

INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
A.1	Title Sheet
A.2	Location Map Sheet
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	US 169
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1 - 3	Reference Ties and Bench Marks
G.4	Horizontal Control Tab. & Super for all Alignments
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
J.1	Traffic Control Plan
J.1	Staging Notes Stage
<b>U Sheets</b>	<b>500 Series, Mod.Stds. and Detail Sheets</b>
* U.1 - 2	500 Series, Modified Standards and Detail Sheets
* U.3	Gravel Berm Detail
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
* W.1 - 2	Mainline Cross Sections
	* Color Plan Sheets



PLANS OF PROPOSED IMPROVEMENT ON THE  
**PRIMARY ROAD SYSTEM**  
**Dallas COUNTY**  
Storm Sewer/Intakes  
South of N Raccoon River Bridge

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

14

PROJECT IDENTIFICATION NUMBER

20-25-169-010

PROJECT NUMBER

NHSN-169-4(67)--2R-25

R.O.W. PROJECT NUMBER

NHSN-169-4(68)--2R-25

**DESIGN DATA URBAN**

2019	AADT	4,850	V.P.D.
20 --	AADT	--	V.P.D.
20 --	DHV	--	V.P.H.
TRUCKS		8 %	
Total			
Design	ESALs	--	

**INDEX OF SEALS**

	X		
X	X		X

## PRELIMINARY PLANS

Subject to change by final design.

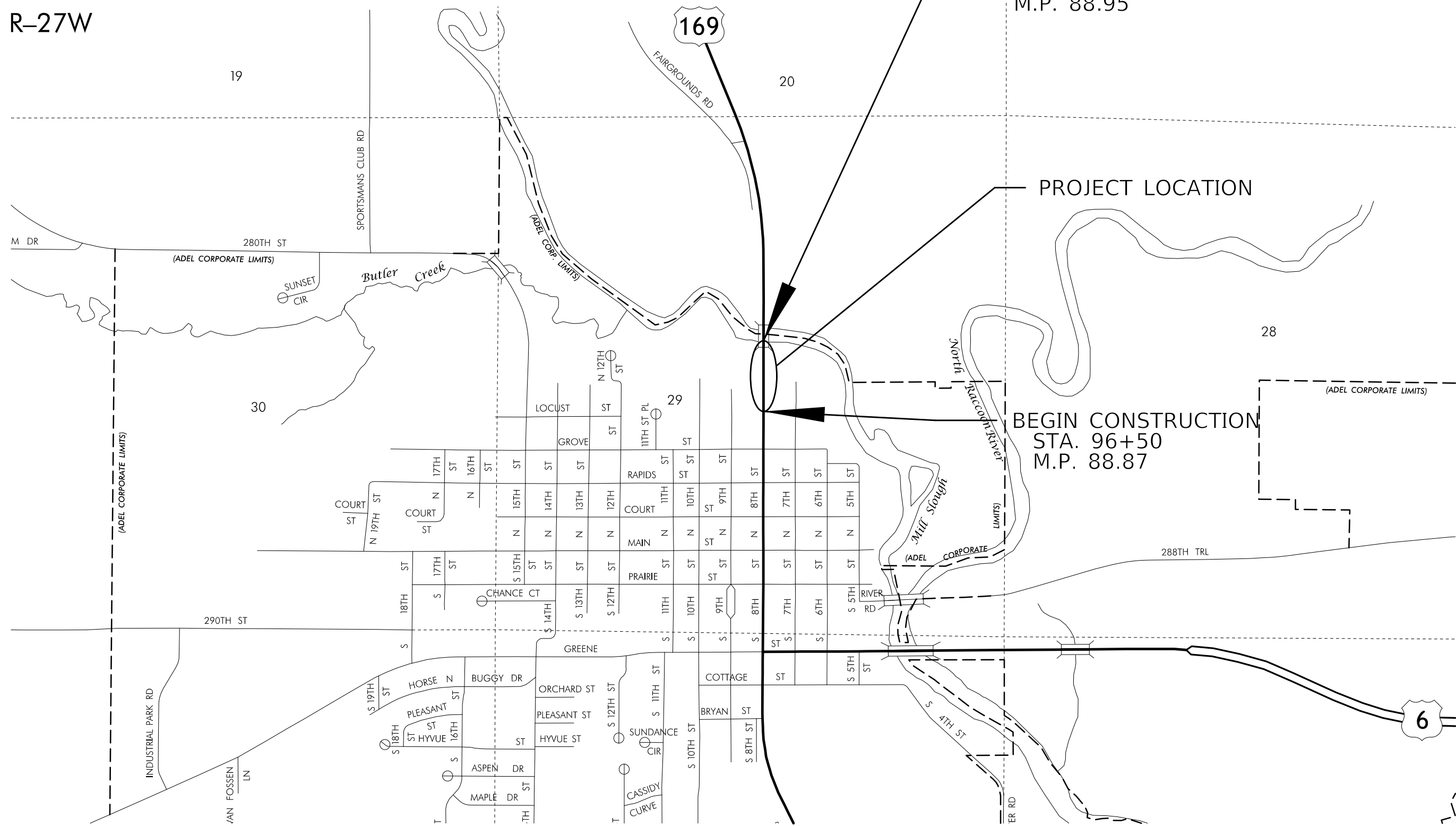
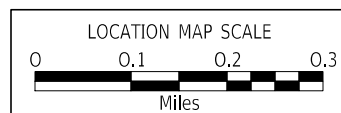
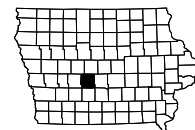
**D5 PLAN - Date: 4/15/2022**

