

GEOLOGICAL REPORT

I-215 Railroad Overpass

Stations: 953+36.79 I-215 North Bound Lane
953+77.30 I-215 South Bound Lane

Project No. I-215-9(3)297

West Belt Route Redwood Road Connection to I-15

Davis County, Utah

August, 1964

By: William F. Maedgen
Geologist

I. INTRODUCTION

Two overpass structures are proposed on I-215 between Redwood Road and I-15 in the North Salt Lake area. One structure will be on the north bound lane, the other on the south bound lane.

Prior to this structure investigation, an embankment study was completed between stations 940 and 952 which is the section of I-215 west from the proposed structure sites to Redwood Road. Eight holes were drilled for this embankment study and a Geological Report was submitted by Heber Vlam in August, 1964.

II. FIELD EXPLORATION

A. Drilling

Drilling was done with a truck mounted rotary drill rig equipped for standard penetration and shelby tube sampling. The holes were drilled with a drag bit. Water was used as the circulating agent.

B. Sampling

Standard penetration samples were obtained with a 1 3/8 inch I. D. split tube sampler driven by a 140 pound hammer dropped 30 inches in free fall. The blows per foot were recorded on the drill logs, making them available as a guide in the determination of relative densities and consistencies of the soils penetrated. Undisturbed Shelby tube samples were taken where the soils permitted. The circulating drill water was passed through a 10 mesh screen allowing observation of the cuttings. All samples were field classified, logged, and submitted to the soils laboratory for further testing.

III. GEOLOGY

A. Surface

The proposed sites are located in the North Salt Lake area between the Wasatch Mountains and the Great Salt Lake. The surrounding area not occupied by refineries, roads, or railroads is generally flat pasture land with a moderate westerly slope.

One hole was drilled at each site on a Union Pacific access road immediately east of the Union Pacific and Denver and Rio Grande Western railroad tracks. Immediately east is a series of water and oil pipelines, and overhead telephone lines.

B. Subsurface

Drill hole number one was drilled on the north bound lane to a depth of 101 feet. Drill hole number two was drilled on the south bound lane to 101 feet. These two holes provide the information for the subsurface investigation. They are approximately 200 feet apart.

Correlation of the subsoils was good in the top 20 feet and bottom 20 feet of each hole. The middle zone was interfingering sand and silt with little or no correlation possibility.

Hole number one encountered road bed fill from the surface to 2.5 feet. Fine to medium grained sand with some silt was drilled from 2.5 feet to 32 feet. From 32 feet to 63 feet a silt zone with some sand, clay, and a trace of gravel was drilled. Fine to coarse grained sand with some silt and fine gravel was encountered from 63 feet to 101 feet. This zone becomes more coarse and very dense below 80 feet.

Hole number two encountered road bed fill from the surface to 2.5 feet. Fine to medium grained sand with some silt was drilled from 2.5

to 21 feet. From 21 feet to approximately 51 feet silt with abundant sand stringers and some clay was encountered. The zone from 51 feet to 60 feet was fine to medium grained sand with some silt and gravel. Silt and sandy silt with some fine grained sand and a trace of gravel was drilled from 60 feet to 75 feet. Fine to coarse grained sand with some silt and fine gravel was encountered from 75 feet to 101 feet. This zone becomes more coarse and very dense below 80 feet.

Mica flakes were observed in varying amounts throughout all silt and sand zones in both hole number one and number two.

Soils penetrated in these tests represent typical lacustrine silts, and near shore sands and gravels of Pleistocene Lake Bonneville.

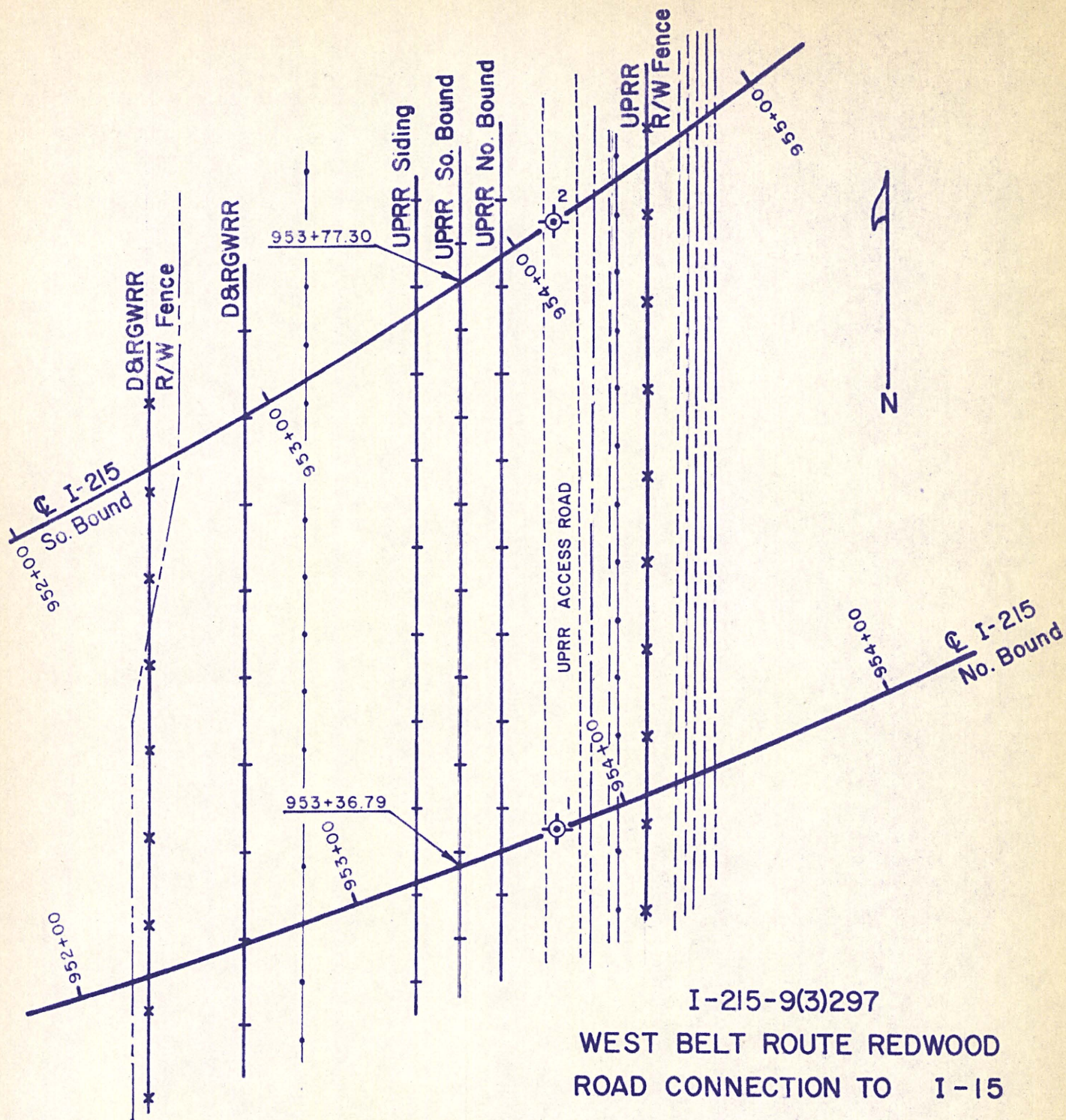
Water level measurements were taken from the existing ground surface. The measurements are as follows:

<u>Drill Hole</u>	<u>Date</u>	<u>Time</u>	<u>Water Level (feet)</u>
1	8-18-64	0900	18.5
1	8-19-64	1030	17.9
1	8-20-64	0900	17.8
2	8-21-64	0915	18.3
2	8-24-64	0900	18.2

Respectfully submitted,



William F. Maedgen
Geologist



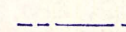
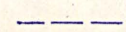
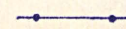
I-215-9(3)297

WEST BELT ROUTE REDWOOD
ROAD CONNECTION TO I-15

LOCATION PLAN

I-215 R.R. OVERPASS - NBL & SBL

LEGEND

-  DRILL HOLE & NUMBER
-  OIL PIPELINE
-  WATER MAIN
-  TELEPHONE OVERHEAD

SCALE : 1" = 50'

STATIONS

953+36.79 I-215 NORTH BOUND LANE
953+77.30 I-215 SOUTH BOUND LANE

W. J. M.

Date Begun 8-17-64
Date Completed 8-20-64
Hole Diameter 3 3/4"
Project No. I-215-9(3)297
Project Name West Belt Route Redwood Road Connection to I-15

UTAH STATE DEPARTMENT OF HIGHWAYS
MATERIALS & RESEARCH DIVISION
DRILLING LOG

Hole No. 1
Sheet 1 of 6
Total Depth 101'

Type of Structure I-215 R.R. Overpass
Sta. of Structure 953+36.97
Collar Elevation .8' Above
Field Party Maedgen, Parry, Fisher
Equation Project Line Sta. 953+36.97 & NBL I-215
Other Line Sta. None
Hole Sta. 953+75
Reference 953+00 NBL
Rt. 2 Ft. Lt. Ft. of & NBL I-215
Method Used Hand Level
Rig # 16

