

LETTING DATE
JUL 18 2023
PCC Pavement - Grade and New
NHSN-218-1(83)--2R-56

LEE COUNTY



PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
LEE COUNTY
PCC Pavement - Grade and New

Weigh Station just S of Co Rd J38 / 130th St

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



REVISIONS

TOTAL

33

PROJECT IDENTIFICATION NUMBER

20-56-218-020

PROJECT NUMBER

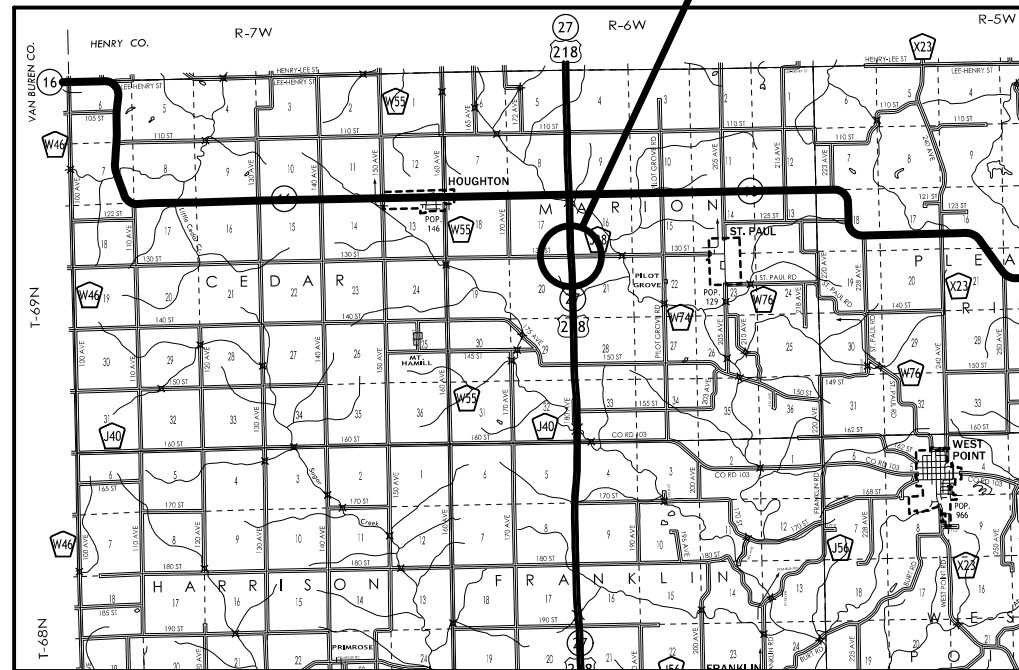
NHSN-218-1(83)--2R-56

R.O.W. PROJECT NUMBER

NHSN-218-1(84)-2R-56

No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 2	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
G Sheets	Survey Sheets
G.1 - 3	Reference Ties and Bench Marks
G.4	Horizontal Control Tab. & Super for all Alignments
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.1	511 Travel Restrictions
J.1	Staging Notes
J.2	Detour Plan
K Sheets	Interchange Sheets
* K.1	Plan and Profile Sheets - RMP218
L Sheets	Geometric, Staking and Jointing Sheets
L.1 - 4	Geometric & Staking "RET218, RETC218, RETD218"
L.5	Edge Profiles "RET218, RETC218, RETD218"
U Sheets	500 Series, Mod.Stds. and Detail Sheets
* U.1	Traffic Turning movement
V Sheets	Bridge and Culvert Situation Plans
V.1 - 2	Bridge and Culvert Situation Plans
X Sheets	Side Road Cross Sections
* X.1 - 12	RMP218 and RETD218
* Color Plan Sheets	

Project Location
 Mile Post: 29.463



Co Rd J38	
DESIGN DATA RURAL	
2018 AADT	430 V.P.D.
20 -- AADT	-- V.P.D.
20 -- DHV	-- V.P.H.
TRUCKS	-- %
Total	
Design ESALs	--

130th St	
DESIGN DATA RURAL	
2018 AADT	430 V.P.D.
20 -- AADT	-- V.P.D.
20 -- DHV	-- V.P.H.
TRUCKS	-- %
Total	
Design ESALs	--

X
 X X X

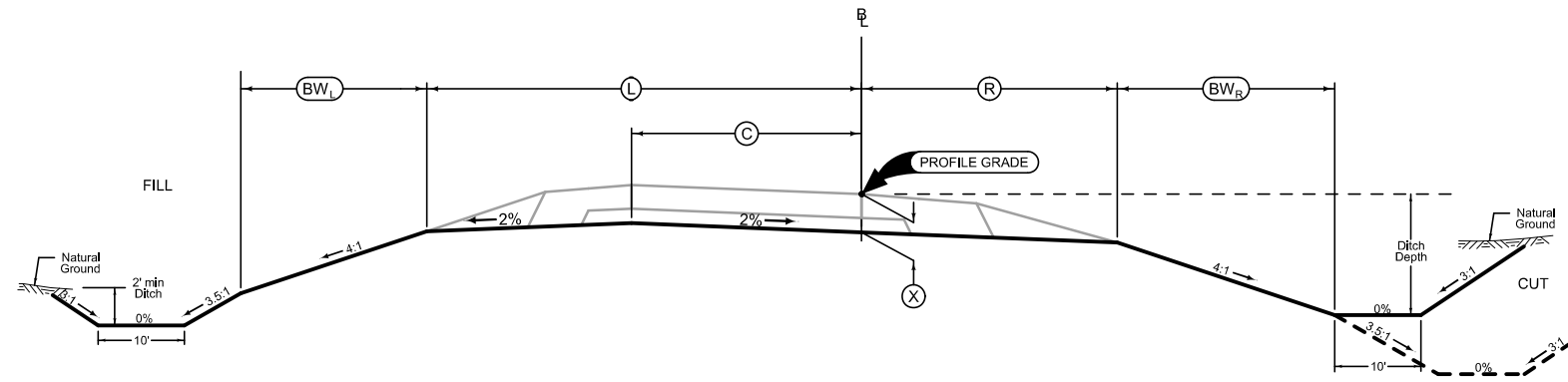
PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: 3-11-22

LOCATION				DIMENSIONS					
INTERCHANGE	RAMP	STATION TO STATION		(L)	(R)	(C)	(X)	(BW _L)	(BW _R)
		Feet	Feet	Feet	Feet	Inches	Feet	Feet	
US 218 - J38	RMP 218	53677+57.64	53678+17.99					16	
US 218 - J38	RMP 218	53678+17.99	53680+93.60					16	

G_1R_Grade
MOD.



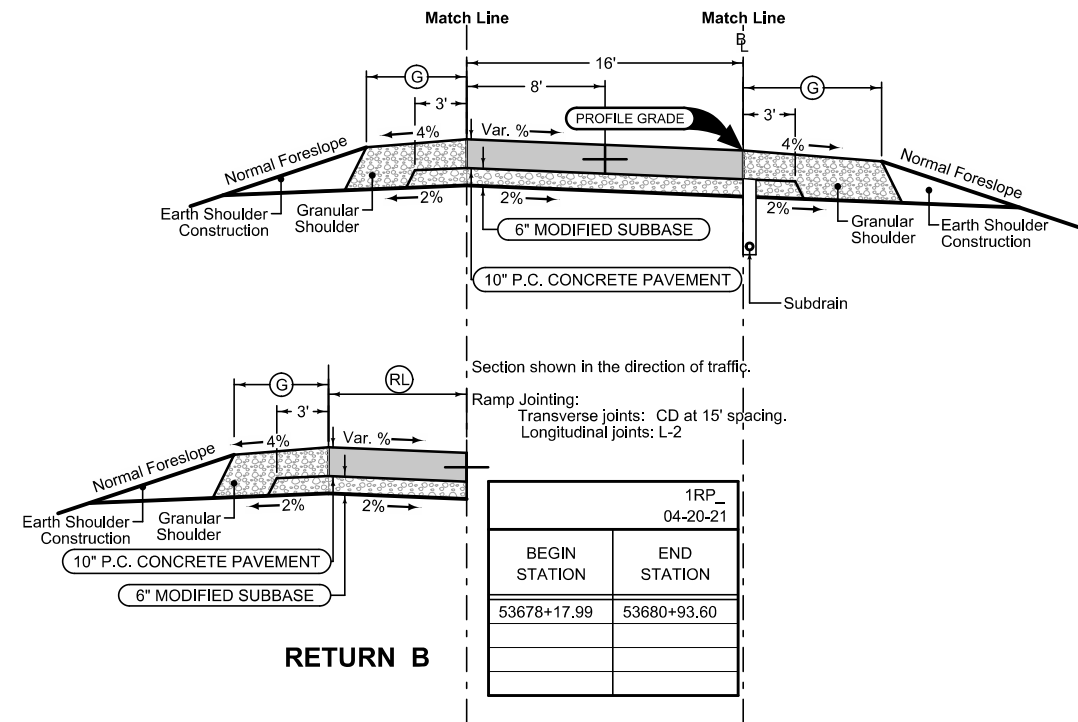
Section view is in direction of traffic.
Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or super-elevated curves.

RAMP GRADING

RMP 218

Return and Granular Shoulder

1R_G_ MODIFIED				
BEGIN STATION	END STATION	(RL) Feet	(G) Feet	
53678+17.99	53680+15.71	Var.	4	
53680+15.71	53680+93.60	0	4	



