

JEFFERSON COUNTY

SLIDE REPAIR
NHSN-034-8(159)--2R-51

LETTING DATE
01-18-2023



PLANS OF PROPOSED IMPROVEMENT ON THE
**PRIMARY ROAD SYSTEM
JEFFERSON COUNTY**
SLIDE REPAIR

0.3 mi E of Bus 34 Interchange to 0.4 mi E of Umber Ave (5 Locations)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



H Sheets

REVISIONS

TOTAL

14

PROJECT IDENTIFICATION NUMBER

21-51-034-010

PROJECT NUMBER

NHSN-034-8(159)--2R-51

R.O.W. PROJECT NUMBER

NHSN-034-8(159)--2R-51

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 5	US 34
G Sheets	Survey Sheets
G.1 - 4	Reference Ties and Bench Marks
G.5	Horizontal Control Tab. & Super for all Alignments
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.1	511 Travel Restrictions
	* Color Plan Sheets

SCHEDULE

DM5 - 9-27-2022
D6 - 11-01-2022

DESIGN DATA RURAL

2016	AADT	6900	V.P.D.
20	--	--	V.P.D.
20	--	--	V.P.H.
	TRUCKS	20.7	%
	Total		
	Design ESALs	--	

See Sheet A.2 for Project Map

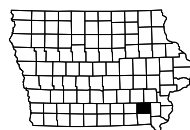
INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	X	Primary Signature Block
X	X	X

PRELIMINARY PLANS

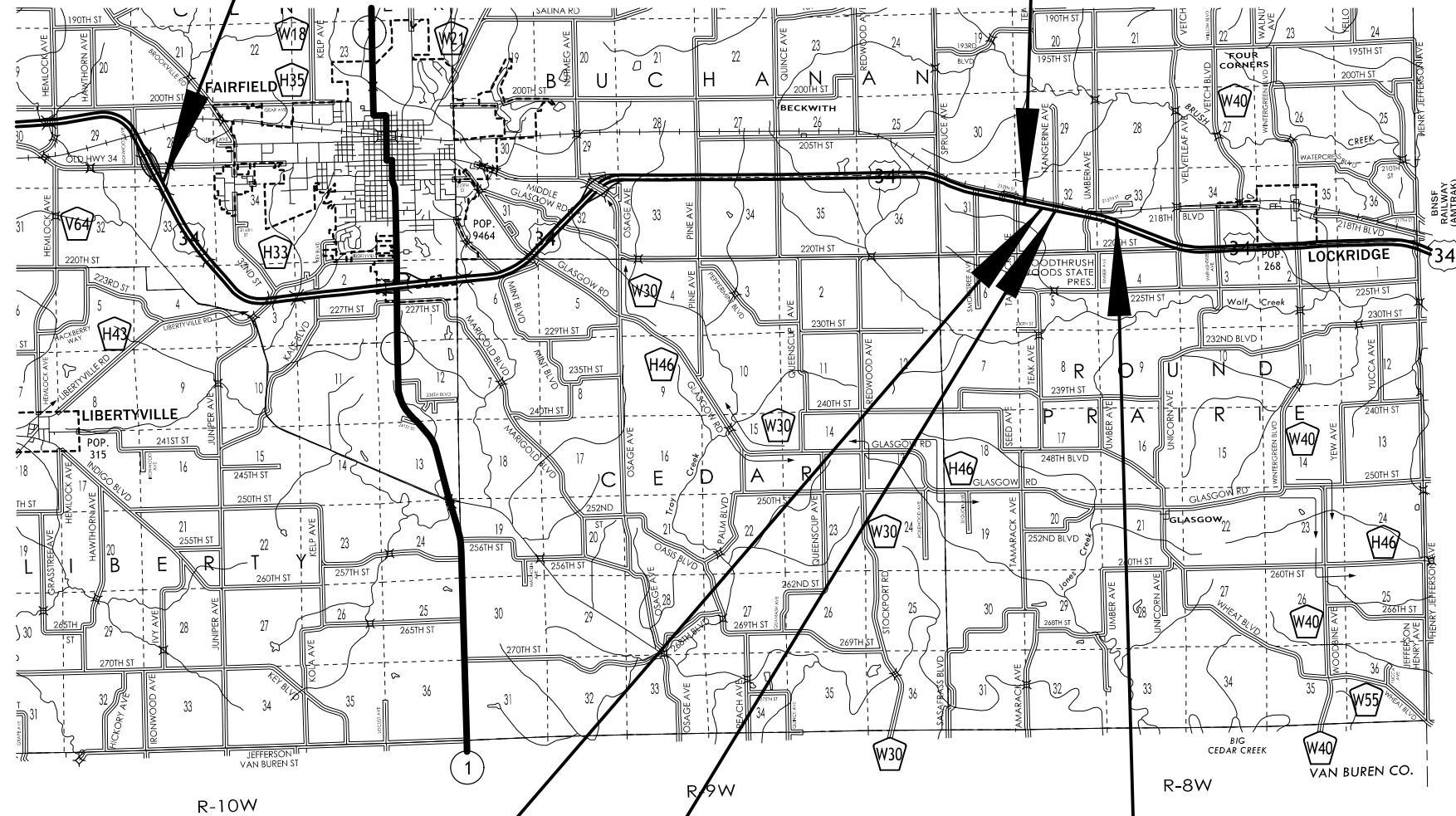
Subject to change by final design.

