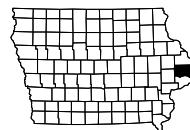


INDEX OF SHEETS	
NO.	DESCRIPTION
A. Sheets	Title Sheets
* A.3	Title Sheet
B. Sheets	Typical Cross Sections and Details
B.1 - 2	Typical Cross Sections and Details
C. Sheets	Quantities and General Information
C.1 - 2	Estimated Project Quantities
C.1 - 2	Estimate Reference Information
C.3	Project Description
C.3	Standard Road Plans
C.3	Index of Tabulations
C.3 - 6	Tabulations
CS. Sheets	Soils Tabulations
CS.1 - 3	Soils Tabulations
D. Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2	IA 136
G. Sheets	Survey Sheets
G.1 - 3	Reference Ties and Bench Marks
G.4	Horizontal Control Tabulation
H. Sheets	Right-of-Way Sheets
* H.1	IA 136
J. Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
* J.2 - 3	Detour Route and Signing Plan
Q. Sheets	Soils Sheets
* Q.1	Soils Legend & Symbol Information Sheet
* Q.2	Soils Sheets IA 136
RR. Sheets	Erosion Control Sheets
RC.1 - 6	Est. Quantities, PPP, General Notes and Tabulations
* RR.1	Erosion Control Legend and Symbol Information
* RR.2	Drainage Basin and Erosion Control Device Map
W. Sheets	Mainline Cross Sections
* W.1	Cross Sections Legend & Symbol Information Sheet
* W.2 -5	Mainline Cross Sections
	* Color Plan 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	--	

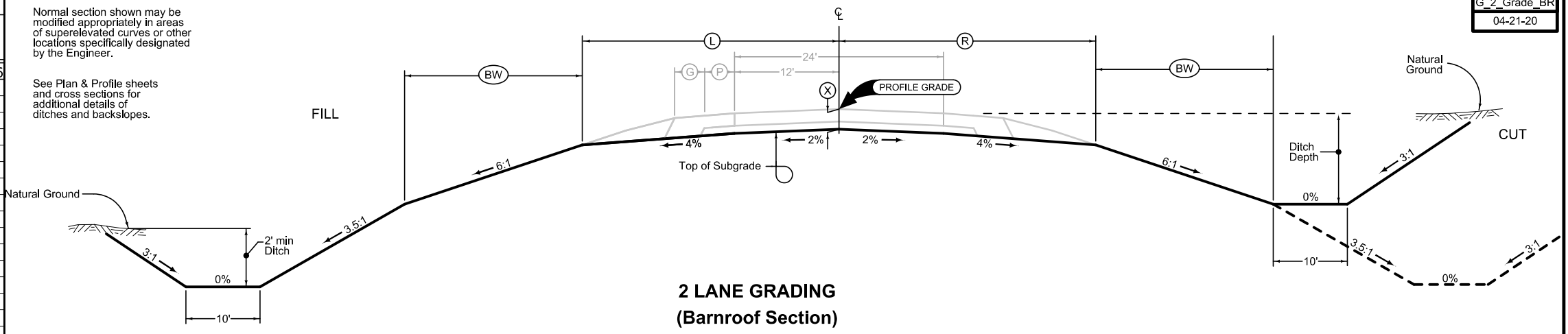
INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Michael J. Janecek	Primary Signature Block
CS.1	Ujwala Manchikanti	Geotechnical Design

Roadway 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.
	Signature <u>Michael J. Janecek</u> Date <u>06-18-2024</u>
	Printed or Typed Name _____ My license renewal date is December 31, 2024
	Pages or sheets covered by this seal: <u>A.3, B.1-2, C.1-6, D.1-2, G.1-4, J.1-3, RC.1-6, RR.1-2, W.1-5</u>

LOCATION		DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION	(L) Feet	(R) Feet	(X) Inches	(BW) Feet
IA 136	682+60.97 684+18.33	33.94	33.94	21	2.06

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

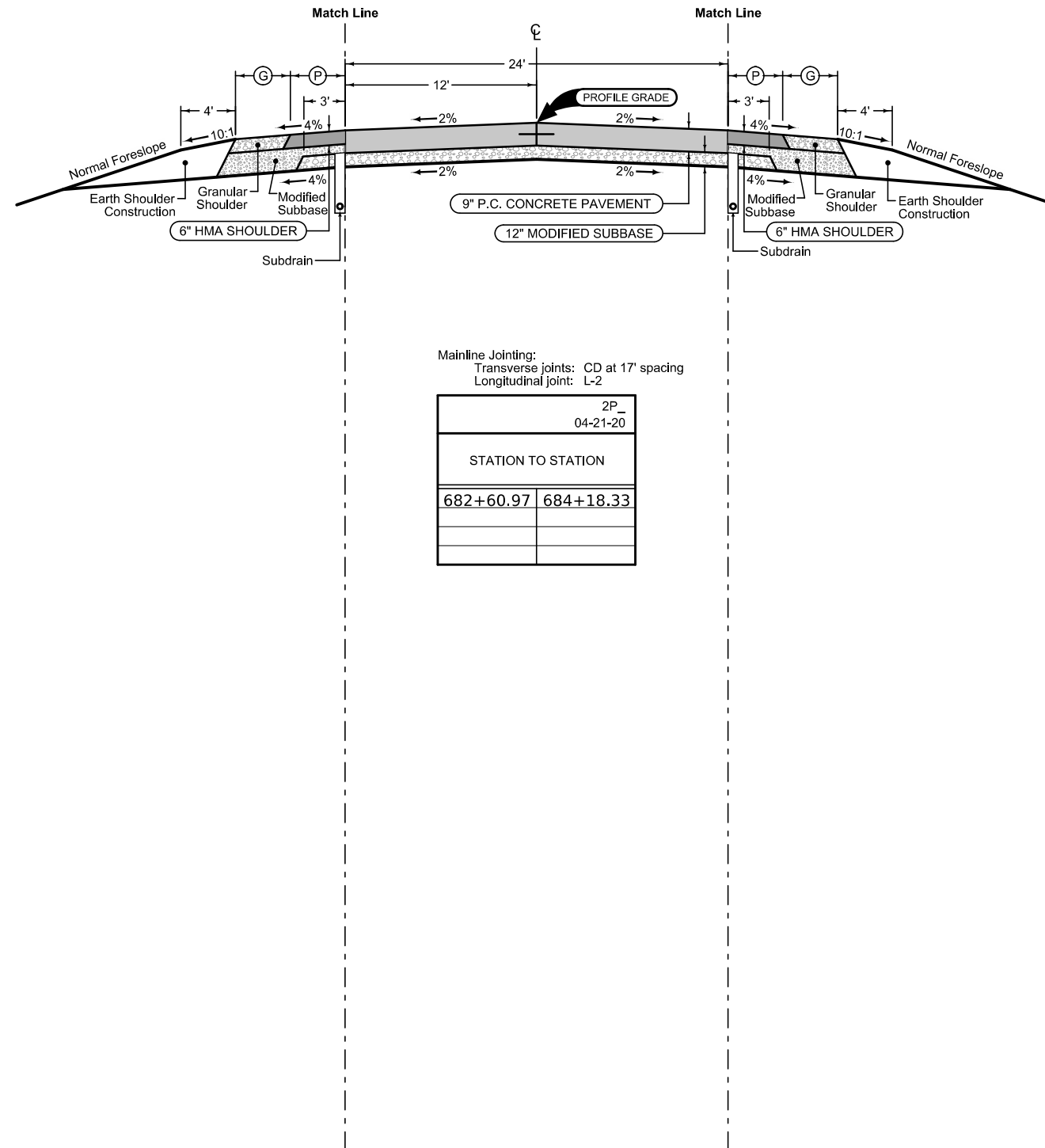
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.



Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

		2_C_04-21-20	
STATION TO STATION		(P) Feet	(G) Feet
682+60.97	684+18.33	4	4



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

		2P_04-21-20	
STATION TO STATION			
682+60.97	684+18.33		

Combination Shoulder

Shoulder Jointing:
Longitudinal joint: B

		2_C_04-21-20	
STATION TO STATION		(P) Feet	(G) Feet
682+60.97	684+18.33	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	0.8		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	2,535		Includes 3,215 CY of fill material. Adding 30% shrink = 4,180 CY Subtracting 884 CY of cut material = 3,296 CY Factoring out shrink to establish bid item = 2535 CY Overhaul will not be paid.
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	884		Includes cut material for removals to reach proposed subgrade. (339 CY of Cut). Shrink is not included.
4	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	956		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	129		Refer to Tab.104-4 on C Sheets.
6	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	3,296		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	280		Refer to Typical on B Sheets and Tabulation 100-24 in the C Sheets.
8	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	44		Refer to Typical Section and Tabulation 112-9.
9	2122-5500080	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 8 IN.	SY	140		Refer to Typical Section and Tabulation 112-9.
10	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	3.1		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	420		Refer to Typical Section and Tabulation 100-24.