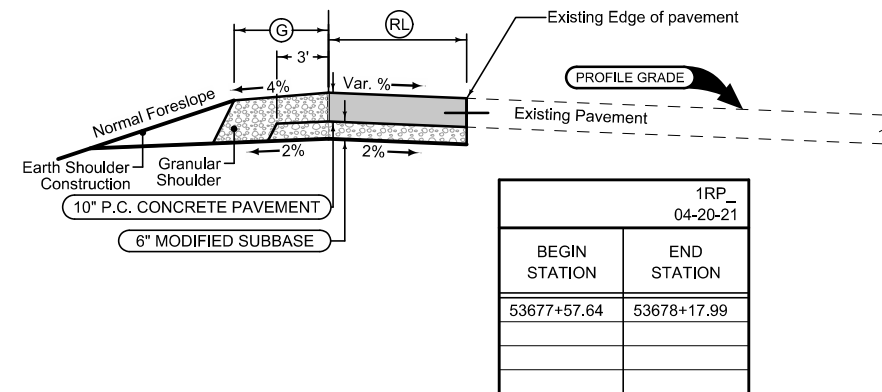
RETURN B

Granular Shoulder

1R_G_ 10-19-10		
BEGIN STATION	END STATION	(G) Feet
53678+17.99	53680+93.60	6

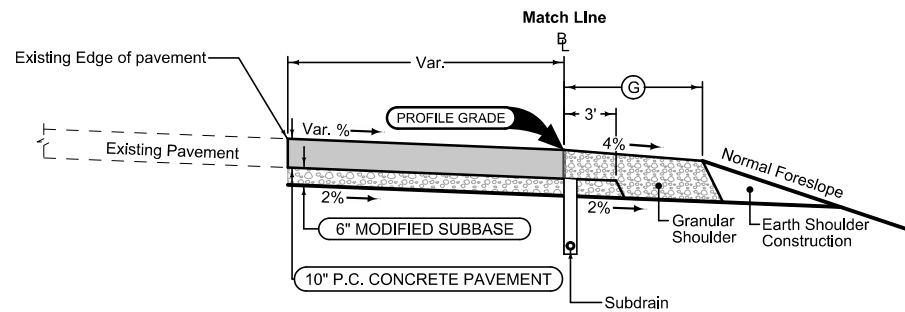
Return and Granular Shoulder

1R_G_ MODIFIED				
BEGIN STATION	END STATION	(RL) Feet	(G) Feet	
53677+57.64	53678+17.99	Var.	4	



1RP_ 04-20-21	
BEGIN STATION	END STATION
53677+57.64	53678+17.99

RMP 218

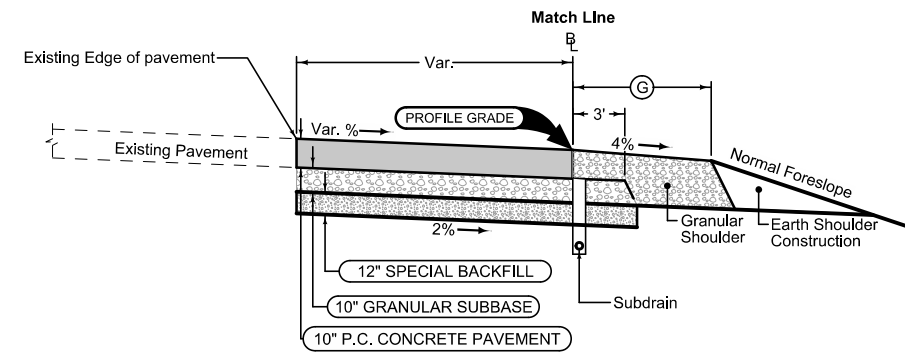


Granular Shoulder

1R_G_ 10-19-10		
BEGIN STATION	END STATION	Ⓞ Feet
43676+64.20	43677+48.75	10

CHAIN	BEGIN STATION	END STATION
RETC218	43676+64.20	43677+48.75

RETURN C

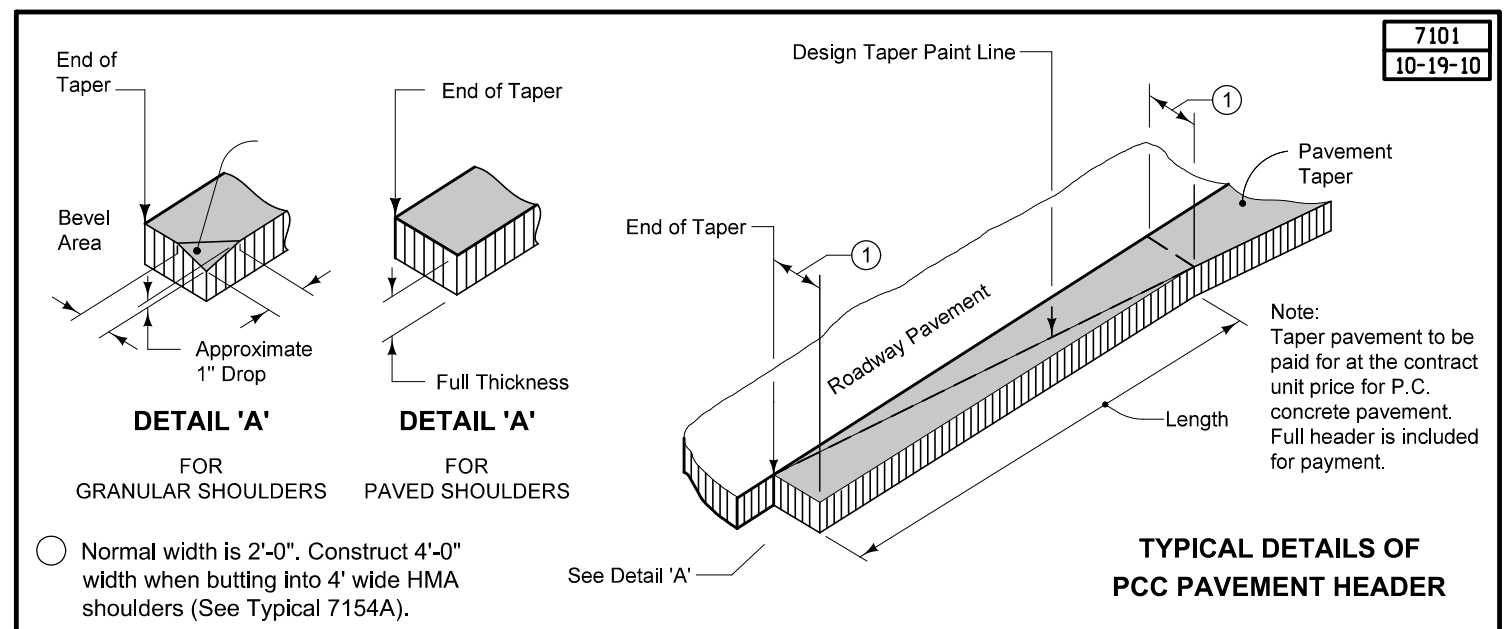


Granular Shoulder

1R_G_ 10-19-10		
BEGIN STATION	END STATION	Ⓞ Feet
4680+76.64	4683+72.46	10

CHAIN	BEGIN STATION	END STATION
RETD218	4680+76.64	4683+72.46

RETURN D



SURVEY SYMBOLS

- BL, Topo Breakline
- BL, Topo Breakline
- C, Centerline BL of Road -ML or SR
- C, Centerline BL of Road -ML or SR
- CON, Concrete or A/C Slab
- CON, Concrete or A/C Slab
- CP, Control Point
- CU, Back of Curb
- CU, Back of Curb
- D, Centerline Draw or Stream -Down
- D, Centerline Draw or Stream -Down
- DU, Centerline Draw or Stream -Up
- DU, Centerline Draw or Stream -Up
- EP, Edge of Paved Roads -ML or SR
- EP, Edge of Paved Roads -ML or SR
- Existing Contours
- FENO, FENO Monument
- GR, Ground Shot
- GU, Gutter In Front of Curb
- GU, Gutter In Front of Curb
- LIN, Miscellaneous Line
- LIN, Miscellaneous Line
- LUM, Luminaire
- MH, Utility Access -Manhole
- MIS, Miscellaneous
- OUT, Tile Outlet
- PIP, Pipe Culvert
- PIP, Pipe Culvert
- PLG, Location of General Photo
- PPA, Power Pole Co. 1
- RIP, Rip-Rap
- RIP, Rip-Rap
- SI, Sign
- SNP, Unpaved Shoulder
- SNP, Unpaved Shoulder
- SOP, Size of Pipe or Culvert
- TIL, Tile Line
- TIL, Tile Line
- UV, Underground Utility Vault

UTILITY LEGEND

- ELID, Electric Line Co. 1 - Quality D
- PPA, Power Pole Co. 1
- TLID, Telephone Line Co. 1 - Quality D
- WLID, Water Line Co. 1 - 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
- Survey Line
- Station
- 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)

Survey Information

SURVEY INDEX

County: Lee
SAP 101.2

PIN: 21-56-218-020

Project Number: NHSN-218-1(83)--2R-56

Location: Weigh Station just S of Co Rd J38 / 130th St

Type of Work: PCC Pavement - Grade and New

Project Directory: 5621802021

Survey Personnel

Nels Sutherland – Survey Party Chief

Myron Fox – Assistant Survey Party Chief

Date(s) of Survey

Begin Date 08/04/2021

End Date 08/25/2021

General Information

Measurement units for this survey are US survey feet. This survey is for US Hwy 218, in Lee County. New PCC Pavement and Grading. Weigh Station just south of Co Rd J38 and 130th St.

Project Control

Primary geodetic style three-dimensional project control monuments are found or placed at approximate ½ to 1 mile intervals throughout this project. Datum was accessed via GNSS static survey observations using Iowa Real Time Network reference stations in the area. Other legacy datum monuments in the area were surveyed comparing legacy coordinates to validate the results of the local project network adjustment. Comparisons validate results. For additional details of the control survey see the control survey report in the CONTROL file folder of the PrelimSurvey project directory.

PROJECT DATUM: NAD83(2011) EPOCH 2010.00

VERTICAL DATUM: NAVD88

COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 14

Alignments Information

Alignment is a retrace of project# NHSN-218-1(83)--2R-56 metric as-builts converted to standard measurement. Station 208+77.980 m was held, converted to standard measurement, station 684+97.31 ft, and ran back and ahead without equation for ML Hwy 218. Station 1207+40.547 m was held, converted to standard measurement, station 3961+30.42 ft, and ran ahead without equation for SR J38.

Survey stationing relates to As-built plan stationing as follows:

SURML218

(Plan) PT Sta. 187+92.367 m = Sta. 616+54.75 ft

(Survey) PT Sta. 616+54.50 ft

(Plan) PC Sta. 201+99.000 m = Sta. 662+69.69 ft

(Survey) PC Sta. 662+69.55 ft

(Plan) PT Sta. 204+71.015 m = Sta. 671+62.12 ft

(Survey) PT Sta. 671+63.43 ft

(Plan) PC Sta. 208+77.980 m = Sta. 684+97.31 ft

(Survey) PC Sta. 684+97.31 ft

(Plan) PT Sta. 211+34.968 m = Sta. 693+40.45 ft

(Survey) PT Sta. 693+40.55 ft

(Plan) PC Sta. 221+77.440 m = Sta. 727+60.63 ft

(Survey) PC Sta. 727+60.72 ft

SURSRJ38

(Plan) POT Sta. 1207+40.547 m = Sta. 3961+30.42 ft

(Survey) POT Sta. 3961+30.42 ft

Utility Information

For logging data and other utility details see Utility Survey and Ownership Report in the Utility folder of the PrelimSurvey project directory.

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
Project Control Marks are Bench Marks

Point Name	North	East	Elevation	Feature Definition-Description
13	6373677.955	24402116.860	714.315	CP LEE CO GPS CP FROM THE INTERSECTION OF CO RD J40 PROCEED W 65FT POINT IS 47FT S OF THE CENTERLINE OF CO RD J40 DISC IN CANISTER WITH LID
14	6389639.696	24402326.390	691.362	CP LEE CO GPS CP FROM THE INTERSECTION OF 130TH ST AND 160TH AVE PROCEED E 90FT ALONG 130TH ST POINT IS 35FT S OF CENTER OF RD DISC IN CANISTER WITH LID
23	6389459.936	24418277.600	637.173	CP LEE CO GPS CP FROM THE INTERSECTION OF HWY 218 AND CO RD J38 PROCEED E 5280FT ALONG CO RD J38 POINT IS 40FT S OF CENTERLINE OF RD DISC IN CANISTER WITH LID
562180290	6386877.852	24413175.300	699.970	FENO FROM THE INTERSECTION OF HWY 218 AND CO RD J38 PROCEED S 2670FT ALONG HWY 218 POINT IS 50FT E OF CENTERLINE OF THE NBL AND 20FT S OF DRIVEWAY 4IN BELOW SURFACE IDOT BRASS DISC
562180295	6389440.395	24413218.270	695.598	FENO FROM THE INTERSECTION OF HWY 218 AND CO RD J38 PROCEED S 110FT ALONG HWY 218 POINT IS 177FT E OF CENTERLINE NBL 4IN BELOW SURFACE IDOT BRASS DISC
562180300	6392245.840	24412825.610	674.858	FENO FROM THE INTERSECTION OF HWY 16 AND HWY 218 PROCEED S 2640FT ALONG HWY 218 POINT IS 55FT W OF CENTERLINE SBL AND 15FT S OF CENTERLINE FIELD ENTRANCE 4IN BELOW SURFACE IDOT BRASS DISC

NOTE:

The first two digits in the control point name refer to the county number.
The next 3 digits refer to the highway number.
The next 3 digits refer to the highway milepost.
The last digit refers to the distance from the referenced milepost to the nearest tenth of a mile.

ALIGNMENT COORDINATES

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
1	ML218	616+54.50	6383178.03	24413057.85															
2	ML218						662+69.55	6387793.02	24413081.41	667+16.66	6388240.13	24413083.70	671+63.44	6388686.36	24413055.64				
4	ML218						684+97.31	6390017.61	24412971.93	689+19.08	6390438.54	24412945.46	693+40.56	6390860.31	24412946.06				
5	ML218	727+60.72	6394280.47	24412950.92															
1	SRJ38	3961+30.42	6389567.39	24413000.24															
1	SRJ38	3987+69.80	6389533.23	24415639.39															
1	RMP218	367757.640 R1	6389269.55	24413338.49															
1	RMP218	368363.423 R1	6389763.58	24412987.90															
1	RETC218	367664.200 R1	6389175.88	24413335.02															
2	RETC218	367719.633 R1	6389231.17	24413331.06															
2	RETC218	367748.746 R1	6389259.70	24413325.28															
1	RETD218						468076.640 R1	6389604.82	24413110.44	468168.098 R1	6389689.78	24413076.57	468258.525 R1	6389780.58	24413065.67				
2	RETD218	468372.455 R1	6389893.70	24413052.08															

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			
C1	ML218																		
C2	ML218																		
C1	RETD218																		