D5 PLAN - Date: 10-15-2021



PROJECT LOCATION
 LOCATION 1
 REFERENCE LOCATION 210.4 (East Side)
 STA. 70+07

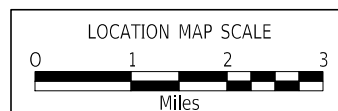
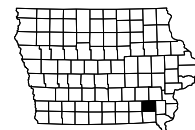
PROJECT LOCATION
 LOCATION 2
 REFERENCE LOCATION 219.33 (South Side)
 STA. 173+68.63



PROJECT LOCATION
 LOCATION 3
 REFERENCE LOCATION 219.51 (South Side)
 STA. 177+11.90

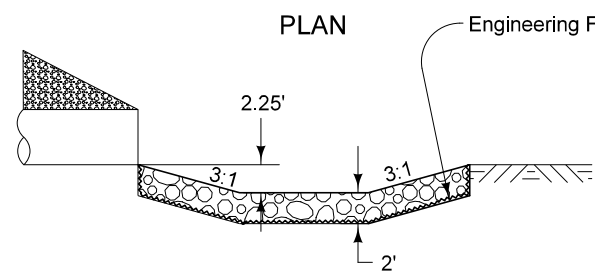
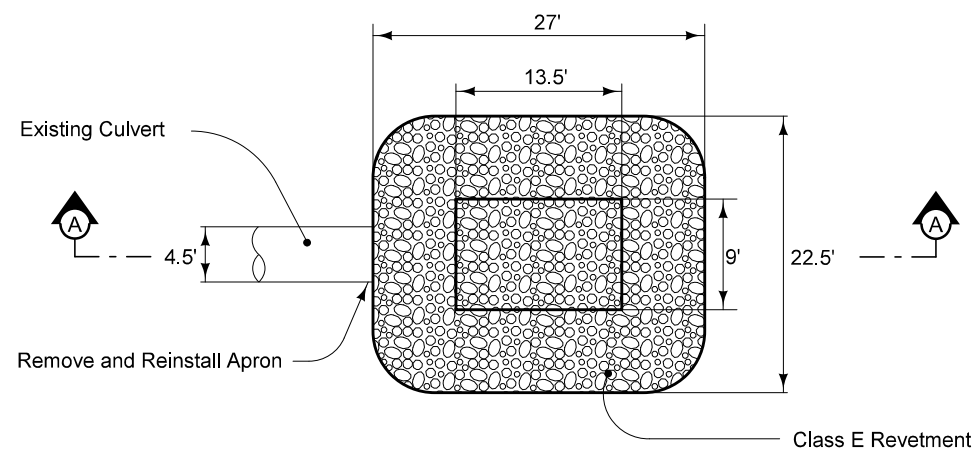
PROJECT LOCATION
 LOCATION 4
 REFERENCE LOCATION 219.54 (South Side)
 STA. 177+57.62

