

AUDUBON COUNTY

BRIDGE REPLACEMENT  
BRFN-071-4(55)--39-05

LETTING DATE  
OCT 15, 2024



REVISIONS

TOTAL  
22

PROJECT IDENTIFICATION NUMBER  
20-05-071-010  
PROJECT NUMBER  
BRFN-071-4(55)--39-05  
R.O.W. PROJECT NUMBER

PLANS OF PROPOSED IMPROVEMENT ON THE

# PRIMARY ROAD SYSTEM AUDUBON COUNTY BRIDGE REPLACEMENT

Sifford Creek 1.1 mi N of Co Rd F65

SCALES: As Noted

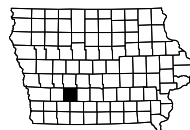
Refer to the Proposal Form for list of applicable specifications.

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



INDEX OF SHEETS	
No.	DESCRIPTION
<b>A Sheets</b>	<b>Title Sheets</b>
* A.1	Title Sheet
* A.2	Location Map Sheet
<b>B Sheets</b>	<b>Typical Cross Sections and Details</b>
B.1 - 3	Typical Cross Sections and Details
<b>D Sheets</b>	<b>Mainline Plan and Profile Sheets</b>
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	US 71
<b>G Sheets</b>	<b>Survey Sheets</b>
G.1 - 3	Reference Ties and Bench Marks
<b>J Sheets</b>	<b>Traffic Control and Staging Sheets</b>
J.1	Traffic Control Plan
* J.2	Stage 1
* J.3	Stage 2
* J.4	Stage 3
<b>V Sheets</b>	<b>Bridge and Culvert Situation Plans</b>
* V.1 - 2	Bridge and Culvert Situation Plan
* V.3	Bridge and Culvert Stage Plan
<b>W Sheets</b>	<b>Mainline Cross Sections</b>
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 5	Mainline Cross Sections
	* Color Plan Sheets

H Sheets



DESIGN DATA RURAL			
2025	AADT	2,500	V.P.D.
2045	AADT	2,600	V.P.D.
2045	DHV	270	V.P.H.
	TRUCKS	18	%
	Total Design ESALs	..	

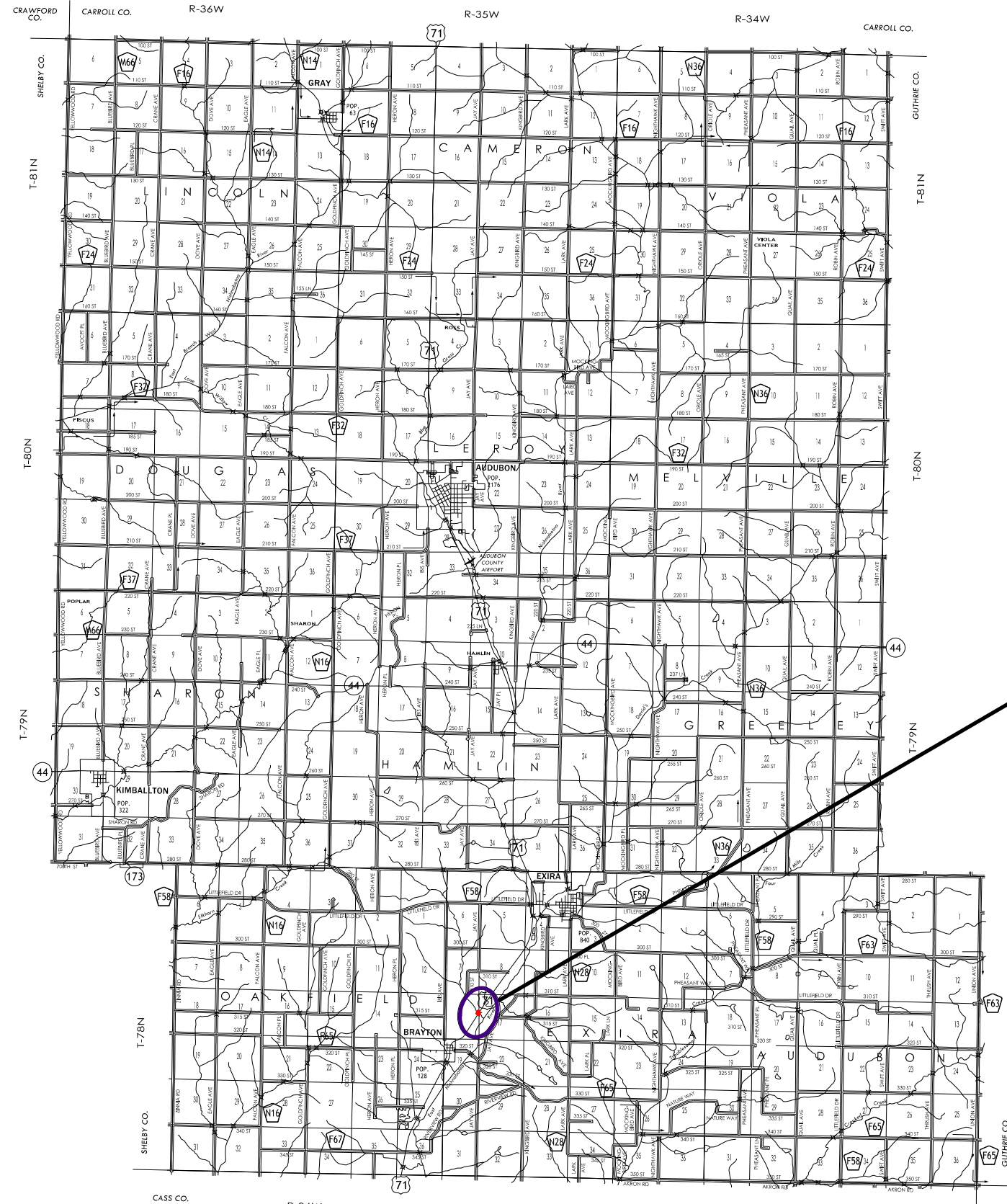
INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Michael J. Janecek	Primary Signature Block
V.1	Phillip M. Harpole	Hydraulic Design

**D4 PLAN – JUNE 14, 2024**

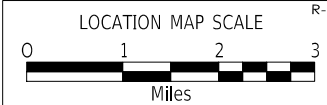
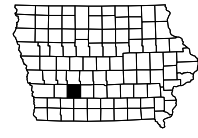
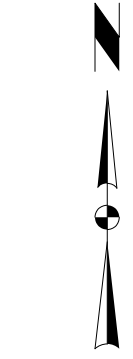
## PRELIMINARY PLANS

Subject to change by final design.

