

FINAL PROJECT CONCEPT STATEMENT

0.2 mi E of SW State St in Ankeny

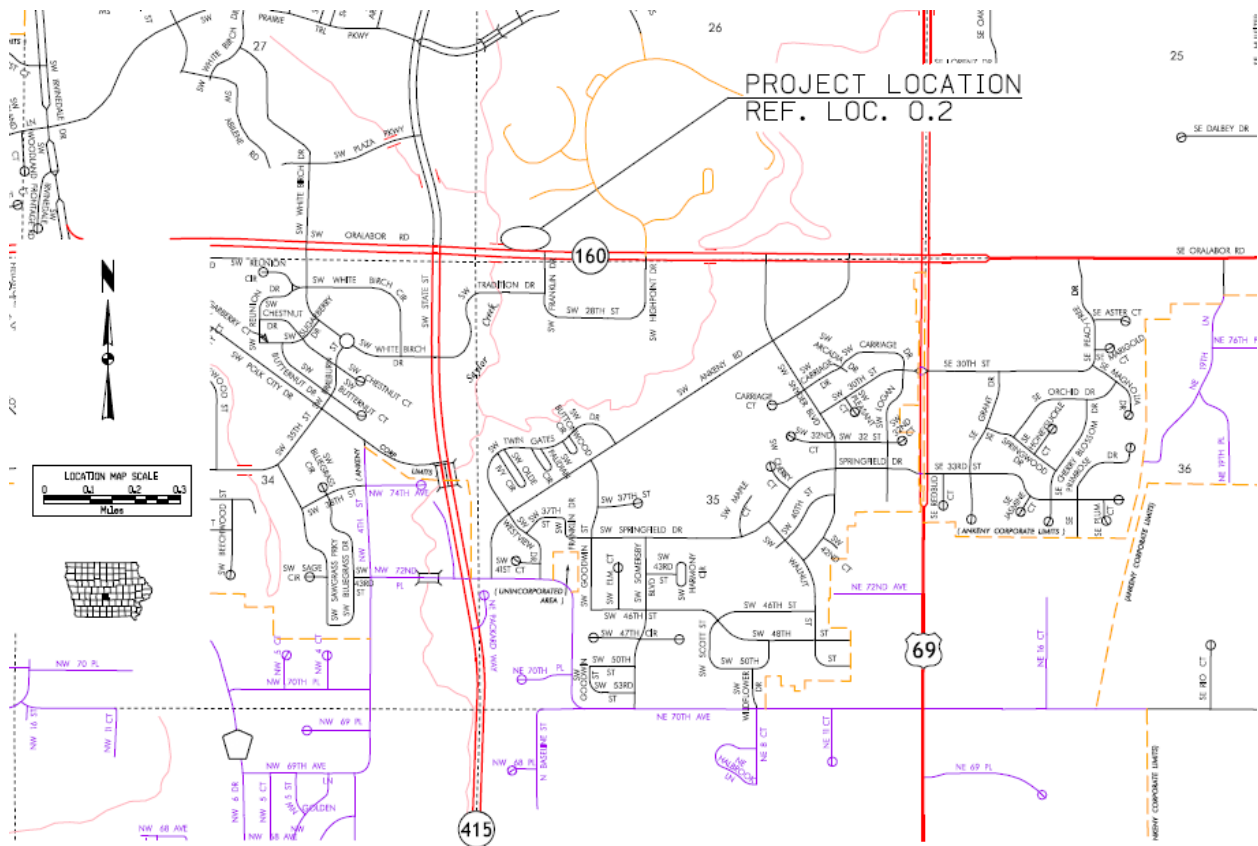
Polk County
NHSN-160-1(17)--2R-77
PIN: 20-77-160-020

Highway Division
District 1 Office

John Narigon, P.E.
515-986-5471

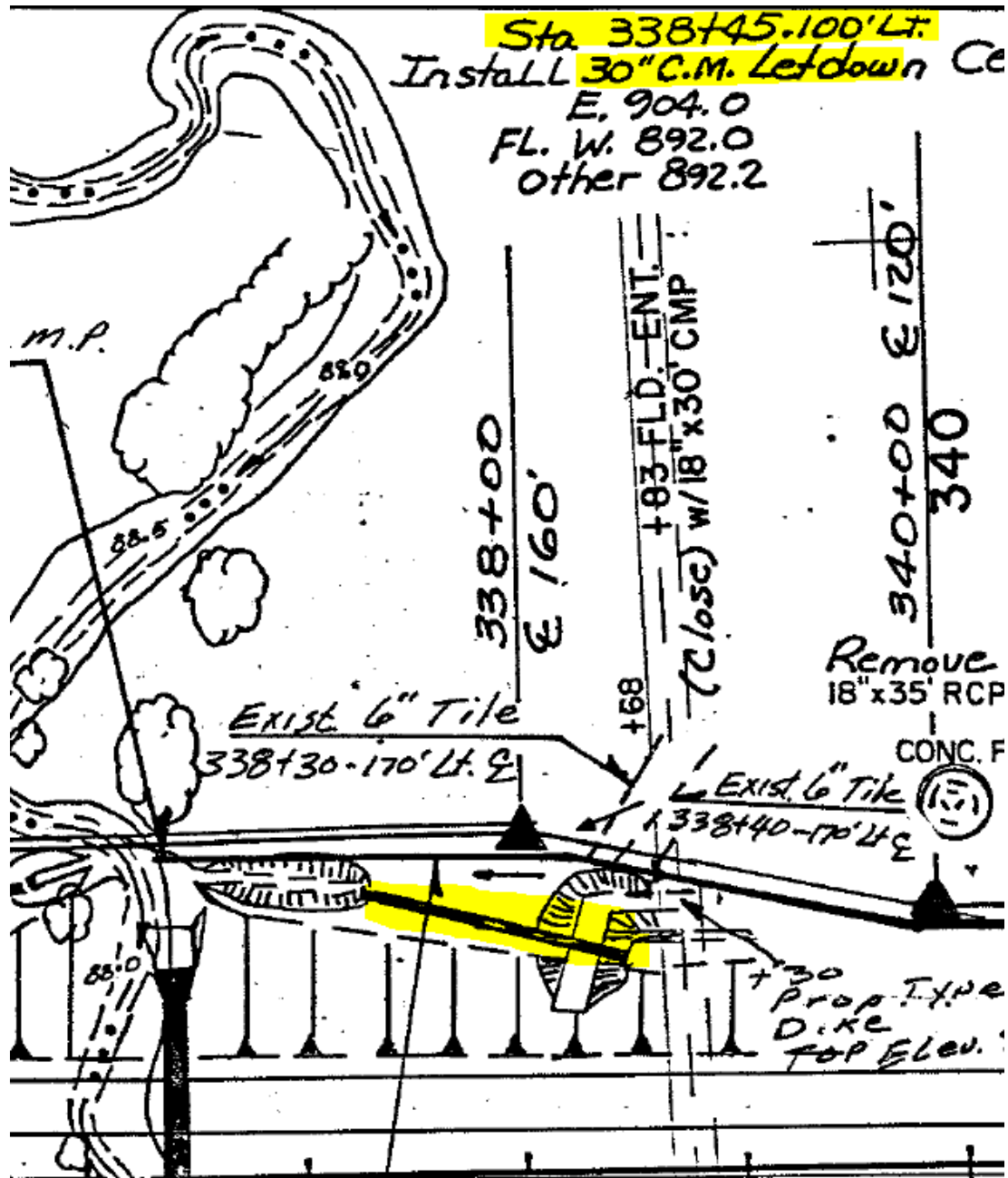
April 8, 2020

I. LOCATION: 0.2 mi E of SW State St in Ankeny



A field review was held on March 16, 2020 by John Narigon.

