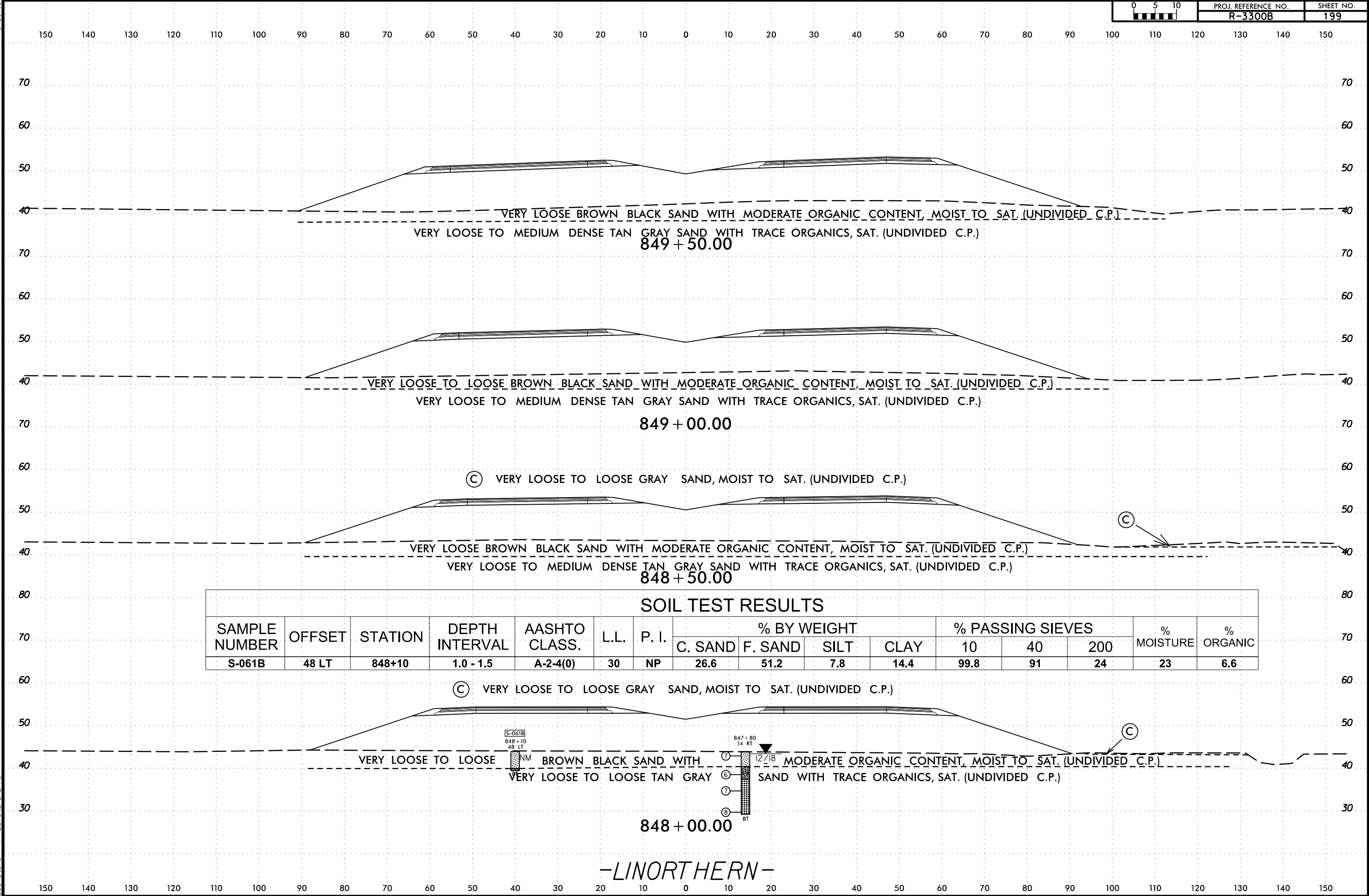
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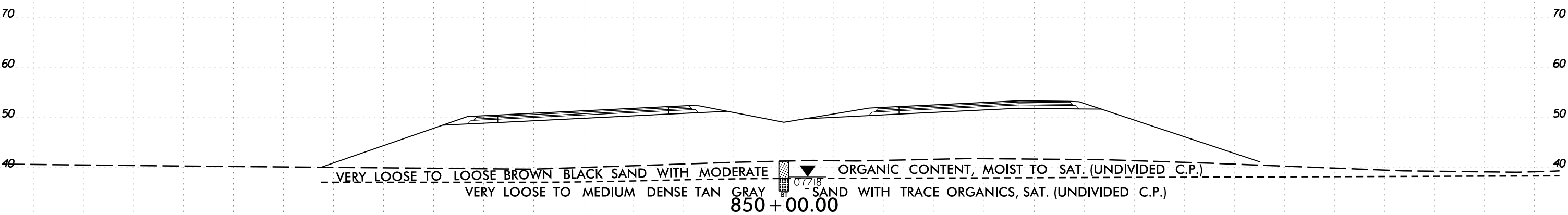
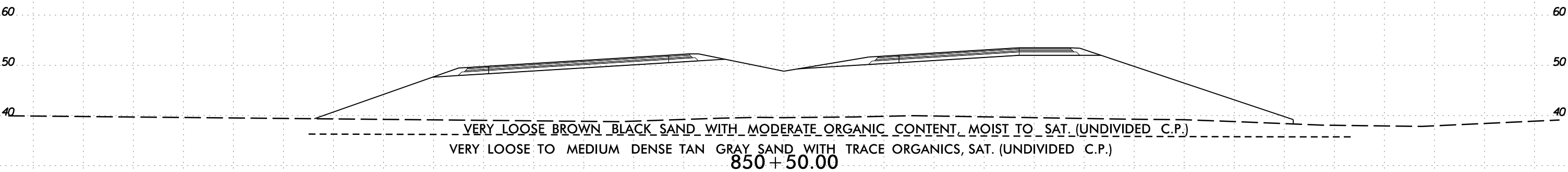
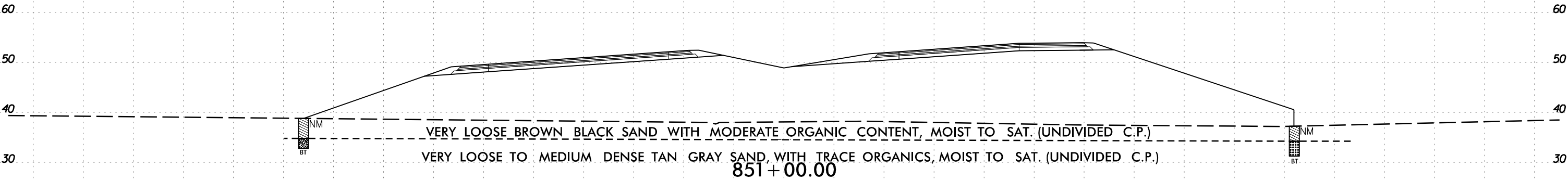
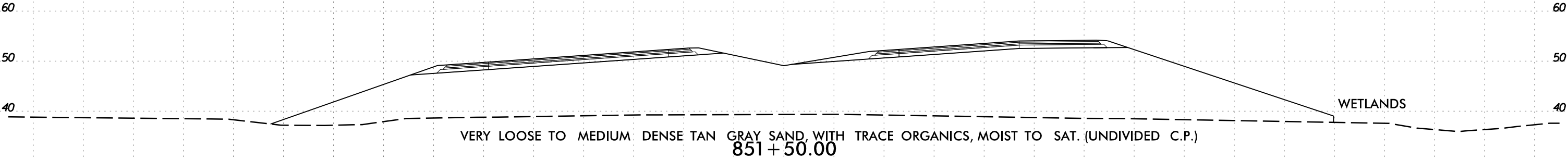
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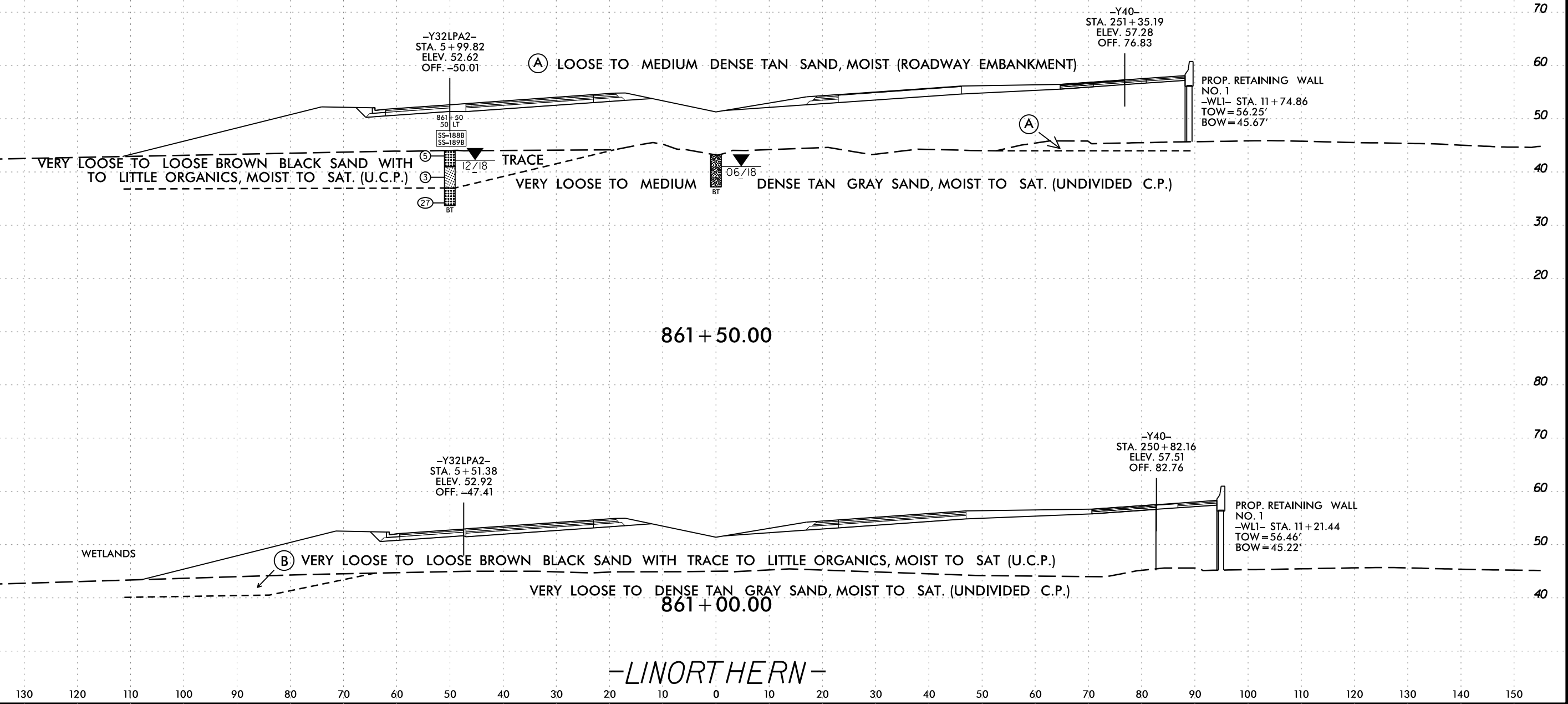
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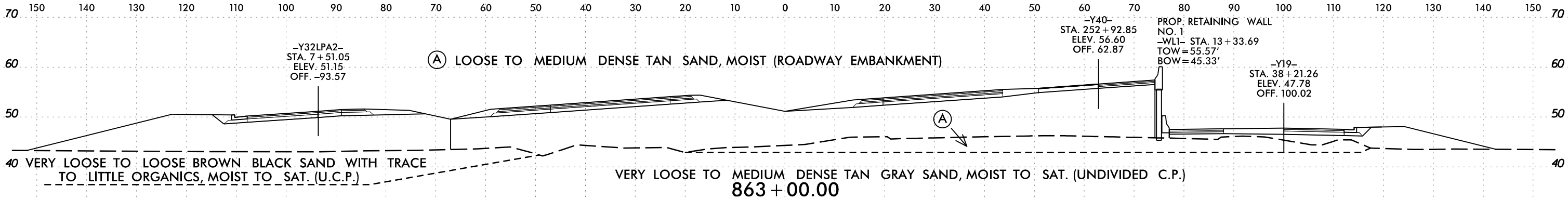
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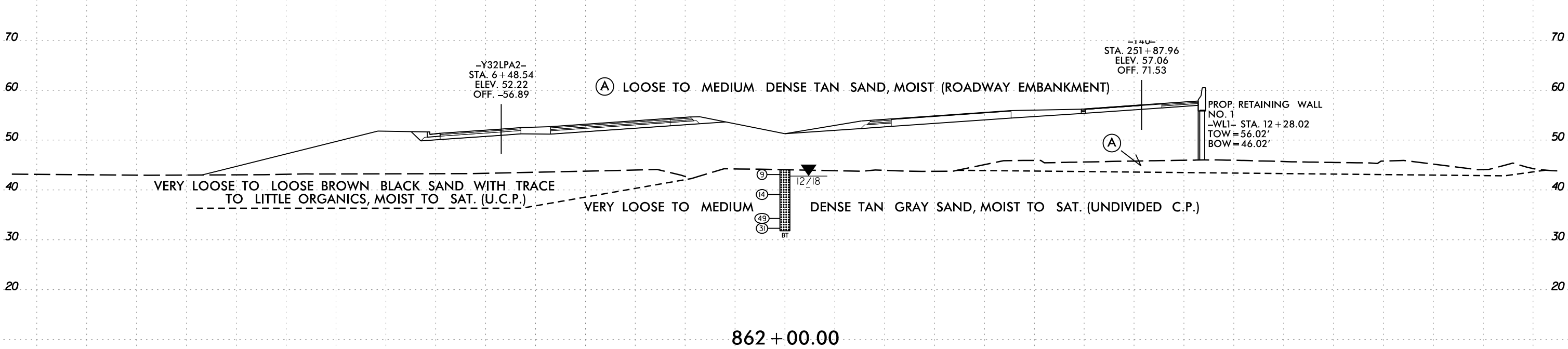
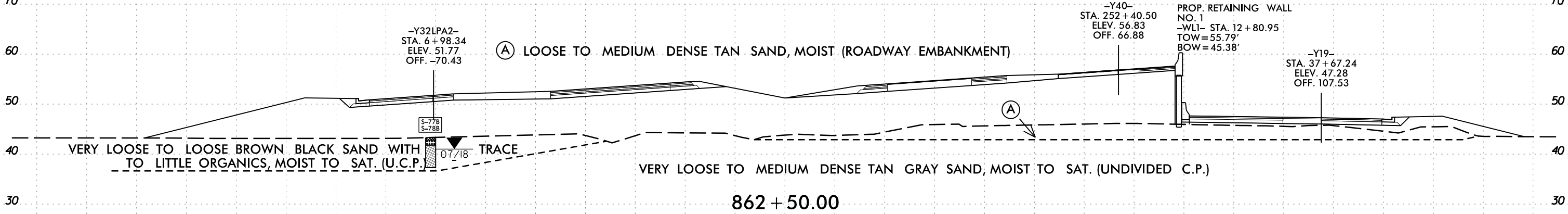
SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-188B	50 LT	861+50	0.0 - 1.5	A-3(0)	NP	NP	18.3	73.2	4.3	4.2	99.3	96	9	-	2.9
SS-189B	50 LT	861+50	4.0 - 5.5	A-2-4(0)	NP	NP	10.1	75.6	7.2	7.1	100	99	15	-	3.5



6/23/16



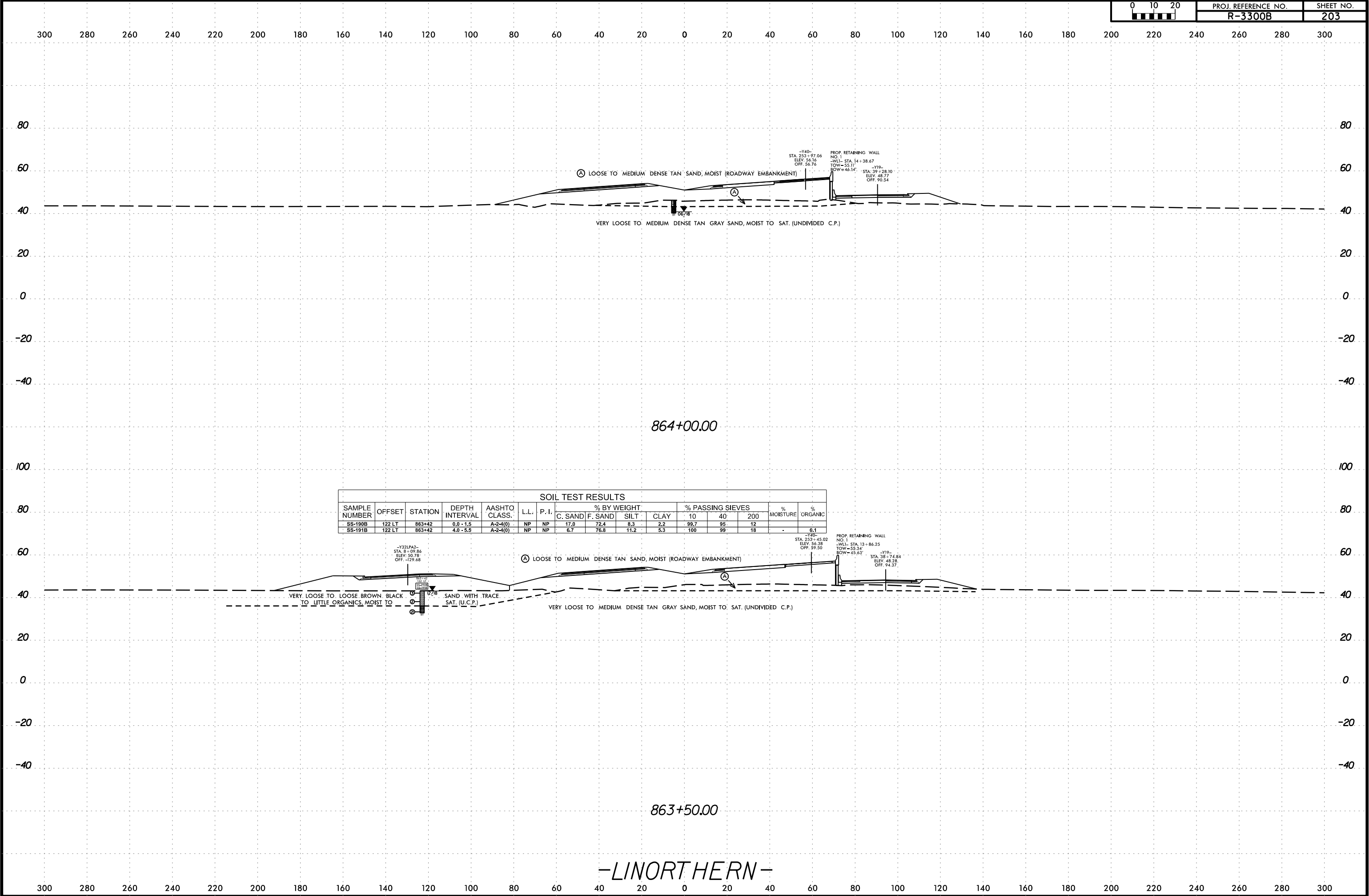
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							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-077B	71 LT	862+51	2.0 - 2.5	A-2-4(0)	22	NP	12.2	72.2	6.5	9.1	100	98	17	-	5.9
S-078B	71 LT	862+51	4.0 - 4.5	A-2-4(0)	18	NP	7.3	80.8	6.9	5.0	100	99	13	-	3.1



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6/23/16

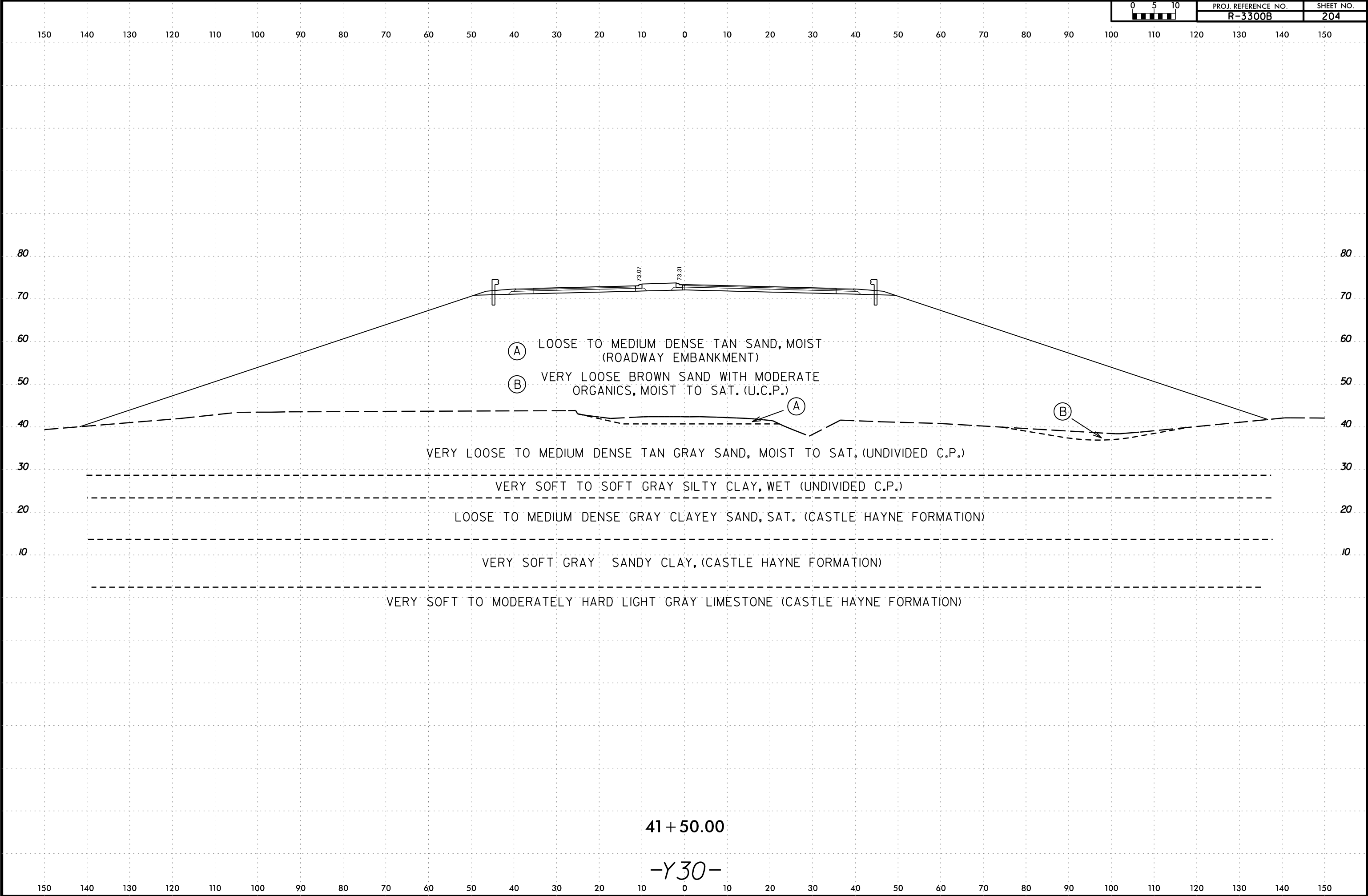
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	R-3300B	204



6/23/16

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SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-202B	35 ft RT	42+00	0.0 - 1.5	A-2-4(0)	NP	NP	2.6	74.1	18.0	5.3	100	99	24	-	-
SS-036B	35 ft RT	42+00	8.7 - 10.2	A-2-4(0)	20	5	35.6	42.6	6.8	15.0	99.2	78	24	27	-
SS-037B	35 ft RT	42+00	13.7 - 15.2	A-7-6(15)	44	19	4.1	23.4	31.5	41.0	99.4	99	77	62	-
SS-038B	35 ft RT	42+00	18.7 - 20.2	A-2-4(0)	NP	NP	13.4	73.7	9.8	3.0	99.9	93	19	-	-
SS-039B	35 ft RT	42+00	28.7 - 30.2	A-6(16)	37	17	1.2	14.2	67.8	16.8	99.9	99	93	-	-
SS-203B	35 ft RT	42+00	38.7 - 40.2	A-2-4(0)	NP	NP	59.2	17.2	11.6	12.0	100	54	24	-	-

(A) LOOSE TO MEDIUM DENSE TAN SAND, MOIST (ROADWAY EMBANKMENT)

(B) VERY LOOSE BROWN SAND WITH MODERATE ORGANICS, MOIST TO SAT. (U.C.P.)

VERY LOOSE TO LOOSE TAN GRAY SAND,

VERY SOFT TO SOFT

LOOSE TO MEDIUM DENSE GRAY CLAYEY SAND, SAT.

VERY SOFT GRAY

VERY SOFT TO MODERATELY (CASTLE HAYNE

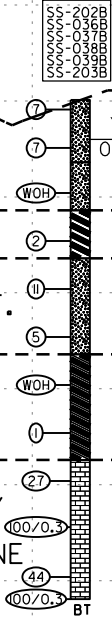
MOIST TO SAT. (UNDIVIDED C.P.)

GRAY SILTY CLAY, WET (UNDIVIDED C.P.)

(CASTLE HAYNE FORMATION)

SANDY CLAY, WET (CASTLE HAYNE FORMATION)

HARD LIGHT GRAY LIMESTONE FORMATION)



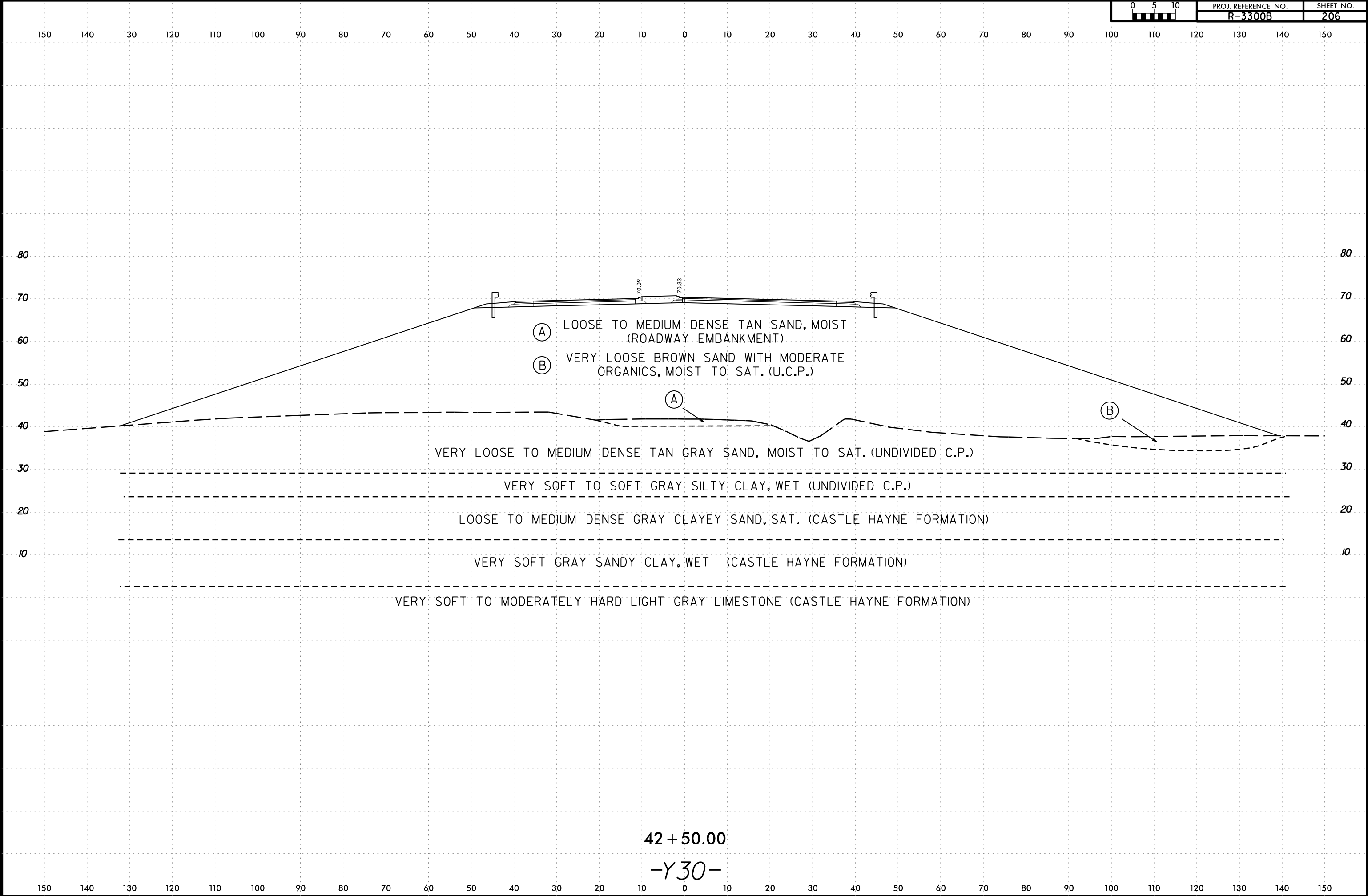
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Lee Stone AT LSTONE-CAD-PC

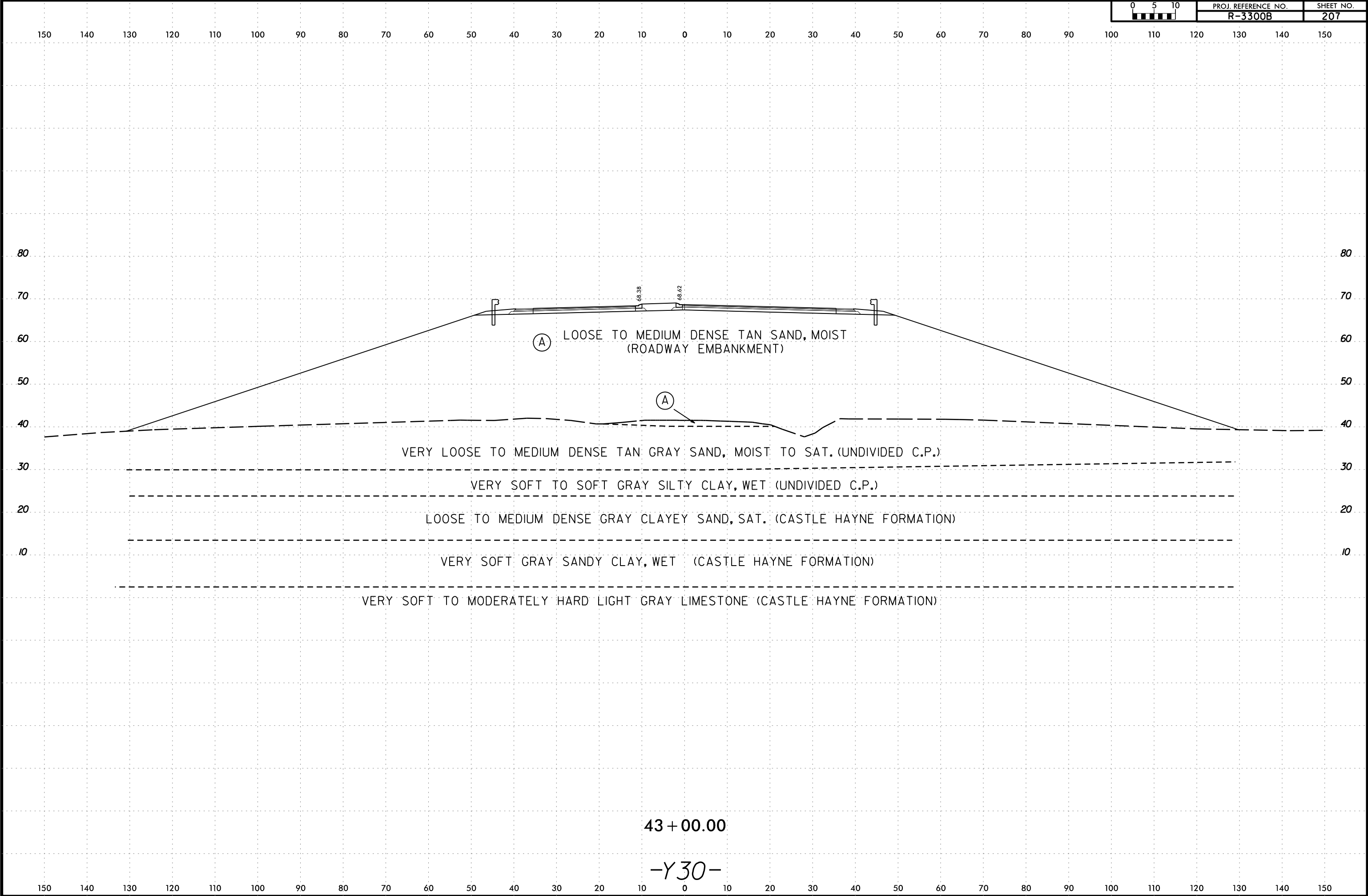
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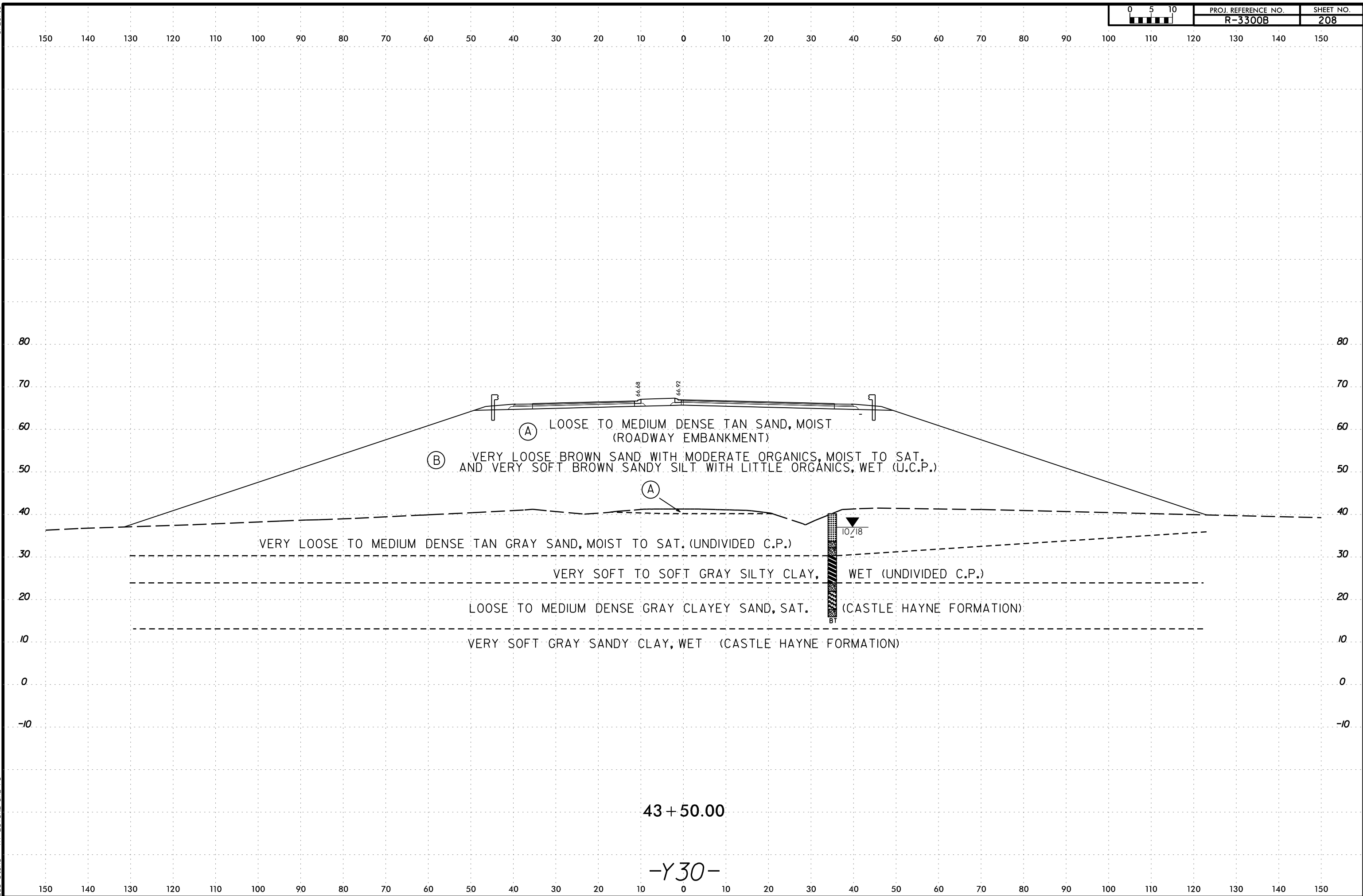


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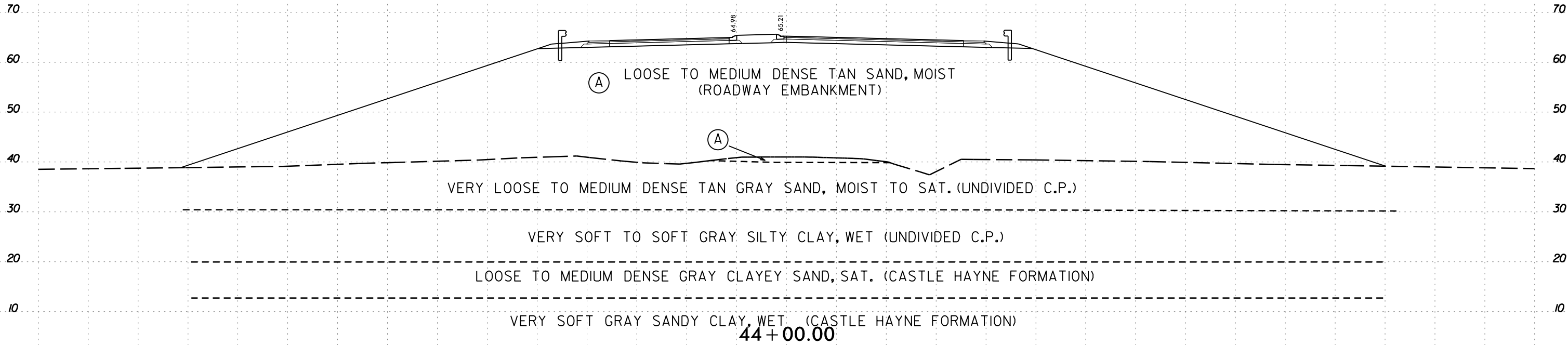
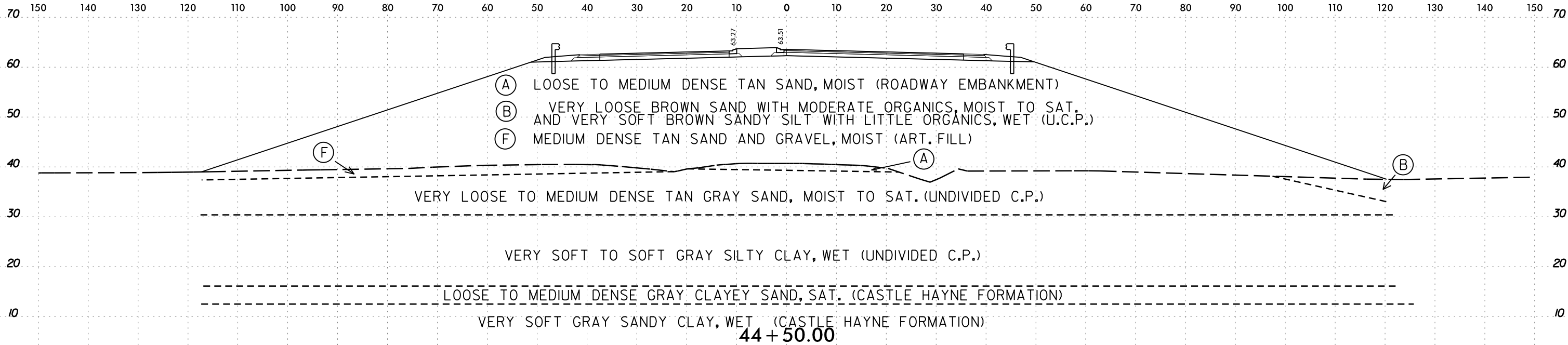
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Lee Stone AT LSTONE-CAD-PC

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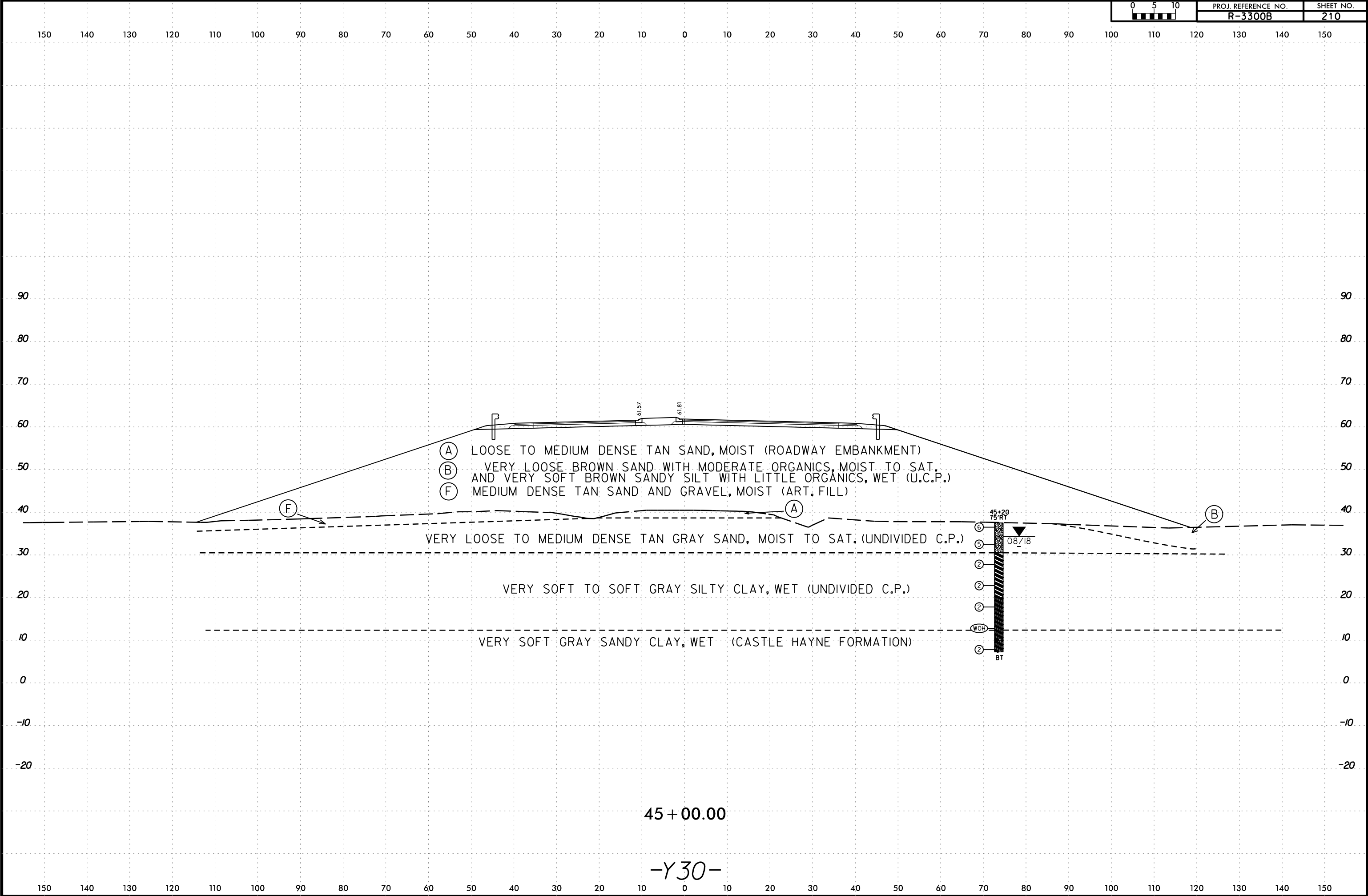
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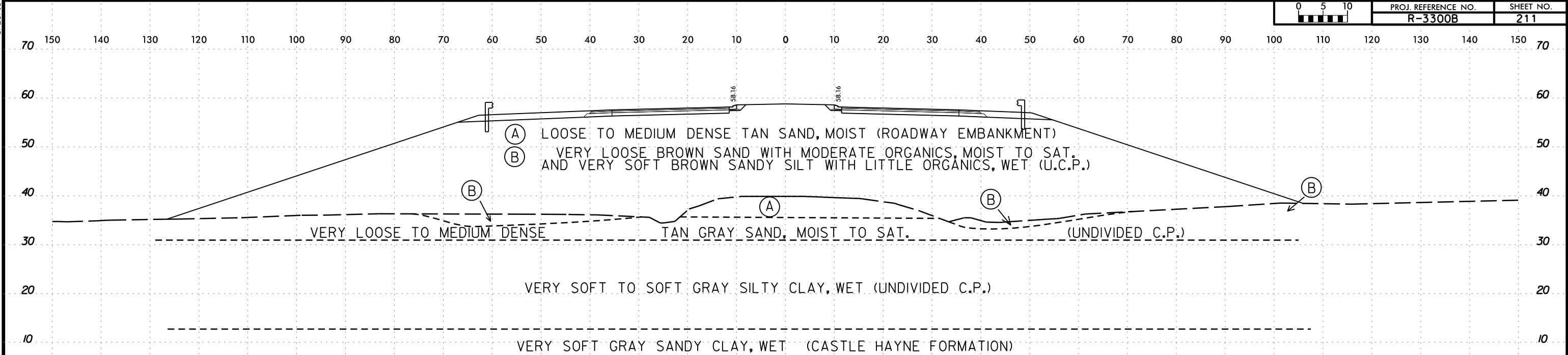
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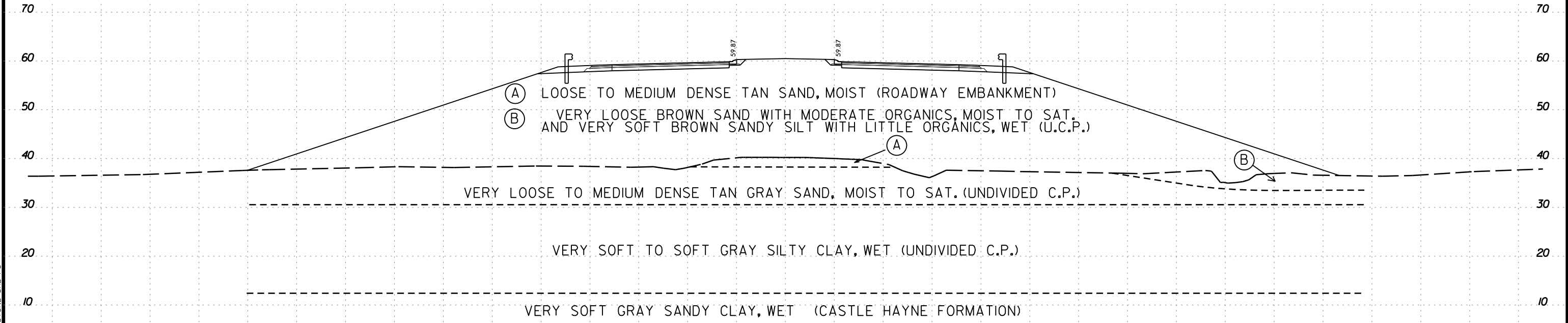
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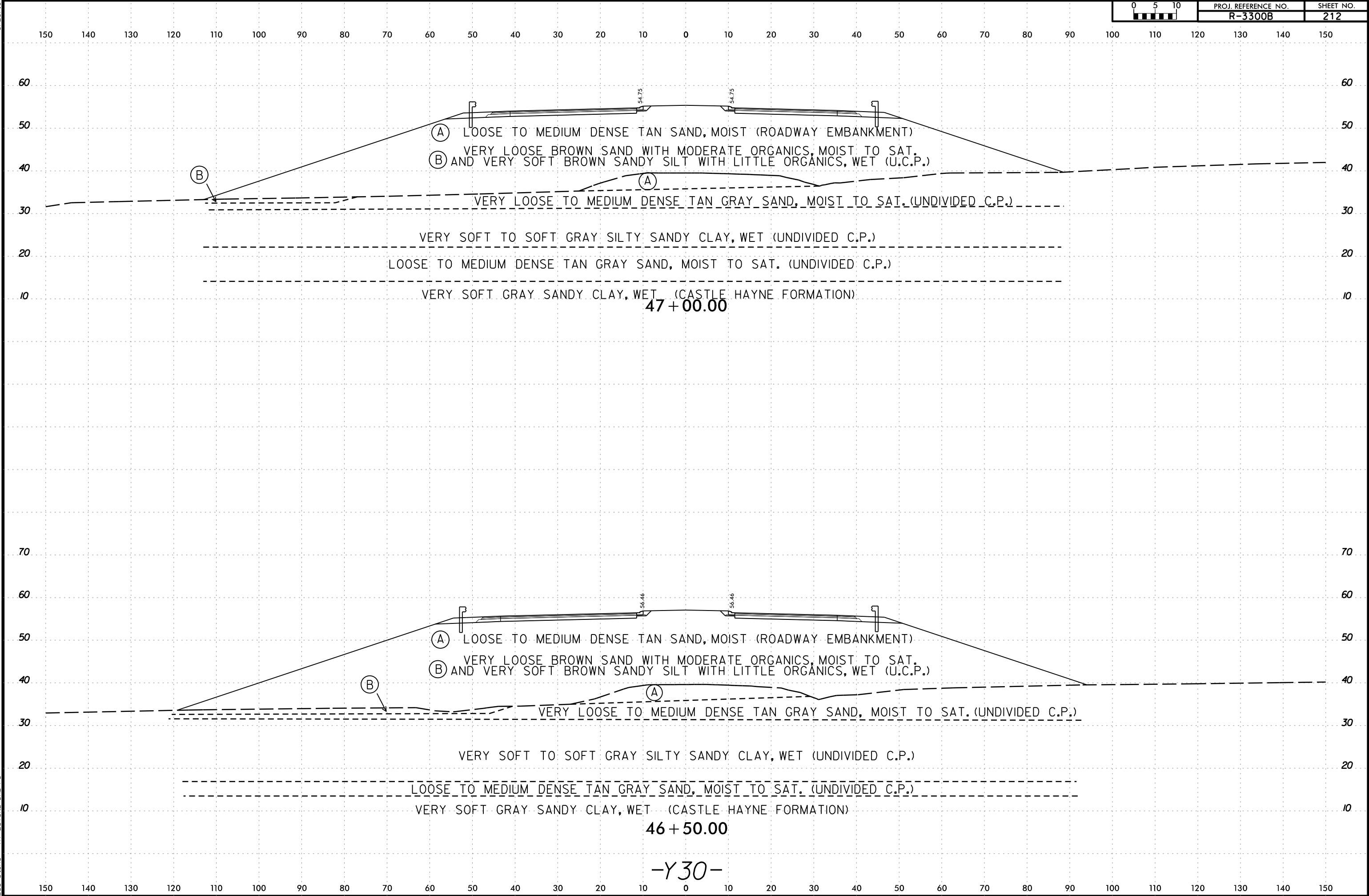
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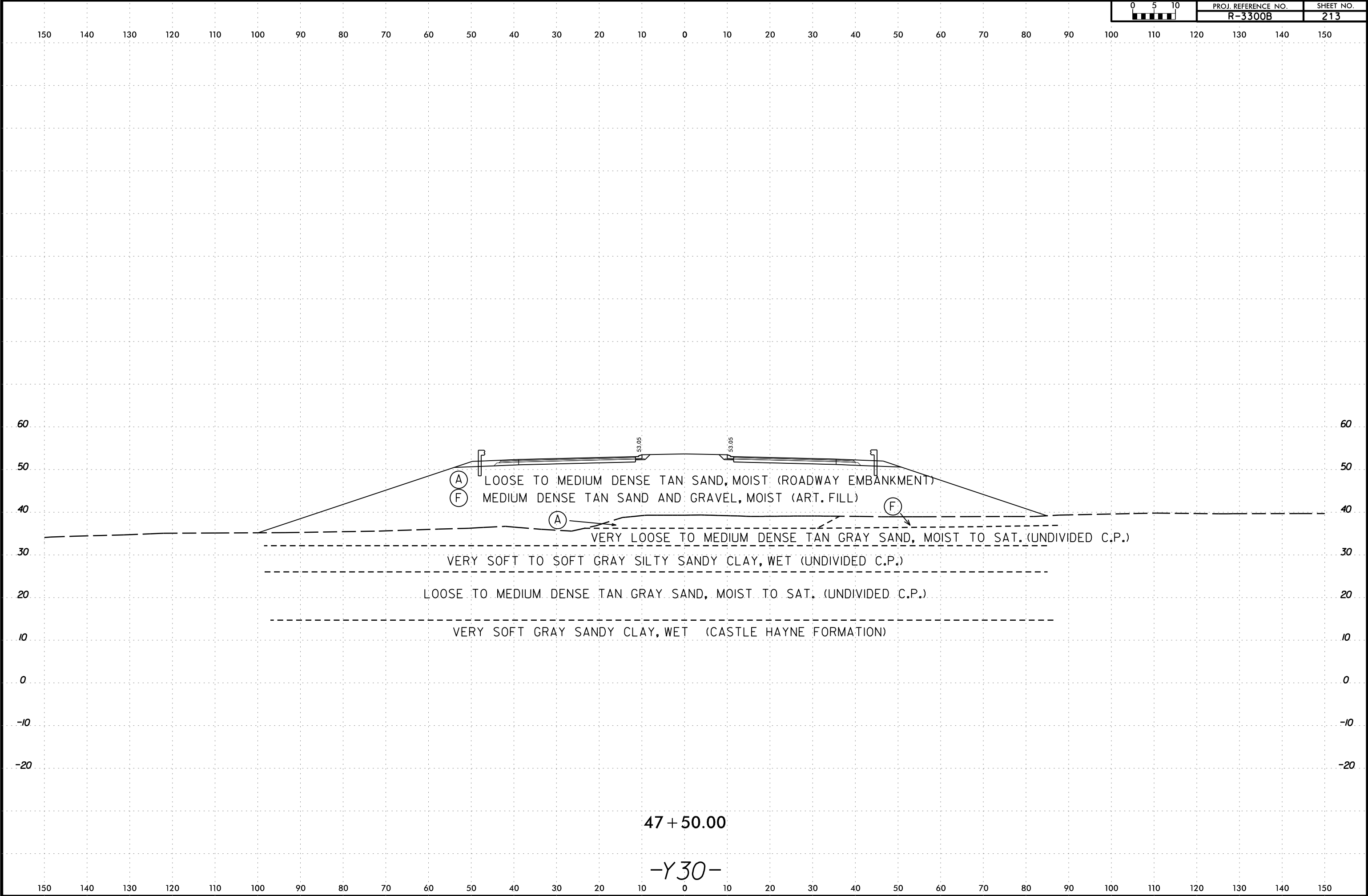
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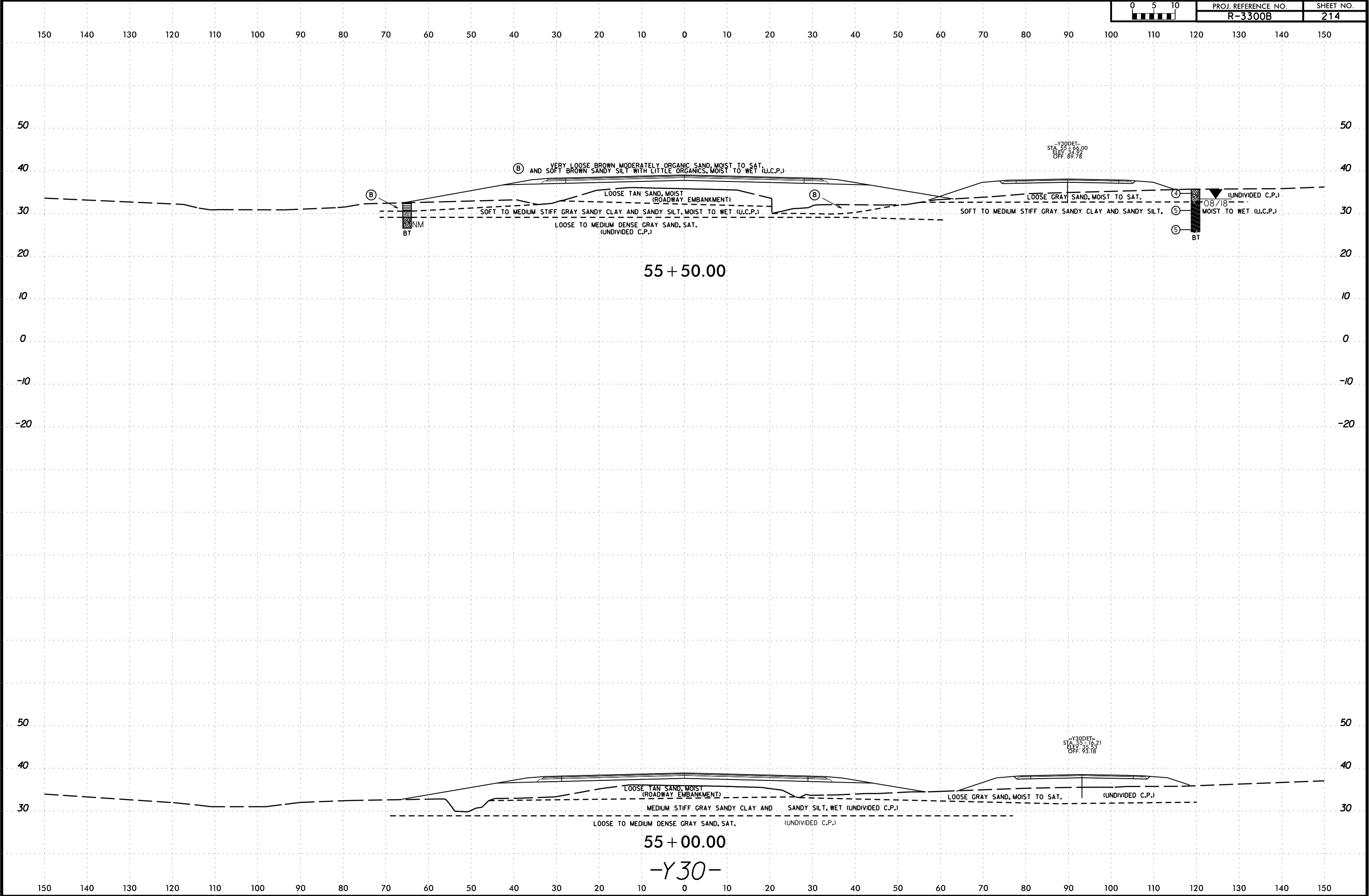


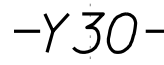
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Lee Stone AT LSTONE-CAD-PC

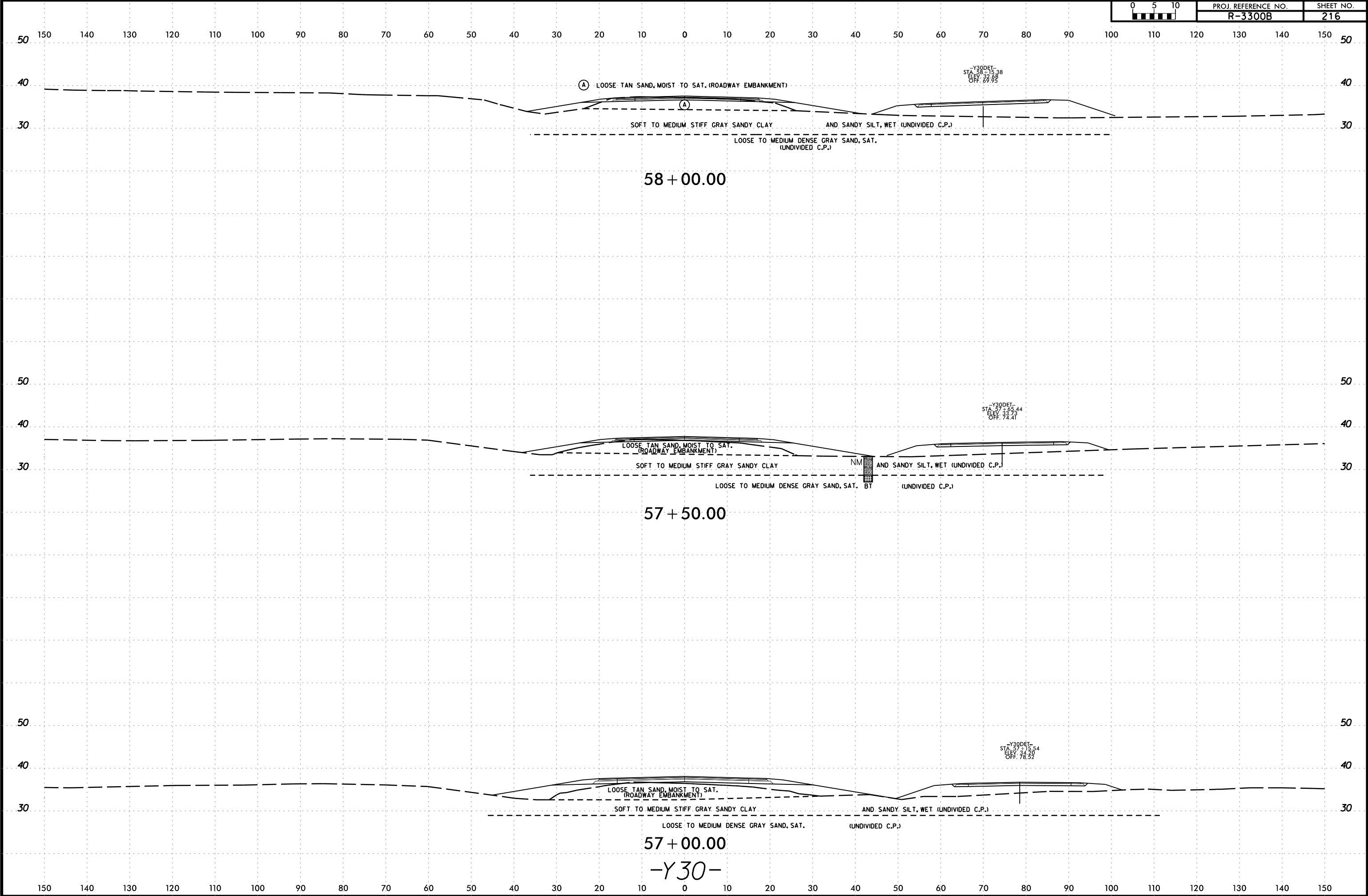




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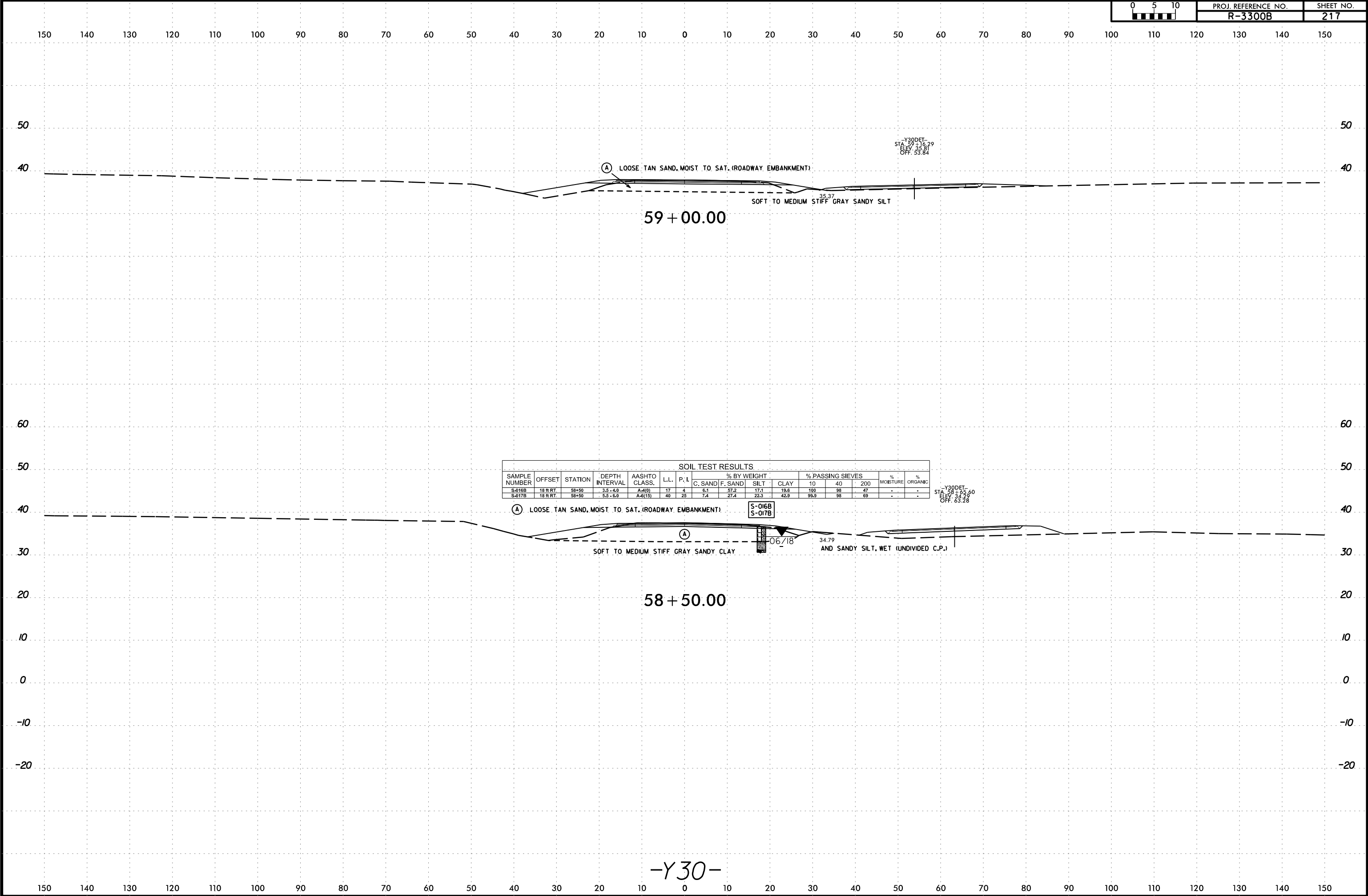
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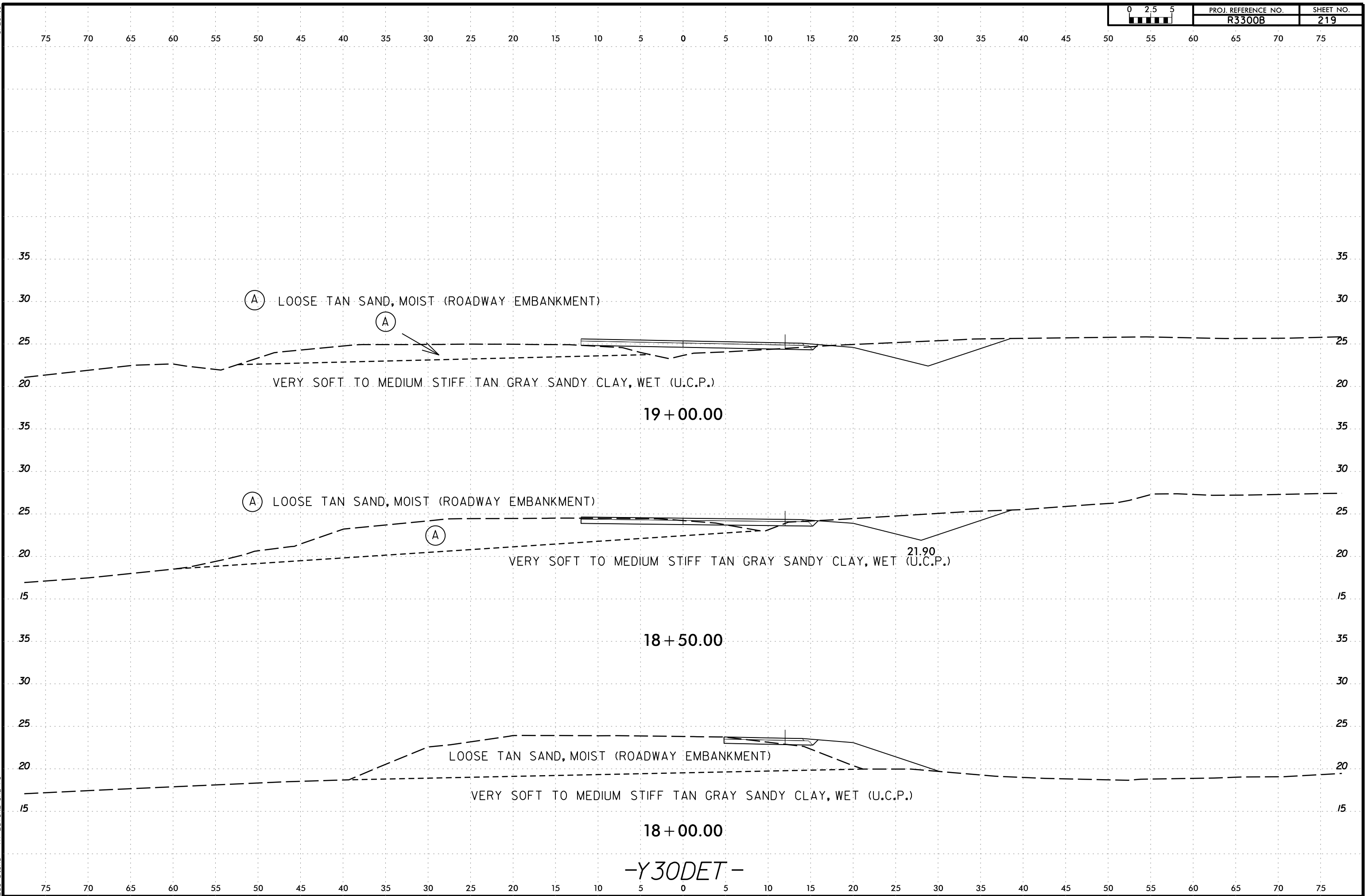


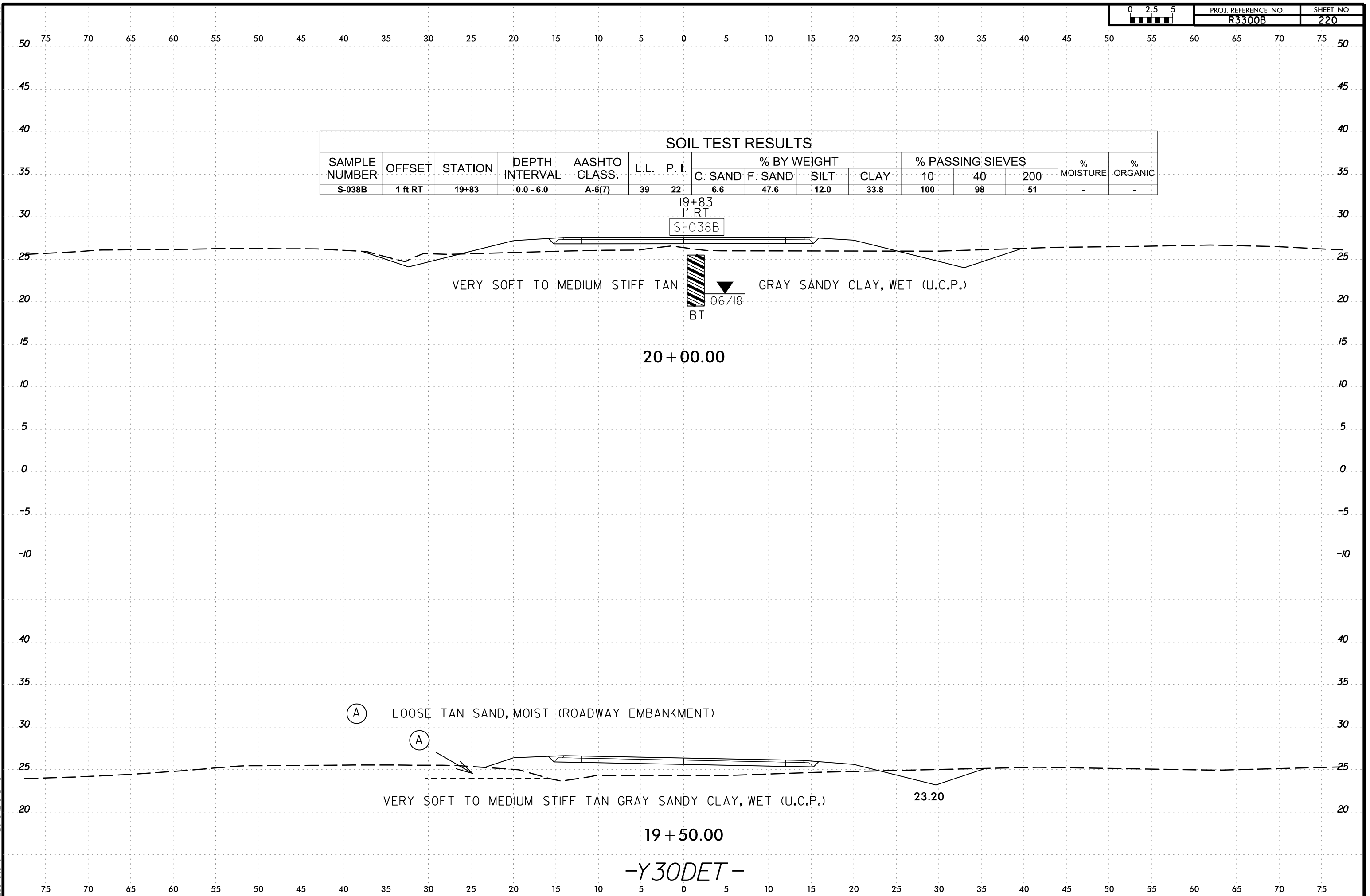
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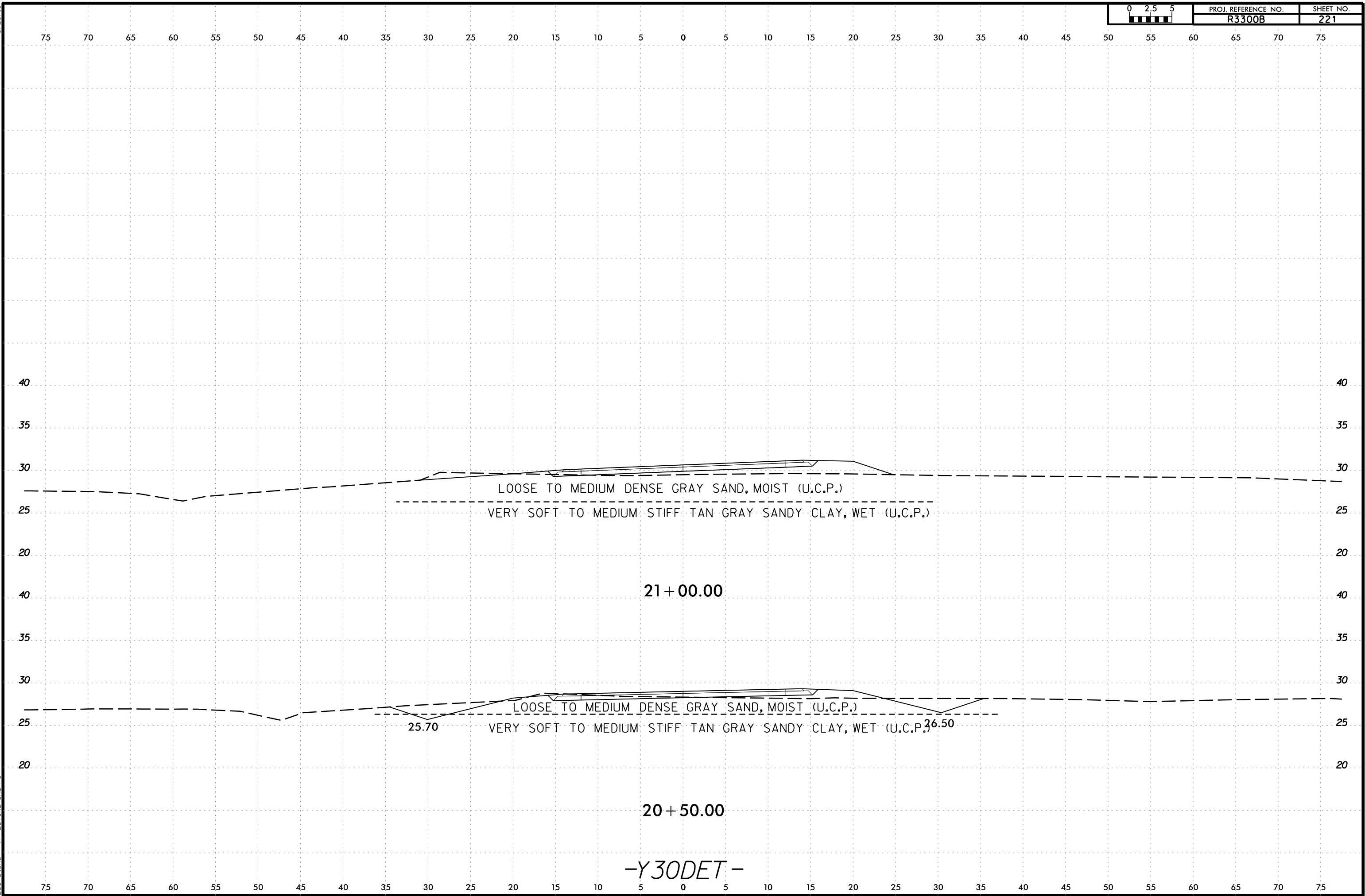
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Lee Stone

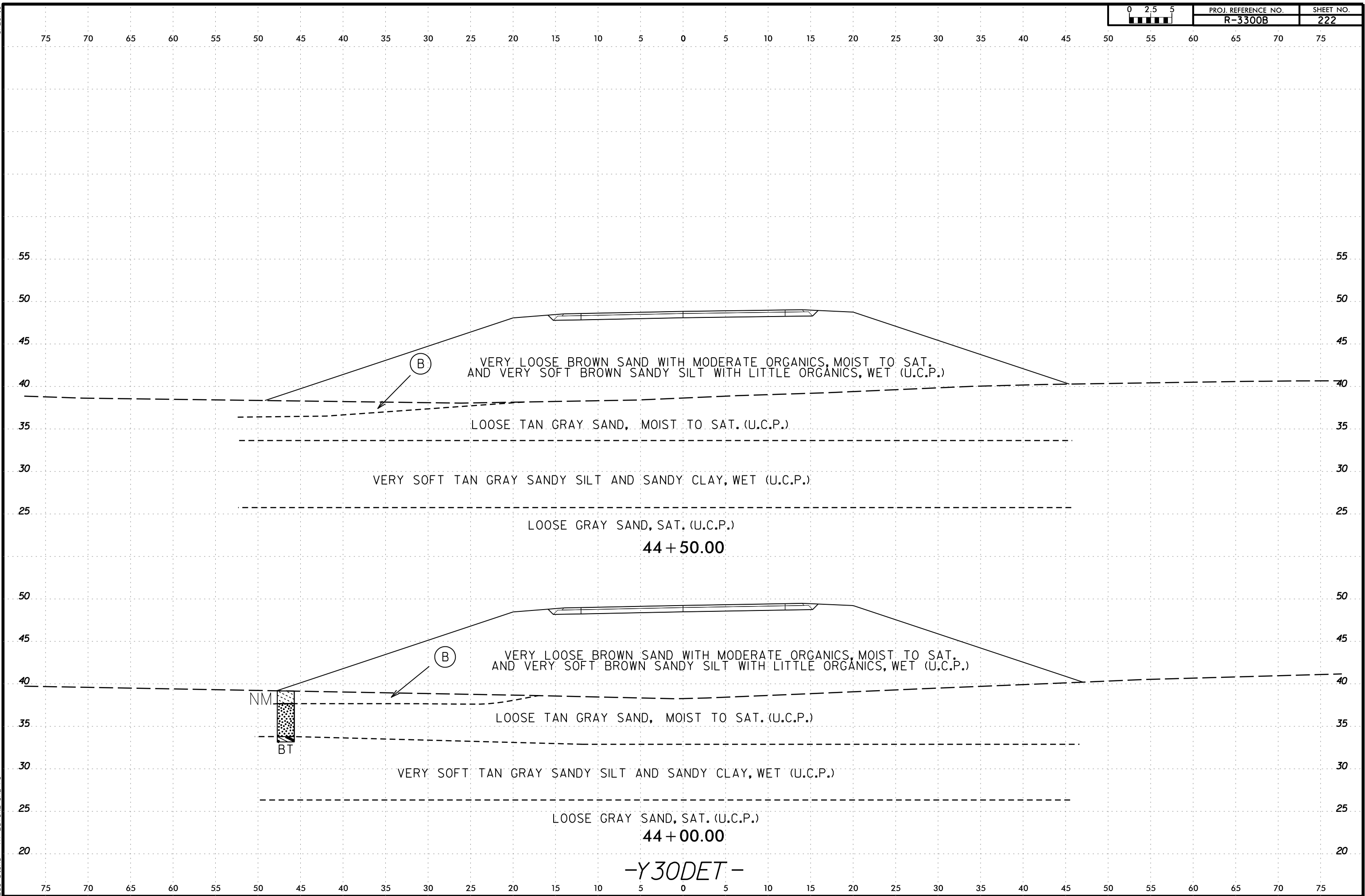


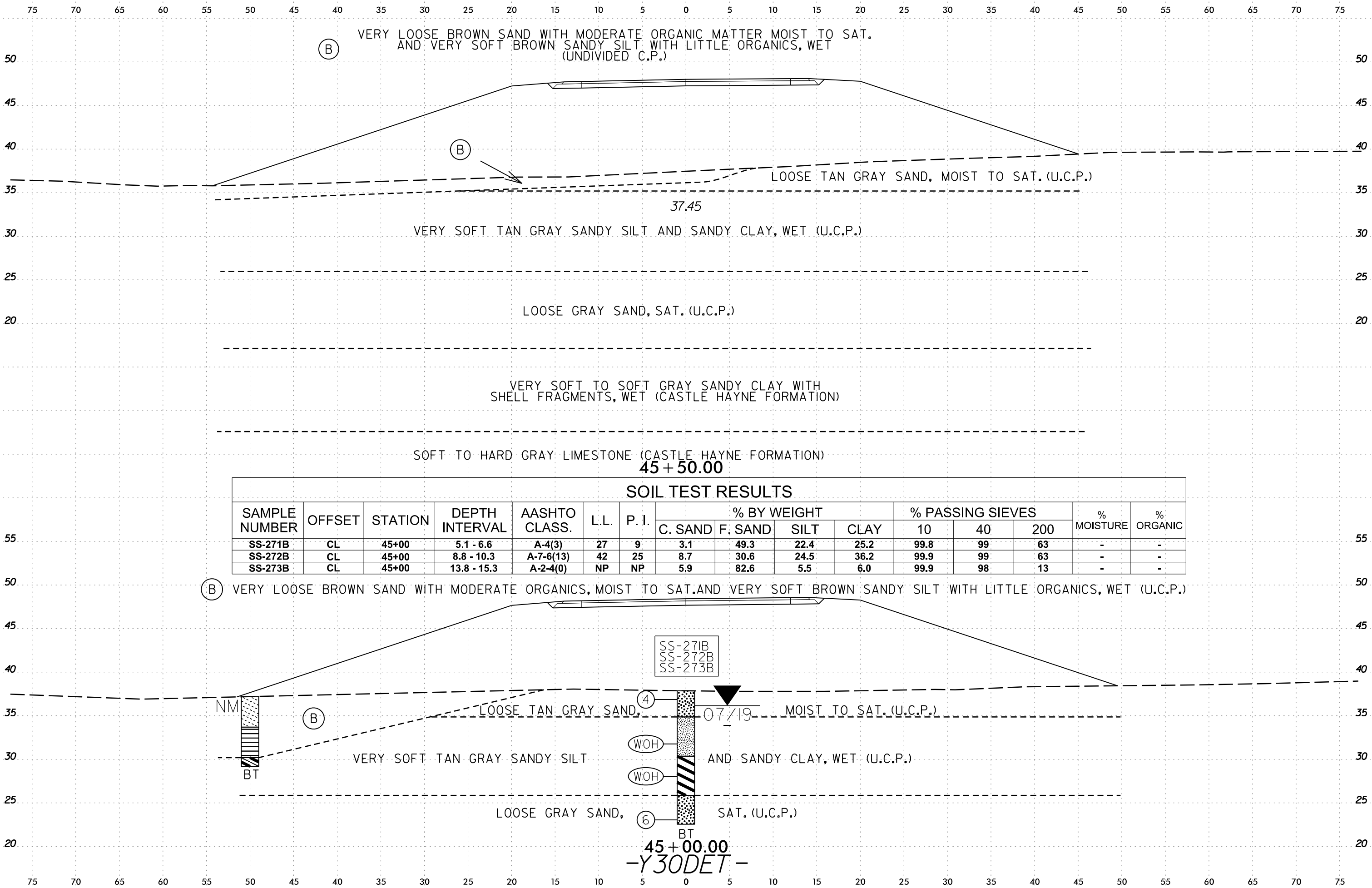


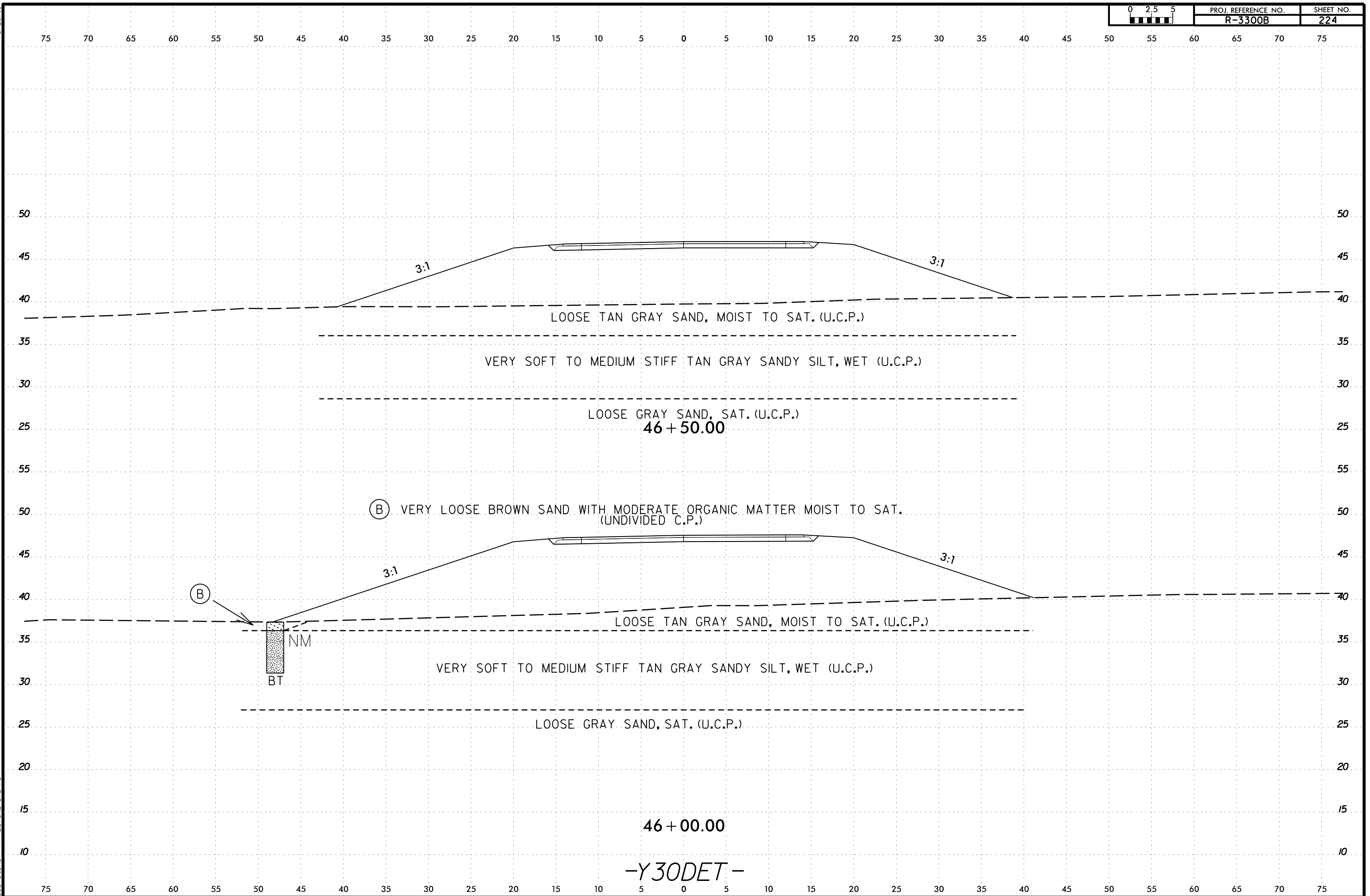


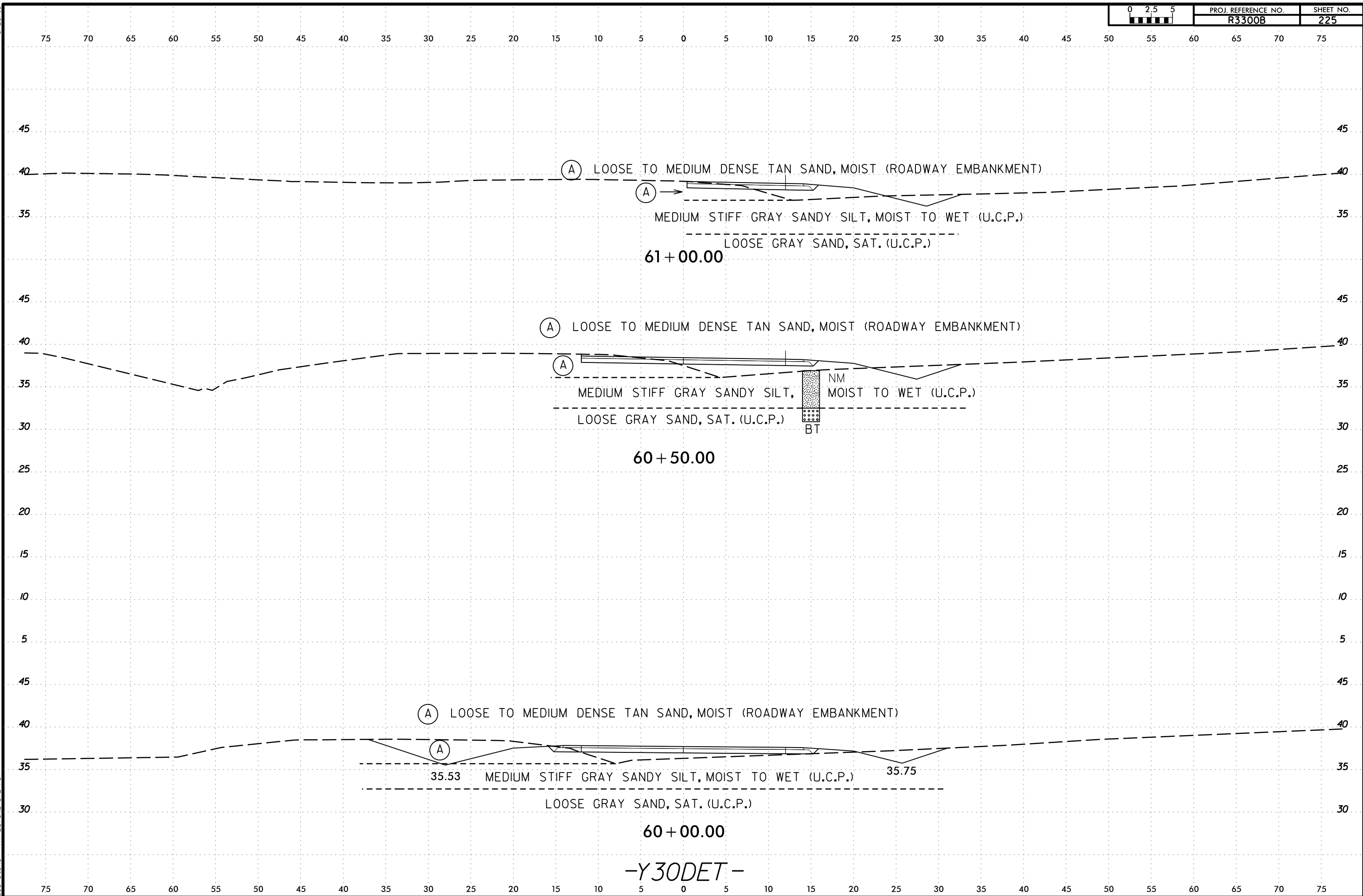


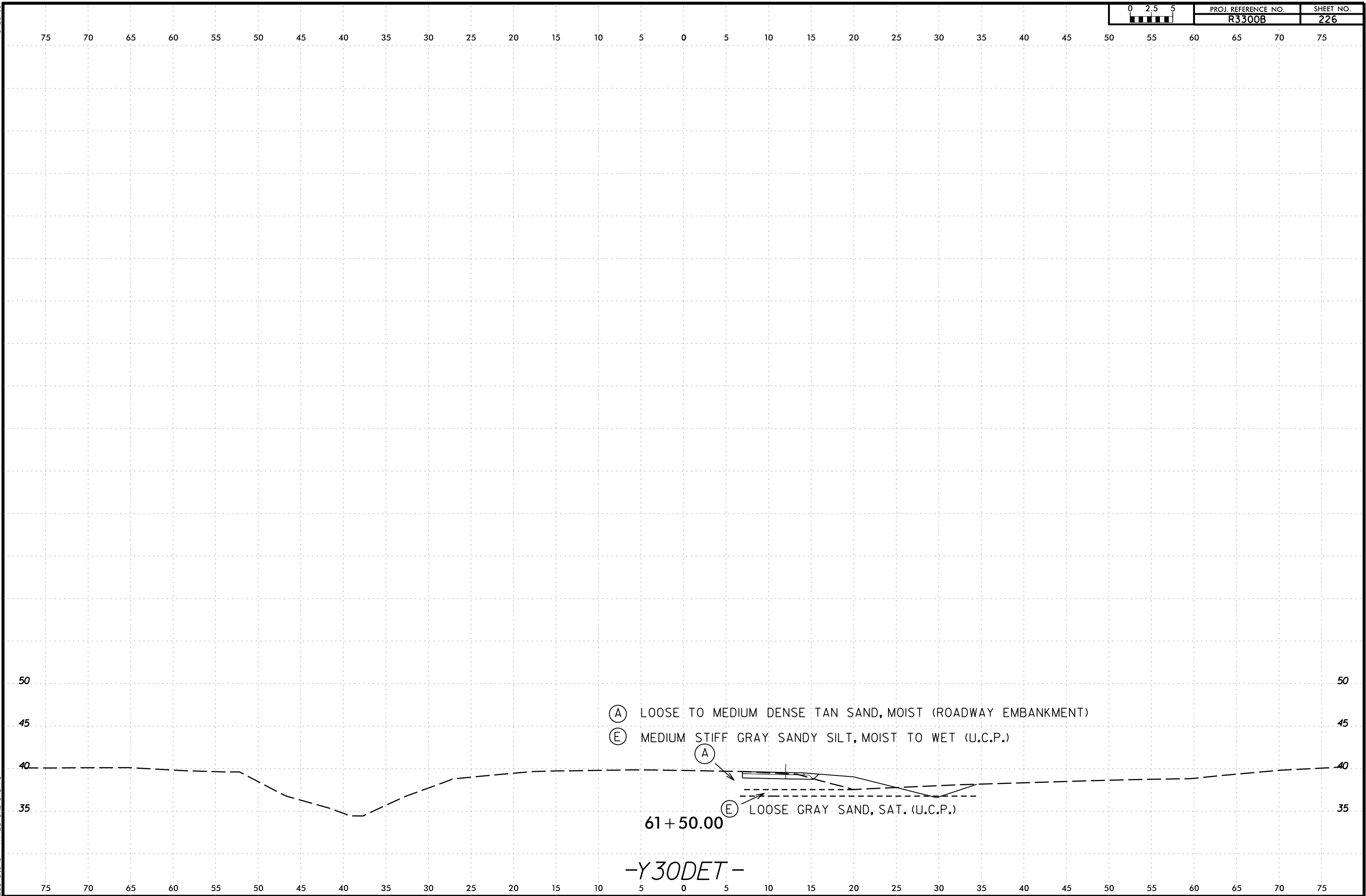












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60 50 40 30 20 10 60 50 40 30 20 10

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-156B	66' LT	14+50	0.5 - 1.0	A-4(0)	NP	NP	8.8	53.4	30.2	7.7	99.0	96	47	-	11.7

(B) VERY SOFT BROWN SANDY SILT WITH LITTLE ORGANIC CONTENT, MOIST (ALLUIVAL)

S-156B

FIAD
BT

(B) VERY LOOSE TAN BROWN SAND, MOIST TO SAT. (UNDIVIDED C.P.)

SOFT GRAY SANDY CLAY, WET

LOOSE TO MEDIUM DENSE GRAY SAND WITH SHELL FRAGMENTS, SAT.
(CASTLE HAYNE FORMATION)

VERY SOFT GRAY LIMESTONE

14 + 50.00

50 40 30 20 10 50 40 30 20 10

VERY LOOSE TAN BROWN SAND,

SOFT GRAY SANDY CLAY, WET

LOOSE TO MEDIUM DENSE GRAY SAND

(CASTLE HAYNE FORMATION)

VERY SOFT GRAY LIMESTONE

2

2

4

4

20

46

48

08/18

MOIST TO SAT. (UNDIVIDED C.P.)

WITH SHELL FRAGMENTS, SAT.

BT

14 + 00.00

-Y3ORPA-

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

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

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-226B	65 ft LT	15+60	0.0 - 1.5	A-2-4(0)	NP	NP	4.4	80.5	15.1	0.0	99.9	98	27	0	4.9
SS-227B	65 ft LT	15+60	5.8 - 7.3	A-2-4(0)	NP	NP	12.4	62.8	14.8	9.9	99.4	96	31	0	4.8
SS-228B	65 ft LT	15+60	8.8 - 10.3	A-6(5)	30	12	11.1	34.2	30.7	24.0	99.9	94	63	0	-
SS-229B	65 ft LT	15+60	13.8 - 15.3	A-2-4(0)	23	5	52.4	26.5	11.5	9.6	93.7	71	24	0	-
SS-230B	65 ft LT	15+60	18.8 - 20.3	A-3(0)	NP	NP	74.3	19.4	2.5	3.8	95.0	51	7	0	-

60

50

40

30

20

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60

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40

30

20

10

SS-226B
SS-227B
SS-228B
SS-229B
SS-230B
15+60
05/19
BT

(B)

VERY LOOSE BROWN SAND WITH LITTLE ORGANIC CONTENT, MOIST TO SAT. (ALLUIVAL)

VERY LOOSE TAN BROWN SAND, MOIST TO SAT. (UNDIVIDED C.P.)

SOFT GRAY SANDY CLAY, WET

VERY LOOSE TO MEDIUM DENSE GRAY SAND WITH SHELL FRAGMENTS, SAT. (CASTLE HAYNE FORMATION)

VERY SOFT GRAY LIMESTONE

15 + 50.00

50

40

30

20

10

50

40

30

20

10

(B)

(B)

VERY SOFT BROWN SANDY SILT WITH LITTLE ORGANIC CONTENT, MOIST TO WET (ALLUIVAL)

VERY LOOSE TAN BROWN SAND, MOIST TO SAT. (UNDIVIDED C.P.)

SOFT GRAY SANDY CLAY, WET

LOOSE TO MEDIUM DENSE GRAY SAND WITH SHELL FRAGMENTS, SAT. (CASTLE HAYNE FORMATION)

VERY SOFT GRAY LIMESTONE

15 + 00.00

-Y30RPA-

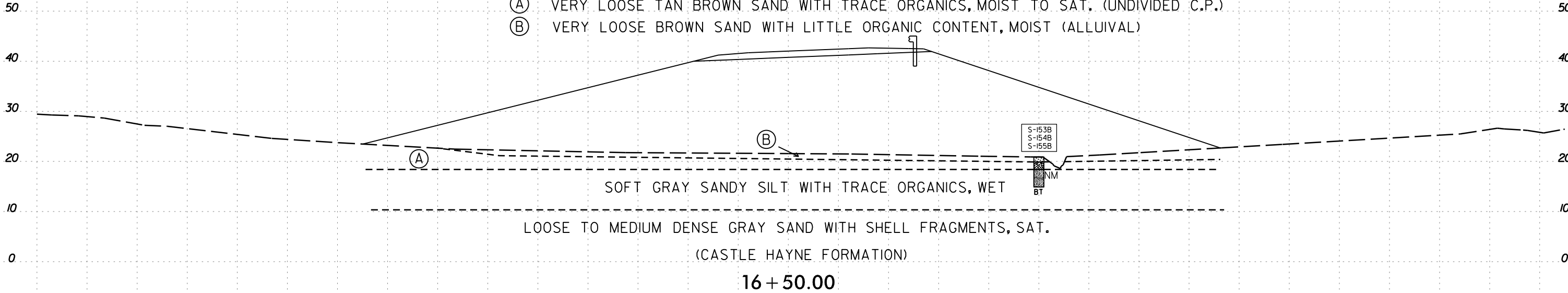
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Lee Stone AT LSTONE-CAD-PC

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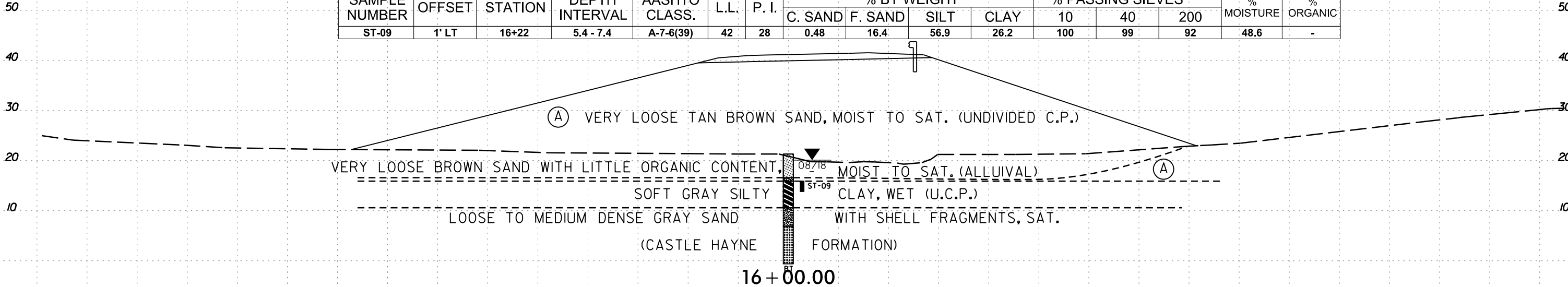
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SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-153B	50 ft RT	16+50	0.0 - 1.0	A-2-4(0)	NP	NP	18.3	59.1	11.9	10.7	99.6	95	28	-	4.7
S-154B	50 ft RT	16+50	1.0 - 2.0	A-2-4(0)	NP	NP	14.3	63.5	12.2	10.0	99.9	96	28	-	2.8
S-155B	50 ft RT	16+50	3.0 - 4.0	A-4(0)	NP	NP	11.1	57.7	14.1	17.0	99.9	95	39	-	4.1

- (A) VERY LOOSE TAN BROWN SAND WITH TRACE ORGANICS, MOIST TO SAT. (UNDIVIDED C.P.)
- (B) VERY LOOSE BROWN SAND WITH LITTLE ORGANIC CONTENT, MOIST (ALLUIVAL)

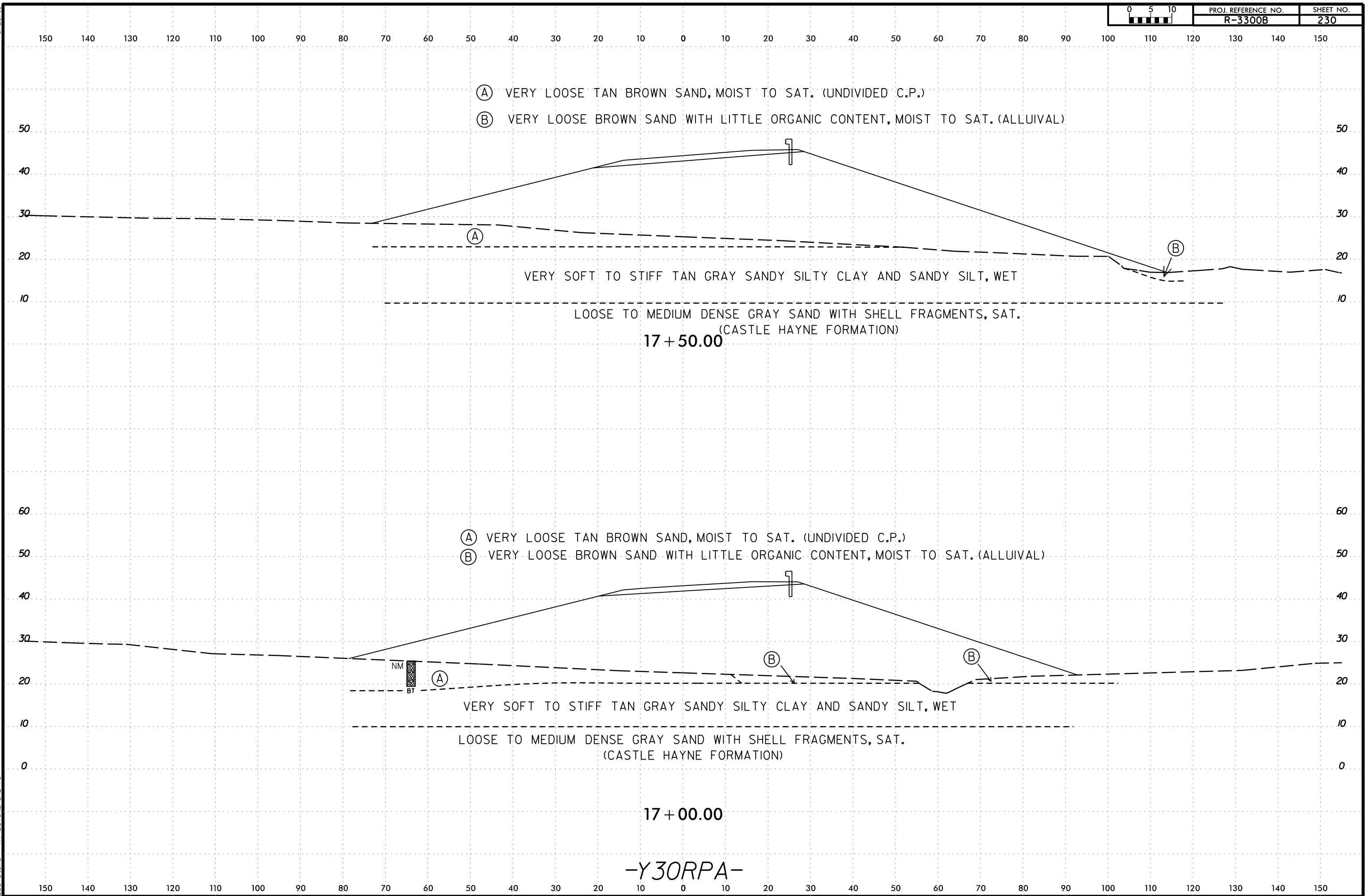


SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
ST-09	1' LT	16+22	5.4 - 7.4	A-7-6(39)	42	28	0.48	16.4	56.9	26.2	100	99	92	48.6	-

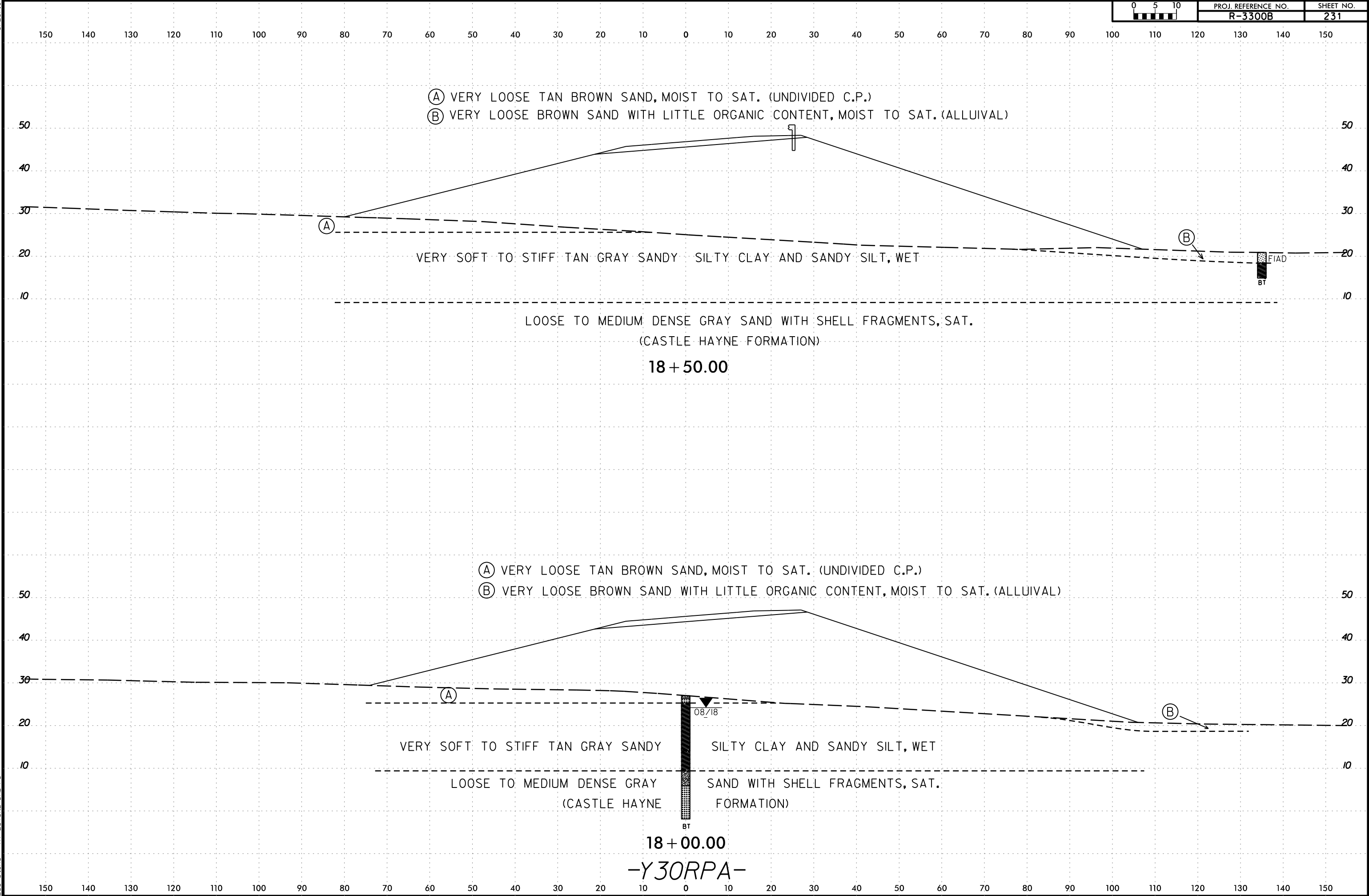
- (A) VERY LOOSE TAN BROWN SAND, MOIST TO SAT. (UNDIVIDED C.P.)
- VERY LOOSE BROWN SAND WITH LITTLE ORGANIC CONTENT, MOIST TO SAT. (ALLUIVAL)
- SOFT GRAY SILTY CLAY, WET (U.C.P.)
- LOOSE TO MEDIUM DENSE GRAY SAND WITH SHELL FRAGMENTS, SAT. (CASTLE HAYNE FORMATION)



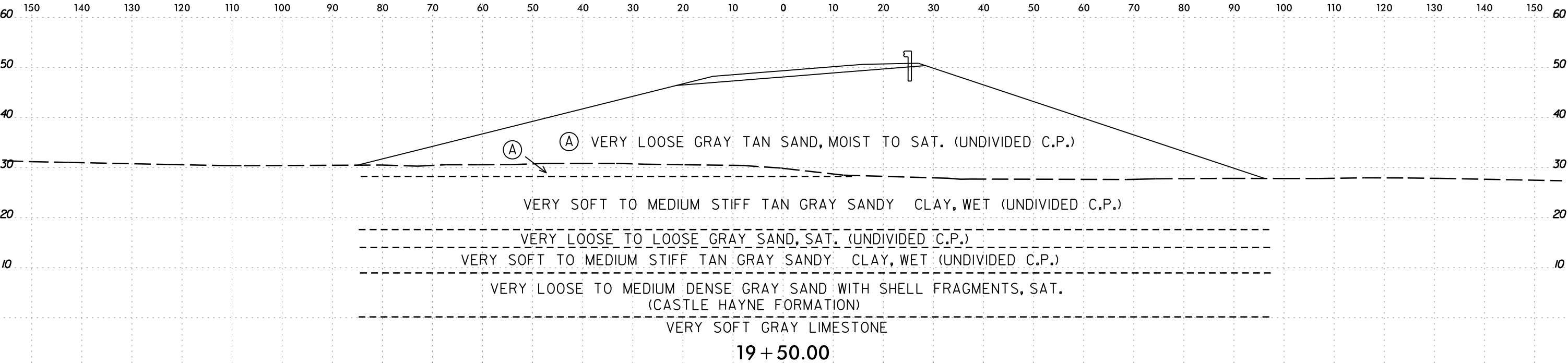
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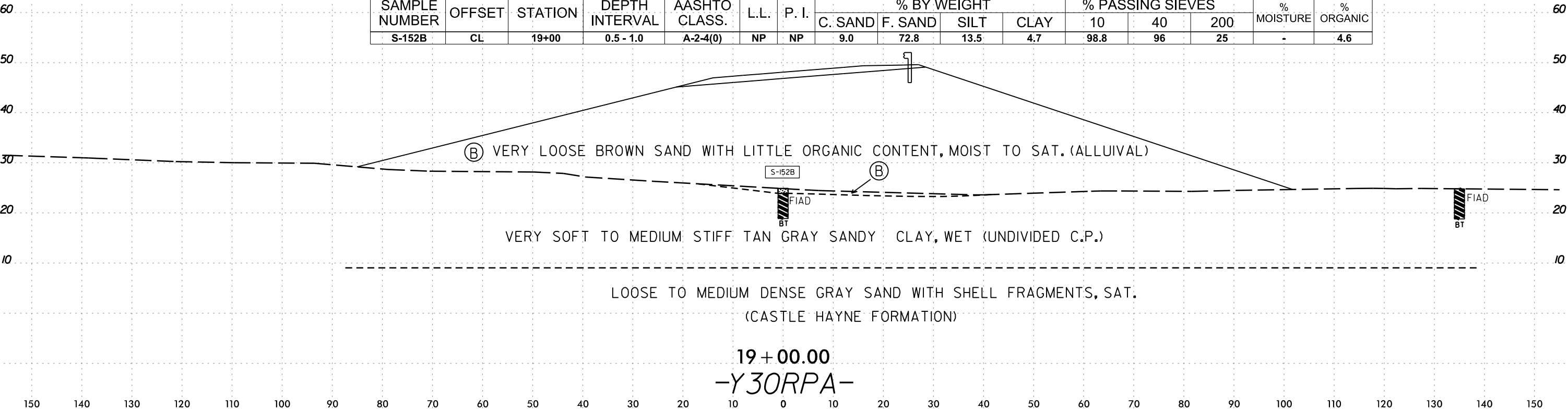
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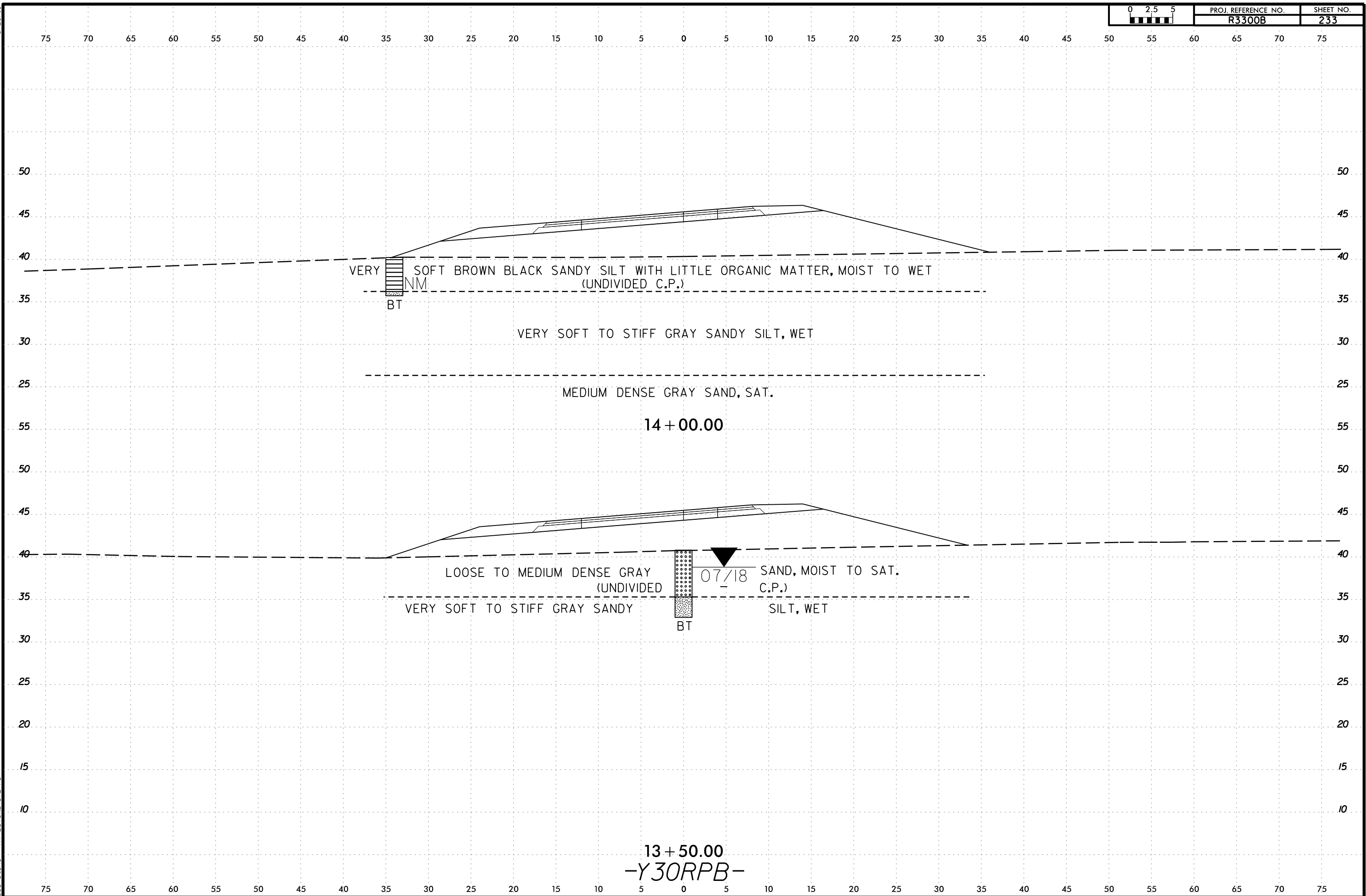


