Revetment
LETTING DATE **March 21, 2028**
MP-148-4(707)32--76-02
ADAMS COUNTY

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	Typical Cross Sections and Details
D Sheets	**Mainline Plan and Profile Sheets**
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	Iowa 148
G Sheets	**Survey Sheets**
G.1	Survey Index
G.2	Control Point Vicinity Map
G.3	Horizontal & Vertical Project Control Coordinate
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
W Sheets	**Mainline Cross Sections**
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 4	Iowa 148 Cross Sections
	* Color Plan Sheets

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
ADAMS COUNTY
Revetment
0.7 mi S of NCL of Corning

SCALES: As Noted

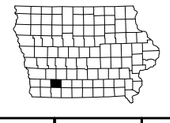
Refer to the Proposal Form for list of applicable specifications.

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

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

REVISIONS

	TOTAL
	14
PROJECT IDENTIFICATION NUMBER	
26-02-148-010	
PROJECT NUMBER	
MP-148-4(707)32--76-02	
R.O.W. PROJECT NUMBER	



IA 148 DESIGN DATA RURAL			
2024	AADT	1402	V.P.D.
20 –	AADT	–	V.P.D.
20 –	DHV	–	V.P.H.
TRUCKS		16.55	%
Total Design ESALs		–	

INDEX OF SEALS			
SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1	Kelly Bell	Primary Signature Block	X
V.1	George Sefain	Hydraulic Design	X

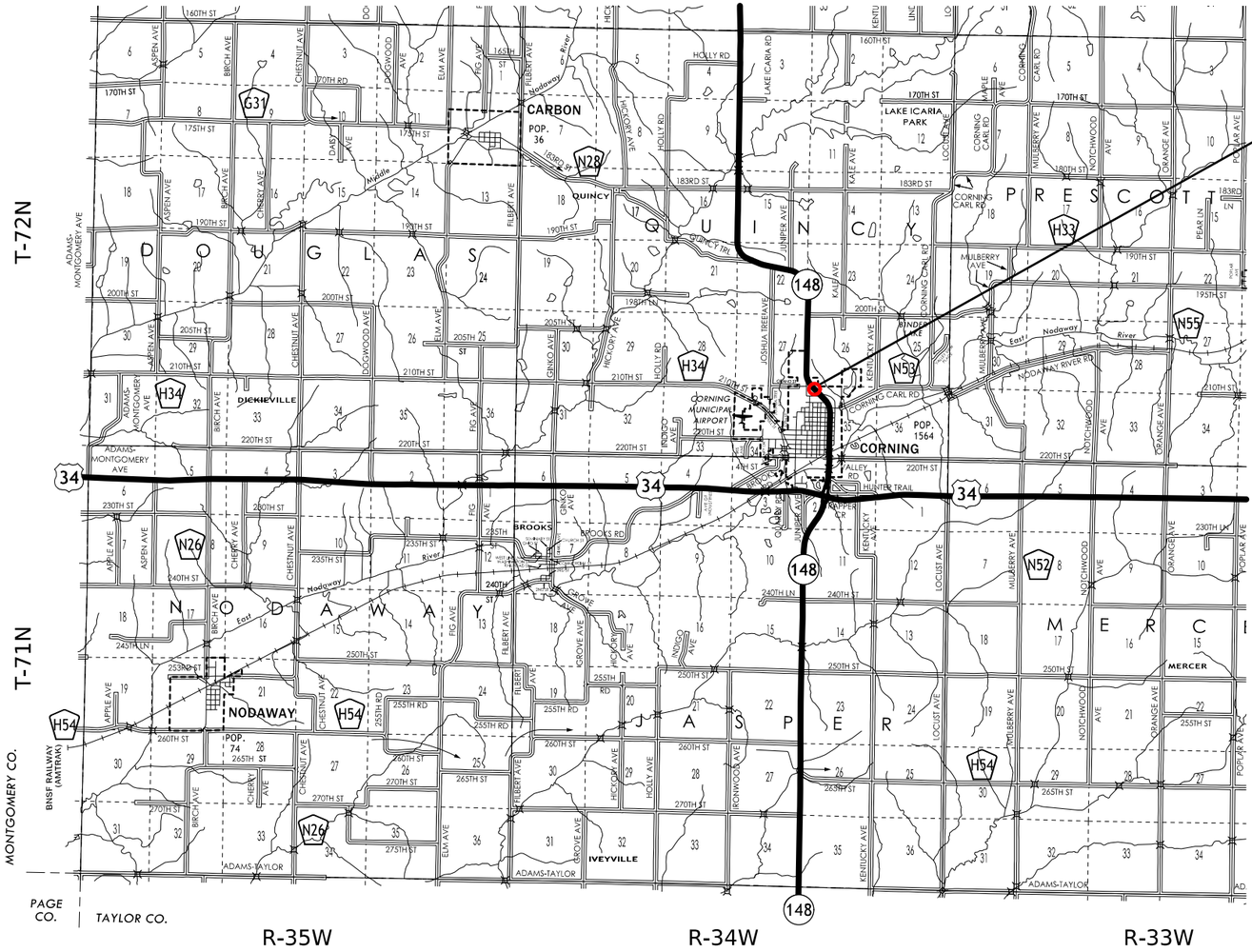
PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - September 01, 2026

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\McDonald	ADAMS COUNTY	PROJECT NUMBER MP-148-4(707)32--76-02	SHEET NUMBER A.1