1. Existing Conditions



At the project location, IA 160 was graded in 1983, project F-415-1(4)—20-77. The 30 CMP Letdown at Sta. 338+45 has failed.



1. Inlet of letdown



2. Letdown Outlet



3. Erosion on north side of letdown

2. Proposed Concept

It is proposed to remove the existing corrugated metal pipe at Station 338+45 and replace it with engineering fabric and riprap.

3. Justification

Engineering fabric and riprap will provide a long-lasting solution.

4. Cost Estimate and Proposed Funding Sources

The cost of the proposed improvements is estimated at \$63,200. Actual costs of the improvements may vary as detailed plans are prepared, and costs shown represent current dollars as of the report date. The project should be placed on the monitor list for FY 2022 funding.

5. Proposed Schedule

Event Description	Date
D00 - Pre-Design Concept	4/3/2020
TE0 - Desktop Review	5/8/2020
U00 - Preliminary Utility Review	5/8/2020
W00 - Preliminary Wetland Review	5/8/2020
D01 - Survey Plan and Photogrammetry (DTM)	6/19/2020
T01 - Existing ROW, Property and Sections Lines in CADD	6/26/2020
D02 - Design Field Exam	7/17/2020
D03 - Plans for Preliminary Bridge	7/31/2020
H00 - Cultural Resources Assessment	8/21/2020
B02 - Drainage Design and Miscellaneous Layout to Office of Design	9/11/2020
D05 - Plans to Right Of Way	9/18/2020
F03 - Final Regulated Materials Review	10/16/2020
R01 - Right Of Way Layout	10/30/2020
R00 - Plot Plans and Summary Sheets to District	10/30/2020
P10 - Public Involvement Activities by District	11/25/2020
T02 - Acquisition Plats and Legal Descriptions	12/18/2020
R02 - Right Of Way Appraisal	1/29/2021
R03 - Right Of Way Negotiation	3/26/2021
A01 - Approval of DOT Commission - Inclusion in 5-Year Program	6/8/2021
R04 - Right Of Way Acquisition	9/24/2021
D09 - Final Miscellaneous Plans	5/4/2021
L04 - Letting-Miscellaneous	7/20/2021
C02 - Construction Period (Field Work)	11/19/2021

6. Cost Estimate

Estimate Items Report

Version D00-Draft Concept
 Project NHSN-160-1(17)-2R-77

Item Number	Item Description	Units	Quantity	Cost Used	Suggested Cost	Line Total
2101-0850001	CLEAR+GRUBB	ACRE	1.000	\$2,000.00	\$9,300.00	\$2,000.00
2102-2710070	EXCAVATION, CL 10, RDWY+BORROW	CY	600.000	\$14.00	\$16.87	\$8,400.00
2507-3250005	ENGINEER FABRIC	SY	1,600.000	\$2.70	\$2.63	\$4,320.00
2507-6800061	REVTMENT, CLASS E	TON	700.000	\$45.00	\$46.97	\$31,500.00
2528-8445110	TRAFFIC CONTROL	LS	1.000	\$10,000.00	35.53%	\$10,000.00
2533-4980005	MOBILIZATION	LS	1.000	\$5,000.00	14.48%	\$5,000.00
2601-2636044	SEED+FERTILIZE (URBAN)	ACRE	1.000	\$500.00	\$1,500.00	\$500.00
PCT-040-010	TEMPORARY EROSION CONTROL (040-010)	% of Project	61,720.000	2.50%	8.38%	\$1,500.00
					Total:	\$63,200.00

7. Project Impacts

Designed by: District

Design Impact	Assistance Requested (Y/N)	Remarks
ADA:	N	
Agreements/Notification Letters:	N	
Bridges and Structures:	N	
Consultant:	N	
Contracts:	N	
Design/Methods:	N	
Location and Environment:	Y	Necessary Permits
Maintenance: (Shop Location)	DMNorth	
Project Management:	N	
Railroad:	N	
RCE: (Office Name)	Grimes	
Right of Way:	Y	TE likely needed
Soils:	N	
Survey/Photogrammetry:	N	Survey by District
Systems Planning:	N	
Traffic and Safety:	N	
Utilities:	Y	
Other:		

Cc: C. Purcell

S. J. Megivern

M. A. Swenson

K. Brink

J. W. Laaser-Webb

E. C. Wright

N. M. Miller

B. E. Azeltine

S. J. Gent

J. Selmer

D. R. Claman

F. Todey

J. Bartholomew

D. L. Maifield

E. D. Gansen

W. W. Musgrove

J. Garton

L. Starbuck

M. J. Kennerly

J. S. Nelson

R. A. Younie

D. L. Newell

W. A. Sorenson

C. C. Poole

B. D. Hofer

S. Anderson

K. K. Patel

C. Brakke

E. Engle

N. Cuva

J. Vortherms

H. Beach

M. Ortiz-Pagan

M. Solberg

J. Lavine

K. D. Nicholson

B. Walls

D. E. Sprengeler

A. A. Welch

B. Bradley

T. D. Crouch

P. C. Keen

S. Godbold

T. Hanson

M. Hobbs

D. A. Popp

S. Nielsen

M. Nop

V. Brewer

T. J. Gustafson

J. Bennett

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 - 4	IA 160
G Sheets	Survey Sheets
* G.1	Reference Ties and Bench Marks
* G.2	Horizontal Control Tab. & Super for all Alignments
W Sheets	Mainline Cross Sections
W.1 - 3	Mainline Cross Sections
	* Color Plan Sheets



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

POLK COUNTY
REVETMENT

0.2 mi E of SW State St in Ankeny

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.



