

**Granular Shoulder**

STATION TO STATION		ⓐ Feet	REMARKS
10+82.69	11+15.49	Varies	See K sheets.
11+15.49	15+72.07	6	
15+72.07	16+36.00	Varies	

Longitudinal joint: L or KT  
 Transverse joint: Match Mainline

STATION TO STATION		ⓐ Feet	REMARKS
10+82.69	16+36.00	Varies	See K sheets.

① Refer to L sheets for pavement width and jointing information.

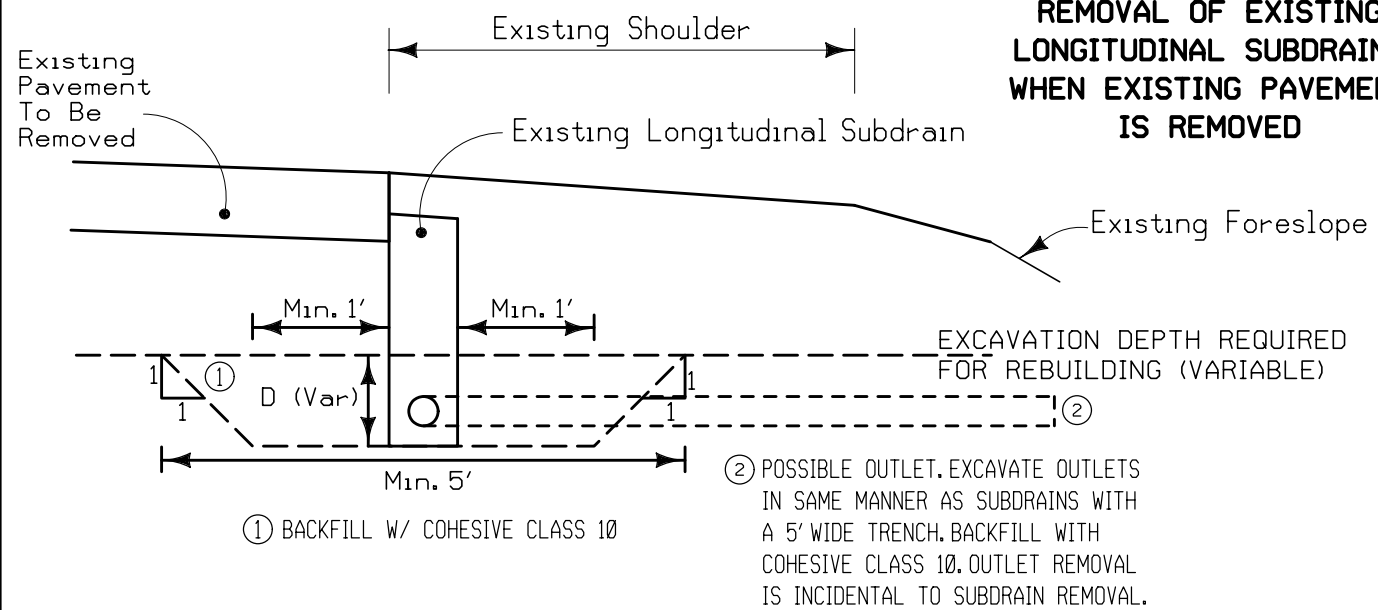
② Refer to Standard Road Plan EW-503.

See Tab 100-24 for pavement and subbase quantities.  
 See Tab 112-9 for shoulder quantities.

**RAMP D US 218 INTERSECTION RETURN  
 AT IOWA 27**

RLS-2  
MODIFIED

### REMOVAL OF EXISTING LONGITUDINAL SUBDRAINS WHEN EXISTING PAVEMENT IS REMOVED



ROAD IDENTIFICATION	LOCATION			LENGTH	① AVG DEPTH	EXCAVATION QUANTITY (CY)	REMARKS
	STATION TO STATION	SIDE					
xx	xx	xx	xx	xx	xx	xx	
TOTALS							

• NOTE: REMOVAL OF SUBDRAIN AND OUTLETS ARE INCIDENTAL TO EXCAVATION.

