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CONTRACT: 34506.1.4

ID: R-2814C

NOTE: SEE SHEET 2A FOR PLAN SHEET LAYOUT AT TIME OF INVESTIGATION

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LINE	STATION	PLAN	PROFILE	XSECT
L	33+00-47+50	4,5	29	-
L	47+50-55+50	5	29	44-47
L	56+00	5	29	-
L	56+50-58+00	5	29	48
L	58+50-80+00	5-7	29,30	-
L	80+50-85+50	7	30	49-52
L	86+00-113+00	7-9	30,31	-
L	113+50-119+00	9,10	31	53-56
L	119+50-121+00	10	31	-
L	121+50-124+50	10	31,32	57,58
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L	129+00	10	32	59
L	129+50-131+50	10,11	32	-
L	132+00-133+50	11	32	60,61
L	134+00-136+50	11	32	-
L	137+00	11	32	62
L	137+50-163+50	11-13	32,33	-
L	164+00-165+00	13	33	63
L	165+50-167+00	13	33	-
L	167+50-168+00	13	33	64
L	168+50-192+00	13-15	33,34	-
L	192+50-197+50	15	34	65-67
L	198+00-279+50	15-21	34-37	-
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L	284+00-287+50	21,22	37	69-71
L	288+00-294+00	22	37,38	
L	294+50	22	38	72
L	295+00-299+00	22	38	
L	299+50-302+00	23	38	73,74
L	302+50-310+00	23	38	
L	310+50	23	38	75
L	311+00-327+00	23,24	38,39	
L	327+50	25	39	76
L	328+00-332+00	25	39	
L	332+50-337+00	25	39	77,78
L	337+50-359+00	25-27	39,40	
L	359+50-374+00	27,28	40	79-85
L	378+50-381+00	27,28	41	86,87
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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
GEOTECHNICAL ENGINEERING UNIT

ROADWAY SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. *34506.1.4 (R-2814C)* F.A. PROJ. *STP-0401(249)*

COUNTY *WAKE / FRANKLIN*

PROJECT DESCRIPTION *US 401 FROM NC 96 TO SR 1103*

INVENTORY-REVISED

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	34506.1.4 (R-2814C)	1	87

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
34506.1.4	STP-0401(249)	P.E.
		R/W & UTIL.

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DATE *JUNE, 2014*

NORTH CAROLINA LICENSED SEAL 2296 GEOLOGIST JARETT R. SWARTLEY

6-2-14

DRAWN BY: *J.R. SWARTLEY, W.D. FIELDS*

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PROJECT REFERENCE NO.	SHEET NO.
34506.1.4 (R-2814C)	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	50 MX											GRANULAR SOILS	SILT-CLAY SOILS	MUCK, PEAT
#40	30 MX	50 MX	51 MN											
#200	15 MX	25 MX	10 MX	35 MX	35 MX	35 MX	35 MX	36 MN	36 MN	36 MN	36 MN			
LIQUID LIMIT	6 MX		NP	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	40 MX	41 MN	SOILS WITH LITTLE OR MODERATE AMOUNTS OF ORGANIC MATTER		HIGHLY ORGANIC SOILS
PLASTIC INDEX				10 MX	10 MX	11 MN	11 MN	10 MX	10 MX	11 MN	11 MN			
GROUP INDEX	0		0	0		4 MX		8 MX	12 MX	16 MX	No MX			
USUAL TYPES OF MAJOR MATERIALS	STONE FRAGS. GRAVEL, AND SAND		FINE SAND	SILTY OR CLAYEY GRAVEL AND SAND				SILTY SOILS		CLAYEY SOILS				
GEN. RATING AS 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	<4	N/A
	LOOSE	4 TO 10	
	MEDIUM DENSE	10 TO 30	
	DENSE	30 TO 50	
	VERY DENSE	>50	
GENERALLY SILT-CLAY MATERIAL (COHESIVE)	VERY SOFT	<2	<0.25
	SOFT	2 TO 4	0.25 TO 0.50
	MEDIUM STIFF	4 TO 8	0.5 TO 1.0
	STIFF	8 TO 15	1 TO 2
	VERY STIFF	15 TO 30	2 TO 4
	HARD	>30	>4

TEXTURE OR GRAIN SIZE

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

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

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

SOIL MOISTURE - CORRELATION OF TERMS

SOIL MOISTURE SCALE (ATTERBERG LIMITS)	FIELD MOISTURE DESCRIPTION	GUIDE FOR FIELD MOISTURE DESCRIPTION
	- SATURATED - (SAT.)	USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE
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	OTHER MATERIAL	
TRACE OF ORGANIC MATTER	2 - 3%	3 - 5%	TRACE	1 - 10%
LITTLE ORGANIC MATTER	3 - 5%	5 - 12%	LITTLE	10 - 20%
MODERATELY ORGANIC	5 - 10%	12 - 20%	SOME	20 - 35%
HIGHLY ORGANIC	>10%	>20%	HIGHLY	35% AND ABOVE

GROUND WATER

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

MISCELLANEOUS SYMBOLS

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

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

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

EQUIPMENT USED ON SUBJECT PROJECT

DRILL UNITS:
- [ ] MOBILE B-___
- [ ] BK-51
- [ ] CME-45C
- [X] CME-550x
- [ ] PORTABLE HOIST
- [X] CME-750
- [X] DIEDRICH D-50

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

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

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

HAND TOOLS:
- [ ] POST HOLE DIGGER
- [ ] HAND AUGER
- [ ] SOUNDING ROD
- [ ] 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:

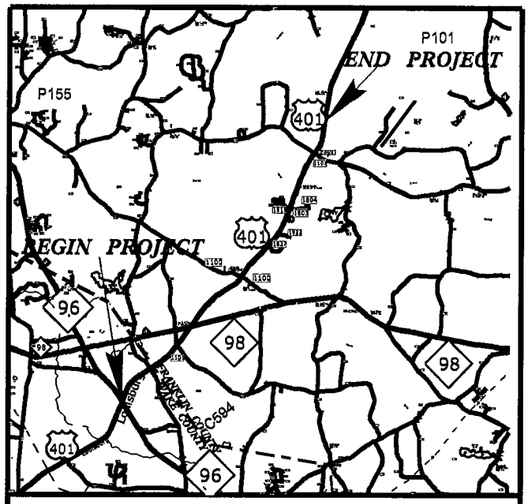
REVISED 02/23/06

09/08/99

TIP PROJECT: R-2814C

CONTRACT: 34506.1.4

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE /FRANLKIN COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2814C	2A	87

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
34506.1.4	STP-0401(249)	PE

LOCATION: US 401 FROM NC 96 TO SR 1103

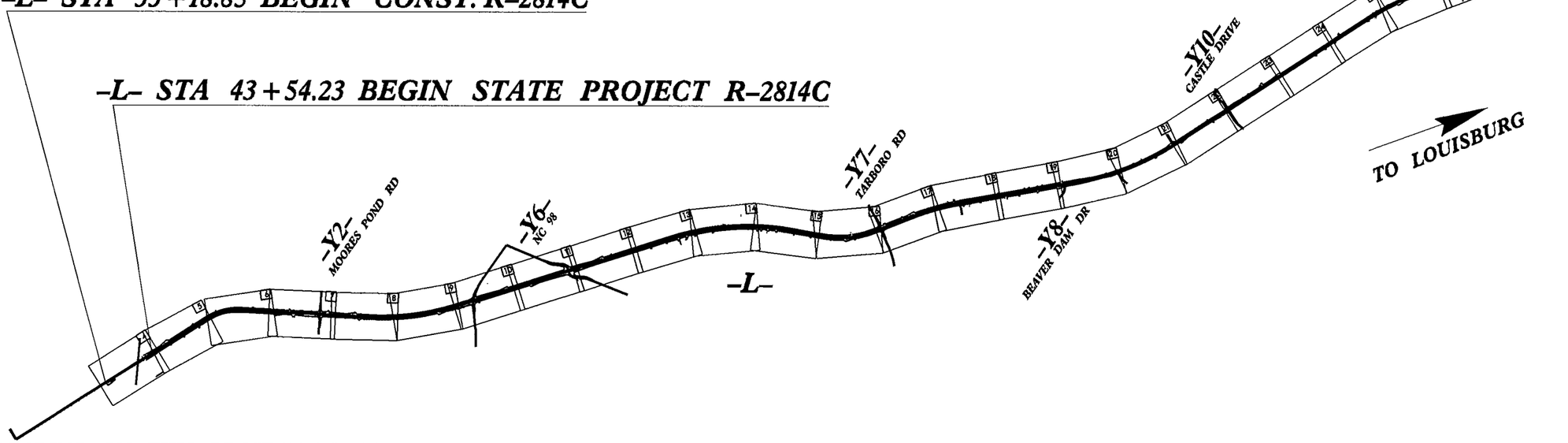
TYPE OF WORK: GRADING, DRAINAGE, PAVING, CURB AND GUTTER, AND SIGNALS

NAD 83/2001

-L- STA 381+40.55 END STATE PROJECT R-2814C

-L- STA 33+18.85 BEGIN CONST. R-2814C

-L- STA 43+54.23 BEGIN STATE PROJECT R-2814C



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III

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): 5 0 5 10

DESIGN DATA

ADT 2012 = 17900
ADT 2035 = 31100
DHV = 12 %
D = 55 %
T = 8 % *
V = 60 MPH
* TTST = 3 DUAL 5
FUNC CLASS = MAJOR COLLECTOR
STATEWIDE TIER

PROJECT LENGTH

LENGTH OF ROADWAY F.A. PROJECT = 6.40 MILES
TOTAL LENGTH TIP PROJECT R-2814C = 6.40 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JANUARY 16, 2015

LETTING DATE: OCTOBER 18, 2016

KEVIN E. MOORE, PE
PROJECT ENGINEER

NATHAN N. ADIMA, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: P.E.

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

June 2, 2014

STATE PROJECT: 34506.1.4 (R-2814C)
FEDERAL PROJECT: STP-0401(249)
COUNTIES: Wake/Franklin
DESCRIPTION: US 401 from NC 96 to SR 1103

SUBJECT: Geotechnical Report - Inventory - Revised

The Geotechnical Engineering Unit has completed a subsurface investigation for this project and presents the following inventory. This inventory supersedes the previous one submitted in May of 2013 to reflect the revisions made to -L- alignment.

Project Description

This project consists of widening existing US 401 to a four-lane roadway (-L-) just north of Rolesville. The project begins at the intersection of NC 96 and extends northeastward towards Louisburg for 6.4 miles. Intersections with other existing roads occur as follows from south to north. Moores Pond Road/Barham Siding Road (SR 2301/SR 2057, -Y2-), Darius Pearce Road (SR 1101, -Y4- & -Y5-), NC 98 (-Y6-), Tarboro Road (SR 1100, -Y7-), Beaver Dam Drive (SR 1827, -Y8-), Castle Drive/Thistle Drive (SR 1803, -Y10-), and Flat Rock Church Road/Clifton Pond Road (SR 1103, -Y11-).

Two S&ME drill crews were contracted to assist in the subsurface investigation during October of 2012. An NCDOT Geotechnical Engineering Unit geologist sampled and logged the borings for one of the drill crews and an S&ME geotechnical engineer sampled and logged the borings for the other drill crew. ATV-mounted CME-550X, CME-750, and a track-mounted Diedrich D-50 drill machines were used during the field investigation. Standard Penetration Tests were performed at selected locations and additional borings were advanced using continuous flight augers. Representative soil samples were collected for visual classification in the field and selected samples were submitted for laboratory analysis by the Materials and Tests Unit.

The following alignments, totaling 6.8 miles, were investigated. Subsurface profiles and/or cross sections of these alignments are included in this report.

Line	Stations		
-L-	33+19	to	381+40
-Y4-	21+60	to	24+61
-Y5-	10+00	to	13+20
-Y6-	18+88	to	32+35
-Y11-	12+50	to	22+50

Areas of Special Geotechnical Interest

1) Highly Plastic Clays: Highly plastic clays (PI > 35) were encountered on the project at the following locations:

Line	Stations	Offsets (ft)
-L-	49+40	120 LT & 25 RT
-L-	56+80	46 LT
-L-	117+50	100 RT
-L-	122+50	50 LT
-L-	195+00	45 LT
-L-	335+00	34 RT
-L-	368+00	50 RT
-L-	372+50	20 RT
-L-	380+00	50 LT
-Y6-	21+70	CL
-Y11-	15+50	35' RT

A discussion of these highly plastic clay soils is located below in the section titled "Soil Properties".

2) Crystalline Rock: Crystalline rock was encountered in the following continuous intervals:

Line	Stations
-L-	80+00 to 83+00
-L-	105+50 to 109+50
-L-	114+00 to 116+00
-L-	132+00 to 133+50
-L-	164+50
-L-	185+00 to 188+50
-L-	192+00 to 195+50
-L-	282+50 to 288+50
-L-	298+50 to 301+50
-L-	308+00 to 318+00
-L-	344+00 to 345+50
-L-	349+50 to 353+00

3) Shallow Groundwater: Shallow groundwater, which may cause problems during construction, was encountered in the following area:

Line	Stations	Offsets (ft)
-L-	310+50	80 LT

4) Ponds: Several ponds occur on or within close proximity of right of way on this project. These were noted at the following locations:

Line	Station	Offset (ft)
-L-	54+00 to 57+00	157 LT to 465 LT
-L-	63+50 to 65+75	70 LT to 10 RT
-L-	82+62 to 85+31	22 LT to 261 LT
-L-	143+93 to 150+78	378 RT to 814 RT
-L-	240+37 to 241+16	215 LT to 403 LT
-L-	339+80 to 341+98	377 LT to 280 LT
-L-	342+38 to 347+42	501 LT to 101 LT

5) Water wells: Several water wells were found within or in close proximity to the proposed right of way at the following location:

Line	Stations and Offsets (ft)
-L-	43+64, 150 RT
-L-	49+23, 260 RT
-L-	53+45, 317 RT
-L-	56+33, 5 RT
-L-	78+25, 170 RT
-L-	119+07, 191 RT
-L-	121+64, 233 RT
-L-	122+14, 255 RT
-L-	141+50, 208 RT
-L-	163+08, 97 RT
-L-	170+15, 120 RT
-L-	173+68, 213 RT
-L-	176+43, 293 RT
-L-	187+87, 196 RT
-L-	188+61, 103 RT
-L-	190+77, 300 RT
-L-	196+20, 122 RT
-L-	199+44, 165 RT
-L-	209+64, 152 LT
-L-	211+23, 280 LT
-L-	218+25, 38 RT
-L-	218+63, 245 LT
-L-	250+51, 127 LT
-L-	253+48, 32 RT
-L-	259+17, 71 RT
-L-	260+34, 74 LT
-L-	270+59, 53 RT
-L-	270+67, 132 RT
-L-	271+53, 52 RT
-L-	271+73, 133 RT
-L-	274+46, 156 LT
-L-	298+73, 107 LT
-L-	299+61, 256 LT
-L-	299+89, 94 LT
-L-	302+00, 233 RT
-L-	320+72, 45 RT
-L-	324+98, 77 RT
-L-	338+98, 74 LT
-L-	339+47, 76 LT
-L-	341+59, 98 LT
-L-	349+06, 75 RT
-L-	351+14, 74 LT
-L-	352+66, 50 RT
-L-	355+80, 256 LT
-L-	358+06,581 LT
-L-	359+15, 370 RT
-L-	360+00, 504 LT
-L-	361+78, 154 LT
-L-	362+36, 106 LT
-L-	362+82, 172 RT & 256 RT
-L-	363+71, 270 RT
-L-	364+02, 223 RT
-L-	366+02, 179 RT
-L-	366+89, 76 LT
-L-	374+85, 100 RT
-L-	379+38, 180 LT

6) Artificial Fill: One area of artificial fill occurs at the following location:

Line	Station	Offset (ft)
-L-	85+18 to 85+45	20 LT to 198 LT

Physiography and Geology

The project is located in the eastern Piedmont physiographic province of North Carolina. A mixture of woods, pastures, ponds, and agricultural fields are located along the project corridor. The project corridor is predominantly rural residential with single family homes and farm buildings located adjacent to the corridor. Topography along the project is moderately rolling with several steep slopes that approach stream crossings with existing culverts. The streams flow from left to right across the –L- alignment. The existing US 401 closely follows topography with some major cut and fill sections.

The entire project is underlain by the Rolesville Batholith Granite of the Raleigh Belt. This plutonic body of rock is resistant to weathering and is often present at, or very near, the ground surface. Crystalline granitic bedrock outcrops in some areas along the project, especially in the major existing road cuts.

Soil Properties

Soils encountered at the project site include artificial fill, roadway embankment, residual, and alluvial sediments.

Roadway Embankment soils are present along the existing roadways on the project. These soils consist of tan, brown, orange and gray, loose to medium dense, moist, silty sand (A-2-4), and red and orange, medium to very stiff, moist, sandy clay (A-6) and silty clay (A-7-6). They are derived from the residual soils encountered near the embankments on the project.

Artificial Fill soils are present in one area of the project. This area is listed under "Areas of Special Geotechnical Interest." A small area of artificial fill is located along a pond dam at -L- Sta. 85+18 to 85+45, and consists of orange and gray, stiff, moist, silty clay and sandy clay (A-7-6, A-6), and gray, dense, moist, sand (A-3). These materials are related to the existing embankment and ditch cut.

Alluvial soils are present in the vicinity of all stream crossings with the major areas being in the floodplains of Crooked Creek and Little River. These soils consist primarily of gray, brown, tan and orange, soft to medium stiff, moist to wet, sandy and silty clay (A-6, A-7-6) and very loose to medium dense, moist to saturated, silty sand, clayey sand and coarse sand (A-2-4, A-3, A-2-6). Alluvial soils also occur in one pond within the project corridor.

The residual soils are derived from the in place weathering of the Pre-Mesozoic basement materials. These soils consist of tan, orange, gray, and brown, very soft to hard, moist to wet, sandy and silty clay, and highly plastic, silty clay (A-6, A-7-6). The sandy clays and silty clays exhibit low to high plastic indices ranging from 11 to 45.

Rock Properties

Weathered rock and crystalline rock occur throughout the project. The weathered rock is derived from the underlying Roseville Granite bedrock and ranges from inches to 15 feet or more in thickness. Crystalline rock occurs as surface outcrops in some locations. In most of the major road cuts crystalline and weathered rock can be seen and usually occurs at or near the ground surface. Discontinuous lenses of weathered rock at depth were seen in some locations and may occur in other areas that were not investigated.

Groundwater

Groundwater was encountered in about half of the borings throughout the project corridor. Areas that exhibit high groundwater are discussed in "Areas of Special Geotechnical Interest." Groundwater is generally shallow across the low lying areas of the project and generally occurs within 9.0 feet of the ground surface. Groundwater was not present in most of the borings done in upland areas.

Ponds

Several ponds are present on or near the project right of way. These ponds are listed by alignment, station, and offsets in the "Areas of Special Geotechnical Interest". One pond along the project left of -L- Sta. 84+00 is located within the construction limits beneath a fill section. The water is 5 to 6 feet deep in its center and has a sandy and clayey bottom. The other ponds noted in the "Areas of Special Geotechnical Interest" lie relatively close to the project corridor but should have no negative impact on them due to construction.

Culverts

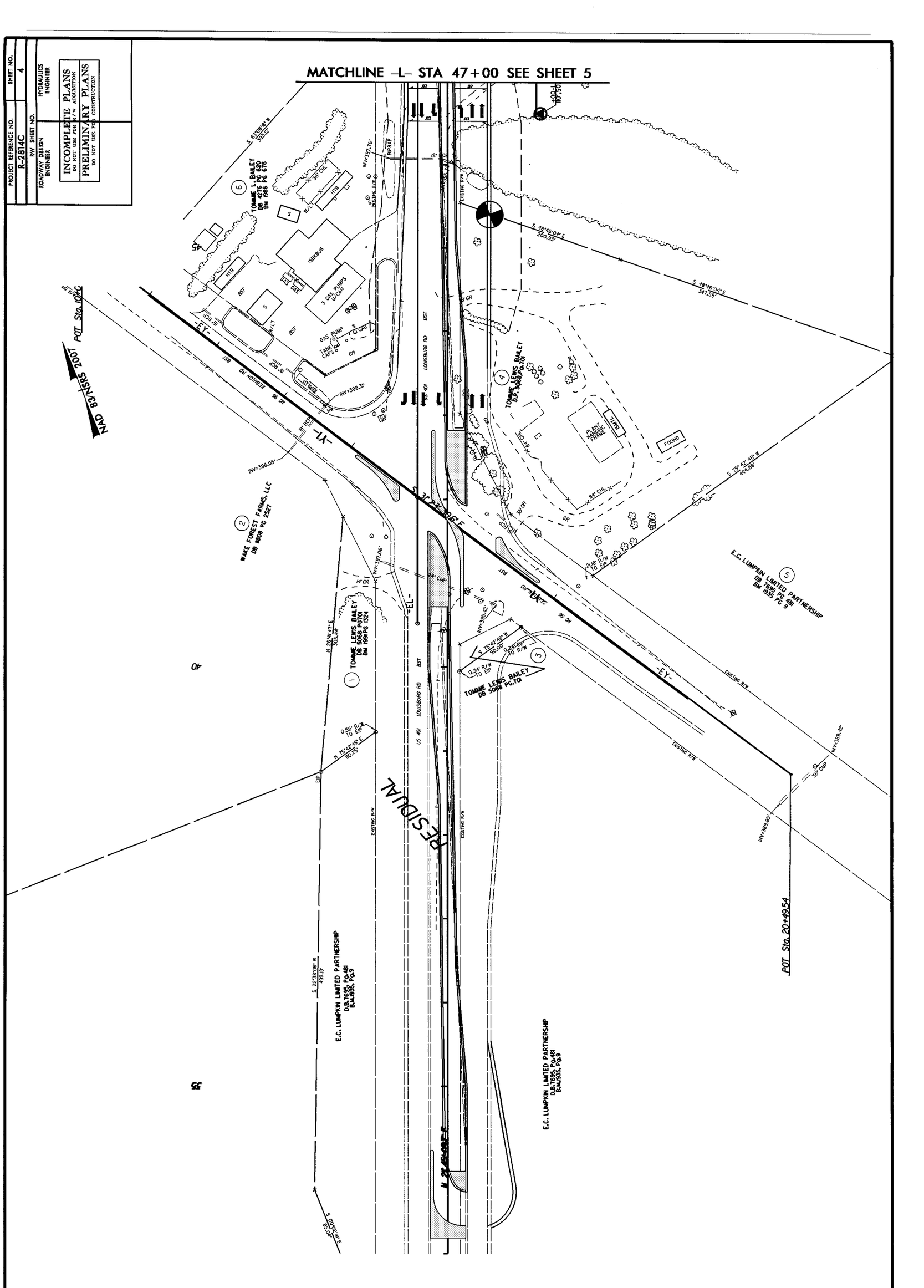
There are six existing culverts that are located along the project. Five of them are along US 401 (-L-) and one is along NC 98 (-Y6-). All streams and rivers flow from left to right across the -L- alignment. Heading from south to north, the first culvert on the project is located near -L- Sta. 107+00. This culvert crosses over the Little River. Here there is a drainage and wetland area upstream that occurs from -L- Sta. 105+00 to 110+00 (left). The water appears to be less than three feet deep with a clayey bottom. This area of standing water is in a fill section. The next culvert crosses over a tributary to Little River near -L- Sta. 137+00. This same stream passes under NC 98 just to the north through another culvert near -Y6- Sta. 22+00. The next culvert is located near -L- Sta. 168+00 and crosses over a small stream. Another culvert is located near -L- Sta. 284+00 and crosses a tributary to Crooked Creek. There is a standing body of water upstream of this culvert that has a breeched earth dam and beaver dam beneath it. This body of water is outside of proposed construction. The last culvert is located near -L- Sta. 315+00 and crosses over Crooked Creek.

Prepared By,

Jarett Swartley
Project Geological Engineer

PROJECT REFERENCE NO.	SHEET NO.
34506.1.4 (R-2814C)	3C

EARTHWORK BALANCE SHEET


MATCHLINE -L- STA 47+00 SEE SHEET 5
PROJECT REFERENCE NO.
R-2814C
SHEET NO.
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/NSRS 2007
POT Sta. 10+46
POT Sta. 20+49.54
-EX-
-L-
-EL-
-YL-
S 31°22'06" E
N 75°42'48" W
50.00'
0.28' Clear
TO R/W
0.34' R/W
TO EP
N 75°42'48" E
60.26'
0.56' R/W
TO EP
S 48°46'04" E
200.93'
S 48°46'04" E
341.59'
S 75° 42' 48" W
444.88'
N 26°41'47" E
301.44'
S 22°38'06" W
499.8'
S 00°09'40" E
85.04'
N 31°22'06" E
RESIDUAL
TOMMIE LEWIS BAILEY
DB 5068 PG 0704
BM 1991 PG 1324
TOMMIE L. BAILEY
DB 4276 PG 520
BM 1986 PG 678
WAKE FOREST FARMS, LLC
DB 9808 PG 2521
E.C. LUMPKIN LIMITED PARTNERSHIP
D.B. 7696, Pg. 481
B.M.1995, Pg. 9
LOUISBURG RD
US 401
BST
EXISTING R/W
FOUND
PLANT HANGING FERNS
3 GAS PUMPS U/CAN
GAS PUMP TANK W/ CAPS
1 STORY BLDG
W/L
W/TR
36" CMP
18" RCP
24" RCP
INV=397.76'
INV=398.31'
INV=398.05'
INV=397.06'
INV=395.42'
INV=395.85'
RIPRAP
84" CMP
REVISIONS
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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	5
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

REVISIONS

8/17/99

NAD 83/NSRS 2007

ELEV. 414

-BL- 179 POT 5+00.00

MATCHLINE -L- STA 47+00 SEE SHEET 4

MATCHLINE -L- STA 61+00 SEE SHEET 6

WAKE FOREST FARMS, LLC
DB 11808 PG 2527

NEW LIFE CHURCH OF GOD OF PROPHECY
DB 11295 PG 184
BM 2005 PG 570

POND

VASSAR P. SHEARON
DB 5069 PG 480
BM 1984 PG 482

VASSAR P.
DB 3069
BM 1984 P

E.C. LUMPKIN LIMITED PARTNERSHIP
DB 7695 PG 481

DENNIE T. BARHAM
DB 5056 PG 827

CARL GLENN BRADSHER & LOU ANN BRADSHER
DB 7023 PG 36
BM 1996 PG 828

-BL- 180 PINC 10+00.52

-BL- 181 PINC 14+87.68

RESIDUAL

-EL-

15" RCP

24" RCP

INV=398.04'

INV=397.52'

INV=397.25'

INV=397.39'

HTR

W/T

OK

S

25' SCM

10' SCM

48" CML

THO. 48"

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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	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

REVISIONS

8/17/99

MATCHLINE -L- STA 61+00 SEE SHEET 5

-BL- 182 PINC 19+39.18

-BL- 183 PINC 24+37.19

MATCHLINE -L- STA 75+30 SEE SHEET 7

RESIDUAL

RESIDUAL

ROADWAY EMBANKMENT

NAD 83/NSRS 2007

N 59°05'54" W 469.72'

S 59°07'28" E 539.66'

65

70

ELSIE P. SHEARON
DB 1063 PG 247
Bm 1991 PG 392

VASSAR P. SHEARON
DB 5069 PG 480
Bm 1984 PG 482

E.C. LUMPKIN
LIMITED PARTNERSHIP
DB 7695 PG 481

50' JOINT DRIVEWAY EAST.
REF Pg 1991 PG 392

8" PVC IRRIGATION PIPE

EXISTING R/W

EXISTING DRIVE

15" RCP

INV=393.85'

INV=391.82'

INV=390.06'

INV=388.97'

W/LT

12" BLK WALL

12" BLK WALL

ISBLK.BUS

ISFD

Sta 62+04.9

Sta 68+28.42

Sta 68+44.29

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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	7
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

MATCHLINE -L- STA 75+00 SEE SHEET 6

MATCHLINE -L- STA 89+00 SEE SHEET 8

ARTIFICIAL FILL (EARTH DAM)

NAD 83/NSRS 2007

ALLUVIAL (POND SEDIMENT)

RESIDUAL

RESIDUAL

RESIDUAL

N 56°02'05" E
34.00'

N 56°58'42" E

-BL- 184 PINC 32+71.99

-BL- 185 PINC 39+91.22

R2814C-31 POT 14+43.07
NCDOT GPS MON.