REVISIONS

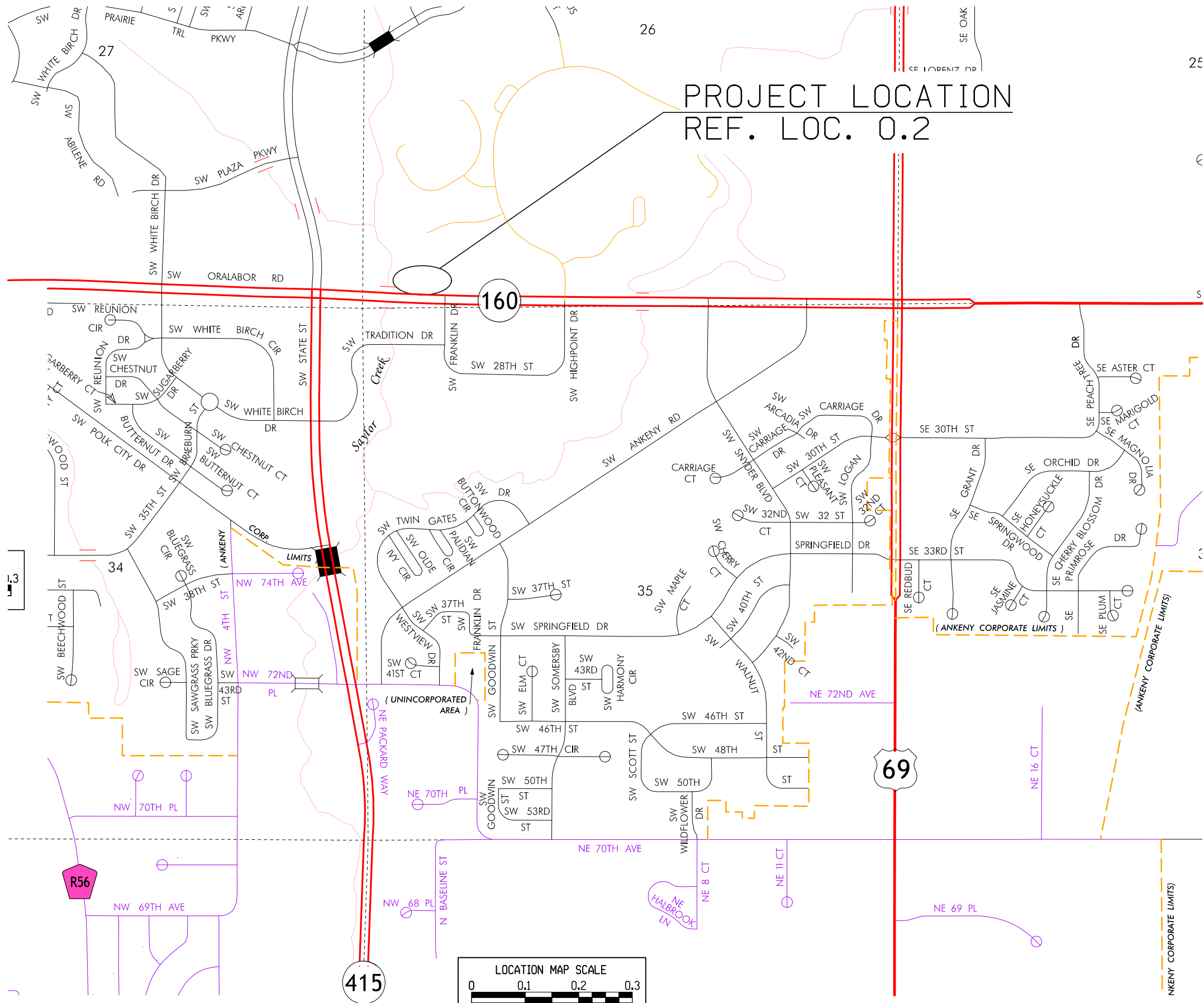
TOTAL	
12	
PROJECT IDENTIFICATION NUMBER	20-77-160-020
PROJECT NUMBER	NHSN-160-1(17)--2R-77
R.O.W. PROJECT NUMBER	NHSN-160-1(18)--2R-77

DESIGN DATA			
2016	AADT	22400	V.P.D.
20	AADT		V.P.D.
20	DHV		V.P.H.
	TRUCKS	3	%
	Total		
	Design ESALs		

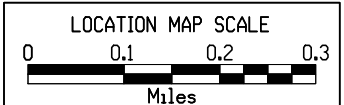
PRELIMINARY PLANS

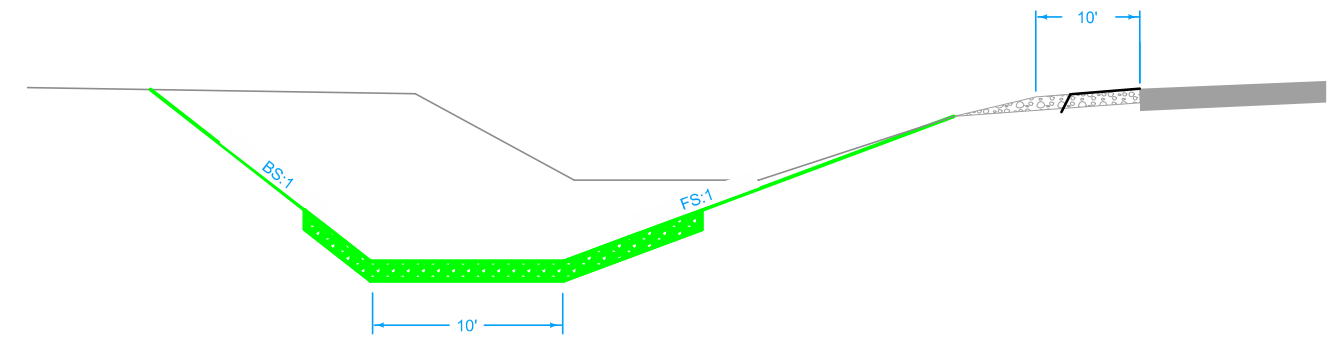
Subject to change by final design.

