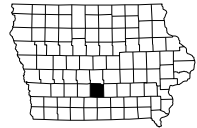


WARREN CO.
BRIDGE REPLACEMENT - PPCB
BRF-065-3(83)--38-91
 LETTING DATE
12-19-2023



INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 2	Typical Cross Sections and Details
C Sheets	Quantities and General Information
C.1	Standard Road Plans
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 5	US 65
G Sheets	Survey Sheets
G.1 - 3	Reference Ties and Bench Marks
G.4	Horizontal Control Tab. for all Alignments
J Sheets	Traffic Control and Staging Sheets
* J.1	Traffic Control Plan
* J.2 - 3	Staging and Traffic Control
R Sheets	Erosion Control Sheets
RC.1 - 3	Est. Quantities, PPP, General Notes and Tabulations
* RR.1	Erosion Control Legend and Symbol Information Sheet
* RR.2 - 5	Drainage Basin and Erosion Control Device Maps
V Sheets	Bridge Situation Plans
* V.1 - 2	Bridge Situation/Site Plans
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 4	US 65
* Color Plan Sheets	

H Sheets



PLANS OF PROPOSED IMPROVEMENT ON THE
PRIMARY ROAD SYSTEM
WARREN COUNTY
BRIDGE REPLACEMENT - PPCB

US 65 over Otter Creek, 1.6 miles south of County Rd G58

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
31
PROJECT IDENTIFICATION NUMBER
19-91-065-010
PROJECT NUMBER
BRF-065-3(83)--38-91
R.O.W. PROJECT NUMBER

DESIGN ACTIVITIES			
	DUE DATE	EVENT	DATE COMPLETED
D02	6/18/2021	Field Exam	7/16/2021
D03	7/16/2021	Drainage Submittal	8/8/2021
B01	10/15/2021	Bridge Submittal	11/18/2021
D05	11/19/2021	ROW Submittal	----

DESIGN DATA RURAL			
2016	AADT	2360	V.P.D.
2044	AADT	3040	V.P.D.
2044	DHV	314	V.P.H.
	TRUCKS	13	%
Total			
	Design ESALs	2,866,000	

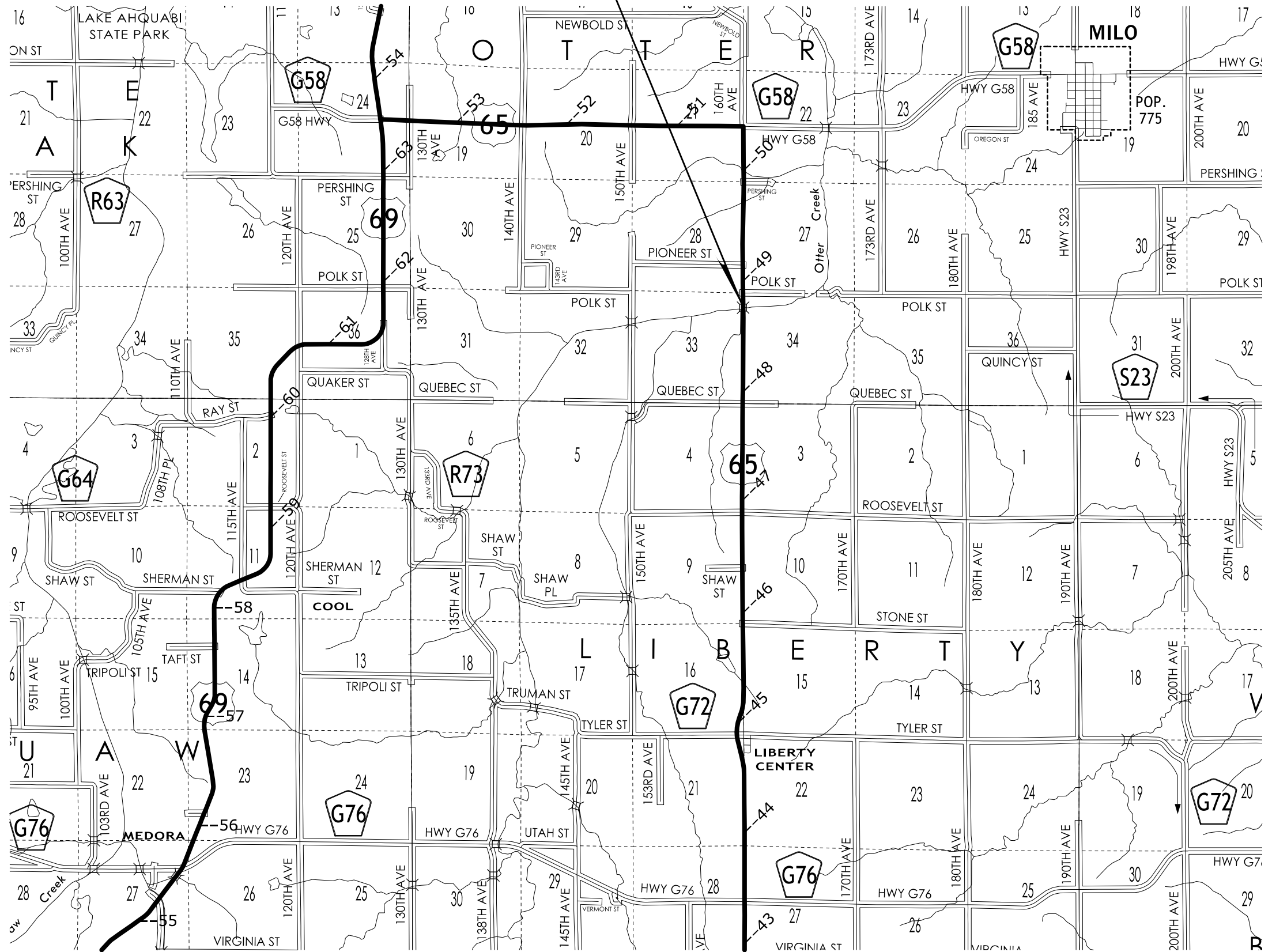
INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	X	Primary Signature Block

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN – Date: Dec. 22, 2021

US 65 BRIDGE REPLACEMENT
 FHWA NO. 050881
 STA. 401+44.00

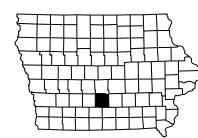
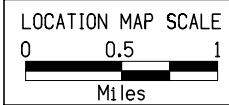


T-75N

T-74N

R-24W

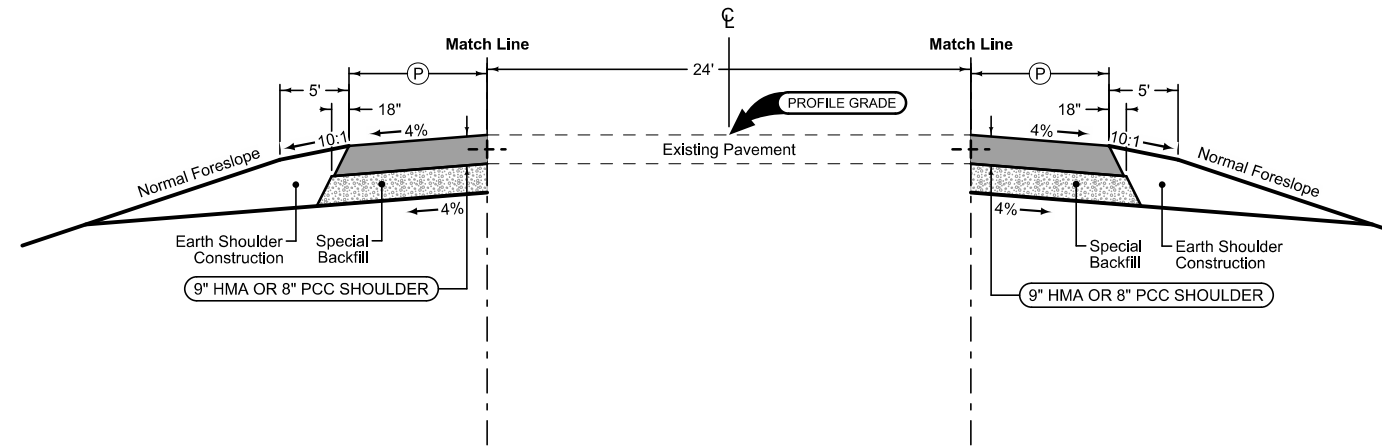
R-23W



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		
STATION TO STATION	(P)	Feet
398+72.58	398+89.60	13.9
398+89.60	399+33.37	13.9-12.1
403+48.87	403+89.37	11.6
403+89.37	404+44.00	11.6-13.8
404+44.00	404+64.00	13.8



Paved Shoulder at Guardrail

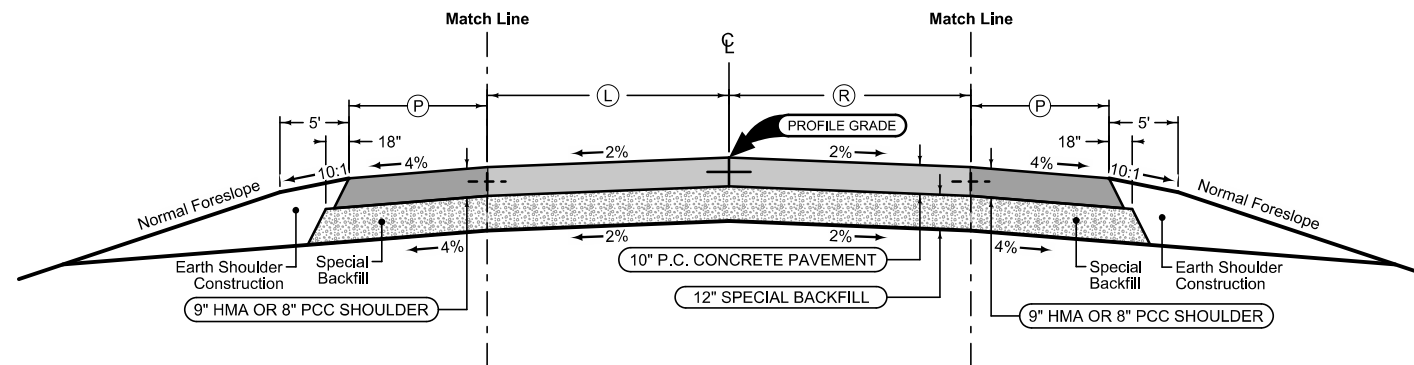
PCC Shoulder Jointing:
 Longitudinal joint: BT-1 or BT-5
 Transverse joints: C at mainline spacing
 HMA Shoulder Jointing:
 Longitudinal joint: B

2_P_Guard_04-21-20		
STATION TO STATION	(P)	Feet
398+23.76	398+43.76	13.6
398+43.76	398+93.96	13.6-11.6
398+93.96	399+33.37	11.6
403+48.87	403+94.15	11.8-13.6
403+94.15	404+14.15	13.6

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		
STATION TO STATION	(P)	Feet
399+33.37	399+46.80	12.1-11.6
399+46.80	399+52.99	11.6
403+35.00	403+48.87	11.6



THICKNESSES SHOWN FOR THROUGH LANES ARE FOR STND/S-F PC CONCRETE PAVEMENT. FOR AREAS NOTED AS BR-203 APPROACH PAVEMENT, REFER TO STANDARD ROAD PLAN BR-203 FOR DETAILS OF PAVEMENT SECTION.