(12) R. P. SHEARON
DB 1069 PG 480
DB 1984 PG 482

(14) RODNEY PRIVETTE
DB 12863 PG 592
BM 1997 PG 1505

(15) JACKIE E. THOMPSON, SR.
DONNA YOUNG
DB 9329 PG 279

(16) E.C. LUMPKIN
LIMITED PARTNERSHIP
DB 4144 PG 343
BM 1987 PG 1678

(10) E.C. LUMPKIN
LIMITED PARTNERSHIP
DB 7695 PG 481

(17) JAMES AL PI
DB 1624 PG
DB 1758 PG

(10) E.C. LUMPKIN
LIMITED PARTNERSHIP
DB 7695 PG 481

(10) E.C. LUMPKIN
LIMITED PARTNERSHIP
DB 7695 PG 481

ISFD

ISBKD

2SFD

S

B

POND

MOORES POND RD

SR 2307 BARNHAM SIDING RD

US 401 26' BST

SR 2307 25' BST

12' BST

48" CONC

24" RCP

15" RCP

48" WW

36" CMP

48" CMP

18" CMP

WD RAIL

3S ELEC

10' GR

15' GR

INV=354.86'

INV=362.15'

INV=365.09'

INV=318.27'

INV=359.73'

TOP=358.74'
INV=348.09'

S 62°59'00" W
195.76'

S 75°14'21" W
206.02'

S 12°26'29" W
74.00'

S 33°17'39" E
242.84'

N 33°17'39" W
287.43'

S 28°35'43" E
245.31'

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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	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

NAD 83/NSRS 2007

MATCHLINE -L- STA 89+00 SEE SHEET 7

MATCHLINE -L- STA 103+00 SEE SHEET 9

-BL- 186 PINC 46+42.97

-BL- 187 PINC 55+26.10

TS Sta. 96+35.15

SC Sta. 97+55.15

BM #52
-BL- STA 56+81.39
241.82' LEFT
ELEV. 351.53'

RESIDUAL

RESIDUAL

ISFD

48" STONE WALL

60' WD

TREE FARM

FRANKLIN COUNTY
WAKE COUNTY

JAMES M. PRIVETTE
DB 1688 PG 561 CAT-1
DB 1758 PG 443

GRAU-350

E.C. LUMPKIN
LIMITED PARTNERSHIP
DB 7695 PG 481 (WAKE CO.)
DB 1758 PG 443 (FRANKLIN CO.)

EXISTING R/W

48" WW

48" SS ELEC

ROCKS

REVISIONS

8/1/14

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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	9
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/NSRS 2007

REVISIONS

8/17/99

MATCHLINE -L- STA 103+00 SEE SHEET 8

MATCHLINE -L- STA 117+00 SEE SHEET 10

CS Sta. 115+98.35

-BL- 188 PINC 63+08.30

-BL- 189 PINC 69+38.01

RESIDUAL

ALLUVIAL

ROADWAY EMBANKMENT

105

110

115

EXISTING R/W

-L-

-BL-

GRAU 350 TL-3

CAT-1

(19) E.C. LUMPKIN LIMITED PARTNERSHIP DB 1082 PG 459 DB 1758 PG 443

(10) E.C. LUMPKIN LIMITED PARTNERSHIP DB 7695 PG 481 (WAKE CO.) DB 1758 PG 443 (FRANKLIN CO.)

(20) BARRY WAYNE WHITAKER BETTY WHITAKER DB 767 PG 306

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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	10
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/NSRS 2007

REVISIONS

8/17/99

MATCHLINE -L- STA 117+00 SEE SHEET 9

MATCHLINE -L- STA 131+00 SEE SHEET 11

RESIDUAL

RESIDUAL

ROADWAY EMBANKMENT

PT Sta. 23+74.55

PC Sta. 19+80.57

ST Sta. 118+98.35

POT Sta. 10+00.00

POT Sta. 24+61.22

-BL- 190 PINC 77+06.49

-BL- 191 PINC 85+06.37

(19) E.C. LUMPKIN LIMITED PARTNERSHIP DB 1092 PG 169 DB 1758 PG 445

(24) CATLETT EVA FEARCE DB 82 PG 144 DB 98 PG 369

(25) WILLIAM ZEB WHITAKER PAULINE R. WHITAKER DB 305 PG 335 DB 1736 PG 871

(21) DONNIE POE NANCY P. POE DB 900 PG 52

(22) PATSY B. HICKS DB 901 PG 882

(23) WALLACE WAYNE HICKS DB 901 PG 103

(20) BARRY WAYNE WHITAKER BETTY WHITAKER DB 767 PG 306

ISBKD

ISFD

ISMH

RUINS

DAVIS FEARCE RD

US 401 36' BST

US 401 26' BST

15" RCP

18" RCP

42" RCP

INV=362.87'

INV=363.40'

INV=350.58'

INV=350.28'

RIP RAP

BM #53
-BL- STA 76+76.58
482.06' RIGHT

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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	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

REVISIONS

8/17/99

MATCHLINE -L- STA 131+00 SEE SHEET 10

MATCHLINE -L- STA 145+00 SEE SHEET 12

NAD 83/NSRS 2007

ROADWAY EMBANKMENT

ALLUVIAL

RESIDUAL

PC Sta. 25+90.56

PT Sta. 27+71.57

-BL- 192 PINC 92+49.94

WILLIAM ZEB WHITAKER
PAULINE R. WHITAKER
DB 305 PG 335
DB 1736 PG 871

WILLIAM ZEB WHITAKER
PAULINE R. WHITAKER
DB 844 PG 224

ABAND

US 401 26' BST

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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	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/NSRS 2007

REVISIONS

8/17/99

MATCHLINE -L- STA 145+00 SEE SHEET 11

MATCHLINE -L- STA 159+00 SEE SHEET 13

145 150 155

RESIDUAL

-BL- 194 PINC 114+07.39

WILLIAM ZEB WHITAKER
PAULINE R. WHITAKER
DB 844 PG 224

US 401 26' BST

INV=370.69'

INV=370.02'

INV=369.33'

INV=368.99'

PC Sta. 29+19.02

-BL- 193 PINC 107+33.61

N 29°58'27" E
1542.99'

PT Sta. 30+80.34

NC 98 26' BST

WILLIAM ZEB WHITAKER
PAULINE R. WHITAKER
DB 1736 PG 315
DB 1105 PG 911

35

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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	13
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/NSRS 2007

REVISIONS

8/17/99

MATCHLINE -L- STA 159+00 SEE SHEET 12

-BL- 195 PINC 119+75.28

RESIDUAL

WILLIAM ZEB WHITAKER
PAULINE R. WHITAKER
DB 844 PG 224

ROADWAY EMBANKMENT

LATERAL 'V' DITCH
SEE DETAIL

2@7'X7' RCBC

SC Sta. 169+38.82

-BL- 196 PINC 127+26.49

ALLUVIAL

JAMES E. UNDERWOOD
JACK P. UNDERWOOD
DB 1167 PG 541

GRAV 350' TL

MATCHLINE -L- STA 173+00 SEE SHEET 14

RESIDUAL

EXISTING R/W

2GI-Type D

INV=366.6'

INV=365.68'

US 401 26' BST

TS Sta. 166+38.82

ALLUVIAL

24" CMP

24" RCP

108' EIP TO R/W

55' R/W TO EIP

(25) WILLIAM ZEB WHITAKER
PAULINE R. WHITAKER
DB 305 PG 335
DB 1736 PG 871

HTR

(37) KIMBERLY BROWN FORD
C. VAUGHN FORD
DB 1093 PG 162
BM #PG 33

(38) EXCURSIONS, LLC
DB 1485 PG 186
BM 97 PG 239

TEST WELL

GR

CONC

MTW

GAS PUMPS

2 GAS PUMPS W/CAN

ISBKBUS

ISWTLBUS

N 40°26'08" W 510.41'

N 63°06'23" W 298.14'

N 5°00'48" W 266.53'

N 34°52'37" E 274.74'

BM #55
-BL- STA 128+57.82
298.61' RIGHT
ELEV. 383.18'

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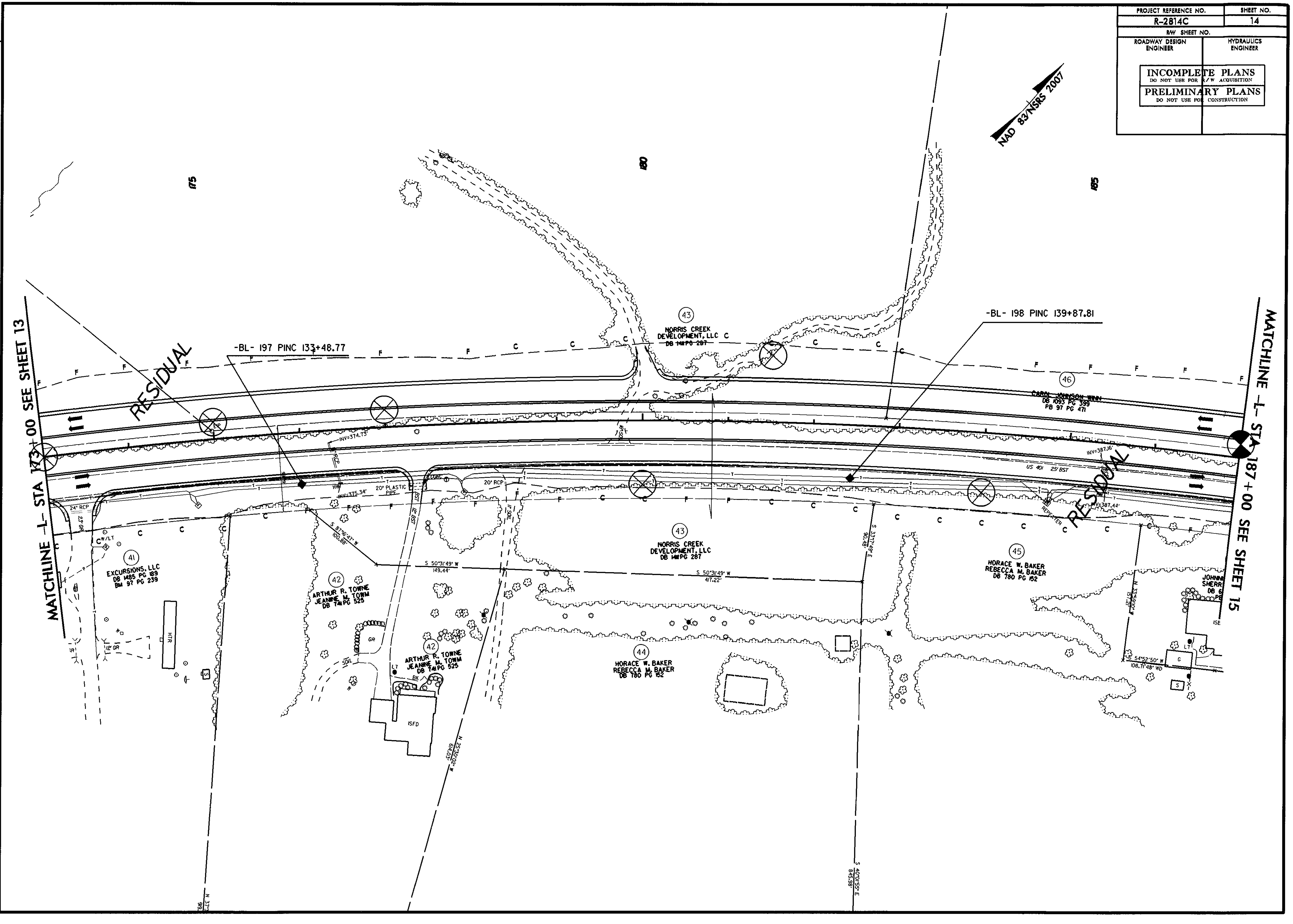
PROJECT REFERENCE NO.	SHEET NO.
R-2814C	14
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

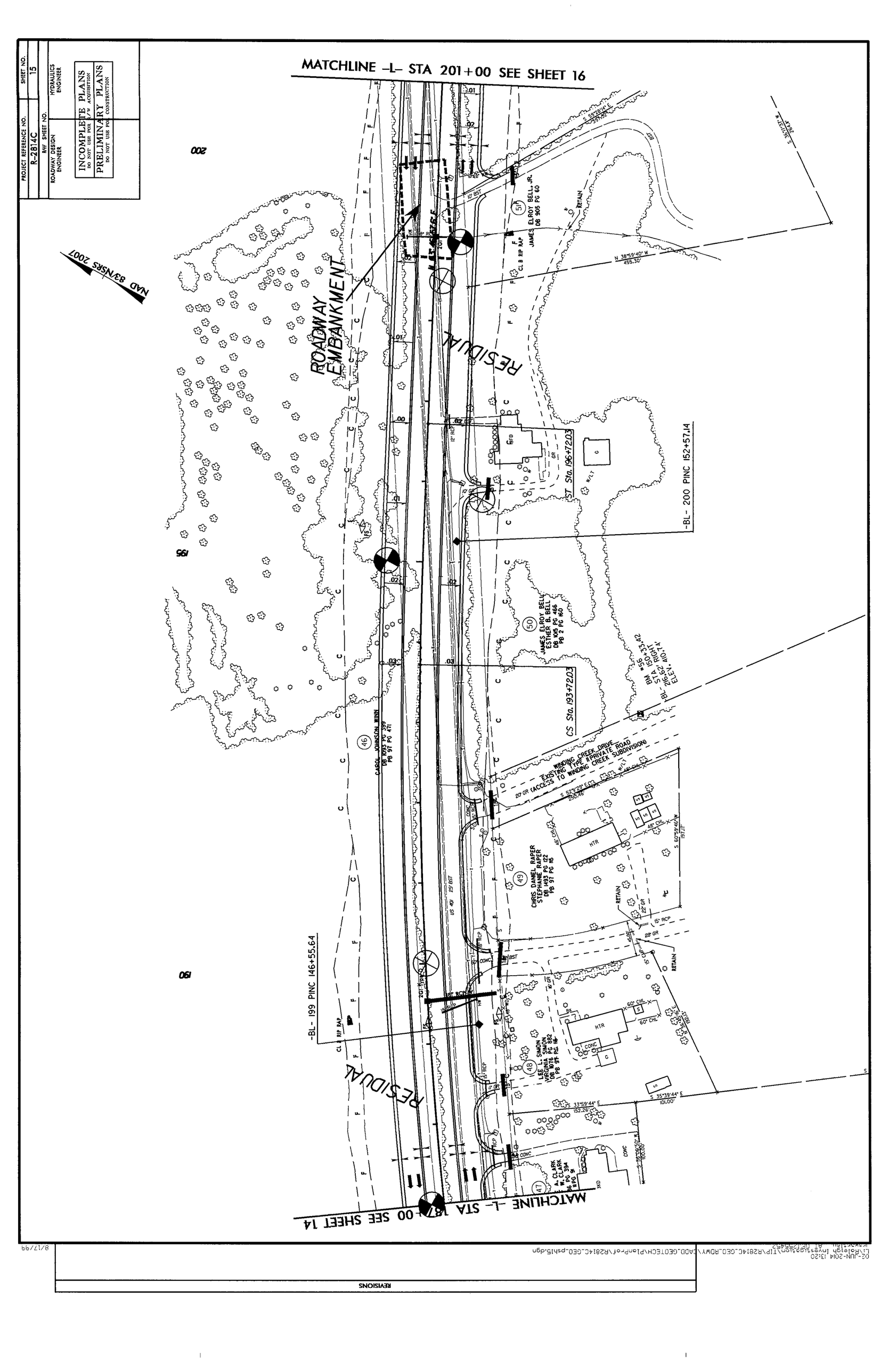
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

8/17/99

REVISIONS





PROJECT REFERENCE NO.	SHEET NO.
R-2814C	15
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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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	16
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/NSRS 2007

REVISIONS

8/17/99

TS Sta. 201+30.52

SC Sta. 204+30.52

CS Sta. 212+32.61

MATCHLINE -L- STA 201+00 SEE SHEET 15

MATCHLINE -L- STA 215+00 SEE SHEET 17

ROADWAY EMBANKMENT

RESIDUAL

RESIDUAL

-BL- 201 PINC 161+00.43

-BL- 202 PINC 166+47.85

(46) CAROL JOHNSON WINN
DB 1093 PG 399
PB 97 PG 471

(53) JEAN H. WINN
FAMILY LIMITED PARTNERSHIP
DB 1090 PG 64
PB 1997 PG 471

(54) JEAN H. WINN
FAMILY LIMITED PARTNERSHIP
DB 1090 PG 66
PB 1997 PG 471

(52) EDGAR HARRIS WINN
DB 1626 PG 581
PB 1998 PG 472

N 38°06'38"E
455.03'

N 38°15'35" E
157.42'

S 69°17'55" E
29.20'

N 52°58'18" E
226.80'

0.67' R/W
TO EIP

3.23' EIP
TO R/W

12" FENCE

CONC

2SBKO

2SFD

36" CONC

INV=412.52'

48" RW

GRAD 350 TY-3

POND

AT-1

INV=404.5

POB

36" BST

S 38°24'58" E
35.25'

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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	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

NAD 83/NSRS 2007

PC Sta. 10+81.74

PT Sta. 14+66.89

-L- Sta. 25+32.5

-L- STA 215+00 SEE SHEET 16

MATCHLINE -L- STA 229+00 SEE SHEET 18

RESIDUAL

-BL- 256 PINC 173+48.10

-BL- 203 PINC 179+09.55

PC Sta. 223+43.66

PC Sta. 19+85.90

R2814C-35 POT 16+49.07
NCDOT GPS MON.

BM #57
-BL- STA 181+58.05
298.74' RIGHT
ELEV. 397.28'

N 33°09'09" E
158.00'

S 56°50'51" E
255.97'

N 56°50'51" W
255.55'

S 41°43'04" E
1144.00'

N 47°28'02" W
247.02'

S 42°46'58" E
210.58'

S 41°43'26" W
198.00'

TIMBERLAKE BROTHERS LLC
DB 1568 PG 300
PB 2004 PG 422

ALAN D. BAILEY
LAUREN W. SMITH
DB 1413 PG 616

ISBKD

ISFBAS

OAK

COMC

BST

GREENHOUSE

POSSIBLE JUNCTION BOX

US 401 38' BST

24" RCP END NOT FOUND

15" RCP

12" RCP

18" RCP

24" RCP

TOP=405.60'
INV=403.51'

INV=402.37'

INV=402.13'

INV=402.11'

INV=402.27'

INV=401.27'

INV=401.20'

INV=401.15'

OP=405.59'
INV=402.03'

OP=405.49'
INV=401.29'

TV FO

T

F

C

W

OHP

DW

RUINS

220

225

20

65.00'

65.00'

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	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

REVISIONS 8/17/99

MATCHLINE -L- STA 229+00 SEE SHEET 17

MATCHLINE -L- STA 243+00 SEE SHEET 19

-BL- 204 PINC 186+43.32

-BL- 205 PINC 192+99.33

BM #58
-BL- STA 197+63.91
403.78' LEFT
ELEV. 377.64'

NAD 83/NSRS 2007

PT Sta. 234+58.01

ROADWAY EMBANKMENT

RESIDUAL

RESIDUAL

(60) DEBORAH L. WILLIAMS
DB 1488 PG 123
PRF 3 SLIDE 90/281

(61) PATSY G. CARTER
DB 905 PG 500

(62) ALANDALE INVESTMENT GROUP, LLC
DB 1224 PG 778

(63) LEWUEL H. HOYLE
BILLIE J. HOYLE
DB 1274 PG 289
PB 99 PG 314

(64) CHARLES E. STRICKLAND
DB 843 PG 569

(65) JACK R. THOMASON
DB 1545 PG 008
PRF 2 SLIDE 384

(66) SUSAN S. TIMBERLAKE
DB 1647 PG 132
BM 2007 PG 241

(6) SUSAN
DB
BM

N 14°52'28" E 216.40'

S 15°08'39" E 217.68'

N 89°46'09" W 356.77'

N 55°10'00" E 37.07'

S 38°18'36" W 149.77'

S 40°34'52" 78.98'

N 49°36'48" W 183.34'

S 49°36'48" E 143.78'

S 22°10'42" W 64.59'

N 50°53'28" W 282.51'

N 54°24'43" W 500.00'

INV=360.52

INV=375.52

INV=379.91

INV=378.63

15" RCP

18" RCP

48" VINYL

48" CMP

48" SS ELEC

48" 3S ELEC

ELEC

T FO

T

ISFD

2SFD

CAN

HTR

60' MTL

S

B

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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	19
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/NSRS 2007

REVISIONS

8/17/99

-BL- 206 PINC 200+42.89

MATCHLINE -L- STA 243+00 SEE SHEET 18

MATCHLINE -L- STA 257+00 SEE SHEET 20

RESIDUAL

295

CHARLES E. STRICKLAND
DB 843 PG 569
(SEE ALSO DB 600 PG 43)

CHARLES E. STRICKLAND
DB 843 PG 569

SUSAN S. TIMBERLAKE
DB 1647 PG 132
BM 2007 PG 241

S. TIMBERLAKE
1647 PG 132
2007 PG 241

UNITY THREE BAPTIST CHURCH
DB 1611 PG 196
BM 2005 PG 241

DAVID W. BROWN
MARGARET H. BROWN
DB 1475 PG 004

WALTER J. MCDONALD
TRACY MICHELLE KING
DB 832 PG 109
PRF 3 SLIDE 138
PRF 3 SLIDE 90/221

BILLY CARNLEY
CAROL N. CARNLEY
DB 1646 PG 005
PRF 3 SLIDE 138
PRF 3 SLIDE 90/221

-BL- 207 PINC 207+20.50

BM
-BL- STA
175.69
ELEV.

HIDDEN HILLS LN

EXISTING 4' ESMT.
BM 2007 PG 241

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wdrake

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	20
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/NSRS 2007

REVISIONS

8/17/99

MATCHLINE -L- STA 257+00 SEE SHEET 19

MATCHLINE -L- STA 271+00 SEE SHEET 21

PC Sta. 262+06.29

PC Sta. 10+71.34

-BL- 208 PINC 216+43.91

PT Sta. 12+84.35

POT Sta. 10+00.00

POT Sta. 13+48.58

-BL- 36 PINC 224+25.57
NCDOT GPS MON.

RESIDUAL

RESIDUAL

75 ROBERT ALAN WAGNER
DB 1567 PG 612

77 CAMILA VIET NGUYEN
THAIPHAT T. PHAM
DB 1175 PG 498

78 DIANA S. JOYNER
STANFORD C. JOYNER
DB 1783 PG 964

74 BRENDA G. BATCHELOR
DB 1124 PG 940
PRF 3 SLIDE 138
PRF 3 SLIDE 90/221

76 JAMES R. BAILEY
MARTHA C. BAILEY
DB 988 PG 638
PRF 3 SLIDE 93/371

79 CHRISTOPHER FOSTER
DB 1398 PG 694
PB 98 PG 402

80 HARRY E. BRAZIER, JR.
MARY L. BRAZIER
DB 817 PG 217
PB 98 PG 402

81 RYAN BRAZIL
DB 1196 PG 324
PB 99 PG 236

73 MIMI F. DAVIS
DB 1275 PG 851
PRF 3 SLIDE 138
PRF 3 SLIDE 90/221

259 214+64.65 RIGHT 356.10'

HTR

ISFD

15" RCP

18" RCP

36" VINYL

10' CONC

INV=347.05'

INV=347.29'

INV=342.07'

US 401 24' BST

STRICKLAND DR

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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	21
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/NSRS 2007

REVISIONS 8/17/99

MATCHLINE -L- STA 271+00 SEE SHEET 20

MATCHLINE -L- STA 285+00 SEE SHEET 22

PT Sta. 10+00.00

PC Sta. 10+45.08

PT Sta. 12+53.07

POT Sta. 13+48.64

PT Sta. 284+84.24

-BL- 210 PINC 241+55.06

-BL- 209 PINC 232+31.12

RESIDUAL

ALLUVIAL

ROADWAY EMBANKMENT

POND

HTR

ISBKD

L WAY 15' GR

15" RCP

12" RCP

18" RCP-Y

24" RCP-Y

36" VINYL

48" CMP

48" FENCE

REMOVE

CB US 401 24 BST

CB A

T8 2GI

INV=324.01'

INV=324.31'

S 85°13'35" E 317.86'

S 85°13'35" E 1000.00'

N 24°53'29" E 437.46'

N 30°00'46" E 200.00'

N 07°26'45" E 13.15'

S 87°22'48" E 380.16'

S 3°43'58" W 156.58'

N 33°35'11" E 442.38'

S 85°13'35" E 1000.00'

S 85°13'35" E 1000.00'

S 85°13'35" E 1000.00'

S 85°13'35" E 1000.00'

S 85°13'35" E 1000.00'

S 85°13'35" E 1000.00'

(84) SCOTT A. HEMSTREET DB 1494 PG 621 PB 98 PG 402

(83) DANIEL D. AGEMY NANCY P. AGEMY DB 1247 PG 358 PB 98 PG 402

(82) TIMOTHY E. BURRIS REBECCA A. BURRIS DB 1642 PG 804 PB 98 PG 402

(85) JOE N. RIDLEHOOVER CATHY N. RIDLEHOOVER DB 1529 PG 181

(86) VALINDA L. SMITH ROBERT G. PREWITT DB K15 PG 898 PB 1995 PG 108

(88) ANNIE P. YOUNG PB 98 PG 190

(87) SWEETHEART INVESTMENTS, LLC DB 1589 PG 939 PRF 3 SLIDE 91/164

FALSE SUMP SEE DETAIL

BM #60
-BL- STA 234+89.39
350.36' RIGHT
ELEV. 335.22'

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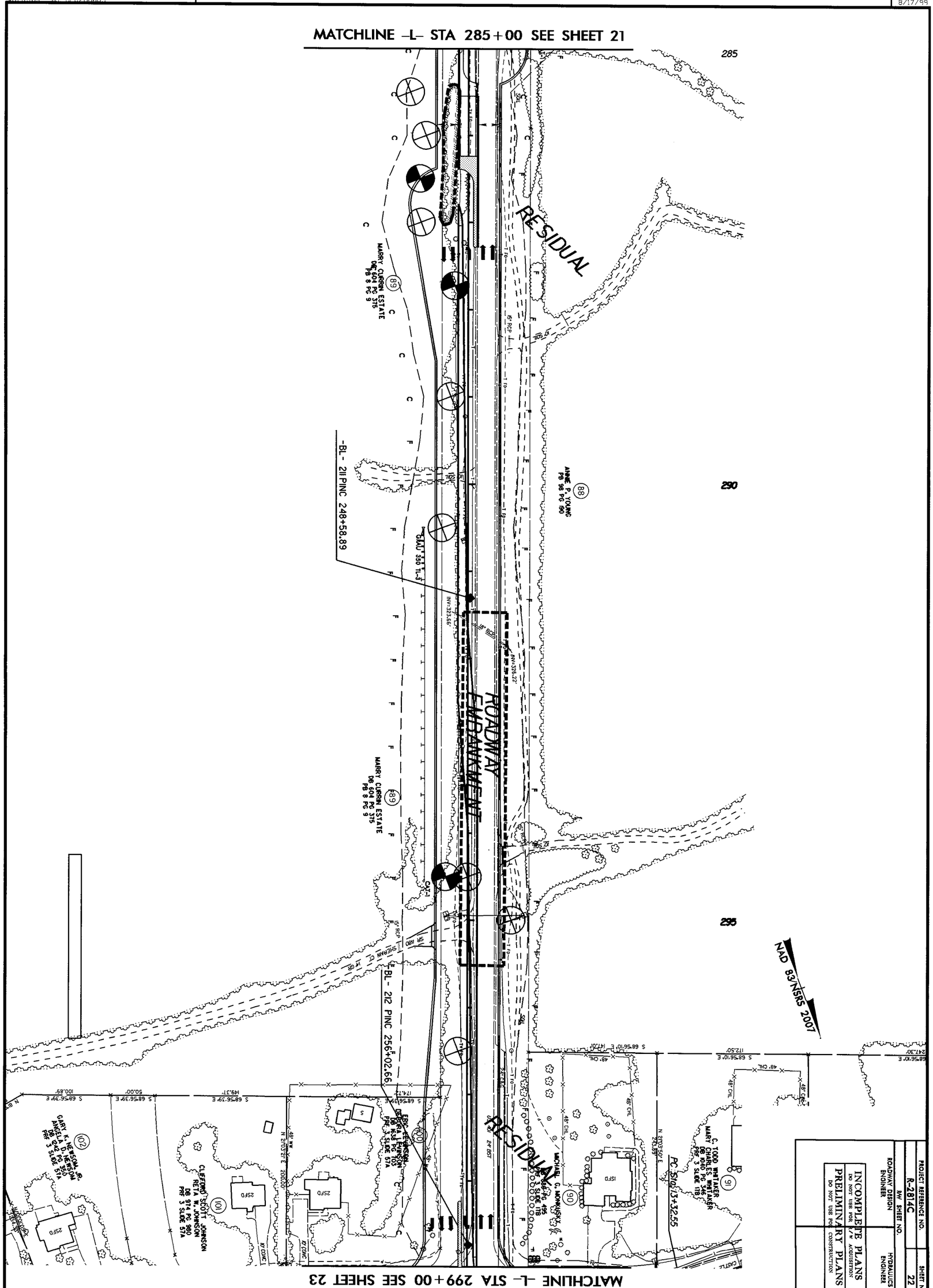
mfields AT GE1260085