PROJECT LOCATION
 LOCATION 5
 REFERENCE LOCATION 220.6 (North Side)
 STA. 193+87.4



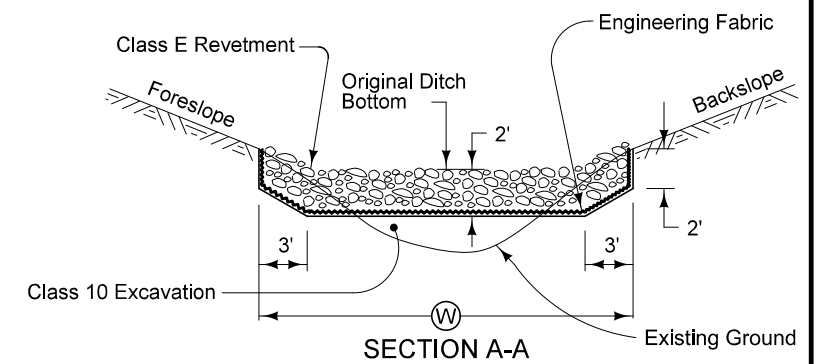
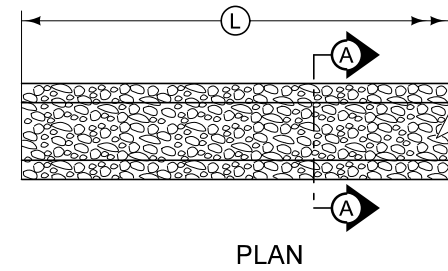
SPLASH
NEW

R_DITCH
NEW



SECTION A-A

SPLASH BASIN DETAIL



SECTION A-A

ROCK DITCH DETAIL

Notes:

Reshape ditch within limits of degradation to original shape with 2' rock ditch. Class 10 Excavation is incidental to rock erosion control.

See Tabulation 100-23

SURVEY SYMBOLS

- BL, Topo Breakline
- BL, Topo Breakline
- CON, Concrete or A/C Slab
- CON, Concrete or A/C Slab
- CP, Control Point
- D, Centerline Draw or Stream -Down
- D, Centerline Draw or Stream -Down
- DU, Centerline Draw or Stream -Up
- DU, Centerline Draw or Stream -Up
- Existing Contours
- FENO, FENO Monument
- GR, Ground Shot
- OUT, Tile Outlet
- PIP, Pipe Culvert
- PIP, Pipe Culvert
- PLG, Location of General Photo
- REF, Reference Tie Point
- SNP, Unpaved Shoulder
- SNP, Unpaved Shoulder
- SOP, Size of Pipe or Culvert
- TIL, Tile Line
- TILE

UTILITY LEGEND

- Utility Owners Reported
"Clear" or located outside
of project boundary

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
Gray, Light	(48)		Proposed Pavement Shading
Gray, Med	(80)		Proposed Granular Shading
Gray, Dark	(112)		Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)		Grading Shading
Tan	(8)		Proposed Sidewalk Shading
Blue, Light	(230)		Proposed Sidewalk Landing Shading
Pink	(11)		Proposed Sidewalk Ramp Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK		Design Color No.	
Green	(2)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

- Reference Point
- 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)

Center TWP.
T-72N R-10W
SEC. 28

Sect. No. 33

US 34 Bus Exit

Sta. 228+15.65 (Survey)
Skew 21° LT AH
54"x432' RCP
D.A.=11.5 Ac-H (Plan)
U.A.C.

