

RCB CULVERT - REPAIR
NHSN-065-1(34)--2R-93

LETTING DATE
 11-16-2021

WAYNE CO.



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

WAYNE COUNTY

RCB CULVERT - REPAIR

Stream 0.3 mi N of Co Rd J54

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

8

PROJECT IDENTIFICATION NUMBER

20-93-065-010

PROJECT NUMBER

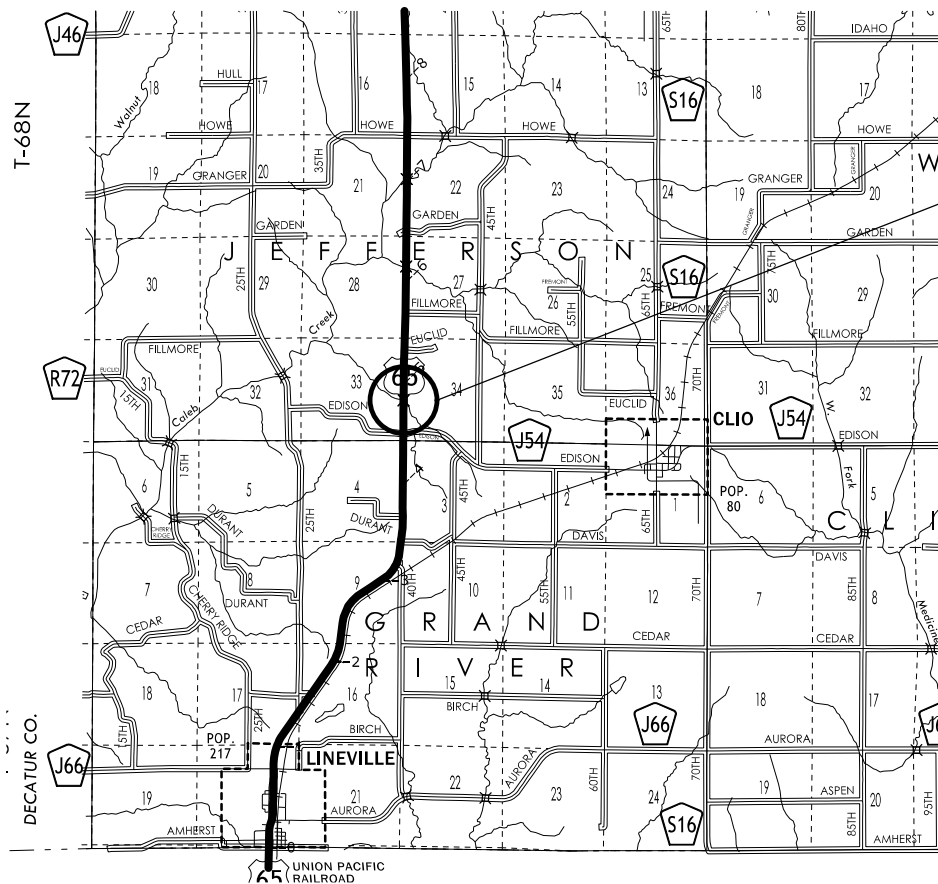
NHSN-065-1(34)--2R-93

R.O.W. PROJECT NUMBER

NHSN-065-1(35)--2R-93

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	"US 65"
G Sheets	Survey Sheets
G.1	Survey Information
G.2	Control point Vicinity Map
G.3	Horizontal and Vertical Control Tab.
J Sheets	Traffic Control and Staging Sheets
* J.1	Traffic Control Plan
V Sheets	Bridge and Culvert Situation Plans
V.1	Bridge and Culvert Situation Plans
	* Color Plan Sheets



PROJECT LOCATION

DESIGN DATA RURAL

20--	AADT	--	V.P.D.
20--	AADT	--	V.P.D.
20--	DHV	--	V.P.H.
	TRUCKS	--	%
	Total		
	Design ESALs	--	

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Paul Flattery	Primary Signature Block

D4 PLAN - Date: 7/20/2021

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: 11/30/2020

FILE NO. 32031

ENGLISH

DESIGN TEAM Flattery \ Carlson

WAYNE COUNTY

PROJECT NUMBER

NHSN-065-1(34)--2R-93

SHEET NUMBER

A.1

SURVEY SYMBOLS

- BNK Stream Bank
- DU Centerline Draw or Stream (Up)
- FW Wire Fence
- SNP Unpaved Shoulder
- D Centerline Draw or Stream (Down)
- TDC Tree Deciduous

UTILITY LEGEND

This is NOT a POINT 25 Project and is not subject to the provisions of IAC 761-115.25.

