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REFERENCE: R-1015

PROJECT: 34360

SEE SHEET 3 FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

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

ROADWAY SUBSURFACE INVESTIGATION

COUNTY *CRAVEN*

PROJECT DESCRIPTION *US 70 (HAVELOCK BYPASS) FROM NORTH OF PINE GROVE TO NORTH OF CARTERET COUNTY LINE*

INVENTORY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-1015	1	200

CAUTION NOTICE

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2. BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

PERSONNEL

JRS
RES
JME
AMH
LWD
ELD
WNC
LW
DRP

INVESTIGATED BY *J.L. STONE*

DRAWN BY *C.P. TURNER*

CHECKED BY *D.N. ARGENBRIGHT*

SUBMITTED BY *D.N. ARGENBRIGHT*

DATE *JULY 2014*

SIGNATURE DATE

NORTH CAROLINA LICENSED SEAL 2007 GEOLOGIST JOSEPH L. STONE

DocuSigned by:
Joseph L. Stone 3/16/2015
1330580A0...
SIGNATURE DATE

PROJECT REFERENCE NO.	SHEET NO.
R-1015	2

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION

SOIL IS CONSIDERED TO BE THE 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 STANDARD PENETRATION TEST (AASHTO T206, ASTM D-1586). SOIL CLASSIFICATION IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY SHALL INCLUDE: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. EXAMPLE:

VERY STIFF, GRAY, SILTY CLAY, MOIST WITH INTERBEDDED FINE SAND LAYERS, HIGHLY PLASTIC, A-7-6

SOIL LEGEND AND AASHTO CLASSIFICATION

GENERAL CLASS.	GRANULAR MATERIALS (≤ 35% PASSING #200)							SILT-CLAY MATERIALS (> 35% PASSING #200)				ORGANIC MATERIALS		
GROUP CLASS.	A-1		A-3	A-2				A-4	A-5	A-6	A-7	A-1, A-2 A-3	A-4, A-5 A-6, A-7	
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5 A-7-6			
SYMBOL														
% PASSING #10 #40 #200	50 MX 30 MX 15 MX	50 MX 25 MX	51 MN 10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN	GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
LIQUID LIMIT PLASTIC INDEX	6 MX		NP	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	40 MX 10 MX	41 MN 10 MX	40 MX 11 MN	41 MN 11 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
GROUP INDEX	0		0	0		4 MX		8 MX	12 MX	16 MX	No MX			
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL, AND SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS		CLAYEY SOILS				
GEN. RATING AS A SUBGRADE	EXCELLENT TO GOOD							FAIR TO POOR				FAIR TO POOR	POOR	UNSUITABLE

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

CONSISTENCY OR DENSENESS

PRIMARY SOIL TYPE	COMPACTNESS OR CONSISTENCY	RANGE OF STANDARD PENETRATION RESISTENCE (N-VALUE)	RANGE OF UNCONFINED COMPRESSIVE STRENGTH ($TONS/FT^2$)
GENERALLY GRANULAR MATERIAL (NON-COHESIVE)	VERY LOOSE LOOSE MEDIUM DENSE DENSE VERY DENSE	<4 4 TO 10 10 TO 30 30 TO 50 >50	N/A
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT SOFT MEDIUM STIFF STIFF VERY STIFF HARD	<2 2 TO 4 4 TO 8 8 TO 15 15 TO 30 >30	<0.25 0.25 TO 0.50 0.5 TO 1.0 1 TO 2 2 TO 4 >4

TEXTURE OR GRAIN SIZE

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

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

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

SOIL MOISTURE - CORRELATION OF TERMS

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

PLASTICITY

	PLASTICITY INDEX (PI)	DRY STRENGTH
NONPLASTIC	0-5	VERY LOW
LOW PLASTICITY	6-15	SLIGHT
MED. PLASTICITY	16-25	MEDIUM
HIGH PLASTICITY	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.
UNIFORM - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE. (ALSO POORLY GRADED)
GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLES 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 WHENEVER THEY ARE CONSIDERED OF SIGNIFICANCE.

COMPRESSIBILITY

SLIGHTLY COMPRESSIBLE	LIQUID LIMIT LESS THAN 31
MODERATELY COMPRESSIBLE	LIQUID LIMIT EQUAL TO 31-50
HIGHLY COMPRESSIBLE	LIQUID LIMIT GREATER THAN 50

PERCENTAGE OF MATERIAL

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

OTHER MATERIAL	
TRACE	1 - 10%
LITTLE	10 - 20%
SOME	20 - 35%
HIGHLY	35% AND ABOVE

GROUND WATER

- WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING
- STATIC WATER LEVEL AFTER 24 HOURS
- PW — PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA
- SPRING OR SEEP

MISCELLANEOUS SYMBOLS

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

ABBREVIATIONS

AR - AUGER REFUSAL
BT - BORING TERMINATED
CL. - CLAY
CPT - CONE PENETRATION TEST
CSE. - COARSE
DMT - DILATOMETER TEST
DPT - DYNAMIC PENETRATION TEST
e - VOID RATIO
F - FINE
FOSS. - FOSSILIFEROUS
FRAC. - FRACTURED, FRACTURES
FRAGS. - FRAGMENTS
HI. - HIGHLY
MED. - MEDIUM
MICA. - MICACEOUS
MOD. - MODERATELY
NP - NON PLASTIC
ORG. - ORGANIC
PMT - PRESSUREMETER TEST
SAP. - SAPROLITIC
SD. - SAND, SANDY
SL. - SILT, SILTY
SLI. - SLIGHTLY
TCR - TRICONE REFUSAL
w - MOISTURE CONTENT
V - VERY
VST - VANE SHEAR TEST
WEA. - WEATHERED
γ - UNIT WEIGHT
γ_d - DRY UNIT WEIGHT

SAMPLE ABBREVIATIONS

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

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:
- [ ] MOBILE B-___
- [ ] BK-51
- [X] CME-45C
- [X] CME-45B
- [ ] PORTABLE HOIST
- [ ] _____
- [ ] _____

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

HAMMER TYPE:
- [X] AUTOMATIC [ ] MANUAL

CORE SIZE:
- [ ] -B_____
- [ ] -N_____
- [ ] -H_____

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

ROCK DESCRIPTION

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

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

WEATHERING

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

ROCK HARDNESS

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

FRACTURE SPACING

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

BEDDING

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

INDURATION

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

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

TERMS AND DEFINITIONS

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

AQUIFER - A WATER BEARING FORMATION OR STRATA.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BENCH MARK:

ELEVATION: FT.

NOTES:

APPROXIMATE LIMIT OF ORGANIC SOILS

UNDIVIDED C.P. = UNDIVIDED COASTAL PLAIN

REVISED 09/23/09

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

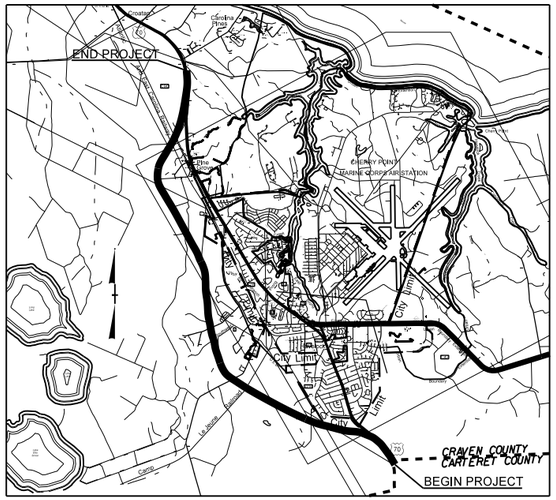
CRAVEN COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-1015	3	200

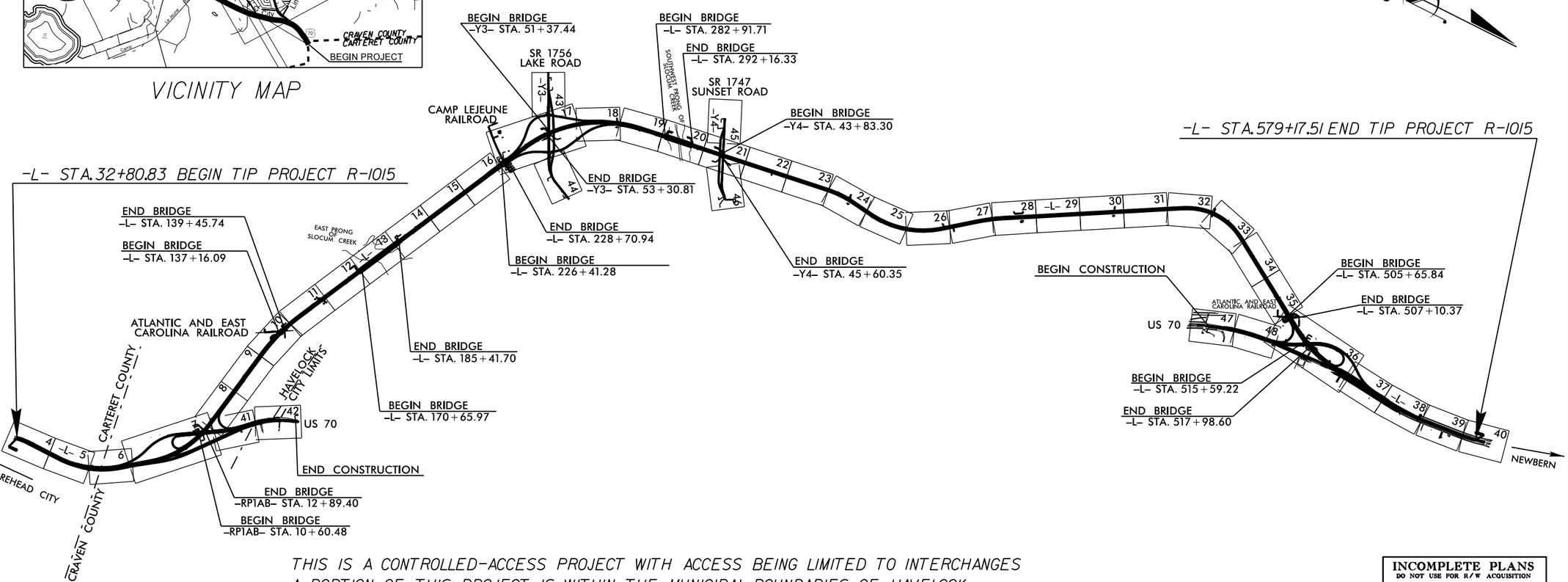
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34360.1.1	STPNHF-F-56-4(34)	PE

LOCATION: US 70 (HAVELOCK BYPASS) FROM NORTH OF PINE GROVE TO NORTH OF CARTERET COUNTY LINE

TYPE OF WORK: PAVING, GRADING, WIDENING, RESURFACING, DRAINAGE, CURB AND GUTTER, AND STRUCTURES



VICINITY MAP



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

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

GRAPHIC SCALES

PLANS 50 25 0 50 100
PROFILE (HORIZONTAL) 50 25 0 50 100
PROFILE (VERTICAL) 10 5 0 10 20

DESIGN DATA

ADT 2008 = 31,200
ADT 2035 = 55,100
DHV = 7 %
D = 65 %
T = 6 % *
V = 70 MPH

* TTST 3% DUAL 3%

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT R-1015A = 9.734 MILES
LENGTH OF STRUCTURE TIP PROJECT R-1015A = 0.614 MILES
TOTAL LENGTH OF STATE PROJECT R-1015A = 10.348 MILES

Prepared In the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: APRIL 17, 2012

LETTING DATE: OCTOBER 21, 2014

TED S. WALLS
PROJECT ENGINEER

ALLISON K. WHITE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

CONTRACT:

TIP PROJECT: R-1015

09/08/99

04-MAR-2015 11:56
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

March 5, 2015

STATE PROJECT:	34360.1.2 (R-1015)
F.A. PROJECT:	STPNHF-F-56-4 (34)
COUNTY:	Craven
DESCRIPTION:	US 70 (Havelock Bypass) from North of Pine Grove To North of Carteret County
SUBJECT:	Geotechnical Inventory

Project Description

This project begins along existing US 70, approximately one half mile south of the Craven/ Carteret county line and extends generally north for 10.3 miles ending along existing US 70 just south of SR 1105 (Magnolia Farm Rd.) between Havelock and New Bern. This geotechnical investigation was confined to the areas of proposed construction.

Fieldwork was conducted from July 2001 through December 2001 and in February of 2011. Standard Penetration Test borings were advanced with a CME 45-B drill machine with an automatic hammer. Hand auger borings were also completed. Representative soil samples were collected for visual classification in the field and for laboratory analysis by the Materials and Tests Unit.

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

Line	Station(±)
-L-	32+80 to 579+17
-Y3-	34+77 to 73+81
-Y4-	32+80 to 58+86
-RP1A-	0+00 to 9+86
-RP1AB-	4+89 to 42+10
-RP1B-	0+00 to 25+50
-RP1CD-	0+00 to 36+08
-RP2A-	79+22 to 97+93
-RP2C-	0+00 to 13+82
-RP2AC-	36+73 to 79+22
-Y3RPA-	0+00 to 17+64
-Y3RPB-	0+00 to 20+40
-Y3RPC-	0+00 to 17+33
-Y3RPD-	0+00 to 25+55
-LP1B-	0+00 to 9+04
-LP2A-	79+22 to 88+59
-Y3DET-	38+67 to 66+15
-Y4DET-	34+60 to 59+54
-SERVRD-	32+80 to 56+74

Areas of Special Geotechnical Interest

1) The following sections were found to exhibit seasonal high ground water.

Line	Station(±)
-L-	32+80 to 82+50
-L-	88+00 to 245+50
-L-	266+50 to 277+00
-L-	283+00 to 293+50
-L-	329+50 to 343+50
-L-	375+00 to 382+00
-L-	397+00 to 469+50
-L-	510+00 to 518+50
-L-	534+00 to 579+17

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING UNIT
1589 MAIL SERVICE CENTER
RALEIGH NC 27699-1589

TELEPHONE: 919-707-6850
FAX: 919-250-4237

WEBSITE: WWW.NCDOT.GOV

LOCATION:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC

Line	Station(±)
-RP1AB-	4+89 to 17+00
-RP1B-	0+00 to 6+50
-RP1B-	8+50 to 25+50
-RP1CD-	0+00 to 32+50
-LP1B-	0+00 to 9+04
-Y3-	34+77 to 63+00
-Y3RPA-	13+00 to 17+64
-Y3RPB-	0+00 to 20+40
-Y3RPC-	0+00 to 17+33
-Y3RPD-	17+00 to 25+55
-Y3DET-	38+67 to 66+15
-Y4-	50+00 to 58+86
-Y4DET-	34+60 to 42+00
-Y4DET-	50+00 to 59+54
-RP2A-	179+22 to 97+93
-RP2AC-	53+00 to 59+00
-RP2AC-	71+50 to 79+22
-RP2C-	3+00 to 9+50
-RP2CD-	13+50 to 24+82
-LP2A-	79+22 to 88+59
-SERVRD-	32+80 to 56+74

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

Line	Station(±)
-L-	47+30 to 58+00
-L-	58+70 to 69+60
-L-	70+90 to 72+70
-L-	75+00 to 75+75
-L-	83+30 to 87+80
-L-	89+40 to 114+20
-L-	116+30 to 130+50
-L-	155+60 to 159+50
-L-	165+00 to 171+70
-L-	189+10 to 243+60
-L-	245+40 to 266+80
-L-	273+00 to 283+20
-L-	294+80 to 309+80
-L-	315+60 to 323+90
-L-	329+20 to 333+20
-L-	335+10 to 336+80
-L-	343+10 to 457+90
-L-	459+10 to 473+20
-L-	474+60 to 510+25
-L-	518+40 to 543+50
-L-	549+90 to 555+80
-L-	557+00 to 562+80
-L-	568+60 to 579+17
-RP1A-	6+20 to 9+86
-RP1AB-	4+89 to 7+60
-RP1AB-	9+10 to 10+30
-RP1AB-	11+30 to 17+10
-RP1AB-	23+10 to 24+80
-RP1AB-	28+55 to 34+60
-RP1AB-	38+85 to 40+10
-RP1B-	0+30 to 5+40
-RP1B-	8+10 to 12+70
-RP1B-	16+80 to 25+50
-RP1CD-	0+30 to 12+60
-RP1CD-	13+60 to 16+80
-RP1CD-	19+10 to 31+00
-RP1CD-	33+00 to 36+08
-LP1B-	0+00 to 9+04
-Y3-	34+77 to 50+60
-Y3-	53+60 to 73+81
-Y3RPA-	0+00 to 17+64
-Y3RPB-	0+00 to 20+40
-Y3RPC-	0+00 to 17+33
-Y3RPD-	0+00 to 25+55
-Y3DET-	38+67 to 66+15
-Y4-	36+30 to 49+00
-Y4DET-	38+50 to 50+08
-RP2A-	80+70 to 92+90
-RP2A-	94+90 to 97+93
-RP2AC-	36+73 to 38+80
-RP2AC-	41+00 to 49+00
-RP2AC-	51+00 to 72+90
-RP2AC-	73+20 to 79+22
-RP2C-	11+70 to 13+82
-RP2CD-	0+00 to 7+00
-RP2CD-	10+90 to 21+40

Line	Station(±)
-LP2A-	79+22 to 88+59
-SERVRD-	32+80 to 56+74

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

Line	Station(±)
-RP1B-	16+66 to 25+50
-RP1AB-	4+89 to 10+50
-LP1B-	4+94 to 9+04
-L-	268+60 to 273+29
-L-	280+80 to 293+43
-L-	341+75 to 343+34
-L-	374+90 to 377+08
-L-	457+61 to 460+30
-L-	508+89 to 514+32
-RP2C-	5+43 to 6+83
-Y4-	51+10 to 54+13
-Y4DET-	51+19 to 54+26

4) A pond was identified along the following alignment.

Line	Station(±)
-L-	341+82 to 343+10

Physiography and Geology

This project corridor is located within the Coastal Plain Physiographic Province. Topography along the project is nearly flat to gently sloping. Natural ground elevations ranged from 23± to 30± feet above sea level.

Surficial soils in this area are generally classified as undivided coastal plain sediments and are underlain by formational soils belonging to the Duplin and Riverbend Formations.

Ground Water

Ground water data was collected from July 2001 through December 2001 and in February of 2011. Ground water elevations ranged from 10± to 30± feet above sea level.

Soils

Soils encountered within this project area have been divided into four categories, undivided coastal plain soils, formational soils, roadway embankment and artificial fill.

Soils identified as undivided coastal plain are composed of 2± to 40± feet of very loose to medium dense sand and clayey sand (A-2-6, A-2-4, A-3), with 1± to 7± feet of very soft to stiff sandy and silty clay (A-6, A-7-6) and 1± to 7± feet of very soft to stiff sandy and clayey silt (A-4). Moisture samples taken within these cohesive units returned moisture contents from 16% to 44%. Surficial organic soils were also identified. These soils were typically 1± to 6± feet thick and composed of very soft to medium stiff silty and clays (A-6, A-7-6, A-7-5), along with very loose sands (A-2-4). Laboratory analysis of these soils show organic percentages ranging from 17% to, 42% and moisture contents ranging from 35% to 498%.

Formational soils belonging to the Duplin Formation and the River Bend Formation were also encountered. The Duplin Formation was found to be 5± to 25± feet of loose to medium dense sand (A-2-4) and 5± to 26± feet of very soft to medium stiff sandy, silty clay and sandy silt (A-7-6, A-6, A-4). The River Bend Formation was composed of 4± to 28 or more feet of soft to hard limestone and 14± to 27 or more feet of medium dense to very dense sand (A-2-4, A-3).

Roadway embankment soils were found along the existing US 70 corridor and associated intersecting roads. Where encountered it was composed of 1± to 5± feet of loose sand (A-2-4) and medium stiff sandy clay (A-6, A-7-6).

Soils classified as artificial fill were composed of 1± to 3± feet of soft to stiff sandy clay (A-6) along with 1± to 2± feet of 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	Test
ST-1	-Y4- STA. 39+36, 10RT	3.0-5.0	Consolidation
ST-2	-L- STA. 284+11, CL	0.5-2.5	Consolidation
ST-3	-L- STA. 290+68, CL	0.0-2.0	Consolidation
ST-4	-L- STA. 509+18, CL	9.0-11.0	Consolidation
ST-5	-L- STA. 505+24, CL	12.5-14.5	Triaxial CU and Consolidation.

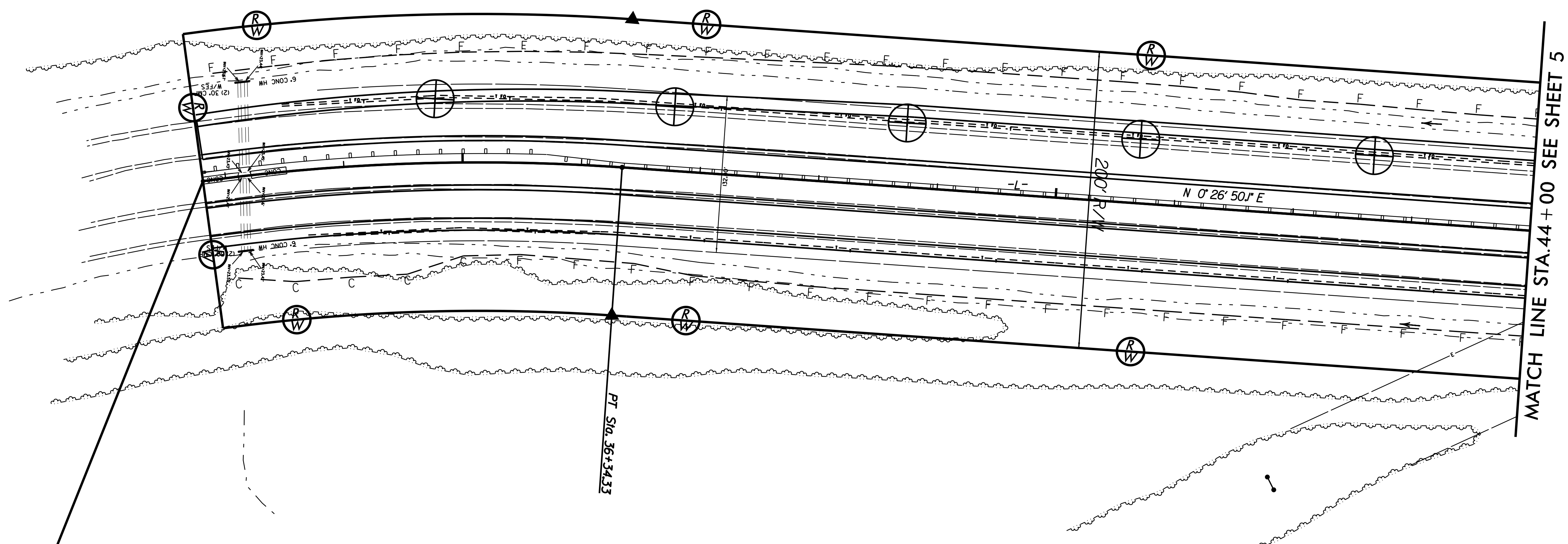
PROJECT REFERENCE NO.	SHEET NO.
R-1015	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83

-L-
PI Sta 34+58.20
Δ = 11° 45' 32.0" (RT)
D = 3° 19' 35.2"
L = 353.50'
T = 177.37'
R = 1,722.44'
SE = 0.08
RUNOFF = 264'



BEGIN PROJECT R-1015
-L- PC STA. 32+80.83

UNITED STATES OF AMERICA
DB 336 - PG 9
DB 336 - PG 72
7375.2 AC (DEED)

REVISIONS

8/17/99

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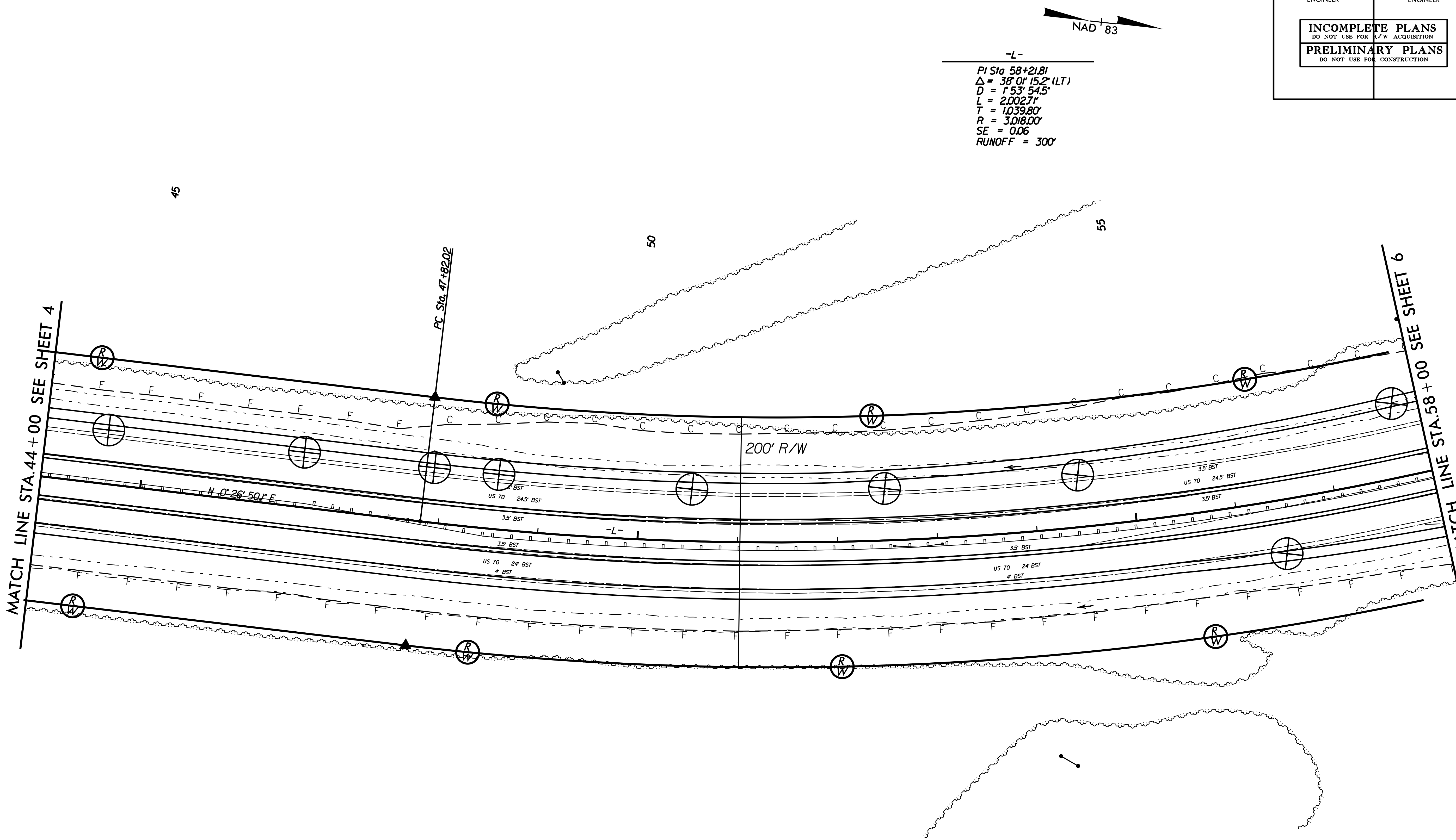
PROJECT REFERENCE NO.	SHEET NO.
R-1015	5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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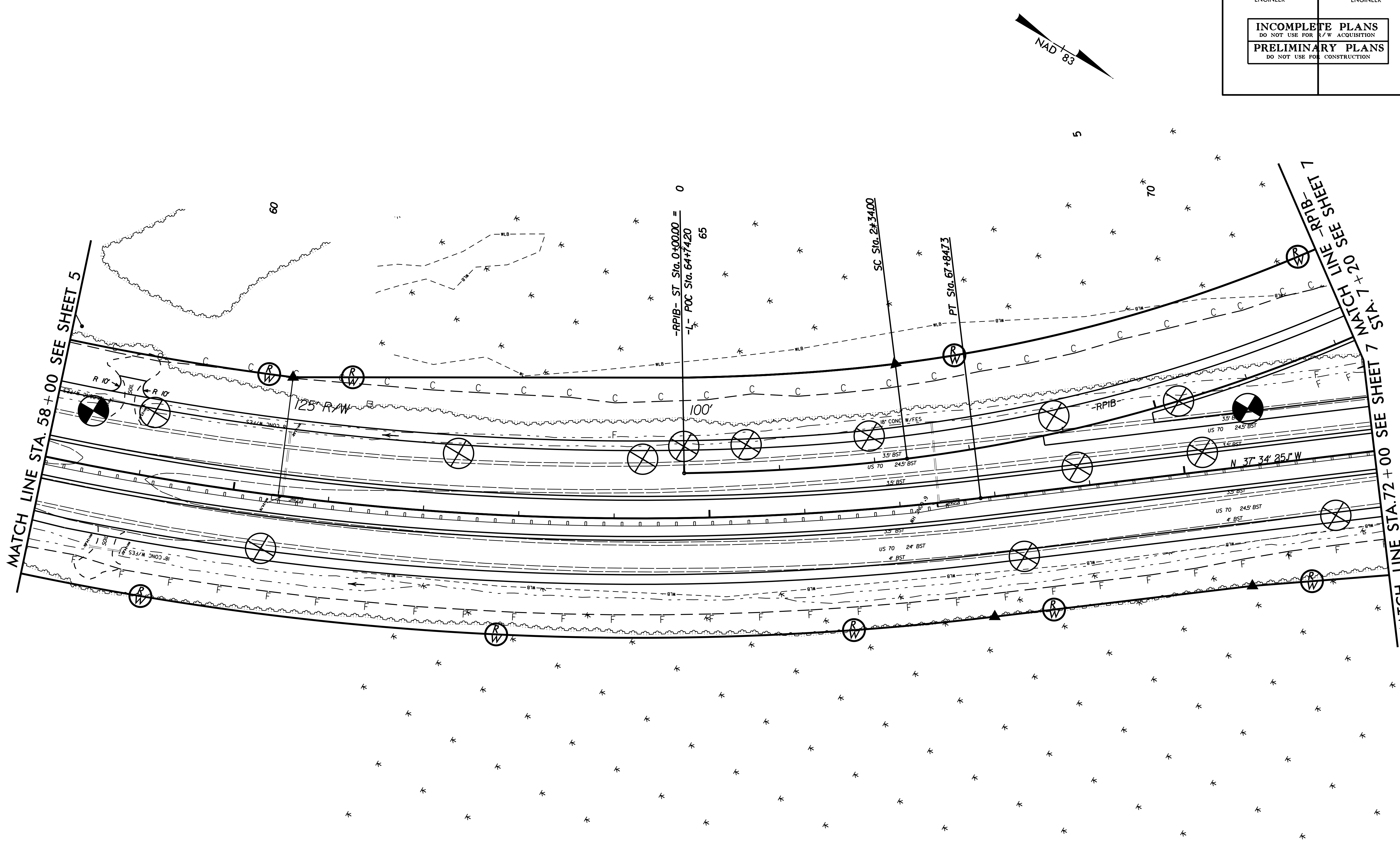
PROJECT REFERENCE NO.	SHEET NO.
R-1015	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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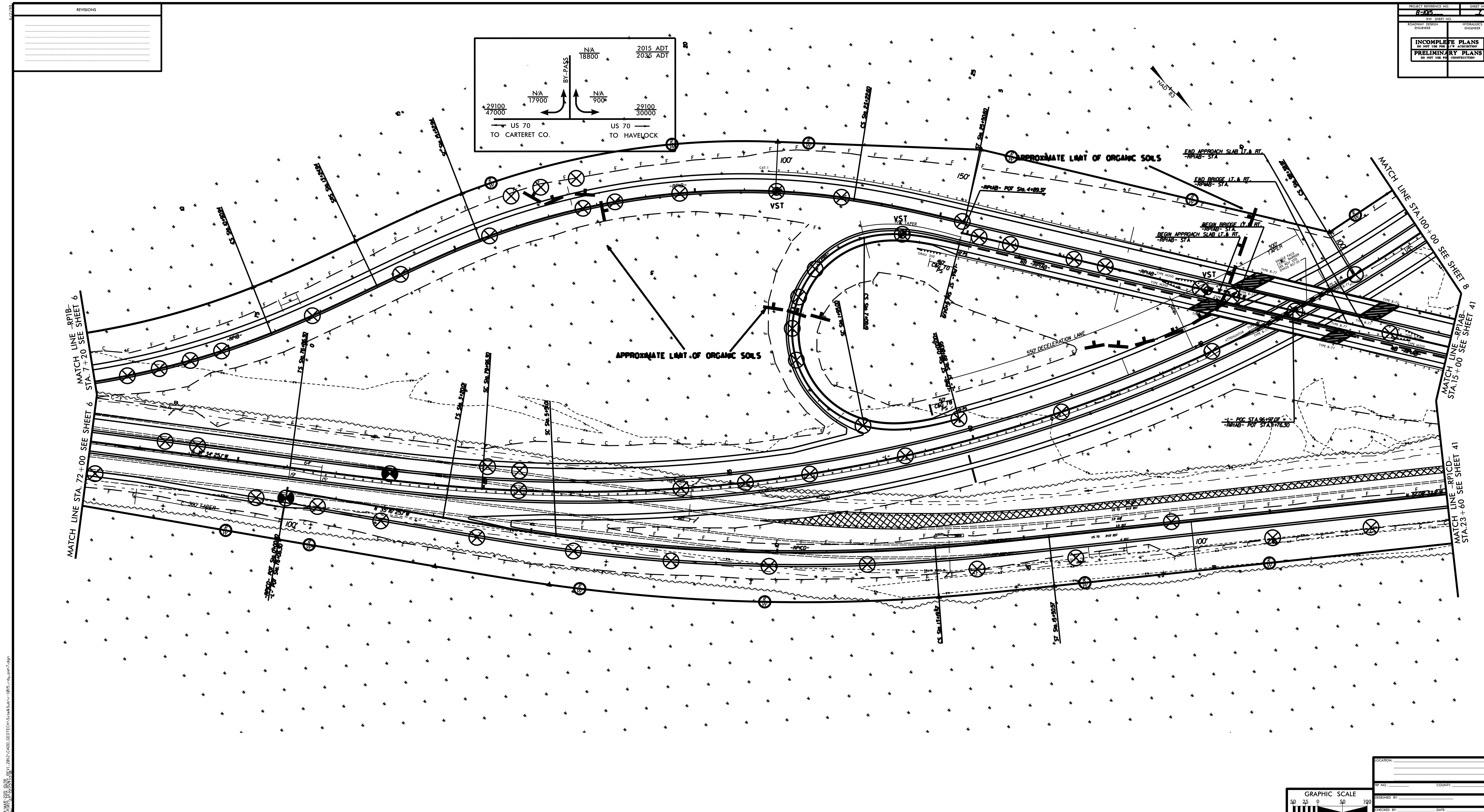
REVISIONS
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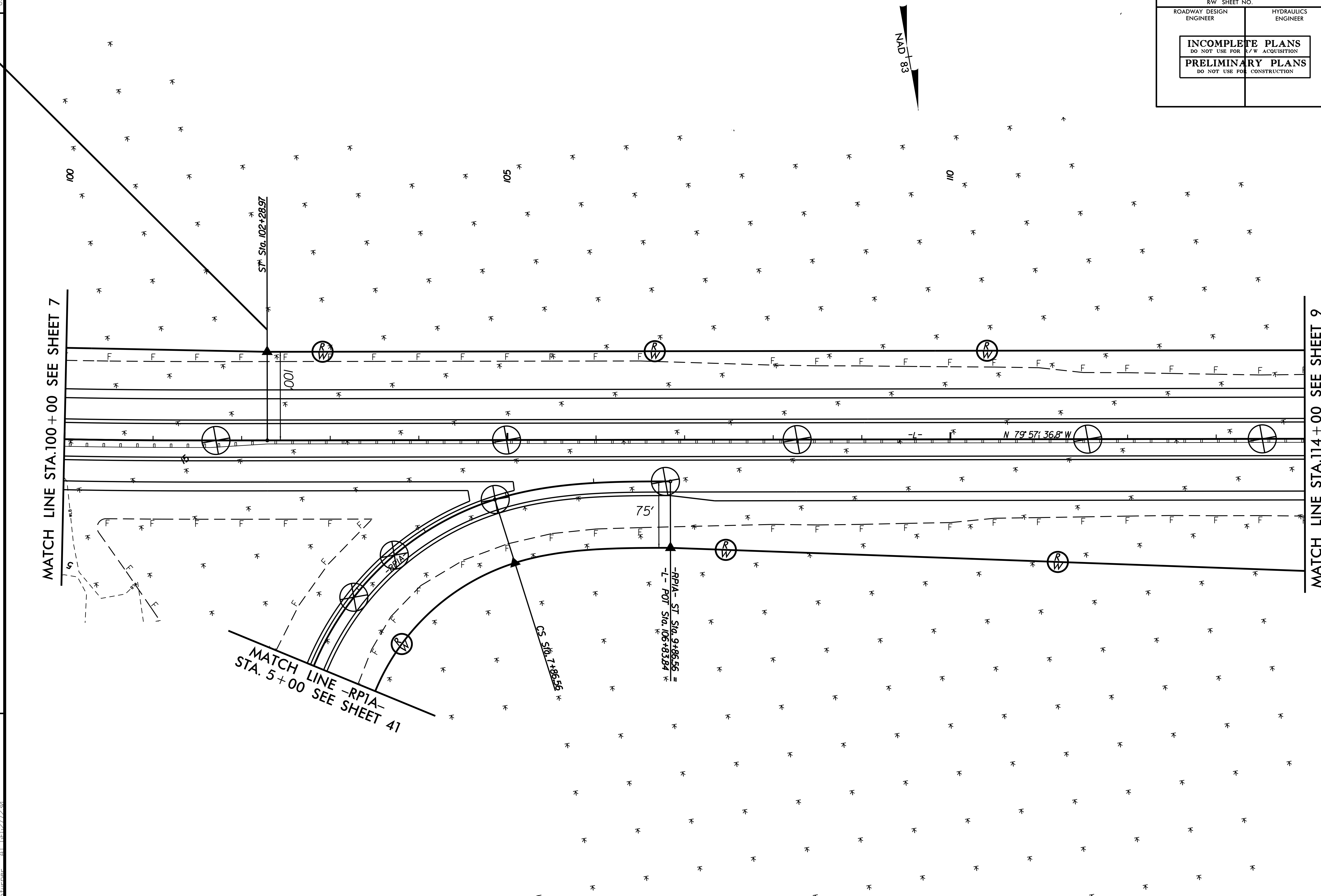
18800
2015 ADT
2035 ADT
BY-PASS
N/A
17900
N/A
900
29100
47000
29100
30000
US 70
TO CARTERET CO.
US 70
TO HAVELOCK
APPROXIMATE LIMIT OF ORGANIC SOILS
APPROXIMATE LIMIT OF ORGANIC SOILS
VST
VST
VST
100'
150'
550' DECELERATION LANE
END APPROACH SLAB LT. & RT.
-RPIAB- STA.
END BRIDGE LT. & RT.
-RPIAB- STA.
BEGIN BRIDGE LT. & RT.
-RPIAB- STA.
BEGIN APPROACH SLAB LT. & RT.
-RPIAB- STA.
MATCH LINE STA.100+00 SEE SHEET 8
MATCH LINE -RPIB- STA. 7+20 SEE SHEET 6
MATCH LINE STA. 72+00 SEE SHEET 6
MATCH LINE -RPIAB- STA.15+00 SEE SHEET 41
MATCH LINE -RPICD- STA.23+60 SEE SHEET 41
-L- POC STA.96+97.00
-RPIAB- POT STA.11+76.30
-RPIAB- POT STA. 4+89.57
-RPICD-
-RPIB-
-RPIAB-
NAD 83
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PROJECT REFERENCE NO.
SHEET NO.
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
GRAPHIC SCALE
50 25 0 50 100
PLANS
LOCATION:
TIP NO.:
COUNTY:
DESIGNED BY:
CHECKED BY:
DATE:

PROJECT REFERENCE NO.	SHEET NO.
R-1015	8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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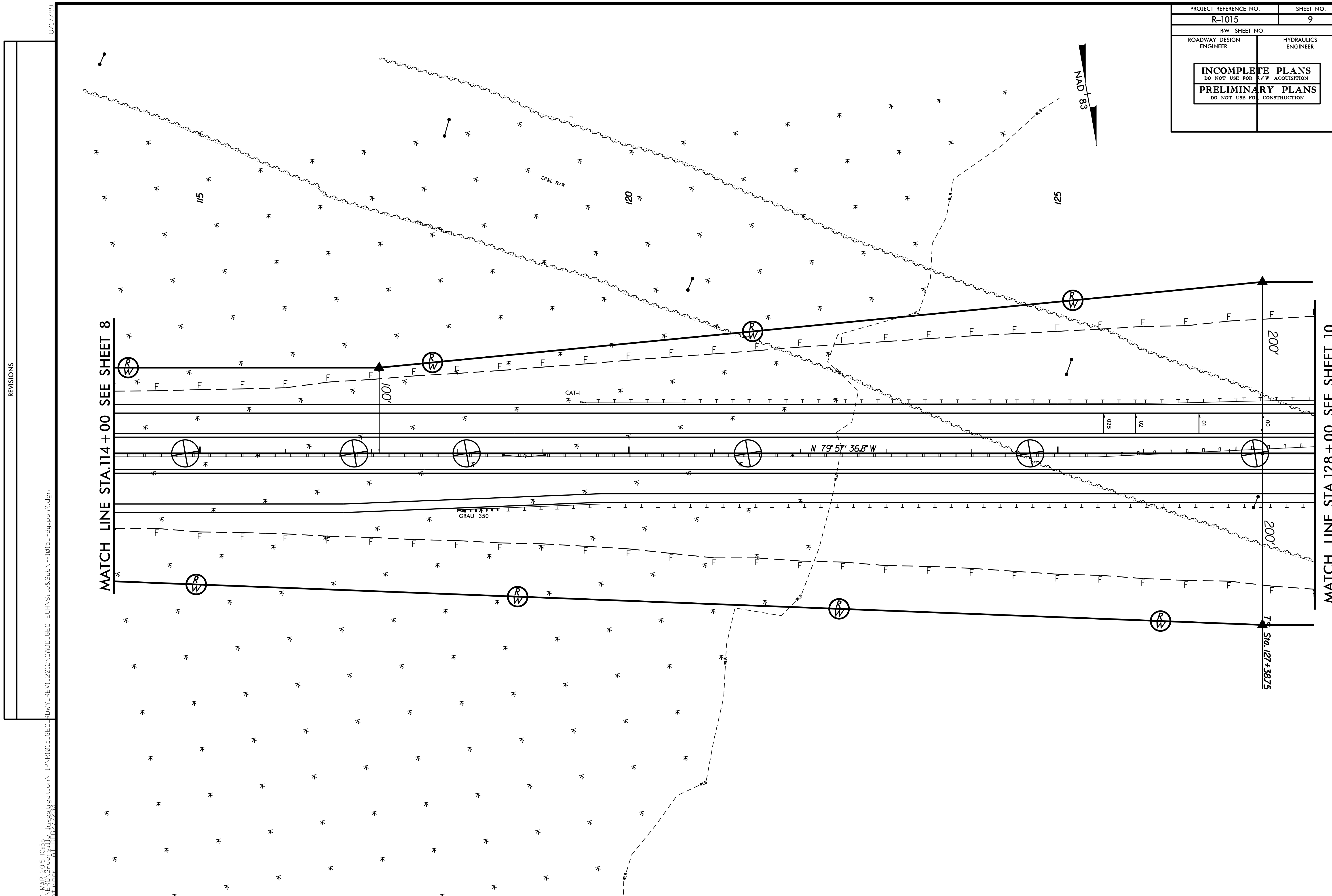
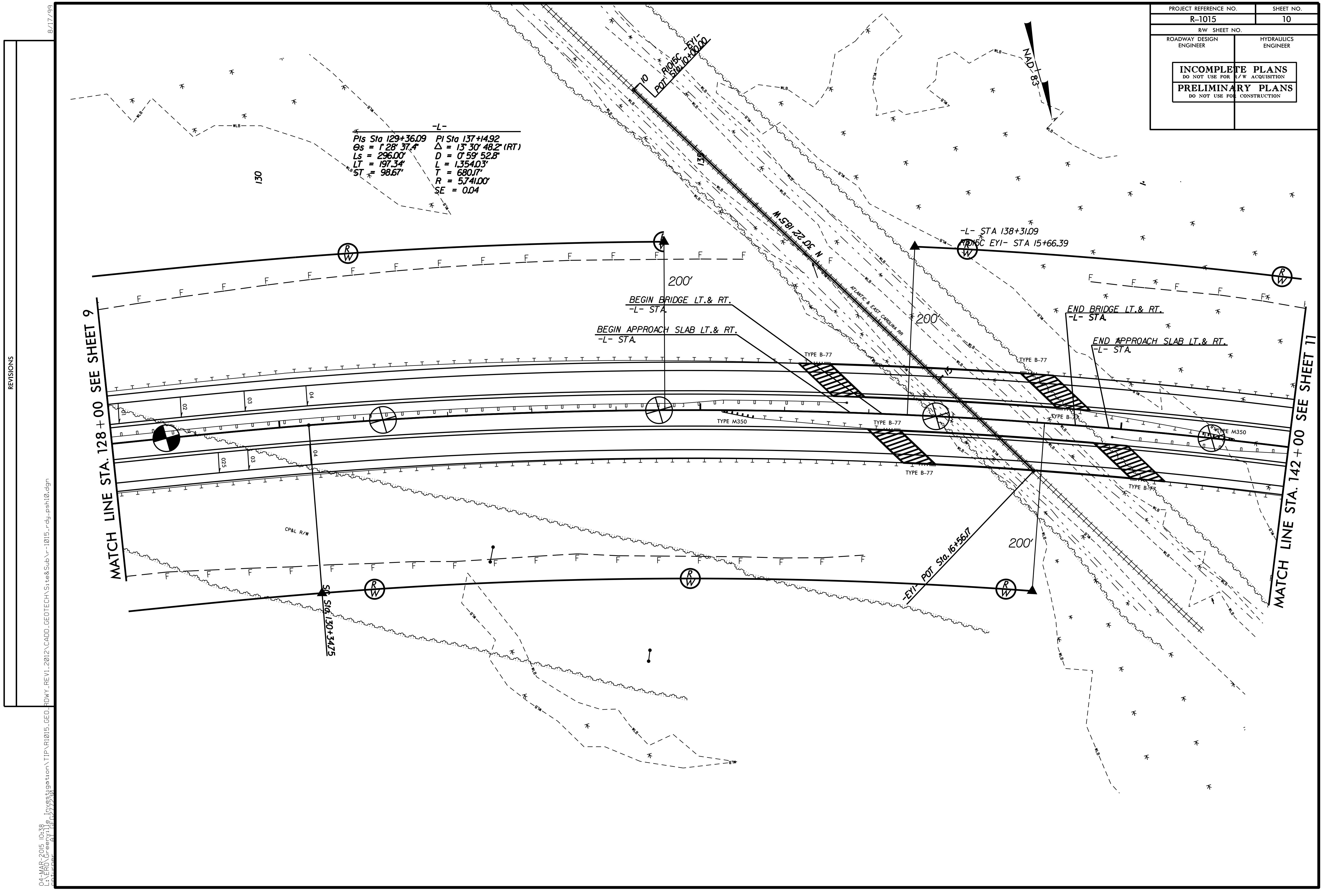

PROJECT REFERENCE NO.
R-1015
SHEET NO.
9
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NAD 83
MATCH LINE STA.114+00 SEE SHEET 8
MATCH LINE STA.128+00 SEE SHEET 10
115
120
125
CP&L R/W
CAT-1
GRAU 350
N 79° 57' 36.8" W
100'
200'
200'
T.S. Sta. 127+38.75
REVISIONS
8/17/99


PROJECT REFERENCE NO. R-1015
SHEET NO. 10
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NAD 83
-L-
PIs Sta 129+36.09
θs = 1° 28' 37.4"
Ls = 296.00'
LT = 197.34'
ST = 98.67'
PI Sta 137+14.92
Δ = 13° 30' 48.2" (RT)
D = 0° 59' 52.8"
L = 1,354.03'
T = 680.17'
R = 5,741.00'
SE = 0.04
R1015C -EY1- POT Sta. 10+00.00
N 30° 22' 18.5" W
ATLANTIC & EAST CAROLINA RR
-L- STA 138+31.09
R1015C EY1- STA 15+66.39
200'
BEGIN BRIDGE LT.& RT. -L- STA.
BEGIN APPROACH SLAB LT.& RT. -L- STA.
END BRIDGE LT.& RT. -L- STA.
END APPROACH SLAB LT.& RT. -L- STA.
TYPE B-77
TYPE M350
CP&L R/W
-EY1- POT Sta. 16+56.17
St. Sta. 130+34.75
MATCH LINE STA. 128+00 SEE SHEET 9
MATCH LINE STA. 142+00 SEE SHEET 11
REVISIONS
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PROJECT REFERENCE NO.	SHEET NO.
R-1015	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83

MATCH LINE STA.142+00 SEE SHEET 10

MATCH LINE STA.156+00 SEE SHEET 12

145

150

155

WOODS

WLB

F

RESTRICTED DRIVE SEE X-55 FOR GRADE

GRAVEL SHLDRS

GRAU 350

R 10'

200'

250'

CAT-1

SC Sta. 143+88.78

SC Sta. 146+84.78

RESTRICTED DRIVE SEE X-56 FOR GRADE

15' SOIL

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-1015	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83

MATCH LINE STA.156+00 SEE SHEET 11

MATCH LINE STA. 170+000 SEE SHEET 13

160

165

BEGIN BRIDGE LT.& RT.
-L- STA

BEGIN APPROACH SLAB LT.& RT.
-L- STA

N 63°29'33.7" W

250'

GRAU 350

TYPE M350

TYPE B-77

CAT-1

WOODS

WLB

R/W

REVISIONS

8/17/99

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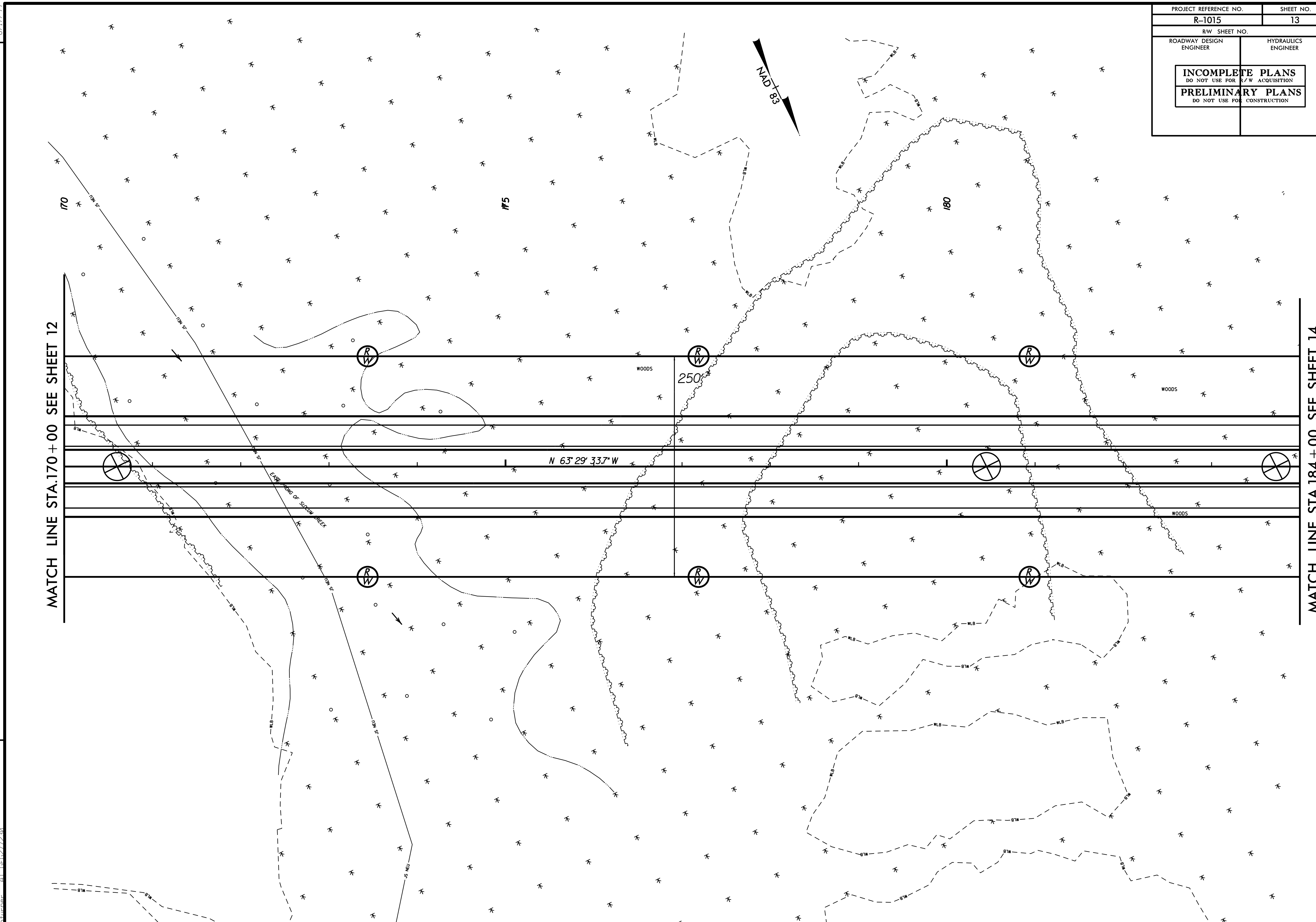
mathews

PROJECT REFERENCE NO.	SHEET NO.
R-1015	13
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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cnturner AT GEG277230

PROJECT REFERENCE NO.	SHEET NO.
R-1015	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

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NAD 83

185 190 195

END BRIDGE LT.& RT. -L- STA.

END APPROACH SLAB LT.& RT. -L- STA.

