

AUDUBON COUNTY

Bridge Replacement
BRF-071-4(57)--38-05

LETTING DATE
Jan 21, 2026



REVISIONS

TOTAL	
PROJECT IDENTIFICATION NUMBER	--
21-05-071-010	
PROJECT NUMBER	
BRF-071-4(57)--38-05	
R.O.W. PROJECT NUMBER	
NHSN-071-4(58)--2R-05	

INDEX OF SHEETS	
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
* D.2	US 71
G Sheets	Survey Sheets
G.1 - 3	Reference Ties and Bench Marks
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.1	Staging Notes Stage
* J.2 - 3	Stages 1 & 2
V Sheets	Bridge and Culvert Situation Plans
V.1	Bridge and Culvert Situation Plans
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 7	Mainline Cross Sections
	* Color Plan Sheets

H Sheets

PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
AUDUBON COUNTY
Bridge Replacement
Stream 0.6 Mi N of I-80

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



DESIGN DATA RURAL			
2026	AADT	2457	V.P.D.
2046	AADT	2570	V.P.D.
2046	DHV	270	V.P.H.
	TRUCKS	18	%
	Total		
	Design ESALs	--	

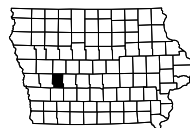
INDEX OF SEALS			
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	Michael J. Janecek	Primary Signature Block	X
V.1	Phillip M. Harpole	Hydraulic Design	X

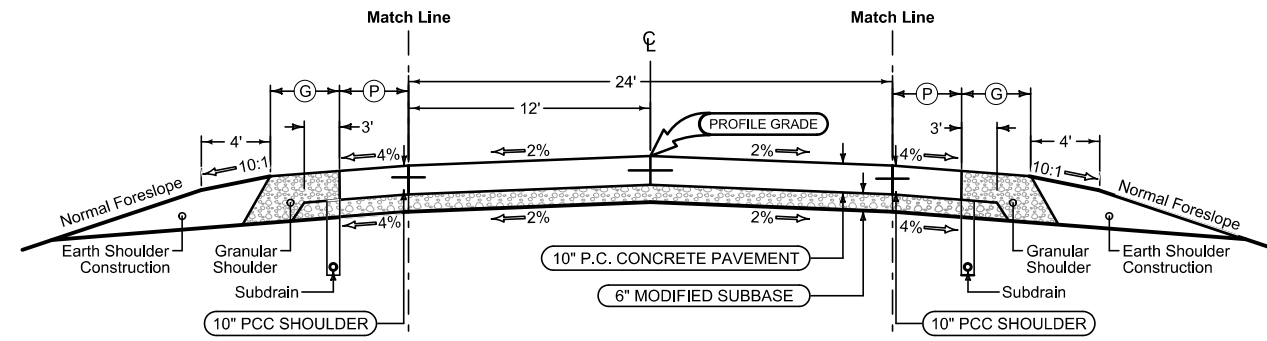
D4 PLAN - Sep 24, 2025

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Dec 1, 2023
(REVISED Feb 15, 2024)





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

2P_04-21-20	
STATION TO STATION	
8+34.45	11+14.52

Full Depth PCC Combination Shoulder

Shoulder Jointing:
 Longitudinal joint: BT-2, L-2 or KT-2
 Transverse joints: C at 17' spacing

2_C_FullPCC_04-20-21			
STATION TO STATION		(P) Feet	(G) Feet
7+00	11+64.5	6	4

Full Depth PCC Combination Shoulder

Shoulder Jointing:
 Longitudinal joint: BT-2, L-2 or KT-2
 Transverse joints: C at 17' spacing

2_C_FullPCC_04-20-21			
STATION TO STATION		(P) Feet	(G) Feet
8+34.45	11+14.52	6	4

SURVEY SYMBOLS

	Interstate Highway Symbol		Septic Tank
	U.S. Highway Symbol		Cistern
	Iowa Highway Symbol		L.P. Gas Tank (No Footing)
	County Road Highway Symbol		Underground Storage Tank
	Evergreen Tree		Latrine
	Deciduous Tree		Satellite TV Dish
	Fruit Tree		Water Hook Up
	Shrub (Bushes)		Radio Tower
	Timber		Tower Anchor
	Hedge		Guardrail (Beam or Cable)
	Stump		Guard Post (one or two)
	Swamp		Guard Post (over two)
	Rock Outcrop		Filler Pipe
	Broken Concrete		Gas Valve
	Revetment (Rip Rap)		Water Valve
	Cemetery		Speed Limit Sign
	Grave		Mile Marker Post
	Cave		Sign
	Sink Hole		Traffic Signal Control Box
	Board Fence		Rail Road Signal Control Box
	Chain Link or Security Fence		Telephone Switch Box
	Wire Fence		Electric Box
	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)		