GRM Networks (Grand River Mutual Telephone Corp)
 Dirk Schwartzkopf
 1001 Kentucky St
 Princeton, MO 64673
 (660) 748-2200
 grmds@grm.net

- F0 -

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

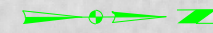
Reference Point	Survey Line
Station	Section Corner
Ground Line Intercept	Saw Cut
Guardrail	Trench Drain
HighTension Cable Guardrail	Sheet Pile
Pavement Removal	Clearing & Grubbing Area

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)

Jefferson Name Twp.
T-68N R-23W
SEC. 33



FO

APPROX. SEC. LINE

APPROX. SEC. LINE

APPROX. SEC. LINE

361

362

363

364

365

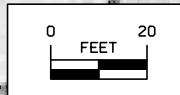
366

367



Sta. 363+99.68
Twin 10'x12'x145' RCB
D.A.=1420 Acres V.H. to H

Sept. No. 34



Survey Information

Wayne County
NHSN-065-1(34)--2R-93
Stream 0.3 Mi. N of Co. Rd. J54
20-93-065-010
Sap-760.2

Party Personnel

Michael Rummelhart - Party Chief
Anthony Ruperto - Intern

Date(s) of Survey

Begin Date 08/13/2020
End Date 09/01/2020

General Information

Measurement units for this survey are US survey feet. This survey is for west apron replacement twin RCB. Project datum and control information is provided by Design Survey Office. This project is a full field. Survey requested by David Mulholland of the Bridge Bureau.

Vertical Control

Vertical Control was established on this project by 3 hour GPS static sessions. Vertical datum for this survey is relative to NAVD88. Geoid 12 B was used in processing. GRS80 Ellipsoidal Height was computed at project Pts. CP3 and CP4. Vertical control was checked with IARTN checks.

This survey observed an AB Plan bench mark to compare to local ground control:

BM 30A AB Plans Project # 770 (3) Elevation 984.38
= BM # 501 Survey Elev. = 972.32

Horizontal Control

The project coordinate system for this survey is Iowa RCS Zone 12 (U.S. Survey Feet). This survey control is relative to IARTN reference stations. IARTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011). Coordinates were determined by conducting 3 hour static observations.

Alignment Information

US Hwy 65

The horizontal alignment for this survey is created from As-built Plans Project # 770 (3). Survey stationing was equated to the Plan NE Cor. Sec. 4-67-23 @ Sta. 343+16.5 and run ahead to E ¼ Cor Sec. 33-68-23, without equation throughout the survey.

