PAVING

NHSX-151-3(112)--3H-57

LETTING DATE 12/19/00

LINN & JONES

Form 520003wd (11-03)

I hereby certify that this project was constructed in accordance with the contract documents, the "as-built" plans were prepared under my supervision, and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Kent L. Ellis	Kent L. Ellis	1/7/09
Project Engineer		Date

My license renewal date is December 31, 2009

2000	Flynn Company, Inc	Carroll Kriegel
Year	Contractor	Project Inspector

LICENSED PROFESSIONAL ENGINEER — KENT L. ELLIS 16297 — IOWA

Iowa Department of Transportation

Project Development Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

LINN/JONES COUNTY

Springville to Anamosa

On U.S. 151

from N.E. of Springville to N.E. of Anamosa

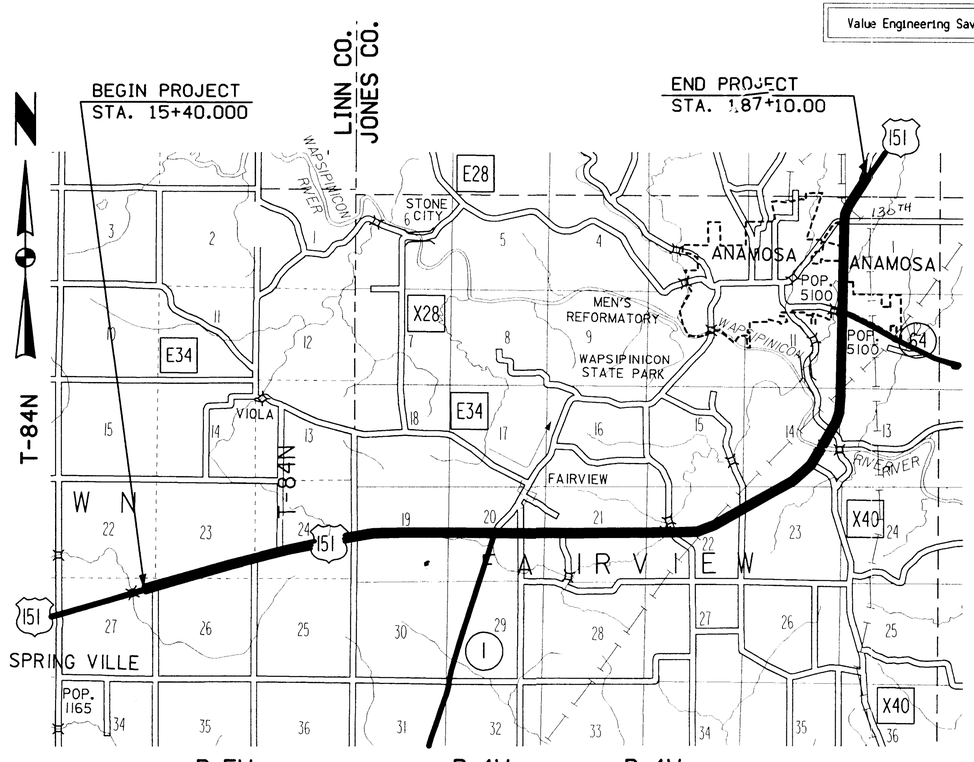
SCALES: As Noted

The Iowa Department of Transportation Metric Standard Specifications for Highway and Bridge Construction, series of 1995, plus current supplemental specifications and special provisions shall apply to construction work on this project.

150

Value Engineering Saves. Refer to Standard Notation 203-4 on Sheet C.03

TOTAL SHEETS
198
PROJECT NUMBER
NHSX-151-3(112)--3H-57
R.O.W. PROJECT NUMBER
NHS-151-3(112)--19-57
PROJECT IDENTIFICATION NUMBER
92-57140-5



LOCATION MAP SCALE
0 1 2 3 4 5
KILOMETERS

321 KSL

INDEX OF SHEETS

105-3
09-27-94

PROJECT LENGTH SUMMARY

105-1
09-27-94

DIV.	LOCATION	m	km
	ROADWAY		
	Sta. 15+40.000 to Sta. 187+10.000	17,170.000	17.170
	STA. EQUATION (SHORTENS PROJECT)		
	Sta. 85+77.352(BK.) .= Sta. 85+76.444 (AHD.)	0.908	0.0009
	Subtotal	17,169.092	17.169
	BRIDGES		
	Sta. 76+09.371 to 76+70.389	61.018	0.061
	Sta. 133+99.717 to Sta. 135+32.717	133.000	0.133
	Sta. 157+59.890 to Sta. 158+08.140	48.250	-0.048
	TOTAL LENGTH OF PROJECT	16,926.824	16.926

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.01	ROBERT L. LENTZ	Primary Signature Block
C.06	ROBERT L. STANLEY	Geotechnical Design
E.01	MONICA M. SMITH	Side Road Design

2-11-00 101-4

DESIGN DATA RURAL

2001 AADT	6,640	V.P.D.
2021 AADT	7,950	V.P.D.
2021 DHV	850	V.P.H.
TRUCKS	11	%
Total Design ESALs		

REVISIONS

PLAN REVISION 4/03/2001
PLAN REVISION 4/08/2002
PLAN REVISION 4/25/2002
PLAN REVISION 4/08/2004
SIGNATURE BLOCK ON PAGE A-03

METRIC STANDARD ROAD PLANS

105-4
09-27-94

The following Standard Road Plans shall be considered applicable to construction work on this project.

NUMBER	DATE	NUMBER	DATE	NUMBER	DATE	NUMBER	DATE
RC-16A	10/27/98	RF-14	04/25/00	RH-53	10/03/00	RS-2	10/27/98
RC-16B	9/21/99	RF-19C	10/03/00	RK-19A	10/03/00	RS-3	06/06/95
RE-3A	10/03/00	RF-19E	10/03/00	RK-19B	10/03/00	RS-26A	10/28/97
RE-7	10/03/00	RF-30A	03/28/95	RL-1A	10/03/00	RS-50B	02/11/00
RE-47	10/03/00	RF-30B	01/12/99	RL-1B	10/03/00	RS-63A	04/30/96
RE-48A	12/08/95	RF-31	10/28/97	RL-2A	10/03/00	RS-63B	04/30/96
RE-53	10/03/00	RF-38(1)	10/03/00	RL-7	12/13/94	RS-65B	06/06/95
RE-65A	10/03/00	RF-38(2)	10/03/00	RL-9	10/03/00	RS-66(1)	9/21/99
RE-67	10/03/00	RH-19	09/27/94	RL-12	10/03/00	RV-4	04/25/00
RE-68	10/03/00	RH-22	01/12/99	RL-14	01/12/99	RV-5	04/25/00
RE-69A	10/03/00	RH-37D	01/12/99	RL-9	12/08/95	RV-8	04/25/00
RE-76	10/03/00	RH-41B	10/03/00	RL-12	06/06/95	RV-9	04/25/00
RF-1	10/03/00	RH-41D	10/03/00	RL-13	12/13/94		
RF-2	06/06/95	RH-50	04/27/99	RL-14	01/12/99		
RF-3	10/03/00	RH-51	10/03/00	RP-1	04/28/98		
RF-5	10/03/00	RH-52	03/26/96	RP-3	04/28/98		

LICENSED PROFESSIONAL ENGINEER — ROBERT L. LENTZ 8720 — IOWA

I hereby certify that this plan was prepared under my supervision and that engineering decisions with regard to the design were made by me or by other duly licensed Professional Engineers under the laws of the State of Iowa.

Signature — 4 Oct 00 Date

Robert L. Lentz
Printed or Typed Name

My license renewal date is December 31, 2000.

Pages or sheets covered by this seal: A.01,A.02 B.01-B.10, C.01- C.05, C.13-C.21 D.01-D.25, E.08, F.01, G.01-G.18, J.01-J.09, K.01-K.10, L.01-L.31, R.01-R.02 T.01-T.02, U.01-U.08, V.01-V.18, W.01-W.14, X.01-X.06

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	A.01

1-198

STANDARD 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 Fence
- Barbwire Fence
- Security Fence
- Woven Fence
- Barbwire and Woven Fence
- Terrace
- Earth Dam or Dike (Existing)
- Earth Dam or Dike (Proposed)
- Tile Outlet
- Edge of Water
- Existing Drainage
- Proposed Drainage
- Right of Way Rail or Lot Corner
- Concrete Monument
- Well
- Windmill
- Beehive Intake
- Existing Intake
- Proposed Intake
- Existing Utility Access (Manhole)
- Proposed Utility Access (Manhole)

- Fire Hydrant
- WH Water Hydrant (Rural)
- ST Septic Tank
- C Cistern
- LP L.P. Gas Tank (No Footing)
- UST Underground Storage Tank
- Latrine
- Luminaire
- Traffic Signal
- Traffic Signal with Luminaire
- TP Telephone Pedestal
- TVP Television Pedestal
- Telephone Pole
- Telephone Pole (Second Company)
- Telephone Pole (Third Company)
- Telephone Pole (Fourth Company)
- Telephone Pole (Fifth Company)
- Power Pole
- Power Pole (Second Company)
- Power Pole (Third Company)
- Power Pole (Fourth Company)
- Power Pole (Fifth Company)
- Electrical Highline Tower (Metal or Concrete)
- Telephone Riser Pole
- Power Riser Pole
- Telegraph Pole
- Satellite TV Dish
- —W— Existing Water Line
- —WW— Existing Water Line (Second Company)
- —San.— Existing Sanitary Sewer Line
- —T— Existing Telephone Line
- —TT— Existing Telephone Line (Second Company)
- —FO-1— Existing Fiber Optics Telephone Line
- —St. S.— Existing Storm Sewer Line
- —G— Existing Gas Line
- —G-HP— Existing High Pressure Gas Line
- —GG— Existing Gas Line (Second Company)
- —GG-HP— Existing High Pressure Gas Line (Second Company)
- ------E------ Existing Power Line
- -----EE----- Existing Power Line (Second Company)
- ----TV---- Cable Television Line

- Guardrail (Beam or Cable)
- GP Guard Post (one or two)
- Guard Post (over two)
- FP Filler Pipe
- GV Gas Valve
- WV Water Valve
- SL Speed Limit Sign
- MM Mile Marker Post
- SIGN Sign
- WHU Water Hook Up
- RT Radio Tower
- TA Tower Anchor
- EB Electric Box
- TCB Traffic Signal Control Box
- RRB Rail Road Signal Control Box
- TSB Telephone Switch Box
- G/W Guy Wire
- TM Fiber Optics Marker
- Access Control Fencing

UTILITY LEGEND

---- E ----
Iowa D.O.T. Maintenance Building
704 E. First Street
Anamosa, Iowa 52205

IES Utilities Inc.
105 Kraiburg Boulevard
Lisbon, Iowa 52253
1-319-455-0075

Linn County Rural Electic Cooperative Association
999 35th Street
P.O. Box 69
Marion, Iowa 52302
1-319-377-1587

Maquaketa Valley Rural Electic Cooperative Association
109 North Humber Street
Anamosa, Iowa 52205
1-319-462-3542

— —FO1— —
Iowa Communications Network
Hoover Building, Level A
Des Moines, Iowa 50319
1-515-242-5314

— —FO2— —
MCI Telecommunications Corporation
500 Second Avenue S.E.
Cedar Rapids, Iowa 52401
1-319-375-1908

— — TV— —
Martelle Coop Telephone Association
P.O. Box 128
Martelle, Iowa 52305
1-319-482-2381

— — G1— —
Amoco Pipeline Company
2192 N. Hwy 965
North Liberty, Iowa 52317
1-800-548-6482

— — G2— —
Northern Natural Gas
5557 County D
Platteville, Wisconsin 53818
1-608-348-2738

— — T— —
Martelle Coop Telephone Association
P.O. Box 128
Martelle, Iowa 52305
1-319-482-2381

Springville Co-Operative Telephone Association, Inc.
207 Broadway Street
Springville, Iowa 52336
1-319-227-7111

U.S. West Communications
615 3rd Avenue SE
Cedar Rapids, Iowa 52401
1-319-399-7820

— - W — -
City of Anamosa
City Hall
107 S. Ford Street
Anamosa, Iowa 52205

— -San.— -
City of Anamosa
City Hall
107 S. Ford Street
Anamosa, Iowa 52205

RIGHT OF WAY LEGEND

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

CONVENTIONAL SIGNS

- Station / Reference Point — Survey Line
- Section Corner
- Proposed Profile Grade
- Railroad
- Existing / Proposed — Field Tile
- Existing / Proposed — Culverts
- Stream

Legend And Symbol Information Sheet

(Symbols are Typical Only, actual size may vary)

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	A.02

date = Thu Oct 5 13:16:06 2000 prf = \\WATSO1\DATA\PLOT\PL463P\a02h.prf

LISTING OF PROJECT REVISIONS

111-23
09-27-94

DATE	SHEET NO.	DESCRIPTION OF REVISIONS
		Revised Pavement Joints
04-03-01	A.03	Add Sheet for Listing of Project Revisions, 111-23.
	L.02	Revise Pavement Joint Layouts.
	L.04	
	L.06	
	L.08	
	L.11	
	L.13	
	L.15	
	L.17	
	L.19	
	L.21	
	L.23	
	L.26	
	L.28	
	L.31	
		Modified Horizontal Curve at 130th St.
04-08-02	A.03	Revise 111-23 for 04-08-02 plan revision.
	B.03	Modify Typical X-29, revise Station limits.
	B.06	Revise Station limits, Typical 7110.
	C.05	Add Subgrade Treatment #6, #7 to Tab. 103-3.
	C.13	Revise Station limit and quantities, Sta. 173+20, Tab. 110-1.
	C.15	Revise Station limits and quantities, Tab. X-50.
	C.20	Add Station limits and quantities for Curve Reconstruction at 130th Street.
	D.23	Revise notes, add Curve Reconstruction centerline.
	D.24	Revise notes, add Curve Reconstruction centerline.
	E.08	Revise notes, add Curve Reconstruction centerline.
	G.05	Add Curve Reconstruction Centerline.
	G.06	Add Curve Reconstruction Centerline.
	L.27	Remove callouts at NW quadrant, add reference to L.32 - L.35.
	L.28	Remove joints at NW quadrant, add reference to L.32 - L.35.
	L.29	Revise edge profile, SB U.S. 151 to WB 130th St.
	L.32	Add sheet showing new intersection design.
	L.33	Add sheet showing new pavement jointing layout.
	L.34	Add sheet showing new intersection design.
	L.35	Add sheet showing new pavement jointing layout.

LISTING OF PROJECT REVISIONS

111-23
09-27-94

DATE	SHEET NO.	DESCRIPTION OF REVISIONS
		Added Right-Turn Lane at County Road X-40
04-25-02	A.03	Revise 111-23 for 04-25-02 Plan Revisions.
	B.04	Add Typical 2205 Modified.
	C.05	Revised Tabulation 103-3 and 104-3.
	C.15	Revised Tabulation X-50.
	C.17	Revised Tabulation 108-22.
	C.20	Revised Tabulation 108-22.
	D.16	Add Right-Turn Lane.
	D.17	Add Right-Turn lane.
	D.18	Add Right Ditch.
	E.06	Add Right-Turn Lane.
	L.22	Revise Grades for Right-Turn Lane.
	L.23	Revise Joints for Right-Turn lane.
	L.24	Revise Edge Profiles Right-Turn Lane.
	T.02	Revise Tabulation 107-28.
	W.15	Add Cross Sections for Right-Turn Lane.
	W.16	Add Cross Sections for Right-Turn Lane.
	W.17	Add Cross Sections for Right-Turn Lane.
04-08-04		MODIFIED HORIZONTAL CURVE AT 130 ST. SB LANE
01-07-04		SANITARY SEWER - WATER MAIN EXTENSION - 130 ST.

LICENSED PROFESSIONAL ENGINEER
ROBERT L. LENTZ
8720
IOWA

I hereby certify that this plan was prepared under my supervision and that engineering decisions with regard to the design were made by me or by other duly licensed Professional Engineers under the laws of the State of Iowa.

Signature — Date: 1 May 02

Robert L. Lentz
Printed or Typed Name

My license renewal date is December 31, 2003.

Pages or sheets covered by this seal:

04/03/01 Revision: A.03, L.02, L.04, L.06, L.08, L.11, L.13, L.15, L.17, L.19, L.21, L.23, L.26, L.28, L.31

04/08/02 Revision: A.03, B.03, B.06, C.05, C.13, C.15, C.20, D.23, D.24, E.08, G.05, G.06, L.27, L.28, L.29, L.32, L.33, L.34, L.35

04/25/02 Revision: A.03, B.04, C.05, C.15, C.17, C.20, D.16, D.17, D.18, E.06, L.22, L.23, L.24, T.02, W.15, W.16, W.17

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER A.03

Added 04-03-01. Revised 04-08-02. Revised 04-25-02

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5103
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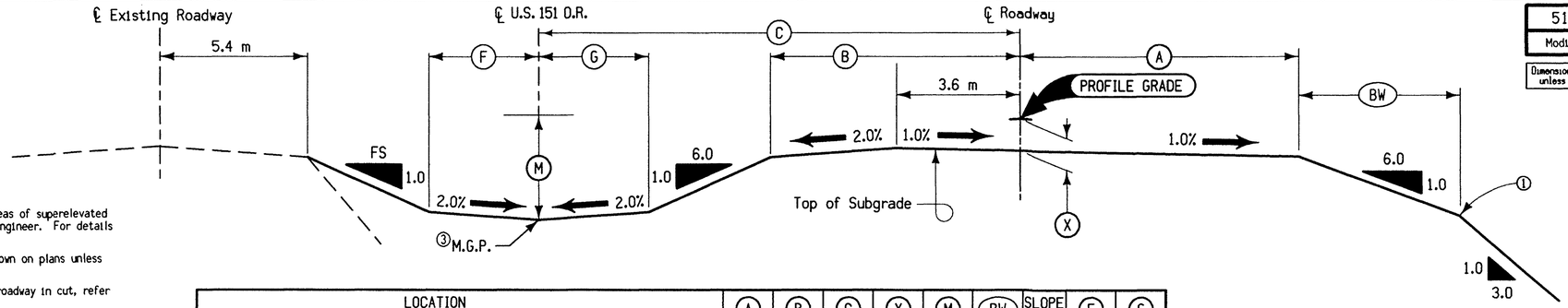
Dimensions in mm unless noted.



Notes:

Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the engineer. For details of subgrade superelevation, see other Detail Drawings.

Centerline median shall coincide with centerline survey shown on plans unless specified otherwise.

For typical cross sections of ditches and backslopes for roadway in cut, refer to other detail drawings within the plans.

① Refer to Detail Project Plan and Cross Sections for specific locations of foreslope.

② Slope is not to be steeper than 4:1.

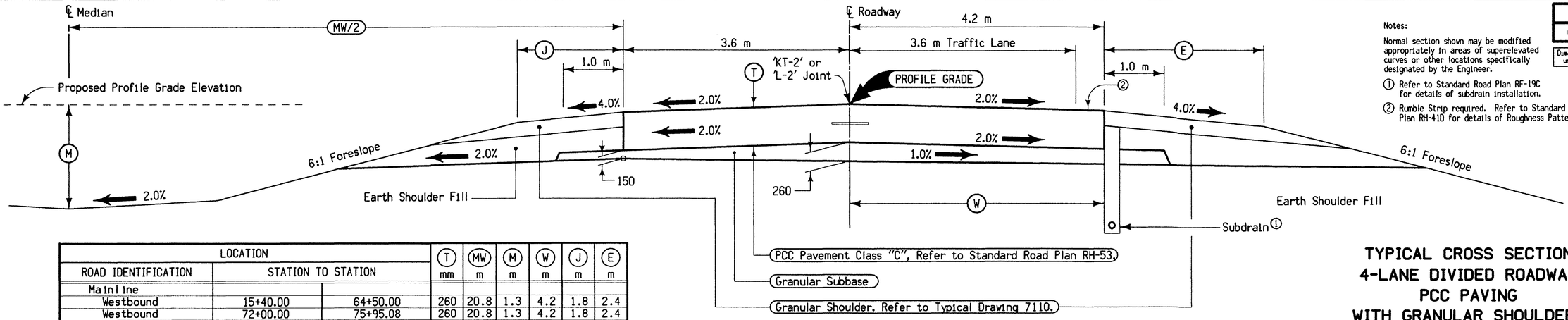
③ Through median grades both Eastbound and Westbound lane foreslopes will vary.

(M) Design depth of median ditch.

LOCATION				(A)	(B)	(C)	(X)	(M)	(BW)	SLOPE	(F)	(G)
ROAD IDENTIFICATION	STATION TO STATION		SIDE	m	m	m	mm	m	m	FS ②	m	m
Mainline	15+40.00	23+00.00	Lt.	9.6	8.4	14.0	520	1.3	5.1	6.0	Var.	1.5
Mainline	51+85.00	52+30.00	Lt.	9.6	8.4	14.0	520	1.3	5.1	6.0	Var.	1.5
Mainline	131+10.00	131+60.00	Rt.	9.6	8.4	14.0	520	1.3	5.1	Var.	1.5	1.5
Mainline	172+90	175+80.00	Rt.	9.6	8.4	14.0	520	1.3	5.1	6.0	Var.	1.5

TYPICAL CROSS SECTION FOR GRADING (Two Lanes)

3217
01-12-99
Dimensions in mm unless noted.



Notes:

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

① Refer to Standard Road Plan RF-19C for details of subdrain installation.

② Rumble Strip required. Refer to Standard Road Plan RH-41D for details of Roughness Pattern.

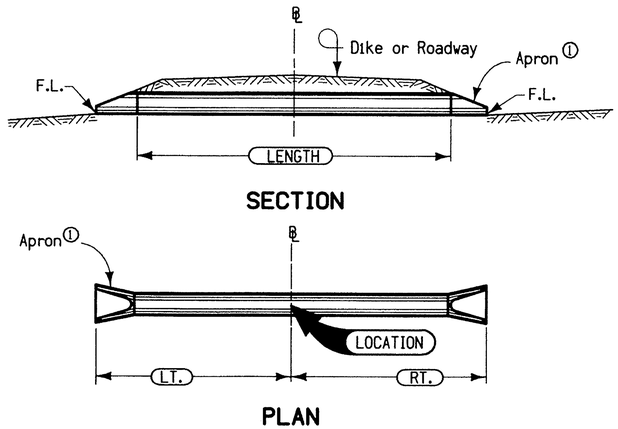
LOCATION			(T)	(MW)	(M)	(W)	(J)	(E)
ROAD IDENTIFICATION	STATION TO STATION		mm	m	m	m	m	m
Mainline								
Westbound	15+40.00	64+50.00	260	20.8	1.3	4.2	1.8	2.4
Westbound	72+00.00	75+95.08	260	20.8	1.3	4.2	1.8	2.4
Westbound	76+99.57	84+00.00	260	20.8	1.3	4.2	1.8	2.4
Westbound	154+50.00	157+41.56	260	20.8	1.3	4.2	1.8	2.4
Westbound	158+45.51	164+00.00	260	20.8	1.3	4.2	1.8	2.4
Eastbound	21+00.00	24+00.00	260	20.8	1.3	4.2	1.8	2.4
Eastbound	967+95.00	968+98.23	260	20.8	1.3	4.2	1.8	2.4
Eastbound	68+98.23	75+75.07	260	20.8	1.3	4.2	1.8	2.4
Eastbound	76+84.86	133+77.91	260	20.8	1.3	4.2	1.8	2.4
Eastbound	135+54.53	157+41.56	260	20.8	1.3	4.2	1.8	2.4
Eastbound	158+45.51	187+10.00	260	20.8	1.3	4.2	1.8	2.4

TYPICAL CROSS SECTION 4-LANE DIVIDED ROADWAY PCC PAVING WITH GRANULAR SHOULDERS

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	B.01

date = Thu Oct 5 13:16:13 2000 prf = \\WATSO1\DATA\PLOT\PL463P\b01h.prf

1101
09-27-94
Dimensions in mm unless noted.



Notes:

℄ shall be ℄ of roadway, dike, survey, or other; as detailed on plans.

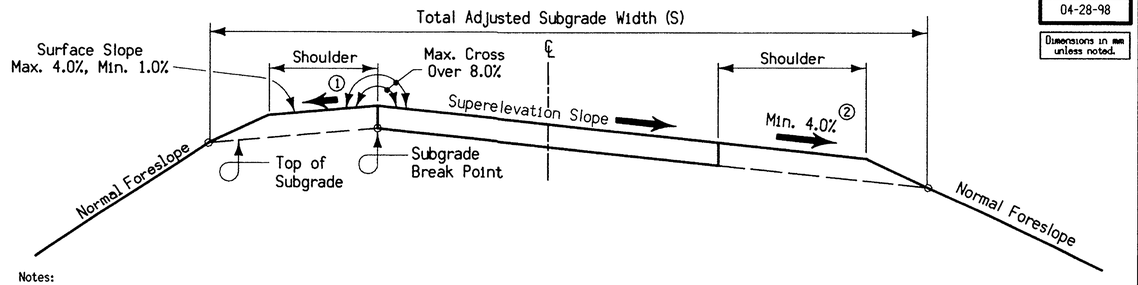
Skew angle is the angle which one end of the pipe is ahead (by stationing) of line perpendicular to the ℄ (example skew Rt. ahead 30°).

Refer to tabular listing and other plans for additional information.

① See Standard Road Plan RF-3 for concrete or RF-5 for metal.

PIPE CULVERT

2018
04-28-98
Dimensions in mm unless noted.



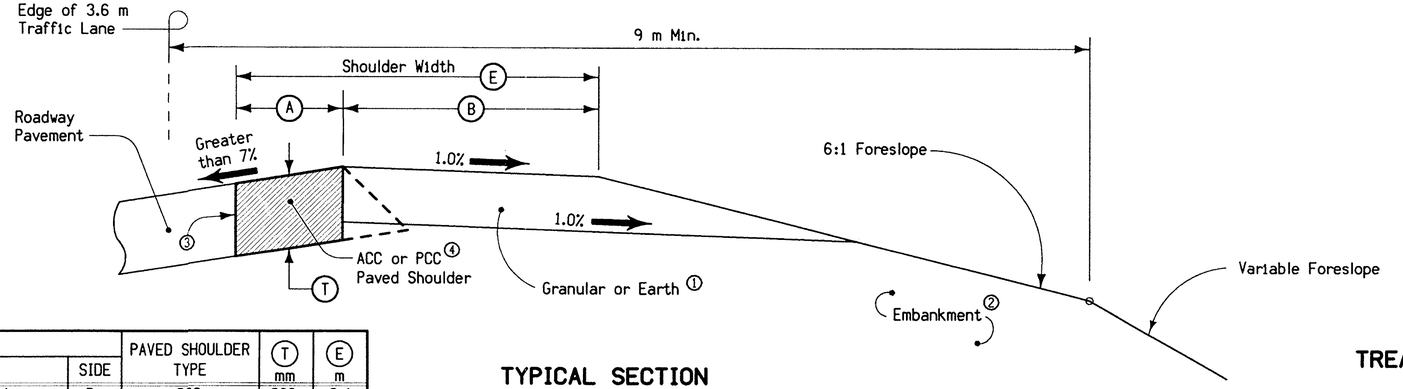
Notes:

① High Side: The shoulder slope shall be maintained at the normal rate of 4.0% unless this slope produces a grade break with adjacent pavement of more than 8.0%. The shoulder slope shall then be determined by a 8.0% break with adjacent pavement. If superelevation slope exceeds 7.0%, use Typical 2014 for high side shoulder.

② Low Side: The shoulder slope shall be maintained at normal rate of 4.0% unless the adjacent pavement slope is steeper, in which case the shoulder will slope at the same slope as adjacent pavement.

TYPICAL CROSS SECTION SUPERELEVATION FOR MAINLINE ROADWAYS WITH NON-PAVED SHOULDERS (7% MAXIMUM SUPERELEVATION)

SHOULDER DIMENSIONS (m)			
Roadway Pavement Width	Shoulder Width (E)	(A)	(B)
3.6	0.9	0.9	-
	1.2	1.2	-
	1.5	0.9	0.6
	1.8	0.9	0.9
	2.4	0.9	1.5
	3.0	0.9	2.1
(3.6 Operational Width)	(3.0 Operational Width)		
4.2	2.4	0.6	1.8



LOCATION			PAVED SHOULDER TYPE	(T) mm	(E) m
ROAD IDENTIFICATION	STATION TO STATION		SIDE			
U.S. 151 Mainline	139+00	142+14	Rt.	PCC	260	2.4

TYPICAL SECTION

2014
10-27-98
Dimensions in mm unless noted.

① Place same type of shoulder material as used on normal roadway shoulder.

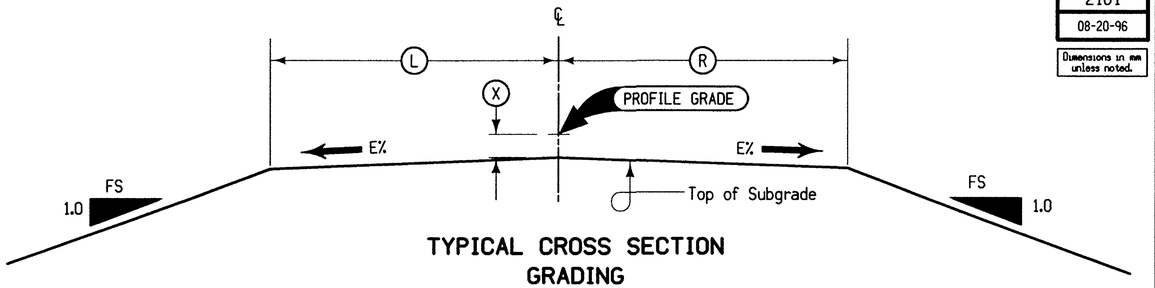
② Additional embankment will be paid for as Class 10 Excavation, Roadway and Borrow, or Embankment-In-Place.

③ Place 'L-2', 'BT-3' or 'KT-2' Joint if PCC Pavement and PCC Shoulder.

④ Place same type of shoulder material as used on normal roadway pavement.

TREATMENT FOR GRANULAR AND EARTH SHOULDERS ON HIGHSIDE OF CURVES SUPERELEVATED GREATER THAN 7%

2101
08-20-96
Dimensions in mm unless noted.



TYPICAL CROSS SECTION GRADING (Secondary Roads)

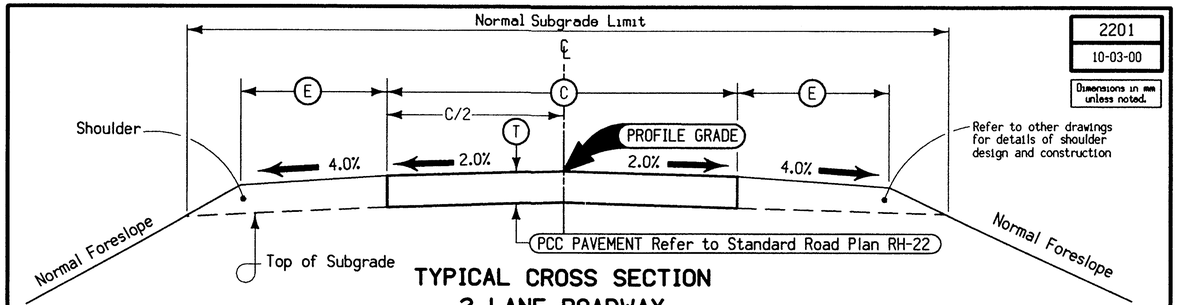
Note:

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

See appropriate Typical Sections in this plan for details of ditches and backslopes.

LOCATION			(L) m	(R) m	(X) mm	FS	E%
ROAD IDENTIFICATION	STATION TO STATION						
County Road X-28	1452+43.76	1455+00.00	7.5	7.5	260	4.0	2.0
County Road X-40	2131+48.21	2132+25.00	7.5	7.5	260	4.0	2.0
130th Street	1173+37.74	1174+75.00	6.5	6.5	260	3.0	2.0

2201
10-03-00
Dimensions in mm unless noted.



TYPICAL CROSS SECTION 2 LANE ROADWAY (Secondary Roads)

Note:

Normal sections shown may be appropriately modified for areas specifically designated by the engineer such as intersections or superelevated curves.

LOCATION			(C) m	(T) mm	(E) m	SHOULDER TYPE
ROAD IDENTIFICATION	STATION TO STATION					
County Road X-28	1452+43.76	1455+00.00	7.2	260	2.4	Granular
County Road X-40	2131+48.21	2132+25.00	7.2	260	2.4	Granular
130th Street	1173+37.74	1174+75.00	7.2	260	1.8	Granular

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER B.02

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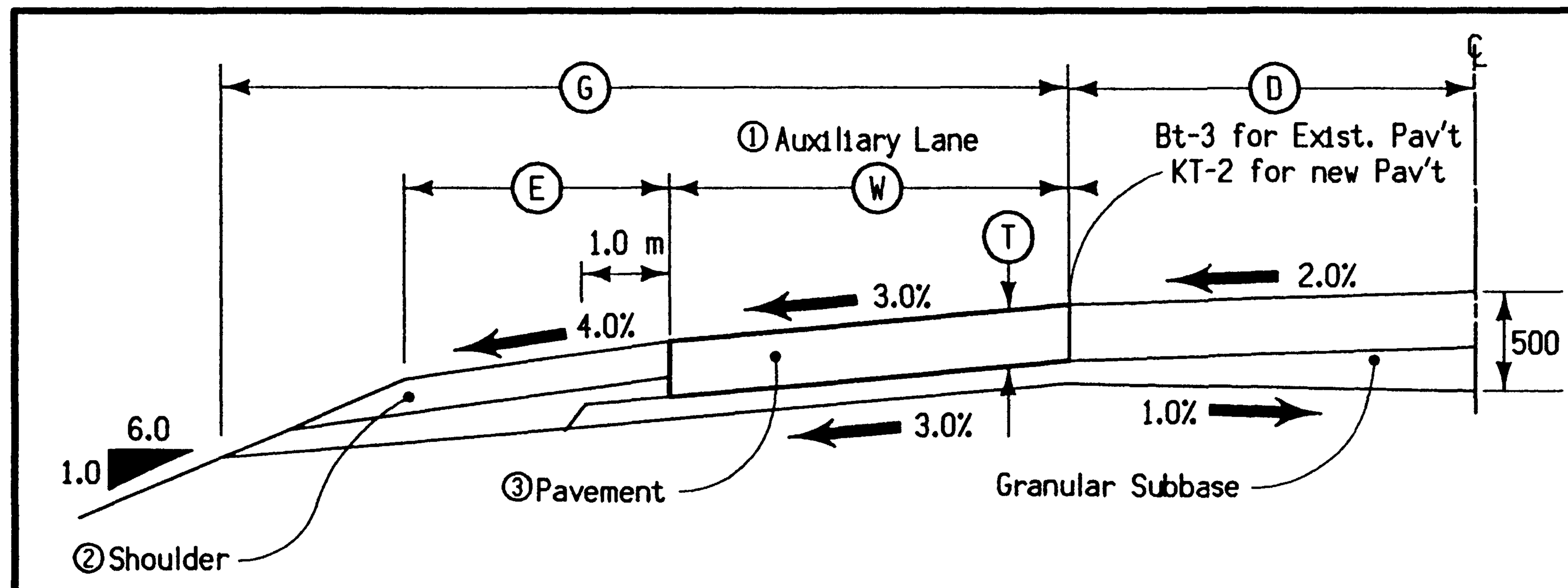
2205
Modified
Dimensions in mm unless noted.



LOCATION			SIDE	D m	E m	W m	G m	T mm
ROAD IDENTIFICATION	STATION TO STATION							
Mainline	18+40.00	18+90.00	WBL	3.6	1.8	3.6	8.8	260
Mainline	35+46.00	35+96.00	WBL	3.6	1.8	3.6	8.8	260
Mainline	38+73.00	39+23.00	EBL	3.6	1.8	3.6	8.8	260
Mainline	51+30.03	51+80.00	EBL	3.6	1.8	3.6	8.8	260
Mainline	52+34.00	52+84.00	WBL	3.6	1.8	3.6	8.8	260
Mainline	64+08.70	64+58.70	EBL	3.6	1.8	3.6	8.8	260
Mainline	86+27.00	86+77.00	EBL	3.6	1.8	3.6	8.8	260
Mainline	87+21.00	87+71.00	WBL	3.6	1.8	3.6	8.8	260
Mainline	* 94+49.50	94+99.50	EBL	3.6	1.8	3.6	8.8	260
Mainline	104+37.00	104+87.00	EBL	3.6	1.8	3.6	8.8	260
Mainline	105+43.00	105+96.22	WBL	3.6	1.8	3.6	8.8	260
Mainline	113+34.50	113+84.50	EBL	3.6	1.8	3.6	8.8	260
Mainline	117+63.01	117+13.00	EBL	3.6	1.8	3.6	8.8	260
Mainline	117+60.00	118+10.00	WBL	3.6	1.8	3.6	8.8	260
Mainline	131+58.43	132+08.97	WBL	3.6	1.8	3.6	8.8	260
Mainline	136+89.00	137+39.00	EBL	3.6	1.8	3.6	8.8	260
Mainline	137+88.00	138+38.00	WBL	3.6	1.8	3.6	8.8	260
Mainline	172+42.95	172+92.73	EBL	3.6	1.8	3.6	8.8	260
Mainline	173+43.08	173+93.00	WBL	3.6	1.8	3.6	8.8	*
Mainline	180+00.50	180+50.50	EBL	3.6	1.8	3.6	8.8	260

* 260mm PCC with 75mm HMA overlay on turn lane and adjacent mainline paving.

Notes:

① Details shall be similar for construction on either side (by stationing) of roadway.

② Refer to other drawings for details of shoulder design and construction.

③ Pavement for auxiliary lane shall be constructed according to requirements specified for through roadway pavement.

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

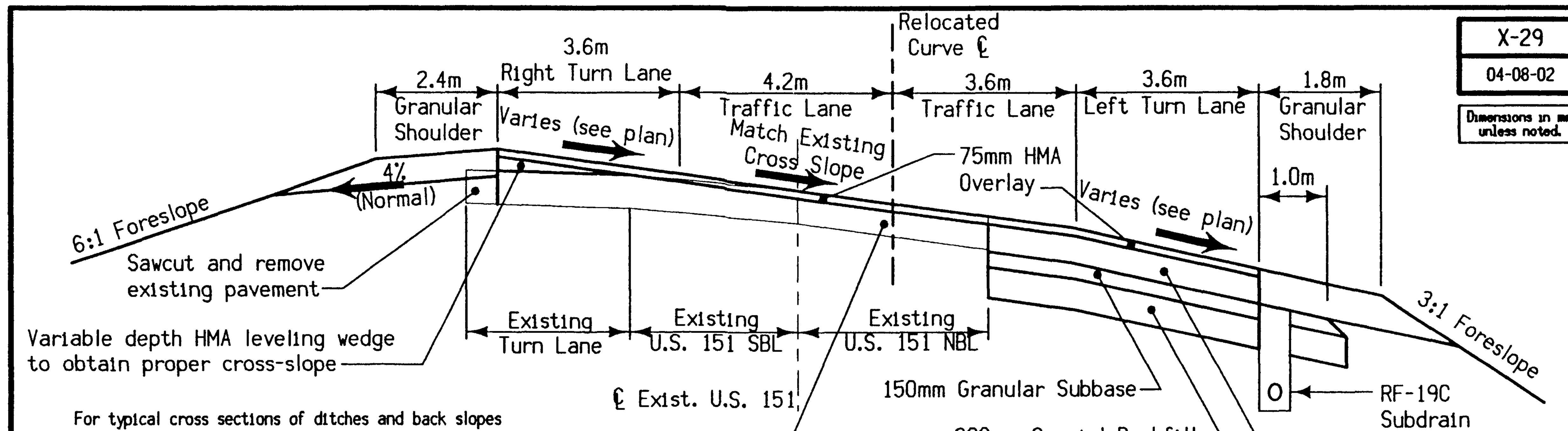
See Typical Cross Section for details of ditches and backslopes.

Refer to Intersection Details (L sheets) for additional information.

Section view is in direction of traffic.

GRADING AND PAVING TYPICAL HALF SECTION PROPOSED LEFT TURN LANE

X-29
04-08-02
Dimensions in mm unless noted.



For typical cross sections of ditches and back slopes for roadway in cut, refer to other drawings within the plans.

① High Side: The shoulder slope shall be maintained at the normal slope of 4.0% unless this slope produces a grade break with adjacent pavement of more than 8.0%. The shoulder slope shall be determined by a 8.0% break with adjacent pavement. If superelevation slope exceeds 7.0%, shoulder slope will be 1% away from roadway.

② For joint details see Standard Road Plan RH-51.

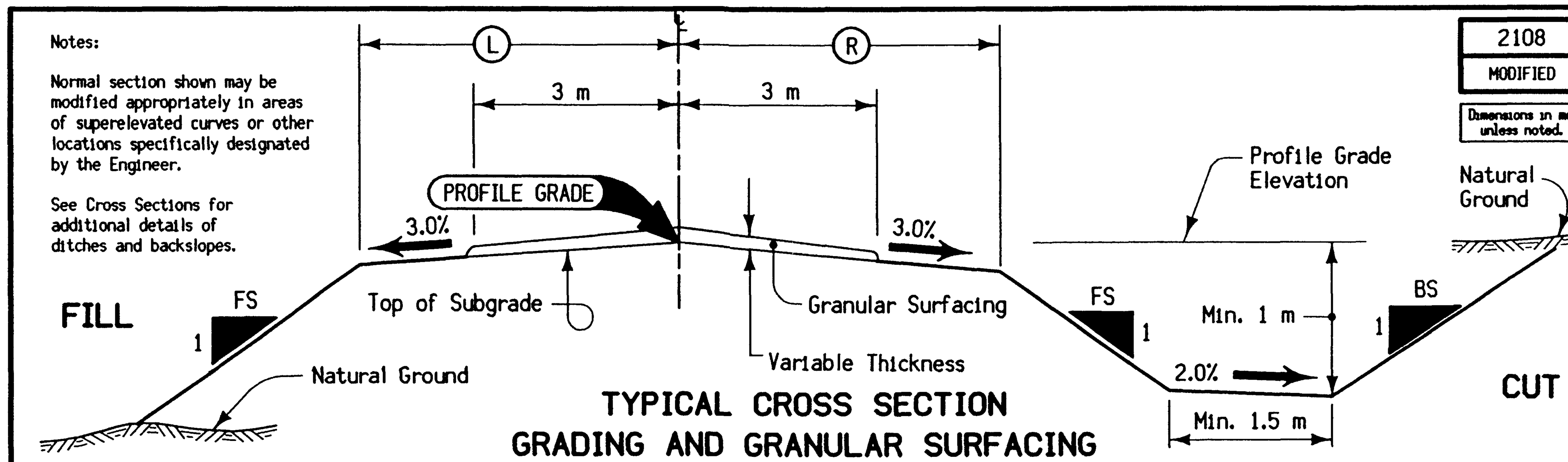
TYPICAL SECTION WIDENING ON EXISTING PAVEMENT Vicinity of 130th Street Curve Relocation (Sta. 9173+23 to 9176+56)

2108
MODIFIED
Dimensions in mm unless noted.

Notes:

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

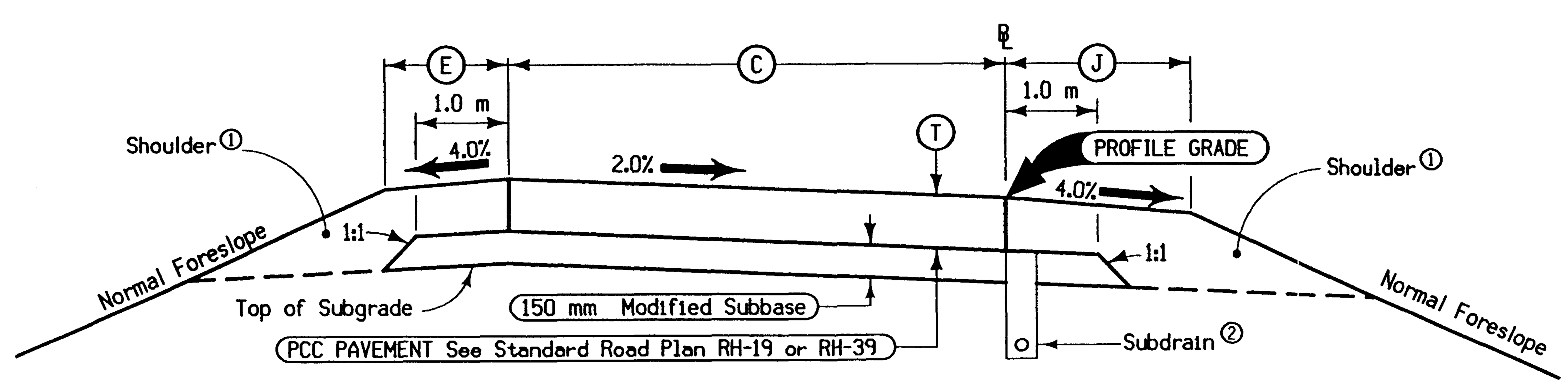
See Cross Sections for additional details of ditches and backslopes.



TYPICAL CROSS SECTION GRADING AND GRANULAR SURFACING

LOCATION			DIMENSIONS		SLOPES	
ROAD IDENTIFICATION	STATION TO STATION		L	R	FS	BS
Side Road			4.2	4.2	3.0	2.5

2503
04-25-00
Dimensions in mm unless noted.



TYPICAL CROSS SECTION PCC RAMP PAVING

Notes:

Subbase may be constructed to a width greater than that indicated.

Any such extra width of subbase shall be considered incidental to other work and not be measured for payment.

Section view is in direction of traffic.

Normal section shown may be appropriately modified for areas specifically designated by the Engineer, such as intersections or superelevated curves.

① Refer to other drawing for details of shoulder design and construction.

② Refer to Standard Road Plan RF-19C for details of subdrain installation.

LOCATION				DIMENSIONS				SHOULDER TYPE
INTERCHANGE	RAMP	STATION TO STATION		T mm	C m	E m	J m	
(L) Iowa Highway 1	B	2076+75.252	2079+40.00	260	5.5	1.2	1.8	Paved
(R) Iowa Highway 1	C	3075+30.00	3080+10.36	260	4.8	1.2	1.8	Paved
(R) Iowa Highway 64	B	6153+10.00	6157+20.00	260	4.8	1.2	1.8	Paved
(L) Iowa Highway 64	C	7154+94.349	7156+55.32	260	5.5	1.2	1.8	Paved
(L) IOWA HIGHWAY 64	D	8161+88.02	8164+00.00	260	4.8	1.2	1.8	PAVED
(L) IOWA HIGHWAY 1	D	4082+62.15	4084+00.00	260	4.8	1.2	1.8	PAVED

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN		COUNTY	PROJECT NUMBER		SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones			NHSX-151-3(112)--3H-57	B.03 [redacted]

Revised 04/08/02
6-198

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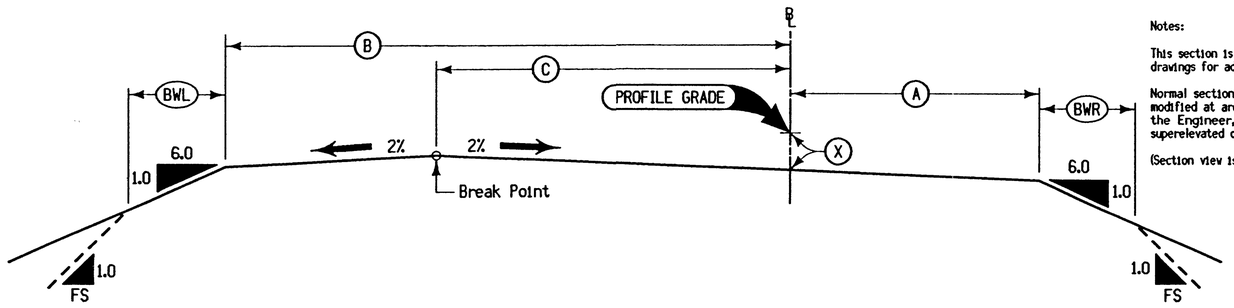


Notes:

This section is typical only. Refer to other drawings for additional details.

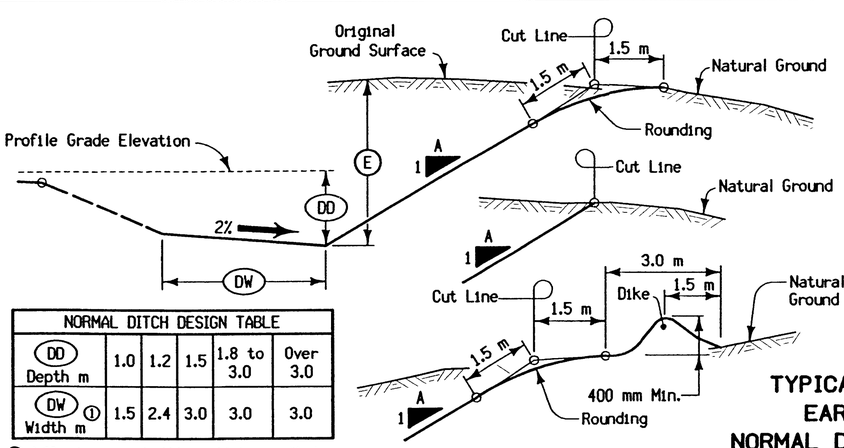
Normal section shown may be appropriately modified at areas specifically designated by the Engineer, such as intersections or superelevated curves.

(Section view is in direction of Traffic)

2512A
Mod.
Dimensions in mm unless noted.

LOCATION			DIMENSIONS						
INTERCHANGE	RAMP	STATION TO STATION	(A) m	(B) m	(C) m	(X) mm	FS	(BWL) m	(BWR) m
	RAMP		4.8	9.1	4.8	410	3.0	6.4	5.7
	LOOP		4.8	9.8	5.5	410	3.0	6.5	5.7

TYPICAL CROSS SECTION RAMP GRADING



NORMAL DITCH DESIGN TABLE					
(DD) Depth m	1.0	1.2	1.5	1.8 to 3.0	Over 3.0
(DW) ① Width m	1.5	2.4	3.0	3.0	3.0

① A 30 m transition should be used between width changes.

Notes:

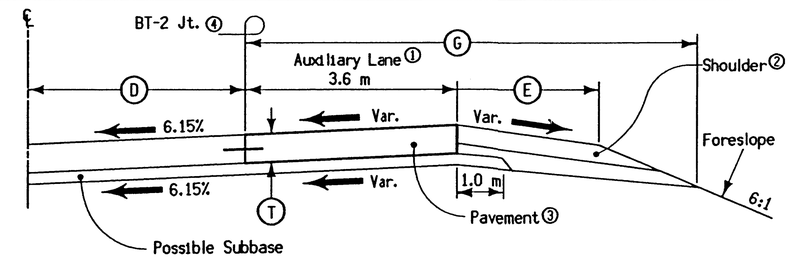
For normal conditions, backslopes (A) shall be 2.5 on 1.0 for E depths less than 7.5 m, unless specified otherwise. Refer to detail project plans and cross sections for Ditch Depth or for Special Ditches.

Refer to project plans for locations of areas where rounding of the back slope is not required.

Refer to plans for locations of intercepting ditches. Dike for intercepting ditch shall be made by taking earth from roadway side. Do not excavate back of dike.

4101
Mod.
Dimensions in mm unless noted.

TYPICAL CROSS SECTION EARTH EXCAVATION NORMAL DITCH AND BACKSLOPE



Notes:

① Details shall be similar for construction on either side (by stationing) of roadway.

② Refer to other drawings for details of shoulder design and construction.

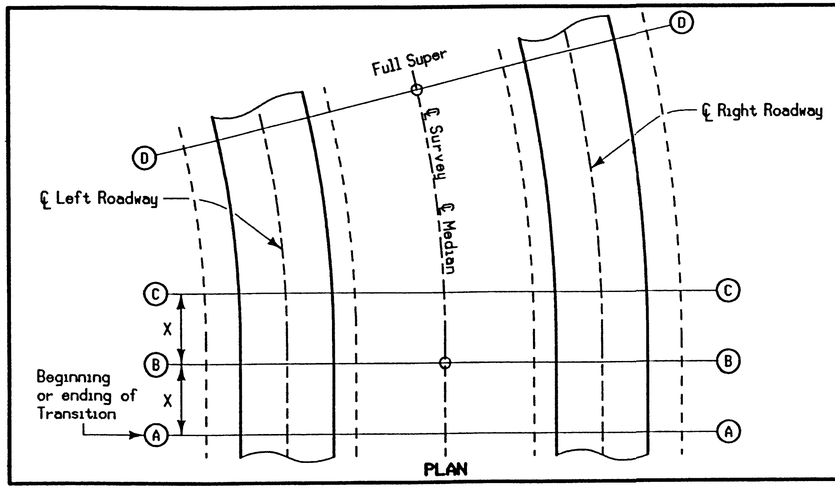
③ Pavement for auxiliary lane shall be constructed according to requirements specified for through roadway pavement.

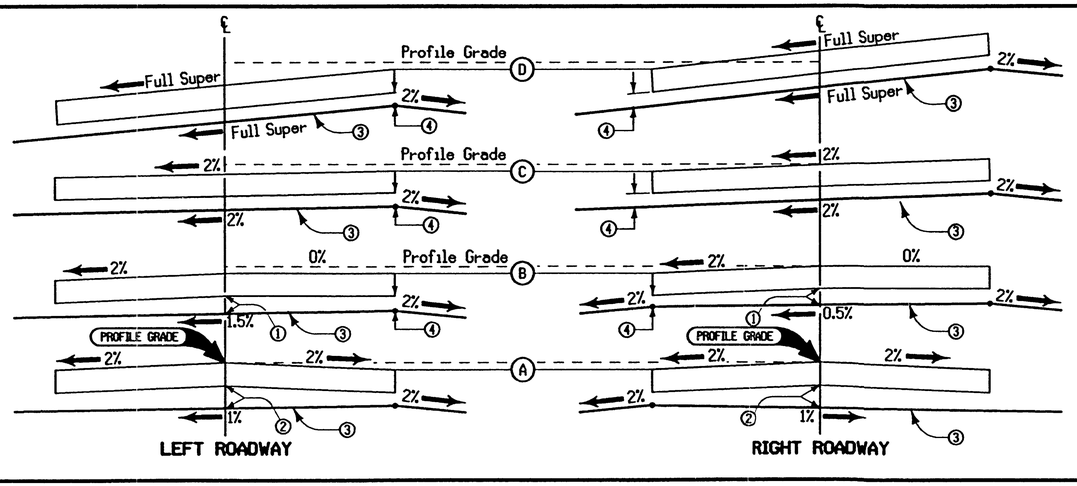
④ For Joint details see Standard Road Plan RH-51.

2205
Modified
Dimensions in mm unless noted.

LOCATION				(D) m	(E) m	(T) mm	(G) m
ROAD IDENTIFICATION	STATION TO STATION		SIDE				
MAINLINE	128+73	131+03	EBL	4.2	2.4	260	8.8

TYPICAL HALF SECTION PCC AUXILIARY LANE





NOTES:

The intent of this detail is to show the different slopes between the subgrade and roadway pavement through the superelevated curve.

For superelevation data, see Tabulation of Circular Curve Data or Plan and Profile sheets. For details of pavement superelevation, see Standard Road Plan RP-2.

① 200 mm
② 260 mm
③ Subgrade Surface
④ 150 mm

5303
Mod.
Dimensions in mm unless noted.

GRADING SUPERELEVATION NORMAL 1% SUBGRADE SLOPE DIVIDED ROADWAY

Revised 04-25-02

7-198

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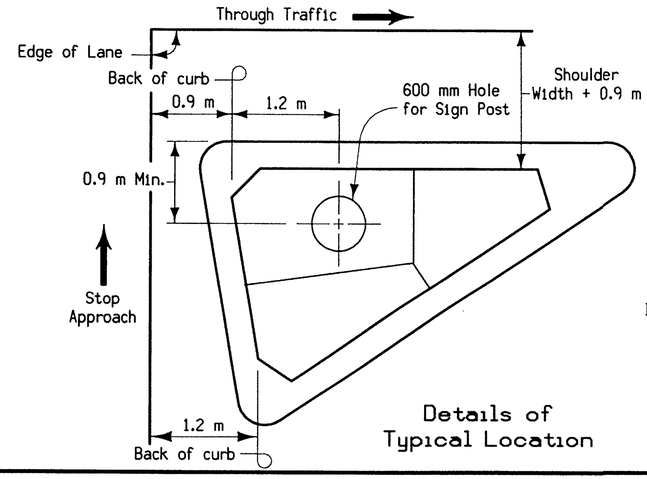
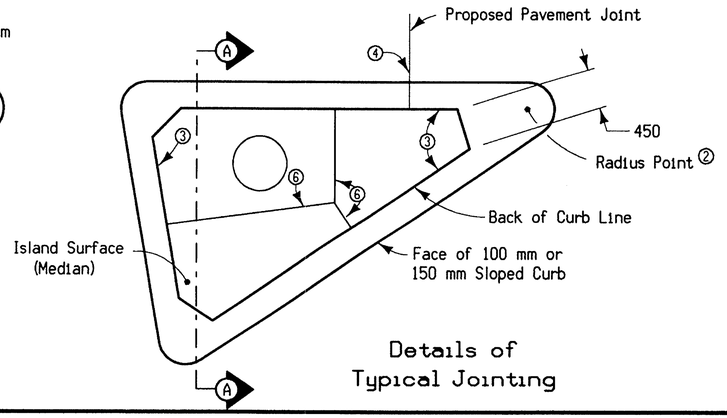
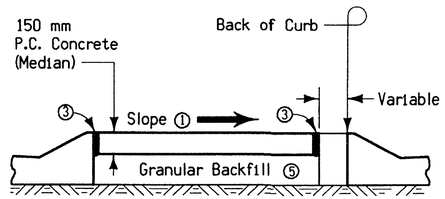
6144
03-28-95
Dimensions in mm unless noted.



Details of Typical Location



Details of Typical Jointing



Section A-A

Notes:

① Surface of island shall be shaped as necessary to drain.

② Radius point is located at the back of curb line. Contractor shall pave across and between curbs on a straight line as indicated.

③ 'E' Joint, refer to Standard Road Plan RH-52 for details.

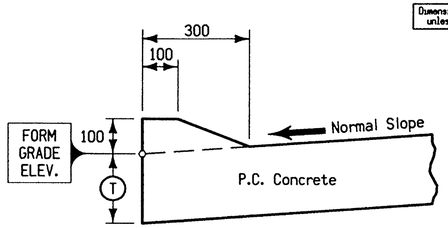
④ Construct 'C' Joint in Curb as needed to continue intersection pavement joints. See Standard Road Plan RH-50.

⑤ The furnishing and placing of granular backfill shall be incidental to the price bid for Portland Cement Concrete Median.

⑥ 'C' Joints as required. See Standard Road Plan RH-50.

TRAFFIC ISLAND WITH SLOPED CURB

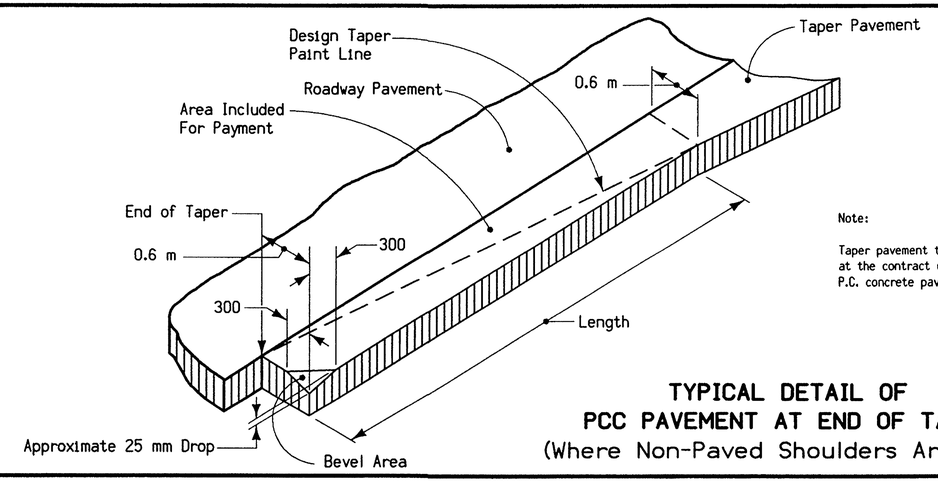
6125
12-08-95
Dimensions in mm unless noted.



(T) is the thickness for pavement/shoulder

DETAILS OF INTEGRAL 100 mm SLOPED CURB

7101
09-27-94
Dimensions in mm unless noted.

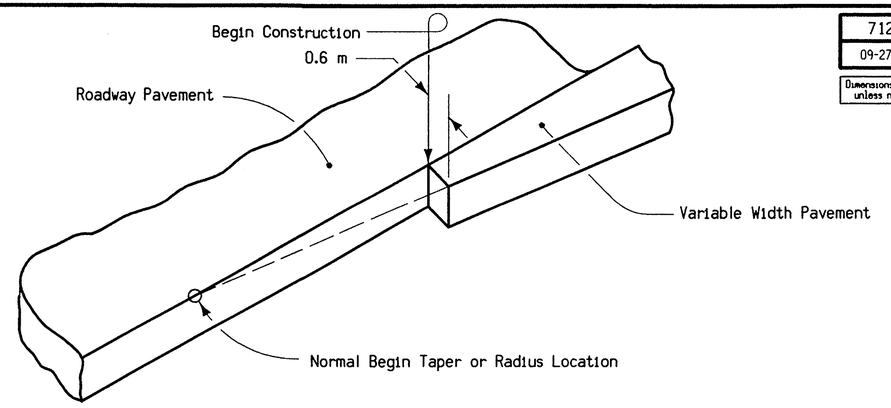


Note:

Taper pavement to be paid for at the contract unit price for P.C. concrete pavement.

TYPICAL DETAIL OF PCC PAVEMENT AT END OF TAPER
(Where Non-Paved Shoulders Are Used)

7120
09-27-94
Dimensions in mm unless noted.



TYPICAL END TREATMENT FOR VARIABLE WIDTH PCC PAVEMENT
Where Paved Shoulders Are Used

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7110
Modified
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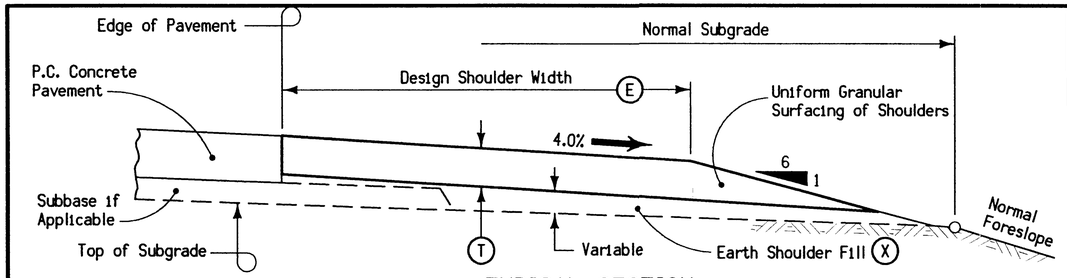


TYPICAL SECTION
TYPE 'A' OR 'B' GRANULAR SHOULDER
Adjacent to PCC Pavement

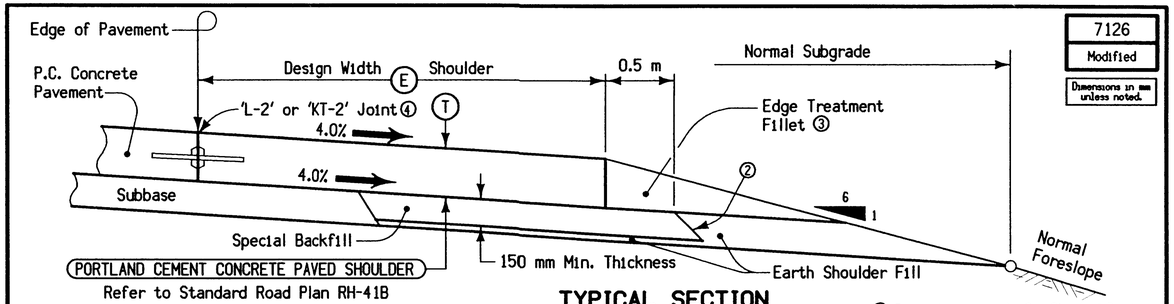
Note:

Earth Shoulder fill requires approximately (X) cubic meters of excavation, including 40 % for shrinkage, per station.

See Standard Road Plan RH-37D for construction requirements.

LOCATION			(E)	(T)	SIDE	(X)
ROAD IDENTIFICATION	STATION TO STATION		m	mm		m^3
Mainline						
Westbound	15+40	64+50	2.4	150	Lt.	125.3
	15+40	65+75	1.8	150	Rt.	92.5
	72+00	82+00	2.4	150	Lt.	125.3
	72+00	84+00	1.8	150	Rt.	92.5
	83+10	84+00	1.8	150	Lt.	92.5
	154+50	164+00	1.8	150	Rt.	92.5
	154+50	162+10	2.4	150	Lt.	125.3
	163+10	164+00	1.8	150	Lt.	92.5
	173+19	176+25	2.4	150	Rt.	125.3
(Relocated Curve)	9173+40	9176+56	1.8	150	Rt.	92.5
Eastbound	21+00	24+00	2.4	150	Rt.	125.3
	21+00	24+00	1.8	150	Lt.	92.5
	67+95	74+30	2.4	150	Rt.	125.3
	74+30	75+78	1.8	150	Rt.	92.5
	76+85	80+10	2.4	150	Rt.	125.3
	80+90	83+50	1.8	150	Rt.	92.5
	83+50	151+07	2.4	150	Rt.	125.3
	151+07	153+10	1.8	150	Rt.	92.5
	152+95	156+55	2.4	150	Rt.	125.3
	158+30	161+50	1.8	150	Rt.	92.5
	161+50	187+10	2.4	150	Rt.	125.3
	67+95	187+10	1.8	150	Lt.	92.5
X-28	1452+50	1455+00	2.4	150	Lt.	37.9
	1452+50	1455+00	2.4	150	Rt.	37.9
X-40	2131+46	2132+25	2.4	150	Lt.	37.9
	2131+46	2132+25	2.4	150	Rt.	37.9
130th Street	1173+35	1174+75	1.8	150	Lt.	34.7
	1173+35	1174+75	1.8	150	Rt.	34.7
X-Over @ Sta. 4+50	700+37	702+78	1.2	150	Rt.	0.0
	701+95	704+16	1.2	150	Lt.	0.0

7126
Modified
Dimensions in mm unless noted.

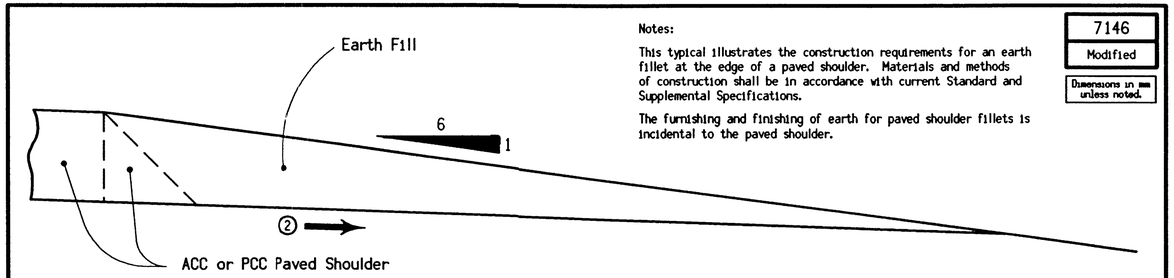


TYPICAL SECTION
Full Depth PCC Paved Shoulder

LOCATION				DIMENSIONS		QUANTITIES①		
ROAD IDENTIFICATION	STATION TO STATION		SIDE	(T) mm	(E) m	SURFACE AREA m^2 ⑤	VOLUME ⑦ m^3	SPECIAL BACKFILL Mg ⑤
IA-1 Loop B	2076+60	2079+39	LT	260	1.2	(6)	21.4	(8)
	2076+60	2079+39	RT	260	1.8	(6)	21.4	(8)
IA-1 Ramp C	3075+08	3080+90	RT	260	1.8	(6)	21.4	(8)
	3075+00	3076+00	LT	260	1.8	(6)	21.4	(8)
	3076+00	3080+10	LT	260	1.2	(6)	21.4	(8)
IA-64 Ramp C	6153+10	6157+20	RT	260	1.8	(6)	21.4	(8)
	6153+00	6156+62	LT	260	1.2	(6)	21.4	(8)
	6156+62	6157+20	LT	260	1.8	(6)	21.4	(8)
IA-64 Loop C	7154+94	7157+50	RT	260	1.8	(6)	21.4	(8)
	7154+94	7156+55	LT	260	1.2	(6)	21.4	(8)

① Per station per side. See Standard Road Plan RH-41B for basis of estimate.
② Approximately 1:1 Slope
③ Refer to appropriate detail drawings.
④ When (T) is less than 200 mm use 'BT-1' Joint. When (T) is equal to or more than 200 mm use 'L-2', 'KT-2' or modified 'BT-3'. Modified 'BT-3' requires a keyway. See Standard Road Plan RH-51 for joint details.
⑤ Bid Items
⑥ See Tab. 112-9
⑦ Earth Shoulder fill requires approximately (X) cubic meters of excavation, including 40% for shrinkage, per station.
⑧ Included with special backfill under ramps and tapers. See tab. X-50 on Sheet C.15 for details.
⑨ Max breakover is 7%. When superelevation exceeds 7%, pared shoulders high side will have a 1% slope on to Ramp or Loop.

7146
Modified
Dimensions in mm unless noted.



Notes:

This typical illustrates the construction requirements for an earth fillet at the edge of a paved shoulder. Materials and methods of construction shall be in accordance with current Standard and Supplemental Specifications.

The furnishing and finishing of earth for paved shoulder fillets is incidental to the paved shoulder.

LOCATION				QUANTITIES①
ROAD IDENTIFICATION	STATION TO STATION		SIDE	EARTH FILL m^3
				40% Shrink
IA-1 Loop B	2076+60	2079+39	LT	37.6
	2076+60	2079+39	RT	37.6
IA-1 Ramp C	3075+08	3080+90	RT	37.6
	3075+00	3076+00	LT	37.6
	3076+00	3080+10	LT	37.6
IA-64 Ramp C	6153+10	6157+20	RT	37.6
	6153+00	6156+62	LT	37.6
	6156+62	6157+20	LT	37.6
IA-64 Loop C	7154+94	7157+50	RT	37.6
	7154+94	7156+55	LT	37.6

① Not a bid item. Quantities are per station per side.
② Match slope of under side of shoulder pavement.

EARTH FOR PAVED SHOULDER FILLET

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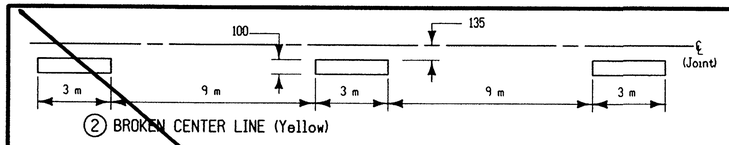
Revised 04/08/02

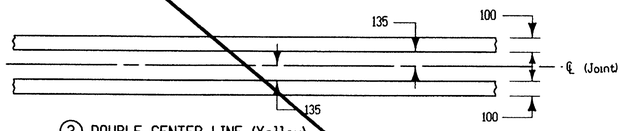
9.198

Dimensions in mm unless noted.

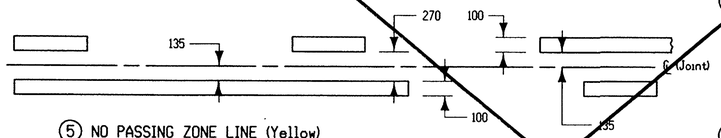
9001
10-31-95



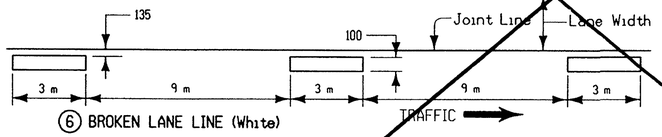
② BROKEN CENTER LINE (Yellow)



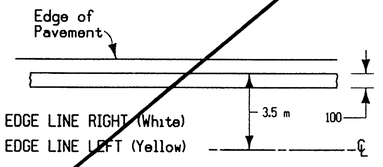
③ DOUBLE CENTER LINE (Yellow)



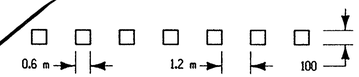
⑤ NO PASSING ZONE LINE (Yellow)



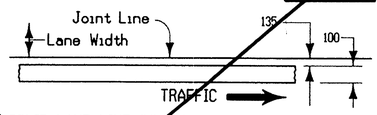
⑥ BROKEN LANE LINE (White)



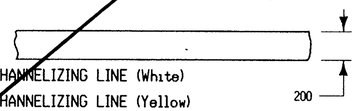
⑦ EDGE LINE RIGHT (White)
⑧ EDGE LINE LEFT (Yellow)



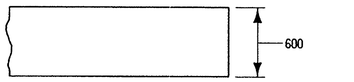
⑨ DOTTED LINE (White)



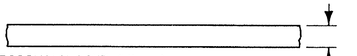
⑩ SOLID LANE LINE (White)



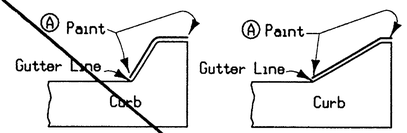
⑪ CHANNELIZING LINE (White)
⑫ CHANNELIZING LINE (Yellow)



⑬ STOP LINE (White)



⑭ CROSSWALK LINE (White)



Ⓐ Paint 300 mm width for 150 mm Standard Curb,
Paint 360 mm width for 150 mm Sloped Curb.

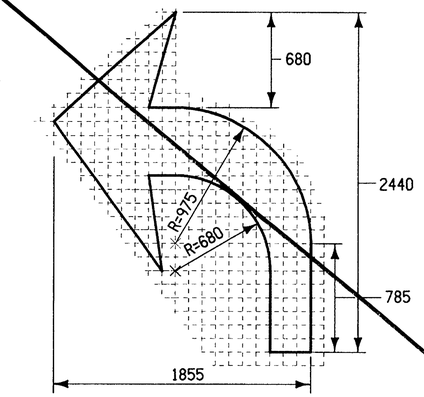
⑮ YELLOW CURB

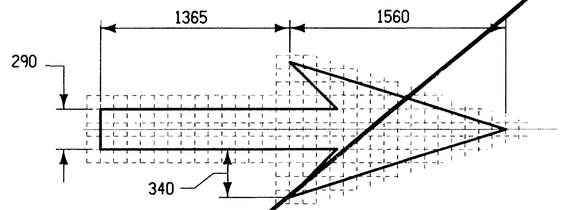
⑯ WHITE CURB

STANDARD TYPES OF PAVEMENT MARKINGS

9002
04-28-98
Dimensions in mm unless noted.

EACH UNIT = 97.5 mm

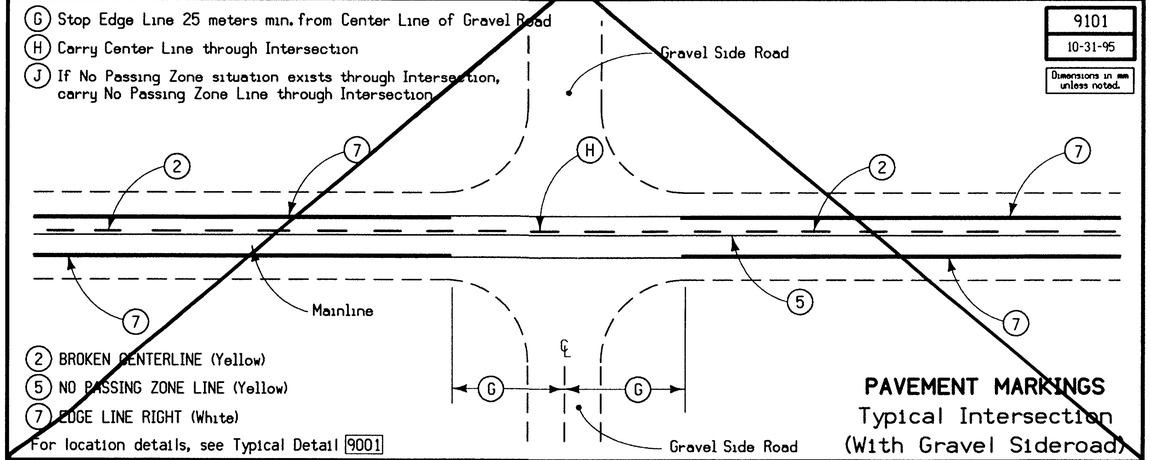




PAVEMENT MARKINGS STRAIGHT AND CURVE ARROWS

9101
10-31-95
Dimensions in mm unless noted.

Ⓖ Stop Edge Line 25 meters min. from Center Line of Gravel Road
Ⓗ Carry Center Line through Intersection
Ⓙ If No Passing Zone situation exists through Intersection, carry No Passing Zone Line through Intersection

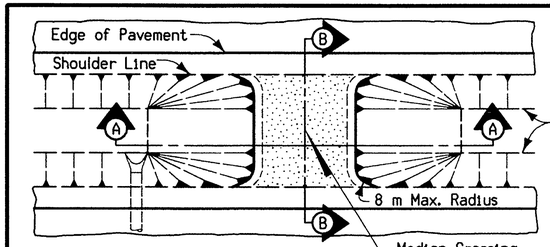


② BROKEN CENTERLINE (Yellow)
⑤ NO PASSING ZONE LINE (Yellow)
⑦ EDGE LINE RIGHT (White)

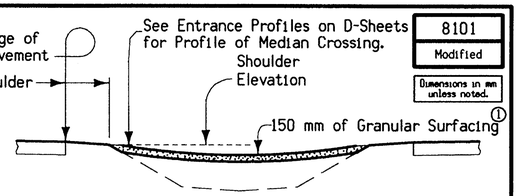
For location details, see Typical Detail 9001

PAVEMENT MARKINGS Typical Intersection (With Gravel Sideroad)

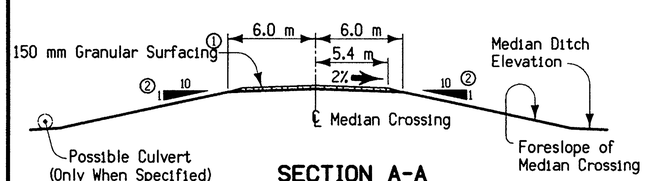
8101
Modified
Dimensions in mm unless noted.



TYPICAL PLAN



SECTION B-B



SECTION A-A

① Granular surfacing shall be applied as directed by the Engineer. Approximately 75 Mg of granular surfacing is required for a standard 20.8 m median width.

② Foreslope shall be 8:1 when drainage pipe is incorporated into the median crossing.

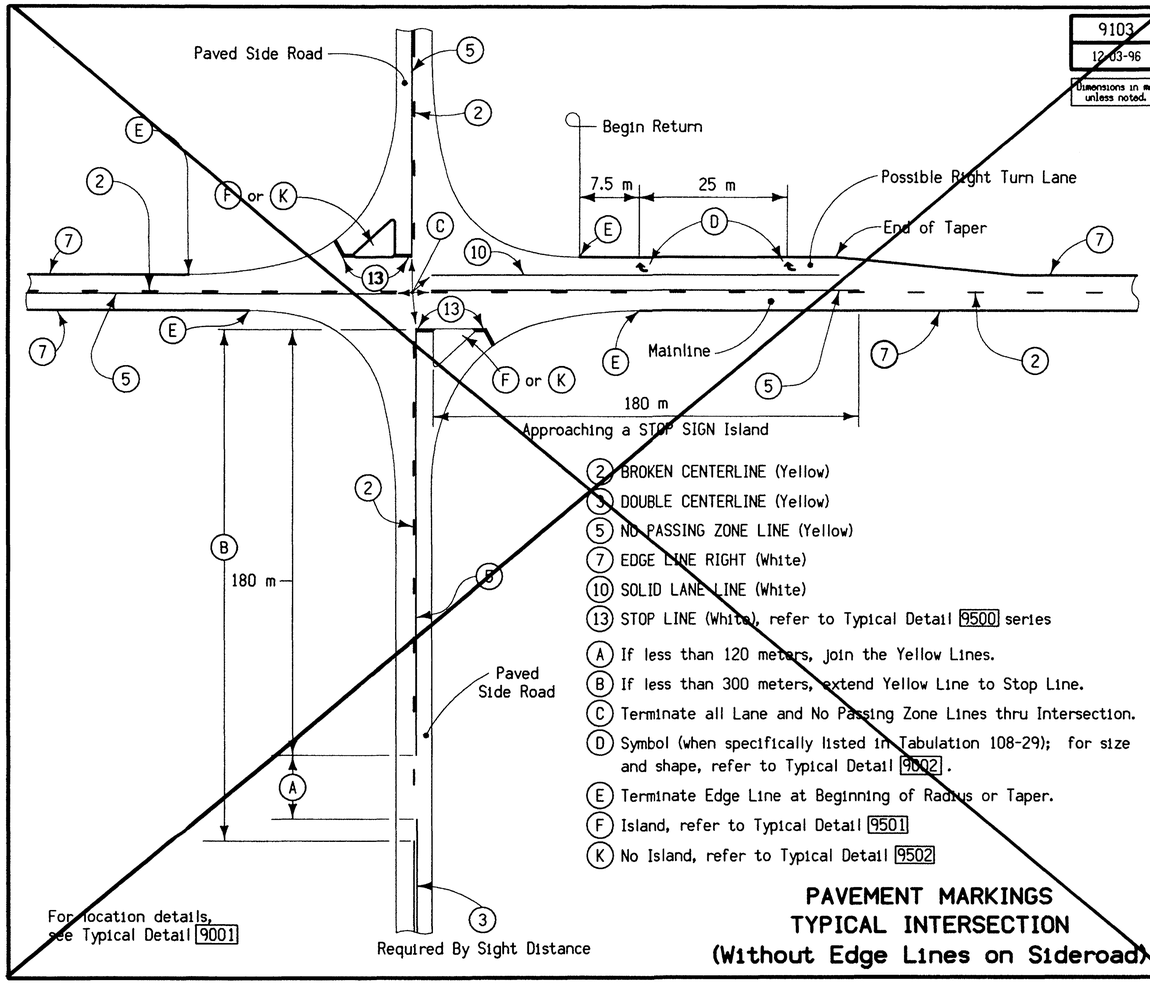
DETAILS OF GRANULAR FOUR-LANE MEDIAN CROSSING

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	B.07

date = Thu Oct 5 13:17:08 2000 prf = \\WATSO1\DATA\PLOT\PL463P\b07h.prf

10-198

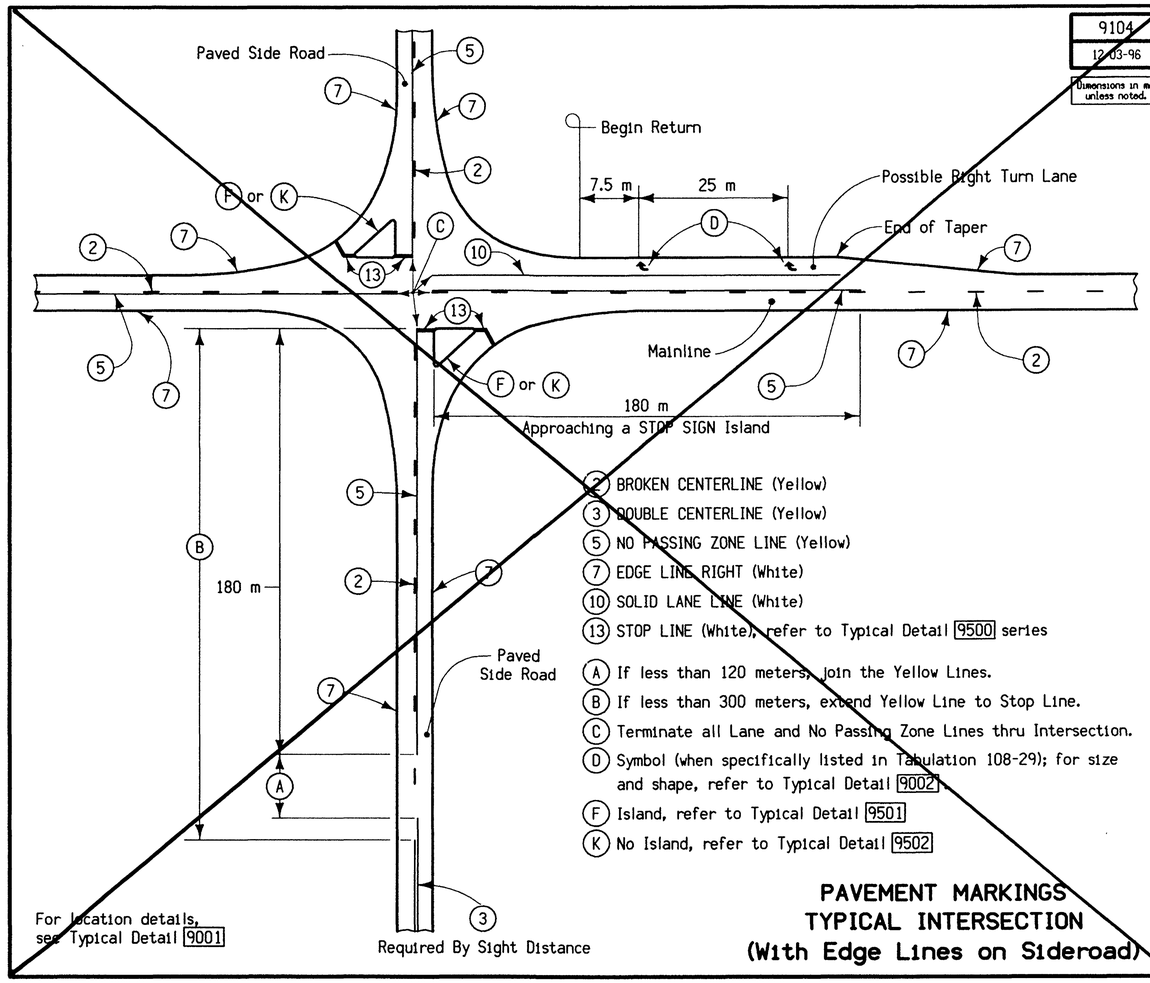
9103
12-03-96
Dimensions in mm unless noted.



(2) BROKEN CENTERLINE (Yellow)
(3) DOUBLE CENTERLINE (Yellow)
(5) NO PASSING ZONE LINE (Yellow)
(7) EDGE LINE RIGHT (White)
(10) SOLID LANE LINE (White)
(13) STOP LINE (White), refer to Typical Detail 9500 series
(A) If less than 120 meters, join the Yellow Lines.
(B) If less than 300 meters, extend Yellow Line to Stop Line.
(C) Terminate all Lane and No Passing Zone Lines thru Intersection.
(D) Symbol (when specifically listed in Tabulation 108-29); for size and shape, refer to Typical Detail 9002.
(E) Terminate Edge Line at Beginning of Radius or Taper.
(F) Island, refer to Typical Detail 9501
(K) No Island, refer to Typical Detail 9502

PAVEMENT MARKINGS
TYPICAL INTERSECTION
(Without Edge Lines on Sideroad)

9104
12-03-96
Dimensions in mm unless noted.



(2) BROKEN CENTERLINE (Yellow)
(3) DOUBLE CENTERLINE (Yellow)
(5) NO PASSING ZONE LINE (Yellow)
(7) EDGE LINE RIGHT (White)
(10) SOLID LANE LINE (White)
(13) STOP LINE (White), refer to Typical Detail 9500 series
(A) If less than 120 meters, join the Yellow Lines.
(B) If less than 300 meters, extend Yellow Line to Stop Line.
(C) Terminate all Lane and No Passing Zone Lines thru Intersection.
(D) Symbol (when specifically listed in Tabulation 108-29); for size and shape, refer to Typical Detail 9002.
(F) Island, refer to Typical Detail 9501
(K) No Island, refer to Typical Detail 9502

PAVEMENT MARKINGS
TYPICAL INTERSECTION
(With Edge Lines on Sideroad)

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER NHSX-151-3(112)--3H-57	SHEET NUMBER B.08

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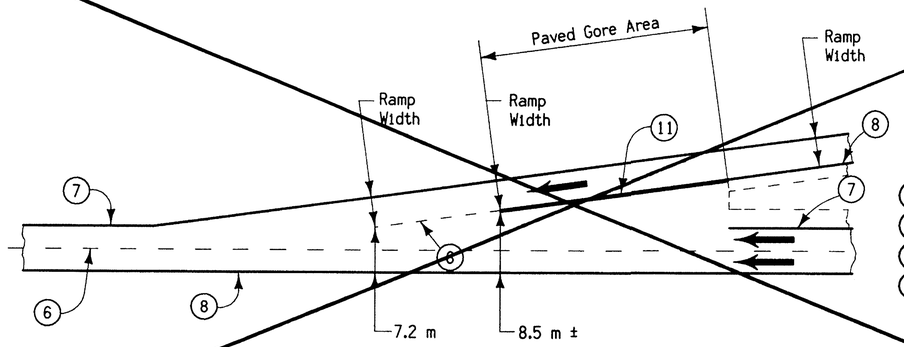
11-198

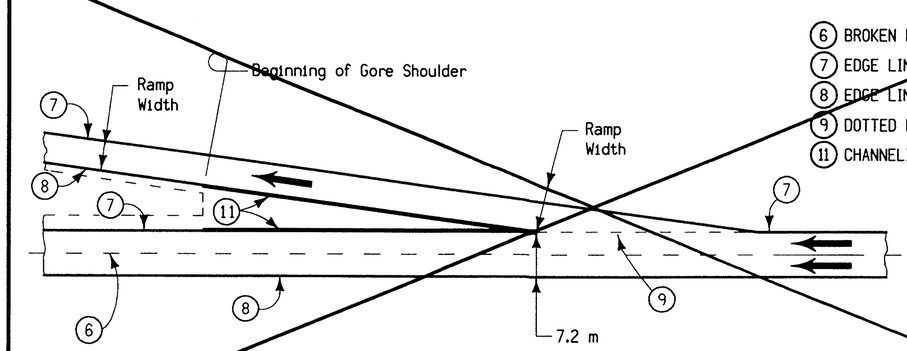
9301
12-03-96
Dimensions in mm unless noted.



6 BROKEN LANE LINE (White)
7 EDGE LINE RIGHT (White)
8 EDGE LINE LEFT (Yellow)
11 CHANNELIZING LINE (White)

PAVEMENT MARKINGS
Tapered Acceleration Lane

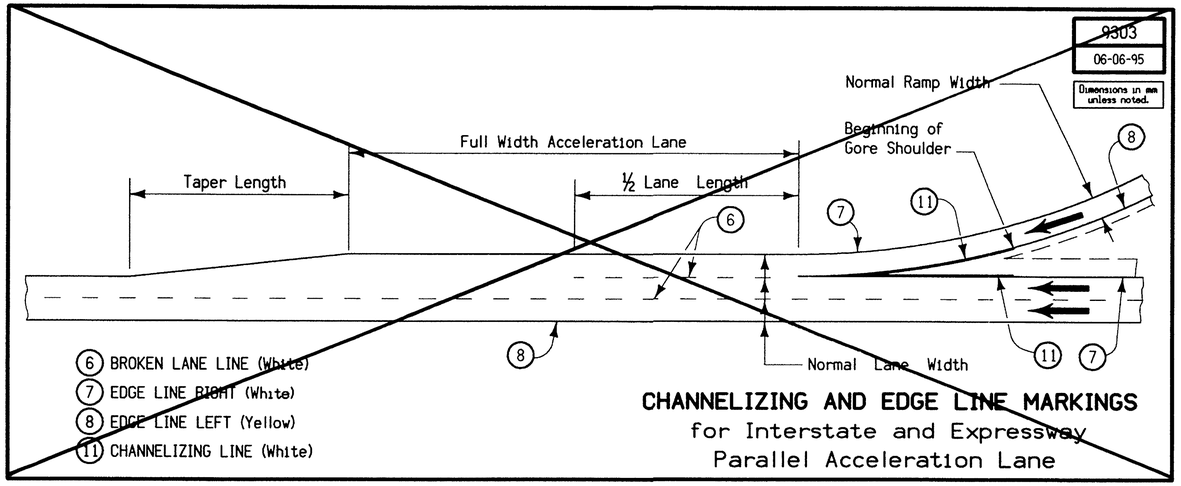
9302
12-03-96
Dimensions in mm unless noted.



6 BROKEN LANE LINE (White)
7 EDGE LINE RIGHT (White)
8 EDGE LINE LEFT (Yellow)
9 DOTTED LINE (White)
11 CHANNELIZING LINE (White)

PAVEMENT MARKINGS
Tapered Deceleration Lane

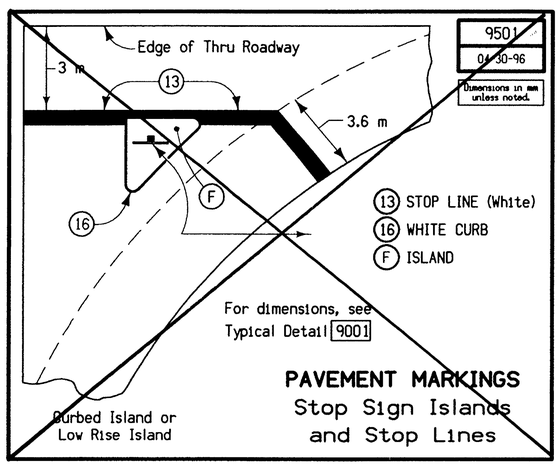
9303
06-06-95
Dimensions in mm unless noted.



6 BROKEN LANE LINE (White)
7 EDGE LINE RIGHT (White)
8 EDGE LINE LEFT (Yellow)
11 CHANNELIZING LINE (White)

CHANNELIZING AND EDGE LINE MARKINGS
for Interstate and Expressway
Parallel Acceleration Lane

9501
04-30-96
Dimensions in mm unless noted.