D2 PLAN - Date: 11-17-20

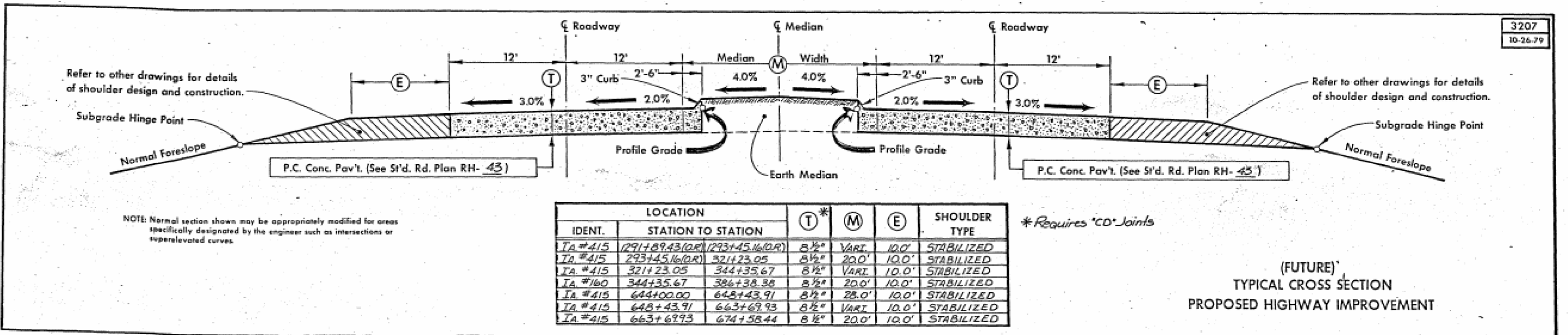
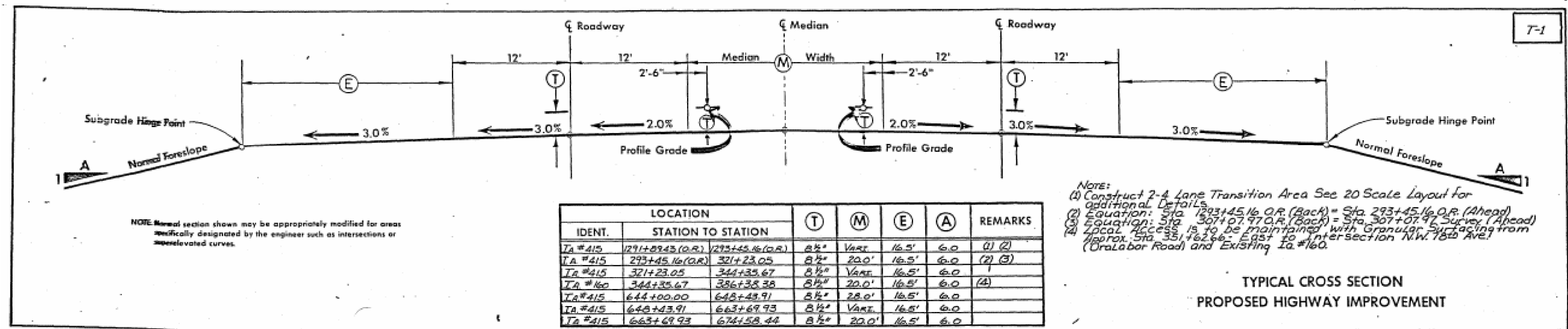


PROJECT LOCATION
REF. LOC. 0.2





Rock Ditch				
ROADWAY	STATION		BS	FS
	BEGIN	END		
IA 160	336+60	337+30	2	2
IA 160	337+30	337+60	Vari.	3.5
IA 160	337+60	338+00	3	Vari.
IA 160	338+00	338+70	3	4



UTILITY LEGEND

This is NOT a POINT 25 Project and is not subject to the provisions of IAC 761-115.25.

- F0 -
Aureon Network Services
Jeff Klocko
7760 Office Plaza Drive South
West Des Moines, IA 50266
(515) 830-0445
jeff.klocko@aureon.com

-F02-
Iowa Communications Network
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400 E 14th St, Grimes State Office Building
Des Moines, IA 50319
(515) 725-4610
Mike.Broderick@iowa.gov

-F03-
Ankeny School District
Paul Mahoney
1513 SE Cortina
Ankeny, IA 50023
5159659604 52993
paul.mahoney@ankenyschools.org

-F04-
ANKENY
Tom Dozler
220 W 1st St
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Tdozler@ankenyiowa.gov

-San-
ANKENY
Donald Clark
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Ankeny, IA 50023
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dclark@ankenyiowa.gov

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.	
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.	
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

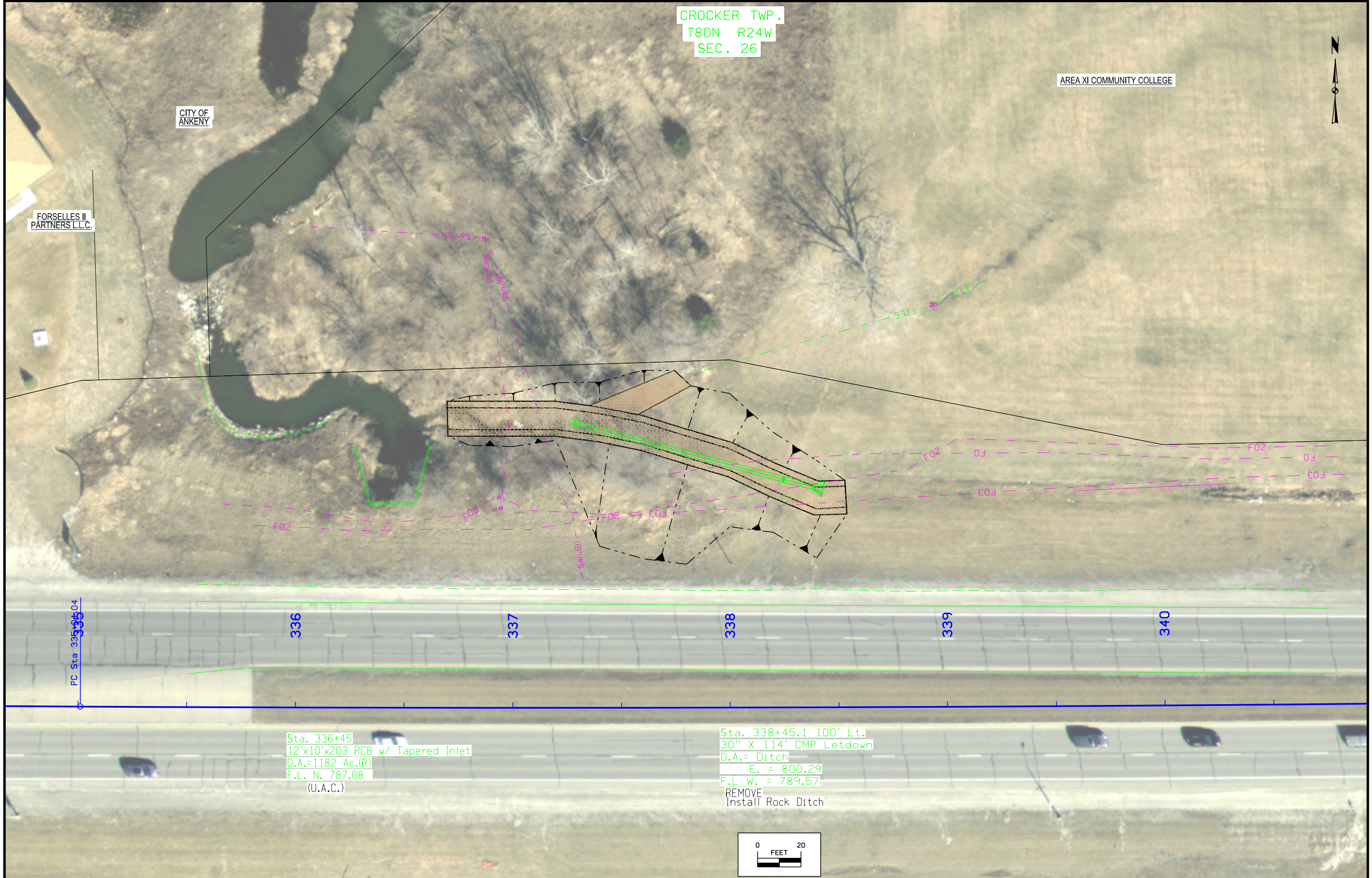
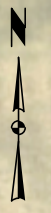
(COVERS SHEET SERIES D, E, F, & K)

