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B Sheets	Typical Cross Section and Details
B.1	Typical Cross Section and Details
D Sheets	Mainline Plan and Profile Sheets
D.1	Plan & Profile Legend & Symbol Information Sheet
D.2	IA 10
G Sheets	Survey Sheets
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G.2	Control Point Vicinity Map
G.3	Horizontal and Vertical Project Control Coordinate Listing
J Sheets	Traffic Control and Staging Sheets
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J.2	511 Travel Restrictions
J.3	Coordinated Operations
J.4	Detour Map
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PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM SIoux COUNTY

Grade and Pave

On IA 10 over Dry Creek
0.4 mi W of IA 12

Refer to the Plan Sheets for list of applicable specifications.

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



Revisions

TOTAL	25
PROJECT IDENTIFICATION NUMBER	24-84-010-020
PROJECT NUMBER	BRF-010-1(092)--38-84
R.O.W. PROJECT NUMBER	-
PROJECT DIRECTORY NUMBER	8401002024

Preliminary
Not For Construction

Revisions to this Design Plan and/or Project Specifications should be submitted by _____

Index of Seals		
Sheet No.	Name	Type
A.1	Mark C. Currie	Roadway Design
???	?????	Geotechnical Design

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.

Signature: Mark C. Currie Date: 02-27-2026

Printed or Typed Name: Mark C. Currie

My license renewal date is December 31, 2027

Pages or sheets covered by this seal: All Sheets

PROJECT LOCATION

T-95N
T-94N

R-48W

City of Hawarden Map

Not To Scale

12-22-15

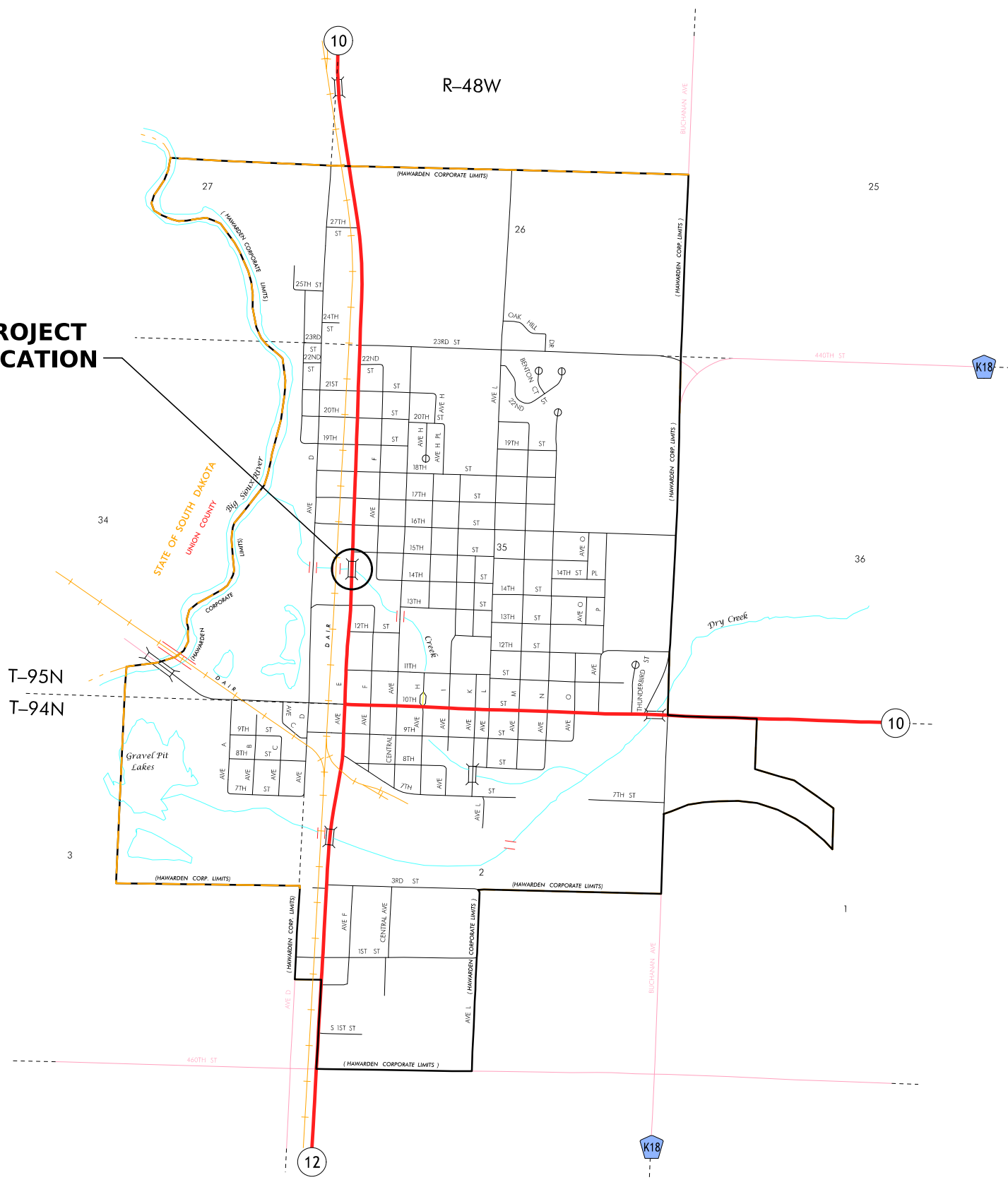
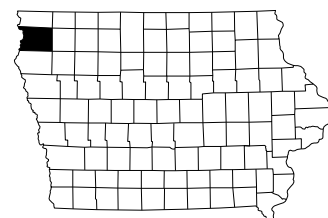
LEGEND

INTERSTATE ROUTE	
FREEWAY OR EXPRESSWAY ROUTE	
U.S. NUMBERED ROUTE	
BUSINESS ROUTE	
STATE NUMBERED ROUTE	
UNSIGNED ROUTE	
COUNTY NUMBERED ROUTE	
SECONDARY ROAD OR ADJOINING CITY STREET	
CITY STREET	
PARK, INSTITUTION, OR FEDERAL ROAD	
RAILROAD	
CORPORATION LINE	
SECTION LINE	
CUL-DE-SAC	
SECTION, TOWNSHIP & RANGE NUMBERS	9, T-81N, R-30W

SCALE IN MILES
0 0.1 0.2 0.3 0.4 0.5 0.75 1.0 1.5 2.0

SCALE IN KILOMETERS
0 0.1 0.2 0.3 0.4 0.5 1.0 1.5 2.0

**HIGHWAY AND STREET MAP
OF
HAWARDEN
IOWA**



Curbed Shoulder

Shoulder Jointing:
 Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2
 Staged : BT-2
 Transverse: C at 17' spacing

