



Iowa Department of Transportation

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

INTERSTATE ROAD SYSTEM FREMONT COUNTY PCC PAVEMENT - GRADE AND NEW

Just N. Of BN/SF S. Of Hamburg(Crossovers)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.15 of the Specifications.

NO MILEAGE SUMMARY



REVISIONS

TOTAL

15

PROJECT IDENTIFICATION NUMBER

12-36-029-030

PROJECT NUMBER

ER-029-1(95)0--06-36

R.O.W. PROJECT NUMBER

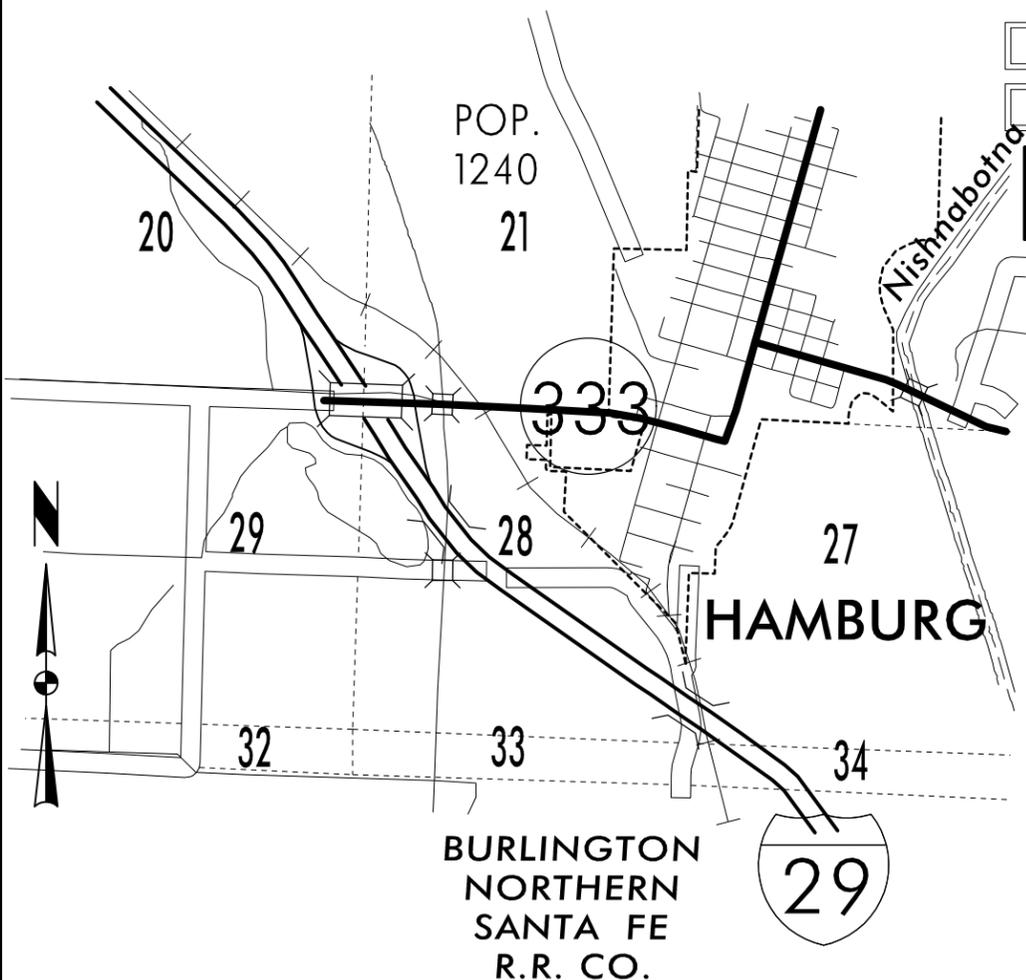
INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
C Sheets	Quantities and General Information
C.1	Project Description
C.1	Estimated Project Quantities
C.1	Estimate Reference Information
C.2	Standard Road Plans
C.2	Index of Tabulations
C.2	General Notes
C.3 - 5	Tabulations (beg. with tab. of incidentals if needed)
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.1	Tabulation of Special Events
U Sheets	500 Series, Mod.Stds. and Detail Sheets
U.1 - 7	500 Series and As-Built Sheets
	* Color Plan Sheets

PCC PAVEMENT - GRADE AND NEW
ER-029-1(95)0--06-36

FREMONT CO.

LETTING DATE
09-14-2011



For Project Location Map
Refer to Sheet A.2

DESIGN DATA RURAL

2011	AADT	13100	V.P.D.
20	AADT		V.P.D.
20	DHV		V.P.H.
	TRUCKS	34	%
	Total		
	Design ESALs		

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Jim Schoenrock	Primary Signature Block

ROADWAY DESIGN



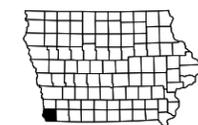
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