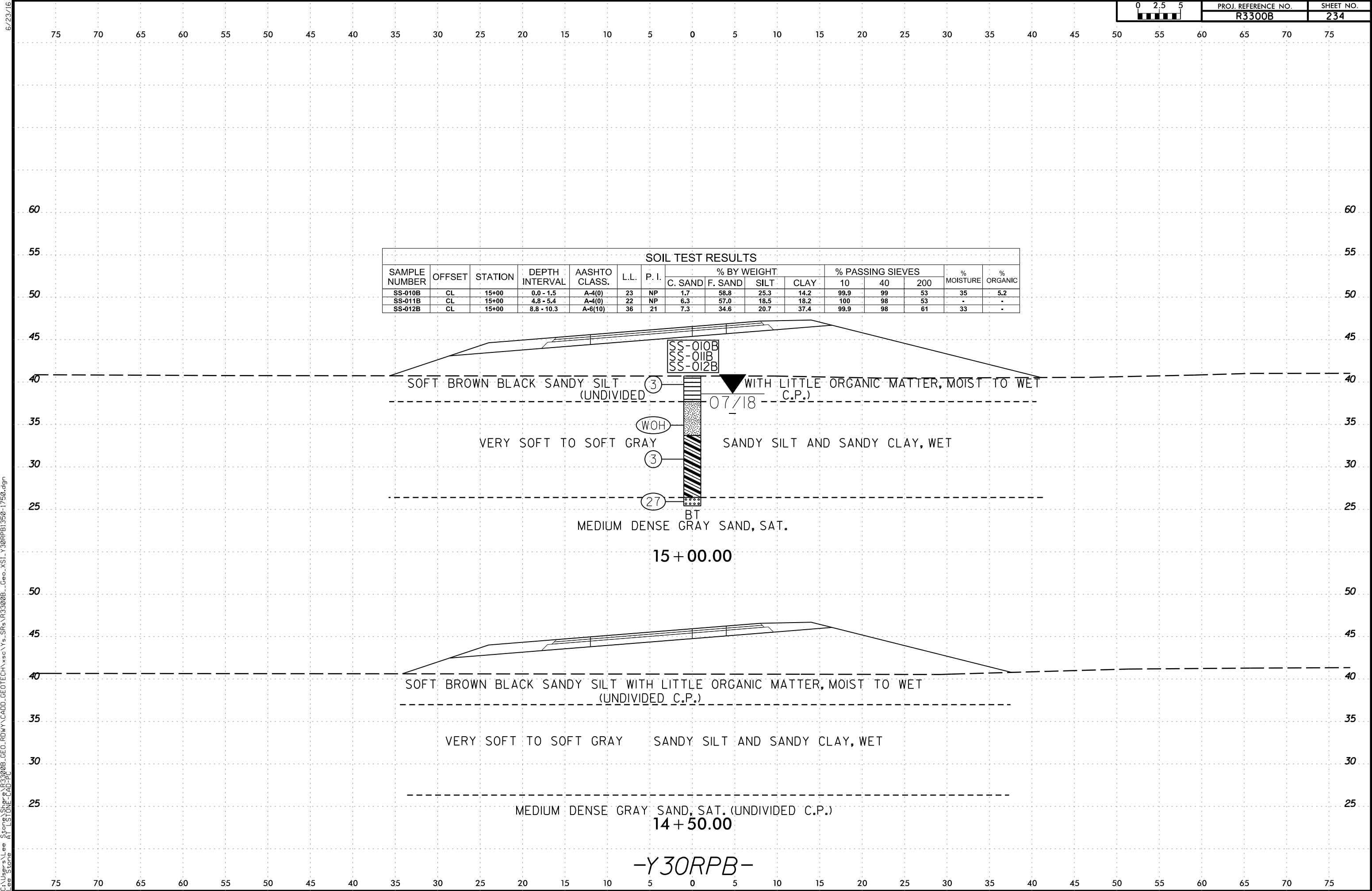
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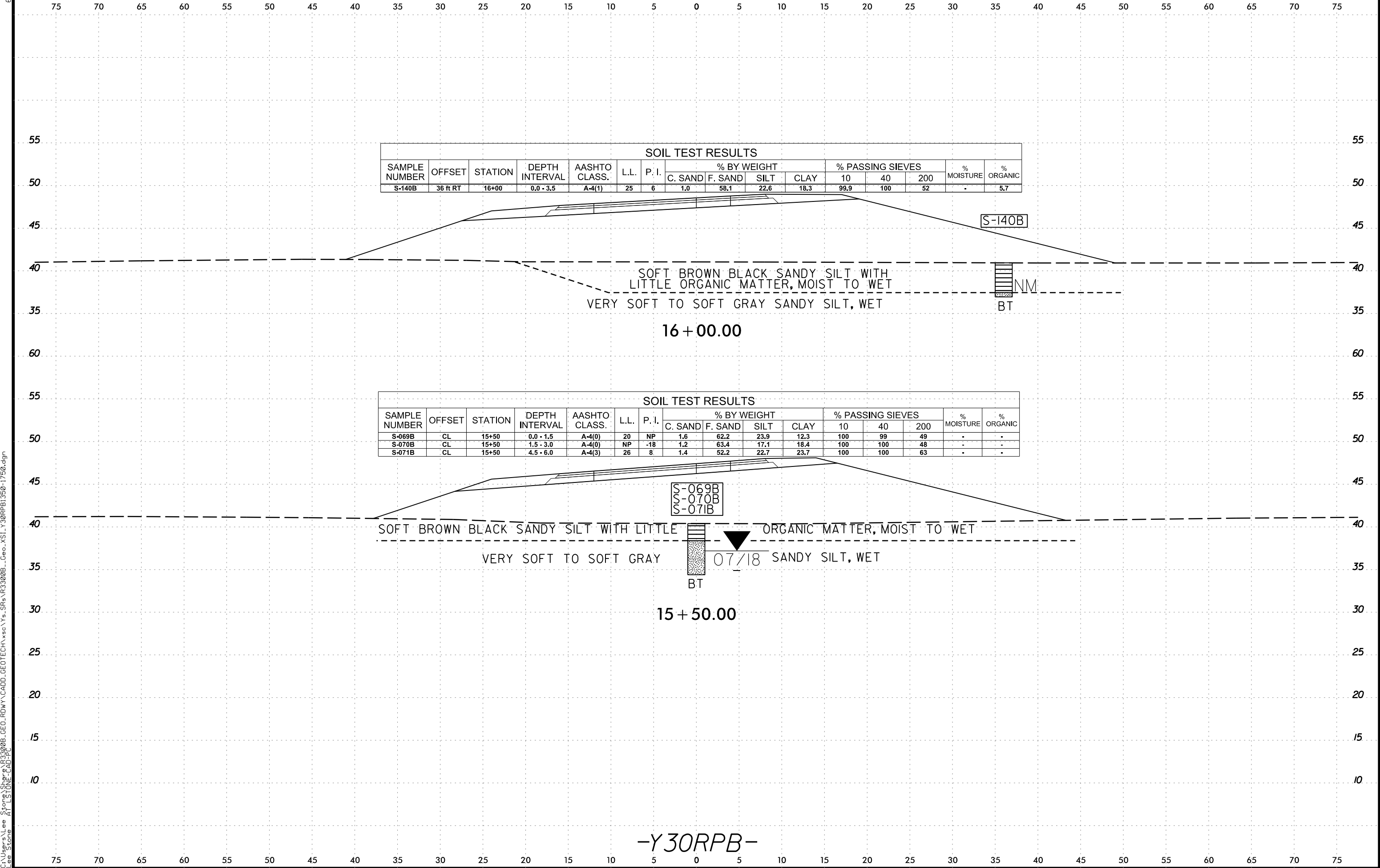
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							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-152B	CL	19+00	0.5 - 1.0	A-2-4(0)	NP	NP	9.0	72.8	13.5	4.7	98.8	96	25	-	4.6

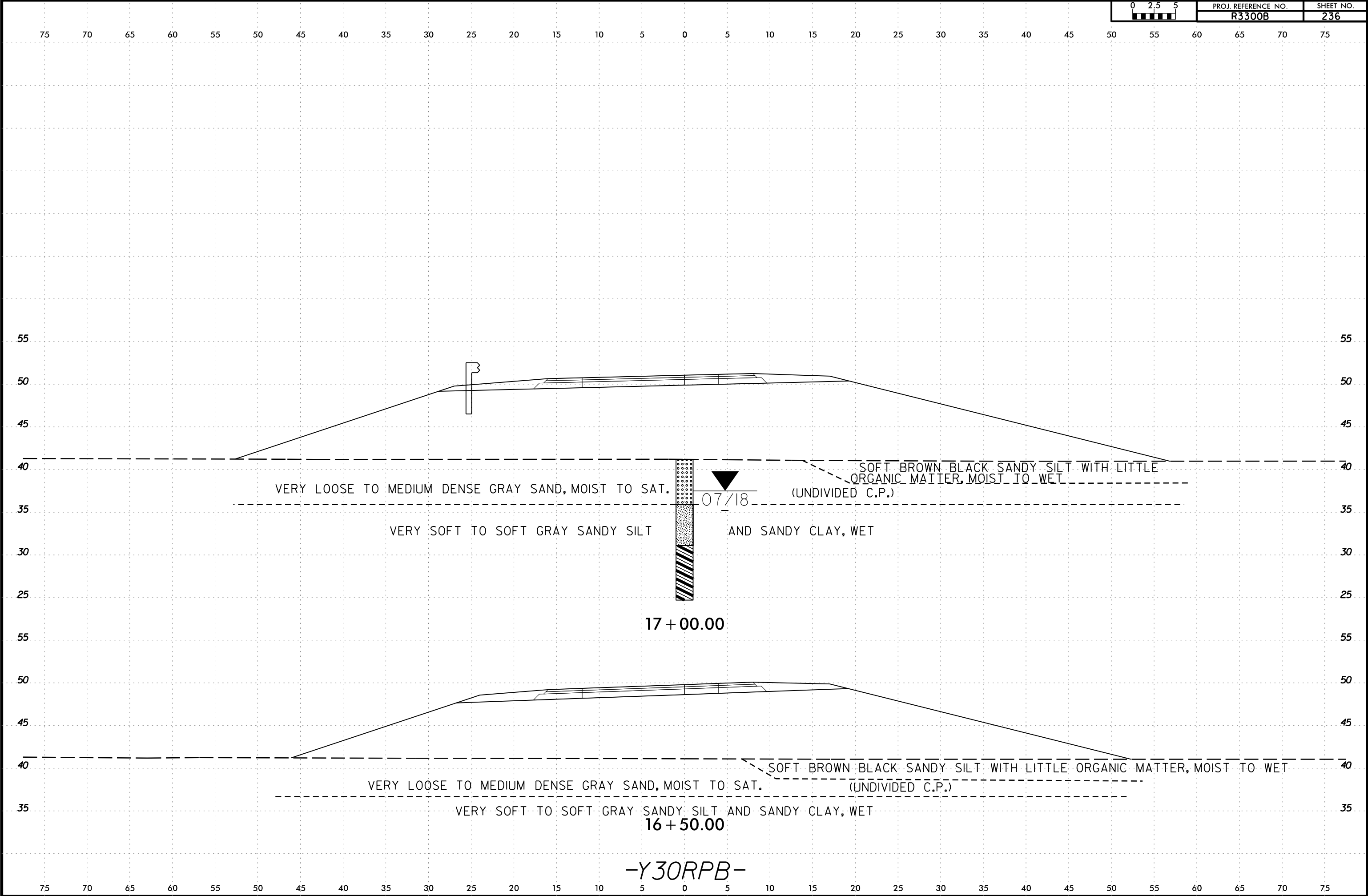


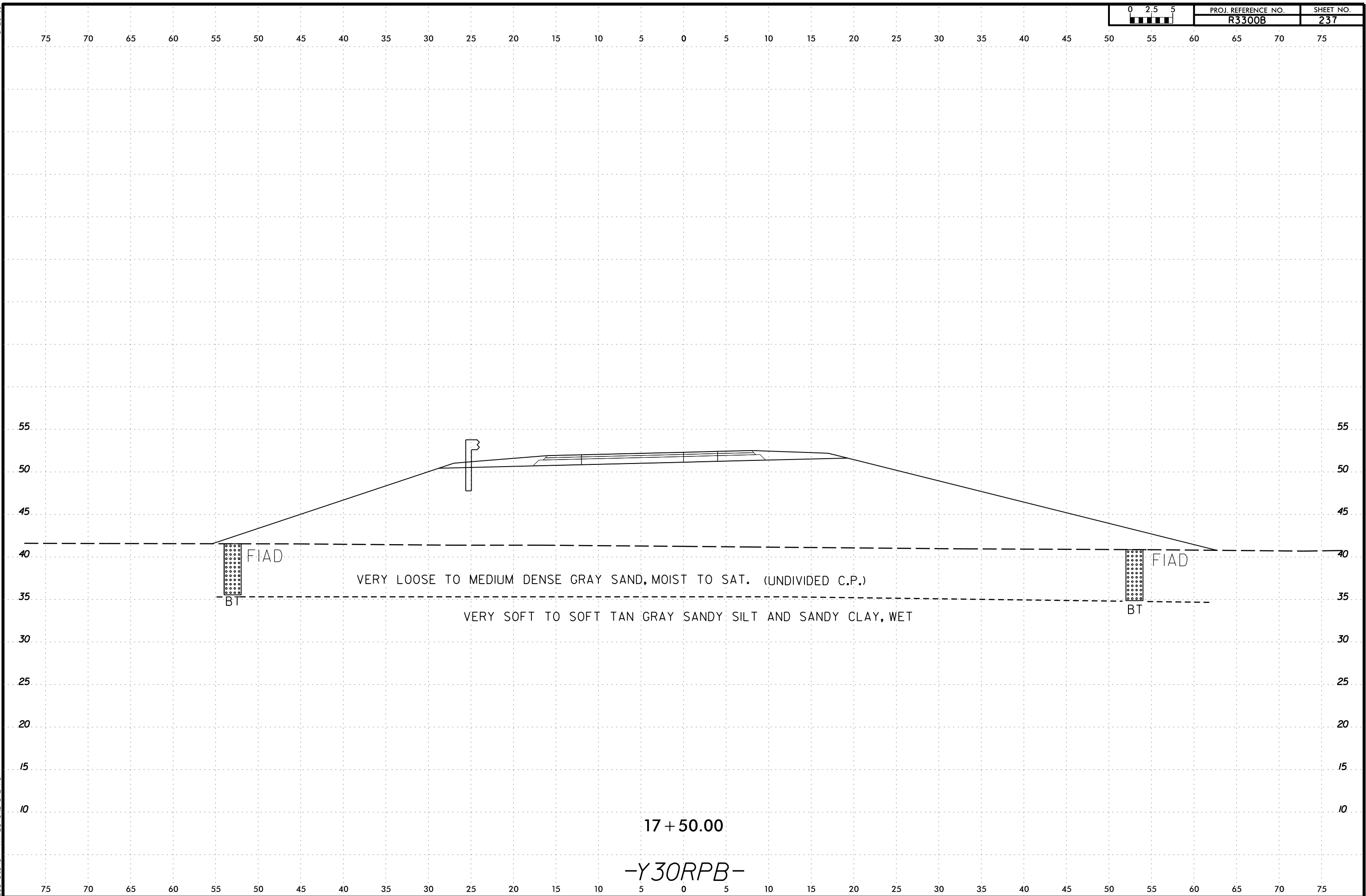


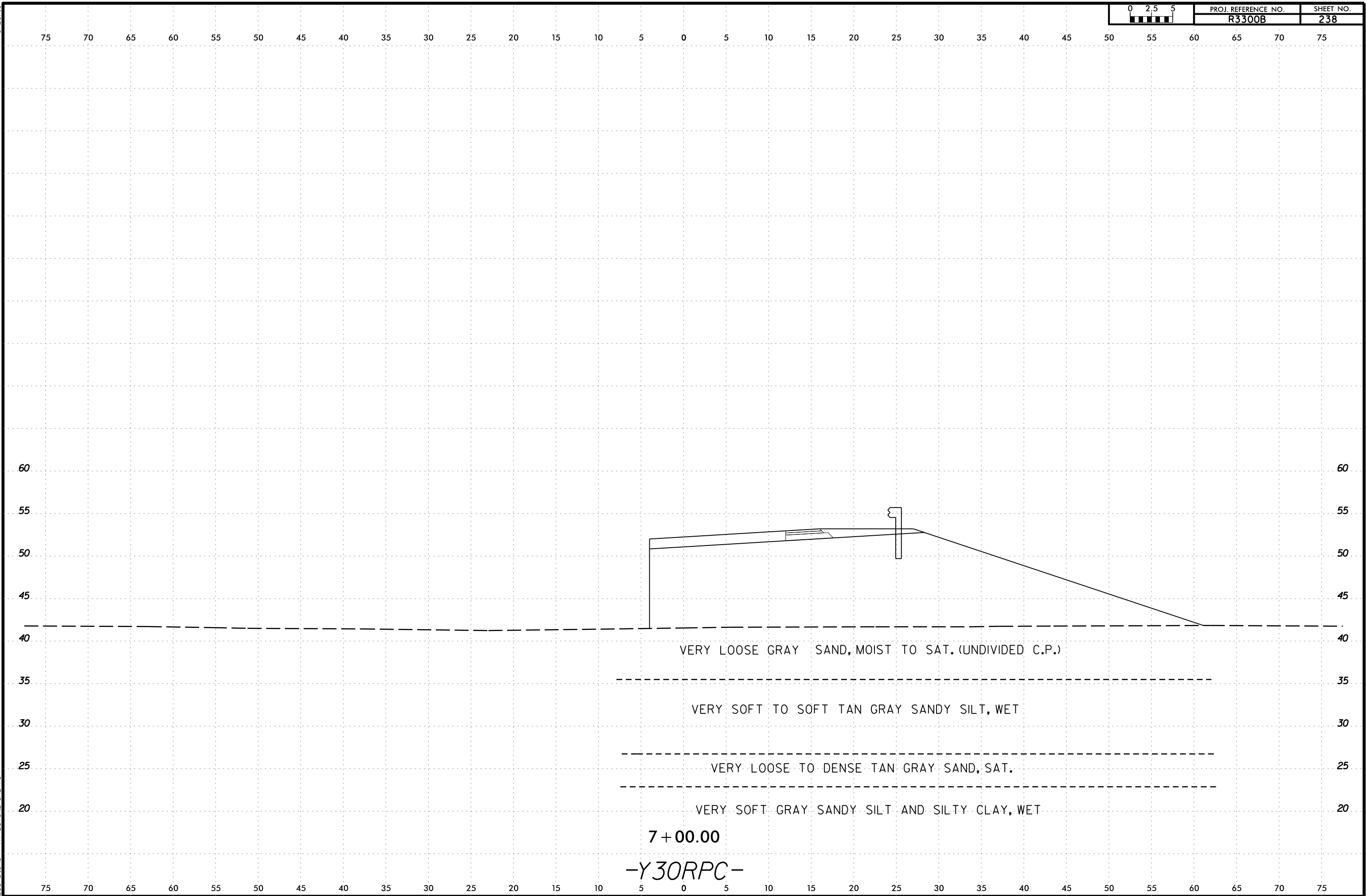


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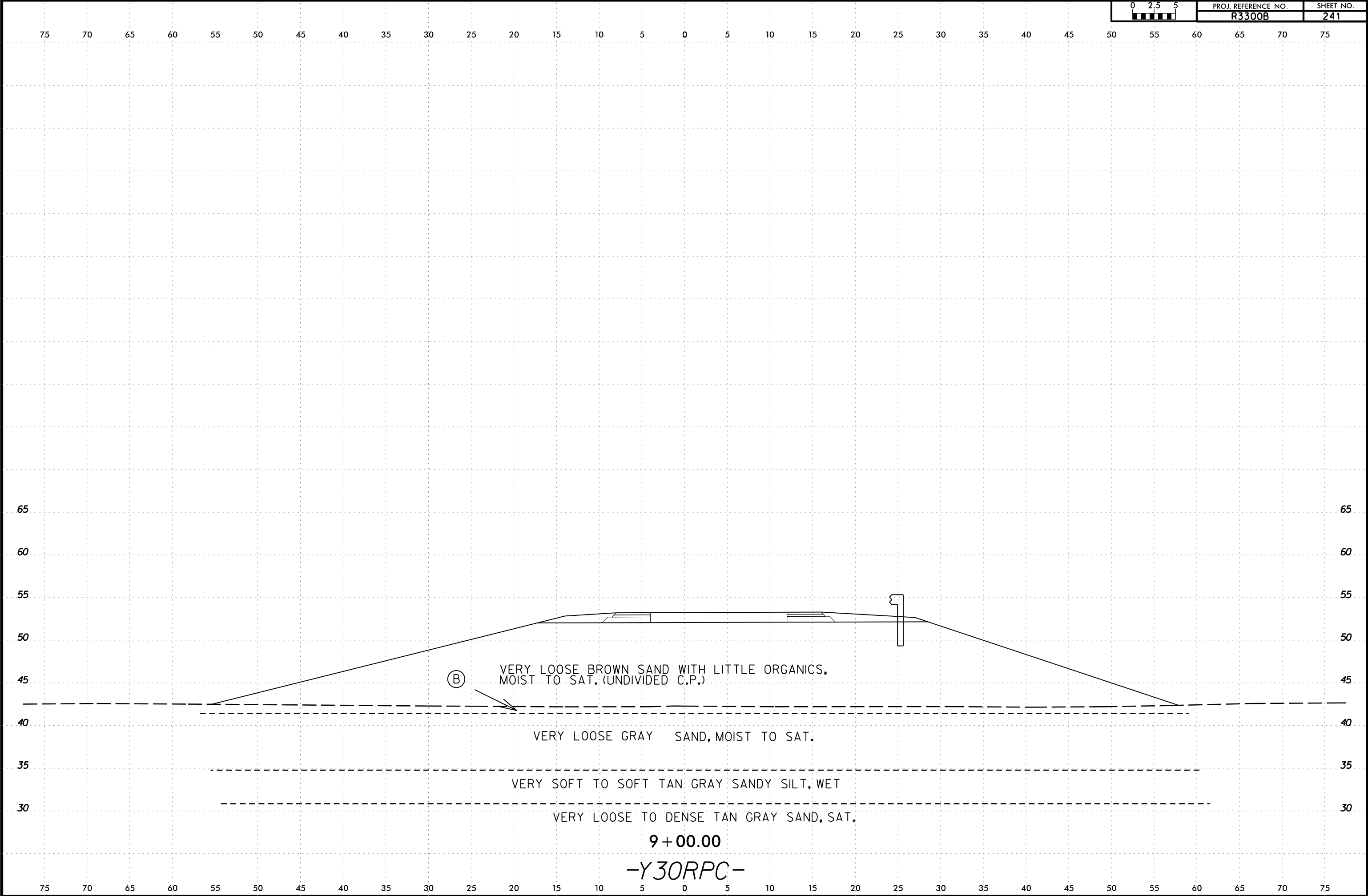


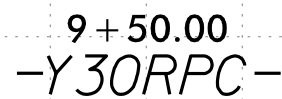


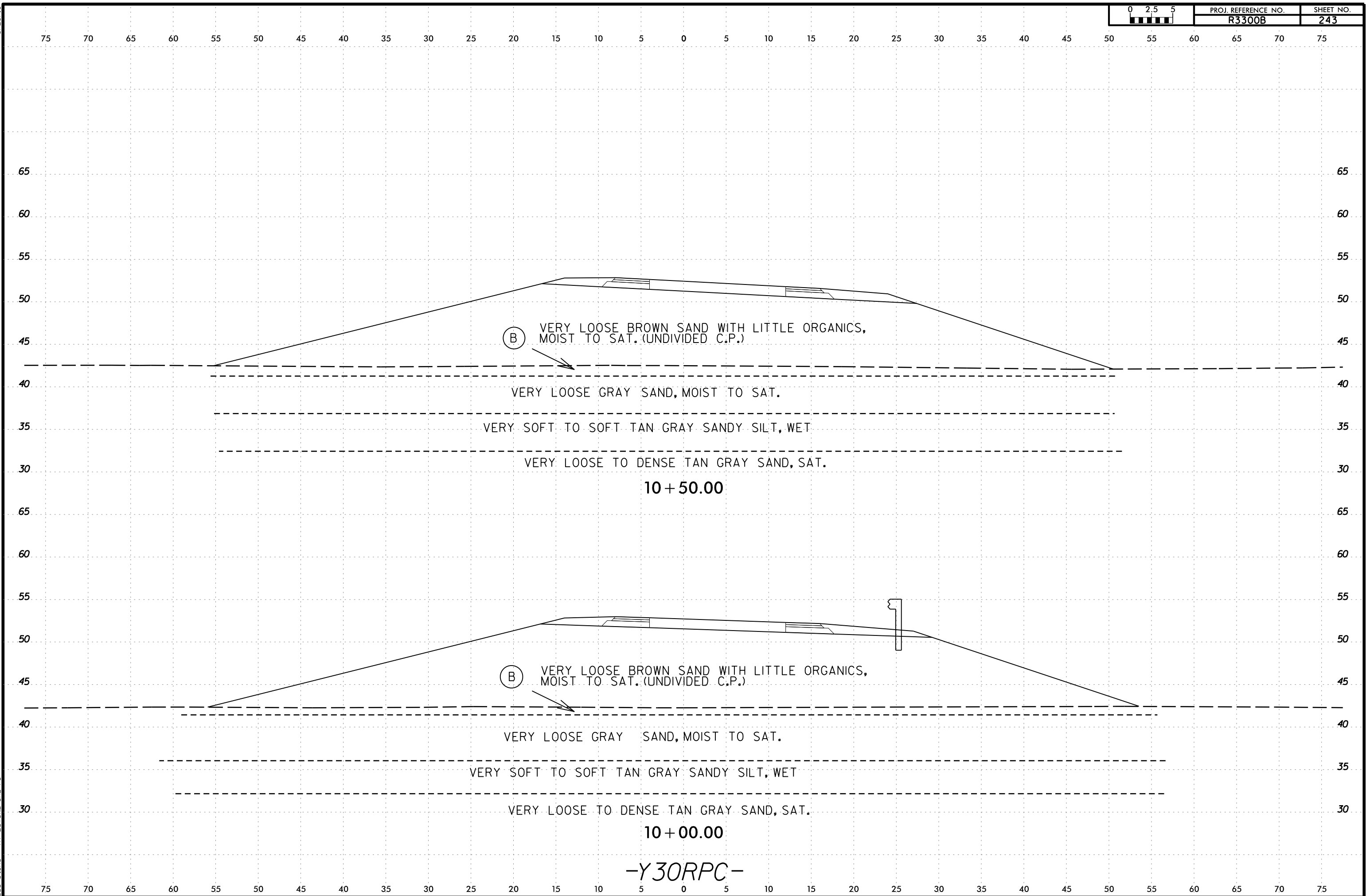


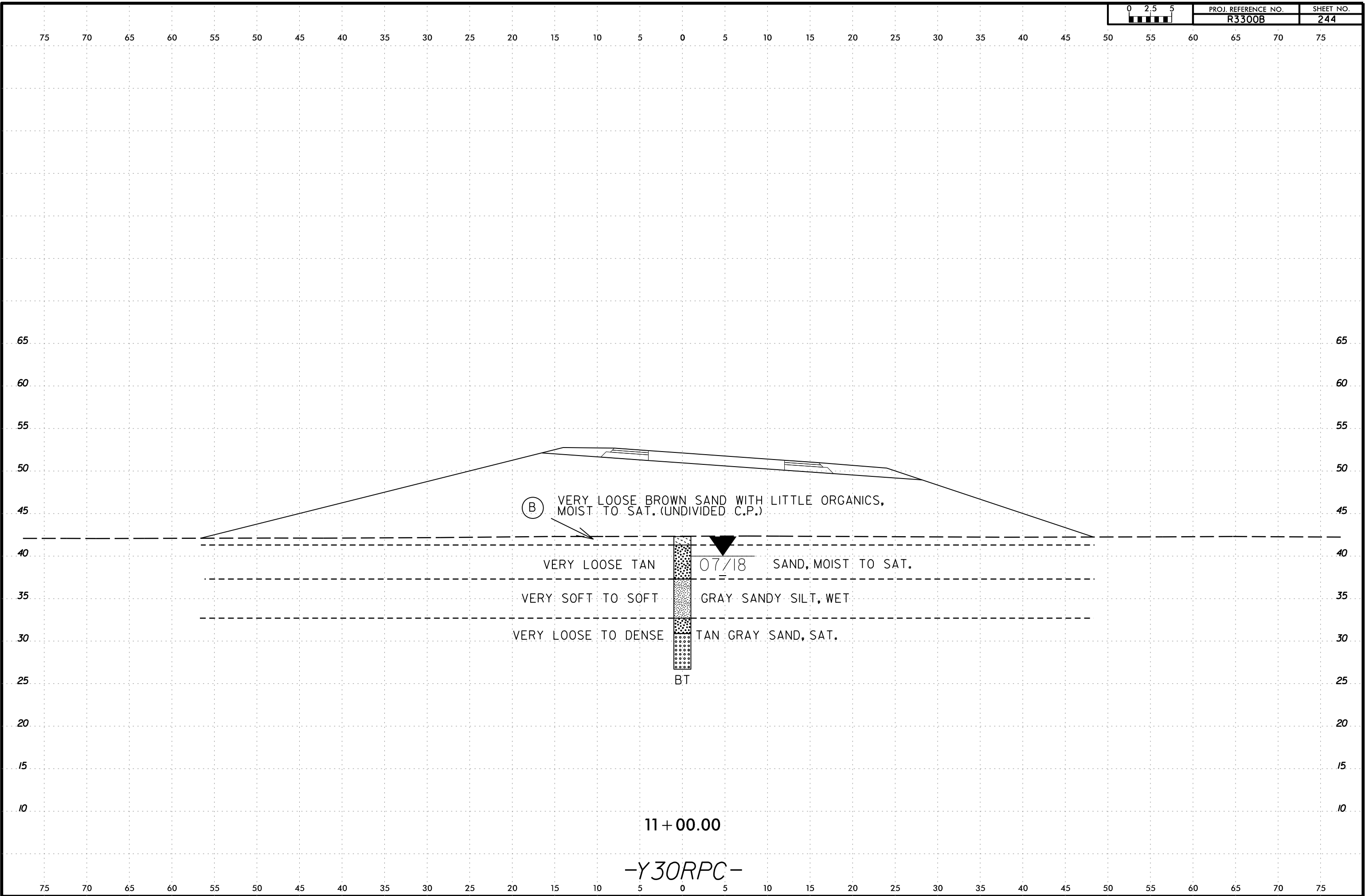




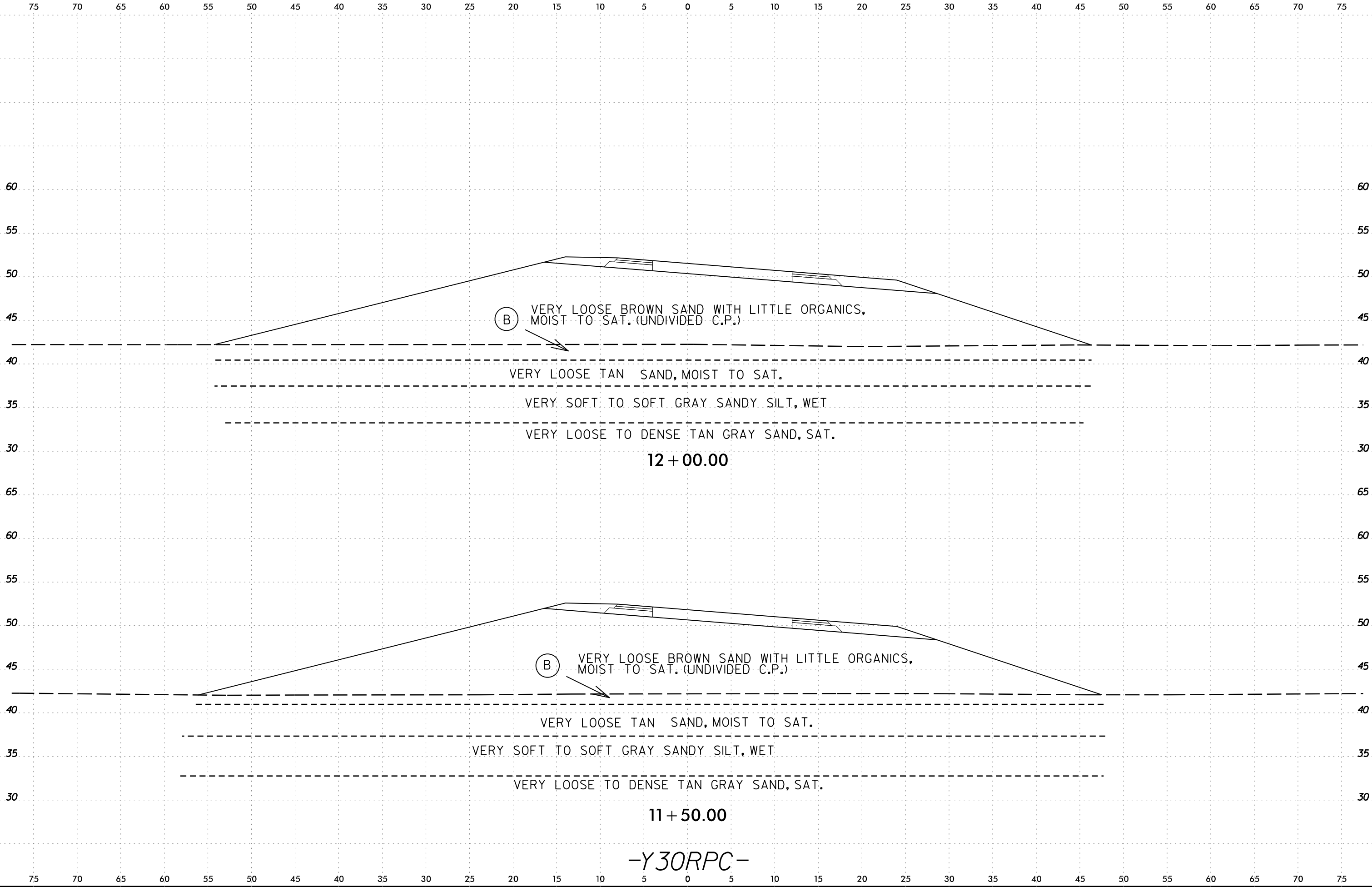






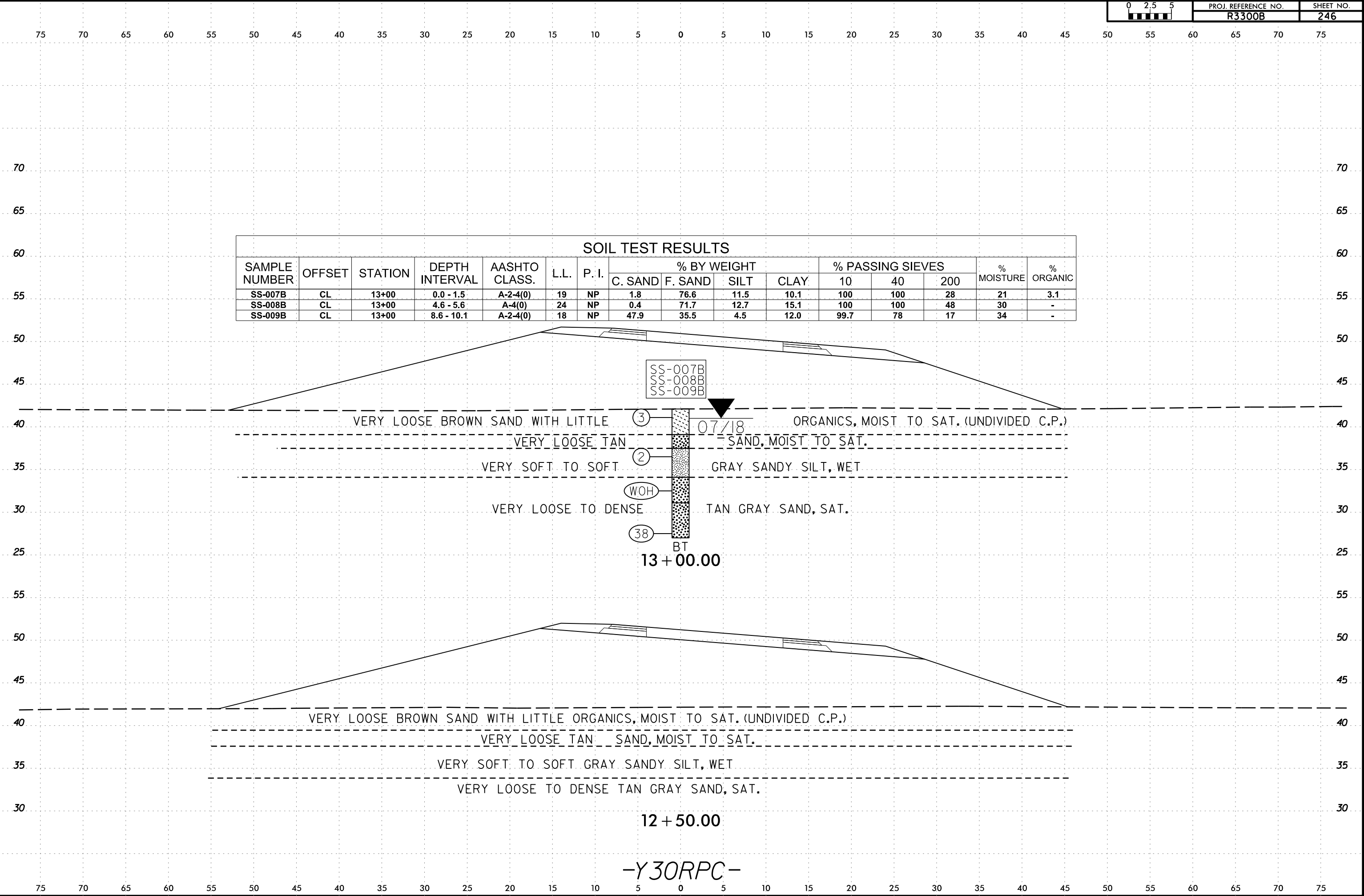


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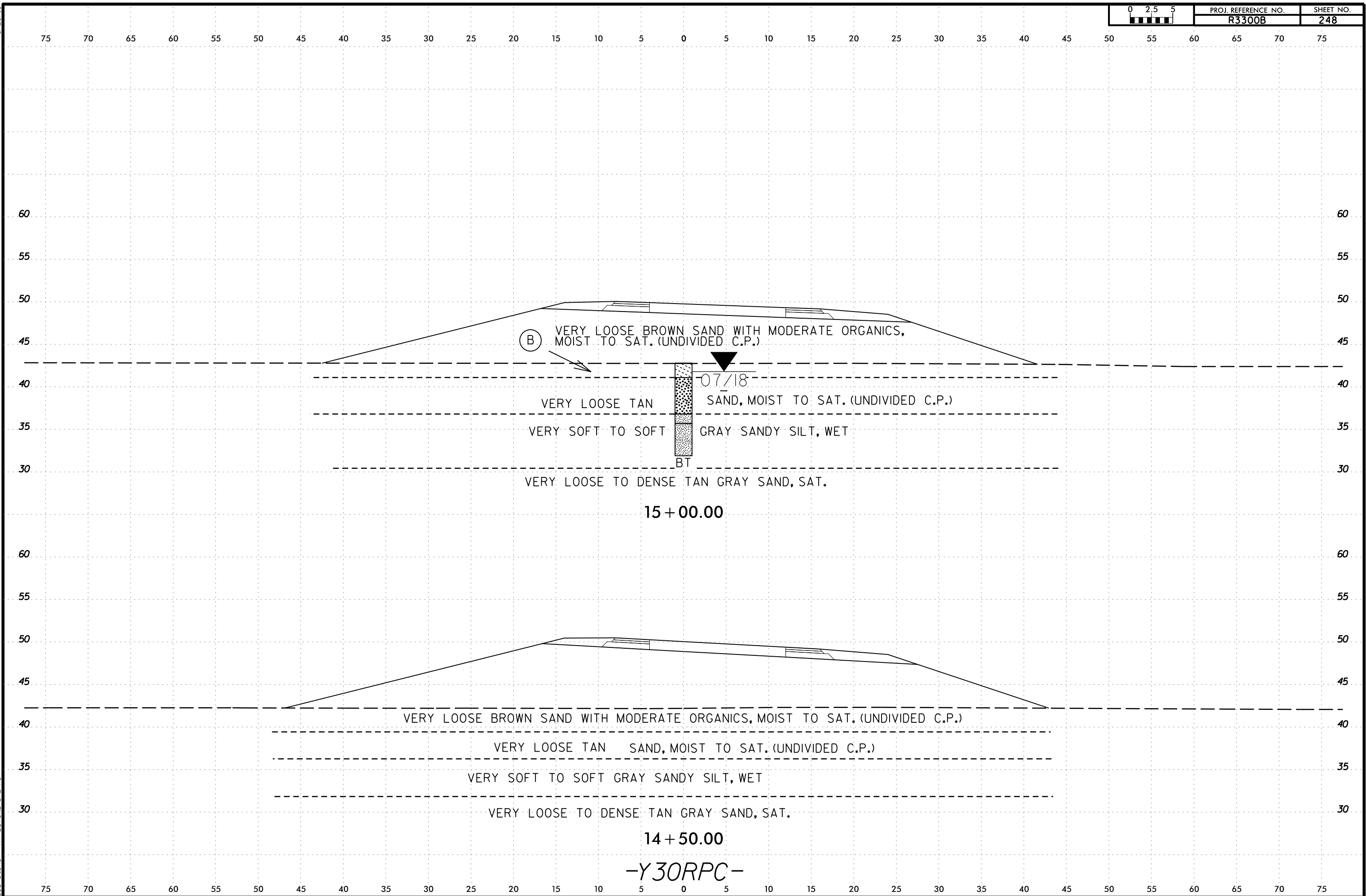


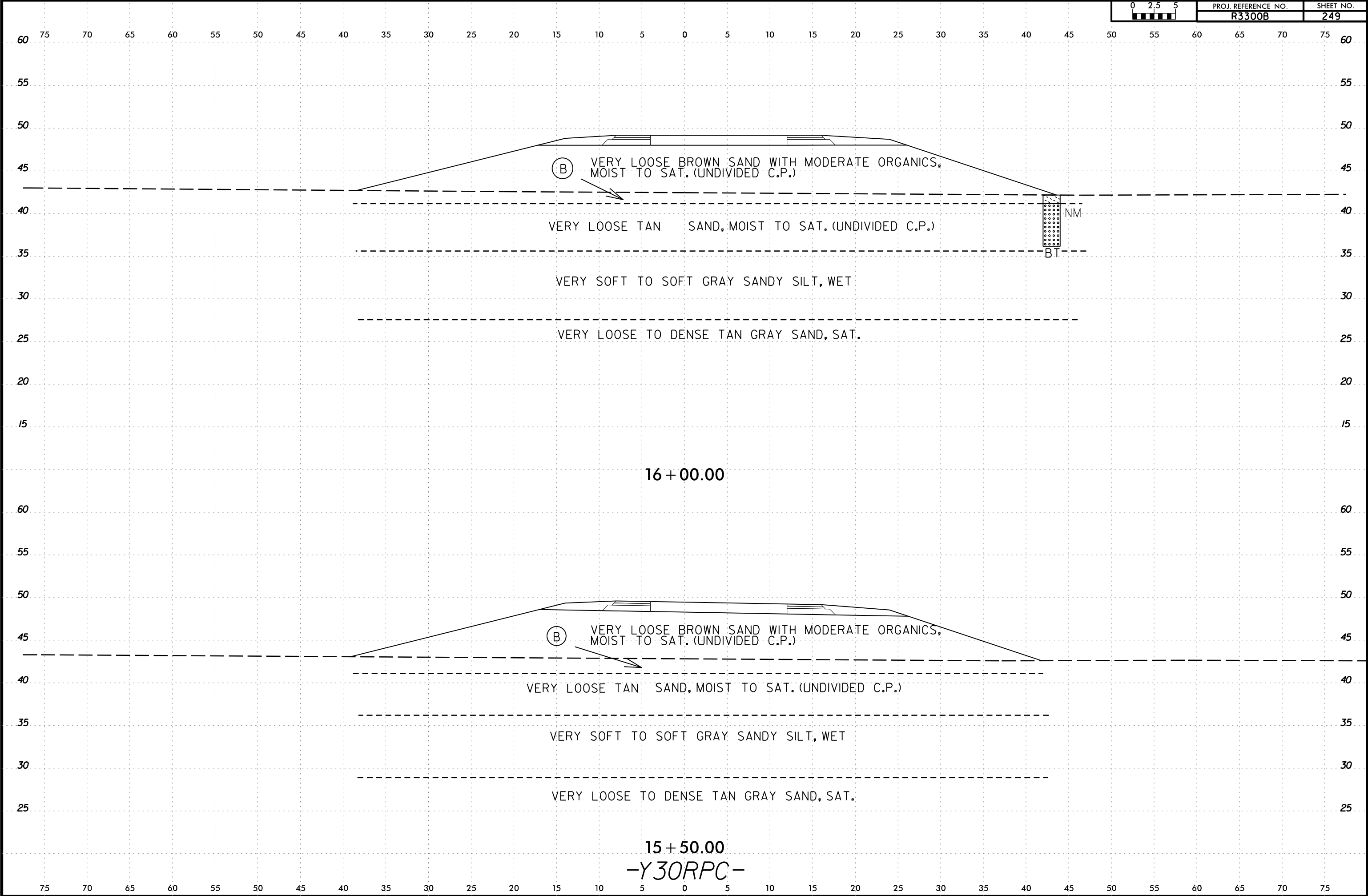
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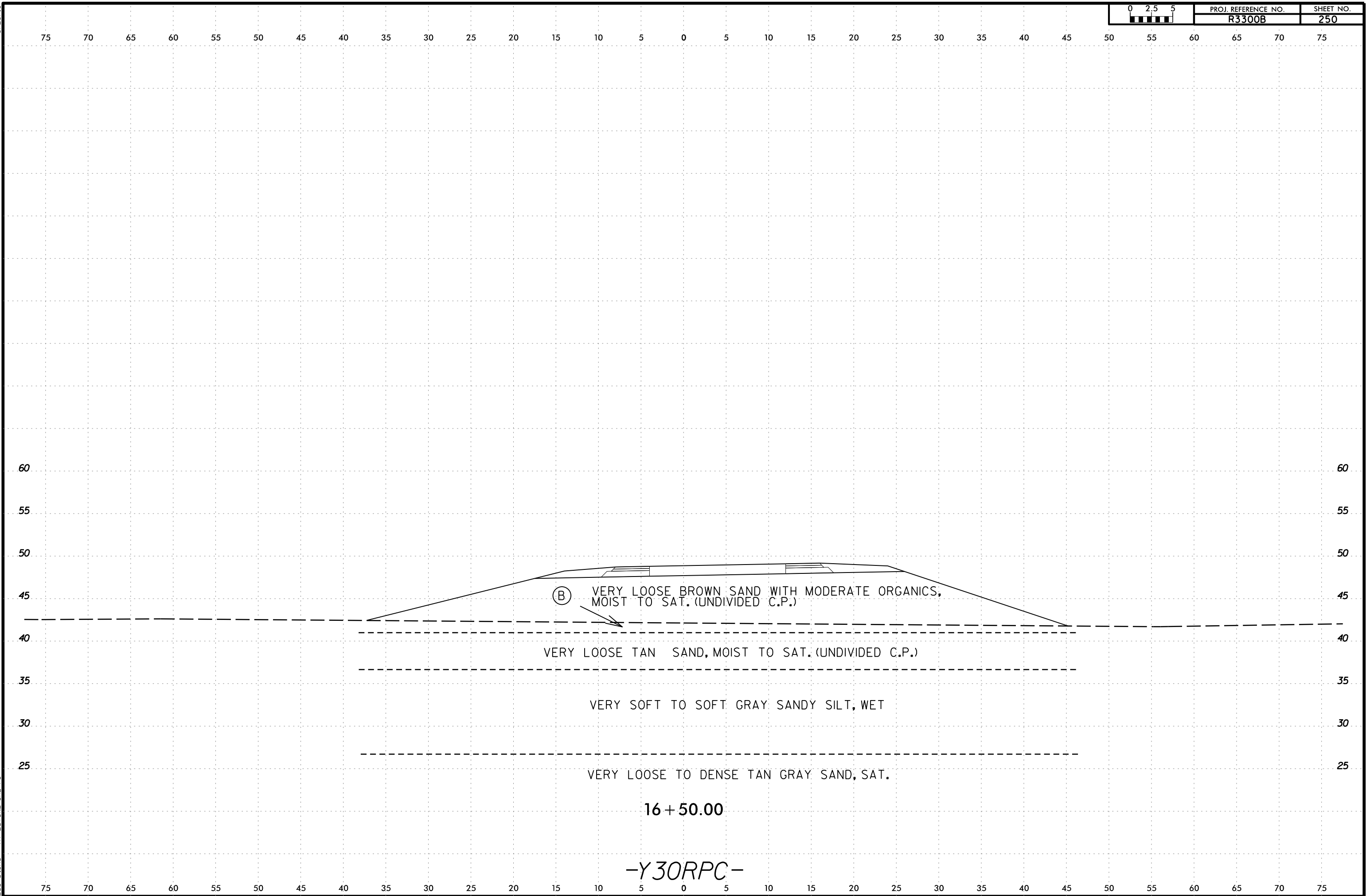
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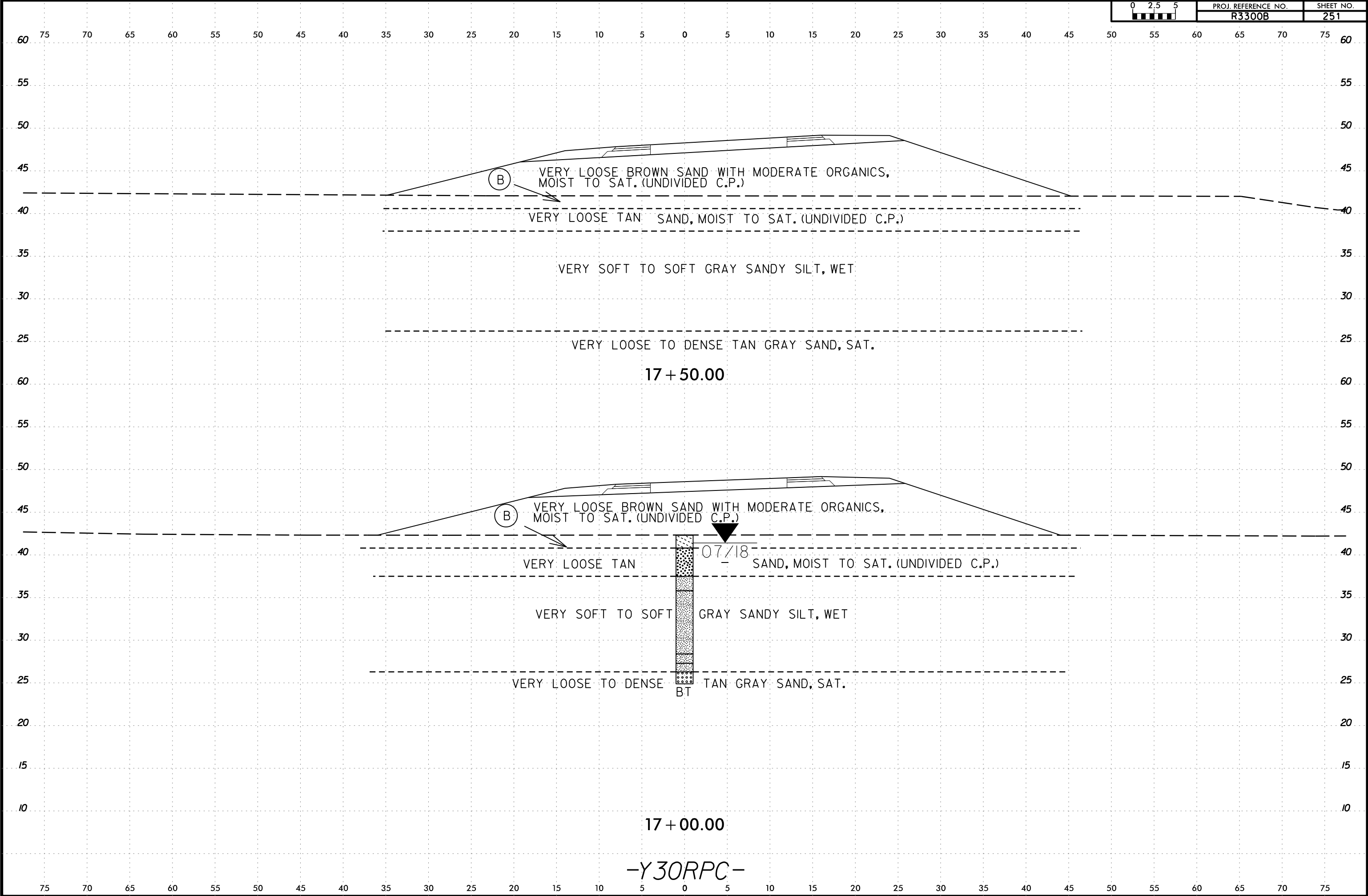






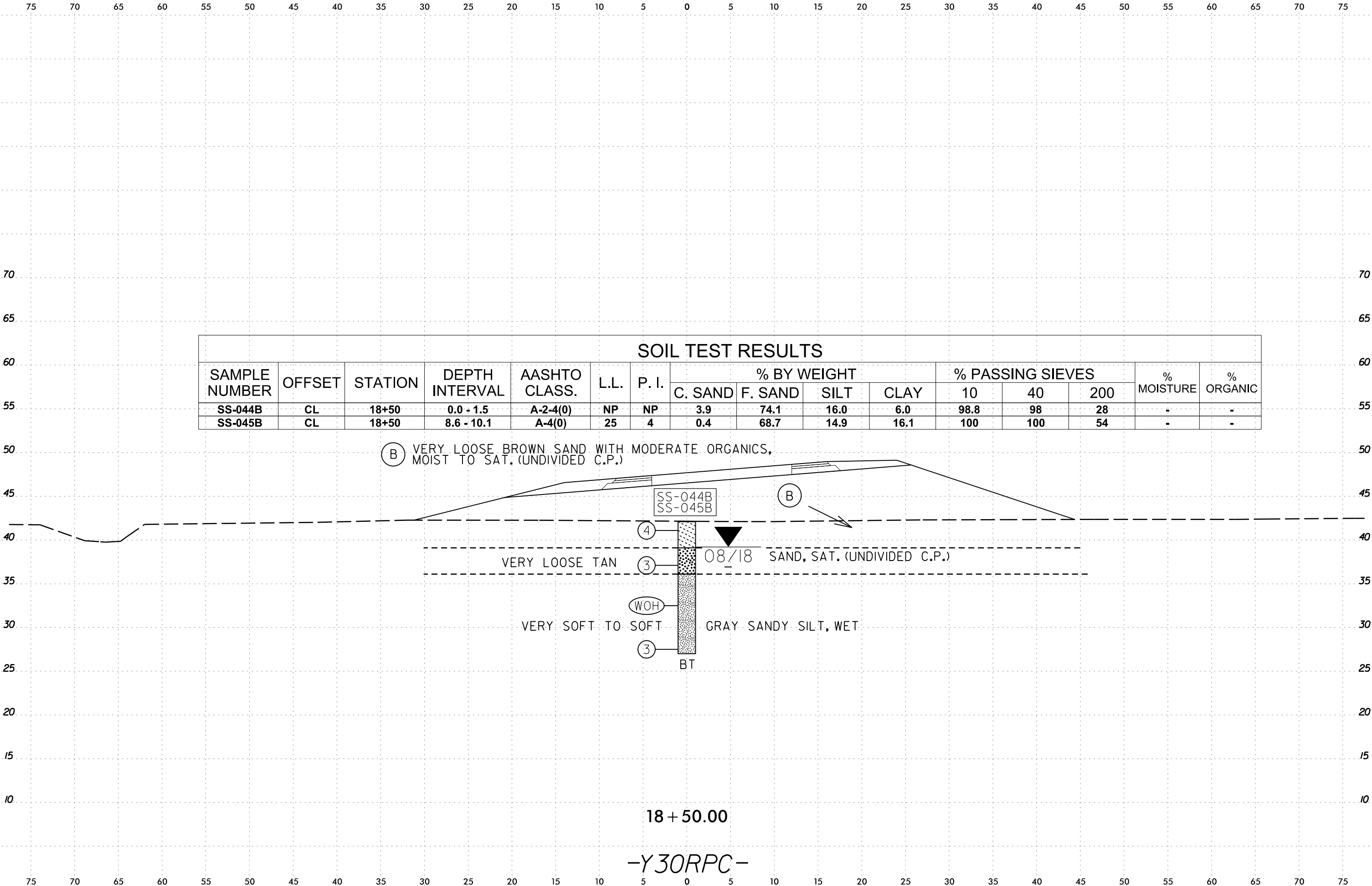


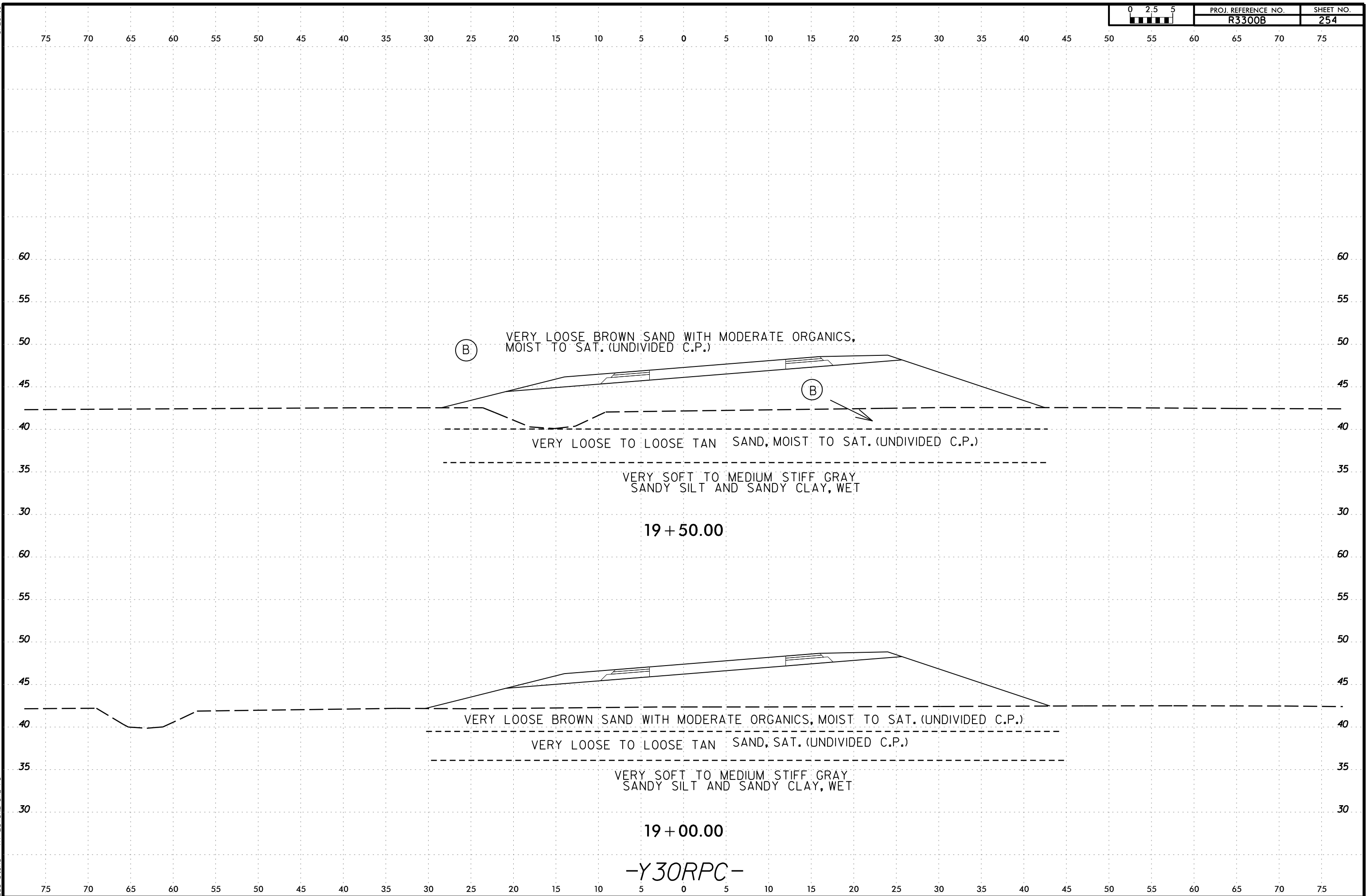


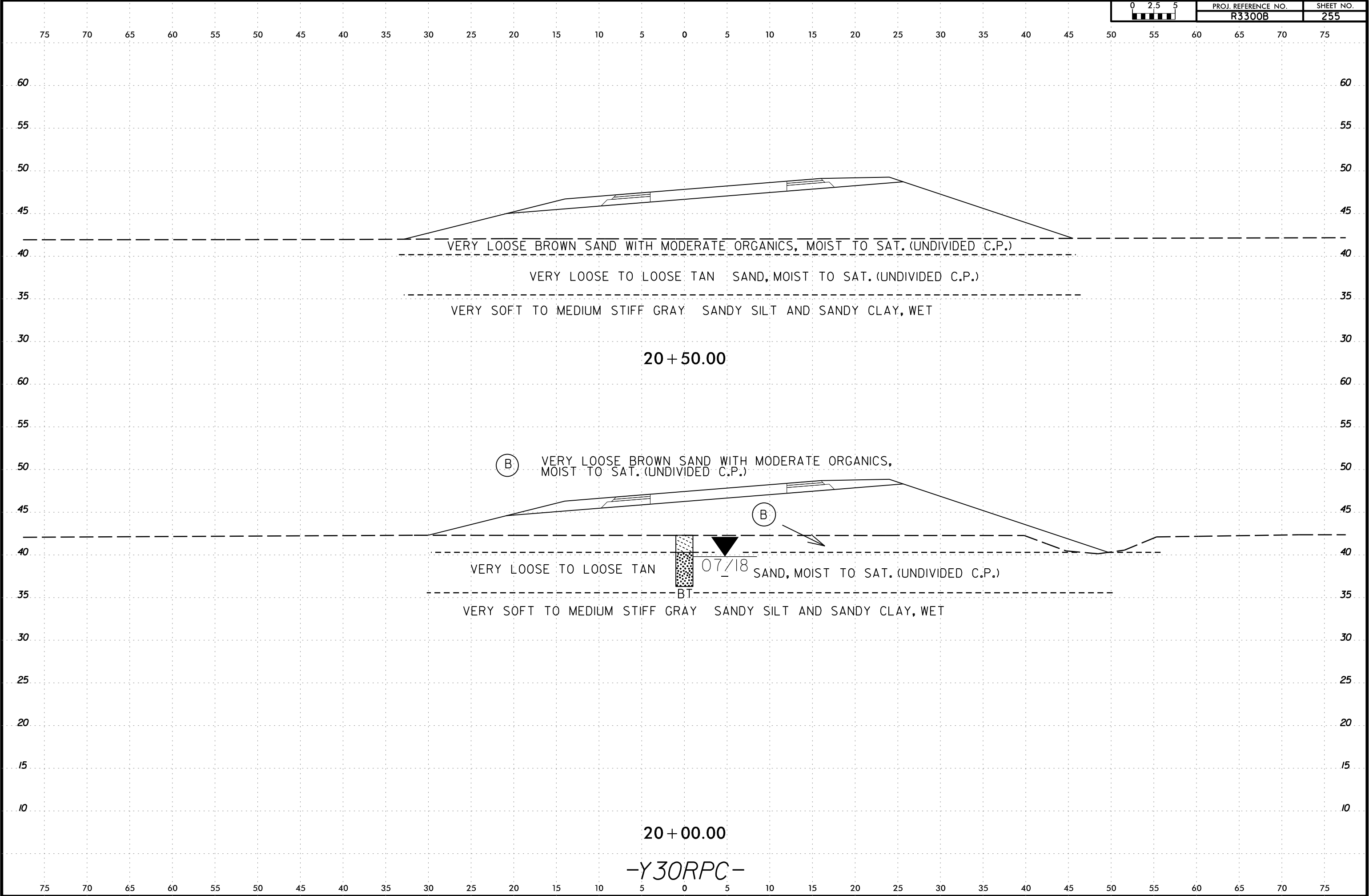


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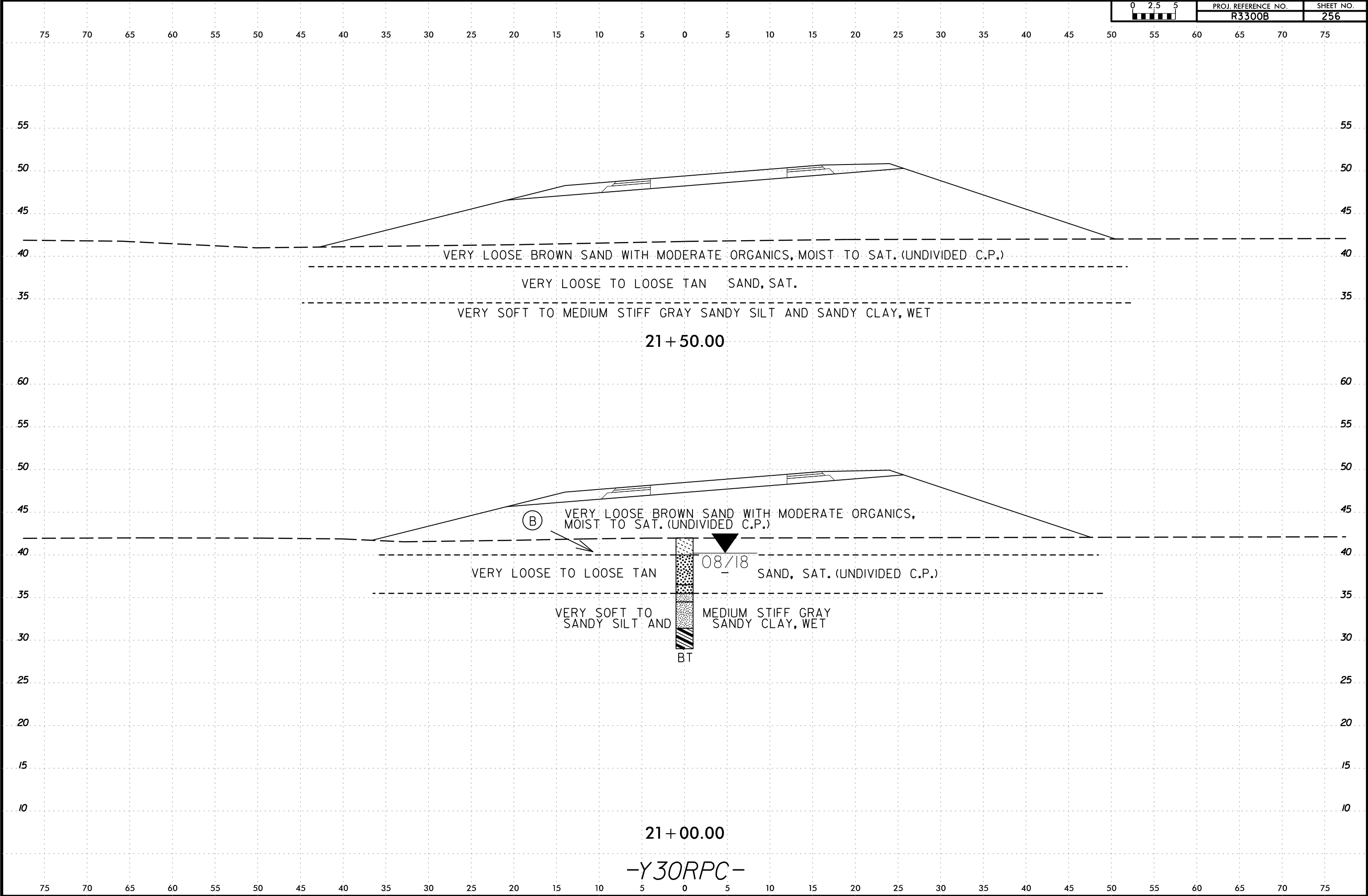


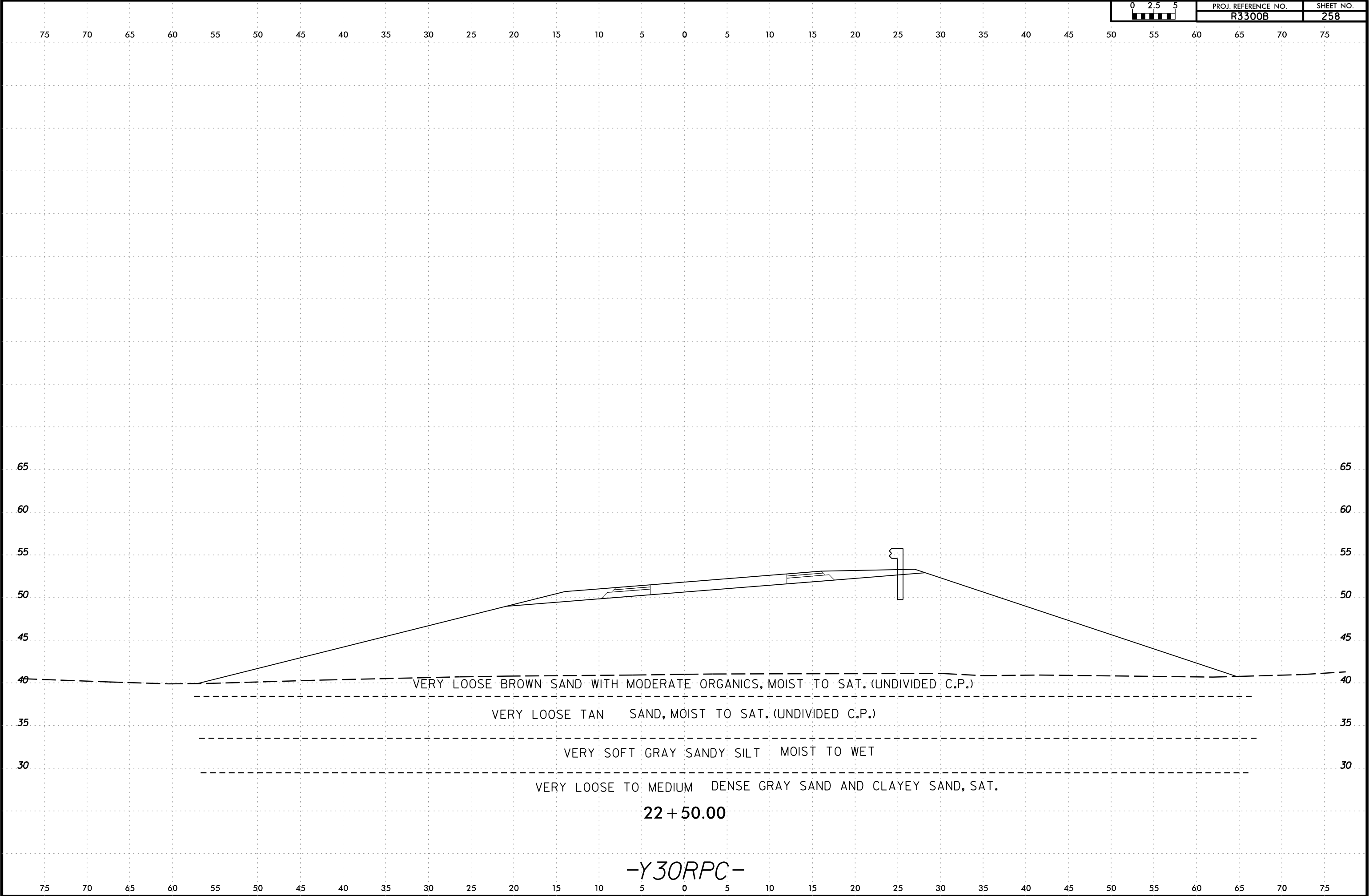


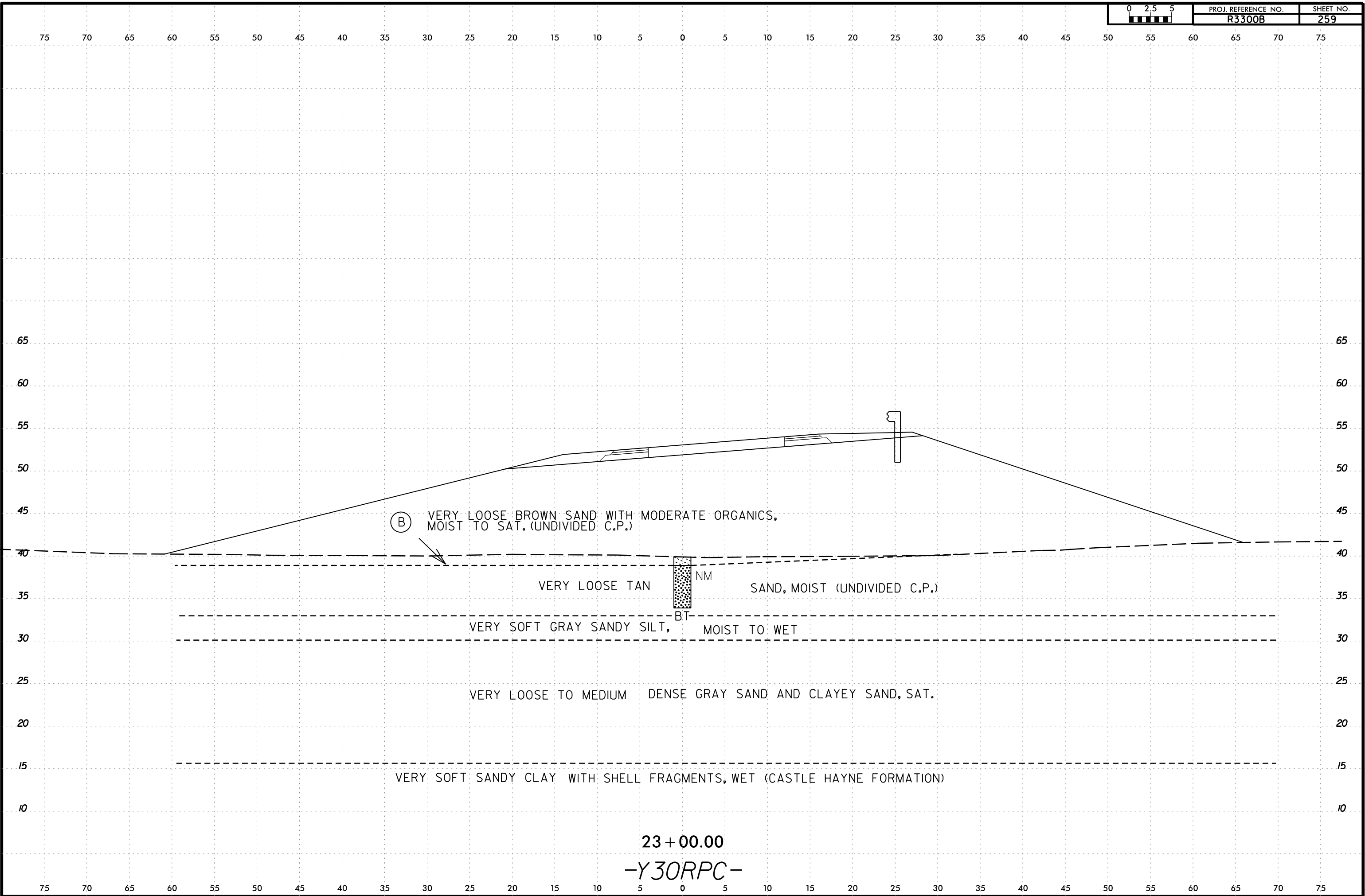


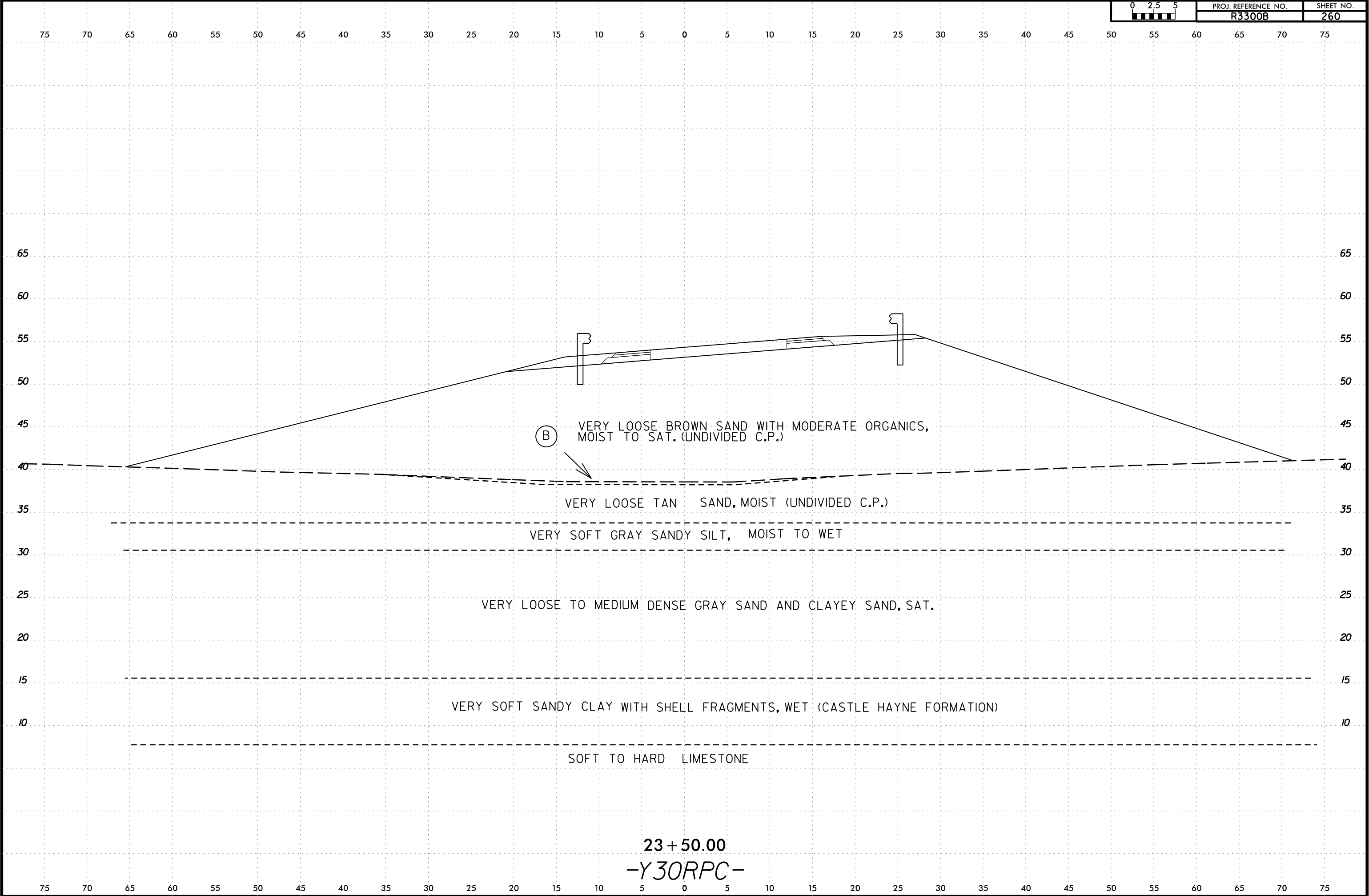
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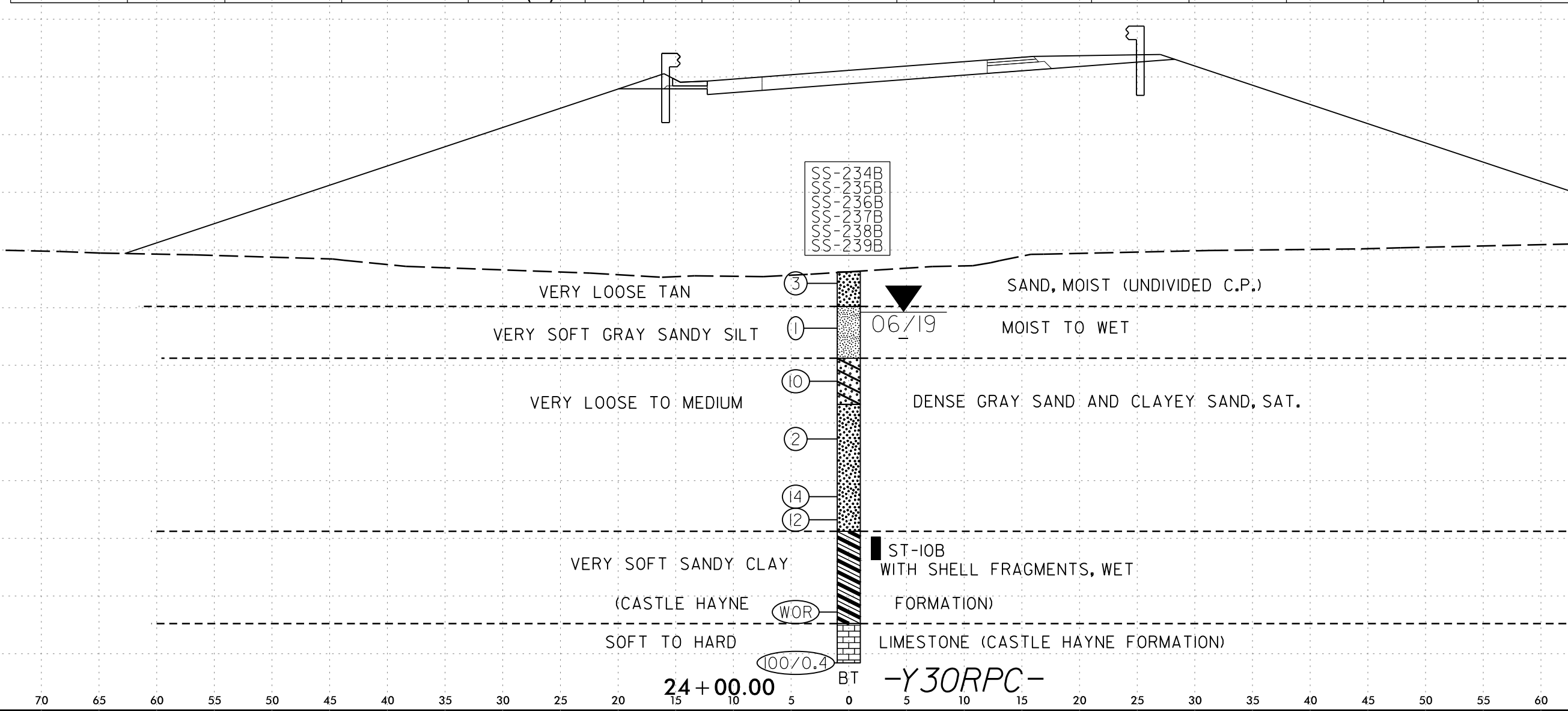


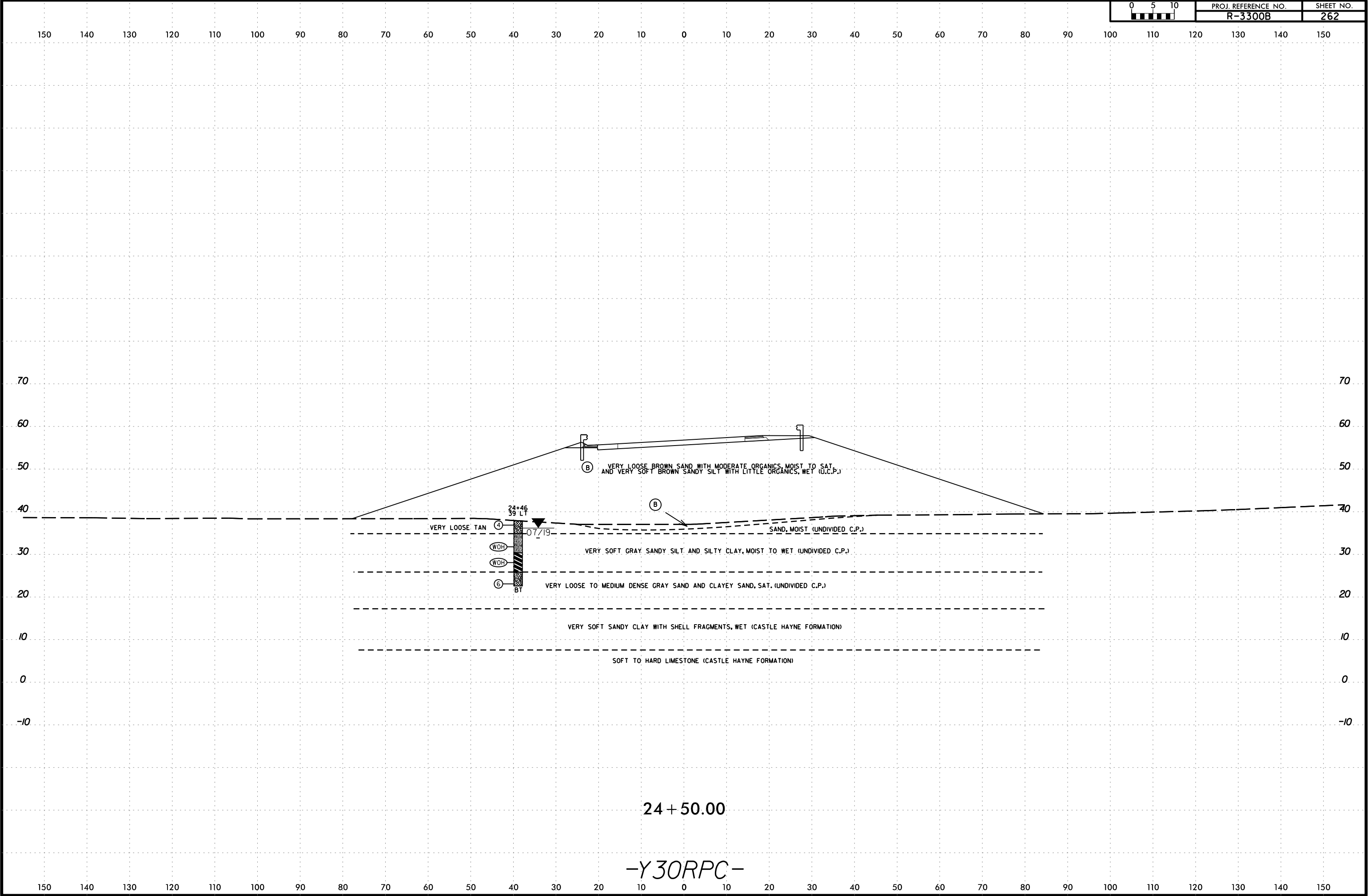


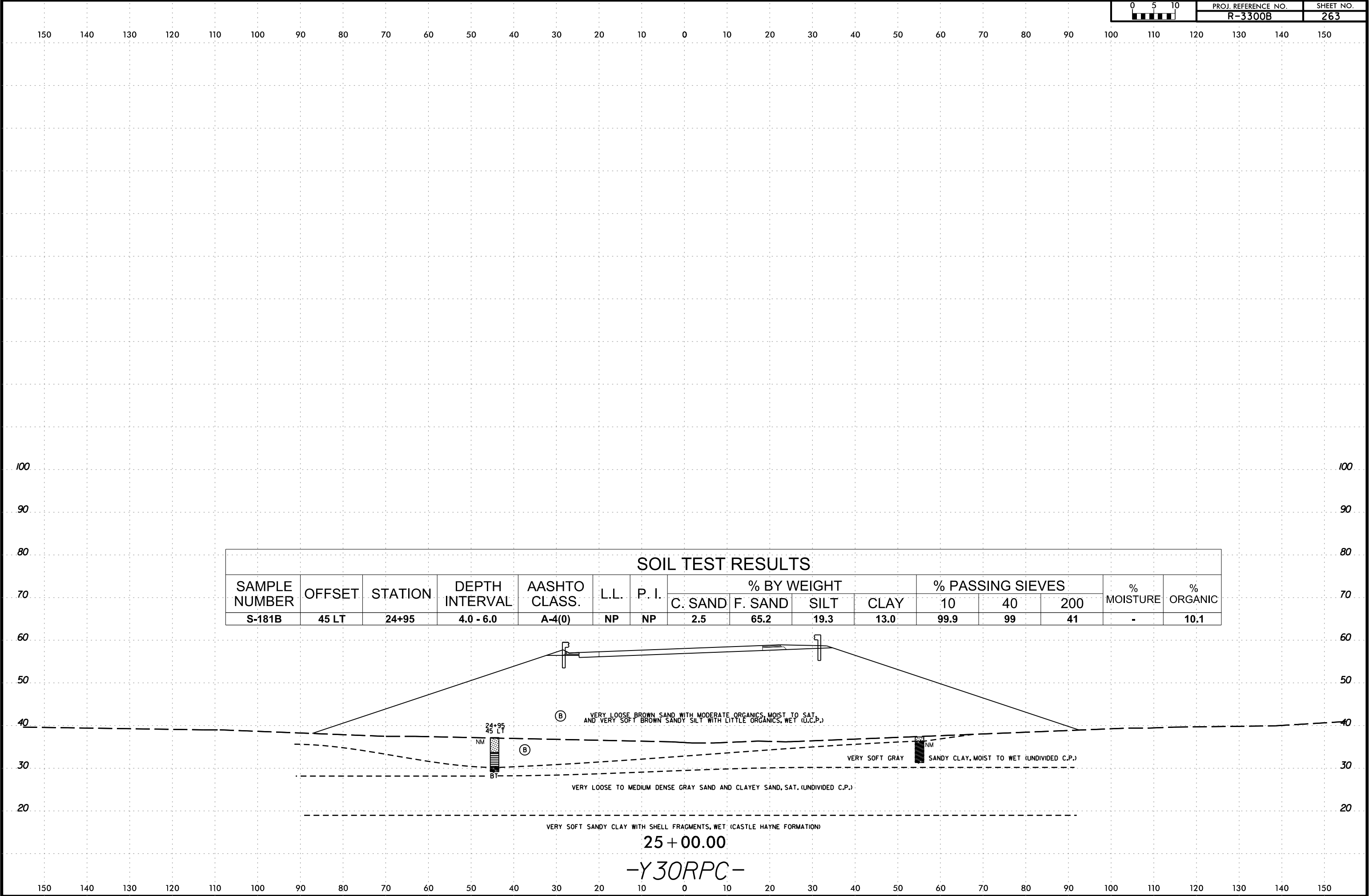


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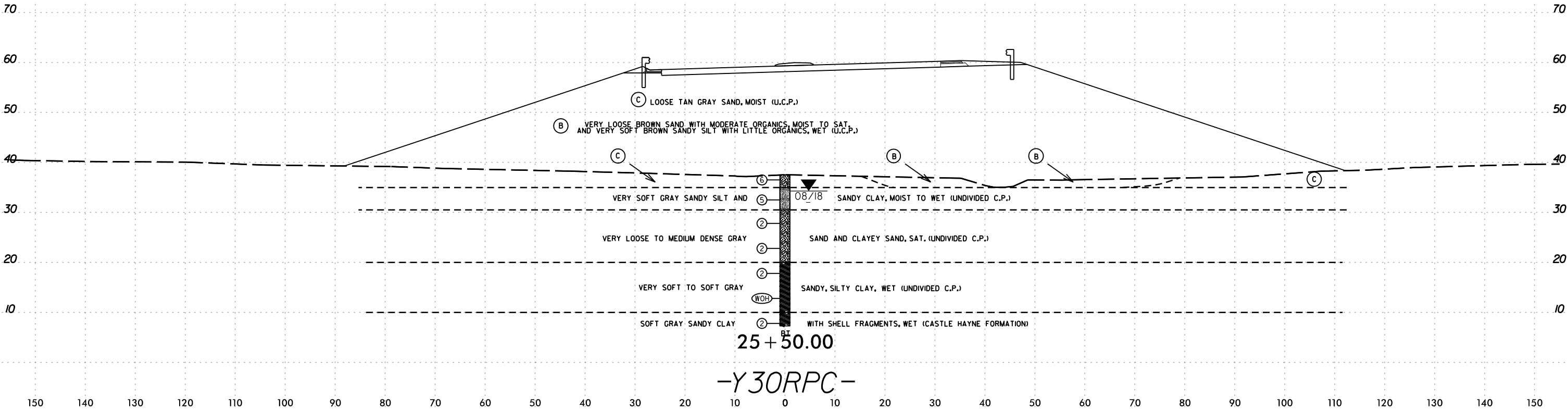


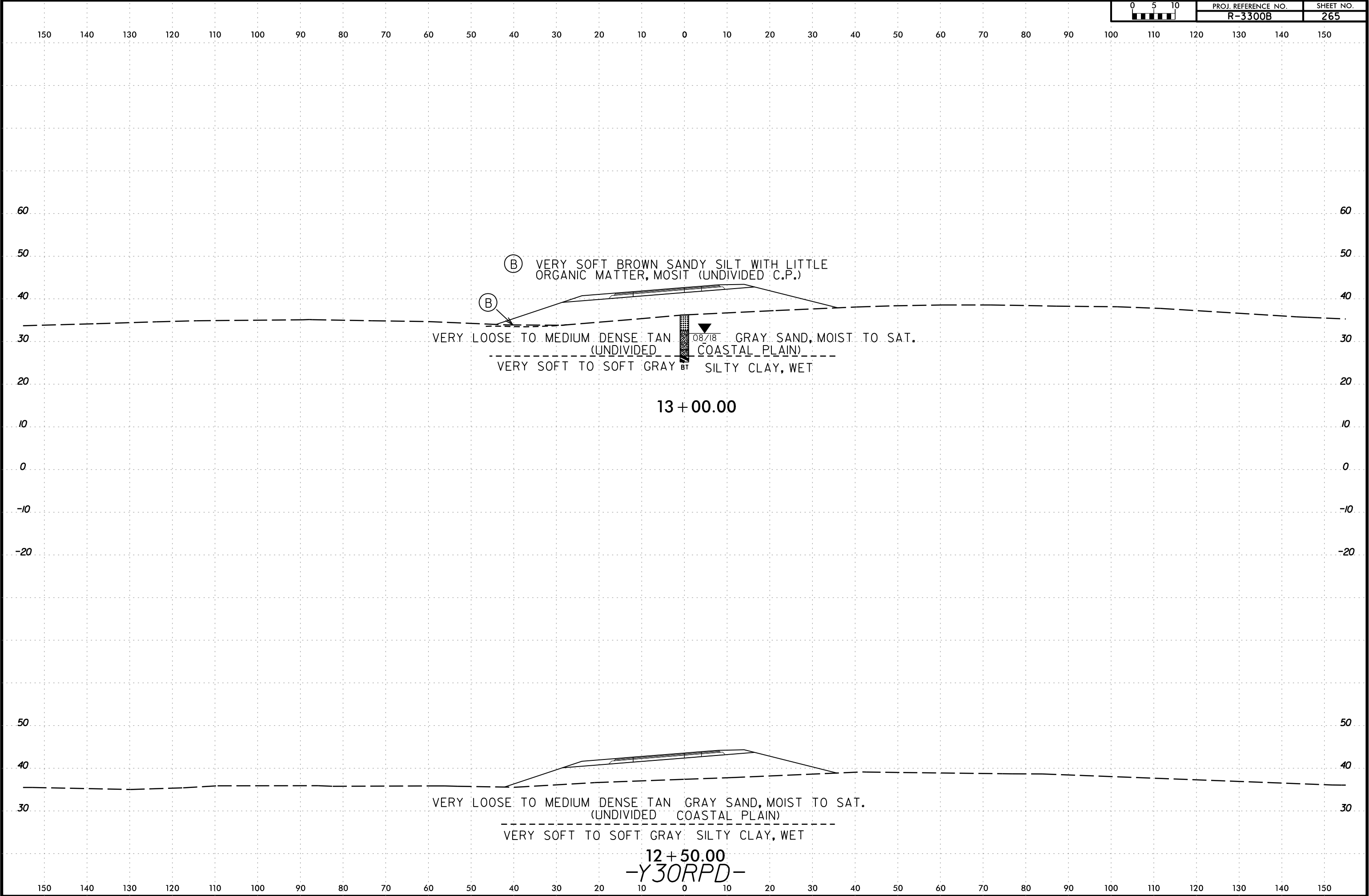


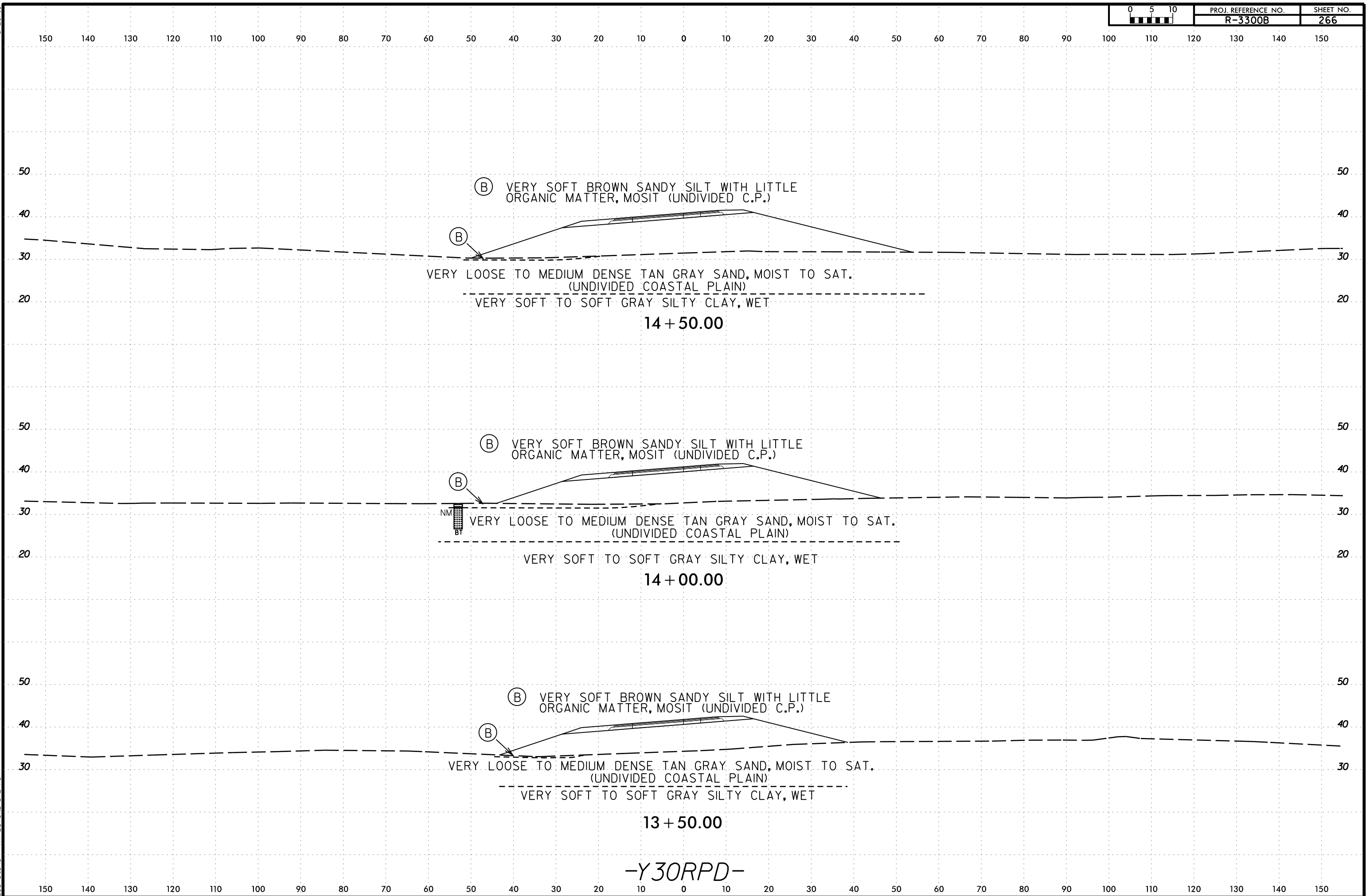


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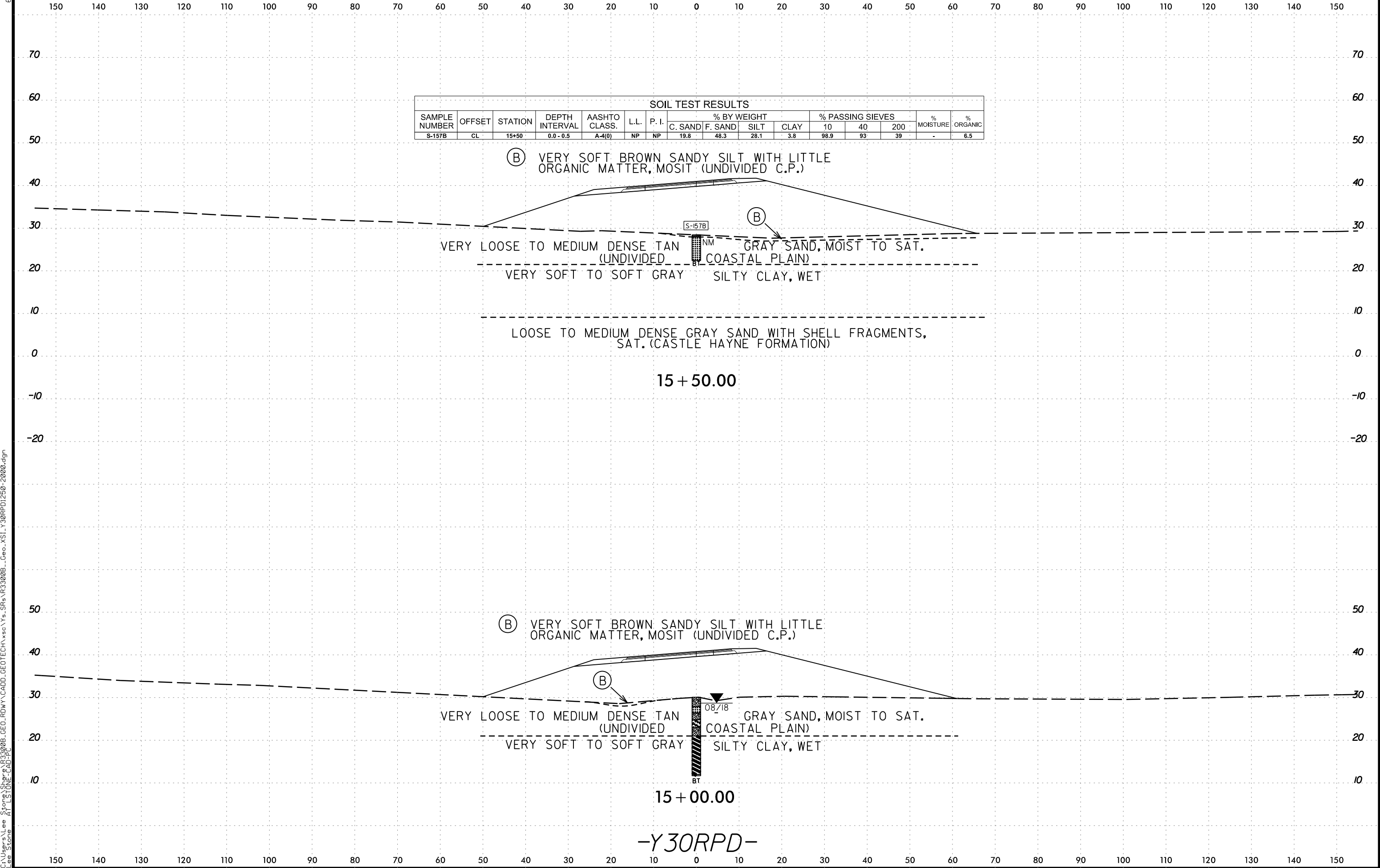
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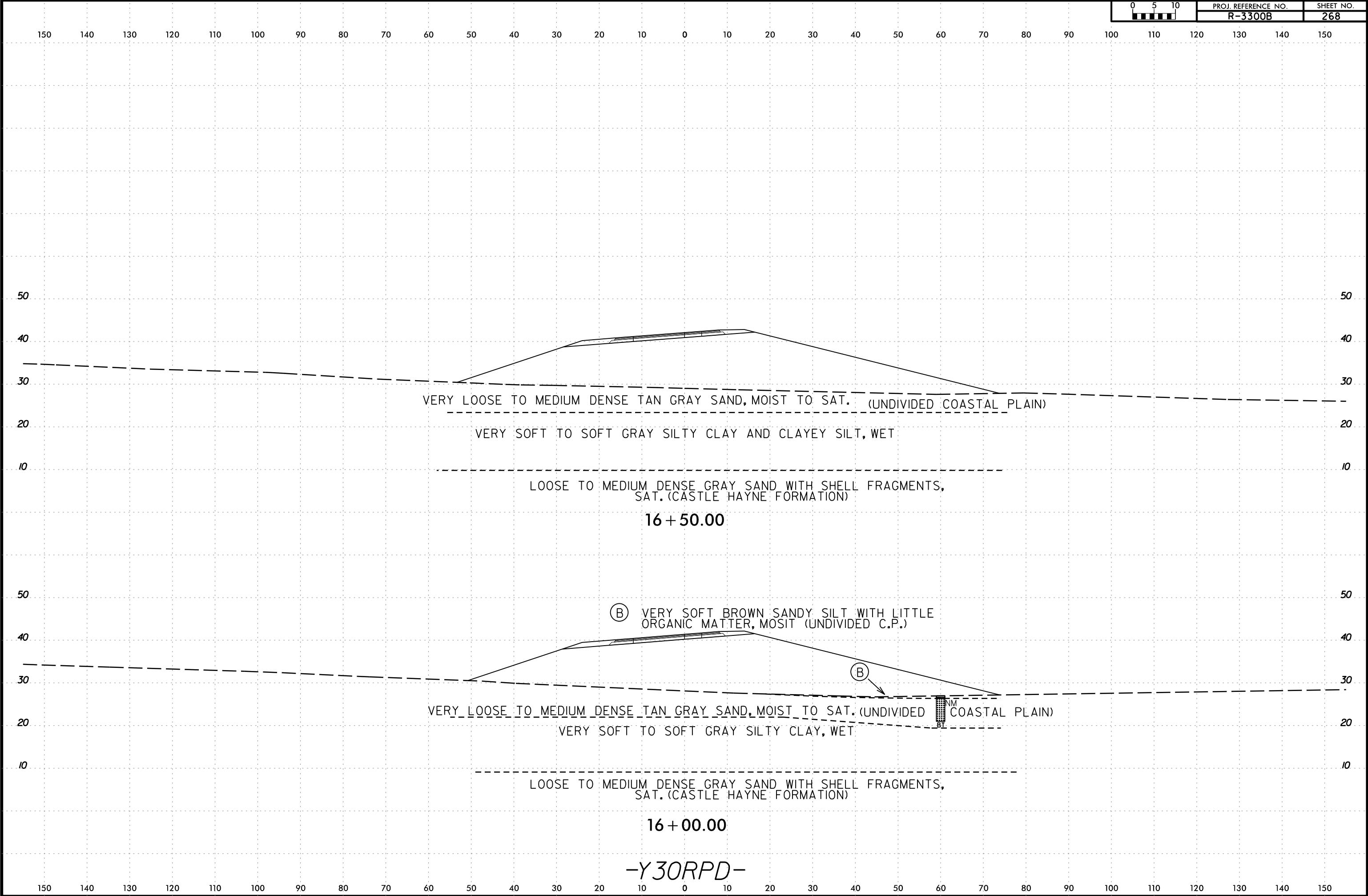
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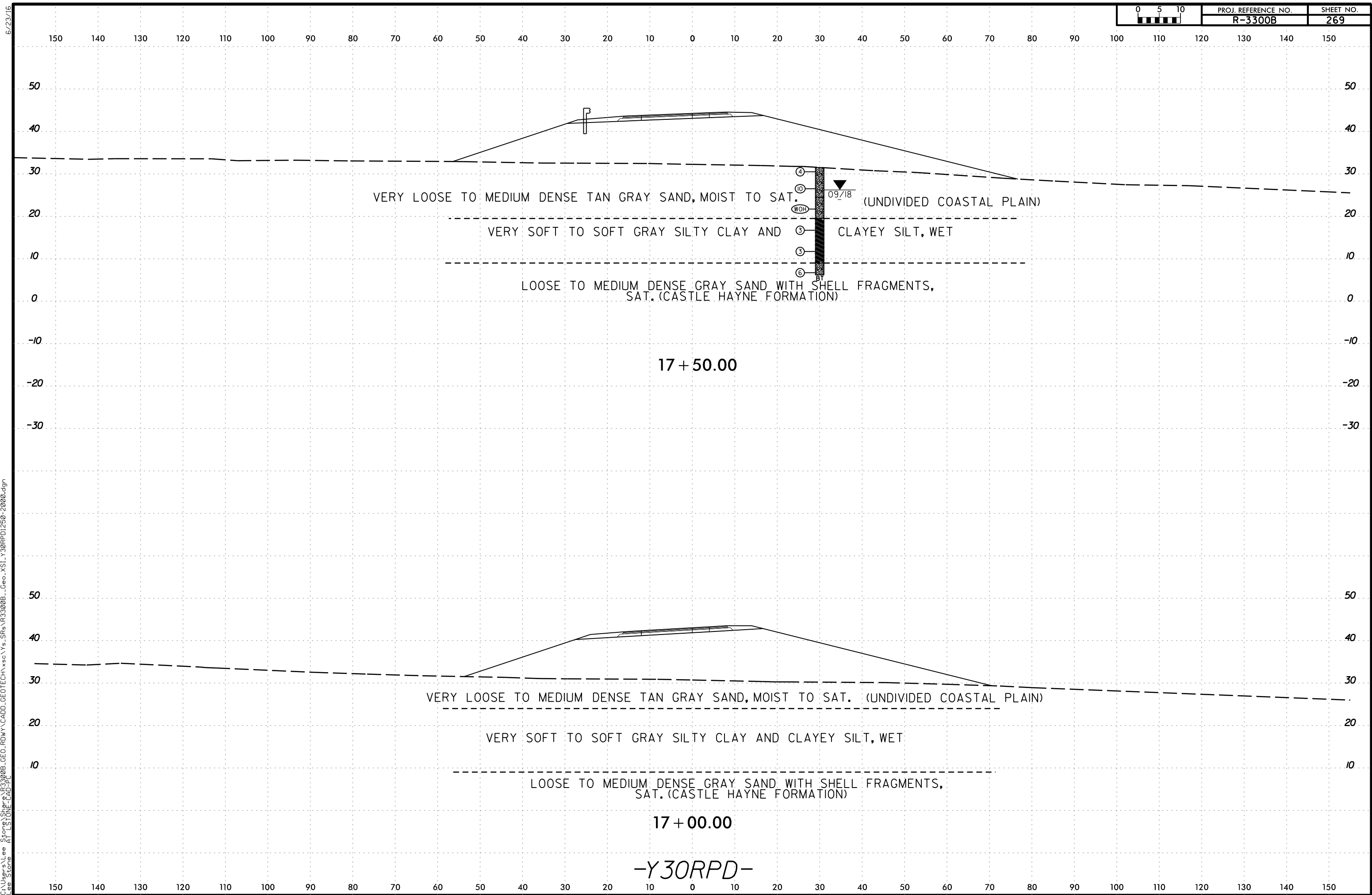


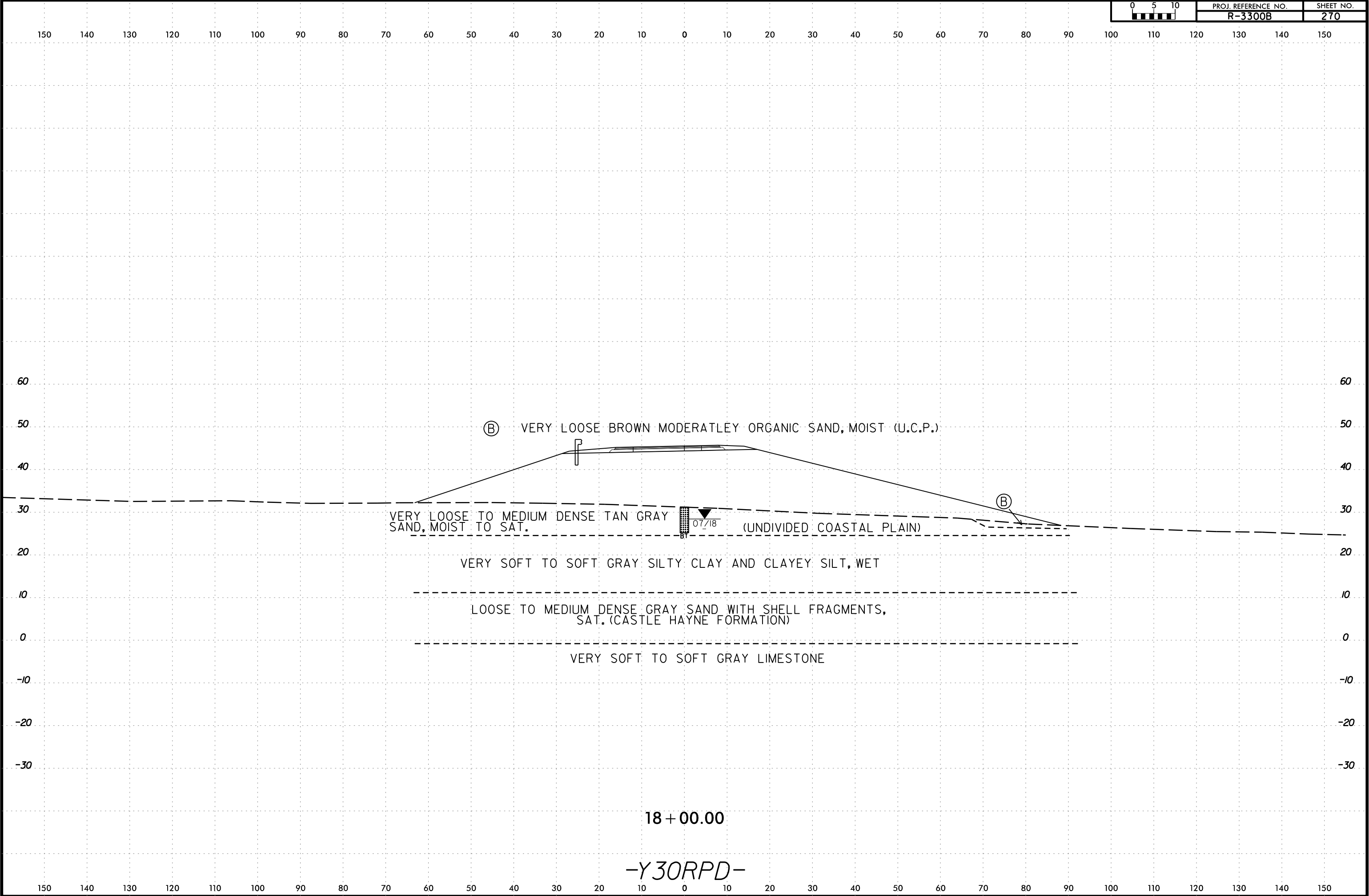
6/23/16

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Lee Stone AT LSTONE-CADD-PC

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-3300B	268







6/23/16

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Lee Stone AT LSTONE-CAD-PC

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-213B	CL	18+50	0.0 - 1.5	A-2-4(0)	NP	NP	16.0	69.5	11.3	3.2	98.6	94	22	-	9.7
SS-214B	CL	18+50	4.0 - 5.5	A-7-5(47)	85	38	0.8	7.2	31.8	60.2	99.8	100	94	-	-
SS-215B	CL	18+50	8.7 - 10.2	A-4(0)	NP	NP	3.5	70.9	20.6	5.0	99.5	98	39	-	-
SS-216B	CL	18+50	13.7 - 15.2	A-4(11)	38	10	1.6	14.6	51.1	32.8	99.7	99	92	-	-
SS-217B	CL	18+50	18.7 - 20.2	A-2-4(0)	NP	NP	36.0	37.0	13.7	13.3	99.6	90	31	-	-
SS-218B	CL	18+50	23.7 - 25.2	A-2-4(0)	NP	NP	63.5	23.5	7.9	5.1	98.7	63	14	-	-
SS-219B	CL	18+50	28.7 - 30.2	A-3(0)	NP	NP	74.1	17.5	4.8	3.6	69.7	48	9	-	-
SS-220B	CL	18+50	33.7 - 35.2	A-2-4(0)	NP	NP	59.3	19.4	16.7	4.5	45.1	53	24	-	-

Ⓑ VERY LOOSE BROWN MODERATLEY ORGANIC SAND, MOIST (U.C.P.)



VERY SOFT TO SOFT GRAY SILTY

CLAY AND CLAYEY SILT, WET (U.C.P.)