Drilling Method	Casing Depth	Blows per Foot	Sample Number	Depth in Feet	Sampling	Sample Recovery	Soil Graph	Ground Water Table				
								Depth in Ft.	18.5	17.9	17.8	
								Time	0900	1030	0900	
								Date	8-18-64	8-19-64	8-20-64	
DESCRIPTION												
Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths circulation lost, observed fluctuations in water level, notes on drilling ease, bits used, etc.												
RB				0				Road bed fill - black silty sand w/ some gravel				
				1								
				2								
				3								
				4				Fine grained sand & silt - (redish brown)				
				5				Set casing to 5'				
Pen		11	1-6	6				5/6 6/6 10/6 10/6				
"		20		7				Medium - Fine grained silty sand w/ trace mica				
"				8								
RB				9				7% sand decreases				
				10				Set casing to 10'				
				11				Sandy silt w/ trace gravel - (yellowish brown)				
				12								
				13				7% sand increases				
Pen		17	1-14	14				8/6 9/6 8/6 9/6				
"				15				Medium - fine grained silty sand & sandy silt w/ some mica & trace fine gravel (yellowish brown)				
"		17		16								
RB				17				Very fine grained silty sand w/ some fine gravel & mica				
				18								
				19								
				20								

Hole No. 1
Sheet 2 of 6
Total Depth 101'

Rig # 16

Silt w/ some clay, sand, & organic material

Date Begun 8-17-64
Date Completed 8-20-64
Hole Diameter 3 3/4"
Project No. I-215-9(3)297
Project Name West Belt Route Redwood Road Connection to I-15

UTAH STATE DEPARTMENT OF HIGHWAYS
MATERIALS & RESEARCH DIVISION
DRILLING LOG

Hole No. 1
Sheet 3 of 6
Total Depth 101

Equation Project Line Sta. 953+36.97 & NBL I-215
Other Line Sta.
Type of Structure I-215 RR Overpass
Sta. of Structure 953+36.97 Hole Sta. 953+75 Rt. 2 Ft., Lt. — Ft., of & NBL I-215
Collar Elevation .8' Above Reference 953+00 NBL Method Used Hand Level
Field Party Maedgen, Parry, Fisher Rig #16

Drilling Method	Casing Depth	Blows per Foot	Sample Number	Depth in Feet	Sampling	Sample Recovery	Soil Graph	Ground Water Table				
								Depth in Ft.				
								Time				
								Date				
DESCRIPTION												
Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths circulation lost, observed fluctuations in water level, notes on drilling ease, bits used, etc.												
RB				40	/							
				41	/							
				42	/							
Y				43	/							
S				44	/							
"				45	/							
"			1-45	46	/							
RB				47	/							
				48	/							
				49	/							
Y				50	/							
S				51	/							
"				52	/							
"			1-52	53	/							
RB				54	/							
				55	/							
				56	/							
				57	/							
				58	/							
Pen		15	1-59	59	/							
"				60	/							
"		101			/							

Date Begun 8-17-64
Date Completed 8-20-64
Hole Diameter 3 3/4"
Project No. I-215-9(3)297
Project Name West Bell Route Redwood Road Connection to I-15

UTAH STATE DEPARTMENT OF HIGHWAYS
MATERIALS & RESEARCH DIVISION
DRILLING LOG

Hole No. 1
Sheet 4 of 6
Total Depth 101

Type of Structure I-215 R.R. Overpass Equation Project Line Sta. 953+36.97 & NBL I-215
Sta. of Structure 953+36.97 Hole Sta. 953+75 Rt. 2 Ft. — Lt. — Ft. of & NBL I-215
Collar Elevation .8' Above Reference 953+00 NBL Method Used Hand Level
Field Party Maedgen, Parry, Fisher, Byer Rig #16

Drilling Method	Casing Depth	Blows per Foot	Sample Number	Depth in Feet	Sampling	Sample Recovery	Soil Graph	Ground Water Table				
								Depth in Ft.				
								Time				
								Date				
DESCRIPTION												
Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths circulation lost, observed fluctuations in water level, notes on drilling ease, bits used, etc.												
RB				60								
				61								
				62								
				63								
Pen			1-63.5									
"	37		1-64									
"				64								
"	19		1-65									
RB				65								
				66								
				67								
				68								
				69								
				70								
Pen												
"	23											
"				71								
"	47		1-72									
RB				72								
				73								
				74								
				75								
				76								
				77								
				78								
Pen												
"	19											
"				79								
"	21		1-80									
				80								

Date Begun 8-17-64
Date Completed 8-20-64
Hole Diameter 3 3/4"
Project No. I-215-9(3) 297
Project Name West Belt Route Redwood Road Connection to I-15

UTAH STATE DEPARTMENT OF HIGHWAYS
MATERIALS & RESEARCH DIVISION
DRILLING LOG

Hole No. 1
Sheet 5 of 6
Total Depth 101

Type of Structure I-215 R.R. Overpass
Sta. of Structure 953 + 36.97 Hole Sta. 953 + 75 Rt. 2 Ft. Lt. - Ft. of NBL I-215
Collar Elevation 8' Above Reference 953 + 00 NBL Method Used Hand Level
Field Party Maedgen, Parry, Fisher Rig # 16

Drilling Method	Casing Depth	Blows per Foot	Sample Number	Depth in Feet	Sampling	Sample Recovery	Soil Graph	Ground Water Table				
								Depth in Ft.	Time	Date		
								DESCRIPTION				
								Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths circulation lost, observed fluctuations in water level, notes on drilling ease, bits used, etc.				
RB				80				8-18-64				
				81				8-19-64				
				82				Fine to medium grained sand w/some silt & mica				
				83								
				84								
Pen		35	1-86	85				12/6 23/6 28/6 24/6				
"		52		86				Dense to very dense - Fine to medium grained sand & silty sand. Bedding is approx. 45° from horizontal				
"				87								
RB				88								
				89								
				90				Fine to coarse grained sand w/some silt in stringers & some mica				
				91								
				92								
Pen		79	1-93.5	93				27/6 52/6 50/4 Refusal				
"			1-94	94				1-93.5 - Very dense - Fine to medium grained sand w/ fine gravel zone 93.4 to 93.5.				
"		Ref.		95				1-94 - Very dense fine to medium grained sand w/trace gravel				
RB				96								
				97								
				98				Fine to coarse grained sand w/trace silt & mica				
				99								
				100				8-19-64				
								8-20-64				

Hole No. 1

Sheet 6 of 6

Total Depth 101'

Project No. I-215-9(3) 297

Project Name West Belt Route Redwood Road Connection to I-15

Equation Project Line Sta. 953+36.97 @ NBL I-215
Other Line Sta.

Type of Structure I-215 R.R. Overpass

Sta. of Structure 953 + 36.97 Hole Sta. 953 + 75 Rt. 2 Ft., Lt. - Ft., of € NBL I-215

Collar Elevation .8' Above Reference 953+00 NBL Method Used Hand Level

Field Party Maedgen, Parry, Fisher Rig # 16

Drilling Method	Casing Depth	Blows per Foot	Sample Number	Depth in Feet	Sampling	Sample Recovery	Soil Graph	Ground Water Table					
								Depth in Ft.					
								Time					
								Date					
								DESCRIPTION					
								Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths circulation lost, observed fluctuations in water level, notes on drilling ease, bits used, etc.					
Pen				100				washed pen. tube through 8-19-64					
X	107			101				48/6 39/6 Refusal 30' of slough before blow 8-20-64					
	Ref.			102				No Recovery Count started.					
				103				Bottomed hole @ 101 feet - 1015 hrs. - 8-20-64					
				104									
				105									
				106									
				107									
				108									
				109									
				110									
				111									
				112									
				113									
				114									
				115									
				116									
				117									
				118									
				119									
				120									

Date Begun 8-20-64Date Completed 8-24-64Hole Diameter 3 3/4"Project No. I-215-9(3)297Project Name West Belt Route Redwood Road Connection to I-15

UTAH STATE DEPARTMENT OF HIGHWAYS

MATERIALS & RESEARCH DIVISION

DRILLING LOG

Hole No. 2Sheet 1 of 6Total Depth 101'Type of Structure I-215 R.R. OverpassSta. of Structure 953+77.30Hole Sta. 954+18Rt. — Ft. — Lt. — Ft. of ± SBL I-215Collar Elevation 3' aboveReference 953+00 ± SBLMethod Used Hand LevelField Party Maedgen, Parry, FisherRig #16

Ground Water Table

Depth in Ft.	<u>18.3</u>	<u>18.2</u>		
Time	<u>0915</u>	<u>0900</u>		
Date	<u>8-21-64</u>	<u>8-24-64</u>		

DESCRIPTION

Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths circulation lost, observed fluctuations in water level, notes on drilling ease, bits used, etc.

