

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

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3326A/B	1	93
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34924.1.1	STP-29B(1)	P.E.	
(A) 34924.2.4	HPPSTP-029B(2)	RW & UTILITIES	
(B) 34924.2.3	HPPSTP-029B(3)	RW & UTILITIES	
(A) 34924.3.1	STP-29B(2)	CONST.	
(B) 34924.3.2	STP-29B(3)	CONST.	

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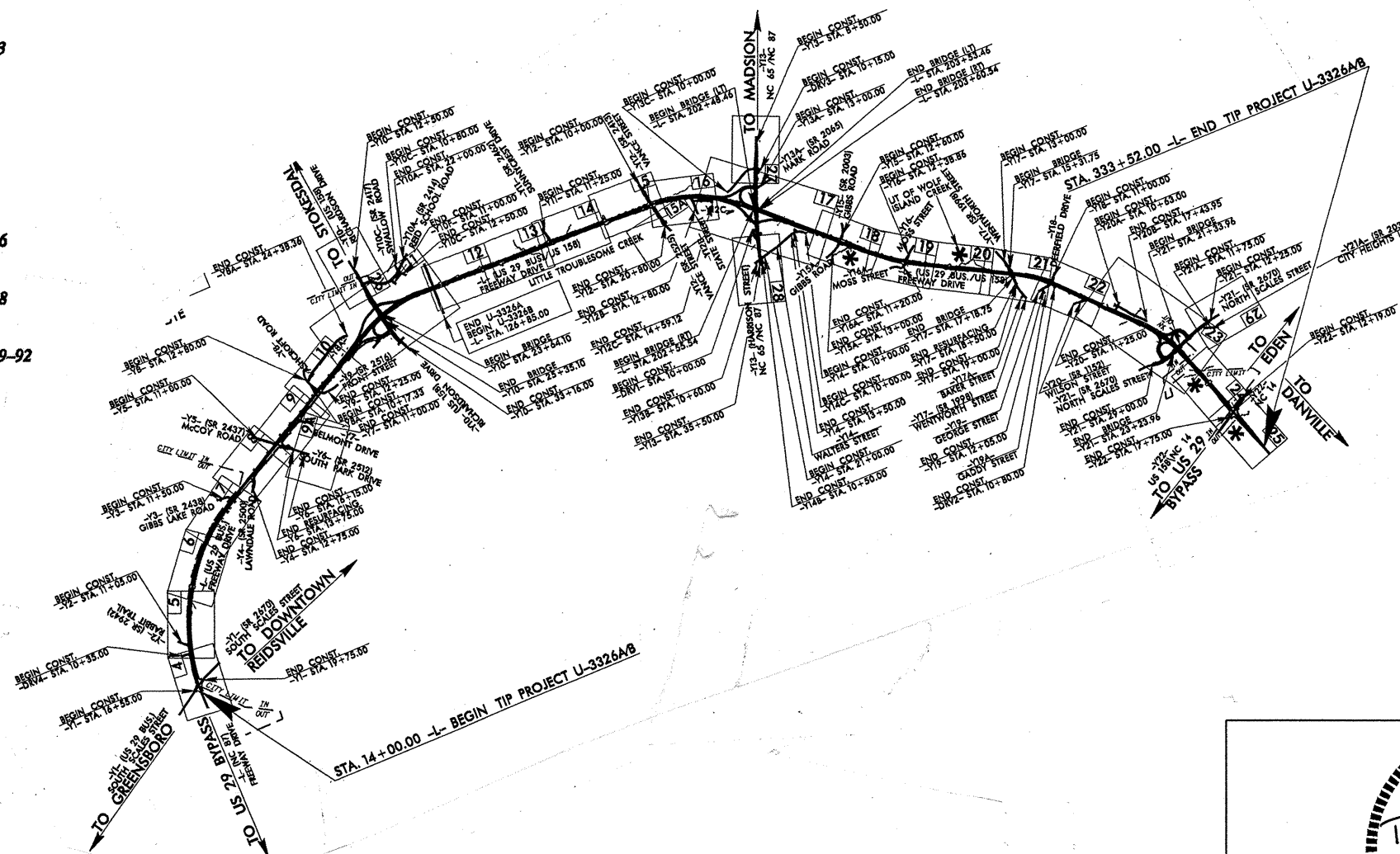
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-Y21LPC-	10+00 to 12+20	23	55	
-Y21LPC-	12+70 to 16+67	23	55	93
-Y21LPC-	12+20 to 12+70	23	55	
-DRV-	10+33 to 12+74	6	55	

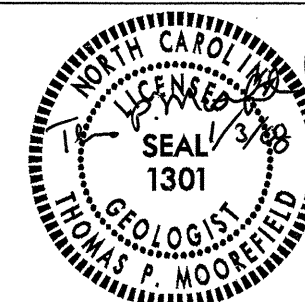
ROADWAY
SUBSURFACE INVESTIGATION

PROJ. REFERENCE NO. 34924.1.1 (U-3326A&B) F.A. PROJ. STP-29B(1)
COUNTY ROCKINGHAM
PROJECT DESCRIPTION US 29 BUSINESS (FREEWAY DRIVE) FROM (SOUTH SCALES STREET) TO NC 14 IN REIDSVILLE

INVENTORY



NCDOT PERSONNEL	N.D. MOHS
	Y. KUNTUKOVA
TRIGON PERSONNEL	W. DUGGINS
	C. HUEN
	W. WHICHARD
	R. BOYKIN
	K. HICKS
	K. LEE
INVESTIGATED BY	T.P. MOOREFIELD
CHECKED BY	N.T. ROBERSON
SUBMITTED BY	N.T. ROBERSON
DATE	JANUARY 2008



DRAWN BY: **T.T. WALKER, T.P. MOOREFIELD, Y. KUNTUKOVA, G.D. CZAJKA**

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

CONTRACT: C202652 ID: 34924.1.1

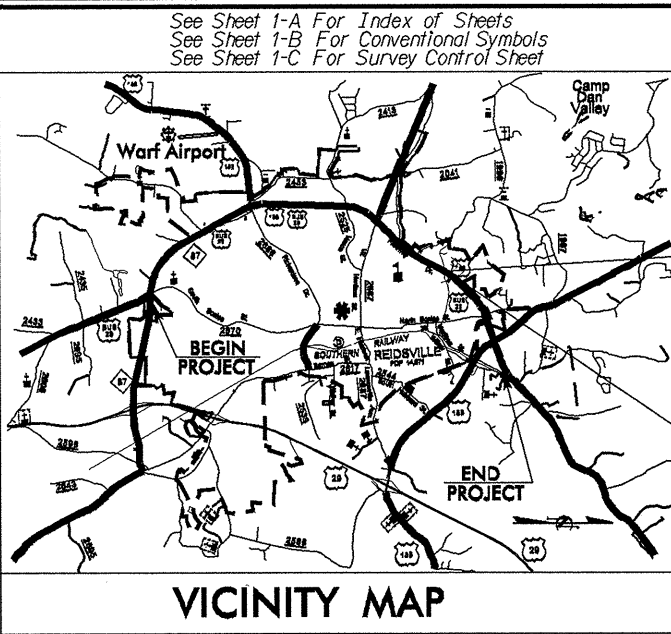
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-3326A/B	2A	93
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
34924.1.1	STP-29B(1)	P.E.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

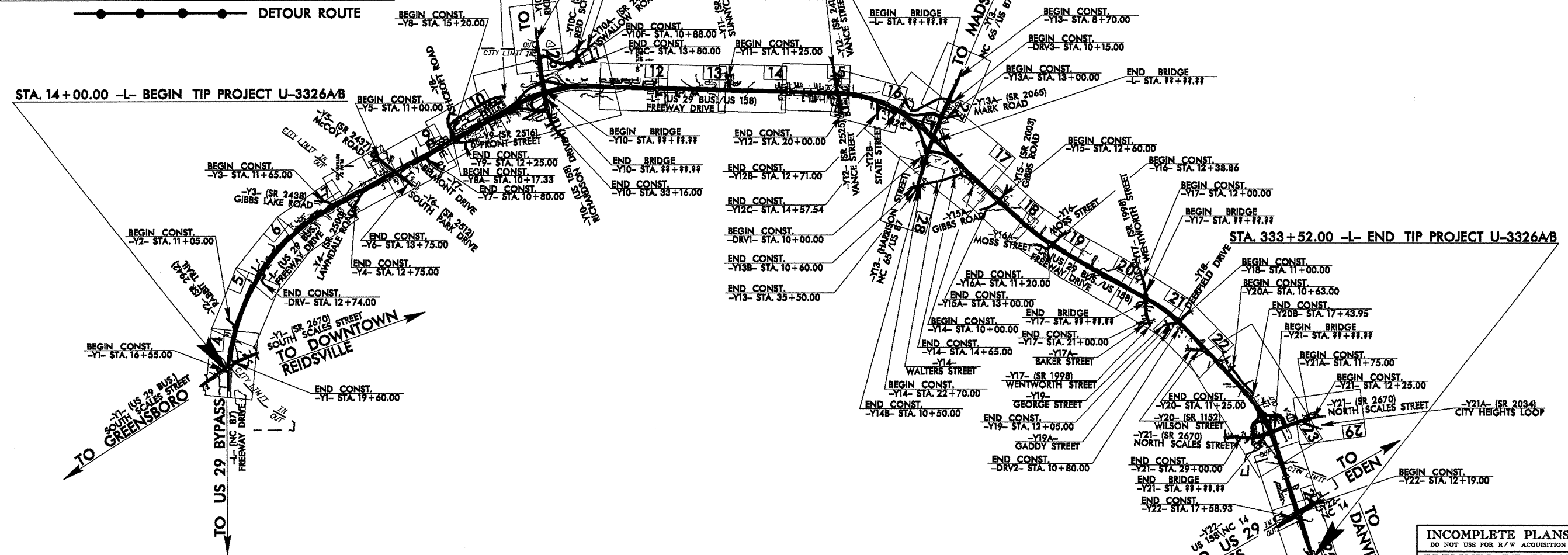
ROCKINGHAM COUNTY

LOCATION: US 29 BUSINESS (FREEWAY DRIVE) FROM SR 2670 (SOUTH SCALES STREET) TO NC 14 IN REIDSVILLE

TYPE OF WORK: GRADING, DRAINAGE, PAVING, CURB AND GUTTER, RETAINING WALLS, STRUCTURES, AND CULVERTS

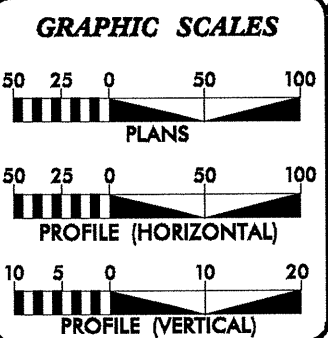


TIP PROJECT: U-3326A/B



A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF REIDSVILLE. THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS. CLEARING ON THE PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD _____.

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



DESIGN DATA

ADT 2010 =	23300
ADT 2025 =	35800
DHV =	10 %
D =	55 %
T =	11 % *
V =	50 MPH
* TTST 5% DUAL 6%	
FUNC. CLASS =	URBAN ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT U-3326A/B =	0.000 MI
LENGTH STRUCTURE TIP PROJECT U-3326A/B =	0.000 MI
TOTAL LENGTH OF TIP PROJECT U-3326A/B =	6.052 MI

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: **OCTOBER 17, 2008**

LETTING DATE: **OCTOBER 19, 2010**

JAMES A. SPEER, PE
PROJECT ENGINEER

DANNY W. GARDNER
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

Michael F. Easley
GOVERNOR

P.O. BOX 25201, RALEIGH, N.C. 27611-5201

Lyndo Tippet
SECRETARY

January 31, 2008

STATE PROJECT: 34924.1.1 (U-3326A/B)
FEDERAL PROJECT: STP-29B (1)
COUNTY: Rockingham
DESCRIPTION: US 29 Business (Freeway Drive) from SR 2670 (South Scales Street) to NC 14 in Reidsville
SUBJECT: Geotechnical Report – Inventory

Project Description

This project consists of widening Freeway Drive (-L-, US 29 Business) to four lanes with median and turn lanes in the western part of the town of Reidsville. The project begins at the intersection of South Scales Street (SR 2670, -L- Sta. 14+00) and extends 6.1 miles to NC 14 (-L- Sta. 333+52). The interchanges at Richardson Drive/US 158 (-Y10-), Harrison Street/NC-87/NC 65 (-Y13-), and North Scales Street/SR 2670 (-Y21-) are to be re-aligned to accommodate the widening of Freeway Drive. Replacement bridges will be constructed at each interchange. A new bridge will be constructed to carry Wentworth Drive/SR 1998 (-Y17-) over Freedom Drive. Numerous intersecting streets are being re-aligned as well. The project includes three retaining walls. The retaining wall subsurface investigations will be submitted separate from this report.

The geotechnical field investigation was conducted during August 2007. Two Trigon Engineering drill crews were contracted to assist in investigating the subsurface. NCDOT Geotechnical Engineering Unit geologists sampled and logged the borings. ATV-mounted CME-45 and CME-55 drill machines were used during field investigation. Standard Penetration Tests were performed in selected borings and additional borings were advanced using continuous flight augers. Representative soil samples were collected for visual classification in the field and submitted for laboratory analysis by NCDOT's Materials and Tests Unit.

The following alignments, totaling 9.1 miles, were investigated. Subsurface soil profiles, or cross-sections, of these alignments are included in this report:

<u>Line</u>	<u>Station</u>	<u>Station</u>
-L-	14+00	to 333+52
-Y3-	11+50	to 13+69

-Y4-	10+80	to	12+50
-Y7-	10+34	to	10+80
-Y8A-	10+17	to	24+38
-Y9-	10+33	to	12+25
-Y10-	15+50	to	32+00
-Y10RPA-	10+00	to	17+39
-Y10RPB-	10+00	to	20+96
-Y10RPC-	10+00	to	20+91
-Y10LPC-	10+00	to	16+65
-Y10A-	10+20	to	21+00
-Y12B-	10+35	to	12+25
-Y12C-	10+15	to	14+58
-Y13-	8+70	to	35+50
-Y13RPB-	10+00	to	19+79
-Y13RPC-	10+00	to	18+27
-Y13RPD-	10+00	to	16+74
-Y13LPB-	10+00	to	17+33
-Y13C-	10+00	to	18+85
-Y16-	13+00	to	13+75
-Y17-	12+00	to	21+00
-Y20A-	10+63	to	12+11
-Y20B-	10+12	to	17+44
-Y21-	12+50	to	29+00
-Y21A-	11+75	to	13+68
-Y21RPB-	10+00	to	17+50
-Y21RPC-	10+00	to	17+32
-Y21LPB-	10+00	to	16+75
-Y21LPC-	10+00	to	16+67
-DRV-	10+33	to	12+74

Areas of Special Geotechnical Interest

1) Highly Plastic Clay Soils: Occurrences of highly plastic clay soil (Plasticity Index greater than 25) are noted below:

<u>Alignment</u>	<u>Station</u>	<u>Offset</u>
-L-	22+00	60 RT
-L-	24+00	60 RT
-L-	27+00	60 RT
-L-	31+00	60 LT
-L-	37+00	50 LT
-L-	44+00	60 RT
-L-	47+00	60 LT
-L-	51+50	35 RT
-L-	64+00	70 RT

-L-	67+00	50 LT
-L-	82+00	50 LT
-L-	84+50	50 LT
-L-	87+00	50 LT
-L-	92+00	60 LT
-L-	105+00	60 RT
-L-	107+00	75 LT
-L-	125+50	70 RT
-L-	128+00	90 RT
-L-	134+00	50 RT
-L-	137+00	50 LT
-L-	142+50	45 LT
-L-	153+00	50 RT
-L-	170+20	50 RT
-L-	182+50	50 LT
-L-	229+00	40 LT
-L-	255+00	40 RT
-L-	259+00	60 LT
-L-	267+00	50 LT
-L-	269+00	65 RT
-L-	271+00	50 RT
-L-	276+00	30 LT
-L-	305+00	60 RT
-Y7-	10+85	65 LT
-Y8A-	13+50	CL
-Y8A-	21+50	CL
-Y8A-	24+00	CL
-Y9-	11+00	CL
-Y10-	25+45	40 RT
-Y10LPC-	13+00	CL
-Y10RPC-	15+00	CL
-Y13C-	16+00	25 RT
-Y21A-	12+50	25 RT
-Y21LPB-	16+40	60 RT
-DRV-	11+20	CL

-L-	213+00	50 LT
-L-	215+00	60 LT
-L-	234+50	75 RT
-L-	236+30	65 RT
-L-	243+15	50 RT
-L-	245+00	60 RT
-L-	266+60	65 RT
-L-	296+00	60 RT
-L-	297+00	70 RT
-L-	327+30	50 RT
-L-	328+50	70 RT
-L-	329+00	60 LT
-L-	329+50	60 LT
-L-	329+50	70 RT
-L-	330+50	70 RT
-L-	331+00	60 LT
-L-	333+00	60 LT
-Y13-	21+75	50 RT
-Y13-	23+00	50 LT
-Y13-	24+70	45 LT
-Y20B-	10+25	25 LT
-Y20B-	11+50	25 LT
-Y20B-	12+00	CL
-Y21RPC-	11+00	60 RT
-Y21RPC-	12+50	40 RT
-Y21RPC-	14+10	80 RT
-Y21RPC-	14+50	CL
-Y21LPC-	13+00	30 RT

2) Crystalline Rock: Crystalline rock was encountered in the following borings:

<u>Alignment</u>	<u>Station</u>	<u>Offset</u>
-L-	31+00	60 LT
-L-	188+00	50 LT
-L-	190+00	50 LT
-L-	202+00	30 LT
-L-	204+00	40 RT
-L-	212+25	60 LT

Physiography and Geology

The project is located in the Piedmont area of North Carolina. A mixture of businesses, single-family homes, schools, and churches are located along the project corridor. The terrain is moderately rolling from the beginning of the project to approximately -L- Sta. 180+00. From Sta. 180+00 to the end of the project, the alignment crosses several steep-sided ravines. Small streams and wet-weather runs cross the project corridor, generally from right to left across the alignment.

Soils are derived from the weathering of the underlying bedrock composed of gneiss and schist of the Milton Belt. Bedrock, consisting of metamorphosed igneous intrusive diorite (meta-diorite) and gabbro (meta-gabbro), was also encountered.

Soil Properties

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

Roadway embankment soil is common along the -L- alignment. The embankments range up to 45 feet in height. Where sampled, the embankment soil consists of medium dense, silty sand (AASHTO classification of A-2-4) and stiff, sandy silt (A-4) and sandy clay (A-6).

Artificial fill soil occurs within a parking area located right of -Y13RPC- (see Plansheet No. 17). Approximately 2 to 6 feet of artificial fill soil, consisting of loose to medium dense, moist, silty sand (A-2-4) with boulders, and medium stiff, moist, sandy silt (A-4) occurs at this site.

Alluvial soils were deposited along small creeks, which flow across the alignment in several areas (-L- 149+00, -L- 225+40, and -L- 250+30). These soils are 2 to 10 feet in thickness and consist of loose to medium dense, silty sand (A-2-4) with minor gravel, interbedded with stiff, sandy clay (A-6) and silty clay (A-7-5).

The residual soils are derived from the in-place weathering of the underlying bedrock. Clay soil is the most common soil in the project area. These clay soils are generally medium stiff to hard, and consist of sandy clay (A-6) and silty clay (A-7-5 and A-7-6). Silty soils consisting of medium stiff to very stiff, clayey silt (A-5). Medium stiff, sandy silt (A-4) and loose, silty sand (A-2-4) occur infrequently within the project area as well. Residual, highly plastic "cap" clays occur at the ground surface over several areas of the project. Areas containing highly plastic soils (plasticity indices of greater than 25) are listed above in the section "Areas of Special Geotechnical Interest".

Rock Properties

Weathered rock and crystalline rock occur in several areas of the project. The weathered rock is derived from the underlying Milton Belt bedrock and ranges from 2 to 10 feet or more in thickness. The crystalline bedrock consists of gneiss, schist, meta-diorite, and meta-gabbro. Outcrops of crystalline rock occur in two existing cut slopes. The most extensive outcrop consists of meta-gabbro, located right of -L- 295+60 to 299+00. An exposure of gneiss occurs in the cut slope right of -L- 327+70 to 330+90.

Potentially Contaminated Soils

-Y10RPB- Sta. 12+40 to 19+65: Ramp -Y10RPB- is adjacent to Rentz Oil Company, a retail fuel oil distributor in operation since 1962 (see Plan Sheet No. 11). A cursory review of the Comprehensive Site Assessment Report for the Rentz Oil site indicates that 1600 gallons of diesel fuel was spilled on the ground surface at the site in 1995. Soil and groundwater sampling by Progress Environmental Inc. (for Rentz Oil) determined a hydrocarbon-contaminated groundwater plume extending approximately 400 feet southwest of the spill area. The groundwater contamination appears to have only been investigated in the southwesterly direction. Topographically, the ground surface slopes away from the spill site to the southwest, south, and southeast (in the direction of Ramp -Y10RPB-). As Ramp -Y10RPB- is a five to fifteen-foot cut section with a slope cut in the direction of the spill site, contaminated soil could potentially occur in the unclassified excavation. A boring at -Y10RPB- 13+88/CL encountered 18 feet of very stiff, moist silty clay (A-7-5) (see Profile Sheet No. 45). Groundwater was not present in the boring. Although no hydrocarbon odor was detected in samples from the boring, there is at least some possibility that contaminated soil may occur in the remainder of the cut section.

Abandoned Cemetery

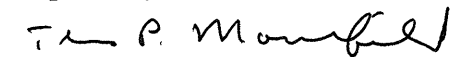
An abandoned cemetery is located adjacent to the project, left of -L- 305+40 to 309+00 (see Plan Sheet No. 23). The cemetery, locally known as the Burton Cemetery, is directly behind proposed

Retaining Wall No. 3, from -WALL3- Sta. 12+15 to 13+82. The cemetery was investigated by NCDOT's Project Development and Environmental Analysis (PDEA) group in February 2006. During this subsurface field investigation, Geotechnical Engineering Unit personnel noted that several depressions occur on the existing Right-of-Way, directly adjacent to the proposed retaining wall. If gravesites are actually present, the retaining wall would need to be designed to accommodate their location, unless the remains were removed prior to construction.

Groundwater

Groundwater was encountered in only 16 of the 205 borings completed on this project. The investigation was conducted during a period of exceptional drought. Groundwater, when encountered in residual soil or weathered rock, was variable across the project, ranging from 4.0 feet to 22.0 feet below the ground surface. Groundwater in borings located in alluvial areas ranged from 4.4 feet to 7.8 feet in depth. Based on the investigation, groundwater is not anticipated to cause problems during construction.

Prepared by,



Thomas P. Moorefield
Project Geological Engineer

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA **EARTHWORK BALANCE SHEET** IN CUBIC YARDS

LOCATION		UNCLASSIFIED EXCAVATION	ROCK	UNDERCUT	UNSUITABLE EXCAVATION	SUITABLE EXCAVATION	TOTAL EMBANKMENT	ROCK EMBANKMENT	EARTH EMBANKMENT	EMBANKMENT +20%	BORROW	ROCK WASTE	SUITABLE WASTE	UNSUITABLE WASTE	TOTAL WASTE
STATION	STATION														
-L- TEMP. PVMT. RIGHT															
SUMMARY NO. 1															
-L- 111+00.00	-L- 122+00.00	11193				11193	85		85	102			11091		11091
-Y10DETB- 12+00.61	-Y10DETB- 15+03.52	23885				23885							23885		23885
-Y10DETC- 11+25.77	-Y10DETC- 15+07.79	9807				9807	405		405	486			9321		9321
TOTAL SUMMARY NO. 1		44885				44885	490		490	588			44297		44297
SUMMARY NO. 2															
-L- 181+74.00	-L- 199+00.00	2016				2016	1220		1220	1464			552		552
TOTAL SUMMARY NO. 2		2016				2016	1220		1220	1464			552		552
SUMMARY NO. 3															
-L- 252+78.00	-L- 270+74.00	8769				8769	1026		1026	1232			7537		7537
TOTAL SUMMARY NO. 3		8769				8769	1026		1026	1232			7537		7537
SUMMARY NO. 4															
-L- 288+92.00	-L- 311+30.00	13047	1820			11227	19851	1820	18031	23458	10411				
-Y21DETB- 10+12.57	-Y21DETB- 16+75.40	3700				3700	8900		8900	10680	6980				
-Y21DETC- 10+11.26	-Y21DETC- 15+94.67	48535				48535	92		92	111			48424		48424
TOTAL SUMMARY NO. 4		65282	1820			63462	28843	1820	27023	34249	17391		48424		48424
CONSTRUCT -L- LEFT															
SUMMARY NO. 5															
-L- 14+00.00	-L- 46+00.00	6189				6189	5461		5461	6554	365				
-Y2- 11+05.00	-Y2- 12+61.53	191				191	12		12	15			176		176
-DRV4- 10+35.00	-DRV4- 11+75.00	22				22	401		401	482	460				
TOTAL SUMMARY NO. 5		6402				6402	5874		5874	7051	825		176		176
SUMMARY NO. 6															
-L- 46+00.00	-L- 76+00.00	5419			583	4836	2159		2159	2591			2245	583	2828
-Y3- 11+50.00	-Y3- 13+68.59	28				28	739		739	887	859				
-Y5- 11+00.00	-Y5- 15+14.24	475				475	33		33	40			435		435
TOTAL SUMMARY NO. 6		5922			583	5339	2931		2931	3518	859		2680	583	3263
SUMMARY NO. 7															
-L- 76+00.00	-L- 94+00.00	4126			1644	2482	275		275	330			2152	1644	3796
-Y8- 15+20.00	-Y8- 16+28.66	311				311							311		311
-Y8A- 10+17.33	-Y8A- 24+38.36	5037				5037	3048		3048	3658			1379		1379
TOTAL SUMMARY NO. 7		9474			1644	7830	3323		3323	3988			3842	1644	5486
SUMMARY NO. 8															
-L- 94+00.00	-L- 113+50.00	24510				24510	459		459	551			23959		23959
-Y10- 12+50.00	-Y10- 23+64.10	1118				1118	4702		4702	5643	4525				
-Y10RPB- 14+30.00	-Y10RPB- 20+95.67	10204				10204	3045		3045	3654			6550		6550
TOTAL SUMMARY NO. 8		35832				35832	8206		8206	9848	4525		30509		30509

NOTE: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA EARTHWORK BALANCE SHEET IN CUBIC YARDS

LOCATION		UNCLASSIFIED EXCAVATION	ROCK EXCAVATION	UNDERCUT	UNSUITABLE EXCAVATION	SUITABLE EXCAVATION	TOTAL EMBANKMENT	ROCK EMBANKMENT	EARTH EMBANKMENT	EMBANKMENT +20%	BORROW	ROCK WASTE	SUITABLE WASTE	UNSUITABLE WASTE	TOTAL WASTE
STATION	STATION														
SUMMARY NO. 16															
-L- 323+00.00	-L- 333+52.00	2677	470			2207	16990	470	16520	20294	17617				
TOTAL SUMMARY NO. 16		2677	470			2207	16990	470	16520	20294	17617				
CONSTRUCT -L- RIGHT															
SUMMARY NO. 17															
-L- 14+00.00	-L- 46+00.00	6764			2142	4622	5143		5143	6172	1550			2142	2142
TOTAL SUMMARY NO. 17		6764			2142	4622	5143		5143	6172	1550			2142	2142
SUMMARY NO. 18															
-L- 46+00.00	-L- 76+00.00	6095			1571	4524	5357		5357	6429	1905			1571	1571
-Y4- 10+32.75	-Y4- 12+75.00	1172				1172	35		35	42			1130		1130
-Y6- 10+41.61	-Y6- 13+75.00	402				402	71		71	86			316		316
TOTAL SUMMARY NO. 18		7669			1571	6098	5463		5463	6557	1905		1446	1571	3017
SUMMARY NO. 19															
-L- 76+00.00	-L- 94+00.00	1302			407	895	1590		1590	1908	1013			407	407
-Y7- 10+34.44	-Y7- 11+00.00	141			35	106	18		18	22			84	35	119
-Y9- 10+33.05	-Y9- 12+25.00	811				811							811		811
TOTAL SUMMARY NO. 19		2254			442	1812	1608		1608	1930	1013		895	442	1337
SUMMARY NO. 20															
-L- 94+00.00	-L- 113+50.00	8127				8127	4485		4485	5382			2745		2745
-Y10- 25+35.10	-Y10- 33+16.00	281				281	11877		11877	14253	13972				
-Y10RPC- 15+00.00	-Y10RPC- 20+90.66	4129				4129	7386		7386	8864	4735				
-Y10LPC- 11+80.00	-Y10LPC- 13+50.00	3673				3673	635		635	792			2911		2911
TOTAL SUMMARY NO. 20		16210				16210	24383		24383	29261	18707		5656		5656
SUMMARY NO. 21															
-L- 113+50.00	-L- 146+00.00	2959				2959	24081		24081	28898	25939				
TOTAL SUMMARY NO. 21		2959				2959	24081		24081	28898	25939				
SUMMARY NO. 22															
-L- 146+00.00	-L- 179+00.00	1167				1167	17327		17327	20793	19626				
-Y12- 15+64.86	-Y12- 20+00.00	85				85	383		383	460	375				
TOTAL SUMMARY NO. 22		1252				1252	17710		17710	21253	20001				
SUMMARY NO. 23															
-L- 179+00.00	-L- 202+52.00	2198				2198	9412		9412	11295	9097				
-Y12B- 10+35.30	-Y12B- 12+80.00	790				790	35		35	42			748		748
-Y13- 23+50.00	-Y13- 35+50.00	3651				3651	3150		3150	3780	129				
-Y13RPC- 13+80.00	-Y13RPC- 18+27.49	1207				1207	630		630	756			451		451
-DRV1- 11+25.00	-DRV1- 12+24.14	39				39	37		37	45	6				
TOTAL SUMMARY NO. 23		7885				7885	13264		13264	15918	9232		1199		1199

NOTE: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

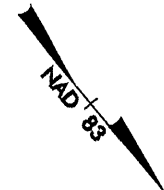
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DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA **EARTHWORK BALANCE SHEET** IN CUBIC YARDS

LOCATION		UNCLASSIFIED EXCAVATION	ROCK EXCAVATION	UNDERCUT	UNSUITABLE EXCAVATION	SUITABLE EXCAVATION	TOTAL EMBANKMENT	ROCK EMBANKMENT	EARTH EMBANKMENT	EMBANKMENT + 20%	BORROW	ROCK WASTE	SUITABLE WASTE	UNSUITABLE WASTE	TOTAL WASTE
STATION	STATION														
SUMMARY NO. 24															
-L- 203+57.00	-L- 239+00.00	6640				6640	18125		18125	21750	15110				
-Y13RPD- 13+10.00	-Y13RPD- 16+73.75	1142				1142	247		247	297			845		845
-Y14- 10+00.00	-Y14- 13+50.00	591				591	238		238	286			305		305
-Y14C- 10+00.00	-Y14C- 10+74.11	72				72	15		15	18			54		54
-Y15A- 10+32.77	-Y15A- 13+00.00	49				49	1322		1322	1587	1538				
-Y16A- 10+33.56	-Y16A- 11+20.00	10				10	110		110	132	122				
TOTAL SUMMARY NO. 24		8504				8504	20057		20057	24070	16770		1204		1204
SUMMARY NO. 25															
-L- 239+00.00	-L- 271+50.00	7007	44			6963	18651	44	18607	22373	15366				
-Y17- 17+18.75	-Y17- 18+50.00	10				10	138		138	166	156				
-Y19- 10+36.53	-Y19- 12+05.00	238				238	217		217	261	23				
TOTAL SUMMARY NO. 25		7255	44			7211	19006	44	18962	22800	15545				
SUMMARY NO. 26															
-L- 271+50.00	-L- 304+00.00	16877	7953			8924	28181	7953	20228	32227	15350				
-DRV2- 10+35.43	-DRV2- 10+80.00	99				99							99		99
-Y20- 10+32.75	-Y20- 11+25.00	32				32	50		50	60	28				
-Y21- 23+23.96	-Y21- 29+00.00	1031				1031	7987		7987	9585	8554				
-Y21RPC- 12+50.00	-Y21RPC- 17+31.51	33155	25010			8145	25592	25010	582	25709			7446		7446
-Y21LPC- 11+70.00	-Y21LPC- 12+70.00	2100	31			2069	81	31	50	91			2009		2009
TOTAL SUMMARY NO. 26		53294	32994			20300	61891	32994	28897	67672	23932		9554		9554
SUMMARY NO. 27															
-L- 304+00.00	-L- 323+00.00	2792				2792	4968		4968	5962	3170				
-Y22- 16+45.85	-Y22- 17+58.93	44				44	1275		1275	1530	1486				
TOTAL SUMMARY NO. 27		2836				2836	6243		6243	7492	4656				
SUMMARY NO. 28															
-L- 323+00.00	-L- 333+52.00	6027	1444			4583	12504	1444	11060	14716	8689				
TOTAL SUMMARY NO. 28		6027	1444			4583	12504	1444	11060	14716	8689				
SUMMARY TOTALS		368403	37849			6479	324075	37849	467464	598837	411455		174542	6479	181021
ROCK WASTE IN LIEU OF BORROW															
ADJUST FOR ROCK WASTE															
WASTE IN LIEU OF BORROW															
SHOULDER MATERIAL															
							12700		12700	15240	15240				
LOSS DUE TO C&G		-21150				-21150					21150				
GRAND TOTALS		347253	37849			6479	302925	37849	480164	614077	273303			6479	6479
+5% TO REPLACE TOPSOIL IN BORROW PIT															
PROJECT GRAND TOTALS		347253	37849			6479	302925	37849	480164	614077	286969			6479	6479
SAY		347,300									287000				
DRAINAGE DITCH EXCAVATION = 3124 CY															
EST. SHALLOW UNDERCUT BY STATIONS = 1970 CY															
EST. UNDERCUT CONTINGENCY = 5905 CY															
SELECT GRANULAR MATERIAL = 5000 CY															
FABRIC FOR SOIL STABILIZATION = 9000 SY															
CLASS IV SUBGRADE STABILIZATION MATERIAL = 3750 TONS															
UNDERDRAIN (6" PERFORATED SUBDRAIN PIPE) = 4000 LF															

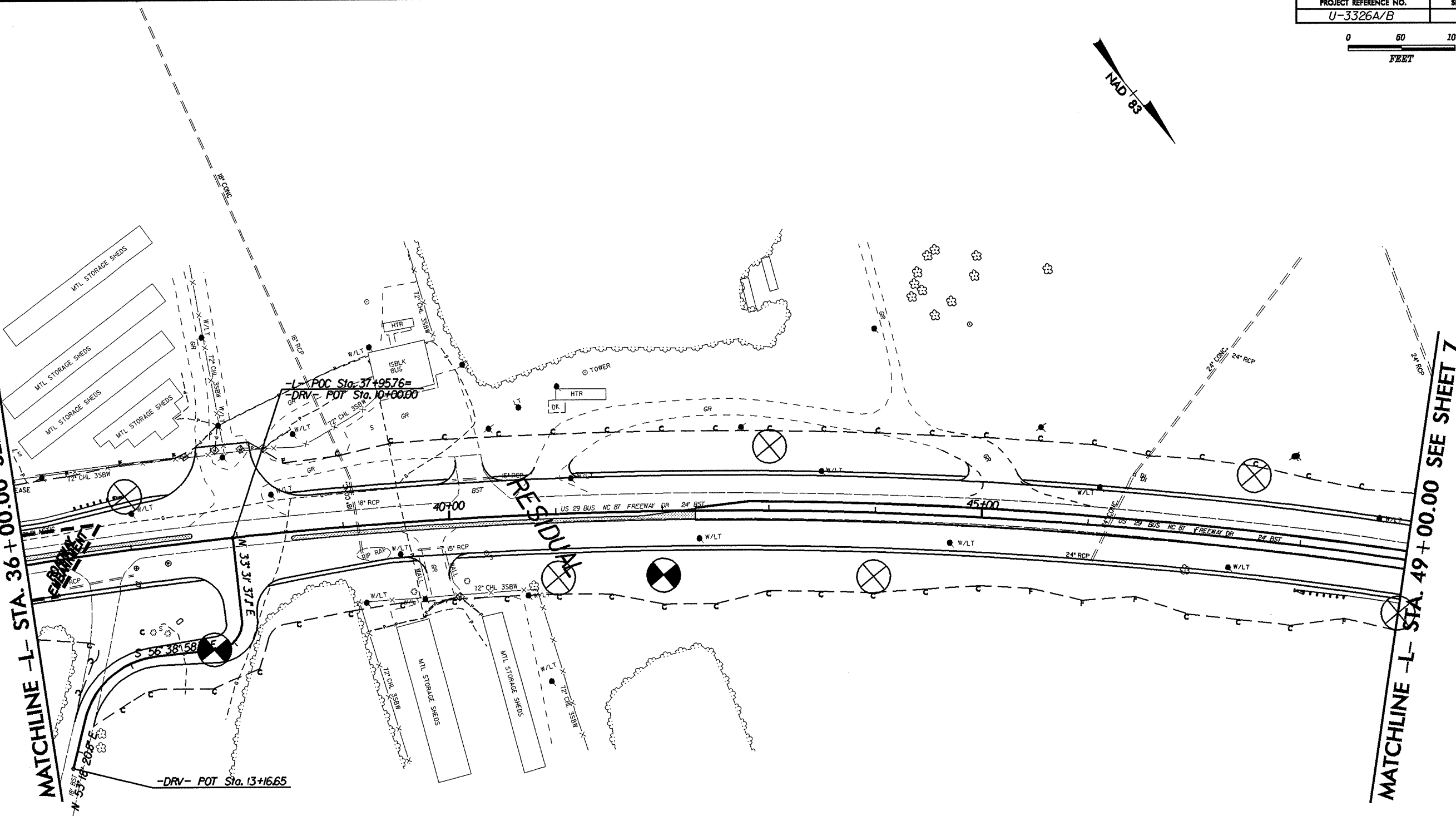
NOTE: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

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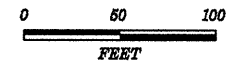


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MATCHLINE -L- STA. 49 + 00.00 SEE SHEET 7

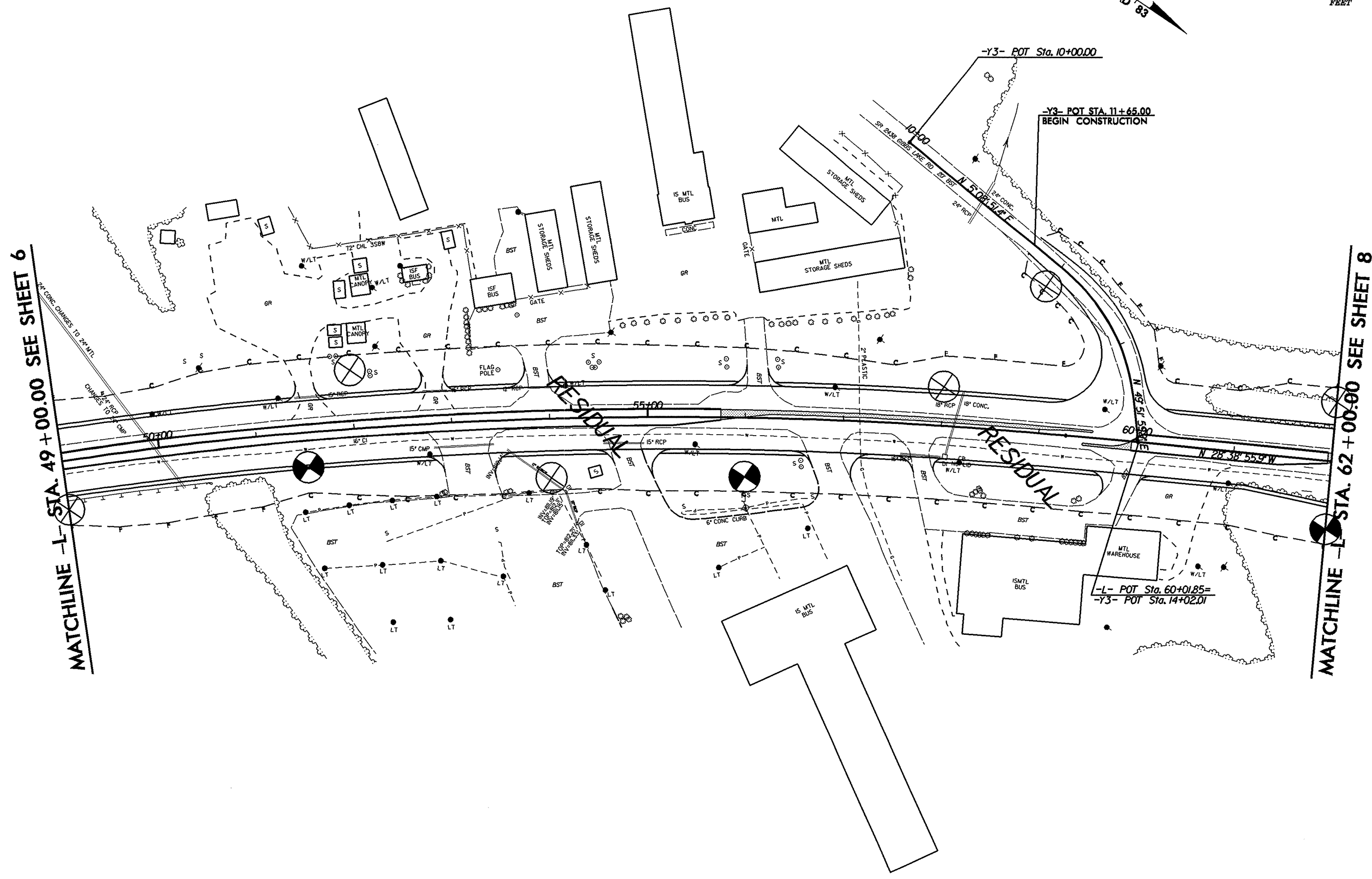


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MATCHLINE -L- STA. 49 + 00.00 SEE SHEET 6