13 STOP LINE (White)
16 WHITE CURB
F ISLAND

PAVEMENT MARKINGS
Stop Sign Islands
and Stop Lines

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	B.09

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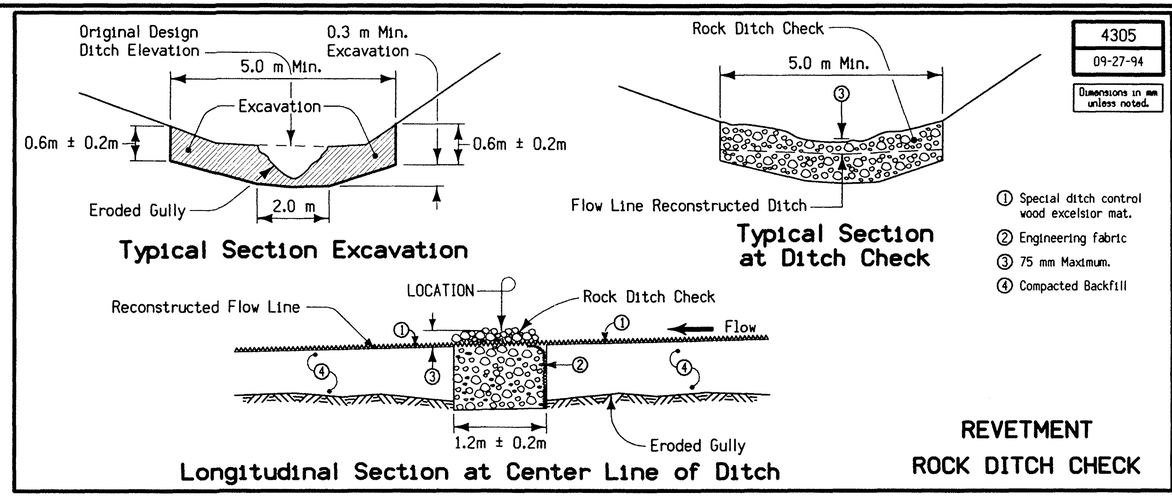
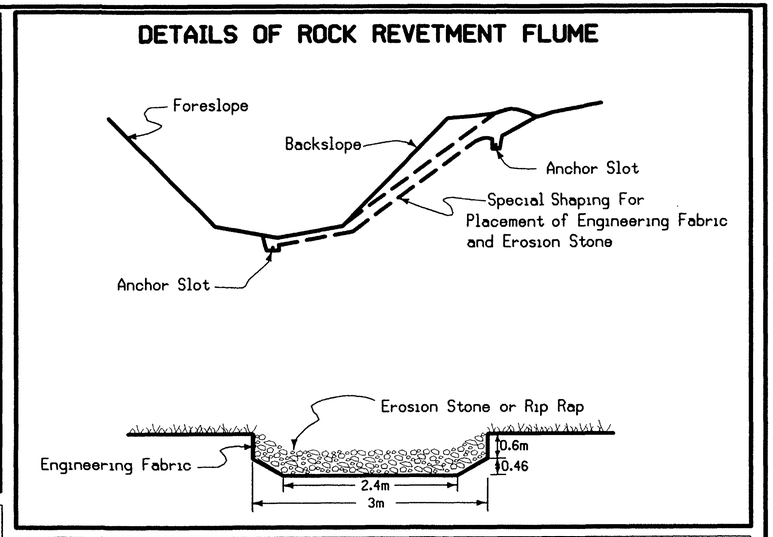
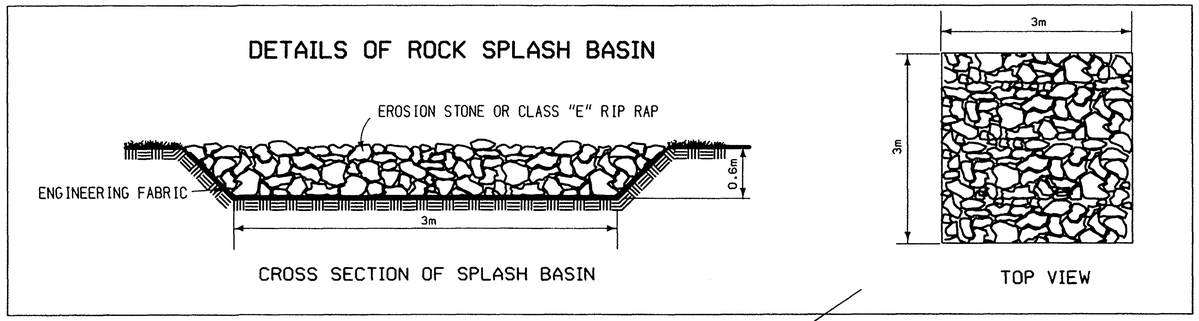
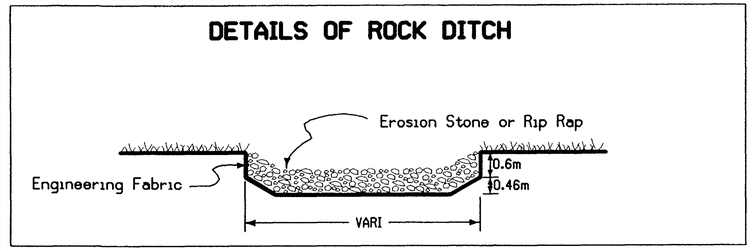
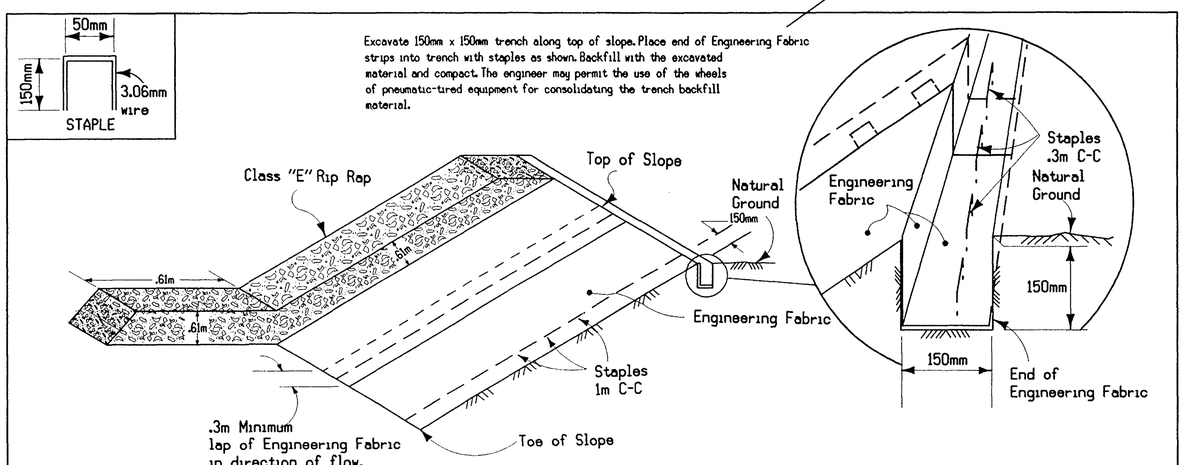
12-198


Original Design Ditch Elevation
0.3 m Min. Excavation
5.0 m Min.
Excavation
0.6m ± 0.2m
0.6m ± 0.2m
Eroded Gully
2.0 m
Typical Section Excavation
Rock Ditch Check
5.0 m Min.
Flow Line Reconstructed Ditch
Typical Section at Ditch Check
4305
09-27-94
Dimensions in mm unless noted.
① Special ditch control wood excelsior mat.
② Engineering fabric
③ 75 mm Maximum.
④ Compacted Backfill
LOCATION
Rock Ditch Check
Reconstructed Flow Line
Flow
1.2m ± 0.2m
Eroded Gully
Longitudinal Section at Center Line of Ditch
REVETMENT
ROCK DITCH CHECK


DETAILS OF ROCK REVETMENT FLUME
Foreslope
Backslope
Anchor Slot
Special Shaping For Placement of Engineering Fabric and Erosion Stone
Anchor Slot
Erosion Stone or Rip Rap
Engineering Fabric
0.6m
0.46
2.4m
3m


DETAILS OF ROCK SPLASH BASIN
EROSION STONE OR CLASS "E" RIP RAP
ENGINEERING FABRIC
0.6m
3m
CROSS SECTION OF SPLASH BASIN
3m
3m
TOP VIEW


DETAILS OF ROCK DITCH
Erosion Stone or Rip Rap
Engineering Fabric
0.6m
0.46m
VARI


50mm
150mm
3.06mm wire
STAPLE
Excavate 150mm x 150mm trench along top of slope. Place end of Engineering Fabric strips into trench with staples as shown. Backfill with the excavated material and compact. The engineer may permit the use of the wheels of pneumatic-tired equipment for consolidating the trench backfill material.
Class "E" Rip Rap
Top of Slope
Natural Ground
150mm
.61m
.61m
.61m
Engineering Fabric
Staples 1m C-C
.3m Minimum lap of Engineering Fabric in direction of flow.
Toe of Slope
Staples .3m C-C
Natural Ground
Engineering Fabric
150mm
150mm
End of Engineering Fabric
DETAILS OF ROCK SLOPE PROTECTION

As Built Project Quantities

Prop. Line	Item Code	Item Description	Units	Quantity Placed
900	2102--100100	CL 10 EXCAVATION RDWY+BORROW	M3	22,606.00
910	2102--230100	SPECIAL BACKFILL MAT'L	MG	17,650.16
920	2105--100100	TOPSOIL STRIP SALVAGE+SPREAD	M3	0
930	2105--101000	TOPSOIL SPREAD	M3	11,000.00
940	2111--100000	GRANULAR SUBBASE	M2	202,211.03
950	2115--100000	MODIFIED SUBBASE	M3	2,737.33
960	2121--100100	GRANULAR SHLD TYPE A	MG	38,843.98
970	2122--200260	PAVED SHLD PCC 260 MM	M2	5,613.68
980	2122--220000	PAVED SHLD, PCC (PANEL FOR RF-38/RF-39)	M2	82.52
990	2123--100200	EARTH SHLD CONSTRUCTION	M	43,730.20
1000	2301--104260	STD/S-F PCC PAV'T QM-C CL 3I 260 MM	M2	180,734.11
1010	2301--400150	MEDIAN PCC 150 MM	M2	39.93
1020	2301--500000	BRIDGE APPROACH SECTION	M2	2,492.23
1030	2301--600100	PCC PAV'T SAMPLE	LS	1
1040	2301--990000	QUALITY MANAGEMENT - CONCRETE	M3	41,592.43
1050	2312--110100	GRANULAR SURF ON RD CL A CR STONE	MG	3,098.77
1060	2315--110100	DRIVEWAY SURF CL A CR STONE	MG	374.37
1070	2399--100110	DETOUR PAV'T	M2	7,408.84
1080	2402--220000	EXCAVATION CL 20-RDWY PIPE CULV	M3	280
1090	2416--100600	CONC 100D RDWY PIPE CULV 600 MM	M	24.92
1100	2416--100750	CONC 100D RDWY PIPE CULV 750 MM	M	13.45
1110	2416--240600	CONC PIPE APRON 600 MM	EACH	4
1120	2416--240750	CONC PIPE APRON 750 MM	EACH	2
1130	2416--320600	PIPE APRON GUARD (RF-26) 600 MM	EACH	0
1140	2417--060375	CMP RDWY CULV 375 MM	M	28
1150	2417--340300	METAL APRON 300 MM	EACH	5
1160	2417--430375	BEVELED PIPE+GUARD 375 MM	EACH	2
1170	2417--450525	CORR METAL SLOT DRAIN 525MM/150MM GRATE	M	41.5
1180	2422--100450	UNCL ENT PIPE CULV 450 MM	M	18.3
1190	2422--300450	UNCL APRON 450 MM	EACH	2
1200	2502--250100	LONGITUDINAL SUBDRAIN (SHLD) 100 MM	M	32,351.00
1210	2502--300195	SUBDRAIN OUTLET RF-19E	EACH	464
1220	2503--020300	CORR METAL STORM SWR 300 MM	M	127.3
1230	2503--500380	BRIDGE END DRAIN RF-38	EACH	5
1240	2505--000110	RMV G'DRAIL	M	138.3
1250	2505--001000	INSTALL OF G'RAIL	M	628.652
1260	2505--100530	G'RAIL END ANCHOR BEAM RE-53	EACH	6
1270	2505--100690	G'RAIL END ANCHOR BEAM RE-69	EACH	18
1280	2505--100761	G'RAIL TERMINAL, BEAM, RE-76	EACH	6
1290	2507--001500	REVETMENT CL E	MG	654.798
1300	2507--002000	EROSION STONE	MG	398.746
1310	2507--004000	ENGINEERING FABRIC	M2	1,846.69
1320	2510--001000	RMVL OF PAV'T	M2	24,921.38
1330	2518--000100	SAFETY CLOSURE	EACH	41
1340	2518--010310	PERMANENT RD CLOSURE (RURAL) RE-3A	M	12
1350	2519--201800	CHAIN LINK FENCE 1.8 M (RC-10)	M	128
1360	2520--100100	FIELD LABORATORY	EACH	1
1370	2524--110000	TYPE A SIGN SHEET ALUM	M2	13.42
1380	2524--201010	WOOD POST-TYPE A OR B SIGN, 100 X 100 MM	M	85.97
1390	2525--002000	SILT FENCE	M	330.2
1400	2525--003000	SILT FENCE-DITCH CHECK	M	1,221.00
1410	2525--008010	CLEANOUT OF SILT FENCE	M	0
1420	2525--008020	CLEANOUT OF SILT FENCE - DITCH CHECK	M	549.9
1430	2526--001000	CONSTRUCTION SURVEY	LS	1
1440	2527--101000	PAINTED PAV'T MARK	M	112,174.97
1450	2527--103000	REMOVABLE TAPE MARK	M	2,367.00
1460	2527--106000	TEMPORARY DELINEATOR	EACH	0
1470	2527--107000	RAISED PAV'T MARKER	EACH	417
1480	2527--108000	PAV'T MARK RMVD	M	54,200.75
1490	2528--101000	TRAFFIC CONTROL	LS	1
1500	2528--104000	TEMPORARY TRAFFIC SIGNAL	EACH	0
1510	2528--105000	TEMPORARY FLOODLIGHT LUMINAIRE	EACH	12
1520	2528--107000	FLAGGER	DAY	77.5
1530	2533--100000	MOBILIZATION	LS	0
1540	2601--103000	STABILIZE CROP SEED+FERTILIZE	HA	55.193
1550	2601--103100	STABILIZE CROP SEED+FERTILIZE (URBAN)	HA	0
1560	2601--104100	FERTILIZE	HA	0
1570	2601--104200	MULCH	HA	0
1580	2601--108140	SLOPE PROTECTION WOOD EXCEL MAT RC-14	M2	1,690.40
1590	2601--109000	WATER	KL	68.12
1600	2601--110000	MOW	HA	0

		Contract Modificatons:		
1885	2105--102000	TOPSOIL STRIP+STKP	M3	11,000.00
1900	2102--220100	SELECTED BACKFILL MAT'L	M3	5,142.00
1905	2599--999903	('CUBIC METER' ITEM) Over Depth Excavation	M3	1,435.00
1910	2533--100000	MOBILIZATION	LS	1
1915	2599--999916	('LUMP SUM' ITEM) Turn Lane and Crossover Relocation Costs	LS	1
1920	2599--999917	('UNIT' ITEM) Replace Bridge End Posts	UNIT	3
1925	2506--100000	FLOWABLE MORTAR	M3	5.35
1930	2599--999902	('SQUARE METER' ITEM) Concrete Design Mixture Adjustment (QM-C)	M2	148,970.29
1935	2599--999916	('LUMP SUM' ITEM) Adjust Stringline	LS	1
1940	2599--999916	('LUMP SUM' ITEM) Remobilization and Additional Paving Costs	LS	1
1950	2515--100150	PCC DRIVEWAY 150 MM	M2	262.92
1955	2599--999916	('LUMP SUM' ITEM) Temporary HMA Paving	LS	1
1960	2599--999916	('LUMP SUM' ITEM) Relocate Speed Limit Signs	LS	1
1970	2527--101020	PAINTED PAV'T MARK, SOLVENT-BASED	M	2,846.90
1975	2527--104020	PAINTED SYMBOL+LEGEND, SOLVENT-BASED	EACH	20
1980	2527--108000	PAV'T MARK RMVD	M	1,382.50
1985	2528--101000	TRAFFIC CONTROL	LS	1
1990	2599--999916	('LUMP SUM' ITEM) Remobilizing Paving Crew	LS	1
1995	2599--999916	('LUMP SUM' ITEM) Raise RA-62 Intake	LS	1
2000	2527--101020	PAINTED PAV'T MARK, SOLVENT-BASED	M	13,442.25
2015	2599--999915	('EACH' ITEM) Price Adjustment for Trainee Reimbursement	EACH	-1
2020	2599--999916	('LUMP SUM' ITEM) Pavement Thickness Incentive (Mainline Only)	LS	1
2090	2599--999915	('EACH' ITEM) Asphalt Wedge Removal at Crossovers	EACH	9
2095	2599--999915	('EACH' ITEM) Clean Out Silt Basin	EACH	11
2100	2599--999915	('EACH' ITEM) Drill and Tie Pipe Joints	EACH	6
2105	2599--999916	('LUMP SUM' ITEM) Standpipe, 600mm, CMP	LS	1
2110	2599--999901	('METER' ITEM) Removal of Silt Fence - Ditch Checks	M	579.7
2115	2599--999902	('SQUARE METER' ITEM)	M2	730.666
2120	2213--100300	EXCAVATION CL 13-WIDEN	M3	6,199.04
2125	2416--281000	RMV+REINSTALL CONC APRON </= TO 1000 MM	EACH	2
2130	2417--161000	RMV+REINSTALL CP CULV </= TO 1000 MM	M	4.2
2135	2525--005000	SILT BASIN	EACH	3
2140	6200--500171	PRICE ADJ/FUEL ADJUSTMENT Fuel Adjustment	EACH	-1,475.24
2280	2599--999916	('LUMP SUM' ITEM) Removal of Excess Material	LS	1
2285	6200--230120	PRICE ADJ/PCC PAV'T THICKNESS,INCENTIVE Price Adj/PCC Pav't Thickness, Incentiv	M2	36,422.05
2290	6200--230110	PRICE ADJ/PCC PAV'T THICKNESS,DEFICIENT Pavement Thickness Disincentive	M2	-5,916.45
2300	2599--999916	('LUMP SUM' ITEM) Traffic Control	LS	1
2350	6200--500031	PRICE ADJ/AIR CONTENT TEST DEVIATION Adjustment for Non-Complying Air Content	EACH	-2,905.87
2355	2123--100200	EARTH SHLD CONSTRUCTION	M	11,225.00
2360	6200--700041	PRICE ADJ/INCENTIVE-PCC PAV'T SMOOTHNESS	EACH	1

Contract Modification Reference Information

Item No.	Item Code	Item Description
1900	2102-220100	Tabulation 103-3 on Plan Sheet C.05 called for Special Backfill from Sta. Sta. 15+40 to 23+50. The grading subcontractor requested to place 0.60M of Select Backfill in Lieu of 0.30m of Special Backfill. This would make the pavement sub grade uniform since Selected Backfill was used for the road way on each side of this area. Item includes 5,142.00 M3.
1920	2599-999917	The end posts on the exiting bridge at Sta. 134+66 were not designed for the attachment of formed steel thrie beam guardrail. Three corners of the bridge are to be retrofitted with formed steel thrie beam guardrail
2105	2599-999916	To control silt from running through a crossroad pipe and depositing onto Fawn Creek golf course, a retaining structure was manufactured to fit in the inlet apron of the crossroad pipe to slow the flow of runoff and allow the silt to settle on the right-of-way before entering the pipe.
2130	2417-161000	Sections of the exiting pipe culverts at Sta. 184+09.8 & 1173+82.4 needed to be removed and relayed before they could be extended to remove large gaps that developed in the existing installation near the edge of the foreslope.
2355	2123-100200	An Item for flattening of the median foreslopes and grading the inside median shoulder from 10ft to 6ft along the existing lanes were not included on the paving plans from Sta. 24+00 - 183+66.

ESTIMATED PROJECT QUANTITIES

100-1A
07-15-97

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.
1	2102--100100	CLASS 10 EXCAVATION, ROADWAY AND BORROW	M3	22606	
2	2102--230100	SPECIAL BACKFILL MATERIAL	MG	19251	
3	2105--100100	TOPSOIL, STRIP, SALVAGE AND SPREAD	M3	13000	
4	2105--101000	TOPSOIL, SPREAD	M3	11000	
5	2111--100000	GRANULAR SUBBASE	M2	203243	
6	2115--100000	MODIFIED SUBBASE	M3	1534	
7	2121--100100	GRANULAR SHOULDERS, TYPE A	MG	3693	
8	2122--200260	PAVED SHOULDER, PORTLAND CEMENT CONCRETE 260 MM	M2	4488	
9	2122--220000	PAVED SHOULDER, PORTLAND CEMENT CONCRETE (PAVED SHOULDER PANEL FOR RF-38 OR RF-39 BRIDGE END DRAIN)	M2	89.3	
10	2123--100200	EARTH SHOULDER CONSTRUCTION	M	42436	
11	2301--104260	STANDARD OR SLIP-FORM PORTLAND CEMENT CONCRETE PAVEMENT QM-C, CLASS 3I DURABILITY 260 MM	M2	178828	
12	2301--400150	MEDIAN, PORTLAND CEMENT CONCRETE 150 MM	M2	42	
13	2301--500000	BRIDGE APPROACH SECTION	M2	2682.2	
14	2301--600100	PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES	LS	1	
15	2301--990000	QUALITY MANAGEMENT - CONCRETE	M3	16495	
16	2312--110100	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	MG	2430	
17	2315--110100	DRIVEWAY SURFACING, CLASS A CRUSHED STONE	MG	507	
18	2399--100110	DETOUR PAVEMENT	M2	5629	
19	2402--220000	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	M3	436	
20	2416--100600	CONCRETE 100D ROADWAY PIPE CULVERT 600 MM DIA	M	65.84	
21	2416--100750	CONCRETE 100D ROADWAY PIPE CULVERT 750 MM DIA	M	15.85	
22	2416--240600	CONCRETE PIPE APRONS 600 MM DIA	EACH	6	
23	2416--240750	CONCRETE PIPE APRONS 750 MM DIA	EACH	2	
24	2416--320600	PIPE APRON GUARD (RF-26) 600 MM	EACH	2	
25	2417--060375	CORRUGATED METAL ROADWAY PIPE CULVERT 375 MM DIA	M	28	
26	2417--340300	METAL APRONS 300 MM DIA	EACH	5	
27	2417--430375	BEVELED PIPE AND GUARD, 375 MM	EACH	2	
28	2417--450525	CORRUGATED METAL SLOTTED DRAIN 525 MM WITH 150 MM GRATE	M	41.5	
29	2422--100450	UNCLASSIFIED ENTRANCE PIPE CULVERT 450 MM DIA	M	18.30	
30	2422--300450	UNCLASSIFIED APRONS 450 MM DIA	EACH	2	
31	2502--250100	LONGITUDINAL SUBDRAIN (SHOULDER) 100 MM DIA	M	38981	
32	2502--300195	SUBDRAIN OUTLET, RF-19E	EACH	494	
33	2503--020300	CORRUGATED METAL STORM SEWER PIPE 300 MM DIA	M	127.3	
34	2503--500380	BRIDGE END DRAIN, RF-38	EACH	5	
35	2505--000110	REMOVAL OF GUARDRAIL	M	71	
36	2505--001800	INSTALLATION OF GUARDRAIL	M	621	
37	2505--100530	GUARDRAIL, END ANCHORAGE, BEAM, RE-53	EACH	6	
38	2505--100690	GUARDRAIL, END ANCHORAGE, BEAM, RE-69	EACH	18	
39	2505--100761	GUARDRAIL TERMINAL, BEAM, RE-76	EACH	6	
40	2506--110300	OBJECT MARKER, TYPE 3	EACH	10	
41	2507--001500	REVETMENT, CLASS E	MG	50	
42	2507--002000	EROSION STONE	MG	50	
43	2507--004000	ENGINEERING FABRIC	M2	100	
44	2510--001000	REMOVAL OF PAVEMENT	M2	23843	
45	2518--000100	SAFETY CLOSURE	EACH	37	
46	2518--010310	ROAD CLOSURE (RURAL), PERMANENT, RE-3A	M	12	
47	2519--201800	CHAIN LINK FENCE, 1.8 M HEIGHT (RC-10)	M	200	
48	2520--100100	FIELD LABORATORY	EACH	1	
49	2524--110000	TYPE A SIGNS, SHEET ALUMINUM	M2	13.42	
50	2524--201010	WOOD POSTS FOR TYPE A OR B SIGNS, 100 X 100 MM	M	38.7	
51	2525--002000	SILT FENCE	M	2689	
52	2525--003000	SILT FENCE FOR DITCH CHECKS	M	188	
53	2525--008010	CLEANOUT OF SILT FENCE	M	6719	
54	2525--008020	CLEANOUT OF SILT FENCE FOR DITCH CHECK	M	1558	
55	2526--001000	CONSTRUCTION SURVEY	LS	1	
56	2527--101000	PAINTED PAVEMENT MARKING	M	82688	
57	2527--103000	REMOVABLE TAPE MARKING	M	9045	
58	2527--106000	TEMPORARY DELINEATORS	EACH	134	
59	2527--107000	RAISED PAVEMENT MARKERS	EACH	180	
60	2527--108000	PAVEMENT MARKINGS REMOVED	M	16612	
61	2528--101000	TRAFFIC CONTROL	LS	1	
62	2528--104000	TEMPORARY TRAFFIC SIGNALS	EACH	1	
63	2528--105000	TEMPORARY FLOODLIGHTING LUMINAIRE	EACH	12	
64	2528--107000	FLAGGERS	DAY	80	
65	2533--100000	MOBILIZATION	LS	1	
66	2601--103000	STABILIZING CROP SEEDING AND FERTILIZING	HA	38	
67	2601--103100	STABILIZING CROP SEEDING AND FERTILIZING (URBAN)	HA	2	
68	2601--104100	FERTILIZING	HA	15	
69	2601--104200	MULCHING	HA	15	
70	2601--108140	SLOPE PROTECTION, WOOD EXCELSIOR MAT (RC-14)	M2	2000	
71	2601--109000	WATERING	KL	40	
72	2601--110000	MOWING	HA	114	

REFERENCE INFORMATION

100-4B
07-15-97

Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.

ITEM NO.	ITEM CODE	DESCRIPTION
1	2102--100100	ITEM INCLUDES 5,817 CU. M. OF BORROW FOR STAGE I, 3,605 CU. M. OF WASTE FOR STAGE II, AND 1,150 CU. M. OF WASTE FOR STAGE III. BORROW MATERIAL IS AVAILABLE IN EITHER BORROW SITE 'A' OR BORROW SITE 'B'. WASTE MATERIAL CAN BE UTILIZED AS EARTH SHOULDER FILL. OVERHAUL WILL NOT BE MEASURED OR PAID FOR, BUT SHALL BE CONSIDERED INCIDENTAL TO ROADWAY EXCAVATION ON THIS PROJECT.
2	2102--230100	ITEM INCLUDES 6,076 MG FROM TAB. X-51 FROM SHEET C.15 AND 13,175 FROM TAB. 103-3 SHEET C.05.
3	2105--100100	SEE R.01 AND R.02 FOR LOCATIONS AND DETAILS.
4	2105--101000	
5	2111--100000	HAULING EQUIPMENT AND OTHER TRAFFIC WILL NOT BE ALLOWED ON THE COMPLETED GRANULAR SUBBASE. SEE TAB. X-50, SHEET C.15 FOR LOCATION AND DETAILS.
6	2115--100000	SEE TAB. X-50, SHEET C.15 FOR LOCATION AND DETAILS.
7	2121--100100	SEE TYPICAL 7110, SHEET B.06 FOR LOCATION AND DETAILS.
8	2122--200260	SEE TYPICAL 7146, SHEET B.06 AND TAB. 112-9, SHEET C.13 FOR LOCATION AND DETAILS. SEE RH-41D FOR RUMBLE STRIP LAYOUT AND JOINTING INFORMATION.
9	2122--220000	SEE TAB. 104-8, SHEET C.05 FOR LOCATIONS AND DETAILS.
10	2123--100200	INCLUDES 39,539 M AS PER TYPICAL 7110 ON SHEET B.06 AND 2,897 AS PER TYPICAL 7126 AND 7146 SHEET B.06. ITEM WILL INCLUDE 41,249 CU. M. OF EARTH SHOULDER FILL AS PER TYPICAL 7110, 620 CU. M. OF EARTH SHOULDER FILL AS PER TYPICAL 7126 AND 1,089 CU M. OF EARTH SHOULDER FILL AS PER TYPICAL 7126 SHEET B.06. EARTH SHOULDER FILL MATERIAL SHALL BE INCIDENTAL TO THIS ITEM. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR EARTH SHOULDER FILL MATERIAL.
11	2301--104260	THE CONTRACTOR SHALL USE 'CD' JOINTS 6:1 SKEW AT 6 M SPACING. SEE TAB. X-50, SHEET C.15 FOR LOCATIONS AND DETAILS.
12	2301--400150	ITEM IS FOR THE PAVING OF THE STOP ISLANDS. SEE THE INTERSECTION SHEETS FOR LOCATIONS AND DETAILS.
13	2301--500000	SEE TAB. 112-6, SHEET C.13 FOR LOCATION AND DETAILS.
16	2312--110100	ITEM IS FOR THE RECONSTRUCTION OF GRANULAR SIDE ROADS NEAR THE NEW MAINLINE PAVING. EACH SIDEROAD WILL REQUIRE AN ESTIMATED 138 MG OF GRANULAR MATERIAL TO MATCH NEW MAINLINE GRADE. ITEM IS ALSO FOR THE CONSTRUCTION OF GRANULAR MEDIANS WHICH WILL TOTAL 1,602 MG.
17	2315--110100	ITEM IS FOR THE CONSTRUCTION OF DRIVE AT STA. 18+14. SEE TAB. 102-1, SHEET C.04 FOR LOCATION AND DETAILS. ITEM IS ALSO FOR THE RECONSTRUCTION OF ENTRANCES TO MEET NEW MAINLINE PAVING. EACH DRIVEWAY WILL REQUIRE AN ESTIMATED 35 MG OF GRANULAR MATERIAL TO MATCH NEW MAINLINE GRADE.
18	2399--100110	IT SHALL BE THE CONTRACTOR'S OPTION TO USE CLASS "A" P.C. CONCRETE, TYPE "B" A.C. CONCRETE BASE (CLASS 1), AN APPROVED COMMERCIAL MIX, OR A MIX OF HIGHER QUALITY FOR THE PAVED DETOUR SURFACE. THE PAVEMENT THICKNESS SHALL BE 200 MM FOR P.C. CONCRETE AND 250 MM FOR A.C. CONCRETE. A. THE AREA OF THE DETOUR PAVEMENT CONSTRUCTED OF THE TYPE, CLASS AND THICKNESS SPECIFIED WILL BE DETERMINED FROM THE DIMENSIONS SHOWN IN THE CONTRACT DOCUMENTS. SEE TAB. X-51, SHEET C.15, SHEET U.07, J SHEETS AND F SHEETS FOR LOCATIONS AND DETAILS. B. FOR THE AREA OF THE DETOUR PAVEMENT AS MEASURED ABOVE, THE CONTRACTOR WILL BE PAID THE CONTRACT PRICE PER SQUARE METER. THESE PAYMENTS SHALL BE FULL COMPENSATION FOR FURNISHING ALL TOOLS, MATERIALS, LABOR, AND EQUIPMENT NECESSARY FOR CONSTRUCTION OF THE PAVEMENT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. C. REMOVAL SHALL BE PAID FOR AS PAVEMENT REMOVAL.
19	2402--220000	SEE TAB. 104-3, SHEET C.05 FOR LOCATION AND DETAILS.
20	2416--100600	
21	2416--100750	
22	2416--240600	
23	2416--240750	
24	2416--320600	
26	2417--340300	SEE TAB. 104-8, SHEET C.05 FOR LOCATION AND DETAILS.
25	2417--060375	ITEMS ARE FOR MEDIAN CROSSOVER. SEE SHEETS U.07 AND U.08 FOR LOCATIONS AND DETAILS.
27	2417--430375	
28	2417--450525	
29	2422--100450	SEE TAB. 102-1, SHEET C.04 FOR LOCATION AND DETAILS.
30	2422--300450	

15-198

REFERENCE INFORMATION

100-4B
07-15-97

Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.

ITEM NO.	ITEM CODE	DESCRIPTION
31	2502--250100	SEE TAB. 104-9, SHEETS C.06-C.12 FOR LOCATIONS AND DETAILS. INCLUDES 14,677 MG OF POROUS BACKFILL WHICH IS INCIDENTAL
32	2502--300195	TO THIS BID ITEM. THE EXCAVATION MATERIAL SHALL BE REMOVED AND DISPOSED OF AS PER STANDARD NOTE 213-1, OR USED AS EARTH SHOULDER FILL, OR WASTED ON FORESLOPES AS DIRECTED BY THE ENGINEER.
33	2503--020300	SEE TAB. 104-8, SHEET C.05 FOR LOCATION AND DETAILS.
34	2503--500380	
35	2505--000110	SEE TAB. 110-7A, SHEET C.13 FOR LOCATION AND DETAILS. ITEM WILL INCLUDE REMOVAL OF GUARDRAIL POSTS AND END ANCHORAGES NECESSARY TO REMOVE GUARDRAIL AND SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM.
36	2505--001000	SEE TAB. 108-8A AND TAB. 108-19, SHEET C.21 FOR LOCATION AND DETAILS. ITEM INCLUDES 103 M AS PER TAB. 108-8A AND 518 M AS PER TAB. 108-19.
37	2505--100530	SEE TAB. 108-8A AND TAB. 108-19, SHEET C.21 FOR LOCATION AND DETAILS.
38	2505--100690	
39	2505--100761	
~~40~~	~~2505--110300~~	~~SEE TAB. 108-17, SHEET C.13 FOR LOCATION AND DETAILS.~~
41	2507--001500	FOR CONSTRUCTION OF ROCK DITCHES, FLUMES, CHECKS OR SLOPE PROTECTION AT VARIOUS LOCATIONS AS DIRECTED BY THE ENGINEER. THE EXCAVATION AND SHAPING FOR THE UNIFORM PLACEMENT OF THE RIP RAP SHALL BE INCIDENTAL TO THIS WORK. REFER TO DETAILS ON SHEET B.10.
42	2507--002000	FOR CONSTRUCTION OF ROCK DITCHES, FLUMES, CHECKS OR SLOPE PROTECTION AT VARIOUS LOCATIONS AS DIRECTED BY THE ENGINEER. MATERIALS SHALL BE NOMINAL 150 MM (-80MM+100MM) WELL GRADED STONE AS APPROVED BY THE ENGINEER. ALL NECESSARY EXCAVATION AND SHAPING TO PROVIDE A UNIFORM FLOWLINE IN THE CENTER OF THE DITCH SHALL BE INCIDENTAL TO THIS WORK. NO COMPENSATION WILL BE ALLOWED. REFER TO DETAILS ON SHEET B.10.
43	2507--004000	ENGINEERING FABRIC SHALL BE MATERIAL AS SPECIFIED FOR EMBANKMENT EROSION CONTROL, ARTICLE 4196.01C. MATERIAL SHALL BE MEASURED IN SQ. M. OF ACTUAL AREA COVERED. REFER TO DETAILS ON SHEET B.10.
44	2510--001000	ITEM IS FOR REMOVAL OF PAVEMENT AS DESCRIBED IN TAB. 110-1, SHEET C.13 (20863 SQ. M.) AND TAB. X-51, SHEET C.15 (2980 SQ. M.) FOR PAVEMENT TYPE INFORMATION SEE TAB. 102-5, SHEET C.04. REMOVED PAVEMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF AS PER STANDARD NOTATION NO. 213-1.
45	2518--000100	SEE TAB. 108-13A, SHEET C.13 FOR LOCATION AND DETAILS.
46	2518--010310	SEE TAB. 102-4, SHEET C.04 FOR LOCATION AND DETAILS.
47	2519--201800	ITEM IS FOR THE INSTALLATION OF CHAIN LINK FENCE IN GAPS LEFT BY PREVIOUS PROJECT. PLACEMENT SHALL BE DIRECTED BY THE ENGINEER.
49	2524--110000	SEE TABULATION X-60 ON SHEET C.04 FOR LOCATIONS AND DETAILS.
50	2524--201010	
51	2525--002000	SEE TAB. 100-17, SHEET C.04 FOR LOCATION AND DETAILS.
53	2525--008010	
52	2525--003000	SEE TAB. 100-18, SHEET C.04 FOR LOCATION AND DETAILS.
54	2525--008020	
56	2527--101000	SEE TAB. 108-22, SHEETS C.16-C.20 FOR LOCATION AND DETAILS.
57	2527--103000	
60	2527--108000	
58	2527--106000	ITEM IS FOR THE INSTALLATION AND REMOVAL OF TEMPORARY DELINEATORS AS PROPOSED BY THE TRAFFIC CONTROL SHEETS J.01-J.08.
59	2527--107000	SEE TRAFFIC CONTROL SHEET J.09 FOR LOCATIONS AND DETAILS.
61	2528--101000	ITEM IS FOR ALL TOOLS, MATERIALS, LABOR, AND EQUIPMENT NECESSARY FOR TRAFFIC CONTROL AS DESCRIBED ON SHEETS J.01-J.08. ITEM DOES NOT INCLUDE PAVEMENT MARKINGS, REMOVABLE TAPE MARKINGS, REMOVAL OF PAVEMENT MARKINGS, TEMPORARY FLOODLIGHT LUMINAIRE AND TEMPORARY DELINEATORS. THESE ITEMS ARE PAID FOR SEPARATELY AND ARE NOT INCLUDED IN THIS BID ITEM.
62	2528--104000	ITEM IS FOR A PROPOSED SIGNALIZED HAUL ROAD CROSSING AT STA. 1073+50, IOWA 1 RAMP 'A'.
63	2528--105000	SEE TAB. 108-27, SHEET C.13 FOR LOCATION AND DETAILS. TWO LIGHTS ARE NOT TO BE REMOVED BY THIS PROJECT.

REFERENCE INFORMATION

100-4B
07-15-97

Data listed below is for informational purposes only and shall not constitute a basis for any extra work orders.

ITEM NO.	ITEM CODE	DESCRIPTION
66	2601--103000	INCLUDED FOR ALL RURAL AREAS OF THE RIGHT OF WAY AS DESIGNATED BY THE ENGINEER. SEED MIXTURE (RURAL) SPRING--MARCH 1 TO MAY 20 OATS 72 KG PER HECTARE WINTER RYE 63 KG PER HECTARE RED CLOVER 6 KG PER HECTARE TIMOTHY 6 KG PER HECTARE SUMMER--MAY 21 TO JULY 20 OATS 108 KG PER HECTARE ANNUAL RYEGRASS 39 KG PER HECTARE RED CLOVER 6 KG PER HECTARE TIMOTHY 6 KG PER HECTARE FALL--JULY 21 TO SEPTEMBER 30 OATS 72 KG PER HECTARE WINTER RYE 125 KG PER HECTARE RED CLOVER 6 KG PER HECTARE TIMOTHY 6 KG PER HECTARE FERTILIZER: RATE--500 KG OF 13-13-13 OR EQUIVALENT CHEMICALLY COMBINED COMMERCIAL FERTILIZER PER HECTARE.
67	2601--103100	INCLUDED FOR ALL URBAN AREAS OF THE RIGHT OF WAY AS DESIGNATED BY THE ENGINEER. SEED MIXTURE (URBAN) SPRING--MARCH 1 TO MAY 20 ANNUAL RYEGRASS 28 KG PER HECTARE BLUEGRASS, KY (PARK) 17 KG PER HECTARE PERENNIAL RYEGRASS 17 KG PER HECTARE SUMMER--MAY 21 TO JULY 20 ANNUAL RYEGRASS 51 KG PER HECTARE BLUEGRASS, KY (PARK) 17 KG PER HECTARE PERENNIAL RYEGRASS 17 KG PER HECTARE FALL--JULY 21 TO SEPTEMBER 30 ANNUAL RYEGRASS 28 KG PER HECTARE BLUEGRASS, KY (PARK) 17 KG PER HECTARE PERENNIAL RYEGRASS 17 KG PER HECTARE FERTILIZER: RATE--500 KG OF 13-13-13 OR EQUIVALENT CHEMICALLY COMBINED COMMERCIAL FERTILIZER PER HECTARE.
68	2601--104100	FERTILIZER: RATE--500 KG OF 13-13-13 OR EQUIVALENT CHEMICALLY COMBINED COMMERCIAL FERTILIZER PER HECTARE.
69	2601--104200	AREAS DISTURBED BUT NOT SEEDED WITH STABILIZING CROP BY SEPTEMBER 30 SHALL BE SCARIFIED TO A 75 MM DEPTH, FERTILIZED AND MULCHED. ALL MULCH TO BE CONSOLIDATED INTO THE SOIL WITH THE MULCH STABILIZER. MULCH: RATE--3.5 MEGAGRAMS OF DRY CEREAL STRAW PER HECTARE.
70	2601--108140	LOCATIONS TO BE DESIGNATED BY THE ENGINEER. SHAPING OF ERODED SLOPES WILL BE INCIDENTAL TO THIS ITEM. REFER TO STANDARD ROAD PLAN RC-14.
71	2601--109000	INCLUDES ONE WATERING OF THE SPECIAL DITCH CONTROL AND SLOPE PROTECTION. RATE: 20 L PER SQ. M. REFER TO ARTICLE 2601.19 FOR SCHEDULE AND PROCEDURE ONLY. ADDITIONAL WATERINGS (3) MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER SUBJECT TO LOCAL WEATHER CONDITIONS AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE.
72	2601--110000	ALL AREAS DISTURBED AND SEEDED TO STABILIZED CROP DURING GRADING AND PAVING SHALL BE MOWED IN OCTOBER OR NOVEMBER PRIOR TO FREEZING CONDITIONS.

09-27-94 203-1

Plan and profile sheets included in the project are for the purpose of alignment, location and specific directions for the work to be performed under this contract. Irrelevant data on these sheets is not to be considered a part of this contract.

10-27-98 203-2

During construction of this project, the contractor will be required to coordinate his operations with those of other contractors working within the same area. Other work in progress during the same period of the time will include construction of the following projects:

Project	Type of Work
NHSX-151-3(111)--3H-57	RCB Culverts
NHS-151-4(65)--19-53	Wapsi River Bridge
NHS-151-4(66)--19-53	Ia. 1 Interchange Bridge
NHSX-151-4(102)--3H-57	Hwy. 151 Grading-West
NHS-151-4(67)--34-53	Ia. 64 Interchange Bridge
NHSX-151-4(64)--3H-53	RCB Culverts
NHSX-151-4(63)--3H-53	Hwy. 151 Grading-East

The contractor shall submit to the Engineer a schedule for performing work items. Some items cannot be completed until prior work by other contractors has been completed. The contractor's schedule must therefore be coordinated with the schedules of others by the Engineer to obtain a schedule that is mutually acceptable. The contractor shall then perform the work as to conform to the accepted schedule.

07-15-97 203-4

The contractor is encouraged to take full advantage of specification 1105.15 - Value Engineering Incentive Proposal. A pamphlet and conceptual proposal form will be available at the preconstruction conference.

09-27-94 204-2

All holes resulting from operations of the contractor, including removal of guardrail posts, fence posts, utility poles, or foundation studies, shall be filled and consolidated to finished grade as directed by the engineer to prevent future settlement. The voids shall be filled as soon as practical - preferably the day created and not later than the following day. Any portion of the right-of-way or project limits (including borrow areas and operation sites) disturbed by any such operations shall be restored to an acceptable condition. This operation shall be considered incidental to other bid items in project.

09-27-94 204-4

All guardrail materials that are removed and not reused on this project shall become the property of the contractor. Any material to be used on this project that is damaged due to the carelessness of the contractor shall be replaced at the contractor's expense without cost to the State of Iowa.

09-27-94 213-1

It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project. No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans or approved by the engineer.

09-27-94 213-2

The contractor's attention is directed to the following consideration in regard to removal and replacement of topsoil in borrow areas:

Quantities estimated for topsoil are calculated on the basis of a uniform removal of topsoil to a depth of 0.3 meters. The material removed is to be spread uniformly to a minimum depth of 0.2 meters over the borrow area upon completion of excavation work.

09-27-94 213-3

All borrow areas, stockpile areas, haul roads and areas used for equipment on this project will require subsoil tillage to an average depth of 0.4 meters to 0.5 meters prior to placement of topsoil and/or stabilizing crop seeding. Such tillage shall be accomplished on maximum of one meter centers and at right angles to the finished slope of the borrow.

Equipment used to accomplish the tillage shall be equipped with an arrowhead-type shoe so as to provide lateral displacement and limit the movement of the subsoil to the surface. It shall be approved by the Engineer for the use intended. This work will be considered incidental to other work on the project and no payment will be allowed.

It is intended that following subsoil tillage, the area remains in a "loosened" condition. Additional compaction or the operation of heavy equipment, other than required for topsoil placement and shaping shall not be allowed on areas which have received subsoil tillage.

10-27-98 213-4

The contractor shall apply necessary moisture to the construction area and haul roads to prevent the spread of dust. Refer to Article 1107.07 of the current Standard Specifications for additional details.

09-27-94 213-7

Unless otherwise directed or authorized, all asphaltic cement concrete and other bituminous materials which are not specifically addressed or described in the plans shall become the property of the contractor.

The contractor, in accordance with current rules and regulations of the Iowa Department of Natural Resources, may:

1. With the approval of the Engineer, blend or otherwise process the material for use with shoulder or special backfill aggregate, for use on the project.
2. With the approval of the Engineer, place with material in areas designated by the Engineer as Soil Aggregate Subbase without extra charge.
3. Remove the material from the project and stockpile for the contractor's future use.

04-25-00 214-1

The roadbed shall be trimmed to within 15 millimeters of the final subgrade elevation. Trimmed material shall be placed in a windrow on either foreslope for use in earth shoulder fill after paving. No ponding of water shall be allowed by the stored material.

Trimming of material shall be included in excavation required for Earth Shoulder Construction. Granular surfacing material, if placed over the winter, is included in the trimmed volume.

09-27-94 221-3

Estimated quantity for new concrete pavement includes all integral curb, all street returns and special areas of repairs to connecting pavements.

09-27-94 221-4

In order to avoid any unnecessary surface breaks or premature spalling, the contractor is cautioned to exercise extreme care when performing any of the necessary saw cutting operations for the proposed pavement removal.

09-27-94 222-2

To obtain the correct form grades at low points where intakes are located, the contractor must exercise extreme care when paving full width pavements. This may require pouring one half of the pavement at a time or other methods approved by the engineer.

09-27-94 223-1

Construction of fillets at non-paved entrances is not required on this project. However, the engineer may require the construction of fillets at individual locations where deemed necessary.

09-27-94 232-5

The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service area(s) will be subject to the approval of the resident engineer.

09-27-94 232-8

The top 150 millimeters of the disturbed areas shall be free of rock and debris and shall be suitable for the establishment of vegetation, subject to the approval of the Engineer.

10-28-97 232-10

The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins, or silt dikes.

09-27-94 241-1

Road contractor is to use due caution in working over and around all tile lines. Breaks in the tile line due to the contractor's carelessness are to be replaced at his expense without cost to the State of Iowa. Any tile lines broken or disturbed by our cut lines will be replaced as directed by the engineer in charge of construction and at the State of Iowa's expense.

09-27-94 251-1

The contractor shall be responsible to maintain access to individual properties during construction.

Relocated access shall be completed to individual properties prior to removal of existing access.

If the permanent access cannot be completed prior to removal of the existing access, the contractor shall provide and maintain an alternate access. Temporary Granular Surfacing will be paid for as a contract item or by extra work.

09-27-94 251-2

The contractor is hereby notified that removal of any existing traffic markers, warning devices or guardrail barriers shall be scheduled subject to the approval of the Engineer. The contractor may be required to place temporary warning devices at certain locations where replacement features are not installed the same day during which any such removals take place.

09-27-94 251-3

A plan for stage construction of local accesses which are required to remain open to traffic during construction shall be submitted by the contractor for approval by the engineer.

10-31-95 251-4

The centerline pavement marking shall always be placed on one side of the roadway except where a "No Passing Zone" line is used, at which point it is placed on the opposite side of the roadway. The centerline shall be placed on the same side of the roadway as to match existing markings near the project.

09-27-94 251-5

On all new or reconstructed pavements, the location of "NO PASSING" zone lines shall be located in the field. The locations of the proposed "NO PASSING" zone lines shown on the pavement marking tabulation is for estimating quantities only.

03-26-96 254-1

An incident management plan, provided by the Transportation Center, will be discussed at the pre-construction conference.

09-27-94 261-2

Before performing earthwork, tiling, or excavation within 91.4 meters of an existing pipeline, the contractor shall notify the pipeline company and the pipeline company shall mark the location of the pipeline as required by Section 479.47 of the Code of Iowa.

The contractor shall exercise all due caution when working in the vicinity of pipelines carrying combustible or toxic materials which are present on this project. Pipeline location shown on the plans represents the best information available at the time of plan preparation.

Profile grade for mainline paving is defined at the center of the lanes. The superelevation rotation point for mainline paving is the inside edge of lanes, with a constant drop from profile grade of 0.072 m.

NOTE:

The top 0.3m of roadway subgrade over a width of 17m(to within 0.5m of the subgrade hinge points at 6:1 foreslope)has been stabilized with fly ash products between the following stations:

34+00 to 42+00; Prairie Creek 'Ecostone' at 14% of dry soil weight

42+00 to 50+00; Prairie Creek Stoker Ash at 7% odf dry soil weight

89+00 to 97+00; Prairie Creek 'Ecostone' at 14% of dry soil weight

97+00 to 105+00; Prairie Creek Stoker Ash at 7% of dry soil weight

TABULATION OF SILT FENCES

100-17
09-27-94

LOCATION STATION	TO STATION	SIDE	LENGTH m	REMARKS
PLACEMENT				
Mainline				
81+90	83+60	LT	188	
161+90	163+91.2	LT	225	
130th Street				
1173+75	1174+75	LT	112	
1173+75	1174+75	RT	112	
X-28 Linn-Jones Road				
1452+55.6	1455+00	LT	490	
1452+55.6	1455+00	RT	490	
Co. Road X-40				
2131+59.8	2132+25	LT	131	
2131+59.8	2132+25	RT	131	
10% of Existing Silt Fence			810	
Total Silt Fence			2689	
CLEANOUTS				
Placed by this contract			2689	
50% of Existing Silt Fence			4030	
Total Silt Fence Cleanouts			6719	

TABULATION OF SILT FENCES FOR DITCH CHECKS

100-18
09-27-94

LOCATION STATION	SIDE	m	REMARKS
PLACEMENT			
Mainline			
82+10	LT	6	
82+60	LT	6	
83+20	LT	6	
83+80	LT	6	
Co. Road X-40			
2131+80	RT	6	
2132+00	LT	6	
130th Street			
1173+80	LT	6	
1174+70	LT	6	
10% of Existing Silt Fence		140	
Total		188	
CLEAN OUTS			
Placed by this contract		188	
100% of Existing Silt Fence		1370	
Total Silt Fence Clean Outs		1558	

LOCATIONS OF ROAD CLOSURE BARRICADES

102-4
10-03-00

Refer to Standard Road Plan RE-3A, RE-3B

LOCATION No.	LOCATION Station	STANDARD ROAD PLAN	(W) meters	REMARKS
1	187+30 East Bound Lane	RE-3A		

TABULATION OF EXISTING PAVEMENT

102-5
09-27-94

NO.	LOCATION	EXISTING PAVEMENT Type	COARSE AGGREGATE TYPE GRAVEL	COARSE AGGREGATE TYPE CRUSHED STONE	SOURCE	DURABILITY CLASS	PAVEMENT THICKNESS mm	REINFORCEMENT Type	DETAIL TYPICAL
	US HWY. 151								
1	15+40 to 25+37	PCC		X	SPRINGVILLE	I	254		
1	15+40 TO 25+37	AAC		X	B.- SPRINGVILLE		51		
2		AAC		X	ANAMOSA-VERNON		38		
3		PC7			BELLEVUE	I	178		
1	25+37 TO 52+09	BSC							
2		AAC		X	B.- SPRINGVILLE		51		
3		AAC		X	ANAMOSA-VERNON		38		
4		PC7	X		BELLEVUE	I	178		
1	52+09 TO 62+23	BSC							
2		AAC		X	BOWSER-SPRINGVILLE		51		
3		AAC		X	ANAMOSA-VERNON		38		
4		AAC		X	BALLOU-OLIN		38		
5		PC7	X	X	DUBUQUE	I	178		
1	62+23 TO 75+75	AAC		X	BOWSER-SPRINGVILLE		51		
2		AAC		X	ANAMOSA-VERNON		38		
3		AAC		X	BALLOU-OLIN		38		
4		PC7		X	DUBUQUE	I	178		
1	75+75 TO 179+23	AAC		X	STONE CITY		38		
2		AAC		X	ANAMOSA-VERNON		114		
1	179+23 TO 201+60	AAC		X	SAUSER	I	38		
2		PCC		X	FARMERS-BEHRENS	I	254		
	IA. HWY. 1								
1	1571+50 TO 1575+30	AAC			STONE CITY		114		
2		AAC		X	ANAMOSA-VERNON		38		
3		AAC		X	BALLOU-OLIN		38		
4		PC7		X	OTIS	I	191		
	IA. HWY. 64								
1	2157+88 TO 2161+50	AAC		X	ANAMOSA-VERNON		38		

TABULATION OF SPECIAL EVENTS

102-15
09-27-94

EVENT	LOCATION	DATE
HILL CLIMBER'S COMPETITION	STA. 134+00 RT.	First Sunday in June and September

POINTS OF ACCESS (RL-7)

102-1
03-26-96

Refer to Detail Cross-Sections

LOCATION (RL-7) Station	Side	(W)	TYPE	PIPE CULVERT (RF-30A or RF-30B) (H)	Size 450 mm m	Size 600 mm m	APRON No.	SURFACE MATERIAL Mg
Mainline								
18+14	LT	7.2	C	0.75	18.3		2	227

SIGN SCHEDULE

X-60
Modified

SIGN NO.	LOCATION, SIDE	MUTCD TYPE	SIZE (mm)	AREA (SQ. M)	100mm x 100mm Wood Posts (L.M.)	COMMENTS
1	178+66 EBL RT	W9-2F	1200x1200	1.44	10.97	Lane Ends Merge Left
2	179+66 EBL LT	W4-2B	1200x1200	1.44	10.97	Lane Ends
3	179+66 EBL RT	W4-2B	1200x1200	1.44	10.97	Lane Ends
4	181+96 EBL LT	W6-1B	1200x1200	1.44	10.97	Divided Highway
5	181+96 EBL LT	R5-9A	1000x700	0.70		Wrong Way
6	181+96 EBL RT	W6-1B	1200x1200	1.44	10.97	Divided Highway
7	181+96 EBL RT	R5-9A	1000x700	0.70		Wrong Way
8	185+25 CL	R5-1	750x750	0.56	4.30	Do Not Enter
9	185+75 CL	W6-3D	1200x1200	1.44	10.97	Two Way Traffic
10	185+75 CL	R5-1	750x750	0.56		Do Not Enter
11	187+80 WBL LT	W14-3	1200x1500x1500	0.82	4.88	No Passing Zone
12	191+18 WBL RT	W6-1B	1200x1200	1.44	10.97	Divided Highway
	TOTALS			13.42	85.97	

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER C.04

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18-198

PROPOSED SUBGRADE TREATMENT

103-3
MODIFIED

NO.	LOCATION Station to Station	DESCRIPTION Side	Depth	Width	TYPE Material + Shrink %	QUANTITY m^3	Mg	POLYMER GRID m^2	AVAILABLE FROM Quantity	Station to Station	REMARKS
1	15+40 to 23+50		0.3	9.2	Special Backfill 4132						Includes Cross Over & Storage Lanes @ Sta. 18+14
2	51+00 to 53+50		0.3	9.2	Special Backfill 4132						Includes Cross Over & Storage Lanes @ Sta. 52+09
3	128+50 to 133+80		0.3	9.2	Special Backfill 4132						Includes Cross Over & Storage Lanes
4	1452+45 to 1455+00 X-28		0.3	9.2	Special Backfill 4132						
5	2131+48 to 2132+25 X-40		0.3	9.2	Special Backfill 4132						
					TOTALS		13,804.73				

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

104-3
10-03-00
* Not a bid item

LOCATION	TYPE	SIZE mm	KIND OF PIPE	LENGTH NEW CONST. m	BEDDING CLASS	DESIGN COVER (M)	E CAMBER	APRON NO. Inlet	Outlet	ADAPTORS* RF-2 Type	CONNECTED PIPE JOINT* RF-14 Type	FLOW LINE ELEVATIONS Lt.	Rt.	Other	DIMENSIONS m Total Lt.	Total Rt.	Extensions Lt.	Extensions Rt.	SKEW AHEAD Degrees Lt.	Degrees Rt.	DIKE Lt.	Rt. Location Station	Top Elevation	Type	CLASS 20 m^3	EMBANK-MENT IN PLACE m^3	REMARKS
183+20 EBL	1101 Med.	600	1000	20.12	C	0.8		1	1	3	6	278.190	277.990		10.02	13.83									50		Pipe Apron Guard
184+009.8				1.8				1	1																		ADDED FROM GRADING PROJECT
130th Street																											
1173+82.4	1101	750	1000	15.85	C	2.6		1	1	3	6	259.31	258.290		11.30	11.96				29					230		
98+003.9	1101 MED	600	1000	2.4																							ADDED TO EXITING PIPE
181+000.5	1101 MED	600	1000	2.4																							ADDED TO EXITING PIPE
																					TOTAL			280		

TABULATION OF BRIDGE END DRAIN

① Refer to Standard Road Plan RF-38
② Not a Bid Item

104-8
02-11-00

LOCATION Bridge Station	Bridge Corner	Distance DI-1 or DI-2 ①	SHOULDER① Panels Required A B C or D	PCC m^2	Polymer Grid m^2 ②	INSTALLATION INFORMATION Elevation Form Grade	(A)	(B)	(C)	Length (L1)	(L2)	SPECIAL BACKFILL Mg ②	REMARKS
76+39													
WBL	NW	10.5	B	14.31	16.68	290.081	290.051	288.301	282.523	2.78	24.7	16.9	(1) Sta. 76+07.5 Lt.
EBL	SW	10.5	C/D	25.37	26.16	289.622	289.592	287.842	280.893	2.18	28.8	13.2	(1) Sta. 76+01.7 Rt.
134+66													
~~EBL~~	~~SE~~	6.6	C	14.98	16.68	241.409	241.379	239.629	235.098	2.78	21.1	33.8	(1) Sta. 135+43.9 Rt
157+90													
WBL	NW	6.6	C	15.10	16.68	254.729	254.699	252.949	245.300	2.78	24.6	16.9	(1) Sta. 158+34.0 Lt
EBL	NE	9.8	B	12.76	13.08	254.824	254.794	253.044	247.150	2.18	28.1	13.2	(1) Sta. 158+27.2 Rt
TOTALS	5			82.52							127.3		

(1) Additional Polymer Grid and Granular Subbase Along Pavement Edges is Accounted for Under the Bridge Approach Tabulation.

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① Refer to Standard Road Plan RF-19C.
② Refer to Soils Sheets

TABULATION OF LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

104-9
03-28-95

*Not a bid item

Line No.	Road or Lane Ident.	LOCATION Station to Station		Side	LONGITUDINAL SUBDRAIN Depth (D) m	Shoulder ① Dia. mm	Shoulder ① Length m	Backslope ② Dia. mm	Backslope ② Length m	SUBDRAIN OUTLET RF-19E or RF-22 Station	Type	POROUS BACKFILL* Mg	CLASS "A" CRUSHED STONE * Mg	REMARKS
1	US 151	15+40	17+00	LT	1.1	100	168			15+40	E	72.7	0.9	
										17+00	E		0.9	
2	US 151	17+00	18+50	LT	1.1	100	159			17+00	E	68.6	0.9	
										18+50	E		0.9	
3	US 151	18+50	20+00	LT	1.1	100	160			18+50	E	68.6	0.9	
										20+00	E		0.9	
4	US 151	20+00	21+50	LT	1.1	100	160			20+00	E	68.6	0.9	
										21+50	E		0.9	
5	US 151	21+50	22+95	LT	1.1	100	156			21+50	E	68.6	0.9	
										22+95	E		0.9	
6	US 151	22+95	24+50	LT	1.1	100	165			22+95	E	68.6	0.9	
										24+50	E		0.9	
7	US 151	24+50	26+00	LT	1.1	100	159			24+50	E	68.6	0.9	
										26+00	E		0.9	
8	US 151	26+00	26+55	LT	1.1	100	66			26+00	E	28.8	0.9	
										26+55	E		0.9	
9	US 151	26+63	27+05	LT	1.1	100	52			26+63	E	16.3	0.9	
										27+05	E		0.9	
10	US 151	27+15	28+50	LT	1.1	100	145			27+15	E	62.3	0.9	
										28+50	E		0.9	
11	US 151	28+50	30+00	LT	1.1	100	160			28+50	E	68.6	0.9	
										30+00	E		0.9	
12	US 151	30+00	31+50	LT	1.1	100	160			30+00	E	68.6	0.9	
										31+50	E		0.9	
13	US 151	31+50	32+30	LT	1.1	100	91			31+50	E	39.3	0.9	
										32+30	E		0.9	
14	US 151	32+33	34+00	LT	1.1	100	179			32+33	E	72.7	0.9	
										34+00	E		0.9	
15	US 151	34+00	35+42	LT	1.1	100	152			34+00	E	64.4	0.9	
										35+42	E		0.9	
16	US 151	35+47	37+00	LT	1.1	100	163			35+47	E	68.6	0.9	
										37+00	E		0.9	
17	US 151	37+00	38+50	LT	1.1	100	160			37+00	E	68.6	0.9	
										38+50	E		0.9	
18	US 151	38+50	39+20	LT	1.1	100	81			38+50	E	35.1	0.9	
										39+20	E		0.9	
19	US 151	39+28	40+50	LT	1.1	100	133			39+28	E	56.0	0.9	
										40+50	E		0.9	
20	US 151	40+50	41+15	LT	1.1	100	75			40+50	E	33.0	0.9	
										41+15	E		0.9	
21	US 151	41+22	41+44	LT	1.1	100	33			41+22	E	16.3	0.9	
										41+44	E		0.9	
22	US 151	41+62	43+00	LT	1.1	100	148			41+62	E	62.3	0.9	
										43+00	E		0.9	
23	US 151	43+00	43+85	LT	1.1	100	95			43+00	E	39.3	0.9	
										43+85	E		0.9	
24	US 151	43+91	45+50	LT	1.1	100	170			43+90	E	72.7	0.9	
										45+50	E		0.9	
25	US 151	45+50	47+00	LT	1.1	100	161			45+50	E	68.6	0.9	
										47+00	E		0.9	
26	US 151	47+00	48+50	LT	1.1	100	161			47+00	E	68.6	0.9	
										48+50	E		0.9	
27	US 151	48+50	49+45	LT	1.1	100	108			48+50	E	41.4	0.9	
										49+45	E		0.9	
28	US 151	49+45	51+00	LT	1.1	100	166			49+45	E	70.6	0.9	
										51+00	E		0.9	
29	US 151	51+00	51+58	LT	1.1	100	68			51+00	E	26.8	0.9	
										51+58	E		0.9	
											E		0.9	
											E		0.9	
31	US 151	52+18	54+00	LT	1.1	100	190			52+18	E	58.1	0.9	
										54+00	E		0.9	
32	US 151	54+00	55+17	LT	1.1	100	127			54+00	E	53.9	0.9	
										55+17	E		0.9	
33	US 151	55+22	56+72	LT	1.1	100	158			55+22	E	68.6	0.9	
										56+72	E		0.9	
34	US 151	56+72	58+38	LT	1.1	100	166			56+72	E	68.6	0.9	
										58+38	E		0.9	
35	US 151	58+33	60+00	LT	1.1	100	175			58+33	E	74.8	0.9	
										60+00	E		0.9	
36	US 151	59+75	61+45	LT	1.1	100	180			59+75	E	76.9	0.9	
										61+45	E		0.9	

I hereby certify that this plan was prepared under my supervision and that engineering decisions with regard to the design were made by me or by other duly licensed Professional Engineers under the laws of the State of Iowa.

Robert Stanley 10-9-00
Signature Date

Robert L. Stanley
Printed or Typed Name

My license renewal date is December 31, 2000.

Pages or sheets covered by this seal: C.06-C.12

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER C.06

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20-198

① Refer to Standard Road Plan RF-19C.
② Refer to Soils Sheets

TABULATION OF LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

104-9
03-28-95

*Not a bid item

LOCATION					LONGITUDINAL SUBDRAIN					SUBDRAIN OUTLET RF-19E or RF-22		POROUS BACKFILL*	CLASS "A" CRUSHED STONE *	REMARKS
Line No.	Road or Lane Ident.	Station to Station		Side	Depth (D)	Shoulder ①		Backslope ②		Station	Type	Mg	Mg	
					m	Dia. mm	Length m	Dia. mm	Length m					
37	US 151	61+46	63+00	LT	1.1	100	169			61+46	E	66.5	0.9	
										2 @ 63+00	E		0.9	
38	US 151	63+00	64+53	LT	1.1	100	162			64+53	E	70.6	0.9	
											E		0.9	
39	US 151	72+05	73+50	LT	1.1	100	153			72+05	E	68.6	0.9	
										2 @ 73+50	E		0.9	
40	US 151	73+50	75+85	LT	1.1	100	253			75+85	E	104.1	0.9	
											E		0.9	
41	US 151	77+05	78+50	LT	1.1	100	158			77+05	E	72.7	0.9	
										2 @ 78+50	E		0.9	
42	US 151	78+50	80+00	LT	1.1	100	163				E	68.6	0.9	
										2 @ 80+00	E		0.9	
43	US 151	80+00	81+80	LT	1.1	100	194			81+80	E	79.0	0.9	OUTLET THRU RAMP AT STA. 81+75.
											E		0.9	
44	US 151	81+80	83+00	LT	1.1	100	120			81+80	E	68.6	0.9	ALONG RAMP TAPER.
										2 @ 83+00	E		0.9	
45	US 151	83+00	84+50	LT	1.1	100	150				E	58.1	0.9	ALONG RAMP TAPER.
										2 @ 84+50	E		0.9	
46	US 151	84+50	85+84	LT	1.1	100	134				E	60.2	0.9	START PRESENT ROADWAY.
											E		0.9	
47	US 151	85+84	87+55	LT	1.1	100	185			2 @ 85+84	E	76.9	0.9	
											E		0.9	
48	US 151	87+55	89+00	LT	1.1	100	153			2 @ 87+55	E	68.6	0.9	
											E		0.9	
49	US 151	89+00	90+52	LT	0.6	100	156			2 @ 89+00	E	32.5	0.9	
											E		0.9	
50	US 151	90+52	92+03	LT	0.6	100	155			2 @ 90+52	E	32.5	0.9	
											E		0.9	
51	US 151	92+03	93+10	LT	0.6	100	113			2 @ 92+03	E	22.6	0.9	
										2 @ 93+10	E		0.9	
52	US 151	93+10	94+60	LT	1.1	100	156			2 @ 94+60	E	68.6	0.9	
52-A		94+60	95+14	LT	1.1	100	57			95+14	E		0.9	
53	US 151	95+28	96+70	LT	1.1	100	153			95+39	E	68.6	0.9	SKEWED OUTLET
										2 @ 96+70	E		0.9	
54	US 151	96+70	98+00	LT	1.1	100	132			98+00	E	68.6	0.9	
											E		0.9	
55	US 151	98+25	98+94	LT	1.1	100	76			98+25	E	68.6	0.9	SKEWED OUTLET
											E		0.9	
56	US 151	98+94	100+45	LT	1.1	100	155			2 @ 98+94	E	68.6	0.9	
											E		0.9	
57	US 151	100+45	101+94	LT	1.1	100	153			2 @ 100+45	E	68.6	0.9	
											E		0.9	
58	US 151	101+94	103+45	LT	1.1	100	157			2 @ 101+94	E	68.6	0.9	
											E		0.9	
59	US 151	103+45	103+86	LT	1.1	100	57			2 @ 103+45	E	22.6	0.9	
											E		0.9	
60	US 151	103+86	104+82	LT	1.1	100	118			2 @ 103+86	E	72.7	0.9	
										104+82	E		0.9	
61	US 151	105+33	106+95	LT	1.1	100	170			105+33	E	68.6	0.9	
											E		0.9	
62	US 151	106+95	108+47	LT	1.1	100	156			2 @ 106+95	E	68.6	0.9	
											E		0.9	
63	US 151	108+47	109+31	LT	1.1	100	86			2 @ 108+47	E	68.6	0.9	
										109+31	E		0.9	
64	US 151	109+54	111+40	LT	1.1	100	197			109+54	E	68.6	0.9	
											E		0.9	
65	US 151	111+40	112+90	LT	1.1	100	160			2 @ 111+40	E	68.6	0.9	
											E		0.9	
66	US 151	112+90	113+77	LT	1.1	100	93			2 @ 112+90	E	68.6	0.9	
										113+77	E		0.9	
67	US 151	114+20	115+74	LT	1.1	100	164			114+20	E	56.0	0.9	
											E		0.9	
68	US 151	115+74	117+23	LT	1.1	100	153			2 @ 115+74	E	56.0	0.9	
										117+23	E		0.9	
69	US 151	117+68	118+39	LT	1.1	100	75			117+68	E	68.6	0.9	
											E		0.9	
70	US 151	118+39	119+93	LT	1.1	100	163			2 @ 118+39	E	68.6	0.9	
											E		0.9	
71	US 151	119+93	121+44	LT	1.1	100	157			2 @ 119+93	E	68.6	0.9	
											E		0.9	
72	US 151	121+44	122+95	LT	1.1	100	165			2 @ 121+44	E	68.6	0.9	
										122+95	E		0.9	

① Refer to Standard Road Plan RF-19C.
② Refer to Soils Sheets

TABULATION OF LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

104-9
03-28-95

*Not a bid item

Line No.	Road or Lane Ident.	LOCATION Station to Station		Side	LONGITUDINAL SUBDRAIN Depth (D) m	Shoulder ① Dia. mm	Shoulder ① Length m	Backslope ② Dia. mm	Backslope ② Length m	SUBDRAIN OUTLET RF-19E or RF-22 Station	Type	POROUS BACKFILL* Mg	CLASS "A" CRUSHED STONE * Mg	REMARKS
73	US 151	321 122+95	124+36	LT	1.1	100	145			122+95	E	68.6	0.9	
											E		0.9	
74	US 151	322 124+36	125+98	LT	1.1	100	170			2 @ 124+36	E	68.6	0.9	
											E		0.9	
75	US 151	323 125+98	127+63	LT	1.1	100	171			2 @ 125+98	E	68.6	0.9	
										127+63	E		0.9	
76	US 151	324 128+00	129+02	LT	1.1	100	108			128+00	E	68.6	0.9	
											E		0.9	
77	US 151	311 129+02	130+54	LT	1.1	100	152			2 @ 129+02	E	68.6	0.9	
										2 @ 130+54	E		0.9	
78	US 151	312 130+54	131+59	LT	1.1	100	120			131+59	E	68.6	0.9	
78-A		313 131+68	132+35				60			131+68	E		0.9	DEPTH = 0.76 M
79	US 151	314 132+25	133+30	LT	1.1	100	111			2 @ 132+25	E	68.6	0.9	DEPTH = 0.76 M
										133+30	E		0.9	
80	US 151	315 135+40	135+96	LT	1.1	100	60			135+40	E	20.5	0.9	
											E		0.9	
81	US 151	316 135+96	137+31	LT	1.1	100	144			2 @ 135+96	E	76.9	0.9	
										137+31	E		0.9	
82	US 151	317 137+87	138+85	LT	1.1	100	104			137+87	E	68.6	0.9	
											E		0.9	
83	US 151	318 138+85	140+21	LT	1.1	100	136			2 @ 138+85	E	68.6	0.9	
											E		0.9	
84	US 151	305 140+21	141+89	LT	1.1	100	182			2 @ 140+21	E	68.6	0.9	
											E		0.9	
85	US 151	[illegible] 141+89	143+41	LT	1.1	100	152			2 @ 141+89	E	68.6	0.9	
											E		0.9	
86	US 151	307 143+41	144+95	LT	1.1	100	162				E	68.6	0.9	
											E		0.9	
87	US 151	308 144+95	146+14	LT	1.1	100	117			2 @ 144+95	E	68.6	0.9	
											E		0.9	
88	US 151	309 146+14	147+70	LT	1.1	100	167			2 @ 146+14	E	68.6	0.9	
											E		0.9	
89	US 151	310 147+70	149+48	LT	1.1	100	186			2 @ 147+70	E	68.6	0.9	
											E		0.9	
90	US 151	[illegible] 149+48	150+00	LT	1.1	100	56			2 @ 149+48	E	68.6	0.9	
										150+00	E		0.9	
91	US 151	[illegible] 154+40	155+30	LT	1.1	100	99				E	47.7	0.9	
											E		0.9	
92	US 151	[illegible] 155+30	156+80	LT	1.1	100	163			2 @ 155+30	E	68.6	0.9	
											E		0.9	
93	US 151	[illegible] 156+80	157+45	LT	1.1	100	72			2 @ 156+80	E	33.0	0.9	
										157+45	E		0.9	
94	US 151	[illegible] 158+44	160+00	LT	1.1	100	170			158+44	E	71.1	0.9	
											E		0.9	
95	US 151	[illegible] 160+00	161+40	LT	1.1	100	152			2 @ 160+00	E	68.6	0.9	
										161+40	E		0.9	
96	US 151	[illegible] 161+91	163+50	LT	1.1	100	159			161+91	E	47.7	0.9	
											E		0.9	
97	US 151	163+50	163+85	LT	1.1	100	35			2 @ 163+50	E	62.3	0.9	ALONG RAMP TAPER.
										163+85	E		0.9	
98	US 151	164+05	165+50	LT	1.1	100	145			164+05	E	66.5	0.9	
										165+50				

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	C.08

date = Thu Oct 5 16:21:17 2000 prf = \\WATSO1\DATA\PLOT\PL463P\c08h.prf

22-198

① Refer to Standard Road Plan RF-19C.
② Refer to Soils Sheets

TABULATION OF LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

104-9
03-28-95

*Not a bid item

LOCATION				LONGITUDINAL SUBDRAIN					SUBDRAIN OUTLET RF-19E or RF-22		POROUS BACKFILL*	CLASS "A" CRUSHED STONE *	REMARKS
				Depth (D)	Shoulder ①		Backslope ②						
Line No.	Road or Lane Ident.	Station to Station	Side	m	Dia. mm	Length m	Dia. mm	Length m	Station	Type	Mg	Mg	
117	US 151	20+66 to 22+00	RT	0.6	100	141			20+66	E	32.5	0.9	
										E		0.9	
118	US 151	22+00 to 23+50	RT	0.6	100	164			2 @ 22+00	E	32.5	0.9	
										E		0.9	
119	US 151	23+50 to 24+00	RT	0.6	100	59			2 @ 23+50	E	12.7	0.9	
										E		0.9	
120	US 151	24+00 to 25+50	RT	0.6	100	150			2 @ 24+00	E	32.5	0.9	
										E		0.9	
121	US 151	25+50 to 26+75	RT	0.6	100	132			2 @ 25+50	E	26.5	0.9	
										E		0.9	
122	US 151	26+75 to 28+00	RT	0.6	100	133			2 @ 26+75	E	27.5	0.9	
										E		0.9	
123	US 151	28+00 to 29+50	RT	0.6	100	158			2 @ 28+00	E	32.5	0.9	
										E		0.9	
124	US 151	29+50 to 31+00	RT	0.6	100	145			2 @ 29+50	E	32.5	0.9	
										E		0.9	
125	US 151	31+00 to 32+50	RT	0.6	100	161			2 @ 31+00	E	32.5	0.9	
										E		0.9	
126	US 151	32+50 to 34+00	RT	1.1	100	155			2 @ 32+50	E	68.6	0.9	
										E		0.9	
127	US 151	34+00 to 34+97	RT	1.1	100	102			2 @ 34+00	E	68.6	0.9	
									34+97	E		0.9	
128	US 151	35+31 to 37+00	RT	0.6	100	171			35+31	E	32.5	0.9	
										E		0.9	
129	US 151	37+00 to 38+50	RT	0.6	100	154			2 @ 37+00	E	32.5	0.9	
										E		0.9	
130	US 151	38+50 to 40+00	RT	1.1	100	154			2 @ 38+50	E	68.6	0.9	
										E		0.9	
131	US 151	40+00 to 41+53	RT	1.1	100	160			2 @ 40+00	E	67.7	0.9	
										E		0.9	
132	US 151	41+53 to 43+00	RT	1.1	100	156			2 @ 41+53	E	67.3	0.9	
										E		0.9	
133	US 151	43+00 to 44+50	RT	1.1	100	158			2 @ 43+00	E	68.6	0.9	
										E		0.9	
134	US 151	44+50 to 45+90	RT	1.1	100	141			2 @ 44+50	E	64.4	0.9	
										E		0.9	
135	US 151	45+90 to 47+85	RT	1.1	100	201			2 @ 45+90	E	72.7	0.9	
									47+85	E		0.9	
136	US 151	47+91 to 48+89	RT	1.1	100	110			47+91	E	68.6	0.9	
										E		0.9	
137	US 151	48+89 to 50+50	RT	1.1	100	162			2 @ 48+89	E	68.6	0.9	
										E		0.9	
138	US 151	50+50 to 51+74	RT	1.1	100	128			2 @ 50+50	E	64.4	0.9	
									51+74	E		0.9	
139	US 151	52+24 to 53+50	RT	1.1	100	130			52+24	E	72.7	0.9	
										E		0.9	
140	US 151	53+50 to 55+00	RT	1.1	100	160			2 @ 53+50	E	68.6	0.9	
										E		0.9	
141	US 151	55+00 to 56+50	RT	1.1	100	147			2 @ 55+00	E	68.6	0.9	
									56+50	E		0.9	
142	US 151	60+10 to 61+55	RT	1.1	100	150			60+10	E	64.4	0.9	
									61+55	E		0.9	
143	US 151	61+81 to 63+00	RT	1.1	100	135			61+81	E	68.6	0.9	
										E		0.9	
144	US 151	63+00 to 64+50	RT	1.1	100	159			2 @ 63+00	E	68.6	0.9	
									64+50	E		0.9	

DESIGN TEAM	Skogerboe / EARTH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	C.09

date = Thu Oct 5 16:21:23 2000 prf = \\WATSO1\DATA\PLOT\PL463P\c09h.prf

23-198

① Refer to Standard Road Plan RF-19C.
② Refer to Soils Sheets

TABULATION OF LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

104-9
03-28-95

*Not a bid item

LOCATION					LONGITUDINAL SUBDRAIN					SUBDRAIN OUTLET RF-19E or RF-22		POROUS BACKFILL*	CLASS "A" CRUSHED STONE *	REMARKS
Line No.	Road or Lane Ident.	Station to Station		Side	Depth (D)	Shoulder ①		Backslope ②		Station	Type	Mg	Mg	
					m	Dia. mm	Length m	Dia. mm	Length m					
145	US 151	176 64+50	65+67	RT	1.1	100	128			64+50	E	56.0	0.9	
										@ 65+57	E		0.9	
146	US 151	177 65+67	67+25	RT	1.1	100	169				E	68.6	0.9	AT STA. 66+75 BEGIN NEW CONSTRUCTION N.B. LANE
										@ 67+25	E		0.9	
147	US 151	178 67+25	68+15	RT	1.1	100	99			68+15	E	43.5	0.9	
											E		0.9	
148	US 151	135 68+20	69+50	RT	1.1	100	141			68+20	E	60.2	0.9	
											E		0.9	
149	US 151	134 69+50	71+00	RT	1.1	100	161			@ 69+50	E	68.6	0.9	
											E		0.9	
150	US 151	133 71+00	72+50	RT	1.1	100	162			@ 71+00	E	68.6	0.9	
											E		0.9	
151	US 151	132 72+50	74+00	RT	1.1	100	163			@ 72+50	E	68.6	0.9	
											E		0.9	
152	US 151	131 74+00	75+50	RT	1.1	100	168			@ 74+00	E	83.2	0.9	
										75+50	E		0.9	
153	US 151	179 76+82	78+50	RT	1.1	100	177				E	72.7	0.9	
											E		0.9	
154	US 151	143 78+50	79+50	RT	1.1	100	113			@ 78+50	E	72.7	0.9	
										79+50	E		0.9	
155	US 151	144 80+10	81+50	RT	1.1	100	150			80+10	E	64.4	0.9	ALONG RAMP TAPER.
											E		0.9	
156	US 151	145 81+50	83+00	RT	1.1	100	170			@ 81+50	E	68.6	0.9	ALONG RAMP TAPER.
											E		0.9	
157	US 151	146 83+00	84+50	RT	1.1	100	182			@ 83+00	E	68.6	0.9	
											E		0.9	
158	US 151	147 84+50	85+30	RT	1.1	100	94			@ 84+50	E	39.3	0.9	
										85+30	E		0.9	
159	US 151	71 85+30	86+80	RT	1.1	100	165				E	68.6	0.9	
											E		0.9	
160	US 151	70 86+80	88+50	RT	1.1	100	181			@ 86+80	E	76.9	0.9	
											E		0.9	
161	US 151	69 88+50	90+13	RT	1.1	100	175			@ 88+50	E	68.6	0.9	
										90+13	E		0.9	
162	US 151	68 90+18	91+50	RT	1.1	100	165			90+18	E	68.6	0.9	
											E		0.9	
163	US 151	67 91+50	93+00	RT	1.1	100	163			@ 91+50	E	68.6	0.9	
											E		0.9	
164	US 151	66 93+00	94+50	RT	1.1	100	164			@ 93+00	E	68.6	0.9	
										@ 94+50	E		0.9	
165	US 151	65 94+50	95+00	RT	1.1	100	64			95+00	E	68.6	0.9	
165A	US 151	64 95+05	96+00	RT	1.1	100	106			95+05	E		0.9	
166	US 151	63 96+00	97+50	RT	1.1	100	163			@ 96+00	E	68.6	0.9	
											E		0.9	
167	US 151	62 97+50	99+00	RT	1.1	100	162			@ 97+50	E	68.6	0.9	
											E		0.9	
168	US 151	61 99+00	100+50	RT	1.1	100	163			@ 99+00	E	68.6	0.9	
											E		0.9	
169	US 151	60 100+50	102+00	RT	1.1	100	165			@ 100+50	E	68.6	0.9	
											E		0.9	
170	US 151	59 102+00	103+50	RT	1.1	100	165			@ 102+00	E	68.6	0.9	
											E		0.9	
171	US 151	58 103+50	103+80	RT	1.1	100	43			@ 103+80	E	18.4	0.9	
											E		0.9	
172	US 151	57 103+80	105+50	RT	1.1	100	186				E	76.9	0.9	
											E		0.9	
173	US 151	56 105+50	107+00	RT	1.1	100	158			@ 105+50	E	66.5	0.9	
											E		0.9	
174	US 151	55 107+00	107+50	RT	1.1	100	56			@ 107+00	E	25.5	0.9	
										107+50	E		0.9	
175	US 151	54 107+53	109+00	RT	1.1	100	142			107+53	E	67.3	0.9	
											E		0.9	
176	US 151	53 109+00	109+50	RT	1.1	100	63			@ 109+00	E	30.9	0.9	
											E		0.9	
177	US 151	52 109+50	111+00	RT	1.1	100	137			@ 109+50	E	63.1	0.9	
											E		0.9	
178	US 151	51 111+00	112+50	RT	1.1	100	147			@ 111+00	E	68.6	0.9	
										112+50	E		0.9	
179	US 151	50 112+25	113+50	RT	1.1	100	136			112+25	E	58.1	0.9	
											E		0.9	
180	US 151	49 113+50	114+95	RT	1.1	100	151			@ 113+50	E	68.6	0.9	
										114+95	E		0.9	

DESIGN TEAM Skogerboe / EARTH VIEWS | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER C.10

date = Thu Oct 5 16:26:54 2000 prf = \\WATSO1\DATA\PLOT\PL463P\c10h.prf

24-198

① Refer to Standard Road Plan RF-19C.
② Refer to Soils Sheets

TABULATION OF LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

104-9
03-28-95

*Not a bid item

LOCATION					LONGITUDINAL SUBDRAIN					SUBDRAIN OUTLET RF-19E or RF-22		POROUS BACKFILL*	CLASS "A" CRUSHED STONE *	REMARKS
Line No.	Road or Lane Ident.	Station to Station		Side	Depth (D)	Shoulder ①		Backslope ②		Station	Type	Mg	Mg	
					m	Dia. mm	Length m	Dia. mm	Length m					
181	US 151	114+95	115+80	RT	1.1	100	95			114+95	E	35.9	0.9	
											E		0.9	
182	US 151	115+80	117+00	RT	1.1	100	133			2 @ 115+80	E	57.3	0.9	
											E		0.9	
183	US 151	117+00	118+50	RT	1.1	100	163			2 @ 117+00	E	68.6	0.9	
											E		0.9	
184	US 151	118+50	120+00	RT	1.1	100	161			2 @ 118+50	E	68.6	0.9	
											E		0.9	
185	US 151	120+00	121+50	RT	1.1	100	163			2 @ 120+00	E	68.6	0.9	
											E		0.9	
186	US 151	121+50	123+00	RT	1.1	100	163			2 @ 121+50	E	68.6	0.9	
											E		0.9	
187	US 151	123+00	124+50	RT	1.1	100	161			2 @ 123+00	E	68.6	0.9	
											E		0.9	
188	US 151	124+50	126+00	RT	1.1	100	163			2 @ 124+50	E	68.6	0.9	
											E		0.9	
189	US 151	126+00	127+45	RT	1.1	100	155			2 @ 126+00	E	76.9	0.9	
										127+45	E		0.9	
190	US 151			RT	1.1	100					E	10.0	0.9	
											E		0.9	
191	US 151	127+50	129+00	RT	1.1	100	155			127+50	E	62.3	0.9	MEDIAN SIDE.
											E		0.9	
192	US 151	129+00	130+50	RT	1.1	100	163			2 @ 129+00	E	68.6	0.9	MEDIAN SIDE.
											E		0.9	
193	US 151	130+50	131+00	RT	1.1	100	56			2 @ 130+50	E	28.8	0.9	MEDIAN SIDE.
										131+00	E		0.9	
194	US 151			RT	1.1	100					E	41.4	0.9	MEDIAN SIDE.
											E		0.9	
195	US 151	131+82	133+00	RT	1.1	100	144			131+82	E	58.1	0.9	
											E		0.9	
196	US 151	133+00	133+74	RT	1.1	100	94			2 @ 133+00	E	39.3	0.9	
										133+74	E		0.9	
197	US 151	135+58	136+30	RT	1.1	100	91			135+58	E	35.9	0.9	
											E		0.9	
198	US 151	136+30	138+00	RT	1.1	100	193			2 @ 136+30	E	76.9	0.9	
											E		0.9	
199	US 151	138+00	138+92	RT	1.1	100	169			2 @ 138+00	E	47.7	0.9	
										138+92	E		0.9	
200	US 151	138+75	140+25	RT	MED 0.6	100	162			138+75	E	32.5	0.9	MEDIAN SIDE.
											E		0.9	
201	US 151	140+25	141+55	RT	MED 0.6	100	140			2 @ 140+25	E	32.5	0.9	MEDIAN SIDE.
										141+55	E		0.9	
202	US 151	141+60	143+05	RT	MED 0.6	100	149			141+60	E	27.5	0.9	MEDIAN SIDE.
										143+05	E		0.9	
203	US 151	142+75	144+25	RT	1.1	100	165			142+75	E	68.6	0.9	
											E		0.9	
204	US 151	144+25	145+75	RT	1.1	100	163			2 @ 144+25	E	68.6	0.9	
										2 @ 145+75	E		0.9	
205	US 151	145+75	147+25	RT	1.1	100	159			2 @ 147+25	E	68.6	0.9	
										2 @ 147+77	E		0.9	
206	US 151	147+25	147+77	RT	1.1	100	59				E	68.6	0.9	
		147+77	148+75				106			2 @ 148+75	E		0.9	
207	US 151	148+75	148+89	RT	1.1	100	30			148+89	E	68.6	0.9	
		149+05	150+25				146			149+05	E		0.9	
208	US 151	150+25	151+75	RT	1.1	100	163			150+25	E	68.6	0.9	ALONG RAMP TAPER.
											E		0.9	
209	US 151	151+75	152+95	RT	1.1	100	137				E	56.0	0.9	ALONG RAMP TAPER.
											E		0.9	
210	US 151	153+00	154+50	RT	1.1	100	157				E	70.6	0.9	OUTLET ACROSS RAMP AT STA. 152+95.
											E		0.9	
211	US 151	154+50	155+30	RT	1.1	100	94			2 @ 154+50	E	39.3	0.9	
										2 @ 155+30	E		0.9	
212	US 151	155+30	156+55	RT	1.1	100	131				E	58.1	0.9	
											E		0.9	OUTLET ACROSS RAMP AT STA. 156+55.
213	US 151	156+92	157+33	RT	1.1	100	49			156+92	E	38.0	0.9	ALONG LOOP TAPER.
										157+33	E		0.9	
214	US 151	158+45	159+95	RT	1.1	100	165			158+45	E	75.7	0.9	ALONG COLLECTOR LANE.
										159+95	E		0.9	
215	US 151	160+00	161+49	RT	1.1	100	162			160+00	E	68.6	0.9	ALONG COLLECTOR LANE.
											E		0.9	
216	US 151	161+49	162+00	RT	1.1	100	65			2 @ 161+49	E	26.8	0.9	
										162+00	E		0.9	

DESIGN TEAM	Skogerboe / EARTH VISION	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	C.11

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25-198

① Refer to Standard Road Plan RF-19C.
② Refer to Soils Sheets

TABULATION OF LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

104-9
03-28-95

*Not a bid item

LOCATION					LONGITUDINAL SUBDRAIN					SUBDRAIN OUTLET RF-19E or RF-22		POROUS BACKFILL*	CLASS "A" CRUSHED STONE *	REMARKS
Line No.	Road or Lane Ident.	Station to Station		Side	Depth (D)	Shoulder ①		Backslope ②						
					m	Dia. mm	Length m	Dia. mm	Length m	Station	Type	Mg	Mg	
217	US 151	3 163+00	163+49	RT	1.1	100	163			162+00	E	68.6	0.9	
											E		0.9	
218	US 151	4 163+49	164+13	RT	1.1	100	74			2 @ 163+49	E	20.5	0.9	
										164+13	E		0.9	
219	US 151	5 164+35	165+49	RT	1.1	100	139			164+35	E	66.5	0.9	
											E		0.9	
220	US 151	6 165+49	167+00	RT	1.1	100	162			2 @ 165+49	E	68.6	0.9	
											E		0.9	
221	US 151	7 167+00	168+50	RT	1.1	100	160			2 @ 167+00	E	68.6	0.9	
											E		0.9	
222	US 151	8 168+50	169+99	RT	1.1	100	157			2 @ 168+50	E	68.6	0.9	
											E		0.9	
223	US 151	9 169+99	171+49	RT	1.1	100	161			2 @ 169+99	E	68.6	0.9	
											E		0.9	
224	US 151	10 171+49	173+00	RT	1.1	100	140			2 @ 171+49	E	68.6	0.9	
										173+00	E		0.9	
225	US 151	11 173+82	174+55	RT	1.1	100	86			173+82	E	68.6	0.9	
											E		0.9	
226	US 151	12 174+55	176+00	RT	1.1	100	155			2 @ 174+55	E	68.6	0.9	
											E		0.9	
227	US 151	13 176+00	177+54	RT	1.1	100	162			2 @ 176+00	E	68.6	0.9	
											E		0.9	
228	US 151	14 177+54	178+54	RT	1.1	100	118			2 @ 177+54	E	68.6	0.9	
										178+54	E		0.9	
229	US 151	15 178+75	180+50	RT	1.1	100	192				E	68.6	0.9	
										178+75	E		0.9	
230	US 151	16 180+50	182+00	RT	1.1	100	168			2 @ 180+50	E	68.6	0.9	
											E		0.9	
231	US 151	17 182+00	183+20	RT	1.1	100	137			2 @ 182+00	E	68.6	0.9	
										183+20	E		0.9	
232	US 151	18 183+25	185+00	RT	1.1	100	194			183+25	E	68.6	0.9	
											E		0.9	
233	US 151	19 185+00	186+50	RT	1.1	100	172			2 @ 185+00	E	68.6	0.9	
											E		0.9	
234	US 151	20 186+50	187+00	RT	1.1	100	65			2 @ 186+50	E	37.2	0.9	
										187+00	E		0.9	
235	LOOP B	180 2076+72	2078+25	RT	1.1	100	169			2076+72	E	68.6	0.9	LOOP B AT IA 1.
										2078+25	E		0.9	
236	LOOP B	136 2078+25	2079+25	RT	1.1	100	110			2@ 2079+25	E	47.7	0.9	
											E		0.9	
237	LOOP B	137 2079+25	2080+45	RT	1.1	100	116			2080+45	E	56.0	0.9	
											E		0.9	
238	RAMP C	138 3074+90	3076+00	RT	1.1	100	117			3074+90	E	51.8	0.9	RAMP C AT IA 1.
										3076+00	E		0.9	
239	RAMP C	139 3076+60	3077+50	LT	1.1	100	94			3076+60	E	68.6	0.9	
											E		0.9	
240	RAMP C	140 3077+50	3078+25	LT	1.1	100	84			2 @ 3077+50	E	37.2	0.9	
										3078+25	E		0.9	
241	RAMP C	141 3078+00	3079+50	RT	1.1	100	163			3078+00	E	68.6	0.9	
											E		0.9	
242	RAMP C	142 3079+50	3080+10	RT	1.1	100	72			2 @ 3079+50	E	30.9	0.9	
										3080+10	E		0.9	
243	RAMP B	113 6152+95	6154+50	RT	1.1	100	168			6152+95	E	68.6	0.9	RAMP B AT IA 64.
										2 @ 6154+50	E		0.9	
244	RAMP B	114 6154+50	6155+30	LT	1.1	100	88			2 @ 6155+30	E	30.9	0.9	
											E		0.9	
245	RAMP B	115 6155+30	6156+00	RT	1.1	100	76			6156+00	E	43.5	0.9	
		116 6156+64	6157+33	RT	1.1	100	75			6156+64	E		0.9	
246	RAMP B			RT	1.1	100				6157+33	E	10.0	0.9	AROUND RETURN.
		117 7154+20	7155+00	RT	1.1	100	186			7154+20	E		0.9	
247	LOOP C	118 7155+00	7156+57	RT	1.1	100	169			2 @ 7155+00	E	70.6	0.9	LOOP C AT IA 64.
		119 7156+57	7156+85	RT	1.1	100	38			2 @ 7156+57	E		0.9	
										7156+85				
		TOTALS :										14677.4		

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER C.12[redacted]

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26-198

TABULATION OF SAFETY CLOSURES

108-13A
10-28-97

Refer to Section 2518 of the Standard Specifications

STATION	CLOSURE TYPE Road Qty.	CLOSURE TYPE Hazard Qty.	REMARKS
163+80 WBL	1		
4+30 WBL	1		Traffic Control
18+14	2		Access Location
35+22	2		Access Location
39+46	2		Access Location
64+75	2		Access Location
66+50	1		Traffic Control
67+00	1		Traffic Control
72+00	1		Traffic Control
76+39		4	Bridge Approach
83+80	1		Traffic Control
86+97	2		Access Location
105+15	2		Access Location
117+37	2		Access Location
134+66		2	Bridge Approach
137+62	2		Access Location
157+90.6		4	Bridge Approach
163+80 WBL	1		Traffic Control
173+20		2	Access Location
IA-1 ENT. RAMP 'C'	1		Traffic Control
3075+20			
IA-64 EXIT RAMP 'B'			
3157+50	1		Traffic Control
TOTAL	37		

REMOVAL OF PAVEMENT

110-1
04-27-99

* Not a bid item.

STATION TO STATION		PAVEMENT TYPE	AREA m2	SAW CUT m*	REMARKS
WBL					
15+40	24+00			7.2	Stage II (WBL & X-Over)
81+90	84+60				Stage IV (see J.02)
82+00	83+00				Stage II (see J.02)
83+00	84+00			8.4	Stage III (see J.02)
84+00	85+20				Stage III (see J.02)
162+00	164+00			7.2	Stage II (see J.03)
162+40	164+60				Stage IV (see J.03)
163+05	164+00			13.4	Stage III (see J.03)
164+00	165+20				Stage III (see J.03)
173+20	9176+27			638.0	Stage II (right turn lane)
EBL					
21+00 Lt. Lane	24+00 Lt. Lane			7.2	Stage IV (see J.04)
21+00 Rt. Lane	24+00 Rt. Lane			7.2	Stage V (see J.04)
20+40	24+60				Stage V (see J.04)
20+40	24+60				Stage VI (see J.04)
X-Overs					
63+70	69+40				Stage III
Sideroads					
1452+00	1455+00			7.2	X-28
2131+48	2132+25			7.2	X-40
1173+05	1173+20			7.2	130th Street
	TOTALS :		24921.377		

TABULATION OF PAVED SHOULDERS

112-9
10-28-97

① Lane(s) to which the shoulder is adjacent.

No.	① Direction of Traffic	LOCATION Station to Station		Side	Ⓛ m	STANDARD ROAD PLAN AND/OR DETAIL DRAWING	Ⓔ or Ⓦ WIDTH m	SHOULDER AREA m2	REMARKS
1	EB	2076+60	2079+39	LT	279	RH-41B	1.2		Exit Loop B
2	EB	2076+60	2079+39	RT	279	RH-41B	1.8		Exit Loop B
3	EB	3075+08	3080+90	RT	582	RH-41B	1.8		Entrance Ramp C
4	EB	3075+00	3076+00	LT	100	RH-41B	1.8		Entrance Ramp C
5	EB	3076+00	3080+10	LT	410	RH-41B	1.2		Entrance Ramp C
6	EB	6153+10	6157+20	RT	410	RH-41B	1.8		Exit Ramp B
7	EB	6153+00	6156+62	LT	362	RH-41B	1.2		Exit Ramp B
8	EB	6156+62	6157+20	LT	58	RH-41B	1.8		Exit Ramp B
9	EB	7154+94	7157+50	RT	256	RH-41B	1.8		Entrance Loop C
10	EB	7154+94	7156+55	LT	161	RH-41B	1.2		Entrance Loop C
11	WB	8161+88.02	8164+00	LT	212	RH-41B	1.8		EXIT RAMP D
12	WB	4081+87.0	4084+00	LT	213	RH-41B	1.8		EXIT RAMP D
						TOTAL :		5613.678	

TABULATION OF DELINEATORS AND OBJECT MARKERS

108-17
04-28-98

Refer to Standard Plans RE-48A-B* and RE-29C

LOCATION Station	Type*	DELINEATOR Single White D-1W Number	OBJECT MARKER Type 2 OM2-3YV Number	OBJECT MARKER Type 3 OM-3L Number	OBJECT MARKER Type 3 OM-3R Number	REMARKS
WBL	3			1		
76+78.6	3				1	
76+85.1						
EBL	3				1	
2075+96	3			1		
76+01.2						
	3			1		
133+95.9	3				1	
134+00.5						
	3				1	
7157+50.1	3			1		
157+54						
WBL	3			1		
158+26.8	3				1	
158+29.5						
TOTAL				10		

REMOVE or REMOVE AND REINSTALL BEAM GUARDRAIL

110-7A
10-28-97

① Lane(s) to which the installation is adjacent.

No.	① Direction of Traffic	LOCATION Station	Side	STEEL BEAM GUARDRAIL Remove m	STEEL BEAM GUARDRAIL Remove & Reinstall m	POST (mm) Remove No.	POST (mm) Remove & Reinstall 200x200 No.	250x250 No.	150x200 No.	150x150 No.	END ANCHORAGE Remove No.	Remove & Reinstall No.	Type	REMARKS
	WB	133+96	RT	38.40										
	WB	135+24	RT	31.00										
	EB	133+96	LT	30.60										
	EB	135+24	LT	38.30										
		TOTALS :		138.30										

TABULATION OF BRIDGE APPROACH SECTION

(Refer to Standard Road Plan RF-19E, RK-16, RK-19A, RK-19B, RK-19C, RK-19D, RK-19E, RK-19F, RK-19G, RK-19H, or RK-19J)

112-6
10-03-00

① Not a bid item

LOCATION Bridge Station	End	APPROACH PAVEMENT Ⓣ Thickness mm	Pay Length m	Non-Reinf. Pavement Area m2	Reinforced Pavement Area m2	Fixed or Movable Abutment F or M	SUBDRAIN Perforated Subdrain ① 100 mm m	Subdrain Outlet ① Station	Side	Porous Backfill ① m3	Class 'A' Crushed Stone Backfill ① m3	APPROACH SUBGRADE Modified Subbase ① m3	Polymer Grid ① m2	REMARKS
Mainline														
76+39 WBL	W	300		105.780	87.570	M	11.5	173.1	Lt.	1.7	0.5	99.59	221.31	
76+39 WBL	E	300		114.830	84.030	M	11.5	172.6	Lt.	1.7	0.5	98.91	219.80	
76+39 EBL	W	300		290.810	187.910	M	25.5	153.1	Rt.	3.8	0.5	220.97	491.04	
76+39 EBL	E	300		110.830	82.050	M	11.5	157.9	Rt.	1.7	0.5	97.76	217.24	mainline
76+39 EBL	E	300		80.580	45.420	M	13.4	2148.3	Rt.	2.0	0.5	67.17	149.27	loop B
134+66 EBL	W	300		115.278	69.827	F	11.5	213.9	Rt.	1.7	0.5	101.06	224.58	
134+66 EBL	E	300		115.440	75.797	F	11.5	186.5	Rt.	1.7	0.5	100.47	223.26	
157+91 WBL	W	300		116.244	71.139	M	11.5	201.6	Lt.	1.7	0.5	116.08	257.95	
157+91 WBL	E	300		113.745	74.669	M	11.5	200.5	Lt.	1.7	0.5	113.23	251.62	
157+91 EBL	W	300		178.330	99.930	M	19.4	195.3	Rt.	2.9	0.5	165.96	368.80	
157+91 EBL	E	300		172.950	99.100	M	11.5	194.2	Rt.	1.7	0.5	158.75	352.78	
				1514.797	977.439		150.3			22.5	5.5	1339.94	2977.65	

TABULATION OF TEMPORARY FLOODLIGHTING LUMINAIRES

108-27
04-30-96

NO.	LOCATION STATION	TYPE	NUMBER LUMIN.	REMARKS
	STAGE II			
	6+00	Offset	1	Traffic Control, Sheet J.07
	69+00	Offset	1	
	82+00	Offset	1	Traffic Control, Sheet J.08
	85+00	Offset	1	Traffic Control, Sheet J.05
	162+00	Offset	1	Traffic Control, Sheet J.05
	165+00	Offset	1	Traffic Control, Sheet J.05
				Traffic Control, Sheet J.05
	STAGE IV			
	21+00	Offset	1	
	24+00	Offset	1	Traffic Control, Sheet J.06
				Traffic Control, Sheet J.06
	1073+50	Offset	2	Traffic Control, RS-15
(*)	184+75	Offset	1	Traffic Control, Sheet J.09
(*)	186+25	Offset	1	Traffic Control, Sheet J.09
	TOTAL		12	

(*) ARE NOT TO BE REMOVED BY THIS PROJECT

Revised 04/08/02

27-198

POLLUTION PREVENTION PLAN

110-12
09-27-94

All contractors / subcontractors shall conduct their operations in a manner that minimizes erosion and prevents sediments from leaving the highway right-of-way. The prime contractor shall be responsible for compliance and implementation of the Pollution Prevention Plan (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.

1. SITE DESCRIPTION

This Pollution Prevention Plan (PPP) is for the construction on the four-lane improvement of U.S. 151 from the existing four-lane highway east of Springville to north of Anamosa.

This PPP covers approximately 200 hectares with an estimated 122 hectares being disturbed.

The project is located in an area of 3 soil associations (Fayette, Dinsdale-Tama, Kenyon-Floyd-Clyde). The estimated average SCS runoff curve number for this PPP after completion will be 66.3.

Refer to the grading plans (Linn and Jones counties, NHSX-151-3(102)--3H-57 and NHSX-151-4(63)--3H-53) for locations of typical slopes, ditch grades, and major structural and non-structural controls. A copy of this plan will be on file at the project engineer's office. Runoff from this project will flow into various unnamed ditches and waterways, Dutch Creek and Fawn Creek which flow into the Wapsipinicon River and East Big Creek which flows into the Cedar River.

POTENTIAL SOURCES OF POLLUTION:
Site sources of pollution generated as a result of this work relate to silts and sediment which may be transported as a result of a storm event. However, this PPP provides conveyance for other (non-project related) operations. These other operations have storm water runoff, the regulation of which is beyond the control of this PPP. Potentially this runoff can contain various pollutants related to site-specific land uses. Examples are:

Rural Agricultural Activities:
Runoff from agricultural land use can potentially contain chemicals including herbicides, pesticides, fungicides and fertilizers.

Commercial and Industrial Activities:
Runoff from commercial, industrial, and commerce land use may contain constituents associated with the specific operation. Such operations are subject to potential leaks and spills which could be commingled with runoff from the facility. Pollutants associated with commercial and industrial activities are not readily available since they are typically proprietary.

POLLUTION PREVENTION PLAN

110-12
09-27-94

2. CONTROLS

Prior to beginning grading, excavation or clearing and grubbing operations, silt fence shall be placed along the perimeter of the areas to be disturbed at locations where runoff can move offsite. Vegetation in areas not needed for construction shall be preserved. As areas reach their final grade, additional silt fences, silt basins, intercepting ditches, sod flumes, letdowns, bridge end drains, and earth dikes shall be installed as specified in the plans and/or as required by the project engineer. This will include using silt fence as ditch checks and to protect intakes. Temporary stabilizing seeding shall be completed as the disturbed areas are constructed. If construction activity is not planned to occur in a disturbed area for at least 21 days, the area shall be stabilized by temporary seeding or mulching within 14 days. No more than 70,000 square meters of exposed erodible area is allowed in any one grading spread without permission of the project engineer. Other stabilizing methods shall be used outside the seeding period.

This work shall be done in accordance with Section 2525 of the Standard Specification. If the work involved is not applicable to any contract items, the work shall be paid for according to Article 1109.03 paragraph B.

As the work progresses, additional erosion control items such as sod flumes, ditch checks, rock outlet protection, and letdown structures and other appropriate measures shall be installed by the grading contractors as determined by the engineer after field investigation. The construction will be completed with the establishment of permanent perennial vegetation of all disturbed areas by the grading contractors.

3. 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.

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.

4. MAINTENANCE

The contractor is required to maintain all temporary erosion control measures in proper working order, including cleaning, repairing or replacing them throughout the contract period. Cleaning of silt control devices shall begin when the features have lost 50% of their capacity.