Drilling Method	Casing Depth	Blows per Foot	Sample Number	Depth in Feet	Sampling	Sample Recovery	Soil Graph	
RB				0				
				1				Road bed fill - black silty sand w/some gravel
				2				
				3				
				4				Fine grained silty sand & gravel (reddish brown)
Pen		19	2-6	5				Set casing to 5'
"				6				8/6 11/6 17/6 20/6
"		37		7				Medium to dense - fine grained silty sand w/some streaks of calcareous material
RB				8				
				9				Fine grained sandy silt (yellowish brown)
S				10				
"			2-11	11				Fine grained sand w/some silt & mica (yellowish brown)
"				12				
RB				13				
				14				Fine grained sand w/some silt & sandy silt stringers.
				15				Set casing to 15'
				16				
				17				Fine grained micaceous sand w/some silt
Pen		10		18				5/6 5/6 8/6 14/6
"				19				Medium - Fine grained micaceous sand w/some silt through out. (light grey w/abundant iron staining in streaks)
"		22	2-20	20				

Date Begun 8-20-64
Date Completed 8-24-64
Hole Diameter 3 3/4"
Project No. I-215-9(3)297
Project Name West Belt Route Redwood Road Connection to I-15

UTAH STATE DEPARTMENT OF HIGHWAYS
MATERIALS & RESEARCH DIVISION
DRILLING LOG

Hole No. 2
Sheet 3 of 6
Total Depth 101'

Type of Structure I-215 RR Overpass Equation Project Line Sta. 953+77.30 & SBL I-215
Sta. of Structure 953+77.30 Hole Sta. 954+18 Rt. - Ft. Lt. - Ft. of & SBL I-215
Collar Elevation 3' Above Reference 953+00 & SBL Method Used Hand Level
Field Party Mladgen, Parry, Fisher Rig #16

Drilling Method	Casing Depth	Blows per Foot	Sample Number	Depth in Feet	Sampling	Sample Recovery	Soil Graph	Ground Water Table				
								Depth in Ft.				
								Time				
								Date				
DESCRIPTION												
Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths circulation lost, observed fluctuations in water level, notes on drilling ease, bits used, etc.												
RB				40								7% silt increases
				41								
				42								
Pen				43								3/6 8/6 12/6 8/6
"		11	2-44	44								2-44 - Medium - silt w/ some clay & some sand. Organic material @ 43.5'
"		20	2-45	45								2-45 - Fine grained sand w/ some silt & mica
RB				46								Sample 50% silt & 50% sand
				47								
				48								9% sand increases
				49								silt & fine to coarse grained sand
Y				50								No Recovery
"				51								
"				52								
RB				53								Silt & fine to coarse grained sand
"				54								8-20-64
Pen		15		55								8-21-64
"				56								
"		21	2-55	57								5/6 10/6 10/6 11/6
"				58								Medium - Thin layers .01' to .2' thick of silt and fine to medium grained sand. Some mica & trace fine gravel through out. Sample 60% sand - 40% silt
RB				59								7% sand increases
				60								Fine to medium grained sand w/ some silt in stringers and some mica.
												Sand & fine gravel in zone 57.5 to 58.5.

Date Begun 8-20-64

UTAH STATE DEPARTMENT OF HIGHWAYS

Hole No. 2Date Completed 8-24-64

MATERIALS & RESEARCH DIVISION

Sheet 4 of 6Hole Diameter 3 3/4"

DRILLING LOG

Total Depth 101'Project No. I-215-9(3) 297Project Name West Belt Route Redwood Road Connection to I-15Type of Structure I-215 R.R. OverpassEquation Project Line Sta. 953+77.30 & SBL I-215
Other Line Sta.Sta. of Structure 953+77.30Hole Sta. 954+18Rt. — Ft. — Lt. — Ft. of SBL I-215Collar Elevation 3' AboveReference 953+00 & SBLMethod Used Hand LevelField Party Maedgen, PARRY, FisherRig # 16

Drilling Method	Casing Depth	Blows per Foot	Sample Number	Depth in Feet	Sampling	Sample Recovery	Soil Graph	Ground Water Table				
								Depth in Ft.				
								Time				
								Date				
DESCRIPTION												
Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths circulation lost, observed fluctuations in water level, notes on drilling ease, bits used, etc.												
Pen		14	2-61	60				6/6 8/6 9/6 10/6				
"		19		61				Medium-Varved fine grained silty sand & very fine				
"				62				grained sandy silt.				
RB				63				% silt increases				
				64								
				65				Silt & sandy silt w/ some silty sand & fine gravel				
				66								
				67								
Pen		24	2-69	68				11/6 13/6 12/6 14/6				
"		26		69				Drove pen. tube through .4' of slough before blow count started				
"				70				Silt w/ some sand to fine grained silty sand. Some mica and fine gravel through out				
RB				71				% silt increases				
				72								
				73				Silt w/ some sand to silt w/ some clay & trace fine gravel (grey to dark grey)				
				74								
S				75				3' of gravel slough in hole				
"				76				Silty sand w/ trace gravel @ top				
"				77				Sand w/ some silt & mica @ bottom				
RB			2-77	78								
				79								
				80				Alternate layers of fine to medium grained sand & sandy silt				

Date Begun 8-20-64
Date Completed 8-24-64
Hole Diameter 3 3/4"
Project No. I-215-9(3) 297
Project Name West Belt Route Redwood Road Connection to I-15

UTAH STATE DEPARTMENT OF HIGHWAYS
MATERIALS & RESEARCH DIVISION
DRILLING LOG

Hole No. 2
Sheet 5 of 6
Total Depth 101'

Type of Structure I-215 RR. Overpass Equation Project Line Sta. 953+77.30 & SBL I-215
Sta. of Structure 953+77.30 Hole Sta. 954+18 Other Line Sta. None
Collar Elevation 3' Above Reference 953+00 & SBL Method Used Hand Level
Field Party Maedgen, Parry, Fisher Rig #16

Drilling Method	Casing Depth	Blows per Foot	Sample Number	Depth in Feet	Sampling	Sample Recovery	Soil Graph	Ground Water Table				DESCRIPTION Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths circulation lost, observed fluctuations in water level, notes on drilling ease, bits used, etc.
								Depth in Ft.				
								Time				
								Date				
RB				80								
				81								Fine to medium grained sand & sandy silt
				82								
Pen				83								13/6 16/6 24/6 34/6
"		29	2-84	84								Fine grained sand w/some mica, silt & abundant organic material @ top grading to fine grained silty micaceous sand @ bottom
"		58		85								
RB				86								
				87								Fine grained micaceous sand
				88								
				89								
				90								Fine to medium grained sand
Pen				91								45/6 70/6 - Refusal
"		115	2-91	92								Fine to coarse grained sand w/some fine to medium gravel
"		Ref.		93								
RB				94								
				95								Medium grained gravel zone between 94 & 95'
				96								
				97								Fine to coarse grained sand w/some gravel
				98								
				99								
				100								medium grained gravel zone between 99 & 100'

8-21-64
8-24-64

Hole No. 2

Sheet 6 of 6

Total Depth 101'

Project No. I-215-9(3)297

Project Name West Belt Route Redwood Road Connection to I-15

Type of Structure I-215 R.R. Overpass

Equation Project Line Sta. 953 + 77.30 E SBL I-215
Other Line Sta. None

Sta. of Structure 953 + 77.30Hole Sta. 954 + 18Rt. — Ft., Lt. — Ft., of \$ SBL I-215

Collar Elevation 3' above

Reference 953+00 & 5BL

Method Used Hand Level

Field Party Maedgen, Gold, Parry

Rig #16

Drilling Method	Casing Depth	Blows per Foot	Sample Number	Depth in Feet	Sampling	Sample Recovery	Soil Graph	Ground Water Table						
								Depth in Ft.						
								Time						
								Date						
								DESCRIPTION						
								Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths circulation lost, observed fluctuations in water level, notes on drilling ease, bits used, etc.						
Pen X				100	X			Washed pen. tube through 8-21-64						
Ref.				101	X			44/6 30/4 - Refusal 25' of slough before 8-24-64						
				102				blow count started.						
				3				Very dense - No recovery						
				4										
				5										
				6										
				7										
				8										
				9										
				0										
				1										
				2										
				3										
				4										
				5										
				6										
				7										
				8										
				9										
				0										
								Hole bottomed @ 100.9' - 0945 hrs - 8-24-62						

Date Begun 9-11-64
Date Completed 9-11-64
Hole Diameter 3 3/4"
Project No. I-215-9(3) 297
Project Name West Belt Route Redwood Road Connection to I-15

UTAH STATE DEPARTMENT OF HIGHWAYS
MATERIALS & RESEARCH DIVISION
DRILLING LOG

Hole No. 3
Sheet 2 of 5
Total Depth 100'

Type of Structure I-215 R.R. Overpass Equation Project Line Sta. 953+77.30 & SBL I-215
Sta. of Structure 953+77.30 SBL Other Line Sta. None
Collar Elevation 1.5' above Hole Sta. 954+27 SBL Rt. 88 Ft., Lt. - Ft., of & SBL I-215
Reference 953+00 SBL Method Used Hand Level
Field Party Maedgen, Stark, Ramey Rig 4

Drilling Method	Casing Depth	Blows per Foot	Sample Number	Depth in Feet	Sampling	Sample Recovery	Soil Graph	Ground Water Table				
								Depth in Ft.				
								Time				
								Date				
DESCRIPTION												
Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths circulation lost, observed fluctuations in water level, notes on drilling ease, bits used, etc.												
RB				20								
				21								7% silt increases
				22								
				23								Fine grained micaceous sand & silt to sandy silt (Yellowish brown)
				24								
				25								Silt to silt w/ some very fine grained sand (grey)
				26								
				27								Medium grained sand to fine gravel
				28								
				29								
Pen				30								3/6 4/6 3/6 2/6
"	7			31								Fine to medium grained sand & silt to sandy silt in alternate layers .01 to .1 feet thick - Sample 50% sand and 50% silt.
"	5			32								
RB			3-32	33								
				34								Fine grained sand, silt & sandy silt
				35								
				36								7% sand decreases
				37								
				38								Silt w/ some sand to silt w/ some clay, trace gravel
				39								
Y				40								