James Schoenrock 9-7-2011
Signature Date

James R. Schoenrock
Printed or Typed Name

My license renewal date is December 31, 2012

Pages or sheets covered by this seal: A.1-A.2, C.1-C.5, J.1, U.1-U.7



R-42W

ENGLISH

IOWA DOT

DESIGN TEAM Schoenrock\drake\broshar

FREMONT COUNTY

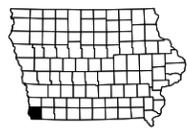
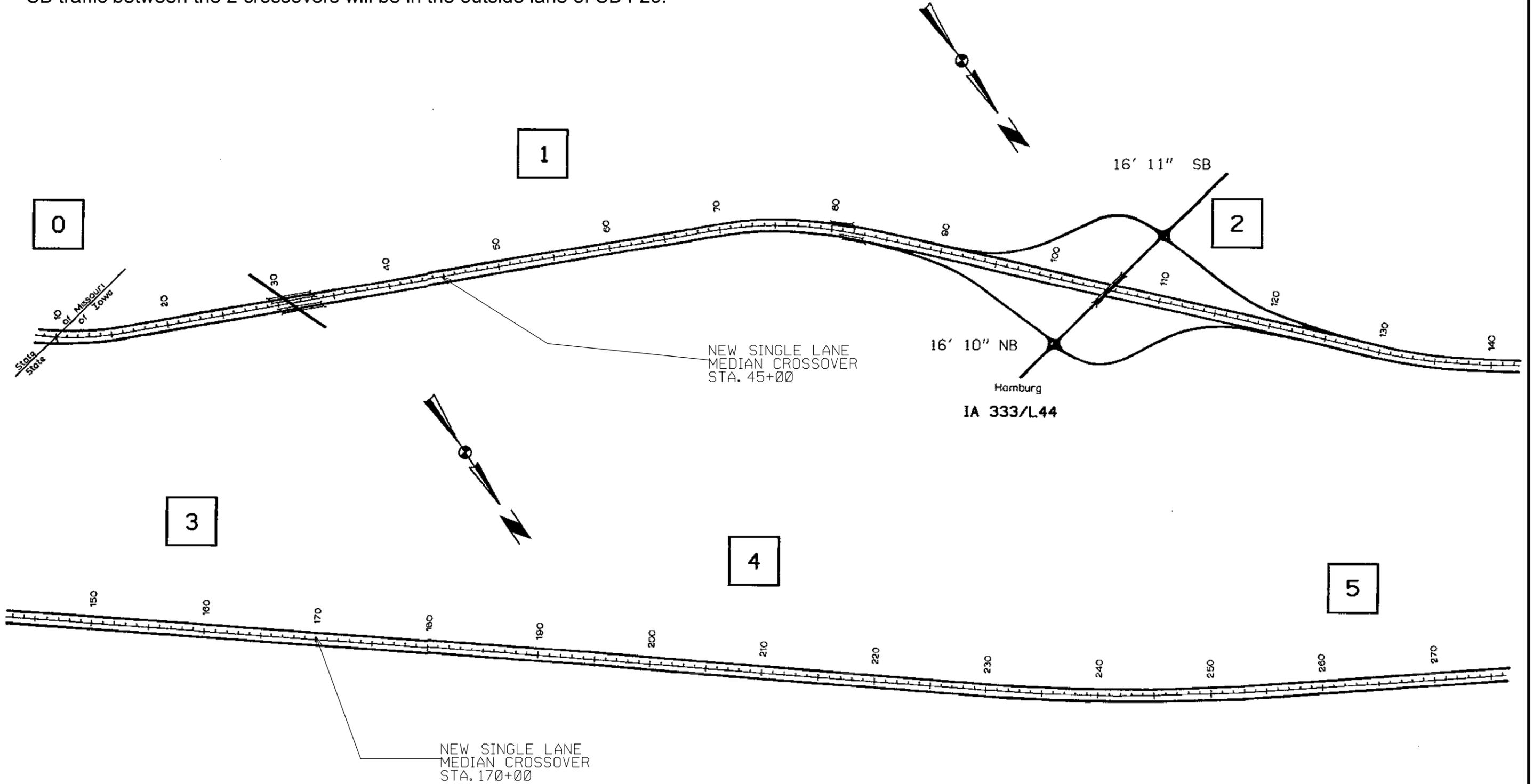
PROJECT NUMBER

ER-029-1(95)0--06-36

SHEET NUMBER

A.1

I-29 traffic in the NB and SB lanes S. of the crossover located at STA. 45+00 and N. of the crossover located at STA. 170+00 will be in their normal driving lanes.
 NB traffic will be head to head in the SB median lane between the crossovers located at STA. 45+00 and STA. 170+00.
 SB traffic between the 2 crossovers will be in the outside lane of SB I-29.



FOR INFORMATION ONLY
 Not to Scale

I-29
 FREMONT CO.

PROJECT DESCRIPTION

100-1D
10-18-05

This project involves the construction of two(2) crossovers. The crossover located at Sta. 45+00 will allow NB I-29 traffic to move into the SB median lane head to head with SB traffic located in the outside lane. NB Traffic will move out of the head to head configuration and back into normal NB driving lanes at the crossover located at Sta. 170+00.

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.
1	2102-0425070	SPECIAL BACKFILL	TON	3,351.6	
2	2102-2713070	EXCAVATION, CLASS 13, ROADWAY AND BORROW	CY	1,050.0	
3	2113-0001100	SUBGRADE STABILIZATION MATERIAL, POLYMER GRID	SY	2,770.0	
4	2121-7425010	GRANULAR SHOULDERS, TYPE A	TON	450.0	
5	2304-0100000	DETOUR PAVEMENT	SY	2,640.0	
6	2417-1007000	CORRUGATED PIPE CULVERT, 15 INCH	LF	224	
7	2417-5895015	BEVELED PIPE AND GUARD, 15 INCH	EACH	4	
8	2510-6745850	REMOVAL OF PAVEMENT	SY	1386.6	
9	2518-6910000	SAFETY CLOSURE	EACH	6	
10	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	634.62	
11	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS	STA	6.90	
12	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	8	
13	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	634.62	
14	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE	LF	150.0	
15	2528-8400157	TEMPORARY FLOODLIGHTING LUMINAIRE	EACH	4	
16	2528-8445110	TRAFFIC CONTROL	LS	1.00	
17	2533-4980005	MOBILIZATION	LS	1.00	
18	2551-0000110	TEMP CRASH CUSHION	EACH	1	
19	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	120.0	

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
1	2102-0425070	SPECIAL BACKFILL Includes 1675.8 tons used for constructing the median crossovers at Sta. 45+00 and 1675.8 tons used for constructing the median crossovers at Sta. 170+00. Special Backfill is to be placed 2 ft. thick below both crossovers and is to be underlain by geogrid. Additional special Backfill may also need to be placed below this initial 2 ft. of special backfill if it is found that the existing subgrade material is saturated and lacks stability. Refer to Tab. 112-8 in C-Sheets.
2	2102-2713070	EXCAVATION, CLASS 13, ROADWAY AND BORROW Includes 525 C.Y. used for constructing the median crossovers at Sta. 45+00 and 525 C.Y. used for constructing the median crossovers at Sta. 170+00. Refer to Tab. 112-8 in C-Sheets. Overhaul will not be measured or paid for, but shall be considered incidental to this item All material is to be wasted as per Std. Note 213-1.
3	2113-0001100	SUBGRADE STABILIZATION MATERIAL, POLYMER GRID 5% added for lapping fabric. Special Backfill is to be placed 2 ft. thick below both crossovers and is to be underlain by geogrid.
4	2121-7425010	GRANULAR SHOULDERS, TYPE A Includes 225 Ton used for constructing the median crossovers at Sta. 45+00 and 225 Ton used for constructing the median crossovers at Sta. 170+00. Refer to Tab. 112-8 in C-Sheets.
5	2304-0100000	DETOUR PAVEMENT Includes 1320 S.Y. used for constructing the median crossovers at Sta. 45+00 and 1320 S.Y. used for constructing the median crossovers at Sta. 170+00. Refer to Tab. 112-8 in C-Sheets.

