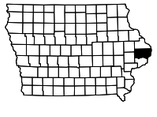
INDEX OF SHEETS



DESIGN DATA RURAL

2025	AADT	800	V.P.D.
2045	AADT	900	V.P.D.
2045	DHV	100	V.P.H.
TRUCKS		11	%
Total Design ESALs		--	

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Michael J. Janechek	Primary Signature Block
CS.1	Gary F. Miller	Geotechnical Design

Roadway Design

LICENSED PROFESSIONAL ENGINEER
Michael J. Janechek
22828
IOWA

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.

06-18-2024
Signature — Date

Michael J. Janechek
Printed or Typed Name

My license renewal date is December 31, 2024

Pages or sheets covered by this seal: A.3, B.1-2, C.1-6, D.1-2, G.1-4, J.1-3, RC.1-6, RR.1-2, W.1-4

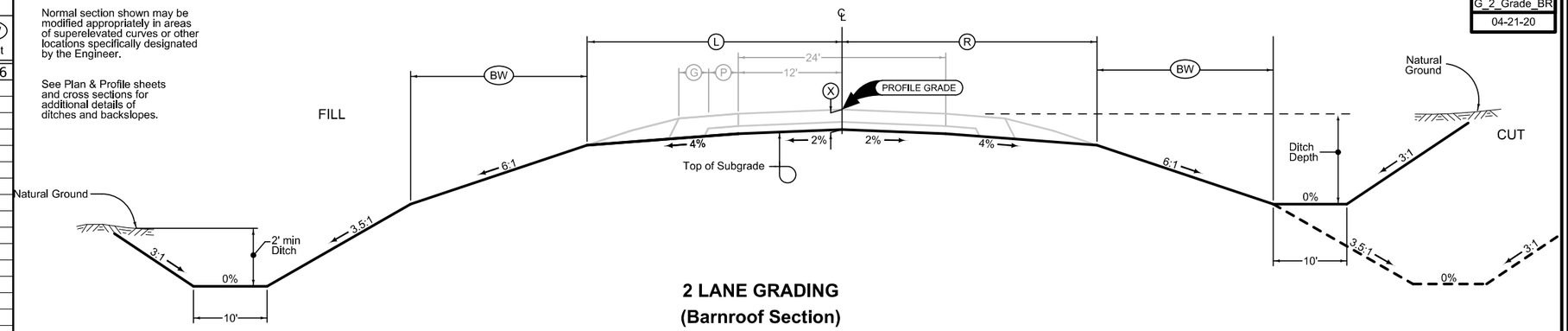
FILE NO. 32350	ENGLISH	DESIGN TEAM Iowa DOT/Shive-Hattery	CLINTON COUNTY	PROJECT NUMBER BRF-136-1(101)--38-23	SHEET NUMBER A.3

12:28:15 PM 5/17/2024 PGepson pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\2313605020\Design\CADD_Files\Sheet_Files\SHT_23136101_A1.dgn

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW) Feet
IA 136	797+59.70	799+42.46	33.94	33.94	16	2.06

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.



2 LANE GRADING
(Barnroof Section)

G_2_Grade_BR
04-21-20

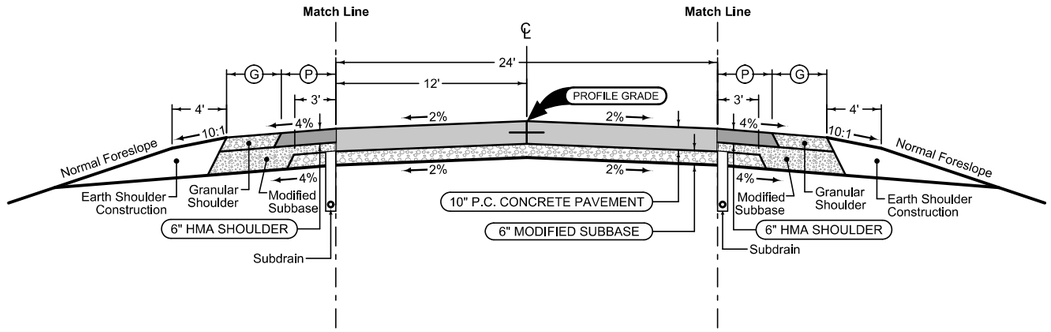
FILE NO. 32350	ENGLISH	DESIGN TEAM Iowa DOT/Shive-Hattery	CLINTON COUNTY	PROJECT NUMBER BRF-136-1(101)--38-23	SHEET NUMBER B.1	

11:47:54 AM 4/22/2024 PGepson pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\2313605020\Design\CADD_Files\Sheet_Files\SHT_23136101_B1.dgn

Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

		2_C_ 04-21-20	
STATION TO STATION		(P) Feet	(G) Feet
797+59.70	799+42.46	4	4



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

	2P_ 04-21-20
STATION TO STATION	
797+59.70	799+42.46

Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

		2_C_ 04-21-20	
STATION TO STATION		(P) Feet	(G) Feet
797+59.70	799+42.46	4	4

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roadway Items : Roadway Items

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
1	2101-0850001	CLEARING AND GRUBBING	ACRE	1.2	All material generated as a result of Clearing and Grubbing shall become the property of the contractor and must be disposed off site. Quantity Included for area within ROW. All wood material must be disposed of according to Iowa Department of Agriculture and Land Stewardship Emerald Ash Borer Quarantine Order. For more information see www.iowatreepests.com.
2	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	CY	4,431	Includes 4,968 CY of fill material. Adding 30% shrink = 6,458 CY Subtracting 698 CY of cut material = 5,760 CY Factoring out shrink to establish bid item = 4,431 CY Overhaul will not be paid.
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	698	Includes cut material for removals to reach proposed subgrade. (698 CY of Cut). Shrink is not included.
4	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	1,327	Refer to Tab. 103-6 on CS Sheets. Strip 12 inches of topsoil within the limits of grading. After excavating to the sub grade elevations, spread the stockpiled topsoil to an 8 inch depth across the grading area. Seed the disturbed topsoil stockpile area as per section 2601.05 of the standard specifications. Seeding of the stockpile areas shall be considered incidental to this bid item.
5	2107-0425020	COMPACTING BACKFILL ADJACENT TO BRIDGES, CULVERTS OR STRUCTURES	CY	109	Refer to Tab.104-4 on C Sheets.
6	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	5,760	Refer to Tab. 103-6 on C Sheets. Cubic yards shown on the contract documents as determined by the template fill volume. Shrinkage will not be included in the moisture control quantity.
7	2115-0100000	MODIFIED SUBBASE	CY	325	Refer to Typicals on B Sheets and Tabulation 100-24 in the C Sheets.
8	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	51	Refer to Typical Section and Tabulation 112-9.
9	2122-5500080	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 8 IN.	SY	163	
10	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	3.72	Requires a minimum of 4 inches of topsoil. Place according to Article 2105.03,B of the Standard Specifications.
11	2301-1033100	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 10 IN.	SY	487	Refer to Typical Section and Tabulation 100-24.
12	2402-0425040	FLOODED BACKFILL	CY	151	Refer to Tabulation 104-4.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roadway Items	
13	2418-0000010	TEMPORARY STREAM DIVERSION	EACH	1	
14	2502-8212024	SUBDRAIN, LONGITUDINAL, (BACKSLOPE) 4 IN. DIA.	LF	485.6	Refer to CS Sheets.
15	2502-8221306	SUBDRAIN OUTLET, DR-306	EACH	4	Refer to CS Sheets.
16	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	221	Refer to Tabulation 110-7A on C sheets. Includes removal and disposal of beams and posts.
17	2510-6745850	REMOVAL OF PAVEMENT	SY	320	Refer to Tabs.110-1 and 102-5 on C Sheets
18	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	5.16	Refer to Tabulation 108-22 on C sheets.
19	2528-2518000	SAFETY CLOSURE	EACH	4	Refer to Tabulation 108-13A on C sheets. Item includes 2 hazard closures and 2 roadway closures.
20	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to Traffic Control Plan and detour on J sheets. Contractor to furnish and install, maintain and remove all road closure signage and detour signage.
21	2548-0000100	MILLED SHOULDER RUMBLE STRIPS, HMA SURFACE	STA	3.66	Refer to Tab 112-10 on C-sheets.
22	2548-0000110	ASPHALT EMULSION FOR FOG SEAL (SHOULDER RUMBLE STRIPS)	GAL	4	
23	2548-0000320	MILLED CENTERLINE RUMBLE STRIPS, PCC SURFACE	STA	1.83	

100-1D
10-18-05

PROJECT DESCRIPTION

This project involves the replacement of the IA 136 bridge at the W Tributary of Elwood Creek located 1.9 miles north of US 61 with a twin 12' x 12' RCB culvert using an off-site detour.

111-25
10-18-11

INDEX OF TABULATIONS

Tabulation	Tabulation Title	Sheet No.
C Sheets		
100-0A	ESTIMATED ROADWAY QUANTITIES (1 DIVISION PROJECT)	C.1-2
100-1D	PROJECT DESCRIPTION	C.3
100-4A	ESTIMATE REFERENCE INFORMATION	C.1-2
100-24	P.C.C. PAVEMENT	C.6
102-5	EXISTING PAVEMENT	C.4
104-4	ROADWAY ITEMS FOR DRAINAGE STRUCTURES INSTALLED BY CULVERT CONTRACTOR	C.5
105-4	STANDARD ROAD PLANS	C.3
108-13A	SAFETY CLOSURES	C.5
108-22	PAVEMENT MARKING LINE TYPES	C.6
110-1	REMOVAL OF PAVEMENT	C.4
110-7A	REMOVAL OF STEEL BEAM GUARDRAIL	C.4
110-13	DELIVERY AND STOCKPILING	C.4
111-25	INDEX OF TABULATIONS	C.3
112-9	SHOULDERS	C.5
112-10	MILLED RUMBLE STRIPS	C.5
262-6	UTILITIES (POINT 25 PROJECT)	C.4

105-4
10-18-11

STANDARD ROAD PLANS

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

Number	Date	Title
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-111	04-17-18	Box Culvert (Backfill)
DR-121	04-18-23	Connected Pipe Joints
DR-202	10-17-23	Low Clearance Concrete Pipe Aprons
DR-303	10-17-17	Subdrains (Longitudinal)
DR-306	10-16-18	Precast Concrete Headwall for Subdrain Outlets
EW-101	10-17-17	Embankment and Rebuilding Embankments
EW-401	10-20-15	Temporary Stream Crossing, Causeway, or Equipment Pad
PM-110	04-21-20	Line Types
PV-101	04-19-22	Joints
PV-12	10-20-20	Milled Shoulder Rumble Strips
PV-13	10-17-17	Milled Centerline Rumble Strips
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-18-23	Work Within 15 ft of Traveled Way
TC-212	04-18-23	Spot Location Lane Closure with Flaggers
TC-252	04-21-20	Routes Closed to Traffic

102-5
04-18-17

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Ref. Loc. Sign	End Ref. Loc. Sign				Type	Depth IN	Type	Depth IN	Type	Depth IN	Type	Depth IN	Source	Type	Durability Class	Type	
1	23	IA 136	1	29.95	38.92	1995		STPN-136-1(42)--2J-23	AAC	1.5	BAC	2					BEHR QRY.	C. LST.			
						1983		MP-136-6(30)--76-2	BSC												
						1971		FN-136-2(3)--21-23	BAC	1.5	TBB	1.5					BLOORE/ELWOOD	C. LST.			
						1954		F-872 (3)	AAC	2	RSB	6					WEAVER	C. LST.			