Date Begun 9-11-64
Date Completed 9-11-64
Hole Diameter 3 3/4"
Project No. I-215-9(3) 297
Project Name West Bell Route Redwood Road Connection to I-15

UTAH STATE DEPARTMENT OF HIGHWAYS
MATERIALS & RESEARCH DIVISION
DRILLING LOG

Hole No. 3
Sheet 3 of 5
Total Depth 100'

Type of Structure I-215 R.R. Overpass Equation Project Line Sta. 953+77.30 ± SBL I-215
Other Line Sta. None
Sta. of Structure 953+77.30 SBL Hole Sta. 954+27 SBL Rt. 88 Ft., Lt. - Ft., of ± SBL I-215
Collar Elevation 1.5' above Reference 953+00 SBL Method Used Hand Level
Field Party Maedgen, Stark, Ramey Rig 4

Drilling Method	Casing Depth	Blows per Foot	Sample Number	Depth in Feet	Sampling	Sample Recovery	Soil Graph	Ground Water Table					
								Depth in Ft.					
								Time					
								Date					
DESCRIPTION													
Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths circulation lost, observed fluctuations in water level, notes on drilling ease, bits used, etc.													
RB				40			/						
				41			/						
				42			/						
				43			X						silt w/ some sand to clayey silt - trace fine grained sand in stringers
				44			X						
				45			/						
				46			X						
				47			/						
				48			X						silt to clayey silt, trace gravel
				49			/						
				50			X						
Pen			22	3-50.5			/						10/6 12/6 8/6 6/6
"							/						3-50.5 silt to clayey silt w/ thin fine grained sand stringer
"			14	3-52			/						3-52 Fine to coarse grained sand w/ some sandy silt stringers and - trace gravel in bottom .5 feet.
RB							/						
				53			/						
				54			/						Fine to coarse grained sand w/ some sandy silt & trace gravel
				55			/						Thin gravel zone @ 55 feet
				56			/						No silt increases
				57			/						
				58			/						sandy silt to silt w/ some clay - abundant organic material - some fine to medium sand in stringers.
				59			/						
				60			/						

Date Begun 9-11-64
Date Completed 9-11-64
Hole Diameter 3 3/4"
Project No. I-215-9(3)297
Project Name West Belt Route Redwood Road Connection to I-15

UTAH STATE DEPARTMENT OF HIGHWAYS
MATERIALS & RESEARCH DIVISION
DRILLING LOG

Hole No. 3
Sheet 4 of 5
Total Depth 100'

Type of Structure I-215 R.R. Overpass Equation Project Line Sta. 953+77.30 & SBL I-215
Sta. of Structure 953+77.30 SBL Hole Sta. 954+27 SBL Rt. 88 Ft., Lt. — Ft., of & SBL I-215
Collar Elevation 1.5' above Reference 953+00 SBL Method Used Hand Level
Field Party Maedgen, Stark, Ramey Rig 4

Drilling Method	Casing Depth	Blows per Foot	Sample Number	Depth in Feet	Sampling	Sample Recovery	Soil Graph	Ground Water Table					
								Depth in Ft.					
								Time					
								Date					
DESCRIPTION													
Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths circulation lost, observed fluctuations in water level, notes on drilling ease, bits used, etc.													
RB				60		/							
				61		/							
				62		/							
				63		/							
				64		/							
				65		/							
				66		/							
				67		/							
				68		/							
				69		/							
				70		/							
				71		/							
				72		/							
				73		/							
				74		/							
				75		/							
				76		/							
				77		/							
				78		/							
				79		/							
				80		/							

Project Name West Belt Route

Total Depth 100'

Field Party maedgen, stark, Ramey Rig 4

Drilling Method	Casing Depth	Blows per Foot	Sample Number	Depth in Feet	Sampling	Sample Recovery	Soil Graph	Ground Water Table					DESCRIPTION Soil type, color, texture, consistency, sampler driving notes, blows per foot on casing, depths circulation lost, observed fluctuations in water level, notes on drilling ease, bits used, etc.
								Depth in Ft.					
								Time					
								Date					
RB				80									
				81									
				82									
				83									
				84									
				85									
				86									
				87									
				88									
				89									
				90									
				91									
				92									
				93									
				94									
				95									
				96									
				97									
				98									
				99									
				100									
X													

Fine to medium grained sand grading to silt w/ some sand
 Gravel stringer @ 84 feet.
 % sand increases
 medium to coarse grained sand w/ trace fine gravel
 Dense sand & gravel - determined by drill rate
 % medium to coarse gravel decreases
 medium to coarse grained sand w/ trace fine gravel
 % fine to medium gravel increases
 Medium grained sand to medium grained gravel

Bottomed hole @ 100' - 1530 hrs - 9-11-64

Bee Line Refinery

N.E. $\frac{1}{4}$ Sec. 11,
T. 1N., R. 1W.

$\frac{1}{4}$ section Line

S.E. $\frac{1}{4}$ Sec. 11,
T. 1N., R. 1W.

California Oil Co.

Salt Lake Pipeline Co.

D. & R. G. W. R. R. R/W Fence

D. & R. G. W. R. R.

M.P. 31.68

M.P. 31.64

U.P.R.R. Siding

U.P.R.R. S.B.

U.P.R.R. R. N.B.

⊙_N

18" C.I. Pipe

U.P.R.R. R/W Fence

Road Commission.

26" Casing for 20" Natural Gas Line

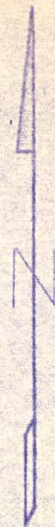
8" Oil Line

Utah State

LEGEND

⊙¹ Drill Hole and Number

2 Scale: 1" = 50'



I-15 TO I-15 NEAR
CUADAHY LANE

I-215 SOUTHBOUND
OVER D.E.R.G.W. &
U.P. RR.