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
6	2417-1007000	CORRUGATED PIPE CULVERT, 15 INCH Quantity includes 112 ft. of pipe for each single lane median crossover. Refer Typical 500-19 in U-Sheets.
7	2417-5895015	BEVELED PIPE AND GUARD, 15 INCH --
8	2510-6745850	REMOVAL OF PAVEMENT Refer to Tabs.110-1 and 112-8 in C-Sheets.
9	2518-6910000	SAFETY CLOSURE Refer to Tab. 108-13A in the C-Sheets. Upon completion of this project the safety closures will become the property of the Iowa DOT.
10	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED Refer to Tab. 108-22 in C-Sheets.
11	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS --
12	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED Refer to Tab. 108-29 in C-sheets.
13	2527-9263180	PAVEMENT MARKINGS REMOVED Refer to Tab. 108-29 in C-sheets.
14	2528-8400048	TEMPORARY BARRIER RAIL, CONCRETE Refer to Tab. 108-33 in C-Sheets. Upon completion of this project the all temporary barrier rail will become the property of the Iowa DOT.
15	2528-8400157	TEMPORARY FLOODLIGHTING LUMINAIRE Refer to Tab. 108-27 in C-Sheets. Upon completion of this project the temporary floodlighting luminaires will become the property of the Iowa DOT.
16	2528-8445110	TRAFFIC CONTROL Upon completion of this project the traffic control devices will become the property of the Iowa DOT. Sheet 4 of the TC-61 Standard Road Plan will not apply to this project at the IA 333 interchange.
17	2533-4980005	MOBILIZATION --
18	2551-0000110	TEMP CRASH CUSHION Refer to Tab. 108-30 in C-Sheets. Upon completion of this project the all temporary crash cushions will become the property of the Iowa DOT.
19	2602-0000030	SILT FENCE FOR DITCH CHECKS --

105-4
10-18-11

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
BA-401	04-20-10	Temporary Barrier Rail (Precast Concrete)
BA-500	04-20-10	Temporary Crash Cushions Sand Barrel
EC-201	04-20-10	Silt Fence
PM-110	04-19-11	Line Types
PM-111	10-18-11	Symbols and Legends
PV-101	04-19-11	Joints
PV-504	04-19-11	Median Crossover (64' Median) 16' Wide 1 Lane
RF-27	10-19-10	Beveled Pipe and Guard
RF-45	10-19-10	Slotted Drain for Median Crossovers
RM-48	10-17-06	Temporary Floodlighting
SI-881	04-19-11	Special Signs for Workzones
TC-1	10-18-11	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-61	04-19-11	Two-Lane, Two-Way Operation
TC-402	04-20-10	Shoulder Closure (Multi-Lane)
TC-417	10-18-11	Ramp Closure
TC-418	10-18-11	Lane Closure on Divided Highway

111-25
10-18-11

INDEX OF TABULATIONS

Tabulation	Tabulation Title	Sheet No.
100-1D	Project Description	C.1
100-18	Silt Fence For Ditch Checks	C.2
102-5	Existing Pavement	C.2
111-25	Index Of Tabulations	C.2
105-4	Standard Road Plans	C.2
112-8	Median Crossovers	C.3
108-13A	Safety Closures	C.3
110-1	Removal Of Pavement	C.3
108-27	Temporary Floodlighting Luminaires	C.3
108-30	Crash Cushions	C.3
108-33	Temporary Barrier Rail	C.3
108-22	Pavement Marking Line Types	C.4
108-29	Pavement Marking Symbols And Legends	C.5
108-23A	Traffic Control Plan	J.1
102-15	Tabulation Of Special Events	J.1

213-1
04-15-08

WASTE (NON-DESIRABLE MATERIAL)

It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project.

It shall be the contractor's responsibility to ensure that areas (including haul roads) selected for waste or disposal not impact 1) culturally sensitive sites or graves or 2) wetlands or "Waters of the U.S.", including streams or stream banks below the "ordinary high water mark", without an approved U.S. Army Corps of Engineers Section 404 Permit.

No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans.

203-2
10-18-11

PLANS (COORDINATING OPERATIONS)

Coordinate operations with those of other contractors working within the same area. Other work in progress during the same period of time will include construction of the following projects:
None Provided

100-18
04-20-10

TABULATION OF SILT FENCES FOR DITCH CHECKS

Refer to EC-201

Location Station	Side	Length	Remarks
		LF	
43+50.0	M	60.0	
171+37.5	M	60.0	

102-5
10-18-11

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Remarks
	County	Route	Dir. of Travel	Begin Milepost	End Milepost				Type	Depth	Type	Depth	Type	Depth	Type	Depth	Source	Type	Durability Class	
1	Fremont	I-29	NB	0	8.93	2007		IM-29-1(65)0--13-36	HMA	2	HMA	2	HMA	2	HMA	5				
2						1972		I-IG-29-1(16)0--04-36	PCC	8							Weeping Water	C.LST.	I	CRC; AC VAR LOC. 1998
3						1972		I-IG-29-1(16)0--04-36	CTB	4										
4	Fremont	I-29	SB	0	8.93	2007		IM-29-1(65)0--13-36	HMA	2	HMA	2	HMA	2	HMA	5				
5						1999	V	IMN-29-1(55)0--0E-36	ACC	2							Dell Rapids, SD	Quartz		
6						1998	V	IMN-29-1(51)25--0E-65	ACC	2							Dell Rapids, SD	Quartz		
7						1972		I-IG-29-1(16)0--04-36	PCC	8							Weeping Water	C.LST.	I	CRC
8						1972		I-IG-29-1(16)0--04-36	CTB	4										

112-8
10-19-10

MEDIAN CROSSOVERS

Refer to PV-500 Series.

Road Ident.	Location Station	Standard Road Plan	Detour Pavement	Special Backfill	Granular Shoulder	Embankment in Place	Class 10 Excavation	Class 13 Excavation	Removal of Pavement	15" Unclassified Entrance Pipe Culvert	15" CMP Entrance Culvert	36" CMP Slotted Drain/6" Grate	Beveled Pipe and Guard	Remarks
		No.	SY	TON	TON	CY	CY	CY	SY	LF	LF	LF	No.	
	45+00	PV-504	1320.0	1675.800	225.000			525.0	693.3	112.0			2	
	170+00	PV-504	1320.0	1675.800	225.000			525.0	693.3	112.0			2	

108-13A
08-01-08

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
45+00.0	1		S. Crossover
87+50.0	1		IA 333 Ramp B
94+00.0	1		IA 333 Ramp C
116+70.0	1		IA 333 Ramp D
123+00.0	1		IA 333 Ramp A
170+00.00	1		N. Crossover

110-1
08-01-08

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5

* Not a Bid Item

Begin Station	End Station	Pavement Type	Area	Saw Cut*	Intakes and Utility Accesses	Remarks
			SY	LF	No.	
39+82.0	43+34.0	HMA Shoulder	234.7	364.0		NB Median Shoulder
46+63.0	50+15.0	HMA Shoulder	234.7	364.0		SB Median Shoulder
164+82.0	168+34.0	HMA Shoulder	234.7	364.0		SB Median Shoulder
171+63.0	175+15.0	HMA Shoulder	234.7	364.0		NB Median Shoulder