MATCH LINE STA.184+00 SEE SHEET 13

MATCH LINE STA.198+00 SEE SHEET 15

TYPE B-77

TYPE M350

GRAU 350

CAT-1

WOODS

250'

N 63° 28' 33.7" W

TYPE B-77 CAT-1

WOODS

GRAU 350

WOODS

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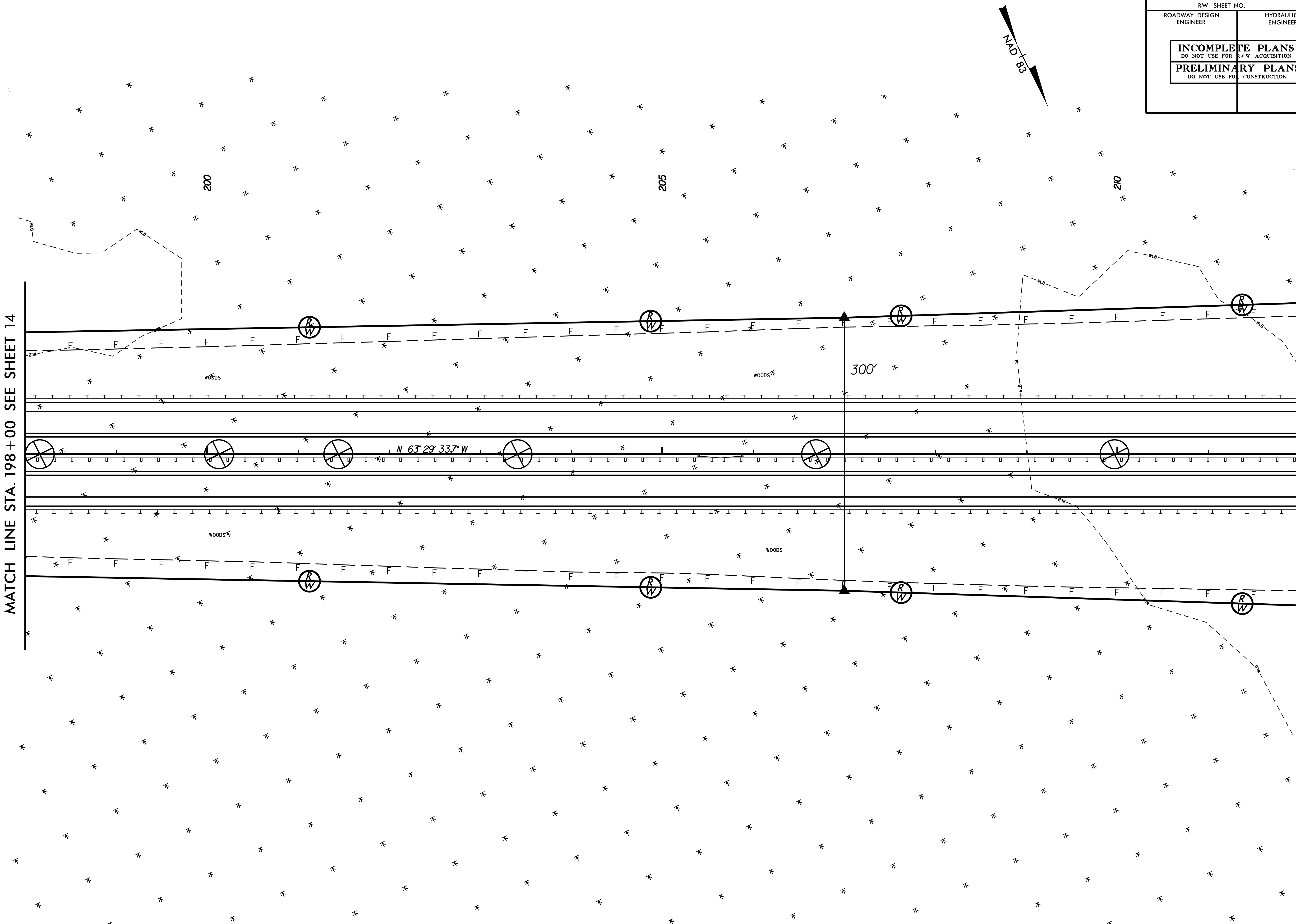
Engineer

PROJECT REFERENCE NO.	SHEET NO.
R-1015	15
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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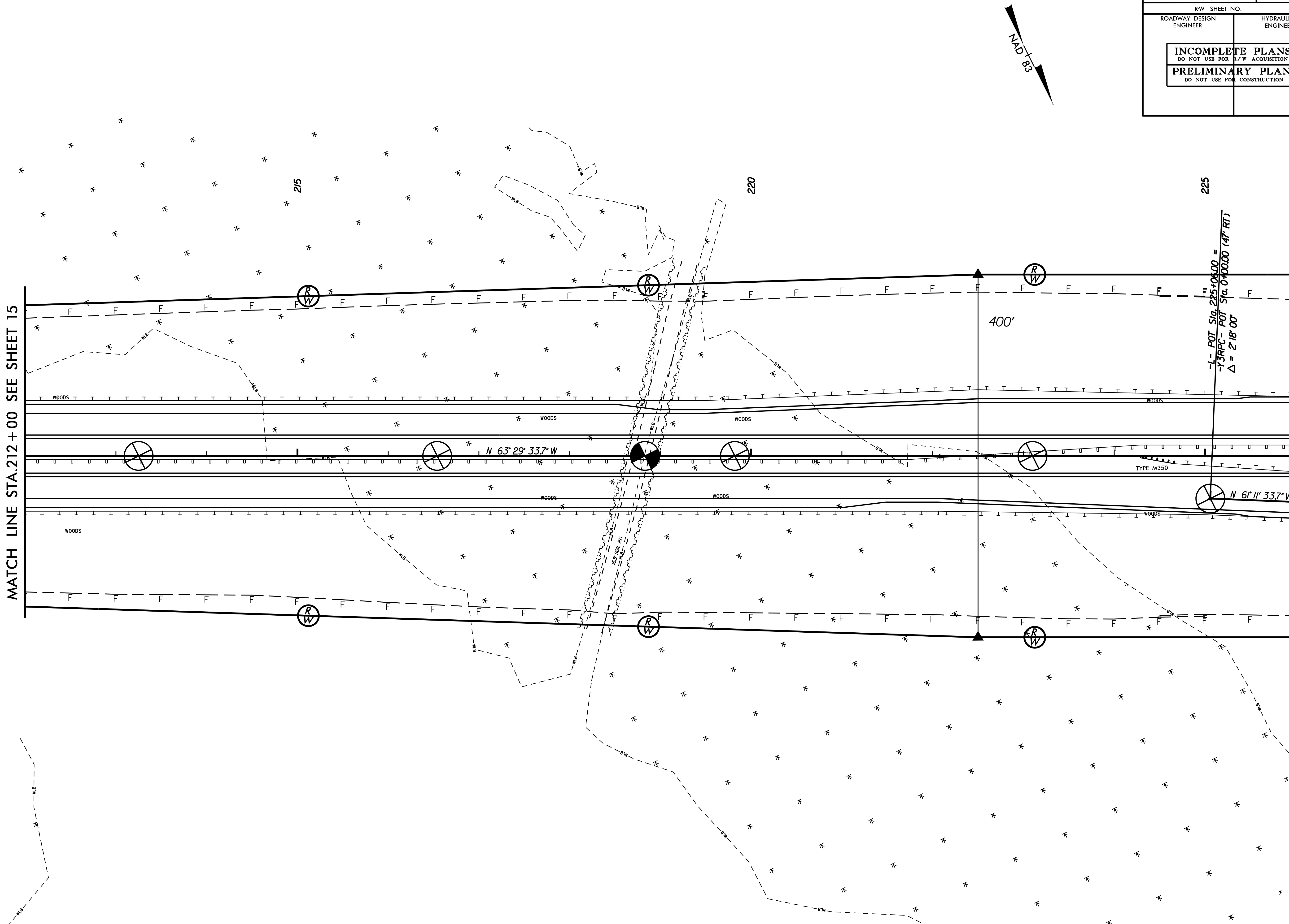
PROJECT REFERENCE NO.	SHEET NO.
R-1015	16
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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PROJECT REFERENCE NO. R-1015
SHEET NO. 17
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

LOCATION:
TIP NO.:
COUNTY:
DESIGNED BY:
CHECKED BY:
DATE:

PROJECT REFERENCE NO.	SHEET NO.
R-1015	18
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83

MATCH LINE STA. 8+50 SEE SHEET 17 -Y3RPA-

MATCH LINE STA. 254+00 SEE SHEET 17 -Y3RPD-

MATCH LINE STA. 14+00 SEE SHEET 17 -Y3RPD-

MATCH LINE STA. 268+00 SEE SHEET 19

CS Sta. 7+10.61

SC Sta. 5+64.04

TS Sta. 3+64.04

ST Sta. 2+00.00

-L- POT ST Sta. 262+50.30 = -Y3RPA- POT ST Sta. 0+00.00

CS Sta. 11+67.59

ST Sta. 13+65.59

SC Sta. 14+98.00

S 27° 02' 25.2" E

75'

100'

125'

100'

255

260

265

WOODS

CAT-1

18" RCP

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-1015	19
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

REVISIONS

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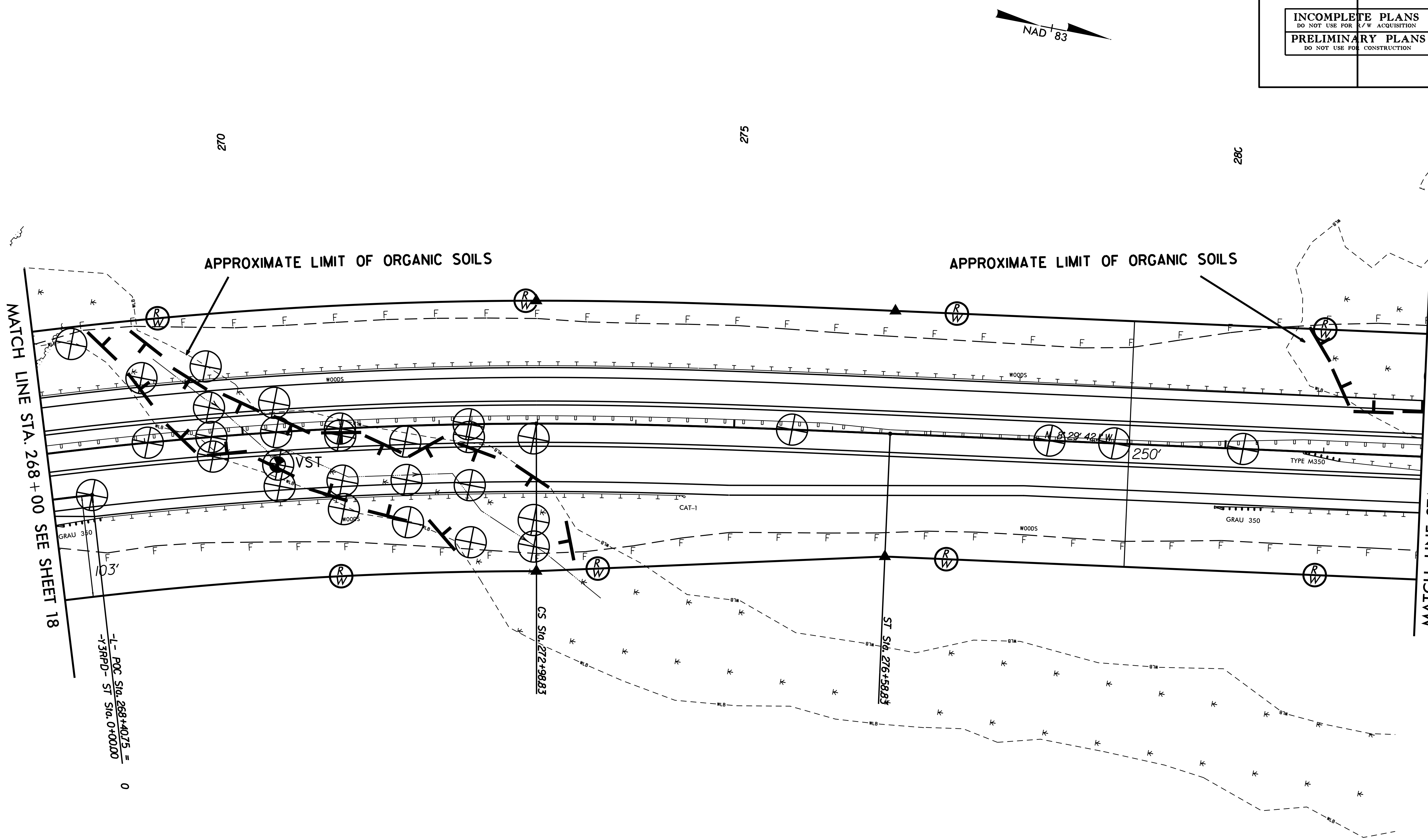

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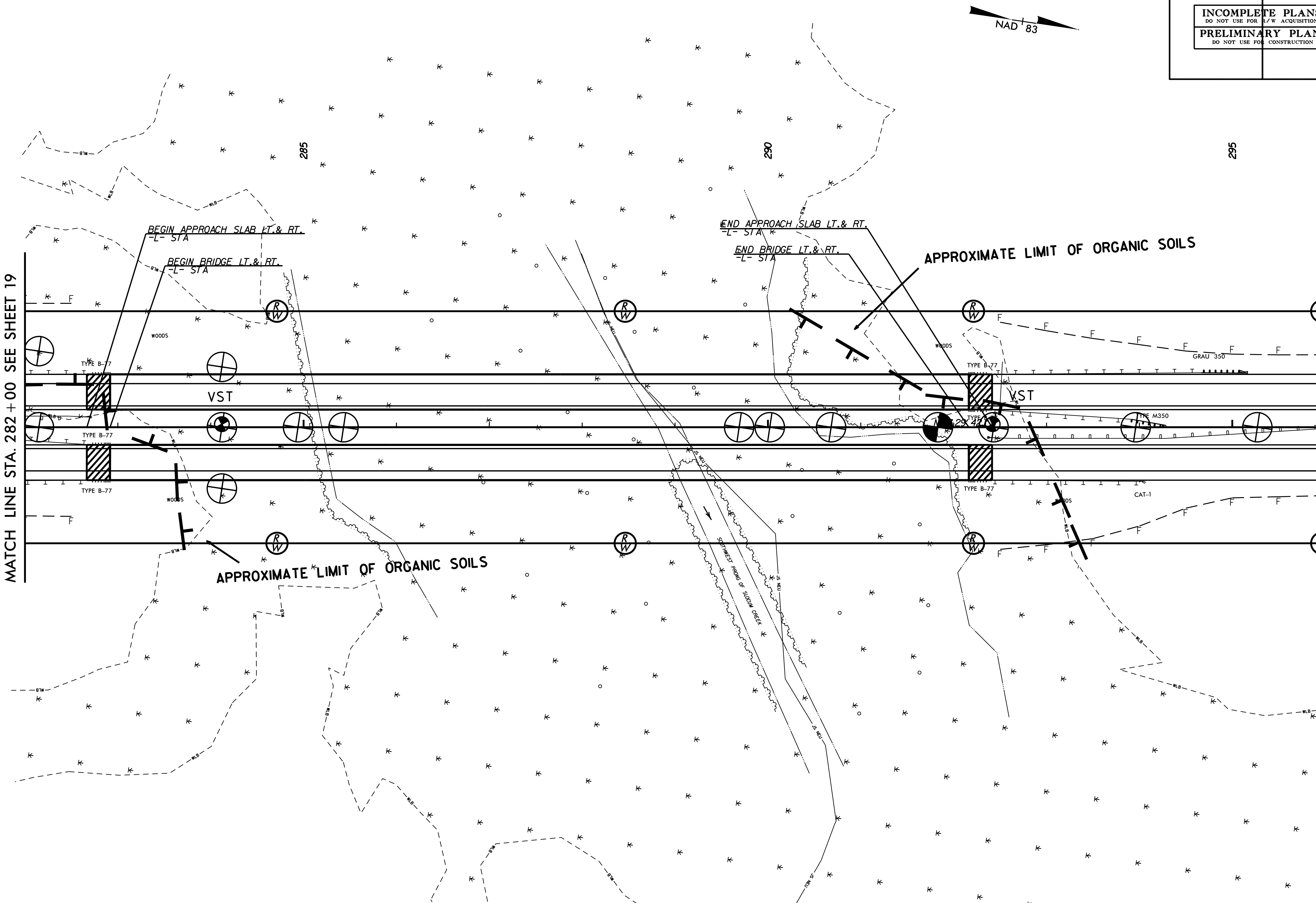
PROJECT REFERENCE NO.	SHEET NO.
R-1015	20
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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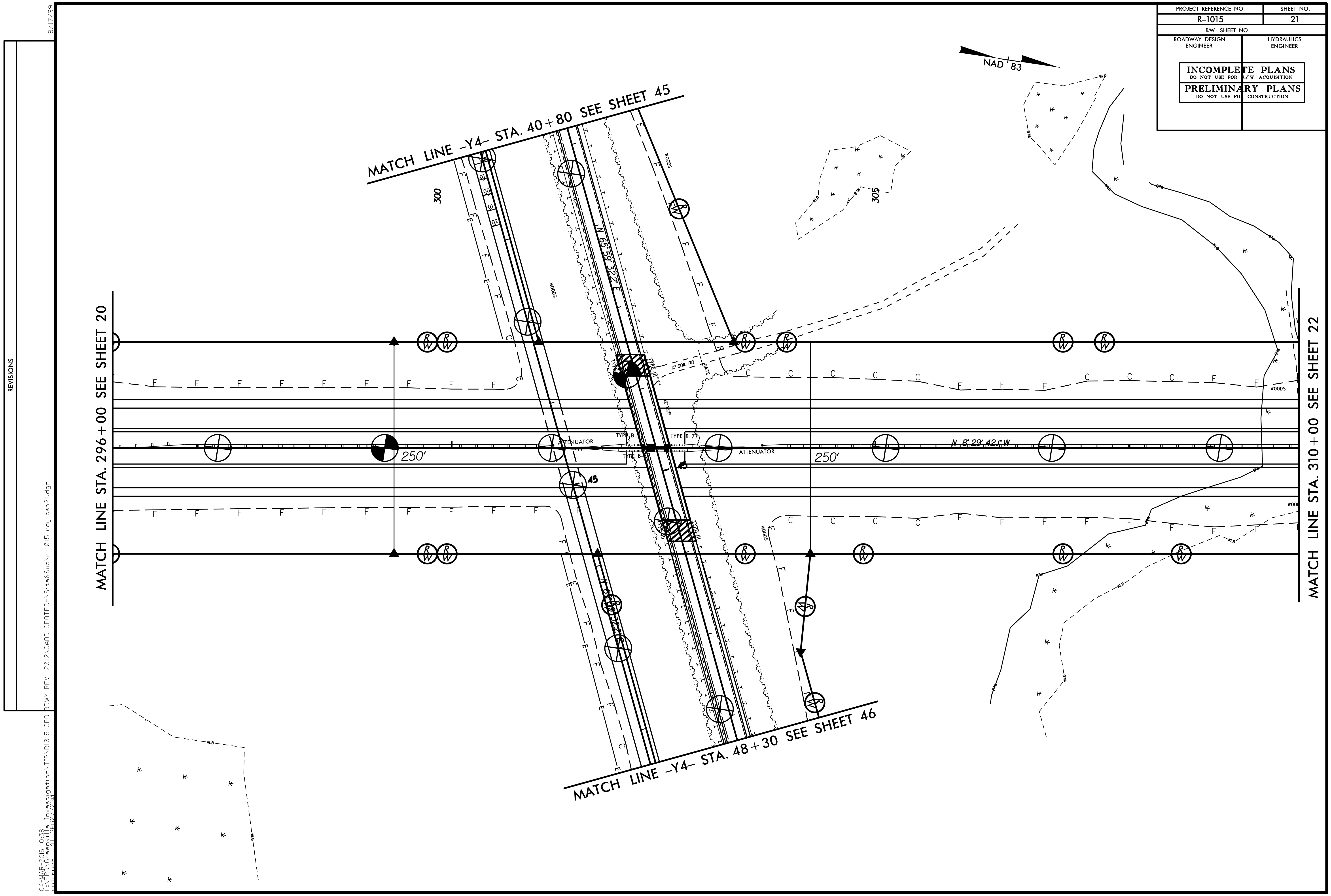
PROJECT REFERENCE NO.
R-1015
SHEET NO.
21
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NAD 83
MATCH LINE -Y4- STA. 40+80 SEE SHEET 45
MATCH LINE -Y4- STA. 48+30 SEE SHEET 46
MATCH LINE STA. 296+00 SEE SHEET 20
MATCH LINE STA. 310+00 SEE SHEET 22
N 65° 59' 32" E
N 8° 29' 42" W
250'
250'
ATTENUATOR
ATTENUATOR
TYPE B-77
TYPE III
10' SOIL RD
GATE
WOODS
300
305
45
45
REVISIONS
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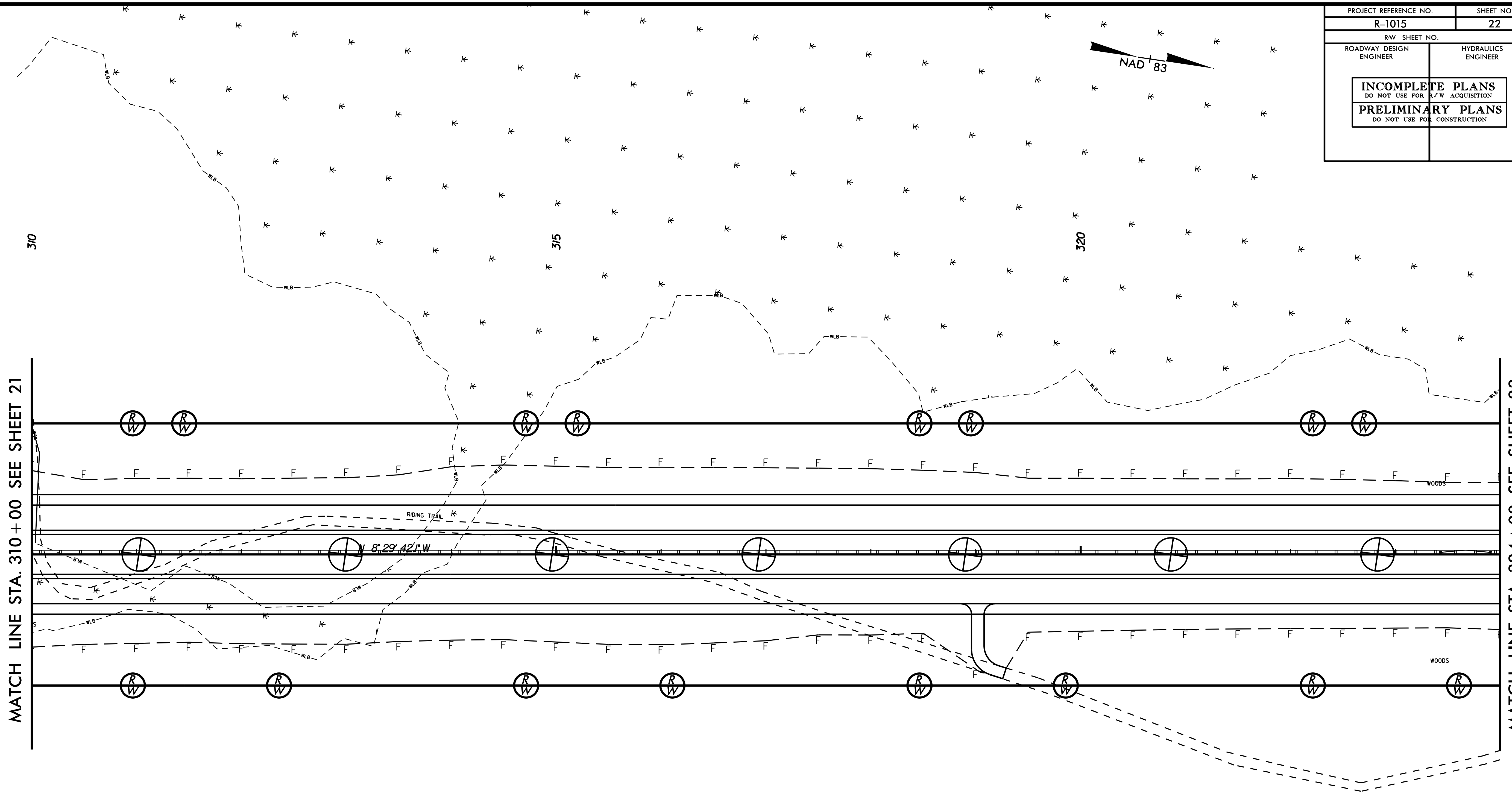
PROJECT REFERENCE NO.	SHEET NO.
R-1015	22
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	23
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83

-L-
PIs Sta 338+17.02
Θs = 3°08' 39.4"
Ls = 360.00'
LT = 240.04'
ST = 120.03'

325

330

335

WOODS

WOODS

N 8°29' 42"W

TS Sta. 335+76.98

MATCH LINE STA. 324+00 SEE SHEET 22

MATCH LINE STA. 338+00 SEE SHEET 24

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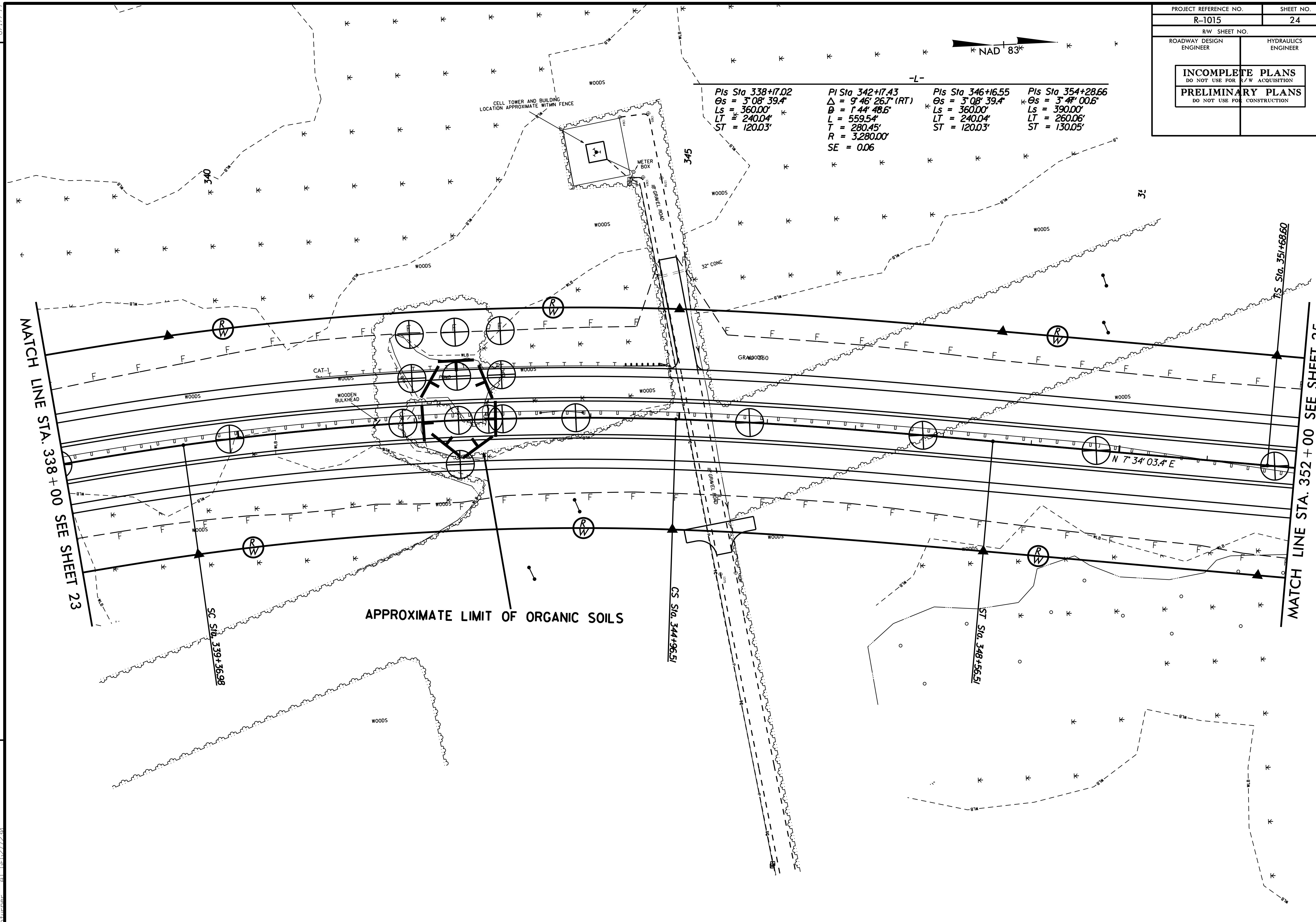
PROJECT REFERENCE NO.	SHEET NO.
R-1015	24
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NAD 83
-L-
PIs Sta 338+17.02
Θs = 3° 08' 39.4"
Ls = 360.00'
LT = 240.04'
ST = 120.03'
PI Sta 342+17.43
Δ = 9° 46' 26.7" (RT)
D = 1° 44' 48.6"
L = 559.54'
T = 280.45'
R = 3,280.00'
SE = 0.06
PIs Sta 346+16.55
Θs = 3° 08' 39.4"
Ls = 360.00'
LT = 240.04'
ST = 120.03'
PIs Sta 354+28.66
Θs = 3° 47' 00.6"
Ls = 390.00'
LT = 260.06'
ST = 130.05'
CELL TOWER AND BUILDING LOCATION APPROXIMATE WITHIN FENCE
METER BOX
GRAVEL ROAD
32" CONC
WOODS
CAT-1
WOODEN BULKHEAD
POND
340
345
MATCH LINE STA. 338+00 SEE SHEET 23
MATCH LINE STA. 352+00 SEE SHEET 25
SC Sta. 339+36.98
CS Sta. 344+96.51
ST Sta. 348+56.51
TS Sta. 351+68.60
N 7° 34' 03.4" E
APPROXIMATE LIMIT OF ORGANIC SOILS

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
R-1015	25
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83

REVISIONS

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355

SC Sta. 355+58.60

360

365

MATCH LINE STA. 352+00 SEE SHEET 24

MATCH LINE STA. 366+00 SEE SHEET 26

WOODS

WOODS

WOODS

WOODS

GRAU 350

CAT-1

250'

WLB

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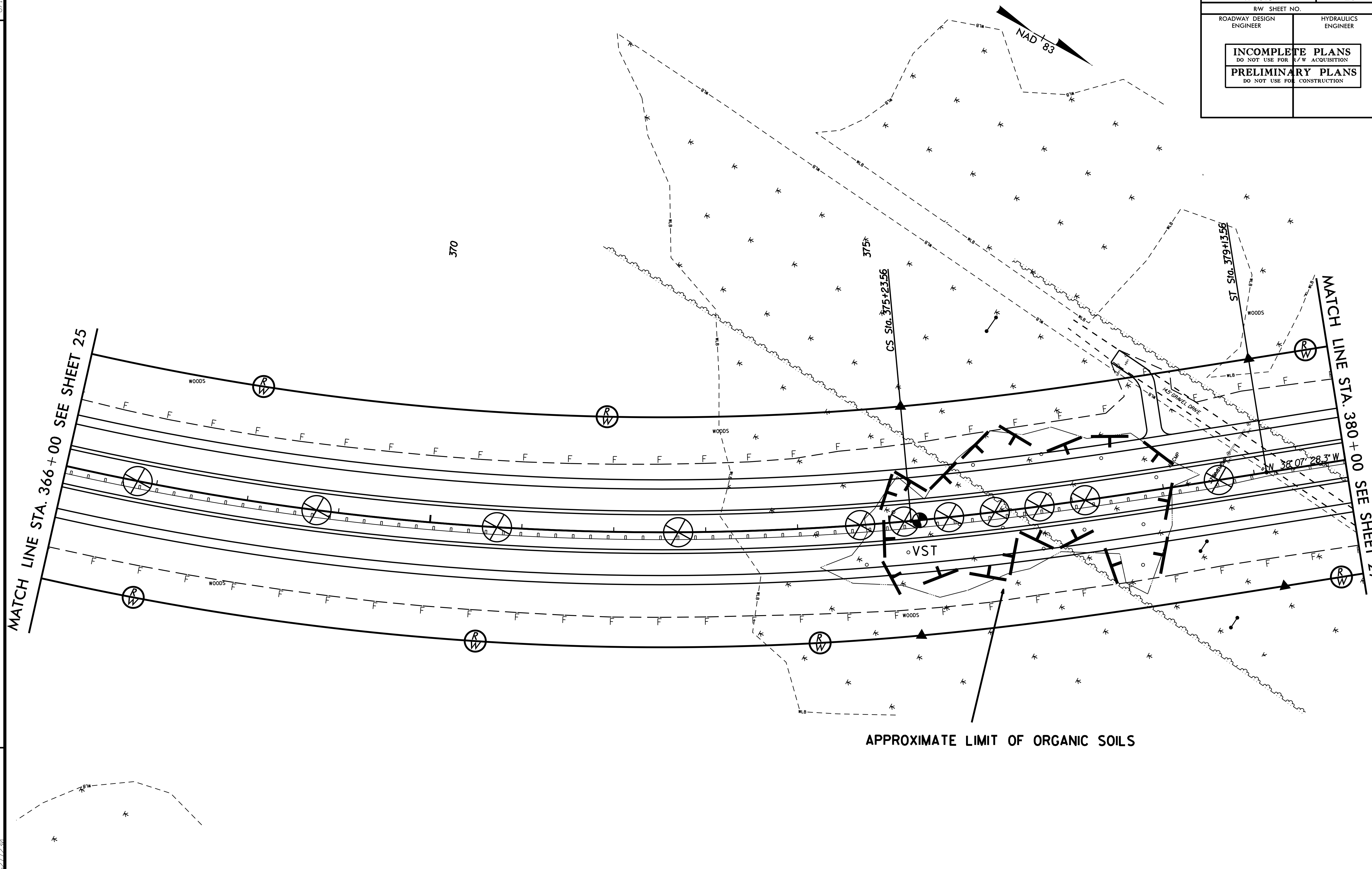
PROJECT REFERENCE NO.	SHEET NO.
R-1015	26
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION



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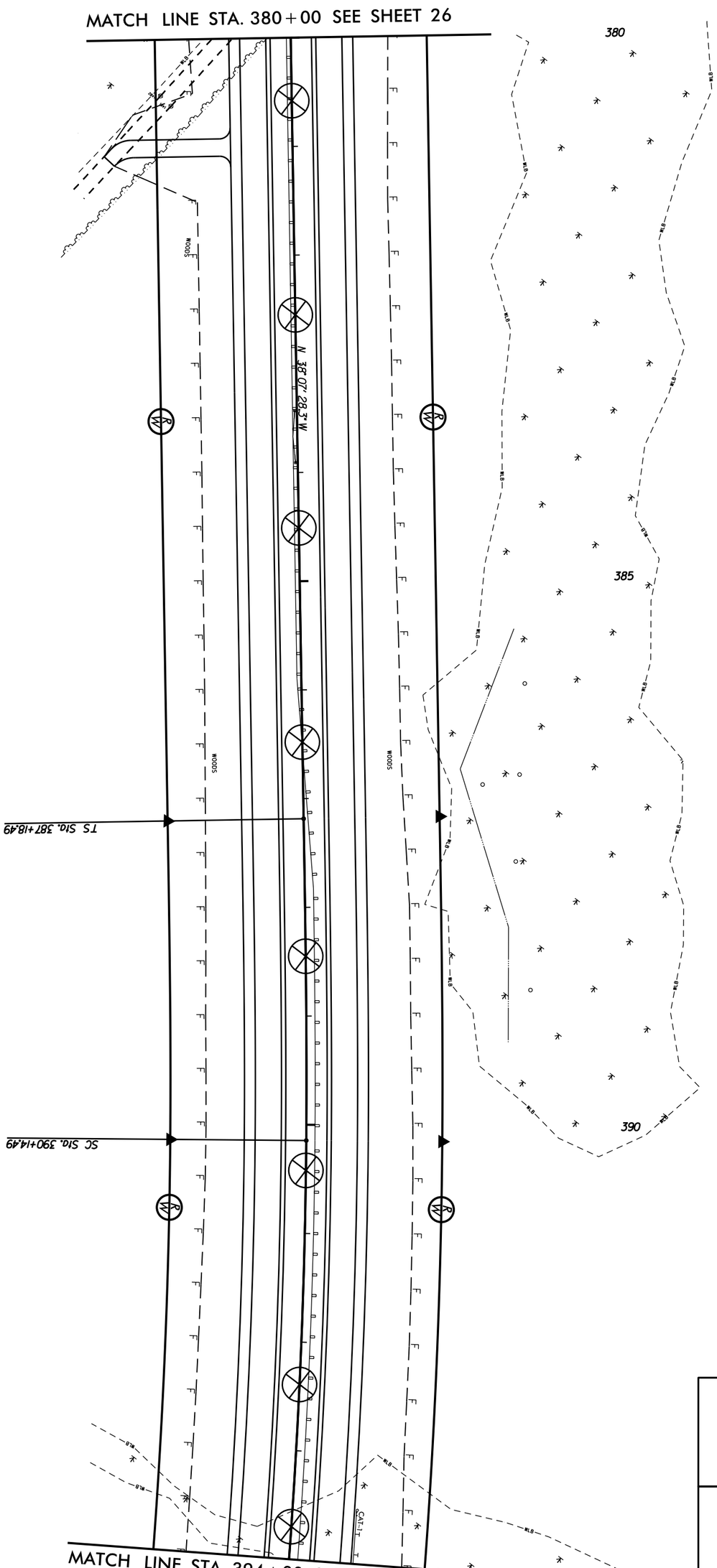


INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

R/W SHEET NO.

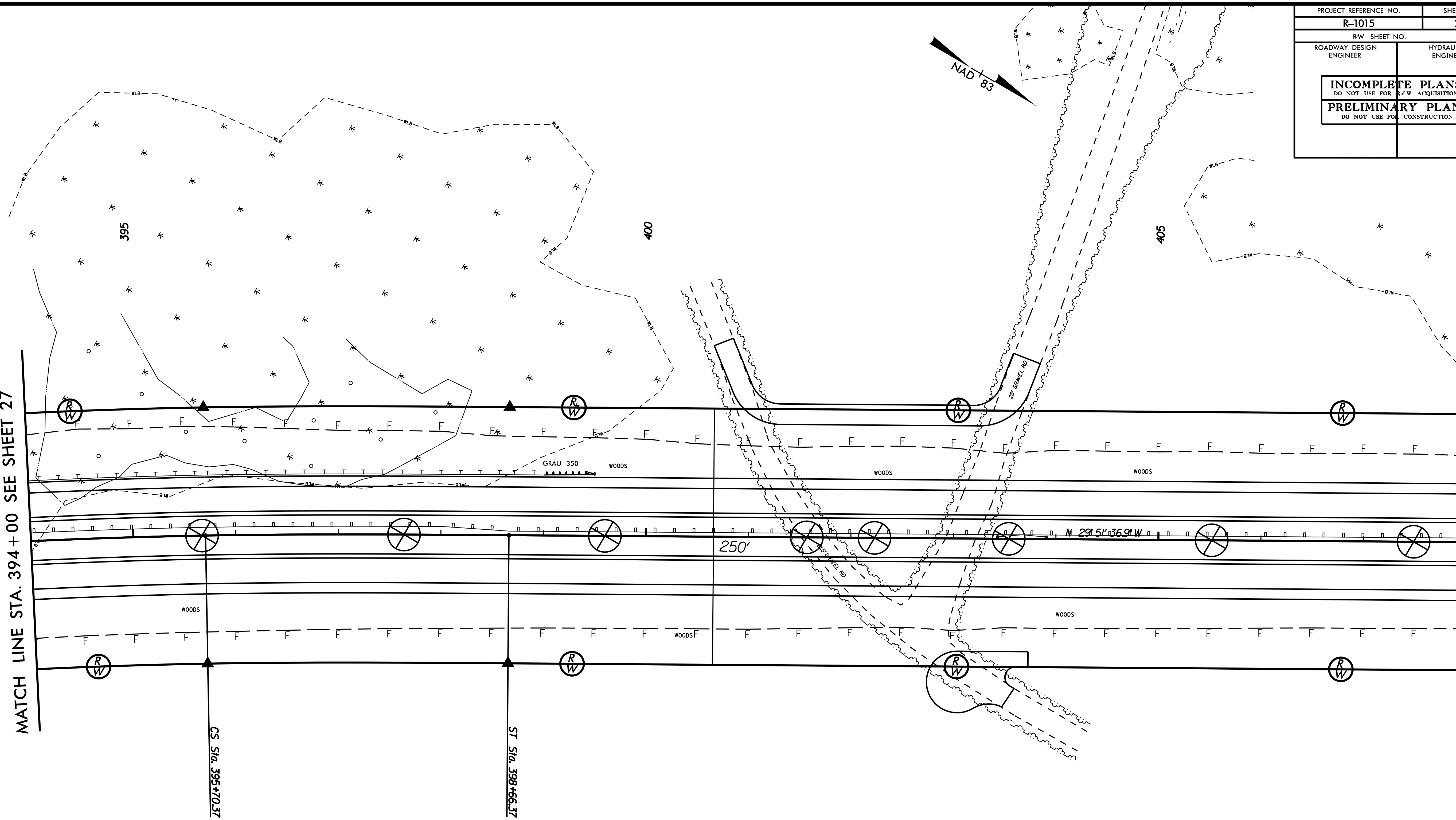
PROJECT REFERENCE NO.
R-1015

SHEET NO.
27

PROJECT REFERENCE NO.	SHEET NO.
R–1015	28
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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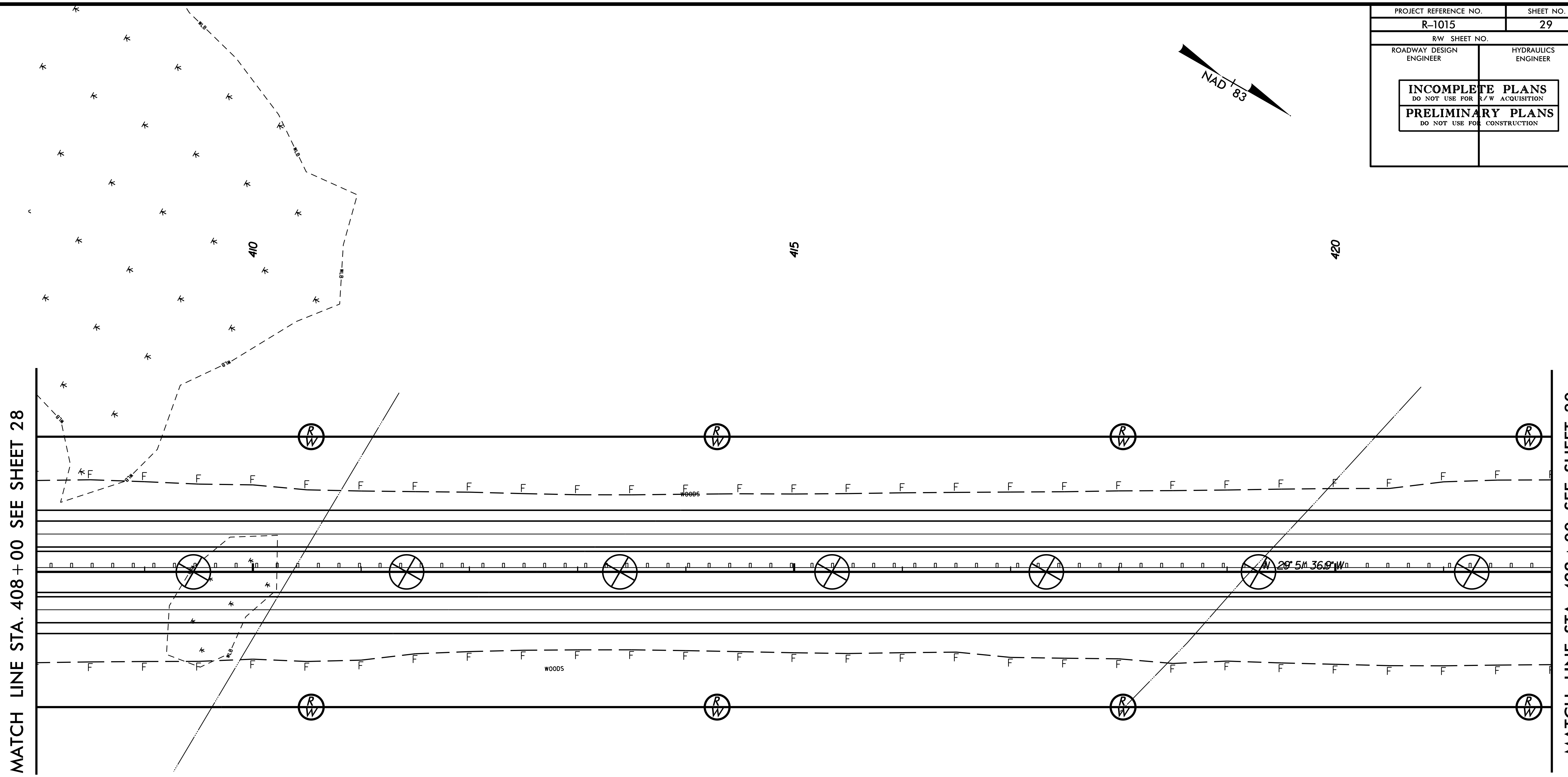
PROJECT REFERENCE NO.	SHEET NO.
R-1015	29
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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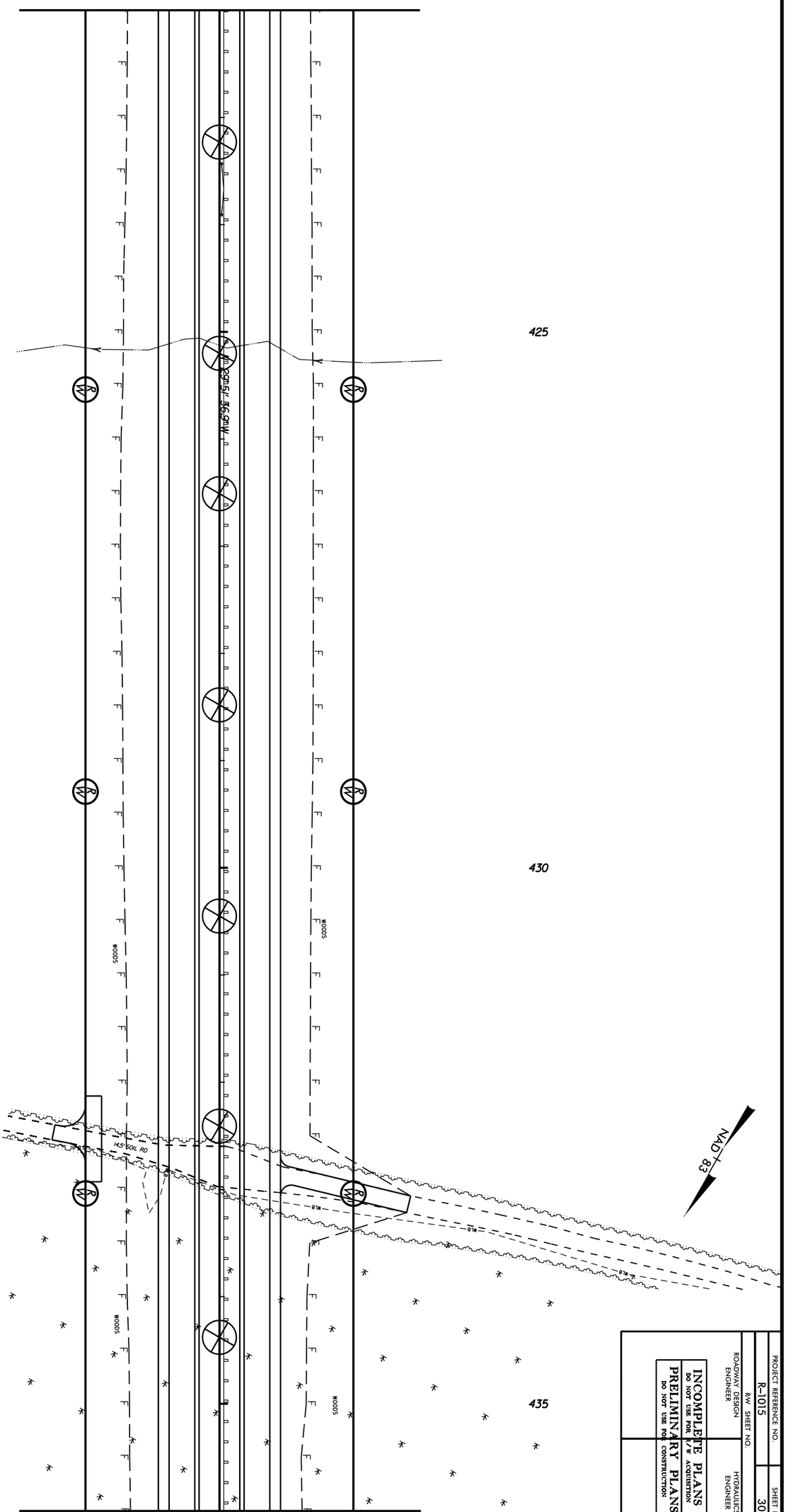
MATCH LINE STA. 422+00 SEE SHEET 29



MATCH LINE STA. 436+00 SEE SHEET 31

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

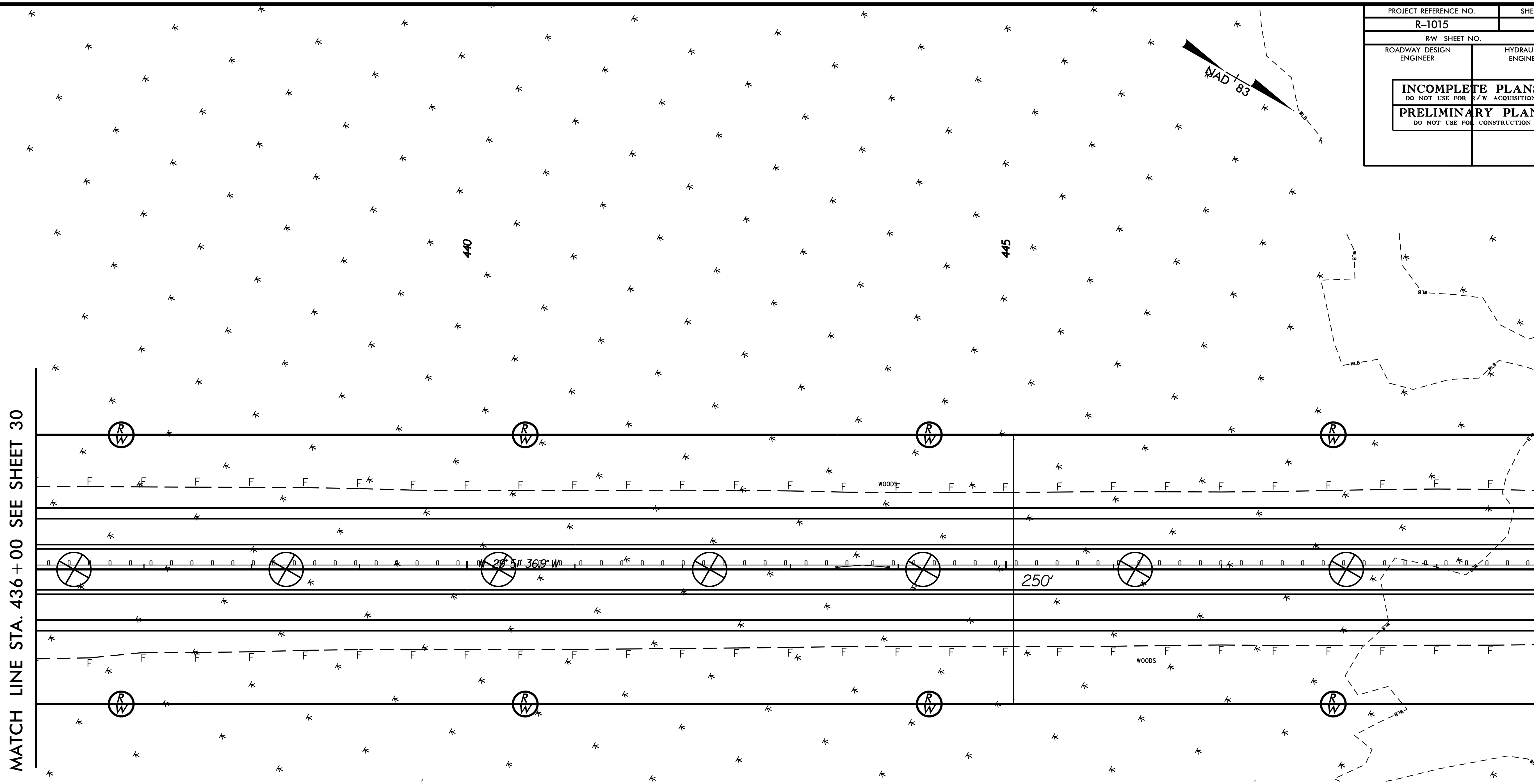
ROADWAY DESIGN ENGINEER
R/W SHEET NO.
HYDRAULICS ENGINEER

PROJECT REFERENCE NO.
R-1015
SHEET NO.
30

PROJECT REFERENCE NO.	SHEET NO.
R-1015	31
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	32
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83

MATCH LINE STA. 450+00 SEE SHEET 31

MATCH LINE STA. 464+00 SEE SHEET 33

TS Sta. 462+51.21

SC Sta. 458+09.21

VST

APPROXIMATE LIMIT OF ORGANIC SOILS

N 20° 51' 36" W

WOODS

450

455

460

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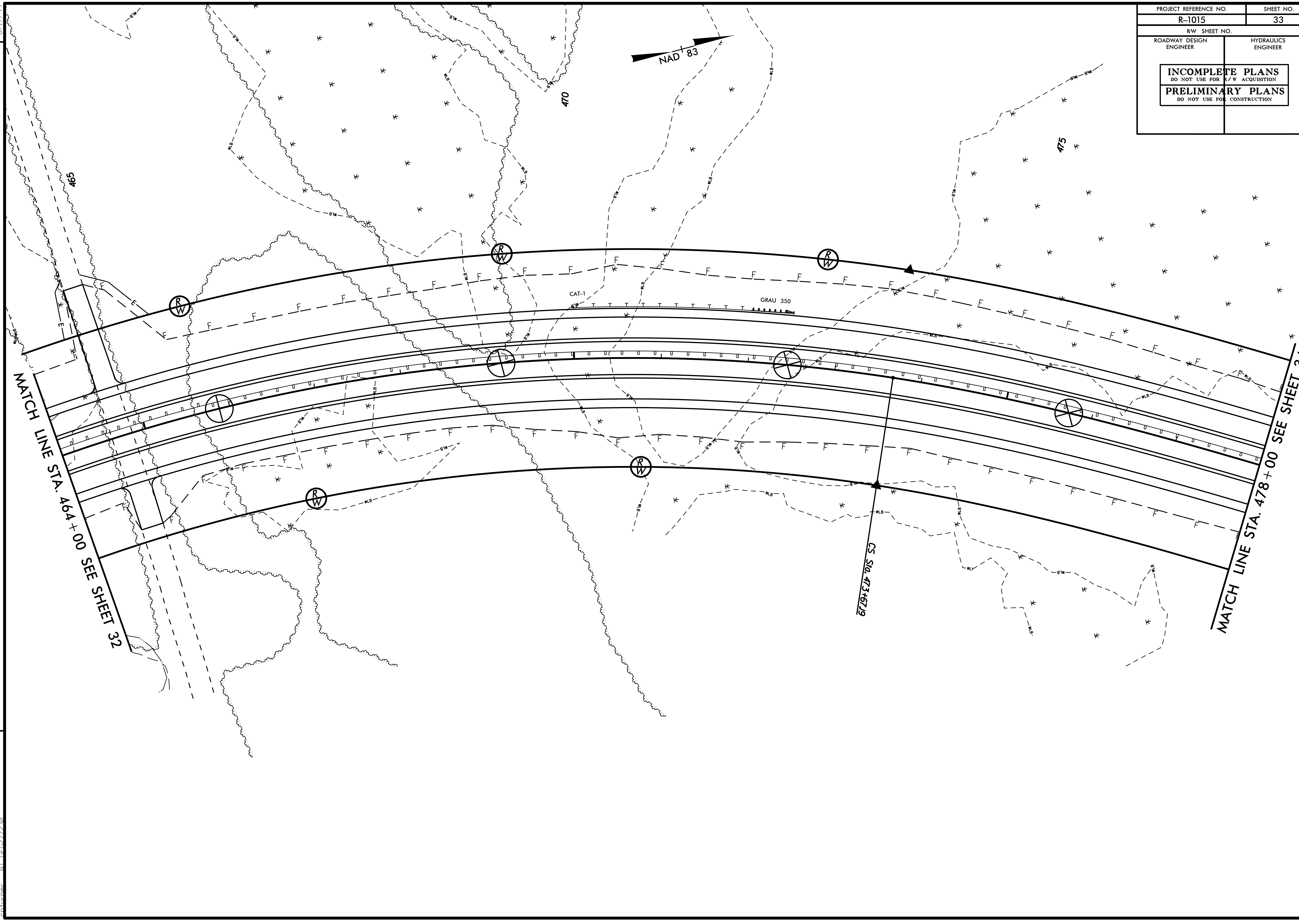
engineer AT GEOTECH

PROJECT REFERENCE NO.	SHEET NO.
R-1015	33
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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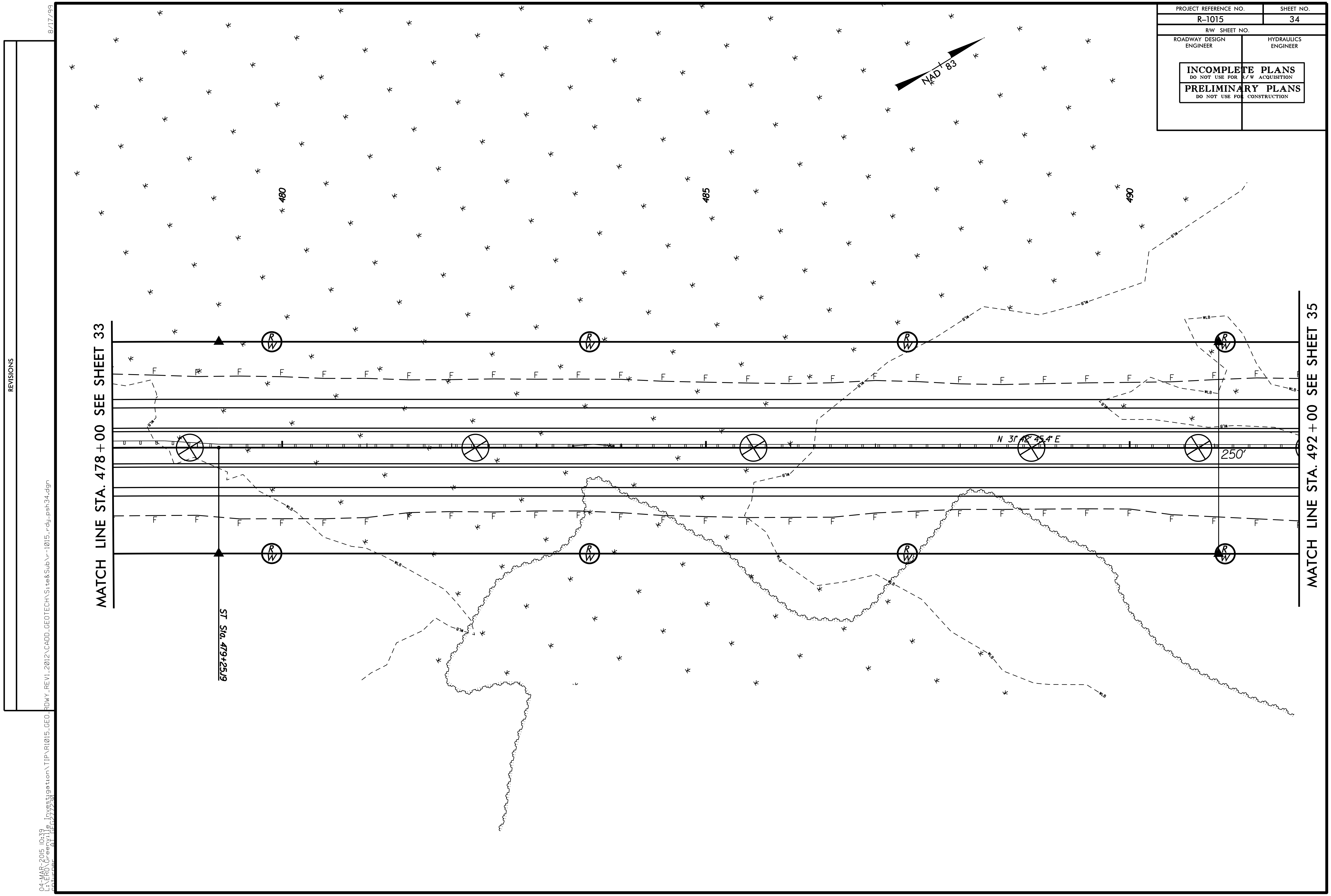

PROJECT REFERENCE NO.
R-1015
SHEET NO.
34
RW SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
NAD 83
480
485
490
MATCH LINE STA. 478+00 SEE SHEET 33
MATCH LINE STA. 492+00 SEE SHEET 35
N 31° 42' 45.4" E
250'
ST Sta. 479+25.19
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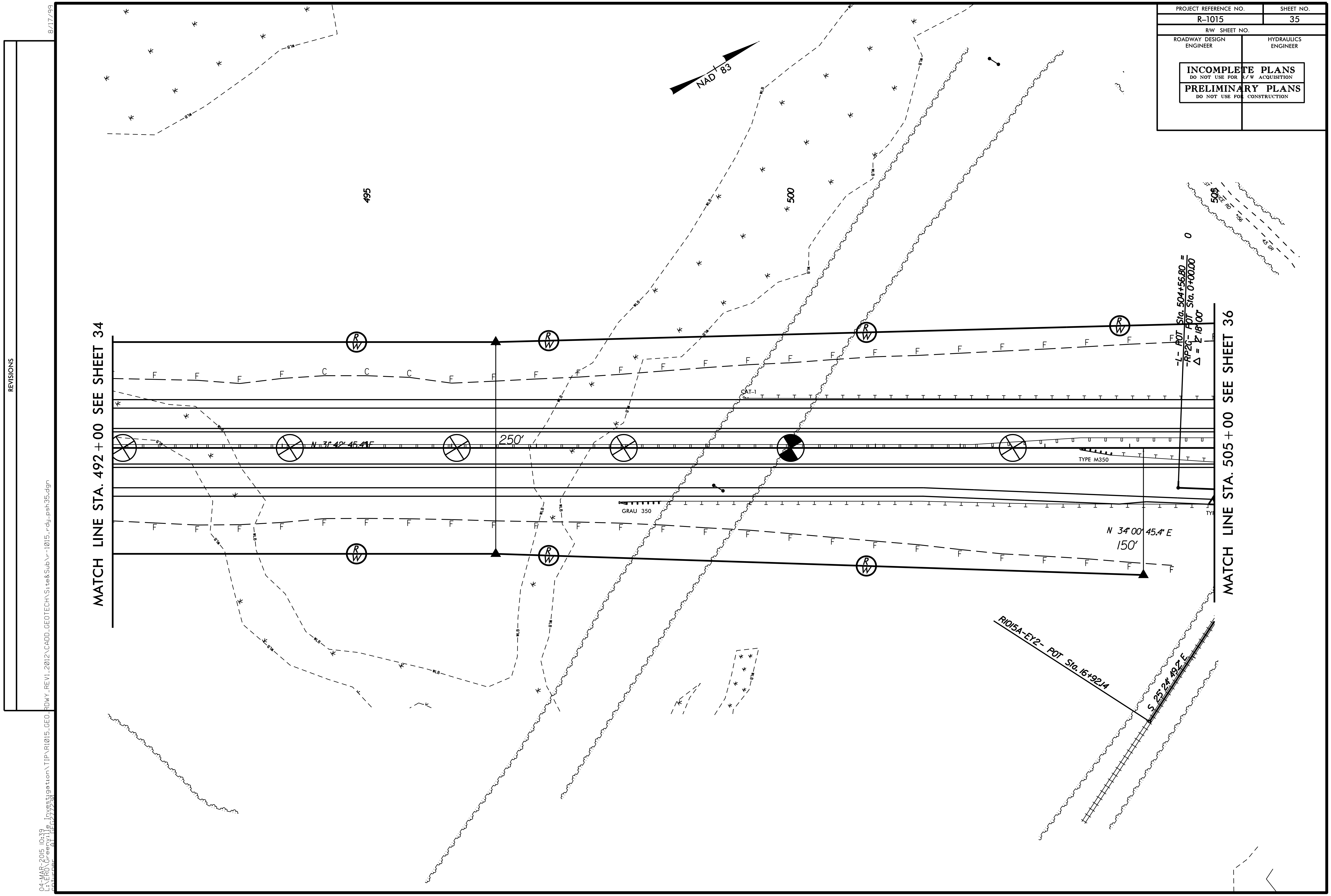
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-1015	35
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
R-105	36
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR CONSTRUCTION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

MATCH LINE STA. 505+00 SEE SHEET 35

MATCH LINE -RP2AC STA. 56+00 SEE SHEET 48

MATCH LINE -RP2A STA. 86+80 SEE SHEET 37

MATCH LINE STA. 533+50 SEE SHEET 37

APPROXIMATE LIMIT OF ORGANIC SOILS

Approximate Limits of Guilford County Landfill

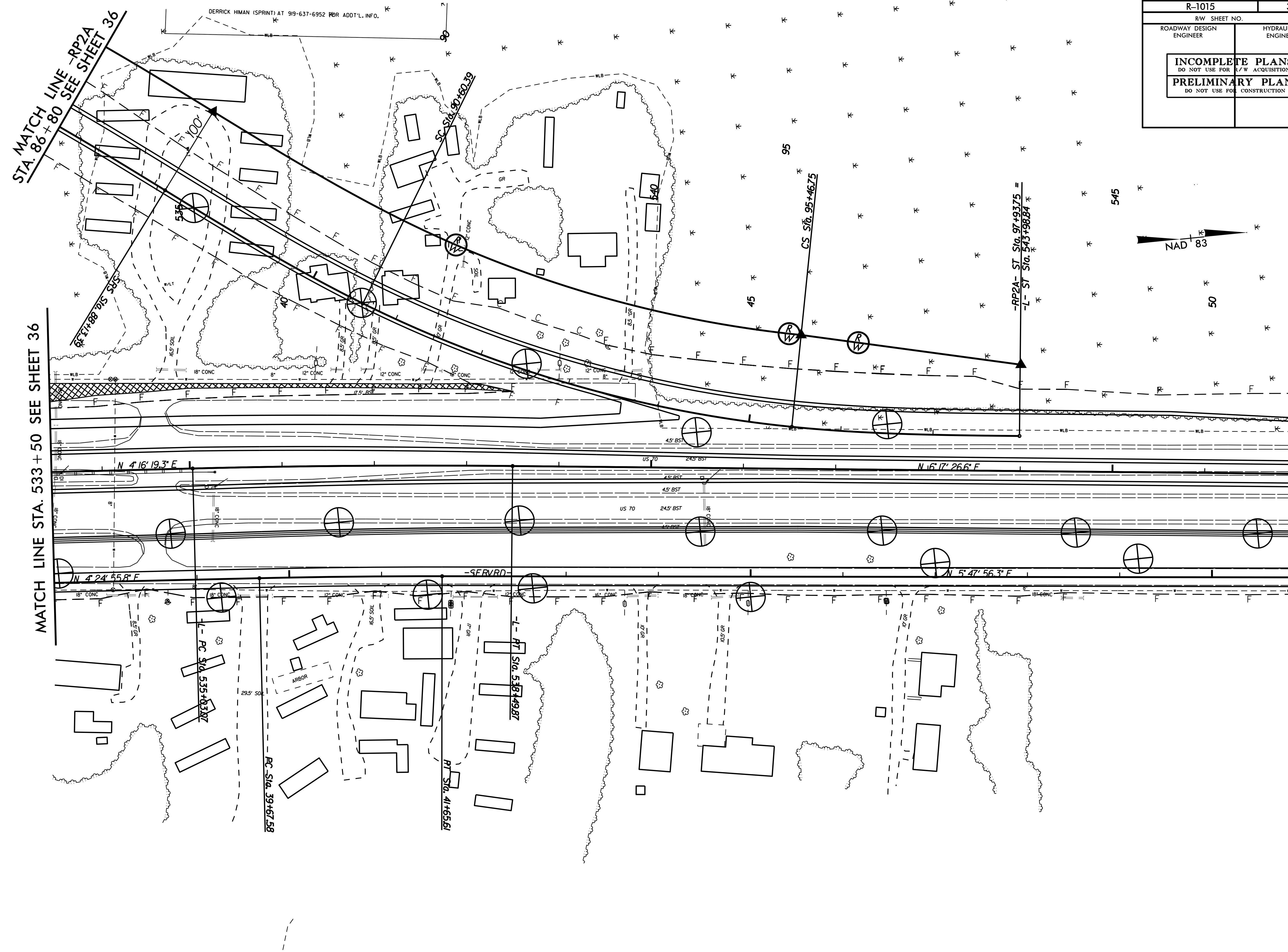
GRAPHIC SCALE
50 25 0 50 100
PLANS

LOCATION:
TIP NO.: COUNTY:
DESIGNED BY:
CHECKED BY: DATE:

PROJECT REFERENCE NO.	SHEET NO.
R-1015	37
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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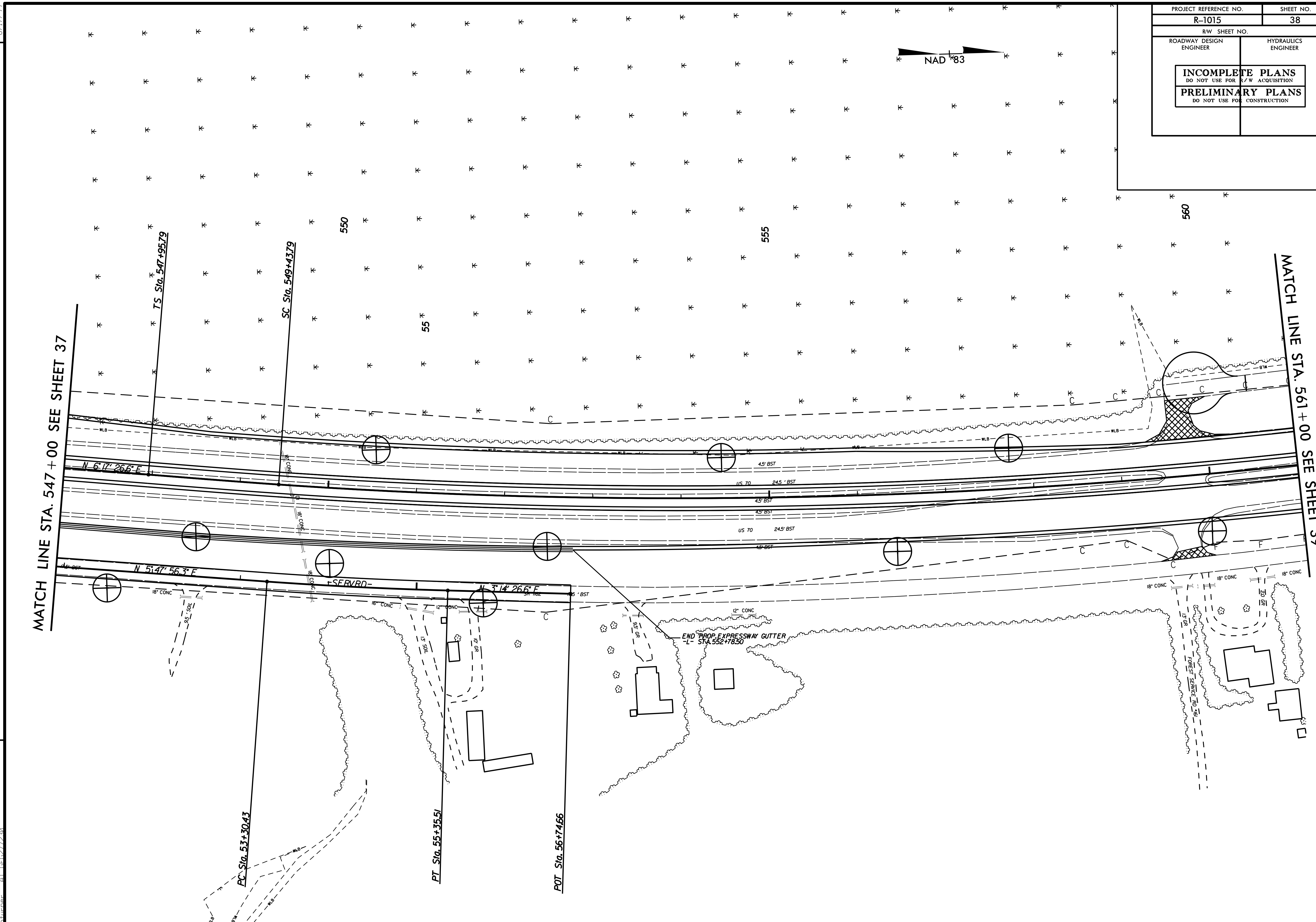
PROJECT REFERENCE NO.	SHEET NO.
R-1015	38
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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MATCH LINE STA. 561+00 SEE SHEET 38

CS Sta. 561+19.69

ST Sta. 562+67.69

565

570

N 5°16'08" W

NAD 83

PC Sta. 573+26.28

MATCH LINE STA. 575+00 SEE SHEET 40

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ROADWAY DESIGN ENGINEER

R/W SHEET NO.