**D5 PLAN – OCT 14, 2022**



PROJECT LOCATION

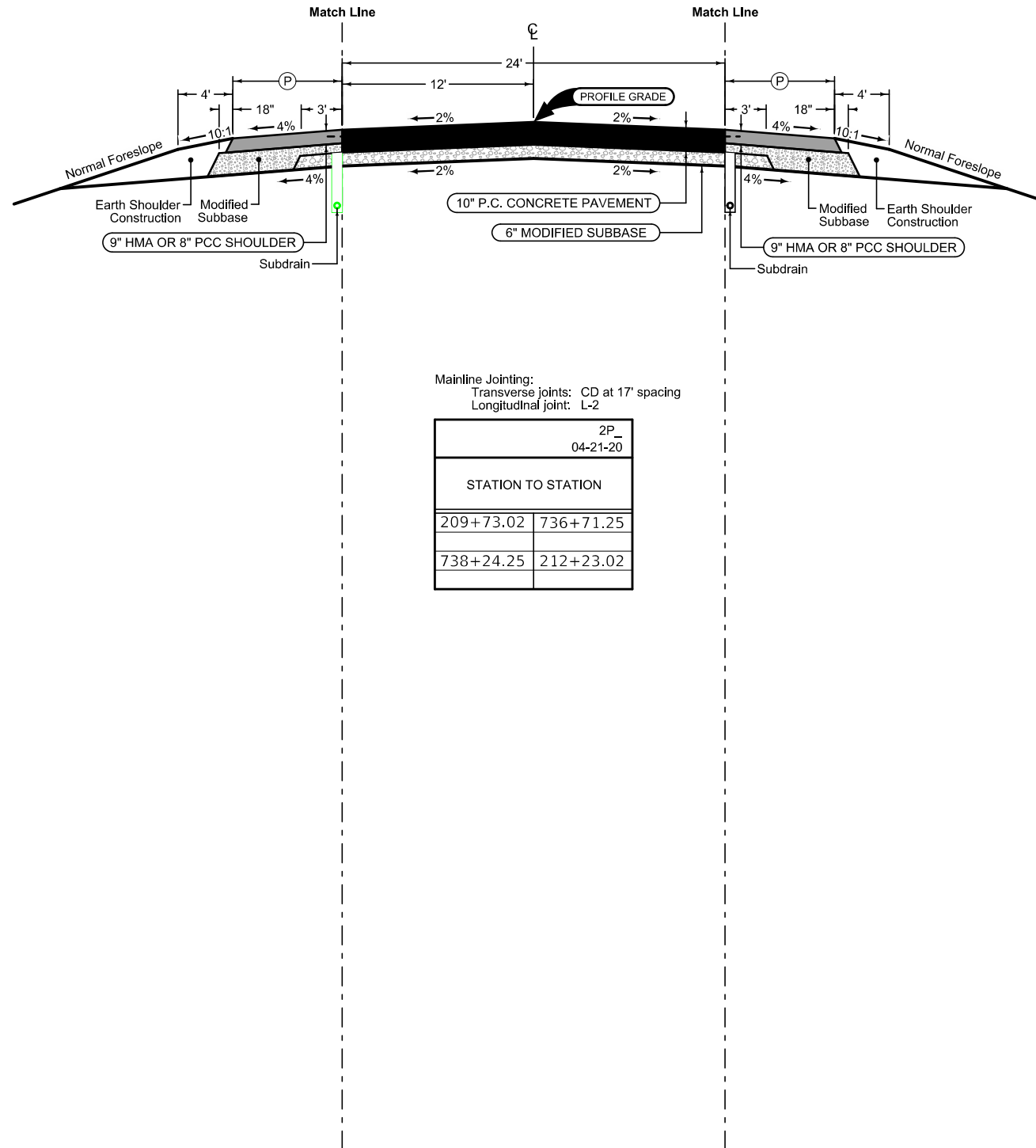




**Paved Shoulder at Guardrail**

PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-5  
 Transverse joints: C at mainline spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

2_P_Guard_04-21-20		(P)
STATION TO STATION		Feet
209+17.49	209+73.02	VAR.
212+23.02	213+05.42	VAR.



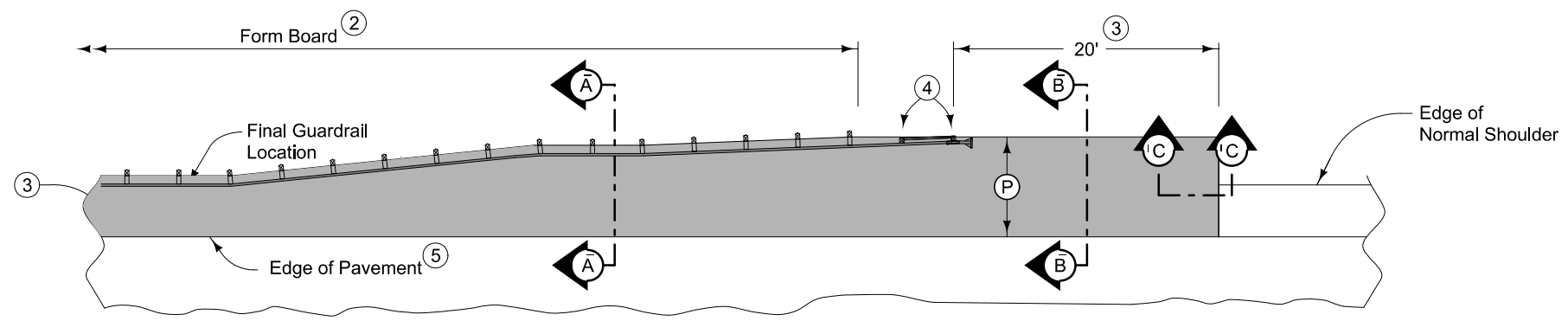
Mainline Jointing:  
 Transverse joints: CD at 17' spacing  
 Longitudinal joint: L-2

2P_04-21-20	
STATION TO STATION	
209+73.02	736+71.25
738+24.25	212+23.02

**Paved Shoulder at Guardrail**

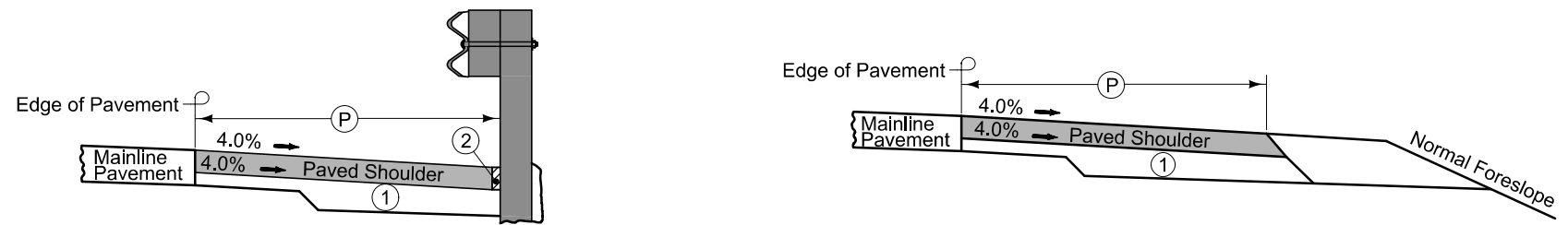
PCC Shoulder Jointing:  
 Longitudinal joint: BT-1 or BT-5  
 Transverse joints: C at mainline spacing  
 HMA Shoulder Jointing:  
 Longitudinal joint: B

2_P_Guard_04-21-20		(P)
STATION TO STATION		Feet
208+92.54	209+73.02	VAR.
212+23.02	212+78.49	VAR.



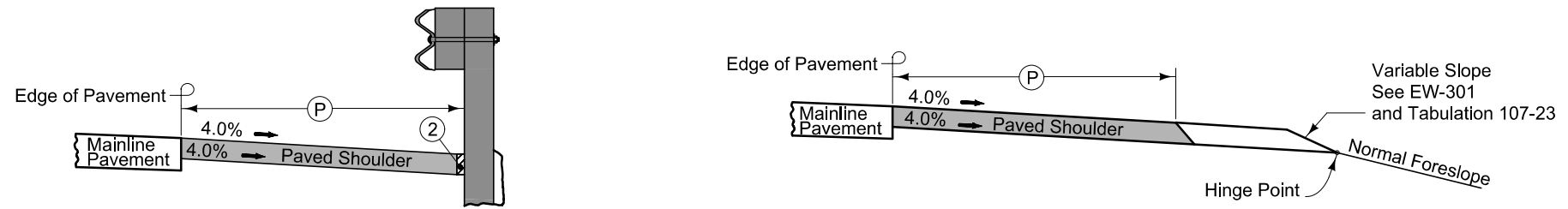
PLAN VIEW

9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:  
 Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse 'C' joints in shoulder at mid-panel of the mainline pavement. Place longitudinal 'C' joint at P/2 from edge of mainline pavement when P is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.  
 Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.  
 Refer to Tabulation 112-9 for shoulder quantities.

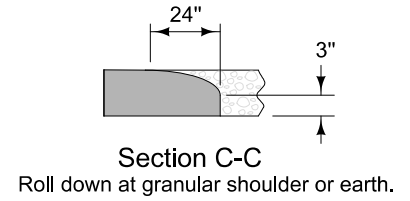


NEW CONSTRUCTION

- ① For subgrade treatment, refer to other details in the plan.
- ② PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown. Refer to note 4 for final 2 posts.
- ③ Continue paved shoulder to existing paved shoulder or 20 feet beyond the center of the first post.
- ④ Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ⑤ 'KT-1 joint for PCC shoulder. 'B' joint for HMA shoulder.



EXISTING SHOULDER



PAVED SHOULDER AT GUARDRAIL

### 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

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

### 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
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
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
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
Green, Light	(225)	Existing Pavement Shading
Red	(3)	Proposed Structure Shading

### 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
- 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)





## Survey Information

**Audubon County**  
**BRFN-071-4(55)--39-05**  
**US 71 over Sifford Creek**  
**PIN 20-05-071-010**  
**Sap-294.1**

### Party Personnel

Murray Berting – Survey Party Chief  
Gavin Gear – Assistant Survey Party Chief

### Date(s) of Survey

Begin Date 08/23/2021  
End Date 10/22/2021

### General Information

Measurement units for this survey are US survey feet. This survey is for proposed Bridge reconstruction and reconstruction of US 71 over Sifford Creek. Project datum and control information is provided by Shive-Hattery, Inc. This project is a Preliminary DTM Field Survey. This survey request was for the Sifford Creek and US 71 corridor only.

### Vertical Control

IARTN  
Vertical datum for this survey is NAVD88 (Computed using Geoid12B). Additional benchmarks were placed throughout the project using a Total Station setup relative to Point 1 and Point 2. Vertical control was verified between control points with check shots by Total Station through multiple setup from various occupation points with a vertical error of less than 0.05 feet.

This survey found a local control benchmark monument (benchmark disc on bridge abutment in NW corner bridge). No vertical information was available at the time field work was completed.

### Horizontal Control

#### **(Project Coordinates from Redundant IARTN Observations)**

The project coordinate system is modified Iowa Regional Coordinate System Zone 7 (U.S. Survey Feet This survey control is relative to the IARTN reference stations. IARTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Coordinates were determined by IARTN observations with appropriate occupation times. Additional control points were placed throughout the project using a Total Station setup relative to Point 1 and Point 2.