R-27W

END CONSTRUCTION  
STA. 100+00  
M.P. 88.95

PROJECT LOCATION

BEGIN CONSTRUCTION  
STA. 96+50  
M.P. 88.87



### 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

- FO1 — FO1D CENTURY LINK - Quality D
- FO2 — FO2D MEDIACOM - Quality D
- G — GL1D Mid American - Quality D
- PPA — PPA Power Pole Mid American

### 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

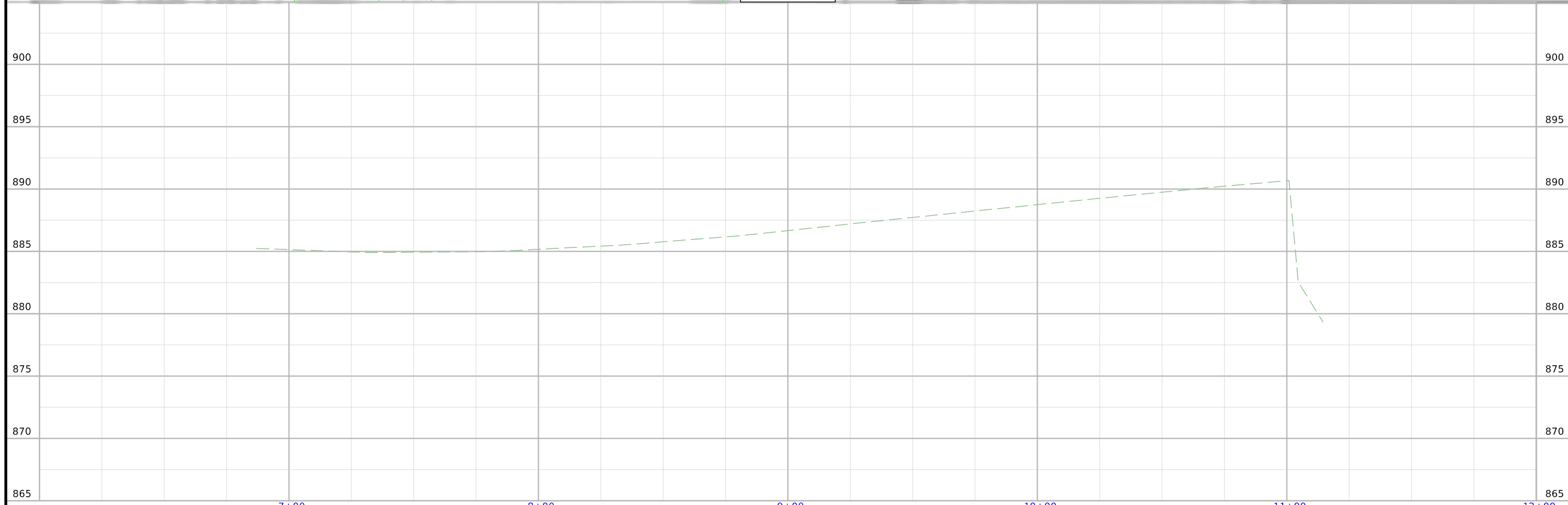
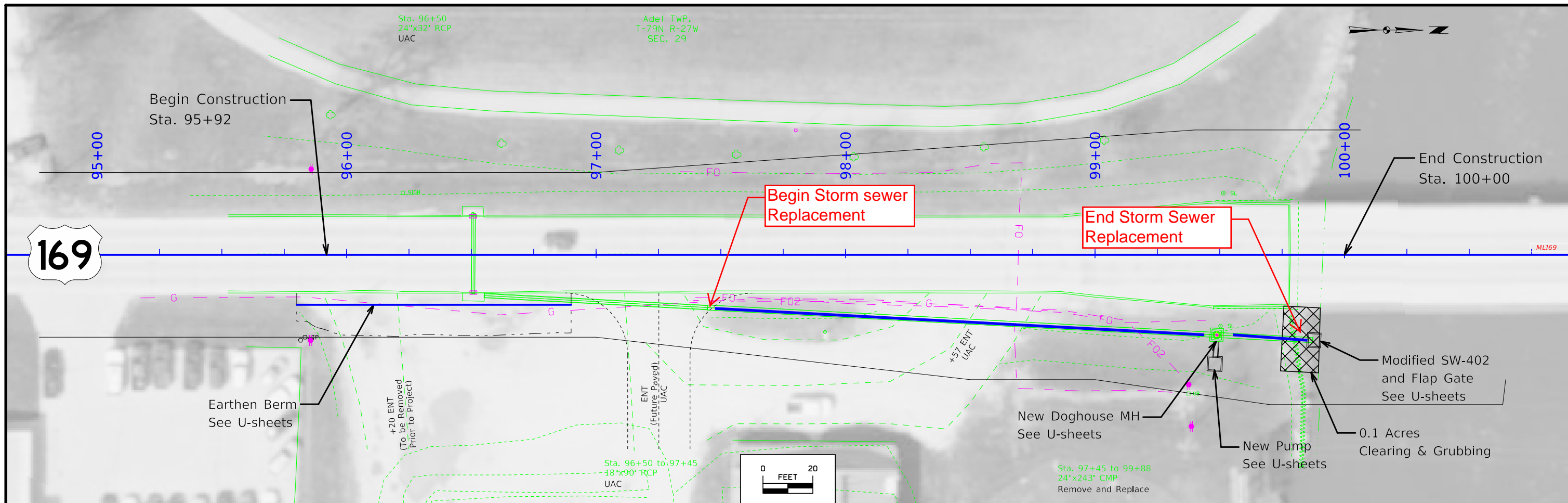
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