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated	Roadway Items	
12	2402-0425040	FLOODED BACKFILL	CY	350		Refer to Tabulation 104-4
13	2418-0000010	TEMPORARY STREAM DIVERSION	EACH	1		
14	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	434.8		Refer to CS Sheets.
15	2502-8221306	SUBDRAIN OUTLET, DR-306	EACH	4		
16	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	255		Refer to Tabulation 110-7A on C sheets. Includes removal and disposal of beams and posts.
17	2510-6745850	REMOVAL OF PAVEMENT	SY	326		Refer to Tabs. 110-1 and 102-5 on C Sheets.
18	2527-9263209	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	STA	4.72		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	3.15		Refer to tab 112-10 on the C-sheets.
22	2548-0000110	ASPHALT EMULSION FOR FOG SEAL (SHOULDER RUMBLE STRIPS)	GAL	3.6		Refer to tab 112-10 on C-sheets.
23	2548-0000320	MILLED CENTERLINE RUMBLE STRIPS, PCC SURFACE	STA	1.57		

100-1D 10-18-05	PROJECT DESCRIPTION
This project involves the replacement of the IA 136 bridge at Elwood Creek located 4.0 miles north of US 61 with a twin 12' x 12' RCB culvert using an off-site detour.	

INDEX OF TABULATIONS		111-25 10-18-11
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
262-5	UTILITIES (POINT 25 PROJECT)	C.4

STANDARD ROAD PLANS		105-4 10-18-11
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

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	Type	Depth	Type	Depth	Type	Depth	Type	Depth	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						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.				
<p>LEGEND</p> <p>AAC TYPE A ASPHALT CEMENT CON</p> <p>C. LST. CRUSHED LIMESTONE</p> <p>BAC TYPE B ASPHALT CEMENT CON</p> <p>BSC BITUMINOUS SEAL COAT</p>																							

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	Saw Cut*	Remarks
				SY	LF	
682+60.97	683+21.00	BOTH	HMA	160.1	24.0	
683+56.00	684+18.33	BOTH	HMA	166.2	24.0	
TOTAL:				326.3	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.	Direction of Traffic	Location			Removal of Guardrail
		Station to Station	Side	LF	
1	BOTH	682+58.00	683+21.00	RT	63.0
2	BOTH	682+59.00	683+22.00	LT	63.0
3	BOTH	683+56.00	684+23.00	LT	67.0
4	BOTH	683+56.00	684+18.00	RT	62.0
TOTAL:					255.0

110-13
04-20-10

DELIVERY AND STOCKPILING

Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks
Existing steel beam guardrail Uncut and unbolted	255	FT	Maintenance Garage 2983 IA-62 Maquoketa, IA 52060	Kerry Burzlaff 563-590-2948	

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.

Road Identification	Direction Of Traffic	Location			Side	P Width FT	G Width FT	L Length FT	Class 13 Excavation CY	Hot Mix Asphalt		Binder TONS	Paved Shoulder SY	Temporary Pavement SY	Special Backfill				Modified Subbase CY	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks
		Station to Station	TON	TON/STA						HMA Alternate					PCC Alternate		TON	TON/STA		STA	HMA CY	PCC CY			
										TON	TON/STA				TON	TON/STA									
		①	②	③						④	⑤				⑥	⑦	⑧	⑨		⑩	⑪	⑫	⑬	⑭	
IA 136	BOTH	682+60.97	684+18.33	LT	4.0	4.0	157.4	60.6				69.9					23.3	22.0	14.0	1.57	52.5				
	BOTH	682+60.97	684+18.33	RT	4.0	4.0	157.4	60.6				69.9					23.3	22.0	14.0	1.57	52.5				
TOTALS:								121.2				139.9				46.6	44.1		3.15	104.9					

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 (A) CY	Porous* Backfill (B) CY	Flooded Backfill ① (A+B) CY	Excavation		Revetment		Engineering Fabric SY	Remarks				
				Dike						Compacting Backfill Adjacent CY	Compaction w/Moisture Control CY	Compaction w/Moisture and Density CY	Type			Quantity CY	Type	Quantity TONS	
				Rt.	Location Station	Top. Elev.													Type
				Lt.															
683+34.30	625	TWIN 12'x12'x124'	RCB				128.6			165.0	15.0	180.0							
TOTALS:							128.6					180.0							

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
681+00.00	1		Closure Adjacent to Co Rd Y46
685+50.00	1		
679+00.00		1	
687+50.00		1	
TOTALS=	2	2	

MILLED RUMBLE STRIPS

See PV-12 and PV-13.

* Calculated at 18" width for Shoulder.

Road Identification	Station to Station	Shoulder Pavement Type	Rumble Strip Type (Centerline, Rt or Lt Shoulder)	Length		Fog Seal* (Milled Rumble Strip) Shoulder GAL	Effective Shoulder Width			Remarks
				PCC STA	HMA STA		PCC Paved FT	HMA Paved FT	Granular\ Earth FT	
				①	②		③	④	⑤	
IA 136	682+60.97	684+18.33	HMA	Right Shoulder	1.57		1.8		4.0	4.0
	682+60.97	684+18.33	HMA	Left Shoulder		1.57	1.8		4.0	4.0
	682+60.97	684+18.33	PCC	Centerline	1.57					
TOTALS:					1.57	3.15	3.6			

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.

GEOTECHNICAL 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.

Signature _____ Date _____
UJWALA MANCHIKANTI
Printed or Typed Name
License Number P27413
My license renewal date is December 31, 2025

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

104_09A
12/8/22

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	IA136	682+60.97	684+18.33	Left	42.0	4.0	187.4	682+60.97	DR-306	17.4	Use Type 7A installation
2.0							30.0	684+18.33	DR-306		
3.0	IA 136	682+60.97	684+18.33	Right	42.0	4.0	187.4	682+60.97	DR-306	17.4	Use Type 7A installation
4.0							30.0	684+18.33	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
- Water Hydrant (Rural)
- Septic Tank
- Cistern
- L.P. Gas Tank (No Footing)
- Underground Storage Tank
- Latrine
- Satellite TV Dish
- Water Hook Up
- Radio Tower
- Tower Anchor
- Guardrail (Beam or Cable)
- Guard Post (one or two)
- Guard Post (over two)
- Filler Pipe
- Gas Valve
- Water Valve
- Speed Limit Sign
- Mile Marker Post
- Sign
- Traffic Signal Control Box
- Rail Road Signal Control Box
- Telephone Switch Box
- 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

- E1 **EL1B Alliant Energy - Quality D**
- FO **FO1C, Lost Nation-Elwood Telephone - 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

