

LETTING DATE
07-16-2019

PIPE CULVERTS
NHSN-330-1(31)--2R-50

JASPER CO.



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM
JASPER COUNTY
PIPE CULVERTS

4.1 m1 and 5.7 m1 N of US 65

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



REVISIONS

TOTAL

PROJECT IDENTIFICATION NUMBER

18-50-330-010

PROJECT NUMBER

NHSN-330-1(31)--2R-50

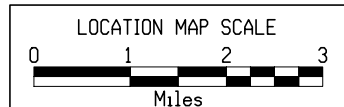
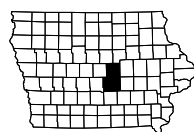
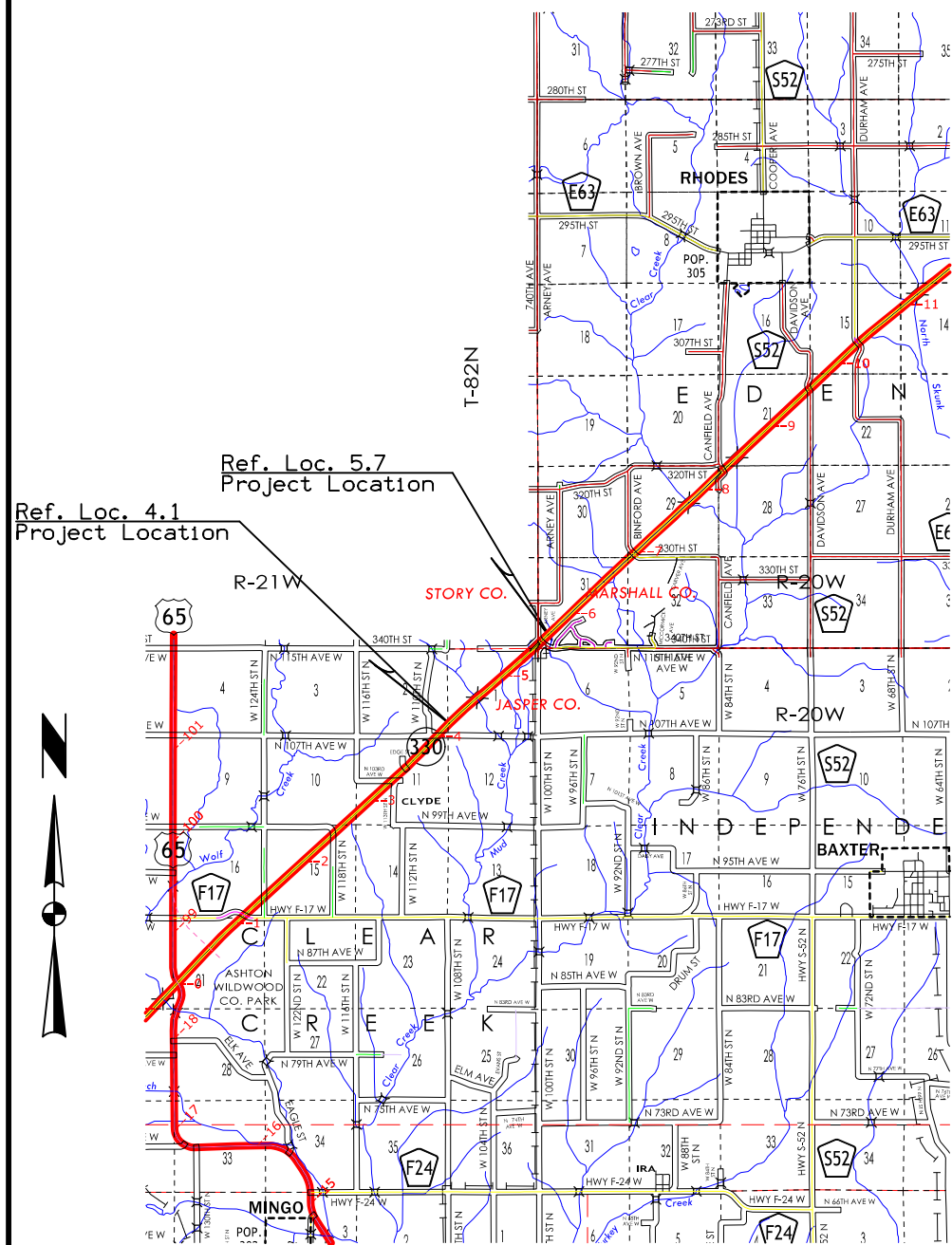
R.O.W. PROJECT NUMBER

NHSN-330-1(32)--2R-50

NHSN-330-2(95)--2R-64

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	Title Sheets
* A.1	Title Sheet
* A.1	Location Map Sheet
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 3	IA 330
G Sheets	Survey Sheets
G.1 - 3	Reference Ties and Bench Marks
J Sheets	Traffic Control and Staging Sheets
J.1	Traffic Control Plan
J.1	Staging Notes Stage
U Sheets	As Built Sheets
U.1 - 2	As Built Sheets at Pipe Locations
V Sheets	Bridge and Culvert Situation Plans
V.1	Bridge and Culvert Situation Plans
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbol Information Sheet
W.1	Mainline Cross Sections
	* Color Plan Sheets