POLLUTION PREVENTION PLAN

110-12
09-27-94

5. INSPECTIONS

Inspections shall be made jointly by the contractor and the contracting authority every seven calendar days and after each rain event that is 13mm or greater. The contractor shall immediately begin corrective action on all deficiencies found. The findings of this inspection shall be recorded in the project diary. This PPP may be revised based on the findings of the inspection. The contractor shall implement all revisions. All corrective actions shall be completed within 3 calendar days of the inspection.

6. NON-STORM DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains), slope drains and bridge end drains. The velocity of the discharge from these features may be controlled by the use of patio blocks, Class A stone or erosion stone.

TABULATION OF NEW PAVEMENT

X-50
06-03-99

ROAD IDENTIFICATION	STATION TO STATION		TYPE (mm)	AREA (m2)	GRANULAR SUBBASE (under roadway) (m2)	GRANULAR SUBBASE (under shoulder) (m2)	MODIFIED SUBBASE (under roadway) (m3)	MODIFIED SUBBASE (under shoulder) (m3)	REMARKS
Mainline WBL									
	15+40	23+00	260 PCC	5925	5925	1413.71	---	---	Stage II
	23+00	64+50	260 PCC	32425	32425	7927.64	---	---	Stage I
	72+00	75+95	260 PCC	3090	3090	791.62	---	---	Stage I
	77+00	82+50	260 PCC	4290	4290	1054.33	---	---	Stage I
	82+50	84+00	260 PCC	1295	1295	204.60	---	---	Stage II (includes Ramp D gore area)
	83+00	84+00	260 PCC	695	695	99.74	---	---	Stage III (Ramp D taper area)
	154+50	157+42	260 PCC	2180	2180	584.00	---	---	Stage I
	158+46	162+00	260 PCC	2640	2640	712.48	---	---	Stage I
	162+00	164+00	260 PCC	1530	1530	205.98	---	---	Stage II (includes Ramp D gore area)
	163+00	164+00	260 PCC	945	945	101.44	---	---	Stage III (Ramp D taper area)
	173+20	175+80	260 PCC	1120	1120	307.27	---	---	Stage II (right turn lane)
Mainline EBL									
	21+00	24+00	260 PCC	1175	1175	299.39	---	---	Stage IV (Lt. lane)
	21+00	24+00	260 PCC	1175	1175	298.85	---	---	Stage IV (Rt. lane)
	67+95	75+75	260 PCC	6080	6080	1411.19	---	---	Stage I
	76+85	133+78	260 PCC	44535	44535	10177.49	---	---	Stage I
	135+55	157+35	260 PCC	17198	17198	4098.99	---	---	Stage I
	158+39	187+25	260 PCC	22450	22450	5356.90	---	---	Stage I
Median Crossovers									
	18+14		260 PCC	1115	1115	220.44	---	---	Stage I
	35+22		260 PCC	850	850	186.60	---	---	Stage I
	39+46		260 PCC	810	810	194.14	---	---	Stage I
	52+10		260 PCC	1470	1470	351.46	---	---	Stage I
	64+75		260 PCC	1000	1000	258.87	---	---	Stage I
	86+97		260 PCC	1110	1110	276.01	---	---	Stage I
	98+18		260 PCC				---	---	Stage I
	105+15		260 PCC	1340	1340	302.83	---	---	Stage I
	114+03		260 PCC	685	685	174.73	---	---	Stage I
	117+37		260 PCC	1350	1350	280.45	---	---	Stage I
	131+32		260 PCC	1150	1150	189.31	---	---	Stage I
	137+62		260 PCC	1210	1210	276.64	---	---	Stage I
	173+19		260 PCC	1270	1270	295.03	---	---	Stage I
	180+74		260 PCC	820	820	194.33	---	---	Stage I
Ramps / Loops	4082+62	4084+00	260 PCC						
	2076+75	2079+40	260 PCC	2215	137.50	49.74	194.75	81.94	Stage I (IA 1B) - includes ramp taper
	3075+30	3080+10	260 PCC	4400	243.44	114.45	416.56	143.78	Stage I (IA 1C) - includes ramp taper
	6152+95	6157+20	260 PCC	3800	196.02	59.51	373.98	134.23	Stage I (IA 64B) - includes ramp taper
	7154+95	7156+55	260 PCC	2625	255.04	120.33	138.71	50.53	Stage I (IA 64C) - includes ramp taper
	816+88	8164+00	260 PCC						
Sideroads									
	1453+03	1455+00	260 PCC	1420	---	---	---	---	Stage I (X-28)
	2132+00	2132+25	260 PCC	180	---	---	---	---	Stage I (X-40)
	1174+00	1174+75	260 PCC	540	---	---	---	---	Stage I (130th Street)
Added Rt.Turn Lane	128+19	131+31	260 PCC	1020	1020				
		TOTALS		180,734.105	→	202,211.03	→	2737.33	
				ACTUAL AMOUNT PLACED		ACTUAL AMOUNT PLACED		ACTUAL AMOUNT PLACED	

TABULATION OF DETOUR PAVEMENT

X-51
06-03-99

STATION TO STATION		SHEET NO.	SPECIAL BACKFILL (Mg)	DETOUR PAVEMENT (Sq. m)
3+10	7+65	J.01	590	1275
20+40	24+60	J.04	418	400
20+40	24+60	J.04	418	400
81+90	84+60	J.02	312	385
84+00	85+20	J.02	131	145
162+40	164+60	J.03	228	235
164+00	165+20	J.03	127	140
184+16	186+84	U.07	3852	2649 (1)
TOTALS			3845.43	5629

(1) Pavement Will Not Be Removed By This Contract.

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Revised 04-25-02
29-198

TABULATION OF PAVEMENT MARKINGS

108-22
10-31-95

② Broken Center Line (Yellow) ⑤ No-Passing Zone Line (Yellow) ⑦ Edge Line Right (White) ⑨ Dotted Line (White) ⑪ Channelizing Line (White) ⑬ Stop Line (White) ⑮ Yellow Curb
③ Double Center Line (Yellow) ⑥ Broken Lane Line (White) ⑧ Edge Line Left (Yellow) ⑩ Solid Lane Line (White) ⑫ Channelizing Line (Yellow) ⑭ Crosswalk Line (White) ⑯ White Curb

ROAD IDENTIFICATION	LOCATION STATION TO STATION		SIDE L	SIDE R	LENGTH (m) ②	③	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	REMARKS
US HWY 151																			
STAGE II																			
*** Removals for Ia. 1 Ent. Ramp 'A', Exit Ramp 'D' Mainline, Ia. 64 Ent. Ramp 'A' and Exit Ramp 'D' ***																			
Ia.1 Ent. Ramp 'A'	1071+00	1071+35	X						35										Remove Removable Tape Marking
	1071+00	1071+80				80													Remove Removable Tape Marking
	1071+00	1071+80		X					80										Remove Removable Tape Marking
	1071+35	1077+05	X						570										Pavement Marking Removed
	1071+80	1077+07				520													Pavement Marking Removed
	1071+80	1077+07	X						520										Pavement Marking Removed
Ia. 1 Exit Ramp 'D'	4077+05	4081+90	X						485										Pavement Marking Removed
	4076+92			X											18				Pavement Marking Removed
	4076+92	4081+90				485													Pavement Marking Removed
	4076+95	4081+90		X					495										Pavement Marking Removed
Mainline	68+60	69+50	WBL						90										Pavement Marking Removed
	68+60	69+50	WBL	CL		90													Pavement Marking Removed
	68+60	69+50		WBL					90										Pavement Marking Removed
	69+50	71+00	WBL						150										Remove Removable Tape Marking
	69+50	71+00	WBL			150													Remove Removable Tape Marking
	69+50	71+00		WBL					150										Remove Removable Tape Marking
	81+90	84+00	WBL						310										Remove Removable Tape Marking
	81+90	84+00	WBL	CL		310													Remove Removable Tape Marking
	81+90	84+00		WBL					310										Remove Removable Tape Marking
	84+00	85+00	WBL						100										Pavement Marking Removed
	84+00	85+00	WBL	CL		100													Pavement Marking Removed
	84+00	85+00		WBL					100										Pavement Marking Removed
	85+00	88+00	WBL				300												Pavement Marking Removed
	92+00	100+00	WBL					800											Pavement Marking Removed
	124+50	132+80	WBL					830											Pavement Marking Removed
	144+00	150+00	WBL					600											Pavement Marking Removed
	151+00	154+30	WBL						330										Pavement Marking Removed
	151+00	154+30	WBL			330													Remove Removable Paint Marking
	151+00	154+30		WBL					330										Remove Removable Paint Marking
	162+00	166+50	WBL						450										Pavement Marking Removed
	162+00	164+40	CL	CL		240													Remove Removable Tape Marking
	164+40	166+50	CL	CL		210													Pavement Marking Removed
	162+00	164+40		WBL					240										Remove Removable Tape Marking
	164+40	166+50		WBL					240										Pavement Marking Removed
	166+50	187+00	WBL	CL		2050													Pavement Marking Removed
	166+50	187+00		WBL					2050										Pavement Marking Removed
Ia. 64 Ent. Ramp 'A'	5154+30	5158+08	X						378										Pavement Marking Removed
	5154+30	5158+12	CL	CL		382													Pavement Marking Removed
	5158+12			X											14				Pavement Marking Removed
	5154+30	5158+15		X					385										Pavement Marking Removed
Ia. 64 Exit Ramp 'D'	8158+20	8162+05	X						385										Pavement Marking Removed
	8158+20	8162+05	CL	CL		385													Pavement Marking Removed
	8158+20	8162+05		X					385										Pavement Marking Removed
*** Markings for Crossover at Sta. 4+50 and Crossover 'B' ***																			
Mainline	0+10	2+50	EBL							240									Removable Tape Marking
	2+50	7+30	EBL	CL						480									Removable Tape Marking
	7+30	23+00	EBL	CL		1570													Removable Tape Marking
Crossover	700+00	701+45	X										145						Removable Tape Marking
	701+45	704+15	X										270						
	700+00	703+15		X										315					
	703+15	704+15		X										100					Removable Tape Marking
	702+79	703+73		X										75					Removable Tape Marking - Painted Channelized Island

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	C.16

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30-198

TABULATION OF PAVEMENT MARKINGS

108-22
10-31-95

② Broken Center Line (Yellow) ③ Double Center Line (Yellow) ⑤ No-Passing Zone Line (Yellow) ⑥ Broken Lane Line (White) ⑦ Edge Line Right (White) ⑧ Edge Line Left (Yellow) ⑨ Dotted Line (White) ⑩ Solid Lane Line (White) ⑪ Channelizing Line (White) ⑫ Channelizing Line (Yellow) ⑬ Stop Line (White) ⑭ Crosswalk Line (White) ⑮ Yellow Curb ⑯ White Curb

LOCATION			SIDE		LENGTH (m)														REMARKS
ROAD IDENTIFICATION	STATION TO STATION		L	R	②	③	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	
Mainline / Crossover	64+50 EBL	67+40 WBL	X										290						
	67+40	71+20	WBL										380						Removable Tape Marking
	64+50	65+50		EBL										100					Removable Tape Marking
	65+50 EBL	69+00 WBL		X										350					
	69+00	71+80		WBL										280					Removable Tape Marking
	64+50	67+95	EBL	CL						345									Removable Tape Marking
*** Markings for Ia. 1 Ent. Ramp 'A' and Exit Ramp 'D' ***																			
Ia.1 Ent. Ramp 'A'	1071+20	1077+05	X						585										
	1071+70	1077+07		X						537									
Ia. 1 Exit Ramp 'D'	4077+05	4081+90	X						485										
	4076+92			X											26				
	4076+95	4081+90		X						495									
*** Markings for Hwy. 151, WB Lanes ***																			
Mainline	17+59 WBL	17+95 EBL	X							78									
	18+10	18+90	WBL									80							
	18+40 EBL	19+26 WBL	X							146									
	34+68 WBL	35+05 EBL	X							64									
	35+29	35+96	WBL									67							
	35+47 EBL	36+32 WBL	X							126									
	38+38 EBL	39+18 WBL	X							129									
	38+73	39+40	EBL									67							
	39+66 WBL	40+00 EBL	X							68									
	50+96 EBL	51+50 WBL	X							177									
	51+30	51+90	EBL									60							
	52+15	52+84	WBL									69							
	52+63 EBL	53+20 WBL	X							178									
	64+70	65+41	WBL									71							
	81+90	85+00	WBL										310						Removable Tape Marking
	81+90	85+00		WBL										310					Removable Tape Marking
	85+00	153+50	WBL						6850										
	85+00	162+00	WBL	CL				7700											
	85+00	162+00		WBL						7700									
	87+01	87+71	WBL									70							
	105+16	105+94	WBL									78							
	117+40	118+10	WBL									70							
	131+36	132+09	WBL									73							
	137+67	138+35	WBL									68							
	162+00	165+00	WBL										300						Removable Tape Marking
	162+00	165+00		WBL										300					Removable Tape Marking
	165+00	172+60	WBL						760										
	165+00	172+70		WBL						770									
	166+00	183+25	WBL	CL				1725											
	173+20	173+90	WBL									70							
	173+20	175+30		WBL								210							
	173+55	180+55		WBL					700										
	174+25	180+45	WBL							620									
	180+90	184+75		WBL					385										
	180+95	183+55	WBL							260									
	128+73	131+31		WBL								258							For Rt. Turn Lane
*** Markings for Hwy. 151, EB Lanes ***																			
Mainline	63+75 EBL	64+50 WBL	X							130									Turning Lane Marking - Wrap Around to 64+50 WBL
	64+10	64+70	EBL									60							
	65+75 WBL	65+00 EBL	X							130									Turning Lane Marking - Wrap Around to 65+00 EBL
	65+00	85+90	EBL							2090									
	67+95	180+26	EBL	CL				11231											Center Line - R
	67+95	74+25		EBL					630										
	74+25	76+70		EBL					240										Exit Loop Taper Marking
	74+25	75+05		EBL															
	75+05	76+35		EBL									124						Exit Loop Taper Marking
	75+05	76+35		EBL									123						
	76+35	76+70		EBL					35										Exit Loop Taper Marking
	76+35	80+10		EBL					375										
	80+10	81+05		EBL									97						

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DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER C.17

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Revised 04-25-02
31-198

TABULATION OF PAVEMENT MARKINGS

108-22
10-31-95

② Broken Center Line (Yellow) ⑤ No-Passing Zone Line (Yellow) ⑦ Edge Line Right (White) ⑨ Dotted Line (White) ⑪ Channelizing Line (White) ⑬ Stop Line (White) ⑮ Yellow Curb
③ Double Center Line (Yellow) ⑥ Broken Lane Line (White) ⑧ Edge Line Left (Yellow) ⑩ Solid Lane Line (White) ⑫ Channelizing Line (Yellow) ⑭ Crosswalk Line (White) ⑯ White Curb

LOCATION				LENGTH (m)														
ROAD IDENTIFICATION	STATION TO STATION		SIDE L	SIDE R	②	③	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	REMARKS
	80+10	81+05		EBL									98						Entrance Ramp Taper Marking
	80+90	83+90		EBL					300										Entrance Ramp Taper Marking
	81+05	83+90		EBL															
	83+90	86+75		EBL					285										
	85+90 EBL	86+40 WBL	X							155									Turning Lane Marking - Wrap Around to 86+40 WBL
	86+27	86+93	EBL									66							
	88+10 WBL	87+20 EBL	X							90									Turning Lane Marking - Wrap Around to 87+20 EBL
	87+20	94+10	EBL							690									
	87+20	105+05		EBL					1785										
	94+10 EBL	94+90 WBL	EBL							135									Turning Lane Marking - Wrap Around to 94+90 EBL
	94+49	95+13	EBL									64							
	95+40 WBL	95+50 EBL	X							50									Turning Lane Marking - Wrap Around to 95+50 EBL
	95+50	104+00	EBL							850									
	104+00 EBL	104+60 WBL		X						152									Turning Lane Marking - Wrap Around to 104+60 WBL
	104+37	105+03	EBL									66							
	106+30 WBL	105+70 EBL	X							152									Turning Lane Marking - Wrap Around to 105+70 EBL
	105+05	116+85		EBL					1180										
	105+70	113+00	EBL							730									
	113+00 EBL	113+70 WBL		X						131									Turning Lane Marking - Wrap Around to 113+70 WBL
	113+35	113+97	EBL									62							
	114+25 WBL	114+30 EBL	X							47									Turning Lane Marking - Wrap Around to 114+30 EBL
	114+30	116+30	EBL							200									
	116+30 EBL	116+85 WBL		X						142									Turning Lane Marking - Wrap Around to 116+85 WBL
	116+53	117+24	EBL									71							
	118+45 WBL	117+90 EBL	X							141									Turning Lane Marking - Wrap Around to 117+90 EBL
	117+55	131+00		EBL					1345										
	117+90	131+10	EBL							1320									
	130+85 WBL	131+10 EBL	X							61									Turning Lane Marking - Wrap Around to 131+10 EBL
	132+45 WBL	131+55 EBL	X							125									Turning Lane Marking - Wrap Around to 131+55 EBL
	131+55	136+50	EBL							495									
	131+80	137+35		EBL					555										
	136+50 EBL	137+15 WBL		X						141									Turning Lane Marking - Wrap Around to 137+15 WBL
	136+89	137+52	EBL									63							
	138+70 WBL	138+10 EBL	X							139									Turning Lane Marking - Wrap Around to 138+10 EBL
	137+80	151+00		EBL					1320										
	138+10	172+05	EBL							3395									
	151+00	151+80		EBL							80								
	151+00	153+10		EBL					215										Exit Ramp Taper
	151+80	152+95		EBL									115						
	151+80	152+95		EBL									116						Exit Ramp Taper
	152+95	153+10	EBL							15									Exit Ramp Taper
	152+95	156+55		EBL					360										
	156+55	157+30		EBL									75						
	156+55	157+30		EBL									76						
	157+30	159+00		EBL				170											
	157+90	172+90		EBL					1500										
	172+05 EBL	172+70 WBL	EBL							151									Turning Lane Marking - Wrap Around to 172+70 WBL
	172+43	173+11		EBL								68							
	174+25 WBL	173+65 EBL	X							147									Turning Lane Marking - Wrap Around to 173+65 EBL
	173+60	181+25		EBL					740										
	173+65	179+65	EBL							600									
	179+65 EBL	180+45 WBL	X							130									Turning Lane Marking - Wrap Around to 180+45 WBL
	180+01	180+67	EBL									66							
	180+95 WBL	181+25 EBL	X							68									Turning Lane Marking - Wrap Around to 181+25 EBL
Mainline / Crossover	181+25	184+16		EBL					291										
	181+96	186+84		EBL									488						Will Include 90 Raised Pavement Markers
	181+96	184+46		EBL									142						Cross Hatching Lines, 6 m C/C 45°
	181+25	184+16	EBL					291											
	184+16	186+84	EBL											268					Will Include 90 Raised Pavement Markers
	185+65	186+84	EBL											85					Cross Hatching Lines, 6 m C/C 45°
	185+65	187+00	WBL	CL										135					
	187+00	187+74	WBL	CL			74												
*** Markings for Remaining Ramps, Loops, and Sideroads ***																			

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	C.18

date = Thu Oct 5 16:27:53 2000 prf = \\WATSO1\DATA\PLOT\PL463P\c18h.prf

32-198

TABULATION OF PAVEMENT MARKINGS

108-22
10-31-95

② Broken Center Line (Yellow) ⑤ No-Passing Zone Line (Yellow) ⑦ Edge Line Right (White) ⑨ Dotted Line (White) ⑪ Channelizing Line (White) ⑬ Stop Line (White) ⑮ Yellow Curb
③ Double Center Line (Yellow) ⑥ Broken Lane Line (White) ⑧ Edge Line Left (Yellow) ⑩ Solid Lane Line (White) ⑫ Channelizing Line (Yellow) ⑭ Crosswalk Line (White) ⑯ White Curb

ROAD IDENTIFICATION	LOCATION STATION TO STATION		SIDE L	SIDE R	LENGTH (m) ②	③	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	REMARKS
Exit Loop B	2076+70	2079+40	X							285									
	2076+70	2079+40		X					269										
Entrance Ramp C	3074+76	3080+90		X					633										
	3074+90	3076+00	CL	CL		110													
	3074+93			X											30				
	3075+04	3076+00	X						116										
	3076+00	3080+10	X							410									
X-28	1452+50	1455+00	X						267										
	1452+50	1455+00		X					293										
	1452+47	1455+00	CL	CL		253													
	1452+47			X											18				
X-40	2131+46	2132+25		X						92									
	2131+48	2132+25	CL	CL			74												
	2131+50	2132+25	X							103									
	2131+51			X											23				
Exit Ramp B	6153+10	6157+40	X						487										
	6153+10	6156+60		X						352									
	6156+60	6157+60	CL	CL		100													
	6156+60	6157+72		X					126										
	6157+60			X											30				
Entrance Loop C	7154+95	7157+95		X															
	7154+95	7156+55	X																
130th Street	1173+35	1174+75	X							153									
	1173+38	1174+75	CL	CL			137												
	1173+45	1174+75	X							174									
	1173+35			X											21				
Stage III																			
*** Removals for Mainline ***																			
Mainline	0+10	2+50	EBL							240									Remove Removable Tape Marking
	2+50	7+30	EBL	CL						480									Remove Removable Tape Marking
	7+30	23+00	EBL	CL		1570													Remove Removable Tape Marking
Crossover	700+00	701+45	X										145						Remove Removable Tape Marking
	703+15	704+15		X										100					Remove Removable Tape Marking
	702+79	703+73		X										75					Remove Removable Tape Marking - Painted Channelized Island
Mainline / Crossover	67+40	71+20	WBL										380						Remove Removable Tape Marking
	64+50	65+50		EBL										100					Remove Removable Tape Marking
	69+00	71+80		WBL										280					Remove Removable Tape Marking
	64+50	67+95	EBL	CL						345									Remove Removable Tape Marking
Mainline	81+90	85+00	WBL										310						Remove Removable Tape Marking
	81+90	85+00		WBL										310					Remove Removable Tape Marking
	162+00	165+00	WBL										300						Remove Removable Tape Marking
	162+00	165+00		WBL										300					Remove Removable Tape Marking
*** Markings for Hwy. 151, WB Lanes ***																			
Mainline	15+40	85+00	WBL	CL				6960											
	15+40	39+30		WBL					2390										
	15+40	17+59	WBL							219									
	19+26	34+68	WBL							1542									
	36+32	39+18	WBL							286									
	39+66	51+50	WBL							1184									
	39+80	51+65		WBL					1185										
	52+50	71+80		WBL					1930										
	53+20	64+50	WBL							1130									
	65+77	85+00	WBL							1923									
	71+80	82+05		WBL					1025										

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER C.19

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TABULATION OF PAVEMENT MARKINGS

108-22
10-31-95

② Broken Center Line (Yellow) ⑤ No-Passing Zone Line (Yellow) ⑦ Edge Line Right (White) ⑨ Dotted Line (White) ⑪ Channelizing Line (White) ⑬ Stop Line (White) ⑮ Yellow Curb
③ Double Center Line (Yellow) ⑥ Broken Lane Line (White) ⑧ Edge Line Left (Yellow) ⑩ Solid Lane Line (White) ⑫ Channelizing Line (Yellow) ⑭ Crosswalk Line (White) ⑯ White Curb

ROAD IDENTIFICATION	LOCATION STATION TO STATION		SIDE L	SIDE R	LENGTH (m) ②	③	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	REMARKS
	82+05	85+00		WBL					295										
	162+00	165+00		WBL					300										
	162+00	163+39		WBL									139						
	162+00	163+39		WBL									139						
	162+00	165+00	WBL	CL				300											
	162+00	165+00	WBL							300									
	163+39	164+12		WBL							73								
Stage IV																			
Mainline	20+40	24+60		EBL					420										
	20+40	21+00		EBL						60									Removable Tape Marking
	21+00	24+00		EBL						300									
	24+00	24+60		EBL						60									Removable Tape Marking
Stage V																			
	20+40	21+00		EBL						60									Remove Removable Tape Marking
	24+00	24+60		EBL						60									Remove Removable Tape Marking
Mainline	20+40	24+60	EBL							420									
	20+40	21+00	EBL							60									Removable Tape Marking
	21+00	24+00	EBL							300									
	24+00	24+60	EBL							60									Removable Tape Marking
Stage VI																			
	20+40	21+00	EBL							60									Remove Removable Tape Marking
	24+00	24+60	EBL							60									Remove Removable Tape Marking
Mainline	21+00	24+00	EBL							300									
	21+00	24+00	EBL	CL				300											
	21+00	24+00		EBL					300										
LENGTH SUBTOTALS					0	1570	0	0	0	1305	0	0	1135	1165	0	0	0	0	Removable Tape Marking
					0	2680	0	0	1605	1305	0	0	1135	1165	0	0	0	0	Remove Removable Tape Marking
					0	463	285	28386	31053	33847	518	1897	2292	1153	130	0	0	0	Pavement Marking
					0	4222	300	2230	7053	65	0	0	0	0	32	0	0	0	Pavement Marking Removed
QUANTITY FACTORS					0.25	2.00	1.00	0.25	1.00	1.00	0.33	1.00	2.00	2.00	6.00	1.50			
TOTALS					0	3140	0	0	0	1305	0	0	2270	2330	0	0	0	0	Removable Tape Marking, TOTAL = 2367.00 METERS
					0	5360	0	0	1605	1305	0	0	2270	2330	0	0	0	0	
					0	926	285	7097	31053	33847	171	1897	4584	2306	780	0	0	0	Pavement Marking, TOTAL = 118,174.968 METERS
					0	8444	300	558	7053	65	0	0	0	0	192	0	0	0	Pavement Marking Removed, TOTAL = 54,300.75 METERS

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DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	C.20

date = Mon Apr 29 10:44:09 2002 prf = \\WATSO1\DATA\PLOT\COPIER\X40c20.prf

Revised 04-25-02

34-198

TABULATION OF STEEL BEAM GUARDRAIL AT BRIDGE END POST, CONCRETE BARRIER AND RAILROAD SIGNALS

108-8A
10-03-00

Refer to Standard Road Plans RE-63, RE-65A and RE-65B

LOCATION					STANDARD ROAD PLAN	CASE	(L2) ②	LAYOUT INFORMATION				MATERIALS REQUIRED						BID ITEMS				
		End	Side									STS										
No.	Direction ① of Traffic	A = Approach T = Trailing	O = Outside M = Median	Station				(STS)	(VT)	(VF)	(ET)	Thrie Beam	Transition Section	(VT)+(VF)+(ET) ③	CRT Posts 150x200x1830	Posts ④ 200x200x1830	Posts ⑤ 250x250x1830	Formed Steel Beam Guardrail	Anchorage and Terminal Systems			
								(5.715)			(11.430)	(7.62)	(1.905)	'W' Beam	with 150x200 mm Spacer Blocks	with 200x200 mm Spacer Blocks	with 200x200 mm Spacer Blocks	(STS)+(VT)+(VF)+(ET)	RE-33B	RE-69A	RE-69B	RE-76
						F or S	m	m	m	m	m	m	m	m	(5) No.	(3) No.	No.	m	No.	No.	No.	No.
1	EB	A	0	76+32.765	RE-65A	F	---	5.715	0	0	11.430	7.62	1.095	11.403	5	3	3	17.145	---	1	---	1
2	WB	A	0	76+47.015	RE-65A	F	---	5.715	0	0	11.430	7.62	1.095	11.403	5	3	3	17.145	---	1	---	1
3	WB	A	0	134+56.036	RE-65A	F	---	5.715	0	0	11.430	7.62	1.095	11.403	5	3	3	17.145	---	1	---	1
4	EB	A	0	134+66.217	RE-65A	F	---	5.715	0	0	11.430	7.62	1.095	11.403	5	3	3	17.145	---	1	---	1
5	EB	A	0	157+87.246	RE-65A	F	---	5.715	0	0	11.430	7.62	1.095	11.403	5	3	3	17.145	---	1	---	1
6	WB	A	0	157+93.534	RE-65A	F	---	5.715	0	0	11.430	7.62	1.095	11.403	5	3	3	17.145	---	1	---	1

① Lane(s) to which the obstacle is adjacent.
② Applies to Standard Road Plan RE-63 only.
③ Includes (2) special 3.81 m sections of 'W' Beam, see Standard Road Plan RE-76.
④ (4) 200x200x1830 post required when Standard Road Plan RE-63 is specified.
⑤ The last two posts of the RE-76 Terminal section are included as part of that bid item.

REMARKS

TABULATION OF STEEL BEAM GUARDRAIL FOR STANDARD ROAD PLAN RE-67

108-19
10-03-00

LOCATION			(A) APPROACH SIDE LAYOUT LENGTHS				(T) TRAILING SIDE LAYOUT LENGTHS					MATERIALS REQUIRED							BID ITEMS				
												STS		'W' Beam	Posts (sized in mm)							
NO.	Direction ① or Traffic	STATION	(STS)	Section for Skewed Bridge	Curve #1	RE-53 Section	Tangent Section	Curve #2	Section for Skewed Bridge	② Adjustment Section	(STS)	Thrie Beam	Transition Section	(A)+(T) ③	200x200x1830 with 200x200 Spacer Blocks	250x250x1830 with 200x200 Spacer Blocks (6)	200x200x1830 without Spacer Blocks (2)	150x150x1830 without Spacer Blocks (1)	Formed Steel Beam Guardrail (A)+(T)	Anchorage and Terminal Systems		
			(5.715)			(3.810)					(5.715)	(15.24)	(2) @ (1.905)	-11.43						RE-53	RE-69A	RE-69B
			m	m	m	m	m	m	m	m	m	m	m	m	No.	No.	No.	No.	m	No.	No.	No.
1	EB	76+04.037	5.715	----	34.290	3.810	13.335	13.335	----	17.145	5.715	15.24	(2)@1.905	81.915	45	6	2	1	93.345	1	2	----
2	WB	76+75.603	5.715	----	34.290	3.810	13.335	13.335	----	17.145	5.715	15.24	(2)@1.905	81.915	45	6	2	1	93.345	1	2	----
3	EB	133+97.752	5.715	----	34.290	3.810	13.335	13.335	----	1.905	5.715	15.24	(2)@1.905	66.675	37	6	2	1	78.105	1	2	----
4	WB	135+24.492	5.715	----	34.290	3.810	13.335	13.335	----	1.905	5.715	15.24	(2)@1.905	66.675	37	6	2	1	78.105	1	2	----
5	EB	157+57.922	5.715	----	34.290	3.810	13.335	13.335	----	11.430	5.715	15.24	(2)@1.905	76.20	42	6	2	1	87.631	1	2	----
6	WB	158+22.858	5.715	----	34.290	3.810	13.335	13.335	----	11.430	5.715	15.24	(2)@1.905	76.20	42	6	2	1	87.631	1	2	----

① Lane(s) to which the obstacle is adjacent.
② Excess rail has been supplied for field adjustment at this point. This section will be divisible by 1.905m.
③ Includes (1) 3.81m long 1.524m radius section.

REMARKS

ACCESS LOCATIONS

None this sheet.

BROWN TWP.
T-84N R-5W
SECTION 27

SHED
BARN
TANK
HO
SHED
SHED
SHED

EAST BIG CREEK

Sta. 14+34.1
2440 x 3050 x 14.28 Twin RCB
D.A.=841.80 HA. R

1 Linn East Corporation
Eugene J. and
Marian J. Kennedy

15+20± O.R. Ex R/W
℄ 35m (115') (Ex R/W Cor)

U.S. 151

P.I. Sta. 9+99.66 Hwy. 151 ℄
P.I. Sta. 1505+02.16 (English)
Project No. - 151-3(79)--20-57

VER
3.329

Survey ℄

℄ O.R.

U.S. 151

BEGIN PROJECT
Sta. 15+40.000 O.R. =
Sta. 15+40.000, 21.988 m Lt., ℄
BEGIN PAVING/GRADING W.B. LANES
(RD JOINT)

Dorothy M. Vavricek

151

0 METERS 100
SCALE RATIO: 1:1000

Note: See Sheet F.01 for Crossover at Sta. 4+50

280
275
270
265

+40.0

BEGIN PROJECT
BEGIN PAVING/ GRADING W.B. LANES
Sta 15+40.000
El 269.324

+2.4A33%

Note: Project Plans Will Refer to Westbound/Eastbound Lanes. From Sta. 140+00 to Sta. 187+25. Westbound Lanes Are Actually Southbound and Eastbound Lane Are Actually Northbound.

F.L. Lt. 265.325
Rt. 265.181

1.5 m x 3.0 m Ditch
1.3 m
Med. Ditch
U.A.C.
Exist. Ditch

Lt.
Med.
Rt.

269.324 269.568 269.813 270.057 270.301 270.546 270.790

10 11 12 13 14 15 16

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	D.01

date = Thu Oct 5 13:19:42 2000 prf = \\WATSO1\DATA\PLOT\PL463P\d01h.prf

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1 Linn East Corporation
Eugene J. and Marian J. Kennedy

TEMPORARY EASEMENT TO REMOVE SHED AND HOUSE

BROWN TWP. T-84N R-5W SECTION 27

SECTION 26

BROWN TWP. T-84N R-5W SECTION 23

3 Linn East Corporation

ACCESS LOCATIONS
STA. 18+14 LT. & RT.
STA. 23+40 LT. & RT.

4 Ruth Joan Boyanovsky

5 John Edward and Elizabeth A. Boyanovsky

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

STOP GRADING/ CONTINUE PAVING W.B. LANES
STA. 23+00.000 O.R.
(RD JOINT)

Remove Existing Crossover, Stage II

PT Sta 20+07.821

℄ O.R.

PC Sta 16+52.068

16+77 O.R. ℄ 56m(184')
17+12 O.R. ℄ 56m(184')
17+40 O.R. ℄ 60m(197')
18+30 O.R. ℄ 60m(197')
18+20± O.R. ℄ 39m(128')
22+42± O.R. ℄ 39m(128')
23+22 O.R. ℄ 44m(144')
23+30± O.R. ℄ 44m(144')
23+36± O.R. ℄ 39m(128')
23+52 O.R. ℄ 44m(144')

Prop. 450 mm Uncl. Ent. Pipe

Prop. 14-21 Type C Ent.

457 x 11.71 CMP 54.03 (Remove)

14.90 (Remove)

PI Sta 18+30.000

Sta 18+14.384 O.R. = Sta 1018+27.061 Linn Grove Rd

Sta. 18+38.0
610 x 27.31 RCP
Median Drain

Survey ℄

BEGIN PAVING E.B. LANES
STA. 21+00.000 O.R.
(RD JOINT)

PC Sta 20+74.827

PI Sta 22+38.875

Staged Construction See Sheet J.04

SURFACE GRANULAR MEDIAN

LINN GROVE ROAD

U.S. 151

Dorothy M. Vavricek

Lillian A. Hopkins

0 METERS 100
SCALE RATIO: 1:1000

Stage II
Cut=11,694

Stage II
F+30%=7,211
Waste=4,483
11,694

+0.00

STA = 22+95.000
EL = 281.492
L = 260.000
E = -0.520
K = 162.500

STA = 17+90.000
EL = 275.432
L = 200.000
E = -0.311
K = 160.857

Prop. Type C Ent.
Sta 18+14(Lt)

1%
-3%
2.5%
+2.4433%
+1.2000%
-0.4000%

Sta. 18+18.262 Linn Grove Road
F.L. Lt. 273.973 Rt. 272.895

Type C Ent.
Sta 23+40(Lt & Rt)

STOP GRADING W.B. LANES
Sta 23+00.000
El 280.992

285
280
275
270

	16	17	18	19	20	21	22	23
Lt.		1.5 m x 3.0 m Ditch				1.5 m x 3.0 m Ditch		Farm Ent.
Med.		1.3 m Med. Ditch	Type 'C' Ent. Cross-over			1.3 m Med. Ditch		Cross-over
Rt.		U.A.C. Exist. Ditch	Side Road			U.A.C. Exist. Ditch		Farm Ent.

271.034 271.279 271.523 271.767 272.012 272.256 272.500 272.745 272.989 273.230 273.465 273.694 273.917 274.133 274.343 274.547 274.745 274.936 275.122 275.301 275.473 275.640 275.800 275.955 276.103 276.244 276.380 276.509 276.632 276.752 276.872 276.992 277.112 277.232 277.352 277.472 277.592 277.712 277.832 277.952 278.072 278.192 278.312 278.432 278.552 278.672 278.792 278.912 279.032 279.152 279.272 279.392 279.512 279.632 279.752 279.872 279.992 280.105 280.213 280.315 280.410 280.499 280.582 280.659 280.730 280.795 280.853 280.905 280.952 280.992 281.025 281.053 281.075 281.090 281.099

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	D.02

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ACCESS LOCATIONS
STA. 23+40 LT. & RT.
STA. 26+91 LT. & RT.

5 HO TANK John Edward and Elizabeth A. Boyanovsky

6 Ronald E. and Dee Ann Newman

8 Leona M. Miller and Wesley Edwin Goodman

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

GAR
23+30± O.R. ℄ 44m(144')
23+36± O.R. ℄ 39m(128')
23+52 O.R. ℄ 44m(144')
23+65 O.R. ℄ 36m(118')± EX. R/W

25+65 O.R. ℄ 36m(118')± EX. R/W

+72 Ditch Dike

26+66 O.R. ℄ 50m(164')

+91 FIELD ENT.

26+74± O.R. ℄ 50m(164')
26+74± O.R. ℄ 41m(135')
27+06 O.R. ℄ 50m(164')

31+00 O.R. ℄ 37m(121')

750 x 15.24 Ext Pipe

U.S. 151

SIGN

PT Sta 24+02.806

STOP PAVING E.B. LANES
STA. 24+00.000 O.R.
(RD JOINT)

Sta. 26+60
600 x 21.95 RCP

Sta. 26+72.4
915 x 610 x 8.53 RCB
w/ 1050 x 8.02 RCP Extension Lt.
w/ 1050 x 8.02 RCP Extension Rt.
D.A.=25.10 HA. F

SURFACE GRANULAR MEDIAN

610 x 13.81 CMP
31.28

Sta. 27+10
600 x 20.12 RCP

+92.1 FIELD ENT.

+40.2 FARM ENT.

CONC.
SHED
HO
TANK
SHED
BARN

BROWN TWP.
T-84N R-5W
SECTION 26

Lillian A. Hopkins

BROWN TWP.
T-84N R-5W
SECTION 23

Elfriede C. Freshwaters

0 METERS 100
SCALE RATIO: 1:1000

285
280
275
270

-0.4000%
-0.4000%
-0.4000%
+1.0000%
+1.0000%

Lt. 278.034
Rt. 278.304

0.17%
0.88%

+25.0(LT.) EL 277.90
+72.0(LT.) EL 277.98
+25.0(LT.) EL 278.44

STA = 27+55.000
EL = 279.652
K = 200.000
= 0.350
= 142.857

3% -2% 3%

Type C Joint Ent.
Sta 26+91(Lt)

	24	25	26	27	28	29	30	31
Lt.	No Ditch			Ditch Grade			1.5 m x 3.0 m Ditch	
Med.		1.3 m Med. Ditch		Type 'C' Ent. / D.G. / Ditch / Dike / Cross-over / Field Ent.			1.3 m Med. Ditch	
Rt.		U.A.C. Exist. Ditch					U.A.C. Exist. Ditch	

281.102 281.099 281.090 281.075 281.053 281.025 280.992 280.952 280.912 280.872 280.832 280.792 280.752 280.712 280.672 280.632 280.592 280.552 280.512 280.472 280.432 280.392 280.352 280.312 280.272 280.232 280.192 280.152 280.112 280.072 280.033 280.000 279.974 279.955 279.943 279.938 279.940 279.949 279.965 279.988 280.018 280.055 280.099 280.150 280.208 280.273 280.345 280.424 280.510 280.603 280.702 280.802 280.902 281.002 281.102 281.202 281.302 281.402 281.502 281.602 281.702 281.802 281.902 282.002 282.102 282.202 282.302 282.402 282.502 282.602 282.702 282.802 282.902 283.002 283.102

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	D.03

date = Thu Oct 5 13:20:21 2000 prf = \\WATSO1\DATA\PLOT\PL463P\d03h.prf

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Station	+00	+20	+40	+60	+80	+100	+120	+140	+160	+180
31	283.202	283.302	283.402	283.502	283.602	283.702	283.802	283.900	283.993	284.082
32	284.167	284.247	284.322	284.393	284.460	284.522	284.580	284.633	284.682	284.727
33	284.767	284.802	284.833	284.860	284.882	284.902	284.922	284.942	284.962	284.982
34	285.002	285.022	285.042	285.062	285.082	285.102	285.122	285.142	285.162	285.182
35	285.202	285.222	285.242	285.262	285.282	285.302	285.322	285.342	285.362	285.382
36	285.402	285.422	285.442	285.462	285.482	285.502	285.521	285.537	285.549	285.559
37	285.567	285.571	285.572	285.571	285.567	285.559	285.549	285.537	285.521	285.502
38	285.482	285.462	285.442	285.422	285.402					

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER D.04 [redacted]

date = Thu Oct 5 13:20:41 2000 prf = \\WATS01\DATA\PLOT\PL463P\d04h.prf

Refer to Sheet No. E.01 for Side Road Details

BROWN TWP.
T-84N R-5W
SECTION 24

ACCESS LOCATIONS
STA. 39+46 LT. & RT.
STA. 43+64 LT. & RT.

10 Vernon L. and Shirley I. Horak

12 Eugenia Kennedy

QUAKER LANE

39+16 O.R. ℄ 37m(121')

40+00 O.R. ℄ 37m(121')

42+82± O.R. EX. R/W ℄ 39m(128') (EX. R/W Cor.)

43+64± O.R. ℄ 60m(197')

43+60 O.R. ℄ 60m(197')

43+95 O.R. ℄ 60m(197')

45+25.9± O.R. Ex. R/W ℄ 39.3(111') m (Ex. R/W Cor.)

46+00 O.R. ℄ 42m(138')

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

Sta. 41+20
600 x 20.12 RCP

Sta. 41+60
600 x 20.12 RCP

Sta. 43+85
600 x 20.12 RCP

600 x 21.34 Ent. Pipe

600 x 23.16 Ent. Pipe

450 x 21.34 Ent. Pipe

610 x 16.65 CMP 32.6°

+51 Ditch Dike

+53 Ditch Dike

Sta 39+46.115 O.R.=
Sta 1239+47.387 Quaker Rd

Sta. 39+25
600 x 20.12 RCP

Sta. 41+51.5
Twin 600 x 54.25 RCP

Sta. 41+60.6
457 x 25.56 RCP
Abandon
D.A.=22.50 HA, F

SURFACE GRANULAR MEDIAN

43+33 O.R. ℄ 46m(151')

43+64± O.R. ℄ 46m(151')

43+78 O.R. ℄ 46m(151')

+43.0 FIELD ENT.

+64 FIELD ENT.

U.S. 151

0 METERS 100
SCALE RATIO: 1:1000

STA = 41+70.000
EL = 284.762
L = 180.000
E = 0.189
K = 214.286

STA = 45+80.000
EL = 287.386
L = 180.000
E = -0.099
K = 409.091

-0.2000%
-0.2000%
+0.6400%
+0.6400%
+0.6400%
+0.2000%
-0.36%
0.49%

F.L. Lt. 283.413
Rt. 282.803

+20.0(LT.) EL 283.40
+48.0(LT.) EL 283.30
+50.0(LT.) EL 283.30
+60.0(LT.) EL 283.84

Type 'C' Joint Ent.
Sta 43+64(Lt & Rt)

Sta. 39+49.349
Quaker Lane

290
285
280
275

	39	40	41	42	43	44	45	46
Lt.	1.5 m x 3.0 m Ditch		1.5 m x 3.0 m Ditch		Ditch Grade	1.5 m x 3.0 m Ditch		1.5 m x 3.0 m Ditch
Med.	1.3 m Med. V-Ditch	Cross -over Field Ent.	1.3 m Med. Ditch	Ditch Inlet	1.3 m Med. Ditch	Cross -over Type 'C' Ent.	Type 'C' Ent.	1.3 m Med. Ditch
Rt.	U.A.C. Exist. Ditch	Side Road	U.A.C. Exist. Ditch					U.A.C. Exist. Ditch

285.382 285.362 285.342 285.322 285.302 285.282 285.262 285.242 285.222 285.202 285.182 285.162 285.142 285.122 285.102 285.082 285.062 285.042 285.022 285.002 284.982 284.962 284.942 284.925 284.912 284.903 284.900 284.901 284.906 284.917 284.932 284.951 284.976 285.005 285.038 285.077 285.120 285.167 285.220 285.277 285.338 285.402 285.466 285.530 285.594 285.658 285.722 285.786 285.850 285.914 285.978 286.042 286.106 286.170 286.234 286.298 286.362 286.426 286.490 286.554 286.618 286.682 286.746 286.810 286.873 286.933 286.991 287.047 287.100 287.150 287.198 287.244 287.287 287.328 287.366

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	D.05

date = Thu Oct 5 13:21:01 2000 prf = \\WATSO1\DATA\PLOT\PL463P\d05h.prf

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER D.06 [redacted]

288.316	288.246	288.170	288.088	288.000
287.912	287.824	287.736	287.648	287.560
287.472	287.384	287.296	287.208	287.120
287.032	286.944	286.856	286.768	286.680
286.592	286.504	286.416	286.328	286.240
286.152	286.064	285.976	285.888	285.800
285.712	285.624	285.536	285.448	285.360
285.272	285.184	285.096	285.008	284.920
284.832	284.744	284.656	284.568	284.480
284.392	284.304	284.216	284.128	284.040
283.952	283.864	283.776	283.688	283.600
283.512	283.424	283.336	283.248	283.160
283.072	282.984	282.896	282.808	282.720
282.632	282.544	282.456	282.368	282.280
282.192	282.104	282.016	281.928	281.840

54 55 56 57 58 59 60 61

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	D.07 [redacted]

date = Thu Oct 5 13:21:42 2000 prf = \\WATS01\DATA\PLOT\PL463P\d07h.prf

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TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

115 Laddie and Linda Nachazel

Sta. 61+50
600 x 20.12 RCP

61+52 O.R.
℄ 42m(138')

61+82 O.R.
℄ 42m(138')

℄ O.R.

64+48 O.R.
℄ 42m(138')

Sta. 64+60
600 x 22.56 RCP

Sta. 64+50.000
STOP PAVING WBL

9065+28
℄ 18m(59')

600 x 9.75
Ent. Pipe

Accessway 'A'

Twin 1350 x 10.97
Ent. Pipes

65+00 O.R.
℄ 38m(125')

1050 x 15.85
Ent. Pipe

115A Laddie and Linda Nachazel(Fee)
Apostolic Assembly of Anamosa (C.P.)

9066+53.9± ℄
℄ 24m(79')

66+13.3± ℄
℄ 39m(128')

Type 47
Field Fence

+70 Ditch Dike

ACCESS LOCATIONS
STA. 61+67 LT. & RT.
STA. 64+75 LT. & RT.

68+04± O.R. ℄
℄ 68m(223')

68+04± O.R. ℄
℄ 46m(151')

68+04± O.R. ℄
℄ 44,823m(147,24')

FAIRVIEW TWP.
T-84N R-4W
SECTION 20

750 x 12.80
Ent. Pipe

610 x 15.94
CMP
35.07

610 x 12.85
CMP
34.90

Survey ℄

POT Sta 64+75.000
US 151 O.R. =
POT Sta 9064+75.000
Accessway 'A'

Sta. 65+72.7
1825 X 1125 X 25.98 Twin RCP (Arch)
w/Twin 1855 x 1145 x 33.53 RCP Arch Ext. Lt.
D.A.=93.10 HA, R

Sta. 65+80
600 x 23.77 RCP

REMOVE CROSSOVER "B"
IN STAGE III

PCSta 66+94.950

PISta 67+96.604

RESUME EB PAVING
Sta. 967+95.000 EBL O.R. =
Sta. 67+95.276, 14 m Rt. Hwy. 151 O.R.
(RD JOINT)

Sta. 68+16
900 x 22.56 RCP

Sta. 68+16
900 x 21.34 RCP

Refer to Sheet No. E.09
for Sideroad Details

117 Pierre L. and Lois V. Gombert

Phyllis A. Lerch

FAIRVIEW TWP.
T-84N R-4W
SECTION 19

0 METERS 100
SCALE RATIO: 1:1000

Stage III

Cut=1,150

F+30%= 0
Waste=1,150
1,150

+70.0

STA 64+80.000
EL 278.496
L = 500.000
E = 0.800
K = 390.627

+50.0(MED.)
EL 280.06

-0.61%

-0.8800%

-0.5% 2% -4% 2%

Type C Ent.
Sta 61+67(Lt & Rt)

+00.0(LT.)
EL 278.07

-1.65%

+65.0(LT.)
EL 277.00

+85.0(LT.)
EL 276.85

-0.33%

Ft. Lt. 276.080/276.387
Rt. 276.057/275.945

+75.0(LT.)
EL 276.55

1.61%

+50.0(LT.)
EL 277.76

0.4000%

Ft. Lt. 278.521
Rt. 278.137

+16.0(MED.)
EL 277.77

+00.0(MED.)

+70.0(LT.)
EL 278.16

-0.45%

+16.0(LT.)
EL 277.95

+40.0(MED.)
EL 278.61

4.1% 2.05%

+50.0(LT.)
EL 278.65

0.299%

STA 967+95.000
EL 279.812

STA 968+50.000
EL 279.976
L = 80.000
E = 0.010
K = 792.564

285 / 280 / 275 / 270

Lt.	1.5 m x 3.0 m Ditch	Field Ent.		1.5 m x 3.0 m Ditch	Ditch Grade w/ 4.6 m wide Ditch	A/W 'A'		Ditch Grade	1.5 m x 3.0 m Ditch	Ditch Grade	Lt.
Med.	1.3 m Med. Ditch	Cross -over		1.3 m Med. Ditch	1.3 m Med. V-Ditch	Cross -over	1.3 m Med. V-Ditch		1.3 m Med. Ditch	Ditch Grade	Med.
Rt.	U.A.C. Exist. Ditch	Farm Ent.		U.A.C. Exist. Ditch		Field Ent.		U.A.C. Exist. Ditch	No Ditch		Rt.

281.752 281.664 281.576 281.488 281.400 281.312 281.224 281.136 281.048 280.960 280.872 280.784 280.696 280.610 280.525 280.444 280.365 280.288 280.214 280.143 280.074 280.008 279.944 279.883 279.825 279.769 279.715 279.664 279.616 279.570 279.527 279.486 279.448 279.413 279.380 279.349 279.322 279.296 279.274 279.253 279.236 279.221 279.208 279.198 279.191 279.186 279.184 279.184 279.187 279.193 279.201 279.211 279.224 279.240 279.258 279.279 279.302 279.328 279.357 279.388 279.421 279.458 279.496 279.536 279.576 279.616 279.656 279.696 279.736 279.776 279.816 279.856 279.896 279.936 279.976

61 62 63 64 65 66 67 68

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	D.08

date = Thu Oct 5 13:22:02 2000 prf = \\WATS01\DATA\PLOT\PL463P\d08h.prf

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DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	D.09 [redacted]

date = Thu Oct 5 13:22:20 2000 prf = \\WATS01\DATA\PLOT\PL463P\d09h.prf

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FAIRVIEW TWP.
T-84N R-4W
SECTION 20

ACCESS LOCATIONS
None this sheet.

Sta 1077+17.775 Ramp A =
Sta 4076+87.297 Ramp D =
Sta 11577+25.000
Ia Hwy 1 O.R.

Sta. 76+39.168 Lt.
61.0 m x 12.2 m PRETENSIONED
PRESTRESSEDCONCRETE BEAM BRIDGE

(121A) Carlson, LLC

PTSta 77+44.718

℄ O.R.

Sta. 4078+19.4
750 x 32.31 RCP

4078+80
E.S. 19m(62')

4079+84± EX. R/W
E.S. 23m(75')

S76°05'39.373"E

Exit Ramp D

168'

230TH

4080+14± EX. R/W
E.S. 39m(128') (PROP. COR.)

(125) Harold L. Bernet

TEMPORARY EASEMENT
TO RESHAPE CHANNEL

(121) H. Richard and Doris Ellyn Zimmerman

4081+01± ℄
E.S. 58m(190') (PROP. COR.)

4081+01± ℄
E.S. 33m(108')

4081+70 O.R.
℄ E.S. 61m(200')

Sta. 4081+70
600 x 26.2 RCP

Point "M" Detail 550-1
P.T. Sta. 4081+90.000
Ramp D
Sta. 81+90.000, 32.300 Lt.
U.S. 151 O.R.

82+50 O.R.
℄ 98m(322')

82+50 O.R.
℄ 79m(259')

Sta. 81+50
600 x 21.90 RCP
w/ 600 x 12.03 PEP Letdown

83+70 O.R.
℄ 42m(138')± EX. R/W

Staged Paving, Sta. 82+50 to
85+20, see Sheet J.02

PCSta 3080+57.733

PCSta 3080+40.086

+60 Ditch Dike

N89°22'48.875"E

PISta 82+48.468

Sta 76+39.168 US Hwy 151 O.R. =
Sta 11576+01.192 Ia Hwy 1 O.R.

PISta 3079+04.423

Survey ℄

PISta 2077+49.999

PTSta 3080+90.000

PTSta 3079+90.001

PCSta 2076+70.000

Sta. 76+61.6
900 x 133.50 RCP
D.A.=4.30 HA. R

Sta. 76+39.168 Rt.
61.0 m x VAR. WIDTH PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE

Point "M", Detail 550-4
P.C. Sta 2076+70.000
Loop B =
Sta 76+70.000 34.300 Rt.
U.S. 151 O.R.

Sta. 2078+55.0
600 x 48.73 RCP
w/ 11.03 10.25 PEP Letdown

(121) H. Richard and Doris Ellyn Zimmerman

PCCSta 2078+02.965

Entrance Ramp C

3079+88± EX. R/W
℄ E.S. 30m(98')

3079+18
E.S. 32m(105')

3080+25± ℄
E.S. 34m(112')

81+03 O.R.
℄ 51m(162')

Point "G" Detail 550-2C
P.T. Sta. 3080+90.000 Ramp C
Sta. 80+90.000 24.300 Rt.
U.S. 151 O.R.

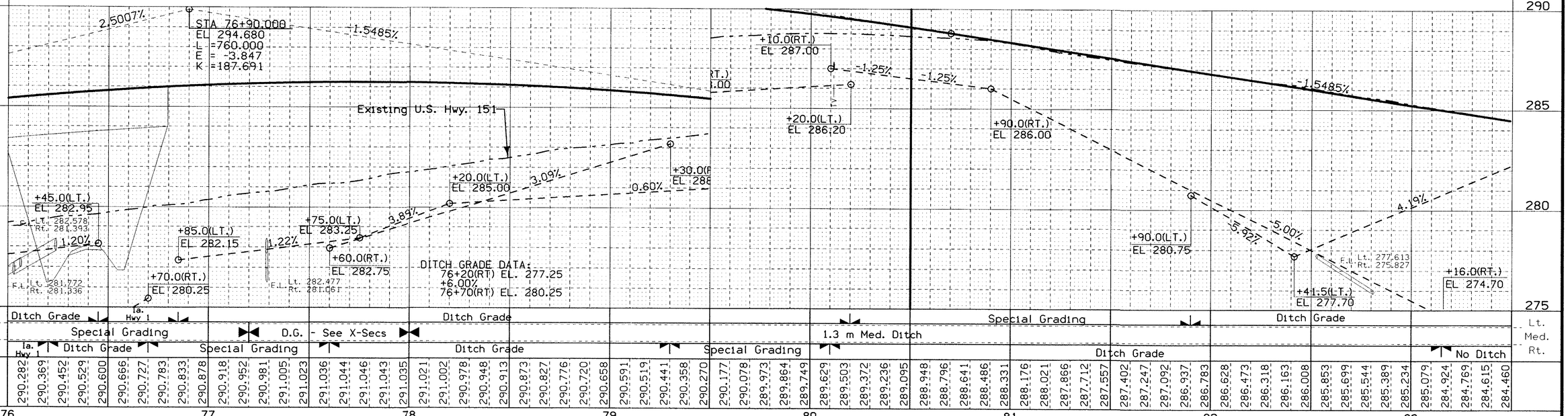
Sta. 82+76.6
1220 x 1220 x 56.32 RCB
w/ 1525 x 1525 x 3.81
w/ 1.2 x 1.2 x 23.10 RCB Extension Lt.
w/ 1.2 x 1.2 x 49.70 RCB Extension Rt.
D.A.=25.90 HA. R

83+63 O.R.
℄ 54m(177')± EX. R/W

83+16 O.R.
℄ 76m(249')

(121) H. Richard and Doris Ellyn Zimmerman

0 METERS 100
SCALE RATIO: 1:1000



DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER D.10

date = Thu Oct 5 13:22:52 2000 prf = \\WATSO1\DATA\PLOT\PL463P\d10h.prf

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ACCESS LOCATIONS
STA. 86+97 LT. & RT.
STA. 89+97 LT.

SECTION 20

125 Harold L. Bernet

Sta. 84+00.000 Hwy 151 O.R.
End 4-Lane Construction
(RD JOINT)

Refer to Sheet No. E.03 for Side Road Details

Staged Paving, Sta. 82+50 to 85+20, see Sheet J.02

83+70 O.R.
℄ 42m(138')± EX. R/W

82+50 to

151

°22'48.875"E

PTSta 84+39.017

PT Sta 85+76.444

STATION EQUATION
Sta. 85+77.352 (O.R.) Back =
Sta. 85+76.444 (O.R.) Ahead

Sta 86+96.988 O.R.=
Sta 1786+94.525 228th Ave.

JOHN C. & CYNTHIA S. PIEPER

TANK

SAFETY RAMP

FAIRVIEW TWP.
T-84N R-4W
SECTION 21

Sta. 87+74.7
915 x 1220 x 68.68 RCB
w/ 1.2 x 1.2 x 45.90 RCB Extension Rt.
D.A.=9.80 HA. H

MARVIN G. SUTTON, JR.

Sta. 87+20
600 x 17.64 PEP Letdown
w/ 600 x 14.75 PEP Extension Lt.

LOWELL T. & ANN E. TIEDT

Sta. 90+15
600 x 17.64 RCP
w/ 600 x 11.72 PEP Letdown

FERD ENT. +97

750' x 10.97
Ent. Pipe

Sta. 85+30
600 x 17.64 RCP
w/ 600 x 13.97 PEP Letdown

90°00'05"

+54 Ditch Dike

228TH AVENUE

87+73 O.R.
℄ 62m(203')± EX. R/W

SURFACE GRANULAR MEDIAN

Sta. 89+56.4
Abandon
610 x 23.36 RCP
D.A.=4.50 HA, H

Sta. 88+53
915 x 915 x 40.83 RCB
w/ 0.9 x 0.9 x 55.40 RCB Extension Rt.
D.A.=3.60 HA. H

126 Bernard Kula etal

Sta. 87+50
450 x 10.00 PEP Letdown
w/ 450 x 36.00 PEP Extension Rt.

88+11± O.R. ℄
℄ 80m(262')

89+00 O.R.
℄ 86m(282')

129 Doris M. Anderson et al

91+00 O.R.
℄ 47m(154')± EX. R/W

83+63 O.R.
℄ 54m(177')± EX. R/W

83+16 O.R.
℄ 76m(249')

121 H. Richard and Doris Ellyn Zimmerman

84+11.656 O.R.
℄ 54m(177')± EX. R/W

Sta. 84+82.5
1060 x 32.99 RCP
w/ 1050 x 38.40 Extension Rt.
D.A.=7.80 HA, H

126 Bernard Kula etal

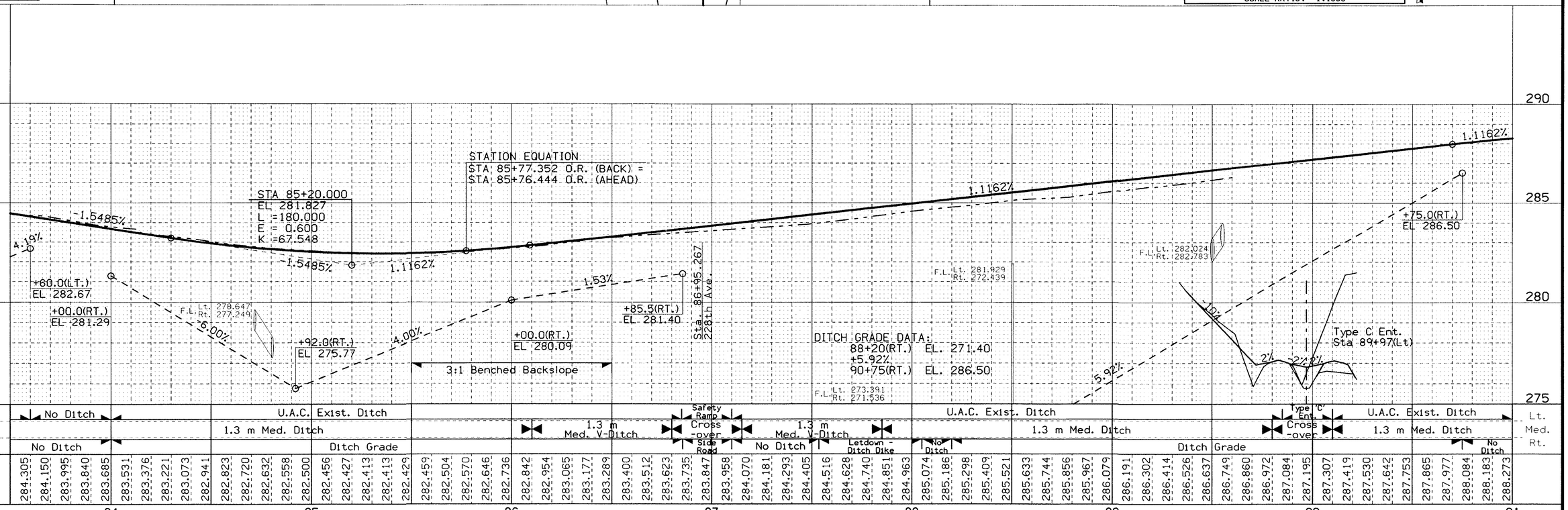
86+36± O.R. Ex. R/W
℄ 71m(233')

1786

FO-1 FO-2

0 METERS 100
SCALE RATIO: 1:1000

N



DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN		Linn/Jones	NHSX-151-3(112)--3H-57	D.11

date = Thu Oct 5 13:23:16 2000 prf = \\WATSO1\DATA\PLOT\PL463P\d11h.prf

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FAIRVIEW TWP.
T-84N R-4W
SECTION 21

Sta. 93+30.2
610 x 915 x 64.63 RCB
w/ 0.9 x 0.9 x 54.20 RCB Extension Rt.
D.A.=4.10 HA, H

Sta. 94+83.8
610 x 915 x 58.98 RCB
w/ 0.9 x 0.9 x 45.40 RCB Extension Rt.
D.A.=1.50 HA, H

LOWELL T. & ANN E. TIEDT

Sta. 95+00
600 x 17.64 PEP Letdown
w/ 600 x 37.79 PEP Extension Rt.

ACCESS LOCATIONS
STA. 95+18 LT. & RT.
STA. 98+18 LT. & RT.

GERALD D. CLEMENTS

LYLE & PATRICIA A. THEISEN

GARY L. & PHYLLIS C. HUSMANN

Sta. 98+03.9
600 x 16.42 PEP Letdown
w/ 600 x 35.57 PEP Extension Rt.

SURFACE GRANULAR MEDIAN

+16.1 FARM ENT. (A.C.)

+23.2 FARM ENT. (A.C.)

U.A.C. Auxiliary Lane as Paved Shoulder

+06 Ditch Dike

+94 Ditch Dike

Sta. 96+34.8
Abandon
610 x 36.12 RCP
D.A.=0.50 HA, H

96+00 O.R.
℄ 49m(161')± EX R/W

96+22± O.R. ℄
℄ 53m(174')

Sta. 96+90
450 x 99.62 PEP Letdown

98+00 O.R.
℄ 82m(269')

Sta. 97+72.1
610 x 915 x 55.35 RCB
w/ 0.9 x 0.9 x 48.40 RCB Extension Rt.
D.A.=4.40 HA, H

98+53± O.R. PROP. R/W
℄ 64m(210')

91+00 O.R.
℄ 47m(154')± EX. R/W

91+71 O.R.
℄ 46m(151')± EX. R/W

92+19± O.R. ℄
℄ 60m(197')

94+70 O.R.
℄ 90m(295')

95+47 O.R.
℄ 56m(184')± EX R/W

93+65 O.R.
℄ 101m(331')

95+47 O.R.
℄ 83 m (272')

95+83 O.R.
℄ 83 m (272')

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

131 Doris M. Anderson (FEE)
Larry Dean Wacker (CP)

129 Doris M. Anderson et al

139 Lavern E. and Marlan O. Rickels

Sta. 93+00
600 x 52.01 PEP Letdown

+18 FARM ENT.

SCALE RATIO: 1:1000

STA 93+50.000
EL. 291.102
L = 560.000
E = -3.336
K = 117.493

+75.0(RT.)
EL 287.50

+00.0(RT.)
EL 280.00

F.L. Lt. 281.896
Rt. 272.978

DITCH GRADE DATA:
93+50(RT.) EL.271.10
-5.79%
93+69(RT.) EL.270.00

F.L. Lt. 279.420
Rt. 274.239

Type C Ent.
Sta 95+18(Rt)

F.L. Lt. 270.925
Rt. 277.248

DITCH GRADE DATA:
97+90(RT.) EL. 264.50
-3.18%
98+12(RT.) EL. 263.80

F.L. Lt. 269.969
Rt. 264.877

Type B Ent.
Sta 98+18(Rt)

	91	92	93	94	95	96	97	98
Lt.		1.5 m x 3.0 m Ditch	No Ditch	1.5 m x 3.0 m Ditch	Farm Ent. Cross -over	1.5 m x 3.0 m Ditch		Farm Ent. Cross -over
Med.		1.3 m Med. Ditch			Type 'C' Ent.	1.3 m Med. Ditch		Type 'B' Ent.
Rt.	No Ditch	Ditch Grade	Letdown - Ditch Dike	No Ditch	1.5 m x 3.0 m Ditch	Letdown - Ditch Dike	Ditch Grade	No Ditch
	288.355 288.428 288.493 288.550 288.597	288.637 288.667 288.690 288.703 288.709	288.705 288.694 288.673 288.644 288.607 288.561 288.507 288.444 288.373 288.293	288.204 288.108 288.002 287.888 287.766 287.635 287.495 287.347 287.191 287.026	286.853 286.670 286.480 286.281 286.073 285.857 285.633 285.400 285.158 284.908	284.649 284.382 284.107 283.822 283.530 283.229 282.919 282.601 282.274 281.939	281.595 281.243 280.882 280.517 280.152 279.787 279.422 279.057 278.692 278.327	277.962 277.597 277.232 276.867 276.502 276.137 275.772 275.407 275.042 274.677 274.312 273.947 273.582 273.217 272.852

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	D.12

date = Thu Oct 5 13:23:34 2000 prf = \\WATSO1\DATA\PLOT\PL463P\d12h.prf

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ACCESS LOCATIONS
STA. 102+08 LT. & RT.
STA. 105+15 LT. & RT.
FAIRVIEW TWP. T-84N R-4W SECTION 21
FAIRVIEW TWP. T-84N R-4W SECTION 22
GARRY R. & WILLENE K. KROMMINGA
John N. and Bonnie R. Bauer
133 Clymer & Dietiker
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE
Sta. 103+91.47
3050 x 3660 X 27.66 Twin RCB
w/ 3.0 x 3.6 x 6.60 RCB Extension Lt.
w/ 3.0 x 3.6 x 36.70 RCB Extension Rt.
D.A.=1040.04 HA. R
102+10 ℄ 53m(174')
102+45 ℄ 53m(174')
104+33± O.R. ℄ 57m(187')
103+88 O.R. ℄ 57m(187')
103+68 O.R. ℄ 45m(148')± EX. R/W
Sta. 105+52.6
600 x 29.87 RCP
HO
SHED
TANK
BIN
BARN
215TH AVENUE
CLOSE
Sta 105+15.459 O.R. =
Sta 2105+13.000 215th Ave.
SURFACE GRANULAR MEDIAN
U.A.C. Auxiliary Lane as Paved Shoulder
600 x 24.38 Ent. Pipe
600 x 54.25 Ent. Pipe
99+75 O.R. ℄ 49m(161')
Sta. 99+65.2
610 x 19.58 RCP
w/ 600 x 34.14 PEP Letdown
w/ 600 x 8.21 PEP Extension Rt.
D.A.=2.00 HA. H
100+24± O.R. Sec Line ℄ 38m(125') EX. R/W
101+62 O.R. ℄ 60 (197')
101+96 O.R. ℄ 60 (197')
99+00 O.R. ℄ 48m(157')
99+37 O.R. ℄ 64m(210')
98+53± O.R. PROP. R/W ℄ 64m(210')
Sta. 101+84
600 x 23.12 RCP
w/ 600 x 11.75 PEP Letdown
103+23± O.R. ℄ 56m(184')
Sta. 103+70
600 x 17.64 RCP
w/ 600 x 21.01 PEP Letdown
104+05 O.R. ℄ 60m(197')
+36 Ditch Dike
104+29 O.R. ℄ 37.8m(124')± EX. R/W
Sta. 104+40
600 x 34.06 PEP Letdown
Sta. 105+26.5
762 x 53.91 RCP
w/ 750 x 37.80 RCP Extension Rt.
D.A.=6.10 HA. R
105+73± O.R. EX. R/W ℄ 41m(135')
450 x 12.19 Pipe
450 x 12.80 Ent. Pipe
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE
Refer to Sheet No. E.04 for Side Road Details
METERS 0 100 SCALE RATIO: 1:1000
139 Lavern E. and Marian O. Rickels
139A Lavern E. and Marian O. Rickels (FEE) Daniel G. and Lynette A. Rickels (C.P.)
141 Lavern E. and Marian O. Rickels (FEE) George and Jerrilyn Freese (CP)
TEMPORARY EASEMENT TO REMOVE BUILDING
Type B Ent. Sta 98+18(Rt)
-3.6500%
+00.0(RT.) EL 265.88
-5.13%
+35.0(RT.) EL 258.95
-6.39%
Type C Ent. Sta 102+08(Lt & Rt)
+25.0(RT.) EL 253.20
-1.84%
+72.0(RT.) EL 250.50
-3.6500%
STA 103+80.000
EL 253.507
L =470.000
E = 4.377
K =63.087
3.8000%
+05.0(LT.) EL 250.50
5.56%
+50.0(LT.) EL 253.00
Sta. 105+13.736 215th Ave.
+42.5(RT.) EL 258.46
+60.0(RT.) EL 258.30
+00.0(RT.) EL 259.60
-0.93%
3.25%
1.5 m x 3.0 m Ditch
No Ditch
1.3 m Med. Ditch
Ditch Grade
U.A.C. Exist. Ditch
Type 'C' Ent.
Cross -over
U.A.C. Exist. Ditch
1.3 m Med. Ditch
Ditch Grade
Letdown - Ditch Dike
1.5 m x 3.0 m Ditch
1.3 m Med. V-Ditch
Side Road
Cross -over
U.A.C. Exist. Ditch
1.3 m Med. V-Ditch
Ditch Grade
Lt. Med. Rt.
275 270 265 260
265 260 255 250
272.487 272.122 271.757 271.392 271.027 270.662 270.297 269.932 269.567 269.202 268.837 268.472 268.107 267.742 267.377 267.012 266.647 266.282 265.917 265.552 265.187 264.822 264.457 264.092 263.727 263.362 262.997 262.632 262.267 261.904 261.555 261.222 260.904 260.603 260.317 260.047 259.793 259.555 259.332 259.126 258.935 258.761 258.602 258.459 258.331 258.220 258.124 258.045 257.981 257.933 257.901 257.885 257.884 257.900 257.931 257.978 258.041 258.120 258.214 258.325 258.451 258.594 258.752 258.926 259.115 259.321 259.543 259.780 260.033 260.302 260.587 260.888 261.204 261.537 261.885
99 100 101 102 103 104 105 106

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	D.13 [redacted]

date = Thu Oct 5 13:23:55 2000 prf = \\WATSO1\DATA\PLOT\PL463P\d13h.prf

48-198

ACCESS LOCATIONS
STA. 109+43 LT.

FAIRVIEW TWP.
T-84N R-4W
SECTION 22

139A Lavern E. and Marlan O. Rickels (FEE)
George and Jerrilyn Freese (CP)

Sta. 107+50
600 x 20.12 RCP

+38 Ditch Dike

TS Sta 107+12.382

SC Sta 108+04.382

SURFACE GRANULAR MEDIAN

Sta. 109+63.7
600 x 24.38 RCP

750 x 26.21
Ent. Pipe

PI Sta 109+81.905

Sta. 111+12.40
1220 x 1220 x 68.24 RCB
w/ 1.2 x 1.2 x 43.58 RCB Extension Rt.
D.A.=37.30 HA, H

Ronald Dean Wood

CS Sta 111+49.777

ST Sta 112+41.777

Sta. 113+56.4
915 x 39.58 RCP
w/ 900 x 35.97 RCP Extension Rt.
D.A.=9.70 HA, H

106+72 O.R.
℄ 38m(125')

106+05 O.R.
℄ 63m(207')

139A Lavern E. and Marlan O. Rickels (FEE)
George and Jerrilyn Freese (CP)

107+64 O.R.
℄ 46m(151')± EX. R/W

108+50 O.R.
℄ 75m(246')± EX. R/W

109+00 O.R.
℄ 69m(226')

109+57 O.R.
℄ 56m(184')

109+87 O.R.
℄ 56m(184')

110+27 O.R.
℄ 41m(135')± EX. R/W

111+43± O.R. EX. R/W
℄ 73m(240')

112+78 O.R.
℄ 53m(174')± EX. R/W

TEMPORARY EASEMENT
TO CONSTRUCT ENTRANCE

145 Mark C. Thomas

0 METERS 100
SCALE RATIO: 1:1000

STA 108+85.000
EL 272.697
L =400.000
E = 1.705
K =117.268

3.8000%
4.60%
2.64%
4.87%
0.3890%
0.48%
1.90%
3.51%
1.9600%
1.32%
5.00%
2.00%
3.61%
1.00%
4.12%

+00.0(RT.) EL 264.20
+40.0(RT.) EL 265.74
+50.0(RT.) EL 266.00
+60.0(RT.) EL 266.49
+10.0(RT.) EL 270.51
+60.0(MED.) EL 270.89
+70.0(RT.) EL 270.80
+80.0(MED.) EL 271.27
+00.0(RT.) EL 271.85
+00.0(RT.) EL 273.00
+00.0(RT.) EL 265.50
+50.0(RT.) EL 263.00
+30.0(RT.) EL 262.60

3:1 Benched Backslope
15 m 29.2 m

275
Type 'C' Ent.
Sta 109+43(Rt)

F.L. Lt. 270.140
Rt. 271.130

F.L. Lt. 261.498
Rt. 259.310

STA 113+05.000
EL 274.331
L =140.000
E = 0.275
K =89.117

	106	107	108	109	110	111	112	113
Lt. Med. Rt.	1.3 m Med. Ditch	U.A.C. Exist. Ditch	1.3 m Med. Ditch	1.5 m x 3.0 m Ditch	Farm Ent. Cross-over Type 'C' Ent.	No Ditch	U.A.C. Exist. Ditch / 1.3 m Med. Ditch	Lt. Med. Rt.
	Ditch Grade	1.5 m x 3.0 m Ditch / Ditch Dike / D.G.		Ditch Grade / Ditch Grade			Ditch Grade / No Ditch / Ditch Grade	
	262.249 262.627 263.007 263.387 263.767	264.147 264.527 264.907 265.286 265.658	266.021 266.375 266.721 267.058 267.387	267.707 268.019 268.322 268.617 268.903	269.181 269.450 269.711 269.963 270.206	270.442 270.668 270.886 271.095 271.296	271.489 271.673 271.848 272.015 272.173	272.323 272.464 272.597 272.721 272.837
	272.944 273.042 273.132 273.214 273.287	273.351 273.407 273.455 273.495 273.534	273.573 273.612 273.650 273.689 273.728	273.767 273.806 273.845 273.884 273.923	273.962 274.001 274.039 274.080 274.130	274.191 274.264 274.348 274.443 274.549	274.666 274.795 274.935 275.086 275.248	

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	D.14

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49-198

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	D.15 [redacted]

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50-198

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DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER D.16 [redacted]

Revised 04-25-02

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ACCESS LOCATIONS
STA. 131+32 RT.

FAIRVIEW TWP.
T-84N R-4W
SECTION 14

Sta. 131+10 O.R. 14 m Rt.
Install 600 mm RF-1
F.L. Lt. 259.317
F.L. Rt. 259.180

Sta. 131+84.9
762 x 51.39 RCP
w/ 750 x 46.33 RCP Extension Rt.
D.A.=5.10 HA.

Sta. 133+20
600 x 17.64 RCP
w/ 600 x 13.75 PEP Letdown

U.A.C. Auxiliary Lane
as Paved Shoulder

Sta. 130+99.9
750 x 56.08 RCP

ST Sta 132+28.829

CS Sta 131+36.829

130.15 X 9.14
Continuous W. Girder Bridge
at Sta. 134+52.400
D.A.=1586 SQ.MI.
20° Skew

WAPSIPINICON RIVER

PI Sta 129+57.469

Sta 131+32.453 U.S. 151=
Sta 2131+29.877 Co. Rd. X-40

Sta. 128+73, 21.8m Rt.
End Taper

Rip-Rap ditch from Sta. 131+00
to Median drain culvert

Existing Power Pole

+85 Ditch Dike

+75 Ditch Dike

+94 Ditch Dike

EROSION CONTROL LEVEE

Sta. 134+66.217 Rt.
133.0m x 12.0m CONTINOUS
WELDED PLATE GIRDER BRIDGE

Sta. 132+70
750 x 26.54 PEPLetdown

Sta. 133+00
750 x 27.66 PEP

Sta. 131+75.2
600 x 53.04 RCP

Sta. 131+80
750 x 33.84 PEP Letdown

Refer to Sheet No. E.06
for Side Road Details

CO. RD. X-40

SHED

0 METERS 100
SCALE RATIO: 1:1000

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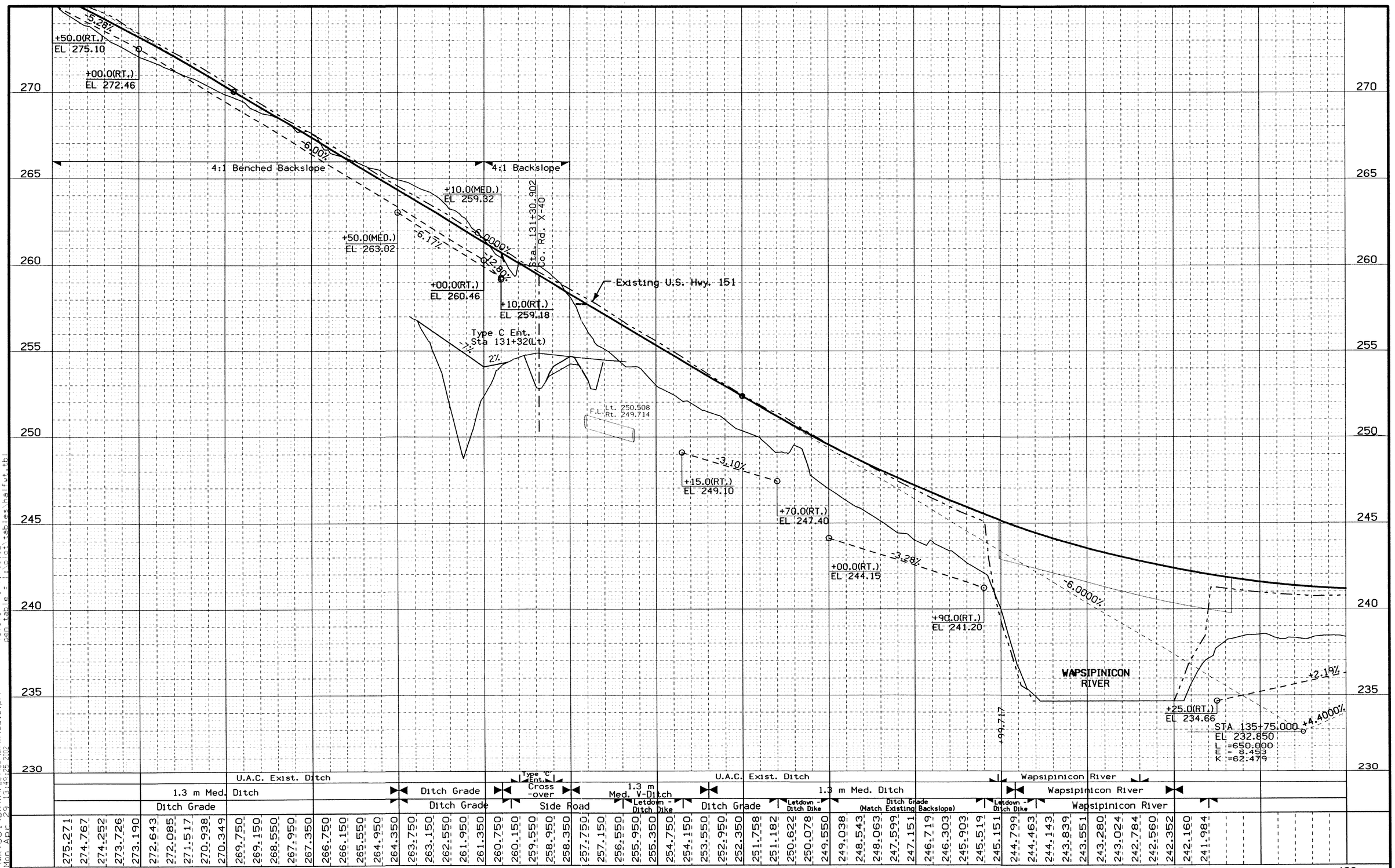
DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	D.17

Revised 04-25-02
52-198



DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER D.18

Revised 04-25-02

53-198

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ACCESS LOCATIONS
STA. 137+62 LT. & RT.

Raoul P. and Janice L. Swanson (FEE)
D & S Construction, Inc. (CP)

FAIRVIEW TWP.
T-84N R-4W
SECTION 14

Raoul P. and
Janice Lou Swanson

JANET D. HENDERSON, ETAL
CLARENCE & ELEANOR LUTZ LIFE ESTATE

(168) Ronald V. Shada

Sta. 136+25
600 x 17.64 RCP
600 x 10.61 PEP Letdown

Sta. 137+90
600 x 24.38 RCP

Sta. 139+95
450 x 30.04 PEP Letdown

TS Sta 138+36.559

SC Sta 139+30.559

CS Sta 141+84.276

ST Sta 142+78.276

+37 Ditch Dike

Sta. 143+24
610 x 39.30 RCP
w/ 600 x 20.73 RCP Extension Rt.
w/ 600 x 59.49 PEP Letdown
D.A.=1.10 HA, H

137+47± O.R. ℄ 40m(131')

SHAW ROAD

COM

(164) Brian D. and Jill J. Darrow

138+50 O.R. ℄ 44m(144')± EX. R/W

138+79 O.R. ℄ 48m(157')

139+58± O.R. ℄ 49m(161')

+93 Ditch Dike

PI Sta 140+61.442

140+93 O.R. ℄ 43m(141')± EX. R/W

Sta. 141+50
600 x 20.08 RCP
600 x 18.16 PEP Letdown

143+30 O.R. ℄ 90m(295')

(163) Robert J. and Julie J. Majerus

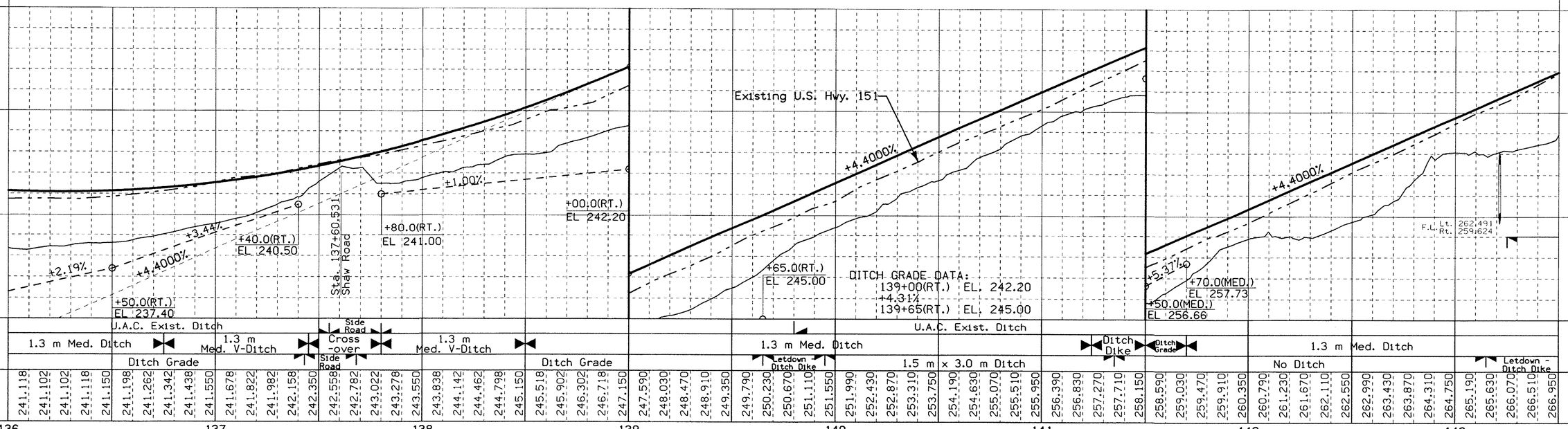
Refer to Sheet No. E.07 for Side Road Details

(164A) Stone City Estates, Ltd.

0 METERS 100
SCALE RATIO: 1:1000

FAIRVIEW TWP.
T-84N R-4W
SECTION 13

(166) Community State Bank of Clarence, Iowa (FEE)
James H. Carlson (CP)



DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	D.19

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54-198

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER D.20 [redacted]

date = Thu Oct 5 13:26:12 2000 prf = \\WATS01\DATA\PLOT\PL463P\d20h.prf

ACCESS LOCATIONS
STA. 157+91 LT. & RT.

Refer to Sheet No. E.02 for Side Road Details

168 Ronald V. Shada

171 Fred F. and Connie S. Fisher

172 Constance McKean

FAIRVIEW TWP. T-84N R-4W SECTION 11

FAIRVIEW TWP. T-84N R-4W SECTION 12

151+24 O.R. ℄ 66m(217')± EX. R/W

153+00 O.R. ℄ 66m(217')± EX. R/W

5154+00.681 E.S. 63.497m(208.32')

5155+47.810 E.S. 42.206m(138.47')

Sta. 153+15 750 x 84.07 PEP

Sta. 151+00 600 x 23.16 RCP

Entrance Ramp A

Sta 5158+25.816 Ramp A =
Sta 8158+06.342 Ramp D =
Sta 2156+70.240 Ia. 64
Remove 5'X10' Bridge

Sta 157+90.609 US Hwy 151 O.R. =
Sta 2157+87.867 Ia Hwy 64

Section Line

+22 Ditch Dike

+11 Ditch Dike

TEMPORARY EASEMENT TO REMOVE BORROW

Point "M", Detail 550-1
P.C. Sta 6153+10.000
Ramp B
Sta 153+10.000, 32.300 Rt.
U.S. 151 O.R.

151+59 ℄ 53m(174')

Sta. 153+52.9
.6096 x .9144 x 78.8 RCB
w/ 0.9 x 0.9 x 74.20 RCB Extension Lt. & Rt.
D.A.=11.40 HA. H

RCB
xtension Rt.

152+92.8± Sec. Line ℄ 71.2m(234')

R/W & ℄

6154+00 E.S. 38m(125')

P.I. Sta 6153+89.097

P.T. Sta 6154+66.179

Exit Ramp B

Sta. 155+35
600 x 20.73 RCP

RESUME PAVING
W.B. LANES
Sta. 154+50
(RD JOINT)

Entrance Loop C

P.C. / P.T.
Sta 7156+40.000

P.I. Sta 7157+17.611

Sta. 156+90
600 x 24.34 RCP
w/ 600 x 19.51 PEP Letdown

Sta. 6157+41.5
600 x 42.06 RCP

STOP PAVING
Sta. 6157+20.00

Sta. 157+65.4
1050 x 112.17 RCP

U.A.C. Walmart Parking Lot

158+37 O.R. ℄ 48m(157')± EX. R/W

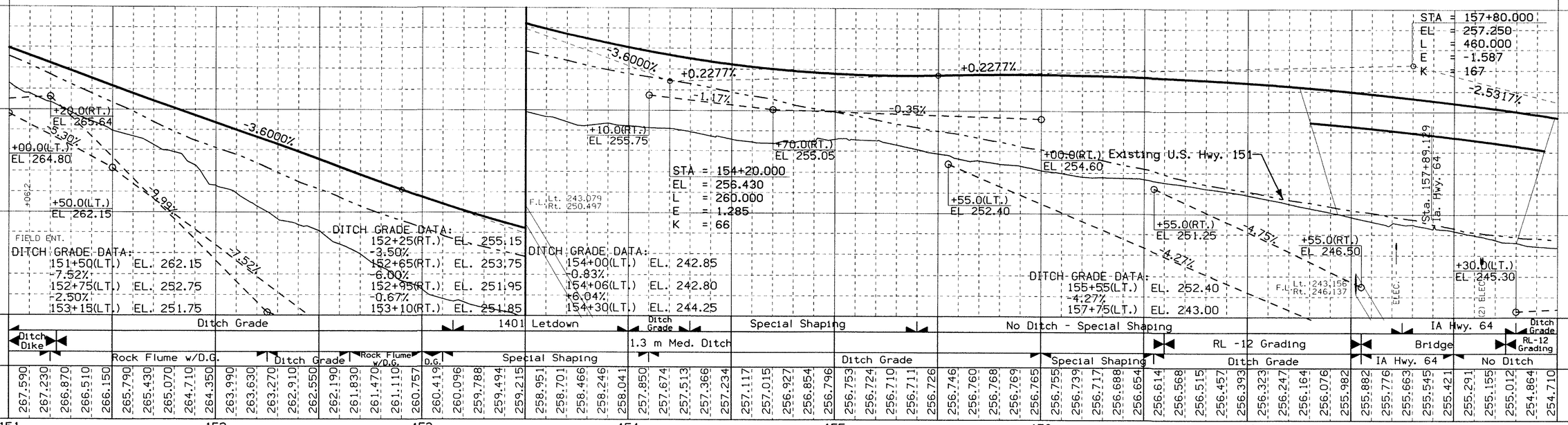
P.T. Sta 7157+95.000
Loop C' =
Sta 157+95.000, 21.900 Rt.
U.S. 151 O.R.

City of Anamosa, Iowa

City of Jones Co. Iowa

Sta. 2157 375 x 24.

METERS 0 100
SCALE RATIO: 1:1000



Ditch Dike | Ditch Grade | Rock Flume w/D.G. | Ditch Grade | Rock Flume w/D.G. | D.G. | Special Shaping | 1401 Letdown | Ditch Grade | 1.3 m Med. Ditch | Special Shaping | Ditch Grade | No Ditch - Special Shaping | RL -12 Grading | Ditch Grade | IA Hwy. 64 | Bridge | IA Hwy. 64 | Ditch Grade | RL-12 Grading | No Ditch

267.590 267.230 266.870 266.510 266.150 265.790 265.430 265.070 264.710 264.350 263.990 263.630 263.270 262.910 262.550 262.190 261.830 261.470 261.110 260.757 260.419 260.096 259.788 259.494 259.215 258.951 258.701 258.466 258.246 258.041 257.850 257.674 257.513 257.366 257.234 257.117 257.015 256.927 256.854 256.796 256.753 256.724 256.710 256.711 256.726 256.746 256.760 256.768 256.769 256.765 256.755 256.739 256.717 256.688 256.654 256.614 256.568 256.515 256.457 256.393 256.323 256.247 256.164 256.076 255.982 255.882 255.776 255.663 255.545 255.421 255.291 255.155 255.012 254.864 254.710

151 152 153 154 155 156 157 158

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	D.21

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DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	D.22 [redacted]

date = Thu Oct 5 13:26:49 2000 prf = \\WATS01\DATA\PLOT\PL463P\d22h.prf

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ACCESS LOCATIONS
STA. 173+20 LT. & RT.
FAIRVIEW TWP.
T-84N R-4W
SECTION 2
ELI. SHADA
ASGROW SEED CO.
WILSON R. KOUBA
Jeffrey J. and Joann K. Hinz
P.T. Sta 1172+47.980
POT Sta. 9172+00.000
RESUME GRADING
Sta. 172+90.00
P.I. Sta 1173+16.797
U.S. 151
+30 Ditch Dike
+50 Ditch Dike
166+30 O.R. ℄ 40m(131')
167+30 O.R. ℄ 40m(131')
170+40 O.R. ℄ 40m(131')
171+70 O.R. ℄ 40m(131')
Sta. 166+40
600 x 26.82 RCP
w/ 600 x 7.13 PEP Letdown
Sta. 170+60
600 x 17.64 RCP
w/ 600 x 10.32 PEP Letdown
Sta. 170+69.9
610 x 24.94 RCP
w/ 600 x 37.19 RCP Extension Rt.
D.A.=1.214 HA. R
Sta. 173+45
600 x 17.64 RCP
w/ 600 x 15.29 PEP Letdown
TEMPORARY EASEMENT TO SHAPE
TS Sta 172+17.411
SC Sta 173+09.411
172+78 O.R. ℄ 45m(148')
172+93 O.R. ℄ 45m(148')
173+41± O.R. EX. R/W ℄ 64m(210')
130TH STREET
Refer to Sheet No. E.08 for Side Road Details
192 Fawn Creek Inc.
FAIRVIEW TWP.
T-84N R-4W
SECTION 1
METERS 0 100
SCALE RATIO: 1:1000
Stage I
Cut=0
Borrow=2,348
2,348
F+30%=2,348
+90.0
+50.0
+2.0680%
+0.65%
+4.02%
+0.40%
+4.5%
+75.0(RT.) EL 248.30
+65.0(RT.) EL 251.92
+10.0(RT.) EL 252.10
+50.0(RT.) EL 253.94
EL Lt. 257.747 Rt. 256.628
+70.0(RT.) EL 255.65
+1.83%
+00.0(RT.) EL 256.20
+5.20%
+80.0(RT.) EL 260.76
Sta. 172+90.0
RESUME GRADING
E. B. LANES
Sta. 173+50.0
STOP GRADING
E.B. LANE
Sta. 173+18.062 130th St.
0+00
255
250
245
265
260
255
U.A.C. Exist. Ditch
Ditch Dike
V-Ditch Grade
1.3 m Med. Ditch
Trans.
1.0 m V-Ditch
1.44 m V-Ditch
No Ditch
V-Ditch Grade
1.3 m Med. V-Ditch
1.0 m V-Ditch
Side Road
Cross-over
250.508 250.669 250.845 251.036 251.241 251.447 251.654 251.861 252.068 252.275 252.481 252.688 252.895 253.102 253.309 253.515 253.722 253.929 254.136 254.343 254.549 254.756 254.963 255.170 255.377 255.583 255.790 255.997 256.204 256.411 256.617 256.824 257.031 257.238 257.445 257.651 257.858 258.065 258.272 258.479 258.685 258.892 259.099 259.306 259.513 259.719 259.926 260.133 260.340 260.547 260.753 260.960 261.167 261.374 261.581 261.787 261.994 262.201 262.408 262.615 262.821 263.028 263.235 263.442 263.649 263.855 264.062 264.269 264.476 264.683 264.889 265.096 265.303 265.510 265.717
166 167 168 169 170 171 172 173

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DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	D.23 [redacted]

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Revised 04/08/02

58-198

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	D.24 [redacted]

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Revised 04/08/02

59-198

01

ACCESS LOCATIONS
STA 183+75 RT.

CASS TWP.
T-85N R-4W
SECTION 36

Sta. 183+20 O.R. 14m Rt.
Install 600mm RF-1
F.L. Lt. 278.190
F.L. Rt. 277.990

EVERATT J. MAYBERRY

Sta. 184+09.8
610 x 20.10 RCP
w/ 600 x 24.99 RCP Extension Rt.
D.A.=0.81 HA, R

Sta. 185+50
Install Median
Crossover, See
Sheet U.07

Kent S. and
Lorie E. Reynolds

CIRCLE DRIVE

SURFACE GRANULAR MEDIAN

181+66± O.R. ℄ 65m(213')
Sta. 182+35.6
610 x 60.27 RCP
w/ 600 x 40.84 RCP Extension Rt.
w/ 600 x 13.29 PEP Letdown
D.A.=0.81 HA, R

181+40 O.R. ℄ 70m(230')

182+97± O.R. ℄ 39m(128')

183+65 O.R. ℄ 53m(174')

183+95 O.R. ℄ 53m(174')

189+00 O.R. ℄ 36m(118')

Sta. 186+08.9
.6096 x .9144 x 46.00 RCB
w/ 0.9 x 0.9 x 34.7 RCB
Extension Rt.
D.A.=0.5.26 HA, R

185+90 O.R. ℄ 60m(197')

187+00 O.R. ℄ 57m(187')± ℄

END CONSTRUCTION
Sta. 187+10.000
(PROVIDE HT JOINT)

Sta. 187+06.4
610 x 32.30 RCP
w/ 600 x 36.58 RCP Extension Rt.
w/ 600 x 13.62 PEP Letdown
D.A.=2.02 HA, R

+73 FIELD ENT.
+75 FIELD ENT.

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

208 Leona Stiffler

209 Colin A. and Carol R. Stiffler
Total Acquisition

210 Larry M. and Helen J. Schmaltz

0 METERS 100
SCALE RATIO: 1:1000

END CONSTRUCTION
STA. 187+10.000
EL. 280.550

+10.0(MED.) EL 278.13
+30.0(MED.) EL 278.46
+0.2718%
F.L. Lt. 278.440 Rt. 278.200
-1.09% +1.63% +2.86%
+90.0(MED.) EL 278.35
+50.0(RT.) EL 278.34
+00.0(RT.) EL 277.94
+10.0(RT.) EL 277.20
F.L. Lt. 275.152 Rt. 271.990
F.L. Lt. 274.731 Rt. 272.166
+7.69%
-4% -8%
DITCH GRADE DATA:
181+87(RT.) EL. 269.25
+7.69%
183+00(RT.) EL. 277.94
Type C Ent.
183+75(Rt)
F.L. Lt. 277.110 Rt. 275.430
+00.0(RT.) EL 272.50
F.L. Lt. 273.220 Rt. 271.700
+00.0(RT.) EL 270.80
+1.70%

U.A.C. Exist. Ditch
Cross -over Type C Ent.
Ditch Grade
No Ditch
1.3 m Med. Ditch
Rock Flume w/ Ditch Grade
1.5 m x 3.0 m Ditch
No Ditch
Ditch Grade
1.5 m x 3.0 m Ditch
No Ditch
1.3 m Med. Ditch
Ditch Grade
No Ditch

278.919 278.946 278.973 279.000 279.028 279.055 279.082 279.109 279.136 279.163 279.191 279.218 279.245 279.272 279.299 279.326 279.354 279.381 279.408 279.435 279.462 279.490 279.517 279.544 279.571 279.598 279.625 279.653 279.680 279.707 279.734 279.761 279.789 279.816 279.843 279.870 279.897 279.924 279.952 279.979 280.006 280.033 280.060 280.088 280.115 280.142 280.169 280.196 280.223 280.251 280.278 280.305 280.332 280.359 280.386 280.414 280.441 280.468 280.495 280.522 280.550 280.577 280.604 280.631

181 182 183 184 185 186 187 188

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	D.25

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60-198

(10) Vernon L. and Shirley I. Horak

BROWN TWP.
T-84N R-5W
SECTION 24

For Main Line Details
Refer to Sheet No. D.05

STA. 1239+65.687
BEGIN CONSTRUCTION

Place Additional Granular Material To Meet New Paving

39

102°52'

1240

1241

1240+10 ℄ 16m(52') (Remove)

1241+14 ℄ 16m(52')

1241+64 ℄ 11m(36')± EX. R/W

+43.0 FIELD ENT.

+22.0 FIELD ENT.

610 x 16.65 CMP 32.6% SLOPE

600 x 7.24 Pipe

380 x 6.39 CMP 7.18 □ SIGN

TP

TIMBER LANE

□ SIGN

Sta. 39+25 600 x 20.12 RCP

□ SIGN

□ 600

1240+10 ℄ 16m(52')

1241+14 ℄ 16m(52')

Sta. 1239+78.1
Skew 12° Rt. Ahd.
Install 600 mm Uncl.
F.L. Lt. 283.717
F.L. Rt. 283.667

1241+64 ℄ 11m(36')± EX. R/W

ACQUIRE ACCESS CONTROL
FROM STA.1239+65 TO STA.1240+15

40

39+46.115 M.L.
1239+47.387 S.R.