## Survey Information

**County: Lee**  
**PIN: 20-56-218-010**  
**Project Number: NHSN-218-1(80)--2R-56**  
**Location: US 218 NB to IA 27 On Ramp**  
**Type of Work: PCC Pavement - Grade and New**  
**Project Directory: 5621801020**  
**SAP 101.1**

### Party Personnel

Nels Sutherland- Party Chief

### Date(s) of Survey

Begin Date            05/27/2020  
 End Date                06/16/2020

### General Information

Measurement units for this survey are US survey feet. This survey is for proposed New PCC Pavement and Grading. Project datum and control information is provided by Design Survey Office. This project is a Full Field Survey. This survey request was for the Hwy 218 corridor only.

### Vertical Control

Reference ADA Project STPN-002-9(36)—2J-56 for control. Control was surveyed using static post processing methods in 2018. Vertical datum for this survey is relative to NAVD88 (GEOID12B).

Lee Co. GPS Control Point 22 was checked for vertical tolerance. The difference was less than 0.10ft.

### Horizontal Control

Reference ADA Project STPN-002-9(36)—2J-56 for control. Project control was surveyed using static post processing methods in 2018. Project datum and control established using NAD83 (2011). The project coordinate system is Iowa Regional Coordinate System Zone 14.

Lee Co. GPS Control Point 22 was checked for horizontal tolerance. The difference was less than 0.10ft.

### Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans No. FN 218-1(9)—21-56. Survey stationing was equated to the plan PT at STA 1046+54.36 and ran ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

PT Sta. 1046+54.36 Project No. FN 218-1(9)—21-56  
 Survey PT Sta 1046+54.36

TS Sta 1071+02.56 Project No. FN 218-1(9)—21-56  
 Survey TS Sta 1071+02.56

### Utility Information

Sub-Surface Utility Mapping Quality Level is in accordance with CI/ASCE 38-02 *Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data*.

### Remark abbreviations

QLA – Quality Level A Highest guideline quality level  
 QLD – Quality Level D Lowest guideline quality level

**A One-call utility Design Locate Request (Ticket# 552003837) was made 05/27/2020. The following Companies were listed:**

Company (Quality)	Symbol	Remark
Rathbun Water		Clear of Utilities
Iowa D.O.T(QLD)	EL1D1	Underground Electric line
Windstream(QLD)	TL1D1	Underground Telephone line
	FO1D1	Underground Fiber Optic line

Following are the list of contacts made in the order they were received:

#### Iowa DOT

Contact Name : Robert Porter  
 Contact Phone: 3198355211

Contact Email: [Robert.Porter@iowadot.us](mailto:Robert.Porter@iowadot.us)

Utility was located on 05/28/2020 showing an underground electric line running along the north side of hwy218 and the east side of the hwy27 on ramp. Utility was collected and mapped.

#### Rathbun Regional Water

Contact Name : Scott Jackson

Contact Phone: 6416471086

Contact Email: [onecall@rrwa.net](mailto:onecall@rrwa.net)

Received an email on 05/28/2020 from [onecall@rrwa.net](mailto:onecall@rrwa.net) reporting their utility was clear of the work area.

#### Windstream Communications

Contact Name : LOCATE DESK

Contact Phone: 8002891901

Contact Email: [LOCATE.DESK@WINDSTREAM.COM](mailto:LOCATE.DESK@WINDSTREAM.COM)

Received an email on 05/27/2020 from Lisa Zingula, [Lisa.Zingula@windstream.com](mailto:Lisa.Zingula@windstream.com). Attached was a map showing an underground fiber optic and telephone line running along the north side of hwy218 and the east side of the hwy27 on ramp. Utilities were mapped using the maps provided.

### CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points  
Primary control is for use with RTK base stations and for RTN validation.  
Future surveys will use primary project control to establish temporary  
control as needed for construction or other surveying applications.



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00  
VERT. DATUM: NAVD88  
1a. Regional Coordinate System Zone 14

Coordinate listing from next sheet will be used with 1aRTN for monument  
recovery. No other reference ties are given.