108-23A
08-01-08

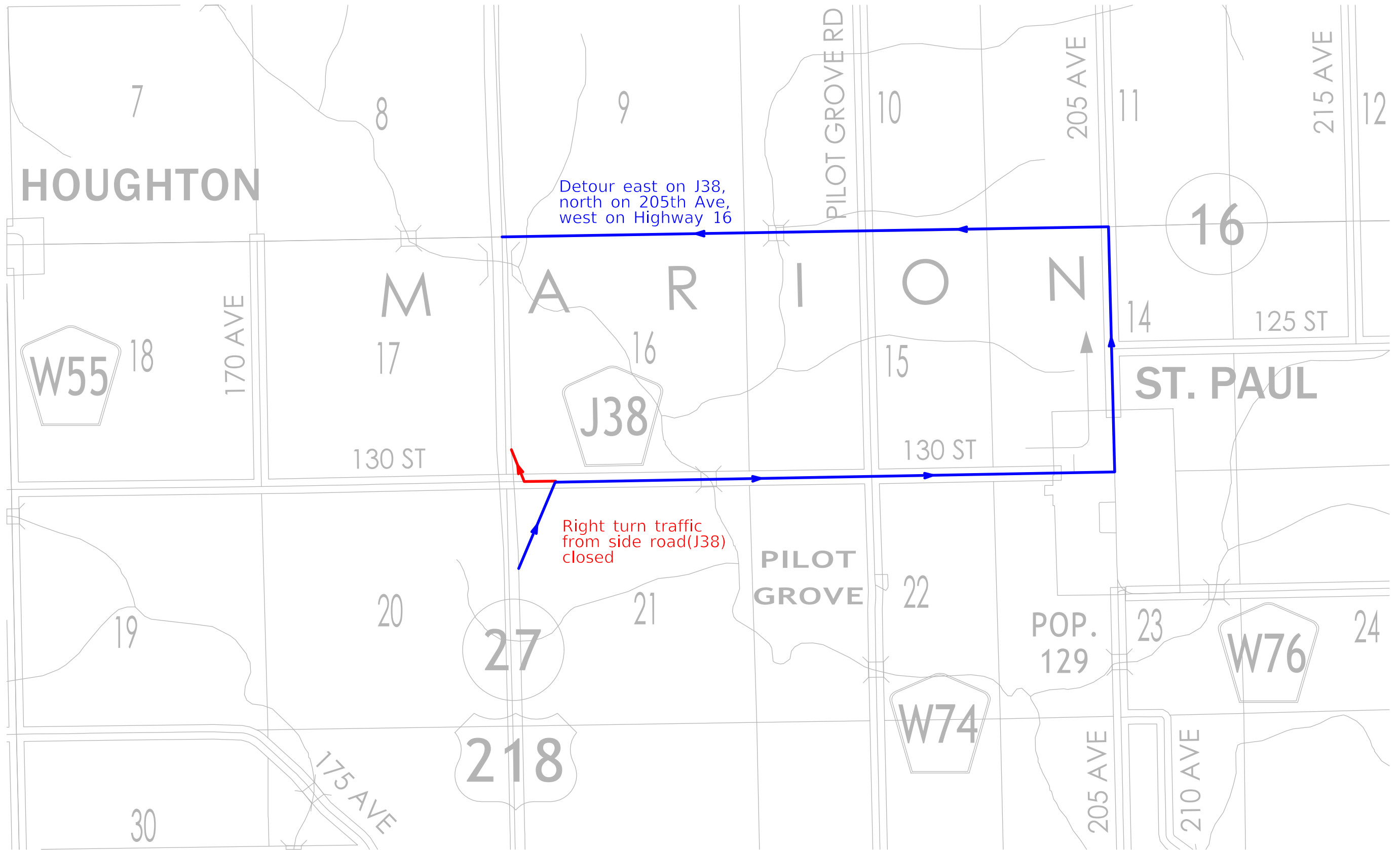
TRAFFIC CONTROL PLAN

US 218 SB traffic shall be maintained at all times.
 US 218 NB traffic shall have one lane closure during construction.
 County road (J38) EB traffic will be maintained at all times.
 County road (J38) WB traffic might need to be closed or detoured during the construction.
 Weigh Station traffic shall be maintained at all times.

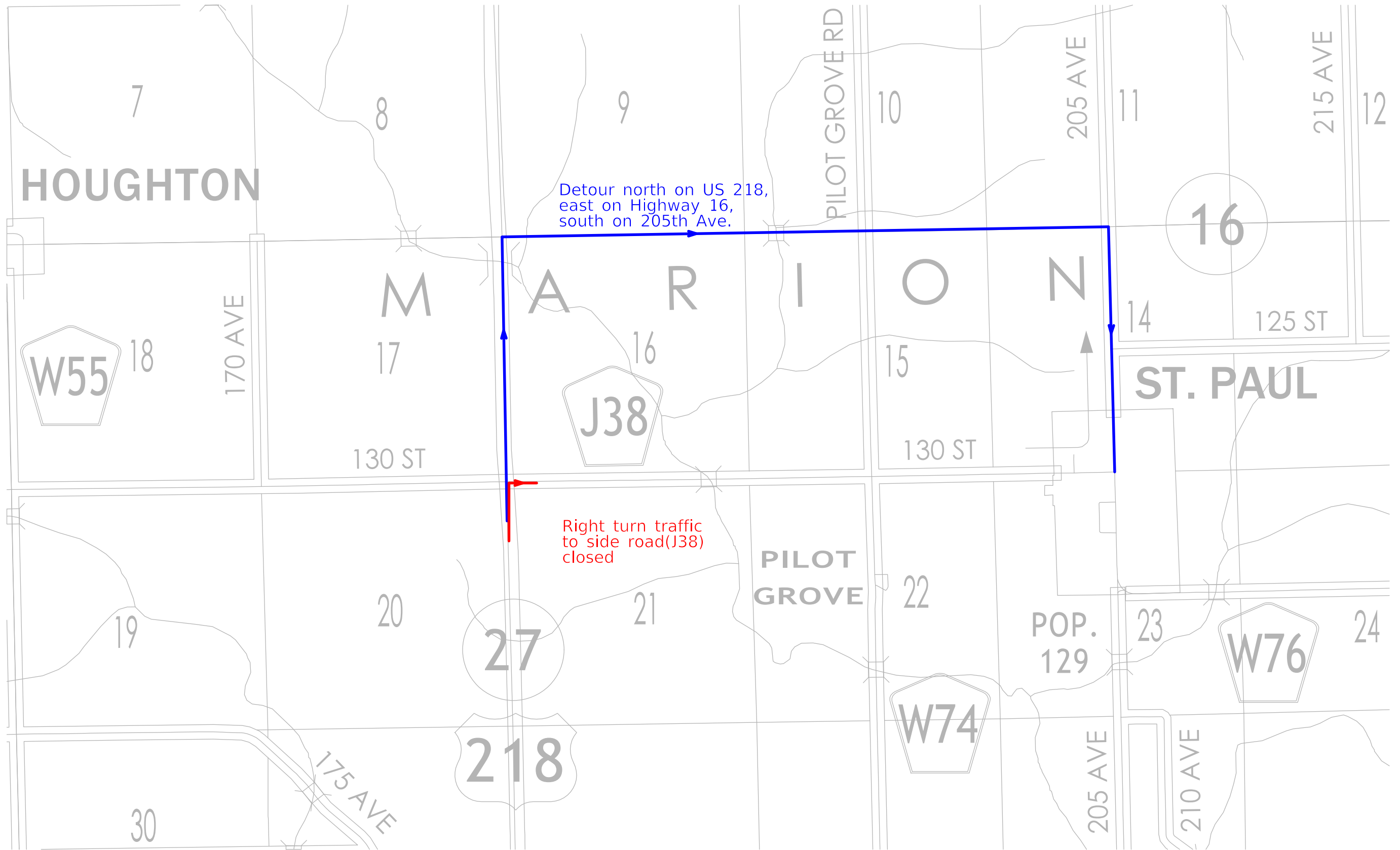
108-25
10-21-14

511 TRAVEL RESTRICTIONS

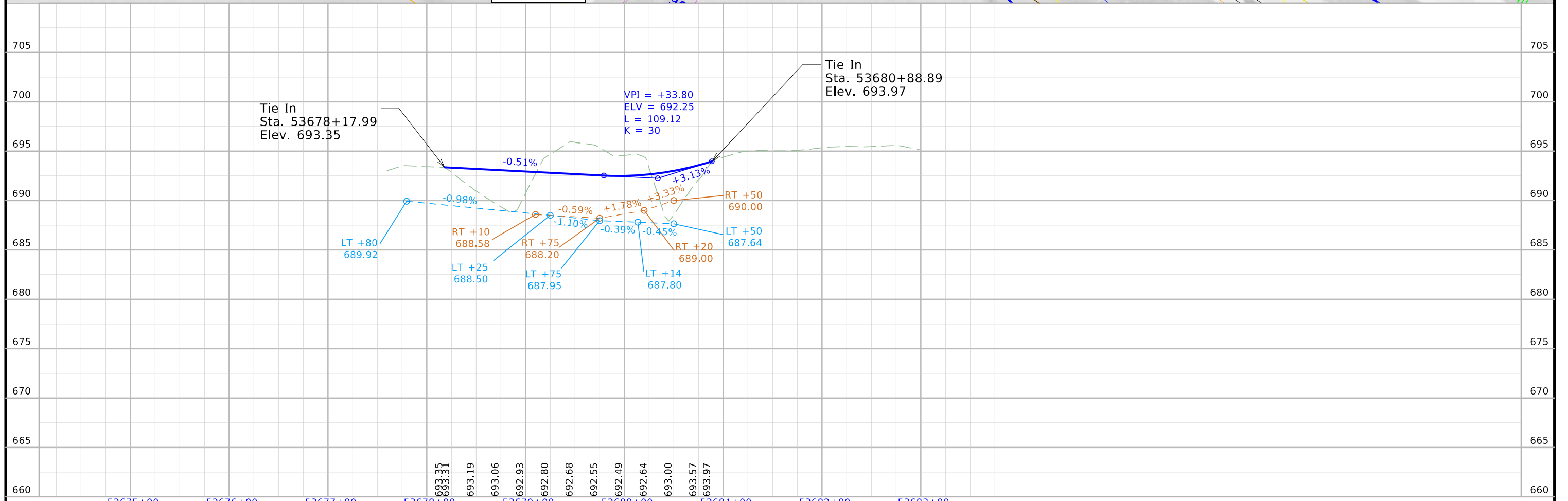
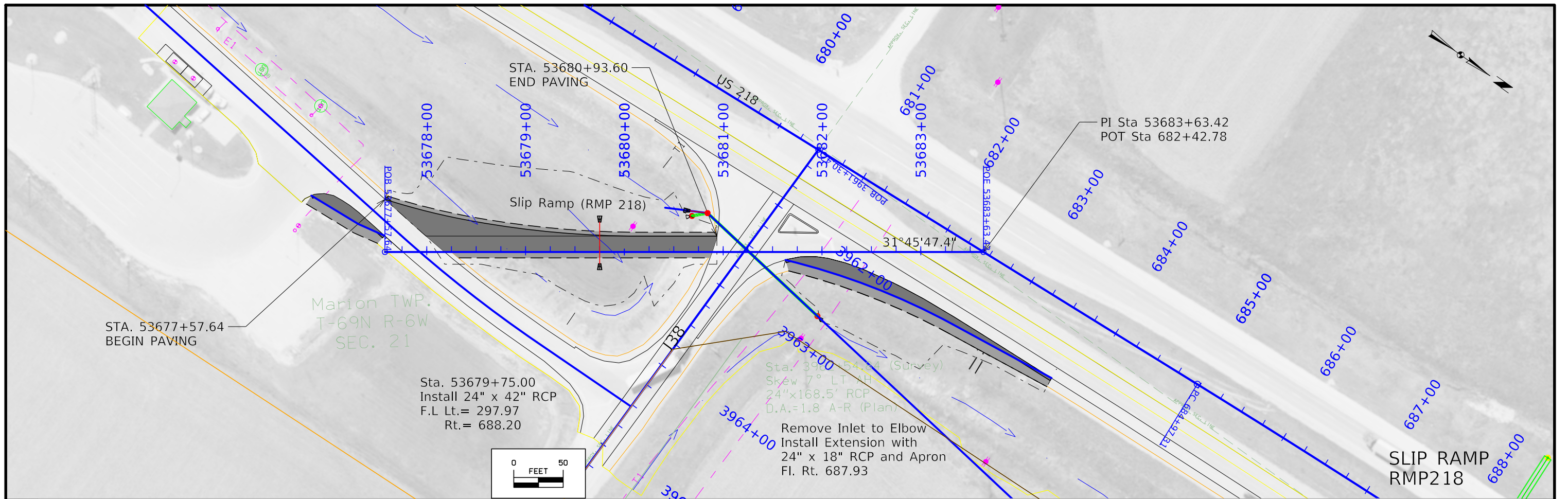
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
US 218	NB&SB	Lee	No travel restrictions expected.									



Proposed Right turn traffic from side road(J38) detour



Proposed Right turn traffic to side road(J38) detour



FILE NO.	ENGLISH	DESIGN TEAM	HOLST/TAMRAKAR/FINCH	LEE COUNTY	PROJECT NUMBER	NHSN-218-1(83)--2R-56	SHEET NUMBER	K.1
----------	---------	-------------	----------------------	------------	----------------	-----------------------	--------------	-----

675+00

676+00

677+00

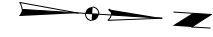
678+00

679+00

680+00

ML218

ML218



Sta 680+04.95 128.43'RT ML218
= Sta 53680+93.60 16'LT RMP218

Sta 53680+15.71 16'LT RMP218
= Sta 680+19.38 RETB218

Sta 53678+49.55 31.33'LT RMP218
= Sta 678+51.83 RETB218

R950'

Sta 53677+57.64 53.21'LT RMP218
= Sta 677+57.64 RETB218

R725'