Work Area

227+00

228+00

229+00

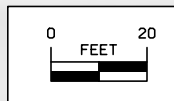
230+00

231+00

232+00

US 34

US 34



For Information Only

US 34
Location 1

Lockridge TWP.
T-72N R-8W
SEC. 32



126+00

127+00

128+00

129+00

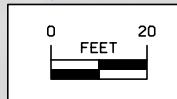
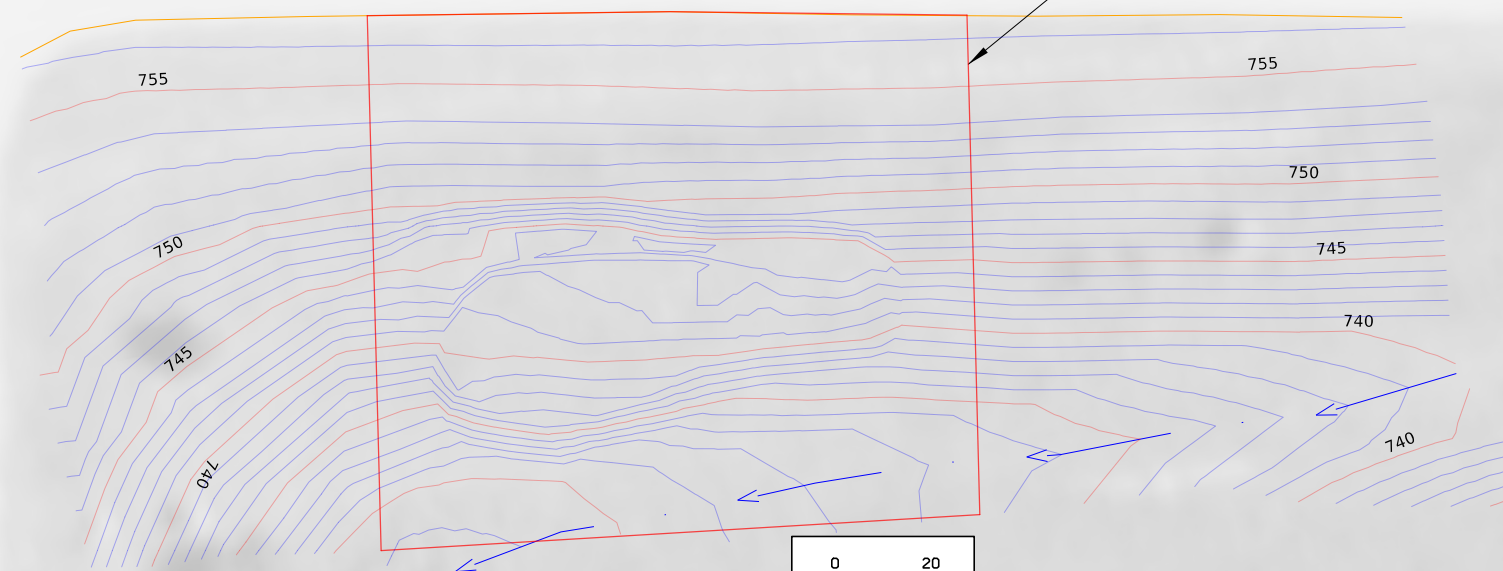
130+00