UTILITY LEGEND SURVEYED UTILITY OWNER SYMBOLS

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

	FO1D1, Quality D
	FO2D2, ICN
	FO3D3, CENTURLINK - Quality D
	FO4D4, MARNE ELKHORN - Quality D
	PPA

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
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

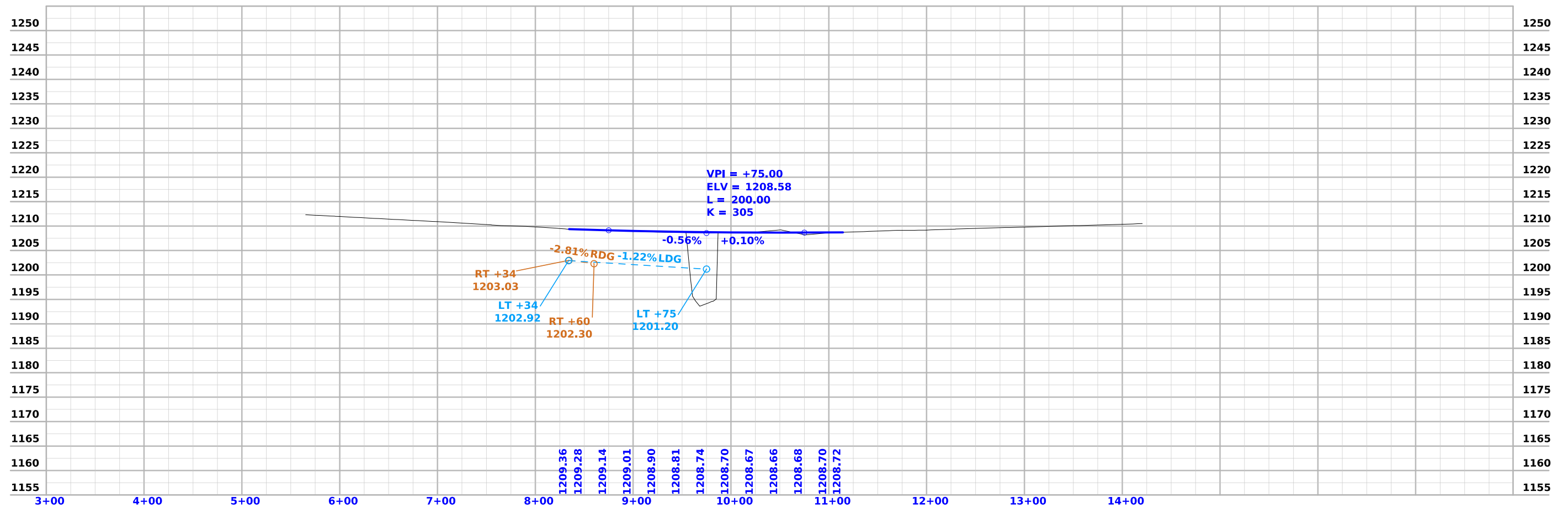
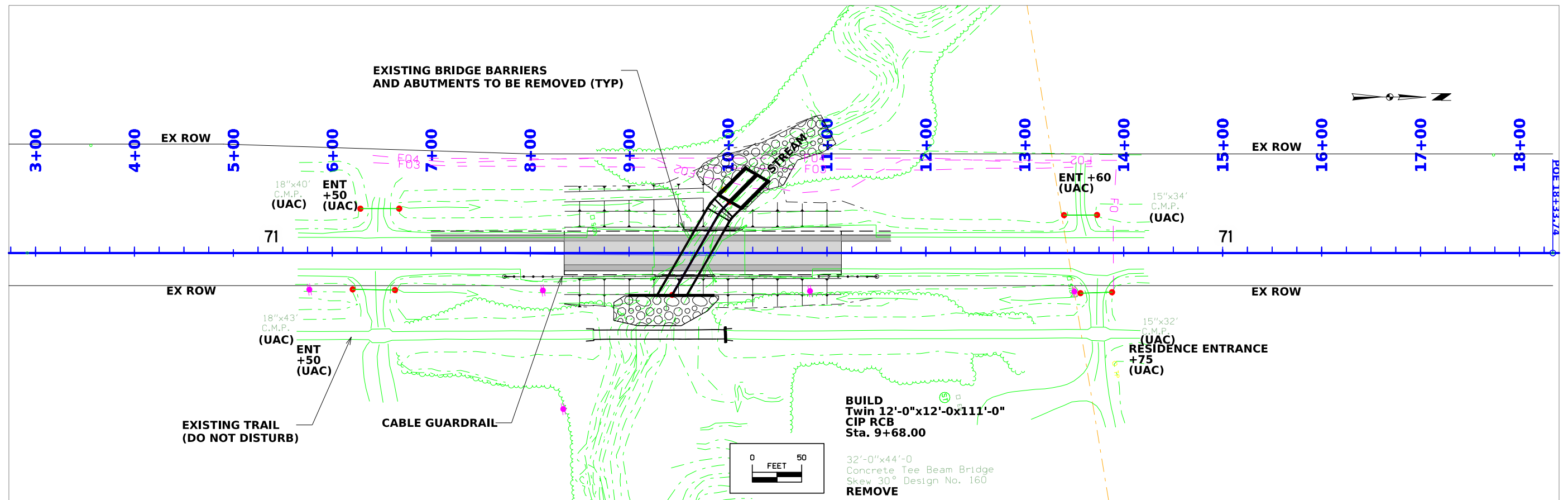
	Reference Point
	Station
	Section Corner
	Ground Line Intercept
	Saw Cut
	Guardrail
	Trench Drain
	HighTension Cable Guardrail
	Sheet Pile
	Pavement Removal
	Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