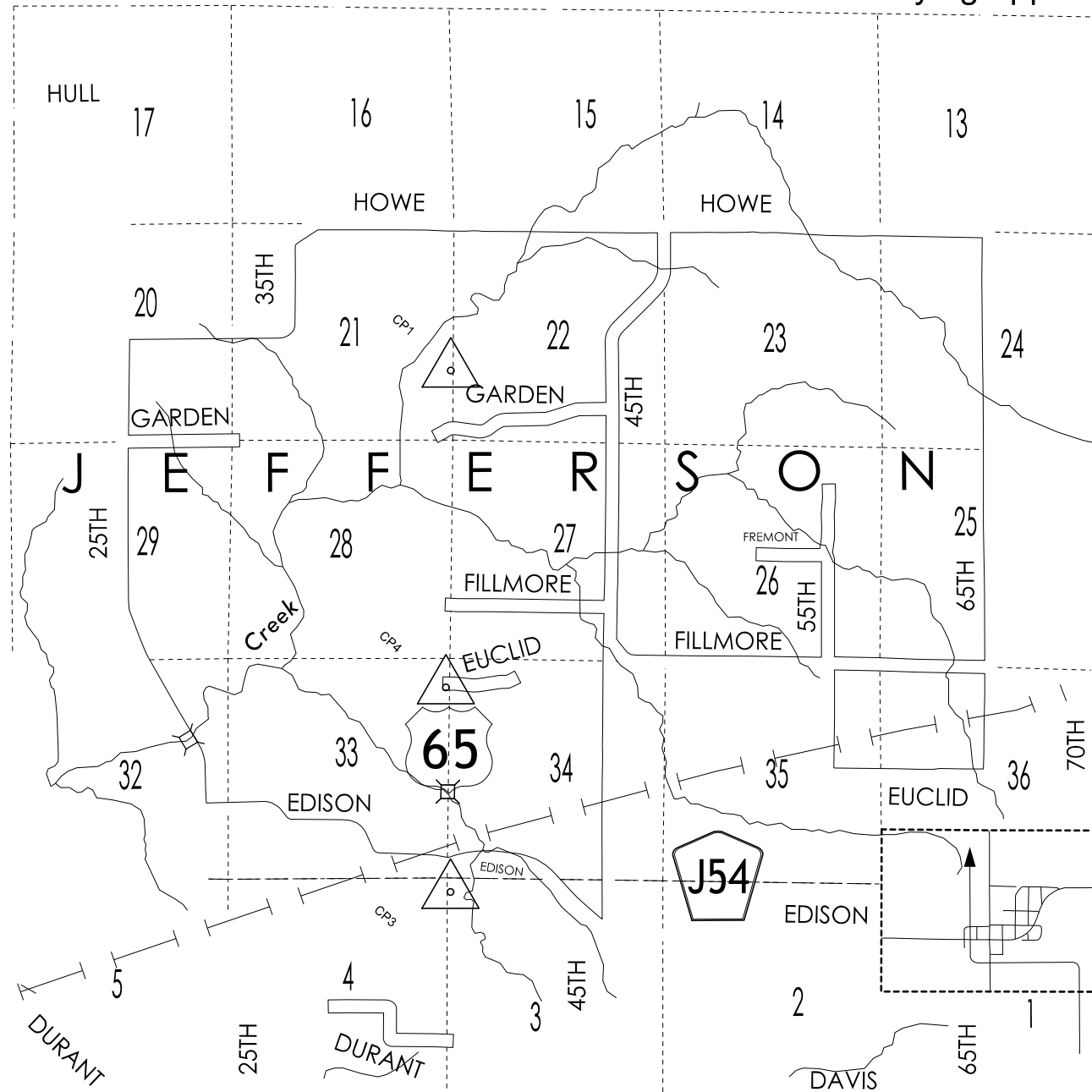
Survey stationing relates to as built plan stationing as follows:

SE Cor. Sec. 21-68-23 Sta. 343+16.5 As-built Plans Project No. 770 (3)
= PI Sta. 343+16.5 this survey

E ¼ Cor Sec. 33-68-23 Sta. 369+54.7 As-built Plans Project No. 770 (4)
= E ¼ Cor Sec. 33-68-23 Sta. 369+55.04 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 12

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 12

Each mark may be used as a project benchmark

Point	Northing	Easting	Elevation	Feature	Description
CP1	6111045.42	22569792.50	997.19	CP	104' northwest of address sign 2574 US Hwy 65, 63' west of US Hwy 65, 109' north of a field entrance, 24' east of a fence, a feno monument stamped Iowa Dept. of Trans. Survey Marker, .6' below ground.
CP3	6098396.76	22569788.41	1039.35	CP	73' E. of CL US Hwy 65_38' E. of no passing zone Sign_22' SW of Sta. Sign 340_10' W of fence_Set Feno Monument 6" below ground.
CP4	6103358.15	22569675.43	1033.85	CP	111' N. of field entrance_84' W. of CL US Hwy 65_7' E. of fence_Set Feno Monument 6" below ground.

Wayne	ROW: NHSN-065-1(35)--2R-93			PIN	20-93-065-010														
	Stream 0.3 mi N of Co Rd J54																		
		STATE		COUNTY		CITY			TEMP EASE	BORROW									
PARCEL NO.	OWNER NAME	FEE	EASE	FEE	EASE	FEE	EASE	EXCESS			FEE	T.E.	MITIGATION	OTHER	HOUSE	BUILDING(S)	A/C ONLY	TOTAL ACQ.	
1	Laddie Nimerichter - Fee	0.2 AC																	
1 Parcel	"TOTALS	0 AC	0.2 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC					
		0 SF		0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF						

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.