Sta 676+34.45 309.55'RT ML218
= Sta 43676+64.20 RETC218

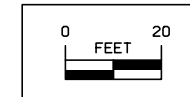
RETB218

RMP218

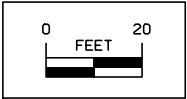
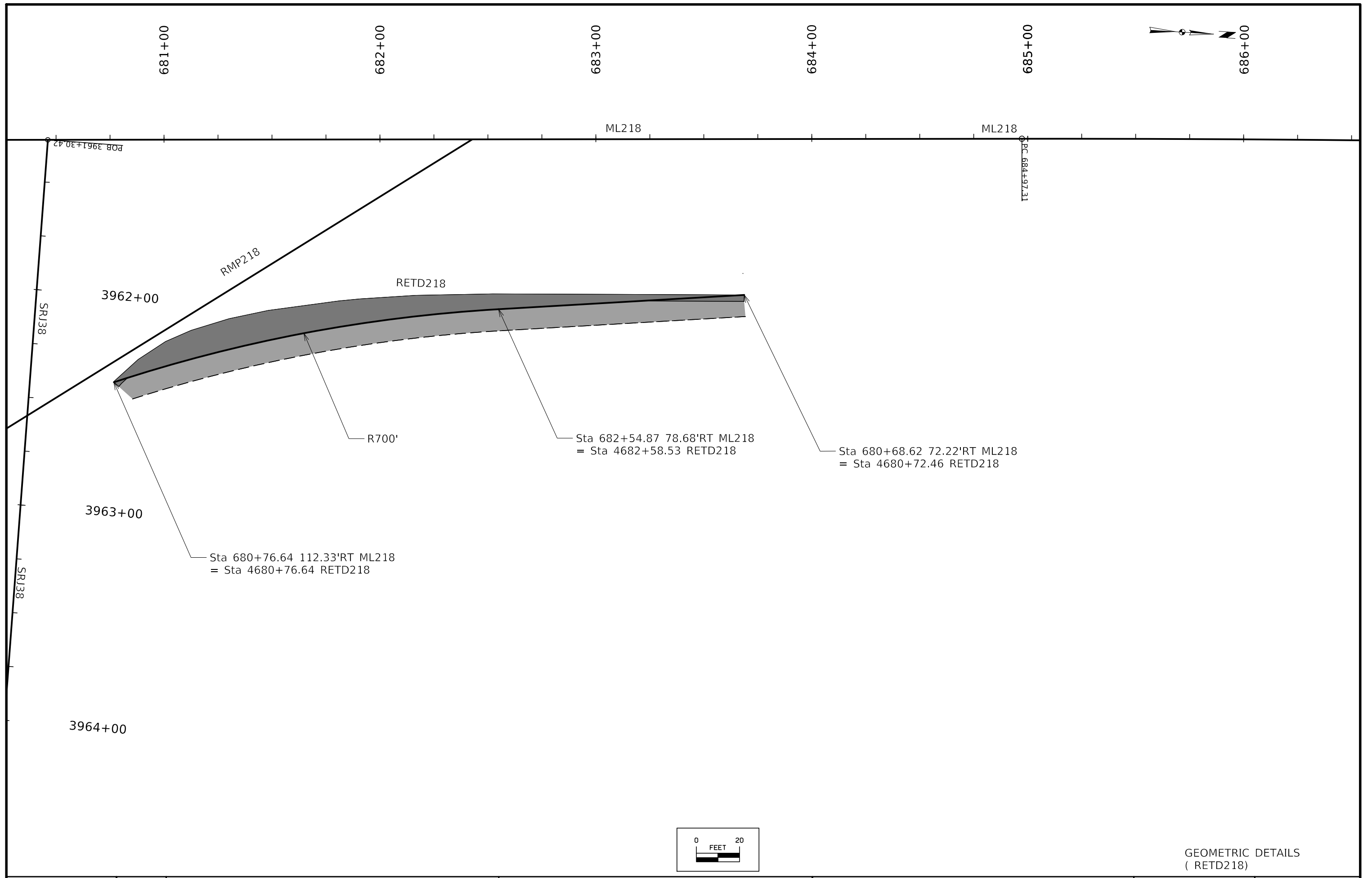
RETC218

Sta 676+89.88 309.07'RT ML218
= Sta 43677+19.60 RETC218

Sta 677+18.72 305.09'RT ML218
= Sta 43677+48.75 RETC218



GEOMETRIC DETAILS
(RETB218, RETC218)



GEOMETRIC DETAILS
(RETD218)

675+00

676+00

677+00

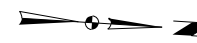
678+00

679+00

680+00

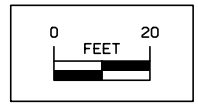
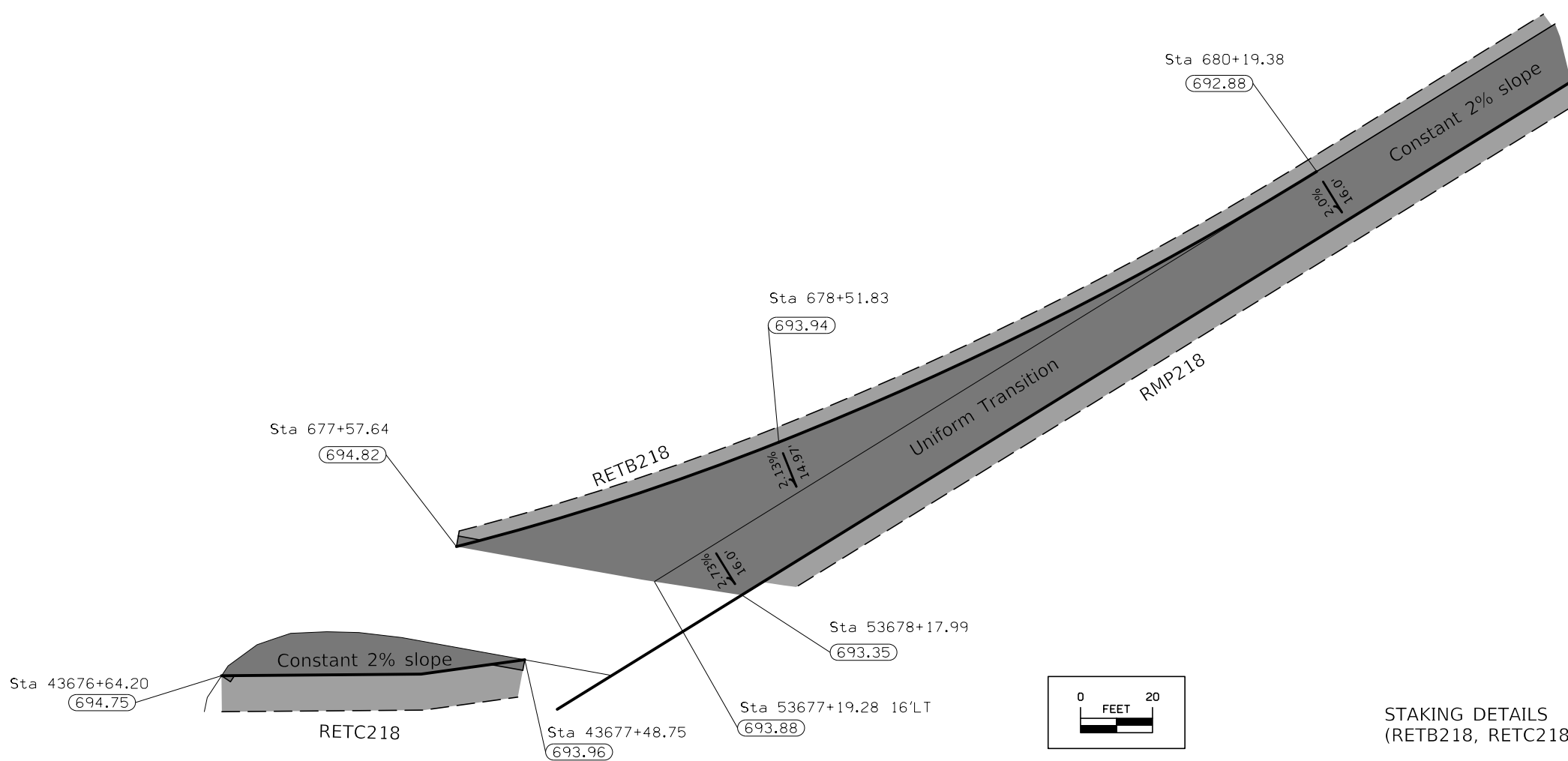
ML218

ML218



SR-138

SR-138



STAKING DETAILS
(RETB218, RETC218)

681+00

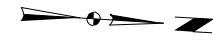
682+00

683+00

684+00

685+00

686+00



ML218

ML218

PC 684+97.31

SR-138

RMP218

RETD218

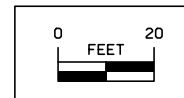
Constant 2% slope

Sta 4683+72.46

693.07

Sta 4680+76.64

694.67



STAKING DETAILS
(RETD218)

FILE NO.