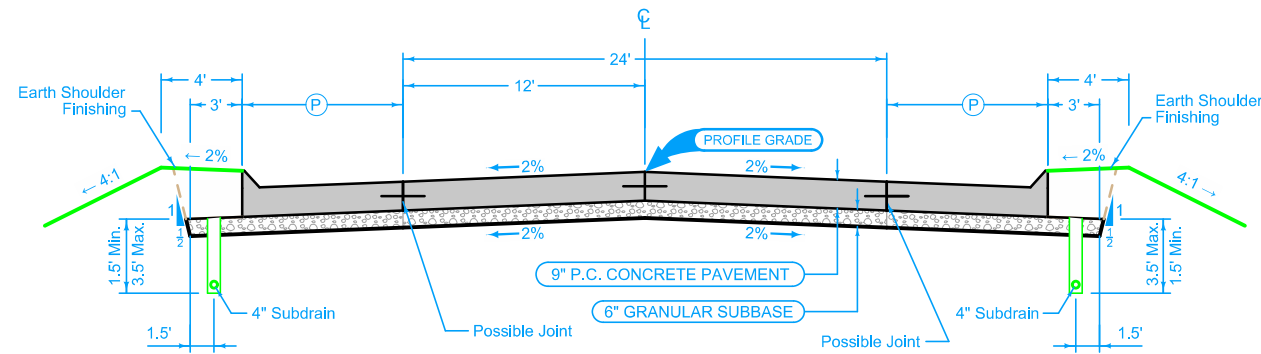
STATION TO STATION		(P) Feet	Curb Type See PV-102
137+30	141+72	8.5'	6" Standard

Curbed Shoulder

Shoulder Jointing:
 Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2
 Staged : BT-2
 Transverse: C at 17' spacing

STATION TO STATION		(P) Feet	Curb Type See PV-102
137+30	141+72	8.5'	6" Standard



Mainline Jointing:
 Transverse joints: CD at 17' spacing
 Longitudinal joint: L-2

STATION TO STATION	

Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

See Tab 100-24 or 100-25 for pavement quantities.

See Tab 112-9 for shoulder quantities.

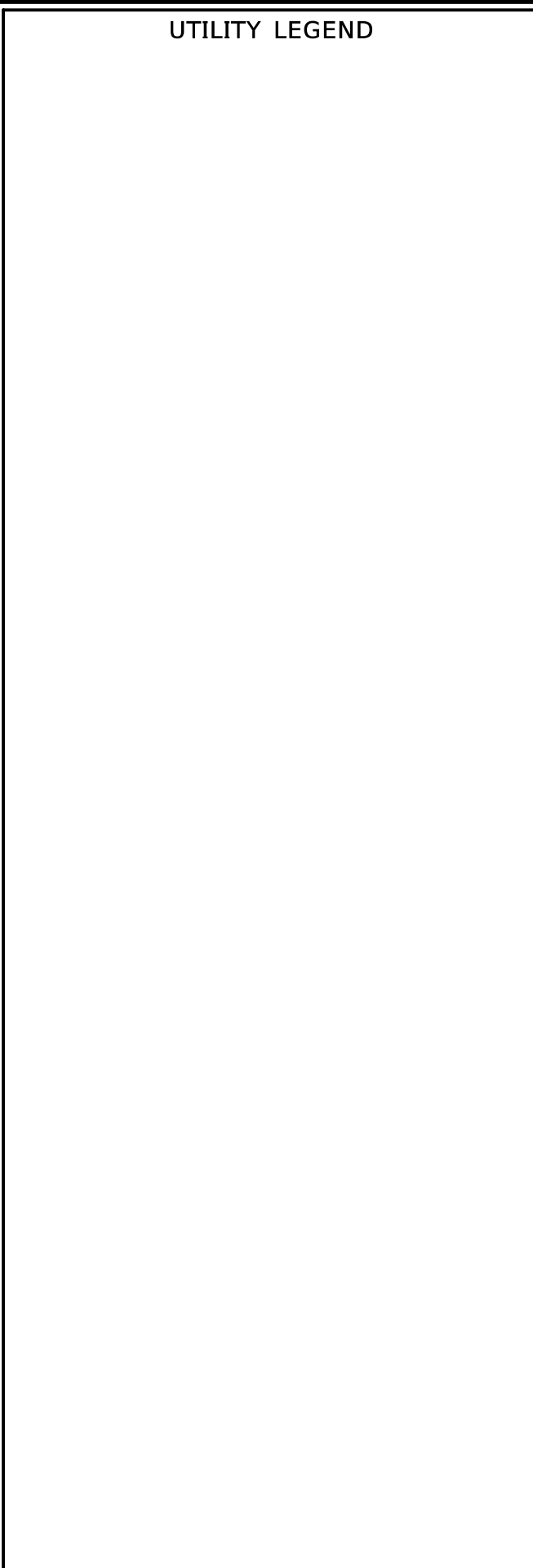
See U-sheets for shoulder transition details.

IA 10

SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- Grave
- Cave
- Sink Hole
- Board Fence
- Chain Link or Security Fence
- Wire Fence
- Terrace
- Earth Dam or Dike (Existing)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Existing Utility Access (Manhole)
- Fire Hydrant
- Water Hydrant (Rural)
- Septic Tank
- Cistern
- L.P. Gas Tank (No Footing)
- Underground Storage Tank
- Latrine
- Satellite TV Dish
- Water Hook Up
- Radio Tower
- Tower Anchor
- Guardrail (Beam or Cable)
- Guard Post (one or two)
- Guard Post (over two)
- Filler Pipe
- Gas Valve
- Water Valve
- Speed Limit Sign
- Mile Marker Post
- Sign
- Traffic Signal Control Box
- Rail Road Signal Control Box
- Telephone Switch Box
- Electric Box

UTILITY LEGEND



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.	Transparency
Pink, Dark	(13)		Temporary Pavement Shading
Yellow	(4)		Proposed Pavement Shading
Orange	(6)		Proposed Granular Shading
Orange	(70)		Proposed Shoulder Granular Shading
Yellow	(68)		Proposed Shoulder Paved Full Depth Shading
Yellow	(132)		Proposed Shoulder Paved Partial Depth Shading
Brown, Light	(236)		Grading Shading
Orange, Light	(134)		Proposed Granular Entrance Shading
Yellow	(220)		Proposed Paved Entrance Shading
Tan	(8)		Proposed Sidewalk Shading
Blue, Light	(230)		Proposed Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading
Red	(3)		Proposed Structure Shading
Red	(3)		Delineates Restricted Areas

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(10)		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
- 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 Symbol
- Proposed Right-of-Way Line
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary) Symbol
- Easement (Temporary) Line
- Easement
- C/A Access Control
- Property Line Symbol
- Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

Survey Information

SURVEY INDEX

County: Sioux
PIN: 24-84-010-020
Project Number: BRF-010-1(092)--38-84
Location: Hawarden City Park Bridge 0.1 miles N of avenue E & 13thSt
Type of Work: Bridge Replacement
Project Directory: 8401002024

Survey Personnel

Jerett Still– Survey Party Chief
TJ Coyle – Assistant Survey Party Chief

Date(s) of Survey

Begin Date 11/08/2024
End Date 05/07/2025

General Information

This survey is for Hawarden City Park Bridge 0.1 miles N of avenue E & 13th St. This survey request was for the Iowa DOT. This project is a Full Field DTM survey. This project is a Partial Field DTM with Photo control.