HYDRAULICS ENGINEER

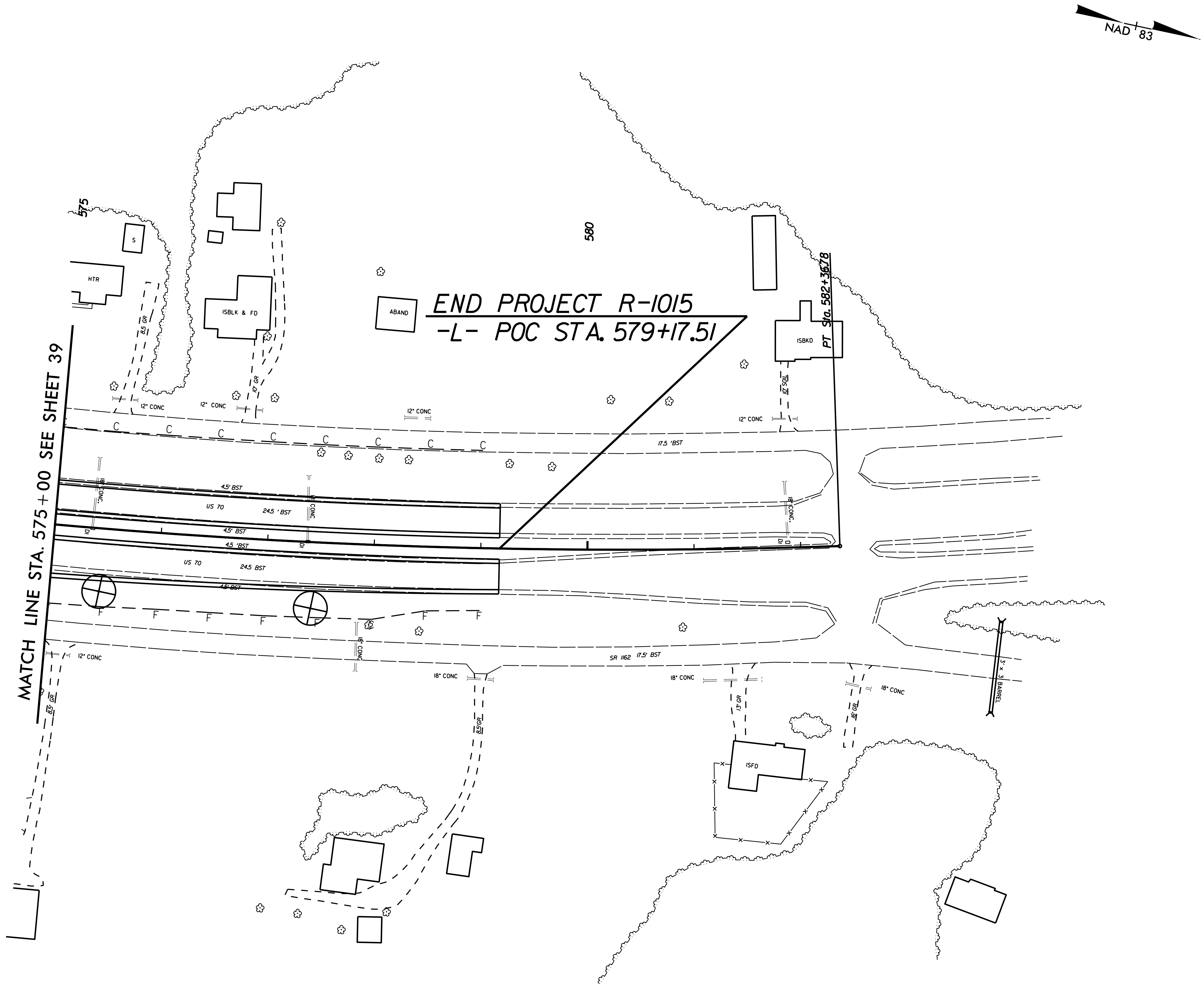
PROJECT REFERENCE NO.
R-1015

SHEET NO.
39

PROJECT REFERENCE NO.	SHEET NO.
R-1015	40
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



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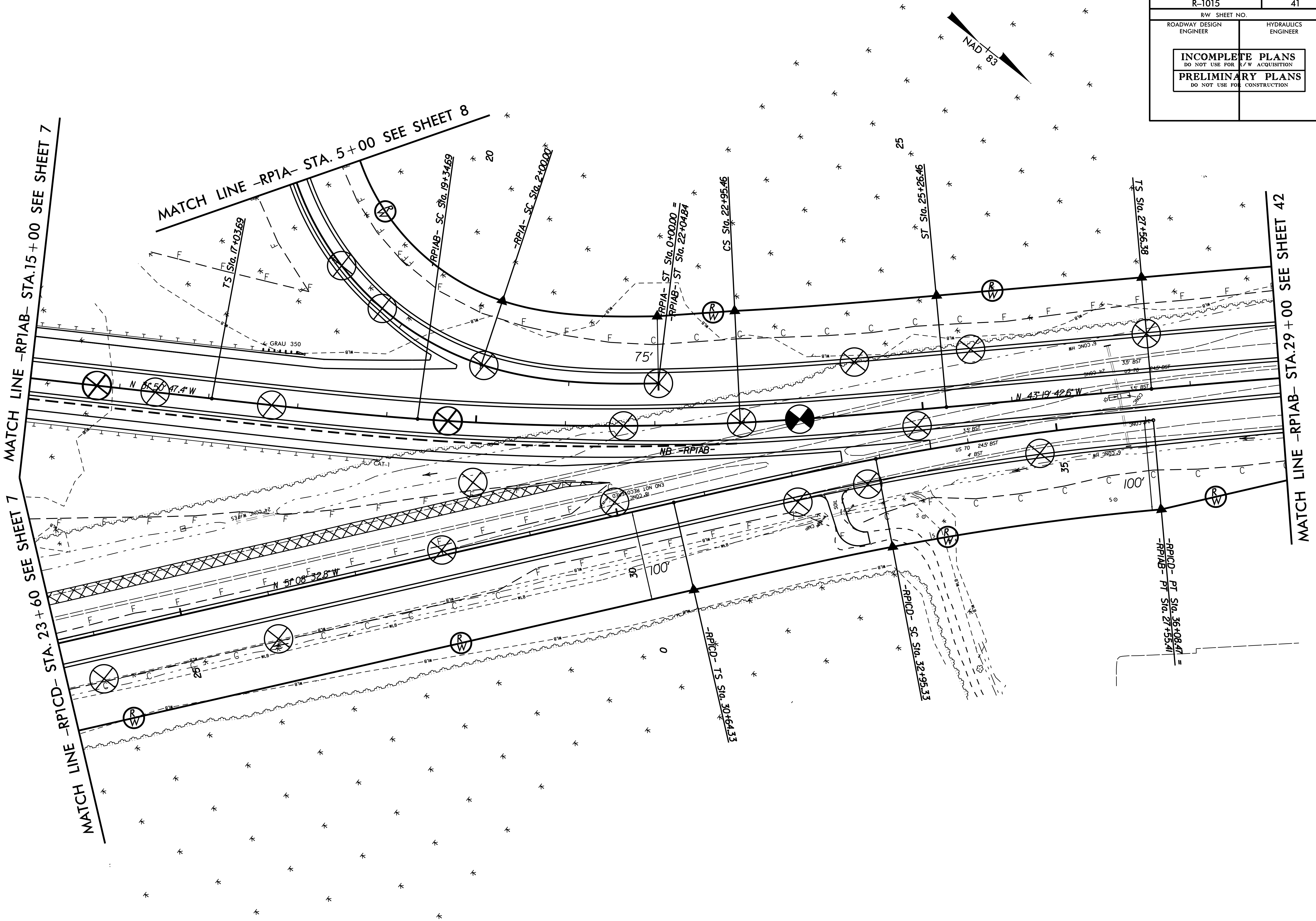
PROJECT REFERENCE NO.	SHEET NO.
R-1015	41
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NAD 83
MATCH LINE -RP1A- STA. 5+00 SEE SHEET 8
MATCH LINE -RP1AB- STA.15+00 SEE SHEET 7
MATCH LINE -RP1CD- STA. 23+60 SEE SHEET 7
MATCH LINE -RP1AB- STA.29+00 SEE SHEET 42
TS Sta. 17+03.69
-RP1AB- SC Sta. 19+34.69
-RP1A- SC Sta. 2+00.00
-RP1A- ST Sta. 0+00.00 = -RP1AB- ST Sta. 22+04.84
CS Sta. 22+95.46
ST Sta. 25+26.46
TS Sta. 27+56.38
-RP1CD- PT Sta. 36+08.47 = -RP1AB- PT Sta. 27+55.41
-RP1CD- SC Sta. 32+95.33
-RP1CD- TS Sta. 30+64.33
N 51°50' 47.4" W
N 43°19' 42.6" W
N 51°08' 32.8" W
NB -RP1AB-
GRAU 350
CAT-1
75'
100'
100'
END NOT RECOGNIZED
US 70
24.5' BST
35' BST
20
25
30
35
0

REVISIONS

8/17/99

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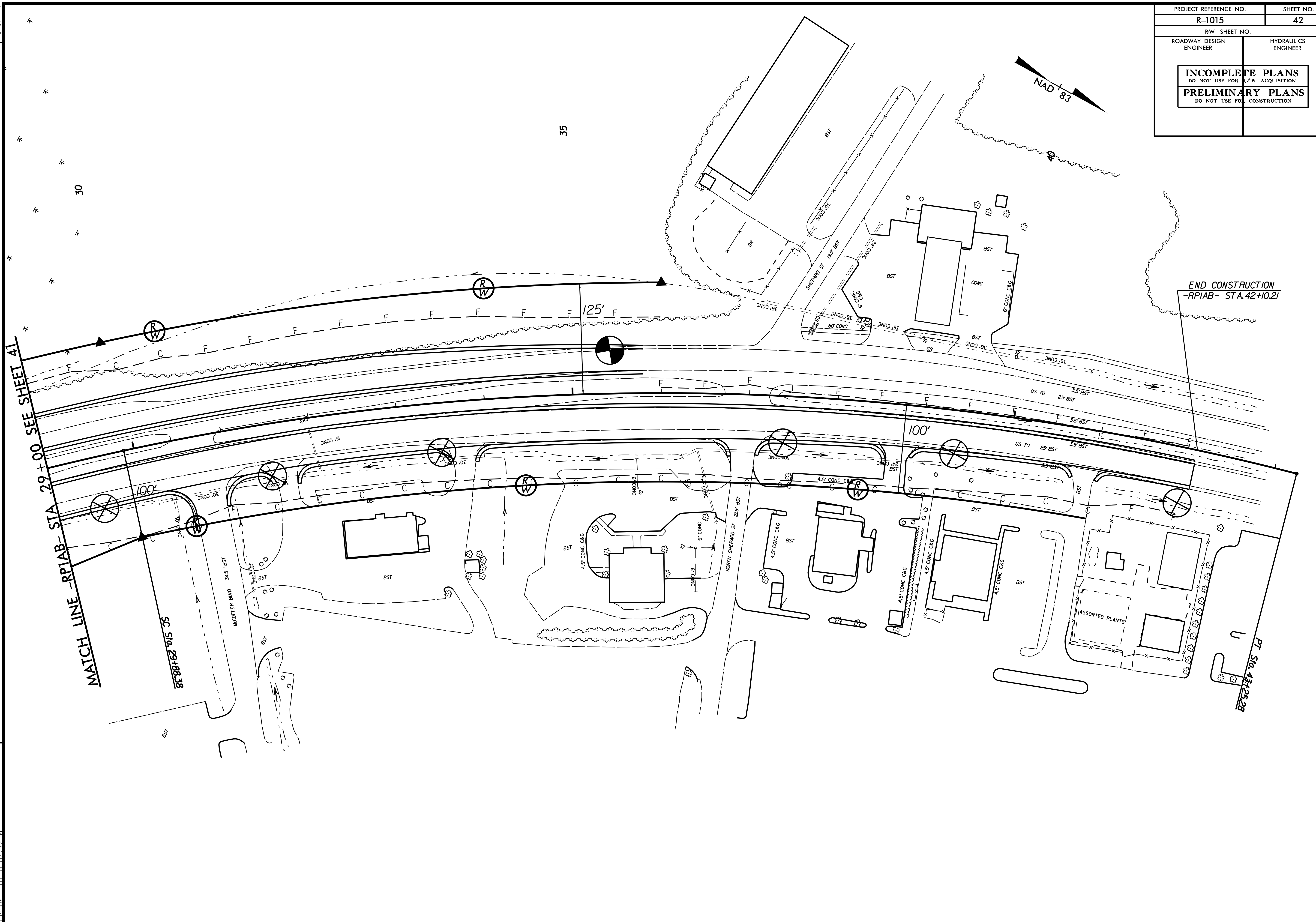
PROJECT REFERENCE NO.	SHEET NO.
R-1015	42
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

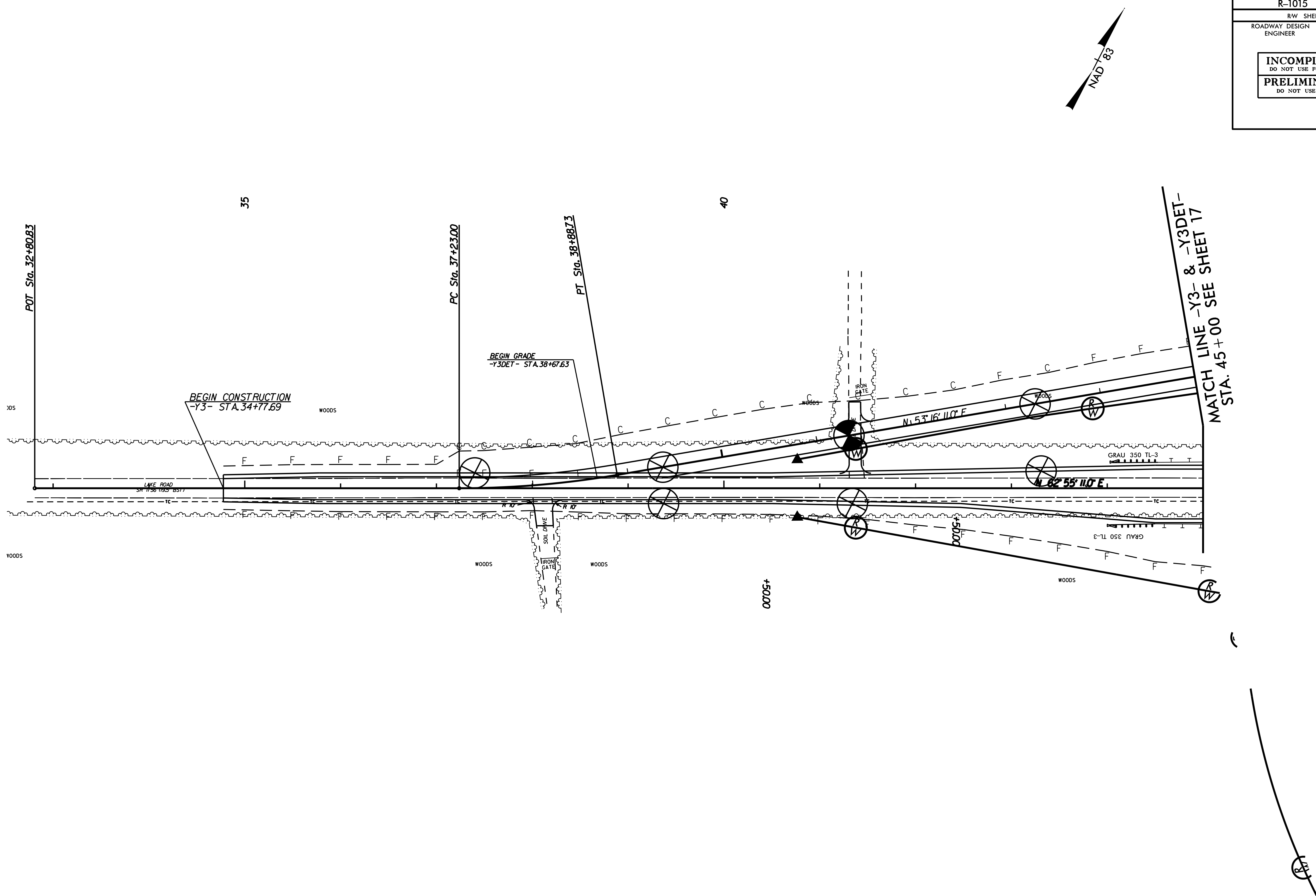
8/17/99

04-MAR-2015 10:39

PROJECT REFERENCE NO.	SHEET NO.
R-1015	43
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-1015	44
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NAD 83
MATCH LINE -Y3DET-
STA. 61+20 SEE SHEET 17
MATCH LINE -Y3-
STA. 61+00 SEE SHEET 17
PC Sta. 62+30.22
PC Sta. 61+98.86
N 76°04' 30.8" E
PT Sta. 68+40.15
N 24°41' 48.0" E
END CONSTRUCTION
-Y3- STA.73+81.89
END GRADE
-Y3DET- STA.66+15.64
LAKE ROAD
SR 1156 (19.5' BST)
GRAU 350
WOODS
1SFD
1S BK D
1S F D
CONC PAD
HTR
SHED
PROPANE TANK
48" SPLIT RAIL
72" BLK WALL
TIMBER CURB
12" CONC
15" CONC
48" CLF
48" BARB WIRE
48" STOCK
FRUIT TREE
ORCHARD
SOIL DRIVE
BST DRIVE
CONC DRIVE
BK WALK
POOL
SHELTER
WD DECK
65
70
75'
50'

REVISIONS

8/17/99

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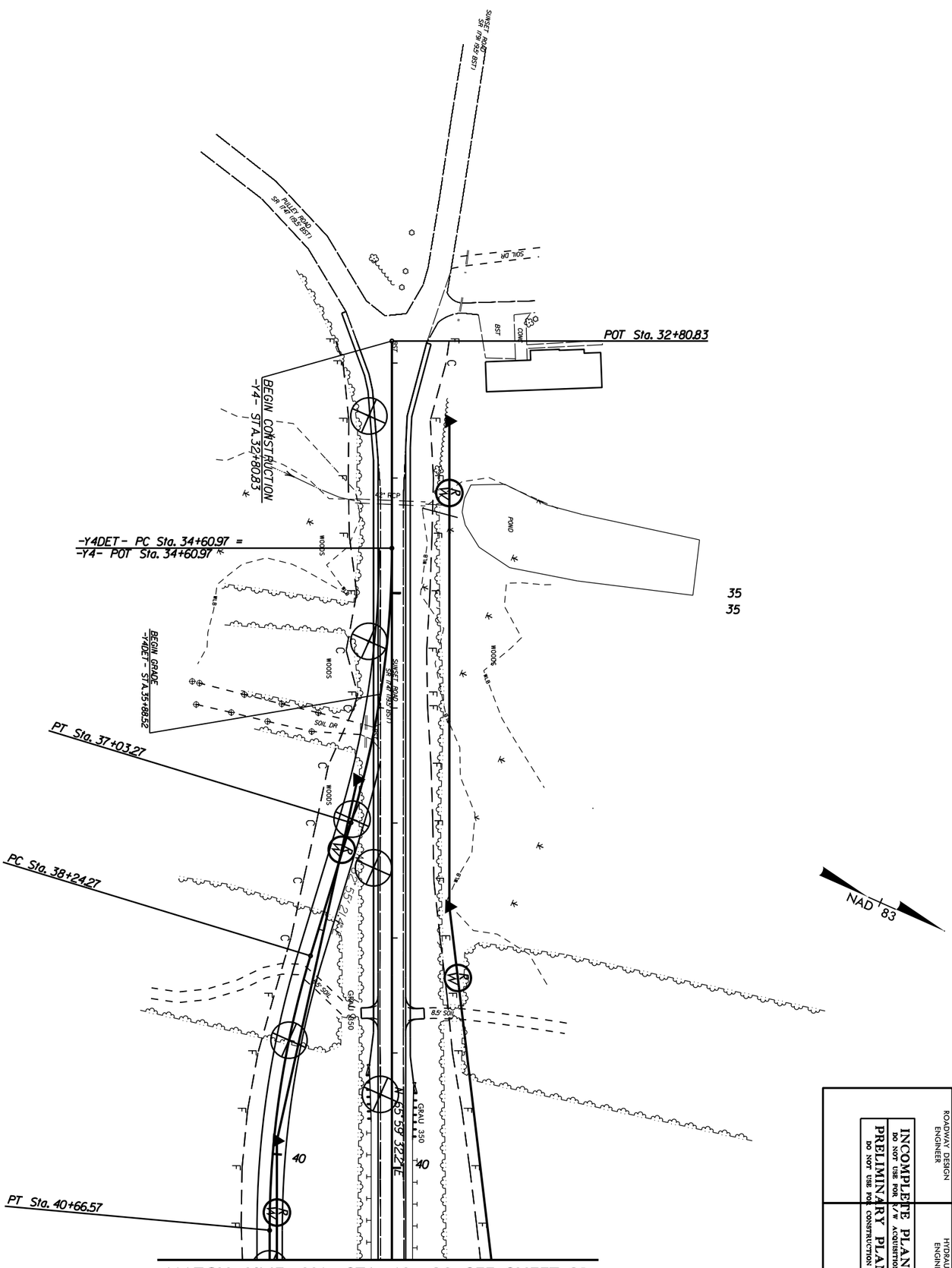


MATCH LINE –Y4– STA. 40+80 SEE SHEET 21

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

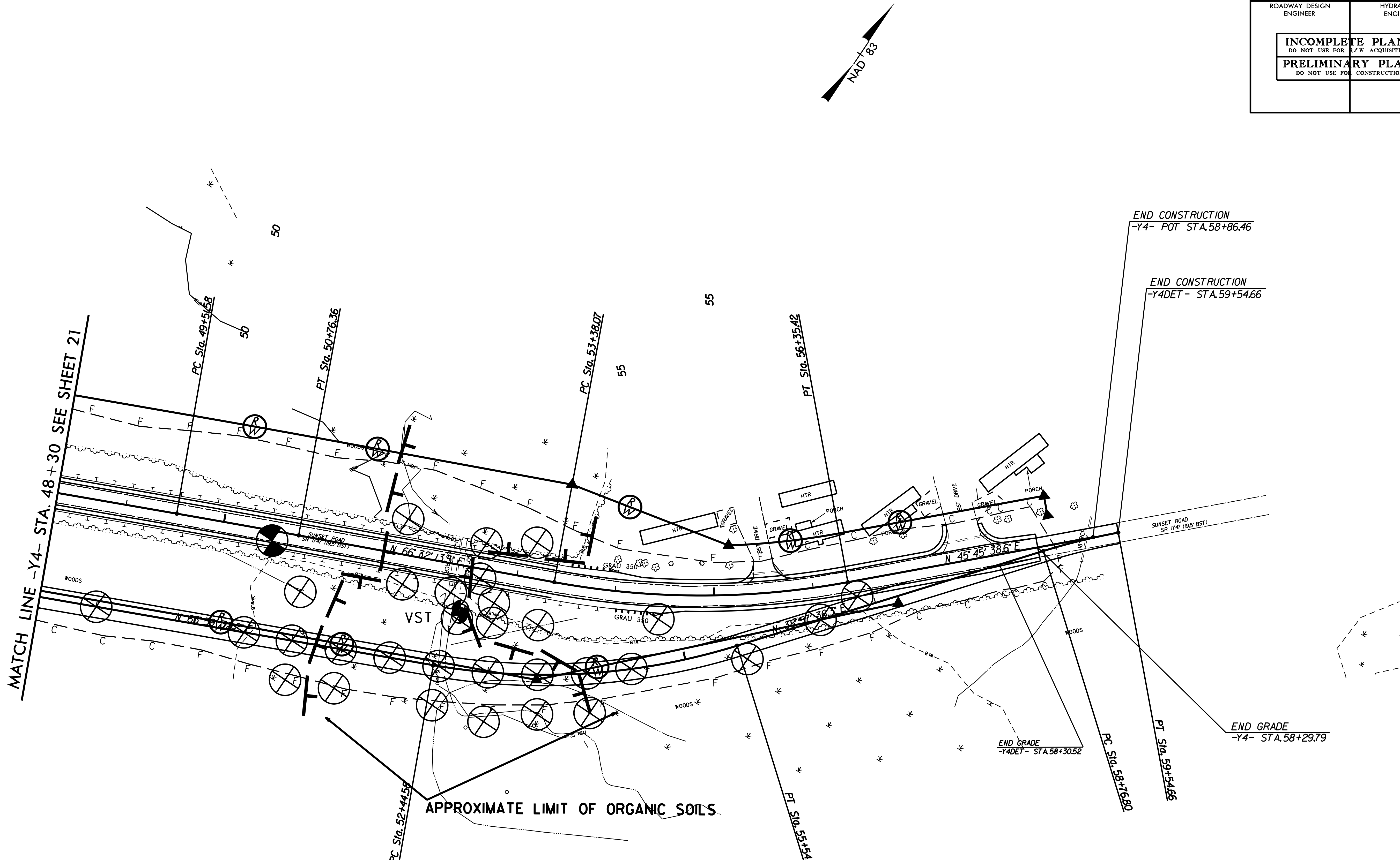
ROADWAY DESIGN ENGINEER
R/W SHEET NO.
HYDRAULICS ENGINEER

PROJECT REFERENCE NO.
R-1015
SHEET NO.
45

PROJECT REFERENCE NO.	SHEET NO.
R-1015	46
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



NAD 83
MATCH LINE -Y4- STA. 48+30 SEE SHEET 21
PC Sta. 49+51.58
PT Sta. 50+76.36
PC Sta. 53+38.07
PT Sta. 56+35.42
PC Sta. 52+44.58
PT Sta. 55+54.08
PC Sta. 58+76.80
PT Sta. 59+54.66
END CONSTRUCTION
-Y4- POT STA. 58+86.46
END CONSTRUCTION
-Y4DET- STA. 59+54.66
END GRADE
-Y4- STA. 58+29.79
END GRADE
-Y4DET- STA. 58+30.52
SUNSET ROAD
SR 1747 (19.5' BST)
N 45° 45' 38.6" E
VST
WOODS
HTR
PORCH
GRAVEL
GRAU 350
APPROXIMATE LIMIT OF ORGANIC SOILS
50
55

REVISIONS

8/17/99

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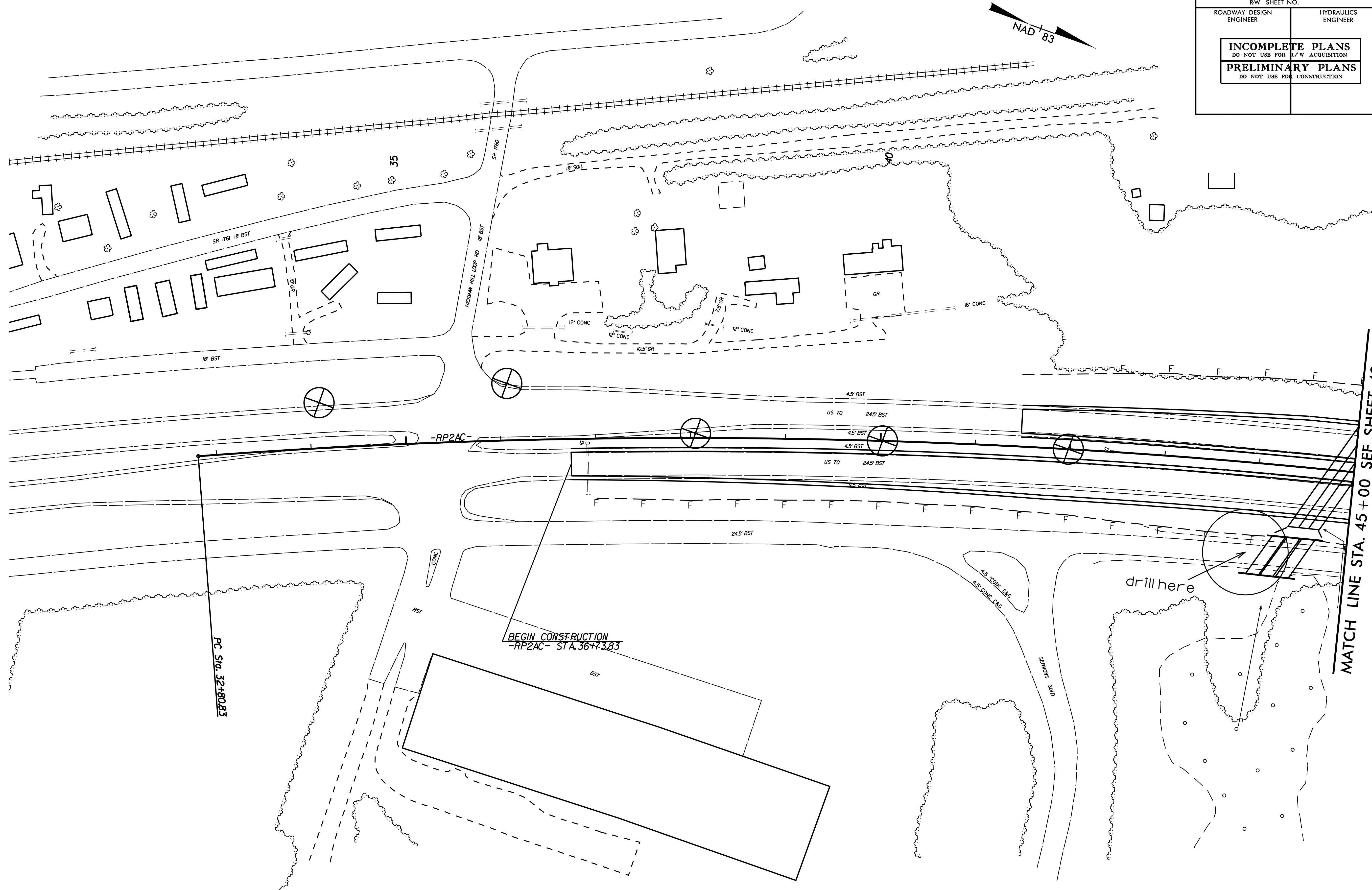
PROJECT REFERENCE NO.	SHEET NO.
R-1015	47
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

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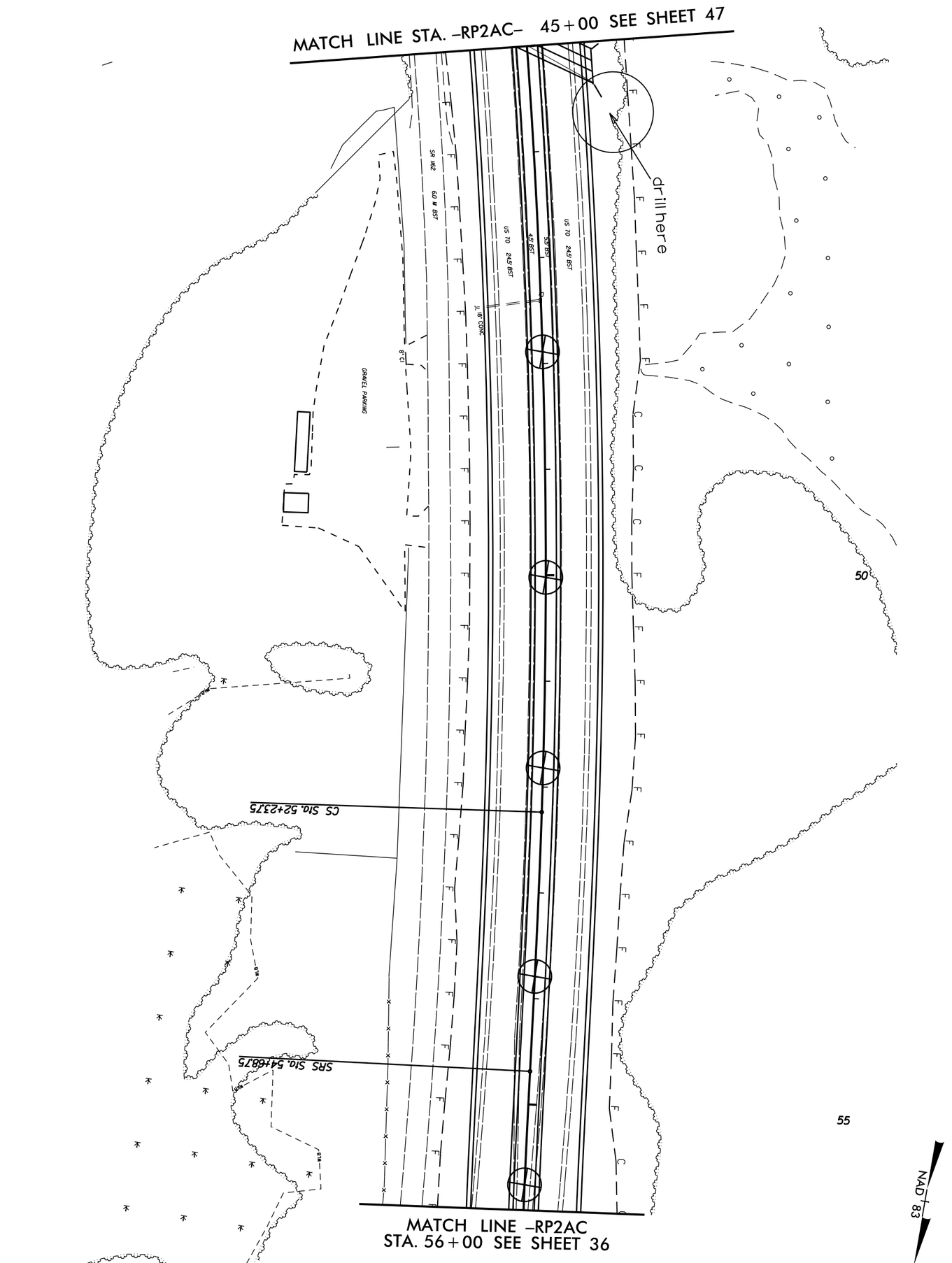

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ROADWAY DESIGN ENGINEER
R/W SHEET NO.
HYDRAULICS ENGINEER

PROJECT REFERENCE NO.
R-1015
SHEET NO.
48

PROJECT REFERENCE NO.	SHEET NO.
R–1015	48A

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

INVENTORY
SECTION 2

REFERENCE: R–1015

PROJECT: 34360

DS
NS
3/16/2015
INITIALS DATE

PROJECT REFERENCE NO.	SHEET NO.
R-1015	49
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C SAND	% BY WEIGHT F SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
S-60	54 LT	38+71	1.0-6.2	A-3(0)	20	NP	28.0	67.9	0.1	4.0	100	93	5	-	-
S-61	54 LT	42+65	1.0-6.2	A-3(0)	20	NP	26.7	67.7	0.6	5.1	96	90	6	-	-

Ⓐ LOOSE TAN GRAY SAND, MOIST (ROADWAY EMBANKMENT)

BEGIN GRADE -L- STA.32+80.83
EL.29.78'

54' LT DRY 09/01
54' LT 09/01
S-60
54' LT 09/01
54' LT DRY 09/01
S-61
54' LT 09/01
54' LT 09/01

LOOSE TO MEDIUM DENSE TAN GRAY SAND, MOIST TO SAT. (UNDIVIDED COASTAL PLAIN)

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

33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00 44+00 45+00 46+00

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PROJECT REFERENCE NO.	SHEET NO.
R-1015	50
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

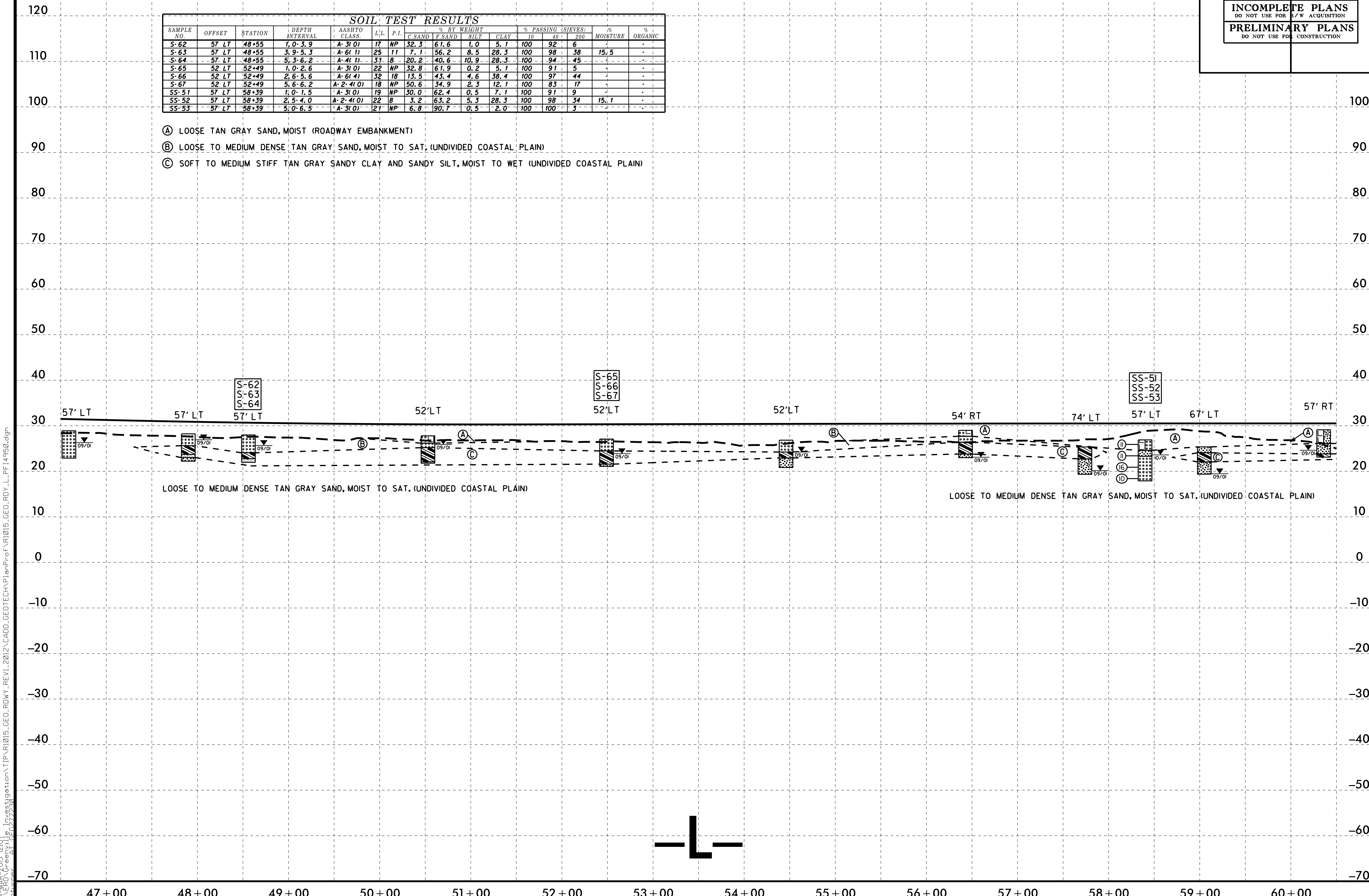
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-62	57 LT	48+55	1.0-3.9	A-3(0)	17	NP	32.3	61.6	1.0	5.1	100	92	6	-	-
S-63	57 LT	48+55	3.9-5.3	A-6(1)	25	11	7.1	56.2	8.5	28.3	100	98	38	15.5	-
S-64	57 LT	48+55	5.3-6.2	A-4(1)	31	8	20.2	40.6	10.9	28.3	100	94	45	-	-
S-65	52 LT	52+49	1.0-2.6	A-3(0)	22	NP	32.8	61.9	0.2	5.1	100	91	5	-	-
S-66	52 LT	52+49	2.6-5.6	A-6(4)	32	18	13.5	43.4	4.6	38.4	100	97	44	-	-
S-67	52 LT	52+49	5.6-6.2	A-2-4(0)	18	NP	50.6	34.9	2.3	12.1	100	83	17	-	-
SS-51	57 LT	58+39	1.0-1.5	A-3(0)	19	NP	30.0	62.4	0.5	7.1	100	91	9	-	-
SS-52	57 LT	58+39	2.5-4.0	A-2-4(0)	22	8	3.2	63.2	5.3	28.3	100	98	34	15.1	-
SS-53	57 LT	58+39	5.0-6.5	A-3(0)	21	NP	6.8	90.7	0.5	2.0	100	100	3	-	-

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

(B) LOOSE TO MEDIUM DENSE TAN GRAY SAND, MOIST TO SAT. (UNDIVIDED COASTAL PLAIN)

(C) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	51
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
S-68	62 LT	62+33	1.0-2.6	A-3(0)	21	NP	22.3	72.4	1.2	4.0	100	88	6	-	-
S-69	62 LT	62+33	2.6-3.9	A-6(1)	26	14	12.7	50.5	6.5	30.3	100	99	37	-	-
S-70	62 LT	62+33	3.9-6.2	A-2-4(0)	17	NP	21.8	66.1	2.0	10.1	98	95	12	-	-
S-106	66 RT	68+24	1.0-4.6	A-3(0)	19	NP	24.1	68.6	1.2	6.1	100	91	7	-	-
S-107	66 RT	68+24	4.6-6.2	A-5(0)	42	NP	23.0	25.1	19.6	32.3	100	92	54	-	-
S-108	62 RT	72+17	1.0-4.6	A-2-4(0)	19	NP	16.4	68.4	5.2	10.1	97	93	20	-	-
S-109	62 RT	72+17	4.6-5.9	A-7-6(13)	48	24	25.9	14.7	10.9	48.5	100	88	61	-	-

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

(B) MEDIUM STIFF GRAY SANDY CLAY AND CLAYEY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

S-68
S-69
S-70
62' LT

62' LT

75' LT

S-106
S-107
66' RT

20' LT

20' LT

62' RT

S-108
S-109
62' RT

20' LT

20' LT

09/01

LOOSE TO MEDIUM DENSE GRAY SAND, MOIST TO SAT. (UNDIVIDED COASTAL PLAIN)

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

61+00 62+00 63+00 64+00 65+00 66+00 67+00 68+00 69+00 70+00 71+00 72+00 73+00 74+00

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PROJECT REFERENCE NO.	SHEET NO.
R-1015	52
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

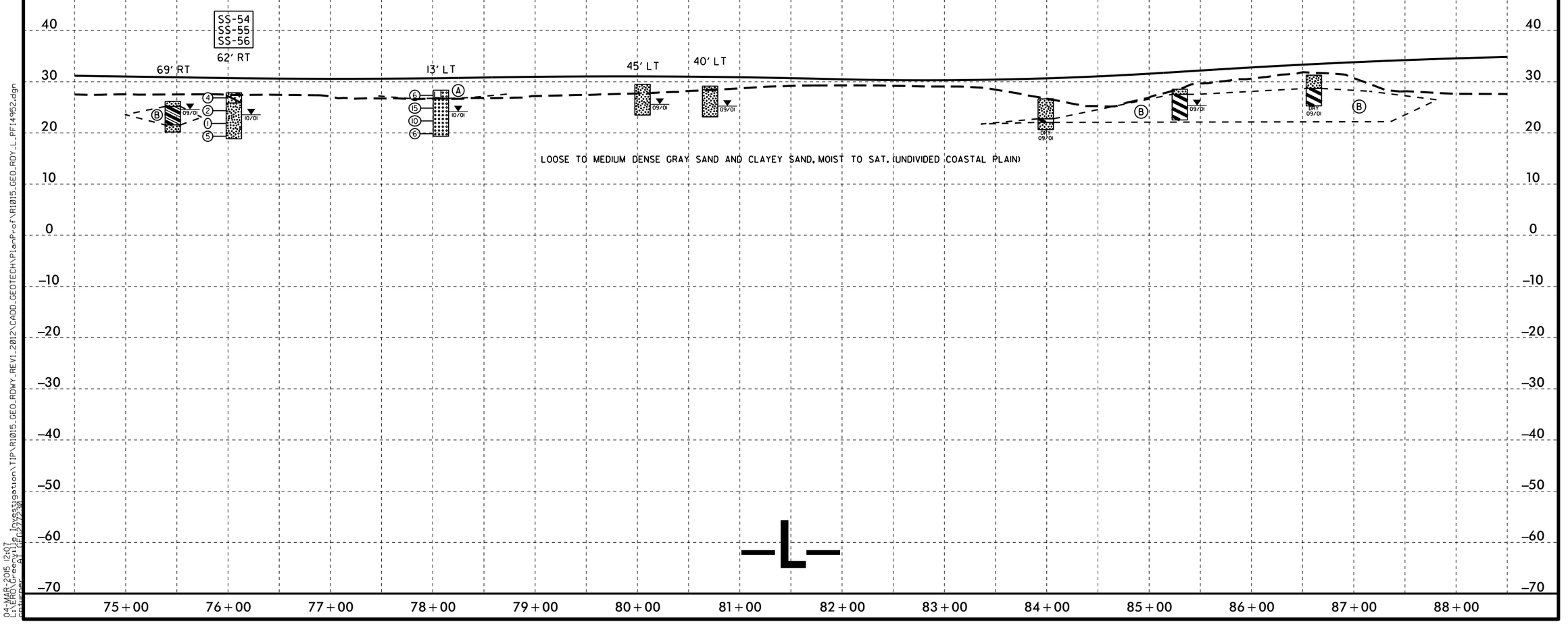
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C SAND	% BY WEIGHT F SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) #10	% PASSING (SIEVES) #40	% PASSING (SIEVES) #200	% MOISTURE	% ORGANIC
SS-54	62 RT	76+06	1.0-1.5	A-2-6(0)	24	11	36.1	31.8	6.9	25.3	100	86	33	16.2	-
SS-55	62 RT	76+06	2.5-4.0	A-2-4(0)	22	5	39.4	36.9	6.6	17.2	100	89	27	-	-
SS-56	62 RT	76+06	7.5-4.0	A-2-4(0)	18	NP	28.6	61.6	0.7	9.1	100	84	12	-	-

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

(B) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY MOIST TO WET, (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	53

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

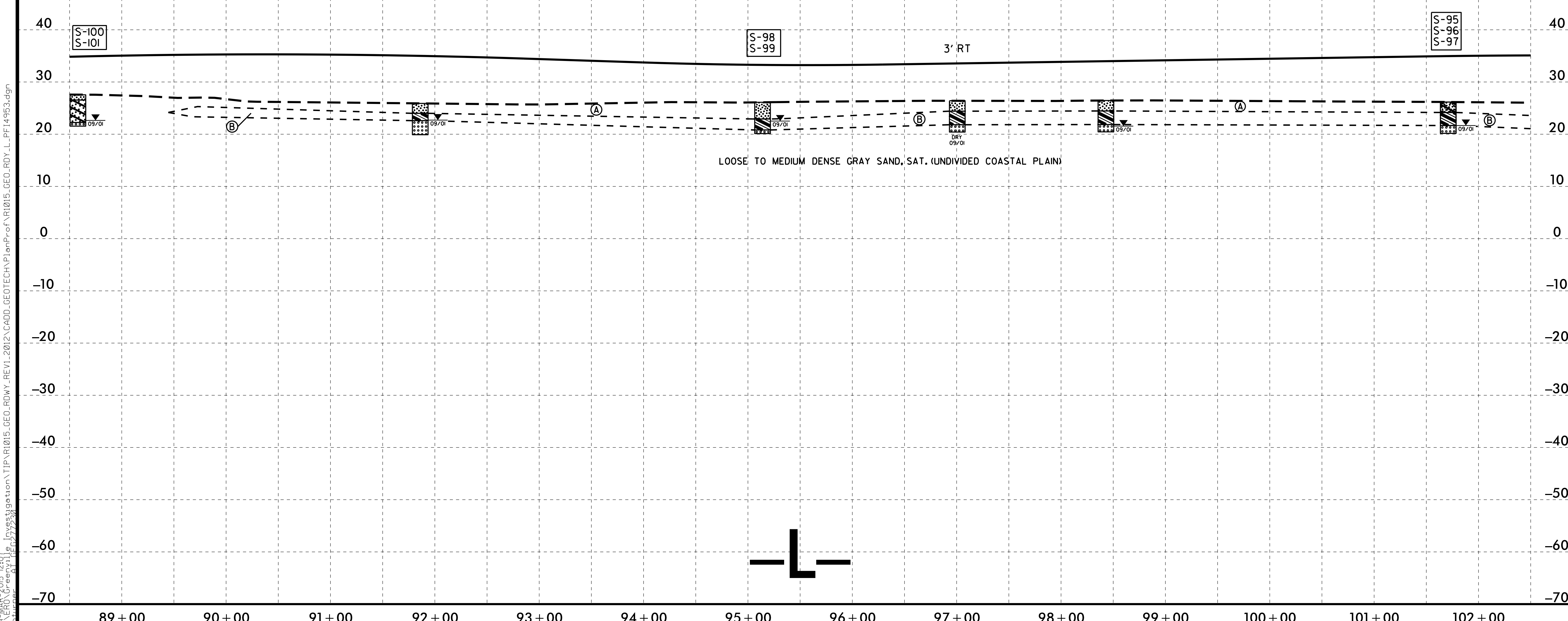
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-100	CL	88+58	1.0-5.3	A-2-6(8)	43	17	21.0	22.6	16.0	40.4	100	93	59	-	-
S-101	CL	88+58	5.3-6.2	A-3(0)	18	NP	42.4	51.4	2.1	4.0	100	86	6	-	-
S-98	CL	95+14	1.0-6.2	A-2-4(0)	37	NP	31.1	35.2	11.5	22.2	100	85	34	-	-
S-99	CL	95+14	3.3-5.3	A-6(3)	36	14	30.1	24.2	7.3	38.4	100	89	46	-	-
S-95	CL	101+70	1.0-2.0	A-2-6(0)	25	11	37.0	31.9	9.9	21.2	100	86	32	-	-
S-96	CL	101+70	2.0-4.6	A-6(3)	31	14	24.3	31.0	12.3	32.3	100	87	46	-	-
S-97	CL	101+70	4.6-6.2	A-3(0)	16	NP	46.0	44.4	0.5	9.1	100	86	10	-	-

(A) LOOSE TAN GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(B) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY MOIST TO WET, (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	54

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

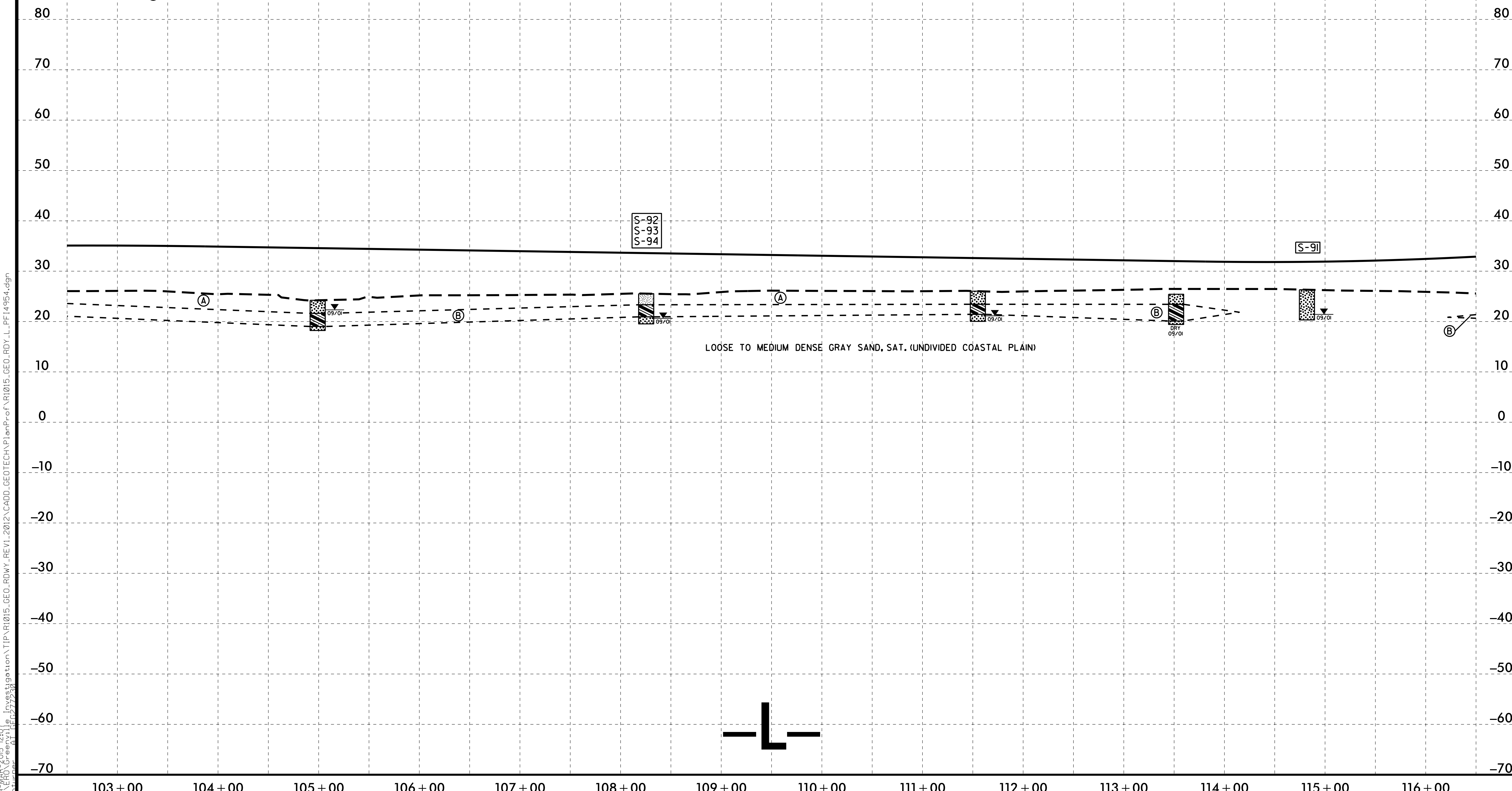
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-92	CL	108+26	1.0-2.3	A-4(0)	25	NP	27.5	43.1	10.2	19.2	100	87	36	-	-
S-93	CL	108+26	2.3-4.6	A-6(2)	33	13	23.7	34.0	10.9	31.3	100	90	44	-	-
S-94	CL	108+26	4.6-6.2	A-2-4(0)	23	6	40.0	43.1	3.7	13.1	100	77	18	-	-
S-91	CL	114+82	1.0-6.2	A-2-4(0)	24	7	16.2	51.1	8.5	24.2	100	95	34	-	-

(A) LOOSE TAN GRAY SAND, MOIST TO SAT. AND SOFT TAN SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)

(B) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	55
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