D5 PLAN - Date: 12-17-2018

D9 PLAN - Date: 05-07-2019

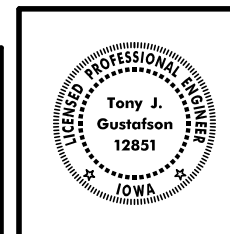
LETTING - Date: 07-16-2019

DESIGN DATA RURAL

2015 AADT	7,600	V.P.D.
20-- AADT	--	V.P.D.
20-- DHV	--	V.P.H.
TRUCKS	9.64	%
Total Design ESALs	--	

INDEX OF SEALS

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



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 _____

Printed or Typed Name

My license renewal date is December 31, 20 19__

Pages or sheets covered by this seal: _____

FILE NO.

ENGLISH

DESIGN TEAM Gustafson\Smyth\Ringgenberg

JASPER \ MARSHALL COUNTY

PROJECT NUMBER

NHSN-330-1(31)--2R-50

SHEET NUMBER

A.1

SURVEY SYMBOLS

- REF Reference Tie Point
- WC Wild Card (Misc. Field Shot)
- CP Control Point
- SH Paved Shoulder
- SNP Unpaved Shoulder
- GR Ground Shot
- TIL Tile Line
- OUT Tile Outlet
- BL Topo Breakline
- FW Wire Fence
- PIP Pipe Culvert
- D Centerline Draw or Stream (Down)
- UE Utility Elevation
- DU Centerline Draw or Stream (Up)
- F0 - - - - FO1D Fiber Optic Co. 1 - Quality D
- TLNR Tree Line Right
- Default_Point Default Point Feature
- F02 - - - - FO2D Fiber Optic Co. 2 - Quality D
- SOP Size of Pipe or Culvert
- PLG Location of General Photo
- CON Concrete or A/C Slab
- ENU Edge Unpaved Entrance & Parking
- ENT Centerline BL of Entrance
- v - - - - WL1D Water Line Co. 1 - Quality D
- PRO Profile Shot
- EP Edge of Paved Roads (ML or SR)
- C Centerline BL of Road (ML or SR)
- RIP Rip-Rap
- ⊕ TDC Tree Deciduous

UTILITY LEGEND

- F0 - Partner Communications Cooperative
Mr. Tracy Decker
101 E Church Street
Gilman, IA 50106-0008
(641) 498-3111
tdecker@pcctel.net
- F02 - Century Link
Steve Parker
2103 E. University Ave.
Des Moines, IA 50317
(515) 265-0968
Steven.Parker4@centurylink.com
- W - Iowa Regional Utilities Association
James R. LaPlant
1351 Iowa Speedway Drive
Newton, IA 50208
(641) 792-7011
jlaplant@ciawa.com

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design	Color No.	Description
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.		
Yellow	(4)		Highlight for Critical Notes or Features
Red	(3)		Delineates Restricted Areas
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