### 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)



FILE NO.	ENGLISH	DESIGN TEAM Holst \ Schrock \ Finch	Dallas COUNTY	PROJECT NUMBER NHSN-169-4(67)-2R-25	SHEET NUMBER D,2
----------	---------	-------------------------------------	---------------	-------------------------------------	------------------

## Survey Information

Dallas County  
NHSN-169-4(67)—2R-25  
Location: Raccoon River Mill Race Bridge 1.4 mi N of US 6  
Type of Work: Storm Sewer/Intakes  
Project Directory: 2516901020  
PIN: 20-25-169-010  
Sap-07191

### Party Personnel

Paul Harry- Party Chief  
Scott Liddell- Party Chief

### Date(s) of Survey

Begin Date 12/7/2020  
End Date 12/22/2020

### General Information

Measurement units for this survey are US survey feet. Project datum and control information is provided by Design Survey Office. This project is a Full DTM without Photo control.

### Vertical Control

The vertical datum is NAVD88. Vertical Control was established on 2 monuments designated as points 25169001, and 25169002. These monuments are expected to hold vertical reasonably well. Datum was transferred from Iowa RTN reference stations to the projects monuments by using concurrent 6-hour static measurements and post processing connecting vectors. Geoid g2012bu3 was used in processing.

This survey observed 2 NGS Control Monuments with published NAVD88 heights and 1 Dallas County Control Monument to compare to local ground control:

NGS First order class 2 monument designated TT4MT has a published Elev. of 913.21  
Survey Elev. = 913.19

NGS First order class 2 monument designated C4 has a published Elev. of 1023.72  
Survey Elev. = 1023.67

Dallas County monument designated G122 has a published Elev. of 967.84  
Survey Elev. = 967.80

### Horizontal Control

The project coordinate system for this survey is Iowa RCS Zone 8 (U.S. Survey Feet). This survey control is relative to laRTN reference stations. laRTN Reference Station coordinate are relative to the National Reference Station network datum NAD83 (2011) for Epoch 2010.00. Coordinates were determined by using concurrent 6-hour static measurements and post processing connecting vectors.

### Alignment Information

The horizontal alignment for this survey is a retrace of Paving Plans No. FN-169-4(17)—21-25. Survey stationing was equated to the plan POT at Sta. 88+76.88 and run ahead without equation throughout the survey.