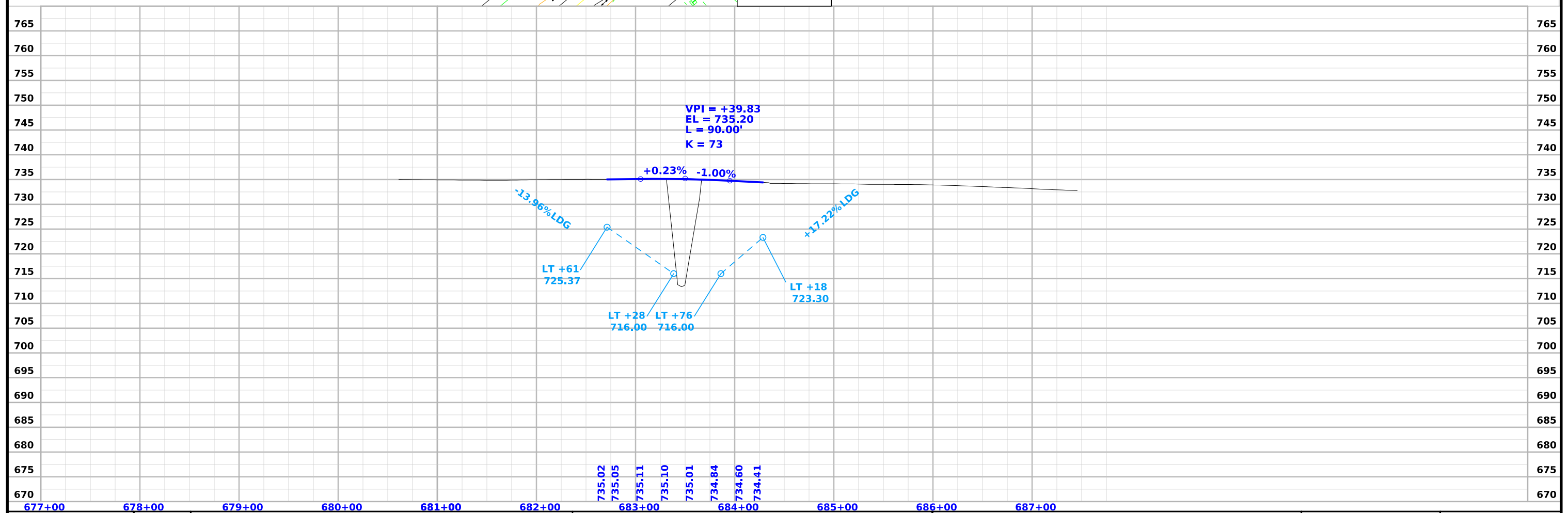
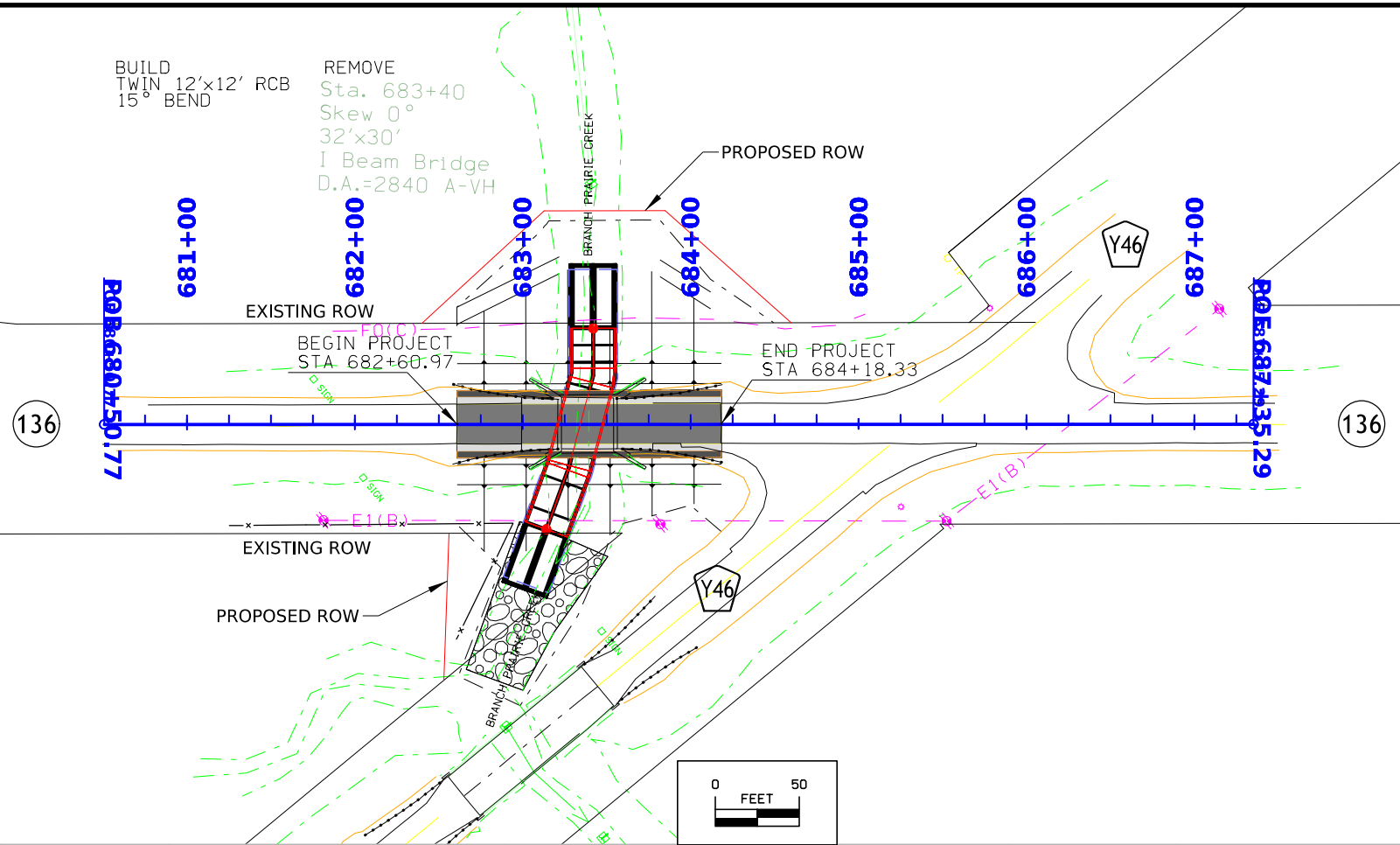
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

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
- Access Control
- Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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



Survey Information

Clinton County
BRF-136-1(103)-38-23
State Highway 136 and 185th Avenue over Elwood Creek
PIN 20-23-136-060
Sap-766.5

datum: NAD83 (2011) for Epoch 2010.00. Coordinates were determined by IaRTN 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# 552104696) was made August 02, 2021. The following Companies were listed:

<u>Company (Quality)</u>	<u>Symbol</u>	<u>Remark</u>
Alliant Energy (ASE)	PPA	Power Poles South of IA 136 & East of 185 th Ave; Clear
Lost Nation-Elwood Telephone (LN1)	FOA	Buried Fiber Optic Line North of IA 136; Marked

Following are the list of contacts made in the order they were received:

(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

Party Personnel

Murray Berting – Survey Party Chief
Gavin Gear – Assistant 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 State Highway 136 and 185th Avenue, over Elwood Creek. 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 (2) Bridges over Elwood Creek, State Highway 136 and 185th Avenue Corridor and Elwood 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.