Mainline Jointing:
 STND/SF PC CONCRETE PAVEMENT
 Transverse joints: CD at 17' spacing
 Longitudinal joint: L-2
 BR-203 APPROACH PAVEMENT
 Match Jointing per SRP BR-203

2P_04-21-20				
STATION TO STATION	(L)	(R)		
	Feet	Feet		
399+33.37	399+52.99	12	12	STND/S-F PC CONCRETE PAVEMENT
399+52.99	400+22.99	23.6	23.6	BR-203 APPROACH PAVEMENT
402+65.00	403+35.00	23.6	23.6	BR-203 APPROACH PAVEMENT
403+35.00	403+48.87	12	12	STND/S-F PC CONCRETE PAVEMENT

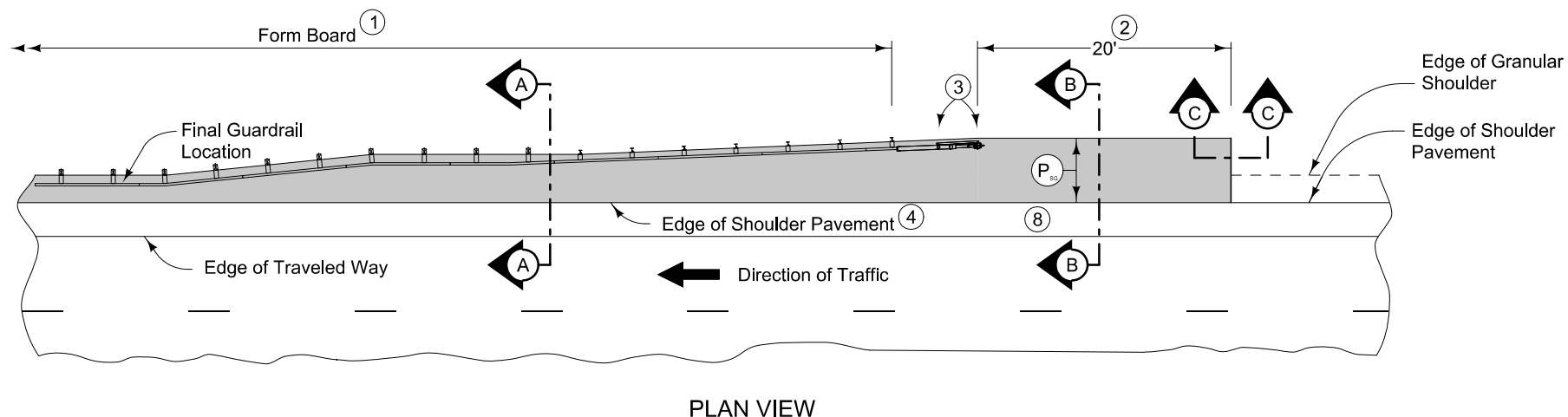
See Sheet B.2 for "Paved Shoulder at Guardrail" Details

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		
STATION TO STATION	(P)	Feet
399+33.37	399+52.99	11.6
403+35.00	403+42.49	11.6
403+42.49	403+48.87	11.6-11.8

US 65



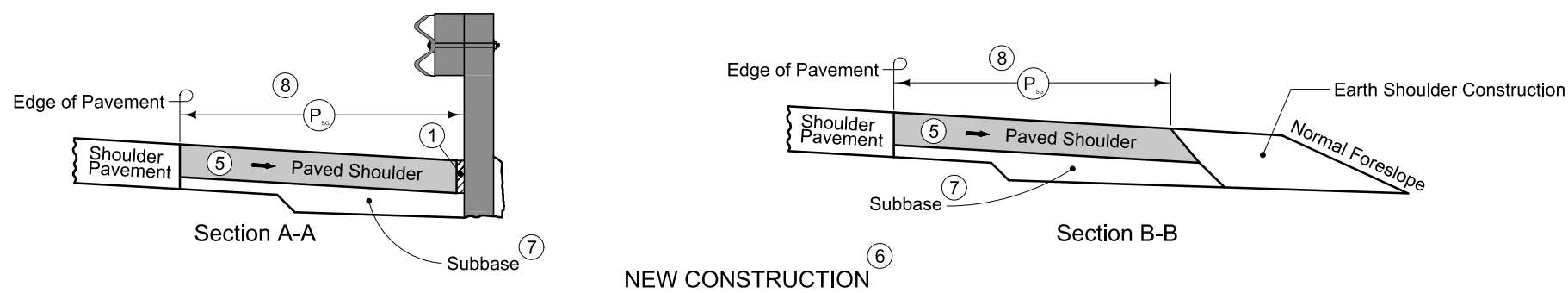
9" HMA Paved Shoulder at guardrail. 8" PCC may be substituted with the following jointing layout:

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.

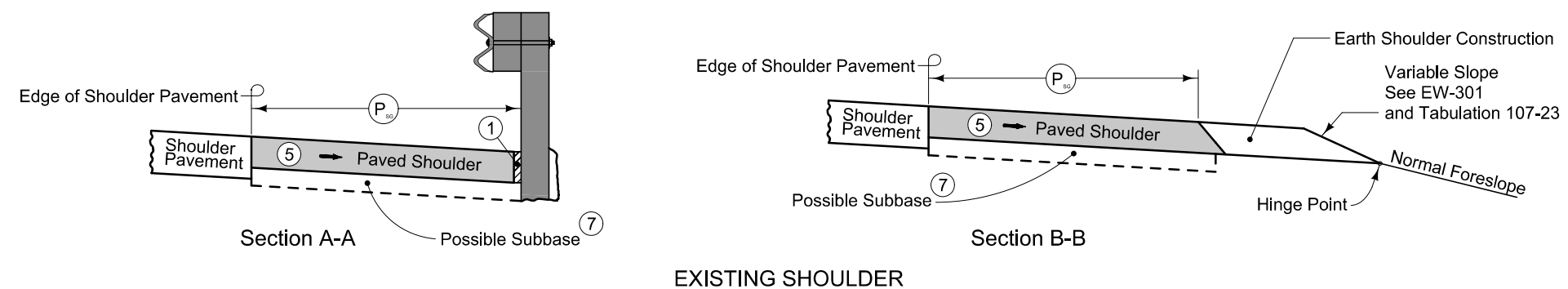
Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail. Removal and reinstallation of guardrail will be allowed with no additional payment.

Refer to Tabulation 112-9 for shoulder quantities.

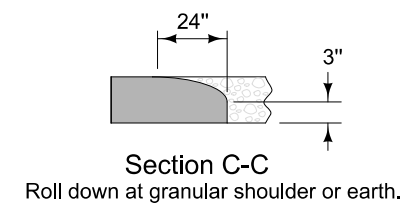
- ① PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.
- ② Continue paved shoulder 20 feet beyond the center of the first post.
- ③ Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.
- ④ 'KT-1 joint for PCC shoulder. 'B' joint for HMA shoulder.
- ⑤ Match shoulder slope.
- ⑥ The Contractor has the option to pave the paved shoulder at guardrail and the partial width paved shoulder as one operation.
- ⑦ Refer to other details in the plan.
- ⑧ P is based on 8" block is used for BA-205 and BA-225 end terminals and P will need to be reduced by 4 inches when BA-205 and BA-225 are specified.



NEW CONSTRUCTION



EXISTING SHOULDER



PAVED SHOULDER AT GUARDRAIL (ADJACENT TO PARTIAL WIDTH PAVED SHOULDER)

100-1D
10-18-05

PROJECT DESCRIPTION

This project involves the replacement of the US 65 bridge over Otter Creek, 1.6 miles south of south junction of County Road G58. Associated roadway items are included with this project as detailed in these plans.

100-0A
10-28-97

**ESTIMATED ROADWAY QUANTITIES
(1 DIVISION PROJECT)**

Item No.	Item Code	Item	Unit	Total	As Built Qty.

105-4
10-18-11

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
BA-200	04-20-21	Steel Beam Guardrail Components
BA-201	04-18-17	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-15	Steel Beam Guardrail Bolted End Anchor
BA-205	10-19-21	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-250	04-20-21	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BR-203	10-19-21	Double Reinforced 12" Approach
BR-211	10-19-21	Bridge Approach (Abutting PCC or Composite Pavement)
DR-303	10-17-17	Subdrains (Longitudinal)
DR-306	10-16-18	Precast Concrete Headwall for Subdrain Outlets
DR-402	10-15-19	Rock Flume for Bridge End Drain
EC-101	04-19-16	Wood Excelsior Mat for Ditch Protection
EC-103	04-21-15	Wood Excelsior Mat for Slope Protection
EC-201	04-20-21	Silt Fence
EC-202	10-21-14	Floating Silt Curtain
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-303	10-19-21	Stabilized Construction Entrance
EC-502	04-21-15	Seeding in Rural Areas
EW-202	04-19-16	Bridge Berm Grading without Recoverable Slope (Non-Barnroof Section)
EW-301	04-20-21	Guardrail Grading
EW-401	10-20-15	Temporary Stream Crossing, Causeway, or Equipment Pad
PM-110	04-21-20	Line Types
PM-111	04-21-20	Symbols and Legends
PV-101	04-21-20	Joints
PV-102	04-21-20	PCC Curb Details
SI-172	04-19-16	Delineators
SI-173	04-19-16	Object Markers
SI-211	10-18-16	Object Marker and Delineator Placement with Guardrail
SI-881	04-16-19	Special Signs for Workzones
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	10-19-21	Work Within 15 ft of Traveled Way
TC-252	04-21-20	Routes Closed to Traffic

SURVEY SYMBOLS

- CP Control Point
 - ▲ SCR Section Corner
 - ⊕ SEP Septic Tank
 - OUT Tile Outlet
 - ⚡ PPA Midamerican Electric
 - ⊕ TW Top of Water
 - △ ROW Right of Way Mark
 - SIGN
 - △ SI Sign
 - △ BM Bench Mark
 - ⊙ MM Mile Marker Post
-
- C Centerline BL of Road (ML or SR)
 - BNK Stream Bank
 - TLNR Tree Line Right
 - FW Wire Fence
 - TLNL Tree Line Left
 - ROC Gravel Pile Extents
 - CON Concrete or A/C Slab
 - RET Retaining Walls
 - RIP Rip-Rap
 - GDL Guard Rail Steel
 - BRG Bridge
 - BL Topo Breakline
 - D Centerline Draw or Stream
 - SNP Unpaved Shoulder
 - SH Paved Shoulder
 - EP Edge of Paved Roads (ML or SR)
 - PIP Pipe Culvert

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

- W(C) WL1C, Warren Water District - Quality C
 Stan Ripperger, System Manager
 1204 East 2nd Avenue
 Indianola, IA 50125
 515-962-1200

- FO(C) FO1C, Windstream Communications - Quality C
 (attached to power poles)
 Mark Hussman, Construction Manager
 9850 M St.
 Omaha, NE 68127
 402-827-6355

- T1(C) TL1C, Mediacom Communications - Quality C
 Kevin Collins, Construction Supervisor
 2205 Ingersoll Ave
 Des Moines, IA 50312
 515-246-1890 Ext. 6668

- ⚡ PPA, MidAmerican Energy Co., Electric
 Jordan Hohensee, Customer Project Coordinator
 3500 104th St.
 Urbandale, IA 50322
 515-242-4235

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.		
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
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
- ▲ 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
- C/A Access Control
- Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D)

Otter TWP.
T-75N R-23W
SEC. 33

- Notes:
1. BR-203, 70 ft Standard Bridge Approach
 2. Extend Pavement Reconstruction To Eliminate Second EF Joint.
 3. DR-402, Rock Flume (Class E Revetment)

Temp. Easement Needed for
Clearing & Grubbing?