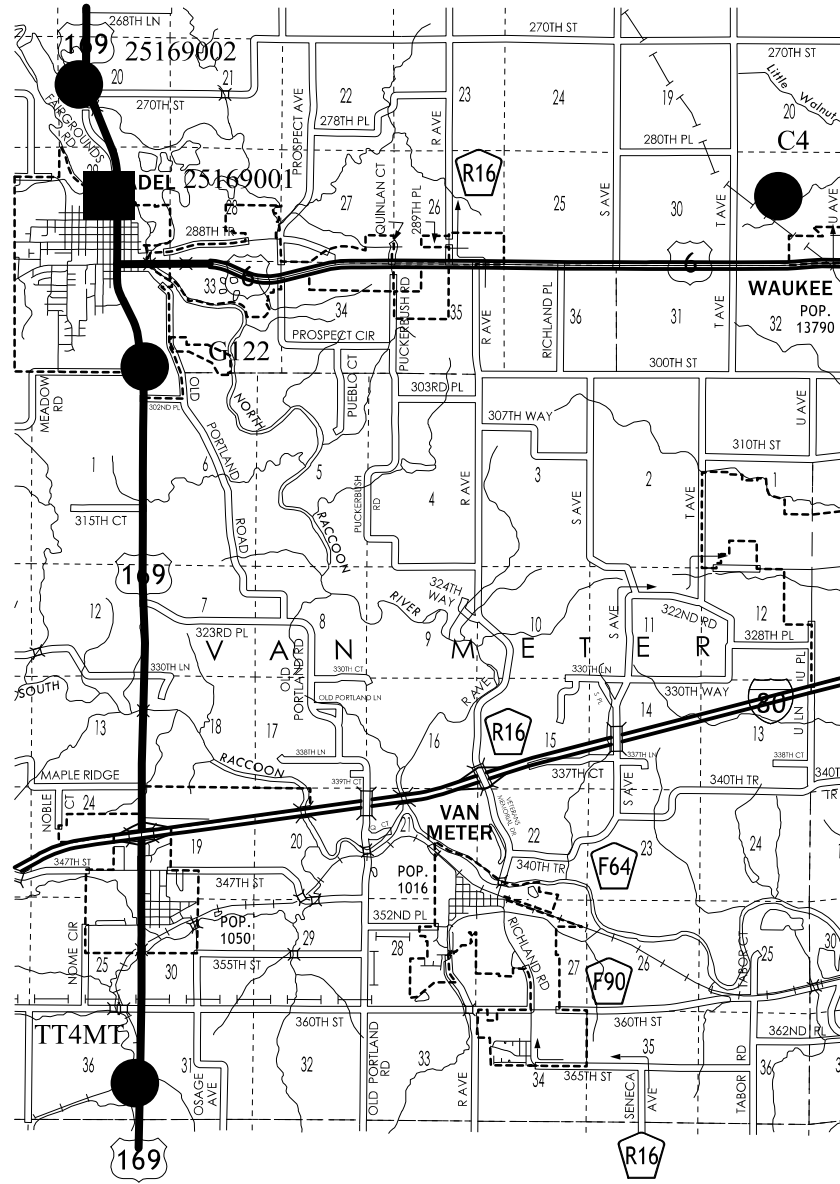
Survey stationing relates to as built plan stationing as follows:

POT Sta. 88+76.88 Paving Plans Project No. FN-169-4(17)—21-25.  
Survey POT Sta. 88+76.88

PI Sta. 101+51.34 Paving Plans Project No. FN-169-4(17)—21-25.  
Survey PI Sta. 101+52.13

## 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.



R-27W

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 8

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 8

Project Control Marks are Bench Marks

Point Name	North Coordinate	East Coordinate	Elevation	Feature Code- Monument Description
25169001	7500467.3	18417649.54	886.52	FENO 1100FT NORTH FROM THE INTERSECTION OF HWY 169 AND GROVE ST 86FT W OF CL HWY 169 68FT NW OF SPEED LIMIT SIGN POST AND 18FT NE OF CL HMA TRAIL
25169002	7505705.34	18416190.46	894.2	CP CONCRETE MONUMENT 500FT N OF THE INTERSECTION OF HWY 169 AND 270TH ST 130FT W OF CL HWY 169 32FT S OF POWER POLE AND 2FT E OF WOVEN WIRE FENCE.
G122	7492207.52	18418998.67	967.8	CP COUNTY GPS MONUMENT 72FT E OF CL HWY 169 68FT N OF CL MEADOW RD AND 47FT NE OF STEEL LUM POLE
TT4MT	7458419.63	18418841.55	913.19	CP NGS BRASS DISC IN TOP CONCRETE MONUMENT 0.7 MILES S OF THE INTERSECTION OF HWY 169 AND COUNTY ROAD F90 77FT W OF CL HWY 169 41.5FT NW OF POWER POLE AND 12FT NW OF TOP CL CMP INLET
C4	7500414.79	18449310.58	1023.67	CP NGS BRASS DISC IN HDWL RCB 300FT SE OF INTERSECTION OF NW BENNINGTON DR AND NW GEORGETOWN DR 285FT SW OF THE INTERSECTION OF NW JAMESTOWN LN AND NW GEORGETOWN DR 67FT SW OF CENTER MH TOP 6FT X 6FT CONC AREA INTAKE AND 11FT SW OF CL CONC TRAIL