8:44:01 AM 9/1/2026 emcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\0214801026\Design\MP-148-4(707)32--76-02_Revetment\CADD_Files\Sheet_Files\A01_02148707Z12.dgn



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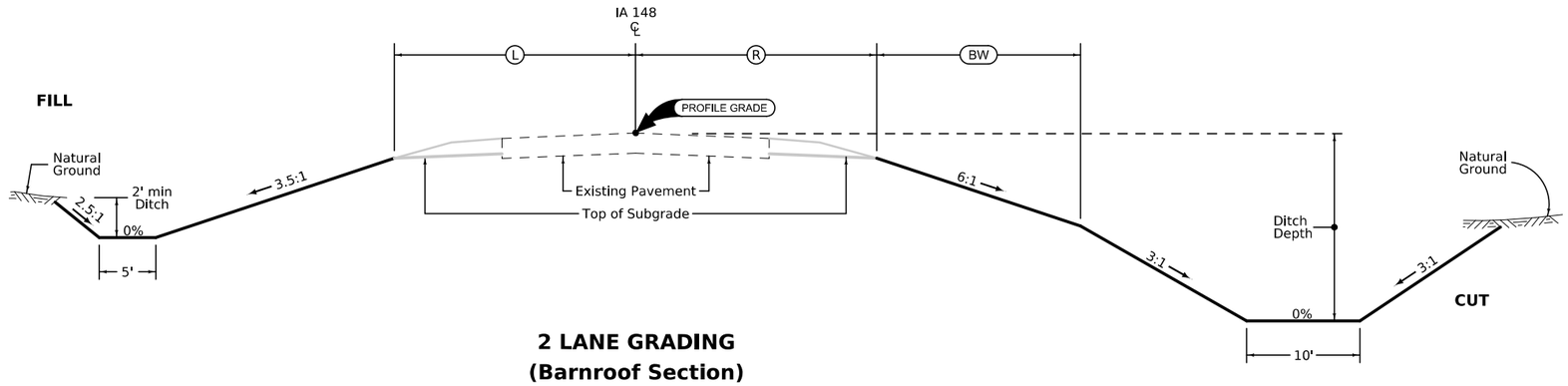
LOCATION			DIMENSIONS		
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(BW) Feet
IA 148	141+25.00	142+25.00	19	-	
IA 148	141+25.00	141+75.00	-	19	11

Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

G_2_Grade_BR
Modified



2 LANE GRADING
(Barnroof Section)

IA 148

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\McDonald	ADAMS COUNTY	PROJECT NUMBER MP-148-4(707)32--76-02	SHEET NUMBER B.1	

8:39:10 AM 8/3/2026 emcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\0214801026\Design\MP-148-4(707)32--76-02_Revetment\CADD_Files\Sheet_Files\B01_02148707Z12.dgn

SURVEY SYMBOLS

- Interstate Highway Symbol
- U.S. Highway Symbol
- Iowa Highway Symbol
- County Road Highway Symbol
- Evergreen Tree
- Deciduous Tree
- Fruit Tree
- Shrub (Bushes)
- Timber
- Hedge
- Stump
- Swamp
- Rock Outcrop
- Broken Concrete
- Revetment (Rip Rap)
- Cemetery
- Grave
- Cave
- Sink Hole
- Board Fence
- Chain Link or Security Fence
- Wire Fence
- Terrace
- Earth Dam or Dike (Existing)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Existing Utility Access (Manhole)
- Fire Hydrant
- WH Water Hydrant (Rural)
- ST Septic Tank
- C Cistern
- LP L.P. Gas Tank (No Footing)
- UST Underground Storage Tank
- Latrine
- Satellite TV Dish
- WHU Water Hook Up
- RT Radio Tower
- TA Tower Anchor
- Guardrail (Beam or Cable)
- GP Guard Post (one or two)
- Guard Post (over two)
- FP Filler Pipe
- GV Gas Valve
- WV Water Valve
- SL Speed Limit Sign
- MM Mile Marker Post
- SIGN Sign
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box
- EB Electric Box

UTILITY LEGEND

Sub-Surface Utility Mapping Quality Level is in accordance with CI/ASCE 38-02 Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data.

Remark Abbreviations
QLA Quality Level A Highest guideline quality level
QLD Quality Level D Lowest guideline quality level

- SAN. SA1D, Sanitary Sewer Corning Municipal Utilities - Quality D
- W WL1D, Water Line Corning Municipal Utilities - Quality D
- G GL1D, Gas Line Corning Municipal Utilities - Quality D

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.**		**Transparency**
Pink, Dark	(13)	Temporary Pavement Shading	50%
Yellow	(4)	Proposed Pavement Shading	50%
Orange	(6)	Proposed Granular Shading	50%
Orange	(70)	Proposed Shoulder Granular Shading	50%
Yellow	(68)	Proposed Shoulder Paved Full Depth Shading	50%
Yellow	(132)	Proposed Shoulder Paved Partial Depth Shading	50%
Brown, Light	(236)	Grading Shading	50%
Orange, Light	(134)	Proposed Granular Entrance Shading	50%
Yellow	(220)	Proposed Paved Entrance Shading	50%
Tan	(8)	Proposed Sidewalk Shading	50%
Blue, Light	(230)	Proposed Sidewalk Landing Shading	50%
Pink	(11)	Proposed Sidewalk Ramp Shading	50%
Red	(3)	Proposed Structure Shading	50%
Red	(3)	Delineates Restricted Areas	0%