MATCHLINE -L- STA. 62 + 00.00 SEE SHEET 8



-Y3- POT Sta. 10+00.00

-Y3- POT STA. 11+65.00
BEGIN CONSTRUCTION

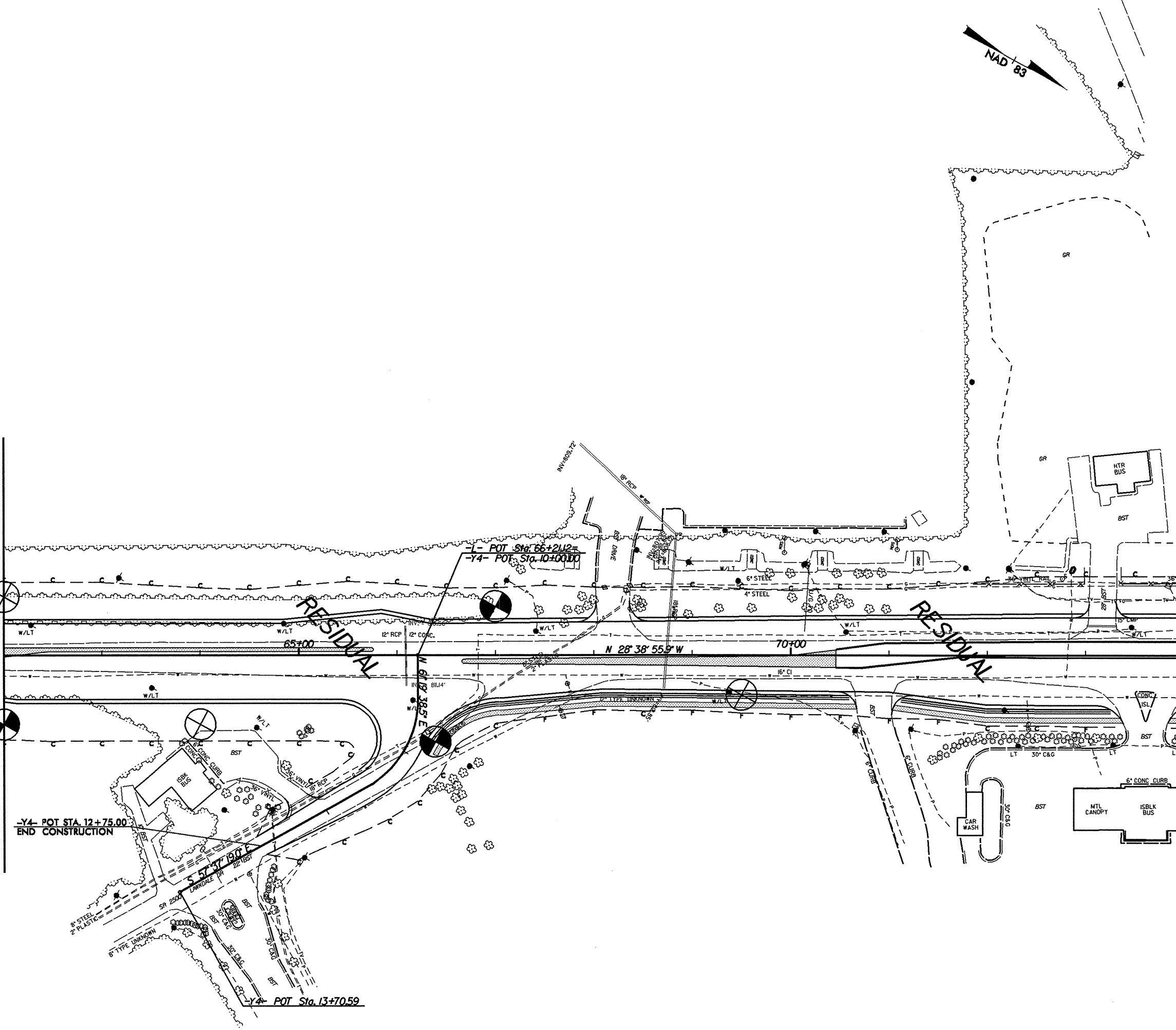
-L- POT Sta. 60+01.85=
-Y3- POT Sta. 14+02.01

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MATCHLINE - STA. 62 + 00.00 SEE SHEET 7

MATCHLINE -L- STA. 74 + 00.00 SEE SHEET 9



-Y4- POT STA. 12+75.00
END CONSTRUCTION

-L- POT Sta. 66+21.12
-Y4- POT Sta. 10+00.00

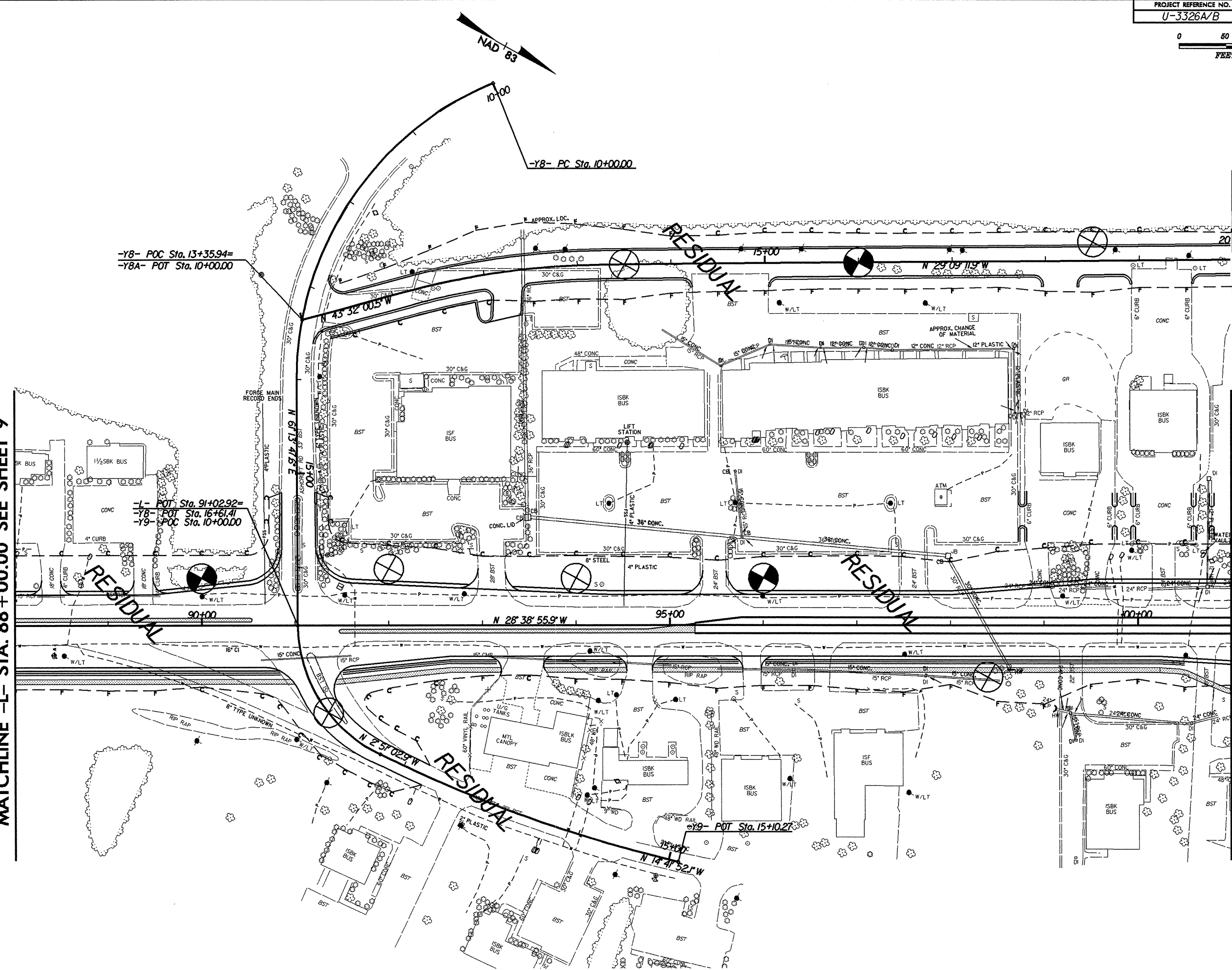
-Y4- POT Sta. 13+70.59

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MATCHLINE -L- STA. 88 + 00.00 SEE SHEET 9

MATCHLINE -L- STA. 101 + 00.00 SEE SHEET 11

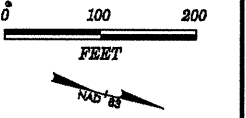


-Y8- POC Sta. 13+35.94=
-Y8A- POT Sta. 10+00.00

-L- POT Sta. 91+02.92=
-Y8- POT Sta. 16+61.41
-Y9- POC Sta. 10+00.00

-Y8- PC Sta. 10+00.00

MATCHLINE
-Y8A- STA. 20 + 00.00
SEE SHEET 11



MATCHLINE -Y10- STA. 18+00.00 SEE SHEET 26

MATCHLINE -L- STA. 101+00.00
-Y8A- SEE SHEET 10

MATCHLINE -L- STA. 127+00.00 SEE SHEET 12

RENTZ OIL COMPANY
SPILL SITE

B

A

C

RESIDUAL

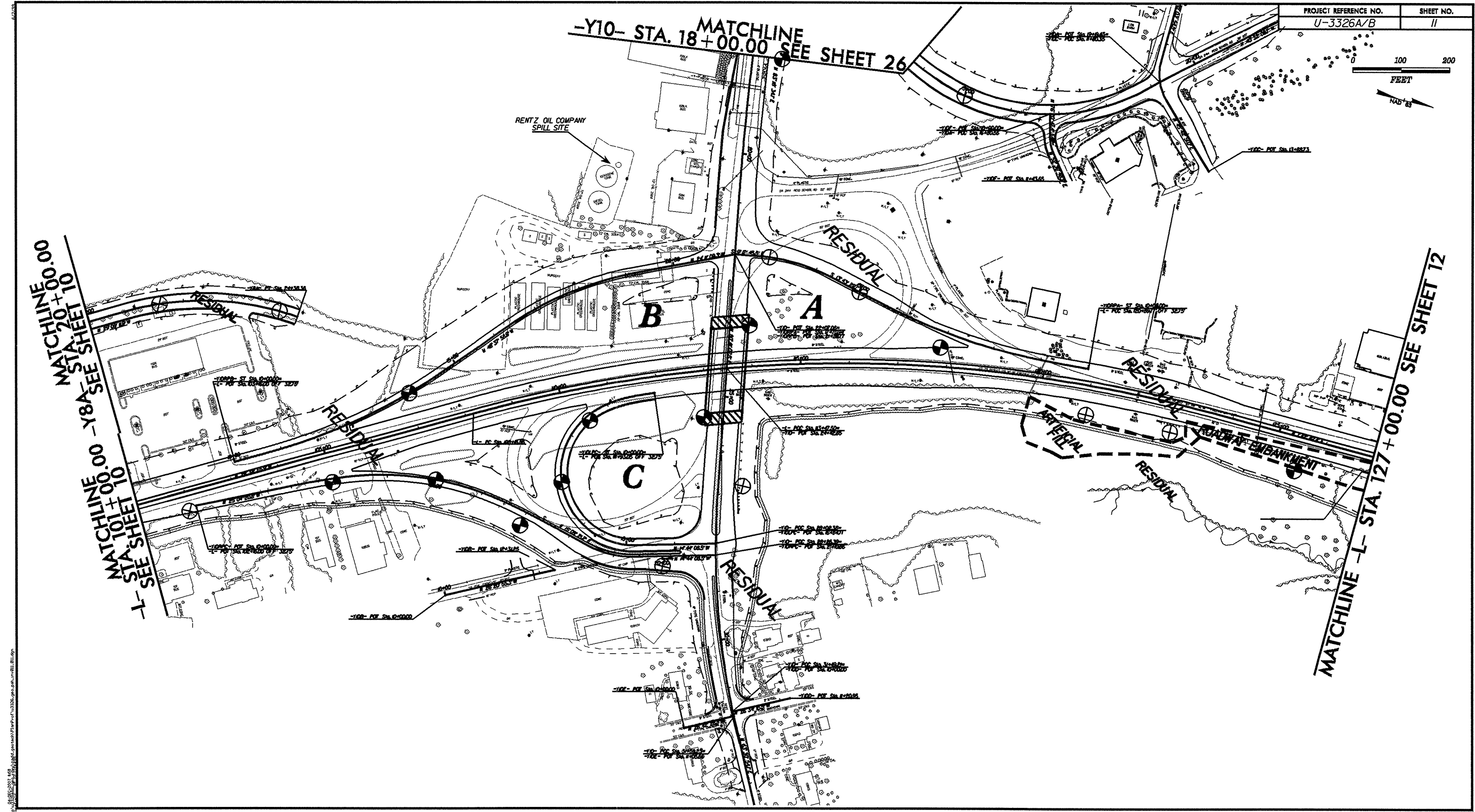
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RESIDUAL

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ARTIFICIAL

ROADWAY ENHANCEMENT

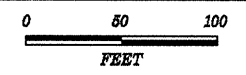


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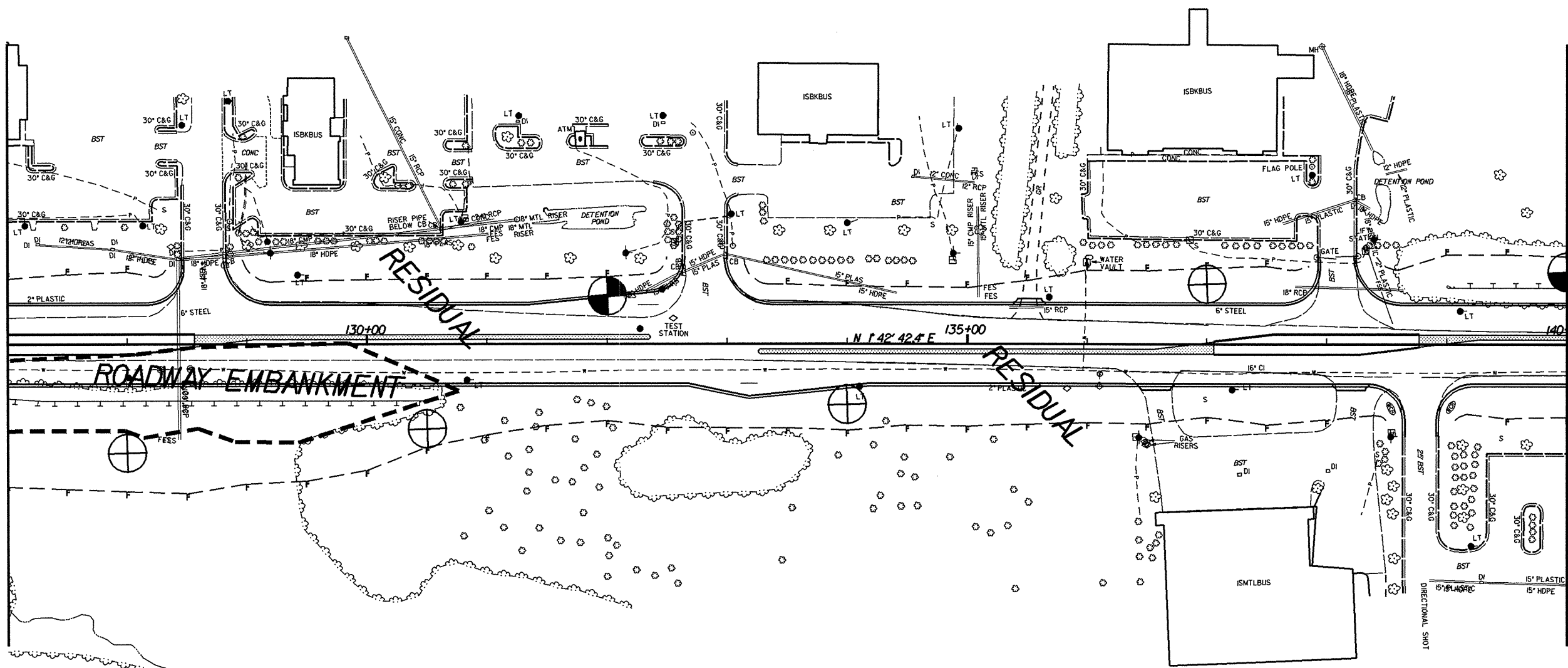
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U-3326A/B	12



MATCHLINE -L- STA. 127 + 00.00 SEE SHEET 11



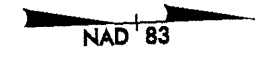
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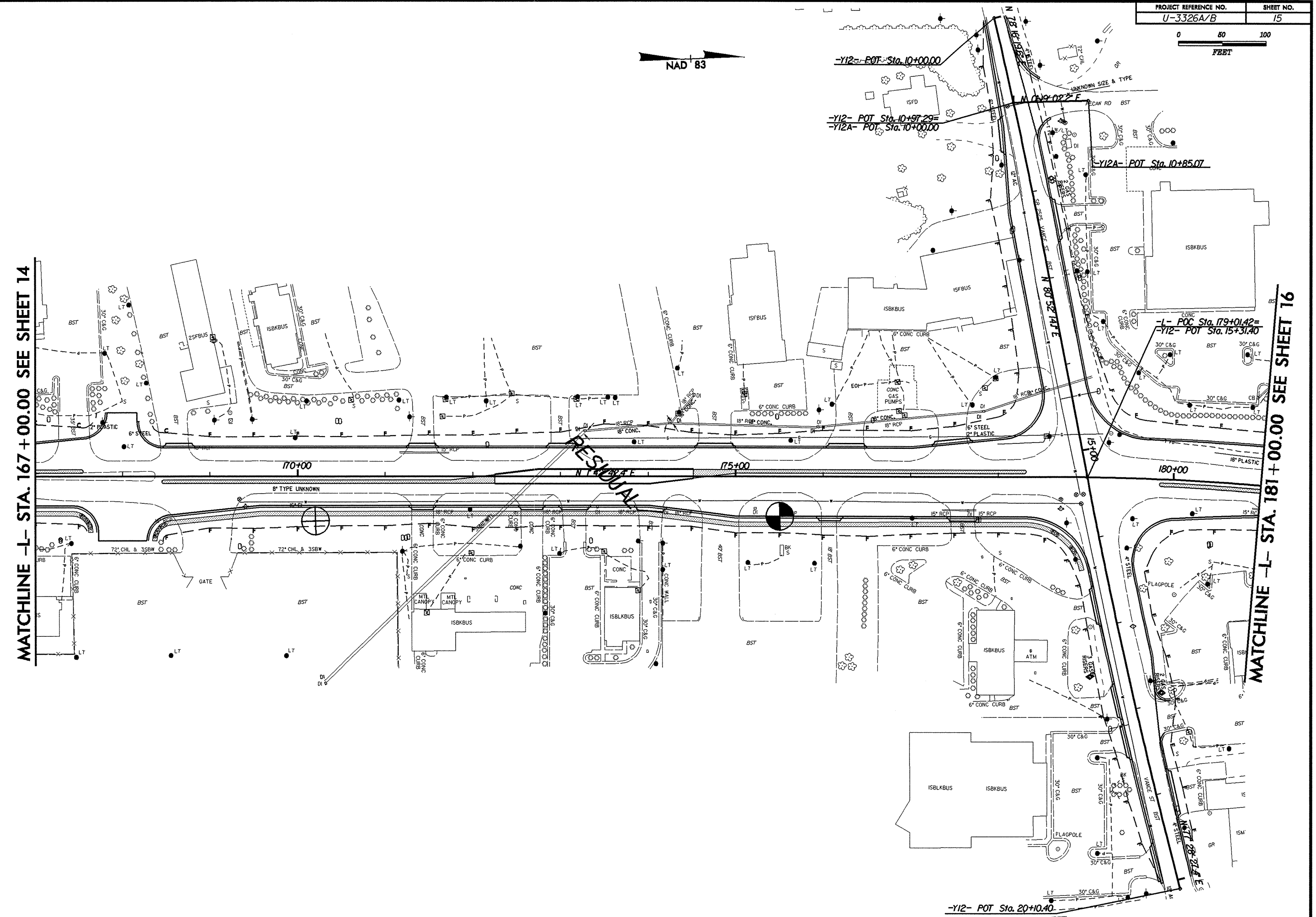
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U-3326A/B	15



MATCHLINE -L- STA. 167+00.00 SEE SHEET 14

MATCHLINE -L- STA. 181+00.00 SEE SHEET 16



-Y12- POT Sta. 20+10.40

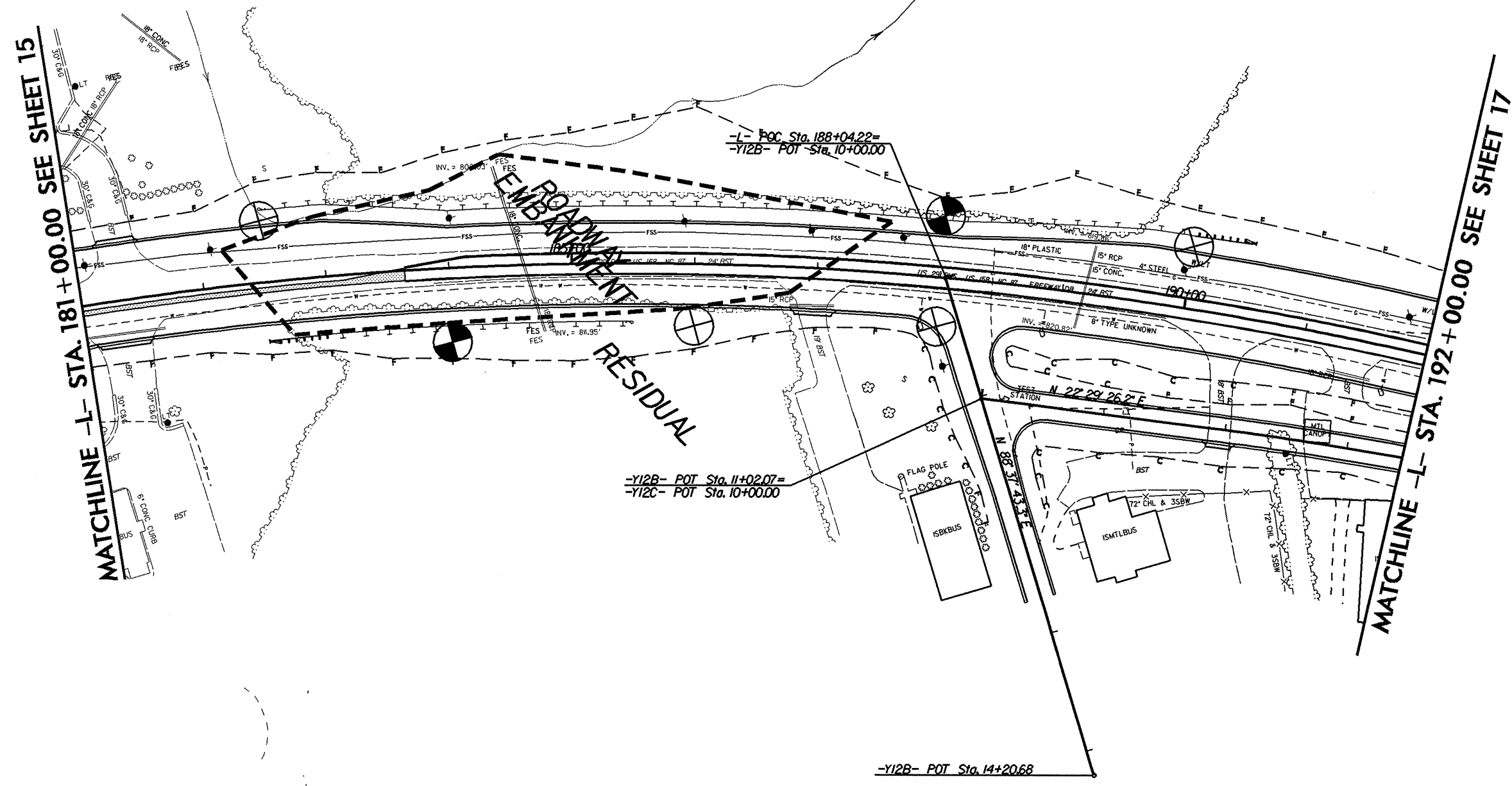
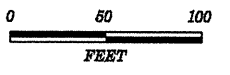
-L- POC Sta. 179+01.42 =
-Y12- POT Sta. 15+31.40

-Y12- POT Sta. 10+97.29 =
-Y12A- POT Sta. 10+00.00

-Y12- POT Sta. 10+00.00

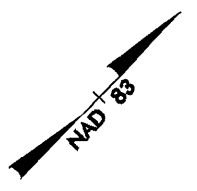
-Y12A- POT Sta. 10+85.07

RESIDUAL



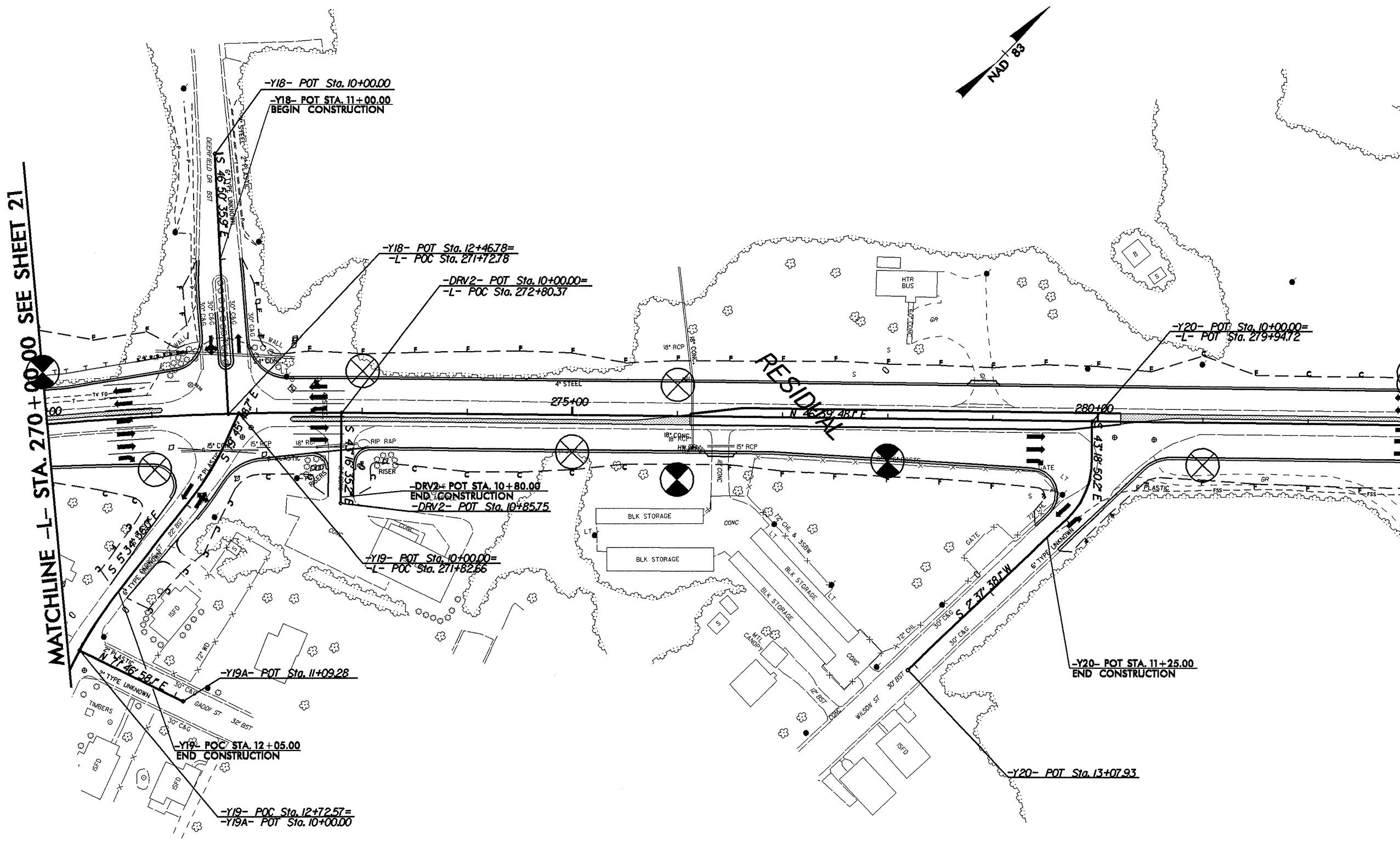
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MATCHLINE -L- STA. 270+00.00 SEE SHEET 21

MATCHLINE -L- STA. 283+00.00 SEE SHEET 23



-Y18- POT Sta. 10+00.00
-Y18- POT STA. 11+00.00
BEGIN CONSTRUCTION

-Y18- POT Sta. 12+46.78=
-L- POC Sta. 271+72.78

-DRV2- POT Sta. 10+00.00=
-L- POC Sta. 272+80.37

-Y20- POT Sta. 10+00.00=
-L- POT Sta. 279+94.72

-DRV2- POT STA. 10+80.00
END CONSTRUCTION
-DRV2- POT Sta. 10+85.75

-Y19- POT Sta. 10+00.00=
-L- POC Sta. 271+82.66

-Y19A- POT Sta. 11+09.28

-Y19- POC STA. 12+05.00
END CONSTRUCTION

-Y19- POC Sta. 12+72.57=
-Y19A- POT Sta. 10+00.00

-Y20- POT STA. 11+25.00
END CONSTRUCTION

-Y20- POT Sta. 13+07.93

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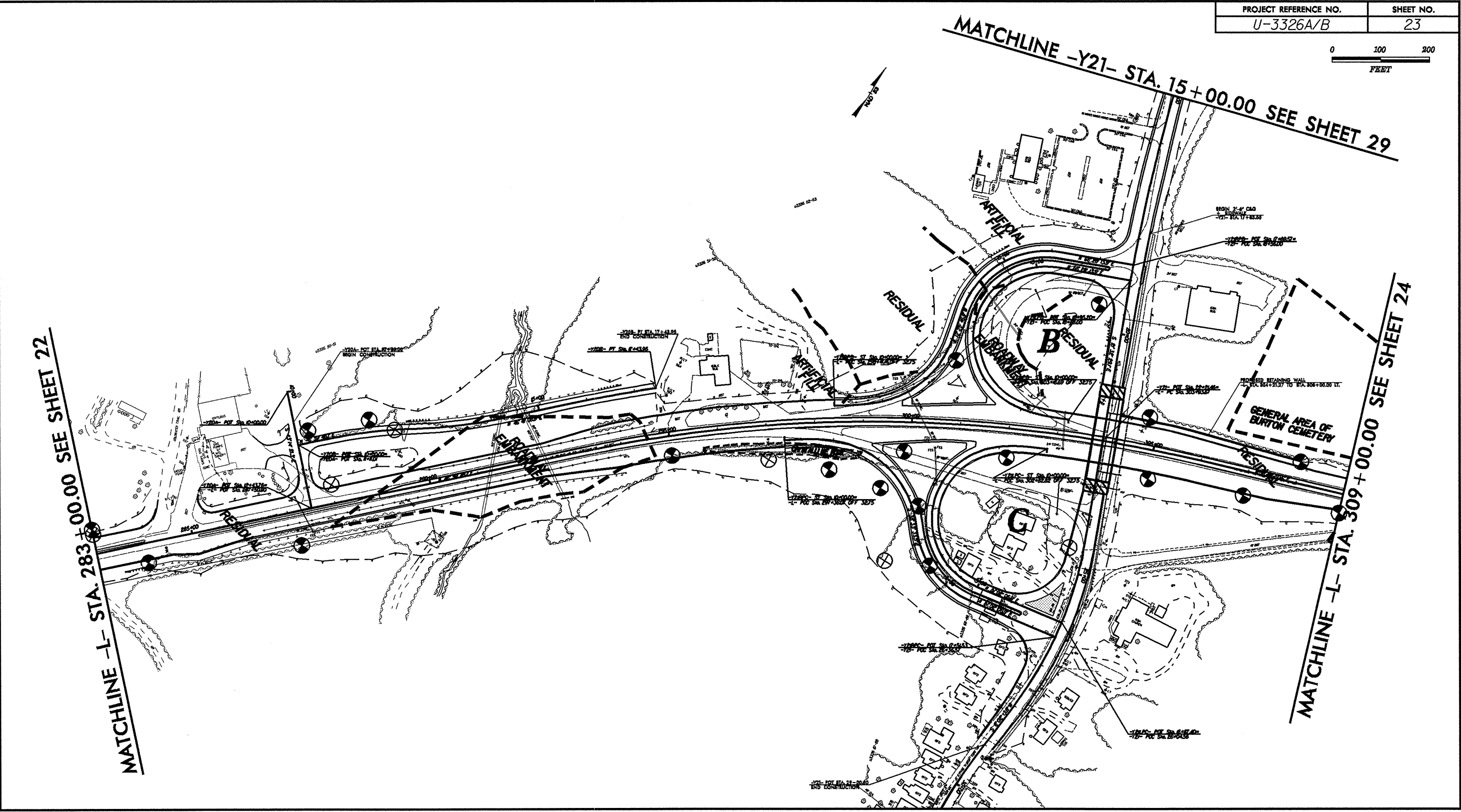
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MATCHLINE -Y21- STA. 15+00.00 SEE SHEET 29

MATCHLINE -L- STA. 283+00.00 SEE SHEET 22

MATCHLINE -L- STA. 309+00.00 SEE SHEET 24



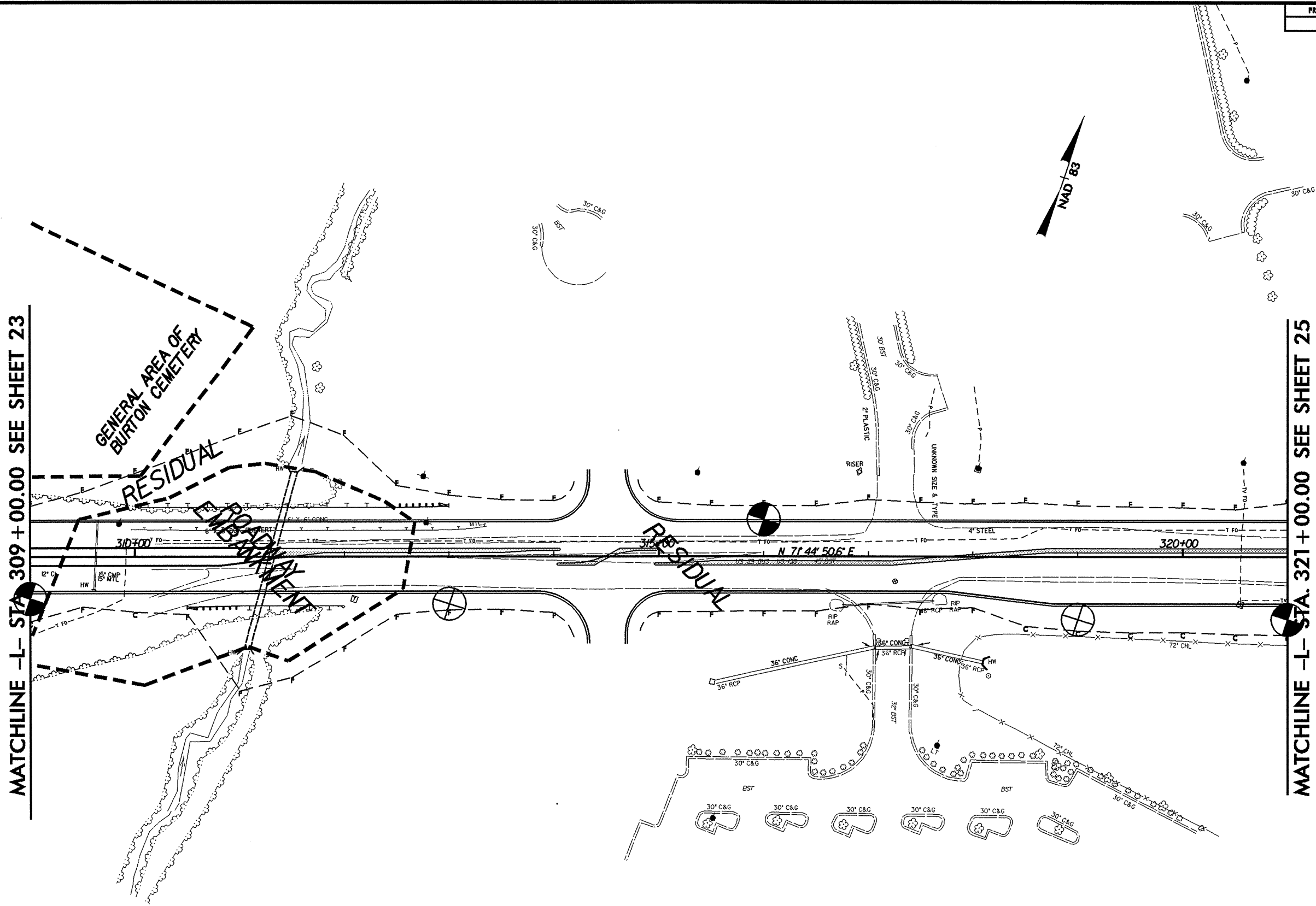
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PROJECT REFERENCE NO.	SHEET NO.
U-3326A/B	24



MATCHLINE -L- STA. 309 + 00.00 SEE SHEET 23

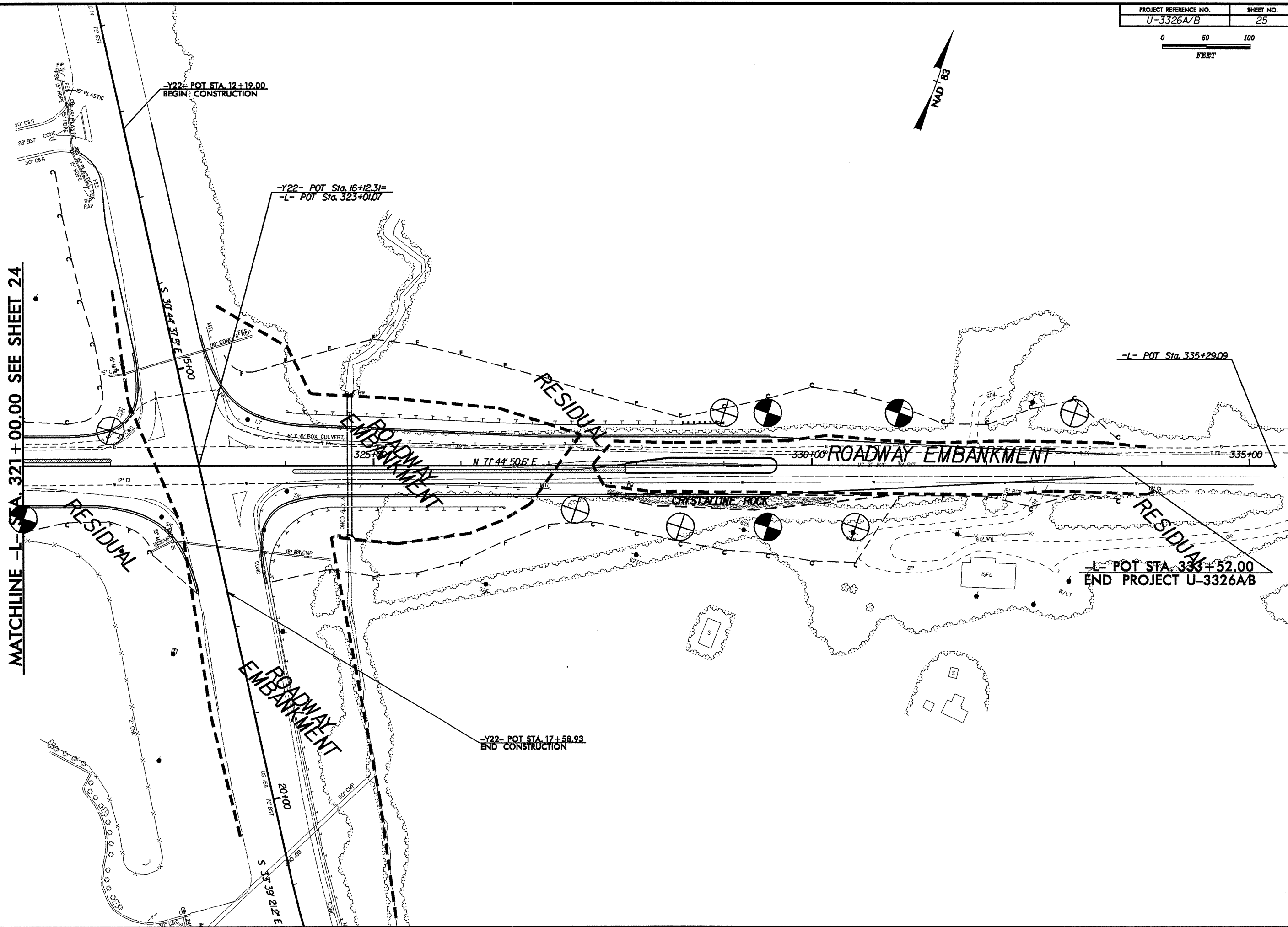
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MATCHLINE -L- STA. 321 + 00.00 SEE SHEET 24