8/17/99

REVISIONS

MATCHLINE –L– STA 285+00 SEE SHEET 21



MATCHLINE –L– STA 299+00 SEE SHEET 23

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-2814C

SHEET NO. 22

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	23
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/NSRS 2007

MATCHLINE -L- STA 299+00 SEE SHEET 22

MATCHLINE -L- STA 313+00 SEE SHEET 24

ROADWAY EMBANKMENT

RESIDUAL

POT Sta. 10+00.00

PT Sta. 12+49.46

PT Sta. 13+91.85

PC Sta. 17+83.58

PT Sta. 21+26.45

POT Sta. 21+46.74

-BL- 213 PINC 262+32.92

-BL- 214 PINC 269+42.85

BM #61
-BL- STA 263+22.63
226.86 RIGHT
ELEV. 318.04'

98 KATHLEEN N. MASON
STEVEN J. MASON
DB 1174 PG 946
PRF 3 SLIDE 178

99 JEFFERY R. ATKINS
DB 1077 PG 21
PRF 3 SLIDE 178

116 RICHARD P. BRECK
BARRIE A. BRECK
DB 1149 PG 645
PRF 2 SLIDE 108

118 NICHOLE L. STEPHENSON
ERIN P. BEAUCHAMP
DB 1273 PG 147
PRF 2 SLIDE 108

119 BEULAH M. STRICKLAND
DB 924 PG 349
PRF 2 SLIDE 108

120 TONKA WALTON LYNN
DB 1153 PG 948
PRF 2 SLIDE 108

122 AUBREY L. FIELDS
LUCY G. FIELDS
DB 1175 PG 426
PRF 2 SLIDE 108

123 NEEDHAM WARD
DB 1248 PG 31
PRF 2 SLIDE008

115 ANNA E. MABIE
DB 1140 PG 674
PRF 3 SLIDE 57A
PRF 3 SLIDE 43D

114 HEATER UTILITIES INC
DB 904 PG 343
PRF 3 SLIDE 57A

113 DENNIS R. AQUILO
LISA S. AQUILO
DB 1638 PG 17
PRF 3 SLIDE 57A

117 LUTHER H. PERRY
LOUISE K. PERRY
DB 1151 PG 576

WAYNE CAMPBELL
CARL WILLIAMS
DB 1166 PG 174
PRF 2 SLIDE 108

US 401 24' BST

GRAU 950 TL-3

REVISIONS 8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	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/NSRS 2007

REVISIONS 8/17/99

MATCHLINE -L- STA 313+00 SEE SHEET 23

MATCHLINE -L- STA 327+00 SEE SHEET 25

ROADWAY EMBANKMENT

ALLUVIAL

RESIDUAL

-BL- 216 PINC 283+07.50

-BL- 215 PINC 276+87.84

(125) WILLIAM CHRISTOPHER HOLLEMAN
MELISSA KELLY WALTZ
DB 1605 PG 847
PRF 2 SLIDE 108

(126) KATH HANNAM
SEAN HANNAM
DB 1401 PG 741
PB 1995 PG 252

(126) KATH HANNAM
SEAN HANNAM
DB 1401 PG 741
PB 1995 PG 252

(124) CAPE ROMAIN PROPERTIES LLC
PEGGY W. GINN
DB 1637 PG 15
DB 1323 PG 449

(127) SAINTS DELIGHT UNITED CHURCH OF CHRIST
DB 1690 PG 690
PRF 3 SLIDE 90/98

(128) SAINTS DELIGHT UNITED CHURCH OF CHRIST
DB 1145 PG 263

(129) SANDRA J. MACON
DB 884 PG 697

BM= 62
-BL- STA 280+28.62
179.40' RIGHT
ELEV. 315.11'

N 84°23'58" W 360.12'
N 12°29'50" W 274.34'
N 12°54'49" W 290.00'
N 12°54'49" W 85.20'
N 77°05'10" E 72.11'
N 15°24'51" W 119.12'
N 01°23'11" E 88.44'
S 75°08'09" E 239.76'
S 75°08'09" E 165.48'
S 75°01'32" E 240.23'
N 75°01'32" W 140.86'
S 17°18'00" W 154.65'
S 21°03'21" W 263.67'
S 68°26'48" W 447.89'

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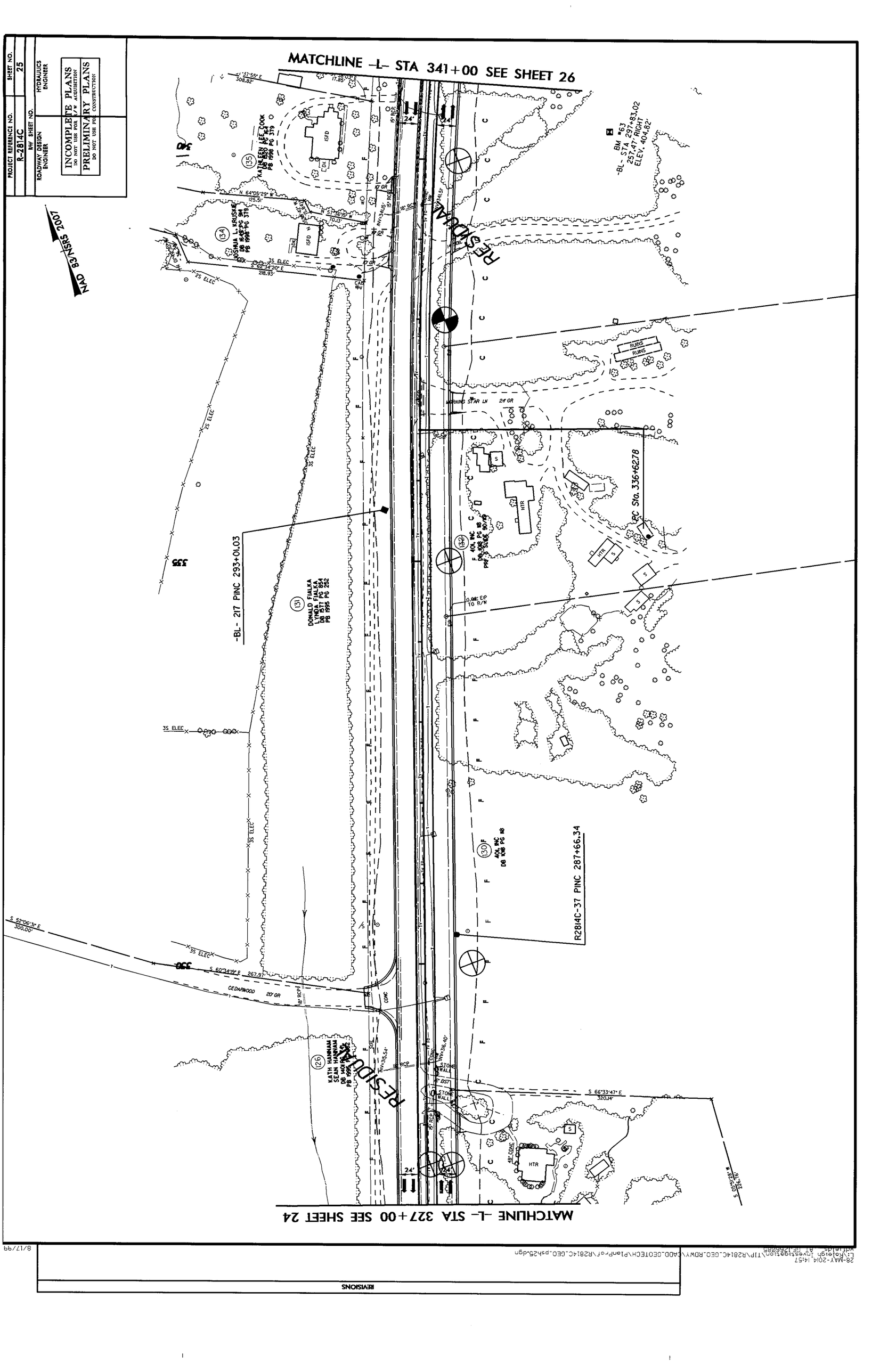

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	25

R/W SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

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

REVISIONS

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	26
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/NSRS 2007

REVISIONS

8/17/99

MATCHLINE -L- STA 341+00 SEE SHEET 25

MATCHLINE -L- STA 355+00 SEE SHEET 27

-BL- 218 PINC 299+43.74

-BL- 219 PINC 306+19.00

-BL- 220 PINC 311+61.54

PT Sta. 349+84.29

BM #64
-BL- STA 311+81.7
218.44' LEFT
ELEV. 375.47'

RESIDUAL

(131) DONALD FIALKA
LYNDA FIALKA
DB 1577 PG 854
PB 1995 PG 252

(133) E.C. LUMPKIN
LIMITED PARTNERSHIP
DB 1082 PG 459

(136) BETTY MAY
DB 482 PG 387

(137) DOUGLAS R. DUNNE
SHERYL A. DUNNE
DB 10170 PG 319

(138) ROYSTER T. HARRIS, JR
ROCHELLE HARRIS
DB 741 PG 251

(139) JVC HOMES INC
DB 1321 PG 595
PB 2004 PG 236
PB 2003 PG 103

(140) TAYLOR WAKE PROPERTIES, INC
DB 1479 PG 317
PB MPG 99

(141) ROYSTER T. HARRIS, JR
ROCHELLE HARRIS
DB 883 PG 201

(142) ROYSTER T. HARRIS, JR
ROCHELLE HARRIS
DB 1005 PG 310

(143) LAURA W. HOLLIN
WALTER C. HOLLIN
DB 1463
PB 98

GRAU 350 TL-3

ISFD · DK · CONC · CAN · POOL · 72" FENCE · 2SFD · 2SBKAPT · WTR · S · 15" RCP · 18" RCP · 24" RCP · 30" RCP · 48" RCP · 48"MD RAIL

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kdaniels

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	27
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-Y11-

PI Sta 14+64.17
Δ = 1° 24' 29.3" (RT)
D = 2° 51' 53.2"
L = 49.15'
T = 24.58'
R = 2,000.00'

PI Sta 17+96.15
Δ = 3° 35' 15.7" (RT)
D = 2° 51' 53.2"
L = 125.23'
T = 62.64'
R = 2,000.00'

PI Sta 20+81.20
Δ = 1° 36' 35.7" (LT)
D = 11° 27' 33.0"
L = 14.05'
T = 7.03'
R = 500.00'

NAD 83/NSRS 2007

PC Sta. 366+46.03

-BL- 221 PINC 319+36.79

-BL- 222 PINC 324+34.02

R2814C -3B POT 5+00.00
NCDOT GPS MON.

PC Sta. 14+39.60

PT Sta. 14+88.75

PC Sta. 17+33.51

PT Sta. 18+58.74

PC Sta. 20+74.82

PT Sta. 20+88.22

MATCHLINE -L- STA 355+00 SEE SHEET 26

MATCHLINE -L- STA 369+00 SEE SHEET 28

-L- RESIDUAL

-L- RESIDUAL

-L- SR 1174 (OLIVIA ROAD) 25' TO 60'

-L- SR 1174 (OLIVIA ROAD) 25' TO 60'

US 401 36' BST

SHANNON RIDGE LN 60' R/W

PHIL MCNAMARA
DB 1287 PG 305
DB 1287 PG 303
PB 95 PG 382

NATHANIEL D. CARROLL, JR
MARY B. CARROLL
DB 1856 PG 355
PB 2000 PG 90

BETTY C. PERRY
DB 1856 PG 355

BETTY C. PERRY
DB 1856 PG 355
DB 1257 PG 88

JVC HOMES INC
DB 1457 PG 948

HERBERT L. HOLLIFIELD
PATRICIA E. HOLLIFIELD
DB 1006 PG 594

TIMOTHY M. MCKIBBEN
MICHELLE S. MCKIBBEN
DB 1247 PG 741
PB 2001 PG 424

LAURA W. HOLLINGSWORTH
WALTER C. HOLLINGSWORTH, JR
DB 1463 PG 538
PB 2002 PG 169

ROYAL MINI MART, LLC
DB 1585 PG 84

BOBBY C. JONES, JR
JUDY T. JONES
DB 931 PG 86
PRF 3 SLIDE 90/27

ALTON P. CARTER, JR.
DB 857 PG 988
PRF 3 SLIDE 90/274

JOHN R. WILLIAMS
CHRISTINE B. WILLIAMS
DB 944 PG 782
PRF 3 SLIDE 90/274

JEFFREY C. SCHICKEL
DB 1512 PG 565
PRF 3 SLIDE 90/274

DAN ALAN EWING
DB 976 PG 774
PRF 3 SLIDE 90/274

JOHN F. LAWRENCE
DIANA S. LAWRENCE
DB 6220 PG 517

MICHAEL ALAN WALKER
DB 1120 PG 794

ISBKBUS
ISBKD
HTR
CONC
FLAGPOLES
ISMTLBUS
CAN
MTLBUS
ISFD
ABAND
HTRBUS
RAMP
TANK CAPS
15" PLASTIC
15" RCP
48" CMP
48" CHL
48" 4S ELEC
2S ELEC
12" CMP
24" BST
10" BST
12' FENCE
20' DRAINAGE ESMT.

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
R-2814C	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

NAD 83/NSRS 2007

REVISIONS 8/17/99

MATCHLINE -L- STA 369+00 SEE SHEET 27

RESIDUAL

BM #65
-BL- STA 328+75.53
34' LEFT
ELEV. 367.67'

PC Sta. 373+38.97

PT Sta. 375+36.40

PT Sta. 375+14.46

PRC Sta. 375+83.50

POT Sta. 379+95.83

POT Sta. 381+40.55

POT Sta. 381+95.36

POT Sta. 381+99.54

PC Sta. 379+95.83

PT Sta. 381+50.49

PT Sta. 381+54.67

-BL- 223 PINC 331+71.54

-BL- 224 POT 338+66.32

MATCHLINE -L- STA 381+41 Ext. 159.45 SEE SHEET

158 NATHANIEL D. CARROLL, JR
MARY K. CARROLL
DB 669 PG 492
PB 2008 PG 90

158 NATHANIEL D. CARROLL, JR
MARY K. CARROLL
DB 669 PG 492
PB 2008 PG 90

158 NATHANIEL D. CARROLL, JR
MARY K. CARROLL
DB 669 PG 492
PB 2008 PG 90

180 NATHANIEL D. CARROLL, JR
MARY K. CARROLL
DB 881 PG 443

177 SHIRLEY G. MARSHALL
DB 1494 PG 565

170 SALLIE LLOYD DAIL F
DB 827 PG 592

173 THE WILLIAMS C FAMILY TRUST
DB 1380 PG 779

174 THOMAS B. MARSHALL, JR.
DB 669 PG 146
PB 2002 PG 373

171 AHMAD AL-AMARI
RASHA AL-AMARI
DB 1380 PG 899
PB 2003 PG 380

172 W. MAURICE HILL, III
DB 1167 PG 284
PB 2000 PG 21

175 NATHANIEL D. CARROLL, JR
MARY K. CARROLL
DB 669 PG 492
PB 2008 PG 90

176 SHIRLEY G. MARSHALL
DB 623 PG 272
PB 2002 PG 373

178 JOHN P. COOPER
HAZEL H. COOPER
DB 1001 PG 185
PB 5 PG 147

179 JEANETTE P. LORD
DB 746 PG 530

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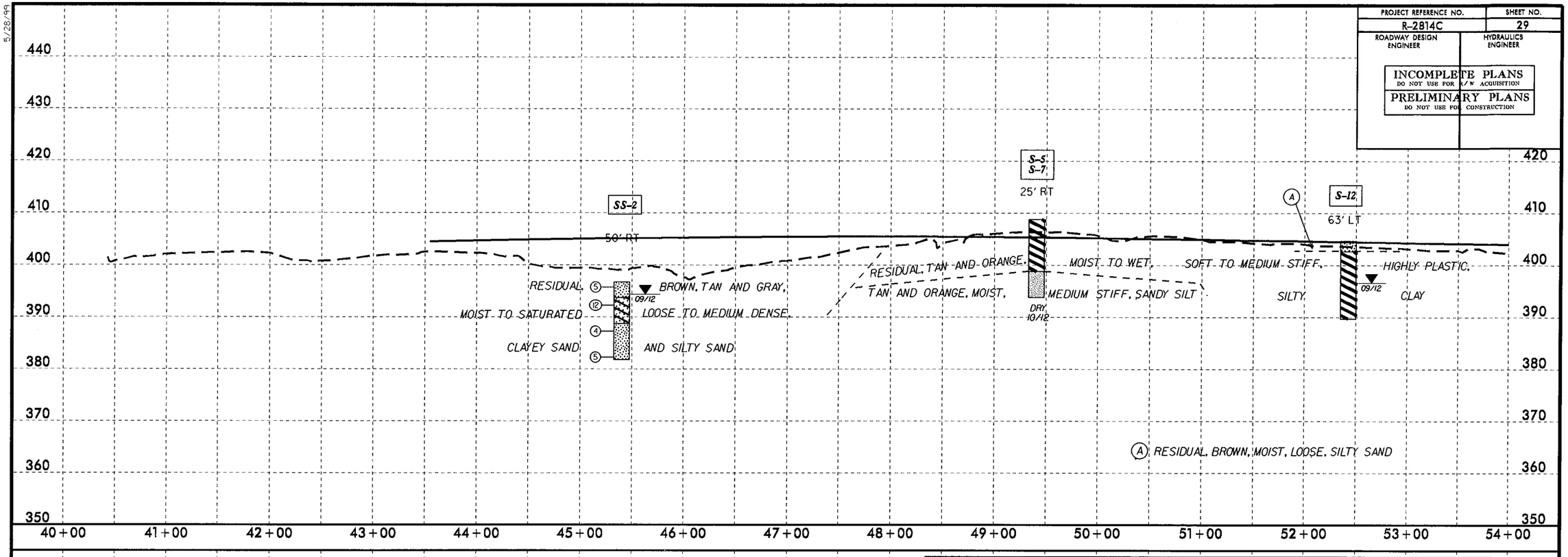
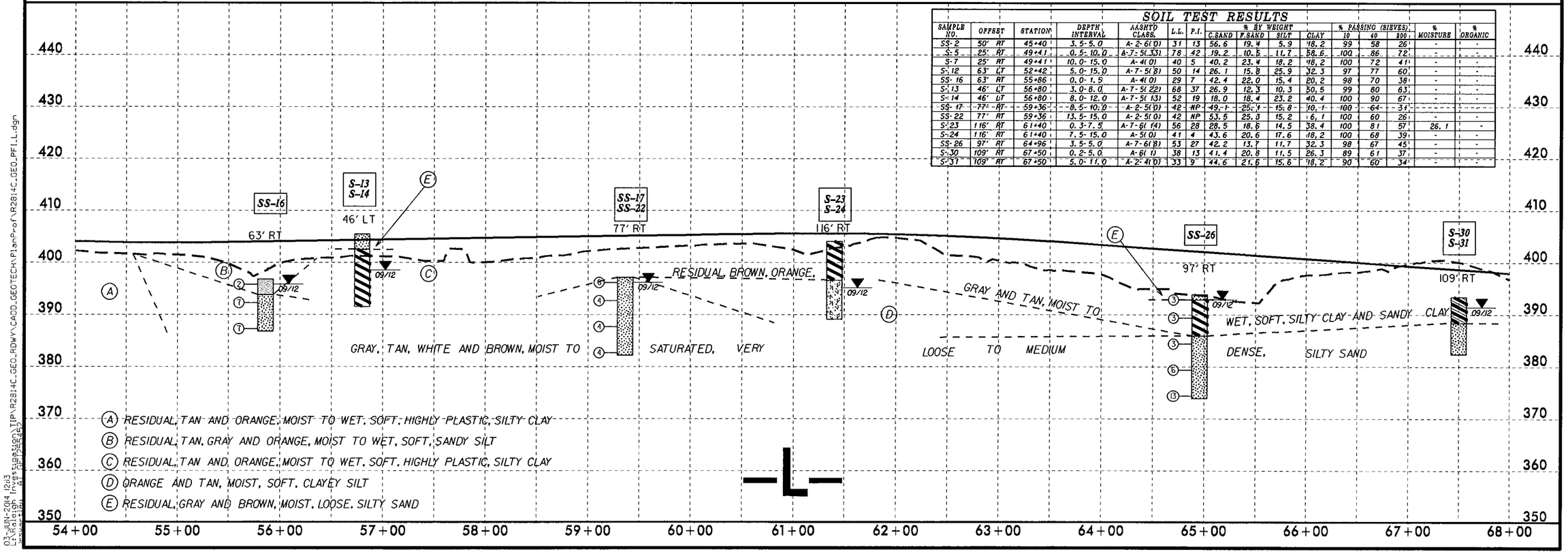
PROJECT REFERENCE NO.	SHEET NO.
R-2814C	29
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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-2	50' RT	45+40	3.5-5.0	A-2-6(0)	31	13	56.6	19.4	5.9	18.2	99	58	26	-	-
SS-5	25' RT	49+41	0.5-10.0	A-7-5(35)	78	42	19.2	10.5	11.7	58.6	100	86	72	-	-
S-7	25' RT	49+41	10.0-15.0	A-4(0)	40	5	40.2	23.4	18.2	18.2	100	72	41	-	-
S-12	63' LT	52+42	5.0-15.0	A-7-5(8)	50	14	26.1	15.8	25.9	32.3	97	77	60	-	-
SS-16	63' RT	55+86	0.0-1.5	A-4(0)	29	7	42.4	22.0	15.4	20.2	98	70	38	-	-
S-13	46' LT	56+80	3.0-8.0	A-7-5(22)	68	37	26.9	12.3	10.3	50.5	99	80	63	-	-
S-14	46' LT	56+80	8.0-12.0	A-7-5(13)	52	19	18.0	18.4	23.2	40.4	100	90	67	-	-
SS-17	77' RT	59+36	3.5-10.0	A-2-5(0)	42	NP	49.1	25.4	15.8	10.1	100	64	34	-	-
SS-22	77' RT	59+36	13.5-15.0	A-2-5(0)	42	NP	53.5	25.3	15.2	6.1	100	60	26	-	-
S-23	116' RT	61+40	0.3-7.5	A-7-6(14)	56	28	28.5	18.6	14.5	38.4	100	81	57	26.1	-
S-24	116' RT	61+40	7.5-15.0	A-5(0)	41	4	43.6	20.6	17.6	18.2	100	68	39	-	-
SS-26	97' RT	64+96	3.5-5.0	A-7-6(8)	53	27	42.2	13.7	11.7	32.3	98	67	45	-	-
S-30	109' RT	67+50	0.2-5.0	A-6(1)	38	13	41.4	20.8	11.5	26.3	89	61	37	-	-
S-31	109' RT	67+50	5.0-11.0	A-2-4(0)	33	9	44.6	21.6	15.6	18.2	90	60	34	-	-



(A) RESIDUAL, TAN AND ORANGE, MOIST TO WET, SOFT, HIGHLY PLASTIC, SILTY CLAY
(B) RESIDUAL, TAN, GRAY AND ORANGE, MOIST TO WET, SOFT, SANDY SILT
(C) RESIDUAL, TAN AND ORANGE, MOIST TO WET, SOFT, HIGHLY PLASTIC, SILTY CLAY
(D) ORANGE AND TAN, MOIST, SOFT, CLAYEY SILT
(E) RESIDUAL, GRAY AND BROWN, MOIST, LOOSE, SILTY SAND

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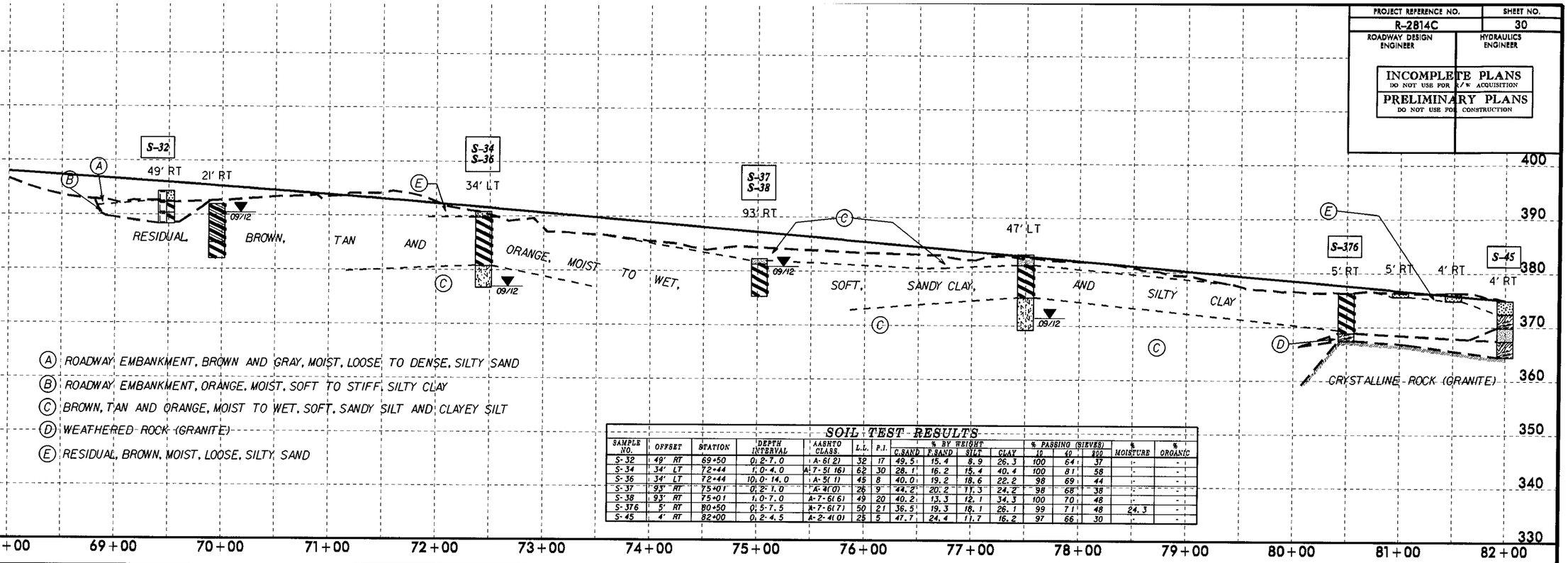
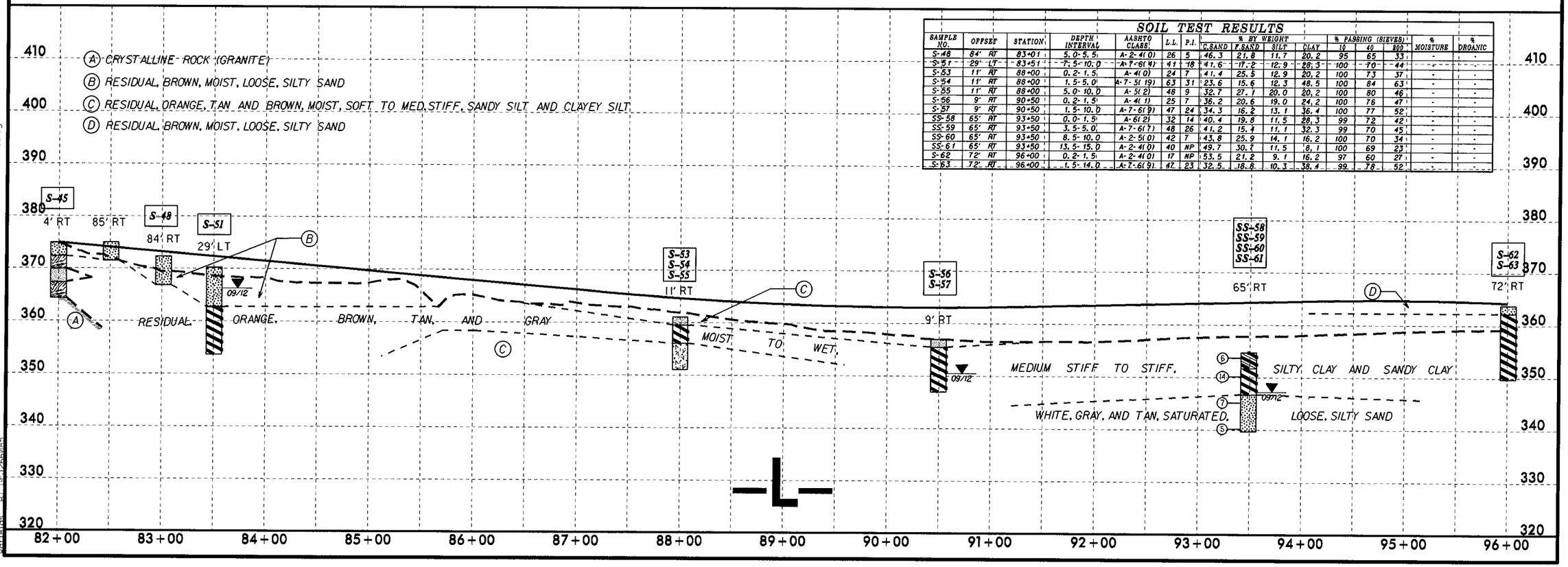
PROJECT REFERENCE NO.	SHEET NO.
R-2814C	30
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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-32	49' RT	69+50	0.2-7.0	A-6(2)	32	17	49.5	15.4	8.9	26.3	100	64	37	-	-
S-34	34' LT	72+44	1.0-4.0	A-7-5(16)	62	30	28.1	16.2	15.4	40.4	100	81	58	-	-
S-36	34' LT	72+44	10.0-14.0	A-5(1)	45	8	40.0	19.2	18.6	22.2	98	69	44	-	-
S-37	93' RT	75+01	0.2-1.0	A-4(0)	26	9	44.2	20.2	11.3	24.2	98	68	38	-	-
S-38	93' RT	75+01	1.0-7.0	A-7-6(6)	49	20	40.2	13.3	12.1	34.3	100	70	48	-	-
S-376	5' RT	80+50	0.5-7.5	A-7-6(7)	50	21	36.5	19.3	18.1	26.1	99	71	48	24.3	-
S-45	4' RT	82+00	0.2-4.5	A-2-4(0)	25	5	47.7	24.4	11.7	16.2	97	66	30	-	-