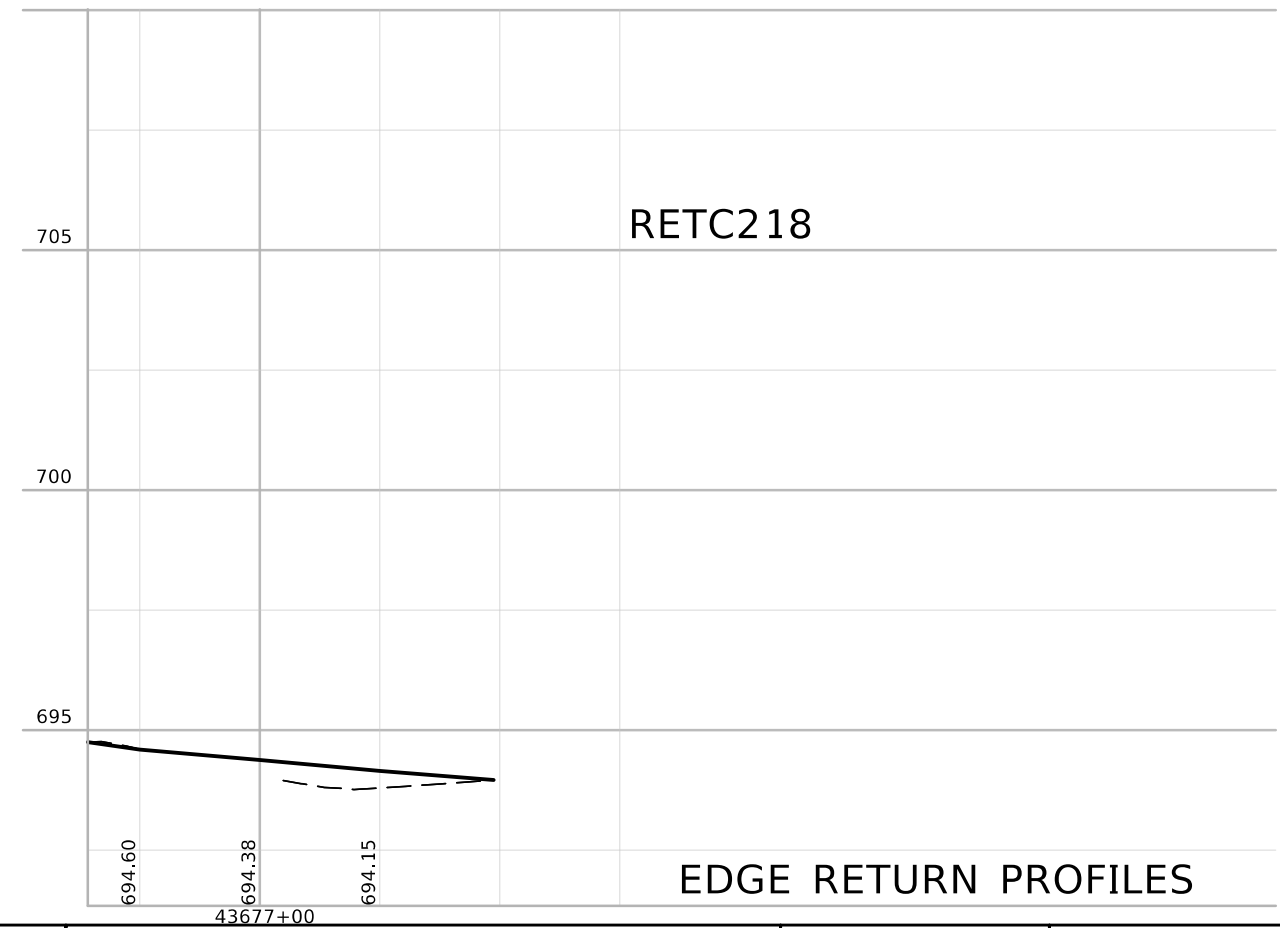
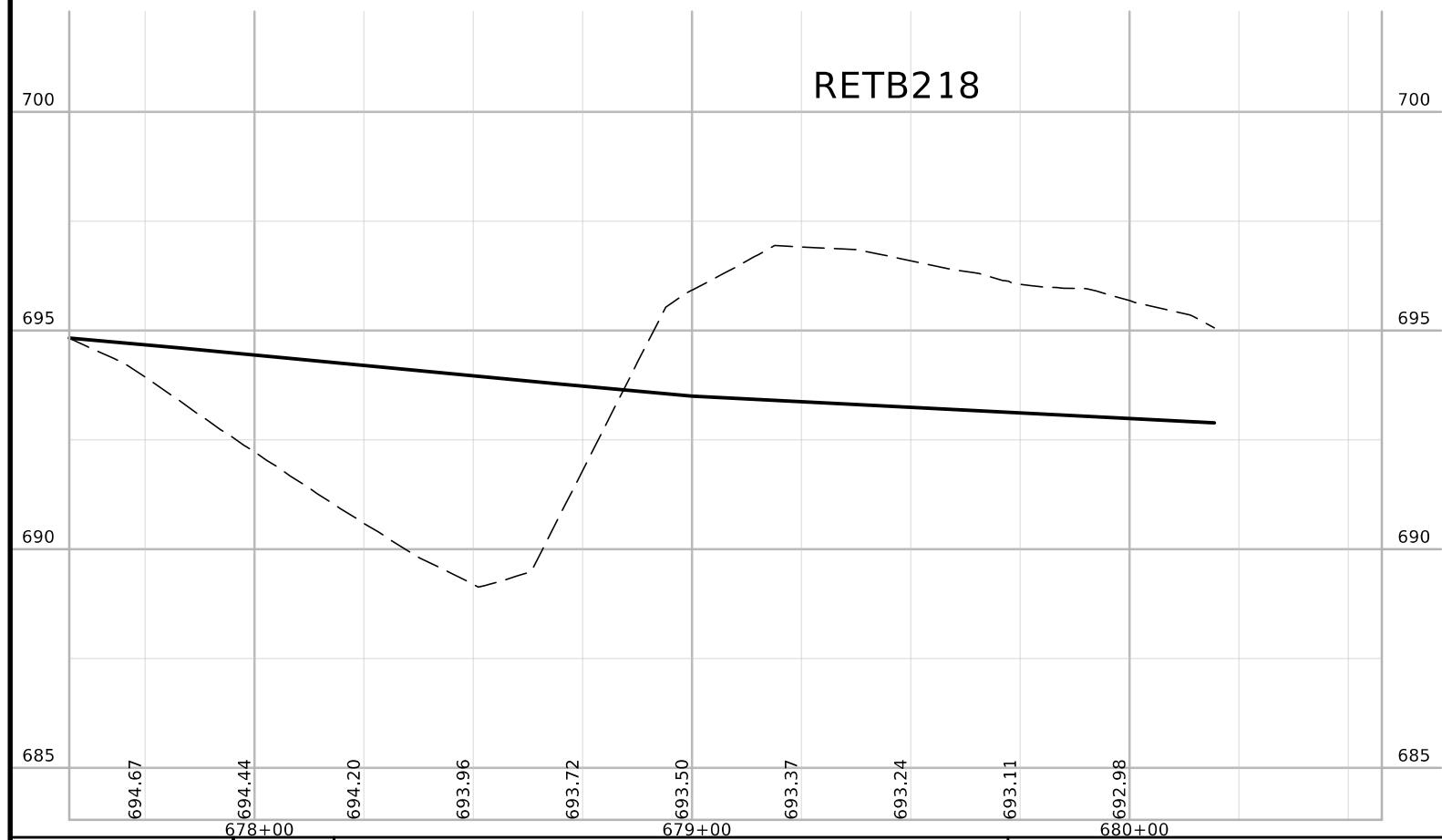
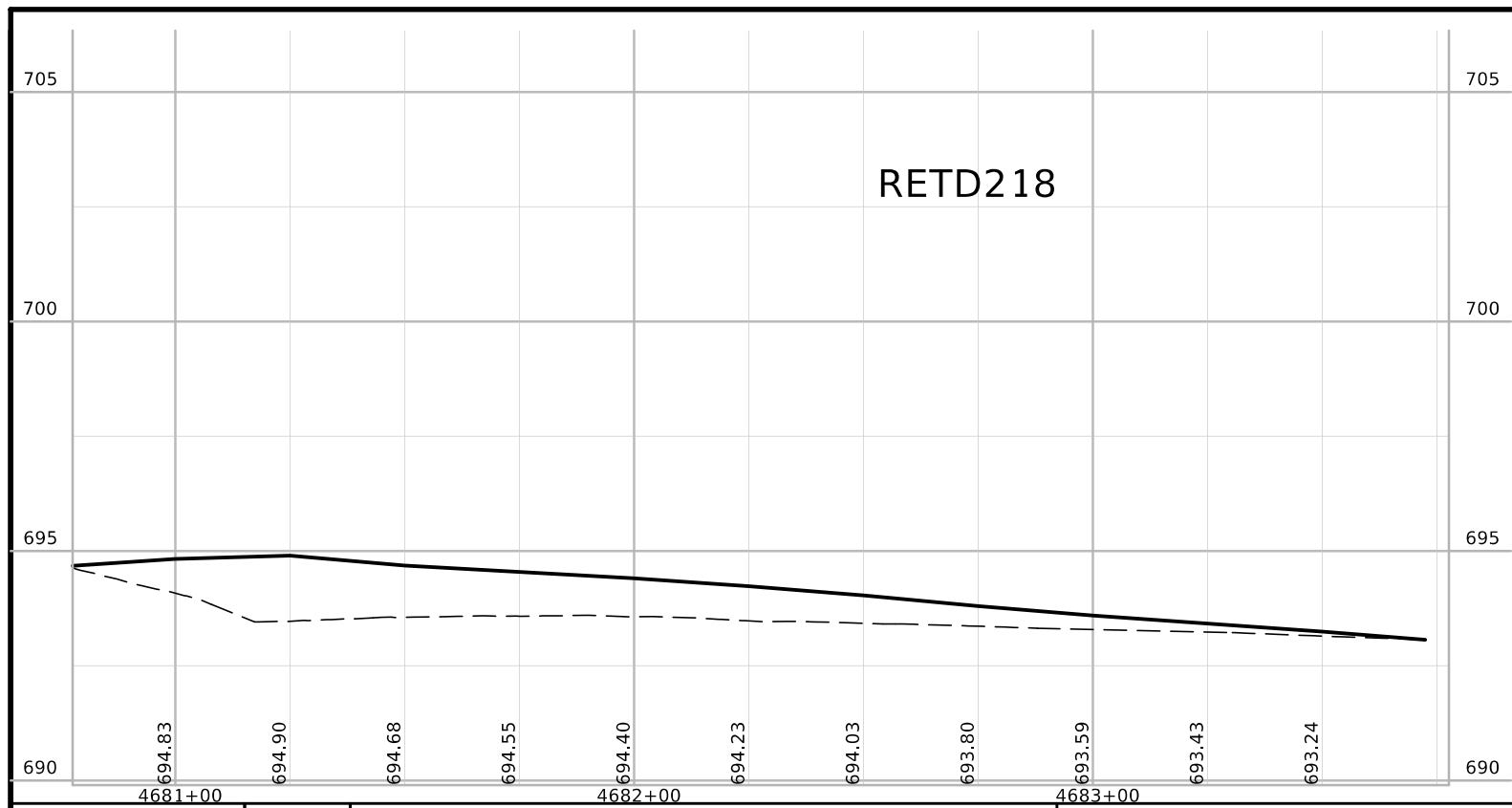
ENGLISH

DESIGN TEAM HOLST/TAMRAKAR/FINCH

LEE COUNTY

PROJECT NUMBER NHSN-218-1(83)--2R-56

SHEET NUMBER L.4



EDGE RETURN PROFILES



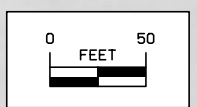
671+00 672+00 673+00 674+00 675+00 676+00 677+00 678+00 679+00 680+00 681+00 682+00 683+00 684+00 685+00 686+00

US 218

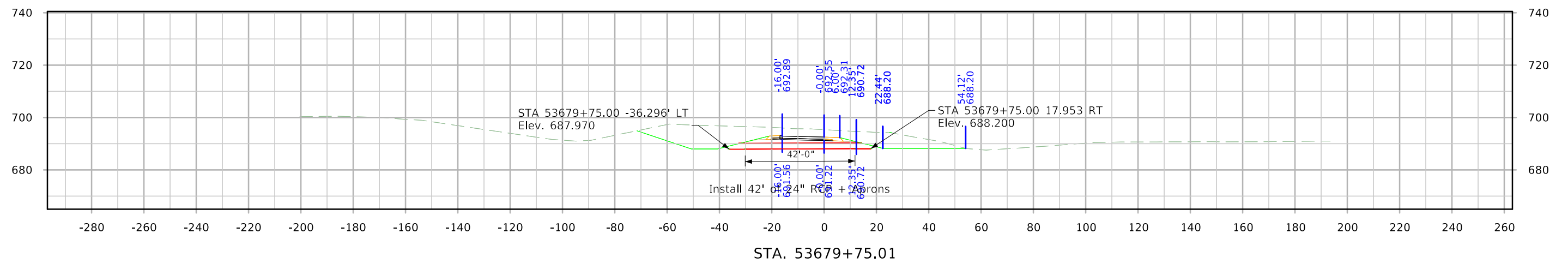
RMP 218

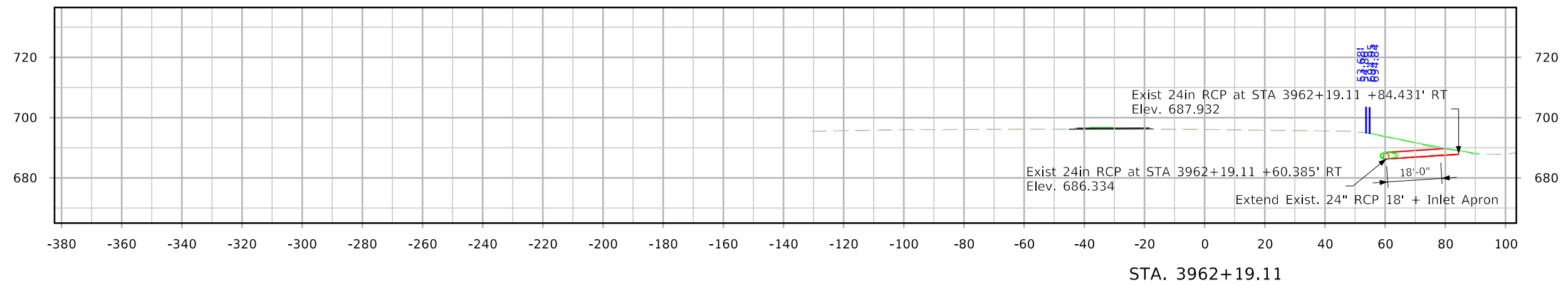
RMPE 218

County Road - 138

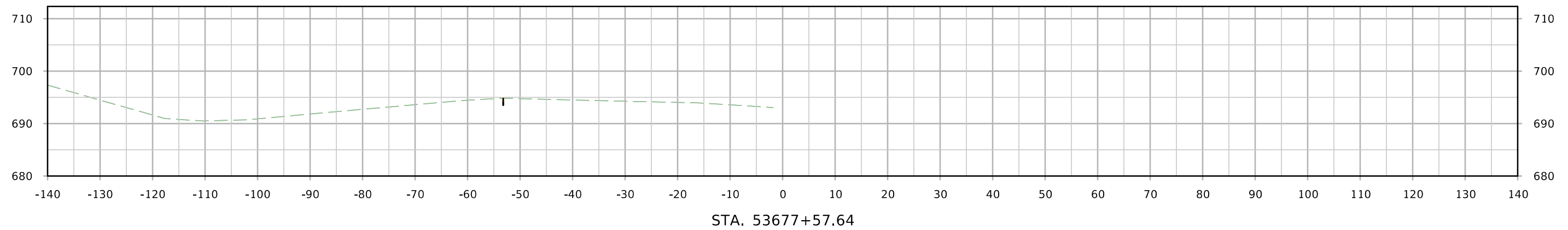
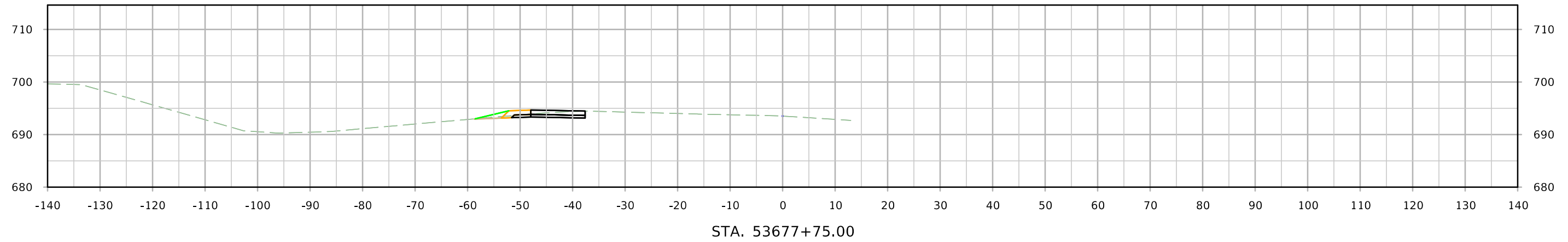
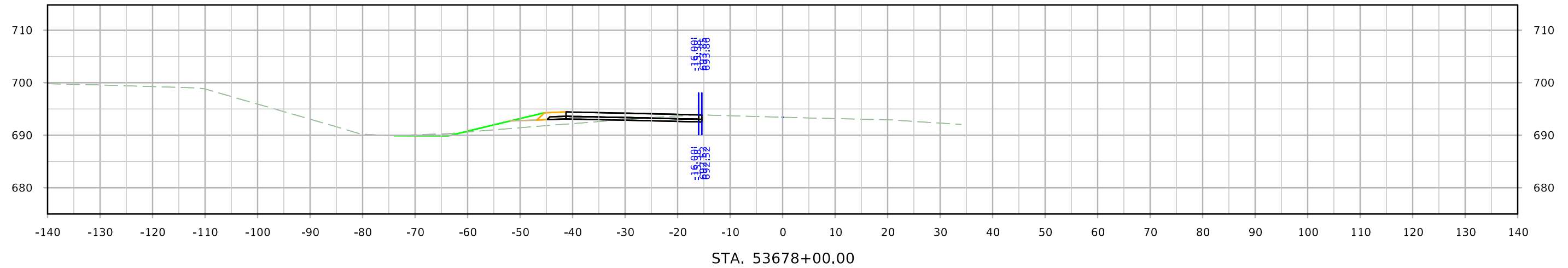