**ALIGNMENT COORDINATES**

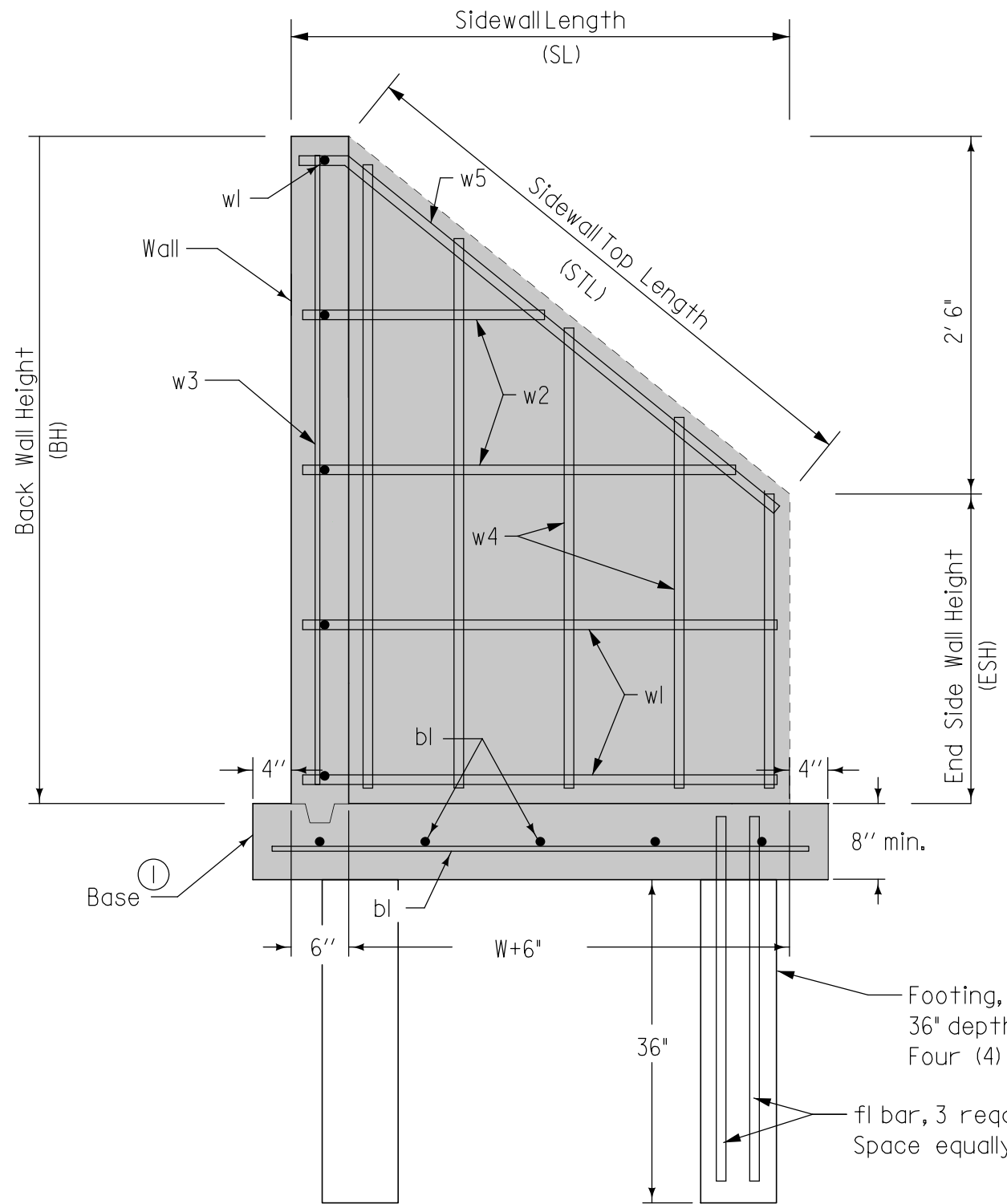
Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
1	ML169	88+76.88 R1	7499362.09	18417736.85															
2	ML169	101+52.13 R1	7500637.34	18417735.01															