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(10)	Existing Ground Line Profile
Blue	(1)	Proposed Profile and Annotation
Magenta	(5)	Existing Utilities
Blue, Light	(230)	Proposed Ditch Grades, Left
Black	(0)	Proposed Ditch Grades, Median
Rust	(14)	Proposed Ditch Grades, Right

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

RIGHT-OF-WAY LEGEND

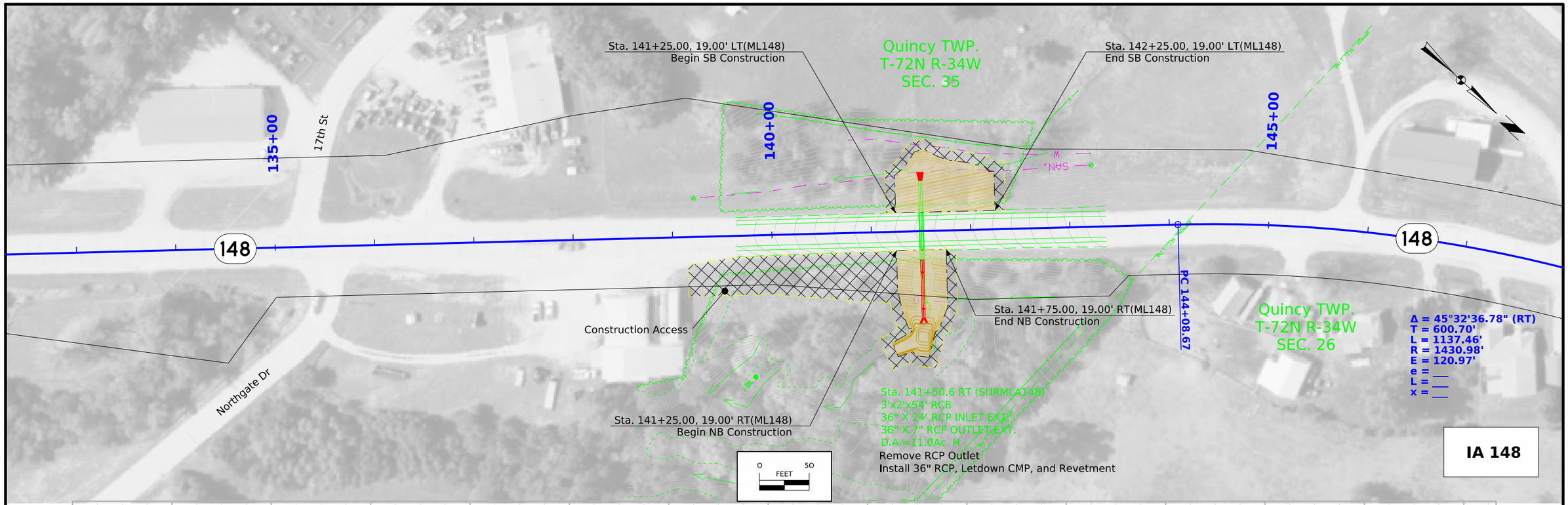
- Proposed Right-of-Way Symbol
- Proposed Right-of-Way Line
- Existing Right of Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Easement (Temporary) Symbol
- Easement (Temporary) Line
- Easement
- C/A Access Control
- Property Line Symbol
- Property Line

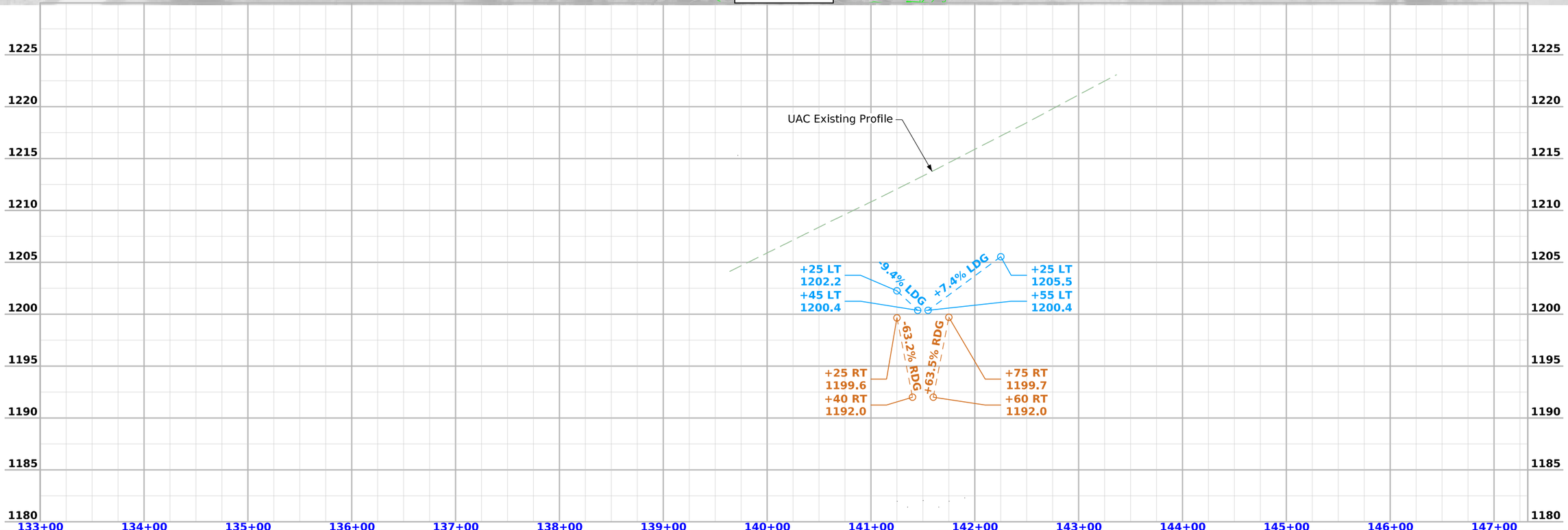
PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES D, E, F, & K)