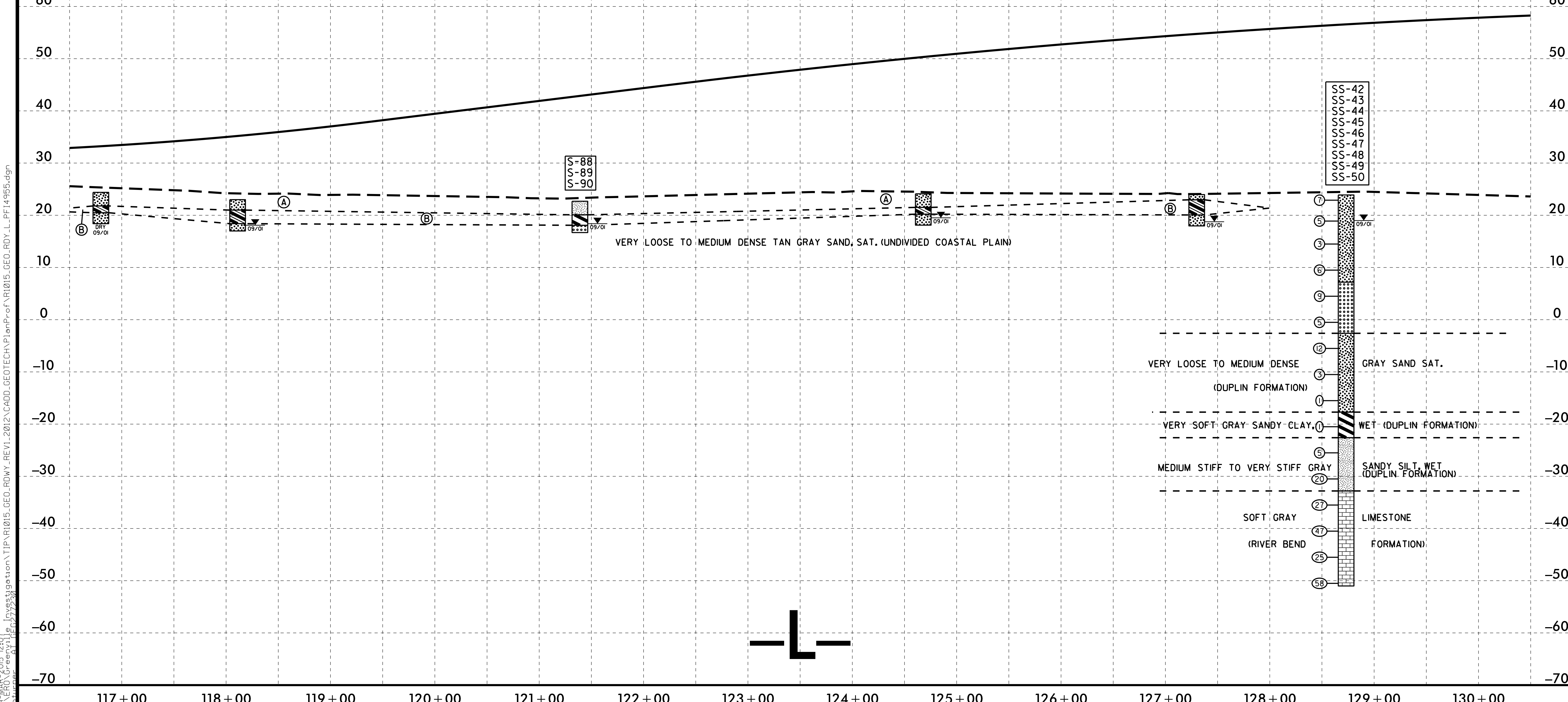
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-88	CL	121+39	1.0-2.6	A-4(0)	27	8	18.4	45.3	10.1	26.3	100	94	41	-	-
S-89	CL	121+39	2.6-4.6	A-7-6(8)	42	16	17.6	25.3	8.7	48.5	100	93	59	-	-
S-90	CL	121+39	4.6-6.2	A-3(0)	21	NP	12.9	78.8	1.2	7.1	100	96	9	-	-
SS-42	CL	128+64	1.0-1.5	A-2-4(0)	21	NP	39.0	36.6	6.3	18.2	100	92	25	-	-
SS-43	CL	128+64	8.4-9.9	A-2-4(0)	20	4	22.2	51.5	10.1	16.2	100	96	29	-	-
SS-44	CL	128+64	18.4-19.9	A-3(0)	17	NP	36.8	56.4	2.8	4.0	99	72	7	-	-
SS-45	CL	128+64	28.4-29.9	A-2-4(0)	19	NP	7.9	80.5	3.5	8.1	100	99	19	-	-
SS-46	CL	128+64	38.4-39.9	A-2-4(0)	21	NP	0.3	73.9	11.6	14.1	100	100	33	-	-
SS-47	CL	128+64	43.4-44.9	A-7-6(19)	46	26	0.8	30.5	28.3	40.4	97	97	76	-	-
SS-48	CL	128+64	48.4-49.9	A-4(0)	19	NP	3.5	73.1	9.2	14.1	100	98	36	-	-
SS-49	CL	128+64	58.4-59.9	A-3(0)	20	NP	61.6	34.5	0.8	3.0	100	60	5	-	-
SS-50	CL	128+64	66.5-69.8	A-3(0)	16	NP	61.8	32.3	0.8	5.1	100	60	7	-	-

(A) LOOSE TAN SAND MOIST AND MEDIUM STIFF TAN SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)

(B) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	56

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

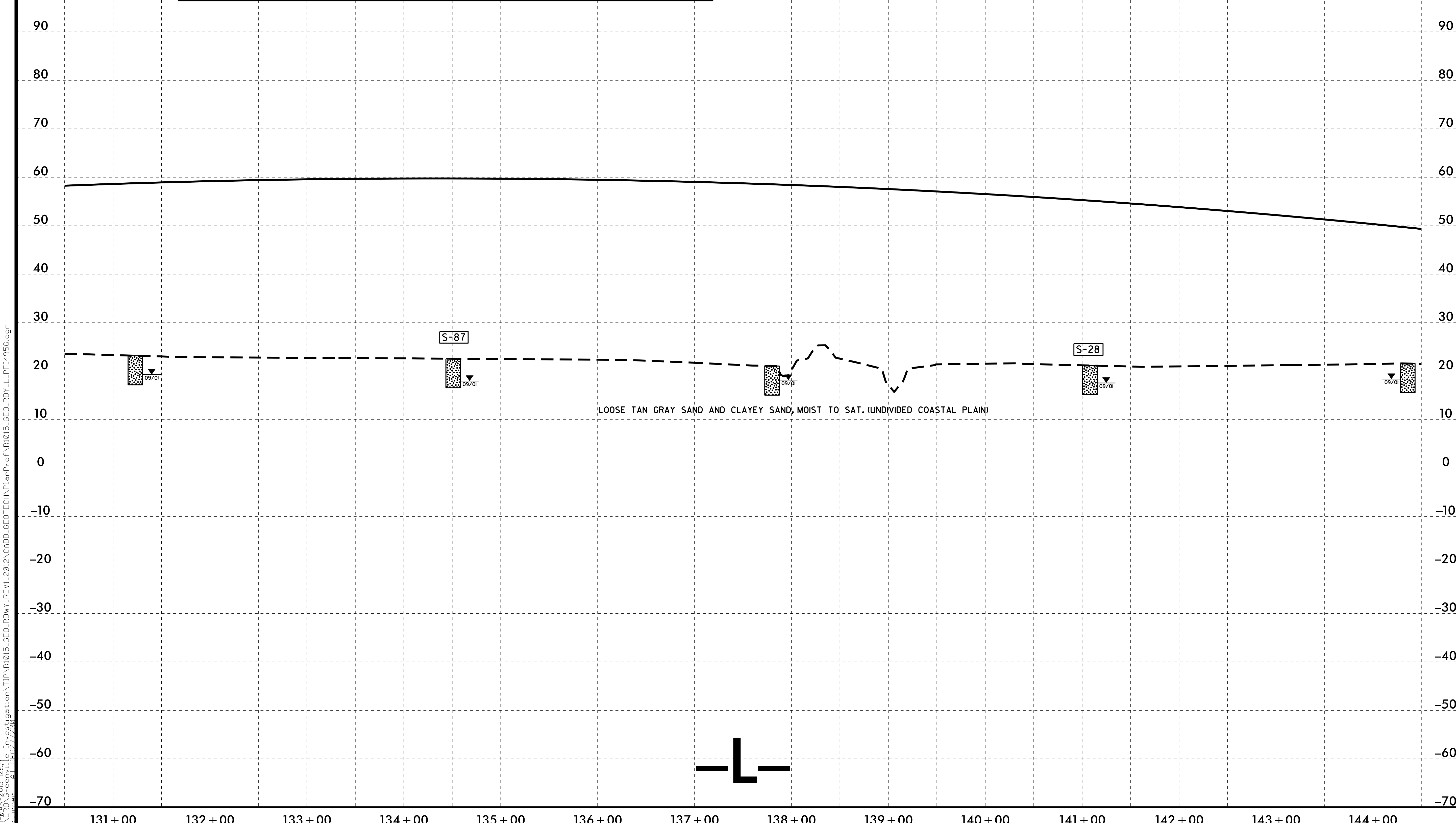
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

5/14/99

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-87	CL	134+51	1.0-6.2	A-2-4(0)	20	3	14.5	59.4	7.9	18.2	100	95	28	-	-
S-28	CL	141+07	1.0-6.2	A-2-4(0)	22	NP	15.7	59.0	5.2	20.2	100	94	27	-	-



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	57

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

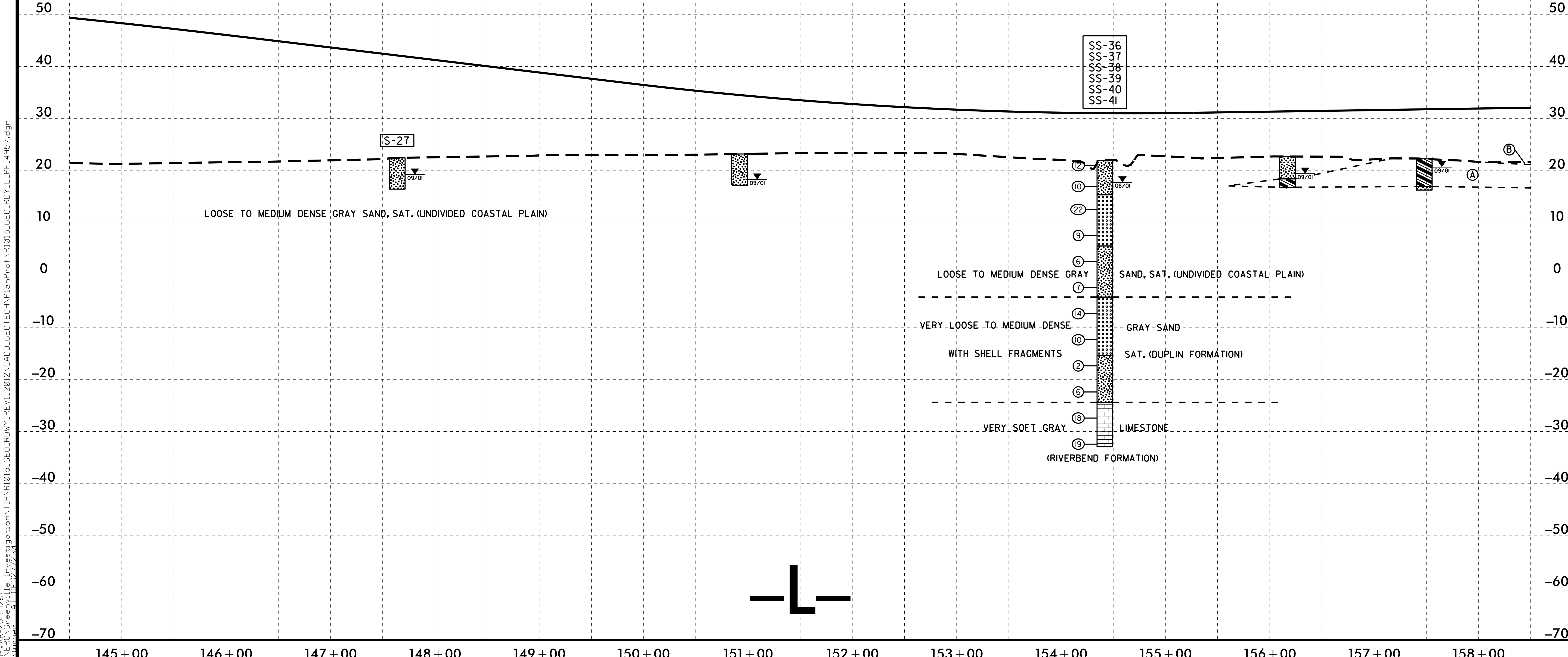
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-27	CL	147+63	1.0-3.2	A-2-4(0)	24	NP	17.4	62.3	6.2	14.1	100	94	22	-	-
SS-36	CL	154+42	1.0-1.5	A-2-4(0)	20	3	7.2	64.1	9.5	19.2	100	96	31	-	-
SS-37	CL	154+42	8.4-9.9	A-3(0)	19	NP	41.6	55.2	0.2	3.0	100	93	9	-	-
SS-38	CL	154+42	18.4-19.9	A-2-4(0)	19	NP	0.8	73.0	12.0	14.1	100	100	31	-	-
SS-39	CL	154+42	28.4-29.9	A-3(0)	18	NP	62.3	34.0	0.6	3.0	100	92	4	-	-
SS-40	CL	154+42	38.4-39.9	A-2-4(0)	18	NP	17.4	65.7	2.8	14.1	99	89	19	-	-
SS-41	CL	154+42	48.4-49.9	A-1-b(0)	19	NP	69.8	25.2	1.0	4.0	97	45	7	-	-

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY, WET (UNDIVIDED COASTAL PLAIN)

(B) LOOSE TO MEDIUM DENSE GRAY SAND, SAT. (UNDIVIDED COASTAL PLAIN)



120
110
100
90
80
70
60

PROJECT REFERENCE NO.	SHEET NO.
R–1015	58

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

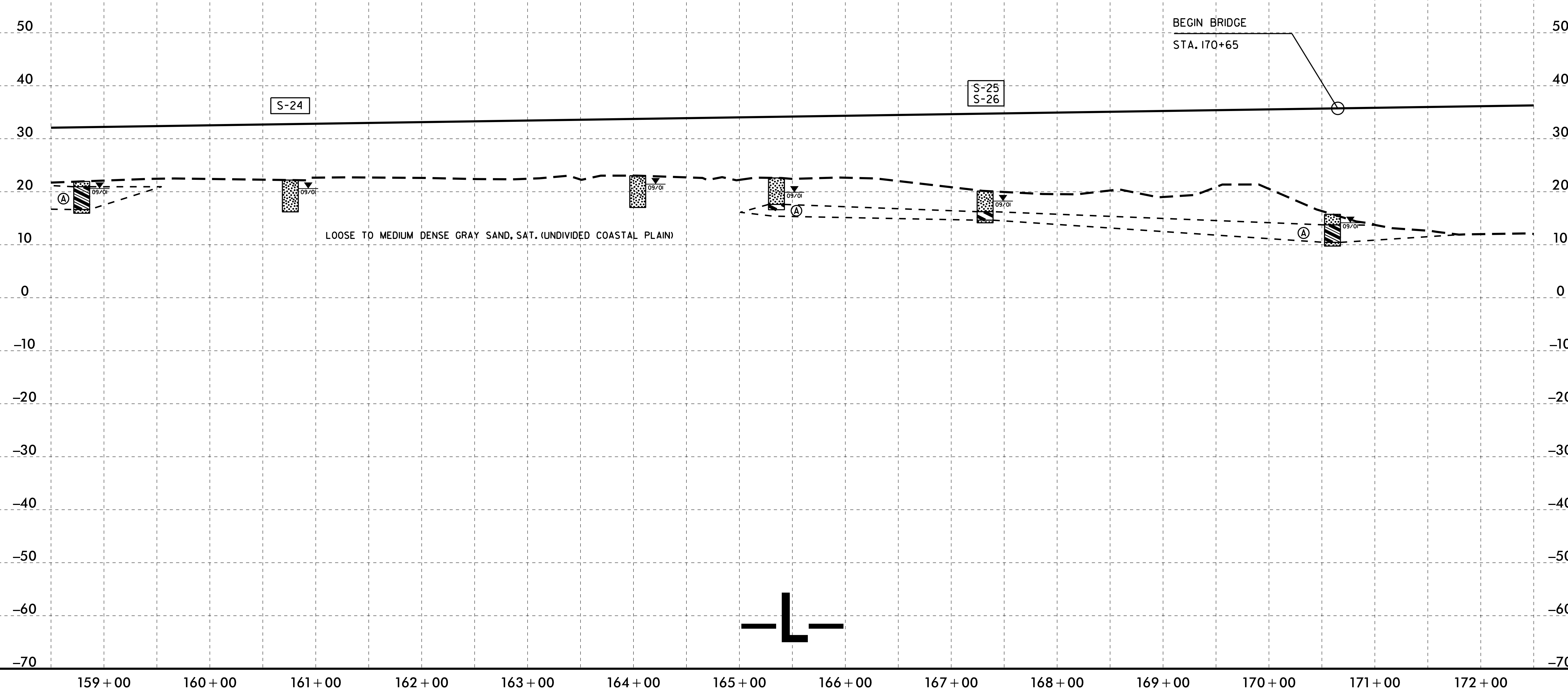
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
S-24	CL	160+76	1.0-4.6	A-2-4(0)	24	NP	4.4	71.1	6.3	18.2	99	97	27	-	-
S-25	CL	167+32	1.0-3.9	A-2-4(0)	25	10	5.7	68.5	1.6	24.2	100	98	28	-	-
S-26	CL	167+32	3.9-5.9	A-7-6(16)	51	30	2.0	38.8	10.7	48.5	100	100	62	44.0	-

Ⓐ SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY, WET (UNDIVIDED COASTAL PLAIN)



ROADWAY DESIGN ENGINEER

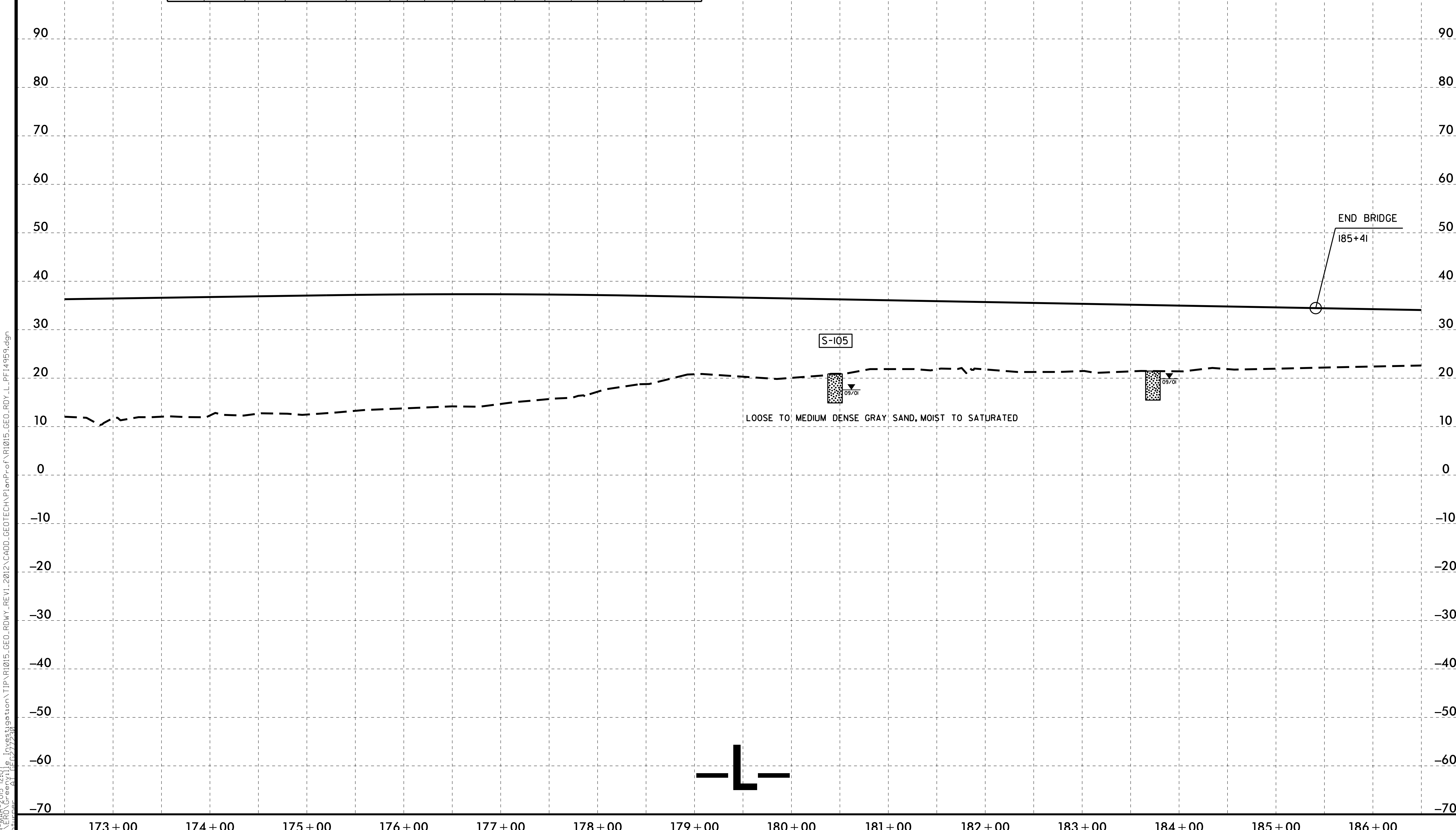
HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-105	CL	180+44	1.0-6.2	A-2-4(0)	18	NP	4.6	76.8	4.4	14.1	100	99	33	-	-



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PROJECT REFERENCE NO.	SHEET NO.
R–1015	60

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

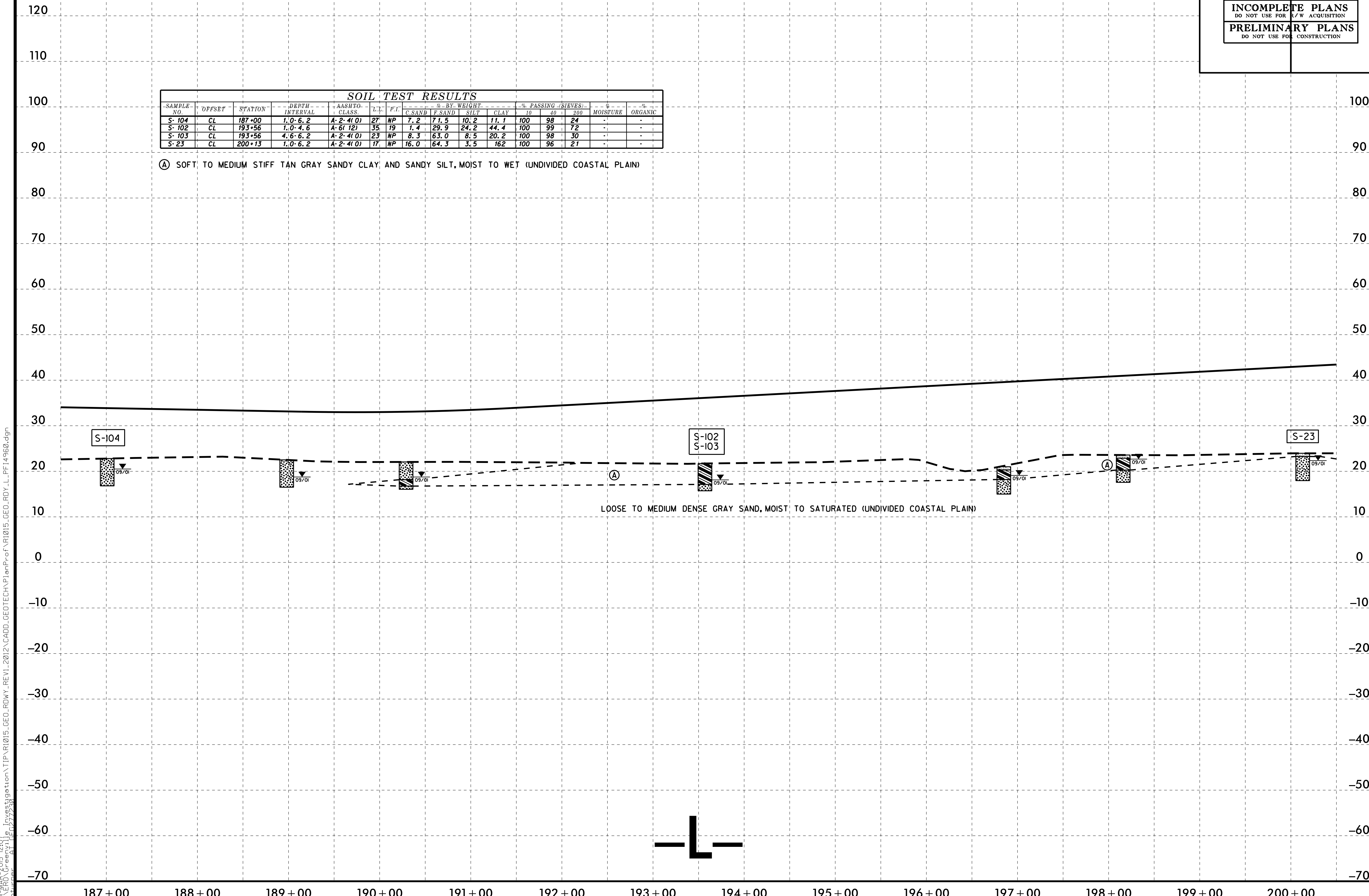
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
S-104	CL	187+00	1.0-6.2	A-2-4(0)	27	NP	7.2	71.5	10.2	11.1	100	98	24	-	-
S-102	CL	193+56	1.0-4.6	A-6(12)	35	19	1.4	29.9	24.2	44.4	100	99	72	-	-
S-103	CL	193+56	4.6-6.2	A-2-4(0)	23	NP	8.3	63.0	8.5	20.2	100	98	30	-	-
S-23	CL	200+13	1.0-6.2	A-2-4(0)	17	NP	16.0	64.3	3.5	162	100	96	21	-	-

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



PROJECT REFERENCE NO.	SHEET NO.
R-1015	61

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

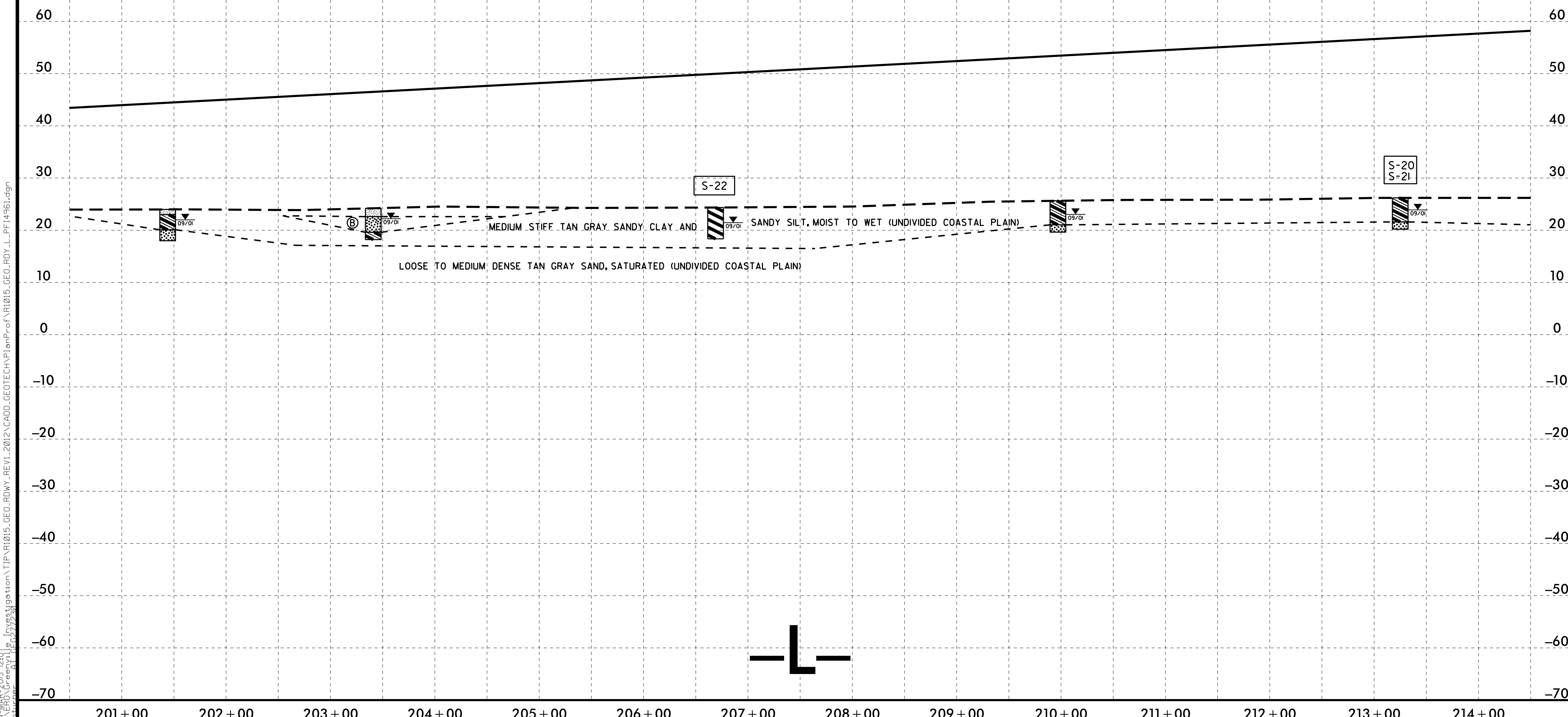
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-22	CL	206+69	1.0-6.2	A-7-6(13)	45	25	10.9	29.1	9.5	50.5	100	97	61	-	-
S-20	CL	213+25	1.0-4.6	A-6(5)	31	17	9.5	41.8	10.3	38.4	100	98	50	24.0	-
S-21	CL	213+25	4.6-6.2	A-2-4(0)	17	NP	10.7	69.9	3.2	16.2	100	95	20	-	-

Ⓑ LOOSE TO MEDIUM DENSE TAN GRAY SAND, MOIST TO SAT. (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	62
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

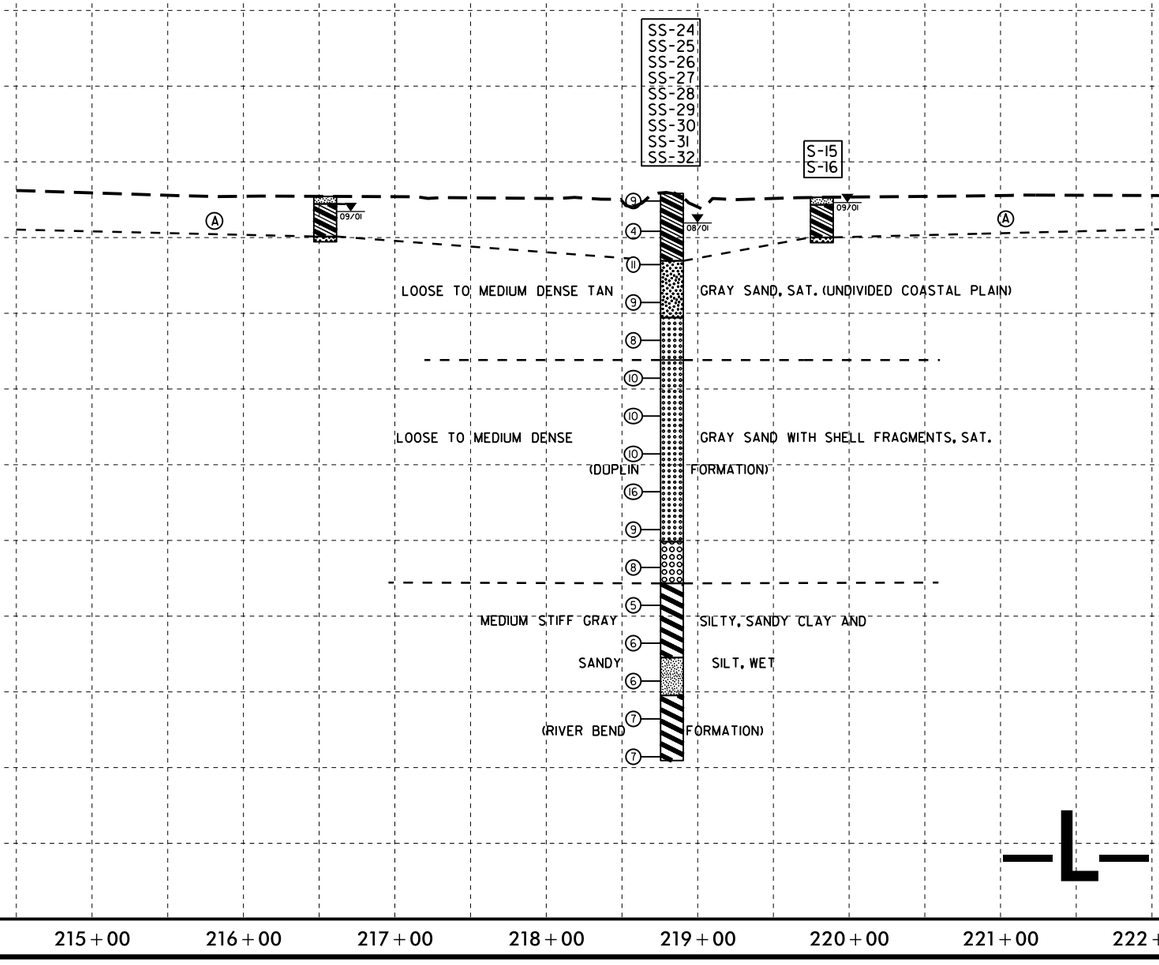
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C SAND	F SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-24	CL	218+83	1.0-1.5	A-6(2)	29	15	11.1	50.5	10.1	28.3	99	96	39	22.1	-
SS-25	CL	218+83	8.9-9.9	A-2-4(0)	21	NP	3.8	76.4	9.7	10.1	100	99	22	-	-
SS-26	CL	218+83	18.4-19.9	A-3(0)	21	NP	13.1	79.2	3.6	4.0	100	97	8	-	-
SS-27	CL	218+83	28.4-29.9	A-3(0)	20	NP	3.2	91.4	2.3	3.0	100	100	6	-	-
SS-28	CL	218+83	38.4-39.9	A-3(0)	19	NP	42.6	52.5	1.8	3.0	100	98	5	-	-
SS-29	CL	218+83	48.4-49.9	A-1-b(0)	18	NP	82.3	13.3	0.3	4.0	97	35	5	-	-
SS-30	CL	218+83	53.4-54.9	A-7-6(15)	43	22	5.7	37.0	35.2	22.2	99	95	74	51.3	-
SS-31	CL	218+83	63.4-64.9	A-4(1)	30	8	4.0	61.2	16.6	18.2	100	98	48	53.4	-
SS-32	CL	218+83	73.4-74.8	A-7-6(29)	57	30	1.8	18.0	31.7	48.5	100	99	87	-	-
S-15	CL	219+81	1.0-5.3	A-6(8)	39	18	6.7	36.2	12.7	44.4	100	99	59	-	-
S-16	CL	219+81	5.3-6.2	A-2-4(0)	22	7	2.8	72.3	2.6	22.2	100	99	26	-	-
S-17	CL	226+37	1.0-5.3	A-6(3)	25	15	6.9	49.3	11.5	32.3	100	99	46	20.7	-
S-18	CL	226+37	5.3-6.2	A-2-4(0)	19	NP	16.1	64.6	1.1	18.2	100	97	20	-	-

Ⓐ SOFT TO STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)

Ⓑ SOFT TO STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST (ARTIFICIAL FILL)



PROJECT REFERENCE NO.	SHEET NO.
R–1015	63

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

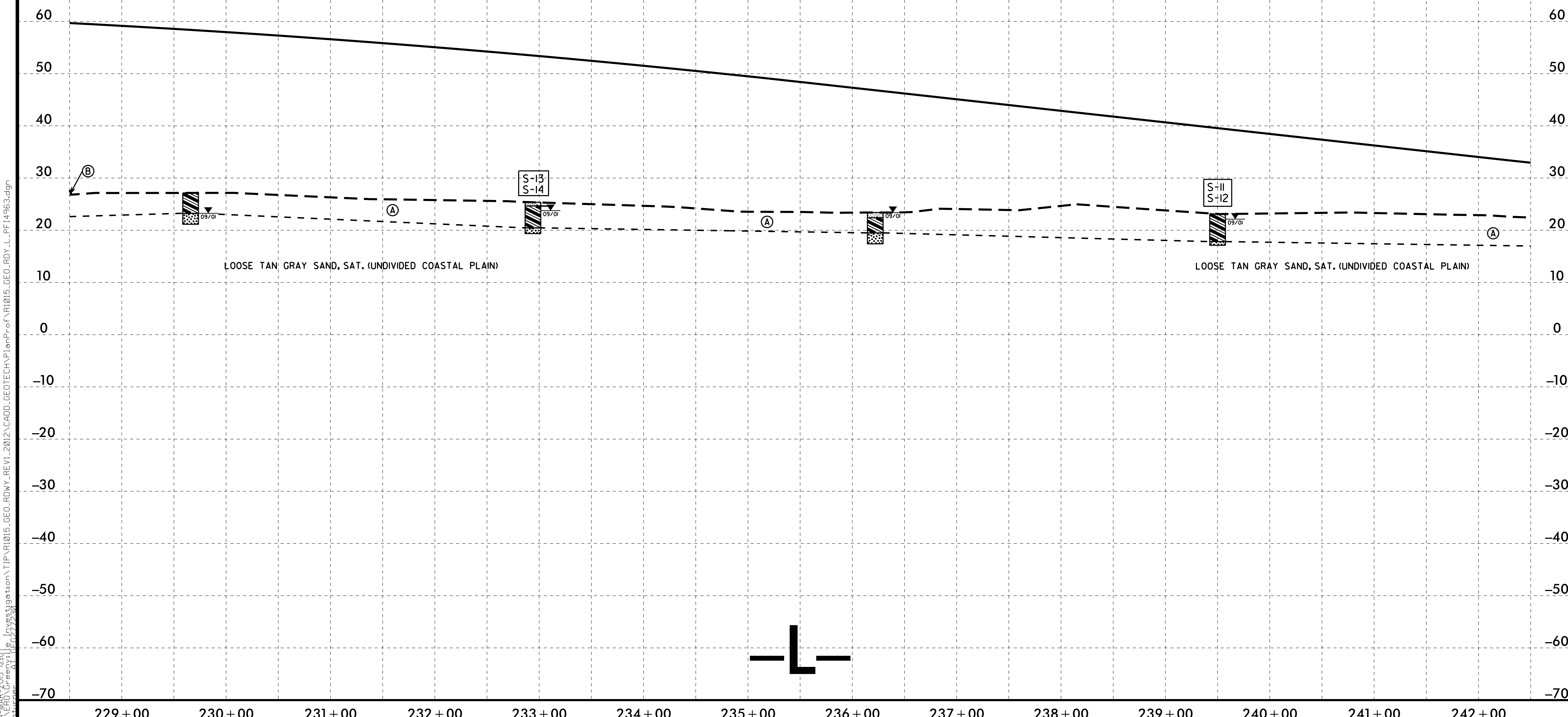
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
S-13	CL	232+93	1.0-4.9	A-6(5)	35	18	8.3	45.9	9.5	36.4	100	99	48	-	-
S-14	CL	232+93	4.9-6.2	A-2-4(0)	21	NP	9.1	72.6	3.1	15.2	100	99	20	-	-
S-11	CL	239+50	1.0-5.3	A-6(4)	33	16	9.9	44.0	9.7	36.4	100	99	48	26.7	-
S-12	CL	239+50	5.3-6.2	A-2-4(0)	23	4	14.6	60.0	2.1	23.2	100	98	26	-	-

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)

(B) SOFT TO STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST (ARTIFICIAL FILL)



PROJECT REFERENCE NO.	SHEET NO.
R-1015	64
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C SAND	F SAND	SILT	CLAY	% PASSING SIEVES 10	40	200	% MOISTURE	% ORGANIC
SS-1	CL	244+75	1.0-1.5	A-2-4(0)	19	6	19.4	50.5	9.9	20.2	99	93	31	-	-
SS-2	CL	244+75	8.4-9.9	A-3(0)	20	NP	0.6	91.9	3.4	4.0	100	100	9	-	-
SS-3	CL	244+75	18.4-19.9	A-3(0)	25	NP	7.9	87.9	2.2	2.0	100	97	6	-	-
SS-4	CL	244+75	28.4-29.9	A-3(0)	17	NP	59.0	37.6	1.4	2.0	100	87	4	-	-
SS-5	CL	244+75	38.4-39.9	A-3(0)	21	NP	28.9	62.4	0.6	8.1	100	100	9	-	-
SS-6	CL	244+75	48.4-49.9	A-3(0)	19	NP	30.7	64.6	2.6	2.0	100	95	5	-	-
SS-7	CL	244+75	58.4-59.9	A-3(0)	16	NP	68.5	25.7	3.8	2.0	97	63	7	-	-
SS-8	CL	244+75	68.4-69.9	A-3(0)	20	NP	49.7	45.9	2.4	2.0	100	72	5	-	-
S-7	CL	252+62	1.0-3.2	A-6(4)	33	15	12.7	41.4	5.5	40.4	100	99	47	18.9	2.6
S-8	CL	252+62	3.3-6.2	A-2-4(0)	22	7	15.4	60.8	1.6	22.2	100	98	24	-	-

Ⓐ SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)

Ⓒ LOOSE TAN SAND, MOIST (ROADWAY EMBANKMENT)

SS-1
SS-2
SS-3
SS-4
SS-5
SS-6
SS-7
SS-8

S-7
S-8

LOOSE TO MEDIUM DENSE TAN GRAY SAND, SAT. (UNDIVIDED COASTAL PLAIN)

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

SOFT TO MODERATELY HARD GRAY LIMESTONE (RIVER BEND FORMATION)

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

243+00 244+00 245+00 246+00 247+00 248+00 249+00 250+00 251+00 252+00 253+00 254+00 255+00 256+00

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PROJECT REFERENCE NO.	SHEET NO.
R-1015	65

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

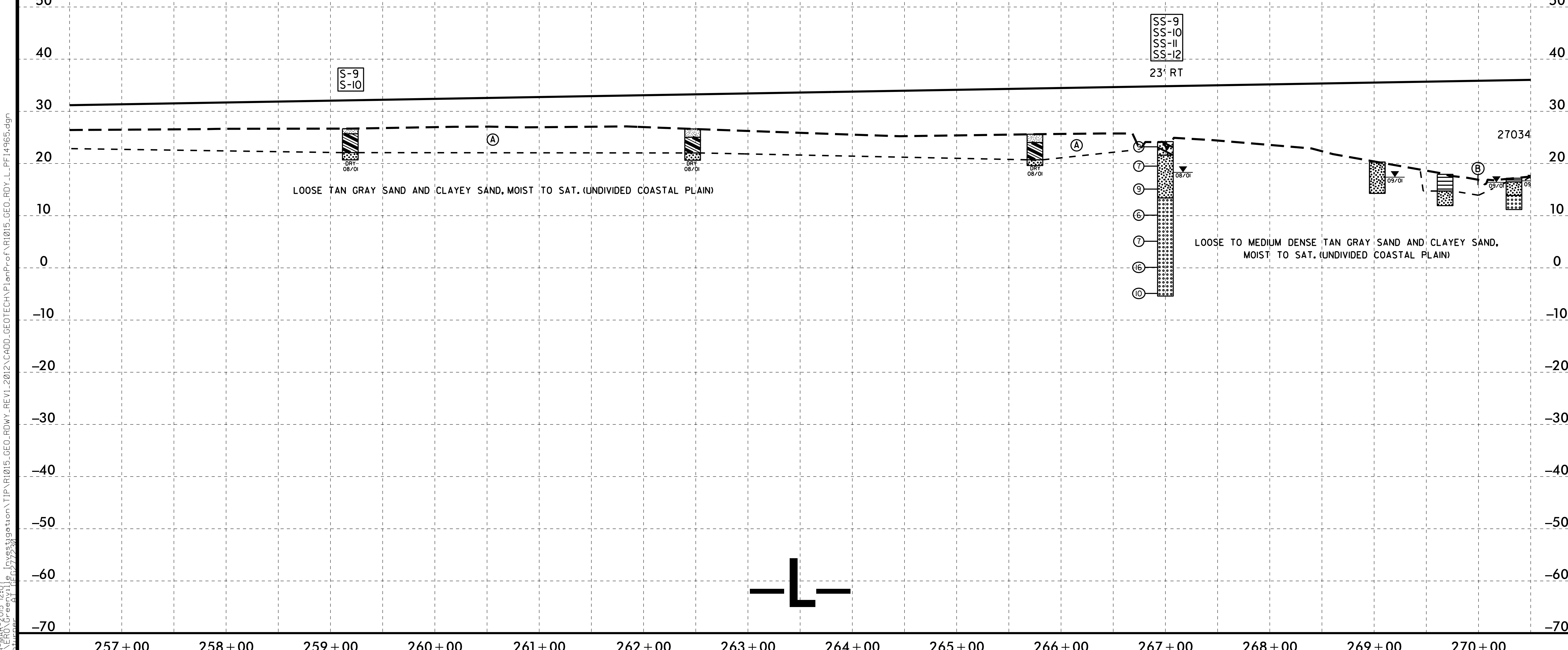
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-9	CL	259+18	1.0-4.6	A-6(5)	34	18	11.7	41.6	8.3	38.4	100	99	48	-	-
S-10	CL	259+18	4.6-6.2	A-2-4(0)	18	NP	25.1	49.4	0.4	15.2	100	98	16	-	-
SS-9	23 RT	266+99	1.0-1.5	A-2-6(1)	31	14	16.4	50.3	5.1	28.3	100	98	35	-	-
SS-10	23 RT	266+99	3.7-5.2	A-2-4(0)	19	NP	5.7	78.8	3.4	12.1	100	99	17	-	-
SS-11	23 RT	266+99	13.1-14.6	A-3(0)	21	NP	2.2	89.1	0.6	8.1	100	100	9	-	-
SS-12	23 RT	266+99	23.1-24.6	A-3(0)	21	NP	8.1	87.5	2.4	2.0	100	100	5	-	-

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
270+33	33 RT	1.0	209
270+33	33 RT	1.3	230
270+33	33 RT	1.6	1065
270+33	33 RT	2.0	835
270+33	33 RT	2.3	647
270+33	33 RT	2.6	1065
270+33	33 RT	3.0	1670
270+33	33 RT	3.3	1065
270+33	33 RT	3.6	1378

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)

(B) VERY SOFT TO STIFF BLACK MODERATELY ORGANIC SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	66

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-3	CL	272+30	1.0-2.3	A-2-4(0)	17	NP	14.5	70.6	3.7	11.1	100	98	16	-	-
S-4	CL	272+30	2.3-8.3	A-2-4(0)	27	7	2.6	71.1	4.0	22.2	100	99	27	-	-
S-5	CL	272+30	3.6-6.2	A-2-4(0)	21	NP	0.7	88.6	1.6	9.1	100	100	11	-	-
S-1	CL	278+87	1.3-3.9	A-6(3)	30	15	16.4	42.2	7.1	34.3	100	96	43	23.1	-
S-2	CL	278+87	3.9-6.2	A-2-6(0)	25	11	36.5	42.8	1.5	19.2	100	93	21	-	-
S-111	CL	284+12	1.0-3.6	A-2-5(0)	77	NP	35.8	45.9	10.3	8.1	97	75	18	380.3	27.5

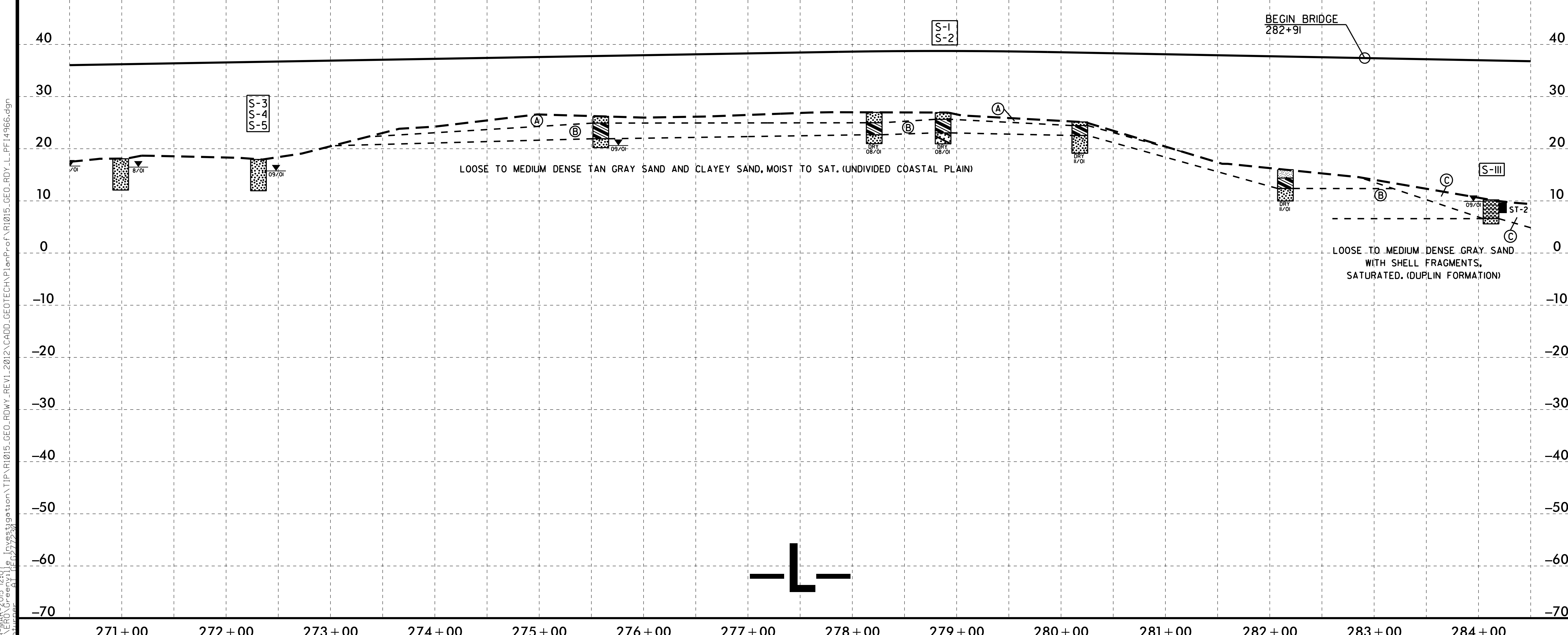
Ⓐ LOOSE TAN GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

Ⓑ SOFT MEDIUM STIFF TAN GRAY SANDY CLAY AND SANDY SILT, WET (UNDIVIDED COASTAL PLAIN)

Ⓒ VERY SOFT MUCK, MOIST TO SAT. (UNDIVIDED COASTAL PLAIN)

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
284+12	3 LT	0.3	33
284+12	3 LT	0.6	46
284+12	3 LT	1.0	29
284+12	3 LT	1.3	73
284+12	3 LT	1.6	42
284+12	3 LT	2.0	23
284+12	3 LT	2.3	48
284+12	3 LT	2.6	63
284+12	3 LT	3.0	86
284+12	3 LT	3.3	84
284+12	3 LT	3.6	113



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	67
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

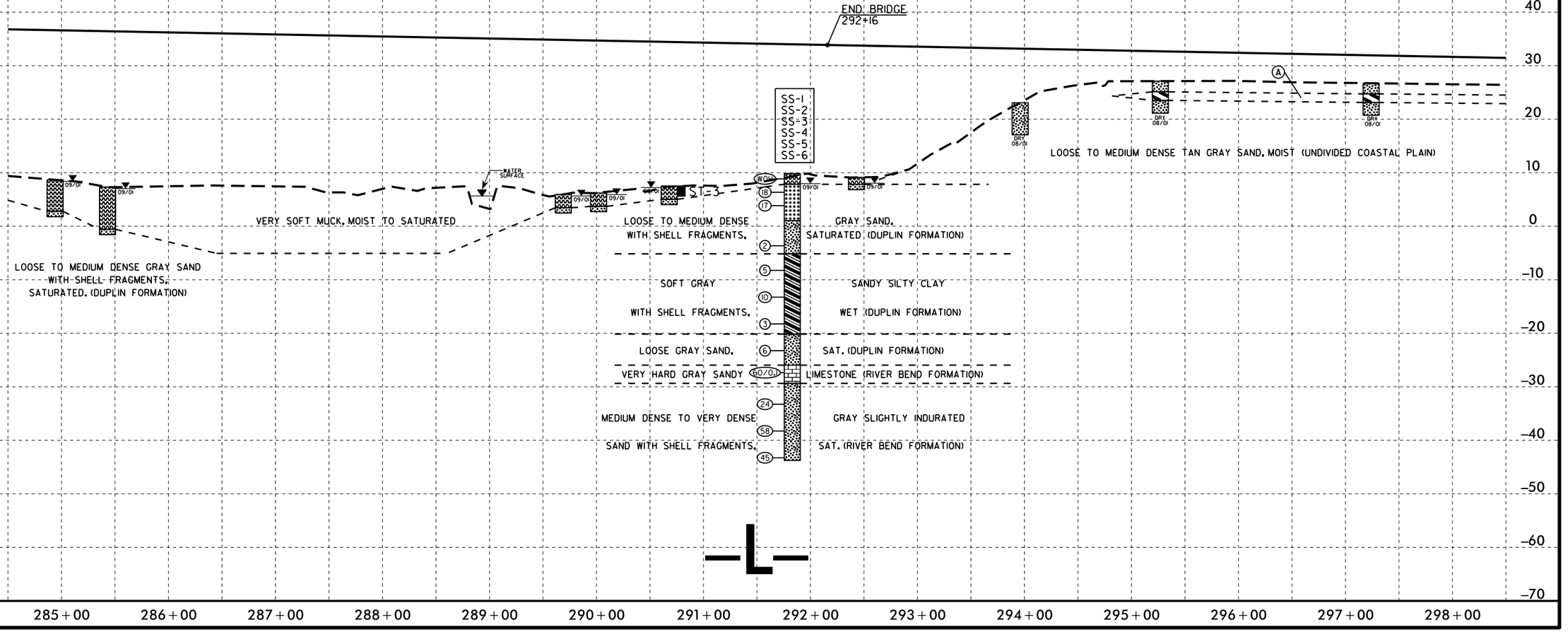
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	% BY WEIGHT F. SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) #10	#40	#200	% MOISTURE	% ORGANIC
SS-1	CL	291+83	1.0'-1.5	A-2-5(0)	65	NP	18.2	62.2	15.6	4.0	98	89	20	112.6	-
SS-2	CL	291+83	2.5'-4.0	A-3(0)	21	NP	16.1	78.7	2.2	3.0	100	99	6	-	-
SS-3	CL	291+83	12.5'-14.0	A-2-4(0)	18	NP	34.2	49.0	3.6	13.1	100	94	17	-	-
SS-4	CL	291+83	27.1'-28.6	A-6(4)	32	14	9.1	47.3	21.4	22.2	100	92	50	-	-
SS-5	CL	291+83	32.1'-33.6	A-2-4(0)	27	NP	24.1	55.9	6.9	13.1	100	93	24	-	-
SS-6	CL	291+83	52.1'-53.6	A-2-4(0)	24	NP	2.0	84.6	9.3	4.0	100	100	15	-	-

Ⓐ MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
292+42	3' LT	0.7	17
292+42	3' LT	1.0	50



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ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

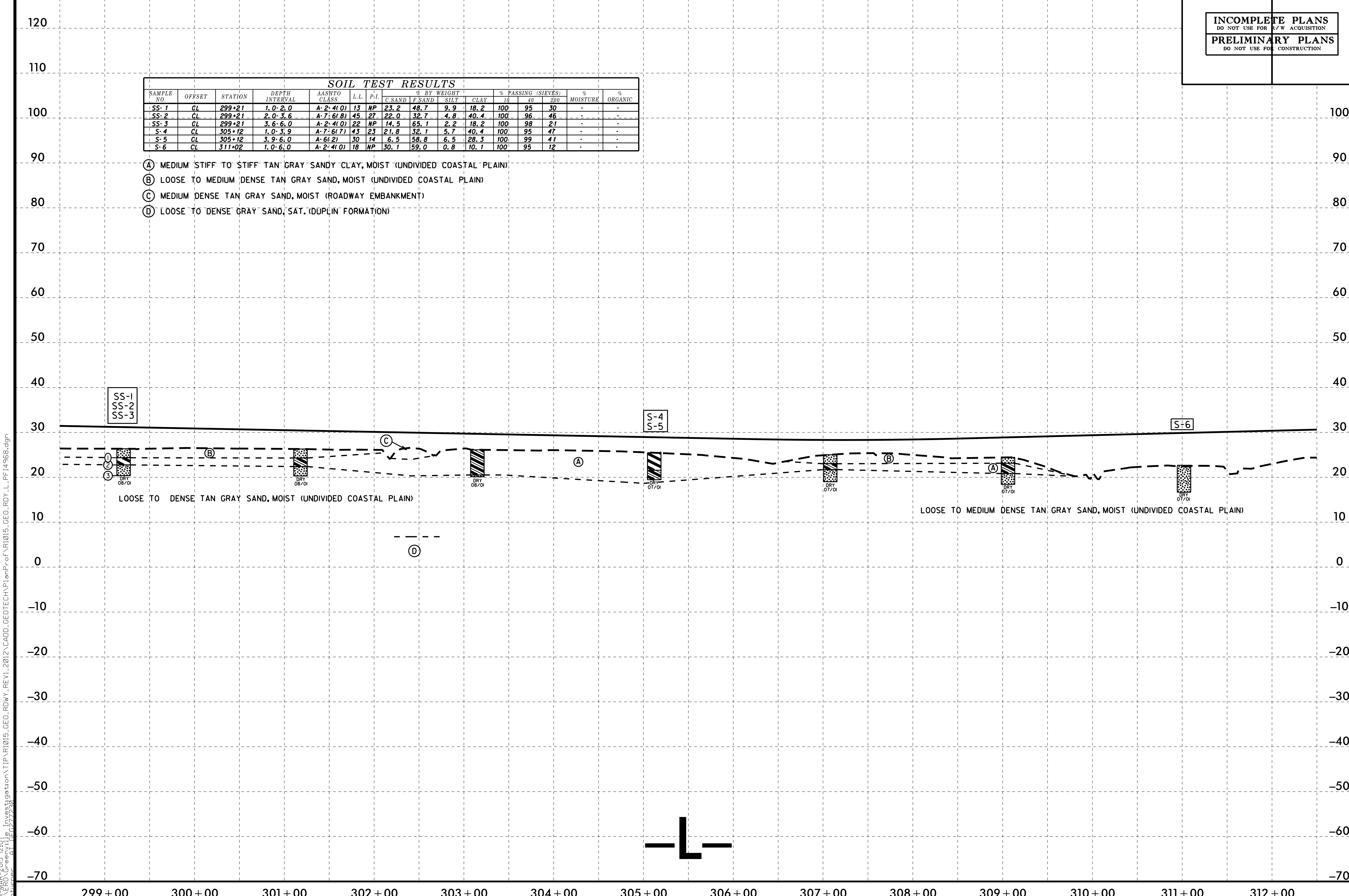
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-1	CL	299+21	1.0-2.0	A-2-4(0)	13	NP	23.2	48.7	9.9	18.2	100	95	30	-	-
SS-2	CL	299+21	2.0-3.6	A-7-6(8)	45	27	22.0	32.7	4.8	40.4	100	96	46	-	-
SS-3	CL	299+21	3.6-6.0	A-2-4(0)	22	NP	14.5	65.1	2.2	18.2	100	98	21	-	-
S-4	CL	305+12	1.0-3.9	A-7-6(7)	43	23	21.8	32.1	5.7	40.4	100	95	47	-	-
S-5	CL	305+12	3.9-6.0	A-6(2)	30	14	6.5	58.8	6.5	28.3	100	99	41	-	-
S-6	CL	311+02	1.0-6.0	A-2-4(0)	18	NP	30.1	59.0	0.8	10.1	100	95	12	-	-

(A) MEDIUM STIFF TO STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)

(B) LOOSE TO MEDIUM DENSE TAN GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(C) MEDIUM DENSE TAN GRAY SAND, MOIST (ROADWAY EMBANKMENT)

(D) LOOSE TO DENSE GRAY SAND, SAT. (DUPLIN FORMATION)



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PROJECT REFERENCE NO.	SHEET NO.
R–1015	69