108-27
08-01-08

TEMPORARY FLOODLIGHTING LUMINAIRES

No.	Location Station	Type	Number Lumin.	Remarks
	44+15.0	Conventional	1	
	45+85.0	Conventional	1	
	168+25.0	Conventional	1	
	170+85.0	Conventional	1	

108-30
04-20-10

CRASH CUSHIONS

- ① Lane(s) to which the installation is adjacent.
- ② Complete this section when using the Temporary Crash Cushion bid item. Refer to BA-500

* Bid Item

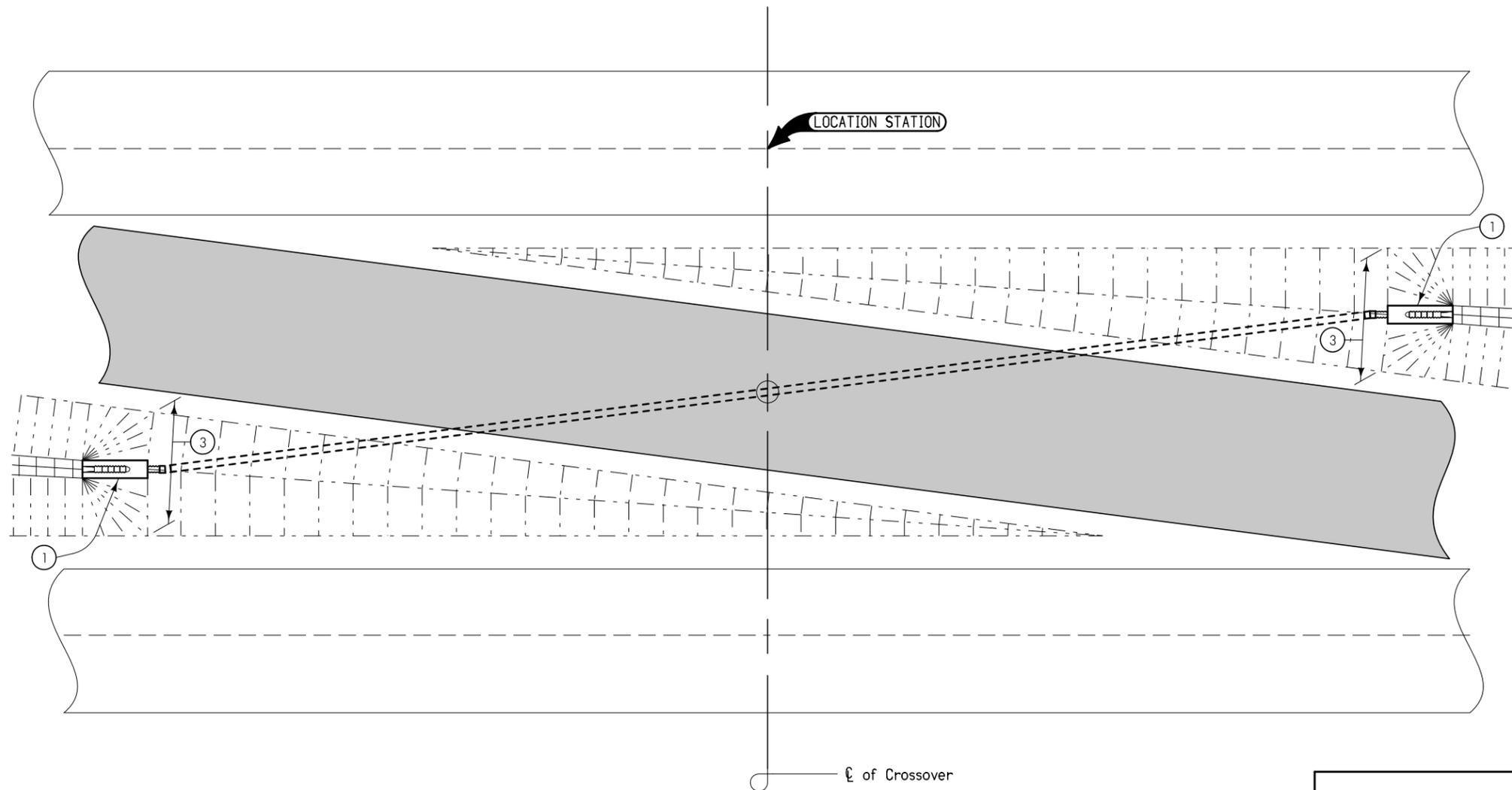
No.	Direction of Traffic	Location Station	Side	Obstacle Width	Crash Cushion (Select One)*					Sand Barrel Details ②					Earthwork*		Remarks	
					Temporary	Temporary Redirective	Temporary Severe Use	Permanent	Permanent Severe Use	V	W	X	Y	Z	Excavation Class 10	Embankment in Place		
										Length	Length	Length	Length	Length				FT
	NB	169+87.5	RT	2.3	X						0.0	24.3	5.3	3.3	12.0	-	-	

108-33
04-20-10

TEMPORARY BARRIER RAIL

Refer to BA-400 and BA-401

No.	Station to Station	Length	(Select One)		Remarks
			Concrete BA-401	Steel BA-400	
	169+87.5	171+37.5	150.0	X	N. Crossover



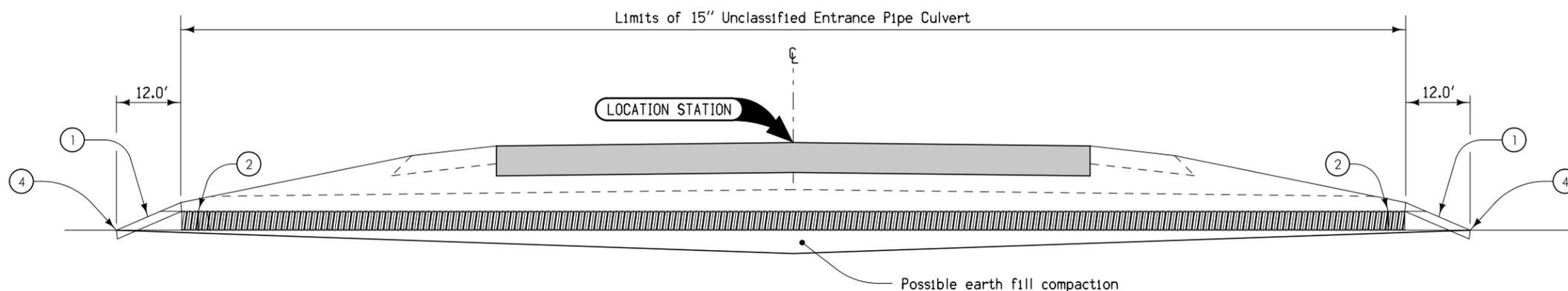
- ① Beveled pipe and guard. See Standard Road Plan RF-27.
- ② Requires approximately 7 degree elbow.
- ③ Place the top edge of beveled pipe and guard at a point where the distance between the edges of the shoulders are approximately 22 feet apart.
- ④ Median ditch flow line.