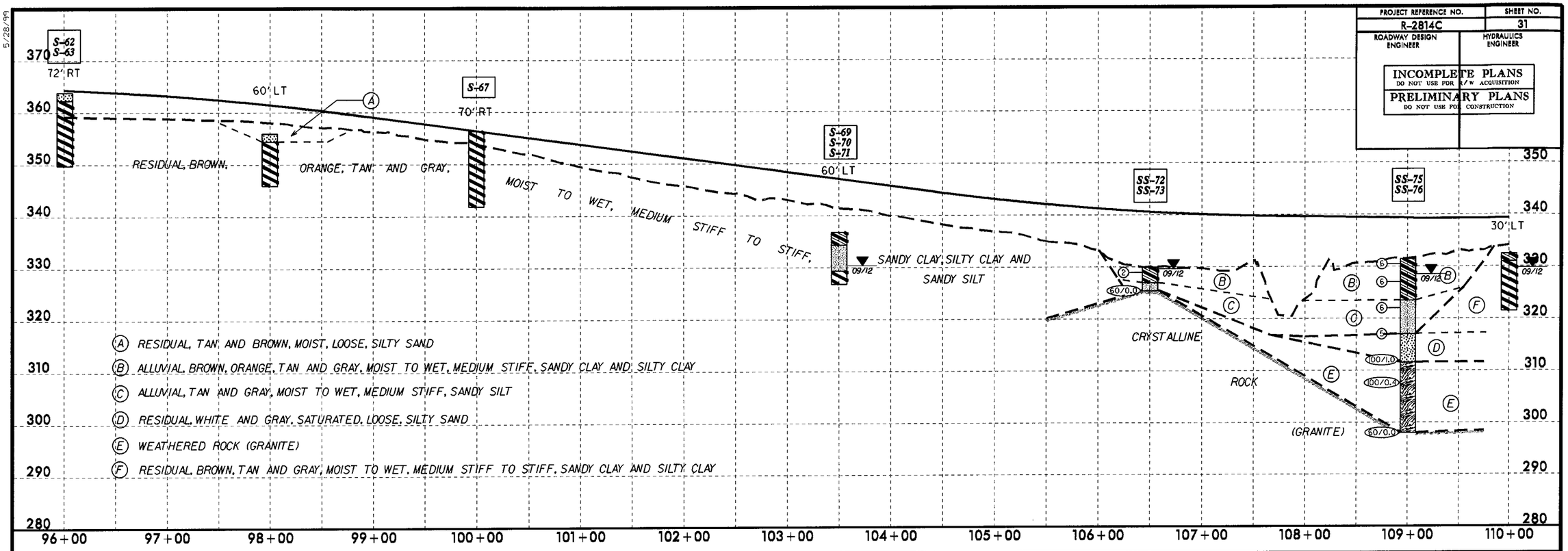
SOIL TEST RESULTS

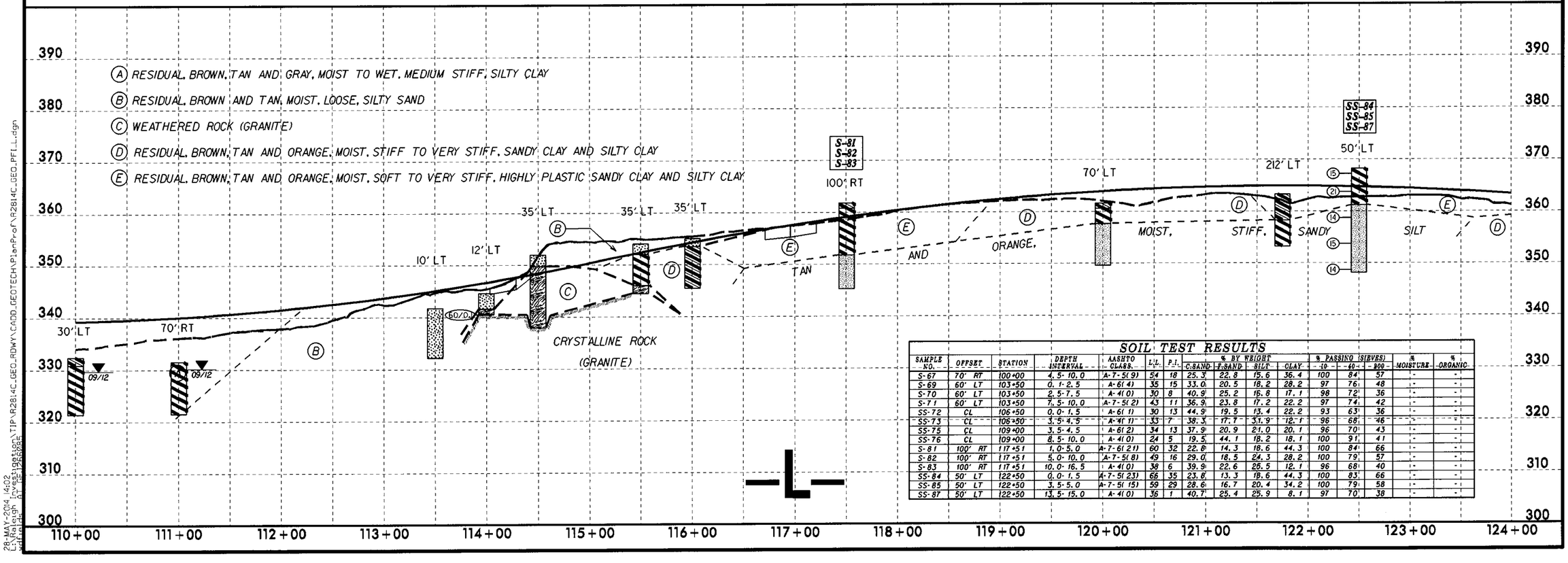
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-48	84' RT	83+01	5.0-5.5	A-2-4(0)	26	5	46.3	21.8	11.7	20.2	95	65	33	-	-
S-51	29' LT	83+51	7.5-10.0	A-7-6(4)	41	18	41.6	17.2	12.9	28.3	100	70	44	-	-
S-53	11' RT	88+00	0.2-1.5	A-4(0)	24	7	41.4	25.5	12.9	20.2	100	73	37	-	-
S-54	11' RT	88+00	1.5-5.0	A-7-5(19)	63	31	23.6	15.6	12.3	48.5	100	84	63	-	-
S-55	11' RT	88+00	5.0-10.0	A-5(2)	48	9	32.7	27.1	20.0	20.2	100	80	46	-	-
S-56	9' RT	90+50	0.2-1.5	A-4(1)	25	7	36.2	20.6	19.0	24.2	100	76	47	-	-
S-57	9' RT	90+50	1.5-10.0	A-7-6(9)	47	24	34.3	16.2	13.1	36.4	100	77	52	-	-
SS-58	65' RT	93+50	0.0-1.5	A-6(2)	32	14	40.4	19.8	11.5	28.3	99	72	42	-	-
SS-59	65' RT	93+50	3.5-5.0	A-7-6(7)	48	26	41.2	15.4	11.1	32.3	99	70	45	-	-
SS-60	65' RT	93+50	8.5-10.0	A-2-5(0)	42	7	43.8	25.9	14.1	16.2	100	70	34	-	-
SS-61	65' RT	93+50	13.5-15.0	A-2-4(0)	40	NP	49.7	30.7	11.5	8.1	100	69	23	-	-
S-62	72' RT	96+00	0.2-1.5	A-2-4(0)	17	NP	53.5	21.2	9.1	16.2	97	60	27	-	-
S-63	72' RT	96+00	1.5-14.0	A-7-6(9)	47	23	32.5	18.8	10.3	38.4	99	78	52	-	-

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	31
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-67	70' RT	100+00	4.5-10.0	A-7-5(9)	54	18	25.3	22.8	15.6	36.4	100	84	57	-	-
S-69	60' LT	103+50	0.1-2.5	A-6(4)	35	15	33.0	20.5	18.2	28.2	97	76	48	-	-
S-70	60' LT	103+50	2.5-7.5	A-4(0)	30	8	40.9	25.2	16.8	17.1	98	72	36	-	-
S-71	60' LT	103+50	7.5-10.0	A-7-5(2)	43	11	36.9	23.8	17.2	22.2	97	74	42	-	-
SS-72	CL	106+50	0.0-1.5	A-6(1)	30	13	44.9	19.5	13.4	22.2	93	63	36	-	-
SS-73	CL	106+50	3.5-4.5	A-4(1)	33	7	38.3	17.7	31.9	12.1	96	68	46	-	-
SS-75	CL	109+00	3.5-4.5	A-6(2)	34	13	37.9	20.9	21.0	20.1	96	70	43	-	-
SS-76	CL	109+00	8.5-10.0	A-4(0)	24	5	19.5	44.1	18.2	18.1	100	91	41	-	-
S-81	100' RT	117+51	1.0-5.0	A-7-6(21)	60	32	22.8	14.3	18.6	44.3	100	84	66	-	-
S-82	100' RT	117+51	5.0-10.0	A-7-5(8)	49	16	29.0	18.5	24.3	28.2	100	79	57	-	-
S-83	100' RT	117+51	10.0-16.5	A-4(0)	38	6	39.9	22.6	26.5	12.1	96	68	40	-	-
SS-84	50' LT	122+50	0.0-1.5	A-7-5(23)	66	35	23.8	13.3	18.6	44.3	100	93	66	-	-
SS-85	50' LT	122+50	3.5-5.0	A-7-5(15)	59	29	28.6	16.7	20.4	34.2	100	79	58	-	-
SS-87	50' LT	122+50	13.5-15.0	A-4(0)	36	1	40.7	25.4	25.9	8.1	97	70	38	-	-

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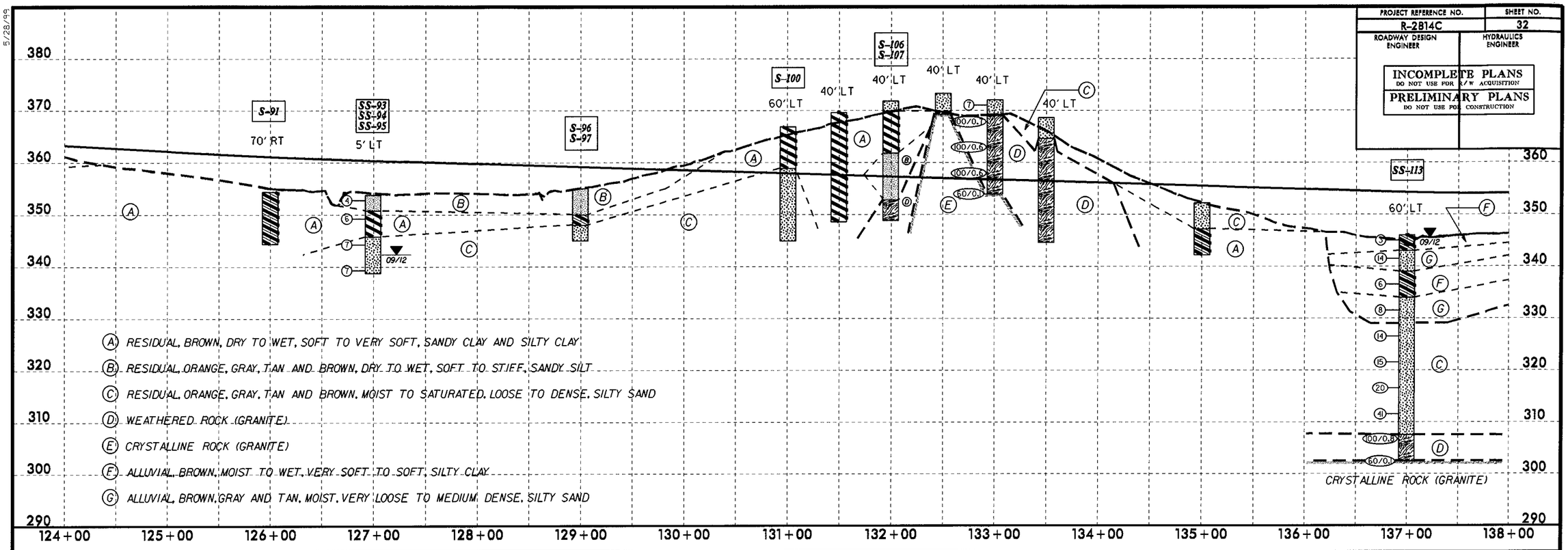
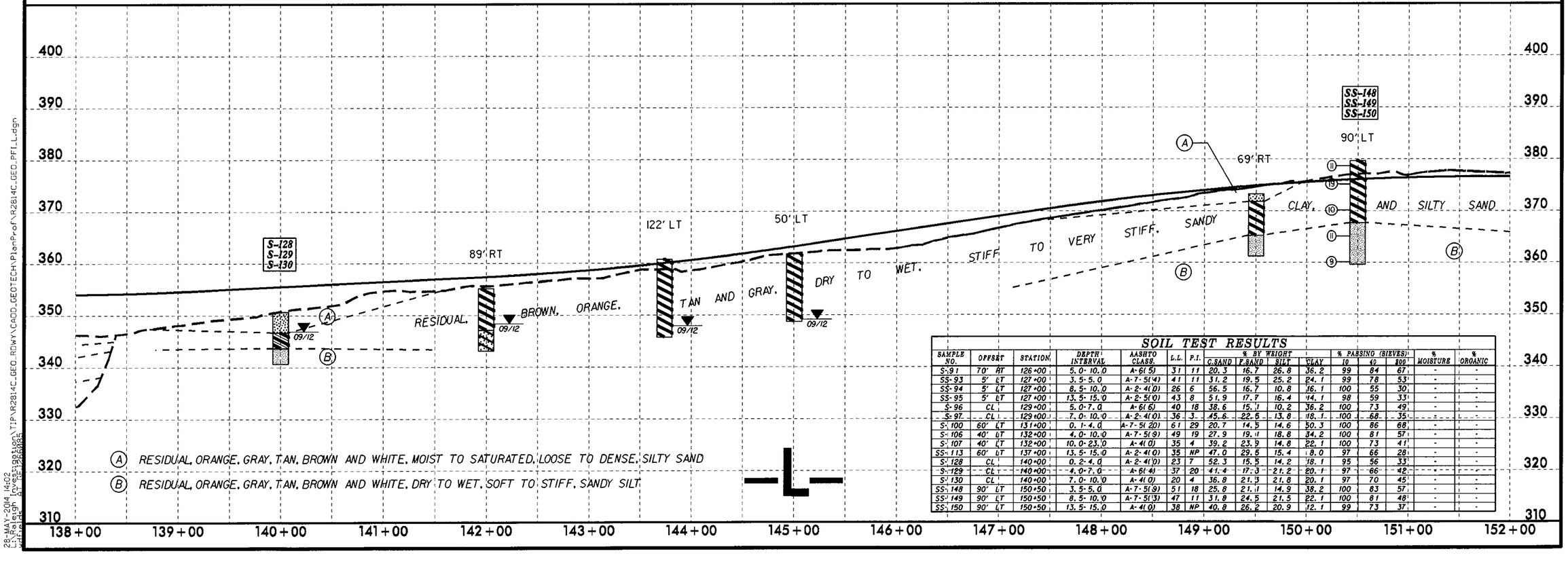
5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	32
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



(A) RESIDUAL, BROWN, DRY TO WET, SOFT TO VERY SOFT, SANDY CLAY AND SILTY CLAY
(B) RESIDUAL, ORANGE, GRAY, TAN AND BROWN, DRY TO WET, SOFT TO STIFF, SANDY SILT
(C) RESIDUAL, ORANGE, GRAY, TAN AND BROWN, MOIST TO SATURATED, LOOSE TO DENSE, SILTY SAND
(D) WEATHERED ROCK (GRANITE)
(E) CRYSTALLINE ROCK (GRANITE)
(F) ALLUVIAL, BROWN, MOIST TO WET, VERY SOFT TO SOFT, SILTY CLAY
(G) ALLUVIAL, BROWN, GRAY AND TAN, MOIST, VERY LOOSE TO MEDIUM DENSE, SILTY SAND



(A) RESIDUAL, ORANGE, GRAY, TAN, BROWN AND WHITE, MOIST TO SATURATED, LOOSE TO DENSE, SILTY SAND
(B) RESIDUAL, ORANGE, GRAY, TAN, BROWN AND WHITE, DRY TO WET, SOFT TO STIFF, SANDY SILT

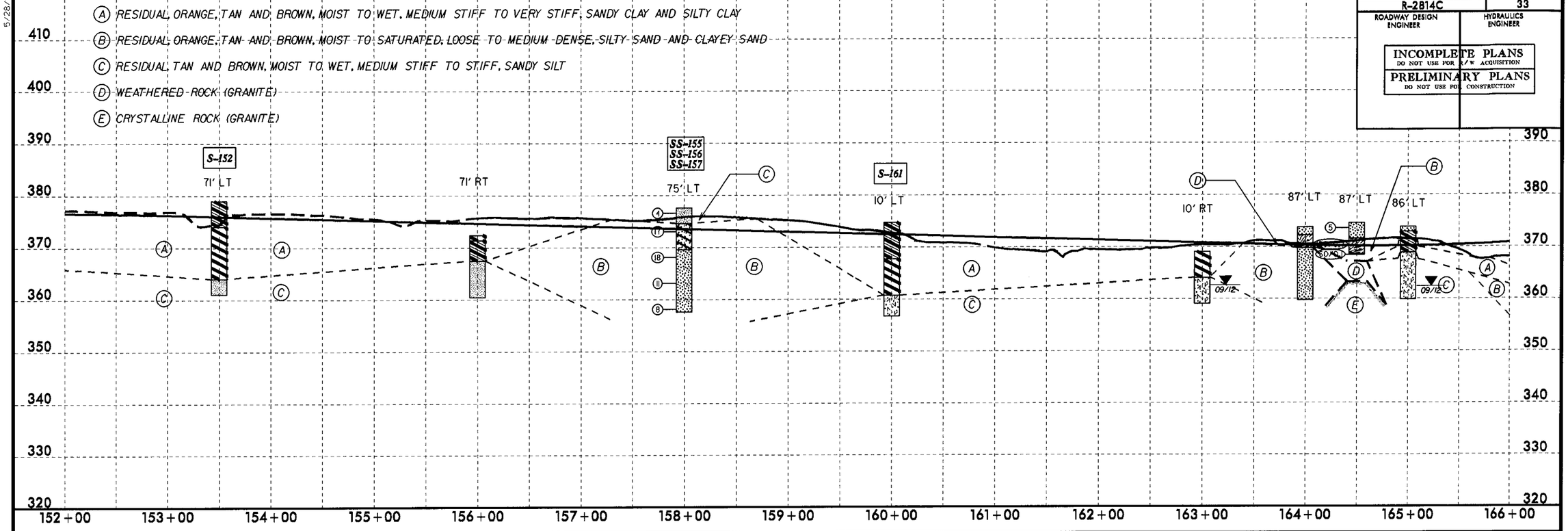
SOIL TEST RESULTS

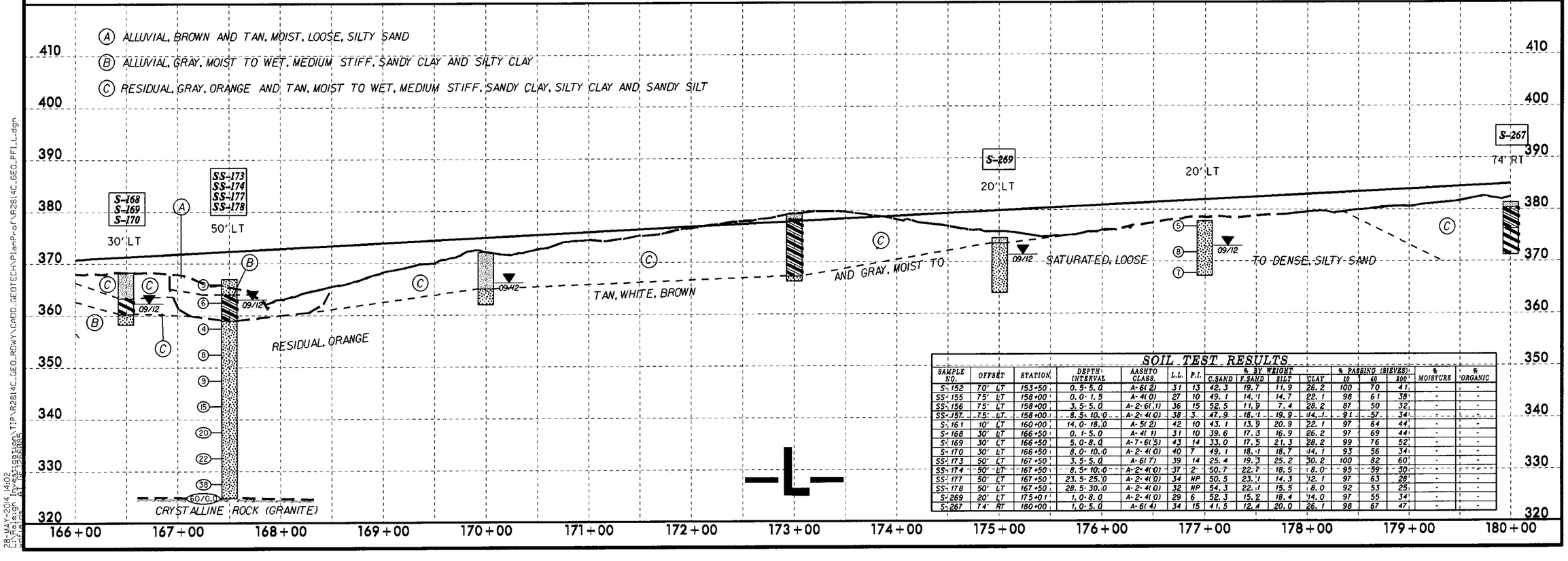
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) #10	#40	#200	% MOISTURE	% ORGANIC
S-91	70' RT	126+00	5.0-10.0	A-6(5)	31	11	20.3	16.7	26.8	36.2	99	84	67	-	-
SS-93	5' LT	127+00	3.5-5.0	A-7-5(14)	41	11	31.2	19.5	25.2	24.1	99	78	53	-	-
SS-94	5' LT	127+00	8.5-10.0	A-2-4(0)	26	6	56.5	16.7	10.8	16.1	100	55	30	-	-
SS-95	5' LT	127+00	13.5-15.0	A-2-5(0)	43	8	51.9	17.7	16.4	14.1	98	59	33	-	-
S-96	CL	129+00	5.0-7.0	A-6(6)	40	18	38.6	15.1	10.2	36.2	100	73	49	-	-
S-97	CL	129+00	7.0-10.0	A-2-4(0)	36	3	45.6	22.6	13.8	18.1	100	68	35	-	-
S-100	60' LT	131+00	0.1-4.0	A-7-5(20)	61	29	20.7	14.5	14.6	50.3	100	86	68	-	-
S-106	40' LT	132+00	4.0-10.0	A-7-5(9)	49	19	27.9	19.1	18.8	34.2	100	81	57	-	-
S-107	40' LT	132+00	10.0-23.0	A-4(0)	35	4	39.2	23.9	14.8	22.1	100	73	41	-	-
SS-113	60' LT	137+00	13.5-15.0	A-2-4(0)	35	NP	47.0	29.6	15.4	8.0	97	66	28	-	-
S-128	CL	140+00	0.2-4.0	A-2-4(0)	23	7	52.3	15.5	14.2	18.1	95	56	33	-	-
S-129	CL	140+00	4.0-7.0	A-6(4)	37	20	41.4	17.3	21.2	20.1	97	66	42	-	-
S-130	CL	140+00	7.0-10.0	A-4(0)	20	4	36.8	21.3	21.8	20.1	97	70	45	-	-
SS-148	90' LT	150+50	3.5-5.0	A-7-5(9)	51	18	25.8	21.1	14.9	38.2	100	83	57	-	-
SS-149	90' LT	150+50	8.5-10.0	A-7-5(3)	47	11	31.8	24.5	21.5	22.1	100	81	48	-	-
SS-150	90' LT	150+50	13.5-15.0	A-4(0)	38	NP	40.8	26.2	20.9	12.1	99	73	37	-	-

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	33
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-152	70' LT	153+50	0.5-5.0	A-6(2)	31	13	42.3	19.7	11.9	26.2	100	70	41	-	-
SS-155	75' LT	158+00	0.0-1.5	A-4(0)	27	10	49.1	14.1	14.7	22.1	98	61	38	-	-
SS-156	75' LT	158+00	3.5-5.0	A-2-6(1)	36	15	52.5	11.9	7.4	28.2	87	50	32	-	-
SS-157	75' LT	158+00	8.5-10.0	A-2-4(0)	38	3	47.9	18.1	19.9	14.1	91	57	34	-	-
S-161	10' LT	160+00	14.0-18.0	A-5(2)	42	10	43.1	13.9	20.9	22.1	97	64	44	-	-
S-168	30' LT	166+50	0.1-5.0	A-4(1)	31	10	39.6	17.3	16.9	26.2	97	69	44	-	-
S-169	30' LT	166+50	5.0-8.0	A-7-6(5)	43	14	33.0	17.5	21.3	28.2	99	76	52	-	-
S-170	30' LT	166+50	8.0-10.0	A-2-4(0)	40	7	49.1	18.1	18.7	14.1	93	56	34	-	-
SS-173	50' LT	167+50	3.5-5.0	A-6(7)	39	14	25.4	19.3	25.2	30.2	100	82	60	-	-
SS-174	50' LT	167+50	8.5-10.0	A-2-4(0)	37	2	50.7	22.7	18.5	8.0	95	59	30	-	-
SS-177	50' LT	167+50	23.5-25.0	A-2-4(0)	34	NP	50.5	23.1	14.3	12.1	97	63	28	-	-
SS-178	50' LT	167+50	28.5-30.0	A-2-4(0)	32	NP	54.3	22.1	15.5	8.0	92	53	25	-	-
S-269	20' LT	175+01	1.0-8.0	A-2-4(0)	29	6	52.3	15.2	18.4	14.0	97	55	34	-	-
S-267	74' RT	180+00	1.0-5.0	A-6(4)	34	15	41.5	12.4	20.0	26.1	98	67	47	-	-