VERY LOOSE TO MEDIUM DENSE GRAY
SAT. (CASTLE

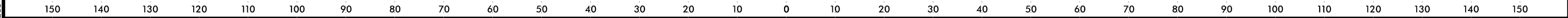
SAND WITH SHELL FRAGMENTS,
HAYNE FORMATION)

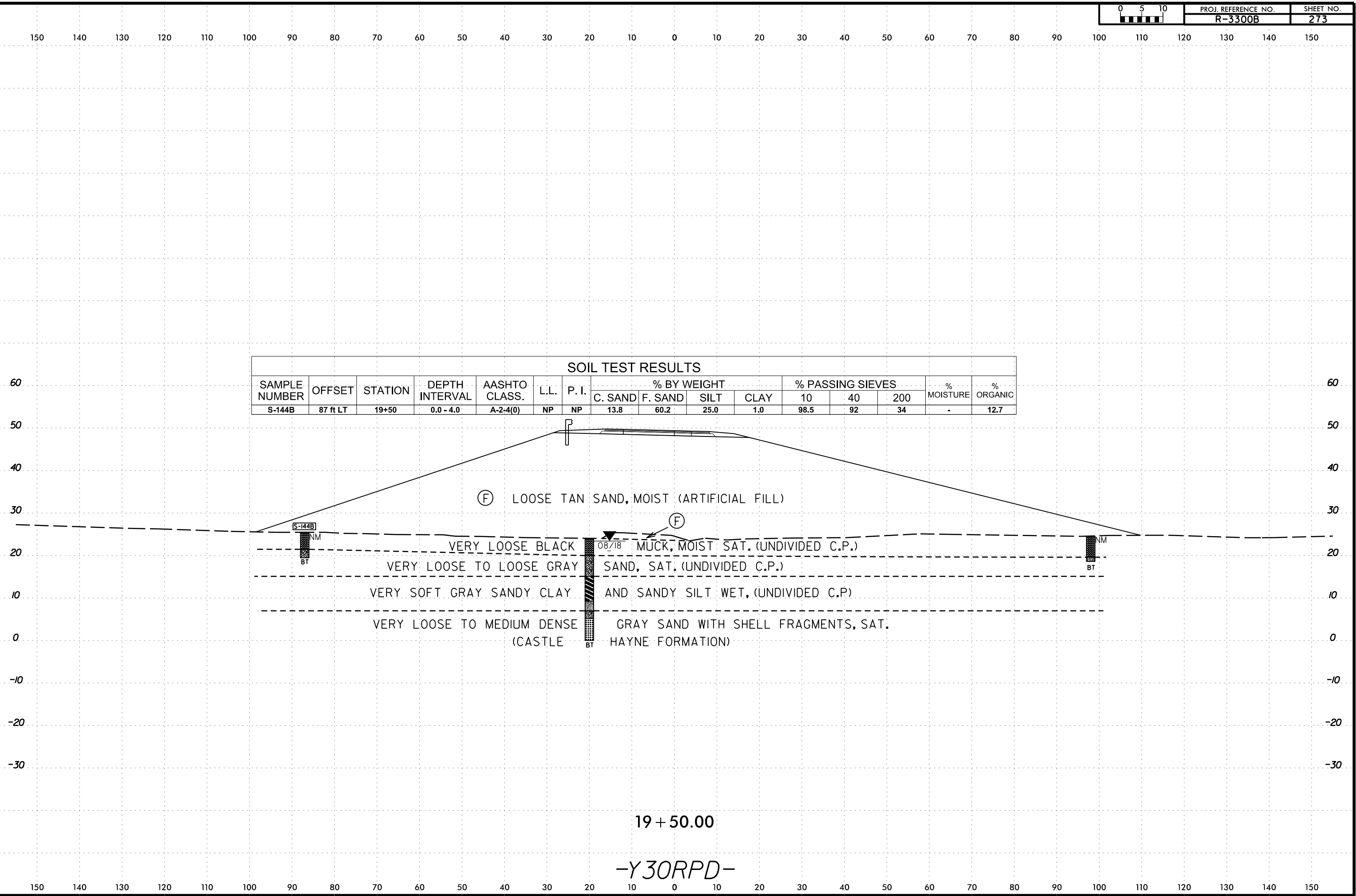
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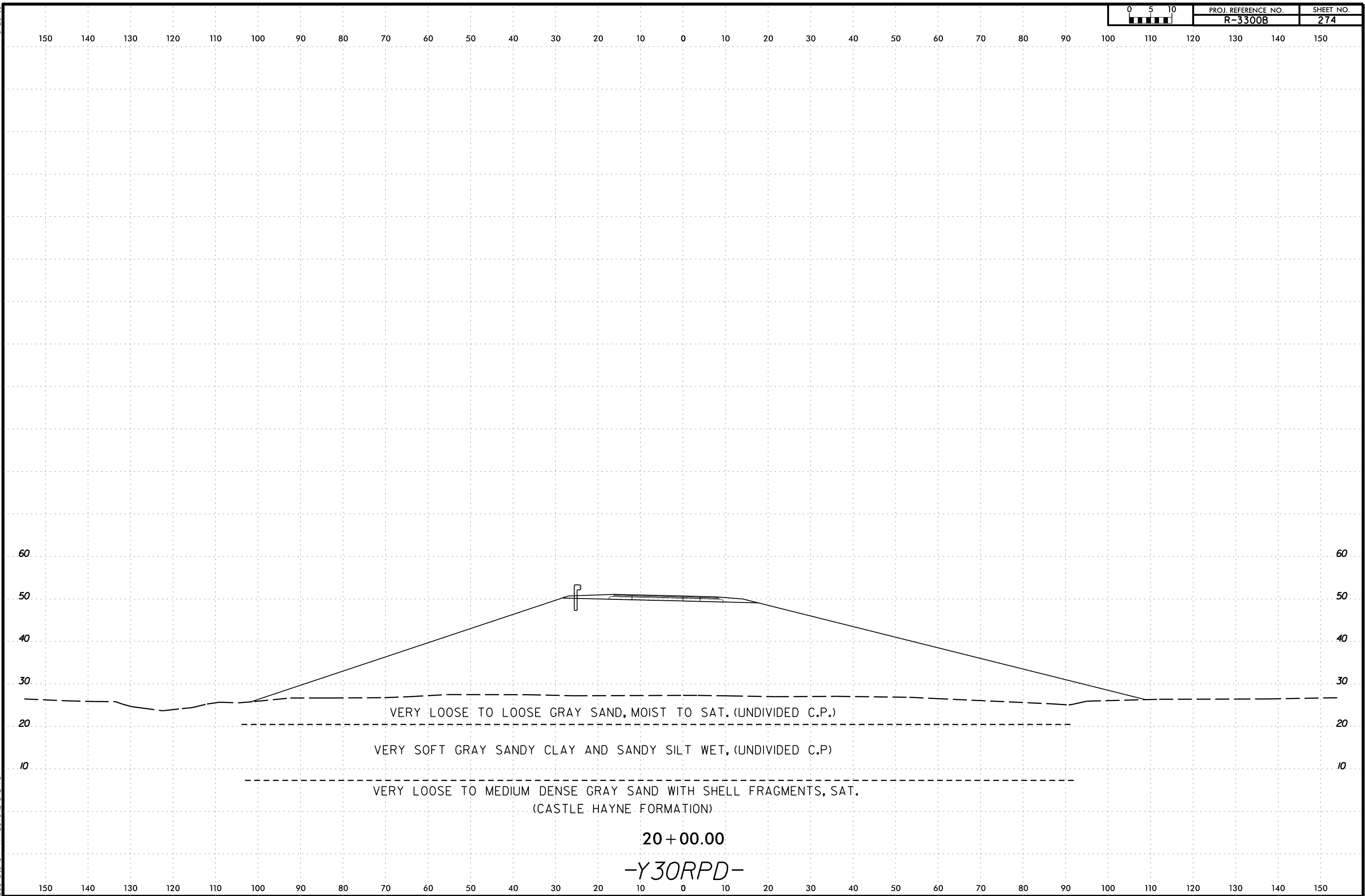
HARD GRAY LIMESTONE

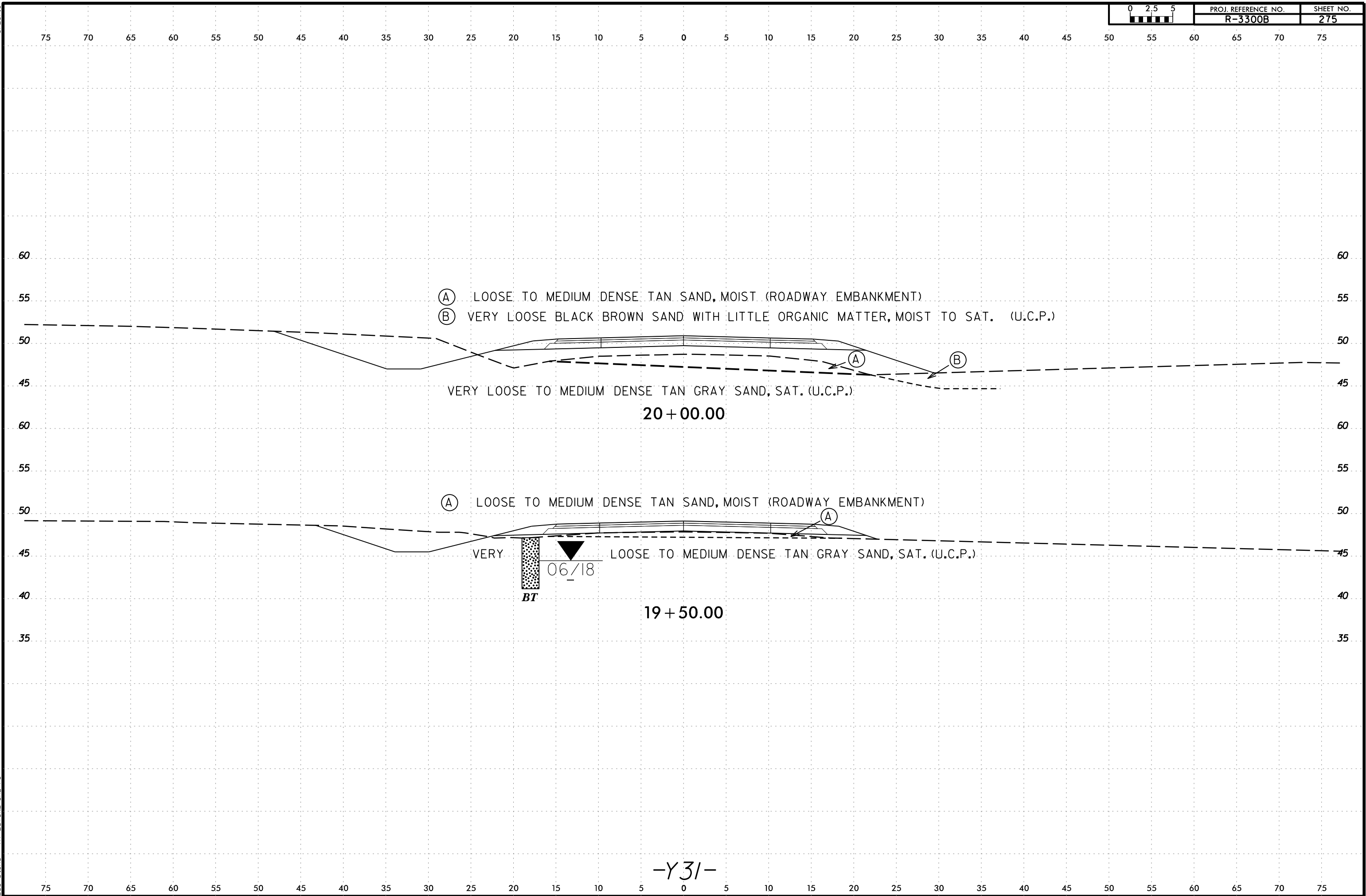
18 + 50.00

-Y30RPD-



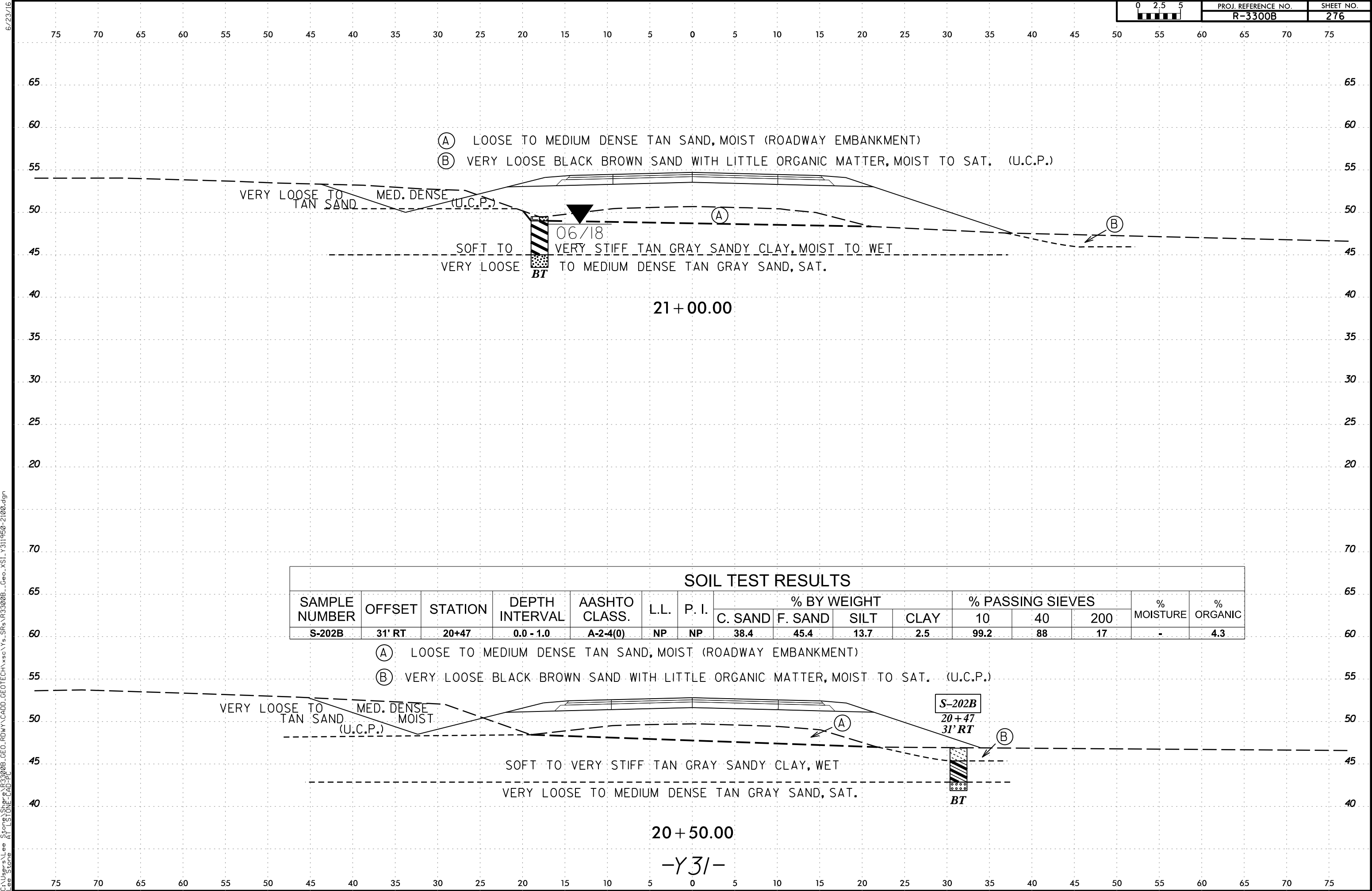


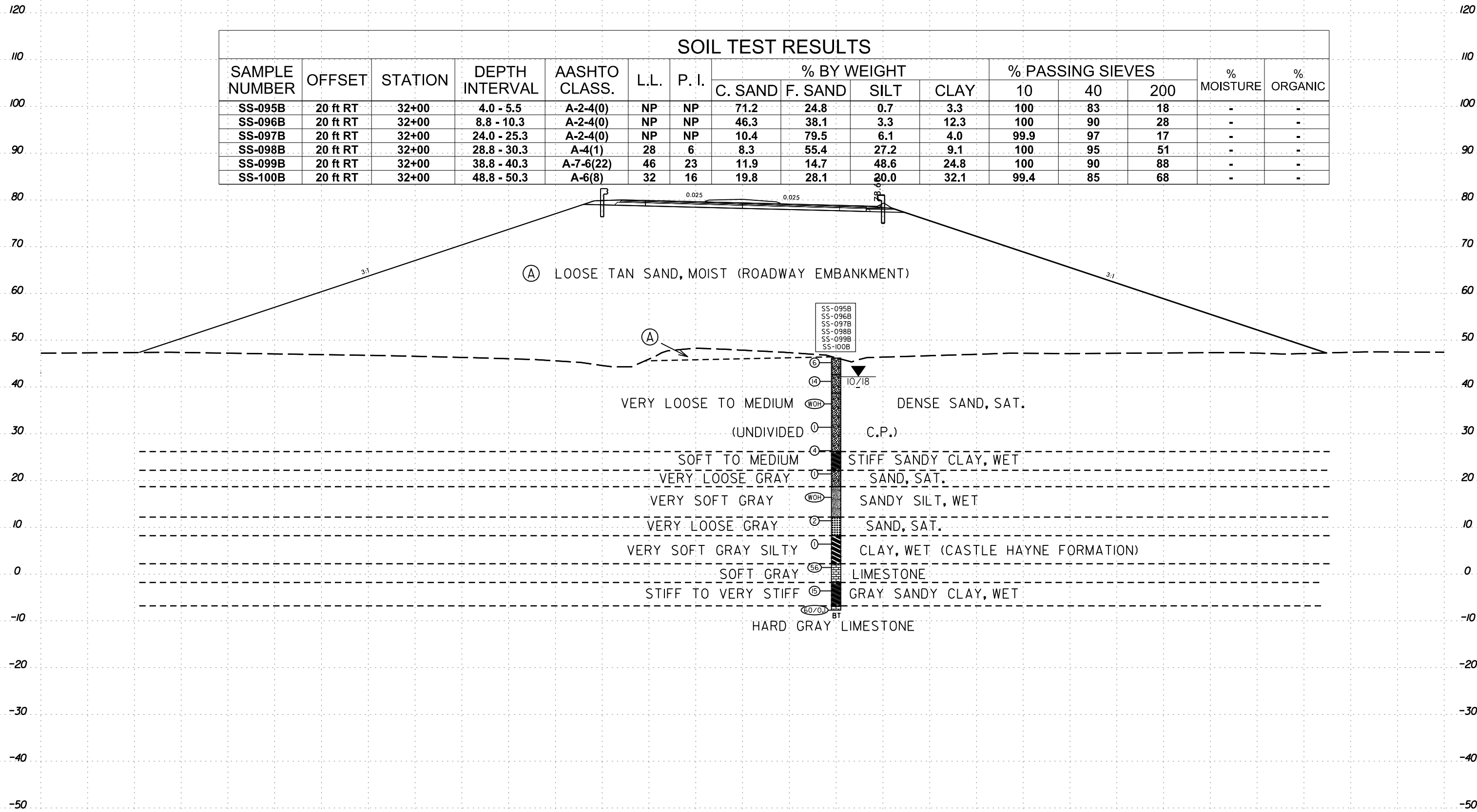




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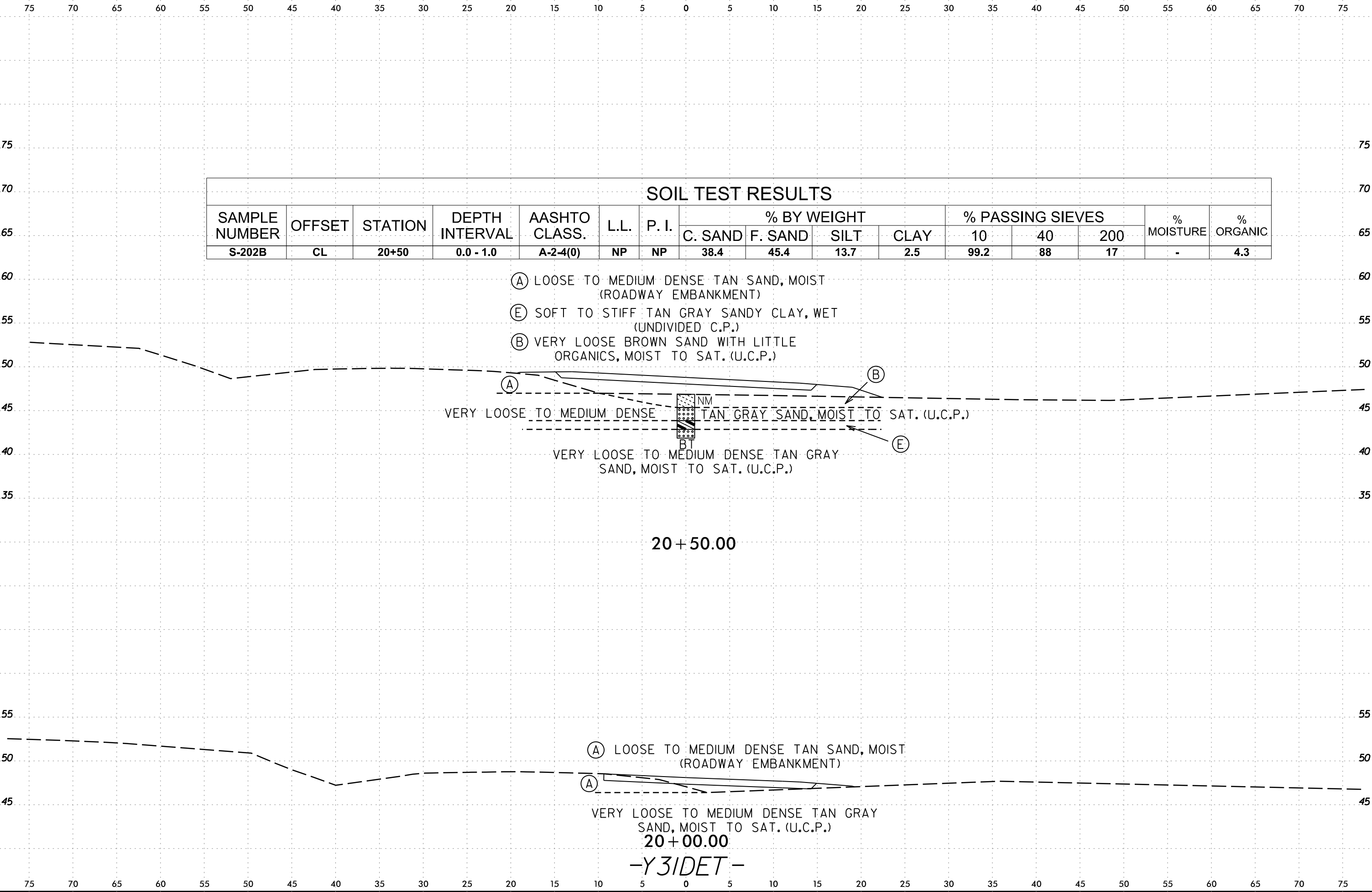
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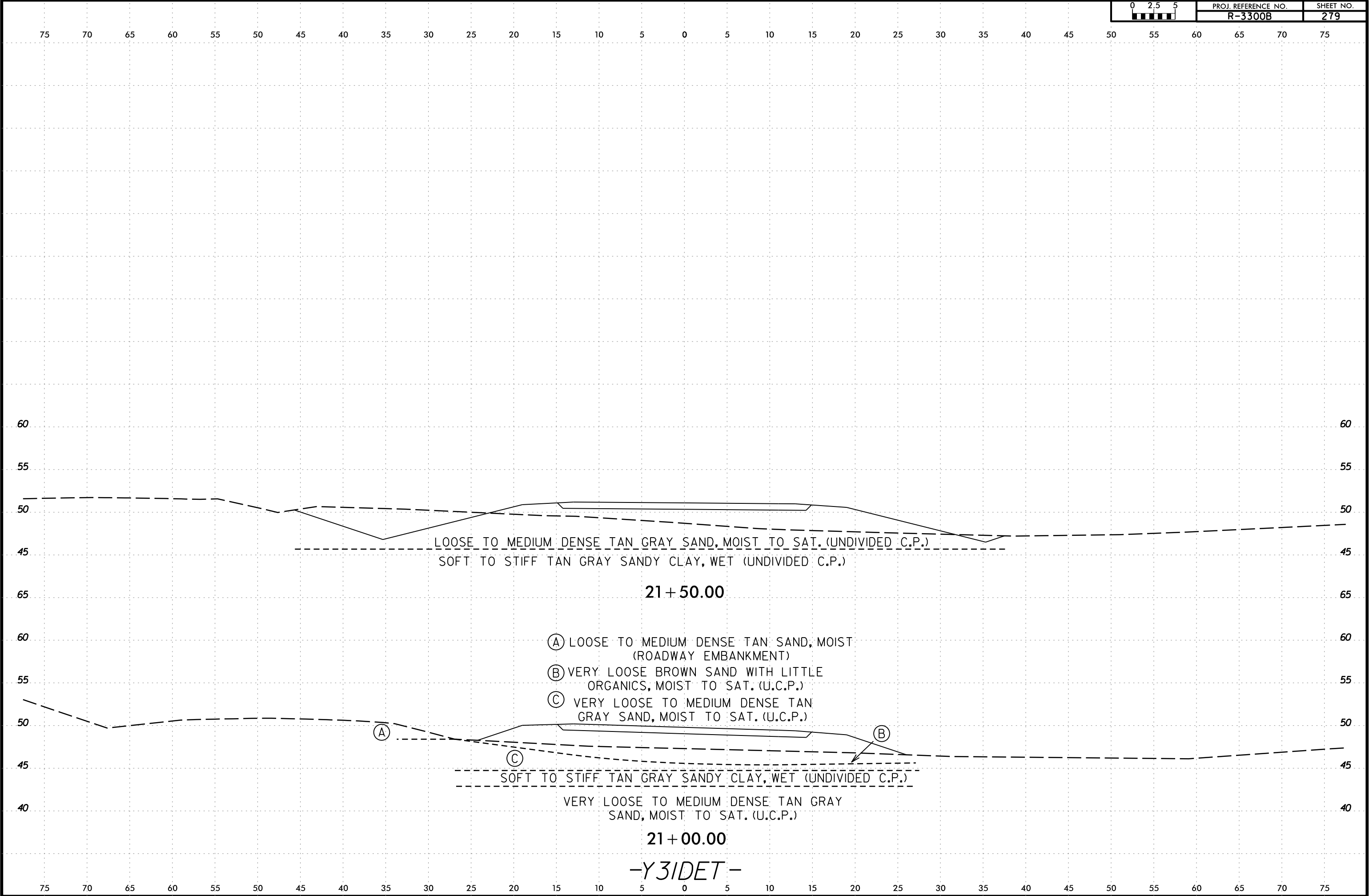




6/23/16

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Lee Stone AT LSTONE-CAD-PC



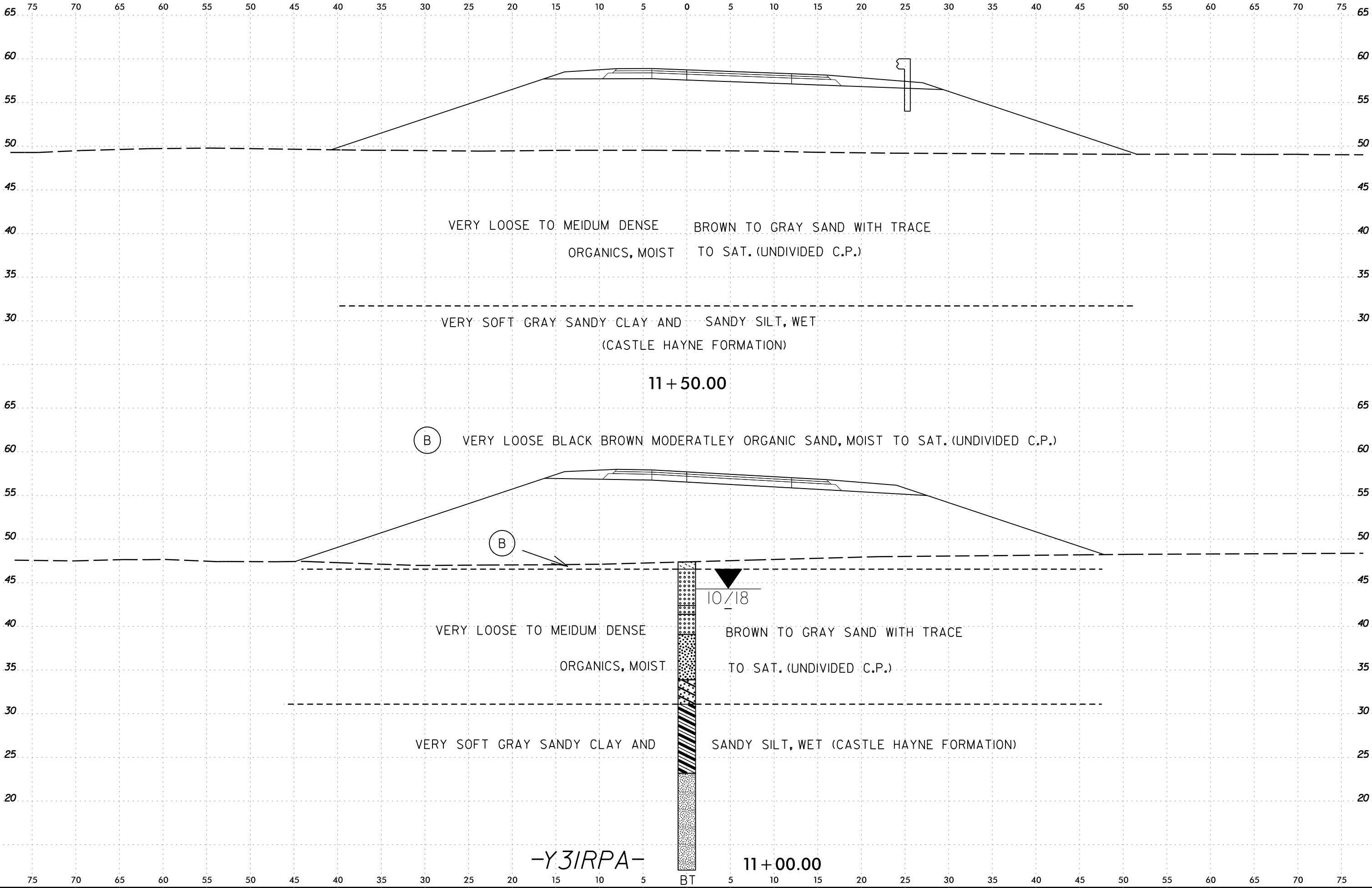


6/23/16



PROJ. REFERENCE NO.
R-3300B

SHEET NO.
280

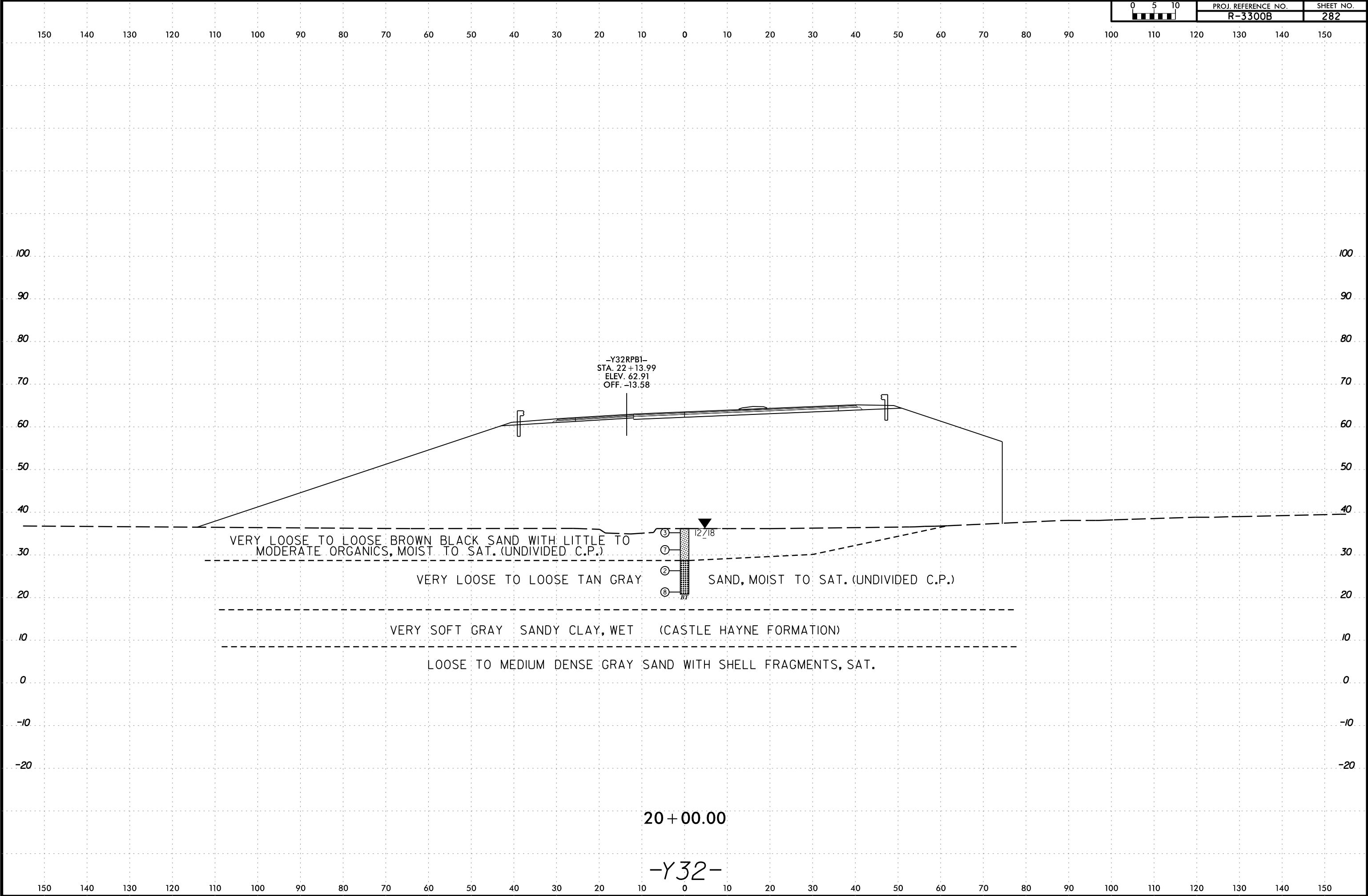


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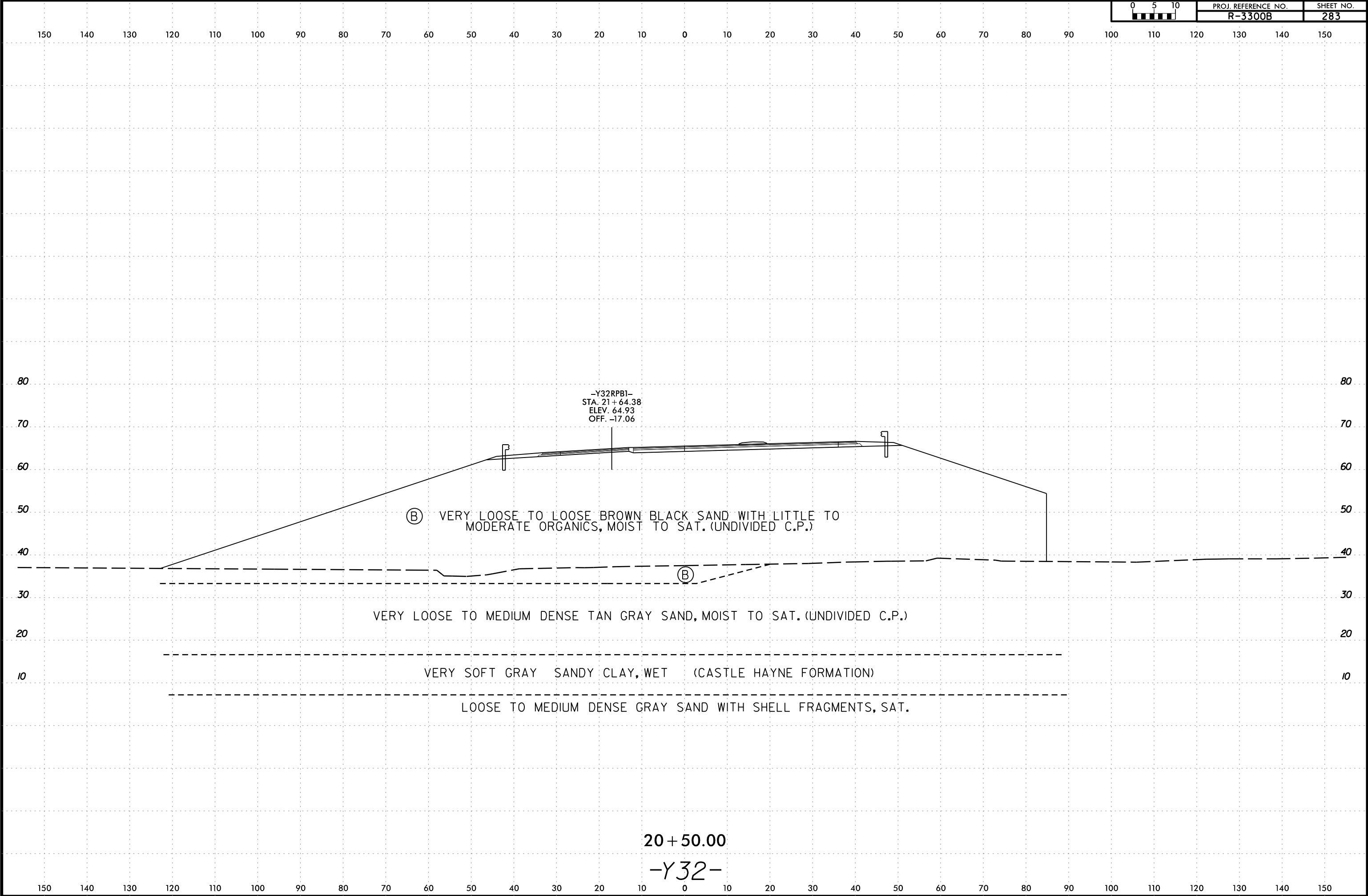
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	R-3300B	282



6/23/16

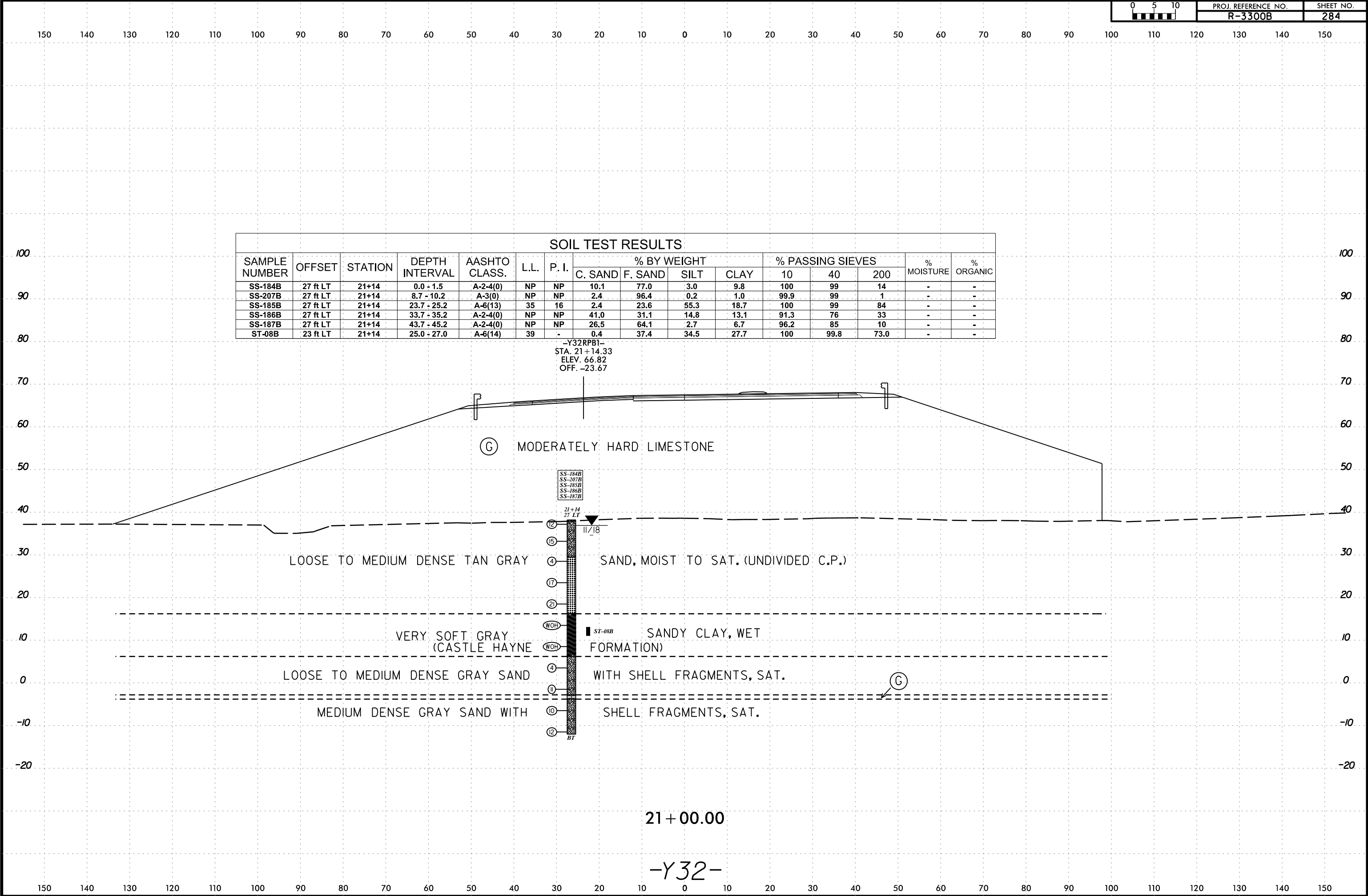
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Lee Stone AT LSTONE-CAD-PC

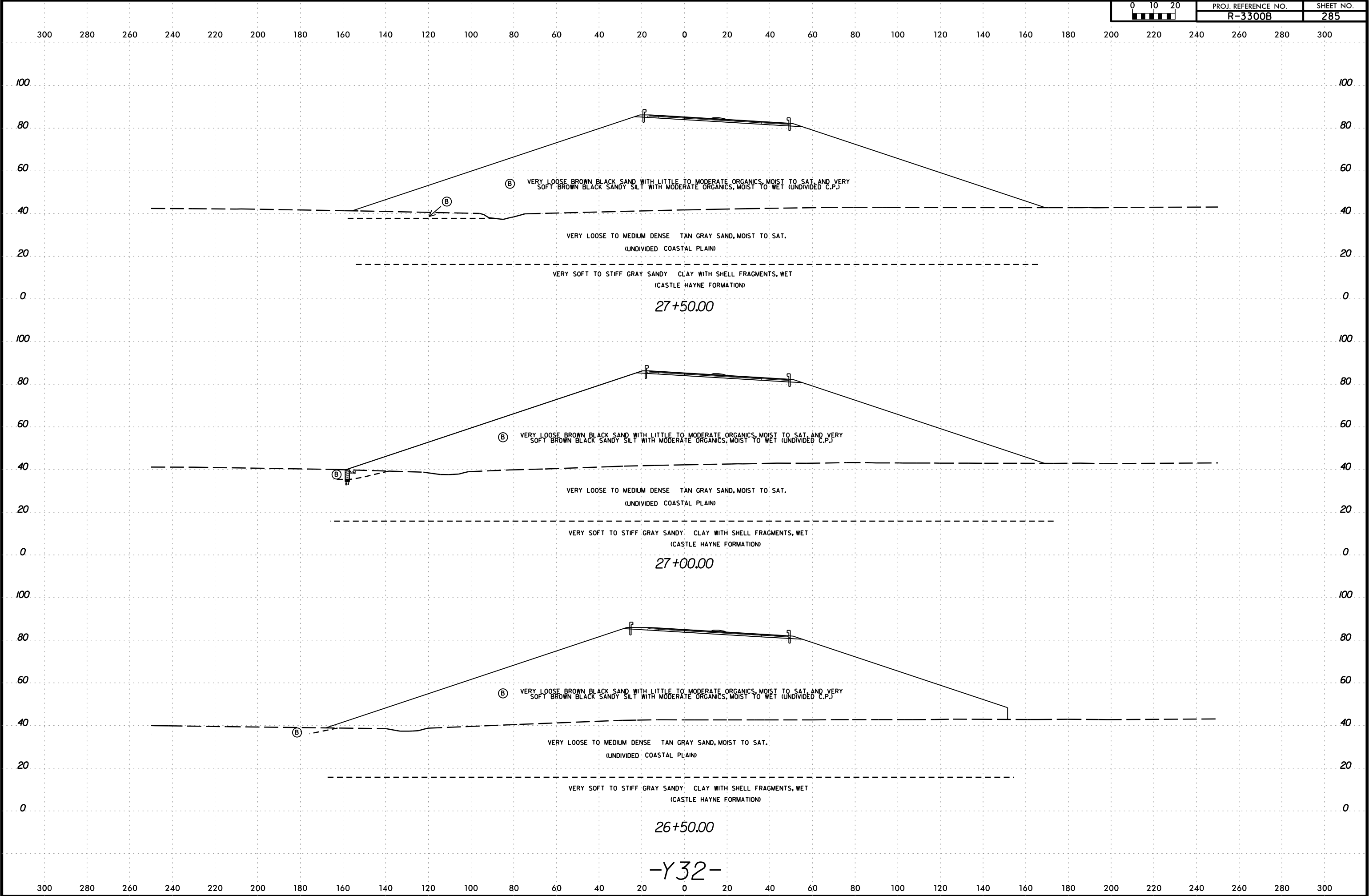
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6/23/16

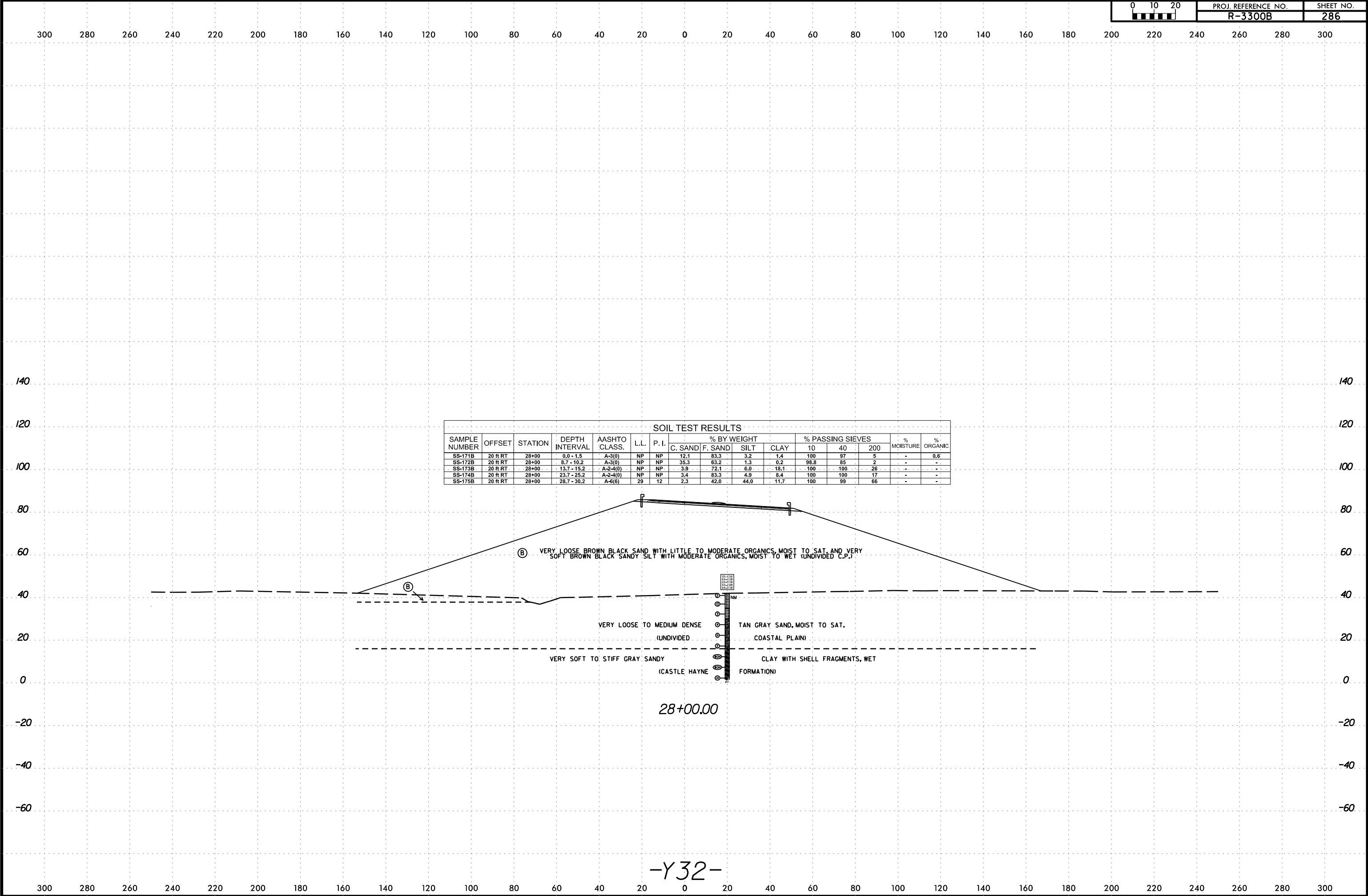
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Lee Stone AT LSTONE-CAD-PC



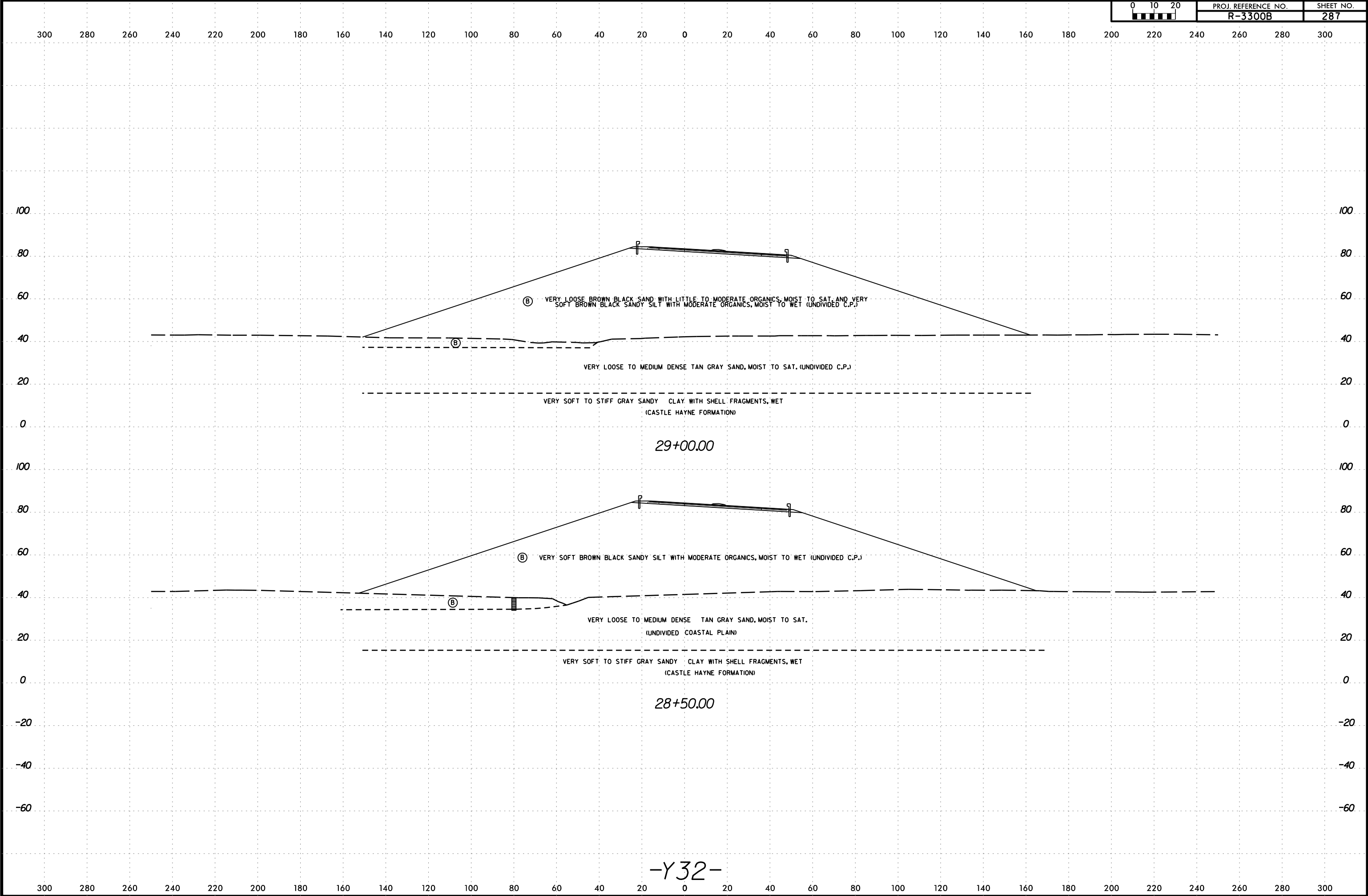


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Lee Stone AT LSTONE-CAD-PC

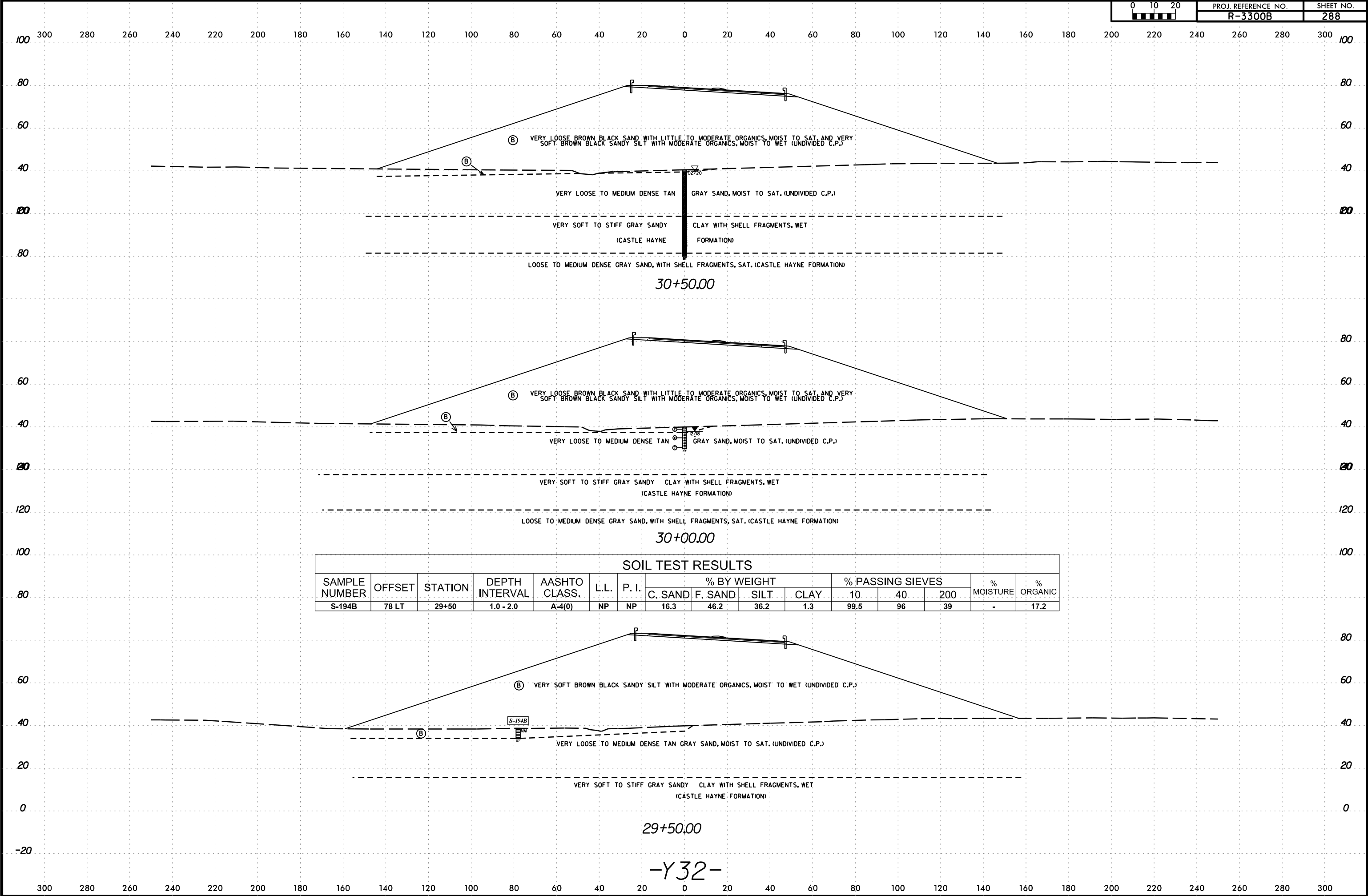


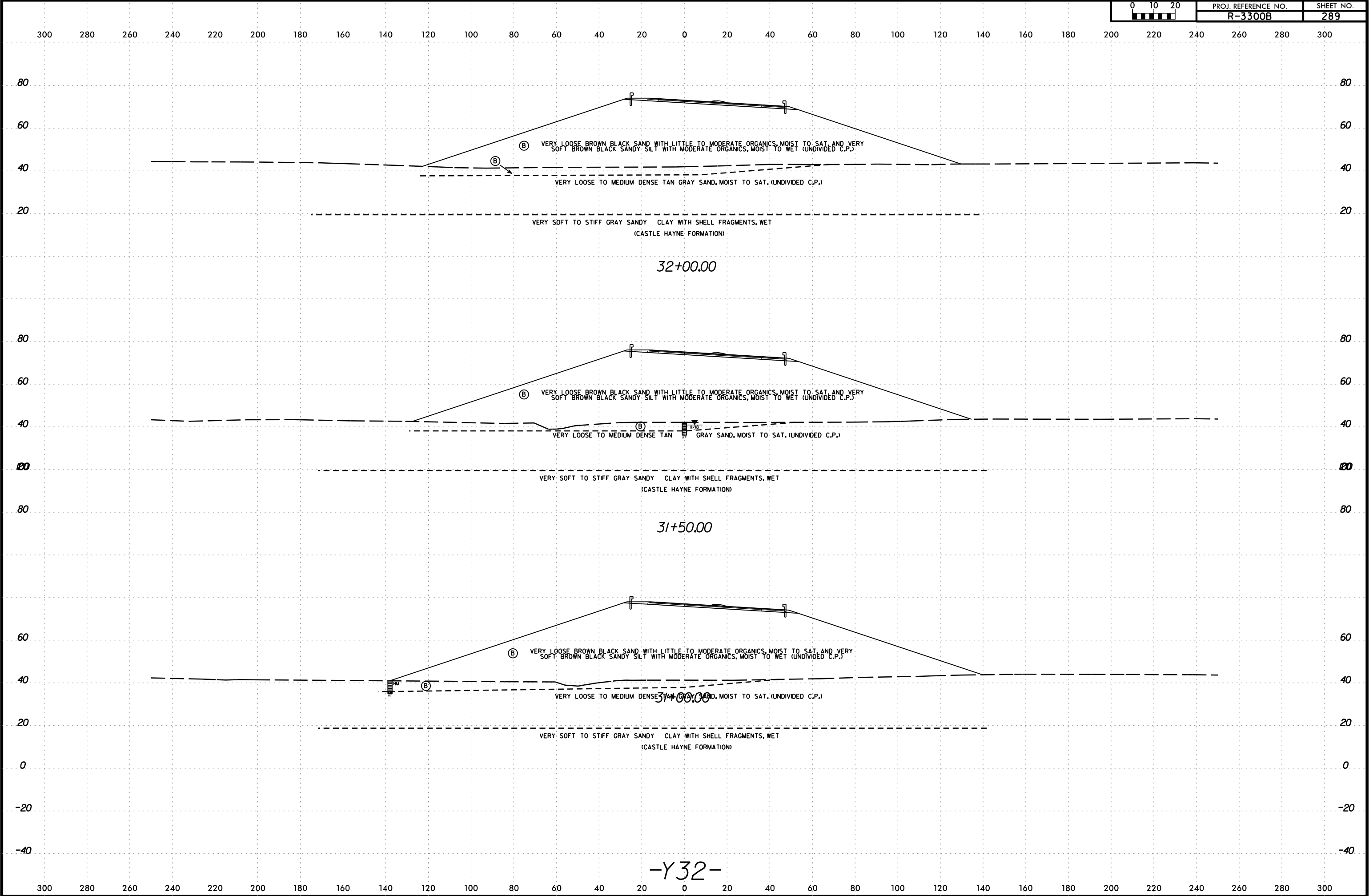
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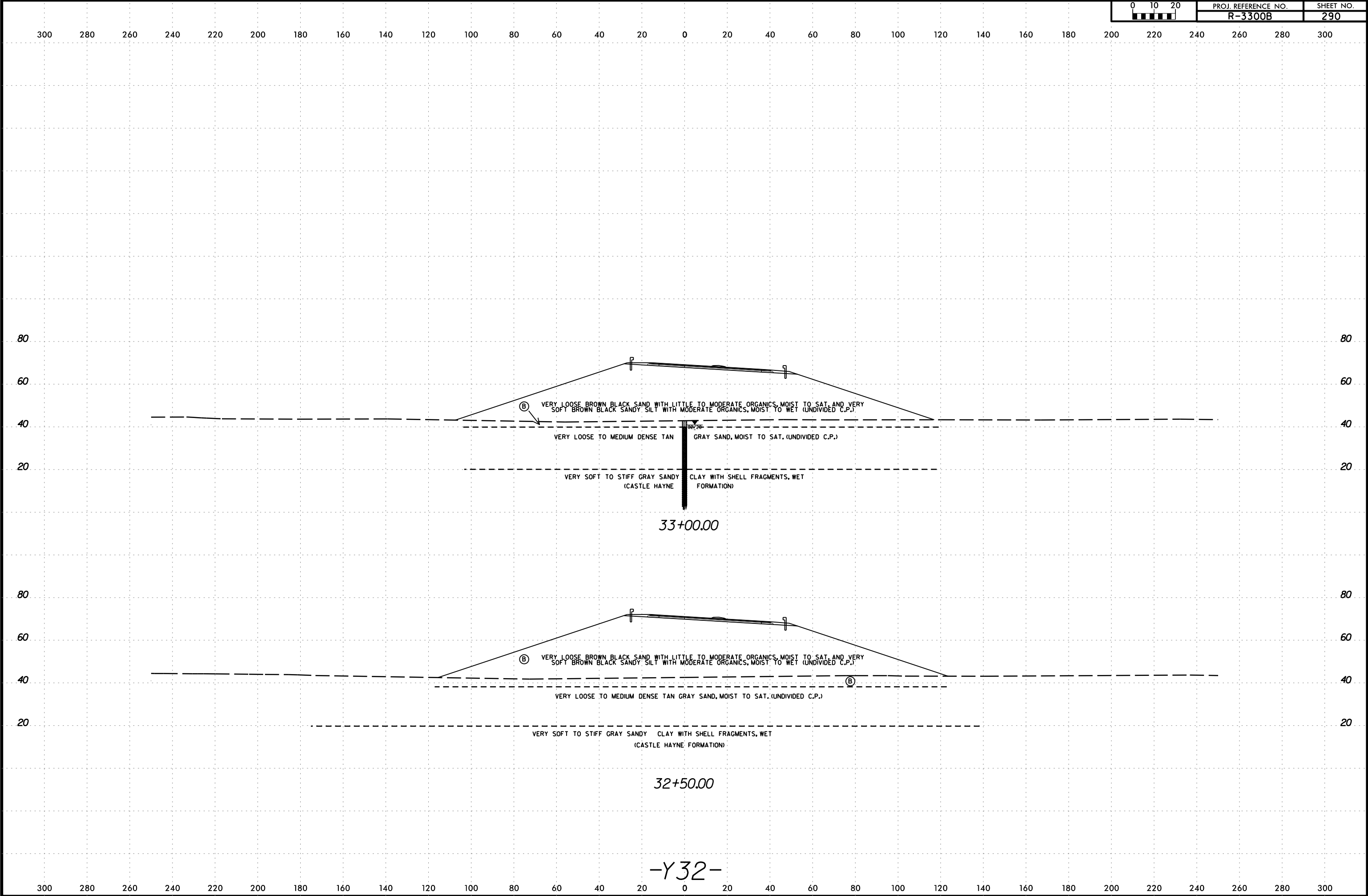


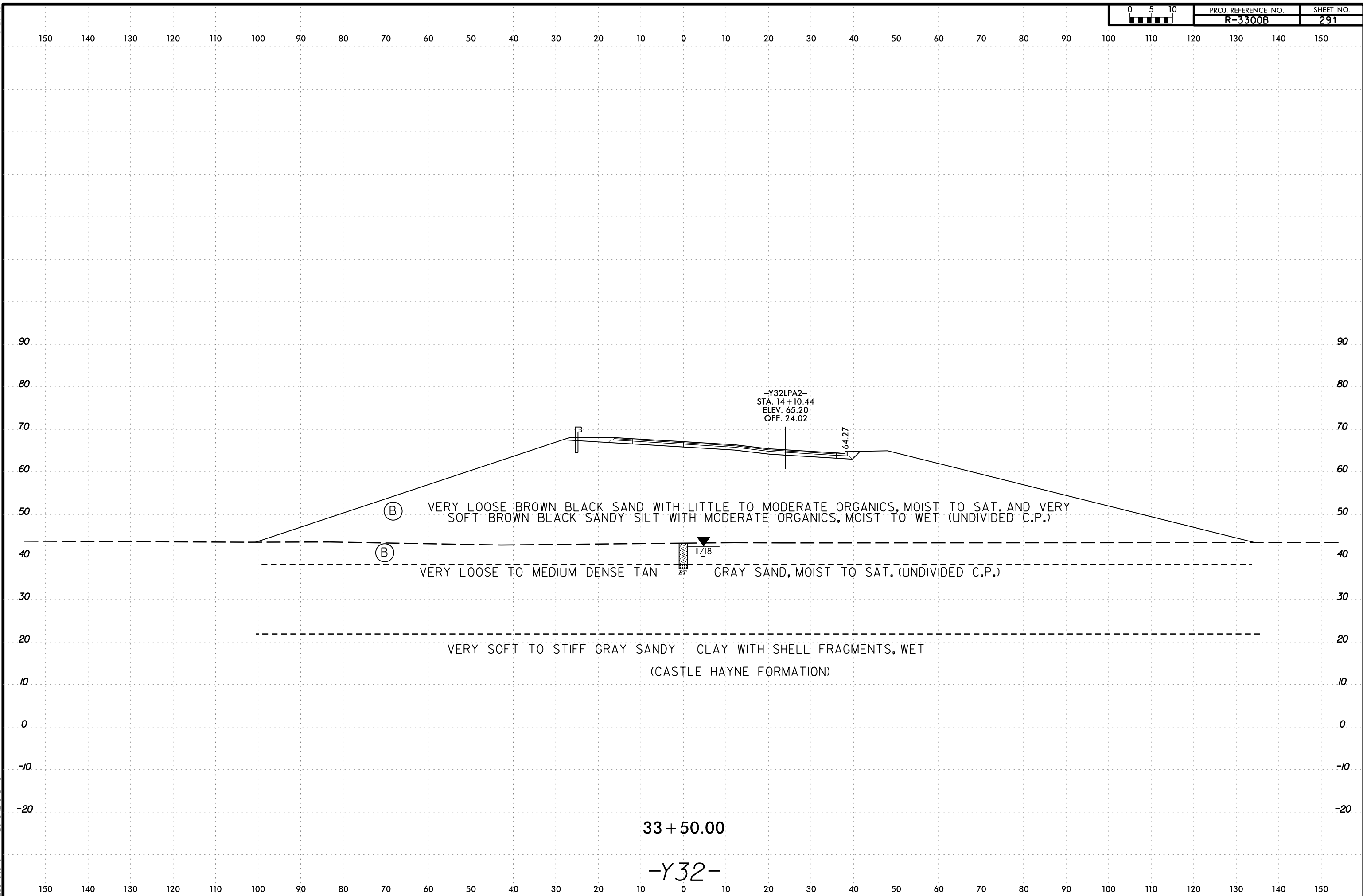
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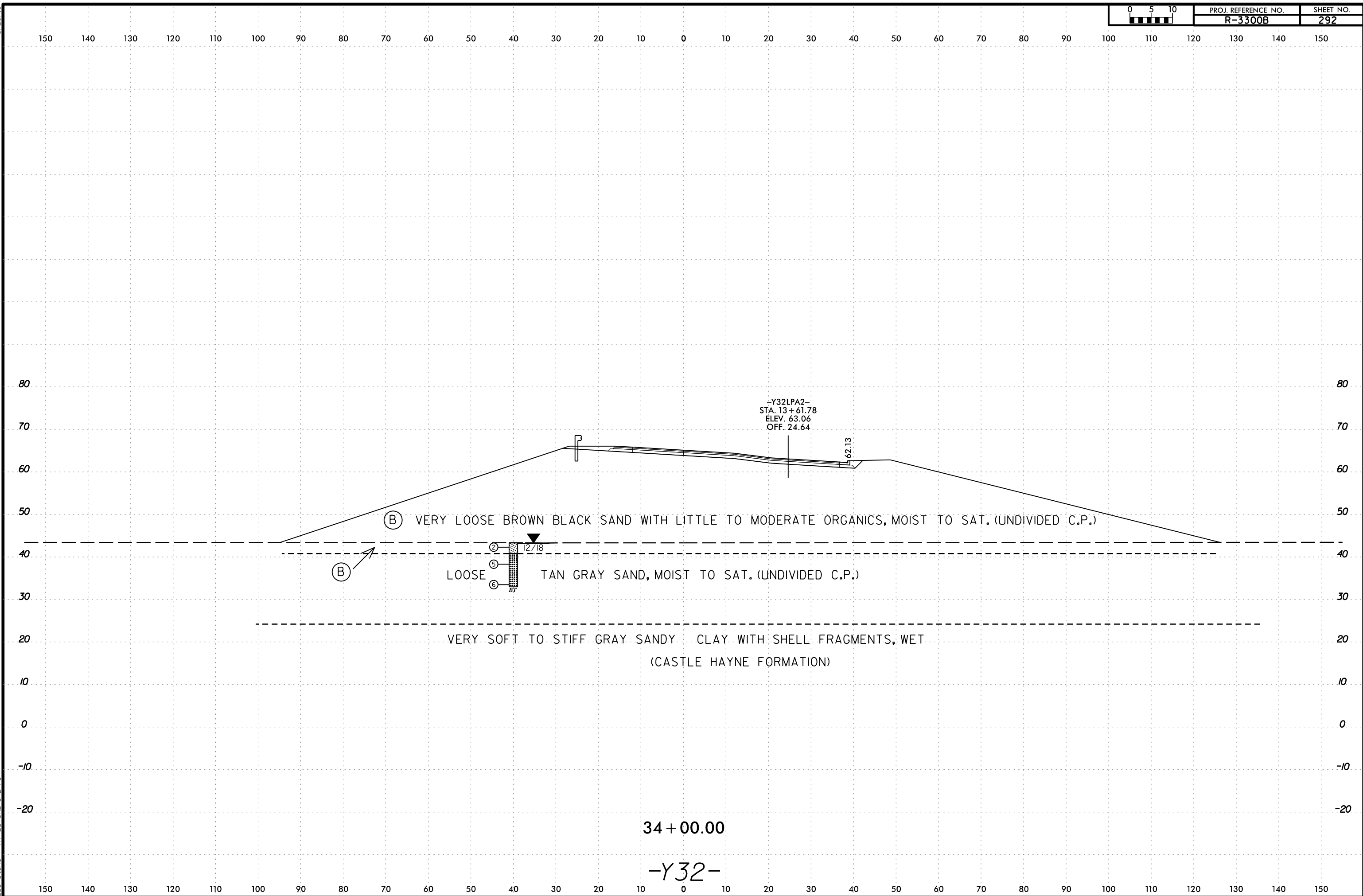
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Lee Stone AT LSTONE-CAD-PC

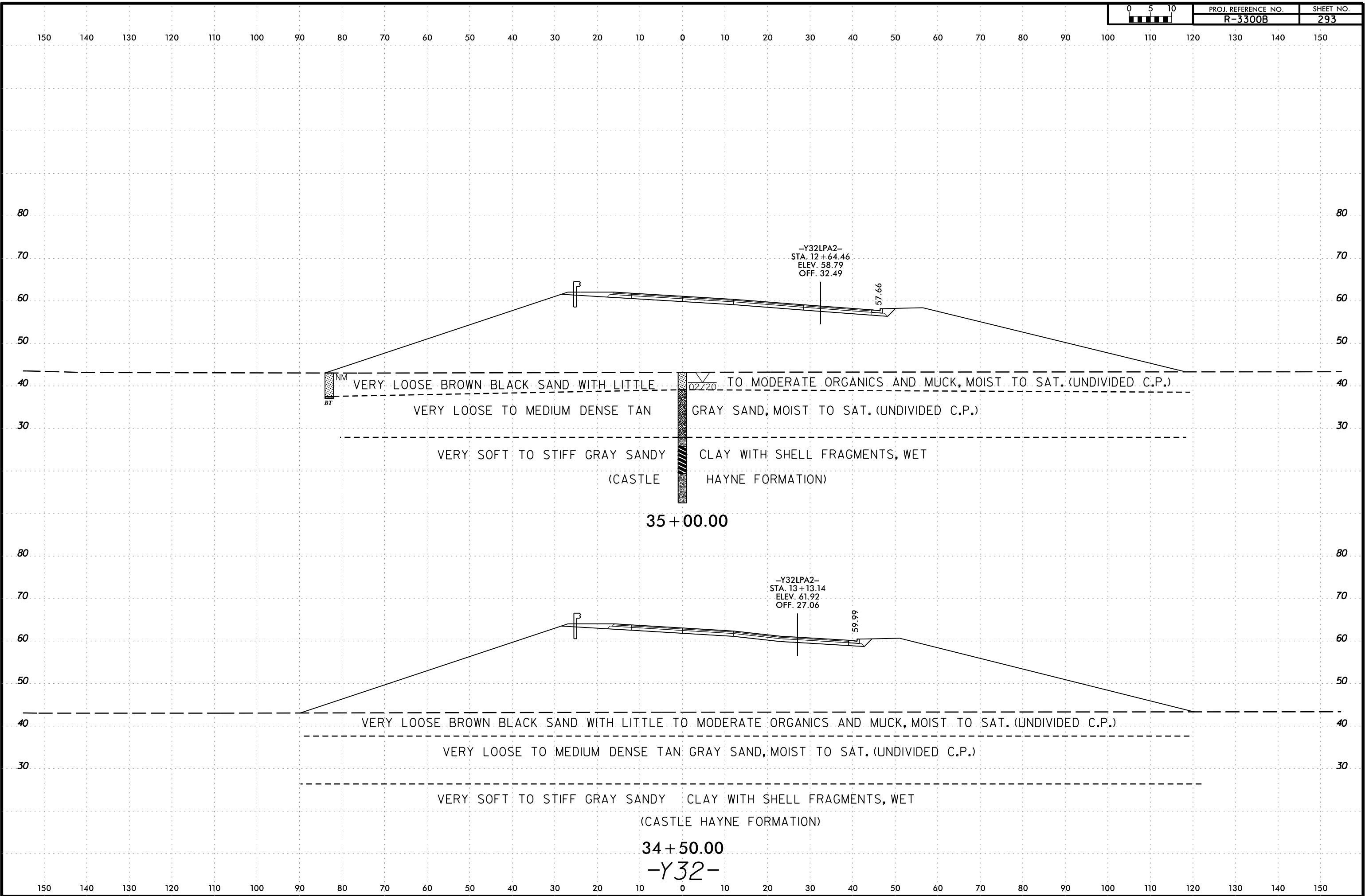








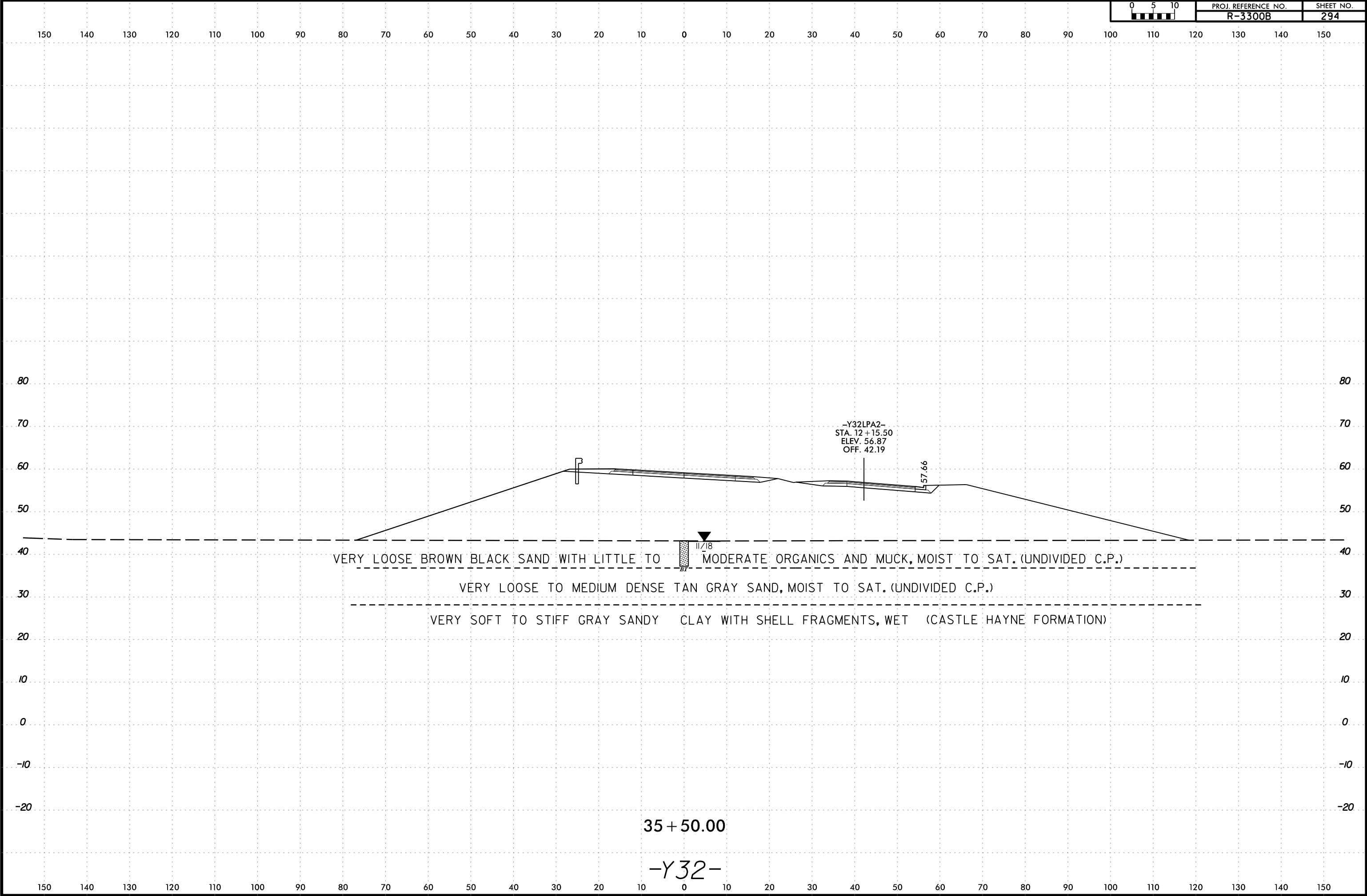




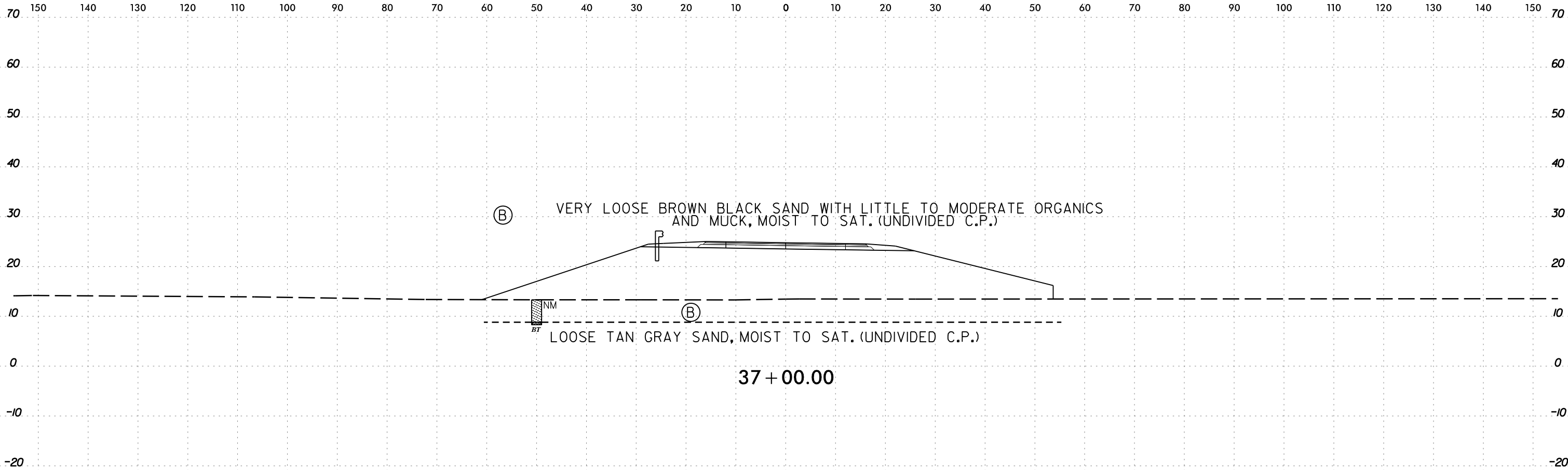
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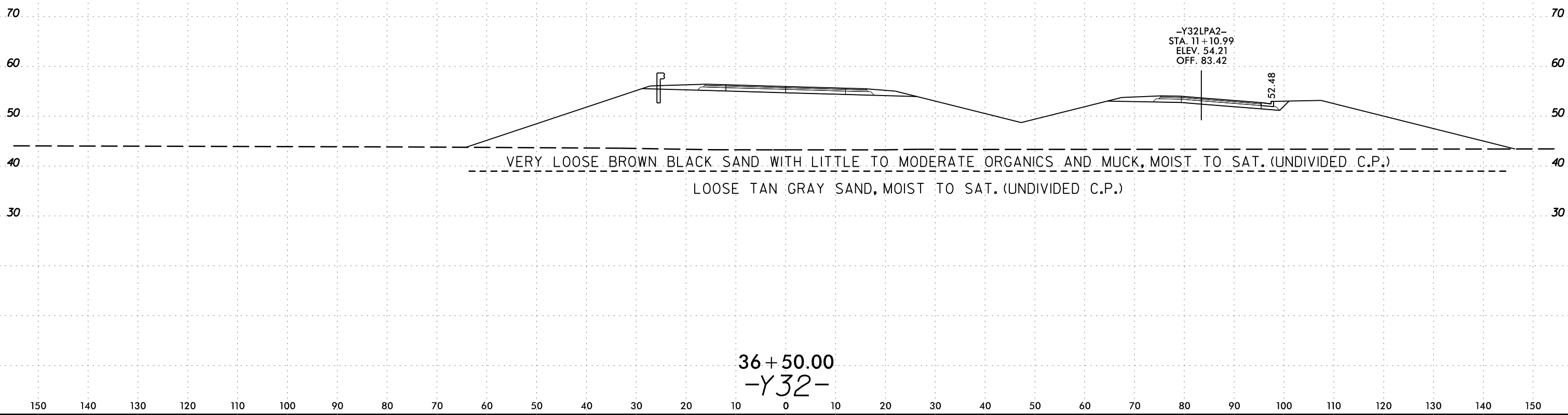
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	R-3300B	294

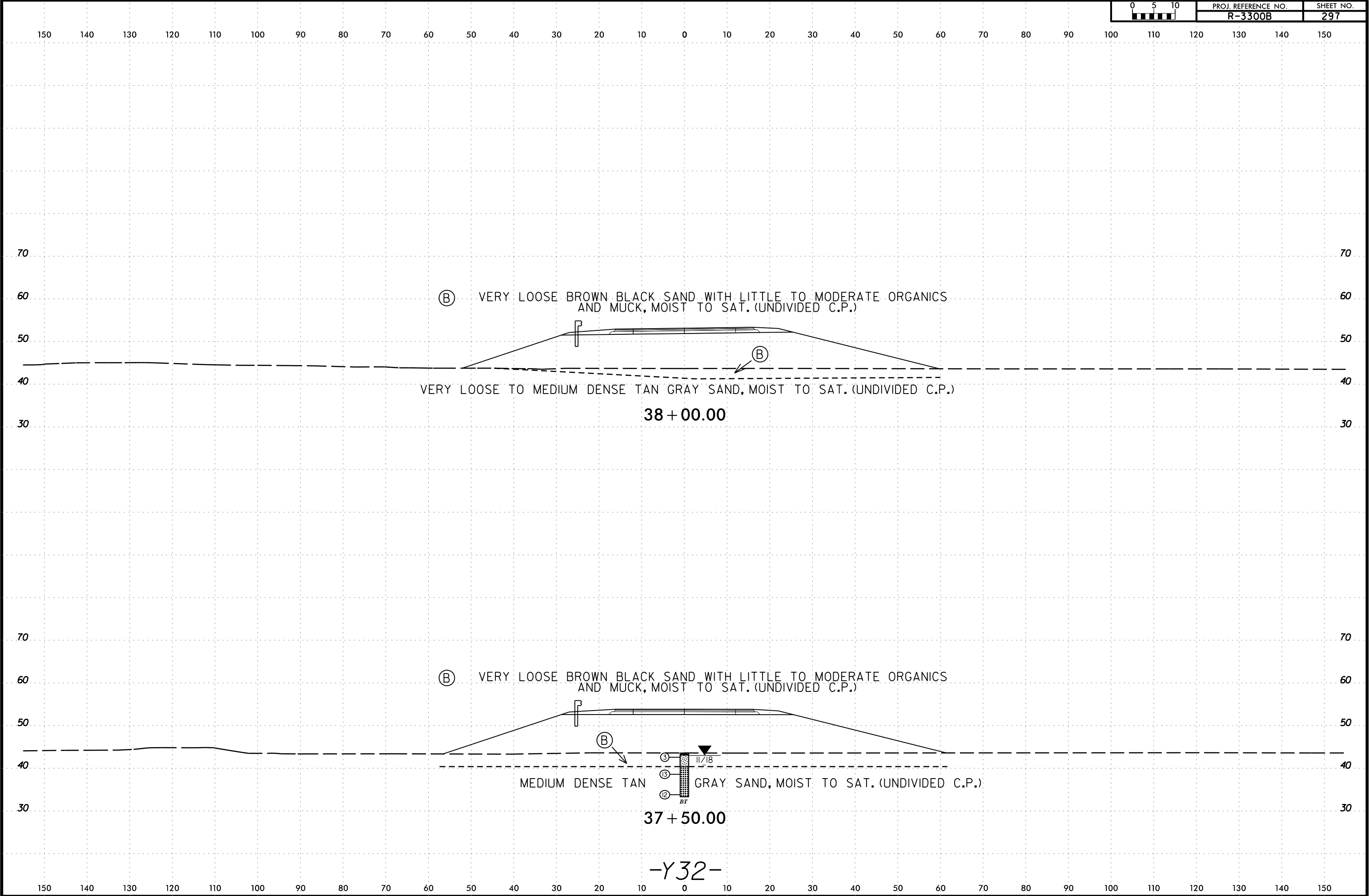


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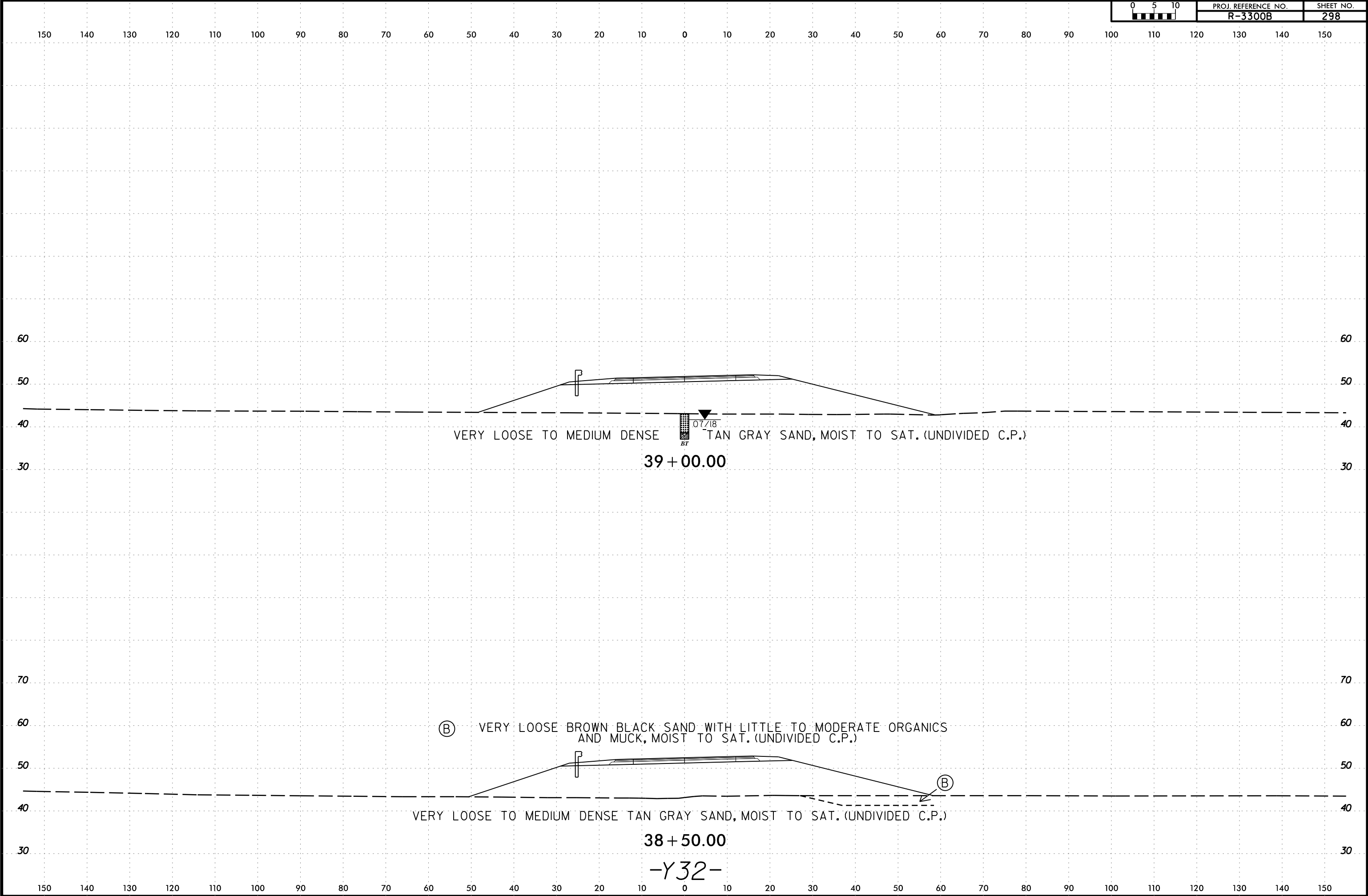
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Lee Stone AT LSTONE-CAD-PC



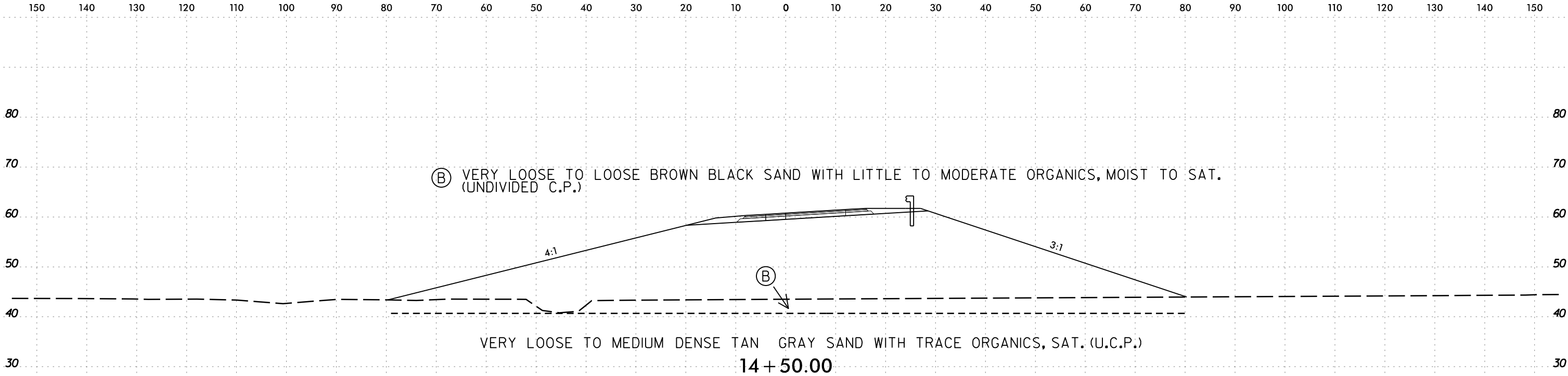


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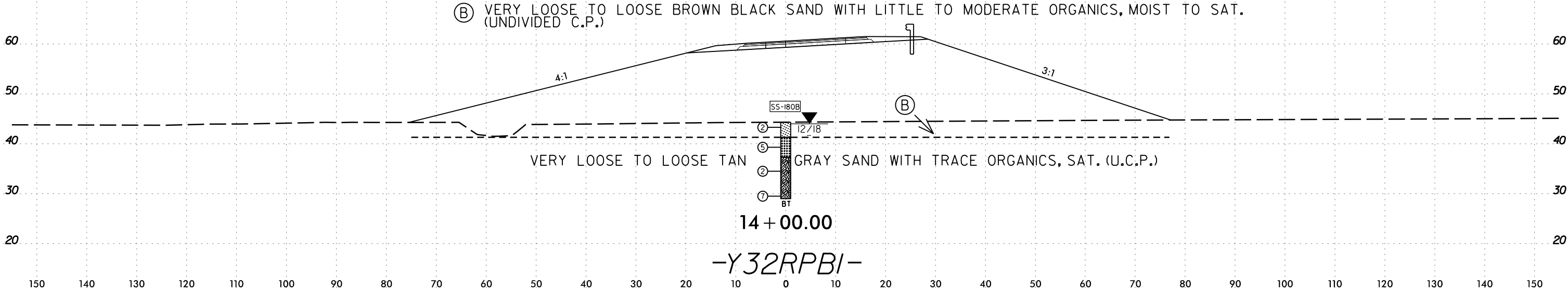
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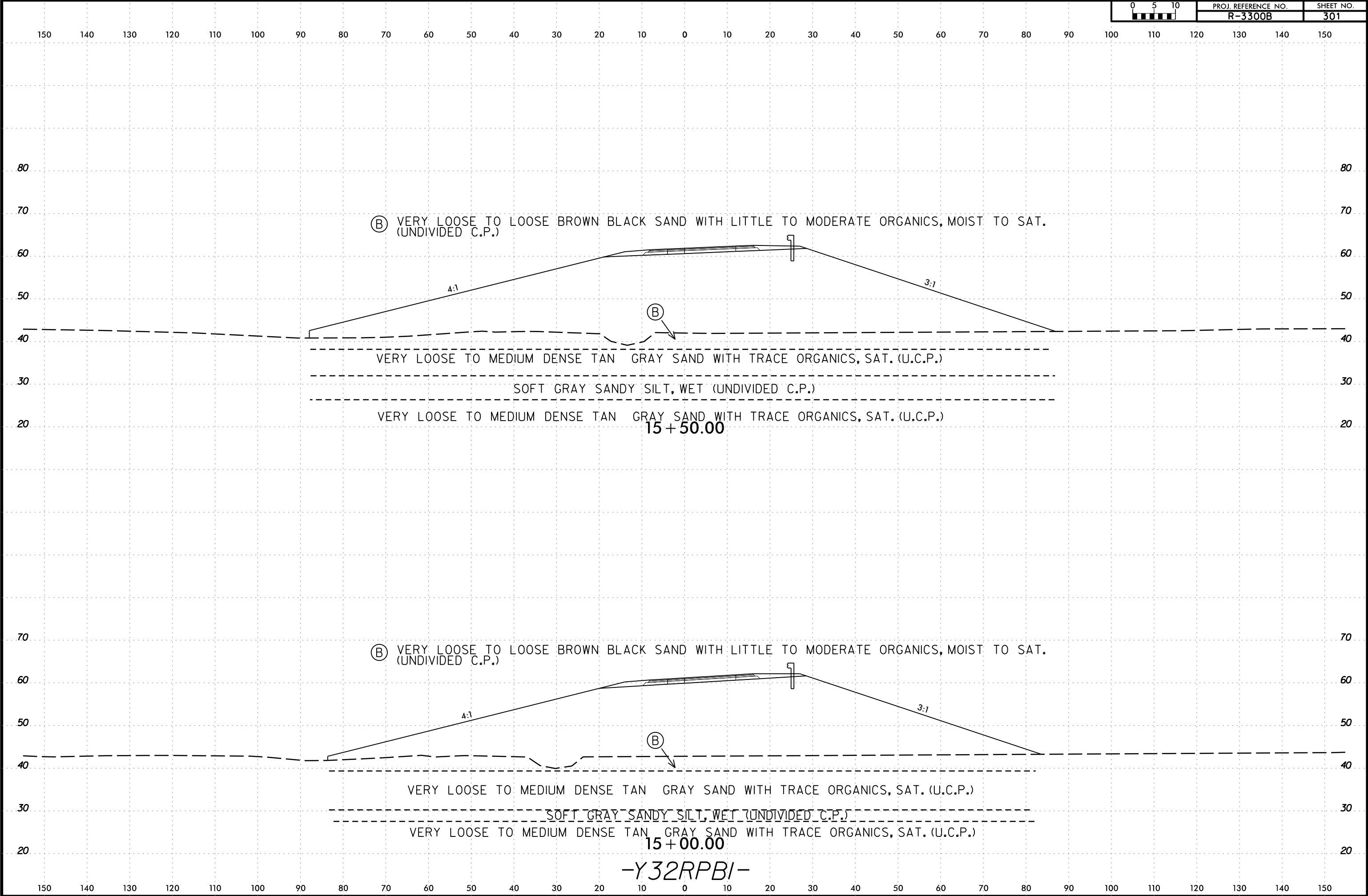
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SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-180B	CL	14+00	13.8 - 15.3	A-2-4(0)	NP	NP	4.6	65.4	10.0	19.9	100	100	33	-	-



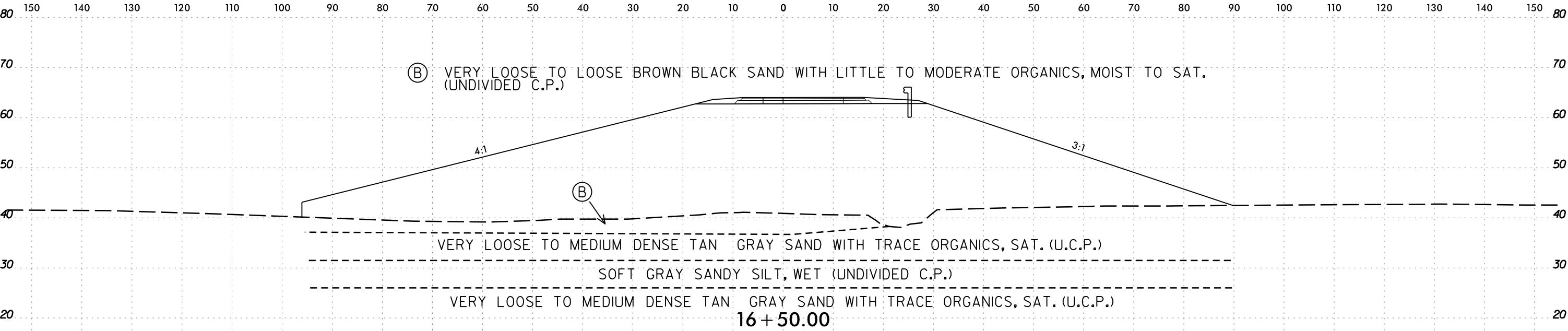
6/23/16

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Lee Stone AT LSTONE-CAD-PC

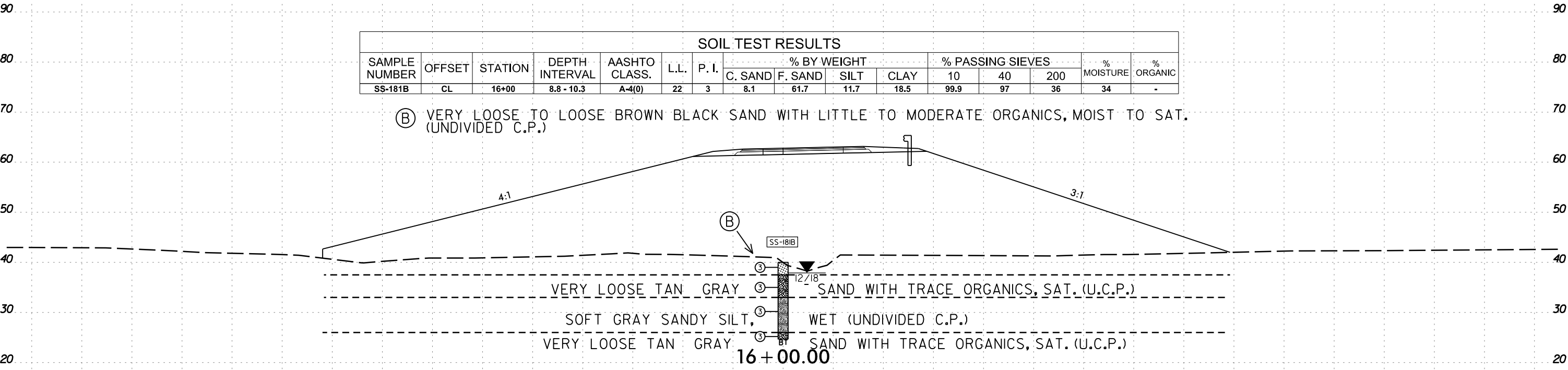
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	R-3300B	301



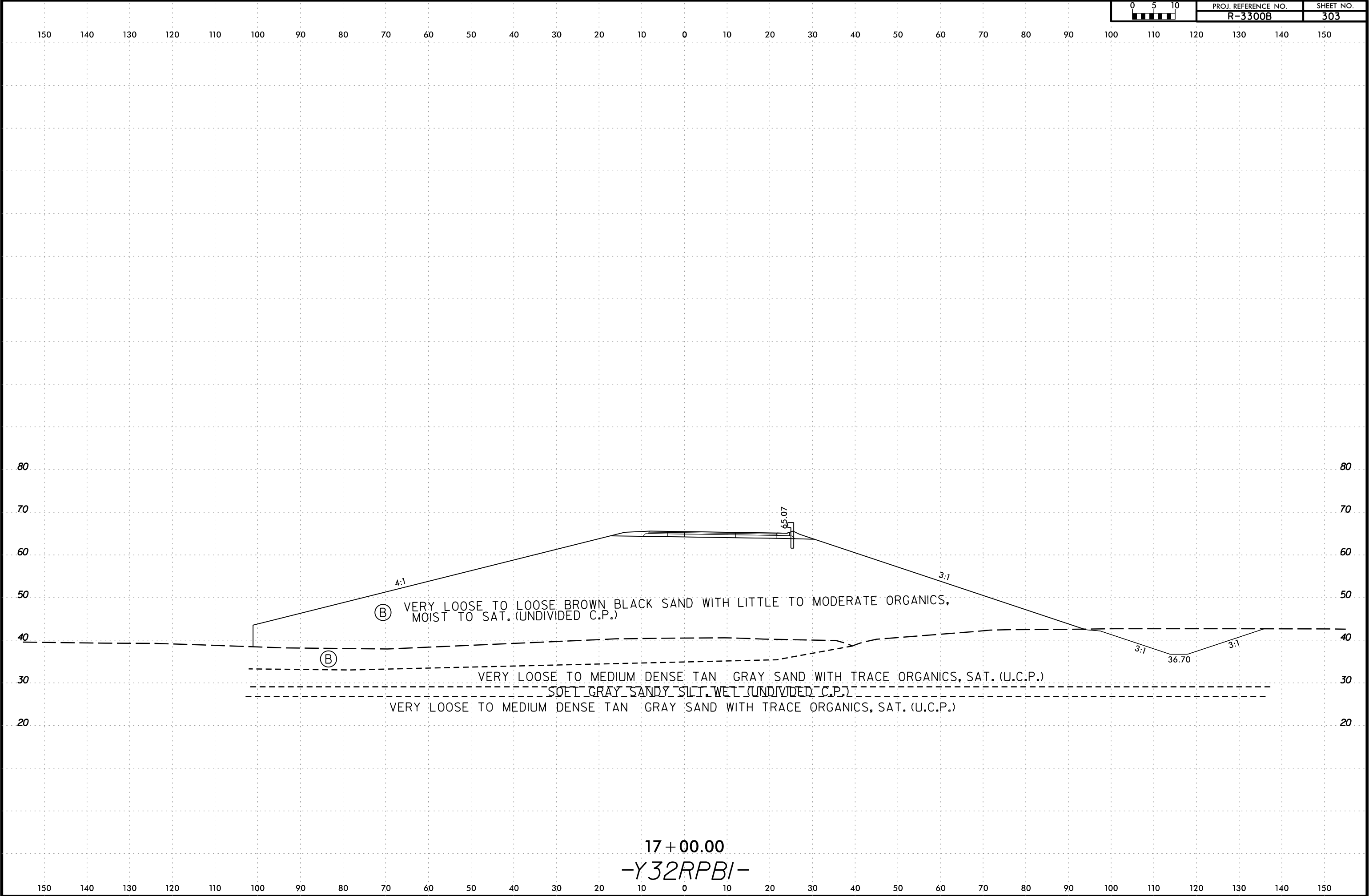
6/23/16



SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-181B	CL	16+00	8.8 - 10.3	A-4(0)	22	3	8.1	61.7	11.7	18.5	99.9	97	36	34	-



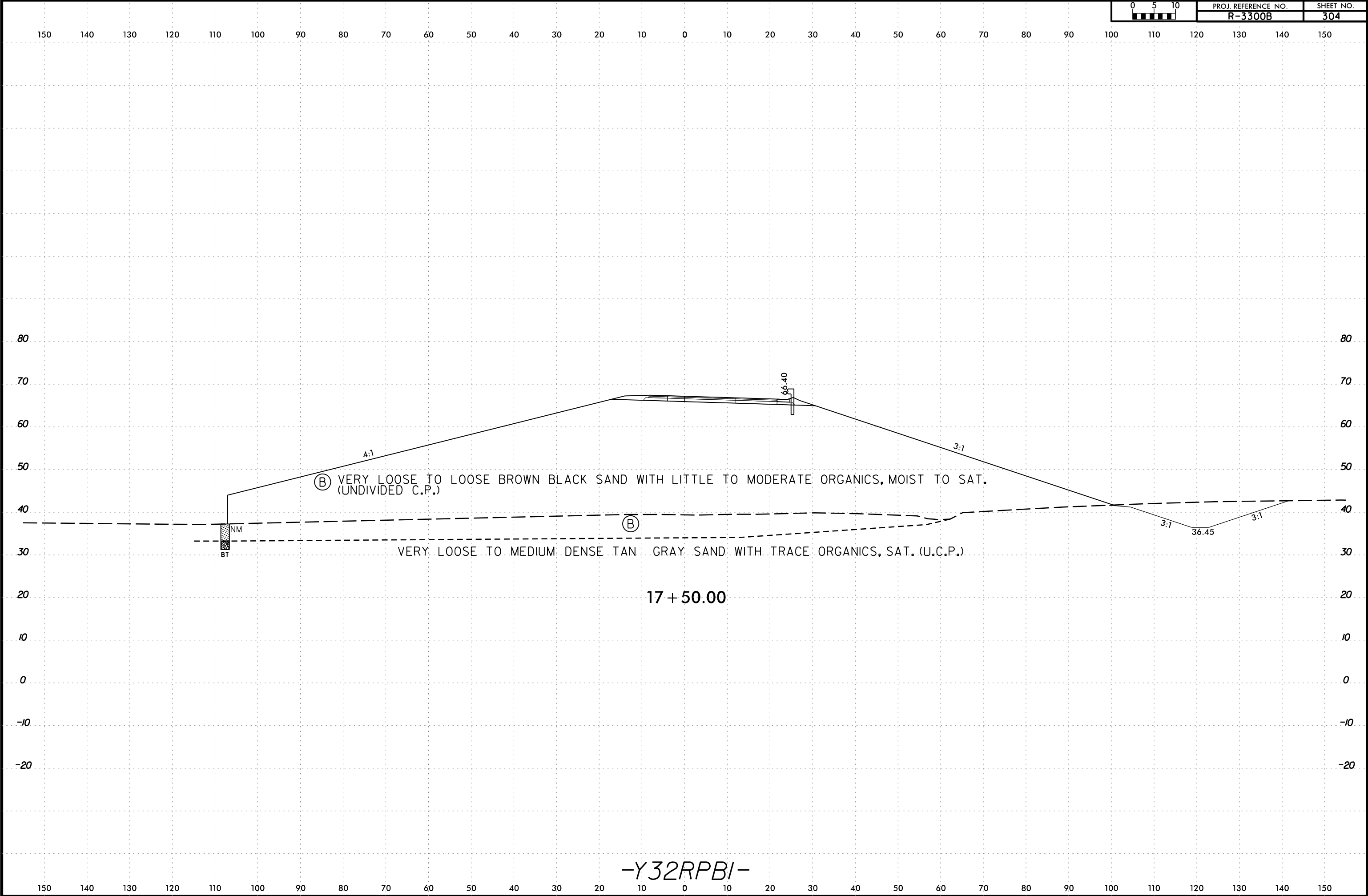
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6/23/16

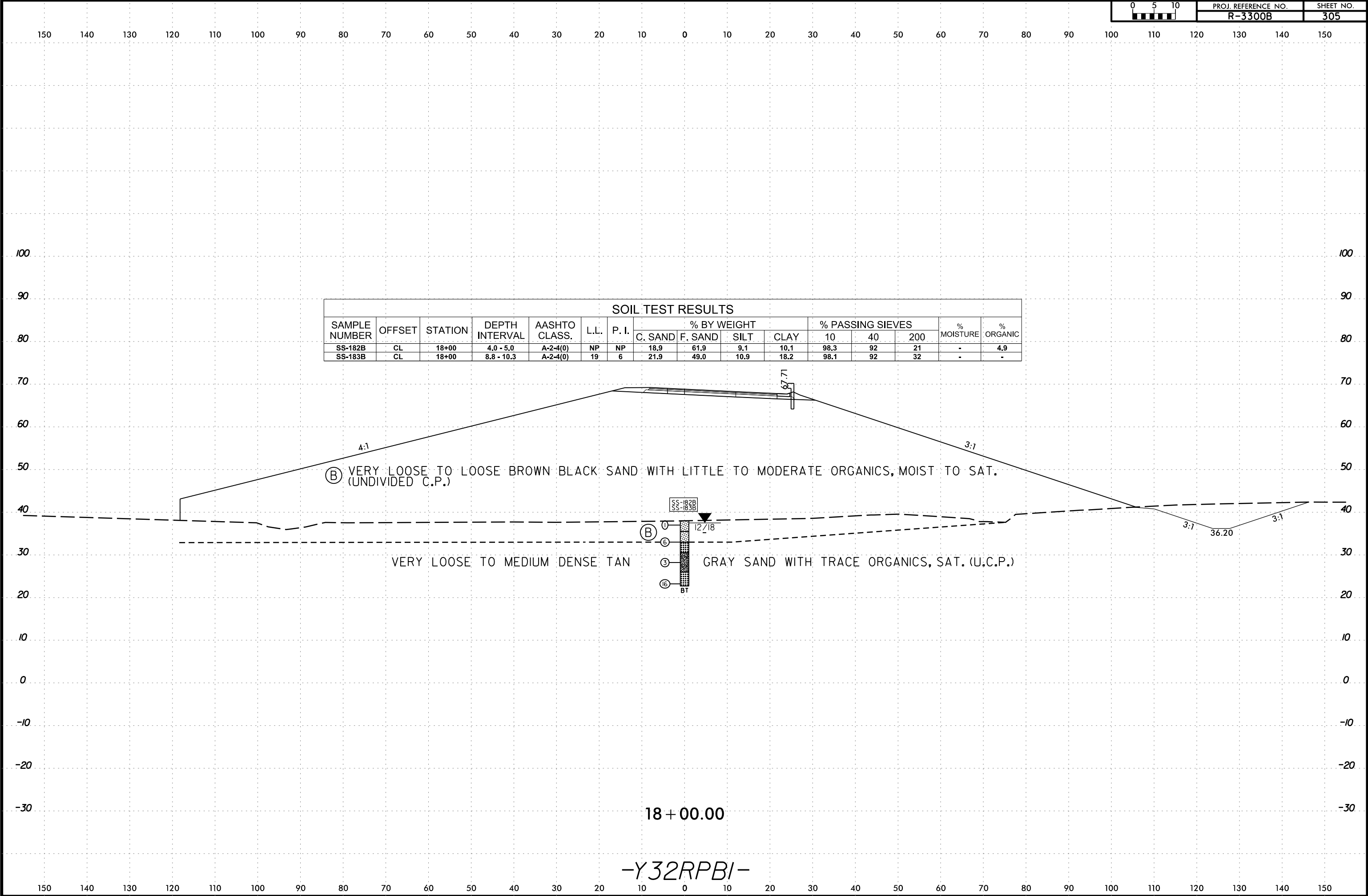
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Lee Stone AT LSTONE-CAD-PC

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	R-3300B	304



6/23/16

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Lee Stone AT LSTONE-CAD-PC

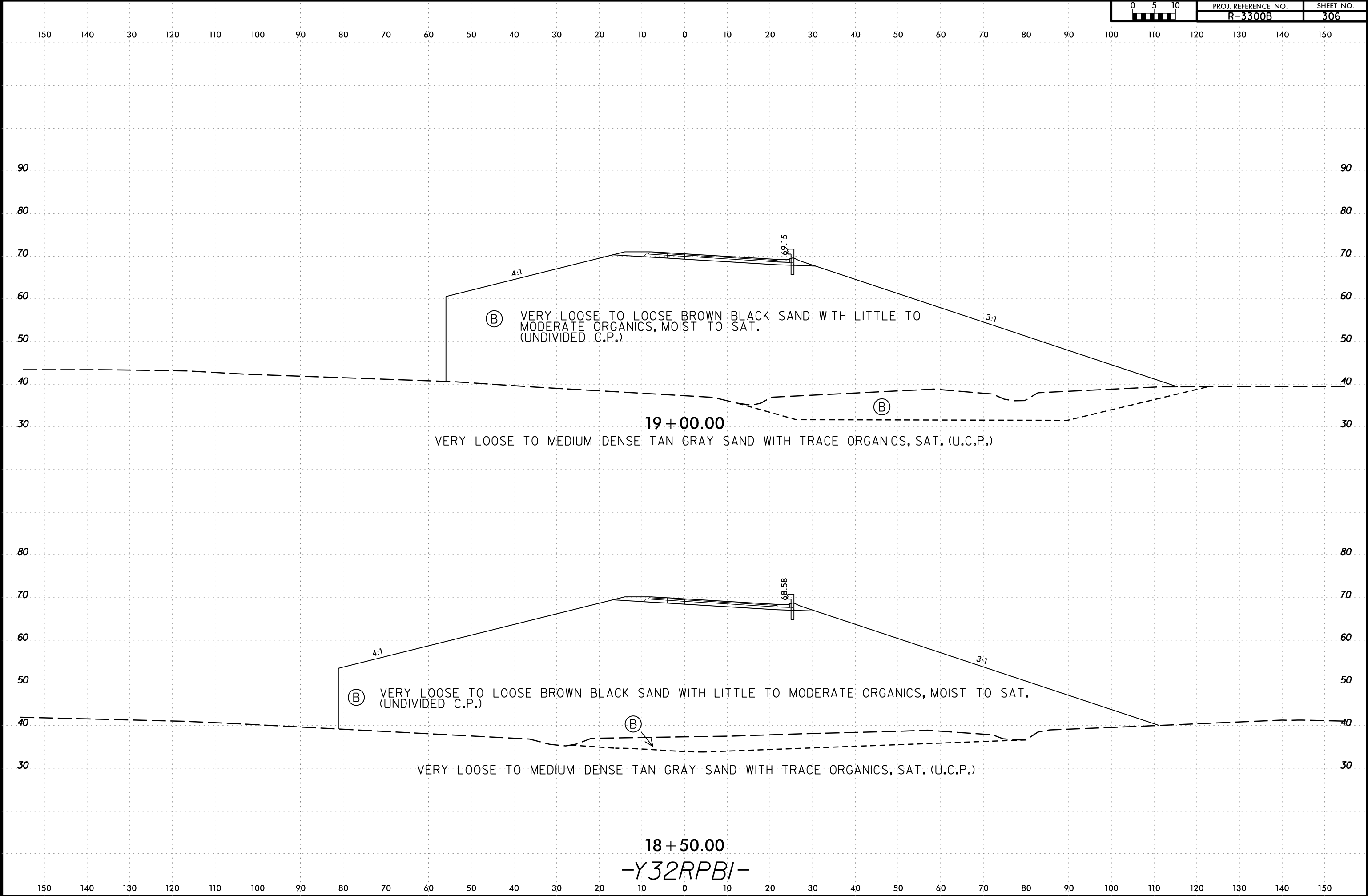


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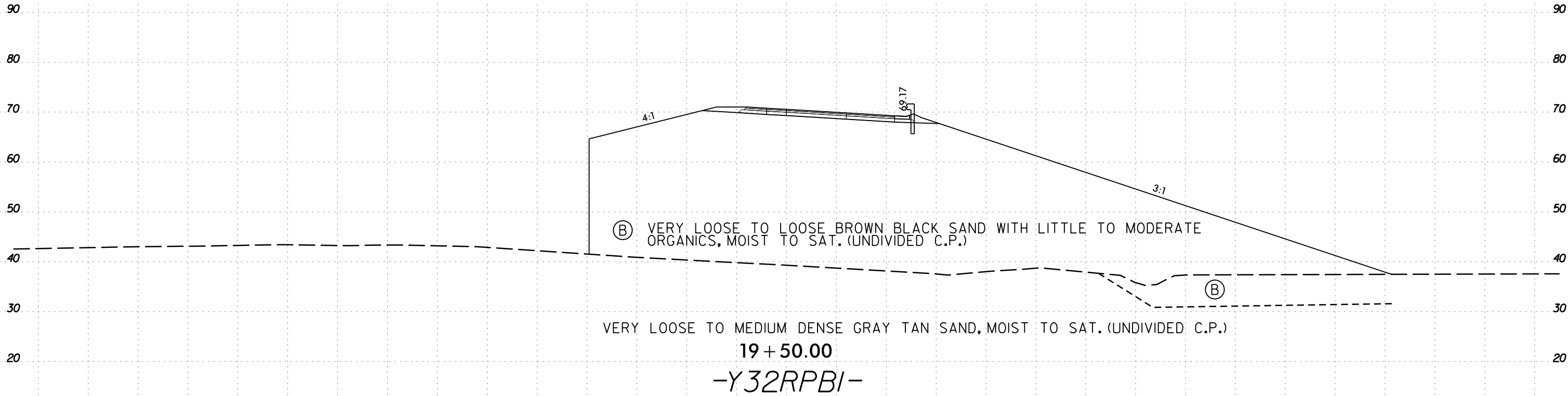
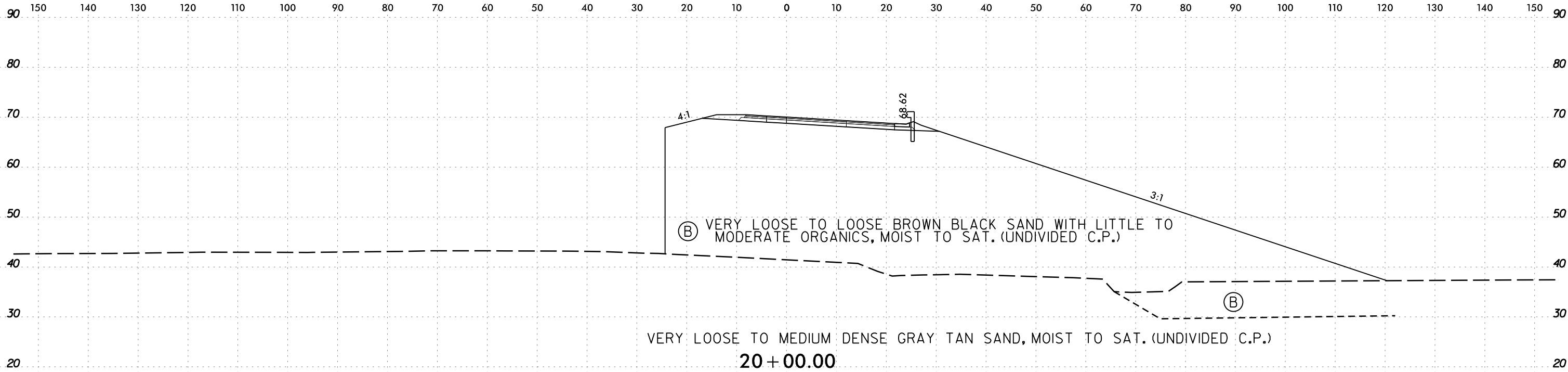
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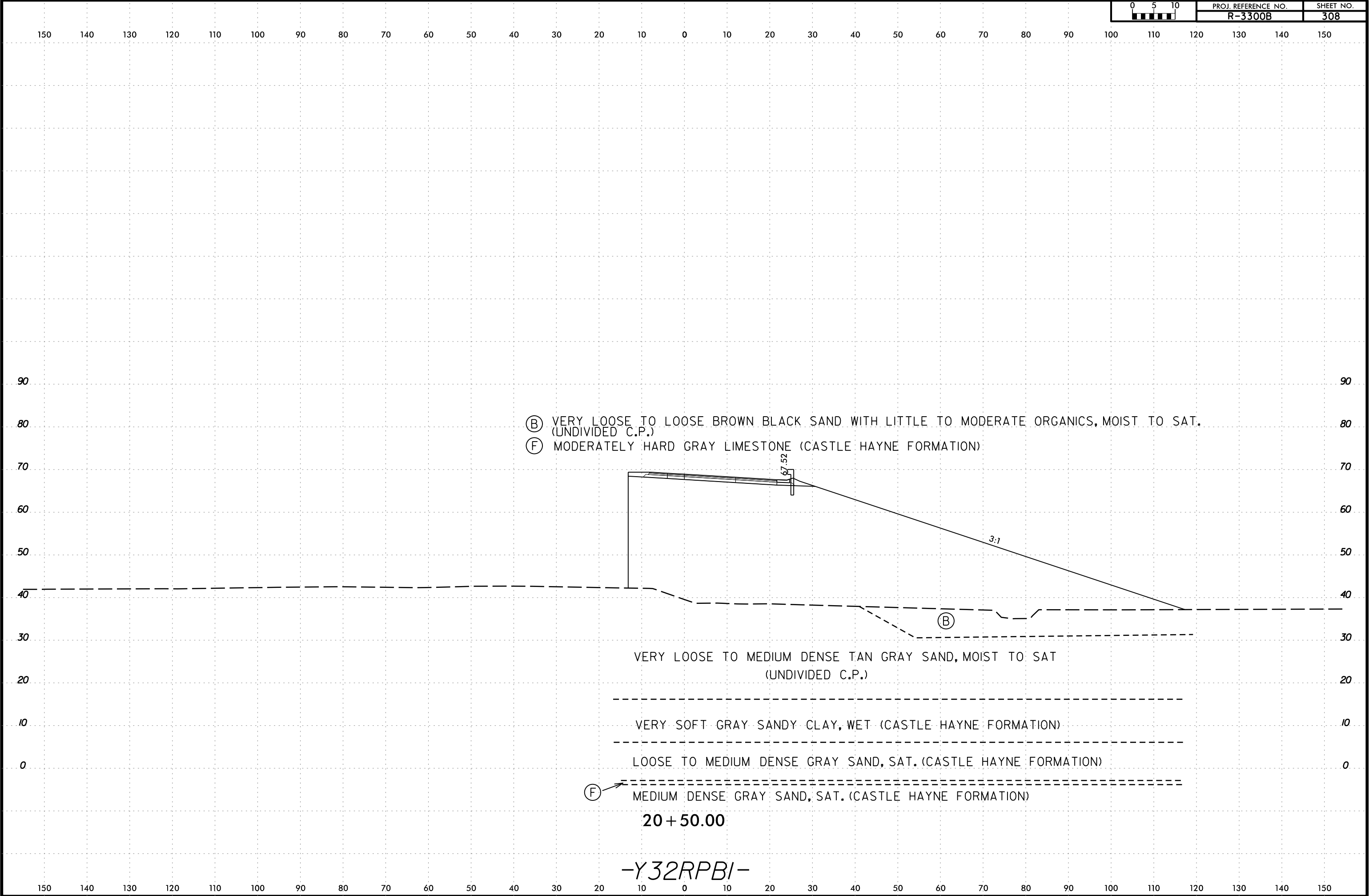
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6/23/16



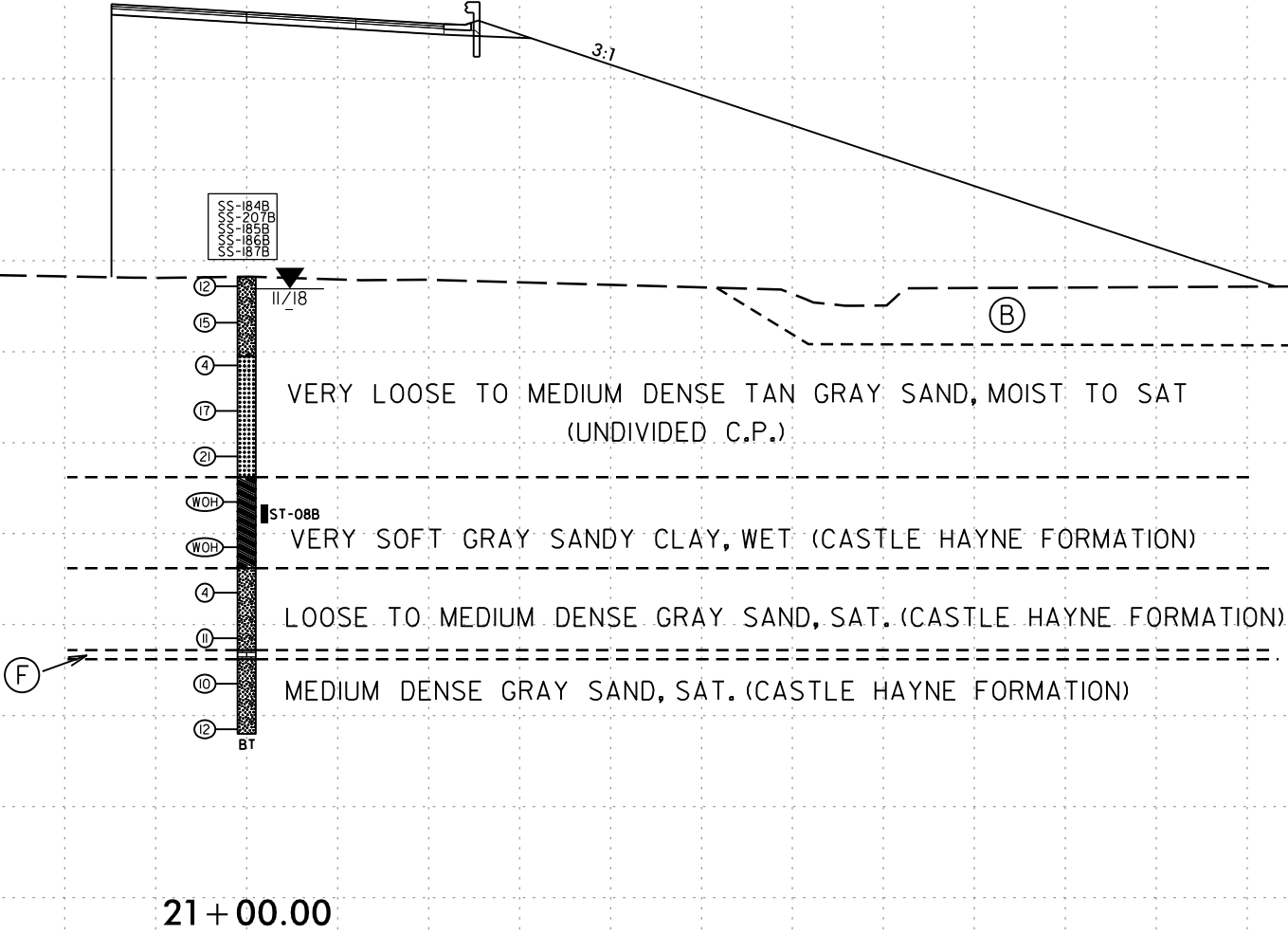


6/23/16

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Lee Stone AT LSTONE-CAD-PC

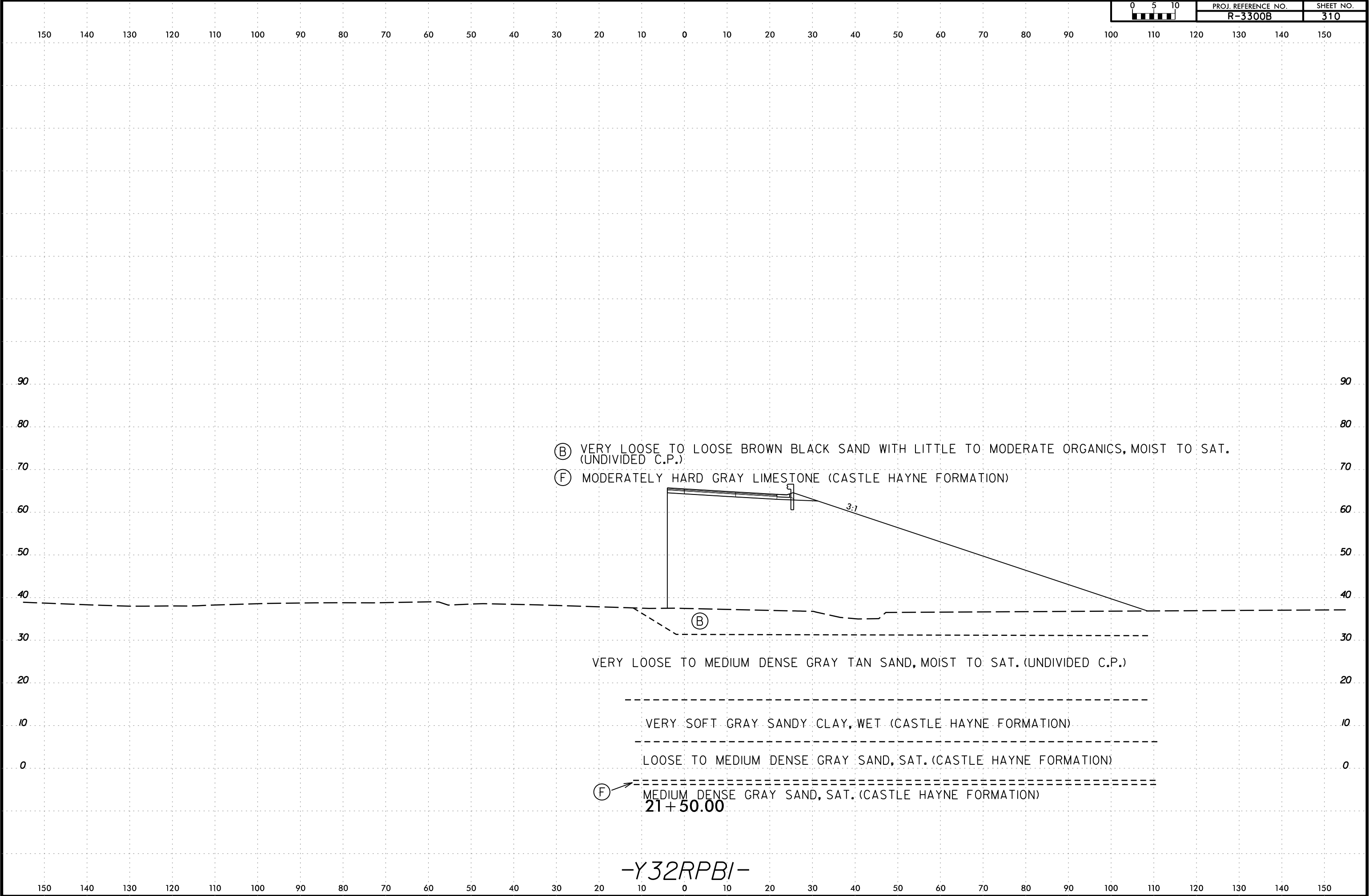
SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-184B	CL	21+00	0.0 - 1.5	A-2-4(0)	NP	NP	10.1	77.0	3.0	9.8	100	99	14	-	-
SS-207B	CL	21+00	8.7 - 10.2	A-3(0)	NP	NP	2.4	96.4	0.2	1.0	99.9	99	1	-	-
SS-185B	CL	21+00	23.7 - 25.2	A-6(13)	35	16	2.4	23.6	55.3	18.7	100	99	84	-	-
SS-186B	CL	21+00	33.7 - 35.2	A-2-4(0)	NP	NP	41.0	31.1	14.8	13.1	91.3	76	33	-	-
SS-187B	CL	21+00	43.7 - 45.2	A-2-4(0)	NP	NP	26.5	64.1	2.7	6.7	96.2	85	10	-	-
ST-08B	4 ft LT	21+00	25.0 - 27.0	A-6(14)	39	22	0.4	37.4	34.5	27.7	100	99.8	73.0	39	-

- (B) VERY LOOSE TO LOOSE BROWN BLACK SAND WITH LITTLE TO MODERATE ORGANICS, MOIST TO SAT.
(UNDIVIDED C.P.)
- (F) MODERATELY HARD GRAY LIMESTONE (CASTLE HAYNE FORMATION)



21 + 00.00

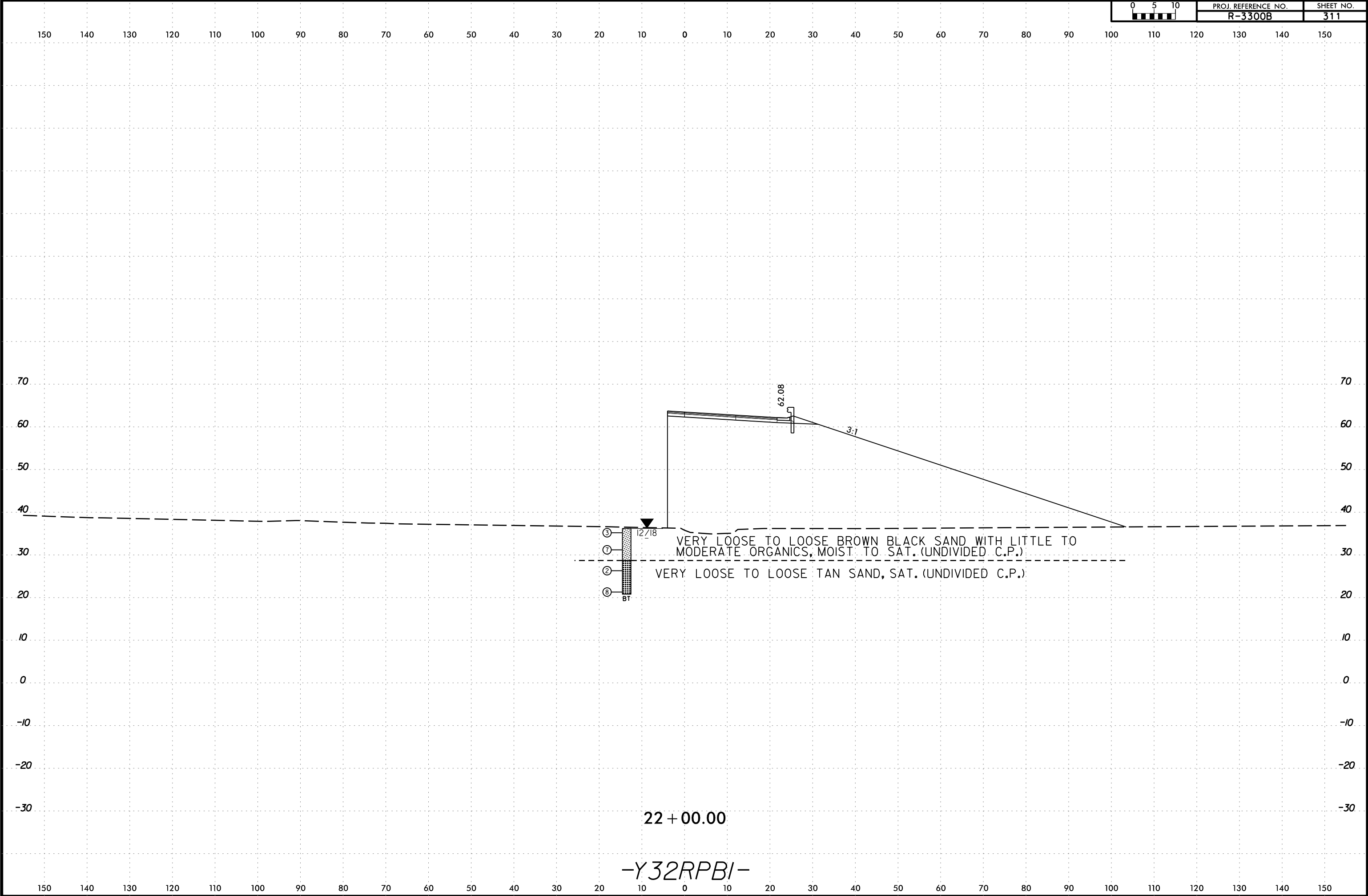
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6/23/16

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Lee.Stone AT LSTONE-CAD-PC

	PROJ. REFERENCE NO.	SHEET NO.
	R-3300B	311



6/23/16

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	R-3300B	312

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70

60

50

40

30

70

60

50

40

30

VERY LOOSE TO LOOSE BROWN BLACK SAND WITH LITTLE TO MODERATE ORGANICS, MOIST TO SAT. (UNDIVIDED C.P.)