(10) Vernon L. and Shirley I. Horak

I hereby certify that this plan was prepared under my supervision and that engineering decisions with regard to the design were made by me or by other duly licensed Professional Engineers under the laws of the State of Iowa.

Monica Smith 12/5/00
Signature Date

MONICA M. SMITH
Printed or Typed Name

My license renewal date is December 31, 2001.

Pages or sheets covered by this seal: E.01-E.07

LICENSED PROFESSIONAL ENGINEER
MONICA SMITH
15074
IOWA

0 METERS 100
SCALE RATIO: 1:1000

QUAKER LANE

TIE TO E.S.
STA. 1239+65.687
EL. 284.971

STA. = 1239+85.000
EL. = 284.875
L = 35.00
E = 0.080

TIE IN
STA. 1241+00.000
EL. 286.568

+1.4722%

-0.4970%

+1.53%

+1.78%

+76.0(LT.)
EL 283.72

+81.0(RT.)
EL 283.67

+00.0(RT.)
EL 285.78

+00.0(LT.)
EL 285.62

285
280
275

Ditch Grade
Ditch Grade

284.951 284.944 284.993 285.098 285.243 285.390 285.537 285.685 285.832 285.979 286.126 286.274 286.421 286.568

1239 1240 1241 1242 1243

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / ROBINSON	IOWA DOT * OFFICE OF ROAD DESIGN		Jones	NHSX-151-3(112)--3H-57	E.01

61-198

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DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER E.02 [redacted]

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62-198

FAIRVIEW TWP.
T-84N R-4W
SECTION 21

126 Bernard Kula etal

Curve Data
Δ = 24°52'48.000" R
T = 22.755
L = 44.792
E = 2.480
R = 103.151

STA. 1786+76.225
END CONSTRUCTION

For Main Line Details
Refer to Sheet No. D.11

JOHN C. & CYNTHIA S. PIEPER

STA. 86+96.988 M.L. =
STA. 1786+94.514 S.R.

1786+00
℄ 18.5m(61')± EX. R/W

1786+34± EX. R/W
℄ 31m(102')

Place Additional Granular Material
To Meet New Paving

126 Bernard Kula etal

228th AVE.

ACQUIRE ACCESS CONTROL
FROM STA. 1786+26 TO STA. 1786+76

129 Doris M. Anderson et al

0 METERS 100

228th. Ave.

STA. = 1785+25.000
EL = 286.915
L = 30.000
E = -0.109

-1.346%
-4.43%
-4.265%
-1.792%
-0.38%

TIE IN
STA. 1785+10.000
EL. 287.117

+10.0 (Lt.)
EL 285.970

+25.0 (Lt.)
EL 285.306

TIE TO E.S.
STA. 1786+76.214
EL. 283.569

+25.0 (Lt.)
EL 281.547

+62.4 (Lt.)
EL 281.400

STA. = 1786+25.000
EL = 282.650
L = 50.00
E = 0.397

Ditch Grade | Standard Ditch No Ditch | Std Ditch | Ditch Grade No Ditch

287.117 286.934 286.653 286.275 285.849 285.422 284.996 284.569 284.143 283.716 283.350 283.106 282.982 282.979 283.098 283.278 283.588

290 285 280 275

1782 1783 1784 1785 1786 1787

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	E.03

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63-198

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER E.04 [redacted]

date = Thu Oct 5 16:09:35 2000 prf = \\WATS01\DATA\PLOT\PL463P\e04h.prf

ACQUIRE ACCESS CONTROL
FROM STA. 3116+63 TO
STA. 3117+12

145 Mark C. Thomas

TEMPORARY EASEMENT
TO CONSTRUCT ENTRANCE
AND REMOVE BUILDING

STA. 3115+72 - 25 m LT

Michael L. and Patricia J. Feller

For Main Line Details
Refer to Sheet No. D.15

3114

3115

3116

3118

3119

3120

3121

HUNTINGTON HILLS ADD

000 X 12.29
C.M.P.
8.57

+08.3 FIELD ENT.

3114+62
℄ 33m(108')

3114+83
℄ 10.1m(33')± Ex. R/W

+75 FARM ENT.

600 x 34.14
Ent. Pipe

3116+24± EX. R/W
℄ 33m(108')

3116+24± EX. R/W
℄ 29m(95')

Place Additional Granular
Material To Meet New Paving

Line

117

STA. 117+36.509 M.L. (O.R.) =
STA 3117+34.027 S.R.

Sta. 3117+92.8
762 x 30.40 RCP
D.A.=5.80 HA. H

Ronald Dean Wood

FOREST CHAPEL ROAD

□ SIGN

3115+80
℄ 26m(85')

600 x 15.85
Ent. Pipe

3114+65
℄ 29m(95')

Sta. 3114+51.5
610 x 14.20 CMP
D.A.=3.04 HA. H

+75 FARM ENT.

3114+87
℄ 10m(33')± Ex. R/W

3115+60
℄ 42m(138')

SHED

3115+67
℄ 57m(187')
BARN

3115+92
℄ 44m(144')

3116+23
℄ 50m(164')

3116+19
℄ 63m(207')

3116+70
℄ 23m(75')

3116+48
℄ 50m(164')

3116+59
℄ 63m(207')

HO

SHED

SHED

S

12.01°.021

118

S 59°39' E

EROSION CONTROL LEVEE

457 x 7.52
CMP
8.02

FARM ENT.

+43.8 FIELD ENT.

TANK

+75 FARM ENT.

457ø X 7.27
C.M.P.
6.48

+74.3 FIELD ENT.

305ø X 12.29
C.M.P.
6.19

487.2 RES. ENT. (A.C.)

TRAILS

Franklin D. and
Mary R. DeeShaw

119

152 William P. and
Betty L. Ruhl

TEMPORARY EASEMENT
TO CONSTRUCT ENTRANCE
AND REMOVE BUILDING

TEMPORARY EASEMENT
TO CONSTRUCT ENTRANCE

0 METERS 100

FOREST CHAPEL ROAD

TIE IN
STA. 3115+00.000
EL. 287.174

+3.3680%

STA= 3115+80.000
EL = 289.868
L = 130.000
E = -1.847

-8.0000%

STA= 3116+80.000
EL = 281.868
L = 50.00
E = 0.612

TIE TO E.S.
STA. 3117+12.895
EL. 282.347

+1.4605%

TIE INTO EXISTING ENT.
STA. 3115+72(25m Lt)
ELEV. = 291.963

+3.000%

VPI. 1+02
EL=291.623
L=20 m

+7.235%

Type C Ent.
3114+75(Lt & Rt)

VPI. 0+20
EL=285.690
L=20 m

-3.000%

-3.000%

VPI. 0+20
EL=285.690
L=20 m

+7.939%

TIE INTO EXISTING ENT.
STA. 3115+83(28m Rt)
ELEV. = 293.500

+3.000%

VPI. 1+12
EL=293.200
L=20 m

Type C Ent.
3116+62(Rt)

-2.0%

+10.0%

VPI. 0+12.2
EL=283.00
L=12 m

TIE INTO PROP. ENT.
STA. 3114+75(20m Rt)

+5.2%

VPI. 0+20
EL=286.00
L=20 m

TIE INTO PROP. ENT.
STA. 3115+63(26 m Rt).

+8.0%

VPI. 0+06
EL=292.400
L=6 m

285
280
275

1.0 m V-Ditch
1.0 m V-Ditch
Trans.
Trans.
1.3 m V-Ditch
1.5 Ditch
Trans.

287.174 287.511 287.837 288.086 288.248 288.322 288.309 288.209 288.021 287.745 287.383 286.932 286.395 285.770 285.057 284.268 283.492 282.881 282.459 282.272 282.184 282.306

3114 3115 3116 3117 3118 3119 3120

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	E.05

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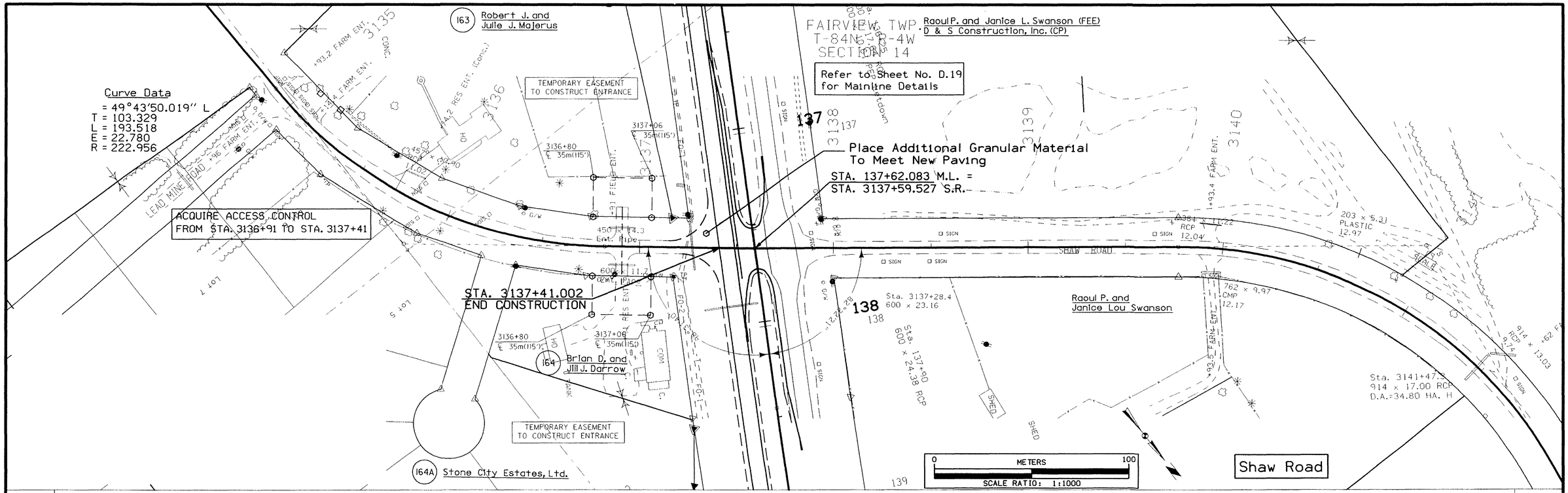
For Main Line Details
Refer to Sheet No. D.17
P.O.C. Sta. 131+32.453 U.S. 151=
P.O.T. Sta. 2131+29.877 X-40
STA. 2131+48.107
BEGIN CONSTRUCTION
2133
2134
2135
132
131
130
Sta. 2135+22.0
2540 x 3200 x 26.00 RCB
(Cattle Crossing)
D.A.=2194 HA. H
CO.RD. X-40
P.O.T. 2132+72.332
Sta. 2131+34.1
610 x 57.80 RCP
D.A.=1.30 HA. H
Abandon and Carry Ahead
Sta. 2132+00.0
Install 600 mm RF-1
F.L. Lt. 257.000
F.L. Rt. 257.500
STA. 2132+25.000
END CONSTRUCTION
Sta. 130+99.9
750 x 56.08 RCP
ACQUIRE ACCESS CONTROL
FROM STA. 2131+48 TO STA 2131+98
METERS
0
100
FOR REFERENCE ONLY.
CONSTRUCTION BY
FUTURE CONTRACT.
Co. Rd. X-40
Grading Completed By Previous Project.
Paving Is To Be Completed By This Project.
TIE TO E.S.
STA. 2131+48.107
EL. 259.752
TIE IN
STA. 2132+25.000
EL. 258.968
-1.020%
+59.8 (Rt.)
EL 258.762
-3.14%
1.87%
+00.0 (Rt.)
EL 257.500
3.63%
+25.0 (Rt.)
EL 257.968
+25.0 (Lt.)
EL 257.717
+59.8 (Lt.)
EL 255.348
260
255
250
Standard Bench Grade
Ditch Grade
Ditch Grade
Standard Bench Grade
259.732
259.630
259.528
259.427
259.325
259.223
259.121
259.019
2131
2132
2133
2134
2135
2136
2137

DESIGN TEAM Skogerboe / ROBINSON | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER E.06[redacted]

Revised 04-25-02

66-198



DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	E.07

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DESIGN TEAM Skogerboe / ROBINSON	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER NHSX-151-3(112)--3H-57	SHEET NUMBER E.08 [redacted]

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Revised 04/08/02

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Delta 12°35'35.531"
T =121.375m
L =241.772m
E =6.676m
R =1100.000m

Delta 1°56'20.419"
T =42.307m
L =84.605m
E =0.358m
R =2500.000m

BEGIN CROSSOVER
Sta. 700+00

END CROSSOVER
Sta. 704+53.329

700 701 702 703 704

POBSta 700+00.000
PCSta 700+36.991
PISta 701+58.366
PTSta 702+78.764
PCSta 703+30.784
PISta 703+73.091
PTSta 704+15.389
POESta 704+53.329

151

0 METERS 100
SCALE RATIO: 1:1000

CROSSOVER

STA 700+36.991
EL 274.776

STA 703+13.143
EL 276.701

0.697%

3.7% +37
Constant Slope
3.7% +61
Uniform Transition
2.7% +34

280
275
270
265

Lt.
Med.
Rt.

274.867 275.215 275.564 275.912 276.261 276.609

700 701 702 703 704 705

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Jones		NHSX-151-3(112)--3H-57	F.01 [redacted]

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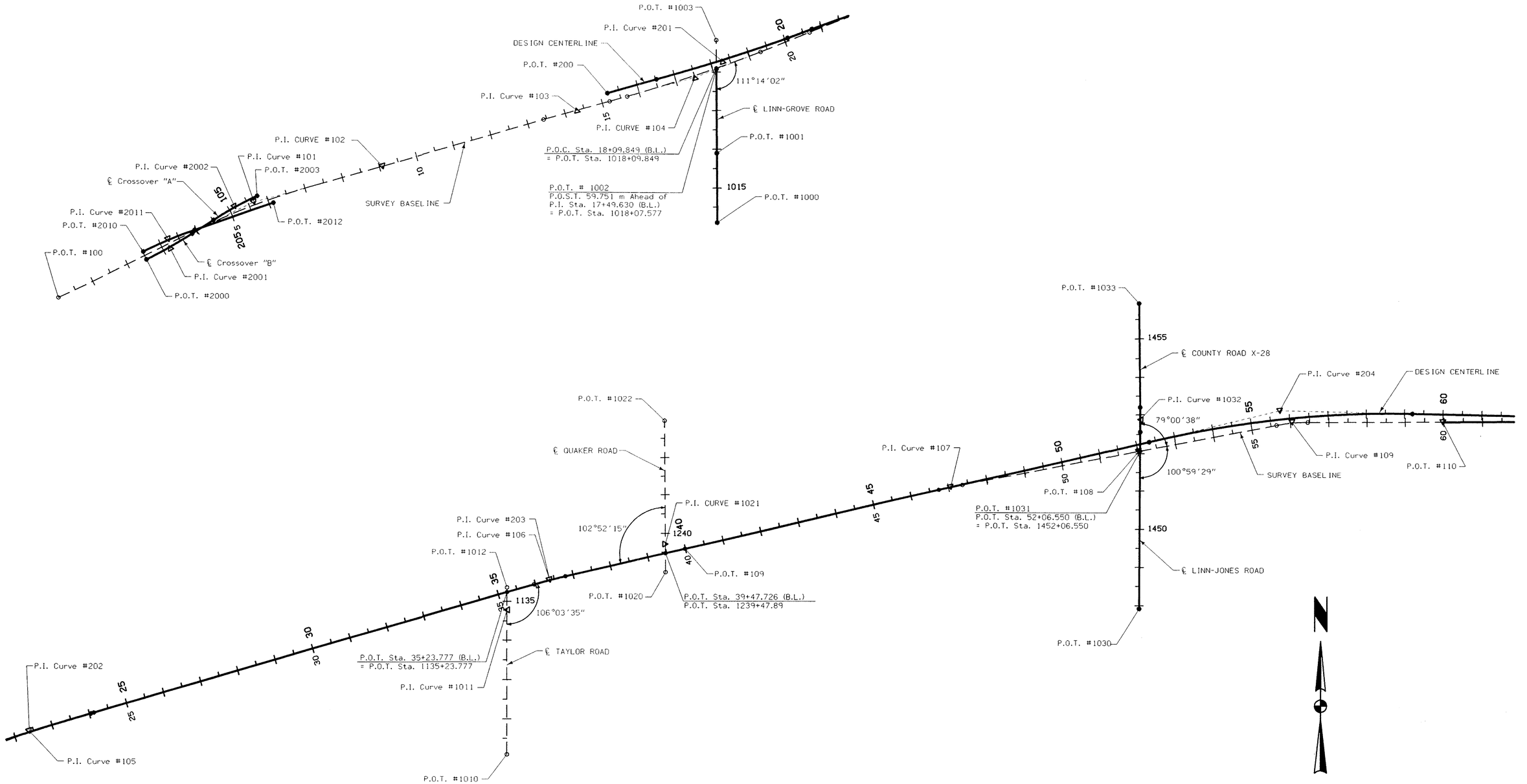
69-198



DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / ROBISON			Linn/Jones	NHSX-151-3(112)--3H-57	G.01

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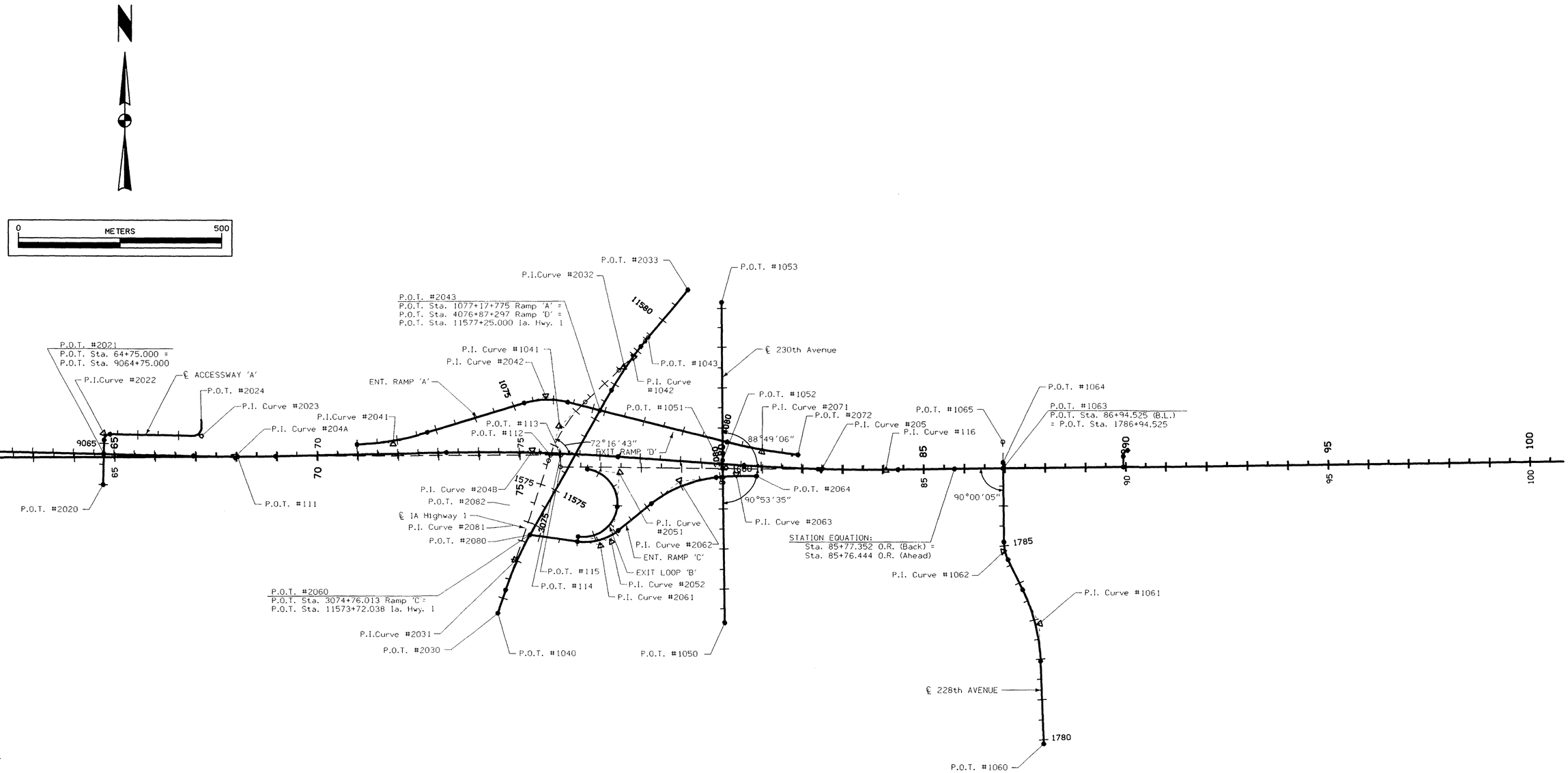
70-198



DESIGN TEAM Skogerboe / ROBISON	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER G.02

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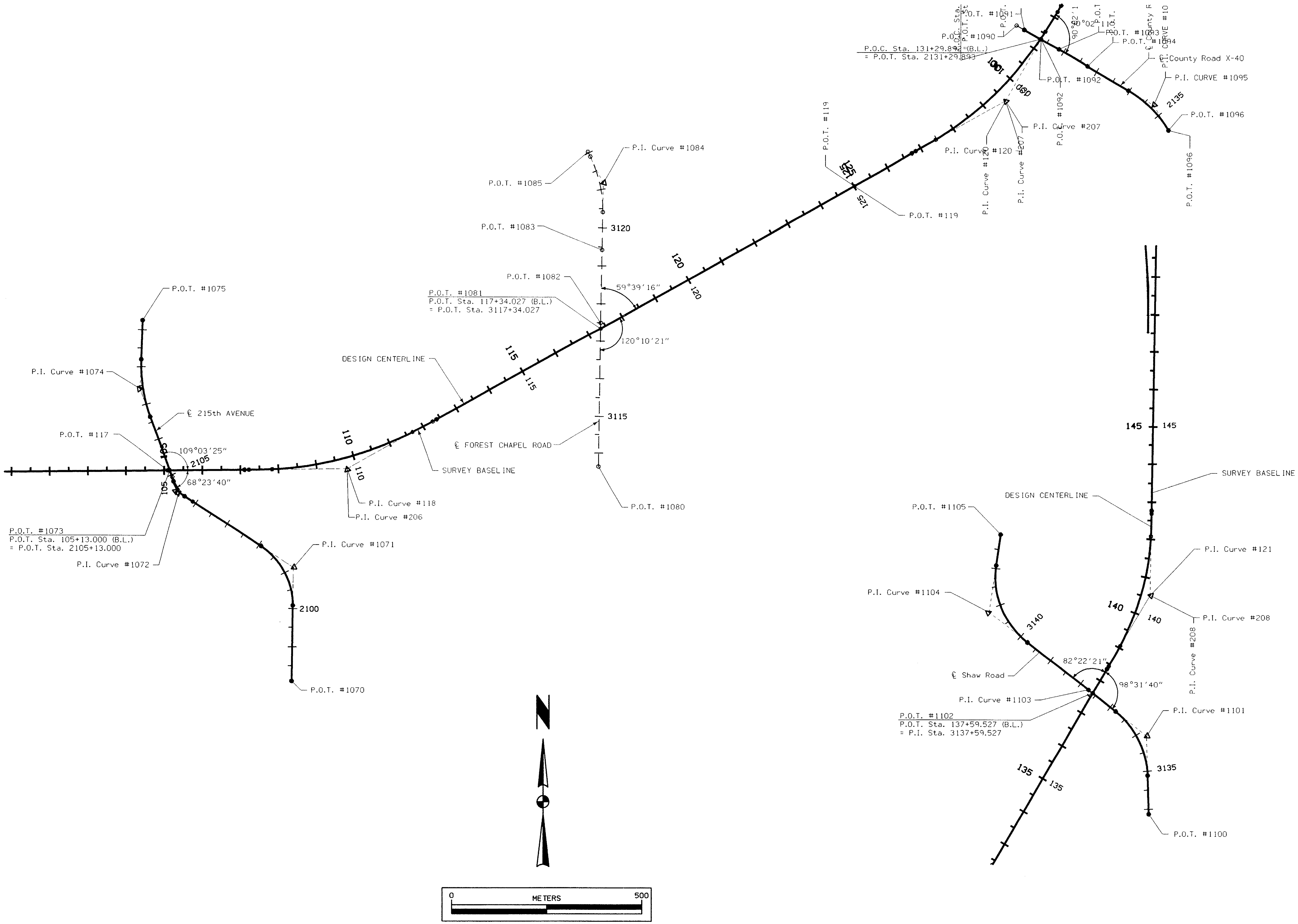
71-198



DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	G.03 [redacted]

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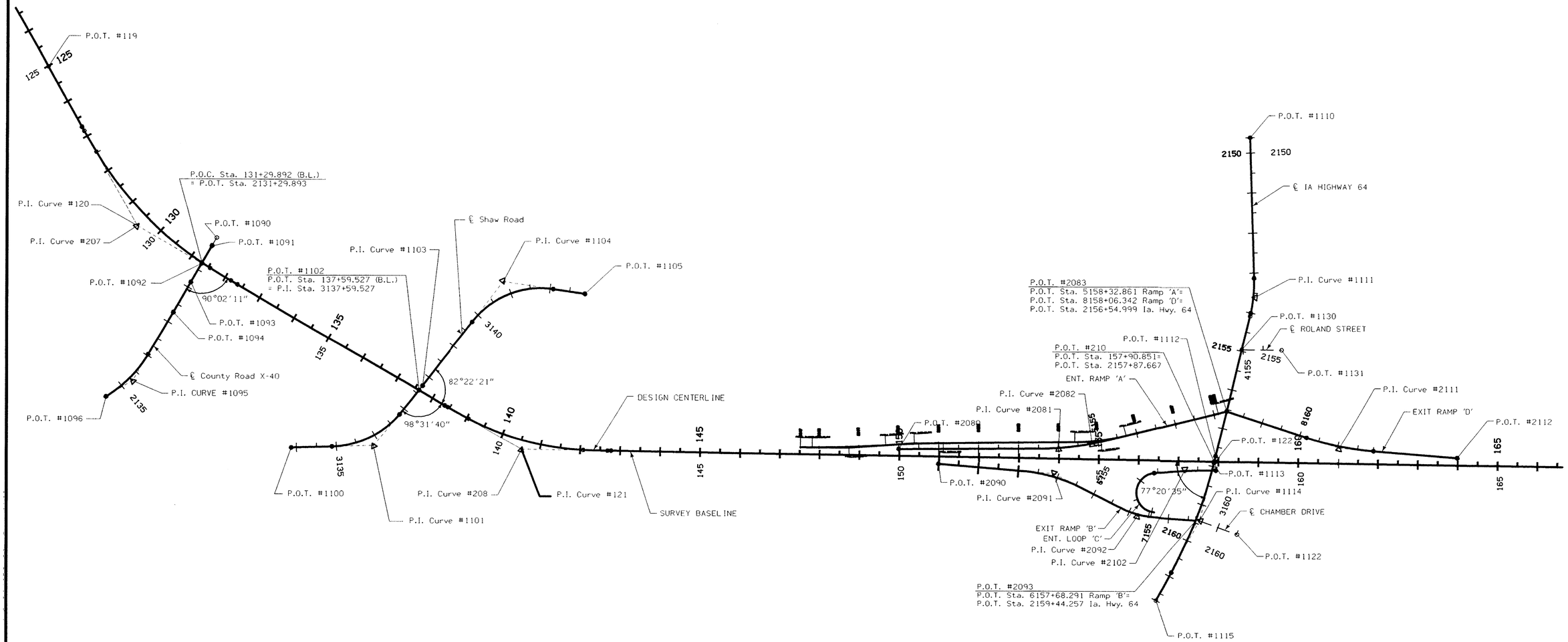
72-198



GEOMETRIC LAYOUT
STA. 165+00 TO STA. 187+50

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	G.04

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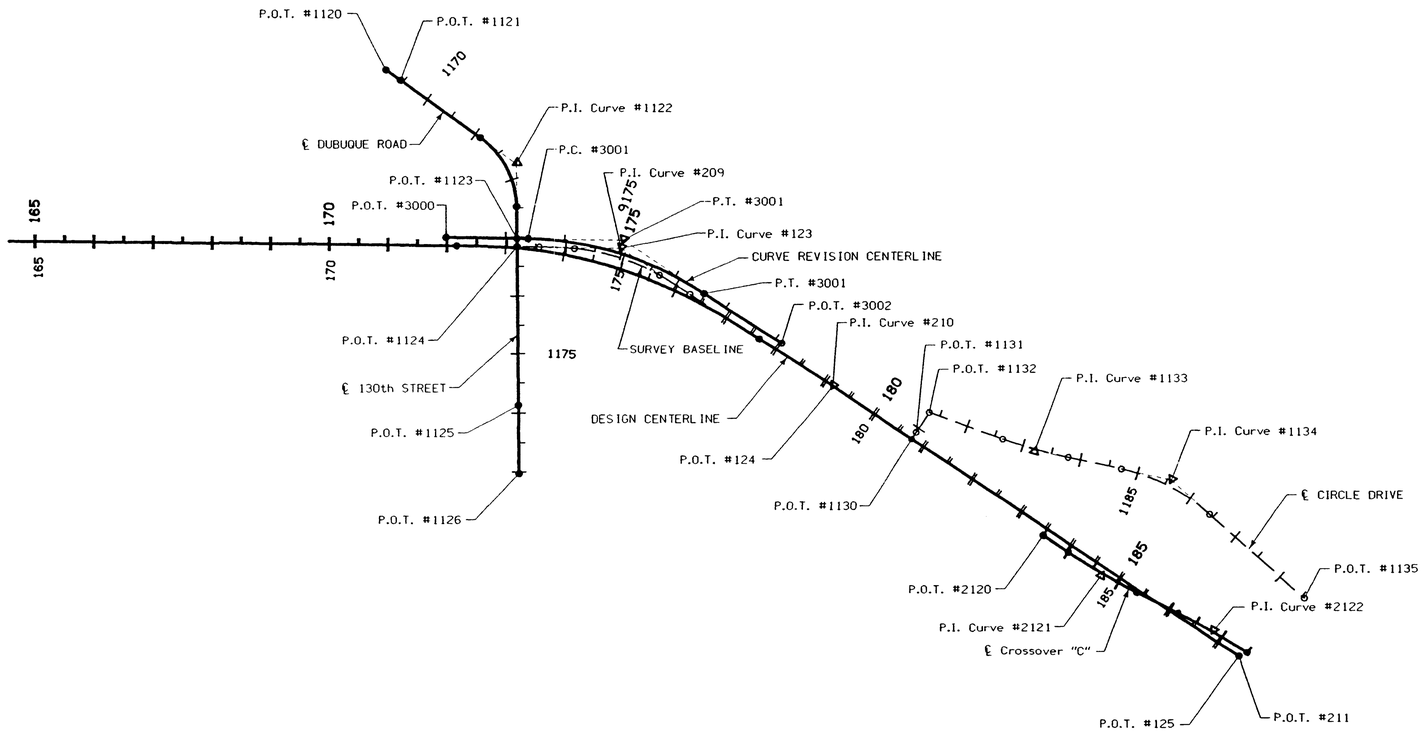
73-198



GEOMETRIC LAYOUT
STA. 165+00 TO STA. 187+50

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	G.05

Revised 04/08/02

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SURVEY BASELINE DATA

POINT NUMBER	OVERALL CURVE DATA												SPIRAL CURVE DATA								CIRCULAR CURVE DATA					SUPERELEVATION DATA			POINT NUMBER
	P.O.T. OR P.I.			T.S. or P.C.			S.T. or P.T.			S.C.			C.S.																
	Coordinates			Coordinates			Coordinates			Coordinates			Coordinates																
	Station	North	East	Station	North	East	Station	North	East	Station	North	East	Station	North	East	Δ	Ts	Es	Is	LT	ST	Xo	Yo	Δc	Rc	Tc	Lc	Ec	e	L	x	
100	0+00.671	4629.999	4075.572																												100
101	5+65.097	4881.285	4580.975	4+01.112	4808.278	4434.138	7+28.123	4925.681	4738.836															10°43'43.27"	1746.379	163.985	327.011	7.682				101
102	9+08.219	4974.439	4912.206	8+16.779	4949.683	4824.181	9+99.657	5000.000	5000.000															0°31'29.84"	19960.081	91.440	182.878	.209				102
103	14+30.978	5120.572	5414.126	13+42.350	5095.797	5329.031	15+19.605	5144.674	5499.414															0°27'08.94"	22445.000	88.628	177.255	.175				103
104	17+49.627	5207.228	5720.766	15+67.396	5157.671	5545.403	19+31.528	5274.755	5890.024															5°58'10.05"	3495.000	182.231	364.133	4.748				104
105	22+40.300	5389.171	6176.815	20+67.800	5325.251	6016.595	24+12.519	5437.003	6342.550															5°39'04.33"	3495.000	172.499	344.719	4.254				105
106	36+38.528	5776.964	7520.482	35+96.690	5765.363	7480.285	36+80.350	5786.625	7561.189															2°44'48.92"	1745.000	41.838	83.660	.501				106
107	47+05.467	6023.352	8558.599	46+74.398	6016.178	8528.370	47+36.530	6029.446	8589.064															2°02'24.15"	1745.000	31.069	62.132	.277				107
108	52+03.203	6120.982	9046.673																													108
109	56+04.611	6195.927	9441.022	55+64.118	6188.367	9401.241	56+44.871	6196.015	9481.515															10°38'11.16"	435.000	40.493	80.754	1.881				109
110	59+96.938	6196.778	9833.581																													110
111	68+01.733	6200.238	10638.368																													111
112	75+69.906	6203.241	11406.535																													112
113	75+99.654	6202.989	11436.282																													113
114	75+99.995	6202.986	11436.624																													114
115	76+00.000	6174.987	11436.387																													115
116	84+05.500	6168.169	12241.857	82+36.980	6169.596	12073.344	85+74.009	6169.992	12410.367															1°06'16.96"	17480.000	168.520	337.029	.812				116
117	105+08.159	6190.913	14344.405																													117
118	109+79.065	6195.797	14815.285	107+21.048	6193.121	14557.281	112+27.354	6322.558	15040.017	107+82.024	6194.453	14618.240	111+66.378	6293.215	14986.570	28°49'52.09"	258.018	28.950	60.976	40.653	20.328	60.969	0.700	24°53'00.56"	885.000	195.256	384.355	21.284				118
119	124+99.550	6947.576	16148.095																													119
120	129+54.987	7171.327	16544.779	126+83.726	7038.059	16308.512	132+14.782	7405.911	16680.987	127+44.702	7068.623	16361.271	131+53.806	7353.537	16649.767	30°26'00.30"	271.261	32.337	60.976	40.653	20.328	60.969	0.700	26°29'08.77"	885.000	208.274	409.104	24.177				120
121	140+58.887	8135.885	17104.839	138+42.753	7948.975	16996.312	142+66.787	8351.996	17108.019	139+03.729	8002.135	17026.169	142+05.811	8291.050	17106.250	29°17'53.29"	216.134	24.081	60.976	40.655	20.329	60.695	0.873	24°22'38.92"	710.000	153.361	302.082	16.374				121
122	157+91.027	9876.071	17130.445																													122
123	174+94.397	11579.259	17155.349	173+54.159	11439.036	17153.299	176+28.462	11696.294	17232.612	174+15.135	11499.941	17155.841	175+67.486	11644.530	17200.418	32°35'38.07"	140.238	16.128	60.976	40.665	20.338	60.936	1.652	23°16'38.87"	375.000	77.241	152.351	7.872				123
124	179+17.753	11937.721	17391.995																													124
125	187+45.134	12626.567	17850.307																													125

OFFICE RELOCATION DATA

POINT NUMBER	OVERALL CURVE DATA												SPIRAL CURVE DATA								CIRCULAR CURVE DATA					SUPERELEVATION DATA			POINT NUMBER
	P.O.T. OR P.I.			T.S. or P.C.			S.T. or P.T.			S.C.			C.S.																
	Coordinates			Coordinates			Coordinates			Coordinates			Coordinates																
	Station	North	East	Station	North	East	Station	North	East	Station	North	East	Station	North	East	Δ	Ts	Es	Is	LT	ST	Xo	Yo	Δc	Rc	Tc	Lc	Ec	e	L	x	
200	15+19.633	5165.833	5493.437																													200
201	18+30.020	5250.243	5792.126	16+52.068	5201.849	5620.881	20+07.821	5310.688	5959.497															4° 4'35.84"	5000.000	177.951	355.752	3.166	NC	0	0	201
202	22+38.875	5389.171	6176.814	20+74.827	5333.448	6022.519	24+02.806	5434.660	6334.429															3°45'30.11"	5000.000	164.048	327.979	2.691	NC	0	0	202
203	36+37.267	5776.964	7520.482	35+77.326	5760.343	7462.892	36+97.184	5790.806	7578.802															2°44'49.00"	2500.000	59.941	119.858	.719	.0240	92	75	203
204	55+78.799	6225.320	9409.560	52+33.356	6145.548	9073.454	59+20.510	6217.903	9754.924															14°34'54.65"	2700.000	345.443	687.153	22.009	.0228	92	80.6	204
204A	67+96.604	6199.093	10630.816	66+94.993	6201.275	10529.228	68+98.187	6201.041	10732.408															2°19'42.36"	5000.000	101.611	203.194	1.032	NC	0	0	204A
204B	75+33.327	6213.214	11367.431	73+21.683	6209.158	11155.826	77+44.718	6199.374	11578.623															4°50'51.48"	5000.000	211.644	423.036	4.477	NC	0	0	204B
205	82+48.468	6166.432	12081.294	80+57.733	6178.905	11890.967	84+39.018	6168.495	12272.018															4°22'09.16"	5000.000	190.735	381.286	3.637	NC	0	0	205
206	109+81.905	6196.011	14815.664	107+12.382	6193.096	14546.156	112+41.777	6328.425	15050.418	108+04.382	6195.712	14638.108	111+49.777	6284.651	14969.512	28°48'20.21"	269.523	28.649	92.000	61.342	30.675	91.974	1.621	22°44'48.30"	870.000	175.002	345.395	17.427	.0615	92	30.1	206
207	129+57.469	7171.327	16544.779	126+74.716	7032.413	16298.502	132+28.829	7415.849	16686.758	127+66.716	7079.011	16377.815	131+36.829	7337.125	16639.173	30°26'00.56"	282.753	32.031	92.000	61.342	30.675	91.974	1.621	24°22'28.65"	870.000	187.899	370.113	20.060	.0615	92	30.1	207
208	140+61.442	8135.885	17104.839	138+36.559	7941.409	16991.918	142+78.276	8360.743	17108.148	139+30.559	8023.747	17037.224	141+84.276	8266.830	17104.601	29°17'53.18"	224.883	23.407	94.000	62.682	31.348	93.955	2.165	21°22'40.11"	680.000	128.351	253.717	12.007	.0730	94	26	208
209	174+97.384	11579.503	17155.510	172+17.411	11299.560	17151.391	177+64.433	11813.153	17309.759	173+09.411	11391.493	17154.507	176+72.433	11735.430	17260.561	32°35'18.98"	279.974	33.937	92.000	61.344	30.676	91.970	1.763	25°59'58.52"	800.000	184.692	363.023	21.043	.0655	92	28	209
210	179+13.698	11937.721	17391.995	178+77.829	11907.787	17372.233	179+49.567	11967.584	17411.864															0°12'19.85"	20000.000	35.869	71.738	.032	NC	0	0	210
211	187+41.078	12626.567	17850.307																													211
CURVE	REVISION CENTERLINE																															3000
3000	9172+00.000	11282.359	17137.006																					32°35'37.85"	560.000	163.723	308.567	23.443	MATCH EXISTING CROSS SLOPE			3001
3001	9175+01.229	11583.556	17141.410	9173+37.506	11419.850	17137.017	9176+56.073	11720.190	17231.612																							3002
3002	187+41.078	12626.567	17850.307																													

STATION EQUATION:
Sta. 85+77.352 O.R. (Back) =
Sta. 85+76.444 O.R. (Ahead)
N=6169.991, E=12410.344

FENO MONUMENTS SPRINGVILLE TO ANAMOSA

NHSX-151-3(112)--(METRIC)

STATION	OFFSET	NORTHING	EASTING	
18+54.537	55.657	5207.938	5831.842	MAINLINE
21+53.656	41.101	5320.762	6110.22	MAINLINE
24+77.729	32.167	5424.529	6415.335	MAINLINE
27+79.751	34.961	5505.594	6706.287	MAINLINE
30+86.517	33.05	5592.493	7000.494	MAINLINE
33+90.793	32.01	5677.864	7292.549	MAINLINE
36+98.583	31.145	5760.366	7585.418	MAINLINE
40+01.896	36.53	5825.63	7883.713	MAINLINE
43+05.936	33.345	5898.939	8178.801	MAINLINE
46+10.437	30.085	5972.428	8474.32	MAINLINE
49+12.296	36.957	6035.449	8769.606	MAINLINE
52+18.642	49.043	6094.433	9070.462	MAINLINE
55+28.798	49.784	6148.521	9370.204	MAINLINE
58+35.750	56.392	6162.003	9670.729	MAINLINE
61+44.924	52.359	6160.737	9978.161	MAINLINE
64+49.872	44.188	6162.36	10283.215	MAINLINE
67+54.574	36.192	6164.16	10588.454	MAINLINE
70+58.350	38.795	6165.285	10891.285	MAINLINE
71+95.785	41.706	6165.047	11030.751	MAINLINE
73+61.459	66.483	6143.284	11196.342	MAINLINE
76+55.370	42.053	6162.415	11487.418	MAINLINE
82+82.970	67.729	6101.527	12114.594	MAINLINE

FENO MONUMENTS (C.T.)

85+93.302	54.613	6115.563	12427.791	MAINLINE
88+99.798	83.765	6089.73	12734.582	MAINLINE
92+25.667	57.14	6119.876	13060.146	MAINLINE
95+69.043	37.984	6142.747	13403.295	MAINLINE
98+93.010	-57.935	6242.164	13726.206	MAINLINE
101+72.394	45.473	6141.784	14006.692	MAINLINE
104+80.727	36.191	6154.401	14314.907	MAINLINE
107+77.237	46.755	6147.642	14612.73	MAINLINE
109+90.617	39.307	6189.492	14832.063	MAINLINE
113+21.232	46.361	6327.039	15142.435	MAINLINE
116+26.339	52.779	6471.386	15411.299	MAINLINE
119+32.588	51.104	6623.305	15677.174	MAINLINE
122+78.189	37.773	6804.705	15971.685	MAINLINE
125+82.669	31.861	6959.441	16233.983	MAINLINE
128+78.978	-39.5	7175.517	16443.089	MAINLINE
132+26.612	50.915	7388.363	16729.676	MAINLINE
137+19.429	-35.159	7857.768	16902.698	MAINLINE
141+08.584	44.746	8183.236	17137.978	MAINLINE
144+54.984	96.051	8536	17206.787	MAINLINE
148+01.760	-56.763	8885.006	17059.093	MAINLINE
151+77.579	-64.682	9260.902	17056.704	MAINLINE
158+65.370	31.908	9947.197	17163.402	MAINLINE
165+96.420	28.376	10678.222	17170.627	MAINLINE
169+18.369	31.976	11000.08	17178.965	MAINLINE
172+96.837	26.702	11377.41	17180.351	MAINLINE
176+39.668	34.711	11690.578	17275.402	MAINLINE
179+49.544	31.499	11950.105	17438.07	MAINLINE
182+62.284	30.789	12210.884	17610.722	MAINLINE
185+88.080	28.414	12486.774	17778.123	MAINLINE

FENO MONUMENTS (C.T.)

3075+02.423	13.48	5989.106	11379.527	151&1 Ent. Ramp'C'
3076+02.473	38.783	5949.529	11475.552	
3079+83.437	24.912	6123.943	11818.473	
4079+32.964	-11.75	6265.43	11775.235	151&1 Exit Ramp'D'
4080+99.375	-31.16	6247.621	11940.02	
1072+12.550	-27.292	6269.576	11039.938	151&1 Ent. Ramp'A'
1076+08.904	-32.614	6370.731	11431.941	
1078+96.116	-16.189	6334.102	11516.973	
6154+83.717	45.027	9536.334	17246.07	151&64 Exit Ramp'B'
2156+16.449	-13.122	9925.688	16966.781	Highway 64
2158+91.416	-15.7	9859.454	17234.922	
5155+55.661	-60.987	9618.684	17031.971	151&64 Ent. Ramp'A'
8159+84.073	-26.296	10081.032	17033.41	151&64 Exit Ramp'D'
8163+06.521	-19.378	10390.446	17094.125	

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN		Linn/Jones	NHSX-151-3(112)--3H-57	G.06

Revised 04/08/02

75-198

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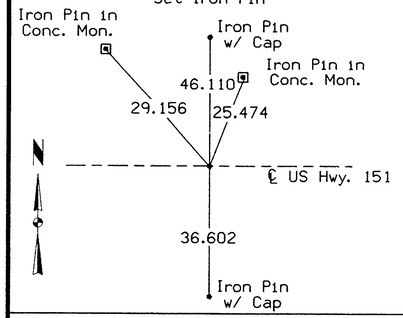
SIDEROAD SURVEY BASELINE DATA

LOCATION	CURVE NUMBER	CURVE POINTS									CIRCULAR CURVE DATA					SUPERELEVATION DATA				CURVE NUMBER	COMMENTS
		P.I. (OR P.O.T.)			P.C.			P.T.													
		Station	Coordinates North	Coordinates East	Station	Coordinates North	Coordinates East	Station	Coordinates North	Coordinates East	Δ	R	T	L	E	e	L	M	x		
Linn Grove Road	1000	1014+09.849	4831.657	5779.843																	
	1001	1015+89.569	5011.370	5778.225																	
	1002	1018+07.577	5229.369	5776.262																	
	1003	1018+83.721	5305.511	5775.576																	
Taylor Road	1010	1131+09.275	5330.641	7410.508																	
	1011	1134+78.448	5699.814	7410.258	1134+64.341	5685.707	7410.267	1134+92.370	5713.368	7406.346	16°03'34.89"	100.000	14.107	28.029	.990						
	1012	1135+35.823	5755.117	7394.296																	
Quaker Road	1020	1238+47.387	5848.290	7821.005																	
	1021	1242+33.054	6233.944	7817.768																	
Linn-Jones Road	1030	1447+92.187	5707.245	9048.286																	
	1031	1452+06.550	6121.606	9049.956																	
	1032	1452+87.830	6202.885	9050.280	1452+56.283	6171.339	9050.154	1453+19.374	6234.428	9049.886	0°56'40.00"	3827.485	31.546	63.091	.130						
	1033	1455+92.278	6507.311	9046.478																	
Iowa Highway 1	1040	1571+49.594	5799.360	11278.310																	
	1041	1576+48.206	6273.010	11434.097	1575+60.738	6189.921	11406.769	1577+32.185	6333.570	11497.208	27°58'30.08"	351.140	87.468	171.446	10.730						
	1042	1578+96.611	6447.415	11615.848	1578+48.546	6414.136	11581.167	1579+44.540	6484.928	11645.899	7°29'00.00"	734.975	48.066	95.994	1.570						
	1043	1579+56.354	6494.148	11653.286																	
230th Avenue	1050	1676+15.725	5785.756	11842.649																	
	1051	1680+01.585	6171.588	11837.958																	
	1052	1680+21.745	6191.747	11837.814																	
	1053	1684+15.725	6585.718	11835.007																	
228th Avenue	1060	1779+89.445	5482.719	12631.229																	
	1061	1782+89.445	5782.500	12619.765	1781+94.933	5688.056	12623.377	1783+81.341	5867.799	12579.062	23°19'10.00"	458.005	94.513	186.409	9.650						
	1062	1784+87.934	5964.000	12533.157	1784+65.179	5943.463	12542.957	1785+09.971	5986.753	12532.907	24°52'48.00"	103.151	22.755	44.792	2.480						
	1063	1786+94.525	6171.296	12530.880																	
	1064	1787+08.523	6185.293	12530.725																	
	1065	1787+58.523	6235.290	12530.176																	
215th Avenue	1070	2098+09.815	5635.077	14670.219																	
	1071	2101+09.815	5935.048	14674.333	2100+08.315	5833.557	14672.941	2101+94.003	5990.796	14589.513	57°28'16.00"	185.121	101.500	185.688	26.000						
	1072	2104+53.322	6133.224	14372.808	2104+09.132	6108.953	14409.736	2104+94.828	6174.139	14356.111	34°29' 7.51"	142.380	44.190	85.696	6.700	0.04	15.00	4.50	11.00		M at Exit of Curve will be 25 m
	1073	2105+13.000	6190.963	14349.245																	
	1074	2107+43.660	6408.189	14271.676	2106+65.475	6334.558	14297.969	2108+20.018	6486.336	14274.095	21°25'26.00"	413.308	78.185	154.543	7.330						
	1075	2109+26.004	6592.271	14277.373																	
Forest Chapel Road	1080	3113+65.270	6202.756	15476.519																	
	1081	3117+34.027	6571.482	15481.328																	
	1082	3117+49.890	6587.343	15481.582																	
	1083	3119+41.840	6779.268	15484.665																	
	1084	3121+17.160	6954.566	15487.480	3120+40.924	6878.339	15486.256	3121+90.324	7022.373	15452.636	28°07'00.00"	304.445	76.236	149.400	9.400						
	1085	3122+03.458	7034.055	15446.634																	
County Road X-40	1090	2130+56.757	7364.450	16569.273																	
	1091	2130+81.739	7358.593	16593.560																	
	1092	2131+31.739	7333.458	16636.783																	
	1093	2131+87.578	7305.389	16685.054																	
	1094	2132+74.178	7261.856	16759.917																	
	1095	2134+75.467	7160.673	16933.926	2133+98.542	7199.341	16867.426	2135+49.024	7094.408	16972.996	29°17'56.27"	294.277	76.925	150.483	9.888						
	1096	2135+49.025	7094.408	16972.996																	
Shaw Road	1100	3133+86.791	7559.012	17101.357																	
	1101	3135+91.941	7764.082	17095.627	3134+88.613	7660.793	17098.513	3136+82.130	7828.643	17014.951	49°43'50.05"	222.956	103.329	193.518	22.780						
	1102	3137+59.527	7877.002	16954.522																	
	1103	3137+73.653	7885.654	16943.355																	
	1104	3141+04.543	8088.316	16681.790	3139+77.091	8010.255	16782.539	3142+07.870	8214.448	16700.087	60°29'07.26"	218.609	127.452	230.779	34.440						
Iowa Highway 64	1110	2149+61.295	9960.009	16315.259																	
	1111	2153+61.295	9972.627	16715.060	2153+13.457	9971.118	16667.245	2154+08.564	9961.459	16761.576	15°18'28.00"	355.976	47.838	95.107	3.200						
	1112	2157+73.525	9876.260	17116.454																	
	1113	2157+87.867	9872.912	17130.399																	
	1114	2159+41.145	9837.130	17279.442	2157+90.987	9872.184	17133.433	2160+89.658	9766.198	17411.792	14°41'19.56"	1165.011	150.159	298.671	9.637	3.00%	44	13	30		
	1115	2162+35.391	9697.356	17540.241																	
130th Street	1120	1169+13.871	11180.155	16851.779																	
	1121	1169+44.242	11204.979	16869.276																	
	1122	1171+84.361	11400.112	17009.206	1171+09.623	11339.376	16965.652	1172+47.980	11400.927	17083.939	53°43'50.63"	147.537	74.738	138.357	17.850						
	1123	1173+02.792	11401.525	17138.748																	
	1124	1173+16.797	11401.678	17152.752																	
	1125	1175+87.442	11404.134	17423.386																	
	1126	1177+02.793	11405.191	17538.732																	
Circle Drive	1130	1180+77.944	12071.089	17480.729																	
	1131	1180+91.945	12078.926	17469.127																	
	1132	1181+31.734	12101.198	17436.156																	
	1133	1183+21.814	12280.076	17500.446	1182+64.437	12226.080	17481.039	1183+79.040	12336.075	17512.944	7°11'14.43"	913.590	57.377	114.603	1.800						
	1134	1185+59.094	12511.804	17552.165	1184+71.734	12426.543	17533.136	1186+42.782	12577.445	17609.810	28°42'25.03"	341.392	87.359	171.048	11.000						
	1135	1188+55.423	12737.222	17750.121																	

RAMP, LOOP, SIDEROAD O.R. AND ACCESSWAY DATA

LOCATION	CURVE NUMBER	CURVE POINTS									CIRCULAR CURVE DATA					SUPERELEVATION DATA				CURVE NUMBER	COMMENTS
		P.I. (OR P.O.T.)			P.C.			P.T.													
			Coordinates			Coordinates			Coordinates												
		Station	North	East	Station	North	East	Station	North	East	Δ	R	T	L	E	e	L	M	x		
	2040	1070+80.002	6228.383	10913.831																	
Iowa Hwy 1 Ent. Ramp 'A'	2041	1071+89.231	6232.878	11022.967	1071+00.000	6229.206	10933.813	1072+77.503	6258.798	11108.349	14°31'43.67"	700.000	89.230	177.503	5.664	.0630	65	19.5	21		
	2042	1075+82.349	6347.352	11400.050	1075+26.414	6331.103	11346.526	1076+35.497	6333.476	11454.237	31°15'00.76"	200.000	55.935	109.084	7.675	.0790	60	18.0	15		
	2043	1077+17.775	6313.066	11533.942																	
	2050	2076+70.000	6169.447	11502.299																	
Iowa Hwy 1 Exit Loop 'B'	2051	2077+49.999	6160.068	11581.747	2076+70.000	6169.446	11502.300	2078+02.965	6075.616	11576.811	89°37'39.11"	85.000	84.449	132.965	34.819	.0800	55	16.5	14		
	2052	2078+87.097	5989.816	11561.650	2078+02.965	6075.616	11576.811	2079+39.339	6000.920	11480.085	91°55'30.80"	85.000	87.905	136.374	37.280	.0800	55	16.5	14		
	2053	2079+39.340	6000.920	11480.085																	
	2060	3074+81.623	6005.444	11360.887																	
Iowa Hwy 1 Ent. Ramp 'C'	2061	3076+57.210	5980.141	11534.641	3076+00.229	5988.352	11478.256	3077+07.633	6016.040	11578.892	47°20'12.77"	130.000	56.981	107.404	11.939	.0800	56	16.8	14		
	2062	3079+04.423	6140.020	11731.715	3078+13.772	6082.908	11661.317	3079+90.001	6149.410	11821.878	33°06'20.27"	305.000	90.651	176.230	13.186	.0800	71	21.3	18		
	2063	3080+40.086	6154.598	11871.693	3079+90.002	6149.410	11821.879	3080+90.000	6152.641	11921.740	8°11'05.87"	700.000	50.084	100.000	1.790	.0630	65	19.5	21		
	2064	3080+90.000	6152.641	11921.740																	
Iowa Hwy 1 Exit Ramp 'D'	2070	4076+87.297	6313.065	11533.942																	
	2071	4081+00.841	6213.680	11935.367	4080+11.400	6235.174	11848.547	4081+90.000	6204.277	12024.312	7°52'17.67"	1300.000	89.441	178.60	3.073	.0380	65	19.5	34		
	2072	4081+90.175	6204.259	12024.485																	
	2020	9064+00.502	6132.336	10307.782																	
Accessway 'A' and Ent. to Parsel 115A	2021	9064+75.000	6206.819	10309.272																	
	2022	9065+23.300	6255.110	10310.238	9065+08.300	6240.113	10309.938	9065+31.862	6254.810	10325.235	89°59'59.20"	15.000	15.000	23.562	6.213						
	2023	9067+56.010	6250.328	10549.339	9067+35.435	6250.739	10528.339	9067+67.418	6270.903	10549.339	91°37'28.287"	20.000	20.575	31.983	8.694						
	2024	9067+86.575	6290.059	10549.006																	
	2030	11571+49.594	5799.360	11278.310												.0570					
Iowa Hwy. 1	2031	11573+00.001	5942.237	11325.302	11572+21.861	5868.008	11300.889	11573+77.646	6010.338	11363.618	11°09'26.39"	800.000	78.140	155.786	3.807	.0570	56		20		
	2032	11578+48.763	6420.928	11594.630	11577+83.449	6364.006	11562.603	11579+13.788	6471.903	11635.465	9°20'05.36"	800.000	65.314	130.339	2.662	.0570	56		20		
	2033	11580+99.892	6617.147	11751.820																	
	2090	9962+58.816	6183.897	10094.000																	
Crossover "B"	2091	9964+92.367	6184.903	10327.000	9963+68.847	6184.371	10204.000	9966+15.686	6197.608	10450.000	05°39'25.63"	2500.00	123.520	246.838	3.050						
	2092	9967+59.313	6212.381	10593.000	9966+54.407	6201.590	10489.000	9968+64.096	6214.391	10698.000	4°48'20.62"	2500.000	104.906	209.689	2.200						
	2093	9969+00.000	6215.079	10734.000																	
Bus Turnaround Residential Entrance	2080	2573+12.043	6005.444	11360.887																	
	2081	2574+19.971	6028.653	11318.954																	
	2092	2574+70.650	6078.808	11311.690																	
	2080	5150+49.940	9132.653	17101.204																	
Ia. Hwy. 64 Ent. Ramp 'A'	2081	5154+00.085	9482.793	17099.354	5153+50.000	9432.708	17099.618	5154+50.000	9532.330	17092.961	8°11'06.38"	700.000	50.085	100.000	1.790	6.30%	65	19.5	21		
	2082	5154+70.489	9552.594	17088.937	5154+50.000	9532.330	17091.961	5154+90.966	9572.646	17084.733	3°21'11.10"	700.000	20.489	40.966	0.300	6.30%	65	19.5	21		
	2083	5158+25.816	9900.372	17016.023																	
	2090	6150+96.524	9179.109	17138.292																	
Ia. Hwy. 64 Exit Ramp 'B'	2091	6153+89.097	9470.716	17162.046	6153+10.000	9391.881	17155.624	6154+66.179	9541.174	17197.989	22°22'15.12"	400.000	79.097	156.178	7.745	8.00%	75	22.5	19		
	2092	6156+22.535	9680.455	17269.042	6155+82.242	9644.562	17250.731	6156+61.764	9720.637	17272.025	22°46'53.59"	200.000	40.294	79.523	4.019	7.90%	60	18	15		
	2093	6157+68.046	9826.627	17279.894																	
	2100	7153+86.198	9829.738	17271.746																	
Ia. Hwy. 64 Ent. Loop 'C'	2101	7159+29.912	9289.562	17209.825	7154+94.346	9722.294	17259.430	7156+39.997	9722.278	17160.082	166°54'10.82"	50.000	435.566	145.650	388.427	8.00%	52	15.6	13		
	2102	7157+17.608	9799.382	17151.218	7156+40.000	9722.281	17160.082	7157+95.000	9876.981	17152.360	7°24'02.54"	1200.000	77.608	155.000	2.507	4.00%	65	19.5	32		
	2103	7160+70.000	10151.951	17156.407																	
	2110	8158+06.342	9900.371	17016.022																	
Ia. Hwy. 64 Exit Ramp 'D'	2111	8161+26.196	10209.321	17098.829	8160+62.816	10148.101	17082.420	8161+89.231	10272.492	17103.975	10°20'50.22"	700.000	63.380	126.416	2.863	6.30%	65	19.5	21		
	2112																				
		700+00.000	4777.836	4350.881	100+36.991	4794.305	4384.005				12°35'35.531"	1100.000	121.375	241.772	6.676						
Crossover @ Sta. 4+50 Geometrics		701+58.366	4848.342	4492.687	100+36.991	4794.305	4384.005	102.78.764	4877.383	4610.537	12°35'35.531"	1100.000	121.375	241.772	6.676						
		703+73.091	4899.952	4702.124	103+30.784	4889.829	4661.046	104+15.389	4911.459	4742.836	1°56'20.419"	2500.000	42.307	84.605	0.358						
		704+53.329	4921.778	4779.346																	
	2130	8147+50.000	8832.670	17097.000																	
On-Site Detour 'C'	2131	8147+99.999	8882.665	17098.000	8147+74.045	8856.713	17098.000	8148.250944	8909.605	17097.000	2°28'40.792"	1200.000	25.954	51.899	0.281						
	2132	8150+39.283	9121.406	17086.702	8149+67.144	9049.440	17091.696	8151+11.383	9193.541	17085.867	3°18'20.53"	2500.000	72.139	144.239	1.041						
	2133	8156+98.024	9777.664	17043.000																	

P.O.T. STA. 9+99.661
(GPS pt. #1)
Set Iron Pin



P.C. STA. 14+17.180
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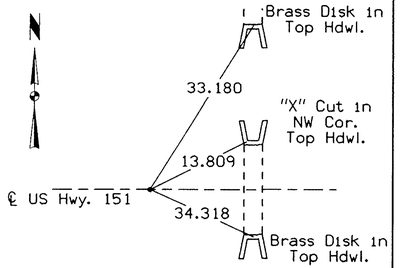

P.I. STA. 14+30.981
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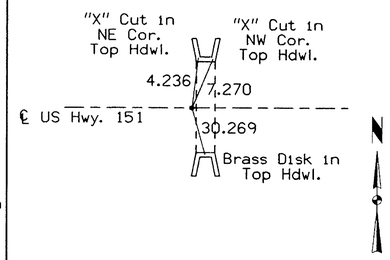

P.T. STA. 14+44.782
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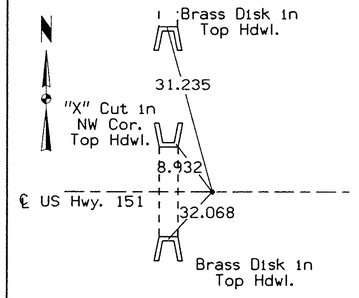

P.C. STA. 15+67.399
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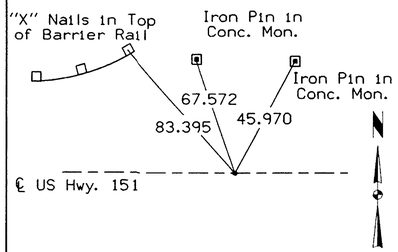
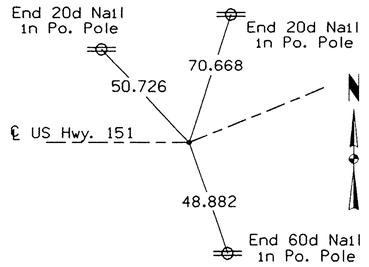


P.I. STA. 17+49.630
Set Iron Pin



P.T. STA. 19+31.532
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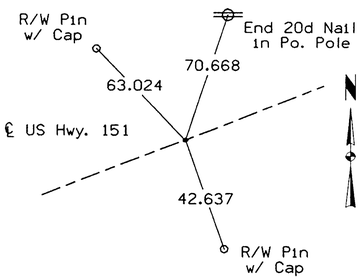
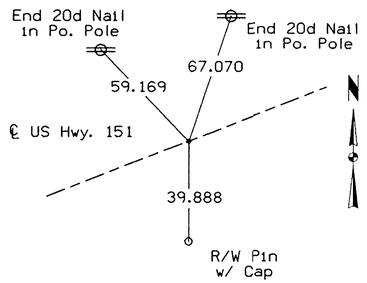


P.C. STA. 20+67.804
Set Iron Pin



P.I. STA. 22+40.303
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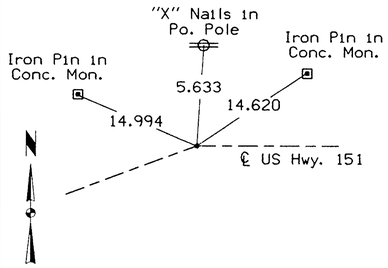

P.T. STA. 24+12.523
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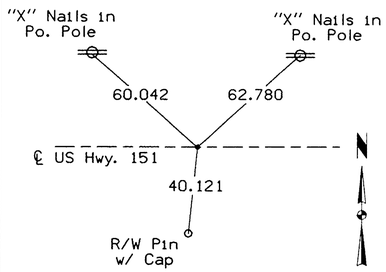
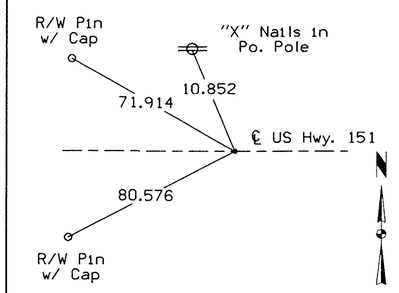
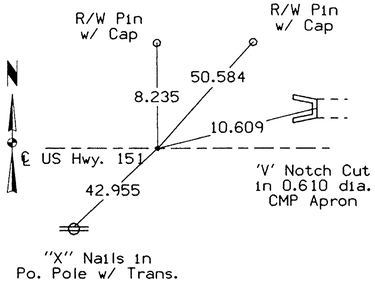


P.O.T. STA. 27+99.661
Set Iron Pin



P.O.T. STA. 31+99.661
Set Iron Pin



P.C. STA. 35+96.694
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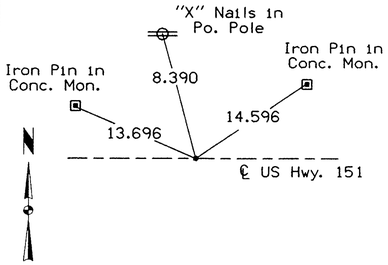
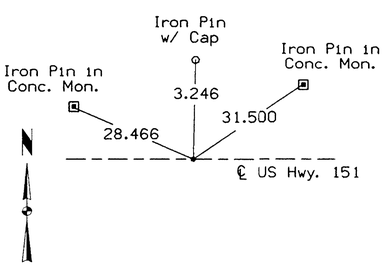


P.I. STA. 36+38.533
Set Iron Pin



P.T. STA. 36+80.535
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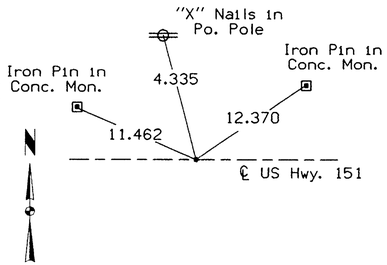

P.O.T. STA. 39+99.661
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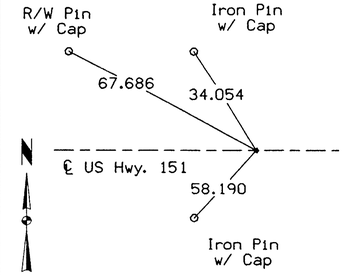
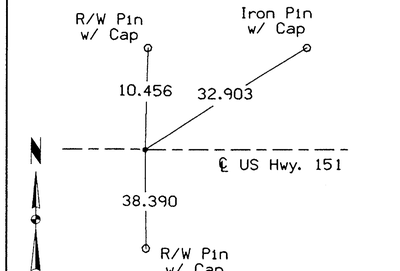


P.C. STA. 46+74.403
Set Iron Pin



P.I. STA. 47+05.472
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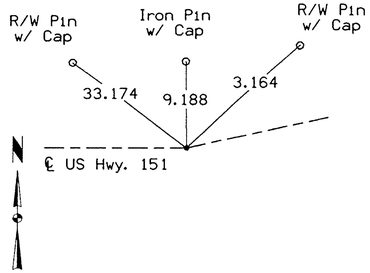
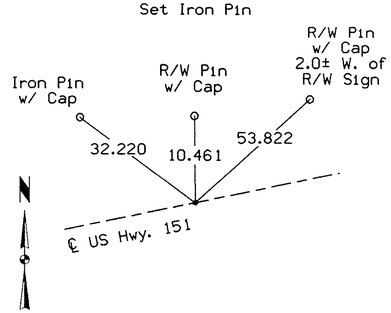


P.T. STA. 47+36.534
Set Iron Pin



P.I. STA. 52+03.208
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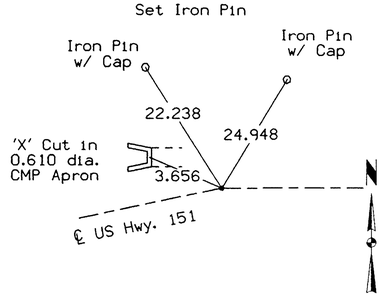
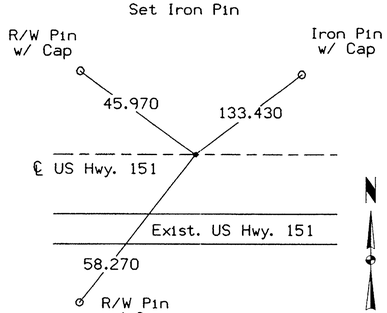


P.O.T. STA. 43+99.661
Set Iron Pin



- **INFORMATION ON THIS PAGE**
- **MAY NOT BE ACCURATE.**
- **SEE PAGE G-06 FOR FENO**
- **MONUMENT LOCATIONS.**

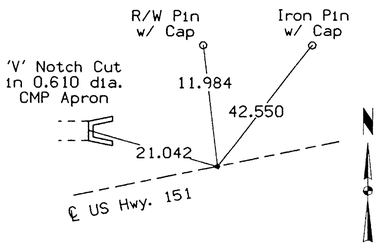
NOTES:
1) All distances measured horizontally.
2) All distances are in meters.

DETAILS OF REFERENCE INFORMATION

All References Plumb Distances (unless otherwise noted)

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / Earth Tech	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	G.09

P.C. STA. 55+64.122
Set Iron Pin



P.I. STA. 56+04.615
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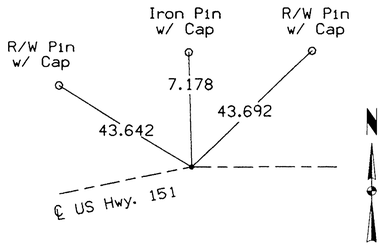

P.T. STA. 56+44.876
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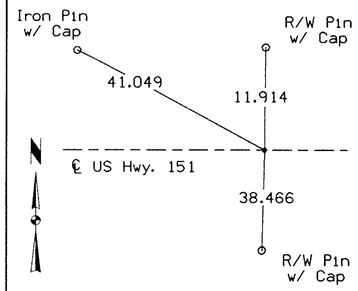

P.I. STA. 59+96.943
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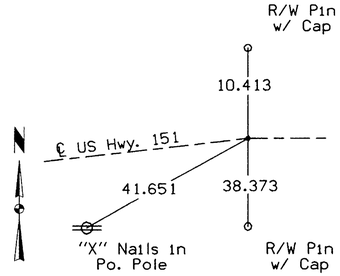
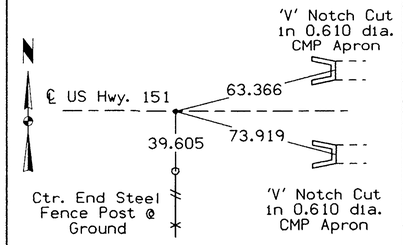
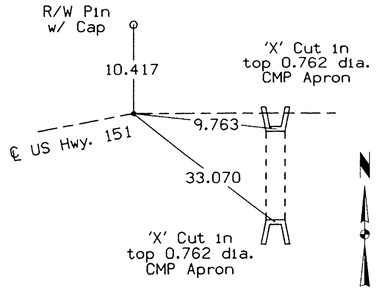


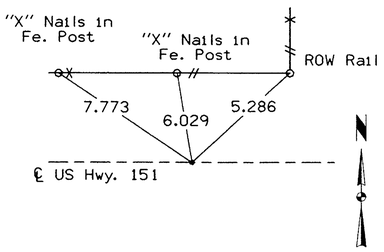
P.O.T. STA. 63+99.661
Set Iron Pin



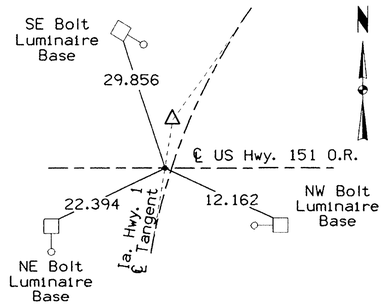
P.I. STA. 68+01.737
Set Iron Pin



P.O.T. STA. 71+94.661
Set Iron Pin



P.O.T. STA. 75+74.850
Cut 'X' in Concrete



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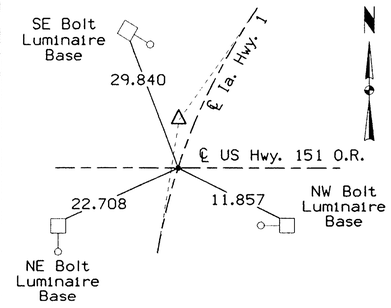

P.O.T. STA. 75+99.658 WBL
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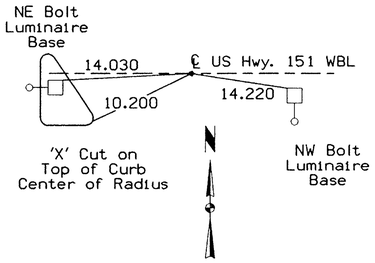

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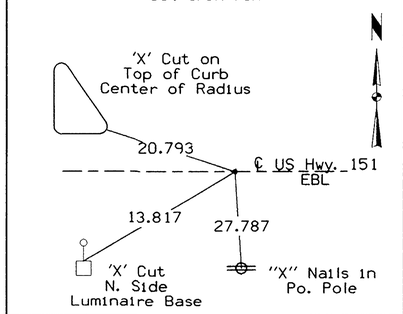

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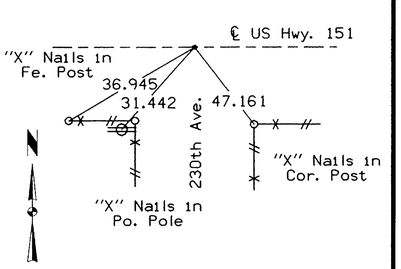
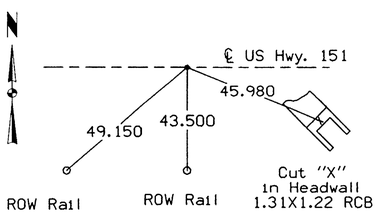


P.C. STA. 82+36.980
Set Iron Pin



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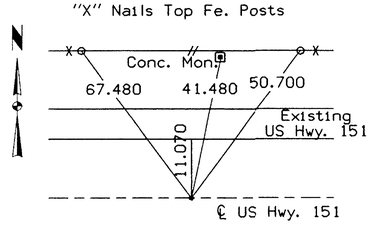

P.T. STA. 85+74.009
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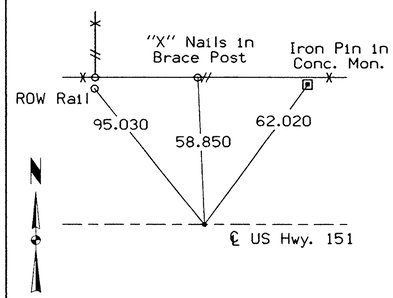

P.O.T. STA. 88+99.664
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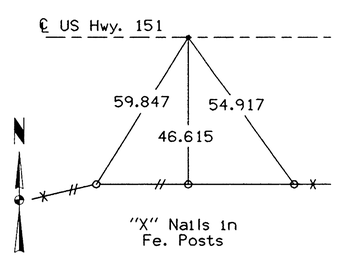

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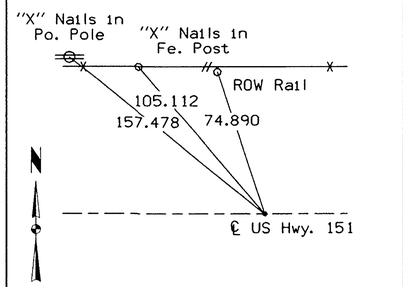
Set Iron Pin



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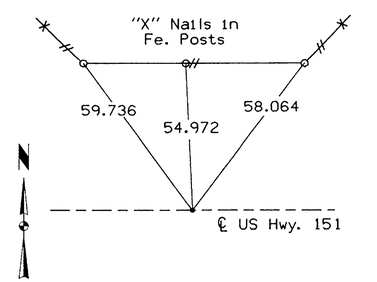

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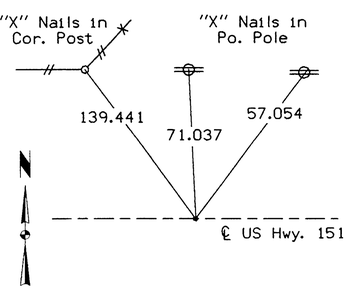

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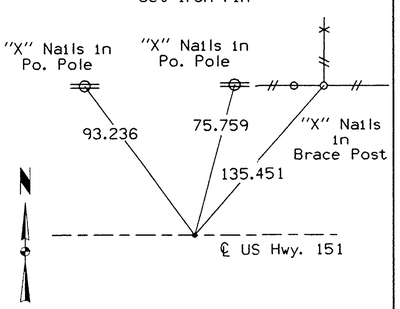
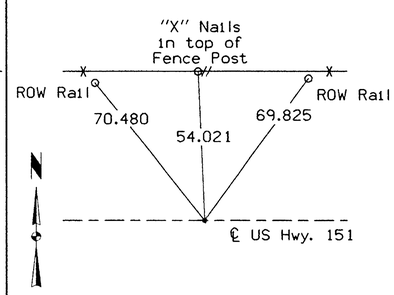


P.O.T. STA. 101+49.664
Set Iron Pin



- **INFORMATION ON THIS PAGE**
- **MAY NOT BE ACCURATE.**
- **SEE PAGE G-06 FOR FENO**
- **MONUMENT LOCATIONS.**

NOTES:
1) All distances measured horizontally.
2) All distances are in meters.

DETAILS OF REFERENCE INFORMATION

All References Plumb Distances (unless otherwise noted)

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79-198

P.I. STA. 105+08.159
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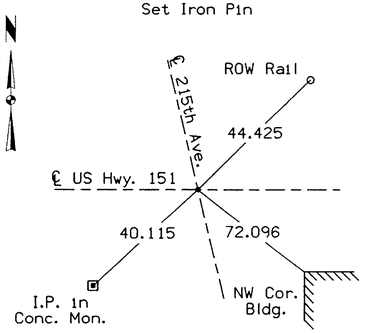

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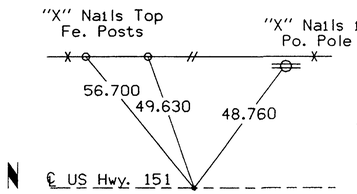

S.C. STA.107+82.023
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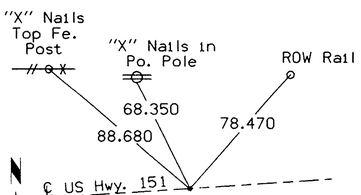

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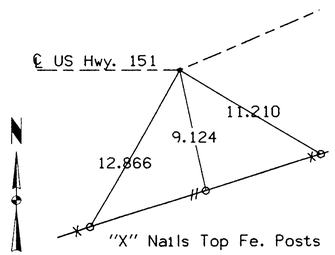

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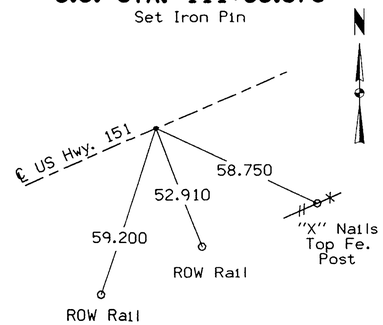

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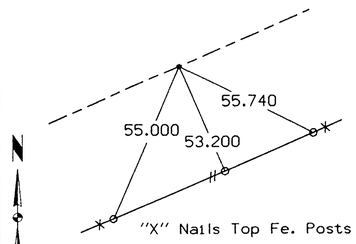

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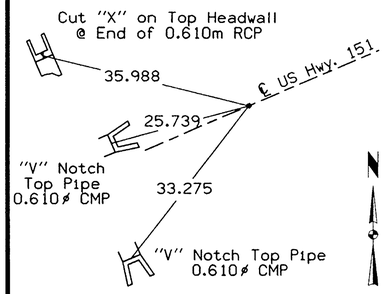

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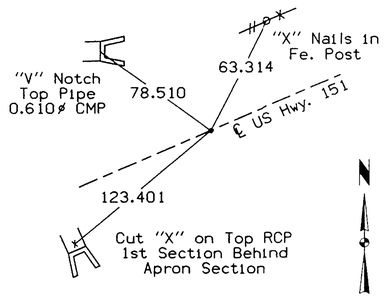

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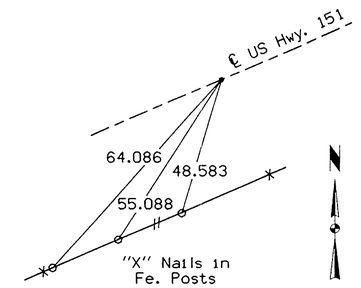

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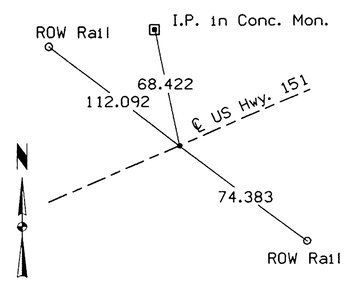

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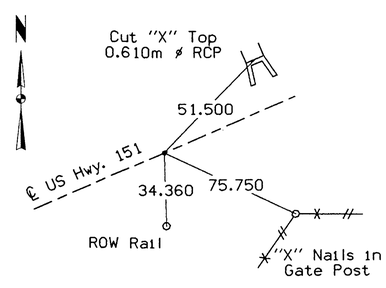

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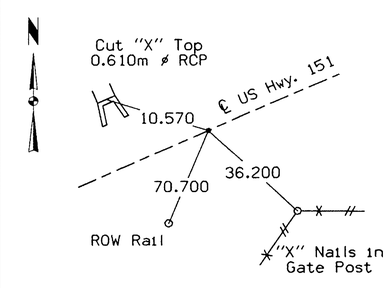

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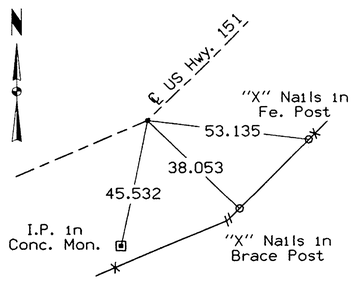

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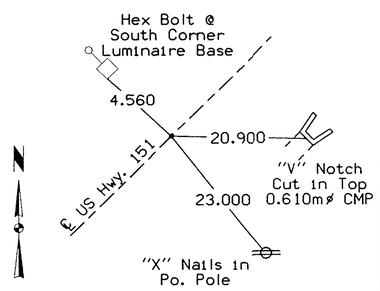

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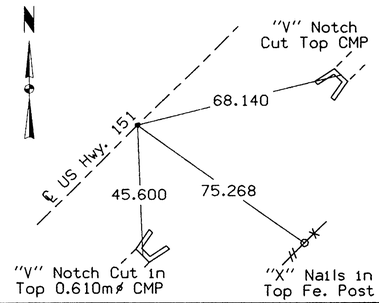

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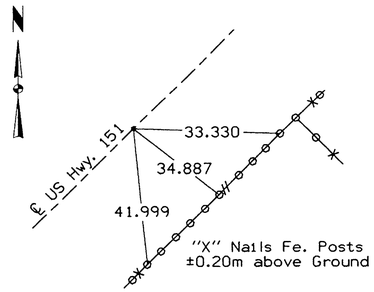

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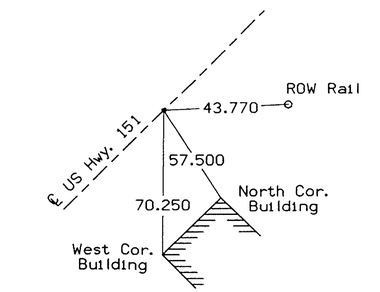

S.C. STA. 139+03.729
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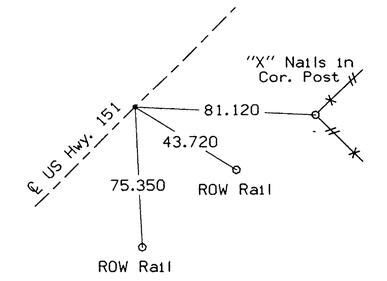

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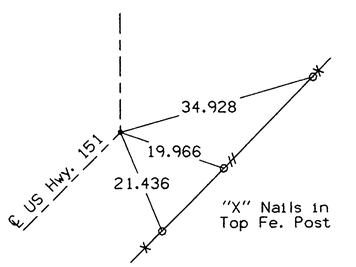

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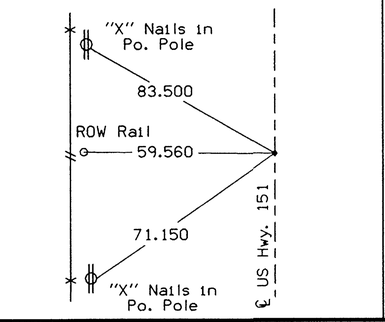

S.T. STA. 142+66.788
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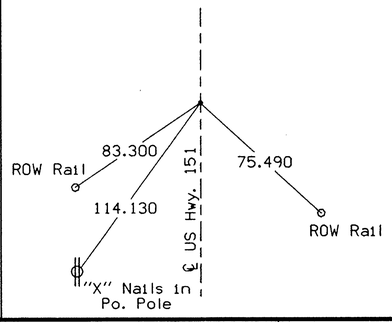

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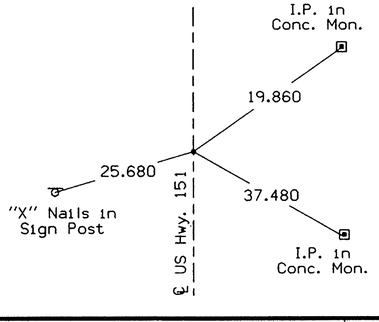

NOTES:
1) All distances measured horizontally.
2) All distances are in meters.

DETAILS OF REFERENCE INFORMATION

ALL REFERENCES PLUMB DISTANCES (UNLESS OTHERWISE NOTED)

- **INFORMATION ON THIS PAGE**
- **MAY NOT BE ACCURATE.**
- **SEE PAGE G-06 FOR FENO**
- **MONUMENT LOCATIONS.**

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH		IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	NHSX-151-3(112)--3H-57	G.11

date = Thu Oct 5 13:39:36 2000 prf = \\WATSO1\DATA\PLOT\PL463P\g11h.prf

80-198

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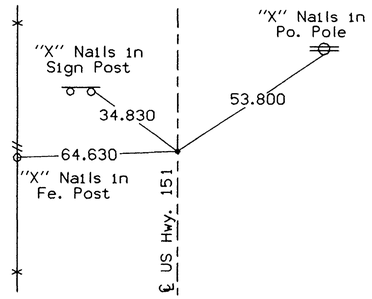

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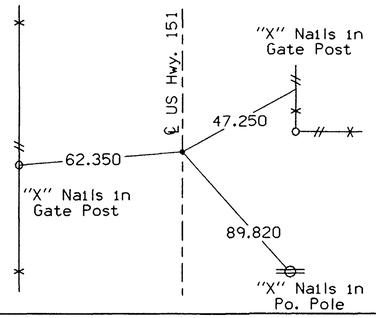

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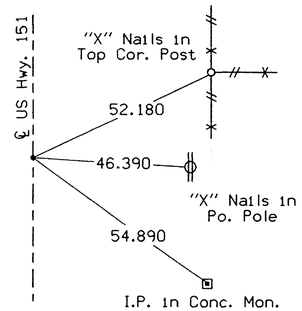

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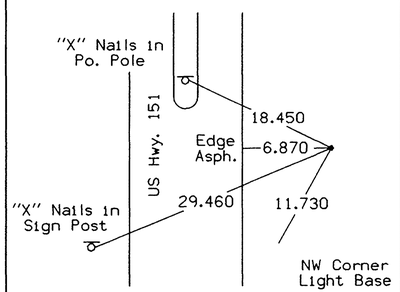

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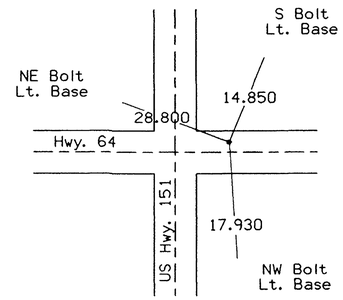

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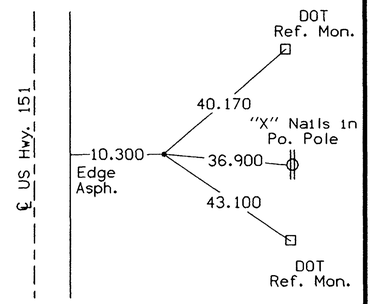

P.O.T. STA. 164+50.000
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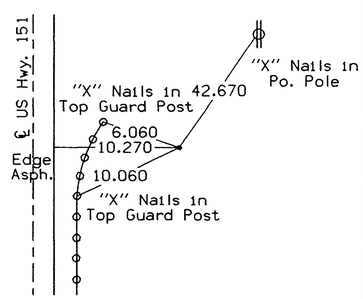

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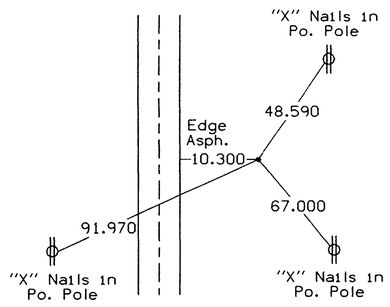

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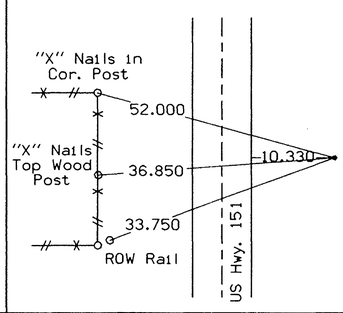
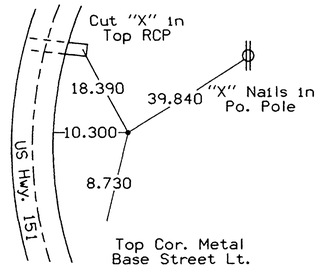


T.S. STA. 173+54.158
Set Iron Pin



S.C. STA. 174+15.134
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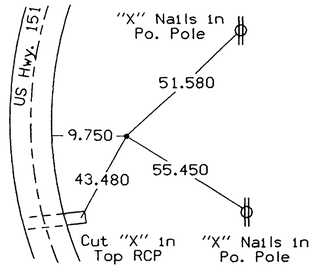

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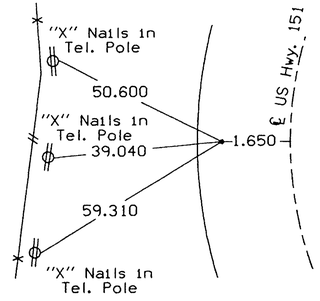

C.S. STA. 175+67.485
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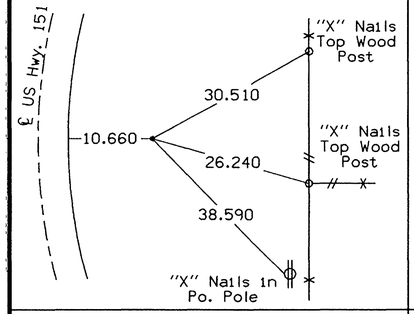

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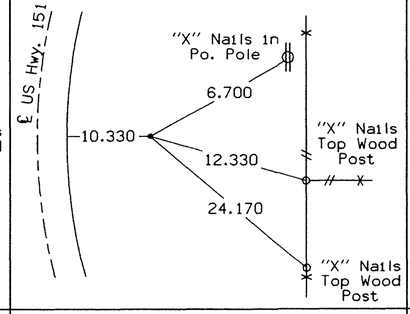

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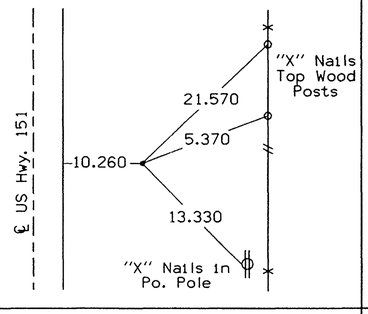
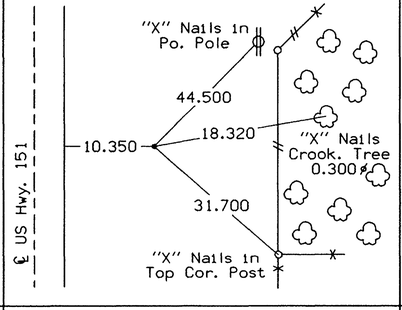
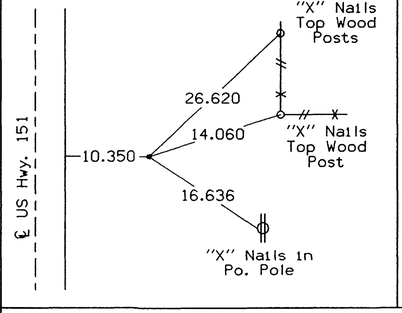


P.O.T. STA. 182+00.000
Set Iron Pin

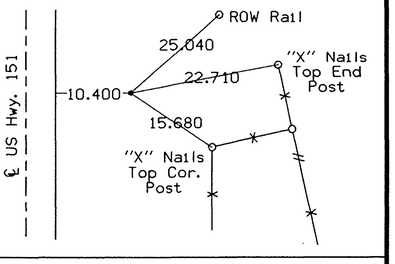


P.O.T. STA. 185+00.000
Set Iron Pin



P.O.T. STA. 187+45.132
Set Iron Pin

STATION EQUATION:
POT Sta. 187+45.132(Back)
(Project # NHS-151-4(63)--19-53)
POT Sta. 187+41.079(Ahead)
(Project # NHS-151-4(53)--2R-53)



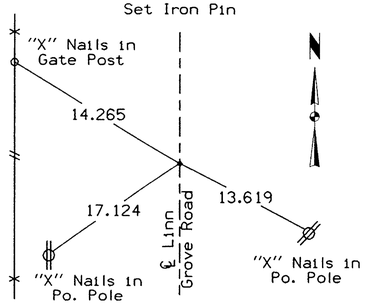
- **INFORMATION ON THIS PAGE**
- **MAY NOT BE ACCURATE.**
- **SEE PAGE G-06 FOR FENO**
- **MONUMENT LOCATIONS.**

NOTES:
1) All distances measured horizontally.
2) All distances are in meters.

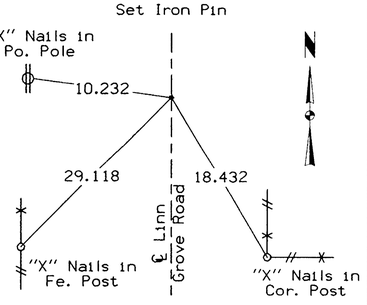
DETAILS OF REFERENCE INFORMATION

All References Plumb Distances (unless otherwise noted)

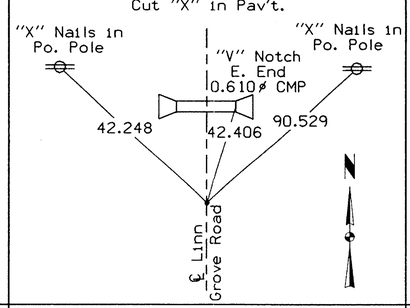
LINN GROVE ROAD
P.O.T. STA.1014+09.849
Set Iron Pin



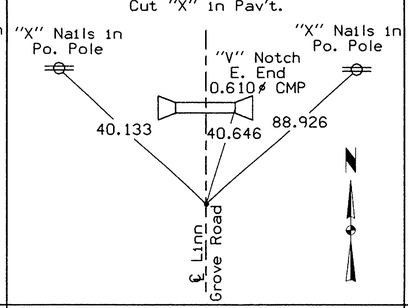
LINN GROVE ROAD
P.O.T. STA.1015+89.569
Set Iron Pin



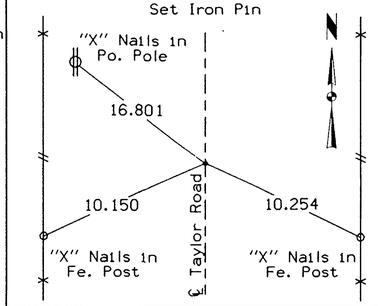
LINN GROVE ROAD
P.O.T. STA.1018+07.577
Cut "X" in Pav't.



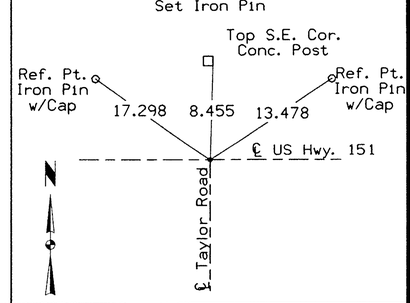
LINN GROVE ROAD
P.O.T. STA.1018+09.849
Cut "X" in Pav't.



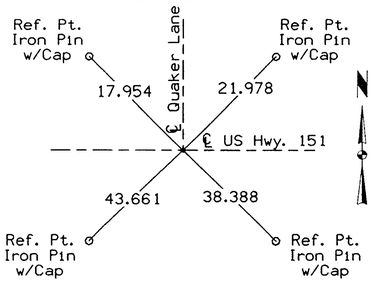
TAYLOR ROAD
P.O.T. STA.1131+09.275
Set Iron Pin



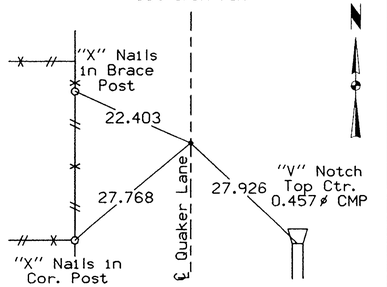
TAYLOR ROAD
P.O.T. STA.1135+23.777
Set Iron Pin



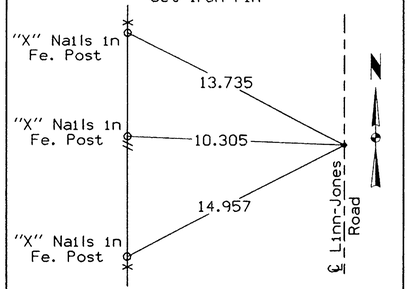
QUAKER LANE
P.O.T. STA.1239+47.389
Set Iron Pin



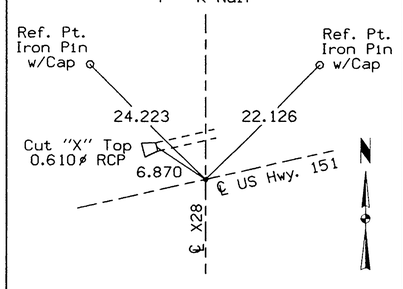
QUAKER LANE
P.O.T. STA.1243+33.054
Set Iron Pin



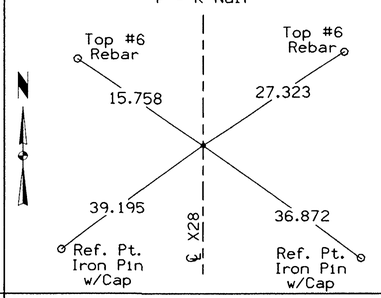
LINN-JONES ROAD
P.O.T. STA.1447+92.187
Set Iron Pin



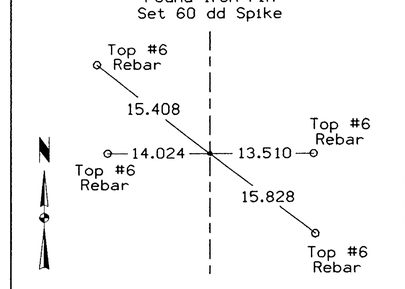
COUNTY ROAD X28
P.O.T. STA.1452+06.550
P - K Nail



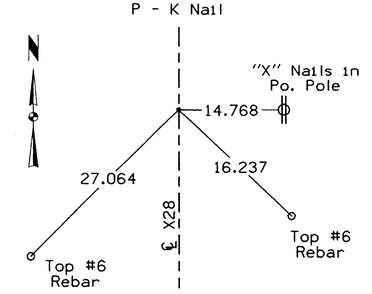
COUNTY ROAD X28
P.C. STA.1452+56.283
P - K Nail



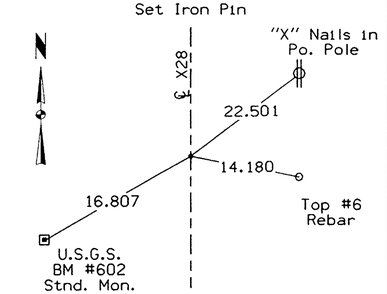
COUNTY ROAD X28
P.I. STA.1452+87.830
Found Iron Pin
Set 60 dd Spike



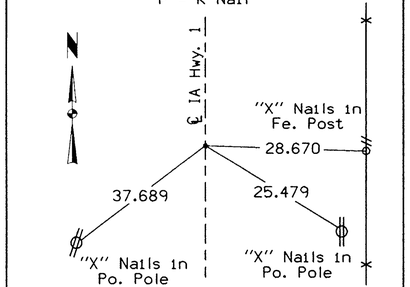
COUNTY ROAD X28
P.T. STA.1453+19.374
P - K Nail



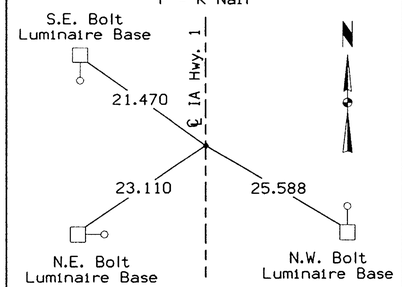
COUNTY ROAD X28
P.O.T. STA.1455+92.278
Set Iron Pin



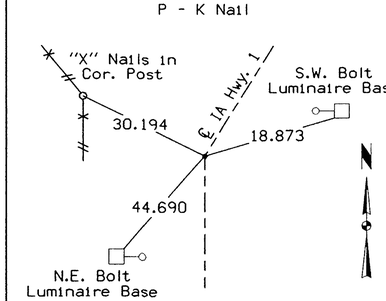
IOWA HIGHWAY 1
P.O.T. STA.1571+59.980
P - K Nail



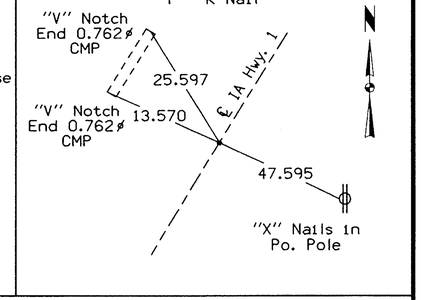
IOWA HIGHWAY 1
P.C. STA.1575+60.738
P - K Nail



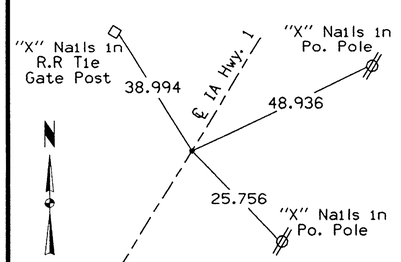
IOWA HIGHWAY 1
P.I. STA.1576+48.206
P - K Nail



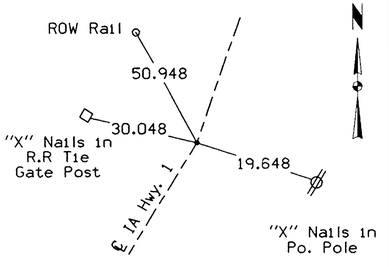
IOWA HIGHWAY 1
P.I. STA.1577+32.184
P - K Nail



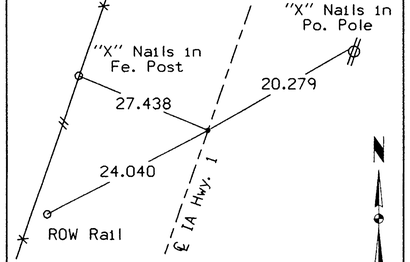
IOWA HIGHWAY 1
P.C. STA. 1578+48.545
P - K Nail



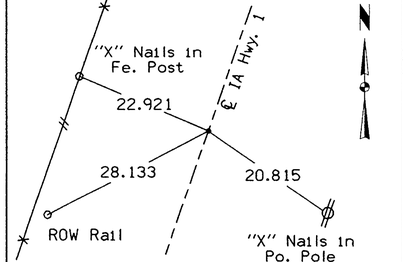
IOWA HIGHWAY 1
P.I. STA. 1578+96.611
P - K Nail



IOWA HIGHWAY 1
P.T. STA. 1579+44.539
P - K Nail



IOWA HIGHWAY 1
P.O.T. STA. 1579+56.354
P - K Nail



NOTES:
1) All distances measured horizontally.
2) All distances are in meters.