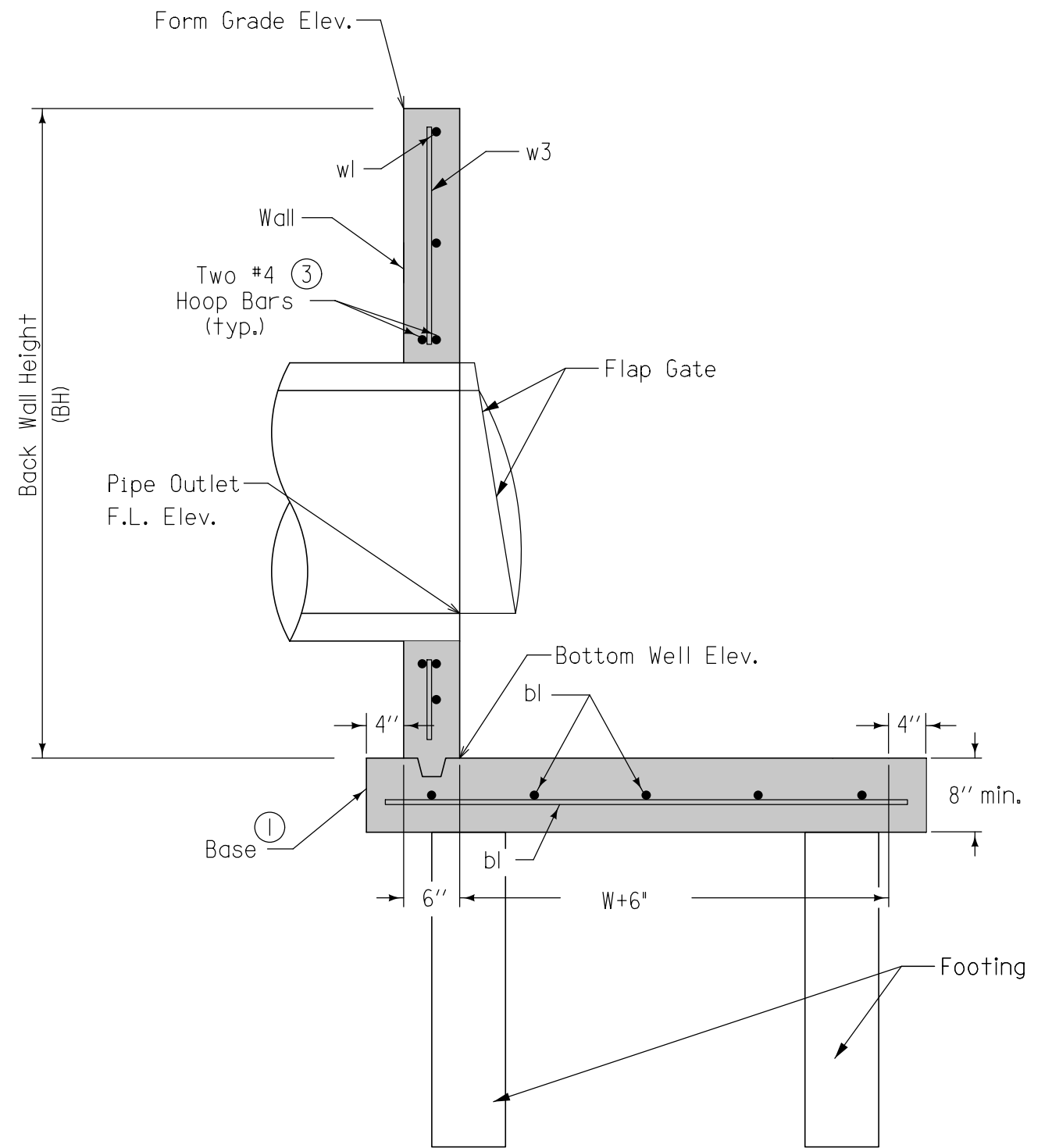
**511 TRAVEL RESTRICTIONS**

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 Anticipated									

<b>TRAFFIC CONTROL PLAN</b>		108-23A 08-01-08
Traffic to be maintained at all times.		