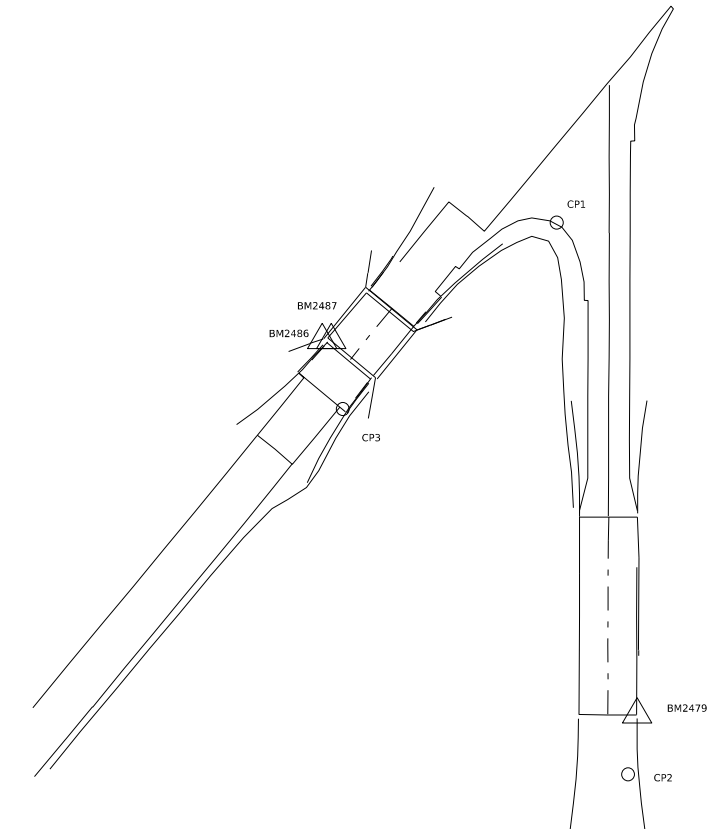
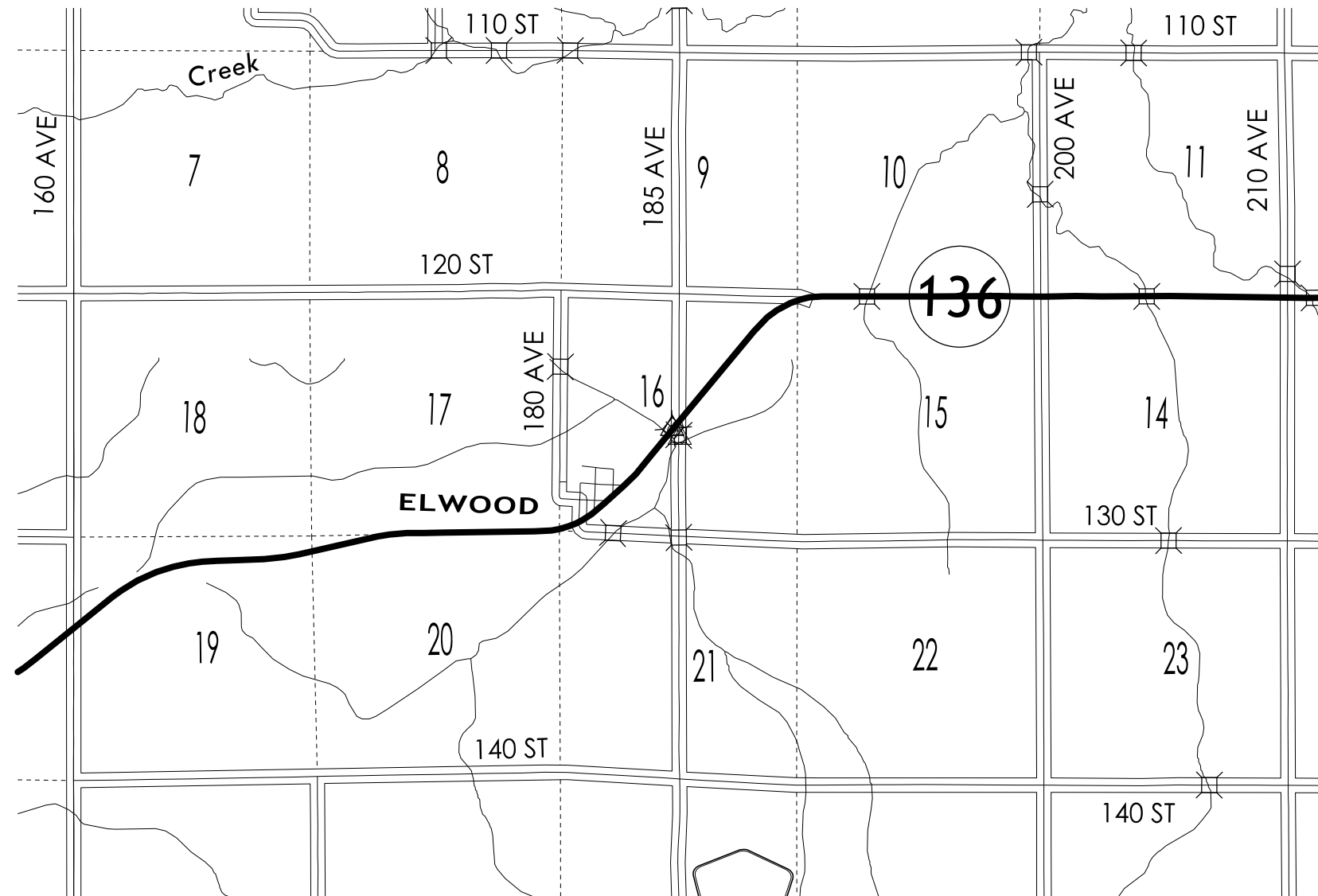
This survey found (3) local control benchmark monuments (benchmark disc on bridge abutment in SE corner bridge of 185th Avenue, benchmark 'cut X' and benchmark disc in the SW corner bridge of State Highway 136). No vertical information was available at the time field work was completed.

Horizontal Control

(Project Coordinates from Redundant IaRTN Observations)

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 XX

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

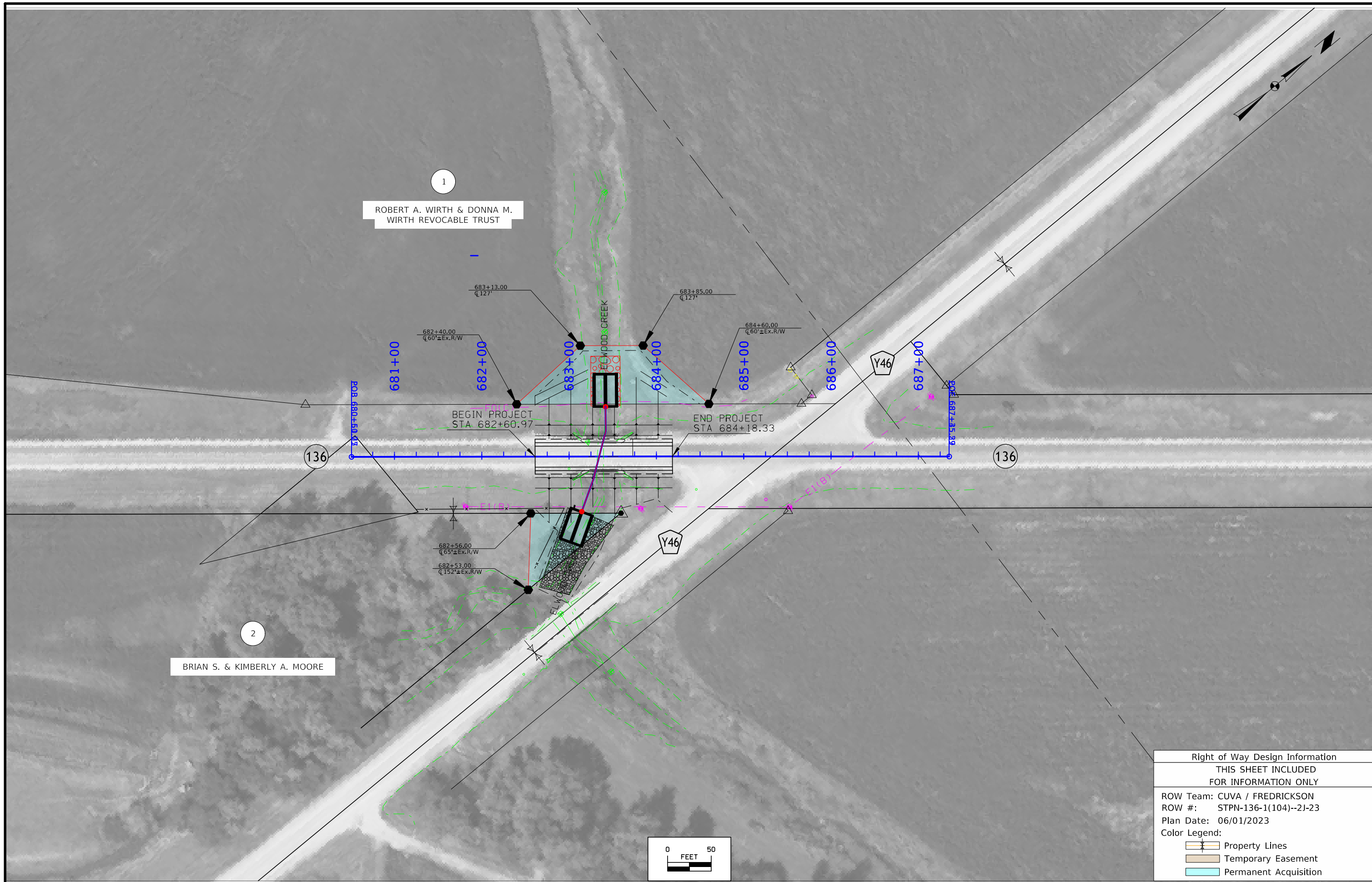
1a. Regional Coordinate System Zone XX
Project Control Marks are Bench Marks

POINT NAME	Y	X	Z	FEATURE DEFINITION - DESCRIPTION
1	8236239.306	21445635.030	732.929	CP1 CX (CUT 'X' IN PAVEMENT)
2	8236142.234	21445523.810	734.813	CP2 CX (CUT 'X' IN PAVEMENT)
3	8235951.975	21445671.990	733.413	CP3 CX (CUT 'X' IN PAVEMENT)
2479	8235983.807	21445677.470	736.445	BM B1657 1981
2786	8236177.857	21445513.480	737.904	BM DISC
2787	8236177.949	21445514.850	737.128	BM CX (CUT 'X' IN PAVEMENT)

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.

