

REVETMENT
MB-148-4(504)28--77-02

LETTING DATE
AUG 19 2025

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No.	Description
Sheets	Bridge Plan
A.1	Title Sheet
V.1	Estimated Quantities
V.2	Situation Plan
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<-- H-Sheet

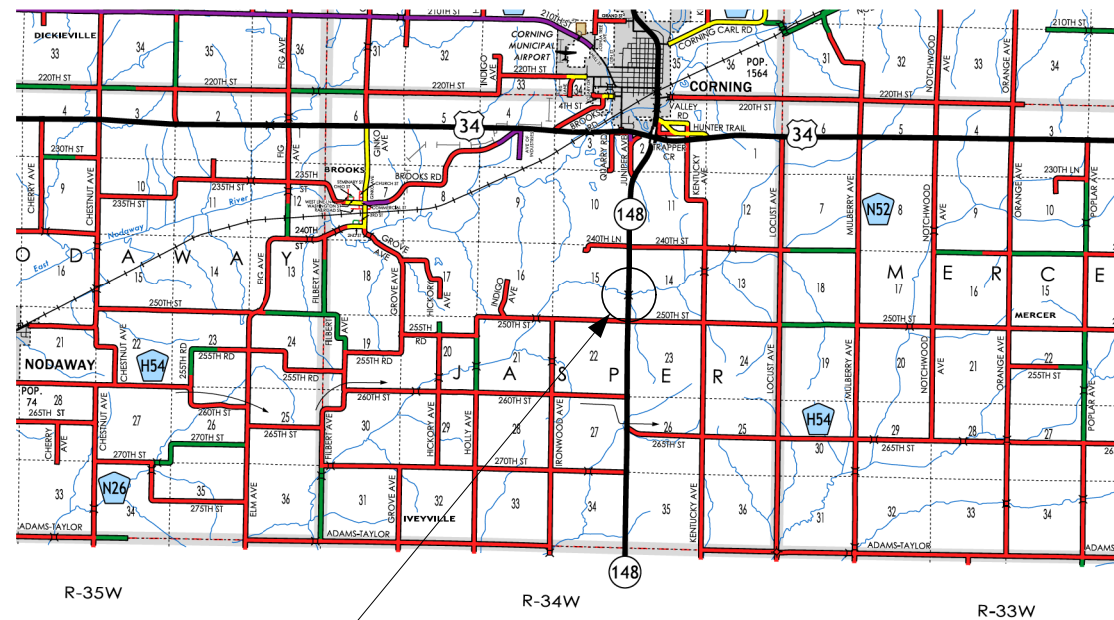


PLANS OF PROPOSED IMPROVEMENT ON THE PRIMARY ROAD SYSTEM ADAMS COUNTY REVETMENT

IA 148 Over Stream 2.2 Miles S of Jct US 34

Refer to the Plan Sheets for list of applicable specifications.

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



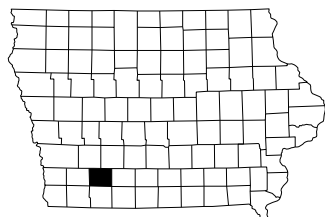
Project Location

Design No. 0125
FHWA No. 013380

Index of Seals		
Sheet No.	Name	Type
V.1	Daniel D. Kimball	Hydraulic Design

	TOTAL
	3
PROJECT IDENTIFICATION NUMBER	
24-02-148-010	
CONTRACT ID NUMBER	
.	
PROJECT NUMBER	
MB-148-4(504)28--77-02	
R.O.W. PROJECT NUMBER	
.	
PROJECT DIRECTORY NUMBER	
214801024	

Design Data Rural	
2023 AADT	1,220 V.P.D.
TRUCKS	19.18 %
Total	
Design ESALS	



FILE NO.	ENGLISH	DESIGN TEAM AECOM	ADAMS COUNTY	PROJECT NUMBER MB-148-4(504)28--77-02	SHEET NUMBER A.1
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Right of Way Design Information

THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: LARSON / CUVA
ROW #: MB-148-4(505)28--77-02
Plan Date: 4/11/2025
Color Legend:

Property Lines

Temporary Easement

Permanent Acquisition

Permanent Acquisition County

Permanent Acqisltn Clty


Estimate Quantities and Reference Notes					
Item No.	Item Code	Item	Unit	Quantities Estimated	Estimate Reference Notes
1	2101-0850001	Clearing and Grubbing	ACRE	0.2	All material generated as a result of the Clearing and Grubbing shall become the property of the Contractor and must be disposed of off site. All wood material must be disposed of according to Iowa DOT Agriculture and Land Stewardship Emerald Ash Borer Quarantine Order. For more information see www.iowatreepests.com.
2	2104-2710020	Excavation, Class 10, Channel	CY	860	Includes all work in preparation of grade for placement of revetment and topsoil including excavation to the limits shown on the drawings, backfill utilizing suitable excavated material (including salvage revetment and soil leveling course over revetment areas). The bounding limits of article 2402.02(b) are not applicable. Excess excavated material shall be disposed of by the Contractor off of the project site. Sediment removal is considered incidental to this bid item.
3	2105-8425005	Topsoil, Furnish and Spread	CY	30	Includes all work for furnishing and placement of topsoil. Apply erosion control and rural seeding and fertilizer to all disturbed areas. Seeding and Fertilizing is considered incidental to topsoil/erosion control placement. Quantity based on 2021 Lidar Data and 2023 field survey.
4	2210-0475290	Macadam Stone Base	TON	112	Item is for filling of scour areas below the Class C Revetment stone. See Typical Ditch Section for location.
5	2506-4984000	Flowable Mortar	CY	10	Item is for installing at the base of the undermined outlet curtain wall to fill voids.
6	2507-3250005	Engineering Fabric	SY	420	Engineering Fabric shall be material specified for embankment erosion control according to Article 4196.01, B, 3.
7	2507-6800032	Revetment, Class C	TON	468	Estimated at 1.6 Ton/CY. Class C Revetment shall meet requirements of Article 4120. Broken concrete and granite is not allowed. Bid item includes 10% additional quantity.
8	2601-2638352	Slope Protection, Wood Excelsior Mat	SQ	13	Item is for Slope protection. See standard road plan EC-103 and the construction plan set for details. Prepare seedbed according to Article 2601.03, B, 4, of the Standard Specifications prior to seeding and fertilizing under the slope protection.
9	2601-2643412	Turf Reinforcement Mat, Type 2	SQ	25	Item is for ditch protection. See standard road plan EC-104 and the construction plan set for details.

General Notes:

The design is for repairs to the existing Triple 15'-18'-15' x 12' x 46' RCB outlet along IA 148 in Adams County.

- Project shall consist of:
- 1. Install flowable mortar at the undermined outlet curtain wall.
 - 2. Fill scour hole with macadam stone base.
 - 3. Installation of Class C Revetment
 - 4. Installation of Wood Excelsior Matting and turf reinforcement matting.
 - 5. Channel and slope grading.
 - 6. Remove sediment from existing structure.

Specifications:
Construction: Iowa Department of Transportation standard specifications for highway and bridge construction, series of 2023, plus applicable general supplemental specifications, developmental specifications, supplemental specifications and special provisions shall apply to construction work on this project.



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

Daniel D. Kimball

Date

Printed or Typed Name

My license renewal date is December 31,

2025

Pages or sheets covered by this seal:

V.1, V.2, V.3

Design For 0 Degree

Existing Triple 15'-18'-15'x12'x46'
RCB Culvert Erosion Repair

Estimated Quantities

STA. 1006+09.30 (IA 148)Turn-in Date: Jun 15 2025

Adams County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0125Design Sheet No. 1 of 3FHWA/Asset 013380

Control Point:
N: 6216347.026, E: 22226902.825, Elev: 1253.126 Found Concrete Monument
N: 6211193.442, E: 22227007.464, Elev: 1238.568 Found Concrete Monument