Clear &
Grub

Existing ROW

W(C)

W(C)

W(C)

W(C)

FO(C)

FO(C)

FO(C)

395

396

397

398

399

400

Steel Beam
Guardrail

Note 1

End Curb

Clear &
Grub

US 65
(ML065)

Note 2

SIGN

Sta. 398+23.77
Begin Construction

Steel Beam
Guardrail

End Curb

Note 3

Clear &
Grub

T1(C)

T1(C)

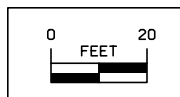
Existing ROW

T1(C)

MIN

T1(C)

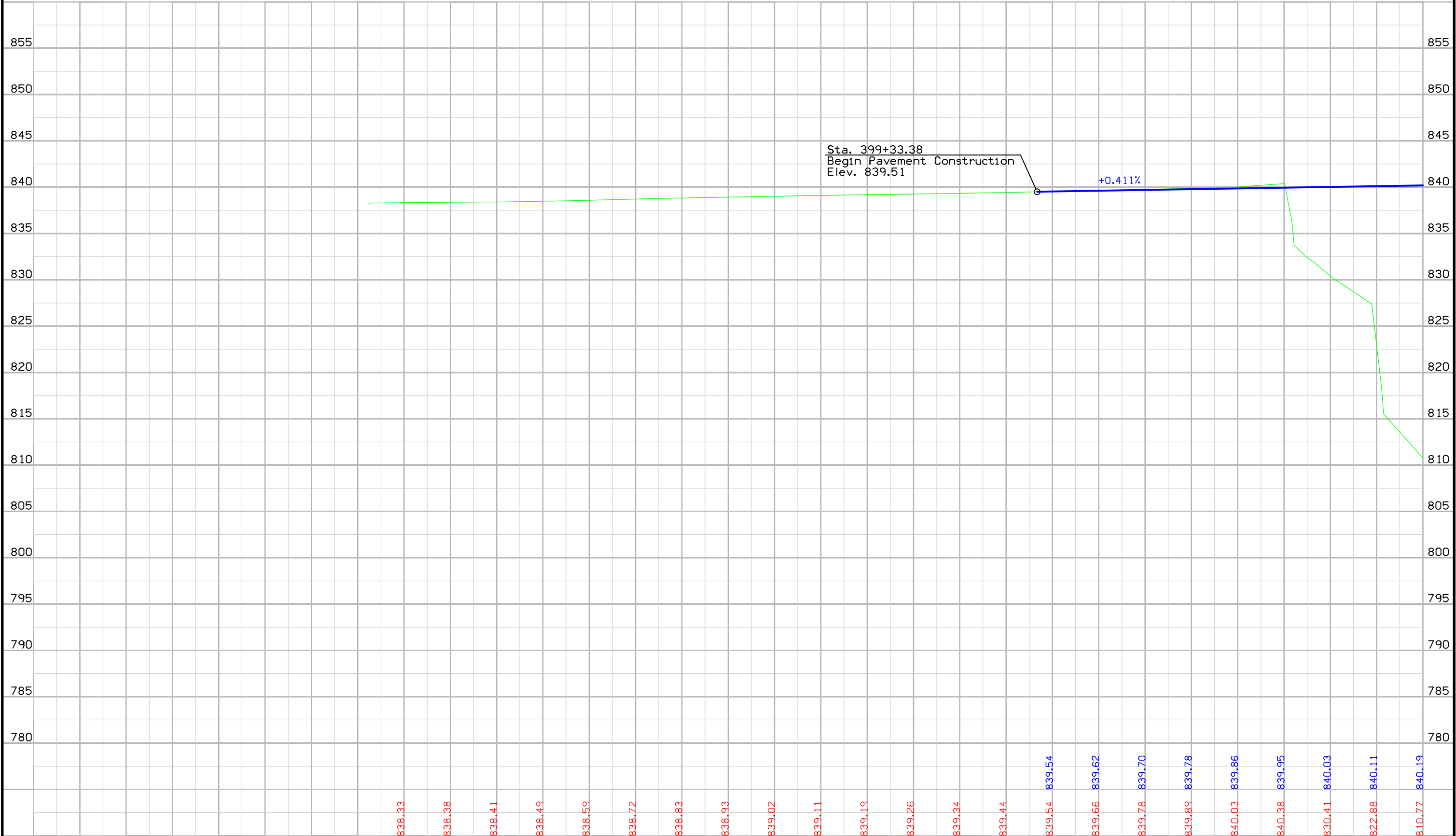
Otter TWP.
T-75N R-23W
SEC. 34



For Profile Details
Refer to Sheet No. D.3

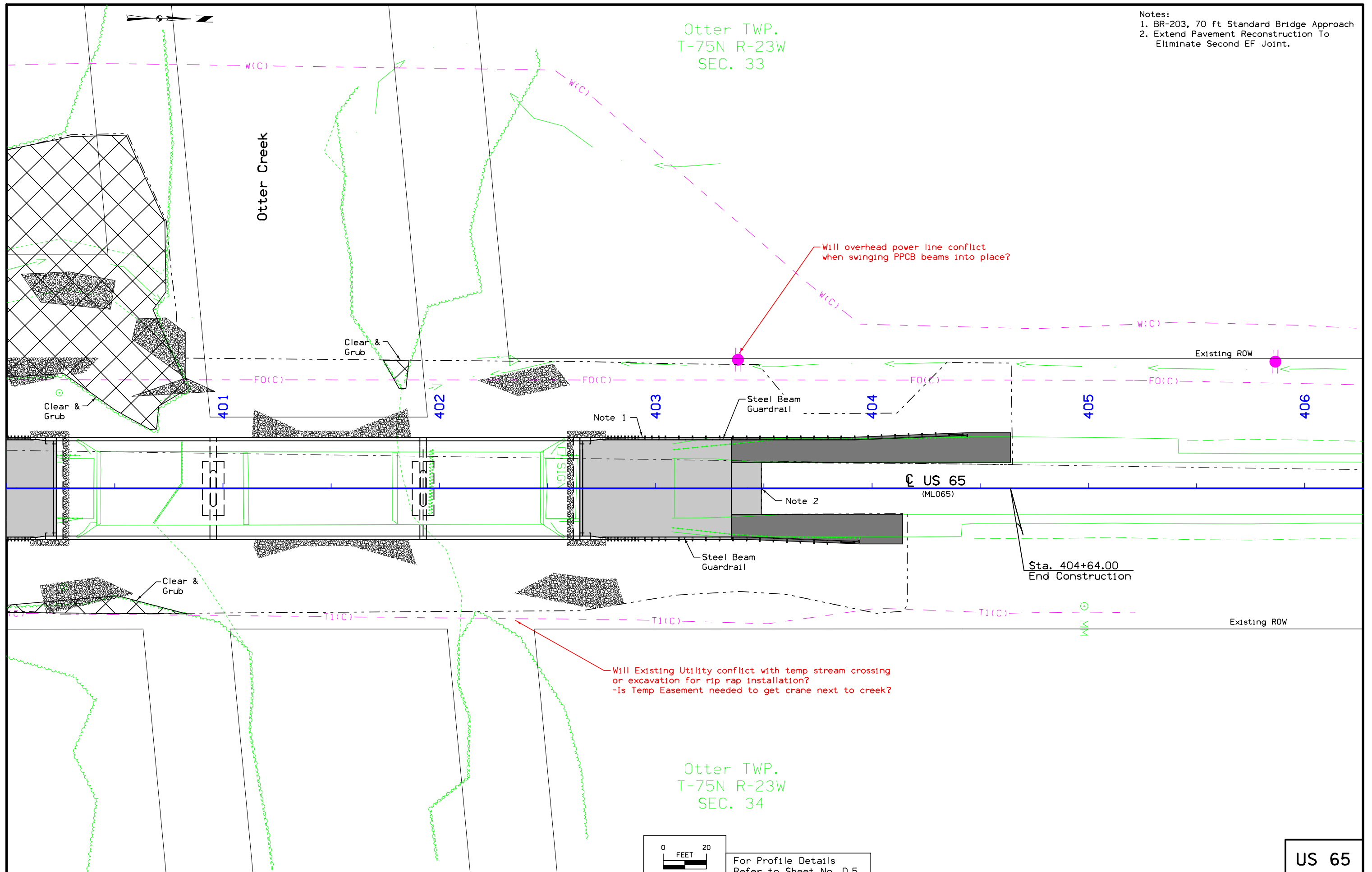
US 65

For Plan Details
Refer to Sheet No. D.2

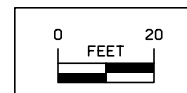


- Notes:
 1. BR-203, 70 ft Standard Bridge Approach
 2. Extend Pavement Reconstruction To Eliminate Second EF Joint.

Otter TWP.
 T-75N R-23W
 SEC. 33



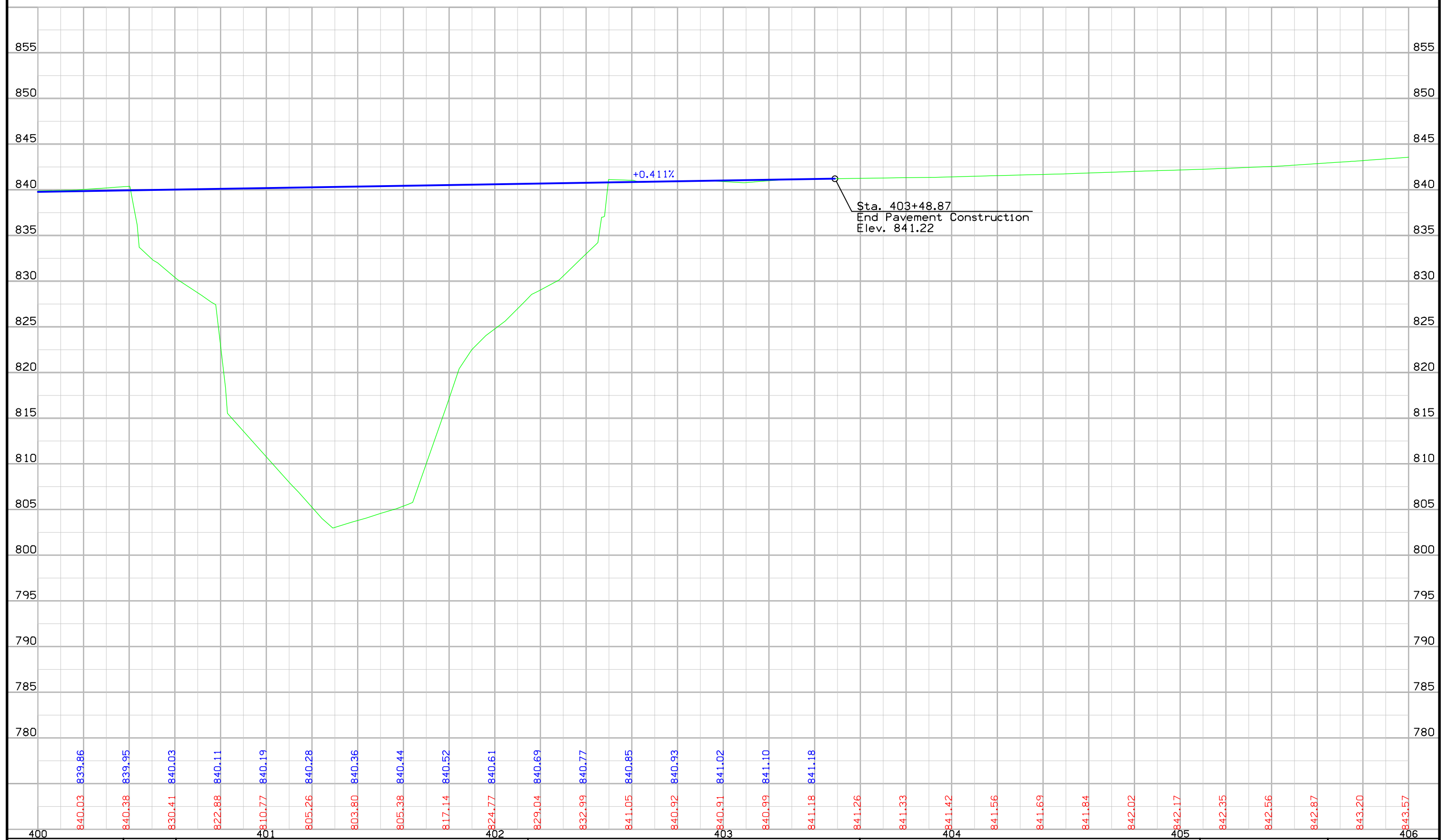
Otter TWP.
 T-75N R-23W
 SEC. 34



For Profile Details
 Refer to Sheet No. D.5

US 65

For Plan Details
Refer to Sheet No. D.4



Survey Information

**WARREN COUNTY
BRF-065-3(83)—38-91
OTTER CREEK BRIDGE
OTTER TWP, IOWA
PIN# - 19-91-065-010**

Contact Information

Fieldwork performed by: Martin & Whitacre, Surveyors & Engineers, Inc.
1508 Bidwell Road
Muscatine, IA 52761
POC: Matt Krause, P.L.S. 563-263-7691
EMAIL: MKRAUSE@MARTIN-WHITACRE.COM

Survey Data Submitted to: Stanley Consultants
225 Iowa Ave.
Muscatine, IA 52761
POC: Tony Bower
EMAIL: bowertony@stanleygroup.com

Party Personnel

Project Manager - Matt Krause, PLS
Party Chief - Mike Sandsness
Rodman - Eric Allison

Date(s) of Survey

Begin Date	June 15, 2020
End Date	June 28, 2020

General Information

This survey was completed to provide topographic survey information for the design of a new bridge over Otter Creek in Otter TWP, Iowa.