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 14

Point Name	North	East	Height	Code Description
FENO1	6341802.778	24414261.518	701.881	FENO1 MONUMENT 236.8FT EAST OF THE INTERSECTION OF EAST ST AND HWY2 IN CITY OF DONNELSON THEN SOUTH 72FT FROM CL HWY2
LEE20	6341781.151	24417782.985	680.18	BM LEE COUNTY MONUMENT NO 20 65.5FT EAST OF 190TH AVE AND 67.5FT SOUTH OF HWY2 EP NGS STYLE ROD MONUMENT WITH ACCESS COVER
G104	6336543.325	24414071.867	703.977	CP 5/8th REBAR ON SOUTH TOP OF BACKSLOPE OF 230TH ST 17 FT WEST SIDE OF FIELD ENTRANCE +/- 1435 FT EAST OF INTERSECTION OF OLD HWY218 AND 230TH ST



**SPIRAL OR CIRCULAR CURVE DATA**

Name	Location	ΔSCS	Horizontal Alignment Data												Remarks			
			Spiral Data						Curve Data									
			θS	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	ΔC	T	L	R		E		
1	RPD218												46° 33' 00.0"	282.230	533.070	656	58.120	
1	RETARPD218												16° 52' 12.0"	38.56	76.56	260.00	2.84	
2	RETARPD218												26° 42' 36.0"	41.54	81.58	175.00	4.86	
3	RETARPD218												16° 11' 24.0"	60.46	120.12	425.00	4.28	
4	RETARPD218												4° 52' 12.0"	39.13	78.22	920.00	0.83	



**TRAFFIC CONTROL PLAN**

Traffic shall be maintained at all times.

Traffic shall be maintained at all times, except as follows:

Closure of northbound on-ramp and turn lane shall be closed during paving operations. On-ramp traffic will be maintained via off-site detour. The Contractor shall provide, install, maintain, and remove the detour signs. Refer to detour map on J-sheets for locations.

**511 TRAVEL RESTRICTIONS**

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
			None.									

### SURVEY SYMBOLS

- FENO FENO Monument
- CP Control Point
- BM Bench Mark
- EP Edge of Paved Roads (ML or SR)
- C Centerline BL of Road (ML or SR)
- SNP Unpaved Shoulder
- SIGN SI Sign
- E1 - EL1D Electric Line Co. 1 - Quality D
- LUM Luminaire
- MH Utility Access (Manhole)
- SH Paved Shoulder
- BL Topo Breakline
- CON Concrete or A/C Slab
- OUT Tile Outlet
- TIL Tile Line
- D Centerline Draw or Stream (Down)
- GR Ground Shot
- POT Tangent Point
- TPD Telephone Pedestal
- PIP Pipe Culvert
- PRO Profile Shot
- F0 - FO1D Fiber Optic Co. 1 - Quality D
- T1 - TL1D Telephone Line Co. 1 - Quality D

### UTILITY LEGEND

- F0 - FO1D Windstream Communications - Quality D
- T1 - TL1D Windstream Communications - Quality D
- E1 - EL1D Iowa DOT - Quality D

### PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(2)		Existing Topographic Features and Labels
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)		Existing Utilities
SHADING		Design Color No.	
Lavender	(9)		Temporary Pavement Shading
Gray, Light	(48)		Proposed Pavement Shading
Gray, Med	(80)		Proposed Granular Shading
Gray, Dark	(112)		Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)		Grading Shading
Tan	(8)		Proposed Sidewalk Shading
Blue, Light	(230)		Proposed Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading

### PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(2)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

- ### RIGHT-OF-WAY LEGEND
- Proposed Right-of-Way
  - Existing Right of Way
  - Existing and Proposed Right-of-Way
  - Easement and Existing Right-of-Way
  - Easement (Temporary)
  - Easement
  - Access Control
  - Property Line