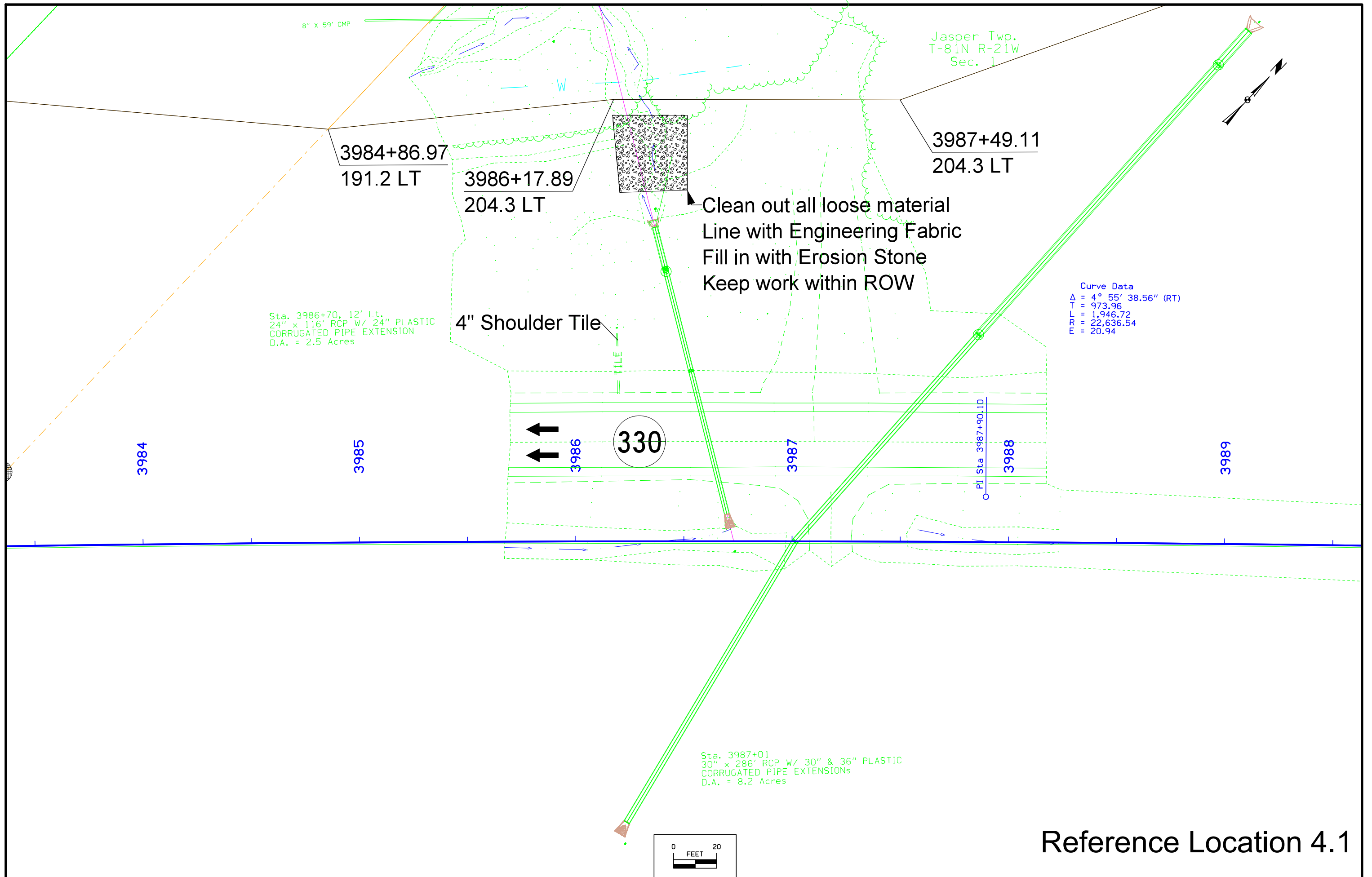
LINEWORK	Design	Color No.	Description
Green	(2)		Existing Ground Line Profile
Blue	(1)		Proposed Profile and Annotation
Magenta	(5)		Existing Utilities
Blue, Light	(230)		Proposed Ditch Grades, Left
Black	(0)		Proposed Ditch Grades, Median
Rust	(14)		Proposed Ditch Grades, Right

- 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
 - C/A Access Control
 - ← Property Line

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

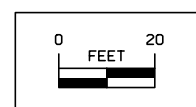
(COVERS SHEET SERIES D, E, F, & K)



Sta. 3986+70, 12' Lt.
24" x 116' RCP W/ 24" PLASTIC
CORRUGATED PIPE EXTENSION
D.A. = 2.5 Acres

Curve Data
 $\Delta = 4^\circ 55' 38.56''$ (RT)
 T = 973.96
 L = 1,946.72
 R = 22,636.54
 E = 20.94

Sta. 3987+01
30" x 286' RCP W/ 30" & 36" PLASTIC
CORRUGATED PIPE EXTENSIONS
D.A. = 8.2 Acres



Reference Location 4.1

Eden Twp.
T-82N R-20W
Sec. 31

Sta. 4063++36
42" x 296' RCP
Skew 30°49'36.2"
D.A. = 24.3 Acres

4060

4061

4062

4063

4064

4065

4066

203.8'

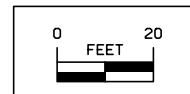
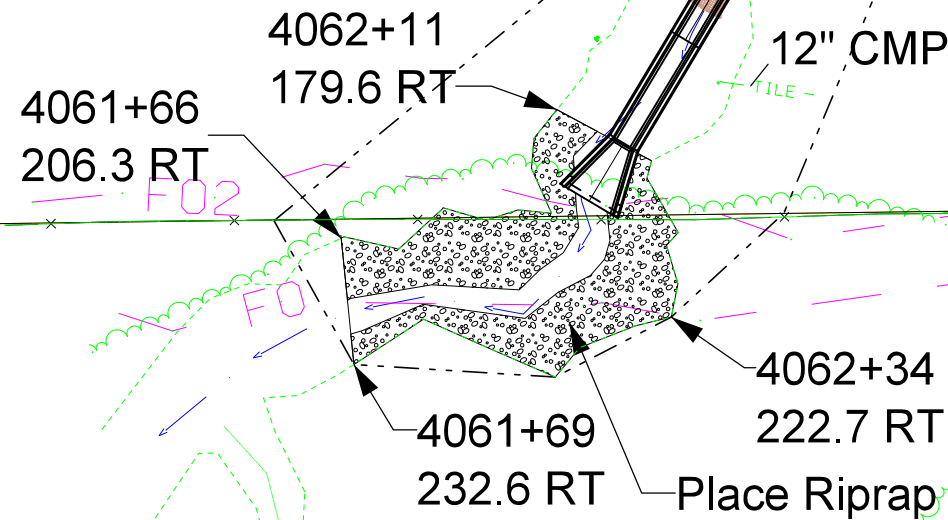


330

200'

4" Shoulder Tile

Existing ROW



Reference Location 5.7

Survey Information

Jasper/Marshall County
NHSN-330-1(31)--2R-50
4.1 miles and 5.7
Miles N. of US 65
PIN 18-50-330-010
Sap-0935

General Information

Measurement units for this survey are US survey feet. This survey is for two sites along IA Hwy 330, 4.1 miles north and 5.7 miles northeast of US Hwy 65. Project datum and control information is provided by Design Survey Office. This project is a full field survey.