Jefferson Twp.
T-68N R-23W
SEC. 33

①
LADDIE & BEVERLY J.
NIMERICHTER

363+47
☐176'

364+34
☐176'

363+29
☐153'

364+60
☐154'

363+15
☐110'±Ex.R/W




364+70
☐110'±Ex.R/W

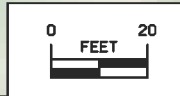
FO

363

364

365

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: CUVA / CARMAN	
ROW #: NHSN-065-1(35)--2R-93	
Plan Date: 01/06/2021	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

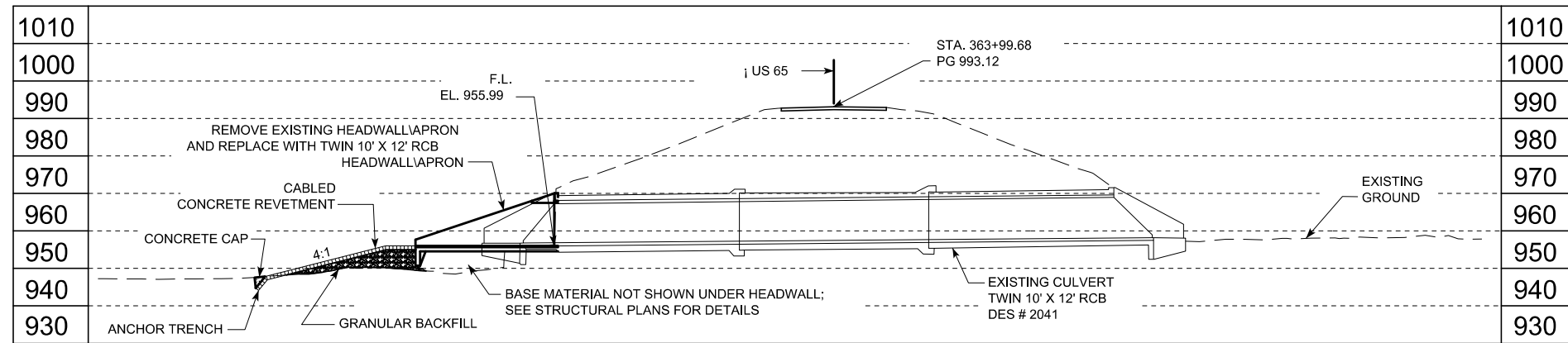


108-23A 08-01-08
TRAFFIC CONTROL PLAN
Traffic shall be maintained on US 65 at all times. Flaggers shall be used if necessary, to reduce traffic to one lane.

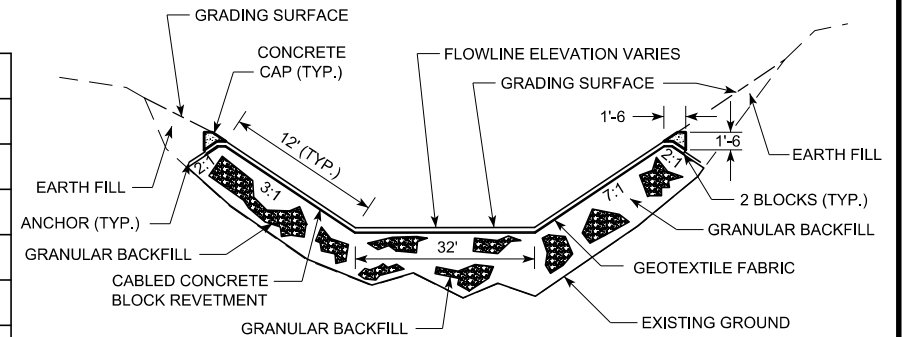
111-01 04-17-12												
COORDINATED OPERATIONS												
Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.												
<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 50%;">Project</th> <th style="width: 50%;">Type of Work</th> </tr> </thead> <tbody> <tr> <td>None Provided</td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	Project	Type of Work	None Provided									
Project	Type of Work											
None Provided												

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
			No Travel Restrictions Expected									