Utility Information

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

Project Control

Nearby Iowa Real Time Network reference stations were utilized to obtain horizontal and vertical control on primary project control points. Three five-minute observations were taken with a minimum two-hour time span between and used in a weighted average to obtain final coordinate values. For additional details of the control survey, contact the Preliminary Survey department.

VERTICAL DATUM: NAVD88
GEOID MODEL: 2018

Vertical Control

Vertical control was established by verifying 4 Sioux County Survey monuments. Vertical datum for this survey is relative to NAVD88. Geoid 2018 was used in processing. The height was computed at CBN 1st order Vertical "D 154 1949" PID: NM0034, G134, G136, and G137. Vertical control was checked with IARTN checks. This survey observed 4 Sioux County Monuments CBN 1st order Vertical "D 154 1949" PID: NM0034, G134, G136, and G137:
CBN 1st order Vertical "D 154 1949" PID: NM0034 – A standard USC and GS benchmark disk set in the top of a concrete post projecting 5 inches above ground. Elevation = 1176.46'
G134 – 3/4 " diameter x 6'-0" long aluminum rod with survey cap and NGS style access cover. Elevation = 1291.13'
G136 - 3/4 " diameter x 6'-0" long aluminum rod with survey cap and NGS style access cover. Elevation = 1183.54'
G137- 3/4 " diameter x 6'-0" long aluminum rod with survey cap and NGS style access cover. Elevation = 1239.48'

Horizontal Control

The project coordinate system for this survey is Iowa RCS 1 (U.S. Survey Feet). This survey control is relative to IARTN reference stations IARTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011). Coordinates were determined conducting a 5-minute observation in the morning, afternoon, and evening. Coordinates were then averaged between the three to determine final coordinate.

Alignment Information

The horizontal alignment for Sioux Co. IA 10 is a retrace of As-built Plans No. F-1003(2). Survey stationing was equated to Sta. 139+45.00 and carried back and ahead without equation throughout the survey.

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 - Iowa RCS Zone 01

VERT. DATUM: NAVD88 - Geoid Model: 2018

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

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

1a. Regional Coordinate System Zone 01

VERT. DATUM: NAVD88

Geoid Model: 2018

Point Name	Northing	Easting	Elevation	Code - Description
CP-106	9530237.426	11168689.84	1165.38	CP106 3/4" rebar, .8' deep; 59.34' S of SW Bridge Corner; Sta. 138+20.89, 130.34' Lt.
CP-107	9530466.759	11168701.11	1165.33	CP107 3/4" rebar, .8' deep; 42.64' N of NW Bridge Corner; Sta. 140+49.66, 123.99' Lt.
CP-108	9530251.888	11169002.65	1167.96	CP108 3/4" rebar, .8' deep; 24.45' S of SE Bridge Corner; Sta. 138+39.20, 180.66' Rt.
CP-109	9530415.743	11168985.17	1174.44	CP109 3/4" rebar, .8' deep; 8.06' S of NE Bridge Corner; Sta. 140+02.81, 160.78' Rt.

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

BUNCOMBE TWP.
T-95N R-48W
SEC. 35

DRY CREEK

CITY OF HAWARDEN

HEATHER FRANCO

13TH ST

16TH ST

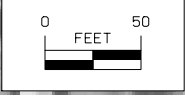
10

10

CITY OF HAWARDEN

15TH ST

BUNCOMBE TWP.
T-95N R-48W
SEC. 35



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: CRYSTAL / CUVA	
ROW #: STPN-010-1(093)--2J-84	
Plan Date: 5/19/2026	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition
	Permanent Acquisition County
	Permanent Acquisition City

108_23A
8/15/22

TRAFFIC CONTROL PLAN

IA 10 will be closed to traffic during construction. Traffic shall be maintained via offsite detour. See Sheet A.2 for detour route.

All construction traffic control and staging shall be the responsibility of the Contractor including fabrication and installation of all traffic control and alternate route signing.

511 TRAVEL RESTRICTIONS

Line No.	Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No. or Structure ID or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
1.0	IA 10	Both	Sioux	0.4 mi. west of IA 12	Dry Creek	Traffic Control Device	FHWA No. 48470	Horizontal	28'-0"	Closed	Closed	40'-0"	Detour

111_01
10/14/22

COORDINATED OPERATIONS

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
None Provided.	

PROJECT LOCATION

**DETOUR ROUTE
2.8 MILES**

City of Hawarden Map

Not To Scale

17-23-19

LEGEND

- INTERSTATE ROUTE
- FREEWAY OR EXPRESSWAY ROUTE
- U.S. NUMBERED ROUTE
- BUSINESS ROUTE
- STATE NUMBERED ROUTE
- UNSIGNED ROUTE
- COUNTY NUMBERED ROUTE
- SECONDARY ROAD OR ADJOINING CITY STREET
- CITY STREET
- PARK, INSTITUTION, OR FEDERAL ROAD
- RAILROAD
- CORPORATION LINE
- SECTION LINE
- CUL-DE-SAC
- SECTION, TOWNSHIP & RANGE NUMBERS

SCALE IN MILES
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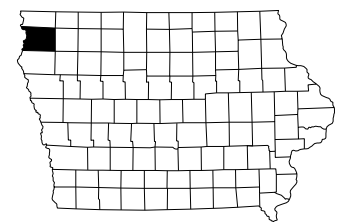
SCALE IN KILOMETERS
0 0.1 0.2 0.3 0.4 0.5 1.0 1.5 2.0

**HIGHWAY AND STREET MAP
OF
HAWARDEN
IOWA**

PREPARED BY

Detour Route

Detour Route



STORM SEWER

(1) Diameter or equivalent diameter

* Bid Item

** For SW-545

Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 2 ft length is added to each end of the Design Length to account for estimated length to center of structures.

No.	Location Station	Offset	Type or Standard Road Plan*	Form Grade Elev.	Bottom Well Elev.	Extension Length**	Notes	Line Number	Intake / Utility Access No. From	Intake / Utility Access No. To	Class 'D'	Pipe Size (1) (IN)	Bid Length* (FT)	Design Length (FT)	Slope %	Connected Pipe Joint (DR-121)	Flow Line Inlet Elev.	Flow Line Outlet Elev.	Flow Line Other Elev.	Pipe Profile Sheet No.	Notes
ST-01	139+57.98	-68.2	Custom Headwall w/ Flap Gate		1160.16																
								P_01	ST-01	ST-02	2000	48.0	101	99.0	0.5		1160.66	1161.15			
ST-02	139+32.76	29.4	SW-401 (96 IN)	1176.23	1160.14																
								P_03	ST-02	ST-04	2000	48.0	44	40.0	0.5		1161.30	1161.45			
ST-03	138+54.45	39.5	SW-401 (60 IN)	1173.60	1161.96																
								P_02	ST-03	ST-04	2000	30.0	60	56.0	1.1		1162.46	1161.79			
ST-04	139+07.56	67.9	SW-513 (6 FT x 6 FT)	1168.25	1160.55																