DETAILS OF REFERENCE INFORMATION

ALL REFERENCES PLUMB DISTANCES (UNLESS OTHERWISE NOTED)

- **INFORMATION ON THIS PAGE**
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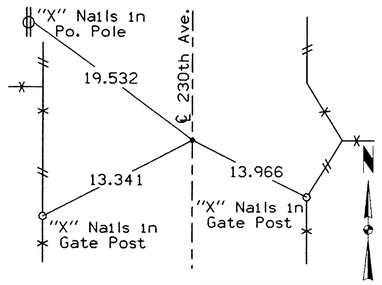
- **SEE PAGE G-06 FOR FENO**
- **MONUMENT LOCATIONS.**

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	G.13

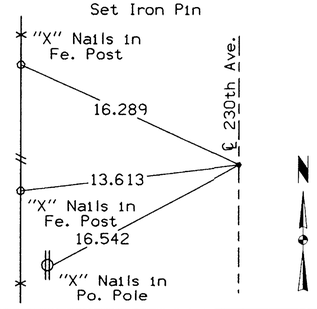
date = Thu Oct 5 13:39:48 2000 prf = \\WATSO1\DATA\PLOT\PL463P\g13h.prf

82-198

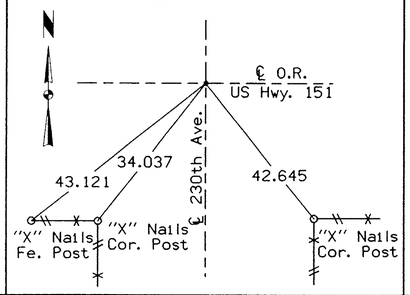
230TH AVENUE
P.O.T. STA. 1676+15.725
Set Iron Pin



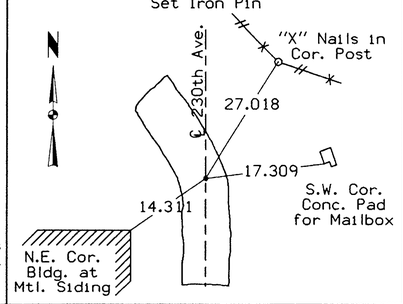
230TH AVENUE
P.O.T. STA. 1679+26.024
Set Iron Pin



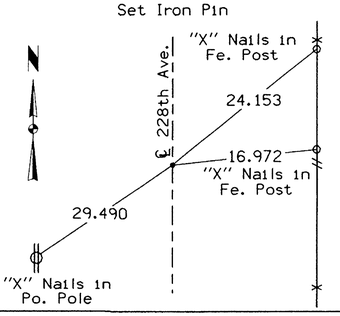
230TH AVENUE
P.O.T. STA. 1680+01.585
Set Iron Pin



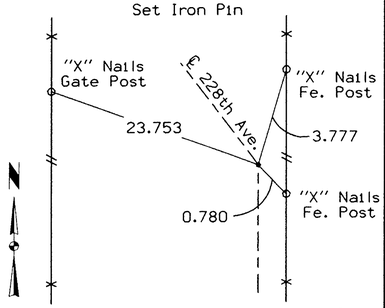
230TH AVENUE
P.O.T. STA. 1684+15.725
Set Iron Pin



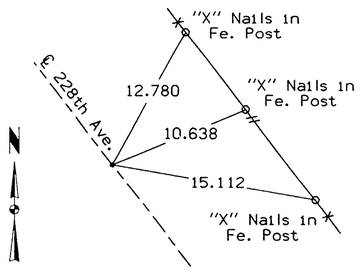
228TH AVENUE
P.C. STA. 1781+94.933
Set Iron Pin



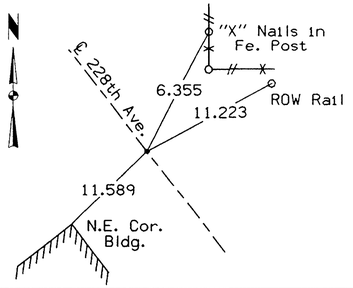
228TH AVENUE
P.I. STA. 1782+89.445
Set Iron Pin



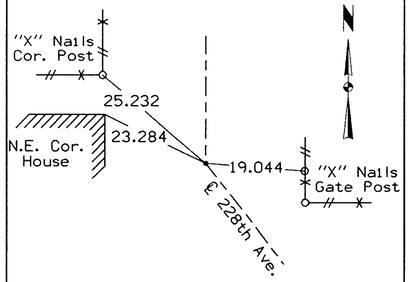
228TH AVENUE
P.T. STA. 1783+81.341
Set Iron Pin



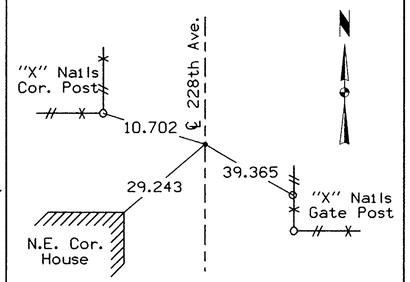
228TH AVENUE
P.C. STA. 1784+65.179
Set Iron Pin



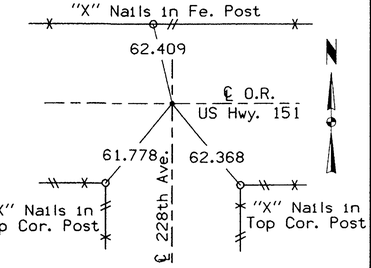
228TH AVENUE
P.I. STA. 1784+87.934
Set Iron Pin



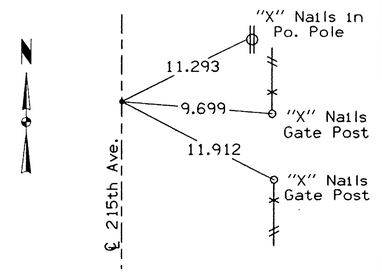
228TH AVENUE
P.T. STA. 1785+09.971
Set Iron Pin



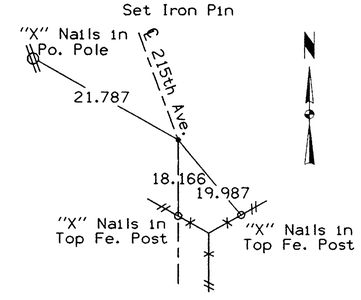
228TH AVENUE
P.O.T. STA. 1786+94.525
Set Iron Pin



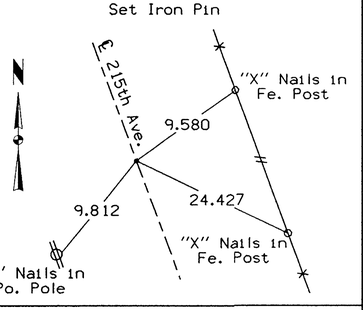
215TH AVENUE
P.C. STA. 2100+08.314
Set Iron Pin



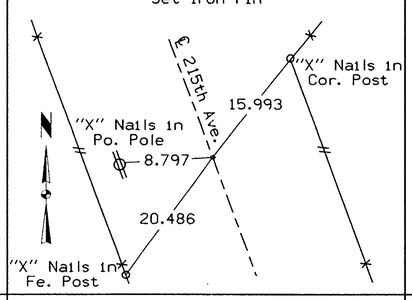
215TH AVENUE
P.I. STA. 2101+09.815
Set Iron Pin



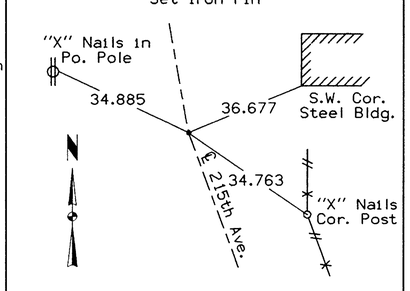
215TH AVENUE
P.T. STA. 2101+94.002
Set Iron Pin



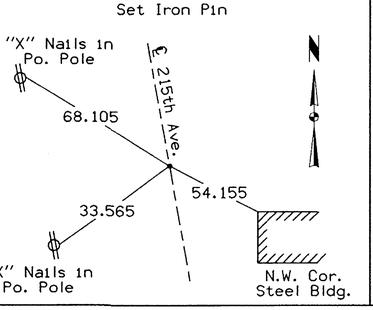
215TH AVENUE
P.C. STA. 2104+09.132
Set Iron Pin



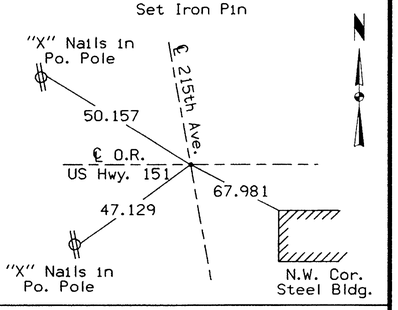
215TH AVENUE
P.I. STA. 2104+53.322
Set Iron Pin



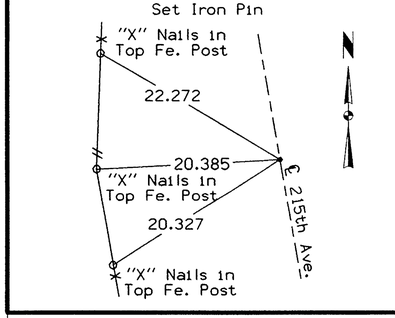
215TH AVENUE
P.T. STA. 2104+94.828
Set Iron Pin



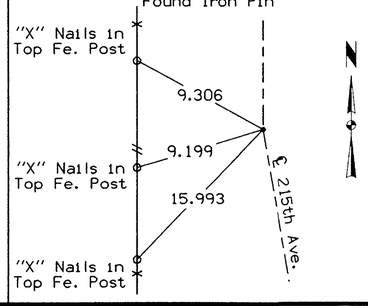
215TH AVENUE
P.O.T. STA. 2105+13.000
Set Iron Pin



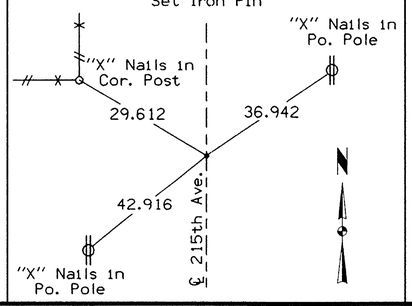
215TH AVENUE
P.C. STA. 2106+65.475
Set Iron Pin



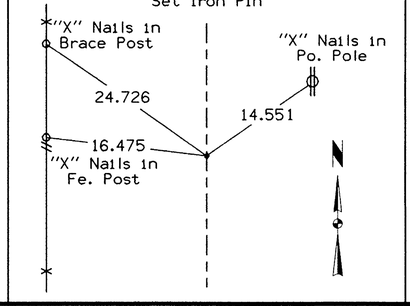
215TH AVENUE
P.I. STA. 2107+43.659
Found Iron Pin



215TH AVENUE
P.T. STA. 2108+20.018
Set Iron Pin



215TH AVENUE
P.O.T. STA. 2109+26.003
Set Iron Pin



NOTES:
1) All distances measured horizontally.
2) All distances are in meters.

DETAILS OF REFERENCE INFORMATION

ALL REFERENCES PLUMB DISTANCES (UNLESS OTHERWISE NOTED)

- **INFORMATION ON THIS PAGE**
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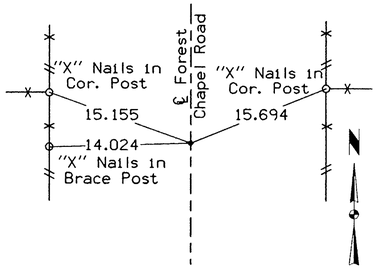
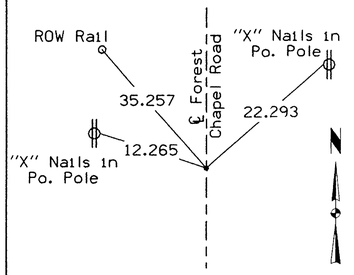
- **MONUMENT LOCATIONS.**

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	G.14

FOREST CHAPEL ROAD
P.O.T. STA. 3113+65.270
Set Iron Pin



FOREST CHAPEL ROAD
P.O.T. STA. 3115+88.270
Set Iron Pin



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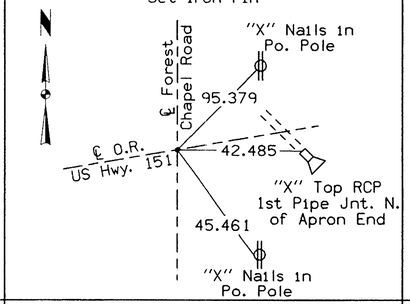
Set Iron Pin



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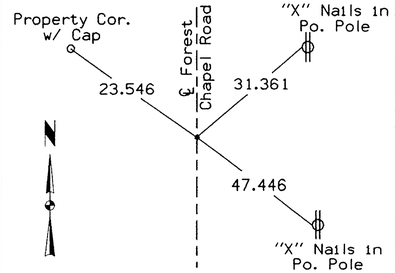
Set Iron Pin



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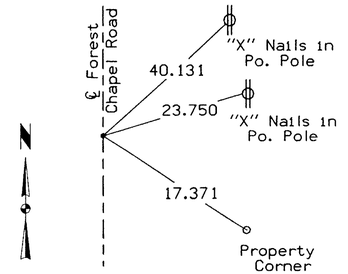
P.C. STA. 3120+40.924
Set Iron Pin



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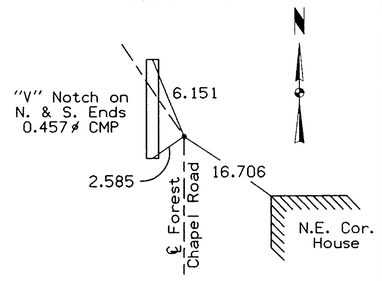

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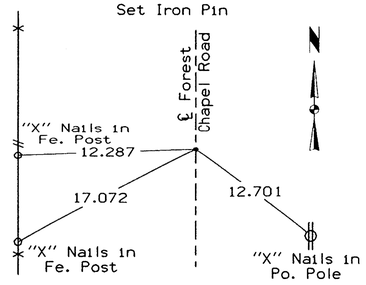
P.T. STA. 3121+90.324
Set Iron Pin



FOREST CHAPEL ROAD
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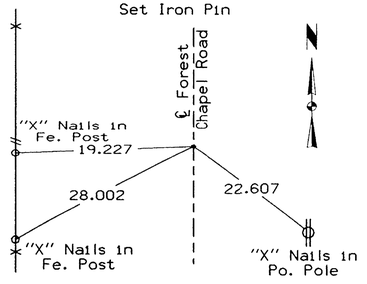
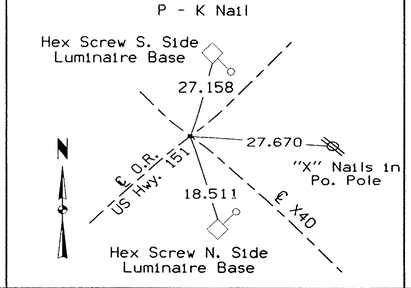
Set Iron Pin



COUNTY ROAD X40
P.O.T. STA. 2131+29.892
P - K Nail



COUNTY ROAD X40
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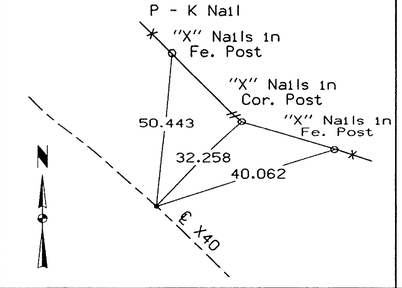
P - K Nail



COUNTY ROAD X40
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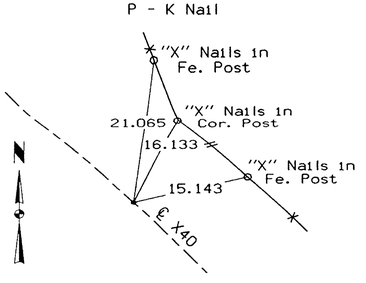
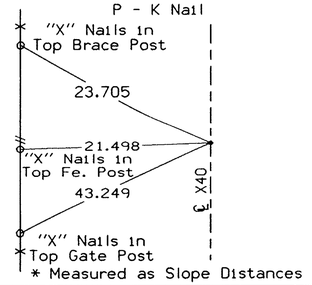
P - K Nail



COUNTY ROAD X40
P.T. STA. 2135+47.179
P - K Nail



* Measured as Slope Distances

SHAW ROAD
P.O.T. STA. 3133+86.791
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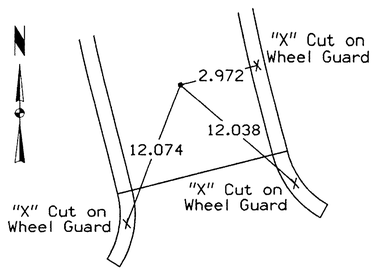
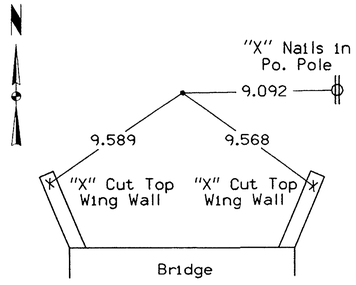
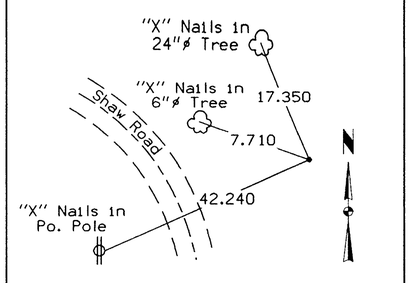


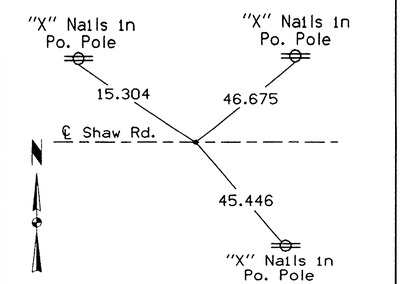
SHAW ROAD
P.C. STA. 3134+88.613
Set Iron Pin



SHAW ROAD
P.I. STA. 3135+91.941
Set Iron Pin



SHAW ROAD
P.T. STA. 3136+82.130
Set Iron Pin



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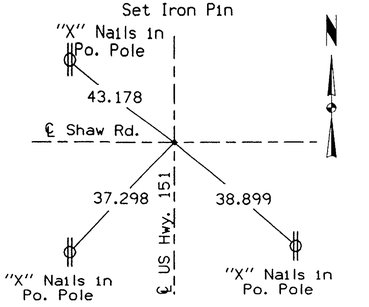
P.O.T. STA. 3137+59.527
Set Iron Pin



SHAW ROAD
P.C. STA. 3139+77.092
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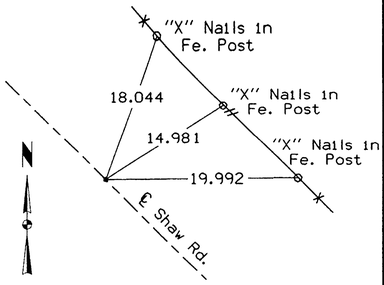

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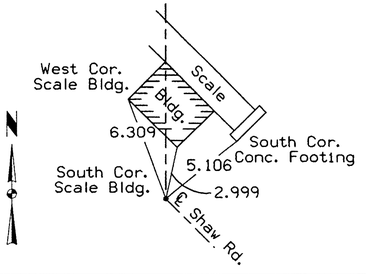
P.I. STA. 3141+04.543
Set Iron Pin



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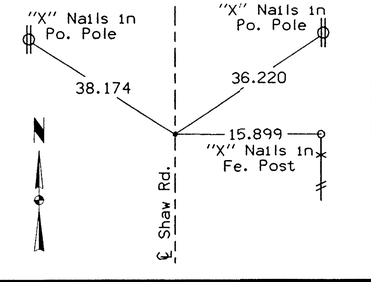
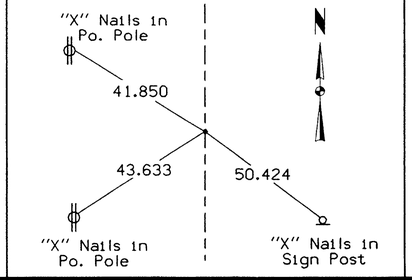
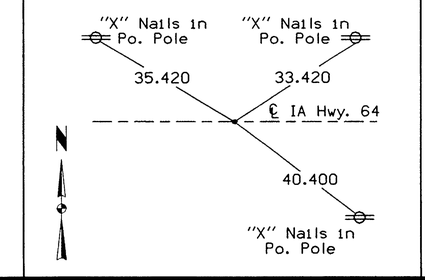


SHAW ROAD
P.O.T. STA. 3142+88.691
P - K Nail



IOWA HIGHWAY 64
P.C. STA. 2153+13.458
P - K Nail



NOTES:
1) All distances measured horizontally.
2) All distances are in meters.

DETAILS OF REFERENCE INFORMATION

ALL REFERENCES PLUMB DISTANCES (UNLESS OTHERWISE NOTED)

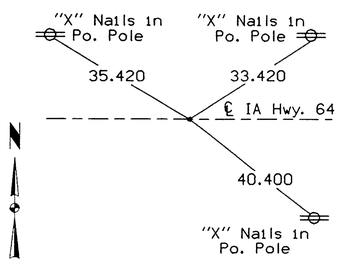
- **INFORMATION ON THIS PAGE**
- **MAY NOT BE ACCURATE.**
- **SEE PAGE G-06 FOR FENO**
- **MONUMENT LOCATIONS.**

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	G.15

date = Thu Oct 5 13:40:02 2000 prf = \\WATS01\DATA\PLOT\PL463P\g15h.prf

84-198

IOWA HIGHWAY 64
P.C. STA. 2153+13.458
P - K Nail



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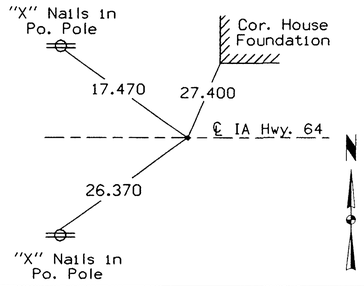
P - K Nail



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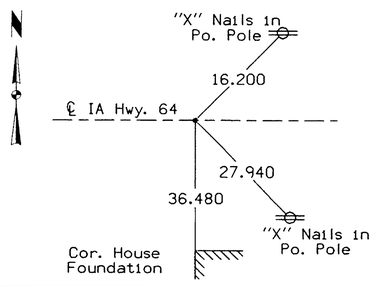
P - K Nail



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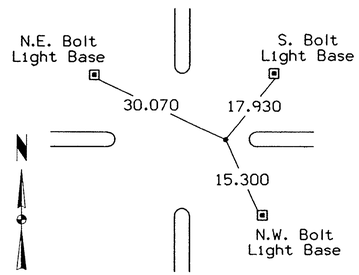

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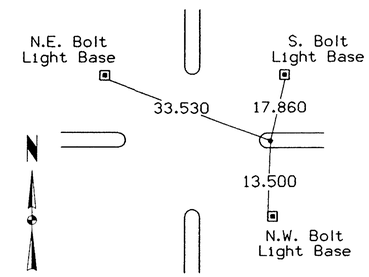

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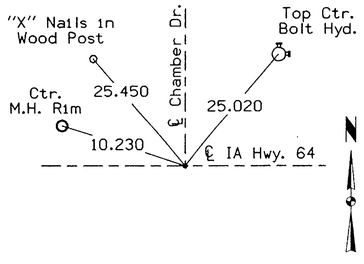

IOWA HIGHWAY 64
P.I. STA. 2160+89.660
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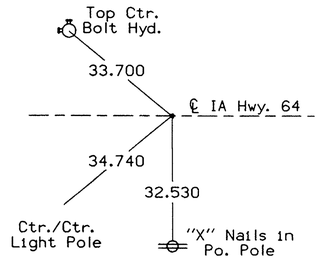

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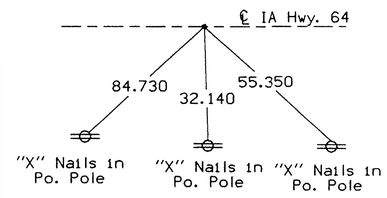
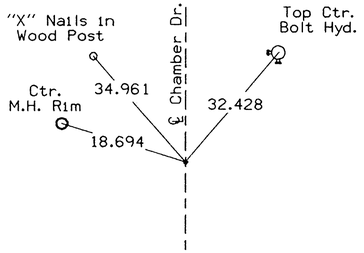
P - K Nail



CHAMBER DRIVE
P.O.T. STA. 3159+41.327
P - K Nail



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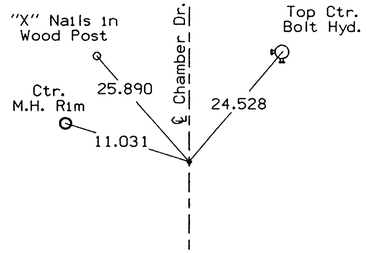
P - K Nail



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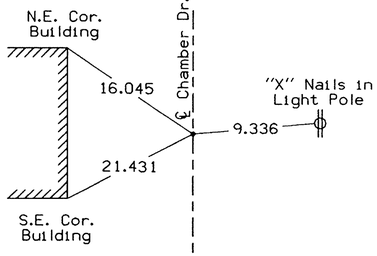
P - K Nail



ROLAND STREET
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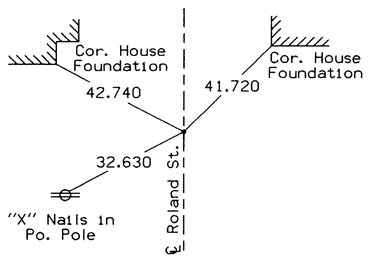
P - K Nail



ROLAND STREET
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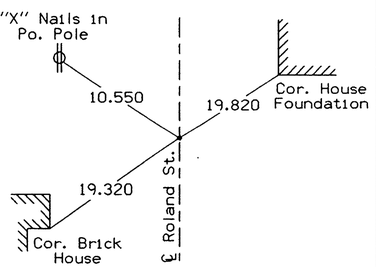
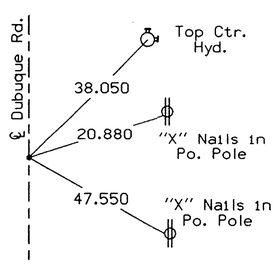
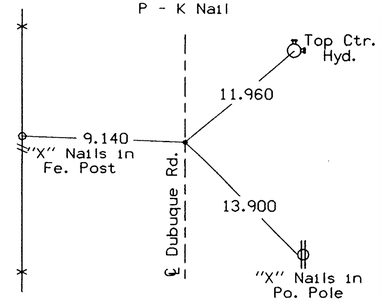
P - K Nail



DUBUQUE ROAD
P.O.T. STA. 1169+13.871
P - K Nail



DUBUQUE ROAD
P.I. STA. 1169+44.241
P - K Nail



DUBUQUE ROAD
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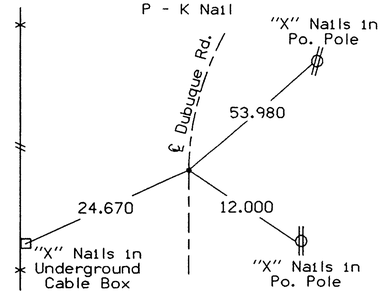
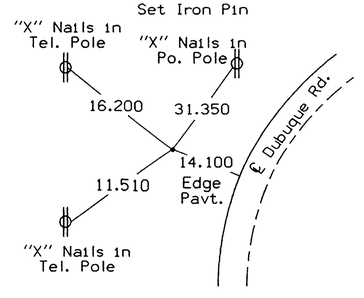
P - K Nail



DUBUQUE ROAD
P.I. STA. 1171+84.361
Set Iron Pin



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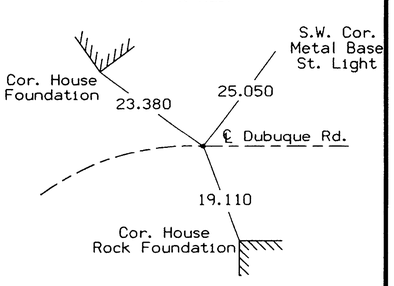
P - K Nail



130TH STREET
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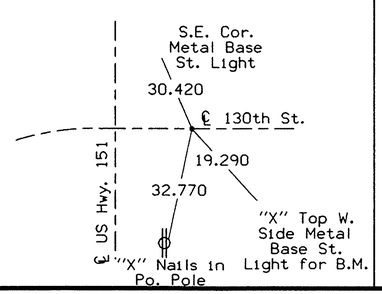

130TH STREET
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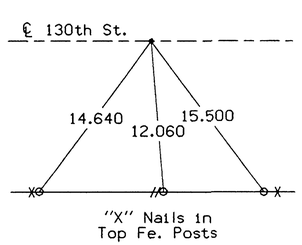
Set Iron Pin



130TH STREET
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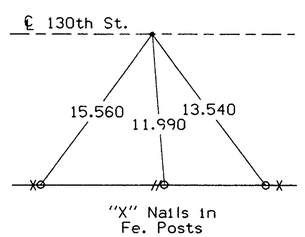


- **INFORMATION ON THIS PAGE**
- **MAY NOT BE ACCURATE.**
- **SEE PAGE G-06 FOR FENO**
- **MONUMENT LOCATIONS.**

NOTES:
1) All distances measured horizontally.
2) All distances are in meters.

DETAILS OF REFERENCE INFORMATION

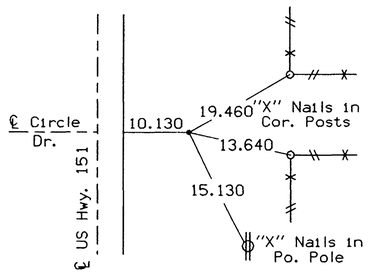
All References Plumb Distances (unless otherwise noted)

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH		IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	NHSX-151-3(112)--3H-57	G.16

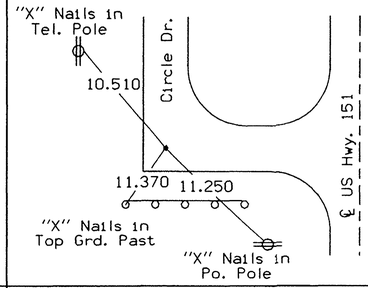
date = Thu Oct 5 13:40:08 2000 prf = \\WATSO1\DATA\PLOT\PL463P\g16h.prf

85-198

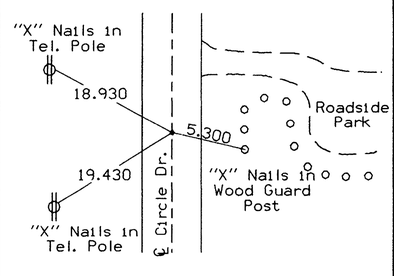
CIRCLE DRIVE
P.O.T. STA. 1180+77.944
Set Iron Pin



CIRCLE DRIVE
P.I. STA. 1181+31.734
P - K Nail



CIRCLE DRIVE
P.C. STA. 1182+64.437
P - K Nail



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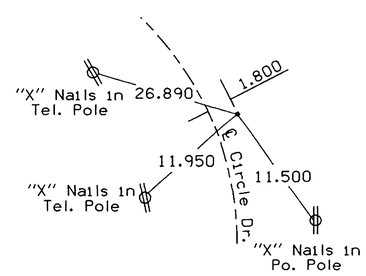
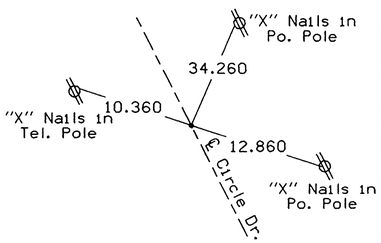
P - K Nail



CIRCLE DRIVE
P.T. STA. 1183+79.040
P - K Nail



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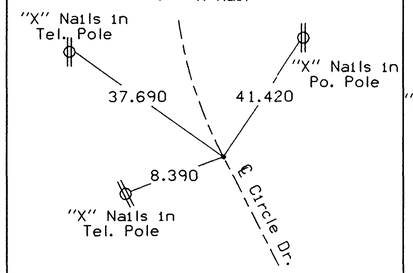
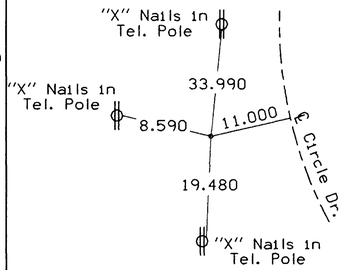
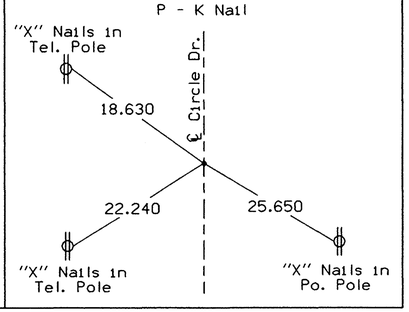
P.C. STA. 1184+71.734
P - K Nail



CIRCLE DRIVE
P.I. STA. 1185+59.093
Set Iron Pin



CIRCLE DRIVE
P.T. STA.1186+42.782
P - K Nail



➢ **INFORMATION ON THIS PAGE**

➢ **MAY NOT BE ACCURATE.**

➢ **SEE PAGE G-06 FOR FENO**

➢ **MONUMENT LOCATIONS.**

NOTES:
1) All distances measured horizontally.
2) All distances are in meters.

DETAILS OF REFERENCE INFORMATION

All References Plumb Distances (unless otherwise noted)

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86-198

BENCH MARKS

BM 1 - 60 dd Spike Corner Post, Sta. 10+40.000 38.000m Rt. - Elev. 276.472
BM 2 - D.O.T. Plug Top Ctr. Twin R.C.B., Sta. 14+34.000 30.000m Rt. - Elev. 269.547
BM 3 - 60 dd Spike Po.Po. @ S.W. Cor. Hwy 151 and Linn-Grove Road, Sta. 17+79.357 43.344m Rt. - Elev. 271.706
BM 4 - 60 dd Spike Corner Post, Sta. 22+27.922 51.806m Rt. - Elev. 280.483
BM 5 - 60 dd Spike Po.Po., Sta. 24+47.813 38.228m Rt. - Elev. 280.840
BM 6 - Top D.O.T. R-O-W Pin, Sta. 27+28.208 37.20m Rt. - Elev. 279.013
BM 7 - 60 dd Spike Po.Po., Sta. 31+78.000 36.000m Rt. - Elev. 283.949
BM 8 - 60 dd Spike Po.Po., Sta. 35+03.577 33.353m Rt. - Elev. 284.521
BM 9 - 60 dd Spike Po.Po., Sta. 36+79.123 32.263m Rt. - Elev. 285.652
BM 10 - Top D.O.T. Ref. Pt. Pin @ S.E. Cor. Hwy 151 & Quaker Lane, Sta. 39+55.257 37.574m Rt. - Elev. 284.850
BM 11 - Top D.O.T. R-O-W Pin, Sta. 43+57.127 39.911m Rt. - Elev. 285.946
BM 12 - Top D.O.T. R-O-W Pin, Sta. 46+73.989 38.433m Rt. - Elev. 286.389
BM 13 - 60 dd Spike Po.Po. @ S.E. Cor. Hwy 151 and Co. Rd. X-28, Sta. 52+07.907 44.456m Rt. - Elev. 288.328
BM 14 - 60 dd Spike Po.Po., Sta. 55+62.677 38.400m Rt. - Elev. 286.364
BM 15 - 60 dd Spike Po.Po., Sta. 58+68.256 37.899m Rt. - Elev. 283.131
BM 16 - 60 dd Spike Po.Po., Sta. 61+70.502 38.330m Rt. - Elev. 279.926
BM 17 - "X" Cut Top South End West Pipe of Twin 48"ø R.C.P., Sta. 65+70.801 27.284m Rt. - Elev. 277.363
BM 18 - Top Cap G.P.S. Pt. #5, Sta. 68+07.000 24.390m Rt. - Elev. 277.905
BM 19 - "X" Cut N.W. Cor. Conc. Mail Box Pad for Subdivision, Sta. 71+70.000 40.000m Rt. - Elev. 278.240
BM 20 - Fnd "X" Cut on S. Hdwl for 42"ø R.C.P., Sta. 74+50.000 40.000m Rt. - Elev. 280.453
BM 21 - "X" Cut on Top 24"ø Lt. Base @ S.E. Cor. Hwy 151 & Hwy 1, Sta. 75+95.947 28.954m Rt. - Elev. 283.607
BM 22 - 60 dd Spike Po.Po. @ S.W. Cor. Hwy 151 and 230th Ave., Sta. 79+90.000 30.000m Rt. - Elev. 290.258
BM 23 - 60 dd Spike Cor. Post, Sta. 84+01.087 53.000m Rt. - Elev. 284.085
BM 24 - 60 dd Spike Cor. Post @ S.W. Cor. Hwy 151 and 228th Ave., Sta. 86+80.000 60.000m Rt. - Elev. 286.329
BM 25 - 60 dd Spike Po.Po., Sta. 89+60.000 59.000m Lt. - Elev. 283.305
BM 26 - 60 dd Spike Po.Po., Sta. 92+86.799 67.027m Lt. - Elev. 285.351
BM 27 - 60 dd Spike West Wood Gate Post, Sta. 95+56.469 54.437m Rt. - Elev. 284.700
BM 28 - 60 dd Spike Cor. Post, Sta. 100+20.621 37.825m Rt. - Elev. 264.805
BM 29 - Cut "V" on Top Ctr. 4"ø Steel Guardrail Post for Snowmobile Trail over Twin R.C.B., Sta. 107+21.084 34.855m Rt. - Elev. 256.472
BM 30 - 60 dd Spike Cor. Post, Sta. 107+21.584 34.855m Rt. - Elev. 268.115
BM 31 - 60 dd Spike Cor. Post, Sta. 110+01.398 32.290m Rt. - Elev. 274.658
BM 32 - 60 dd Spike West Gate Post, Sta. 114+15.441 53.466m Rt. - Elev. 275.670
BM 33 - 60 dd Spike Po.Po. @ S.E. Cor. Hwy 151 and Forest Chapel Road, Sta. 117+23.024 44.048m Rt. - Elev. 285.862
BM 34 - 60 dd Spike Wood Fence Post, Sta. 121+05.301 43.769m Rt. - Elev. 283.656
Bm 35 - Top D.O.T. R-O-W Rail, Sta. 125+65.307 34.800m Rt. - Elev. 287.159
BM 36 - 60 dd Spike Po.Po. @ N.E. Cor. Hwy 151 and Co. Rd. X-40, Sta. 131+46.548 22.137m Rt. - Elev. 258.816
BM 37 - Top U.S.G.S. Brass Cap @ S.W. Top Abutment Hwy 151 Bridge over Wapsi. River, Sta. 133+86.101 19.638m Lt. - Elev. 245.096
BM 38 - 60 dd Spike Po.Po. @ S.E. Cor. Hwy 151 and Shaw Road, Sta. 137+37.530 31.863m Rt. - Elev. 248.167
BM 39 - 60 dd Spike Po.Po., Sta. 142+66.177 50.853m Lt. - Elev. 265.429
BM 40 - 60 dd Spike Cor. Post, Sta. 148+88.331 47.049m Rt. - Elev. 271.395
BM 41 - 60 dd Spike Po.Po., Sta. 152+90.000 46.000m Rt. - Elev. 252.833
BM 42 - 60 dd Spike Po.Po. @ S.E. Cor. Hwy 151 and Hwy 64, Sta. 157+35.431 34.578m Rt. - Elev. 249.112
BM 43 - Fnd " " 3' N. of E. End N. Island, N. of Jct. Hwy 151 & Hwy 64, Sta. 158+04.796 9.079m Lt. - Elev. 249.167
BM 44 - Fnd Brass Plug Top Ctr. E. Hdwl. Box Culvert @ Hwy 151 & Fawn Creek 1/4 Mi. N. of Jct. Hwy 151 and Hwy 64, Sta. 164+00.685 6.850m Lt. - Elev. 249.170

NHSX-151-3(112)--3H-57 (Springville to Anamosa)
Final Bench Marks

Bench Mark	Description	Elevation
1	60dd Spike Corner Post, Sta. 10+40.000 38.000m Rt.	276.472
2	D.O.T. Plug Top Center Twin R.C.B. 14+34.000 30.000m Rt.	269.547
3	60dd Spike Power Pole @ S.W. Corner Hgwy. 151 & Linn-Grove Rd. 17+79.357 43.344m Rt.	271.706
4	60dd Spike Power Pole 24+47.813 38.228 Rt.	280.84
5	Top D.O.T. R-O-W Pin 27+28.208 37.20 Rt.	279.013
6	60dd Spike Power Pole 31+78.000 36.000m Rt.	283.949
7	60dd Spike Power Pole 35+03.577 33.353m Rt.	284.521
8	Top D.O.T. Ref. Point Pin @ S.E. corner Hgwy. 151 & Quaker Lane 39+55.257 37.574m Rt.	284.85
9	Top D.O.T. R-O-W Pin 43+57.127 39.91m Rt.	285.946
10	Top D.O.T. R-O.W Pin 46+73.989 38.433m Rt.	286.389
11	60dd Spike Power Pole 55+62.677 38.400m Rt.	286.364
12	60dd Spike Power Pole 58+68.256 37.899m Rt.	283.131
13	60dd Spike Power Pole 61+70.502 38.330m Rt.	279.926
14	"X" Cut Top South End West Pipe of Twin 48" R.C.P. 65+70.801 27.284m Rt.	277.363
15	Top Cap G.P.S. Point # 5 68+07.000 24.390m Rt.	277.905
16	"X" Cut N.W. Corner Conc. Mail Box Pad for Subdivision 71+70.000 40.000m Rt	278.24
17	60dd Spike Corner Post 84+01.087 53.000m Rt.	284.085
18	60dd Spike Power Pole 89+60.000 59.000m Lt.	283.305
19	60dd Spike Power Pole 92+86.799 67.027m Lt.	285.351
20	60dd Spike West Gate Post 114+15.441 53.466m Rt.	275.67
21	Top R-O-W Rail 125+65.307 34.800m Rt.	287.159
22	Top U.S.G.S. Brass Cap @ S.W. Top Abut. Hgwy. 151 Bridge over Wapsi River 133+86.101 19.638m Lt.	245.096
23	60dd Spike Corner Post 148+88.331 47.049m Rt.	271.395
24	Sta. 164+08.9, Brass Plug W. Headwall (culv. Ext.)	248.758

BENCH MARK TABULATION

Culvert Design	Station	Location Description	Elevation
Culvert Design 398	82 + 46	53 m Lt., IDOT Brass Plug in Hdwl of 1.2 m x 1.2 m RCB Extension	279.378
Culvert Design 498	87 + 55	43 m Lt., IDOT Brass Plug in Hdwl of Existing Sect. of 0.9 m x 1.2 m To 1.2 m x 1.2 m RCB Ext.	274.928
Culvert Design 598	88 + 53	25 m Lt., IDOT Brass Plug in Hdwl of Existing Section of 0.9 m x 0.9 m RCB Extension	283.254
Culvert Design 698	93 + 21	35 m Lt., IDOT Brass Plug in Hdwl of Existing Sect. of 0.6 m x 0.9 m To 0.9 m x 0.9 m RCB Ext.	283.232
Culvert Design 798	94 + 83.8	38 m Lt., IDOT Brass Plug in Hdwl of Existing Sect. of 0.6 m x 0.9 m To 0.9 m x 0.9 m RCB Ext.	280.704
Culvert Design 898	97 + 52	35.6 m Lt., IDOT Brass Plug in Hdwl of Existing Sect. of 0.6 m x 0.9 m To 0.9 m x 0.9 m RCB Ext.	271.271
Culvert Design 998	103 + 82	34 m Rt., Cut 'X' in Center of Hdwl of Twin 3.0 m x 3.6 m RCB Extension	259.160
Culvert Design 1098	111 + 28	54 m Rt., IDOT Brass Plug in Hdwl of 1.2 m x 1.2 m RCB Extension	264.396
Culvert Design 1898	11573 + 39	21 m Rt,. Cut 'X' in Center of East Hdwl of 3.0 m x 2.4 m RCB Extension	273.744

STAGING NOTES

108-26
09-27-94

Construction activity in this area may disrupt traffic on U.S. 151 and side roads. Therefore, it is advisable to adopt a construction sequence which directs activities in an orderly manner to maintain most traffic patterns at all times.

The items of work are staged so that U.S. Hwy. 151 through traffic may be maintained at all times.

Staging notes will refer to westbound / eastbound lanes. From Sta. 140+00 to Sta. 187+25 westbound lanes are actually southbound and eastbound lanes are actually northbound.

Stage I
Traffic:
Hwy. 151 - Traffic to remain as is.
Co. Rd. X-28 - Road will be closed to through traffic. Utilize RS-26A for traffic control. It is anticipated that an off-site detour will be provided by others.
Co. Rd. X-40 - Road will be closed to through traffic. Utilize RS-26A for traffic control. It is anticipated that an off-site detour will be provided by others.
130th Street - Road will be closed during construction. Utilize RS-26A for traffic control. Access to golf course shall remain open at all times.

Construction:
Grade and Pave crossover, Survey Sta. 4+50. See sheet F.01 for details.
Grade and Pave crossover Sta. 182+80. See Detail 531-3 on Sheet U.01.
Grade and Pave county roads X-28, X-40, and 130th St.
Pave westbound lanes Sta. 23+00 to 64+50, 72+00 to 76+13, 76+80 to 82+50, 154+50 to 157+66, 158+21 to 162+00.
Pave eastbound lanes Sta. 67+95.276 to 75+99, 76+65 to 133+99.717, 135+32.717 to 157+59, 158+14 to 187+10.
Pave Loop B and Ramp C of the IA highway 1 interchange.
Pave Ramp B and Loop C of the IA highway 64 interchange.
Place detour pavement on Rt. shoulder Sta. 84+00 to Sta. 85+20. See Detail Sheet J.02.
Place detour pavement on Rt. shoulder Sta. 164+00 to Sta. 165+20. See Detail Sheet J.03.

Stage II
Traffic:
Hwy. 151 - Westbound traffic to remain as in Stage I, except, close westbound crossover Sta. 20+00 and route westbound traffic on new crossover, Survey Sta. 4+50 (traffic control detail J.07) and move traffic onto detour pavement, Sta's. 84+00 to 85+20 (traffic control detail J.05) and 164+00 to 165+00 (traffic control detail J.05). Keep head to head traffic on existing US 151 Sta. 6+50 to Sta. 64+00. Close Crossover B to eastbound traffic (traffic control detail J.08) and route eastbound traffic on new eastbound lanes to Sta. 182+00. Open crossover at Sta. 185+50 to eastbound traffic (permanent traffic control detail J.09).
Ramps / Loops - Open to traffic Loop B and Ramp C of the Ia. Hwy. 1 Interchange. Open to traffic Ramp B and Loop C of the Ia. Hwy. 64 Interchange.
Sideroads - Open Co. Rd. X-28, Co. Rd. X-40 and 130th Street to Traffic.

Construction:
Remove existing crossover Sta. 15+40 to 23+00.
Grade and Pave westbound US 151 Sta. 15+40 to 23+00.
Grade and Pave westbound lanes Sta. 82+50 to Sta. 84+00 including Ramp D gore area. Place detour pavement on Lt. shoulder 81+90 to Sta. 84+60. See Detail Sheet J.02
Grade and Pave westbound Sta. 162+00 to Sta. 164+00 including Ramp D gore area. Place detour pavement on Lt. shoulder Sta. 162+40 to Sta. 164+60. See Detail Sheet J.03.
Grade and Pave right turn lane on westbound lanes from Sta. 173+20 to Sta. 175+80. Traffic Control per RS-63A.

Stage III
Traffic:
Hwy. 151 - Open westbound lanes to westbound traffic. Close Crossover at Sta. 4+50 and Crossover B at Sta. 66, Move westbound traffic onto detour pavement and Lt. lane Sta. 81+90 to Sta. 84+60 (traffic control per RS-63A and RS-65B), and Sta. 162+40 to Sta. 164+60 (traffic control per RS-63A and RS-65B). Open eastbound lanes to traffic.

Construction:
Remove Crossover B, Sta. 64-68
Remove detour pavement and grade and pave westbound Rt. lane and Ramp D taper area Sta. 83+00 to Sta. 84+00. See Detail Sheet J.02.
Remove detour pavement on westbound lane Rt. shoulder Sta. 84+00 to Sta. 85+20 and restore granular shoulders. See Detail Sheet J.02.
Remove detour pavement and grade and pave westbound Rt. lane and Ramp D taper area Sta. 163+05 to Sta. 164+00. See Detail Sheet J.03.
Remove detour pavement on westbound lane Rt. shoulder Sta. 164+00 to Sta. 165+20 and restore granular shoulders. See Detail Sheet J.03.
Place detour pavement on eastbound Rt. shoulder Sta. 20+40 to Sta. 24+60. See Detail Sheet J.04.

Stage IV
Traffic:
Hwy. 151 - All lanes open to traffic, except, close eastbound Lt. lane Sta. 20+40 to Sta. 24+60 and move traffic Rt. onto detour pavement (traffic control detail J.06).

Construction:
Remove eastbound Lt. lane pavement and remaining crossover and grade and pave Sta. 21+00 to Sta. 24+00.
Place detour pavement on eastbound Lt. shoulder Sta. 20+40 to Sta. 24+60. See Detail Sheet J.04.
Remove detour pavement on westbound lane Lt. shoulder Sta. 81+90 to Sta. 84+60 and restore granular shoulder. See Detail Sheet J.02.
Remove detour pavement on westbound lane Lt. shoulder Sta. 162+40 to Sta. 164+60 and restore granular shoulder. See Detail Sheet J.03.

STAGING NOTES

108-26
09-27-94

Stage V
Traffic:
Hwy. 151 - All lanes open to traffic, except, close eastbound Rt. lane Sta. 20+40 to Sta. 24+60 and move traffic Lt. onto detour pavement (traffic control detail J.06).

Construction:
Remove eastbound Rt. lane pavement and detour pavement and grade and pave Sta. 21+00 to Sta. 24+00. See Detail Sheet J.04.

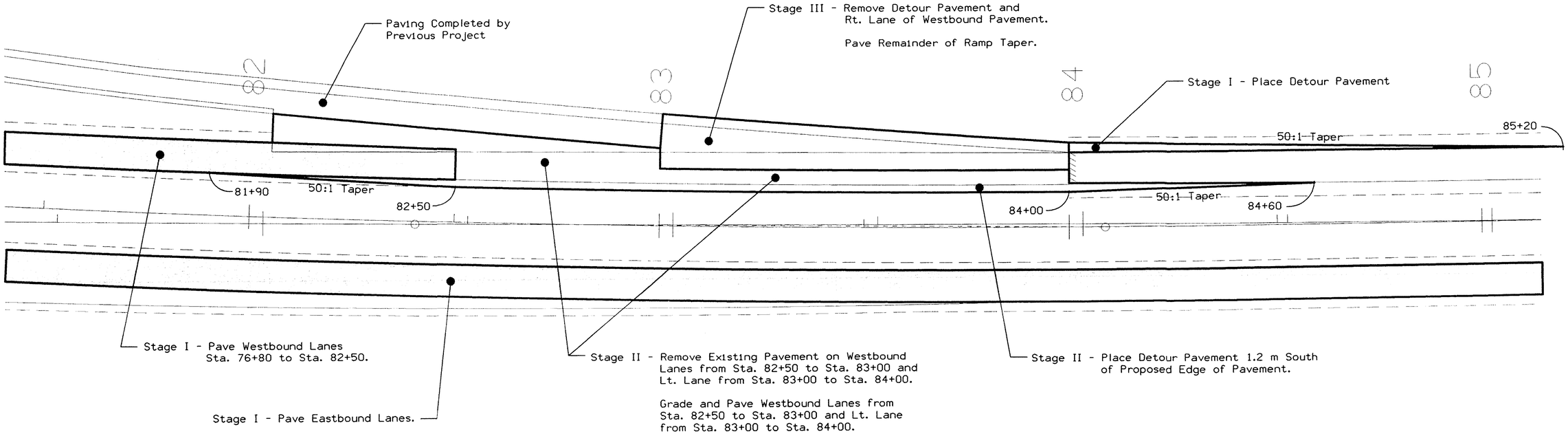
Stage VI
Traffic:
Hwy. 151 - All lanes open to traffic.

Construction:
Remove eastbound detour pavement on Lt. shoulder and restore granular shoulder Sta. 21+00 to Sta. 24+00. See Detail Sheet J.04.

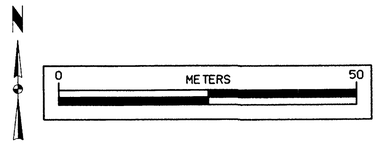
TRAFFIC CONTROL PLAN

108-23A
09-27-94

1. Traffic will be maintained on US Hwy. 151 at all times. Local access will be provided as noted in Staging Notes Tabulation 108-26.
2. Traffic control on this project shall be in accordance with Standard Road Plans RS-2,RS-3, RS-26A, RS-50B, RS-63A, RS-63B, RS-65B, RS-66(1) and Detail Sheets J.05 - J.09 contained in the plans. For additional complementary information, refer to Part VI of the Manual of Uniform Traffic Control Devices and to the current Standard Specifications.
3. The contractor shall coordinate traffic control with other projects in the area. Other work in progress during the same period of time will include, but will not be limited to construction of the following projects: NHSX-151-4(65)--3H-53, NHSX-151-4(66)--3H-53 and NHS-151-4(67)--3H-53, NHSX-151-3(102)--3H-57 and NHSX-151-4(63)--3H-53.
4. All traffic control devices shall be furnished, erected, maintained, and removed by the contractor.
5. Where possible, all post-mounted signs shall be place at least 0.6 m beyond the curb or edge of shoulder.
6. The location for storage equipment by the contractor during non-working hours shall be as approved by the engineer in charge of construction.
7. The engineer may require modifications to the pavement marking details shown. Conflicting permanent edge lines, centerlines, or lane lines shall be removed. As applicable, permanent edge lines, centerlines, and lane lines shall be placed before the roadway is returned to normal traffic. The current Standard Specifications and Supplemental Specifications shall apply.
8. Proposed sign spacing may be modified as approved by the engineer to meet existing field conditions or to prevent obstruction of the motorist's view of permanent signing.
9. Permanent signing that conveys a message contrary to the message of the temporary signing and not applicable to the working conditions shall be covered by the contractor when directed by the engineer.
10. Proposed changes in the traffic control plan shall be reviewed with the Office of Construction before changes are made.
11. The bid item "Traffic Control" shall include the cost for all traffic measures required of the contractor except for those which are separate bid items or are incidental to other bid items.



NOTE: TRAFFIC CONTROL PER RS-3 FOR PLACEMENT AND REMOVAL OF DETOUR PAVEMENT ALONG U.S. 151.



STAGING DETAIL FOR WESTBOUND LANES STA. 82+00 TO STA. 84+00

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	J.02

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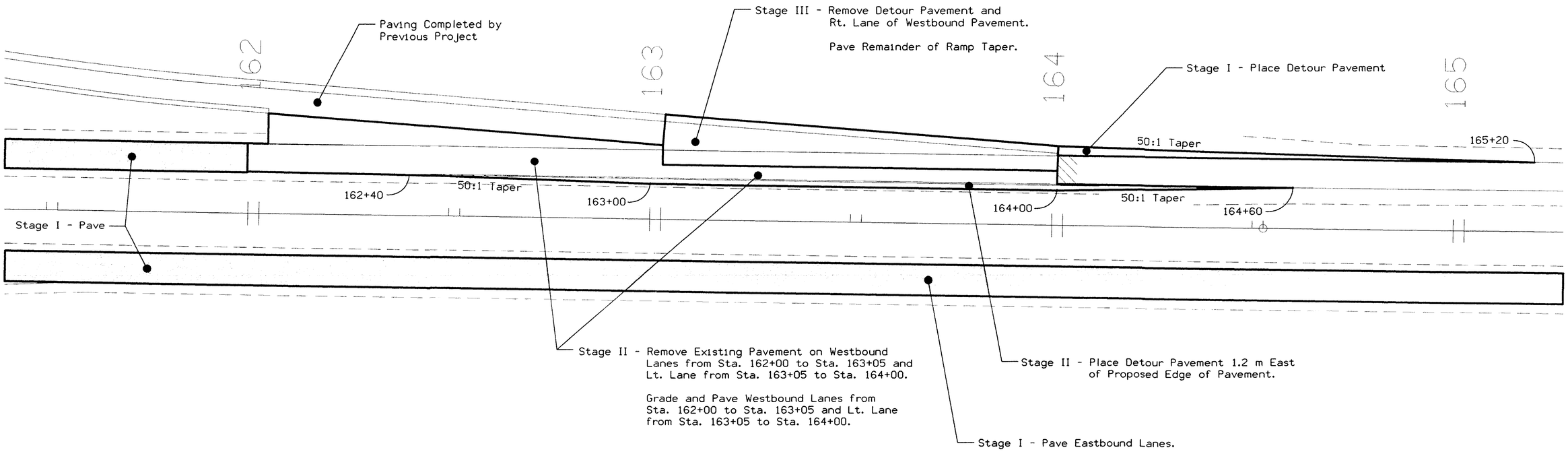

NOTE: TRAFFIC CONTROL PER RS-3 FOR PLACEMENT AND REMOVAL OF DETOUR PAVEMENT ALONG U.S. 151

0 METERS 50

STAGING DETAIL FOR WESTBOUND LANES STA. 162+00 TO STA. 165+00

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	NHSX-151-3(112)--3H-57	J.03

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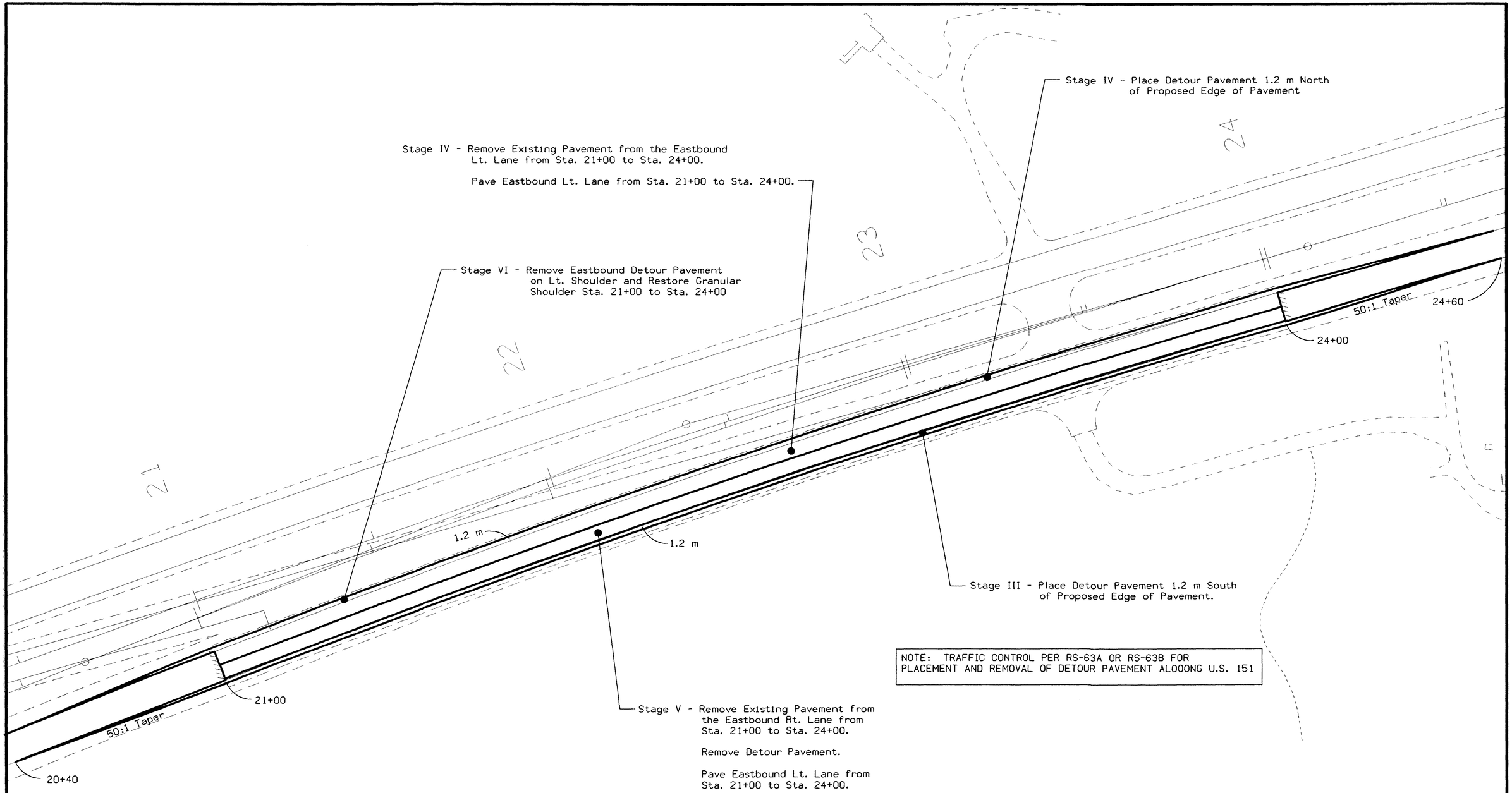

NOTE: TRAFFIC CONTROL PER RS-63A OR RS-63B FOR PLACEMENT AND REMOVAL OF DETOUR PAVEMENT ALOOONG U.S. 151

0 METERS 50

STAGING DETAIL FOR WESTBOUND LANES STA. 21+00 TO STA. 24+00

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	J.04

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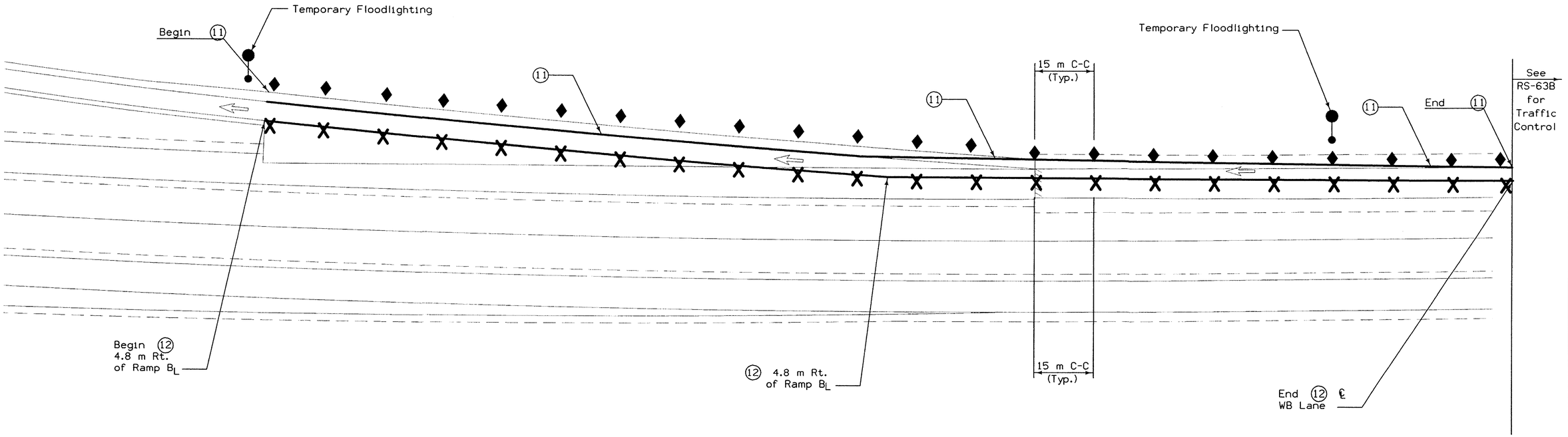

LEGEND

Paint Lines
Note: (X) Refers to pavement marking type (see tabulation 108-22).

(11) Channelizing (White)

(12) Channelizing (Yellow)

X Drum

Delineator

Temporary Floodlighting

GENERAL NOTES:

1. The Contractor shall be responsible for the placement and removal of temporary white edgelines and yellow "No Passing" lines. The Contractor shall also be responsible for the removal and replacement of the existing dashed yellow centerline and white edgelines as required by the Traffic Control Layout.

2. For temporary Floodlighting, see Detail Sheet 570-2.

3. Poles for temporary floodlighting and auxiliary poles used to furnish power to signals or floodlights shall be offset 9 meters from the travelled way unless there are right-of-way restrictions. Clearance on overhead wiring for signals and floodlighting shall be a minimum of 6 meters.

4. Post mounted white delineators shall be erected in accordance with Standard Road Plan RE-7.

0 METERS 50

TRAFFIC CONTROL LAYOUT FOR STAGE II STA. 84+00 AND STA. 164+00

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	J.05

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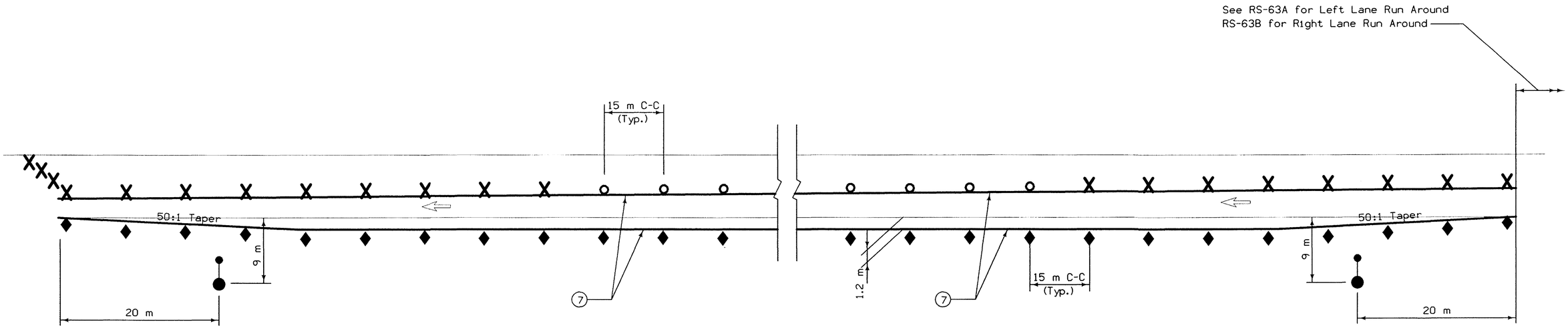

LEGEND

- Paint Lines
  Note: (X) Refers to pavement marking type (see tabulation 108-22).
  (7) Edge Line Right (White)
- X — Drum
- ◆ — Single White Delineators (Mount back to back)
- ●—● — Temporary Floodlighting
- o — Channelizing Device (Vertical Panel, Type I or Type II Barricade) (To Be Weighted)

GENERAL NOTES:

1. The Contractor shall be responsible for the placement and removal of temporary white edgelines. The Contractor shall also be responsible for the placement of markings as specified in tab. 108-22.
2. For Temporary Floodlighting, see Detail Sheet 570-2.
3. Pole for Temporary Floodlighting, when specified in the project plans, shall be offset 9 meters from the traveled way unless there are right-of-way restrictions.
4. Clearance on overhead wiring shall be a minimum 5.5 meters. Auxiliary poles used to furnish power to floodlighting shall be offset 9 meters from the traveled way unless there are right-of-way restrictions.
5. Post-mounted white delineators shall be erected in accordance with Standard Road Plan RE-7.

SHOULDER RUN-AROUND TRAFFIC CONTROL DETAIL

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	J.06 [redacted]

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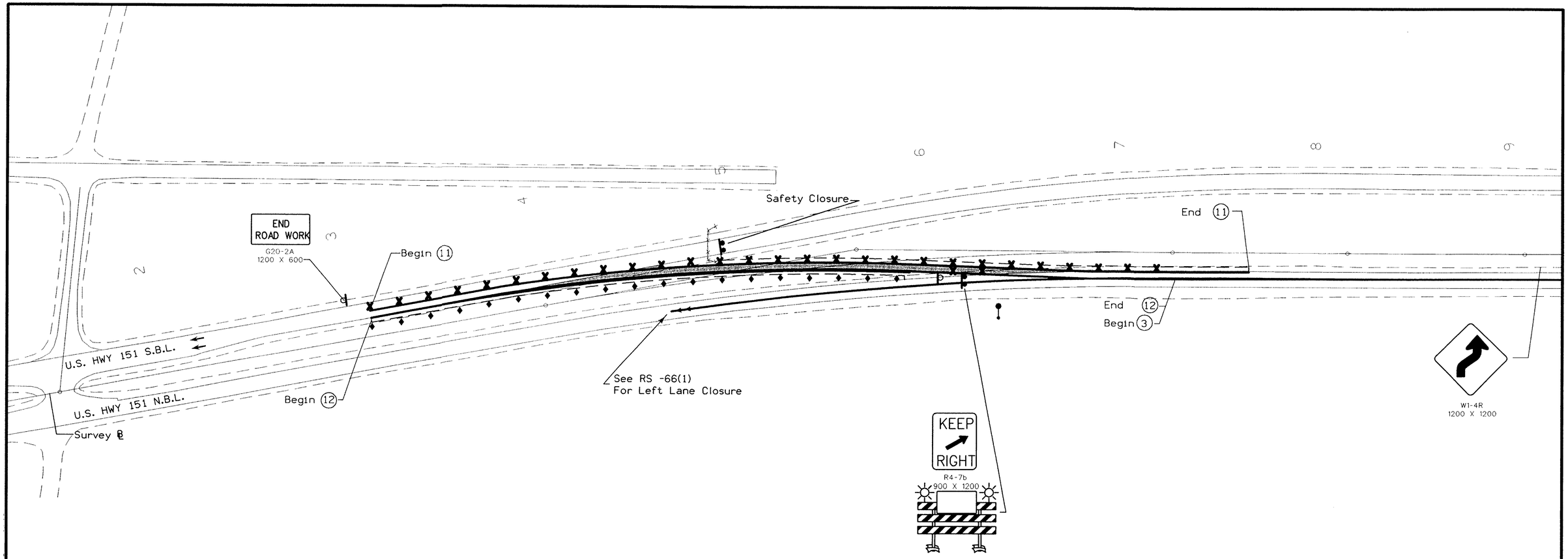

GENERAL NOTES

1. The Contractor shall be responsible for the placement and removal of temporary white edgelines.
   The Contractor shall also be responsible for the placement of markings as specified in tab. 108-22.
2. For Temporary Floodlighting, see Detail Sheet 570-2, Sheet U.02
3. Pole for Temporary Floodlighting, when specified in the project plans, shall be offset 9 meters from the traveled way unless there are right-of-way restrictions.
4. Clearance on overhead wiring shall be a minimum 5.5 meters. Auxiliary poles used to furnish power to floodlighting shall be offset 9 meters from the traveled way unless there are right-of-way restrictions.
5. Post-mounted white delineators shall be erected in accordance with Standard Road Plan RE-7.
6. Saftey closure to be paid for as per Standard and Supplemental specifications Section 2518.

LEGEND

- Paint Lines
  Note: (X) Refers to pavement marking type (see tabulation 108-22).
  - (3) Double Center Line (Yellow)
  - (11) Channelizing Line White
  - (12) Channelizing Line Yellow
- Detour Pavement
- Orange Plastic Safety fence
- Type III Barricade
- Drum
- Sign
- Delineator
- Temporary Floodlighting

0 METERS 100
SCALE RATIO: 1:1000

STAGE II TRAFFIC CONTROL
STA. 4+50.

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	J.07

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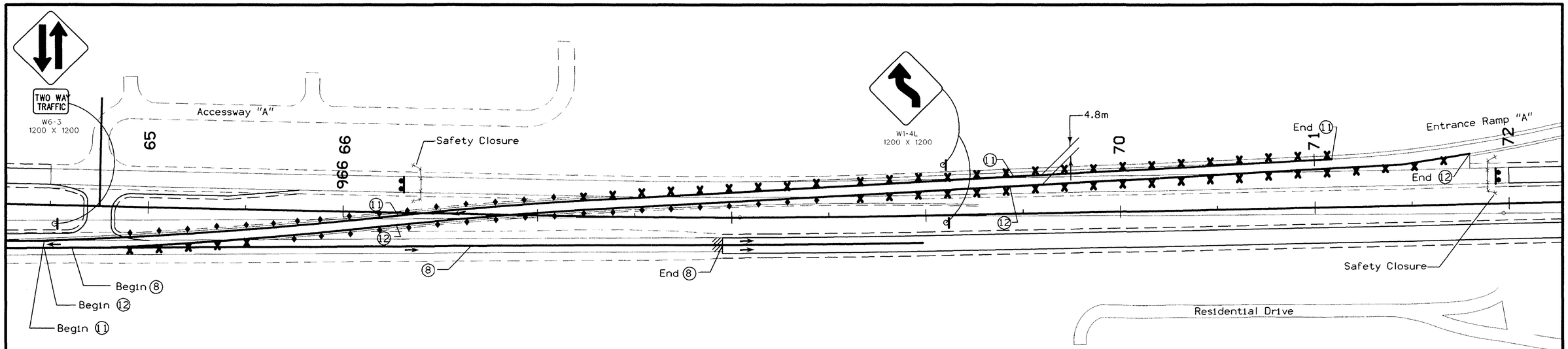
94-198



GENERAL NOTES

1. The Contractor shall be responsible for the placement and removal of temporary white edgelines.
   The Contractor shall also be responsible for the placement of markings as specified in tab. 108-22.
2. For Temporary Floodlighting, see Detail Sheet 570-2, Sheet U.02
3. Pole for Temporary Floodlighting, when specified in the project plans, shall be offset 9 meters from the traveled way unless there are right-of-way restrictions.
4. Clearance on overhead wiring shall be a minimum 5.5 meters. Auxiliary poles used to furnish power to floodlighting shall be offset 9 meters from the traveled way unless there are right-of-way restrictions.
5. Post-mounted white delineators shall be erected in accordance with Standard Road Plan RE-7.
6. Saftey closure to be paid for as per Standard and Supplemental specifications Section 2518.

LEGEND

- Paint Lines
  Note: (X) Refers to pavement marking type (see tabulation 108-22).
  - (8) Edge Line Left Yellow
  - (11) Channelizing Line White
  - (12) Channelizing Line Yellow
- Detour Pavement
- Orange Plastic Safety fence
- Type III Barricade
- Drum
- Sign
- Delineator
- Temporary Floodlighting

0 METERS 100
SCALE RATIO: 1:1000

STAGE II TRAFFIC CONTROL DETAIL FOR CROSSOVER "B" STA 67+00

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	J.08

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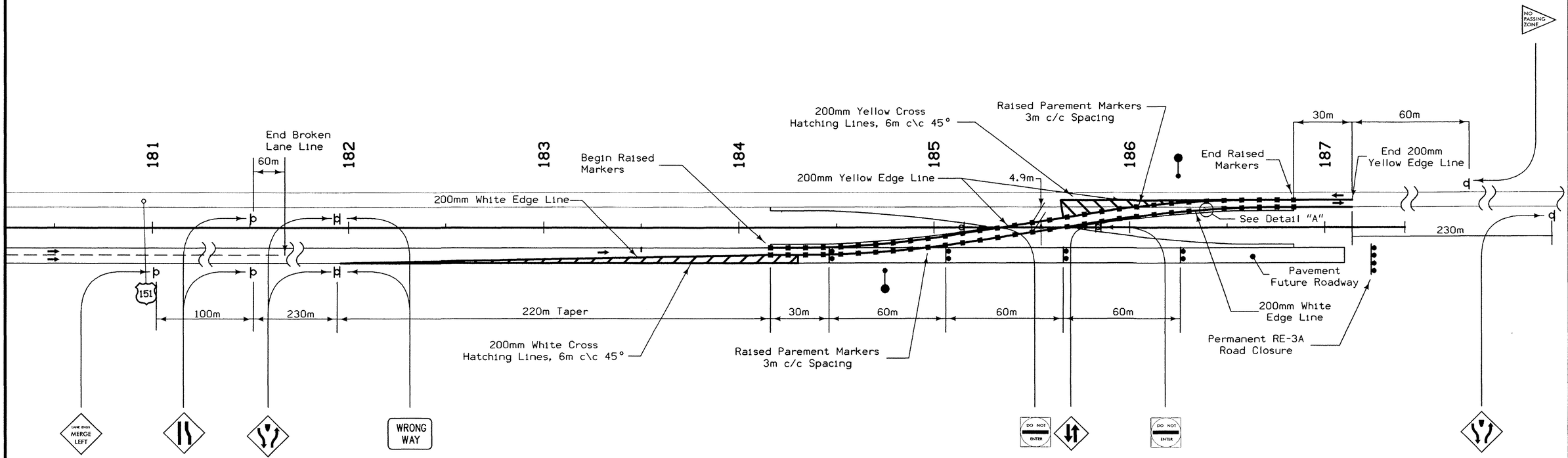
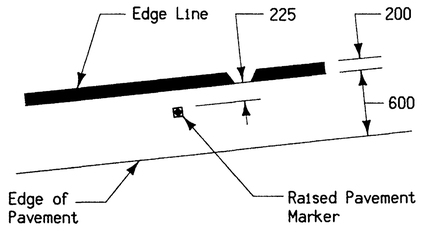
95-198





DETAIL 'A'
TYPICAL EDGE LINE AND PAVEMENT MARKER PLACEMENT

LEGEND

- Type III Barricade
- Raised Pavement Marker
- Sign
- TEMPORARY FLOOD LIGHTING

1. Warning signs are yellow with black legend and symbols.
2. Type III barricades shall conform to section 3f-1 of the " Manual on Uniform Traffic Control Devices."

Traffic Control and Signing Detail For Median Crossover at Sta. 185+50

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	J.09

date = Thu Oct 5 13:45:52 2000 prf = \\WATSO1\DATA\PLOT\PL463P\j09h.prf

96-198

OVERALL INTERCHANGE LAYOUT
U.S. HWY. 151 / IA. HWY. 1

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	L1nn/Jones		NHSX-151-3(112)--3H-57	K.01

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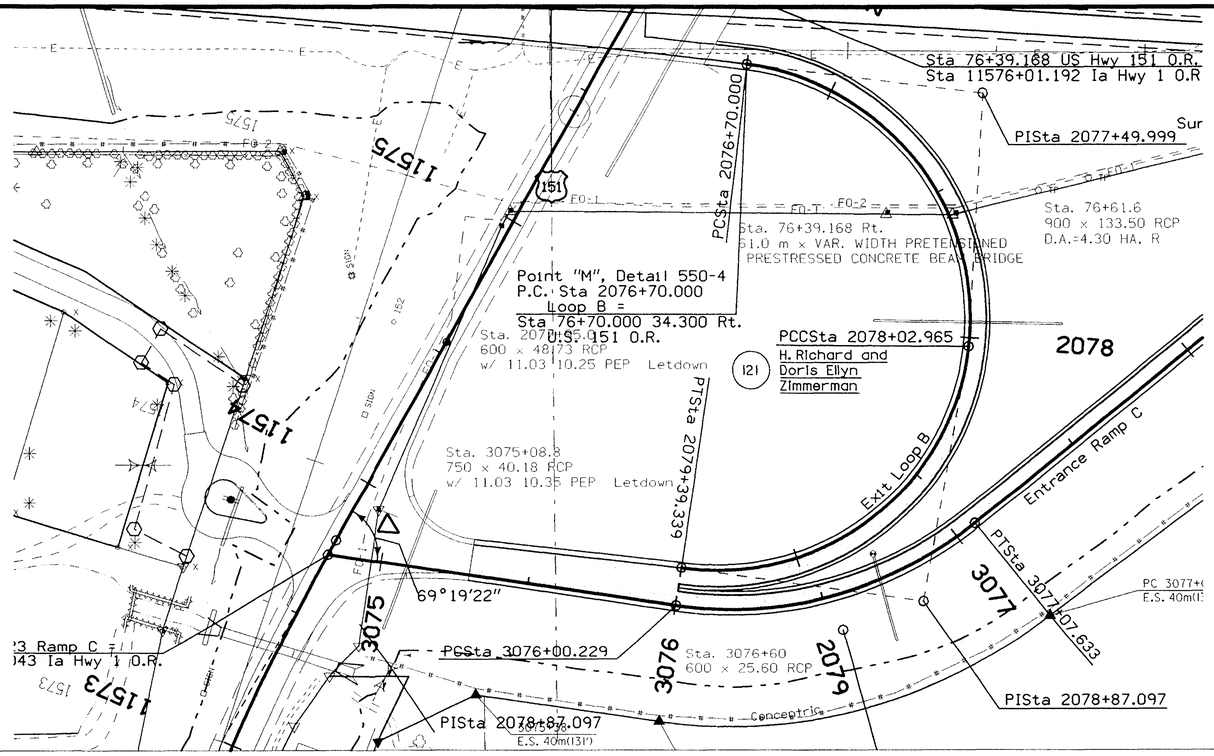
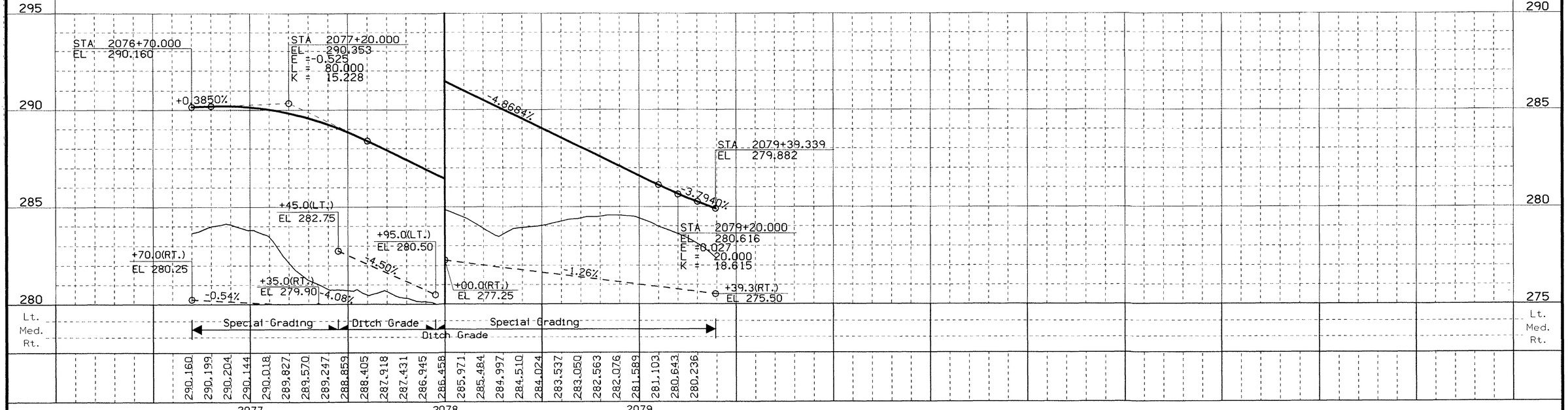
97-198



EXIT LOOP B



DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	K.02

date = Thu Oct 5 13:47:42 2000 prf = \\WATSO1\DATA\PLOT\PL463P\k02h.prf

98-198

Refer to Sheet No. K.01-
K.05 for Ramp and Loop Details

Sta 76+39.168 US Hwy 151 O.R. =
Sta 11576+01.192 Ia Hwy 1 O.R.

PISta 2077+49.999

Survey B

PISta 3079+04.423

PTSta 3080+90.000

PTSta 3079+90.001

PCSta 2076+70.000

EXIT LOOP B

Sta. 76+39.168 Rt.
61.0 m x VAR. WIDTH PRETENSIONED
PRESTRESSED CONCRETE BEAM BRIDGE

Sta. 76+61.6
900 x 133.50 RCP
D.A.=4.30 HA, R

Sta. 2077+95.0
600 x 48.73 RCP
w/ 11.03 10.25 PEP Letdown

PCCSta 2078+02.965
H. Richard and
Doris Ellyn
Zimmerman
121

Sta. 3075+08.8
750 x 40.18 RCP
w/ 11.03 10.35 PEP Letdown

PISta 2079+39.339

Exit Loop B

Entrance Ramp C

PCSta 3078+13.772

3078+88± EX. R/W
℄ E.S. 30m(98')

3079+18
E.S. 32m(105')

3080+25± R
E.S. 34m(112')

81+03 O.R.
℄ 5m(16')

Point "G" Detail 550-2C
P.T. Sta. 3080+90.000 Ramp C
Sta. 80+90.000 24.300 Rt.
U.S. 151 O.R.

69°19'22"

Sta 3074+81.623 Ramp C =
Sta 11573+72.043 Ia Hwy 1 O.R.

PCSta 3076+00.229

Sta. 3076+60
600 x 25.60 RCP

Concentric

PISta 2078+87.097

PC 3077+07.633
E.S. 40m(131')

PISta 3077+07.633

PISta 2078+87.097

PC 3076+00.229
E.S. 40m(131')

PISta 3076+57.210

0 METERS 100
SCALE RATIO: 1:1000

ENTRANCE RAMP C

STA 3074+85.484
EL 276.568

STA 3075+10.000
EL 276.200
E =0.320
L = 40.000
K = 6.256

STA 3078+00.000
EL 290.393
E =-2.792
L = 400.000
K = 71.633

STA 3080+10.000
EL 288.944

-1.5000%
4.8940%
0.92%
4.94%
4.00%
6.00%
1.11%
5.17%
5.07%
-0.6900%
-1.67%

+15.0(LT.) EL 273.90
+05.0(RT.) EL 271.40
+70.0(RT.) EL 274.00
+80.00 EL 272
+45.0(RT.) EL 278.50
+75.0(LT.) EL 280.50
+80.0(RT.) EL 280.00
+20.0(LT.) EL 287.99
+90.0(RT.) EL 287.33
+25.0(RT.) EL 287.36
+10.0(RT.) EL 287.00

Lt. Med. Rt.

Iowa Hwy. 1
Iowa Hwy. 1
Ditch Grade
Special Grading
Ditch Grade
Ditch Grade
Special Grading
1.5 m x 3.0 m Ditch
Ditch Grade

276.500 276.430 276.520 276.770 277.179 277.669 278.158 278.647 279.137 279.626 280.116 280.605 281.087 281.556 282.010 282.451 282.878 283.290 283.689 284.073 284.444 284.801 285.144 285.473 285.788 286.089 286.376 286.649 286.908 287.153 287.384 287.601 287.804 287.993 288.169 288.330 288.478 288.611 288.730 288.836 288.927 289.005 289.069 289.118 289.154 289.176 289.184 289.177 289.157 289.123 289.075 289.013 288.944

3075 3076 3077 3078 3079 3080

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH VIEWS	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	K.03

date = Thu Oct 5 13:47:58 2000 prf = \\WATS01\DATA\PLOT\PL463P\k03h.prf

99-198

* NOTE:
Elevations to be confirmed at time of construction using cross-slope and existing pavement edge elevation.

Sta. 2574+38.045
3.60 Rt.
El. 276.445*

Sta. 2574+16.723
13.194 Rt.
El. 276.253

Sta. 2574+38.045
3.600 Lt.
El. 276.445*

Sta.2574+10.196
5.708 Rt.
El. 276.403

Sta. 2574+04.850
12.012 Rt.
El. 276.277

Sta. 2574+28.571
3.600 Lt.
El. 276.445

Sta. 2574+22.991
5.303 Lt.
El. 276.411

Radius Point
Sta. 2573+97.426

Sta.2573+96.964
1.427 Rt.
El. 276.488

P.I. Sta. 2574+19.971

Radius Point
Sta. 2574+12.043

Sta. 2573+95.370
7.609 Rt.
El. 276.365

Sta.2574+10.196
5.708 Lt.
El. 276.403

Integral curb-
See detail 6157

Sta. 2574+02.810
10.524 Lt.
El. 276.307

Sta.2573+96.964
1.427 Lt.
El. 276.488

Sta.2573+92.918
6.800 Lt.
El. 276.399

Sta. 2573+90.353
6.800 Lt.
El. 276.465

P.T. Sta. 11573+77.646

Sta. 11573+50.735
3.600 Lt.
El. 276.739

Sta. 11573+93.713
3.600 Lt.
El. 277.051

Sta. 11573+55.559
8.374 Rt.
El. 276.090

Sta, 11573+34.884
7.200 Rt.
El. 276.039

Sta. 11574+50.000
3.600 Rt.
El. 277.919

Sta. 11574+17.435
6.857 Rt.
El. 277.134

Sta. 3075+18.310
12.311 Lt.
El. 276.756

Begin Paving
Sta. 3075+30.000
10.400 Lt.
El. 277.179

Sta. 3075+01.944
3.917 Rt.
El. 276.353

Sta. 3075+36.000
0.000 Rt.
El. 277.472

Sta 3074+81.623 Ramp C =
Sta 11573+72.043 Ia Hwy 1 O.R. =
Sta. 2573+72.043 RESIDENTIAL ENTRANCE

P.T. Sta 2079+39.339 Loop B
El. 279.905

P.C. Sta 3076+00.229 Ramp C
El. 280.616

For Information only

Paving this contract

15:1 TAPER FOR RIGHT TURN LANE:
Begin Taper 3.6m Rt. Sta. 11572+05
End Taper 7.2 m Rt. Sta. 11572+59

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
B-1	8.372	140	10.246	20.456	0.374
B-2	50.637	27	12.773	23.862	2.869
B-3	13.123	150	17.253	34.355	0.989
B-4	22.785	30	6.045	11.930	0.603
B-5	84.484	23	20.886	33.914	8.068
B-6	108.495	15	20.835	28.404	10.672
B-7	11.999	50	5.255	10.471	0.275
B-8	50.437	14	6.593	12.324	1.475
B-9	72.313	10	7.307	12.621	2.385
B-10	33.919	10	3.050	5.920	0.455
B-11	127.790	14	28.685	31.269	17.919
B-12	41.257	15	5.647	10.801	1.028
B-13	88.465	15	14.603	23.160	5.935
B-14	143.965	1.5	4.612	3.769	3.350
B-15	215.805	6	---	22.599	---

ISLAND DATA

101-13
09-27-94

POINT NO.	LOCATION	ELEVATION
①	Sta. 11573+87.603, 11.100 Rt.	276.652
②	Sta. 11573+93.557, 11.100 Rt.	276.730
③	Sta. 3075+04.289, 10.770 Lt.	276.681

N

0 METERS 25

GEOMETRIC AND STAKING DETAIL
FOR HIGHWAY 1 AND RAMP C
AND RESIDENTIAL ENTRANCE
Sta. 11573+72.0743 Ia. Hwy 1 O.R.

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	K.04

date = Thu Oct 5 13:48:20 2000 prf = \\WATSO1\DATA\PLOT\PL463P\k04b.prf

℄ RESIDENTIAL ENTRANCE

EXISTING IA. HWY. 1 (To be removed)

11574

2574

3075

P.I. Sta. 2574+19.971

P.T. Sta. 11573+77.646

127°12'12"

90°00'00"

89°19'22"

℄ BUS TURNAROUND

RELOCATED IA. HWY. 1

1.8m Paved Shoulder

EXIT LOOP B

ENTRANCE RAMP C

Sta 3074+81.623 Ramp C =
Sta 11573+72.043 Ia Hwy 1 O.R. =
Sta. 2573+72.043 RESIDENTIAL ENTRANCE

For Information only

Paving this contract

N

0 METERS 25

JOINTING LAYOUT FOR HIGHWAY 1 AND RAMP C AND RESIDENTIAL ENTRANCE Sta. 11573+72.043 Ia. Hwy. 1 O.R.

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	K.05

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101-198

172 Constance McKean
Refer to Sheet No. E.02 for Side Road Details
Sta. 5157+90.5
Skew 21° Lt. Ahd
Install 1050 mm RF-1
F.L. Lt. 241.125
F.L. Rt. 242.500
5157+00± EX. R/W
E.S. 41.478m(136.08')
5156+71.524
E.S. 51.130m(167.75')
5154+00.681
E.S. 63.497m(208.32')
E.S. 42.206m(138.47')
Sta 5158+25.816 Ramp A =
Sta 8158+06.342 Ramp D =
Sta 2156+70.240 Ia. 64
Remove 5'X10' Bridge
Sta 157+90.609 US Hwy 151 O.R. =
Sta 2157+87.867 Ia Hwy 64
IA. HWY. NO. 64
8158+40± EX. R/W
E.S. 57m(187') PROP. COR.
8159+87± ℞
E.S. 53m(174') PROP. COR.
City of Anamosa
City hall
107 S. Ford Street
Anamosa, Iowa 52205
8159+78.072
E.S. 27.443m(89.05')
SECTION 11
SECTION 2
182 Fawn Cree
8161+16.481
E.S. 23.042m(75.60')
Sta. 2157+23.9
Sta. 8158+37.0
Install 600 mm RF-1
F.L. Lt. 242.050
F.L. Rt. 244.050
183A City of Anamosa, Jones County, Iowa
Sta. 2157+50
375 x 24.90 RCP
Section Line
P.I. Sta 6153+89.097
Sta. 155+35
600 x 20.73 RCP
P.C. / P.T.
Sta 7156+40.000
P.I. Sta 7157+17.611
Sta. 157+65.4
1050 x 112.17 RCP
6154+00
E.S. 38m(125')
P.T. Sta 6154+66.179
Sta. 156+90
600 x 24.34 RCP
w/ 600 x 19.51 PEP Letdown
Remove Pavement
Sta. 6157+41.5
600 x 42.06 RCP
STOP PAVING
Sta. 6157+20.00
Sta 6157+68.291 Ramp B =
Sta 2159+44.257 Ia. Hwy 64 O.R.
P.C. Sta 7154+94.349
6154+84
E.S. 50m(164')
Install 1.8m Chain Link Fence
P.C. Sta 6155+82.242
P.I. Sta 6156+22.535
6155+87± EX. R/W
E.S. 3m(102')
P.T. Sta 6156+61.764
Install RE-3A Road Closure
6156+20.4± EX. R/W
E.S. 28m(92')
6156+65
E.S. 20.7m(68')± EX. R/W
177 Anamosa Properties Inc.
U.A.C. Walmart Parking Lot
158+37 O.R.
℄ 48m(157')± EX. R/W
P.T. Sta 7157+95.000
Loop C =
Sta 157+95.000, 21.900 Rt.
U.S. 151 O.R.
City of Anamosa, Iowa
MEADOW RIDGE
SECOND ADDITION
159+86± O.R. ℞
℄ 47.6m(156') Lot Cor.
159+00 O.R.
℄ 42m(138')
159+09± O.R. ℞
℄ 53.085m(174')
159+86± O.R. ℞
℄ 54m(177')
161+00 O.R.
℄ 42m(138')
161+39.6± O.R. Lot Line
℄ 42.2m(138') (Prop R/W)
160+48± O.R. ℞
℄ 47.5m(156.84')
186A
Carroll R. and Connie S. Humpal (FEE)
Alan A. and Regina M. Zumbach (CP)
Carroll R. and Connie S. Humpal (FEE)
Automotive Services, Inc. (CP)
SECTION 12
183 Wal-Mart Properties, Inc.
FAIRVIEW T-84N R-4W SECTION 12
MEADOW RIDGE
IOWA HWY. 64 INTERCHANGE

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	K.06 [redacted]

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102-198

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	K.07 [redacted]

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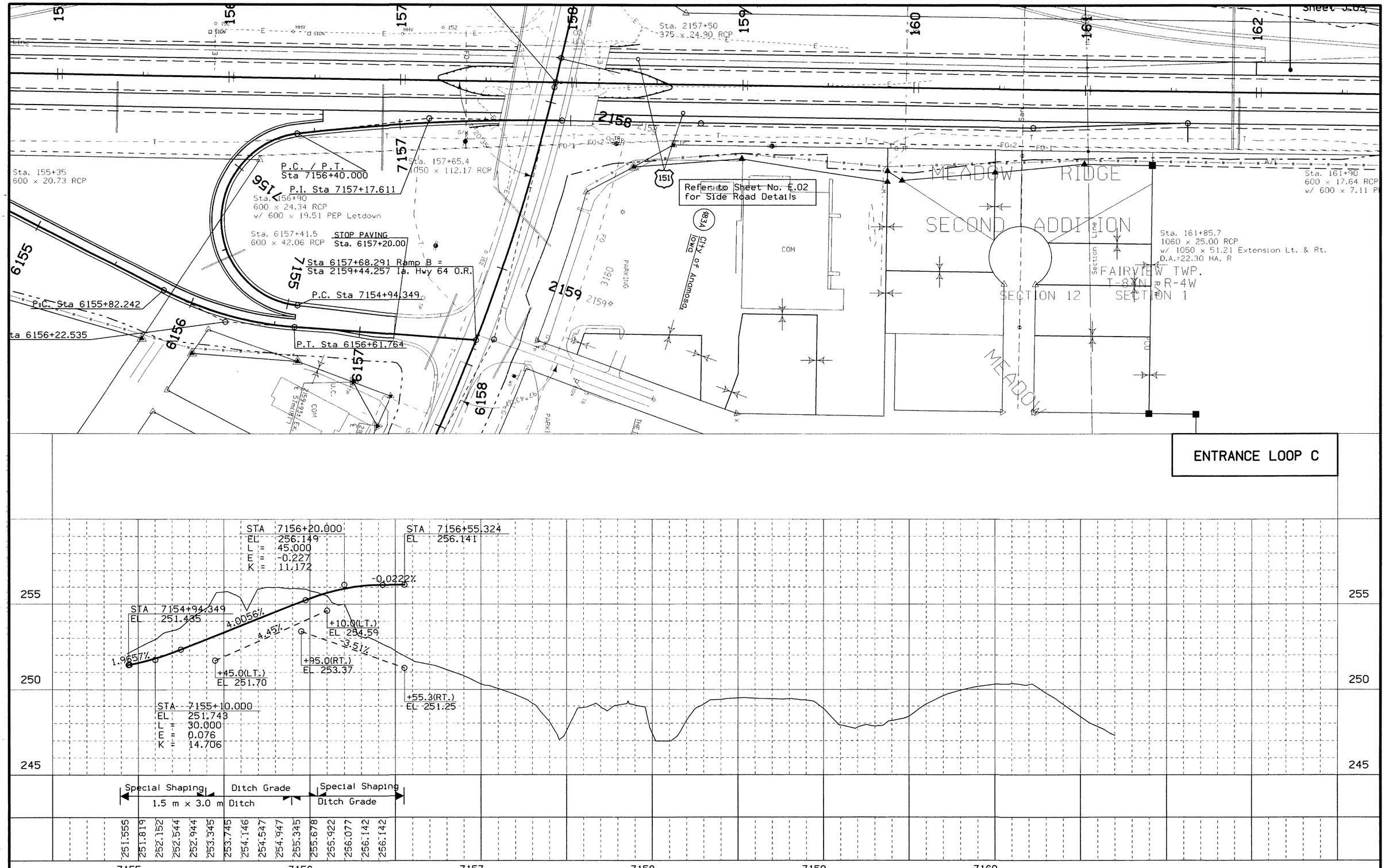
103-198



DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	K.08

date = Thu Oct 5 13:49:15 2000 prf = \\WATSO1\DATA\PLOT\PL463P\k08h.prf

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
B-1	12.100	75	7.949	15.839	0.420
B-2	51.197	25	11.977	22.339	2.721
B-3	14.069	120	14.807	29.466	0.910
B-4	80.363	20	16.890	28.052	6.178
B-5	16.738	120	17.653	35.055	1.292
B-6	16.683	60	8.797	17.470	0.641
B-7	55.359	20	10.491	19.324	2.585
B-8	7.161	100	6.257	12.498	0.196
B-9	89.420	15	14.849	23.410	6.107

STOP PAVING
Sta. 6157+20.00

Paving this contract | For information only

P.C. Sta 7154+94.349

ENTRANCE LOOP C

7155

EXIT RAMP B

1.8m Paved Shoulder

5.8%

+61.764

Uniform Transition

6157

2%

+06.764

Constant Slope

2%

+40

Uniform Transition

0.9649%

Sta. 6157+20.328
10.312 Lt.
El. 249.899

Sta. 6157+49.614
12.822 Lt.
El. 249.277

B-3

Special Shaping

Install 50.8mm Plastic Conduit

B-2

Constant Slope (Full Superelevation)

Sta. 2159+19.712
8.746 Rt.
El. 249.149

Sta. 2159+4.000
7.200 Rt.
El. 249.060

2159

B-1

Constant Slope (Full Superelevation)

3%
7.2m

3%
7.2m

3.3m Paved Shoulder with Curb

Future Recreational Trail

1.6m

3.0m

Sta. 2159+21.180
10.500 Lt.
El. 249.525

Curb Drop for Future Recreational Trail See RB-6

4%
6m

249.500

Sta. 3159+56.798
5.400 Lt.
El. 249.627

Sta. 3159+74.466
5.400 Lt.
El. 249.857*

B-9

1.3%±

1.2%±

P.T. Sta 6156+61.764

Sta. 6156+83.782
2.400 Rt.
El. 251.462

Sta. 6157+07.782
2.400 Rt.
El. 250.554

Sta. 6157+20.270
2.400 Rt.
El. 249.059

2%

2%

5:1 Taper

B-4

STOP PAVING
Sta. 6157+31.458
4.638 Rt.
El. 250.629

STOP PAVING
Sta. 6157+20

Vertical Curve Sag Point

249.377

2.2%±

1%

3%
7.2m

3%
7.2m

3%
6m

249.820

1.0%±

CHAMBER DRIVE

3160

B-8

Sta. 3159+76.552
6.490 Rt.
El. 249.915*

Sta. 3159+64.337
9.097 Rt.
El. 249.851

B-7

Sta 6157+68.046 Ramp B =
Sta 2159+44.482
Ia. Hwy. 64

2.5%±

Sta. 2159+74.860
12.247 Rt.
El. 249.489

IA. HWY. 64

U.A.C. Existing Pavement

B-6

Install 50.8mm Plastic Conduit

Sta 2159+441.326 Ia. Hwy. 64 =
Sta. 3159+41.327 Chamber Drive

Sta. 2159+62.919
9.852 Lt.
El. 249.881

Sta. 2159+80.000
7.200 Lt.
El. 250.028*

B-5

2160

Sta. 2160+11.538
7.200 Rt.
El.?*

* NOTE:
Elevations to be confirmed at time of construction using cross-slope and existing pavement edge elevation.