VERY LOOSE TO LOOSE TAN SAND, SAT. (UNDIVIDED C.P.)

22 + 50.00

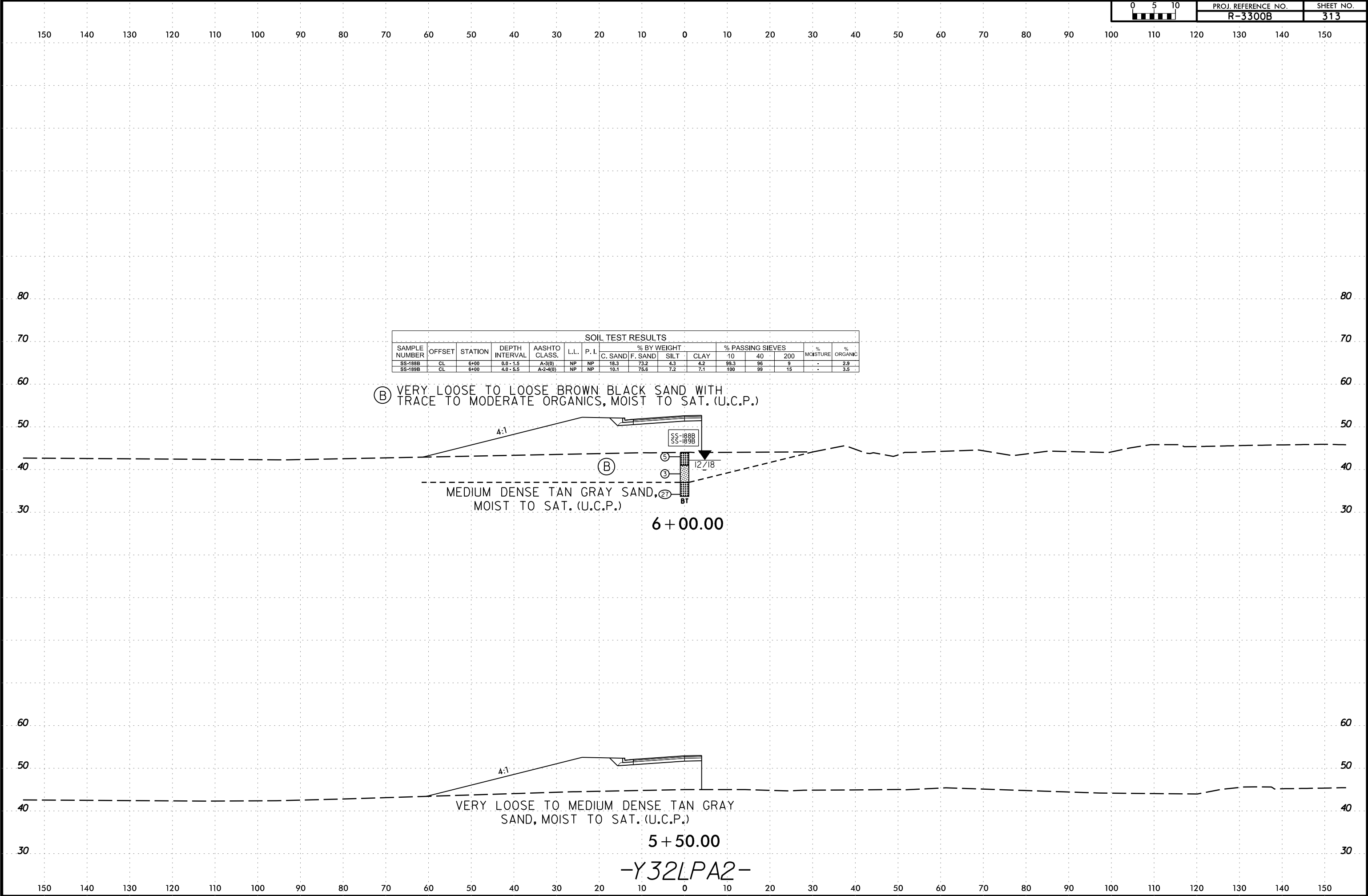
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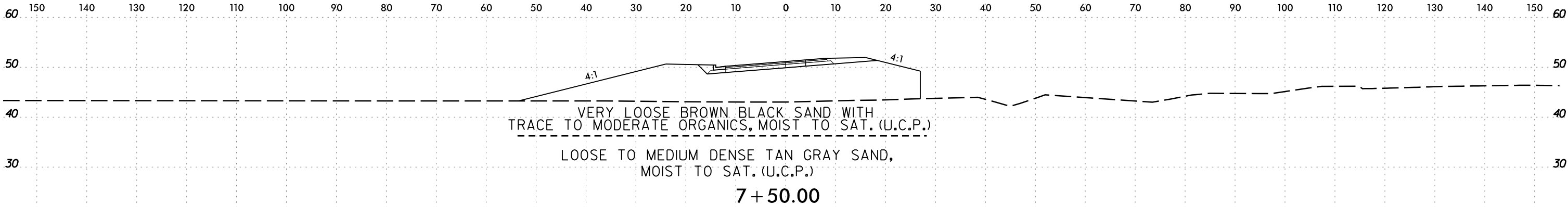
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6/23/16

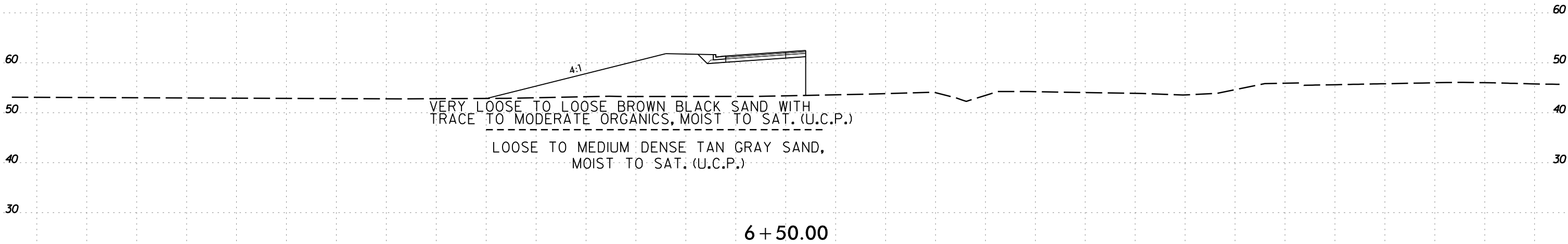
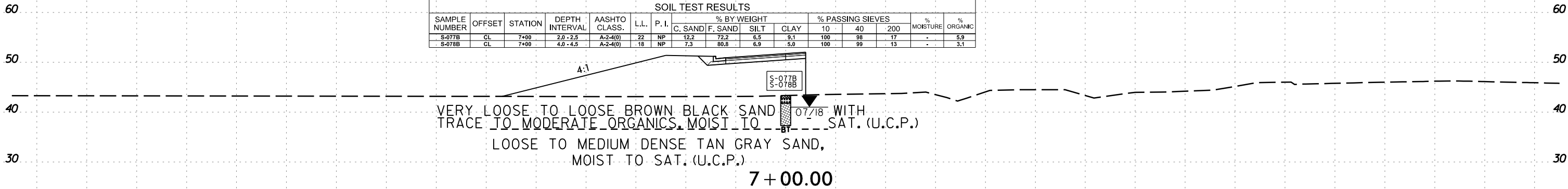
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Lee Stone AT LSTONE-CAD-PC



6/23/16



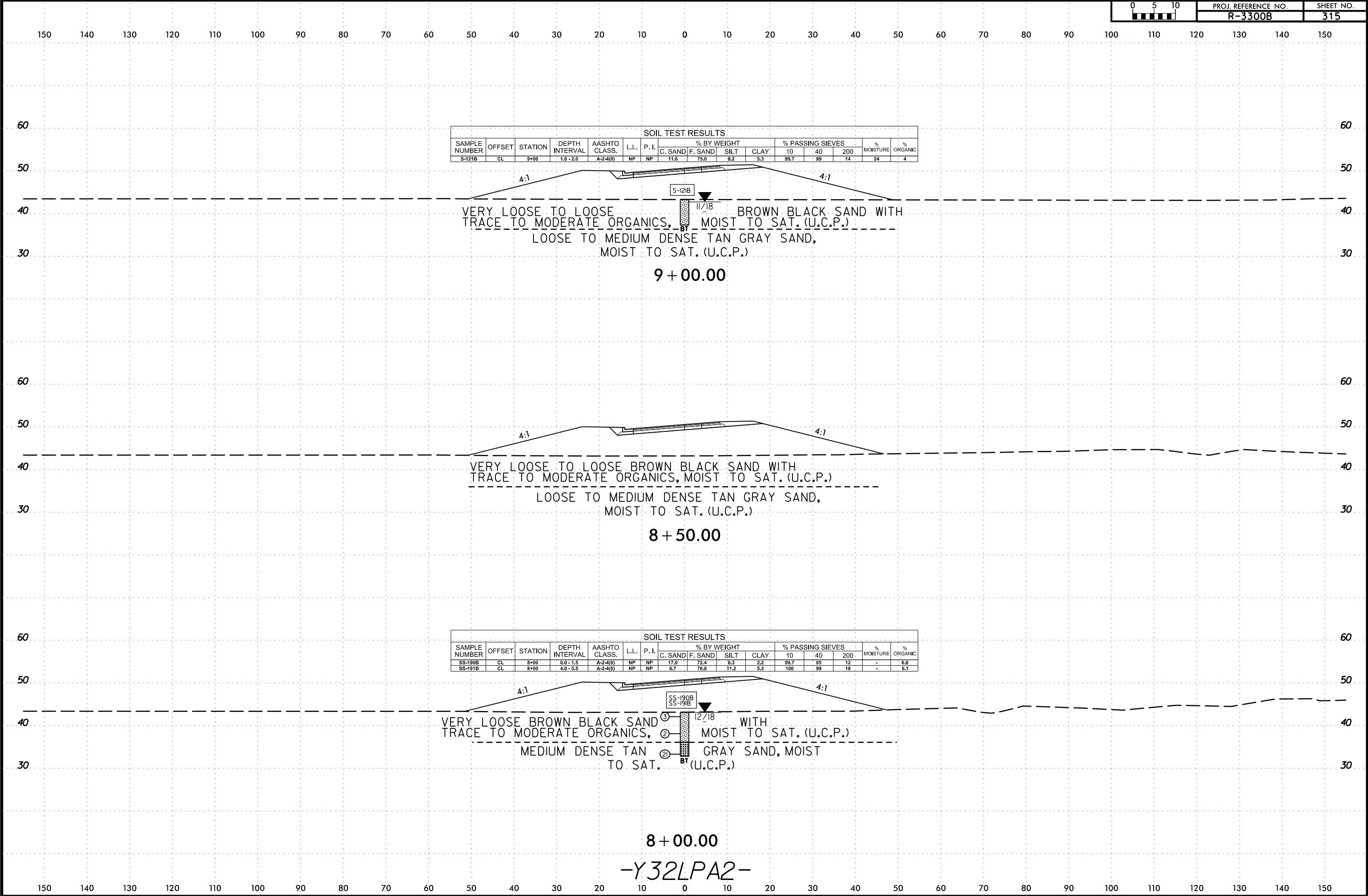
SOIL TEST RESULTS															
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							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-077B	CL	7+00	2.0 - 2.5	A-2-4(0)	22	NP	12.2	72.2	6.5	9.1	100	98	17	-	5.9
S-078B	CL	7+00	4.0 - 4.5	A-2-4(0)	18	NP	7.3	80.8	6.9	5.0	100	99	13	-	3.1



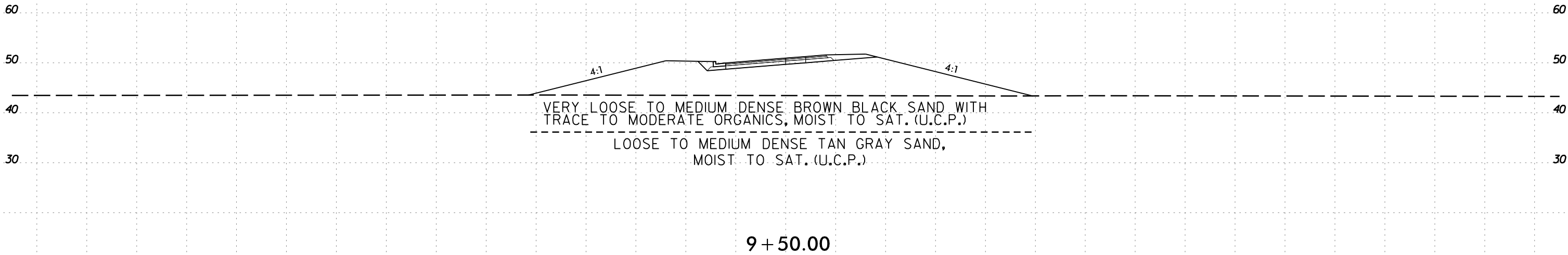
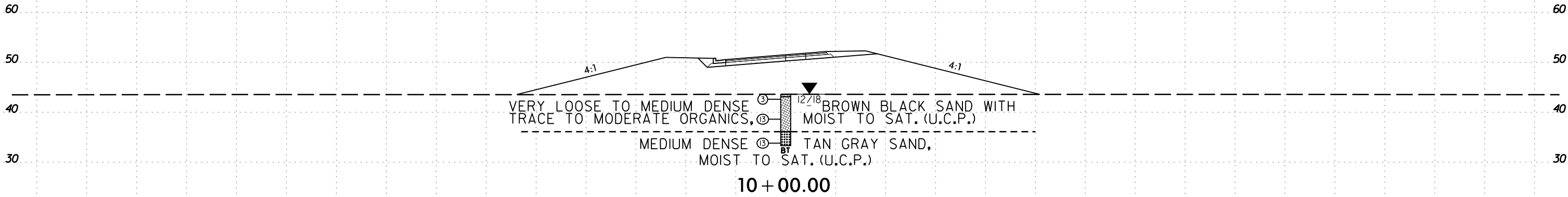
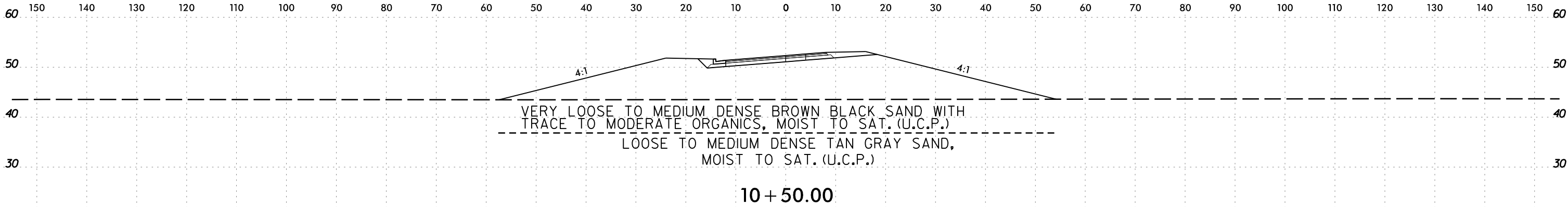
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6/23/16

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6/23/16

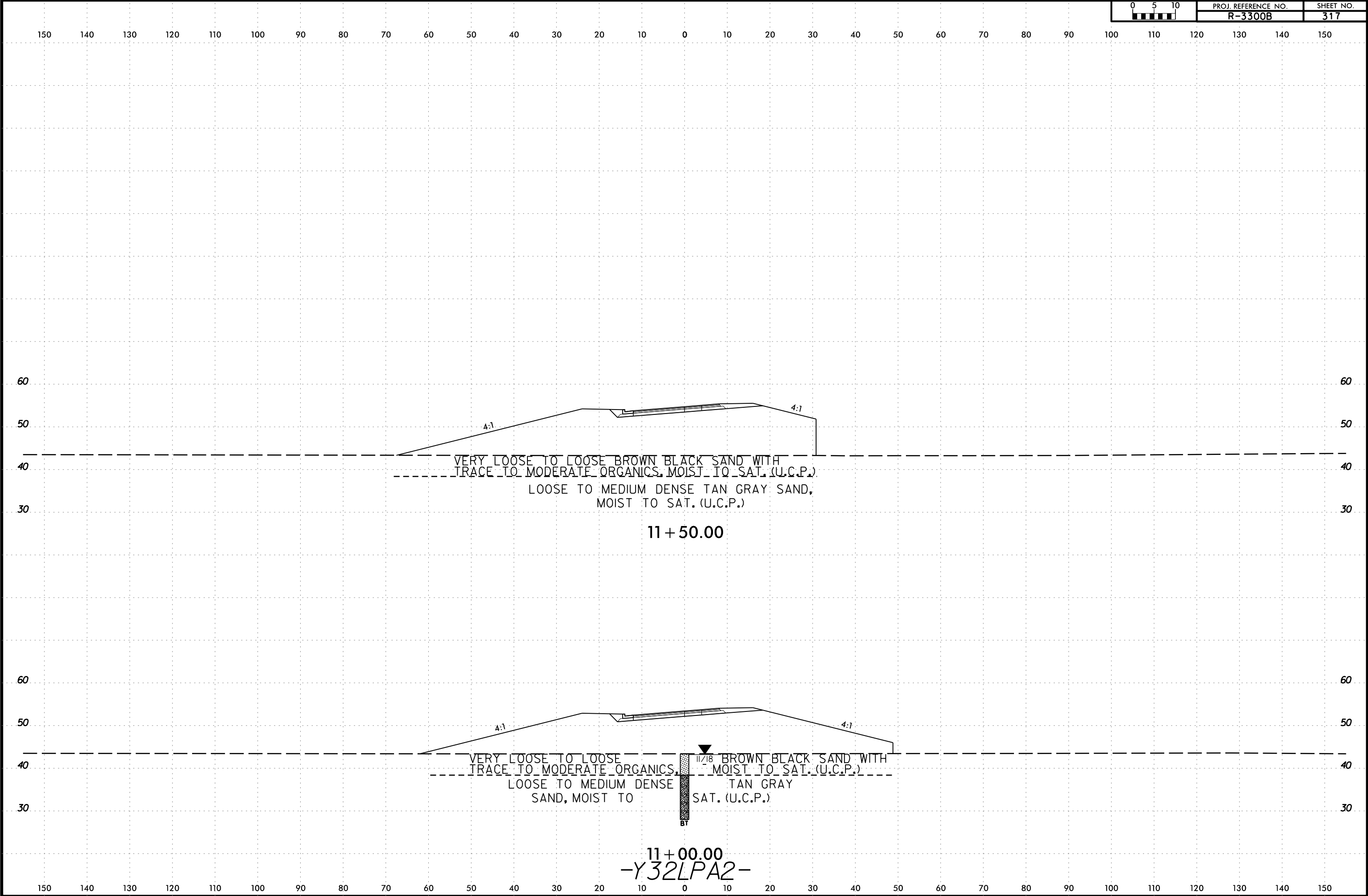


9 + 50.00
-Y32LPA2-

6/23/16

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Lee Stone AT LSTONE-CAD-PC

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-3300B	317



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

70 70

60 60

50 50

40 40

VERY LOOSE TO LOOSE BROWN BLACK SAND WITH
TRACE TO MODERATE ORGANICS AND MUCK, MOIST TO SAT. (U.C.P.)
LOOSE TO MEDIUM DENSE TAN GRAY SAND,
MOIST TO SAT. (U.C.P.)

30 30

12 + 50.00

70 70

60 60

50 50

40 40

VERY LOOSE TO LOOSE BROWN BLACK SAND WITH
TRACE TO MODERATE ORGANICS AND MUCK, MOIST TO SAT. (U.C.P.)
LOOSE TO MEDIUM DENSE TAN GRAY SAND,
MOIST TO SAT. (U.C.P.)

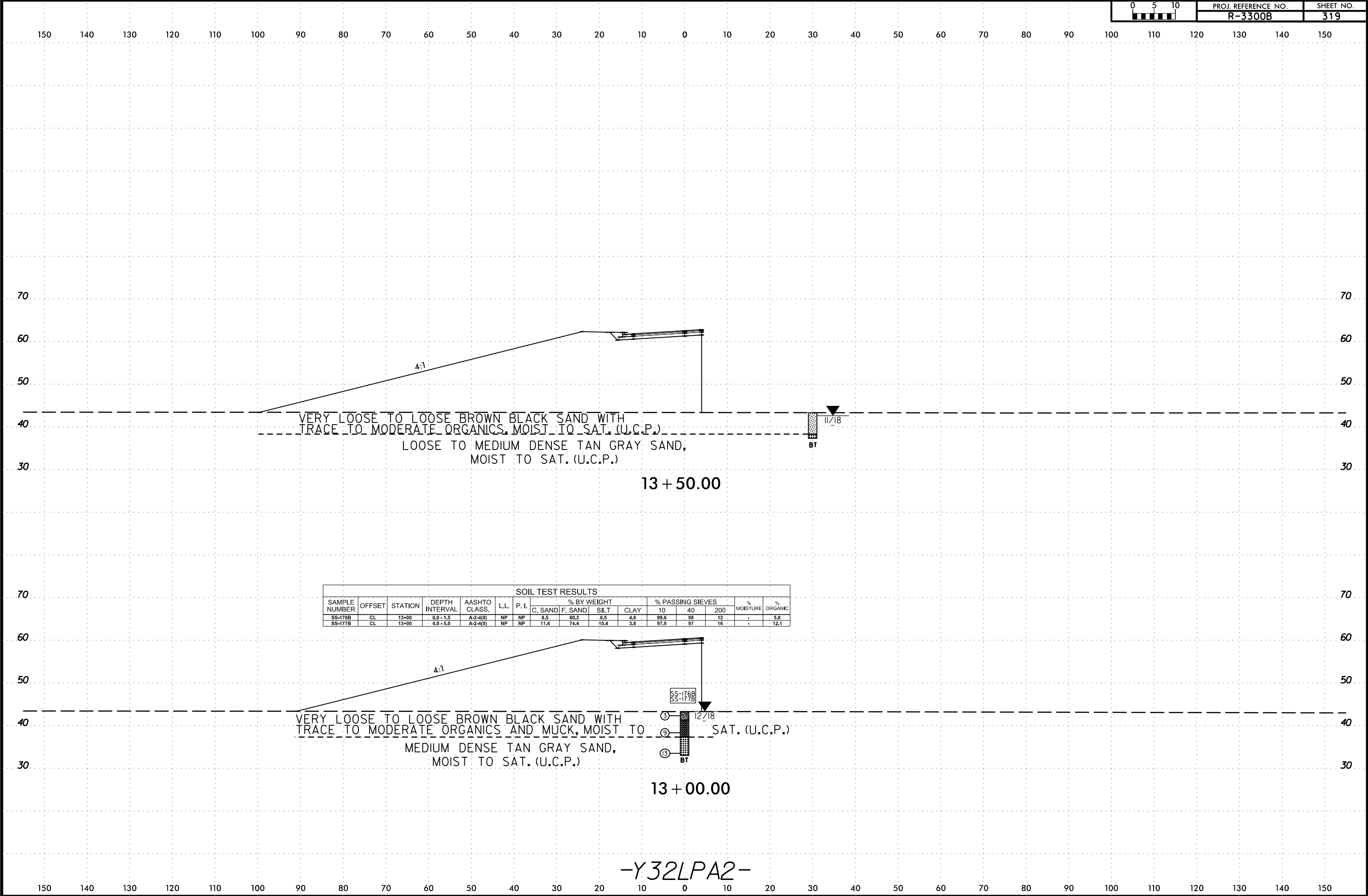
30 30

12 + 00.00
-Y32LPA2-

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6/23/16

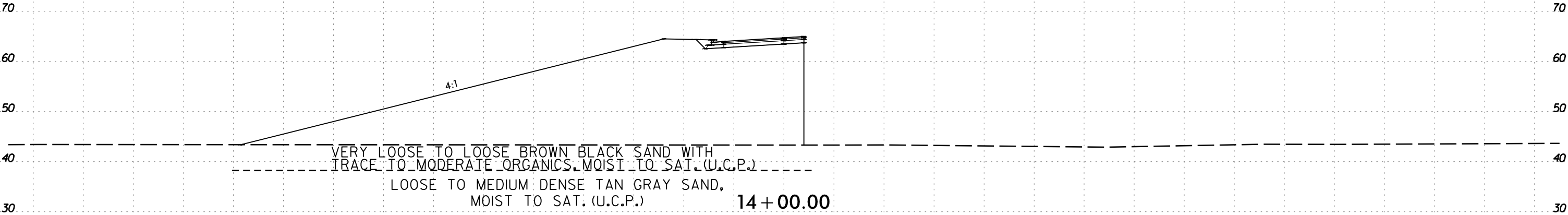
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Lee Stone AT LSTONE-CADD-PC



-Y32LPA2-

6/23/16

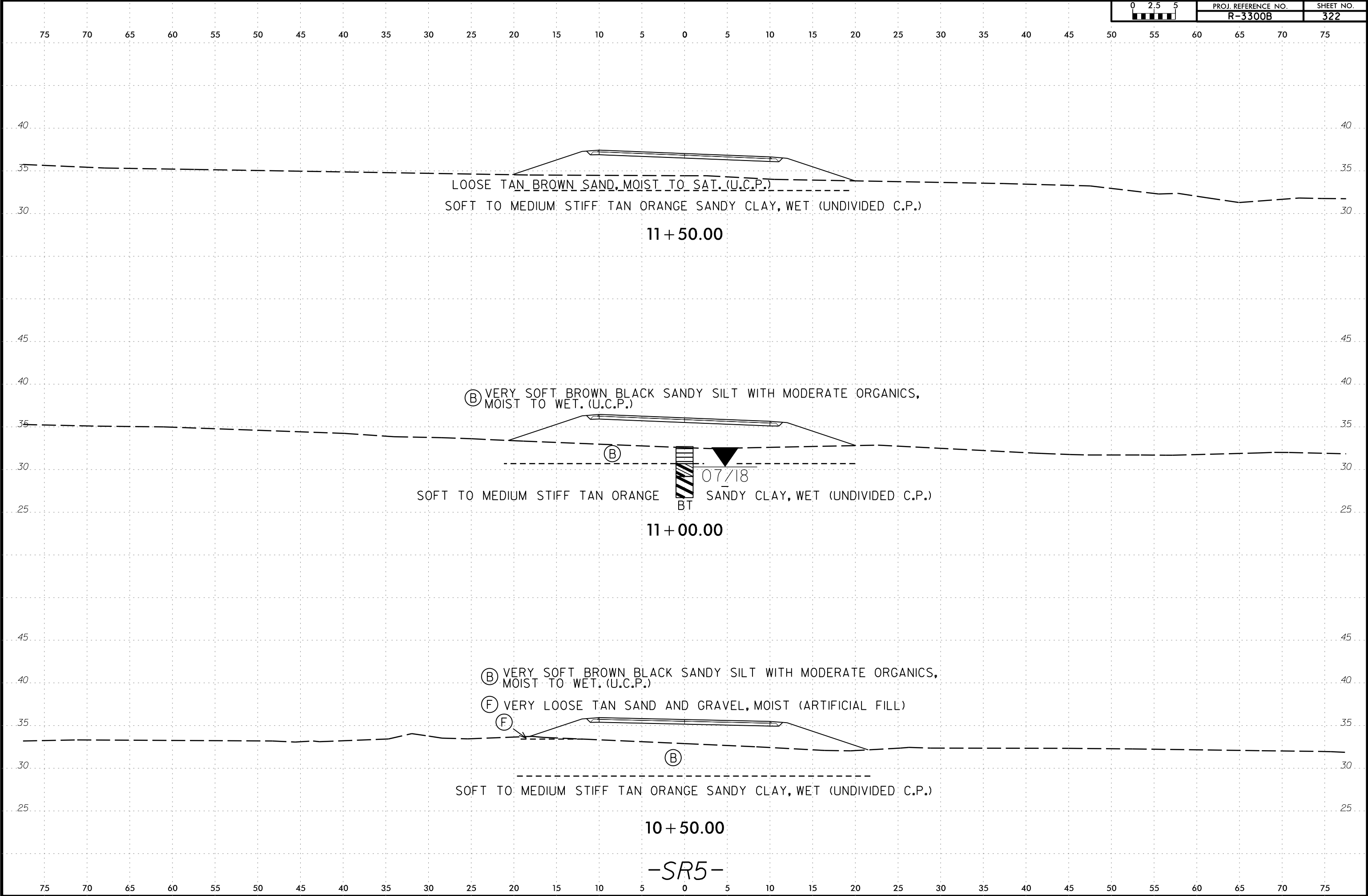
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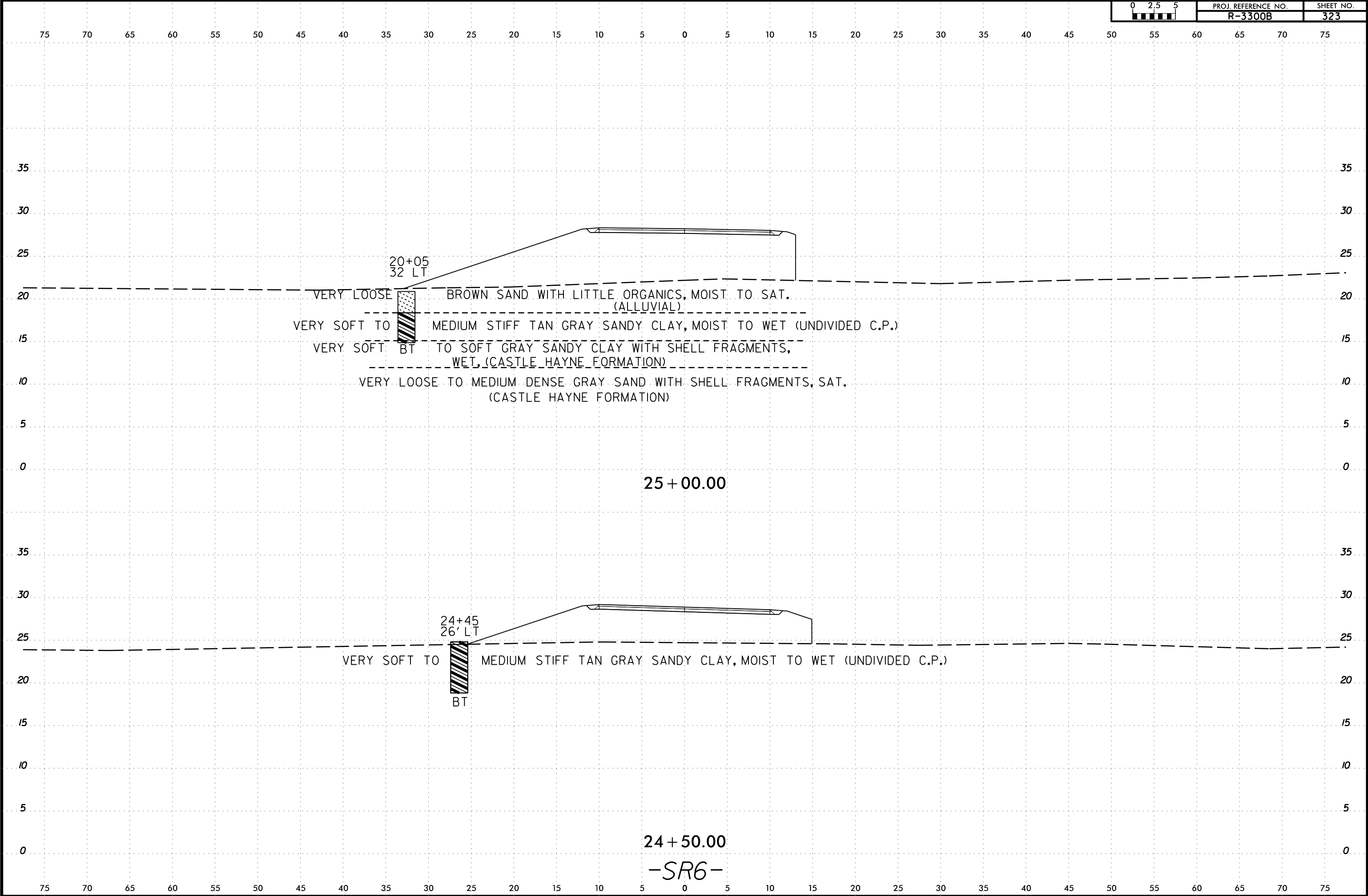


6/23/16

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Lee Stone AT LSTONE-CAD-PC



-SR5-



6/23/16



PROJ. REFERENCE NO.	SHEET NO.
R-3300B	324

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

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-204B	10 ft RT	26+00	0.0 - 1.5	A-4(0)	NP	NP	11.8	40.5	41.8	6.0	97.4	95	49	-	-
SS-205B	10 ft RT	26+00	8.4 - 9.5	A-6(2)	30	14	25.5	32.2	19.2	23.0	99.6	92	43	-	-

(B) SOFT BROWN SANDY SILT WITH LITTLE ORGANICS, MOIST TO SAT. (ALLUVIAL)

SS-204B
SS-205B

(B)

(4)

07/18--

MEDIUM STIFF TAN GRAY SANDY SILT,

(5)

WET (ALLUVIAL)

VERY SOFT TO SOFT GRAY SANDY CLAY WITH SHELL FRAGMENTS, WET

(3)

(CASTLE HAYNE FORMATION)

VERY LOOSE TO MEDIUM DENSE GRAY SAND WITH SHELL

(10)

FRAGMENTS, SAT.

(CASTLE HAYNE FORMATION)

BT

VERY SOFT GRAY LIMESTONE
(CASTLE HAYNE FORMATION)

26 + 00.00

(B) VERY SOFT BROWN SANDY SILT WITH LITTLE ORGANICS, MOIST TO WET (ALLUVIAL)

(B)

VERY SOFT TO MEDIUM STIFF TAN GRAY SANDY SILT, WET (ALLUVIAL)

VERY SOFT TO SOFT GRAY SANDY CLAY WITH SHELL FRAGMENTS,
WET, (CASTLE HAYNE FORMATION)

VERY LOOSE TO MEDIUM DENSE GRAY SAND WITH SHELL FRAGMENTS, SAT.
(CASTLE HAYNE FORMATION)

25 + 50.00

-SR6-

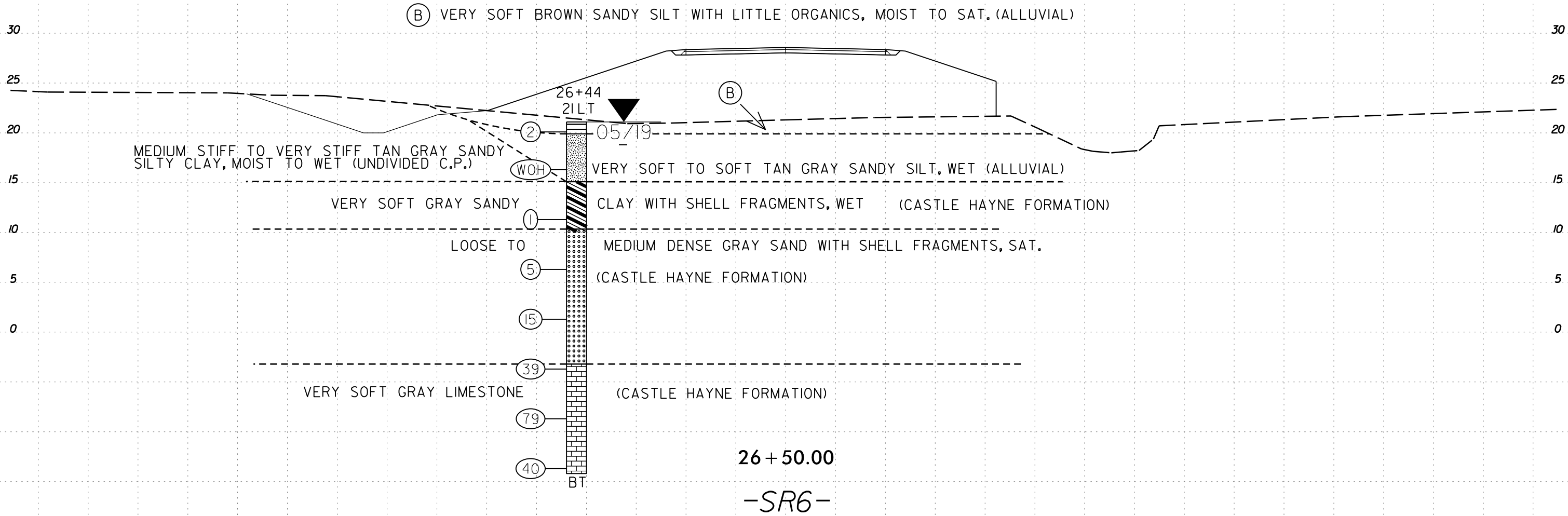
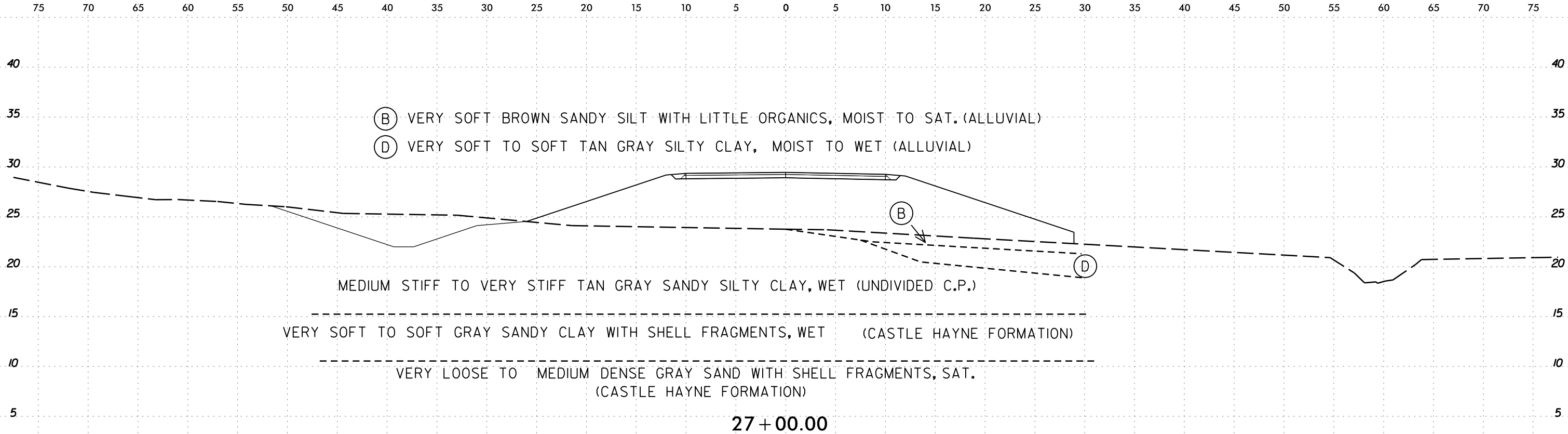
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6/23/16

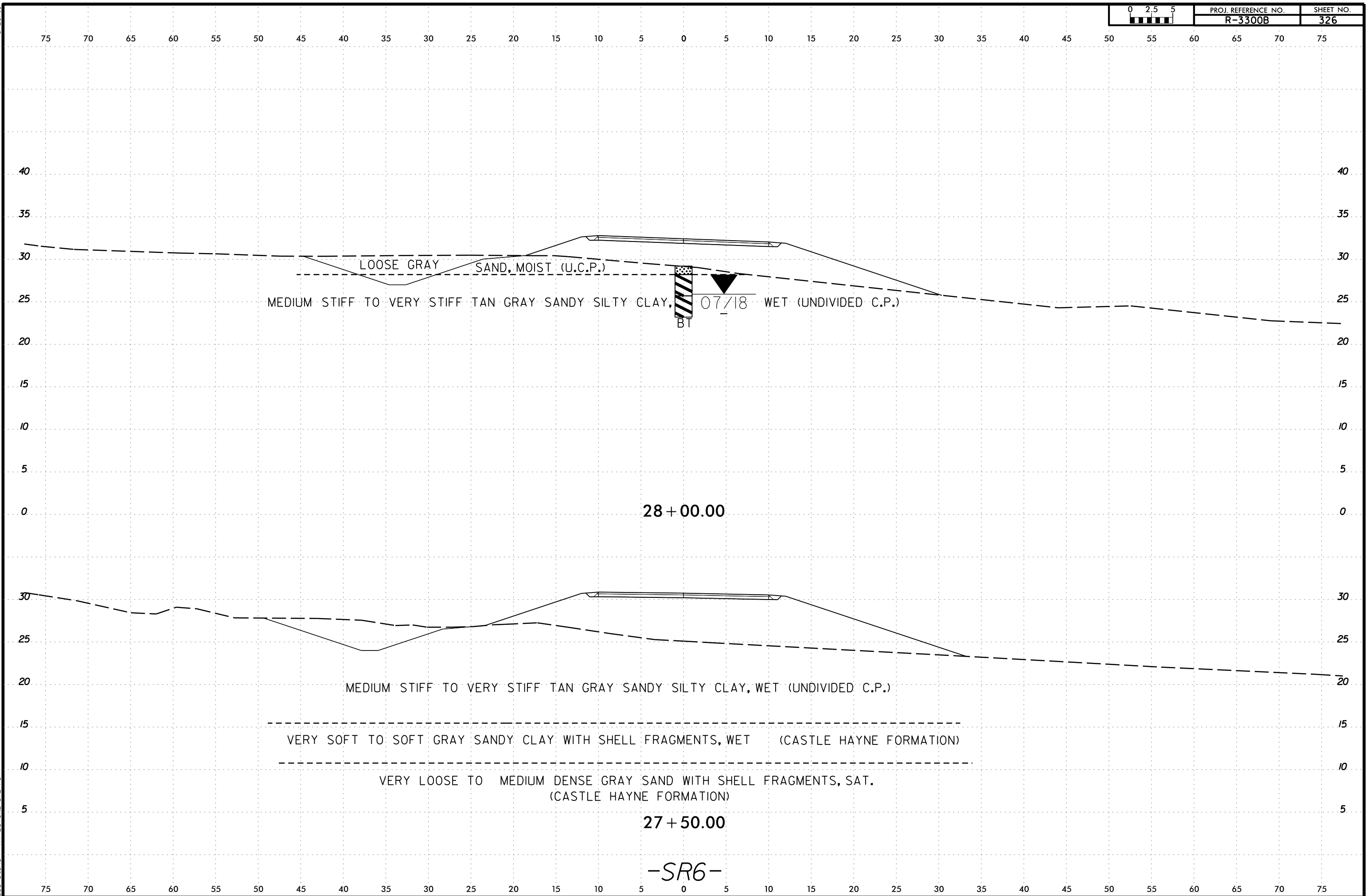


PROJ. REFERENCE NO.
R-3300B

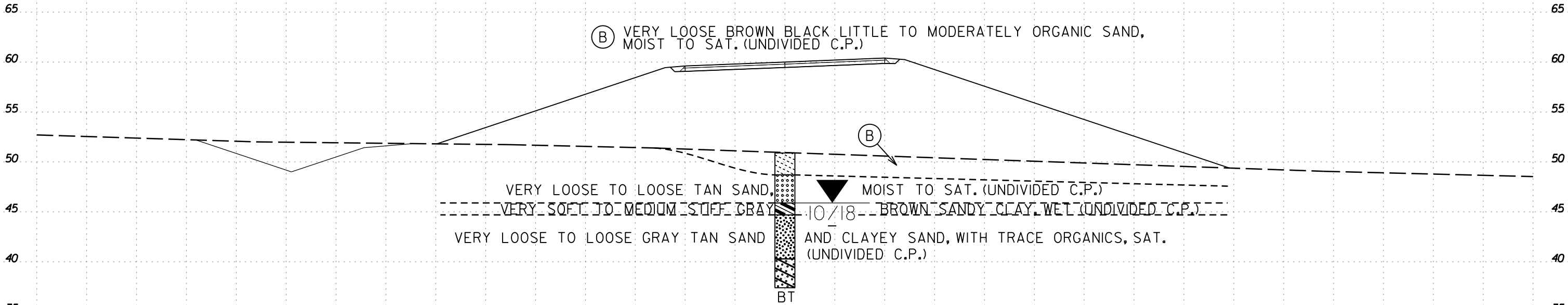
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325



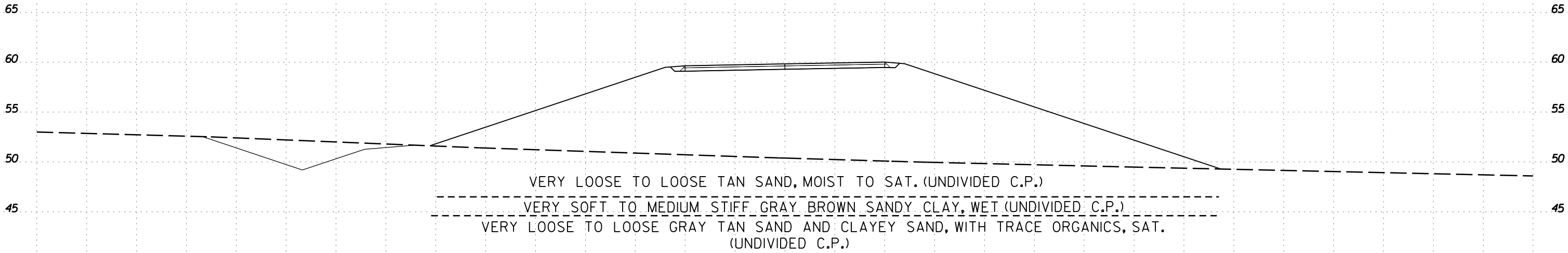
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Lee Stone AT LSTONE-CAD-PC



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16 + 00.00



15 + 50.00

-SR7-

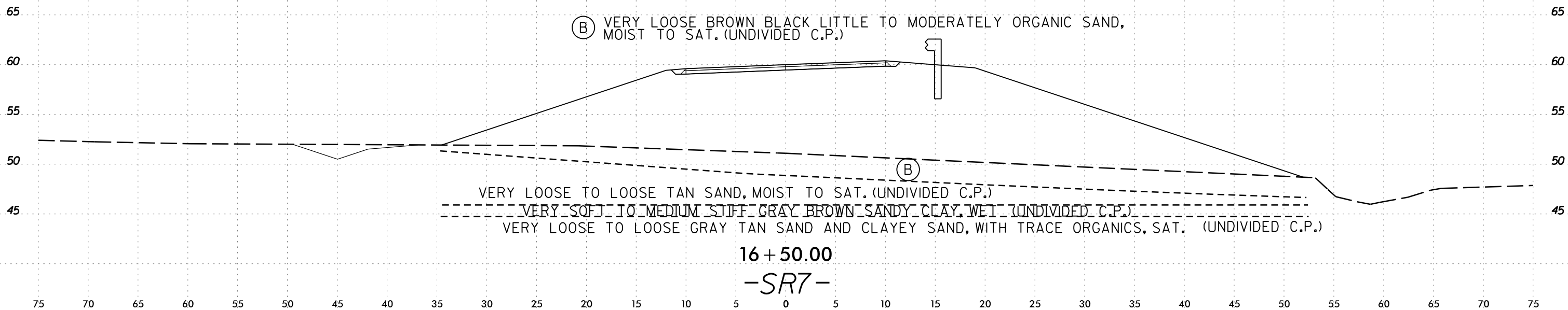
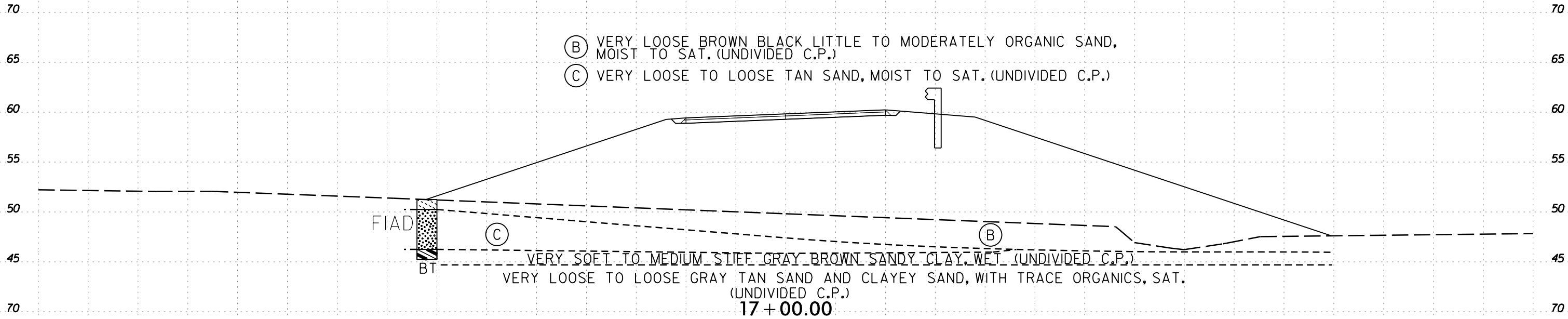
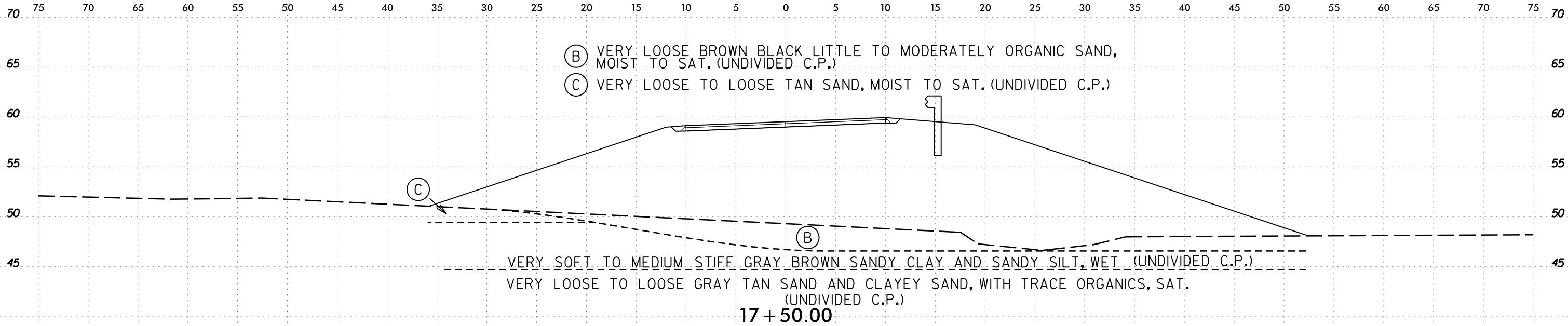
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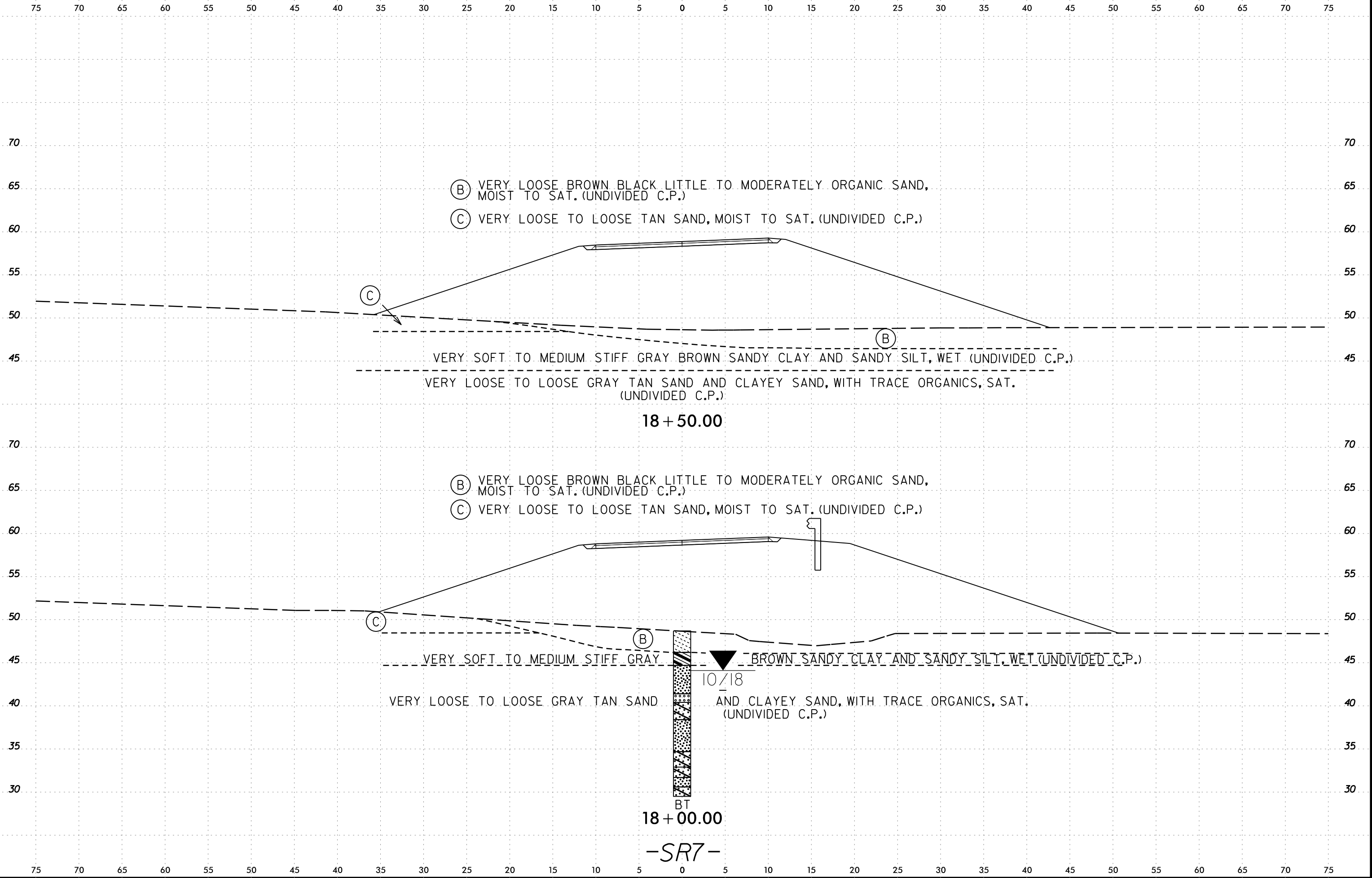
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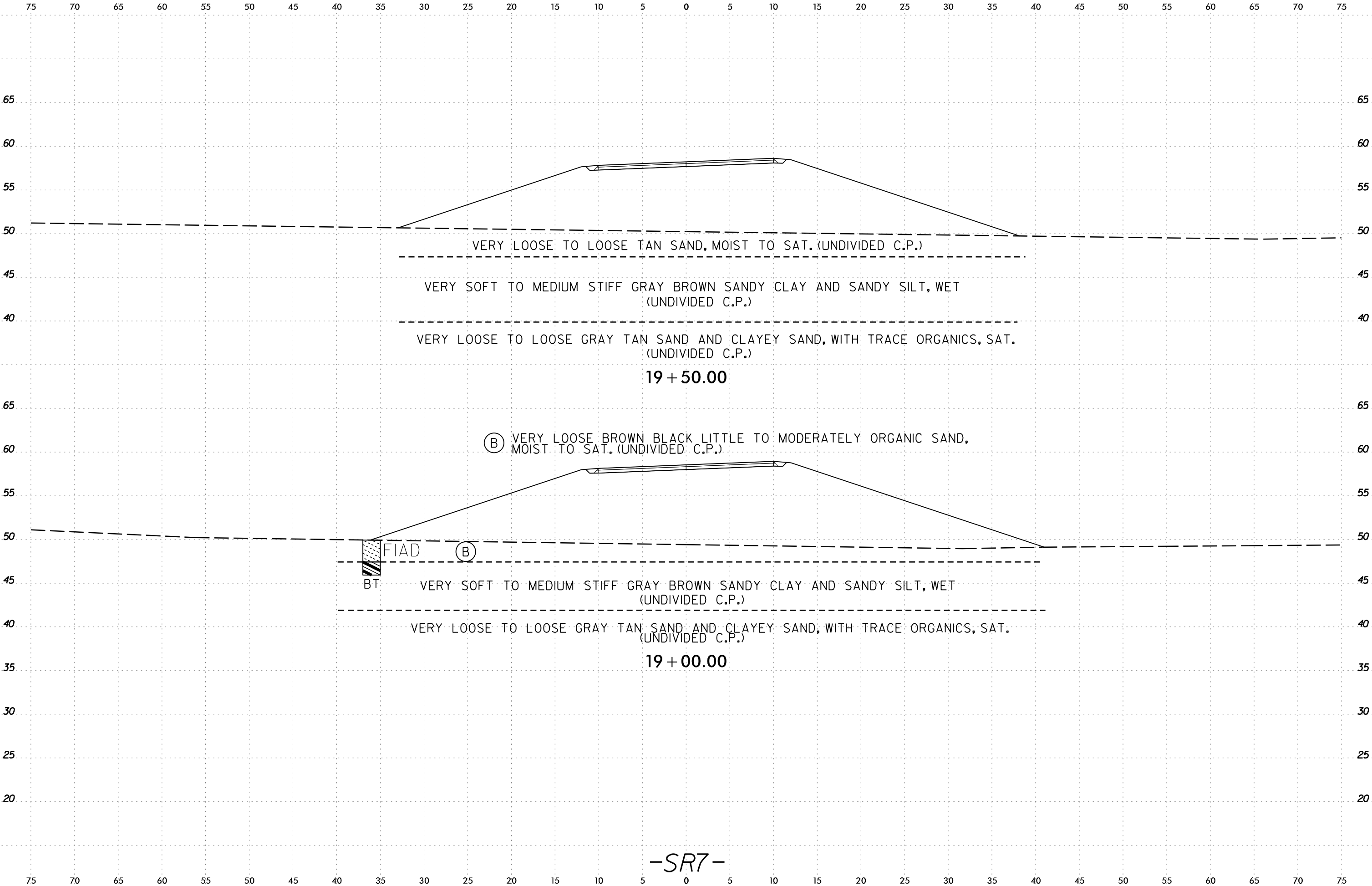
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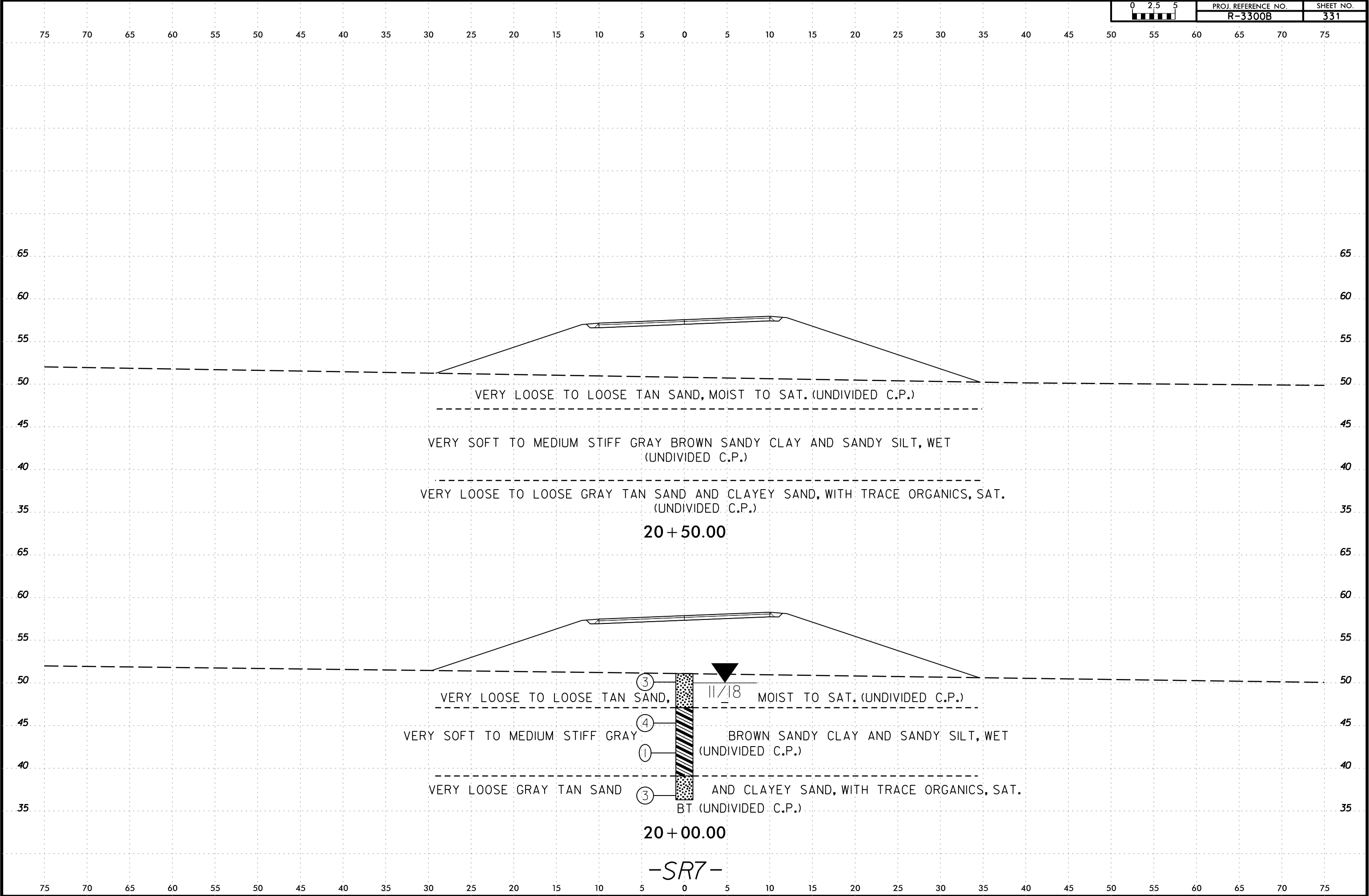
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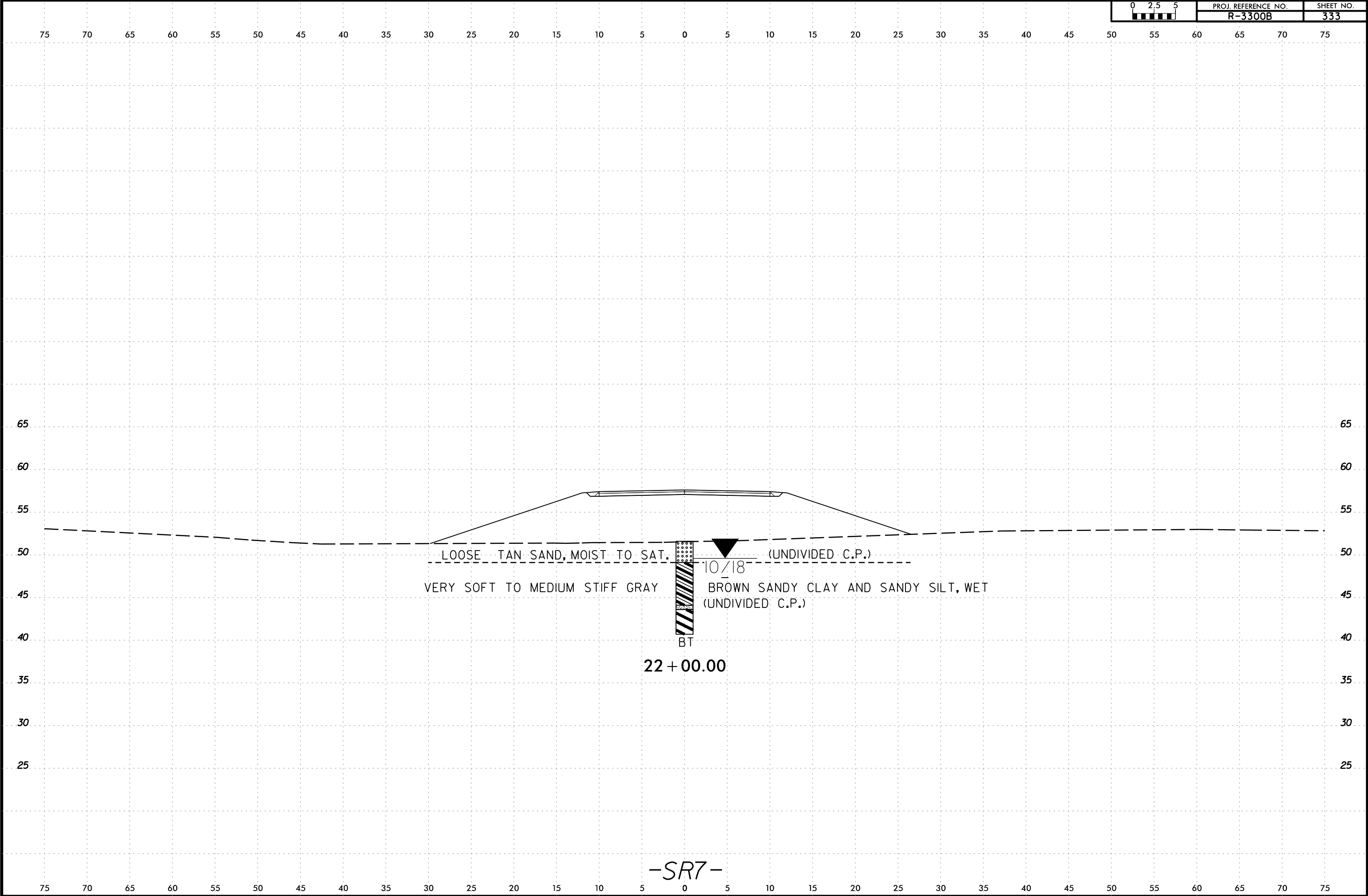


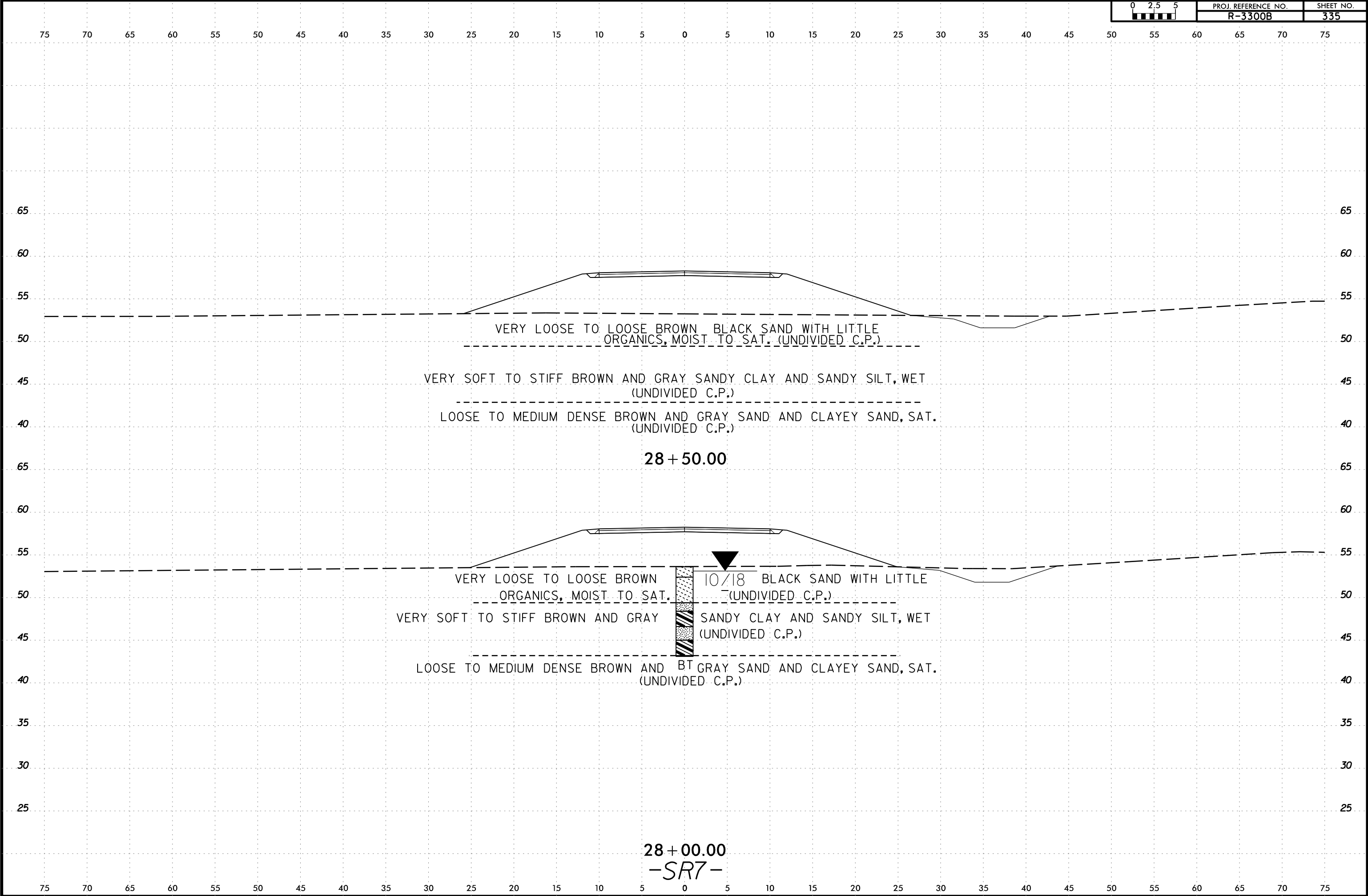
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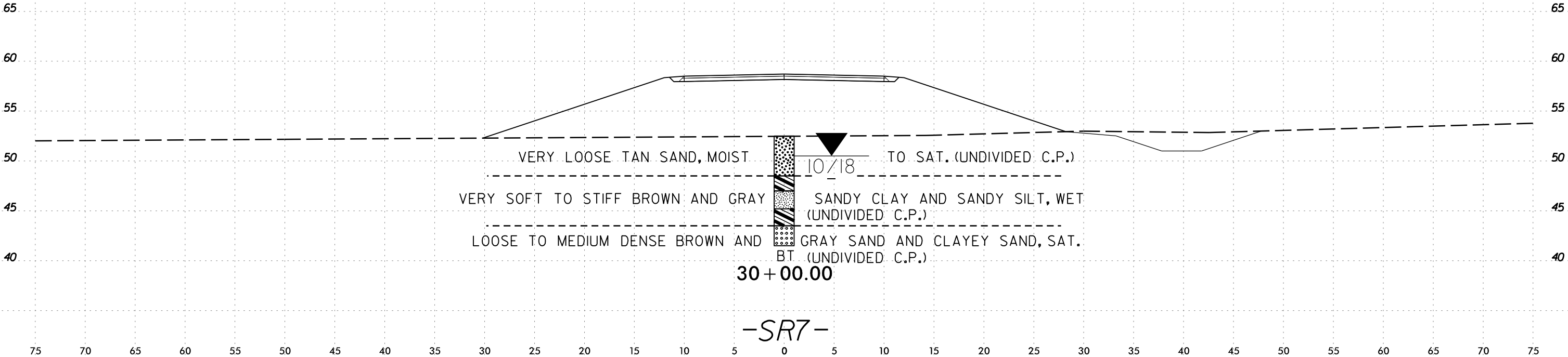






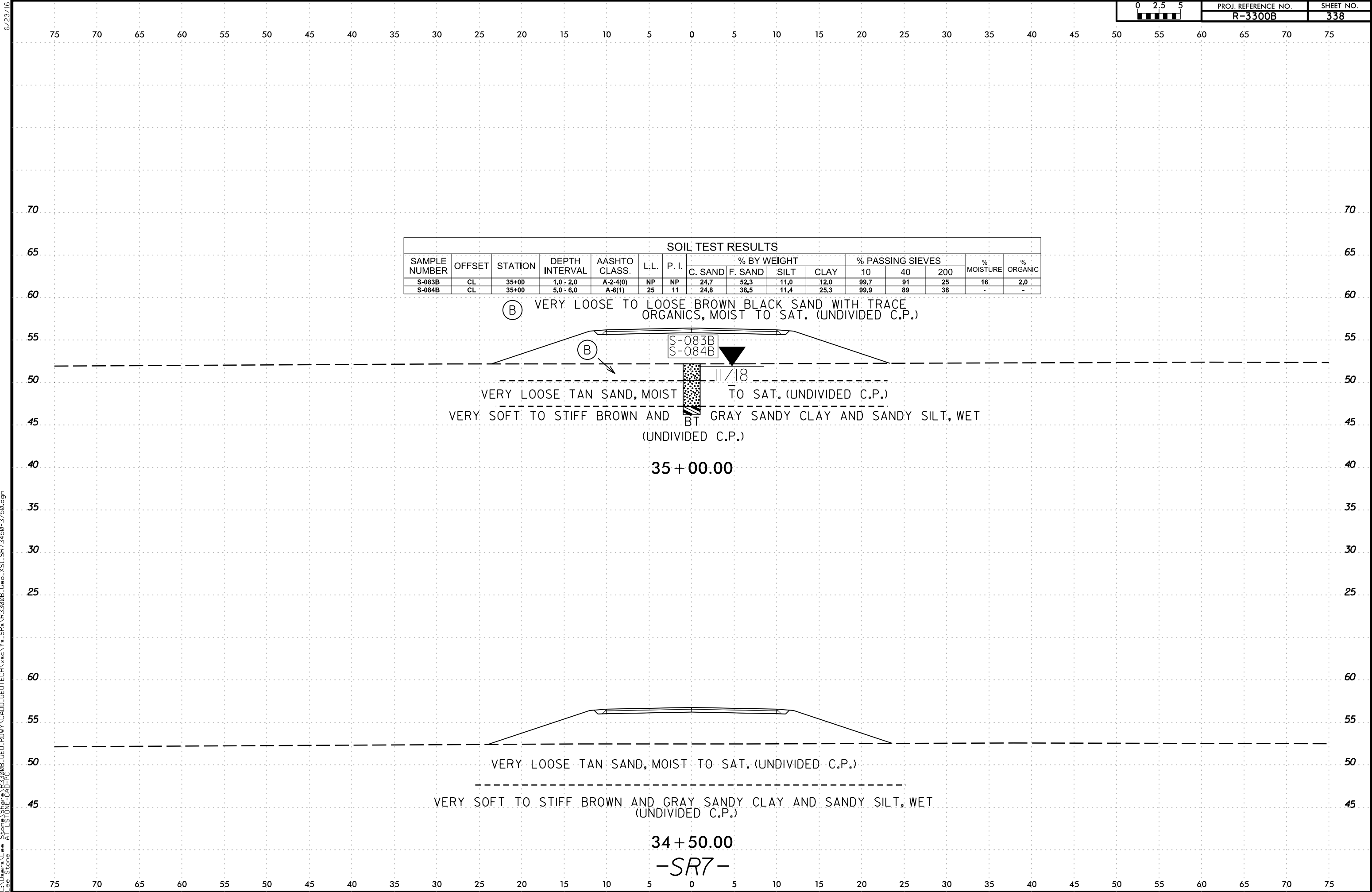


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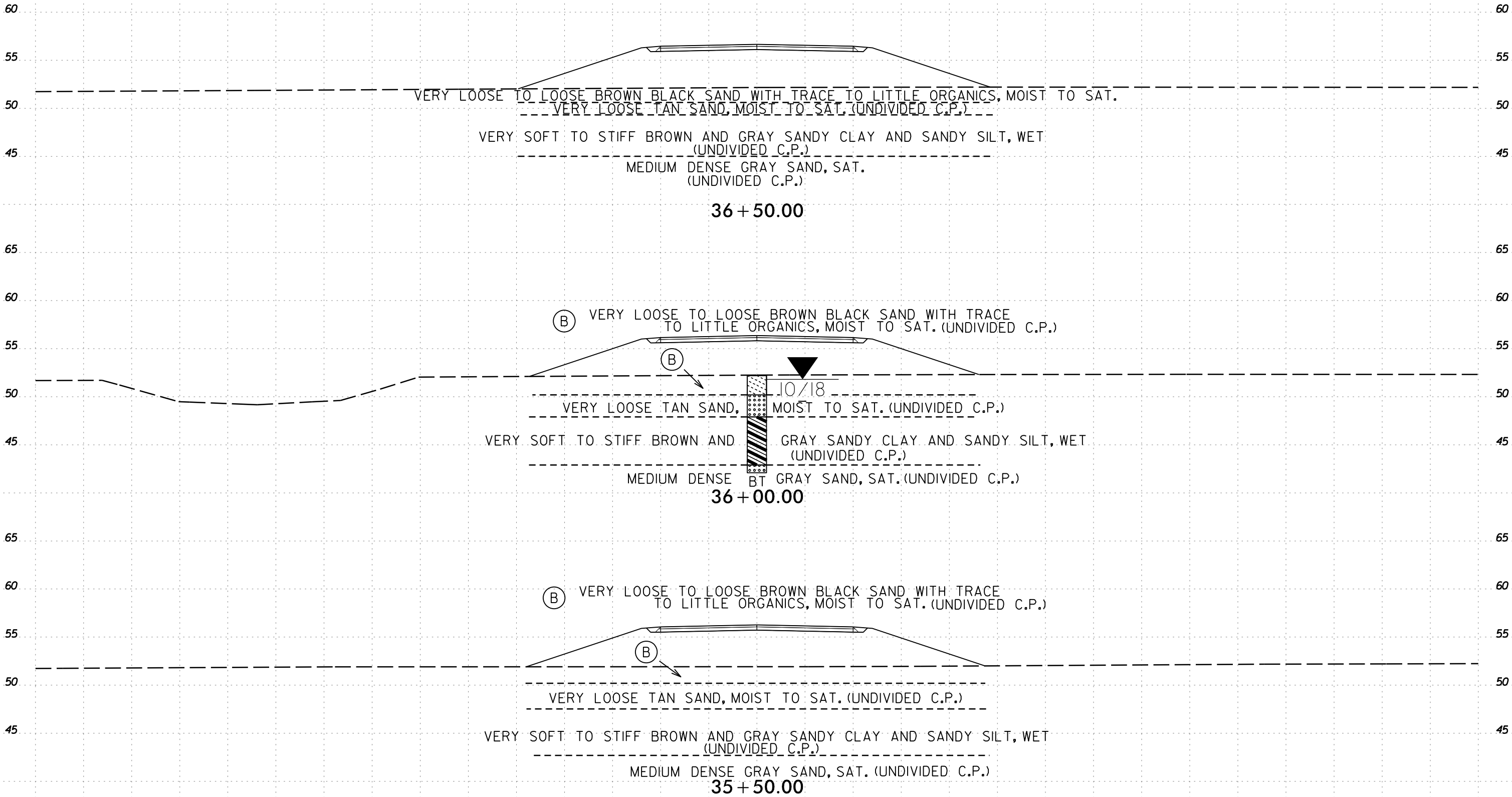
6/23/16

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6/23/16

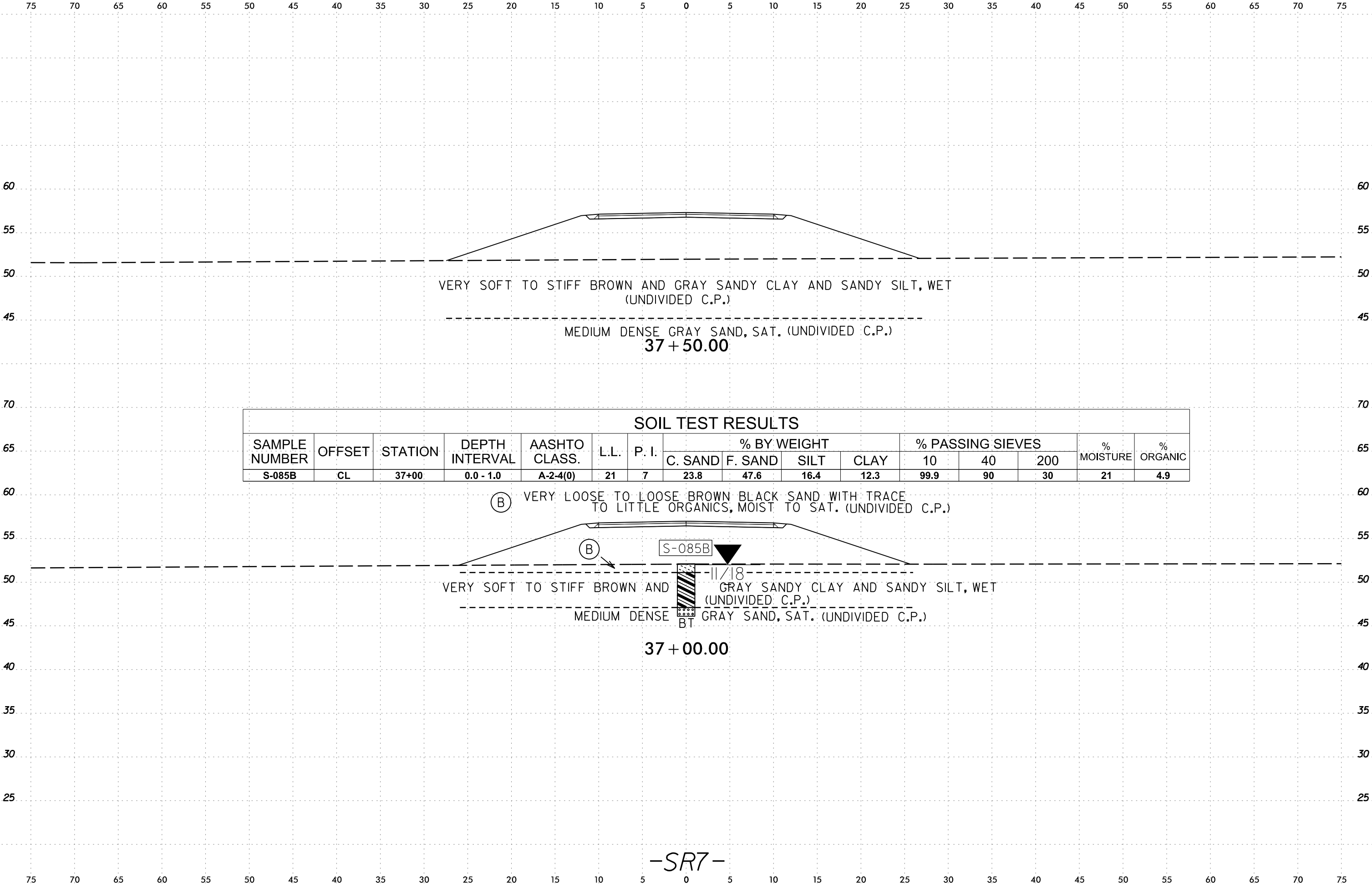
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-SR7-

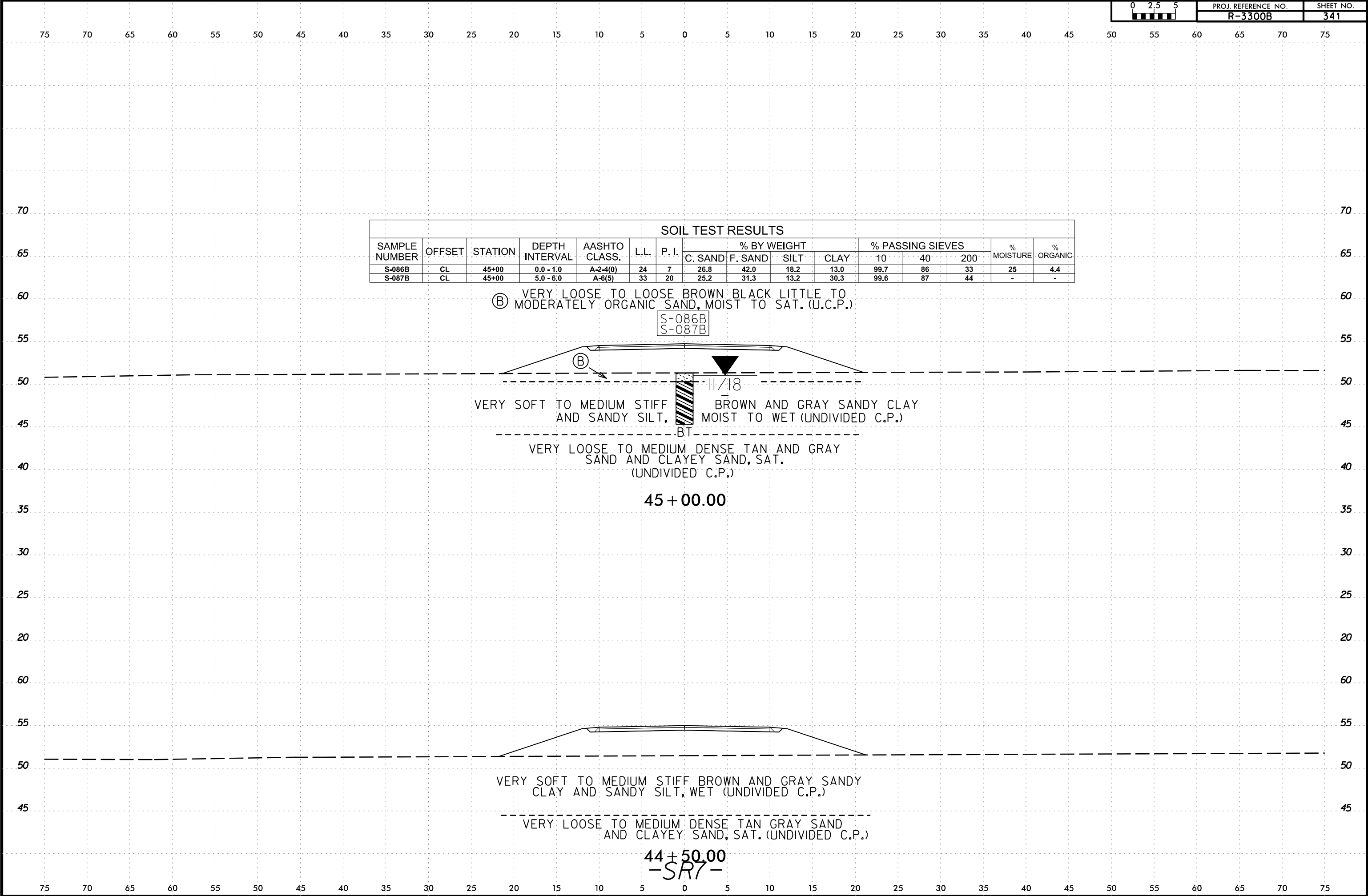
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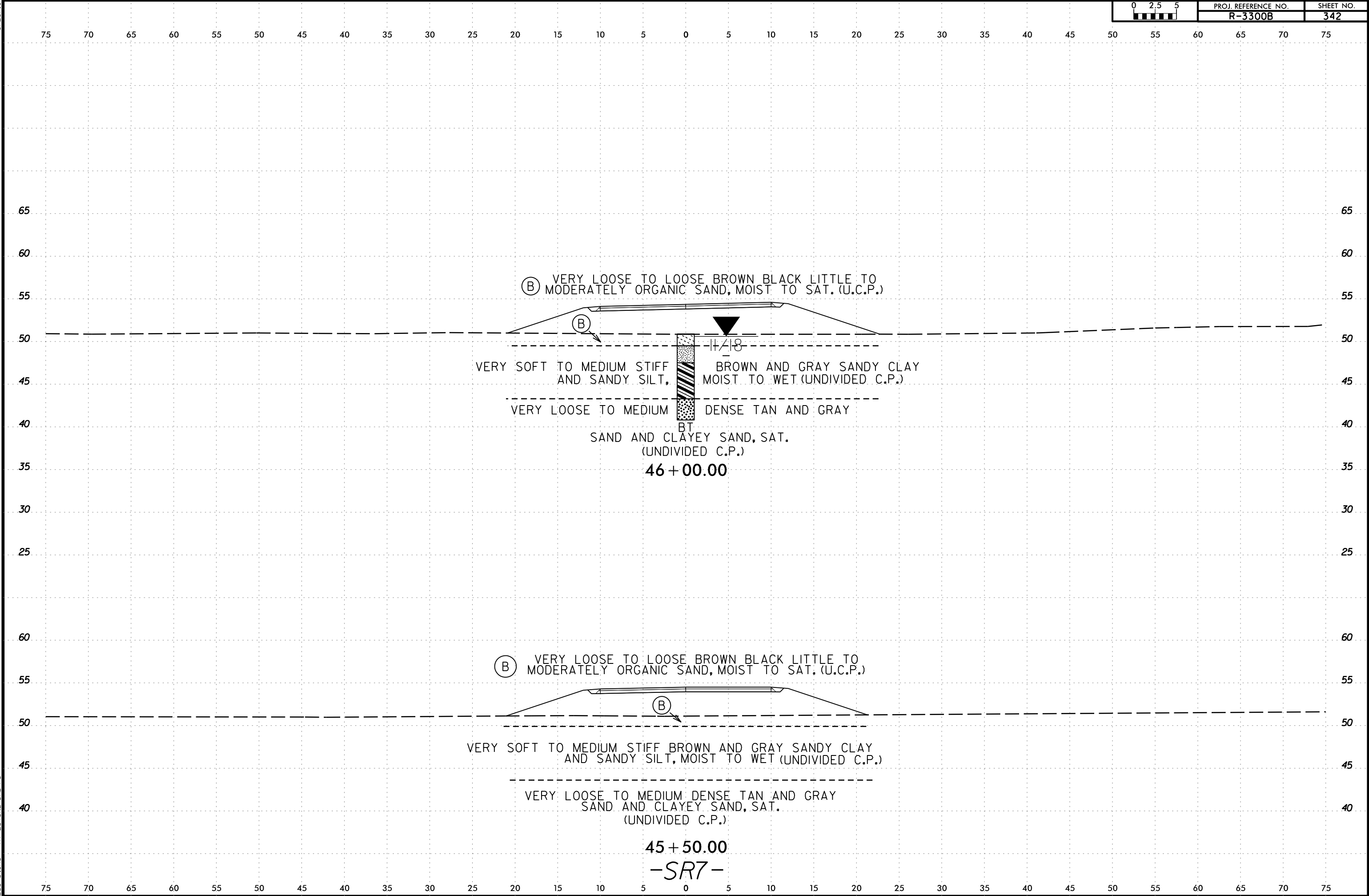
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Lee Stone

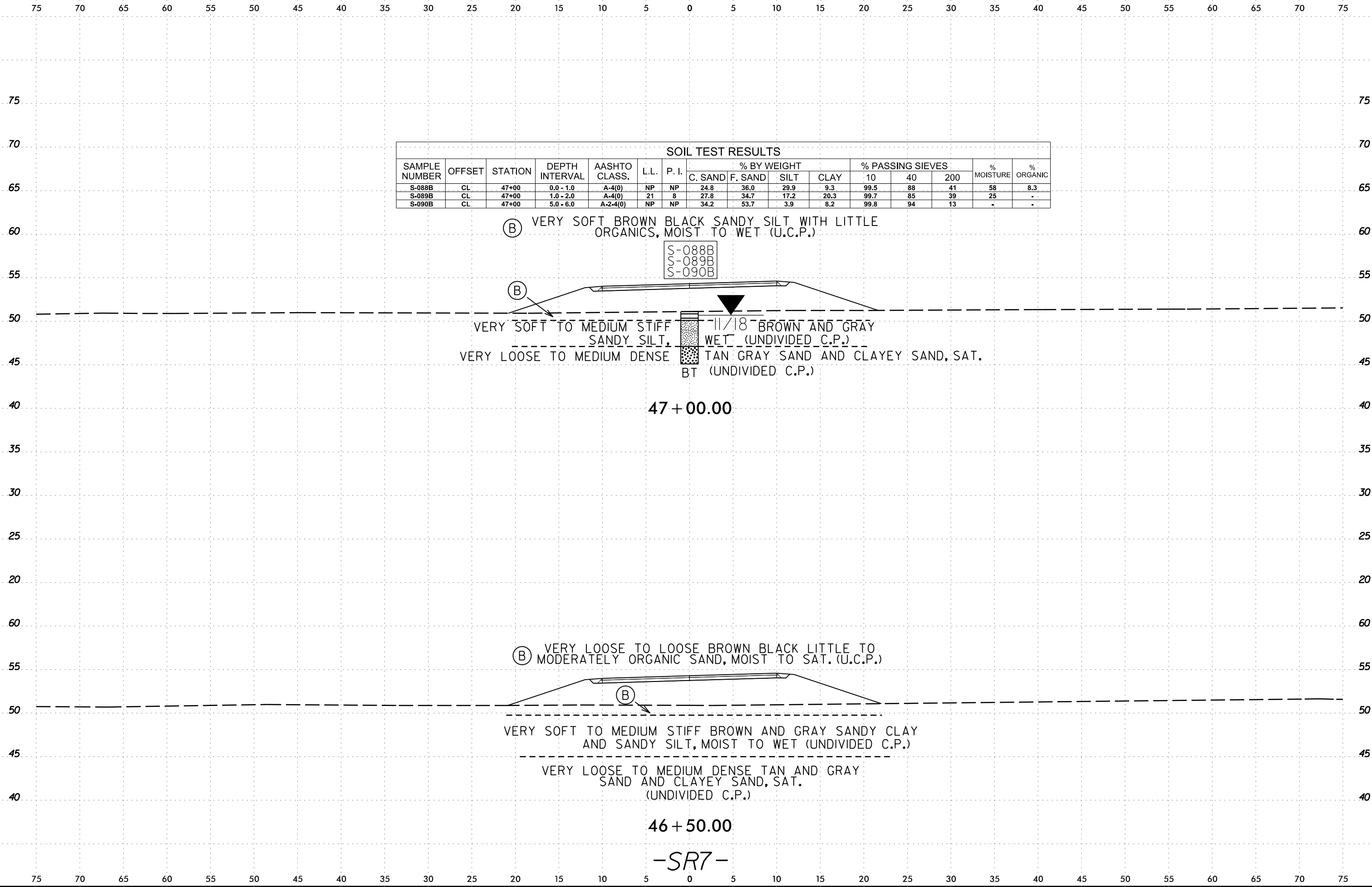


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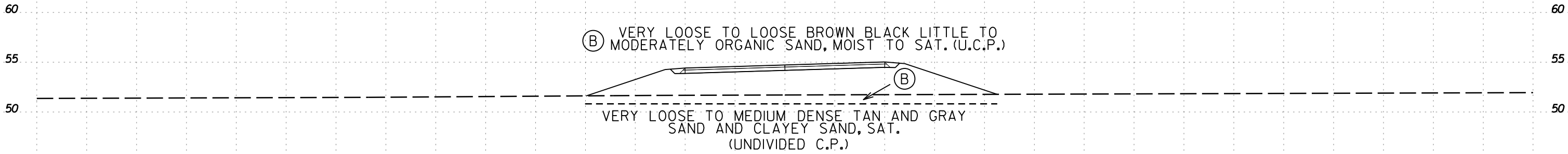
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Lee Stone AT LSTONE-CAD-PC



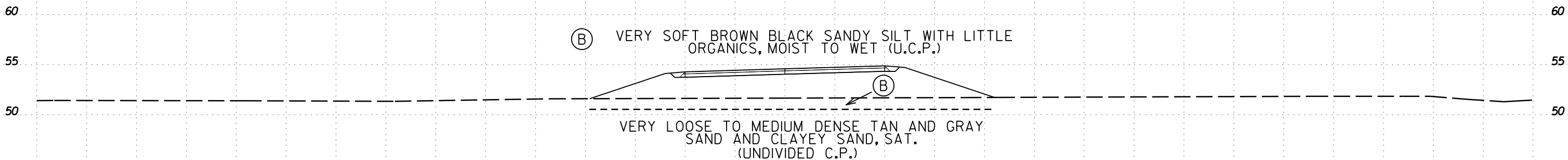




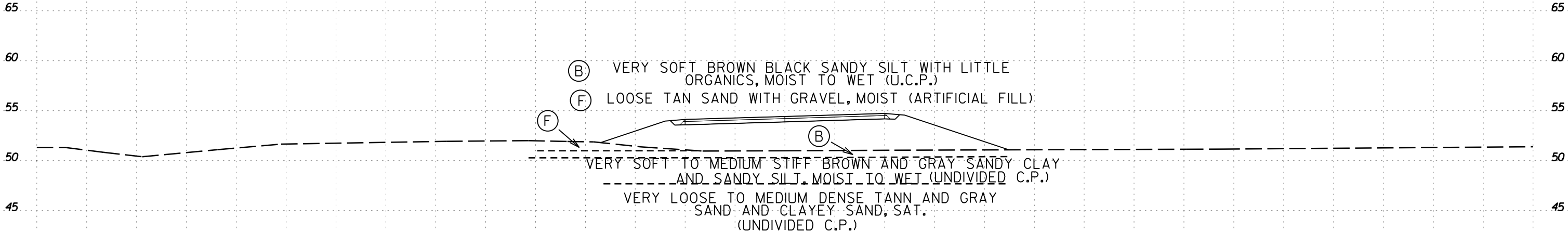
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48 + 50.00



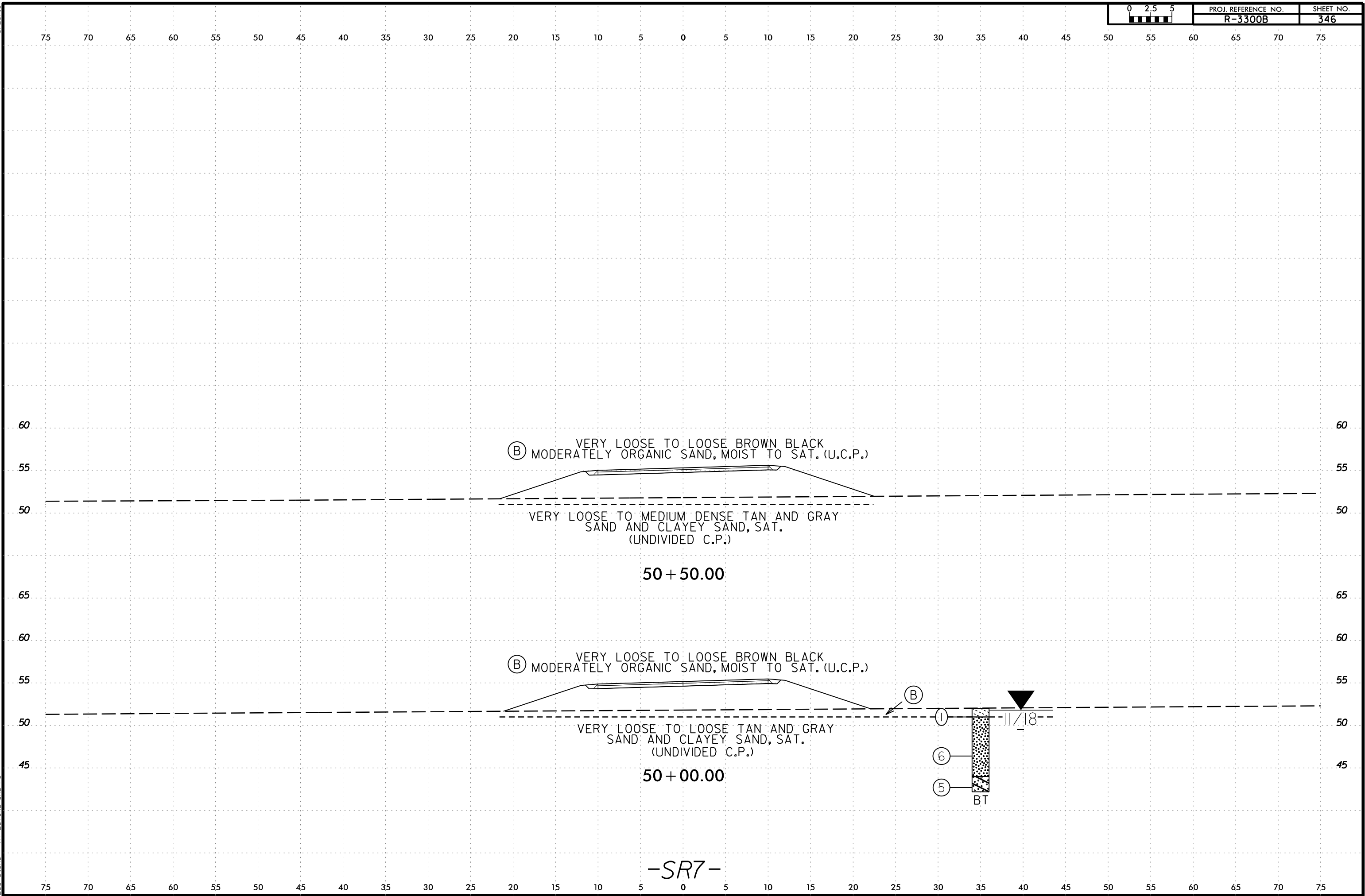
48 + 00.00



47 + 50.00

-SR7-

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



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

60 60

55 55

50 50

VERY LOOSE TO LOOSE BROWN BLACK MODERATELY ORGANIC SAND, MOIST TO SAT. (U.C.P.)

VERY LOOSE TO MEDIUM DENSE TAN AND GRAY
SAND AND CLAYEY SAND, SAT.
(UNDIVIDED C.P.)

45 45

65 65

51 + 50.00

60 60

Ⓑ VERY LOOSE TO LOOSE BROWN BLACK
MODERATELY ORGANIC SAND, MOIST TO SAT. (U.C.P.)

55 55

50 50

VERY LOOSE TO MEDIUM DENSE TAN AND GRAY
SAND AND CLAYEY SAND, SAT.
(UNDIVIDED C.P.)