TOTALS
 INTAKE, SW-513 (6'X6') 1 Each
 MANHOLE, SW-401 (60") 1 Each
 MANHOLE, SW-401 (96") 1 Each
 CUSTOM HEADWALL W/ FLAP GATE, (48") 1 Each

TOTALS
 STORM SEWER, 30 IN 60 LF
 STORM SEWER, 48 IN 145 LF

SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- Grave
- Cave
- Sink Hole
- Board Fence
- Chain Link or Security Fence
- Wire Fence
- Terrace
- Earth Dam or Dike (Existing)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Proposed Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Existing Utility Access (Manhole)
- Fire Hydrant
- Water Hydrant (Rural)

- Cistern
- L.P. Gas Tank (No Footing)
- Underground Storage Tank
- Latrine
- Satellite TV Dish
- Water Hook Up
- Radio Tower
- Tower Anchor
- Guardrail (Beam or Cable)
- Guard Post (one or two)
- Guard Post (over two)
- Filler Pipe
- Gas Valve
- Water Valve
- Speed Limit Sign
- Mile Marker Post
- Sign
- Traffic Signal Control Box
- Rail Road Signal Control Box
- Telephone Switch Box
- Electric Box
- Telephone Pedestal
- Luminaire

UTILITY LEGEND

- Electric Utility
- City Gas Utility
- City Sanitary Sewer Utility
- Telephone Utility
- City Water Utility

PLAN VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK		Design Color No.	
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Red	(3)		Proposed Storm Sewer Details
Light Blue	(230)		Proposed Structures
SHADING		Design Color No.	
Gray, Light	(48)		Proposed Pavement Shading

PROFILE VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK		Design Color No.	
Gray, Dark	(112)		Existing Ground Line Profile and Existing Utilities Information
Red	(3)		Proposed Pipes
Light Blue	(230)		Proposed Structures

PLAN VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

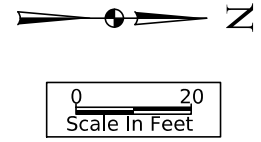
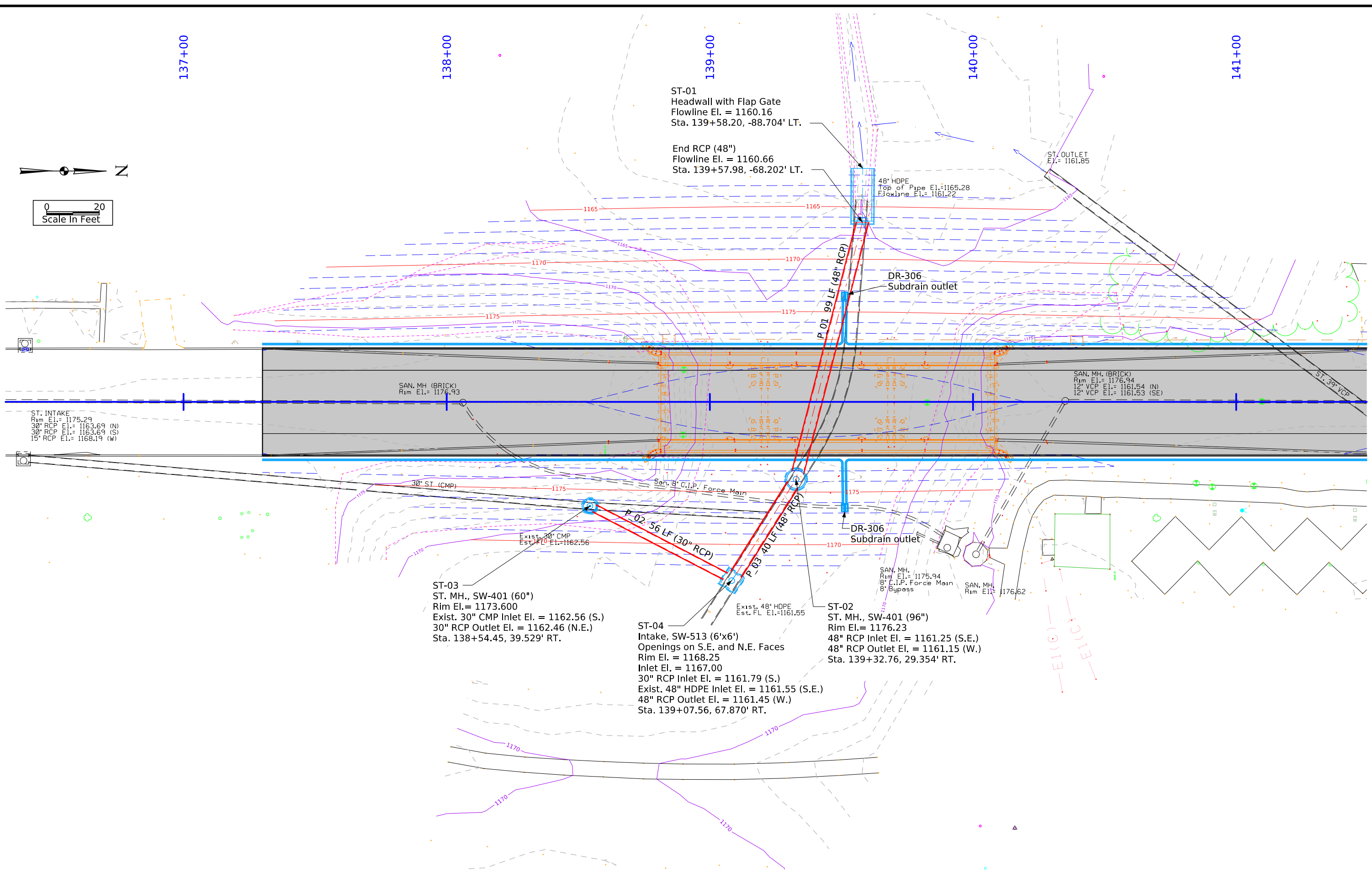
- Proposed Pipe
- Proposed Structure
- Previously Constructed Pipe or Structure
- Proposed Major Contour and Annotation
- Proposed Minor Contour
- Existing Major Contour and Annotation
- Existing Minor Contour
- Break Lines
- Existing Paving or Sidewalk

PROFILE VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

- Existing Ground
- Proposed Ground
- Previously Constructed Pipe or Structure
- Proposed Pipe
- Proposed Structure

**STORM SEWER
LEGEND AND SYMBOL
INFORMATION SHEET**

(COVERS SHEET SERIES M)



ST. INTAKE
 Rim El. = 1175.29
 30" RCP El. = 1183.69 (N)
 30" RCP El. = 1183.69 (S)
 15" RCP El. = 1168.19 (W)

SAN. MH. (BRICK)
 Rim El. = 1176.93

SAN. MH. (BRICK)
 Rim El. = 1176.94
 12" VCP El. = 1161.54 (N)
 12" VCP El. = 1161.53 (SE)

ST-03
 ST. MH., SW-401 (60")
 Rim El. = 1173.600
 Exist. 30" CMP Inlet El. = 1162.56 (S.)
 30" RCP Outlet El. = 1162.46 (N.E.)
 Sta. 138+54.45, 39.529' RT.