TWO T.H.'s ON SBL STRUCTURE
SITE -

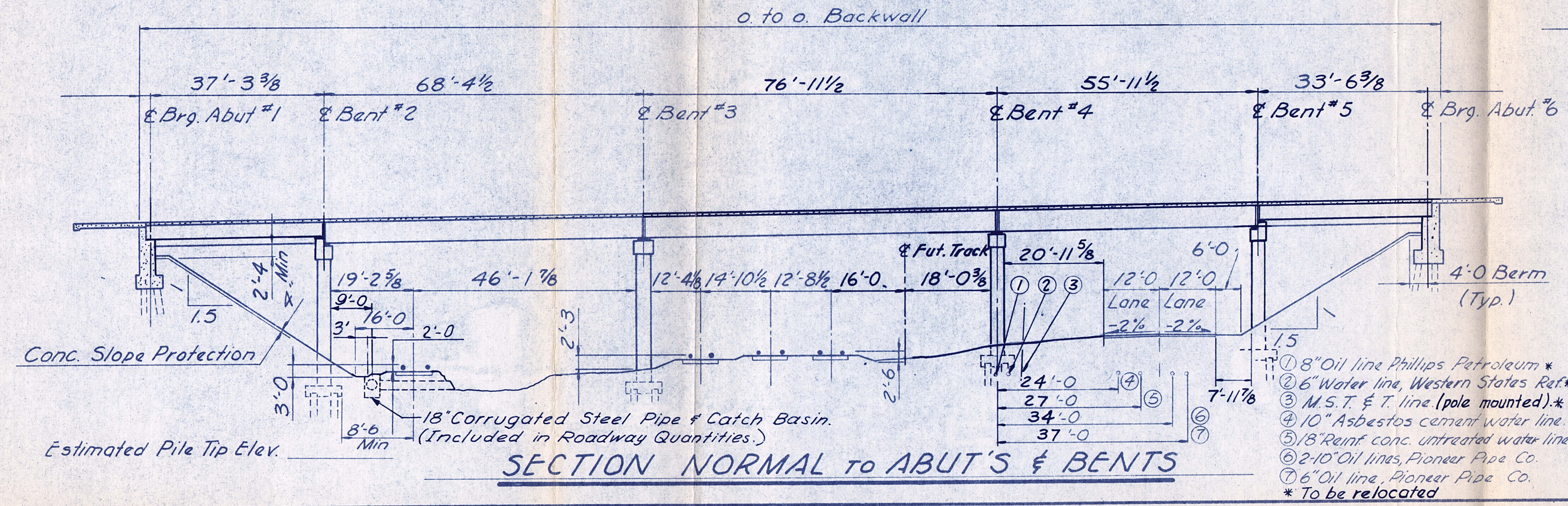
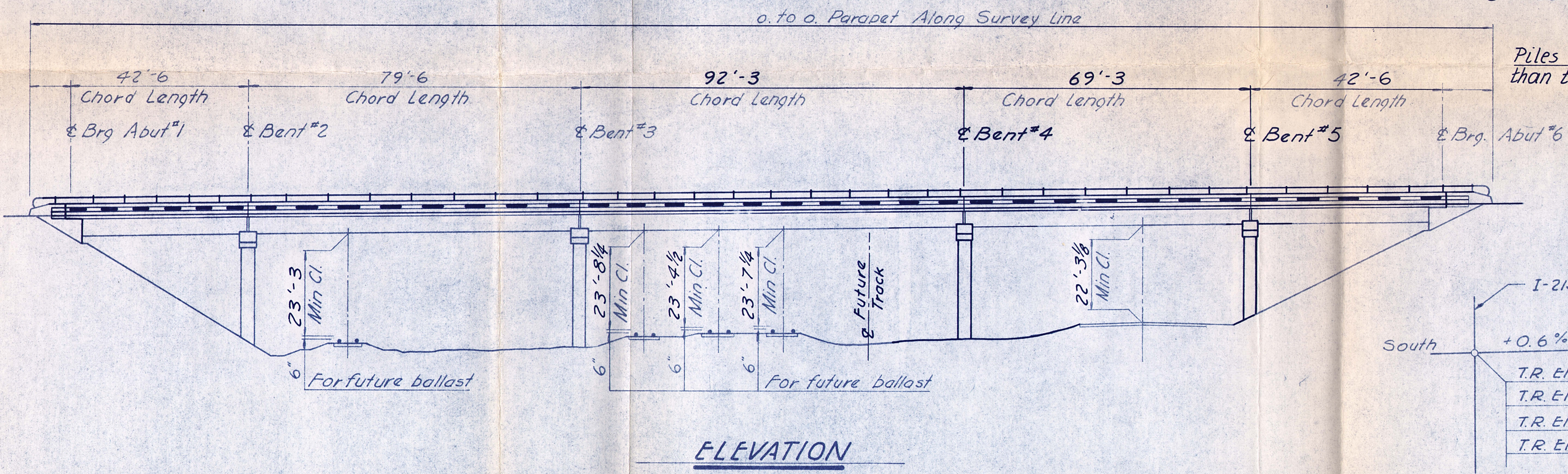
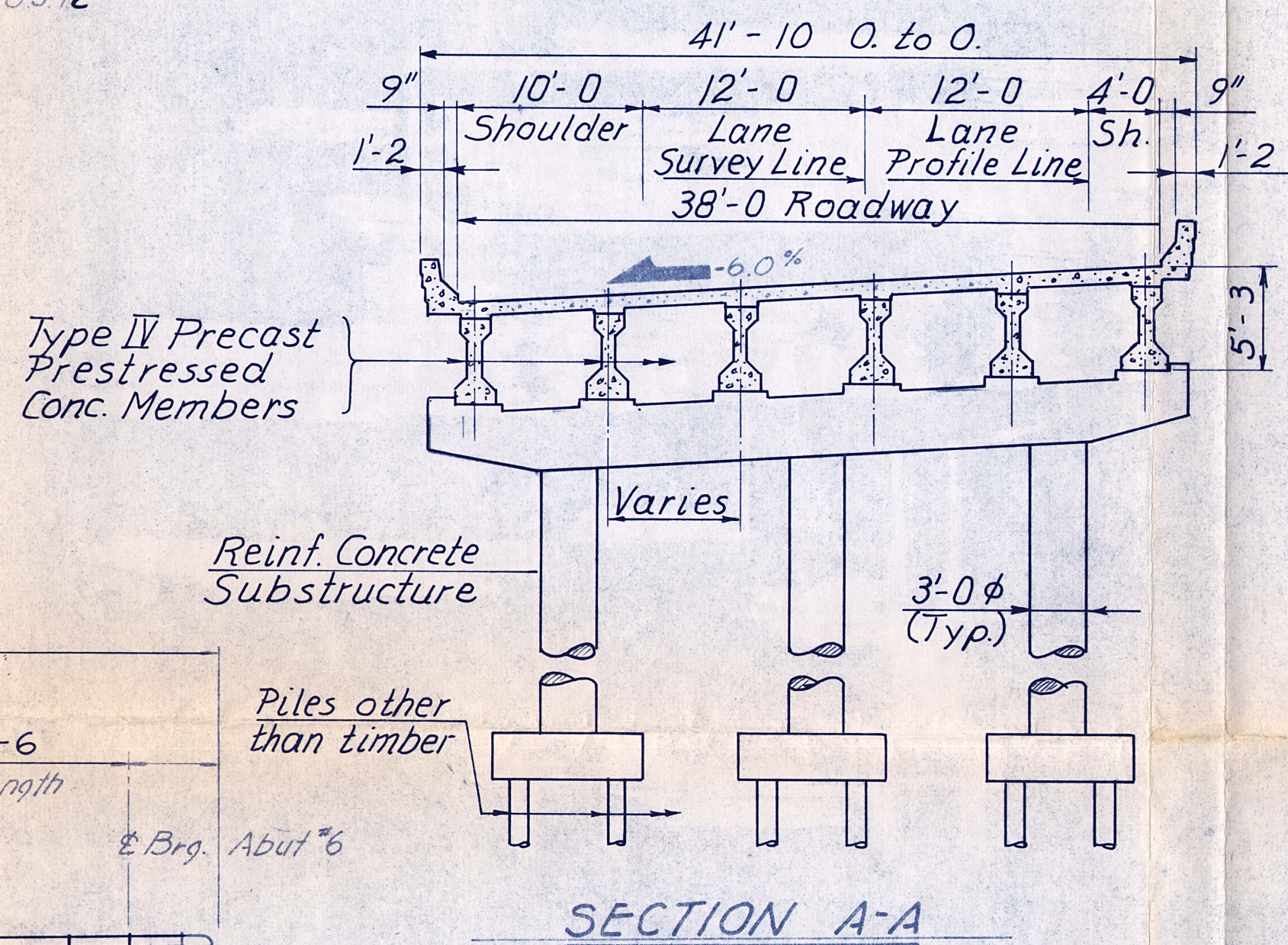
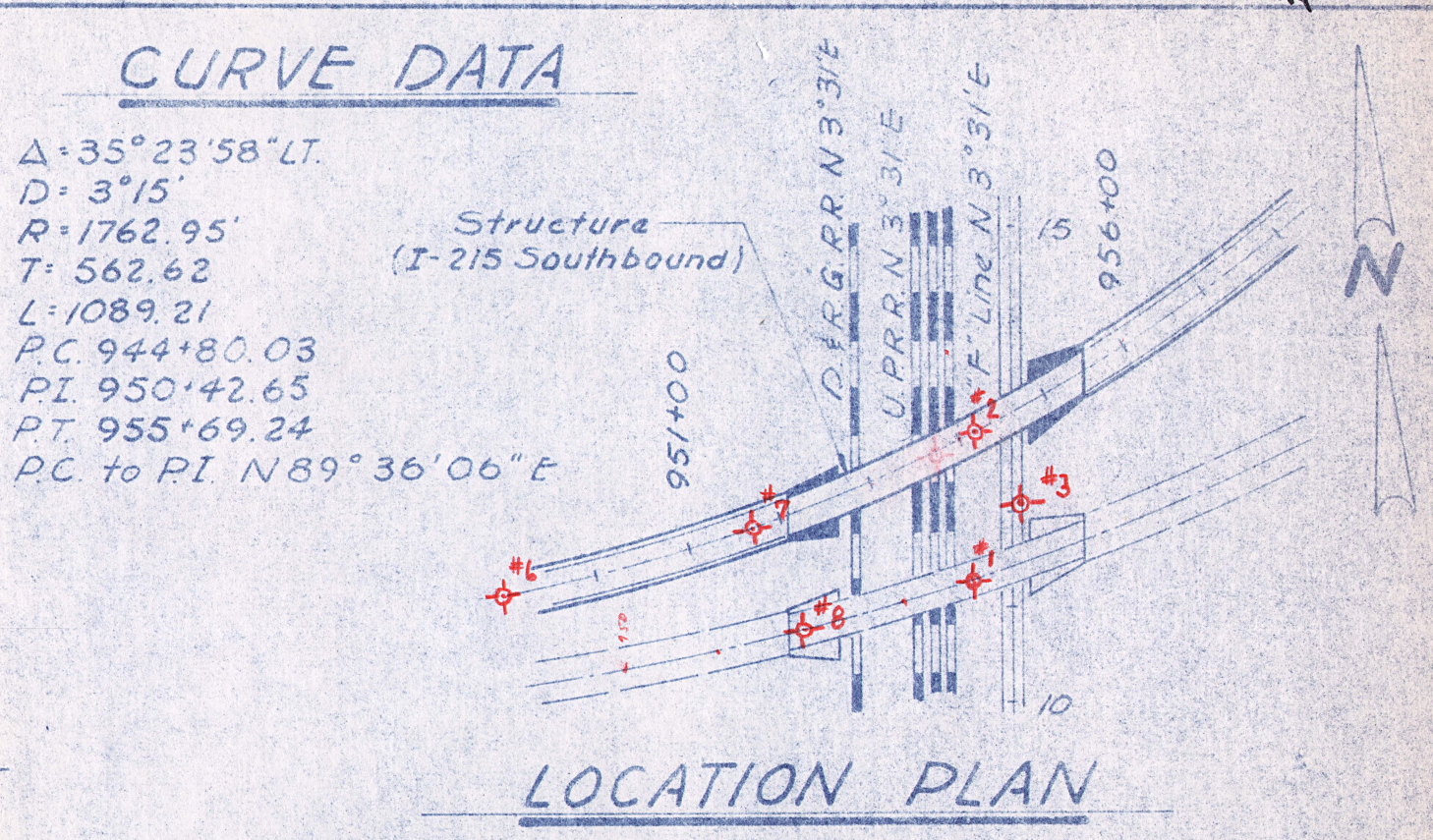
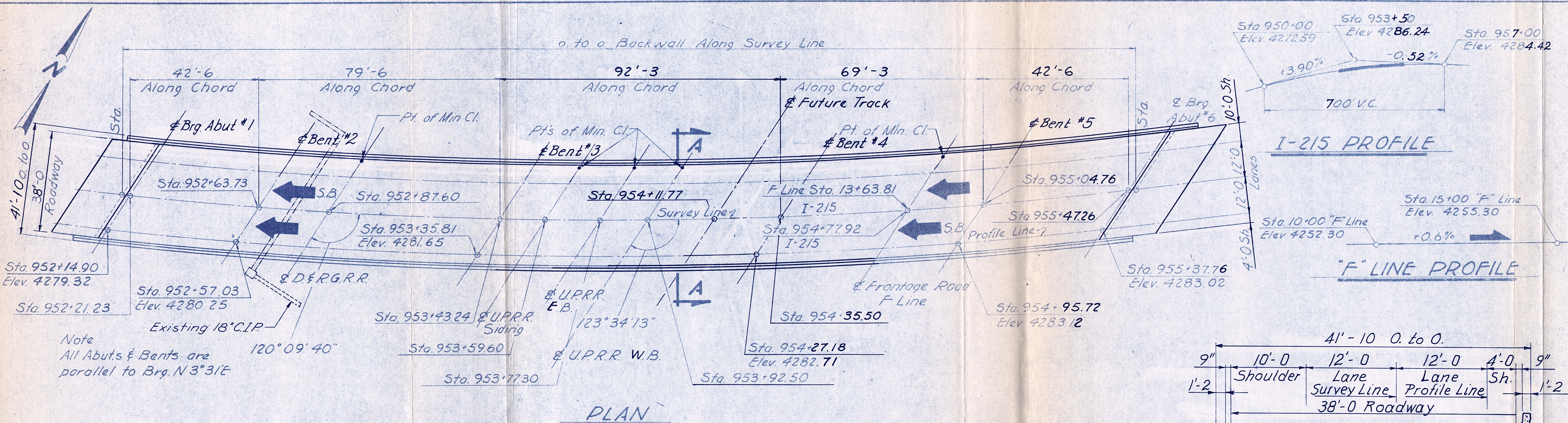
T.H. #2 - 101'