LEGEND

AAC	TYPE A ASPHALT CEMENT CONC
C. LST.	CRUSHED LIMESTONE
BAC	TYPE B ASPHALT CEMENT CONC
BSC	BITUMINOUS SEAL COAT

262-5
10-18-05

UTILITIES
(POINT 25 PROJECT)

This is a POINT 25 project and is subject to the provisions of IAC 761-115.25.

110-1
04-16-13

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5

* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area SY	Saw Cut* LF	Remarks
797+59.70	798+20.00	BOTH	HMA	160.8	24.0	
798+83.00	799+42.46	BOTH	HMA	158.6	24.0	
			TOTAL:	**319.4**	**48.0**	

110-7A
04-17-12

REMOVAL OF STEEL BEAM GUARDRAIL

(1) Lane(s) to which the installation is adjacent.
(2) Includes length of End Terminals and End Anchors.

No.	(1) Direction of Traffic	Location: Station to Station		Side	Removal of Guardrail (2) LF
1	BOTH	797+59.00	798+15.00	RT	56.0
2	BOTH	797+60.00	798+15.00	LT	55.0
3	BOTH	798+88.00	799+43.00	LT	55.0
4	BOTH	798+88.00	799+43.00	RT	55.0
			TOTAL:		**221.0**

110-13
04-20-10

DELIVERY AND STOCKPILING

Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks
Existing steel beam guardrail	221	FT	Maintenance Garage	Kerry Burzlaff 563-590-2948	
Uncut and unbolted			2983 IA-62		
			Maquoketa, IA 52060		

112-9
10-15-13

SHOULDERS

(1) Lane(s) to which the shoulder is adjacent.
(2) Bid Item
(3) Applies only for Paved Shoulders constructed on project with existing granular shoulders.
(4) Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 145, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Location					Quantities																	
Road Identification	(1) Direction Of Traffic	Station to Station		Side	(P) Width	(G) Width	(L) Length	Class 13 Excavation (3)	Hot Mix Asphalt		Binder	Paved Shoulder	Temporary Pavement	Special Backfill				Modified Subbase	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks
														HMA Alternate		PCC Alternate								
					FT	FT	FT	CY (2)	TON	TON/STA	TONS	SY (2)	SY (2)	TON (2)	TON/STA	TON (2)	TON/STA	CY (2)	TON (2)	TON/STA	STA (2)	HMA CY (4)	PCC CY (4)	
IA 136	BOTH	797+59.70	799+42.46	LT	4.0	4.0	182.8	54.2				81.2						27.1	25.6	14.0	1.83	60.9		
	BOTH	797+59.70	799+42.46	RT	4.0	4.0	182.8	54.2				81.2						27.1	25.6	14.0	1.83	60.9		
			TOTALS:					**108.3**				**162.5**						**54.2**	**51.2**		**3.66**	**121.8**		

104-4
10-17-17

ROADWAY ITEMS FOR DRAINAGE STRUCTURES INSTALLED BY CULVERT CONTRACTOR

* Not a Bid Item
(1) Backfill according to DR-111

Location	Design Number	Size	Kind	By Road Contractor								Floodable* Backfill	Porous* Backfill	Flooded Backfill (1)	Excavation		Revetment		Engineering Fabric	Remarks
				Dike					Compacting Backfill Adjacent	Compaction w/Moisture Control	Compaction w/Moisture and Density				Type	Quantity	Type	Quantity		
				Lt. \ Rt.		Location Station	Top. Elev.	Type	CY	CY	CY	(A) CY	(B) CY	(A+B) CY		CY		TONS	SY	
798+55.00	525	TWIN 12'x12'x105'	RCB						108.8			140.0	11.0	151.0						
TOTALS:									**108.8**					**151.0**						

108-13A
08-01-08

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
796+00.00	1		
801+00.00	1		
794+00.00		1	
803+00.00		1	
TOTALS=	2	2	

112-10
04-16-19

MILLED RUMBLE STRIPS

See PV-12 and PV-13.

* Calculated at 18" width for Shoulder.

Location					Fog Seal* (Milled Rumble Strip)	Effective Shoulder Width			Remarks
Road Identification	Station to Station		Shoulder Pavement Type	Rumble Strip Type (Centerline, Rt or Lt Shoulder)	Length PCC	Length HMA	Shoulder	PCC Paved	HMA Paved	Granular\ Earth	
					STA	STA	GAL	FT	FT	FT	
IA 136	797+59.70	799+42.46	HMA	Right Shoulder		1.83	2.0		4.0	4.0	
	797+59.70	799+42.46	HMA	Left Shoulder		1.83	2.0		4.0	4.0	
	797+59.70	799+42.46	PCC	Centerline	1.83						
		TOTALS:			**1.83**	**3.66**	**4.0**				

PAVEMENT MARKING LINE TYPES

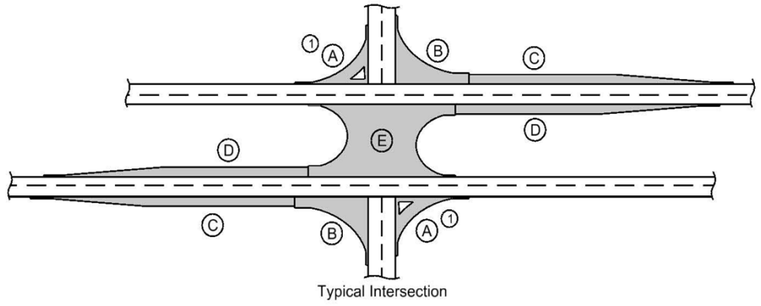
See PM-110

*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

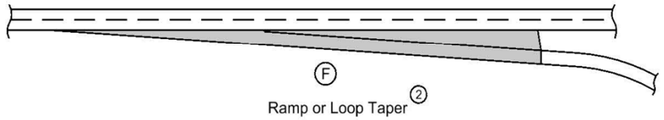
DCY6: Double Centerline (Yellow) @ 2.00
ELW6: Edge Line Left (White) @ 1.00
ELW6: Edge Line Right (White) @ 1.00

Location								Length by Line Type (Unfactored)														Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	SLW2								
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
IA 136	797+59.70	799+42.46	BOTH	Waterborne/Solvent Paint	X							1.83										
	797+59.70	799+42.46	BOTH	Waterborne/Solvent Paint		X			1.83													
	797+59.70	799+42.46	BOTH	Waterborne/Solvent Paint			X					1.83										
											-	3.66	-	-	-	-	-	-	-	-	-	-
								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
								-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Factored Total: Waterborne/Solvent Paint				**-**	**1.50**	**-**	**-**	**3.66**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
				Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based							**5.16**											

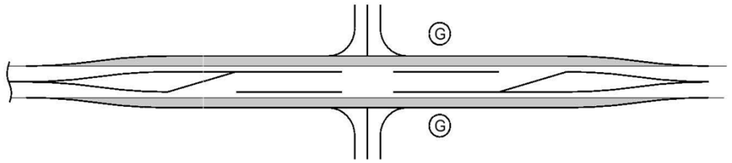
PCC PAVEMENT



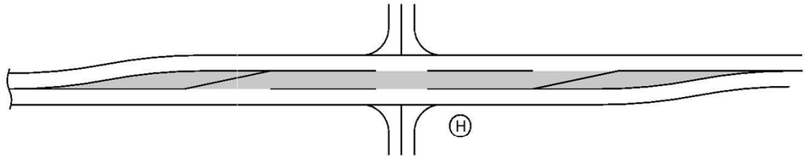
Typical Intersection



Ramp or Loop Taper (2)



Channelized Intersection
Widen Existing Roadway



Channelized Intersection
Reconstructed Roadway

(1) Does not include raised island area or curb. Refer to tabulation 112-4 for quantities.

(2) Refer to PV-410, PV-411, PV-412, and PV-414.

(3) Quantity includes Pavement Header.

Location				Mainline			Area (3)								Total Area By Pavement Thickness		Special Backfill	Modified Subbase	Granular Subbase	Remarks
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	A (1)	B	C	D	E	F (2)	G	H	SY					
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	10 IN	TEMP	TONS	CY	SY	
IA 136	**BOTH**	**797+59.70**	**799+42.46**	**24.0**	**182.8**	**487.4**									**487.4**			**270.8**		
													TOTALS:		**487.4**			**270.8**		

103_06
8/15/22

EMBANKMENT WITH MOISTURE CONTROL

Moisture Control is required for all Class 10 fill placed in all locations and depths. Topsoil will not require Moisture Control.

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.

Gary F. Miller, P.E. Date

License Number P25343

My license renewal date is December 31, 2024.

Pages or sheets covered by this seal: CS.1-CS.3 & Q.1-Q.2 .

103_07
8/15/22

SHRINKAGE DATA

Material	%	Remarks
Class 10	30.0	
Topsoil	40.0	
Estimated Boulder Quantity	0.0	10 CY Class 12 Excavation

LONGITUDINAL SUBDRAIN SHOULDER

* Not a bid item.