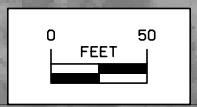
Alignment Coordinates																		101-16	
																		04-19-11	
Element Number	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)	Station	Y (Northing)	X (Easting)
1	ML136	68050.770 R1	8235959.159	21445354.330															
2	ML136	68260.969 R1	8236121.107	21445488.332															
3	ML136	68418.329 R1	8236242.435	21445588.540															
3	ML136	68735.295 R1	8236486.323	21445790.990															



1
ROBERT A. WIRTH & DONNA M.
WIRTH REVOCABLE TRUST

2
BRIAN S. & KIMBERLY A. MOORE

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: CUVA / FREDRICKSON	
ROW #: STPN-136-1(104)--2J-23	
Plan Date: 06/01/2023	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



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

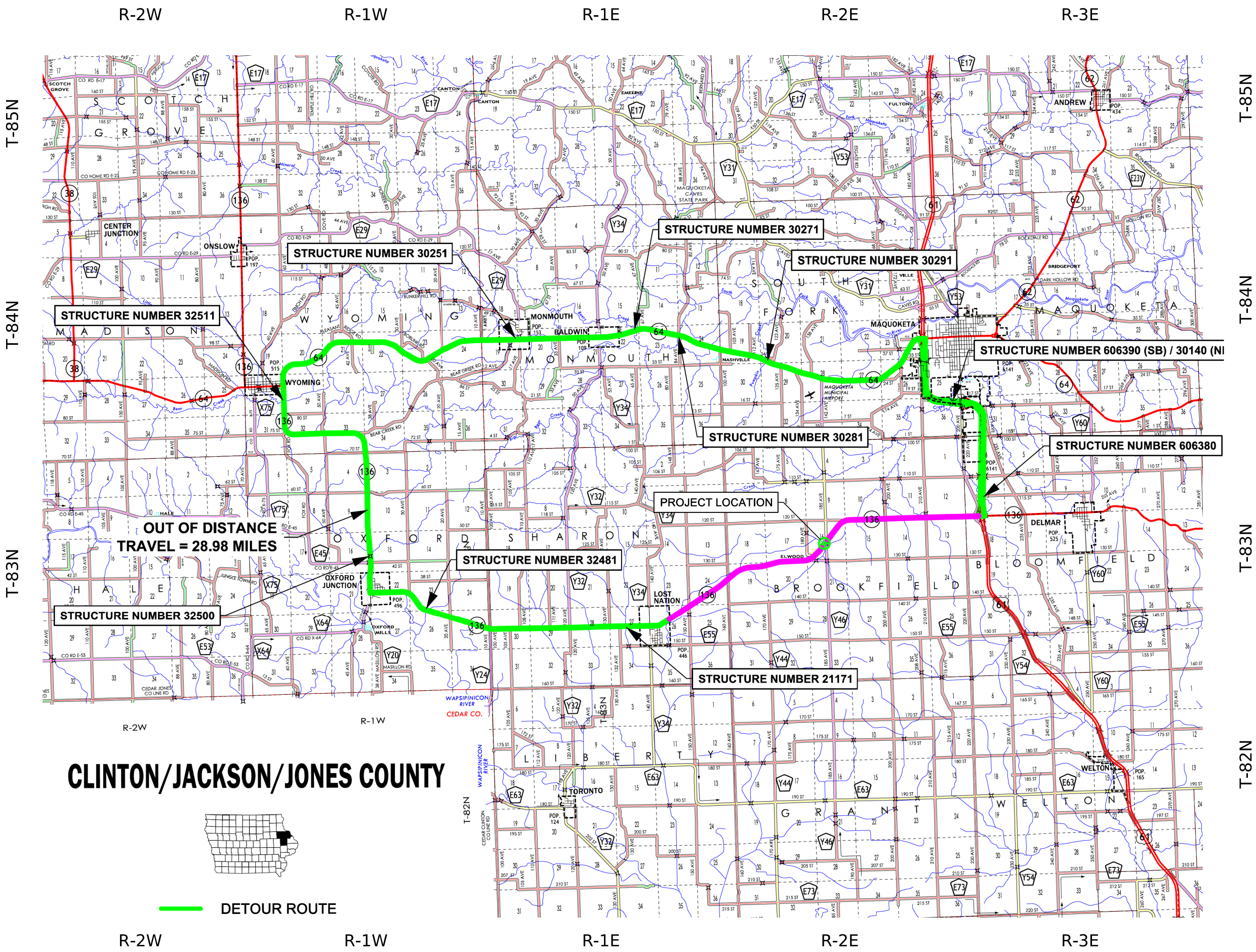
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
			No Travel Restrictions Expected									

111-01
04-17-12

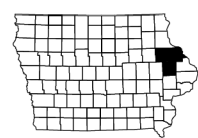
COORDINATED OPERATIONS

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.

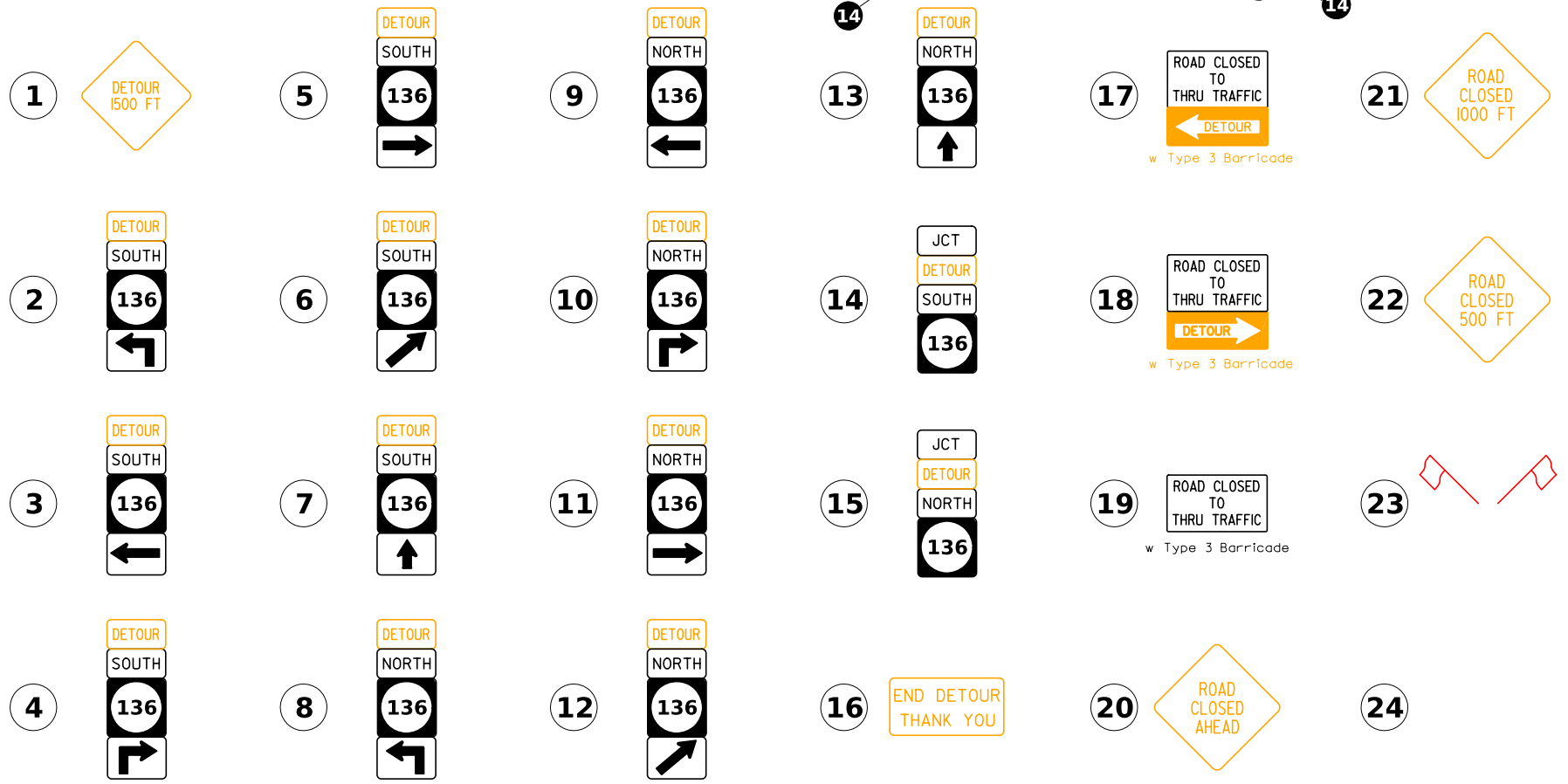
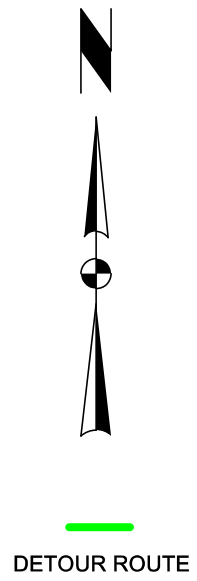
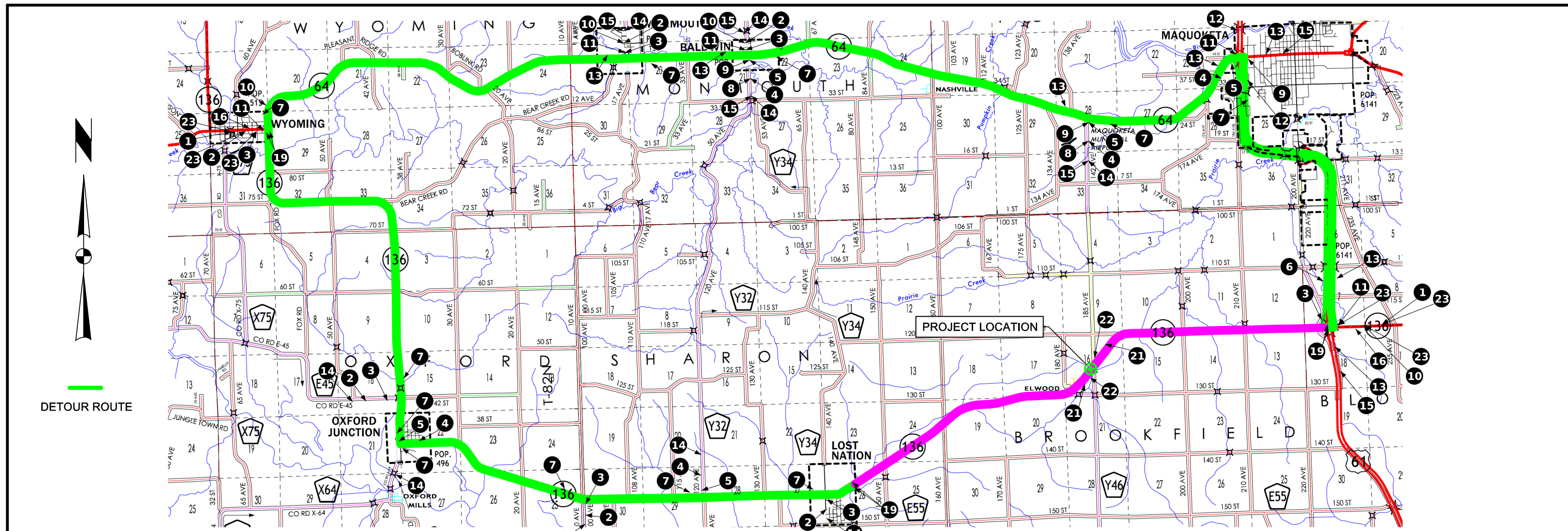
Project	Type of Work
BRF-136-1(97)--38-23	Bridge Replacement
BRF-136-1(99)--38-23	RCB Culvert Replacement
BRF-136-1(101)--38-23	RCB Culvert Replacement
BRF-136-1(105)--38-23	RCB Culvert Replacement