T.H. #7 - 110'

CORRELATION GOOD

HOLES LOCATED ON
STRUCTURE PLAN -

Watts
9-12-67



GENERAL NOTES

- 1- Materials, construction and workmanship shall be in accordance with the State of Utah Standard Specifications for Road and Bridge Construction, 1960 Edition, and Supplements thereto which are in effect at the date of request for bids.
- 2- All reinforcing steel shall be intermediate grade billet steel, conforming with A.A.S.H.O designation M-31. Deformations shall conform with A.A.S.H.O designation M-137.
- 3- Exposed concrete corners shall be chamfered 3/4" except where noted otherwise.
- 4- Cover to Reinforcing Steel shall be 2 inches except where noted otherwise.

DESIGN DATA

H520-44 or Interstate Alternate Loading in accordance with A.A.S.H.O. Specifications of 1965

Cast-in-place Concrete: $f'_c = 3,000 \text{ p.s.i.}$
 $f_s (\text{Reinf.}) = 20,000 \text{ p.s.i.}$
 $f'_c = 1,200 \text{ p.s.i.}$ $n = 10$

Prestressed Concrete: $f'_c = 5,000 \text{ p.s.i.}$ $f_s (\text{Non-Prestressed}) = 20,000 \text{ p.s.i.}$
 $n = 6$

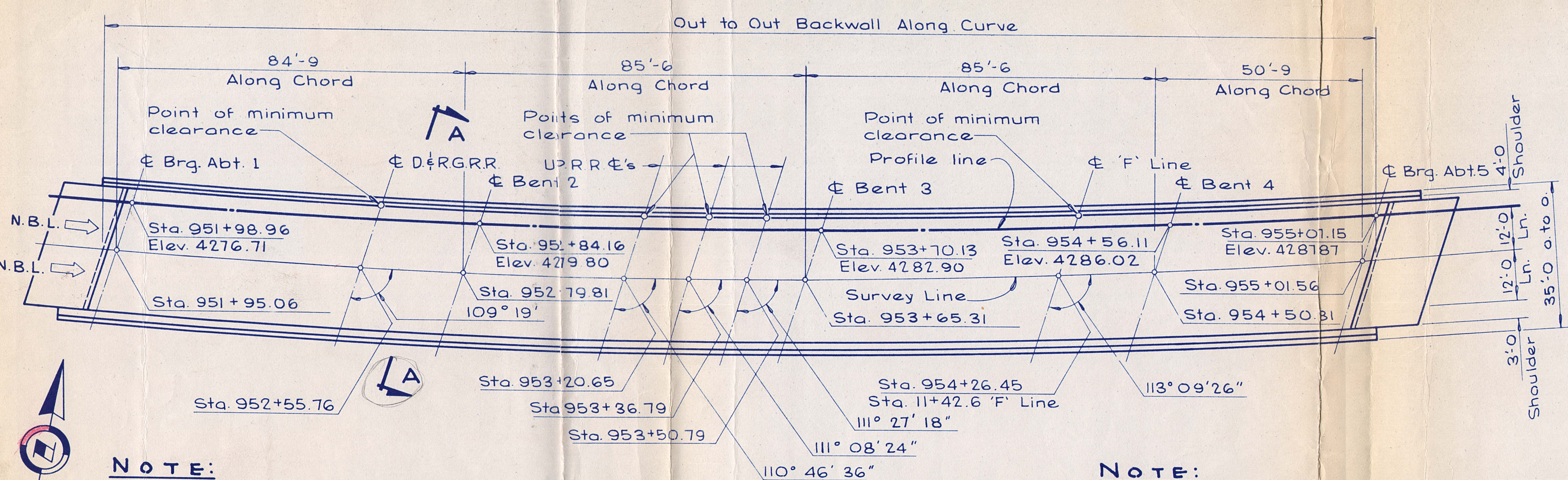
Wearing Surface: 1" Concrete, 15 lbs/sq. ft.
future surface

<u>QUANTITIES</u>		ESTIMATED UNIT	AS CONST.
ITEM			
ure (Unclassified)			Cu Yd.
			Cu Yd.
			Lb
			Lb
Rail)			Lin Ft.
ion			Sq. Yd.
			Hour
ber Type IV ()			Each
ber Type IV ()			Each
ber Type IV ()			Each
ber Type IV ()			Each
ber Type IV ()			Each
ber Type IV ()			Each
ber Type IV ()			Each
ber Type IV ()			Each
ber Type II ()			Each
(1 inch thick)			Sq. Ft.
			Lin Ft.
Equipment			Lump
			Lin Ft.

1- SITUATION & LAYOUT	14-
2-	15-
3-	16-
4-	17-
5-	18-
6-	19-
7-	20-

PRELIMINARY
NOT FOR CONSTRUCTION
DATE AUG 16 1967

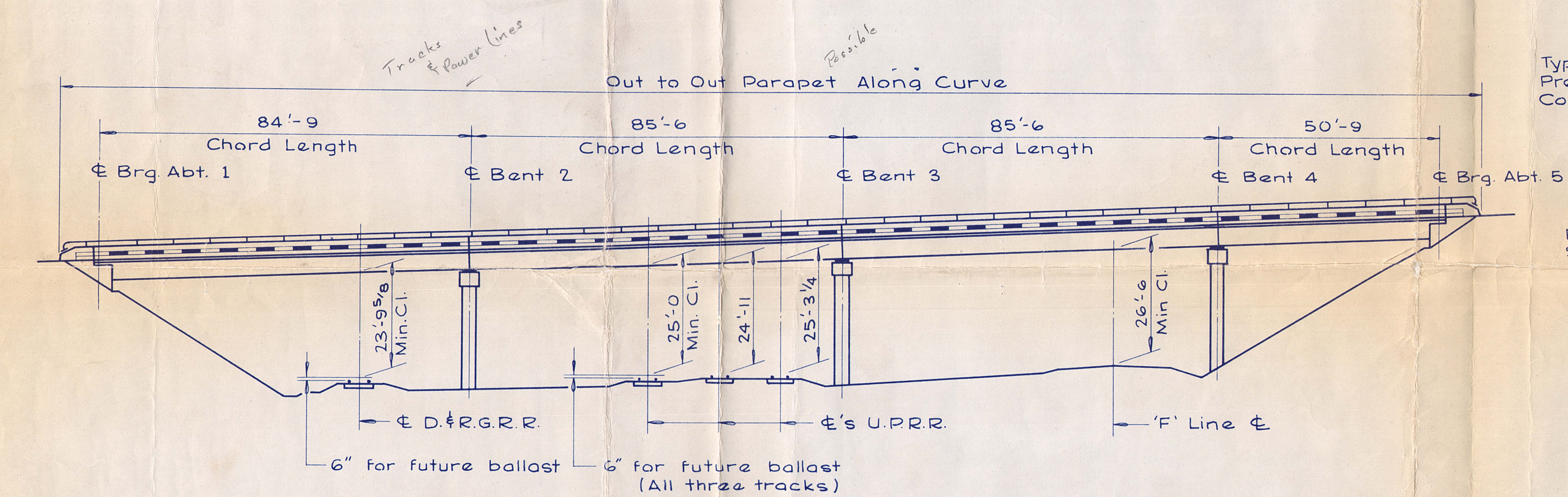
UTAH STATE DEPARTMENT OF HIGHWAYS			
SALT LAKE CITY, UTAH			
STRUCTURES DIVISION			
I-15 to I-15 NEAR CUDAHY LANE I-215 SOUTHBOUND OVER DERG.W. & UPRR SITUATION & LAYOUT			
DESIGNED BY	CHECKED BY	I-215-913/297	
DRAWN BY <i>MLF</i>	CHECKED BY <i>REG</i>	PROJECT NUMBER	
QUANTITIES BY	CHECKED BY	953+77.30	
APPROVAL RECOMM.	DATE	GROUP LEADER	STATION
APPROVED	DATE	CHIEF STRUCTURAL ENGR.	Salt Lake COUNTY
BR. NO.	DRG. NO. <i>F-126</i>		/ OF