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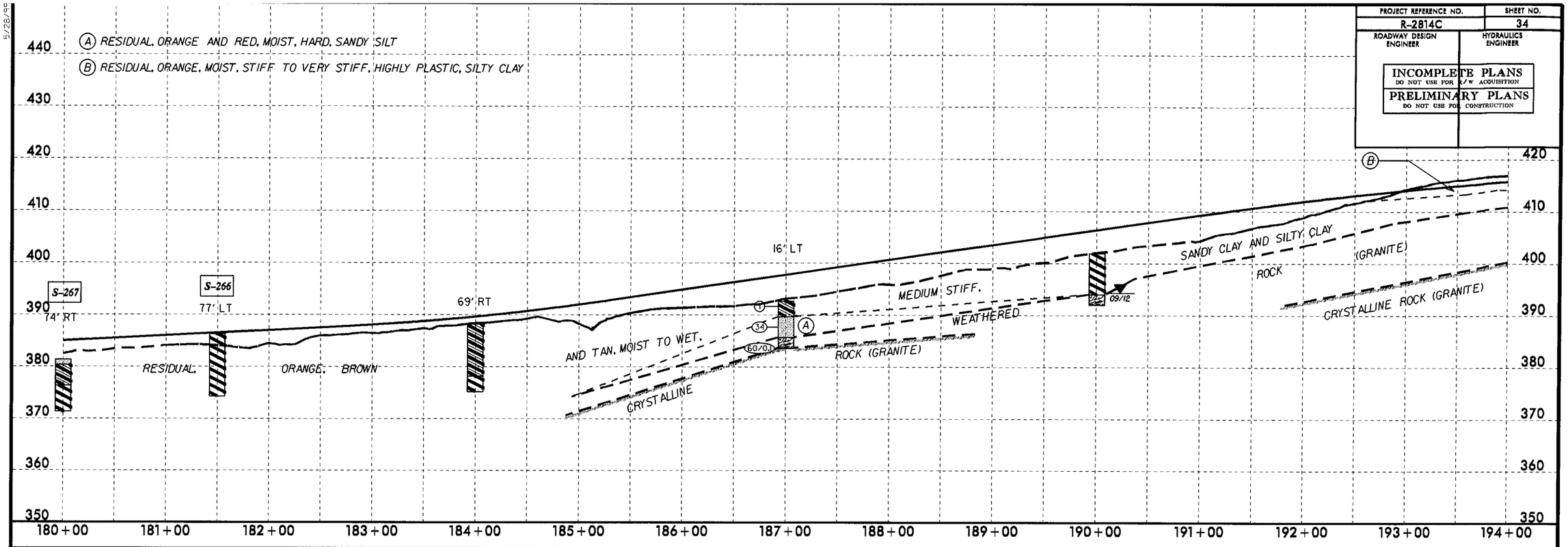
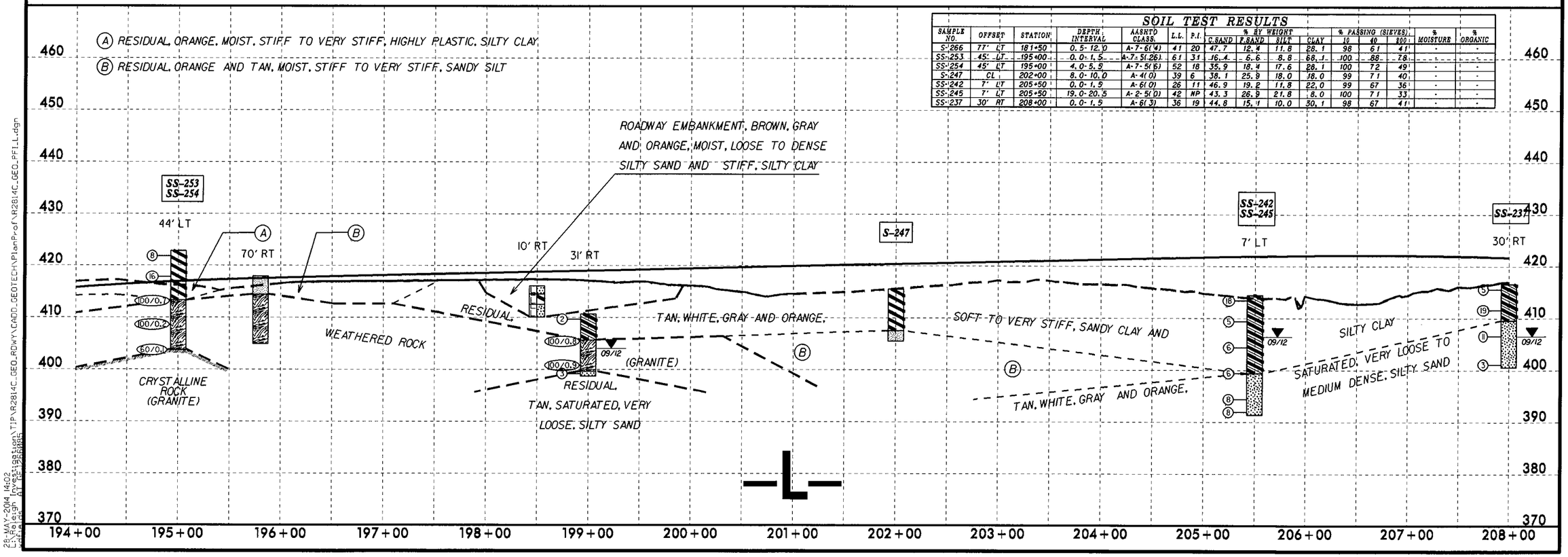
PROJECT REFERENCE NO.	SHEET NO.
R-2814C	34
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



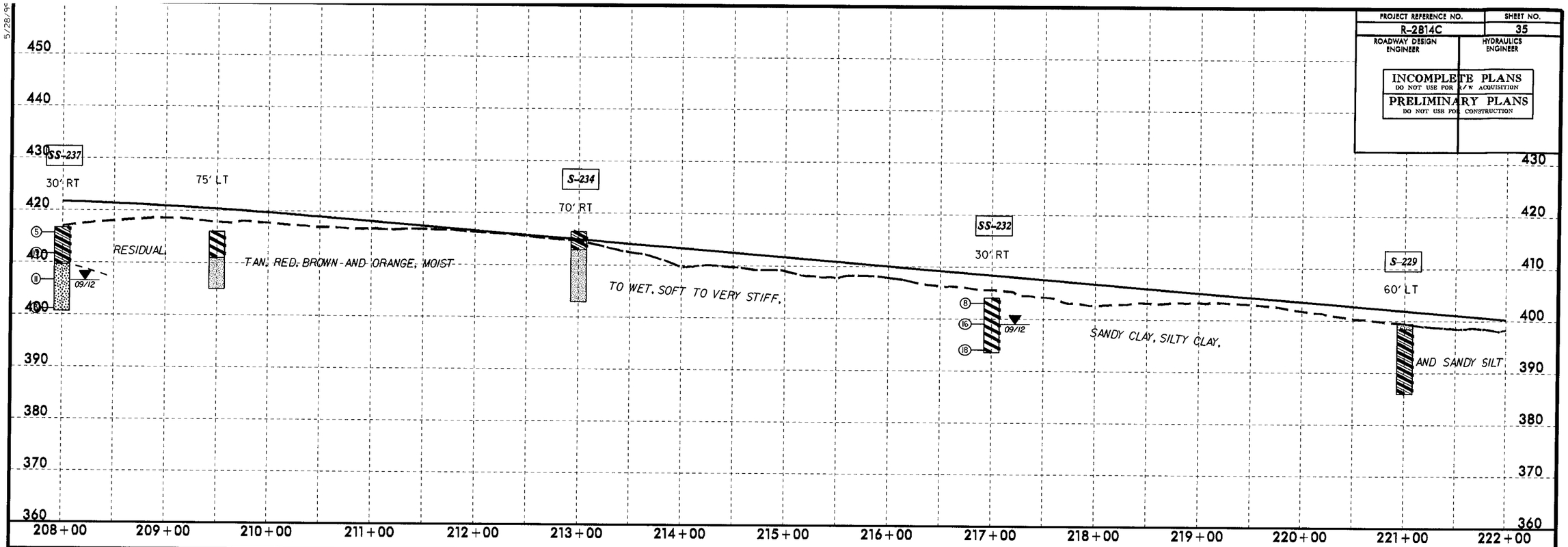


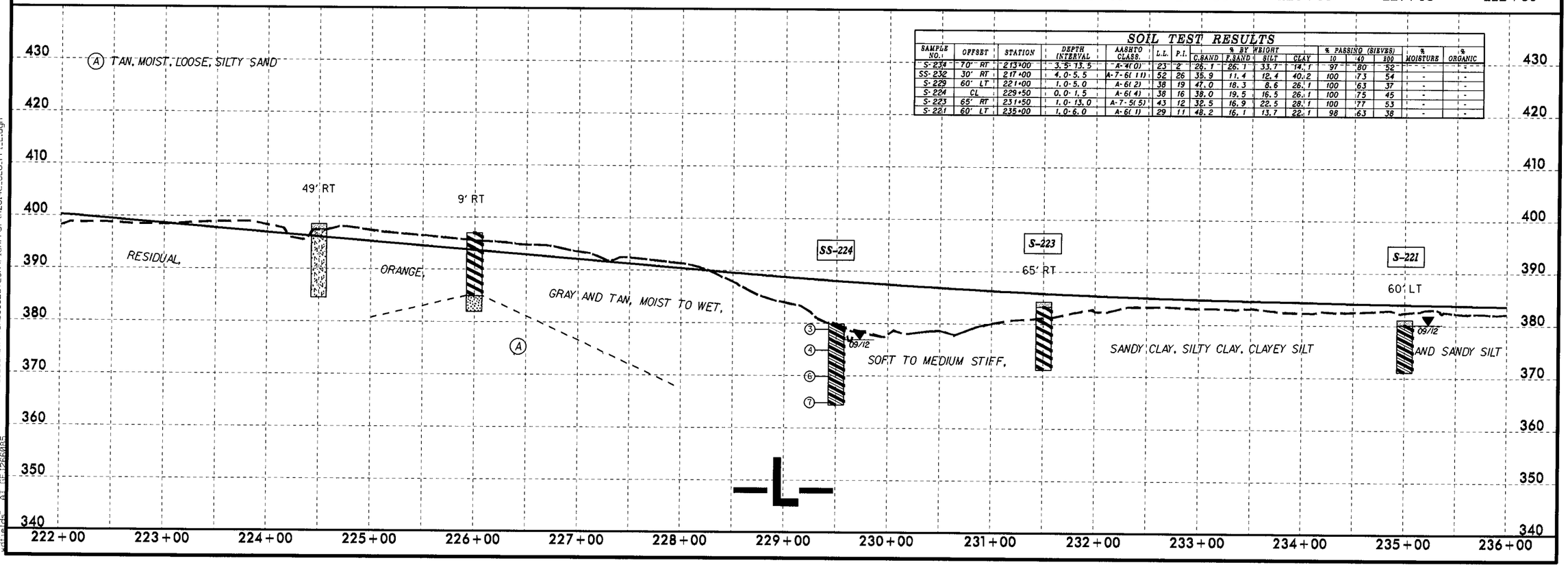
SOIL TEST RESULTS

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
S-266	77' LT	181+50	0.5-12.0	A-7-6(41)	41	20	47.7	12.4	11.8	28.1	98	61	41	-	-
SS-253	45' LT	195+00	0.0-1.5	A-7-5(26)	61	31	16.4	6.6	8.8	68.1	100	88	78	-	-
SS-254	45' LT	195+00	4.0-5.5	A-7-5(5)	52	18	35.9	18.4	17.6	28.1	100	72	49	-	-
S-247	CL	202+00	8.0-10.0	A-4(0)	39	6	38.1	25.9	18.0	18.0	99	71	40	-	-
SS-242	7' LT	205+50	0.0-1.5	A-6(0)	26	11	46.9	19.2	11.8	22.0	99	67	36	-	-
SS-245	7' LT	205+50	19.0-20.5	A-2-5(0)	42	NP	43.3	26.9	21.8	8.0	100	71	33	-	-
SS-237	30' RT	208+00	0.0-1.5	A-6(3)	36	19	44.8	15.1	10.0	30.1	98	67	41	-	-

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	35
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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





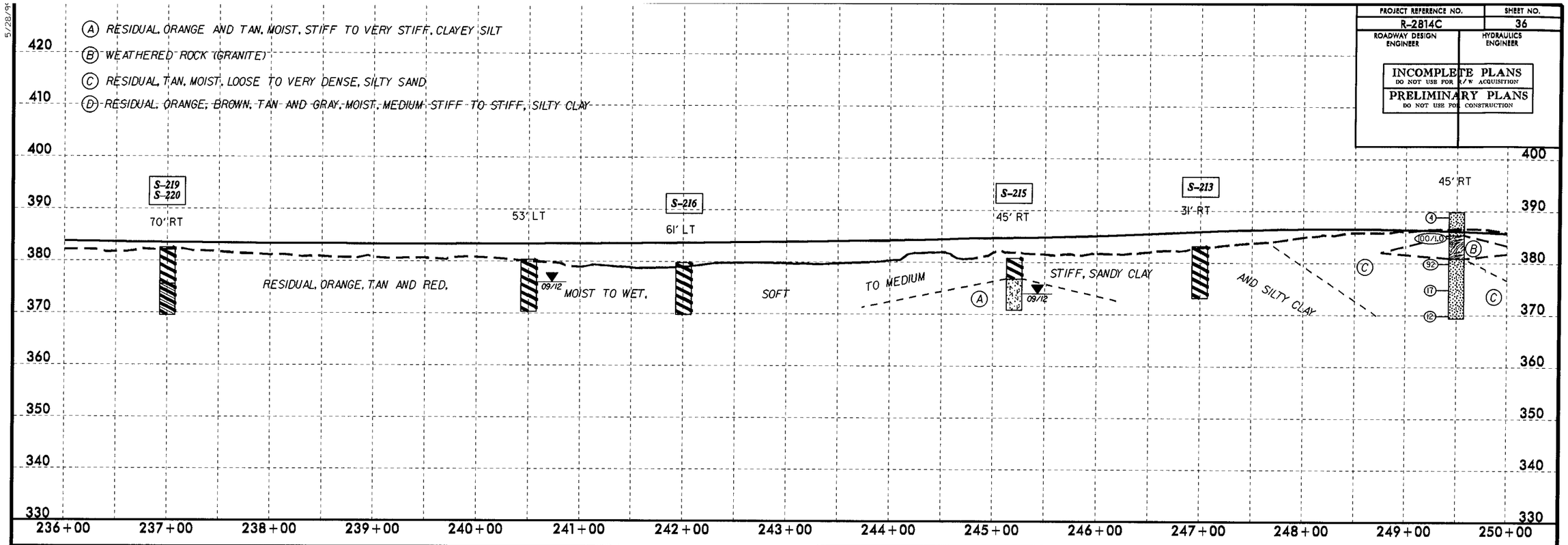
SOIL TEST RESULTS

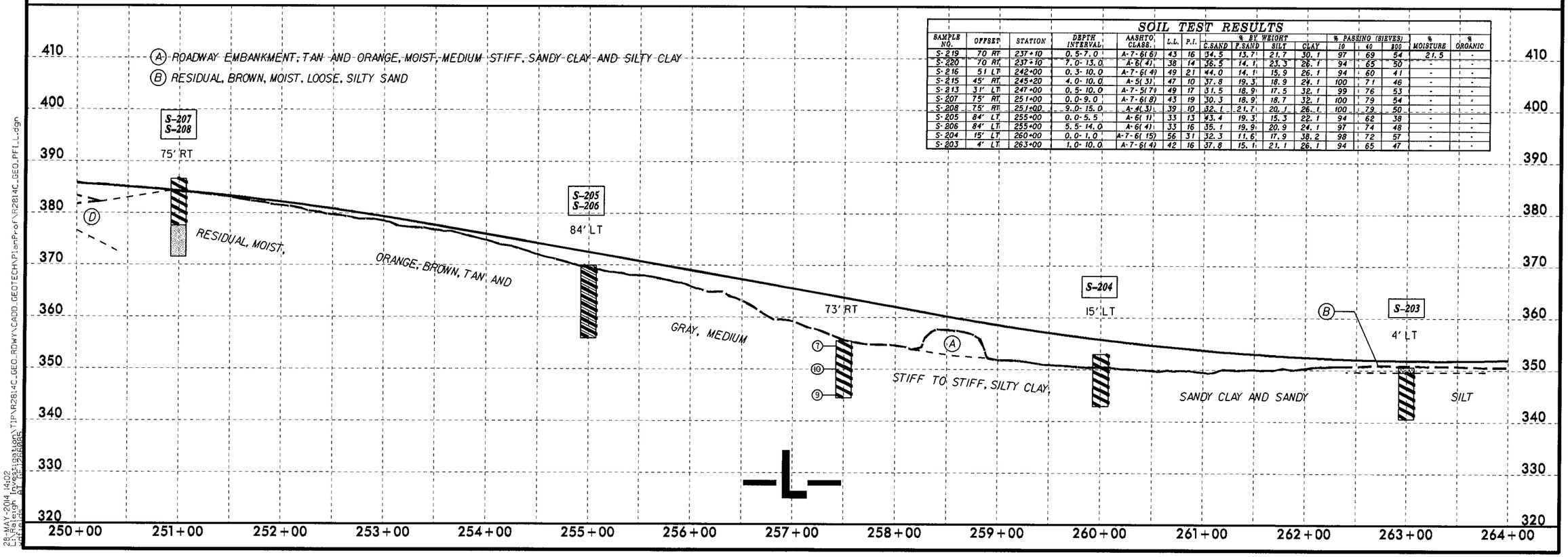
SAMPLE NO.	OFFSET	STATION	DEPTH (INTERVAL)	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-234	70' RT	213+00	3.5-13.5	A-4(0)	23	2	26.1	26.1	33.7	14.1	97	80	52	-	-
SS-232	30' RT	217+00	4.0-5.5	A-7-6(11)	52	26	35.9	11.4	12.4	40.2	100	73	54	-	-
S-229	60' LT	221+00	1.0-5.0	A-6(2)	38	19	47.0	18.3	8.6	26.1	100	63	37	-	-
S-224	CL	229+50	0.0-1.5	A-6(4)	38	16	38.0	19.5	16.5	26.1	100	75	45	-	-
S-223	65' RT	231+50	1.0-13.0	A-7-5(5)	43	12	32.5	16.9	22.5	28.1	100	77	53	-	-
S-221	60' LT	235+00	1.0-6.0	A-6(1)	29	11	48.2	16.1	13.7	22.1	98	63	38	-	-

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	36
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



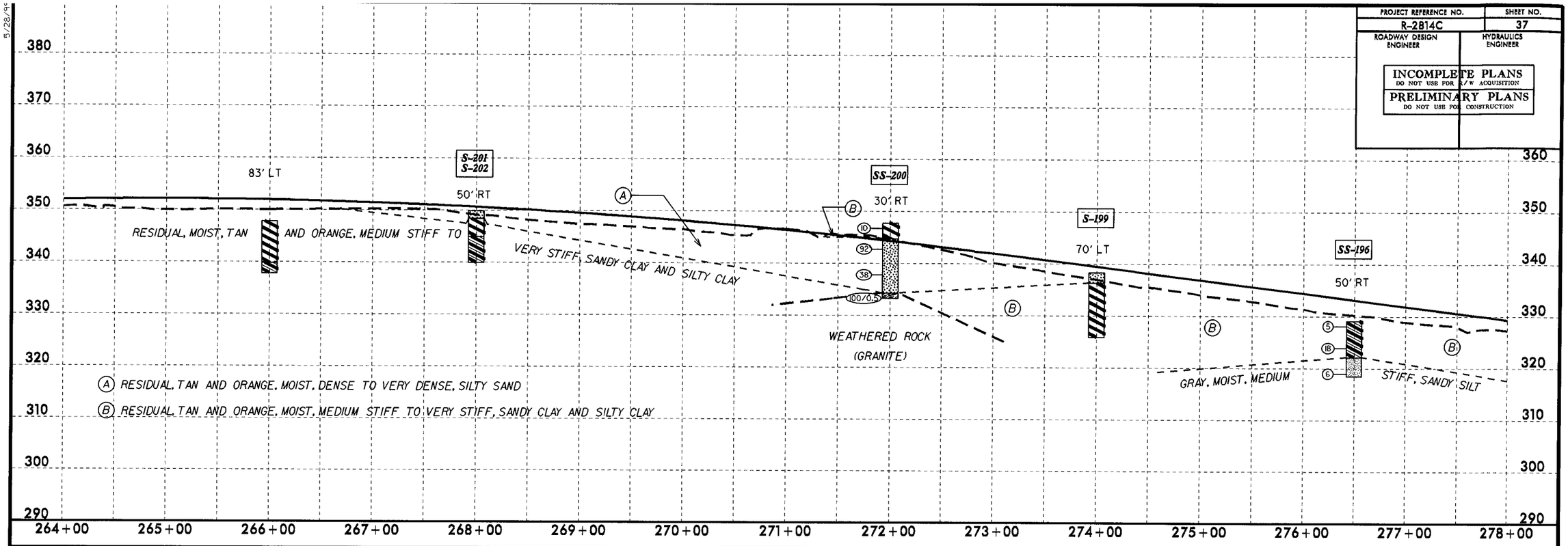


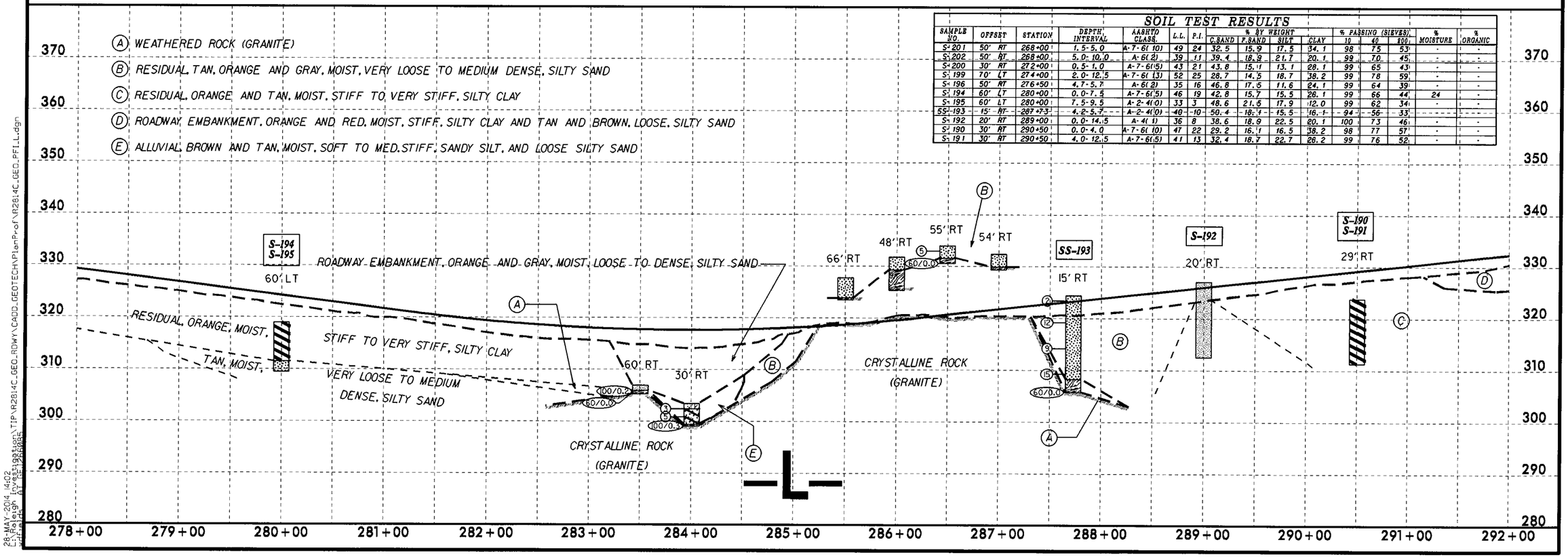
SOIL TEST RESULTS

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-219	70 RT	237+10	0.5-7.0	A-7-6(6)	43	16	34.5	13.7	21.7	30.1	97	69	54	21.5	-
S-220	70 RT	237+10	7.0-13.0	A-6(4)	38	14	36.5	14.1	23.3	26.1	94	65	50	-	-
S-216	51 LT	242+00	0.3-10.0	A-7-6(4)	49	21	44.0	14.1	15.9	26.1	94	60	41	-	-
S-215	45' RT	245+20	4.0-10.0	A-5(3)	47	10	37.8	19.3	18.9	24.1	100	71	46	-	-
S-213	31' LT	247+00	0.5-10.0	A-7-5(7)	49	17	31.5	18.9	17.5	32.1	99	76	53	-	-
S-207	75' RT	251+00	0.0-9.0	A-7-6(8)	43	19	30.3	18.9	18.7	32.1	100	79	54	-	-
S-208	75' RT	251+00	9.0-15.0	A-6(3)	39	10	32.1	21.7	20.1	26.1	100	79	50	-	-
S-205	84' LT	255+00	0.0-5.5	A-6(11)	33	13	43.4	19.3	15.3	22.1	94	62	38	-	-
S-206	84' LT	255+00	5.5-14.0	A-6(4)	33	16	35.1	19.9	20.9	24.1	97	74	48	-	-
S-204	15' LT	260+00	0.0-1.0	A-7-6(15)	56	31	32.3	11.6	17.9	38.2	98	72	57	-	-
S-203	4' LT	263+00	1.0-10.0	A-7-6(4)	42	16	37.8	15.1	21.1	26.1	94	65	47	-	-

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	37
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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