Line No.	Road or Lane Identification	Station From	Station To	Side	Depth (IN) (D)	Subdrain Size (IN)	Length (FT)	Outlet Station	Outlet Type	Porous Backfill* (CY)	Remarks
1.0	IA 136	797+59.70	799+42.46	Left	42.0	4.0	212.8	797+59.70	DR-306	19.7	Use Type 7A Installation
2.0				Left			30.0	799+42.46	DR-306		
3.0	IA 136	797+59.70	799+42.46	Right	42.0	4.0	212.8	797+59.70	DR-306	19.7	Use Type 7A Installation
4.0				Right			30.0	799+42.46	DR-306		

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)
- 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

Alliant - 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.**	
Lavender	(9)	Temporary Pavement Shading
Yellow	(4)	Proposed Pavement Shading
Orange	(6)	Proposed Granular Shading
Orange	(70)	Proposed Shoulder Granular Shading
Yellow	(68)	Proposed Shoulder Paved Full Depth Shading
Yellow	(132)	Proposed Shoulder Paved Partial Depth Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Orange, Light	(134)	Proposed Granular Entrance Shading
Yellow	(220)	Proposed Paved Entrance Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading
Green, Light	(225)	Existing Pavement Shading
Red	(3)	Proposed Structure Shading
Red	(3)	Delineates Restricted Areas

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

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

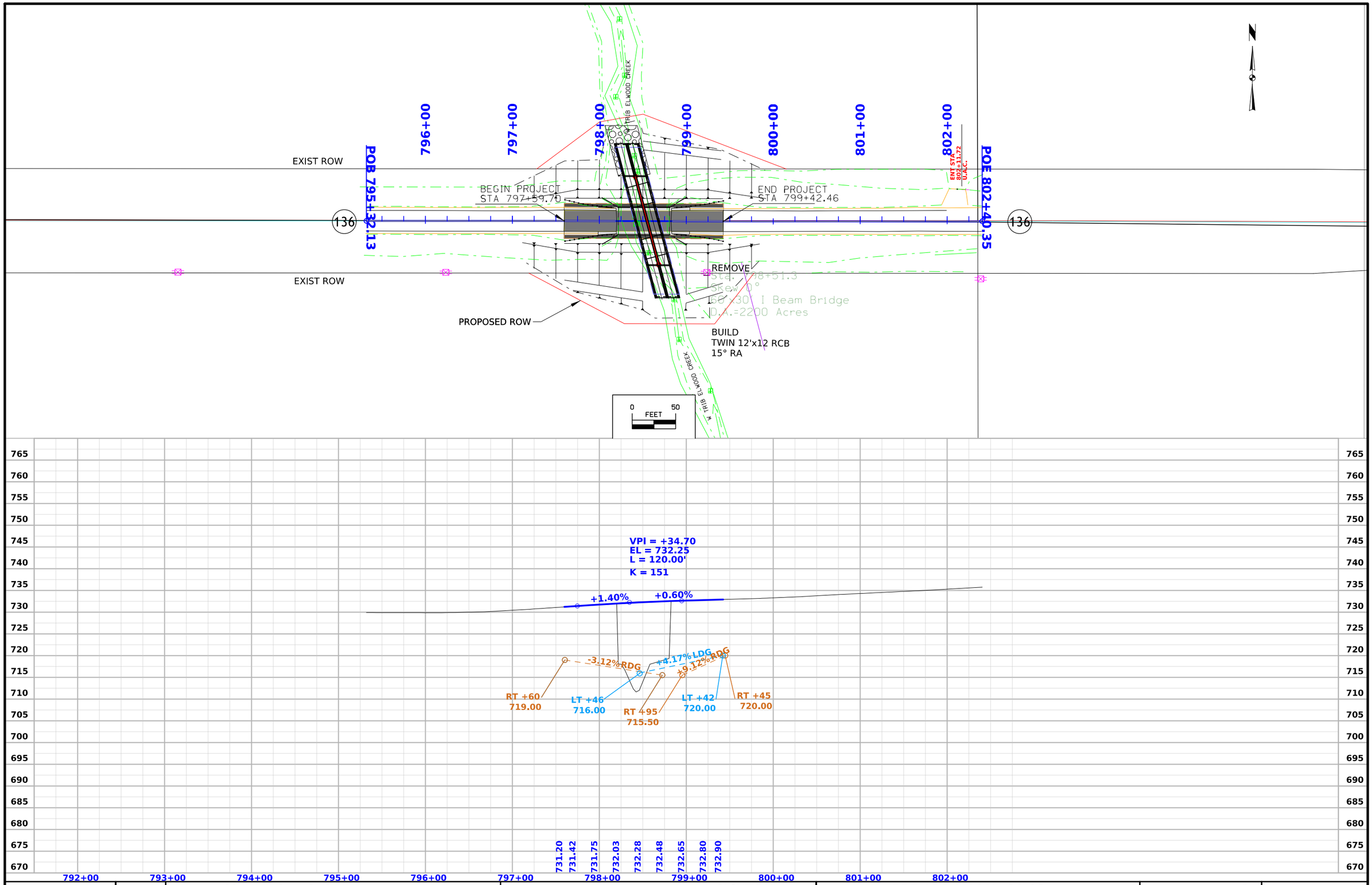
RIGHT-OF-WAY LEGEND

- Proposed Right-of-Way
- 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, E, F, & K)

FILE NO. 32350	ENGLISH	DESIGN TEAM Iowa DOT/Shive-Hattery	CLINTON COUNTY	PROJECT NUMBER BRF-136-1(101)--38-23	SHEET NUMBER D.1



FILE NO. 32350	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	CLINTON COUNTY	PROJECT NUMBER BRF-136-1(101)--38-23	SHEET NUMBER D.2

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Clinton County
BRF-136-1(101)—38-23
IA 136 Bridge over
Branch Prairie Creek 1.9mi N of US 61
PIN 20-23-136-050
Sap-766.4

Party Personnel

Eddie Charles – Survey Party Chief

Date(s) of Survey

Begin Date	08/23/2021
End Date	10/22/2021

General Information

Measurement units for this survey are US survey feet. This survey is for proposed Bridge reconstruction and reconstruction of IA 136 over Branch Prairie Creek 1.9mi N. of US 61. Project datum and control information is provided by Shive-Hattery, Inc. This project is a Preliminary DTM Field Survey. This survey request was for the IA 136 corridor, Bridge over Branch Prairie Creek and Branch Prairie Creek.

Vertical Control

IARTN
Vertical datum for this survey is NAVD88 (Computed using Geoid12B). Additional benchmarks were placed throughout the project using a Total Station setup relative to Point 1 and Point 2. Vertical control was verified between control points with check shots by Total Station through multiple setup from various occupation points with a vertical error of less than 0.05 feet.

This survey found (2) local control benchmark monuments (benchmark disc and benchmark 'cut X' on bridge abutment in NW corner bridge of State Highway 136). No vertical information was available at the time field work was completed.

Horizontal Control

(Project Coordinates from Redundant IaRTN Observations)
The project coordinate system is modified Iowa Regional Coordinate System Zone 11 (U.S. Survey Feet This survey control is relative to the IaRTN reference stations.

observations with appropriate occupation times. Additional control points were placed throughout the project using a Total Station setup relative to Point 1 and Point 2.

Utility Information

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

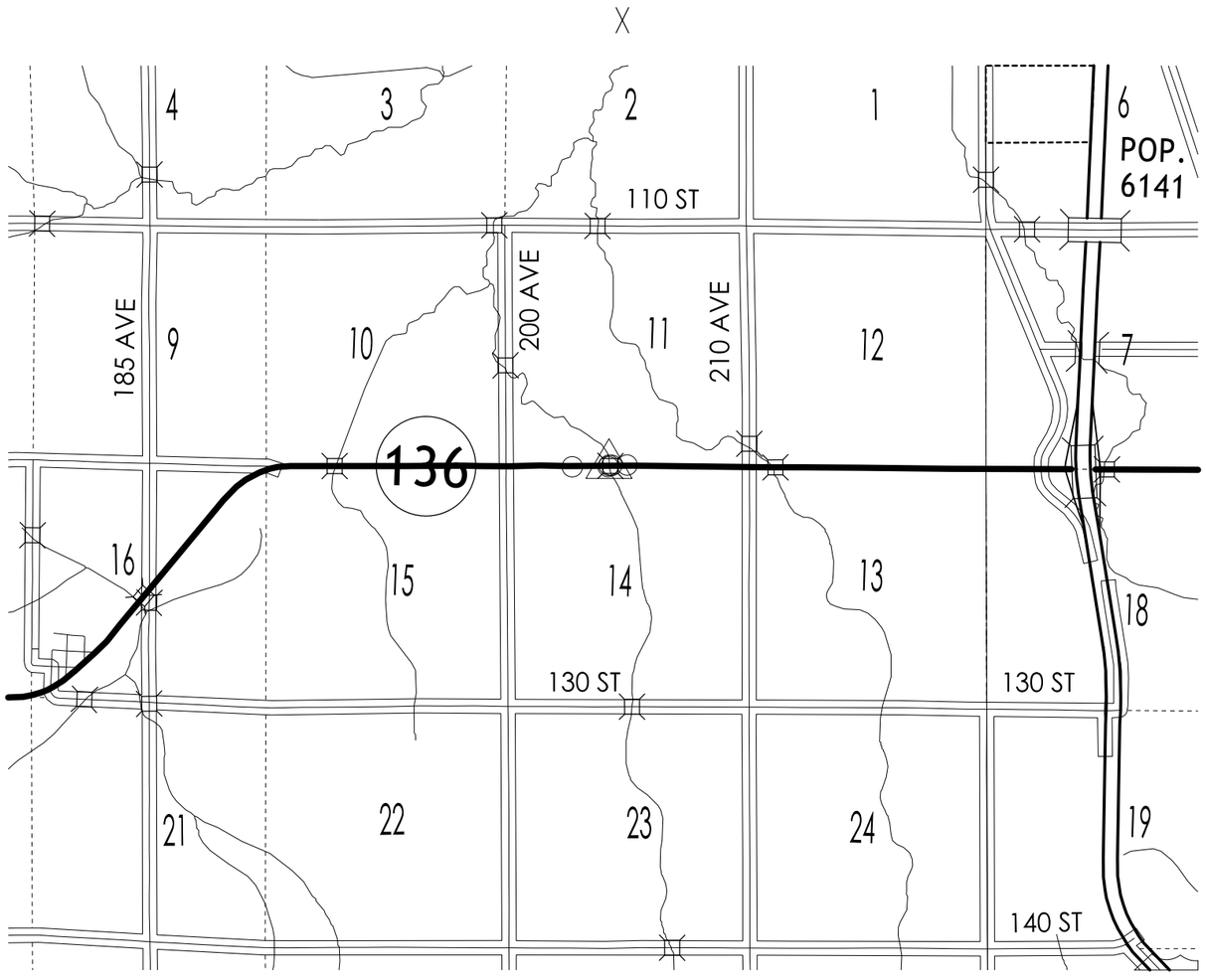
A One-call utility locate request (Ticket# 552104698) was made July 2, 2021. The following Companies were listed:

(ASE) ALLIANT ENERGY
Contact Name : Alliant Energy Field Engineer
Contact Phone: 8002554268
Contact Email: locate_IPL@alliantenergy.com

(LN1) LOST NATION-ELWOOD TELEPHONE
Contact Name : Jody Holtz
Contact Phone: 5636782470
Contact Email: jody@lencomm.com

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
Ia. Regional Coordinate System Zone 11

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) EPOCH 2010.00

VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 11
Project Control Marks are Bench Marks

POINT NAME	Y	X	Z	FEATURE DEFINITION - DESCRIPTION
1	8239086.430	21456230.280	734.590	CP
2	8239046.100	21455016.650	741.340	CP
3	8239051.940	21455811.180	731.520	CP
4	8239079.890	21455894.060	732.330	CP
5	8239065.447	21456244.840	735.700	PK NAIL PT
101	8239086.432	21456230.280	734.588	CP
102	8239046.097	21455016.630	741.400	CP
493	8239081.755	21455830.94	734.101	CUT X
6190	8239082.7820'	21455829.4300'	734.763'	BRASS

NOTE:
The first two digits in the control point name refer to the county number.
The next 3 digits refer to the highway number.
The next 3 digits refer to the highway milepost.
The last digit refers to the distance from the referenced milepost to the nearest tenth of a mile.