-Y22- POT STA. 12+19.00
BEGIN CONSTRUCTION

-Y22- POT Sta. 16+12.31=
-L- POT Sta. 323+01.07

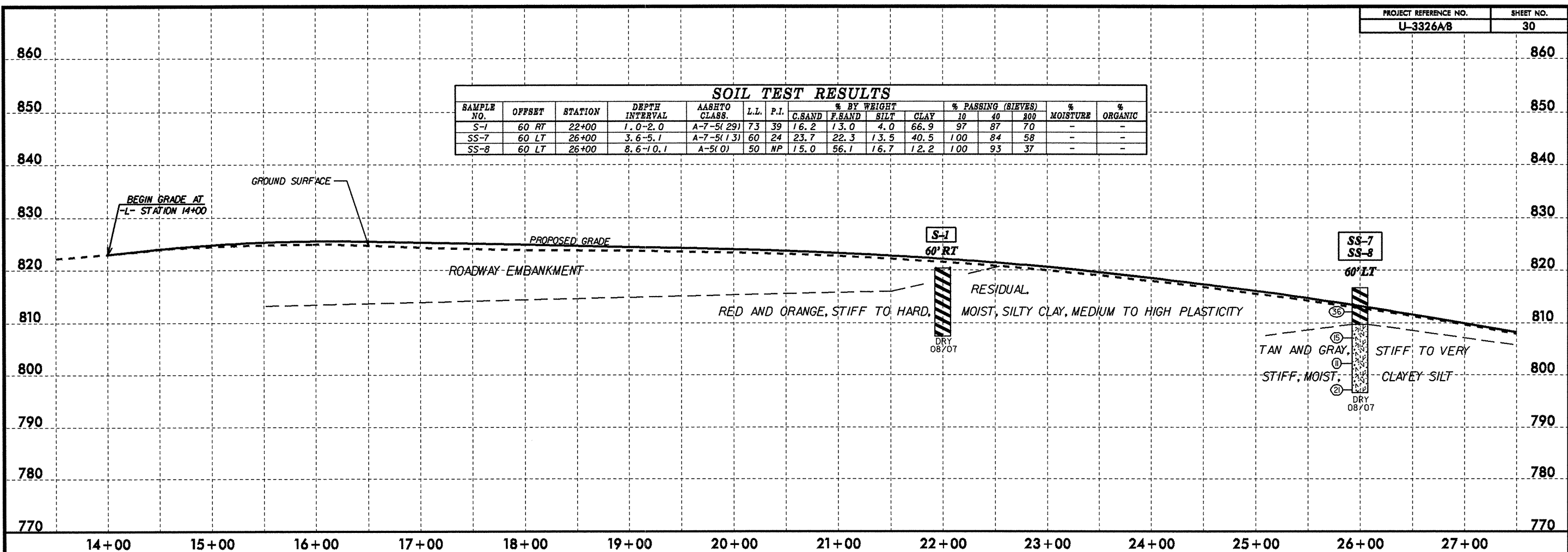
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-L- POT STA. 333+52.00
END PROJECT U-3326AB

-Y22- POT STA. 17+58.93
END CONSTRUCTION

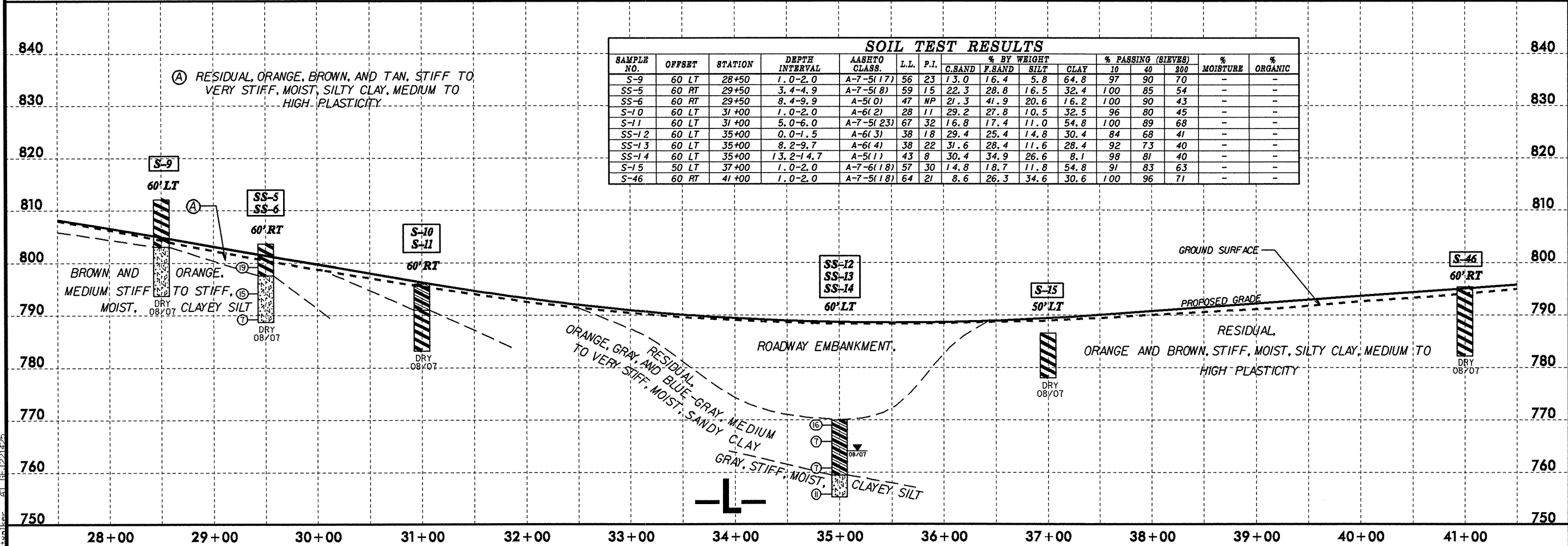
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-1	60 RT	22+00	1.0-2.0	A-7-5(29)	73	39	16.2	13.0	4.0	66.9	97	87	70	-	-
SS-7	60 LT	26+00	3.6-5.1	A-7-5(13)	60	24	23.7	22.3	13.5	40.5	100	84	58	-	-
SS-8	60 LT	26+00	8.6-10.1	A-5(0)	50	NP	15.0	56.1	16.7	12.2	100	93	37	-	-



SOIL TEST RESULTS

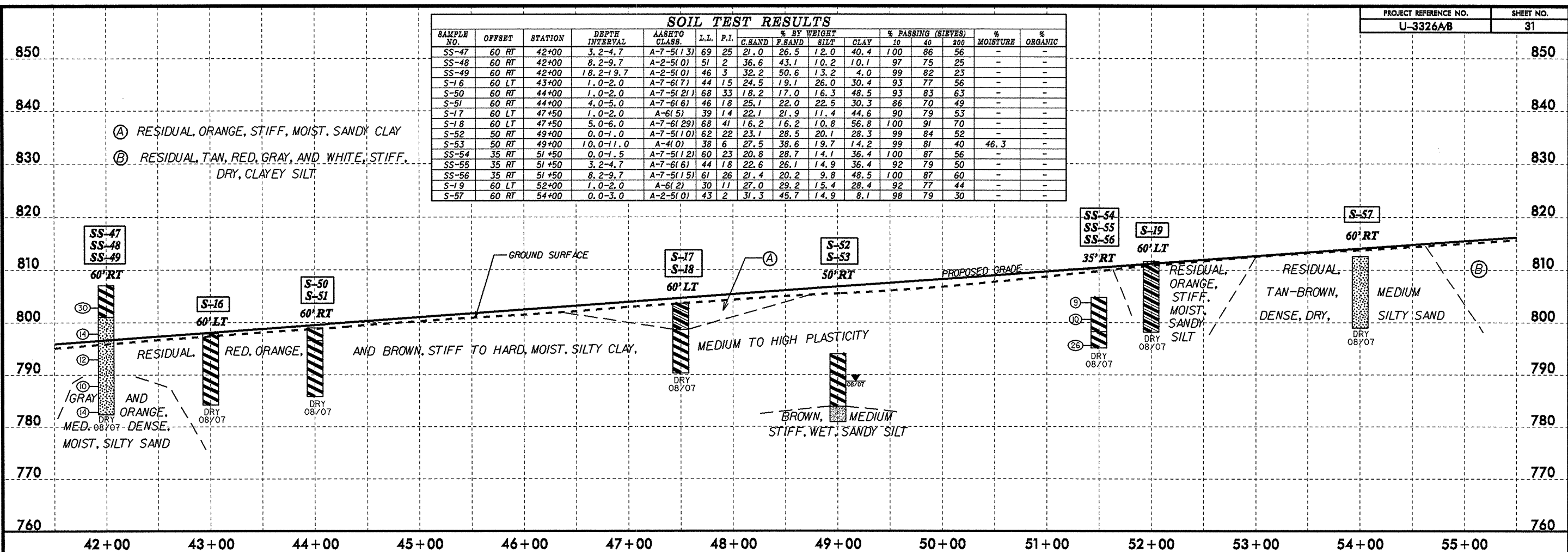
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							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-9	60 LT	28+50	1.0-2.0	A-7-5(17)	56	23	13.0	16.4	5.8	64.8	97	90	70	-	-
SS-5	60 RT	29+50	3.4-4.9	A-7-5(8)	59	15	22.3	28.8	16.5	32.4	100	85	54	-	-
SS-6	60 RT	29+50	8.4-9.9	A-5(0)	47	NP	21.3	41.9	20.6	16.2	100	90	43	-	-
S-10	60 LT	31+00	1.0-2.0	A-6(2)	28	11	29.2	27.8	10.5	32.5	96	80	45	-	-
S-11	60 LT	31+00	5.0-6.0	A-7-5(23)	67	32	16.8	17.4	11.0	54.8	100	89	68	-	-
SS-12	60 LT	35+00	0.0-1.5	A-6(3)	38	18	29.4	25.4	14.8	30.4	84	68	41	-	-
SS-13	60 LT	35+00	8.2-9.7	A-6(4)	38	22	31.6	28.4	11.6	28.4	92	73	40	-	-
SS-14	60 LT	35+00	13.2-14.7	A-5(1)	43	8	30.4	34.9	26.6	8.1	98	81	40	-	-
S-15	50 LT	37+00	1.0-2.0	A-7-6(18)	57	30	14.8	18.7	11.8	54.8	91	83	63	-	-
S-46	60 RT	41+00	1.0-2.0	A-7-5(18)	64	21	8.6	26.3	34.6	30.6	100	96	71	-	-



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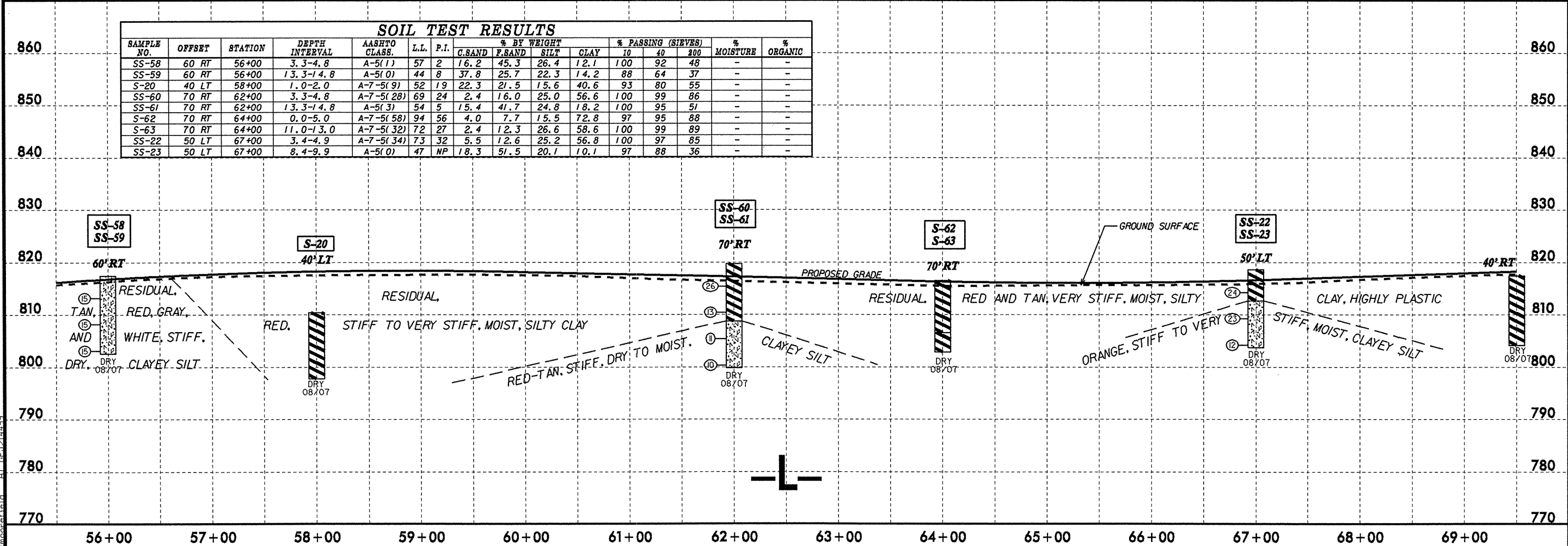
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT			% PASSING (SIEVES)			% MOISTURE	% ORGANIC	
							C.SAND	F.SAND	SILT	10	40	200			
SS-47	60 RT	42+00	3.2-4.7	A-7-5(13)	69	25	21.0	26.5	12.0	40.4	100	86	56	-	-
SS-48	60 RT	42+00	8.2-9.7	A-2-5(0)	51	2	36.6	43.1	10.2	10.1	97	75	25	-	-
SS-49	60 RT	42+00	18.2-19.7	A-2-5(0)	46	3	32.2	50.6	13.2	4.0	99	82	23	-	-
S-16	60 LT	43+00	1.0-2.0	A-7-6(7)	44	15	24.5	19.1	26.0	30.4	93	77	56	-	-
S-50	60 RT	44+00	1.0-2.0	A-7-5(21)	68	33	18.2	17.0	16.3	48.5	93	83	63	-	-
S-51	60 RT	44+00	4.0-5.0	A-7-6(6)	46	18	25.1	22.0	22.5	30.3	86	70	49	-	-
S-17	60 LT	47+50	1.0-2.0	A-6(5)	39	14	22.1	21.9	11.4	44.6	90	79	53	-	-
S-18	60 LT	47+50	5.0-6.0	A-7-6(29)	68	41	16.2	16.2	10.8	56.8	100	91	70	-	-
S-52	50 RT	49+00	0.0-1.0	A-7-5(10)	62	22	23.1	28.5	20.1	28.3	99	84	52	-	-
S-53	50 RT	49+00	10.0-11.0	A-4(0)	38	6	27.5	38.6	19.7	14.2	99	81	40	46.3	-
SS-54	35 RT	51+50	0.0-1.5	A-7-5(12)	60	23	20.8	28.7	14.1	36.4	100	87	56	-	-
SS-55	35 RT	51+50	3.2-4.7	A-7-6(6)	44	18	22.6	26.1	14.9	36.4	92	79	50	-	-
SS-56	35 RT	51+50	8.2-9.7	A-7-5(15)	61	26	21.4	20.2	9.8	48.5	100	87	60	-	-
S-19	60 LT	52+00	1.0-2.0	A-6(2)	30	11	27.0	29.2	15.4	28.4	92	77	44	-	-
S-57	60 RT	54+00	0.0-3.0	A-2-5(0)	43	2	31.3	45.7	14.9	8.1	98	79	30	-	-



SOIL TEST RESULTS

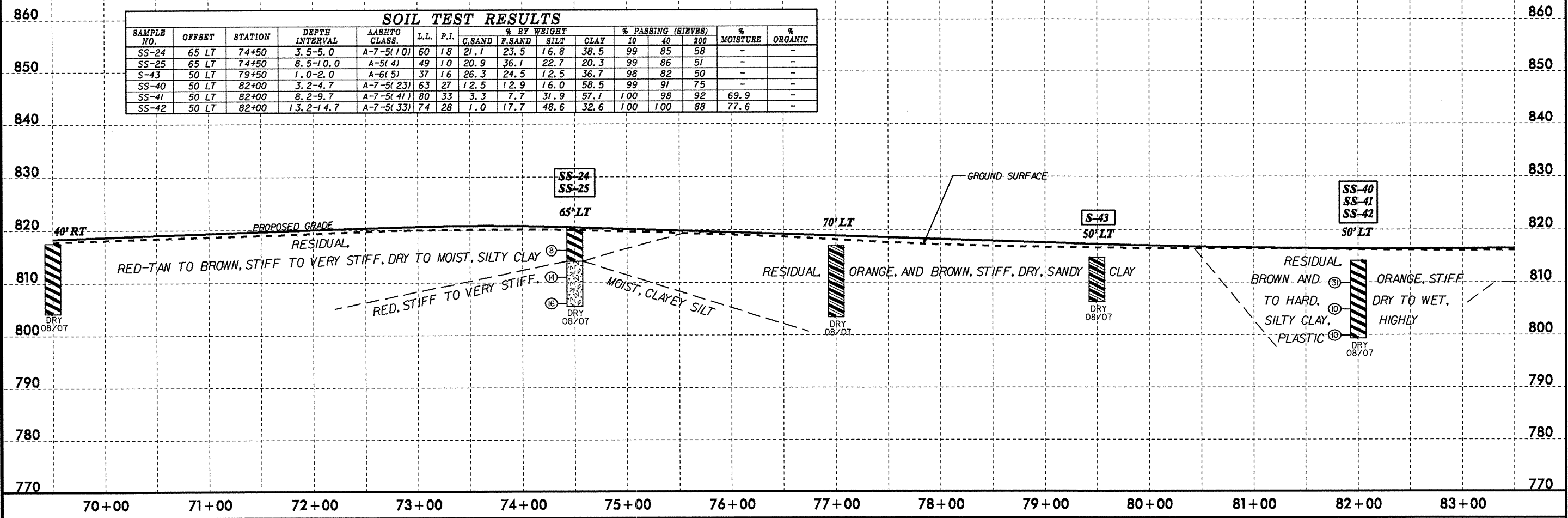
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT			% PASSING (SIEVES)			% MOISTURE	% ORGANIC	
							C.SAND	F.SAND	SILT	10	40	200			
SS-58	60 RT	56+00	3.3-4.8	A-5(1)	57	2	16.2	45.3	26.4	12.1	100	92	48	-	-
SS-59	60 RT	56+00	13.3-14.8	A-5(0)	44	8	37.8	25.7	22.3	14.2	88	64	37	-	-
S-20	40 LT	58+00	1.0-2.0	A-7-5(9)	52	19	22.3	21.5	15.6	40.6	93	80	55	-	-
SS-60	70 RT	62+00	3.3-4.8	A-7-5(28)	69	24	2.4	16.0	25.0	56.6	100	99	86	-	-
SS-61	70 RT	62+00	13.3-14.8	A-5(3)	54	5	15.4	41.7	24.8	18.2	100	95	51	-	-
S-62	70 RT	64+00	0.0-5.0	A-7-5(58)	94	56	4.0	7.7	15.5	72.8	97	95	88	-	-
S-63	70 RT	64+00	11.0-13.0	A-7-5(32)	72	27	2.4	12.3	26.6	58.6	100	99	89	-	-
SS-22	50 LT	67+00	3.4-4.9	A-7-5(34)	73	32	5.5	12.6	25.2	56.8	100	97	85	-	-
SS-23	50 LT	67+00	8.4-9.9	A-5(0)	47	NP	18.3	51.5	20.1	10.1	97	88	36	-	-



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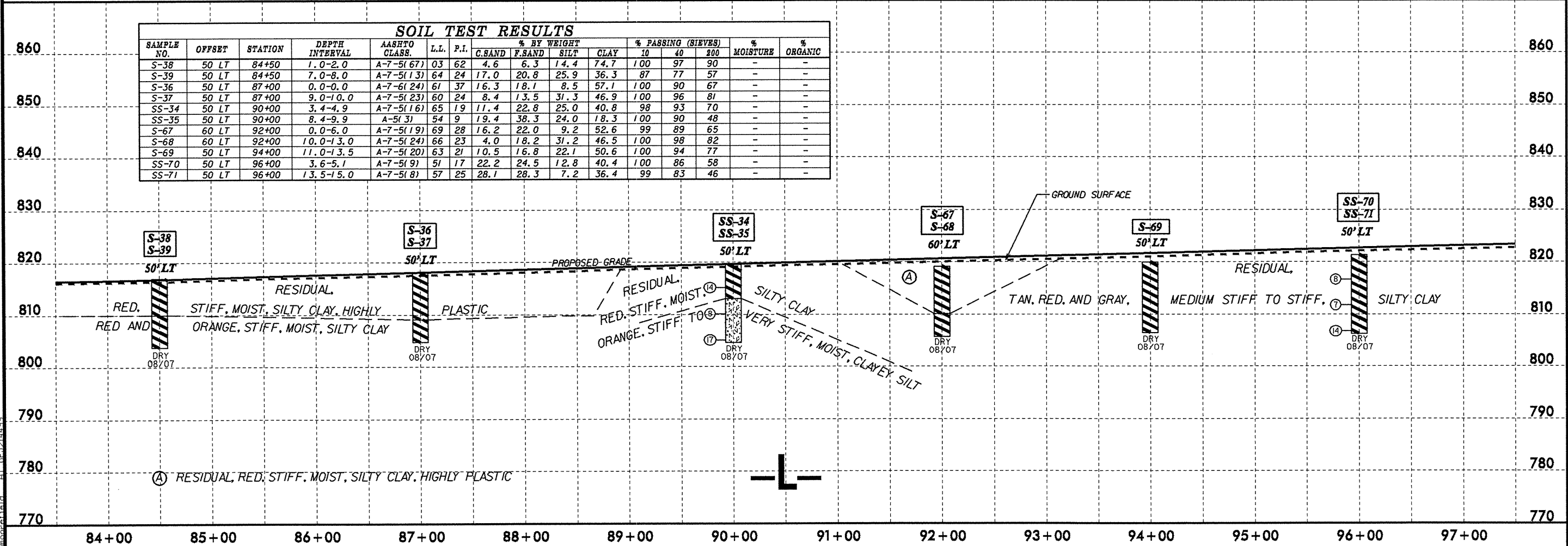
SOIL TEST RESULTS

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		
SS-24	65 LT	74+50	3.5-5.0	A-7-5(10)	60	18	21.1	23.5	16.8	38.5	99	85	58	-	-
SS-25	65 LT	74+50	8.5-10.0	A-5(4)	49	10	20.9	36.1	22.7	20.3	99	86	51	-	-
S-43	50 LT	79+50	1.0-2.0	A-6(5)	37	16	26.3	24.5	12.5	36.7	98	82	50	-	-
SS-40	50 LT	82+00	3.2-4.7	A-7-5(23)	63	27	12.5	12.9	16.0	58.5	99	91	75	-	-
SS-41	50 LT	82+00	8.2-9.7	A-7-5(41)	80	33	3.3	7.7	31.9	57.1	100	98	92	69.9	-
SS-42	50 LT	82+00	13.2-14.7	A-7-5(33)	74	28	1.0	17.7	48.6	32.6	100	100	88	77.6	-



SOIL TEST RESULTS

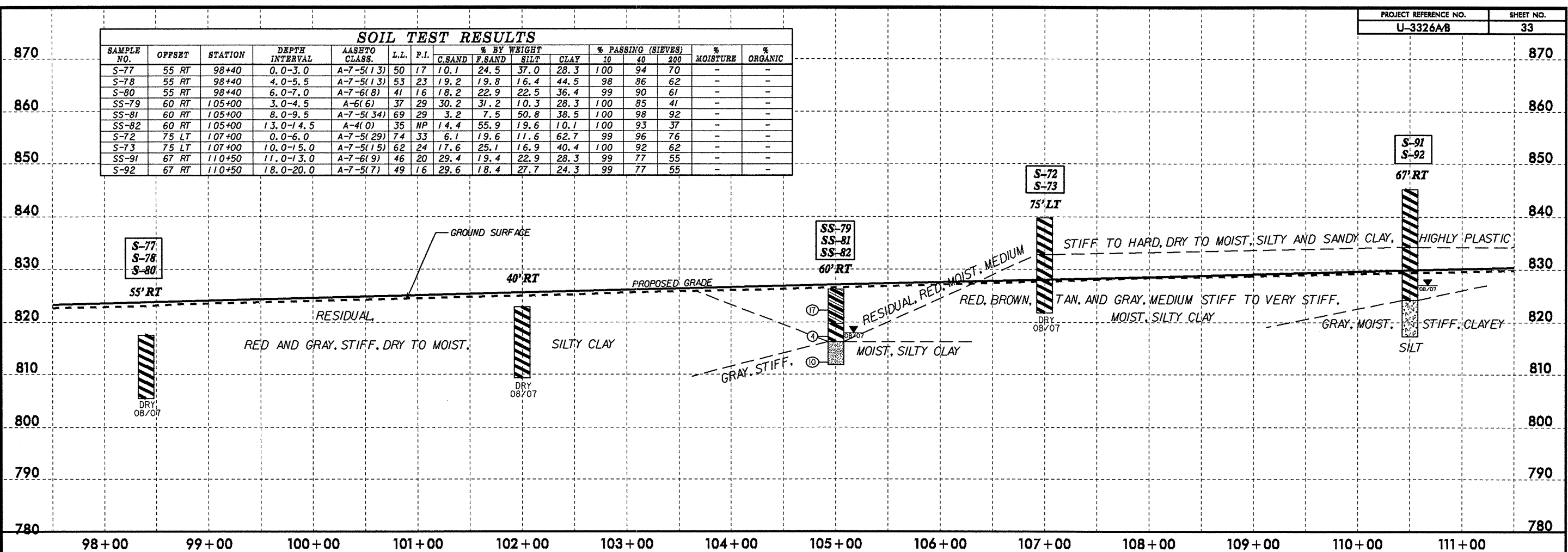
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-38	50 LT	84+50	1.0-2.0	A-7-5(67)	03	62	4.6	6.3	14.4	74.7	100	97	90	-	-
S-39	50 LT	84+50	7.0-8.0	A-7-5(13)	64	24	17.0	20.8	25.9	36.3	87	77	57	-	-
S-36	50 LT	87+00	0.0-0.0	A-7-6(24)	61	37	16.3	18.1	8.5	57.1	100	90	67	-	-
S-37	50 LT	87+00	9.0-10.0	A-7-5(23)	60	24	8.4	13.5	31.3	46.9	100	96	81	-	-
SS-34	50 LT	90+00	3.4-4.9	A-7-5(16)	65	19	11.4	22.8	25.0	40.8	98	93	70	-	-
SS-35	50 LT	90+00	8.4-9.9	A-5(3)	54	9	19.4	38.3	24.0	18.3	100	90	48	-	-
S-67	60 LT	92+00	0.0-6.0	A-7-5(19)	69	28	16.2	22.0	9.2	52.6	99	89	65	-	-
S-68	60 LT	92+00	10.0-13.0	A-7-5(24)	66	23	4.0	18.2	31.2	46.5	100	98	82	-	-
S-69	50 LT	94+00	11.0-13.5	A-7-5(20)	63	21	10.5	16.8	22.1	50.6	100	94	77	-	-
SS-70	50 LT	96+00	3.6-5.1	A-7-5(9)	51	17	22.2	24.5	12.8	40.4	100	86	58	-	-
SS-71	50 LT	96+00	13.5-15.0	A-7-5(8)	57	25	28.1	28.3	7.2	36.4	99	83	46	-	-



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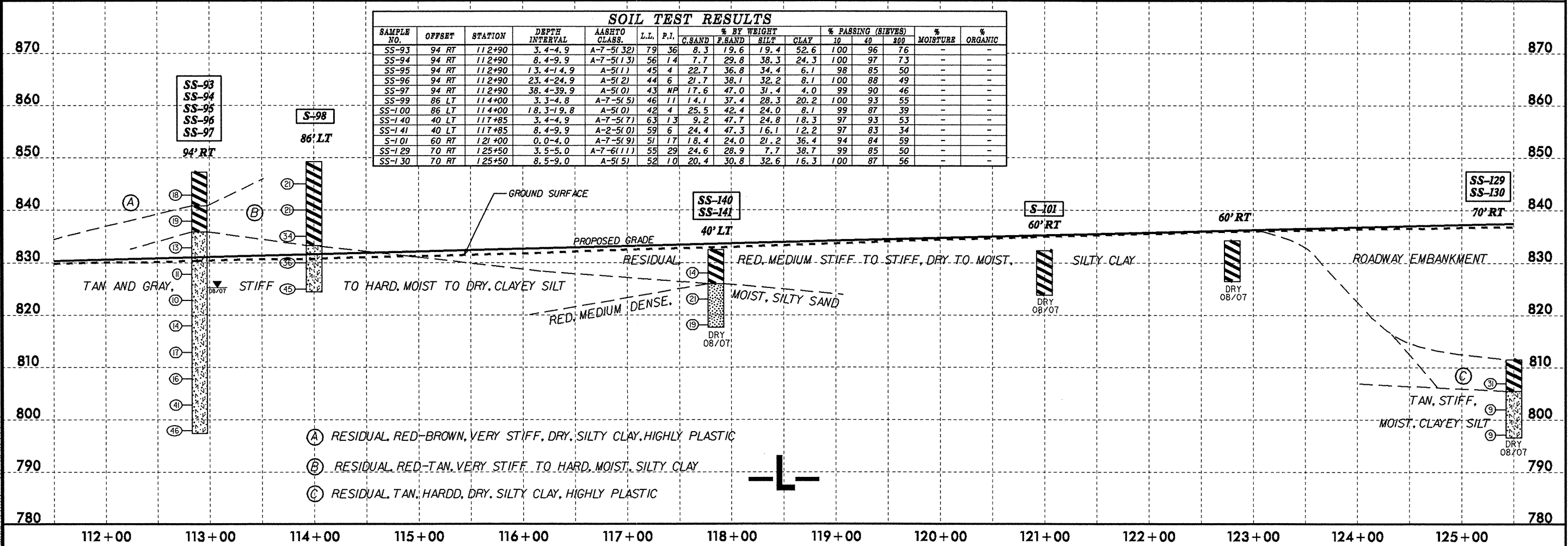
SOIL TEST RESULTS

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-77	55 RT	98+40	0.0-3.0	A-7-5(13)	50	17	10.1	24.5	37.0	28.3	100	94	70	-	-
S-78	55 RT	98+40	4.0-5.5	A-7-5(13)	53	23	19.2	19.8	16.4	44.5	98	86	62	-	-
S-80	55 RT	98+40	6.0-7.0	A-7-6(8)	41	16	18.2	22.9	22.5	36.4	99	90	61	-	-
SS-79	60 RT	105+00	3.0-4.5	A-6(6)	37	29	30.2	31.2	10.3	28.3	100	85	41	-	-
SS-81	60 RT	105+00	8.0-9.5	A-7-5(34)	69	29	3.2	7.5	50.8	38.5	100	98	92	-	-
SS-82	60 RT	105+00	13.0-14.5	A-4(0)	35	NP	14.4	55.9	19.6	10.1	100	93	37	-	-
S-72	75 LT	107+00	0.0-6.0	A-7-5(29)	74	33	6.1	19.6	11.6	62.7	99	96	76	-	-
S-73	75 LT	107+00	10.0-15.0	A-7-5(15)	62	24	17.6	25.1	16.9	40.4	100	92	62	-	-
SS-91	67 RT	110+50	11.0-13.0	A-7-6(9)	46	20	29.4	19.4	22.9	28.3	99	77	55	-	-
S-92	67 RT	110+50	18.0-20.0	A-7-5(7)	49	16	29.6	18.4	27.7	24.3	99	77	55	-	-



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-93	94 RT	112+90	3.4-4.9	A-7-5(32)	79	36	8.3	19.6	19.4	52.6	100	96	76	-	-
SS-94	94 RT	112+90	8.4-9.9	A-7-5(13)	56	14	7.7	29.8	38.3	24.3	100	97	73	-	-
SS-95	94 RT	112+90	13.4-14.9	A-5(1)	45	4	22.7	36.8	34.4	6.1	98	85	50	-	-
SS-96	94 RT	112+90	23.4-24.9	A-5(2)	44	6	21.7	38.1	32.2	8.1	100	88	49	-	-
SS-97	94 RT	112+90	38.4-39.9	A-5(0)	43	NP	17.6	47.0	31.4	4.0	99	90	46	-	-
SS-99	86 LT	114+00	3.3-4.8	A-7-5(5)	46	11	14.1	37.4	28.3	20.2	100	93	55	-	-
SS-100	86 LT	114+00	18.3-19.8	A-5(0)	42	4	25.5	42.4	24.0	8.1	99	87	39	-	-
SS-140	40 LT	117+85	3.4-4.9	A-7-5(7)	63	13	9.2	47.7	24.8	18.3	97	93	53	-	-
SS-141	40 LT	117+85	8.4-9.9	A-2-5(0)	59	6	24.4	47.3	16.1	12.2	97	83	34	-	-
S-101	60 RT	121+00	0.0-4.0	A-7-5(9)	51	17	18.4	24.0	21.2	36.4	94	84	59	-	-
SS-129	70 RT	125+50	3.5-5.0	A-7-6(11)	55	29	24.6	28.9	7.7	38.7	99	85	50	-	-
SS-130	70 RT	125+50	8.5-9.0	A-5(5)	52	10	20.4	30.8	32.6	16.3	100	87	56	-	-



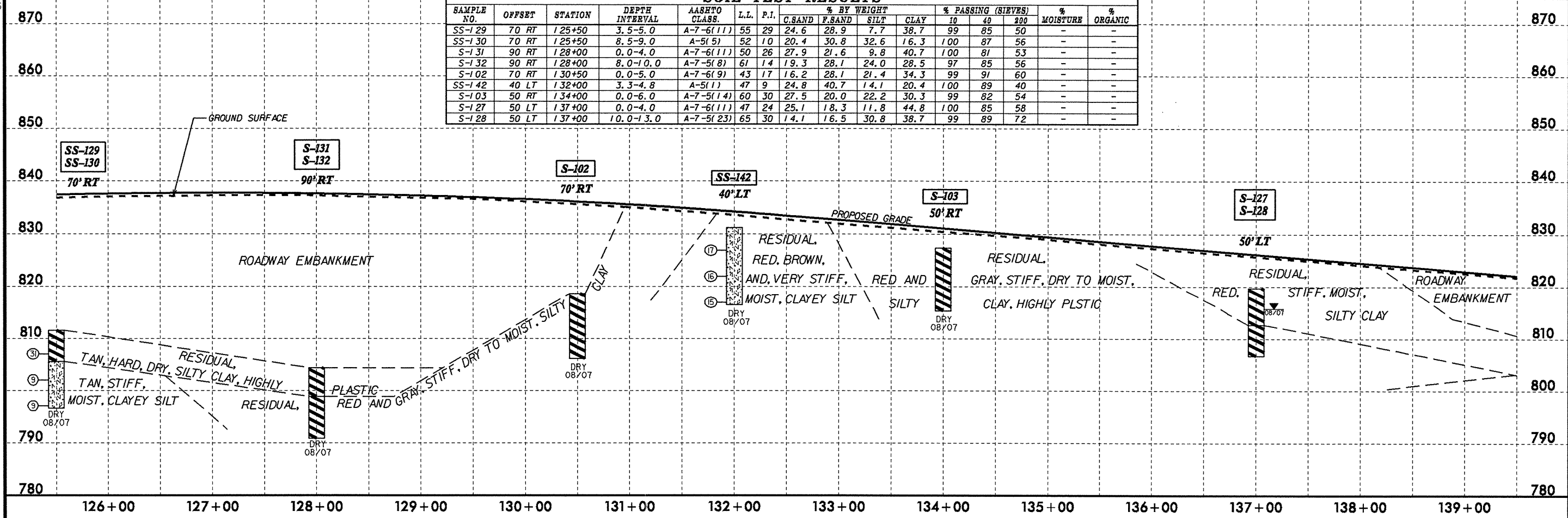
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- (B) RESIDUAL, RED-TAN, VERY STIFF TO HARD, MOIST, SILTY CLAY
- (C) RESIDUAL, TAN, HARD, DRY, SILTY CLAY, HIGHLY PLASTIC

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SOIL TEST RESULTS

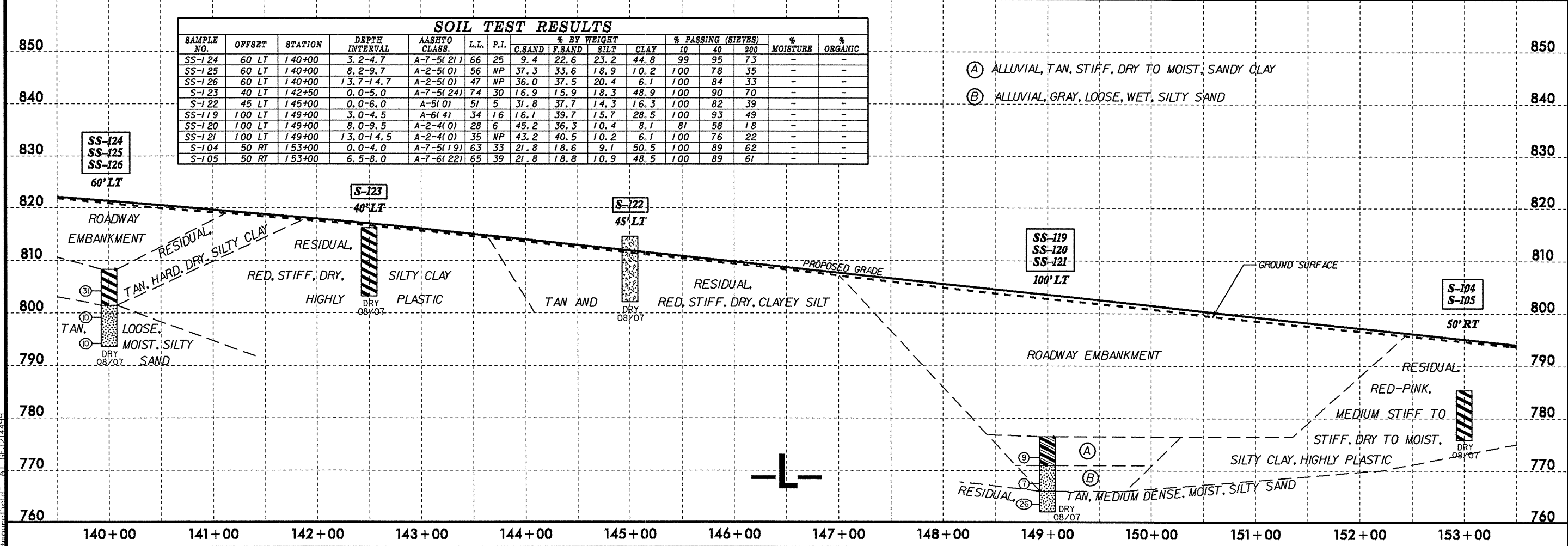
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-129	70 RT	125+50	3.5-5.0	A-7-6(11)	55	29	24.6	28.9	7.7	38.7	99	85	50	-	-
SS-130	70 RT	125+50	8.5-9.0	A-5(5)	52	10	20.4	30.8	32.6	16.3	100	87	56	-	-
S-131	90 RT	128+00	0.0-4.0	A-7-6(11)	50	26	27.9	21.6	9.8	40.7	100	81	53	-	-
S-132	90 RT	128+00	8.0-10.0	A-7-5(8)	61	14	19.3	28.1	24.0	28.5	97	85	56	-	-
S-102	70 RT	130+50	0.0-5.0	A-7-6(9)	43	17	16.2	28.1	21.4	34.3	99	91	60	-	-
SS-142	40 LT	132+00	3.3-4.8	A-5(1)	47	9	24.8	40.7	14.1	20.4	100	89	40	-	-
S-103	50 RT	134+00	0.0-6.0	A-7-5(14)	60	30	27.5	20.0	22.2	30.3	99	82	54	-	-
S-127	50 LT	137+00	0.0-4.0	A-7-6(11)	47	24	25.1	18.3	11.8	44.8	100	85	58	-	-
S-128	50 LT	137+00	10.0-13.0	A-7-5(23)	65	30	14.1	16.5	30.8	38.7	99	89	72	-	-



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-124	60 LT	140+00	3.2-4.7	A-7-5(21)	66	25	9.4	22.6	23.2	44.8	99	95	73	-	-
SS-125	60 LT	140+00	8.2-9.7	A-2-5(0)	56	NP	37.3	33.6	18.9	10.2	100	78	35	-	-
SS-126	60 LT	140+00	13.7-14.7	A-2-5(0)	47	NP	36.0	37.5	20.4	6.1	100	84	33	-	-
S-123	40 LT	142+50	0.0-5.0	A-7-5(24)	74	30	16.9	15.9	18.3	48.9	100	90	70	-	-
S-122	45 LT	145+00	0.0-6.0	A-5(0)	51	5	31.8	37.7	14.3	16.3	100	82	39	-	-
SS-119	100 LT	149+00	3.0-4.5	A-6(4)	34	16	16.1	39.7	15.7	28.5	100	93	49	-	-
SS-120	100 LT	149+00	8.0-9.5	A-2-4(0)	28	6	45.2	36.3	10.4	8.1	81	58	18	-	-
SS-121	100 LT	149+00	13.0-14.5	A-2-4(0)	35	NP	43.2	40.5	10.2	6.1	100	76	22	-	-
S-104	50 RT	153+00	0.0-4.0	A-7-5(19)	63	33	21.8	18.6	9.1	50.5	100	89	62	-	-
S-105	50 RT	153+00	6.5-8.0	A-7-6(22)	65	39	21.8	18.8	10.9	48.5	100	89	61	-	-

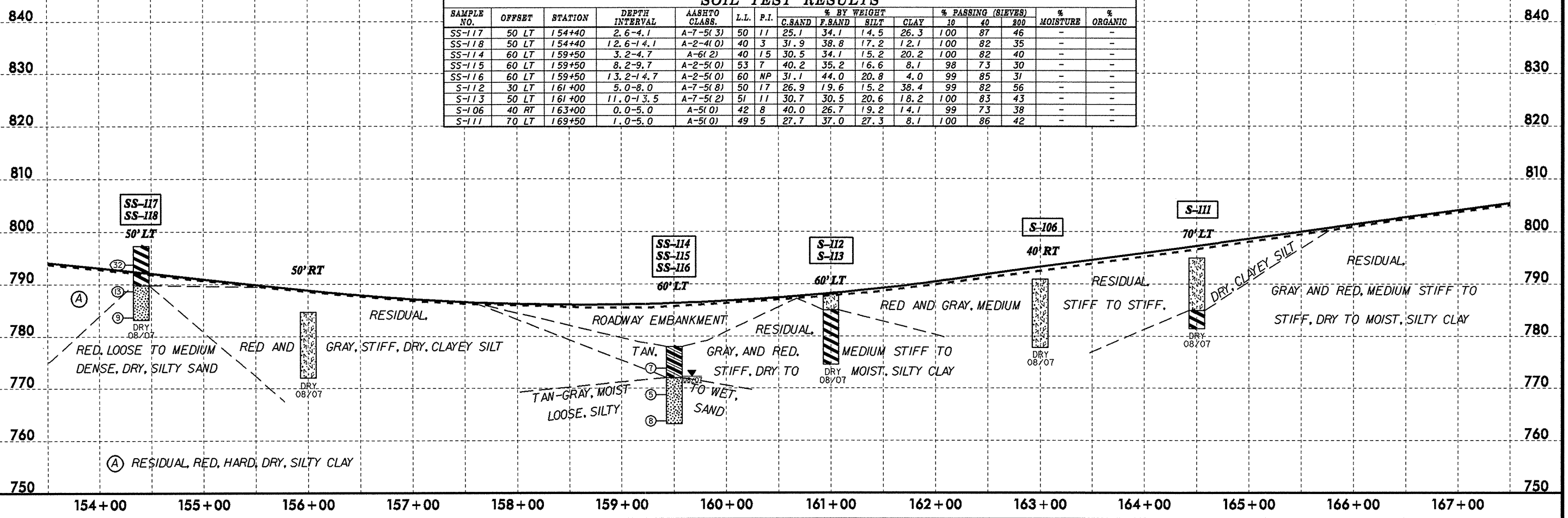
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- (B) ALLUVIAL, GRAY, LOOSE, WET, SILTY SAND