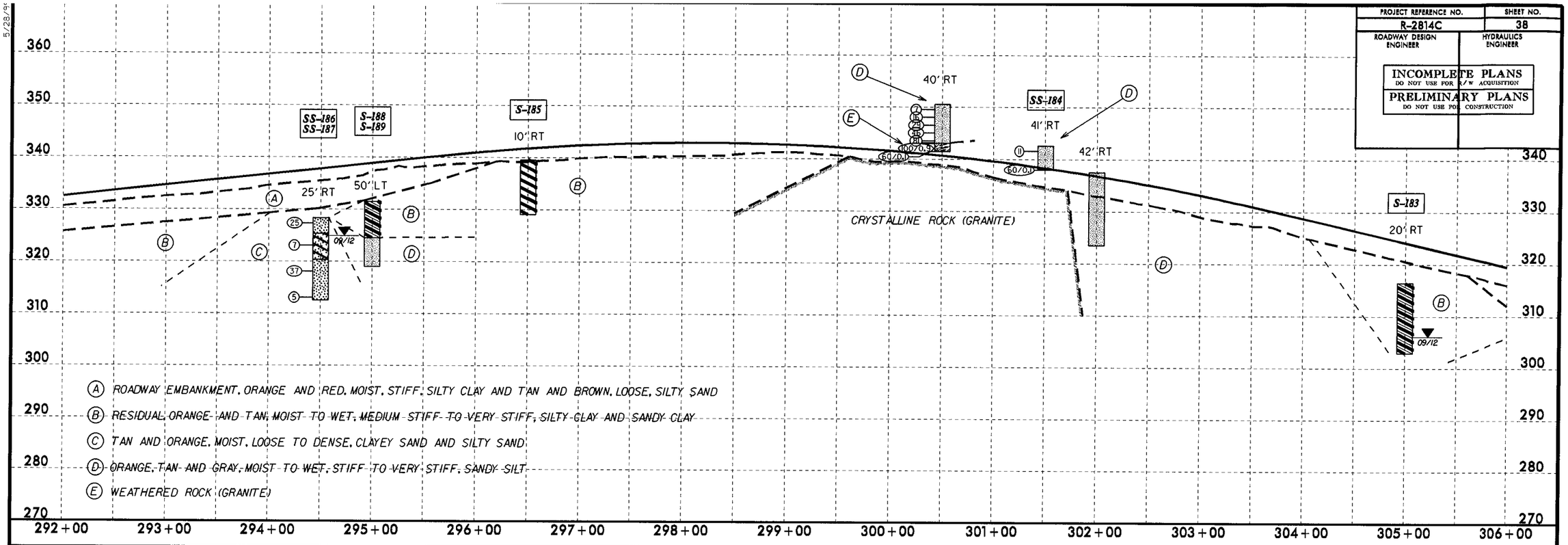
SOIL TEST RESULTS

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
S-201	50' RT	268+00	1.5-5.0	A-7-6(10)	49	24	32.5	15.9	17.5	34.1	98	75	53	-	-
S-202	50' RT	268+00	5.0-10.0	A-6(2)	39	11	39.4	18.9	21.7	20.1	99	70	45	-	-
S-200	30' RT	272+00	0.5-1.0	A-7-6(6)	43	21	43.8	15.1	13.1	28.1	99	65	43	-	-
S-199	70' LT	274+00	2.0-12.5	A-7-6(13)	52	25	28.7	14.5	18.7	38.2	99	78	59	-	-
S-196	50' RT	276+50	4.7-5.7	A-6(2)	35	16	46.8	17.6	11.6	24.1	99	64	39	-	-
S-194	60' LT	280+00	0.0-7.5	A-7-6(15)	46	19	42.8	15.7	15.5	26.1	99	66	44	24	-
S-195	60' LT	280+00	7.5-9.5	A-2-4(0)	33	3	48.6	21.5	17.9	12.0	99	62	34	-	-
SS-193	15' RT	287+73	4.2-5.7	A-2-4(0)	40	10	50.4	18.1	15.5	16.1	94	56	33	-	-
S-192	20' RT	289+00	0.0-14.5	A-4(1)	36	8	38.6	18.9	22.5	20.1	100	73	46	-	-
S-190	30' RT	290+50	0.0-4.0	A-7-6(10)	47	22	29.2	16.1	16.5	38.2	98	77	57	-	-
S-191	30' RT	290+50	4.0-12.5	A-7-6(15)	41	13	32.4	18.7	22.7	26.2	99	76	52	-	-

PROJECT REFERENCE NO.	SHEET NO.
R-2814C	38
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

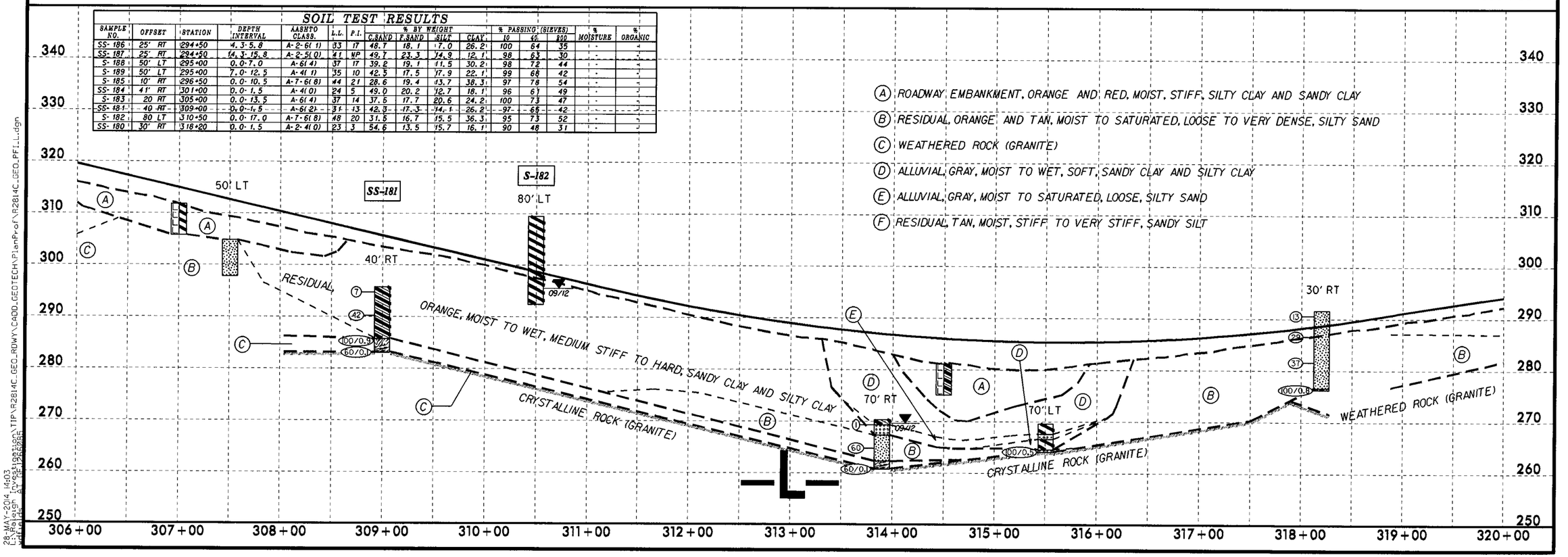
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

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-186	25' RT	294+50	4.3-5.8	A-2-6(1)	33	17	48.7	18.1	17.0	26.2	100	64	35	-	-
SS-187	25' RT	294+50	14.3-15.8	A-2-5(0)	41	NP	49.7	23.3	14.9	12.1	98	63	30	-	-
S-188	50' LT	295+00	0.0-7.0	A-6(4)	37	17	39.2	19.1	11.5	30.2	98	72	44	-	-
S-189	50' LT	295+00	7.0-12.5	A-4(1)	35	10	42.3	17.5	17.9	22.1	99	68	42	-	-
S-185	10' RT	296+50	0.0-10.5	A-7-6(8)	44	21	28.6	19.4	13.7	38.3	97	78	54	-	-
SS-184	41' RT	301+00	0.0-1.5	A-4(0)	24	5	49.0	20.2	12.7	18.1	96	61	49	-	-
S-183	20' RT	305+00	0.0-13.5	A-6(4)	37	14	37.5	17.7	20.6	24.2	100	73	47	-	-
SS-181	40' RT	309+00	0.0-1.5	A-6(2)	31	13	42.3	17.3	14.1	26.2	97	65	42	-	-
S-182	80' LT	310+50	0.0-17.0	A-7-6(8)	48	20	31.5	16.7	15.5	36.3	95	73	52	-	-
SS-180	30' RT	318+20	0.0-1.5	A-2-4(0)	23	3	54.6	13.5	15.7	16.1	90	48	31	-	-



PROJECT REFERENCE NO.	SHEET NO.
R-2814C	39
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Ⓐ RESIDUAL, TAN, BROWN, ORANGE AND GRAY, MOIST, SOFT TO VERY STIFF, SANDY SILT
Ⓑ WEATHERED ROCK (GRANITE)
Ⓒ RESIDUAL, ORANGE, MOIST, MEDIUM STIFF TO VERY STIFF, SILTY CLAY
Ⓓ RESIDUAL, ORANGE, MOIST, SOFT TO STIFF, HIGHLY PLASTIC, SILTY CLAY

S-177
S-178
S-179
58' RT

48' RT
40' LT
4' RT

ORANGE AND GRAY, MOIST, DENSE, SILTY SAND

360 350 340 330 320 310 300 290 280 270

320+00 321+00 322+00 323+00 324+00 325+00 326+00 327+00 328+00 329+00 330+00 331+00 332+00 333+00 334+00

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-177	58' RT	330+00	0.0- 1.3	A-4(1)	29	10	43.5	18.5	13.7	24.2	95	64	39		
S-178	58' RT	330+00	1.3- 5.0	A-7-6(15)	59	30	29.8	12.9	14.9	42.3	96	72	57	39	
S-179	58' RT	330+00	5.0- 10.5	A-4(2)	35	10	36.1	17.7	22.0	24.2	95	68	47	-	
S-176	34' RT	335+00	0.0- 10.5	A-7-5(27)	70	32	14.5	13.3	19.8	52.4	99	89	75	-	
SS-174A	30' RT	338+00	4.0- 5.5	A-7-6(5)	44	20	39.1	15.3	19.4	26.2	91	63	45	-	
S-174	40' RT	340+00	0.0- 5.0	A-7-6(7)	48	22	37.5	13.9	18.4	30.2	94	66	48	-	
S-175	40' RT	340+00	5.0- 14.0	A-4(0)	29	9	44.1	17.5	18.2	20.1	91	58	38	-	
SS-171	52' LT	344+80	0.0- 1.5	A-6(5)	39	18	36.9	15.1	9.8	38.3	96	68	48	-	
SS-172	52' LT	344+80	4.0- 5.5	A-7-6(14)	48	25	26.8	12.9	22.1	38.3	98	76	62	-	
SS-173A	52' LT	344+80	9.0- 10.5	A-2-7(2)	44	20	46.1	17.3	14.4	22.2	84	53	33	-	
S-168A	CL	347+00	0.0- 2.5	A-2-4(0)	20	5	46.5	20.7	16.6	16.1	93	60	34	-	
S-169A	CL	347+00	2.5- 6.5	A-6(3)	38	17	39.5	16.9	19.4	24.2	91	63	43	-	
S-170A	CL	347+00	6.5- 10.5	A-6(1)	34	12	43.9	17.7	18.2	20.1	89	57	37	-	

S-176
34' RT

SS-174A
30' RT

S-174
S-175
40' RT

SS-171
SS-172
SS-173A
52' LT

S-168A
S-169A
S-170A

RESIDUAL, TAN, MOIST, VERY STIFF TO HARD, SANDY SILT

RESIDUAL, ORANGE, TAN AND GRAY, MOIST, STIFF TO HARD, SILTY CLAY AND SANDY CLAY

WHITE AND ORANGE, MOIST TO SATURATED, MEDIUM DENSE, CLAYEY SAND

CRYSTALLINE ROCK (GRANITE)

Ⓐ RESIDUAL, ORANGE, MOIST, SOFT TO VERY STIFF, HIGHLY PLASTIC, SILTY CLAY
Ⓑ RESIDUAL, ORANGE, MOIST, VERY STIFF TO HARD, SILTY CLAY
Ⓒ RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND
Ⓓ WEATHERED ROCK

390 380 370 360 350 340 330 320 310 300

334+00 335+00 336+00 337+00 338+00 339+00 340+00 341+00 342+00 343+00 344+00 345+00 346+00 347+00 348+00

5/28/91

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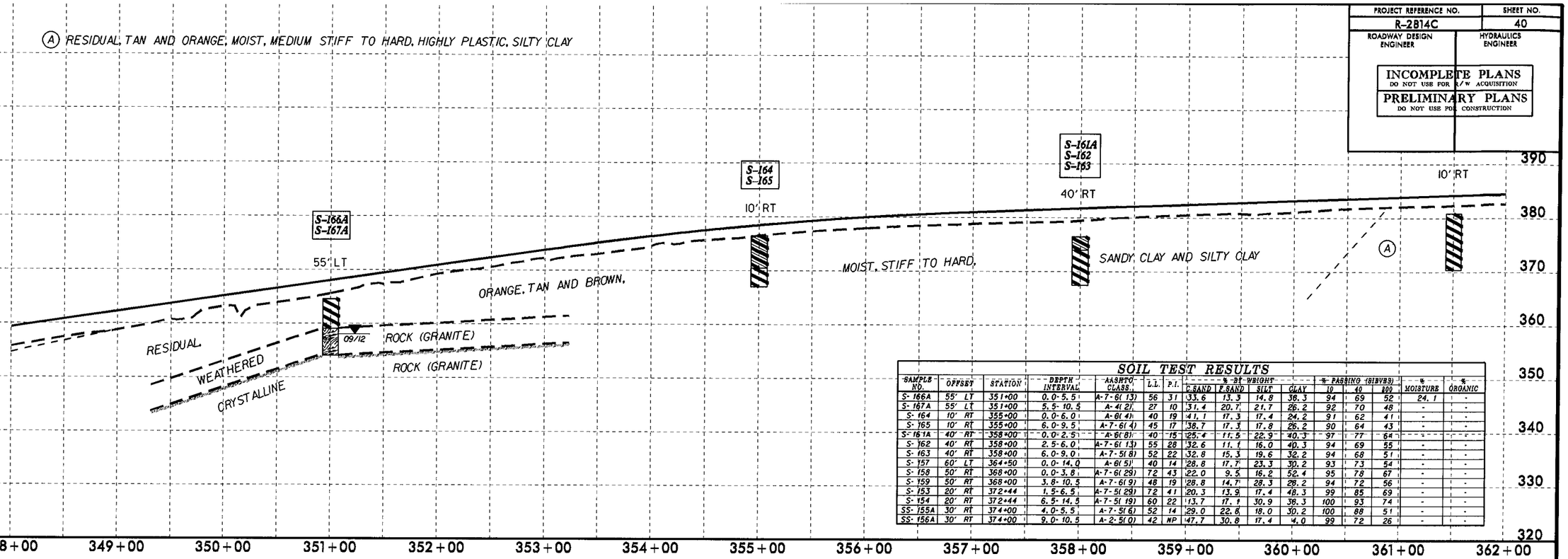
PROJECT REFERENCE NO.	SHEET NO.
R-2814C	40
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

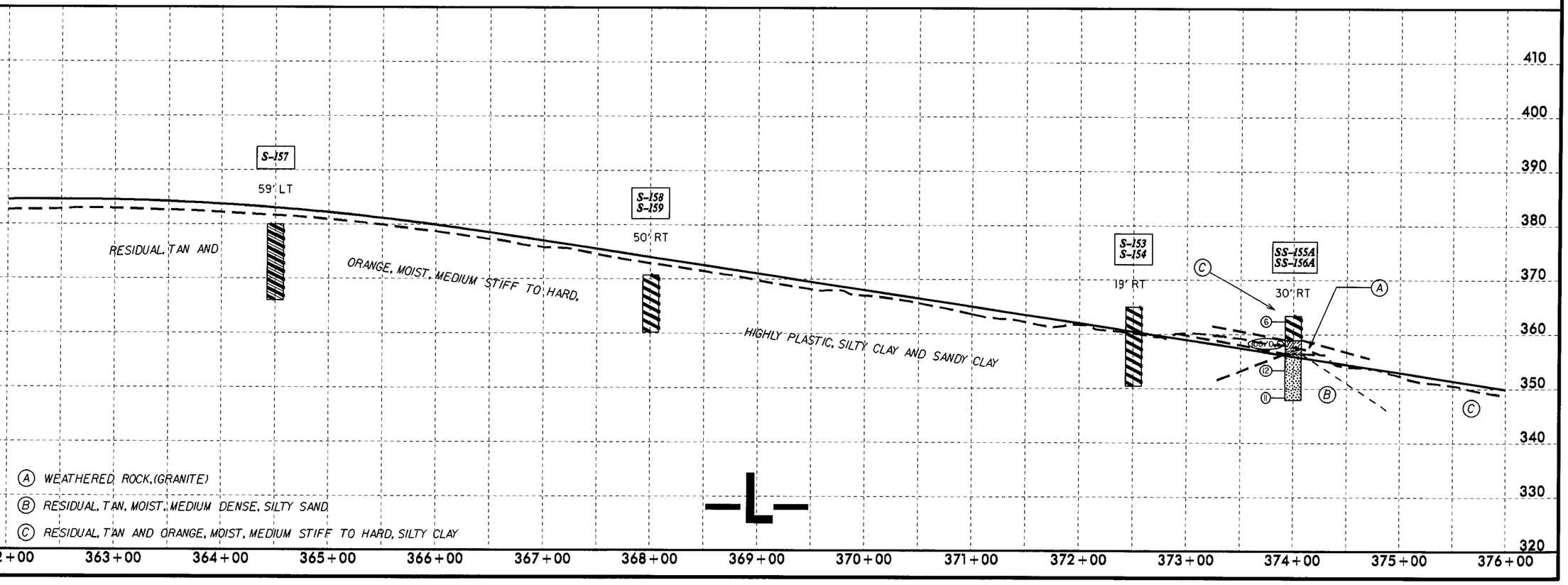
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



SOIL TEST RESULTS

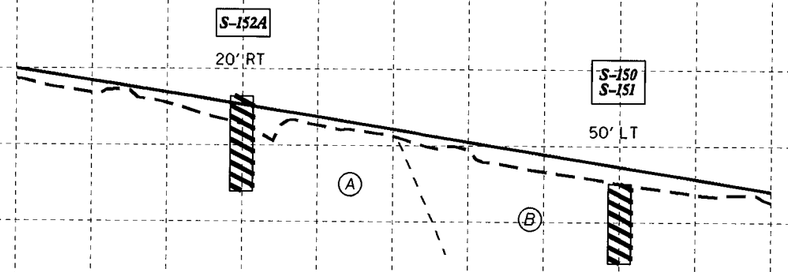
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT C.SAND	F.SAND	SILT	CLAY	% PASSING (SIEVES) 10	40	200	% MOISTURE	% ORGANIC
S-166A	55' LT	351+00	0.0-5.5	A-7-6(13)	56	31	33.6	13.3	14.8	38.3	94	69	52	24.1	-
S-167A	55' LT	351+00	5.5-10.5	A-4(2)	27	10	31.4	20.7	21.7	26.2	92	70	48	-	-
S-164	10' RT	355+00	0.0-6.0	A-6(4)	40	19	41.1	17.3	17.4	24.2	91	62	41	-	-
S-165	10' RT	355+00	6.0-9.5	A-7-6(4)	45	17	36.7	17.3	17.8	28.2	90	64	43	-	-
S-161A	40' RT	358+00	0.0-2.5	A-6(8)	40	15	25.4	11.5	22.9	40.3	97	77	64	-	-
S-162	40' RT	358+00	2.5-6.0	A-7-6(13)	55	28	32.6	11.1	16.0	40.3	94	69	55	-	-
S-163	40' RT	358+00	6.0-9.0	A-7-5(8)	52	22	32.8	15.3	19.6	32.2	94	68	51	-	-
S-157	60' LT	364+50	0.0-14.0	A-6(5)	40	14	28.8	17.7	23.3	30.2	93	73	54	-	-
S-158	50' RT	368+00	0.0-3.8	A-7-6(29)	72	43	22.0	9.5	16.2	52.4	95	78	67	-	-
S-159	50' RT	368+00	3.8-10.5	A-7-6(9)	48	19	28.8	14.7	28.3	28.2	94	72	56	-	-
S-153	20' RT	372+44	1.5-6.5	A-7-5(29)	72	41	20.3	13.9	17.4	48.3	99	85	69	-	-
S-154	20' RT	372+44	6.5-14.5	A-7-5(19)	60	22	13.7	17.1	30.9	38.3	100	93	74	-	-
SS-155A	30' RT	374+00	4.0-5.5	A-7-5(6)	52	14	29.0	22.6	18.0	30.2	100	88	51	-	-
SS-156A	30' RT	374+00	9.0-10.5	A-2-5(0)	42	NP	47.7	30.8	17.4	4.0	99	72	26	-	-



PROJECT REFERENCE NO.	SHEET NO.
R-2814C	41
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-152A	20' RT	377+50	0.0-12.5	A-7-6(17)	49	23	34.4	17.3	16.0	32.2	94	70	48	-	-
S-150	50' LT	380+00	0.0-5.0	A-7-6(20)	55	29	20.9	11.1	21.7	46.3	99	84	69	21.4	-
S-151	50' LT	380+00	5.0-10.5	A-7-6(6)	41	19	34.4	17.9	17.4	30.2	95	70	48	-	-

(A) RESIDUAL, TAN AND ORANGE, MOIST, MEDIUM STIFF TO HARD, SILTY CLAY

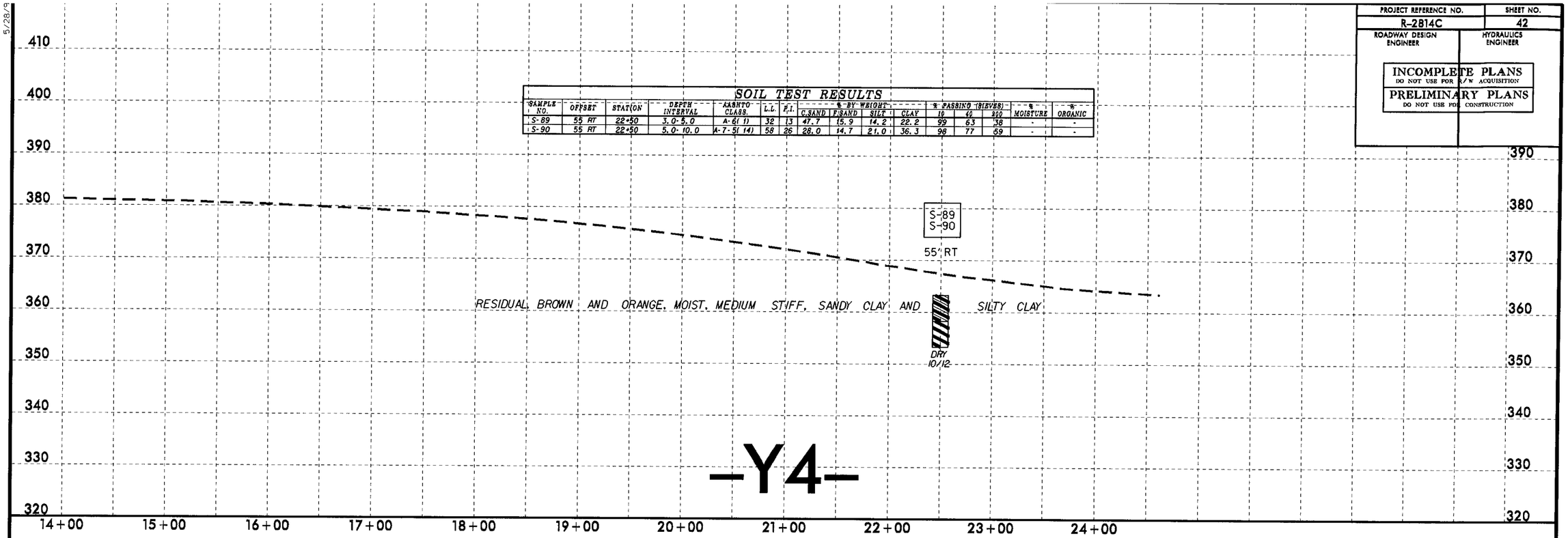
(B) RESIDUAL, TAN AND ORANGE, MOIST, MEDIUM STIFF TO HARD, HIGHLY PLASTIC, SILTY CLAY

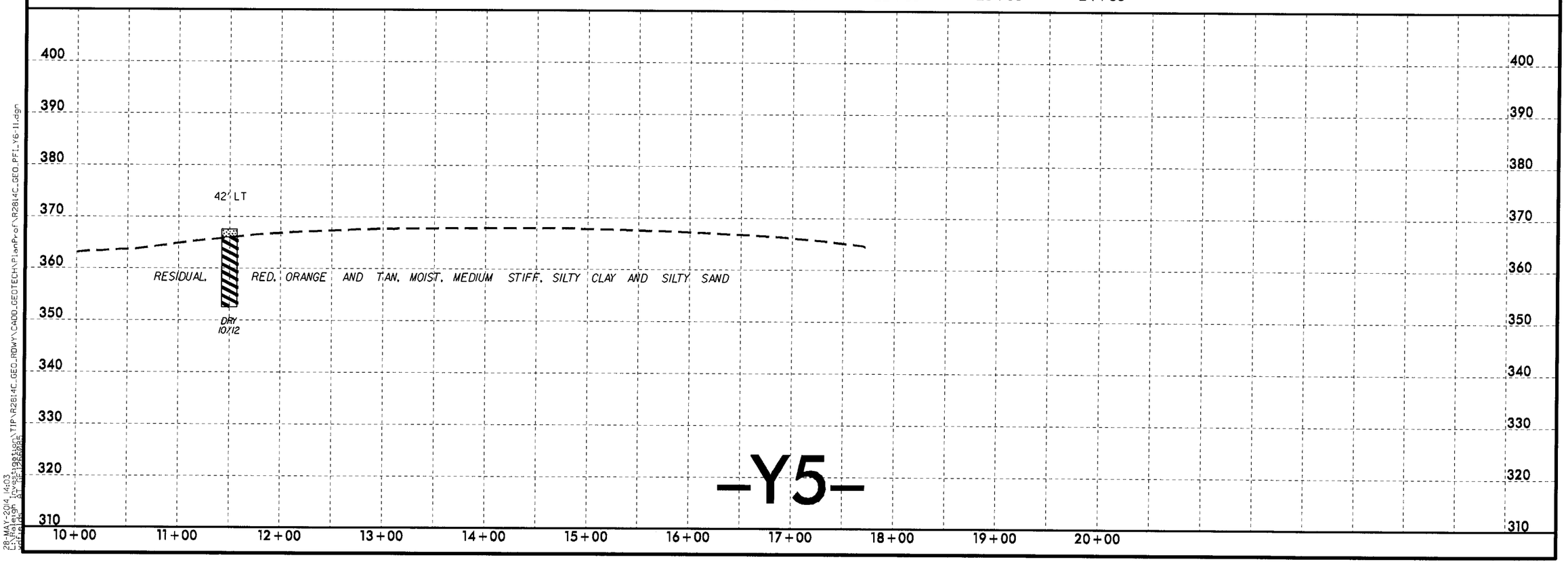
PROJECT REFERENCE NO.	SHEET NO.
R-2814C	42
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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-89	55 RT	22+50	3.0-5.0	A-6(1)	32	13	47.7	15.9	14.2	22.2	99	63	38	-	-
S-90	55 RT	22+50	5.0-10.0	A-7-5(14)	58	26	28.0	14.7	21.0	36.3	98	77	59	-	-





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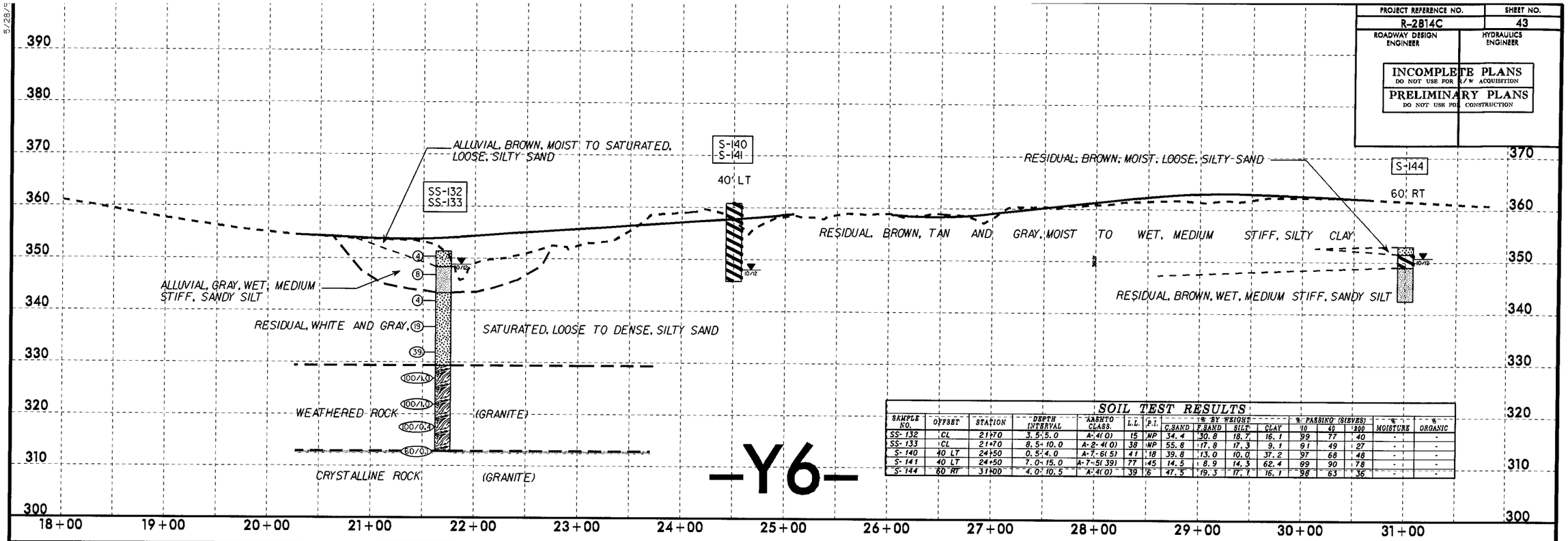
PROJECT REFERENCE NO.	SHEET NO.
R-2814C	43
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