Possible Contract Items:

- Culvert, Unclassified Entrance Pipe, 15" Dia.
- Beveled Pipe and Guard.

TYPICAL PLAN VIEW

TABLE OF QUANTITIES						
Standard Road Plan No.	PV-501	PV-504	PV-507	PV-502	PV-505	PV-508
Median Width	50.0'	64.0'	68.24'	50.0'	64.0'	68.24'
Crossover Pavement Width	16.0'	16.0'	16.0'	28.0'	28.0'	28.0'
Unit of Measurement	Lin. Ft.					
Bid Item						
15" dia. Unclassified Entrance Pipe Culvert	250'	112'	82'	344'	196'	162'



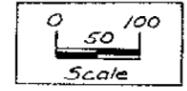
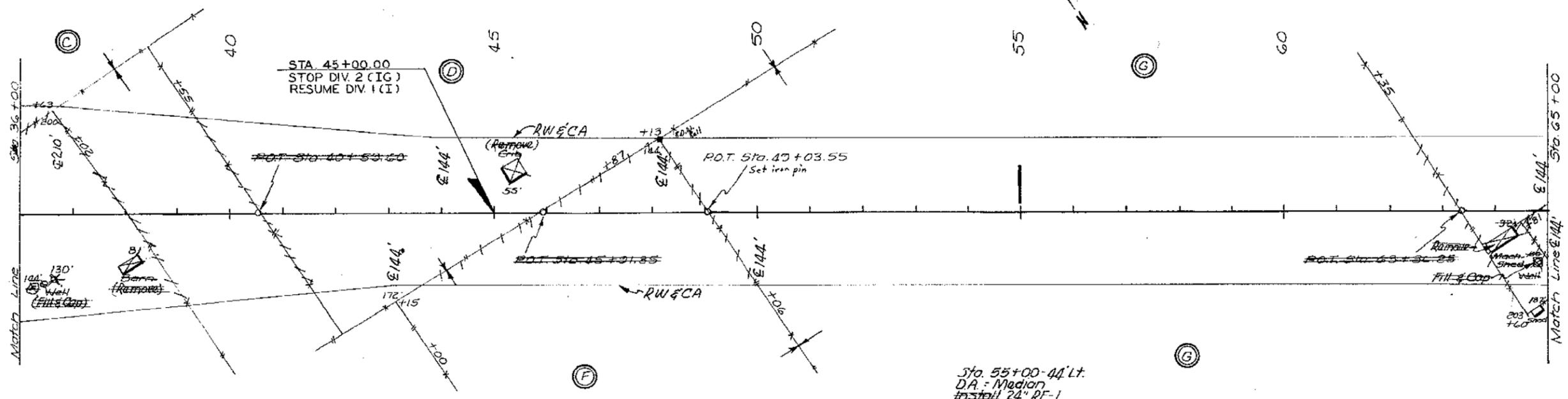
LONGITUDINAL SECTION AT PIPE CENTERLINE

Highway Division		
DETAIL SHEET		500-19
REVISION: Revised pipe lengths in table.	REVISION NO.	REVISION DATE
	4	04-20-10
DIAGONAL PLACED DRAIN FOR MEDIAN CROSSOVERS		

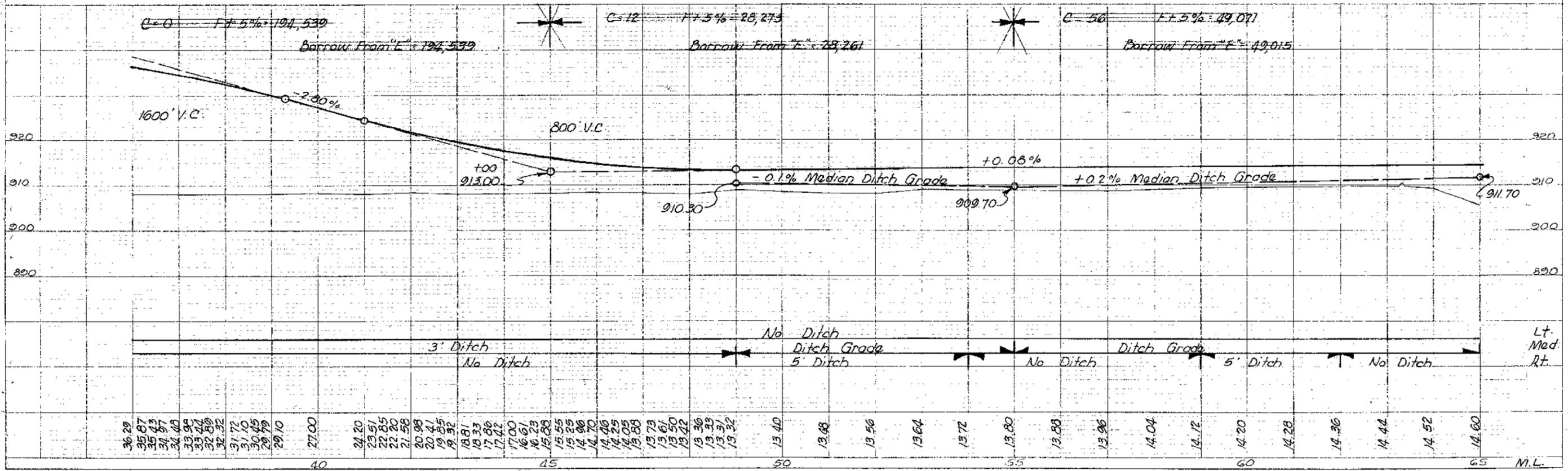
PROJ. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IOWA			5	113

Property Owners
 C. Katherine M. Bride
 D. Arthur & Betty Vogel - Richard & Mary Crain
 E. Clarence L. Ziegler
 G. Howard & Sara Louise Colon

WASHINGTON TWP.
 T67N R42W
 SEC. 28



Sta. 55+00-44' Lt.
 D.A. - Median
 Install 24" RT-1
 Lt. 908.6
 Ft. 909.7



PLAN
 DATE: 8/24/11
 DRAWN BY: [blank]
 CHECKED BY: [blank]
 IN CHARGE: [blank]
 NO. OF SHEETS: [blank]

PROFILE
 DATE: 8/24/11
 DRAWN BY: [blank]
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 NO. OF SHEETS: [blank]