Alignment Coordinates																				101-16 04-19-11
Element Number	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)
1	ML136	79532.128 R1	8239065.955	21455541.670															
2	ML136	79759.698 R1	8239066.249	21455769.240															
3	ML136	79985.569 R1	8239065.898	21455995.110															
3	ML136	80240.349 R1	8239066.357	21456249.890															

1

LARY D. & KATHY D. BECKER

798+00.00
℄114'

798+50.00
℄123'

797+28.00
℄60'±Ex.R/W

800+15.00
℄60'±Ex.R/W

W TRIB ELWOOD CREEK

796+00
797+00
798+00
799+00
800+00
801+00
802+00

POB 795+32.13

BEGIN PROJECT
STA 797+59.70

END PROJECT
STA 799+42.46

ENT STA
802+11.72
USAC.

POE 802+40.35

136

136

797+19.00
℄60'±Ex.R/W

798+29.00
℄118'

799+33.00
℄118'

799+78.00
℄60'±Ex.R/W

W TRIB ELWOOD CREEK

2

REX & GAIL BECK REVOCABLE TRUST

0 50
FEET

Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: CUVA / FREDRICKSON
ROW #: STPN-136-1(102)--2J-23
Plan Date: 06/01/2023
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM IOWA DOT / SHIVE-HATTERY	CLINTON COUNTY	PROJECT NUMBER BRF-136-1(101)--38-23	SHEET NUMBER H.1	

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108-26A
08-01-08

STAGING NOTES

Stage 1:
With IA 136 traffic using detour, remove and replace bridge over the stream with a culvert.

Stage 2:
Reopen IA 136 to normal traffic pattern.

108-23A
08-01-08

TRAFFIC CONTROL PLAN

1) While bridge and approaches are being removed and replaced with RCB culvert, IA 136 traffic shall be maintained via an off-site detour. Detours are furnished, maintained and removed by the Contractor. Refer to TC-252 for road closure and advanced signage details.

2) Contractor will furnish, install, maintain, and remove detour signs. All existing signs that conflict with detour shall be covered. These functions shall be included in the Traffic Control Bid Item.

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									

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
BRF-136-1(97)--38-23	Bridge Replacement
BRF-136-1(99)--38-23	RCB Culvert Replacement
BRF-136-1(103)--38-23	RCB Culvert Replacement
BRF-136-1(105)--38-23	RCB Culvert Replacement

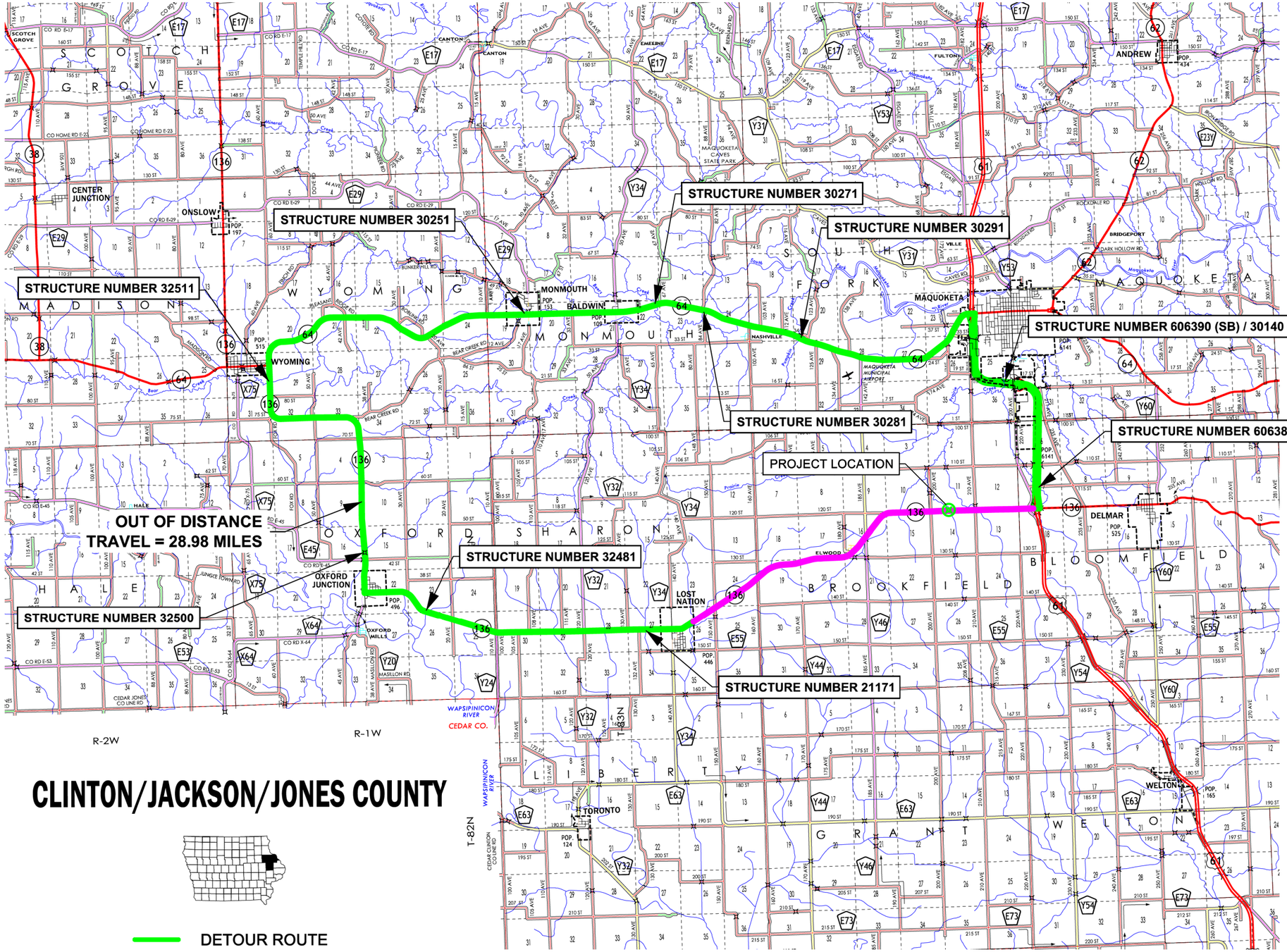
R-2W R-1W R-1E R-2E R-3E

T-85N

T-84N

T-83N

T-82N



CLINTON/JACKSON/JONES COUNTY

DETOUR ROUTE

FILE NO. 32350	ENGLISH	DESIGN TEAM Iowa DOT/Shive-Hattery	CLINTON COUNTY	PROJECT NUMBER BRF-136-1(101)--38-23	SHEET NUMBER J.2

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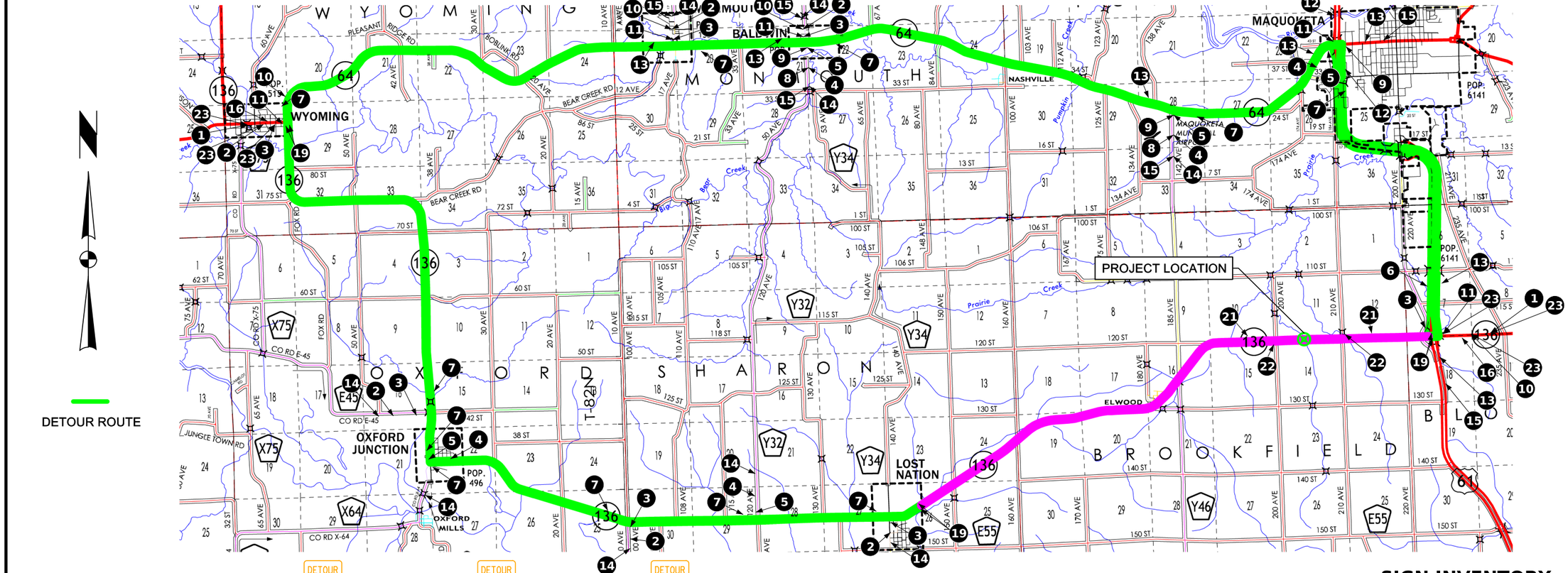