	Proposed Right-of-Way
	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: Audubon
PIN: 21-05-071-010
Project Number: BRF-071-4(57)--38-05
Location: Stream 0.6 mi N of I-80
Type of Work:
Project Directory: 0507101021

Survey Personnel

Murray Berting – PLS
Gavin Gear – Land Survey Technician

Date(s) of Survey

Begin Date 11/28/2022
End Date 03/31/2023

General Information

Measurement units for this survey are US survey feet. This survey is for proposed bridge reconstruction and reconstruction of State Highway 71 0.6 mi North of Interstate 80. Project datum and control information is provided by Shive-Hattery Inc. This project is a Preliminary Survey. This survey request was for the bridge over the stream, State Highway 71 corridor, adjacent trail structure (T-Bone Recreational Trail) and the drainage area.

Project Control

Nearby Iowa Real Time Network reference stations were utilized to obtain horizontal and vertical control on primary project control points. (3) three-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.

PROJECT DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 ADJUSTMENT)
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 07
(U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2012bu2

Alignment Information

The horizontal alignment for U.S. Hwy 71 this survey is a retrace of As-built Plans No. HSIPX-071-4(50)-3L-05. Survey stationing was equated to the plan POT at Sta. 2+91.52 and run back and ahead without equation throughout the survey.

Survey stationing relates to as built plan stationing as follows:

POT Sta. 2+91.52 As-built Plans Project No. HSIPX-071-4(50)-3L-05
Survey POT Sta. 2+91.52

POT Sta. 18+33.40 As-built Plans Project HSIPX-071-4(50)-3L-05
Survey POT Sta. 18+33.59

POT Sta. 26+87.26 As-built Plans Project No. HSIPX-071-4(50)-3L-05
Survey POT Sta. 26+87.50

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) for EPOCH 2010.00 (IaRTN 2019 Adjustment) - Iowa RCS Zone 07 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2012bu2

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

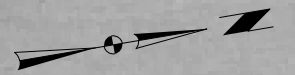
HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING
 HORIZ. DATUM: NAD83(2011) for EPOCH 2010.00 (IaRTN 2019 Adjustment)
 Ia. Regional Coordinate System Zone 07 (U.S. Survey Foot)
 VERT. DATUM: NAVD88
 Geoid Model: 2012bu2

POINT NAME	NORTHING	EASTING	ELEVATION	FEATURE DEFINITION
501	7259155.071	17415201	1214.042333	CP 1/2" IR CONC MON
502	7259046.199	17415183	1214.373	CP 1/2" IR CONC MON
503	7257650.076	17414935	1211.480333	CP 1/2" IR CONC MON
504	7257524.024	17415084	1214.161	CP 1/2" IR CONC MON