TRAFFIC TURNING MOVEMENT

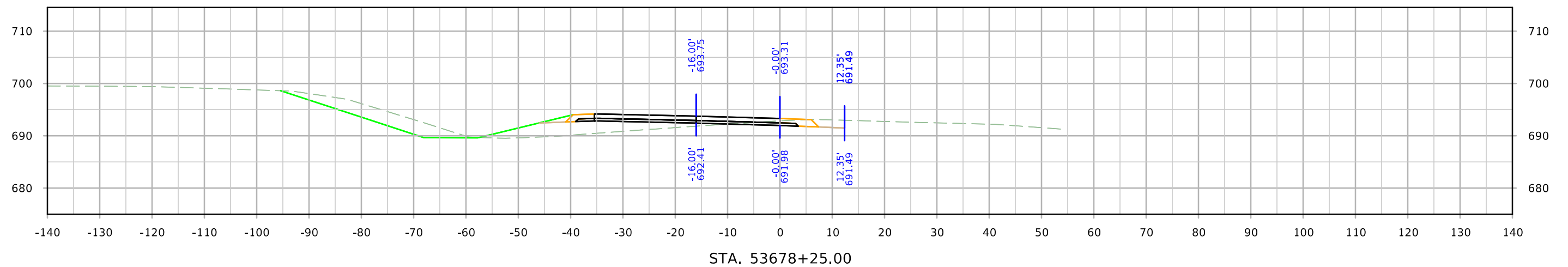
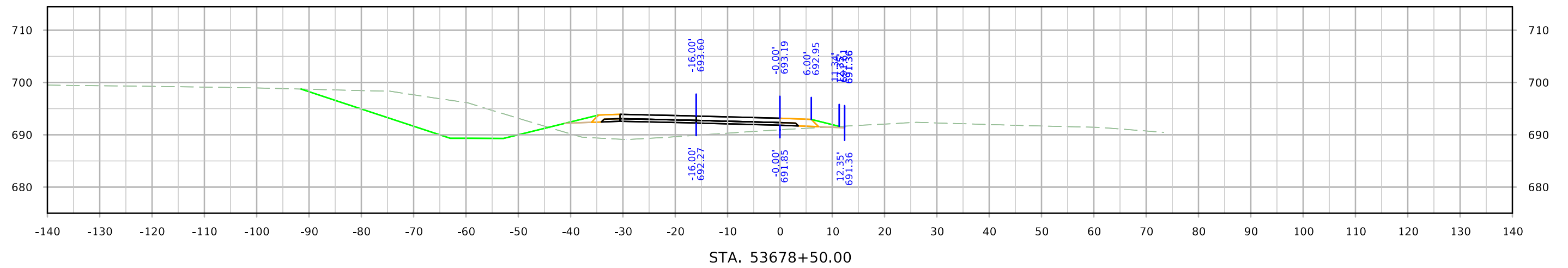
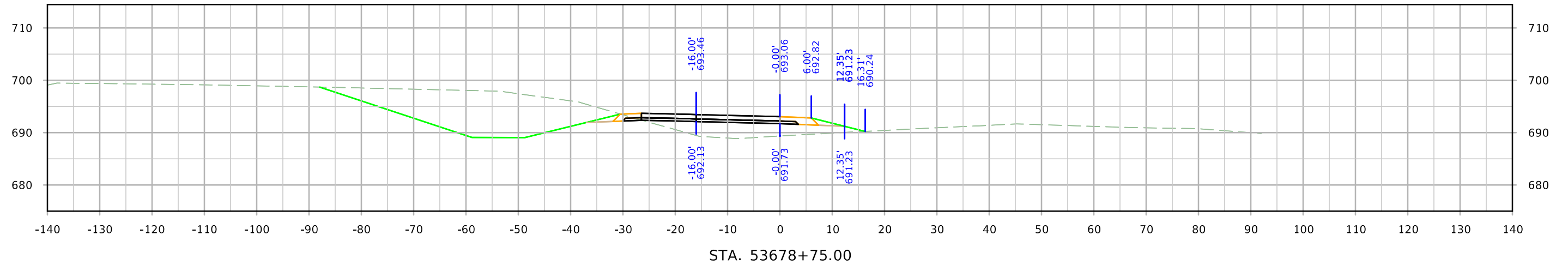




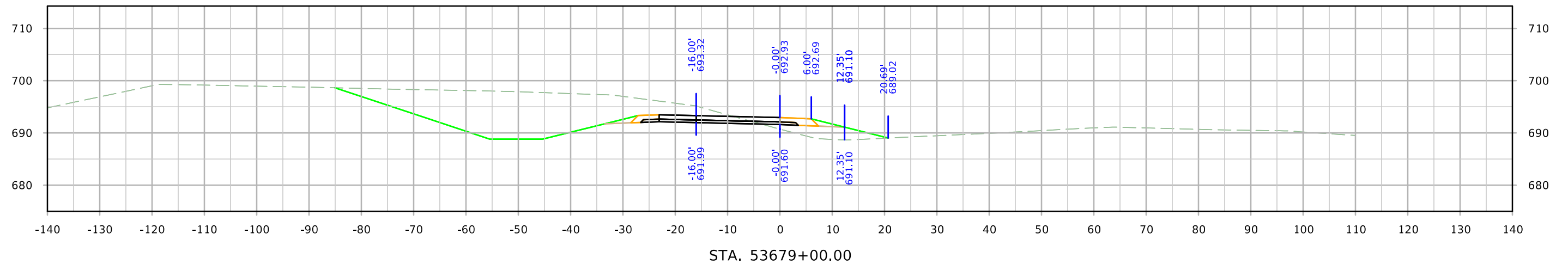
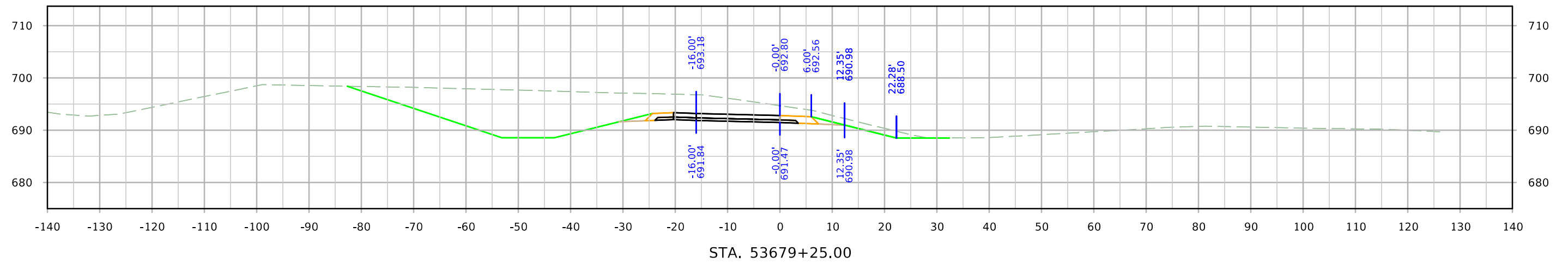
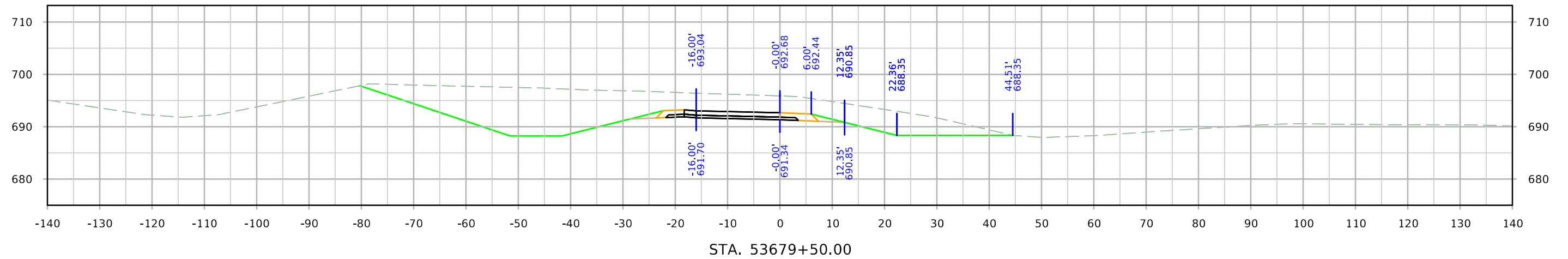
RMP218



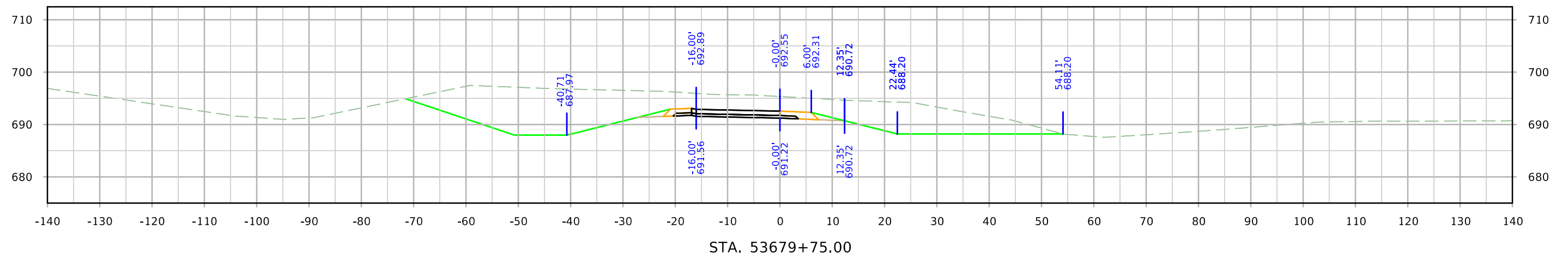
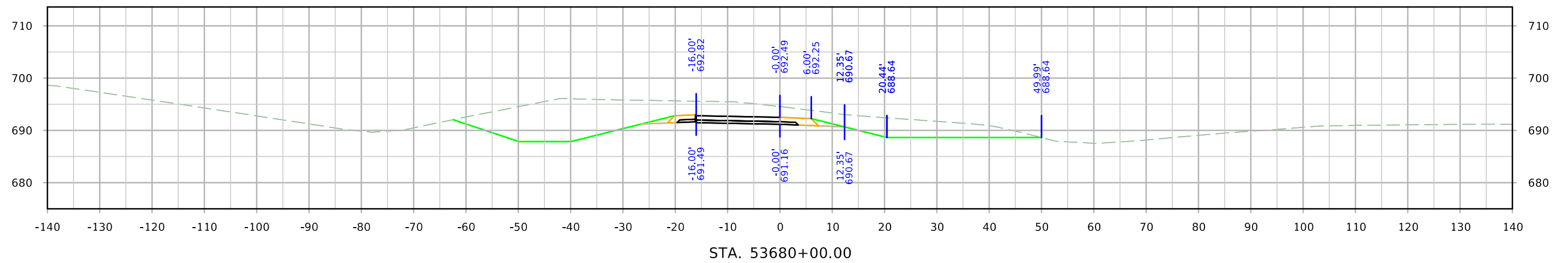
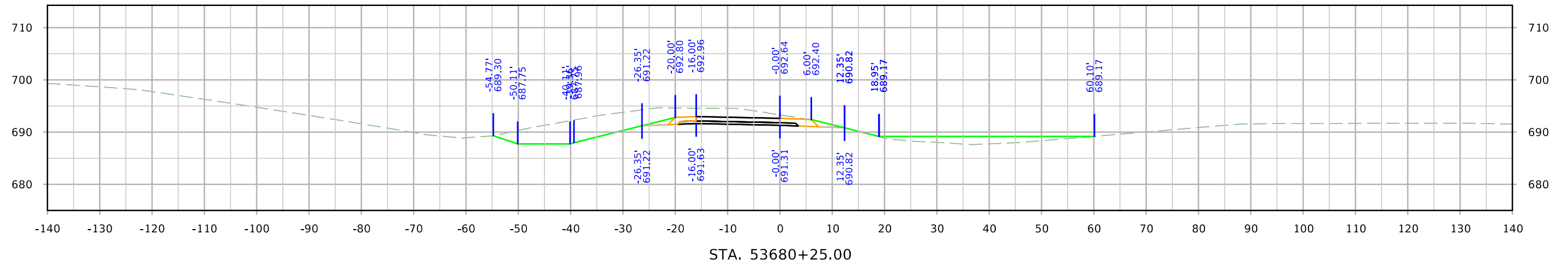
RMP218