### 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 locate request (Ticket# 552105378) was made August 02, 2021. The following Companies were listed:**

<u>Company (Quality)</u>	<u>Symbol</u>	<u>Remark</u>
Iowa D.O.T	---	Not Affected
MidAmerican PPA		Power Poles North of US 71
MidAmerican (M20E) ---		Overhead Electrical Line
MidAmerican (M20G) GLA		Underground Gas Line (QLD)
Mediacom PPA		Power Poles North of IA 22
Iowa Communications Network (ICN) FOB		Buried Telephone Fiber Optic Line
Centurylink (CTLIA01) FOA		Buried Telephone Fiber Optic Line

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

( CTLIA01 ) CENTURYLINK  
Contact Name : SADIE HULL  
Contact Phone: 9185470147  
Contact Email: [sadie.hull@lumen.com](mailto:sadie.hull@lumen.com)

( ICN ) IOWA COMMUNICATIONS NETWORK  
Contact Name : Shannon Marlow  
Contact Phone: 8005723940  
Contact Email: [icnoutsideplantiowaonecall@iowa.gov](mailto:icnoutsideplantiowaonecall@iowa.gov)

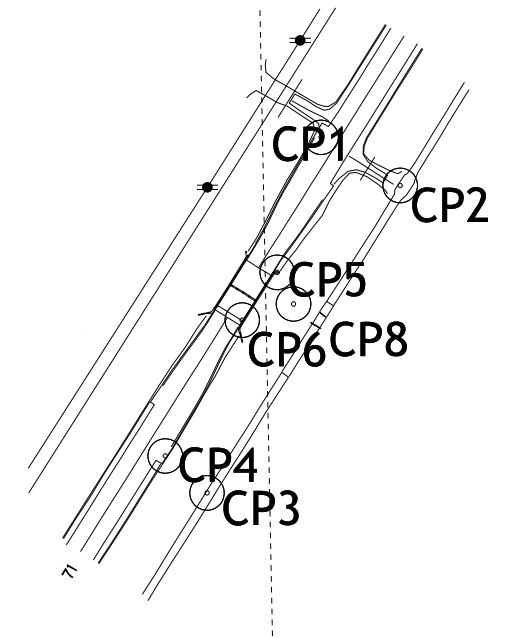
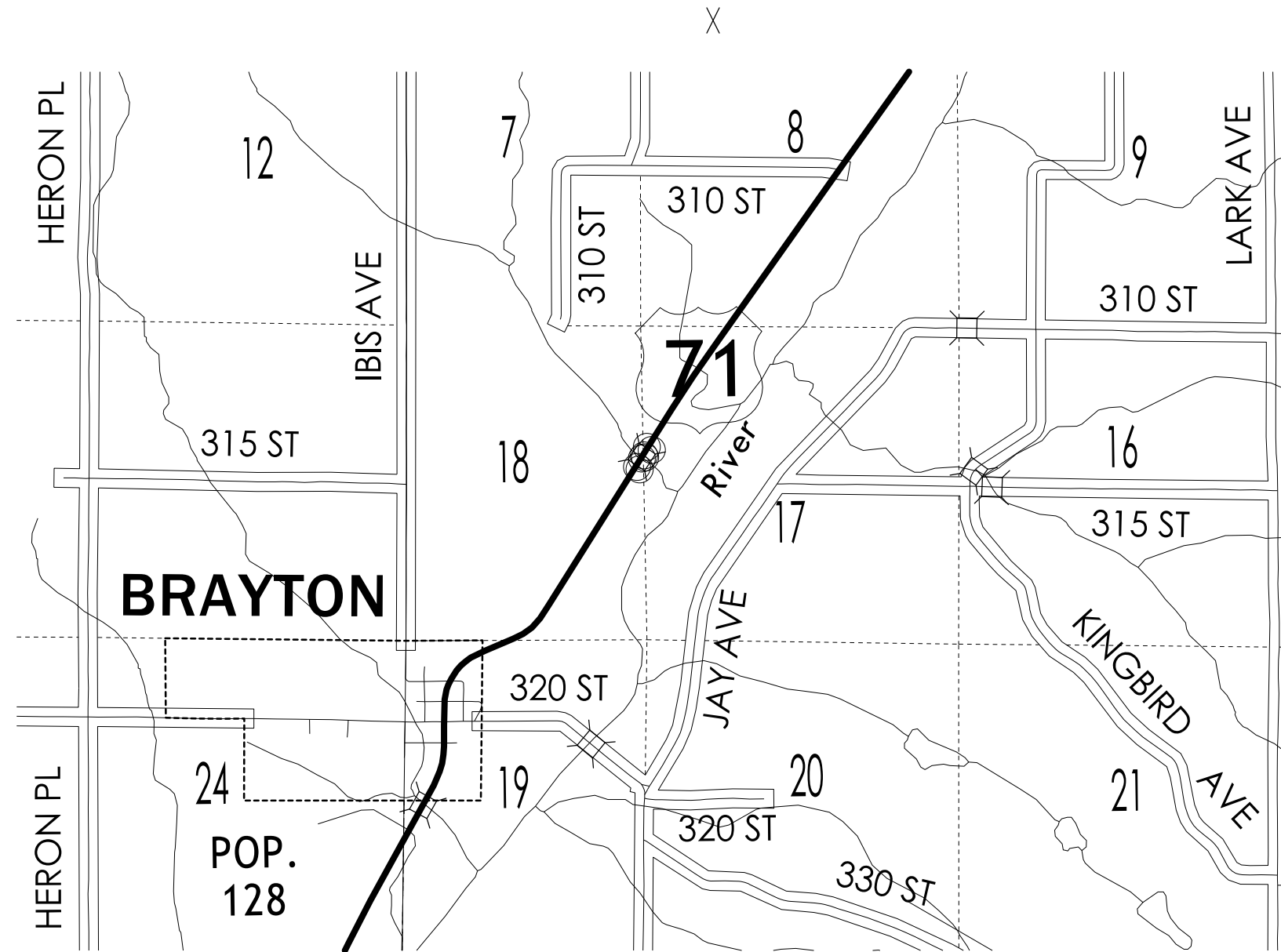
( M20E ) MIDAMER-ELEC  
Contact Name : Glen Nobiling  
Contact Phone: 7127927045  
Contact Email: [ggnobiling@midamerican.com](mailto:ggnobiling@midamerican.com)

( M20G ) MIDAMER-GAS  
Contact Name : Glen Nobiling  
Contact Phone: 7127927045  
Contact Email: [ggnobiling@midamerican.com](mailto:ggnobiling@midamerican.com)



### 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 7

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

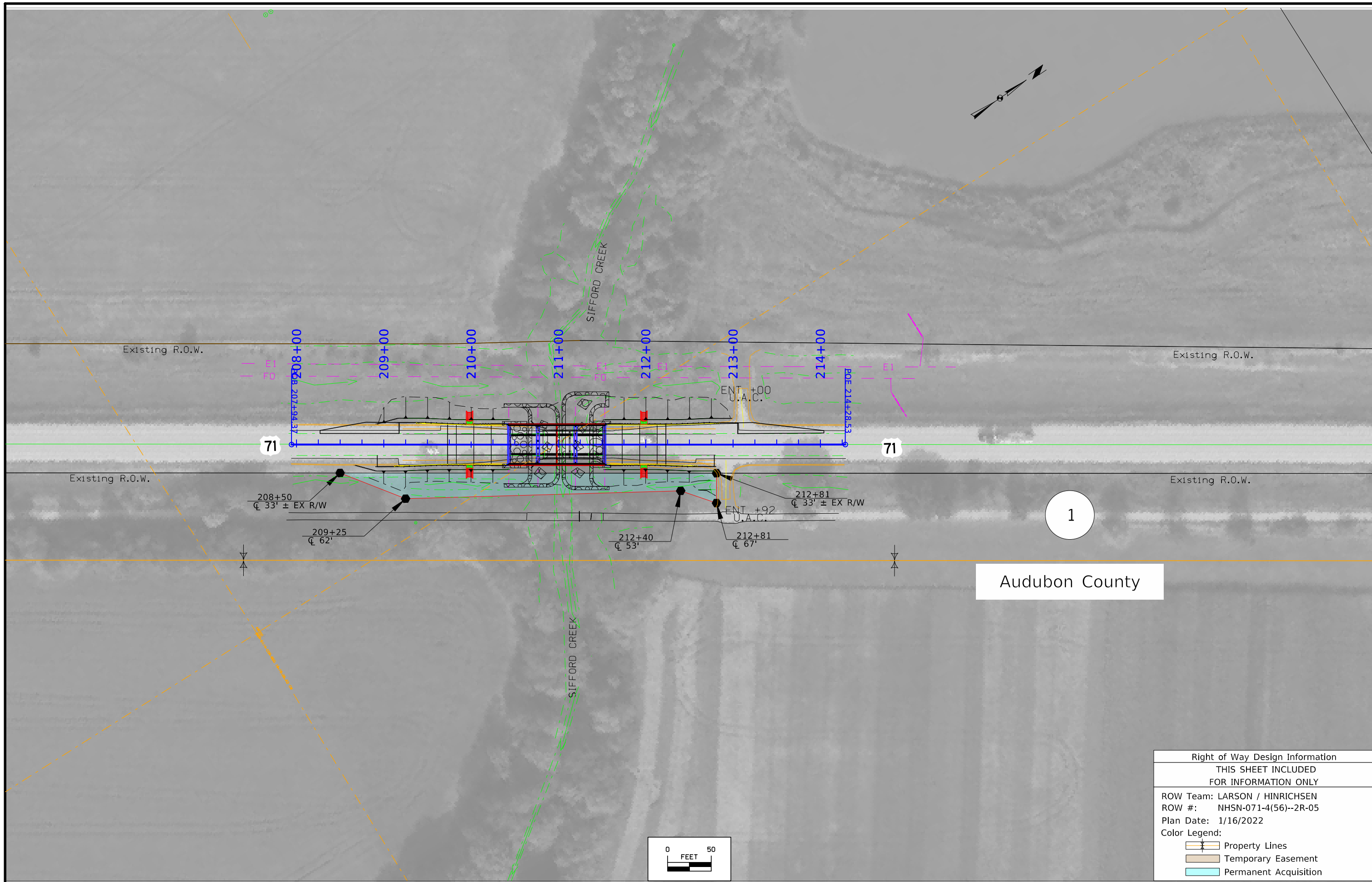
1a. Regional Coordinate System Zone 7  
Project Control Marks are Bench Marks