Hydraulic Data

Drainage Area = 6464 Acres

Q₅₀ = 5,230 cfs
Exit Velocity = 9.08 fps

Q₁₀₀ = 6,400 cfs
Exit Velocity = 11.11 fps

Location

IA 148 Over Stream
T-71N R-34W
Section 15,14
Jasper Township
Adams County
Latitude 40.948401°
Longitude -94.738334°

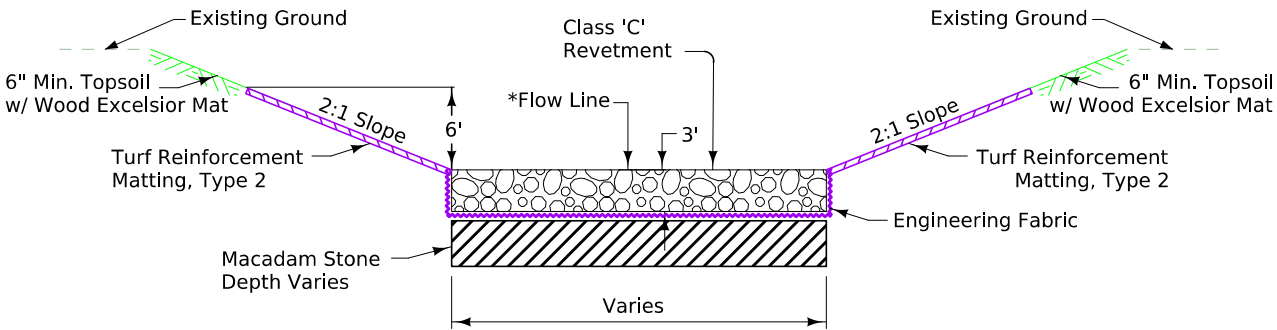
Utilities Note:

Utilities shown on this sheet are for information only. See Road Design sheets for utility information.

General Utility Symbols:

- E - Electric Line
G - Gas Line
SAN. - Sanitary Sewer
T - Telephone Line
W - Water Line

FO - Fiber Optic Line
GHP - Gas High Pressure
ST S - Storm Sewer
TV - TV
● - Power Poles