Horizontal Control

The coordinate system used is NAD83(2011) (Epoch 2010.00) Iowa Regional Coordinate System Zone 8 – Ames-Des Moines, U. S. Survey Feet.

Did not check into any existing GPS Control points due to closest monument being more than 10 miles from project. Six on-site control points were set on the north and south sides of the creek. Three on each side of the bridge. The six on-site control points were observed with GPS for 3 minute windows on 2 separate occasions, with appropriate time spans in-between, using the Iowa RTN. All new Control Points were held at the observed Horizontal Positions.

Vertical Control

The vertical datum used is NAVD88 computed from GPS Observations and Geoid 12A.

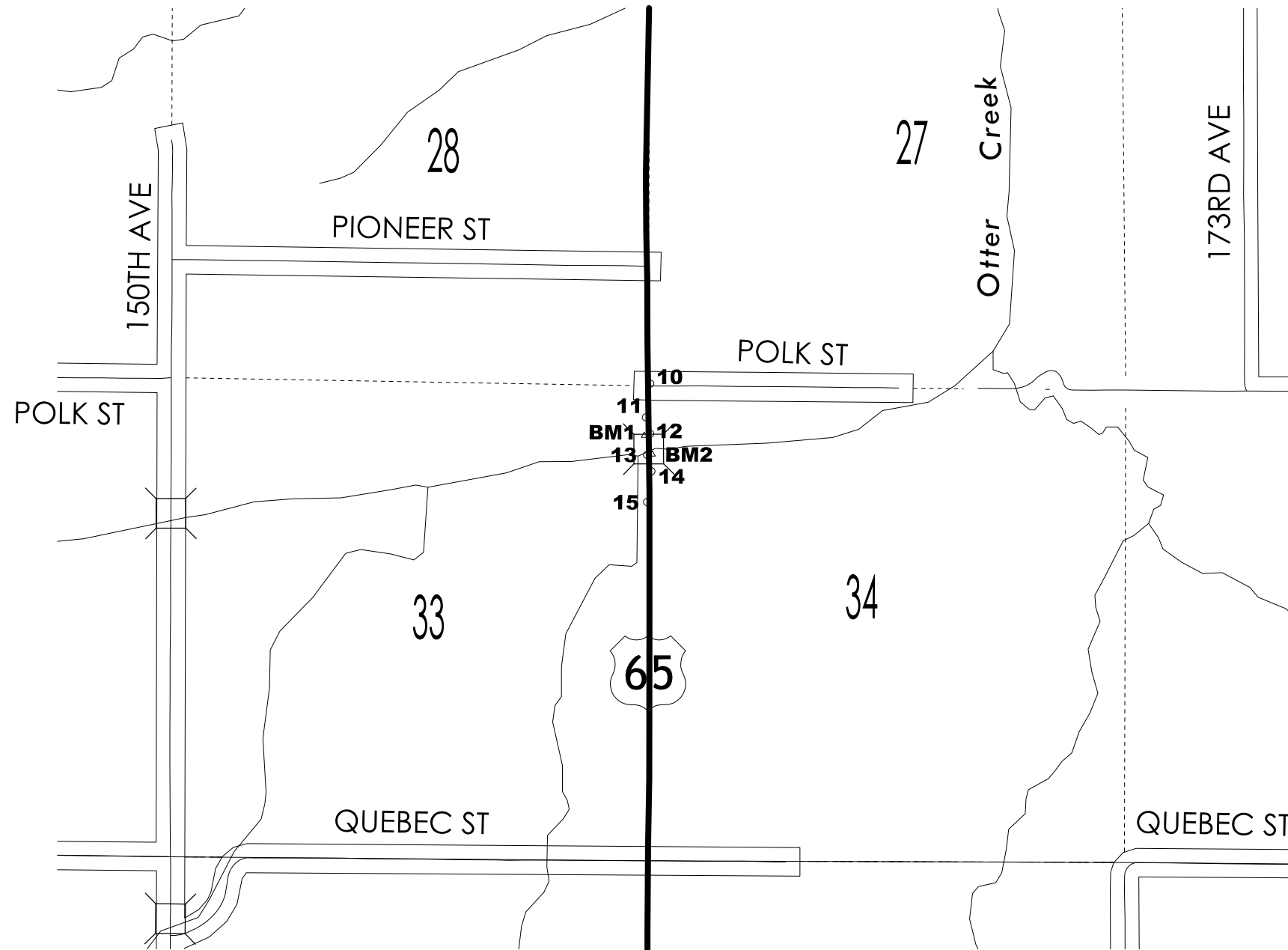
No existing Benchmarks were observed due to nearest monument more than 10 miles from the project. The observed GPS elevations were held at 6 on-site control points based on the average differences between the Observed GPS elevations and leveled elevations. Elevations were then computed for the new benchmarks based on the differential levels. The maximum error of closure for all loops was .00'.

Alignment Information

No horizontal alignments for the existing roadways were computed for this 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

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

Ia. Regional Coordinate System Zone 8

Point #	Northing	Easting	Elevation	Description
10	7,369,053.630	18,559,494.823	849.60	1/2"x36" REBAR, NORTH SIDE POLK ST, IN EAST SIDE HWY65 IN GRAVEL
11	7,368,677.186	18,559,447.509	840.92	1/2"x36" REBAR, WEST SIDE OF HWY65, AT END OF GUARDRAIL IN GRAVEL
12	7,368,496.329	18,559,496.057	840.83	1/2"x36" REBAR, EAST SIDE OF HWY65, 9' NORTH OF NE BRIDGE WINGWALL
13	7,368,260.600	18,559,461.161	839.54	1/2"x36" REBAR, WEST SIDE OF HWY65, 10' SOUTH OF SW BRIDGE WINGWALL
14	7,368,076.440	18,559,509.062	838.50	1/2"x36" REBAR, EAST SIDE OF HWY65, 3' SOUTH OF GAURDRAIL IN GRAVEL
15	7,367,735.098	18,559,460.157	836.81	1/2"x36" REBAR, WEST SIDE OF HWY65, SOUTH EDGE OF GRAVEL FIELD DRIVE
BM 1	7,368,485.387	18,559,463.085	843.82	CUT "X" IN TOP OF WHEEL BARRIER WALL AT NW CORNER OF BRIDGE
BM 2	7,368,275.352	18,559,495.774	842.95	CUT "X" IN TOP OF WHEEL BARRIER WALL AT SE CORNER OF BRIDGE

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	ML065	394+05.28 R1	7367639.21	18559488.40															
2	ML065	408+81.30 R1	7369115.11	18559469.54															

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

395

TEMPORARY EASEMENT
TO PLACE EROSION CONTROL
AND CLEARING AND GRUBBING

①
LARRY G. LESTER

②
ROY D. TURNER

400+91±P
±70'

398+97
±182'

400+40±P
±182'

401+41±P
±70'

401+91±P
±70'

402+31±P
±70'

405

404+66
±70'

404+70
±60'EX R/W

Otter Creek

± US 65 US 65

± US 65 US 65

Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: ATINKEN /JLARSON
 ROW #: NHSN-065-3(84)--2R-91
 Plan Date: 02/07/2022

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition



108-23A
08-01-08

TRAFFIC CONTROL PLAN

US 65
-Both lanes of US 65 will be closed to traffic for the duration of the project. Offsite detour shall be as shown on J sheets.
-Offsite detour will be included as part of lump sum Traffic Control bid item.

Polk St
-Maintain traffic for the duration of the project.

Private Entrances
-Maintain access to US 65 for the duration of the project.

108-26A
08-01-08

STAGING NOTES

Stage 1:
-Close US 65 to traffic. Install offsite detour signage.
-Remove existing bridge and construct new bridge over Otter Creek.
-Construct new approach pavement and shoulders. Construct new guardrail.

Stage 2:
-Install permanent erosion control measures and seeding/fertilizing.
-Open US 65 to traffic.

TRAFFIC CONTROL

US 65 over Otter Creek, located 1.6 miles south of south junction of County Road G58, built in 1958.

Work includes bridge replacement, replacing bridge approaches and 'EF' joints, including removal of 2nd EF joints, and replacing guardrail.

Traffic Controls

Intersections or drives within 1,000 feet of the bridge:

- Field Entrances, 530 ft south of bridge, east and west sides (to remain open)
- Polk St (Level B road), 540 ft north of bridge, east side (to remain open)
- Private Entrance, 580 ft north of bridge, west side (to remain open)

~~Option 1: Construction will be staged half the bridge at a time maintaining single lane, minimum 10.5' wide, open to traffic on the bridge. Traffic control will involve TBR and traffic signals in accordance with Standard Road Plan (SRP) TC-217, and restricted width signage per SRP SI-882. Shoulder strengthening will be required.~~

Option 2: The bridge will be closed to traffic during construction. Traffic control will involve a signed detour route in conjunction with Standard Road Plan TC-252. Use of PDMS's is also assumed. The suggested detour route for SB US 65 is US 65 south to US 65/US 69 junction, then continue south on US 69 to County Road G-76, then east on County Road G-76 to US 65. See detour map on next page. The suggested detour route for NB US 65 is the same route as previously stated but in reverse order.