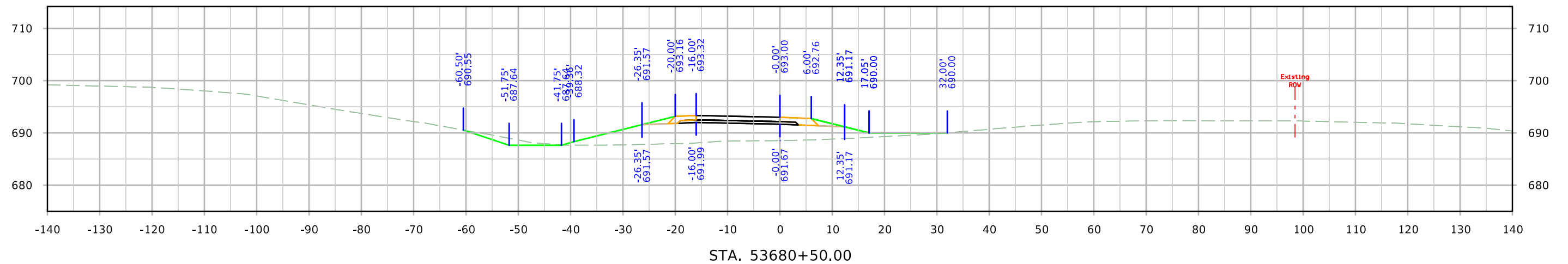
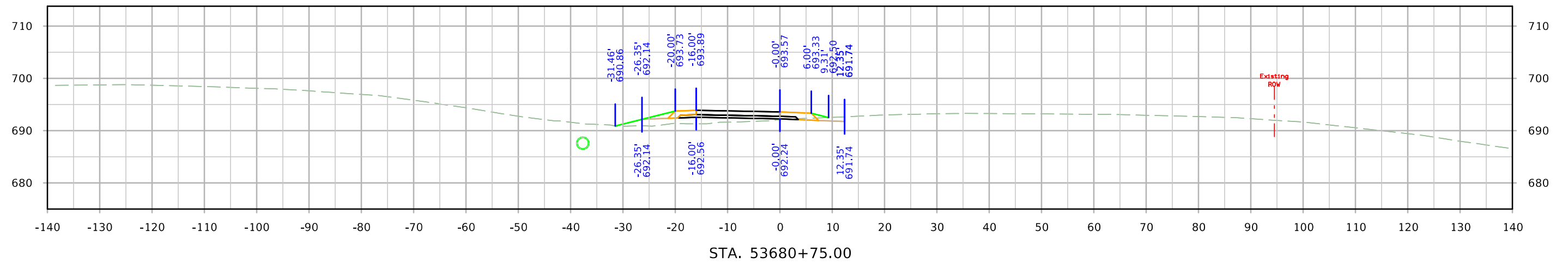
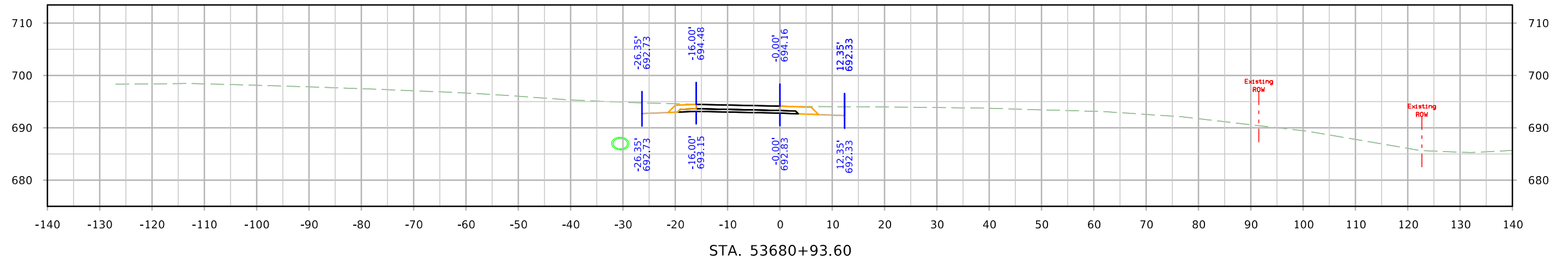
RMP218



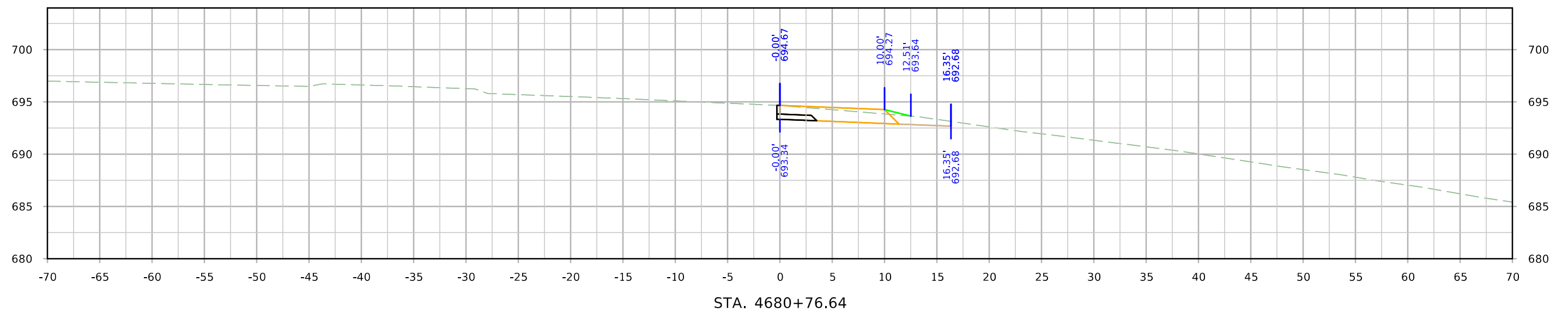
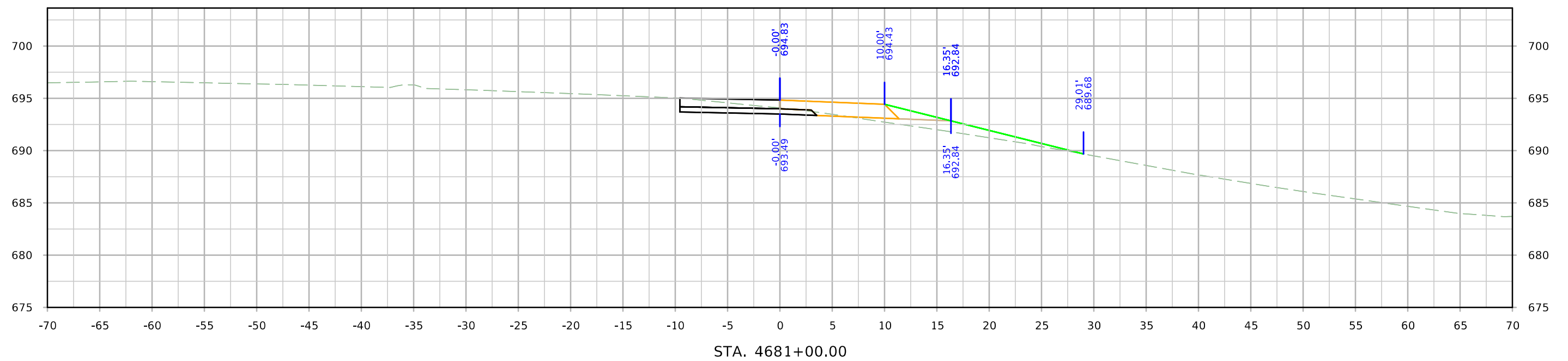
RMP218



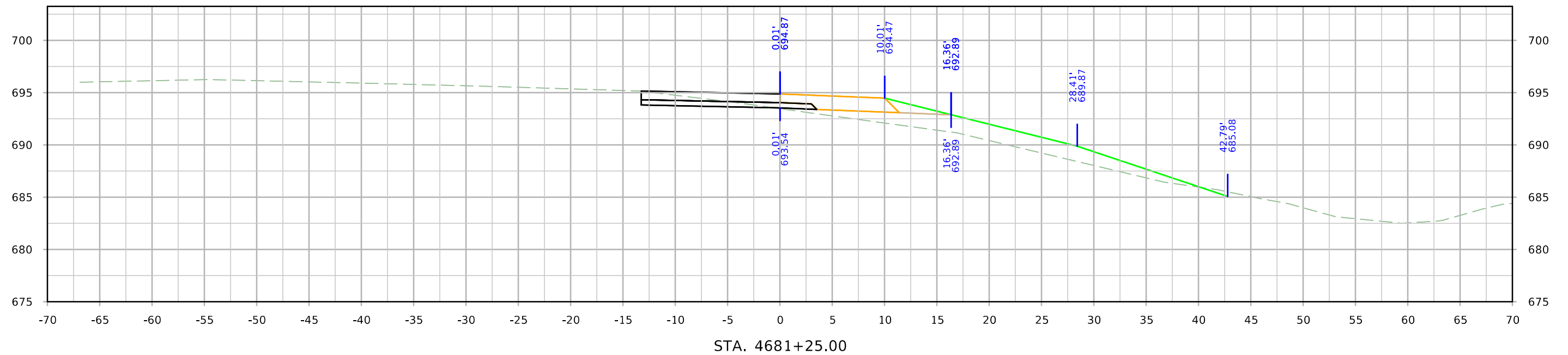
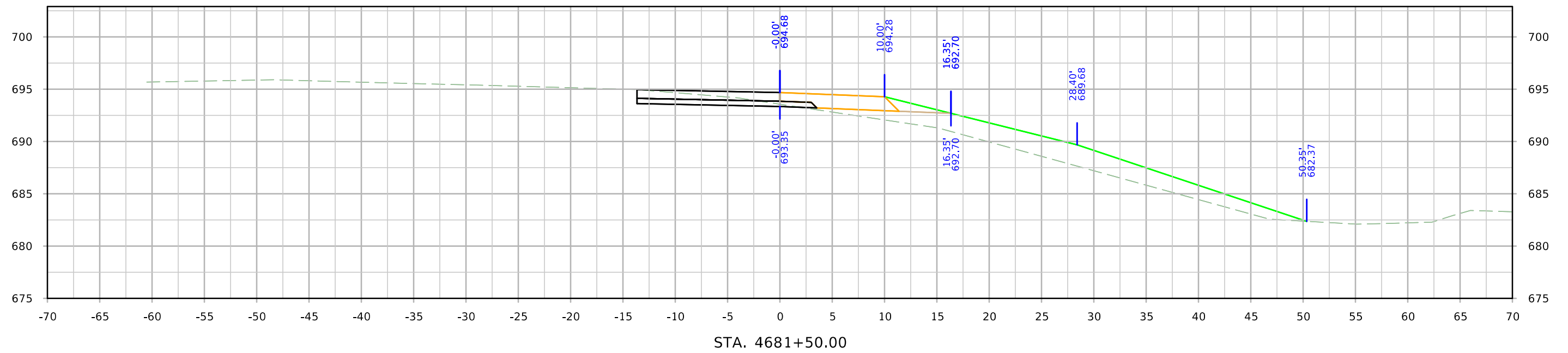
RMP218



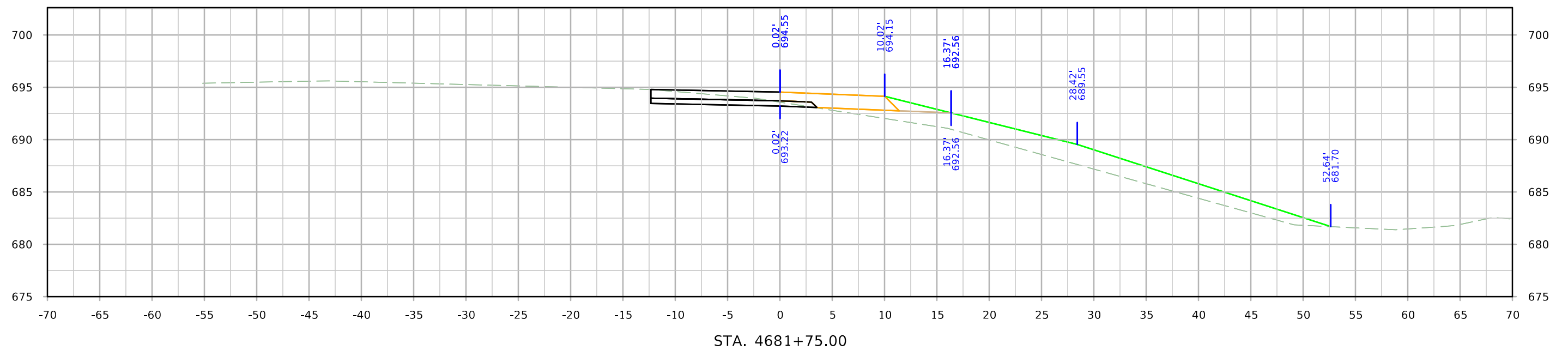
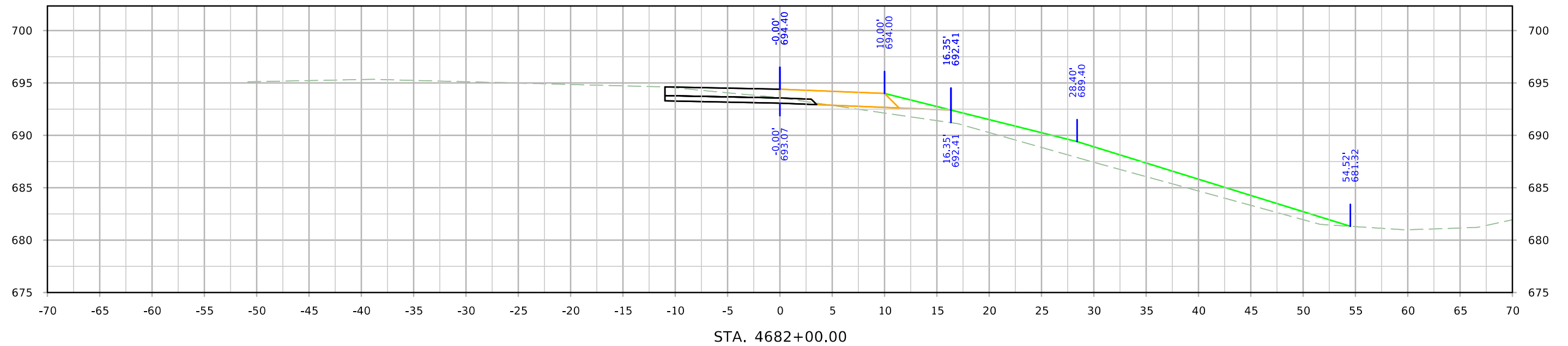
RETD218