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\McDonald	ADAMS COUNTY	PROJECT NUMBER MP-148-4(707)32--76-02	SHEET NUMBER D.1

3:02:24 PM 8/31/2026 emcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\0214801026\Design\MP-148-4(707)32--76-02_Revetment\CADD_Files\Sheet_Files\LGD_02148707Z12.dgn





FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\McDonald	ADAMS COUNTY	PROJECT NUMBER MP-148-4(707)32--76-02	SHEET NUMBER D.2

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SURVEY INDEX

County : Adams
Project Code : 26-02-148-010
Phase Number : MP-148-4(707)32--76-02
Location : 0.7 mi S of NCL of Corning
Work Code : 3571-Revetment
Project Directory : 0214801026

Survey Personnel

Paul Harry – Survey Party Chief
Bob Fredrickson – Assistant Survey Party Chief

Date(s) of Survey

Begin Date	02/16/2026
End Date	02/26/2026

General Information

This survey is for Hwy 148 culvert repair and ditch revetment. This project is a Full Field DTM survey.

Utility Information

For logging data and other utility details see Utility Survey and Ownership Report in the Utility folder of the PrelimSurvey project directory.

Project Control

Nearby Iowa Real Time Network reference stations were utilized to obtain horizontal and vertical control on primary project control points. Three five-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 12 (U.S. SURVEY FOOT)
VERTICAL DATUM: NAVD88
GEOID MODEL: 2018u3

Alignment Information

The horizontal alignment for Hwy 148 this survey was provided by District 4 ROW Office.

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 12 (U.S. Survey Foot)

VERT. DATUM: NAVD88 - Geoid Model: 2018u3

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 12 (U.S. Survey Foot)
VERT. DATUM: NAVD88
Geoid Model: 2018u3

Point Name	Northing	Easting	Elevation	Code Description
CORNPORT	6230938.64	22222533.20	1274.12	CP FD NGS MON AS DESCRIBED
CORNPORTAZMK	6228478.35	22222476.33	1246.63	CP FD NGS MON AS DESCRIBED
2148322	6235969.35	22227221.17	1297.44	CP CENTER PUNCH HOLE IN ROW RAIL
2034621	6224324.53	22227533.61	1160.26	CP FD CONC MON

108-23A
08-01-08

TRAFFIC CONTROL PLAN

One lane of IA 148 traffic will be maintainted at all times Per TC-213.

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	

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
			None Provided									

Control Point: CORNPORT,6230938.635,22222533.203,1274.115,CP FD NGS MON AS DESCRIBED

Location

0.7 mi S of NCL of Corning, IA 148
T-72N R-34W
Section 35
Adams County
Latitude 41.000276
Longitude -94.736066

Project Shall Consist of:

- Cleanout of accumulated debris.
- Inlet: install concrete apron 36" DR201, Restore the eroded embankment,and install 2ft Class E revetment underlain with engineering fabric.
- Outlet: remove the existing RCP sections, Install 12ft RCP 36" connected to existing 2'x3' RCB with DR-122 type C-2
  Install 38 ft CMP let down 36" DR- 625 connected to RCP with DR-122 C-3
  Install 10ft CMP 36", ended by metal apron DR-203. Restore the eroded embankment, and install 2ft Class E revetment underlain with engineering fabric with stilling basin.

Hydraulic Data

Drainage Area = 11 Acres (Hilly)
Q_{50} = 37.00 cfs
HW Elev. = 1203.42
Exit Velocity = 19.46fps

100 = 44 cfs
HW Elev. = 1203.85
Exit Velocity = 20.44 fps

Utilities Note:

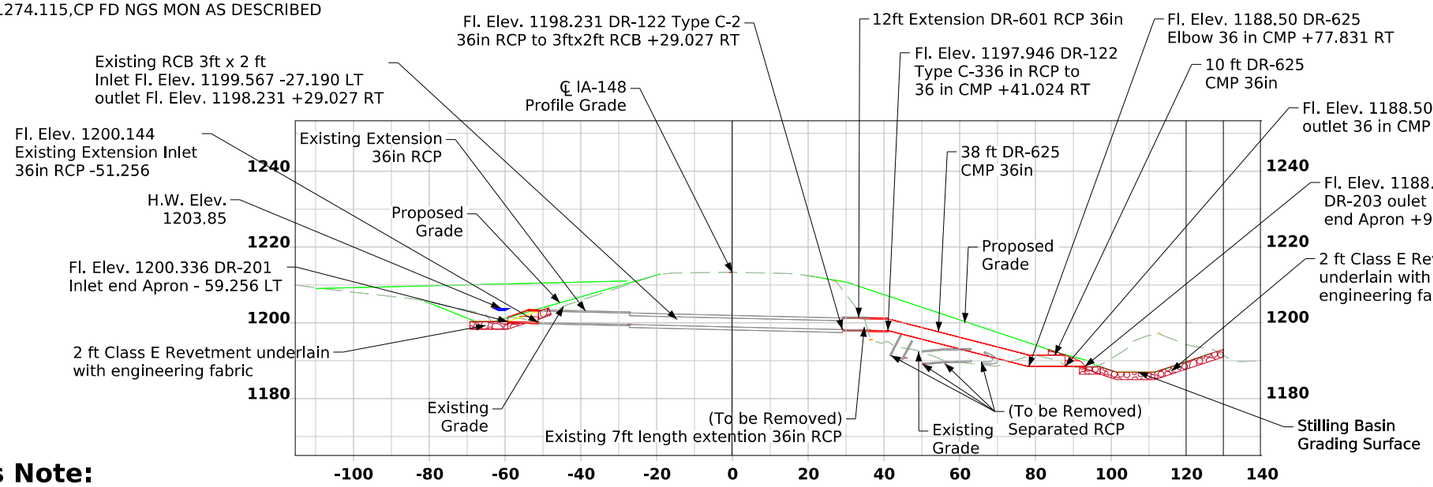
Utilities shown on this sheet are for information only.
See Road Design sheets for utility information.

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

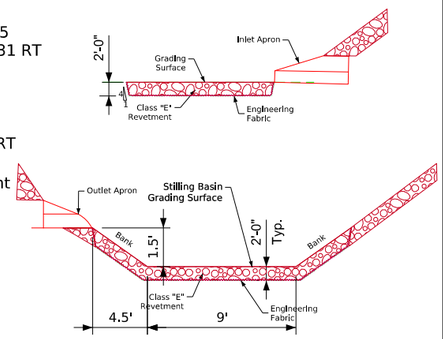
Revetmet Points

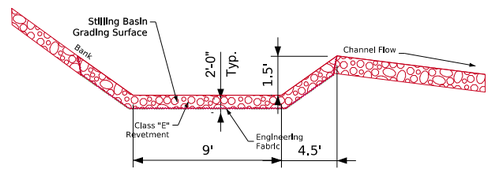
Point	Station	Offset	N	E	Elevation
Revetment Limits					
R1	141+55.42	69.26' LT	6231944.787	22227764.492	1200.336
R2	141+55.52	59.26' LT	6231951.857	22227771.563	1200.336
R3	141+55.62	49.04' LT	6231959.083	22227778.788	1204.000
R4	141+45.63	47.92'LT	6231952.736	22227786.583	1204.000
R5	141+45.52	59.24' LT	6231944.729	22227778.575	1200.336
R6	141+45.42	69.24' LT	6231937.658	22227771.504	1200.336
Revetment Limits					
R7	141+18.63	111.74' RT	6232045.232	22227919.486	1192.000
R8	141+38.63	100.63' RT	6232051.739	22227897.547	1192.000
R9	141+37.04	90.61' RT	6232043.583	22227891.511	1192.000
R10	141+40.00	84.68' RT	6232041.553	22227885.208	1192.000
R11	141+60.41	87.71' RT	6232058.241	22227873.079	1188.500
R12	141+62.87	95.35' RT	6232065.355	22227876.811	1192.000
R13	141+61.64	102.79' RT	6232069.680	22227882.988	1192.000
R14	141+55.02	127.16' RT	6232082.018	22227905.018	1192.000
R15	141+45.07	125.51' RT	6232073.752	22227910.809	1192.000
R16	141+37.78	120.92' RT	6232065.335	22227912.639	1192.000
R17	141+24.08	125.65' RT	6232058.861	22227925.605	1192.000
Streambed					
R18	141+22.63	121.94' RT	6232055.234	22227923.977	1188.000
R19	141+20.20	115.76' RT	6232055.234	22227923.977	1188.000
R20	141+36.61	107.55' RT	6232055.148	22227903.908	1188.500
R21	141+42.75	98.34' RT	6232053.077	22227893.037	1188.500
R22	141+41.13	110.35' RT	6232060.332	22227902.744	1188.500
R23	141+45.32	115.81' RT	6232067.143	22227903.711	1188.500
Stilling Basin					
R24	141+44.79	110.68' RT	6232063.177	22227900.419	1187.000
R25	141+45.00	100.49' RT	6232056.192	22227892.996	1187.000
R26	141+55.00	102.11' RT	6232064.466	22227887.151	1187.000
R27	141+55.00	112.11' RT	6232071.467	22227894.292	1187.000