Ⓑ



11/18

45 45

40 40

51 + 00.00

35 35

30 30

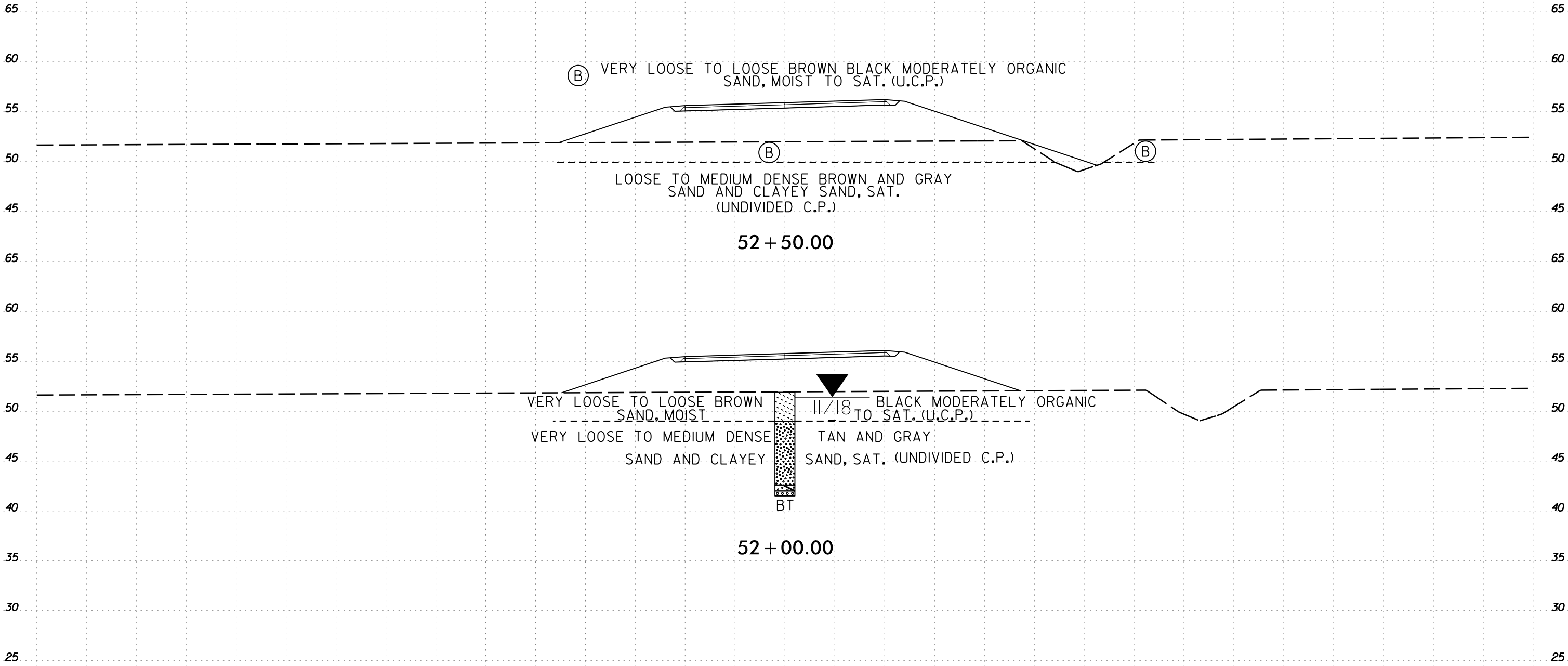
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-SR7-

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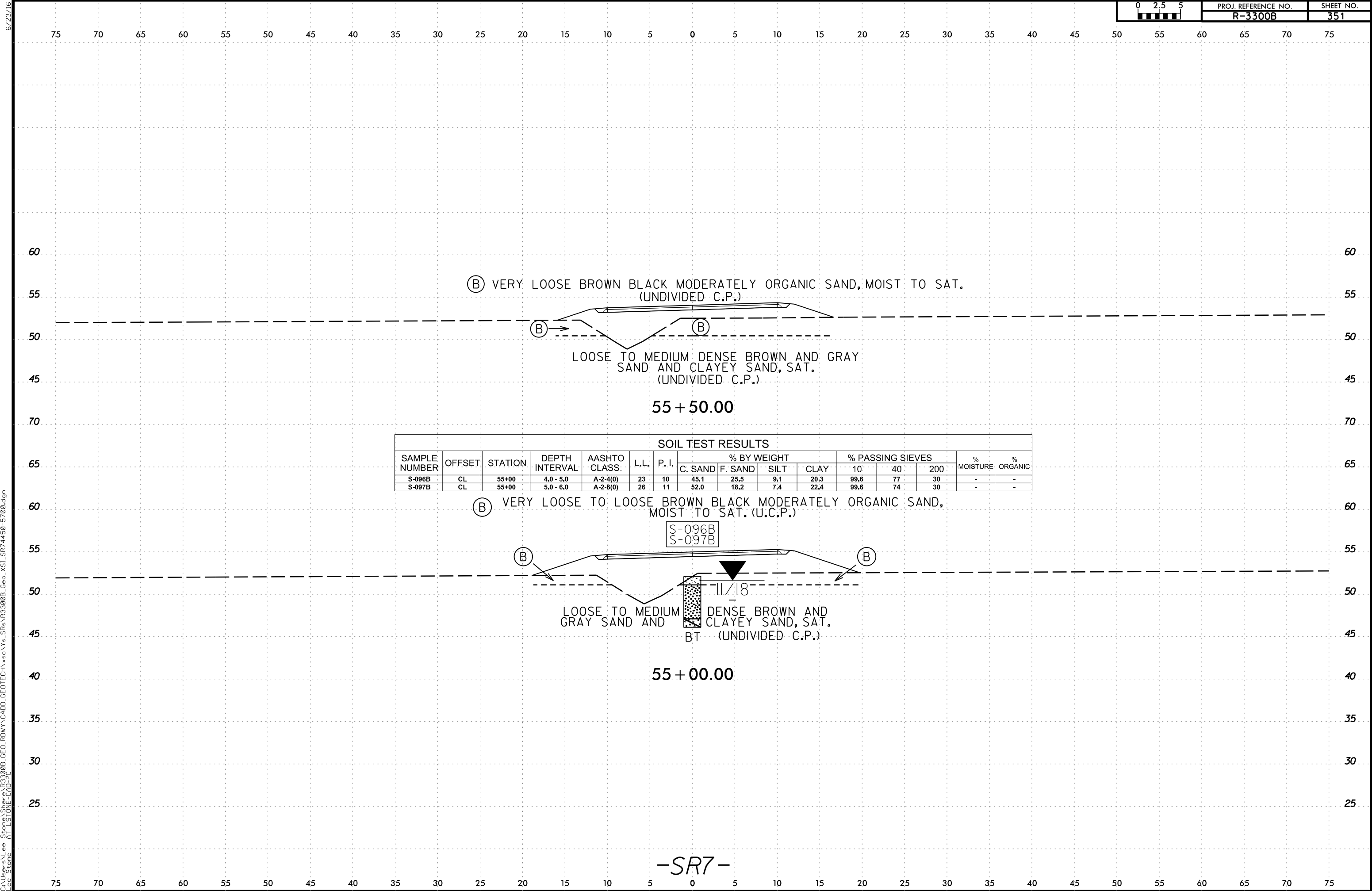
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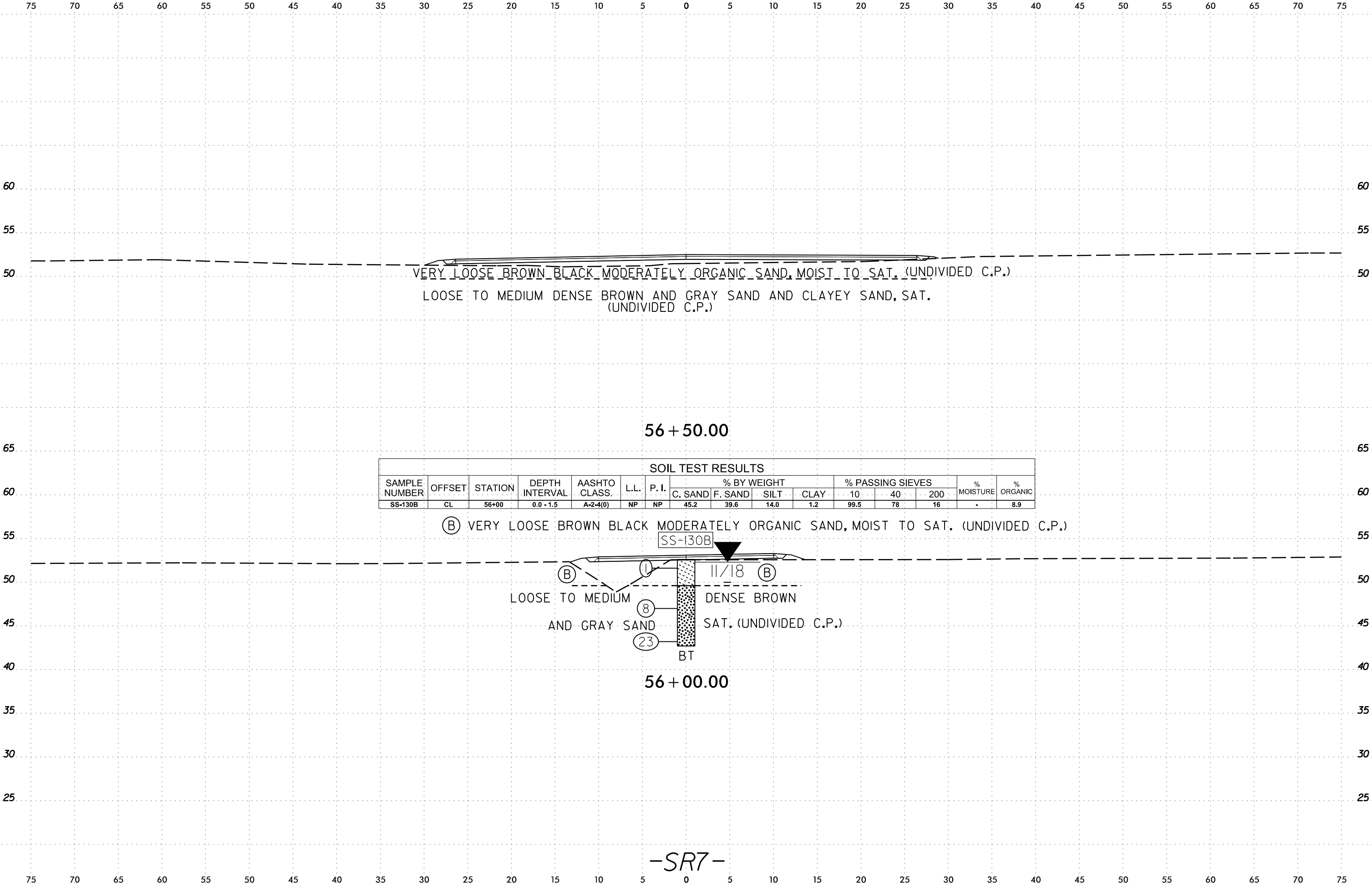
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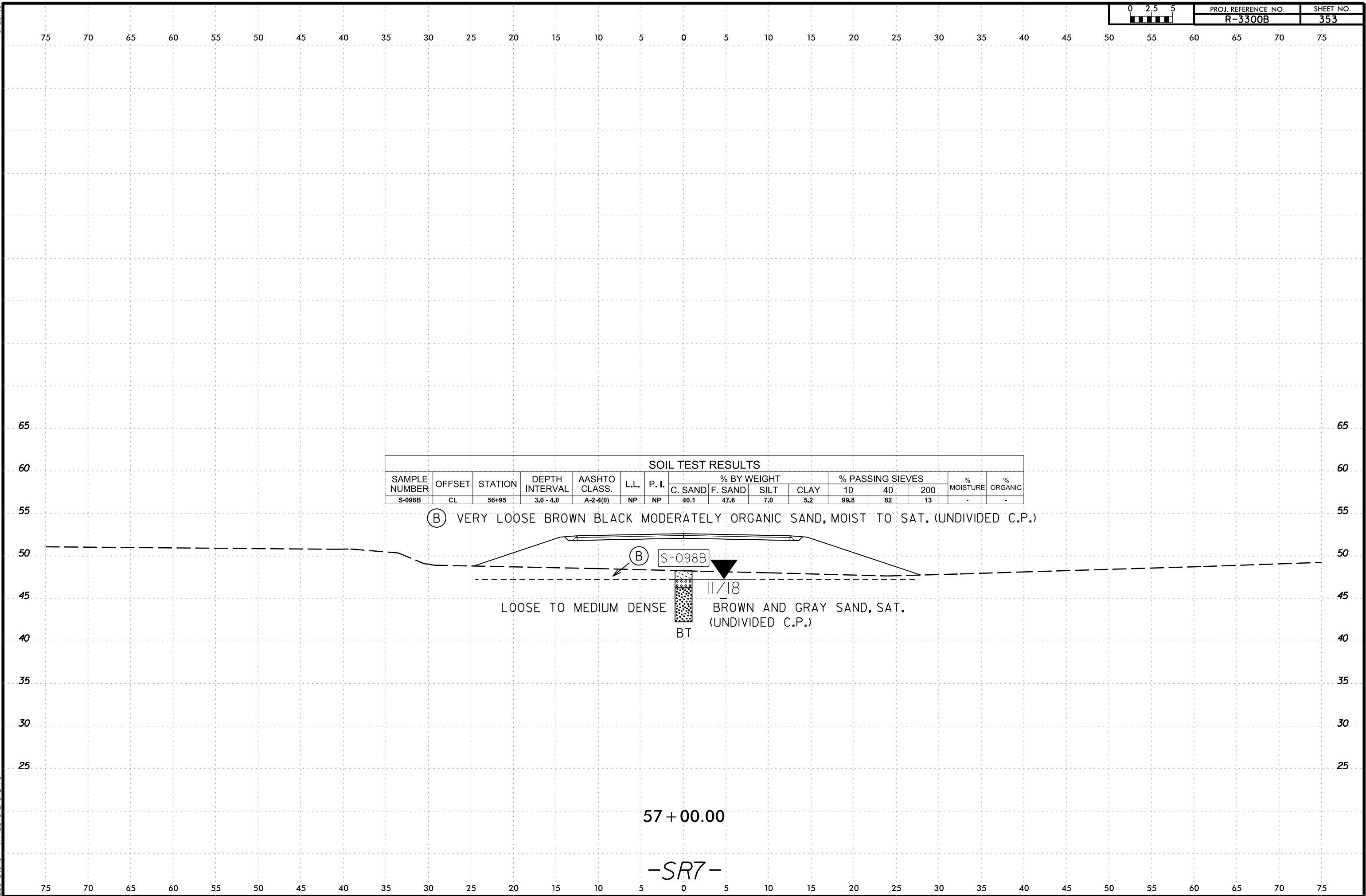
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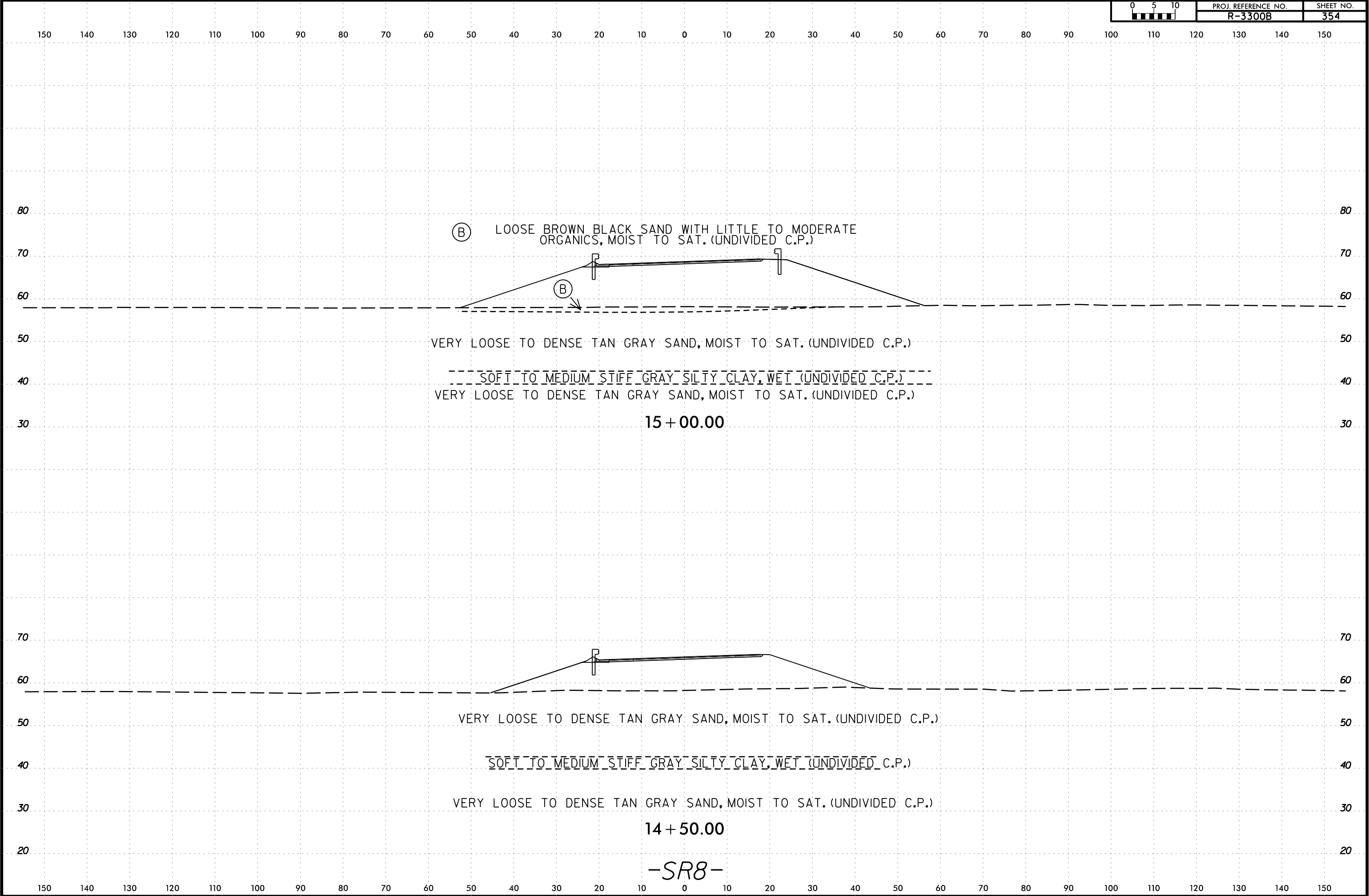


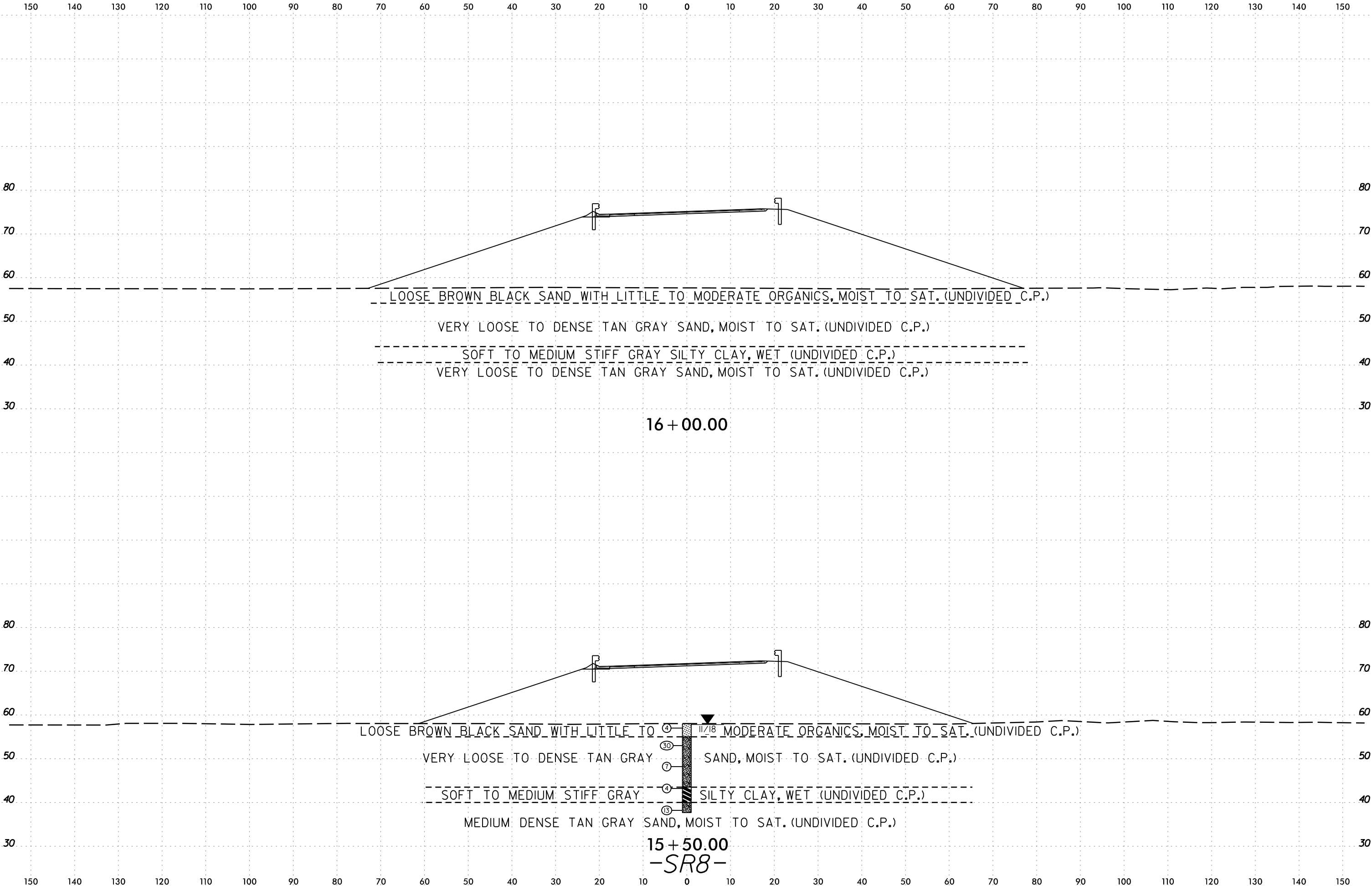
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6/23/16

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Lee.Stone



PROJ. REFERENCE NO.	SHEET NO.
R-3300B	356

SOIL TEST RESULTS

SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-145B	CL	17+00	0.0 - 1.5	A-3(0)	NP	NP	35.9	62.3	1.1	0.7	99.5	88	2	-	-
SS-146B	CL	17+00	4.0 - 5.5	A-2-4(0)	NP	NP	27.5	56.4	11.3	4.7	99.8	90	17	-	5.8
SS-147B	CL	17+00	13.8 - 15.3	A-7-5(9)	44	13	12.0	23.2	24.8	40.0	98.4	91	67	-	-
SS-148B	CL	17+00	18.8 - 20.3	A-3(0)	NP	NP	33.4	63.7	1.9	1.0	100	93	4	-	-
SS-149B	CL	17+00	28.8 - 30.3	A-3(0)	NP	NP	59.4	38.8	1.1	0.7	99.5	75	2	-	-
SS-150B	CL	17+00	33.8 - 35.2	A-2-4(0)	NP	NP	26.2	60.3	4.7	8.8	97.5	97	15	-	-

90

80

70

60

50

40

30

20

90

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40

30

90

80

70

60

50

40

30

20

90

80

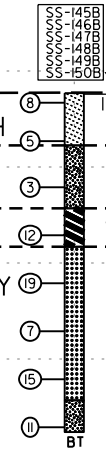
70

60

50

40

30



17 + 00.00

LOOSE BROWN BLACK SAND WITH LITTLE TO MODERATE ORGANICS, MOIST TO SAT. (UNDIVIDED C.P.)

VERY LOOSE TO DENSE TAN GRAY SAND, MOIST TO SAT. (UNDIVIDED C.P.)

SOFT TO MEDIUM STIFF GRAY SILTY CLAY, WET (UNDIVIDED C.P.)

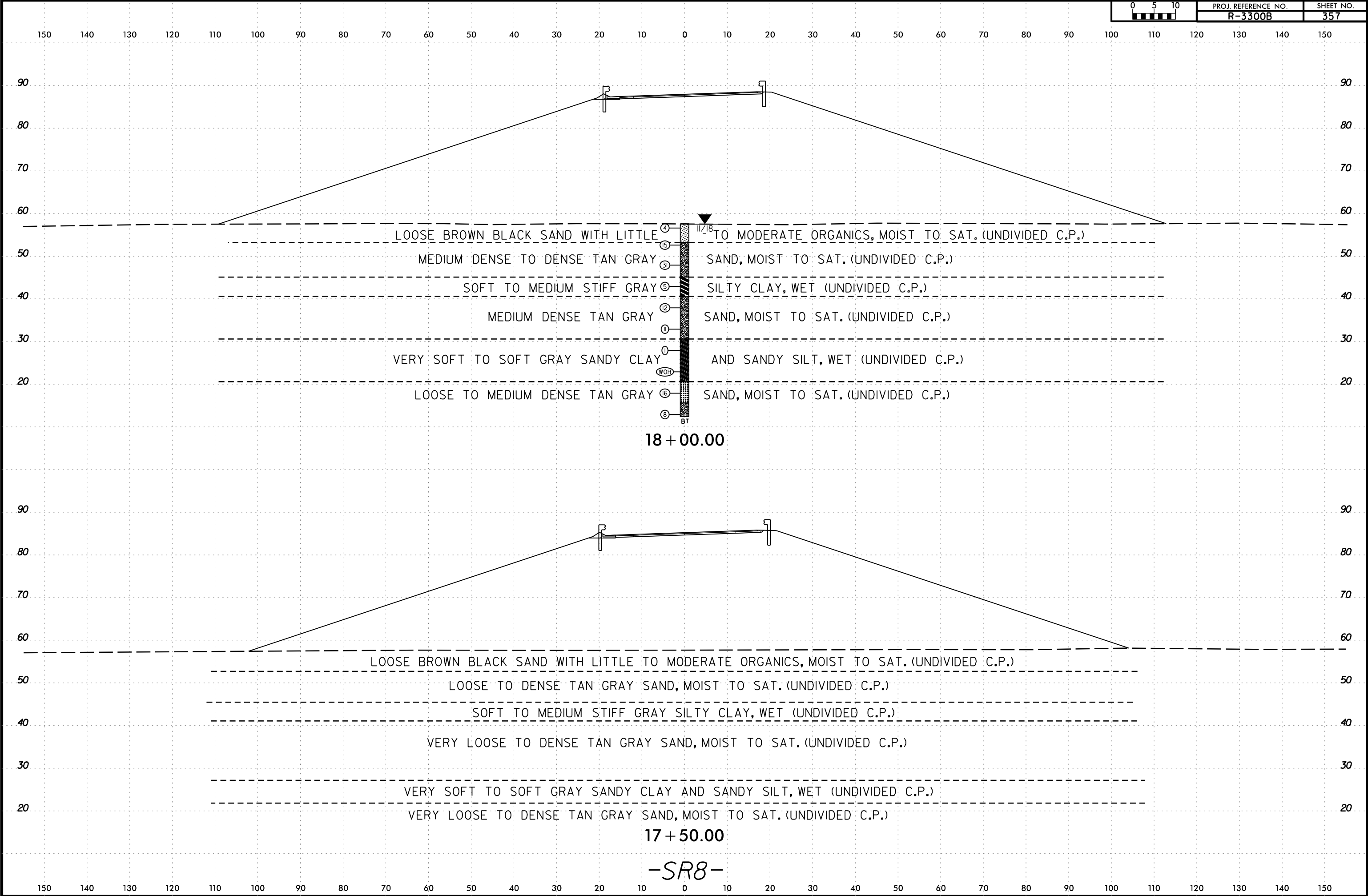
VERY LOOSE TO DENSE TAN GRAY SAND, MOIST TO SAT. (UNDIVIDED C.P.)

16 + 50.00

-SR8-

6/23/16

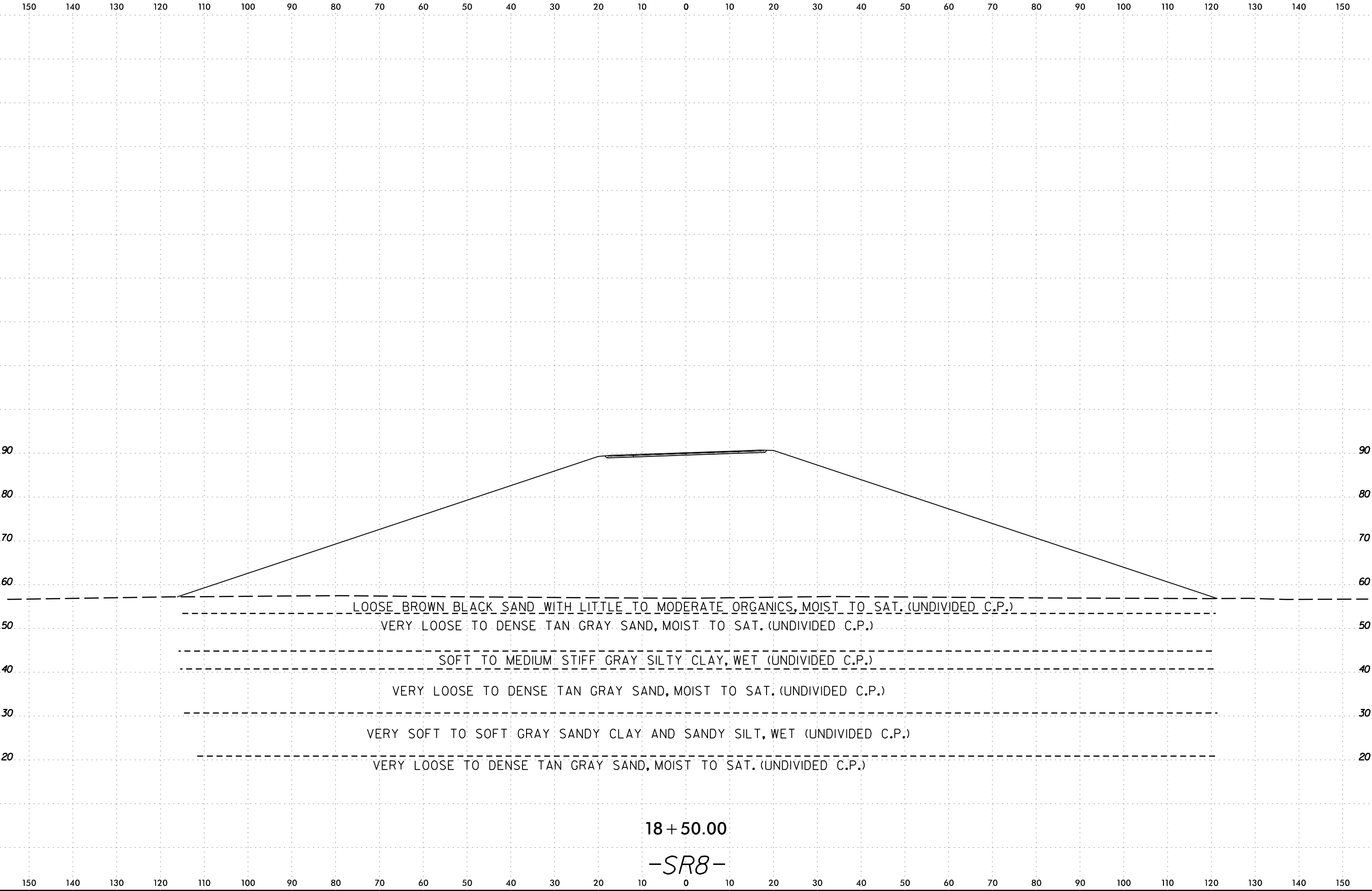
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Lee Stone AT LSTONE-CAD-PC



6/23/16

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Lee.Stone AT LSTONE-CAD-PC

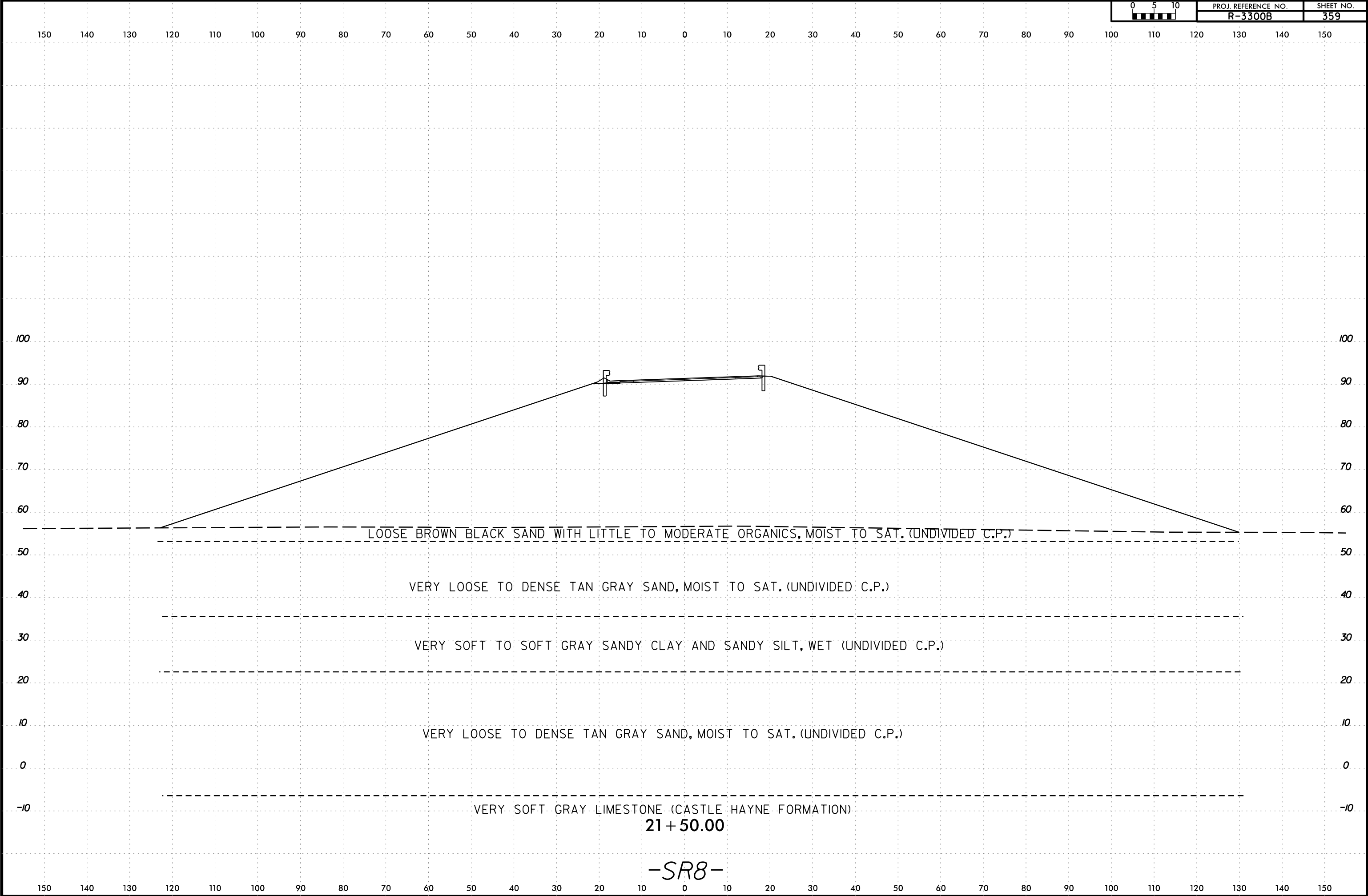
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	R-3300B	358



6/23/16

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	R-3300B	359



6/23/16

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Lee Stone AT LSTONE-CAD-PC

SOIL TEST RESULTS															
SAMPLE NUMBER	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P. I.	% BY WEIGHT				% PASSING SIEVES			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
SS-131B	CL	22+00	0.0 - 1.5	A-3(0)	NP	NP	32.3	64.1	2.6	1.0	100	89	4	-	-
SS-132B	CL	22+00	4.3 - 5.8	A-3(0)	NP	NP	46.8	47.4	2.8	3.0	99.2	73	6	-	-
SS-133B	CL	22+00	13.5 - 15.0	A-2-4(0)	NP	NP	43.0	47.9	4.2	4.9	97.4	72	10	-	-
SS-134B	CL	22+00	18.5 - 20.0	A-2-4(0)	NP	NP	73.9	12.8	2.3	11.0	100	58	13	-	-
SS-135B	CL	22+00	23.5 - 25.0	A-4(0)	23	7	5.2	60.1	16.6	18.1	100	99	43	-	-
ST-07B	CL	22+00	25.0 - 27.0	A-6(2)	29	17	17.5	51.3	11.5	19.8	99.9	96.1	36.9	-	-
SS-136B	CL	22+00	34.0 - 35.0	A-2-4(0)	NP	NP	44.7	40.9	5.4	9.0	100	89	17	-	-
SS-137B	CL	22+00	43.5 - 45.0	A-2-4(0)	NP	NP	6.9	83.3	5.6	4.3	99.3	96	15	-	-
SS-138B	CL	22+00	48.5 - 50.0	A-2-4(0)	NP	NP	0.5	75.4	15.8	8.4	100	100	33	-	-
SS-139B	CL	22+00	58.5 - 60.0	A-2-4(0)	NP	NP	47.6	25.7	13.2	13.5	95.4	70	28	-	-

Ⓑ LOOSE BROWN BLACK SAND WITH LITTLE TO MODERATE ORGANICS, MOIST TO SAT. (UNDIVIDED C.P.)

120

110

100

90

80

70

60

50

40

30

20

10

0

-10

120

110

100

90

80

70

60

50

40

30

20

10

0

-10

VERY LOOSE TO DENSE

VERY SOFT TO SOFT GRAY SANDY

VERY LOOSE TO MEDIUM

(UNDIVIDED

VERY SOFT GRAY LIMESTONE

TAN GRAY SAND, MOIST TO SAT. (UNDIVIDED C.P.)

SILT AND SANDY CLAY, WET (UNDIVIDED C.P.)

DENSE GRAY SAND, SAT.

C.P.)

(CASTLE HAYNE FORMATION)

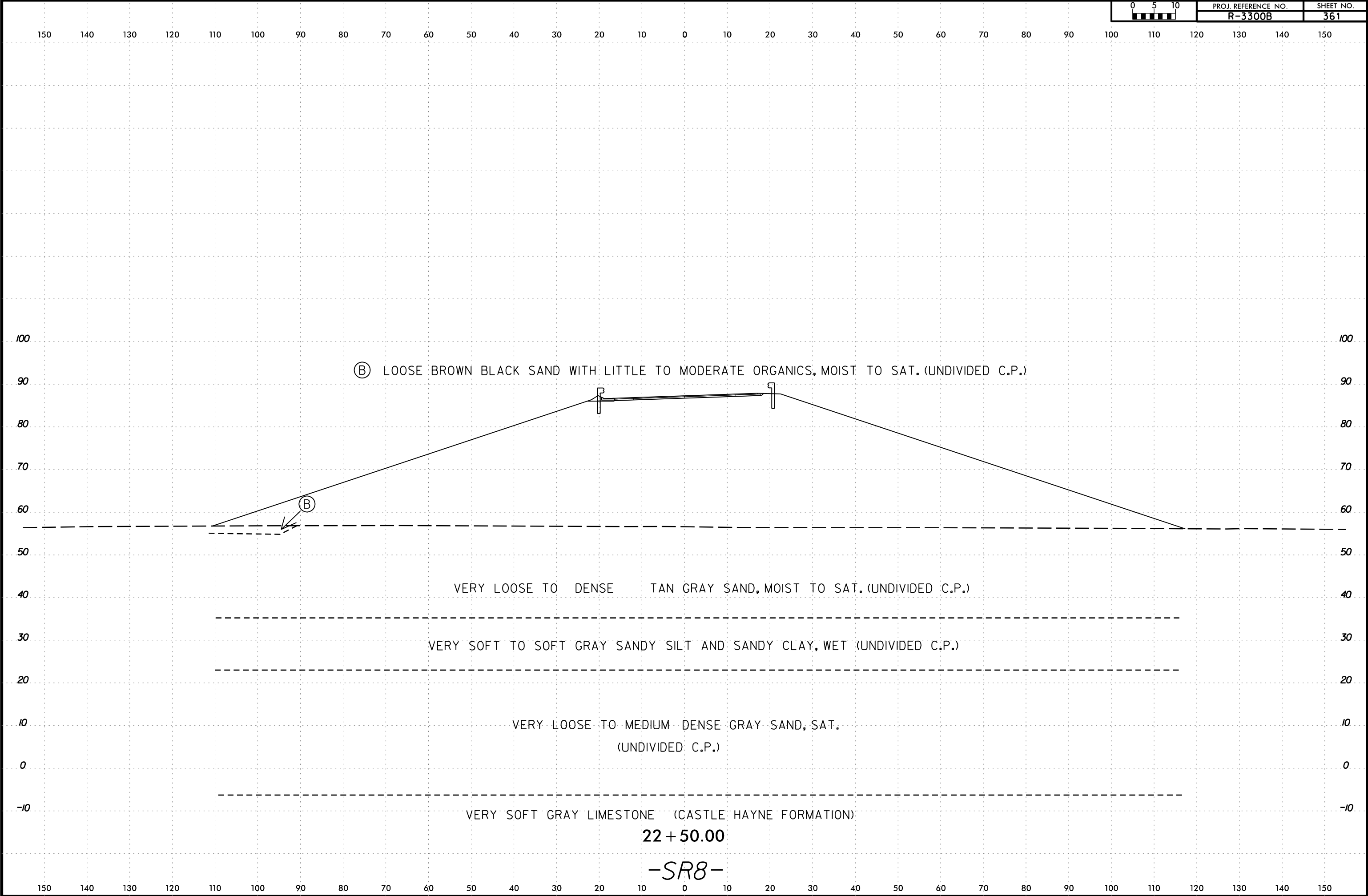
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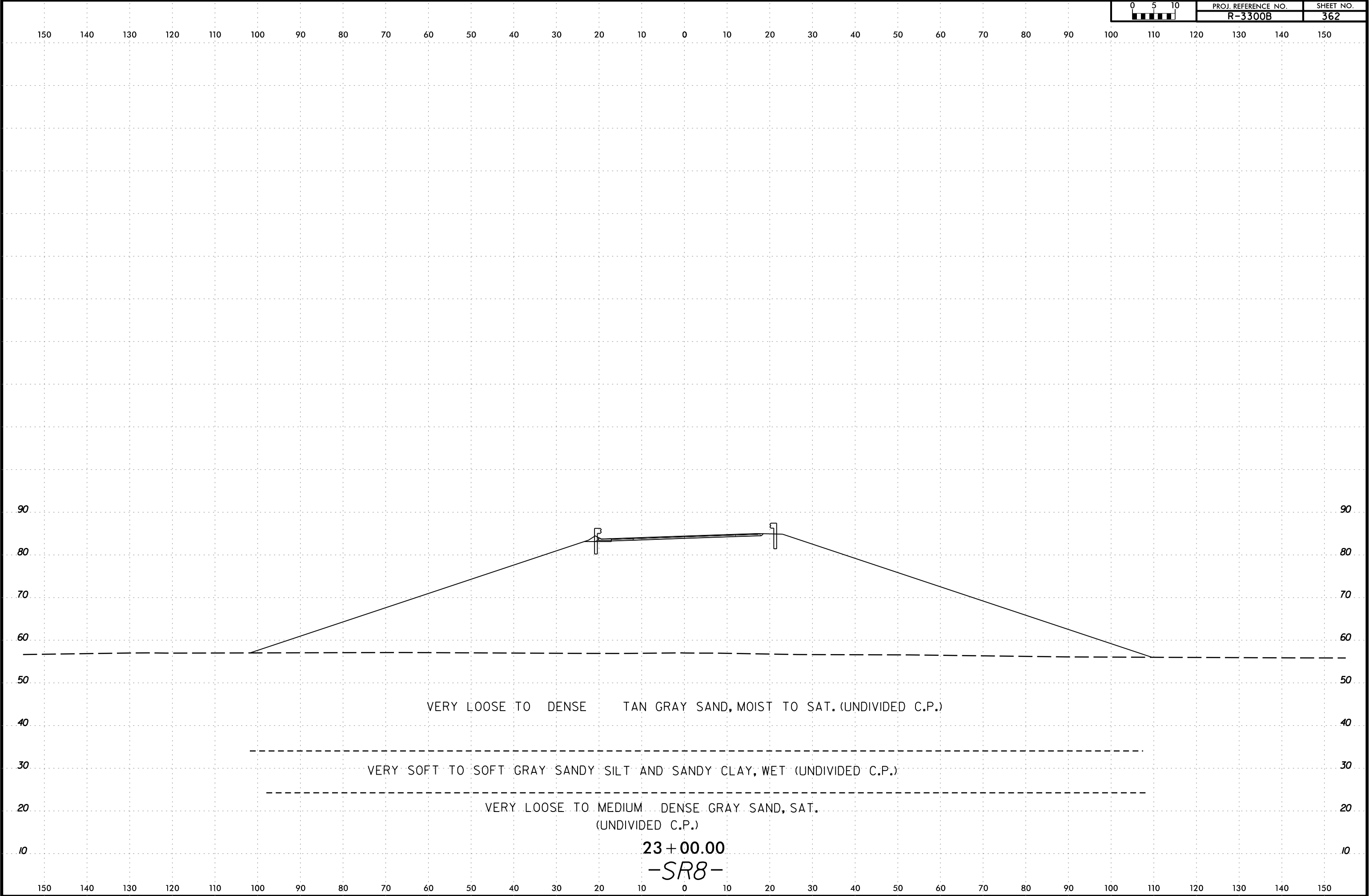
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-3300B	361



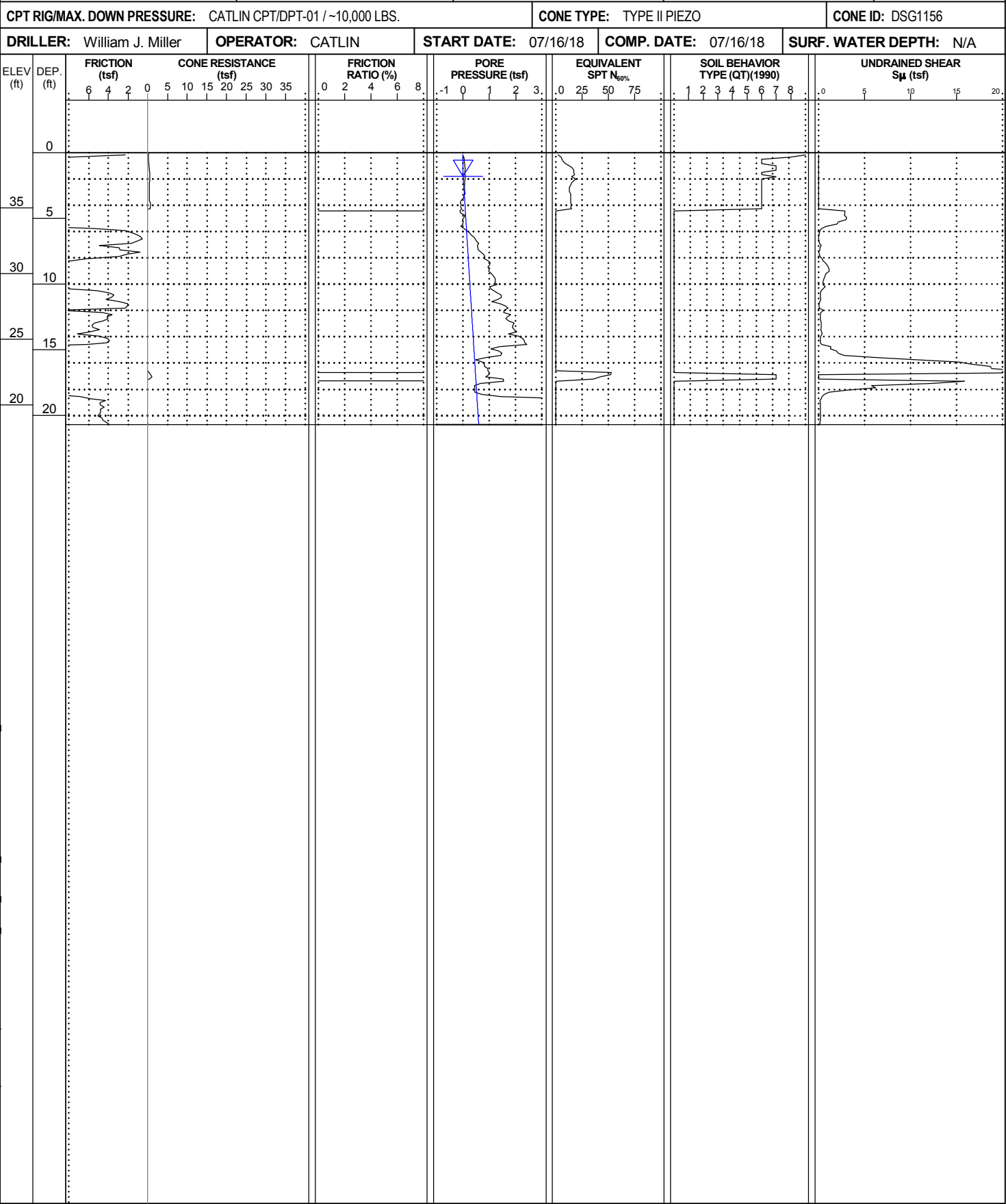


APPENDIX I
CPT LOGS

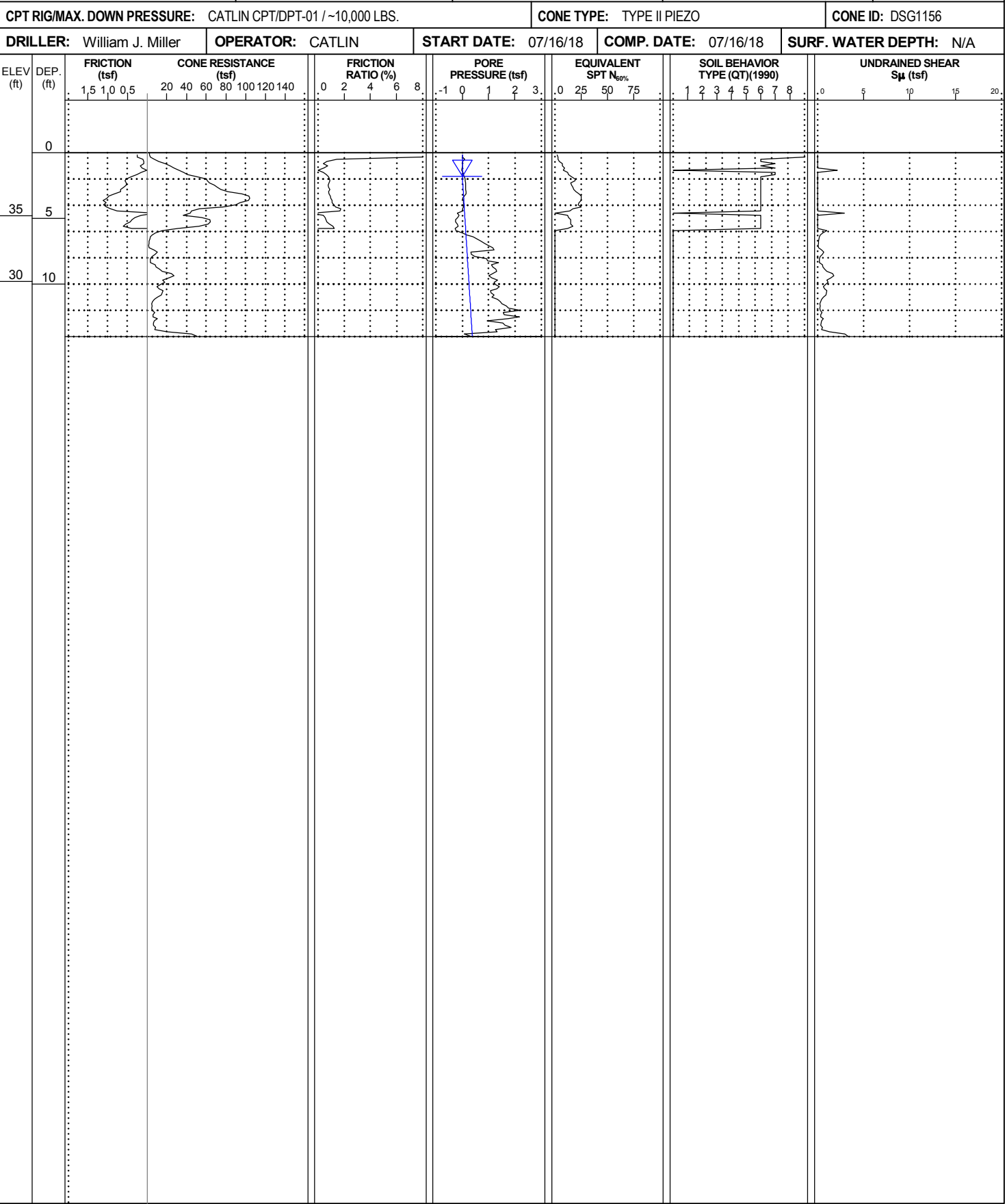
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_57800	STATION: 578+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 39.2 ft	TOTAL DEPTH: 20.7 ft	NORTHING: 230,008	EASTING: 2,375,704
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 07/16/18	COMP. DATE: 07/16/18
SURF. WATER DEPTH: N/A			



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_58000	STATION: 580+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 39.8 ft	TOTAL DEPTH: 14.0 ft	NORTHING: 230,057	EASTING: 2,375,898
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 07/16/18	COMP. DATE: 07/16/18
SURF. WATER DEPTH: N/A			



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

<i>PROJECT REFERENCE NO.</i>	<i>SHEET</i>
R-3300B	2

WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON				
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD								
BORING NO.: L1_58650		STATION: 586+50	OFFSET: CL	ALIGNMENT: -L1-	GROUND WTR (ft)			
COLLAR ELEV.: 40.8 ft		TOTAL DEPTH: 28.9 ft	NORTHING: 230,294	EASTING: 2,376,502	EST. 0 HR. 3.2 24 HR. N/A			
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.			CONE TYPE: TYPE II PIEZO		CONE ID: DSG1156			
DRILLER: William J. Miller		OPERATOR: CATLIN	START DATE: 07/16/18	COMP. DATE: 07/16/18	SURF. WATER DEPTH: N/A			
ELEV. (ft)	DEP. (ft)	FRICTION (tsf) 3 2 1	CONE RESISTANCE (tsf) 50 100 150 200 250 300 350	FRICTION RATIO (%) .0 2 4 6 8	PORE PRESSURE (tsf) -1 0 1 2 3	EQUIVALENT SPT N _{60%} .0 25 50 75	SOIL BEHAVIOR TYPE (QT)(1990) . 1 2 3 4 5 6 7 8	UNDRAINED SHEAR S _u (tsf) .0 5 10 15 20
40	0							
35	5							
30	10							
25	15							
20	20							
15	25							

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_59000

STATION: 590+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 3.2

COLLAR ELEV.: 41.1 ft

TOTAL DEPTH: 31.4 ft

NORTHING: 230,467

EASTING: 2,376,806

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

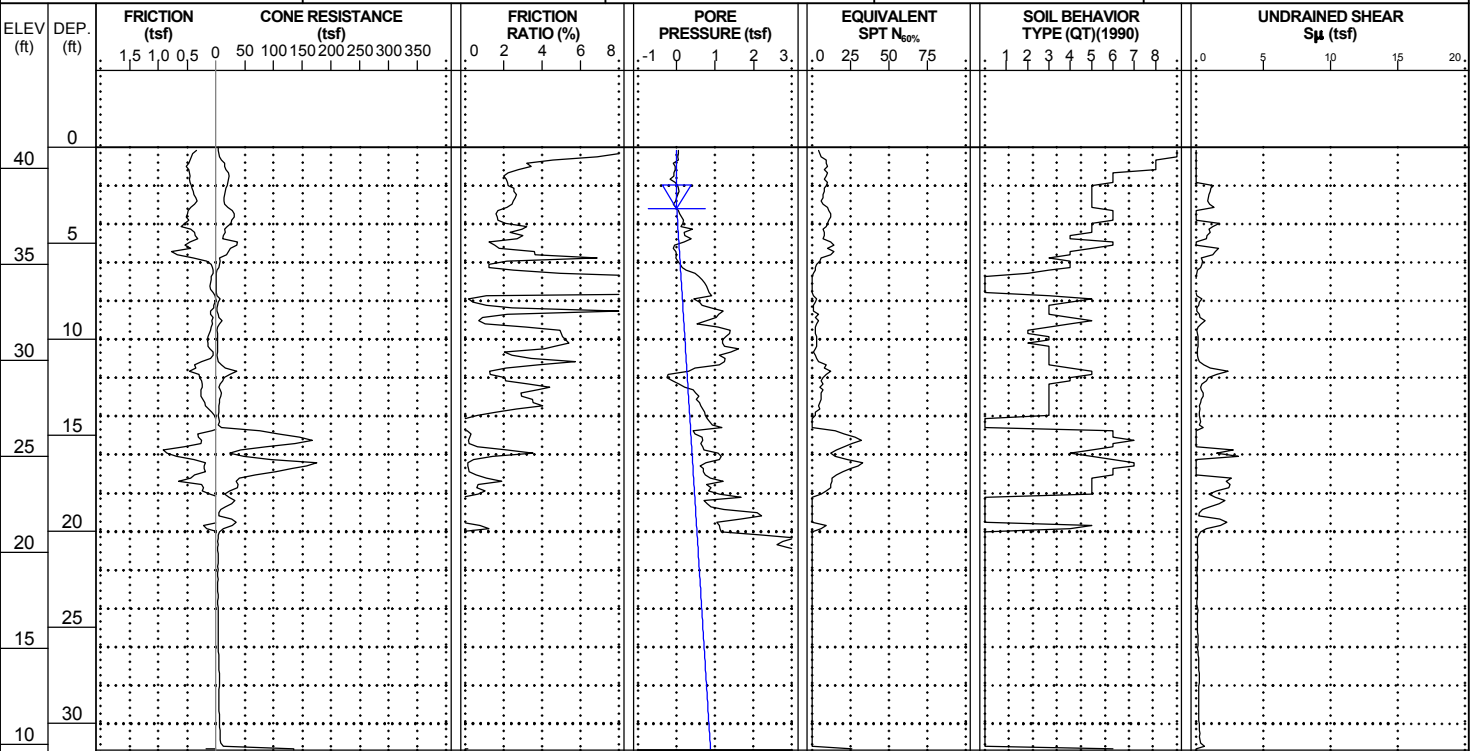
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 07/16/18

COMP. DATE: 07/16/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_59250

STATION: 592+50

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 3.9

COLLAR ELEV.: 42.4 ft

TOTAL DEPTH: 33.6 ft

NORTHING: 230,610

EASTING: 2,377,011

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

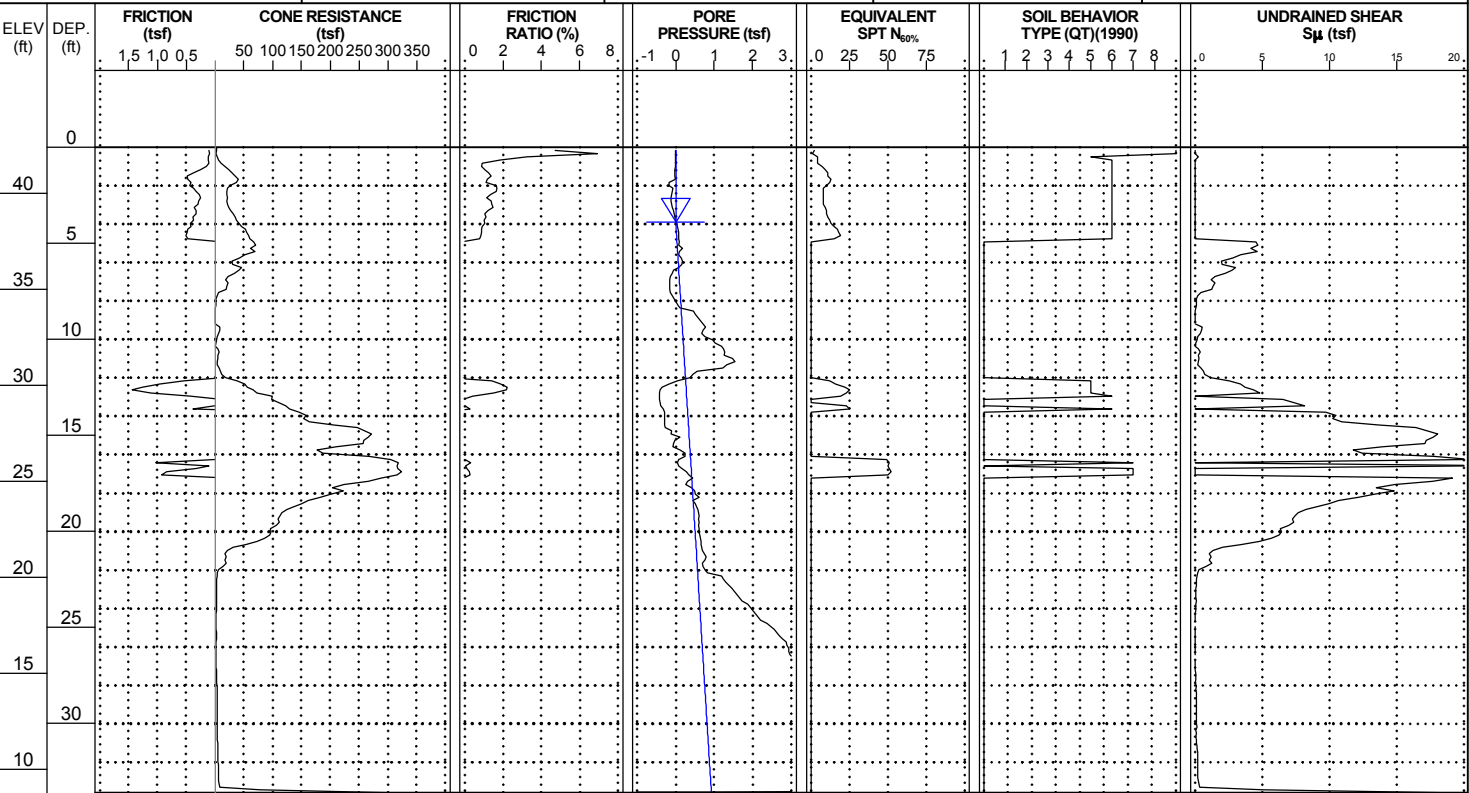
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 07/12/18

COMP. DATE: 07/12/18

SURF. WATER DEPTH: N/A



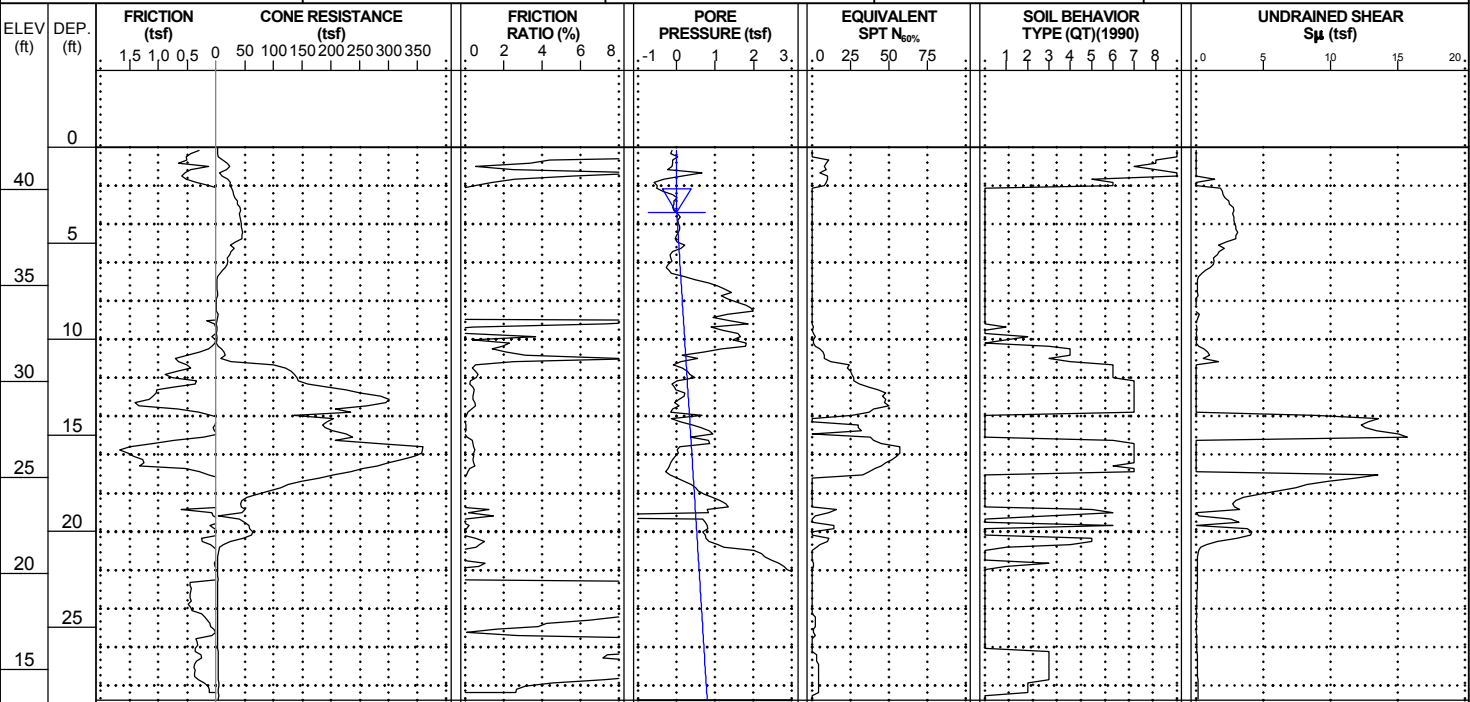
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



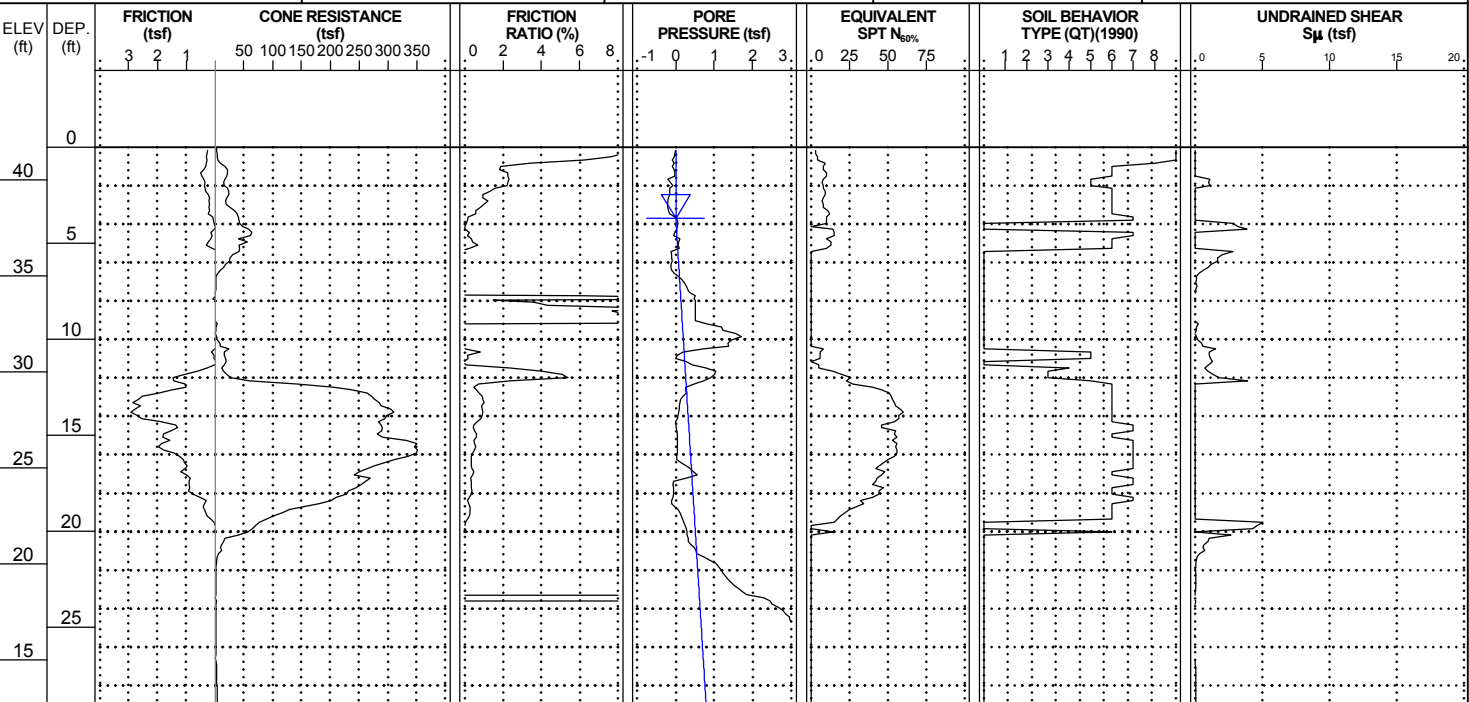
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1_59600	STATION: 596+00	OFFSET: CL	ALIGNMENT: -L1-	EST. 0 HR.	3.4
COLLAR ELEV.: 42.2 ft	TOTAL DEPTH: 28.8 ft	NORTHING: 230,835	EASTING: 2,377,279	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156		
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 07/12/18	COMP. DATE: 07/12/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1_59750	STATION: 597+50	OFFSET: CL	ALIGNMENT: -L1-	EST. 0 HR.	3.7
COLLAR ELEV.: 41.7 ft	TOTAL DEPTH: 29.4 ft	NORTHING: 230,939	EASTING: 2,377,387	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156		
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 07/12/18	COMP. DATE: 07/12/18	SURF. WATER DEPTH: N/A	



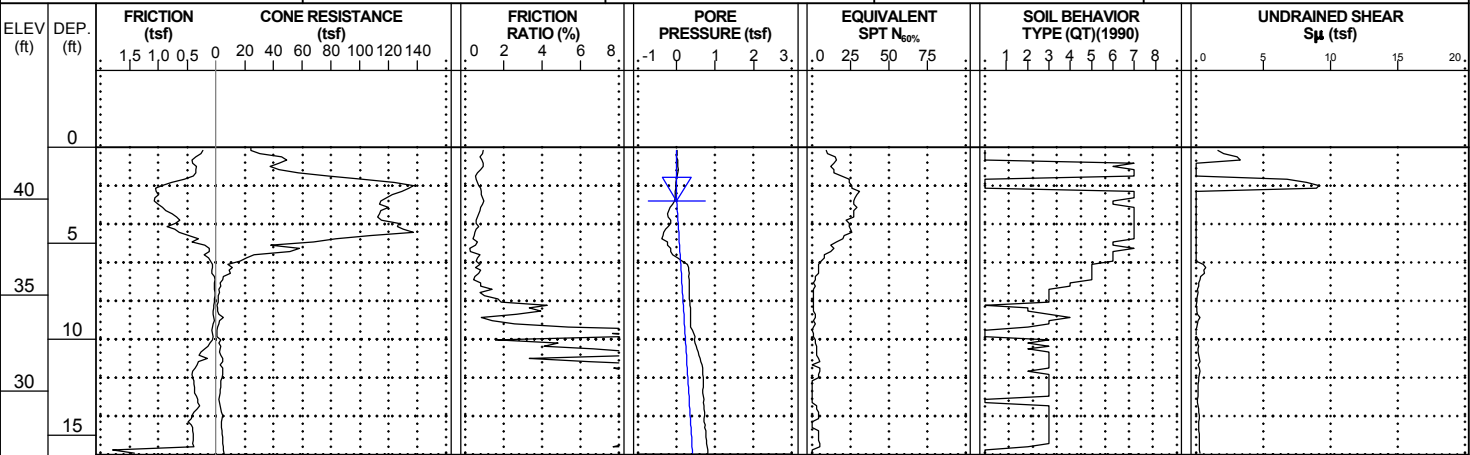
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



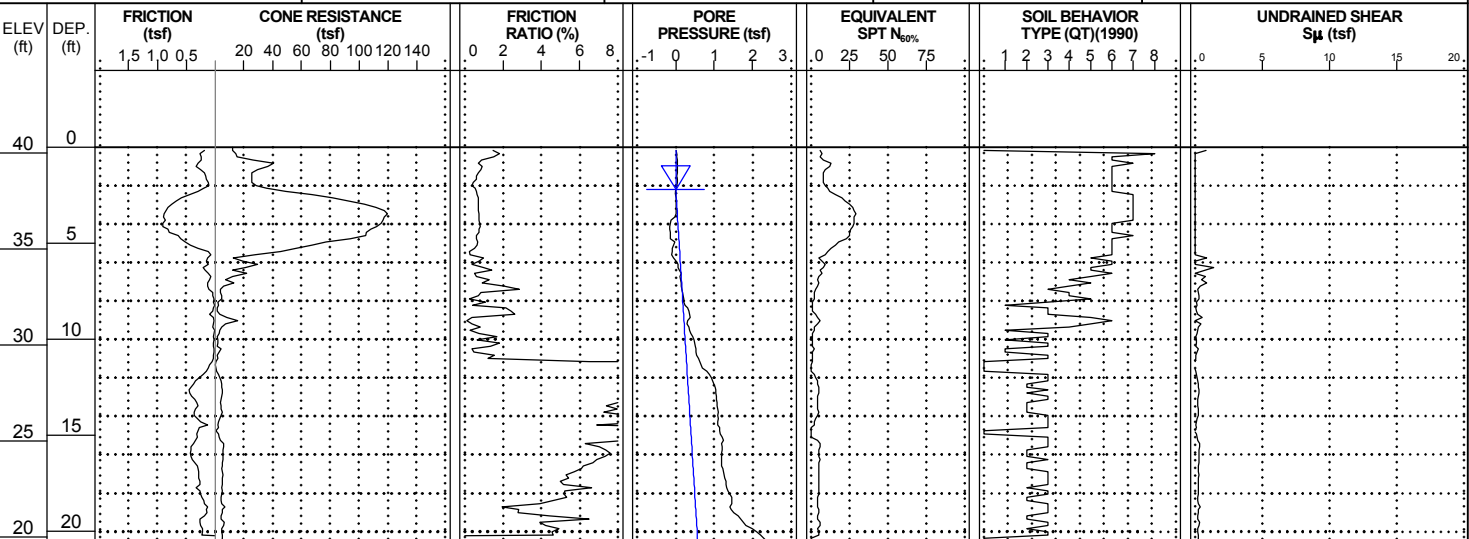
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1_60200	STATION: 602+00	OFFSET: CL	ALIGNMENT: -L1-	EST. 0 HR.	2.8
COLLAR ELEV.: 42.7 ft	TOTAL DEPTH: 16.0 ft	NORTHING: 231,274	EASTING: 2,377,687	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSA1123		
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 07/17/18	COMP. DATE: 07/17/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1_60400	STATION: 604+00	OFFSET: CL	ALIGNMENT: -L1-	EST. 0 HR.	2.2
COLLAR ELEV.: 40.3 ft	TOTAL DEPTH: 20.5 ft	NORTHING: 231,425	EASTING: 2,377,818	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSA1123		
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 07/17/18	COMP. DATE: 07/17/18	SURF. WATER DEPTH: N/A	



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_60800_CL

STATION: 608+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 2.1

COLLAR ELEV.: 39.3 ft

TOTAL DEPTH: 15.3 ft

NORTHING: 231,728

EASTING: 2,378,080

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

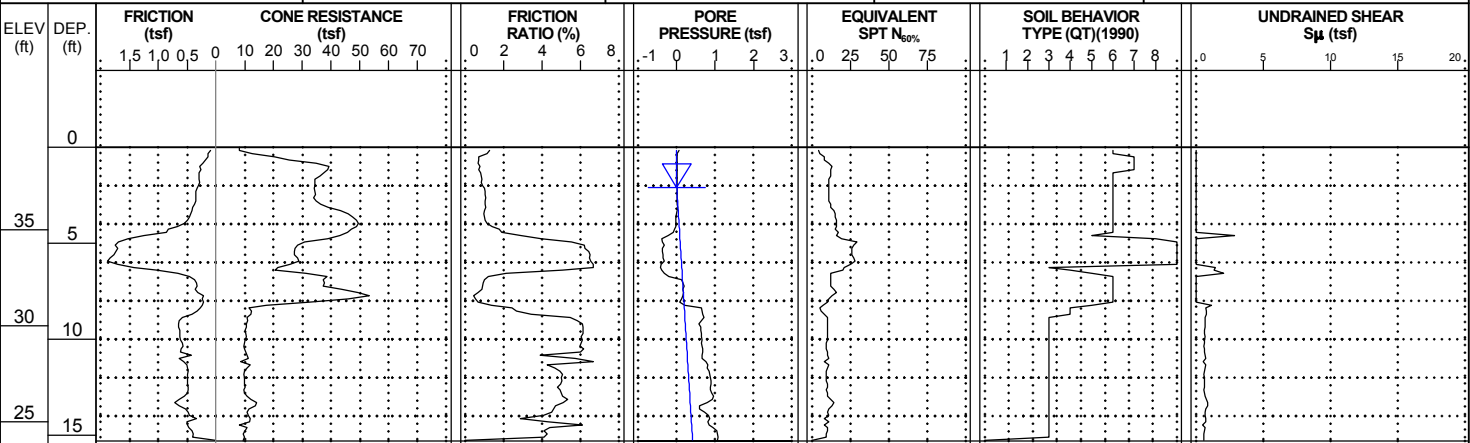
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/24/18

COMP. DATE: 10/24/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_61000_CL

STATION: 610+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 1.8

COLLAR ELEV.: 30.7 ft

TOTAL DEPTH: 20.4 ft

NORTHING: 231,879

EASTING: 2,378,211

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

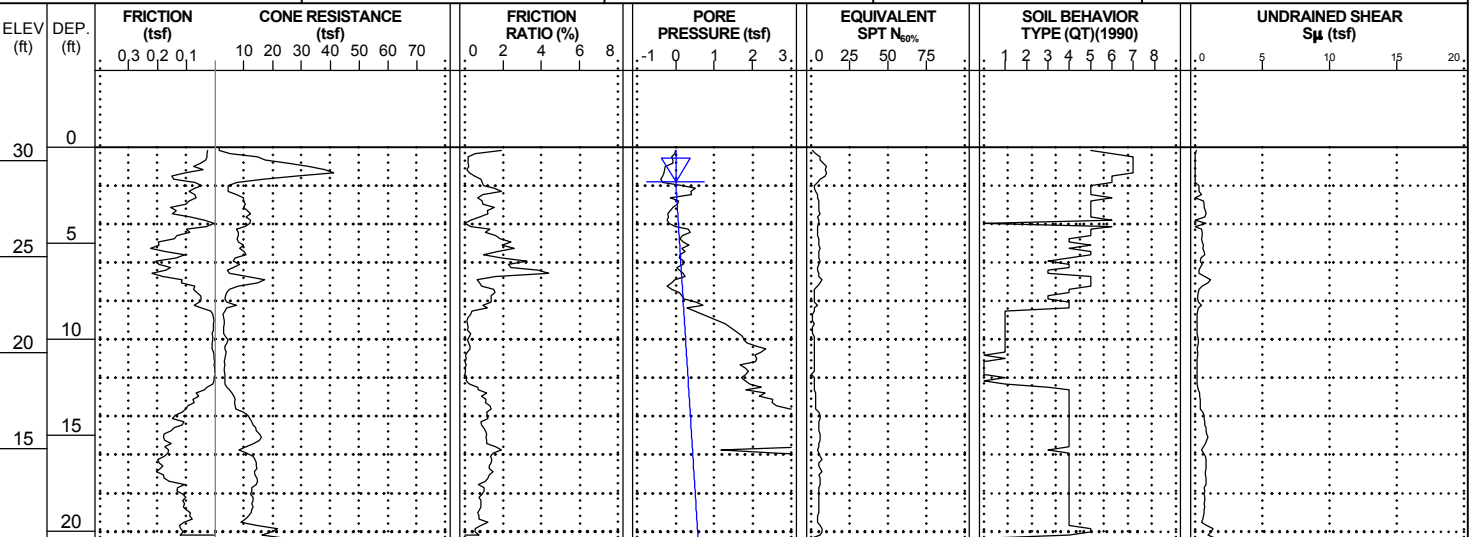
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/24/18

COMP. DATE: 10/24/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_61400_CL

STATION: 614+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 3.1

COLLAR ELEV.: 24.3 ft

TOTAL DEPTH: 22.9 ft

NORTHING: 232,182

EASTING: 2,378,472

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

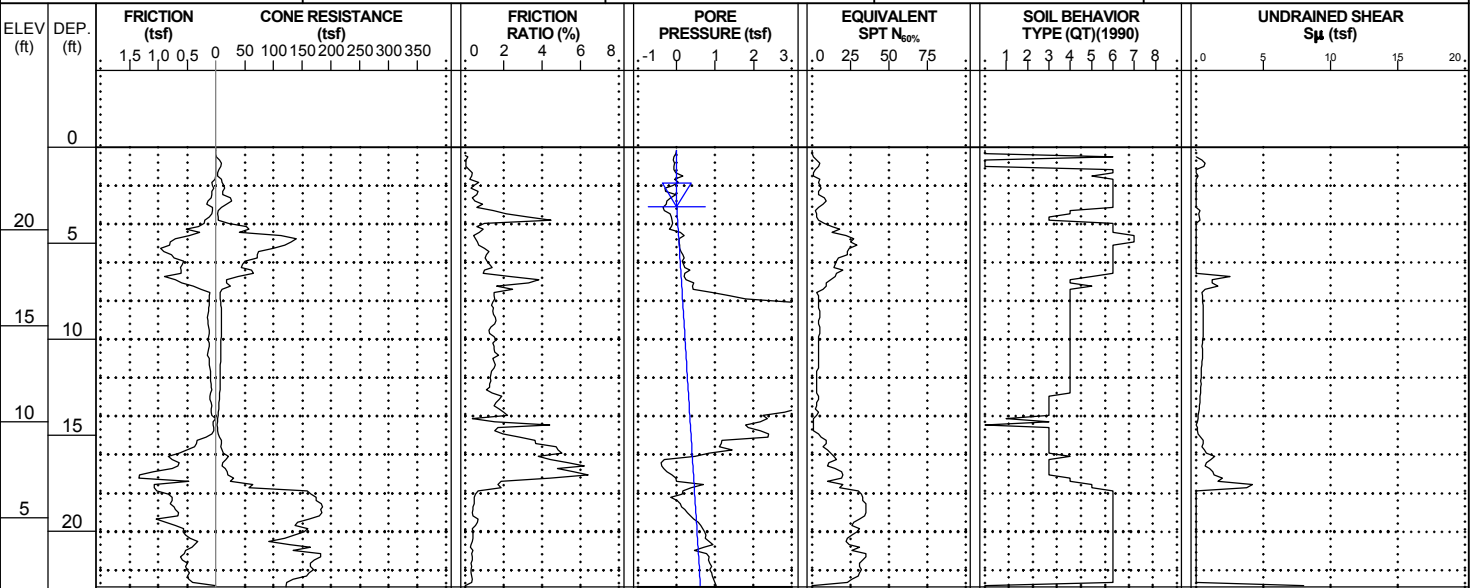
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/24/18

COMP. DATE: 10/24/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_61600_CL

STATION: 616+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 2.4

COLLAR ELEV.: 31.4 ft

TOTAL DEPTH: 15.5 ft

NORTHING: 232,329

EASTING: 2,378,608

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

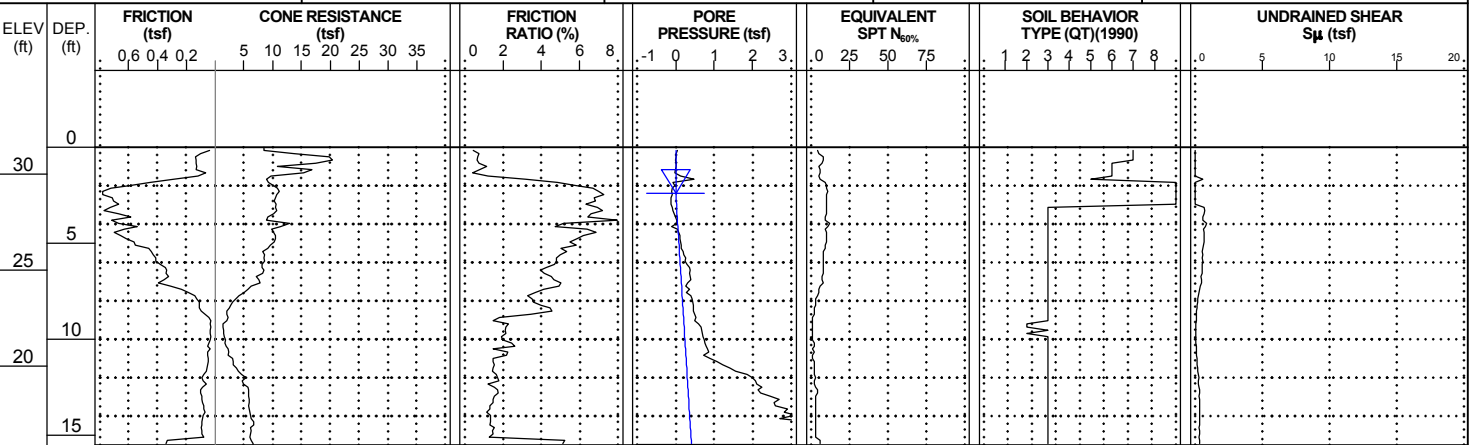
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/24/18

COMP. DATE: 10/24/18

SURF. WATER DEPTH: N/A

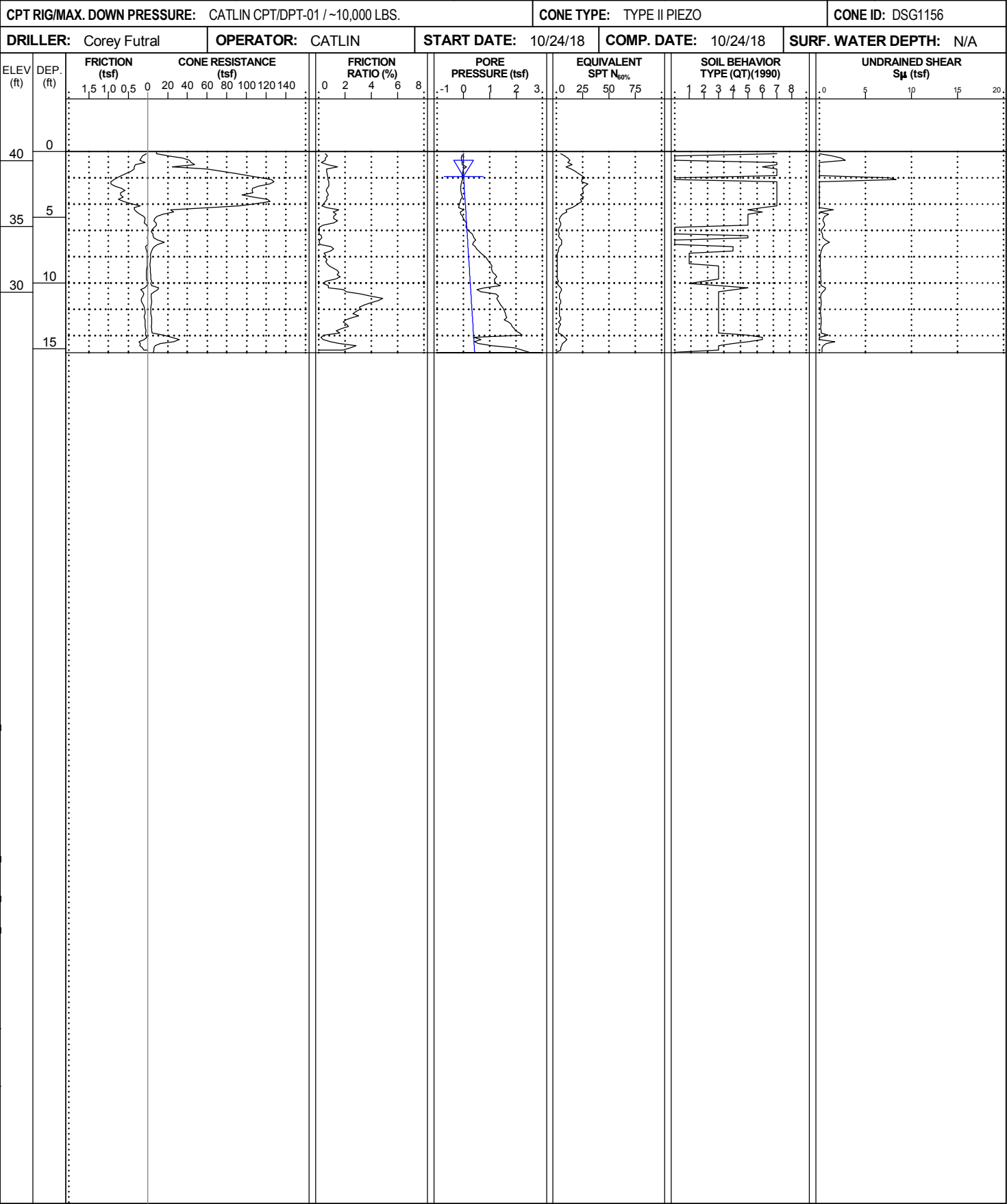


NCDOI CPT DOUBLE (PORTRAIT) NC-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

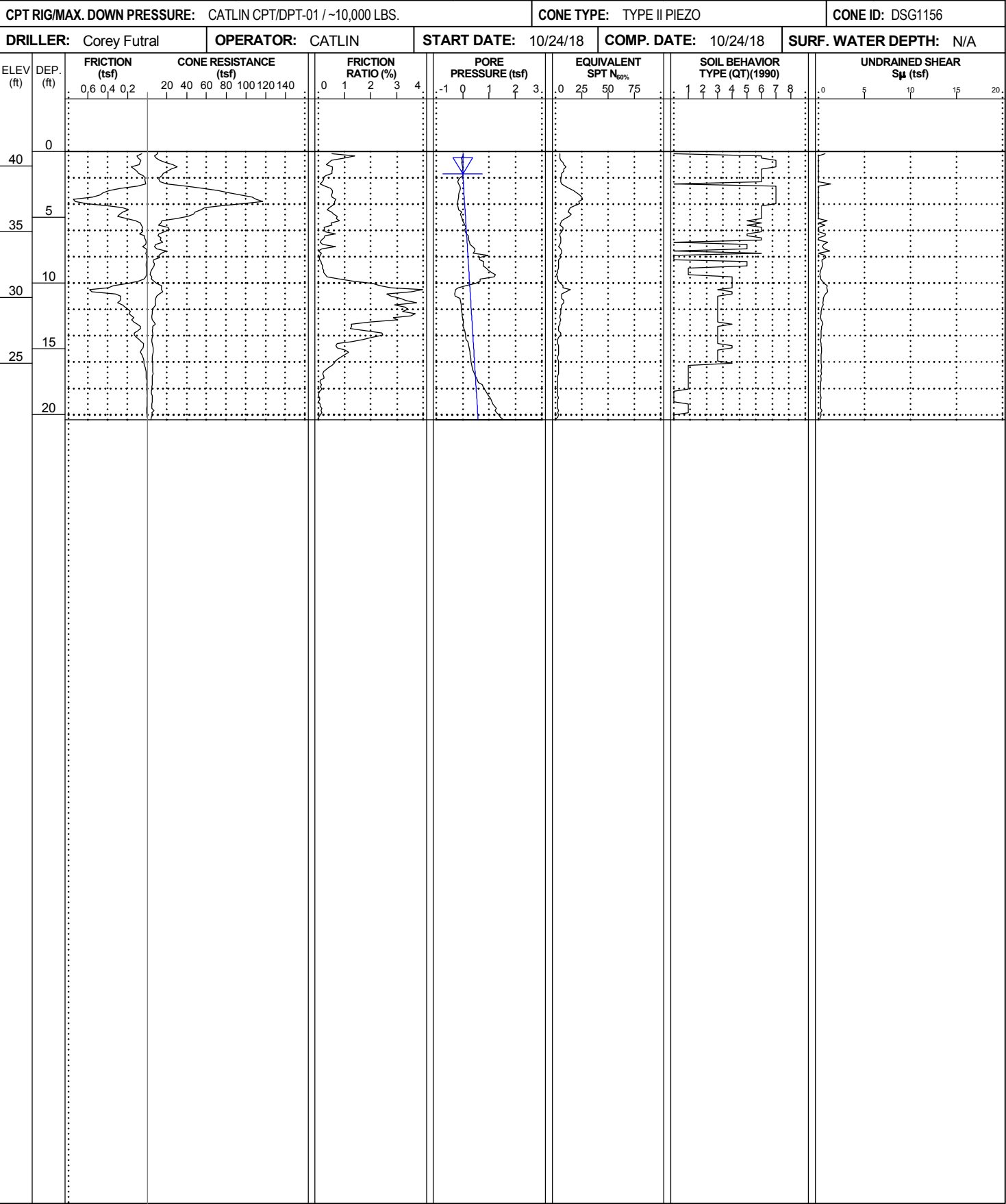
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_62000_CL	STATION: 620+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 40.7 ft	TOTAL DEPTH: 15.3 ft	NORTHING: 232,591	EASTING: 2,378,909
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/24/18	COMP. DATE: 10/24/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 1.9	24 HR. N/A



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_62600_CL	STATION: 626+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 41.1 ft	TOTAL DEPTH: 20.4 ft	NORTHING: 232,885	EASTING: 2,379,431
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/24/18	COMP. DATE: 10/24/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 1.7	24 HR. N/A



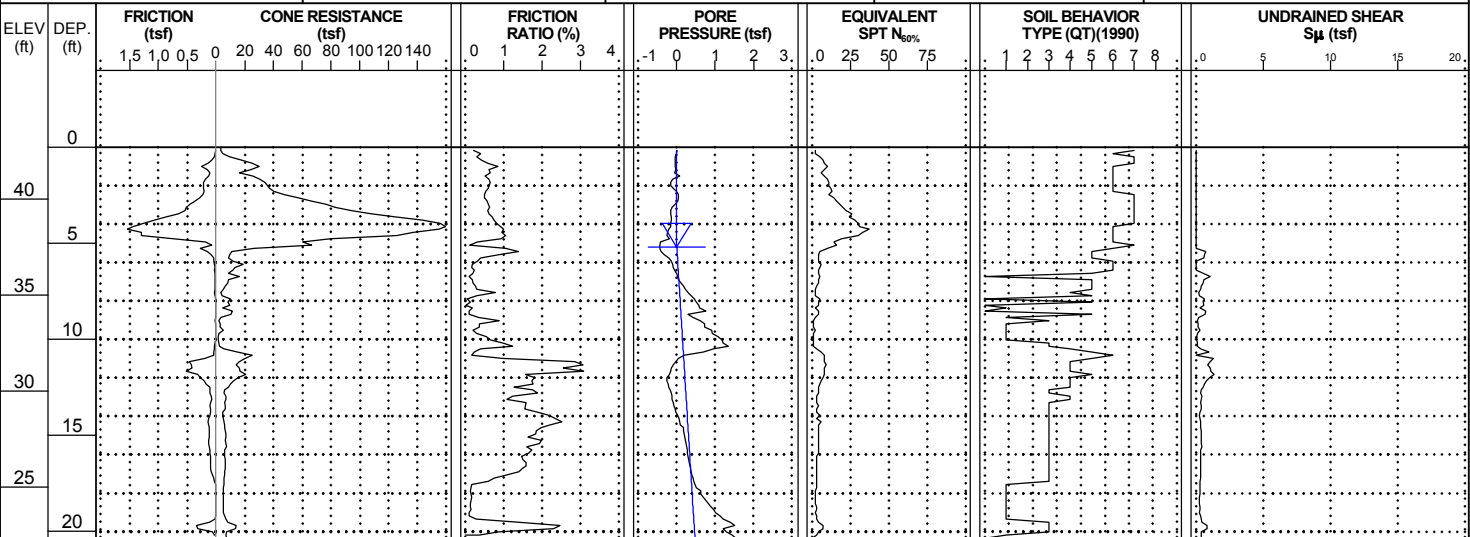
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



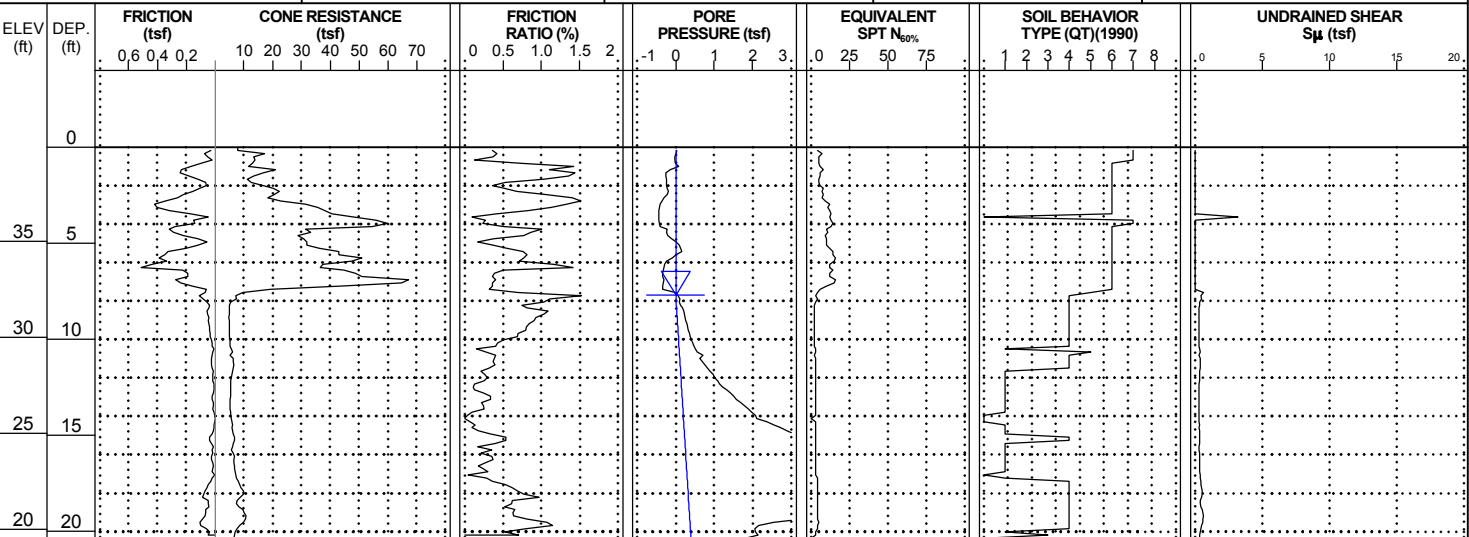
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1_62750_CL	STATION: 627+50	OFFSET: CL	ALIGNMENT: -L1-	EST. 0 HR.	5.2
COLLAR ELEV.: 42.7 ft	TOTAL DEPTH: 20.4 ft	NORTHING: 232,937	EASTING: 2,379,571	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/24/18	COMP. DATE: 10/24/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1_63200_CL	STATION: 632+00	OFFSET: CL	ALIGNMENT: -L1-	EST. 0 HR.	7.7
COLLAR ELEV.: 39.9 ft	TOTAL DEPTH: 20.4 ft	NORTHING: 233,043	EASTING: 2,380,008	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/24/18	COMP. DATE: 10/24/18	SURF. WATER DEPTH: N/A	



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_63325_CL

STATION: 633+25

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 8.3

COLLAR ELEV.: 42.7 ft

TOTAL DEPTH: 16.5 ft

NORTHING: 233,058

EASTING: 2,380,132

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

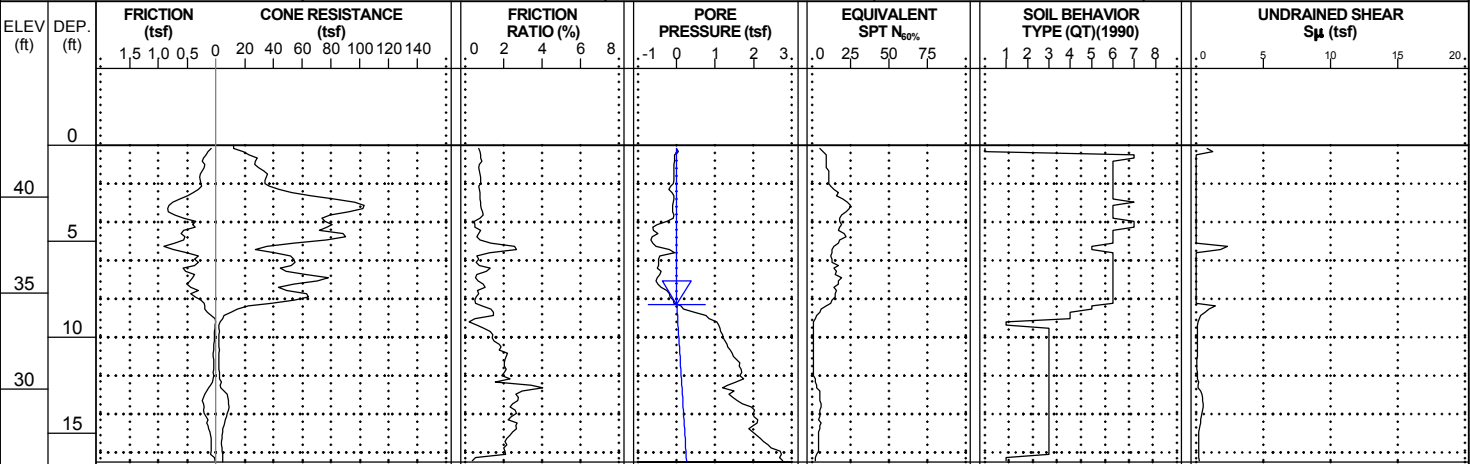
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/24/18

COMP. DATE: 10/24/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_63850_CL

STATION: 638+50

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 5.1

COLLAR ELEV.: 39.5 ft

TOTAL DEPTH: 15.5 ft

NORTHING: 233,053

EASTING: 2,380,656

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

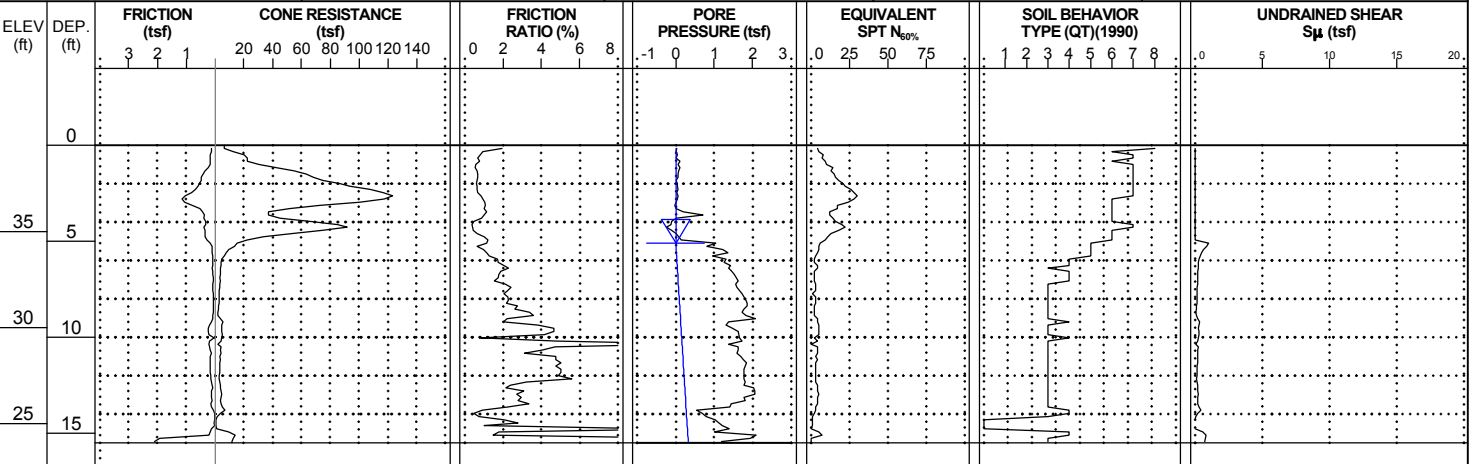
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/24/18

COMP. DATE: 10/24/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_64000_75RT

STATION: 640+00

OFFSET: 75 ft RT

ALIGNMENT: -L1-

EST. 0 HR. 4.4

COLLAR ELEV.: 33.4 ft

TOTAL DEPTH: 15.4 ft

NORTHING: 232,921

EASTING: 2,381,195

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSA1123

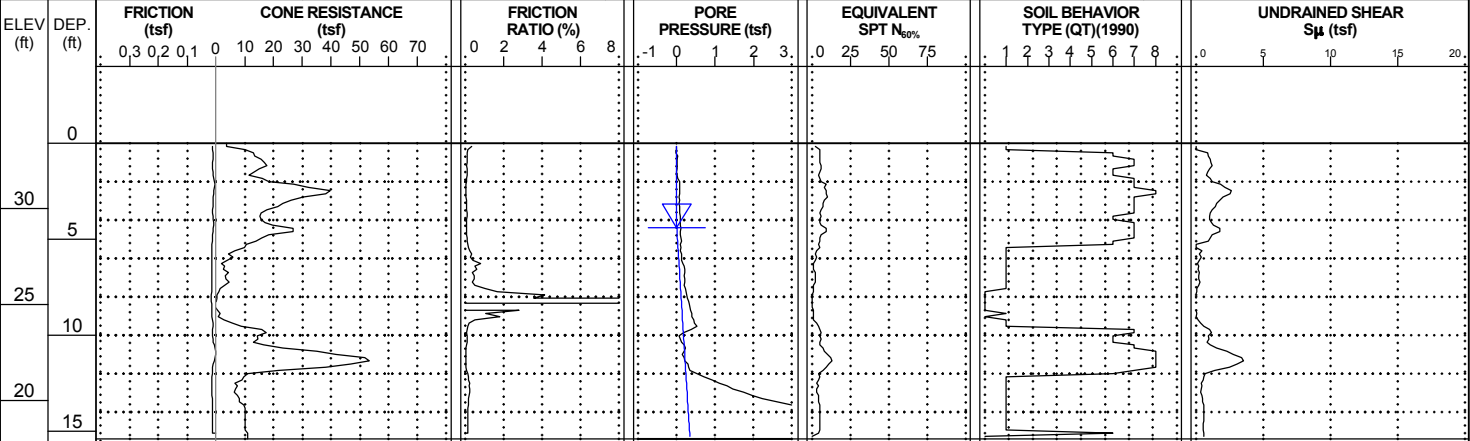
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 08/27/18

COMP. DATE: 08/27/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_64400_CL

STATION: 644+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 3.2

COLLAR ELEV.: 33.7 ft

TOTAL DEPTH: 15.5 ft

NORTHING: 232,995

EASTING: 2,381,203

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

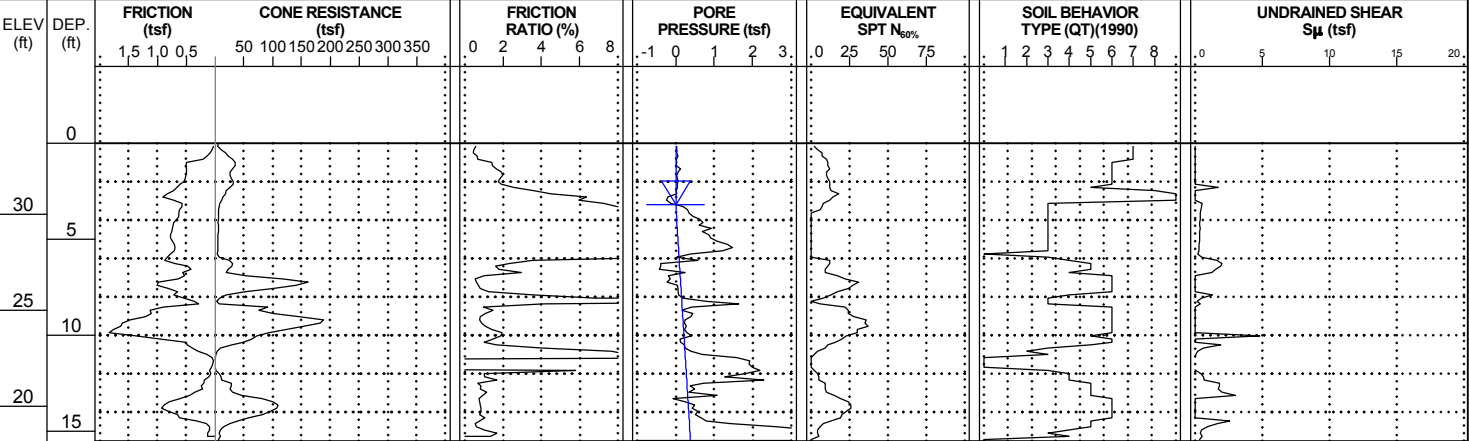
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 08/28/18

COMP. DATE: 08/28/18

SURF. WATER DEPTH: N/A

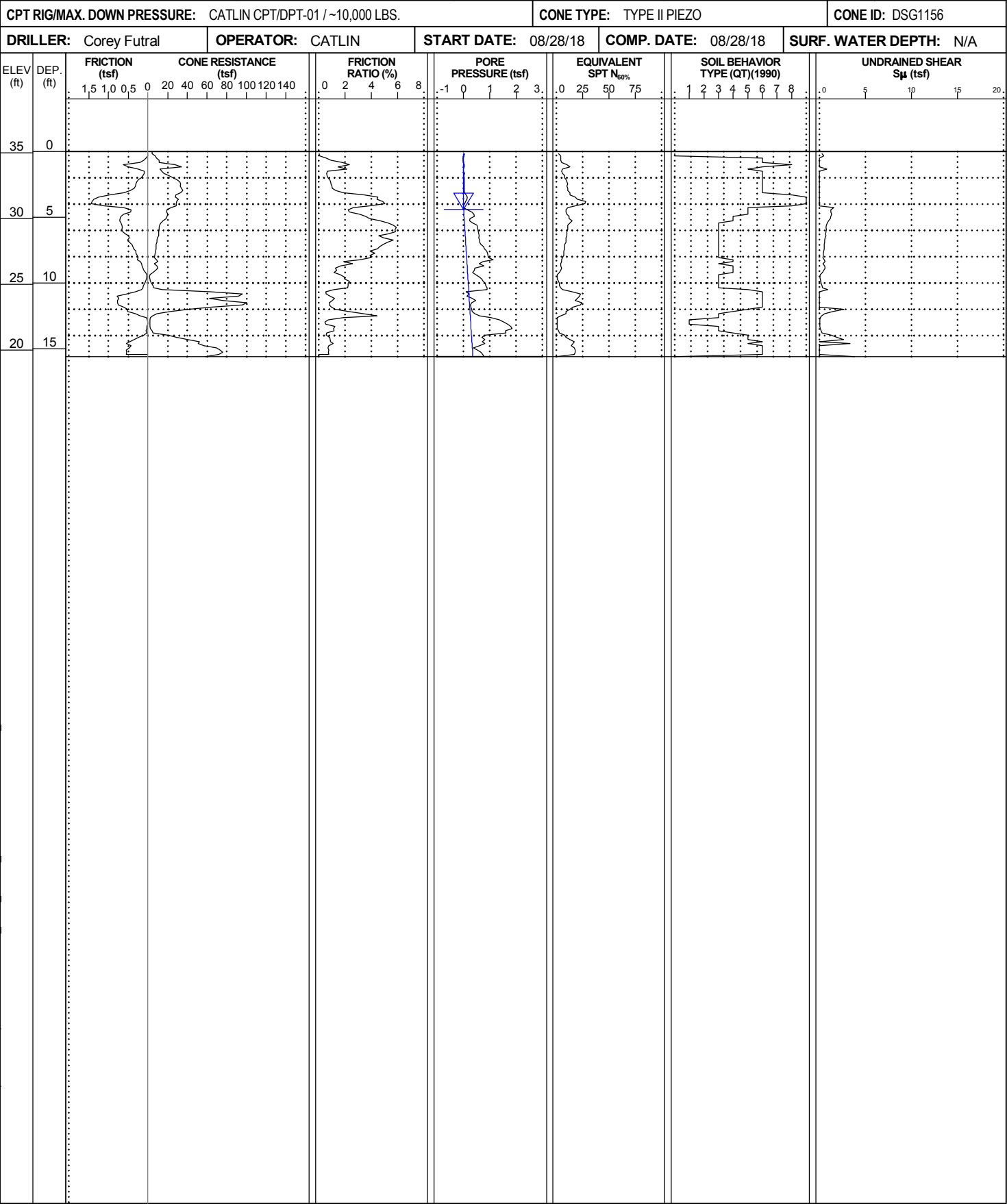


NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

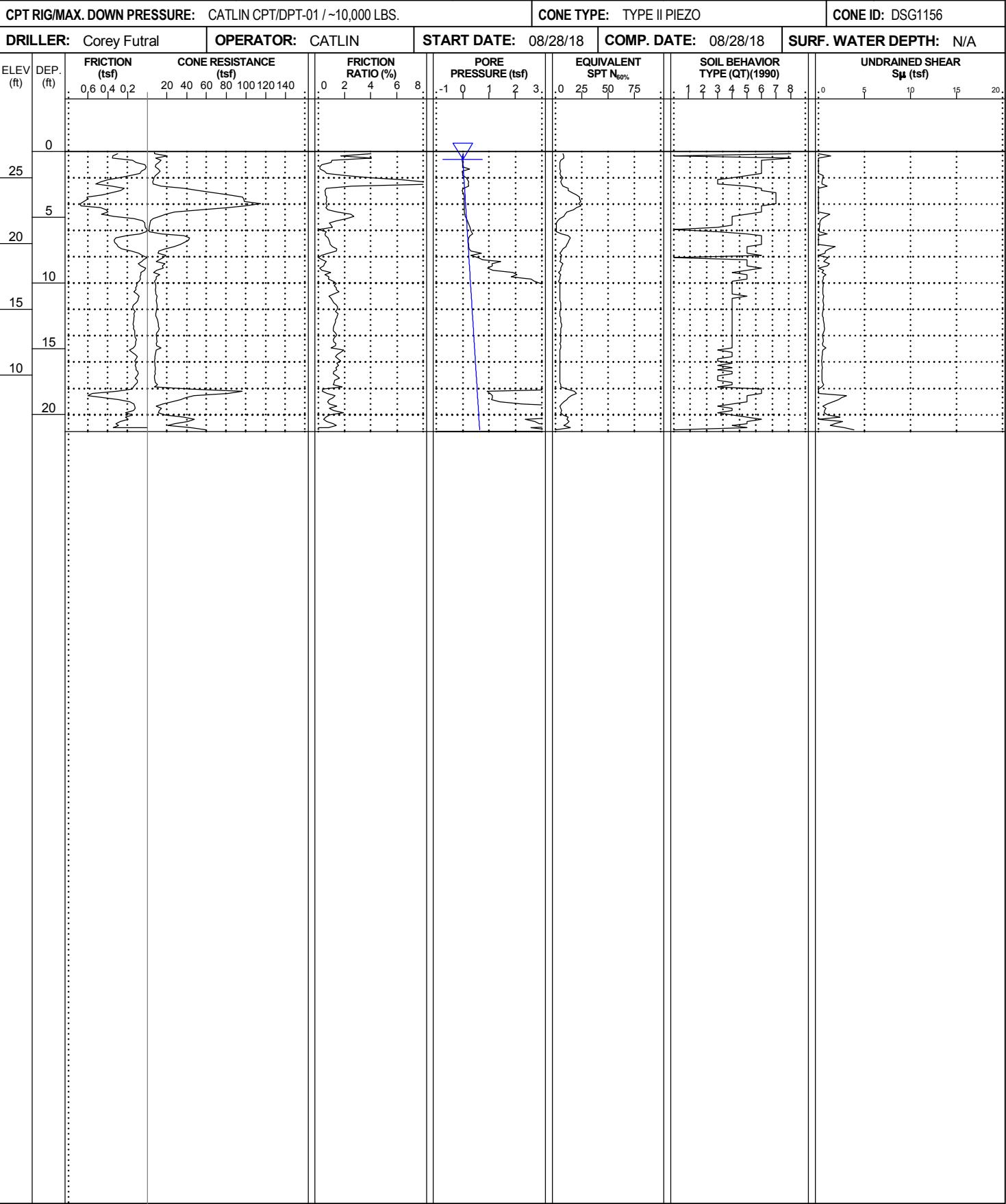
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_64600_CL	STATION: 646+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 35.1 ft	TOTAL DEPTH: 15.6 ft	NORTHING: 232,974	EASTING: 2,381,402
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 08/28/18	COMP. DATE: 08/28/18
SURF. WATER DEPTH: N/A			



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_65000_CL	STATION: 650+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 27.0 ft	TOTAL DEPTH: 21.3 ft	NORTHING: 232,932	EASTING: 2,381,800
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 08/28/18	COMP. DATE: 08/28/18
SURF. WATER DEPTH: N/A			

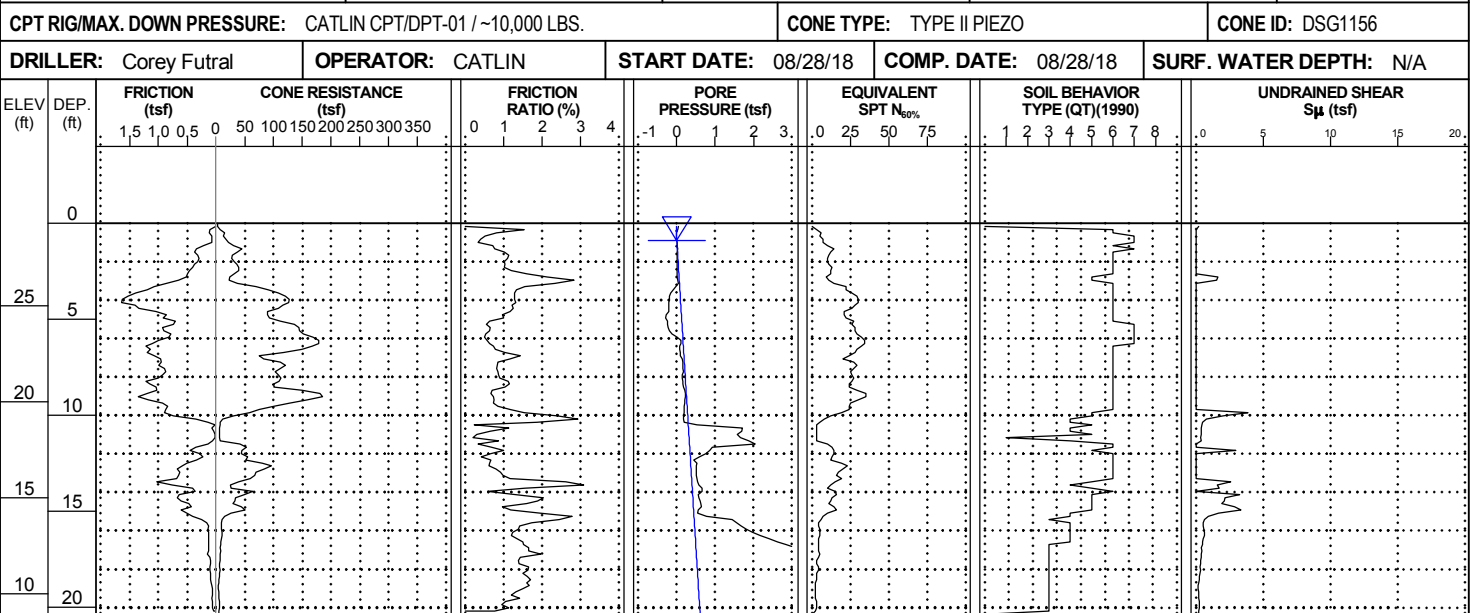


NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

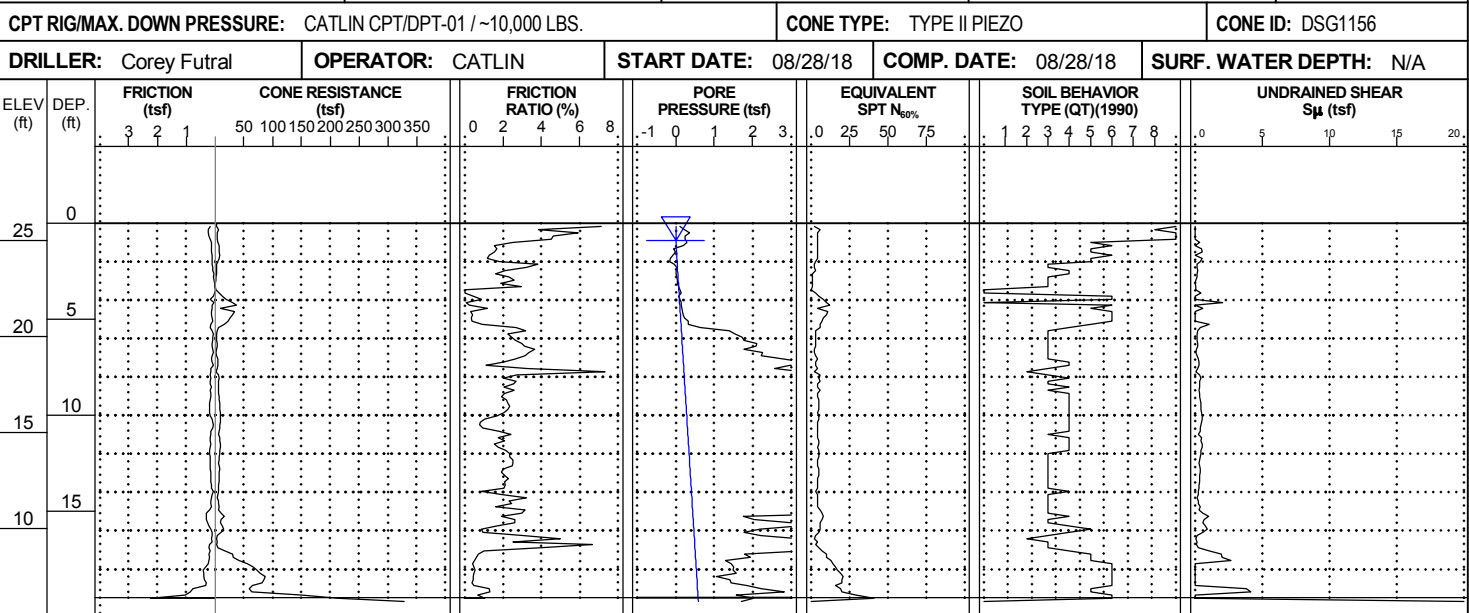
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_65200_CL	STATION: 652+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 29.3 ft	TOTAL DEPTH: 20.4 ft	NORTHING: 232,911	EASTING: 2,381,999
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 08/28/18	COMP. DATE: 08/28/18
SURF. WATER DEPTH: N/A			



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_65600_20LT	STATION: 656+00	OFFSET: 20 ft LT	ALIGNMENT: -L1-
COLLAR ELEV.: 25.9 ft	TOTAL DEPTH: 19.5 ft	NORTHING: 232,894	EASTING: 2,382,398
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 08/28/18	COMP. DATE: 08/28/18
SURF. WATER DEPTH: N/A			



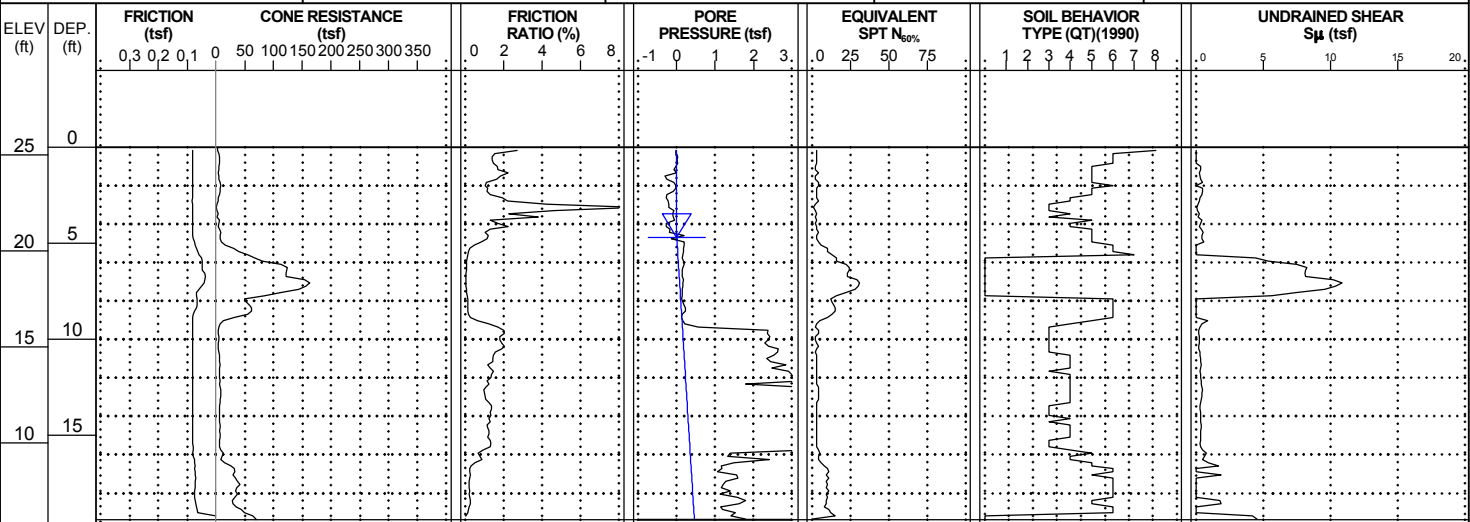
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