Vertical Control

The vertical datum is NAVD88. Vertical Control was established on 3 monuments designated as points FENO 5, FENO 6, and FENO 7. These monuments are stable and are expected to hold vertical reasonably well. Datum was transferred from Iowa RTN reference stations to the projects monuments by using concurrent 6 hour static measurements and post processing connecting vectors. Geoid 12 B was used in processing.

Horizontal Control

The project coordinate system for this survey is Iowa RCS Zone 9 (U.S. Survey Feet). This survey control is relative to IaRTN reference stations. IaRTN Reference Station coordinates are relative to the National Reference Station network datum: NAD83 (2011) for Epoch 2010.00. Coordinates were determined by by using concurrent 6 hour static measurements and post processing connecting vectors. Additional control points were placed throughout the project using a GNSS Base-Rover setups.

Alignment Information

IA Hwy 330

The horizontal alignment for this survey is a retrace of As-built Plans Project No. NHSX-330-1(19)--3H-50. Stationing from this set of plans are metric and was converted to US survey feet for this survey. Survey stationing was equated to the plan at PI Sta. 3987+90.10 (1215+51.467 metric) and run back and ahead without equation throughout the survey.

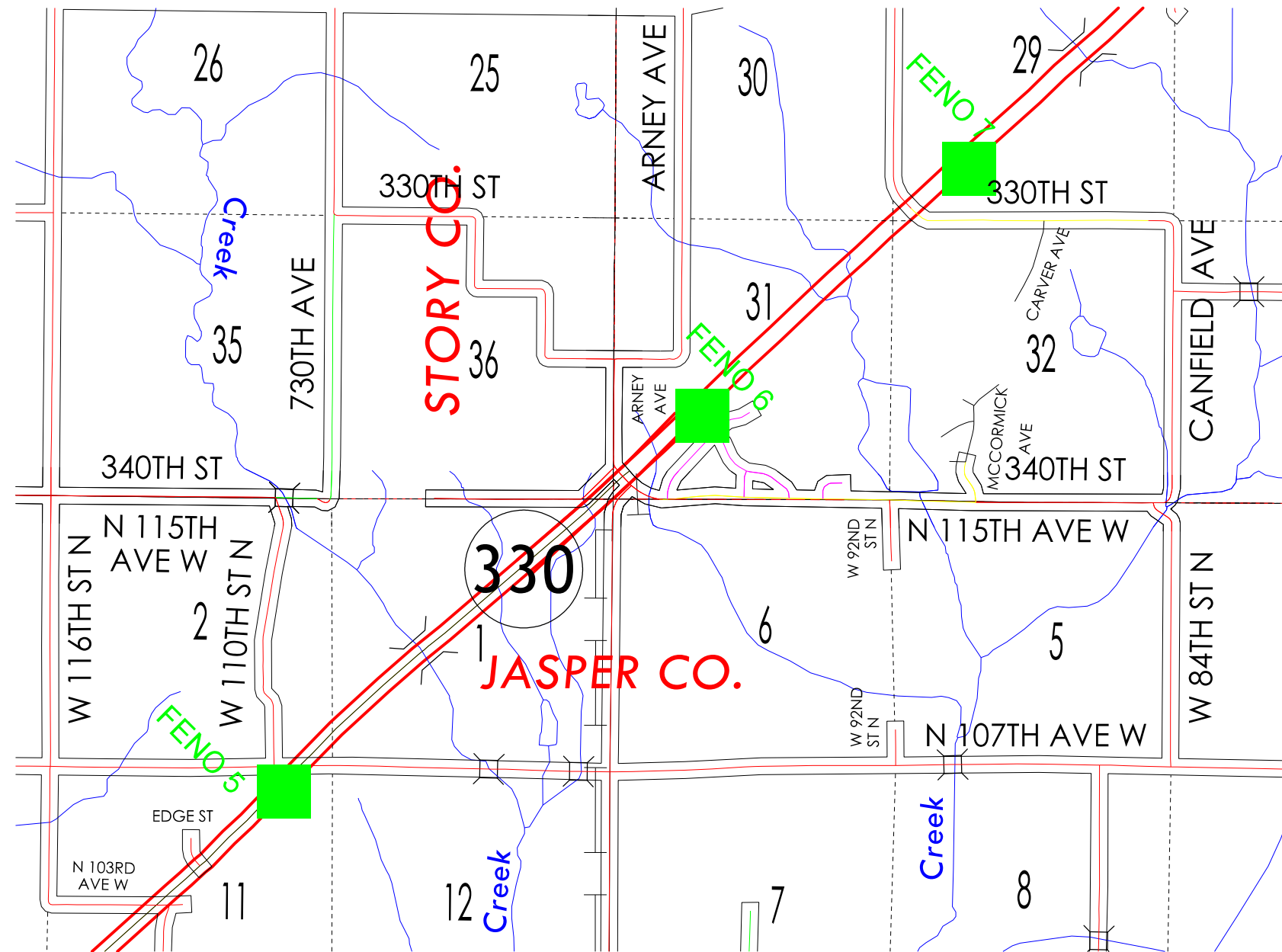
Survey stationing relates to as built plan stationing as follows:

PI Sta. 3987+90.10 (US Survey Feet) Project No. NHSX-330-1(19)--3H-50
= PI Sta. 1215+51.467 (metric) Project No. NHSX-330-1(19)--3H-50
= Survey PI Sta. 3987+90.10 (US Survey Feet)

PI Sta. 4044+92.83 (US Survey Feet) Project No. NHSX-330-1(19)--3H-50
= PI Sta. 1232+89.661 (metric) Project No. NHSX-330-1(19)--3H-50
= Survey PI Sta. 4044+90.64 (US Survey Feet)

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 2013.00

VERT. DATUM: NAVD88

1a. Regional Coordinate System Zone 9

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

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2013.00

VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 9

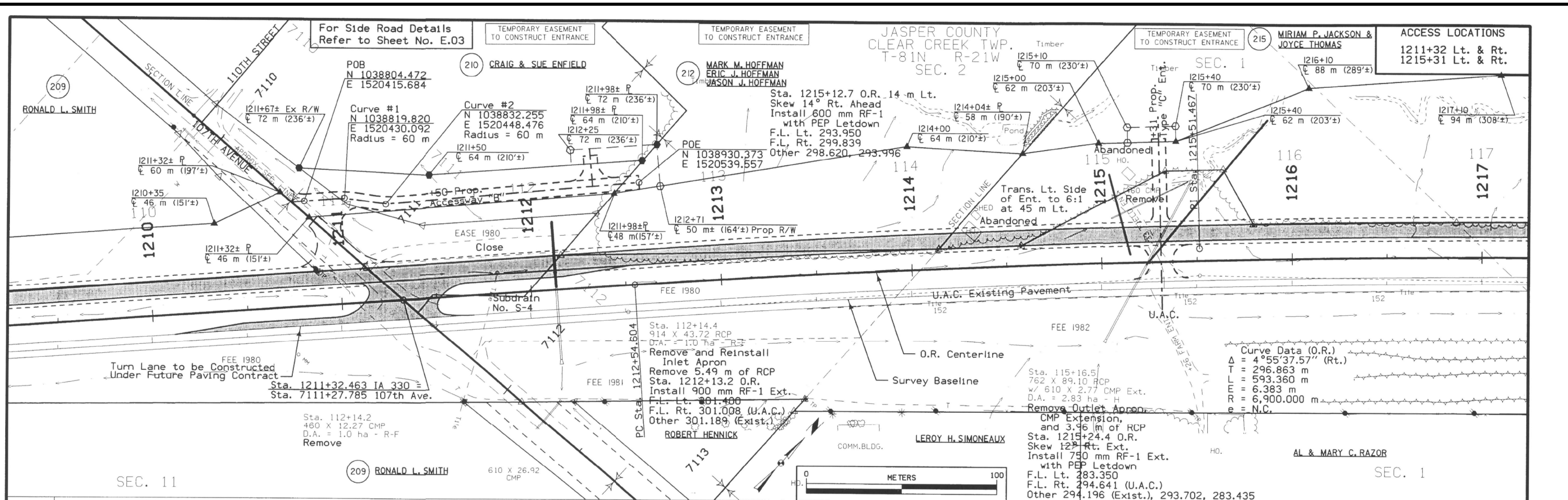
Point Name	Northing	Easting	Elevation	Feature	Description
FENO 5				FENO	
FENO 6		19388562.538	1002.404	FENO	
FENO 7		19393552.710	1003.436	FENO	