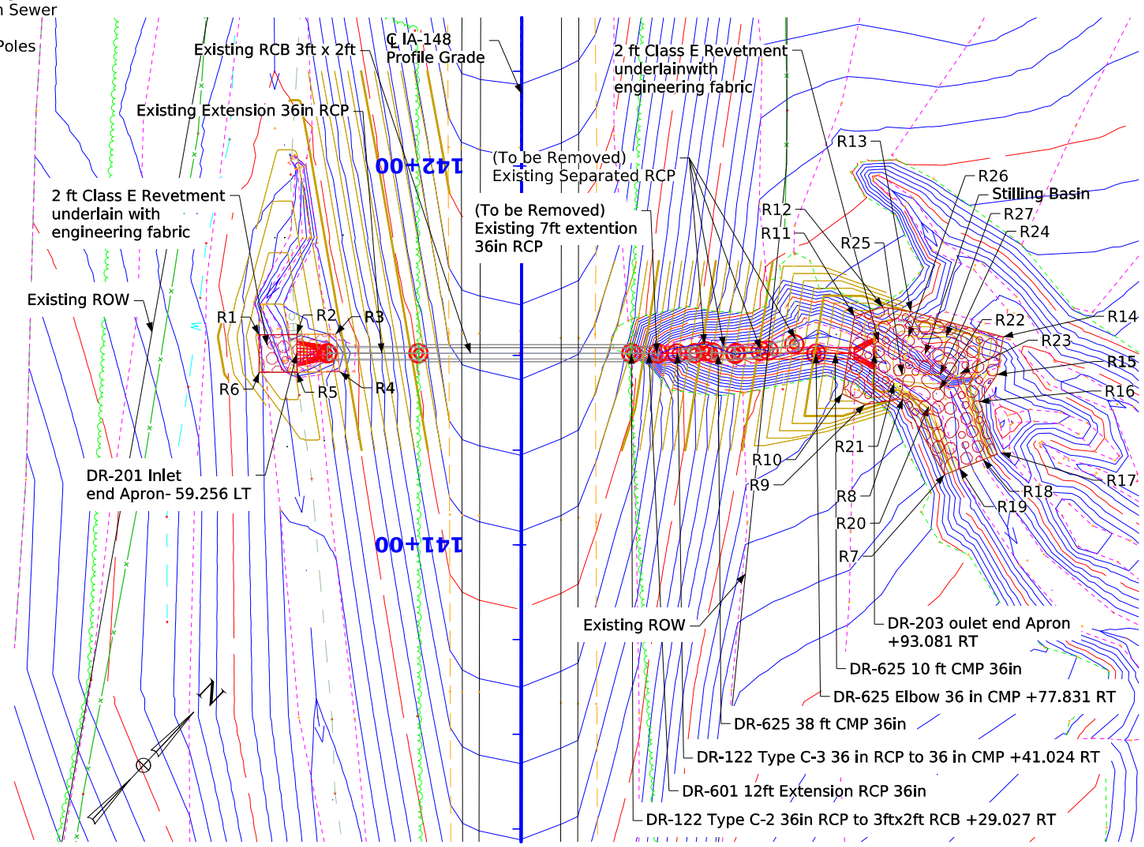


Longitudinal Section Along ℄ Structure STA 141+50.59

Typical Channel Protection







Situation Plan

Estimated Revetment Quantities

Location	Revetment Class "E" (Ton)	Engineering Fabric (SY)	CL. 10 Channel Excavation (CY)
Inlet	30	20	20
Outlet	220	160	145
Totals	250	180	165

Excavation quantity calculated from grading surface. Excavation quantity is for embedded revetment core out only, and does not include excavation to the grading surface. Excavation quantity to the grading surface is determined by Road Design and included in the Road Plans. Quantities shown for information only. See Road Sheets.

Revised: August 11, 2026

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.

George Sefain 29608 — Licensed Professional Engineer — Iowa

Signature — 04-22-2026 Date

George Sefain
Printed or Typed Name

My license renewal date is December 31, 2026

Pages or sheets covered by this seal: V1

Design For

Extention for Existing 3'-0"x2'-0" RCB 36" RCP, Letdown CMP, and Revetment

Situation Plan

STA. 141+50.59 (IA 148) Turn-in Date: April, 2026

Adams County

IOWA DEPARTMENT OF TRANSPORTATION

Design No. N/A | Design Sheet No. 1 of 1 | FHWA/Asset

FILE NO. 32957	ENGLISH	DESIGN TEAM GS	Adams COUNTY	PROJECT NUMBER MP-148-4(707)32--76-02	SHEET NUMBER V.1

SYSTEMTIME SYSTEMDATE USERNAME DGNSPEC

CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature
Aggregate	
(64)	Choke Stone
(42)	Engineering Fabric
(8)	Flooded Backfill
(92)	Macadam Stone
(20)	Modified
(12)	Plowing Shaping
(14)	Porous Backfill
(8)	Revetment Class A
(6)	Revetment Class B
(62)	Revetment Class C
(188)	Revetment Class D
(28)	Revetment Class E
(12)	Shoulder Special Backfill
(12)	Special Backfill
(20)	Subbase
(20)	Subbase Lower
(20)	Subbase Upper
(118)	Subgrade Treatment
Asphalt	
(207)	HMA Base Course
(207)	HMA Interim Course
(207)	HMA Surface Course
Bridge	
(0)	Bridge
Concrete	
(0)	Barrier Concrete
(0)	Barrier Concrete Footing
(0)	Curb Gutter
(48)	Flowable Mortar
(0)	Median Concrete
(0)	PCC Pavement
(0)	Sidewalk
Existing	
(0)	Existing Pavement
Shoulder	
(209)	Shoulder HMA
(0)	Shoulder PCC
(6)	Shoulder Granular
Structural	
(112)	Noise Wall
(112)	Noise Wall Footing
(112)	Retaining Wall Back
(112)	Retaining Wall Back Excavate
(112)	Retaining Wall Face
(112)	Retaining Wall Front Excavate
(112)	Retaining Wall Front Footing
(112)	Retaining Wall MSE Gutter
(112)	Retaining Wall Reinforced Earth