CROCKER TWP.
T80N R24W
SEC. 26

AREA XI COMMUNITY COLLEGE

CITY OF ANKENY

FORSELLES II PARTNERS L.L.C.

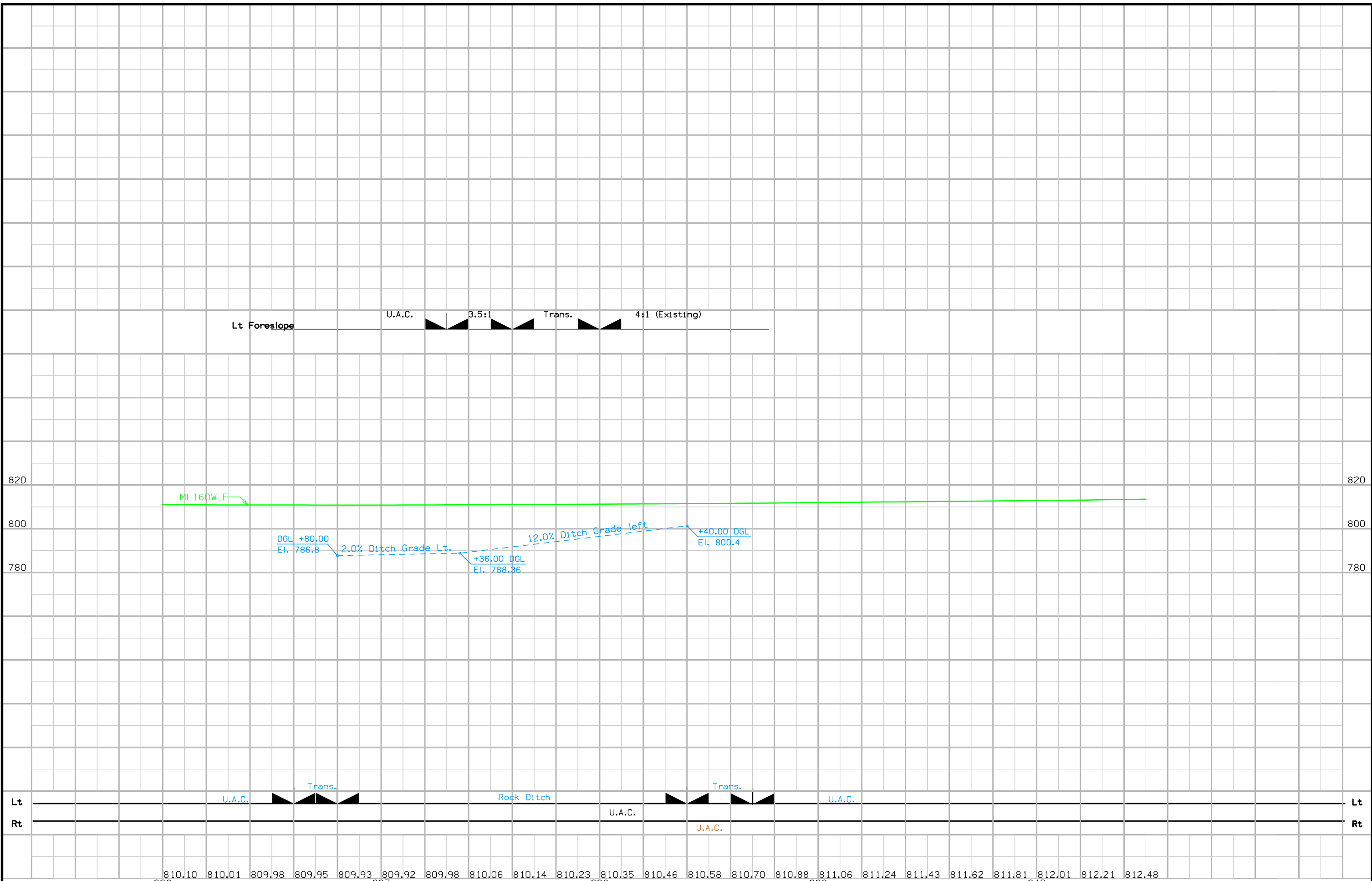


PC Sta 335+05.04

Sta. 336+45
12'x10'x203 RCB w/ Tapered Inlet
D.A.=1182 Ac.(R)
F.L. N. 787.08
(U.A.C.)

Sta. 338+45.1 100' Lt.
30" X 114' CMP Letdown
D.A.= Ditch
E. = 800.29
F.L. W. = 789.57
REMOVE
Install Rock Ditch





Lt Foreslope U.A.C. 3.5:1 Trans. 4:1 (Existing)

ML160W.E

DGL +80.00
El. 786.8

2.0% Ditch Grade Lt.

+36.00 DGL
El. 788.36

12.0% Ditch Grade right

+40.00 DGL
El. 800.4

Lt

U.A.C.

Trans.

Rock Ditch

U.A.C.

Trans.

U.A.C.

Lt

Rt

U.A.C.

Rt

810.10 810.01 809.98 809.95 809.93 809.92 809.98 810.06 810.14 810.23 810.35 810.46 810.58 810.70 810.88 811.06 811.24 811.43 811.62 811.81 812.01 812.21 812.48

FILE NO.