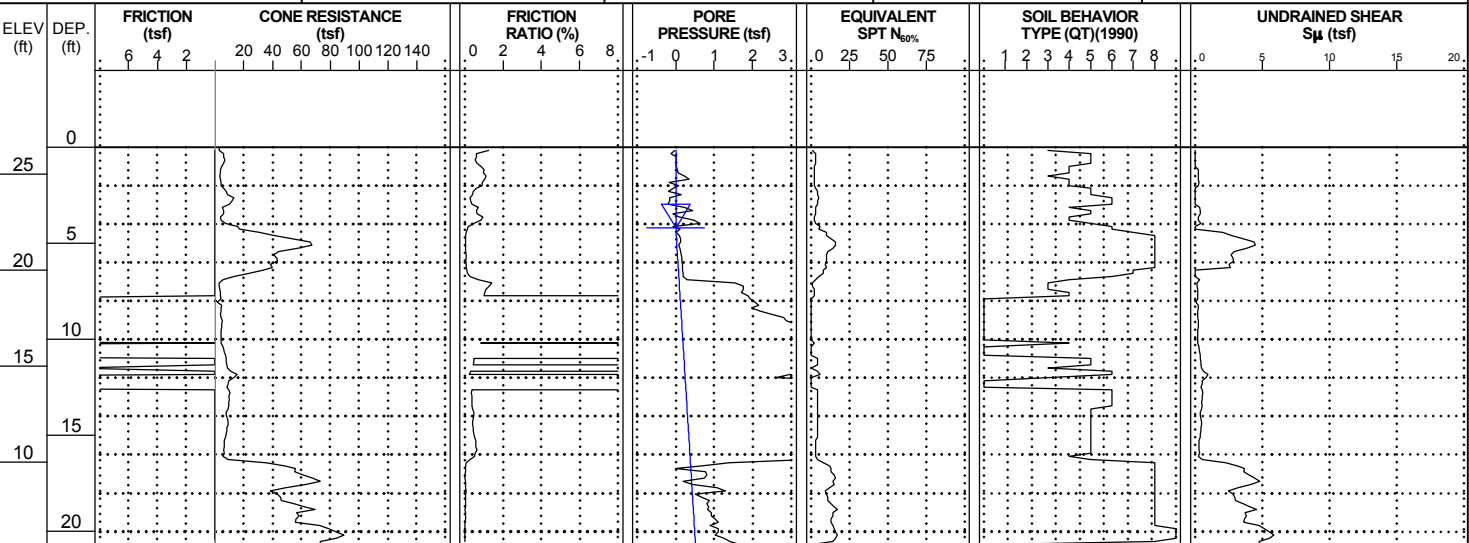
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1_65800_20LT	STATION: 658+00	OFFSET: 20 ft LT	ALIGNMENT: -L1-	EST. 0 HR.	4.7
COLLAR ELEV.: 25.4 ft	TOTAL DEPTH: 19.4 ft	NORTHING: 232,886	EASTING: 2,382,597	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSA1123		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 08/28/18	COMP. DATE: 08/28/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1_66200_CL	STATION: 662+00	OFFSET: CL	ALIGNMENT: -L1-	EST. 0 HR.	4.2
COLLAR ELEV.: 26.4 ft	TOTAL DEPTH: 20.8 ft	NORTHING: 232,873	EASTING: 2,382,997	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSA1123		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 08/29/18	COMP. DATE: 08/29/18	SURF. WATER DEPTH: N/A	



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

<i>PROJECT REFERENCE NO.</i>	<i>SHEET</i>
R-3300B	15

[illegible]

<i>PROJECT REFERENCE NO.</i>	<i>SHEET</i>
R-3300B	16

WBS:	40237.1.1	TIP:	R-3300B	COUNTY:	PENDER	GEOLOGIST:	S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD								
BORING NO.:	L1_67400_CL	STATION:	674+00	OFFSET:	CL	ALIGNMENT:	-L1-	
COLLAR ELEV.:	42.0 ft	TOTAL DEPTH:	18.3 ft	NORTHING:	233,073	EASTING:	2,384,177	
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.				CONE TYPE: TYPE II PIEZO		CONE ID: DSG1156		
DRILLER: William J. Miller		OPERATOR: CATLIN		START DATE:	10/04/18	COMP. DATE:	10/04/18	
SURF. WATER DEPTH: N/A								
ELEV (ft)	DEP. (ft)	FRICTION (tsf) 0.6 0.4 0.2	CONE RESISTANCE (tsf) 10 20 30 40 50 60 70	FRICTION RATIO (%) .0 2 4 6 8	PORE PRESSURE (tsf) -.1 0 1 2 3	EQUIVALENT SPT N _{60%} .0 25 50 75	SOIL BEHAVIOR TYPE (QT)(1990) 1 2 3 4 5 6 7 8	UNDRAINED SHEAR St _u (tsf) .0 5 10 15 20
	0							
	40							
	5							
	35							
	10							
	30							
	15							
	25							

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_67600_CL

STATION: 676+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 8.0

COLLAR ELEV.: 45.4 ft

TOTAL DEPTH: 12.1 ft

NORTHING: 233,133

EASTING: 2,384,368

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

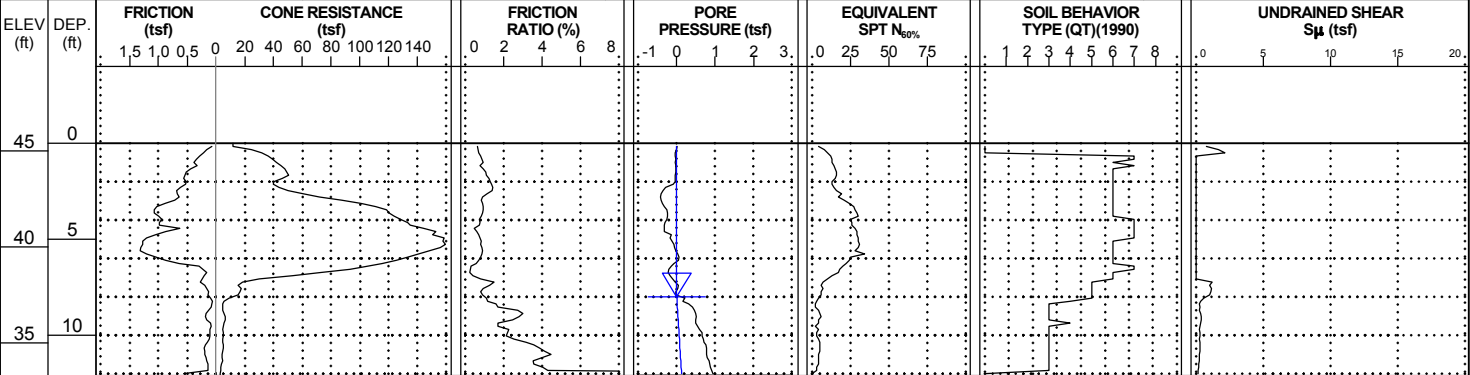
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 10/04/18

COMP. DATE: 10/04/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_68000_CL

STATION: 680+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 5.5

COLLAR ELEV.: 45.4 ft

TOTAL DEPTH: 17.9 ft

NORTHING: 233,273

EASTING: 2,384,743

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

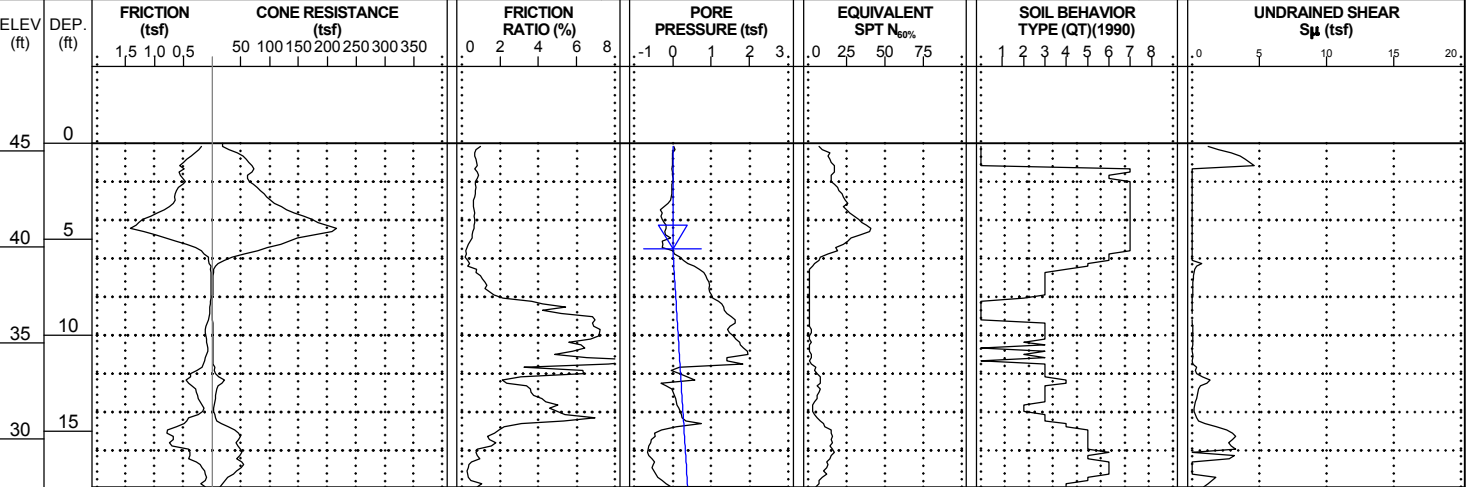
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 10/05/18

COMP. DATE: 10/05/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_68200_CL

STATION: 682+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 2.6

COLLAR ELEV.: 45.1 ft

TOTAL DEPTH: 13.9 ft

NORTHING: 233,353

EASTING: 2,384,926

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

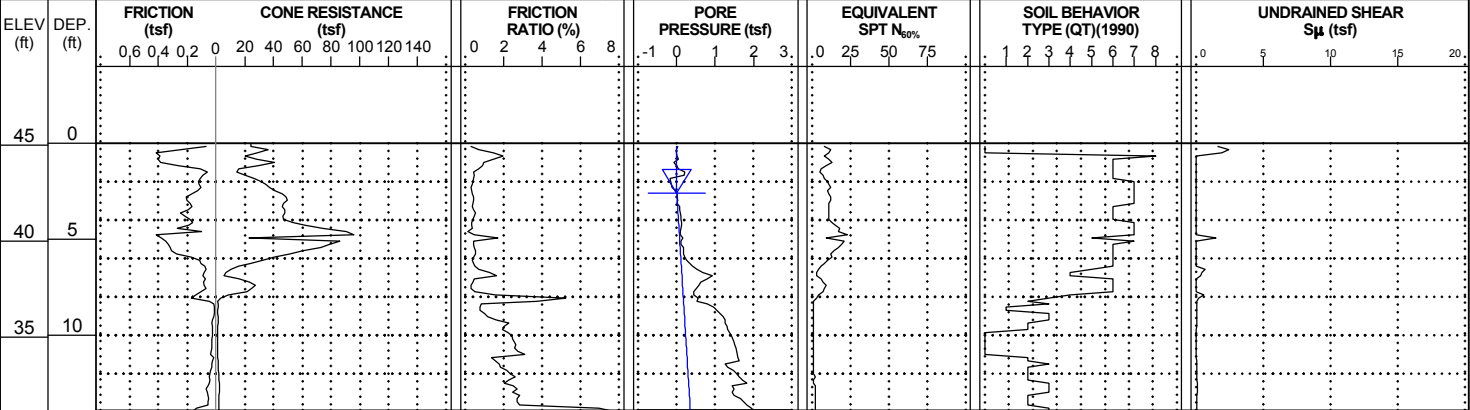
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 10/05/18

COMP. DATE: 10/05/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_68600_CL

STATION: 686+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 4.4

COLLAR ELEV.: 43.8 ft

TOTAL DEPTH: 12.0 ft

NORTHING: 233,535

EASTING: 2,385,282

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

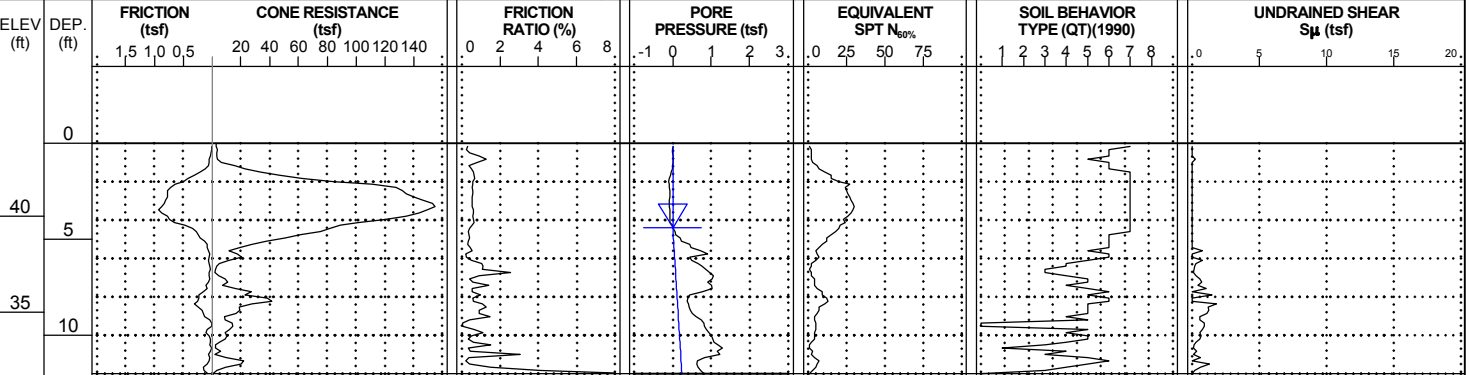
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 10/05/18

COMP. DATE: 10/05/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_68800_CL

STATION: 688+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 4.9

COLLAR ELEV.: 45.0 ft

TOTAL DEPTH: 11.0 ft

NORTHING: 233,636

EASTING: 2,385,455

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

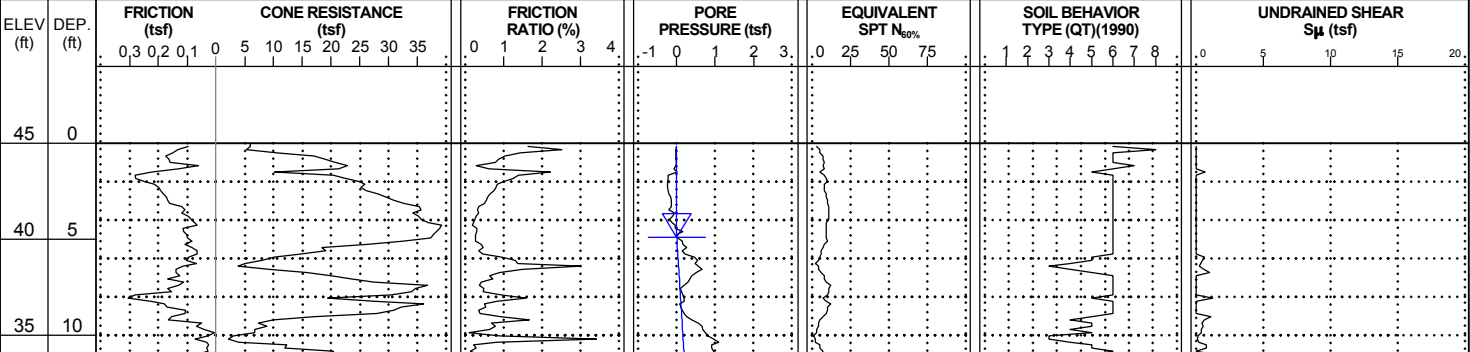
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 10/05/18

COMP. DATE: 10/05/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_69400_CL

STATION: 694+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 4.4

COLLAR ELEV.: 45.0 ft

TOTAL DEPTH: 10.3 ft

NORTHING: 233,972

EASTING: 2,385,952

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

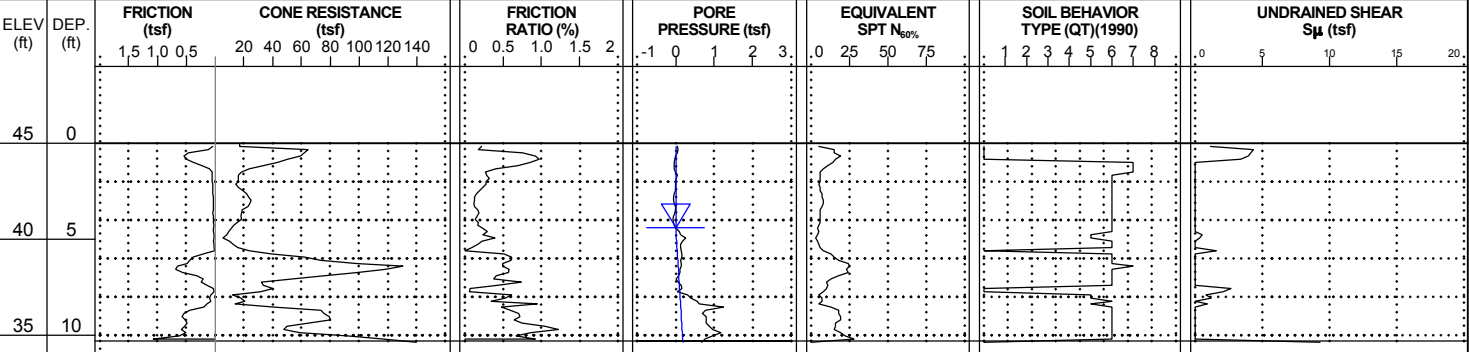
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 10/04/18

COMP. DATE: 10/04/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT

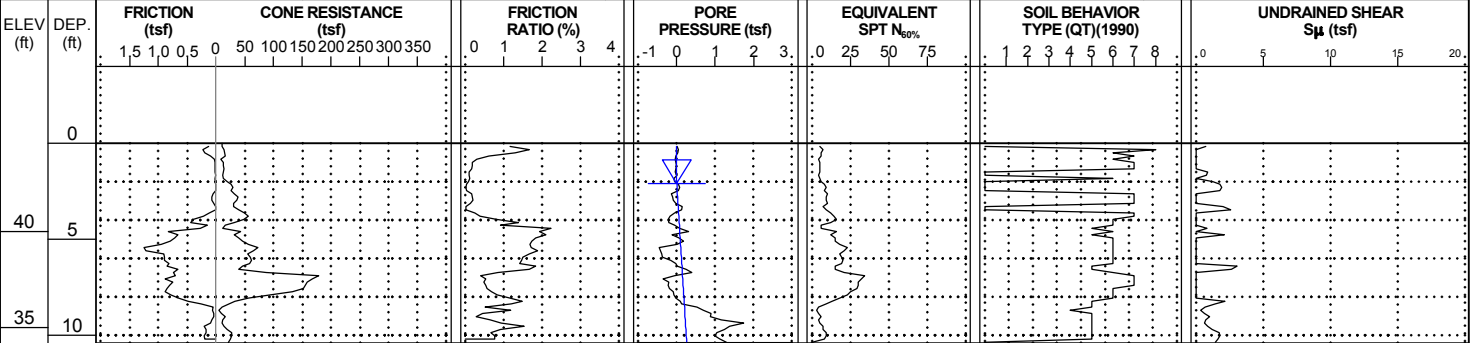


PROJECT REFERENCE NO. SHEET

R-3300B 20

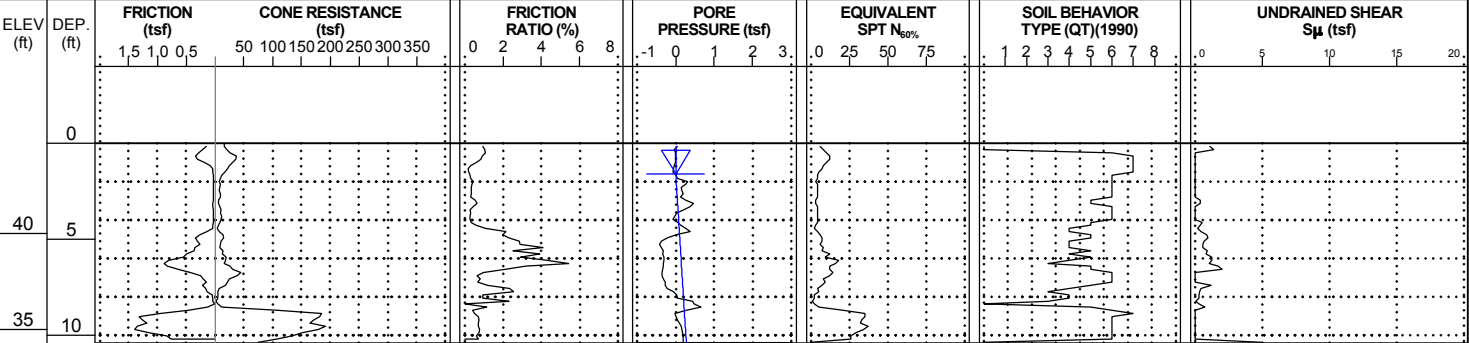
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1_69800_CL	STATION: 698+00	OFFSET: CL	ALIGNMENT: -L1-	EST. 0 HR.	2.1
COLLAR ELEV.: 44.6 ft	TOTAL DEPTH: 10.4 ft	NORTHING: 234,202	EASTING: 2,386,279	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.			CONE TYPE: TYPE II PIEZO		CONE ID: DSG1156
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 10/04/18	COMP. DATE: 10/04/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1_70000_CL	STATION: 700+00	OFFSET: CL	ALIGNMENT: -L1-	EST. 0 HR.	1.6
COLLAR ELEV.: 44.7 ft	TOTAL DEPTH: 10.4 ft	NORTHING: 234,317	EASTING: 2,386,442	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.			CONE TYPE: TYPE II PIEZO		CONE ID: DSG1156
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 10/04/18	COMP. DATE: 10/04/18	SURF. WATER DEPTH: N/A	



NCDOI CPT DOUBLE (PORTRAIT) NC-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_70400_CL

STATION: 704+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 4.7

COLLAR ELEV.: 45.0 ft

TOTAL DEPTH: 10.4 ft

NORTHING: 234,547

EASTING: 2,386,769

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

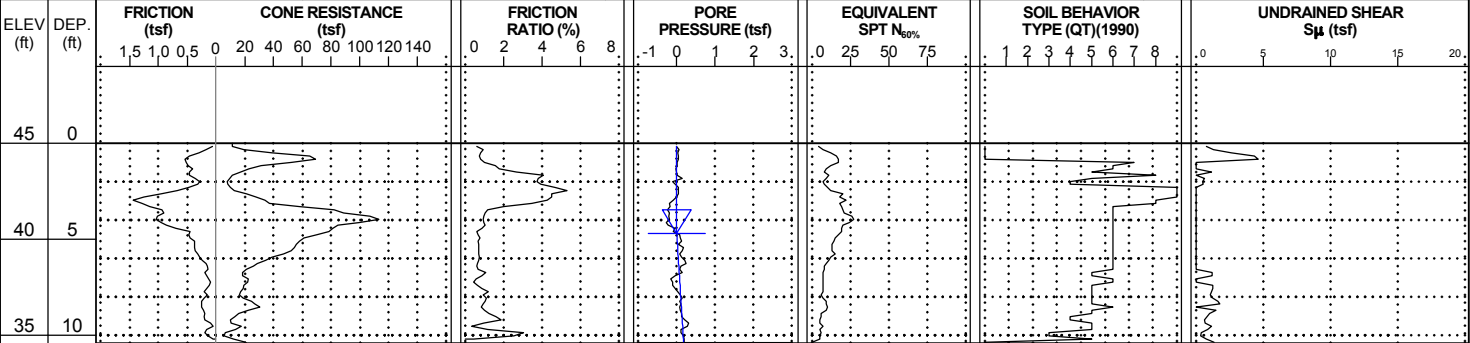
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/03/18

COMP. DATE: 10/03/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_70630_CL

STATION: 706+30

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 0.5

COLLAR ELEV.: 42.3 ft

TOTAL DEPTH: 11.0 ft

NORTHING: 234,680

EASTING: 2,386,957

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

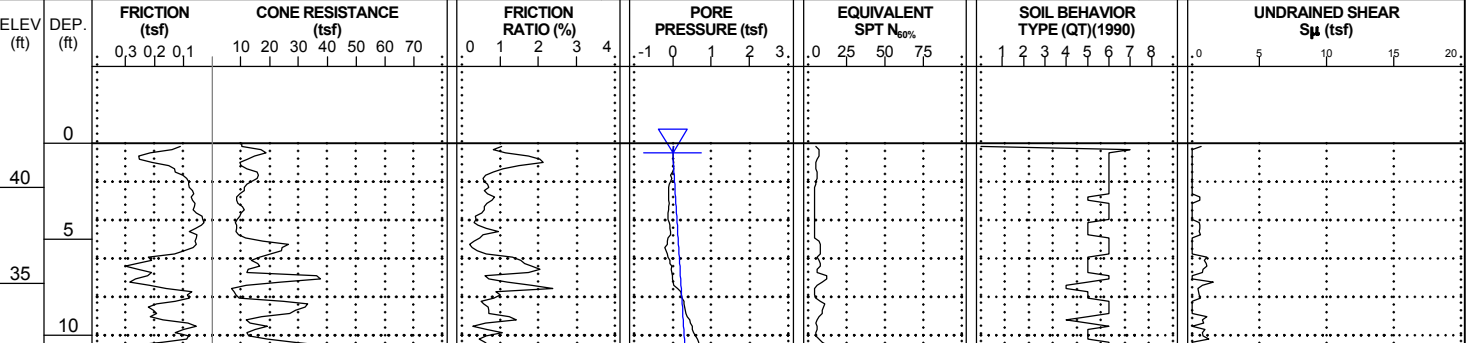
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/03/18

COMP. DATE: 10/03/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

<i>PROJECT REFERENCE NO.</i>	<i>SHEET</i>
R-3300B	22

[illegible]

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_71800_CL

STATION: 718+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 6.7

COLLAR ELEV.: 47.6 ft

TOTAL DEPTH: 13.6 ft

NORTHING: 235,313

EASTING: 2,387,940

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

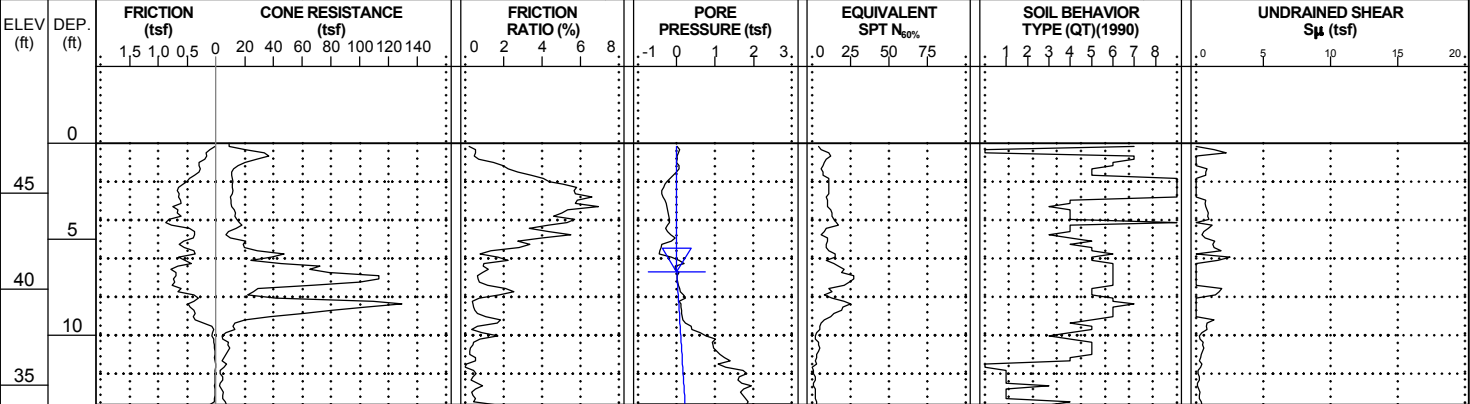
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/02/18

COMP. DATE: 10/02/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_72200_CL

STATION: 722+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 0.1

COLLAR ELEV.: 44.7 ft

TOTAL DEPTH: 16.5 ft

NORTHING: 235,473

EASTING: 2,388,306

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

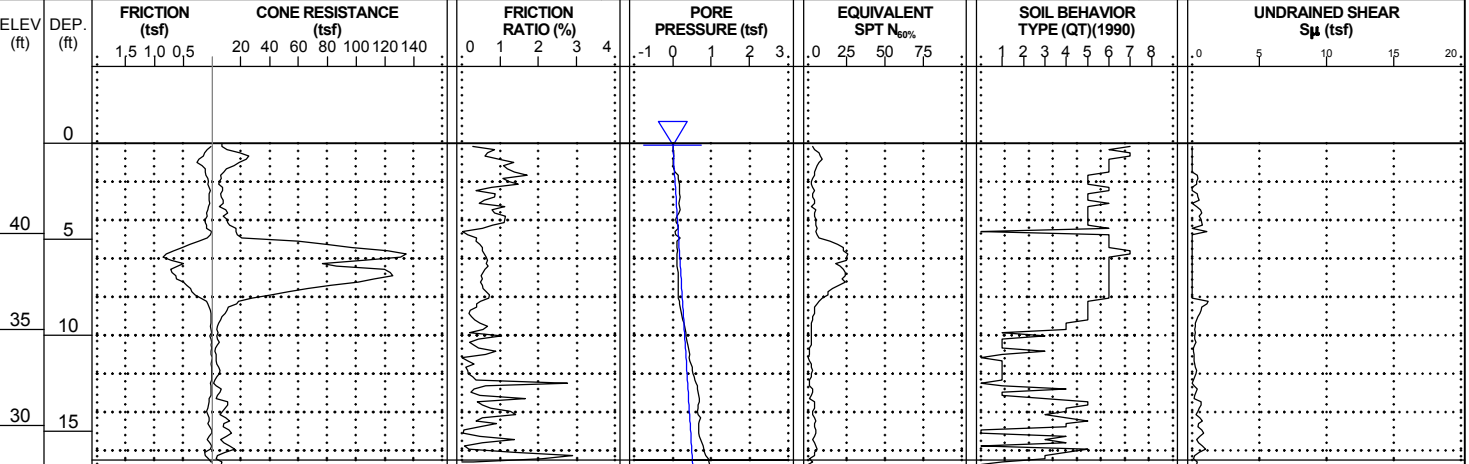
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/02/18

COMP. DATE: 10/02/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_72400_CL

STATION: 724+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 3.4

COLLAR ELEV.: 45.8 ft

TOTAL DEPTH: 11.0 ft

NORTHING: 235,540

EASTING: 2,388,494

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

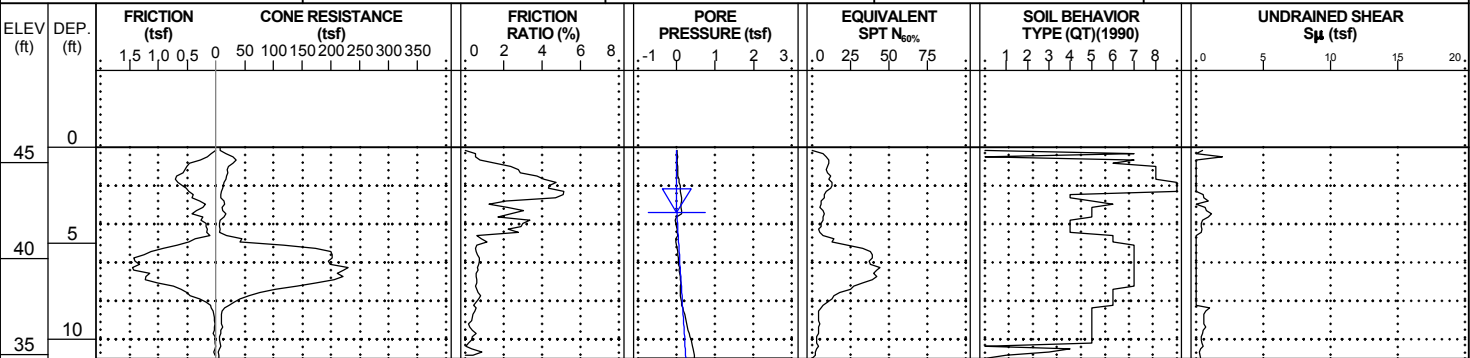
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/02/18

COMP. DATE: 10/02/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_72800_CL

STATION: 728+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 3.1

COLLAR ELEV.: 46.3 ft

TOTAL DEPTH: 15.3 ft

NORTHING: 235,647

EASTING: 2,388,880

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSA1123

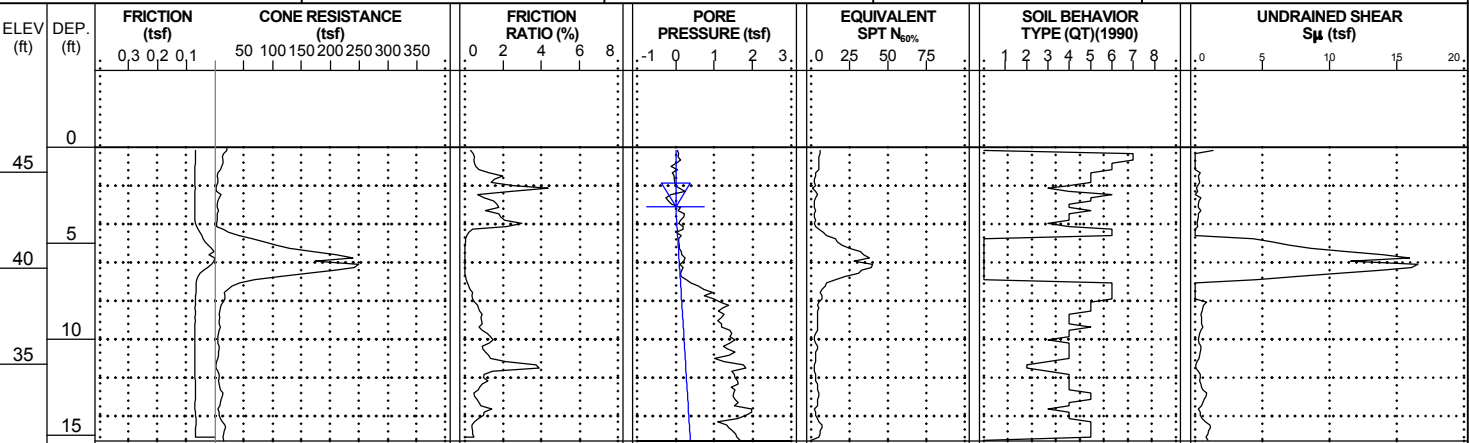
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 08/30/18

COMP. DATE: 08/30/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_73000_CL

STATION: 730+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 2.8

COLLAR ELEV.: 46.6 ft

TOTAL DEPTH: 15.3 ft

NORTHING: 235,686

EASTING: 2,389,076

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSA1123

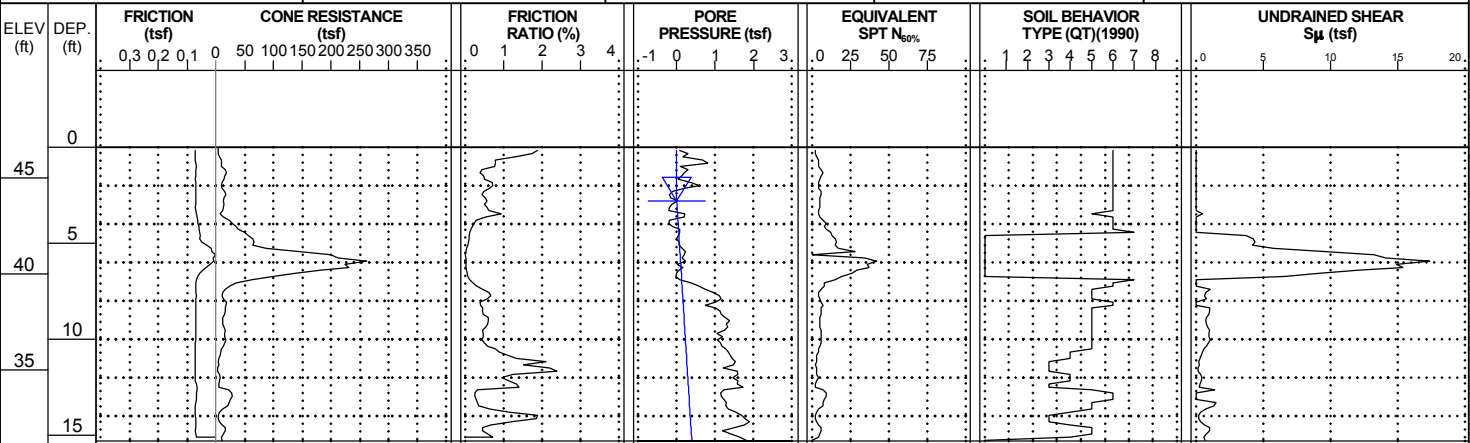
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 08/30/18

COMP. DATE: 08/30/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_73400_CL

STATION: 734+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 1.8

COLLAR ELEV.: 47.8 ft

TOTAL DEPTH: 13.8 ft

NORTHING: 235,735

EASTING: 2,389,473

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG0867

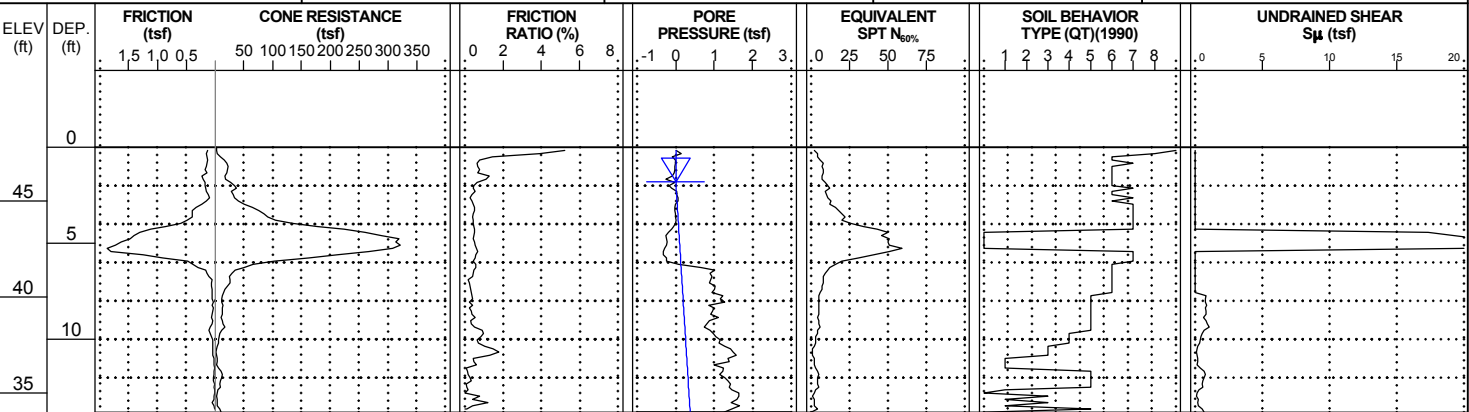
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 10/09/18

COMP. DATE: 10/09/18

SURF. WATER DEPTH: N/A

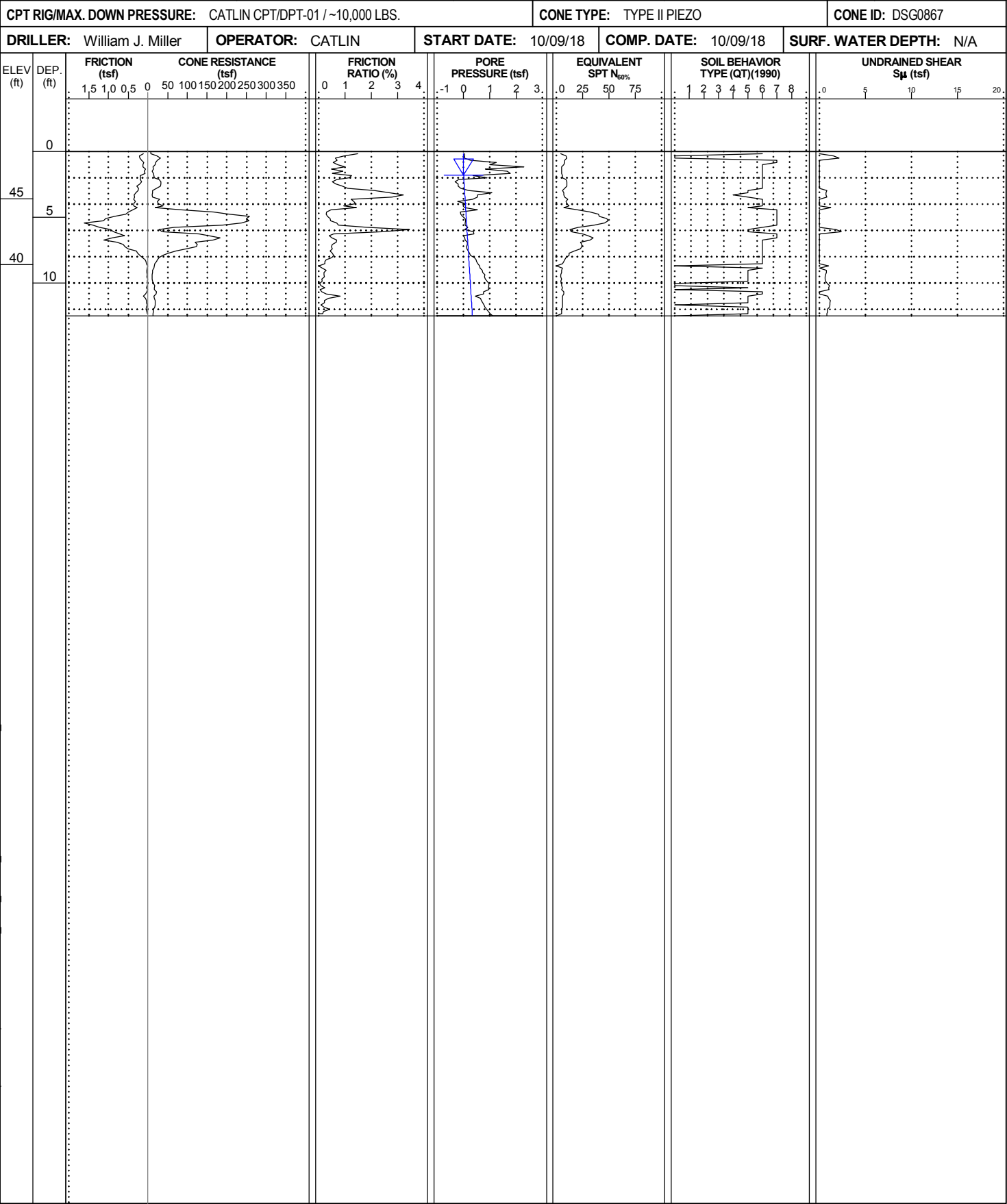


NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

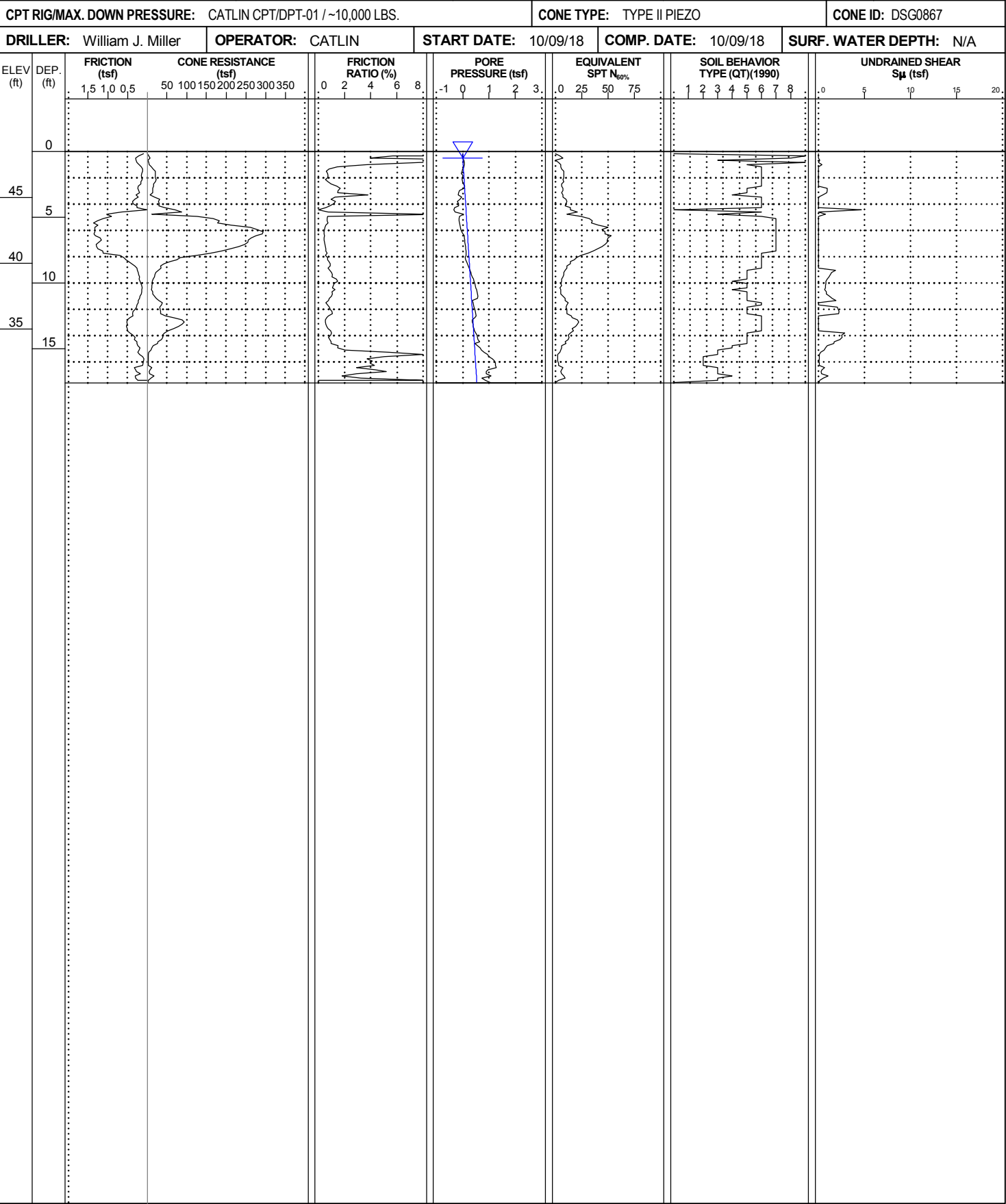
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_73600_CL	STATION: 736+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 48.6 ft	TOTAL DEPTH: 12.5 ft	NORTHING: 235,746	EASTING: 2,389,672
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 10/09/18	COMP. DATE: 10/09/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 1.8	24 HR. N/A



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_74000_CL	STATION: 740+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 48.5 ft	TOTAL DEPTH: 17.6 ft	NORTHING: 235,758	EASTING: 2,390,072
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 10/09/18	COMP. DATE: 10/09/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 0.5	24 HR. N/A



CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1 TIP: R-3300B COUNTY: PENDER GEOLOGIST: S. HUDSON

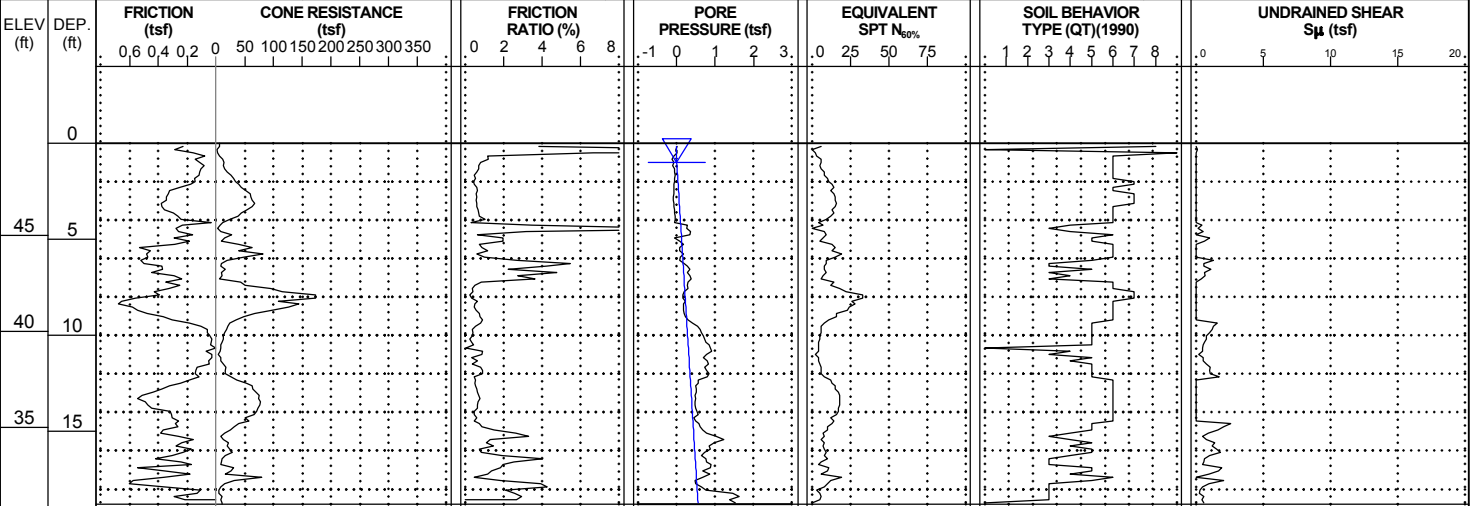
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD GROUND WTR (ft)

BORING NO.: L1_74200_CL STATION: 742+00 OFFSET: CL ALIGNMENT: -L1- EST. 0 HR. 1.0

COLLAR ELEV.: 49.8 ft TOTAL DEPTH: 18.8 ft NORTHING: 235,764 EASTING: 2,390,272 24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS. CONE TYPE: TYPE II PIEZO CONE ID: DSG0867

DRILLER: William J. Miller OPERATOR: CATLIN START DATE: 10/09/18 COMP. DATE: 10/09/18 SURF. WATER DEPTH: N/A



WBS: 40237.1.1 TIP: R-3300B COUNTY: PENDER GEOLOGIST: S. HUDSON

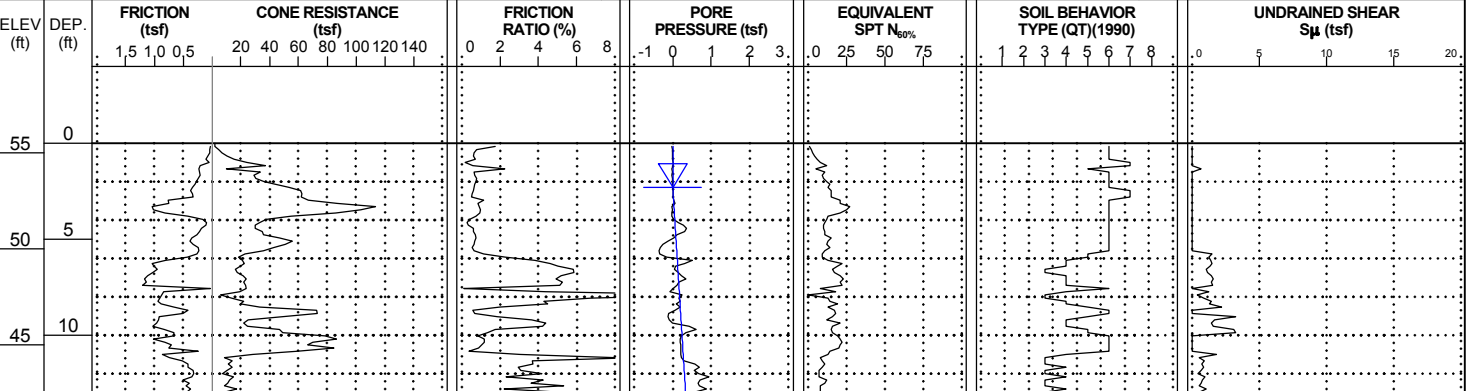
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD GROUND WTR (ft)

BORING NO.: L1_74600_CL STATION: 746+00 OFFSET: CL ALIGNMENT: -L1- EST. 0 HR. 2.3

COLLAR ELEV.: 55.5 ft TOTAL DEPTH: 13.0 ft NORTHING: 235,776 EASTING: 2,390,672 24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS. CONE TYPE: TYPE II PIEZO CONE ID: DSG1156

DRILLER: William J. Miller OPERATOR: CATLIN START DATE: 10/11/18 COMP. DATE: 10/11/18 SURF. WATER DEPTH: N/A



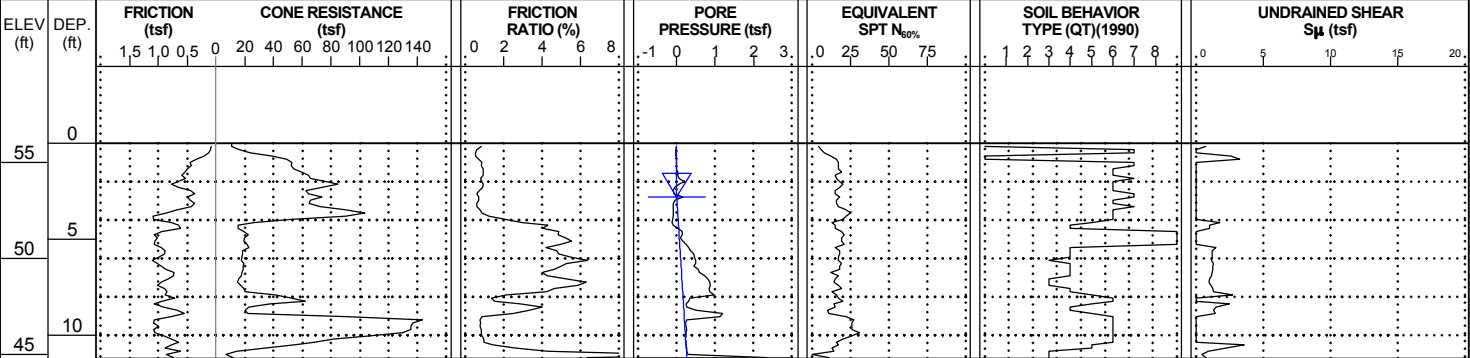
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



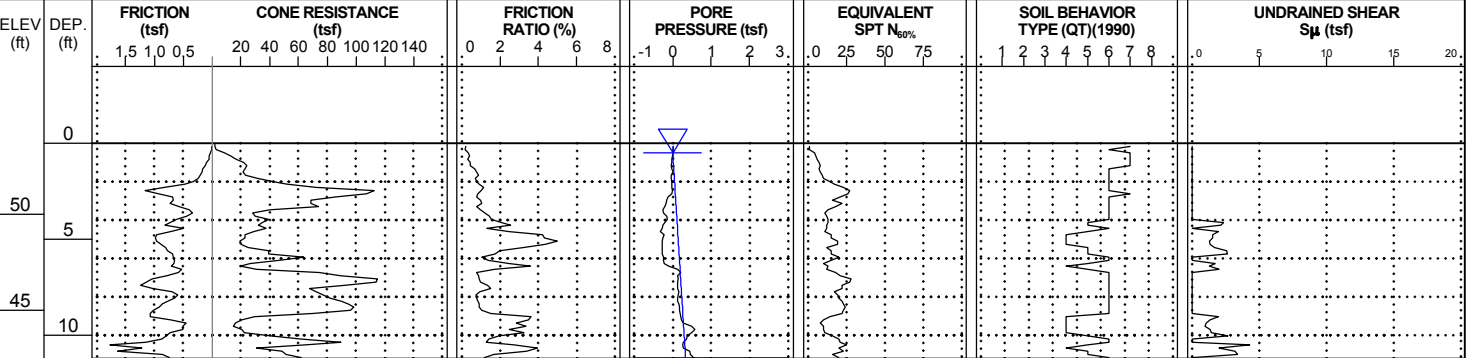
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1_74800_CL	STATION: 748+00	OFFSET: CL	ALIGNMENT: -L1-	EST. 0 HR.	2.8
COLLAR ELEV.: 56.0 ft	TOTAL DEPTH: 11.2 ft	NORTHING: 235,782	EASTING: 2,390,872	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156		
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 10/11/18	COMP. DATE: 10/11/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1_75200_CL	STATION: 752+00	OFFSET: CL	ALIGNMENT: -L1-	EST. 0 HR.	0.5
COLLAR ELEV.: 53.7 ft	TOTAL DEPTH: 11.2 ft	NORTHING: 235,795	EASTING: 2,391,272	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156		
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 10/11/18	COMP. DATE: 10/11/18	SURF. WATER DEPTH: N/A	



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

<i>PROJECT REFERENCE NO.</i>	<i>SHEET</i>
R-3300B	29

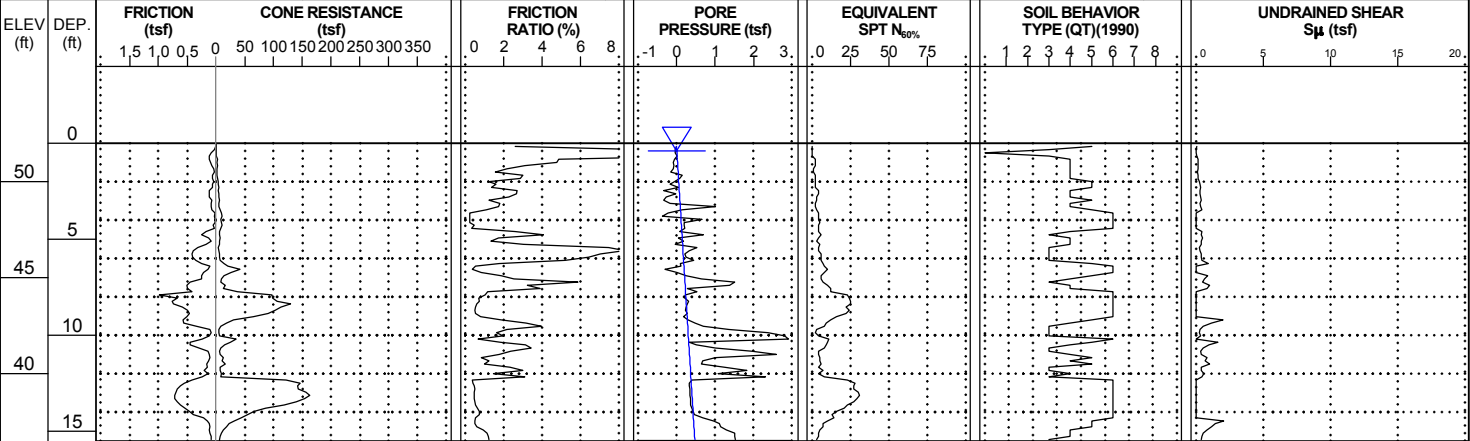
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CONE PENETROMETER TEST
BORING REPORT



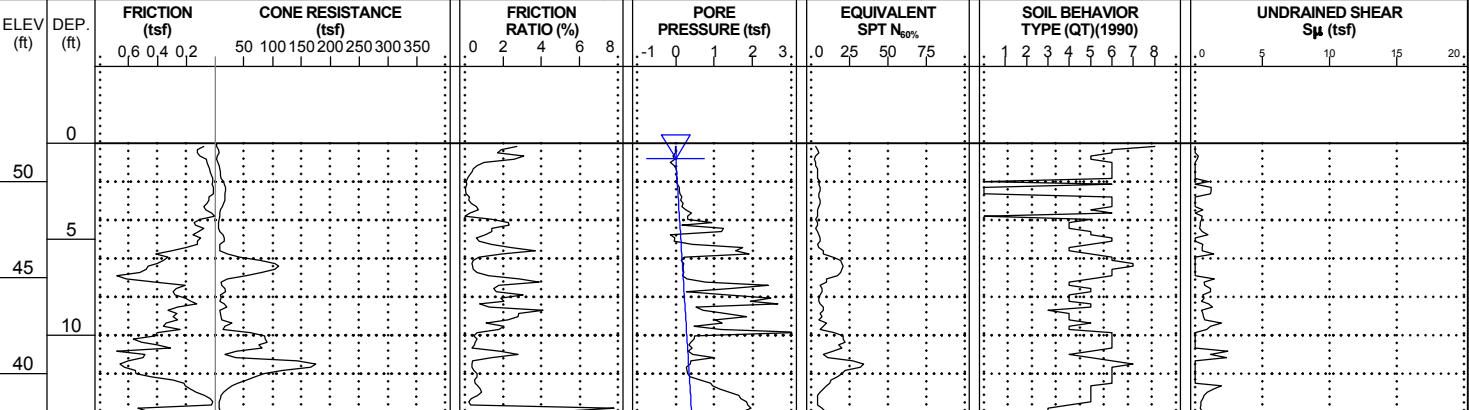
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1_76000_CL	STATION: 760+00	OFFSET: CL	ALIGNMENT: -L1-	EST. 0 HR.	0.4
COLLAR ELEV.: 52.0 ft	TOTAL DEPTH: 15.5 ft	NORTHING: 235,819	EASTING: 2,392,071	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/30/18	COMP. DATE: 10/30/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1_76400_CL	STATION: 764+00	OFFSET: CL	ALIGNMENT: -L1-	EST. 0 HR.	0.8
COLLAR ELEV.: 52.0 ft	TOTAL DEPTH: 14.0 ft	NORTHING: 235,831	EASTING: 2,392,471	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/01/18	COMP. DATE: 11/01/18	SURF. WATER DEPTH: N/A	



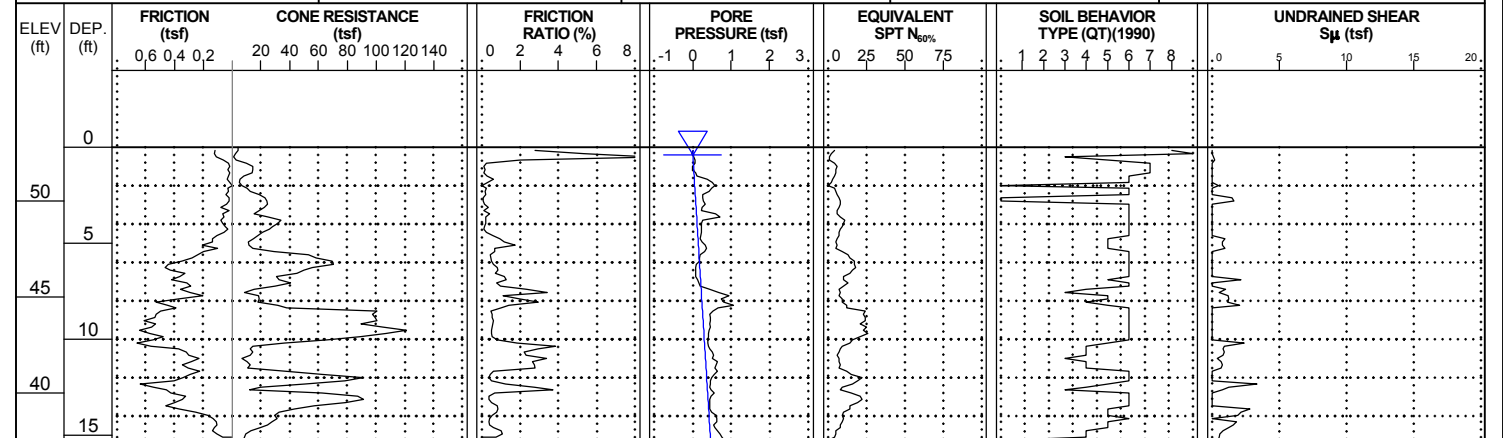
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

<i>PROJECT REFERENCE NO.</i>	<i>SHEET</i>
R-3300B	31

WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD				GROUND WTR (ft)
BORING NO.: L1_77200_CL	STATION: 772+00	OFFSET: CL	ALIGNMENT: -L1-	EST. 0 HR. 0.4
COLLAR ELEV.: 52.8 ft	TOTAL DEPTH: 15.3 ft	NORTHING: 235,916	EASTING: 2,393,266	24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.	CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867
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DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/02/18	COMP. DATE: 11/02/18	SURF. WATER DEPTH: N/A
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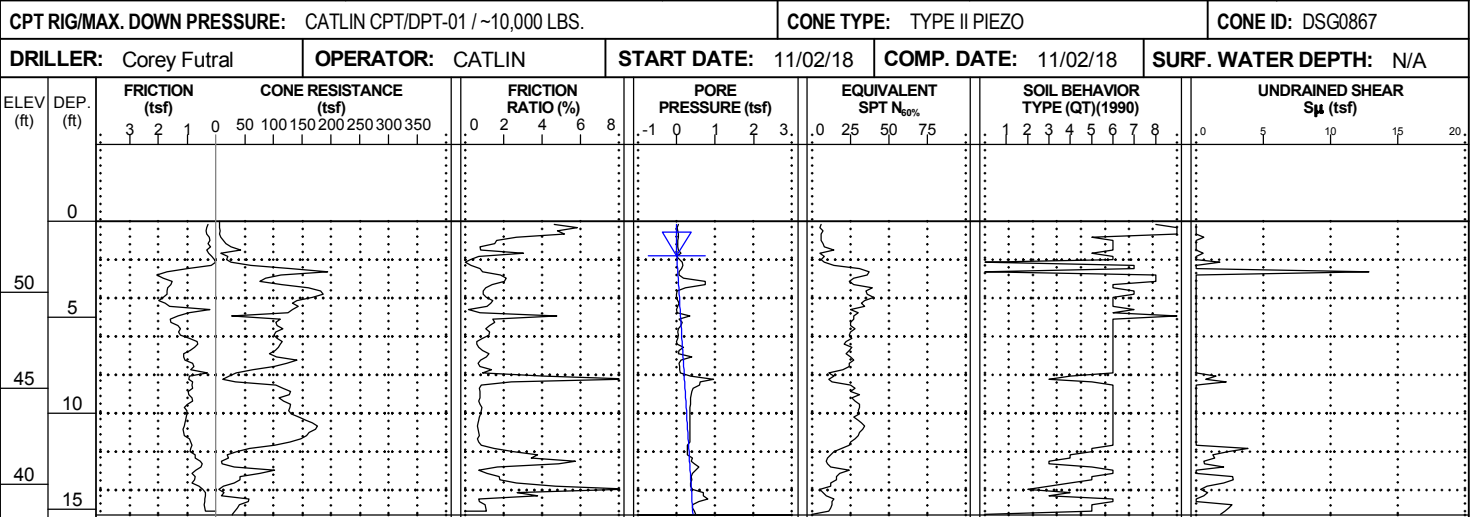


NCDOT CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY CPT ONLY.GPJ NCDOT CATLIN.GDT 2/11/20

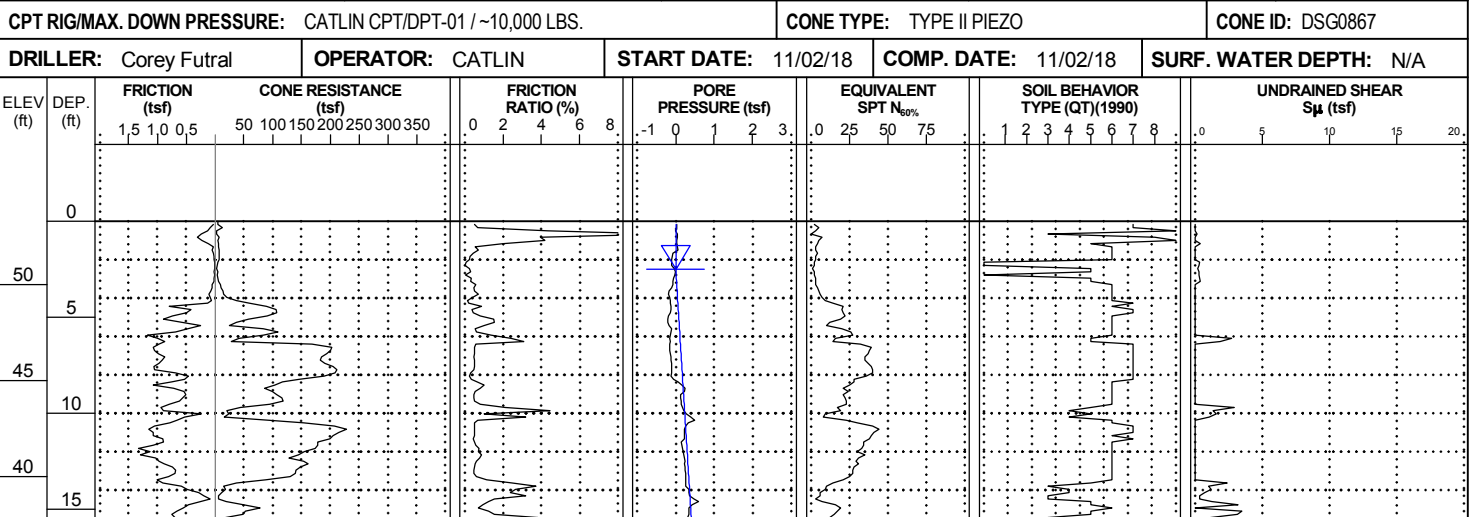
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_77600_CL	STATION: 776+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 53.7 ft	TOTAL DEPTH: 15.3 ft	NORTHING: 236,003	EASTING: 2,393,656
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/02/18	COMP. DATE: 11/02/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 1.8	24 HR. N/A



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_77800_CL	STATION: 778+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 53.3 ft	TOTAL DEPTH: 16.8 ft	NORTHING: 236,058	EASTING: 2,393,848
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/02/18	COMP. DATE: 11/02/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 2.5	24 HR. N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_78200_CL

STATION: 782+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 0.5

COLLAR ELEV.: 53.7 ft

TOTAL DEPTH: 15.5 ft

NORTHING: 236,189

EASTING: 2,394,226

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG0867

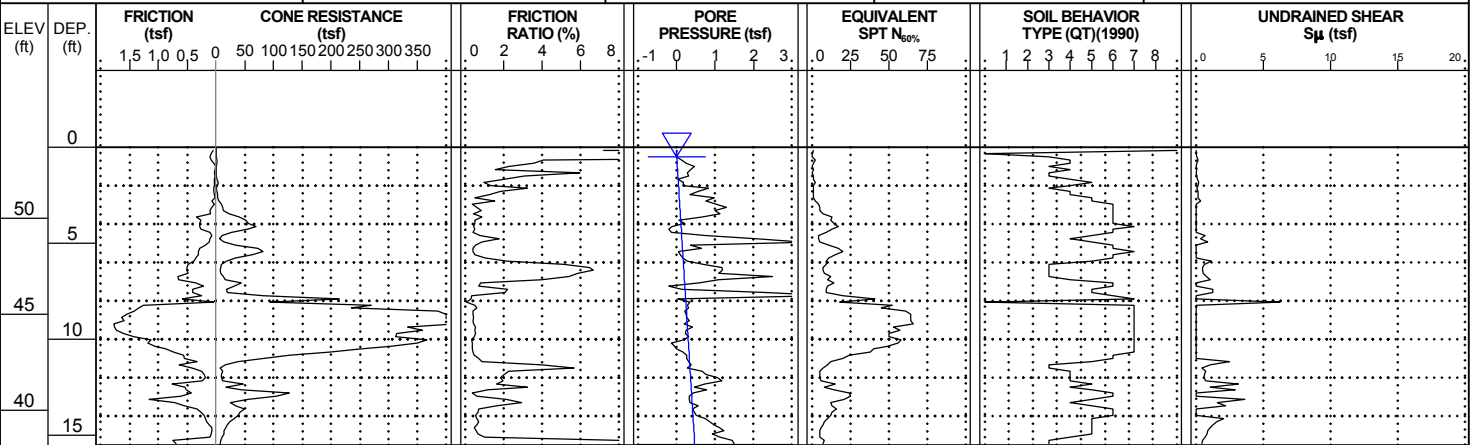
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 11/02/18

COMP. DATE: 11/02/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_78400_CL

STATION: 784+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 0.4

COLLAR ELEV.: 54.0 ft

TOTAL DEPTH: 15.3 ft

NORTHING: 236,265

EASTING: 2,394,411

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG0867

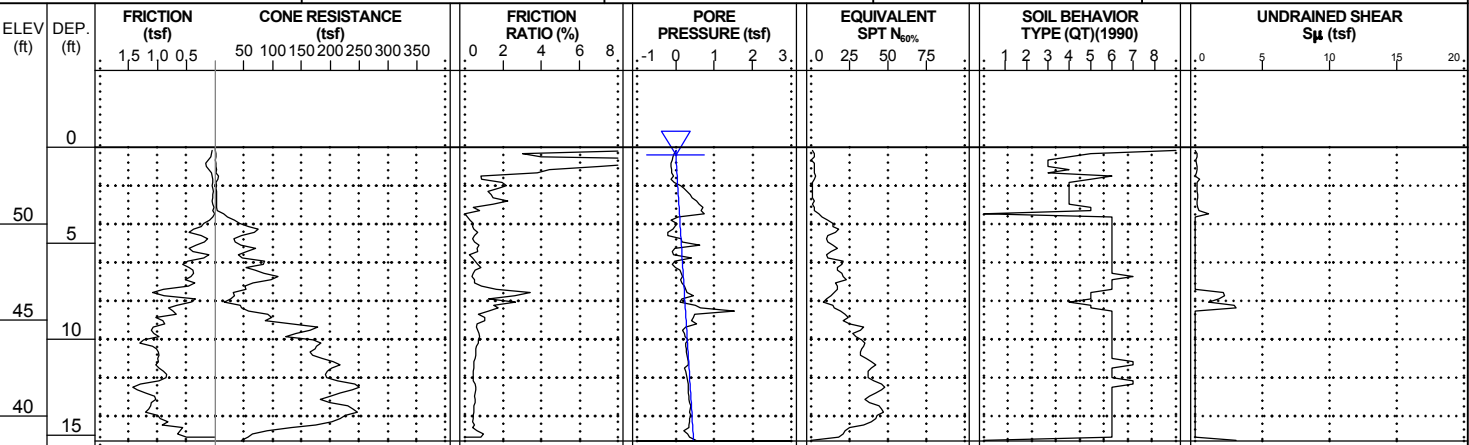
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 11/02/18

COMP. DATE: 11/02/18

SURF. WATER DEPTH: N/A

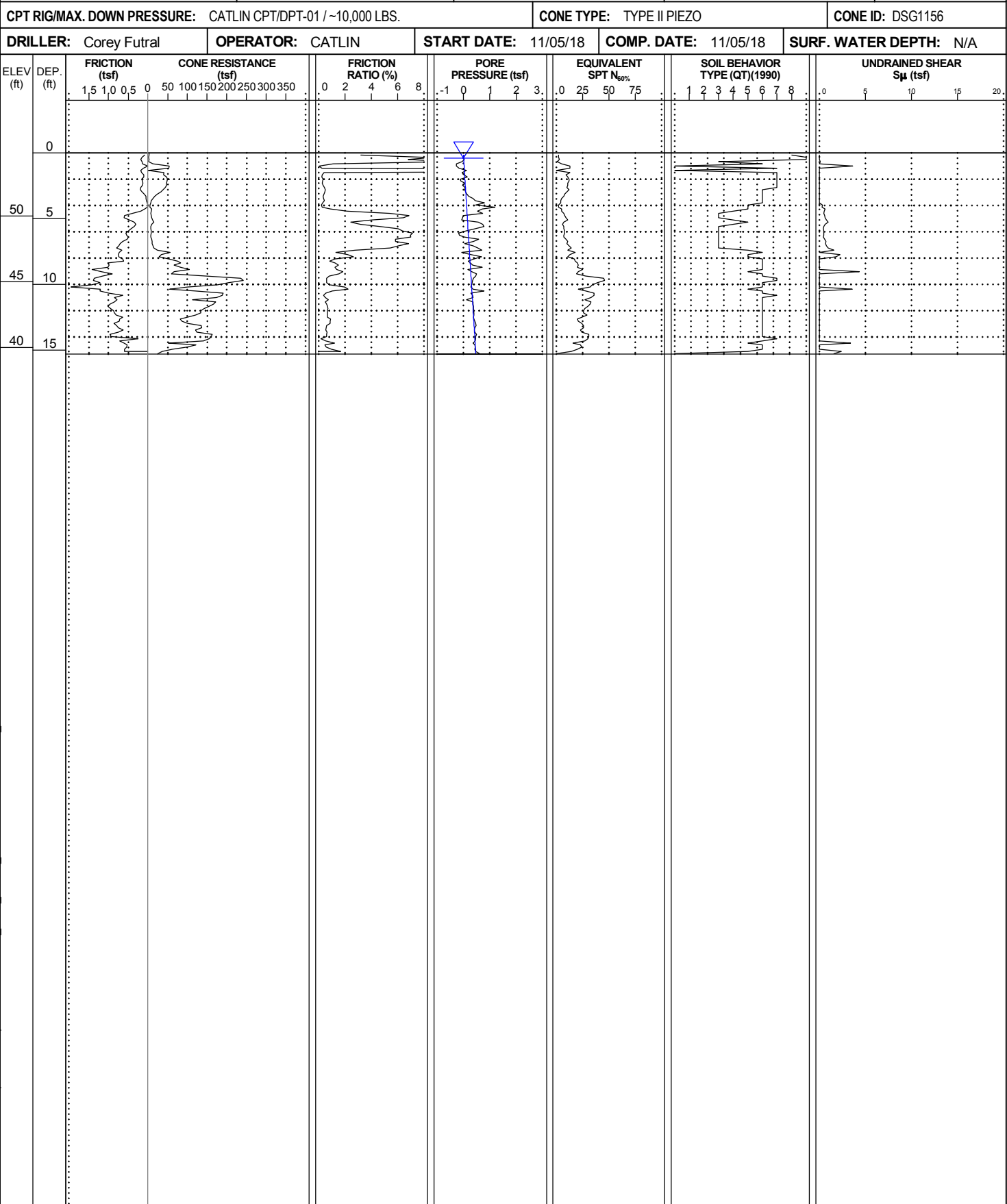


NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

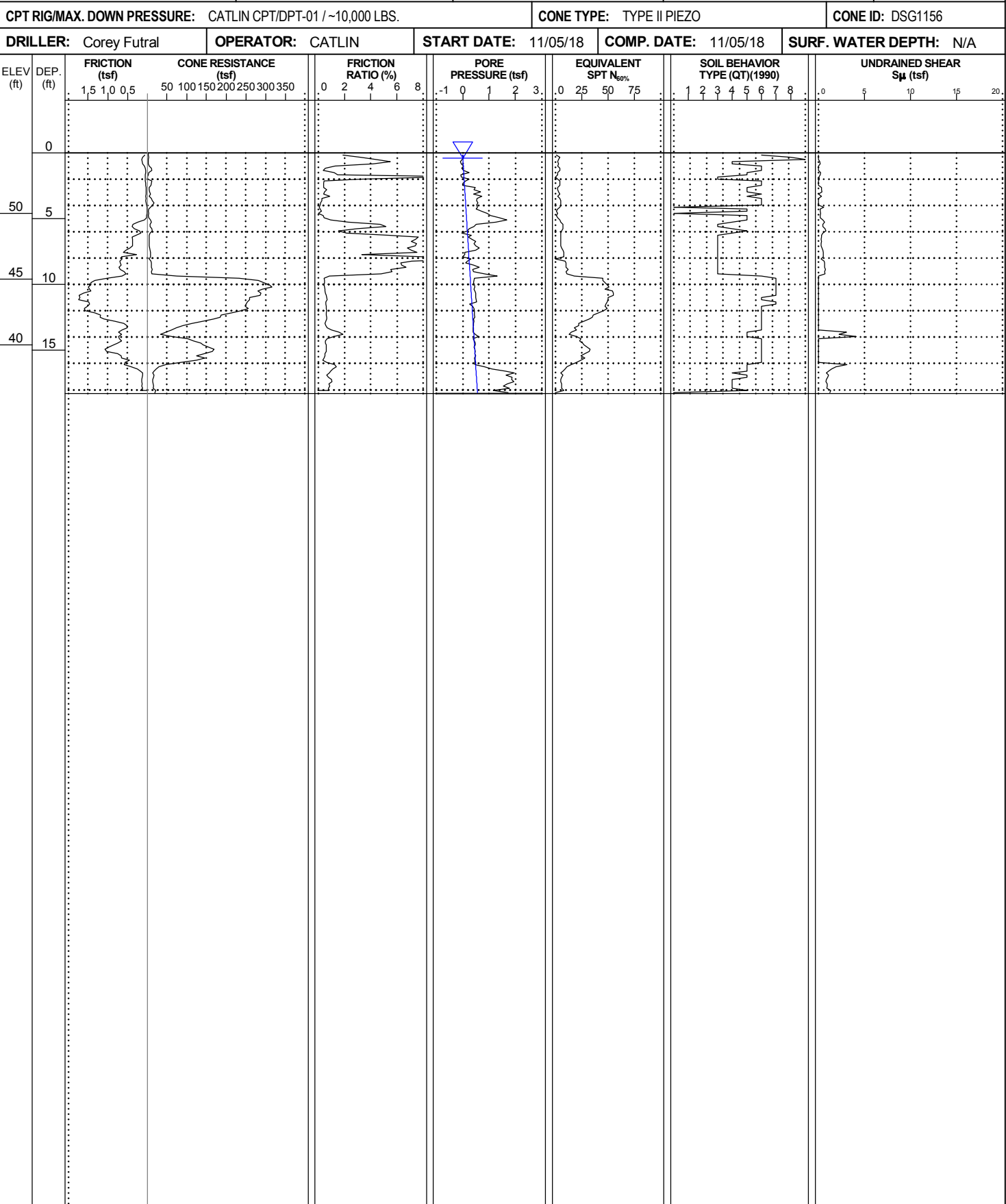
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_78800_CL	STATION: 788+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 54.8 ft	TOTAL DEPTH: 15.3 ft	NORTHING: 236,439	EASTING: 2,394,771
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/05/18	COMP. DATE: 11/05/18
SURF. WATER DEPTH: N/A			



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_79000_CL	STATION: 790+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 54.6 ft	TOTAL DEPTH: 18.3 ft	NORTHING: 236,535	EASTING: 2,394,946
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/05/18	COMP. DATE: 11/05/18
SURF. WATER DEPTH: N/A			



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_79450_CL

STATION: 794+50

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 0.6

COLLAR ELEV.: 55.1 ft

TOTAL DEPTH: 13.8 ft

NORTHING: 236,777

EASTING: 2,395,326

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

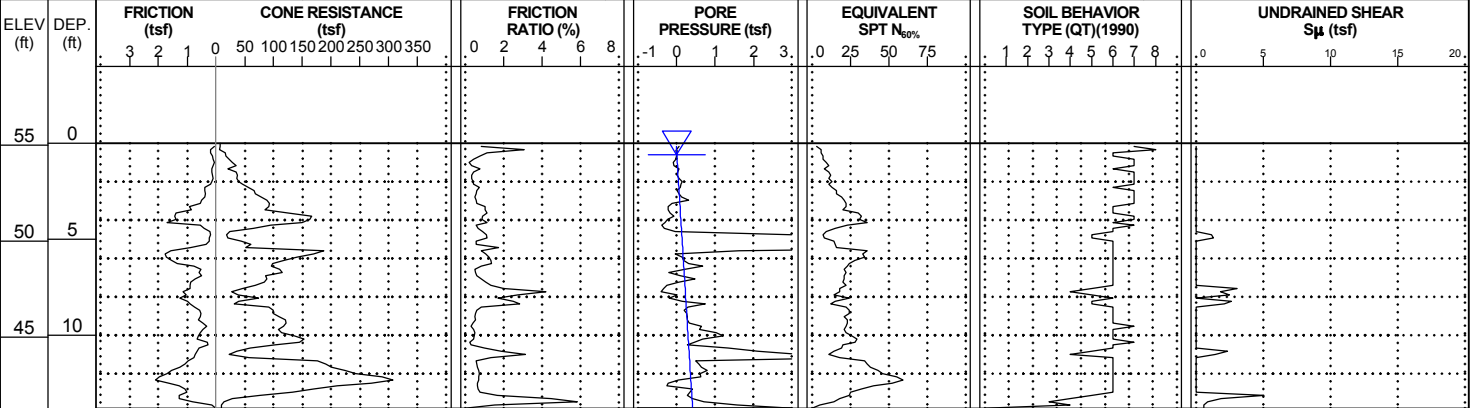
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 11/05/18

COMP. DATE: 11/05/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_79500_CL

STATION: 795+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 0.2

COLLAR ELEV.: 55.1 ft

TOTAL DEPTH: 15.3 ft

NORTHING: 236,806

EASTING: 2,395,367

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

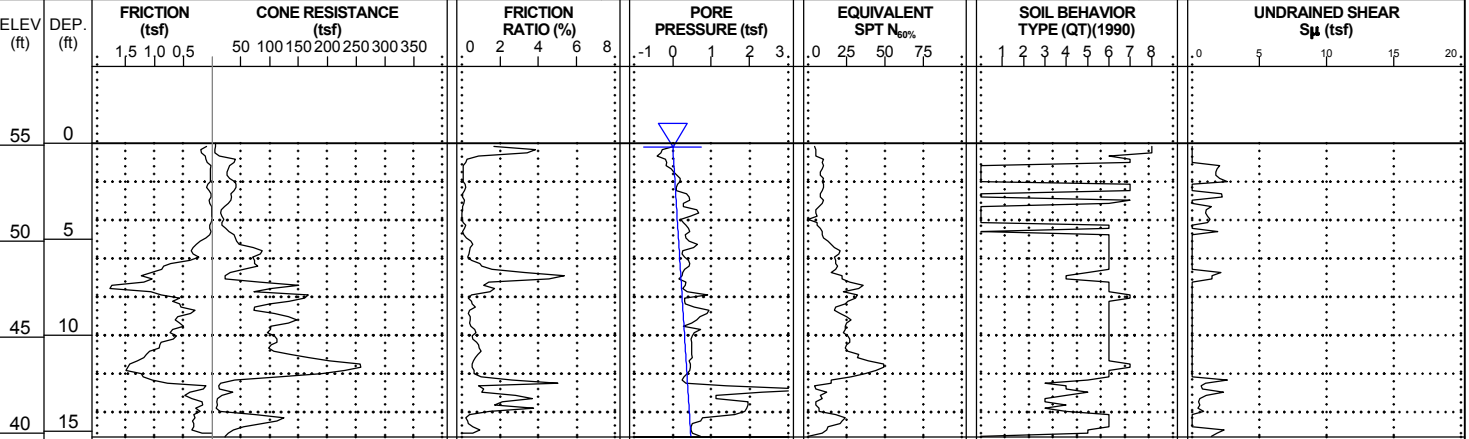
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 11/05/18

COMP. DATE: 11/05/18

SURF. WATER DEPTH: N/A

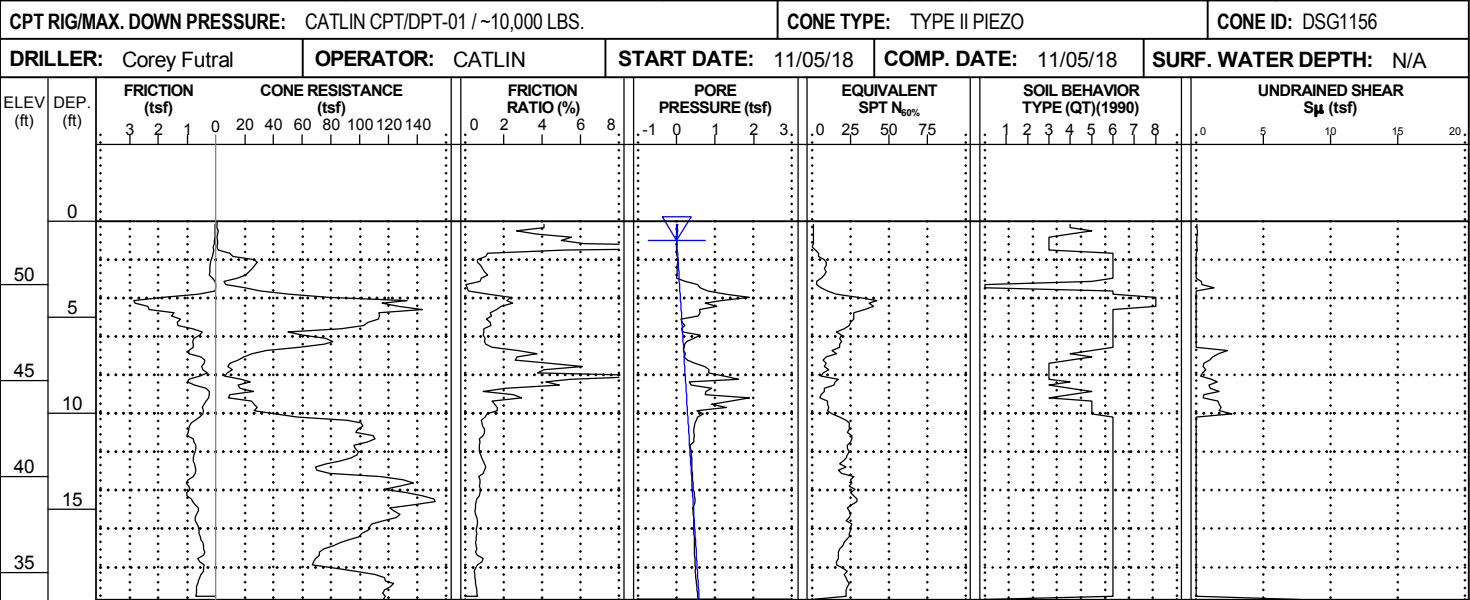


NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

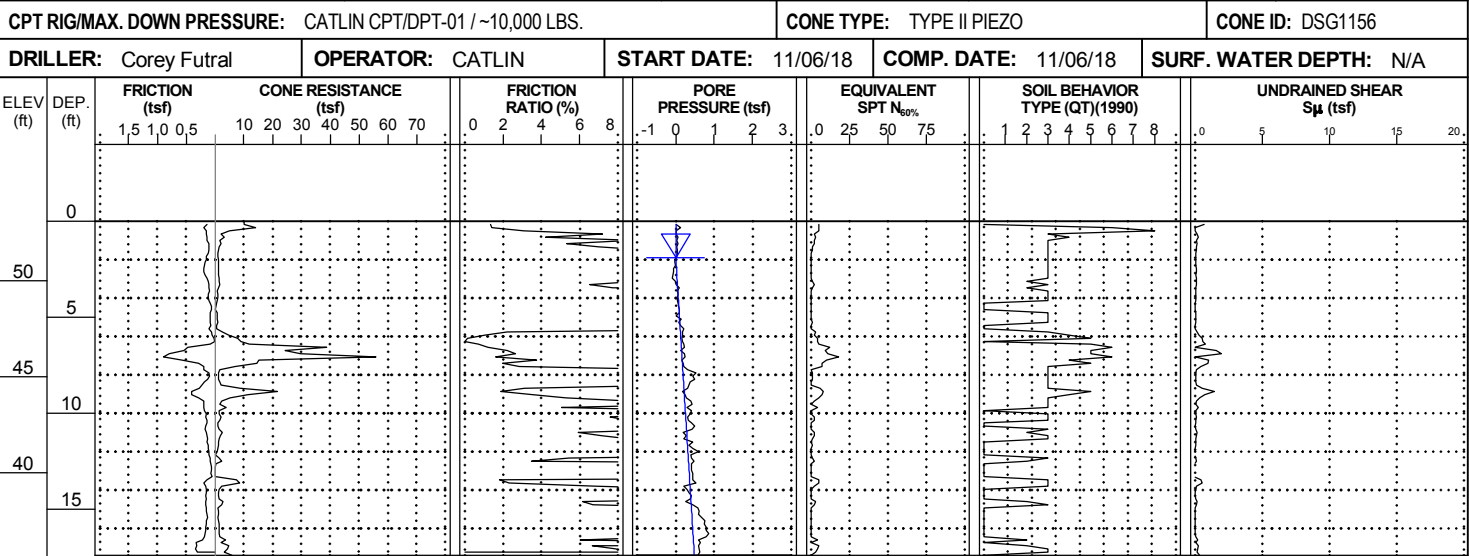
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_80000_CL	STATION: 800+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 53.3 ft	TOTAL DEPTH: 19.7 ft	NORTHING: 237,115	EASTING: 2,395,760
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/05/18	COMP. DATE: 11/05/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 1.0	24 HR. N/A



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_80200_CL	STATION: 802+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 53.1 ft	TOTAL DEPTH: 17.4 ft	NORTHING: 237,247	EASTING: 2,395,909
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/06/18	COMP. DATE: 11/06/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 1.9	24 HR. N/A

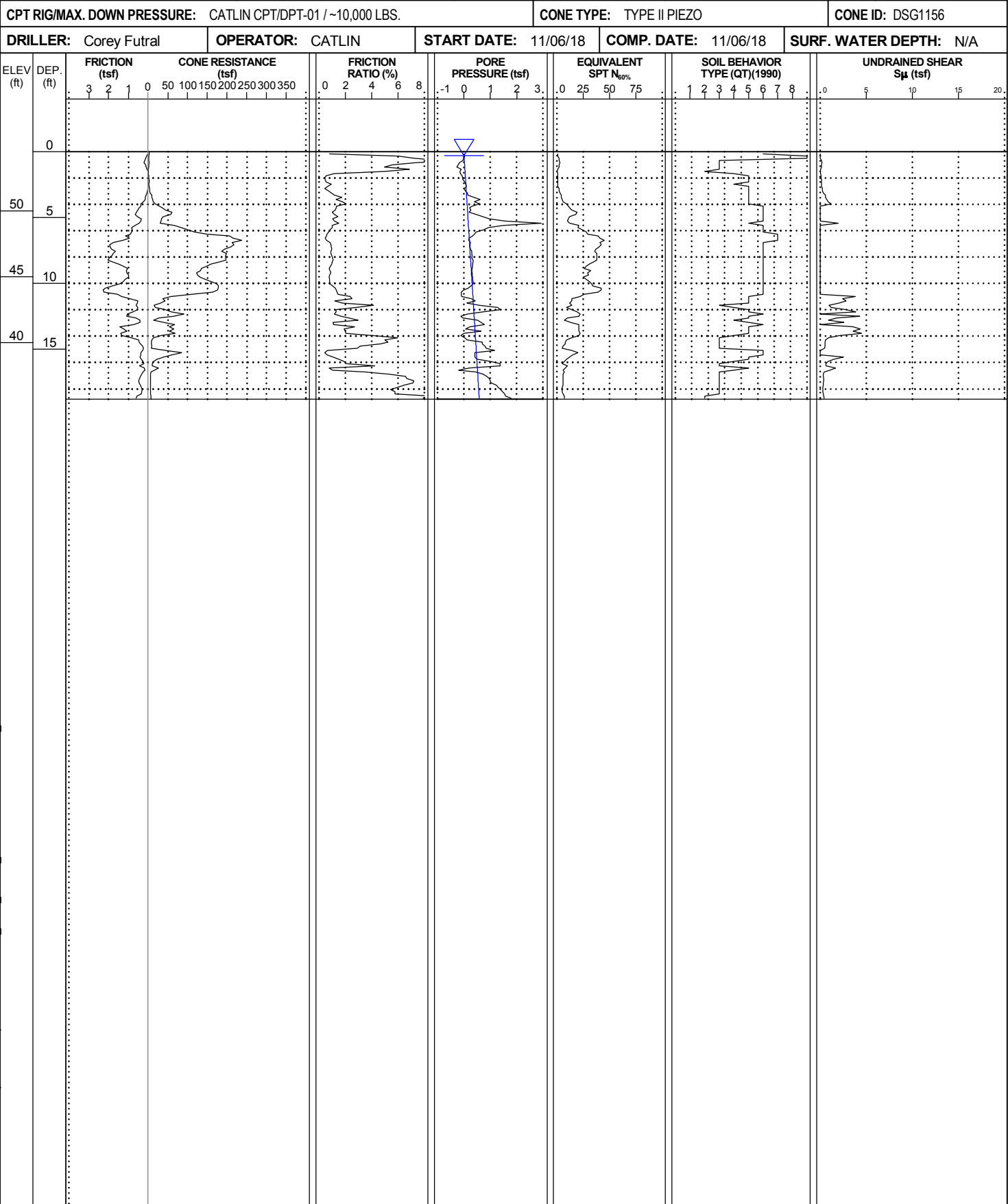


NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

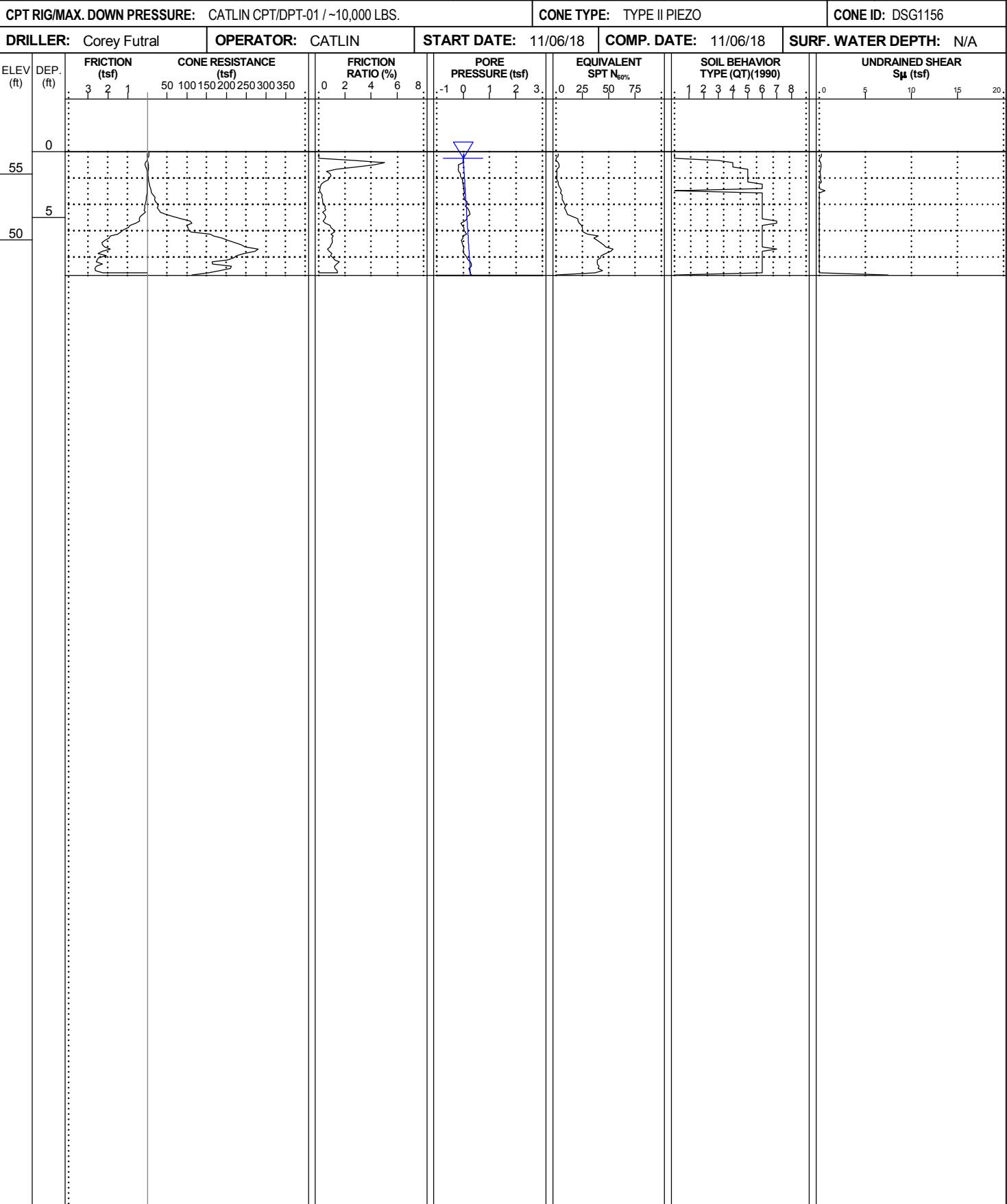
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_80600_CL	STATION: 806+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 54.5 ft	TOTAL DEPTH: 18.8 ft	NORTHING: 237,514	EASTING: 2,396,208
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/06/18	COMP. DATE: 11/06/18
SURF. WATER DEPTH: N/A			



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1_81000_CL	STATION: 810+00	OFFSET: CL	ALIGNMENT: -L1-
COLLAR ELEV.: 56.7 ft	TOTAL DEPTH: 9.4 ft	NORTHING: 237,780	EASTING: 2,396,506
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/06/18	COMP. DATE: 11/06/18
SURF. WATER DEPTH: N/A			



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_81200_CL

STATION: 812+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 0.6

COLLAR ELEV.: 57.2 ft

TOTAL DEPTH: 15.5 ft

NORTHING: 237,914

EASTING: 2,396,655

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

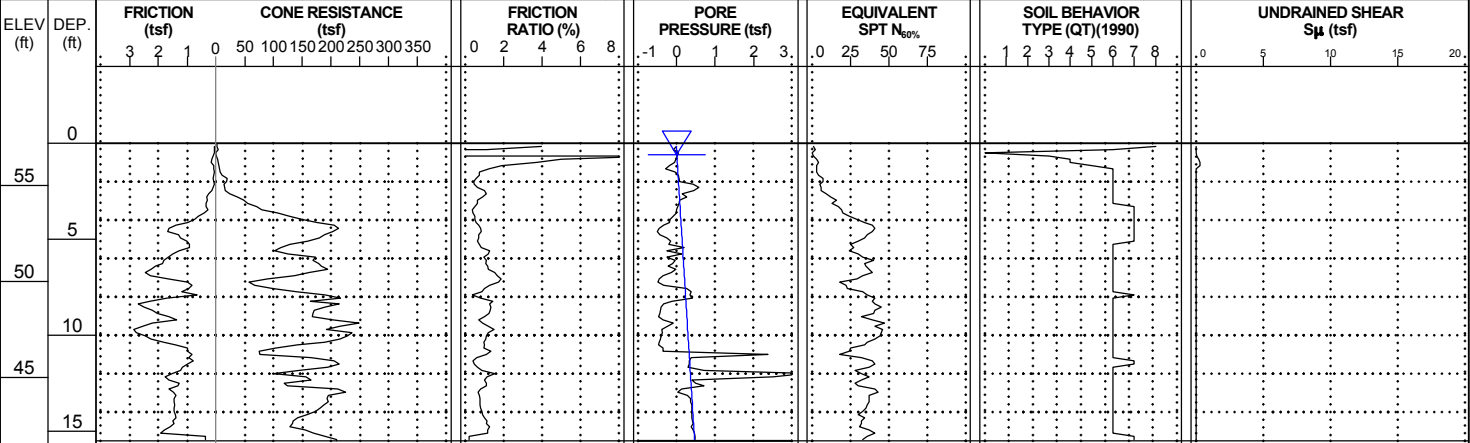
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 11/06/18

COMP. DATE: 11/06/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_81400_CL

STATION: 814+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 0.4

COLLAR ELEV.: 57.0 ft

TOTAL DEPTH: 12.4 ft

NORTHING: 238,047

EASTING: 2,396,804

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

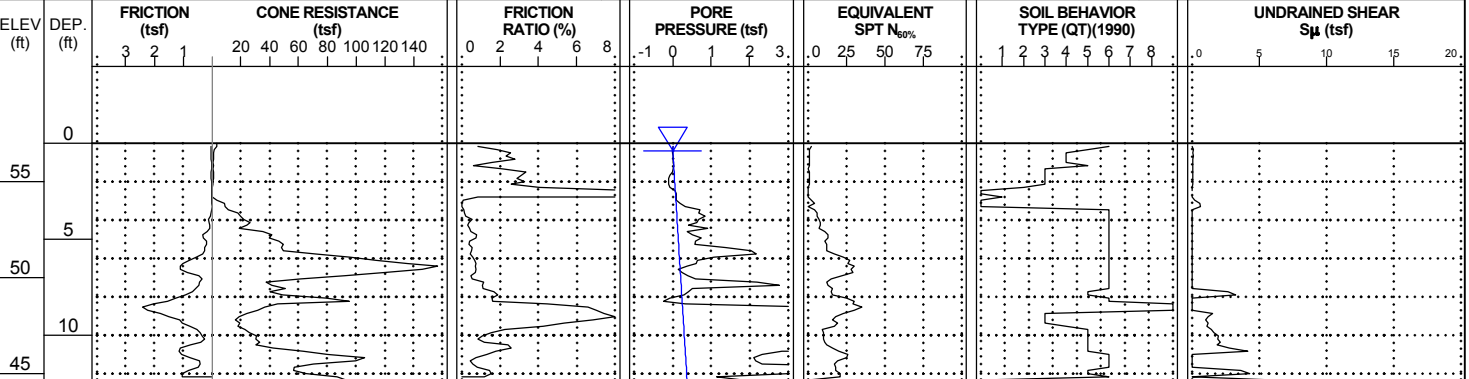
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 11/06/18

COMP. DATE: 11/06/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_81800_CL

STATION: 818+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 0.4

COLLAR ELEV.: 57.6 ft

TOTAL DEPTH: 13.0 ft

NORTHING: 238,314

EASTING: 2,397,102

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

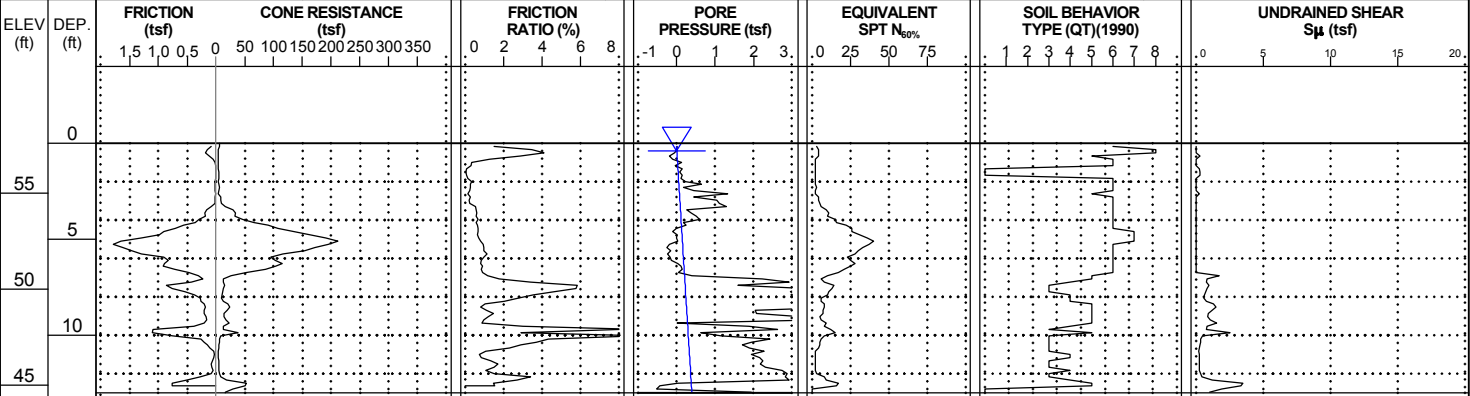
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 11/06/18

COMP. DATE: 11/06/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_82000_CL

STATION: 820+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 0.5

COLLAR ELEV.: 58.1 ft

TOTAL DEPTH: 13.8 ft

NORTHING: 238,447

EASTING: 2,397,251

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

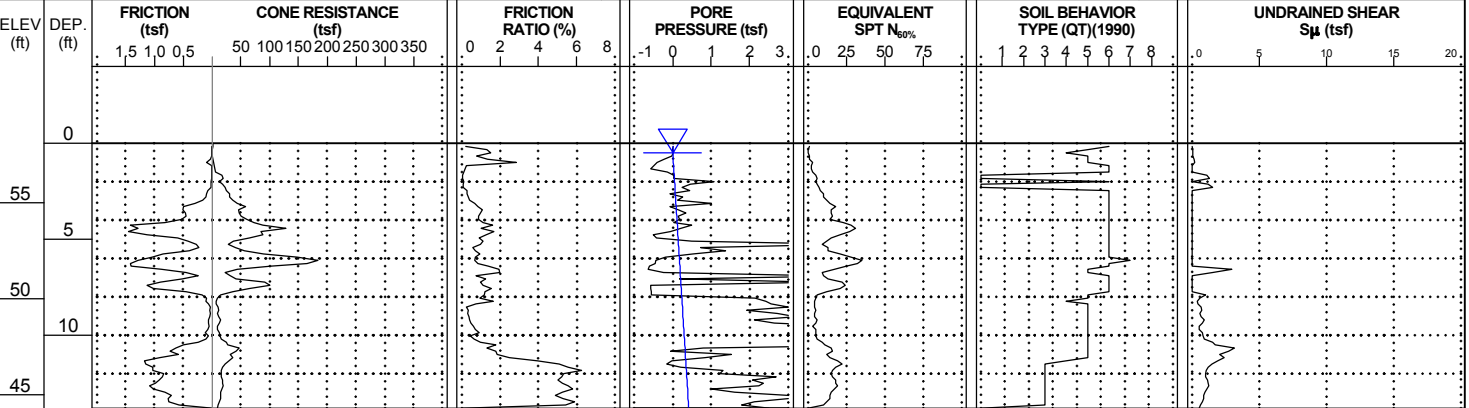
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 11/07/18

COMP. DATE: 11/07/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_82400_CL

STATION: 824+00

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 1.8

COLLAR ELEV.: 60.0 ft

TOTAL DEPTH: 10.4 ft

NORTHING: 238,714

EASTING: 2,397,549

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

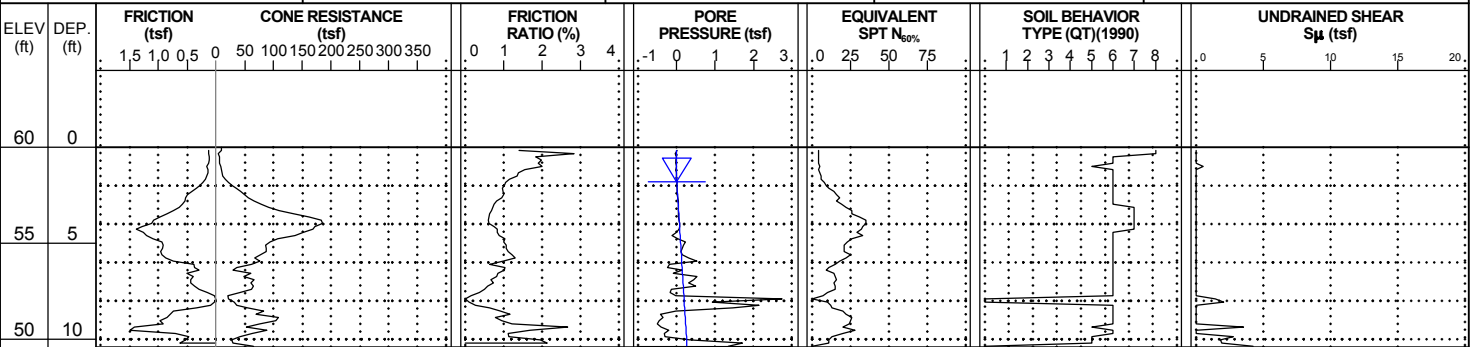
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 11/07/18

COMP. DATE: 11/07/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1_82650_CL

STATION: 826+50

OFFSET: CL

ALIGNMENT: -L1-

EST. 0 HR. 2.0

COLLAR ELEV.: 59.8 ft

TOTAL DEPTH: 11.2 ft

NORTHING: 238,880

EASTING: 2,397,736

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

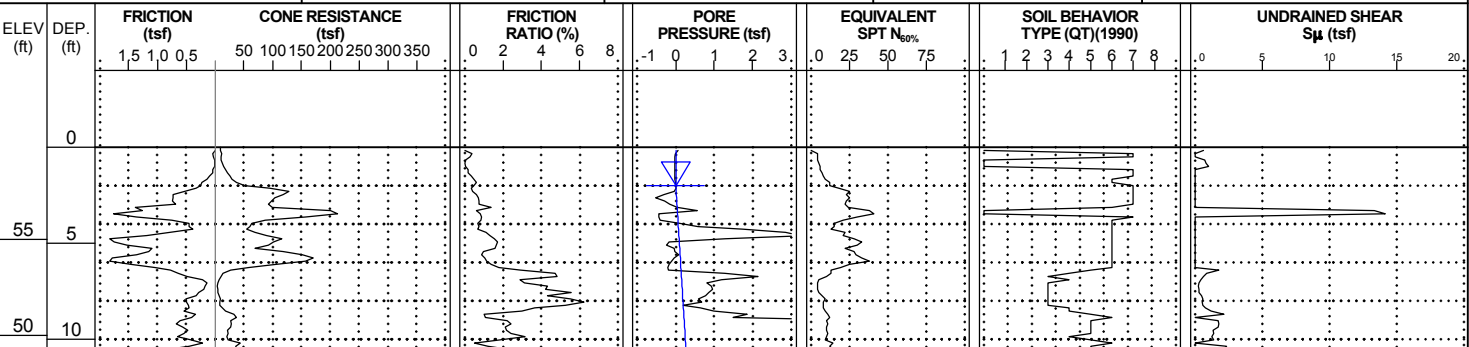
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 11/07/18

COMP. DATE: 11/07/18

SURF. WATER DEPTH: N/A



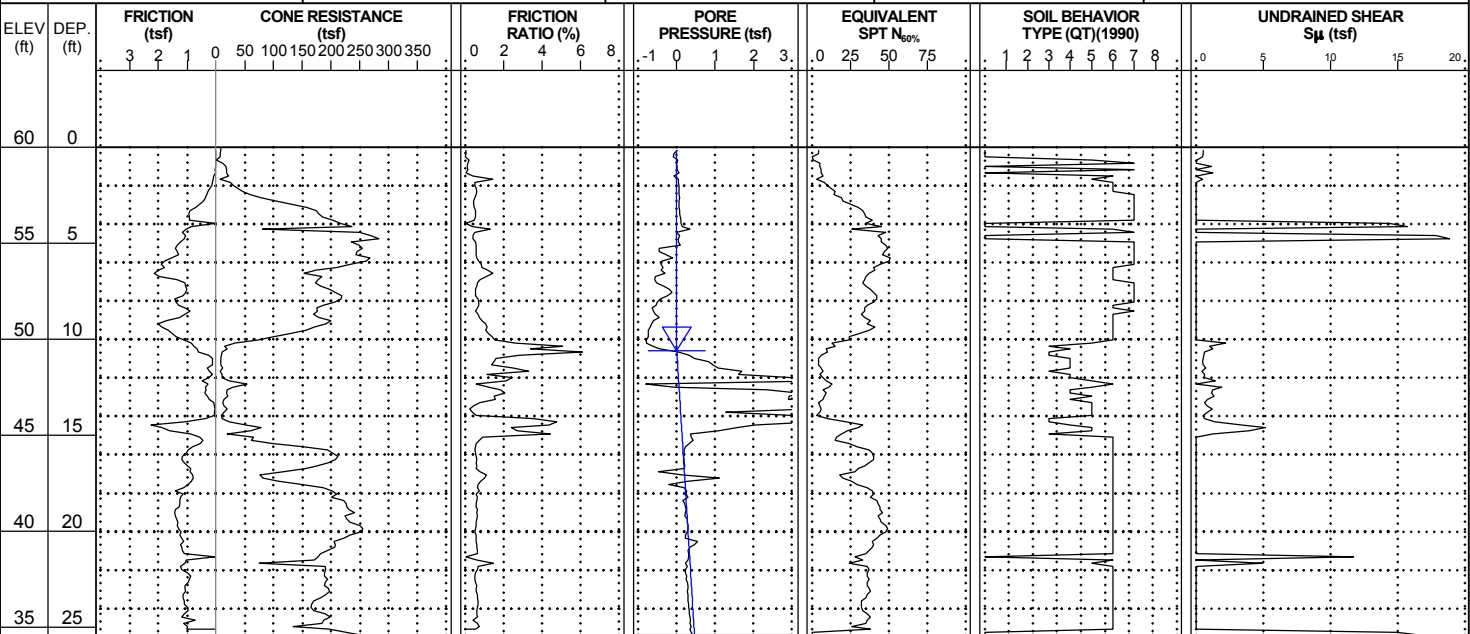
NCDOI CPT DOUBLE (PORTRAIT) NC-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



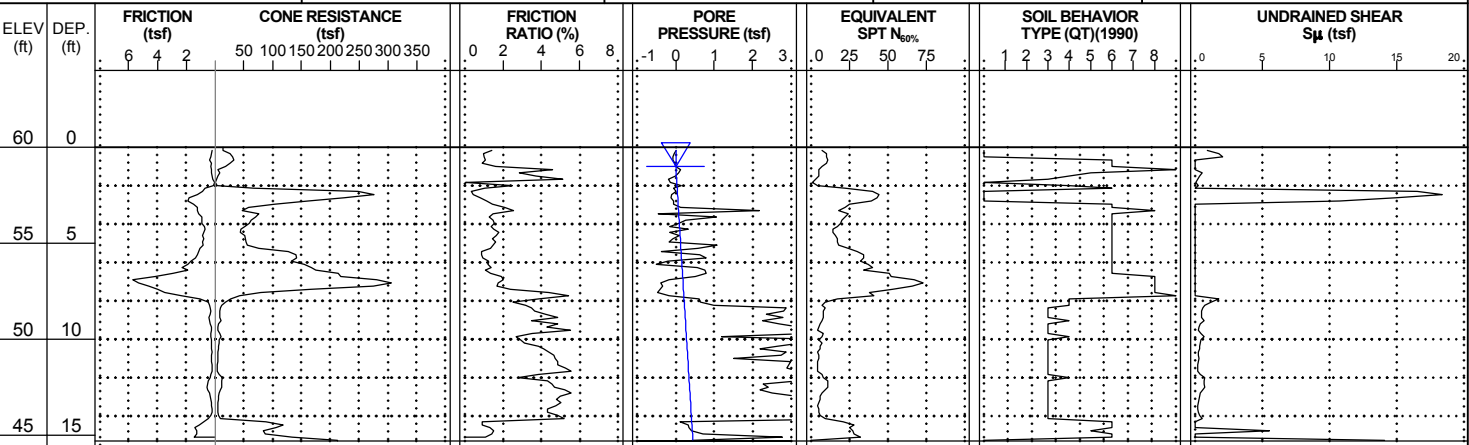
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: L.PUGH	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1N_82500	STATION: 825+00	OFFSET: CL	ALIGNMENT: -L1N-	EST. 0 HR.	10.6
COLLAR ELEV.: 60.0 ft	TOTAL DEPTH: 25.4 ft	NORTHING: 238,780	EASTING: 2,397,624	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867		
DRILLER: Eddie Swain	OPERATOR: CATLIN	START DATE: 02/07/20	COMP. DATE: 02/07/20	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: L1N_83000_CL	STATION: 830+00	OFFSET: CL	ALIGNMENT: -L1N-	EST. 0 HR.	1.0
COLLAR ELEV.: 60.0 ft	TOTAL DEPTH: 15.3 ft	NORTHING: 239,108	EASTING: 2,398,002	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/07/18	COMP. DATE: 11/07/18	SURF. WATER DEPTH: N/A	



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1TIP: R-3300BCOUNTY: PENDERGEOLOGIST: S. HUDSON

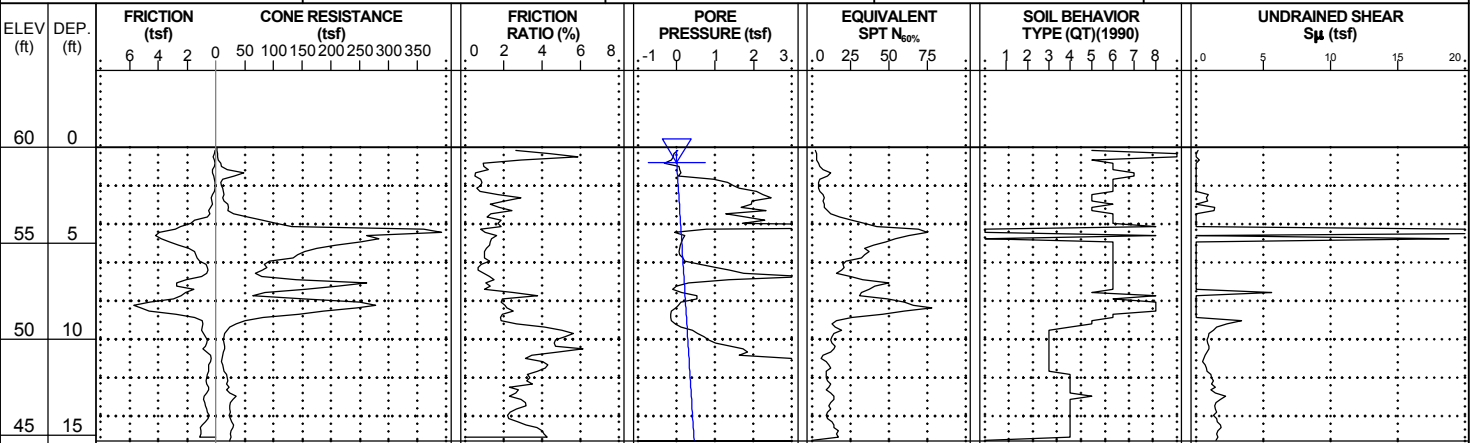
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEADGROUND WTR (ft)