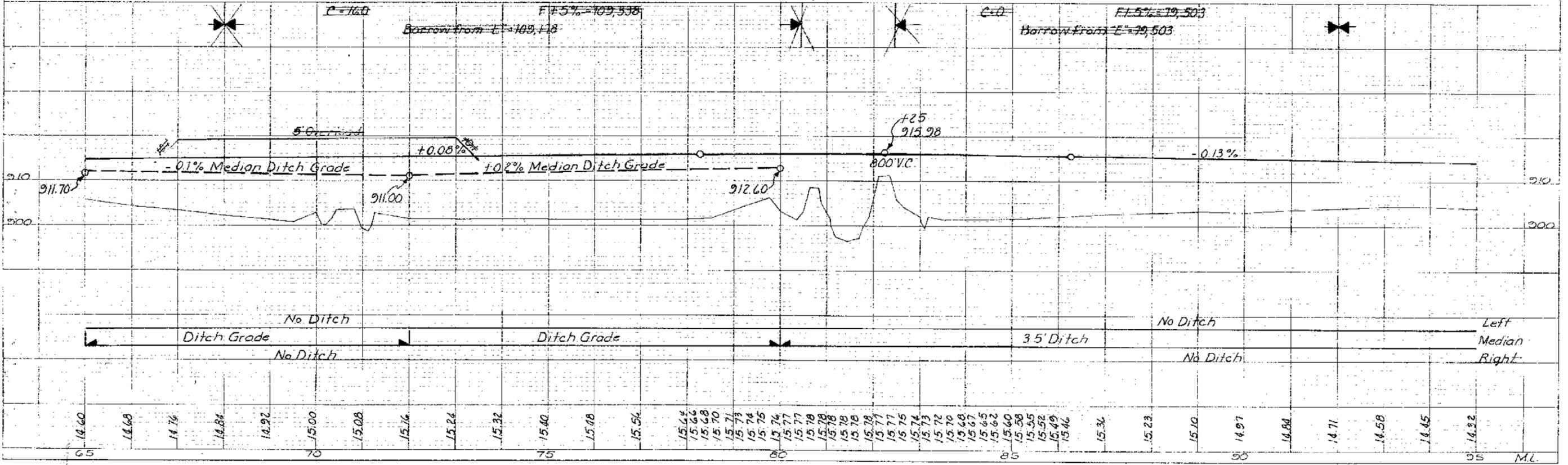
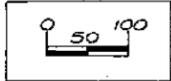
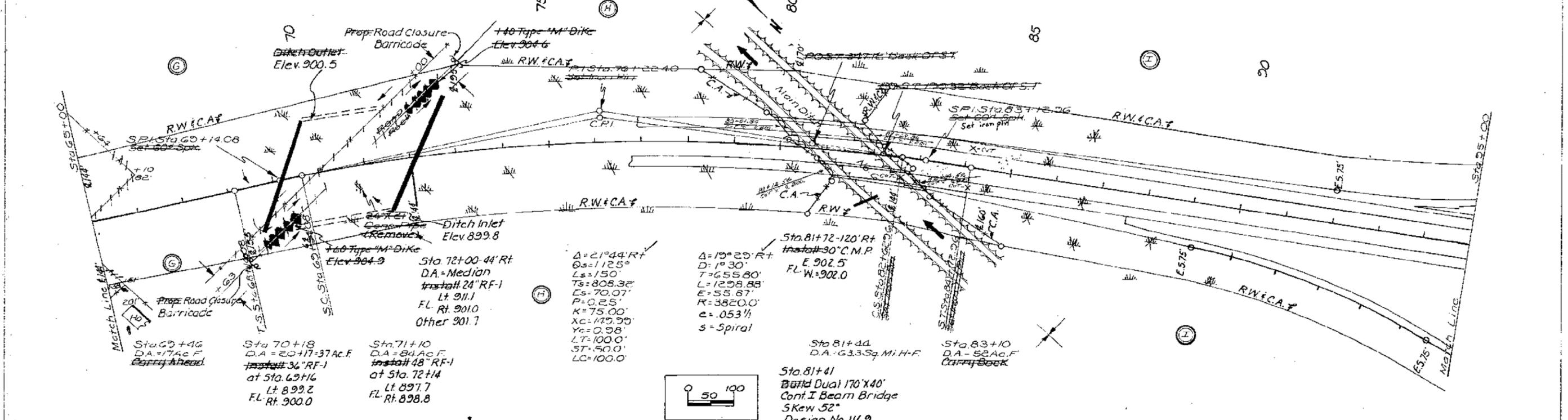
RD. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IOWA			6	113

Property Owners
 G. Howard & Sara Louise Colon
 H. Dorothy Brown & Minnie Murdock
 J. Jack C. Miller