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

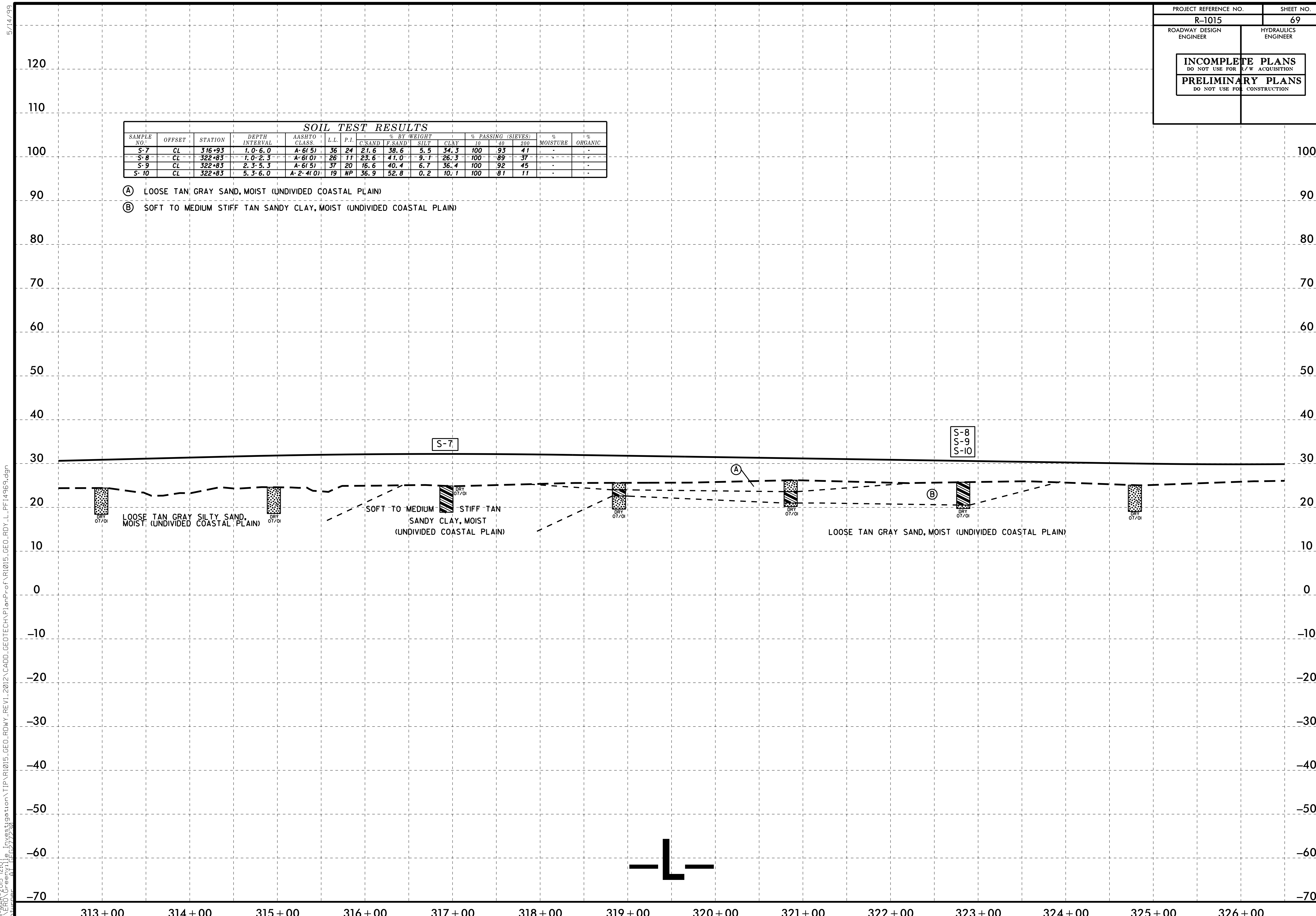
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-7	CL	316+93	1.0-6.0	A-6(5)	36	24	21.6	38.6	5.5	34.3	100	93	41	-	-
S-8	CL	322+83	1.0-2.3	A-6(0)	26	11	23.6	41.0	9.1	26.3	100	89	37	-	-
S-9	CL	322+83	2.3-5.3	A-6(5)	37	20	16.6	40.4	6.7	36.4	100	92	45	-	-
S-10	CL	322+83	5.3-6.0	A-2-4(0)	19	NP	36.9	52.8	0.2	10.1	100	81	11	-	-

(A) LOOSE TAN GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(B) SOFT TO MEDIUM STIFF TAN SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	70

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

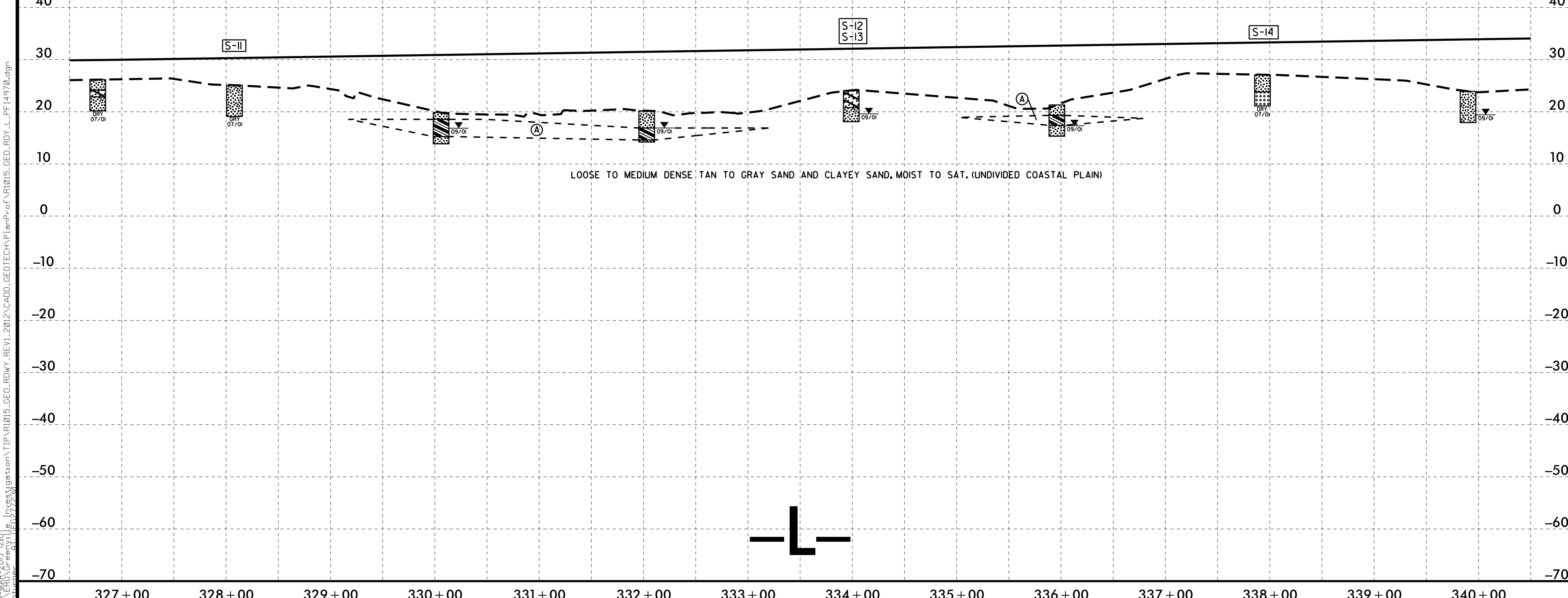
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S- 11	CL	328+08	1.0-6.0	A-2-4(0)	17	2	24.6	47.9	7.3	20.2	100	89	29	-	-
S- 12	CL	333+99	1.0-3.3	A-2-6(1)	33	17	23.8	43.0	2.8	30.3	100	89	34	-	-
S- 13	CL	333+99	3.3-6.0	A-2-4(0)	21	NP	1.6	85.6	1.7	11.1	100	100	15	-	-
S- 14	CL	337+92	3.3-6.0	A-3(0)	21	NP	22.5	75.9	0.6	1.0	100	99	2	-	-

(A) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	71

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

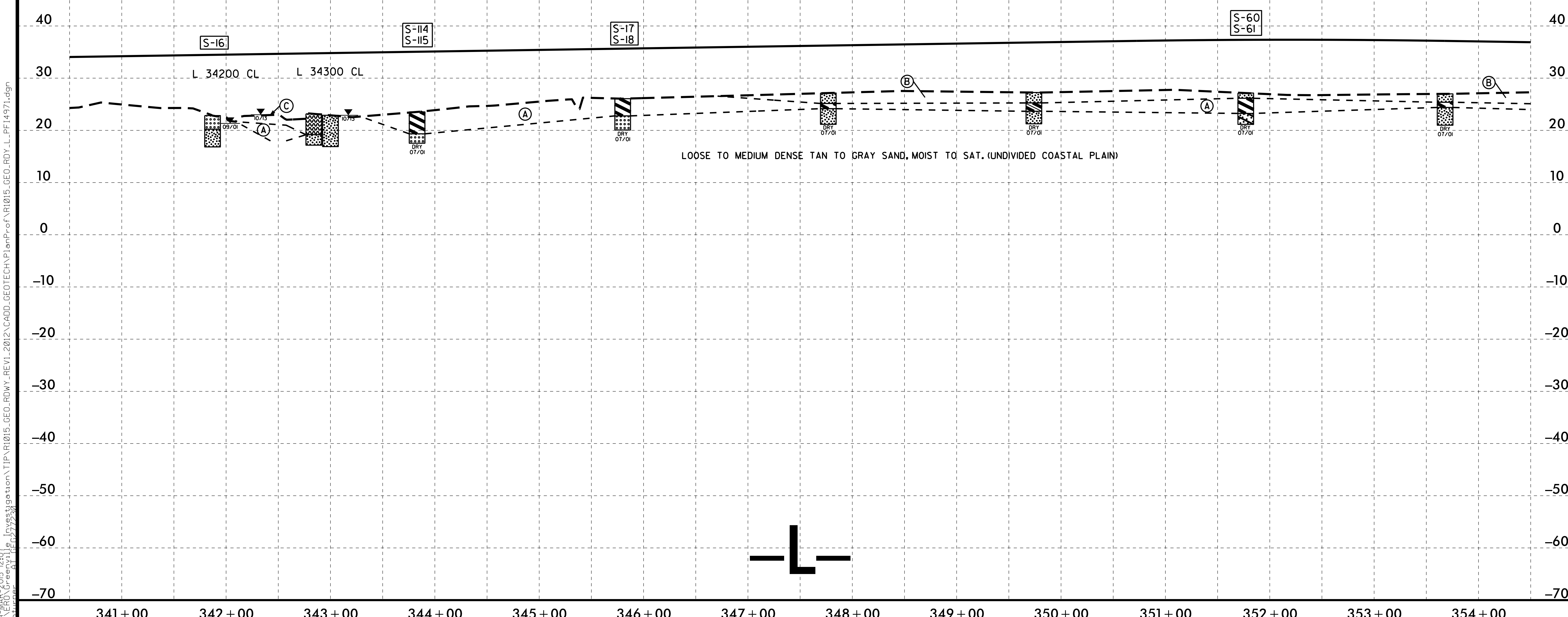
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-16	CL	341+86	1.0-2.6	A-3(0)	36	NP	39.4	51.5	3.0	6.1	100	89	10	-	-
S-114	CL	343+83	1.0-4.3	A-7-5(17)	59	19	8.7	17.6	25.3	48.5	100	97	75	-	-
S-115	CL	343+83	4.3-6.0	A-3(0)	21	NP	47.2	49.7	0.1	3.0	100	90	3	-	-
S-17	CL	345+80	1.0-3.3	A-7-6(12)	48	26	10.5	35.1	9.7	44.6	100	97	56	-	-
S-18	CL	345+80	3.3-6.0	A-3(0)	20	NP	19.1	72.3	0.5	8.1	100	95	9	-	-
S-60	CL	351+71	1.0-3.9	A-7-6(12)	46	26	12.5	31.5	11.5	44.4	100	96	58	-	-
S-61	CL	351+71	3.9-6.0	A-2-6(0)	28	15	56.5	24.7	0.6	18.2	100	70	19	-	-

(A) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)

(B) LOOSE TAN SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(C) SOFT BROWN MUCK, MOIST TO SAT. (UNDIVIDED C.P.)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	72
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

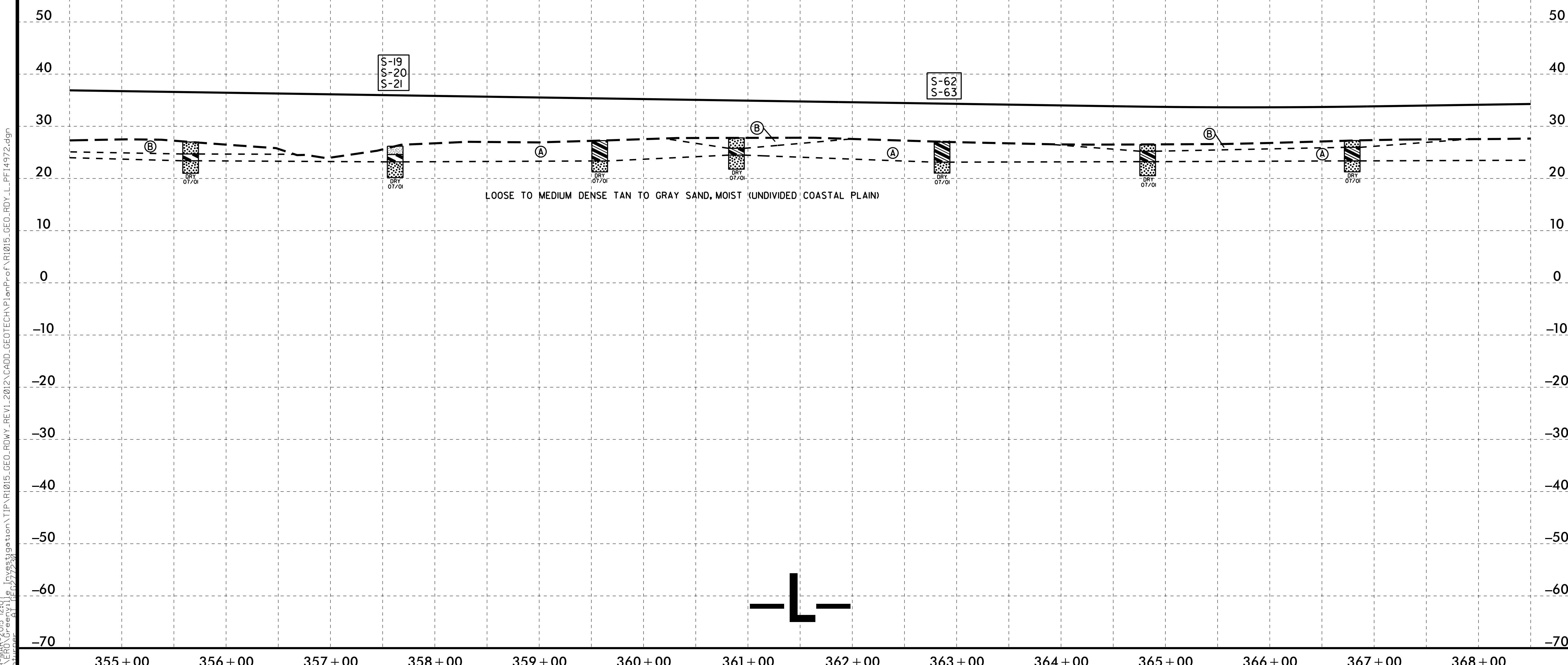
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-19	CL	357+61	1.0-1.6	A-4(0)	23	8	15.4	46.2	12.0	26.4	100	95	40	-	-
S-20	CL	357+61	1.6-3.0	A-7-6(12)	46	27	11.8	35.1	10.5	42.6	100	97	56	-	-
S-21	CL	357+61	3.0-6.0	A-2-4(0)	17	NP	30.4	55.8	2.6	11.2	100	93	15	-	-
S-62	CL	362+86	1.0-3.9	A-6(5)	35	18	12.3	39.2	12.1	36.4	100	97	50	-	-
S-63	CL	362+86	3.9-6.0	A-2-4(0)	16	NP	51.0	34.1	0.7	14.1	100	84	17	-	-

(A) MEDIUM STIFF TAN SANDY CLAY AND SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)
(B) LOOSE TAN SAND AND SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)



PROJECT REFERENCE NO.	SHEET NO.
R-1015	73

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
S-22	CL	368+77	1.0-4.3	A-6(5)	36	17	8.5	41.0	12.0	38.5	100	98	51	-	-
S-23	CL	368+77	4.3-6.0	A-2-4(0)	27	10	35.1	43.2	1.4	20.3	100	89	23	-	-
S-66	CL	374+67	1.6-3.3	A-4(0)	24	10	18.4	43.2	10.1	28.3	100	95	39	-	-
S-67	CL	374+67	3.3-5.3	A-7-6(12)	45	24	13.1	31.9	12.5	42.4	100	95	59	-	-
S-68	CL	374+67	5.3-6.0	A-2-4(0)	23	5	29.3	49.8	4.7	16.2	100	90	22	-	-
S-107	CL	375+16	1.0-4.3	A-7-5(9)	54	20	18.2	29.5	22.0	30.3	100	93	53	35.8	15.6
S-24	CL	380+58	1.0-3.9	A-6(2)	27	11	13.8	42.8	15.0	28.4	100	96	46	30.3	-
S-25	CL	380+58	3.9-6.0	A-2-4(0)	21	4	31.6	48.9	2.2	17.2	100	89	20	-	-

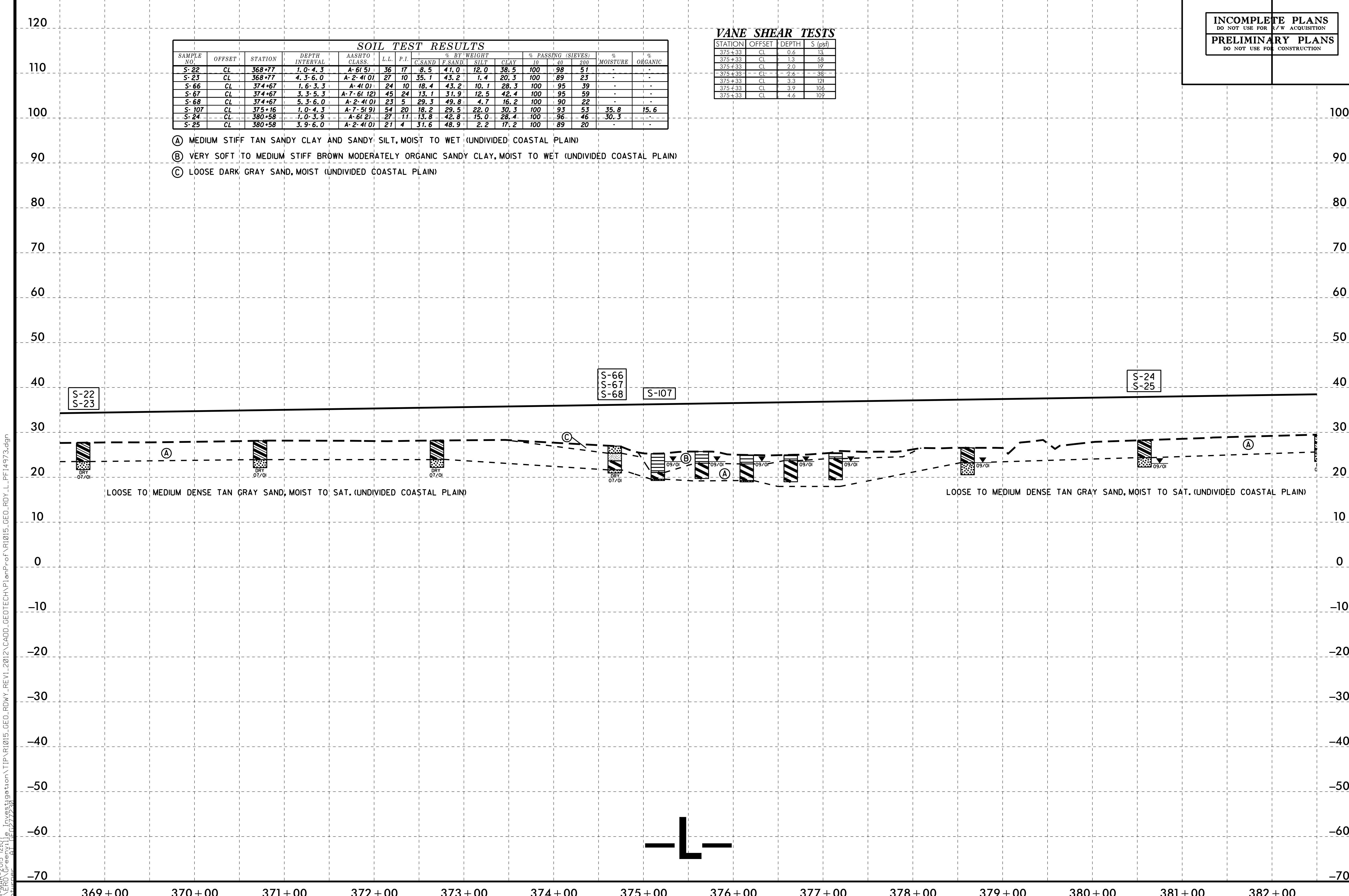
(A) MEDIUM STIFF TAN SANDY CLAY AND SANDY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

(B) VERY SOFT TO MEDIUM STIFF BROWN MODERATELY ORGANIC SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

(C) LOOSE DARK GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
375+33	CL	0.6	13
375+33	CL	1.3	58
375+33	CL	2.0	19
375+33	CL	2.6	38
375+33	CL	3.3	121
375+33	CL	3.9	106
375+33	CL	4.6	109



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PROJECT REFERENCE NO.	SHEET NO.
R–1015	74
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

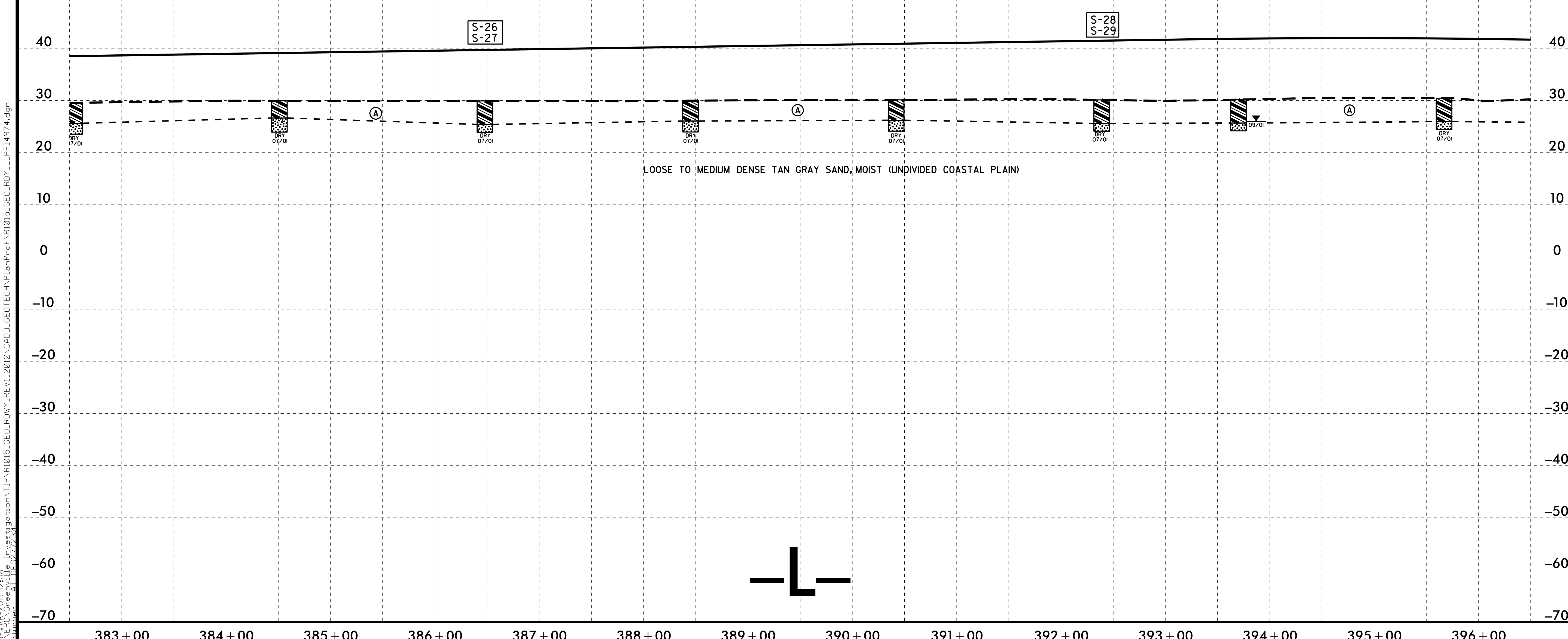
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-26	CL	386+48	1.0-4.6	A-6(2)	29	13	11.0	49.3	11.4	28.4	100	97	41	-	-
S-27	CL	386+48	4.6-6.0	A-2-4(0)	18	NP	27.8	61.6	1.5	9.1	100	94	11	-	-
S-28	CL	392+39	1.0-4.6	A-6(7)	38	19	7.9	39.8	11.8	40.6	100	98	54	-	-
S-29	CL	392+39	4.6-6.0	A-2-4(0)	20	2	15.6	61.6	4.6	18.3	100	95	23	-	-

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	75

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

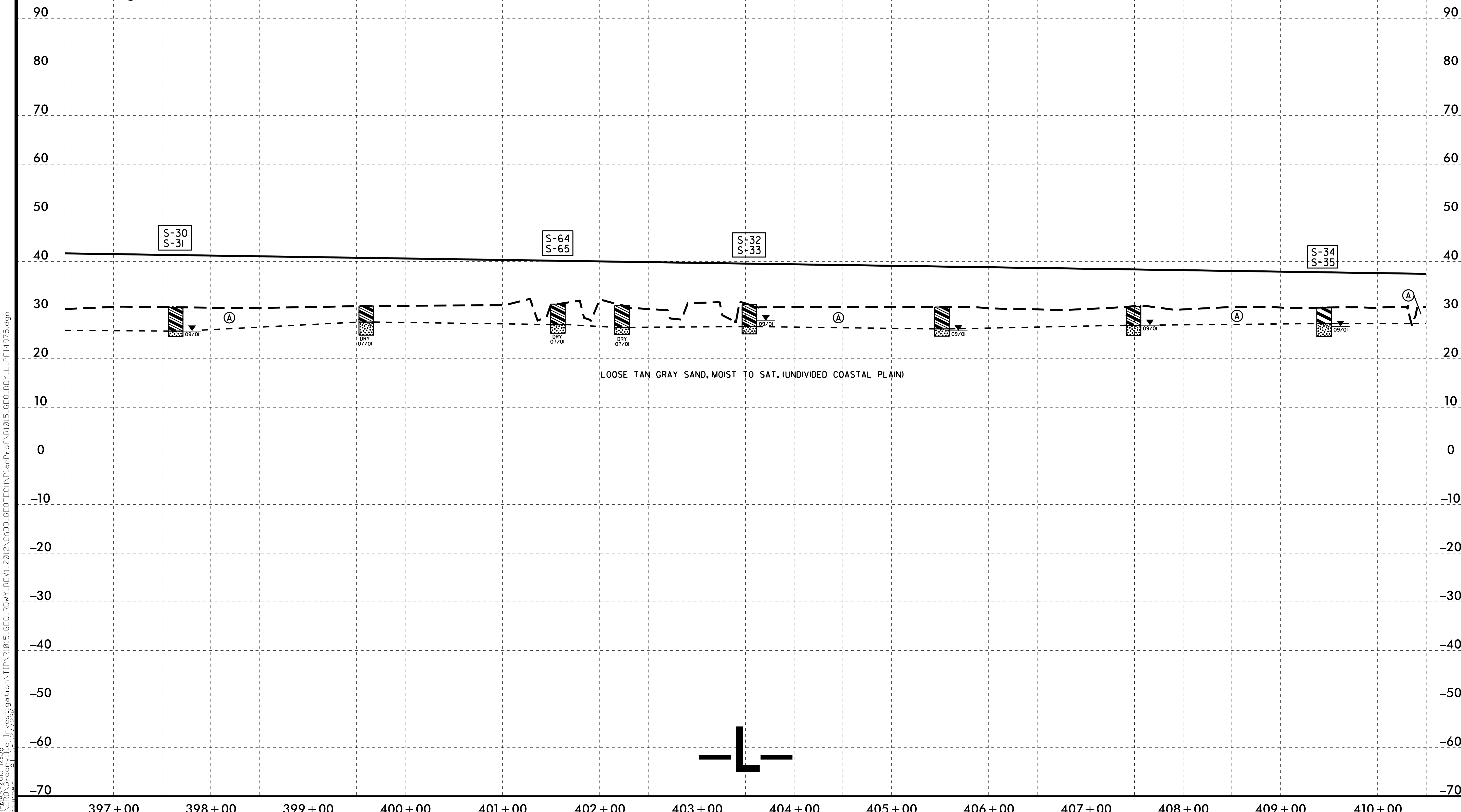
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-30	CL	397+64	1.0-4.9	A-6(7)	36	16	3.7	40.0	13.8	42.6	100	99	58	-	-
S-31	CL	397+64	4.9-6.0	A-2-4(0)	22	5	7.5	65.9	7.3	19.3	100	99	30	-	-
S-64	CL	401+57	2.0-4.3	A-6(4)	30	12	4.8	43.0	11.7	40.4	100	99	55	36.1	-
S-65	CL	401+57	4.3-6.0	A-2-4(0)	23	6	4.1	75.3	2.4	18.2	100	98	22	-	-
S-32	CL	403+54	1.0-4.6	A-6(6)	35	19	6.5	44.8	12.2	36.5	100	99	50	-	-
S-33	CL	403+54	4.6-6.0	A-2-4(0)	18	NP	10.5	75.2	1.1	13.2	100	98	15	-	-
S-34	CL	409+45	1.0-3.3	A-7-6(13)	46	21	6.1	30.0	15.2	48.7	100	96	66	-	-
S-35	CL	409+45	3.3-6.0	A-2-4(0)	21	NP	8.1	70.5	4.2	17.2	100	98	24	-	-

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY, SILTY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	76

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

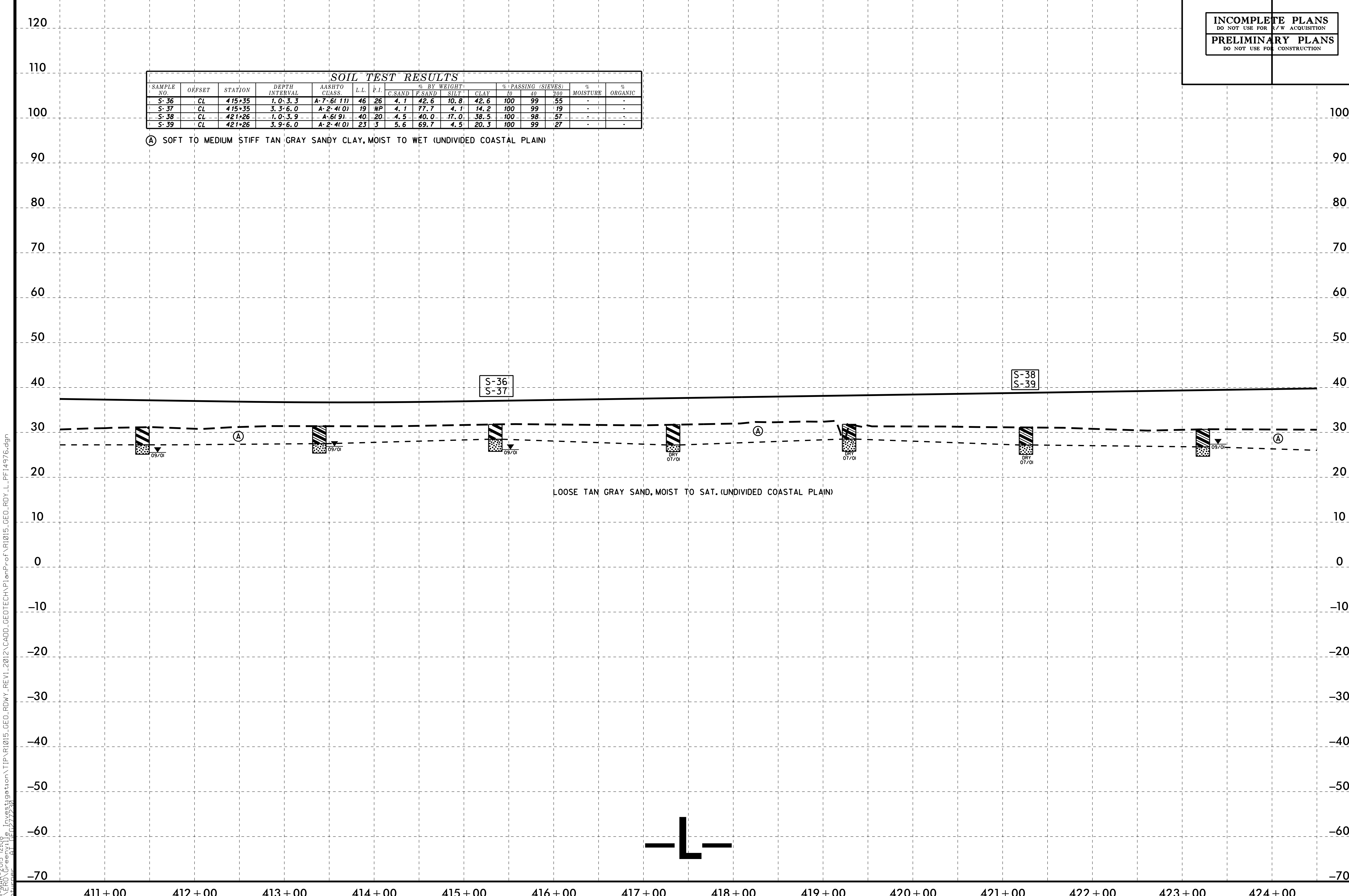
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-36	CL	415+35	1.0-3.3	A-7-6(11)	46	26	4.1	42.6	10.8	42.6	100	99	55	-	-
S-37	CL	415+35	3.3-6.0	A-2-4(0)	19	NP	4.1	77.7	4.1	14.2	100	99	19	-	-
S-38	CL	421+26	1.0-3.9	A-6(9)	40	20	4.5	40.0	17.0	38.5	100	98	57	-	-
S-39	CL	421+26	3.9-6.0	A-2-4(0)	23	3	5.6	69.7	4.5	20.3	100	99	27	-	-

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	77

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

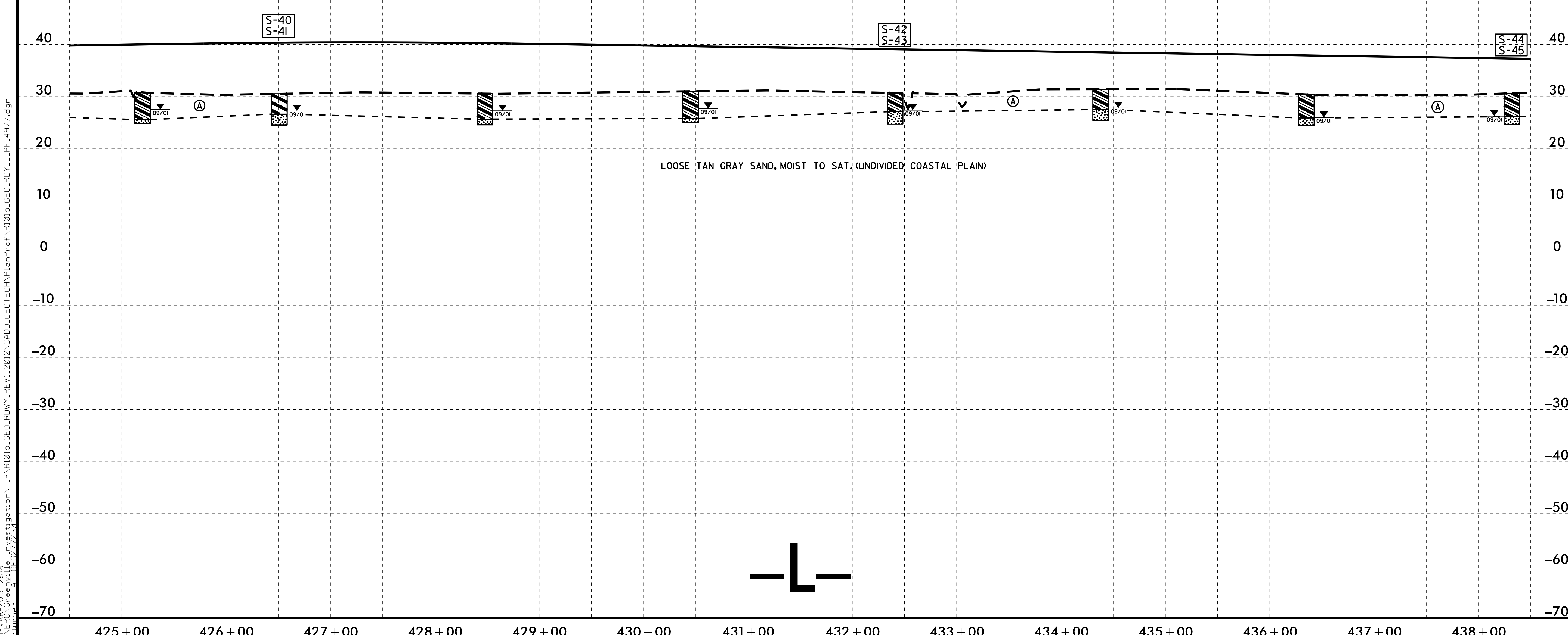
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-40	CL	426+51	1.0-3.9	A-7-6(9)	41	21	7.7	38.9	10.8	42.6	100	98	55	-	-
S-41	CL	426+51	3.9-6.0	A-2-4(0)	20	NP	9.2	72.5	2.0	16.2	100	97	19	-	-
S-42	CL	432+41	1.0-3.6	A-6(8)	39	20	13.2	34.1	12.2	40.6	100	96	54	-	-
S-43	CL	432+41	3.6-6.0	A-2-4(0)	24	5	23.2	52.4	4.1	20.3	100	94	28	-	-
S-44	CL	438+32	1.0-4.6	A-6(4)	33	17	12.7	41.4	9.5	36.4	100	96	47	-	-
S-45	CL	438+32	4.6-6.0	A-2-4(0)	20	NP	29.7	59.9	2.3	8.1	100	93	11	-	-

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



PROJECT REFERENCE NO.	SHEET NO.
R–1015	78

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

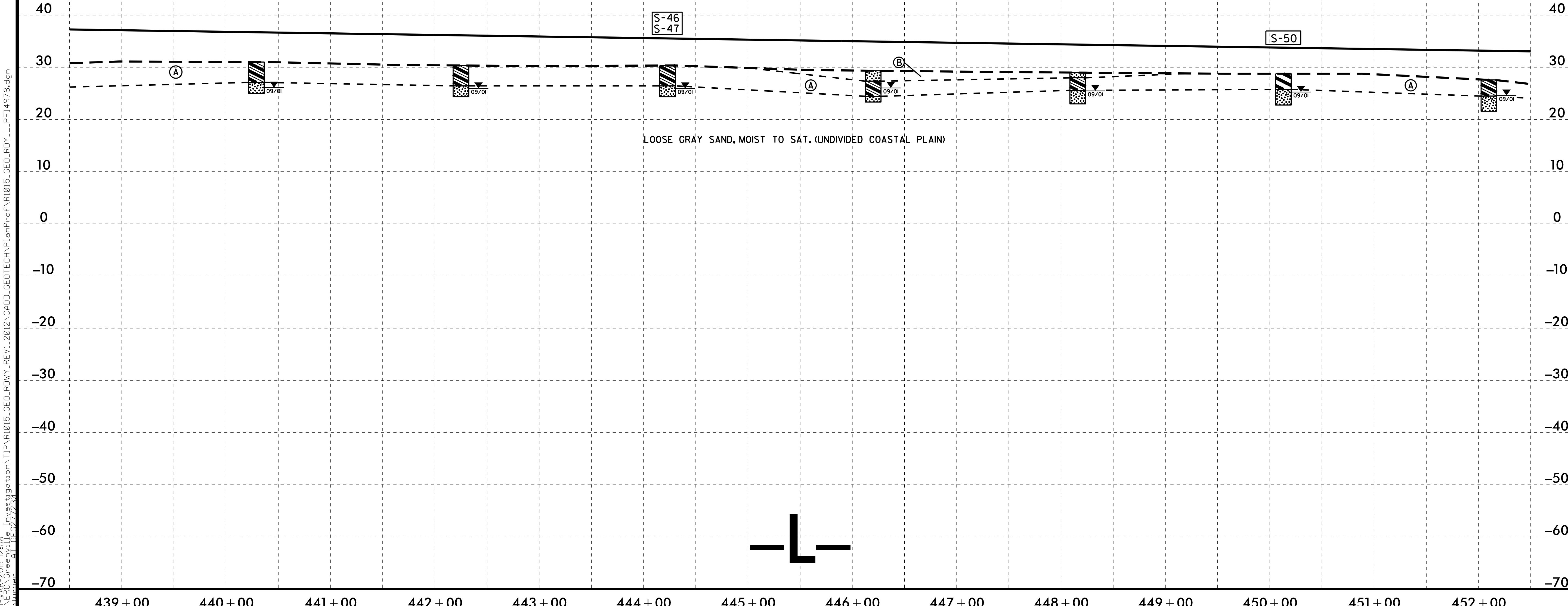
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-46	CL	444+23	1.0-3.9	A-6(10)	40	22	9.3	34.3	13.9	42.4	100	98	58	-	-
S-47	CL	444+23	3.9-6.0	A-2-4(0)	19	4	30.6	50.3	3.9	15.2	100	91	20	-	-
S-50	CL	450+13	1.0-3.0	A-7-6(13)	44	27	12.1	31.3	12.1	44.4	100	96	59	-	-

(A) SOFT TO MEDIUM STIFF GRAY BROWN SANDY TO SILTY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

(B) LOOSE GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	79

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
S-48	CL	456+04	1.0-3.6	A-7-6(16)	47	26	4.2	32.1	17.2	46.5	100	98	67	-	-
S-49	CL	456+04	3.6-6.0	A-2-4(0)	20	5	38.4	43.6	2.8	15.2	100	85	19	-	-
S-102	CL	463+25	1.0-3.3	A-4(1)	24	9	12.3	46.7	10.7	30.3	100	96	43	-	-
S-103	CL	463+25	3.3-6.0	A-2-4(0)	18	NP	33.6	50.9	2.3	13.1	100	86	16	-	-

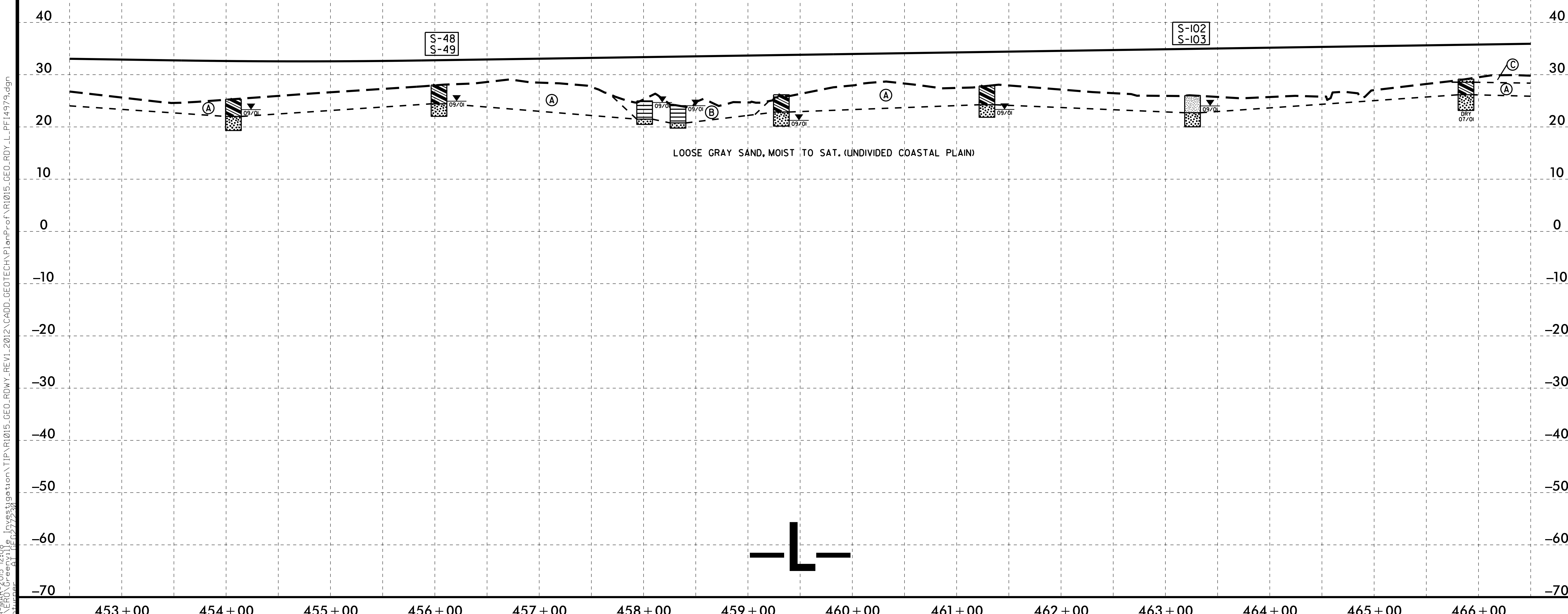
Ⓐ SOFT TO MEDIUM STIFF TAN BROWN SANDY CLAY AND SANDY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

Ⓑ MEDIUM STIFF MODERATELY ORGANIC SILTY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

Ⓒ LOOSE TAN BROWN SAND, MOIST (UNDIVIDED COASTAL PLAIN)

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
458+00	3 RT	0.6	142
458+00	3 RT	1.3	104
458+00	3 RT	2.0	113
458+00	3 RT	2.6	129



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PROJECT REFERENCE NO.	SHEET NO.
R–1015	80

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

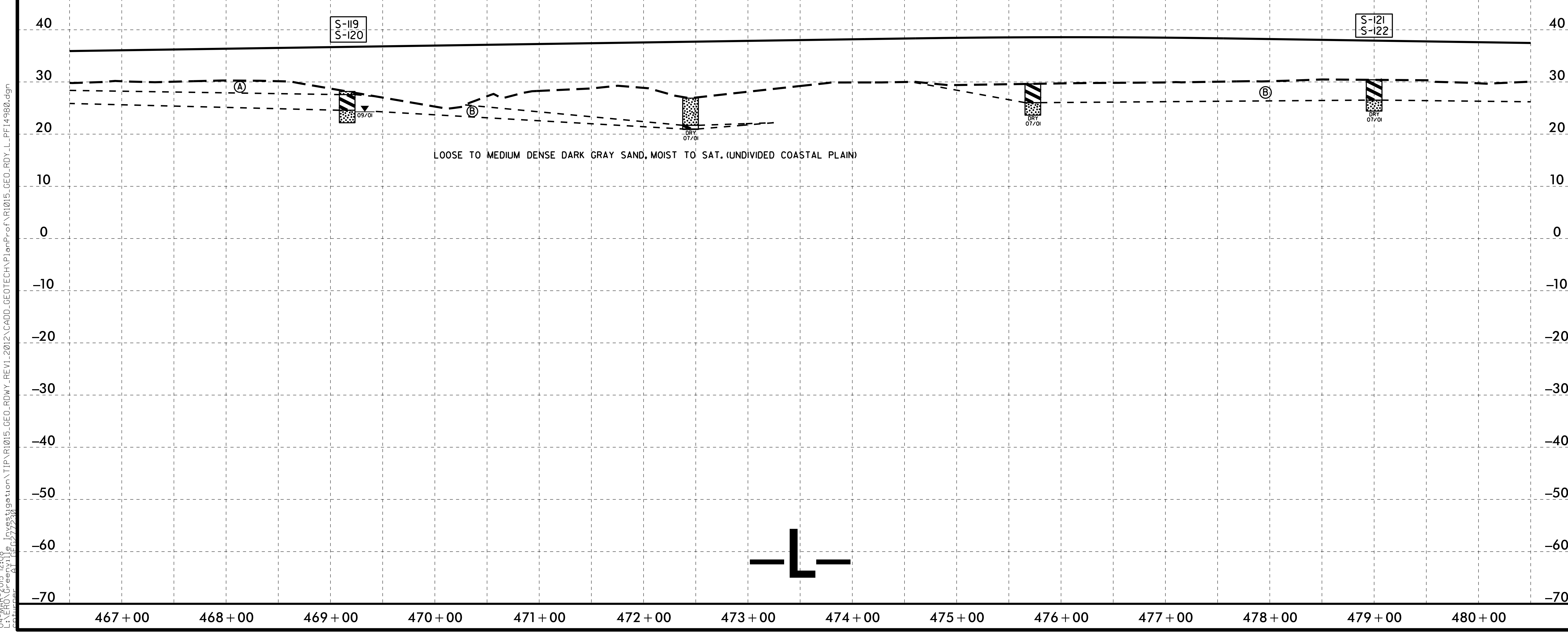
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-119	CL	469+16	0.6-3.6	A-7-6(11)	44	26	8.9	36.2	10.3	44.5	100	97	56	-	-
S-120	CL	469+16	3.6-6.2	A-2-4(0)	18	NP	41.8	45.5	0.5	12.1	100	87	13	-	-
S-121	CL	479+00	1.0-3.9	A-7-6(11)	44	25	7.3	37.0	9.1	46.6	100	98	57	-	-
S-122	CL	479+00	3.9-6.2	A-2-4(0)	17	NP	13.6	63.6	3.6	19.2	100	95	24	-	-

(A) LOOSE TAN BROWN SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(B) MEDIUM STIFF GRAY BROWN SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)



ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

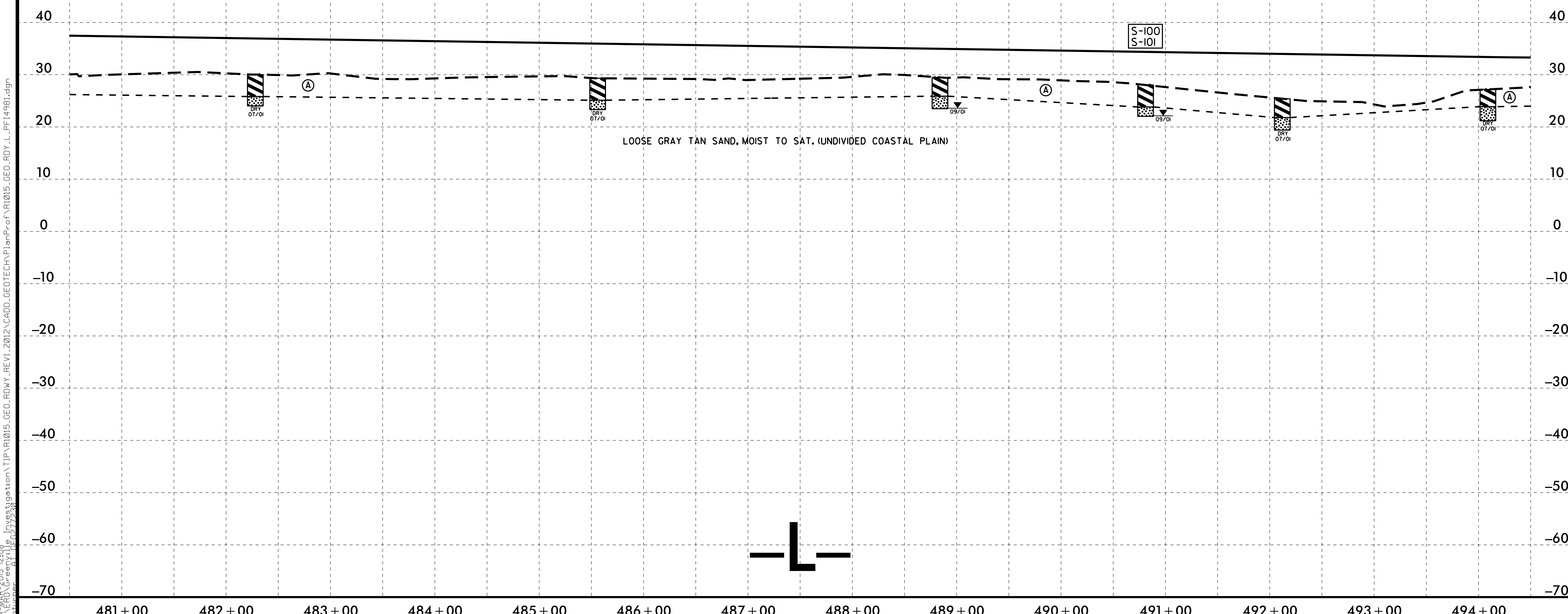
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-100	CL	490+81	1.0-4.3	A-7-6(8)	44	26	3.8	49.5	4.2	42.4	100	100	48	-	-
S-101	CL	490+81	4.3-6.0	A-2-4(0)	21	NP	7.5	70.7	3.6	18.2	100	99	25	-	-

(A) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)



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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-1015	82
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-49	CL	499+97	1.0- 1.5	A-6(5)	36	18	5.0	47.2	9.4	38.3	100	99	49	-	-
SS-50	CL	499+97	22.4- 23.9	A-2-4(0)	20	8	48.8	26.8	12.2	12.1	98	80	25	-	-
SS-51	CL	499+97	27.4- 28.9	A-2-4(0)	20	NP	2.2	76.9	10.8	10.1	100	99	25	-	-
SS-52	CL	499+97	42.4- 43.9	A-2-4(0)	23	NP	46.5	42.5	3.9	7.1	91	66	12	-	-
SS-53	CL	499+97	57.4- 58.9	A-2-4(0)	22	NP	5.4	83.4	6.2	5.0	93	90	13	-	-
SS-54	CL	499+97	67.4- 68.9	A-1-b(0)	14	NP	72.6	19.6	4.8	3.0	97	41	9	-	-
SS-40	CL	505+25	1.0- 1.5	A-6(2)	24	11	6.3	48.8	10.5	34.4	100	98	46	-	-
SS-41	CL	505+25	3.7- 5.2	A-2-5(0)	76	NP	21.9	63.6	0.4	14.2	100	89	15	-	-
SS-42	CL	505+25	12.4- 13.8	A-7-6(21)	52	31	5.7	25.6	17.8	50.8	100	100	71	-	-
SS-43	CL	505+25	22.4- 23.9	A-3(0)	19	NP	57.4	37.7	0.9	4.0	99	75	6	-	-
SS-44	CL	505+25	38.1- 38.9	A-7-6(15)	42	24	1.2	38.9	19.4	40.5	100	99	69	-	-
SS-45	CL	505+25	42.4- 43.9	A-1-b(0)	24	NP	78.0	15.6	0.3	6.1	93	35	7	-	-
SS-46	CL	505+25	57.4- 58.9	A-3(0)	19	NP	34.7	56.3	1.9	7.1	100	88	10	-	-
SS-47	CL	505+25	67.4- 68.9	A-2-4(0)	24	NP	3.0	80.1	10.8	6.1	100	99	20	-	-
SS-48	CL	505+25	72.4- 73.9	A-3(0)	21	NP	60.8	36.2	0.9	2.0	100	72	4	-	-

(A) MEDIUM STIFF TO STIFF TAN BROWN SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)

(B) LOOSE TAN SAND, MOIST (ARTIFICIAL FILL)

(C) LOOSE TO MEDIUM DENSE TAN GRAY SAND, MOIST TO SAT. (UNDIVIDED COASTAL PLAIN)

(D) MEDIUM STIFF TO STIFF GRAY SANDY CLAY, WET (DUPLIN FORMATION)

SS-49
SS-50
SS-51
SS-52
SS-53
SS-54

SS-40
SS-41
SS-42
SS-43
SS-44
SS-45
SS-46
SS-47
SS-48

VERY SOFT GRAY SANDY CLAY, MOIST TO WET (DUPLIN FORMATION)

VERY LOOSE TO VERY DENSE TAN GRAY SAND, SAT. (DUPLIN FORMATION)

SOFT TO MODERATELY HARD LIMESTONE (RIVERBEND FORMATION)

ST-5

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

495+00 496+00 497+00 498+00 499+00 500+00 501+00 502+00 503+00 504+00 505+00 506+00 507+00 508+00

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PROJECT REFERENCE NO.	SHEET NO.
R-1015	83

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

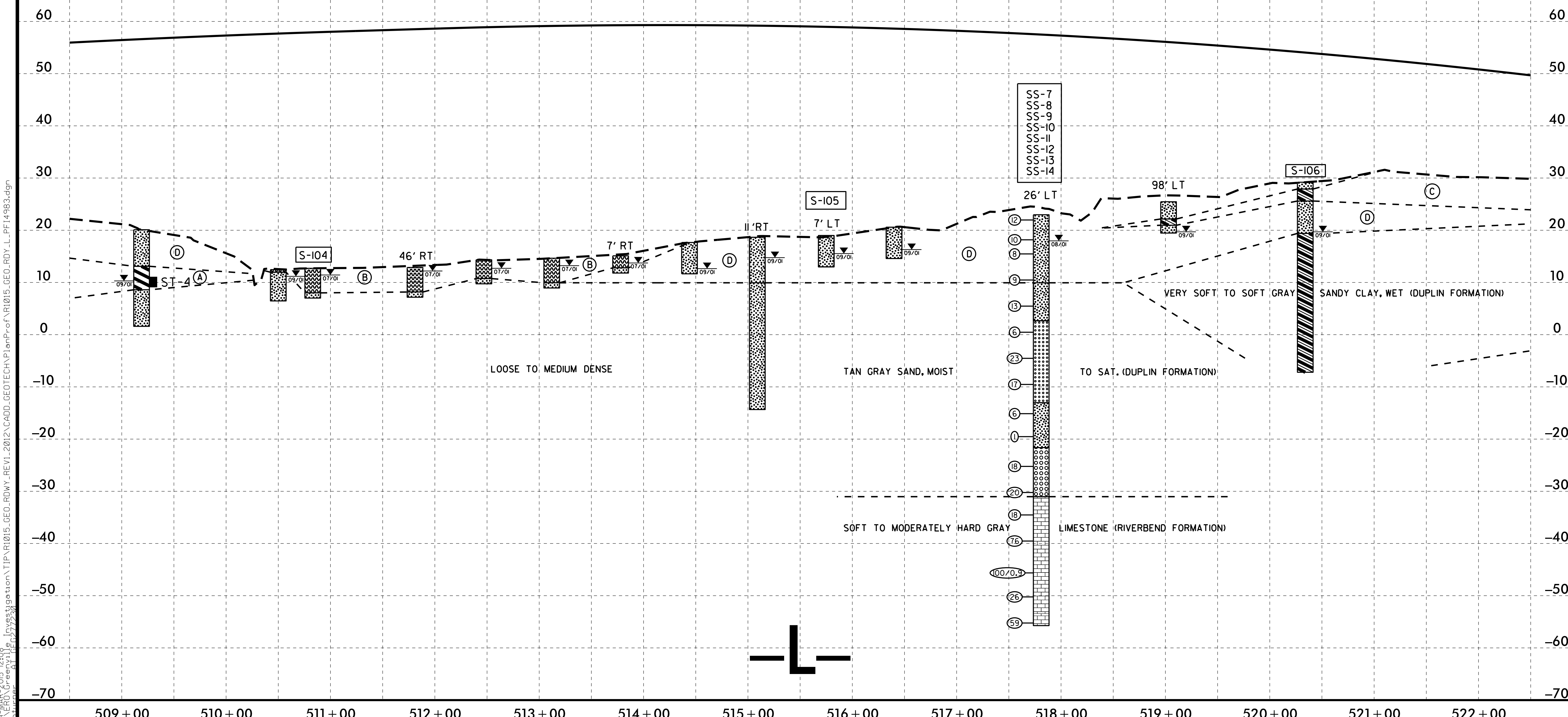
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-104	CL	510+83	1.0-4.6	A-5(0)	112	NP	33.5	26.7	27.7	12.1	90	65	37	483.1	42.2
S-105	7' LT	515+75	1.0-6.0	A-2-4(0)	17	3	20.8	57.0	8.1	14.1	100	94	23	-	-
SS-7	26 LT	517+82	3.8-5.3	A-2-4(0)	22	NP	2.0	85.9	4.0	8.1	100	99	14	-	-
SS-8	26 LT	517+82	11.5-13.0	A-2-4(0)	21	NP	10.9	79.0	4.0	6.1	100	96	13	-	-
SS-9	26 LT	517+82	21.5-23.0	A-3(0)	20	NP	35.4	57.0	3.6	4.0	100	84	9	-	-
SS-10	26 LT	517+82	36.5-38.0	A-2-4(0)	20	NP	6.5	82.8	4.6	6.1	100	99	12	-	-
SS-11	26 LT	517+82	47.2-48.7	A-1-b(0)	24	NP	64.0	27.1	2.8	6.1	87	45	9	-	-
SS-12	26 LT	517+82	52.2-53.7	A-1-b(0)	19	NP	39.4	34.5	16.0	10.1	48	32	13	-	-
SS-13	26 LT	517+82	67.2-68.5	A-1-b(0)	17	NP	77.0	12.0	7.0	4.0	86	41	11	-	-
SS-14	26 LT	517+82	83.8-85.2	A-2-4(0)	18	NP	50.5	17.2	26.3	6.1	81	56	28	-	-
S-106	CL	520+34	9.8-36.4	A-6(2)	28	12	1.8	61.0	14.9	22.2	100	100	44	-	-

(A) SOFT GRAY SILTY SANDY CLAY, WET (DUPLIN FORMATION)

(B) SOFT BROWN MUCK, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

(C) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)

(D) LOOSE TO MEDIUM DENSE TAN GRAY SAND, MOIST TO SAT. (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	84

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-15	CL	522+97	5.0-6.5	A-6(6)	36	21	4.0	47.7	11.9	36.4	100	100	49	-	-
S-93	36 LT	530+84	1.0-3.3	A-2-4(0)	22	2	6.1	65.7	10.1	18.2	93	91	28	-	-
S-94	36 LT	530+84	33.3-6.0	A-6(1)	25	11	2.4	63.6	5.7	28.3	100	100	42	-	-