CLINTON/JACKSON/JONES COUNTY



— DETOUR ROUTE



SIGN INVENTORY

I.D. NUMBER	SIZE	I.D. NUMBER	SIZE
JCT	M2-1 24" x 12"	END DETOUR THANK YOU	DOT_stock 812 514056 60" x 36"
DETOUR	M4-8 24" x 12"	DETOUR 1500 FT	W20-2 48" x 48" with Flag Trees
NORTH	M3-1 24" x 12"	ROAD CLOSED AHEAD	R11-2 48" x 48" with Flag Trees
SOUTH	M3-3 24" x 12"	ROAD CLOSED 500 FT	W20-3 48" x 48" with Flag Trees
DETOUR 136	M5-1B 24" x 24"	ROAD CLOSED 1000 FT	W20-3 48" x 48" with Flag Trees
ROAD CLOSED TO THRU TRAFFIC	M5-1 24" x 24"		
DETOUR	M6-1 24" x 12"		
DETOUR	M6-3 24" x 12"		
DETOUR	M1-6C 24" x 24"		
DETOUR	M11-4 60" x 30"		
DETOUR	M4-10L 48" x 18"		
DETOUR	M4-10R 48" x 18"		

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
- Water Hydrant (Rural)

- Septic Tank
- Cistern
- L.P. Gas Tank (No Footing)
- Underground Storage Tank
- Latrine
- Satellite TV Dish
- Water Hook Up
- Radio Tower
- Tower Anchor
- Guard Post (one or two)
- Guard Post (over two)
- Filler Pipe
- Gas Valve
- Water Valve
- Speed Limit Sign
- Mile Marker Post
- Sign
- Traffic Signal Control Box
- Rail Road Signal Control Box
- Telephone Switch Box
- 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

- E1 **EL1B Alliant Energy - Quality D**
- FO **FO1C, Lost Nation-Elwood Telephone - Quality D**

PLAN VIEW COLOR LEGEND OF SOILS SHEETS

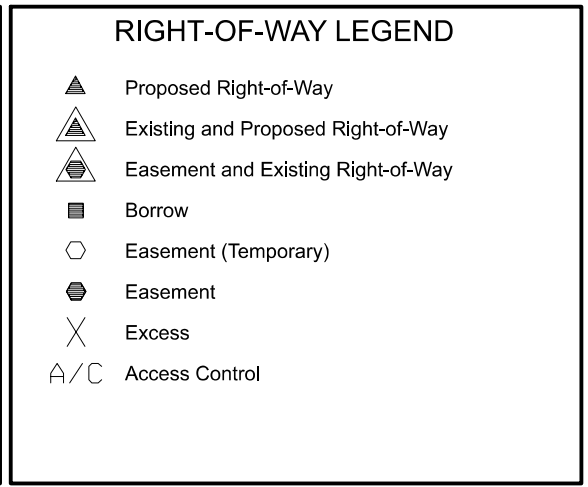
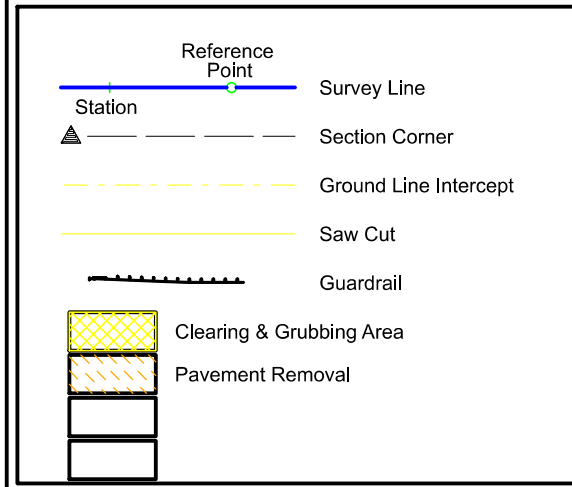
LINEWORK		Design Color No.	
Green	(2)		Existing Topographic Features and Labels
Purple (Halo)	(15)		Backslope Drains
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
SHADING		Design Color No.	
Brown, Light	(236)		Core Out