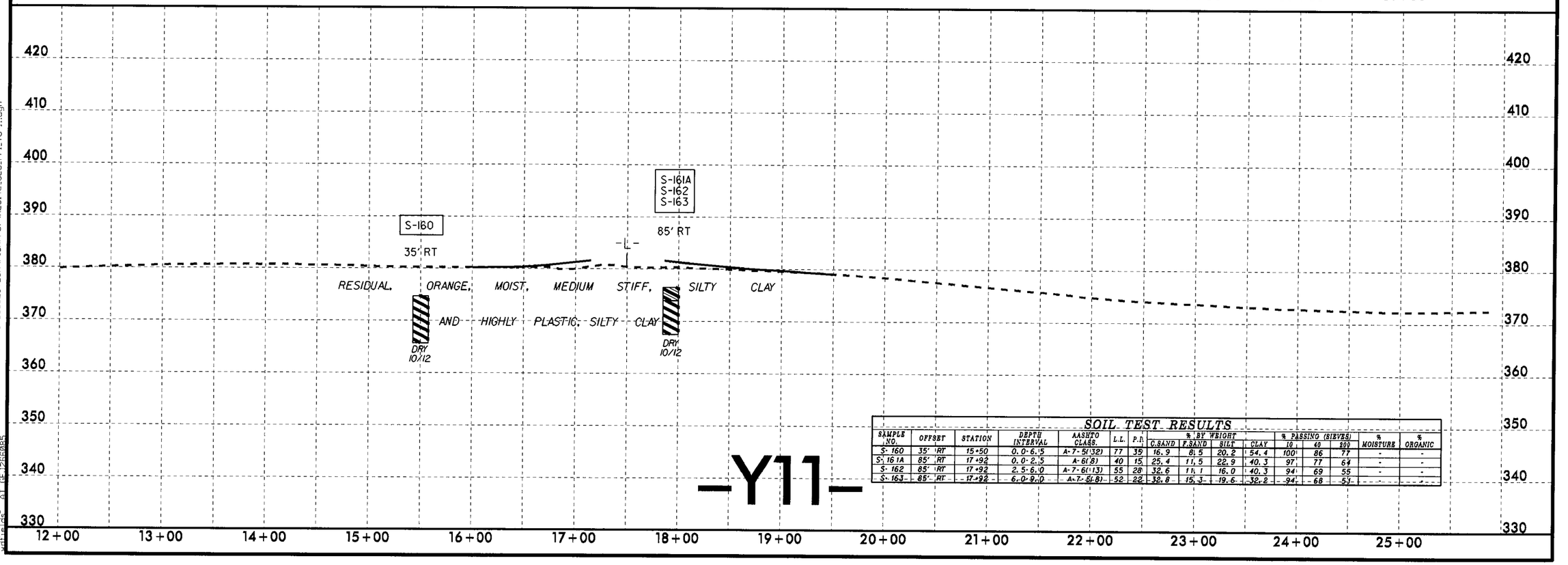
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



-Y6-

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-132	CL	21+70	3.5-5.0	A-4(0)	15	NP	34.4	30.8	18.7	16.1	99	77	40	-	-
SS-133	CL	21+70	8.5-10.0	A-2-4(0)	38	NP	55.8	17.8	17.3	9.1	91	49	27	-	-
S-140	40 LT	24+50	0.5-4.0	A-7-6(5)	41	18	39.8	13.0	10.0	37.2	97	68	48	-	-
S-141	40 LT	24+50	7.0-15.0	A-7-5(39)	77	45	14.5	8.9	14.3	62.4	99	90	78	-	-
S-144	60 RT	31+00	4.0-10.5	A-4(0)	39	6	47.5	19.3	17.1	16.1	98	63	36	-	-



-Y11-

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-160	35' RT	15+50	0.0-6.5	A-7-5(32)	77	35	16.9	8.5	20.2	54.4	100	86	77	-	-
S-161A	85' RT	17+92	0.0-2.5	A-6(8)	40	15	25.4	11.5	22.9	40.3	97	77	64	-	-
S-162	85' RT	17+92	2.5-6.0	A-7-6(13)	55	28	32.6	11.1	16.0	40.3	94	69	55	-	-
S-163	85' RT	17+92	6.0-9.0	A-7-6(8)	52	22	32.8	15.3	19.6	32.2	94	68	54	-	-

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
R-2814C	44

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

400
390

RESIDUAL, TAN AND ORANGE, MOIST, SOFT TO MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

TAN AND ORANGE, MOIST TO WET, MEDIUM STIFF, SANDY SILT

49+00

400
390

RESIDUAL, TAN AND ORANGE, MOIST, SOFT TO MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

TAN AND ORANGE, MOIST TO WET, MEDIUM STIFF, SANDY SILT

48+50

380
400
390

RESIDUAL, TAN AND ORANGE, MOIST, SOFT TO MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

TAN AND ORANGE, MOIST TO WET, MEDIUM STIFF, SANDY SILT

48+00

410
400
390

RESIDUAL, BROWN, TAN AND GRAY, MOIST TO SATURATED, LOOSE TO MEDIUM DENSE, CLAYEY SAND AND SILTY SAND

47+50

$-L-$

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

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	44

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

400
390

RESIDUAL, TAN AND ORANGE, MOIST, SOFT TO MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

TAN AND ORANGE, MOIST TO WET, MEDIUM STIFF, SANDY SILT

49+00

400
390
380

RESIDUAL, TAN AND ORANGE, MOIST, SOFT TO MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

TAN AND ORANGE, MOIST TO WET, MEDIUM STIFF, SANDY SILT

48+50

400
390

RESIDUAL, TAN AND ORANGE, MOIST, SOFT TO MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

TAN AND ORANGE, MOIST TO WET, MEDIUM STIFF, SANDY SILT

48+00

410
400
390

RESIDUAL, BROWN, TAN AND GRAY, MOIST TO SATURATED, LOOSE TO MEDIUM DENSE, CLAYEY SAND AND SILTY SAND

47+50

$-L-$

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

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	45

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

410
400
390

RESIDUAL, TAN AND ORANGE, MOIST TO WET, SOFT, HIGHLY PLASTIC, SILTY CLAY

51+00

410
400
390

RESIDUAL, TAN AND ORANGE, MOIST, SOFT TO MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

TAN AND ORANGE, MOIST TO WET, MEDIUM STIFF, SANDY SILT

50+50

410
400
390
380

RESIDUAL, TAN AND ORANGE, MOIST, SOFT TO MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

TAN AND ORANGE, MOIST TO WET, MEDIUM STIFF, SANDY SILT

50+00

430
420
410
400
390
380

S-8
S-10

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

09/12

S-5
S-7

RESIDUAL, TAN AND ORANGE, MOIST, SOFT TO MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

TAN AND ORANGE, MOIST TO WET, MEDIUM STIFF, SANDY SILT

DRY
10/12

49+50

—L—

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

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-5	25' RT	49+40	0.5- 10.0	A-7-5(33)	78	42	19.2	10.5	11.7	58.6	100	86	72	-	-
S-7	25' RT	49+40	10.0- 15.0	A-4(0)	40	5	40.2	23.4	18.2	18.2	100	72	41	-	-
S-8	120' LT	49+41	2.0- 8.0	A-7-5(29)	78	36	22.0	7.3	14.1	56.6	99	81	71	-	-
S-10	120' LT	49+41	16.0- 18.0	A-4(0)	39	4	42.2	20.6	21.0	16.2	98	66	40	-	-

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	46

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

400
390

RESIDUAL, TAN AND ORANGE, MOIST TO WET, SOFT, HIGHLY PLASTIC, SILTY CLAY

53+50

400
390

RESIDUAL, TAN AND ORANGE, MOIST TO WET, SOFT, HIGHLY PLASTIC, SILTY CLAY

53+00

420
410
400
390

S-12

09/12

RESIDUAL, TAN AND ORANGE, MOIST TO WET, SOFT, HIGHLY PLASTIC, SILTY CLAY

52+50

380

400
390

RESIDUAL, TAN AND ORANGE, MOIST TO WET, SOFT, HIGHLY PLASTIC, SILTY CLAY

52+00

400
390

RESIDUAL, TAN AND ORANGE, MOIST TO WET, SOFT, HIGHLY PLASTIC, SILTY CLAY

51+50

—L—

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

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-12	63' LT	52+42	5.0-15.0	A-7-5(8)	50	14	26.1	15.8	25.9	32.3	97	77	60	-	-

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	47

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

410
400
390
380
370

ROADWAY EMBANKMENT, BROWN AND GRAY, MOIST, LOOSE TO DENSE, SILTY SAND

ROADWAY EMBANKMENT, ORANGE, MOIST, STIFF, SILTY CLAY

DRY
10/42

RESIDUAL, TAN AND GRAY, MOIST TO WET, SOFT, SANDY SILT

GRAY, SATURATED, LOOSE, SILTY SAND

55+50

400
390

RESIDUAL, TAN AND GRAY, MOIST TO WET, SOFT, SANDY SILT

GRAY, SATURATED, LOOSE, SILTY SAND

55+00

410
400
390

RESIDUAL, TAN AND ORANGE, MOIST TO WET, SOFT, HIGHLY PLASTIC, SILTY CLAY

54+50

400
390

RESIDUAL, TAN AND ORANGE, MOIST TO WET, SOFT, HIGHLY PLASTIC, SILTY CLAY

54+00

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

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AT GE_2860085

8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2814C	48

0 5 10

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

400
390

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

RESIDUAL, TAN AND ORANGE, MOIST TO WET, SOFT, HIGHLY PLASTIC, SILTY CLAY

58+00

410
400
390
380

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

RESIDUAL, TAN AND ORANGE, MOIST TO WET, SOFT, HIGHLY PLASTIC, SILTY CLAY

57+50

420
410
400
390
380

S-13
S-14

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

09/12

TAN AND ORANGE, MOIST TO WET, SOFT, HIGHLY PLASTIC, SILTY CLAY

57+00

410
400
390
380

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

RESIDUAL, TAN AND GRAY, MOIST TO WET, SOFT, SANDY SILT

GRAY, SATURATED, LOOSE, SILTY SAND

56+50

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

SOIL TEST RESULTS

SAMPLE 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-13	46' LT	56+80	3.0-8.0	A-7-5(22)	68	37	26.9	18.3	10.3	60.8	99	80	63	-	-
S-14	46' LT	56+80	8.0-12.0	A-7-5(13)	53	19	18.0	18.4	23.2	40.4	100	90	67	-	-

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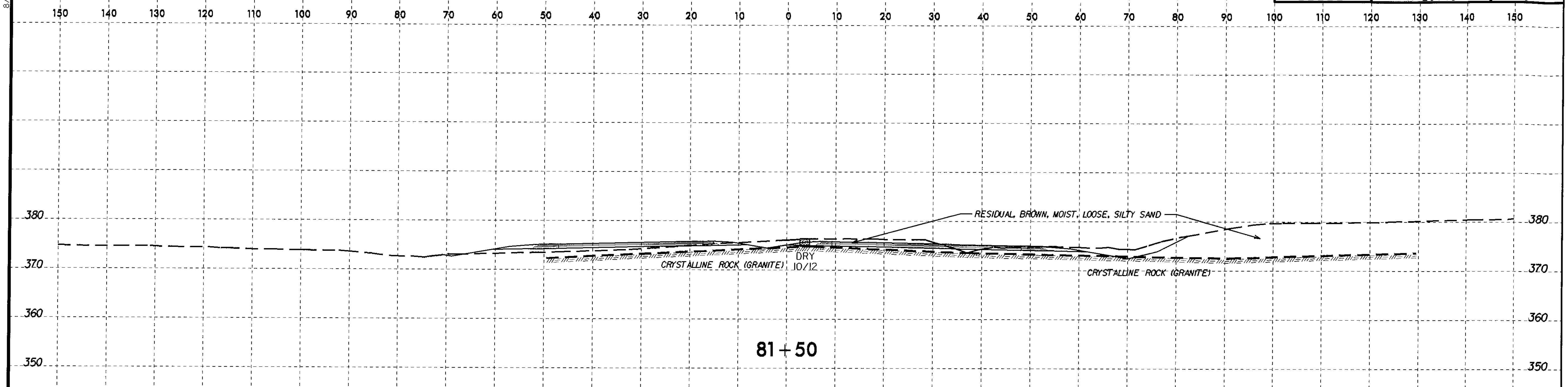
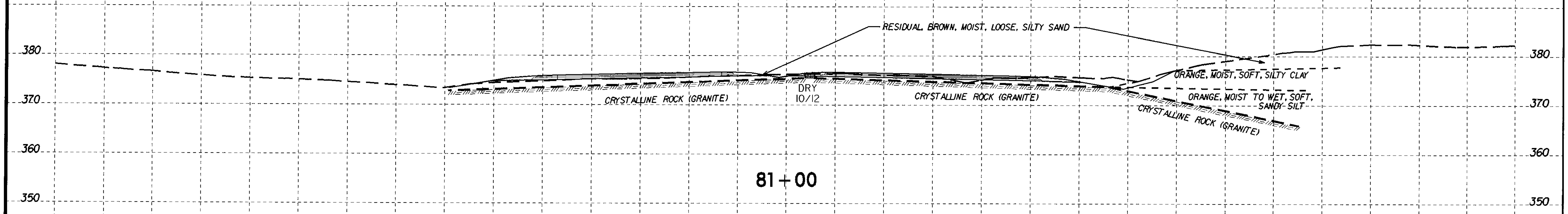
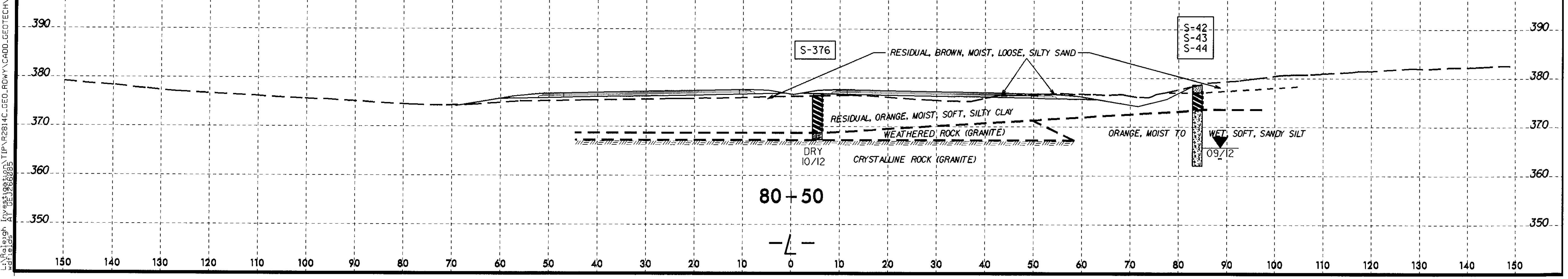




SOIL TEST RESULTS

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-376	15' LT	80+50	0.5-7.5	A-7-6(7)	50	21	36.5	19.3	18.1	26.1	99	71	48	24.3	-
S-42	63' RT	80+50	0.2-1.5	A-2-4(0)	22	2	50.7	24.8	12.3	12.1	98	64	27	-	-
S-43	63' RT	80+50	1.5-5.0	A-7-6(9)	62	24	38.6	14.1	8.9	38.4	100	71	50	-	-
S-44	64' RT	80+50	5.0-16.5	A-5(1)	44	7	34.5	26.3	17.0	22.2	100	79	45	-	-



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	R-2814C	50

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

390 380 370 360 350

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-48	84' RT	83+00	5.0-5.5	A-2-4(0)	26	5	46.3	21.8	11.7	20.2	95	65	33	-	-

S-48

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

DRY
10/12

CRYSTALLINE ROCK (GRANITE)

83+00

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

WEATHERED ROCK (GRANITE)

CRYSTALLINE ROCK (GRANITE)

DRY
10/12

82+50

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-375	4' RT	82+00	0.0-2.5	A-2-4(0)	27	2	53.0	20.9	12.0	14.1	88	53	25	-	-
S-45	85' RT	82+00	0.2-4.5	A-2-4(0)	25	5	47.7	24.4	11.7	16.2	97	66	30	-	-

S-375

S-45

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND (GRANITE)

WEATHERED ROCK

WEATHERED ROCK (GRANITE)

CRYSTALLINE ROCK (GRANITE)

DRY
10/12

RESIDUAL, TAN, MOIST, STIFF, SANDY SILT

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND (GRANITE)

CRYSTALLINE ROCK

DRY
10/12

82+00

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8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2814C	51

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370
360
350
340

WATER SURFACE

ALLUVIAL, GRAY, WET, SOFT, SILTY CLAY

RESIDUAL, BROWN, MOIST TO SATURATED, LOOSE, SILTY SAND

TAN, WET, SOFT, SILTY CLAY

84+50

WATER SURFACE

ALLUVIAL, TAN, SATURATED, LOOSE TO DENSE, SAND

RESIDUAL, BROWN, MOIST TO SATURATED, LOOSE, SILTY SAND

TAN, WET, SOFT, SILTY CLAY

84+00

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-51	84' RT	83+50	7.5-10.0	A-7-6(4)	41	18	41.6	17.2	12.9	28.3	100	70	44	-	-

S-51

WATER SURFACE

ALLUVIAL, TAN, SATURATED, LOOSE TO DENSE, SAND

RESIDUAL, BROWN, MOIST TO SATURATED, LOOSE, SILTY SAND

09/12

TAN, WET, SOFT, SILTY CLAY

83+50

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	52

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

380 370 360 350 340

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-310	25' LT	85+50	0.0-2.0	A-7-6(5)	43	20	40.3	16.6	16.8	26.3	98	69	45	-	-
S-311	25' LT	85+50	2.0-5.0	A-7-5(17)	67	36	33.6	14.2	13.8	38.5	99	75	54	-	-

S-310
S-311

ARTIFICIAL FILL, ORANGE AND GRAY, MOIST, STIFF, SILTY CLAY AND DENSE, SAND

DRY
10/12

RESIDUAL, ORANGE, TAN AND GRAY, MOIST, MEDIUM STIFF TO STIFF, SILTY CLAY

85+50

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-312	20' LT	85+00	0.0-1.1	A-7-5(39)	70	30	1.0	2.6	51.9	44.5	100	99	98	-	-
S-313	20' LT	85+00	1.1-2.0	A-7-6(7)	46	20	34.6	19.2	25.9	20.2	99	74	49	-	-

S-312
S-313

WATER SURFACE

RESIDUAL, BROWN, MOIST TO SATURATED, LOOSE, SILTY SAND

TAN, WET, SOFT, SILTY CLAY

ALLUVIAL, GRAY, WET, SOFT, SILTY CLAY

85+00

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	R-2814C	53

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370 360 350 340 330

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-307	70 RT	114+50	0.0-1.0	A-5(3)	51	10	29.4	27.7	20.6	22.3	100	82	47	-	-

S-307

RESIDUAL ORANGE, MOIST, MEDIUM STIFF, SANDY CLAY AND SANDY SILT

RESIDUAL BROWN AND TAN, MOIST, LOOSE, SILTY SAND

WEATHERED ROCK (GRANITE)

DRY 10/12

CRYSTALLINE ROCK (GRANITE)

BROWN AND TAN, MOIST, LOOSE, SILTY SAND

DRY 10/12

DRY 10/12

WEATHERED ROCK (GRANITE)

114+50

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

RESIDUAL, ORANGE, MOIST, MEDIUM STIFF, SANDY CLAY

(50/0.1)

CRYSTALLINE ROCK (GRANITE)

DRY 10/12

WEATHERED ROCK (GRANITE)

CRYSTALLINE ROCK (GR...

RESIDUAL, TAN, MOIST, STIFF...

DRY

114+00

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-308	8' RT	113+50	0.0-1.1	A-7-6(7)	47	24	38.5	17.0	12.1	32.4	99	71	47	-	-
S-309	8' RT	113+50	1.1-6.0	A-2-4(0)	39	NP	58.4	24.4	13.2	4.0	95	53	19	-	-

S-308
S-309

RESIDUAL, ORANGE, MOIST, MEDIUM STIFF, SILTY CLAY

RESIDUAL, TAN, MOIST, LOOSE, SILTY SAND

DRY 10/12

DRY 10/12

113+50

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320 330 340 350 360 370

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

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	54

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

350
340
370
360
350
340
330

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SANDY CLAY AND SILTY CLAY

TAN, MOIST, MEDIUM STIFF, SANDY SILT

116 + 50

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

ORANGE, MOIST, MEDIUM STIFF, SANDY CLAY

DRY
10/12

116 + 00

370
360
350
340
330

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-377	35' LT	115+50	2.0-8.0	A-7-6(11)	51	22	31.1	13.1	13.7	42.2	99	76	58	-	-
S-378	108' RT	115+50	5.5-19.5	A-4(0)	33	7	40.2	20.9	20.9	18.1	99	70	42	-	-

S-377

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

ORANGE, MOIST, MEDIUM STIFF, SILTY CLAY AND SILTY SAND

WEATHERED ROCK (GRANITE)

CRYSTALLINE ROCK (GRANITE)

DRY
10/12

115 + 50

S-378

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

ORANGE, MOIST, MEDIUM STIFF, SILTY CLAY AND SANDY SILT

TAN, MOIST, MEDIUM STIFF, SANDY SILT

CRYSTALLINE ROCK (GRANITE)

DRY

RESIDUAL, BROWN AND TAN, MOIST, LOOSE, SILTY SAND

WEATHERED ROCK (GRANITE)

115 + 00

RESIDUAL, ORANGE, MOIST, MEDIUM STIFF, SANDY CLAY AND SANDY SILT

WEATHERED ROCK (GRANITE)

BROWN AND TAN, MOIST, LOOSE, SILTY SAND

CRYSTALLINE ROCK (GRANITE)

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	R-2814C	55

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370 360 350 340

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SANDY CLAY AND SILTY CLAY

TAN, MOIST, MEDIUM STIFF, SANDY SILT

118 + 50

360 350 340

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SANDY CLAY AND SILTY CLAY

TAN, MOIST, MEDIUM STIFF, SANDY SILT

118 + 00

380 370 360 350 340

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-81	100' RT	117+50	1.0-5.0'	A-7-6(21)	60	32	22.8	14.3	18.6	44.3	100	84	66	-	-
S-82	100' RT	117+50	5.0-10.0	A-7-5(81)	49	16	29.0	18.5	24.3	28.2	100	79	57	-	-
S-83	100' RT	117+50	10.0-16.5	A-4(01)	38	6	39.9	22.6	25.5	12.1	96	68	40	-	-

S-81
S-82
S-83

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SANDY CLAY AND SILTY CLAY

TAN, MOIST, MEDIUM STIFF, SANDY SILT

DRY
10/12

117 + 50

360 350 340

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SANDY CLAY AND SILTY CLAY

TAN, MOIST, MEDIUM STIFF, SANDY SILT

117 + 00

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	R-2814C	56

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360

350

RESIDUAL ORANGE AND BROWN, MOIST, MEDIUM STIFF, SANDY CLAY AND SILTY CLAY

TAN, MOIST, MEDIUM STIFF, SANDY SILT

119+00

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360

350

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R-2814C	57

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370
360
350
380
340

RESIDUAL, ORANGE, MOIST, VERY STIFF, HIGHLY PLASTIC, SILTY CLAY

ORANGE, MOIST, STIFF, SANDY SILT

123+00

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-84	50' LT	122+50	0.0-1.5	A-7-5(23)	66	35	23.6	13.3	18.6	44.3	100	93	66	-	-
SS-85	50' LT	122+50	3.5-5.0	A-7-5(15)	59	29	28.6	16.7	20.4	34.2	100	79	58	-	-
SS-87	50' LT	122+50	13.5-15.0	A-4(0)	36	1	40.7	25.4	25.9	8.1	97	70	38	-	-

SS-84
SS-85
SS-87

RESIDUAL, ORANGE, MOIST, VERY STIFF, HIGHLY PLASTIC, SILTY CLAY

(15) (21) (14) (15) (14)

ORANGE, MOIST, STIFF, SANDY SILT

DRY

122+50

RESIDUAL, ORANGE, MOIST, VERY STIFF, HIGHLY PLASTIC, SILTY CLAY

RESIDUAL, ORANGE, MOIST, VERY STIFF, HIGHLY PLASTIC, SILTY CLAY

ORANGE, MOIST, STIFF, SANDY SILT

122+00

RESIDUAL, ORANGE, MOIST, VERY STIFF, HIGHLY PLASTIC, SILTY CLAY

RESIDUAL, ORANGE, MOIST, VERY STIFF, HIGHLY PLASTIC, SILTY CLAY

ORANGE, MOIST, STIFF, SANDY SILT

121+50

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	R-2814C	58

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360
350

RESIDUAL, BROWN AND GRAY, MOIST, STIFF TO MEDIUM STIFF, SANDY CLAY

124+50

370
360
350

RESIDUAL, ORANGE, MOIST, VERY STIFF, HIGHLY PLASTIC, SILTY CLAY

RESIDUAL, ORANGE, MOIST, VERY STIFF, HIGHLY PLASTIC, SILTY CLAY

ORANGE, MOIST, STIFF, SANDY SILT

124+00

370
360
350

RESIDUAL, ORANGE, MOIST, VERY STIFF, HIGHLY PLASTIC, SILTY CLAY

RESIDUAL, ORANGE, MOIST, VERY STIFF, HIGHLY PLASTIC, SILTY CLAY

ORANGE, MOIST, STIFF, SANDY SILT

123+50

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R-2814C	59

0 5 10

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-98	95' LT	129+00	0.0-10.0	A-5(2)	43	8	35.2	23.1	17.6	24.1	100	78	45	-	-
S-96	CL	129+00	5.0-7.0	A-6(6)	40	18	38.6	15.1	10.2	36.2	100	73	49	-	-
S-97	CL	129+00	7.0-10.0	A-2-4(0)	36	3	45.6	22.5	13.8	18.1	100	68	35	-	-

380

370

360

350

340

330

S-98

S-96
S-97

RESIDUAL, ORANGE, GRAY, TAN AND BROWN, MOIST, SOFT TO STIFF, SANDY SILT

ORANGE, GRAY, TAN AND BROWN, MOIST, LOOSE TO DENSE, SILTY SAND

DRY
10/12

DRY
10/12

BROWN, GRAY, TAN, ORANGE AND RED, MOIST, SOFT TO MEDIUM STIFF, SANDY CLAY

129+00

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133+00

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

100/0.7

100/0.6

WEATHERED ROCK (GRANITE)

100/0.6

50/0.1

DRY 10/12

DRY 10/12

CRYSTALLINE ROCK (GRANITE)

RESIDUAL, ORANGE, RED, TAN AND ORANGE, MOIST, MEDIUM STIFF, SILTY CLAY

WEATHERED ROCK (GRANITE)

CRYSTALLINE ROCK (GRANITE)

132+50

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

CRYSTALLINE ROCK (GRANITE)

DRY 10/12

RESIDUAL, ORANGE, RED AND TAN, MOIST, MEDIUM STIFF, SILTY CLAY

WEATHERED ROCK (GRANITE)

S-106
S-107

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

ORANGE, RED AND TAN, MOIST, MEDIUM STIFF, SILTY CLAY

ORANGE AND TAN, MOIST, WEATHERED ROCK (GRANITE)

DRY 10/12

MEDIUM STIFF, SANDY SILT

WEATHERED ROCK (GRANITE)

DRY 10/12

RESIDUAL, ORANGE, RED AND TAN, MOIST, MEDIUM STIFF, SILTY CLAY

132+00

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-106	40' LT	132+00	4.0-10.0	A-7-5(9)	49	19	27.9	19.1	18.8	34.2	100	81	57	-	-
S-107	40' LT	132+00	10.0-23.0	A-4(0)	35	4	39.2	23.9	14.8	22.1	100	73	41	-	-

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PROJ. REFERENCE NO. R-2814C

SHEET NO. 61

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370
360
350
340
330

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

WEATHERED ROCK (GRANITE)