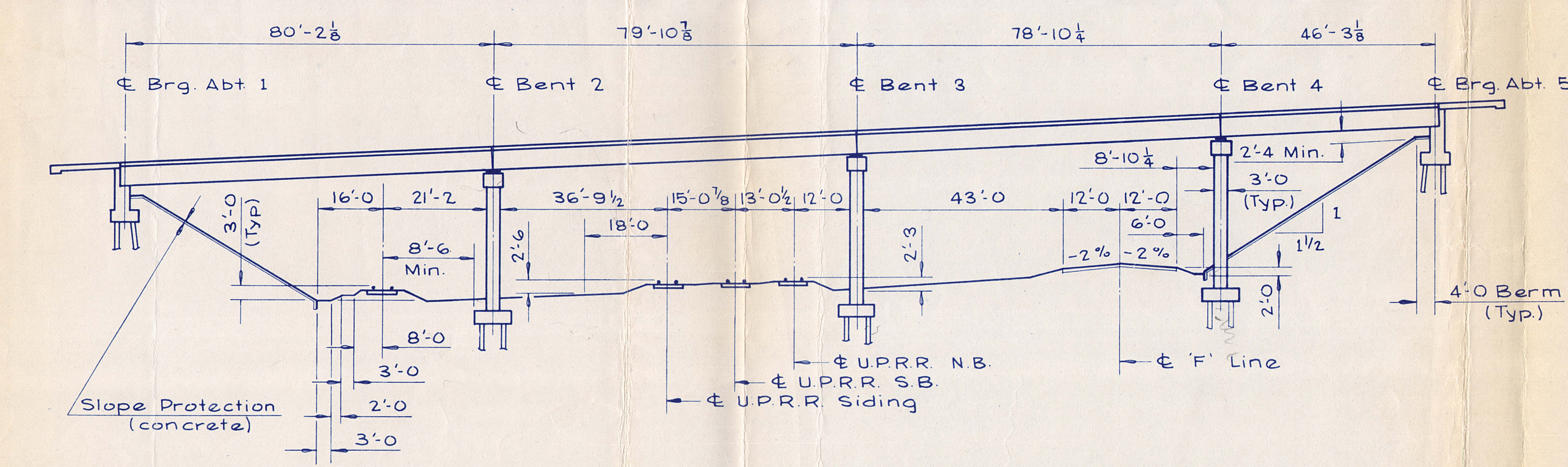
NOTE:
All angles are to the tangent line to the curve at the stations concerned.