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

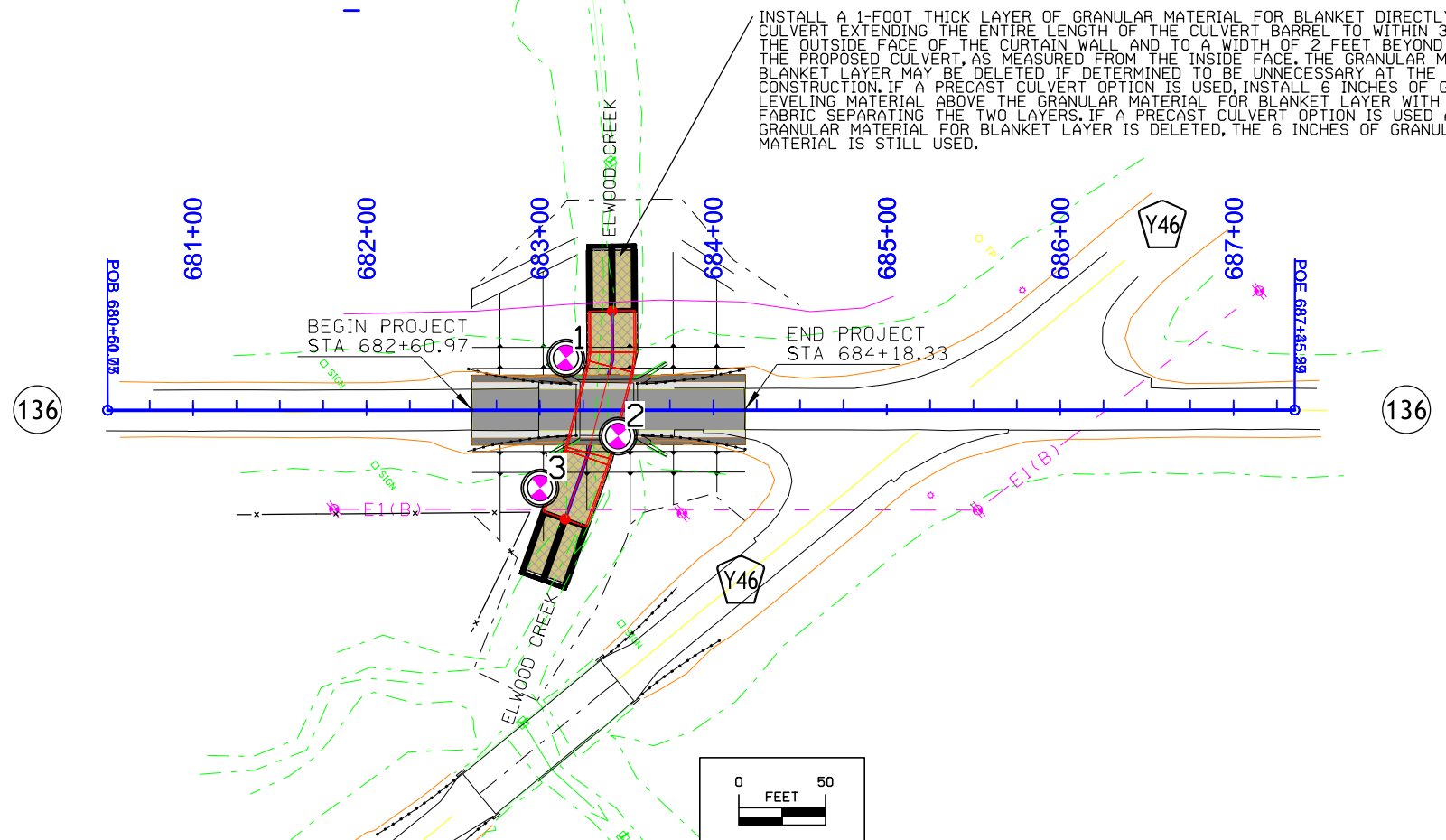
Date(s) Drilled	
Drill	Dig/Core
Water	Treatment
Dry	Sand Blanket
Sample	Soil Remediation Area
Plugged	Select Soil
Moisture	Select Sand
Shelby	Slope Dressing Only
Blow Count	Broken and Weathered Rock
Dens. Core	Rock
Sandstone	Unsuitable A
Unsuitable B	Unsuitable C
Sandy Soil	Boulders
Shale	



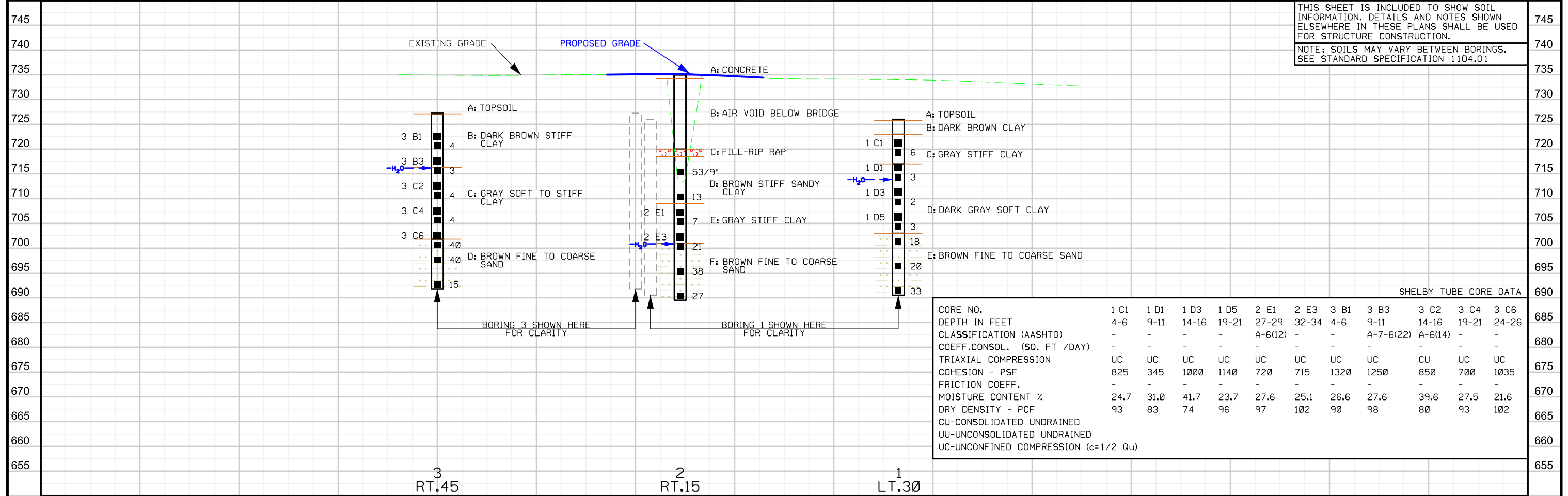
NOTE: Sounding and test boring data shown in the plans were accumulated for designing and estimating purposes. Their appearance on the plans does not constitute a guarantee that conditions other than those indicated will be encountered. Details and notes shown elsewhere shall be used for roadway and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

SOILS LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES Q)



THIS SHEET IS INCLUDED TO SHOW SOIL INFORMATION. DETAILS AND NOTES SHOWN ELSEWHERE IN THESE BORINGS. SEE STANDARD SPECIFICATION 1104.01



ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Erosion Control Items : Erosion Control Items

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated	Erosion Control Items	
1	2601-2634100	MULCHING	ACRE	0.8		<p>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.</p> <p>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.</p>
2	2601-2636015	NATIVE GRASS SEEDING	ACRE	0.7		<p>Seed all areas outside eight feet adjacent to outside shoulder along mainline, side roads, and infield areas at interchanges with "Native Grass Seeding".</p> <p>Supply all seed for "Native Grass Seeding".</p> <p>Apply all forb seed through the native grass drill wildflower or small seed box.</p> <p>Do not mix and apply Forb seed with the native grass seed.</p> <p>Apply cover crop through the cool season or through cover crop seed box.</p> <p>Do not mix and apply cover crop seed with the native grass seed.</p> <p>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.</p> <p>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.</p>
3	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	0.1		<p>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.</p> <p>Supply all seed for "Rural Grass Seeding"</p> <p>Do not mix and apply cover crop seed with the rural grass seed.</p> <p>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.</p> <p>The Owner's Representative will review the limits with the Contractor prior to seeding.</p>
4	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	0.8		<p>Item is included for disturbed areas.</p> <p>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.</p> <p>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.</p> <p>It is not necessary to place stabilizing crop in locations that have be covered by Wood Excelsior Mat.</p>

Item no.	Item Code	Item	Unit	Quantities		Estimate Reference Notes
				Estimated		
				Erosion Control Items		
5	2602-0000020	SILT FENCE	LF	363		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	33		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	396		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	51		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	1,190		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	1,390		
13	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1		
14	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1		

STANDARD ROAD PLANS		
105-4 10-18-11		
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

SECTION 404 PERMIT AND CONDITIONS
281-1 10-18-16
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.

STORM WATER BEST MANAGEMENT PRACTICES
281-3 10-17-17
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

INDEX OF TABULATIONS		
111-25 10-18-11		
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

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location		Side	Length	Remarks
Begin Station	End Station		LF	
682+91.00	683+28.00	LT	57.0	
683+57.00	683+97.00	LT	60.0	
682+44.00	682+86.00	RT	62.0	
683+51.00	684+42.00	RT	111.0	
SF Tab Totals:			290.0	
SF Bid Totals:			363	125% of Tab Total
SF Maintenance Totals:			36	10% of Bid Total
SF Removal Totals:			363	100% of Bid Total

100-19
04-19-16

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

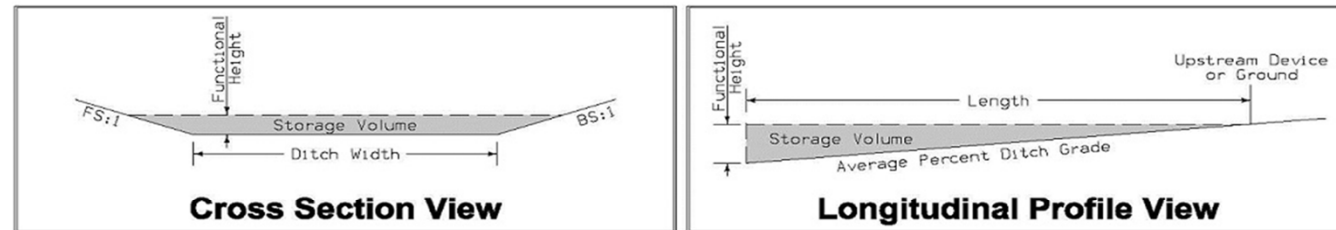
Possible Standards: EC-204

Location		Side	Length of Installation			Remarks
Begin Station	End Station		9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
682+40.00	684+59.00	LT		219		
682+40.00	684+59.00	LT		219		
682+47.00	684+36.00	RT		189		
682+89.00	683+39.00	RT		50		
683+27.00		LT		38		Culvert Edge
683+57.00		LT		38		Culvert Edge
683+27.00		LT		26		Entrance
683+57.00		LT		26		Entrance
682+93.00		RT		38		Culvert Edge
683+20.00		RT		38		Culvert Edge
682+82.00		RT		25		Entrance
683+11.00		RT		25		Entrance
682+86.00		LT		20		Ditch Check
PSSCD Tab Totals:				951	0	
12 inch PSSCD Bid Totals:				1190		125% of Tab Total
20 inch PSSCD Bid Totals:					200	125% of Tab Total
PSSCD Removal Totals:					1390	100% of Bid Total

100-18
10-16-18

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.