ST-04
 Intake, SW-513 (6'x6')
 Openings on S.E. and N.E. Faces
 Rim El. = 1168.25
 Inlet El. = 1167.00
 30" RCP Inlet El. = 1161.79 (S.)
 Exist. 48" HDPE Inlet El. = 1161.55 (S.E.)
 48" RCP Outlet El. = 1161.45 (W.)
 Sta. 139+07.56, 67.870' RT.

ST-02
 ST. MH., SW-401 (96")
 Rim El. = 1176.23
 48" RCP Inlet El. = 1161.25 (S.E.)
 48" RCP Outlet El. = 1161.15 (W.)
 Sta. 139+32.76, 29.354' RT.

ST-01
 Headwall with Flap Gate
 Flowline El. = 1160.16
 Sta. 139+58.20, -88.704' LT.

End RCP (48")
 Flowline El. = 1160.66
 Sta. 139+57.98, -68.202' LT.

48" HDPE
 Top of Pipe El. = 1165.28
 Flowline El. = 1161.22

ST. OUTLET
 El. = 1161.85

DR-306
 Subdrain outlet

P-01 99 LF (48" RCP)

P-02 56 LF (30" RCP)

P-03 40 LF (48" RCP)

DR-306
 Subdrain outlet

SAN. MH.
 Rim El. = 1175.94
 8" C.I.P. Force Main
 8" Bypass

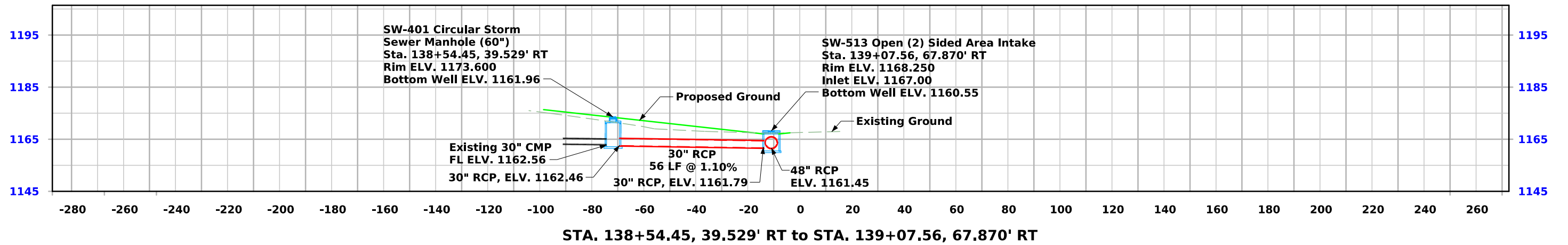
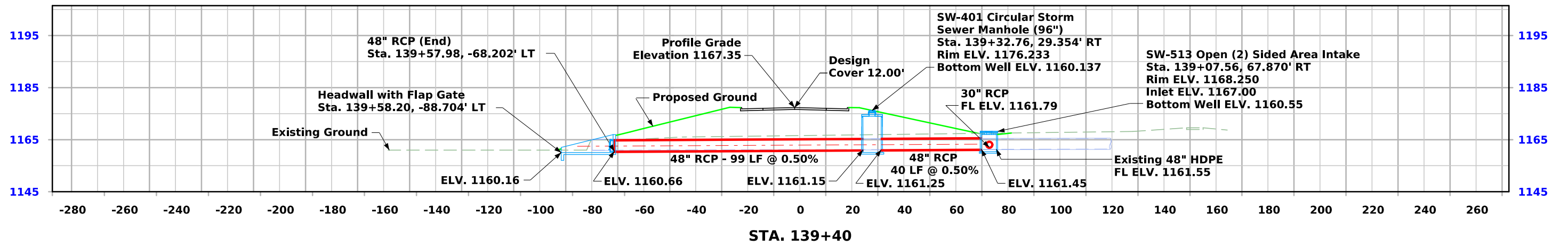
SAN. MH.
 Rim El. = 1176.62