ENGLISH

DESIGN TEAM

Gustafson/Narigon

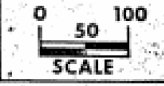
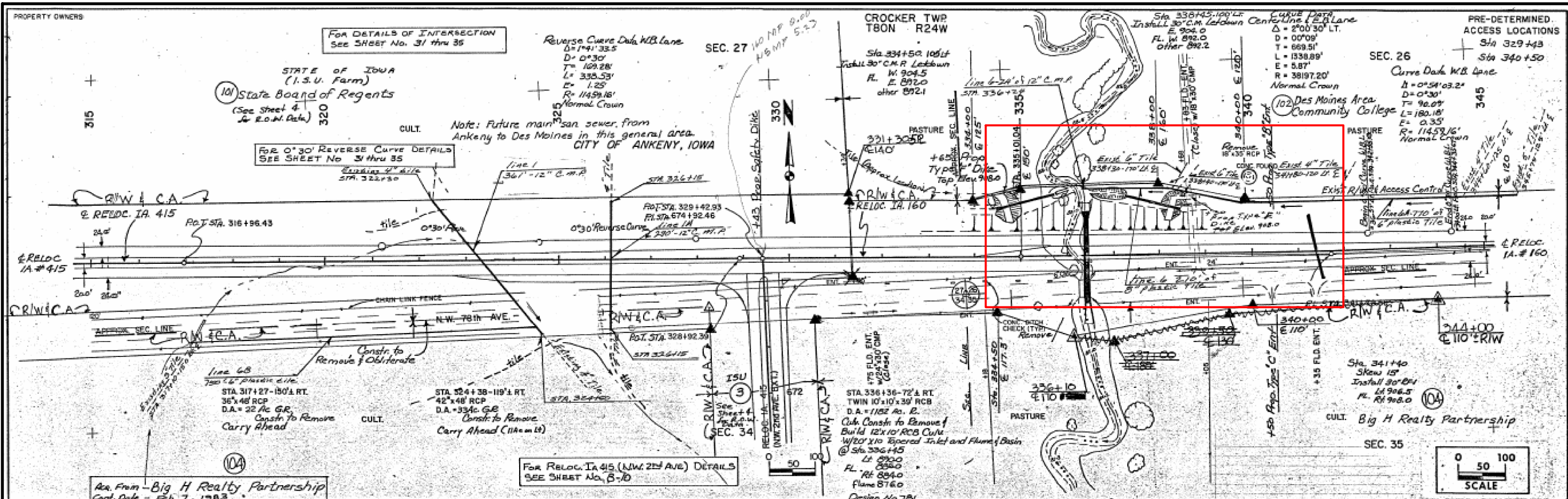
POLK COUNTY

PROJECT NUMBER

NHSN-160-1(17)--2R-77

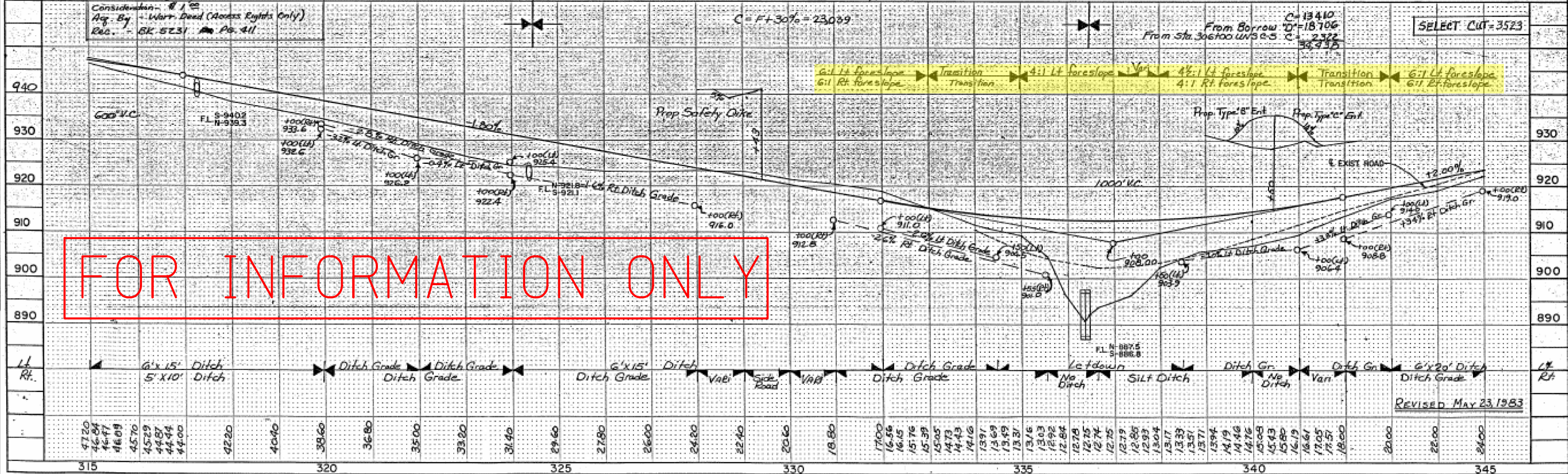
SHEET NUMBER

D.3



Acq. From - Big H Realty Partnership
 Cont. Date - Feb. 7, 1983
 Consideration - \$1.00
 Acq. By - Warr. Deed (Access Rights Only)
 Reg. - BK 5731 Pg. 411

FOR RELOC. IA 415 (NW 2ND AVE) DETAILS
 SEE SHEET No. B-D



REVISED MAY 23, 1983

315	320	325	330	335	340	345
4720	4684	4647	4609	4570	4529	4487
4444	4400	4220	4040	3860	3680	3500
3320	3140	2960	2780	2600	2420	2240
2060	1880	1700	1656	1615	1576	1539
1505	1473	1443	1416	1391	1369	1349
1331	1313	1292	1274	1259	1246	1234
1224	1214	1204	1196	1189	1183	1177
1171	1166	1161	1157	1153	1150	1147
1144	1141	1138	1135	1132	1130	1128
1126	1124	1122	1120	1118	1116	1114
1112	1110	1108	1106	1104	1102	1100
1098	1096	1094	1092	1090	1088	1086
1084	1082	1080	1078	1076	1074	1072
1070	1068	1066	1064	1062	1060	1058
1056	1054	1052	1050	1048	1046	1044
1042	1040	1038	1036	1034	1032	1030
1028	1026	1024	1022	1020	1018	1016
1014	1012	1010	1008	1006	1004	1002
1000	998	996	994	992	990	988
986	984	982	980	978	976	974
972	970	968	966	964	962	960
958	956	954	952	950	948	946
944	942	940	938	936	934	932
930	928	926	924	922	920	918
916	914	912	910	908	906	904
902	900	898	896	894	892	890

Survey Information

County: Polk
 PIN: 20-77-160-020
 Project Number: NHSN-160-1(17)--2R-77
 Location: In the City of Ankeny, Polk Co., Iowa, Section 26, Township 80 North, Range 24 West of the 5th Principal Meridian. Area is located just north of Ia160 at the SW corner of the Des Moines Area Community College campus.
 Type of Work: Replacement of a failed 30" CMP letdown structure.
 Project Directory: 7716002020

HORIZONTAL AND VERTICAL PROJECT CONTROL COORDINATE LISTING

HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

Ia. Regional Coordinate System Zone 8

General Information

Measurement units for this survey are U.S. survey feet. This survey was completed to assist in the design for replacement of a failing 30" CMP letdown structure.