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

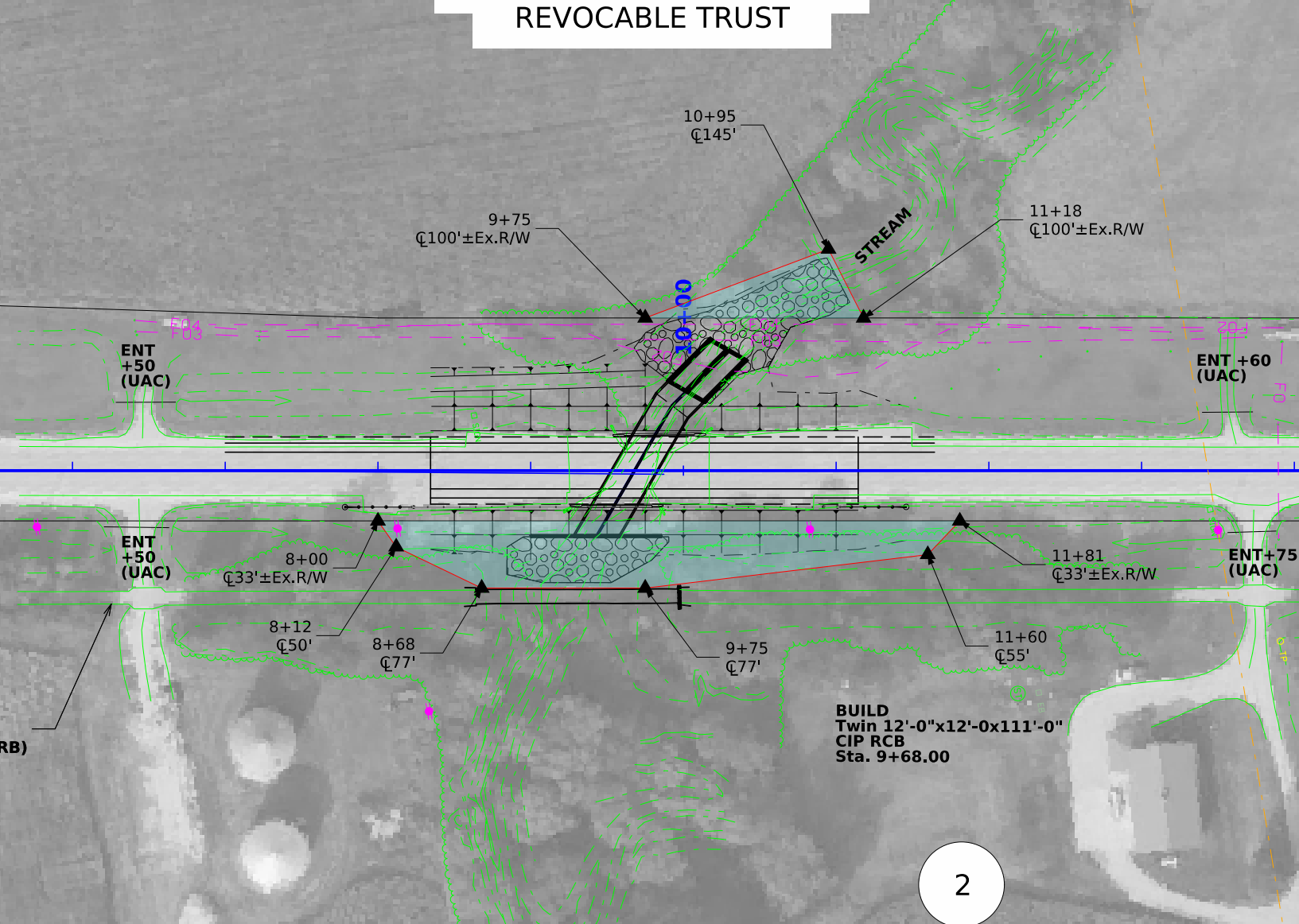
ACCESS CONTROL PREVIOUSLY ACQUIRED.

Oakfield Twp.
1-78N R. 35W
SEC. 9E



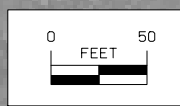
1

WILLIAM & DEBRA HAND
REVOCABLE TRUST



2

AUDUBON COUNTY



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: FREDRICKSON / CUVA	
ROW #: NHSN-071-4(058)-2R-05	
Plan Date: 03/01/2024	
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 with new RCB, traffic shall be maintained on US 71 at all times by staged construction with temporary signals allowing one lane of traffic. (TC-217)

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

108-26A
08-01-08

STAGING NOTES

Stage 1:
Place temporary pavement. Route traffic on US 71 NB lane. Construct culvert inlet and associated paving.

Stage 2:
Route traffic on US 71 SB lane and temporary pavement. Construct northbound lane, guardrail, and remainder of culvert.