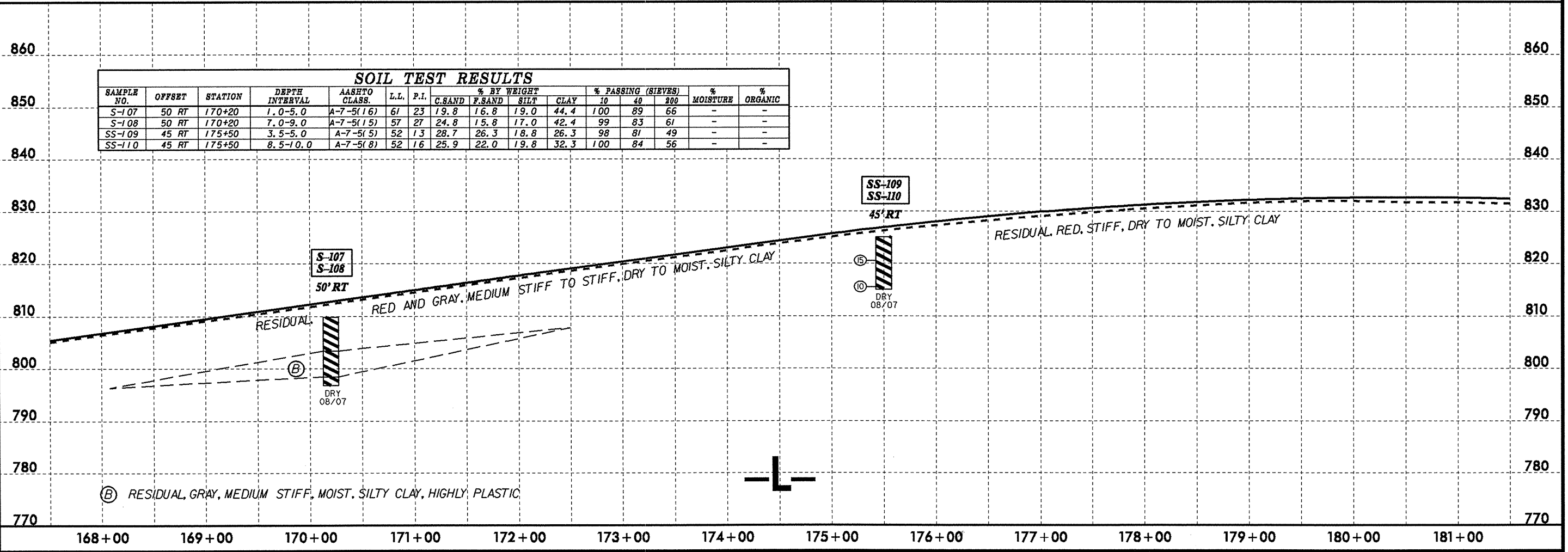
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SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-117	50 LT	154+40	2.6-4.1	A-7-5(3)	50	11	25.1	34.1	14.5	26.3	100	87	46	-	-
SS-118	50 LT	154+40	12.6-14.1	A-2-4(0)	40	3	31.9	38.8	17.2	12.1	100	82	35	-	-
SS-114	60 LT	159+50	3.2-4.7	A-6(2)	40	15	30.5	34.1	15.2	20.2	100	82	40	-	-
SS-115	60 LT	159+50	8.2-9.7	A-2-5(0)	53	7	40.2	35.2	16.6	8.1	98	73	30	-	-
SS-116	60 LT	159+50	13.2-14.7	A-2-5(0)	60	NP	31.1	44.0	20.8	4.0	99	85	31	-	-
S-112	30 LT	161+00	5.0-8.0	A-7-5(8)	50	17	26.9	19.6	15.2	38.4	99	82	56	-	-
S-113	50 LT	161+00	11.0-13.5	A-7-5(2)	51	11	30.7	30.5	20.6	18.2	100	83	43	-	-
S-106	40 RT	163+00	0.0-5.0	A-5(0)	42	8	40.0	26.7	19.2	14.1	99	73	38	-	-
S-111	70 LT	169+50	1.0-5.0	A-5(0)	49	5	27.7	37.0	27.3	8.1	100	86	42	-	-



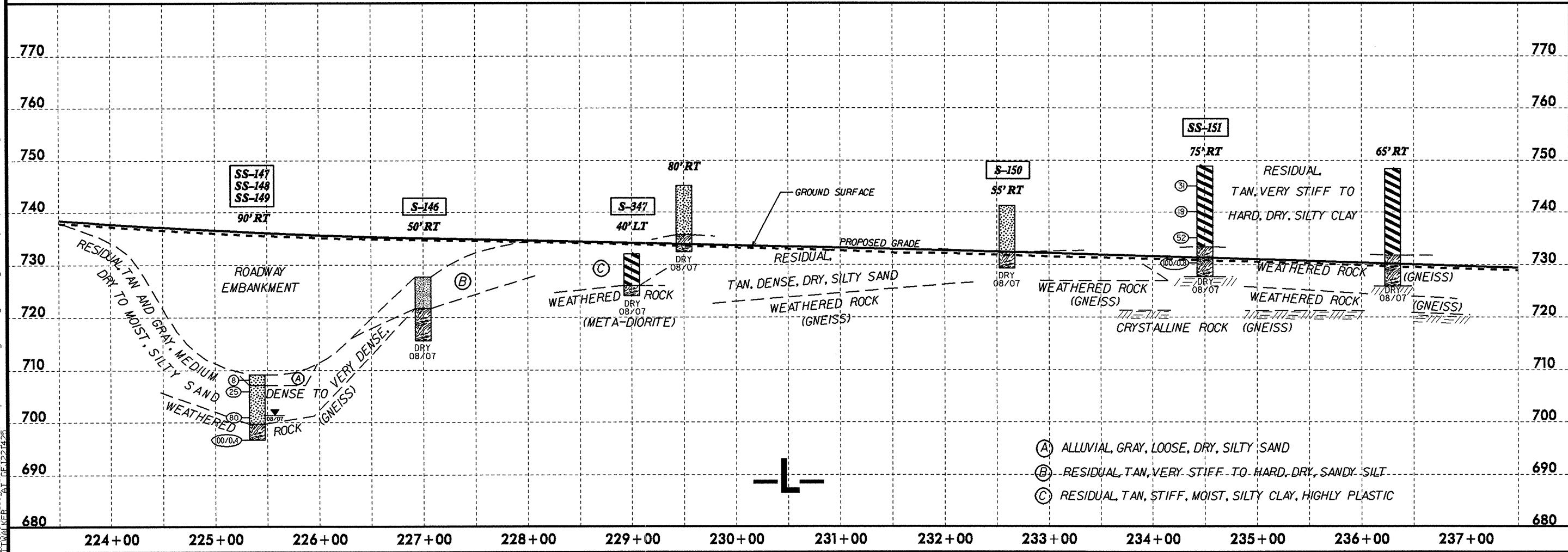
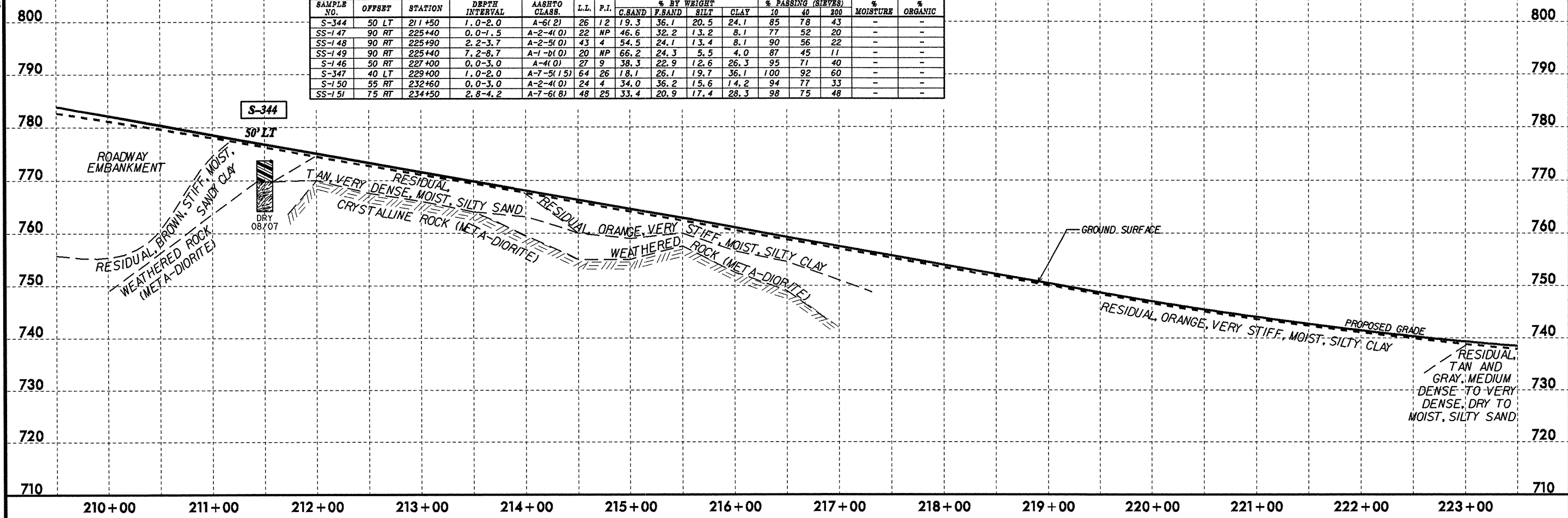
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-107	50 RT	170+20	1.0-5.0	A-7-5(16)	61	23	19.8	16.8	19.0	44.4	100	89	66	-	-
S-108	50 RT	170+20	7.0-9.0	A-7-5(15)	57	27	24.8	15.8	17.0	42.4	99	83	61	-	-
SS-109	45 RT	175+50	3.5-5.0	A-7-5(5)	52	13	28.7	26.3	18.8	26.3	98	81	49	-	-
SS-110	45 RT	175+50	8.5-10.0	A-7-5(8)	52	16	25.9	22.0	19.8	32.3	100	84	56	-	-



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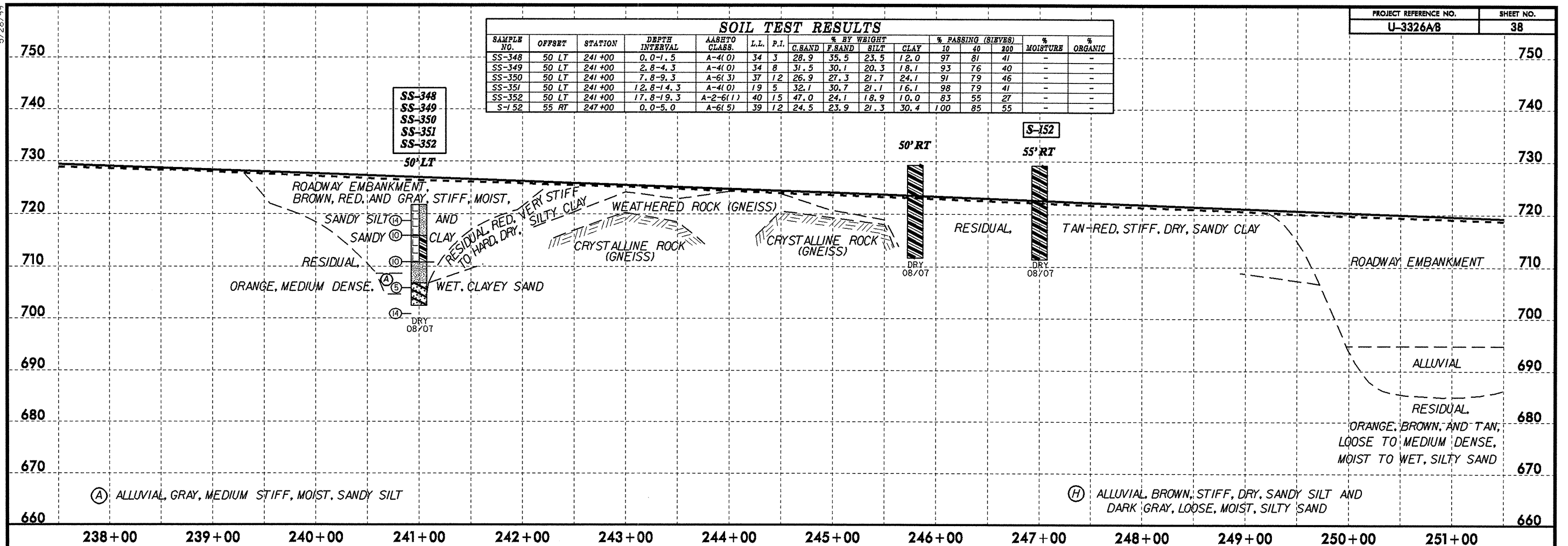
SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							G.SAND	F.SAND	SILT	CLAY	10	40	200		
S-344	50 LT	211+50	1.0-2.0	A-6(2)	26	12	19.3	36.1	20.5	24.1	85	78	43	-	-
SS-147	90 RT	225+40	0.0-1.5	A-2-4(0)	22	NP	46.6	32.2	13.2	8.1	77	52	20	-	-
SS-148	90 RT	225+90	2.2-3.7	A-2-5(0)	43	4	54.5	24.1	13.4	8.1	90	56	22	-	-
SS-149	90 RT	225+40	7.2-8.7	A-1-b(0)	20	NP	66.2	24.3	5.5	4.0	87	45	11	-	-
S-146	50 RT	227+00	0.0-3.0	A-4(0)	27	9	38.3	22.9	12.6	26.3	95	71	40	-	-
S-347	40 LT	229+00	1.0-2.0	A-7-5(1.5)	64	26	18.1	26.1	19.7	36.1	100	92	60	-	-
S-150	55 RT	232+60	0.0-3.0	A-2-4(0)	24	4	34.0	36.2	15.6	14.2	94	77	33	-	-
SS-151	75 RT	234+50	2.8-4.2	A-7-6(8)	48	25	33.4	20.9	17.4	28.3	98	75	48	-	-



- (A) ALLUVIAL, GRAY, LOOSE, DRY, SILTY SAND
- (B) RESIDUAL, TAN, VERY STIFF TO HARD, DRY, SANDY SILT
- (C) RESIDUAL, TAN, STIFF, MOIST, SILTY CLAY, HIGHLY PLASTIC

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-348	50 LT	241+00	0.0-1.5	A-4(0)	34	3	28.9	35.5	23.5	12.0	97	81	41	-	-
SS-349	50 LT	241+00	2.8-4.3	A-4(0)	34	8	31.5	30.1	20.3	18.1	93	76	40	-	-
SS-350	50 LT	241+00	7.8-9.3	A-6(3)	37	12	26.9	27.3	21.7	24.1	91	79	46	-	-
SS-351	50 LT	241+00	12.8-14.3	A-4(0)	19	5	32.1	30.7	21.1	16.1	98	79	41	-	-
SS-352	50 LT	241+00	17.8-19.3	A-2-6(1)	40	15	47.0	24.1	18.9	10.0	83	55	27	-	-
S-152	55 RT	247+00	0.0-5.0	A-6(5)	39	12	24.5	23.9	21.3	30.4	100	85	55	-	-

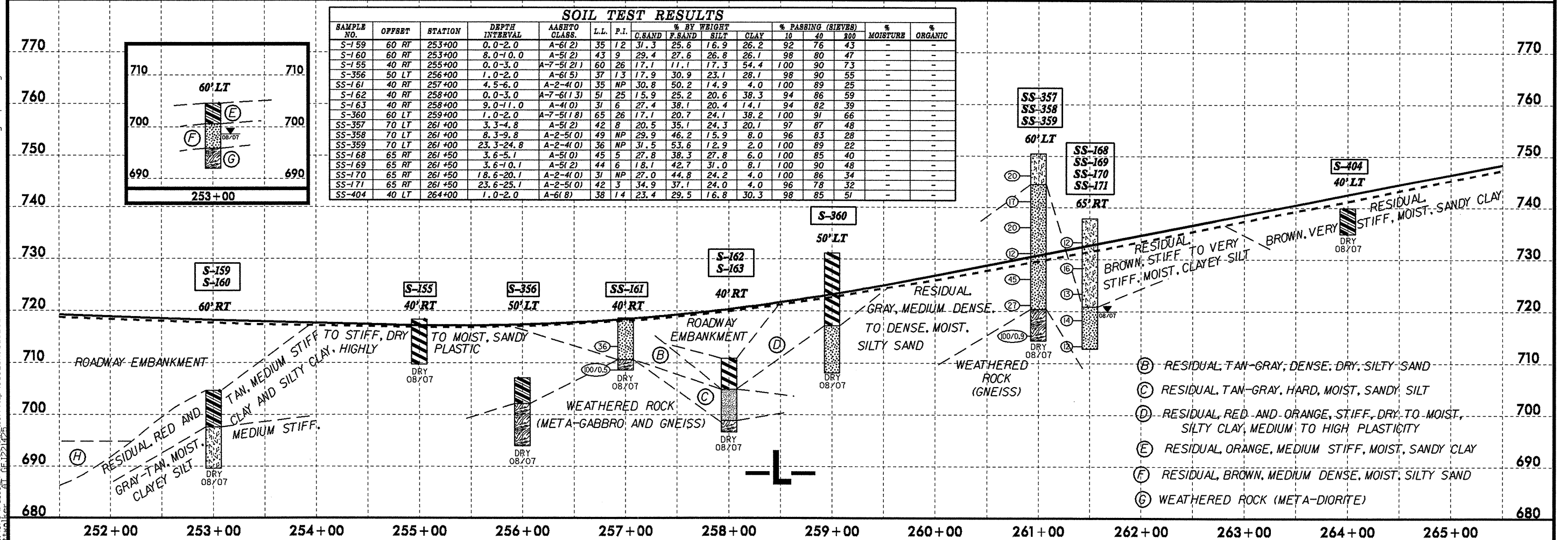


(A) ALLUVIAL, GRAY, MEDIUM STIFF, MOIST, SANDY SILT

(H) ALLUVIAL, BROWN, STIFF, DRY, SANDY SILT AND DARK GRAY, LOOSE, MOIST, SILTY SAND

SOIL TEST RESULTS

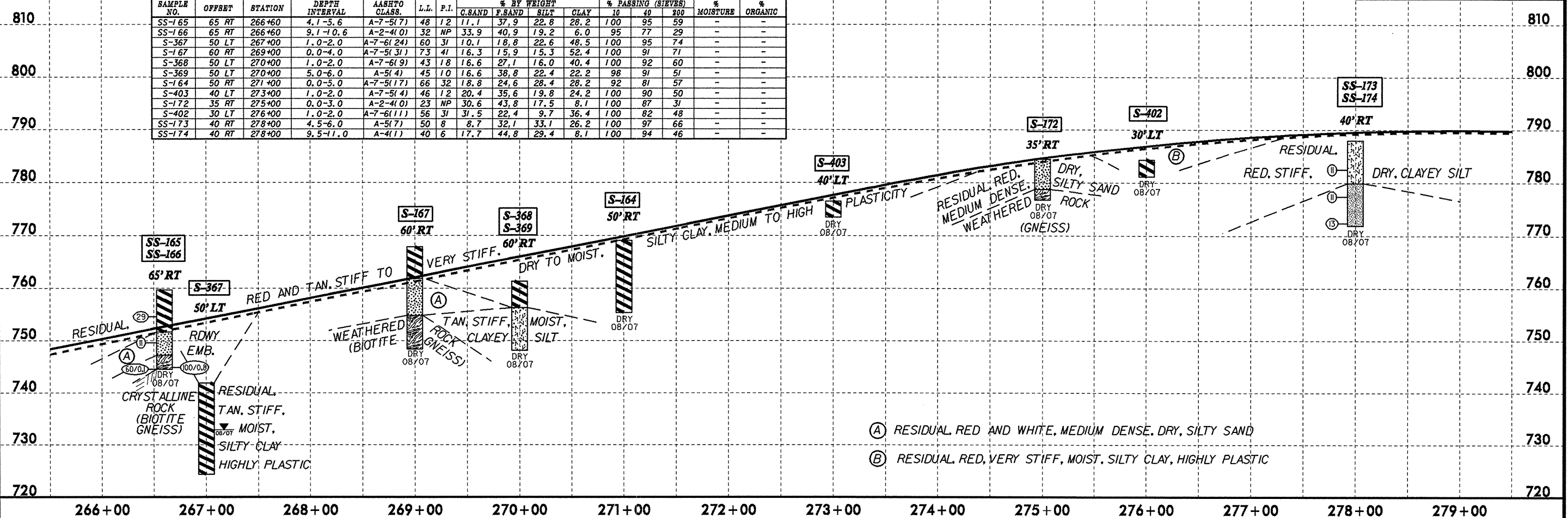
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-159	60 RT	253+00	0.0-2.0	A-6(2)	35	12	31.3	25.8	16.9	26.2	92	76	43	-	-
S-160	60 RT	253+00	8.0-10.0	A-5(2)	43	9	29.4	27.6	26.1	26.1	98	80	47	-	-
S-155	40 RT	255+00	0.0-3.0	A-7-5(21)	60	26	17.1	11.1	17.3	54.4	100	90	73	-	-
S-356	50 LT	256+00	1.0-2.0	A-6(5)	37	13	17.9	30.9	23.1	28.1	98	90	55	-	-
SS-161	40 RT	257+00	4.5-6.0	A-2-4(0)	35	NP	30.8	50.2	14.9	4.0	100	89	25	-	-
S-162	40 RT	258+00	0.0-3.0	A-7-6(13)	51	25	15.9	25.2	20.6	38.3	94	86	59	-	-
S-163	40 RT	258+00	9.0-11.0	A-4(0)	31	6	27.4	38.1	20.4	14.1	94	82	39	-	-
S-360	60 LT	259+00	1.0-2.0	A-7-5(18)	65	26	17.1	20.7	24.1	38.2	100	91	66	-	-
SS-357	70 LT	261+00	3.3-4.8	A-5(2)	42	8	20.5	35.1	24.3	20.1	97	87	48	-	-
SS-358	70 LT	261+00	8.3-9.8	A-2-5(0)	49	NP	29.9	46.2	15.9	8.0	96	83	28	-	-
SS-359	70 LT	261+00	23.3-24.8	A-2-4(0)	36	NP	31.5	53.6	12.9	2.0	100	89	22	-	-
SS-168	65 RT	261+50	3.6-5.1	A-5(0)	45	5	27.8	38.3	27.8	6.0	100	85	40	-	-
SS-169	65 RT	261+50	3.6-10.1	A-5(2)	44	6	18.1	42.7	31.0	8.1	100	90	48	-	-
SS-170	65 RT	261+50	18.6-20.1	A-2-4(0)	31	NP	27.0	44.8	24.2	4.0	100	86	34	-	-
SS-171	65 RT	261+50	23.6-25.1	A-2-5(0)	42	3	34.9	37.1	24.0	4.0	96	78	32	-	-
SS-404	40 LT	264+00	1.0-2.0	A-6(8)	38	14	23.4	29.5	16.8	30.3	98	85	51	-	-



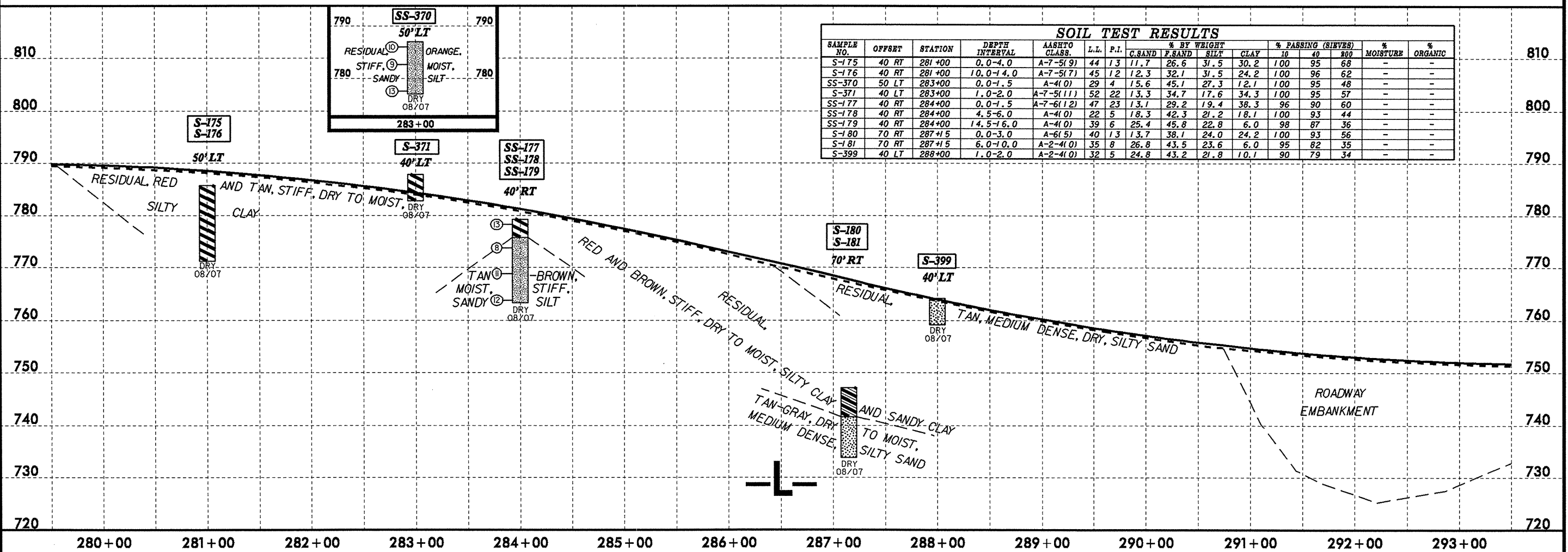
- (B) RESIDUAL TAN-GRAY; DENSE; DRY; SILTY SAND
- (C) RESIDUAL TAN-GRAY; HARD, MOIST, SANDY SILT
- (D) RESIDUAL, RED AND ORANGE, STIFF, DRY TO MOIST, SILTY CLAY, MEDIUM TO HIGH PLASTICITY
- (E) RESIDUAL, ORANGE, MEDIUM STIFF, MOIST, SANDY CLAY
- (F) RESIDUAL, BROWN, MEDIUM DENSE, MOIST, SILTY SAND
- (G) WEATHERED ROCK (META-DIORITE)

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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		
SS-165	65 RT	266+60	4.1-5.6	A-7-5(7)	48	12	11.1	37.9	22.8	28.2	100	95	59	-	-
SS-166	65 RT	266+60	9.1-10.6	A-2-4(0)	32	NP	33.9	40.9	19.2	6.0	95	77	29	-	-
S-367	50 LT	267+00	1.0-2.0	A-7-6(24)	60	31	10.1	18.8	22.6	48.5	100	95	74	-	-
S-167	60 RT	269+00	0.0-4.0	A-7-5(31)	73	41	16.3	15.9	15.3	52.4	100	91	71	-	-
S-368	50 LT	270+00	1.0-2.0	A-7-6(9)	43	18	16.6	27.1	16.0	40.4	100	92	60	-	-
S-369	50 LT	270+00	5.0-6.0	A-5(4)	45	10	16.6	38.8	22.4	22.2	98	91	51	-	-
S-164	50 RT	271+00	0.0-5.0	A-7-5(17)	66	32	18.8	24.6	28.4	28.2	92	81	57	-	-
S-403	40 LT	273+00	1.0-2.0	A-7-5(4)	46	12	20.4	35.6	19.8	24.2	100	90	50	-	-
S-172	35 RT	275+00	0.0-3.0	A-2-4(0)	23	NP	30.6	43.8	17.5	8.1	100	87	31	-	-
S-402	30 LT	276+00	1.0-2.0	A-7-6(11)	56	31	31.5	22.4	9.7	36.4	100	82	48	-	-
SS-173	40 RT	278+00	4.5-6.0	A-5(7)	50	8	8.7	32.1	33.1	26.2	100	97	66	-	-
SS-174	40 RT	278+00	9.5-11.0	A-4(1)	40	6	17.7	44.8	29.4	8.1	100	94	46	-	-



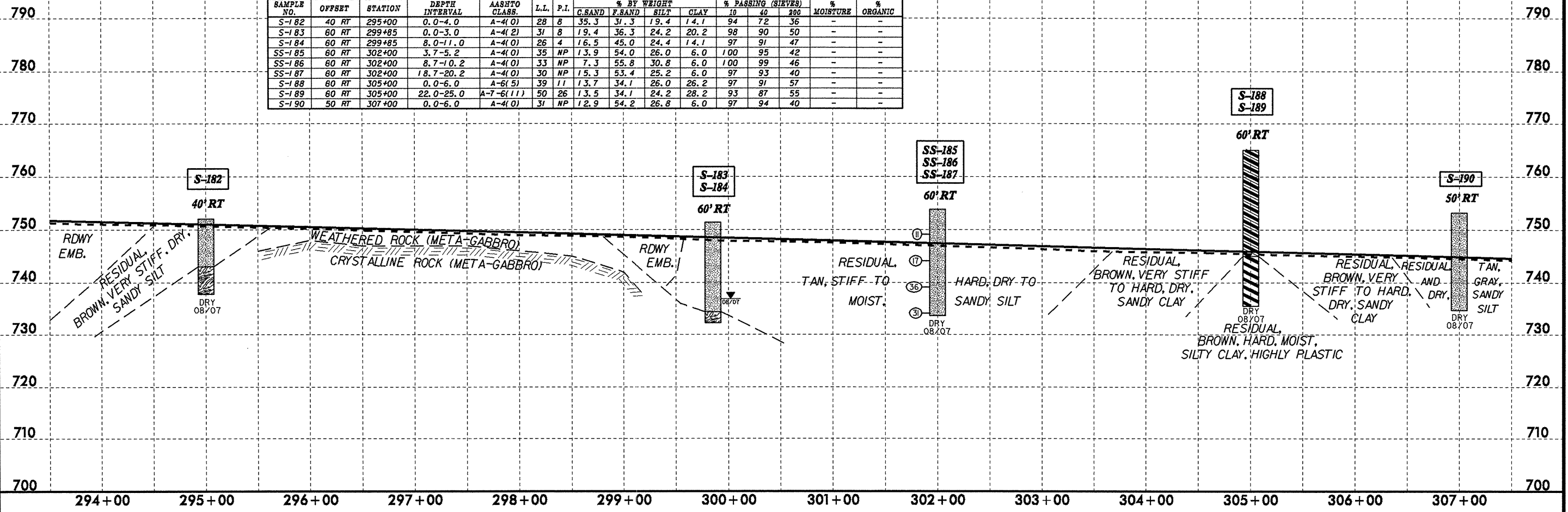
SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-175	40 RT	281+00	0.0-4.0	A-7-5(9)	44	13	11.7	26.6	31.5	30.2	100	95	68	-	-
S-176	40 RT	281+00	10.0-14.0	A-7-5(7)	45	12	12.3	32.1	31.5	24.2	100	96	62	-	-
SS-370	50 LT	283+00	0.0-1.5	A-4(0)	29	4	15.6	45.1	27.3	12.1	100	95	48	-	-
S-371	40 LT	283+00	1.0-2.0	A-7-5(11)	52	22	13.3	34.7	17.6	34.3	100	95	57	-	-
SS-177	40 RT	284+00	0.0-1.5	A-7-6(12)	47	23	13.1	29.2	19.4	38.3	96	90	60	-	-
SS-178	40 RT	284+00	4.5-6.0	A-4(0)	22	5	18.3	42.3	21.2	18.1	100	93	44	-	-
SS-179	40 RT	284+00	14.5-16.0	A-4(0)	39	6	25.4	45.8	22.8	6.0	98	87	36	-	-
S-180	70 RT	287+15	0.0-3.0	A-6(5)	40	13	13.7	38.1	24.0	24.2	100	93	56	-	-
S-181	70 RT	287+15	6.0-10.0	A-2-4(0)	35	8	26.8	43.5	23.6	6.0	95	82	35	-	-
S-399	40 LT	288+00	1.0-2.0	A-2-4(0)	32	5	24.8	43.2	21.8	10.1	90	79	34	-	-



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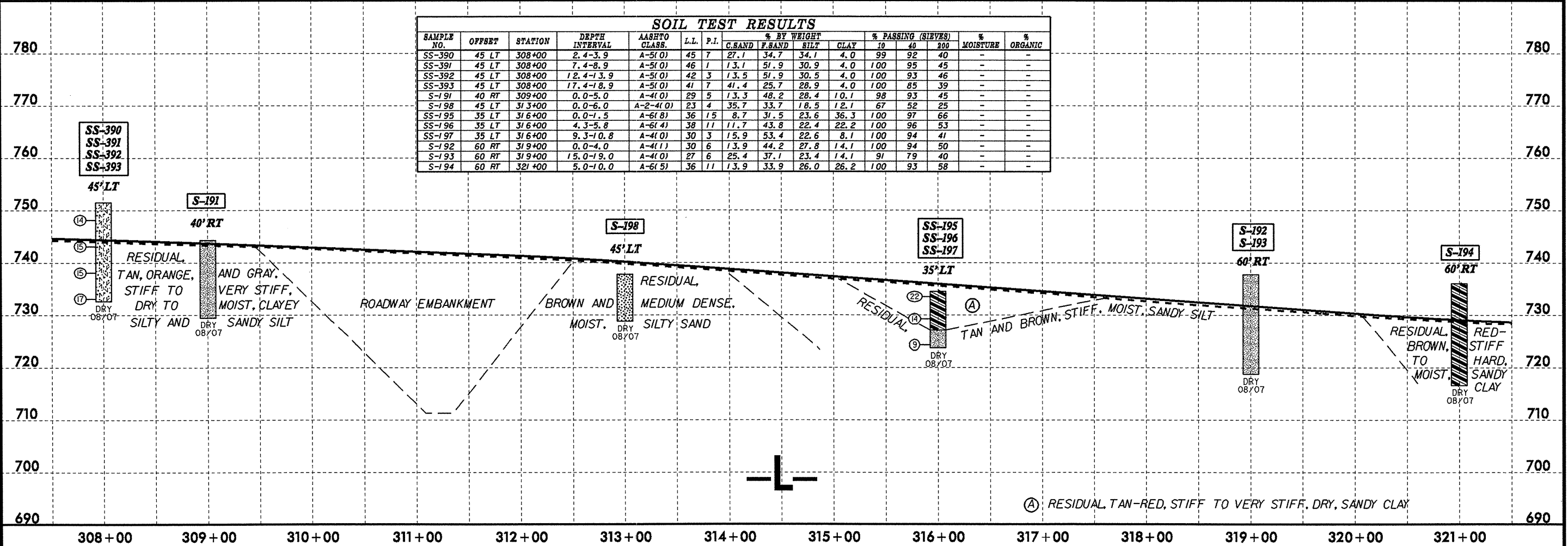
SOIL TEST RESULTS

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-182	40 RT	295+00	0.0-4.0	A-4(0)	28	8	35.3	31.3	19.4	14.1	94	72	36	-	-
S-183	60 RT	299+85	0.0-3.0	A-4(2)	31	8	19.4	36.3	24.2	20.2	98	90	50	-	-
S-184	60 RT	299+85	8.0-11.0	A-4(0)	26	4	16.5	45.0	24.4	14.1	97	91	47	-	-
SS-185	60 RT	302+00	3.7-5.2	A-4(0)	35	NP	13.9	54.0	26.0	6.0	100	95	42	-	-
SS-186	60 RT	302+00	8.7-10.2	A-4(0)	33	NP	7.3	55.8	30.8	6.0	100	99	46	-	-
SS-187	60 RT	302+00	18.7-20.2	A-4(0)	30	NP	15.3	53.4	25.2	6.0	97	93	40	-	-
S-188	60 RT	305+00	0.0-6.0	A-6(5)	39	11	13.7	34.1	26.0	26.2	97	91	57	-	-
S-189	60 RT	305+00	22.0-25.0	A-7-6(11)	50	26	13.5	34.1	24.2	28.2	93	87	55	-	-
S-190	50 RT	307+00	0.0-6.0	A-4(0)	31	NP	12.9	54.2	26.8	6.0	97	94	40	-	-



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-390	45 LT	308+00	2.4-3.9	A-5(0)	45	7	27.1	34.7	34.1	4.0	99	92	40	-	-
SS-391	45 LT	308+00	7.4-8.9	A-5(0)	46	1	13.1	51.9	30.9	4.0	100	95	45	-	-
SS-392	45 LT	308+00	12.4-13.9	A-5(0)	42	3	13.5	51.9	30.5	4.0	100	93	46	-	-
SS-393	45 LT	308+00	17.4-18.9	A-5(0)	41	7	41.4	25.7	28.9	4.0	100	85	39	-	-
S-191	40 RT	309+00	0.0-5.0	A-4(0)	29	5	13.3	48.2	28.4	10.1	98	93	45	-	-
S-198	45 LT	313+00	0.0-6.0	A-2-4(0)	23	4	35.7	33.7	18.5	12.1	67	52	25	-	-
SS-195	35 LT	316+00	0.0-1.5	A-6(8)	36	15	8.7	31.5	23.6	36.3	100	97	66	-	-
SS-196	35 LT	316+00	4.3-5.8	A-6(4)	38	11	11.7	43.8	22.4	22.2	100	96	53	-	-
SS-197	35 LT	316+00	9.3-10.8	A-4(0)	30	3	15.9	53.4	22.6	8.1	100	94	41	-	-
S-192	60 RT	319+00	0.0-4.0	A-4(1)	30	6	13.9	44.2	27.8	14.1	100	94	50	-	-
S-193	60 RT	319+00	15.0-19.0	A-4(0)	27	6	25.4	37.1	23.4	14.1	91	79	40	-	-
S-194	60 RT	321+00	5.0-10.0	A-6(5)	36	11	13.9	33.9	26.0	26.2	100	93	58	-	-

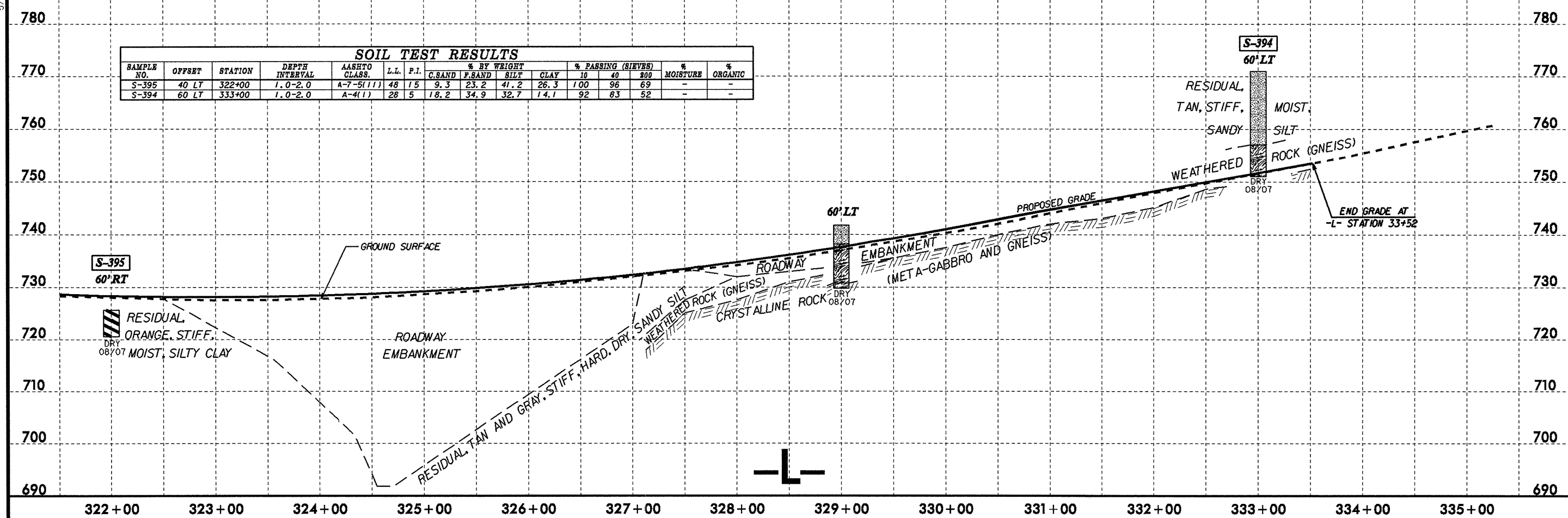


(A) RESIDUAL TAN-RED, STIFF TO VERY STIFF, DRY, SANDY CLAY

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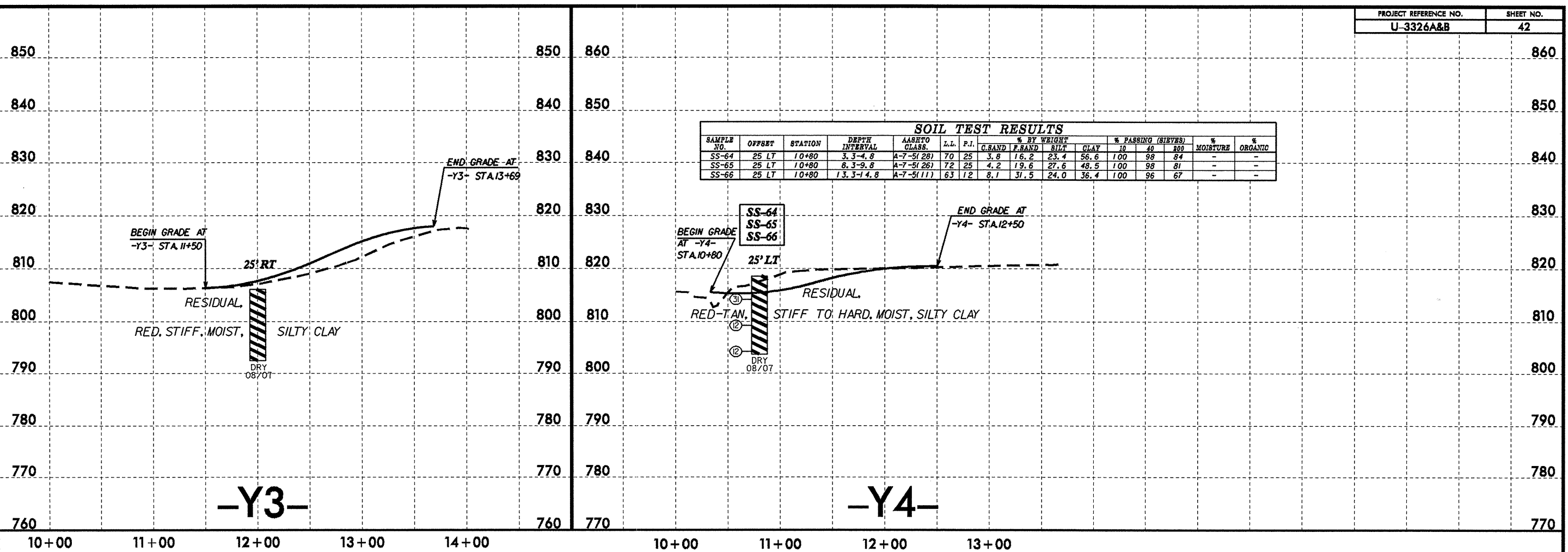
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SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-395	40 LT	322+00	1.0-2.0	A-7-5(11)	48	15	9.3	23.2	41.2	26.3	100	96	69	-	-
S-394	60 LT	333+00	1.0-2.0	A-4(1)	28	5	18.2	34.9	32.7	14.1	92	83	52	-	-