0 METERS 25

GEOMETRIC AND STAKING DETAIL FOR INTERSECTION OF HWY.64 AND RAMP B

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	K.09

date = Thu Oct 5 13:49:31 2000 prf = \\WATSO1\DATA\PLOT\PL463P\k09h.prf

105-198

STOP PAVING
Sta. 6157+20.00

Paving this contract

For information only

P.C. Sta 7154+94.349

7155

ENTRANCE LOOP C

EXIT RAMP B

6157

P.T. Sta 6156+61.764

1.8m Paved Shoulder

KT-2

L-2

CD 3.6m

KT-2 6m(Typ.)

CD 4.8m

6:1 Skew, Typ. all Transverse Joints

2159

3.3m Paved Shoulder with Curb

Future Recreational Trail

1.6m

3.0m

Curb Drop for Future Recreational Trail See RB-6

180 mm Type 'M' PCC

CHAMBER DRIVE

3160

STOP PAVING
Sta. 6157+20

Sta 6157+68.046 Ramp B =
Sta 2159+44.482
Ia. Hwy. 64

Sta 2159+441.326 Ia. Hwy. 64 =
Sta. 3159+41.327 Chamber Drive

IA. HWY. 64

Match Existing Transverse Joints

2160

0 METERS 25

JOINTING LAYOUT
FOR INTERSECTION OF
HWY.64 AND RAMP B

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	K.10

date = Thu Oct 5 13:49:47 2000 prf = \\WATSO1\DATA\PLOT\PL463P\k10h.prf

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
C-1	70.560	8	5.660	9.852	1.800
C-2	92.903	15	15.780	24.322	6.772
C-3	13.633	150	17.930	35.690	1.068
C-4	51.927	24	11.687	21.751	2.694
C-5	112.357	13	19.403	25.493	10.356
C-6	15.700	45	6.204	12.331	0.426

PROP. FARM ENT. +14

Sta. 18+14.384 O.R.=
Sta. 1018+27.061 (S.R.)

Sta. 18+13.627 (tan)=
Sta. 1018+24.330 (S.R.)

PROPOSED U.S. HWY. 151

Standard Crown

Standard Crown

Standard Crown

2% 4.2m

2% 3.6m

1.67%±

Constant Slope

Uniform Transition

3% 3.6m

Constant Slope

10:1 Taper

50m Turn Lane

19

18

74°40'41"

C-1 C-2 C-3 C-4 C-5 C-6

1% 6.0m

1.4%±

Sta. 17+59.000
10.400 Lt.
El. 274.455

Sta. 17+94.397
6.048 Lt.
El. 275.050

Sta. 18+05.079
12.890 Rt.
El. 275.048

Sta. 18+02.735
20.552 Rt.
El. 275.00*

Sta. 17+95.457
26.205 Rt.±
El. 274.96*

Sta. 18+21.096
2.285 Rt.
El. 275.423

Sta. 18+27.696
22.848 Rt.
El. 275.37*

Sta. 18+39.805
24.610 Rt.±
El. 275.56*

Sta. 18+40.000
6.800 Lt.
El. 275.774

Sta. 18+90.000
6.800 Lt.
El. 276.452

Sta. 19+26.000
10.400 Lt.
El. 276.992

PI Sta 18+30.000

1018

EXISTING U.S. HWY. 151 (U.A.C.)

LINN GROVE RD.

P.O.C. Sta. 18+09.849 ℄=
P.O.T. Sta. 1018+09.849 (S.R.)

* NOTE:
Elevations to be confirmed at time of construction using cross-slope and existing pavement edge elevation.

0 METERS 25

INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2	1115	Median Crossover
Island	m^2		
Curb	m		

GEOMETRIC AND STAKING DETAIL
FOR INTERSECTION OF
U.S. HWY. 151 WITH LINN GROVE RD.
AT STA. 18+14.384 O.R.

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	L.01

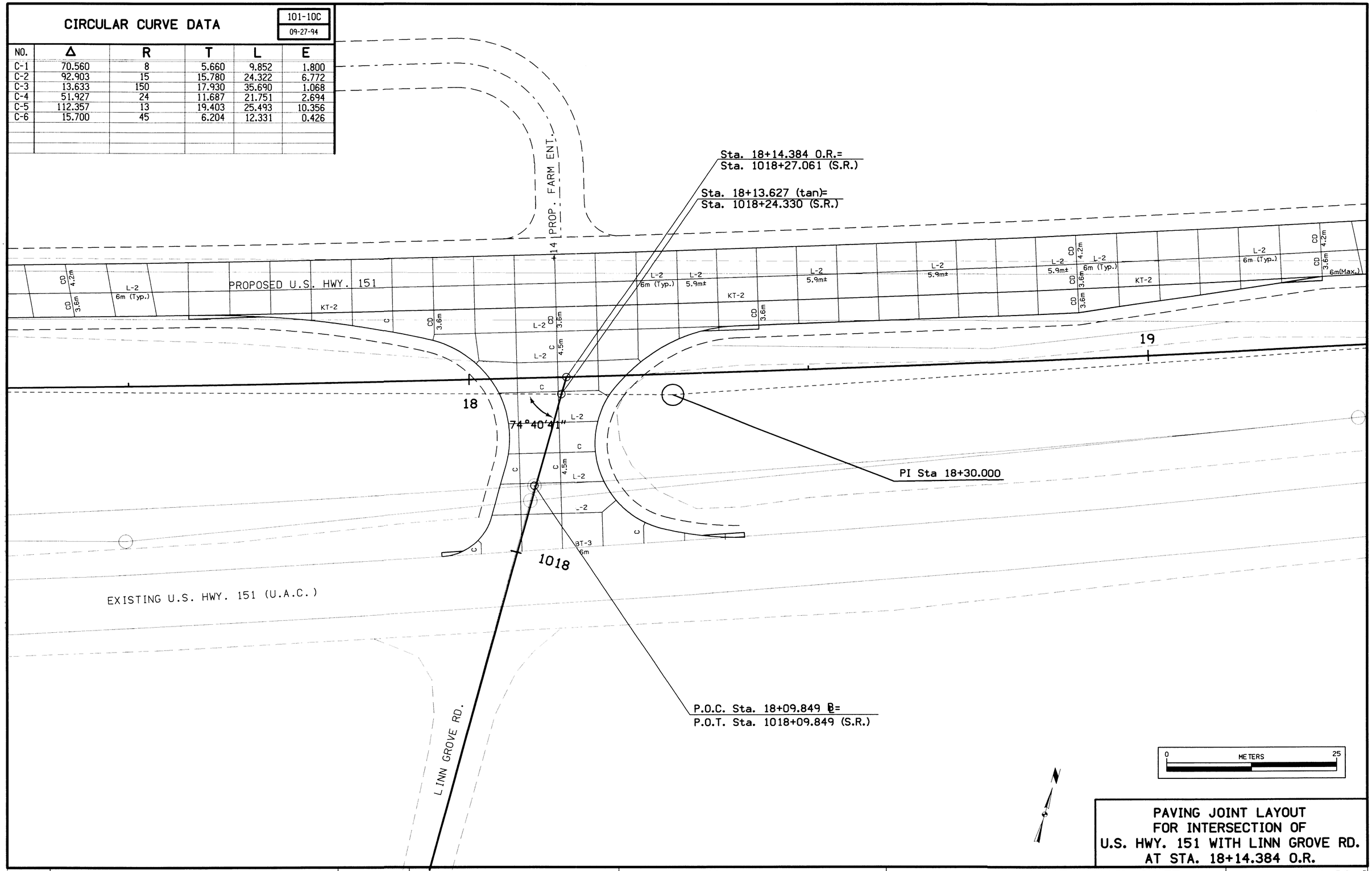
date = Thu Oct 5 13:52:07 2000 prf = \\WATS01\DATA\PLOT\PL463P\101h.prf

107-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
C-1	70.560	8	5.660	9.852	1.800
C-2	92.903	15	15.780	24.322	6.772
C-3	13.633	150	17.930	35.690	1.068
C-4	51.927	24	11.687	21.751	2.694
C-5	112.357	13	19.403	25.493	10.356
C-6	15.700	45	6.204	12.331	0.426



PAVING JOINT LAYOUT FOR INTERSECTION OF U.S. HWY. 151 WITH LINN GROVE RD. AT STA. 18+14.384 O.R.

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	L.02

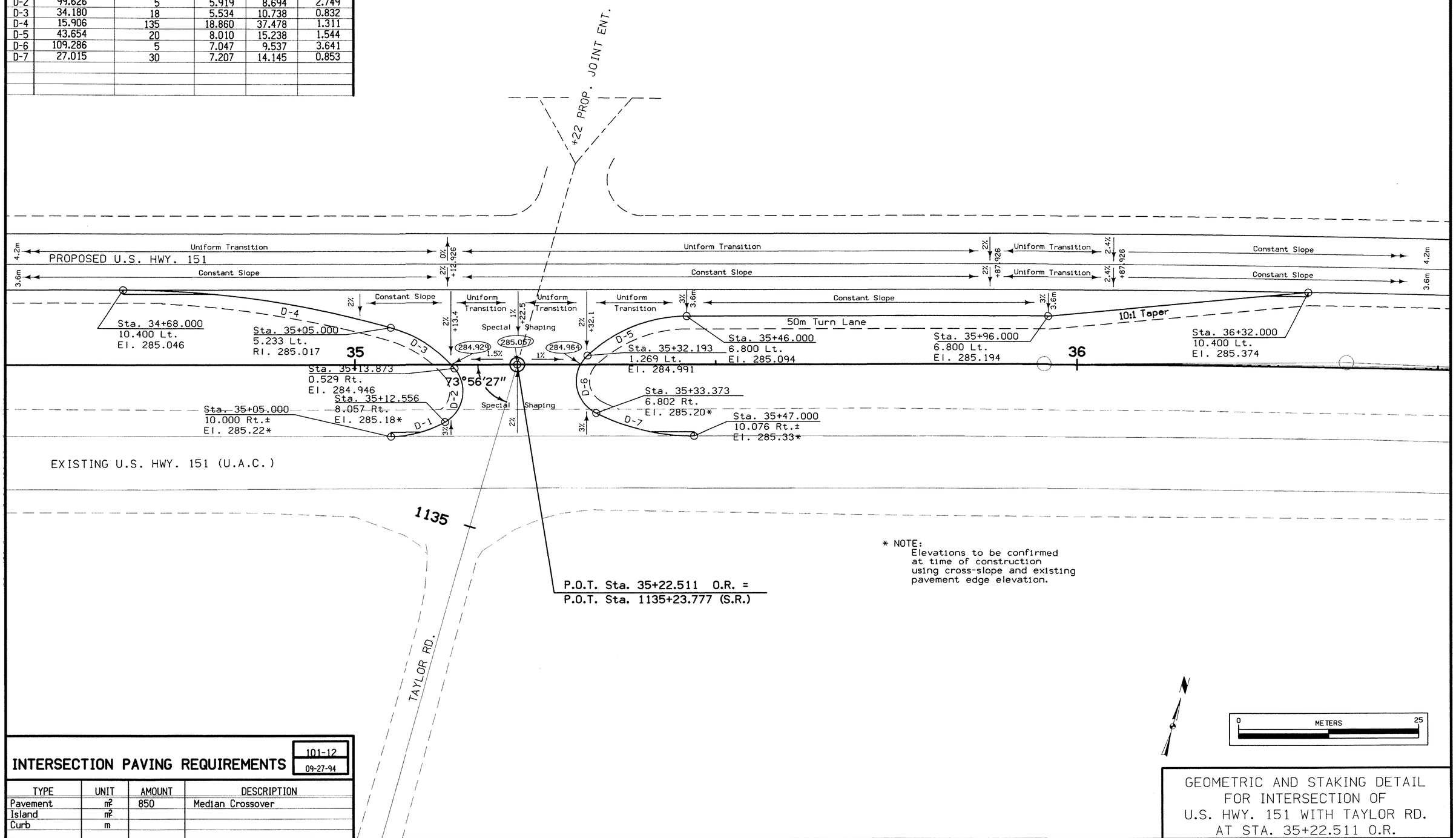
date = Tue Apr 3 10:20:21 2001 prf = \\WA1S01\DATA\PLOT\PL463P\102h.prf

REVISED 04-03-01
108-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
D-1	30.248	15	4.054	7.919	0.538
D-2	99.626	5	5.919	8.694	2.749
D-3	34.180	18	5.534	10.738	0.832
D-4	15.906	135	18.860	37.478	1.311
D-5	43.654	20	8.010	15.238	1.544
D-6	109.286	5	7.047	9.537	3.641
D-7	27.015	30	7.207	14.145	0.853



P.O.T. Sta. 35+22.511 O.R. =
P.O.T. Sta. 1135+23.777 (S.R.)

* NOTE:
Elevations to be confirmed at time of construction using cross-slope and existing pavement edge elevation.

INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m²	850	Median Crossover
Island	m²		
Curb	m		

GEOMETRIC AND STAKING DETAIL
FOR INTERSECTION OF
U.S. HWY. 151 WITH TAYLOR RD.
AT STA. 35+22.511 O.R.

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	L.03

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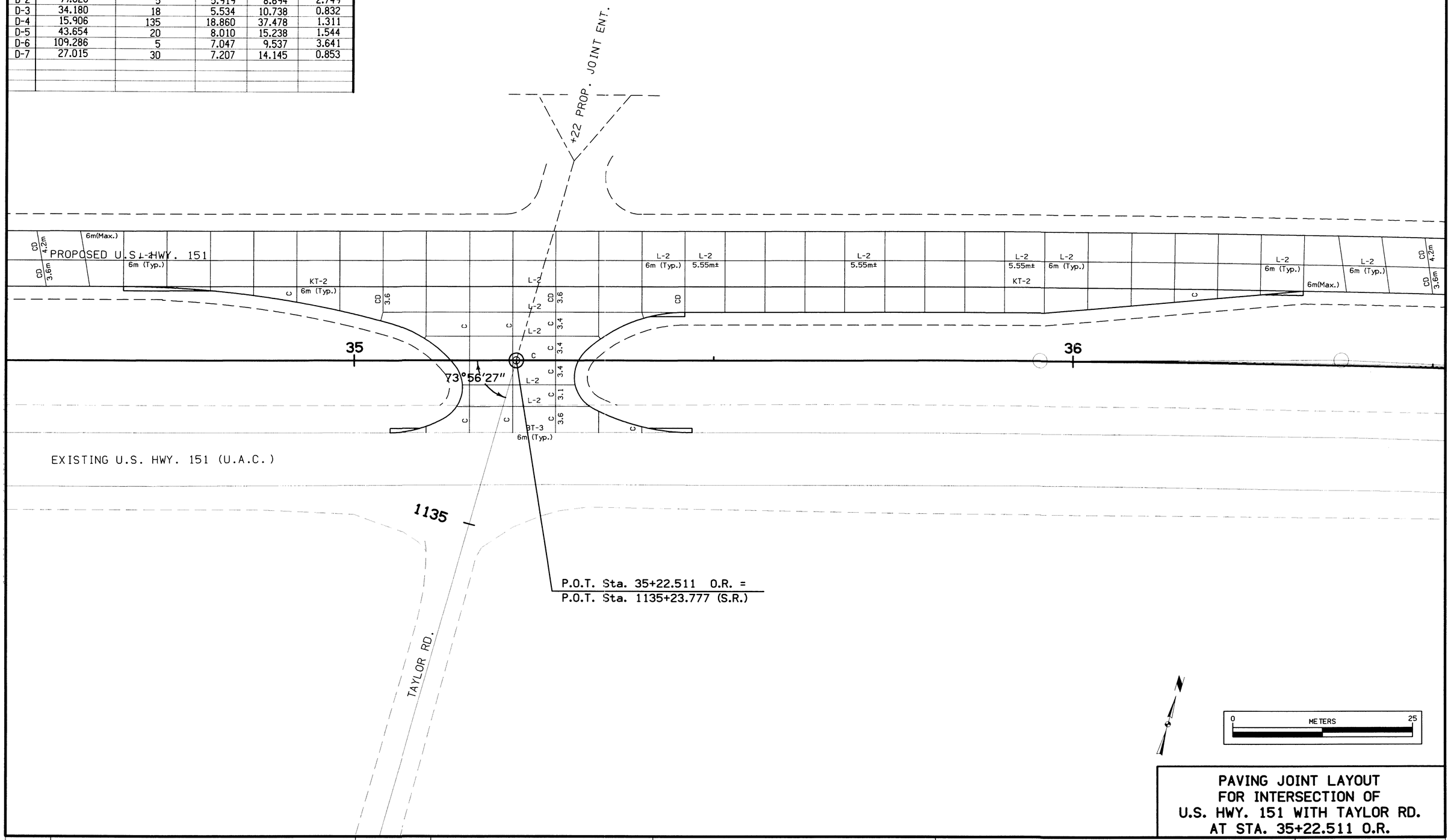
109-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
D-1	30.248	15	4.054	7.919	0.538
D-2	99.626	5	5.919	8.694	2.749
D-3	34.180	18	5.534	10.738	0.832
D-4	15.906	135	18.860	37.478	1.311
D-5	43.654	20	8.010	15.238	1.544
D-6	109.286	5	7.047	9.537	3.641
D-7	27.015	30	7.207	14.145	0.853



PAVING JOINT LAYOUT
FOR INTERSECTION OF
U.S. HWY. 151 WITH TAYLOR RD.
AT STA. 35+22.511 O.R.

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	L.04

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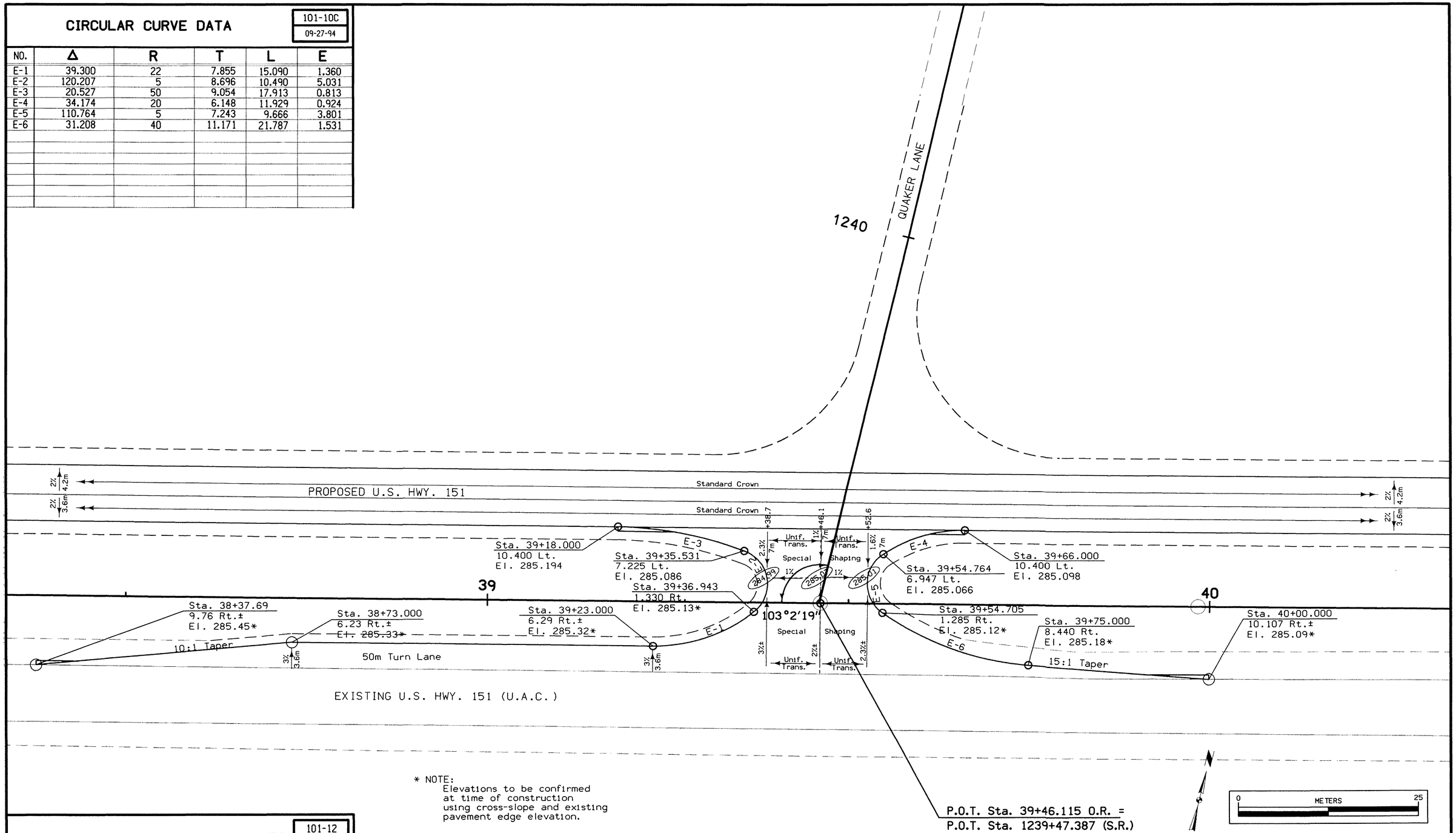
REVISED 04-03-01
110-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
E-1	39.300	22	7.855	15.090	1.360
E-2	120.207	5	8.696	10.490	5.031
E-3	20.527	50	9.054	17.913	0.813
E-4	34.174	20	6.148	11.929	0.924
E-5	110.764	5	7.243	9.666	3.801
E-6	31.208	40	11.171	21.787	1.531



* NOTE:
Elevations to be confirmed at time of construction using cross-slope and existing pavement edge elevation.

INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2	810	Median Crossover
Island	m^2		
Curb	m		

GEOMETRIC AND STAKING DETAIL
FOR INTERSECTION OF
U.S. HWY. 151 AND QUAKER LANE
AT STA. 39+46.115 O.R.

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN		COUNTY	PROJECT NUMBER		SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones			NHSX-151-3(112)--3H-57	L.05

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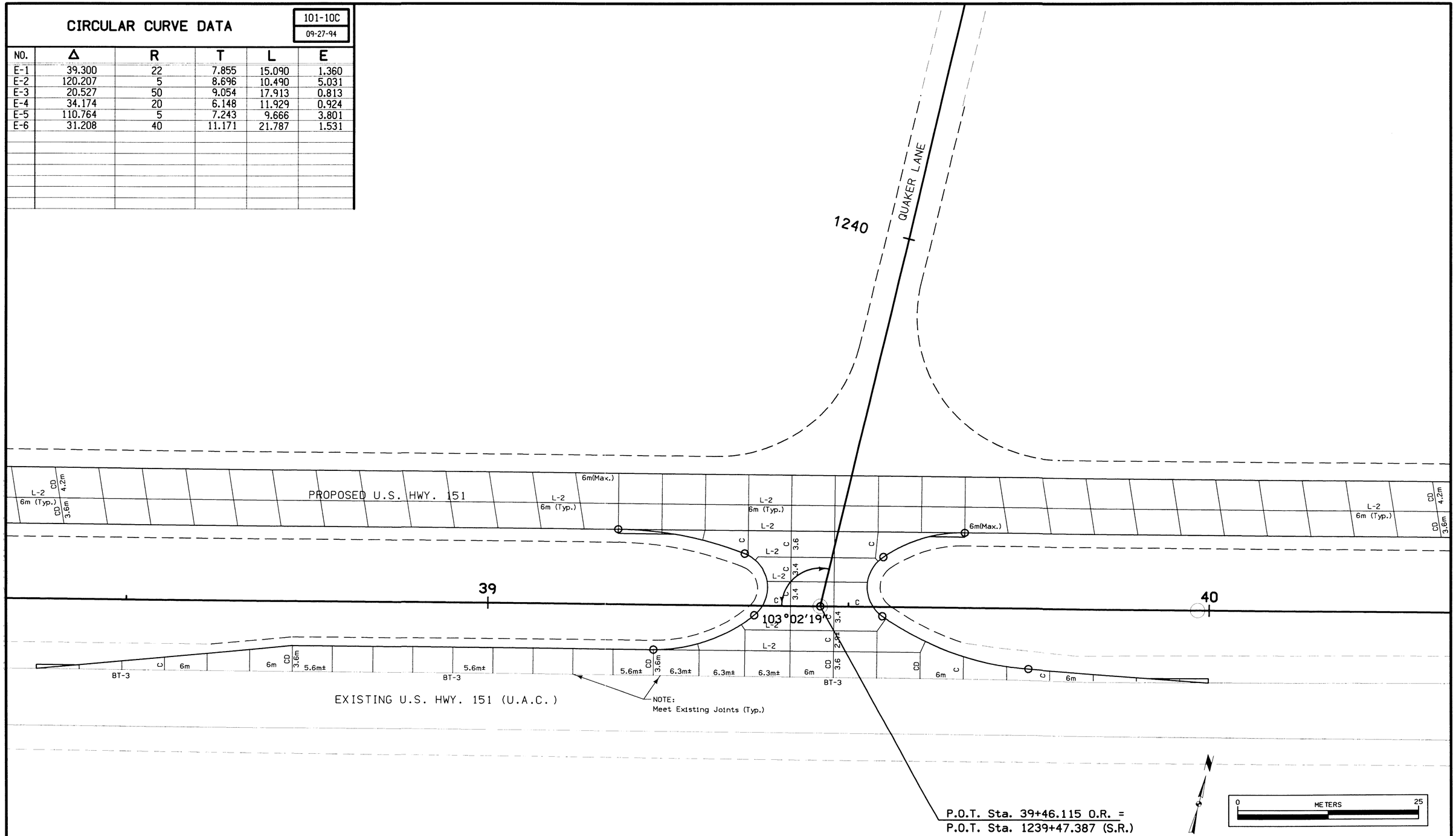
CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
E-1	39.300	22	7.855	15.090	1.360
E-2	120.207	5	8.696	10.490	5.031
E-3	20.527	50	9.054	17.913	0.813
E-4	34.174	20	6.148	11.929	0.924
E-5	110.764	5	7.243	9.666	3.801
E-6	31.208	40	11.171	21.787	1.531



PAVING JOINT LAYOUT FOR INTERSECTION OF U.S. HWY. 151 AND QUAKER LANE AT STA. 39+46.115 O.R.

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	L.06

date = Tue Apr 3 10:20:46 2001 prf = \\WATS01\DATA\PLOT\PL463P\106h.prf

REVISED 04-03-01

112-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
0-1	74.457	18	14.695	24.648	5.237
0-2	79.068	8	6.603	11.040	2.373
0-3	20.683	50	9.124	18.049	0.826
0-4	76.146	18	14.100	23.922	4.865
0-5	77.051	10	7.962	13.488	2.782
0-6	20.110	45	7.979	15.794	0.702
0-7	88.467	23	22.393	35.513	9.100
0-8	14.010	140	17.202	34.233	1.053
0-9	16.707	70	10.279	20.412	0.751
0-10	47.419	40	17.567	33.105	3.687
0-11	12.720	120	13.375	26.460	0.743

ISLAND DATA

101-13
09-27-94

POINT NO.	STATION	ELEVATION
1	52+04.936, 21.500 LT	288.639
2	52+09.828, 21.500 LT	288.663
3	1452+50.188, 4.842 LT	288.613

Sta. 1453+02.611
3.600 Rt.
El. 288.359

Sta. 1452+85.000
3.600 Lt.
El. 288.387

Sta. 1452+64.768
6.503 Lt.
El. 288.440

Sta. 1452+68.694
7.914 Rt.
El. 288.360

PC Sta 1452+56.283

STA 52+09.282 M.L. O.R.=
STA 1452+24.933 S.R.

Sta. 52+50.000
18.200 Lt.
El. 288.774

Sta. 51+86.423
21.145 Lt.
El. 288.530

Sta. 51+60.000
18.200 Lt.
El. 288.538

0-9 0-8 0-10 0-11 0-7

Standard Crown

Special Shaping

Uniform Transition

Constant Slope

PROPOSED U.S. HWY. 151

15:1 Taper

10:1 Taper

50m Turn Lane

Sta. 51+50.000
10.400 Lt.
El. 288.454

Sta. 51+80.000
8.400 Lt.
El. 288.454

Sta. 52+31.252
6.800 Lt.
El. 288.501

Sta. 52+81.252
6.800 Lt.
El. 288.477

52 53

0-3 0-4 0-2 0-1 0-5 0-6

Sta. 51+97.406
4.014 Lt.
El. 288.385

Sta. 1452+18.158
6.000 Lt.
El. 288.100

Sta. 1452+13.080
6.000 Lt.
El. 288.08*

Sta. 1452+19.179
6.000 Rt.
El. 288.100

Sta. 1452+14.618
6.000 Rt.
El. 286.05*

PC Sta 52+33.356

Sta. 53+17.252
10.400 Lt.
El. 288.485

* NOTE:
Elevations to be confirmed at time of construction using cross-slope and existing pavement edge elevation.

Sta. 50+98.53
24.25 Rt.±
El. 287.91*

Sta. 51+32.57
22.06± Rt.
El. 288.00*

Sta. 51+82.534
23.84± Rt.
El. 288.25*

Sta. 52+17.954
22.074 Rt.
El. 288.33*

Sta. 52+33.021
27.157 Rt.
El. 288.43*

Sta. 52+62.900
30.512 Rt.±
El. 288.45*

1452

EXISTING U.S. HWY. 151 (U.A.C.)

LINN-JONES RD.

P.O.T. Sta. 52+06.550 ℄=
P.I. Sta. 1452+06.550 (S.R.)

0 METERS 25

INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m²	1470	Median Crossover
Pavement	m²	302	West Return
Pavement	m²	324	East Return
Island	m²	10	150mm, Median PCC
Curb	m	16	100mm, Sloped Curb

GEOMETRIC AND STAKING DETAIL
FOR INTERSECTION OF
U.S. HWY. 151 WITH LINN-JONES RD.
AT STA. 52+06.550

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER L.07

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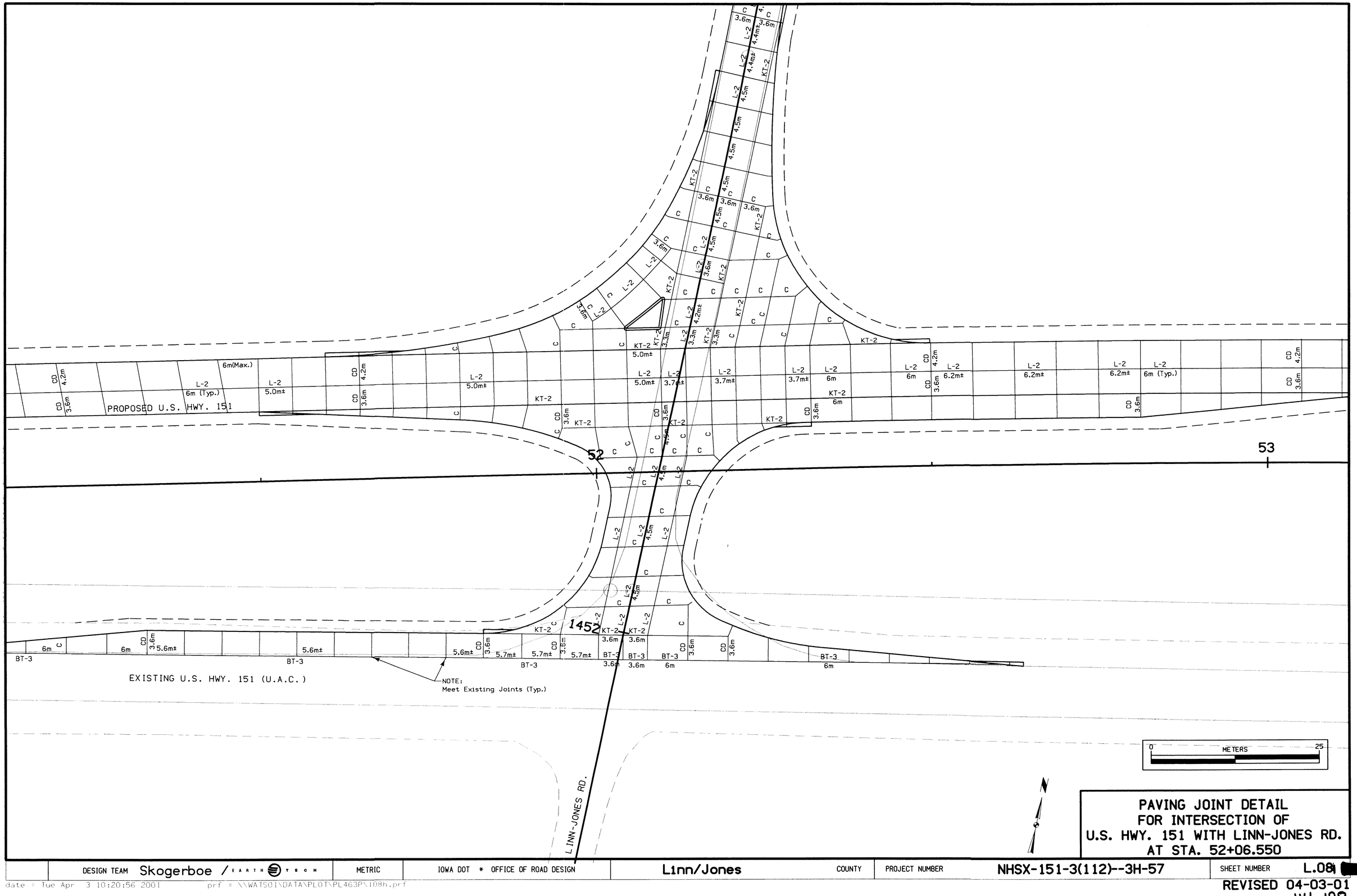
113-198



PAVING JOINT DETAIL
FOR INTERSECTION OF
U.S. HWY. 151 WITH LINN-JONES RD.
AT STA. 52+06.550

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	L.08

date = Tue Apr 3 10:20:56 2001 prf = \\WATSOI\DATA\PLOT\PL463P\108h.prf

REVISED 04-03-01

114-198

W.B. U.S. 151 TO
N.B. LINN-JONES ROAD

289
288
287

0+00.000
18.200m Lt. Sta. 1452+50.000
El. 288.744

0+35.513
7.914m Rt. Sta. 1452+68.694
El. 288.360

0+69.736
3.600m Rt. Sta. 1453+02.611
El. 288.359

W.B. U.S. 151 0.00%±
V.C. CREST @ 1452+48.33

-1.4960%

VPI Sta. 0+25.000
El. 288.360
No V.C.

0.0000%

LINN-JONES RD. 0.00%±
V.C. SAG @ 1453+04.89

23m R.
35.513m

140m R.
34.233m

0+00 0+20 0+40 0+60 0+80 1+00

S.B. LINN-JONES ROAD
TO W.B. U.S. 151

289
288
287

0+00.000
3.600m Lt. Sta. 1452+85.000
El. 288.387

0+20.412
6.503m Lt. Sta. 1452+64.768
El. 288.440

0+53.517
21.145m Lt. Sta. 51+86.423
El. 288.530

0+80.157
18.200m Lt. Sta. 51+60.000
El. 288.538

LINN-JONES ROAD +0.29%
V.C. SAG @ 1453+04.89

+0.2577%

+0.2726%

+0.0300%

W.B. US 151 -0.20%

70m R.
20.412m

40m R.
33.105m

120m R.
26.640m

0+00 0+20 0+40 0+60 0+80 1+00

EDGE PROFILES FOR INTERSECTION OF LINN-JONES ROAD WITH EXISTING U.S. HWY.151

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	L.09

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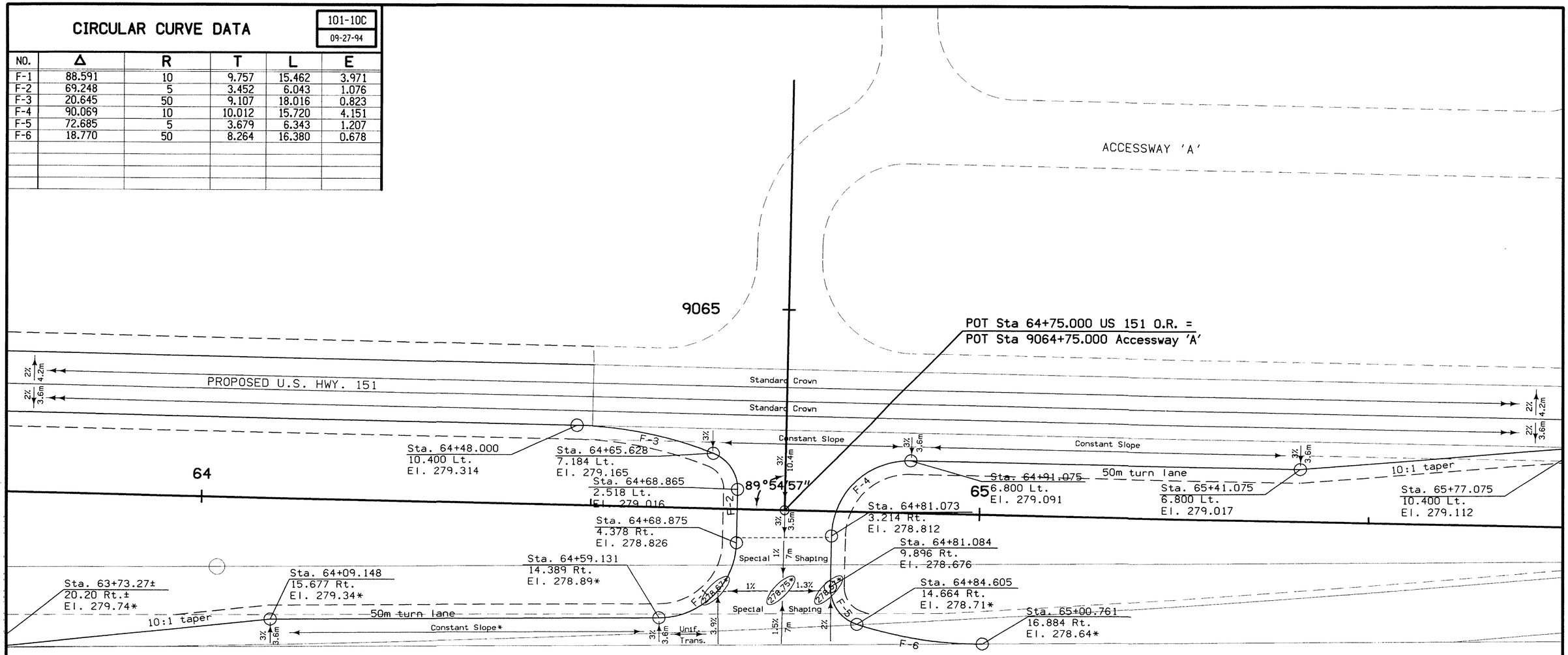
115-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
F-1	88.591	10	9.757	15.462	3.971
F-2	69.248	5	3.452	6.043	1.076
F-3	20.645	50	9.107	18.016	0.823
F-4	90.069	10	10.012	15.720	4.151
F-5	72.685	5	3.679	6.343	1.207
F-6	18.770	50	8.264	16.380	0.678



EXISTING U.S. HWY. 151 (U.A.C.)

* NOTE:
Elevations to be confirmed at time of construction using cross-slope and existing pavement edge elevation.

INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2	1000	Median Crossover
Island	m^2		
Curb	m		

N

0 METERS 25

GEOMETRIC AND STAKING DETAIL
FOR ACCESSWAY A
AT STA. 64+75.000 O.R.

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	L.10

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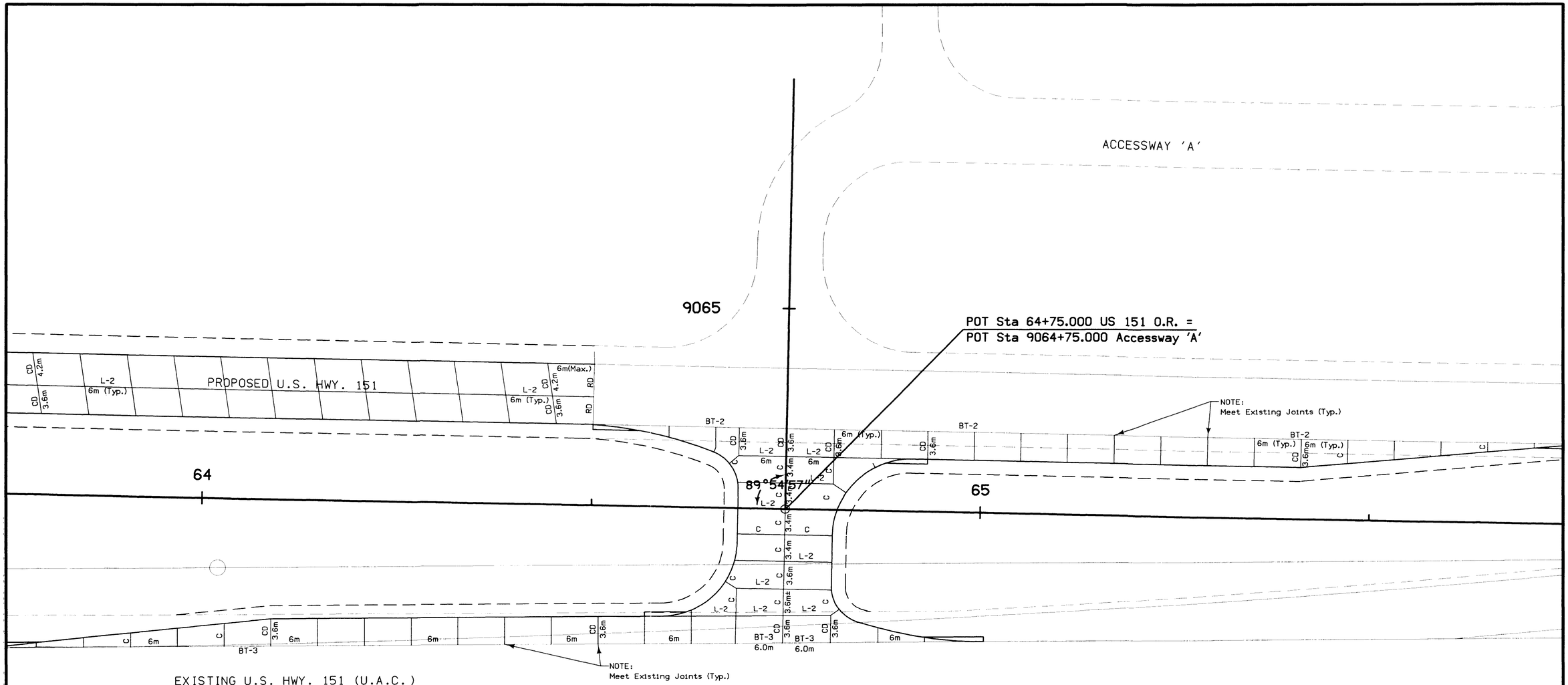
116-198



PAVING JOINT LAYOUT
FOR ACCESSWAY A
AT STA. 64+75.000 O.R.

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER NHSX-151-3(112)--3H-57	SHEET NUMBER L.11

date = Tue Apr 3 10:21:10 2001 prf = \\WATSO1\DATA\PLOT\PL463P\111h.prf

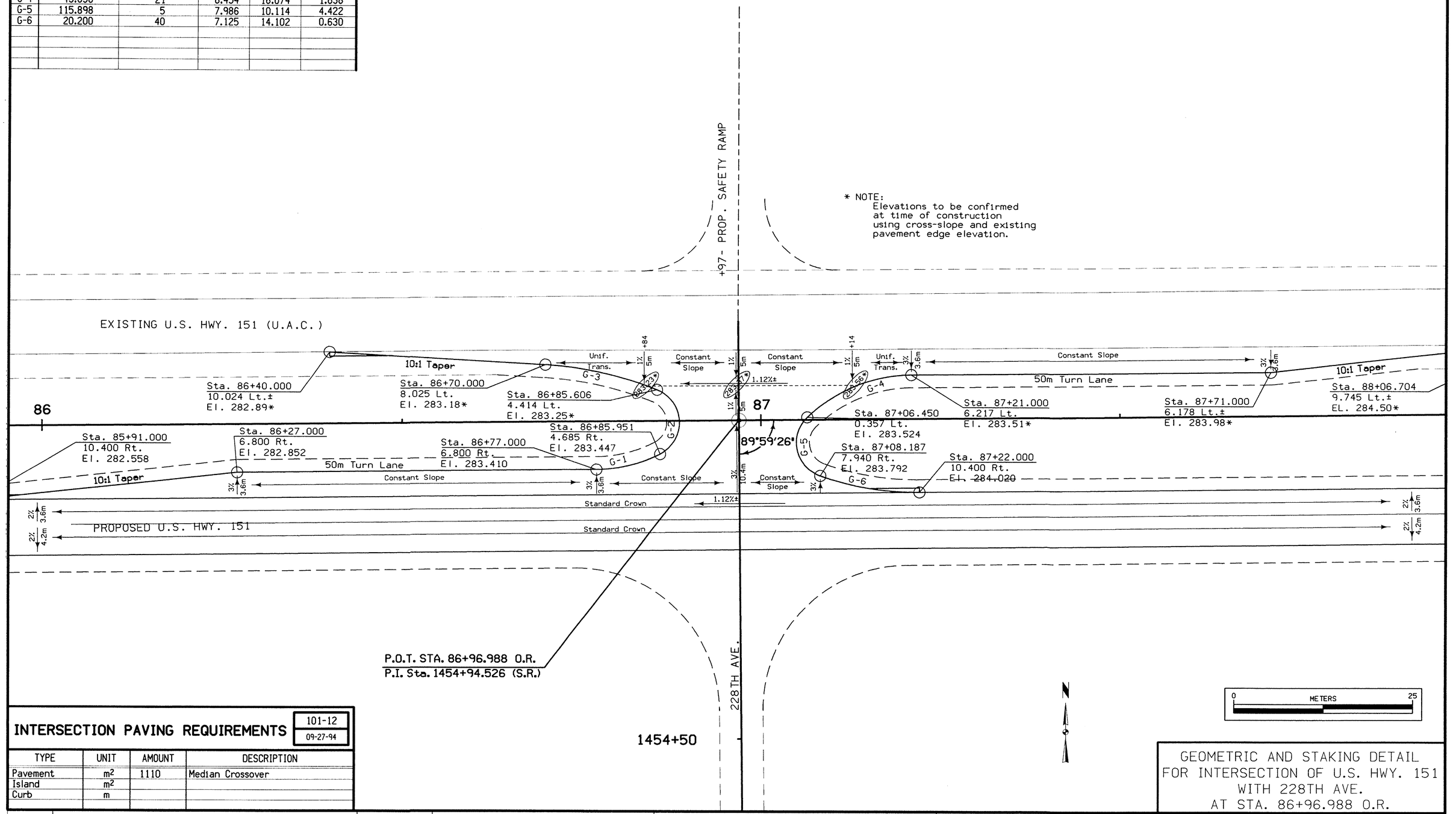
REVISED 04-03-01

117-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
G-1	26.580	20	4.724	9.278	0.550
G-2	131.127	5	11.004	11.443	7.087
G-3	18.433	50	8.113	16.086	0.654
G-4	43.856	21	8.454	16.074	1.638
G-5	115.898	5	7.986	10.114	4.422
G-6	20.200	40	7.125	14.102	0.630



INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m²	1110	Median Crossover
Island	m²		
Curb	m		

GEOMETRIC AND STAKING DETAIL
FOR INTERSECTION OF U.S. HWY. 151
WITH 228TH AVE.
AT STA. 86+96.988 O.R.

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	L.12

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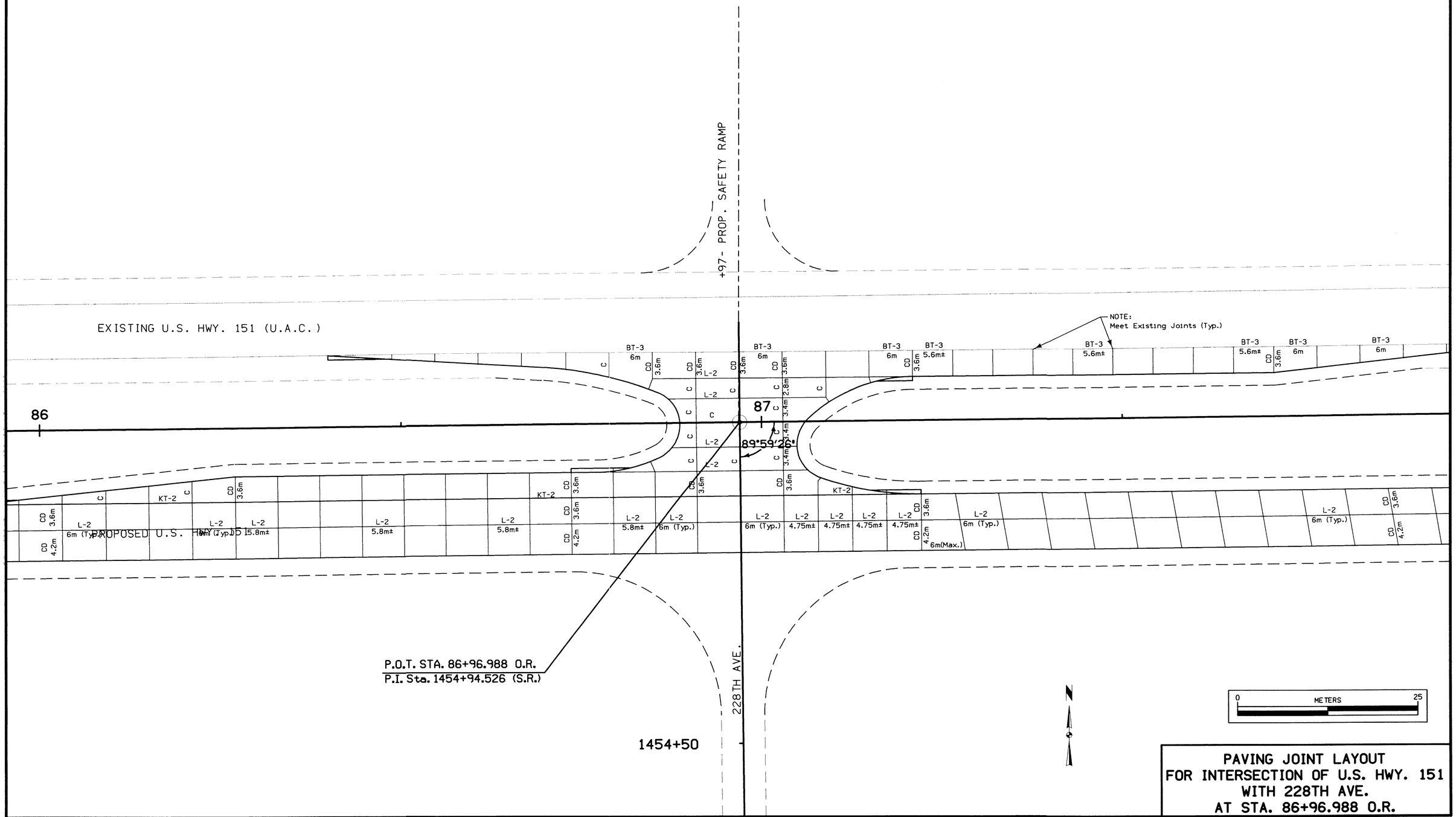
118-198



PAVING JOINT LAYOUT FOR INTERSECTION OF U.S. HWY. 151 WITH 228TH AVE. AT STA. 86+96.988 O.R.

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	L.13

date = Tue Apr 3 13:18:06 2001 prf = \\WATSO1\DATA\PLOT\PL463P\113h.prf

REVISED 04-03-01

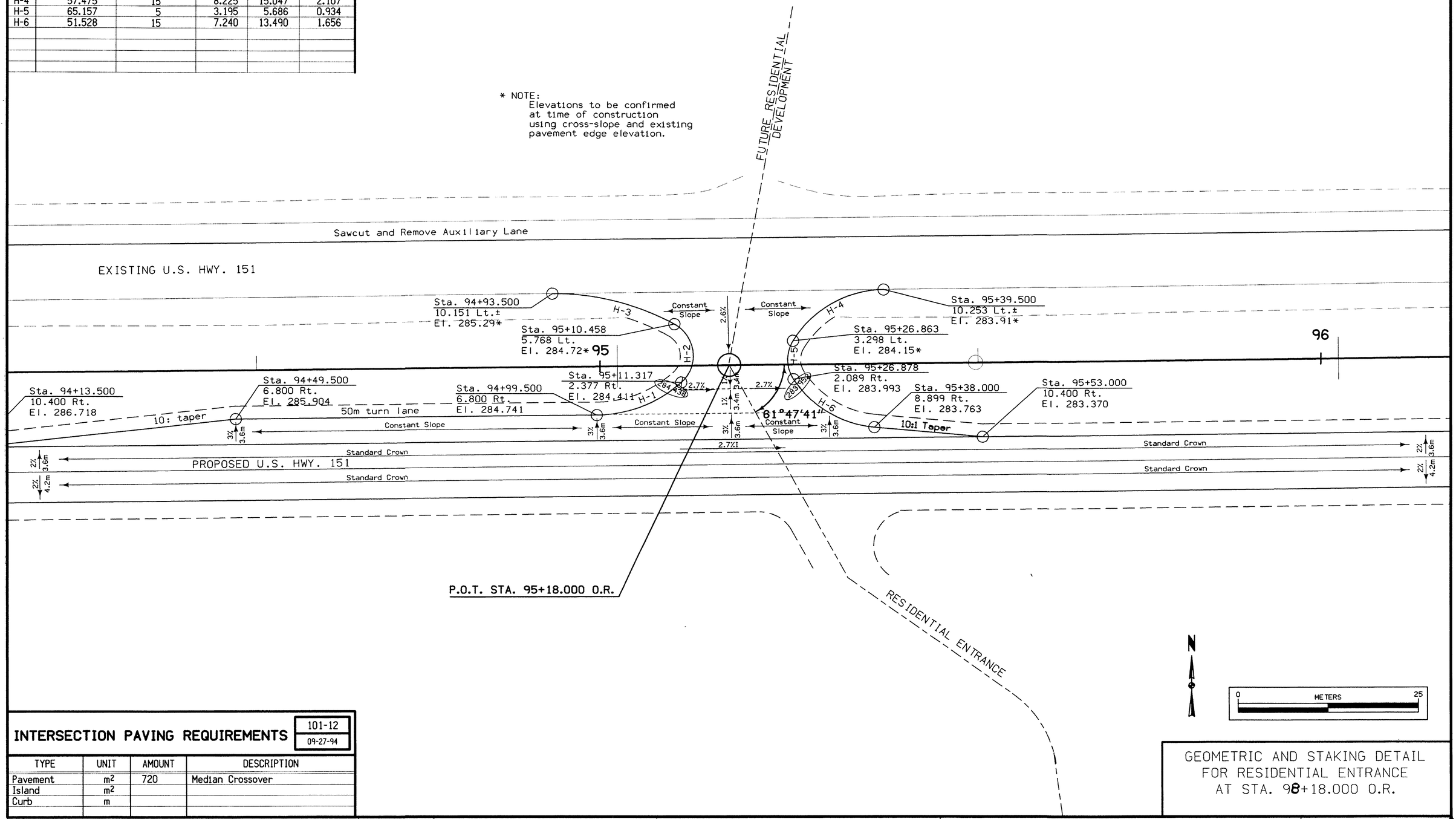
119-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
H-1	41.033	18	6.736	12.891	1.219
H-2	109.951	5	7.134	9.595	3.712
H-3	28.979	35	9.045	17.702	1.150
H-4	57.475	15	8.225	15.047	2.107
H-5	65.157	5	3.195	5.686	0.934
H-6	51.528	15	7.240	13.490	1.656

* NOTE:
Elevations to be confirmed at time of construction using cross-slope and existing pavement edge elevation.



INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

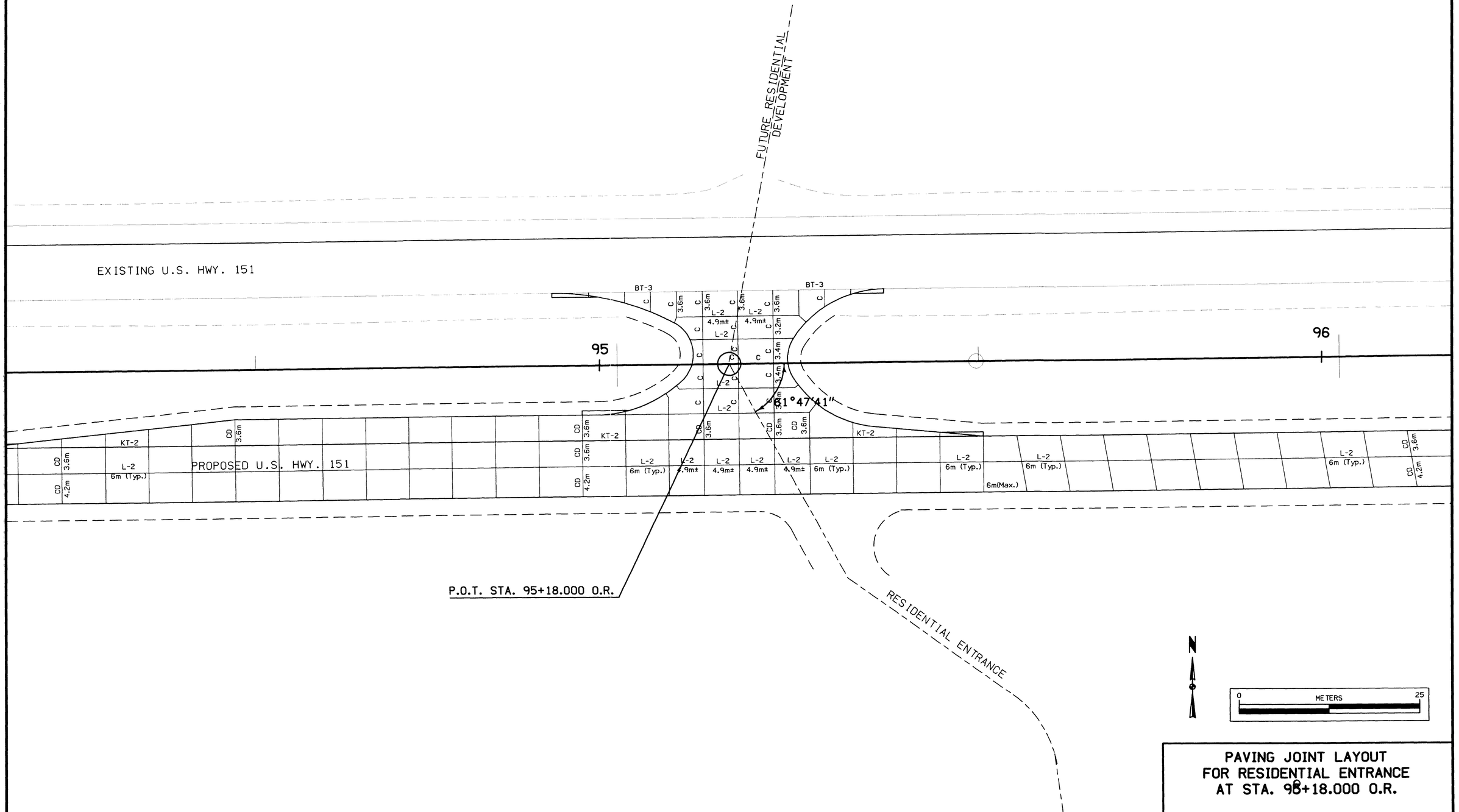
TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2	720	Median Crossover
Island	m^2		
Curb	m		

GEOMETRIC AND STAKING DETAIL
FOR RESIDENTIAL ENTRANCE
AT STA. 98+18.000 O.R.

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	L.14

date = Thu Oct 5 13:54:38 2000 prf = \\WATSO1\DATA\PLOT\PL463P\114h.prf

120-198



PAVING JOINT LAYOUT FOR RESIDENTIAL ENTRANCE AT STA. 98+18.000 O.R.

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	L.15

date = Tue Apr 3 10:21:34 2001 prf = \\WATSOI\DATA\PLOT\PL463P\T115h.prf

REVISED 04-03-01

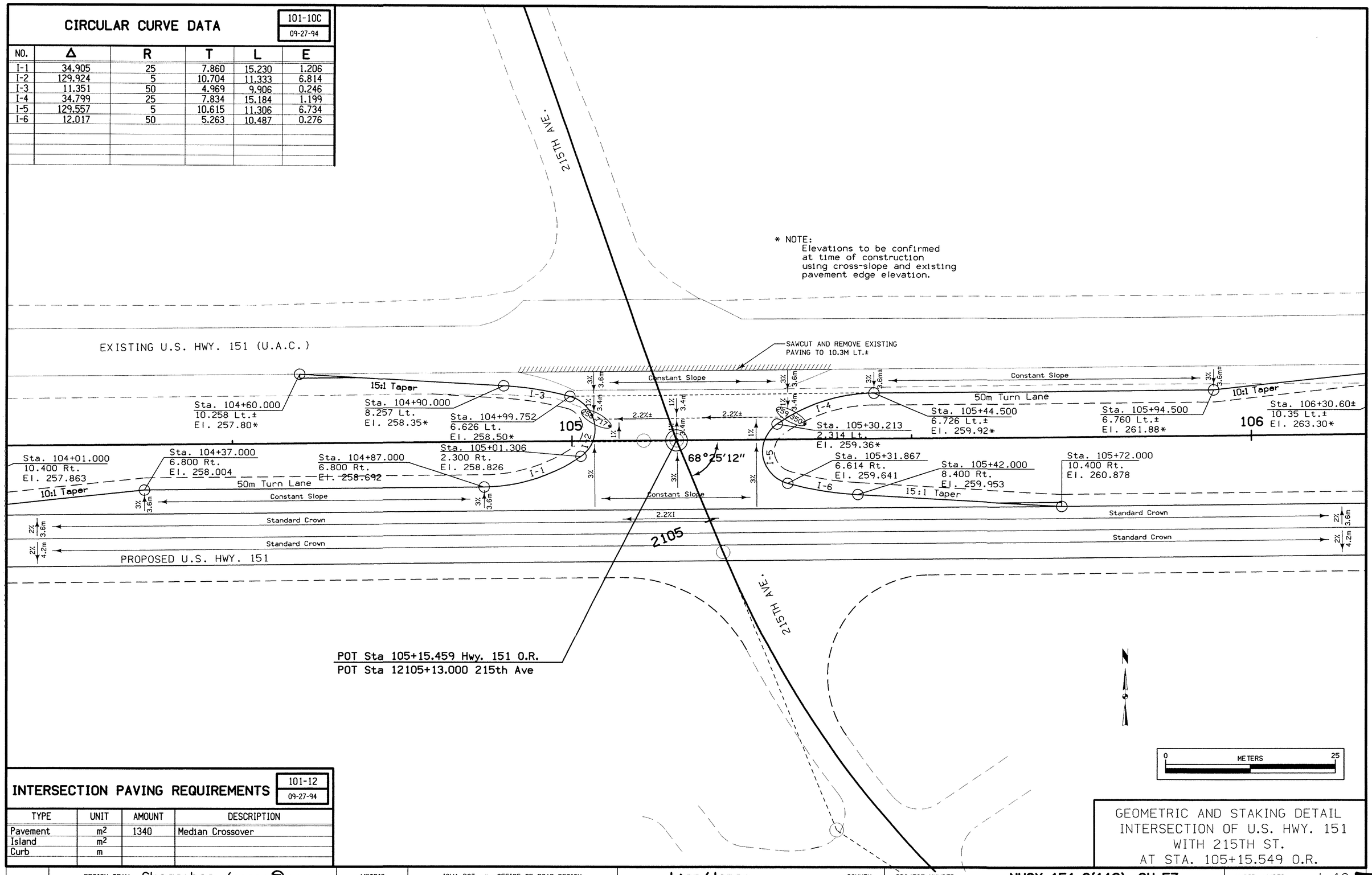
121-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
I-1	34.905	25	7.860	15.230	1.206
I-2	129.924	5	10.704	11.333	6.814
I-3	11.351	50	4.969	9.906	0.246
I-4	34.799	25	7.834	15.184	1.199
I-5	129.557	5	10.615	11.306	6.734
I-6	12.017	50	5.263	10.487	0.276

* NOTE:
Elevations to be confirmed at time of construction using cross-slope and existing pavement edge elevation.



INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2	1340	Median Crossover
Island	m^2		
Curb	m		

GEOMETRIC AND STAKING DETAIL
INTERSECTION OF U.S. HWY. 151
WITH 215TH ST.
AT STA. 105+15.549 O.R.

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	L.16

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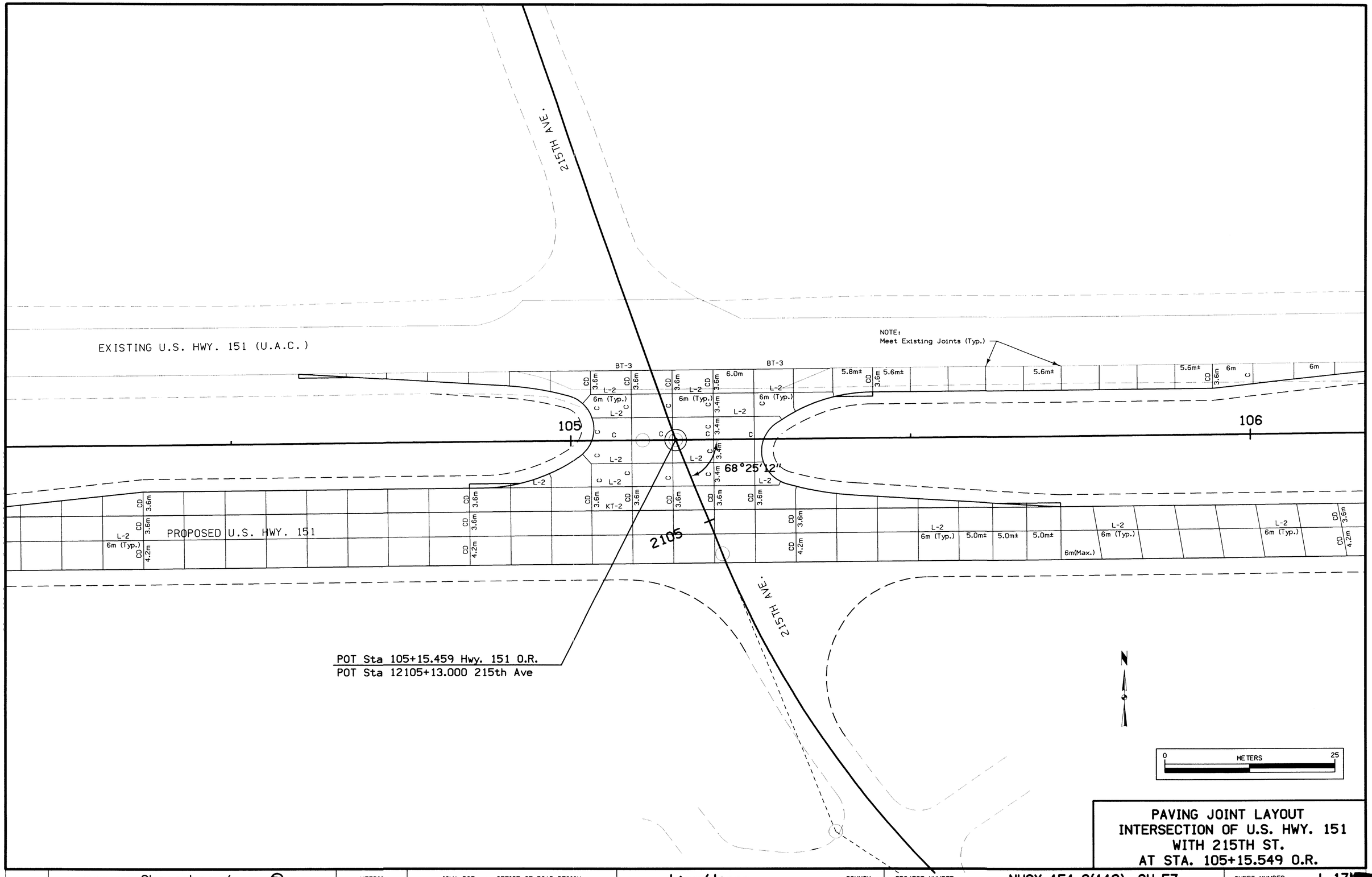
122-198



PAVING JOINT LAYOUT
INTERSECTION OF U.S. HWY. 151
WITH 215TH ST.
AT STA. 105+15.549 O.R.

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN		Linn/Jones	NHSX-151-3(112)--3H-57	L.17

date = Tue Apr 3 10:21:44 2001 prf = \\WATSO1\DATA\PLOT\PL463P\117h.prf

REVISED 04-03-01

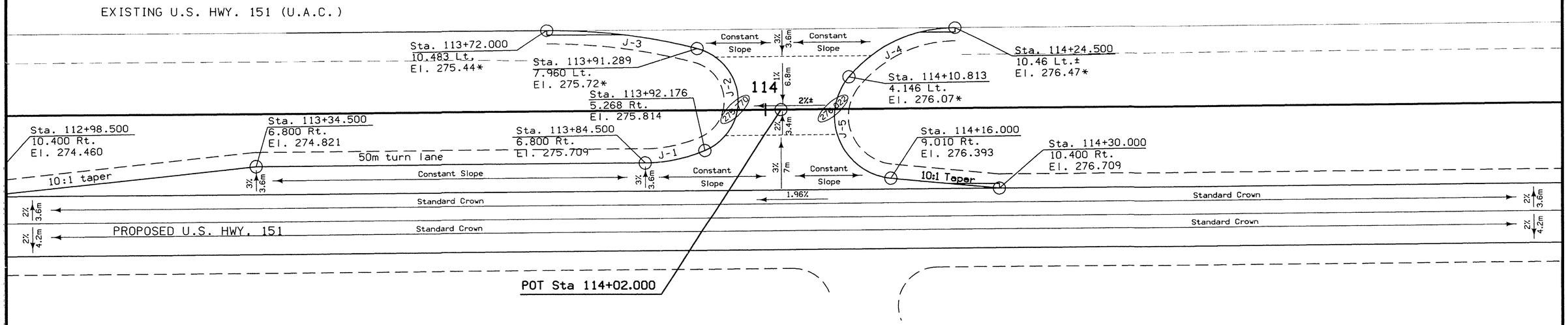
123-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
J-1	22.566	20	3.990	7.877	0.394
J-2	142.495	7	20.618	17.409	14.774
J-3	14.902	75	9.809	19.507	0.639
J-4	49.494	18	8.297	15.549	1.820
J-5	124.762	8	15.290	17.420	9.257

* NOTE:
Elevations to be confirmed at time of construction using cross-slope and existing pavement edge elevation.



INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2	685	Median Crossover
Island	m^2		
Curb	m		

GEOMETRIC AND STAKING DETAIL
RESIDENTIAL ENTRANCE
AT STA. 114+02.000 O.R.

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	L.18

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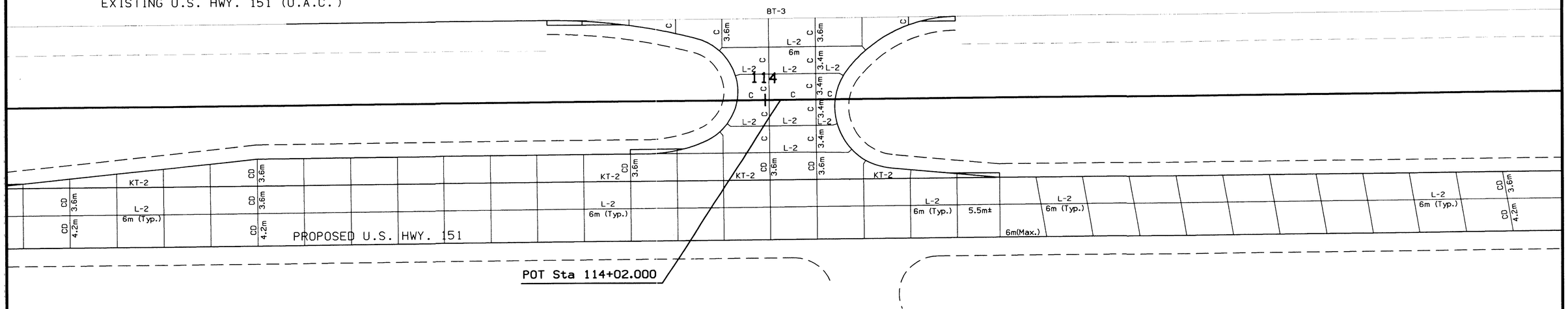
124-198



PAVING JOINT LAYOUT
RESIDENTIAL ENTRANCE
AT STA. 114+02.000 O.R.

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	L.19

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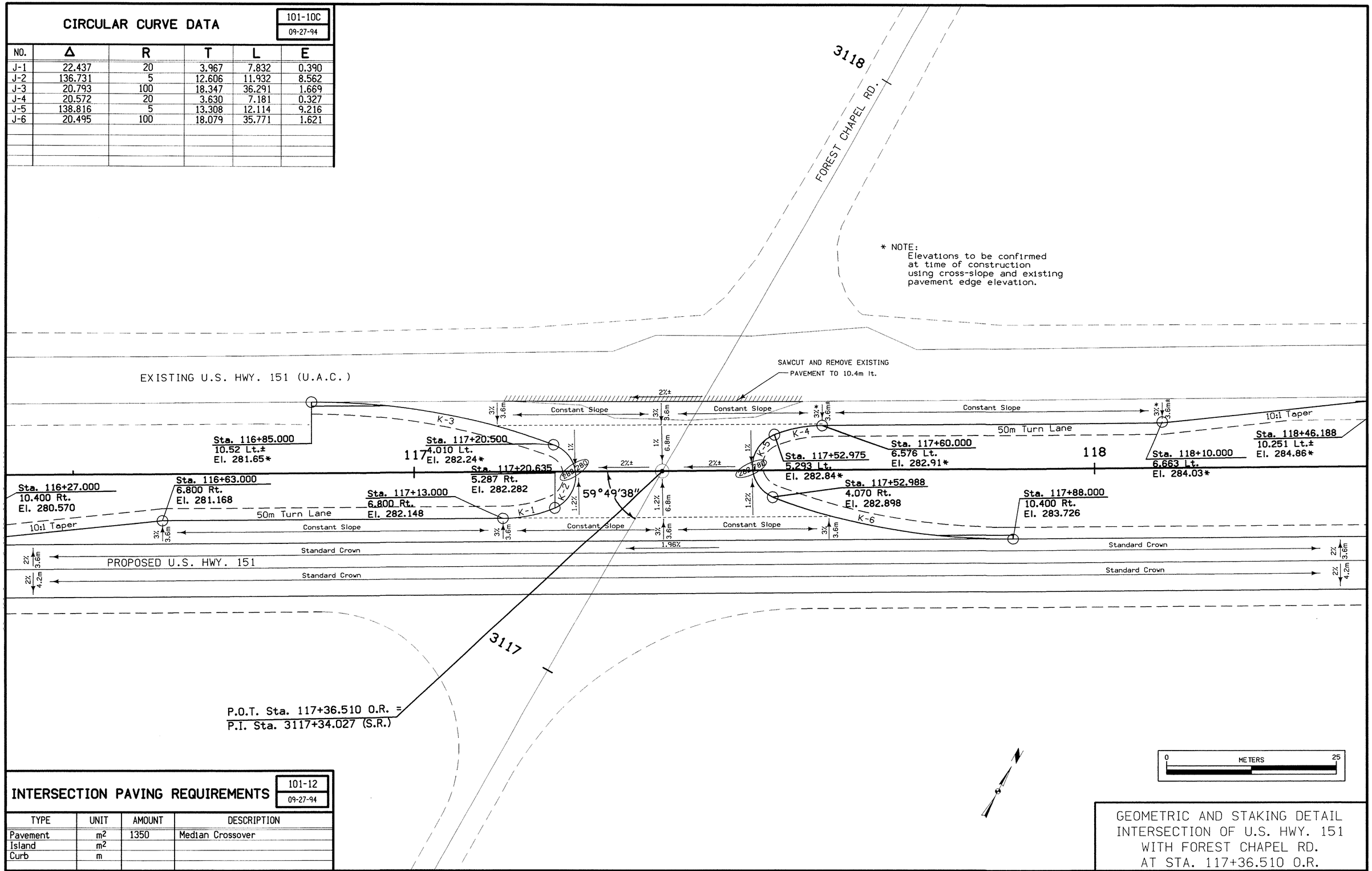
REVISED 04-03-01

125-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
J-1	22.437	20	3.967	7.832	0.390
J-2	136.731	5	12.606	11.932	8.562
J-3	20.793	100	18.347	36.291	1.669
J-4	20.572	20	3.630	7.181	0.327
J-5	138.816	5	13.308	12.114	9.216
J-6	20.495	100	18.079	35.771	1.621



INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2	1350	Median Crossover
Island	m^2		
Curb	m		

GEOMETRIC AND STAKING DETAIL
INTERSECTION OF U.S. HWY. 151
WITH FOREST CHAPEL RD.
AT STA. 117+36.510 O.R.

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	L.20

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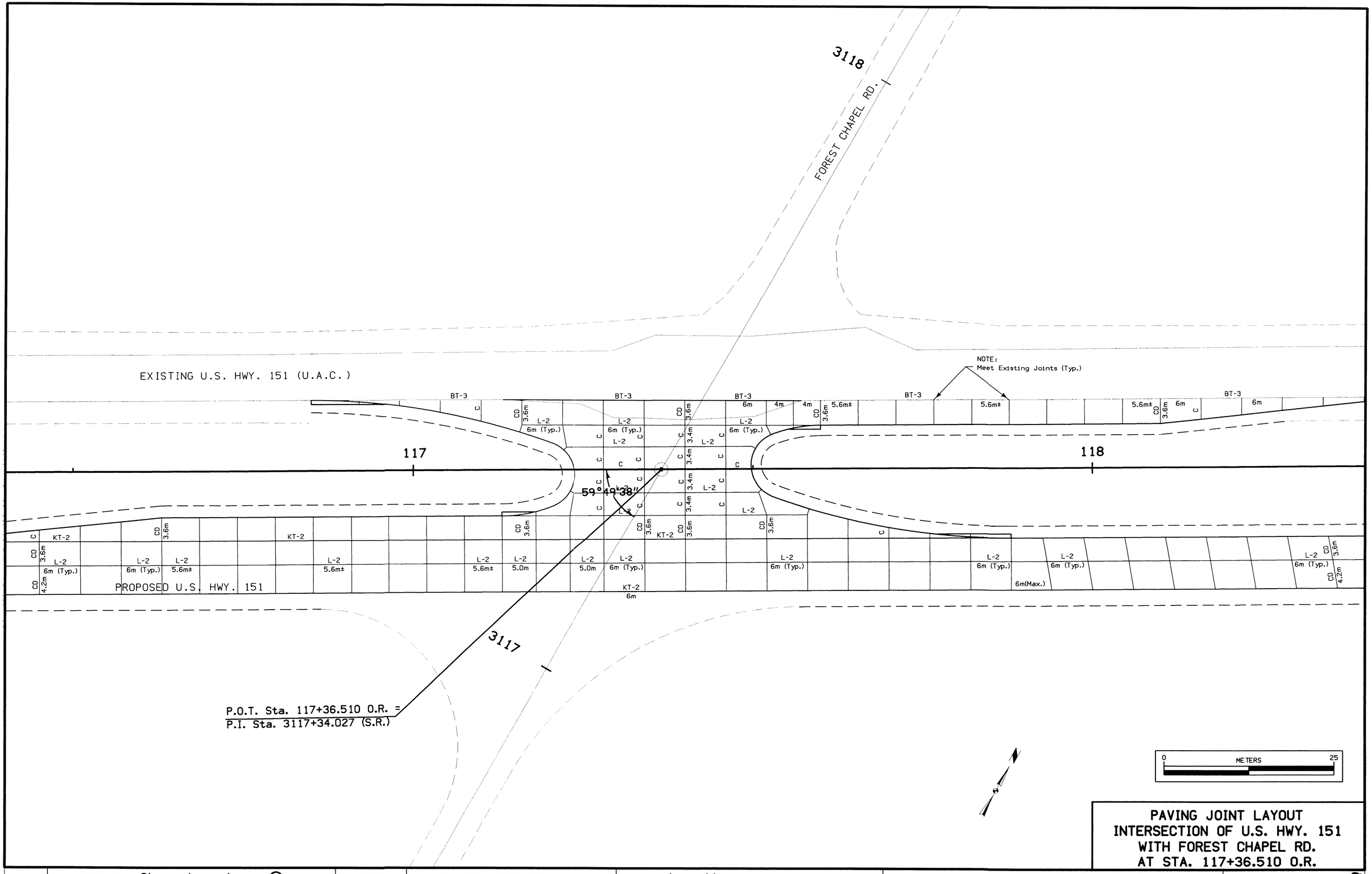
126-198



PAVING JOINT LAYOUT
INTERSECTION OF U.S. HWY. 151
WITH FOREST CHAPEL RD.
AT STA. 117+36.510 O.R.

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER		SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57		L.21

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REVISED 04-03-01

CIRCULAR CURVE DATA

101-10C
09-27-94

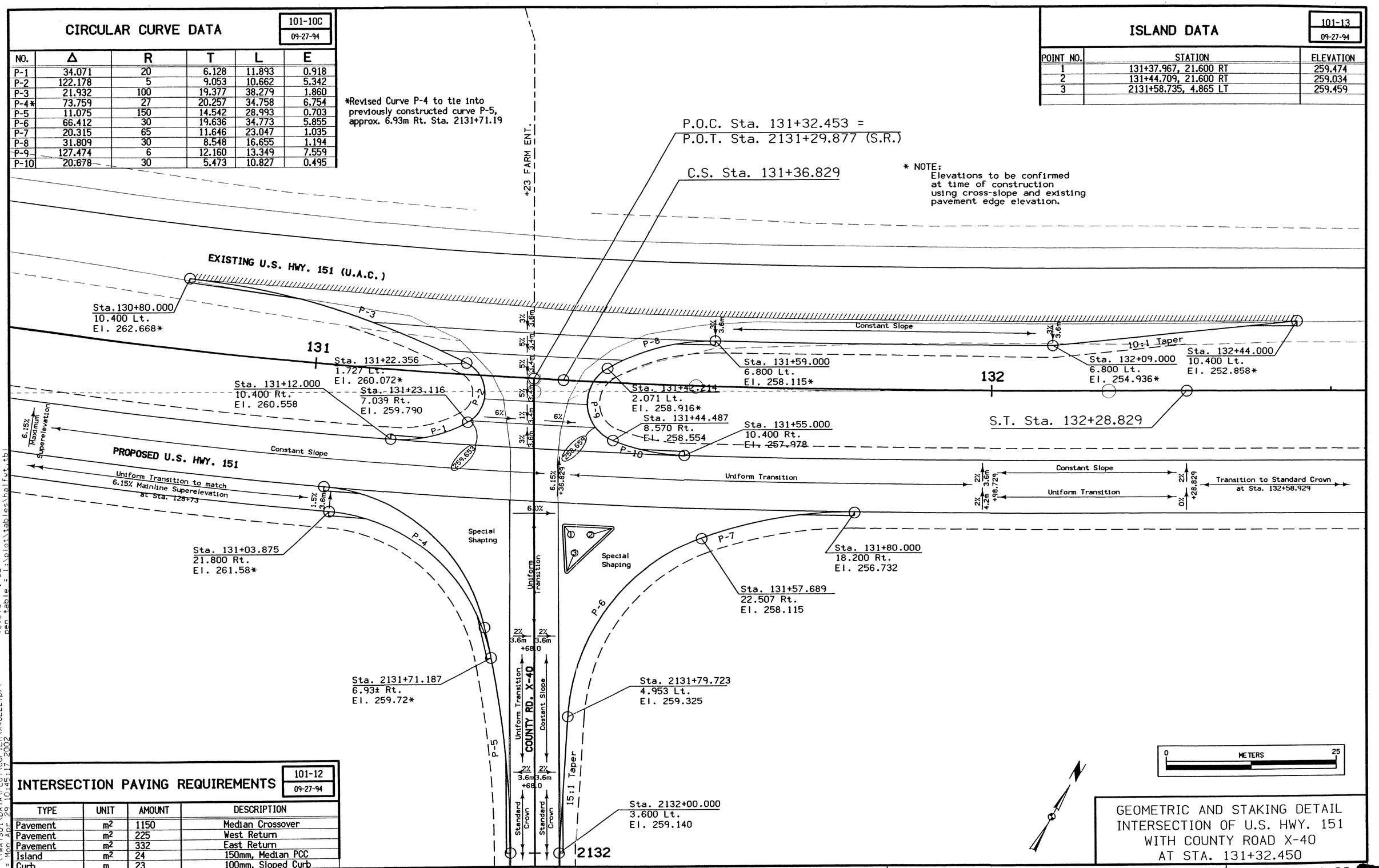
NO.	Δ	R	T	L	E
P-1	34.071	20	6.128	11.893	0.918
P-2	122.178	5	9.053	10.662	5.342
P-3	21.932	100	19.377	38.279	1.860
P-4*	73.759	27	20.257	34.758	6.754
P-5	11.075	150	14.542	28.993	0.703
P-6	66.412	30	19.636	34.773	5.855
P-7	20.315	65	11.646	23.047	1.035
P-8	31.809	30	8.548	16.655	1.194
P-9	127.474	6	12.160	13.349	7.559
P-10	20.678	30	5.473	10.827	0.495

*Revised Curve P-4 to tie into previously constructed curve P-5, approx. 6.93m Rt. Sta. 2131+71.19

ISLAND DATA

101-13
09-27-94

POINT NO.	STATION	ELEVATION
1	131+37.967, 21.600 RT	259.474
2	131+44.709, 21.600 RT	259.034
3	2131+58.735, 4.865 LT	259.459



INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2	1150	Median Crossover
Pavement	m^2	225	West Return
Pavement	m^2	332	East Return
Island	m^2	24	150mm, Median PCC
Curb	m	23	100mm, Sloped Curb

GEOMETRIC AND STAKING DETAIL
INTERSECTION OF U.S. HWY. 151
WITH COUNTY ROAD X-40
AT STA. 131+32.450

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	L.22

Revised 04-25-02
128-198

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+23 FARM ENT.

EXISTING U.S. HWY. 151 (U.A.C.)

BT-3 SAWCUT AND REMOVE EXISTING PAVEMENT TO 10.4M LT.

NOTE:
Meet Existing Joints (Typ.)

131

132

PROPOSED U.S. HWY. 151

COUNTY RD. X-40

2132

0 METERS 25

PAVING JOINT LAYOUT
INTERSECTION OF U.S. HWY. 151
WITH COUNTY ROAD X-40
AT STA. 131+32.450

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	L.23

Revised 04-03-01 Revised 04-25-02

129-198

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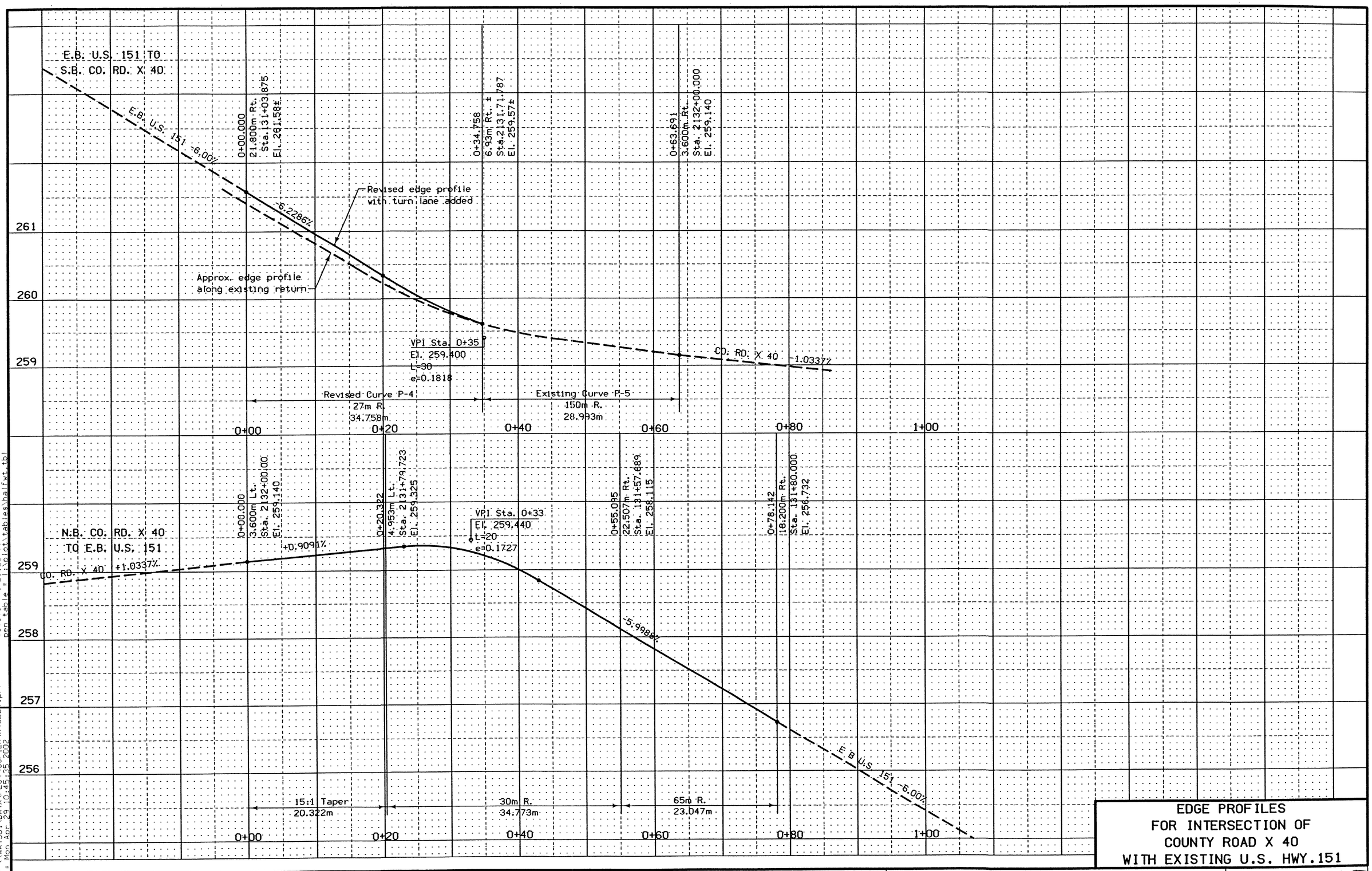

EDGE PROFILES
FOR INTERSECTION OF
COUNTY ROAD X 40
WITH EXISTING U.S. HWY.151

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER L.24 [redacted]

Revised 04-25-02
130-198

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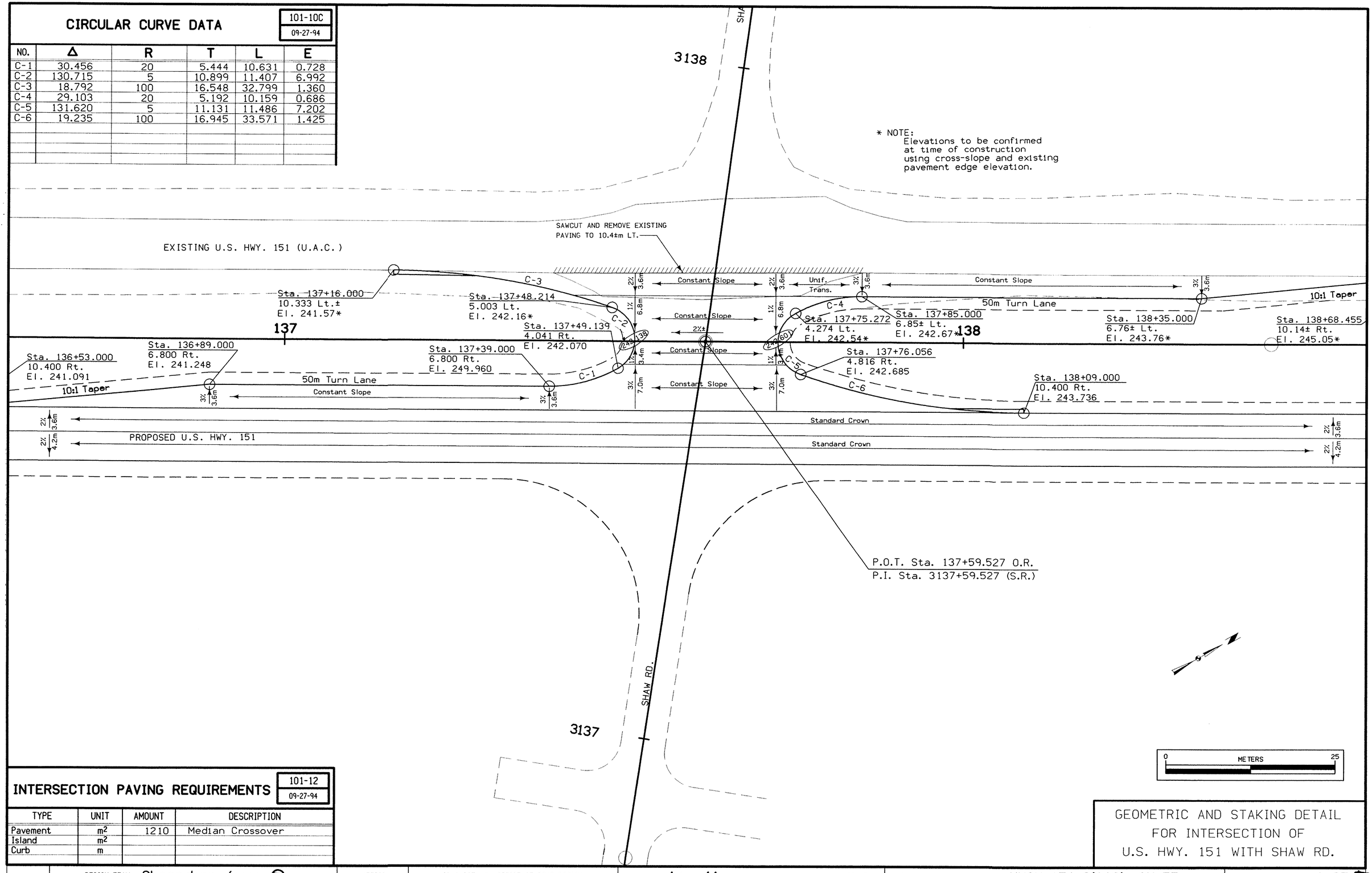
CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
C-1	30.456	20	5.444	10.631	0.728
C-2	130.715	5	10.899	11.407	6.992
C-3	18.792	100	16.548	32.799	1.360
C-4	29.103	20	5.192	10.159	0.686
C-5	131.620	5	11.131	11.486	7.202
C-6	19.235	100	16.945	33.571	1.425



INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2	1210	Median Crossover
Island	m^2		
Curb	m		

GEOMETRIC AND STAKING DETAIL
FOR INTERSECTION OF
U.S. HWY. 151 WITH SHAW RD.