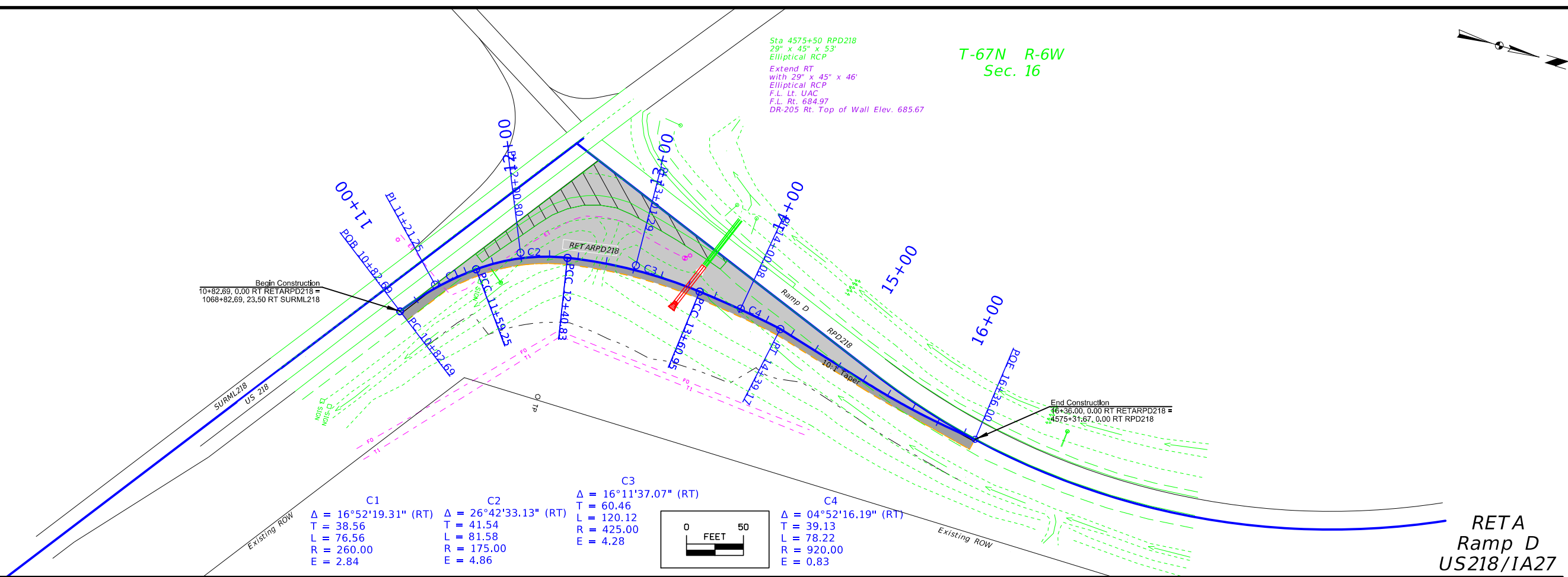
## PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, & K)



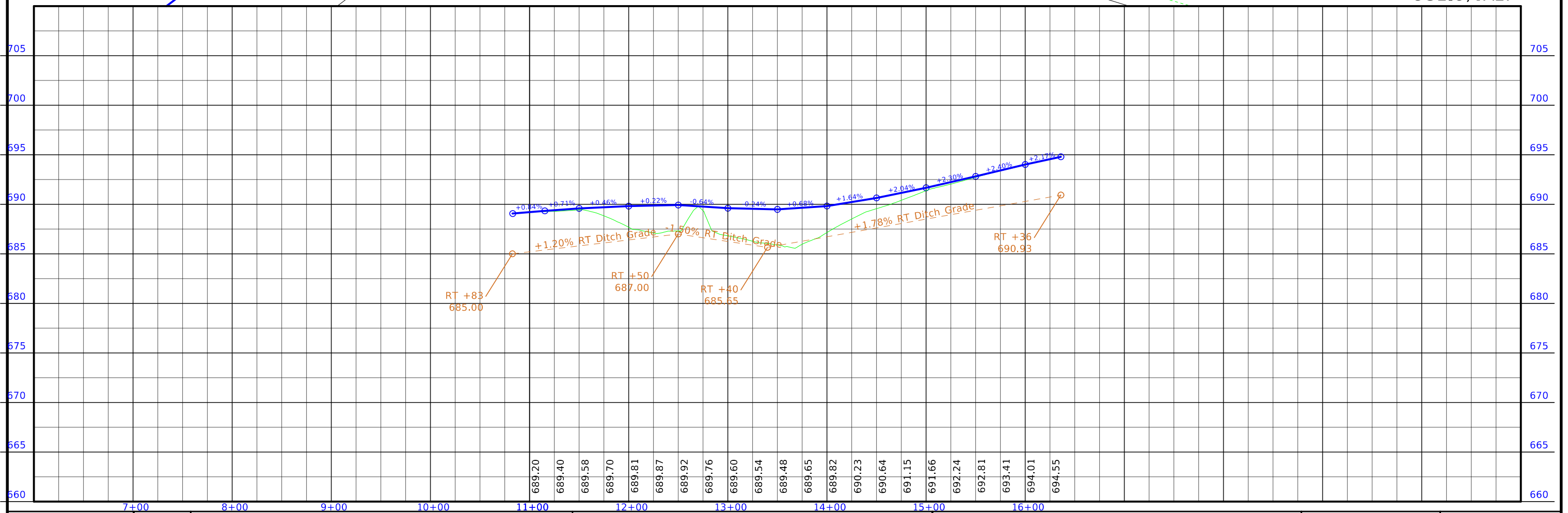
Sta 4575+50 RPD218  
 29" x 45" x 53"  
 Elliptical RCP  
 Extend RT  
 with 29" x 45" x 46"  
 Elliptical RCP  
 F.L. Lt. UAC  
 F.L. Rt. 684.97  
 DR-205 Rt. Top of Wall Elev. 685.67