1 DETOUR 1500 FT

2 DETOUR / SOUTH / 136 ←

3 DETOUR / SOUTH / 136 ←

4 DETOUR / SOUTH / 136 ↱

5 DETOUR / SOUTH / 136 →

6 DETOUR / SOUTH / 136 ↗

7 DETOUR / SOUTH / 136 ↑

8 DETOUR / NORTH / 136 ↰

9 DETOUR / NORTH / 136 ←

10 DETOUR / NORTH / 136 ↱

11 DETOUR / NORTH / 136 →

12 DETOUR / NORTH / 136 ↗

13 DETOUR / NORTH / 136 ↑

14 JCT / DETOUR / SOUTH / 136

15 JCT / DETOUR / NORTH / 136

16 END DETOUR THANK YOU

17 ROAD CLOSED TO THRU TRAFFIC / DETOUR ← w Type 3 Barricade

18 ROAD CLOSED TO THRU TRAFFIC / DETOUR → w Type 3 Barricade

19 ROAD CLOSED TO THRU TRAFFIC w Type 3 Barricade

20 ROAD CLOSED AHEAD

21 ROAD CLOSED 1000 FT

22 ROAD CLOSED 500 FT

23

24

SIGN INVENTORY

	I.D. NUMBER	SIZE
JCT	M2-1	24" x 12"
DETOUR	M4-8	24" x 12"
NORTH	M3-1	24" x 12"
SOUTH	M3-3	24" x 12"
↰	M5-1B	24" x 24"
↱	M5-1	24" x 24"
←	M6-1	24" x 12"
↑	M6-3	24" x 12"
136	M1-6C	24" x 24"
ROAD CLOSED TO THRU TRAFFIC	M11-4	60" x 30"
DETOUR ←	M4-10L	48" x 18"
DETOUR →	M4-10R	48" x 18"

	I.D. NUMBER	SIZE
END DETOUR THANK YOU	DOT stock 812 514056	60" x 36"
DETOUR 1500 FT	W20-2	48" x 48" with Flag Trees
	High Level Warning Devices (Flag Trees)	Refer to section 6F.62 in the MUTCD
ROAD CLOSED AHEAD	R11-2	48" x 48" with Flag Trees
ROAD CLOSED 500 FT	W20-3	48" x 48" with Flag Trees
ROAD CLOSED 1000 FT	W20-3	48" x 48" with Flag Trees

FILE NO. 32350	ENGLISH	DESIGN TEAM Iowa DOT/Shive-Hattery	CLINTON COUNTY	PROJECT NUMBER BRF-136-1(101)--38-23	SHEET NUMBER J.3

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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)

- 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

Eastern Iowa Light and Power - Quality D

PLAN VIEW COLOR LEGEND OF SOILS SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Purple (Halo)	(15)	Backslope Drains
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
SHADING	**Design Color No.**	
Brown, Light	(236)	Core Out

PROFILE VIEW COLOR LEGEND OF SOILS SHEETS

LINEWORK	Design Color No.	
Blue	(1)	Proposed Alignment, Stationing, and Alignment Annotation
Green	(2)	Existing Ground Line Profile
Green, Med	(2)	Topsoil
Green, Med	(2)	Slope Dressing Only
Orange	(6)	Loam
Aqua (Cyan)	(7)	Class 10
Brown, Med	(4)	Sand
Red	(3)	Unsuitable A
Pink, Dark	(13)	Unsuitable B
Pink	(11)	Unsuitable C
Red	(3)	Shale
Red	(3)	Waste
Gray, Light	(48)	Broken and Weathered Rock
Gray, Med	(80)	Rock
Gray, V.Dark	(128)	Boulders

PATTERN AND SYMBOL LEGEND OF SOILS SHEETS

- Drill
- Dig/Core
- Date(s) Drilled
- $-H_2O-$ Water
- Treatment
- Sandstone
- DRY Dry
- Sand Blanket
- Unsuitable A
- S Sample
- Soil Remediation Area
- Unsuitable B
- Plugged
- Select Soil
- Unsuitable C
- M Moisture
- Select Sand
- Sandy Soil
- Shelby
- Slope Dressing Only
- Boulders
- Blow Count
- Broken and Weathered Rock
- Shale
- Dens. Core
- Rock

Reference Point
Station

- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Clearing & Grubbing Area
- Pavement Removal

RIGHT-OF-WAY LEGEND

- Proposed Right-of-Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Borrow
- Easement (Temporary)
- Easement
- Excess
- A/C Access Control

NOTE: Sounding and test boring data shown in the plans were accumulated for designing and estimating purposes. Their appearance on the plans does not constitute a guarantee that conditions other than those indicated will be encountered. Details and notes shown elsewhere shall be used for roadway and structure construction.

SOILS LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES Q)

FILE NO.	ENGLISH	DESIGN TEAM	CLINTON COUNTY	PROJECT NUMBER	SHEET NUMBER
		Iowa DOT\Shive-Hattery\Terracon		BRF-136-1(101)--38-23	Q.1

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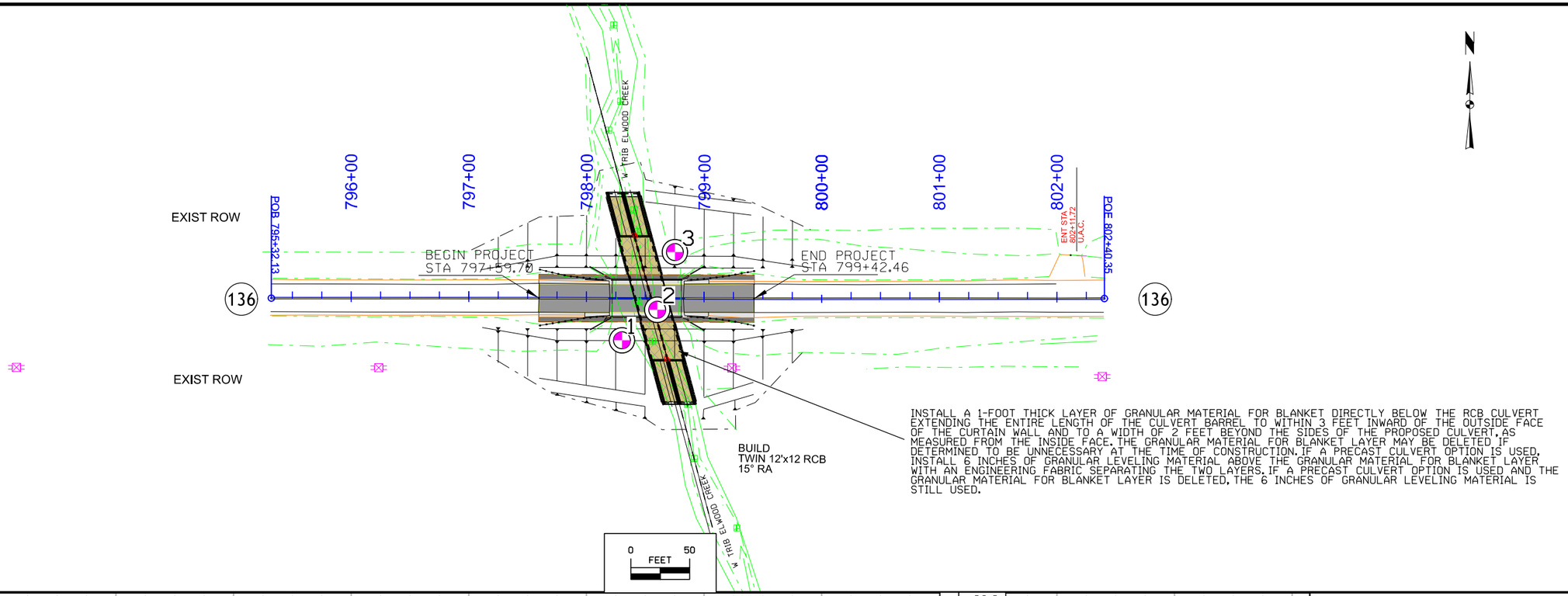
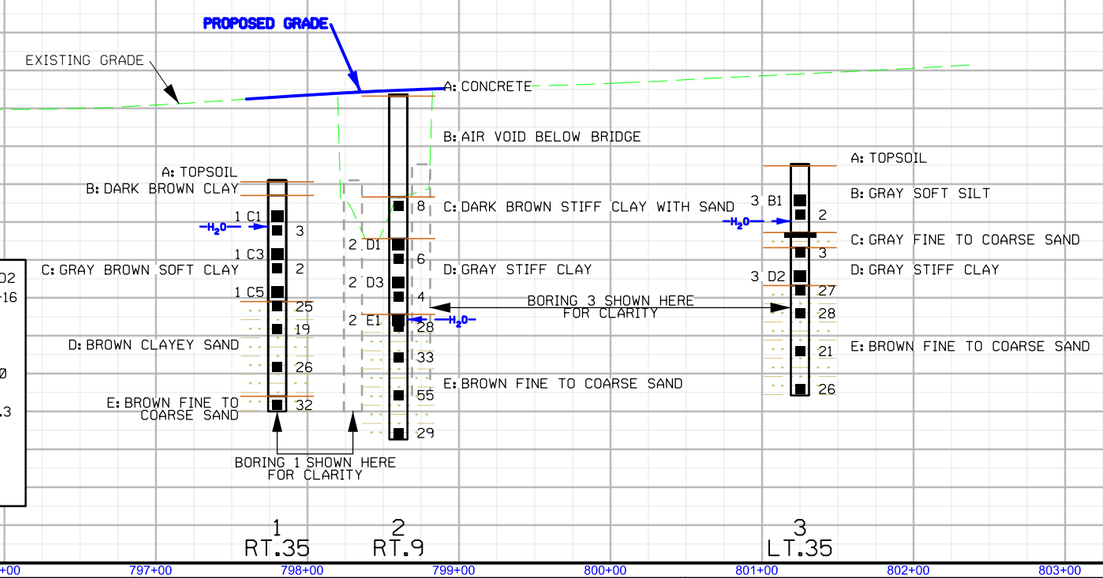


765 CUT MOISTURE
760 CUT DENSITY (PCF)
755 PLASTIC LIMIT
750
745
740
735
730
725
720
715
710

SHELBY TUBE CORE DATA

CORE NO.	1 C1	1 C3	1 C5	2 D1	2 D3	2 E1	3 B1	3 D2
DEPTH IN FEET	4-6	9-11	14-16	19-21	24-26	29-30	4-6	14-16
CLASSIFICATION (AASHTO)	-	A-6(21)	-	A-6(13)	-	-	A-4(11)	-
COEFF.CONSOL. (SQ.FT /DAY)	-	-	-	-	-	-	-	-
TRIAXIAL COMPRESSION	UC	CU	UC	-	UC	UC	UC	UC
COHESION - PSF	590	445	460	-	835	455	870	680
FRICTION COEFF.	-	-	-	-	-	-	-	-
MOISTURE CONTENT %	27.3	35.3	20.5	23.0	23.2	13.4	28.3	26.3
DRY DENSITY - PCF	92	88	110	101	97	107	91	98

CU-CONSOLIDATED UNDRAINED
UU-UNCONSOLIDATED UNDRAINED
UC-UNCONFINED COMPRESSION (c=1/2 Qu)



26.2, 3

THIS SHEET IS INCLUDED TO SHOW SOIL INFORMATION. DETAILS AND NOTES SHOWN ELSEWHERE IN THESE PLANS SHALL BE USED FOR STRUCTURE CONSTRUCTION.