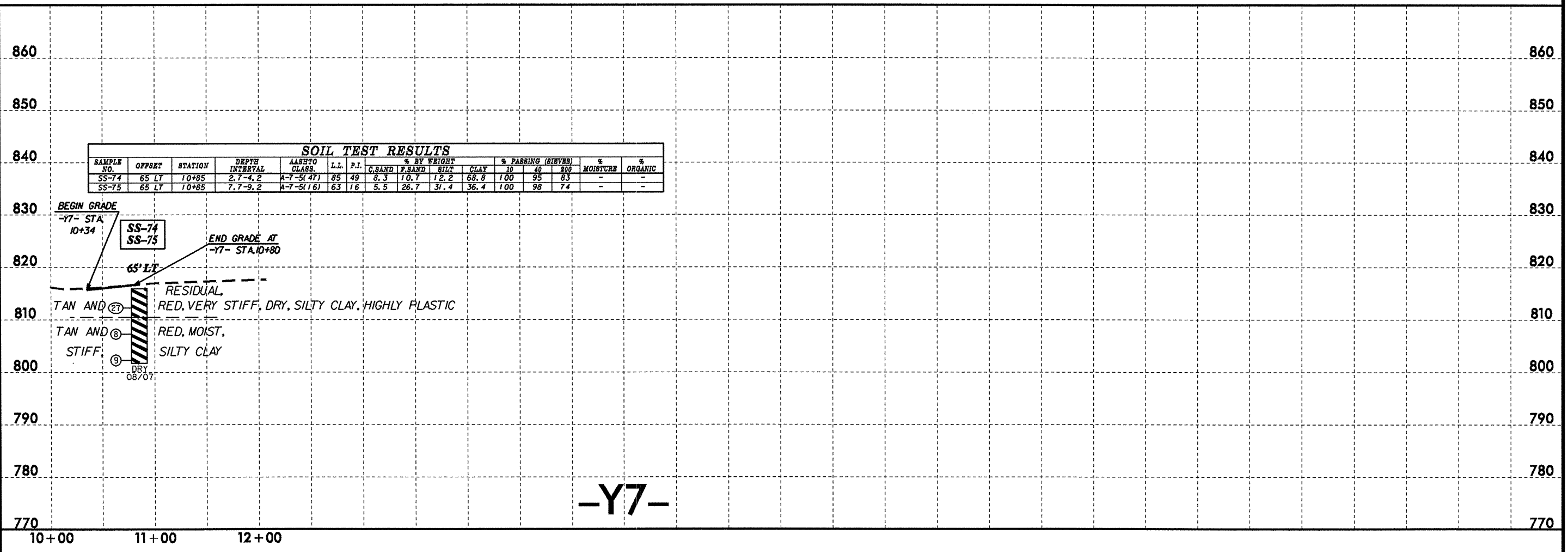


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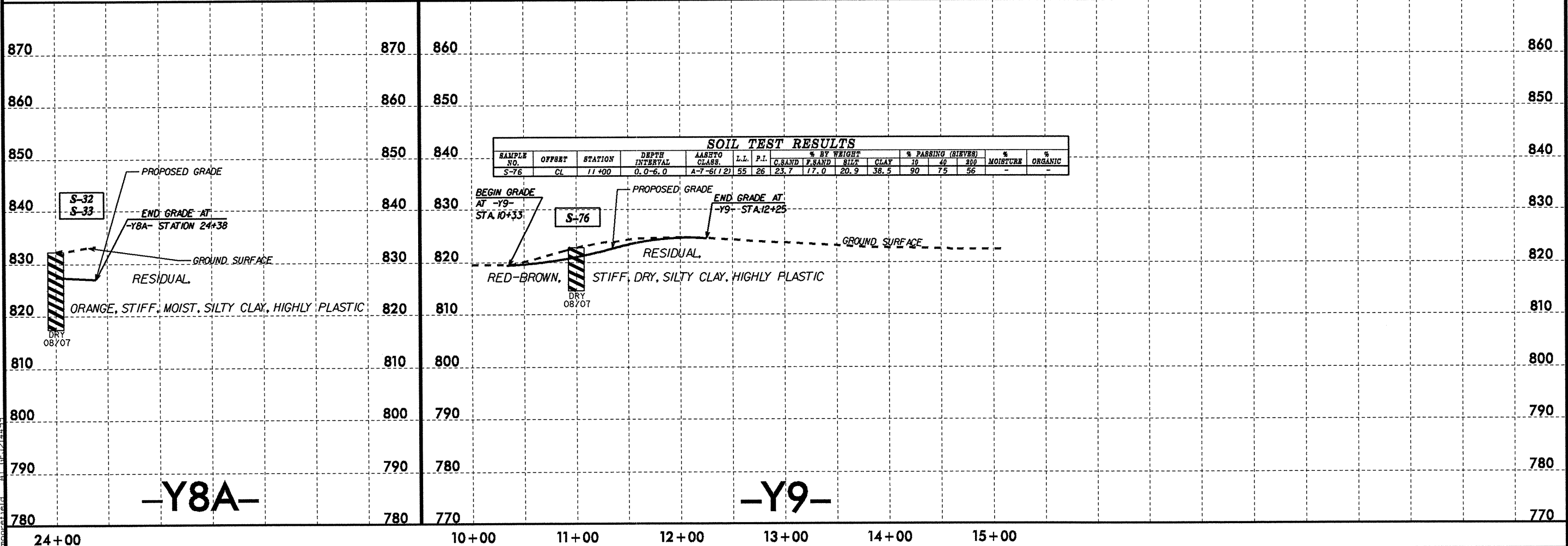
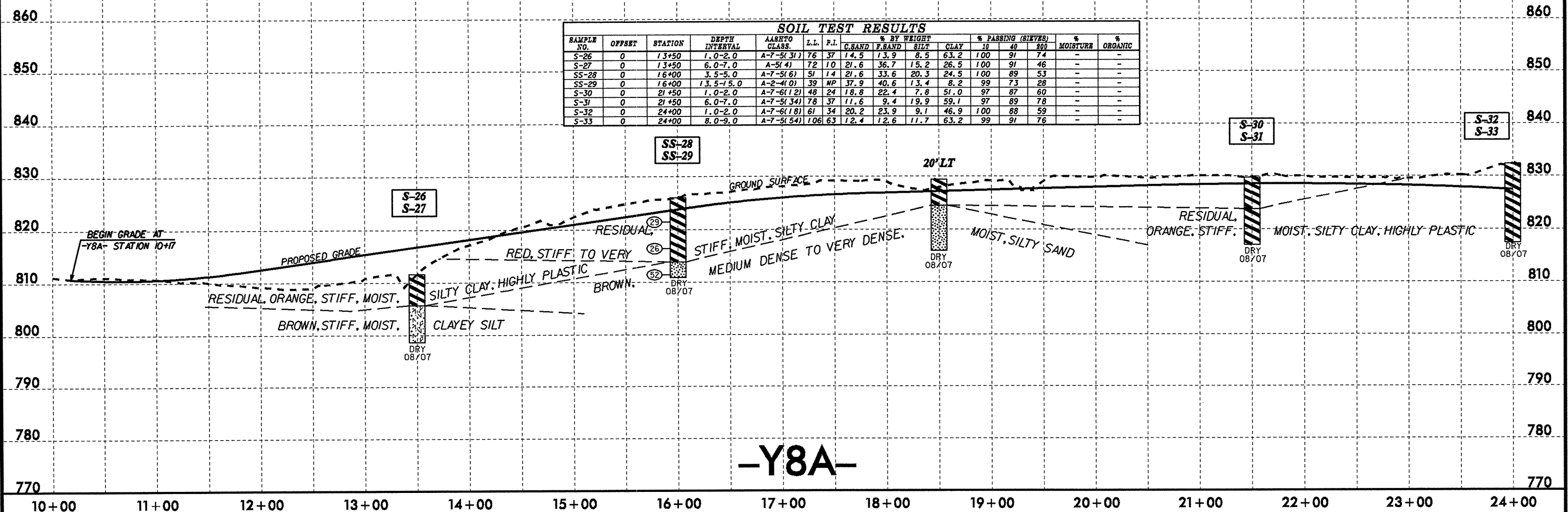


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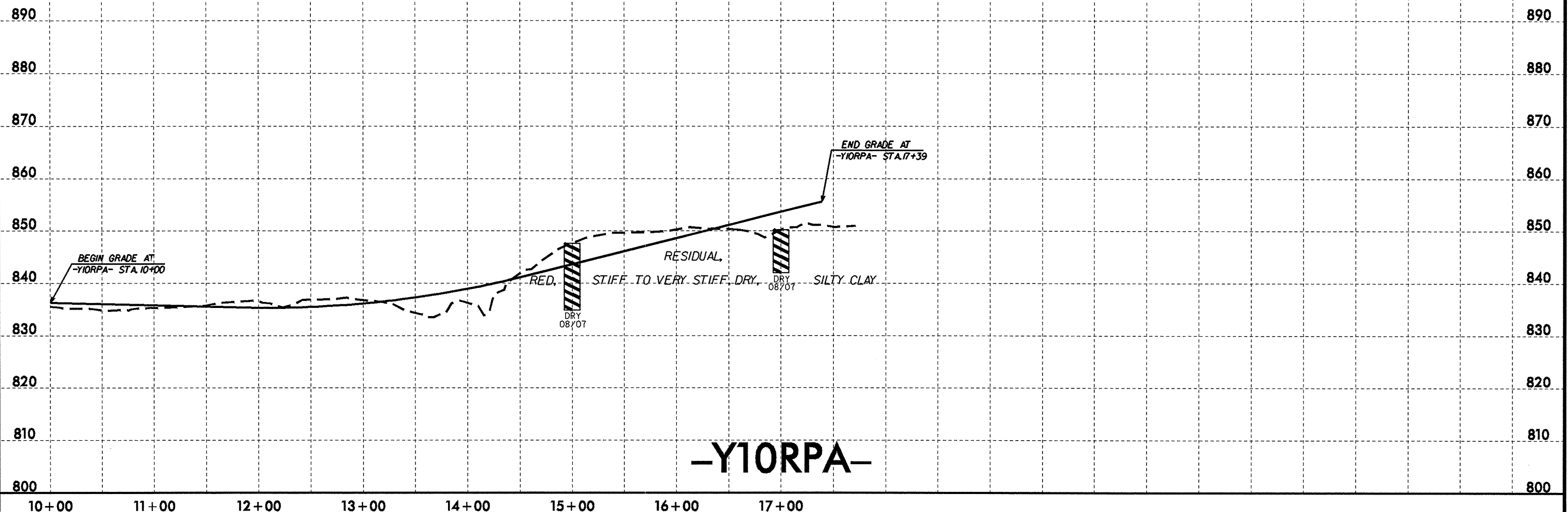
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.BAND	F.BAND	SILT	CLAY	10	40	200		
S-26	0	13+50	1.0-2.0	A-7-5(31)	76	37	14.5	13.9	8.5	63.2	100	91	74	-	-
S-27	0	13+50	6.0-7.0	A-5(4)	72	10	21.6	36.7	15.2	26.5	100	91	46	-	-
SS-28	0	16+00	3.5-5.0	A-7-5(6)	51	14	21.6	33.6	20.3	24.5	100	89	53	-	-
SS-29	0	16+00	13.5-15.0	A-2-4(0)	39	NP	37.9	40.6	13.4	8.2	99	73	28	-	-
S-30	0	21+50	1.0-2.0	A-7-6(12)	48	24	18.8	22.4	7.8	51.0	97	87	60	-	-
S-31	0	21+50	6.0-7.0	A-7-5(34)	78	37	11.6	9.4	19.9	59.1	97	89	78	-	-
S-32	0	24+00	1.0-2.0	A-7-6(18)	61	34	20.2	23.9	9.1	46.9	100	88	59	-	-
S-33	0	24+00	8.0-9.0	A-7-5(54)	106	63	12.4	12.6	11.7	63.2	99	91	76	-	-

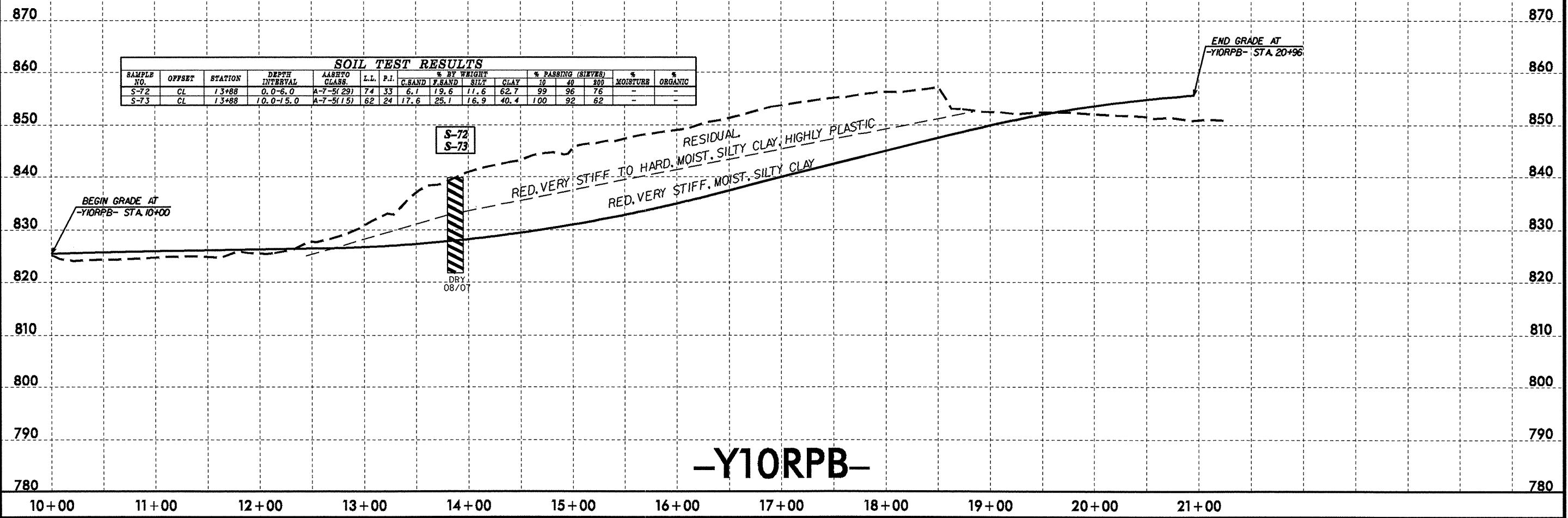


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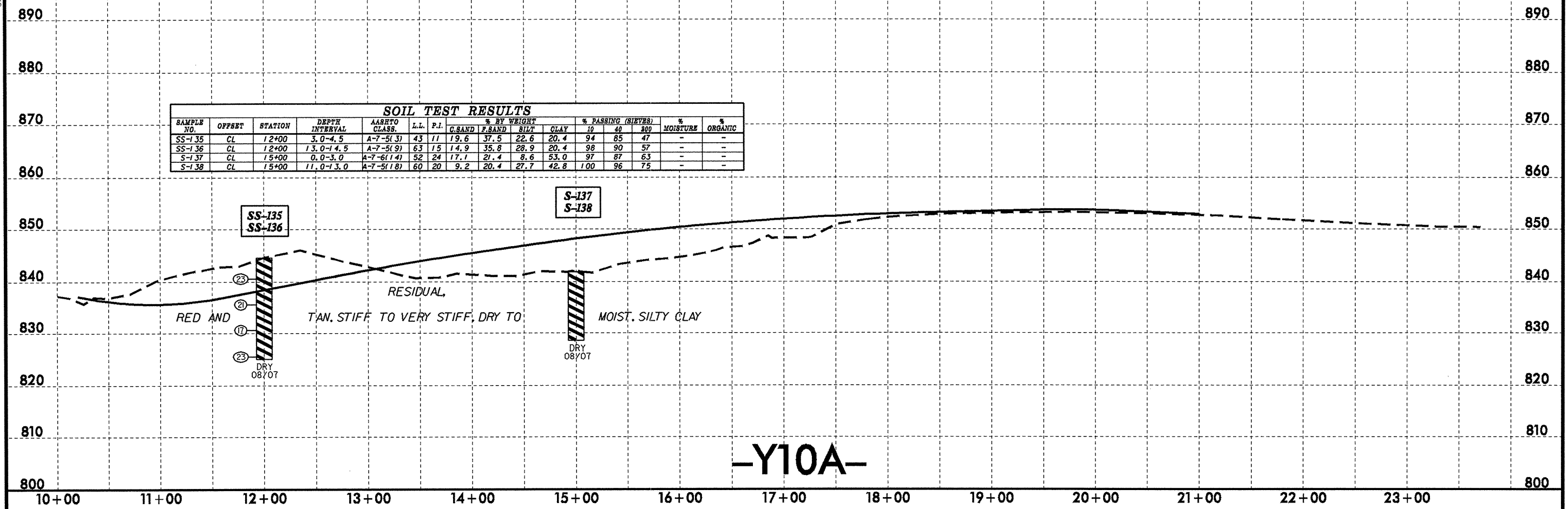
SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASTHO CLASS.	L.L.	P.I.	% BY WEIGHT			% PASSING (SIEVES)			% MOISTURE	% ORGANIC	
							C. SAND	F. SAND	SILT	CLAY	10	40			200
S-72	CL	13+88	0.0-5.0	A-7-5(29)	74	33	6.1	19.6	11.6	62.7	99	96	76	-	-
S-73	CL	13+88	10.0-15.0	A-7-5(15)	62	24	17.6	25.1	16.9	40.4	100	92	62	-	-



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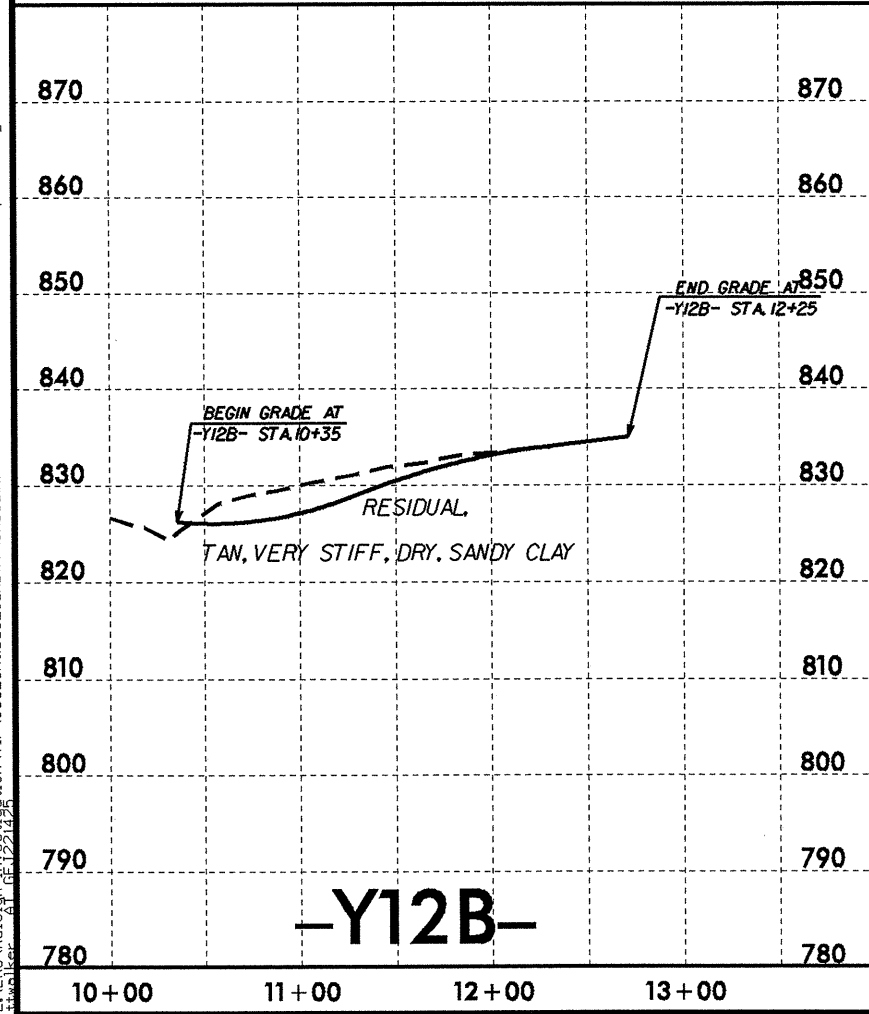
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SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							G.BAND	F.BAND	SILT	CLAY	10	40	200		
SS-135	CL	12+00	3.0-4.5	A-7-5(3)	43	11	19.6	37.5	22.6	20.4	94	85	47	-	-
SS-136	CL	12+00	13.0-14.5	A-7-5(9)	63	15	14.9	35.8	28.9	20.4	98	90	57	-	-
S-137	CL	15+00	0.0-3.0	A-7-6(14)	52	24	17.1	21.4	8.6	53.0	97	87	63	-	-
S-138	CL	15+00	11.0-13.0	A-7-5(18)	60	20	9.2	20.4	27.7	42.8	100	96	75	-	-

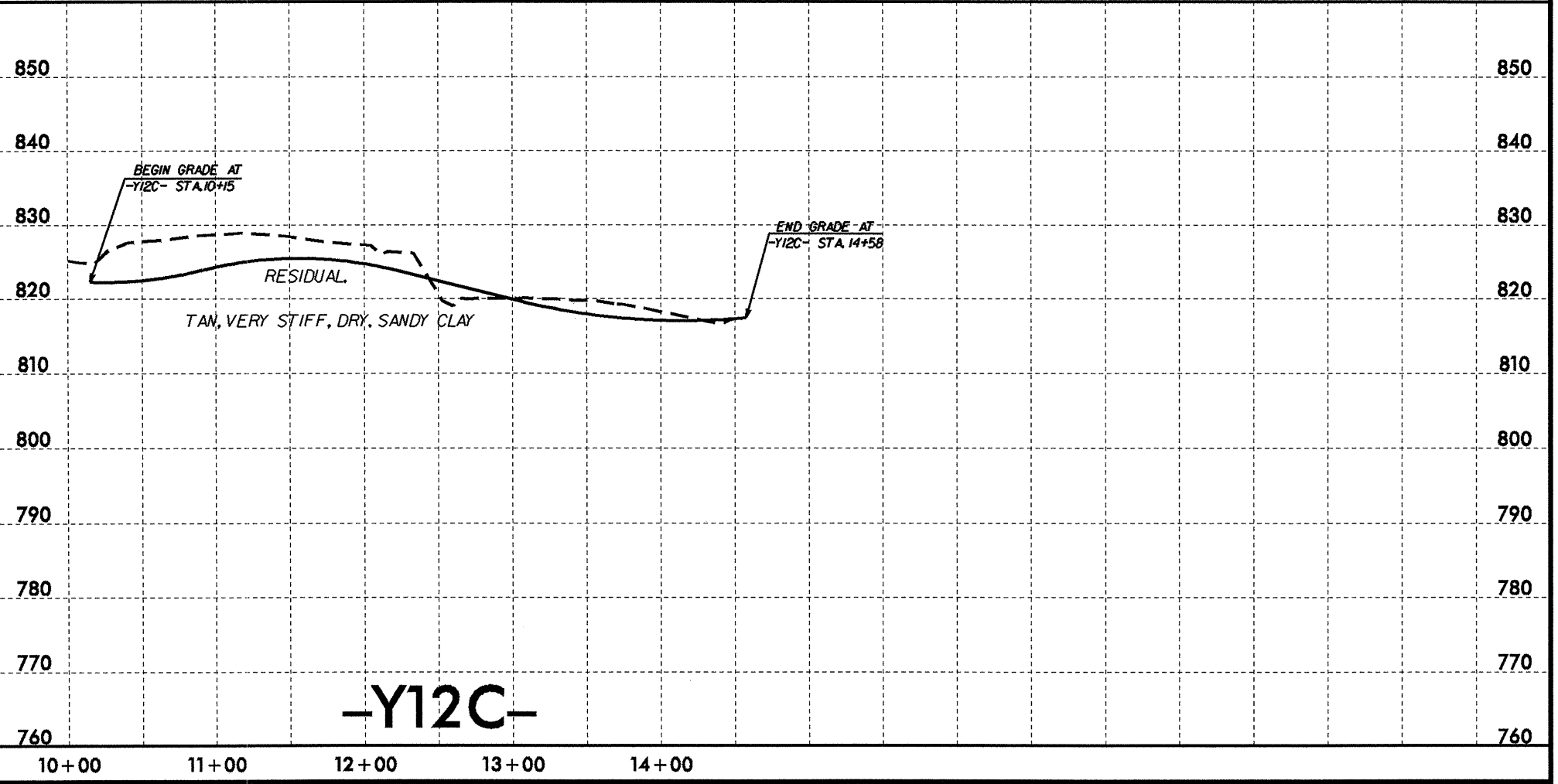


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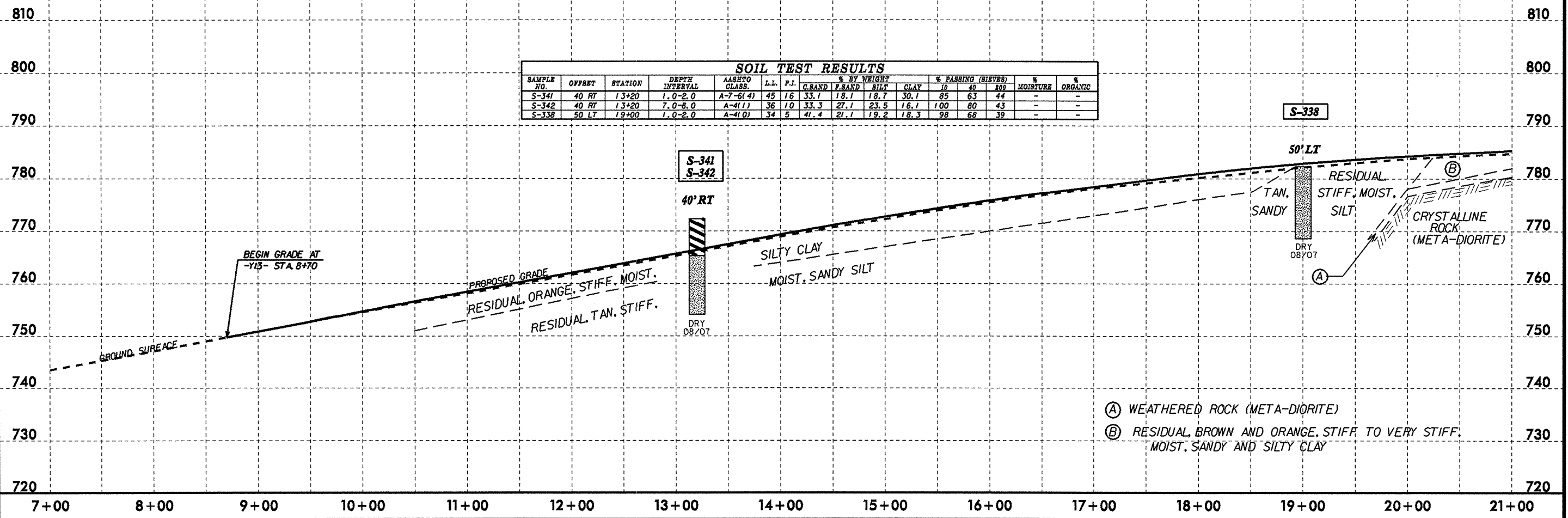
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SOIL TEST RESULTS

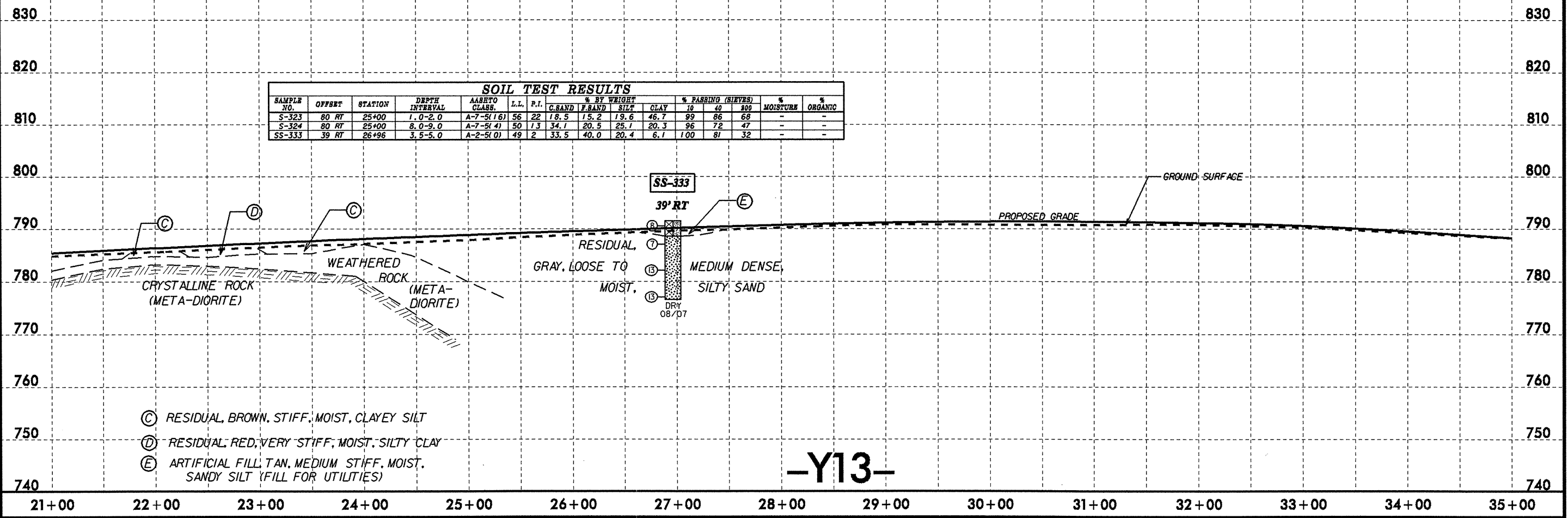
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASTO CLASS.	L.L.	P.I.	% BY WEIGHT			% PASSING (SIEVES)			% MOISTURE	% ORGANIC	
							C.BAND	F.BAND	SILT	10	40	200			
S-341	40 RT	13+20	1.0-2.0	A-7-6(4)	45	16	33.7	18.7	18.7	30.7	85	63	44	-	-
S-342	40 RT	13+20	7.0-8.0	A-4(1)	36	10	33.3	27.1	23.5	18.1	100	80	43	-	-
S-338	50 LT	19+00	1.0-2.0	A-4(0)	34	5	41.4	27.1	19.2	18.3	98	68	39	-	-



- (A) WEATHERED ROCK (META-DIORITE)
- (B) RESIDUAL, BROWN AND ORANGE, STIFF TO VERY STIFF, MOIST, SANDY AND SILTY CLAY

SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASTO CLASS.	L.L.	P.I.	% BY WEIGHT			% PASSING (SIEVES)			% MOISTURE	% ORGANIC	
							C.BAND	F.BAND	SILT	10	40	200			
S-323	80 RT	25+00	1.0-2.0	A-7-5(16)	56	22	18.5	15.2	19.6	46.7	99	86	68	-	-
S-324	80 RT	25+00	8.0-9.0	A-7-5(4)	50	13	34.1	20.5	25.1	20.3	96	72	47	-	-
SS-333	39 RT	26+96	3.5-5.0	A-2-5(0)	49	2	33.5	40.0	20.4	6.1	100	81	32	-	-

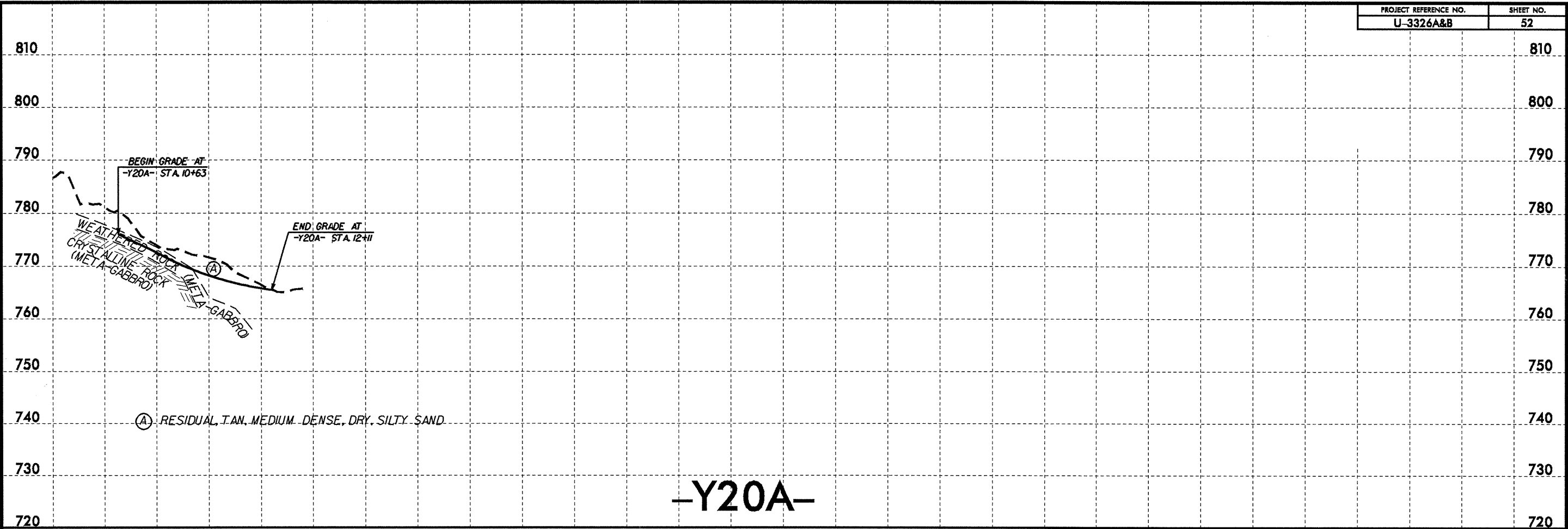


- (C) RESIDUAL, BROWN, STIFF, MOIST, CLAYEY SILT
- (D) RESIDUAL, RED, VERY STIFF, MOIST, SILTY CLAY
- (E) ARTIFICIAL FILL TAN, MEDIUM STIFF, MOIST, SANDY SILT (FILL FOR UTILITIES)

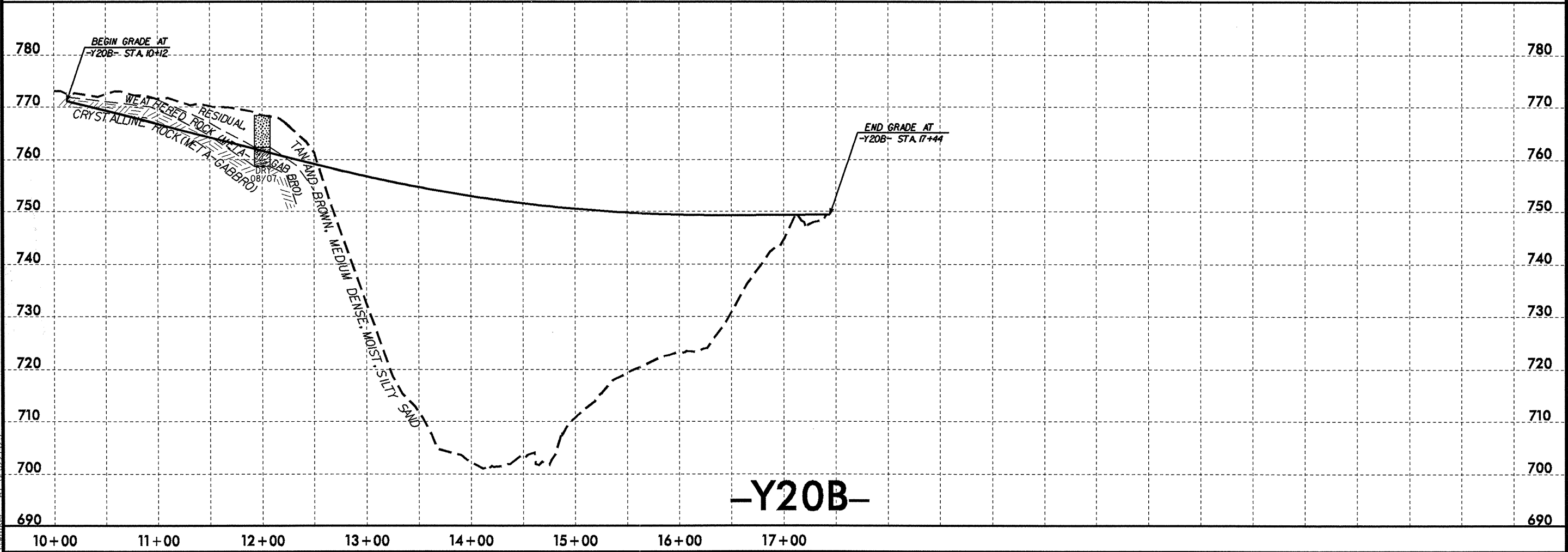
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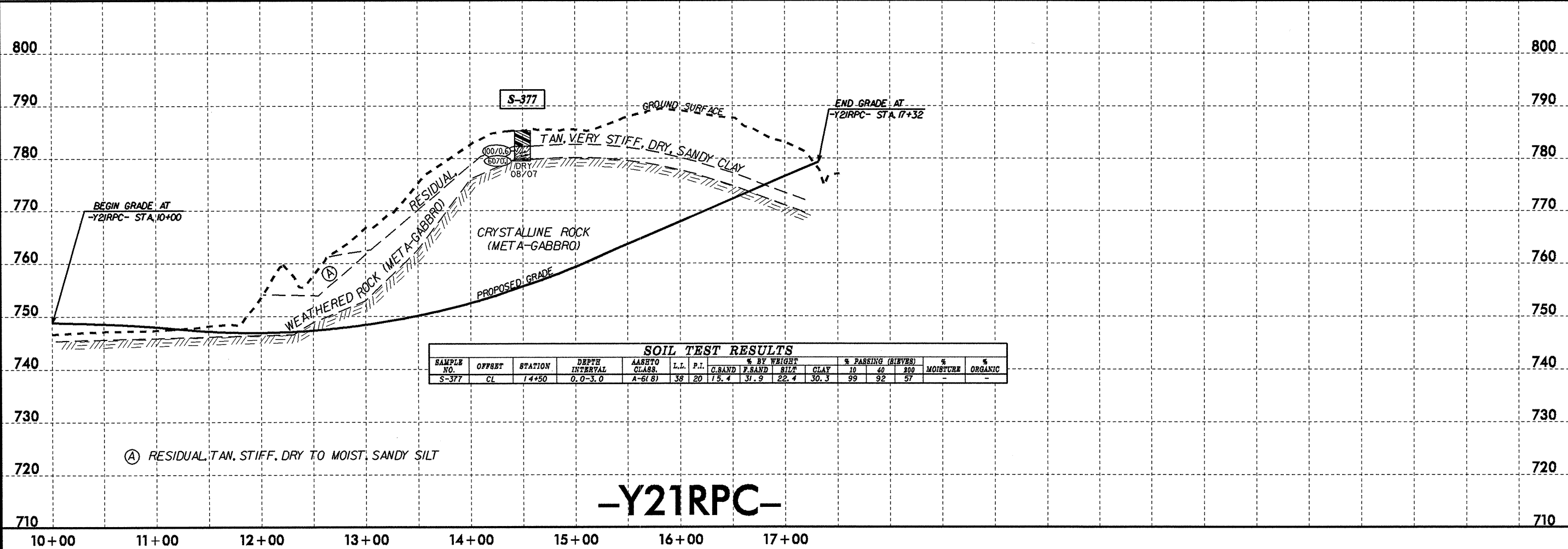
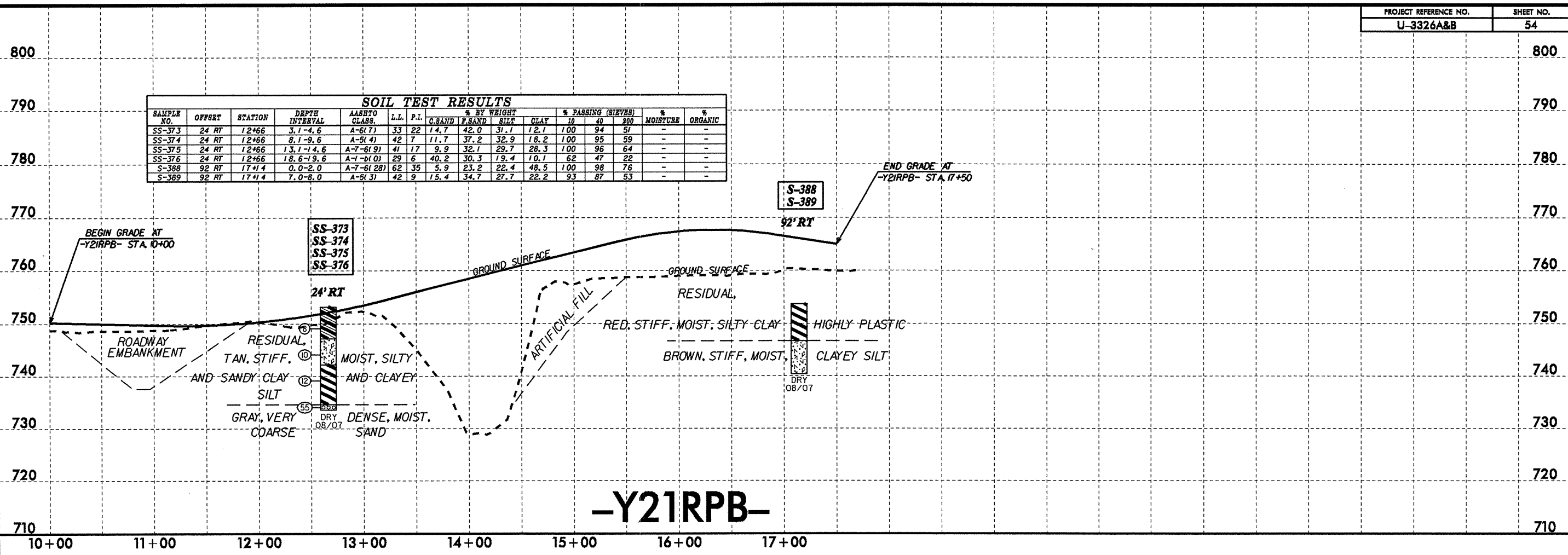
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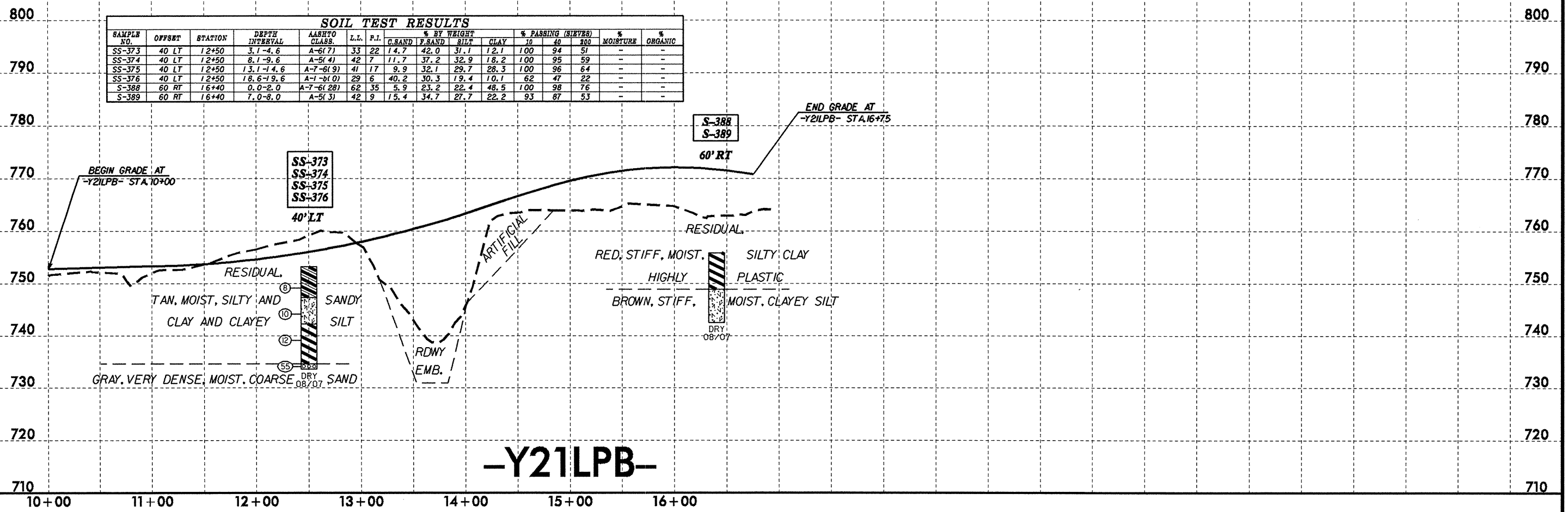