* Volume equation: $[0.5 * Spacing * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation LF	Maintenance LF	Removal LF	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg.% Slope Ditch Grade	Volume* CF	
1	4	683+94.00	LT	22.0	2.2	22.0	3.5	3.0	10.0	14.0%	434.1	
SFDC Tab Totals:				22	2.2	22.0						
SFDC Bid Totals:				33.0			150% of Tab Total					
SFDC Main. Totals:					15.0		Bid Total					
SFDC Rem. Totals:						33.0	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 RESPONSIBILITIES

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

II. PROJECT SITE DESCRIPTION

- A. This Pollution Prevention Plan (PPP) is for the construction of a Box Culvert as a bridge replacement.
- B. This PPP covers approximately 0.77 acres with an estimated 0.74 acres being disturbed. The portion of the PPP covered by this contract has 0.74 acres disturbed.
- C. The PPP is located in an area of Downs-Fayette-Nordness soil association. The estimated weighted average runoff coefficient number for this PPP after completion will be 0.39.
- 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

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 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 environmental 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

LINETYPE	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

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

LINWORK	Design Color No.	Color	Description
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.	Color	Description	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%

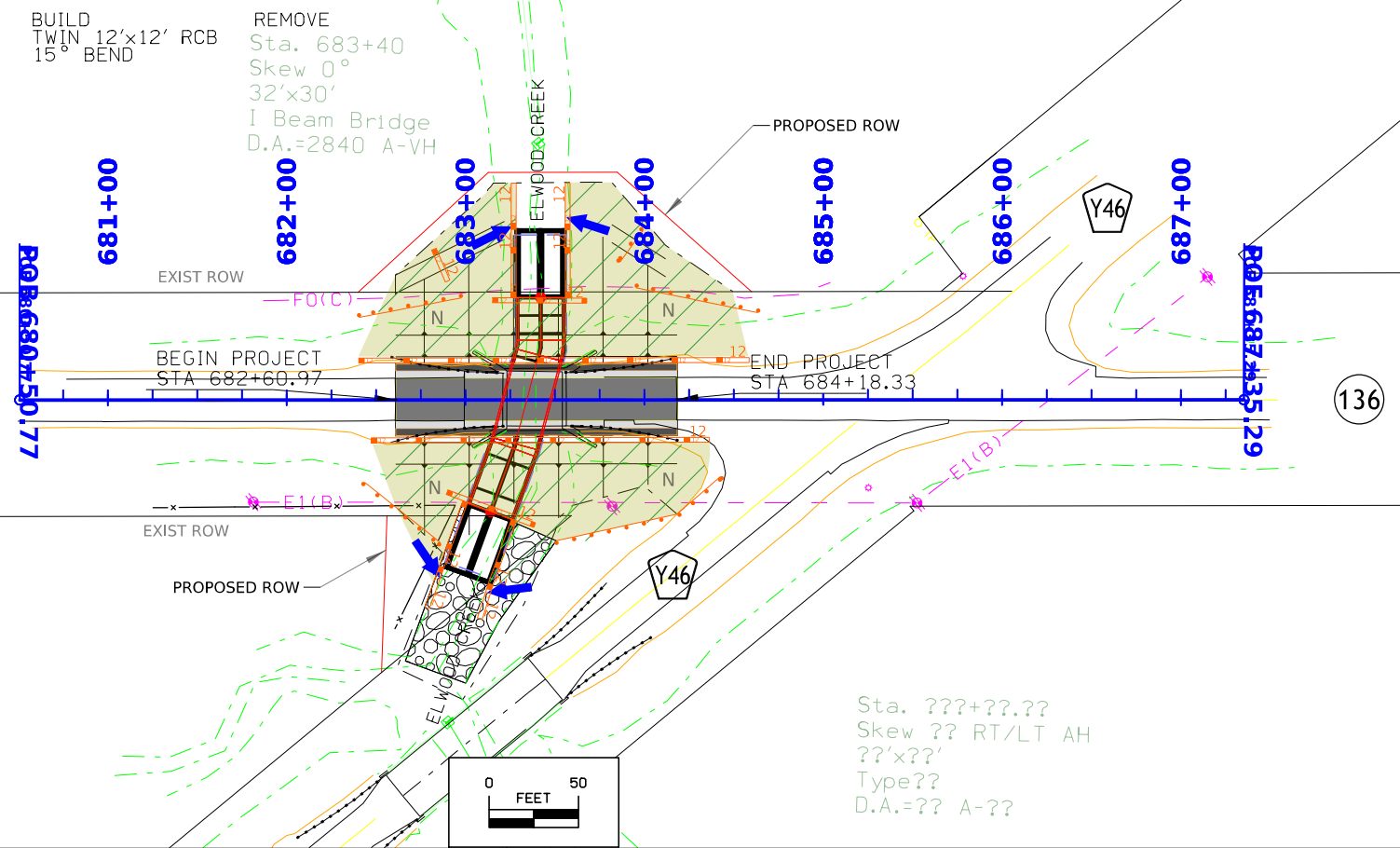
PATTERN LEGEND OF EROSION CONTROL SHEETS

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

EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES R)

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CROSS SECTION VIEW COLOR LEGEND

Design Color No.	Feature	Design Color No.	Feature
Aggregate			
(64)	Choke Stone	(112)	Noise Wall
(42)	Engineering Fabric	(112)	Noise Wall Footing
(8)	Flooded Backfill	(112)	Retaining Wall Back
(92)	Macadam Stone	(112)	Retaining Wall Back Excavate
(20)	Modified	(112)	Retaining Wall Face
(12)	Plowing Shaping	(112)	Retaining Wall Front Excavate
(14)	Porous Backfill	(112)	Retaining Wall Front Footing
(8)	Revetment Class A	(112)	Retaining Wall MSE Gutter
(6)	Revetment Class B	(112)	Retaining Wall Reinforced Earth
(62)	Revetment Class C	Grading	
(188)	Revetment Class D	(8)	Behind Curb Cut
(28)	Revetment Class E	(6)	Granular
(12)	Shoulder Special Backfill	(13)	Granular Back Fill
(12)	Special Backfill	(48)	Rock Undercut
(20)	Subbase	(8)	Shoulder Earth Fill
(20)	Subbase Lower	(2)	Side Slopes
(20)	Subbase Upper	(226)	Side Slopes Dressing
(118)	Subgrade Treatment	Substrata	
Asphalt			
(207)	HMA Base Course	(128)	Boulder Substrata
(207)	HMA Interim Course	(48)	Broken Weathered Substrata
(207)	HMA Surface Course	(3)	Core Out Substrata
Concrete			
(0)	Barrier Concrete	(203)	Existing Pavement Substrata
(0)	Barrier Concrete Footing	(6)	Loam Substrata
(0)	Curb Gutter	(80)	Rock Substrata
(48)	Flowable Mortar	(4)	Select Sand Substrata
(0)	Median Concrete	(3)	Shale Substrata
(0)	PCC Pavement	(10)	Topsoil Substrata
(0)	Sidewalk	Unsuitable / Waste	
Shoulder			
(209)	Shoulder HMA	(3)	Unsuitable Type A
(0)	Shoulder PCC	(13)	Unsuitable Type B
(6)	Shoulder Granular	(11)	Unsuitable Type C
(6)	Shoulder Granular	(3)	Waste
Existing			
(0)	Existing Pavement		

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CROSS SECTIONS LEGEND AND INFORMATION SHEET

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