B. Detour Analysis

The alternative that includes an off-site detour will utilize primary and Warren County routes. The proposed detour route has been evaluated by the Bridges and Structures Rating Engineer and can carry all primary legal loads. The following Warren County structures have been added to the next cycle of bridge inspections:

FHWA #	Structure Type
333041	PPCB Bridge

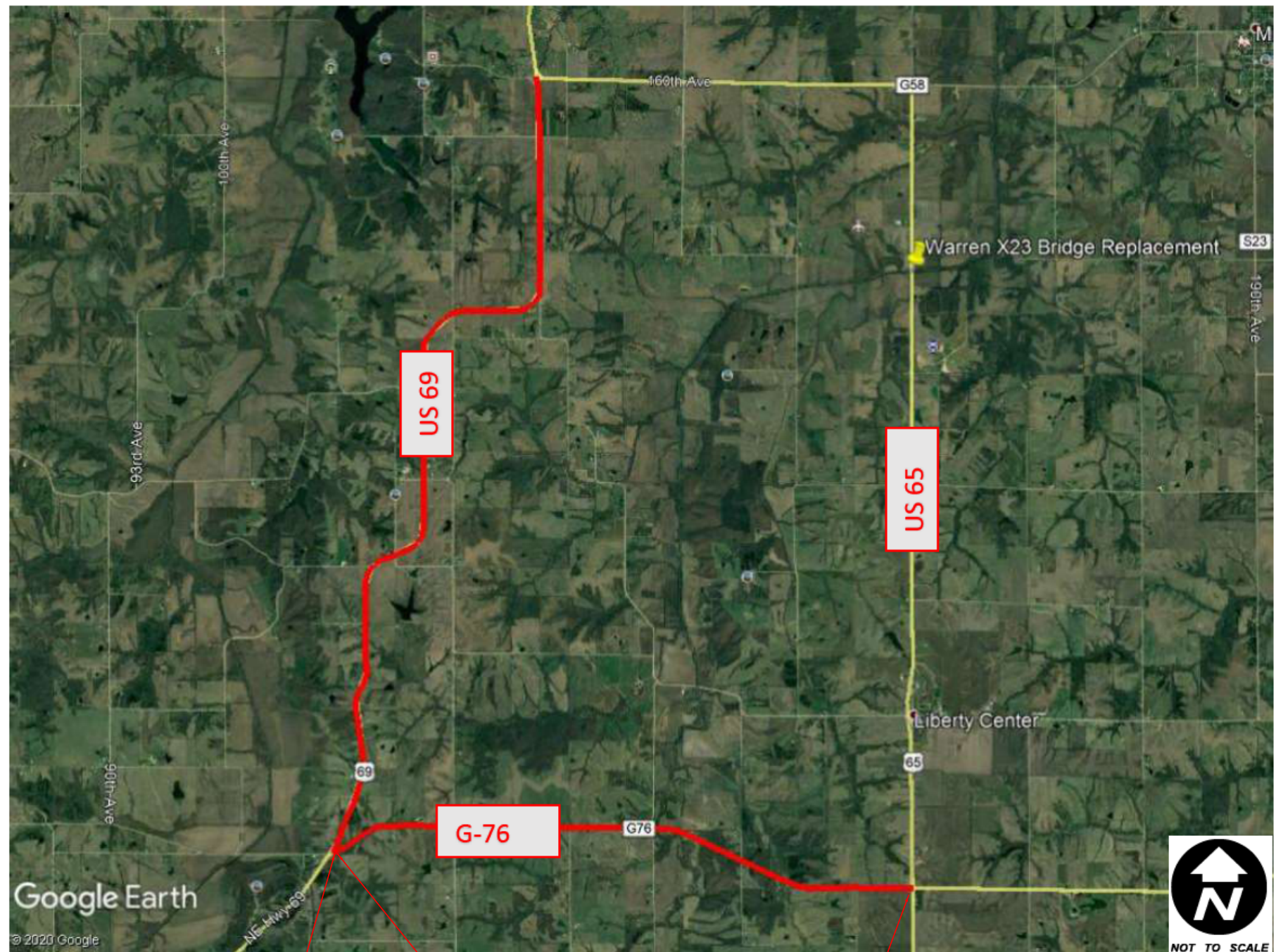
C. Recommendations

It is recommended that the present structure be replaced with Alternative #2 as described in this concept. Alternative #2 is the lower cost alternative. Alternative #2 also eliminates the need for a longitudinal construction joint on the bridge which will reduce potential for future maintenance issue and simpler, safer construction.

D. Construction Sequence

It is anticipated that all work on this project will be awarded to one prime contractor. The Bridges and Structures Bureau will coordinate the plan preparation with assistance from the Design Bureau.

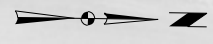
Maintaining traffic through staged bridge construction was investigated and included as an alternative in this Draft Concept. However, the preferred Alternative #2 includes an offsite detour which allows bridge removal and construction in a single stage resulting in a safer, simpler construction sequence.



District suggests looking at all-way stop here during detour.

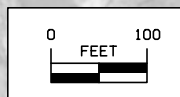
County may have concerns with safety at this intersection during detour.

County may have concerns with safety at this intersection during detour.



PDMS. Refer to SRP TC-252.

PDMS. Refer to SRP TC-252.



POLLUTION PREVENTION PLAN

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITIES

- A. Designer:
 1. Prepares Base PPP included in the project plan.
 2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
 3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.
- B. Contractor:
 1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
 2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
 3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
 4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).
 5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
 6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
 7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
 8. Submits amended PPP site map according to Section 2602 of the Standard Specifications.
- C. Subcontractors:
 1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or performing work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
 2. Implement good housekeeping practices according to Paragraph III, C, 2.
- D. RCE/Project Engineer:
 1. Is Project Storm Water Manager.
 2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
 3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
 4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
 5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
 6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
 7. Is familiar with the Project PPP and storm water site map.
 8. On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.
 9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
 10. Is signature authority on Notice of Discontinuation.
 11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
 12. Makes information to determine permit compliance available to the DNR upon their request.
- E. Inspector:
 1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
 2. Makes information to determine permit compliance available to the DNR upon their request.
 3. Conducts joint required inspections of the site with the contractor/subcontractor.
 4. Completes an inspection report after each inspection.
 5. Is signature authority on storm water inspection reports.

II. PROJECT SITE DESCRIPTION

- A. This Pollution Prevention Plan (PPP) is for the construction of a new bridge on US 65 over Otter Creek.
- B. This PPP covers approximately 1.8 acres with an estimated 1.8 acres being disturbed. The portion of the PPP covered by this contract has 1.8 acres disturbed.
- C. The PPP is located in an area of two soil association (Sharpsburg-Shelby-Adair and Pershing-Gosport-Gara). The estimated weighted average runoff coefficient number for this PPP after completion will be 0.47.
- D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or CE or RC sheets.
- E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be

POLLUTION PREVENTION PLAN

documented by fieldbook entries and amended PPP site map.
F. Runoff from this work will flow into Otter Creek.

III. CONTROLS

- A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.
 - 1. EROSION AND SEDIMENT CONTROLS
 - a. Stabilization Practices
 - 1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
 - 2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
 - a) Permanently ceased on any portion of the site, or
 - b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
 - 3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
 - 4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C or R sheets.
 - 5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
 - 6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.
 - b. Structural Practices
 - 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
 - 2) Structural practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or R sheets.
 - c. Storm Water Management

Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the storm water site map and Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.
 - 2. OTHER CONTROLS

Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.

 - a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
 - b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
 - c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
 - d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
 - e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state.
 - f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
 - g. Concrete Grooving/Grinding Slurry - Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
 - h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
 - i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.
 - j. Dewatering - Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.
- 3. APPROVED STATE OR LOCAL PLANS

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

IV. MAINTENANCE PROCEDURES

POLLUTION PREVENTION PLAN

The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS

- A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:
 1. Date of the inspection.
 2. Summary of the scope of the inspection.
 3. Name and qualifications of the personnel making the inspection.
 5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
 6. Major observations related to the implementation of the PPP.
 7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water site inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS

- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.
- C. Fieldbook Entries - This contains the inspector's daily diary and bid item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).
- E. Signature Authority - Representative authorized to sign various storm water documents.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

Printed or Typed Name

Signature

STORMWATER DRAINAGE BASIN AND STORAGE

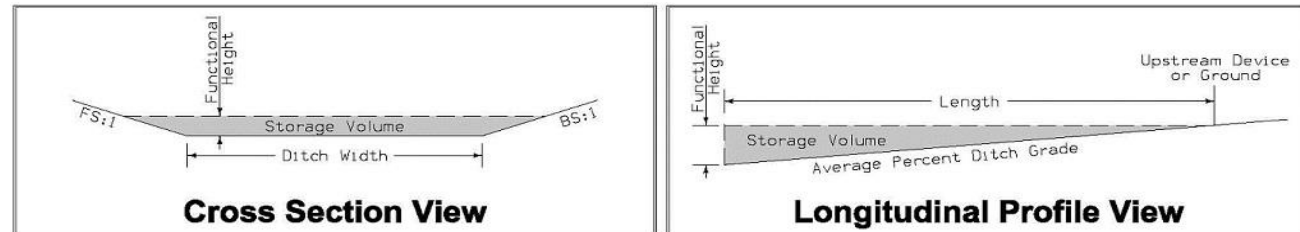
Refer to EC Standards and 570s Details.

Basin No.	Drainage Basin Location			Discharge Point			Summary of Stormwater Storage			Remarks			
	Station to Station		Side	Station	Side	Total Disturbed Area	Disturbed Area with Storage Provided	Disturbed Area without Storage Provided	Best Management Practice		Total Storage Volume Provided	Total Storage Volume Required	Storage Volume Met?
	Acres	Acres	Acres			CF	CF	Yes/No					
1	398+72.00	401+36.00	Lt	401+36.00	Lt	0.7	0.0	0.7	Vegetated Buffer	0.0	0.0	N/A	
2	398+23.00	401+36.00	Rt	401+36.00	Rt	0.4	0.0	0.4	Vegetated Buffer	0.0	0.0	N/A	
3	401+49.00	404+65.00	Lt	401+59.00	Lt	0.3	0.3	0.0	Silt Fence for Shallow Ditch or No Ditch (EC-201)	1214.5	1080.0	Yes	
4	401+59.00	404+16.00	Rt	401+67.00	Rt	0.3	0.0	0.3	Vegetated Buffer	0.0	0.0	N/A	

SILT FENCES FOR DITCH CHECKS

100-18
10-16-18

Possible Standard: EC-201



* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: $[0.5 * Spacing * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg. % Slope	Volume*	
				LF	LF	LF	FS:1	BS:1	FT	Ditch Grade	CF	
3	4	402+47.00	Lt	25.0	3.0	25.0	3.0	3.0	2.0	1.1%	404.8	
3	4	403+47.00	Lt	25.0	3.0	25.0	3.0	3.0	2.0	1.1%	404.8	
3	4	404+47.00	Lt	25.0	3.0	25.0	3.0	3.0	2.0	1.1%	404.8	

FLOATING SILT CURTAINS

100-10
10-21-14

Refer to EC-202

Station	Hang-ing	Containment	Clean-out (Containment)	Maintenance of Floating Silt Curtain	Remarks
	LF	LF	LF	LF	
401+30.00	150.0			75.0	South Bank
401+60.00	150.0			75.0	North Bank

TABULATION OF SILT FENCES

100-17
04-20-10

Refer to EC-201

Location			Length LF	Remarks
Begin Station	End Station	Side		
398+20.00	400+62.00	Rt	240.0	Toe of Slope
400+55.00	400+84.00	Both	120.0	South Bridge Berm
400+88.00	401+19.00	Both	130.0	South Bridge Berm
401+57.00	401+87.00	Both	125.0	North Bridge Berm
402+00.00	402+10.00	Both	120.0	North Bridge Berm
402+10.00	404+20.00	Rt	210.0	Toe of Slope





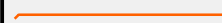


PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

100-19
10-19-21








Possible Standards: EC-204

Location			Perimeter and Slope			Ditch Check		Remarks
Begin Station	End Station	Side	Length of Installation			Length of Installation		
			9 inch Dia	12 inch Dia	20 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	LF	LF	
398+20.00	399+75.00	Rt		160				
399+85.00	400+60.00	Rt		80				
398+70.00	399+65.00	Lt		100				
398+72.00	399+59.00	Lt		90				
399+75.00	400+35.00	Lt		60				
399+75.00	400+55.00	Lt		80				
399+20.00	400+70.00	Lt		160				
402+57.00	404+16.00	Rt		160				
402+58.00	403+60.00	Lt		100				
403+63.00	404+14.00	Lt		50				
404+15.00	404+64.00	Lt		50				
Totals:				1090				