511 TRAVEL RESTRICTIONS

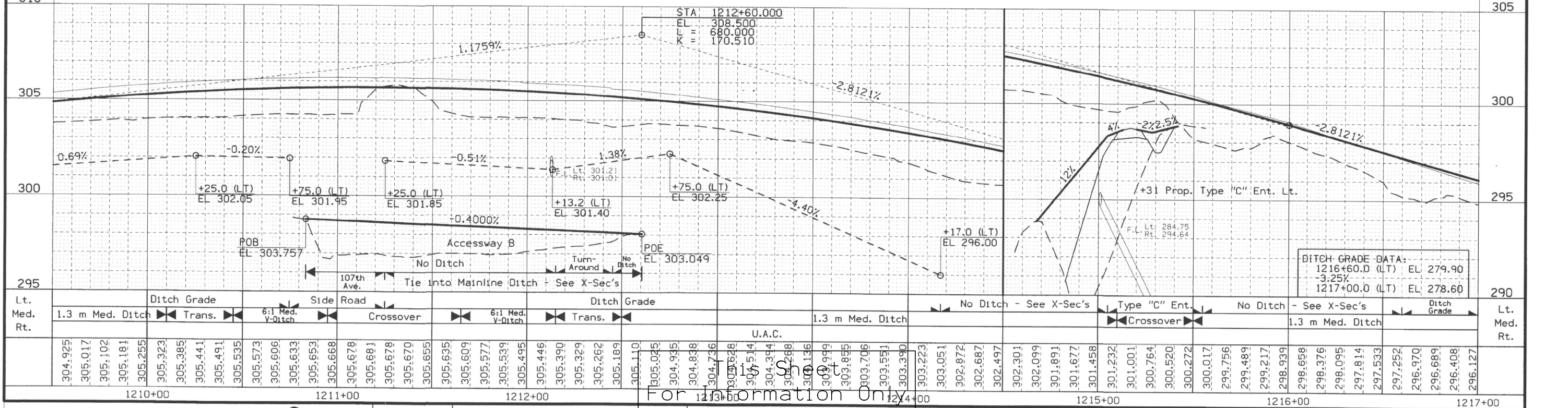
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
IA 330	BOTH	Jasper/Marshall	Reference Locations 4.1 and 5.7	NO RESTRICTIONS ANTICIPATED								

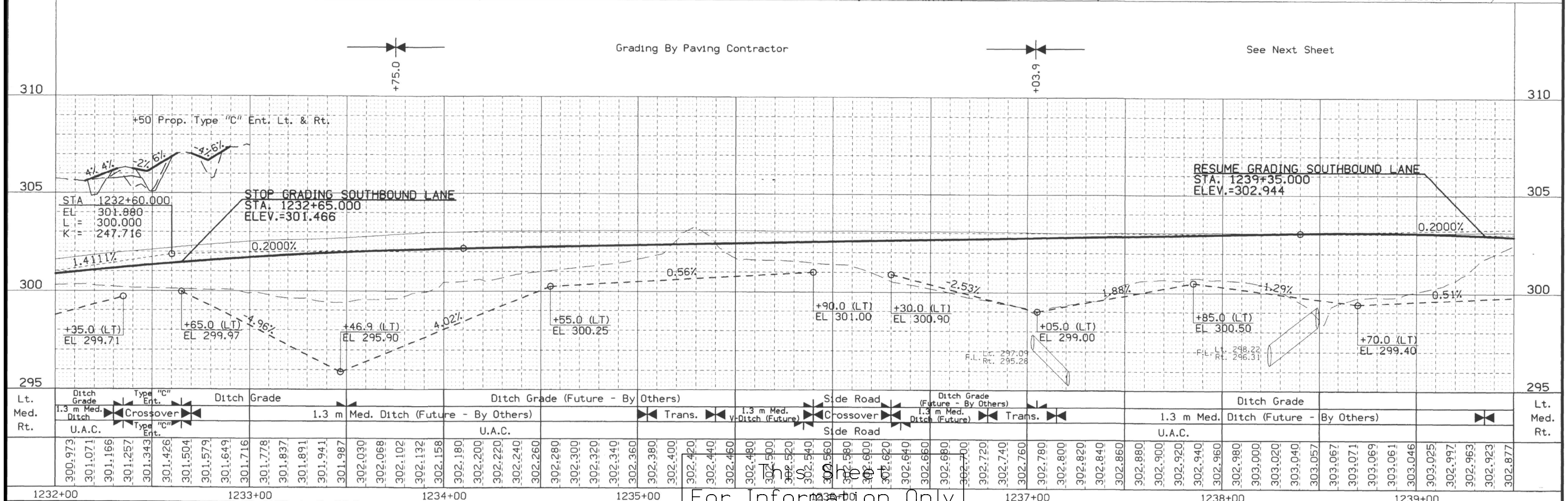
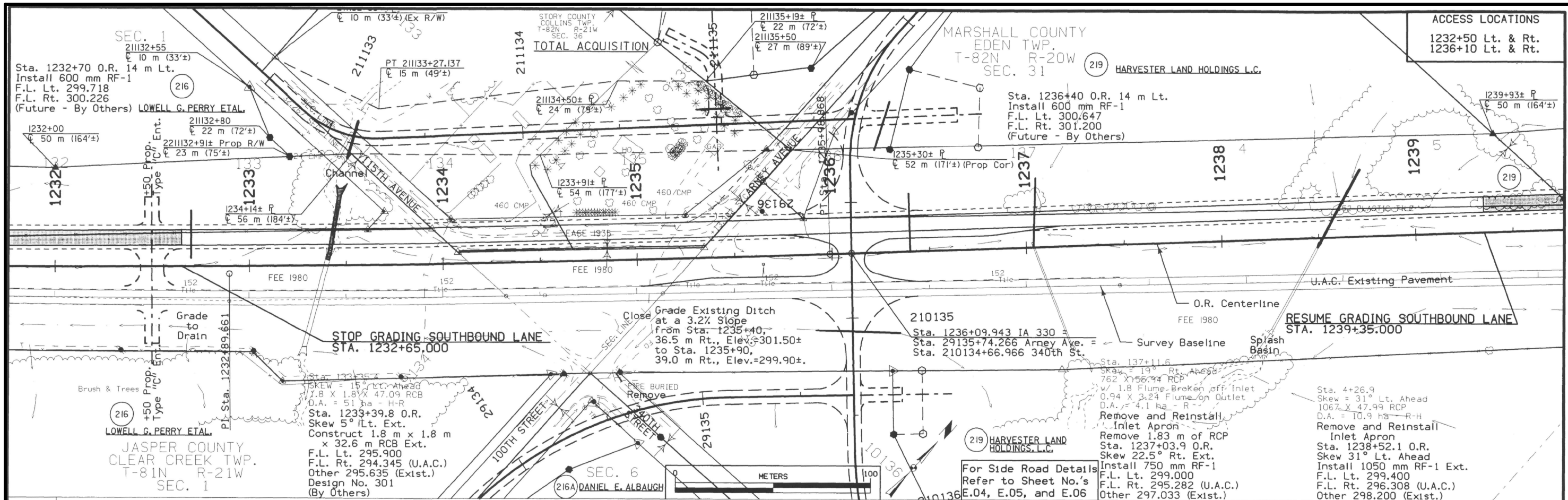
TRAFFIC CONTROL PLAN