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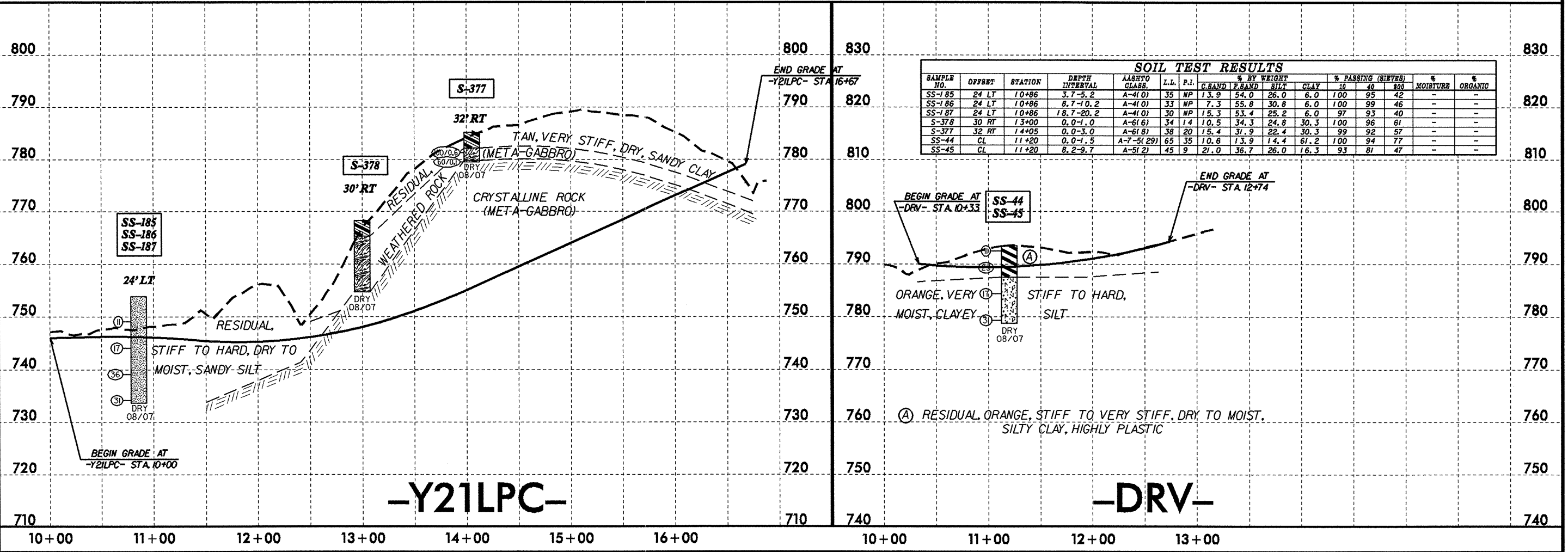
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SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	F.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.BAND	F.BAND	SILT	CLAY	10	40	200		
SS-373	40 LT	12+50	3.1-4.6	A-6(7)	33	22	14.7	42.0	31.1	12.1	100	94	51	-	-
SS-374	40 LT	12+50	8.1-9.6	A-5(4)	42	7	11.7	37.2	32.9	18.2	100	95	59	-	-
SS-375	40 LT	12+50	13.1-14.6	A-7(6(9))	41	17	9.9	32.1	29.7	28.3	100	96	64	-	-
SS-376	40 LT	12+50	18.6-19.6	A-1(0)	29	6	40.2	30.3	19.4	10.1	62	47	22	-	-
S-388	60 RT	16+40	0.0-2.0	A-7(6(28))	62	35	5.9	23.2	22.4	48.5	100	98	76	-	-
S-389	60 RT	16+40	7.0-8.0	A-5(3)	42	9	15.4	34.7	27.7	22.2	93	87	53	-	-



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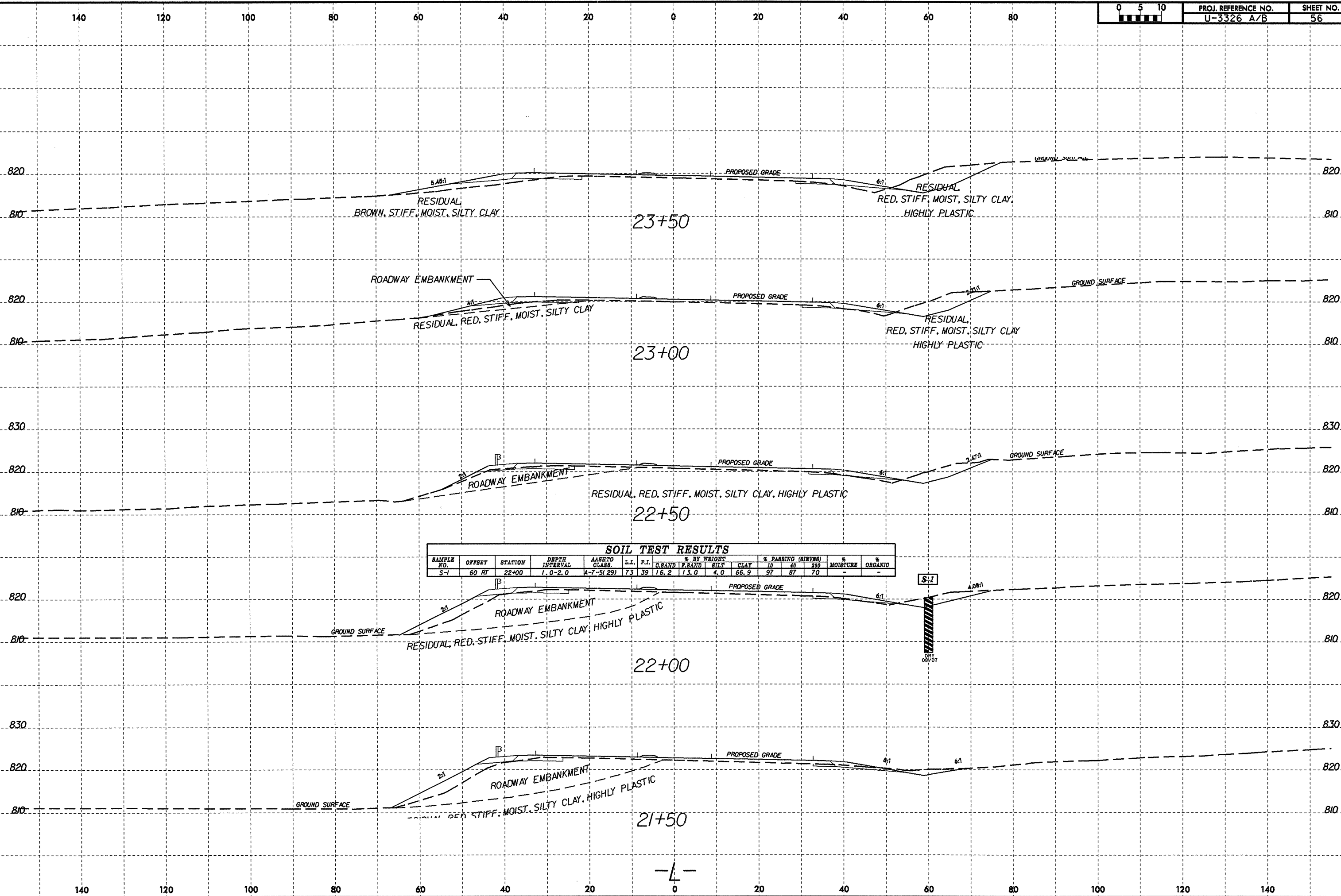
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SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	F.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.BAND	F.BAND	SILT	CLAY	10	40	200		
SS-185	24 LT	10+86	3.7-5.2	A-4(0)	35	NP	13.9	54.0	26.0	6.0	100	95	42	-	-
SS-186	24 LT	10+86	8.7-10.2	A-4(0)	33	NP	7.3	55.8	30.8	6.0	100	99	46	-	-
SS-187	24 LT	10+86	18.7-20.2	A-4(0)	30	NP	15.3	53.4	25.2	6.0	97	93	40	-	-
S-378	30 RT	13+00	0.0-1.0	A-6(6)	34	14	10.5	34.3	24.8	30.3	100	96	61	-	-
S-377	32 RT	14+05	0.0-3.0	A-6(8)	38	20	15.4	31.9	22.4	30.3	99	92	57	-	-
SS-44	CL	11+20	0.0-1.5	A-7(5(29))	65	35	10.8	13.9	14.4	61.2	100	94	77	-	-
SS-45	CL	11+20	8.2-9.7	A-5(2)	45	9	21.0	36.7	26.0	16.3	93	81	47	-	-



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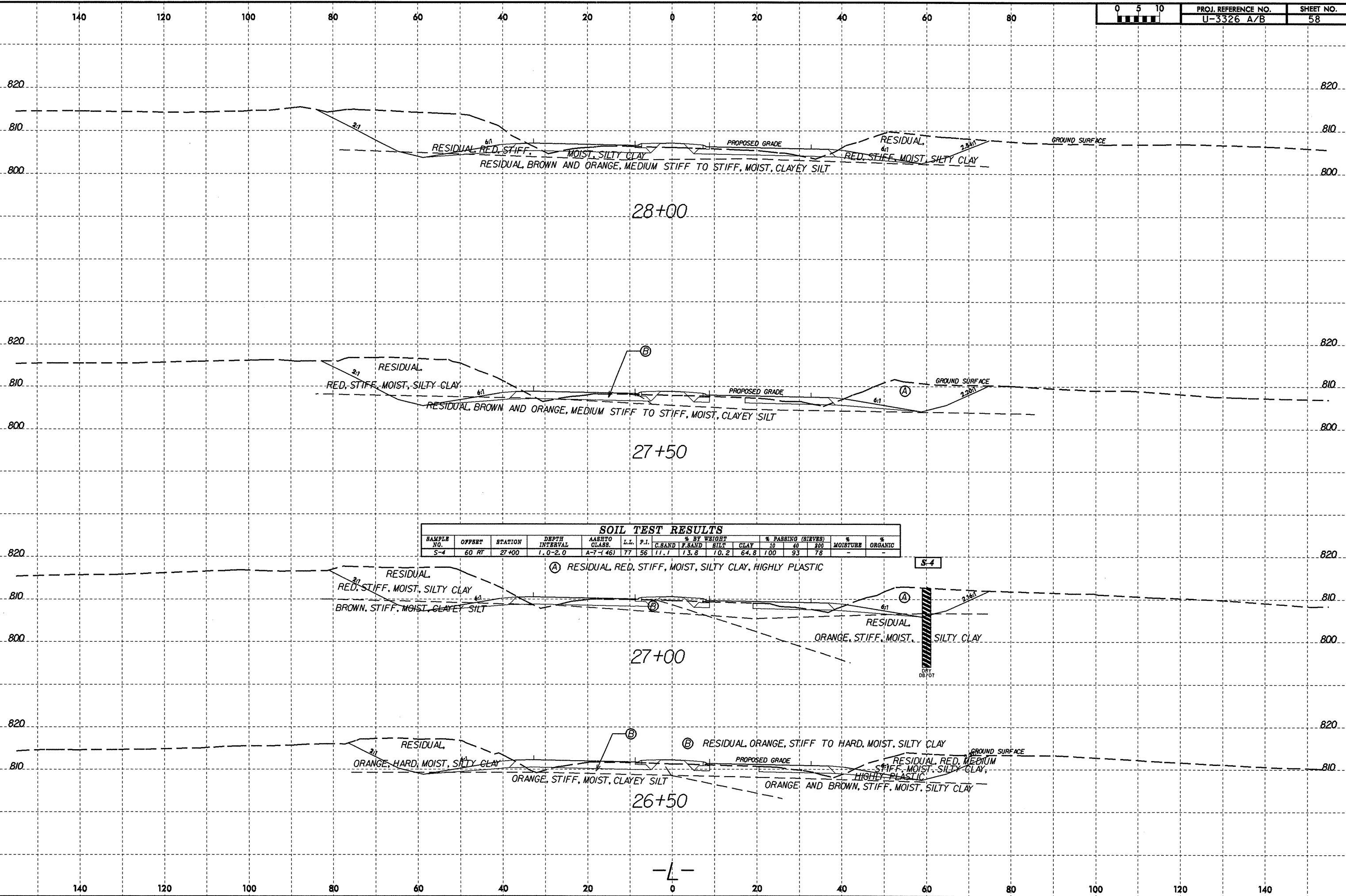
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							G. SAND	F. SAND	SILT	CLAY	10	40	200		
S-1	60 FT	22+00	1.0-2.0	A-7-5(29)	73	39	16.2	13.0	4.0	66.9	97	87	70	-	-

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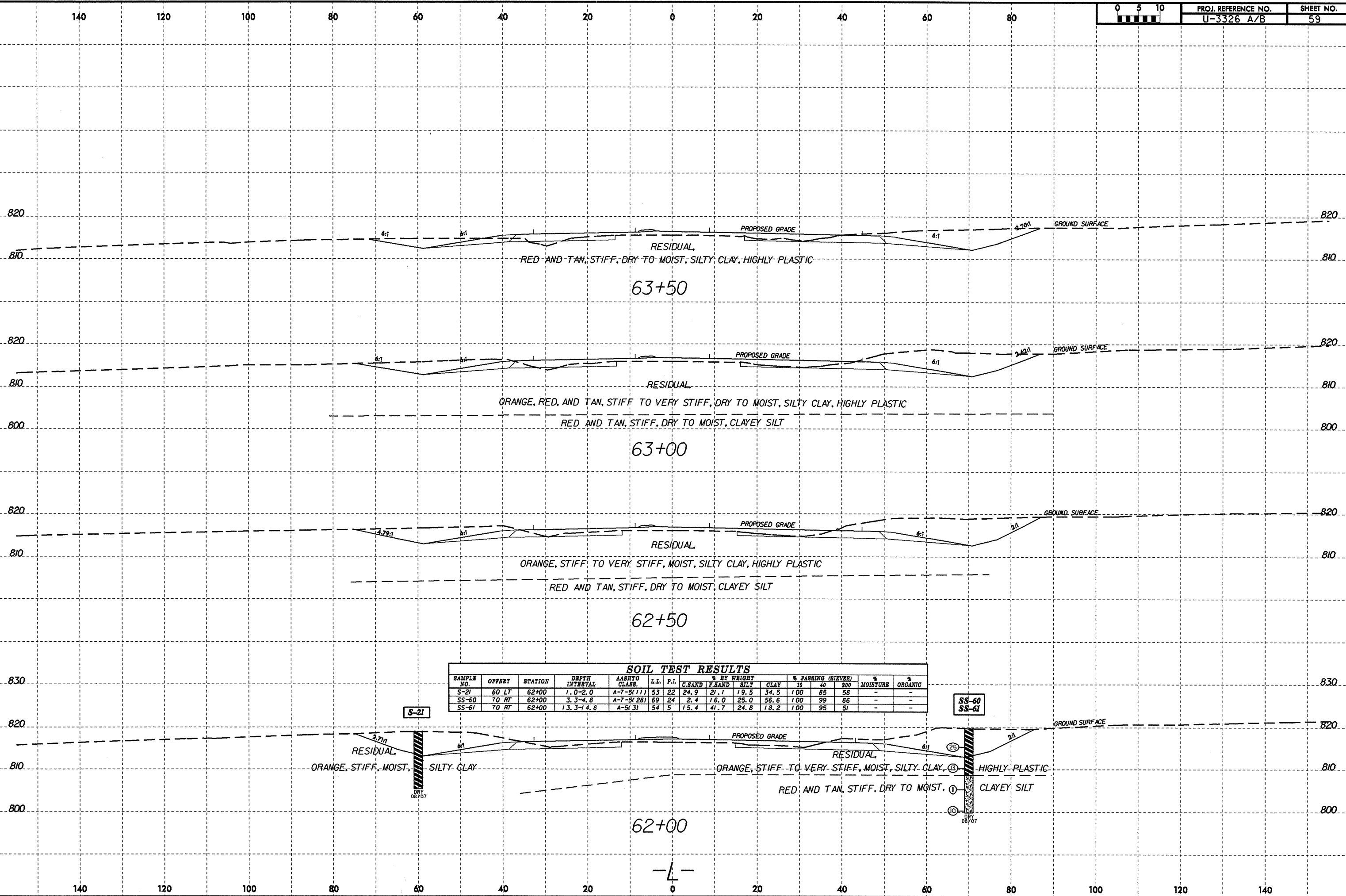


SOIL TEST RESULTS														
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)		% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	200		
S-4	60 FT	27+00	1.0-2.0	A-7 (46)	77	56	11.1	13.8	10.2	64.8	100	93	78	-

Ⓐ RESIDUAL RED, STIFF, MOIST, SILTY CLAY, HIGHLY PLASTIC

S-4

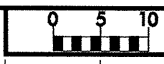
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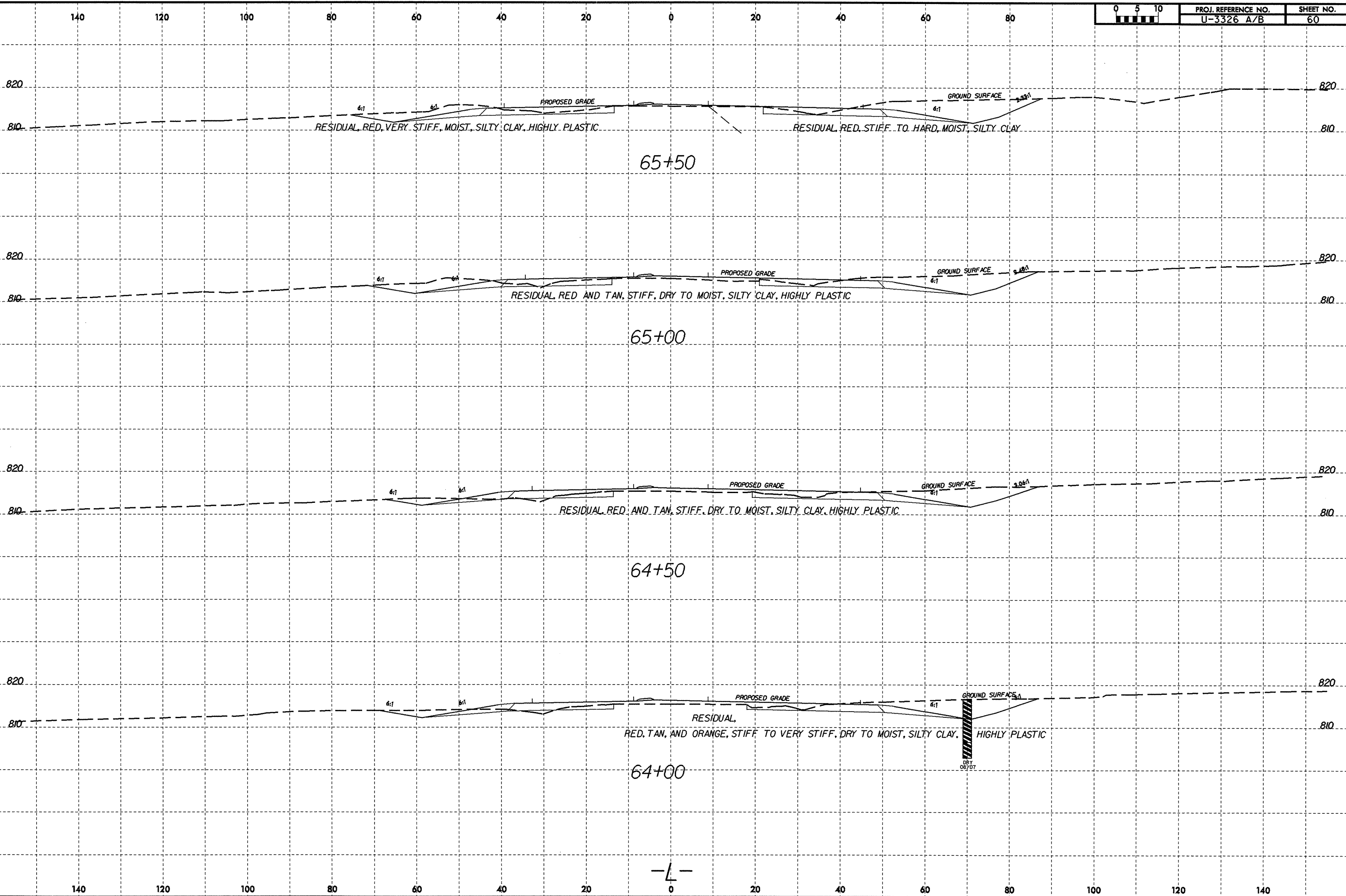
SOIL TEST RESULTS

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-21	60 LT	62+00	1.0-2.0	A-7-5(11)	53	22	24.9	21.1	19.5	34.5	100	85	58	-	-
SS-60	70 RT	62+00	3.3-4.8	A-7-5(28)	69	24	2.4	16.0	25.0	56.6	100	99	86	-	-
SS-61	70 RT	62+00	13.3-14.8	A-5(3)	54	5	15.4	41.7	24.8	18.2	100	95	51	-	-

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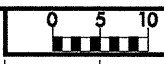


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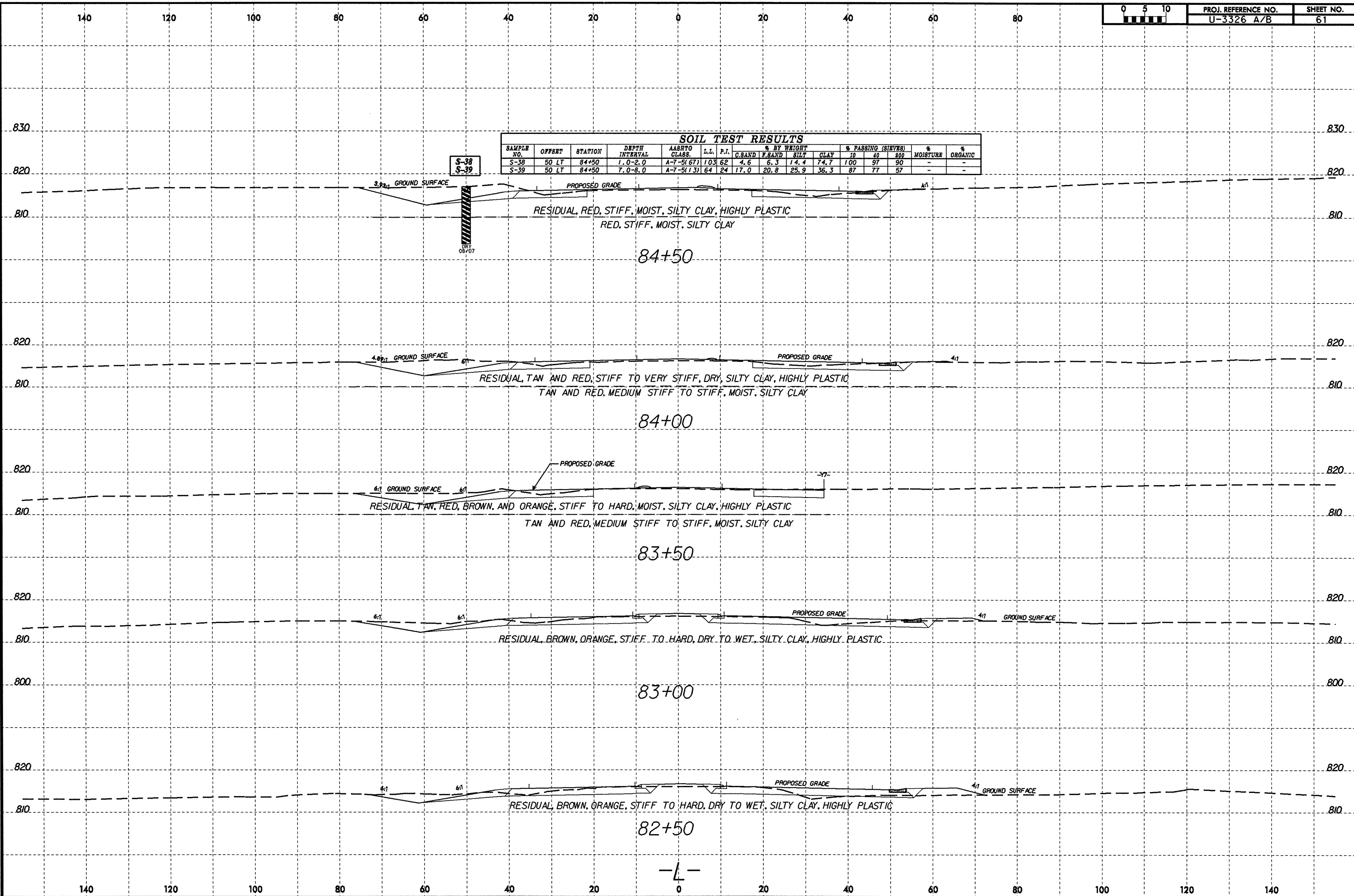


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SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	ABSTO CLASS	L.L.	P.I.	% BY WEIGHT			% PASSING (SIEVES)			% MOISTURE	% ORGANIC	
							C.SAND	F.SAND	SILT	CLAY	10	40			200
S-38	50 LT	84+50	1.0-2.0	A-7-(5) 67	103	62	4.6	6.3	14.4	74.7	100	97	90	-	-
S-39	50 LT	84+50	7.0-8.0	A-7-(5) 13	64	24	17.0	20.8	25.9	36.3	87	77	57	-	-



84+50

84+00

83+50

83+00

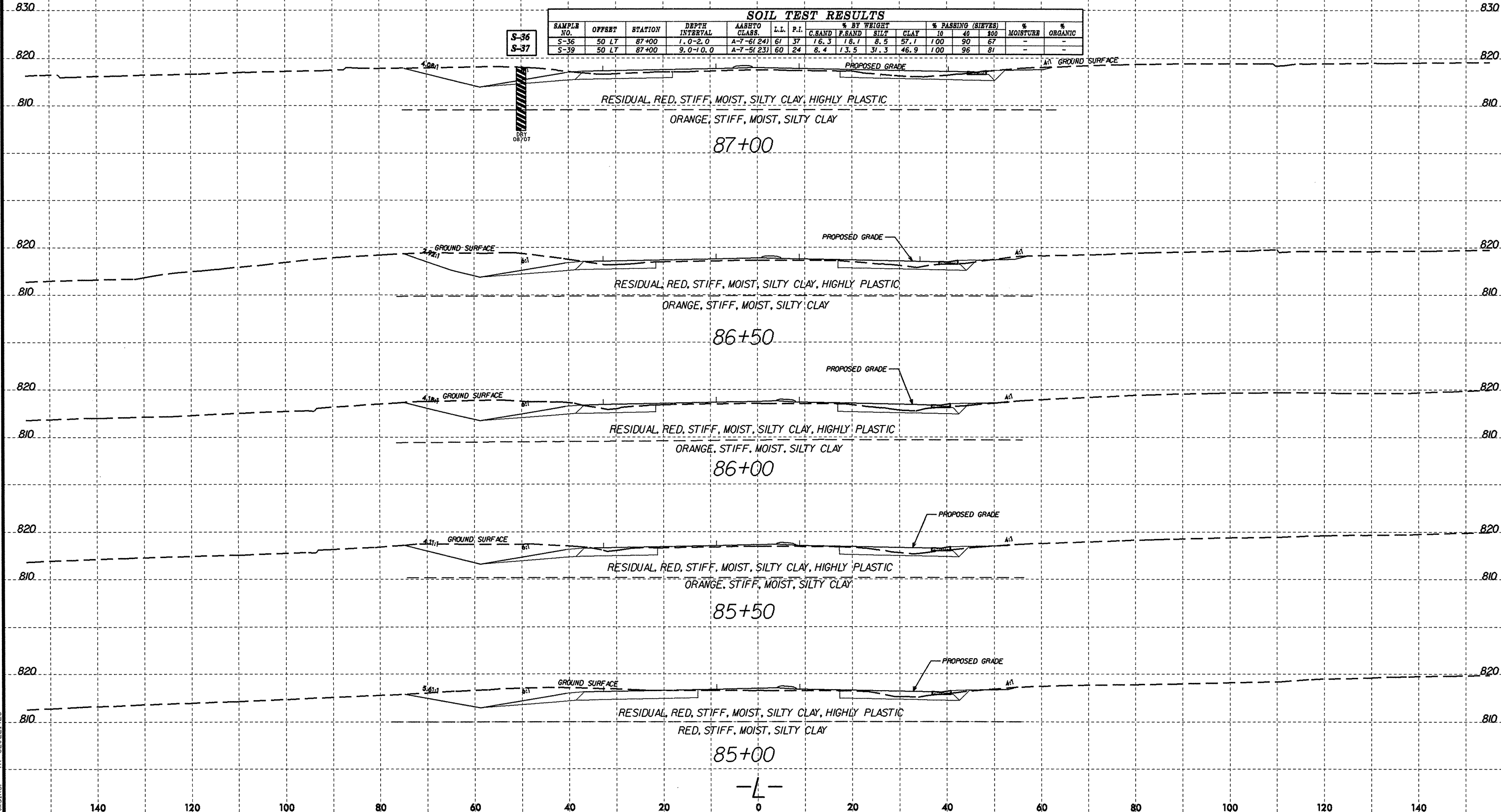
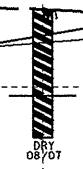
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SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	ASHTO CLASS.	L.L.	P.I.	% BY WEIGHT			% PASSING (SIEVES)			% MOISTURE	% ORGANIC	
							C.SAND	F.SAND	SILT	CLAY	10	40			100
S-36	50 LT	87+00	1.0-2.0	A-7-6(24)	61	37	16.3	18.7	8.5	57.1	100	90	67	-	-
S-39	50 LT	87+00	9.0-10.0	A-7-5(23)	60	24	8.4	13.5	37.3	46.9	100	96	81	-	-

S-36
S-37



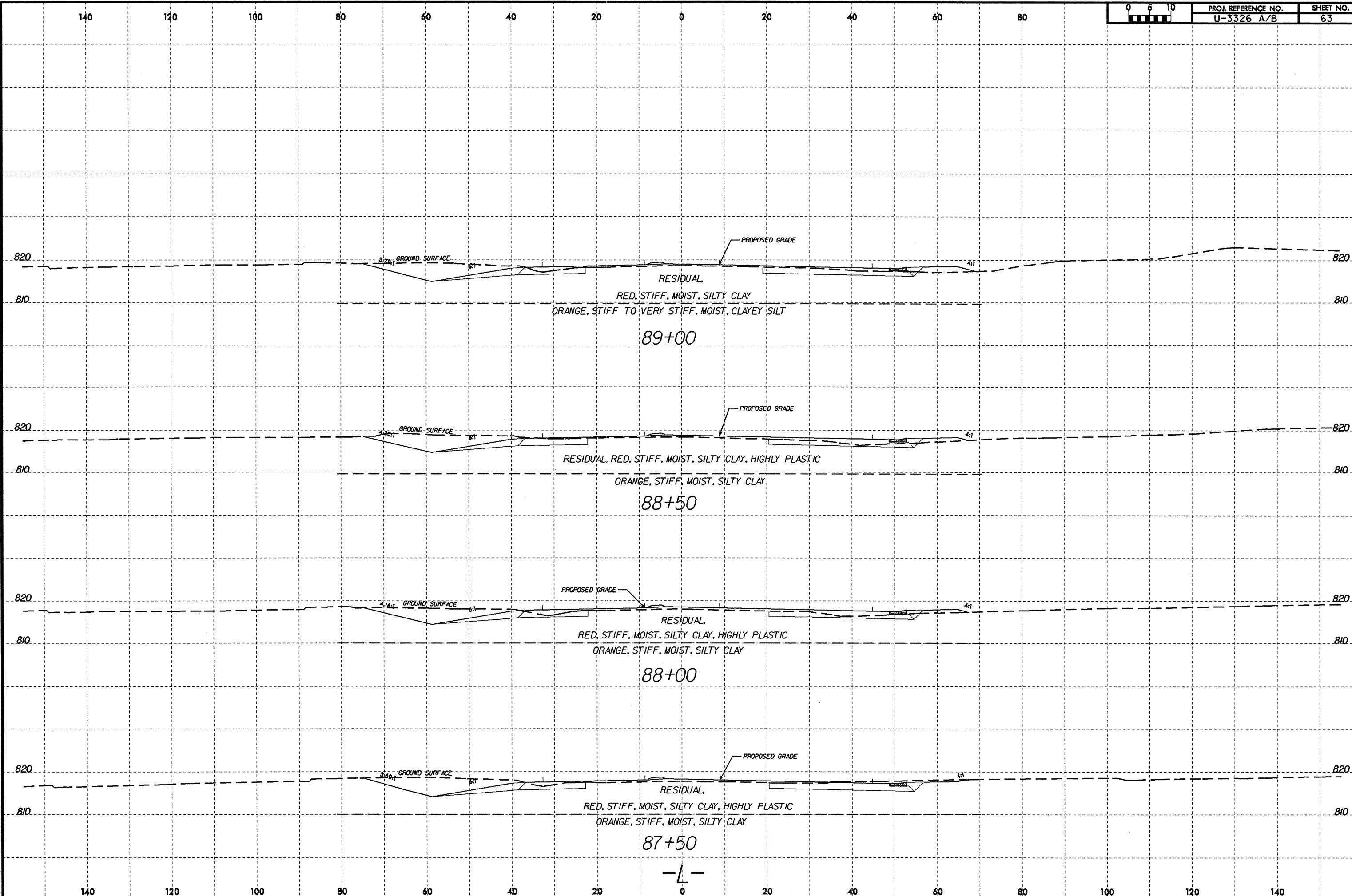
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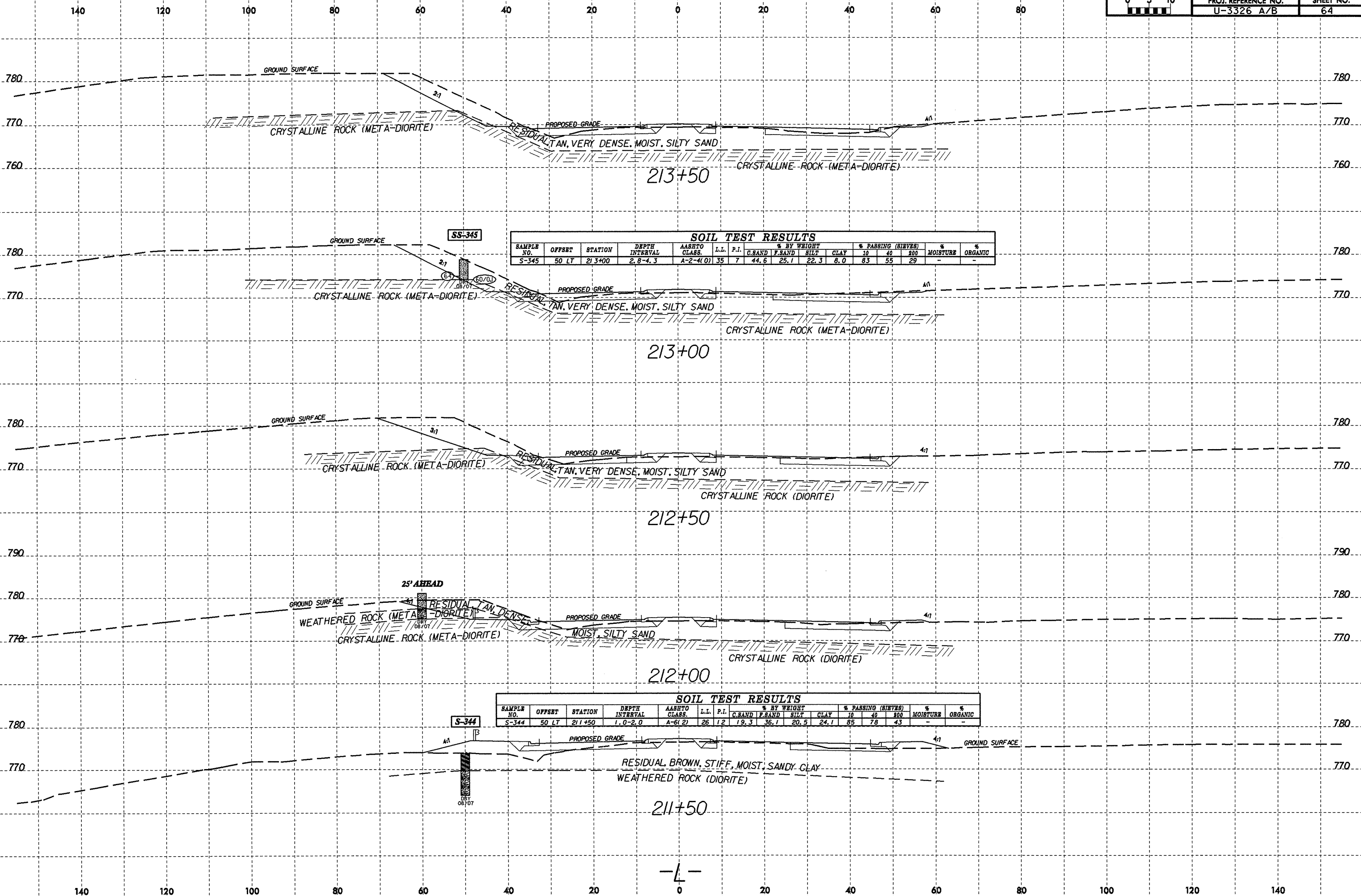
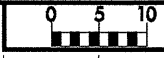
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SOIL TEST RESULTS

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-345	50 LT	213+00	2, 8-4, 3	A-2-(4)0	35	7	44.6	25.1	22.3	8.0	83	55	29	-	-

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-344	50 LT	211+50	1, 0-2, 0	A-6(2)	26	12	19.3	36.1	20.5	24.1	85	78	43	-	-