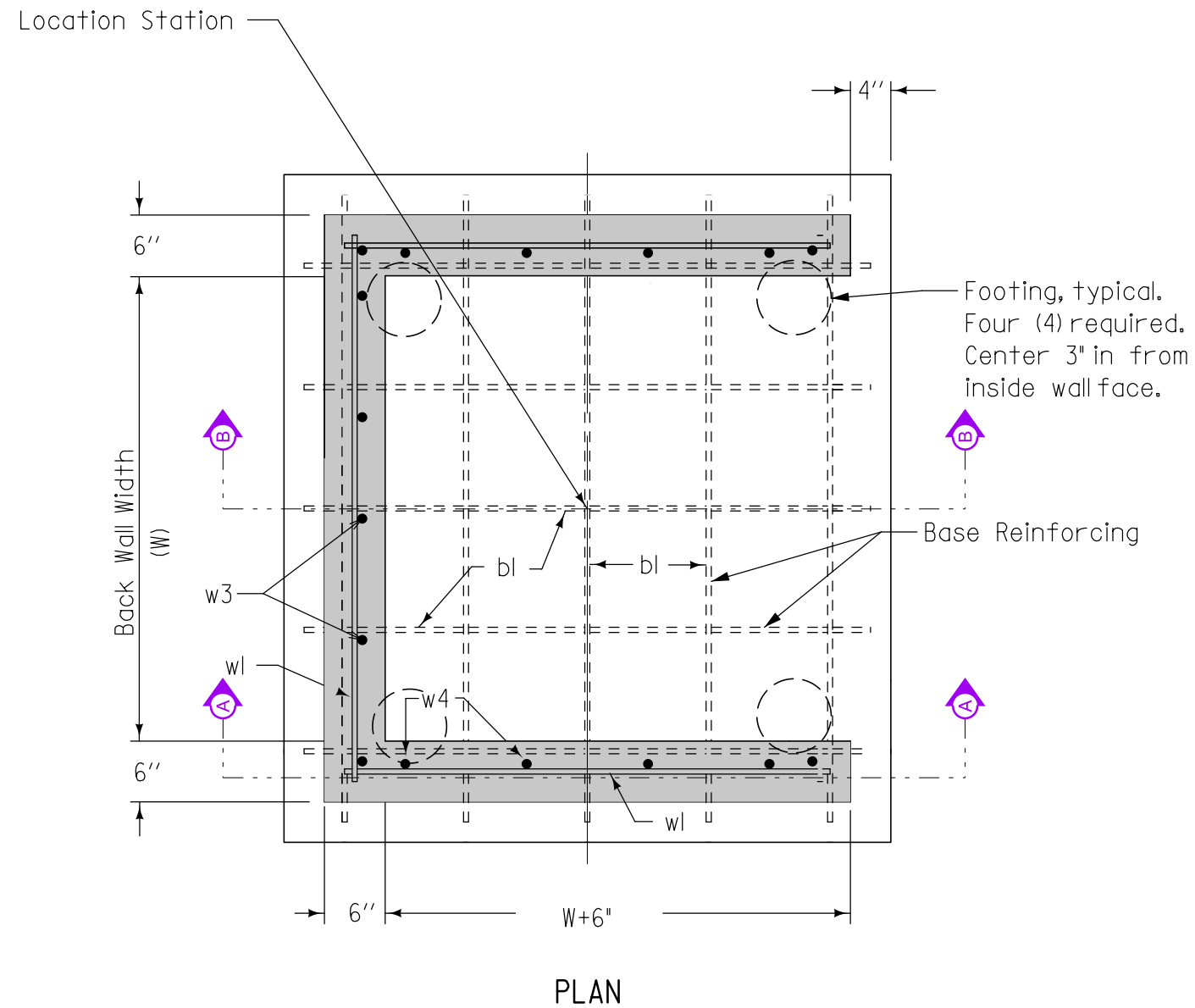
SEC. A-A  
TYPICAL SECTION



SEC B-B  
TYPICAL SECTION

- ① Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
- ② For precast base, provide 6" dia. blockout in base at footing locations. Extend footing bars into base and fill blockout with concrete.
- ③ Provide two #4 hoop bars at all pipe openings.