WASHINGTON TWP
 T67N R42W
 SEC.28

PLAN
 SURVEILLANCE
 PROPERTY CHANGE
 NO. 1000
 BY OR FOR ROAD DIST. NO. 5

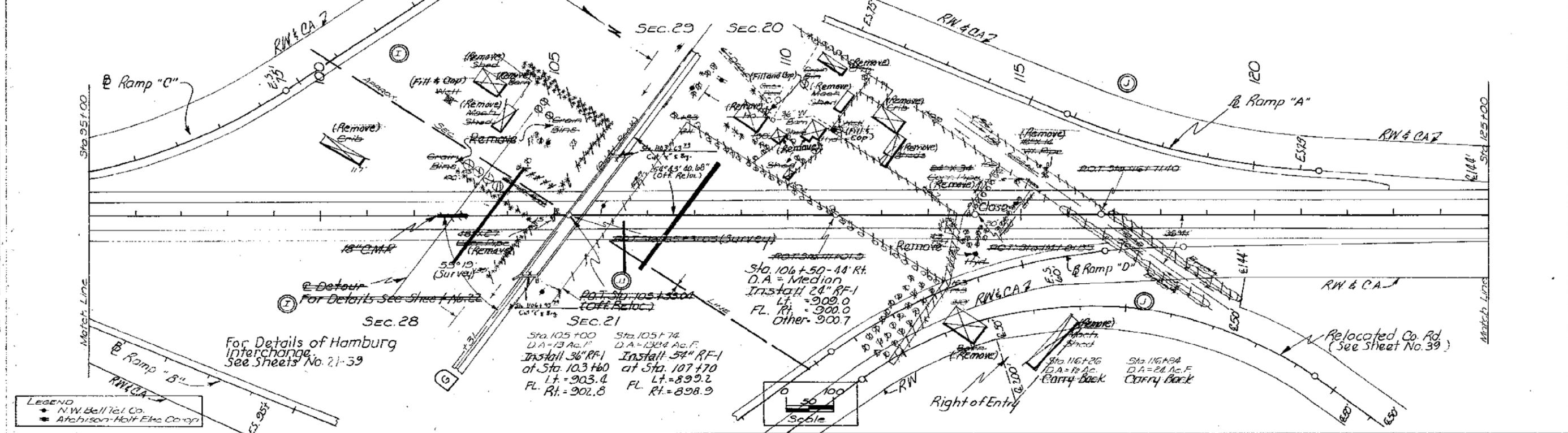
PROFILE
 SURVEILLANCE
 PROPERTY CHANGE
 NO. 1000
 BY OR FOR ROAD DIST. NO. 5



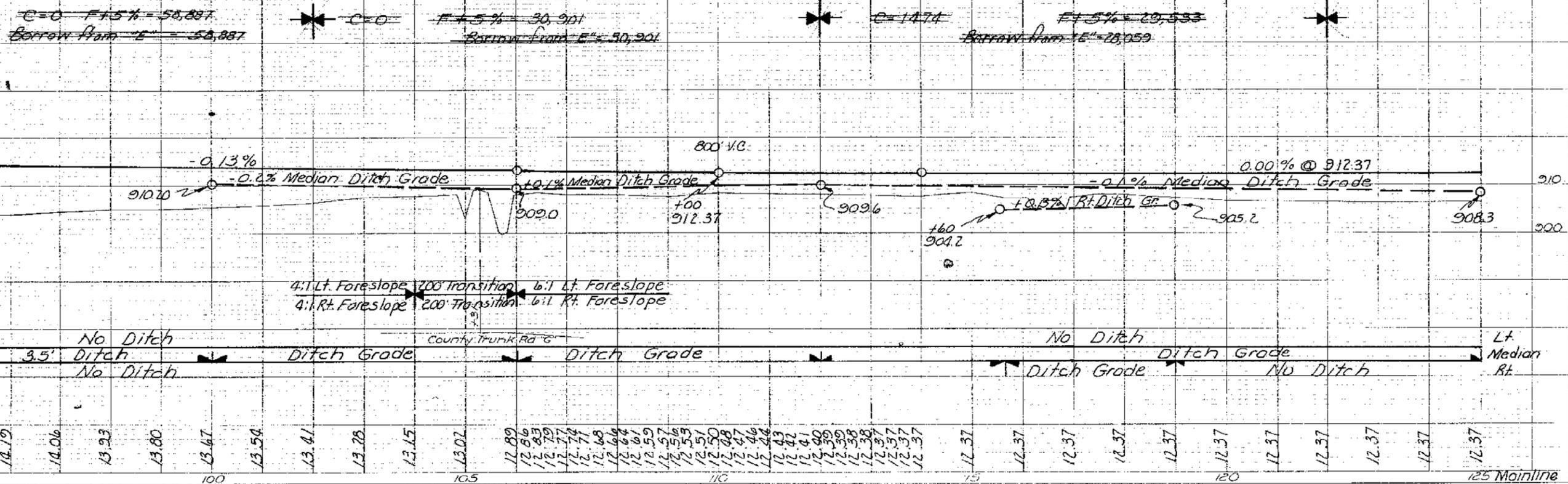
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IOWA			7	113

Property Owner:
 I-Jack C. Miller
 J-Artie Workmaster & Jean Good
 J-Geo. E. Draper Sr. & A.

WASHINGTON TWP
 167N R42W

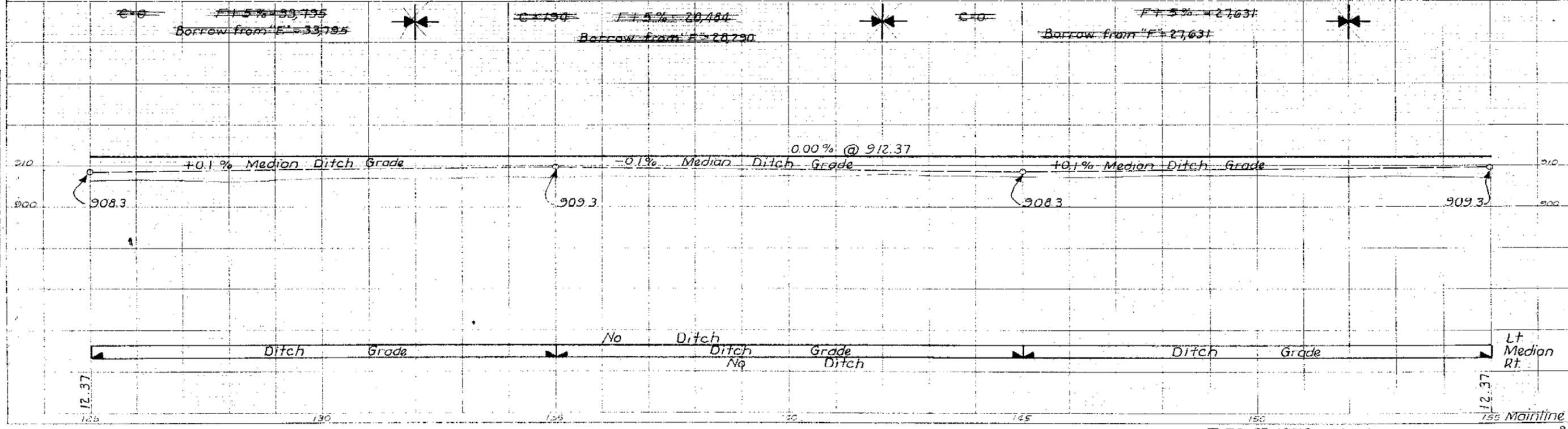
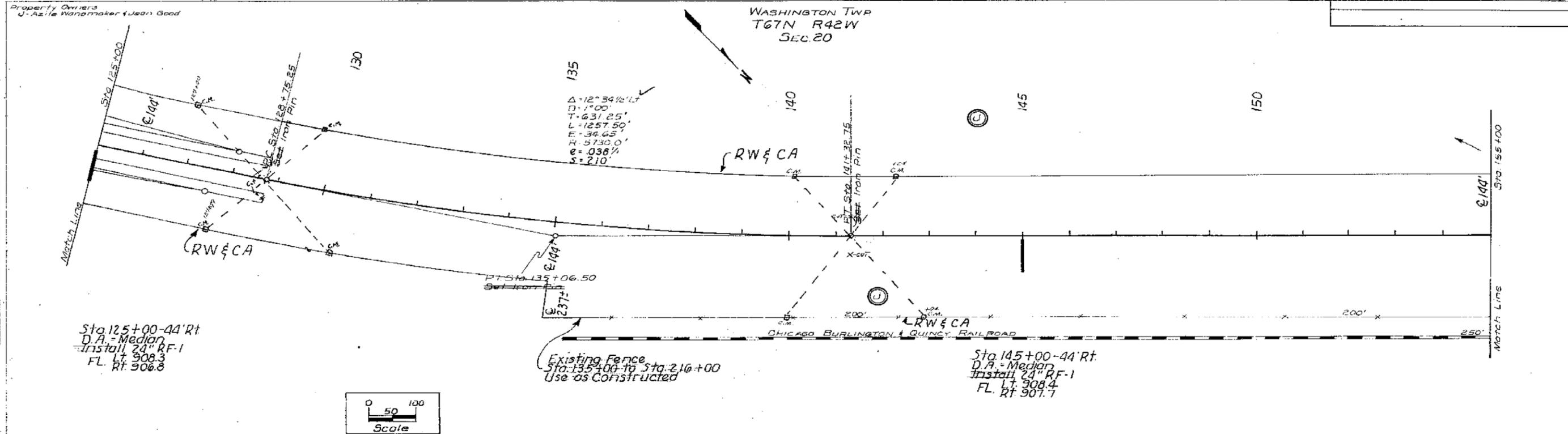