POINT NAME	Y	X	Z	FEATURE DEFINITION - DESCRIPTION
1	7276289.053	17423782.11	1213.424	CP1 PK
2	7276238.895	17423864.52	1212.000	CP2 PK
3	7275918.653	17423663.3	1212.697	CP3 PK
4	7275957.147	17423619.82	1213.039	CP4 PK
6	7276098.556	17423699.94	1213.255	CP6 CX
5	7276148.298	17423736.33	1213.838	CP5 CX
8	7276115.446	17423753.38	1204.066	CP8 NAIL

**NOTE:**

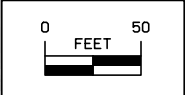
The first two digits in the control point name refer to the county number.  
The next 3 digits refer to the highway number.  
The next 3 digits refer to the highway milepost.  
The last digit refers to the distance from the referenced milepost to the nearest tenth of a mile.

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.



Audubon County

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: LARSON / HINRICHSEN	
ROW #: NHSN-071-4(56)--2R-05	
Plan Date: 1/16/2022	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



**108-23A**  
08-01-08

### TRAFFIC CONTROL PLAN

1) While bridge and approaches are being removed and replaced, traffic shall be maintained on US 71 at all times by staged construction with temporary signals allowing one lane of traffic.

2) Signage and devices shall be furnished, installed, maintained, and removed by Contractor.

**108-26A**  
08-01-08

### STAGING NOTES

Stage 1:  
Remove and replace east portion of US 71 roadway, approaches and bridge with traffic shifted to SB lane using temporary signals.

Stage 2:  
Remove and replace west half of roadway, approaches and complete bridge structure with traffic shifted to NB temporary pavement lane using temporary signals.

Stage 3:  
Remove temporary paving on east half of roadway and complete approach and roadway to re-establish centerline with US 71 traffic shifted to SB lane using temporary signals.

**108-25**  
10-21-14

### 511 TRAVEL RESTRICTIONS

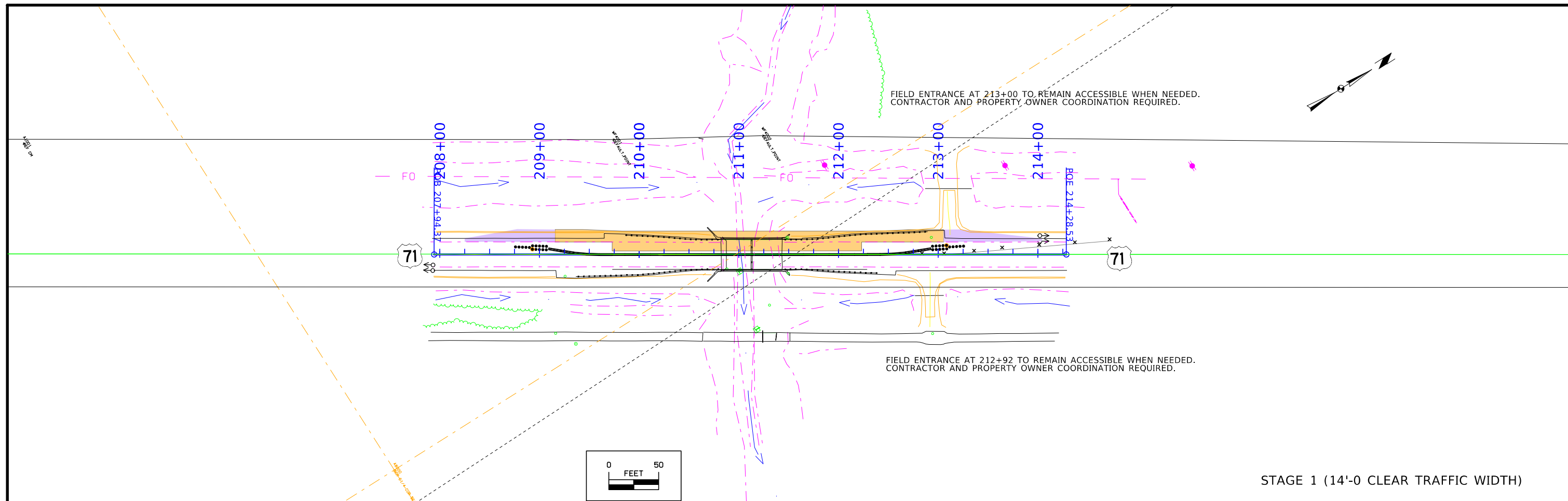
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
US 71	Both	AUDUBON	Bridge over Sifford Creek	SIFFORD CREEK	Bridge		Width		12			

**111-01**  
04-17-12

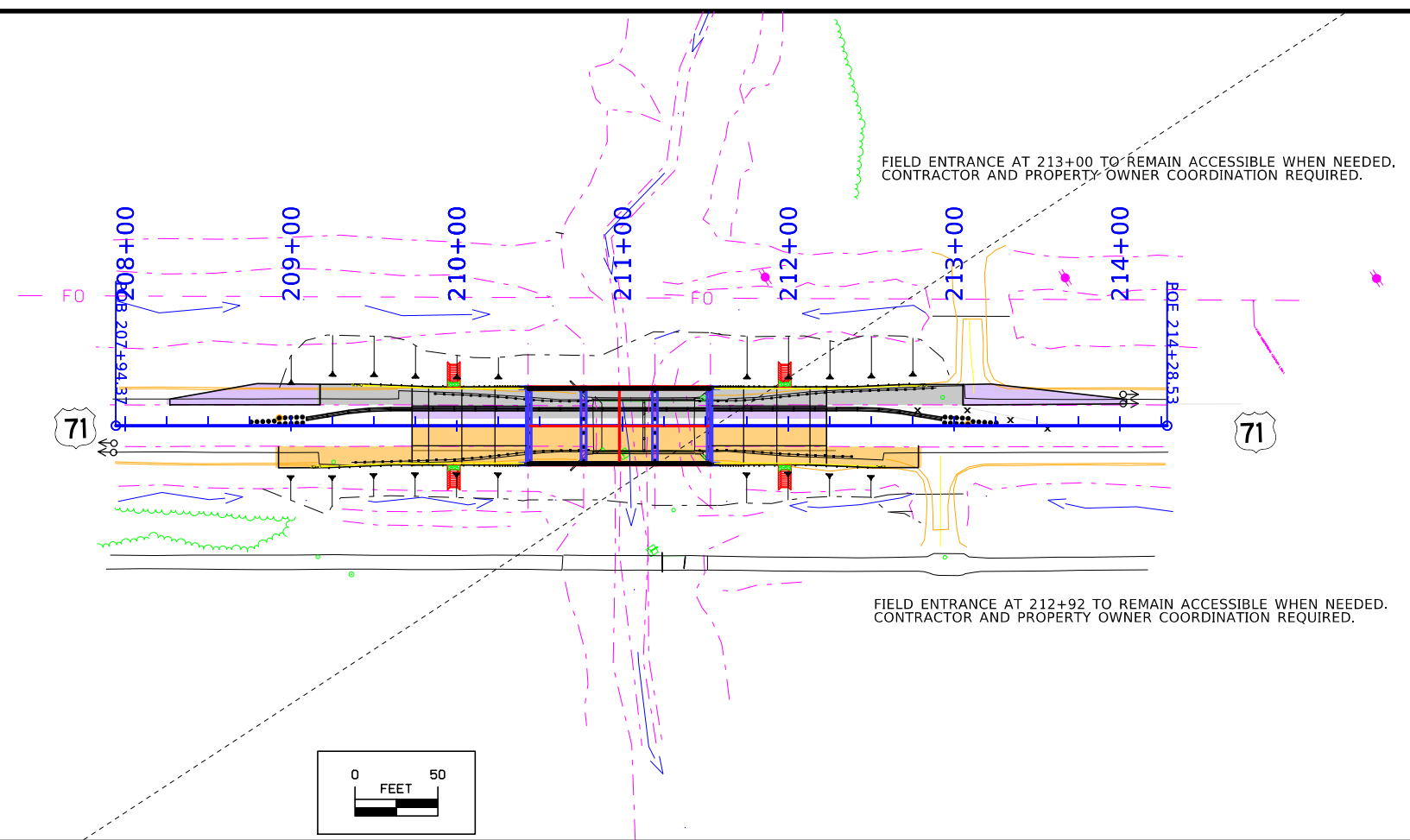
### COORDINATED OPERATIONS

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.