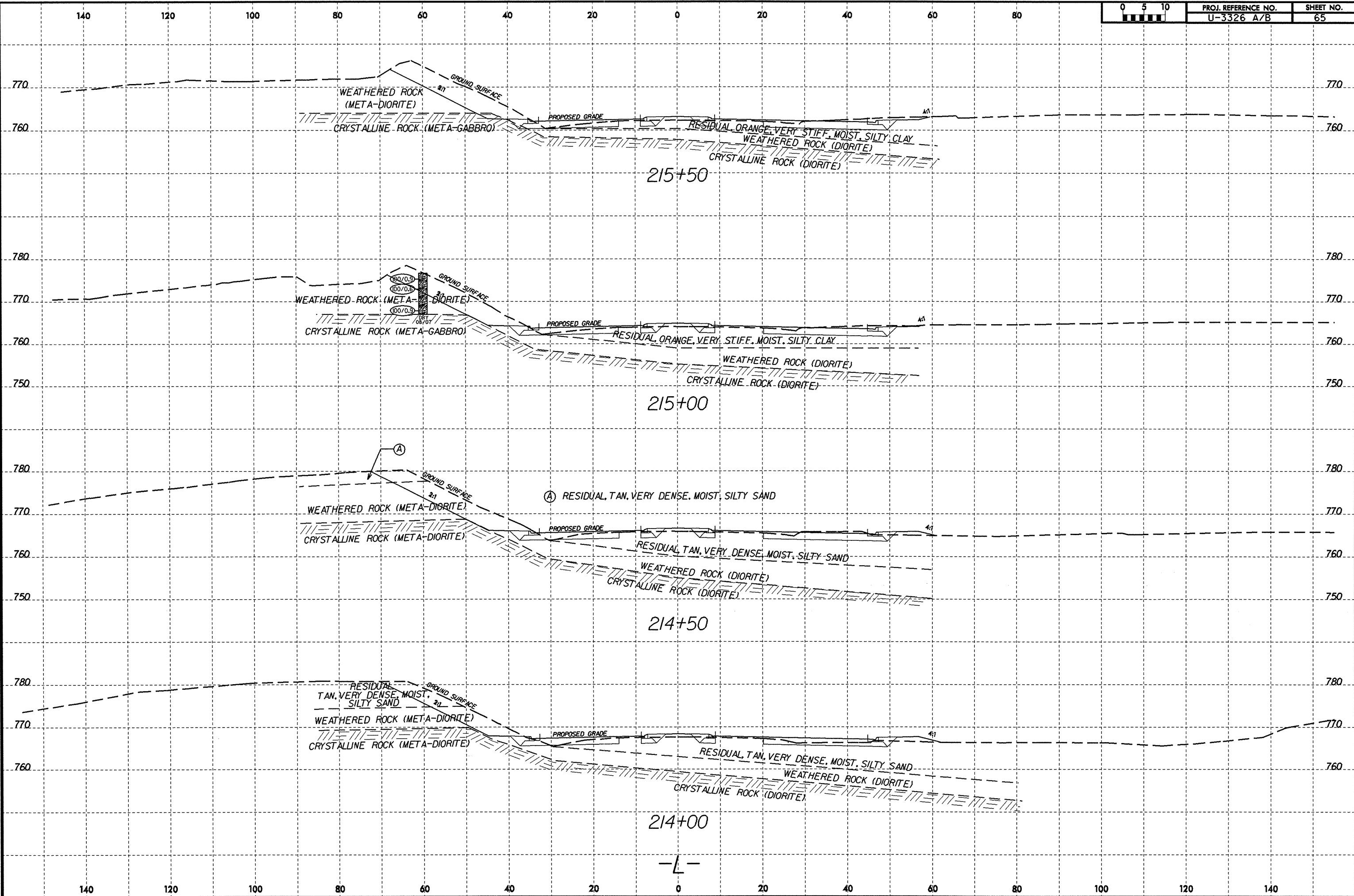
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WEATHERED ROCK
(META-DIORITE)

CRYSTALLINE ROCK (META-GABBRO)

RESIDUAL ORANGE VERY STIFF, MOIST, SILTY CLAY
WEATHERED ROCK (DIORITE)
CRYSTALLINE ROCK (DIORITE)

WEATHERED ROCK (META-DIORITE)

CRYSTALLINE ROCK (META-GABBRO)

RESIDUAL ORANGE, VERY STIFF, MOIST, SILTY CLAY
WEATHERED ROCK (DIORITE)
CRYSTALLINE ROCK (DIORITE)

WEATHERED ROCK (META-DIORITE)

CRYSTALLINE ROCK (META-DIORITE)

(A) RESIDUAL, TAN, VERY DENSE, MOIST, SILTY SAND

RESIDUAL TAN, VERY DENSE, MOIST, SILTY SAND
WEATHERED ROCK (DIORITE)
CRYSTALLINE ROCK (DIORITE)

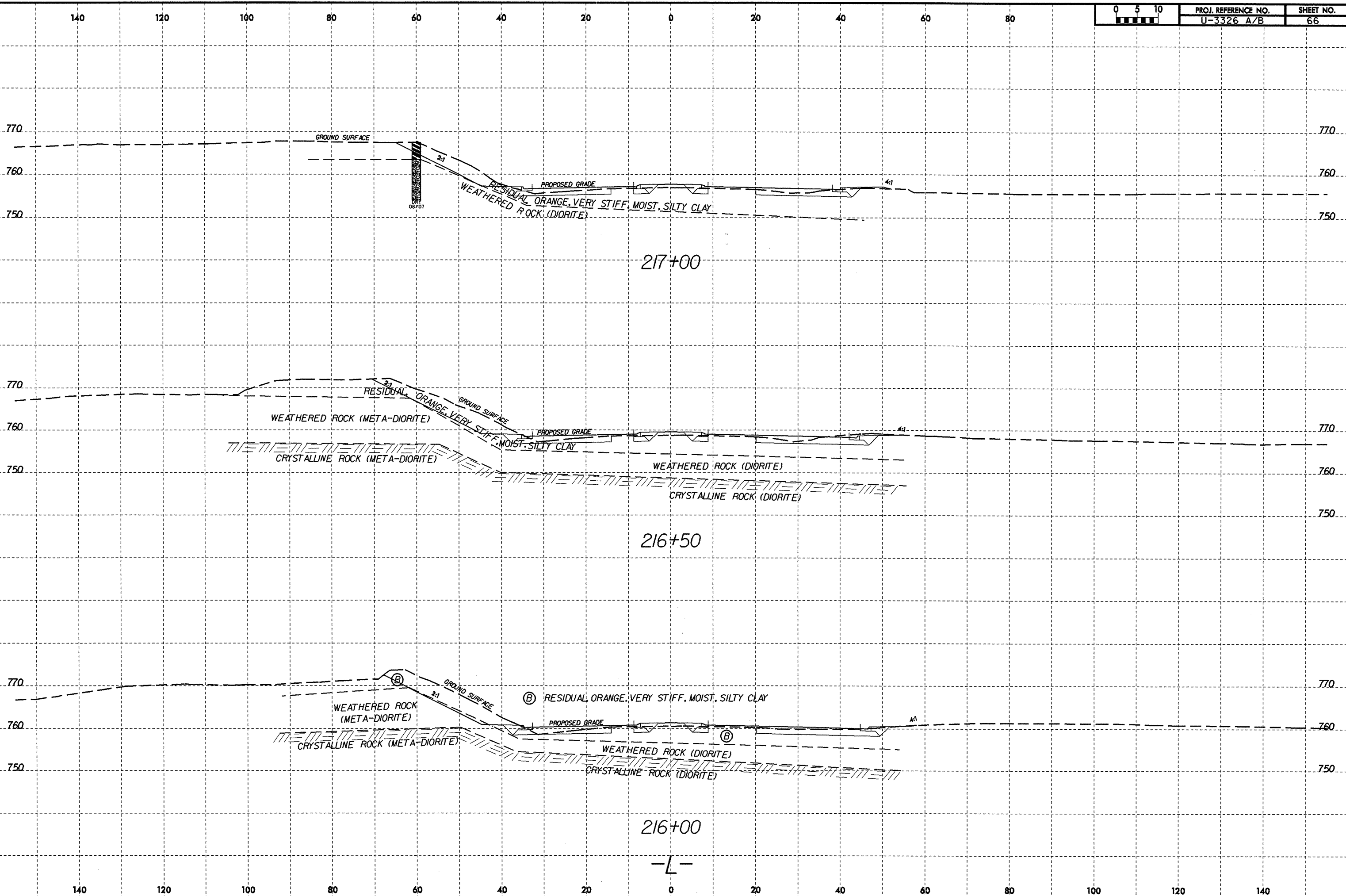
RESIDUAL
TAN, VERY DENSE, MOIST,
SILTY SAND

WEATHERED ROCK (META-DIORITE)

CRYSTALLINE ROCK (META-DIORITE)

RESIDUAL, TAN, VERY DENSE, MOIST, SILTY SAND
WEATHERED ROCK (DIORITE)
CRYSTALLINE ROCK (DIORITE)

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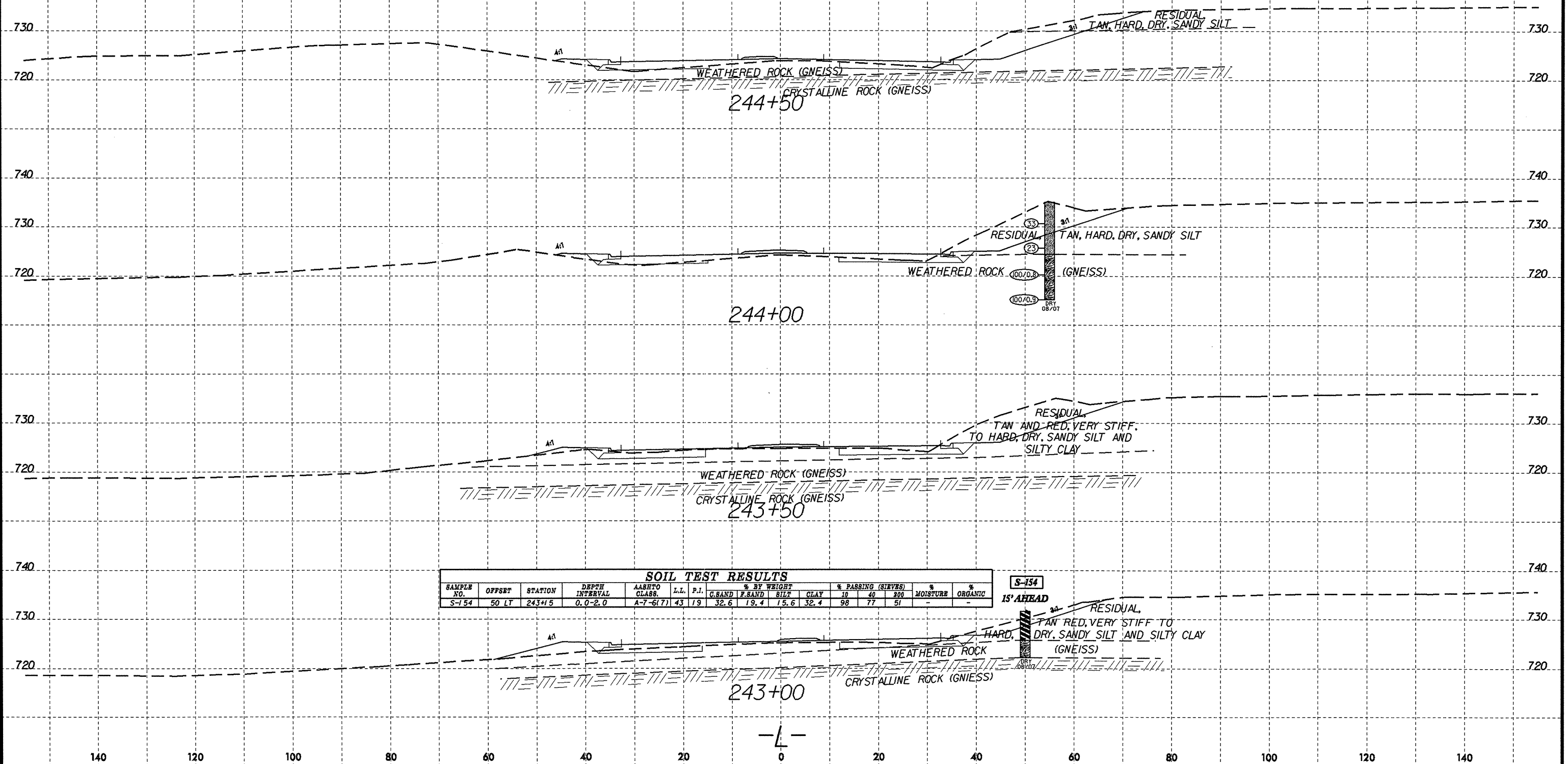


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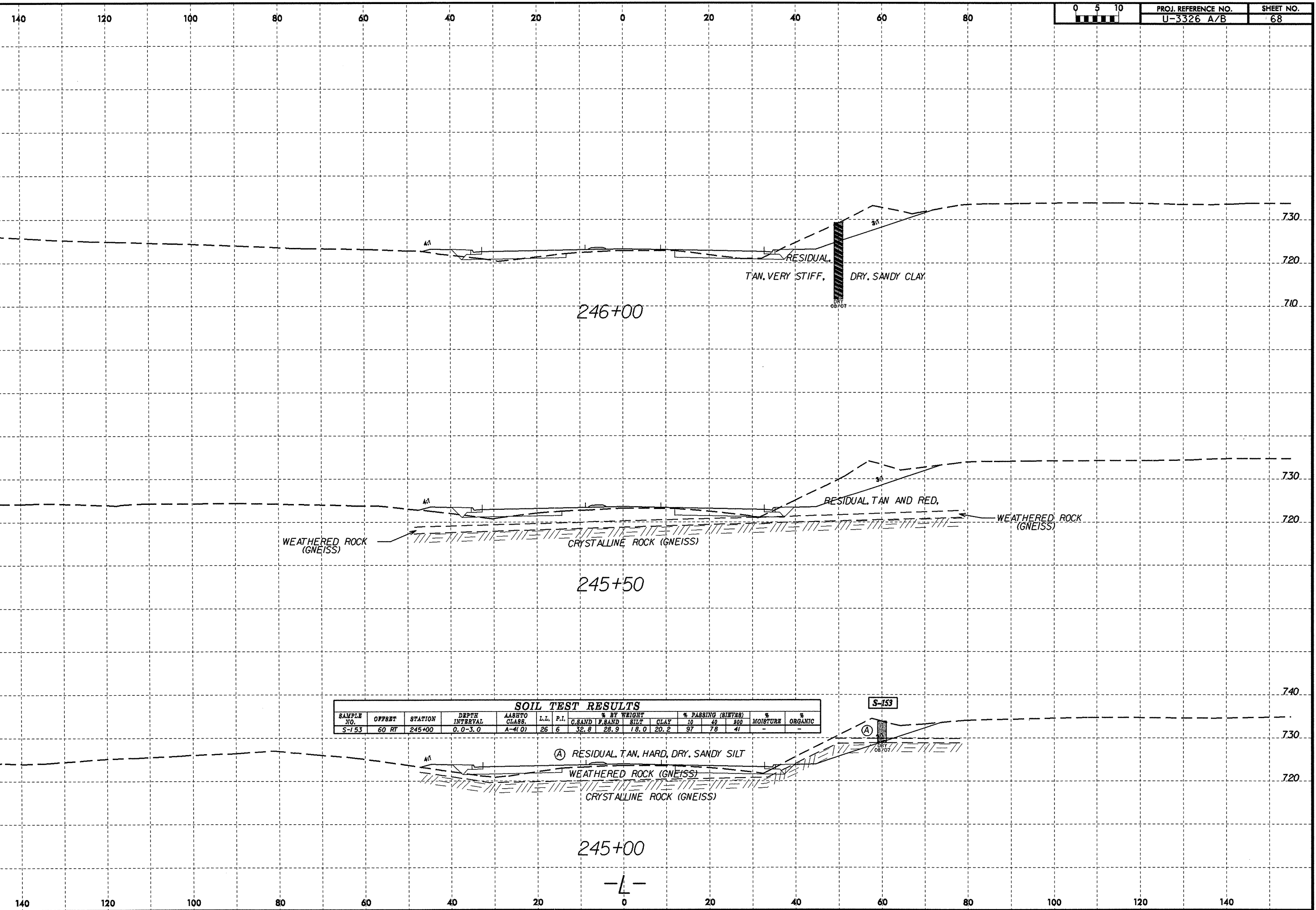
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SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIETES)	% MOISTURE	% ORGANIC
							G.SAND	F.SAND	SILT	CLAY			
S-153	60 FT	245+00	0.0-3.0	A-4(0)	26	6	32.8	28.9	18.0	20.2	97	78	41

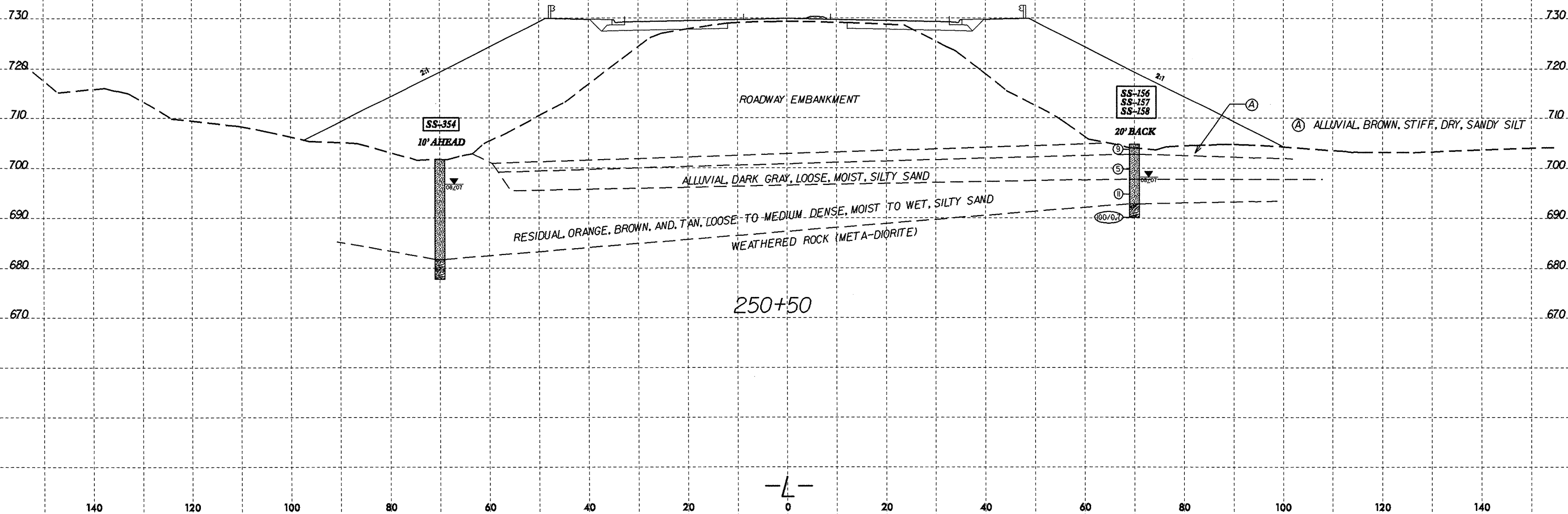
(A) RESIDUAL, TAN, HARD, DRY, SANDY SILT
 WEATHERED ROCK (GNEISS)
 CRYSTALLINE ROCK (GNEISS)

245+00

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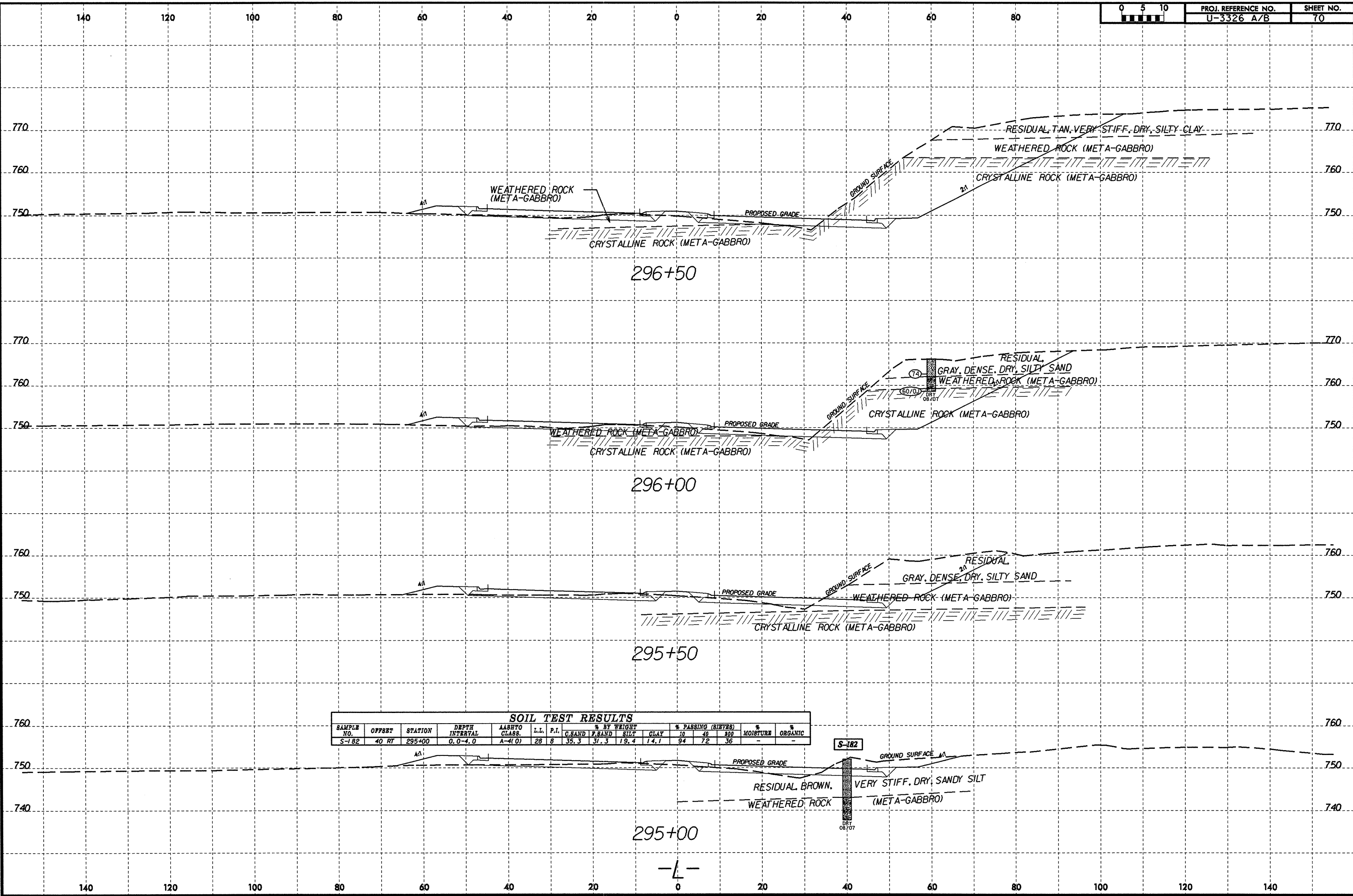
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SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
SS-156	60 RT	250+30	0.0-1.5	A-4(0)	40	9	27.8	27.8	26.2	18.1	75	62	37	-	-
SS-157	60 RT	250+30	4.0-5.5	A-2-4(0)	30	8	39.1	32.3	16.5	12.1	93	69	30	-	-
SS-158	60 RT	250+30	9.0-10.5	A-2-4(0)	38	NP	27.6	44.8	23.6	4.0	99	84	35	-	-
SS-354	60 LT	250+60	3.1-4.6	A-2-4(0)	23	NP	50.4	34.9	10.6	4.0	89	65	15	-	-



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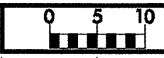
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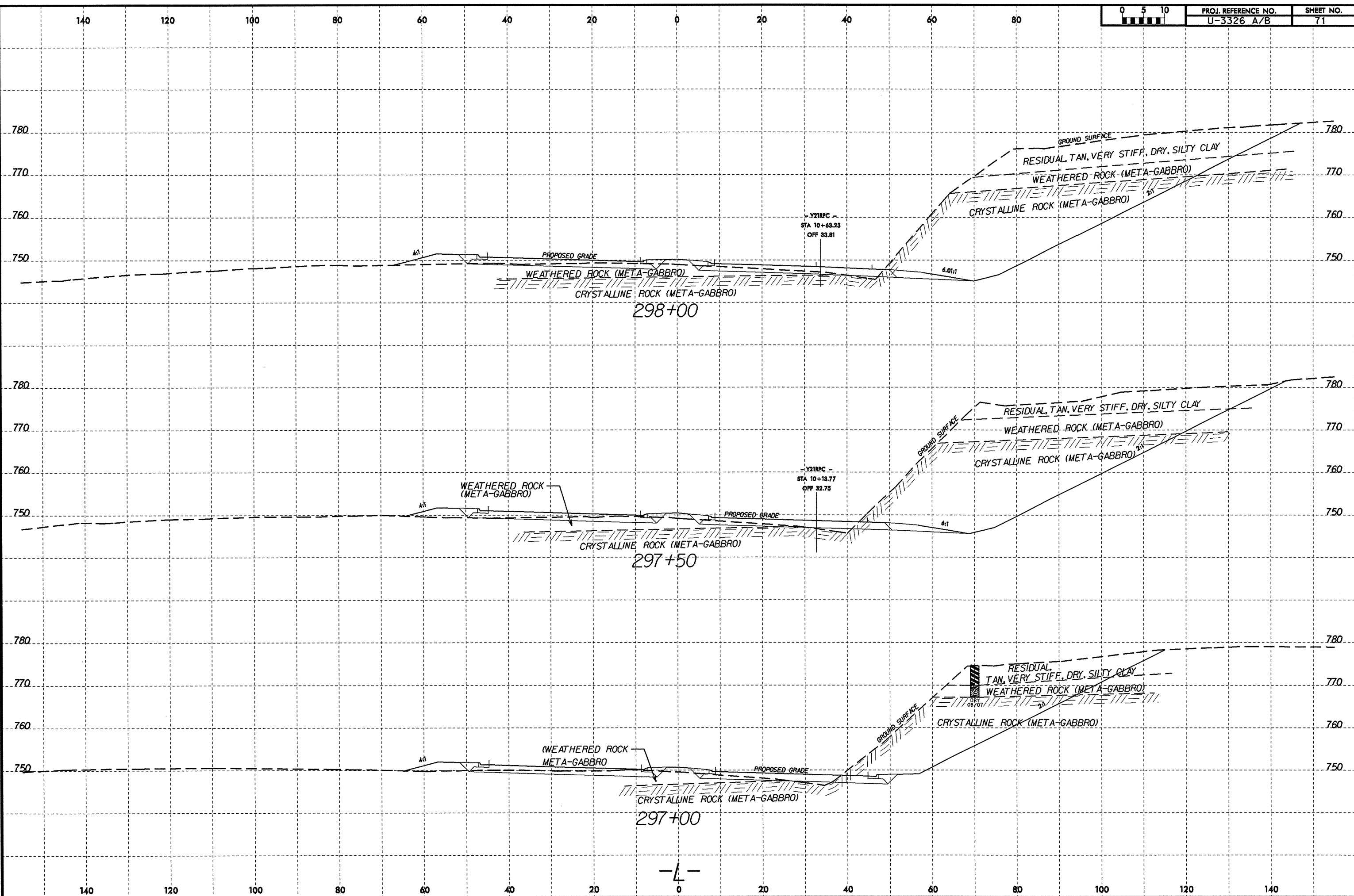
SOIL TEST RESULTS

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	ASHFO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							G. SAND	F. SAND	SILT	CLAY	10	40	200		
S-182	40 RT	295+00	0.0-4.0	A-1(0)	28	8	35.3	37.3	19.4	14.1	94	72	36	-	-

8/23/99



PROJ. REFERENCE NO.	SHEET NO.
U-3326 A/B	71

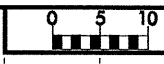


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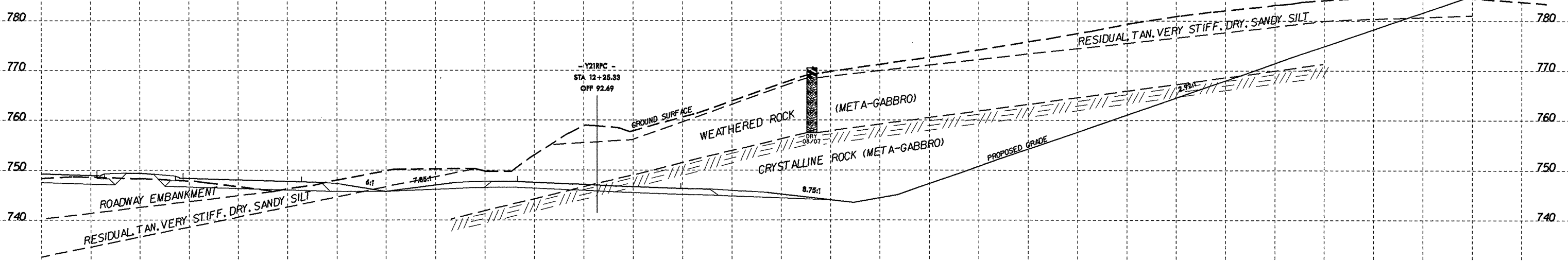
8/23/09

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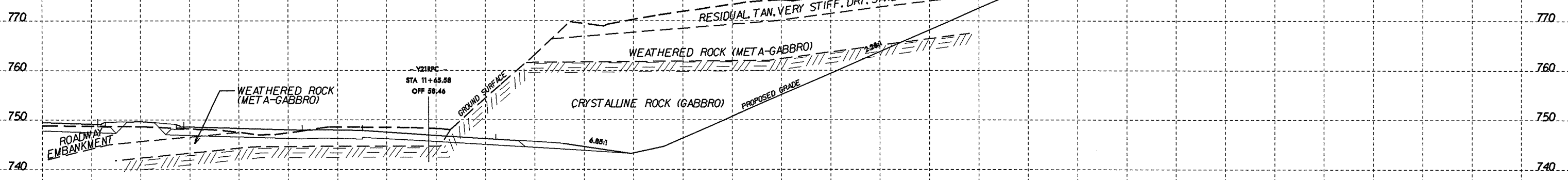


PROJ. REFERENCE NO.
U-3326 A/B

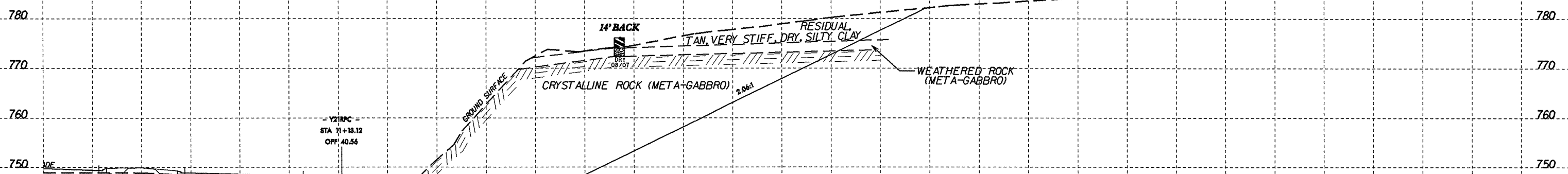
SHEET NO.
72



299+50



299+00



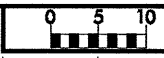
298+50

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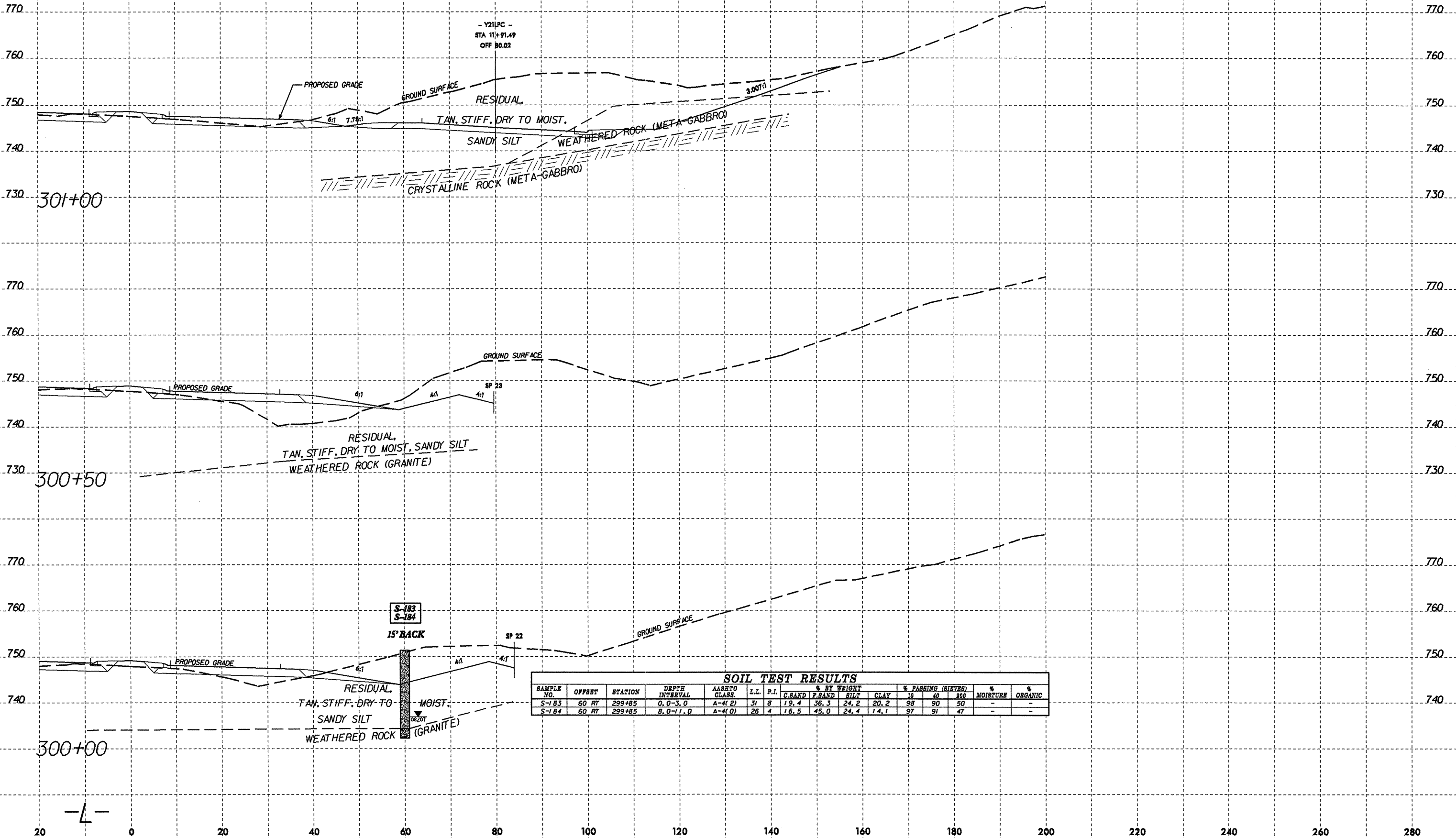
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twalker

8/23/99

20 0 20 40 60 80 100 120 140 160 180 200 220



PROJ. REFERENCE NO. U-3326 A/B SHEET NO. 73



- Y21PC -
STA 11+91.49
OFF 80.02

PROPOSED GRADE
GROUND SURFACE
RESIDUAL
TAN, STIFF, DRY TO MOIST.
SANDY SILT
WEATHERED ROCK (META-GABBRO)
CRYSTALLINE ROCK (META-GABBRO)

301+00

PROPOSED GRADE
GROUND SURFACE
RESIDUAL
TAN, STIFF, DRY TO MOIST, SANDY SILT
WEATHERED ROCK (GRANITE)

300+50

S-183
S-184
15' BACK
PROPOSED GRADE
GROUND SURFACE
RESIDUAL
TAN, STIFF, DRY TO MOIST.
SANDY SILT
WEATHERED ROCK (GRANITE)

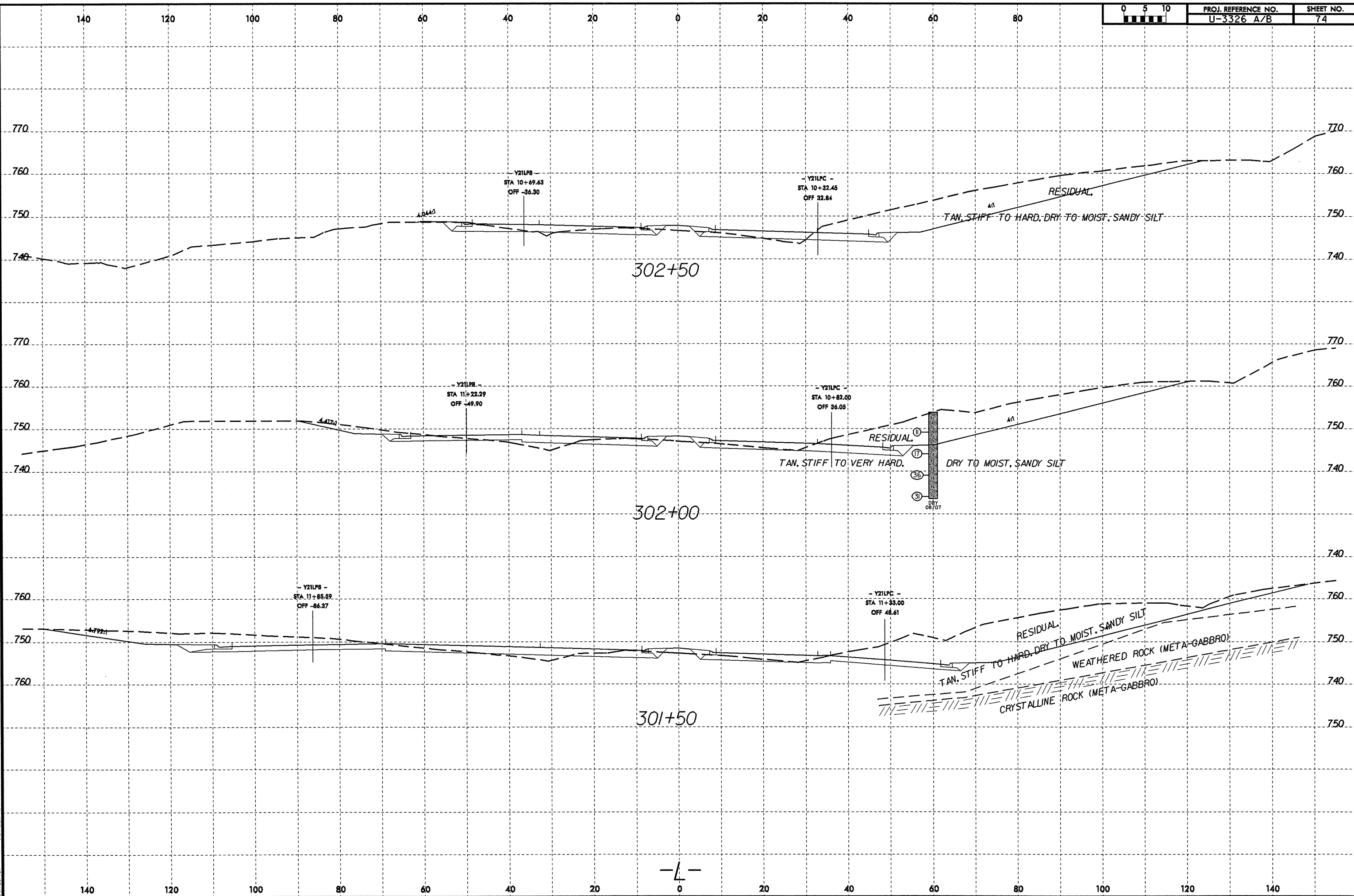
300+00

SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							G.SAND	F.SAND	SILT	CLAY	10	40	200		
S-183	60 RT	299+85	0.0-3.0	A-4(2)	31	8	19.4	36.3	24.2	20.2	98	90	50	-	-
S-184	60 RT	299+85	8.0-17.0	A-4(0)	26	4	16.5	45.0	24.4	14.1	97	91	47	-	-

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-L-

8/23/99



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8/23/99

140

120

100

80

60

40

20

0

20

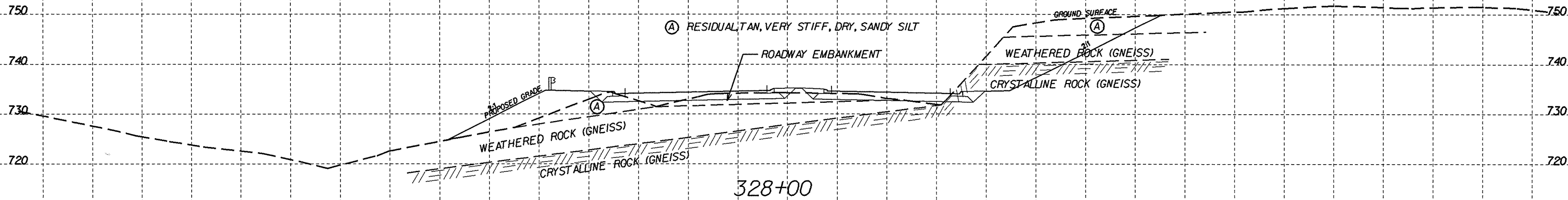
40

60

80



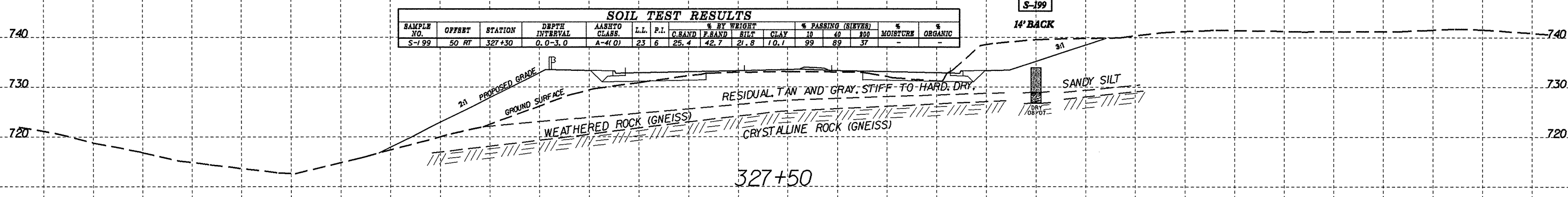
PROJ. REFERENCE NO.	SHEET NO.
U-3326 A/B	75