Traffic shall be maintained in both directions at all times. Shoulder closures will be permitted. Lane closures will be permitted for deliveries only.



Cut = 15,853 From Sta. 1182+50 = 765 From Sta. 1183+00 = 5,858 From Sta. 1191+85 = 8,130 From Sta. 1196+75 = 9,342 39,948		No Overhaul	Fill + 30% = 39,948	See Next Sheet
---	--	-------------	---------------------	----------------

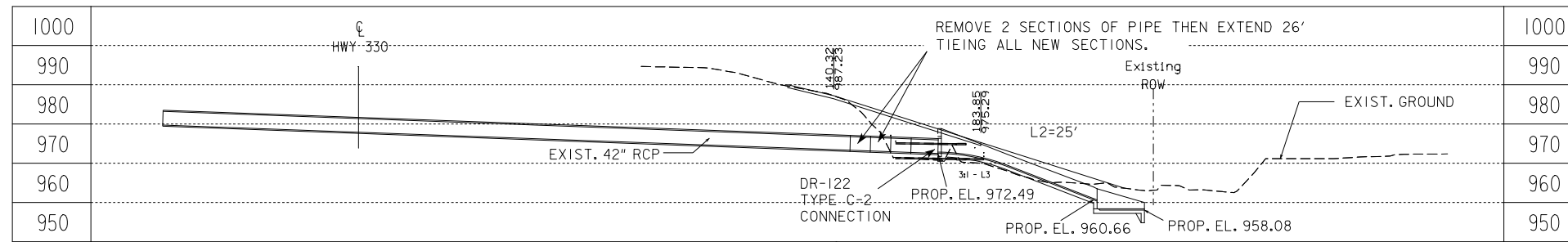




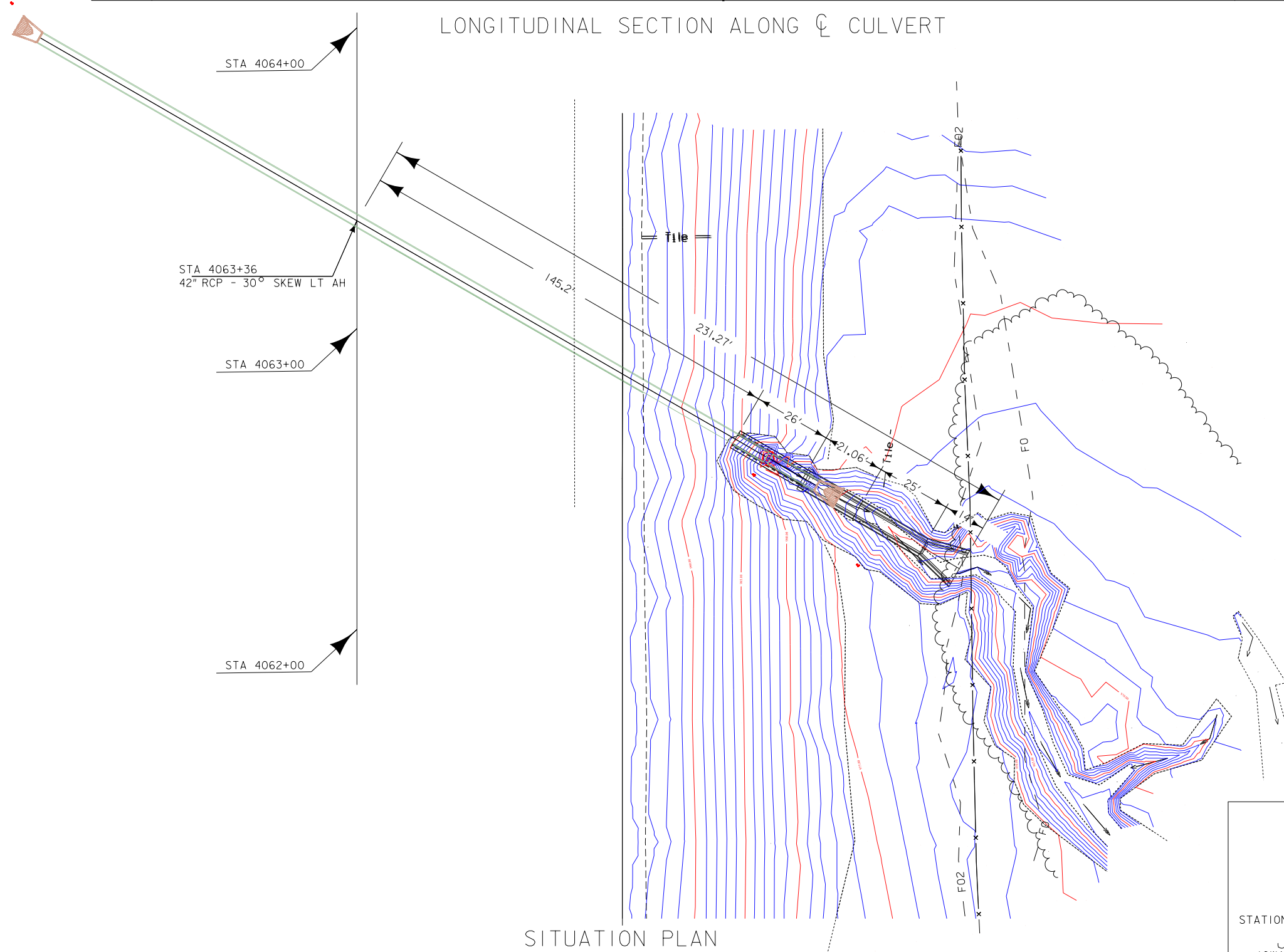
310	Grading By Paving Contractor															310
305	See Next Sheet															305
300																300
295																295

Lt.	Ditch	Type "C"	Ditch	Grade	Ditch Grade (Future - By Others)	Side Road	Ditch Grade (Future - By Others)	Ditch Grade	Lt.
Med.	1.3 Med. Ditch	Crossover	1.3 m Med. Ditch (Future - By Others)	U.A.C.	Trans.	1.3 m Med. Ditch (Future)	Crossover	1.3 m Med. Ditch (Future - By Others)	Med.
Rt.	U.A.C.	Type "C" Ent.	U.A.C.	U.A.C.	U.A.C.	U.A.C.	U.A.C.	U.A.C.	Rt.

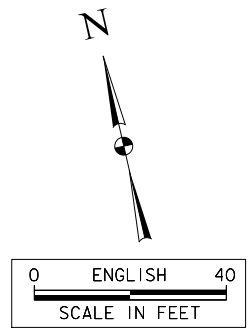