NOTE: SOILS MAY VARY BETWEEN BORINGS. SEE STANDARD SPECIFICATION 1104.01

792+00 793+00 794+00 795+00 796+00 797+00 798+00 799+00 800+00 801+00 802+00 803+00 804+00 805+00 806+00

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Erosion Control Items : Erosion Control Items

Item no.	Item Code	Item	Unit	Quantities Estimated Erosion Control Items	Estimate Reference Notes
1	2601-2634100	MULCHING	ACRE	1.2	Perform mulching according to Article 2601.03, E, 2, of the Standard Specifications. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes. Item is included for areas requiring reshaping and seedbed preparation. Use mulch that is Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Associations.
2	2601-2636015	NATIVE GRASS SEEDING	ACRE	1	Seed all areas outside eight feet adjacent to outside shoulder along mainline, side roads, and infield areas at interchanges with "Native Grass Seeding". Supply all seed for "Native Grass Seeding". Apply all forb seed through the native grass drill wildflower or small seed box. Do not mix and apply Forb seed with the native grass seed. Apply cover crop through the cool season or through cover crop seed box. Do not mix and apply cover crop seed with the native grass seed. Remove seed remaining in the drill at the end of each day. At the completion of all seeding, remove remaining seed from the drill by vacuum or other means. Hand broadcast remaining seed on the project. The Owner's Representative will review the limits with the Contractor prior to seeding. Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.
3	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	0.1	Seed and fertilize all areas 8 foot adjacent to the shoulder mainline, medians, and side according to Article 2601.03, C, 3, of the Standard Specifications. Use ground driven equipment. Supply all seed for "Rural Grass Seeding" Do not mix and apply cover crop seed with the rural grass seed. Remove seed remaining in the drill at the end of the day. At the completion of all seeding, remove remaining seed from the drill by vacuum or other means. Hand broadcast remaining seed on the project. The Owner's Representative will review the limits with the Contractor prior to seeding.
4	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	1.1	Item is included for disturbed areas. Seed and fertilize all disturbed areas according to Article 2601.03, C, 1, of the Standard Specifications. If permanent seeding cannot be placed due to the restrictive planting dates, stabilizing crop will need to be placed on all disturbed areas as temporary erosion control. Preparation and seeding shall be performed in accordance with Section 2601. Stabilizing crop will not be used when the application dates in Section 2601 allows permanent seeding. If stabilizing crop must be used, place immediately following completions of finished grading. Reseeding of these areas will be required at contractors expense if damage occurs due to contractors negligence during the contract period. It is not necessary to place stabilizing crop in locations that have be covered by Wood Excelsior Mat.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Erosion Control Items	
5	2602-0000020	SILT FENCE	LF	620	Refer to Tab. 100-17. The tabulation includes estimated locations for placement of "Silt Fence" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
6	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	44	Refer to Tab 100-18. The tabulation includes estimated locations for placement of "Silt Fence for Ditch Checks" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes tab quantities for the paving project for new locations and 10% of the original tab quantity for the grading project (insert original tab quantity from the grading project) for field adjustments and replacements. See Standard Note 232-10 and Standard Road Plan EC-201. See Sheet RR.2 for locations. The engineer may adjust silt fence locations to fit field conditions.
7	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	664	This item is included for silt fence and silt fence for ditch check removal required for staging reasons, removal to allow for replacement (replacement to be paid separately), or for areas that have achieved 70% permanent growth. This item is included for silt fence and silt fence for ditch check removal. Remove silt fence and posts after mulching or vegetation is established and approved by the engineer.
8	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	93	This item is included for maintaining the new silt fence and silt fence ditch checks installed for the paving project and existing silt fence and silt fence ditch checks installed as part of the grading project.
9	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE, EC-303	LF	200	
10	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	1,400	Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 12 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
11	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	200	Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 20 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements. Use Perimeter and Slope Sediment Control Devices fabricated using wood excelsior.
12	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	1,600	
13	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1	
14	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1	

105-4
10-18-11

STANDARD ROAD PLANS

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

Number	Date	Title
EC-201	04-20-21	Silt Fence
EC-204	04-19-16	Perimeter and Slope Sediment Control Devices
EC-502	04-21-15	Seeding in Rural Areas

111-25
10-18-11

INDEX OF TABULATIONS

Tabulation	Tabulation Title	Sheet No.
RC Sheets		
100-1A	ESTIMATED PROJECT QUANTITIES (1 DIVISION PROJECT)	RC.1-2
100-4A	ESTIMATE REFERENCE INFORMATION	RC.1-2
100-17	TABULATION OF SILT FENCES	RC.4
100-18	SILT FENCE FOR DITCH CHECKS	RC.4
100-19	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	RC.4
105-4	STANDARD ROAD PLANS	RC.3
110-12	POLLUTION PREVENTION PLAN	RC.5-RC.6
111-25	INDEX OF TABULATIONS	RC.3

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10-18-16

SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide, Permit 14, Permit No. 2023-0228 A copy of this permit is available from the Iowa DOT website (http://www.envpermits.iowadot.gov/). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

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10-17-17

STORM WATER BEST MANAGEMENT PRACTICES

When the following best management practices are used, they are intended to account for disturbed areas where storage volume cannot be provided: Wood Excelsior Mat for Ditch Protection, Silt Fence, Silt Fence for Ditch Protection, Perimeter and Slope Sediment Control Devices

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
797+02.00	797+87.00	LT	105.0	
798+50.00	799+63.00	LT	133.0	
799+17.00	800+08.00	LT	111.0	
797+12.00	797+39.00	RT	47.0	
797+71.00	798+64.00	RT	113.0	
798+98.00	799+54.00	RT	76.0	
799+69.00	799+84.00	RT	35.0	
SF Tab Totals:			**620**	
SF Bid Totals:			**775**	**125% of Tab Total**
SF Maintenance Totals:			**78**	**10% of Bid Total**
SF Removal Totals:			775.0	100% of Bid Total

100-19
04-19-16

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

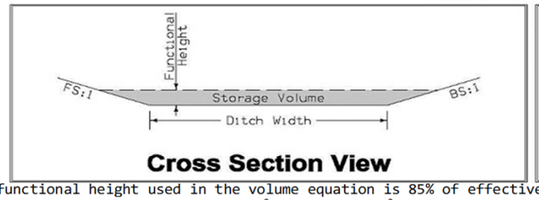
Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
796+94.00	800+15.00	LT		321		
798+05.00	798+77.00	LT		72		
797+12.00	799+84.00	RT		272		
798+32.00	799+00.00	RT		68		
797+42.00	797+71.00	RT		29		
799+52.00	799+70.00	RT		18		
798+21.00		LT		40		Culvert Edge
798+52.00		LT		40		Culvert Edge
798+46.00		LT		25		Entrance
798+13.00		LT		20		Entrance
798+59.00		RT		40		Culvert Edge
798+88.00		RT		40		Culvert Edge
798+65.00		RT		25		Entrance
798+95.00		RT		25		Entrance
798+00.00		RT		20		Ditch Check
798+49.00		RT		20		Ditch Check
799+22.00		RT		20		Ditch Check
799+51.00		RT		20		Ditch Check
PSSCD Tab Totals:				1115	0	
12 inch PSSCD Bid Totals:				1400		125% of Tab Total
20 inch PSSCD Bid Totals:					200	125% of Tab Total
PSSCD Removal Totals:					1600	100% of Bid Total

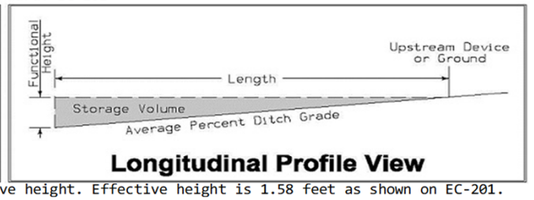
100-18
10-16-18

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



Cross Section View



Longitudinal Profile View

* 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	
1	4	799+18.00	LT	22.0	2.2	22.0	3.5	3.0	10.0	4.0%	723.4	
1	4	798+76.00	LT	22.0	2.2	22.0	3.5	3.0	10.0	4.0%	723.4	
	SFDC Tab Totals:			**44**	**4.4**	**44.0**						
	SFDC Bid Totals:			**66.0**			**150% of Tab Total**					
	SFDC Main. Totals:				**15.0**		**Bid Total**					
	SFDC Rem. Totals:					**66.0**	**Bid Total**					

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 RESPONSIBILITES

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 peroming 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 Box Culvert as a bridge replacement.

B. This PPP covers approximately 1.2 acres with an estimated 1.00 acres being disturbed. The portion of the PPP covered by this contract has 1.00 acres disturbed.

C. The PPP is located in an area of Tama-Muscatine-Downs soil association
The estimated weighted average runoff coefficient number for this PPP after completion will be 0.37.

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 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

110-12
10-20-20

POLLUTION PREVENTION PLAN

installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.

F. Runoff from this work will flow into West Tributary of Elwood 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.

POLLUTION PREVENTION PLAN

IV. MAINTENANCE PROCEDURES

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

_____

LINE STYLE LEGEND OF LANDSCAPE SHEETS

LINESTYLE	Design Element
– – – – – – – – – – – –	Living Snow Fence Single Row
⋯⋯⋯⋯⋯⋯⋯⋯⋯⋯	Living Snow Fence Double Row
———	Mechanical Edge

CELL LEGEND OF LANDSCAPE SHEETS

CELL	Design Element	Plant Diameter
	Clearing	
	Proposed Shrub	
	Proposed Understory Tree	
	Proposed Conifer Tree	
	Proposed Overstory Tree	

PATTERN LEGEND OF LANDSCAPE SHEETS

Brush Clearing

Spray Area

Clearing & Grubbing

LINE STYLE LEGEND OF EROSION CONTROL SHEETS

LINESTYLE	Design Element
	Silt Fence
9	Perimeter and Slope Sediment Control Device (9")
12	Perimeter and Slope Sediment Control Device (12")
20	Perimeter and Slope Sediment Control Device (20")
	Open-Throat Curb Intake Sediment Filter
	Concentrated Flow
	Rock Check and Rock Check Dam
	Sheet Flow

CELL LEGEND OF EROSION CONTROL SHEETS

CELL	Design Element
	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%
Grass Green	(233)	8FT Mow Strip	50%
Red	(3)	Delineates Restricted Areas	0%

PATTERN LEGEND OF EROSION CONTROL SHEETS

Seeding and Fertilizing

R — Seeding and Fertilizing (Rural)

U — Seeding and Fertilizing (Urban)