Vertical Control

The vertical datum for this survey is NAVD88. The vertical control for this project is relative to said datum, computed using GEOID 12b, and is dependent on the Iowa Real-Time Network (IaRTN) reference stations. Control point elevations were established by 5 redundantly averaged RTK GPS shots utilizing the IaRTN.

Horizontal Control

The horizontal project coordinate system basis for this survey is from the Iowa Regional Coordinate System Zone 8 projection. The Geodetic Datum is NAD83 (2011) EPOCH 2010.0. Control Point horizontal coordinate positions were established by 5 redundantly averaged RTK GPS shots utilizing the Iowa Real-Time Network.

Alignment Information

The horizontal centerline alignment for Ia160 was developed from grading plan F-415-1(4)--20-77 and R.O.W. acquisition plats in the area. Stationing was held at P.C. 335+01.04 and was ran back and ahead without equation.

Survey stationing relates to as-built stationing as follows:

P.O.T. 307+43.48 (acq. plat proj. FN-415-1(9)--21-77 book 5233 page 415) = 307+42.60 (this survey)

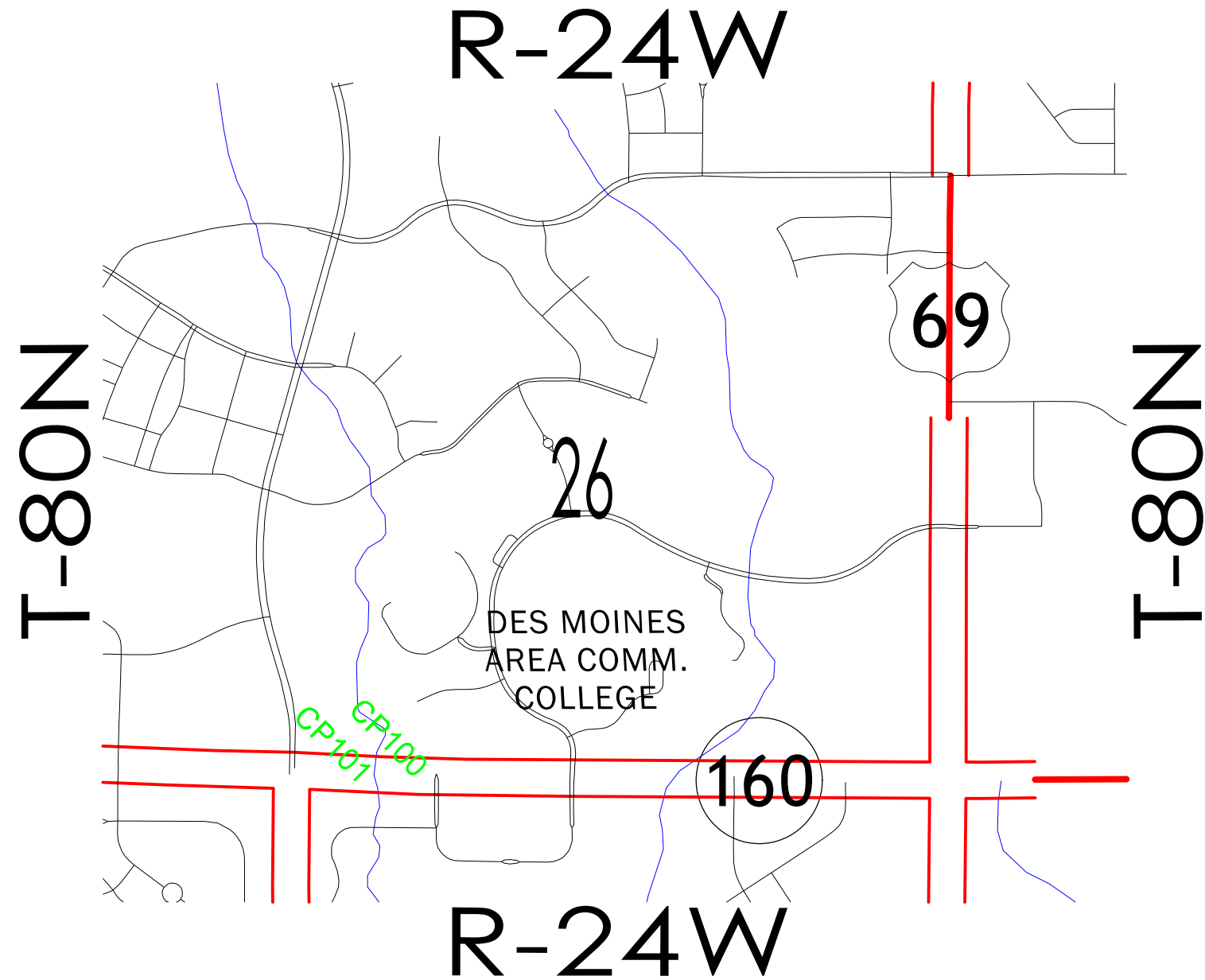
P.I. 341+70.55 (F-415-1(4)--20-77 grading plan) = P.I. 341+70.55 (this survey)

P.I. 386+74.38 (F-415-1(4)--20-77 grading plan) = P.I. 386+74.58 (this survey)

<u>POINT NUMBER</u>	<u>NORTHING</u>	<u>EASTING</u>	<u>ELEVATION</u>	<u>FEATURE CODE</u>	<u>DESCRIPTION</u>
CP100	7529476.48	18527112.22	811.43'	CP	SET 5/8" RE-ROD (FLUSH)
CP101	7529446.19	18526602.48	810.96'	CP	SET "MAG" NAIL IN CONC. ISLAND

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.