300+973	301+071	301+166	301+257	301+343	301+426	301+504	301+579	301+649	301+716	301+778	301+837	301+891	301+941	301+987	302+030	302+068	302+102	302+132	302+158	302+180	302+200	302+220	302+240	302+260	302+280	302+300	302+320	302+340	302+360	302+380	302+400	302+420	302+440	302+460	302+480	302+500	302+520	302+540	302+560	302+580	302+600	302+620	302+640	302+660	302+680	302+700	302+720	302+740	302+760	302+780	302+800	302+820	302+840	302+860	302+880	302+900	302+920	302+940	302+960	302+980	303+000	303+020	303+040	303+057	303+067	303+071	303+069	303+061	303+046	303+025	302+997	302+963	302+923	302+877
1232+00	1233+00										1234+00										1235+00										1236+00										1237+00										1238+00										1239+00													



LONGITUDINAL SECTION ALONG ℄ CULVERT



SITUATION PLAN



HYDRAULIC DATA
 DRAINAGE AREA = 24 ACRES R
 Q₅₀ = 50 CFS

UTILITIES LEGEND:
 F0 -
 F02 - PRELIMINARY

LOCATION
 T-82N R-20W
 SECTION 31
 EDEN TOWNSHIP
 JASPER/MARSHALL COUNTY
 LATITUDE 41.8650913°
 LONGITUDE -093.2289502°

PRELIMINARY
 DESIGN FOR 30°
 42" RCP EXTENSION
 WITH 3:1 5'x4' FLUME
 SITUATION PLAN
 STATION 4063+36
 JASPER/MARSHALL COUNTY
 IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
 DESIGN SHEET NO. OF ? FILE NO. 31623 DESIGN NO. 319

IA 330 Preliminary