LINE STYLE LEGEND OF EROSION CONTROL SHEETS



-  Silt Fence
-  Perimeter and Slope Sediment Control Device (9")
-  Perimeter and Slope Sediment Control Device (12")
-  Perimeter and Slope Sediment Control Device (20")
-  Open-Throat Curb Intake Sediment Filter
-  Concentrated Flow
-  Sheet Flow

CELL LEGEND OF EROSION CONTROL SHEETS

















-  Temporary Sediment Control basin
-  Erosion Control for Circular Intake or Manhole Well
-  Erosion Control for Rectangular Intake or Manhole Well
-  Grate Intake Sediment Filter Bag
-  Silt Basin
-  Silt Fence Tail
-  Stormwater Drainage Basin Discharge Point

PLAN VIEW COLOR LEGEND OF EROSION CONTROL 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
Black	(0)		Permanent Erosion Control Features
Blaze Orange	(222)		Temporary Erosion Control Features

SHADING		Design Color No.		Transparency	
Citron	(234)		Mulching, All Types	50%	
Light Brown	(238)		Special Ditch Control, Wood Excelsior Mat	0%	

PATTERN LEGEND OF EROSION CONTROL SHEETS

- | | | | |
|---------------------------------------------------------------------------------------|---------------------------------|---------------------------------------------------------------------------------------|--------------------------------------|
|  | Seeding and Fertilizing |  | Turf Reinforcement Mat Type 1 |
|  | Seeding and Fertilizing (Rural) |  | Turf Reinforcement Mat Type 2 |
|  | Seeding and Fertilizing (Urban) |  | Turf Reinforcement Mat Type 3 |
|  | Native Grass Seeding |  | Turf Reinforcement Mat Type 4 |
|  | Salt Tolerant Seeding |  | Slope Protection, Wood Excelsior Mat |
|  | Wetland Grass Seeding |  | Transition Mat |
|  | Wildflower Seeding |  | Rock Features, Permanent |
|  | Sodding |  | Rock Features, Temporary |

EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES R)

Otter TWP.
T-75N R-23W
SEC. 33



Existing ROW

Basin
1

395

396

397

398

399

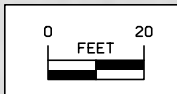
400

US 65
(ML065)

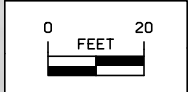
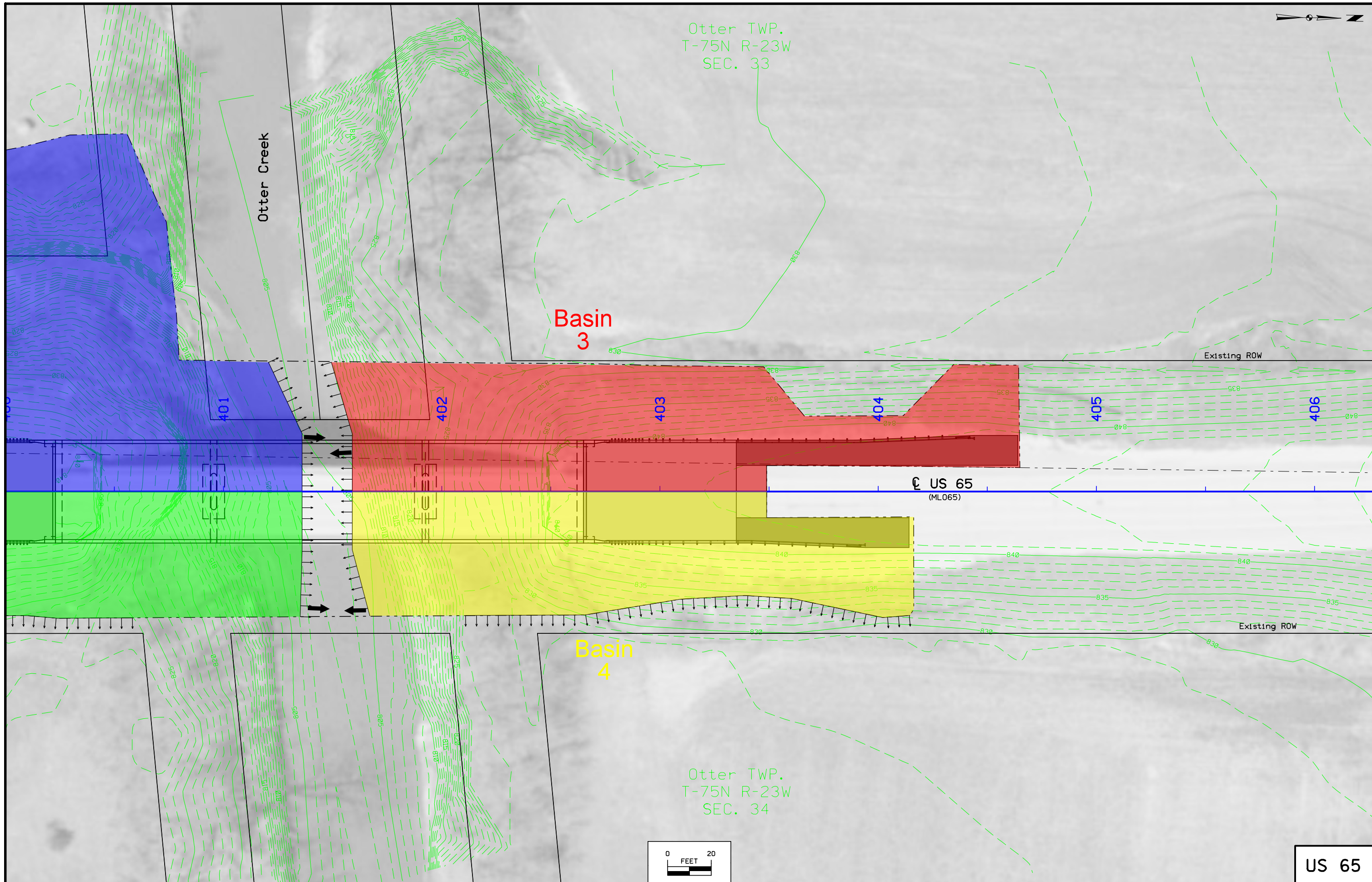
Existing ROW

Basin
2

Otter TWP.
T-75N R-23W
SEC. 34



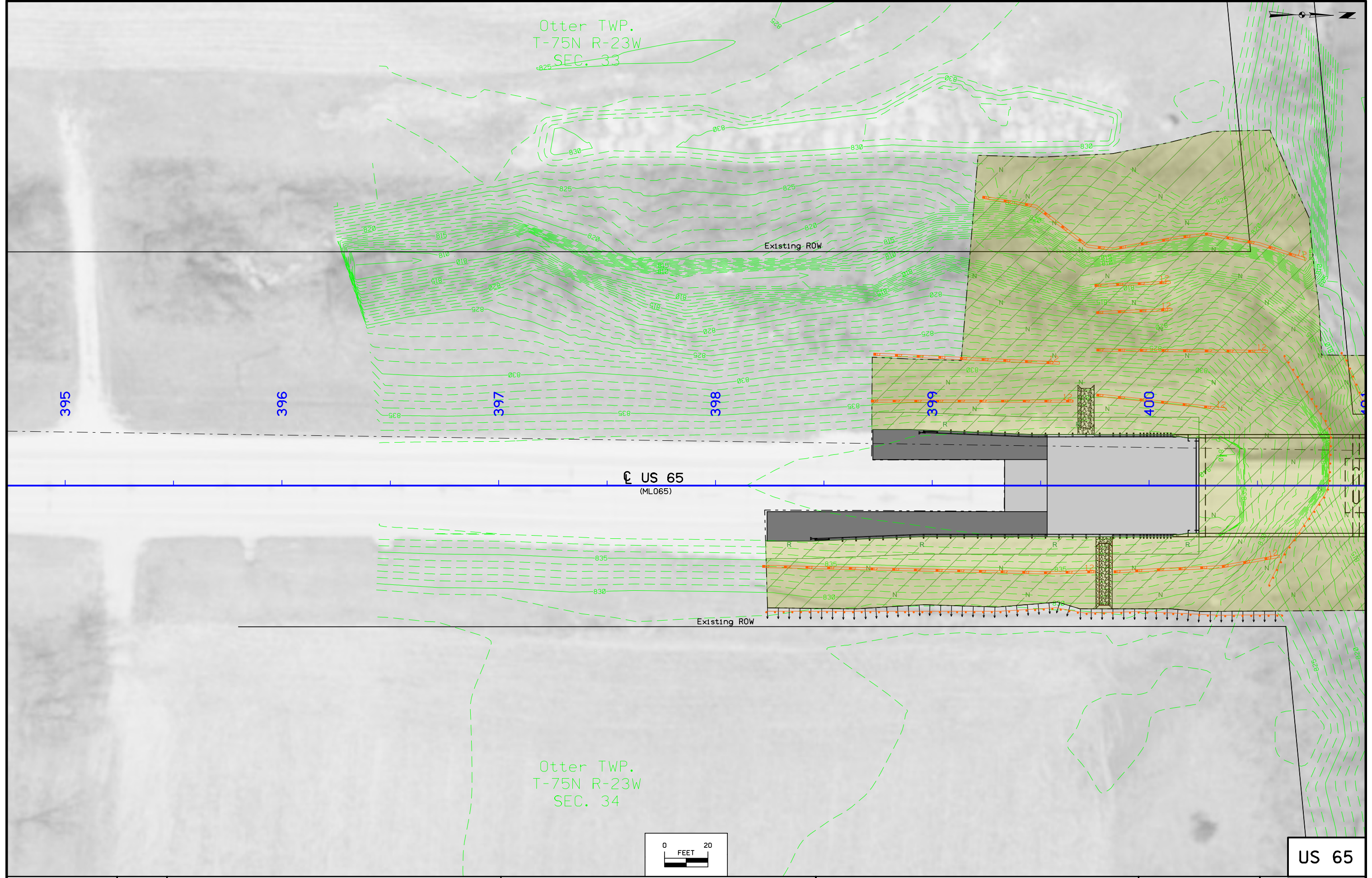
US 65



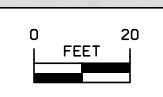
US 65

Otter TWP.
T-75N R-23W
SEC. 33

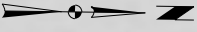
Otter TWP.
T-75N R-23W
SEC. 34



US 65
(ML065)



US 65



Otter TWP.
T-75N R-23W
SEC. 33

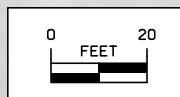
Otter Creek

Existing ROW

US 65
(ML065)

Existing ROW

Otter TWP.
T-75N R-23W
SEC. 34

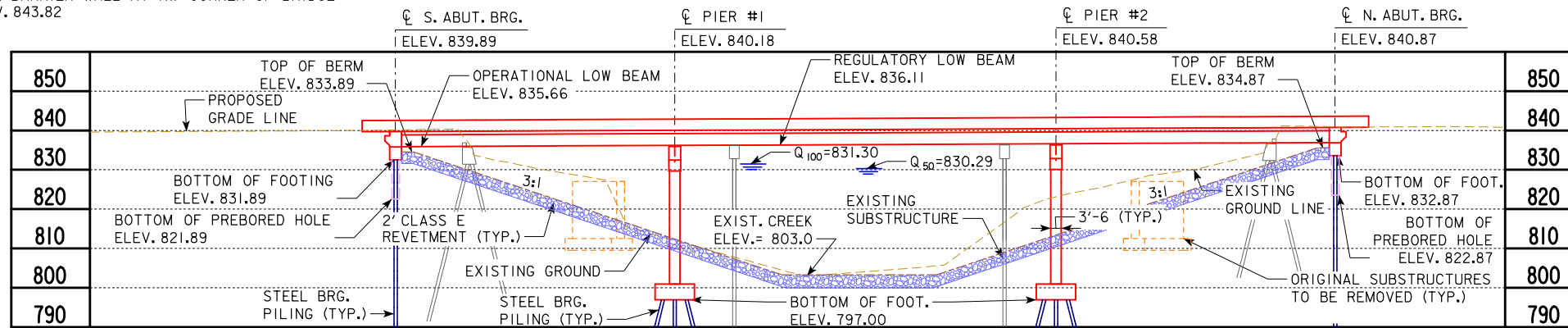


US 65

BENCH MARK: CUT "X" IN TOP OF WHEEL BARRIER WALL AT NW CORNER OF BRIDGE
 N: 7,368,485.387, E: 18,559,463.085, ELEV. 843.82