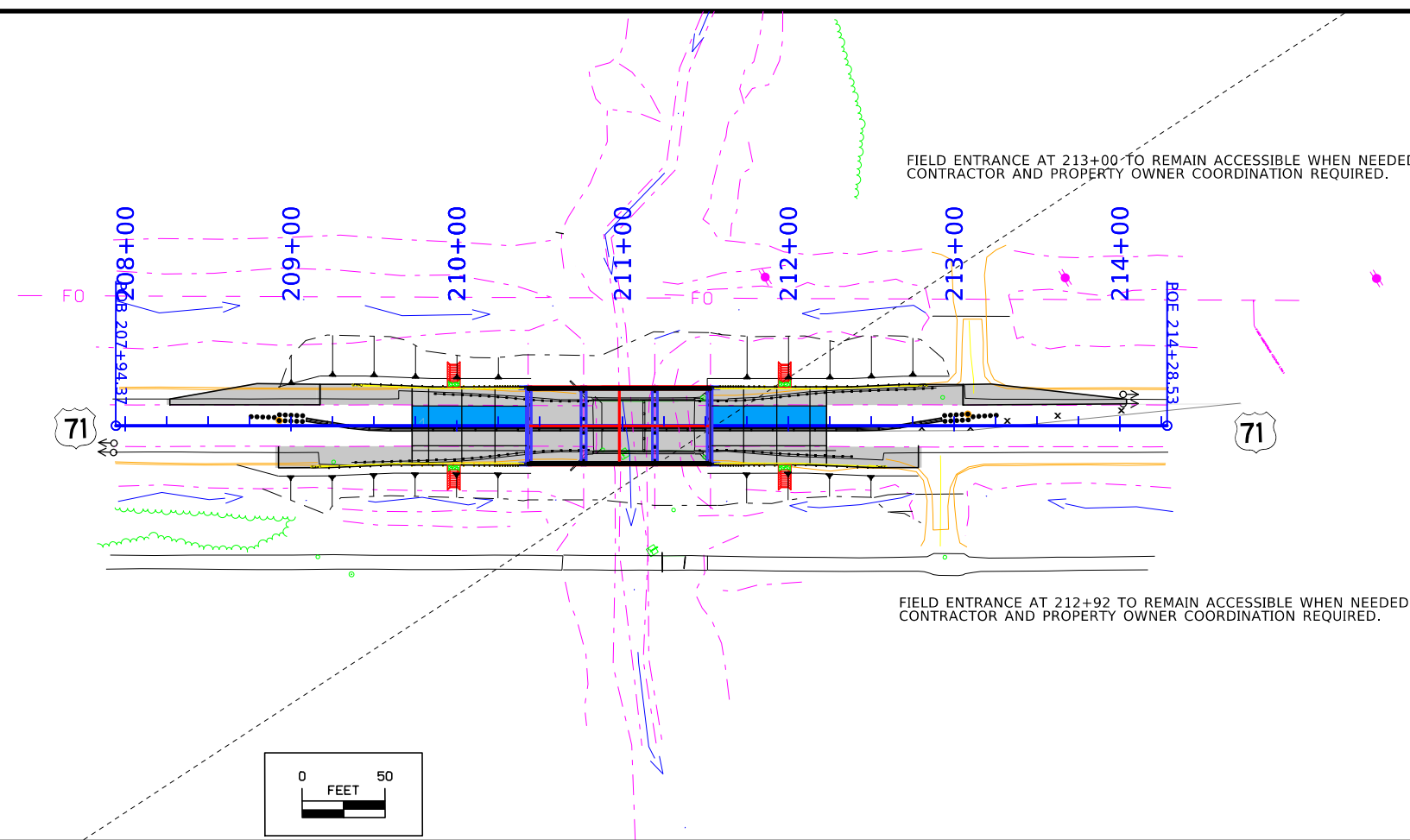
Project	Type of Work
None Provided	





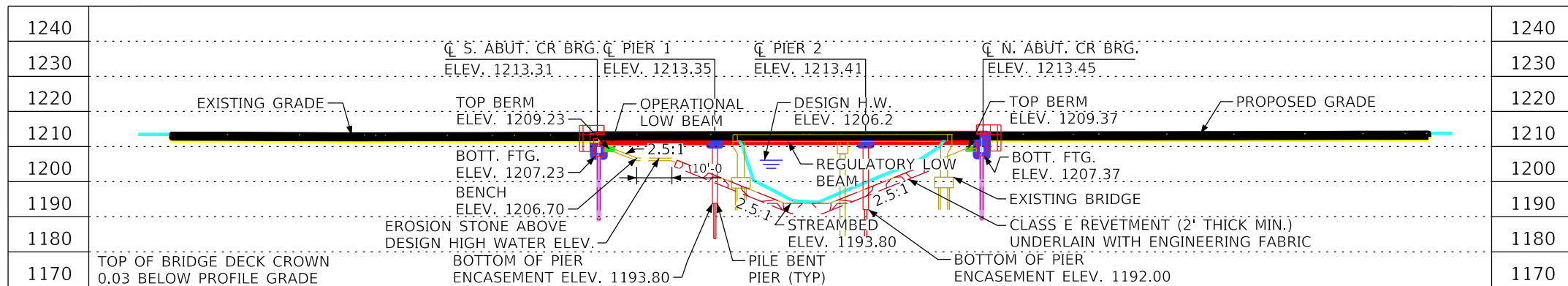


STAGE 2 (11'-0 CLEAR TRAFFIC WIDTH)

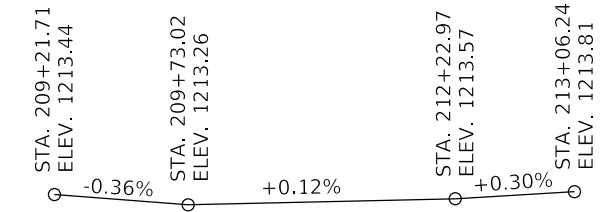


STAGE 3 (14'-0 CLEAR TRAFFIC WIDTH)

Control Point: Y=7276148.298, X=17423736.33, Z=1213.838, CP5 CX



LONGITUDINAL SECTION ALONG CL APPROACH ROADWAY PRELIMINARY DESIGN SCOUR ELEV. = 1188.6  
VERIFY ELEVATIONS WHEN SOIL BORINGS ARE COMPLETE



Proposed Profile Grade U.S. 71

**Hydraulic Data**

Drainage Area = 6.33 Sq. Mi.  
Stream Slope = 27.7 Ft./Mi.  
Avg. Low Water Stage = 1194.3

Q<sub>25</sub> = 2,970 CFS  
Stage = 1204.9

Q<sub>50</sub> = 3,730 CFS  
Stage = 1206.2  
Regulatory Low Beam = 1211.4  
Backwater = 1.1 Ft.  
Avg. Bridge Velocity = 8.2 FPS

Q<sub>100</sub> = 4,550 CFS  
Stage = 1207.7  
Operational Low Beam = 1211.33  
Backwater = 1.1 Ft.  
Avg. Bridge Velocity = 8.1 FPS

Q<sub>200</sub> = 5,430 CFS  
Stage = 1209.1  
Calculated Design Scour = 1188.6

Q<sub>500</sub> = 6,490 CFS  
Stage = 1210.6  
Avg. Bridge Velocity = 7.7 FPS  
Calculated Check Scour = 1187.9