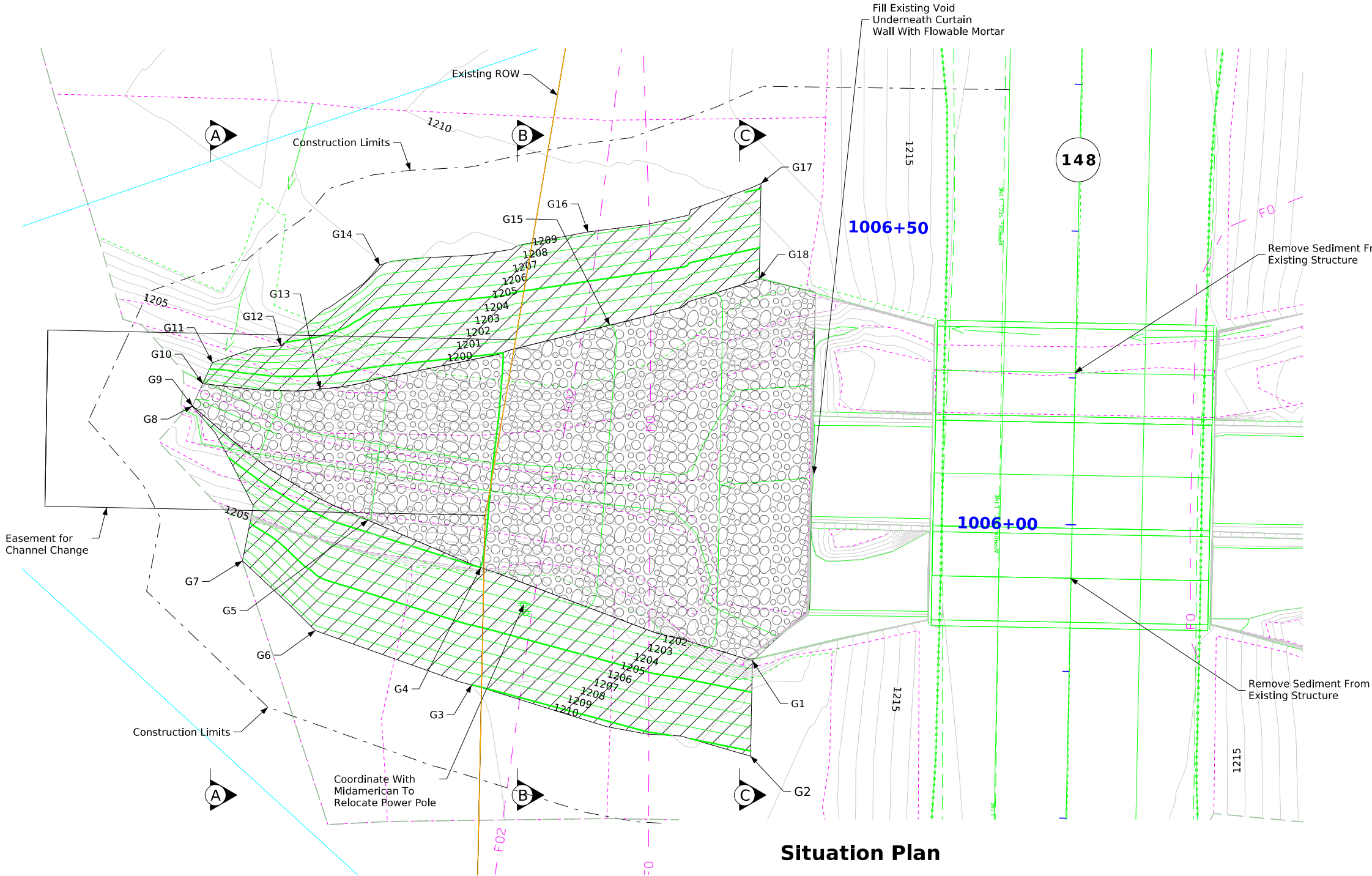


Typical Ditch Section*

*Refer to standard road plan EC-301, Type 2 for additional details.

Design Notes:

- Row impacts are anticipated.
- Coordination with property owner is required.
- Class 'C' Revetment is embedded.
- Clearing and grubbing to be completed within the construction limits.
- Utility pole relocation / support required.



Grading Limits

Point	Northing	Easting	Elevation
G1	6213071.5859	22226913.5862	1202.314
G2	6213056.6045	22226914.2666	1210.421
G3	6213056.6045	22226866.7626	1210.002
G4	6213067.1693	22226968.2788	1199.990
G5	6213095.2604	22226849.1148	1198.977
G6	6213076.4635	22226840.1034	1209.394
G7	6213088.3110	22226827.6975	1209.345
G8	6213114.6416	22226819.1470	1197.388
G9	6213114.7199	22226819.1833	1197.302
G10	6213118.4909	22226820.9334	1197.302
G11	6213122.0591	22226822.5893	1201.196
G12	6213124.9333	22226834.2221	1204.615
G13	6213117.8948	22226844.2904	1198.100
G14	6213138.6908	22226851.0970	1208.970
G15	6213123.7418	22226871.9941	1200.926
G16	6213144.3120	22226886.5512	1209.266
G17	6213152.5702	22226916.0080	1210.458
G18	6213140.2000	22226915.7835	1202.314

Design For 0 Degree
Existing Triple 15'-18'-15'x12'x46'
RCB Culvert Erosion Repair