Design Color No.	Feature
Grading	
(8)	Behind Curb Cut
(6)	Granular
(13)	Granular Back Fill
(48)	Rock Undercut
(8)	Shoulder Earth Fill
(2)	Side Slopes
(226)	Side Slopes Dressing
Substrata	
(128)	Boulder
(209)	Boulder Removed
(48)	Broken Weathered
(210)	Broken Weathered Removed
(3)	Core Out
(115)	Core Out Remove Only
(195)	Core Out Remove and Replace
(203)	Existing Pavement
(184)	Existing Pavement Remove Only
(200)	Existing Pavement Remove and Replace
(6)	Loam
(211)	Loam Removed
(80)	Rock
(212)	Rock Removed
(4)	Select Sand
(214)	Select Sand Removed
(3)	Shale
(215)	Shale Removed
(10)	Topsoil
(2)	Topsoil Remove Only
(4)	Topsoil Remove and Replace
Unsuitable / Waste	
(3)	Unsuitable Type A
(216)	Unsuitable Type A Removed
(13)	Unsuitable Type B
(217)	Unsuitable Type B Removed
(11)	Unsuitable Type C
(218)	Unsuitable Type C Removed
(3)	Waste
(219)	Waste Removed

NOTES:

Text

NOTES:

Text

CROSS SECTIONS
LEGEND AND INFORMATION SHEET

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

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\McDonald	ADAMS COUNTY	PROJECT NUMBER MP-148-4(707)32--76-02	SHEET NUMBER W.1

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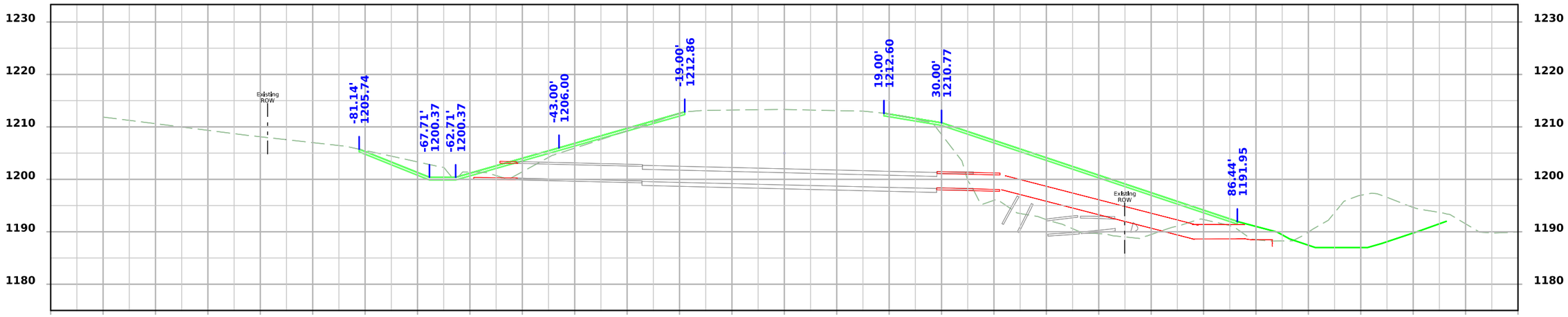
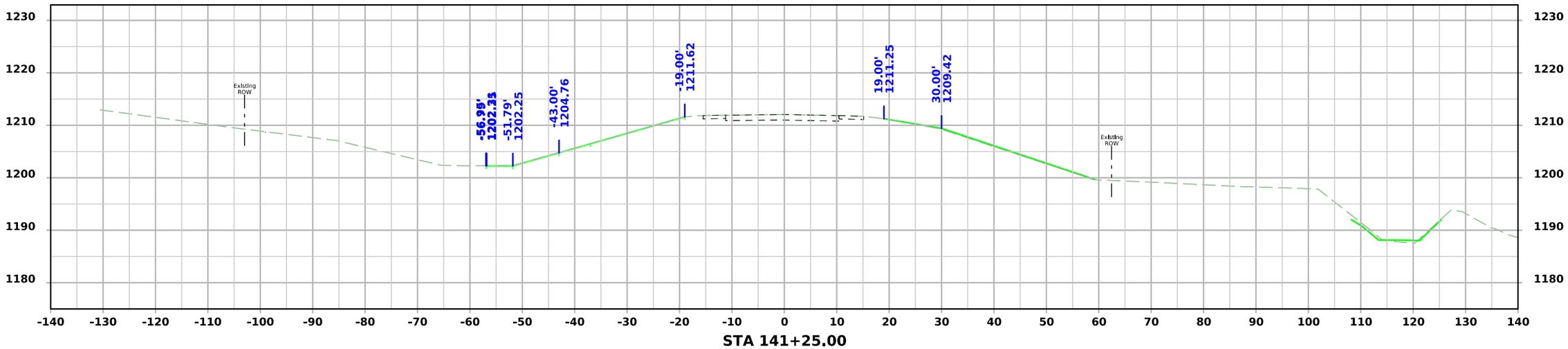
IA 148



STA 141+50.00



STA 141+25.00

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\McDonald	ADAMS COUNTY	PROJECT NUMBER MP-148-4(707)32--76-02	SHEET NUMBER W.2	