LOCATION

US 65 OVER OTTER CREEK
 T-75N R-23W
 SECTION 33 & 34
 OTTER TOWNSHIP
 WARREN COUNTY
 FHWA NO. 050881
 BRIDGE MAINT. NO. 9148.8S065
 LATITUDE 41.260427°
 LONGITUDE -93.500341°



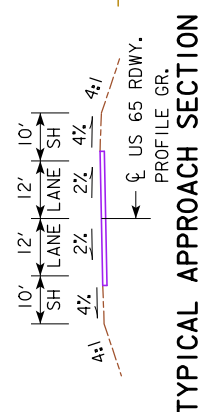
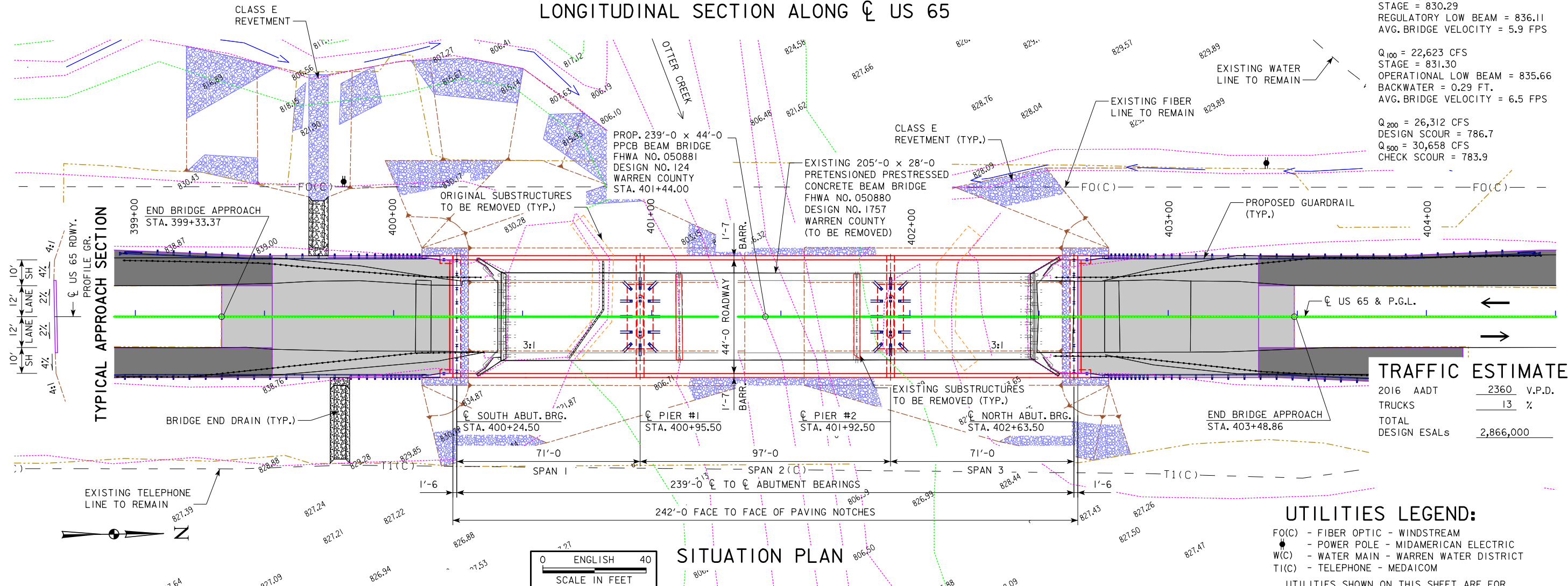
+0.411%
 VPI STA. = 399+33.38 VPI ELEV. = 839.51
 VPI STA. = 403+48.87 VPI ELEV. = 841.22

PROPOSED PROFILE GRADE US 65

HYDRAULIC DATA

DRAINAGE AREA = 139.0 SQ. MI.
 STREAM SLOPE = 1.1 FT./MI.
 Q₅₀ = 19,057 CFS
 STAGE = 830.29
 REGULATORY LOW BEAM = 836.11
 AVG. BRIDGE VELOCITY = 5.9 FPS
 Q₁₀₀ = 22,623 CFS
 STAGE = 831.30
 OPERATIONAL LOW BEAM = 835.66
 BACKWATER = 0.29 FT.
 AVG. BRIDGE VELOCITY = 6.5 FPS
 Q₂₀₀ = 26,312 CFS
 DESIGN SCOUR = 786.7
 Q₅₀₀ = 30,658 CFS
 CHECK SCOUR = 783.9

LONGITUDINAL SECTION ALONG US 65



TRAFFIC ESTIMATE

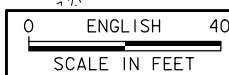
2016 AADT	2360	V.P.D.
TRUCKS	13	%
TOTAL DESIGN ESALs	2,866,000	

UTILITIES LEGEND:

- FO(C) - FIBER OPTIC - WINDSTREAM
- PP - POWER POLE - MIDAMERICAN ELECTRIC
- W(C) - WATER MAIN - WARREN WATER DISTRICT
- T(C) - TELEPHONE - MEDAICOM

UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

SITUATION PLAN



PLAN NOTES:

- TOP OF BRIDGE DECK AT CENTERLINE US 65 IS 0.03' BELOW THE PROFILE GRADE TO ACCOUNT FOR PARABOLIC CROWN. CLASS E REVETMENT STONE IS EMBEDDED.
- THE BRIDGE WILL BE DESIGNED TO WITHSTAND THE APPLICABLE EFFECTS OF ICE AND THE HORIZONTAL STREAM LOADS AND UPLIFT FORCES ASSOCIATED WITH THE Q100.

GENERAL NOTES:

- THIS DESIGN IS FOR THE REPLACEMENT OF THE EXISTING 205'-0" X 28'-0" PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE, WARREN DESIGN NO. 1757, FHWA NO. 050880, MAINT. 9148.8S065.

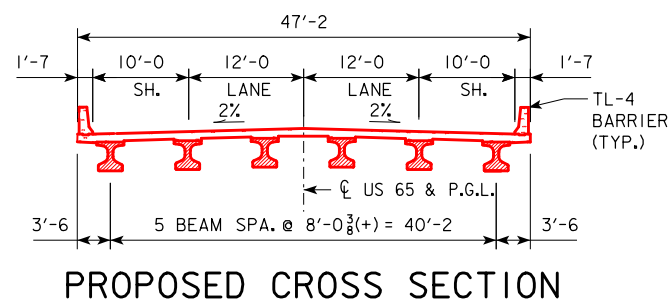
HYDRAULIC DESIGN

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.

Mark D. Werner 10/26/2021
 Signature Date
 Printed or Typed Name
 My license renewal date is December 31, 2021

Pages or sheets covered by this seal: SHEETS V.1 & V.2

PRELIMINARY
 DESIGN FOR 0° SKEW
239'-0" X 44'-0" PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE
 71' END SPANS (BTB BEAM TYPE) 92' INTERIOR SPAN
SITUATION PLAN
 STATION 401+44.00 (US 65) AUGUST 2021
WARREN COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION
 DESIGN SHEET NO. 1 OF 2 FILE NO. 32032 DESIGN NO. 124



PROPOSED CROSS SECTION

DESIGN NOTES:

ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.

TL-4 BRIDGE RAILING PROPOSED

PIER TYPE - TEE PIERS

BEAM TYPE - BTB BEAMS

FOUNDATION TYPE TO BE CONFIRMED DURING FINAL DESIGN.

BERM SLOPES TO BE CONFIRMED DURING FINAL DESIGN.

AN IOWA DNR SOVEREIGN LANDS PERMIT WILL BE REQUIRED, AS THIS PROJECT REQUIRES A SOVEREIGN LANDS PERMIT, BID ITEM REFERENCE NOTES SHALL RESTRICT BROKEN CONCRETE AS A SUBSTITUTE FOR REVETMENT.

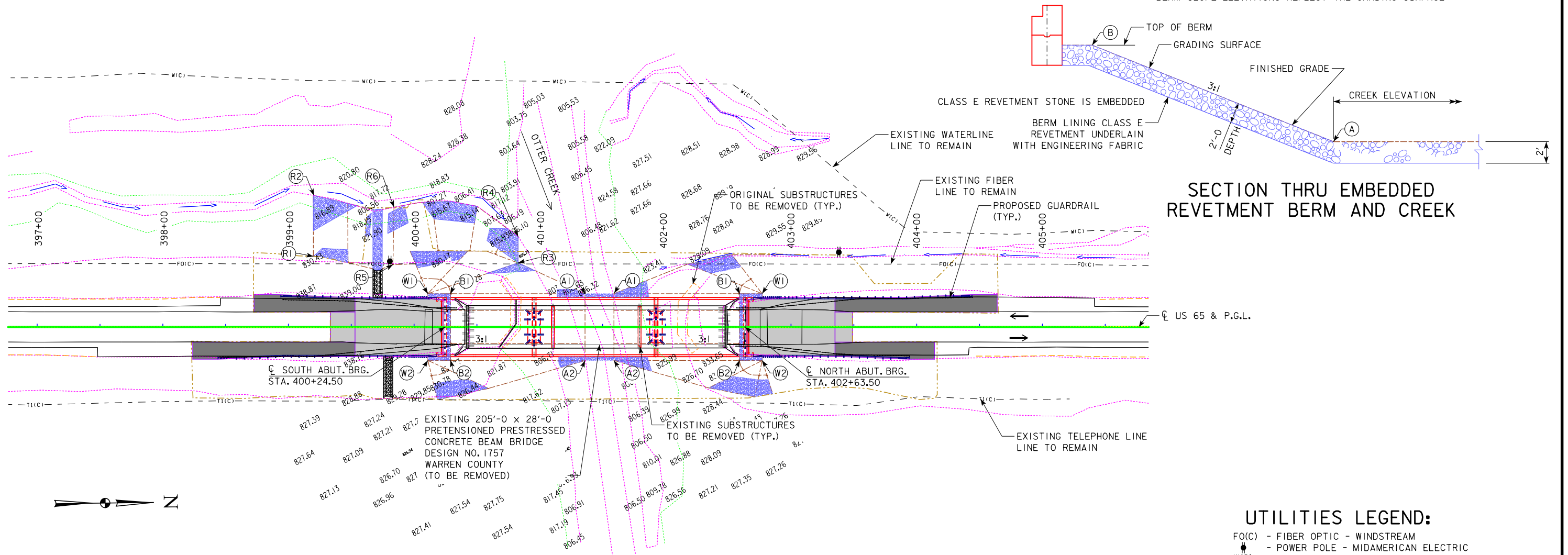
AN IOWA DNR FLOOD PLAIN PERMIT IS REQUIRED. PRELIMINARY DESIGN WILL SUBMIT THE APPLICATION AND PLACE THE PERMIT IN THE PW REGULATORY PERMITS SUBDIRECTORY FOLDER UPON RECEIPT.