T-67N R-6W  
 Sec. 16



Curve	Delta	T	L	R	E
C1	16°52'19.31" (RT)	38.56	76.56	260.00	2.84
C2	26°42'33.13" (RT)	41.54	81.58	175.00	4.86
C3	16°11'37.07" (RT)	60.46	120.12	425.00	4.28
C4	04°52'16.19" (RT)	39.13	78.22	920.00	0.83

RETA  
 Ramp D  
 US218/IA27





Ramp D

10' spacing (typ.)

45° (typ.)

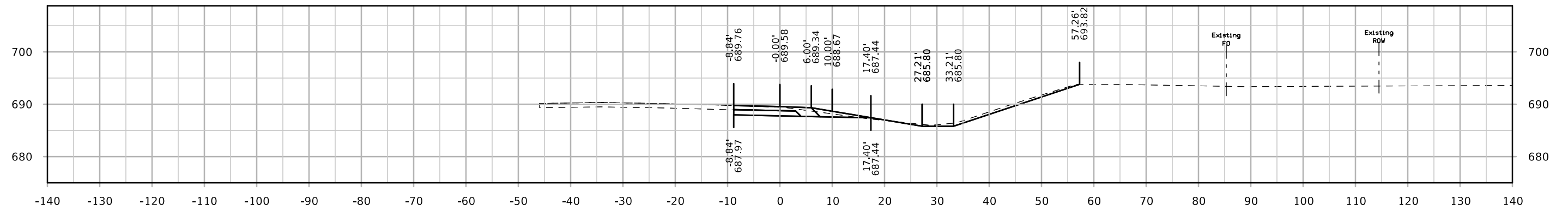
10' spacing (typ.)

R=100'

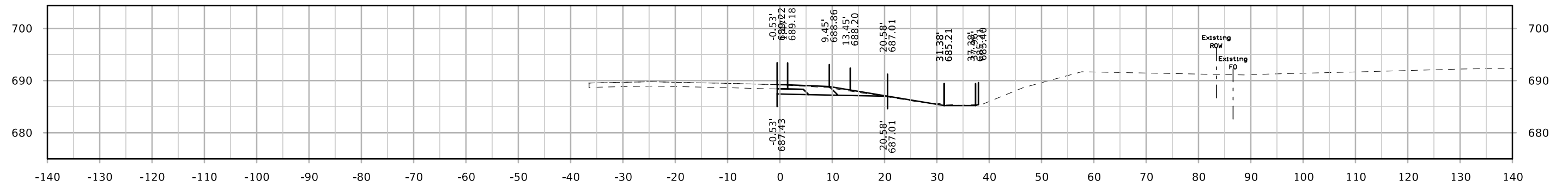
45° (typ.)

US 218

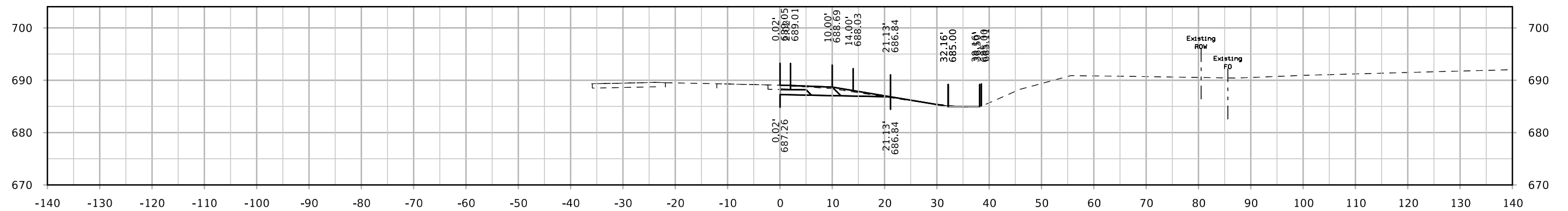
Pavement Markings  
Return A  
Ramp D  
US 218 / IA 27