131+00

US 34

US 34

Work Area



For Information Only

US 34
Location 2

Lockridge TWP.
T-72N R-8W
SEC. 32



138+00

139+00

140+00

141+00

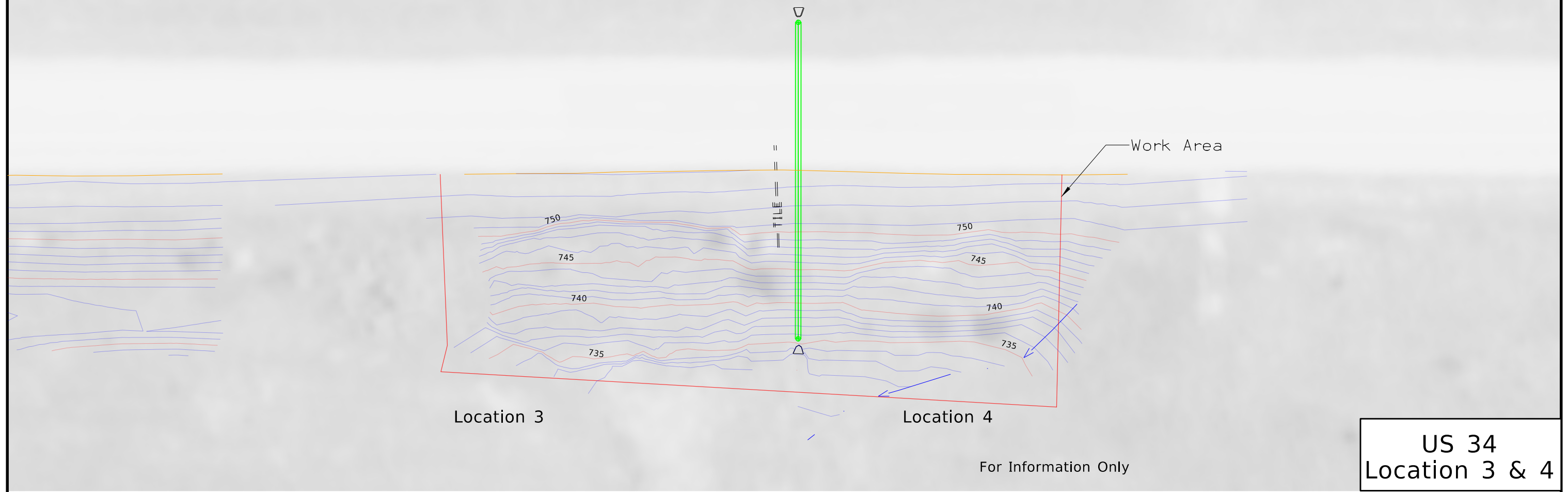
142+00

143+00

US 34

US 34

24"x128.5'
Conc. Pipe
U.A.C.