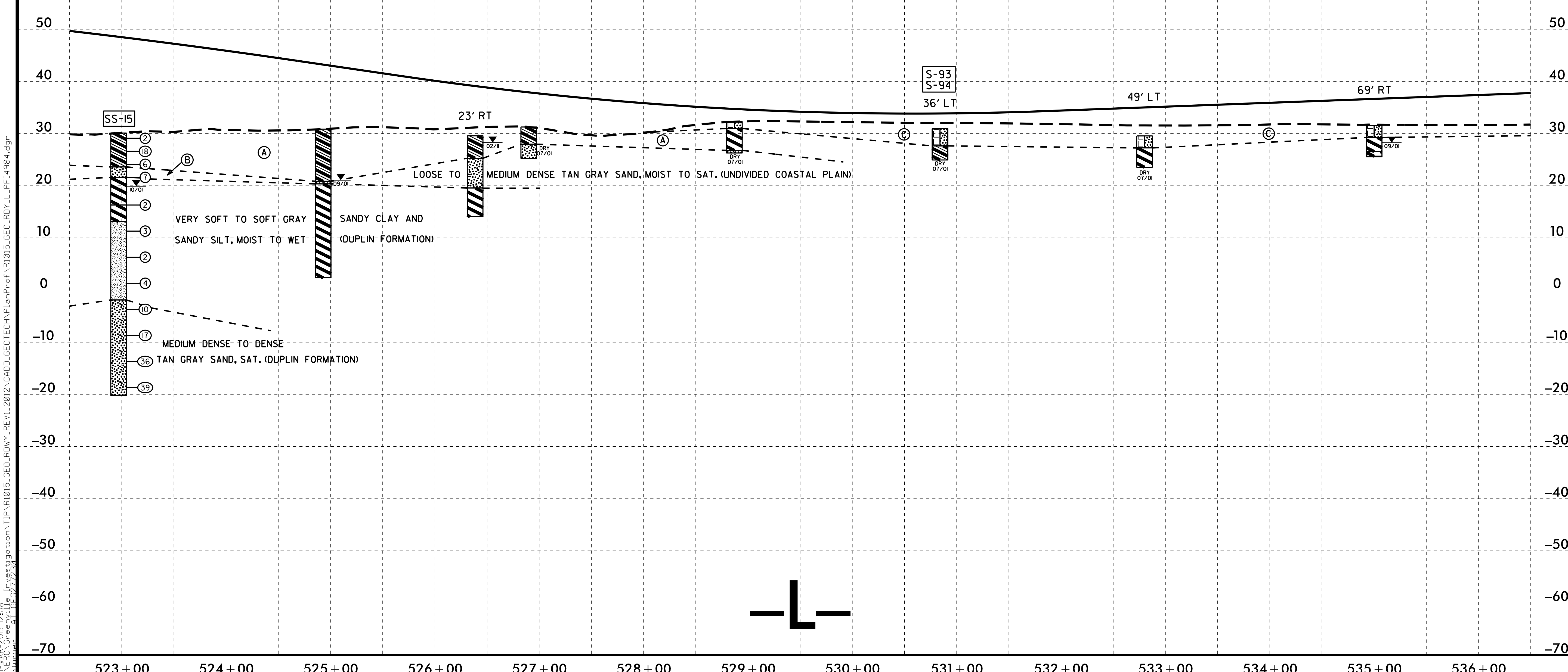
VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
510+83	3 RT	0.7	29
510+83	3 RT	1.0	56
510+83	3 RT	1.3	41
510+83	3 RT	1.6	28
510+83	3 RT	2.0	33
510+83	3 RT	2.3	48
510+83	3 RT	2.6	71
510+83	3 RT	3.0	81
510+83	3 RT	3.3	74
510+83	3 RT	3.6	52

Ⓐ SOFT TO STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)

Ⓑ LOOSE TO MEDIUM DENSE TAN GRAY SAND, MOIST TO SAT. (UNDIVIDED COASTAL PLAIN)

Ⓒ LOOSE TAN BROWN SAND, MOIST (ROADWAY EMBANKMENT)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	85

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

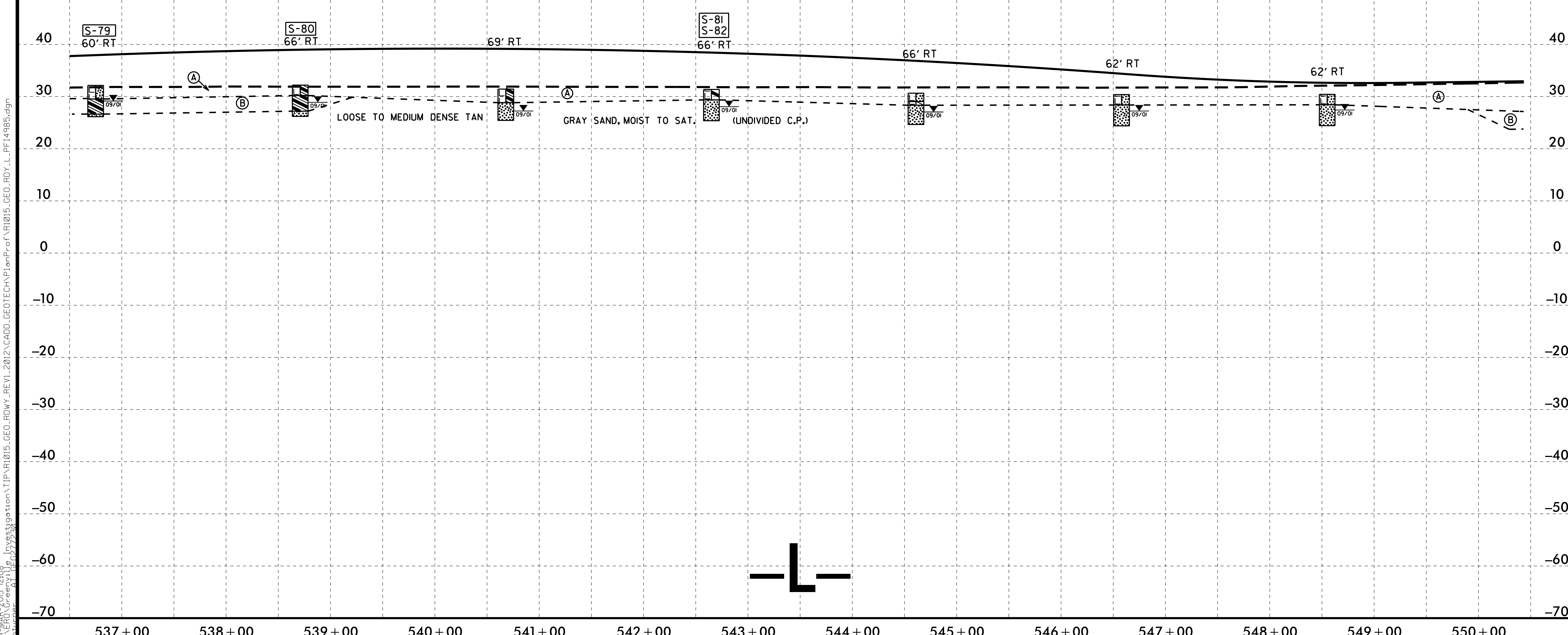
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-79	60 RT	536+75	1.0-2.6	A-2-4(0)	15	NP	2.0	74.8	11.0	12.1	100	100	26	-	-
S-80	66 RT	538+71	1.0-5.0	A-6(7)	36	19	2.6	45.5	11.5	40.4	100	99	54	24.2	-
S-81	66 RT	542+65	1.0-2.0	A-7-6(10)	42	24	2.0	49.9	9.7	38.4	100	100	55	-	-
S-82	66 RT	542+65	2.0-6.0	A-2-4(0)	22	8	24.0	49.7	6.1	20.2	100	91	34	-	-

(A) LOOSE TAN BROWN SAND, MOIST AND MEDIUM STIFF SANDY CLAY, MOIST (ROADWAY EMBANKMENT)

(B) SOFT TO STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)



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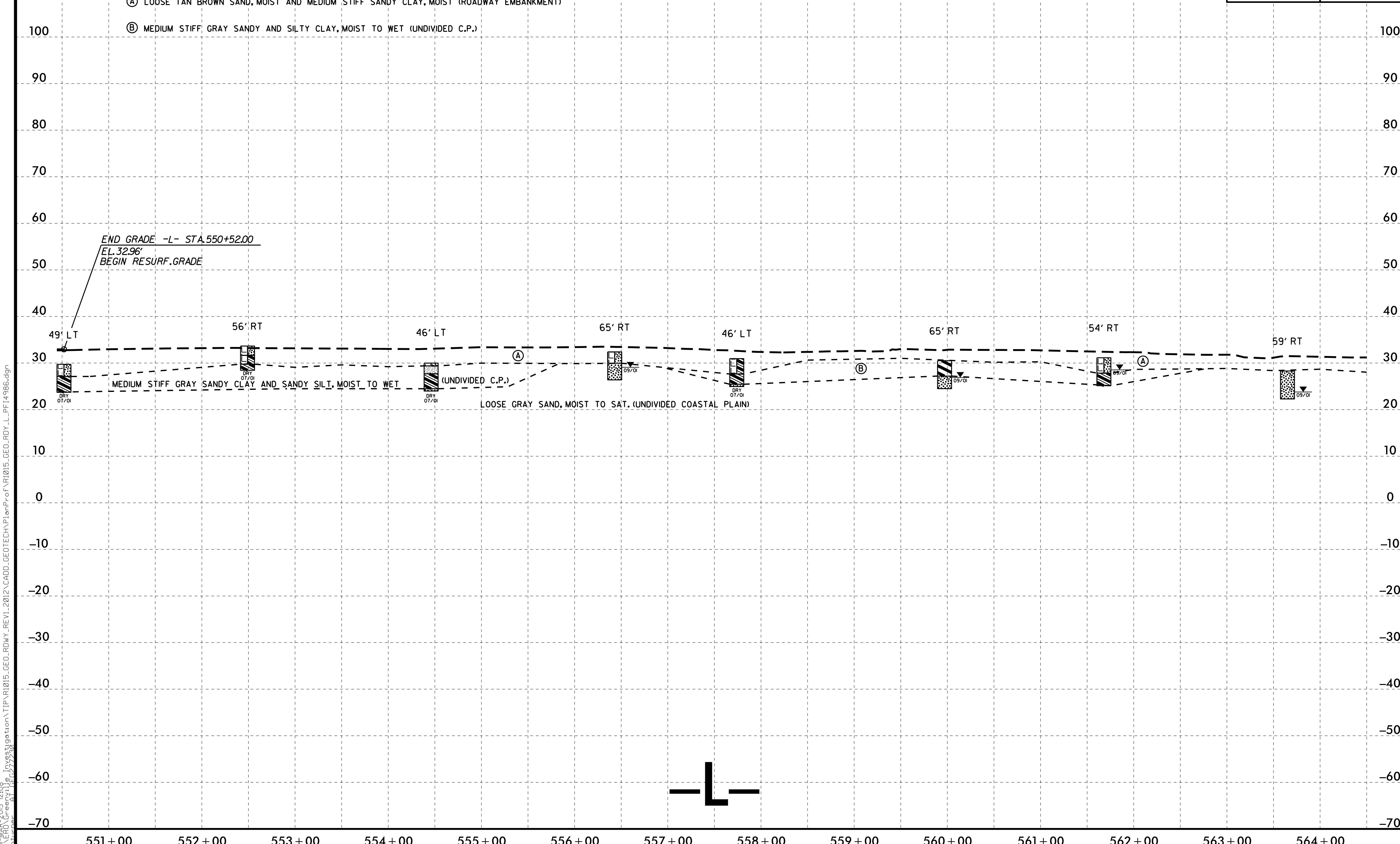
PROJECT REFERENCE NO.	SHEET NO.
R-1015	86
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



(A) LOOSE TAN BROWN SAND, MOIST AND MEDIUM STIFF SANDY CLAY, MOIST (ROADWAY EMBANKMENT)
(B) MEDIUM STIFF GRAY SANDY AND SILTY CLAY, MOIST TO WET (UNDIVIDED C.P.)
END GRADE -L- STA.550+52.00
EL.32.96'
BEGIN RESURF.GRADE
49' LT
56' RT
46' LT
65' RT
46' LT
65' RT
54' RT
59' RT
MEDIUM STIFF GRAY SANDY CLAY AND SANDY SILT, MOIST TO WET
(UNDIVIDED C.P.)
LOOSE GRAY SAND, MOIST TO SAT. (UNDIVIDED COASTAL PLAIN)
DRY 07/01
09/01
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
551+00
552+00
553+00
554+00
555+00
556+00
557+00
558+00
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562+00
563+00
564+00
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PROJECT REFERENCE NO.	SHEET NO.
R-1015	87
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Ⓐ LOOSE TAN BROWN SAND, MOIST AND MEDIUM STIFF SANDY CLAY, MOIST (ROADWAY EMBANKMENT)

Ⓑ LOOSE TAN SAND, MOIST TO SAT. (UNDIVIDED COASTAL PLAIN)

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

59′ RT | 59′ RT | 59′ RT | 59′ RT | 59′ RT | 59′ RT | 59′ RT | 62′ RT

LOOSE GRAY SAND, MOIST TO SAT. (UNDIVIDED (COASTAL PLAIN)

MEDIUM STIFF GRAY SANDY AND AND SILTY CLAY, MOIST TO WET (UNDIVIDED C.P.)

565+00 | 566+00 | 567+00 | 568+00 | 569+00 | 570+00 | 571+00 | 572+00 | 573+00 | 574+00 | 575+00 | 576+00 | 577+00 | 578+00

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PROJECT REFERENCE NO.	SHEET NO.
R-1015	89

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

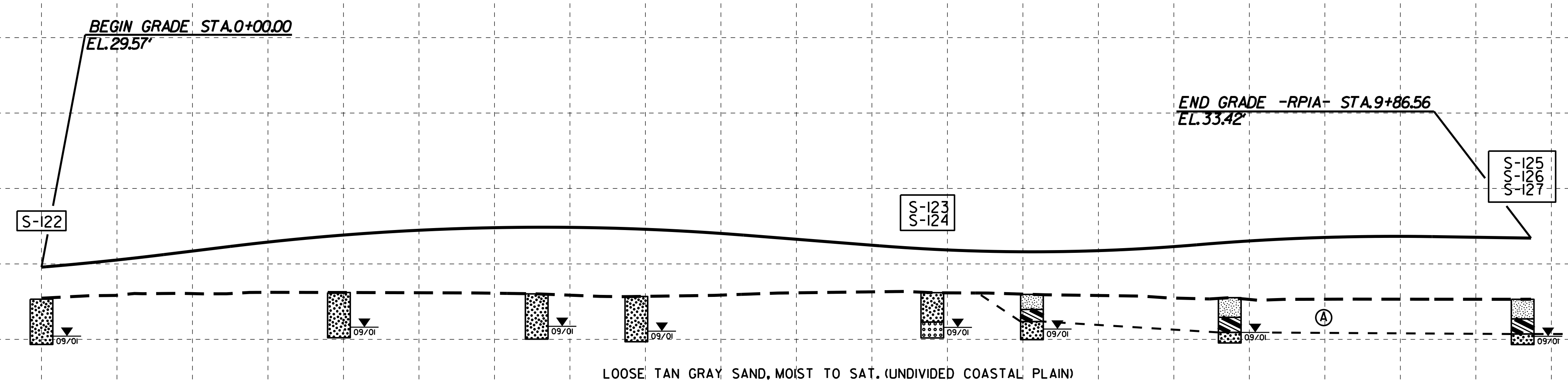
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-122	CL	0+00	1.0-6.2	A-2-4(0)	31	NP	42.0	38.5	6.4	13.1	100	81	20	-	-
S-123	CL	5+90	1.0-3.9	A-2-4(0)	29	8	38.9	32.3	0.3	28.5	100	83	31	-	-
S-124	CL	5+90	3.9-6.2	A-3(0)	22	NP	16.9	79.1	0.9	3.1	100	96	4	-	-
S-125	CL	9+80	1.0-2.6	A-4(0)	26	8	30.5	37.6	5.7	26.3	100	83	36	-	-
S-126	CL	9+80	2.6-4.6	A-6(3)	31	11	23.8	28.1	7.7	40.4	100	88	49	-	-
S-127	CL	9+80	4.6-6.2	A-2-4(0)	26	NP	42.0	44.4	1.4	12.1	100	67	14	-	-

(A) SOFT TO MEDIUM STIFF TAN SANDY CLAY AND SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)



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Elevations: 120, 110, 100, 90, 80, 70, 60, 50, 40, 30, 20, 10, 0, –10, –20, –30, –40, –50, –60, –70

Stations: 0+00, 1+00, 2+00, 3+00, 4+00, 5+00, 6+00, 7+00, 8+00, 9+00

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PROJECT REFERENCE NO.	SHEET NO.
R-1015	90

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

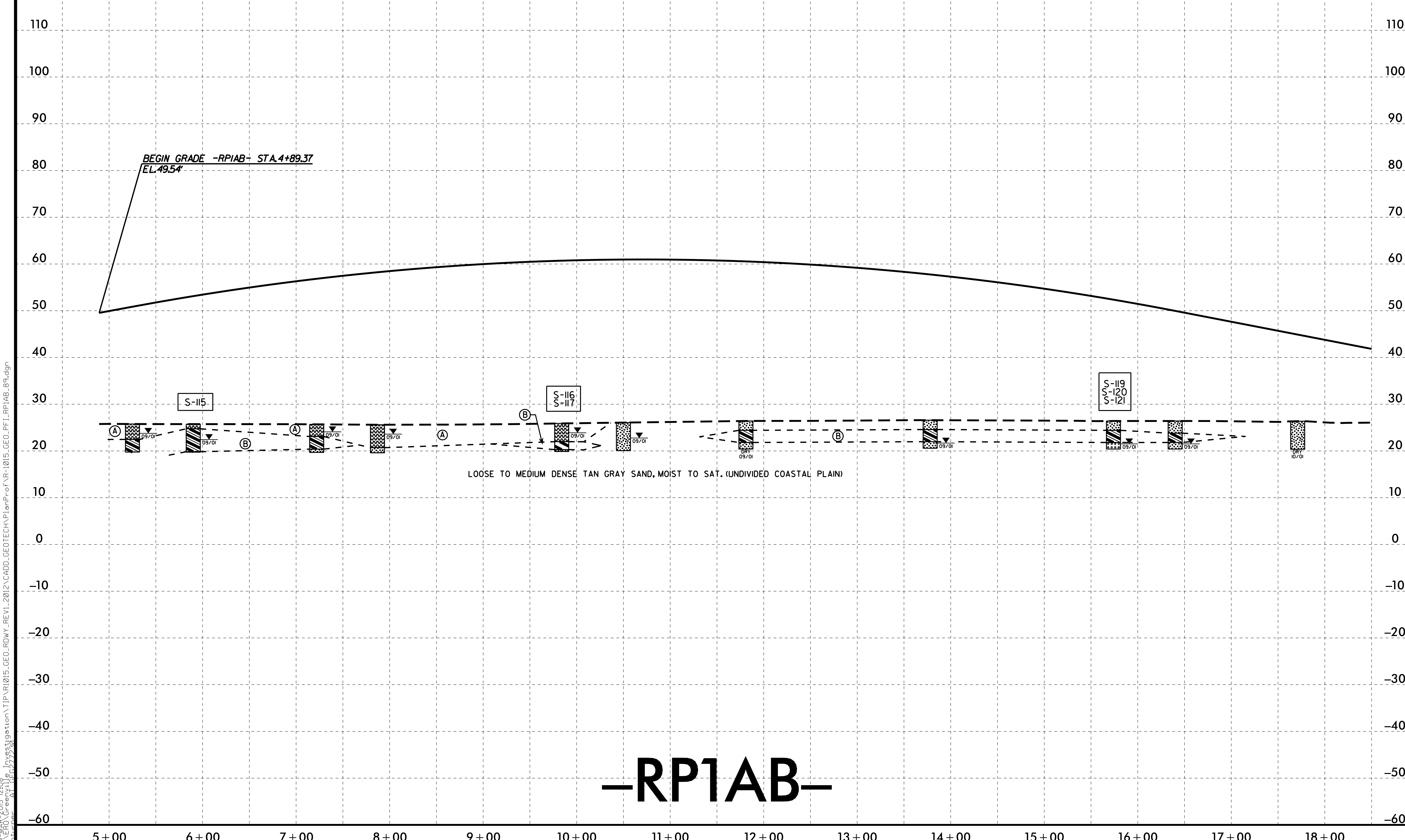
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-115	CL	5+90	1.0-5.9	A-6(1)	31	11	37.1	23.3	9.3	30.3	100	87	41	-	-
S-116	CL	9+84	1.0-5.3	A-5(0)	57	NP	30.7	26.5	20.6	22.2	100	87	46	-	-
S-117	CL	9+84	5.2-5.6	A-7-5(3)	45	13	34.9	22.0	12.7	30.3	100	85	44	-	-
S-119	CL	15+74	1.0-2.0	A-2-4(0)	30	NP	50.8	30.2	4.8	14.1	100	81	19	-	-
S-120	CL	15+74	2.0-4.6	A-6(1)	35	12	36.6	25.3	7.9	30.3	100	86	40	-	-
S-121	CL	15+74	4.6-6.2	A-3(0)	26	NP	32.6	62.2	0.1	5.1	100	94	5	-	-

(A) SOFT BROWN MUCK, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

(B) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
10+00	CL	1.0	501
10+00	CL	1.3	271
10+00	CL	2.0	251
10+00	CL	2.6	418



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	91

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

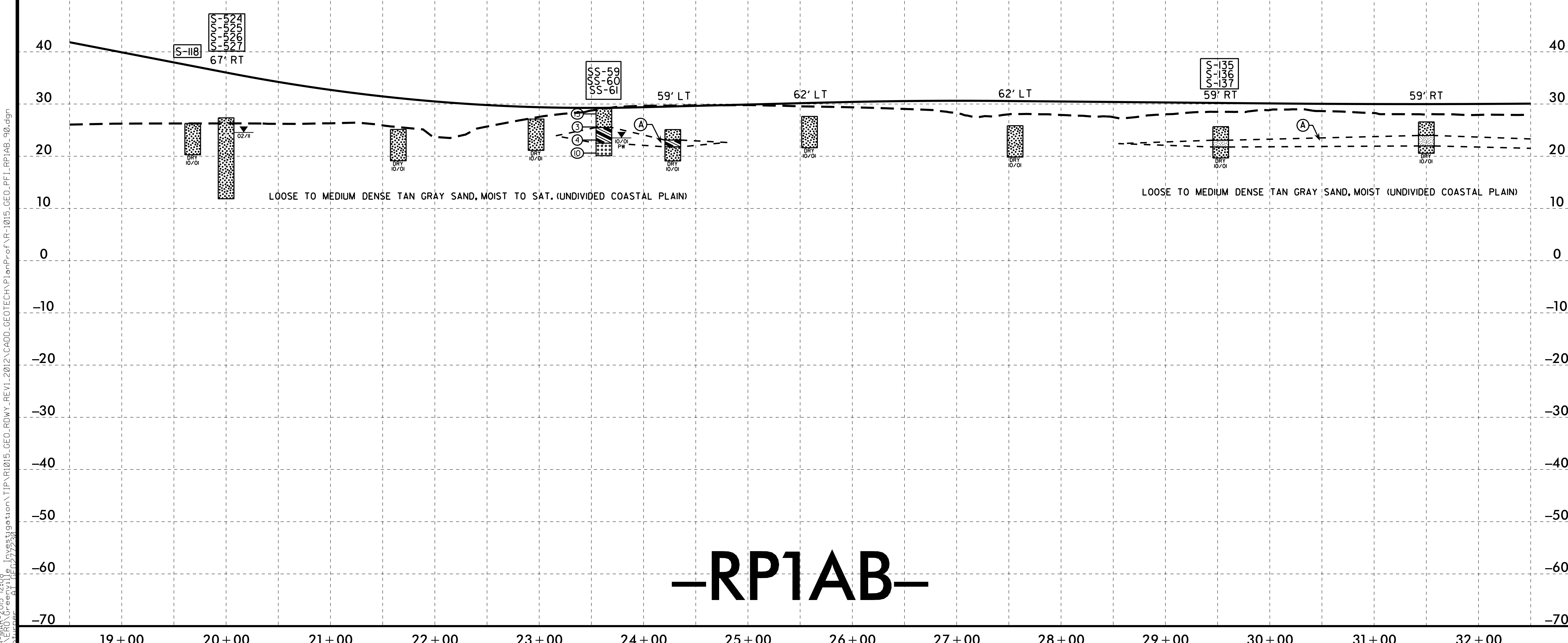
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-118	CL	19+68	1.0-6.2	A-2-4(0)	27	NP	43.0	39.6	6.3	11.1	100	79	18	-	-
S-524	67 RT	20+00	0.0-2.4	A-2-4(0)	19	NP	39.6	42.7	5.6	12.1	100	87	19	-	-
S-525	67 RT	20+00	2.4-3.4	A-2-4(0)	37	NP	37.8	29.4	18.7	14.1	100	85	33	-	
S-526	67 RT	20+00	3.4-5.9	A-2-4(0)	29	10	41.6	29.7	9.6	19.1	100	84	29	-	-
S-527	67 RT	20+00	5.9-15.5	A-2-4(0)	27	NP	7.8	80.0	5.1	7.0	100	97	13	-	-
SS-59	CL	23+62	1.0-1.5	A-2-4(0)	15	NP	28.9	48.7	2.2	20.2	85	72	24	-	-
SS-60	CL	23+62	5.0-6.5	A-6(2)	37	13	20.2	38.2	9.3	32.3	100	86	43	33.6	-
SS-61	CL	23+62	7.5-9.0	A-3(0)	17	NP	38.0	58.8	1.2	2.0	100	90	3	-	-
S-135	59.1 RT	29+52	1.0-2.6	A-2-4(0)	30	NP	20.6	54.5	6.7	18.2	93	87	25	-	-
S-136	59.1 RT	29+52	2.6-3.9	A-4(1)	26	9	31.3	26.5	7.9	34.3	100	85	44	-	-
S-137	59.1 RT	29+52	3.9-6.2	A-2-4(0)	24	NP	50.4	36.7	0.8	12.1	100	75	14	-	-

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	92

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

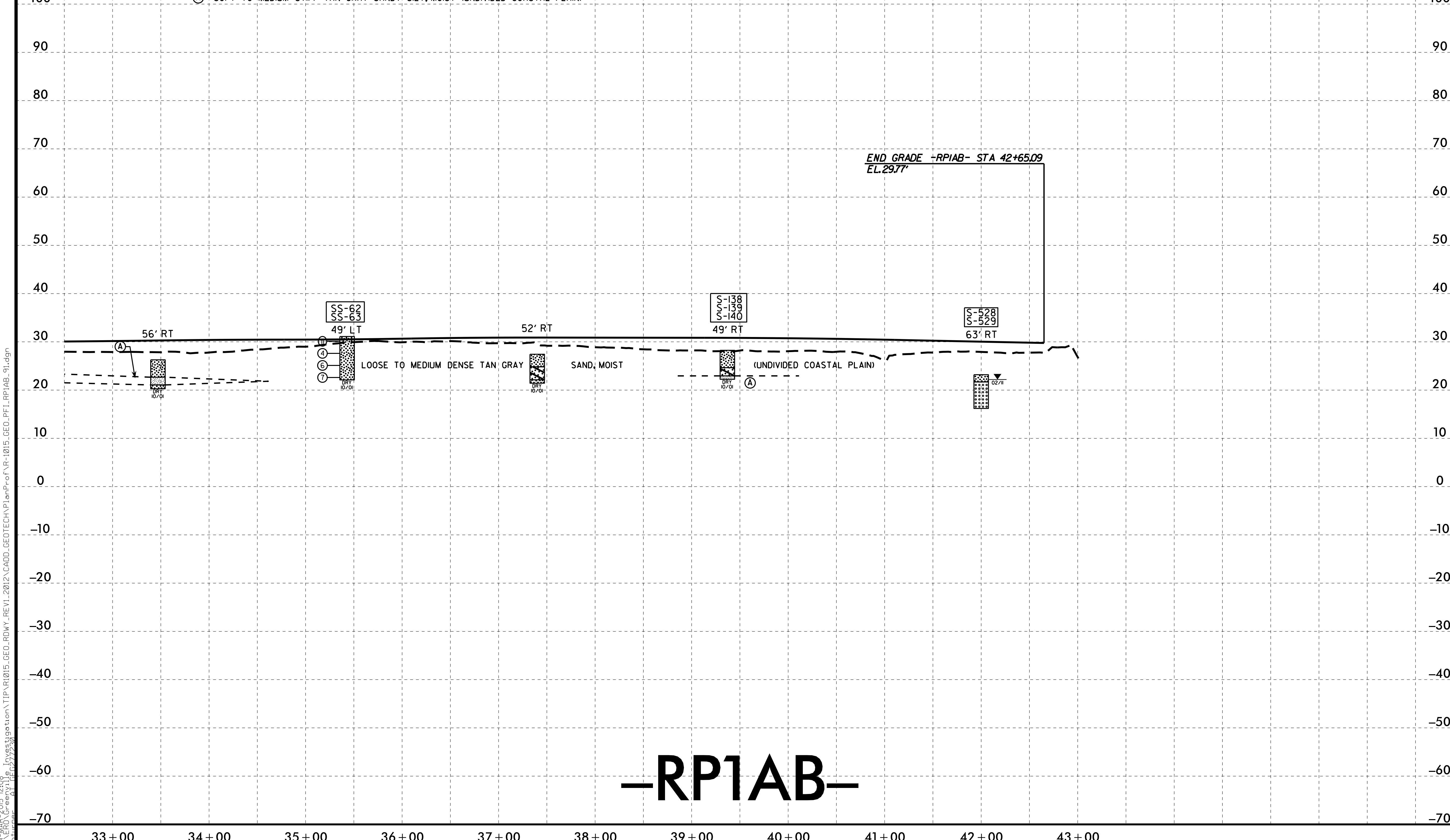
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-62	49 LT	35+43	1.0-1.5	A-2-4(0)	17	NP	16.9	69.8	2.2	11.1	100	96	15	-	-
SS-63	49 LT	35+43	5.0-6.5	A-2-4(0)	18	NP	10.1	80.4	1.4	8.1	100	99	12	-	-
S-138	49 RT	39+37	1.0-3.6	A-2-4(0)	17	NP	13.5	60.6	3.6	22.2	99	95	28	-	-
S-139	49 RT	39+37	3.6-5.3	A-2-6(0)	26	11	13.1	56.2	4.4	26.3	100	93	32	18.8	-
S-140	49 RT	39+37	5.3-6.2	A-4(0)	27	7	23.2	47.7	4.8	24.2	100	83	37	-	-
S-528	63 RT	42+00	0.0-1.5	A-2-4(0)	28	10	30.6	37.4	11.9	20.1	100	86	33	-	-
S-529	63 RT	42+00	1.5-7.0	A-3(0)	19	NP	47.3	50.7	1.0	1.0	100	82	2	-	-

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R–1015	93

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

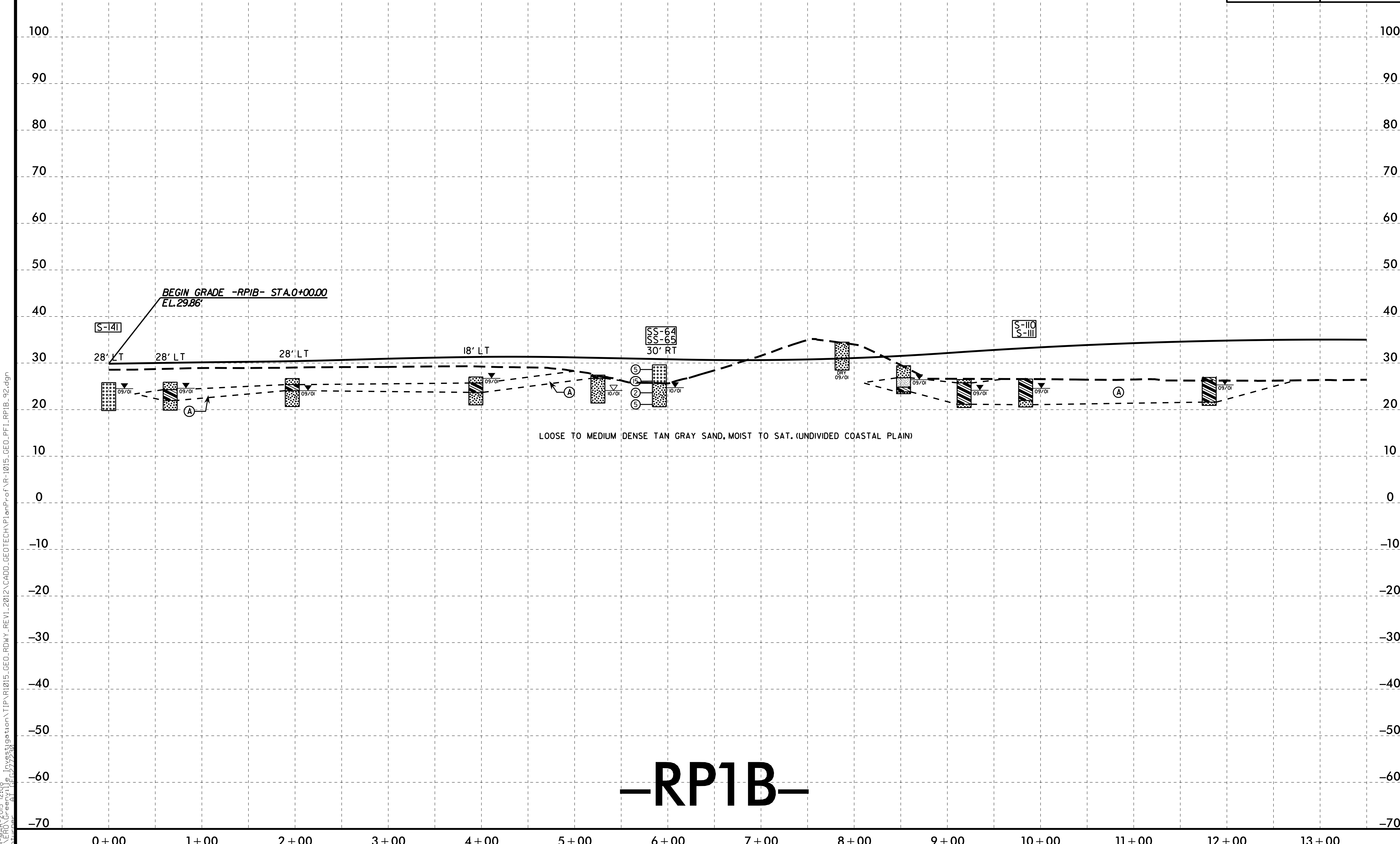
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-141	28 LT	0+00	1.0-6.2	A-3(0)	16	NP	32.2	58.9	0.8	8.1	100	88	9	-	-
SS-64	30 RT	5+90	1.0-1.5	A-3(0)	18	NP	28.9	64.7	0.3	6.1	98	87	7	-	-
SS-65	30 RT	5+90	5.0-6.5	A-2-4(0)	16	NP	23.7	65.5	0.7	10.1	100	96	11	-	-
S-110	CL	9+84	1.0-4.6	A-6(5)	38	14	19.8	27.1	12.7	40.4	100	88	54	-	-
S-111	CL	9+84	5.6-6.2	A-2-4(0)	17	NP	54.3	30.4	1.1	14.1	100	85	16	-	-

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION

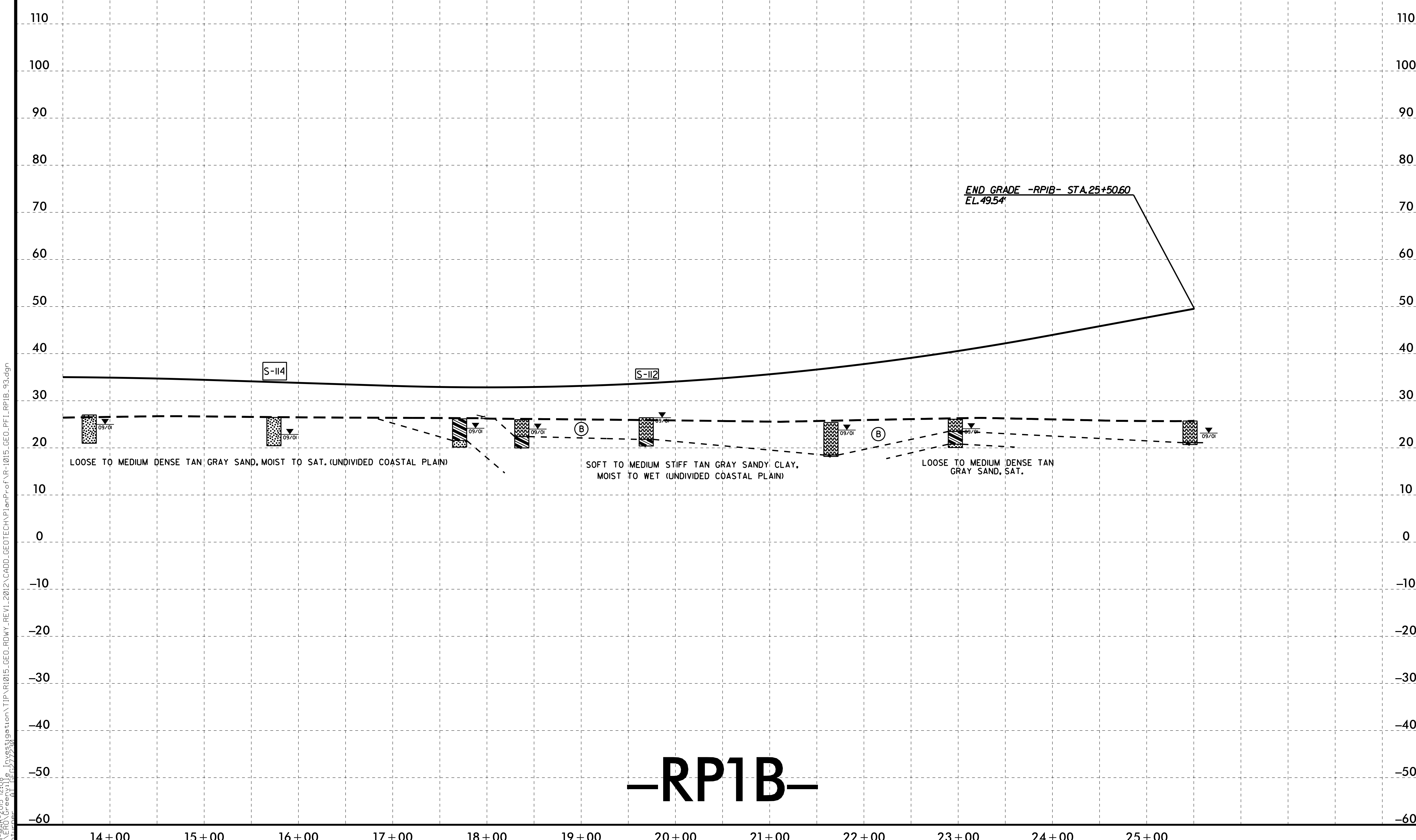
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-114	CL	15+71	4.6-6.2	A-2-4(0)	18	NP	44.7	38.3	3.8	13.1	100	86	22	-	-
S-112	CL	19+68	1.0-6.2	A-5(7)	63	NP	16.0	9.7	38.0	36.4	100	92	75	-	-

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
21+65	CL	1.0	167
21+65	CL	1.3	188
21+65	CL	2.0	251
21+65	CL	2.6	585
21+65	CL	3.3	313
21+65	CL	4.0	1169
21+65	CL	4.6	1211
21+65	CL	5.3	1295
21+65	CL	6.0	1357
21+65	CL	6.6	1086

(B) SOFT BROWN MUCK, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	95

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

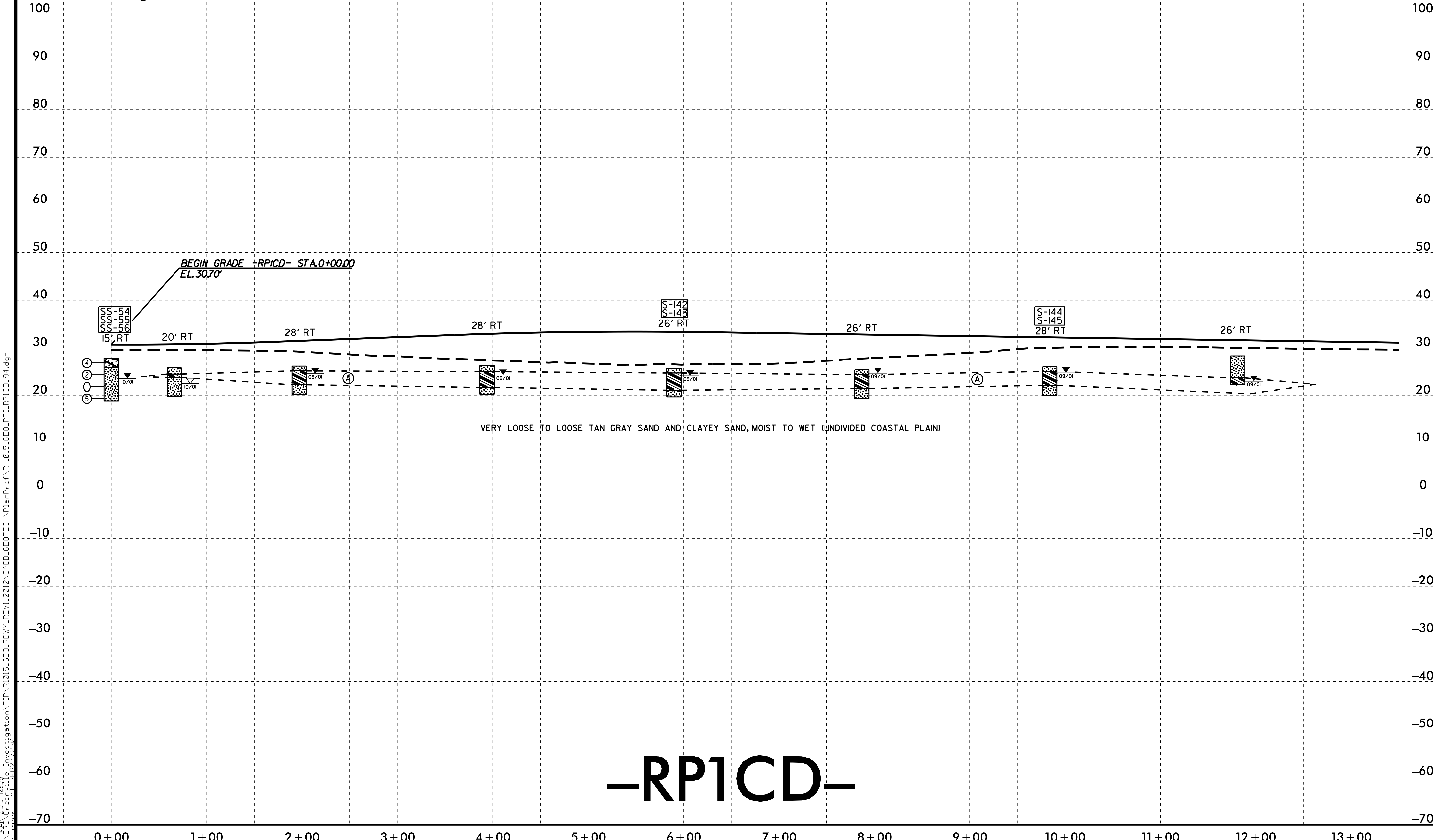
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-54	15 RT	0+00	1.0-1.5	A-2-6(0)	24	11	36.1	31.8	6.9	25.3	100	86	33	16.2	-
SS-55	15 RT	0+00	2.5-4.0	A-2-4(0)	22	5	39.4	36.9	6.6	17.2	100	89	27	-	-
SS-56	15 RT	0+00	7.5-4.0	A-2-4(0)	18	NP	28.6	61.6	0.7	9.1	100	84	12	-	-
S-142	26 RT	5+90	1.0-4.6	A-6(5)	38	13	32.9	15.4	23.4	28.3	100	87	53	-	-
S-143	26 RT	5+90	4.6-6.2	A-2-4(0)	21	NP	68.6	20.9	1.4	9.1	100	78	11	-	-
S-144	28 RT	9+84	1.0-3.9	A-6(4)	32	15	34.9	18.2	12.5	34.3	100	84	48	27.4	-
S-145	28 RT	9+84	3.9-6.2	A-2-4(0)	21	NP	1.7	73.6	8.5	16.2	100	99	29	-	-

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	96

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

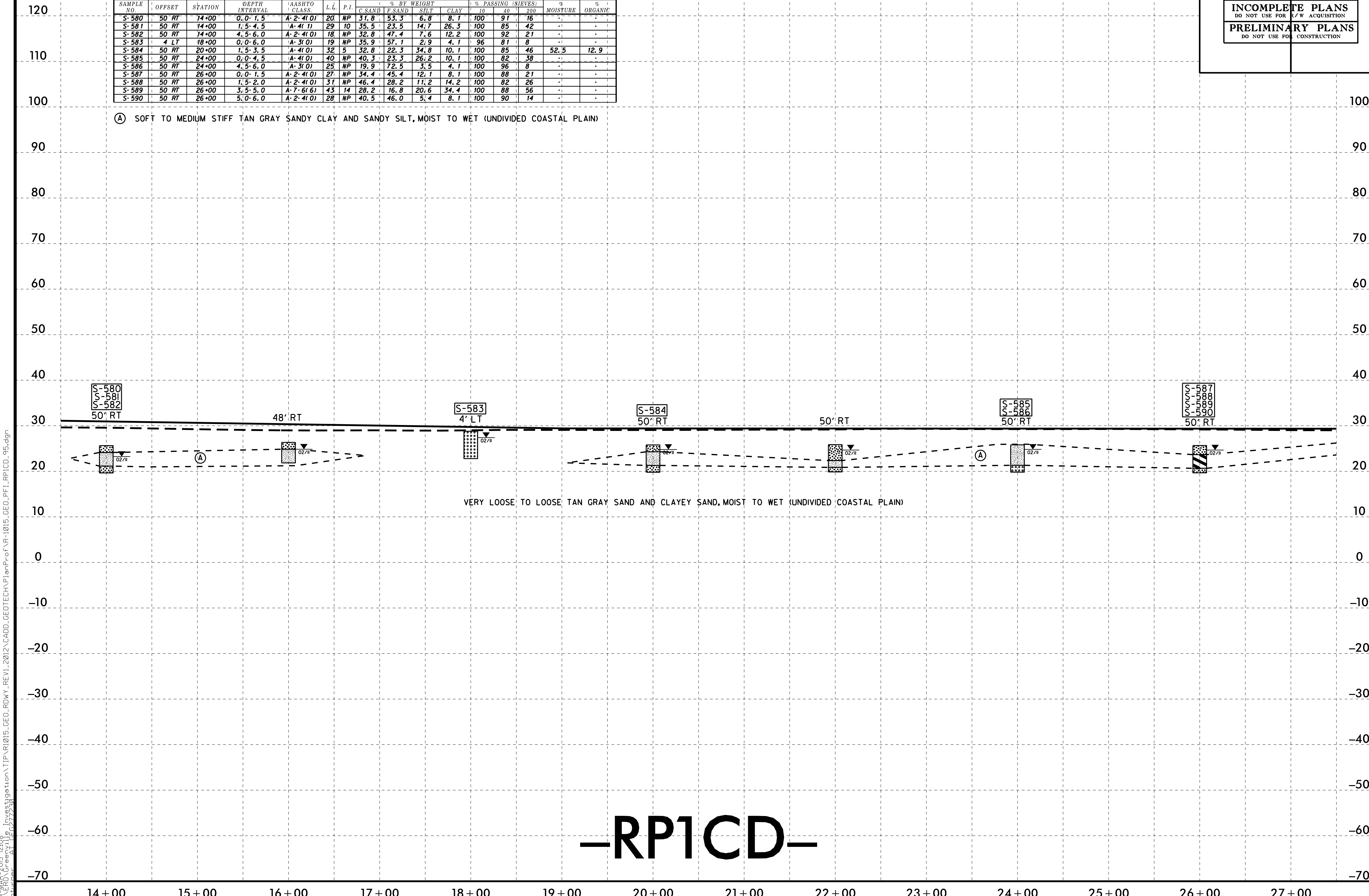
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-580	50 RT	14+00	0.0-1.5	A-2-4(0)	20	NP	31.8	53.3	6.8	8.1	100	91	16	-	-
S-581	50 RT	14+00	1.5-4.5	A-4(1)	29	10	35.5	23.5	14.7	26.3	100	85	42	-	-
S-582	50 RT	14+00	4.5-6.0	A-2-4(0)	18	NP	32.8	47.4	7.6	12.2	100	92	21	-	-
S-583	4 LT	18+00	0.0-6.0	A-3(0)	19	NP	35.9	57.1	2.9	4.1	96	81	8	-	-
S-584	50 RT	20+00	1.5-3.5	A-4(0)	32	5	32.8	22.3	34.8	10.1	100	85	46	52.5	12.9
S-585	50 RT	24+00	0.0-4.5	A-4(0)	40	NP	40.3	23.3	26.2	10.1	100	82	38	-	-
S-586	50 RT	24+00	4.5-6.0	A-3(0)	25	NP	19.9	72.5	3.5	4.1	100	96	8	-	-
S-587	50 RT	26+00	0.0-1.5	A-2-4(0)	27	NP	34.4	45.4	12.1	8.1	100	88	21	-	-
S-588	50 RT	26+00	1.5-2.0	A-2-4(0)	31	NP	46.4	28.2	11.2	14.2	100	82	26	-	-
S-589	50 RT	26+00	3.5-5.0	A-7-6(6)	43	14	28.2	16.8	20.6	34.4	100	88	56	-	-
S-590	50 RT	26+00	5.0-6.0	A-2-4(0)	28	NP	40.5	46.0	5.4	8.1	100	90	14	-	-

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	97

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

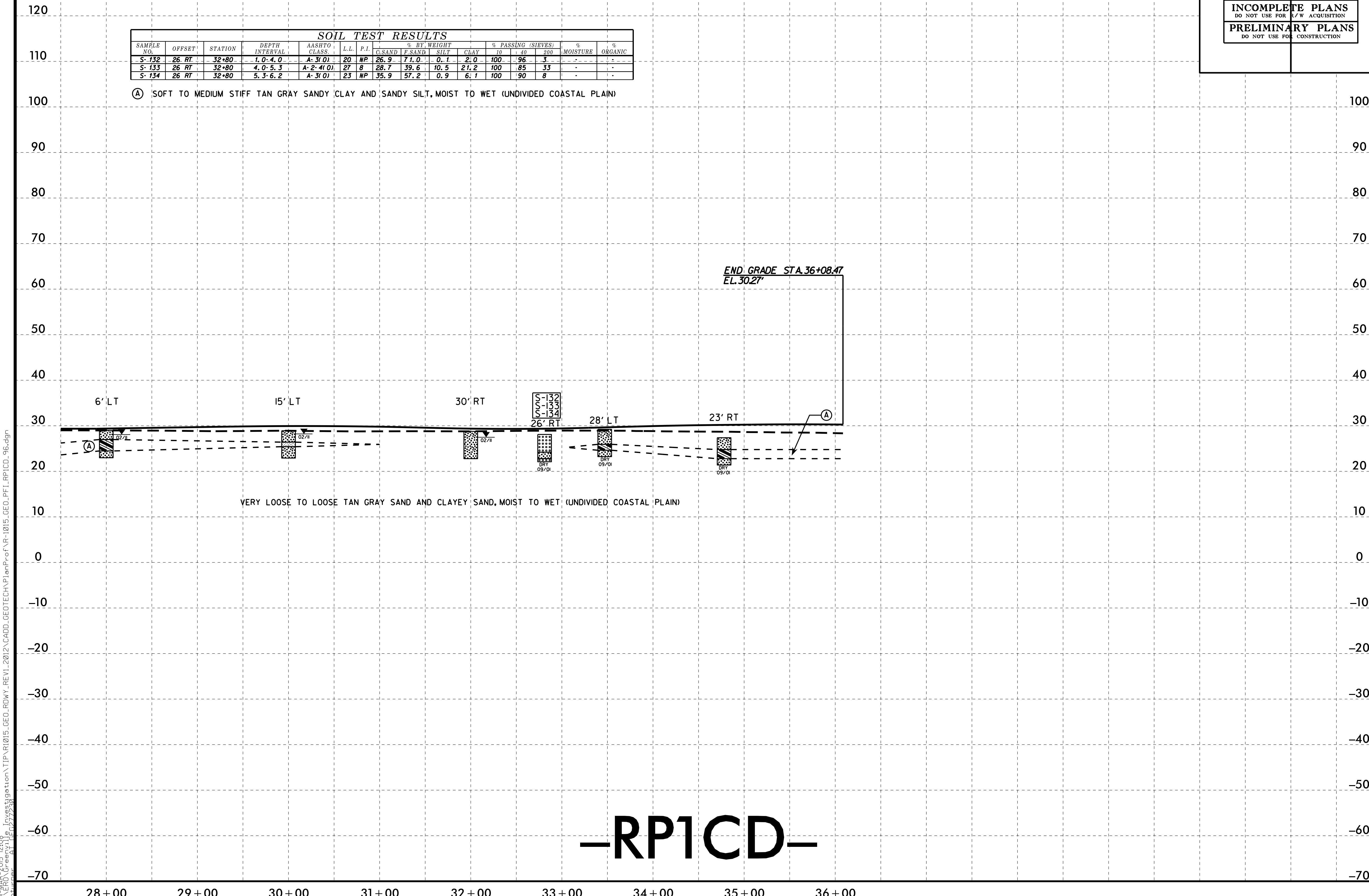
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-132	26 RT	32+80	1.0-4.0	A-3(0)	20	NP	26.9	71.0	0.1	2.0	100	96	3	-	-
S-133	26 RT	32+80	4.0-5.3	A-2-4(0)	27	8	28.7	39.6	10.5	21.2	100	85	33	-	-
S-134	26 RT	32+80	5.3-6.2	A-3(0)	23	NP	35.9	57.2	0.9	6.1	100	90	8	-	-

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	98

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

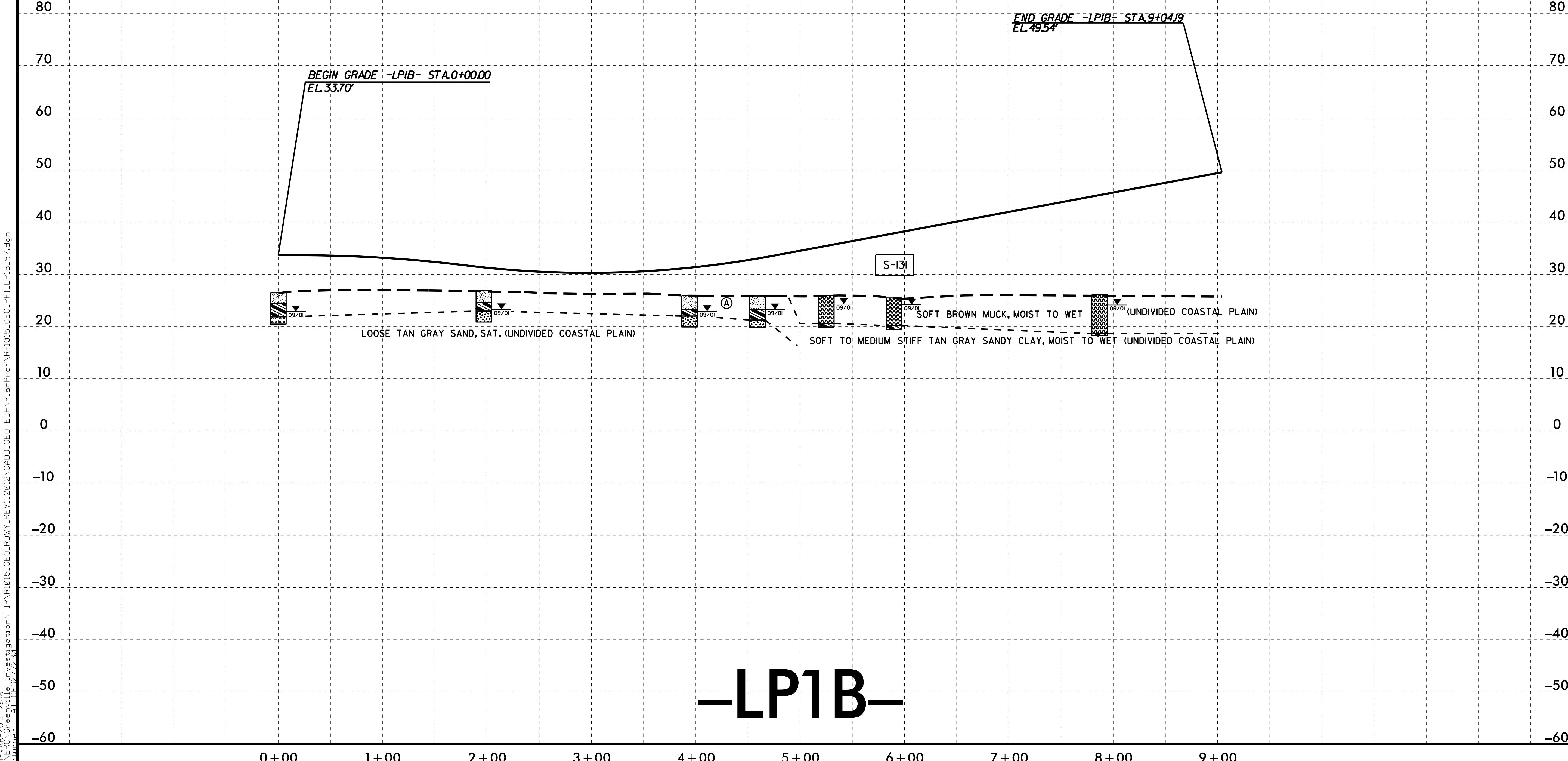
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-131	CL	5+90	1.0-6.2	A-5(5)	126	NP	36.0	16.6	23.2	24.2	100	75	48	-	75

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
7+87	CL	0.7	418
7+87	CL	1.3	418
7+87	CL	2.0	376
7+87	CL	2.6	209
7+87	CL	3.3	334
7+87	CL	4.0	1587
7+87	CL	4.6	1629
7+87	CL	5.3	1712
7+87	CL	6.0	1754



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	99

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

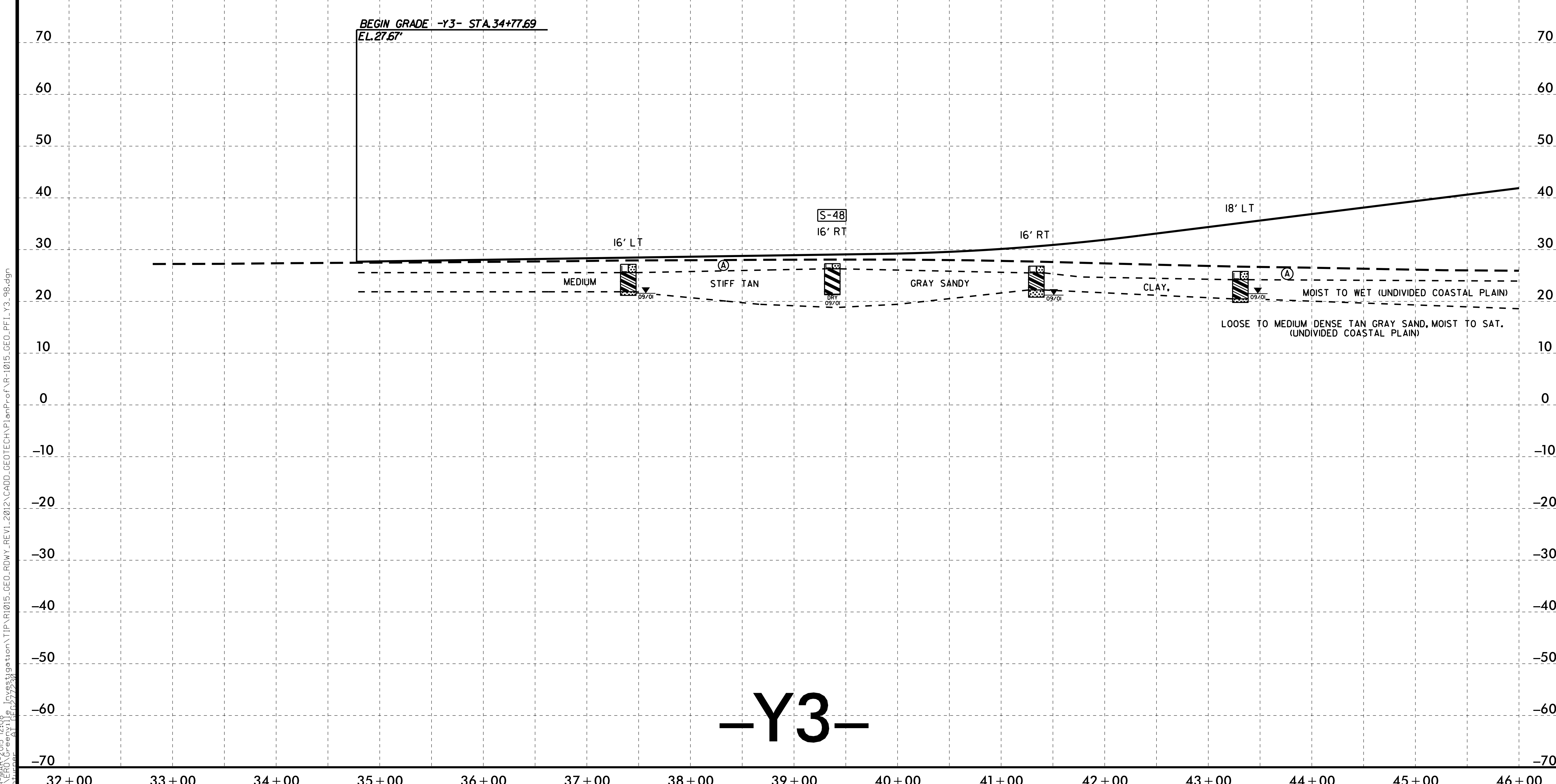
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-48	16 RT	39+37	1.0-5.9	A-7-6(7)	41	24	6.9	48.9	5.9	38.4	100	97	46	21.3	-