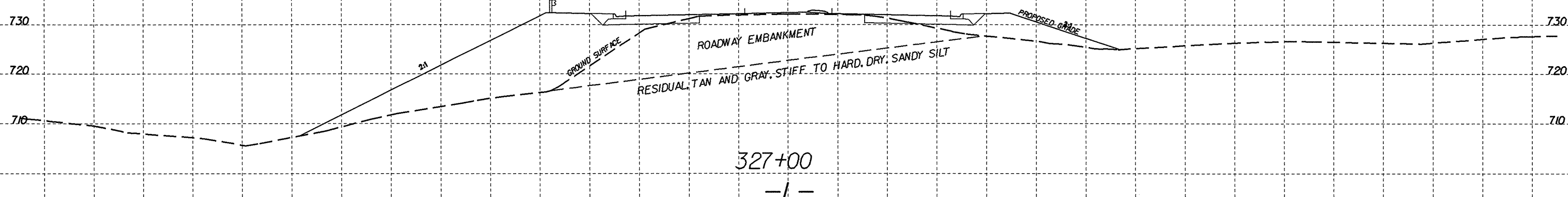
(A) RESIDUAL TAN, VERY STIFF, DRY, SANDY SILT

328+00

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	200		
S-199	50 FT	327+30	0.0-3.0	A-4(0)	23	6	25.4	42.7	21.8	10.1	99	89	37	-	-



327+50

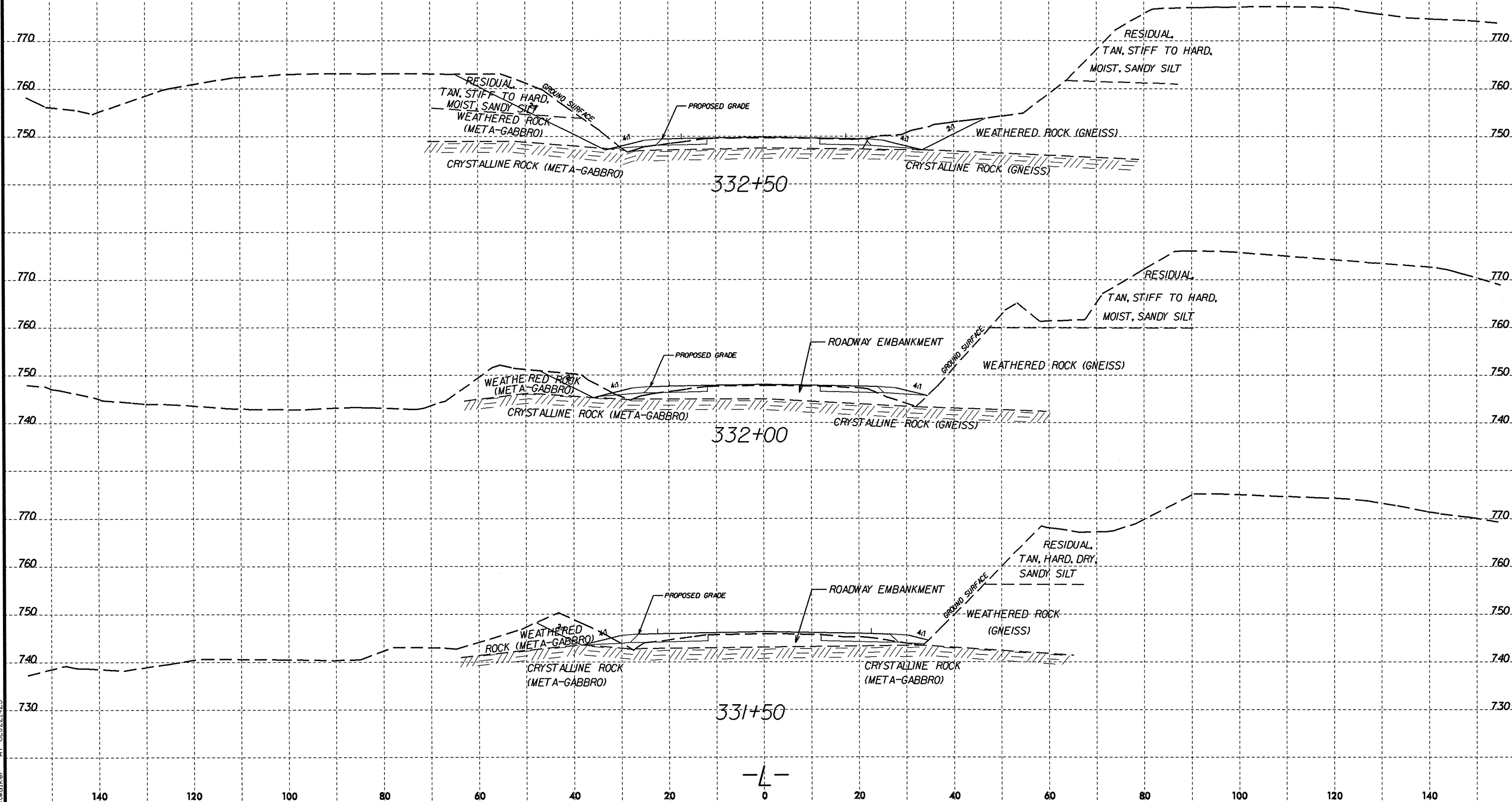


327+00

-L-

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V:\NOV\08\1426\1426.dgn
T:\IP\3326A&B.GEO_RDWY\CADD_GEO\TECH\3326A\3326A.gao_xst_1.dgn
A:\GUY\21426



332+50

332+00

331+50

-L-

8/23/99

140

120

100

80

60

40

20

0

20

40

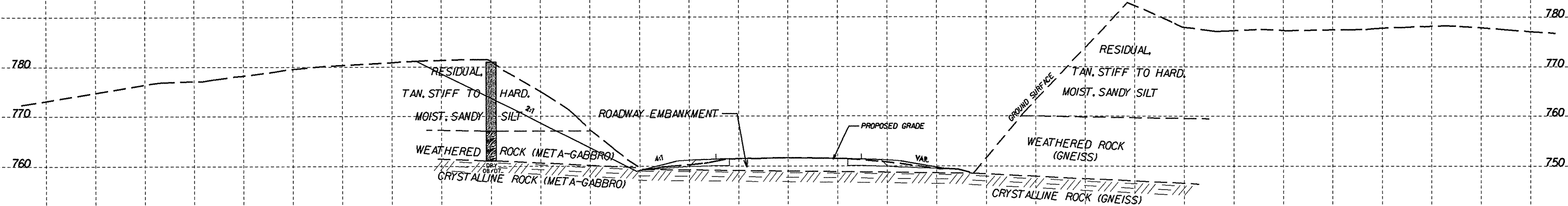
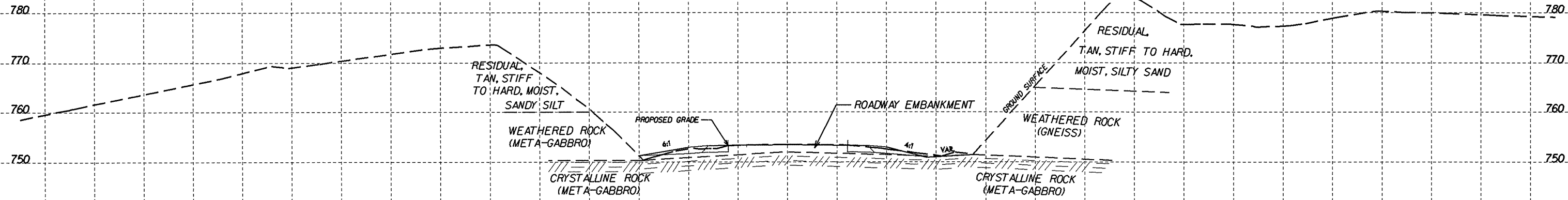
60

80



PROJ. REFERENCE NO.
U-3326 A/B

SHEET NO.
79



-4-

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140

120

100

80

60

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20

0

20

40

60

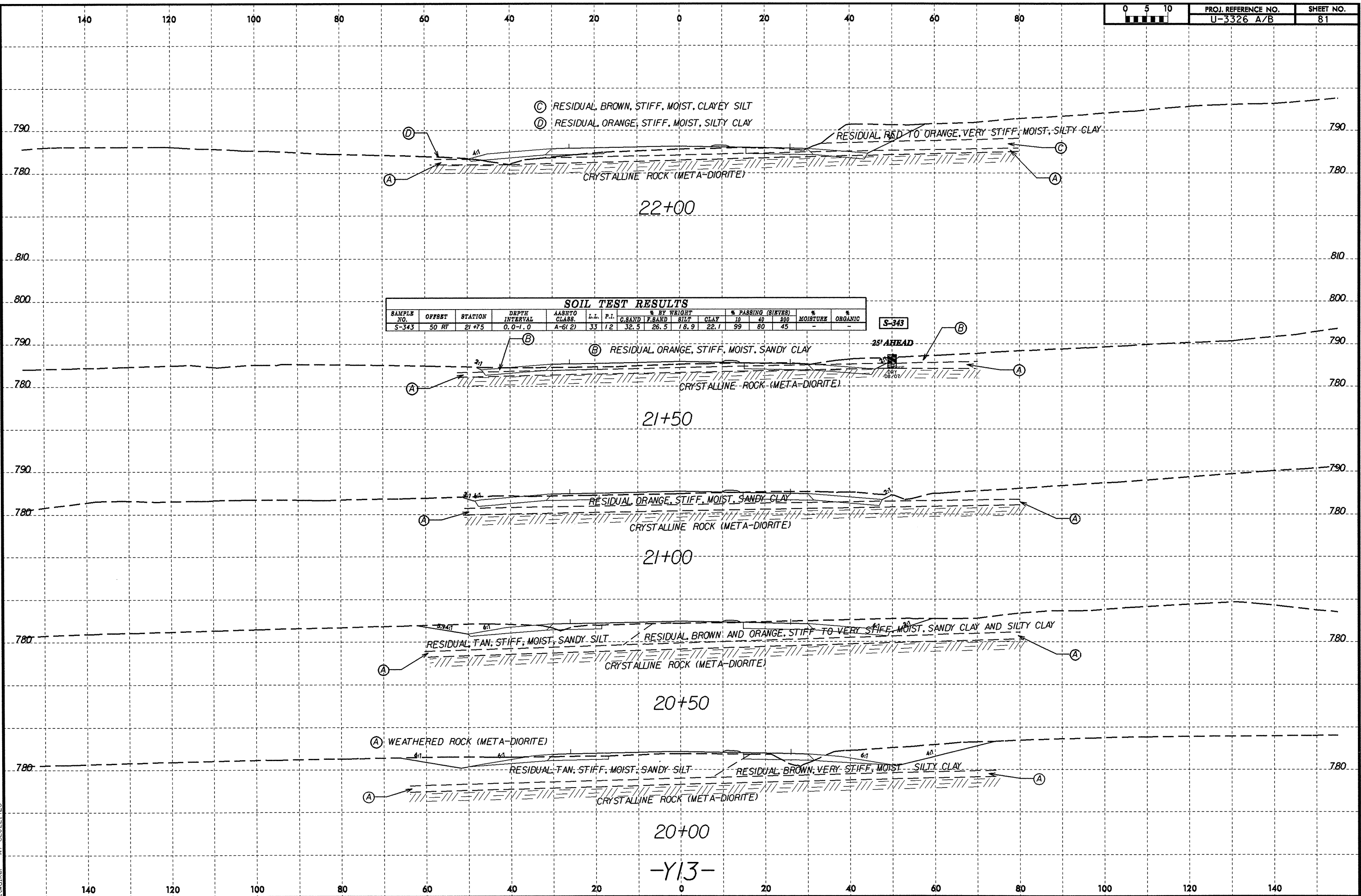
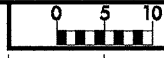
80

100

120

140

8/23/99



- ⓐ RESIDUAL BROWN, STIFF, MOIST, CLAYEY SILT
- ⓑ RESIDUAL ORANGE, STIFF, MOIST, SILTY CLAY

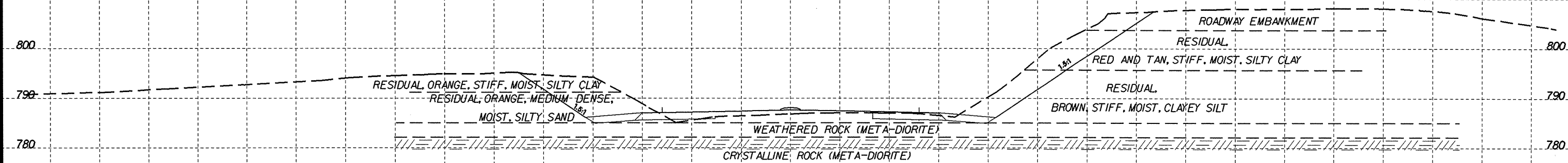
SOIL TEST RESULTS														
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIZES)		% MOISTURE	% ORGANIC
							G. SAND	F. SAND	SILT	CLAY	10	40	300	
S-343	50 FT	21+75	0.0-1.0	A-6(2)	33	12	32.5	26.5	18.9	22.1	99	80	45	-

S-343

25' AHEAD

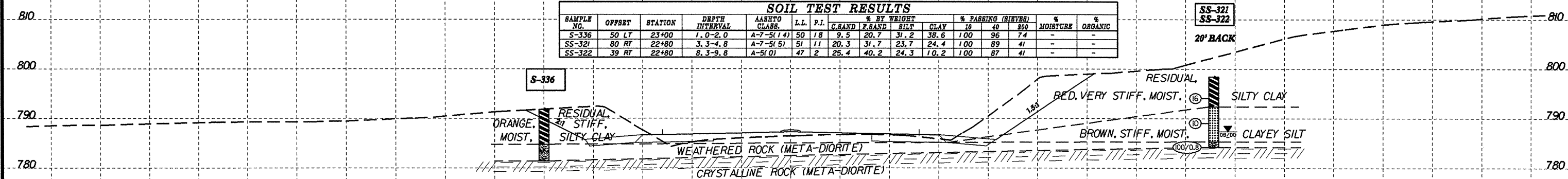
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 TWalker



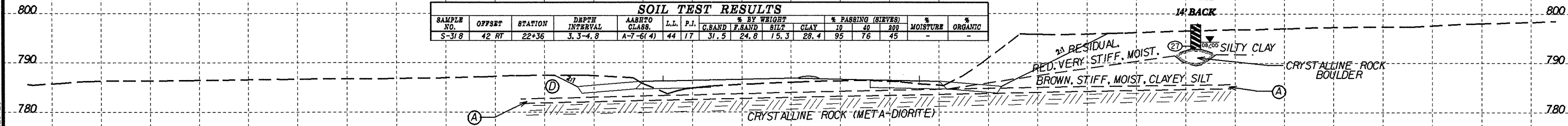
23+50

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	ASHTO CLASS.	L.L.	P.I.	% BY WEIGHT			% PASSING (SIEVES)			% MOISTURE	% ORGANIC	
							C.BAND	F.SAND	SILT	10	40	200			
S-336	50 LT	23+00	1.0-2.0	A-7-5(1.4)	50	18	9.5	20.7	31.2	38.6	100	96	7.4	-	-
SS-321	80 RT	22+80	3.3-4.8	A-7-5(5)	51	11	20.3	31.7	23.7	24.4	100	89	41	-	-
SS-322	39 RT	22+80	8.3-9.8	A-5(0)	47	2	25.4	40.2	24.3	10.2	100	87	41	-	-



23+00

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	ASHTO CLASS.	L.L.	P.I.	% BY WEIGHT			% PASSING (SIEVES)			% MOISTURE	% ORGANIC	
							C.BAND	F.SAND	SILT	10	40	200			
S-318	42 RT	22+36	3.3-4.8	A-7-6(4)	44	17	31.5	24.8	15.3	28.4	95	76	45	-	-



22+50

-Y13-

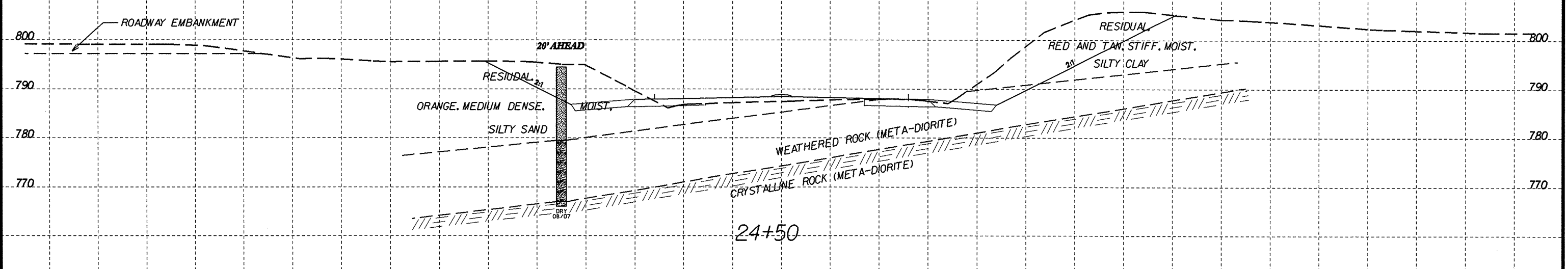
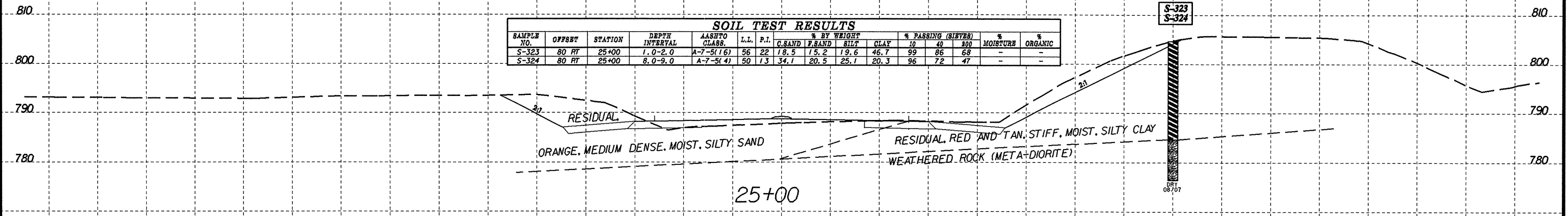
8/23/99

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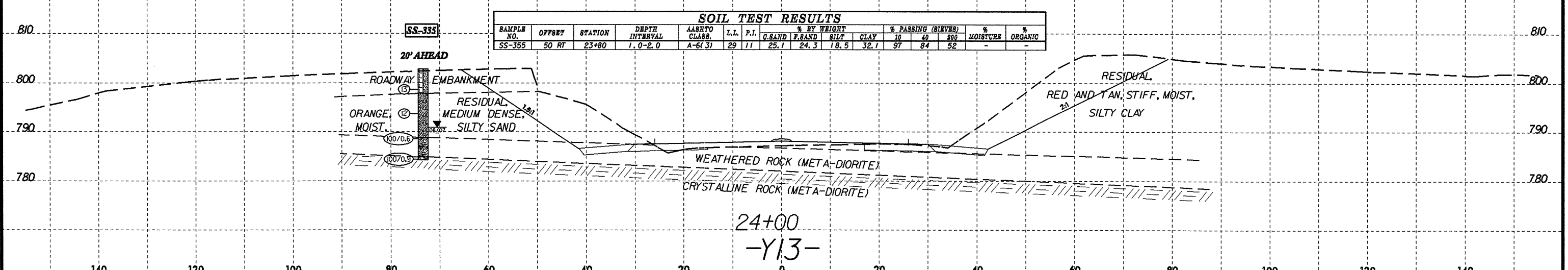


PROJ. REFERENCE NO. U-3326 A/B SHEET NO. 83

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-323	80 RT	25+00	1.0-2.0	A-7-5(16)	56	22	18.5	15.2	19.6	46.7	99	86	68	-	-
S-324	80 RT	25+00	8.0-9.0	A-7-5(4)	50	13	34.1	20.5	25.1	20.3	96	72	47	-	-



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-335	50 RT	23+80	1.0-2.0	A-6(3)	29	11	25.1	24.3	18.5	32.1	97	84	52	-	-



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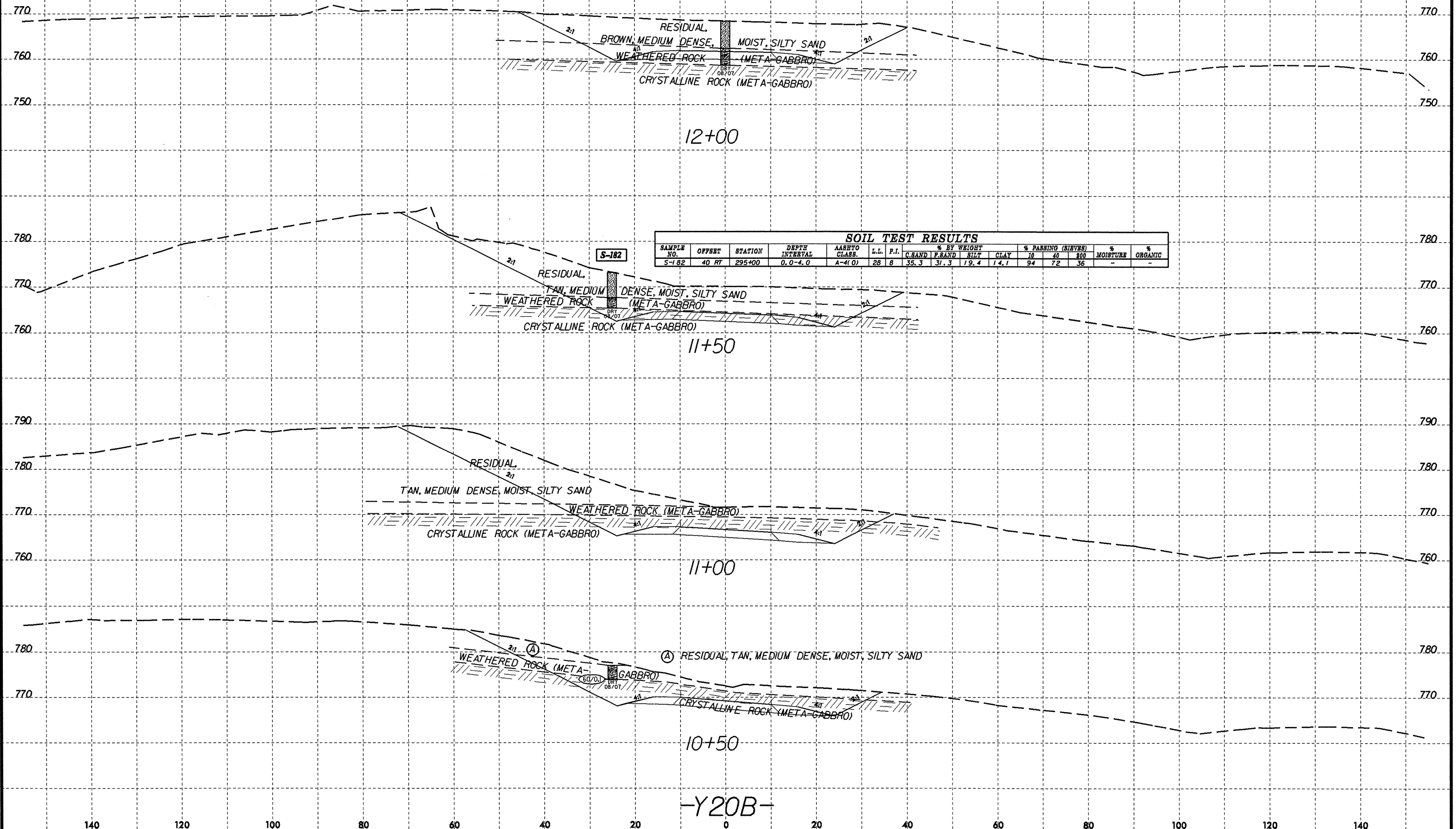
24+00 -Y13-

8/23/99

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PROJ. REFERENCE NO. U-3326 A/B SHEET NO. 85



SOIL TEST RESULTS

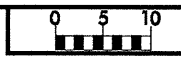
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	AASHTO CLASS.	L.L.	P.I.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C.SAND	F.SAND	SILT	CLAY	10	40	200		
S-182	40 RT	295+00	0.0-4.0	A-4(0)	28	8	35.3	31.3	19.4	14.1	94	72	36	-	-

03-DEC-2007 11:56 L:\ERD\Projects\Station\TIP\U3326a&b\GEO_RDWY\CADD_GEO\GEO\XSEC\U-3326_Geo_xsl.Y20B.dgn twalker

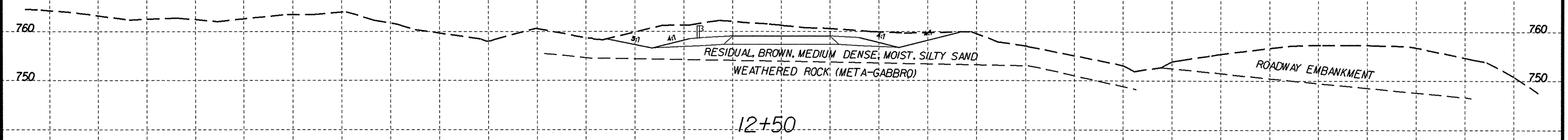
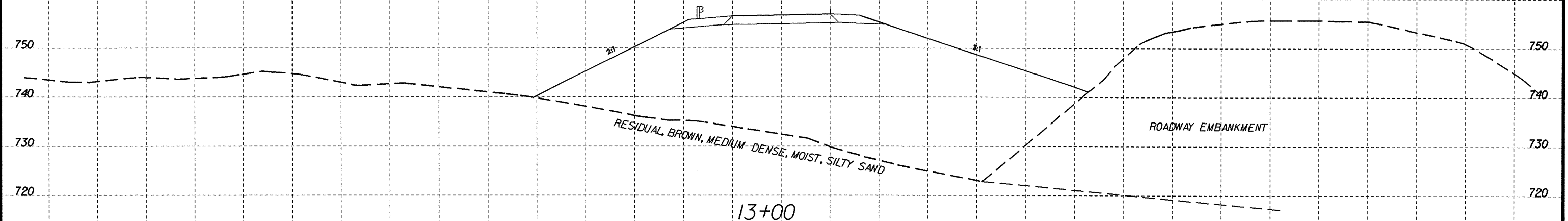
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8/23/99

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PROJ. REFERENCE NO.	SHEET NO.
U-3326 A/B	86



-Y20B-

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8/23/99

140 120 100 80 60 40 20 0 20 40 60 80



PROJ. REFERENCE NO. U-3326 A/B SHEET NO. 87

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	ALBERTO CLASS.	L.L.	P.L.	% BY WEIGHT				% PASSING (SIEVES)			% MOISTURE	% ORGANIC
							C. SAND	F. SAND	SILT	CLAY	10	40	100		
S-397	25 RT	12+50	1.0-2.0	A-7-61 391	72	46	3.2	21.6	14.5	60.6	100	99	79	-	-

S-397

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

12+50

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

12+25

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

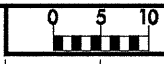
12+00

-Y21A-

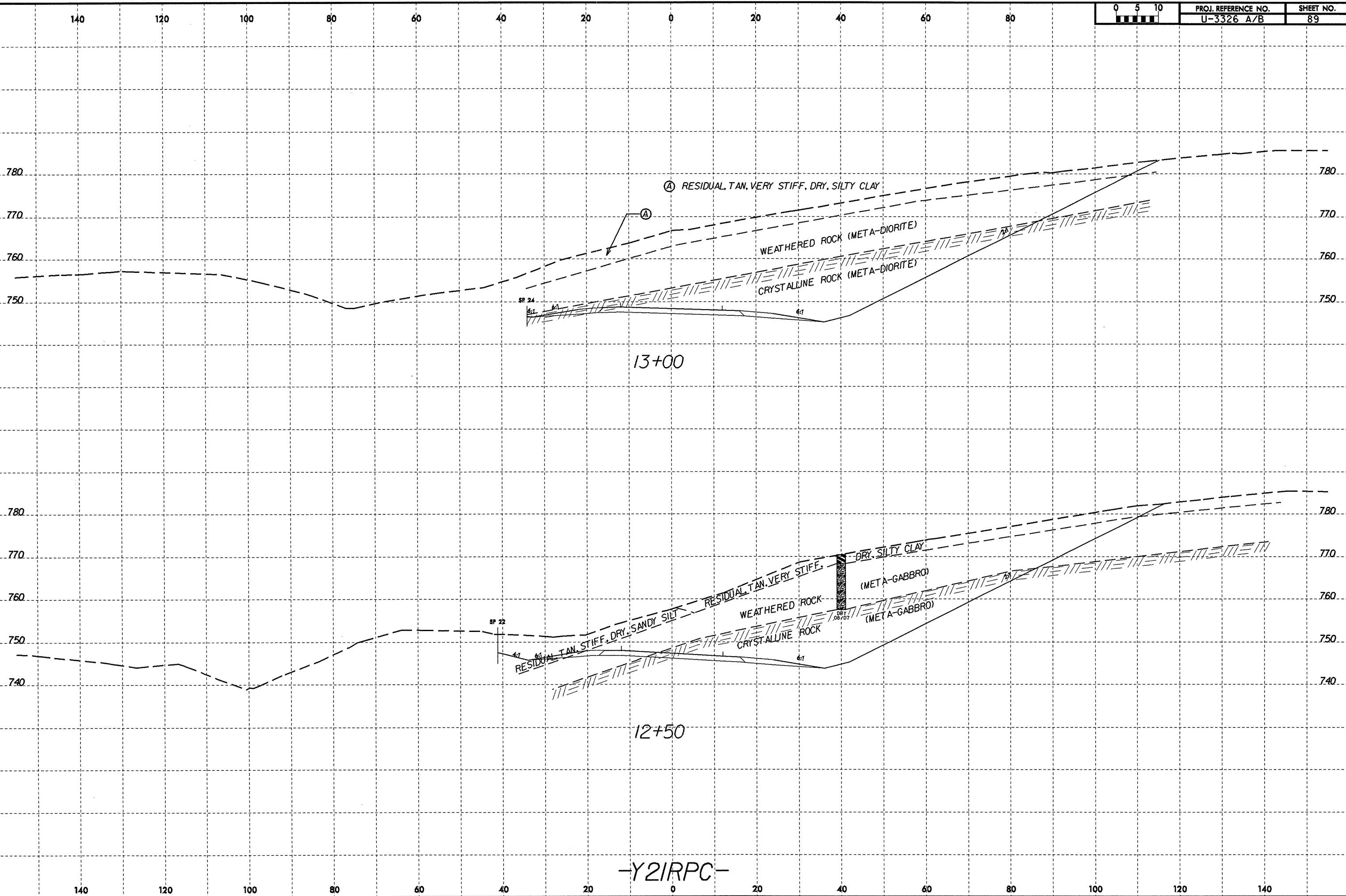
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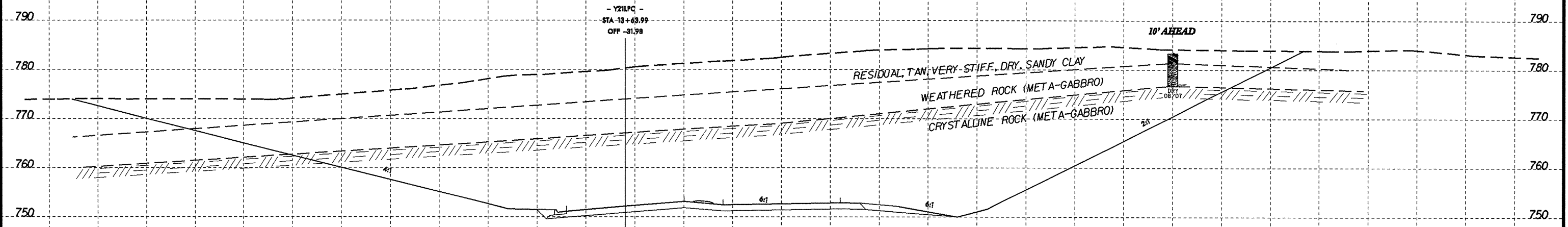
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U-3326 A/B	89



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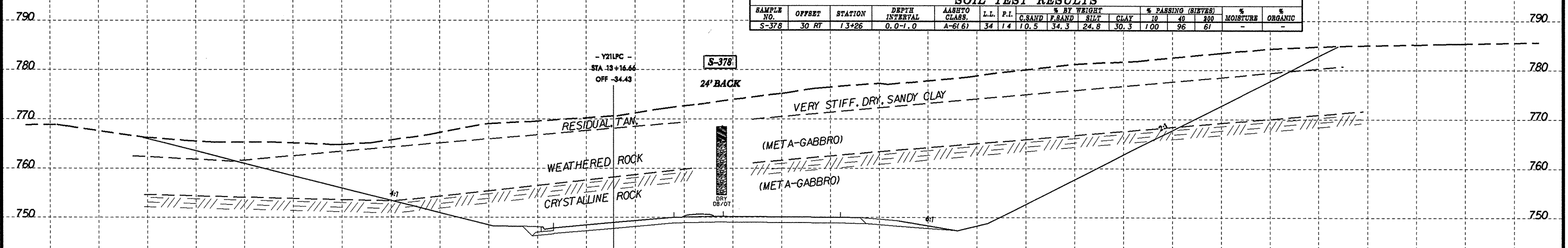
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140 120 100 80 60 40 20 0 20 40 60 80



14+00

SOIL TEST RESULTS															
SAMPLE NO.	OFFSET	STATION	DEPTH INTERVAL	ASHFORD CLASS.	L.L.	P.I.	% BY WEIGHT			% PASSING (SIEVES)			% MOISTURE	% ORGANIC	
							C.SAND	F.SAND	SILT	CLAY	10	40			200
S-378	30 FT	13+26	0.0-1.0	A-6(6)	34	14	10.5	34.3	24.8	30.3	100	96	61	-	-

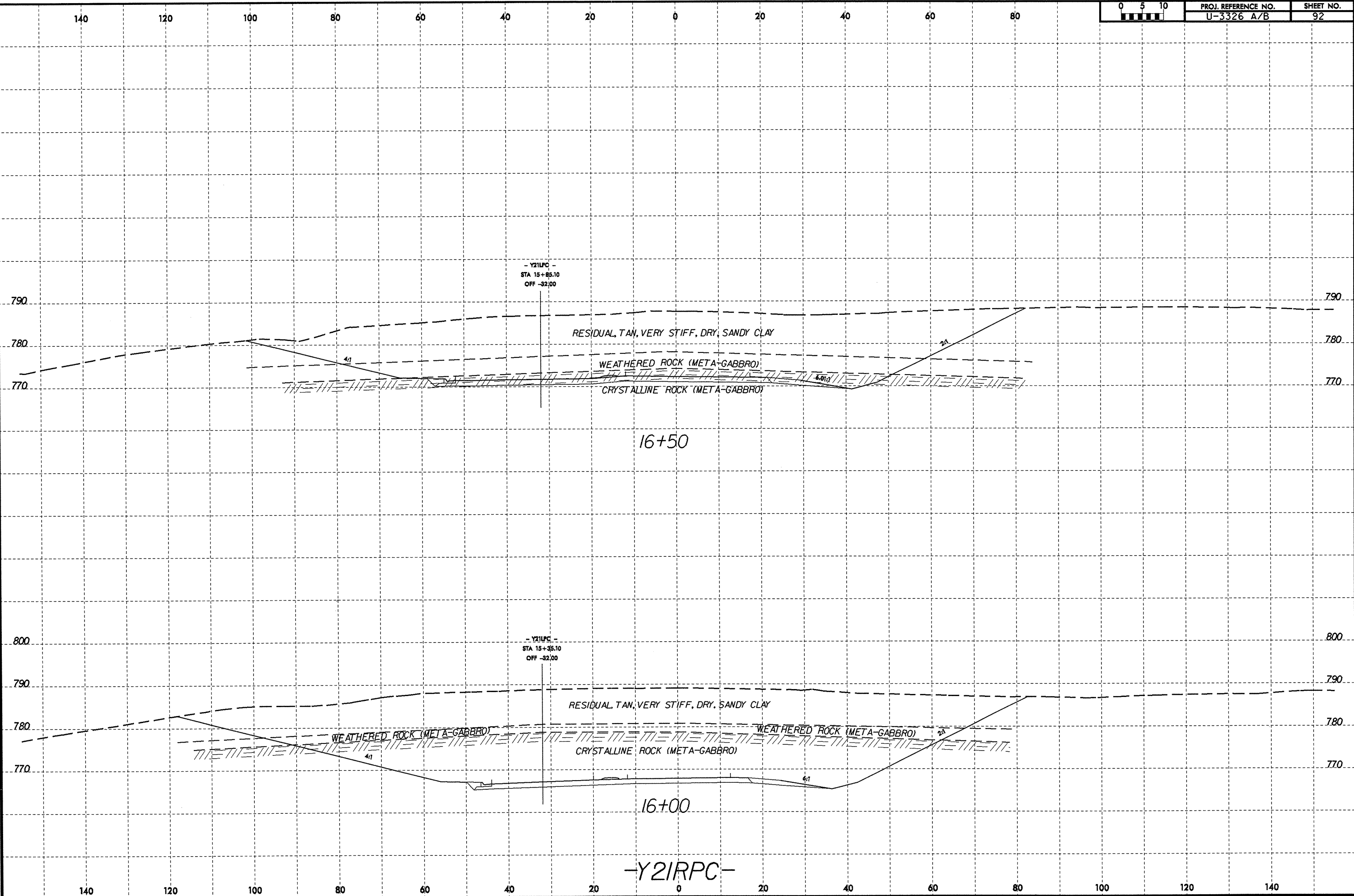


13+50

-Y2IRPC-

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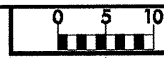
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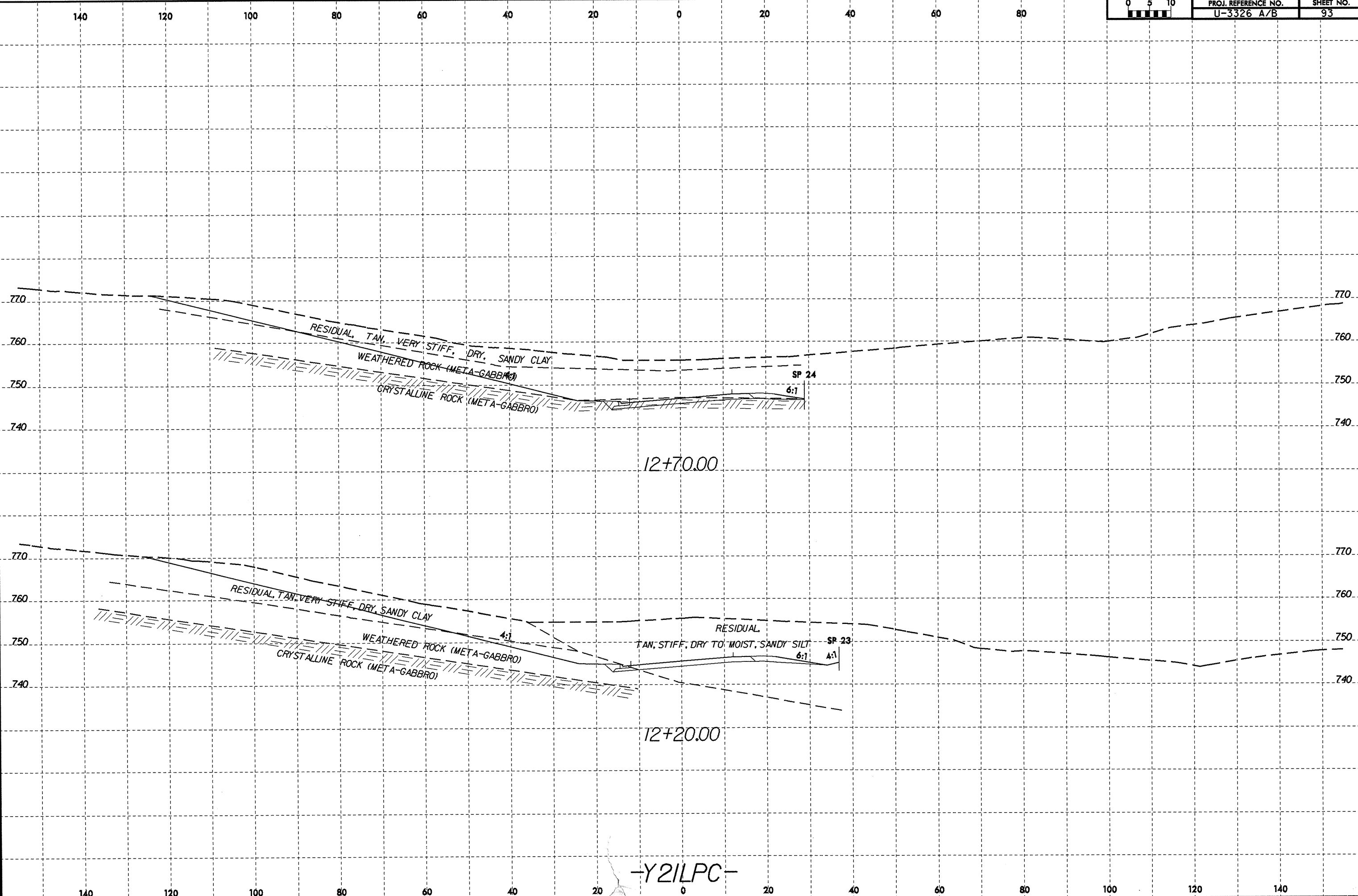
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Walker AT GEJ221426

-Y2IRPC-

8/23/99



PROJ. REFERENCE NO. U-3326 A/B SHEET NO. 93



RESIDUAL, TAN, VERY STIFF, DRY, SANDY CLAY
WEATHERED ROCK (META-GABBRO)
CRYSTALLINE ROCK (META-GABBRO)

SP 24
6:1

12+70.00

RESIDUAL, TAN, VERY STIFF, DRY, SANDY CLAY
WEATHERED ROCK (META-GABBRO)
CRYSTALLINE ROCK (META-GABBRO)

RESIDUAL
TAN, STIFF, DRY TO MOIST, SANDY SILT
SP 23
6:1
4:1

12+20.00

-Y2ILPC-

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