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	L.25

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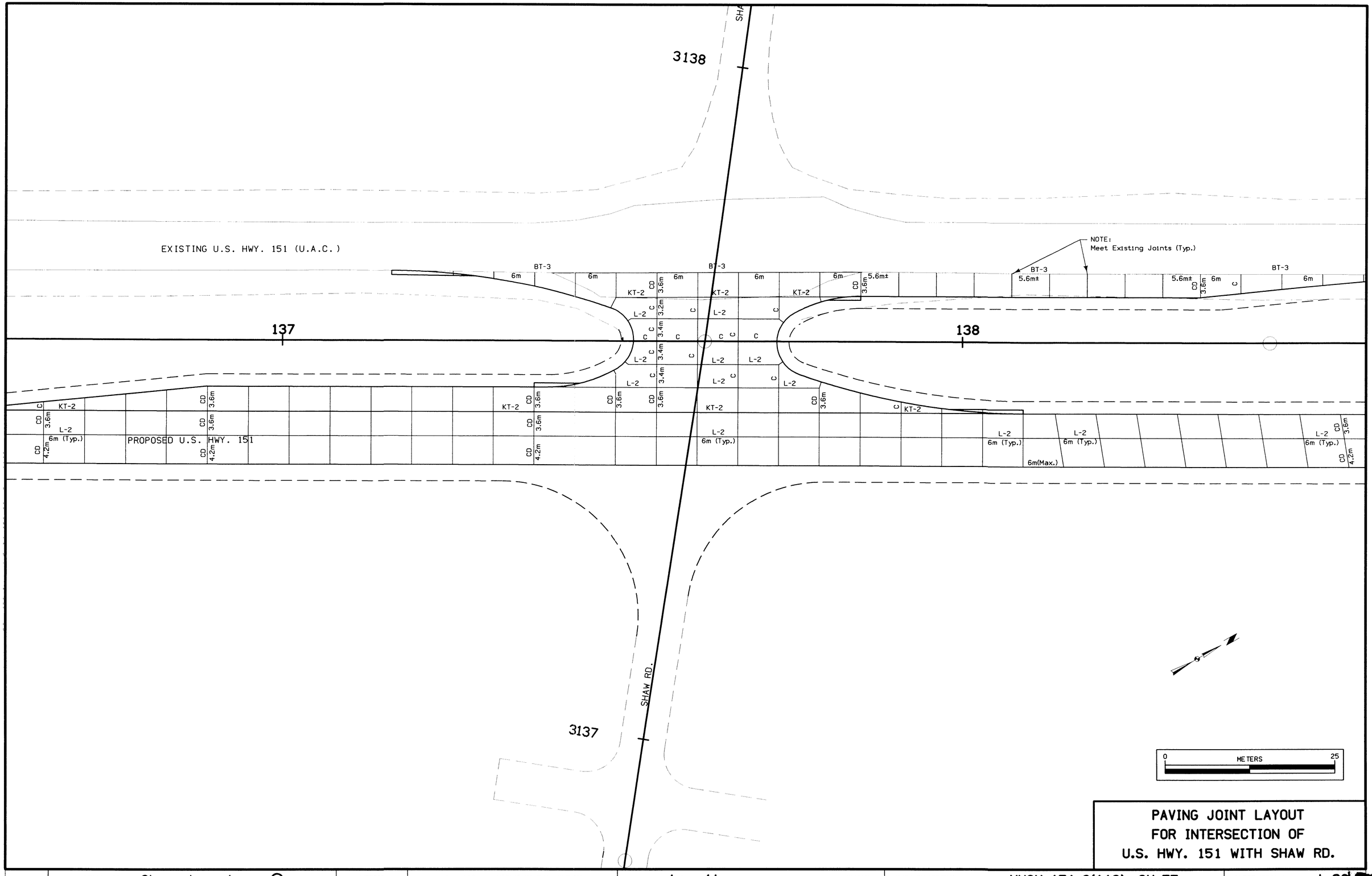

PAVING JOINT LAYOUT
FOR INTERSECTION OF
U.S. HWY. 151 WITH SHAW RD.

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	L.26

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REVISED 04-03-01

132-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
D-1	33.614	28	8.457	16.427	1.249
D-2	132.399	5	11.336	11.554	7.390
D-3	16.162	130	18.458	36.670	1.304
D-4	68.251	25	16.942	29.780	5.200
D-5	15.875	60	8.366	16.624	0.580
D-6	18.350	50	8.076	16.013	0.648
D-7	65.619	22	14.183	25.196	4.176
D-8	15.810	120	16.662	33.112	1.151
D-9	49.214	20	9.160	17.179	1.998
D-10	95.008	5	5.457	8.291	2.401
D-11	22.744	25	5.028	9.924	0.501

ISLAND DATA

101-13
09-27-94

POINT NO.	LOCATION	ELEVATION
1	1173+41.406, 4.530 Lt.	264.470
2	1173+45.101, 4.849 Lt.	264.580
3	1173+41.351, 8.739 Lt.	264.290

Refer to sheets L.32 through L.35 for geometric details of left and right turn lanes on Southbound U.S. Hwy. 151 at 130th Street.

130TH ST.

Savcut and remove existing U.S. 151 pavement

SC Sta. 173+09.411

1173

173

174

Sta. 172+71.000
10.75 Lt.±
El. 263.88*

Sta. 173+06.852
6.954 Lt.
El. 264.53*

Sta. 172+06.928
10.400 Rt.
El. 262.687

Sta. 172+42.949
6.800 Rt.
El. 263.377

Sta. 172+92.727
6.800 Rt.
El. 264.407

Sta. 173+08.527
2.042 Rt.
El. 264.591

Sta. 173+28.178
3.077 Lt.
El. 264.82*

Sta. 173+29.641
4.155 Rt.
El. 265.091

Sta. 173+39.015
7.408 Rt.
El. 265.373

Sta. 173+65.000
10.400 Rt.
El. 265.955

Sta. 172+90.000
18.200 Rt.
El. 264.004

Sta. 173+19.651 M.L. O.R.
Sta. 1173+19.356 S.R.

Sta. 1173+52.200
8.295 Rt.
El. 263.831

Sta. 1173+68.475
5.178 Rt.
El. 263.303

Sta. 1173+47.370
22.051 Rt.
El. 264.896

Sta. 173+81.000
18.200 Rt.
El. 265.780

Sta. 1173+59.259
6.143 Lt.
El. 263.573

Sta. 1173+75.000
3.600 Lt.
El. 263.065

Sta. 1174+00.000
3.600 Rt.
El. 262.301

D-1 D-2 D-3 D-4 D-5 D-6 D-7 D-8 D-9 D-10 D-11

Constant Slope
50m Turn Lane
10:1 Taper
Uniform Transition
PROPOSED U.S. HWY. 151
Special Shaping
20:1 Taper
264.47
264.81

0 METERS 25

INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2	2917.87	230.62 SE quad., 284.92 NE quad 1270.00 Lt. turns & X-over 1132.33 Deceleration lane and NW quad
Island	m^2	8.00	150mm, Median PCC
Curb	m	13.00	100mm, Sloped Curb

GEOMETRIC AND STAKING DETAIL FOR INTERSECTION OF U.S. HWY. 151 WITH 130TH ST.

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER L.27

Revised 04/08/02

133-198

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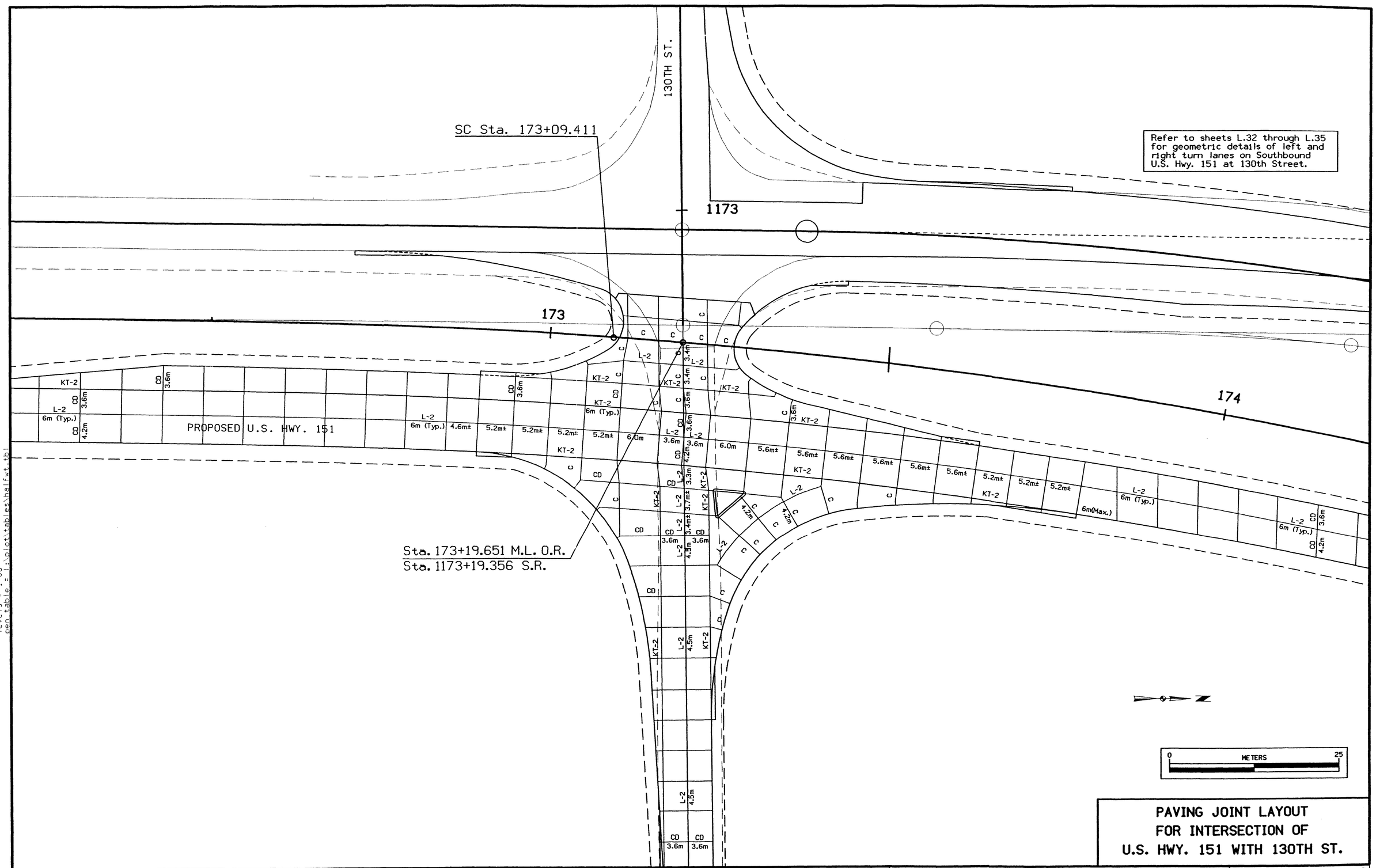

PAVING JOINT LAYOUT FOR INTERSECTION OF U.S. HWY. 151 WITH 130TH ST.

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	L.28

Revised 04-08-02

134-198

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N.B. U.S. 151 TO
E.B. 130TH STREET

0+00.000
18.200m Rt.
Sta.172+90.000
El. 264.004

0+29.780
8.295m Rt.
Sta.1173+52.200
El. 263.831

0+46.404
5.178m Rt.
Sta. 1173+68.475
El. 263.303

0+77.970
3.600m Rt.
Sta. 1174+00.000
El. 262.301

VPI Sta. 0+15
El. 264.300
L=20

U.S. Hwy. 151
+2.068%

+1.9733%

-3.1745%

130th St.
-2.3258%

Curve D-4
25m R.
29.780m

Curve D-5
60m R.
16.624m

20:1 Taper
31.566m

0+00
0+20
0+40
0+60
0+80

S.B. U.S. 151 TO
W.B. 130TH STREET

0+00.000
7.800m Lt.
Sta.9173+53.767
El. 265.58±

0+08.462
8.577m Lt.
Sta.9173+45.472
El. 265.36±

0+38.006
7.513m Lt.
Sta.1172+74.680
El. 264.38±

0+63.031
3.400m Lt.
Sta.1172+50.000
El. 264.03±

Exist. U.S. 151
-2.00%±

-2.599%

-3.317%

-1.399%

130th St.
-1.00%±

Curve D-12
50m R.
8.462m

Curve D-13
25m R.
29.544m

15:1 Taper
25.025m

0+00
0+20
0+40
0+60
0+80

W.B. 130TH ST
TO N.B. U.S. 151

0+00.000
3.600m Lt.
Sta. 1173+75.00
El. 263.065

0+16.013
6.143m Lt.
Sta. 1173+59.259
El. 263.573

0+41.209
22.051m Rt.
Sta. 173+47.370
El. 264.896

0+74.321
19.200m Rt.
Sta. 173+81.000
El. 265.780

VPI Sta. 0+45
El. 265.100
L=10
e=0.037

+2.3192%

+5.3333%

+2.9000%

VPI Sta. 0+15
El. 263.500
L=10
e=0.030

130TH ST
+3.7852%

Curve D-6
50m R.
16.013m

Curve D-7
22m R.
25.196m

Curve D-8
120m R.
33.112m

0+00
0+20
0+40
0+60
0+80

264
263
262
266
265
264
266
265
264
263

EDGE PROFILES FOR INTERSECTION OF 130TH STREET WITH EXISTING U.S. HWY.151

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN		Linn/Jones	NHSX-151-3(112)--3H-57	L.29

Revised 04/08/02

135-198

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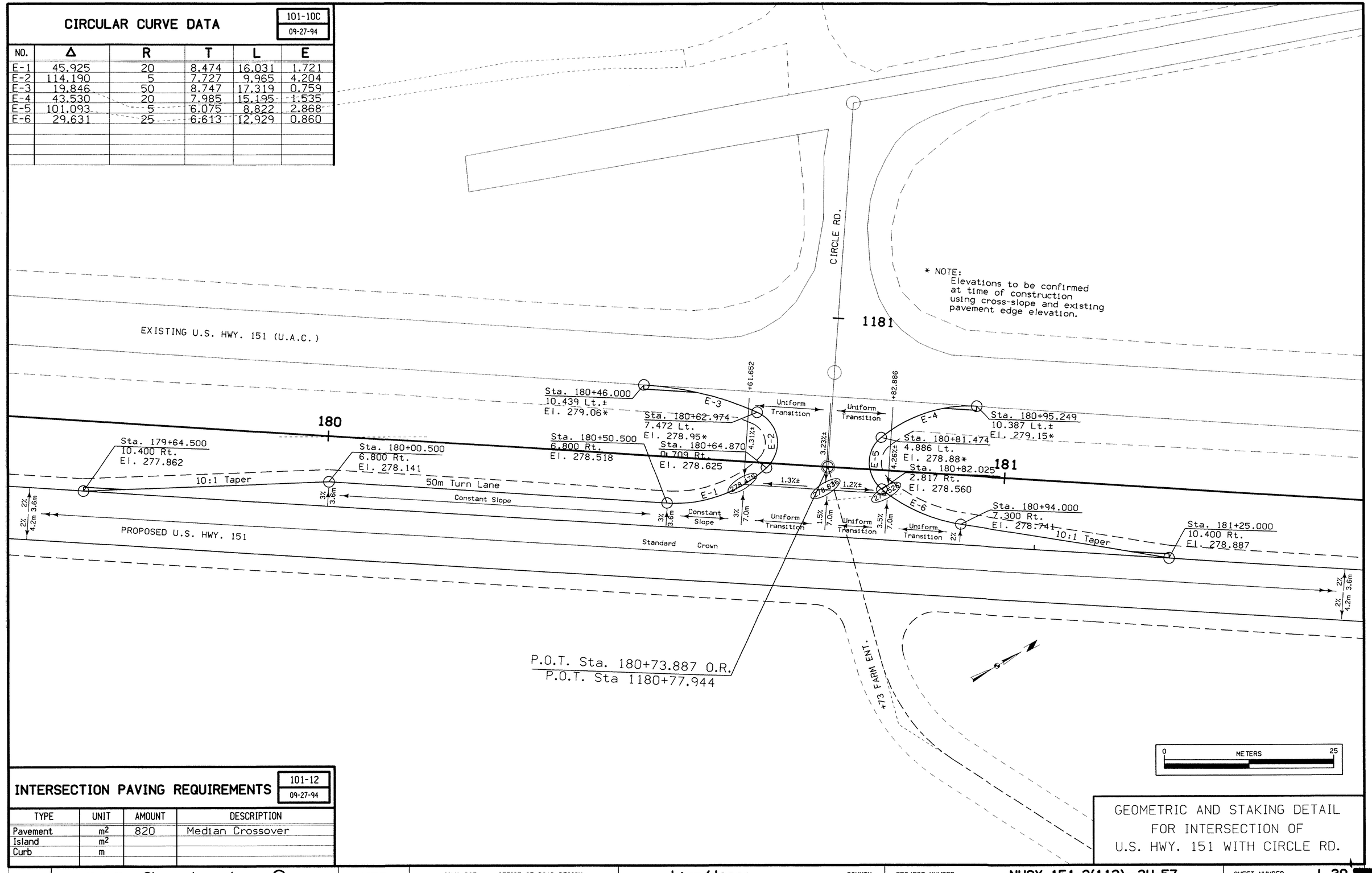
CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
E-1	45.925	20	8.474	16.031	1.721
E-2	114.190	5	7.727	9.965	4.204
E-3	19.846	50	8.747	17.319	0.759
E-4	43.530	20	7.985	15.195	1.535
E-5	101.093	5	6.075	8.822	2.868
E-6	29.631	25	6.613	12.929	0.860



INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2	820	Median Crossover
Island	m^2		
Curb	m		

GEOMETRIC AND STAKING DETAIL
FOR INTERSECTION OF
U.S. HWY. 151 WITH CIRCLE RD.

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	L.30

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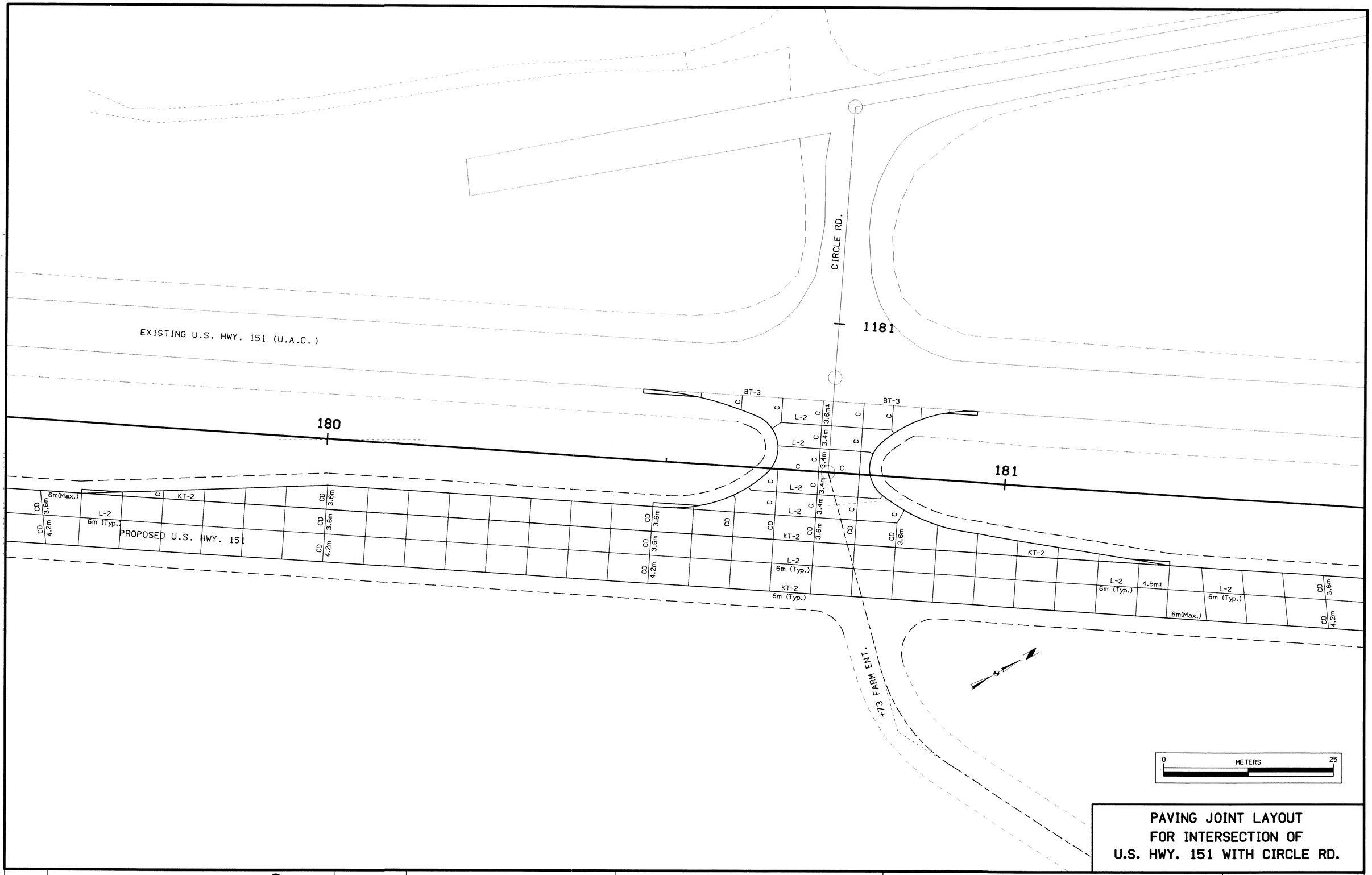

PAVING JOINT LAYOUT
FOR INTERSECTION OF
U.S. HWY. 151 WITH CIRCLE RD.

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones		NHSX-151-3(112)--3H-57	L.31[redacted]

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REVISED 04-03-01

137-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
D-9	49.687	20	9.260	17.344	2.040
D-12	9.697	50	4.241	8.462	0.180
D.13	67.710	25	16.771	29.544	5.104

STAGING NOTES

108-26
09-27-94

Stage 1 - Construct Pavement Widening on US 151 SB lanes

Traffic Control as per RS-63B
US 151 traffic to be maintained at all times.
Median crossover to be completed in halves, under traffic.

Grade pavement widening Sta 9173+44 to 9176+56
Remove existing median crossover pavement.
Grade median crossover at 130th Street

Mill 75mm of existing HMA Pavement right of relocation centerline from Sta 9173+44 to 9176+56

Pave PCC pavement for widening to match top of existing pavement.
Pave PCC pavement for median crossover to match existing pavement (without milling)

Pave 75mm HMA overlay right of relocation centerline from 9173+44 to 9176+56.
(Overlay both new and existing pavement)

Place granular shoulder, paint pavement markings

Stage 2 - Construct Right Turn Lane on US 151 SB Lanes

Traffic Control as per RS-63A
US 151 traffic to be maintained at all times.
Traffic on new pavement, right of relocation centerline.
130th Street North of US 151 shall remain open during construction.

Sawcut and remove pavement

Grade right turn lane from 9173+20 to 9173+45
Grade intersection return at 130th Street

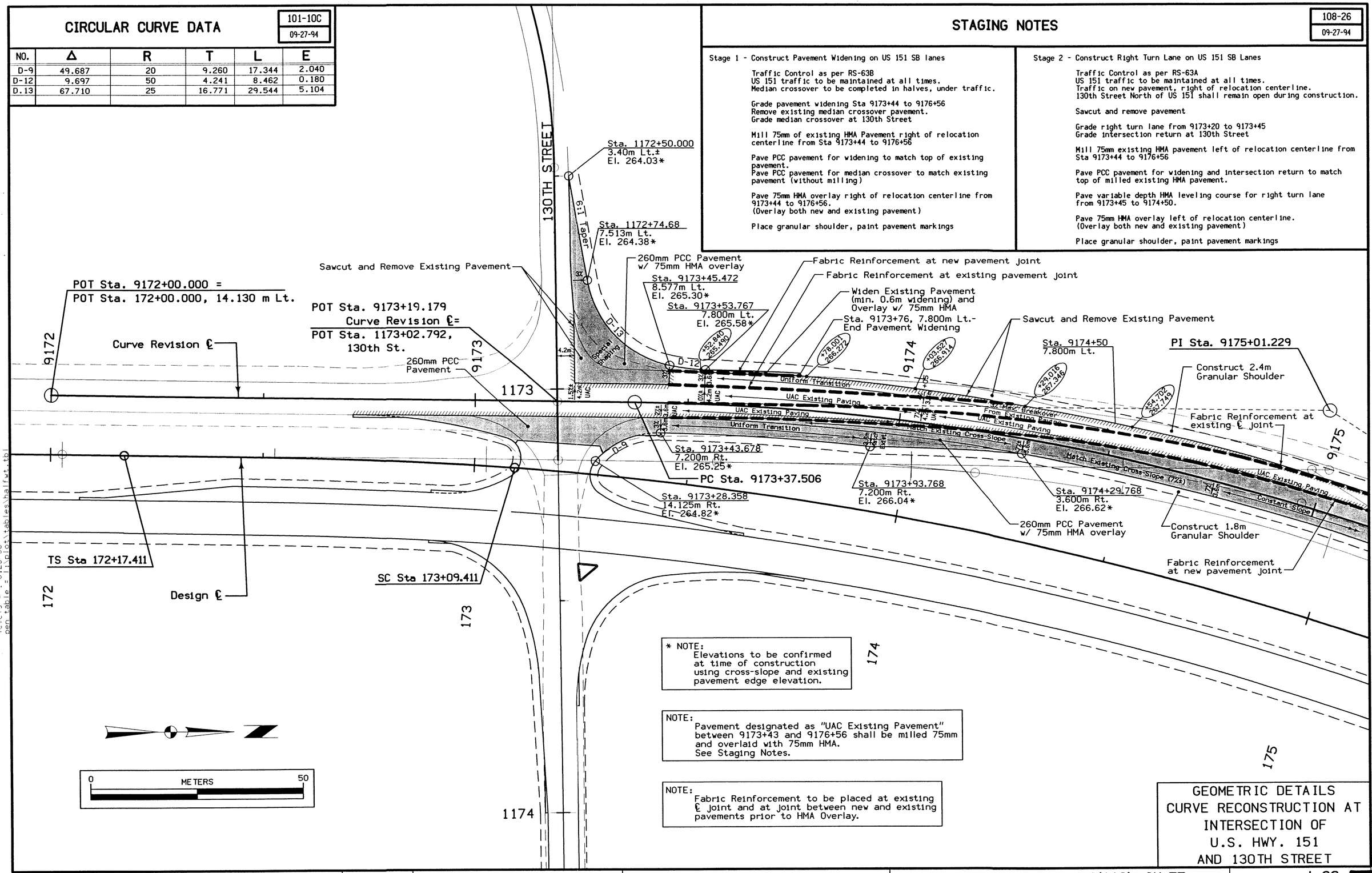
Mill 75mm existing HMA pavement left of relocation centerline from Sta 9173+44 to 9176+56

Pave PCC pavement for widening and intersection return to match top of milled existing HMA pavement.

Pave variable depth HMA leveling course for right turn lane from 9173+45 to 9174+50.

Pave 75mm HMA overlay left of relocation centerline.
(Overlay both new and existing pavement)

Place granular shoulder, paint pavement markings



* NOTE:
Elevations to be confirmed at time of construction using cross-slope and existing pavement edge elevation.

NOTE:
Pavement designated as "UAC Existing Pavement" between 9173+43 and 9176+56 shall be milled 75mm and overlaid with 75mm HMA.
See Staging Notes.

NOTE:
Fabric Reinforcement to be placed at existing ℄ joint and at joint between new and existing pavements prior to HMA Overlay.

GEOMETRIC DETAILS
CURVE RECONSTRUCTION AT INTERSECTION OF U.S. HWY. 151 AND 130TH STREET

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	L.32

Revised 04/08/02

138-198

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POT Sta. 9172+00.000 =
POT Sta. 172+00.000, 14.130 m Lt.

POT Sta. 9173+19.179
Curve Revision ℄=
POT Sta. 1173+02.792,
130th St.

PC Sta. 9173+37.506

PI Sta. 9175+01.229

Curve Revision ℄

TS Sta 172+17.411

Design ℄

SC Sta 173+09.411

Sawcut Existing Edge

130TH STREET

9172 9173 9174 9175

172 173 174 175

1173 1174

0 METERS 50

PAVING JOINT LAYOUT
CURVE RECONSTRUCTION AT
INTERSECTION OF
U.S. HWY. 151
AND 130TH STREET

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	L.33

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Revised 04/08/02

139-198

GEOMETRIC DETAILS
CURVE RECONSTRUCTION AT
INTERSECTION OF
U.S. HWY. 151
AND 130TH STREET

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER L.34 [redacted]

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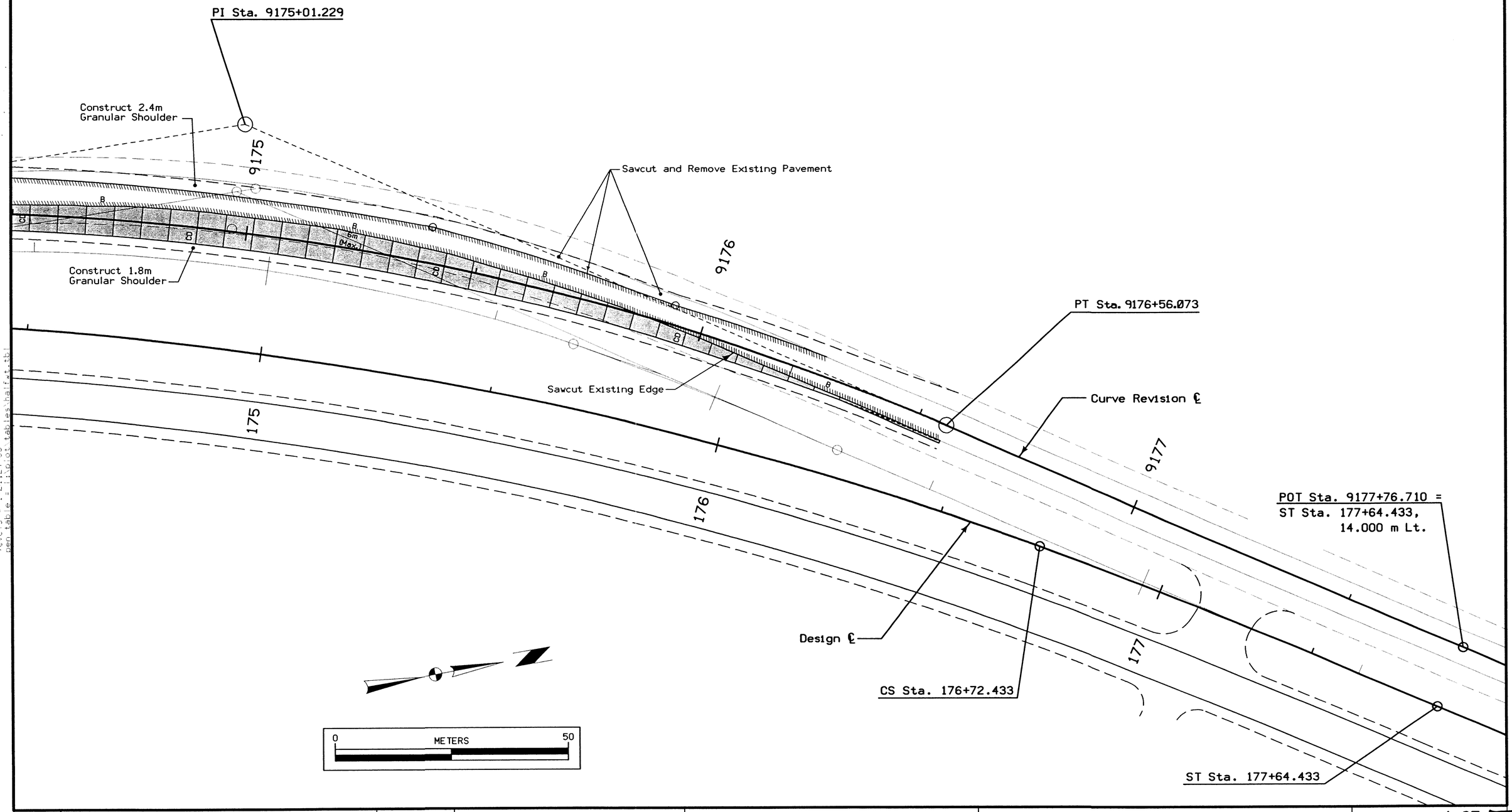
Revised 04/08/02

PAVING JOINT LAYOUT
CURVE RECONSTRUCTION AT INTERSECTION OF U.S. HWY. 151 AND 130TH STREET



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Revised 04/08/02

141-198

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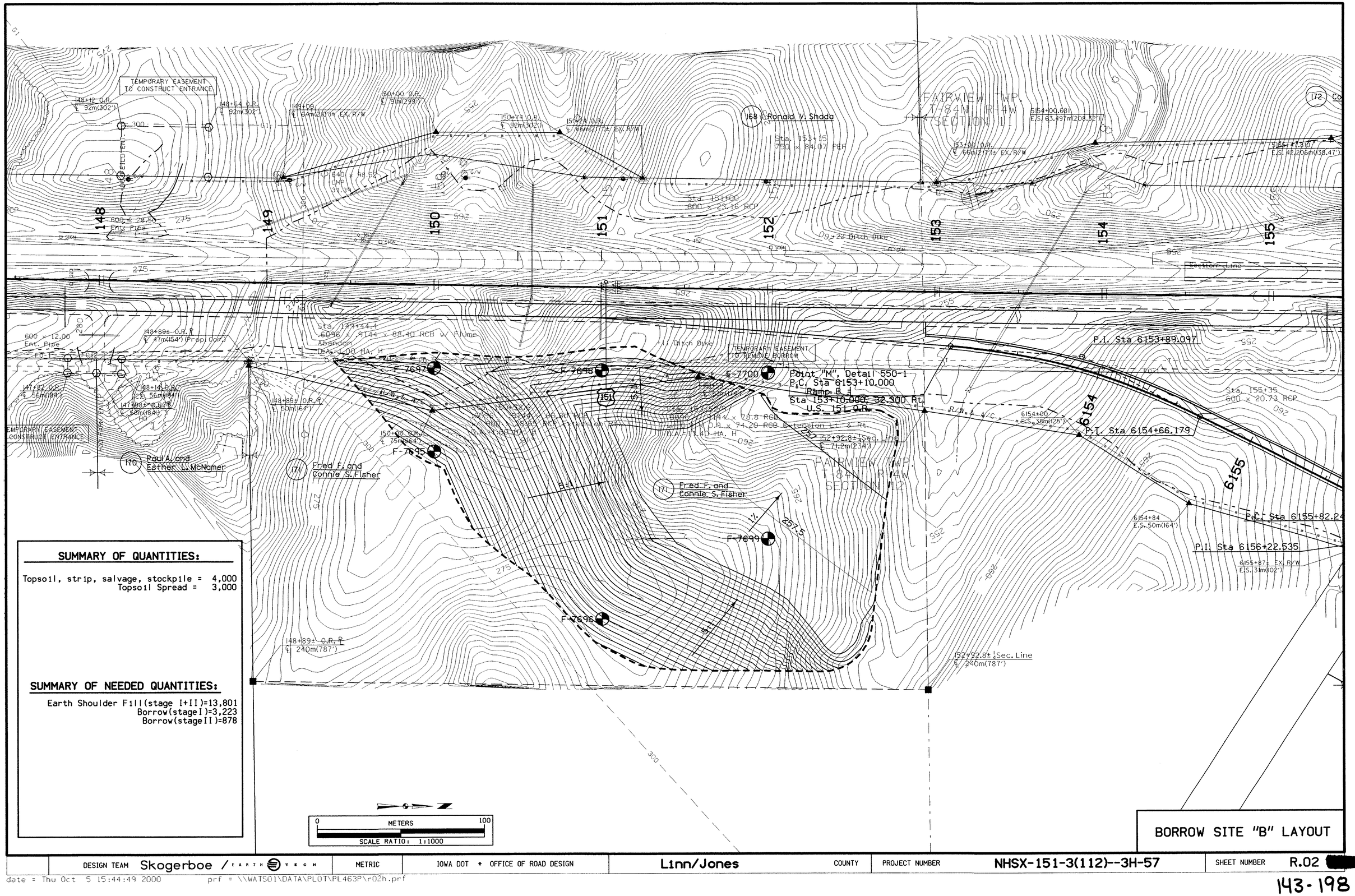
142-198



SUMMARY OF QUANTITIES:

Topsoil, strip, salvage, stockpile = 4,000
Topsoil Spread = 3,000

SUMMARY OF NEEDED QUANTITIES:

Earth Shoulder Fill (stage I+II) = 13,801
Borrow (stage I) = 3,223
Borrow (stage II) = 878

BORROW SITE "B" LAYOUT

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	R.02

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143-198

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans RL-1A and RL-1B

107-28
03-26-96

STATION	TEMPLATE CUT	ADDITIONAL QUANTITY +C	SUBGRADE TREATMENT +C	MOISTURE AND DENSITY +C	TOPSOIL PLACEMENT +C		SELECT SOIL -C	PAVEMENT REMOVAL -C	ROCK -C	TOPSOIL REMOVAL -C	ADJUSTED EARTH CUT	UNSUIT-ABLE C - 3	UNSUIT-ABLE C - 5	ROCK CUT	ADDITIONAL ROCK CUT +C		PERCENT SWELL	ADJUSTED ROCK + SWELL	TEMPLATE FILL	ADDITIONAL QUANTITY +F	MOISTURE AND DENSITY +F	PAVEMENT REMOVAL +F		TOPSOIL PLACEMENT -F	SUBTRACT QUANTITY -F	SUBGRADE TREATMENT -F	ROCK FILL -F		ADJUSTED FILL	UNSUITABLE FILL	PERCENT SHRINK	ADJUSTED FILL + SHRINK	UNSUITABLE FILL + SHRINK	BALANCE AND OVERHAUL
STAGE I																																	
X-Over @ Sta. 4+50	0		0					0			0								2595			0				0			2595		30	3374		
X-Over @ Sta. 182+80	0		0					0			0								1150			0				0			1150		30	1495		
Mainline																																	
51+85																																	
52+00	114		1					0			115								54			0				20			34		30	44		
52+30	229		2					0			231								107			0				41			66		30	86		
131+10																																	
131+50	1000		46					0			1046								20			0				10			10		30	13		
131+60	250		12					0			262								5			0				3			2		30	3		
172+90																																	
173+00	0		0					0			0								315			0				14			301		30	391		
173+50	0		0					0			0								1575			0				70			1505		30	1957		
Co. Rd. X-28																																	
1452+44	9		17					13			13								6			0				0			6		30	8		
1452+50	198		140					110			228								60			0				0			60		30	78		
1453+00	270		140					110			300								33			0				0			33		30	43		
1453+50	238		140					110			268								70			0				0			70		30	91		
1454+00	158		140					110			188								98			0				0			98		30	127		
1454+00	103		140					110			133								133			0				0			133		30	173		
1455+00	35		140					110			65								85			0				0			85		30	111		
1455+50																																	
Co. Rd. X-40																																	
2131+48																																	
2131+75	5413		70					55			5428								25			0				0			25		30	33		
2132+00	5463		70					55			5478								25			0				0			25		30	33		
2132+25																																	
130th Street																																	
1173+38																																	
1173+50	23		34					26			31								181			0				0			181		30	235		
1174+00	333		140					110			363								595			0				0			595		30	774		
1174+50	395		140					110			425								420			0				0			420		30	546		
1174+75	79		70					55			94								179			0				0			179		30	233		
TOTALS STAGE 1	14310		1442					1084			14668								7731										7573			9848		
	2184		1244					974			2454								6506										6506			8271		

DESIGN TEAM Skogerboe / EARTH DESIGN | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER T.01

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144-198

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans RL-1A and RL-1B

107-28
03-26-96

STATION	TEMPLATE CUT	ADDITIONAL QUANTITY +C	SUBGRADE TREATMENT +C	MOISTURE AND DENSITY +C	TOPSOIL PLACEMENT +C		SELECT SOIL -C	PAVEMENT REMOVAL -C	ROCK -C	TOPSOIL REMOVAL -C	ADJUSTED EARTH CUT	UNSUIT-ABLE C - 3	UNSUIT-ABLE C - 5	ROCK CUT	ADDITIONAL ROCK CUT +C		PERCENT SWELL	ADJUSTED ROCK + SWELL	TEMPLATE FILL	ADDITIONAL QUANTITY +F	MOISTURE AND DENSITY +F	PAVEMENT REMOVAL +F		TOPSOIL PLACEMENT -F	SUBTRACT QUANTITY -F	SUBGRADE TREATMENT -F	ROCK FILL -F		ADJUSTED FILL	UNSUITABLE FILL	PERCENT SHRINK	ADJUSTED FILL + SHRINK	UNSUITABLE FILL + SHRINK	BALANCE AND OVERHAUL
STAGE II																																		
Mainline																																		
15+40	140		28					22			146								41			0				0			41		30	53		
15+50	775		140					110			805								171			0				0			171		30	222		
16+00	925		140					110			955								141			0				0			141		30	183		
16+50	1100		140					110			1130								176			0				0			176		30	229		
17+00	1300		140					110			1330								321			0				0			321		30	417		
17+50	1675		140					110			1705								256			0				0			256		30	333		
18+00	1425		128					110			1443								183			0				13			170		30	221		
18+50	800		78					85			793								437			25				63			399		30	519		
19+00	650		23					55			618								630			55				118			567		30	737		
19+50	450		3					55			398								761			35				138			658		30	855		
20+00	300		0					85			215								948			5				140			813		30	1057		
20+50	275		0					110			165								1038			0				140			898		30	1167		
21+00	375		23					110			288								703			0				118			585		30	761		
21+50	425		83					110			398								298			0				58			240		30	312		
22+00	650		130					110			670								115			0				10			105		30	137		
22+50	450		140					110			480								6			0				0			6		30	8		
23+00	0		140					55			85								0			0				0			0		30	0		
23+50	0		70					0			70								0			0				0			0		30	0		
24+00																																		
173+00	88		0					0			88								75			0				0			75		30	98		
173+50	200		0					0			200								138			0				0			138		30	179		
174+00	289		0					0			289								148			0				0			148		30	192		
174+50	358		0					0			358								151			0				0			151		30	196		
175+00	276		0					0			276								128			0				0			128		30	166		
175+50	95		0					0			95								61			0				0			61		30	79		
176+00																																		
TOTALS STAGE II	13206		1546					1567			13185								8047			120				798			7369			9580		
STAGE III																																		
X-Over 'B'	1150		0					0			1150								0			0				0			0		30	0		
Additional for Rt. Turn Lane from Sta, 128+19 to Sta. 131+31																																		
128+19	0		0																57							10			47		30	61		
128+50	0		0																295							43			252		30	328		
129+00	0		0																418							54			364		30	473		
129+50	0		0																438							54			384		30	499		
130+00	0		0																445							54			391		30	508		
130+50	0		0																445							54			391		30	508		
131+00	0		0																138							17			121		30	157		
131+31																													TOTALS			2534		

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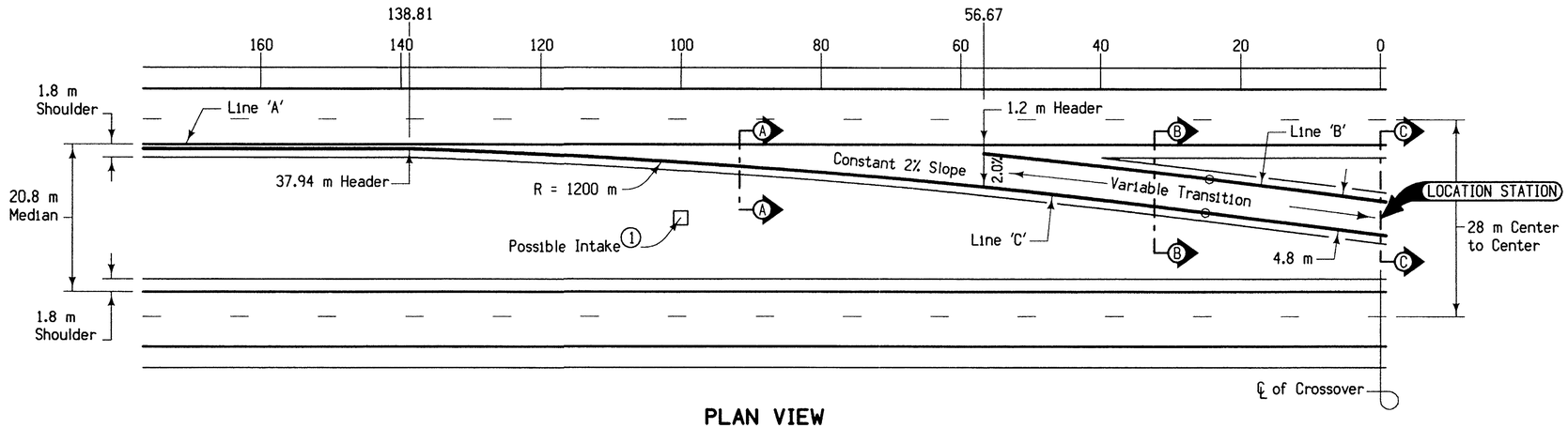
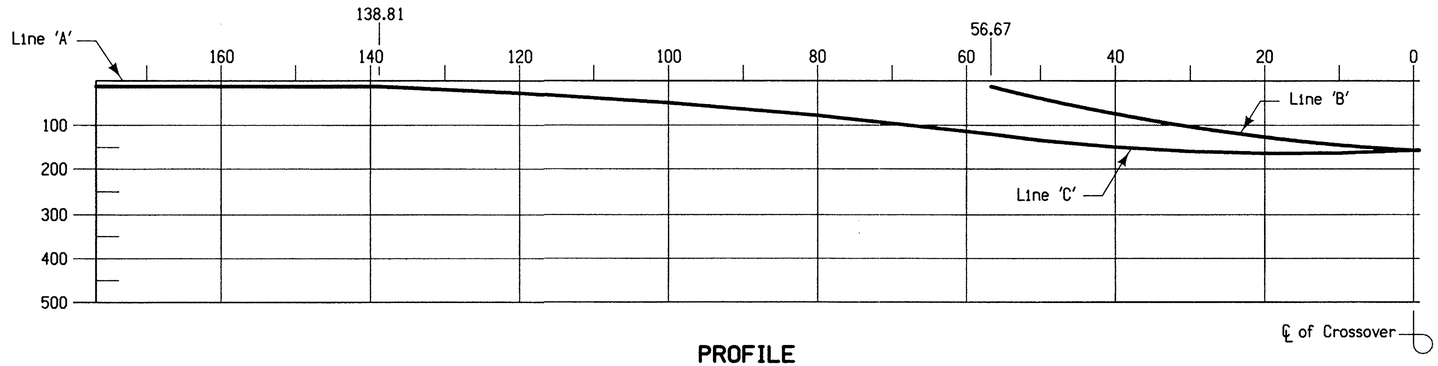


PLAN VIEW



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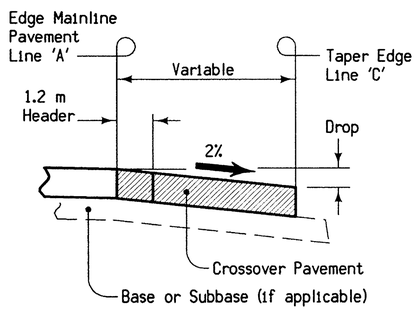
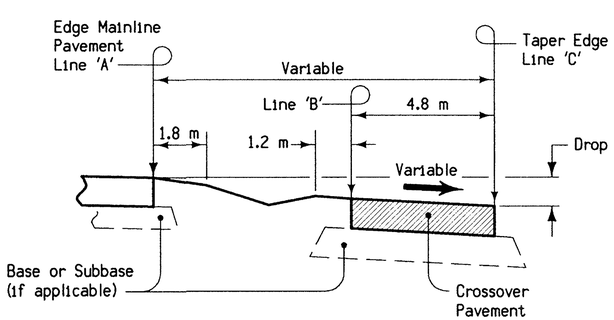
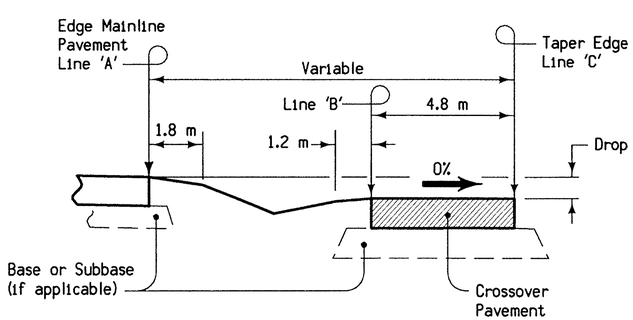


SECTION A-A



SECTION B-B



SECTION C-C

Distance	176.76	138.81	120	100	80	60	56.67	50	40	30	20	10	0.0
Offset 'A' to 'C'	0.6	0.6	1.34	2.46	3.91	5.69	6.02	6.71	7.82	9.01	10.27	11.55	12.82
Drop 'A' to 'B'							24	39	74	103	127	145	157
Drop 'A' to 'C'	12	12	27	49	78	114	120	134	150	160	164	163	157

GENERAL NOTES:

This detail sheet shows one end of a 4.8 meter crossover for a 20.8 meter wide median. Equivalent distances, dimensions and slopes apply to the opposite end of the crossover. Materials and methods of construction shall be in accordance with current Standard and Supplemental Specifications.

Crossover pavement shall be the same thickness as the mainline pavement. Crossover subbase for both A.C.C. and P.C.C. pavement shall be the same thickness as the mainline subbase.

In order to assure proper drainage, any special shaping of taper area surface between Lines 'A' and 'B' shall be accomplished by methods approved by the Engineer.

Refer to typical cross sections and appropriate Standard Road Plans for design details and requirements for shoulders.

(1) Refer to Tabulation 104-3.

All dimensions given in millimeters unless noted.

M

METRIC VERSION

Project Development Division

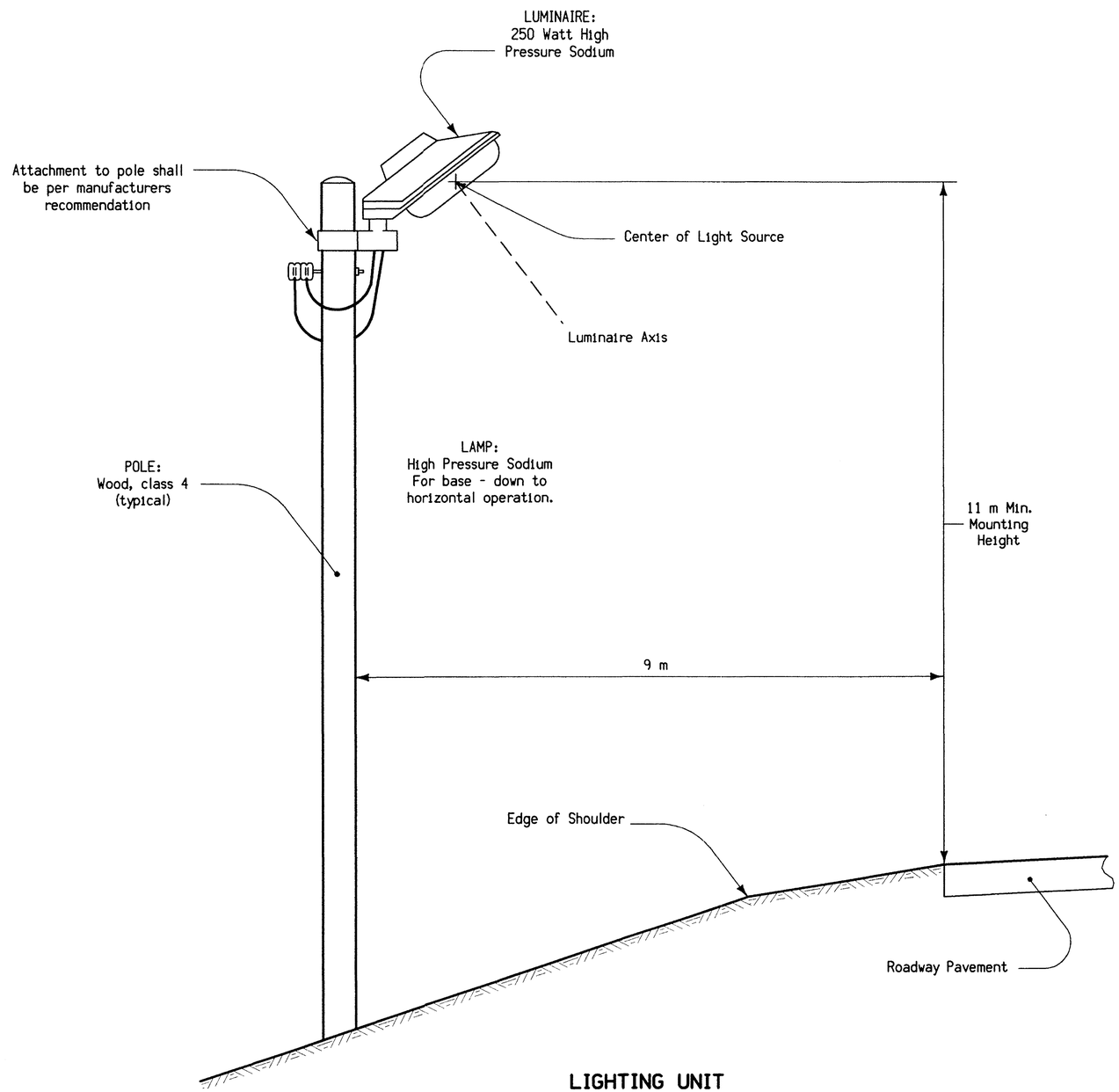
DETAIL SHEET 531-3

REVISION: New	REVISION NO.	REVISION DATE
	New	10-28-97

4.8 m CROSSOVER PAVEMENT TWO-LANE TO FOUR-LANE TRANSITION (20.8 m MEDIAN)

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	U.01

146-198



LIGHTING UNIT
INSTALLATION DETAILS

GENERAL NOTES:

Temporary floodlighting will be required on this project. The lighting shall conform to current Standard and Supplemental Specifications for floodlighting, Articles 2528.08 and 2528.12 paragraph A (5) except as modified hereon.

Temporary floodlighting shall consist of either a pole mounted luminaire as illustrated hereon or a luminaire mounted on portable type equipment. Location of the temporary floodlighting shall be as shown in the Traffic Control Plan or as determined by the Engineer The contractor shall determine pole length by field measurement to obtain specified mounting height. Luminaire axis shall be directed to within the limits of the near traffic lane unless specified otherwise.

Proposals for alternatives to the class 4 wood pole used to mount luminaire may be submitted to the Engineer for approval.

The luminaire shall be designed to operate without a mastarm. The "Vector" and "Expressway" luminaire by the Holophane Company, Inc. or the "Interstate" luminaire by the Amerion Electric Division of I.T.T. are the approved luminaires.

Aerial lighting circuits shall be aluminum or A.C.S.R. triplex. Underground lighting circuits shall be type U.S.E. or U.F. All circuit design and materials shall be approved by the engineer before installation commences.

Price bid for "Temporary Floodlighting Luminaire" shall include all cost for furnishing, installing, maintaining and servicing the Temporary Floodlighting Units, all costs for electrical energy, and the cost of removing all lighting materials from the construction site.

All dimensions given in millimeters unless noted.

M

Project Development Division

METRIC VERSION

DETAIL SHEET 570-2

REVISION: Metric conversion of Detail Sheet 570-2 no. 8 (dated 6-15-93).	REVISION NO.	REVISION DATE
	8	03-28-95

TEMPORARY FLOODLIGHTING
(OFFSET)

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER U.02

147-198

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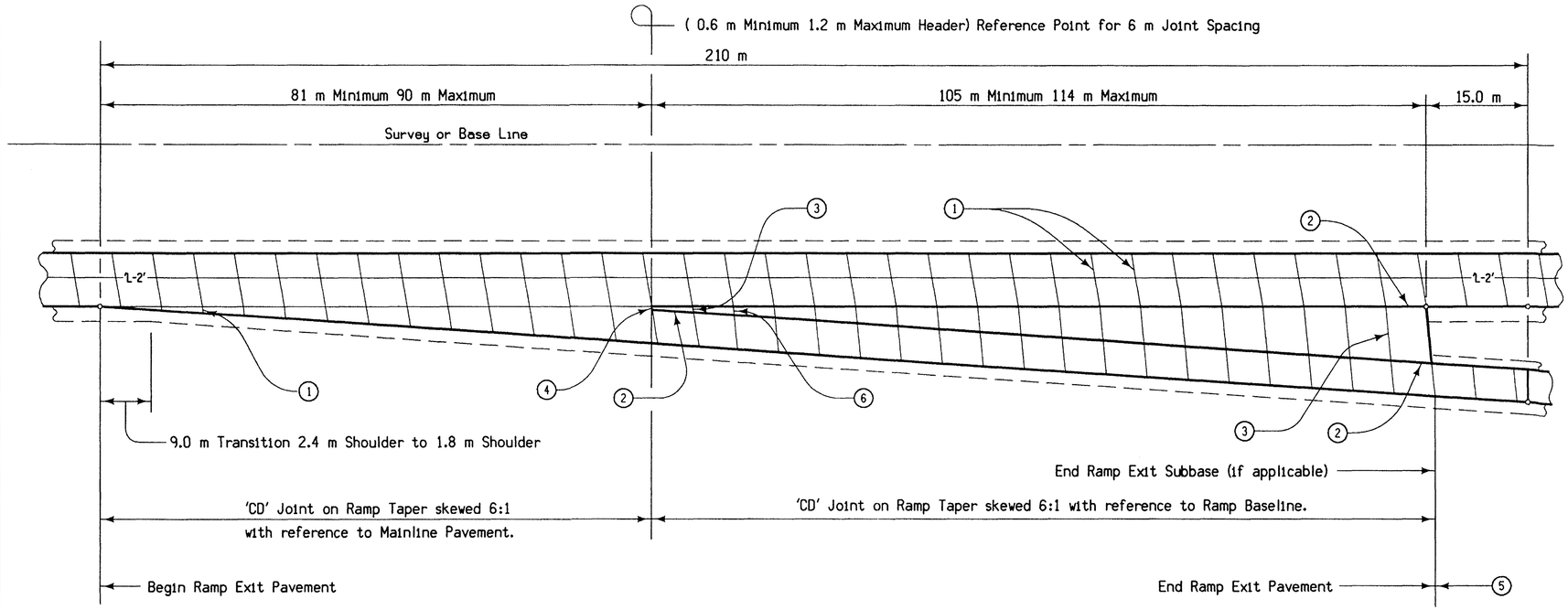
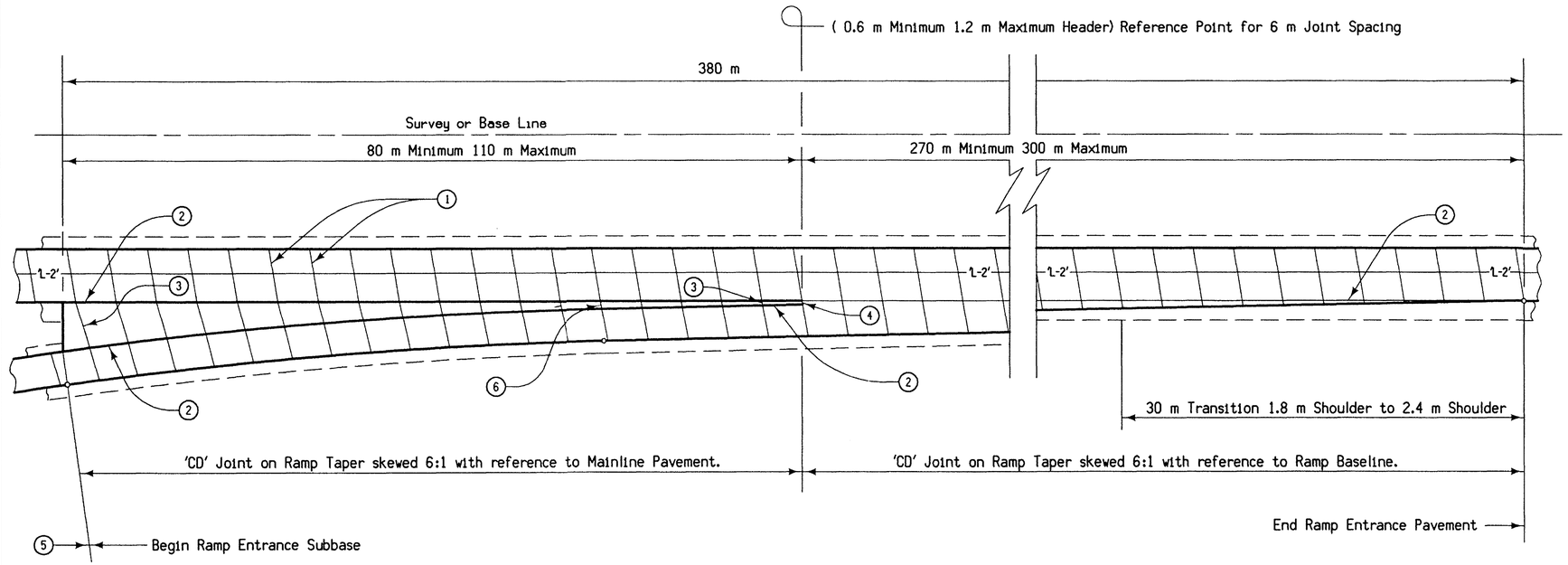


4.8 m EXIT RAMP



4.8 m ENTRANCE RAMP

GENERAL NOTES:

This plan sheet illustrates the jointing layouts for 4.8 meter exit and entrance ramps. Details are typical. Alternate methods of construction may be submitted to the Engineer for approval.

Materials and methods of construction shall be in accordance with current Standard and Supplemental Specifications.

Refer to Standard Road Plans RH–50, RH–51 and RH–52 for details of construction of pavement joints.

Refer to the appropriate Detail Sheets for the geometric layout and taper profile elevations.

No payment will be made for jointing as detailed on this sheet. The cost of jointing as indicated shall be considered incidental to "Standard or Slip Form Portland Cement Concrete Pavement".

SUGGESTED CONSTRUCTION SEQUENCE

1. Mainline Pavement
2. Ramp Pavement
3. Ramp Exit Pavement or Ramp Entrance Pavement

SPECIAL NOTES:

(1) All mainline transverse joints through the taper shall be 'CD' Joints skewed at 6:1 right ahead and shall be nominally spaced at 6 m intervals. See Standard Road Plan RH–50 for details of joint construction.

(2) 'BT–2' or 'KT–2' Joint. Refer to Standard Road Plan RH–51 for details of joint construction.

(3) 'C' Joint, refer to Standard Road Plan RH–50 for details of joint construction.

(4) 'B' Joint, refer to Standard Road Plan RH–50 for details of joint construction.

(5) Refer to Detail Project Plans for ramp jointing.

(6) The transverse joints on the ramp shall be skewed 6:1 with reference to the ramp baseline where the gore area is 1.2 meters or greater.

All dimensions given in millimeters unless noted.

M

METRIC VERSION

Project Development Division

DETAIL SHEET 550-5

REVISION:	REVISION NO.	REVISION DATE
Revise shoulder width from 2.3 m to 2.4 m.	3	04-25-00

TYPICAL JOINTING DETAILS FOR 4.8 m EXIT AND ENTRANCE RAMP

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	U.03

148-198

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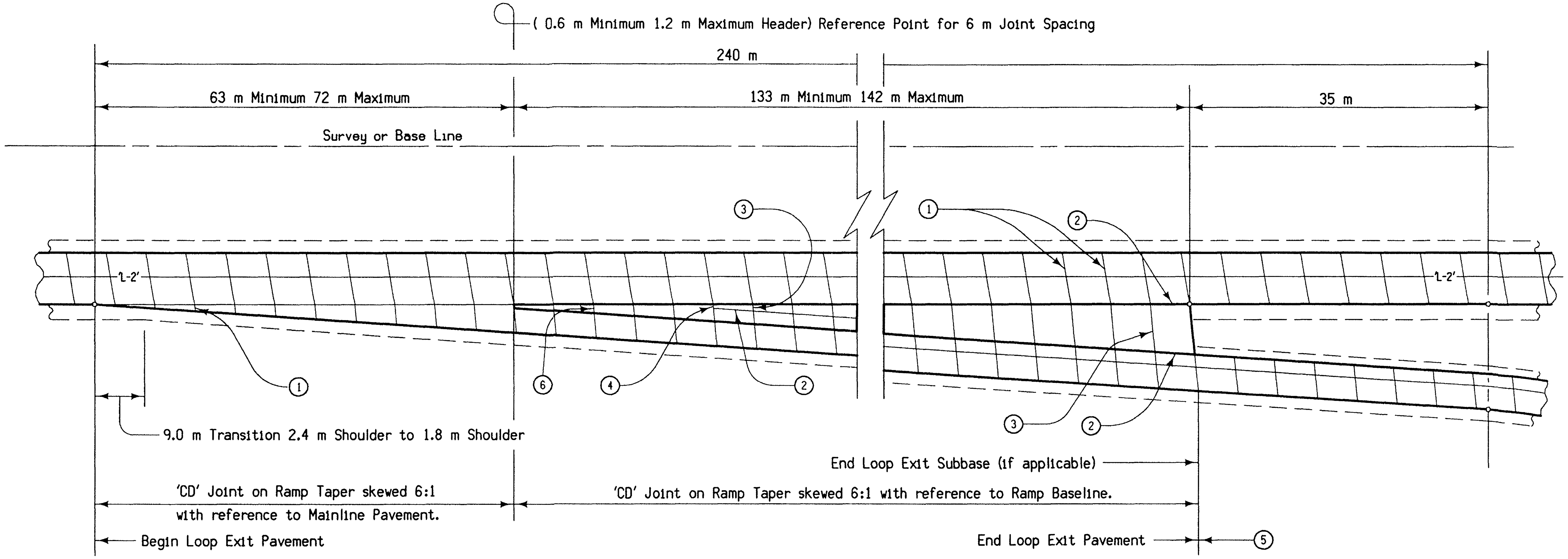
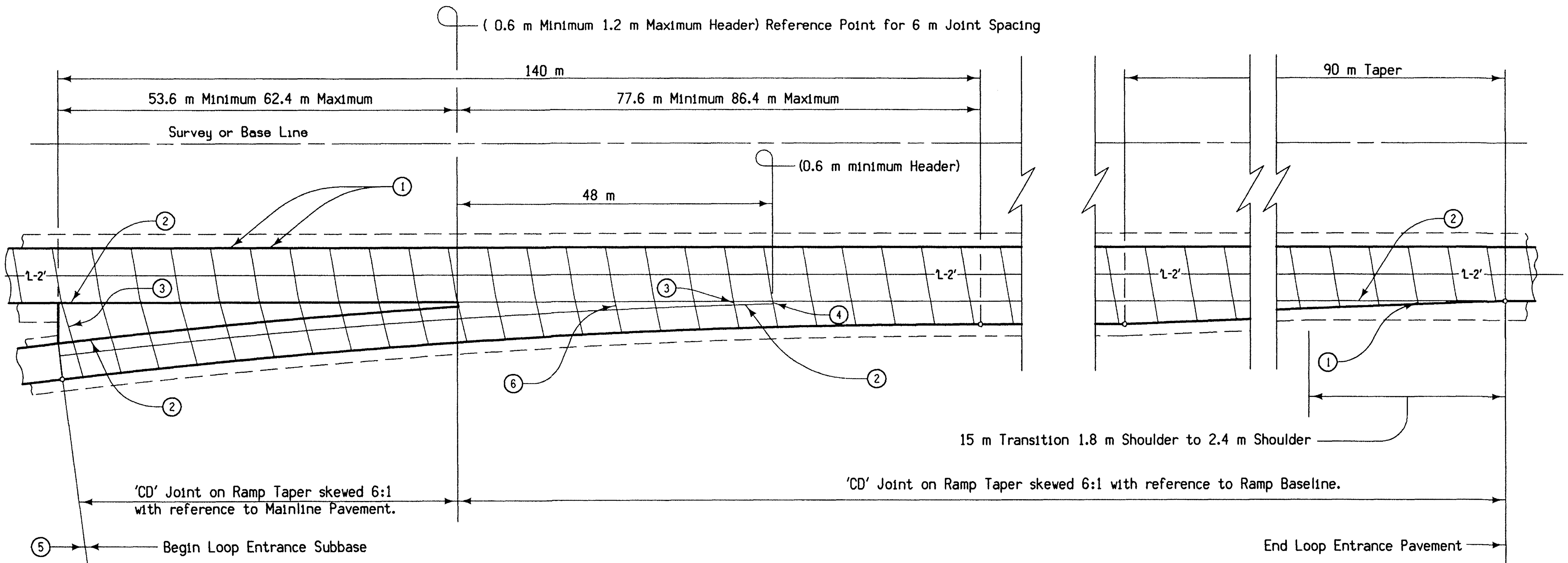


5.5 m EXIT LOOP



5.5 m ENTRANCE LOOP

GENERAL NOTES:

This plan sheet illustrates the jointing layouts for 5.5 meter exit and entrance loops. Details are typical. Alternate methods of construction may be submitted to the Engineer for approval.

Materials and methods of construction shall be in accordance with current Standard and Supplemental Specifications.

Refer to Standard Road Plans RH–50, RH–51 and RH–52 for details of construction of pavement joints.

Refer to the appropriate Detail Sheets for the geometric layout and taper profile elevations.

No payment will be made for jointing as detailed on this sheet. The cost of jointing as indicated shall be considered incidental to "Standard or Slip Form Portland Cement Concrete Pavement".

SUGGESTED CONSTRUCTION SEQUENCE

1. Mainline Pavement
2. Loop Pavement
3. Loop Exit Pavement or Loop Entrance Pavement

SPECIAL NOTES:

(1) All mainline transverse joints through the taper shall be 'CD' Joints skewed at 6:1 right ahead and shall be nominally spaced at 6 m intervals. See Standard Road Plan RH–50 for details of joint construction.

(2) 'BT–2' or 'KT–2' Joint. Refer to Standard Road Plan RH–51 for details of joint construction.

(3) 'C' Joint, refer to Standard Road Plan RH–50 for details of joint construction.

(4) 'B' Joint, refer to Standard Road Plan RH–50 for details of joint construction.

(5) Refer to Detail Project Plans for ramp jointing.

(6) The transverse joints on the ramp shall be skewed 6:1 with reference to the ramp baseline where the gore area is 1.2 meters or greater.

All dimensions given in millimeters unless noted.

M — METRIC VERSION

Project Development Division

DETAIL SHEET 550-6

REVISION:	REVISION NO.	REVISION DATE
	3	04-25-00

TYPICAL JOINTING DETAILS FOR 5.5 m EXIT AND ENTRANCE LOOP

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	U.04 [redacted]

149-198

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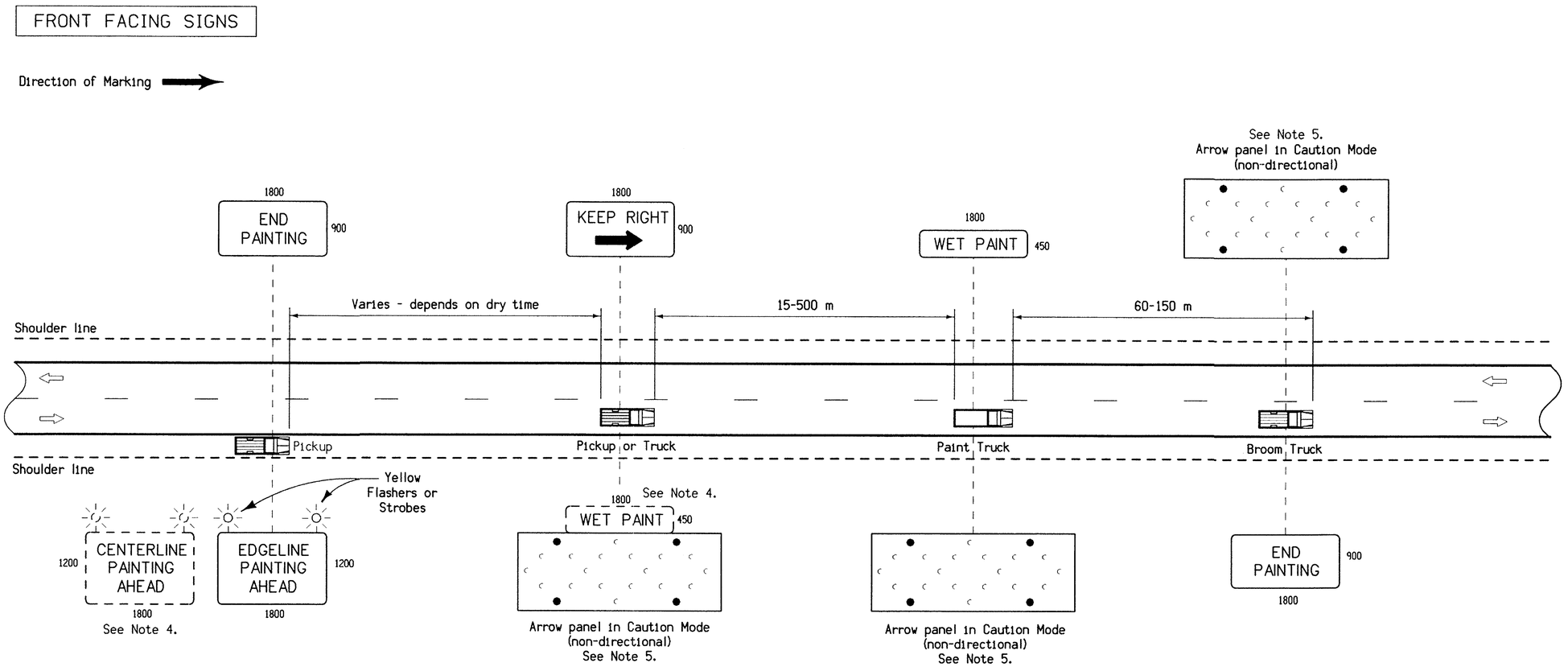
FRONT FACING SIGNS



REAR FACING SIGNS

GENERAL NOTES:

1. All signs shall have an orange background with black legend.
2. Flagger(s) should be used at primary road junctions or as necessary to control traffic.
3. Arrow panels shall meet the requirements of a Type 'C' Arrow Display as specified in the MUTCD and current Standard and Supplemental Specifications.
4. This layout may be used to place centerline pavement markings. When used to paint centerline markings, the "EDGELINE PAINTING AHEAD" sign shall be changed to a "CENTERLINE PAINTING AHEAD" sign. A "WET PAINT" sign shall be mounted on the vehicle behind the paint truck.
5. A yellow strobe or revolving light may be substituted for this arrow panel.

All dimensions given in millimeters unless noted.

M

METRIC VERSION

Project Development Division

DETAIL SHEET 520-41

REVISION: Add "CENTERLINE" to title block.	REVISION NO.	REVISION DATE
	3	04-27-99

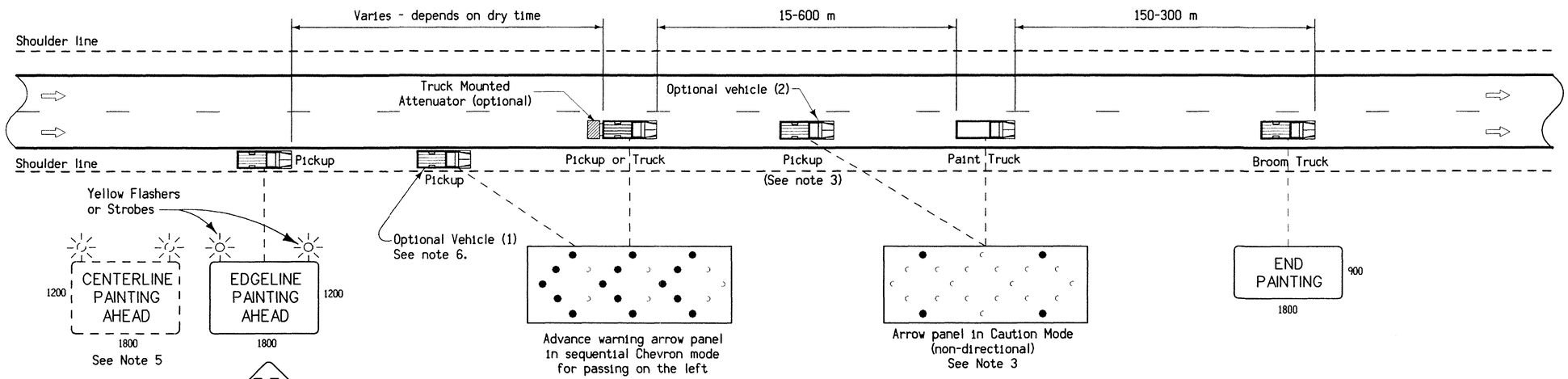
TRAFFIC CONTROL FOR EDGELINE AND CENTERLINE MARKINGS ON TWO-LANE ROADWAYS

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	U.05

150-198

ALL SIGNS REAR FACING

Direction of Marking



GENERAL NOTES:

1. All signs shall have an orange background with black legend.
2. Signs are illustrated for placing the right edgeline. When placing a left (median) edgeline, signs shall indicate passing on the right.
3. The arrow panel on the optional vehicle (2) may be used in the sequential chevron mode on divided roadways only. This arrow panel shall be operated in the caution mode when used on undivided roadways or when optional vehicle (1) is used. A yellow strobe or revolving light may be substituted for this arrow panel.
4. Arrow panels shall meet the requirements of a Type 'C' Arrow Display as specified in the MUTCD and current Standard and Supplemental Specifications.
5. This layout may be used to place lane line pavement markings. When used to paint lane line markings, the "EDGELINE PAINTING AHEAD" sign shall be changed to a "CENTERLINE PAINTING AHEAD" sign.
6. Optional vehicle (1) may be used on divided roadways only.

All dimensions given in millimeters unless noted.

M

METRIC VERSION

Project Development Division

DETAIL SHEET 521-41

REVISION:	REVISION NO.	REVISION DATE
Add "CENTERLINE" to title block.	4	04-27-99

TRAFFIC CONTROL FOR EDGELINE AND CENTERLINE MARKINGS ON MULTI-LANE DIVIDED OR UNDIVIDED ROADWAYS

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH		IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	NHSX-151-3(112)--3H-57	U.06

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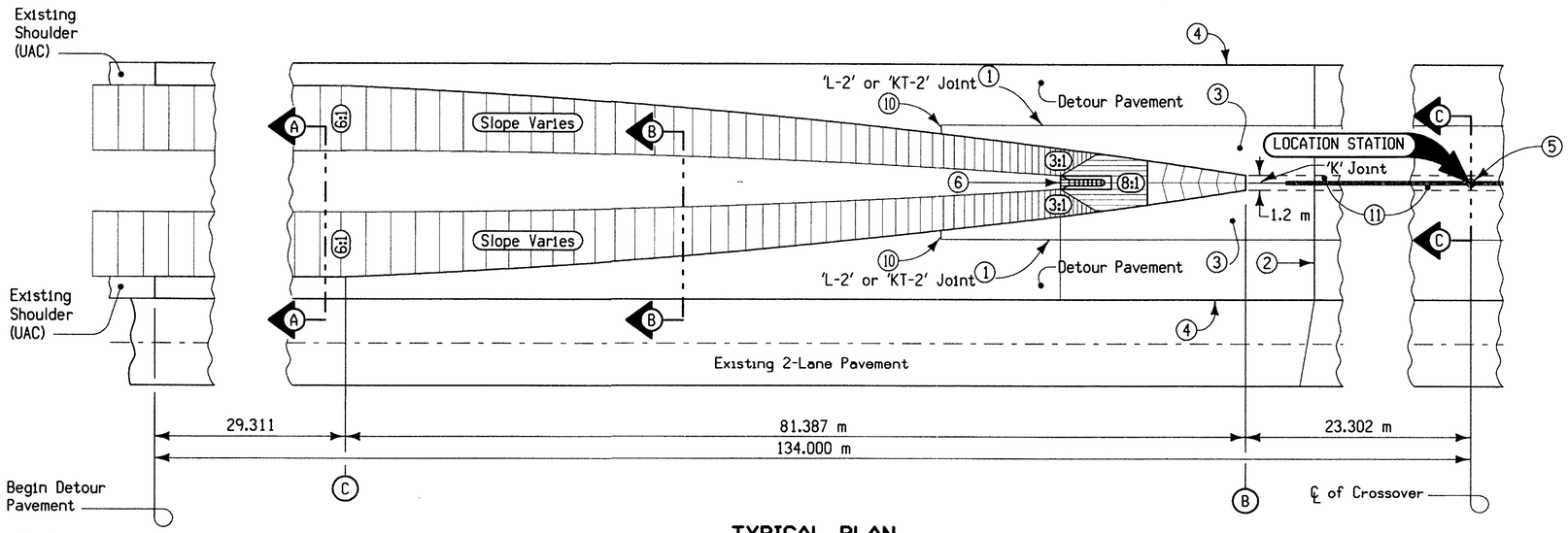
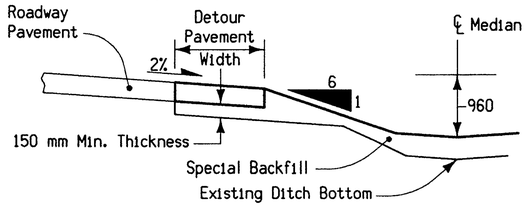
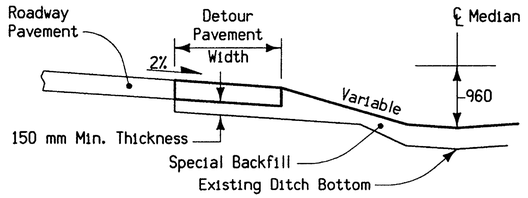
151-198



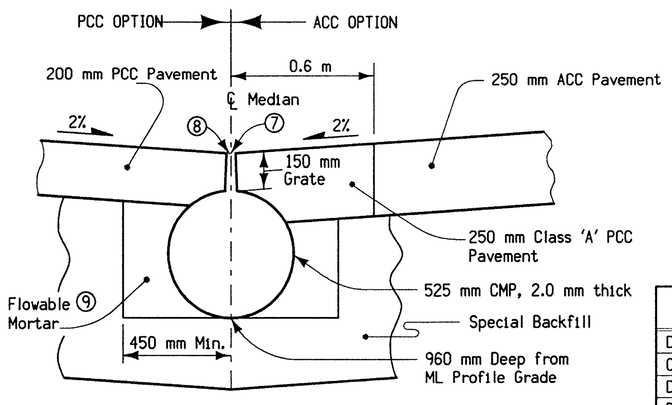
TYPICAL PLAN



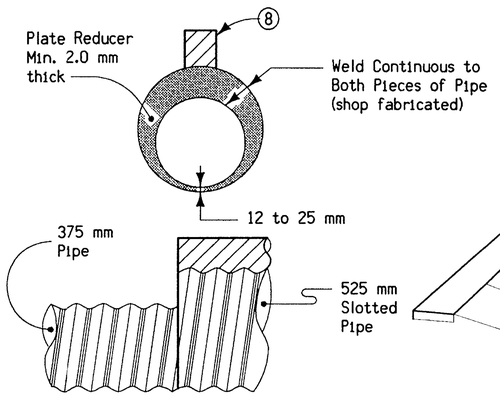
SECTION A-A



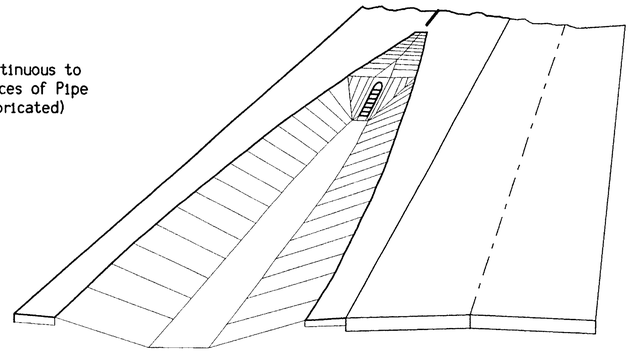
SECTION B-B



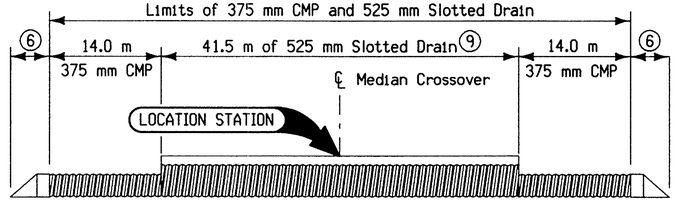
SECTION C-C



DETAILS OF PIPE REDUCER



PERSPECTIVE VIEW DITCH SLOPE AND BEVELED PIPE



LONGITUDINAL SECTION THRU CMP LETDOWN

TABLE OF OFFSETS AND DROPS

Distance (m) from Location Station	134.000	104.689	96.553	88.414	80.275	72.136	63.997	55.858	47.719	39.580	31.441	23.302	0
Offset (m) from inside edge of Pavement	1.800	1.800	2.180	2.652	3.217	3.875	4.627	5.473	6.412	7.446	8.575	9.800	10.400
Drop (mm) from inside edge of Pavement	72	36	44	53	64	78	93	109	128	149	172	196	208
POINT LOCATION	-----	Ⓒ	-----	-----	-----	-----	-----	-----	-----	-----	-----	Ⓑ	-----

GENERAL NOTES:

This plan shows the construction details of a median crossover The construction involves the removal of the existing paved shoulder, placement of special backfill to build the embankment for crossover, laying of corrugated metal pipes, placement of the median crossover pavement, and construction of the beveled pipe and guard as detailed on Detail Sheet 500–12.

Materials and construction methods used shall be in accordance with current Standard and Supplemental Specifications.

Any modification of the median crossover design shall be subject to the approval of the Engineer.

Price bid for contract items shall be considered full compensation for furnishing all necessary materials and labor to construct the median crossover as detailed.

Contract bid items are:

Item	Unit	Amount
Special Backfill	Mg	3852 **
Pavement, median crossover	m^2	2649
375 mm corrugated metal roadway pipe culvert	m	28
525 mm corrugated metal slotted drain /150 mm grate ***	m	41.5

* The removal of subbase material is considered incidental to the removal of pavement.

** Quantities are based on the assumption that the existing median ditch is 1.2 meters deep and foreslopes are 4:1.

*** Flowable mortar and pipe reducers shall be considered incidental to the 525 millimeter corrugated metal slotted drain.

(1) Spaced at one–quarter median width. See Standard Road Plan RH–51.

(2) Match crossover pavement joints with existing roadway joints. 'CD' joints are required. See Standard Road Plan RH–50.

(3) Detour Pavement shall Be As Specified Under Theses Contract Documents

(4) KT–2 Joint, bend bars out for new pavement only.

(5) Median crossover is symmetrical at centerline.

(6) Beveled pipe and guard. See Detail Sheet 500–12.

(7) Duct tape or wood block shall be used to cover slotted drain during construction of crossover pavement.

(8) Slotted grate 150 mm high x 45 mm opening width. The spacer and bearing bars (sides) shall be 4.76 mm material.

(9) The entire length of slotted drain shall be encased in flowable mortar.

(10) 0.6 m 'C' joint.

(11) 250mm thick x 0.6 m wide PCC Pavement, Class 'A', for ACC Option of Detour Pavement

All dimensions given in millimeters unless noted.

M

METRIC VERSION

Project Development Division

DETAIL SHEET 531–1D

REVISION: Revise note 3 to include Superpave mix requirements.	REVISION NO.	REVISION DATE
	6	MOD.

DETAILS OF MEDIAN CROSSOVER (20.8 m MEDIAN) 65 MPH

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Linn/Jones	NHSX-151-3(112)--3H-57	U.07

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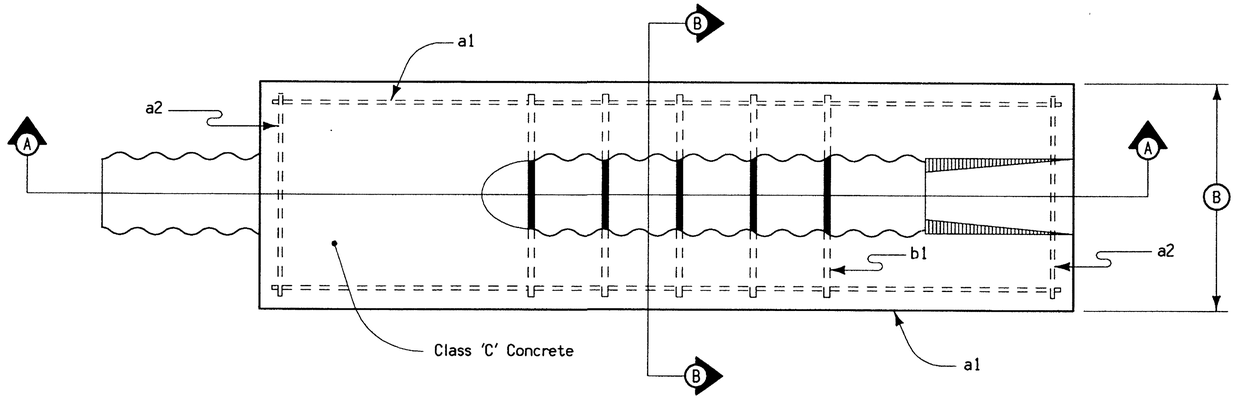
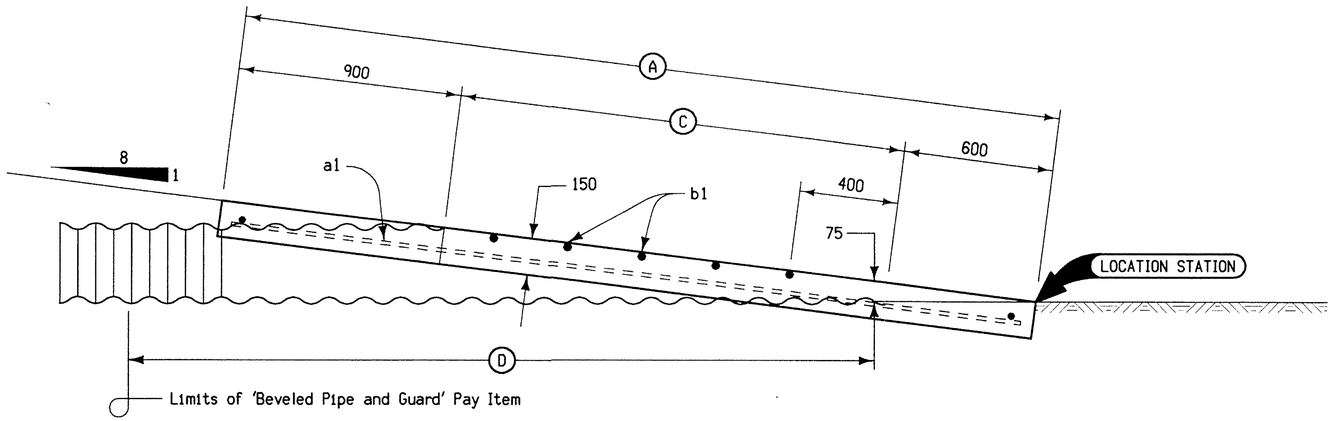
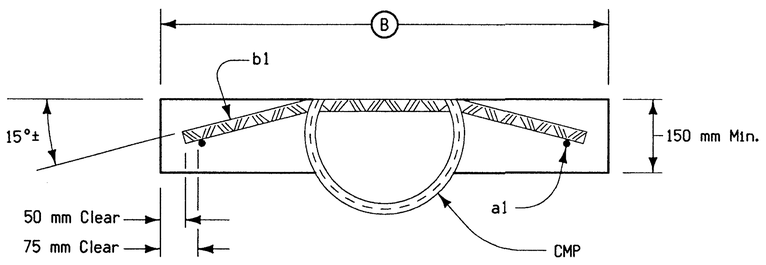
152-198



PLAN VIEW



SECTION A-A



SECTION B-B

GENERAL NOTES:

This plan illustrates the details for the construction of a Beveled Pipe and Guard. Alternate designs, methods of construction or materials may be submitted to the Engineer for approval.

Materials and methods of construction shall be in accordance with current Standard and Supplemental Specifications.

Reinforcing steel used in construction of "Beveled Pipe and Guard" shall be deformed bars meeting the requirements of Article 4151.03. All steel bars shall be hot–dip galvanized in accordance with ASTM A 123 specifications.

Concrete used in the construction of Beveled Pipe and Guard shall be Class 'C' Concrete.

The Corrugated Metal Pipe shall be cut to fit the 8:1 foreslope. Slots shall be cut into the CMP for placement of the No. 25 bar. After the foreslope has been placed, the No. 25 bars shall be fitted into the slots cut in the CMP so thay will be in proper position when the concrete collar is poured.

Price bid for "Beveled Pipe and Guard", each, shall be considered full compensation for the furnishing all the materials and con–structing the Beveled Pipe and Guard as detailed hereon and as directed by the Engineer.

Special Note:

A silt fence ditch check will be required immediately upstream from the inlet of the culvert. Refer to Standard Road Plan RC–16 for construction details and basis of payment.

TABLE OF DIMENSIONS				
PIPE SIZE	(A)	(B)	(C)	(D)
300	3300	900	1800	3000
375	3900	975	2400	3600
450	4500	1050	3000	4200

All dimensions given in millimeters unless noted.

REINFORCING BAR LIST										
PIPE SIZE	BAR MARK	BAR SIZE	LOCATION	SHAPE	NO.	LENGTH mm	TOTAL LENGTH mm	MASS kg	TOTAL MASS kg	SPACING mm
300	a1	15	Base	——	2	3200	6400	10	19	See Detail
	a2	15	Base	——	2	800	1600	3		See Detail
	b1	25	Base	⌒	5	815	1630	6		300
375	a1	15	Base	——	2	3800	7600	12	22	See Detail
	a2	15	Base	——	2	875	1750	3		See Detail
	b1	25	Base	⌒	7	890	1780	7		300
450	a1	15	Base	——	2	4400	8800	14	25	See Detail
	a2	15	Base	——	2	950	1900	3		See Detail
	b1	25	Base	⌒	9	965	1930	8		300

M METRIC VERSION

Project Development Division

DETAIL SHEET 500–12

REVISION: Metric conversion of Detail Sheet 500-12 no. 3 (dated 3-28-95)

REVISION NO.	REVISION DATE
3	03-28-95

DETAILS OF BEVELED PIPE AND GUARD

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER U.08

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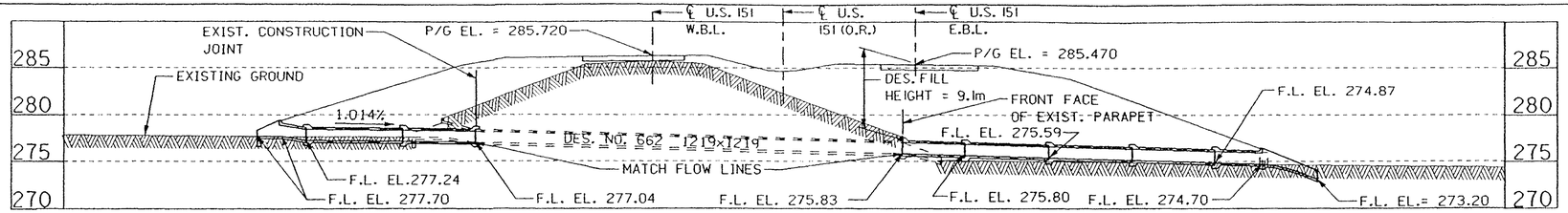
153-198



LONGITUDINAL SECTION - ALONG ℄ CULVERT

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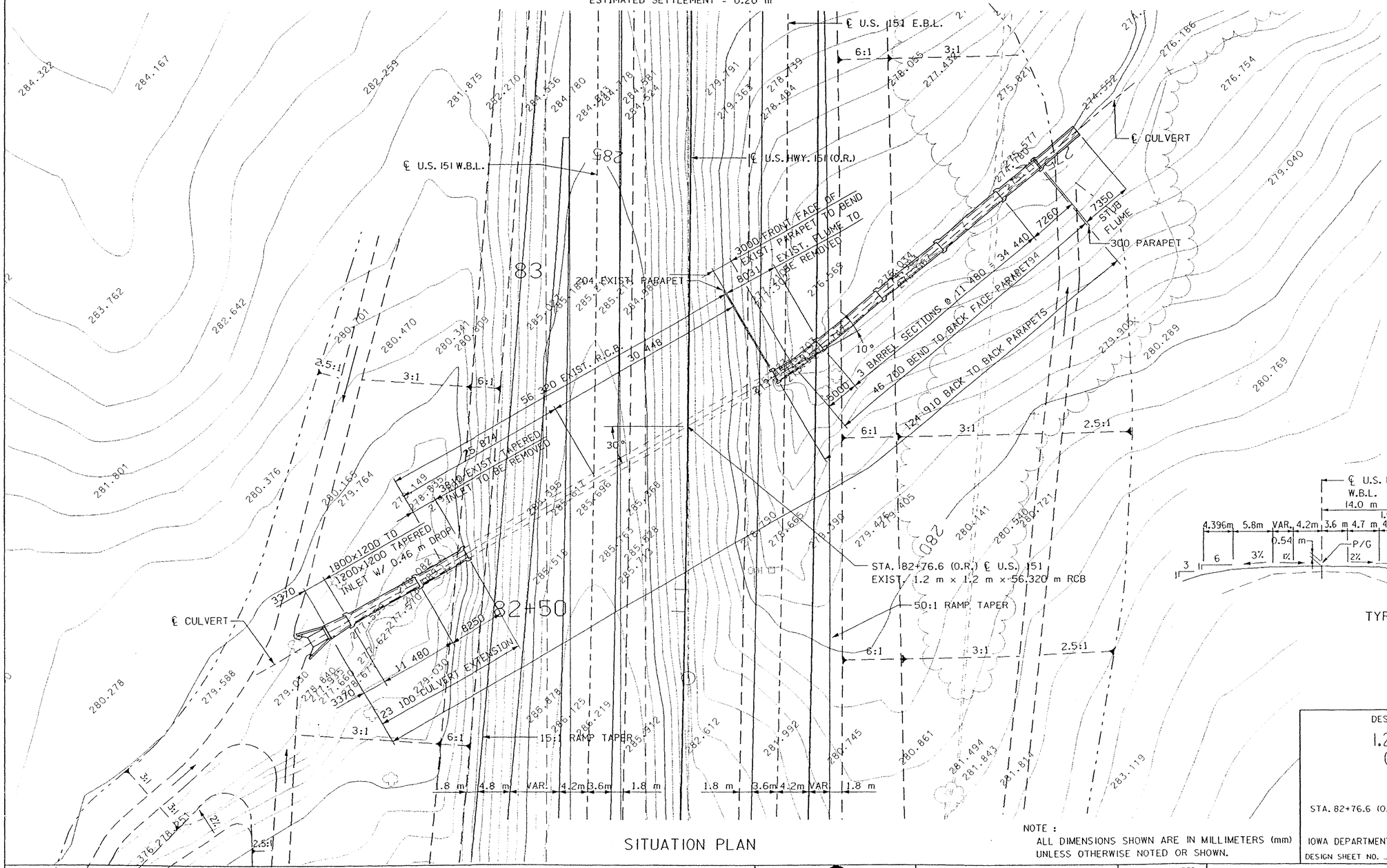
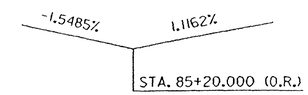


SITUATION PLAN

NOTE :
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.

BENCH MARK:

FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18



U.S. HWY. 151 PROFILE GRADE

HYDRAULIC DATA		
FREQUENCY	DISCHARGE(cms)	HEADWATER ELEV.
10-YEAR	2.09	278.54
25-YEAR	2.39	278.61
50-YEAR	2.98	278.76
100-YEAR	3.58	278.89

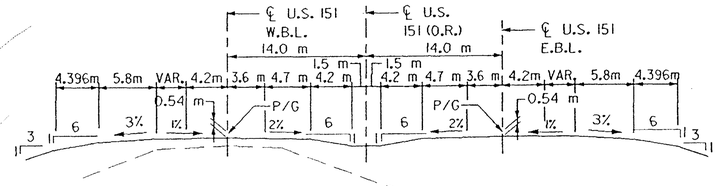
DRAINAGE AREA = 25.90 ha, ROLLING
50 YEAR DESIGN FREQUENCY

LOCATION

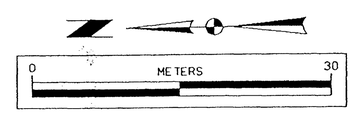
U.S. 151
T84N - R4W
SECTION 20
FAIRVIEW TWP.
JONES COUNTY

TRAFFIC DATA

2001	ADT	7140
2021	ADT	8560
2021	DHV	920
2001	TRUCKS	10%
2021	TRUCKS	11%



TYPICAL APPROACH SECTION



DESIGN FOR EXTENSION TO A 30° SKEW (R.A.)