N — Native Grass Seeding

ST — Salt Tolerant Seeding

WL — Wetland Grass Seeding

WF — Wildflower Seeding

SOD — Sodding

Turf Reinforcement Mat Type 1

Turf Reinforcement Mat Type 2

Turf Reinforcement Mat Type 3

Turf Reinforcement Mat Type 4

Slope Protection, Wood Excelsior Mat

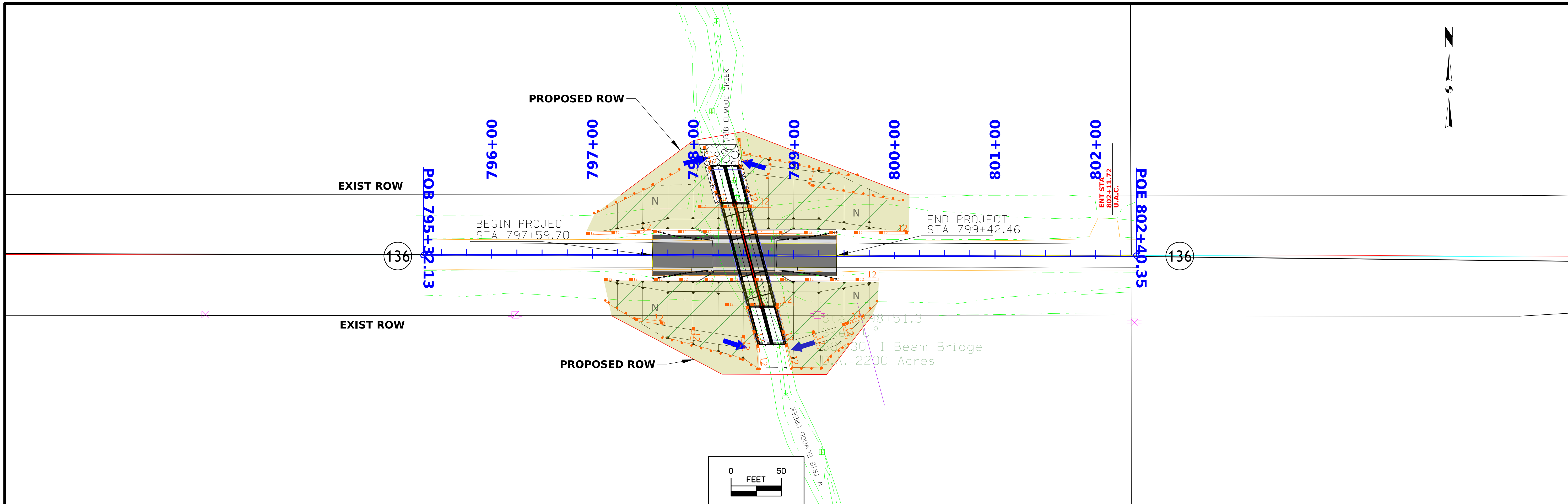
Transition Mat

Rock Features, Permanent

Rock Features, Temporary

EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES R)


PROPOSED ROW
796+00
797+00
798+00
799+00
800+00
801+00
802+00
EXIST ROW
POB 795+32.13
BEGIN PROJECT
STA 797+59.70
END PROJECT
STA 799+42.46
ENT STA
802+11.72
U.A.C.
POE 802+40.35
136
136
W TRIB ELWOOD CREEK
Sta 798+51.3
Skew 0°
60'X30' I Beam Bridge
D.A.=2200 Acres
EXIST ROW
PROPOSED ROW
0
50
FEET

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
Concrete	
(0)	Barrier Concrete
(0)	Barrier Concrete Footing
(0)	Curb Gutter
(48)	Flowable Mortar
(0)	Median Concrete
(0)	PCC Pavement
(0)	Sidewalk
Shoulder	
(209)	Shoulder HMA
(0)	Shoulder PCC
(6)	Shoulder Granular
Existing	
(0)	Existing Pavement
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
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 Substrata
(48)	Broken Weathered Substrata
(3)	Core Out Substrata
(203)	Existing Pavement Substrata
(6)	Loam Substrata
(80)	Rock Substrata
(4)	Select Sand Substrata
(3)	Shale Substrata
(10)	Topsoil Substrata
Unsuitable / Waste	
(3)	Unsuitable Type A
(13)	Unsuitable Type B
(11)	Unsuitable Type C
(3)	Waste

NOTES:

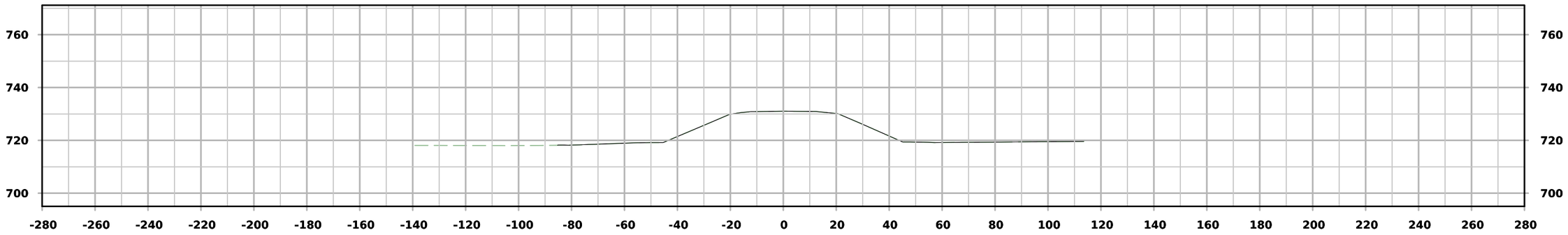
Text

NOTES:

Text

CROSS SECTIONS
LEGEND AND INFORMATION SHEET

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



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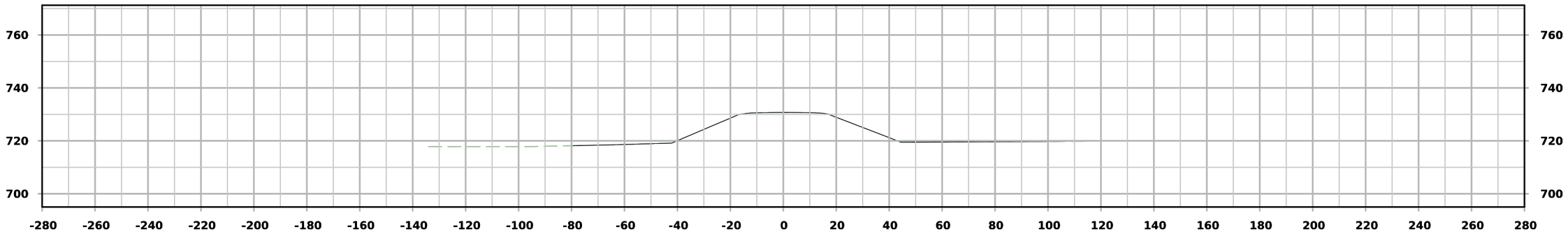
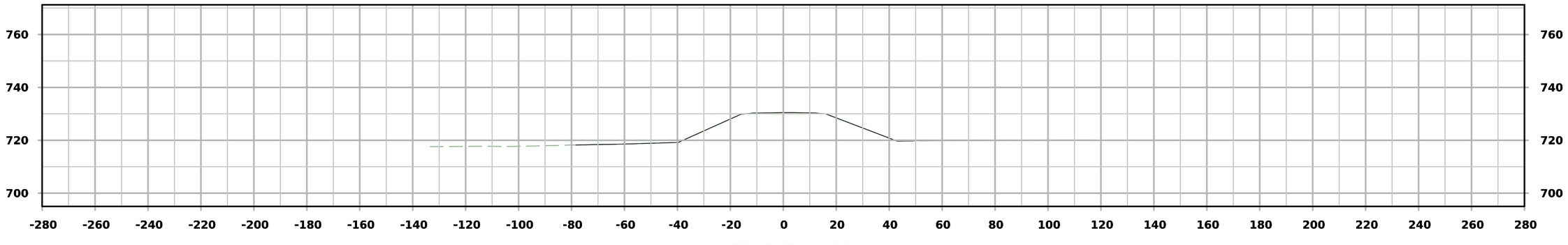


STA. 797+25.00



STA. 797+00.00

FILE NO. 32350	ENGLISH	DESIGN TEAM Iowa DOT/Shive-Hattery	CLINTON COUNTY	PROJECT NUMBER BRF-136-1(101)--38-23	SHEET NUMBER W2

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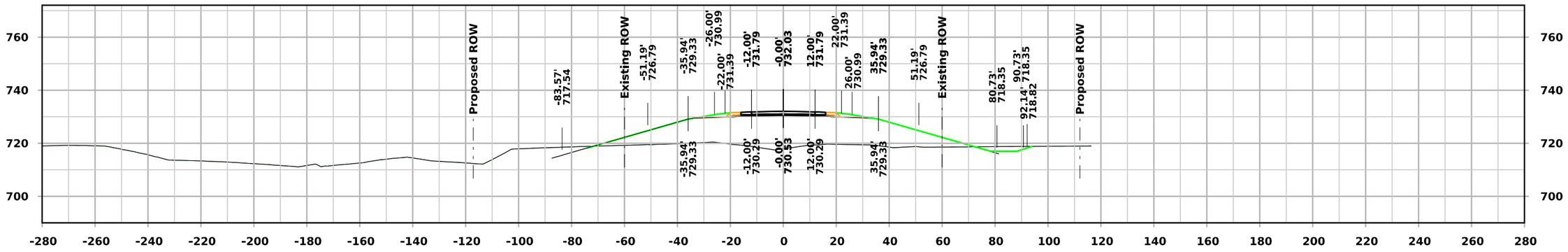
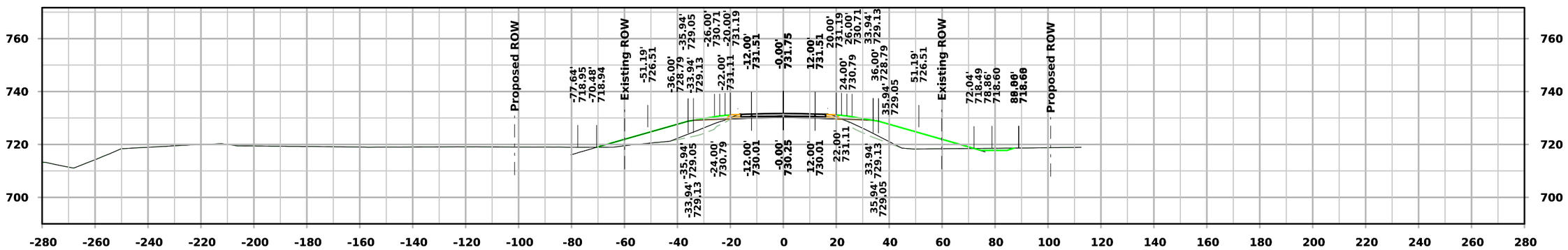
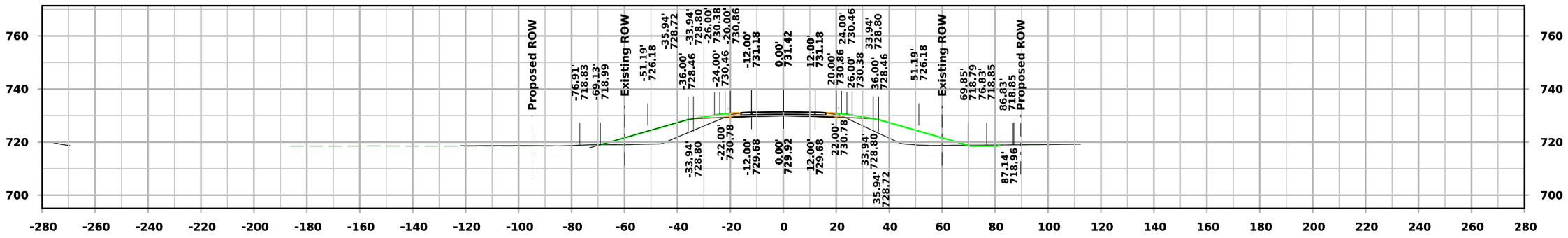