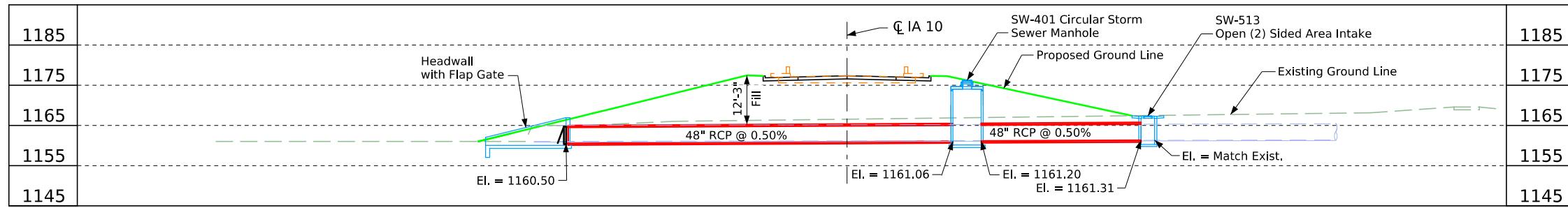
Exist. 48" HDPE
 Est. FL El. = 1161.55

Exist. 30" CMP
 Est. FL El. = 1162.56

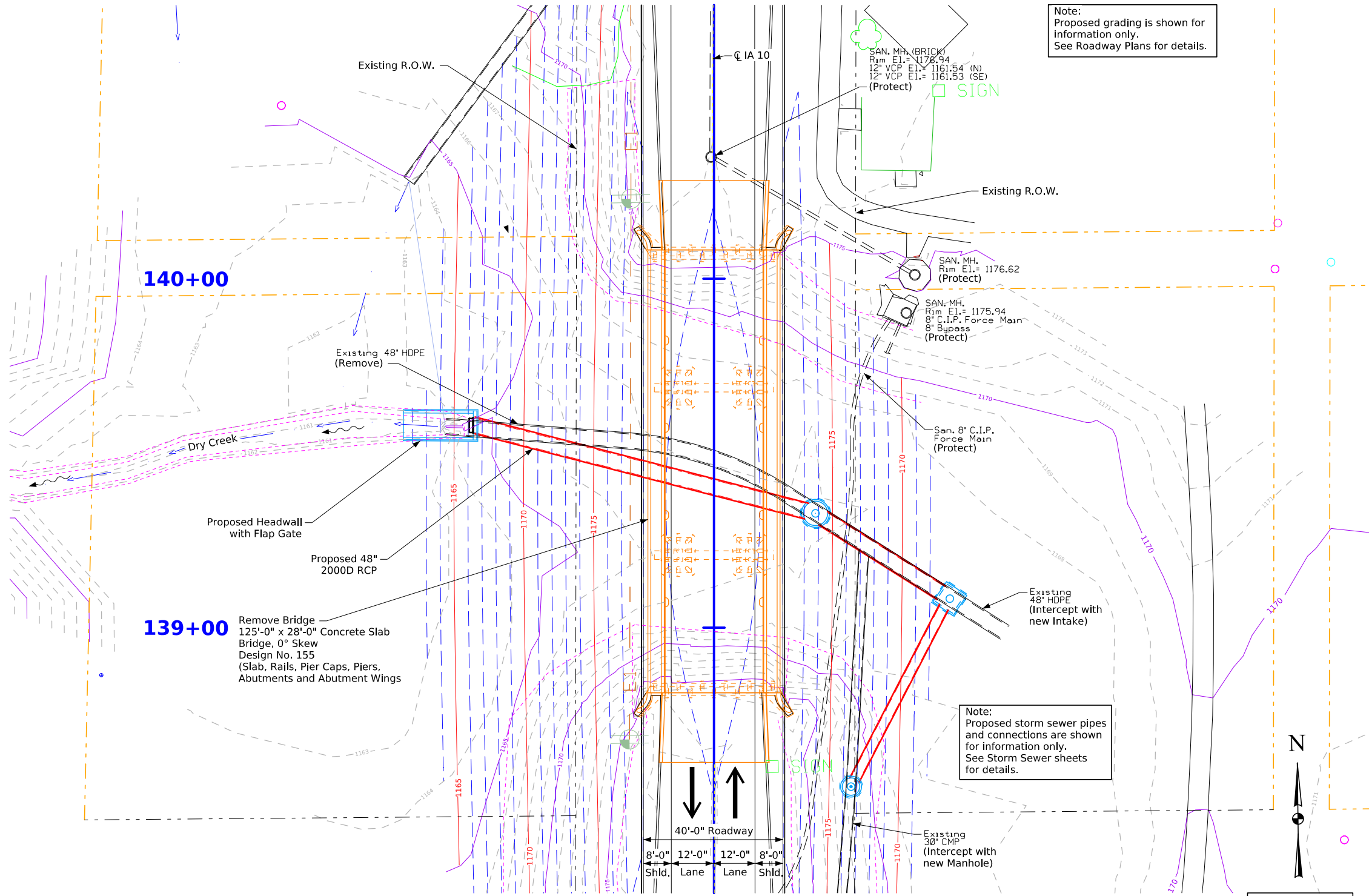
San. 8" C.I.P. Force Main

30" ST (CMP)





Longitudinal Section Along CL Pipe



Situation Plan

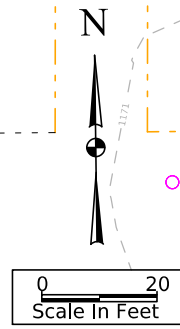
Note:
Proposed grading is shown for information only.
See Roadway Plans for details.

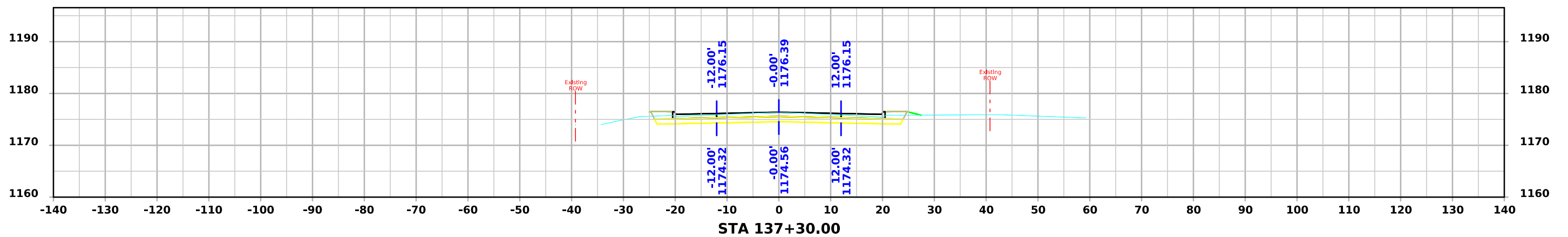
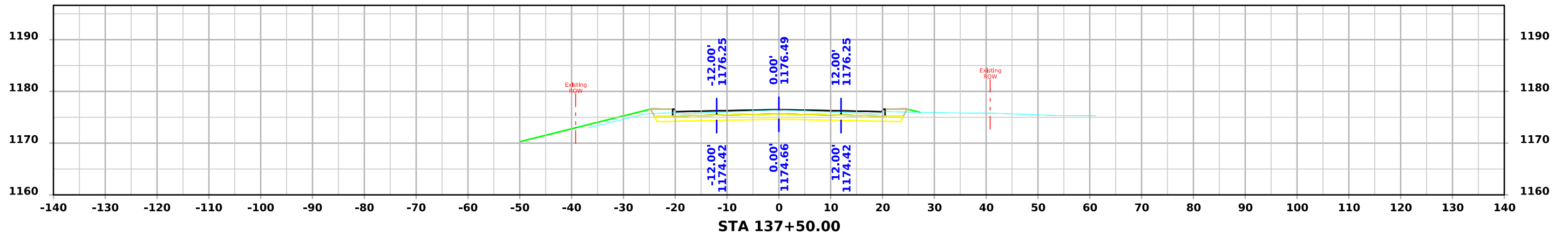
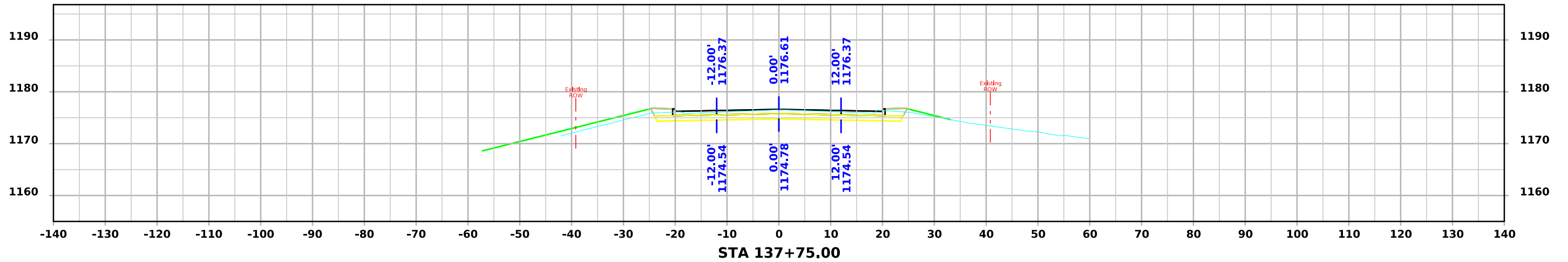
Note:
Proposed storm sewer pipes and connections are shown for information only.
See Storm Sewer sheets for details.

Utilities Legend:
 E1 - Overhead Electric
 Utilities shown on this sheet are for information only.
 See Road Design Sheets for final utility information.