BORING NO.: L1N_83200_CLSTATION: 832+00OFFSET: CLALIGNMENT: -L1N-EST. 0 HR. 0.8

COLLAR ELEV.: 60.0 ftTOTAL DEPTH: 15.3 ftNORTHING: 239,219EASTING: 2,398,16824 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.CONE TYPE: TYPE II PIEZOCONE ID: DSG1156

DRILLER: Corey FutralOPERATOR: CATLINSTART DATE: 11/07/18COMP. DATE: 11/07/18SURF. WATER DEPTH: N/A



WBS: 40237.1.1TIP: R-3300BCOUNTY: PENDERGEOLOGIST: S. HUDSON

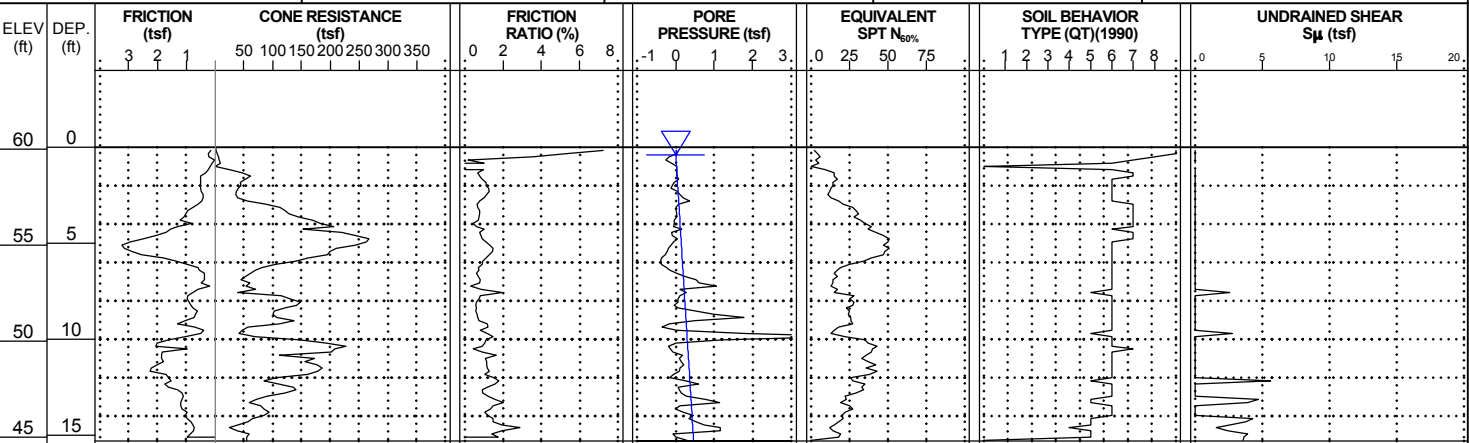
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEADGROUND WTR (ft)

BORING NO.: L1N_83400_CLSTATION: 834+00OFFSET: CLALIGNMENT: -L1N-EST. 0 HR. 0.4

COLLAR ELEV.: 60.1 ftTOTAL DEPTH: 15.3 ftNORTHING: 239,306EASTING: 2,398,34824 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.CONE TYPE: TYPE II PIEZOCONE ID: DSG1156

DRILLER: Corey FutralOPERATOR: CATLINSTART DATE: 11/07/18COMP. DATE: 11/07/18SURF. WATER DEPTH: N/A



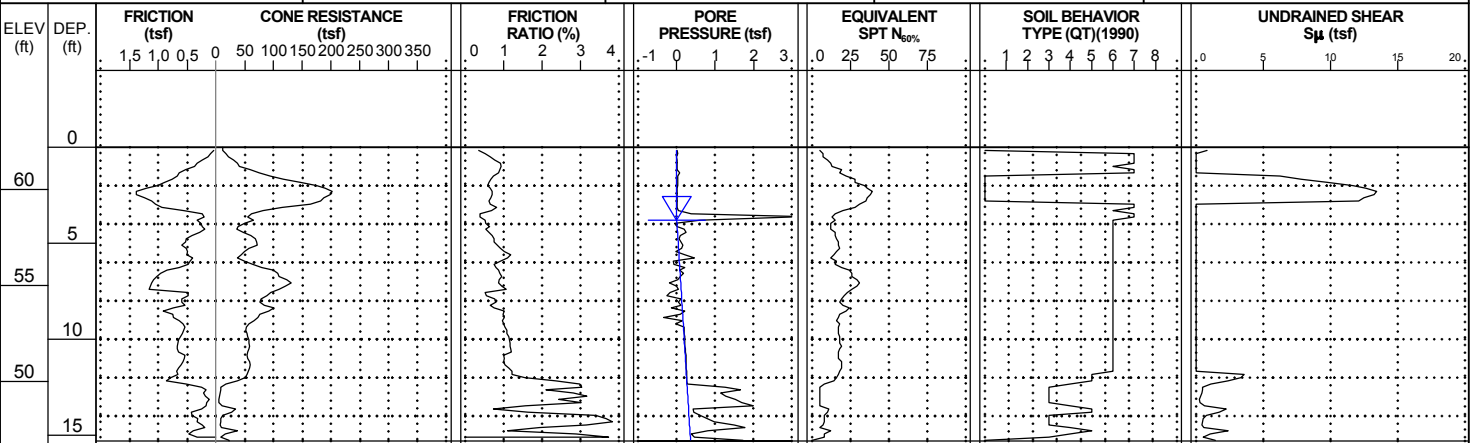
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



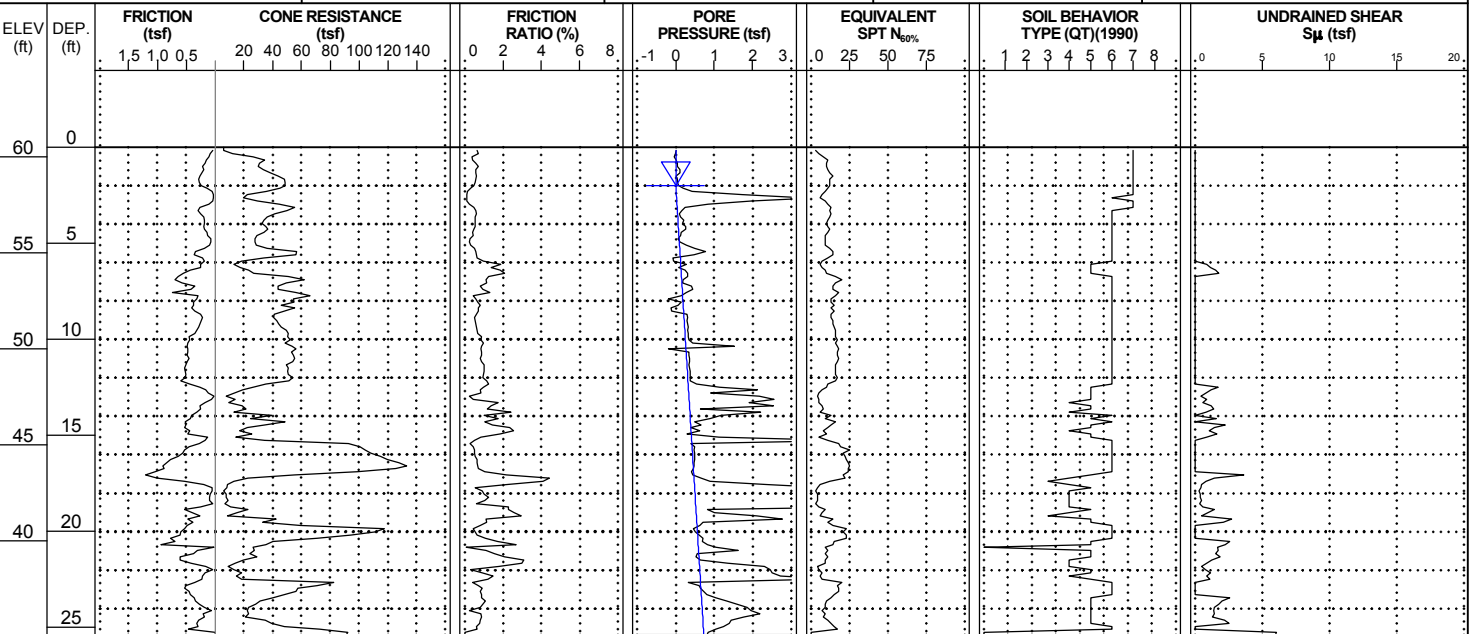
WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1N_83600_40LT	STATION: 836+00	OFFSET: 40 ft LT	ALIGNMENT: -L1N- EST. 0 HR. 3.8
COLLAR ELEV.: 62.2 ft	TOTAL DEPTH: 15.3 ft	NORTHING: 239,407	EASTING: 2,398,528 24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.	CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/07/18 COMP. DATE: 11/07/18 SURF. WATER DEPTH: N/A



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: L.PUGH
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1N_83750	STATION: 837+50	OFFSET: CL	ALIGNMENT: -L1N- EST. 0 HR. 2.0
COLLAR ELEV.: 60.5 ft	TOTAL DEPTH: 25.4 ft	NORTHING: 239,398	EASTING: 2,398,686 24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.	CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867
DRILLER: Eddie Swain	OPERATOR: CATLIN	START DATE: 02/07/20 COMP. DATE: 02/07/20 SURF. WATER DEPTH: N/A

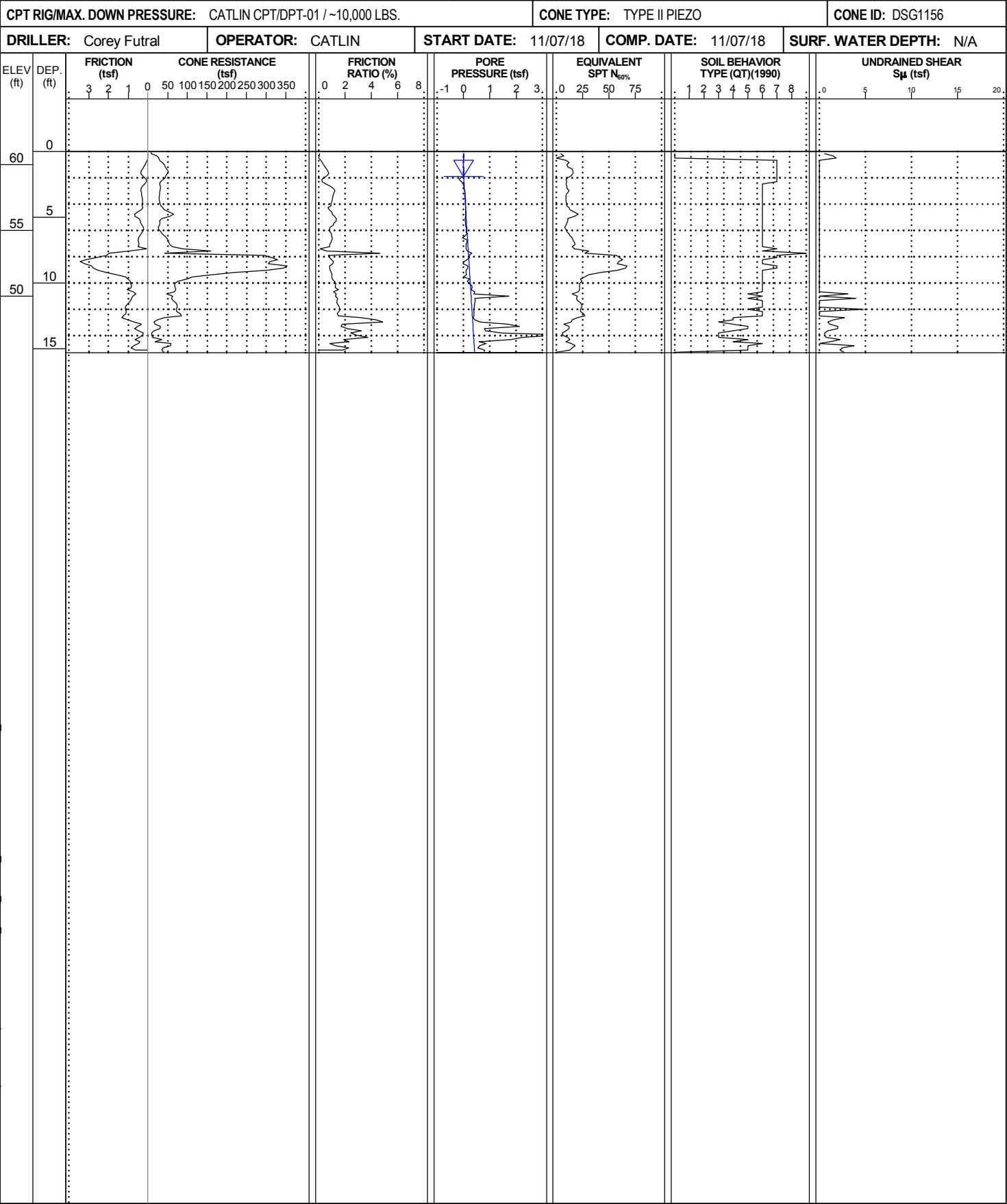


NCDOI CPT DOUBLE (PORTRAIT) NC-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

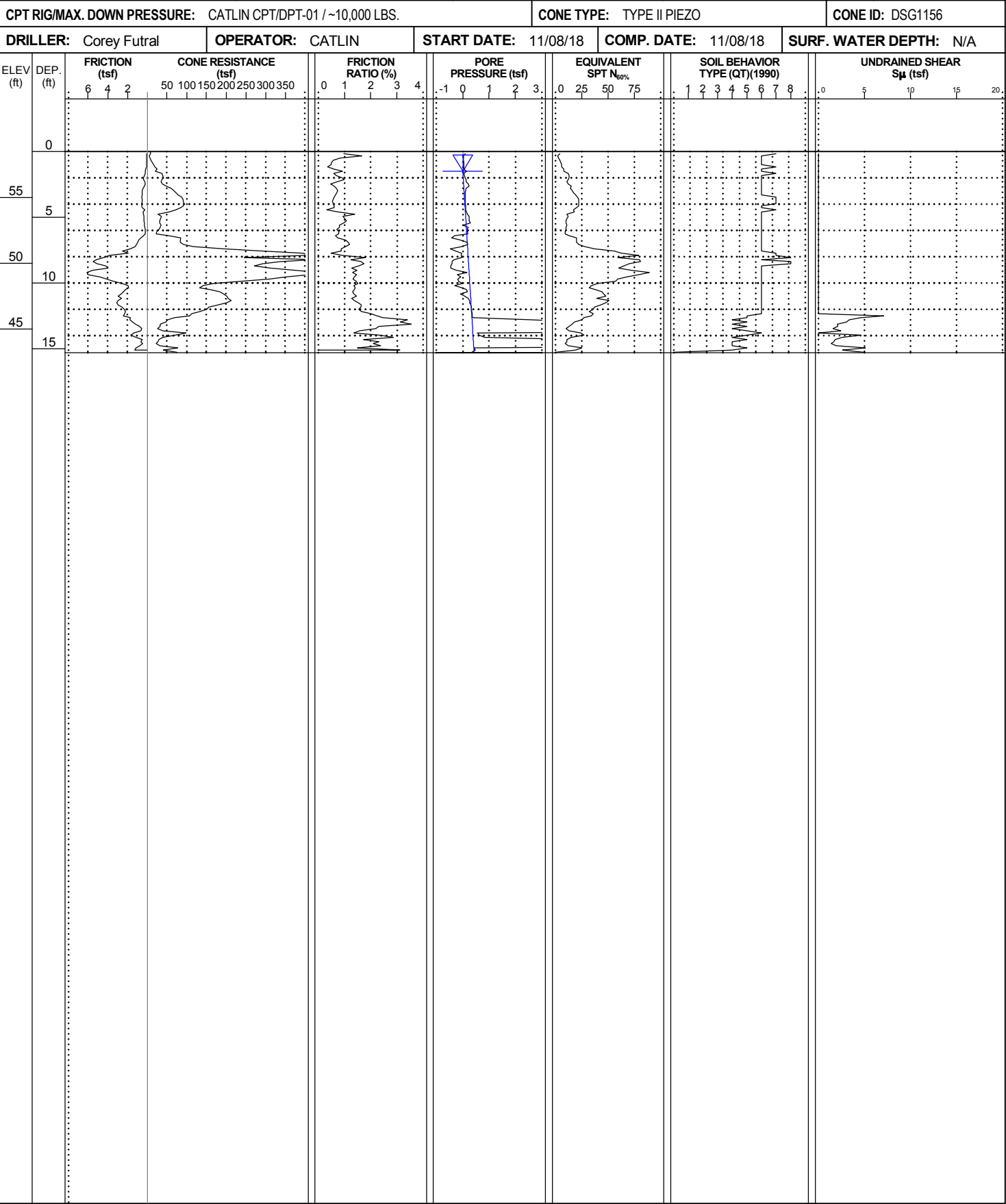
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1N_83800_CL	STATION: 838+00	OFFSET: CL	ALIGNMENT: -L1N-
COLLAR ELEV.: 61.0 ft	TOTAL DEPTH: 15.3 ft	NORTHING: 239,404	EASTING: 2,398,734
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/07/18	COMP. DATE: 11/07/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 1.9	24 HR. N/A



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: L1N_84200_CL	STATION: 842+00	OFFSET: CL	ALIGNMENT: -L1N-
COLLAR ELEV.: 58.5 ft	TOTAL DEPTH: 15.3 ft	NORTHING: 239,395	EASTING: 2,399,133
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/08/18	COMP. DATE: 11/08/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 1.5	24 HR. N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1N_85600_CL

STATION: 856+00

OFFSET: CL

ALIGNMENT: -L1N-

EST. 0 HR. 3.8

COLLAR ELEV.: 43.6 ft

TOTAL DEPTH: 15.5 ft

NORTHING: 238,996

EASTING: 2,400,463

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

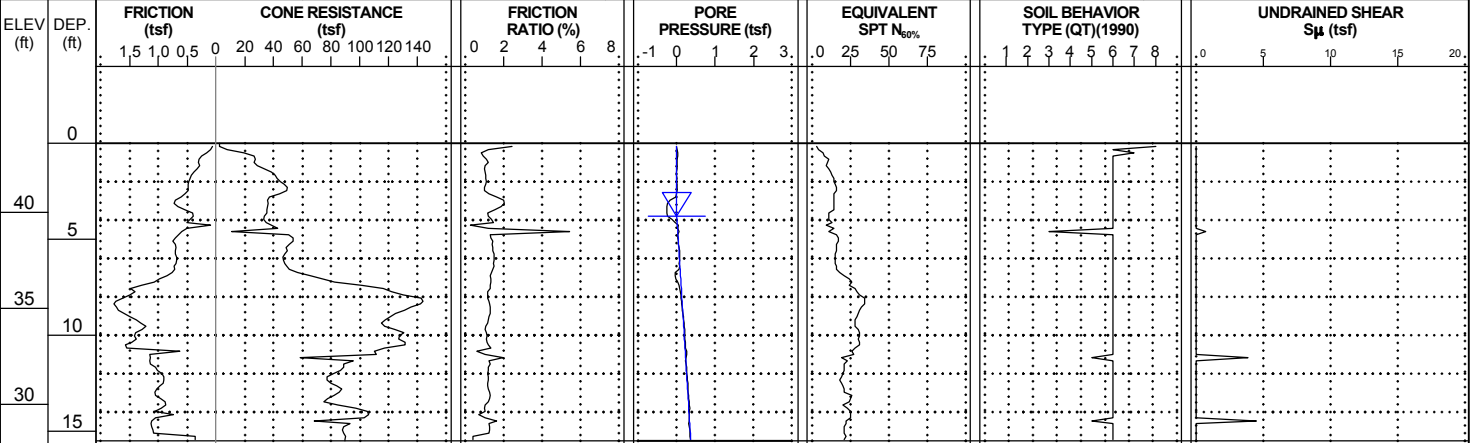
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/23/18

COMP. DATE: 10/23/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: L1N_85800_CL

STATION: 858+00

OFFSET: CL

ALIGNMENT: -L1N-

EST. 0 HR. 3.2

COLLAR ELEV.: 43.9 ft

TOTAL DEPTH: 15.5 ft

NORTHING: 239,009

EASTING: 2,400,662

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

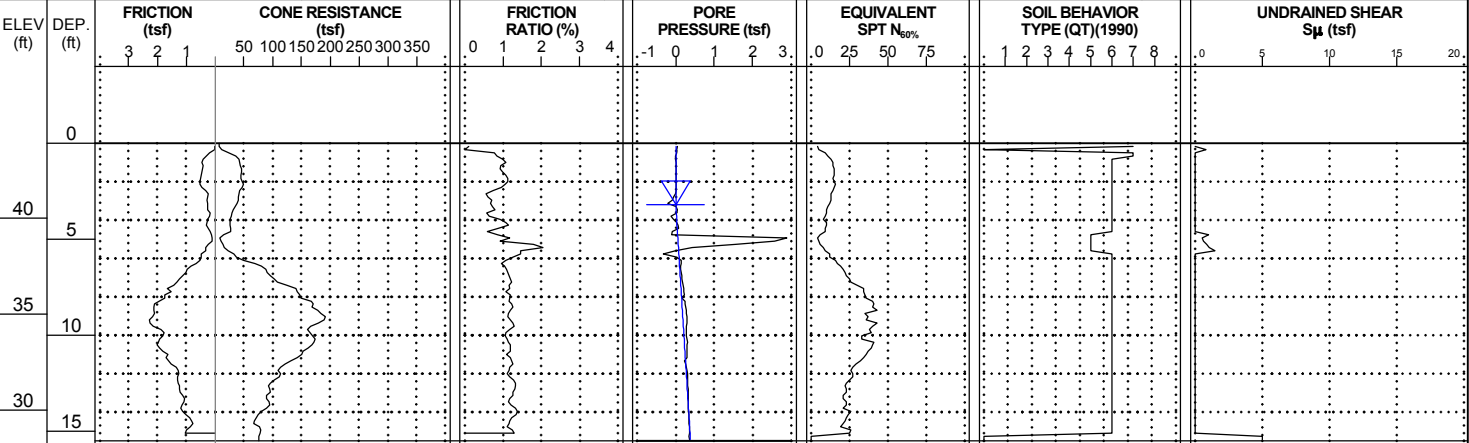
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/23/18

COMP. DATE: 10/23/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

<i>PROJECT REFERENCE NO.</i>	<i>SHEET</i>
R-3300B	46

WBS: 40237.1.1		TIP: R-3300B		COUNTY: PENDER		GEOLOGIST: S. HUDSON					
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD							GROUND WTR (ft)				
BORING NO.: SR4_1500_CL		STATION: 15+00		OFFSET: CL		ALIGNMENT: -SR4-		EST. 0 HR. 6.4			
COLLAR ELEV.: 32.3 ft		TOTAL DEPTH: 15.3 ft		NORTHING: 231,959		EASTING: 2,376,352		24 HR. N/A			
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.				CONE TYPE: TYPE II PIEZO			CONE ID: DSA1123				
DRILLER: William J. Miller		OPERATOR: CATLIN		START DATE: 08/14/18		COMP. DATE: 08/14/18		SURF. WATER DEPTH: N/A			
ELEV (ft)	DEP. (ft)	FRICTION (tsf) 1.5 1.0 0.5		CONE RESISTANCE (tsf) 20 40 60 80 100 120 140		FRICTION RATIO (%) 0 2 4 6 8		PORE PRESSURE (tsf) -1 0 1 2 3	EQUIVALENT SPT N _{60%} 0 25 50 75	SOIL BEHAVIOR TYPE (QT)(1990) 1 2 3 4 5 6 7 8	UNDRAINED SHEAR S _u (tsf) 0 5 10 15 20
	0										
	30										
	5										
	25										
	10										
	20										
	15										

<i>PROJECT REFERENCE NO.</i>	<i>SHEET</i>
R-3300B	47

WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON				
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD				GROUND WTR (ft)				
BORING NO.: SR4_2100_CL	STATION: 21+00	OFFSET: CL	ALIGNMENT: -SR4-	EST. 0 HR. 2.6				
COLLAR ELEV.: 42.8 ft	TOTAL DEPTH: 14.0 ft	NORTHING: 231,710	EASTING: 2,376,895	24 HR. N/A				
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO		CONE ID: DSA1123				
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 08/13/18	COMP. DATE: 08/13/18	SURF. WATER DEPTH: N/A				
ELEV (ft)	DEP. (ft)	FRICTION (tsf) 1.5 1.0 0.5	CONE RESISTANCE (tsf) 20 40 60 80 100 120 140	FRICTION RATIO (%) .0 2 4 6 8	PORE PRESSURE (tsf) -1 0 1 2 3	EQUIVALENT SPT N _{60%} .0 25 50 75	SOIL BEHAVIOR TYPE (QT)(1990) 1 2 3 4 5 6 7 8	UNDRAINED SHEAR S _u (tsf) .0 5 10 15 20
	0							
	40							
	5							
	35							
	10							
	30							

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: SR4_2500_CL

STATION: 25+00

OFFSET: CL

ALIGNMENT: -SR4-

EST. 0 HR. 2.3

COLLAR ELEV.: 42.5 ft

TOTAL DEPTH: 10.5 ft

NORTHING: 231,337

EASTING: 2,376,912

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSA1123

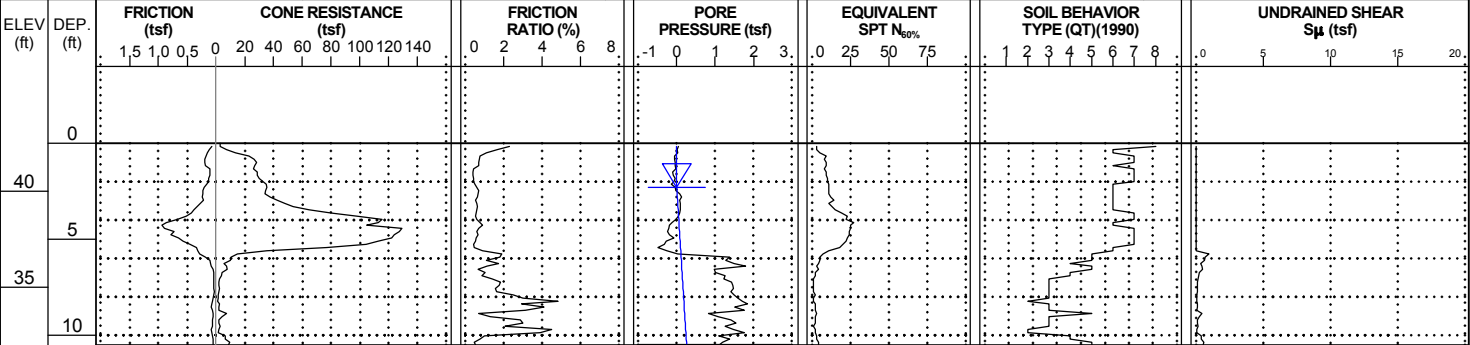
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 08/13/18

COMP. DATE: 08/13/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: SR6_2400_CL

STATION: 24+00

OFFSET: CL

ALIGNMENT: -SR6-

EST. 0 HR. 1.5

COLLAR ELEV.: 27.4 ft

TOTAL DEPTH: 6.3 ft

NORTHING: 232,315

EASTING: 2,377,628

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSA1123

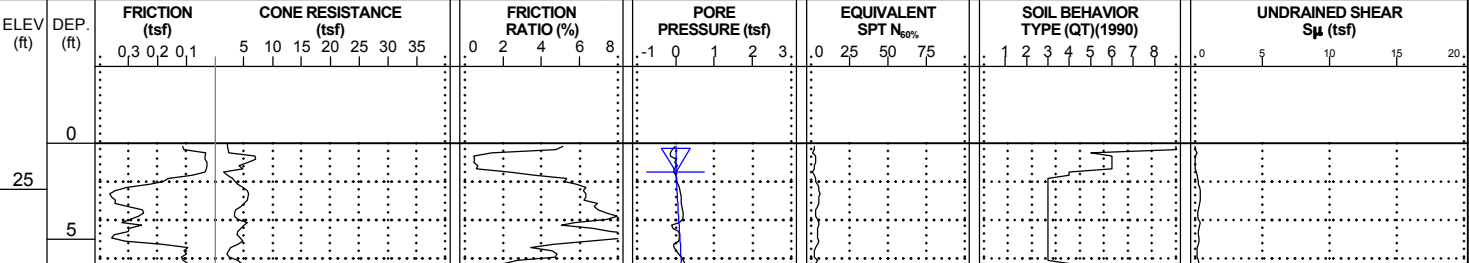
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 08/15/18

COMP. DATE: 08/15/18

SURF. WATER DEPTH: N/A



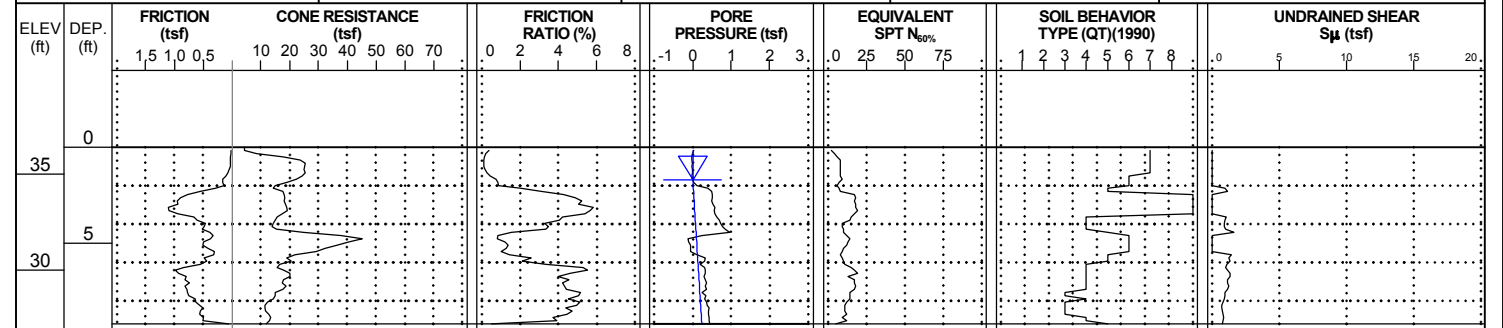
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

<i>PROJECT REFERENCE NO.</i>	<i>SHEET</i>
R-3300B	49

WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD				GROUND WTR (ft)
BORING NO.: SR6_3000_CL	STATION: 30+00	OFFSET: CL	ALIGNMENT: -SR6-	EST. 0 HR. 1.7
COLLAR ELEV.: 36.4 ft	TOTAL DEPTH: 9.2 ft	NORTHING: 232,538	EASTING: 2,378,184	24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.	CONE TYPE: TYPE II PIEZO	CONE ID: DSA1123
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DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 08/16/18	COMP. DATE: 08/16/18	SURF. WATER DEPTH: N/A
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NCDOT CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY CPT ONLY.GPJ NCDOT CATLIN.GDT 2/11/20

<i>PROJECT REFERENCE NO.</i>	<i>SHEET</i>
R-3300B	50

[illegible]

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: SR7_2200_CL

STATION: 22+00

OFFSET: CL

ALIGNMENT: -SR7-

EST. 0 HR. 2.0

COLLAR ELEV.: 51.6 ft

TOTAL DEPTH: 10.9 ft

NORTHING: 235,947

EASTING: 2,390,307

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG0867

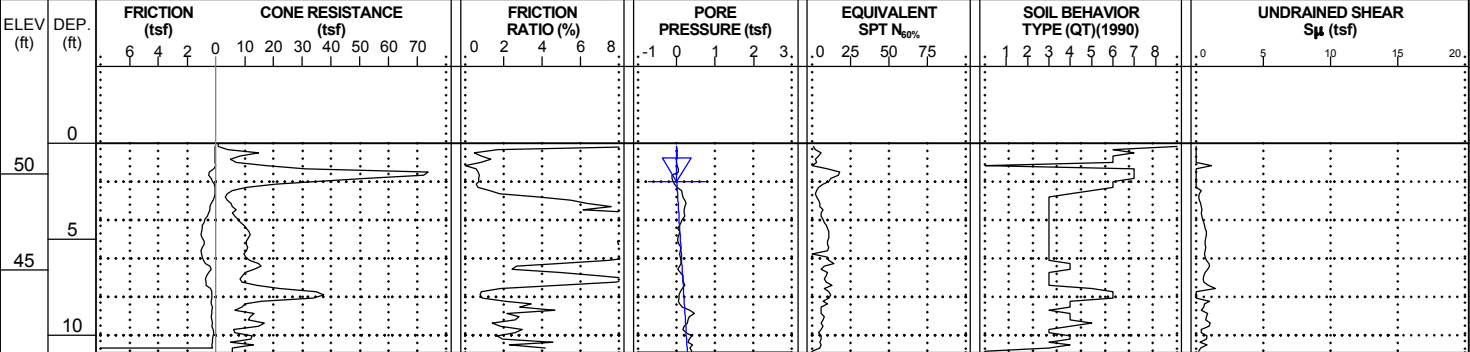
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/18/18

COMP. DATE: 10/18/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: SR7_2400_CL

STATION: 24+00

OFFSET: CL

ALIGNMENT: -SR7-

EST. 0 HR. 3.6

COLLAR ELEV.: 55.5 ft

TOTAL DEPTH: 11.0 ft

NORTHING: 235,953

EASTING: 2,390,507

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG0867

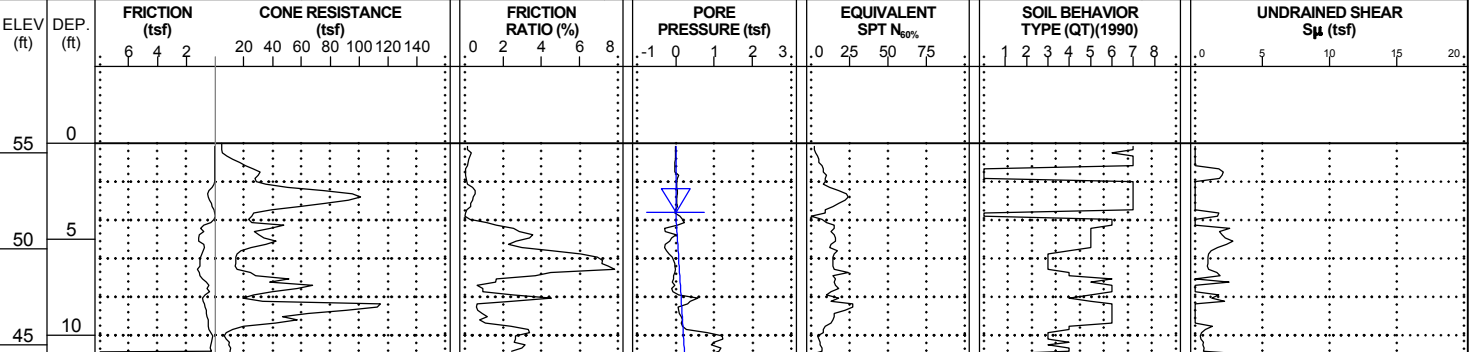
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/18/18

COMP. DATE: 10/18/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: SR7_2800_CL

STATION: 28+00

OFFSET: CL

ALIGNMENT: -SR7-

EST. 0 HR. 0.5

COLLAR ELEV.: 53.6 ft

TOTAL DEPTH: 10.5 ft

NORTHING: 235,965

EASTING: 2,390,907

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG0867

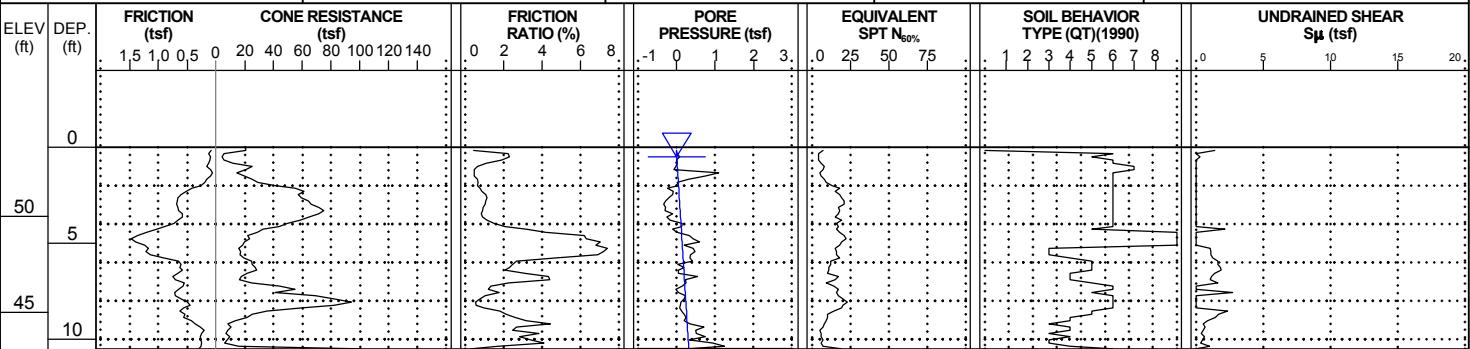
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/18/18

COMP. DATE: 10/18/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: SR7_3000_CL

STATION: 30+00

OFFSET: CL

ALIGNMENT: -SR7-

EST. 0 HR. 2.0

COLLAR ELEV.: 52.5 ft

TOTAL DEPTH: 11.0 ft

NORTHING: 235,971

EASTING: 2,391,107

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG0867

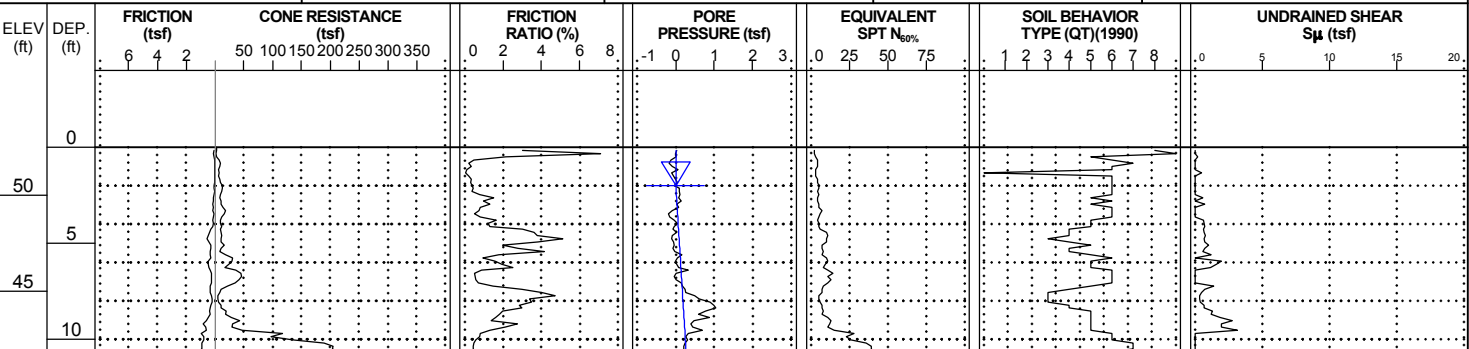
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/18/18

COMP. DATE: 10/18/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: SR7_3400_CL

STATION: 34+00

OFFSET: CL

ALIGNMENT: -SR7-

EST. 0 HR. 0.7

COLLAR ELEV.: 52.7 ft

TOTAL DEPTH: 10.1 ft

NORTHING: 235,983

EASTING: 2,391,507

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

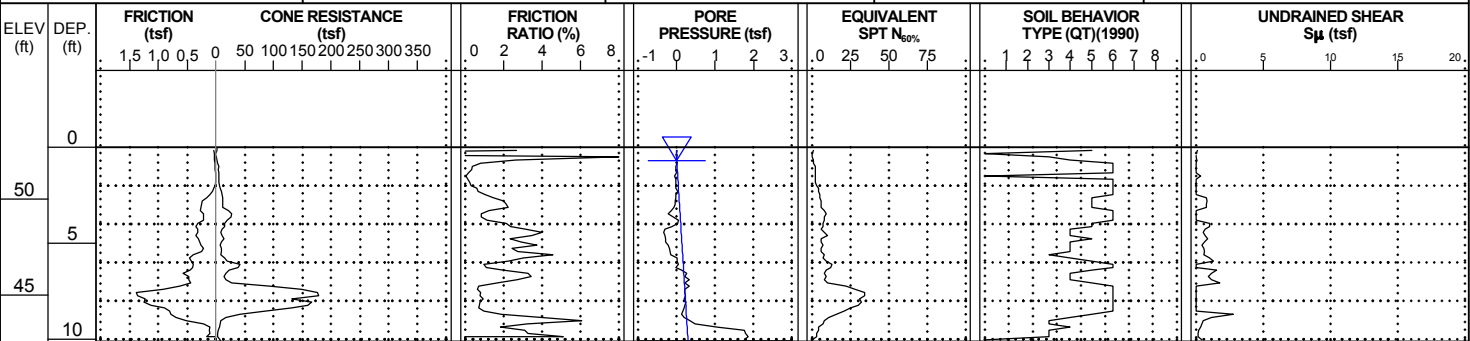
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 10/11/18

COMP. DATE: 10/11/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: SR7_3600_CL

STATION: 36+00

OFFSET: CL

ALIGNMENT: -SR7-

EST. 0 HR. 0.4

COLLAR ELEV.: 52.2 ft

TOTAL DEPTH: 10.1 ft

NORTHING: 235,989

EASTING: 2,391,707

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

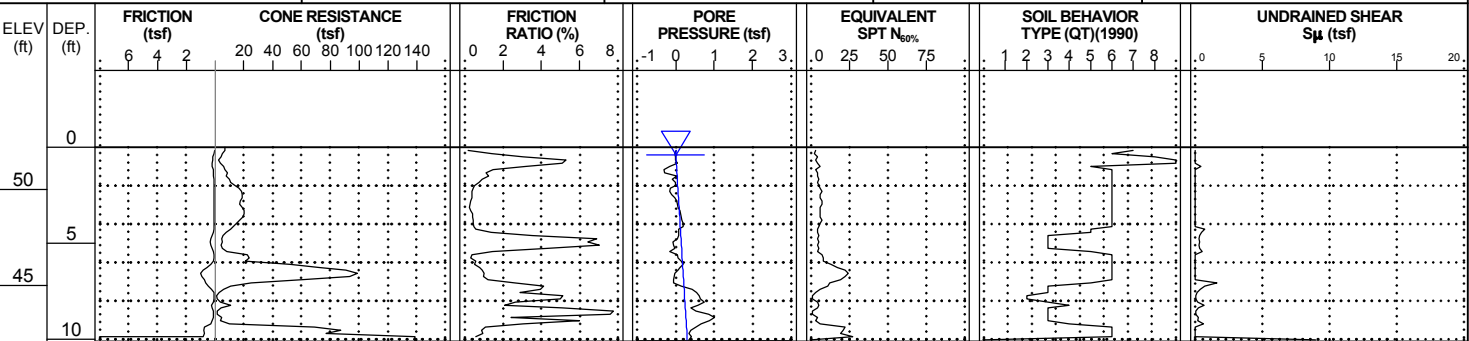
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 10/11/18

COMP. DATE: 10/11/18

SURF. WATER DEPTH: N/A



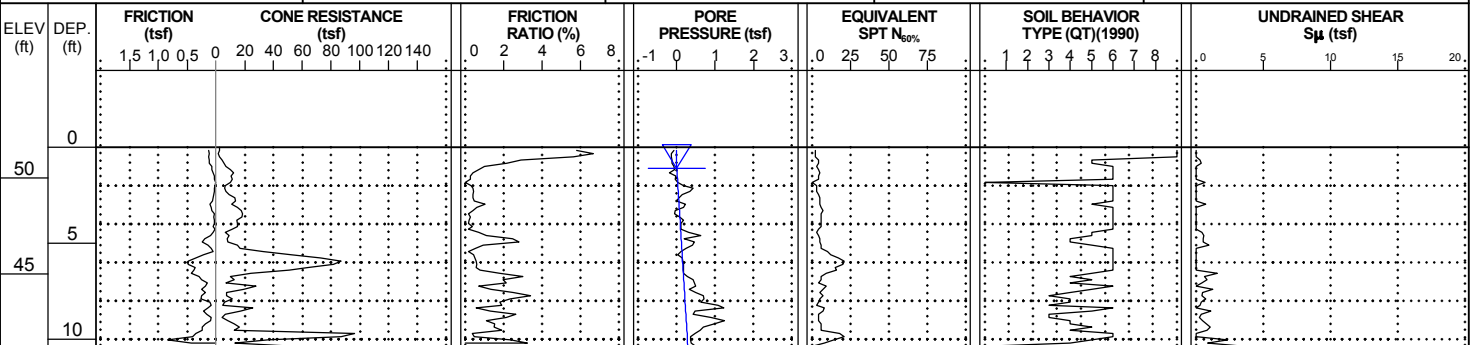
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



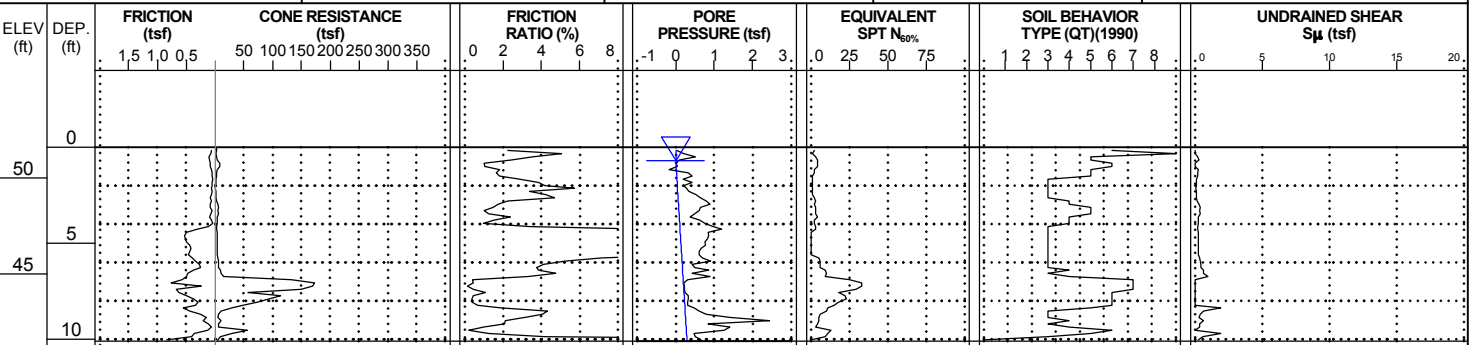
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: SR7_4000_CL	STATION: 40+00	OFFSET: CL	ALIGNMENT: -SR7-	EST. 0 HR.	1.1
COLLAR ELEV.: 51.6 ft	TOTAL DEPTH: 10.4 ft	NORTHING: 236,001	EASTING: 2,392,106	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/01/18	COMP. DATE: 11/01/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: SR7_4200_CL	STATION: 42+00	OFFSET: CL	ALIGNMENT: -SR7-	EST. 0 HR.	0.7
COLLAR ELEV.: 51.6 ft	TOTAL DEPTH: 10.1 ft	NORTHING: 236,007	EASTING: 2,392,306	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/01/18	COMP. DATE: 11/01/18	SURF. WATER DEPTH: N/A	



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: SR7_4600_CL

STATION: 46+00

OFFSET: CL

ALIGNMENT: -SR7-

EST. 0 HR. 0.3

COLLAR ELEV.: 50.9 ft

TOTAL DEPTH: 10.1 ft

NORTHING: 236,019

EASTING: 2,392,706

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG0867

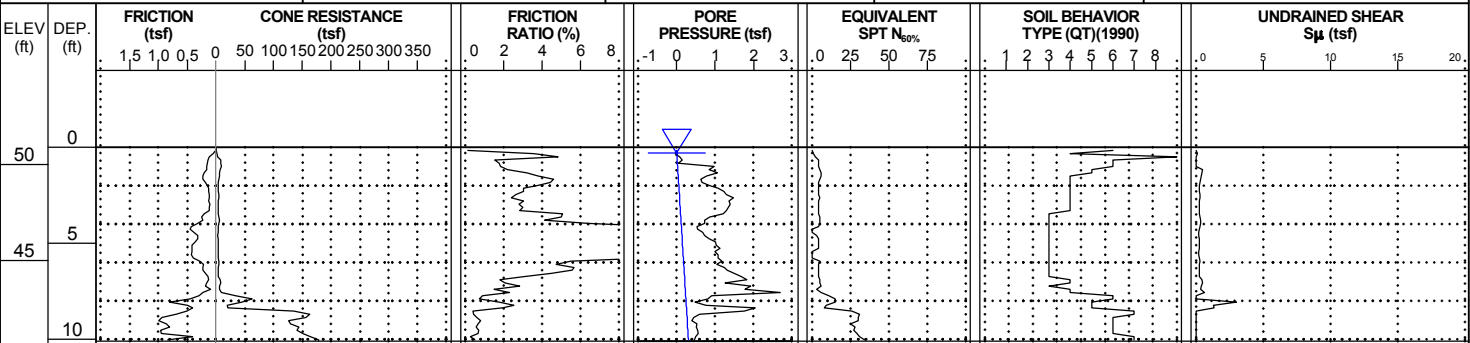
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 11/01/18

COMP. DATE: 11/01/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: SR7_5200_CL

STATION: 52+00

OFFSET: CL

ALIGNMENT: -SR7-

EST. 0 HR. 0.5

COLLAR ELEV.: 51.9 ft

TOTAL DEPTH: 10.4 ft

NORTHING: 236,159

EASTING: 2,393,286

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG0867

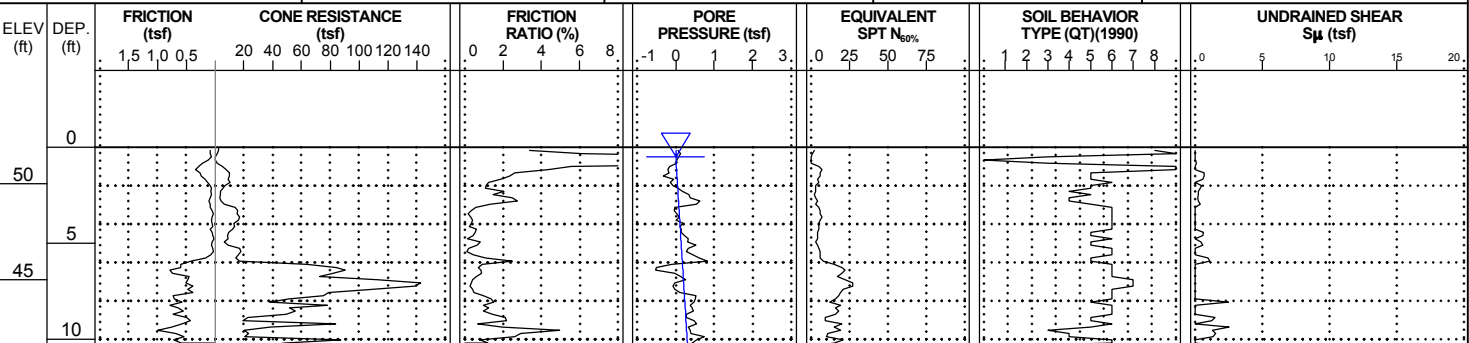
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 11/02/18

COMP. DATE: 11/02/18

SURF. WATER DEPTH: N/A



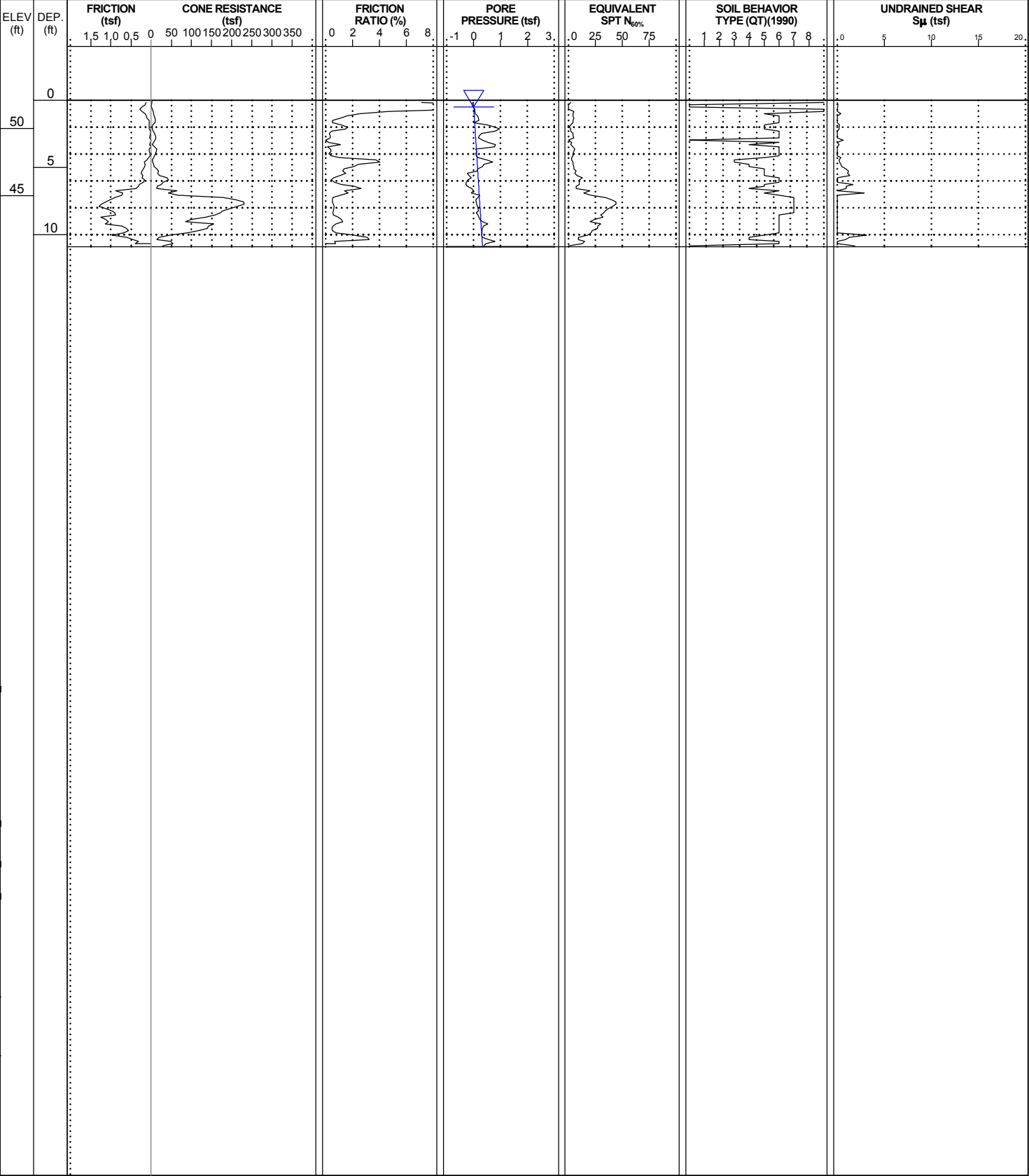
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



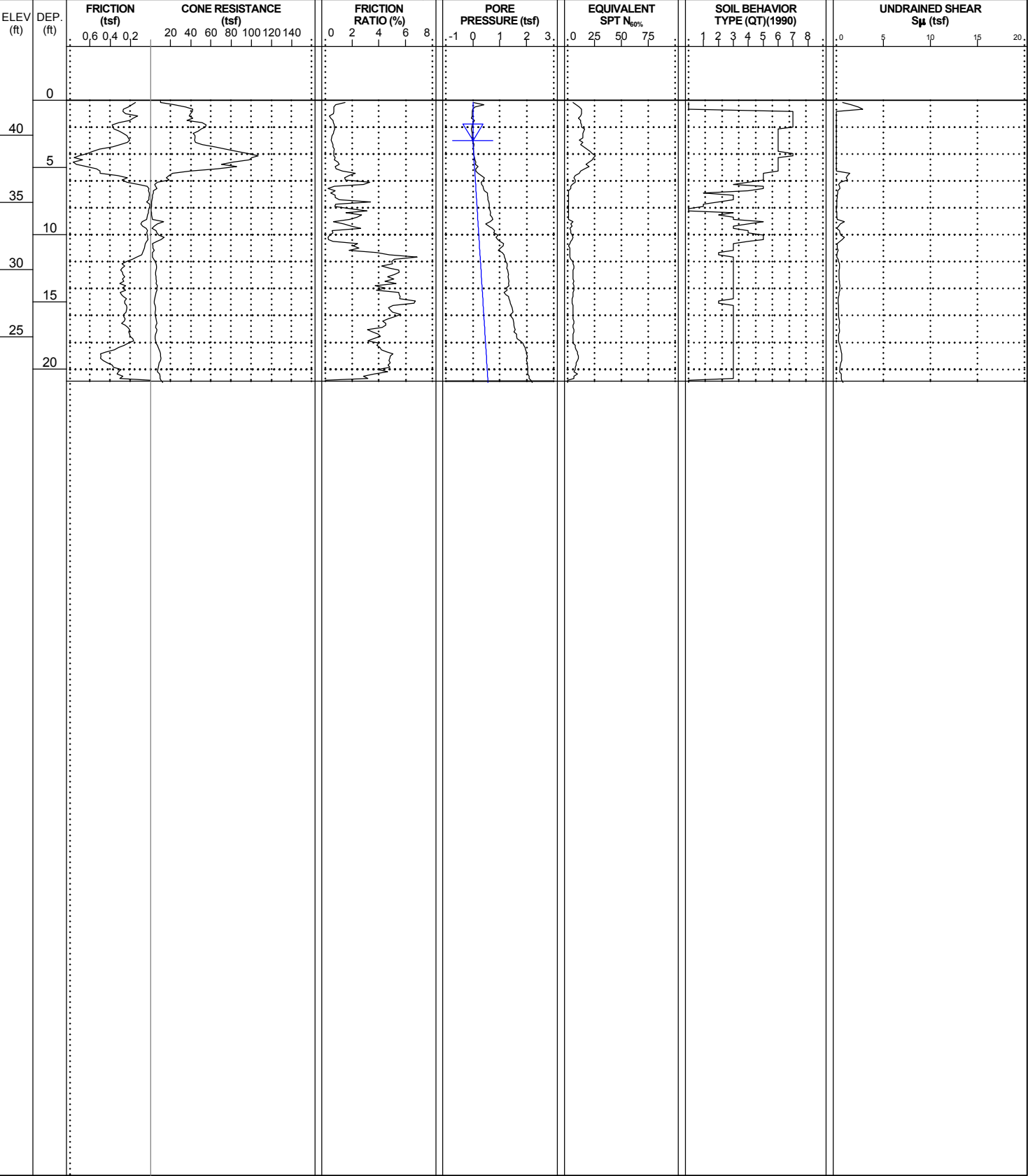
WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: SR7_5400_10LT	STATION: 54+00	OFFSET: 10 ft LT	ALIGNMENT: -SR7- EST. 0 HR. 0.5
COLLAR ELEV.: 52.1 ft	TOTAL DEPTH: 10.9 ft	NORTHING: 236,263	EASTING: 2,393,455 24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.	CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 11/02/18 COMP. DATE: 11/02/18 SURF. WATER DEPTH: N/A



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y30_3200_35LT	STATION: 32+00	OFFSET: 35 ft LT	ALIGNMENT: -Y30- EST. 0 HR. 3.0
COLLAR ELEV.: 42.6 ft	TOTAL DEPTH: 20.9 ft	NORTHING: 231,826	EASTING: 2,377,185 24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.	CONE TYPE: TYPE II PIEZO	CONE ID: DSA1123
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 08/14/18 COMP. DATE: 08/14/18 SURF. WATER DEPTH: N/A



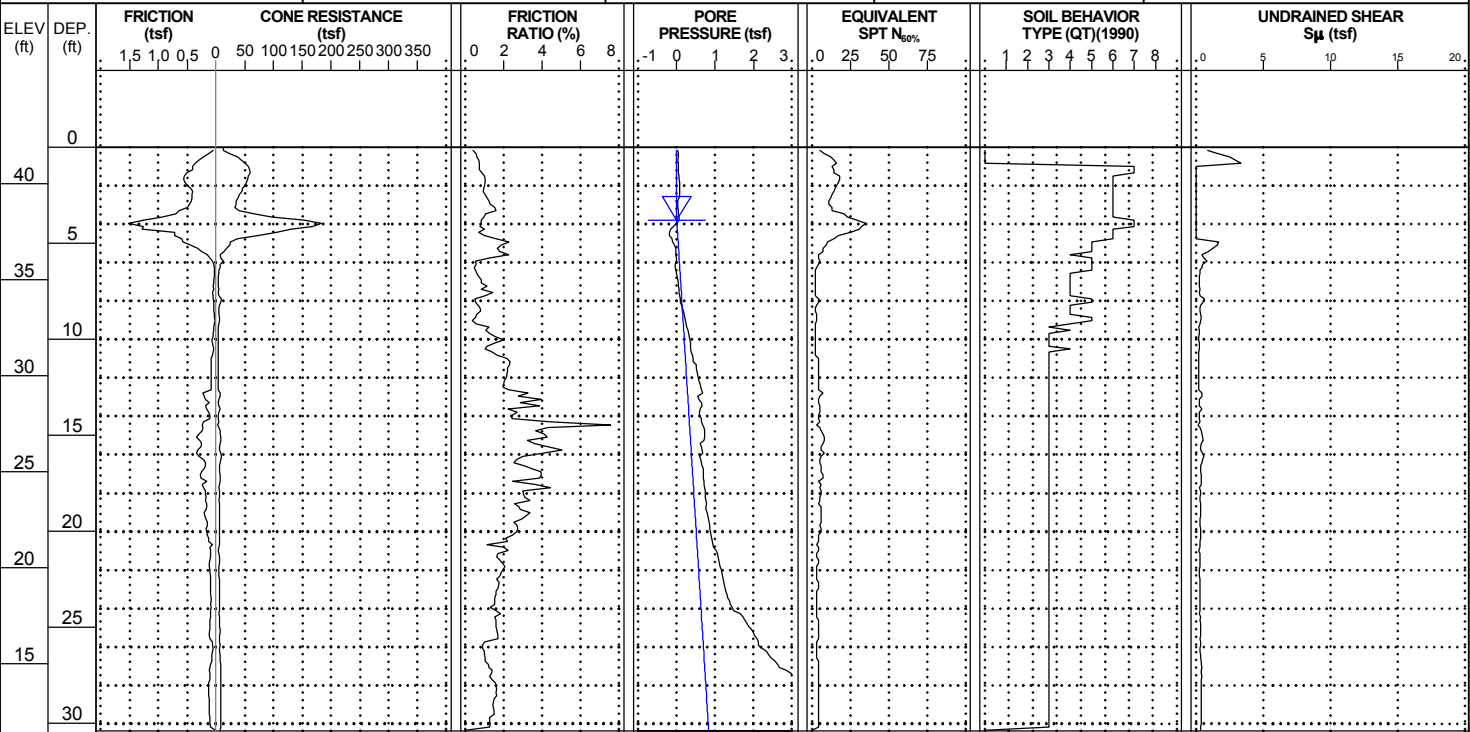
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



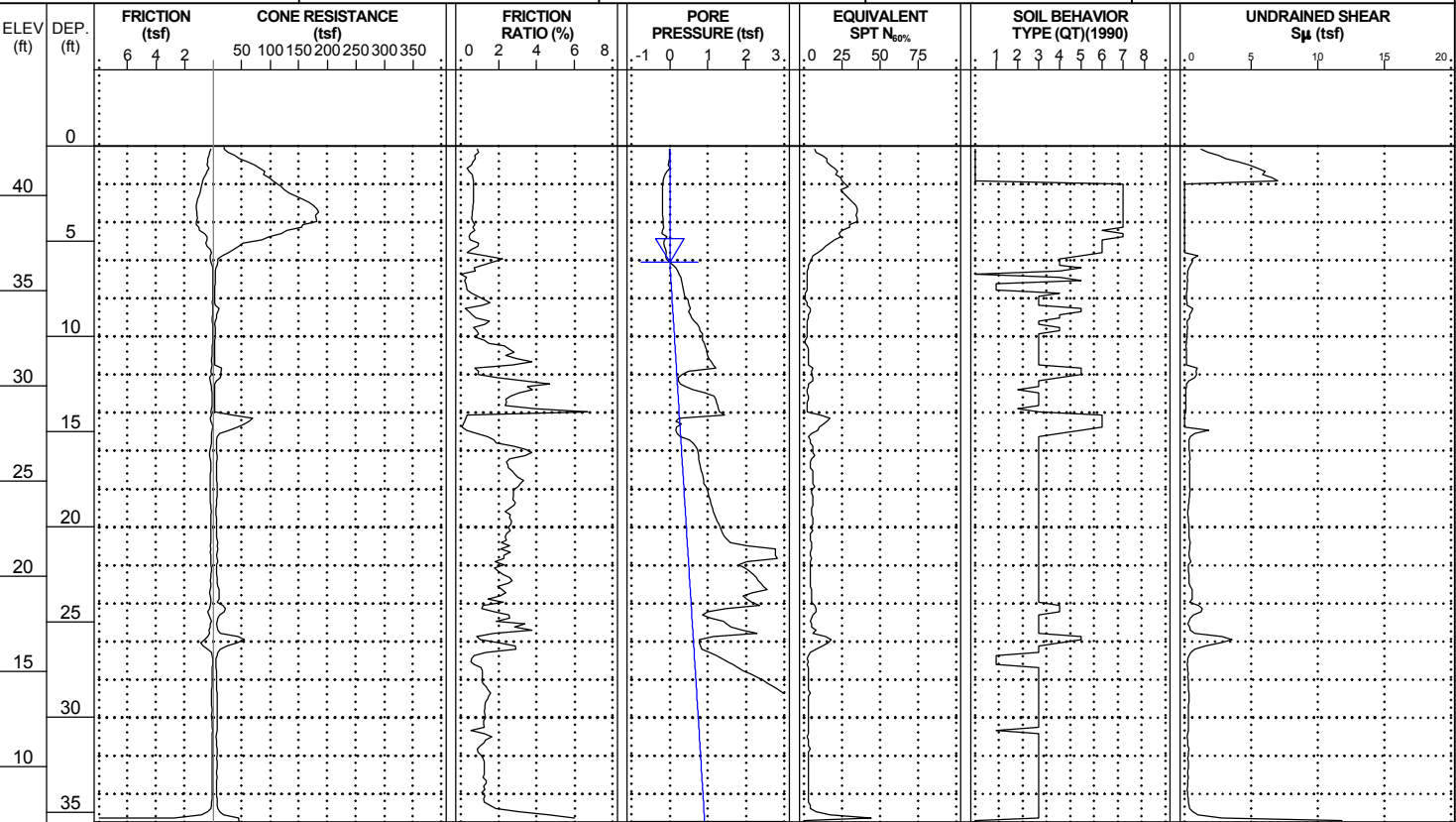
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y30_3400_35LT	STATION: 34+00	OFFSET: 35 ft LT	ALIGNMENT: -Y30-	EST. 0 HR.	3.8
COLLAR ELEV.: 41.9 ft	TOTAL DEPTH: 30.4 ft	NORTHING: 231,760	EASTING: 2,377,374	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/25/18	COMP. DATE: 10/25/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y30_3800_35LT	STATION: 38+00	OFFSET: 35 ft LT	ALIGNMENT: -Y30-	EST. 0 HR.	6.1
COLLAR ELEV.: 42.6 ft	TOTAL DEPTH: 35.5 ft	NORTHING: 231,628	EASTING: 2,377,752	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/25/18	COMP. DATE: 10/25/18	SURF. WATER DEPTH: N/A	

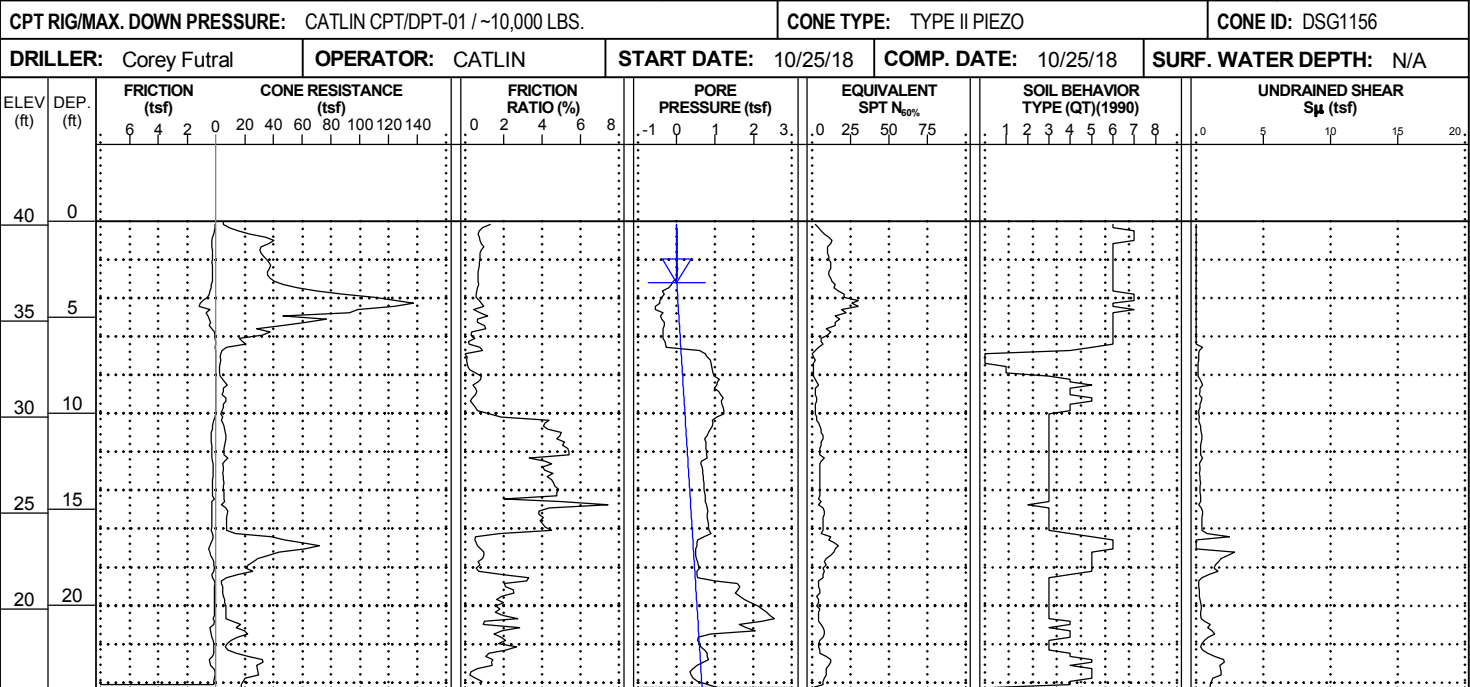


NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

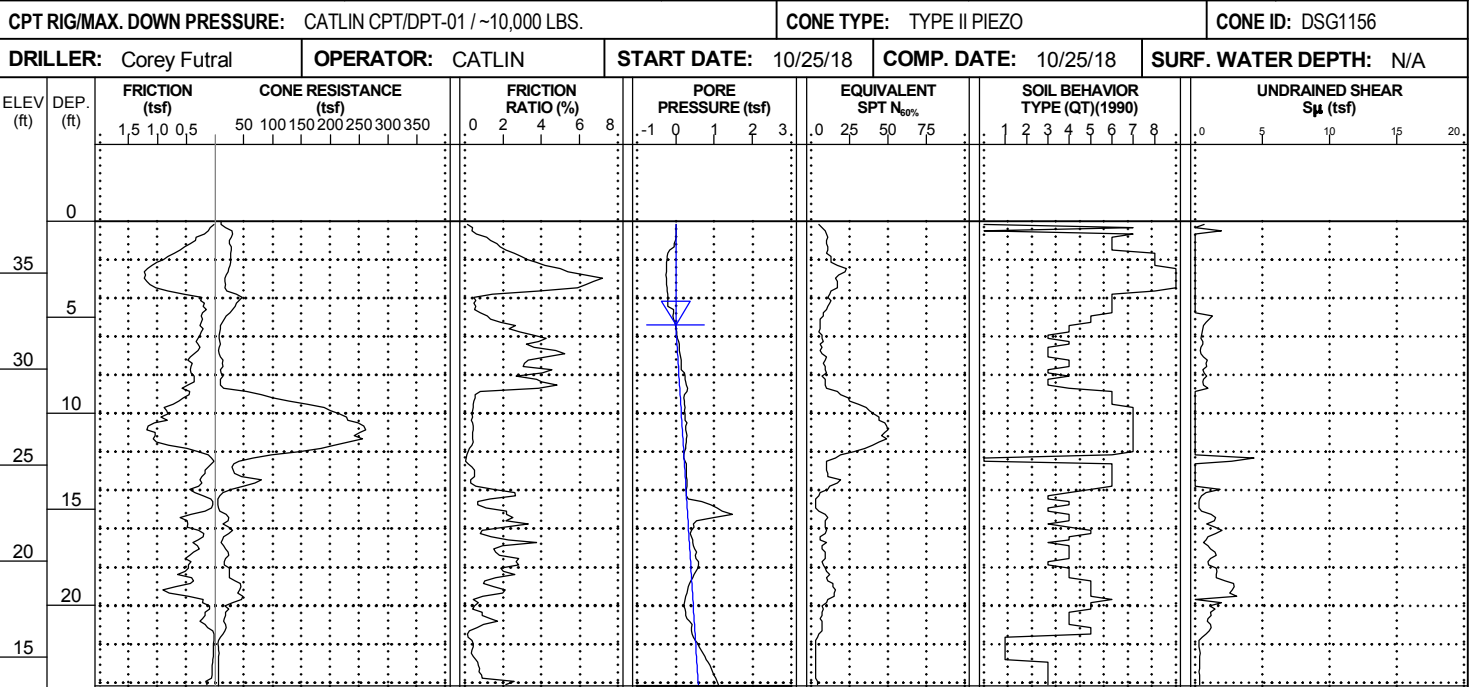
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y30_4350_35RT	STATION: 43+50	OFFSET: 35 ft RT	ALIGNMENT: -Y30-
COLLAR ELEV.: 40.2 ft	TOTAL DEPTH: 24.3 ft	NORTHING: 231,380	EASTING: 2,378,248
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/25/18	COMP. DATE: 10/25/18
SURF. WATER DEPTH: N/A			



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y30_4800_25RT	STATION: 48+00	OFFSET: 25 ft RT	ALIGNMENT: -Y30-
COLLAR ELEV.: 37.7 ft	TOTAL DEPTH: 24.2 ft	NORTHING: 231,241	EASTING: 2,378,676
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/25/18	COMP. DATE: 10/25/18
SURF. WATER DEPTH: N/A			

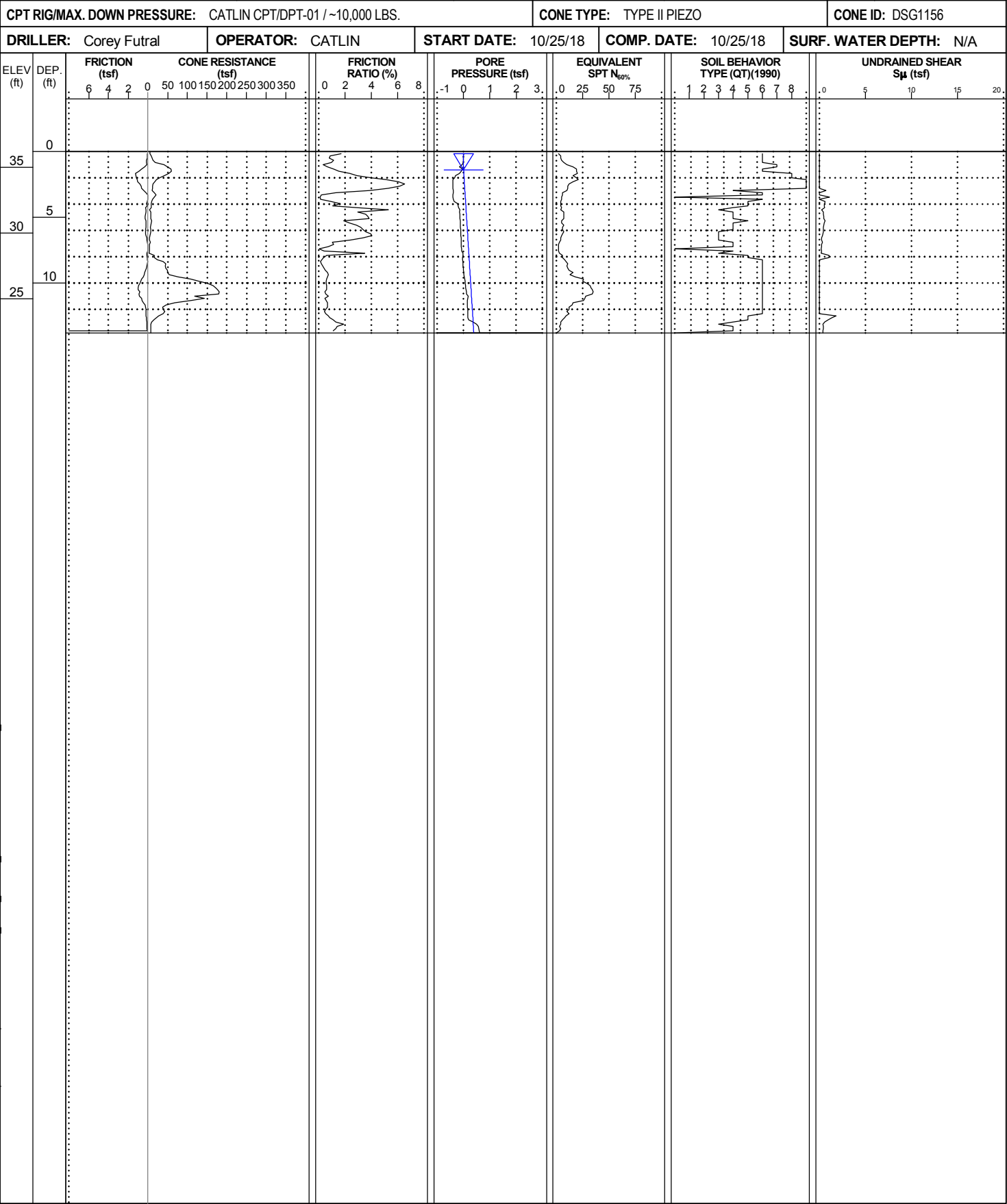


NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

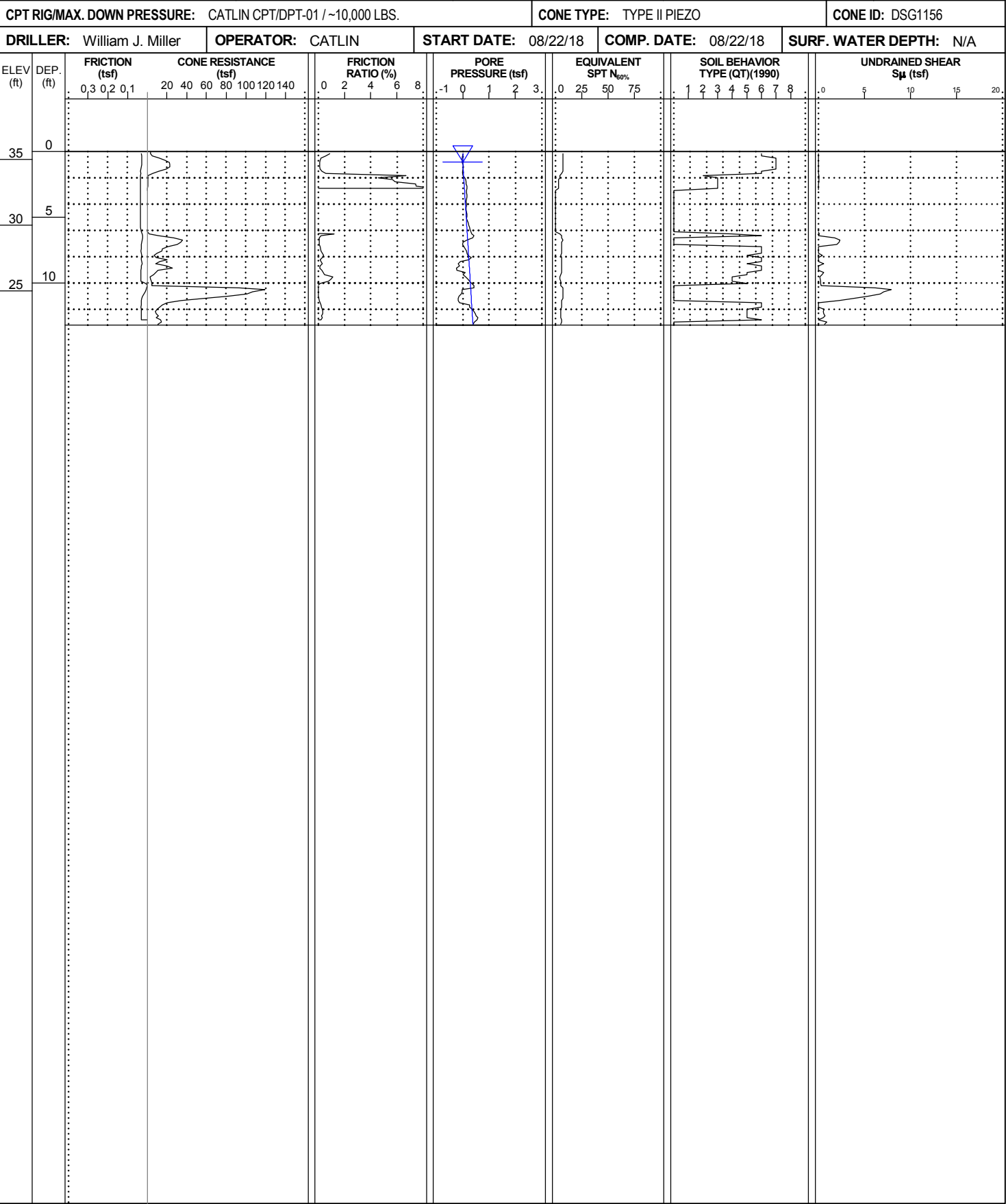
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y30_5000_30RT	STATION: 50+00	OFFSET: 30 ft RT	ALIGNMENT: -Y30-
COLLAR ELEV.: 36.2 ft	TOTAL DEPTH: 13.8 ft	NORTHING: 231,168	EASTING: 2,378,861
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/25/18	COMP. DATE: 10/25/18
SURF. WATER DEPTH: N/A			



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y30_5600	STATION: 56+00	OFFSET: 20 ft LT	ALIGNMENT: -Y30-
COLLAR ELEV.: 35.6 ft	TOTAL DEPTH: 13.2 ft	NORTHING: 230,992	EASTING: 2,379,437
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 08/22/18	COMP. DATE: 08/22/18
SURF. WATER DEPTH: N/A			



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: Y30DET_3300_CL

STATION: 33+00

OFFSET: CL

ALIGNMENT: -Y30DET-

EST. 0 HR. 1.0

COLLAR ELEV.: 43.0 ft

TOTAL DEPTH: 17.3 ft

NORTHING: 231,598

EASTING: 2,377,197

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

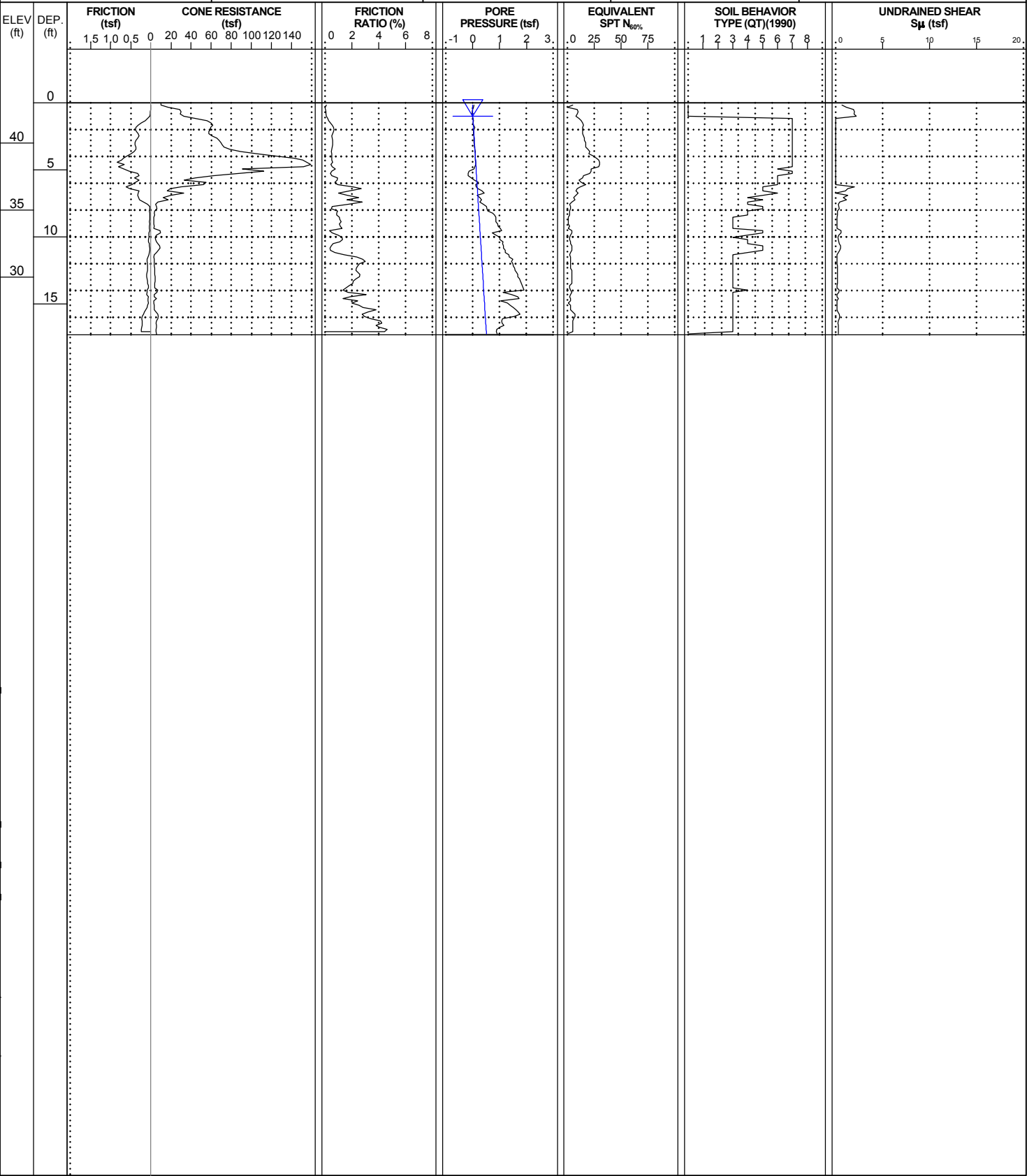
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/25/18

COMP. DATE: 10/25/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: Y30DET_3600_CL

STATION: 36+00

OFFSET: CL

ALIGNMENT: -Y30DET-

EST. 0 HR. 1.2

COLLAR ELEV.: 42.2 ft

TOTAL DEPTH: 16.8 ft

NORTHING: 231,478

EASTING: 2,377,472

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

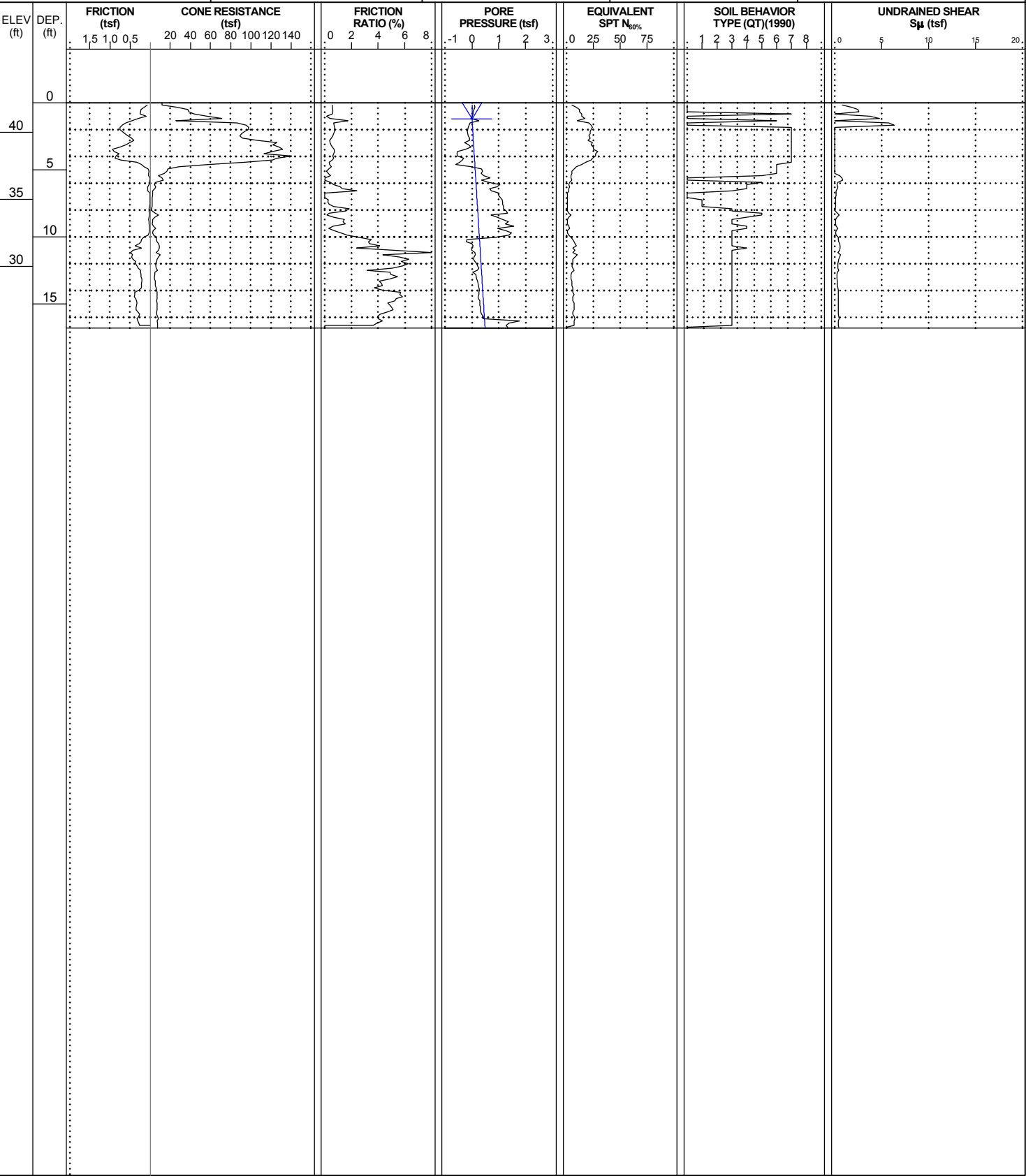
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/25/18

COMP. DATE: 10/25/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

<i>PROJECT REFERENCE NO.</i>	<i>SHEET</i>
R-3300B	62

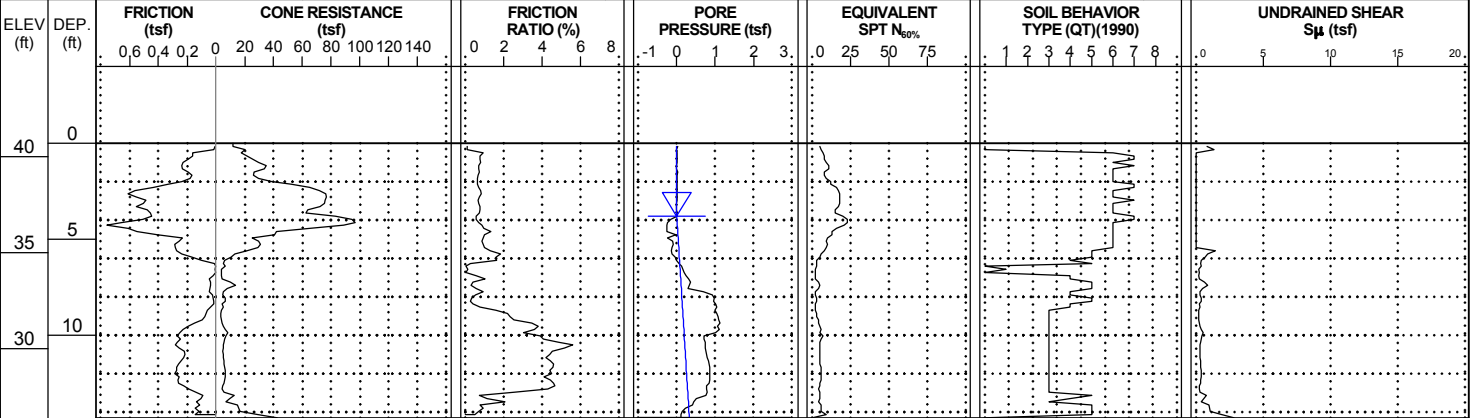
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CONE PENETROMETER TEST
BORING REPORT



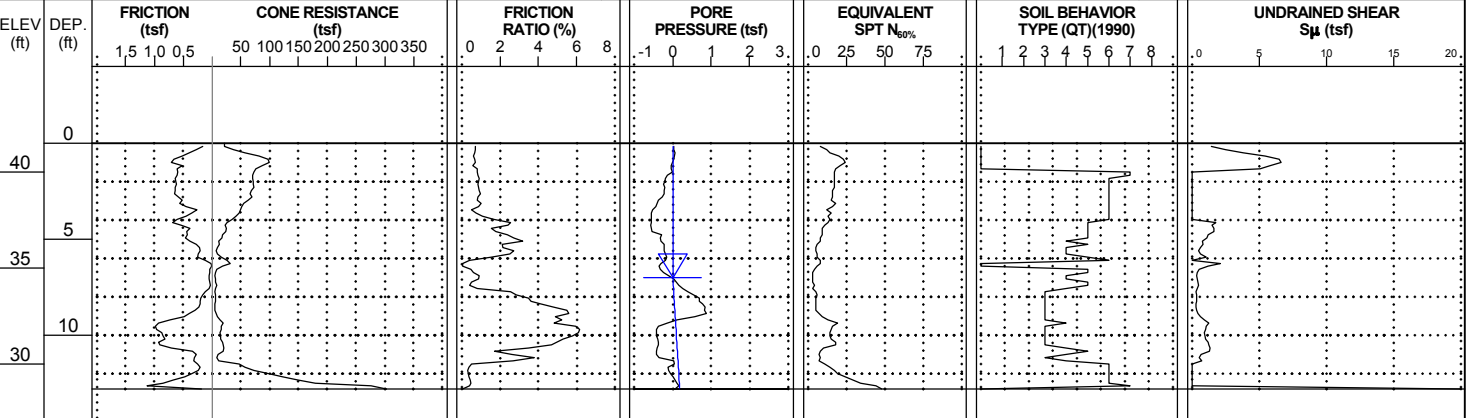
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y30DET_4300_CL	STATION: 43+00	OFFSET: CL	ALIGNMENT: -Y30DET-	EST. 0 HR.	3.8
COLLAR ELEV.: 40.7 ft	TOTAL DEPTH: 14.3 ft	NORTHING: 231,247	EASTING: 2,378,130	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/25/18	COMP. DATE: 10/25/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y30DET_4750_CL	STATION: 47+50	OFFSET: CL	ALIGNMENT: -Y30DET-	EST. 0 HR.	7.0
COLLAR ELEV.: 41.5 ft	TOTAL DEPTH: 12.8 ft	NORTHING: 231,147	EASTING: 2,378,569	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/25/18	COMP. DATE: 10/25/18	SURF. WATER DEPTH: N/A	



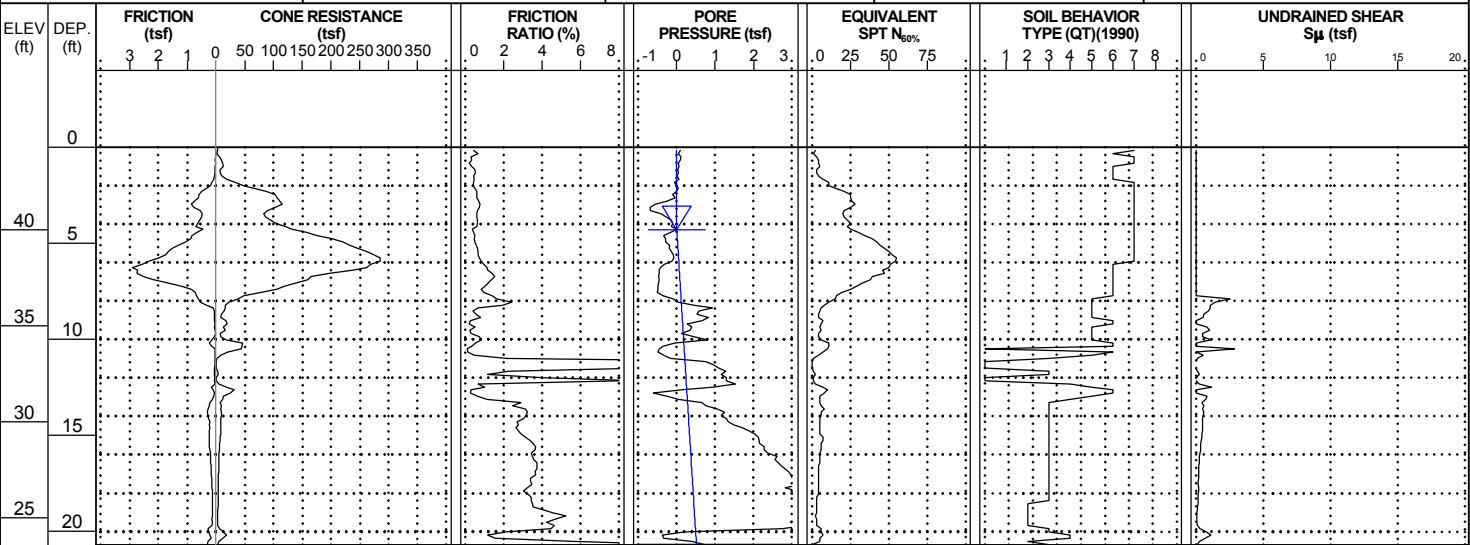
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



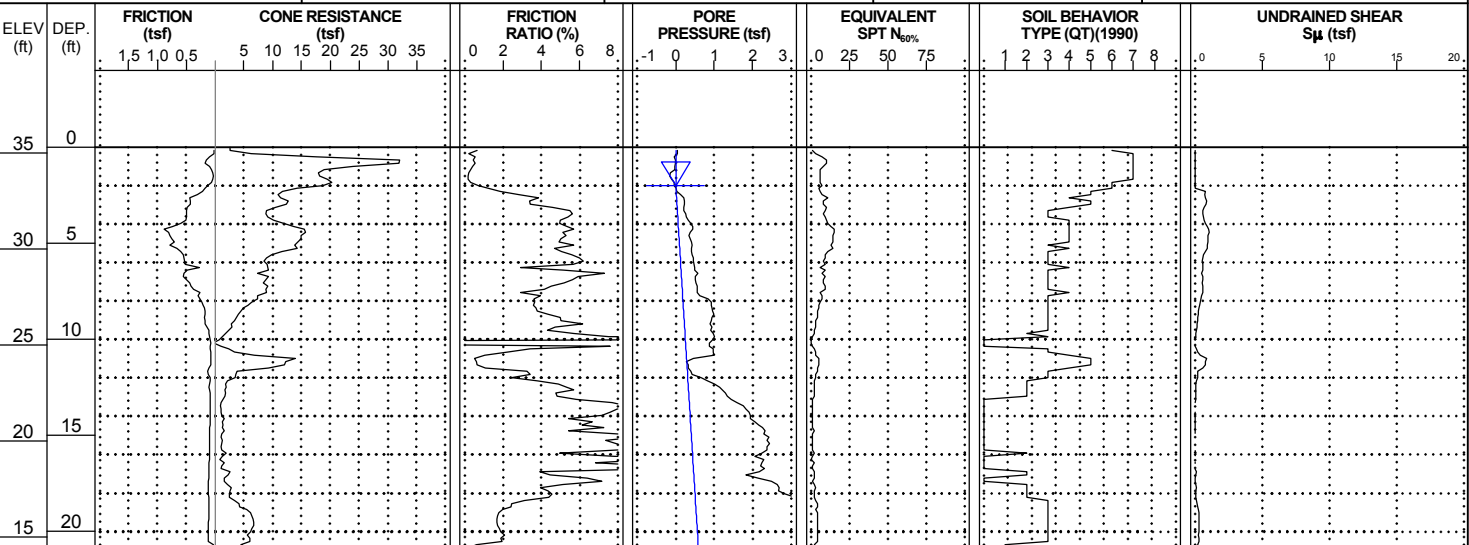
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y30RPA_0500	STATION: 5+00	OFFSET: CL	ALIGNMENT: -Y30RPA-	EST. 0 HR.	4.3
COLLAR ELEV.: 44.3 ft	TOTAL DEPTH: 20.7 ft	NORTHING: 232,729	EASTING: 2,379,028	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSA1123		
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 08/16/18	COMP. DATE: 08/16/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y30RPA_1000_CL	STATION: 10+00	OFFSET: CL	ALIGNMENT: -Y30RPA-	EST. 0 HR.	2.0
COLLAR ELEV.: 35.3 ft	TOTAL DEPTH: 20.9 ft	NORTHING: 232,486	EASTING: 2,378,591	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSA1123		
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 08/16/18	COMP. DATE: 08/16/18	SURF. WATER DEPTH: N/A	



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: Y30RPA_1200_15LT

STATION: 12+00

OFFSET: 15 ft LT

ALIGNMENT: -Y30RPA-

EST. 0 HR. 2.5

COLLAR ELEV.: 31.8 ft

TOTAL DEPTH: 19.9 ft

NORTHING: 232,401

EASTING: 2,378,409

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSA1123

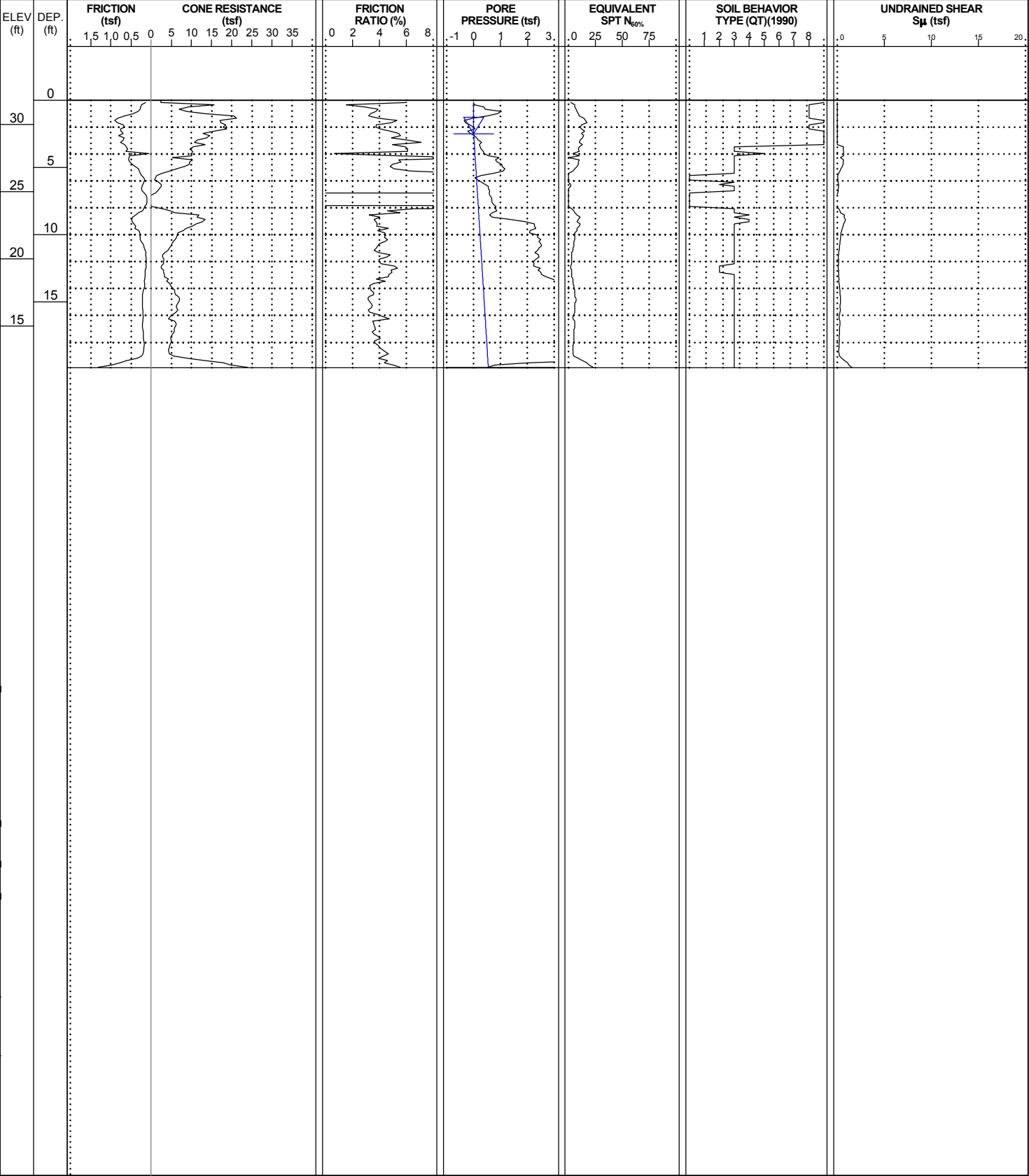
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 08/21/18

COMP. DATE: 08/21/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: Y30RPA_1600_CL

STATION: 16+00

OFFSET: CL

ALIGNMENT: -Y30RPA-

EST. 0 HR. 1.2

COLLAR ELEV.: 21.3 ft

TOTAL DEPTH: 21.9 ft

NORTHING: 232,340

EASTING: 2,378,012

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSA1123

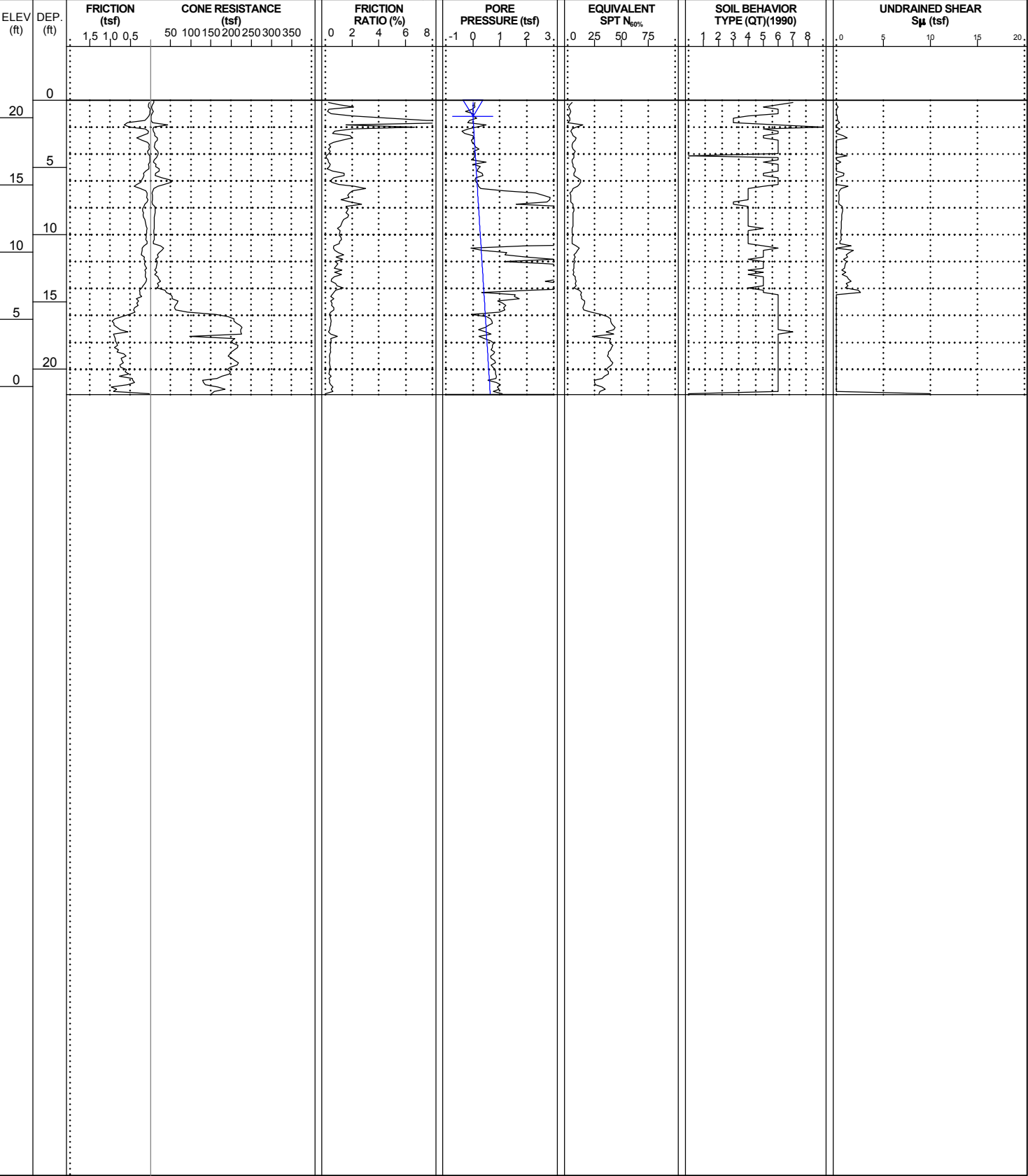
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 08/16/18

COMP. DATE: 08/16/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT

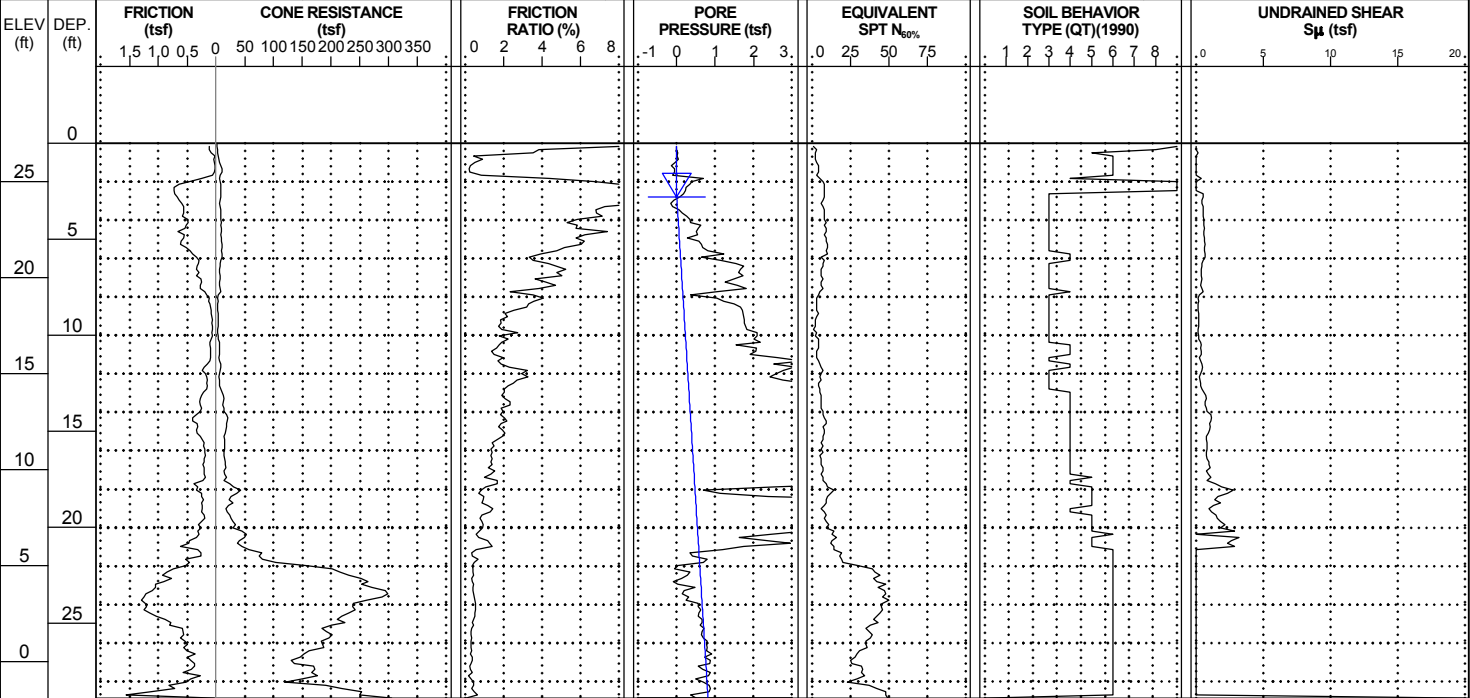


PROJECT REFERENCE NO. SHEET

R-3300B 66

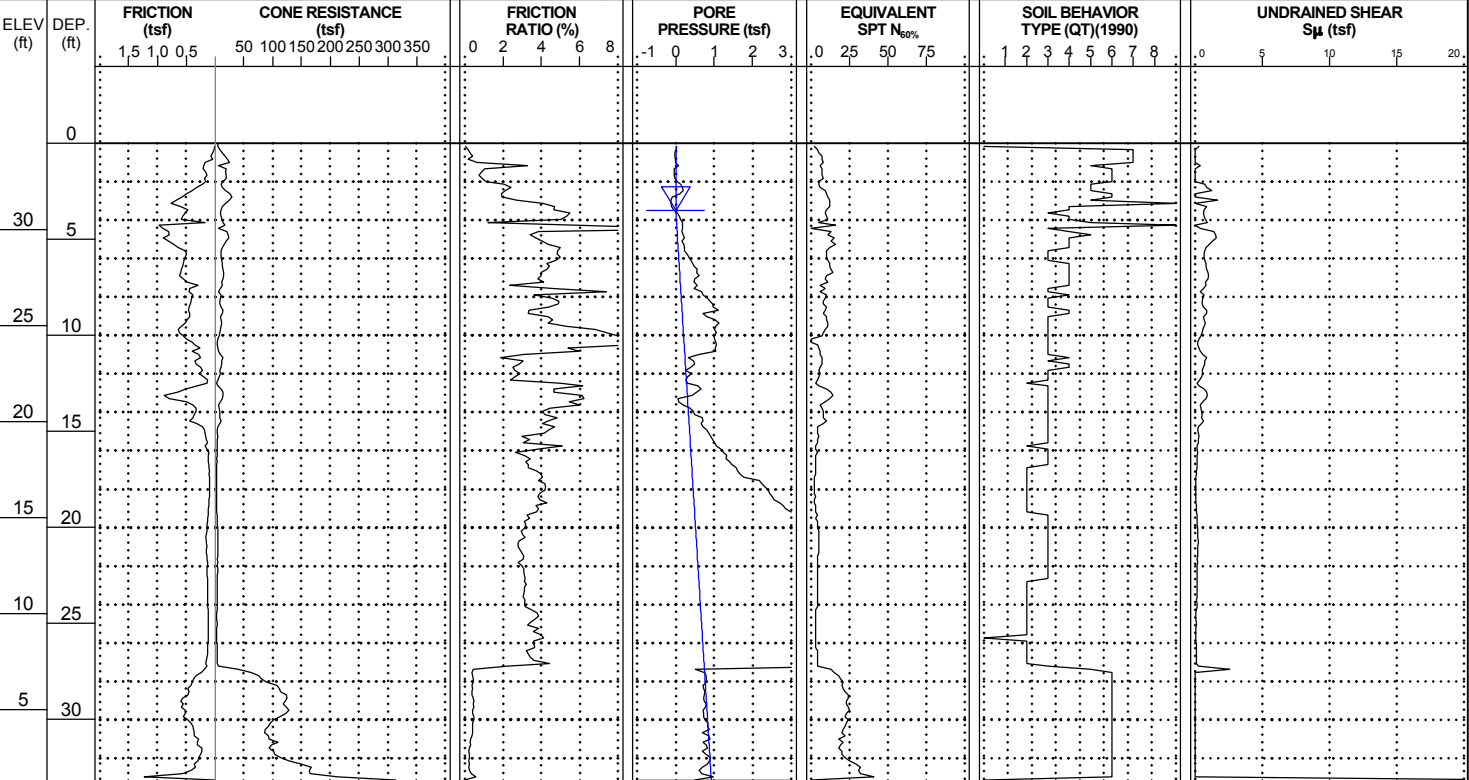
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y30RPA_1800_CL	STATION: 18+00	OFFSET: CL	ALIGNMENT: -Y30RPA-	EST. 0 HR.	2.8
COLLAR ELEV.: 27.0 ft	TOTAL DEPTH: 28.9 ft	NORTHING: 232,290	EASTING: 2,377,819	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.			CONE TYPE: TYPE II PIEZO		CONE ID: DSA1123
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 08/15/18	COMP. DATE: 08/15/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y30RPA_2200_CL	STATION: 22+00	OFFSET: CL	ALIGNMENT: -Y30RPA-	EST. 0 HR.	3.5
COLLAR ELEV.: 34.5 ft	TOTAL DEPTH: 33.2 ft	NORTHING: 232,029	EASTING: 2,377,526	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.			CONE TYPE: TYPE II PIEZO		CONE ID: DSA1123
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 08/15/18	COMP. DATE: 08/15/18	SURF. WATER DEPTH: N/A	



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: Y30RPA_2400_CL

STATION: 24+00

OFFSET: CL

ALIGNMENT: -Y30RPA-

EST. 0 HR. 3.3

COLLAR ELEV.: 38.9 ft

TOTAL DEPTH: 33.0 ft

NORTHING: 231,844

EASTING: 2,377,451

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSA1123

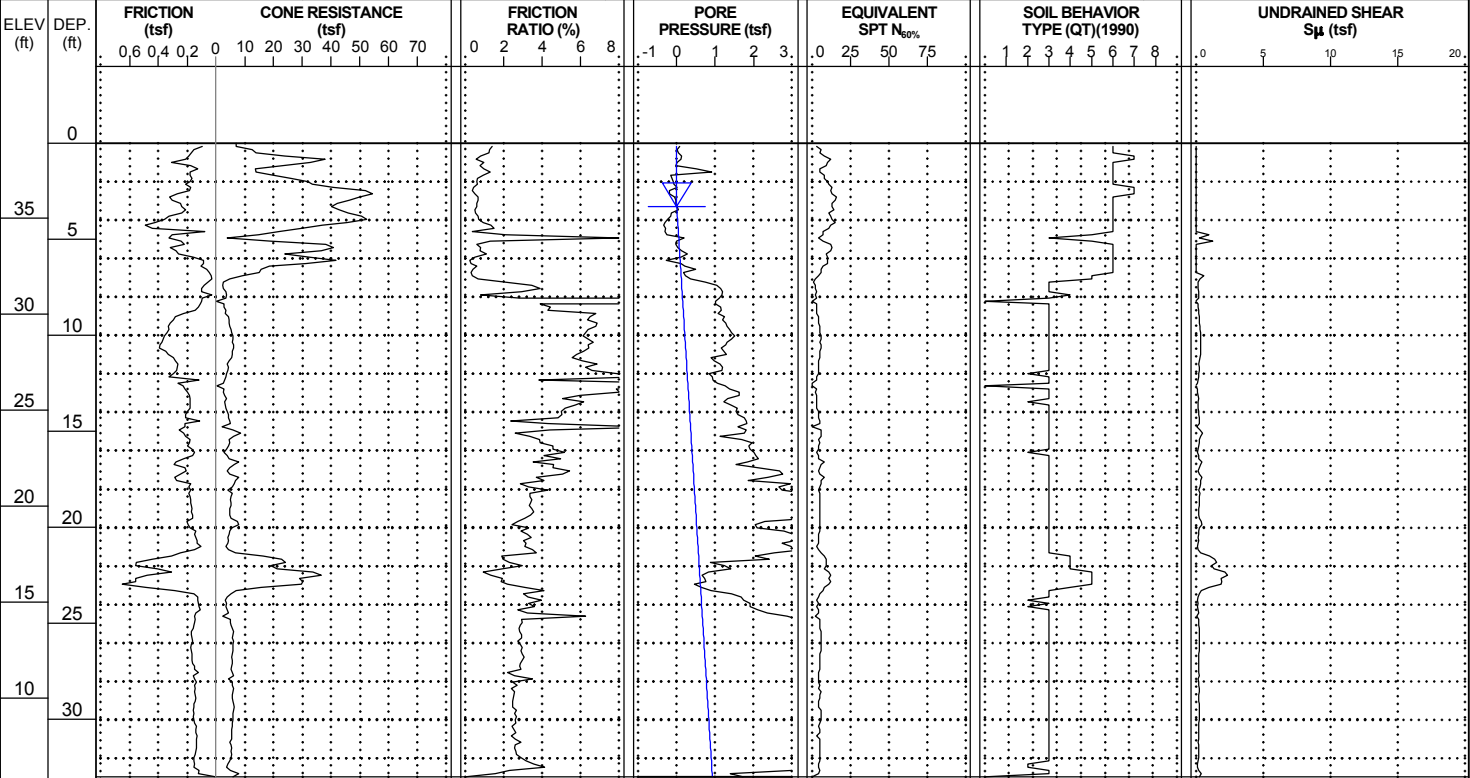
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 08/15/18