CP3 N 6098396.76, E 22569788.41, 73° EAST OF ; US 65, 38' EAST OF NO PASSING SIGN, 22' SW OF STA. SIGN 340, 10' WEST OF FENCE, SET FENO MONUMENT 6 IN. BELOW GROUND, ELEV. 1039.35

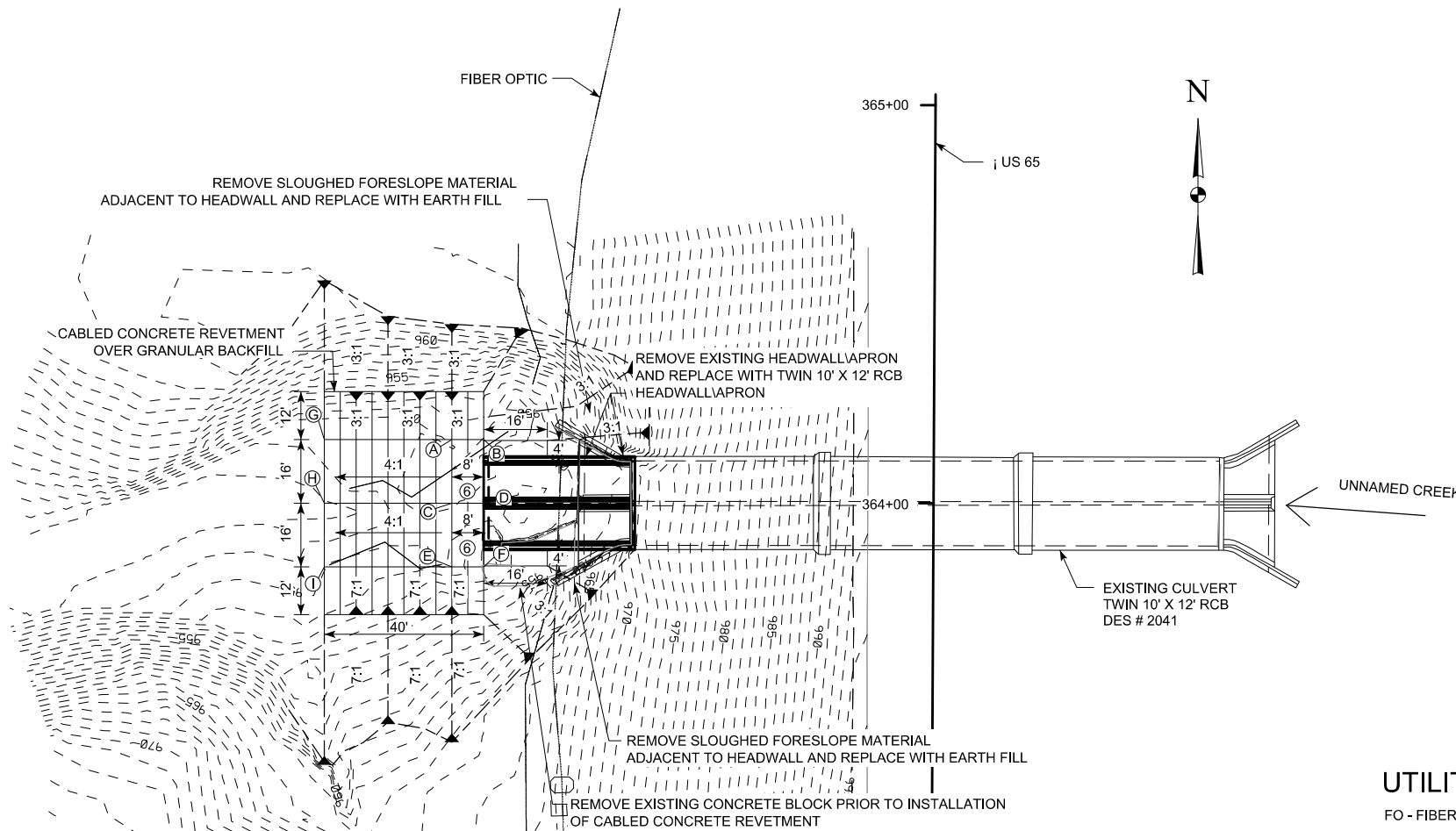


LONGITUDINAL SECTION ALONG i CULVERT



EROSION CONTROL SYSTEM
CABLED CONCRETE BLOCK REVETMENT
TYP. CROSS SECTION
LOOKING EAST
NOT TO SCALE

- NOTES:
- REFER TO SPECIAL PROVISION SPECIFICATION FOR EROSION CONTROL SYSTEM FOR DETAILS REGARDING CONCRETE BLOCK MATS, APPURTENANCES AND PAYMENT.
 - PLACE CLOSED CELL CONCRETE BLOCKS ALONG CHANNEL BOTTOM AND CHANNEL SIDE SLOPES.
 - PLACE POROUS BACKFILL BETWEEN BLOCKS.
 - EROSION CONTROL SYSTEM TO BE EMBEDDED (TOP OF MATS FLUSH WITH GRADING SURFACE).
 - INCLUDE COST OF CABLED CONCRETE MATS, GEOTEXTILE FABRIC, CLAMPS, ANCHORS, POROUS BACKFILL, CONCRETE CAPS, MISCELLANEOUS CONCRETE, REMOVAL OF EXISTING CONCRETE BLOCKS AND CABLING AT CORNERS IN EROSION CONTROL BID ITEM.
 - MATS IN THIS AREA LEVEL.



CABLED CONCRETE BLOCK MAT LOCATIONS

- | | |
|--|--|
| (A) STA. 364+15.43, 121.12' LT.
N 6100834.77, E 22569606.46
ELEV. 955.99 | (B) STA. 364+15.47, 113.12' LT.
N 6100834.77, E 22569614.46
ELEV. 955.99 |
| (C) STA. 363+99.43, 121.04' LT.
N 6100818.77, E 22569606.46
ELEV. 955.99 | (D) STA. 363+99.47, 113.04' LT.
N 6100818.77, E 22569614.46
ELEV. 955.99 |
| (E) STA. 363+83.43, 120.95' LT.
N 6100802.77, E 22569606.46