BENCH MARK: CUT "X" IN TOP OF WHEEL BARRIER WALL AT NW CORNER OF BRIDGE
N: 7,368,485.387, E: 18,559,463.085, ELEV. 843.82

BERM SLOPE LOCATION TABLE

POINTS	SOUTH ABUTMENT			NORTH ABUTMENT		
	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.
A1	401+22.50	26.67 LT.	802.22	401+62.00	26.67 LT.	802.04
A2	401+22.50	26.67 RT.	802.22	401+62.00	26.67 RT.	802.04
B1	400+29.00	26.67 LT.	833.89	402+59.00	26.67 LT.	834.87
B2	400+29.00	26.67 RT.	833.89	402+59.00	26.67 RT.	834.87
W1	400+09.00	26.67 LT.	838.95	402+79.00	26.67 LT.	839.93
W2	400+09.00	26.67 RT.	838.95	402+79.00	26.67 RT.	839.93
R1	399+20.00	56.2 LT.	830.4			
R2	399+20.00	104.8 LT.	809.5			
R3	400+82.80	51.0 LT.	805.5			
R4	400+82.80	72.0 LT.	806.0			
R5	399+83.10	49.6 LT.	830.2			
R6	399+83.90	95.4 LT.	809.0			

BERM SLOPE ELEVATIONS REFLECT THE GRADING SURFACE



SECTION THRU EMBEDDED REVETMENT BERM AND CREEK

UTILITIES LEGEND:

- FO(C) - FIBER OPTIC - WINDSTREAM
- - POWER POLE - MIDAMERICAN ELECTRIC
- W(C) - WATER MAIN - WARREN WATER DISTRICT
- T(C) - TELEPHONE - MEDIACOM

UTILITIES SHOWN ON THIS SHEET ARE FOR INFORMATION ONLY, SEE ROAD DESIGN SHEETS FOR FINAL UTILITY INFORMATION.

ESTIMATED BERM ARMORING QUANTITIES

LOCATION	CLASS E REVET. (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING - SOUTH	1825.0	2125.0	1290.0
BERM LINING - NORTH	1000.0	1160.0	700.0
TOTALS	2825.0	3285.0	1990.0

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE. REVETMENT ESTIMATED AT 1.6 TON / CY

SITE PLAN



PRELIMINARY
DESIGN FOR 0° SKEW
239'-0 X 44'-0 PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE
71' END SPANS (BTB BEAM TYPE) 92' INTERIOR SPAN
SITE PLAN
STATION 401+44.00 (CL US 65) AUGUST 2021
WARREN COUNTY
IOWA DEPARTMENT OF TRANSPORTATION
DESIGN SHEET NO. 2 OF 2 FILE NO. 32032 DESIGN NO. 124

LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)

- Existing Ground Line
- ===== Proposed Template
- ===== Proposed Topsoil Placement
- Additional Topsoil Removal
- Subgrade Treatment
- Granular Shoulder
- ===== Pavement
- Existing Pipe\R/CB
- ===== Proposed Pipe\R/CB
- ===== Proposed Dike
- ===== All Elements Associated with Proposed Entrances

LINE STYLE LEGEND OF CROSS SECTION SHEETS (SOILS)

- TS ----- Topsoil (Class 10)
- SLOPE DRESSING ----- Slope Dressing Only
- CL 10 ----- Class 10 Materials
- SEL LO ----- Select Loams And Clay-Loams
- SEL SA ----- Select Sand
- UNS A ----- Unsuitable Type A Disposal
- UNS B ----- Unsuitable Type B Disposal
- UNS C ----- Unsuitable Type C Disposal
- SHALE ----- Shale
- WASTE ----- Waste
- B&W LS ----- Broken and Weathered Rock
- ROCK ----- Solid Rock
- BLDRS ----- Boulders

Note: All layer lines and descriptions identify layers above the line.

Note: Vertical or near vertical lines connecting soil layers at edges of cross sections are only for the purpose of calculating template quantities and do not depict soil stratification.

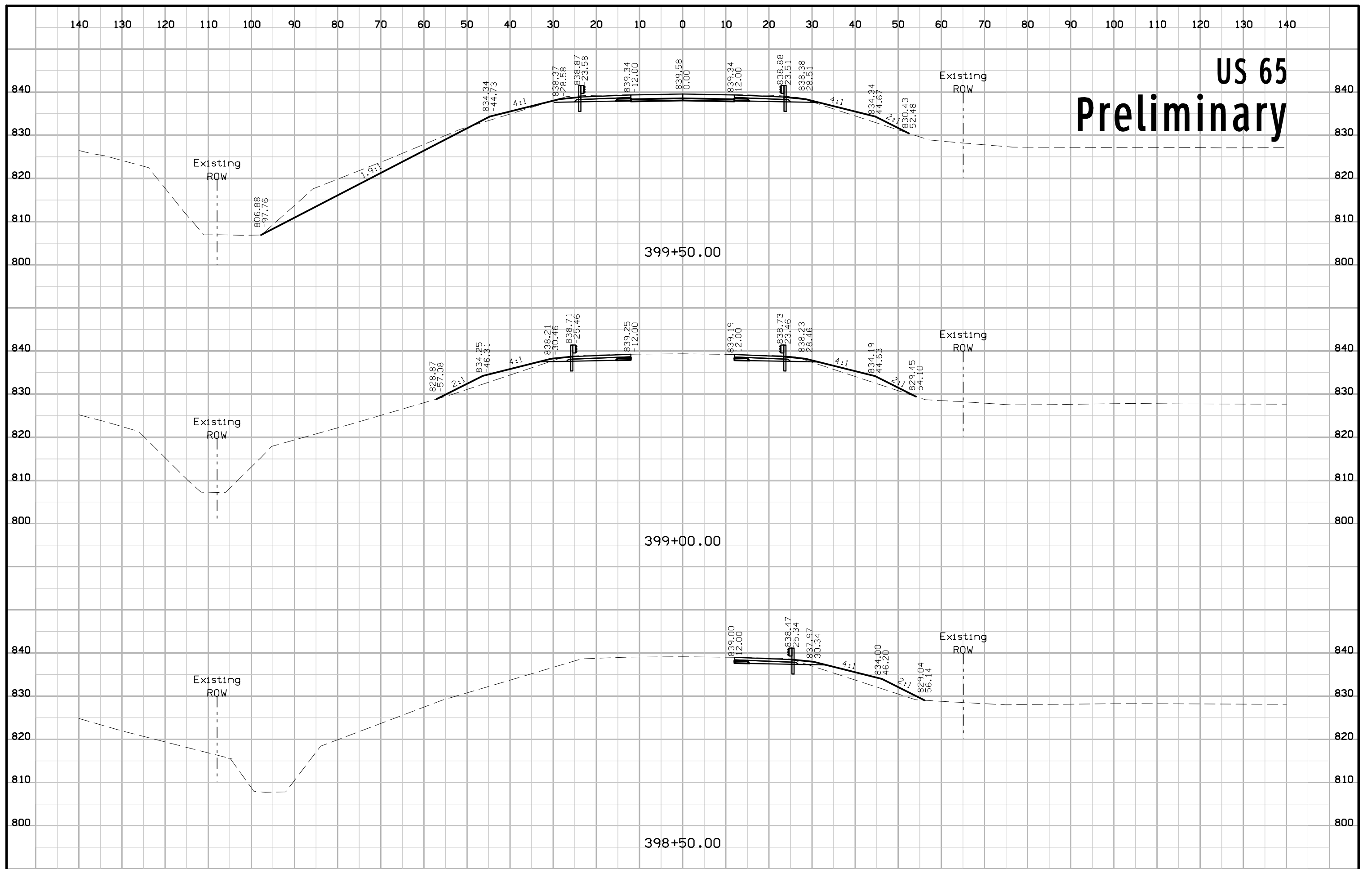
SYMBOL LEGEND OF CROSS SECTION SHEETS

- Existing ROW
----- Existing Right-of-Way Limit
- Proposed ROW
----- Proposed Right-of-Way Limit
- Temporary ROW
----- Temporary Right-of-Way Limit

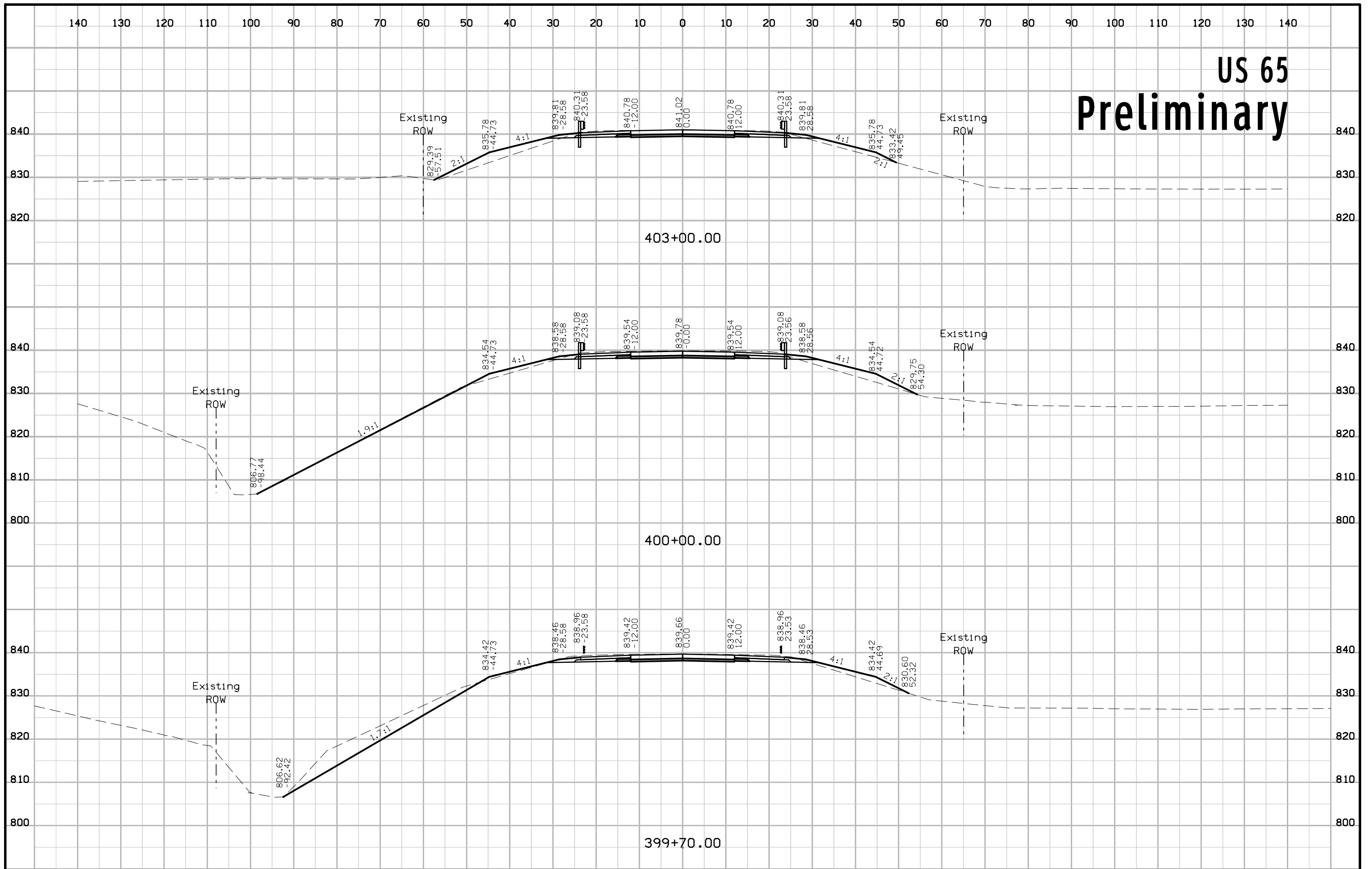
**CROSS SECTION
LEGEND AND SYMBOL
INFORMATION SHEET**

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

US 65 Preliminary



US 65 Preliminary



US 65 Preliminary