Roadway Overtop 1213.19  
Sta. 210+20.0

**Utilities Legend**

- Symbol - Type
- F0 — Fiber Optic Line
  - E1 — Electrical Line

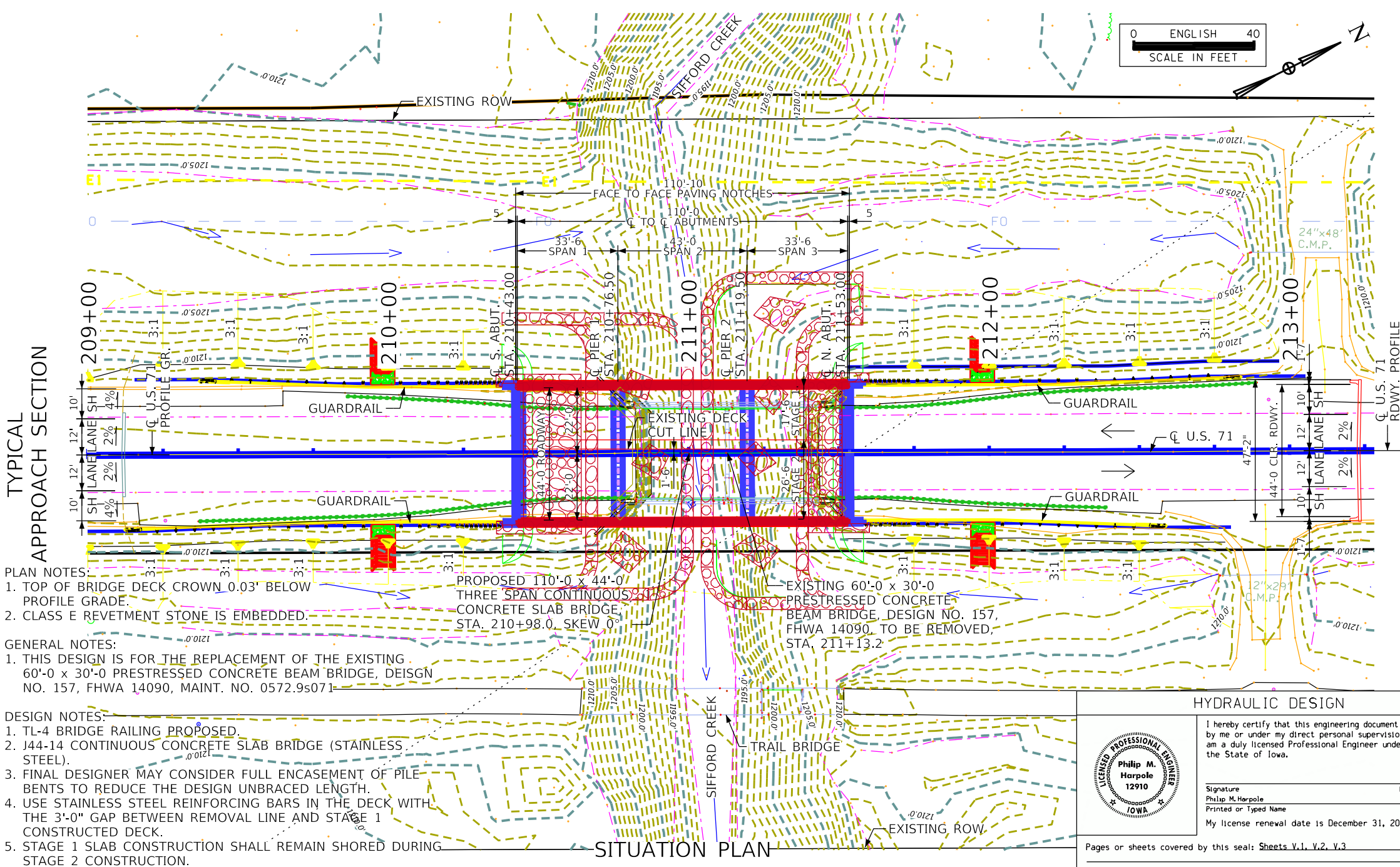
Utilities shown on this sheet are for information only, see road design sheets for final utility information.

**Location**

U.S. 71 over Sifford Creek  
T-78N R-35W  
Section 18  
Exira Township  
Audubon County  
FHWA No. 14091  
Bridge Maint. No. 0572.9s071  
Latitude 41.556417°  
Longitude -94.912097°

**Traffic Estimate**

2025 AADT	2,500	V.P.D.
2045 AADT	2,600	V.P.D.
2045 DHV	270	V.P.H.
Trucks	18	%
Total		
Design ESALs	??,???	



TYPICAL APPROACH SECTION

TYPICAL BRIDGE SECTION

- PLAN NOTES:**
- TOP OF BRIDGE DECK CROWN 0.03' BELOW PROFILE GRADE.
  - CLASS E REVETMENT STONE IS EMBEDDED.
- GENERAL NOTES:**
- THIS DESIGN IS FOR THE REPLACEMENT OF THE EXISTING 60'-0" x 30'-0" PRESTRESSED CONCRETE BEAM BRIDGE, DESIGN NO. 157, FHWA 14090, MAINT. NO. 0572.9s071

- DESIGN NOTES:**
- TL-4 BRIDGE RAILING PROPOSED.
  - J44-14 CONTINUOUS CONCRETE SLAB BRIDGE (STAINLESS STEEL).
  - FINAL DESIGNER MAY CONSIDER FULL ENCASEMENT OF PILE BENTS TO REDUCE THE DESIGN UNBRACED LENGTH.
  - USE STAINLESS STEEL REINFORCING BARS IN THE DECK WITH THE 3'-0" GAP BETWEEN REMOVAL LINE AND STAGE 1 CONSTRUCTED DECK.
  - STAGE 1 SLAB CONSTRUCTION SHALL REMAIN SHORED DURING STAGE 2 CONSTRUCTION.

**HYDRAULIC 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: Philip M. Harpole  
Printed or Typed Name: Philip M. Harpole  
My license renewal date is December 31, 2023