Work Area

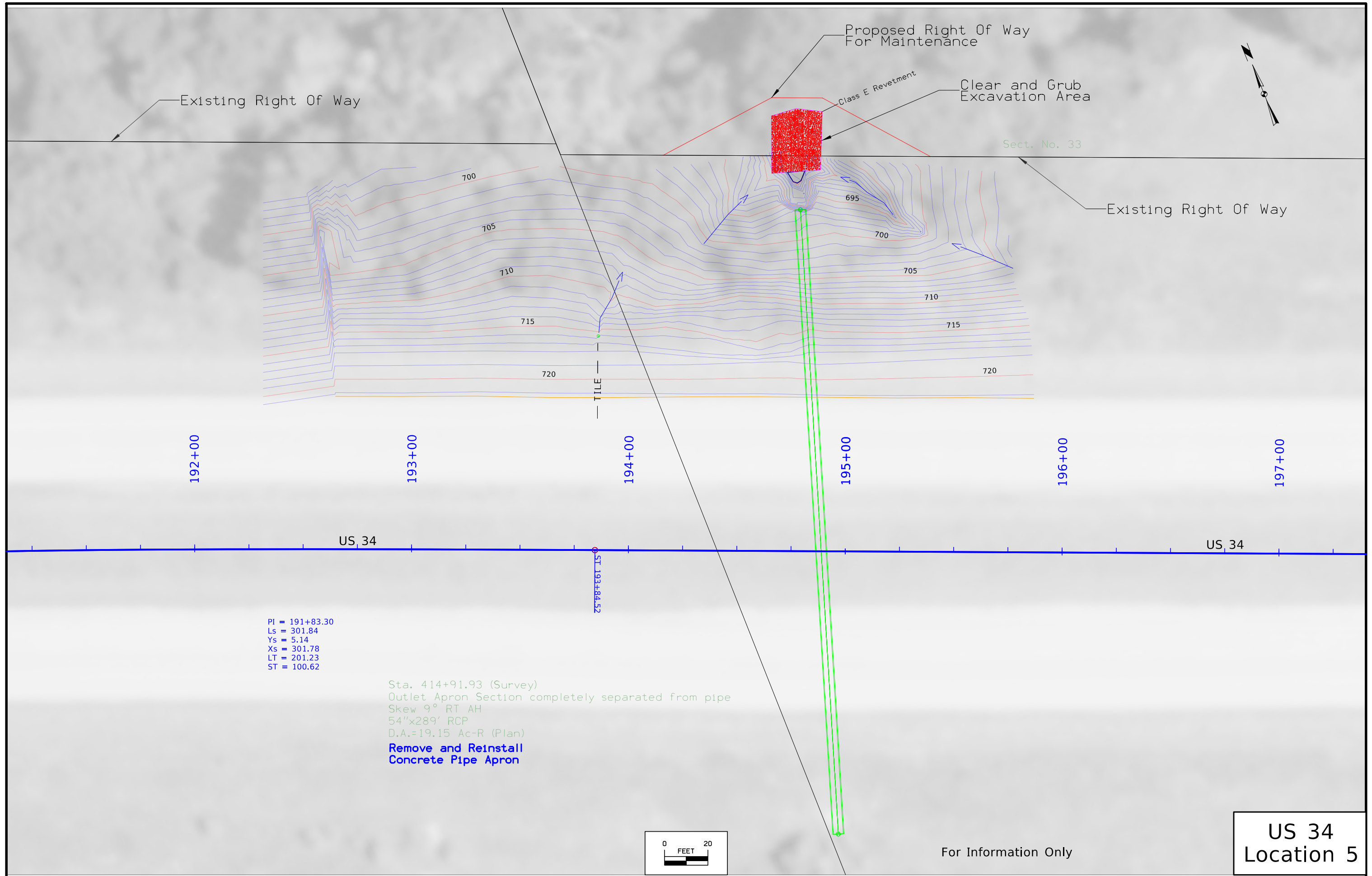
Location 3

Location 4

For Information Only

US 34
Location 3 & 4

FILE NO.	ENGLISH	DESIGN TEAM HOLST/TAMRAKAR/ACKERMAN	JEFFERSON COUNTY	PROJECT NUMBER NHSN-034-8(159)--2R-51	SHEET NUMBER D.4
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Survey Information

SURVEY INDEX

**County: Jefferson
PIN: 21-51-034-010**

Project Number: NHSN-034-8(159)--2R-51

Location: 0.3 mi E of Bus 34 Interchange to 0.4 mi E of Umber Ave (5 Locations)

**Type of Work: Slide Repair
Project Directory: 5103401021**

Survey Personnel

Nels Sutherland – Survey Party Chief
Myron Fox – Assistant Survey Party Chief

Date(s) of Survey

Begin Date 07/14/2021
End Date 08/03/2021

General Information

Measurement units for this survey are US survey feet. This survey is for US Hwy 34 Slide Repair at locations 0.3 mi E of Bus US Hwy 34 Interchange to 0.4 mi E of Umber Ave (5 Locations).

Project Control

Primary geodetic style three-dimensional project control monuments are found or placed at approximate 1/2 to 1 mile intervals throughout this project. Datum was accessed via GNSS static survey observations using Iowa Real Time Network reference stations in the area. Other legacy datum monuments in the area were surveyed comparing legacy coordinates to validate the results of the local project network adjustment. Comparisons validate results. For additional details of the control survey see the control survey report in the CONTROL file folder of the PrelimSurvey project directory.

**PROJECT DATUM: NAD83(2011) EPOCH 2010.00
VERTICAL DATUM: NAVD88
COORDINATE SYSTEM: IOWA REGIONAL COORDINATE SYSTEM ZONE 13**

Alignments Information

Alignment for the four slides East of Fairfield created by District 5 (Fairfield) office. Alignment for the slide West of Fairfield was a retrace of metric As-built Plan NHSX-34-8(93)--3H-51 converted to standard measurement.

Survey stationing relates to As-built plan stationing as follows:

POT Sta. 65+32.657m = 214+33.26ft Plan
= Survey POT Sta. 214+33.26ft

PC Sta. 76+23.945 = 250+12.94ft Plan
= Survey PC Sta. 250+12.77ft

Utility Information

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

CONTROL POINT VICINITY MAP

This map is a guide to the vicinity of the primary project control points
Primary control is for use with RTK base stations and for RTN validation.
Future surveys will use primary project control to establish temporary
control as needed for construction or other surveying applications.



HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 13

Coordinate listing from next sheet will be used with 1aRTN for monument
recovery. No other reference ties are given.

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 13

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 13
Project Control Marks are Bench Marks

Point Name	North	East	Height	Code Description
CP1	6675512.092	23472057.764	685.556	FENO1 IDOT Brass disk from the intersection of Hwy34 and Hwy34 Business proceed East 1066ft along Hwy34 business point is 30ft South of center of road 4in below surface
517	6687482.062	23474004.082	772.028	CP Jefferson Co Mon from the intersection of 185th St and Meadow CIR proceed East 36ft along 185th St and South 27ft from center of road 2.5in disc in PVC W/access cover
522	6669247.429	23538845.569	727.811	CP Jefferson Co Mon from the intersection of Hwy34 and Velvet Ave proceed West along Hwy34 64ft and North 170ft from the North edge of pavement of the WBL 2.5in disc in PVC W/access cover
523	6670671.404	23523070.398	772.468	CP Jefferson Co Mon from the intersection of Hwy34 and Spruce Ave proceed South along Sruce Ave 3175ft point will be 32ft West of centerline of Spruce Ave 2.5in disc in PVC W/access cover
527	6668955.293	23460643.345	725.351	CP Jefferson Co Mon from the intersection of V64 and 220th St proceed West along 220th St 3945ft point will be 27ft South of centerline of 220th St 2.5in disc in PVC W/access cover
510342111	6675383.546	23470544.903	740.203	FENO2 IDOT Brass disk from the intersection of Hwy34 and Hwy34 Business proceed West 508ft point will be 394ft South of Hwy34 business and 111ft West of the SB exit ramp of Hwy34 4in below surface
510342228	6671264.415	23533056.626	739.628	FENO3 IDOT Brass disk from the intersection of Hwy34 and Umber Ave proceed North 123ft point will be West 37ft from the center of gravel road 4in below surface
510342235	6669696.532	23536580.638	726.041	FENO4 IDOT Brass disk from the intersection of Hwy34 and Velvetleaf Ave proceed West 2629ft along Hwy34 point will be SW 150ft from center of EBL Hwy34 and 2.5ft N of fence corner post 4in below surface
NGS_T124	6672205.115	23529102.810	757.557	CP NGS_FBN from the intersection of Hwy34 and Tamarack Ave proceed East 688ft the point is North 102ft the WB edge of pavement of Hwy34 a standard CGS Benchmark disk flush with the ground