PLAN

NOTE:
All Abutments and Bents are parallel to Bearing N 3° 31' E

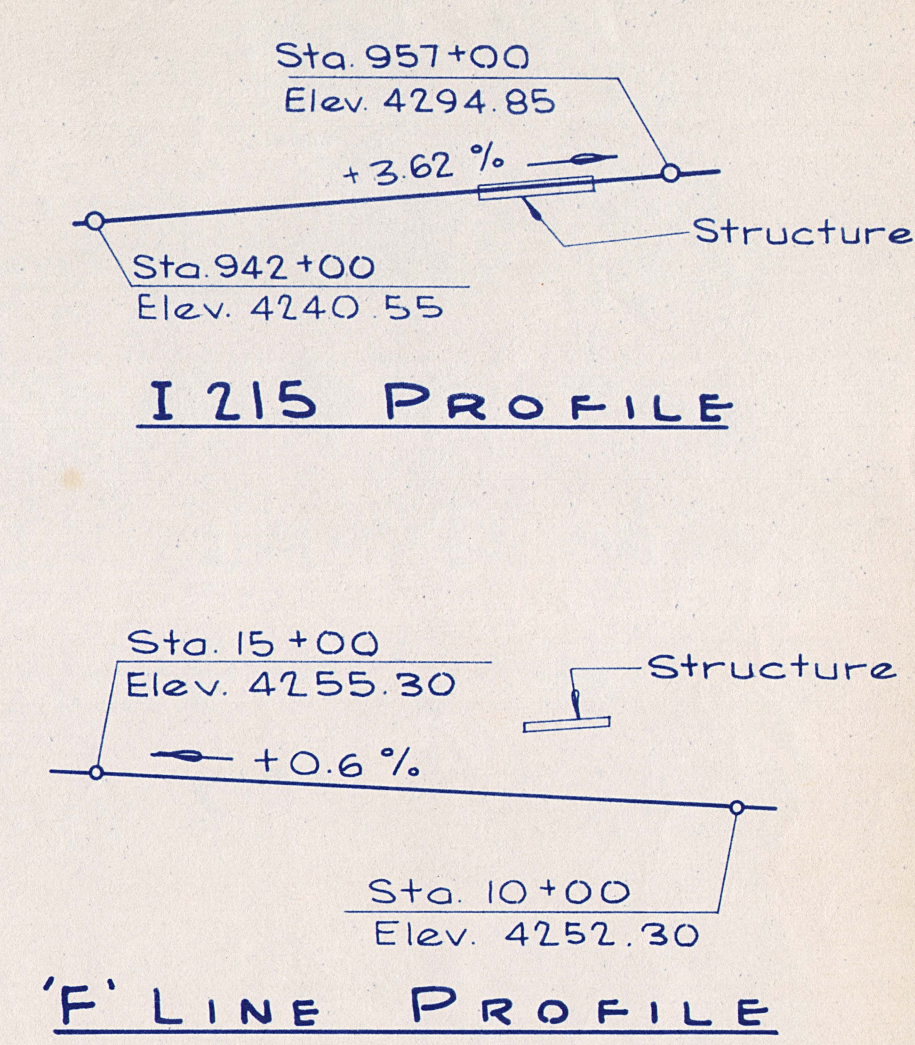


ELEVATION



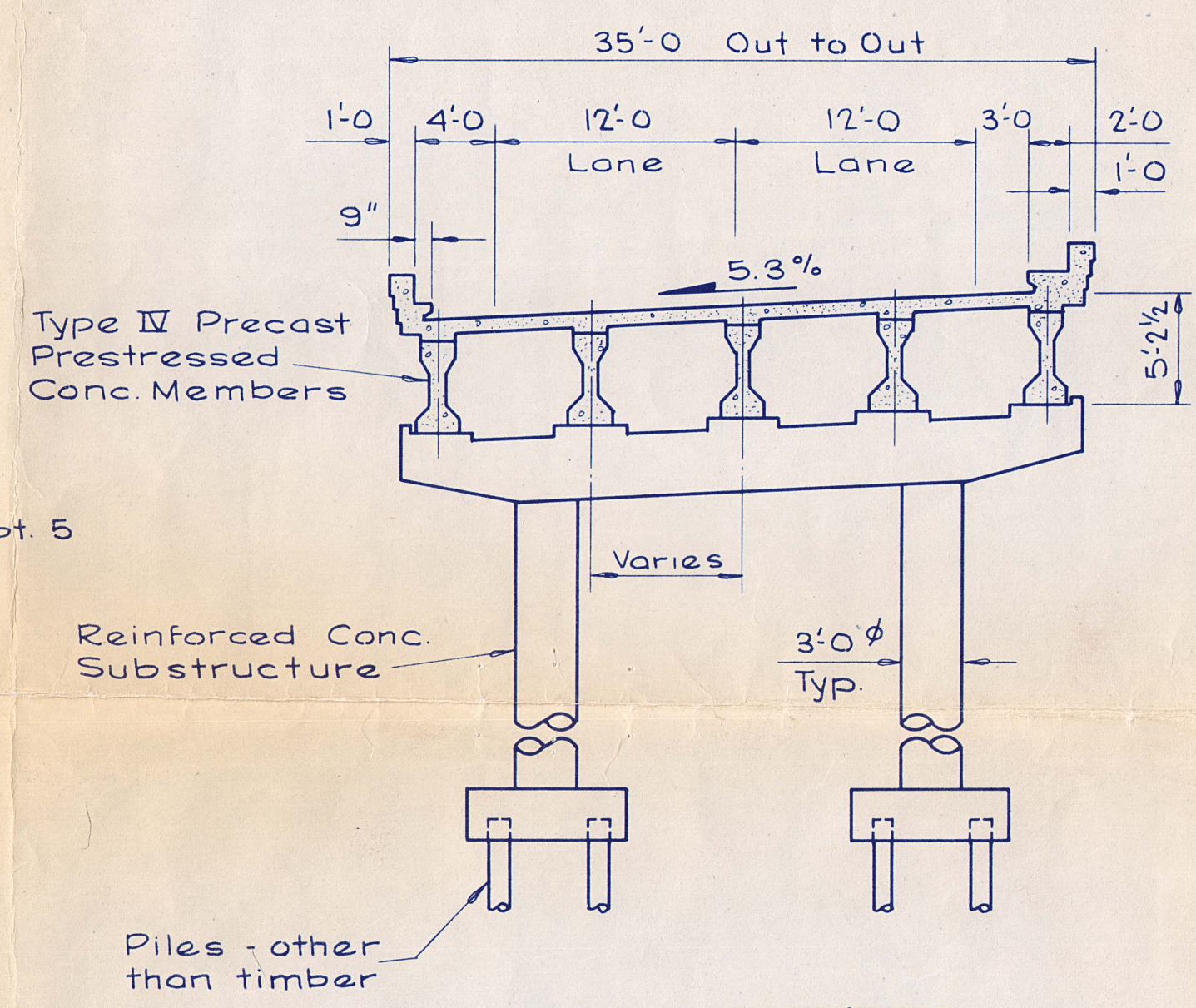
SECTION NORMAL TO BENTS & ABUTMENTS

Estimated Pile Tip Elevation

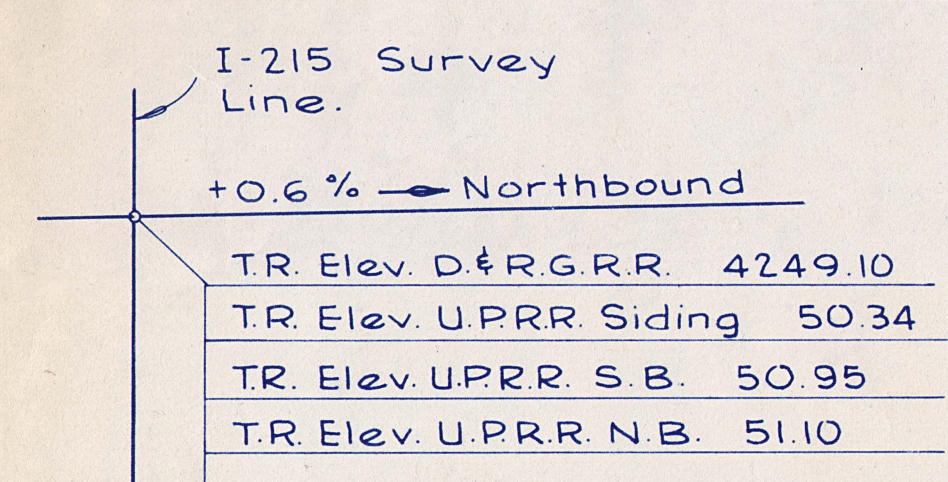


I-215 PROFILE

F' LINE PROFILE



SECTION 'A-A'



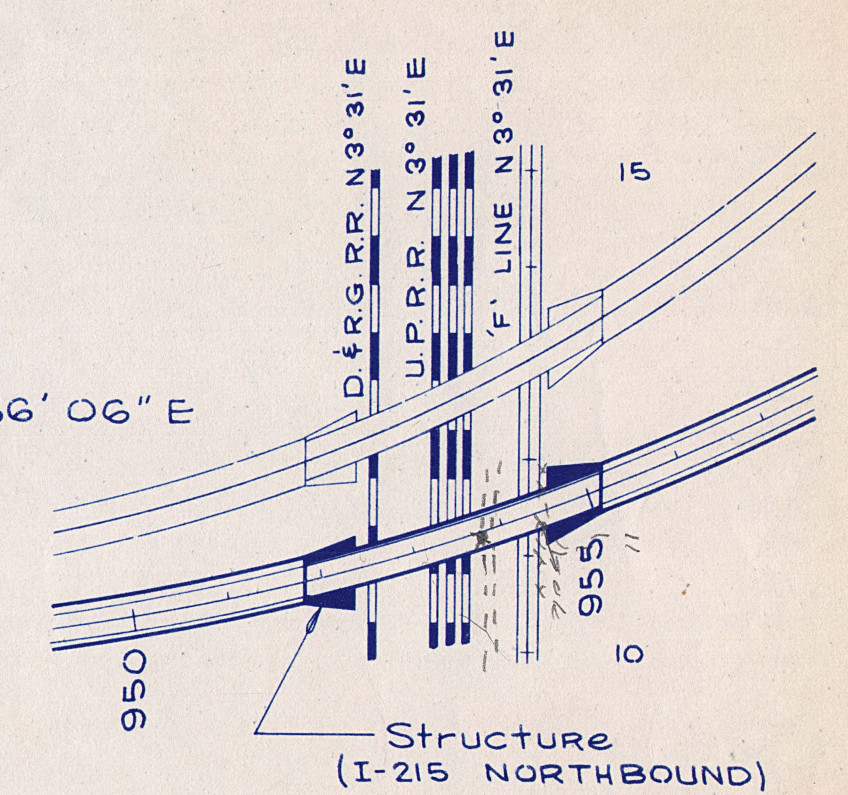
RAILROAD PROFILES

INDEX TO SHEETS

1. SITUATION & LAYOUT	14.
2.	15.
3.	16.
4.	17.
5.	18.
6.	19.
7.	20.
8.	
9.	
10.	
11.	
12.	
13.	

CURVE DATA

Δ = 29° 13' 50" Lt.
D = 2° 15'
R = 2546.48'
T = 664.03
L = 1299.14
P.C. 945+71.24
P.T. 952+35.27
P.T. 958+70.38
P.C. to P.T. N 89° 36' 06" E



LOCATION PLAN

GENERAL NOTES

1. Materials, construction and workmanship shall be in accordance with the State of Utah Standard Specifications for Road and Bridge Construction, 1960 Edition, and supplements thereto which are in effect at the date of request for bids.
2. All reinforcing steel shall be intermediate grade billet steel, conforming with A.A.S.H.O. designation M-31. Deformations shall conform with A.A.S.H.O. designation M-137.
3. Exposed concrete corners shall be chamfered 3/4" or rounded to 3/4" radius except where noted otherwise.
4. Cover to Reinforcing Steel shall be 2 inches except where noted otherwise.

DESIGN DATA

HS20-44 or Interstate Alternate Loading in accordance with A.A.S.H.O. Specifications of 1961 and interim Specifications.
Cast-in-place Concrete: $f'_c = 3,000$ p.s.i., f_s (Reinf.) = 20,000 p.s.i., $f'_c = 1,200$ p.s.i., $n = 10$
Prestressed Concrete: $f'_c = 5,000$ p.s.i., f_s (Non-prestressed) = 20,000 p.s.i., $n = 6$
Wearing Surface: 1/2" Concrete, 15 lbs/sq. ft. future surface.

QUANTITIES

ITEM	ESTIMATED	UNIT	AS CONST.
Excavation for Structure (Unclassified)		Cu. Yd.	
Class 'A' Concrete (AE)		Cu. Yd.	
Reinforcing Steel		Lb.	
Structural Steel		Lb.	
Metal Railing (Single Rail)		Lin. Ft.	
Concrete Slope Protection		Sq. Yd.	
Mechanical Tamping		Hour	
Prestressed Conc. Member (Type IV 85'-4 Long)	15	Each	
Prestressed Conc. Member (Type IV 51'-4 Long)	5	Each	
Elastomeric Bearing Pad (1 inch thick)		Sq. Ft.	
Pile (Other than timber)		Lin. Ft.	
Furnishing Pile Driving Equipment		Lump	
Test Pile		Lin. Ft.	

PRELIMINARY
NOT FOR CONSTRUCTION
DATE JUN 12 1964

UTAH STATE DEPARTMENT OF HIGHWAYS
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

I-215 NORTHBOUND OVER U.P.R.R. SIDING
SITUATION AND LAYOUT

DESIGNED BY: B.T.T.	CHECKED BY: R.G.U.	PROJECT NUMBER: 953+36.79	
DRAWN BY: B.T.T.	CHECKED BY: R.G.U.	STATION: DAVIS	
QUANTITIES BY: B.T.T.	CHECKED BY: R.G.U.	COUNTY: DAVIS	
APPROVAL RECOMM: B.T.T.	DATE: JUN 12 1964	GROUP LEADER: R.G.U.	
APPROVED: B.T.T.	DATE: JUN 12 1964	CHIEF STRUCTURAL ENG. R: R.G.U.	
NO.	BY	DATE	REMARKS
REVISIONS			
BR NO.	DRG NO.	F-125	1 OF 1

6/11/1979
11:17 AM
1779


SITUATION & LAYOUT
I-15 to I-15 Near Cudahy Lane I-215-9(3)297
I-215 S.B.L. & N.B.L. Over D & RGW & UPRR