DRY
10/12

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

WEATHERED ROCK (GRANITE)

133+50

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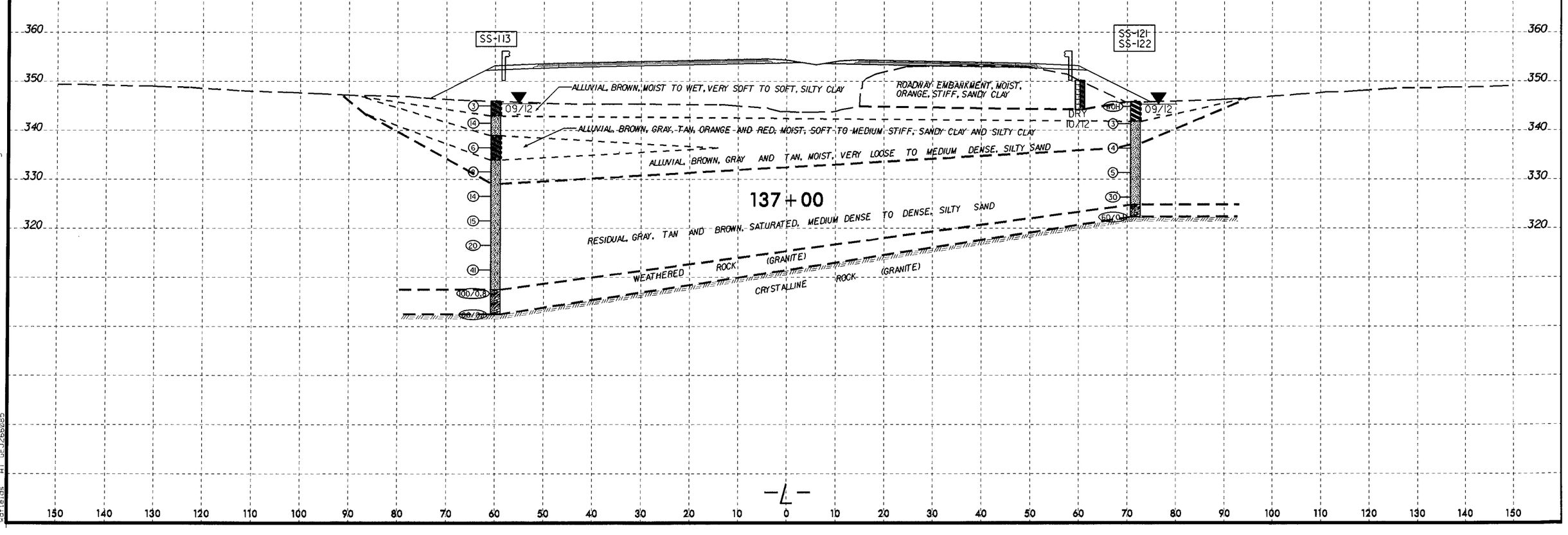
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	62

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-113	60' LT	137+00	13.5-15.0	A-2-4(0)	35	NP	47.0	29.5	15.4	8.0	97	66	28	-	-
SS-121	72' RT	137+00	3.5-5.0	A-2-4(0)	26	6	44.6	23.1	14.2	18.1	97	65	34	-	-
SS-122	72' RT	137+00	8.5-10.0	A-2-4(0)	38	NP	52.3	28.3	13.4	6.0	98	63	23	-	-



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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	63

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

380 370 360 350 340

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

TAN, MOIST, MEDIUM STIFF, SANDY CLAY

BROWN TAN, MOIST TO WET, MEDIUM STIFF, CLAYEY SILT

09/12

165+00

380 370 360 350

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

100/0.7

60/0.1

DRY
10/12

WEATHERED ROCK (GRANITE

CRYSTALLINE ROCK (GRANITE)

164+50

380 370 360 350

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND

WEATHERED ROCK (GRANITE)

RESIDUAL, TAN, MOIST, LOOSE TO MEDIUM DENSE, SILTY SAND

DRY
10/12

164+00

—L—

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

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AYDELOTT
mdfields

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	64

ROADWAY EMBANKMENT, BROWN AND TAN, MOIST, LOOSE, SILTY SAND

ROADWAY EMBANKMENT, ORANGE, MOIST, STIFF, SILTY CLAY

DRY

10/12

ALLUVIAL, GRAY, MOIST TO WET, MEDIUM STIFF, SANDY CLAY AND SANDY SILT

RESIDUAL, ORANGE, TAN, WHITE, BROWN AND GRAY, MOIST TO SATURATED, LOOSE TO VERY DENSE, SILTY SAND

168+00

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-173	50' LT	167+50	3.5-5.0	A-6(7)	39	14	25.4	19.3	25.2	30.2	100	82	60	-	-
SS-174	50' LT	167+50	8.5-10.0	A-2-4(0)	37	2	50.7	22.7	18.5	8.0	95	59	30	-	-
SS-177	50' LT	167+50	23.5-25.0	A-2-4(0)	34	NP	50.5	23.1	14.3	12.1	97	63	28	-	-
SS-178	50' LT	167+50	28.5-30.0	A-2-4(0)	32	NP	54.3	22.1	15.5	8.0	92	53	25	-	-
SS-379	75' RT	167+50	3.5-5.5	A-4(2)	38	10	29.5	26.1	24.3	18.1	99	78	46	-	-
SS-380	75' RT	167+50	10.0-11.5	A-2-4(0)	40	3	51.0	20.9	20.1	8.0	97	60	31	-	-

SS-173
SS-174
SS-177
SS-178

ALLUVIAL, BROWN AND TAN, MOIST, LOOSE, SILTY SAND

ROADWAY EMBANKMENT, BROWN AND TAN, MOIST, LOOSE, SILTY SAND

SS-379
SS-380

ROADWAY EMBANKMENT, ORANGE, MOIST, STIFF, SILTY CLAY

ALLUVIAL

09/12

MOIST TO WET, MEDIUM STIFF, SANDY CLAY AND SANDY SILT

09/12

RESIDUAL, ORANGE, TAN, WHITE, BROWN AND GRAY, MOIST TO SATURATED, LOOSE TO VERY DENSE, SILTY SAND

CRYSTALLINE ROCK (GRANITE)

WEATHERED ROCK (GRANITE)

167+50

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	65

RESIDUAL, ORANGE, MOIST, STIFF TO VERY STIFF, SILTY CLAY AND HIGHLY PLASTIC SILTY CLAY
WEATHERED ROCK (GRANITE)

194+50

RESIDUAL, ORANGE, MOIST, STIFF TO VERY STIFF, SILTY CLAY AND HIGHLY PLASTIC SILTY CLAY
WEATHERED ROCK (GRANITE)

194+00

RESIDUAL, ORANGE, MOIST, STIFF TO VERY STIFF, SILTY CLAY AND HIGHLY PLASTIC SILTY CLAY
WEATHERED ROCK (GRANITE)

193+50

RESIDUAL, ORANGE, MOIST, STIFF TO VERY STIFF, SILTY CLAY AND HIGHLY PLASTIC SILTY CLAY
WEATHERED ROCK (GRANITE)

193+00

RESIDUAL, ORANGE, MOIST, STIFF TO VERY STIFF, SILTY CLAY
WEATHERED ROCK (GRANITE)

192+50

—L—

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8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2814C	66

0 5 10

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

430 420 410 400 390

RESIDUAL, ORANGE, MOIST, STIFF TO VERY STIFF, HIGHLY PLASTIC, SILTY CLAY

ORANGE, MOIST, SOFT, SANDY SILT

RESIDUAL, ORANGE, MOIST, SOFT, SANDY SILT

WEATHERED ROCK (GRANITE)

196+50

RESIDUAL, ORANGE, MOIST, STIFF TO VERY STIFF, HIGHLY PLASTIC, SILTY CLAY

ORANGE, MOIST, SOFT, SANDY SILT

RESIDUAL, ORANGE, MOIST, SOFT, SANDY SILT

WEATHERED ROCK (GRANITE)

DRY
10/12

196+00

RESIDUAL, ORANGE, MOIST, STIFF TO VERY STIFF, HIGHLY PLASTIC, SILTY CLAY

ORANGE, MOIST, SOFT, SANDY SILT

WEATHERED ROCK (GRANITE)

CRYSTALLINE ROCK (GRANITE)

195+50

SS-253
SS-254

RESIDUAL, ORANGE, MOIST, STIFF TO VERY STIFF, SILTY CLAY AND HIGHLY PLASTIC SILTY CLAY

WEATHERED ROCK (GRANITE)

CRYSTALLINE ROCK (GRANITE)

DRY
10/12

195+00

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-253	45' LT	195+00	0.0-1.5	A-7-5(26)	61	31	16.4	6.6	8.8	68.1	100	88	78	-	-
SS-254	45' LT	195+00	4.0-5.5	A-7-5(61)	52	18	35.9	18.4	17.6	28.1	100	72	49	-	-

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8/23/99

0 5 10

PROJ. REFERENCE NO.	SHEET NO.
R-2814C	67

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

410

400

420

410

400

RESIDUAL, TAN, MOIST, SOFT, SANDY CLAY

WEATHERED ROCK (GRANITE)

197+50

RESIDUAL, ORANGE, MOIST, STIFF TO VERY STIFF, HIGHLY PLASTIC, SILTY CLAY

RESIDUAL, ORANGE, MOIST, SOFT, SANDY SILT

WEATHERED ROCK (GRANITE)

197+00

—L—

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

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8/23/99

PROJ. REFERENCE NO.	SHEET NO.
R-2814C	68

0 5 10

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

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-194	60' LT	280+00	0.0-7.5	A-7-6(15)	46	19	42.8	15.7	15.5	26.1	99	66	44	24	-
S-195	60' LT	280+00	7.5-9.5	A-2-4(10)	33	3	48.6	21.5	17.9	12.0	98	62	34	-	-
S-197	50' RT	280+00	0.0-2.0	A-2-6(11)	30	14	50.4	16.3	9.2	24.1	95	58	34	-	-
S-198	50' RT	280+50	0.0-10.5	A-6(11)	37	13	46.8	18.7	16.5	18.1	97	62	37	-	-

340 330 320 310 300 290

S-194
S-195

S-197
S-198

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF TO VERY STIFF, SILTY CLAY AND SANDY CLAY

TAN, MOIST, DENSE, SILTY SAND

DRY
10/12

RESIDUAL ORANGE AND TAN, MOIST, LOOSE, SILTY SAND AND CLAYEY SAND

DRY
10/12

280+00

-L-

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

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	69

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

320
310
300
290

RESIDUAL, ORANGE, AND TAN, MOIST, LOOSE SILTY SAND AND SOFT SANDY SILT

CRYSTALLINE ROCK (GRANITE)

285+00

320
310
300
290

ROADWAY EMBANKMENT, ORANGE AND GRAY, MOIST, LOOSE TO DENSE, SILTY SAND

RESIDUAL, ORANGE AND TAN, MOIST, LOOSE SILTY SAND AND SOFT SANDY SILT

(2) 100/0.5 DRY 10/12

CRYSTALLINE ROCK (GRANITE)

WEATHERED ROCK (GRANITE)

284+50

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-301	65' LT	284+10	0.0-1.8	A-6(7)	38	13	23.5	17.8	38.5	20.2	99	84	62	-	-
S-302	65' LT	284+10	1.8-3.5	A-2-4(0)	21	NP	61.6	22.8	8.5	7.1	94	51	17	-	-
S-303	30' RT	284+00	0.0-1.0	A-5(4)	45	8	25.8	19.4	34.6	16.2	100	80	55	-	-
S-304	30' RT	284+00	1.0-4.3	A-2-6(0)	36	12	61.0	11.6	14.2	13.2	88	44	27	-	-

S-301
S-302

S-303
S-304

320
310
300
290

ROADWAY EMBANKMENT, ORANGE AND GRAY, MOIST, LOOSE TO DENSE, SILTY SAND

ALLUVIAL, BROWN AND TAN, MOIST, LOOSE, CLAYEY SAND, SILTY SAND AND SOFT, SANDY SILT

(5) 100/0.5 DRY 10/12

CRYSTALLINE ROCK (GRANITE)

WEATHERED ROCK (GRANITE)

CRYSTALLINE ROCK (GRANITE)

284+00

-L-

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

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ATWOOD, CHRISTOPHER
wdfields

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	70

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

340 330 320 310 300 290

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND
(5) (60/0.0)
DRY
10/12
CRYSTALLINE ROCK (GRANITE)
WEATHERED ROCK (GRANITE)

286+50

340 330 320 310 300 290

RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND
WEATHERED ROCK (GRANITE)
CRYSTALLINE ROCK (GRANITE)
DRY
10/12

286+00

340 330 320 310 300 290

WEATHERED ROCK (GRANITE)
RESIDUAL, BROWN, MOIST, LOOSE, SILTY SAND
CRYSTALLINE ROCK (GRANITE)
DRY
10/12

285+50

-L-

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

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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	71

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

340 330 320 310 300

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-193	15' RT	287+73	4.2-5.7	A-2-4(0)	40	10	50.4	18.1	15.5	16.0	94	56	33	-	-

SS-193

287+73

(12)

RESIDAUAL, BROWN, MOIST, (9) VERY LOOSE TO MEDIUM DENSE, SILTY SAND

(15)

WEATHERED ROCK (GRANITE)

CRYSTALLINE ROCK (GRANITE) 50/0.0 DRY

287+50

RESIDUAL BROWN MOIST, LOOSE, SILTY SAND

DRY 10/12

CRYSTALLINE ROCK (GRANITE)

WEATHERED ROCK (GRANITE)

287+00

-L-

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

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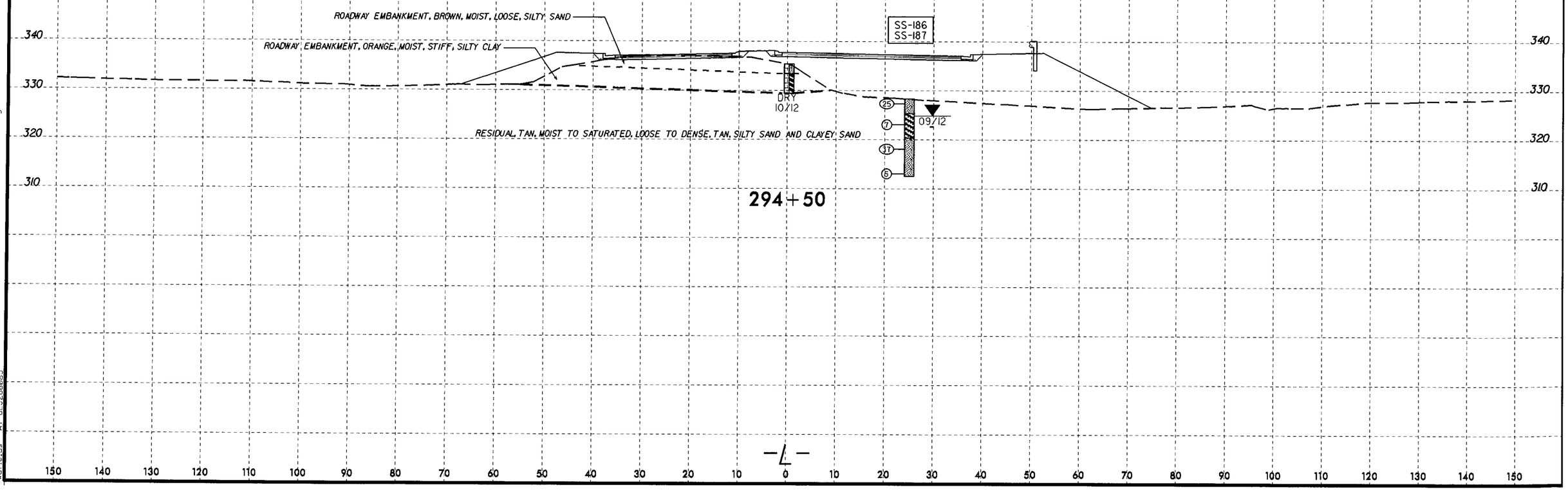
wdfields AT DEV266085

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	72

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-186	25' RT	294+50	4.3-5.8	A-2-6(1)	33	17	48.7	18.1	7.0	26.2	100	64	35	-	-
SS-187	25' RT	294+50	14.3-15.8	A-2-5(0)	41	NP	49.7	23.3	14.9	12.1	98	63	30	-	-



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AT GE-1256085

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	73

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

360 350 340 330 320

RESIDUAL, TAN, MOIST, LOOSE, SILTY SAND

300+75

60/0"

CRYSTALLINE ROCK (GRANITE)

301+00

350 340 330

17 16
RESIDUAL, TAN, 29 46 MOIST, SILTY SAND
81
WEATHERED 60/0" 100/0.5" ROCK (GRANITE)
DRY CRYSTALLINE ROCK (GRANITE)
10/12

300+50

320 340 330

RESIDUAL, ORANGE, MOIST, MEDIUM STIFF TO HARD, SANDY SILT

CRYSTALLINE ROCK (GRANITE

300+00

340 330

RESIDUAL, ORANGE, MOIST, MEDIUM STIFF TO HARD, SILTY CLAY

CRYSTALLINE ROCK (GRANITE)

299+50

340 330

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

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8/23/95

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	74

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

340
330
320
310
360
350
340
330
320
310

RESIDUAL, ORANGE AND TAN, MOIST, STIFF, SANDY SILT

DRY
10-12

302+00

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-184	41' RT	301+50	0.0-1.5	A-4(0)	24	5	49.0	20.2	12.7	18.1	96	61	49	-	-

SS-184

RESIDUAL, TAN, MOIST, STIFF, SANDY SILT

CRYSTALLINE ROCK (GRANITE)

DRY
10/12

301+50

-L-

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

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AT GE 2266085

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	75

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

300
290
280
270
260
250

09/12 RESIDUAL, ORANGE, MOIST TO WET, MEDIUM STIFF TO HARD, SILTY CLAY

310+50

—L—

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

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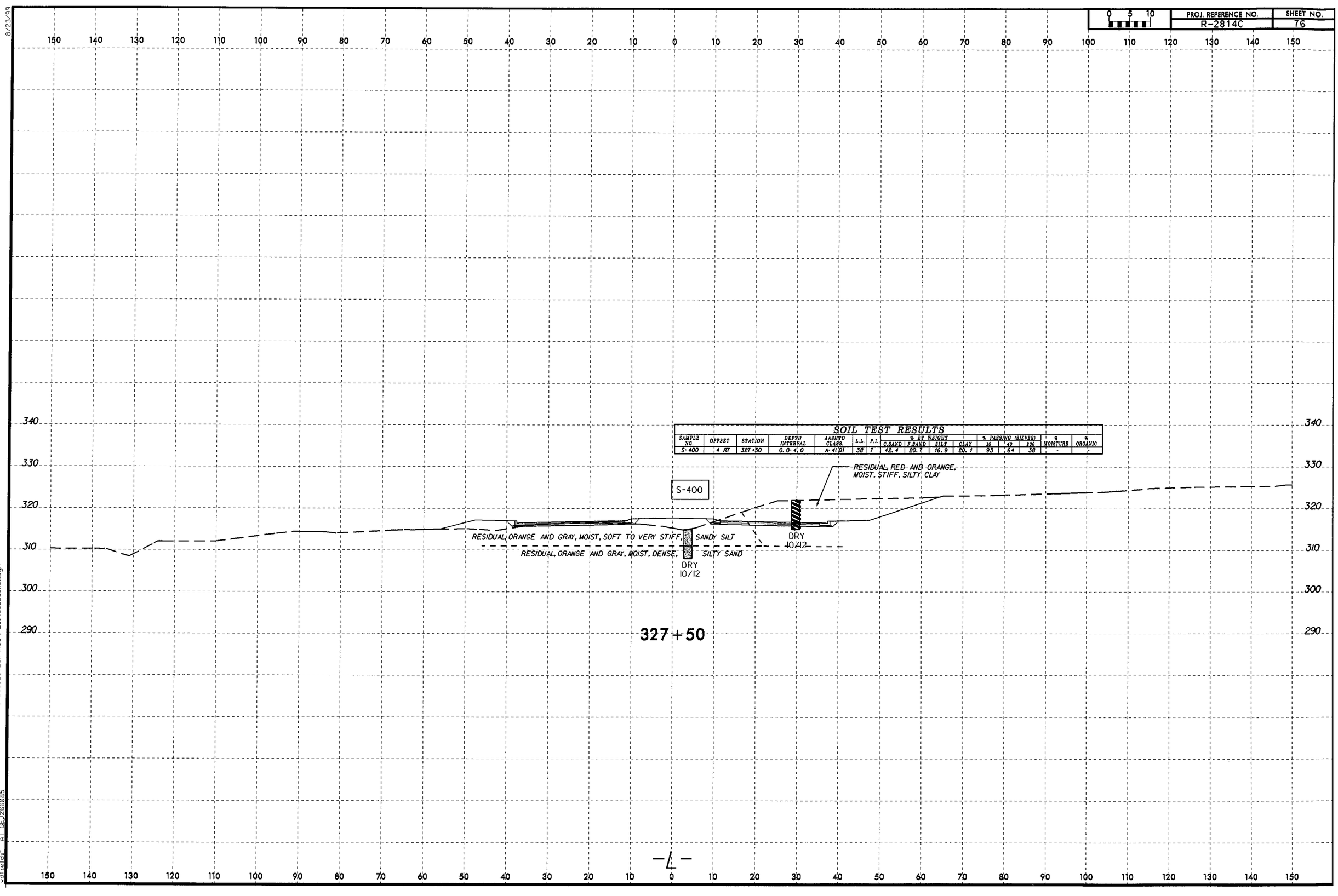
AT GEJ2660085

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	76

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	100	% MOISTURE	% ORGANIC
S-400	4 RT	327+50	0.0-4.0	A-4(0)	38	7	42.4	20.7	16.9	20.1	93	64	38	-	-



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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	77

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

340
330
320

RESIDUAL, ORANGE, SOFT TO STIFF, HIGHLY PLASTIC, SILTY CLAY

334+50

340
330
320

RESIDUAL, ORANGE, MOIST, SOFT TO STIFF, HIGHLY PLASTIC, SILTY CLAY

334+00

340
330
320

RESIDUAL, ORANGE, MOIST, SOFT TO STIFF, HIGHLY PLASTIC, SILTY CLAY

333+50

330
320

RESIDUAL, ORANGE, MOIST, SOFT TO STIFF, HIGHLY PLASTIC, SILTY CLAY

333+00

340
330
320

RESIDUAL, ORANGE, MOIST, SOFT TO STIFF, SILTY CLAY

TAN ORANGE, MOIST, SOFT TO STIFF, SANDY SILT

332+50

—L—

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

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wofields

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	78

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

350 340 330

RESIDUAL, ORANGE, MOIST, SOFT TO STIFF, HIGHLY PLASTIC, SILTY CLAY

337+00

350 340 330

RESIDUAL, ORANGE, MOIST, SOFT TO STIFF, HIGHLY PLASTIC, SILTY CLAY

336+50

340 330

RESIDUAL, ORANGE, MOIST, SOFT TO STIFF, HIGHLY PLASTIC, SILTY CLAY

336+00

340 330 360 350 340 330 320 310

RESIDUAL, ORANGE, MOIST, SOFT TO STIFF, HIGHLY PLASTIC, SILTY CLAY

335+50

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-176	34' RT	335+00	0.0-10.5	A-7-5(27)	70	32	14.5	13.3	19.8	52.4	99	89	75	-	-

S-176

RESIDUAL, ORANGE, MOIST, SOFT TO STIFF, HIGHLY PLASTIC, SILTY CLAY

DRY
10/12

335+00

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

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	79

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

380
370
390
380
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360
380
370
380
370
380
370
390
380
370

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

362+00

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

DRY
10/12

361+50

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

361+00

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

360+50

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

360+00

359+50

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

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xdfields AT GE3256085

8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	80

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-157	60' LT	364+50	0.0-14.0	A-6(5)	40	14	28.8	17.7	23.3	30.2	93	73	54	-	-

S-157

DRY
10/12

RESIDUAL, TAN, MOIST, MEDIUM STIFF, SANDY CLAY AND HIGHLY PLASTIC, SILTY CLAY

364+50

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

364+00

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

363+50

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

363+00

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

362+50

-L-

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

400 390 380 370 360

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	81

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

380
370
360

RESIDUAL, TAN, MOIST, MEDIUM STIFF, SANDY CLAY AND HIGHLY PLASTIC, SILTY CLAY

367+00

380
370

RESIDUAL, TAN, MOIST, MEDIUM STIFF, SANDY CLAY AND HIGHLY PLASTIC, SILTY CLAY

366+50

380
370

RESIDUAL, TAN, MOIST, MEDIUM STIFF, SANDY CLAY AND HIGHLY PLASTIC, SILTY CLAY

366+00

380
370

RESIDUAL, TAN, MOIST, MEDIUM STIFF, SANDY CLAY AND HIGHLY PLASTIC, SILTY CLAY

365+50

390
380
370

RESIDUAL, TAN, MOIST, MEDIUM STIFF, SANDY CLAY AND HIGHLY PLASTIC, SILTY CLAY

365+00

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PROJ. REFERENCE NO.	SHEET NO.
R-2814C	82

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

369+50

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

369+00

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

368+50

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-158	50' RT	368+00	0.0-3.8	A-7-6(29)	72	43	22.0	9.5	16.2	52.4	95	78	67	-	-
S-159	50' RT	368+00	3.8-10.5	A-7-6(9)	48	19	28.8	14.7	28.3	28.2	94	72	56	-	-

S-158
S-159

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

DRY
10/12

368+00

RESIDUAL, TAN, MOIST, MEDIUM STIFF, SANDY CLAY AND HIGHLY PLASTIC, SILTY CLAY

367+50

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	83

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

360
350

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

372+00

370
360
350

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

371+50

370
360
350

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

371+00

370
360
350

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

370+50

370
360
350

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

370+00

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

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	84

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

370
360
350
340
330

RESIDUAL, ORANGE, MOIST, HIGHLY PLASTIC, SILTY CLAY

RESIDUAL, TAN, MOIST, MEDIUM DENSE, SILTY SAND

373+50

370
360
350
340

RESIDUAL, ORANGE, MOIST, HIGHLY PLASTIC, SILTY CLAY

373+00

390
380
370
360
350
340

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-153	19' RT	372+50	1.5-6.5	A-7-5(29)	72	41	20.3	13.9	17.4	48.3	99	85	69	-	-
S-154	19' RT	372+50	6.5-14.5	A-7-5(19)	60	22	13.7	17.1	30.9	38.3	100	93	74	-	-

S-153
S-154

RESIDUAL, ORANGE, MOIST, HIGHLY PLASTIC, SILTY CLAY

DRY
10/12

372+50

390
380
370
360
350
340

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

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	85

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

380 370 360 350 340

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-155A	30' RT	374+00	4.0-5.5	A-7-5(6)	52	14	29.0	22.8	18.0	30.2	100	88	51	-	-
SS-156A	30' RT	374+00	9.0-10.5	A-2-5(0)	42	NP	47.7	30.8	17.4	4.0	99	72	26	-	-

SS-155A
SS-156A

RESIDUAL, ORANGE, MOIST, MEDIUM STIFF, SILTY CLAY
WEATHERED ROCK (GRANITE)
RESIDUAL, TAN, MOIST, MEDIUM DENSE, SILTY SAND

⑤ ⑫ ⑪

DRY
10/12

374+00
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	86

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-150	50' LT	380+00	0.0-5.0	A-7-6(20)	55	29	20.9	11.1	21.7	46.3	99	84	69	21.4	-
S-151	50' LT	380+00	5.0-10.5	A-7-6(6)	41	19	34.4	17.9	17.4	30.2	95	70	48	-	-

S-150
S-151

DRY
10/12

RESIDUAL, ORANGE, GRAY AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

380+00

RESIDUAL, ORANGE, GRAY AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

379+50

RESIDUAL, ORANGE, GRAY AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

379+00

RESIDUAL, ORANGE AND TAN, MOIST, MEDIUM STIFF, SILTY CLAY

378+50

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-2814C	87

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

340
330
320

RESIDUAL, ORANGE, GRAY AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

381+00

340
330
320

RESIDUAL, ORANGE, GRAY AND TAN, MOIST, MEDIUM STIFF, HIGHLY PLASTIC, SILTY CLAY

380+50

$-\mathit{L}-$

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

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