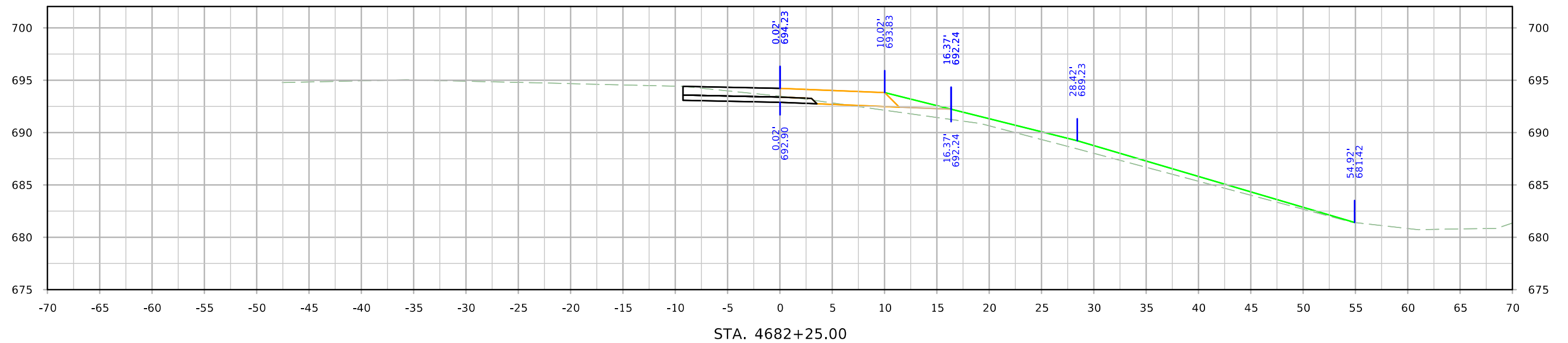
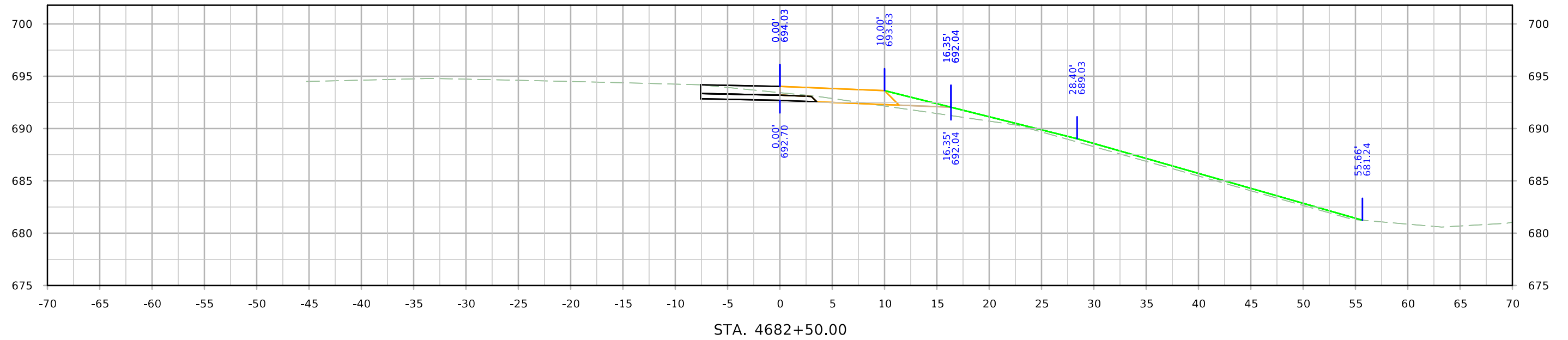
RETD218



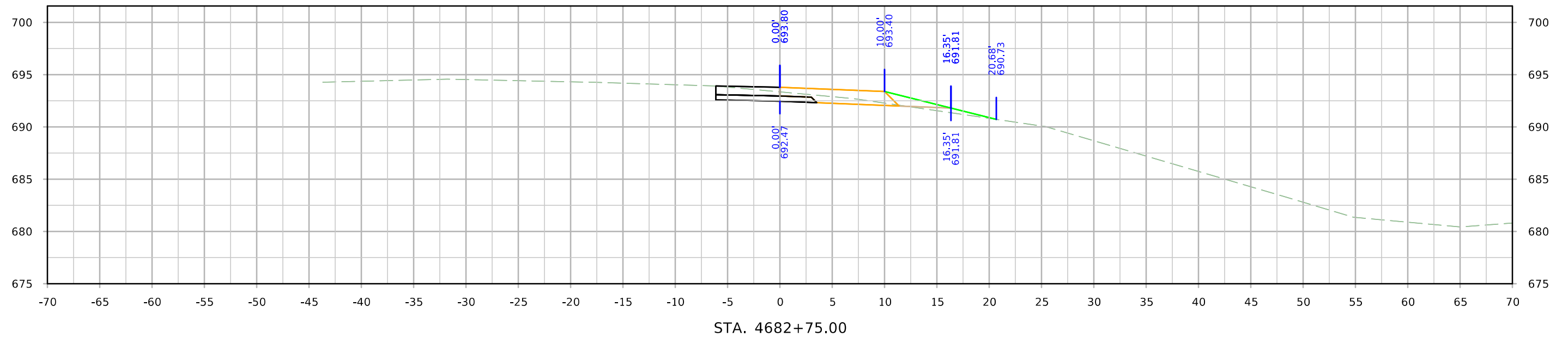
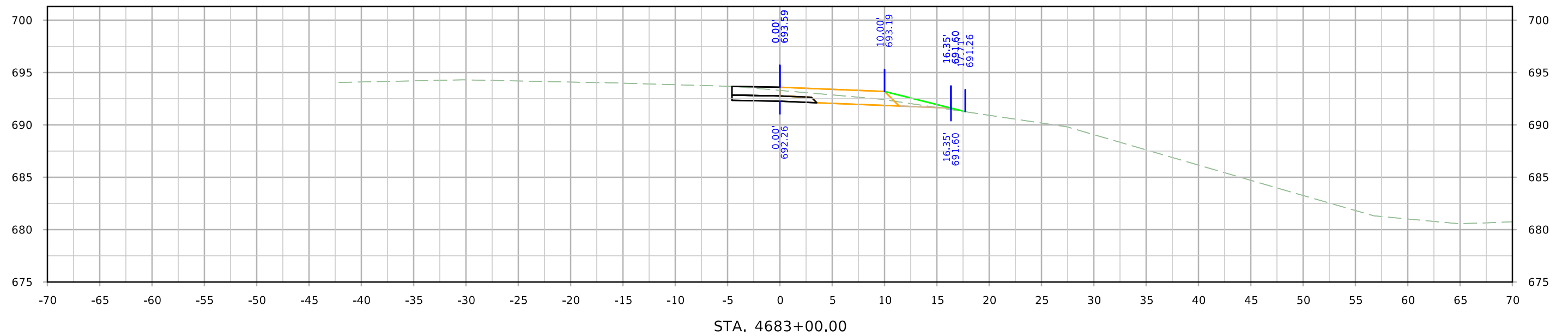
RETD218



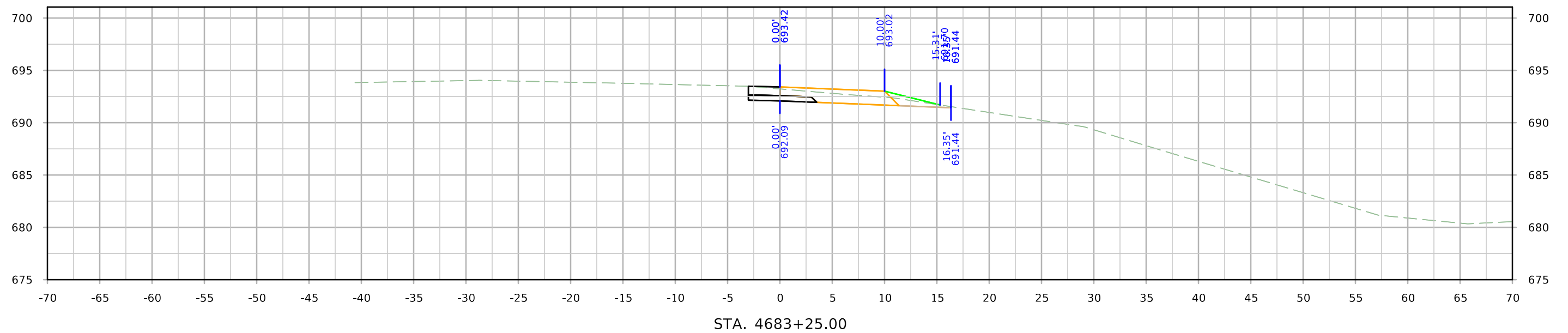
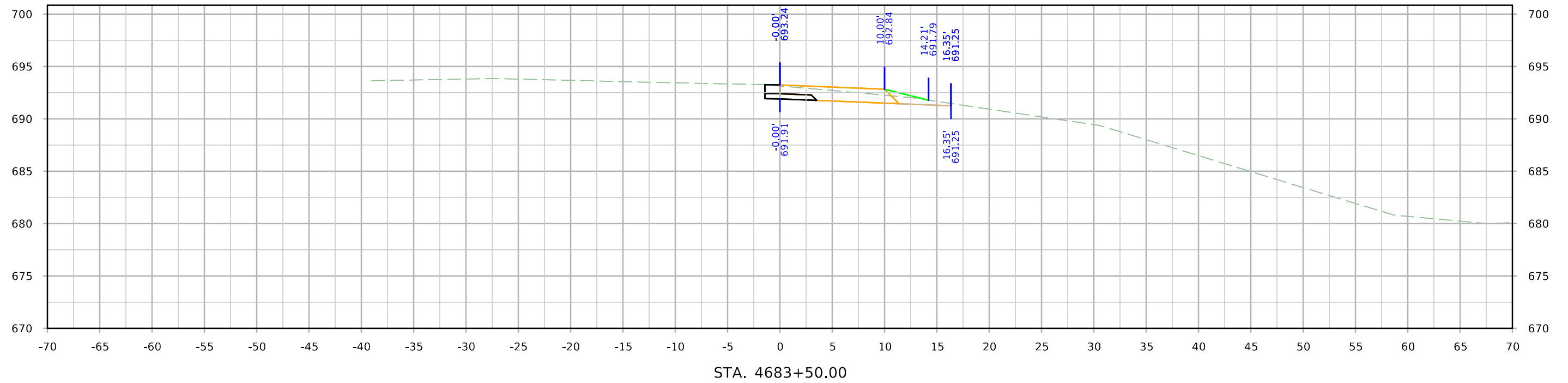
RETD218



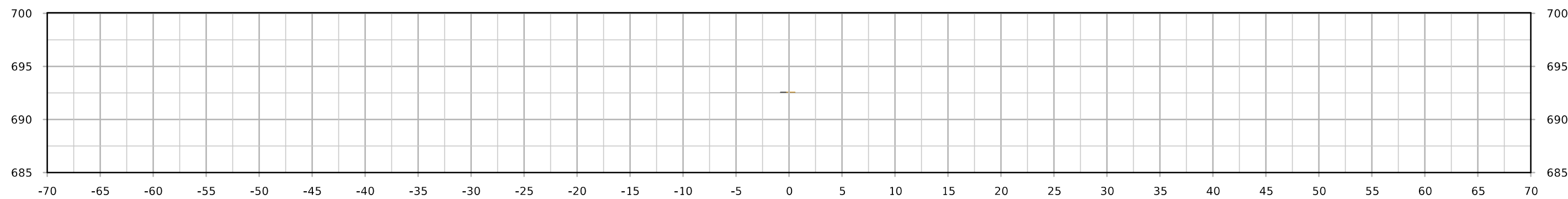
RETD218



RETD218



RETD218



STA. 4683+72.46

FILE NO.	ENGLISH	DESIGN TEAM HOLST/TAMRAKAR/FINCH	LEE COUNTY	PROJECT NUMBER NHSN-218-1(83)--2R-56	SHEET NUMBER X.12
----------	---------	----------------------------------	------------	--------------------------------------	-------------------