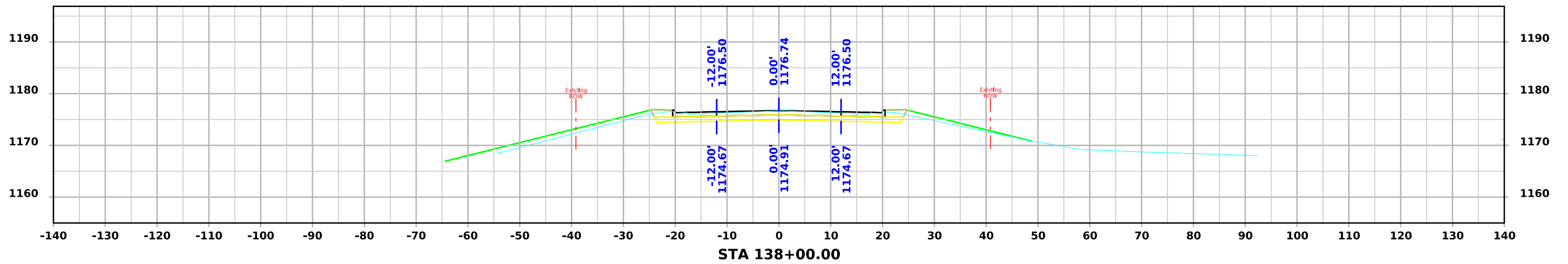
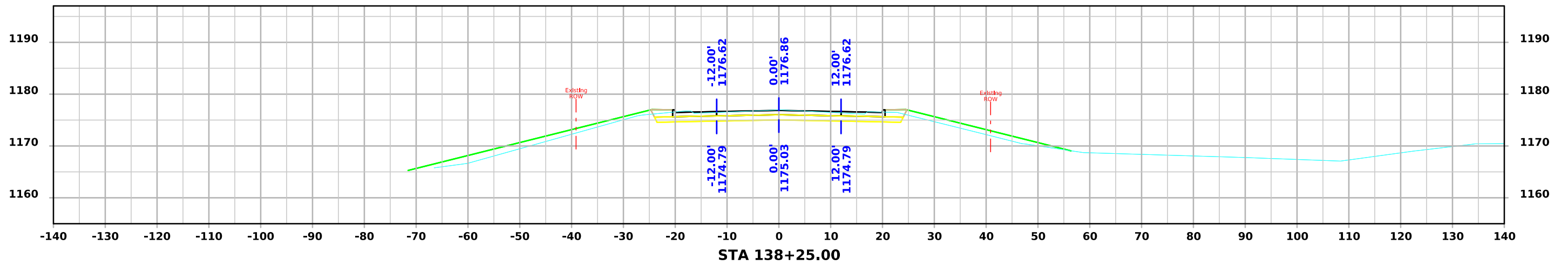
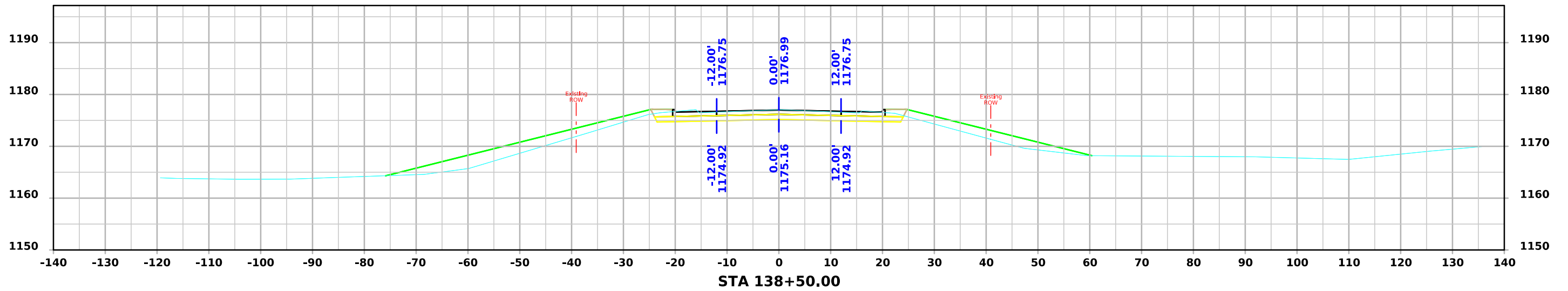
Location
 IA 10 over Dry Creek
 T-95N R-48W
 Section 35
 Buncombe Township
 City of Hawarden
 Sioux County
 Bridge Maint. No. 8403.4S010
 FHWA No. 48470
 Latitude 43.002391°
 Longitude -96.487962°

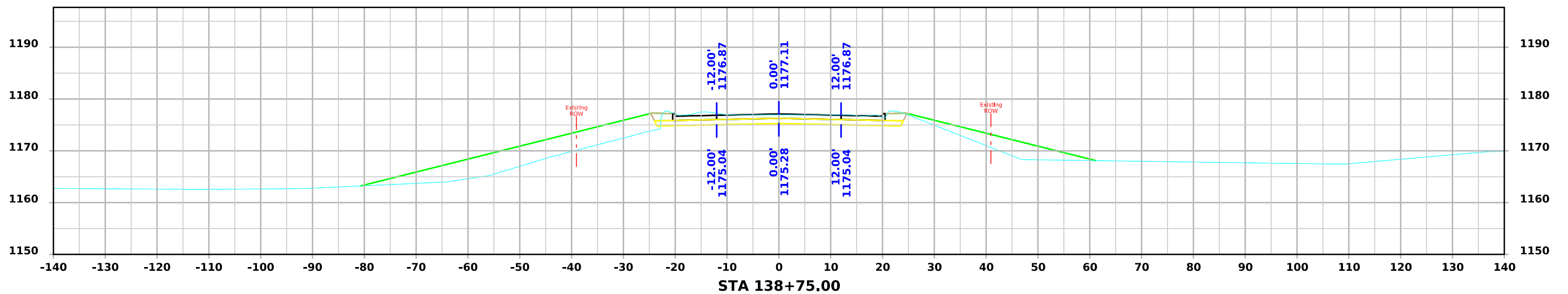
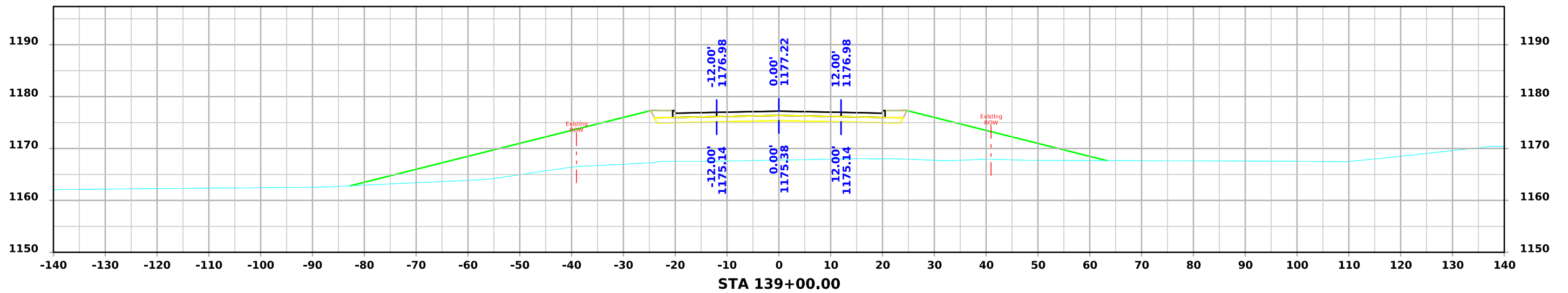
Design For Removals
125'-0" x 28'-0" Continuous Concrete Slab Bridge
 38'-6" End Spans 48'-0" Interior Span
Situation Plan
 STA. 139+45.00 (IA 10) Turn-in Date: January 2026
Sioux County
 IOWA DEPARTMENT OF TRANSPORTATION
 Design No. - Design Sheet No. 1 of 1 FHWA No. 48470