COMP. DATE: 08/15/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: Y30RPB_1150

STATION: 11+50

OFFSET: CL

ALIGNMENT: -Y30RPB-

EST. 0 HR. 3.0

COLLAR ELEV.: 41.7 ft

TOTAL DEPTH: 10.1 ft

NORTHING: 230,723

EASTING: 2,376,980

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSA1123

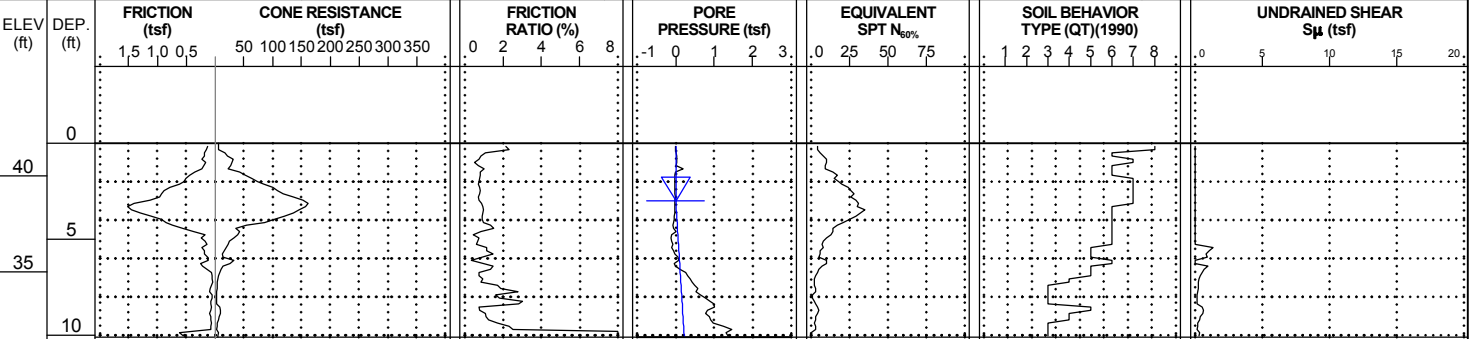
DRILLER: William J. Miller

OPERATOR: CATLIN

START DATE: 07/17/18

COMP. DATE: 07/17/18

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

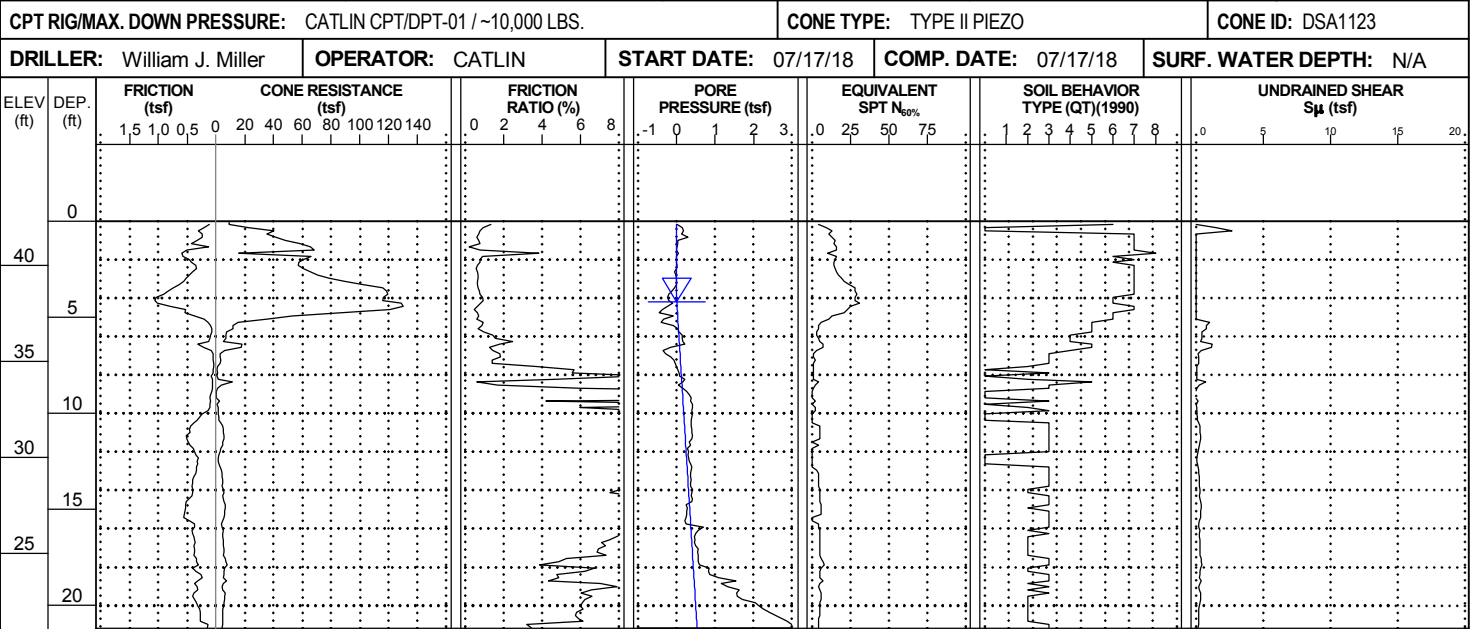
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R-3300B	68

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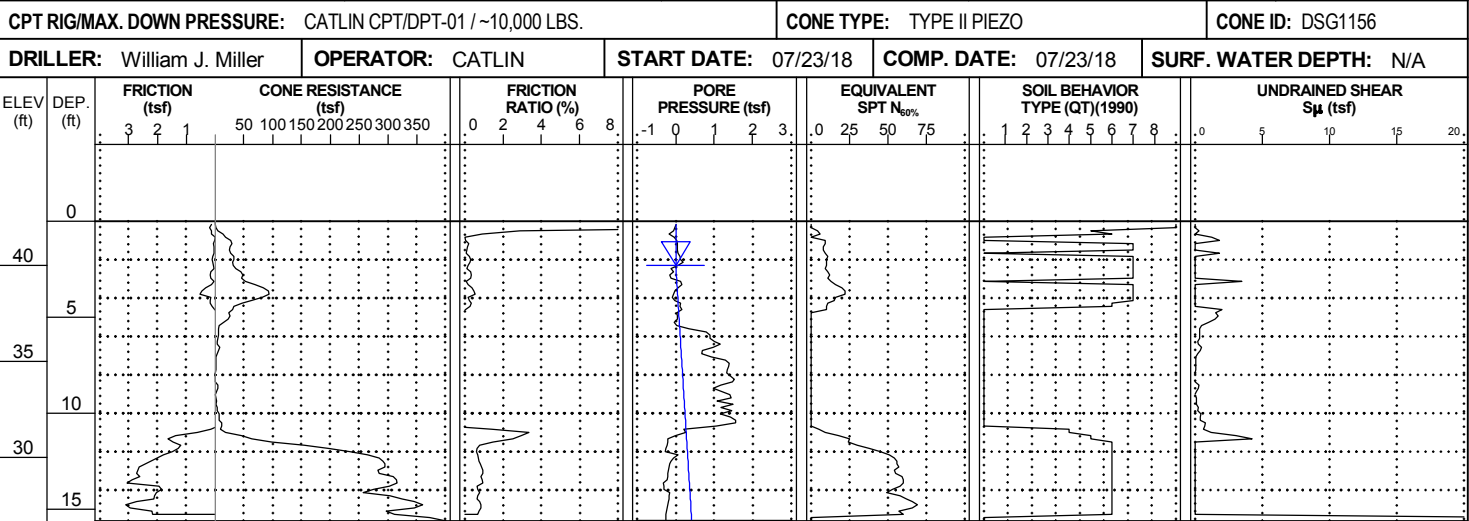
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y30RPB_1900	STATION: 19+00	OFFSET: CL	ALIGNMENT: -Y30RPB-
COLLAR ELEV.: 42.3 ft	TOTAL DEPTH: 21.2 ft	NORTHING: 231,393	EASTING: 2,377,306
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSA1123
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 07/17/18	COMP. DATE: 07/17/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 4.2	24 HR. N/A



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y30RPC_1100	STATION: 11+00	OFFSET: CL	ALIGNMENT: -Y30RPC-
COLLAR ELEV.: 42.3 ft	TOTAL DEPTH: 15.6 ft	NORTHING: 230,621	EASTING: 2,377,242
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 07/23/18	COMP. DATE: 07/23/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 2.3	24 HR. N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

<i>PROJECT REFERENCE NO.</i>	<i>SHEET</i>
R-3300B	70

WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON				
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD								
BORING NO.: Y30RPC_1700		STATION: 17+00	OFFSET: CL	ALIGNMENT: -Y30RPC-	GROUND WTR (ft)			
COLLAR ELEV.: 42.3 ft		TOTAL DEPTH: 17.4 ft	NORTHING: 230,733	EASTING: 2,377,829	EST. 0 HR. 0.9 24 HR. N/A			
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.			CONE TYPE: TYPE II PIEZO		CONE ID: DSG1156			
DRILLER: William J. Miller		OPERATOR: CATLIN	START DATE: 07/23/18	COMP. DATE: 07/23/18	SURF. WATER DEPTH: N/A			
ELEV. (ft)	DEP. (ft)	FRICTION (tsf) 1.5 1.0 0.5	CONE RESISTANCE (tsf) 50 100 150 200 250 300 350	FRICTION RATIO (%) .0 2 4 6 8	PORE PRESSURE (tsf) -1 0 1 2 3	EQUIVALENT SPT N _{60%} .0 25 50 75	SOIL BEHAVIOR TYPE (QT)(1990) 1 2 3 4 5 6 7 8	UNDRAINED SHEAR S _u (tsf) .0 5 10 15 20
	0							
40	5							
35	10							
30	15							
25								

<i>PROJECT REFERENCE NO.</i>	<i>SHEET</i>
R-3300B	71

[illegible]

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1TIP: R-3300BCOUNTY: PENDERGEOLOGIST: S. HUDSON

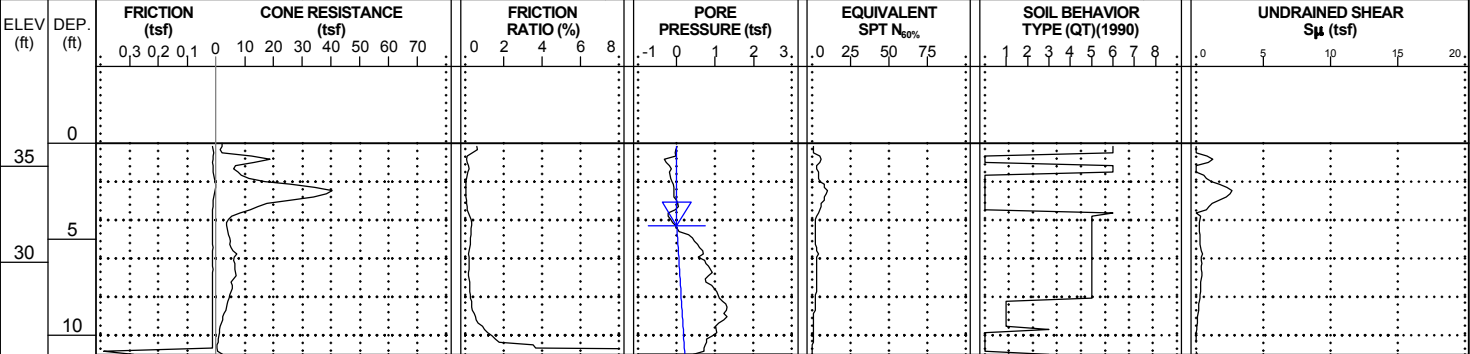
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEADGROUND WTR (ft)

BORING NO.: Y30RPD_1300_CLSTATION: 13+00OFFSET: CLALIGNMENT: -Y30RPD-EST. 0 HR. 4.3

COLLAR ELEV.: 36.2 ftTOTAL DEPTH: 11.0 ftNORTHING: 232,390EASTING: 2,378,84724 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.CONE TYPE: TYPE II PIEZOCONE ID: DSA1123

DRILLER: Eddie SwainOPERATOR: CATLINSTART DATE: 08/23/18COMP. DATE: 08/23/18SURF. WATER DEPTH: N/A



WBS: 40237.1.1TIP: R-3300BCOUNTY: PENDERGEOLOGIST: S. HUDSON

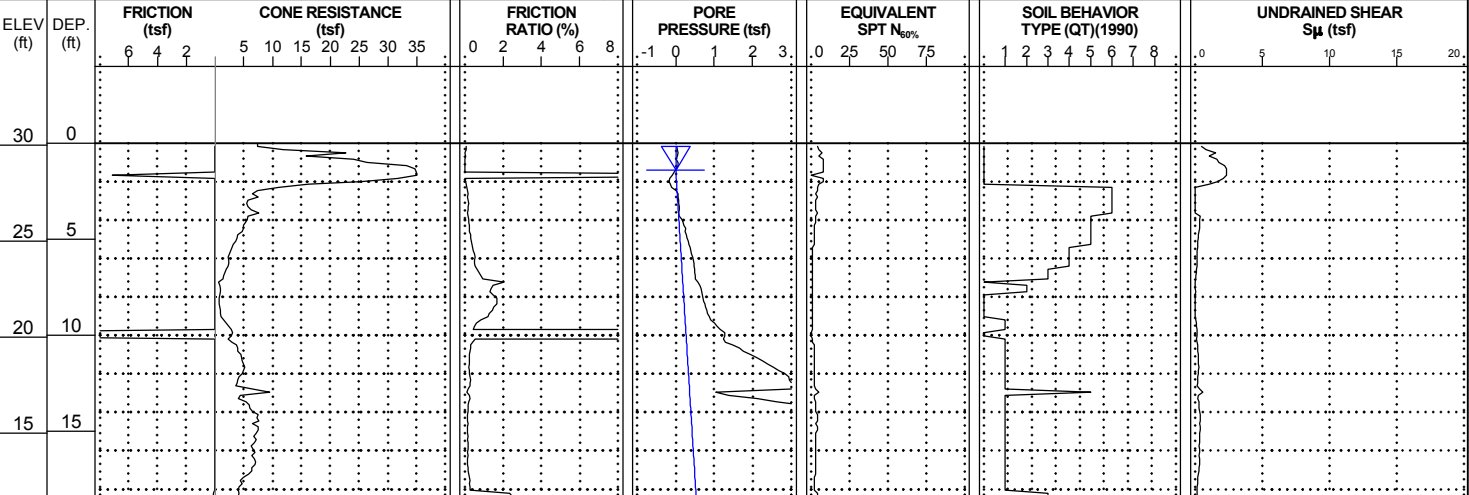
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEADGROUND WTR (ft)

BORING NO.: Y30RPD_1500_CLSTATION: 15+00OFFSET: CLALIGNMENT: -Y30RPD-EST. 0 HR. 1.4

COLLAR ELEV.: 30.1 ftTOTAL DEPTH: 18.4 ftNORTHING: 232,224EASTING: 2,378,73624 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.CONE TYPE: TYPE II PIEZOCONE ID: DSA1123

DRILLER: Eddie SwainOPERATOR: CATLINSTART DATE: 08/23/18COMP. DATE: 08/23/18SURF. WATER DEPTH: N/A



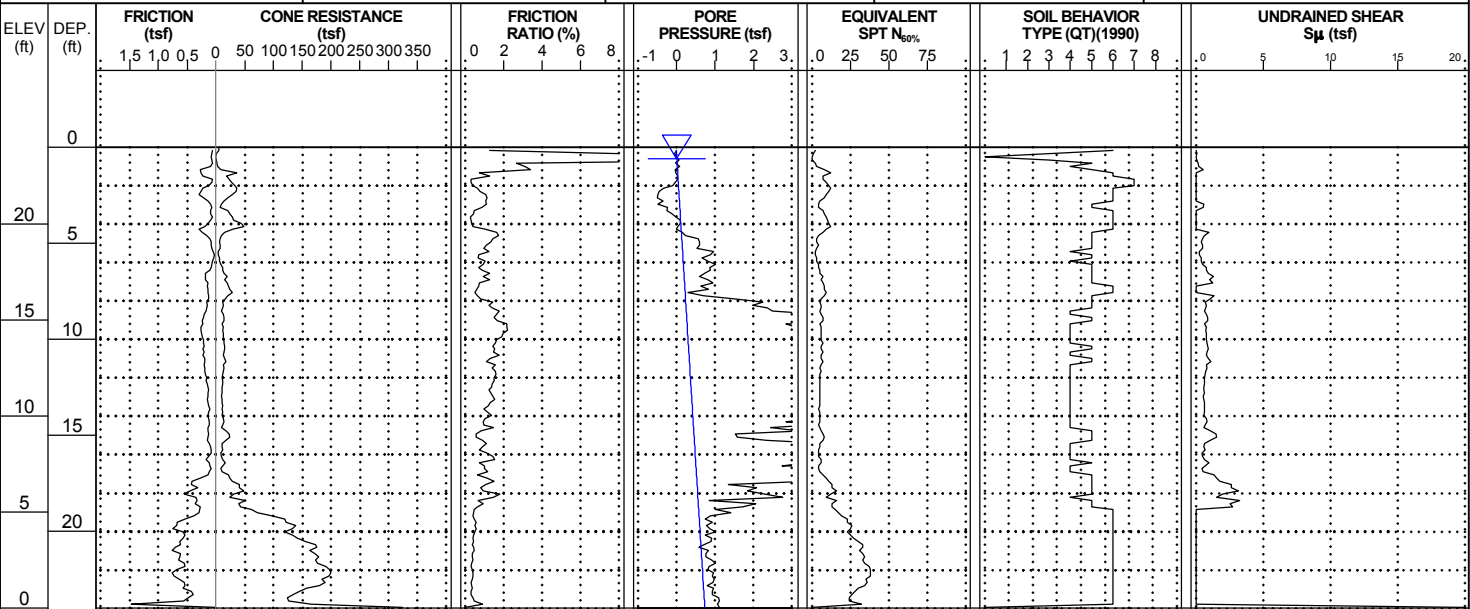
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



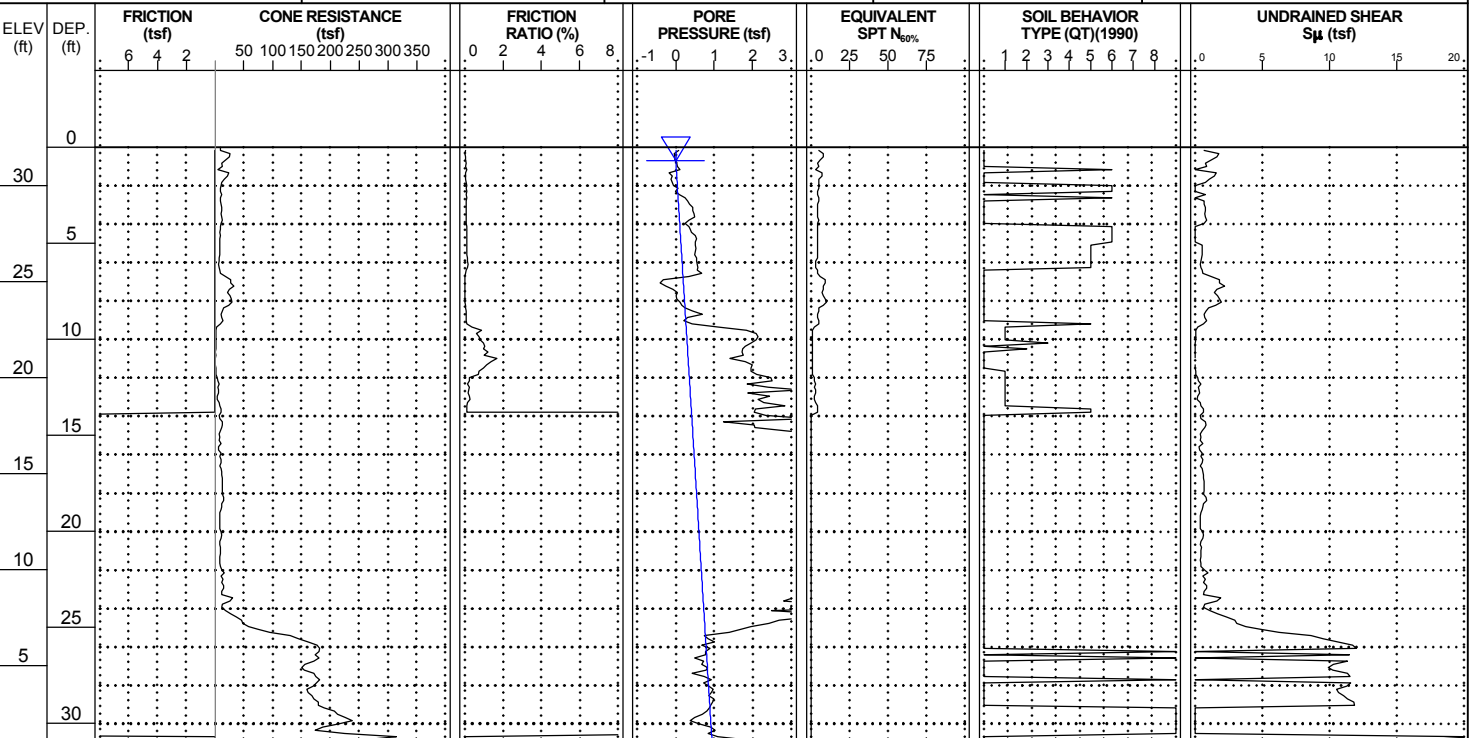
WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: C. FUTRAL
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y30RPD_1950_20LT	STATION: 19+50	OFFSET: 20 ft LT	ALIGNMENT: -Y30RPD- EST. 0 HR. 0.6
COLLAR ELEV.: 24.0 ft	TOTAL DEPTH: 24.0 ft	NORTHING: 231,802	EASTING: 2,378,585 24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.	CONE TYPE: TYPE II PIEZO	CONE ID: DSA1123
DRILLER: Eddie Swain	OPERATOR: CATLIN	START DATE: 08/23/18 COMP. DATE: 08/23/18 SURF. WATER DEPTH: N/A



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y30RPD_2100_CL	STATION: 21+00	OFFSET: CL	ALIGNMENT: -Y30RPD- EST. 0 HR. 0.7
COLLAR ELEV.: 32.0 ft	TOTAL DEPTH: 30.9 ft	NORTHING: 231,667	EASTING: 2,378,516 24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.	CONE TYPE: TYPE II PIEZO	CONE ID: DSA1123
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 08/22/18 COMP. DATE: 08/22/18 SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

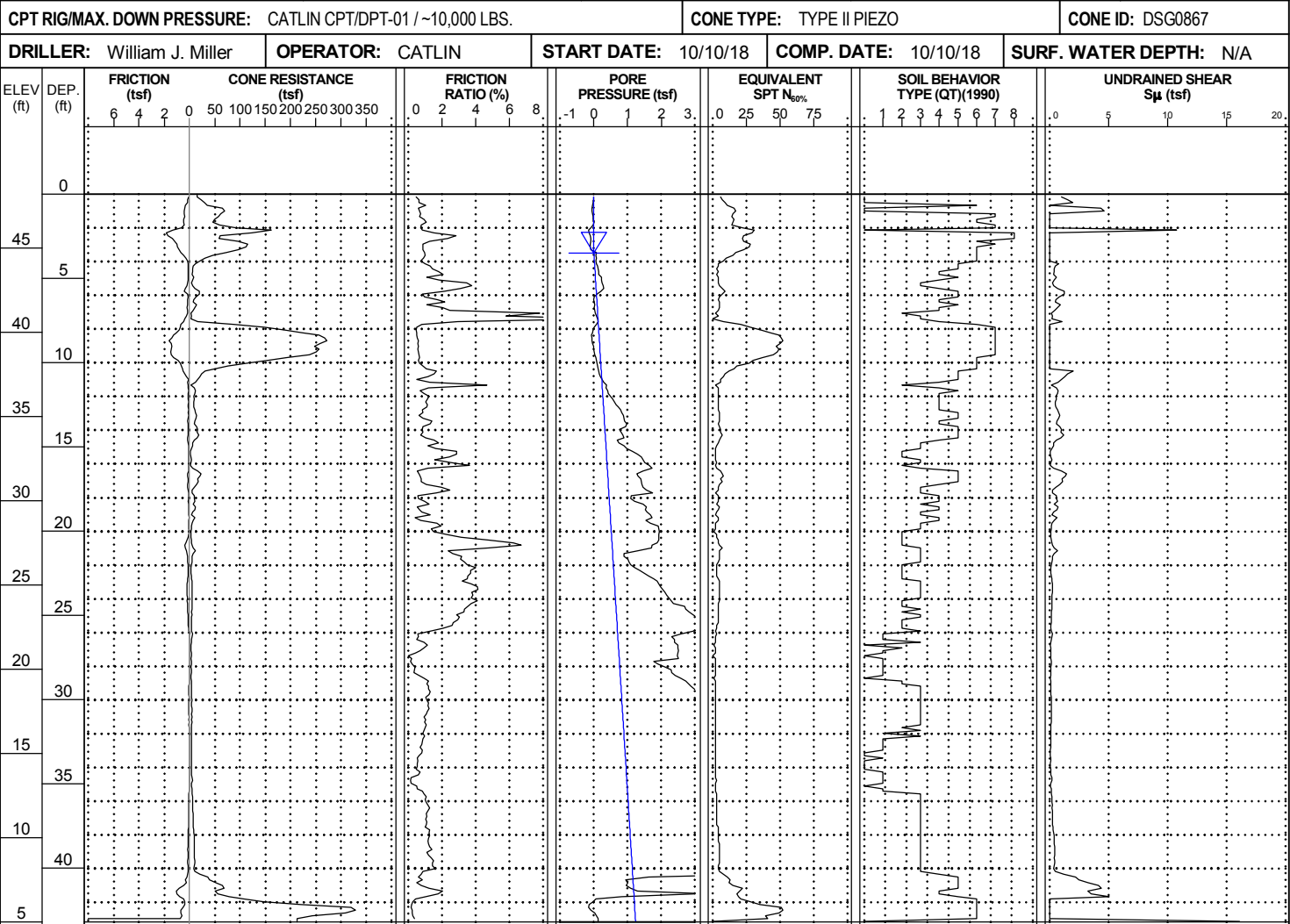
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R-3300B	74

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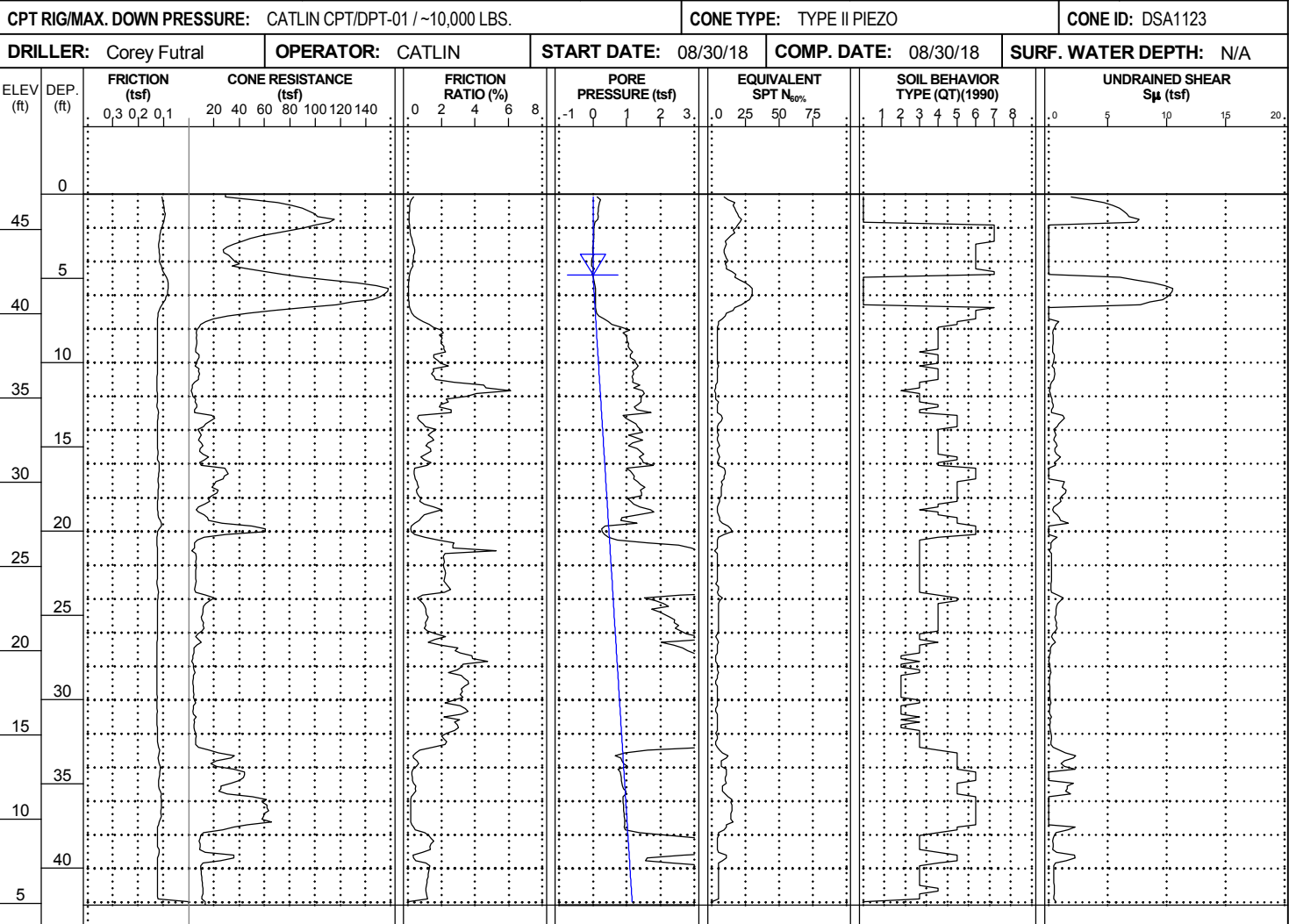
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y31_2800	STATION: 28+00	OFFSET: 15 ft RT	ALIGNMENT: -Y31-
COLLAR ELEV.: 48.2 ft	TOTAL DEPTH: 43.2 ft	NORTHING: 235,920	EASTING: 2,389,182
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 10/10/18	COMP. DATE: 10/10/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 3.5	24 HR. N/A



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y31_3400_15RT	STATION: 34+00	OFFSET: 15 ft RT	ALIGNMENT: -Y31-
COLLAR ELEV.: 47.1 ft	TOTAL DEPTH: 42.2 ft	NORTHING: 235,326	EASTING: 2,389,116
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSA1123
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 08/30/18	COMP. DATE: 08/30/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 4.8	24 HR. N/A



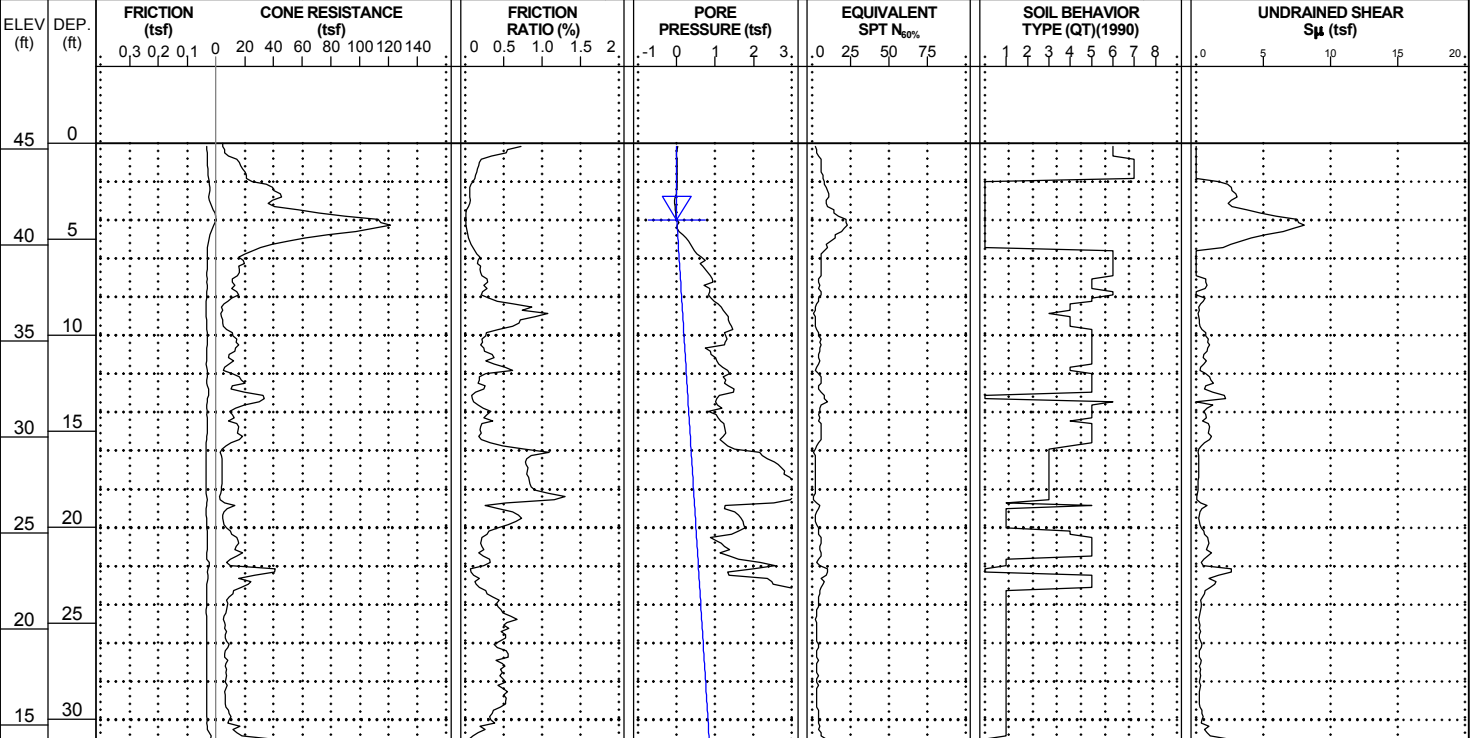
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



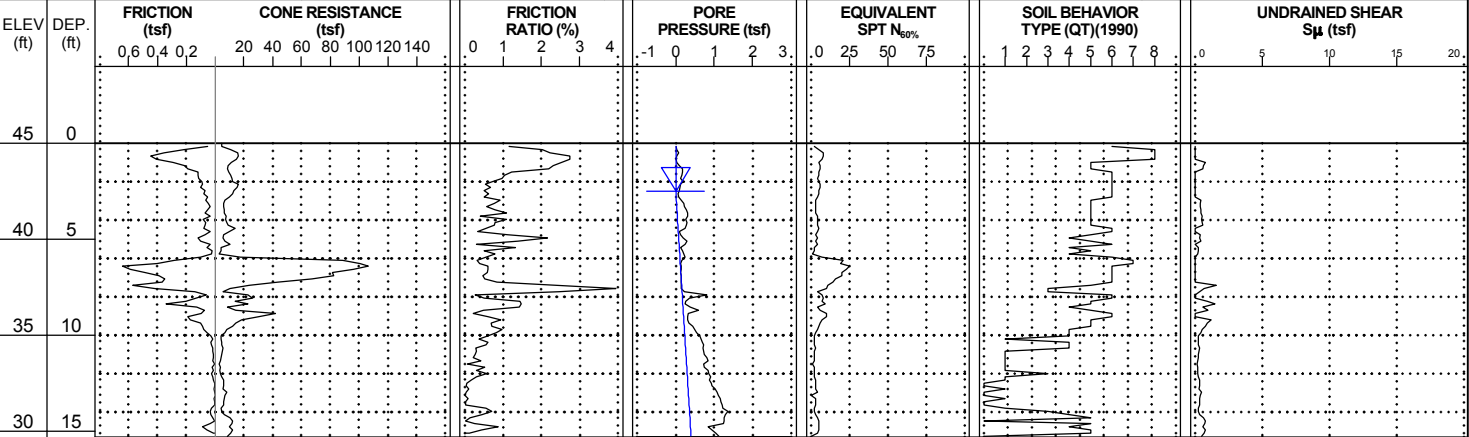
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SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y31_3600_25RT	STATION: 36+00	OFFSET: 25 ft RT	ALIGNMENT: -Y31-	EST. 0 HR.	4.0
COLLAR ELEV.: 45.3 ft	TOTAL DEPTH: 31.1 ft	NORTHING: 235,131	EASTING: 2,389,071	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSA1123		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 08/30/18	COMP. DATE: 08/30/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y31LPC_0800_CL	STATION: 8+00	OFFSET: CL	ALIGNMENT: -Y31LPC-	EST. 0 HR.	2.5
COLLAR ELEV.: 45.0 ft	TOTAL DEPTH: 15.3 ft	NORTHING: 235,438	EASTING: 2,388,659	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156		
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/02/18	COMP. DATE: 10/02/18	SURF. WATER DEPTH: N/A	

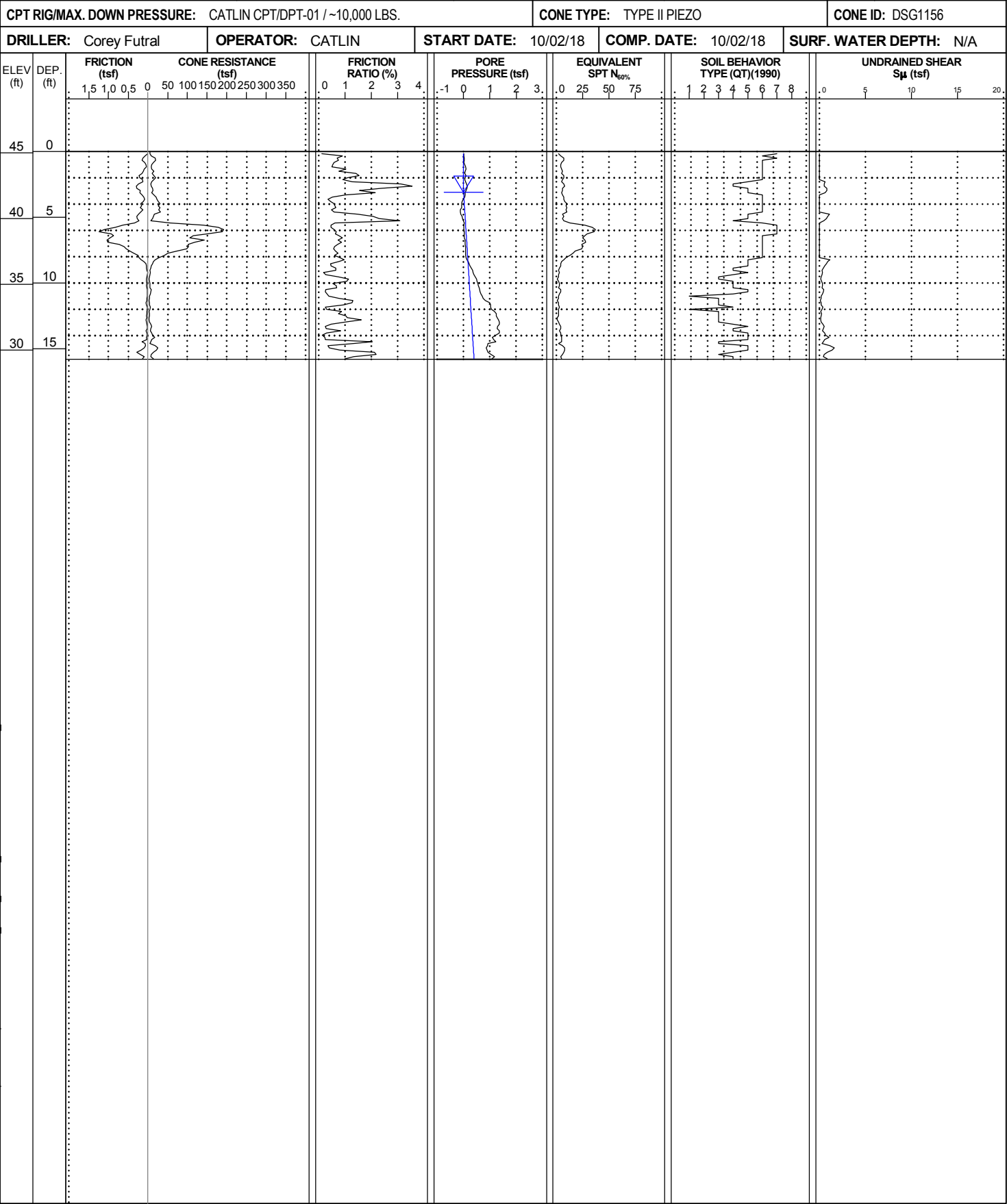


NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

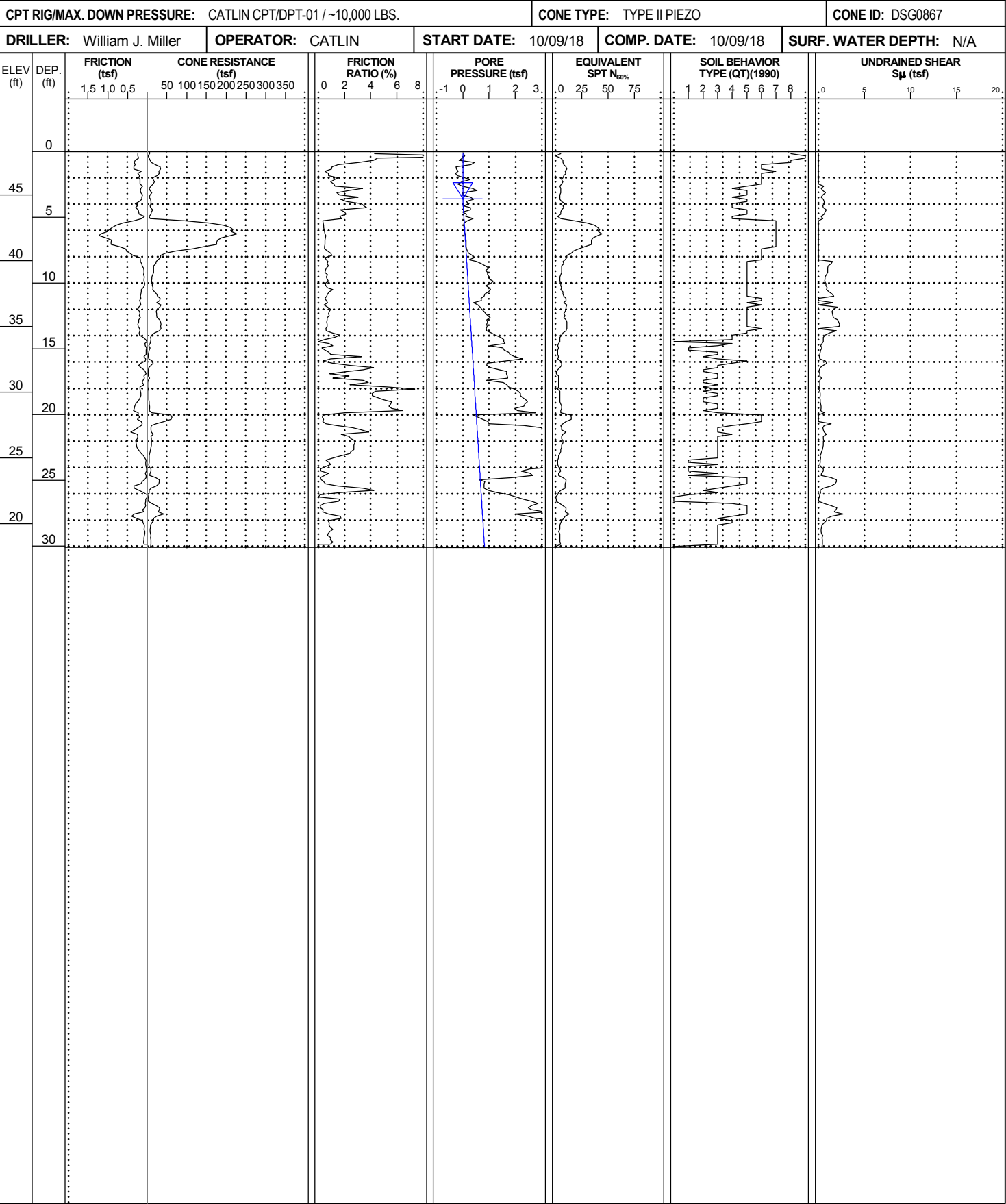
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y31LPC_1000_CL	STATION: 10+00	OFFSET: CL	ALIGNMENT: -Y31LPC-
COLLAR ELEV.: 45.1 ft	TOTAL DEPTH: 15.8 ft	NORTHING: 235,244	EASTING: 2,388,674
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/02/18	COMP. DATE: 10/02/18
SURF. WATER DEPTH: N/A			



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y31RPA_1000_CL	STATION: 10+00	OFFSET: CL	ALIGNMENT: -Y31RPA-
COLLAR ELEV.: 48.3 ft	TOTAL DEPTH: 30.1 ft	NORTHING: 235,862	EASTING: 2,389,778
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 10/09/18	COMP. DATE: 10/09/18
SURF. WATER DEPTH: N/A			



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT

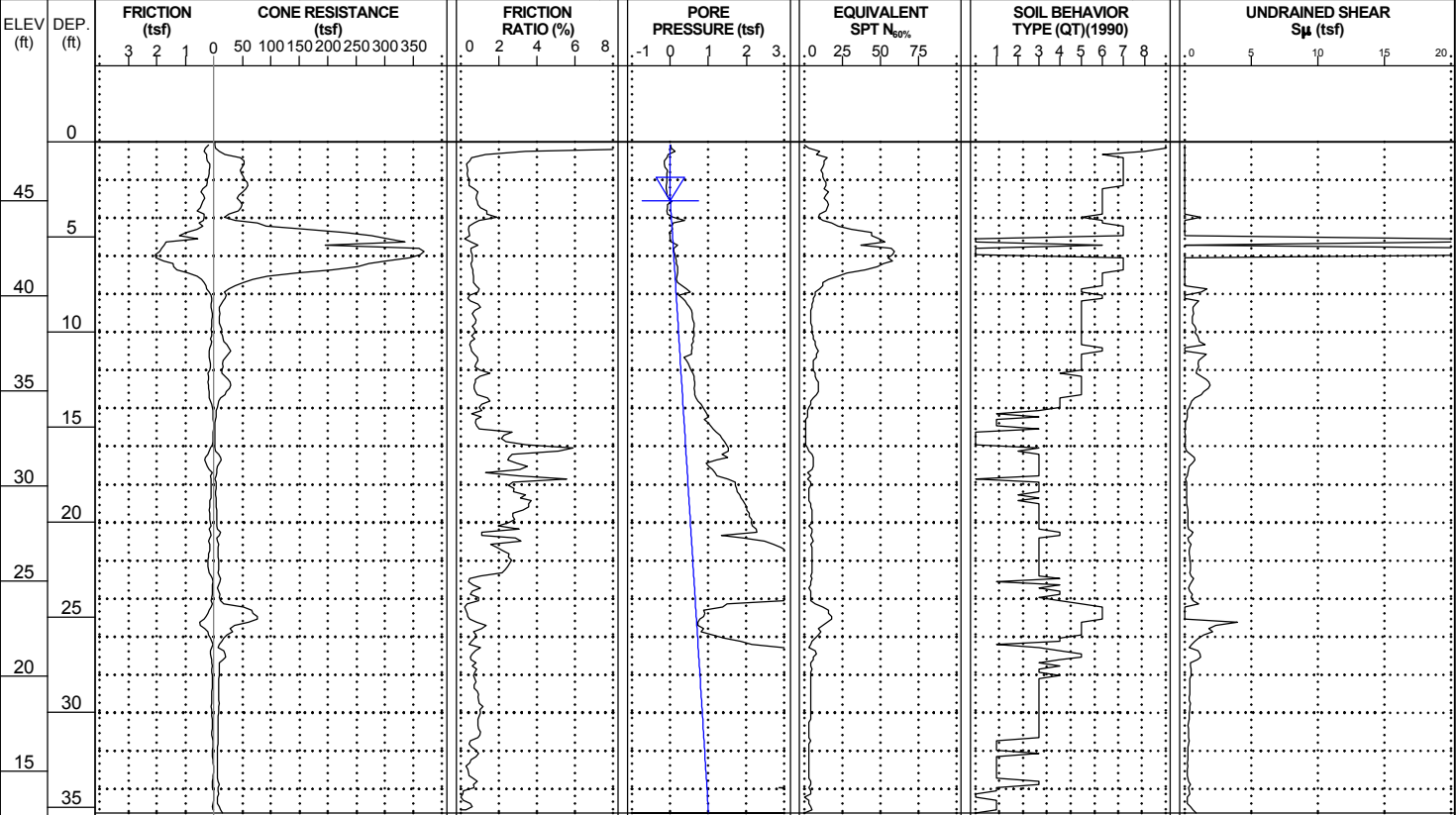


PROJECT REFERENCE NO. SHEET

R-3300B 78

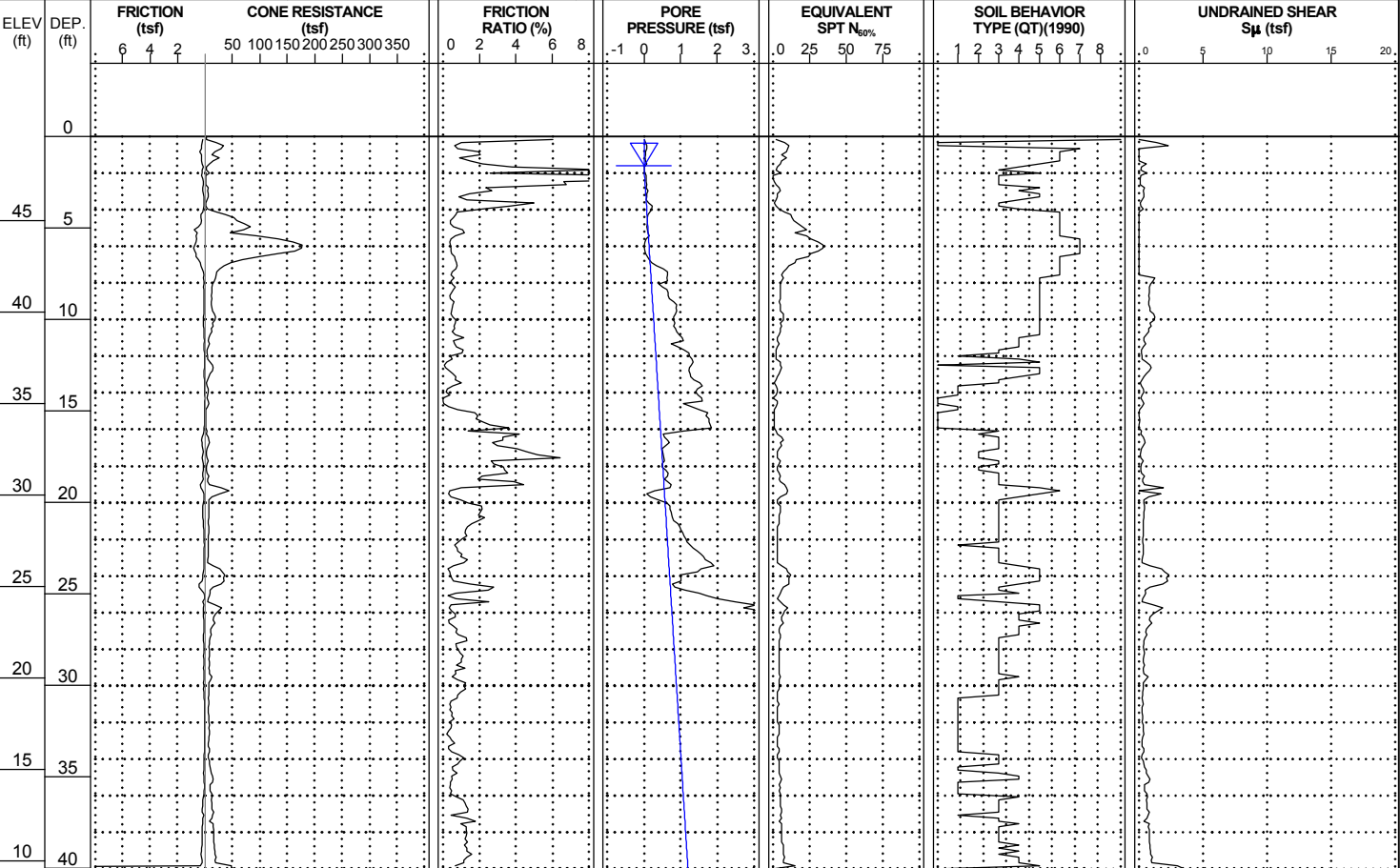
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y31RPA_1100_CL	STATION: 11+00	OFFSET: CL	ALIGNMENT: -Y31RPA-	EST. 0 HR.	3.1
COLLAR ELEV.: 48.1 ft	TOTAL DEPTH: 35.3 ft	NORTHING: 235,895	EASTING: 2,389,684	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.			CONE TYPE: TYPE II PIEZO		CONE ID: DSG0867
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 10/02/18	COMP. DATE: 10/02/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y31RPA_1400_CL	STATION: 14+00	OFFSET: CL	ALIGNMENT: -Y31RPA-	EST. 0 HR.	1.6
COLLAR ELEV.: 49.6 ft	TOTAL DEPTH: 40.1 ft	NORTHING: 236,020	EASTING: 2,389,411	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.			CONE TYPE: TYPE II PIEZO		CONE ID: DSG0867
DRILLER: William J. Miller	OPERATOR: CATLIN	START DATE: 10/10/18	COMP. DATE: 10/10/18	SURF. WATER DEPTH: N/A	



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: Y31RPB_1350_CL

STATION: 13+50

OFFSET: CL

ALIGNMENT: -Y31RPB-

EST. 0 HR. 2.2

COLLAR ELEV.: 46.4 ft

TOTAL DEPTH: 32.2 ft

NORTHING: 235,796

EASTING: 2,388,668

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSA1123

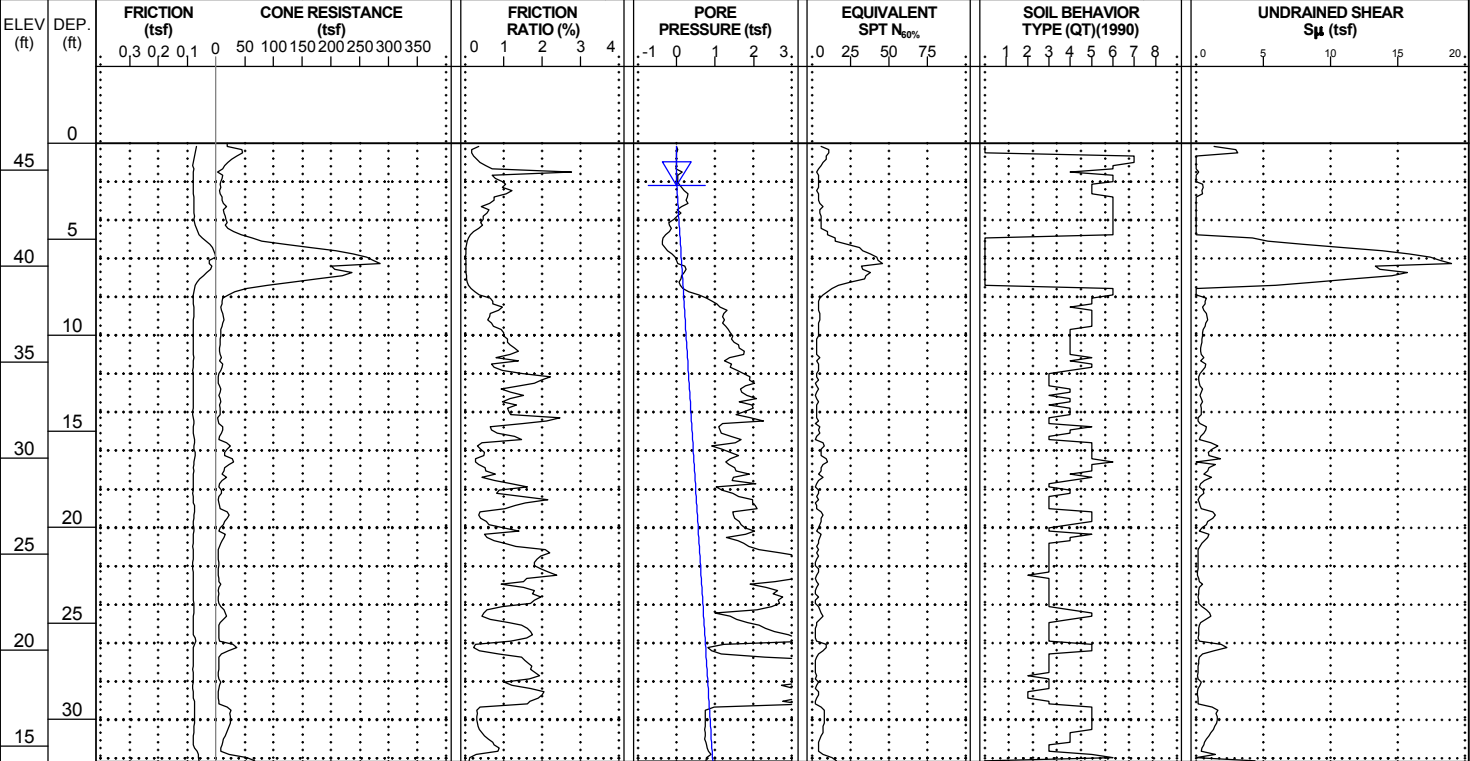
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 08/30/18

COMP. DATE: 08/30/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: Y31RPB_1500_CL

STATION: 15+00

OFFSET: CL

ALIGNMENT: -Y31RPB-

EST. 0 HR. 2.2

COLLAR ELEV.: 46.8 ft

TOTAL DEPTH: 35.5 ft

NORTHING: 235,889

EASTING: 2,388,785

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

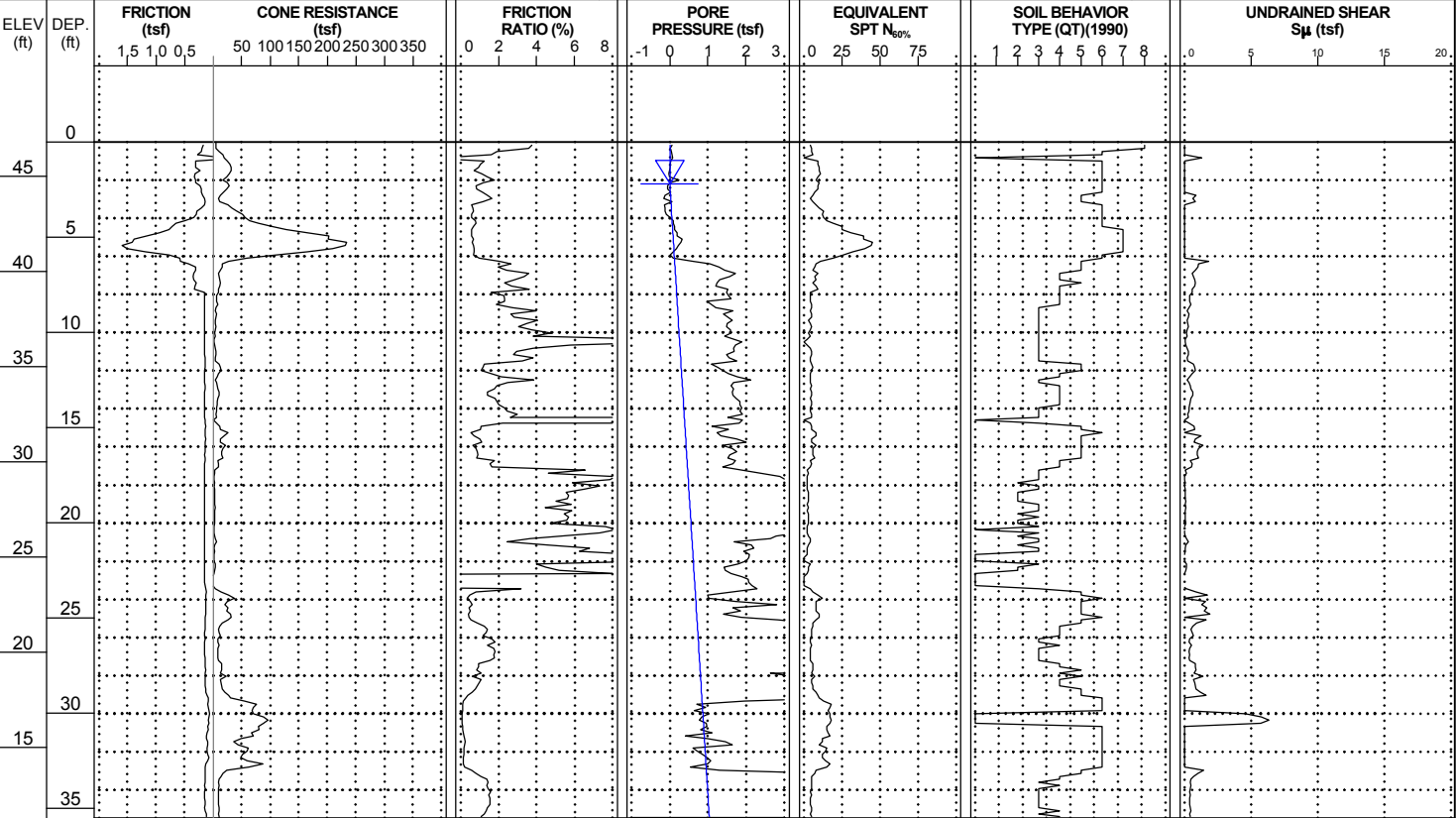
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 08/30/18

COMP. DATE: 08/30/18

SURF. WATER DEPTH: N/A



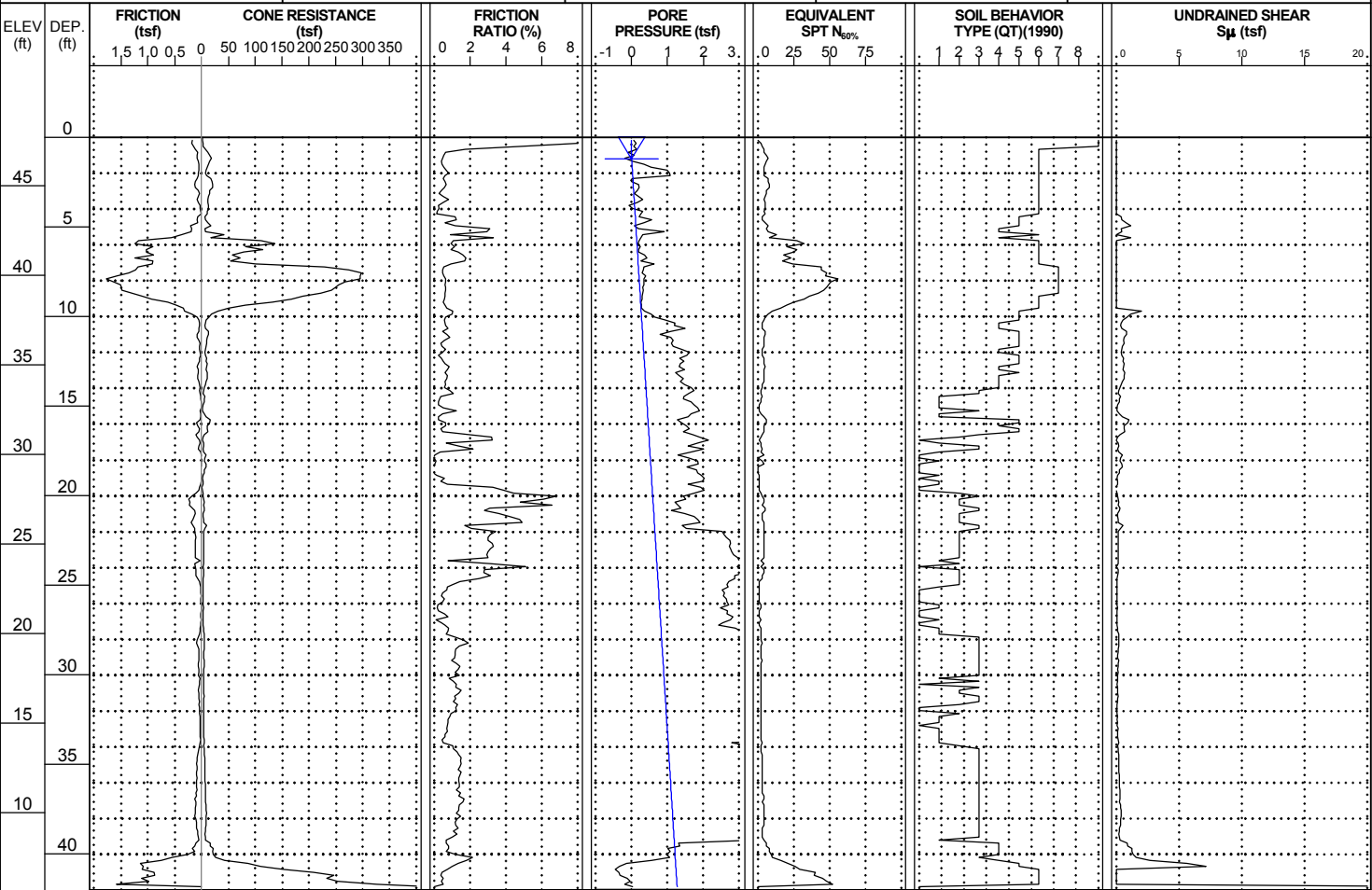
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



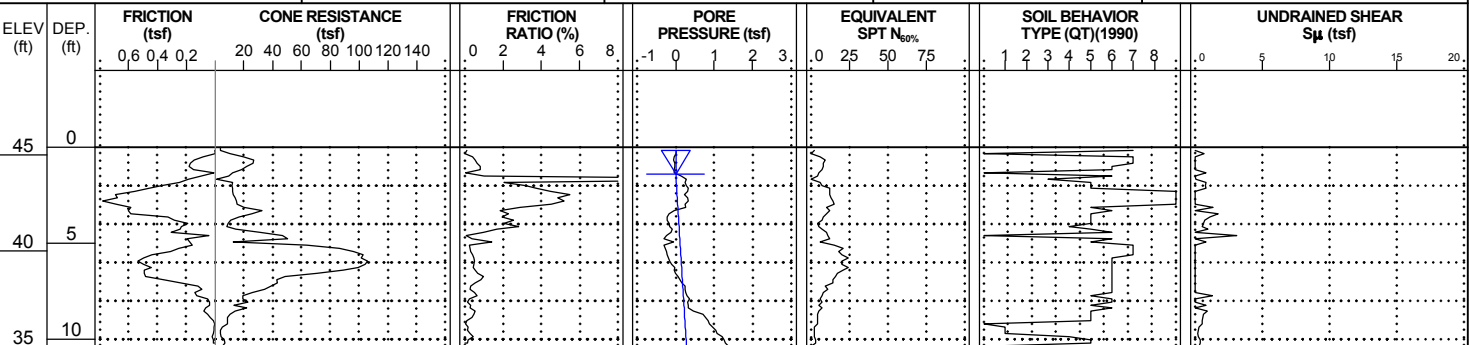
WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y31RPB_1900	STATION: 19+00	OFFSET: CL	ALIGNMENT: -Y31RPB-
COLLAR ELEV.: 47.7 ft	TOTAL DEPTH: 42.0 ft	NORTHING: 236,046	EASTING: 2,389,146
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867

DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/03/18	COMP. DATE: 10/03/18	SURF. WATER DEPTH: N/A
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WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y31RPC_1200_CL	STATION: 12+00	OFFSET: CL	ALIGNMENT: -Y31RPC-
COLLAR ELEV.: 45.4 ft	TOTAL DEPTH: 10.4 ft	NORTHING: 235,170	EASTING: 2,387,952
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG1156

DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/02/18	COMP. DATE: 10/02/18	SURF. WATER DEPTH: N/A
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NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT

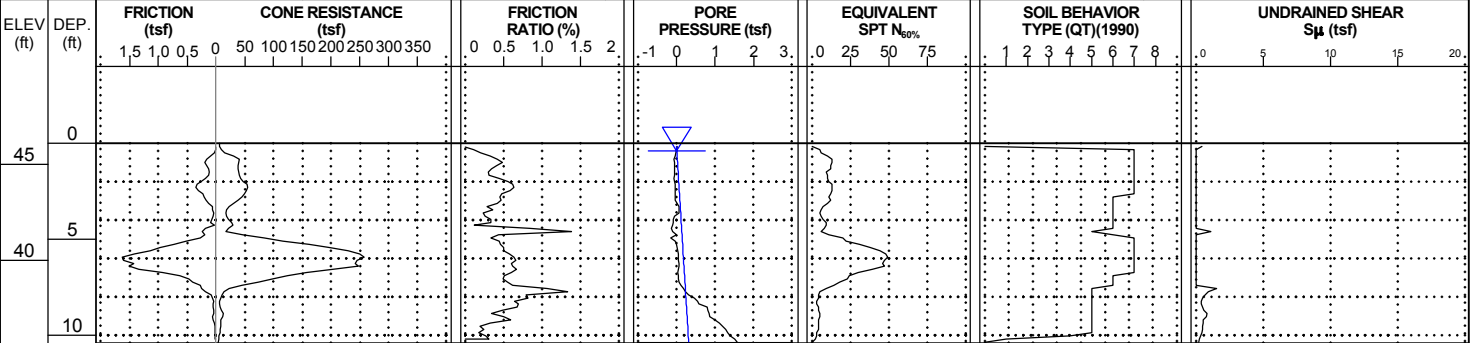


PROJECT REFERENCE NO. SHEET

R-3300B 81

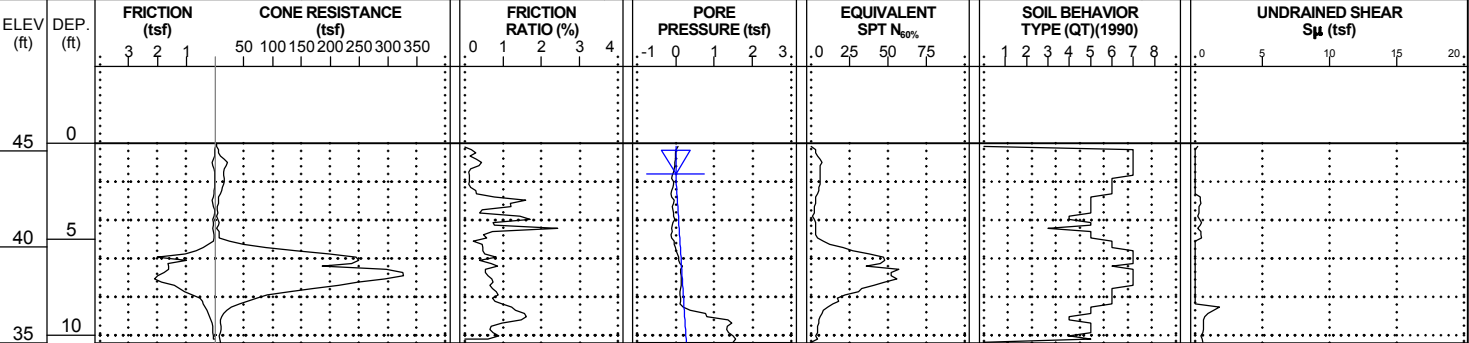
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y31RPC_1400_CL	STATION: 14+00	OFFSET: CL	ALIGNMENT: -Y31RPC-	EST. 0 HR.	0.4
COLLAR ELEV.: 46.1 ft	TOTAL DEPTH: 10.4 ft	NORTHING: 235,194	EASTING: 2,388,151	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.			CONE TYPE: TYPE II PIEZO		CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/02/18	COMP. DATE: 10/02/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y31RPC_1600_CL	STATION: 16+00	OFFSET: CL	ALIGNMENT: -Y31RPC-	EST. 0 HR.	1.6
COLLAR ELEV.: 45.4 ft	TOTAL DEPTH: 10.4 ft	NORTHING: 235,190	EASTING: 2,388,350	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.			CONE TYPE: TYPE II PIEZO		CONE ID: DSG1156
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/02/18	COMP. DATE: 10/02/18	SURF. WATER DEPTH: N/A	



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: Y31RPC_1800_CL

STATION: 18+00

OFFSET: CL

ALIGNMENT: -Y31RPC-

EST. 0 HR. 2.1

COLLAR ELEV.: 44.3 ft

TOTAL DEPTH: 15.5 ft

NORTHING: 235,159

EASTING: 2,388,548

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

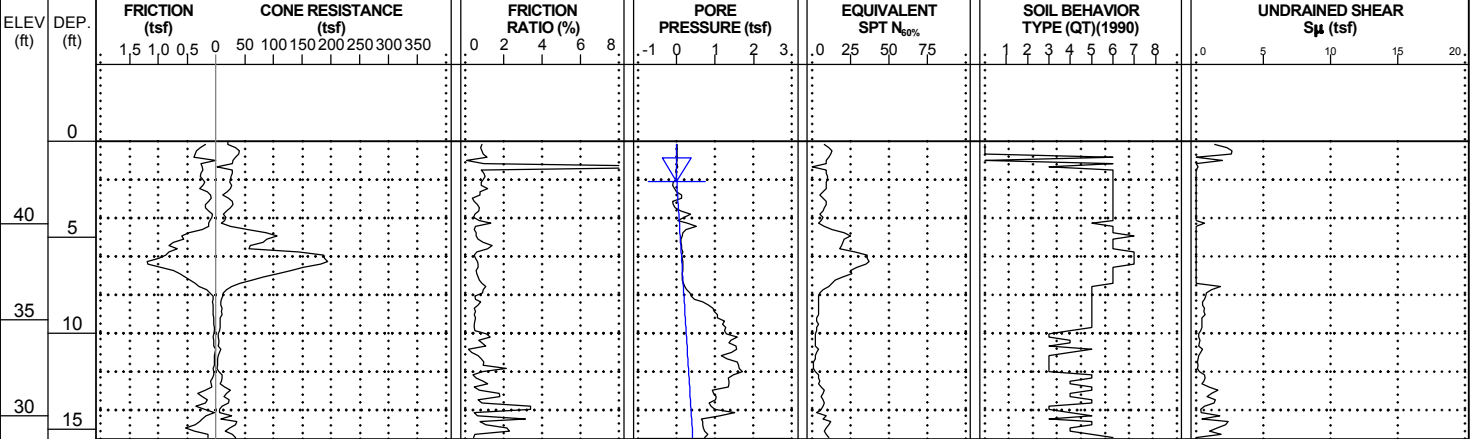
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/02/18

COMP. DATE: 10/02/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: Y31RPC_2200_CL

STATION: 22+00

OFFSET: CL

ALIGNMENT: -Y31RPC-

EST. 0 HR. 4.7

COLLAR ELEV.: 46.4 ft

TOTAL DEPTH: 15.3 ft

NORTHING: 235,083

EASTING: 2,388,941

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG1156

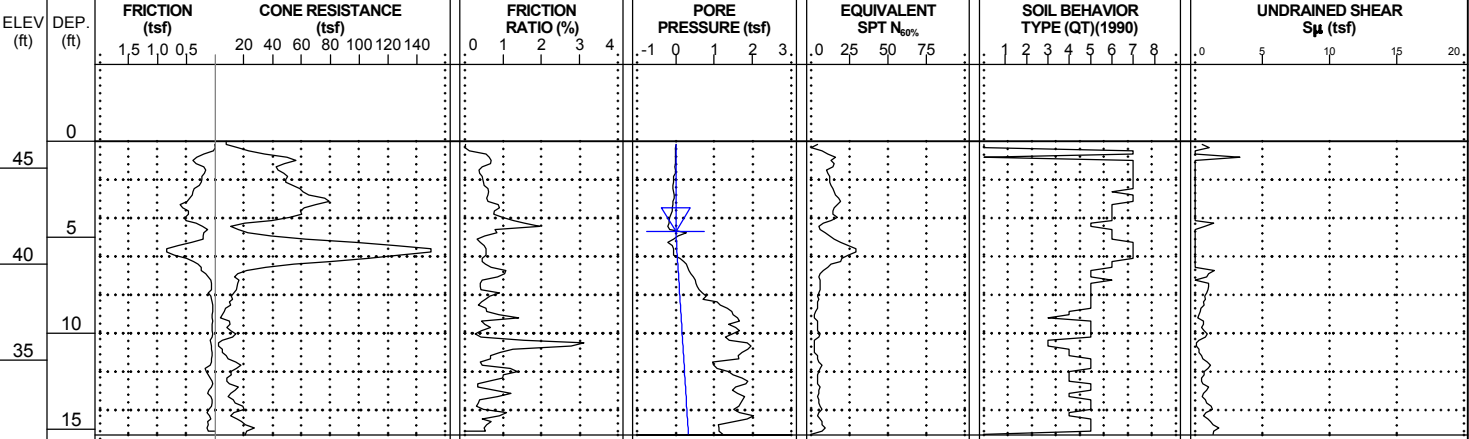
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/03/18

COMP. DATE: 10/03/18

SURF. WATER DEPTH: N/A



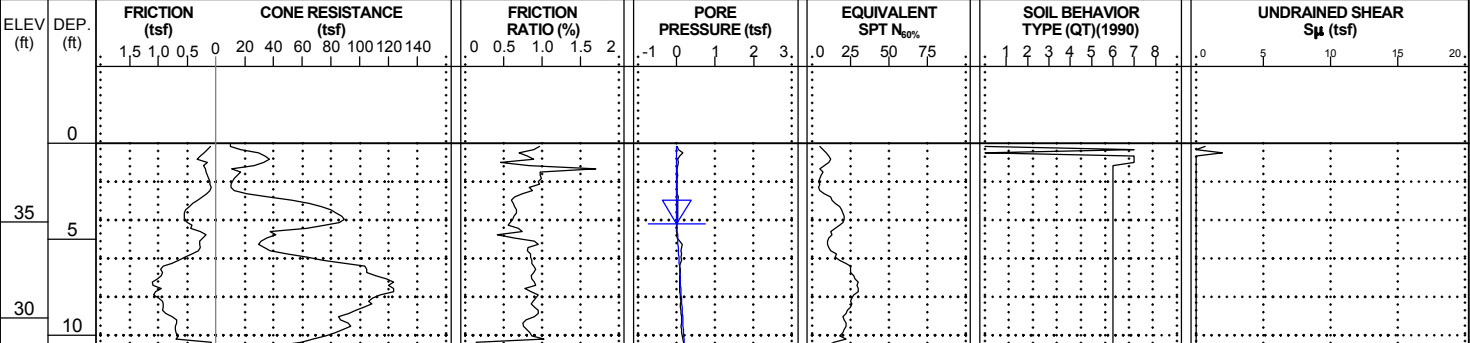
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



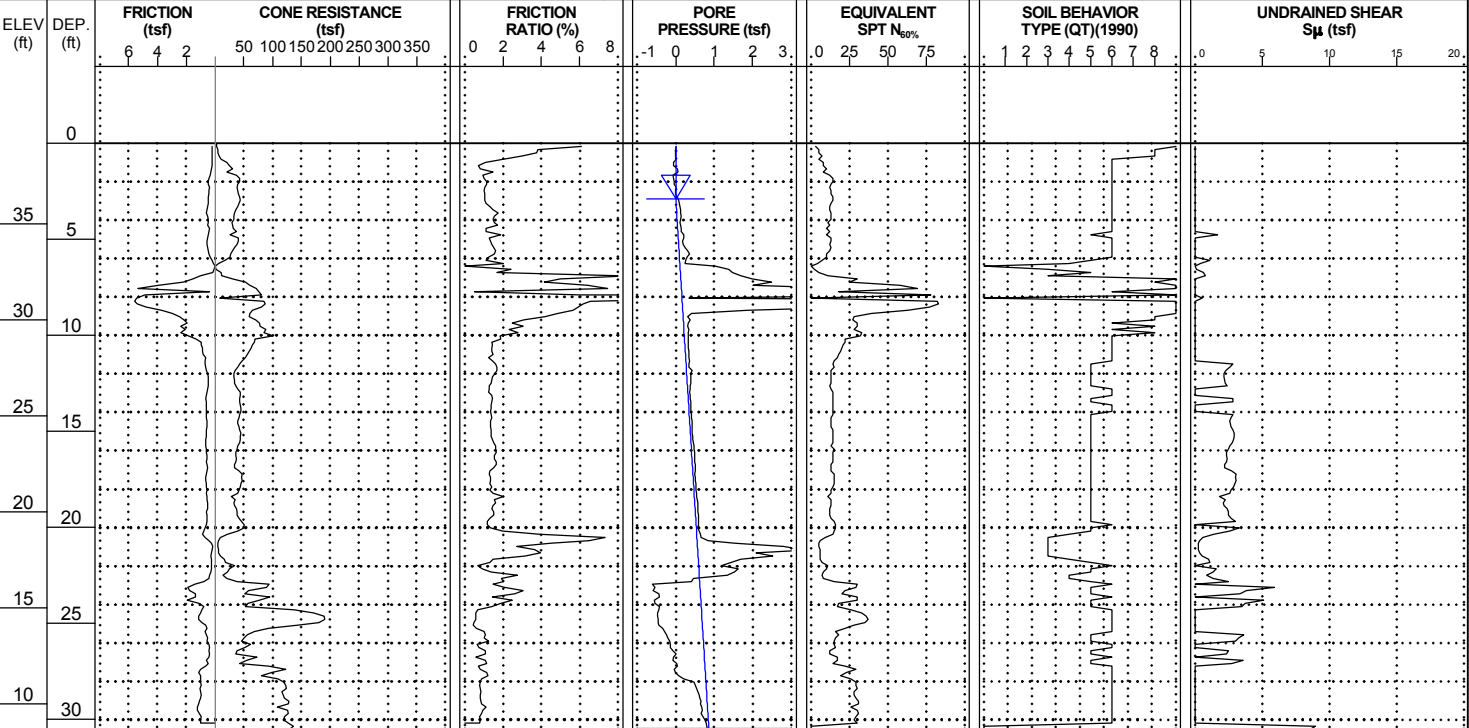
WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y32_1600_15LT	STATION: 16+00	OFFSET: 15 ft LT	ALIGNMENT: -Y32-	EST. 0 HR.	4.2
COLLAR ELEV.: 39.1 ft	TOTAL DEPTH: 10.5 ft	NORTHING: 238,134	EASTING: 2,399,971	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867		
DRILLER: D.T. Chalmers, Jr.	OPERATOR: CATLIN	START DATE: 10/19/18	COMP. DATE: 10/19/18	SURF. WATER DEPTH: N/A	



WBS: 40237.1.1		TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: L.PUGH	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD					GROUND WTR (ft)
BORING NO.: Y32_1800	STATION: 18+00	OFFSET: CL	ALIGNMENT: -Y32-	EST. 0 HR.	2.9
COLLAR ELEV.: 39.2 ft	TOTAL DEPTH: 30.5 ft	NORTHING: 238,308	EASTING: 2,400,067	24 HR.	N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867		
DRILLER: Eddie Swain	OPERATOR: CATLIN	START DATE: 02/10/20	COMP. DATE: 02/10/20	SURF. WATER DEPTH: N/A	

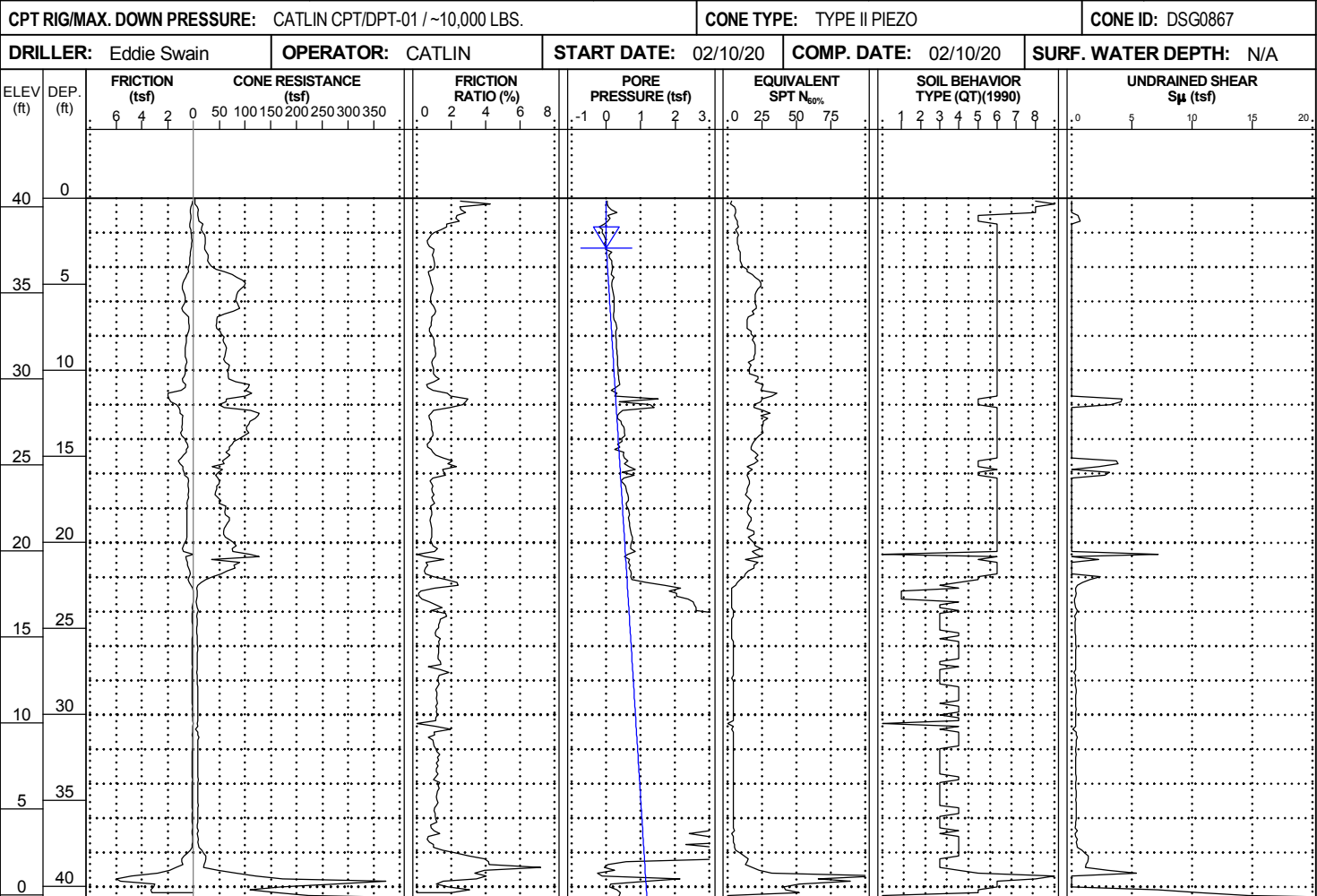


NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

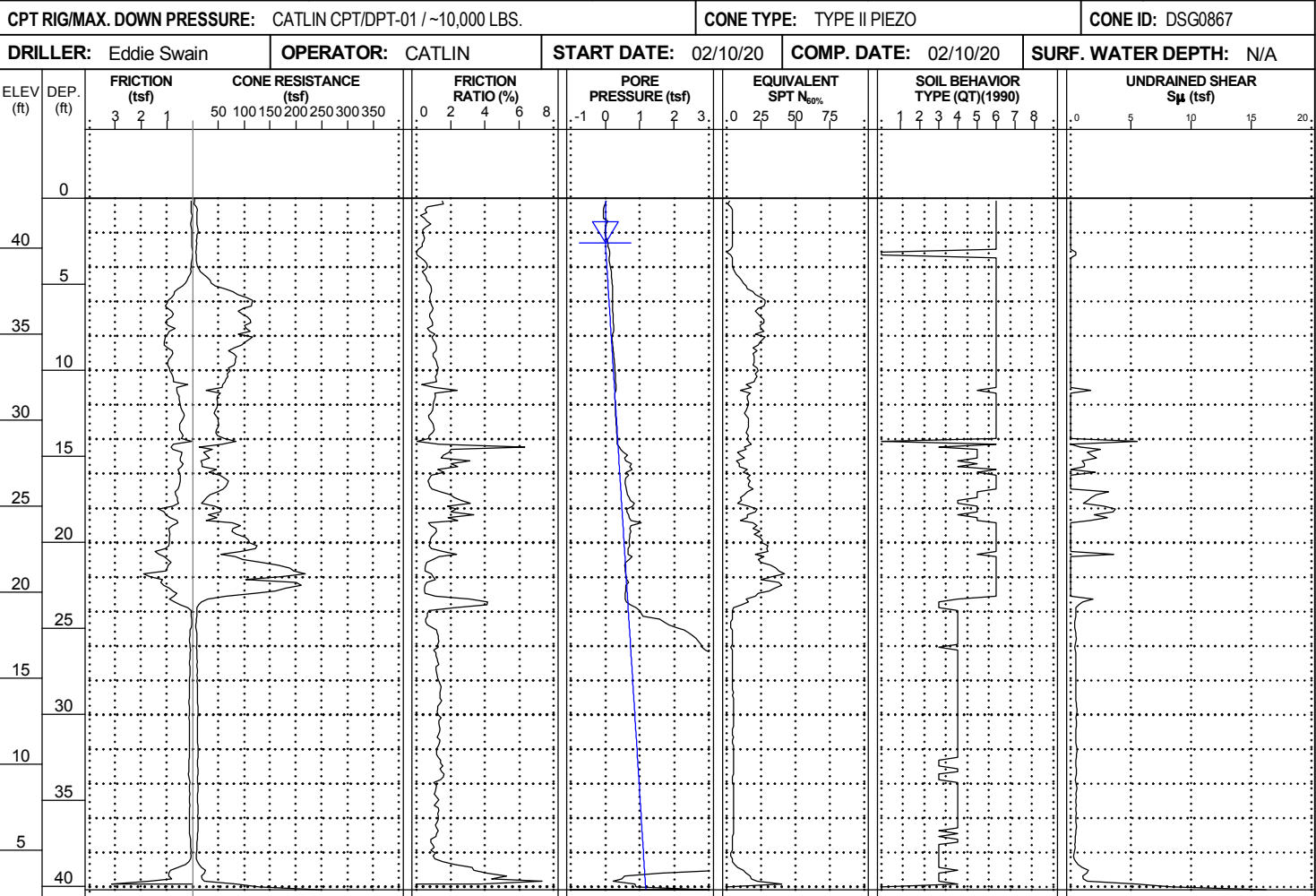
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: L.PUGH
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y32_3050	STATION: 30+50	OFFSET: CL	ALIGNMENT: -Y32-
COLLAR ELEV.: 40.5 ft	TOTAL DEPTH: 40.7 ft	NORTHING: 239,447	EASTING: 2,400,459
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867
DRILLER: Eddie Swain	OPERATOR: CATLIN	START DATE: 02/10/20	COMP. DATE: 02/10/20
SURF. WATER DEPTH: N/A		EST. 0 HR. 2.9	24 HR. N/A



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: L.PUGH
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y32_3300	STATION: 33+00	OFFSET: CL	ALIGNMENT: -Y32-
COLLAR ELEV.: 42.9 ft	TOTAL DEPTH: 40.2 ft	NORTHING: 239,573	EASTING: 2,400,675
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867
DRILLER: Eddie Swain	OPERATOR: CATLIN	START DATE: 02/10/20	COMP. DATE: 02/10/20
SURF. WATER DEPTH: N/A		EST. 0 HR. 2.6	24 HR. N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: L.PUGH

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: Y32_3500

STATION: 35+00

OFFSET: CL

ALIGNMENT: -Y32-

EST. 0 HR. 1.2

COLLAR ELEV.: 43.2 ft

TOTAL DEPTH: 30.7 ft

NORTHING: 239,627

EASTING: 2,400,866

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG0867

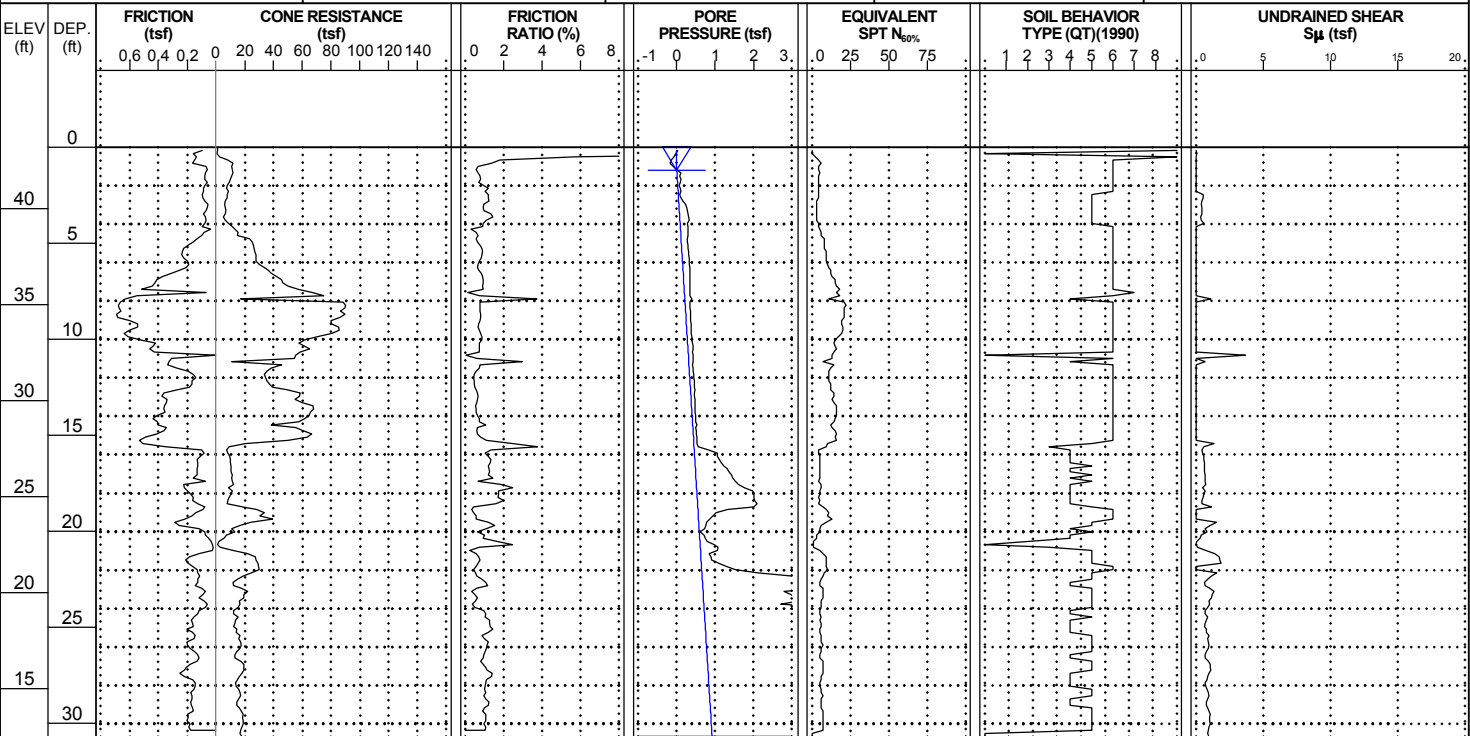
DRILLER: Eddie Swain

OPERATOR: CATLIN

START DATE: 02/10/20

COMP. DATE: 02/10/20

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: L.PUGH

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: Y32LPA_1100

STATION: 11+00

OFFSET: CL

ALIGNMENT: -Y32LPA-

EST. 0 HR. 1.1

COLLAR ELEV.: 42.5 ft

TOTAL DEPTH: 15.4 ft

NORTHING: 239,552

EASTING: 2,401,028

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG0867

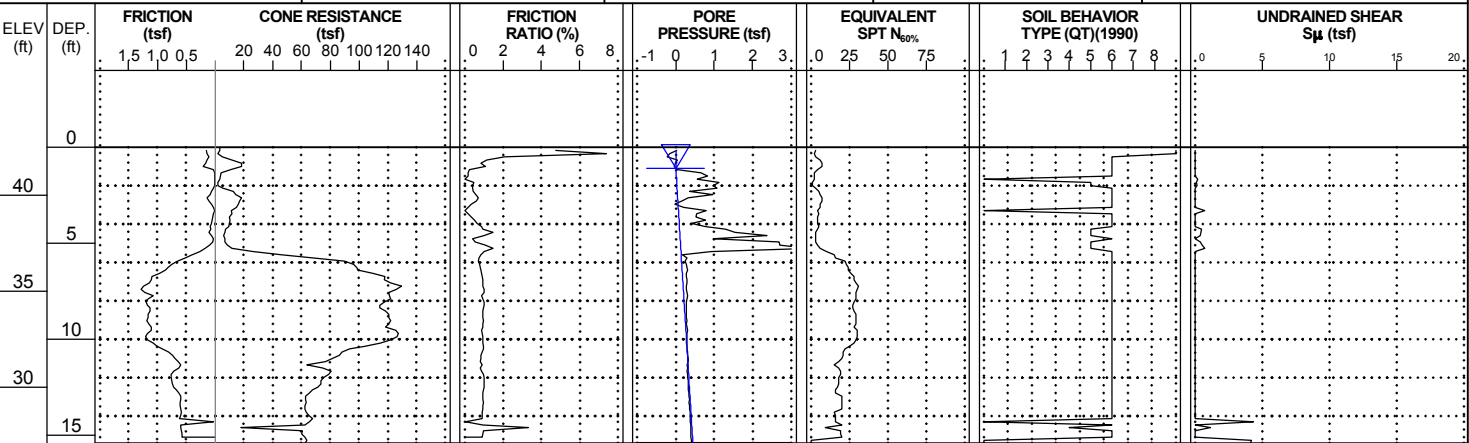
DRILLER: Eddie Swain

OPERATOR: CATLIN

START DATE: 02/10/20

COMP. DATE: 02/10/20

SURF. WATER DEPTH: N/A



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: Y32RPA1_1200_20L

STATION: 12+00

OFFSET: 20 ft LT

ALIGNMENT: -Y32PRA1-

EST. 0 HR. 2.0

COLLAR ELEV.: 38.8 ft

TOTAL DEPTH: 10.4 ft

NORTHING: 238,196

EASTING: 2,400,036

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG0867

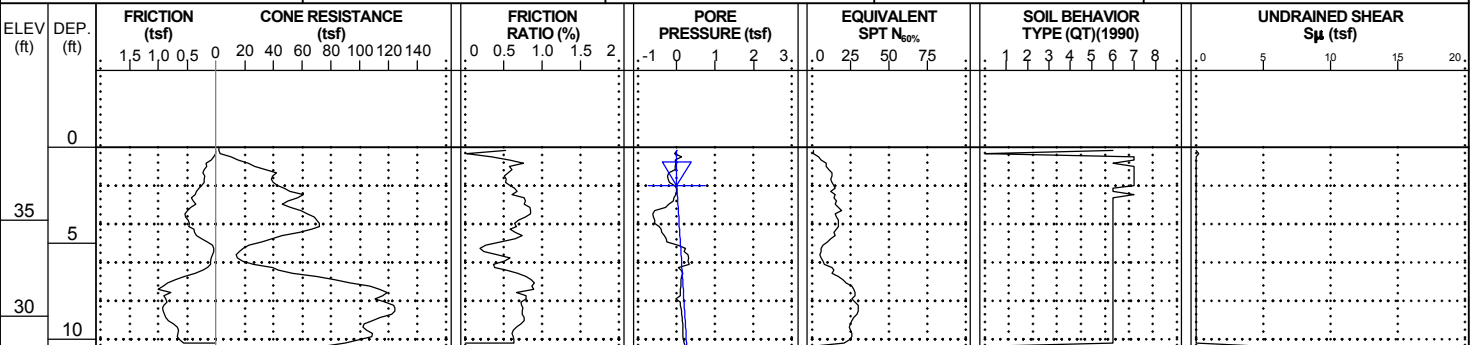
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/19/18

COMP. DATE: 10/19/18

SURF. WATER DEPTH: N/A



WBS: 40237.1.1

TIP: R-3300B

COUNTY: PENDER

GEOLOGIST: S. HUDSON

SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD

GROUND WTR (ft)

BORING NO.: Y32RPA1_1375_CL

STATION: 13+75

OFFSET: CL

ALIGNMENT: -Y32PRA1-

EST. 0 HR. 3.5

COLLAR ELEV.: 36.9 ft

TOTAL DEPTH: 10.2 ft

NORTHING: 238,352

EASTING: 2,400,113

24 HR. N/A

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.

CONE TYPE: TYPE II PIEZO

CONE ID: DSG0867

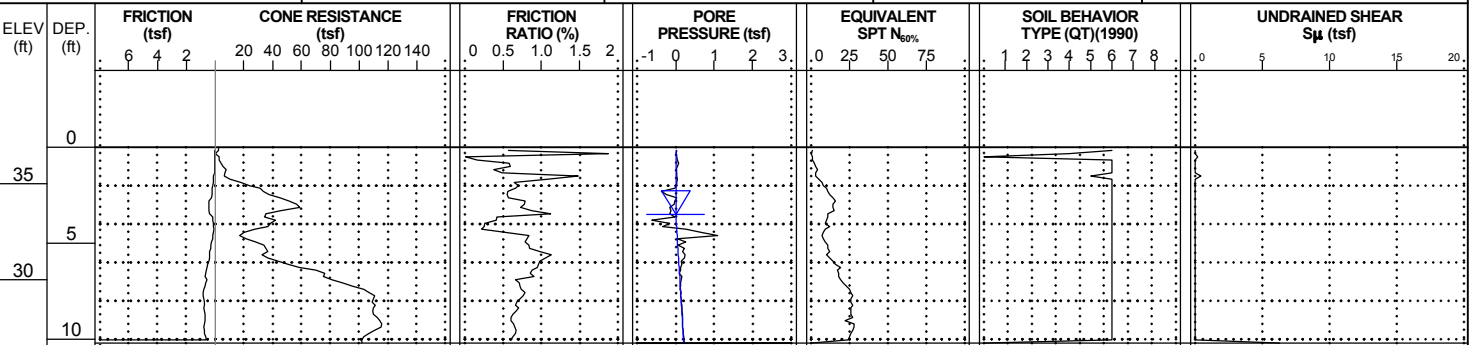
DRILLER: Corey Futral

OPERATOR: CATLIN

START DATE: 10/19/18

COMP. DATE: 10/19/18

SURF. WATER DEPTH: N/A

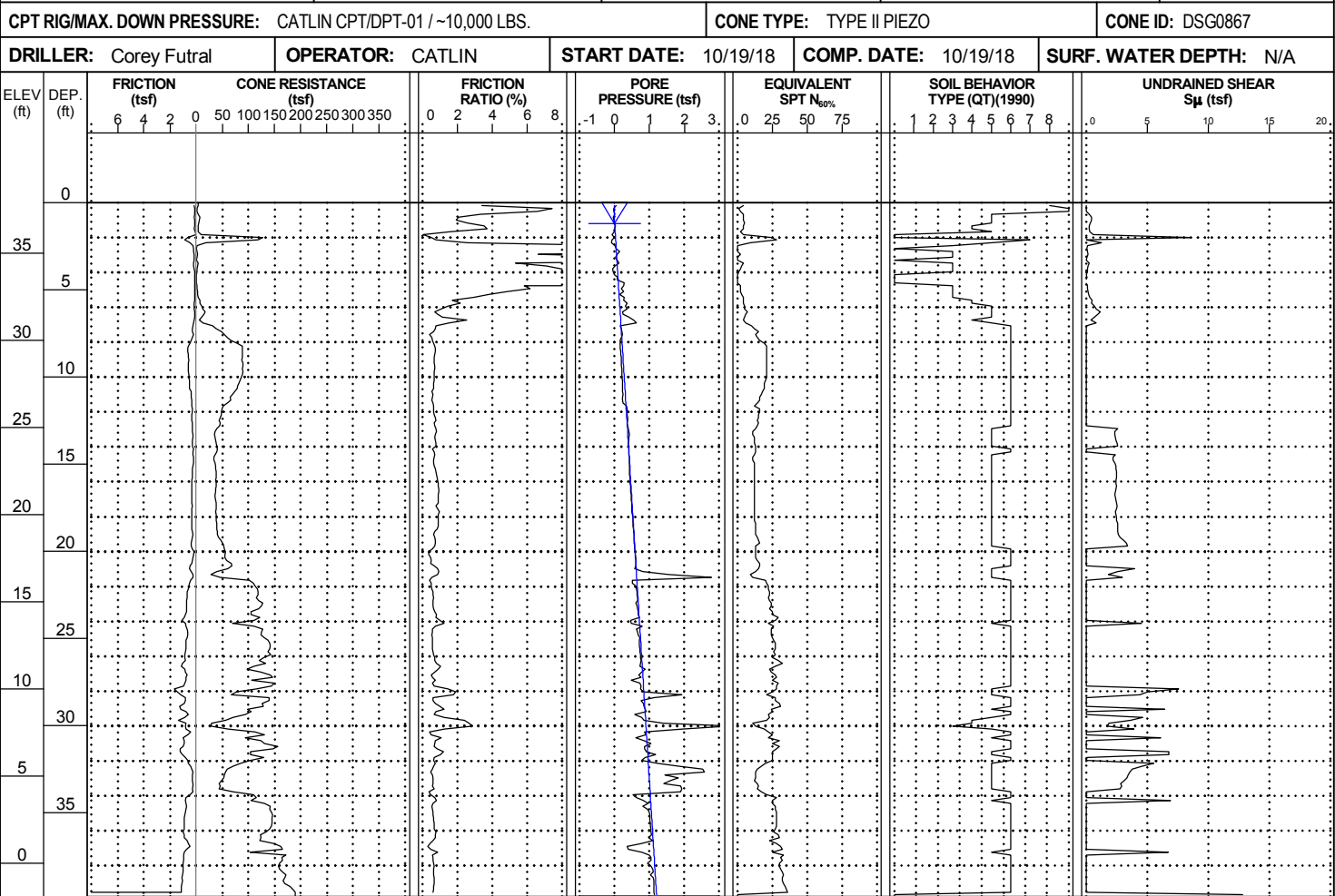


NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

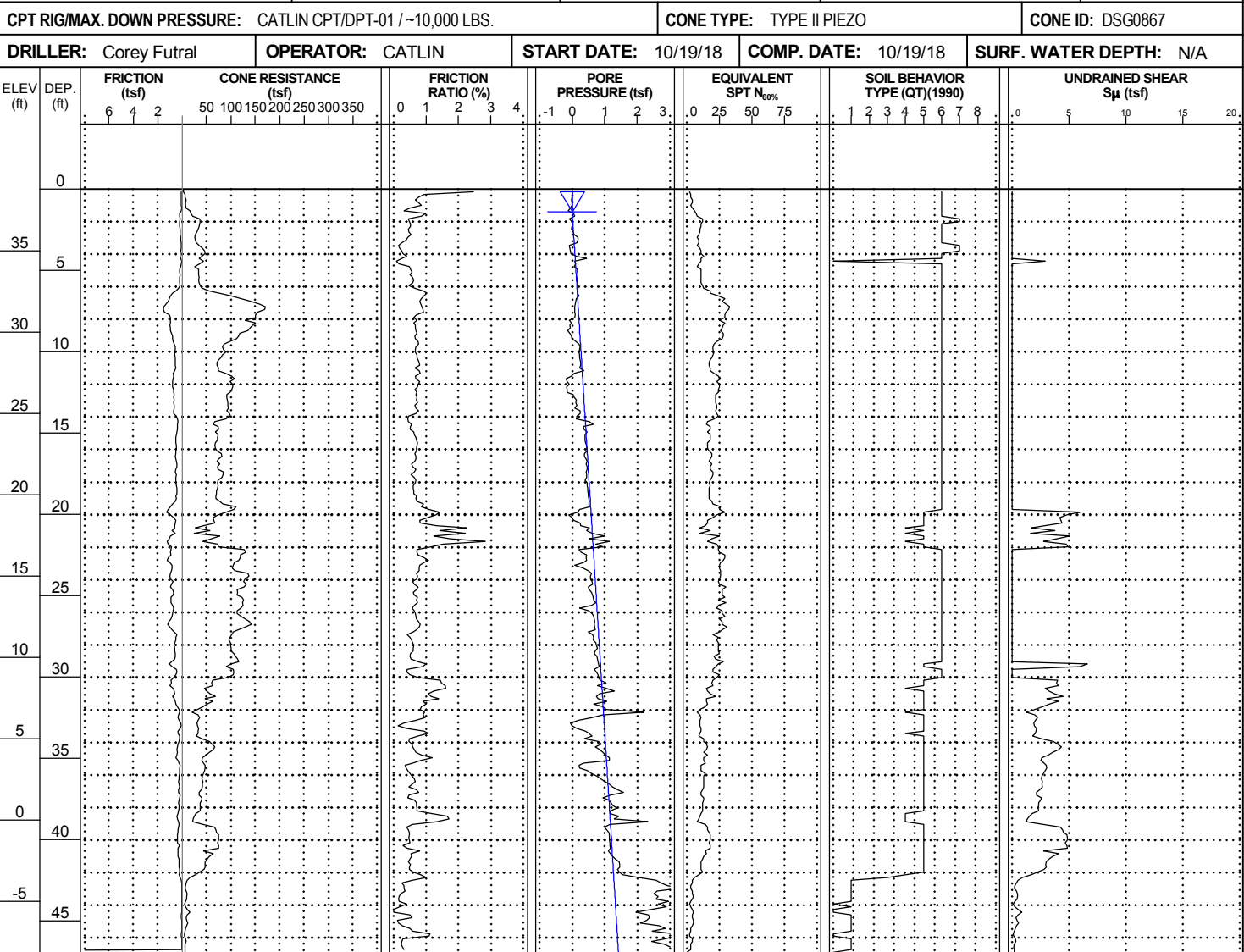
CONE PENETROMETER TEST
BORING REPORT



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y40_23900_13LT	STATION: 239+00	OFFSET: 13 ft LT	ALIGNMENT: -Y40-
COLLAR ELEV.: 37.9 ft	TOTAL DEPTH: 39.8 ft	NORTHING: 238,259	EASTING: 2,400,117
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/19/18	COMP. DATE: 10/19/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 1.2	24 HR. N/A



WBS: 40237.1.1	TIP: R-3300B	COUNTY: PENDER	GEOLOGIST: S. HUDSON
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD			GROUND WTR (ft)
BORING NO.: Y40_24100_CL	STATION: 241+00	OFFSET: CL	ALIGNMENT: -Y40-
COLLAR ELEV.: 38.8 ft	TOTAL DEPTH: 47.0 ft	NORTHING: 238,432	EASTING: 2,400,218
CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.		CONE TYPE: TYPE II PIEZO	CONE ID: DSG0867
DRILLER: Corey Futral	OPERATOR: CATLIN	START DATE: 10/19/18	COMP. DATE: 10/19/18
SURF. WATER DEPTH: N/A		EST. 0 HR. 1.4	24 HR. N/A



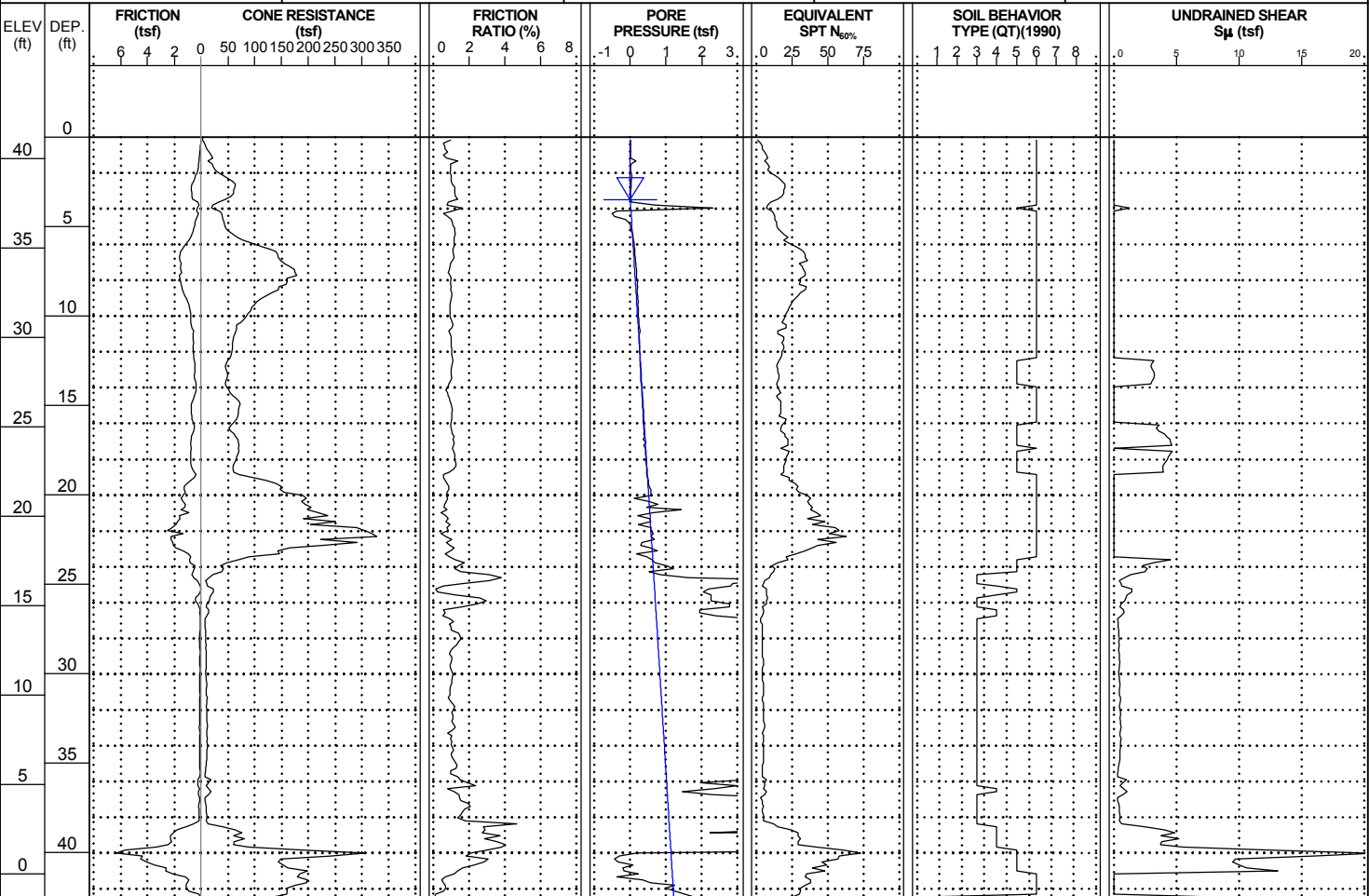
NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO_RDWY_CPT_ONLY.GPJ NCDOI CATLIN.GDT 2/11/20

CONE PENETROMETER TEST
BORING REPORT



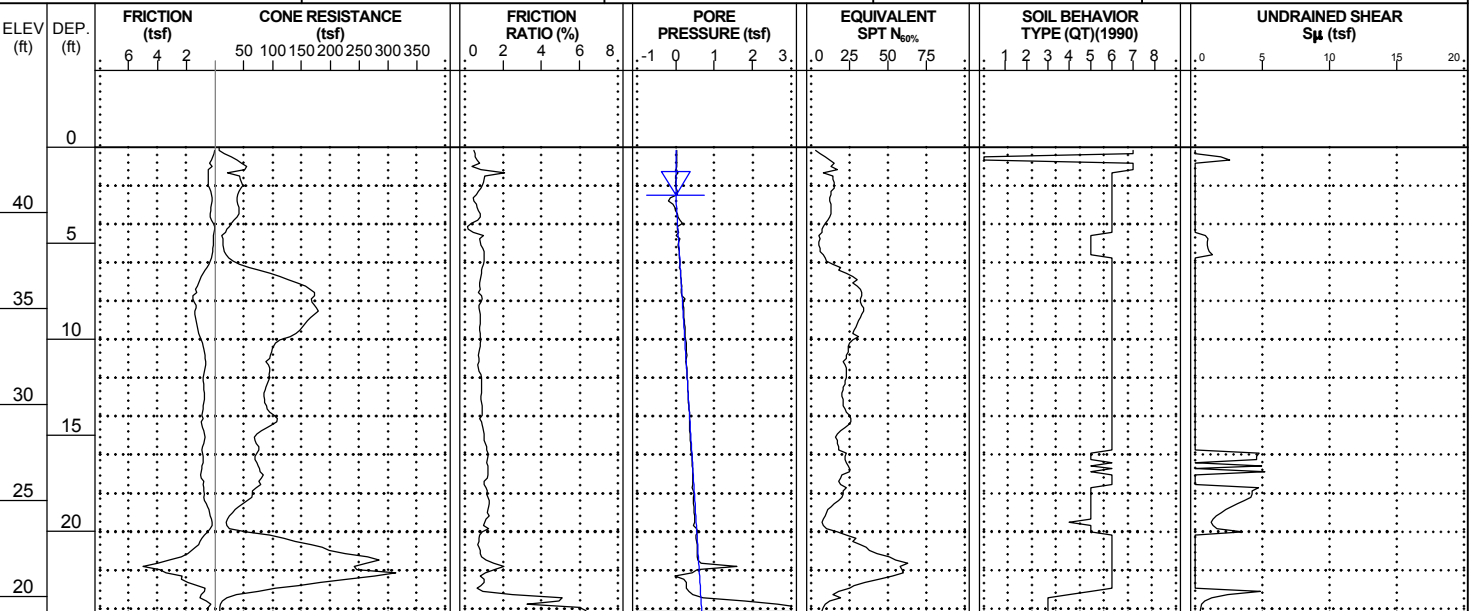
WBS: 40237.1.1		TIP: R-3300B		COUNTY: PENDER		GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD						GROUND WTR (ft)	
BORING NO.: Y40_24300_CL		STATION: 243+00		OFFSET: CL		ALIGNMENT: -Y40-	
COLLAR ELEV.: 41.2 ft		TOTAL DEPTH: 42.5 ft		NORTHING: 238,603		EASTING: 2,400,321	
						EST. 0 HR. 3.5	
						24 HR. N/A	

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.				CONE TYPE: TYPE II PIEZO		CONE ID: DSG1156	
DRILLER: Corey Futral		OPERATOR: CATLIN		START DATE: 10/23/18		COMP. DATE: 10/23/18	
SURF. WATER DEPTH: N/A							



WBS: 40237.1.1		TIP: R-3300B		COUNTY: PENDER		GEOLOGIST: S. HUDSON	
SITE DESCRIPTION: HAMPSTEAD BYPASS FROM -L1- STA. 578+00 TO US 17 NORTH OF HAMPSTEAD						GROUND WTR (ft)	
BORING NO.: Y40_24700_CL		STATION: 247+00		OFFSET: CL		ALIGNMENT: -Y40-	
COLLAR ELEV.: 43.4 ft		TOTAL DEPTH: 24.2 ft		NORTHING: 238,851		EASTING: 2,400,630	
						EST. 0 HR. 2.5	
						24 HR. N/A	

CPT RIG/MAX. DOWN PRESSURE: CATLIN CPT/DPT-01 / ~10,000 LBS.				CONE TYPE: TYPE II PIEZO		CONE ID: DSG1156	
DRILLER: Corey Futral		OPERATOR: CATLIN		START DATE: 10/23/18		COMP. DATE: 10/23/18	
SURF. WATER DEPTH: N/A							



NCDOI CPT DOUBLE (PORTRAIT) NO-LITH R3300B_GEO RDWY_CPT ONLY.GPJ NCDOI CATLIN.GDT 2/11/20