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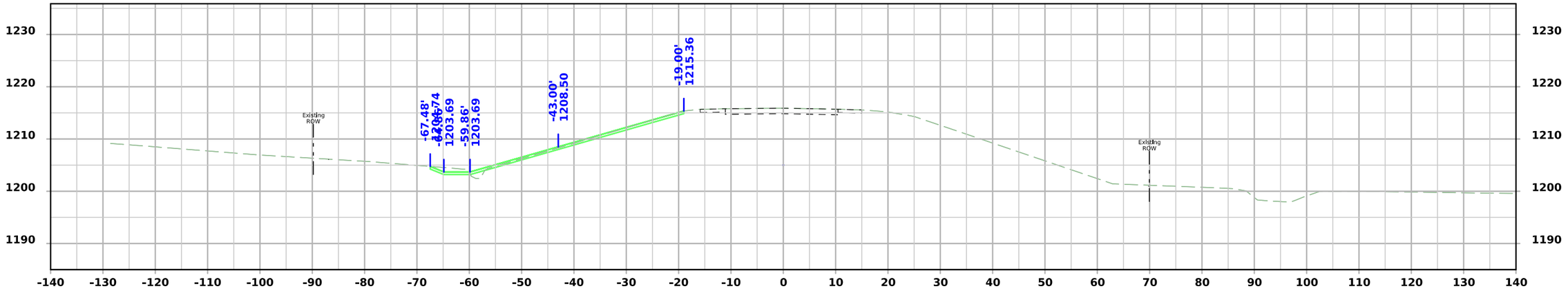
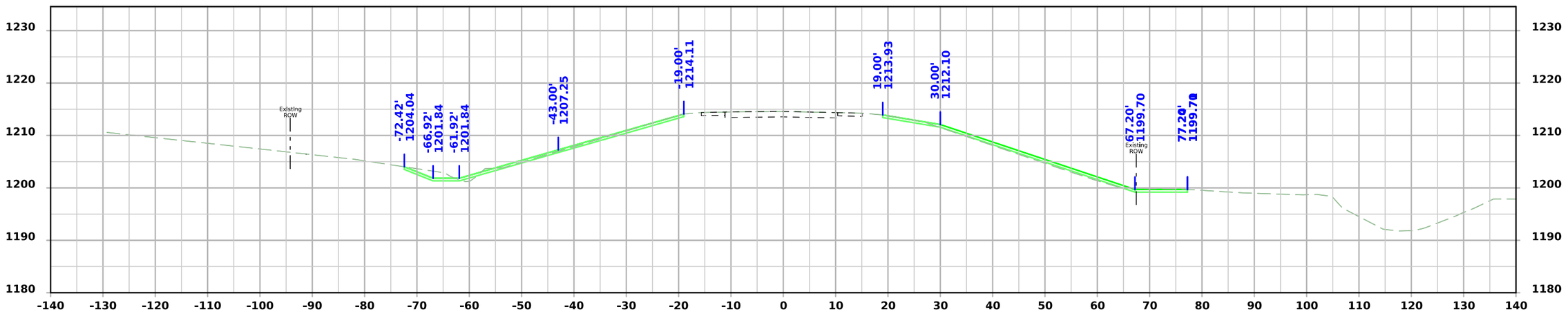
IA 148



STA 142+00.00



STA 141+75.00

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\McDonald	ADAMS COUNTY	PROJECT NUMBER MP-148-4(707)32--76-02	SHEET NUMBER W.3

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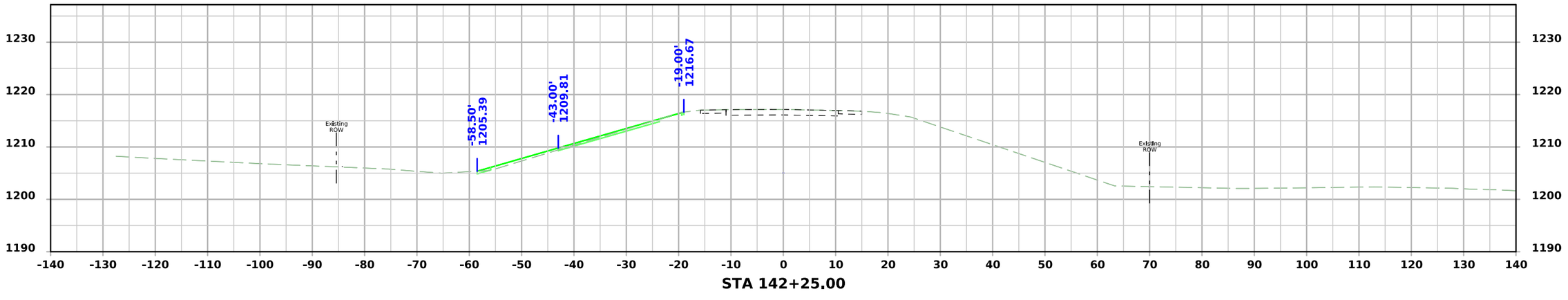
IA 148



STA 142+25.00

FILE NO.	ENGLISH	DESIGN TEAM Flattery\Bell\McDonald	ADAMS COUNTY	PROJECT NUMBER MP-148-4(707)32--76-02	SHEET NUMBER W.4

4:39:46 PM 7/31/2026 emcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\0214801026\Design\MP-148-4(707)32--76-02_Revetment\CADD_Files\Cross_Sections\SHT_W02_02148707Z12.dgn