ELEV. 955.99 | (F) STA. 363+83.47, 112.96' LT.
N 6100802.77, E 22569614.46
ELEV. 955.99 |
| (G) STA. 364+15.27, 153.11' LT.
N 6100834.77, E 22569574.46
ELEV. 947.85 | (H) STA. 363+99.27, 153.03' LT.
N 6100818.77, E 22569574.46
ELEV. 947.85 |
| (I) STA. 363+83.27, 152.95' LT.
N 6100802.77, E 22569574.46
ELEV. 947.85 | |

ELEVATIONS ARE TO TOP SURFACE OF BLOCKS (GRADING SURFACE)

LOCATION

US 65 OVER AN UNNAMED CREEK
T-68N R-23W
SECTIONS 33 AND 34
JEFFERSON TOWNSHIP
WAYNE COUNTY
BRIDGE MAINT. NO. 9304.8S065
FHWA NO. 51880
LATITUDE 40.644165°
LONGITUDE -93.499007°

HYDRAULIC DATA

DRAINAGE AREA = 1.56 SQ. MI.
Q₁₀ = 1.085 CFS
HW ELEV. = 964.97
STREAM SLOPE = 45.3 FT./MI.

UTILITIES LEGEND:

FO - FIBER OPTIC - GRAND RIVER MUTUAL TELEPHONE CO.

ESTIMATED REVETMENT QUANTITIES

LOCATION	EROSION CONTROL SYSTEM (SF)	EXCAVATION (CY)
OUTLET	2,368	25

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE.
QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.

- NOTE: PROVIDE ANCHOR TRENCH AROUND ENTIRE PERIMETER OF CABLED CONCRETE REVETMENT
- PROVIDE MIN. 18 INCH THICK TOPSOIL AT TOP OF ALL NEWLY GRADED AREAS
- REMOVE EXISTING CATTLE FENCE AS NECESSARY FOR CONSTRUCTION



SITUATION PLAN

DESIGN FOR REPAIRS TO 0° SKEW

TWIN 10' X 12' X 146' REINFORCED CONCRETE BOX CULVERT

SITUATION PLAN

STATION 363+99.68 SEPTEMBER 2020

WAYNE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 2 OF 2 FILE NO. 32031 DESIGN NO. 122