LEGEND
 N.W. Bell Tel. Co.
 Atchison-Holt Etc. Corp.



PROJECT NO. I-76-29-1(16)0--04-36
 SHEET NO. 7

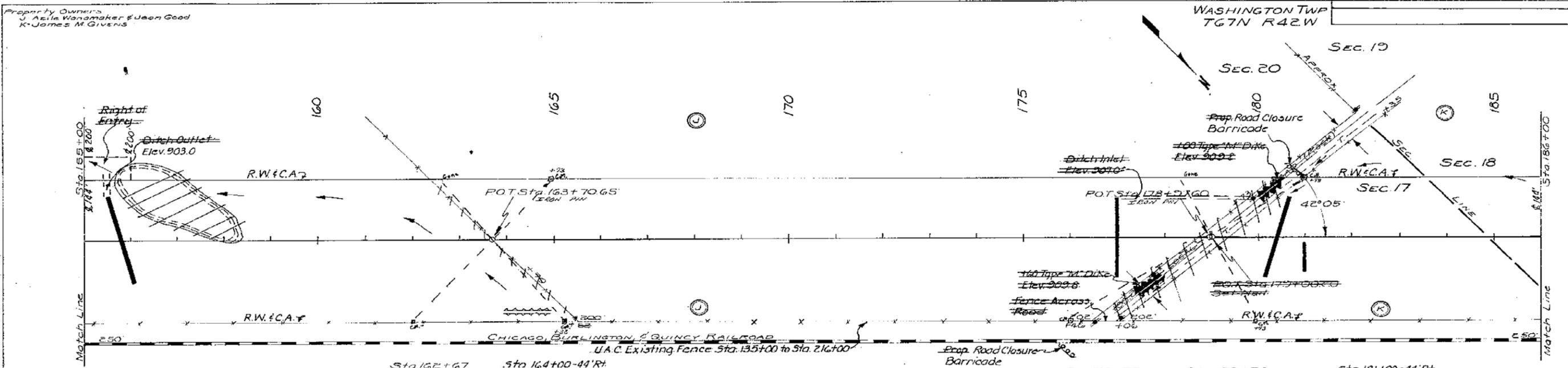
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3	IOWA			8	113



PLAN
 SURVEILLED BY
 CHECKED BY
 DATE
 NO.

PROPERTY
 SURVEILLED BY
 CHECKED BY
 DATE
 NO.

FSD ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	IOWA			9	113



Sta. 162+67
D.A. = 12 AC.F
Inst. # 36" RF-1
at Sta. 155+80
Lt. 903.0
FL Rt. 903.2

Sta. 164+00-44' Rt.
D.A. = Median
Inst. # 24" RF-1
Lt. 908.4
FL Rt. 908.1

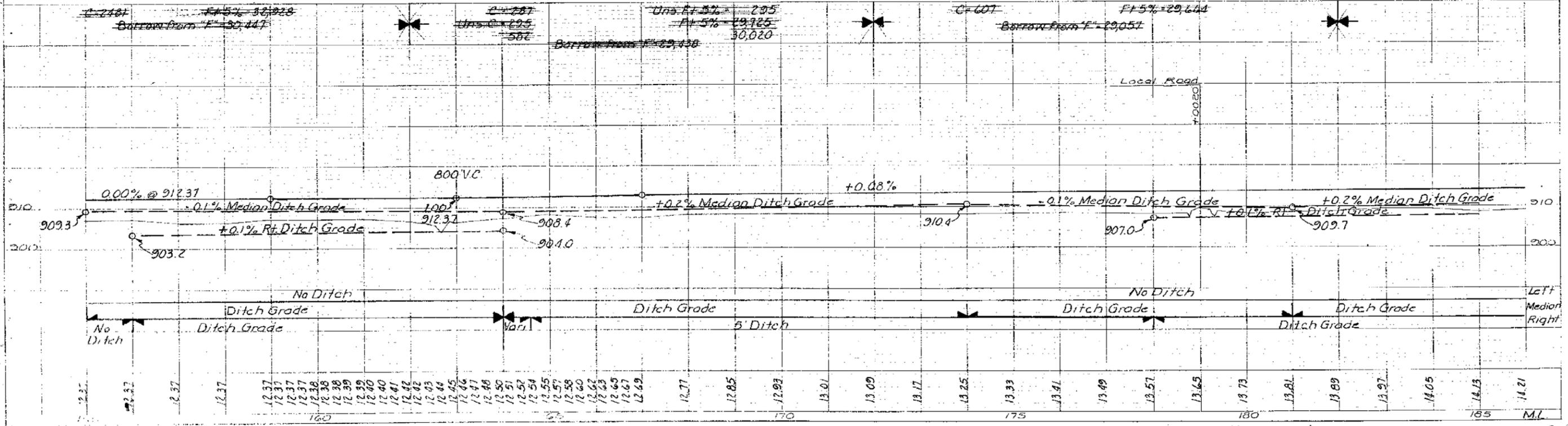
Sta. 178+77
D.A. = 12 AC.F
Inst. # 30" RF-1
at Sta. 177+00
Lt. 906.2
FL Rt. 906.0

Sta. 179+30
D.A. = 18 AC.F
Inst. # 30" RF-1
at Sta. 180+40
Lt. 906.1
FL Rt. 906.0

Sta. 181+00-44' Rt.
D.A. = Median
Inst. # 24" RF-1
Lt. 909.7
FL Rt. 908.8



LEGEND
 - NW Bell Tel. Co.
 - NW Bell Tel. Co.
 - Atchison-Holt Elec. Coop.



FREMONT COUNTY PROJECT NO. I-IG-29-1(16)0-04-36 SHEET NO. 9