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



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	100
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

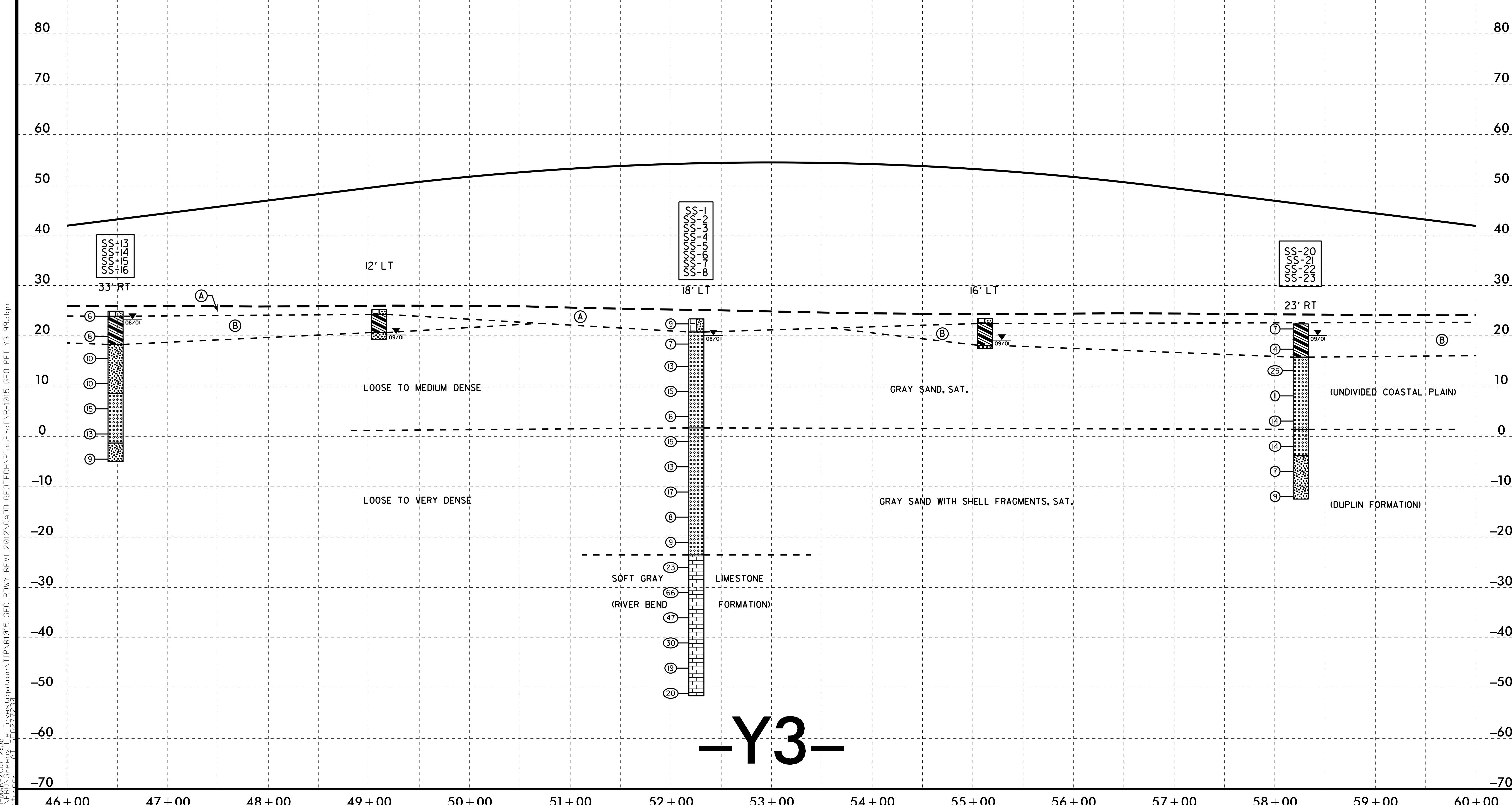
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-13	33 RT	46+48	1.0-1.5	A-6(2)	31	14	11.7	47.1	9.9	31.3	100	98	43	-	-
SS-14	33 RT	46+48	8.4-9.9	A-2-4(0)	22	NP	2.4	87.2	3.3	7.1	100	100	12	-	-
SS-15	33 RT	46+48	18.4-19.9	A-3(0)	20	NP	26.9	67.1	0.0	6.1	100	93	7	-	-
SS-16	33 RT	46+48	78.4-29.9	A-2-4(0)	17	NP	32.7	51.5	10.7	5.1	100	95	16	-	-
SS-1	18 LT	52+25	1.0-1.5	A-2-4(0)	19	6	19.4	50.5	9.9	20.2	99	93	31	-	-
SS-2	18 LT	52+25	8.4-9.9	A-3(0)	20	NP	0.6	91.9	3.4	4.0	100	100	9	-	-
SS-3	18 LT	52+25	18.4-19.9	A-3(0)	25	NP	7.9	87.9	2.2	2.0	100	97	6	-	-
SS-4	18 LT	52+25	28.4-29.9	A-3(0)	17	NP	59.0	37.6	1.4	2.0	100	87	4	-	-
SS-5	18 LT	52+25	38.4-39.9	A-3(0)	21	NP	28.9	62.4	0.6	8.1	100	100	9	-	-
SS-6	18 LT	52+25	48.4-49.9	A-3(0)	19	NP	30.7	64.6	2.6	2.0	100	95	5	-	-
SS-7	18 LT	52+25	58.4-59.9	A-3(0)	16	NP	68.5	25.7	3.8	2.0	97	63	7	-	-
SS-8	18 LT	52+25	68.4-69.9	A-3(0)	20	NP	49.7	45.9	2.4	2.0	100	72	5	-	-
SS-20	23 RT	58+26	1.0-1.5	A-6(6)	32	17	9.9	39.0	14.7	36.4	100	99	53	-	-
SS-21	23 RT	58+26	8.3-9.8	A-3(0)	22	NP	5.1	88.9	2.0	4.0	100	99	7	-	-
SS-22	23 RT	58+26	18.3-19.8	A-3(0)	18	NP	52.5	40.0	2.4	5.1	100	86	8	-	-
SS-23	23 RT	58+26	28.3-29.8	A-2-4(0)	19	NP	1.5	77.4	8.0	13.1	100	99	22	-	-

(A) LOOSE TAN GRAY SAND AND MEDIUM STIFF TAN SANDY SILT, MOIST (ROADWAY EMBANKMENT)

(B) MEDIUM STIFF TAN GRAY SANDY CLAY, WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	101
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-49	16 RT	64+96	1.0-5.3	A-4(1)	22	9	7.9	48.7	17.2	26.3	100	99	49	22.6	-
S-50	16 RT	64+96	5.3-6.2	A-2-4(0)	19	NP	17.8	67.0	2.1	13.1	100	95	16	-	-
S-51	15 RT	68+89	1.0-3.3	A-2-4(0)	18	4	14.1	53.1	14.5	18.2	100	97	34	-	-
S-52	15 RT	68+89	3.3-5.9	A-7-6(11)	47	28	6.5	41.4	9.7	42.4	100	98	53	-	-

Ⓐ LOOSE TAN GRAY SAND, MOIST (ROADWAY EMBANKMENT)

Ⓑ MEDIUM STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

END GRADE -Y3- STA 73+81.89
EL. 25.90'

15' RT

S-49
S-50
16' RT

15' LT

S-51
S-52
15' RT

13' LT

LOOSE TO MEDIUM DENSE TAN GRAY SAND, MOIST TO SAT. (UNDIVIDED COASTAL PLAIN)

-Y3-

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

60+00 61+00 62+00 63+00 64+00 65+00 66+00 67+00 68+00 69+00 70+00 71+00 72+00 73+00 74+00

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PROJECT REFERENCE NO.	SHEET NO.
R-1015	102

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

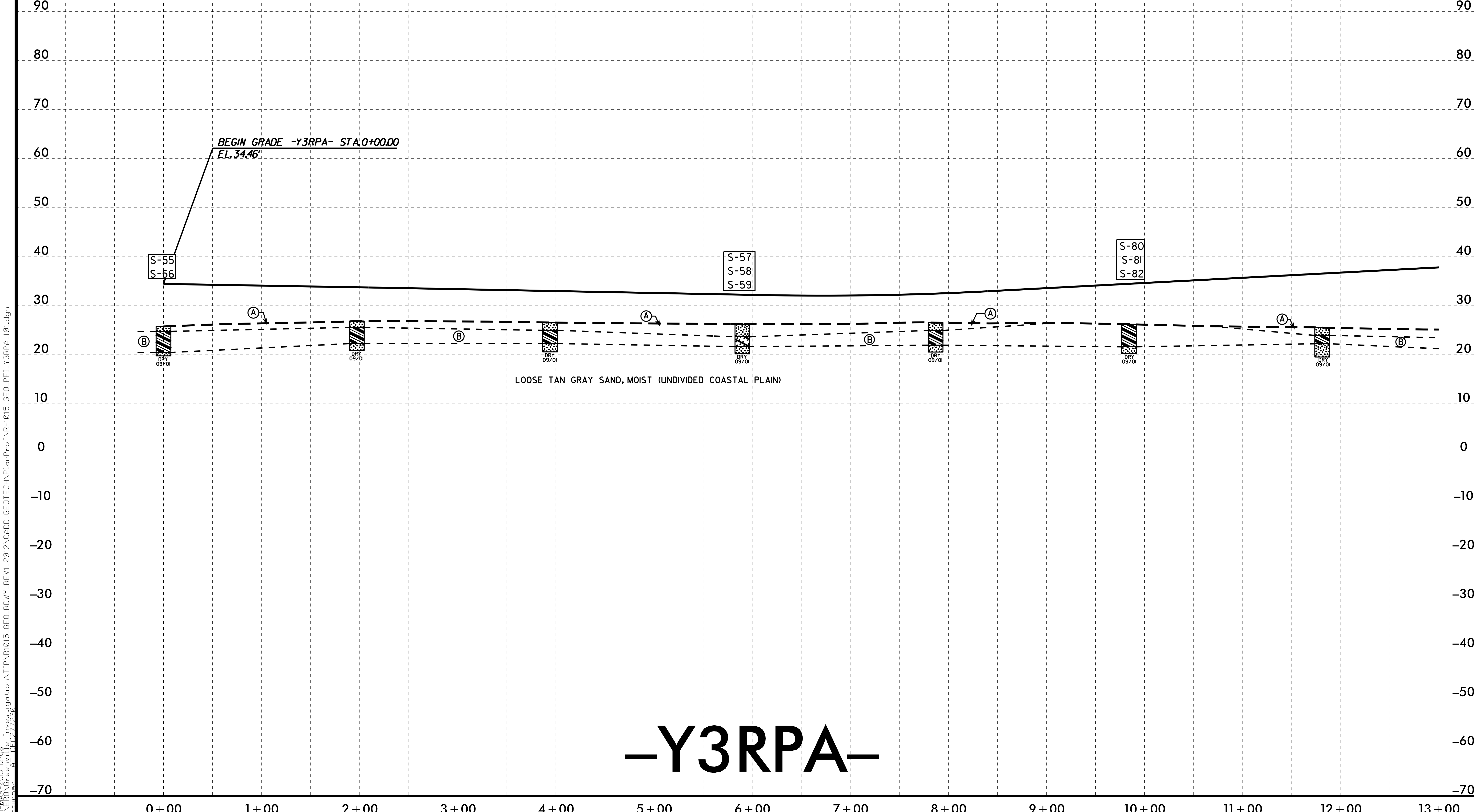
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-55	CL	0+00	1.0-5.3	A-6(4)	36	20	6.7	54.1	8.9	30.3	100	98	41	20.5	-
S-56	CL	0+00	5.3-6.2	A-2-4(0)	20	NP	6.7	77.8	2.4	13.1	100	98	18	-	-
S-57	CL	5+90	1.0-2.6	A-2-4(0)	24	8	17.9	54.6	6.3	21.2	100	99	28	-	-
S-58	CL	5+90	2.6-4.6	A-2-6(1)	29	15	18.4	49.7	5.7	26.3	100	99	33	-	-
S-59	CL	5+90	4.6-6.2	A-2-4(0)	22	NP	1.3	83.9	3.6	11.1	100	99	16	-	-
S-80	CL	9+84	1.0-2.0	A-6(1)	25	11	9.0	54.7	10.0	26.3	100	99	38	-	-
S-81	CL	9+84	2.0-4.6	A-6(2)	31	15	12.4	47.2	7.1	33.3	100	99	42	-	-
S-82	CL	9+84	4.6-6.2	A-2-4(0)	18	NP	33.9	49.5	1.4	15.2	100	98	17	-	-

(A) LOOSE TAN GRAY SAND AND CLAYEY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(B) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	103

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

5/14/99

SOIL TEST RESULTS

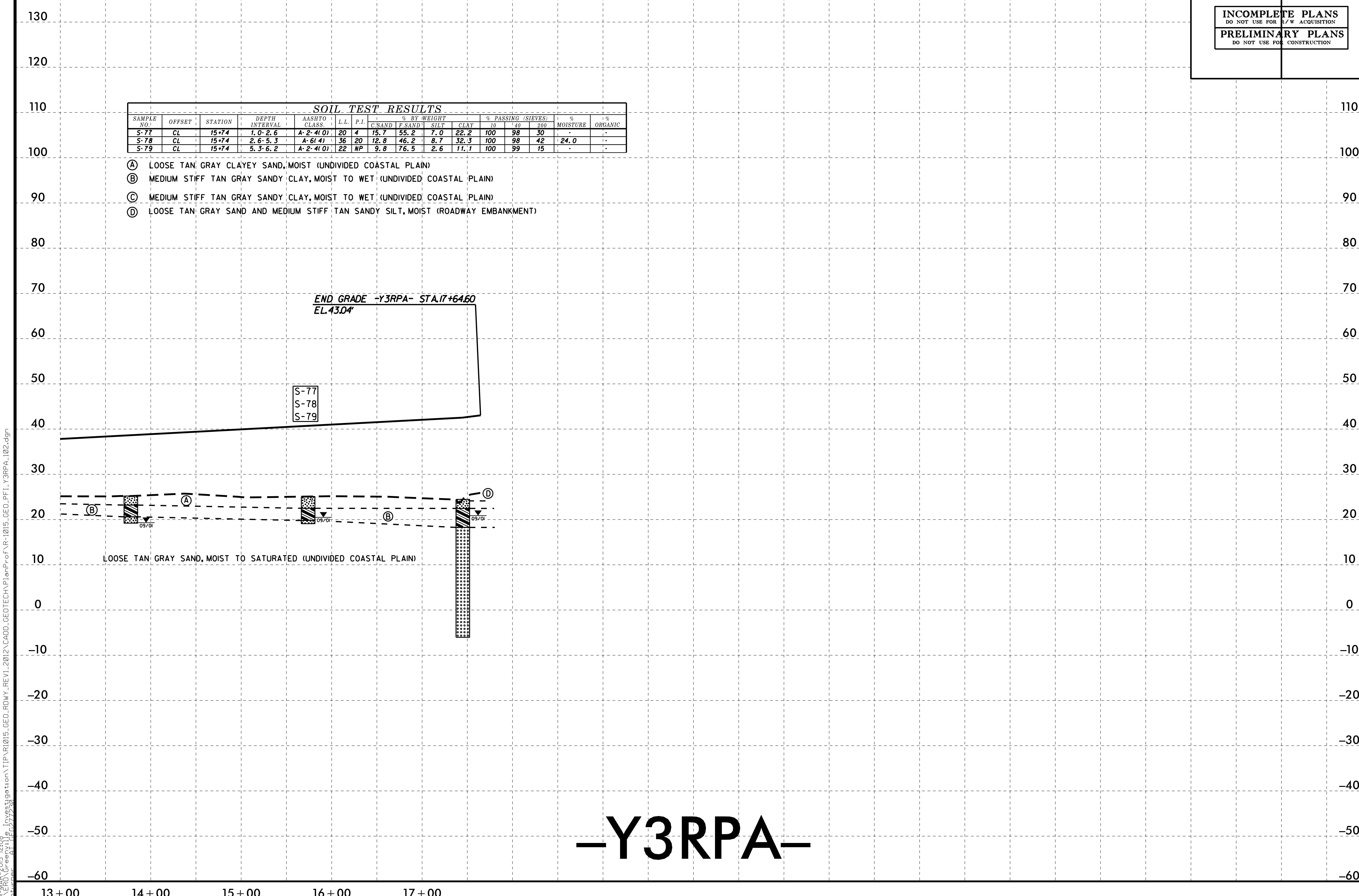
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-77	CL	15+74	1.0-2.6	A-2-4(0)	20	4	15.7	55.2	7.0	22.2	100	98	30	-	-
S-78	CL	15+74	2.6-5.3	A-6(4)	36	20	12.8	46.2	8.7	32.3	100	98	42	24.0	-
S-79	CL	15+74	5.3-6.2	A-2-4(0)	22	NP	9.8	76.5	2.6	11.1	100	99	15	-	-

(A) LOOSE TAN GRAY CLAYEY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(B) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

(C) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

(D) LOOSE TAN GRAY SAND AND MEDIUM STIFF TAN SANDY SILT, MOIST (ROADWAY EMBANKMENT)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	104

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

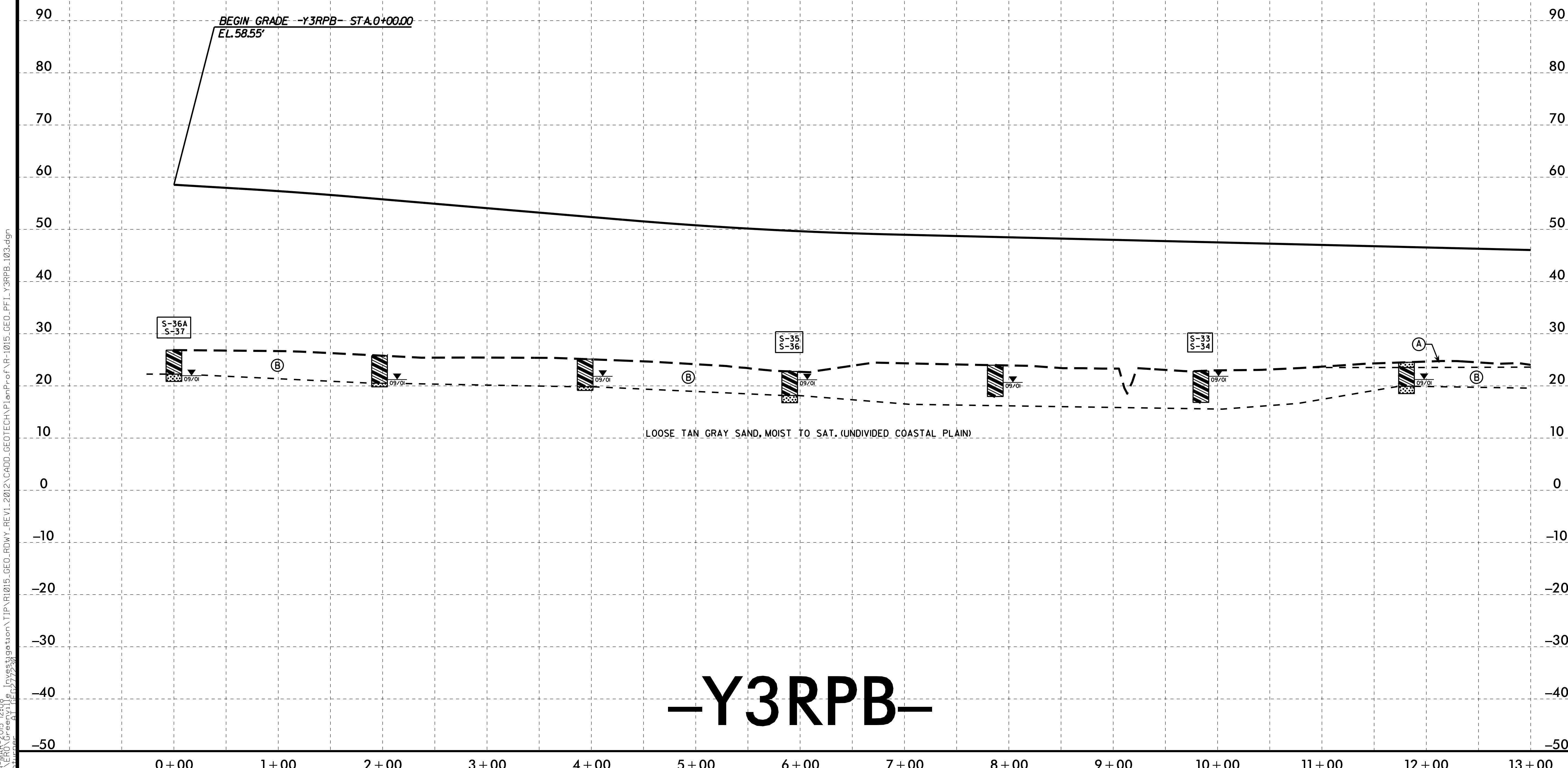
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
S-36A	CL	0+00	1.0-4.6	A-6(6)	33	17	3.2	43.2	19.2	34.3	100	99	56	-	-
S-37	CL	0+00	4.6-6.2	A-2-4(0)	17	NP	13.2	72.7	2.9	11.1	100	97	16	-	-
S-35	CL	5+90	1.0-4.6	A-6(5)	33	15	8.5	41.0	14.1	36.4	100	99	53	27.6	-
S-36	CL	5+90	4.6-6.2	A-2-4(0)	19	NP	16.7	64.3	2.8	16.2	100	98	19	-	-
S-33	CL	9+84	1.0-2.6	A-6(3)	33	13	5.7	51.1	12.9	30.3	100	98	45	-	-
S-34	CL	9+84	2.6-6.2	A-6(3)	29	14	12.1	46.7	10.9	30.3	100	98	45	-	-

(A) LOOSE TAN GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(B) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	105

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

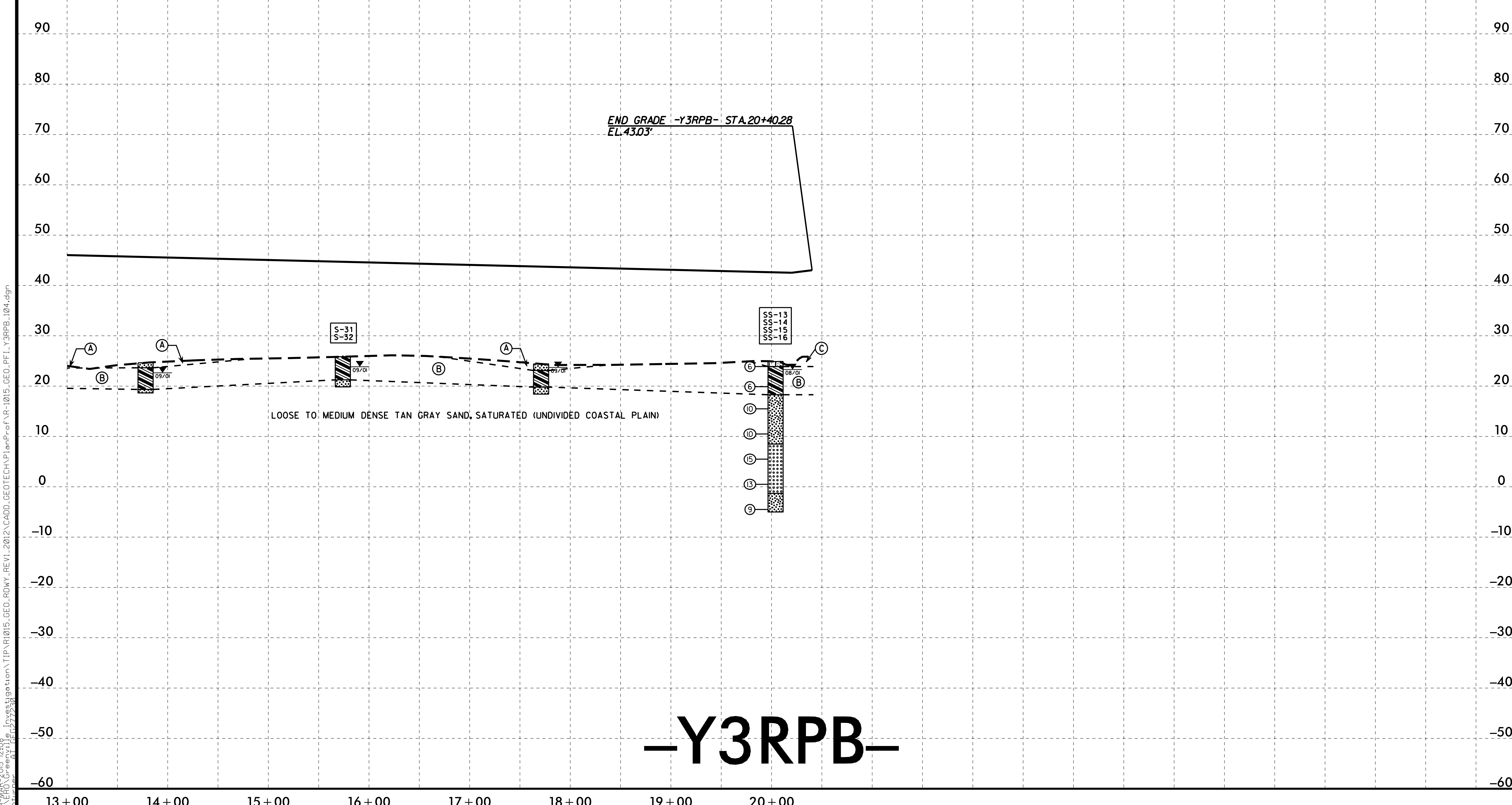
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-31	CL	15+74	1.0-4.6	A-6(1)	27	12	13.3	50.1	8.3	28.3	100	98	38	21.3	-
S-32	CL	15+74	4.6-6.2	A-2-4(0)	17	NP	18.2	66.2	1.5	14.1	100	96	16	-	-
SS-13	CL	20+04	1.0-1.5	A-6(2)	31	14	11.7	47.1	9.9	31.3	100	98	43	-	-
SS-14	CL	20+04	8.4-9.9	A-2-4(0)	22	NP	2.4	87.2	3.3	7.1	100	100	12	-	-
SS-15	CL	20+04	18.4-19.9	A-3(0)	20	NP	26.9	67.1	0.0	6.1	100	93	7	-	-
SS-16	CL	20+04	78.4-29.9	A-2-4(0)	17	NP	32.7	51.5	10.7	5.1	100	95	16	-	-

(A) LOOSE TAN GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(B) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

(C) LOOSE TAN GRAY SAND AND MEDIUM STIFF TAN SANDY SILT, MOIST (ROADWAY EMBANKMENT)



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PROJECT REFERENCE NO.	SHEET NO.
R–1015	106

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

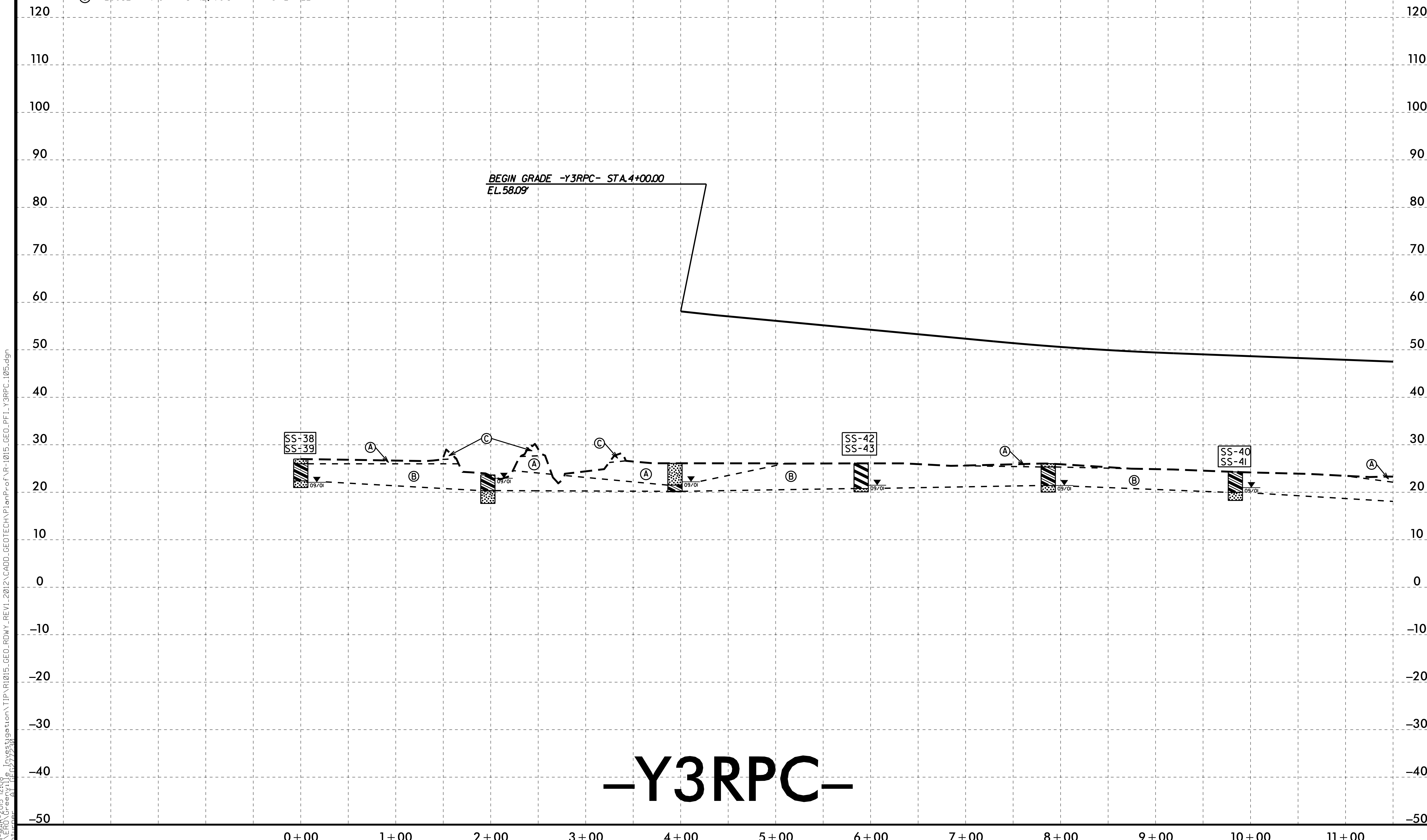
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
S-38	CL	0+00	1.0-4.6	A-6(4)	34	17	5.7	51.9	10.1	32.3	100	97	44	20.4	-
S-39	CL	0+00	4.6-6.2	A-2-4(0)	24	8	15.8	64.2	3.8	16.2	100	97	21	-	-
S-42	CL	5+90	1.0-5.3	A-7-6(11)	41	23	6.1	34.5	19.0	40.4	100	99	61	-	-
S-43	CL	5+90	5.3-6.2	A-2-4(0)	20	NP	10.1	71.9	3.8	14.1	100	98	19	-	-
S-40	CL	9+84	1.0-4.3	A-6(5)	34	17	5.3	47.3	11.1	36.4	100	99	49	25.9	-
S-41	CL	9+84	4.3-6.2	A-2-4(0)	21	4	14.8	65.5	1.5	18.2	100	98	21	-	-

(A) LOOSE TAN GRAY SAND, MOIST TO SATURATED (UNDIVIDED COASTAL PLAIN)

(B) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

(C) LOOSE TAN GRAY SAND, MOIST (ARTIFICIAL FILL)



PROJECT REFERENCE NO.	SHEET NO.
R-1015	107

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

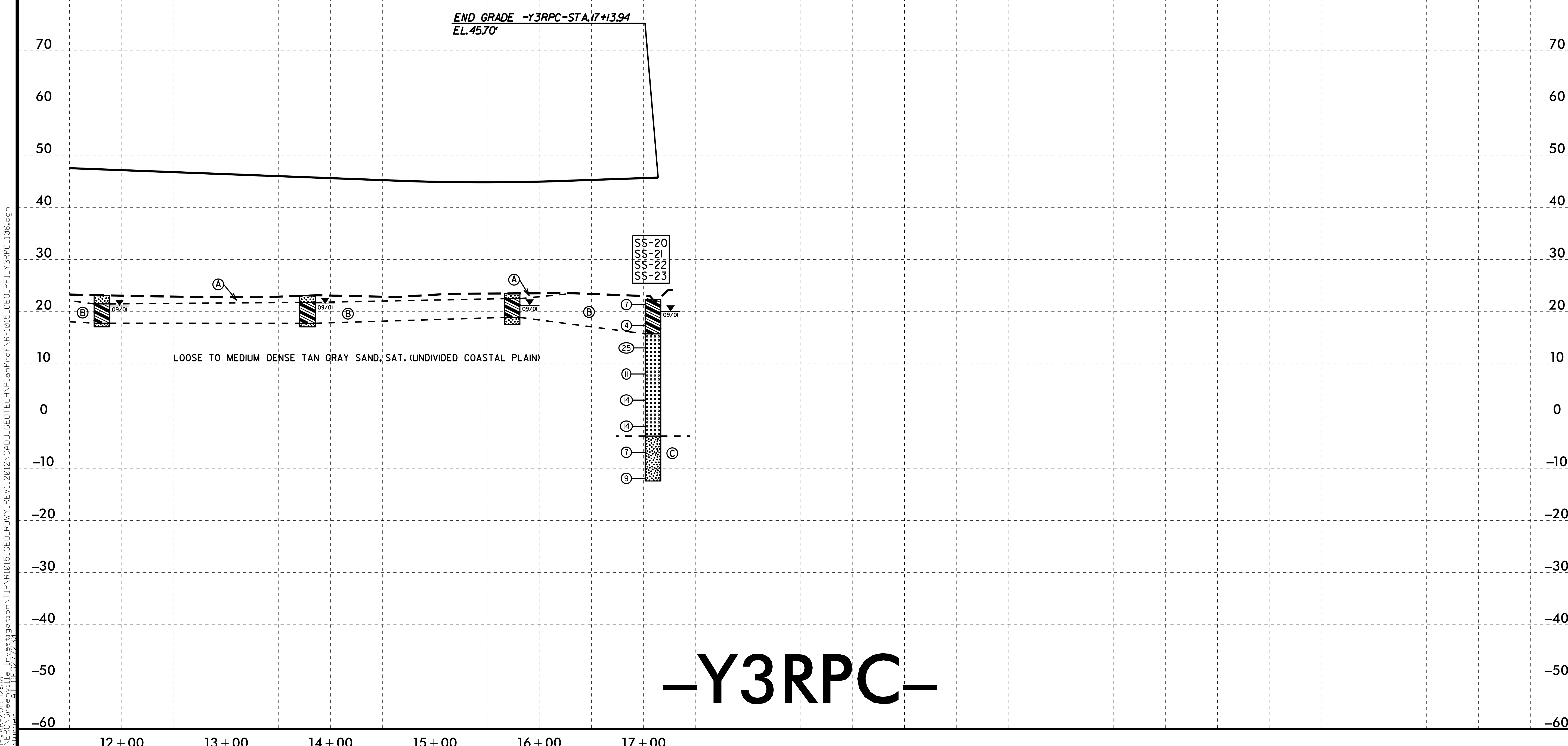
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-20	CL	17+09	1.0-1.5	A-6(6)	32	17	9.9	39.0	14.7	36.4	100	99	53	-	-
SS-21	CL	17+09	8.3-9.8	A-3(0)	22	NP	5.1	88.9	2.0	4.0	100	99	7	-	-
SS-22	CL	17+09	18.3-19.8	A-3(0)	18	NP	52.5	40.0	2.4	5.1	100	86	8	-	-
SS-23	CL	17+09	28.3-29.8	A-2-4(0)	19	NP	1.5	77.4	8.0	13.1	100	99	22	-	-

(A) LOOSE TAN GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(B) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

(C) LOOSE TO VERY DENSE GRAY SAND WITH SHELL FRAGMETNS, SAT. (DUPLIN FORMATIONO



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	108

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

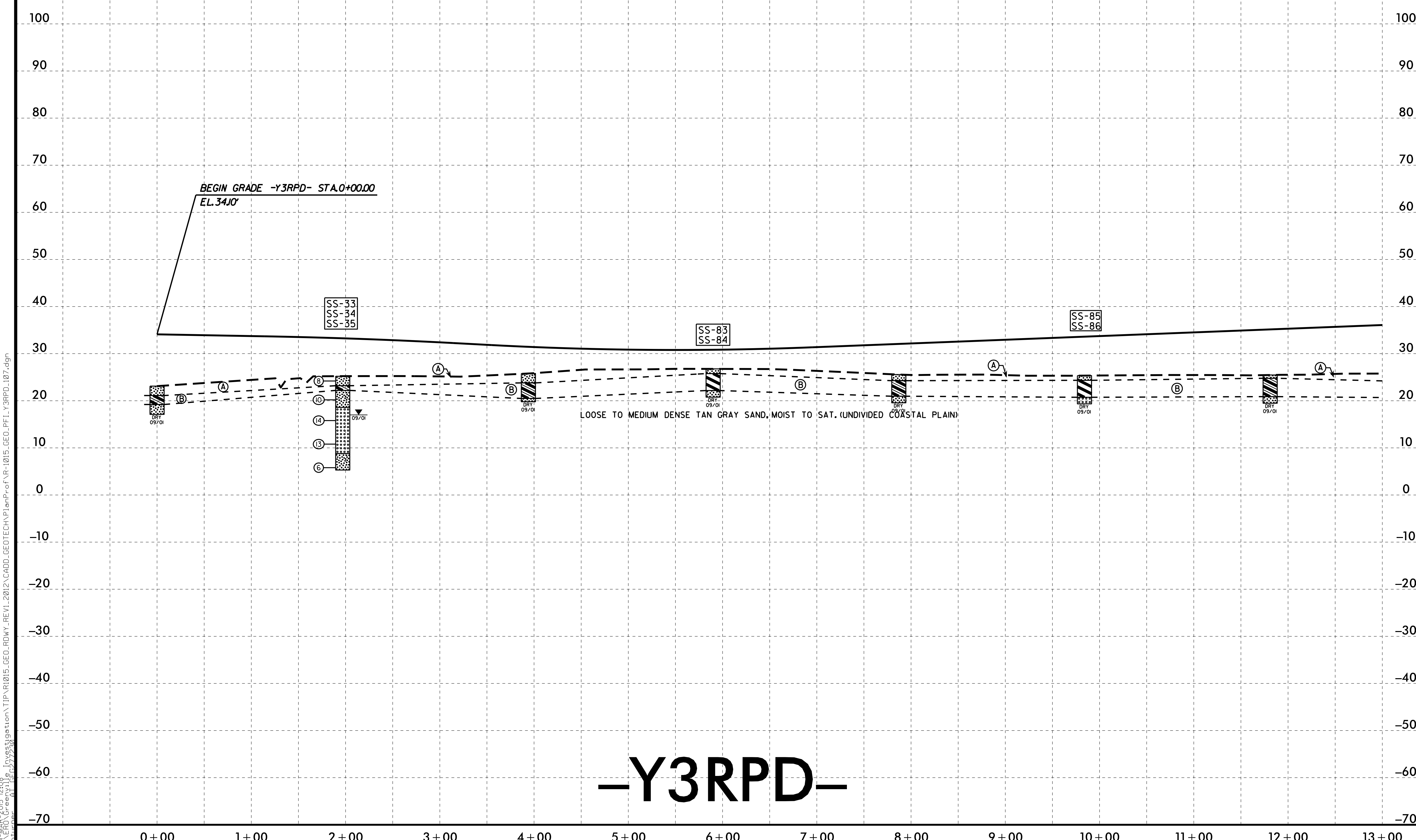
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	% BY WEIGHT F.SAND	% BY WEIGHT SILT	% BY WEIGHT CLAY	% PASSING (SIEVES) 10	% PASSING (SIEVES) 40	% PASSING (SIEVES) 200	% MOISTURE	% ORGANIC
SS-33	CL	1+96	1.0-1.5	A-2-4(0)	19	5	19.2	49.5	9.1	22.2	100	98	34	-	-
SS-34	CL	1+96	8.4-9.9	A-3(0)	22	NP	0.7	93.8	1.4	4.0	100	100	6	-	-
SS-35	CL	1+96	18.4-19.9	A-2-4(0)	19	NP	8.4	78.4	2.1	11.1	100	100	14	-	-
S-83	CL	5+90	1.0-4.6	A-7-6(12)	46	28	10.7	36.2	10.7	42.4	100	99	56	-	-
S-84	CL	5+90	4.6-6.2	A-2-4(0)	21	NP	33.5	49.1	2.2	15.2	100	96	18	-	-
S-85	CL	9+84	1.0-4.6	A-7-6(10)	44	24	11.3	36.2	10.1	42.4	100	99	54	20.0	-
S-86	CL	9+84	4.6-6.2	A-3(0)	20	NP	17.9	73.9	2.1	6.1	100	97	9	-	-

(A) LOOSE TAN GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(B) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	109

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

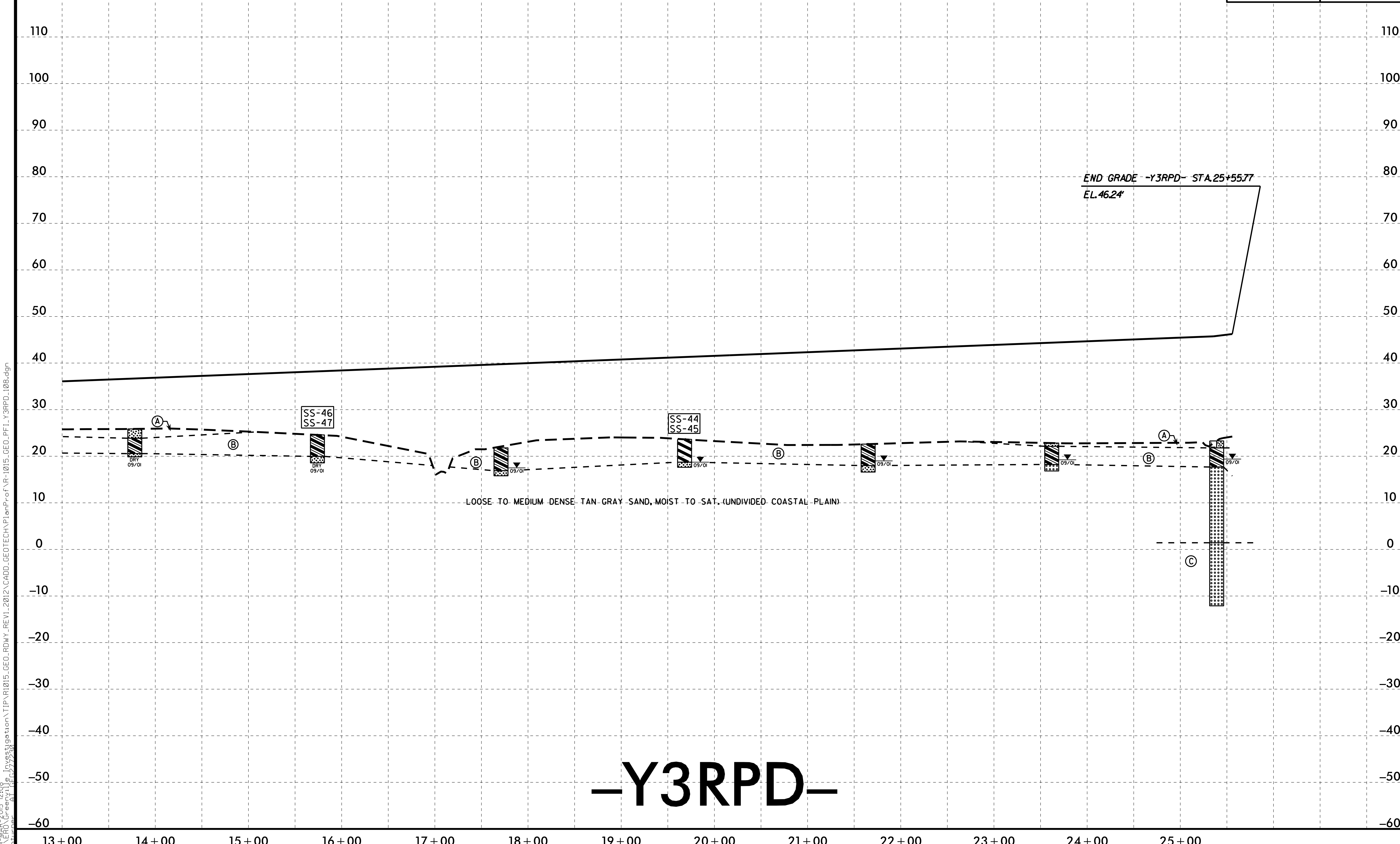
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-46	CL	15+74	1.0-4.6	A-6(4)	33	17	14.9	41.0	11.7	32.3	100	98	45	-	-
S-47	CL	15+74	4.6-6.2	A-2-4(0)	19	NP	16.8	72.7	1.4	9.1	100	95	11	-	-
S-44	CL	19+68	1.0-4.9	A-7-6(18)	50	26	3.0	27.3	15.2	54.5	100	99	71	35.7	-
S-45	CL	19+68	4.9-6.2	A-2-4(0)	19	NP	31.6	52.2	2.0	14.1	100	94	17	-	-

(A) LOOSE TAN GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(B) MEDIUM STIFF TAN GRAY SANDY AND SILTY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

(C) LOOSE TO VERY DENSE GRAY SAND WITH SHELL FRAGMENTS, SAT. (DUPLIN FORMATION)



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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-1015	110
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

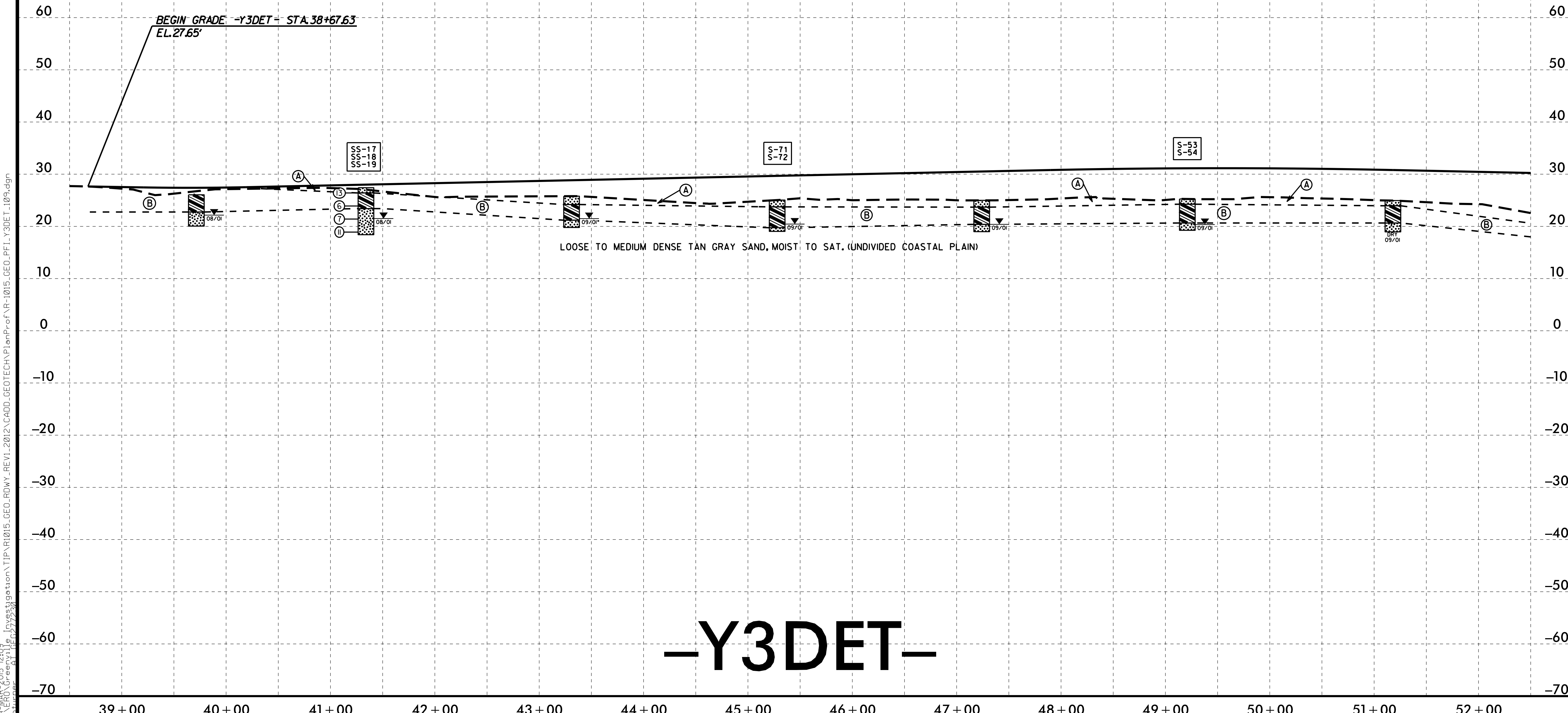
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-17	CL	41+34	1.0-1.5	A-6(1)	26	12	13.3	50.7	11.7	24.2	100	98	38	-	-
SS-18	CL	41+34	2.5-3.8	A-6(3)	33	18	12.5	48.6	8.6	30.3	100	98	41	-	-
SS-19	CL	41+34	5.5-6.5	A-2-4(0)	19	NP	13.3	76.3	2.3	8.1	100	93	11	-	-
S-71	CL	45+28	1.3-5.2	A-6(4)	35	18	12.1	44.8	8.7	34.3	100	99	45	-	-
S-72	CL	45+28	5.3-6.2	A-2-4(0)	20	NP	12.1	67.8	3.9	16.2	100	98	21	-	-
S-53	CL	49+21	1.0-4.6	A-6(2)	31	15	15.2	44.2	8.3	32.3	100	98	41	18.9	-
S-54	CL	49+21	4.6-6.2	A-2-4(0)	20	NP	9.0	78.3	1.6	11.1	100	98	13	-	-

(A) LOOSE TO MEDIUM DENSE TAN GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(B) MEDIUM STIFF TO STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)



5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-1015	111
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

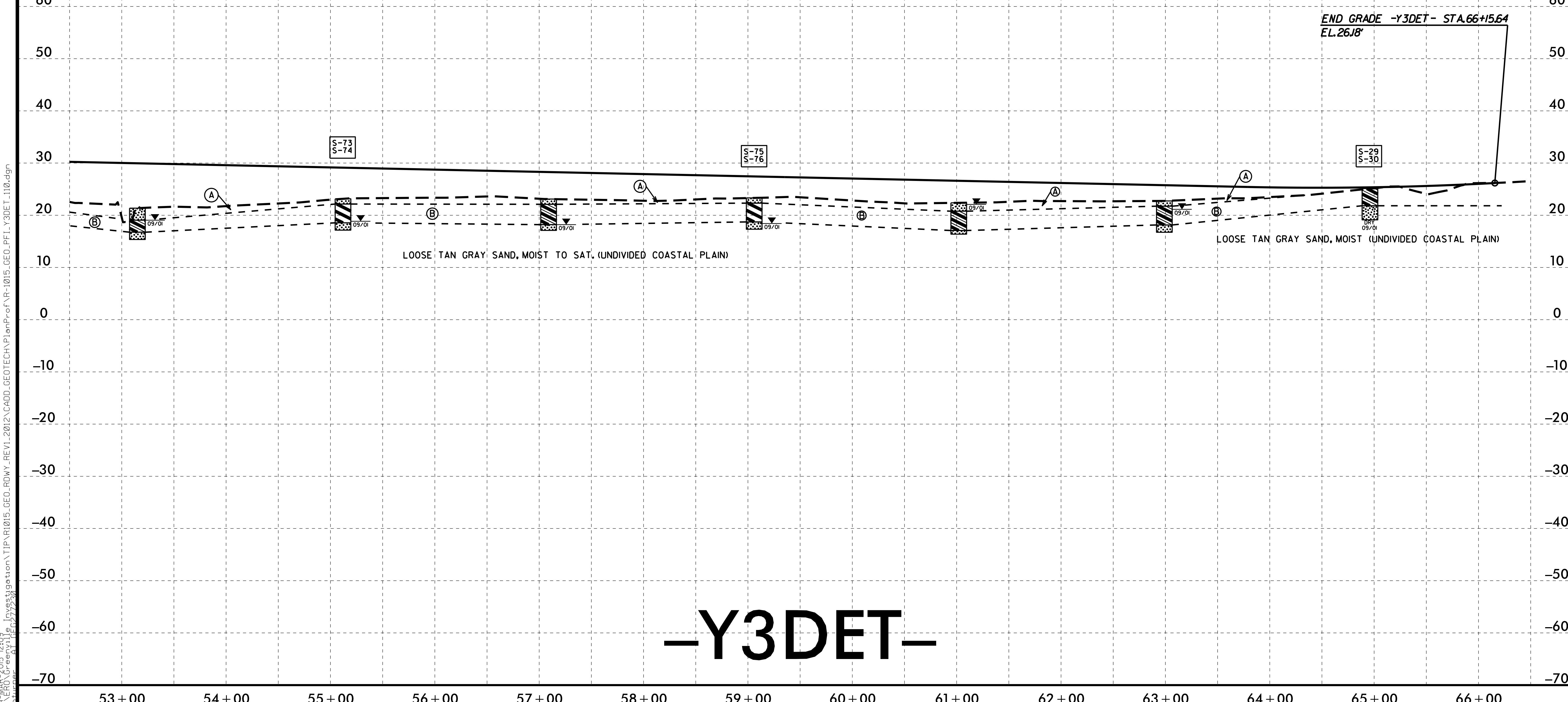
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-73	CL	55+12	1.0-4.6	A-7-6(12)	46	26	9.1	34.2	15.3	41.4	100	99	58	-	-
S-74	CL	55+12	4.6-6.2	A-2-4(0)	19	NP	30.2	52.5	1.1	16.2	100	96	18	-	-
S-75	CL	59+05	1.0-4.6	A-7-6(13)	46	25	7.9	32.9	10.7	48.5	100	99	61	27.4	-
S-76	CL	59+05	4.6-6.2	A-2-4(0)	25	7	23.0	58.0	0.8	18.2	100	97	19	-	-
S-29	CL	64+96	1.0-3.3	A-6(11)	40	21	3.2	35.6	12.7	48.5	100	99	63	18.3	-
S-30	CL	64+96	3.3-6.2	A-2-4(0)	17	NP	16.0	65.1	1.8	17.2	100	95	20	-	-

(A) LOOSE TAN GRAY SAND, MOIST TO SAT. (UNDIVIDED COASTAL PLAIN)

(B) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	112
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-73	20 RT	33+46	1.0-2.0	A-4(0)	24	9	4.6	59.7	10.4	25.3	100	99	38	-	-
S-74	20 RT	33+46	2.0-6.0	A-2-4(0)	17	NP	17.6	70.4	1.9	10.1	100	94	13	-	-
SS-16	10 RT	43+80	1.0-1.5	A-2-4(0)	18	5	29.5	43.6	7.7	19.2	92	84	27	-	-
SS-17	10 RT	43+80	2.5-4.0	A-6(2)	32	18	30.0	35.5	6.3	28.3	100	93	36	18.5	-
SS-18	10 RT	43+80	7.5-9.0	A-2-4(0)	19	NP	3.4	82.2	2.2	12.1	100	99	16	-	-
SS-19	10 RT	43+80	17.2-18.6	A-2-4(0)	17	NP	25.9	58.6	3.5	12.1	100	95	16	-	-
SS-20	10 RT	43+80	32.2-33.7	A-2-4(0)	17	NP	29.7	52.7	6.5	11.1	97	93	18	-	-
SS-21	10 RT	43+80	42.2-43.6	A-3(0)	17	NP	66.3	28.3	0.4	5.1	100	54	6	-	-
SS-22	10 RT	43+80	52.2-53.6	A-3(0)	19	NP	36.0	54.9	4.0	5.1	88	75	10	-	-
SS-23	10 RT	43+80	62.2-63.6	A-2-4(0)	22	NP	7.9	77.2	9.9	5.1	94	90	17	-	-

(A) MEDIUM STIFF TO STIFF TAN BROWN SANDY SILT AND LOOSE TO MEDIUM DENSE TAN BROWN SAND, MOIST (ROADWAY EMBANKMENT)

(B) MEDIUM STIFF TO STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)

BEGIN GRADE -Y4- STA. 32+80.83
EL. 25.41'

SS-73
SS-74
20' RT

20' RT

16' RT

10' RT
ST-1

10' RT

SS-16
SS-17
SS-18
SS-19
SS-20
SS-21
SS-22
SS-23

10' RT

10' RT

DENSE TAN GRAY

SAND

LOOSE TO DENSE GRAY

MOIST TO SAT.