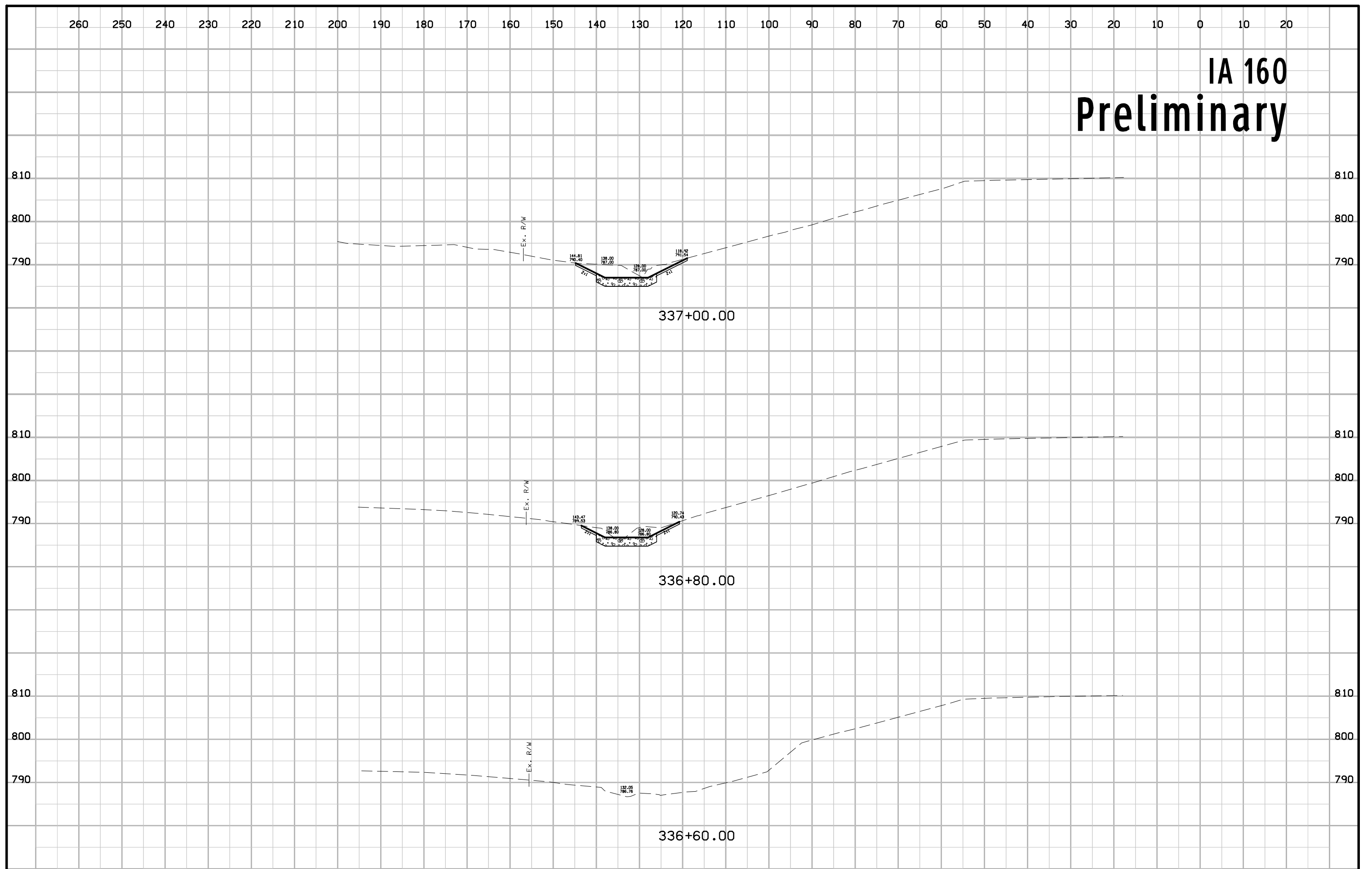
HORIZ. DATUM: NAD83(2011) EPOCH 2010.00

VERT. DATUM: NAVD88

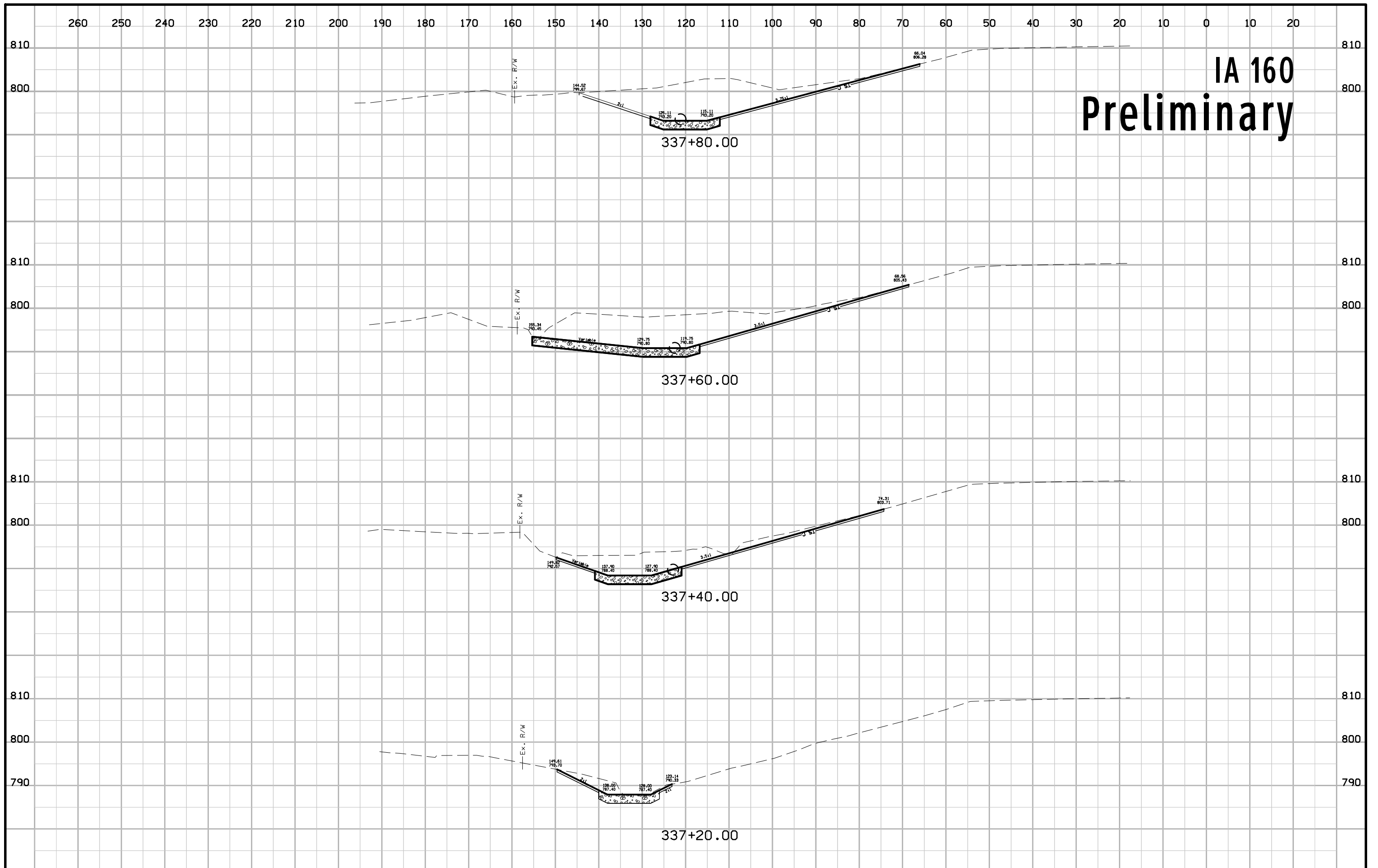
1a. Regional Coordinate System Zone 8

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

IA 160 Preliminary



IA 160 Preliminary



IA 160 Preliminary