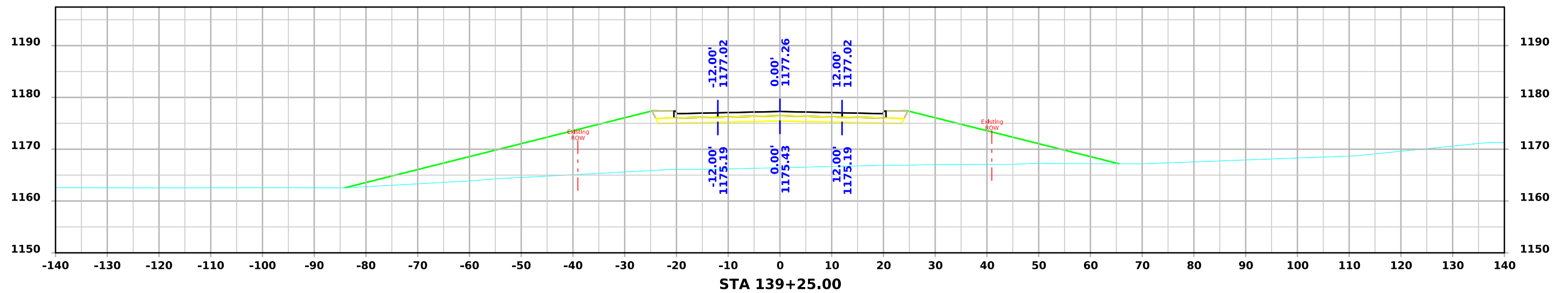
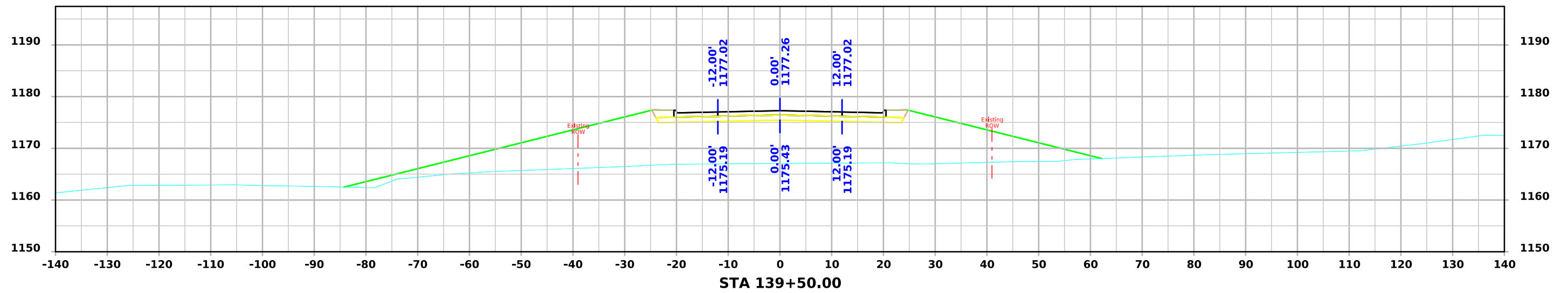


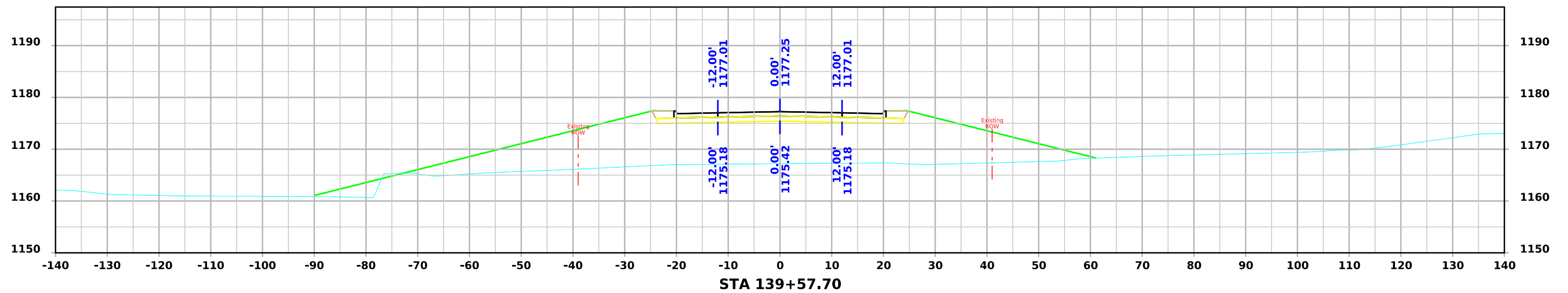
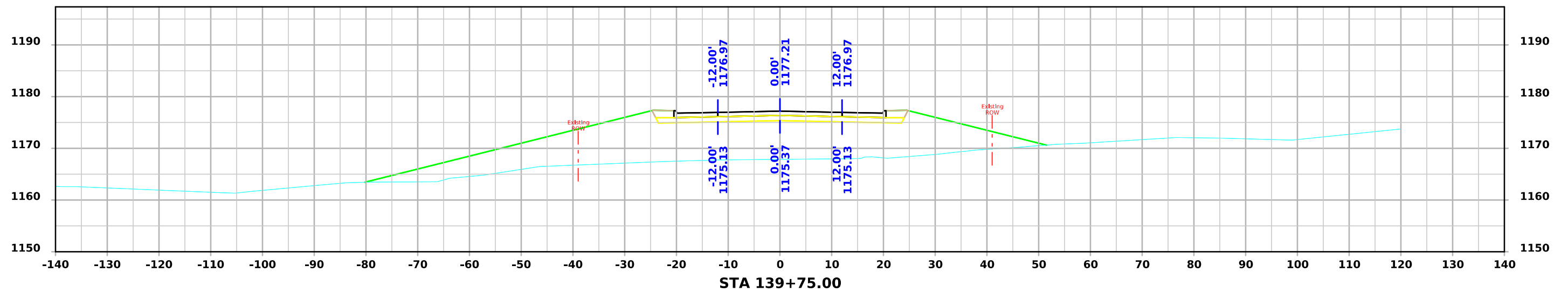


IA 10









IA 10