SAND, SATURATED

(UNDIVIDED COASTAL PLAIN)

(DUPLIN FORMATION)

SOFT TO HARD
(RIVERBEND

GRAY LIMESTONE
FORMATION)

-Y4-

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

33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00 44+00 45+00 46+00

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PROJECT REFERENCE NO.	SHEET NO.
R-1015	113

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
SS-24	10 RT	50+52	1.0-1.5	A-2-4(0)	18	2	31.1	44.8	7.9	16.2	72	62	19	-	-
SS-25	10 RT	50+52	5.0-6.5	A-3(0)	20	NP	24.3	69.8	0.8	5.1	100	98	6	-	-
SS-26	10 RT	50+52	7.5-9.0	A-2-6(1)	28	14	10.9	60.1	4.7	24.2	100	99	30	-	-
SS-27	10 RT	50+52	17.3-18.8	A-3(0)	17	NP	14.5	80.2	1.2	4.0	100	98	6	-	-
SS-28	10 RT	50+52	22.3-23.8	A-2-4(0)	19	3	26.9	53.5	5.5	14.1	100	96	20	-	-

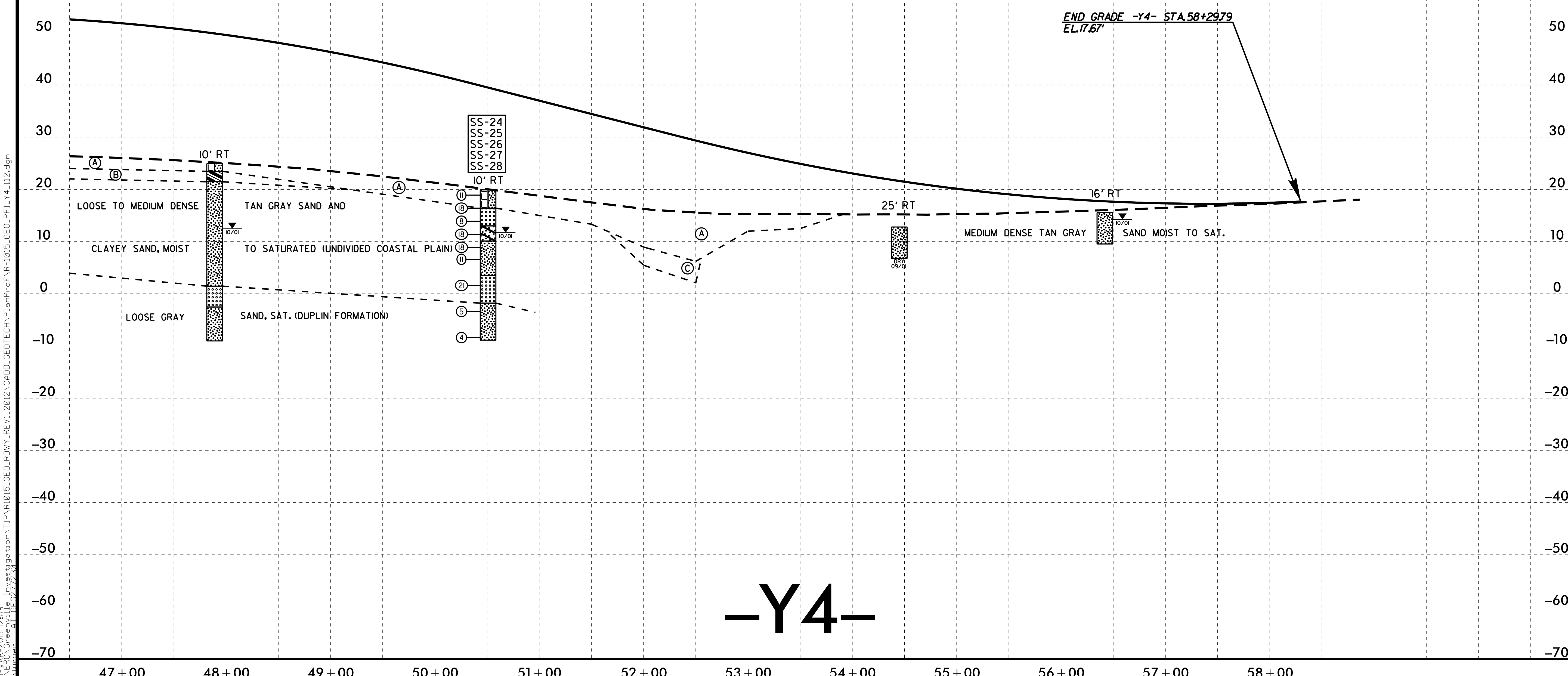
(A) LOOSE TAN BROWN FINE SAND, MOIST (ROADWAY EMBANKMENT)

(B) MEDIUM STIFF TO STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)

(C) VERY LOOSE BROWN MUCK AND SAND WITH LITTLE TO MODERATE ORGANIC CONTENT, MOIST TO SAT. WITH VERY SOFT TO MODERATELY ORGANIC SANDY SILT, MOIST TO WET (ALLUVIAL)

VANE SHEAR TESTS

STATION	OFFSET	DEPTH	S (psf)
52+50	43 RT	0.6	71
52+50	43 RT	1.3	58
52+50	43 RT	2.0	44
52+50	43 RT	2.6	92
52+50	43 RT	3.3	113
52+50	43 RT	3.9	117
52+50	43 RT	4.5	84
52+50	43 RT	5.2	134
52+50	50 RT	0.6	52
52+50	50 RT	1.3	46
52+50	50 RT	2.0	100
52+50	50 RT	2.6	75
52+50	50 RT	3.3	127
52+50	50 RT	3.9	119
52+50	50 RT	4.5	116



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

-Y4-

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PROJECT REFERENCE NO.	SHEET NO.
R-1015	114

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

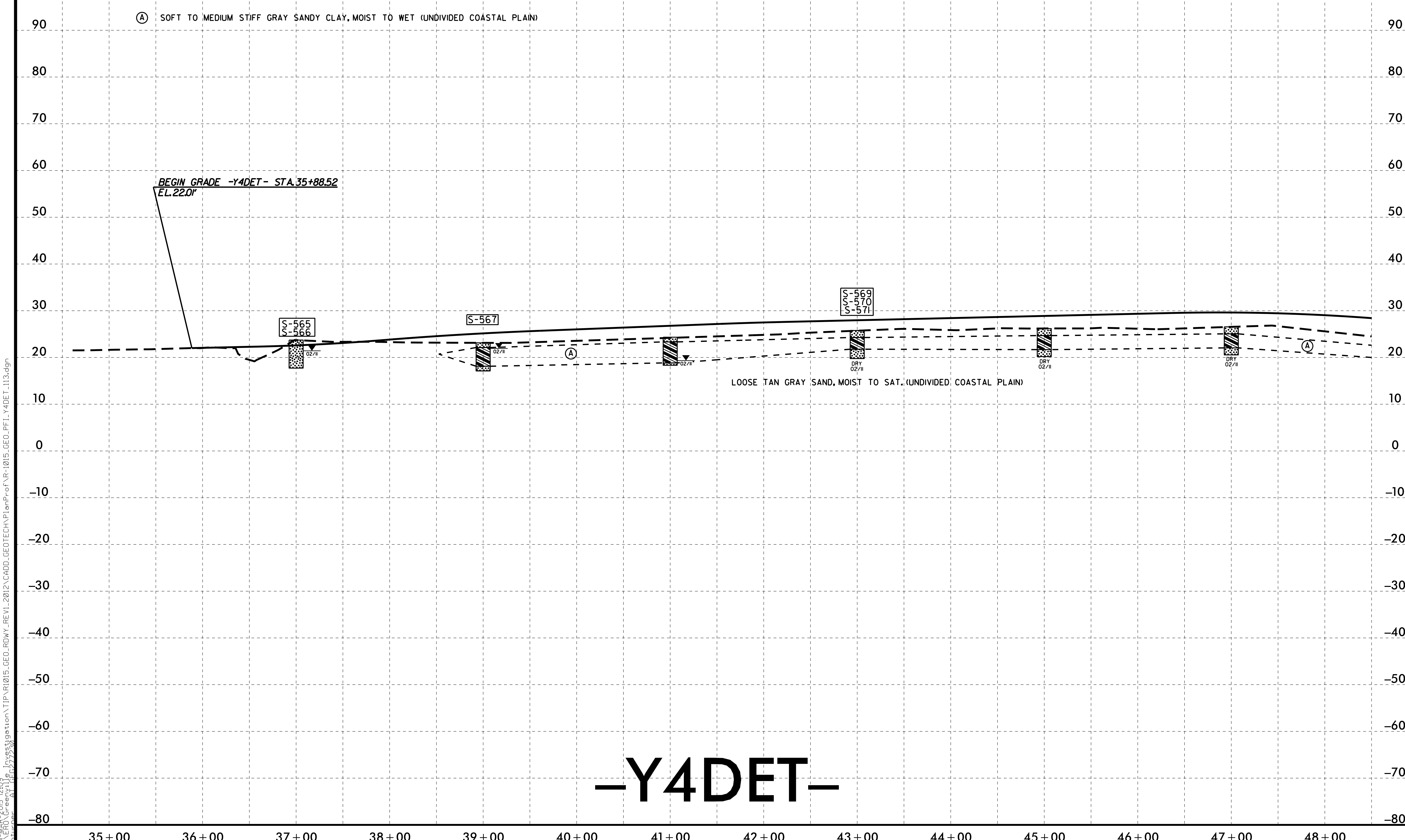
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

5/14/99

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-565	CL	37+00	1.5-4.5	A-2-4(0)	19	NP	24.4	47.7	13.8	14.1	100	94	30	-	-
S-566	CL	37+00	4.5-6.0	A-2-4(0)	20	NP	28.0	51.2	6.7	14.1	100	92	22	-	-
S-567	CL	39+00	1.0-5.0	A-6(3)	30	15	20.7	36.5	10.4	32.4	100	95	45	-	-
S-569	CL	43+00	0.0-1.5	A-2-4(0)	16	NP	30.8	47.2	9.8	12.2	100	94	24	-	-
S-570	CL	43+00	1.5-4.0	A-6(2)	31	16	24.1	36.1	9.4	30.4	100	95	41	-	-
S-571	CL	43+00	4.0-6.0	A-2-4(0)	23	4	24.3	51.7	5.8	18.2	100	96	27	-	-

(A) SOFT TO MEDIUM STIFF GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



-Y4DET-

PROJECT REFERENCE NO.	SHEET NO.
R–1015	115

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

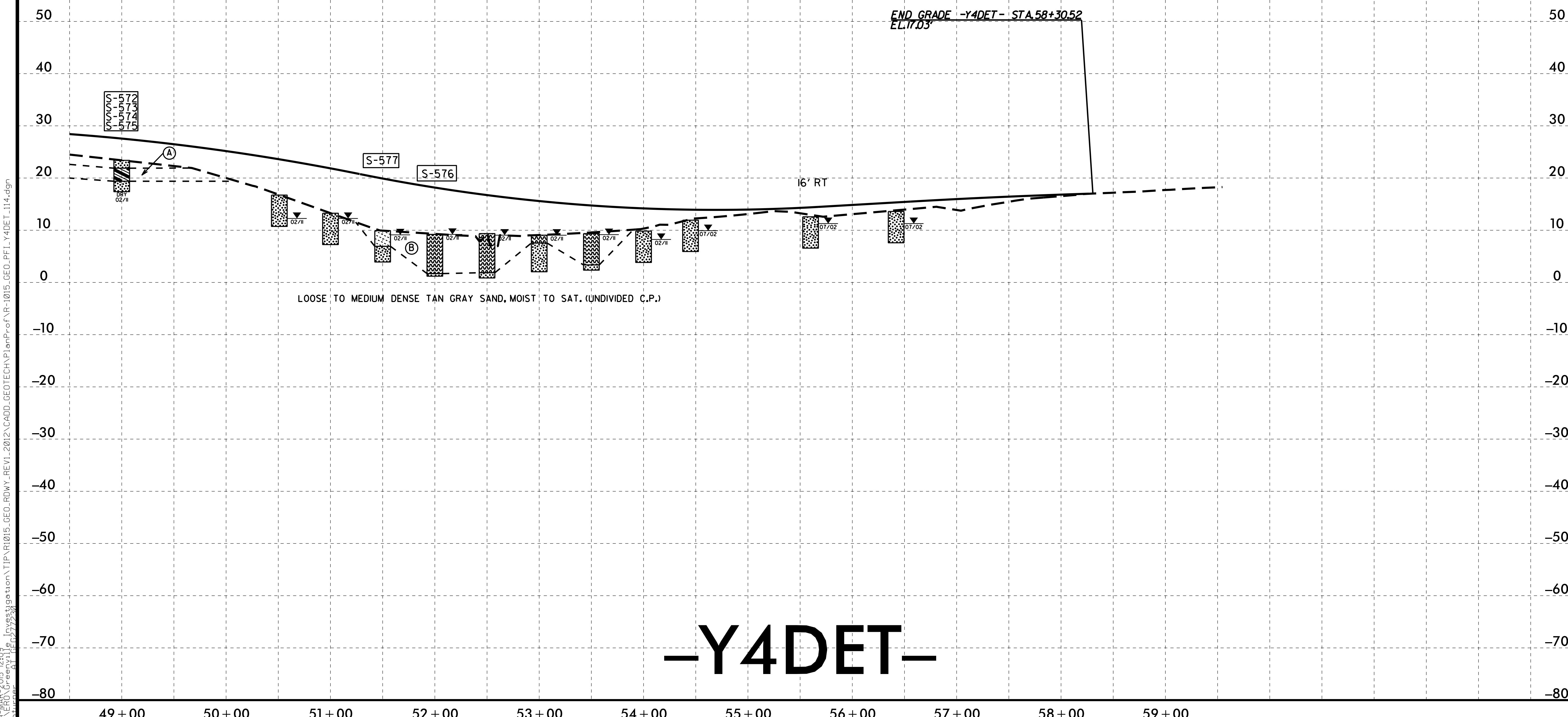
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-572	CL	49+00	0.0-1.5	A-2-4(0)	16	NP	20.5	55.7	13.7	10.1	100	97	27	-	-
S-573	CL	49+00	1.5-4.0	A-6(5)	37	19	14.8	40.5	8.2	36.5	100	98	47	-	-
S-574	CL	49+00	4.5-5.2	A-2-4(0)	22	5	35.3	43.0	5.6	16.2	100	97	22	-	-
S-575	CL	49+00	5.2-6.0	A-2-4(0)	18	NP	5.9	80.0	4.0	10.1	100	99	16	-	-
S-577	CL	51+50	0.0-3.0	A-2-4(0)	24	NP	16.4	70.1	7.4	6.1	100	97	14	-	3.7
S-576	CL	52+00	0.0-6.0	A-5(1)	104	NP	26.3	31.2	34.3	8.1	100	83	43	498.9	41.6

(A) SOFT TO MEDIUM STIFF GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)

(B) VERY LOOSE BROWN SAND WITH LITTLE TO MODERATE ORGANIC CONTENT, MOIST TO SAT. WITH VERY SOFT BROWN MODERATELY ORGANIC SANDY SILT, MOIST TO WET (ALLUVIAL)



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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-1015	116
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-549	CL	82+00	0.0-1.0	A-2-4(0)	22	NP	2.2	68.5	15.2	14.1	100	100	31	-	-
S-550	CL	82+00	1.0-4.0	A-6(2)	29	13	1.6	56.4	11.8	30.2	100	100	43	22.2	-
S-551	CL	82+00	6.5-9.0	A-2-4(0)	21	NP	5.0	76.7	6.1	12.1	100	100	17	-	-

(A) VERY SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

BEGIN GRADE -RP2A- STA.79+22.74
EL.37.99'

S-549
S-550
S-551

47' RT

40' LT

7' LT

VERY LOOSE TO LOOSE TAN GRAY SAND, MOIST TO SAT. (UNDIVIDED COASTAL PLAIN)

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

79+00 80+00 81+00 82+00 83+00 84+00 85+00 86+00 87+00 88+00 89+00 90+00 91+00 92+00 93+00

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PROJECT REFERENCE NO.	SHEET NO.
R-1015	117

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

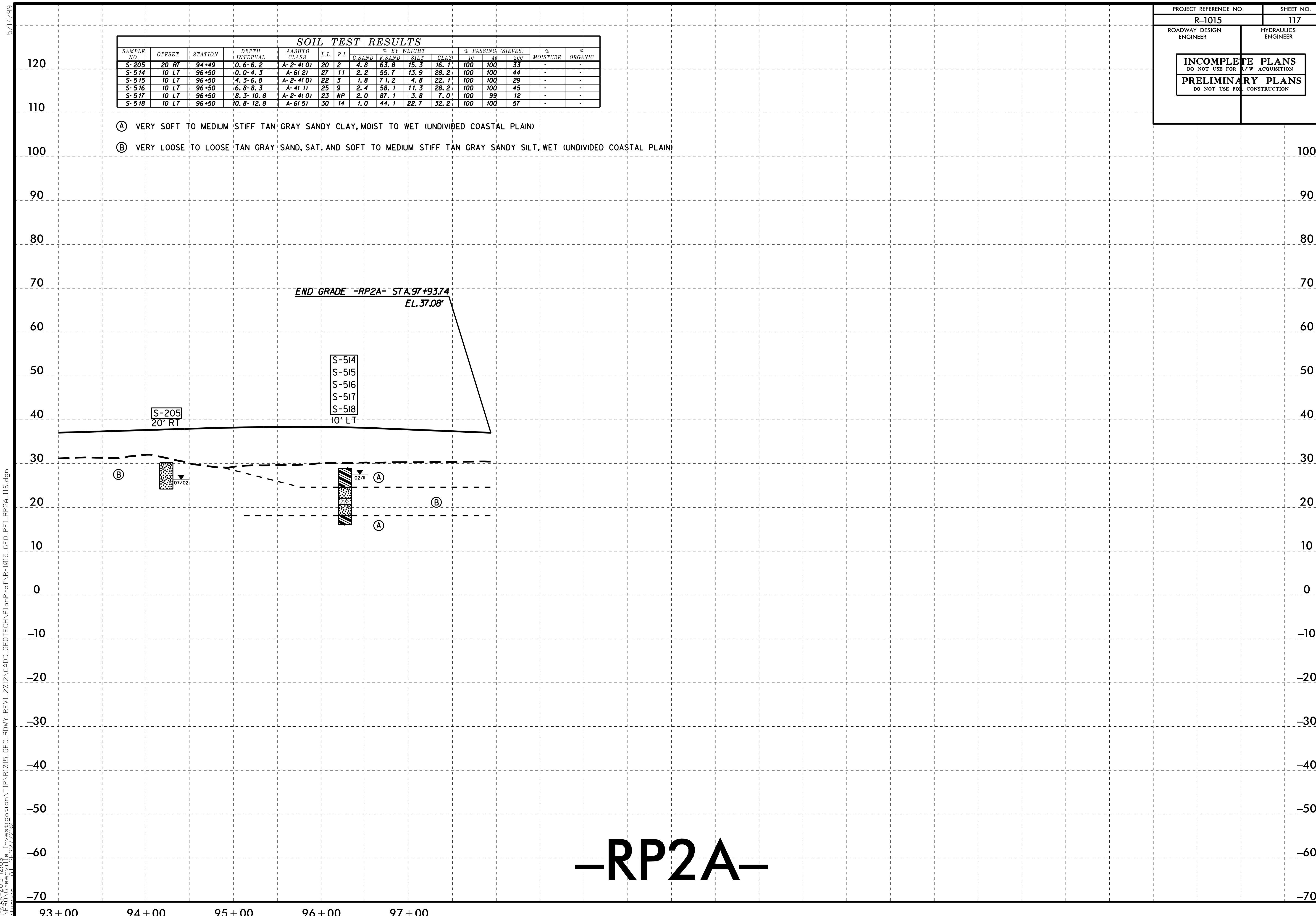
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-205	20 RT	94+49	0.6-6.2	A-2-4(0)	20	2	4.8	63.8	15.3	16.1	100	100	33	-	-
S-514	10 LT	96+50	0.0-4.3	A-6(2)	27	11	2.2	55.7	13.9	28.2	100	100	44	-	-
S-515	10 LT	96+50	4.3-6.8	A-2-4(0)	22	3	1.8	71.2	4.8	22.1	100	100	29	-	-
S-516	10 LT	96+50	6.8-8.3	A-4(1)	25	9	2.4	58.1	11.3	28.2	100	100	45	-	-
S-517	10 LT	96+50	8.3-10.8	A-2-4(0)	23	NP	2.0	87.1	3.8	7.0	100	99	12	-	-
S-518	10 LT	96+50	10.8-12.8	A-6(5)	30	14	1.0	44.1	22.7	32.2	100	100	57	-	-

(A) VERY SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

(B) VERY LOOSE TO LOOSE TAN GRAY SAND, SAT. AND SOFT TO MEDIUM STIFF TAN GRAY SANDY SILT, WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	118

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

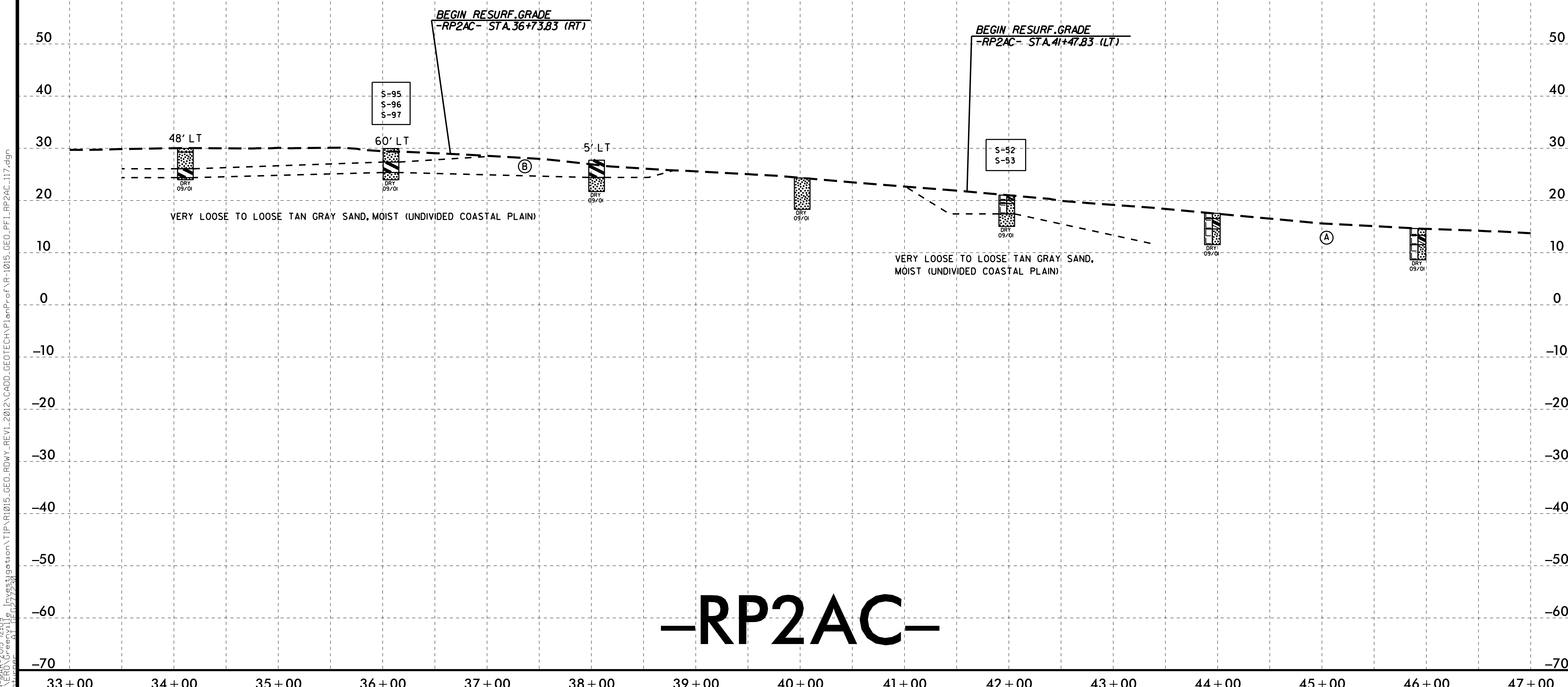
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-95	60 LT	36+08	1.0-2.6	A-2-4(0)	16	2	4.2	65.5	10.1	20.2	100	98	33	-	-
S-96	60 LT	36+08	2.6-4.6	A-7-6(10)	43	26	4.0	46.1	7.5	42.4	100	99	53	-	-
S-97	60 LT	36+08	4.6-6.0	A-2-4(0)	25	10	12.5	63.0	2.2	22.2	100	97	25	-	-
S-52	CL	41+99	1.0-1.6	A-6(5)	34	18	5.7	49.7	8.3	36.4	100	99	47	-	-
S-53	CL	41+99	1.6-6.0	A-2-4(0)	24	6	13.6	64.1	2.0	20.2	100	95	23	-	-

(A) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST AND LOOSE TAN SAND, MOIST (ROADWAY EMBANKMENT)

(B) MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)



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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-1015	119
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

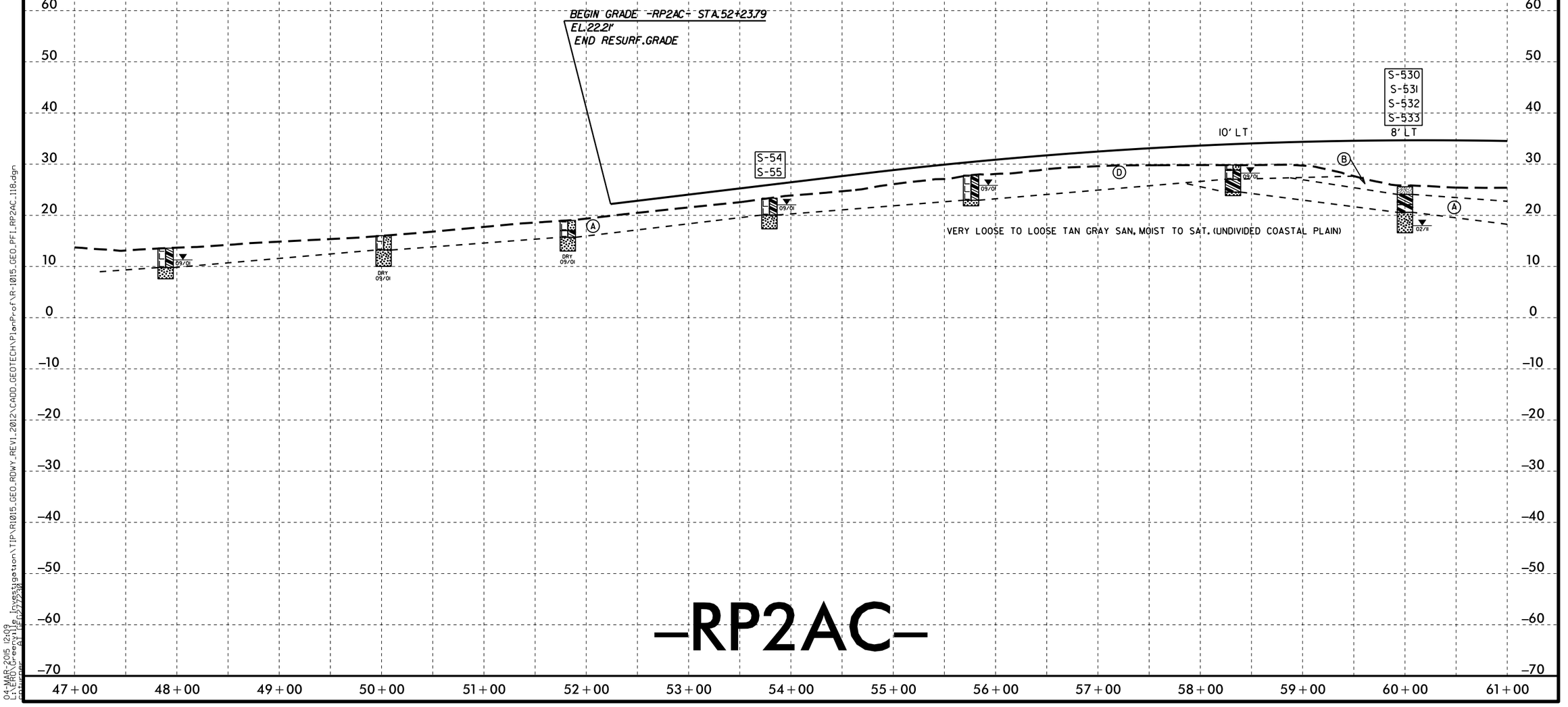
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C. SAND	F. SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-54	CL	53+80	1.0-3.5	A-6(2)	33	15	5.3	58.0	4.4	32.3	100	99	38	-	-
S-55	CL	53+80	3.3-6.0	A-2-4(0)	17	NP	13.6	72.2	3.0	11.1	100	98	15	-	-
S-530	8 LT	60+00	0.0-1.5	A-4(0)	20	4	10.1	55.9	11.9	22.1	100	97	36	-	-
S-531	8 LT	60+00	1.5-3.5	A-6(4)	32	17	6.0	48.1	11.6	34.2	100	98	48	-	-
S-532	8 LT	60+00	3.5-5.0	A-7-6(19)	49	29	2.4	28.8	14.4	54.4	100	99	71	-	-
S-533	8 LT	60+00	5.0-8.0	A-2-4(0)	24	6	11.9	61.0	4.9	22.2	100	96	28	-	-

(A) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

(B) SOFT TO MEDIUM STIFF TAN GRAY SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)

(D) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST TO WET (ROADWAY EMBANKMENT)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	120
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

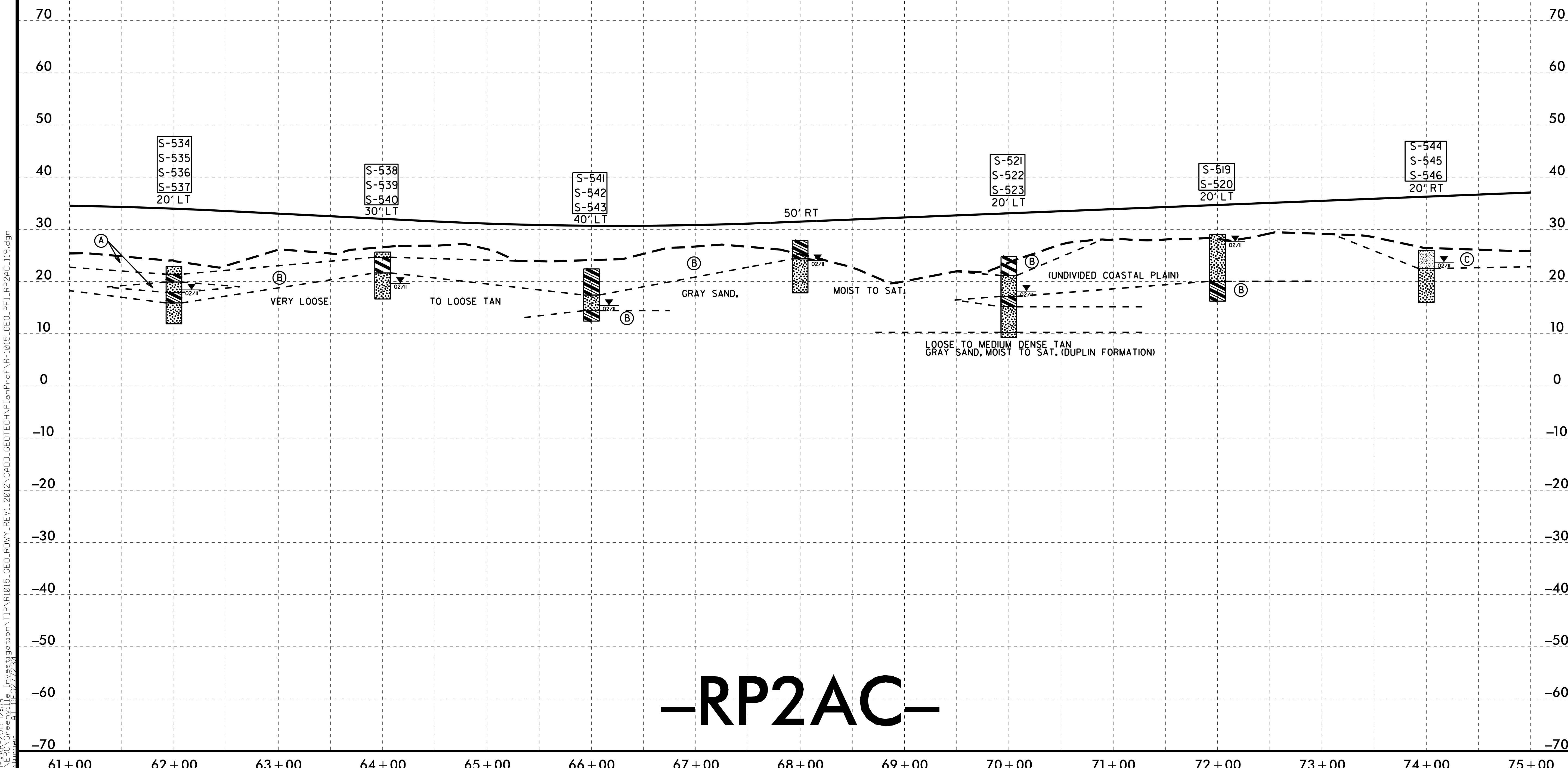
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-534	20 LT	62+00	1.5-3.0	A-6(1)	27	11	8.1	53.2	6.5	32.2	100	98	40	-	-
S-535	20 LT	62+00	3.0-4.0	A-2-4(0)	25	5	25.0	52.4	0.5	22.2	100	91	23	-	-
S-536	20 LT	62+00	4.0-5.0	A-2-4(0)	23	3	1.0	70.5	6.3	22.2	100	100	32	-	-
S-537	20 LT	62+00	5.0-7.0	A-6(2)	32	13	0.4	62.4	6.9	30.2	100	100	40	-	-
S-538	30 LT	64+00	0.0-1.0	A-2-4(0)	18	NP	6.2	62.2	15.4	16.1	100	99	35	-	-
S-539	30 LT	64+00	1.0-3.0	A-7-6(25)	58	37	2.6	29.0	16.0	52.4	100	99	70	-	-
S-540	30 LT	64+00	4.0-9.0	A-2-4(0)	23	4	9.9	66.3	1.7	22.2	100	97	25	-	-
S-541	40 LT	66+00	0.5-5.0	A-6(7)	40	20	2.8	45.5	11.4	40.3	100	100	53	-	-
S-542	40 LT	66+00	5.0-8.0	A-2-4(0)	23	NP	1.8	82.8	1.3	14.1	100	100	17	-	-
S-543	40 LT	66+00	8.0-9.0	A-6(2)	30	13	12.9	49.1	11.8	26.2	100	95	40	-	-
S-521	20 LT	70+00	1.0-3.6	A-7-6(9)	43	25	2.4	46.7	8.7	42.3	100	100	52	-	-
S-522	20 LT	70+00	3.6-7.6	A-2-4(0)	20	NP	10.8	75.4	2.8	11.1	100	97	14	-	-
S-523	20 LT	70+00	7.6-8.6	A-6(2)	29	11	11.7	45.1	13.1	30.2	99	92	45	-	-
S-519	42 RT	72+00	0.0-9.0	A-2-4(0)	25	5	2.1	70.3	7.4	20.1	100	100	30	-	-
S-520	42 RT	72+00	9.0-12.8	A-6(15)	39	19	1.6	18.1	44.1	36.2	100	99	83	-	-
S-544	20 RT	74+00	1.5-3.5	A-4(1)	25	8	2.2	55.8	11.8	30.2	100	100	44	-	-
S-545	20 RT	74+00	3.5-4.5	A-2-4(0)	21	NP	3.8	76.1	3.9	16.1	100	100	21	-	-
S-546	20 RT	74+00	4.5-10.0	A-2-4(0)	20	NP	18.1	69.1	2.7	10.1	100	98	14	-	-

(A) VERY LOOSE TAN GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)

(B) SOFT TO MEDIUM STIFF TAN GRAY SANDY AND SILTY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

(C) MEDIUM STIFF TAN GRAY SANDY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

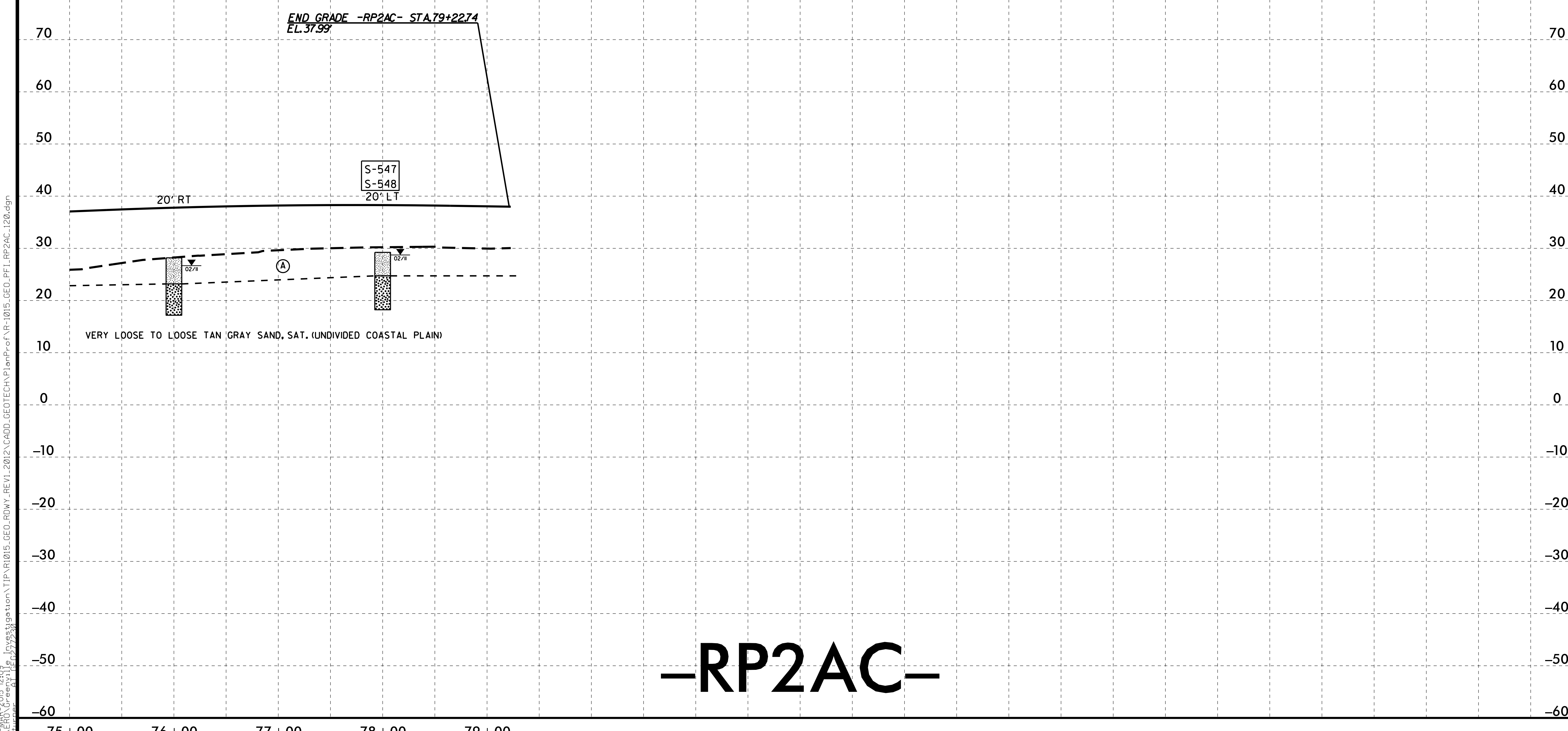
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-547	20 LT	78+00	1.0-4.5	A-4(0)	23	8	2.0	59.6	10.2	28.2	100	100	40	-	-
S-548	20 LT	78+00	4.5-11.0	A-2-4(0)	20	1	3.4	72.9	3.5	20.1	100	100	25	-	-

(A) MEDIUM STIFF TAN GRAY SANDY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	122

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

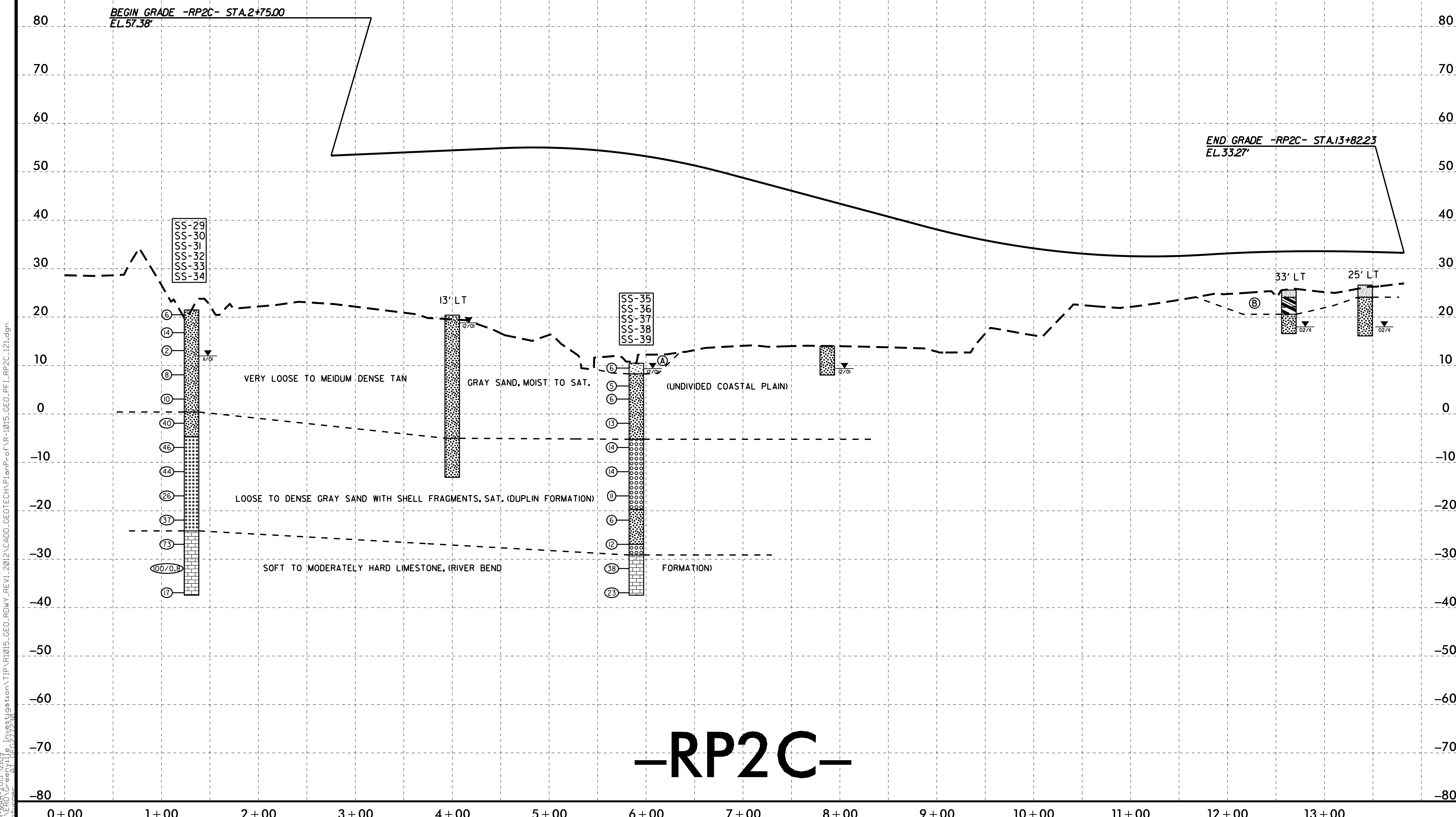
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Ⓐ VERY LOOSE DARK BROWN SAND WITH LITTLE ORGANIC MATTER, MOIST (UNDIVIDED COASTAL PLAIN)

Ⓑ MEDIUM STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST (UNDIVIDED COASTAL PLAIN)

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-29	18 LT	1+31	1.0-1.5	A-2-4(0)	19	NP	9.4	69.4	10.1	11.1	100	97	22	-	-
SS-30	18 LT	1+31	3.7-5.2	A-2-4(0)	17	NP	31.1	56.4	1.4	11.1	100	87	13	-	-
SS-31	18 LT	1+31	12.4-13.5	A-2-4(0)	17	NP	38.0	47.4	5.6	9.1	100	84	17	-	-
SS-32	18 LT	1+31	27.4-28.9	A-3(0)	18	NP	43.4	49.1	2.4	5.1	100	84	9	-	-
SS-33	18 LT	1+31	37.4-38.9	A-3(0)	18	NP	65.2	27.6	2.2	5.1	86	62	7	-	-
SS-34	18 LT	1+31	52.4-58.9	A-1-B(0)	16	NP	77.1	13.4	4.4	5.1	77	31	8	-	-
SS-35	13 LT	5+90	3.7-5.2	A-2-4(0)	21	NP	8.0	76.4	2.4	13.2	100	99	16	-	-
SS-36	13 LT	5+90	21.4-22.9	A-1-B(0)	19	NP	76.3	13.5	5.2	5.1	74	28	9	-	-
SS-37	13 LT	5+90	31.4-32.9	A-2-4(0)	25	NP	2.2	77.4	12.2	8.1	98	96	24	-	-
SS-38	13 LT	5+90	37.3-37.5	A-1-B(0)	23	NP	62.6	30.2	1.2	6.1	87	50	8	-	-
SS-39	13 LT	5+90	41.4-42.9	A-2-4(0)	16	NP	58.7	27.2	8.0	6.1	93	58	14	-	-



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	123
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

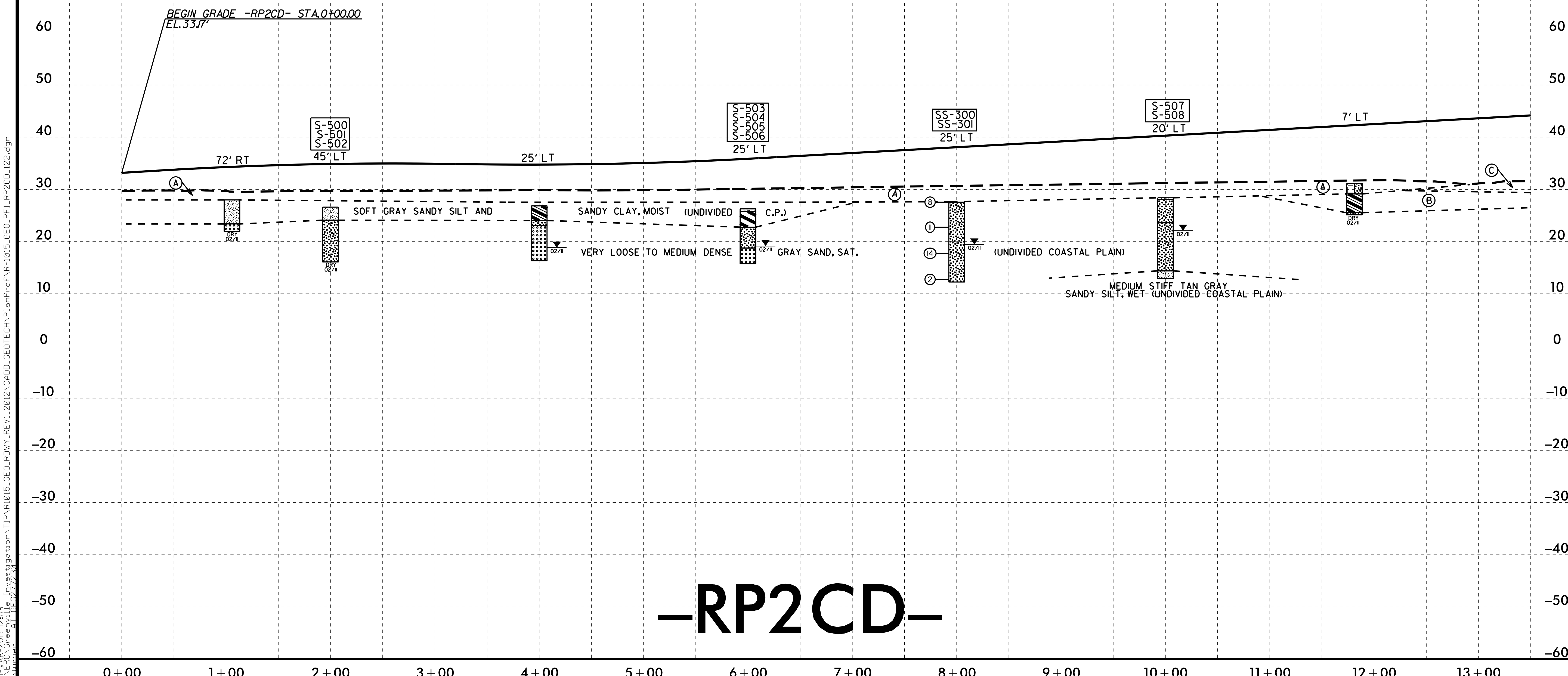
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-500	45 LT	2+00	0.0-2.5	A-4(2)	18	6	0.4	5.1	91.6	2.8	100	100	95	-	-
S-501	45 LT	2+00	2.5-3.5	A-2-4(0)	22	3	12.9	64.2	2.8	20.1	100	96	24	-	-
S-502	45 LT	2+00	3.5-10.5	A-2-4(0)	21	NP	5.5	82.1	4.3	8.0	100	98	14	-	-
S-503	25 LT	6+00	0.0-0.5	A-4(1)	22	8	6.4	51.1	16.3	26.2	100	98	45	-	-
S-504	25 LT	6+00	0.5-3.5	A-7-6(20)	51	30	3.0	29.4	17.3	50.3	100	99	71	-	-
S-505	25 LT	6+00	3.5-7.5	A-2-4(0)	20	NP	14.6	64.0	4.3	17.1	100	94	22	-	-
S-506	25 LT	6+00	7.5-10.5	A-3(0)	20	NP	16.9	74.6	2.4	6.0	100	95	9	-	-
SS-300	25 LT	8+00	0.0-0.5	A-2-4(0)	19	2	8.1	59.4	14.2	18.3	100	98	34	-	-
SS-301	25 LT	8+00	3.8-5.3	A-2-4(0)	20	NP	14.8	65.3	1.6	18.3	100	95	20	-	-
S-507	20 LT	10+00	0.3-4.8	A-2-4(0)	23	9	8.0	59.6	8.2	24.1	100	98	34	-	-
S-508	20 LT	10+00	14.0-15.5	A-4(0)	22	8	12.7	51.7	19.5	16.1	100	97	37	-	-

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

(B) SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY, MOIST (UNDIVIDED COASTAL PLAIN)

(C) LOOSE TAN GRAY SAND, MOIST (UNDIVIDED COASTAL PLAIN)



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	124
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

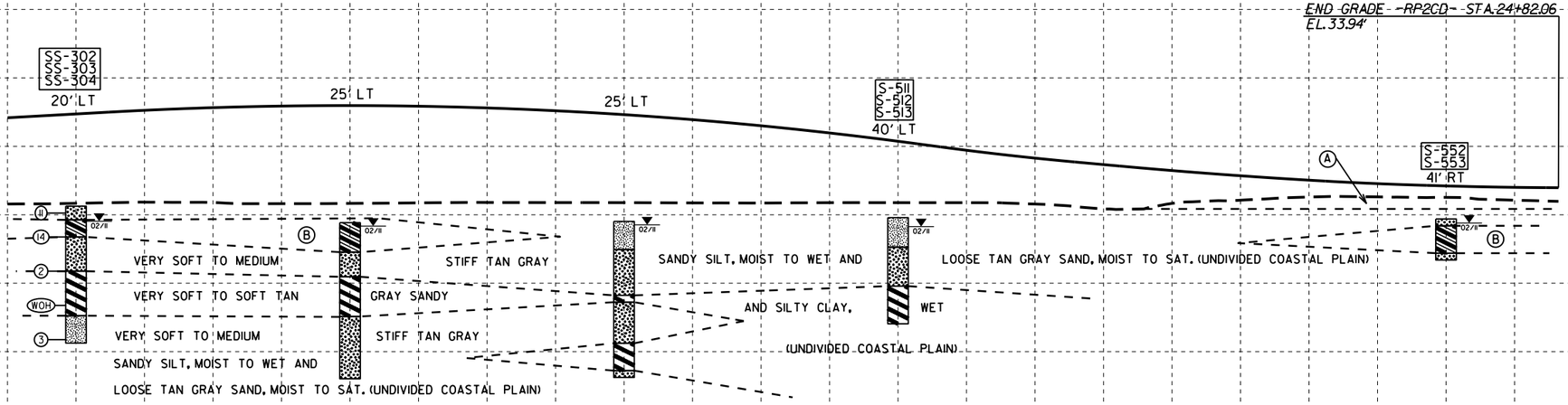
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) #10	#40	#200	% MOISTURE	% ORGANIC
SS-302	20 LT	14+00	3.5-4.5	A-6(2)	26	12	3.9	54.6	9.1	32.5	100	99	43	-	-
SS-303	20 LT	14+00	9.5-10.0	A-7-6(18)	45	22	1.2	21.1	39.4	38.2	100	100	81	-	-
SS-304	20 LT	14+00	18.5-20.0	A-4(0)	21	NP	1.4	70.4	16.1	12.1	100	100	37	-	-
S-511	40 LT	20+00	1.0-4.3	A-4(0)	24	7	2.6	62.4	8.9	26.2	100	100	37	-	-
S-512	40 LT	20+00	4.5-10.0	A-2-4(0)	21	NP	4.0	78.5	5.4	12.1	100	100	19	-	-
S-513	40 LT	20+00	10.0-15.5	A-6(9)	35	17	3.4	34.6	31.8	30.2	100	98	66	-	-
S-552	41 RT	24+00	1.0-5.0	A-6(3)	28	14	2.2	55.6	10.0	32.2	100	100	45	-	-
S-553	41 RT	24+00	5.0-6.0	A-2-4(0)	22	NP	0.8	75.7	7.4	16.1	100	100	26	-	-

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

(B) SOFT TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



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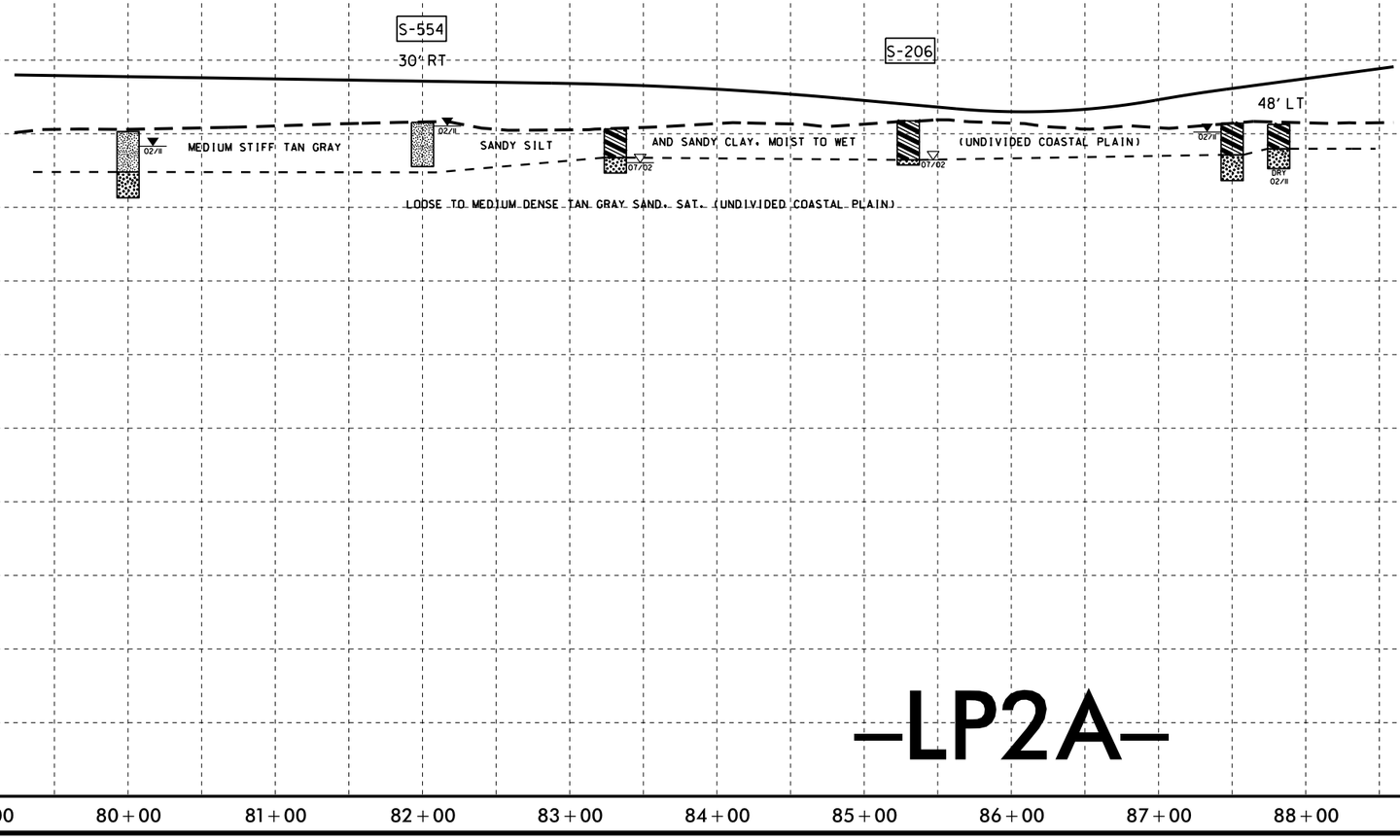
PROJECT REFERENCE NO.	SHEET NO.
R-1015	125
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS	L.L.	P.I.	% BY WEIGHT C-SAND	F-SAND	SILT	CLAY	% PASSING (SIEVES) #10	#40	#200	% MOISTURE	% ORGANIC
S-554	30 RT	82+00	1.5-6.0	A-4(0)	23	8	2.2	59.8	11.8	26.2	100	100	40	-	-
S-206	CL	85+30	0.6-5.2	A-6(6)	33	19	1.4	50.3	20.1	28.2	100	100	50	-	-



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	126

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

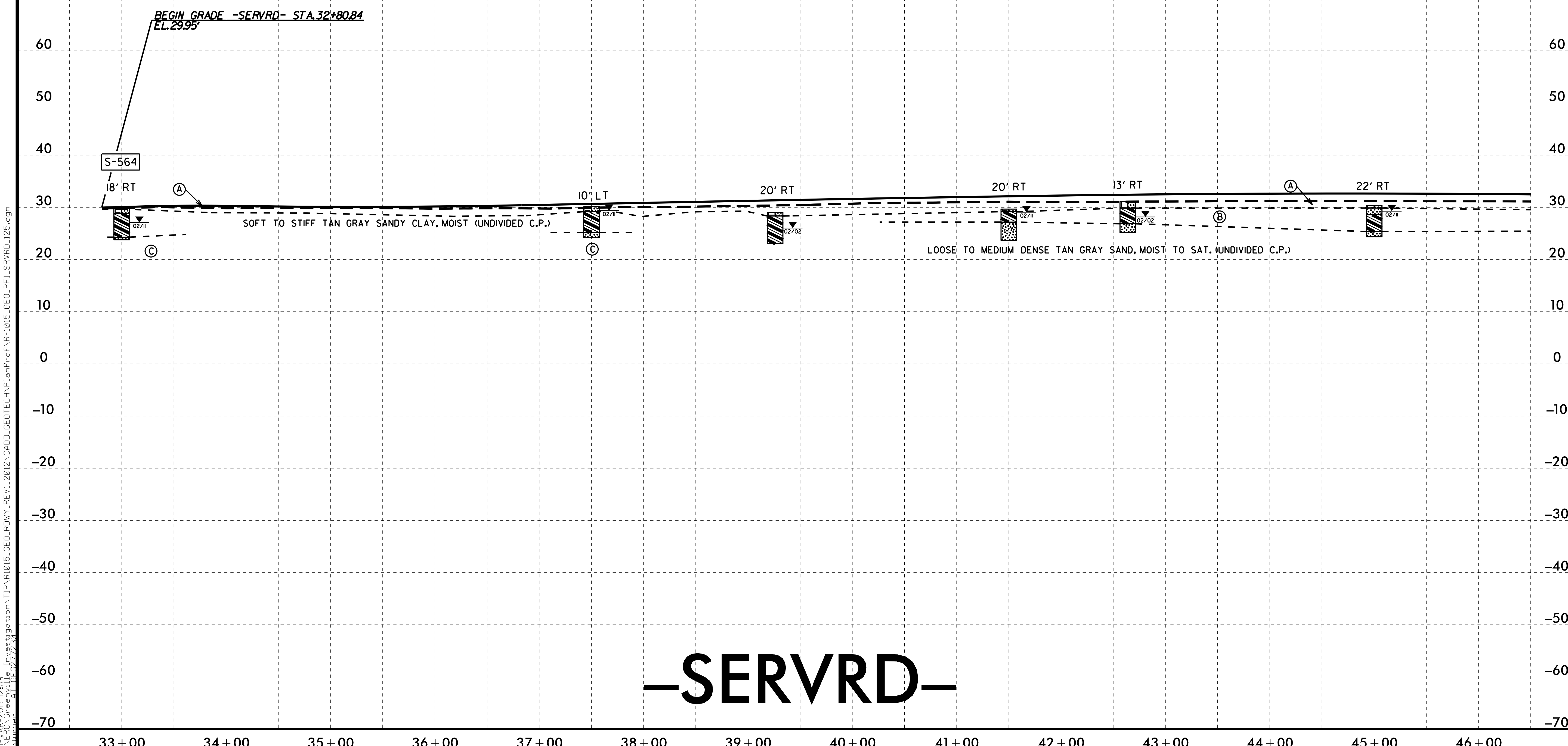
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-564	18 RT	33+00	1.0-4.5	A-6(12)	40	24	2.8	36.9	14.0	46.3	99	98	61	89.2	-

Ⓐ LOOSE TAN BROWN SAND, MOIST TO SAT. (ROADWAY EMBANKMENT)

Ⓑ SOFT TO STIFF TAN GRAY SANDY CLAY, MOIST TO WET (UNDIVIDED COASTAL PLAIN)

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



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PROJECT REFERENCE NO.	SHEET NO.
R-1015	127
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

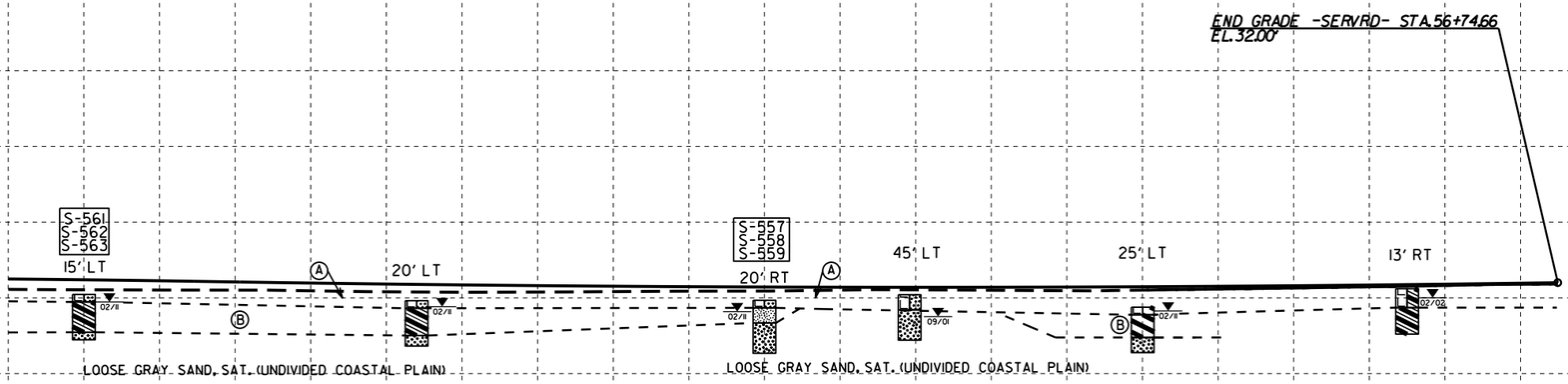
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-561	15 LT	47+00	0.0-1.0	A-4(0)	24	7	3.8	56.4	15.6	24.2	100	99	44	-	-
S-562	15 LT	47+00	1.0-5.0	A-6(2)	27	12	2.0	51.0	14.8	32.2	100	100	47	-	-
S-563	15 LT	47+00	5.0-6.0	A-2-4(0)	21	2	3.4	68.7	7.8	20.1	100	100	33	-	-
S-557	20 RT	51+50	0.0-1.0	A-2-4(0)	20	1	9.5	65.1	9.4	16.1	99	96	28	-	-
S-558	20 RT	51+50	1.0-3.0	A-4(0)	24	9	2.8	62.0	11.0	24.2	100	100	37	-	-
S-559	20 RT	51+50	3.0-4.5	A-2-4(0)	23	NP	1.2	78.5	4.1	16.1	100	100	22	-	-

(A) LOOSE TO MEDIUM DENSE TAN SAND AND SOFT TO MEDIUM STIFF TAN SANDY SILT, MOIST TO WET (ROADWAY EMBANKMENT)

(B) VERY SOFT TO MEDIUM STIFF TAN GRAY SANDY CLAY AND SANDY SILT, MOIST TO WET (UNDIVIDED COASTAL PLAIN)



-SERVRD-

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47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00

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