**SW-402 MODIFIED  
STORM SEWER MANHOLE  
1/2**



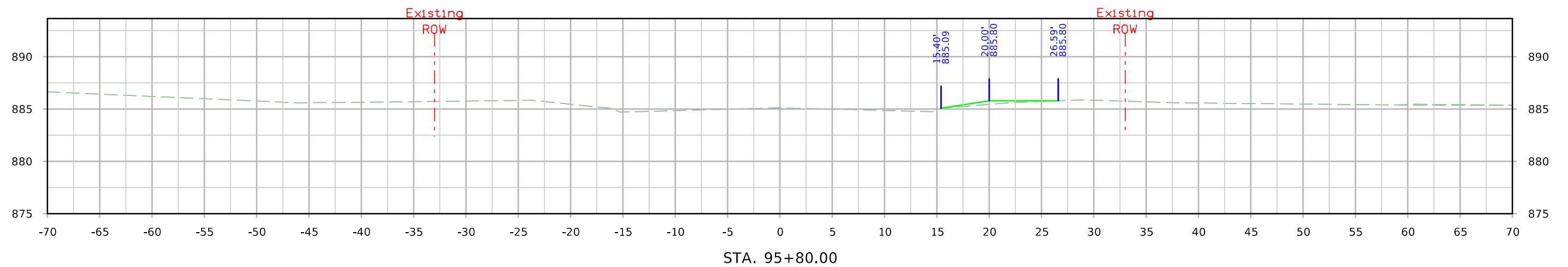
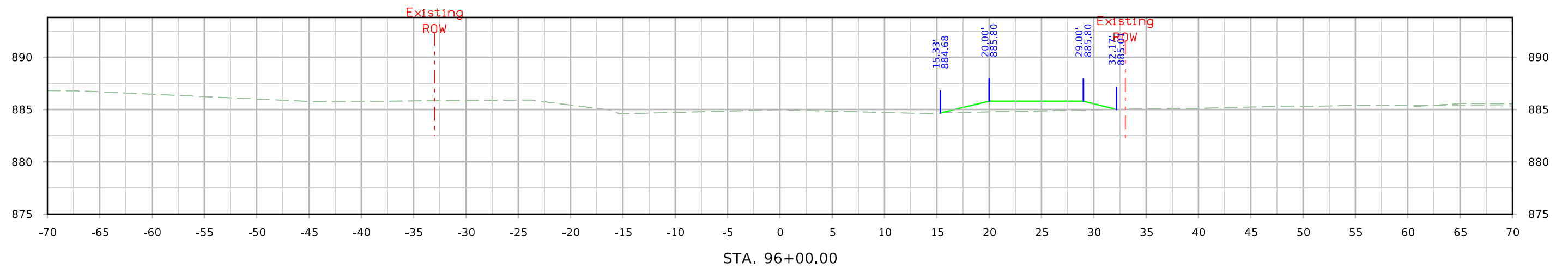
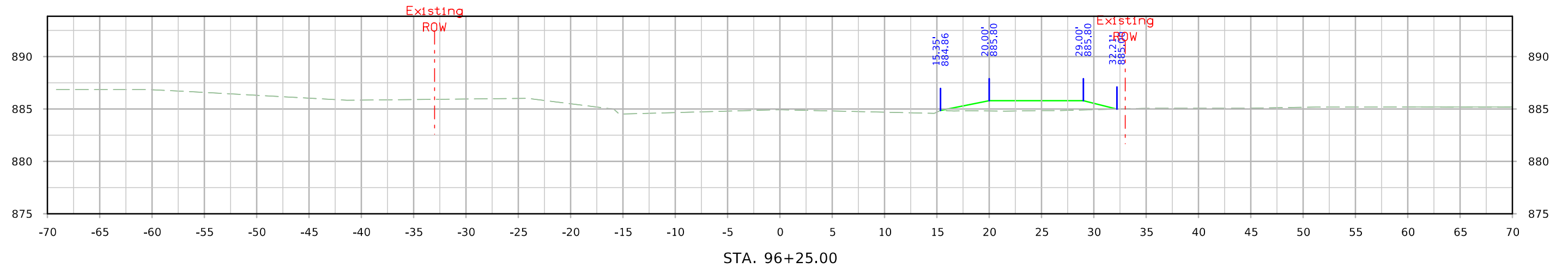
REINFORCING BAR LIST					
Mark	Size	Location	Shape	Length	Spacing
bl	5	Base	—	W plus 14"	12"
w1	5	Walls Hor.	—	W plus 8"	12"
w2	5	Walls Hor.	—	Var. 6" to SL minus 4"	12"
w3	5	Walls Vert.	—	BH minus 4"	12"
w4	5	Walls Vert.	—	Var. ESH to BH minus 4"	12"
w5	5	Wall Top	—	STL plus 2"	NA
fl	4	Footing	—	40"	NA

**SW-402 MODIFIED  
STORM SEWER MANHOLE  
2/2**



Earthen Berm

# US 169



# US 169