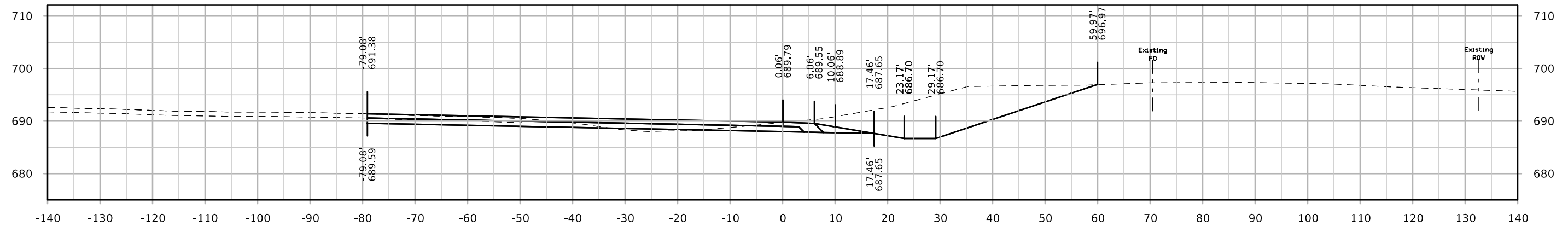
STA. 11+50.00



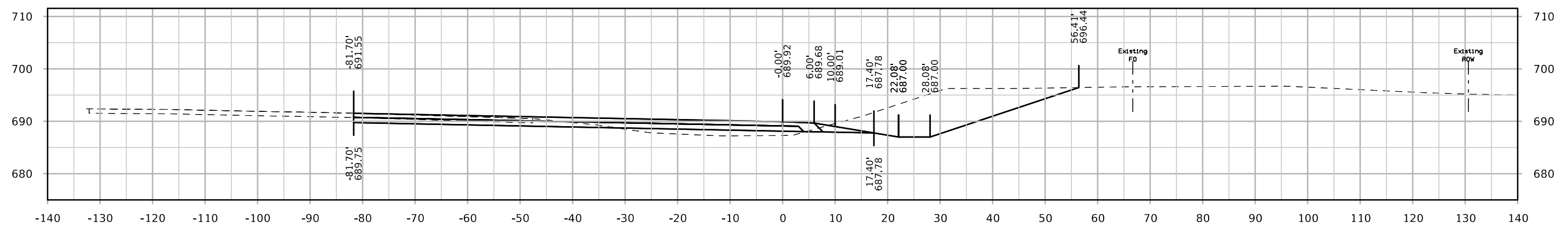
STA. 11+00.00



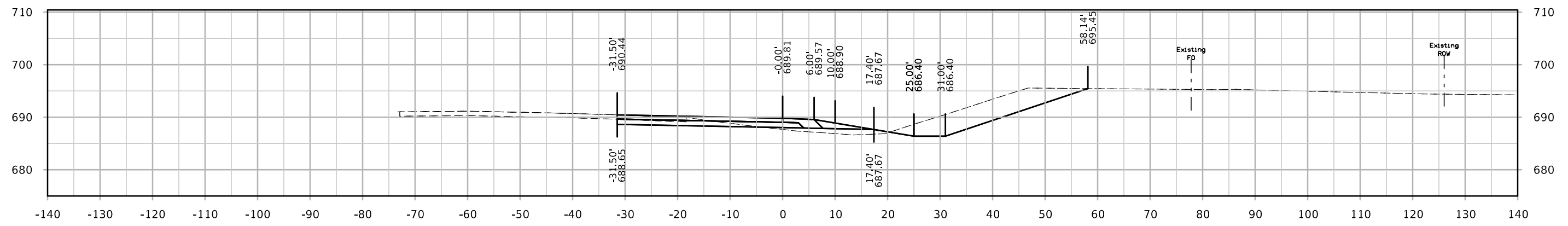
STA. 10+82.69



STA. 12+70.00



STA. 12+50.00



STA. 12+00.00