Stage 3:
Route traffic on US 71 NB lane. Place remainder of southbound pavement, cut down shoulders to final width and remove temporary grading on foreslopes.

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 Stream, 0.6 Mi N of I-80	Stream	Bridge		Width			11'-0		

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	

COORDINATE WITH PROPERTY OWNER FOR
FIELD ACCESS IF NEEDED



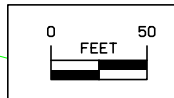
FIELD ENTRANCE
(CLOSED DURING CONSTRUCTION)

FIELD ENTRANCE
(CLOSED DURING CONSTRUCTION)

FIELD ENTRANCE
(CLOSED DURING CONSTRUCTION)

RESIDENCE ACCESS
RIGHT OUT ONLY?

STAGE 1
12' CLEARANCE
(TC-217)



ST00

4+00

5+00

6+00

7+00

8+00

9+00

10+00

11+00

12+00

13+00

14+00

15+00

16+00

17+00

18+00

71

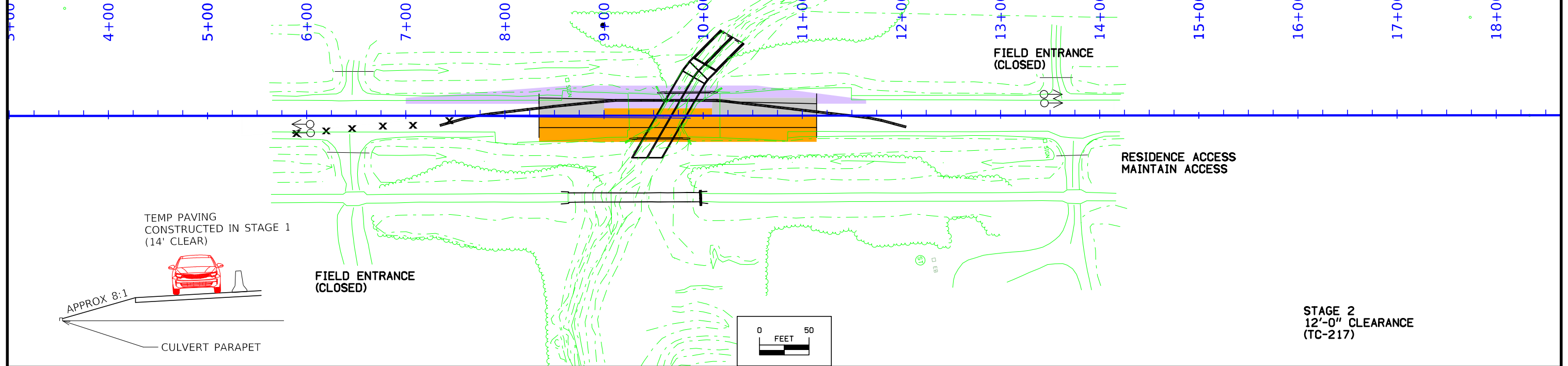
71

COORDINATE WITH PROPERTY OWNERS
FOR FIELD ENTRANCE ACCESS AS NEEDED



FIELD ENTRANCE
(CLOSED)

CUT SHOULDER TO FINISHED WIDTH 6' PAVED, 4' GRAN DURING STAGE 3



TEMP PAVING
CONSTRUCTED IN STAGE 1
(14' CLEAR)



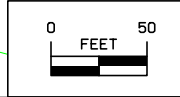
APPROX 8:1

CULVERT PARAPET

FIELD ENTRANCE
(CLOSED)

FIELD ENTRANCE
(CLOSED)

RESIDENCE ACCESS
MAINTAIN ACCESS



STAGE 2
12'-0" CLEARANCE
(TC-217)

CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature	Design Color No.	Feature
Aggregate			
(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	Grading	
(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
Asphalt			
(207)	HMA Base Course	Substrata	
(207)	HMA Interim Course	(128)	Boulder Substrata
(207)	HMA Surface Course	(48)	Broken Weathered Substrata
Concrete			
(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
Shoulder			
(209)	Shoulder HMA	Unsuitable / Waste	
(0)	Shoulder PCC	(3)	Unsuitable Type A
(6)	Shoulder Granular	(13)	Unsuitable Type B
		(11)	Unsuitable Type C
		(3)	Waste
Existing			
(0)	Existing Pavement		

NOTES:

Text

NOTES:

Text

CROSS SECTIONS LEGEND AND INFORMATION SHEET

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