STA. 798+25.00



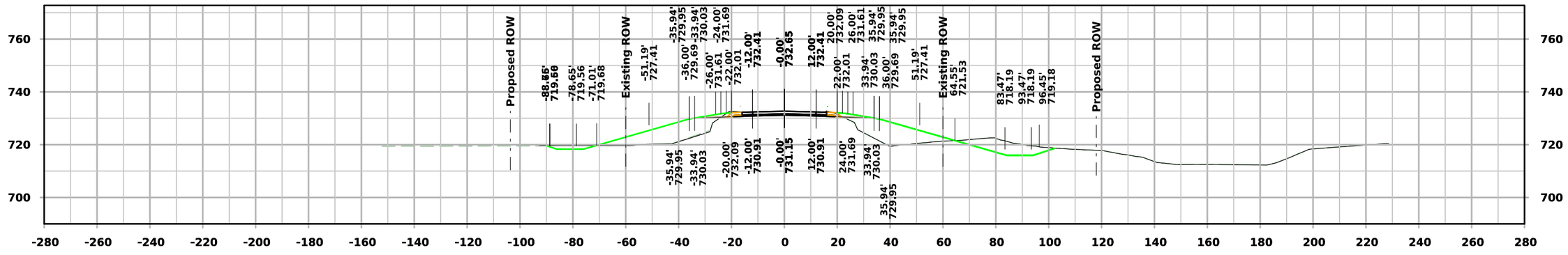
STA. 798+00.00



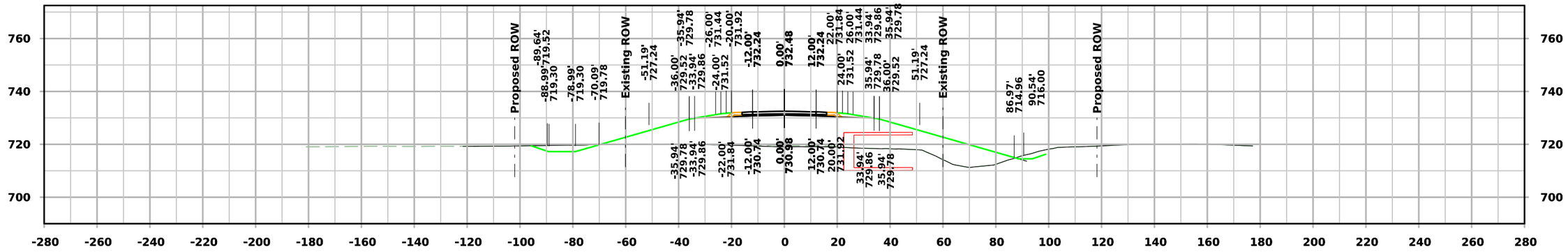
STA. 797+75.00

FILE NO. 32350	ENGLISH	DESIGN TEAM Iowa DOT/Shive-Hattery	CLINTON COUNTY	PROJECT NUMBER BRF-136-1(101)--38-23	SHEET NUMBER W3

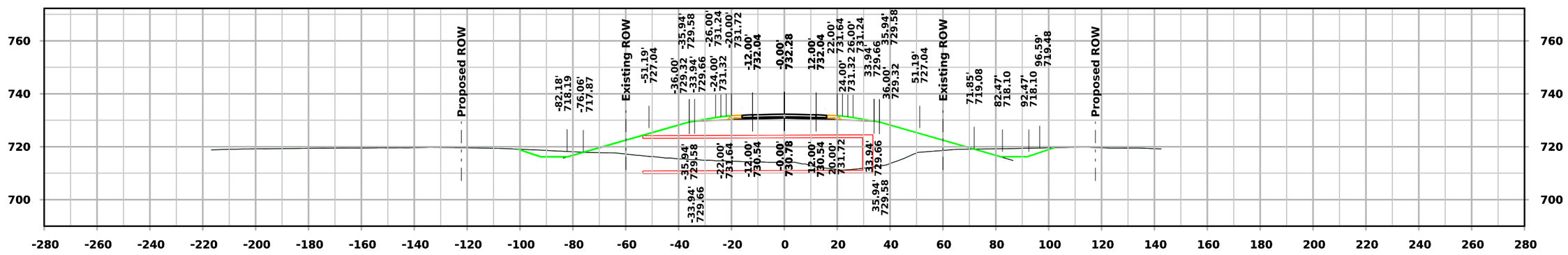
2:24:23 PM 4/22/2024 PGepson pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\2313605020\Design\CADD_Files\Corridor_Files\COR_23136101_Z11.dgn



STA. 799+00.00



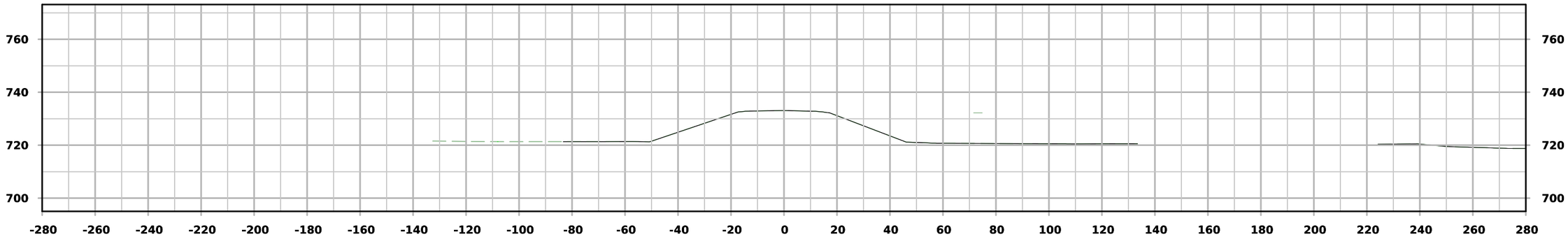
STA. 798+75.00



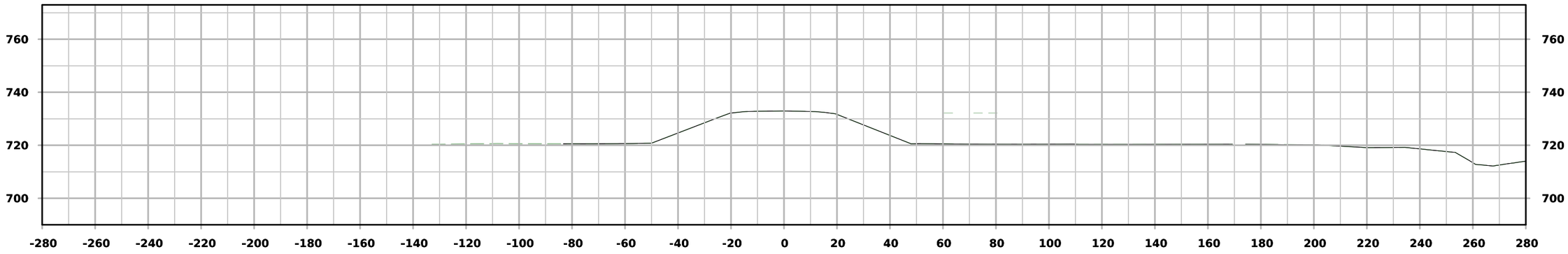
STA. 798+50.00

FILE NO. 32350	ENGLISH	DESIGN TEAM Iowa DOT/Shive-Hattery	CLINTON COUNTY	PROJECT NUMBER BRF-136-1(101)--38-23	SHEET NUMBER W4

2:24:24 PM 4/22/2024 PGepson pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\2313605020\Design\CADD_Files\Corridor_Files\COR_23136101_Z11.dgn



STA. 799+75.00



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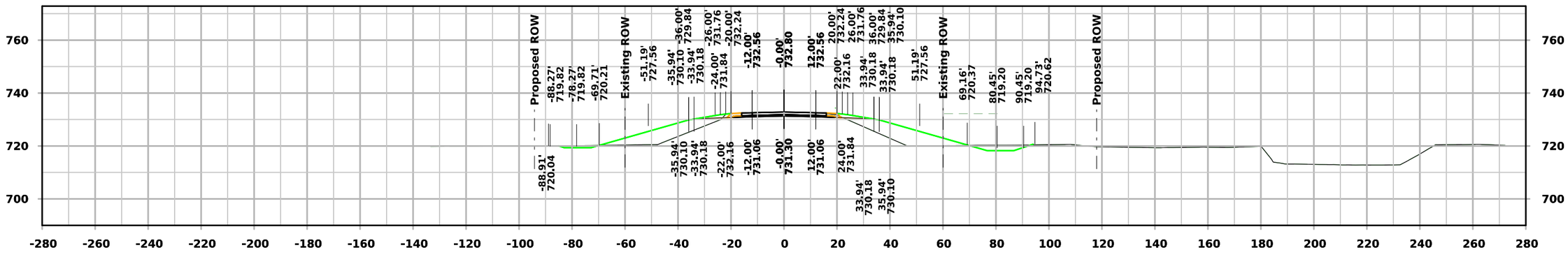

STA. 799+25.00

FILE NO. 32350	ENGLISH	DESIGN TEAM Iowa DOT/Shive-Hattery	CLINTON COUNTY	PROJECT NUMBER BRF-136-1(101)--38-23	SHEET NUMBER W5

2:24:25 PM 4/22/2024 PGepson pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\2313605020\Design\CADD_Files\Corridor_Files\COR_23136101_Z11.dgn