Situation Plan

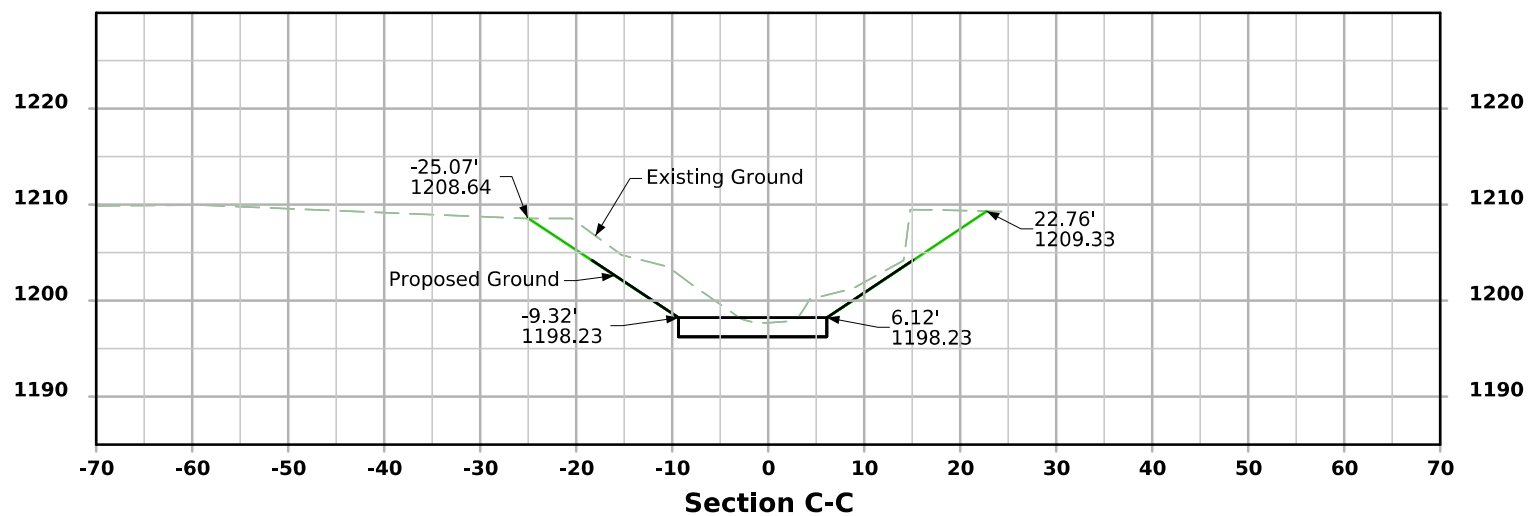
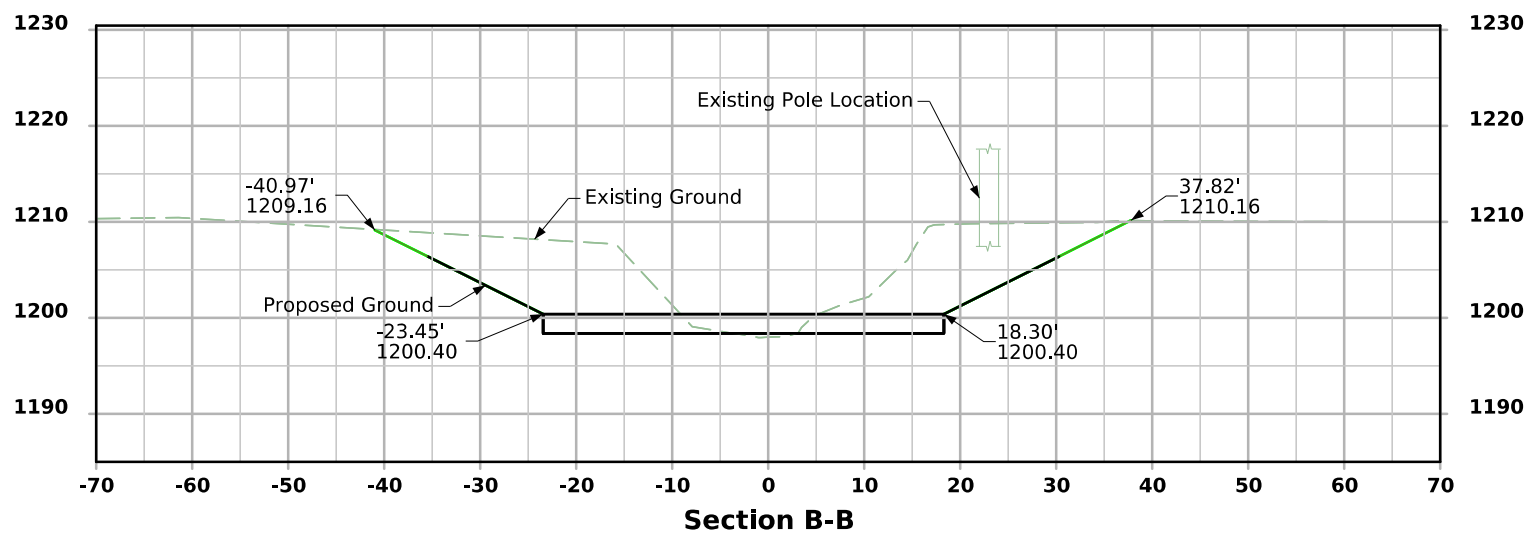
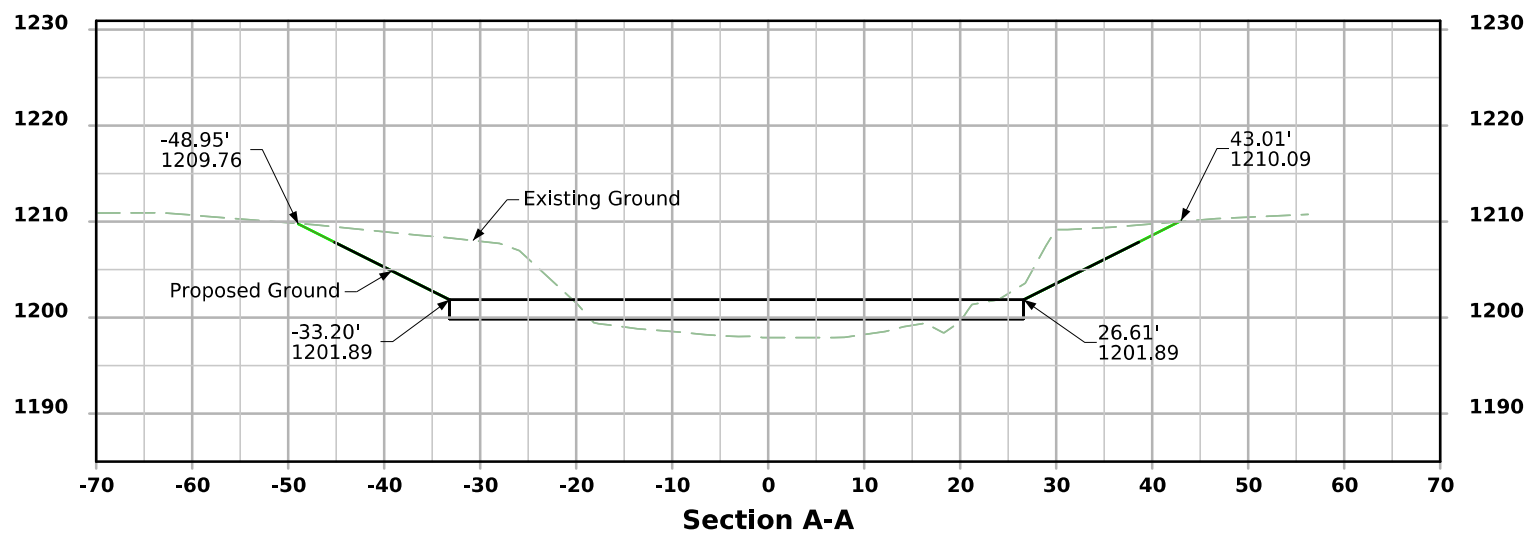
STA. 1006+09.30 (IA 148) Turn-in Date: Jun 15 2025

Adams County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0125 Design Sheet No. 2 of 3 FHWA/Asset 013380

FILE NO.	ENGLISH	DESIGN TEAM	AECOM	Adams COUNTY	PROJECT NUMBER	MB-148-4(504)28--77-02	SHEET NUMBER	V.2
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Design For 0 Degree

Existing Triple 15'-18'-15'x12'x46'

RCB Culvert Erosion Repair

Cross Sections

STA. 1006+09.30 (IA 148) Turn-in Date: Jun 15 2025

Adams County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. 0125 Design Sheet No. 3 of 3 FHWA/Asset 013380