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

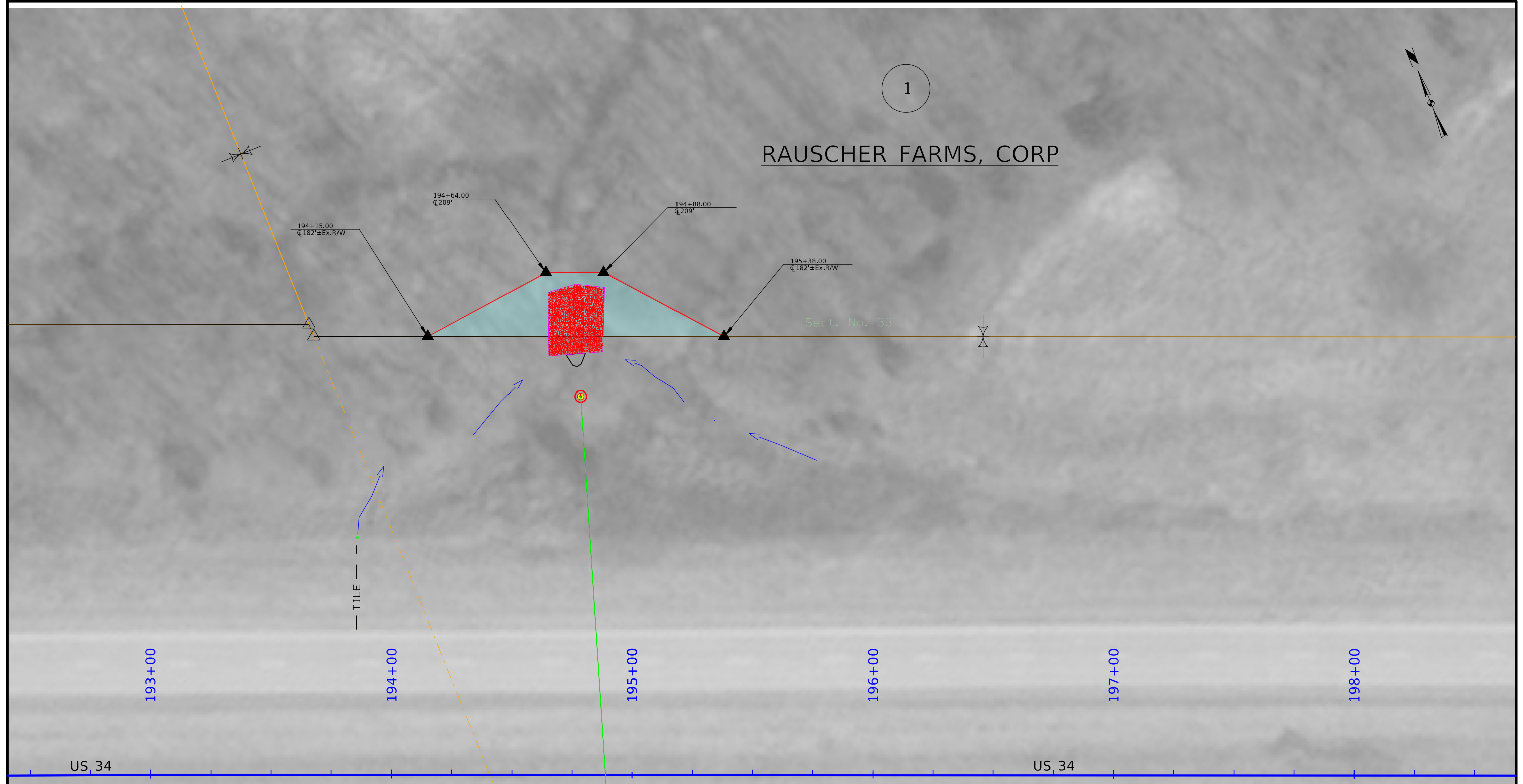
Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
1	ML034_LOC1	214+33.26 R1	6675535.90	23471050.18															
1	ML034	96+46.90	6672885.57	23525426.18															
2	ML034				181+30.24	6670985.80	23533694.07				183+31.47	6670940.74	23533890.19				184+32.08	6670915.71	23533987.64
3	ML034							184+32.08	6670915.71	23533987.64	187+57.71	6670834.70	23534303.04	190+82.68	6670719.51	23534607.61			
4	ML034				190+82.68	6670719.51	23534607.61				191+83.30	6670683.91	23534701.73				193+84.52	6670607.94	23534888.07

SPIRAL OR CIRCULAR CURVE DATA

Name	Location	ΔSCS	Horizontal Alignment Data													Remarks
			Spiral Data							Curve Data						
			θS	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	ΔC	T	L	R	E	
C1	ML034	09°14'26.39"	01°27'51.21"	301.84	628.22	19.90	301.82	2.57	201.23	100.62	06°18'43.97"	325.63	650.60	5905.51	8.97	

1

RAUSCHER FARMS, CORP



Sect. No. 33

193+00

194+00

195+00

196+00

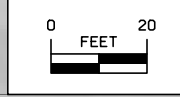
197+00

198+00

US 34

US 34

Sta. 414+91.93 (Survey)
 Outlet Apron Section completely separated from pipe
 Skew 9° RT AH
 542.280' BCP



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: CUVA / CARMAN	
ROW #: NHSN-034-8(160)--2R-51	
Plan Date: 10/27/2021	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

108-23A
08-01-08

TRAFFIC CONTROL PLAN

Traffic on US 34 shall be maintained at all times.

Lane Closures on US 34:

- Lane closures shall be limited to delivery and removal of equipment and materials.

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
US 34			No Travel Restrictions Expected									