Pages or sheets covered by this seal: Sheets V.1, V.2, V.3

Design For 0° Skew

**110'-0" x 44'-0" CONTINUOUS CONCRETE SLAB BRIDGE**

33'-6" End Spans      43'-0" Interior Span

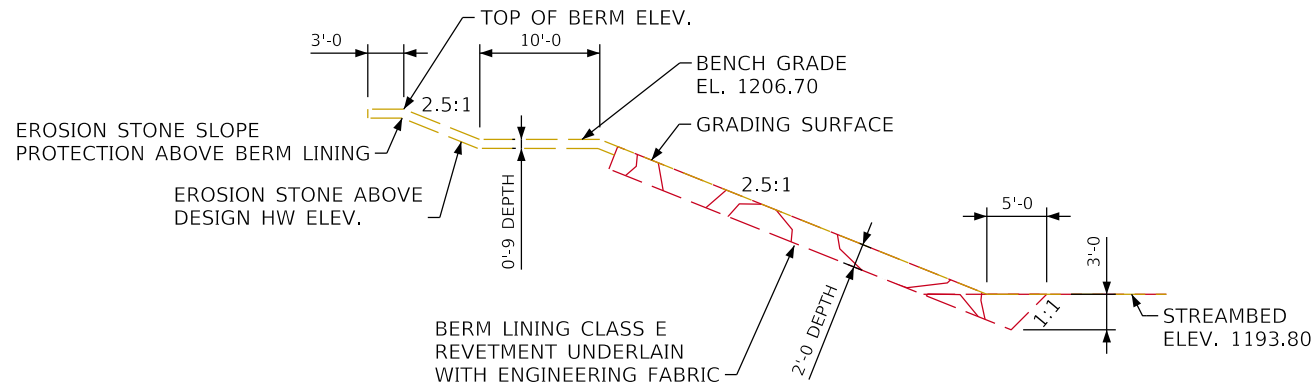
**SITUATION PLAN**

STA. 210+98.0 (U.S. 71)      SEPTEMBER 2022

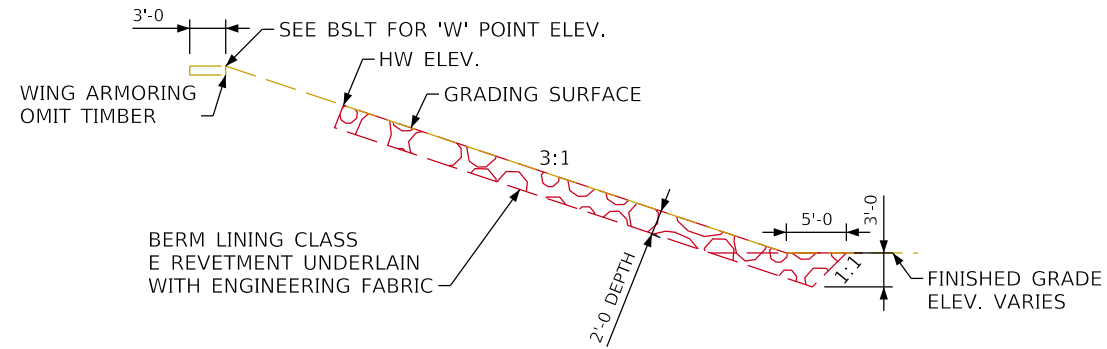
**Audubon County**

IOWA DEPARTMENT OF TRANSPORTATION

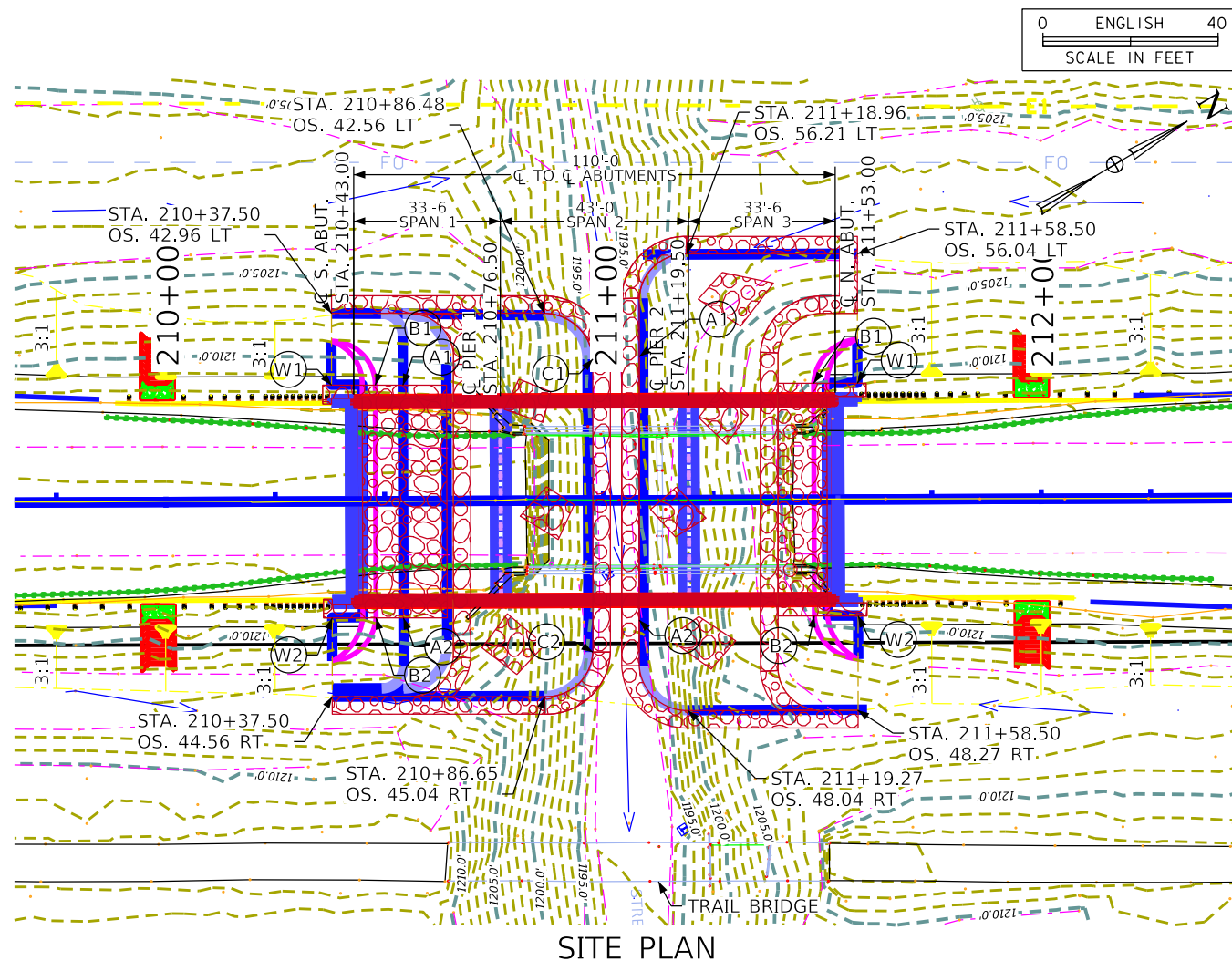
Design No. 0125      Design Sheet No. 001 of 003      FHWA No. 14091



SECTION THRU EMBEDDED REVETMENT BERM



SECTION THRU EMBEDDED REVETMENT BERM  
NORMAL TO BRIDGE WING AT 'W' POINT



SITE PLAN

Berm Slope Location Table

Points	South Abutment			North Abutment		
	Station	Offset	Elev.	Station	Offset	Elev.
A1	210+54.19	26.58' LT	1206.70	211+08.29	26.58' LT	1193.80
A2	210+54.19	26.58' RT	1206.70	211+08.29	26.58' RT	1193.80
B1	210+47.50	26.58' LT	1209.23	211+48.50	26.58' LT	1209.37
B2	210+47.50	26.58' RT	1209.23	211+48.50	26.58' RT	1209.37
C1	210+97.50	32.19' LT	1193.80	-	-	-
C2	210+97.44	34.77' RT	1193.80	-	-	-
W1	210+37.50	26.58' LT	1212.55	211+58.50	26.58' LT	1212.69
W2	210+37.50	26.58' RT	1212.55	211+58.50	26.58' RT	1212.69

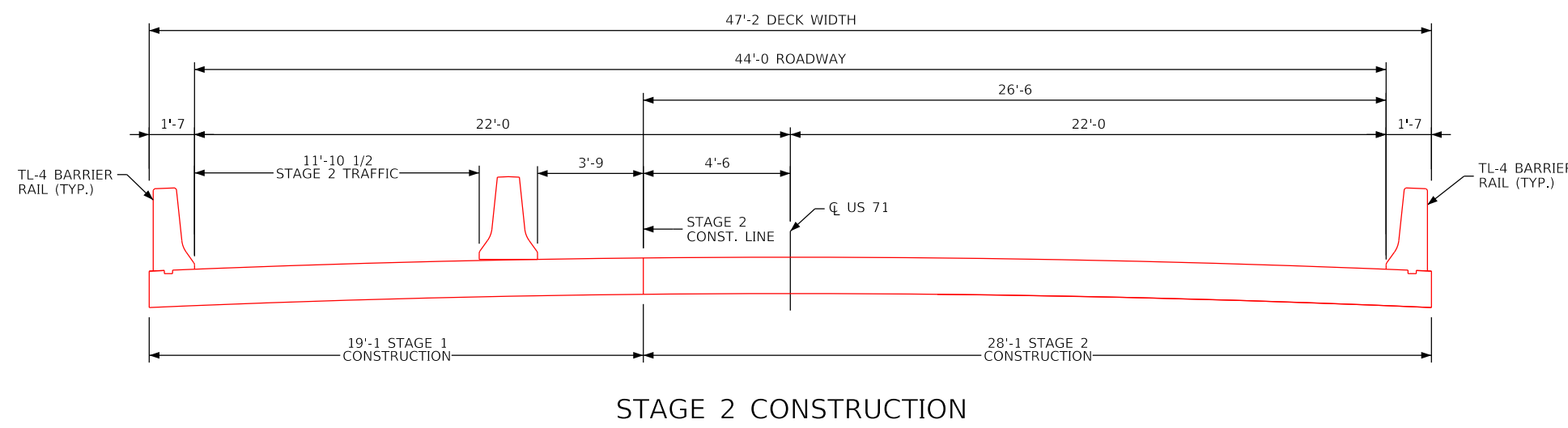
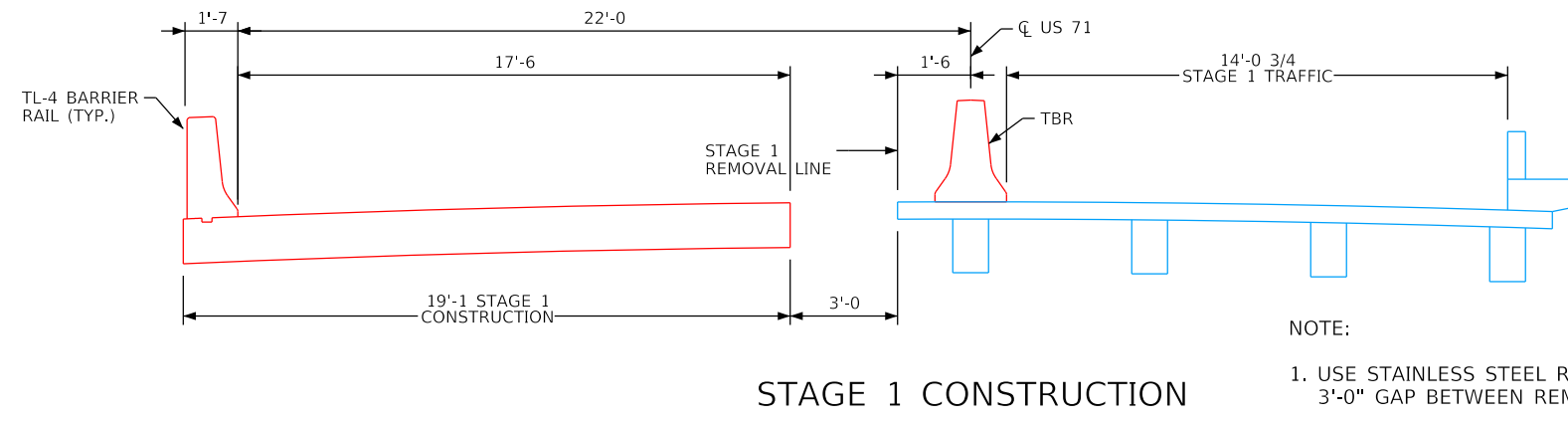
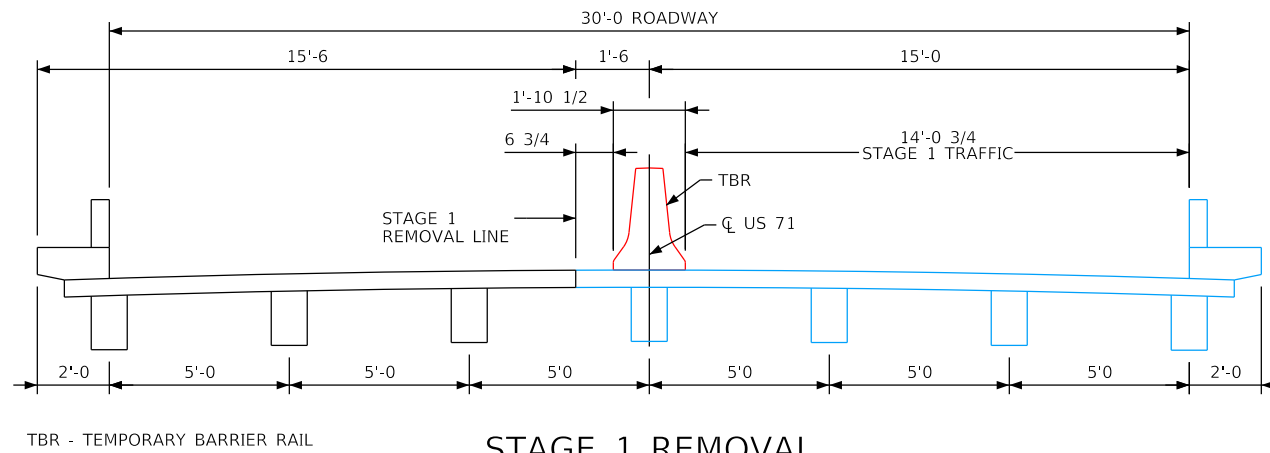
Berm slope elevations reflect the grading surface.

Estimated Berm Armoring Quantities

Location	Revetment CL. E (Ton)	Erosion Stone (Ton)	Engineering Fabric (SY)	Excavation (CY)
Berm Lining - South Abutment	539.0	47.4	660.7	366.1
Berm Lining - North Abutment	632.6	28.4	700.5	412.9
Totals	1171.6	75.8	1361.2	779.0

Excavation quantity calculated from grading surface.

Design For 0° Skew  
**110'-0 x 44'-0 CONTINUOUS  
 CONCRETE SLAB BRIDGE**  
 33'-6 End Spans 43'-0 Interior Span  
**SITUATION PLAN - SITE**  
 STA. 210+98.0 (U.S. 71) SEPTEMBER 2022  
**Audubon County**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. 0125 Design Sheet No. 002 of 003 FHWA No. 14091



Design For 0° Skew  
**110'-0 x 44'-0 CONTINUOUS CONCRETE SLAB BRIDGE**  
 33'-6 End Spans      43'-0 Interior Span  
**STAGE PLAN**  
 STA. 210+98.0 (U.S. 71)      SEPTEMBER 2022  
**Audubon County**  
 IOWA DEPARTMENT OF TRANSPORTATION  
 Design No. 0125      Design Sheet No. 003 of 003      FHWA No. 14091

FILE NO. 32268	ENGLISH	DESIGN TEAM SHIVE-HATTERY, INC.	AUDUBON	COUNTY	PROJECT NUMBER BRFN-071-4(55)--39-05	SHEET NUMBER V.3	REVISED
SYSTEMTIME	SYSTEMDATE	USERNAME	DGNSPEC	Changed by Addenda			



### CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature	Design Color No.	Feature
<b>Aggregate</b>			
(64)	Choke Stone	(112)	Noise Wall
(42)	Engineering Fabric	(112)	Noise Wall Footing
(8)	Flooded Backfill	(112)	Retaining Wall Back
(92)	Macadam Stone	(112)	Retaining Wall Back Excavate
(20)	Modified	(112)	Retaining Wall Face
(12)	Plowing Shaping	(112)	Retaining Wall Front Excavate
(14)	Porous Backfill	(112)	Retaining Wall Front Footing
(8)	Revetment Class A	(112)	Retaining Wall MSE Gutter
(6)	Revetment Class B	(112)	Retaining Wall Reinforced Earth
(62)	Revetment Class C		
(188)	Revetment Class D	<b>Grading</b>	
(28)	Revetment Class E	(8)	Behind Curb Cut
(12)	Shoulder Special Backfill	(6)	Granular
(12)	Special Backfill	(13)	Granular Back Fill
(20)	Subbase	(48)	Rock Undercut
(20)	Subbase Lower	(8)	Shoulder Earth Fill
(20)	Subbase Upper	(2)	Side Slopes
(118)	Subgrade Treatment	(226)	Side Slopes Dressing
<b>Asphalt</b>			
(207)	HMA Base Course	<b>Substrata</b>	
(207)	HMA Interim Course	(128)	Boulder Substrata
(207)	HMA Surface Course	(48)	Broken Weathered Substrata
<b>Concrete</b>			
(0)	Barrier Concrete	(3)	Core Out Substrata
(0)	Barrier Concrete Footing	(203)	Existing Pavement Substrata
(0)	Curb Gutter	(6)	Loam Substrata
(48)	Flowable Mortar	(80)	Rock Substrata
(0)	Median Concrete	(4)	Select Sand Substrata
(0)	PCC Pavement	(3)	Shale Substrata
(0)	Sidewalk	(10)	Topsoil Substrata
<b>Shoulder</b>			
(209)	Shoulder HMA	<b>Unsuitable / Waste</b>	
(0)	Shoulder PCC	(3)	Unsuitable Type A
(6)	Shoulder Granular	(13)	Unsuitable Type B
		(11)	Unsuitable Type C
		(3)	Waste
<b>Existing</b>			
(0)	Existing Pavement		

**NOTES:**

Text

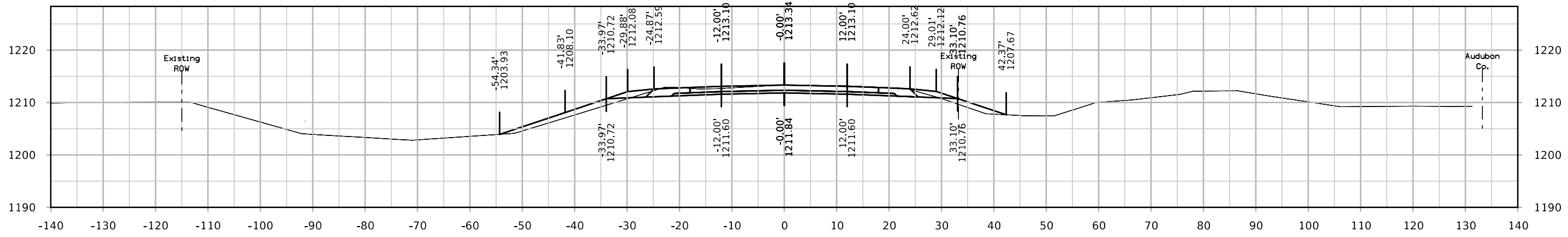
**NOTES:**

Text

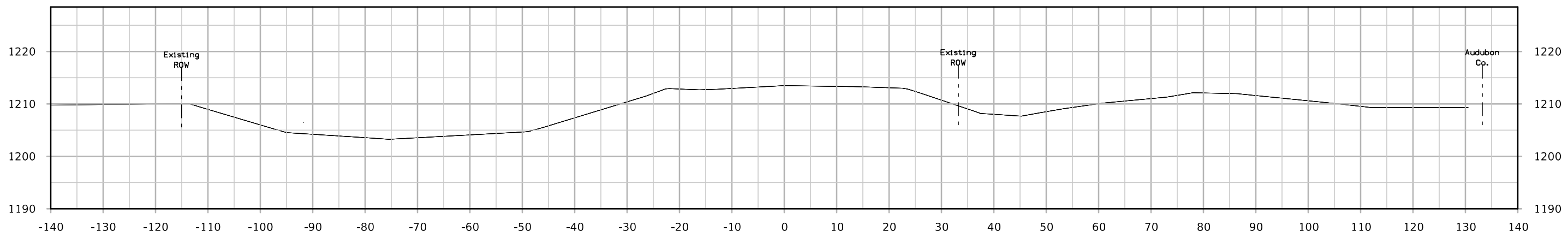
## CROSS SECTIONS LEGEND AND INFORMATION SHEET

(COVERS SHEET SERIES W, X, Y, & Z)

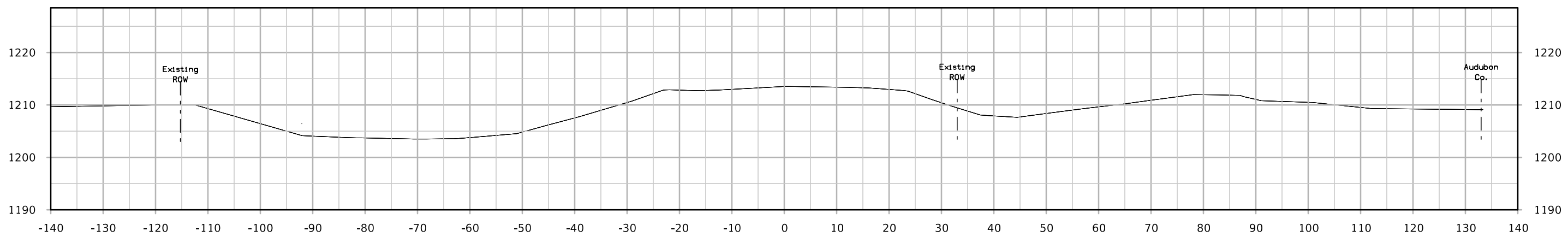




STA. 209+50.00



STA. 209+00.00



STA. 208+50.00