1.2 m x 1.2 m REINFORCED CONCRETE BOX CULVERT SITUATION PLAN

STA. 82+76.6 (O.R.) ℄ U.S. HIGHWAY 151

FEBRUARY, 1999

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 11 FILE NO. 29164 DESIGN NO. 398

DESIGNED BY DLN CHECKED BY RWJ
DETAILED BY JAE CADD FILE h53398.s02

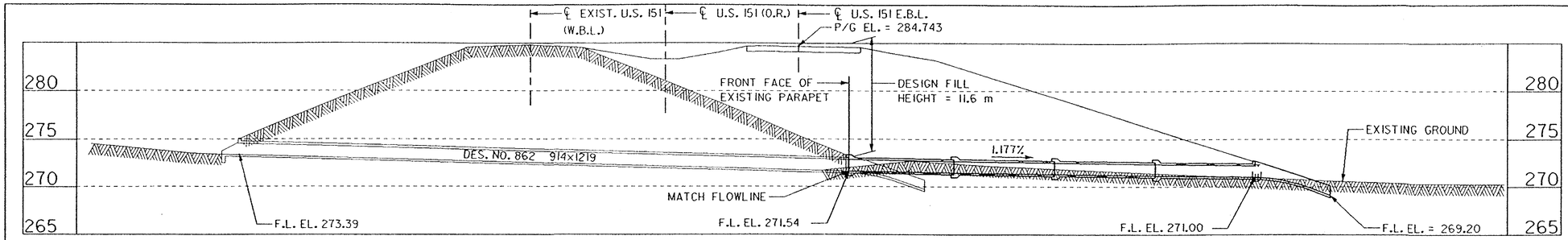
EARTH TECH

LINN/JONES COUNTY

PROJECT NUMBER NHSX-151-3(112)--3H-57

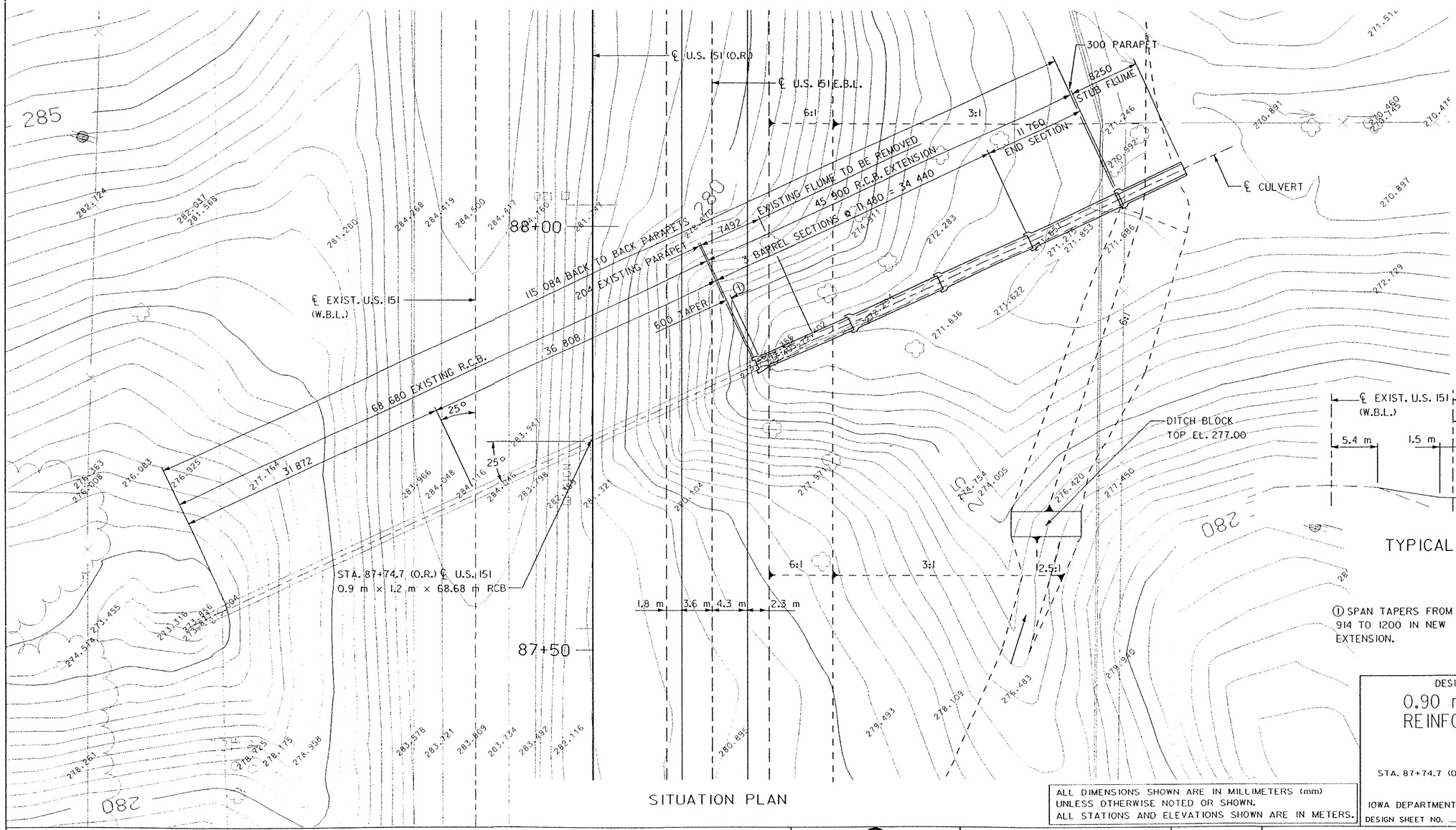
STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		V.01	[redacted]

154-198



LONGITUDINAL SECTION - ALONG ℄ CULVERT

ESTIMATED SETTLEMENT = 0.12 m



SITUATION PLAN

BENCH MARK:

FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18

-1.5485% +1.1162%

STA. 85+20.000 (O.R.)
EL. 281.827
VCL=170.000 m

U.S. HWY. 151 PROFILE GRADE

HYDRAULIC DATA		
FREQUENCY	DISCHARGE(CMS)	HEADWATER ELEV.
10-YEAR	1.35	274.40
25-YEAR	1.54	274.50
50-YEAR	1.93	274.69
100-YEAR	2.31	274.89

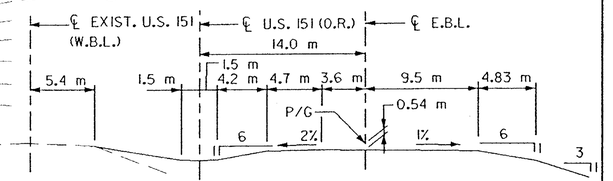
DRAINAGE AREA = 9.7 ha, HILLY
50 YEAR DESIGN FREQUENCY

LOCATION

U.S. 151
T84N - R4W
SECTION 21
FAIRVIEW TWP.
JONES COUNTY

TRAFFIC DATA

2001	ADT	7140
2021	ADT	8560
2021	DHV	920
2001	TRUCKS	10%
2021	TRUCKS	11%



TYPICAL APPROACH SECTION

① SPAN TAPERS FROM 914 TO 1200 IN NEW EXTENSION.

0 METERS 25

DESIGN FOR EXTENSION TO A 25° SKEW (R.A.)

0.90 m x 1.2 m TO 1.2 m x 1.2 m REINFORCED CONCRETE BOX CULVERT SITUATION PLAN

STA. 87+74.7 (O.R.) ℄ U.S. HIGHWAY 151 — FEBRUARY, 1999

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 6 — FILE NO. 29164 — DESIGN NO. 498

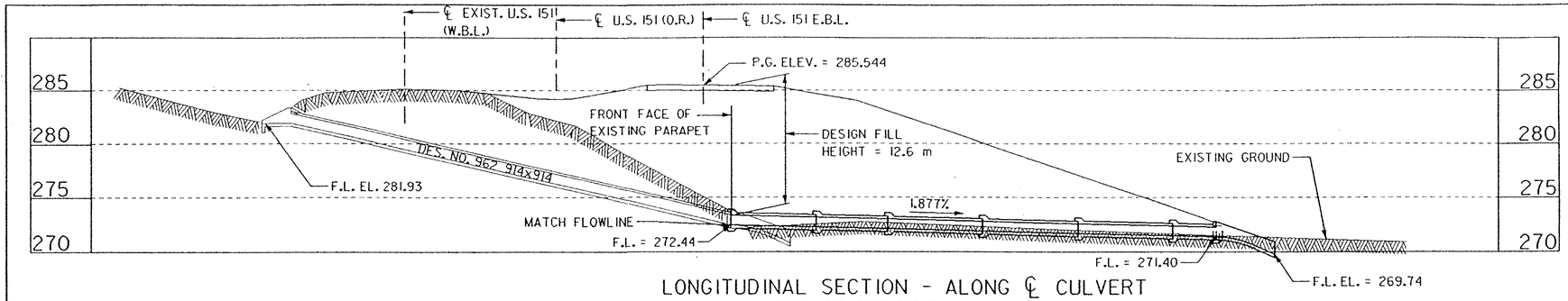
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm)
UNLESS OTHERWISE NOTED OR SHOWN.
ALL STATIONS AND ELEVATIONS SHOWN ARE IN METERS.

DESIGNED BY	DLN	CHECKED BY	RMJ
DETAILED BY	JAE	CADD FILE	H53498.S02

EARTH TECH | LINN/JONES COUNTY | PROJECT NUMBER | NHSX-151-3(112)--3H-57

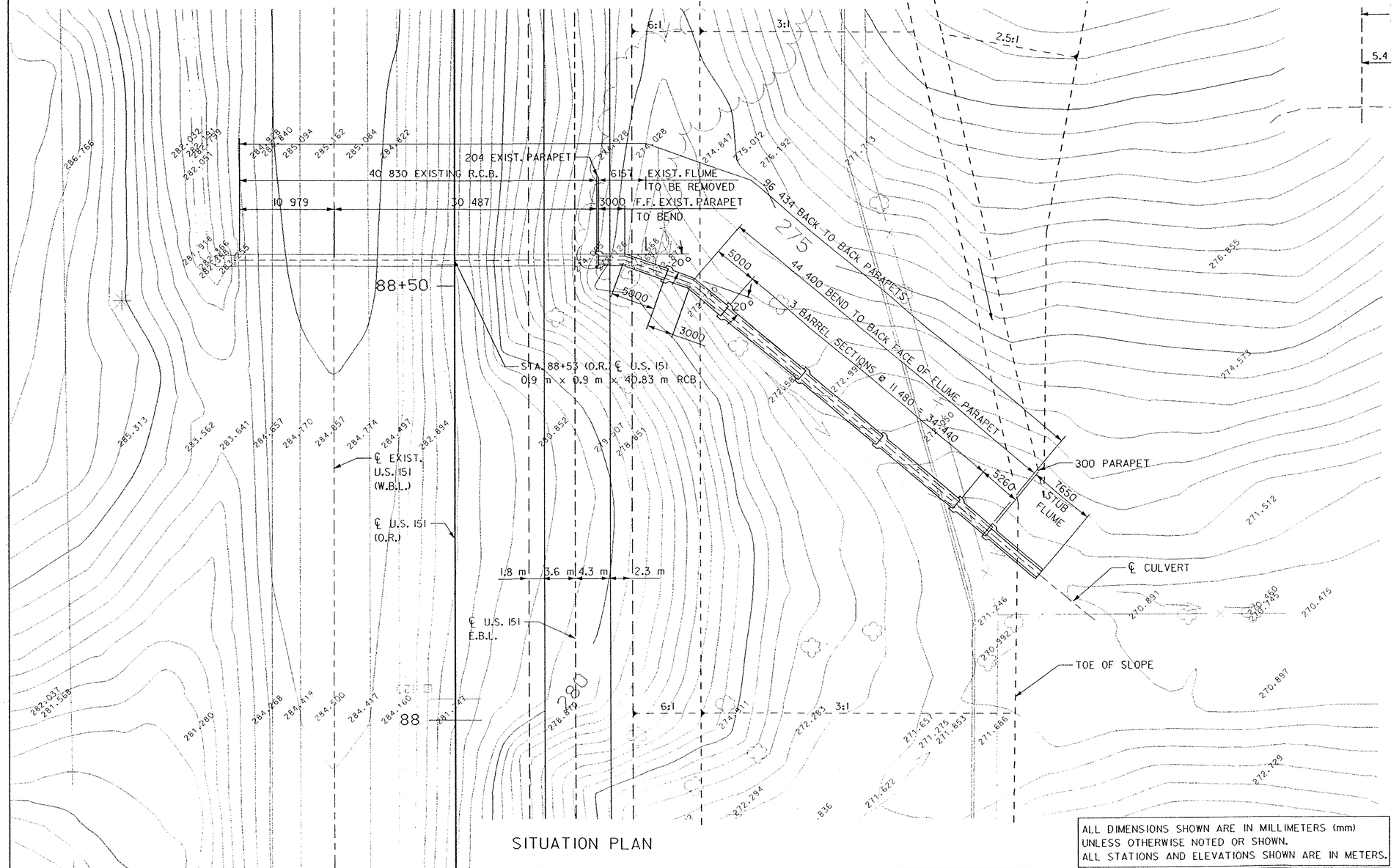
STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		V.02	

155-198



LONGITUDINAL SECTION - ALONG ℄ CULVERT

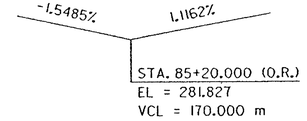
ESTIMATED SETTLEMENT = 0.12 m



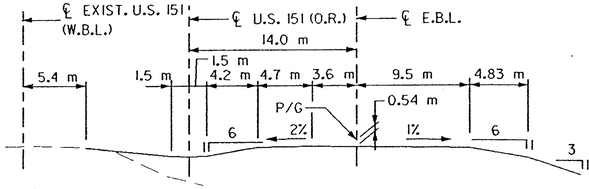
SITUATION PLAN

BENCH MARK:

FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18



U.S. HWY. 151 PROFILE GRADE



TYPICAL APPROACH SECTION

HYDRAULIC DATA		
FREQUENCY	DISCHARGE(cms)	HEADWATER ELEV.
10-YEAR	0.65	282.52
25-YEAR	0.75	282.58
50-YEAR	0.93	282.69
100-YEAR	1.12	282.80

DRAINAGE AREA = 3.6 ha. HILLY
50 YEAR DESIGN FREQUENCY

LOCATION

U.S. 151
T84N - R4W
SECTION 21
FAIRVIEW TWP.
JONES COUNTY

TRAFFIC DATA

2001	ADT	7140
2021	ADT	8560
2021	DHV	920
2001	TRUCKS	10%
2021	TRUCKS	11%

0 METERS 25

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.
ALL STATIONS AND ELEVATIONS SHOWN ARE IN METERS.

DESIGN FOR EXTNESION TO A 0° SKEW

0.9 m × 0.9 m REINFORCED CONCRETE BOX CULVERT SITUATION PLAN

STA. 88+53.0 (O.R.) ℄ U.S. HIGHWAY 151 — FEBRUARY, 1999

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 9 FILE NO. 29164 DESIGN NO. 598

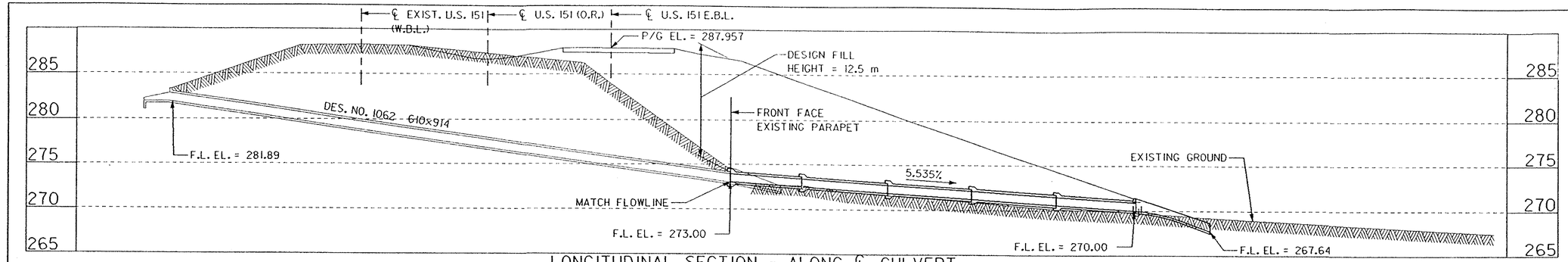
DESIGNED BY DLN CHECKED BY RMJ
DETAILED BY JAE CADD FILE H53598.S02

EARTH TECH

LINN/JONES COUNTY

PROJECT NUMBER NHSX-151-3(112)--3H-57

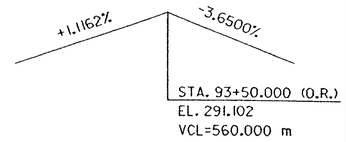
STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		V.03	



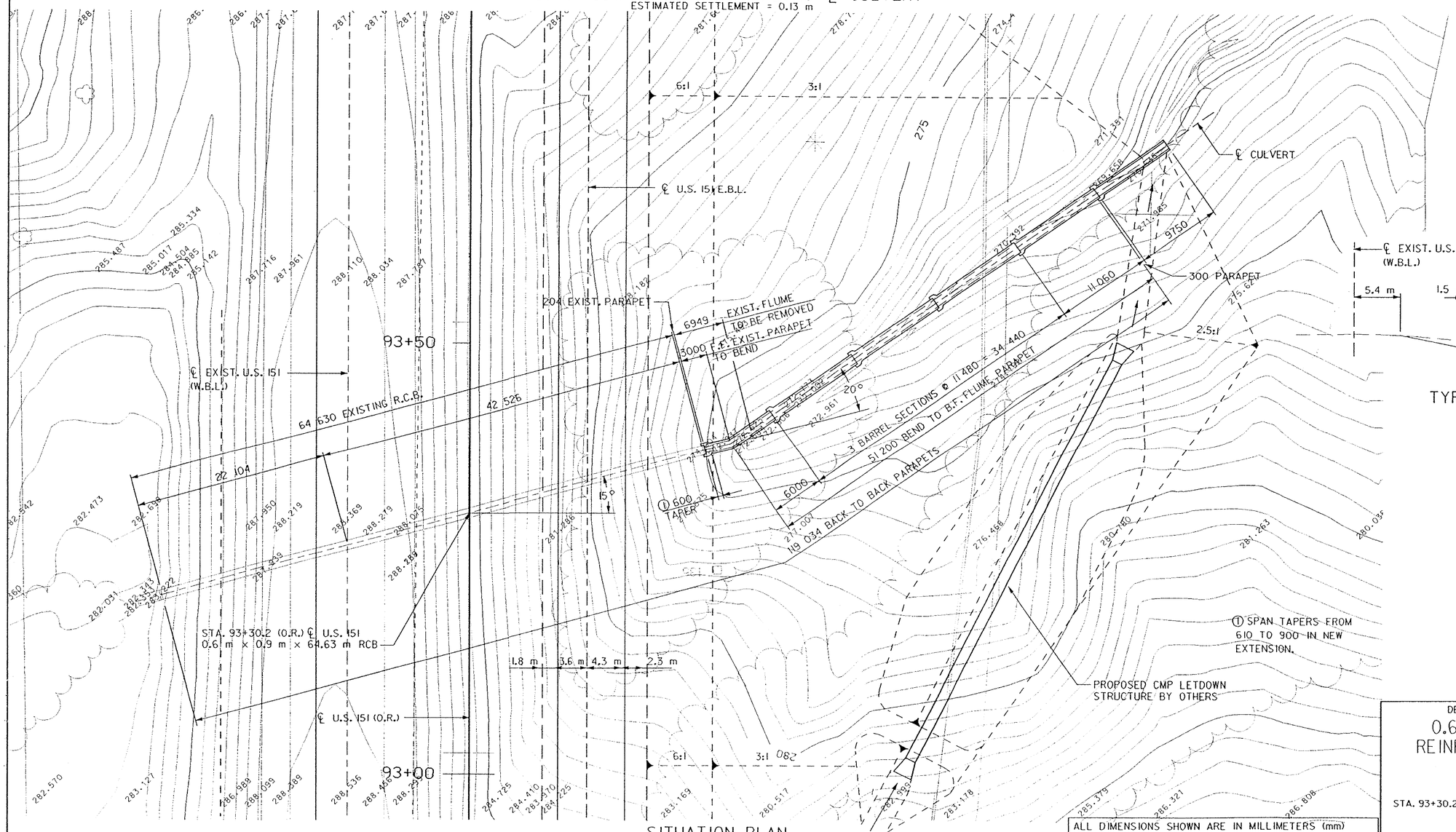
LONGITUDINAL SECTION - ALONG ℄ CULVERT

BENCH MARK:

FOR NEW BENCH MARK INFORMATION,
SEE PAGE G.18



U.S. HWY. 151 PROFILE GRADE

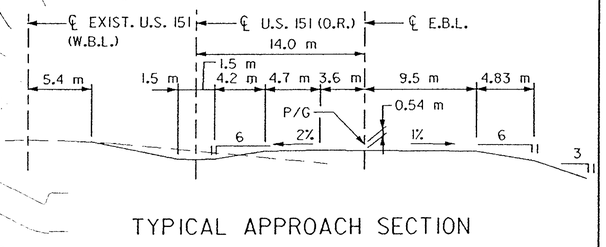


SITUATION PLAN

HYDRAULIC DATA

FREQUENCY	DISCHARGE(cms)	HEADWATER ELEV.
10-YEAR	0.71	282.72
25-YEAR	0.81	282.81
50-YEAR	1.01	282.99
100-YEAR	1.21	283.19

DRAINAGE AREA = 4.0 ha, HILLY
50 YEAR DESIGN FREQUENCY



TYPICAL APPROACH SECTION

TRAFFIC DATA

2001	ADT	7140
2021	ADT	8560
2021	DHV	920
2001	TRUCKS	10%
2021	TRUCKS	11%

LOCATION

U.S. 151
T84N - R4W
SECTION 21
FAIRVIEW TWP.
JONES COUNTY

0 METERS 25

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm)
UNLESS OTHERWISE NOTED OR SHOWN.
ALL STATIONS AND ELEVATIONS SHOWN ARE IN METERS.

DESIGN FOR EXTENSION TO A 15° SKEW (R.A.)

0.6 m x 0.9 m TO 0.9 m x 0.9 REINFORCED CONCRETE BOX CULVERT SITUATION PLAN

STA. 93+30.2 (O.R.) ℄ U.S. HIGHWAY 151 — FEBRUARY, 1999

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 7 — FILE NO. 29164 — DESIGN NO. 698

DESIGNED BY DLN CHECKED BY RMJ
DETAILED BY JAE CADD FILE H53698.S02

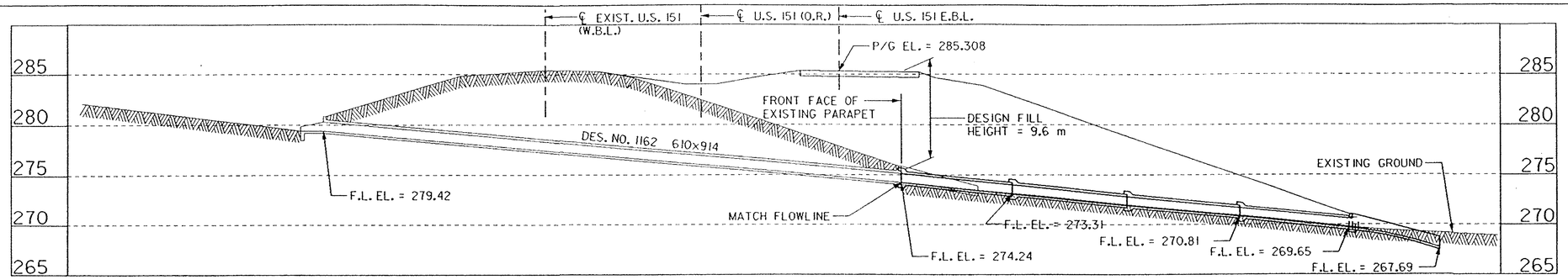
EARTH TECH

LINN/JONES COUNTY

PROJECT NUMBER NHSX-151-3(112)--3H-57

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		V.04	[redacted]

157-198

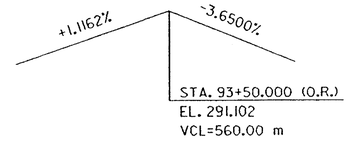


LONGITUDINAL SECTION - ALONG ℄ CULVERT

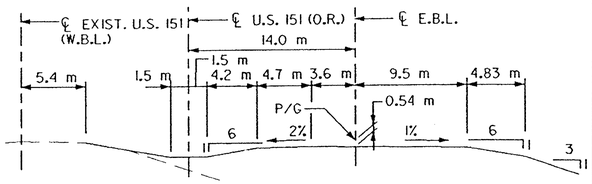
ESTIMATED SETTLEMENT = 0.18 m

BENCH MARK:

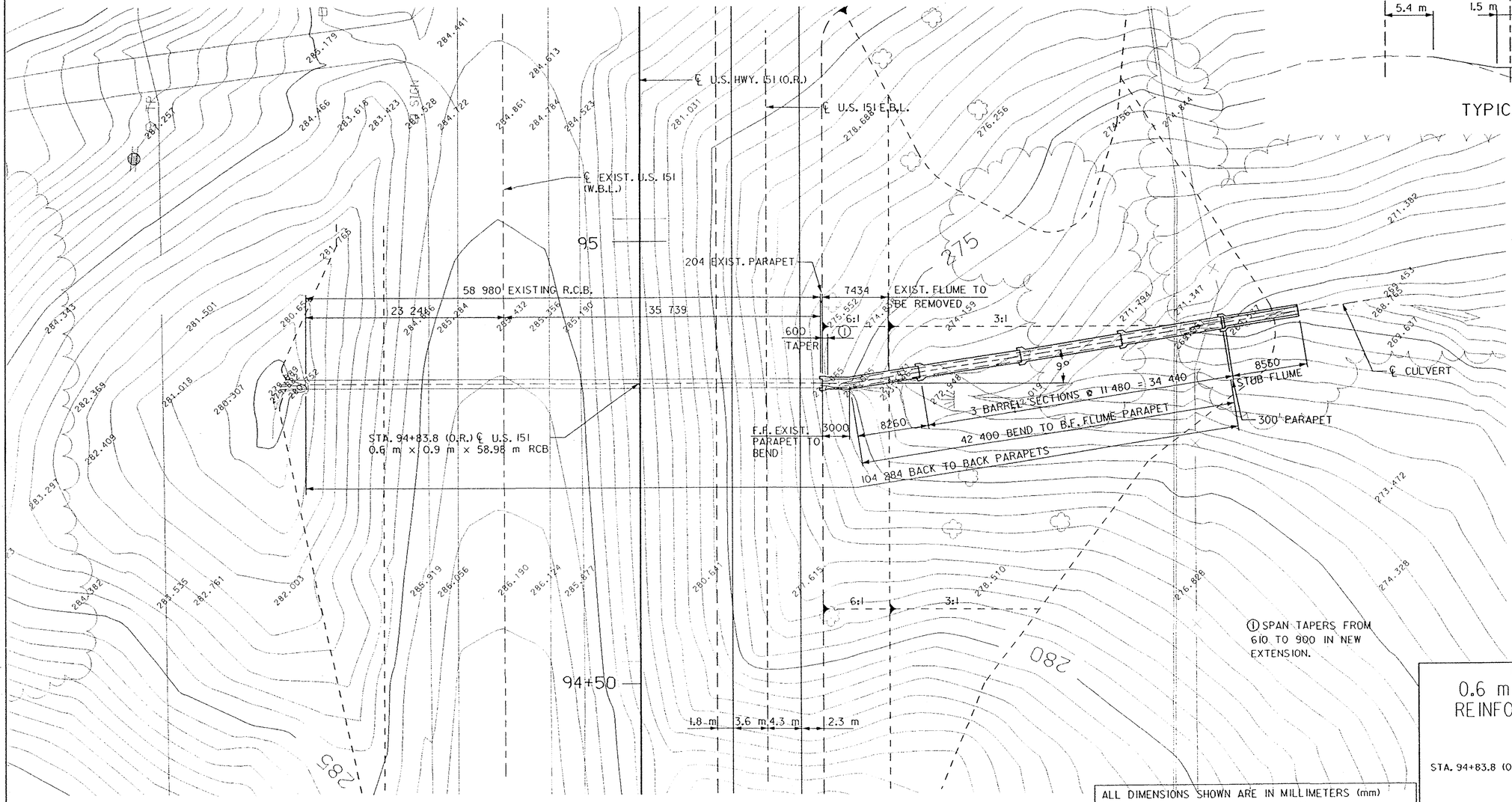
FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18



U.S. HWY. 151 PROFILE GRADE



TYPICAL APPROACH SECTION



SITUATION PLAN

FILL HT. = 9.6 m

HYDRAULIC DATA		
FREQUENCY	DISCHARGE(cms)	HEADWATER ELEV.
10-YEAR	0.36	279.94
25-YEAR	0.41	279.99
50-YEAR	0.51	280.08
100-YEAR	0.62	280.18

DRAINAGE AREA = 1.6 ha, HILLY
50 YEAR DESIGN FREQUENCY

LOCATION

U.S. 151
T84N - R4W
SECTION 21
FAIRVIEW TWP.
JONES COUNTY

TRAFFIC DATA

2001	ADT	7140
2021	ADT	8560
2021	DHV	920
2001	TRUCKS	10%
2021	TRUCKS	11%

① SPAN TAPERS FROM 610 TO 900 IN NEW EXTENSION.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm)
UNLESS OTHERWISE NOTED OR SHOWN.
ALL STATIONS AND ELEVATIONS SHOWN ARE IN METERS.

0 METERS 25

DESIGN FOR EXTENSION TO A 0° SKEW

0.6 m x 0.9 m TO 0.9 m x 0.9 m REINFORCED CONCRETE BOX CULVERT SITUATION PLAN

STA. 94+83.8 (O.R.) ℄ U.S. HIGHWAY 151

FEBRUARY, 1999

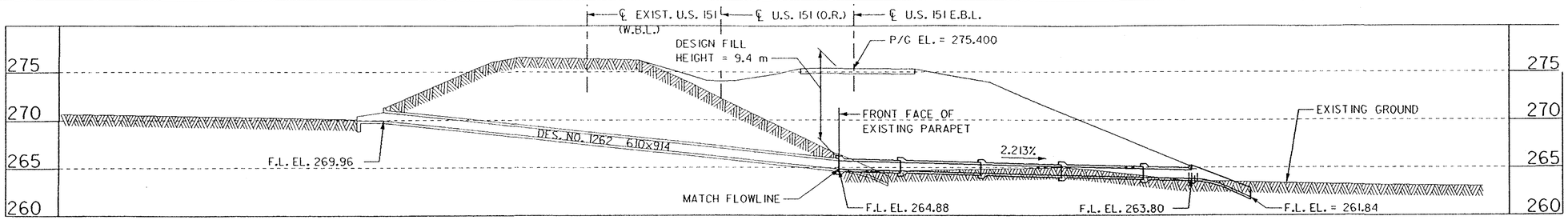
JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 7 FILE NO. 29164 DESIGN NO. 798

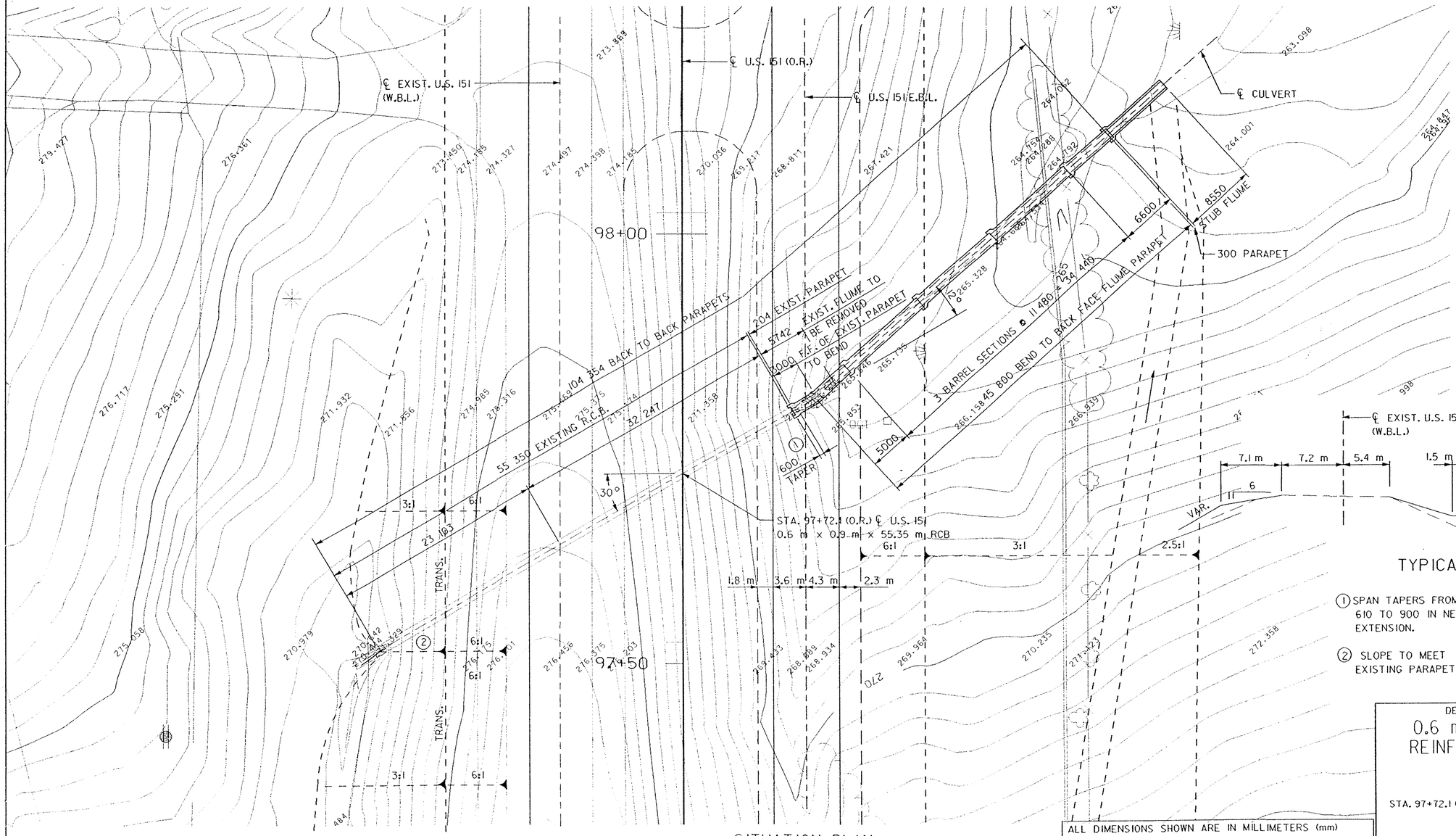
DESIGNED BY RMJ	CHECKED BY DLN	EARTH TECH	LINN/JONES COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
DETAILED BY MAP	CADD FILE H53798.S02					IOWA	7		V.05	[redacted]

158-198



LONGITUDINAL SECTION - ALONG ℄ CULVERT

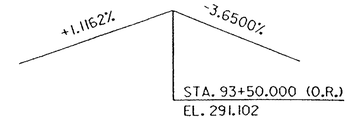
ESTIMATED SETTLEMENT = 0.06 m



SITUATION PLAN

BENCH MARK:

FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18



U.S. HWY. 151 PROFILE GRADE

HYDRAULIC DATA		
FREQUENCY	DISCHARGE(cms)	HEADWATER ELEV.
10-YEAR	0.76	270.85
25-YEAR	0.87	270.95
50-YEAR	1.08	271.14
100-YEAR	1.30	271.38

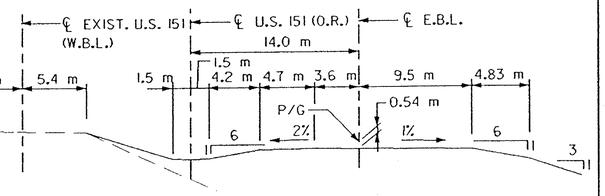
DRAINAGE AREA = 4.5 ha. HILLY
50 YEAR DESIGN FREQUENCY

LOCATION

U.S. 151
T84N - R4W
SECTION 21
FAIRVIEW TWP.
JONES COUNTY

TRAFFIC DATA

2001	ADT	7140
2021	ADT	8560
2021	DHV	920
2001	TRUCKS	10%
2021	TRUCKS	11%



TYPICAL APPROACH SECTION

① SPAN TAPERS FROM 610 TO 900 IN NEW EXTENSION.

② SLOPE TO MEET EXISTING PARAPET

0 METERS 25

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.
ALL STATIONS AND ELEVATIONS SHOWN ARE IN METERS.

DESIGN FOR EXTENSION TO A 30° SKEW (R.A.)

0.6 m x 0.9 m TO 0.9 m x 0.9 m REINFORCED CONCRETE BOX CULVERT SITUATION PLAN

STA. 97+72.1 (O.R.) ℄ U.S. HIGHWAY 151 — FEBRUARY, 1999

JONES COUNTY

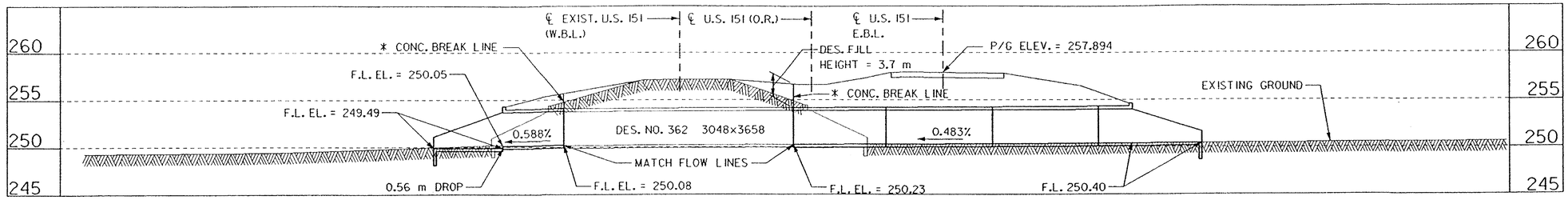
IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 7 FILE NO. 29164 DESIGN NO. 898

DESIGNED BY	RMJ	CHECKED BY	DLN
DETAILED BY	MAP	CADD FILE	H53898.S02

EARTH TECH | LINN/JONES COUNTY | PROJECT NUMBER | NHSX-151-3(112)--3H-57

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		V.06	



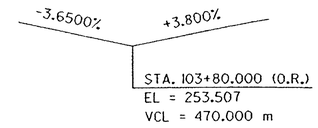
* SEE PART REMOVAL PLANS ON DESIGN SHEETS 3 AND 5.

LONGITUDINAL SECTION - ALONG ℄ CULVERT

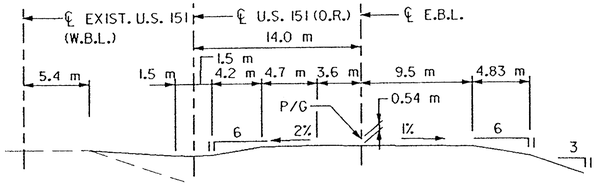
ESTIMATED SETTLEMENT = 0.05 m

BENCH MARK:

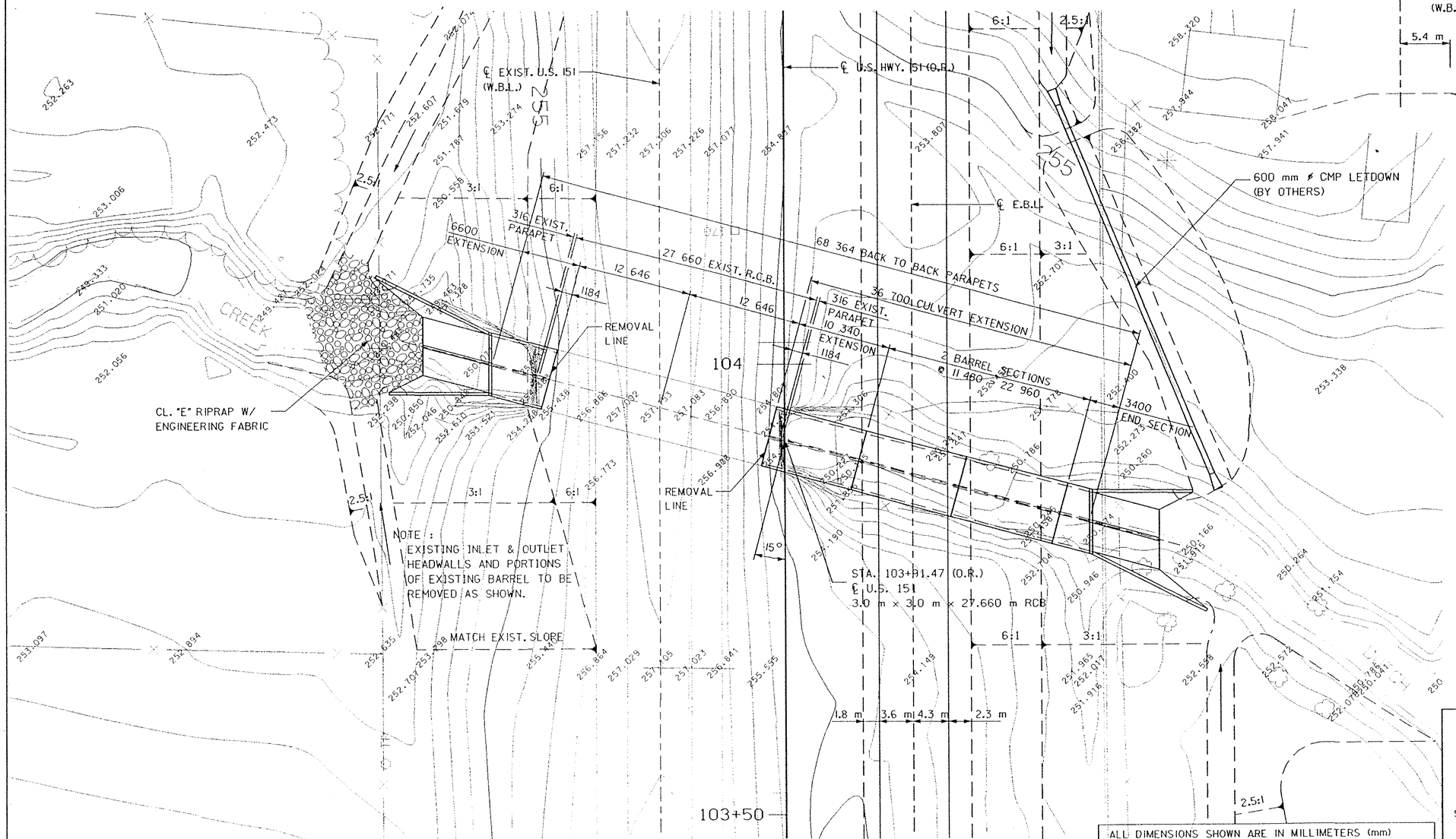
FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18



U.S. HWY. 151 PROFILE GRADE



TYPICAL APPROACH SECTION



SITUATION PLAN

HYDRAULIC DATA		
FREQUENCY	DISCHARGE(cms)	HEADWATER ELEV.
10-YEAR	23.81	252.55
25-YEAR	33.73	252.90
50-YEAR	41.66	253.27
100-YEAR	50.31	253.65
500-YEAR	67.70	254.42

DRAINAGE AREA = 1040.0 ha, ROLLING
50 YEAR DESIGN FREQUENCY

LOCATION

U.S. 151
T84N - R4W
SECTION 22
FAIRVIEW TWP.
JONES COUNTY

TRAFFIC DATA

2001	ADT	7140
2021	ADT	8560
2021	DHV	920
2001	TRUCKS	10%
2021	TRUCKS	11%

0 METERS 25

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.
ALL STATIONS AND ELEVATIONS SHOWN ARE IN METERS

DESIGN FOR EXTENSION TO A 15° SKEW (L.A.)

TWIN 3.0 m x 3.6 m REINFORCED CONCRETE BOX CULVERT SITUATION PLAN

STA. 103+91.47 (O.R.) ℄ U.S. HIGHWAY 151 — FEBRUARY, 1999

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 10 FILE NO. 29164 DESIGN NO. 998

DESIGNED BY RMJ CHECKED BY DLN
DETAILED BY JAE CADD FILE H53998.S02

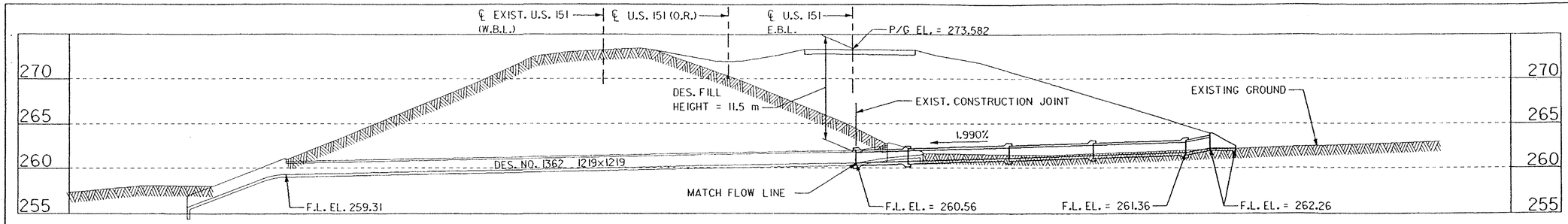
EARTH TECH

LINN/JONES COUNTY

PROJECT NUMBER NHSX-151-3(112)--3H-57

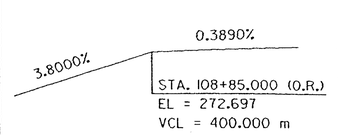
STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		V.07	[redacted]

160-198



BENCH MARK:

FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18

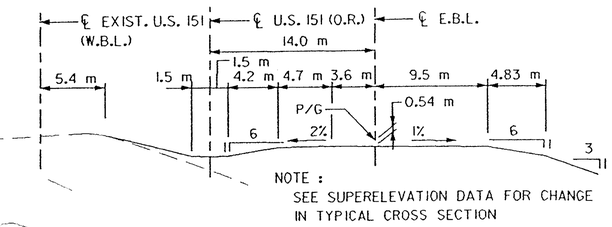


U.S. HWY. 151 PROFILE GRADE

LONGITUDINAL SECTION - ALONG ℄ CULVERT

ESTIMATED SETTLEMENT = 0.05 m

SITUATION PLAN



NOTE :
SEE SUPERELEVATION DATA FOR CHANGE IN TYPICAL CROSS SECTION

TYPICAL APPROACH SECTION

SUPERELEVATION DATA

e = 0.0615
L = 92.000
x = 29.900

SPIRAL DATA

Δ = 28°48'20.21"
Ls = 92.000
Ts = 269.523
Es = 28.649
Xc = 91.989
Yc = 1.621
LT = 61.342
ST = 30.675

CURVE DATA

PI STA. 109+81.905
Δ = 22°44' 48" LT.
T = 175.002
L = 345.395
E = 17.426
R = 870.000

HYDRAULIC DATA

FREQUENCY	DISCHARGE(cms)	HEADWATER ELEV.
10-YEAR	3.64	263.47
25-YEAR	4.16	263.58
50-YEAR	5.20	263.79
100-YEAR	6.24	263.99

DRAINAGE AREA = 37.2 ha, HILLY
50 YEAR DESIGN FREQUENCY

LOCATION

U.S. 151
T84N - R4W
SECTION 22
FAIRVIEW TWP.
JONES COUNTY

TRAFFIC DATA

2001	ADT	7140
2021	ADT	8560
2021	DHV	920
2001	TRUCKS	10%
2021	TRUCKS	11%

0 METERS 25

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.
ALL STATIONS AND ELEVATIONS SHOWN ARE IN METERS.

DESIGN EXTENSION TO A FOR 0° SKEW

1.2 m x 1.2 m REINFORCED CONCRETE BOX CULVERT SITUATION PLAN

STA. 111+12.40 (O.R.) ℄ U.S. HIGHWAY 151 — FEBRUARY, 1999

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 10 FILE NO. 29164 DESIGN NO. 1098

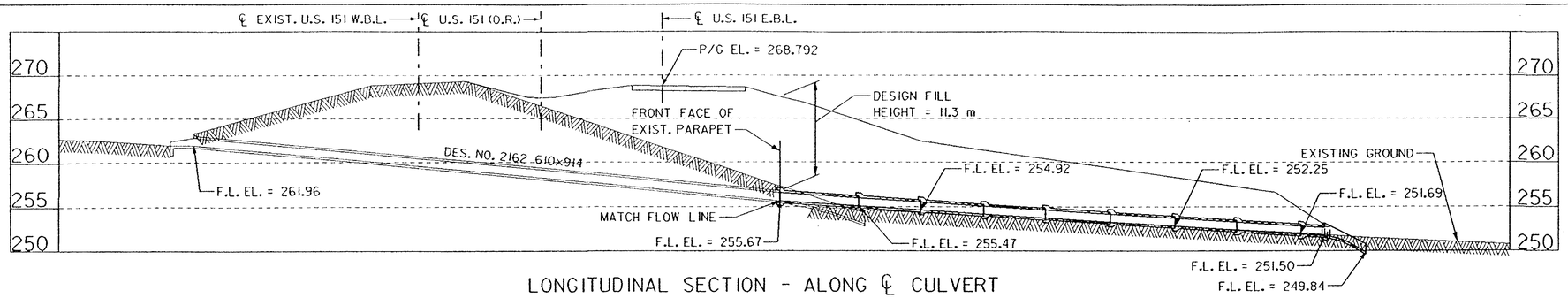
DESIGNED BY	RMJ	CHECKED BY	DLN
DETAILED BY	JAE	CADD FILE	H531098.S02

EARTH TECH

LINN/JONES COUNTY

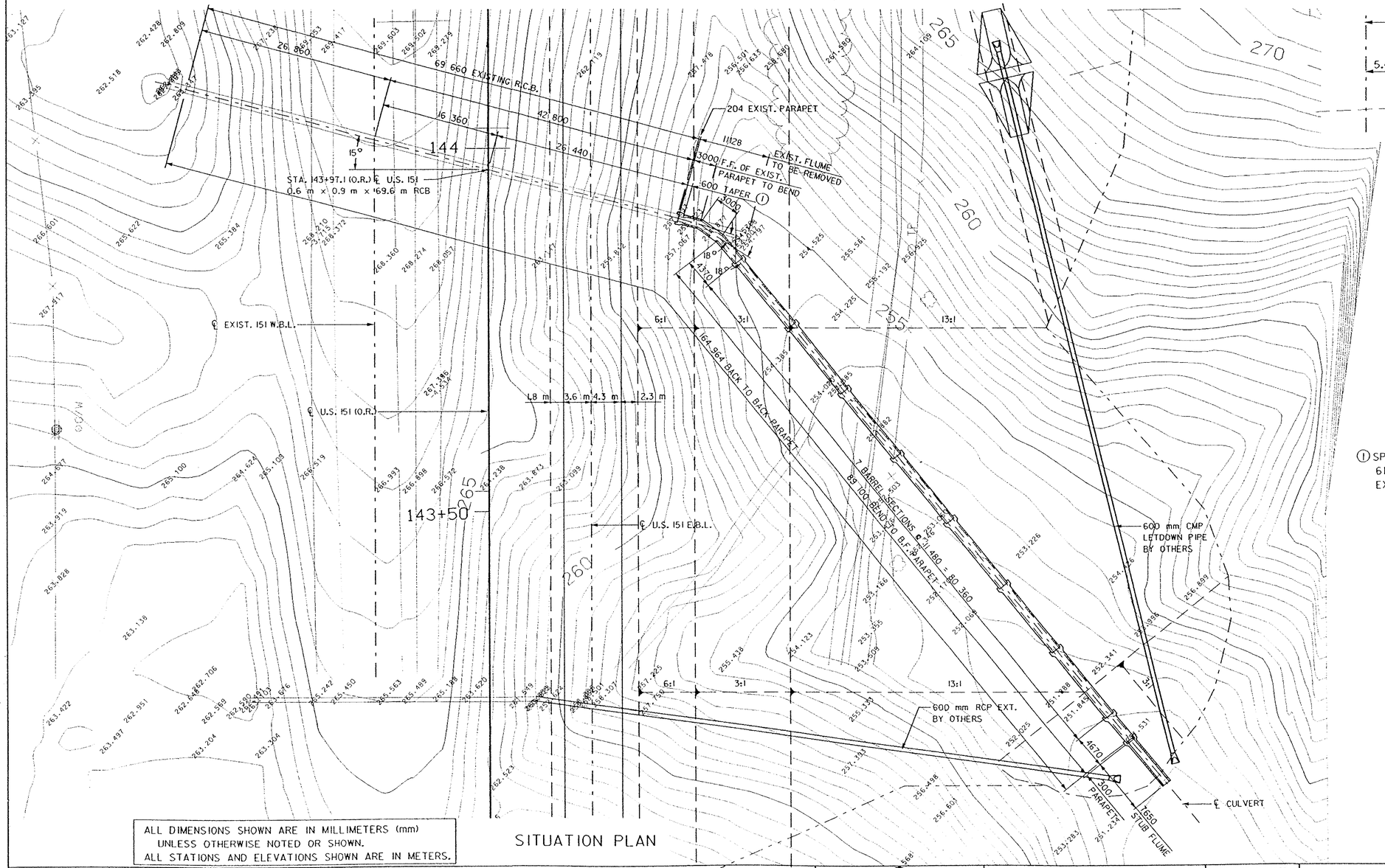
PROJECT NUMBER NHSX-151-3(112)--3H-57

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		V.08	



LONGITUDINAL SECTION - ALONG ℄ CULVERT

ESTIMATED SETTLEMENT = 0.30 m



SITUATION PLAN

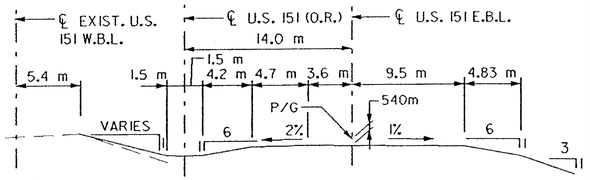
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm)
UNLESS OTHERWISE NOTED OR SHOWN.
ALL STATIONS AND ELEVATIONS SHOWN ARE IN METERS.

BENCH MARK:

FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18

STA. 147+00.000 (O.R.)
EL. 282.350
VCL = 680.000 m
+4.400%
-3.600%

U.S. HWY. 151 PROFILE GRADE



TYPICAL APPROACH SECTION

HYDRAULIC DATA

FREQUENCY	DISCHARGE(cms)	HEADWATER ELEV.
10-YEAR	0.71	262.81
25-YEAR	0.81	262.89
50-YEAR	1.01	263.07
100-YEAR	1.21	263.27

DRAINAGE AREA = 4.0 ha. HILLY
50 YEAR DESIGN FREQUENCY

LOCATION

US 151
T84N - R4W
SECTION 13 & 14
FAIRVIEW TWP.
JONES COUNTY

TRAFFIC DATA

2001	ADT	6590
2021	ADT	7910
2021	DHV	850
2001	TRUCKS	11%
2021	TRUCKS	12%

① SPAN TAPERS FROM 610 TO 900 IN NEW EXTENSION.

0 METERS 30

DESIGN FOR EXTENSION TO A 15° SKEW (L.A.)

0.6 m x 0.9 m TO 0.9 m x 0.9 m REINFORCED CONCRETE BOX CULVERT SITUATION PLAN

STA. 143+97.1 (O.R.) ℄ U.S. HIGHWAY 151 — FEBRUARY, 1999

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 7 — FILE NO. 29164 — DESIGN NO. 1198

DESIGNED BY RMJ CHECKED BY DLN
DETAILED BY JAE CADD FILE H531198.S02

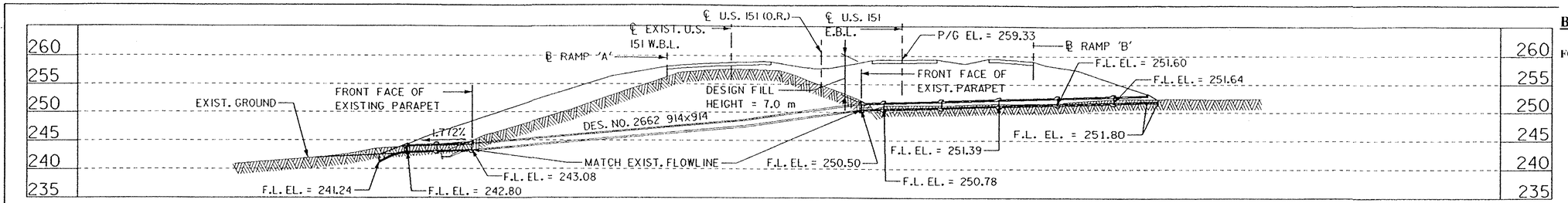
EARTH TECH

JONES COUNTY

PROJECT NUMBER NHSX-151-3(112)--3H-57

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		V.09	[redacted]

162 - 198



LONGITUDINAL SECTION - ALONG ℄ CULVERT

ESTIMATED SETTLEMENT = 0.15 m

BENCH MARK:

FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18

-3.5056% -1.4332%

STA. 6154+00.000
EL = 256.768
VCL = 110.000 m

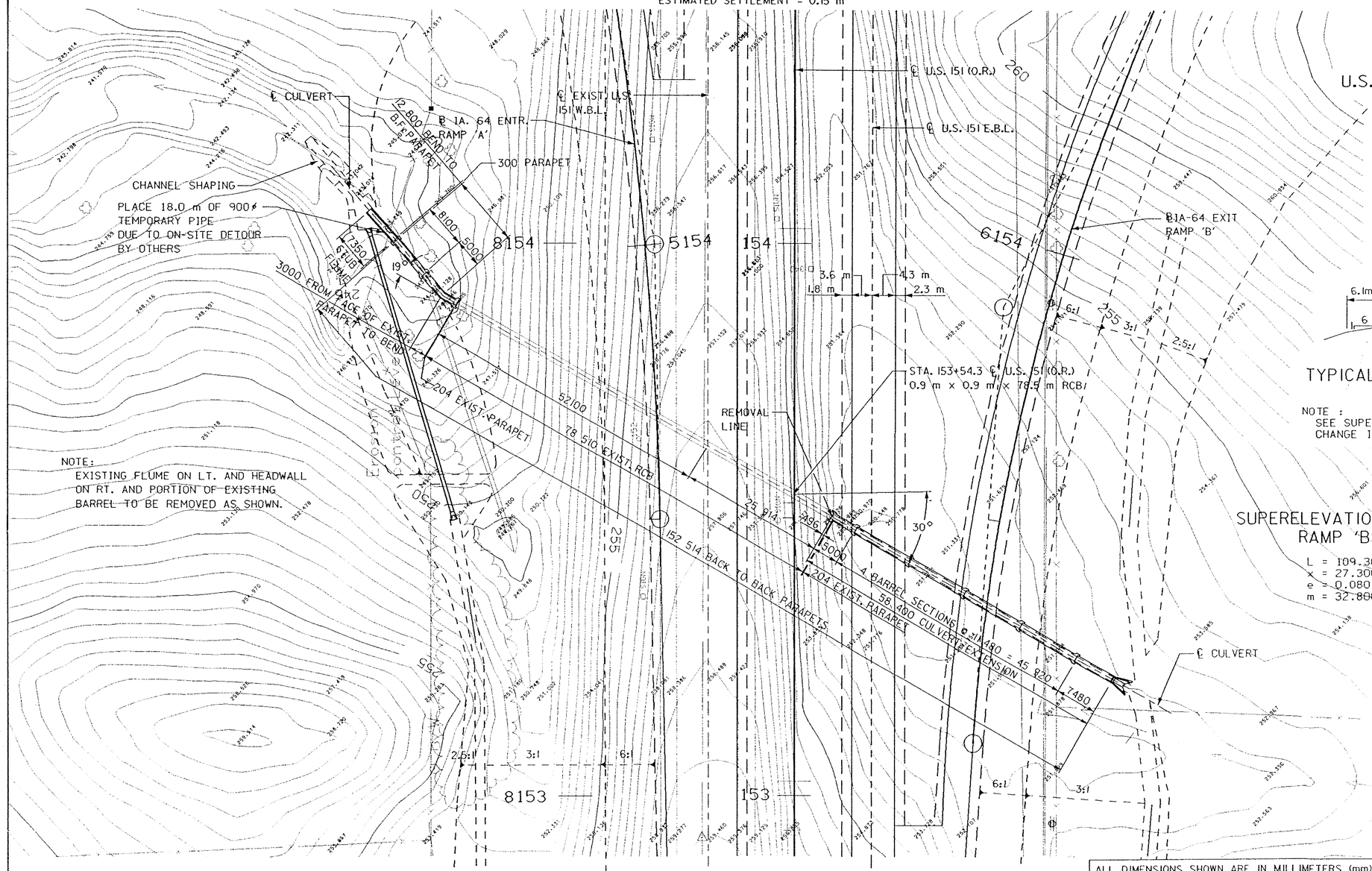
RAMP 'B' PROFILE GRADE

-3.6000% +0.2278%

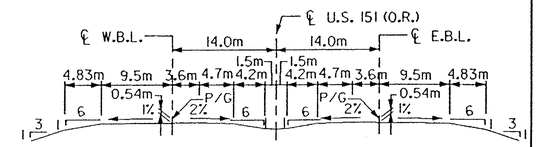
STA. 154+20.000 (O.R.)
EL = 256.430
VCL = 260.000 m

U.S. HWY 151 PROFILE GRADE

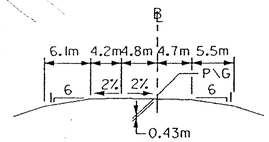
NOTE:
FOR RAMP 'A' TAPER ALIGNMENT AND PROFILE REFER TO ROAD DESIGN DETAIL 550-2C



SITUATION PLAN

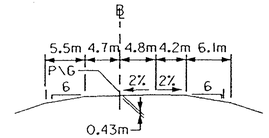


TYPICAL APPROACH SECTION



TYPICAL CROSS SECTION
RAMP 'B'

NOTE :
SEE SUPERELEVATION DATA FOR CHANGE IN TYPICAL CROSS SECTION



TYPICAL CROSS SECTION
RAMP 'A'

NOTE:
SEE ROAD DESIGN DETAIL 520-2C FOR SUPERELEVATION DATA

SUPERELEVATION DATA
RAMP 'B'

L = 109.300
x = 27.300
e = 0.080
m = 32.880

HYDRAULIC DATA		
FREQUENCY	DISCHARGE(cms)	HEADWATER ELEV.
10-YEAR	1.51	252.93
25-YEAR	1.73	253.08
50-YEAR	2.16	253.41
100-YEAR	2.59	253.83

DRAINAGE AREA = 11.3 ha, HILLY
50 YEAR DESIGN FREQUENCY

LOCATION	TRAFFIC DATA		
U.S. 151	2001	ADT	6590
T84N - R4W	2021	ADT	7910
SECTION 11 & 12	2021	DHV	850
FAIRVIEW TWP.	2001	TRUCKS	11%
JONES COUNTY	2021	TRUCKS	12%

0 METERS 40

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.
ALL STATIONS AND ELEVATIONS SHOWN ARE IN METERS.

DESIGN FOR EXTENSION TO A 30° SKEW (L.A.)

0.9 m x 0.9 m REINFORCED CONCRETE BOX CULVERT SITUATION PLAN

STA. 153+54.3 (O.R.) ℄ U.S. HIGHWAY 151 — FEBRUARY, 1999

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 7 — FILE NO. 29164 — DESIGN NO. 1398

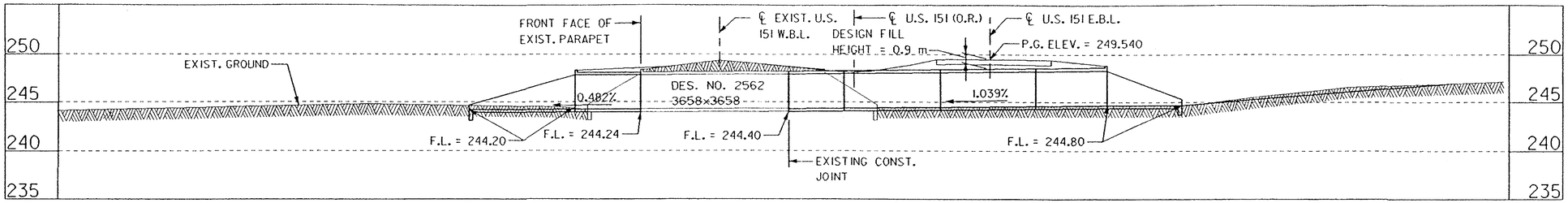
DESIGNED BY	RMJ	CHECKED BY	DLN
DETAILED BY	JAE	CADD FILE	H531398.S02

EARTH TECH

JONES COUNTY

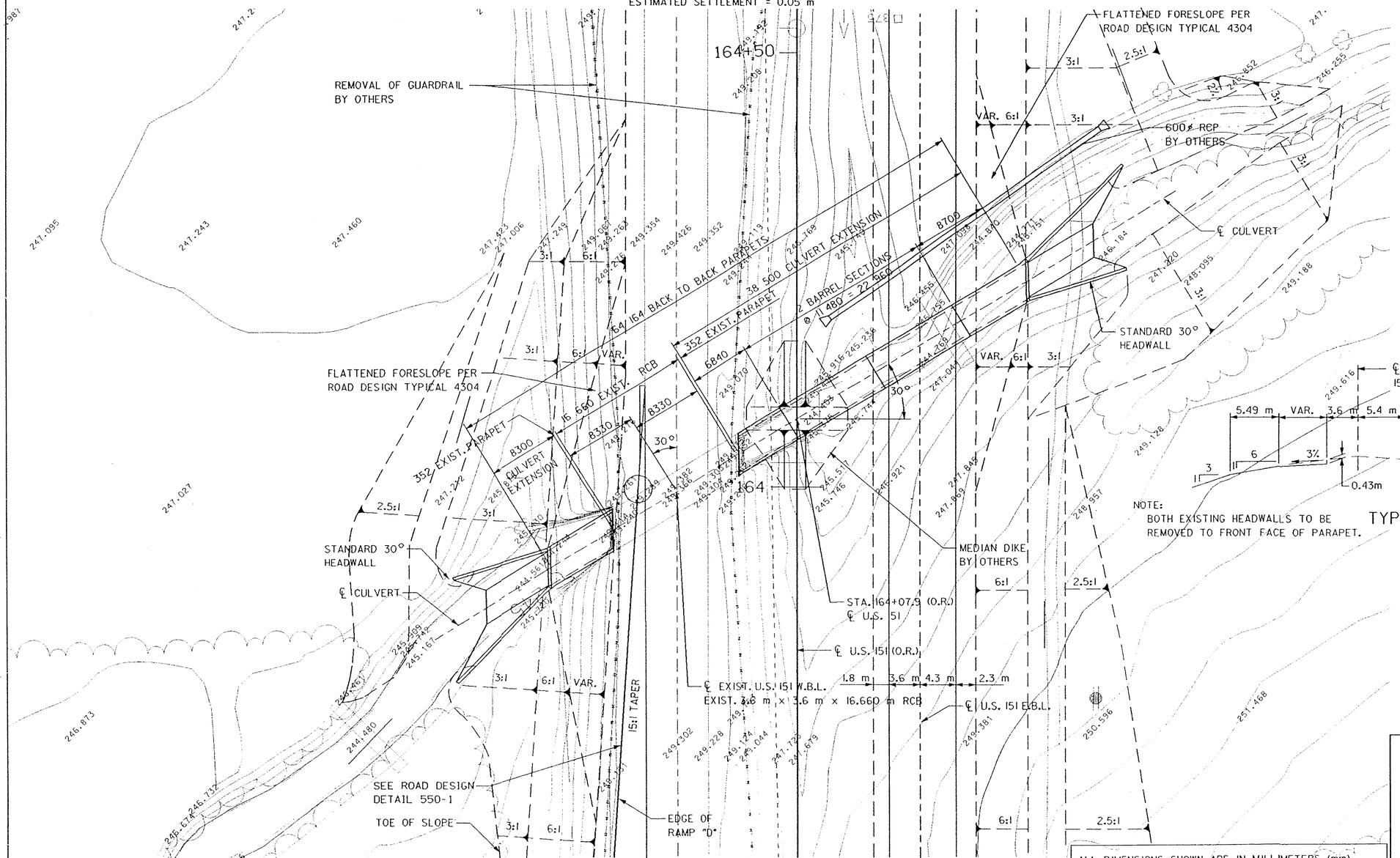
PROJECT NUMBER: NHSX-151-3(112)--3H-57

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		V.10	

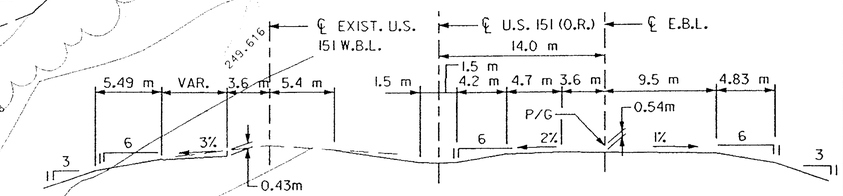


LONGITUDINAL SECTION - ALONG ℄ CULVERT

ESTIMATED SETTLEMENT = 0.05 m



SITUATION PLAN



TYPICAL APPROACH SECTION

NOTE:
BOTH EXISTING HEADWALLS TO BE REMOVED TO FRONT FACE OF PARAPET.

BENCH MARK:

FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18

-2.5318% +0.2108%

STA. 161+10.000 (O.R.)
EL = 248.895
VCL = 190.000

U.S. HWY. 151 PROFILE GRADE

HYDRAULIC DATA		
FREQUENCY	DISCHARGE(cms)	HEADWATER ELEV.
10-YEAR	13.90	246.75
25-YEAR	20.07	247.28
50-YEAR	25.02	247.66
100-YEAR	30.50	248.07

DRAINAGE AREA = 404.7 ha, ROLLING
50 YEAR DESIGN FREQUENCY

LOCATION

U.S. 151
T84N - R4W
SECTION 1 & 2
FAIRVIEW TWP.
JONES COUNTY

TRAFFIC DATA

2001	ADT	5530
2021	ADT	6630
2021	DHV	712
2001	TRUCKS	11%
2021	TRUCKS	13%

0 METERS 25

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.
ALL STATIONS AND ELEVATIONS SHOWN ARE IN METERS.

DESIGN FOR EXTENSION TO A 30° SKEW (R.A.)

3.6 m x 3.6 m REINFORCED CONCRETE BOX CULVERT SITUATION PLAN

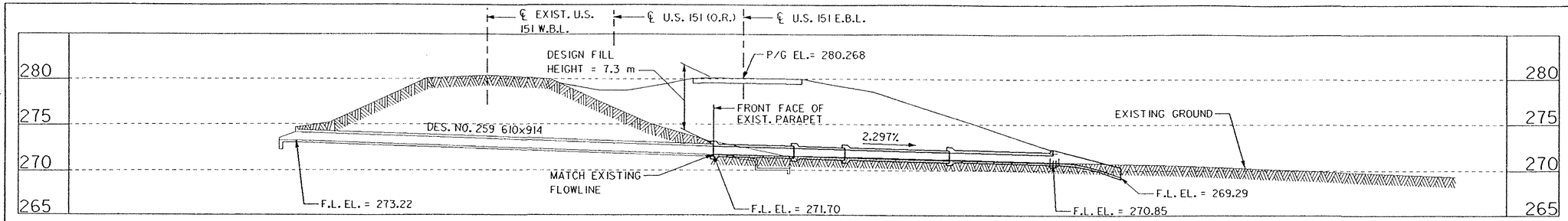
STA. 164+07.9 (O.R.) ℄ U.S. HIGHWAY 151 FEBRUARY, 1999

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 4 FILE NO. 29164 DESIGN NO. 1698

DESIGNED BY RMJ	CHECKED BY DLN	EARTH TECH	JONES COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
DETAILED BY JAE	CADD FILE H531698.S02					IOWA	7		V.11	



BENCH MARK:

FOR NEW BENCH MARK INFORMATION,

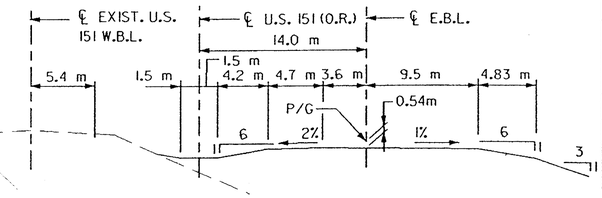
SEE PAGE G.18

STA. 179+70.000 (O.R.)
EL. 278.538
VCL = 240.000 m
+2.0680%
+0.2718%

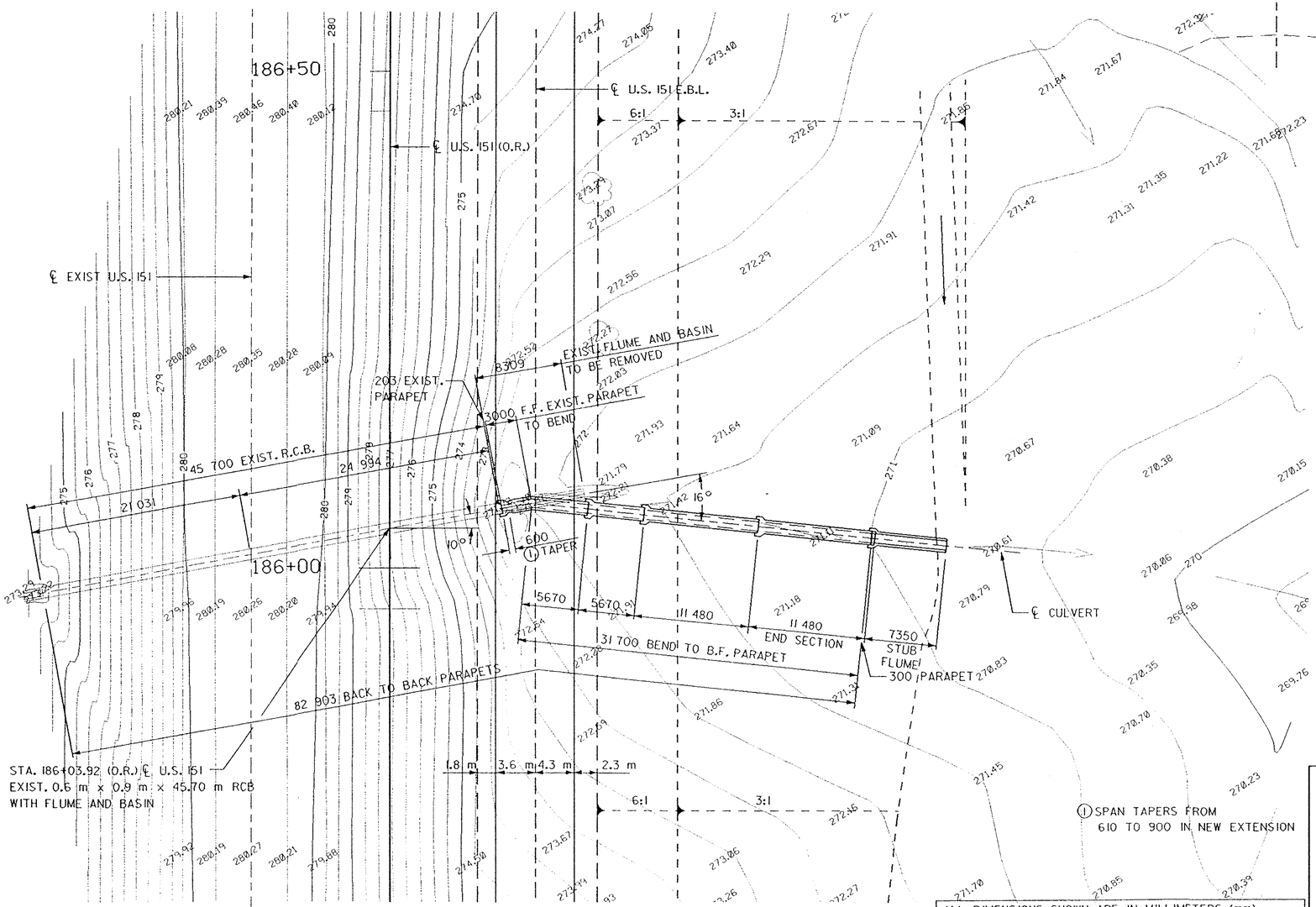
U.S. HWY. 151
PROFILE GRADE

LONGITUDINAL SECTION - ALONG ℄ CULVERT

ESTIMATED SETTLEMENT = 0.05 m



TYPICAL APPROACH SECTION



SITUATION PLAN

HYDRAULIC DATA		
FREQUENCY	DISCHARGE(cms)	HEADWATER ELEV.
10-YEAR	0.64	274.02
25-YEAR	0.73	274.10
50-YEAR	0.92	274.27
100-YEAR	1.10	274.44

DRAINAGE AREA = 5.3 ha, ROLLING
50 YEAR DESIGN FREQUENCY

LOCATION

U.S. 151
T85N - R4W
SECTION 36
CASS TWP.
JONES COUNTY

TRAFFIC DATA

2001	ADT	7480
2021	ADT	8950
2021	DHV	960
2001	TRUCKS	10%
2021	TRUCKS	11%

0 METERS 25

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.
ALL STATTIONS AND ELEVATIONS SHOWN ARE IN METERS.

DESIGN FOR EXTENSION TO A 10° SKEW (R.A.)

0.6 m x 0.9 m TO 0.9 m x 0.9 m REINFORCED CONCRETE BOX CULVERT SITUATION PLAN

STA. 186+03.92 (O.R.) ℄ U.S. HIGHWAY 151

FEBRUARY, 1999

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 6 FILE NO. 29164 DESIGN NO. 1798

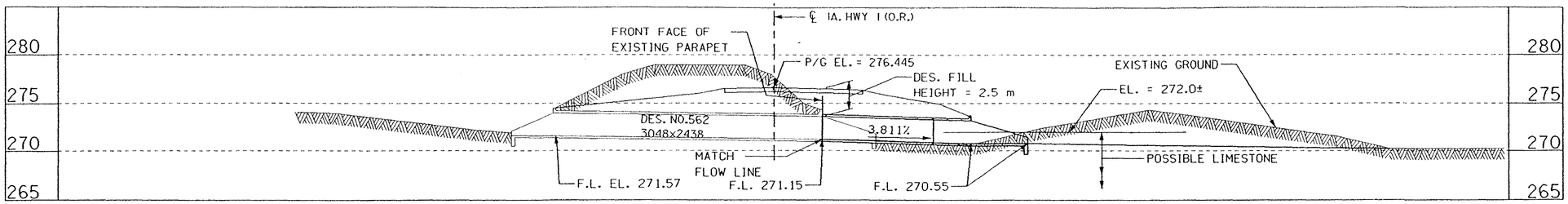
DESIGNED BY RMJ CHECKED BY DLN
DETAILED BY JAE CADD FILE H531798.S02

EARTH TECH

JONES COUNTY

PROJECT NUMBER NHSX-151-3(112)--3H-57

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7		V.12	

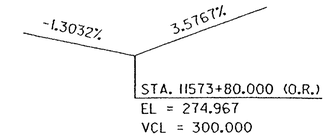


LONGITUDINAL SECTION - ALONG ℄ CULVERT

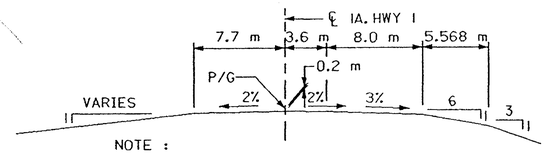
ESTIMATED SETTLEMENT = 0.00 m

BENCH MARK:

FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18

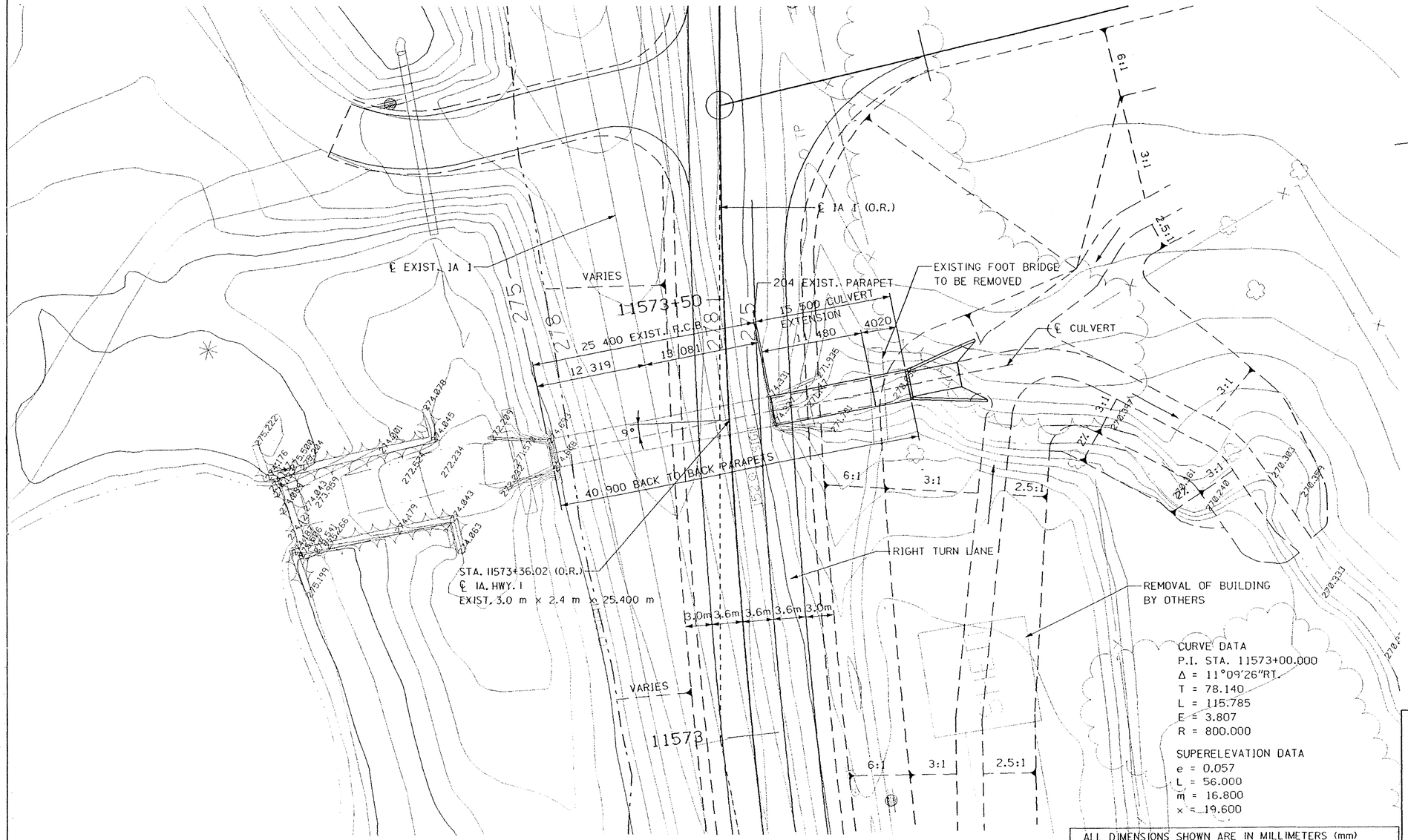


IA. HWY. NO. 1 PROFILE GRADE



NOTE :
SEE SUPERELEVATION DATA FOR CHANGE IN TYPICAL CROSS SECTION

TYPICAL APPROACH SECTION



SITUATION PLAN

HYDRAULIC DATA		
FREQUENCY	DISCHARGE(cms)	HEADWATER ELEV.
10-YEAR	12.73	273.61
25-YEAR	14.55	273.81
50-YEAR	18.19	274.20
100-YEAR	21.83	274.61

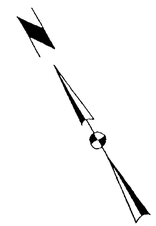
DRAINAGE AREA = 299 ha. ROLLING
50 YEAR DESIGN FREQUENCY

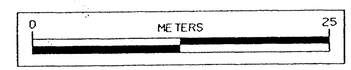
LOCATION

IA 1
T84N - R4W
SECTION 20
FAIRVIEW TWP.
JONES COUNTY

TRAFFIC DATA

2001	ADT	4420
2021	ADT	5300
2021	DHV	568
2001	TRUCKS	9%
2021	TRUCKS	10%





CURVE DATA
P.I. STA. 11573+00.000
Δ = 11°09'26"RT.
T = 78.140
L = 115.785
E = 3.807
R = 800.000

SUPERELEVATION DATA
e = 0.057
L = 56.000
m = 16.800
x = 19.600

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.
ALL STATIONS AND ELEVATIONS SHOWN ARE IN METERS.

DESIGN EXTENSION TO A FOR 9° SKEW

3.0 m x 2.4 m REINFORCED CONCRETE BOX CULVERT SITUATION PLAN

STA. 11573+36.02 (O.R.) ℄ IOWA HIGHWAY 1 — FEBRUARY, 1999

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 3 — FILE NO. 29164 — DESIGN NO. 1898

DESIGNED BY DLN	CHECKED BY RMJ	EARTH TECH	LINN/JONES COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	STATE	IOWA
DETAILED BY JAE	CADD FILE H53189B.S02					FHWA REGION	7
						FISCAL YEAR	
						SHEET NO.	V.13
						TOTAL SHEETS	[redacted]

166-198

NOTE :
MINIMUM CLEAR ZONE REQUIRED IS 9.0 m ON IA 1. MEDIAN GUARD RAIL NOT SHOWN, TO BE DESIGNED.

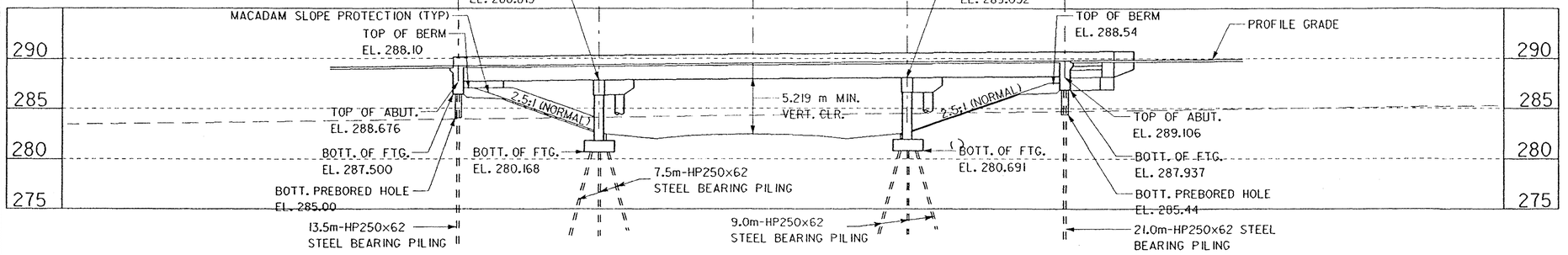
℄ WEST ABUT. BRG.
DECK EL. 290.340

℄ PIER 1
DECK EL. 290.458

℄ PIER 2
DECK EL. 290.677

℄ EAST ABUT. BRG.
DECK EL. 290.769

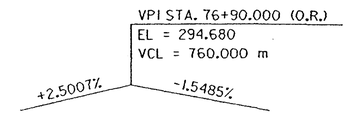
MINIMUM VERTICAL CLEARANCE (5.0 m REQ'D)
W.B. U.S. 151 (O.R.) STA. 76+49.238, 20.005 m LT. EL. = 290.595 (PROFILE GRADE)
IA 1 (O.R.) STA. 11576+23.598 EL. = 283.680 (PROFILE GRADE)
SUPERSTRUCTURE DEPTH TO LOW CONC. (INCL. CROWN) = 1.696 m
W.B. MIN. VERTICAL CLEARANCE = 5.219 m



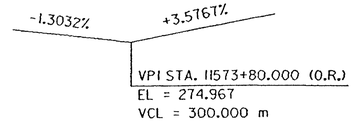
LONGITUDINAL SECTION - ALONG ℄ W.B. BRIDGE

BENCH MARK:

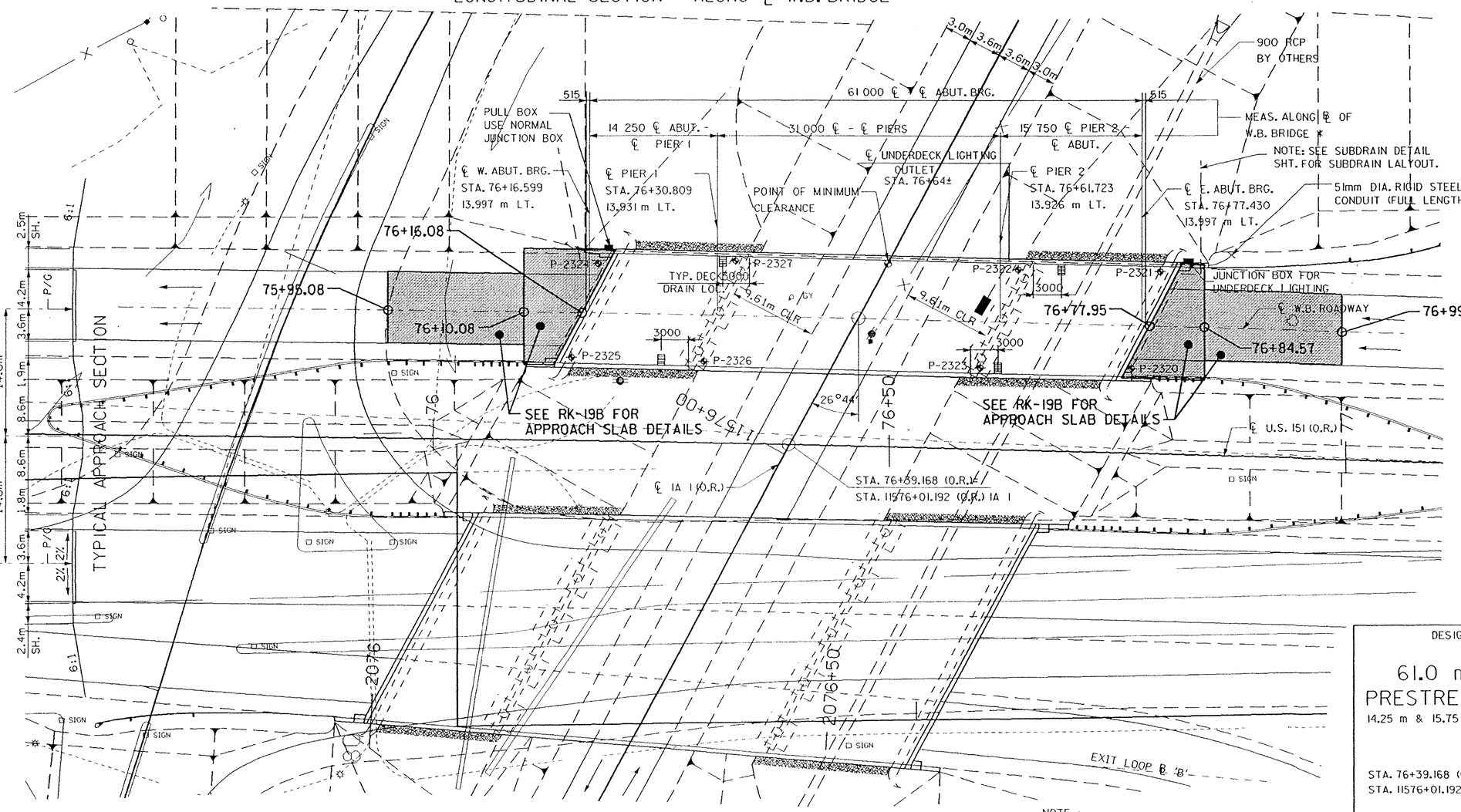
FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18



U.S. HWY. 151 PROFILE GRADE



IA HWY 1 PROFILE GRADE



* BASELINE IS THE CHORD LINE DRAWN BETWEEN THE INTERSECTION POINTS OF ℄ APPROACH ROADWAY AND OUT TO OUT OF SLAB AT EACH ABUTMENT.

TRAFFIC DATA

2001 AADT	7230 VPD
2021 AADT	8660 VPD
2021 DHV	930 VPH
TRUCKS	11%

LOCATION

U.S. 151 OVER IA 1
T84N R4W
SECTION 20
FAIRVIEW TWP.
JONES COUNTY

0 METERS 25

NOTE :
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.

DESIGN FOR 26°44' SKEW (L.A.) ON A 5000 m CURVE

WEST BOUND
61.0 m × 12.2 m PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

14.25 m & 15.75 m END SPANS — 31.00 m CENTER SPAN

SITUATION PLAN (WB)

STA. 76+39.168 (O.R.) ℄ U.S. HIGHWAY 151
STA. 11576+01.192 ℄ IA 1

FEBRUARY 2000

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

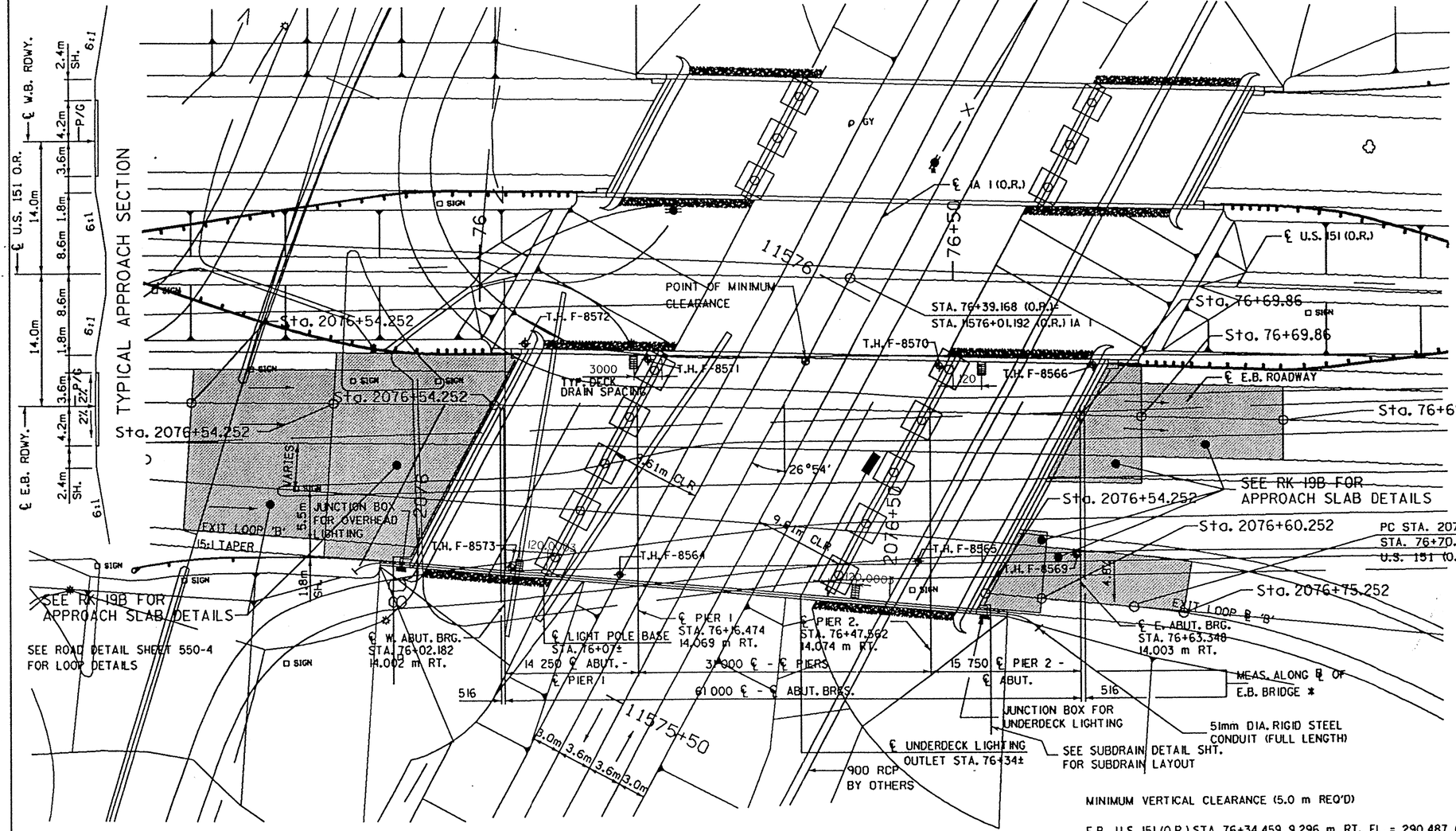
DESIGN SHEET NO. 2 OF 20 FILE NO. ____ DESIGN NO. 198

FILE: [***] D:/17198C/H530198.S02
TIME: WED AUG 30 10:15:56 2000

SITUATION PLAN - BRIDGE (W.B.L.)

S.B.I. NO. 17198C	EARTH TECH	JONES COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	STATE IOWA	FHWA REGION 7	FISCAL YEAR	SHEET NO. V.14	TOTAL SHEETS [redacted]

167-198



SITUATION PLAN - BRIDGE (E.B.L.)

BENCH MARK:

FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18

VPI STA. 76+90.000 (O.R.)
EL = 294.680
VCL = 760.000 m
+2.5007% -1.5485%

U.S. HWY. 151 PROFILE GRADE

-1.3032% +3.5767%
VPI STA. 11573+80.000 (O.R.)
EL = 274.967
VCL = 300.000 m

IA HWY 1 PROFILE GRADE

CURVE DATA
P.I. STA. 75+33.327
Δ = 4°50'51.475" RT.
T = 211.644
L = 423.036
E = 4.477
R = 5000.000

* BASELINE IS THE CHORD LINE DRAWN BETWEEN THE INTERSECTION POINTS OF ℄ APPROACH ROADWAY AND OUT TO OUT OF SLAB AT EACH ABUTMENT.

TRAFFIC DATA

2001 AADT	7230	VPD
2021 AADT	8660	VPH
2021 DHV	930	VPH
TRUCKS	11%	

LOCATION

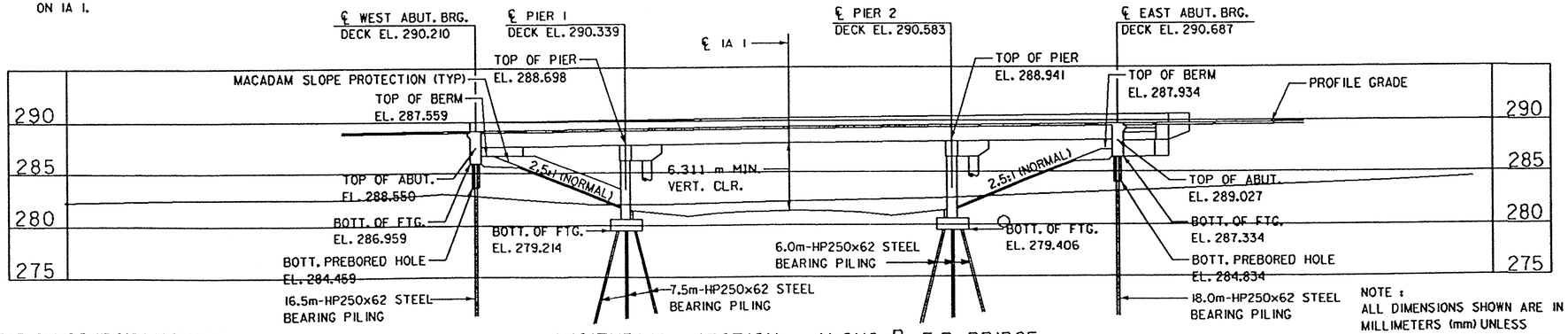
U.S. 151 OVER IA 1
T84N R4W
SECTION 20
FAIRVIEW TWP.
JONES COUNTY

0 METERS 25

MINIMUM VERTICAL CLEARANCE (5.0 m REQ'D)

E.B. U.S. 151 (O.R.) STA. 76+34.459, 9.296 m RT. EL. = 290.487 (PROFILE GRADE)
IA 1 (O.R.) STA. 11575+90.774 EL. = 282.506 (PROFILE GRADE)
SUPERSTRUCTURE DEPTH TO LOW CONC. (INCL. CROWN) = 1.670 m
E.B. MIN. VERTICAL CLEARANCE = 6.311 m

NOTE :
MINIMUM CLEAR ZONE REQUIRED IS 9.0 m ON IA 1.



LONGITUDINAL SECTION - ALONG ℄ E.B. BRIDGE

NOTE :
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.

DESIGN FOR 26°54' SKEW (L.A.) ON A 5000 m CURVE

EAST BOUND
61.0 m x VAR. WIDTH PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

14.25 m & 15.75 m END SPANS — 31.00 m CENTER SPAN

SITUATION PLAN

STA. 76+39.168 (O.R.) ℄ U.S. HIGHWAY 151
STA. 11576+01.192 ℄ IA. 1

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 29 FILE NO. _____ DESIGN NO. 298

FILE: [***] D:/17198C/H530298.S02
TIME: THU MAR 23 14:24:50 2000

S.B.I. NO. 17198C	EARTH TECH	JONES COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
					IOWA	7		V.15	

BENCH MARK:

FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18

VPI STA. 157+80.000 (O.R.)
EL = 257.250
VCL = 460.000 m

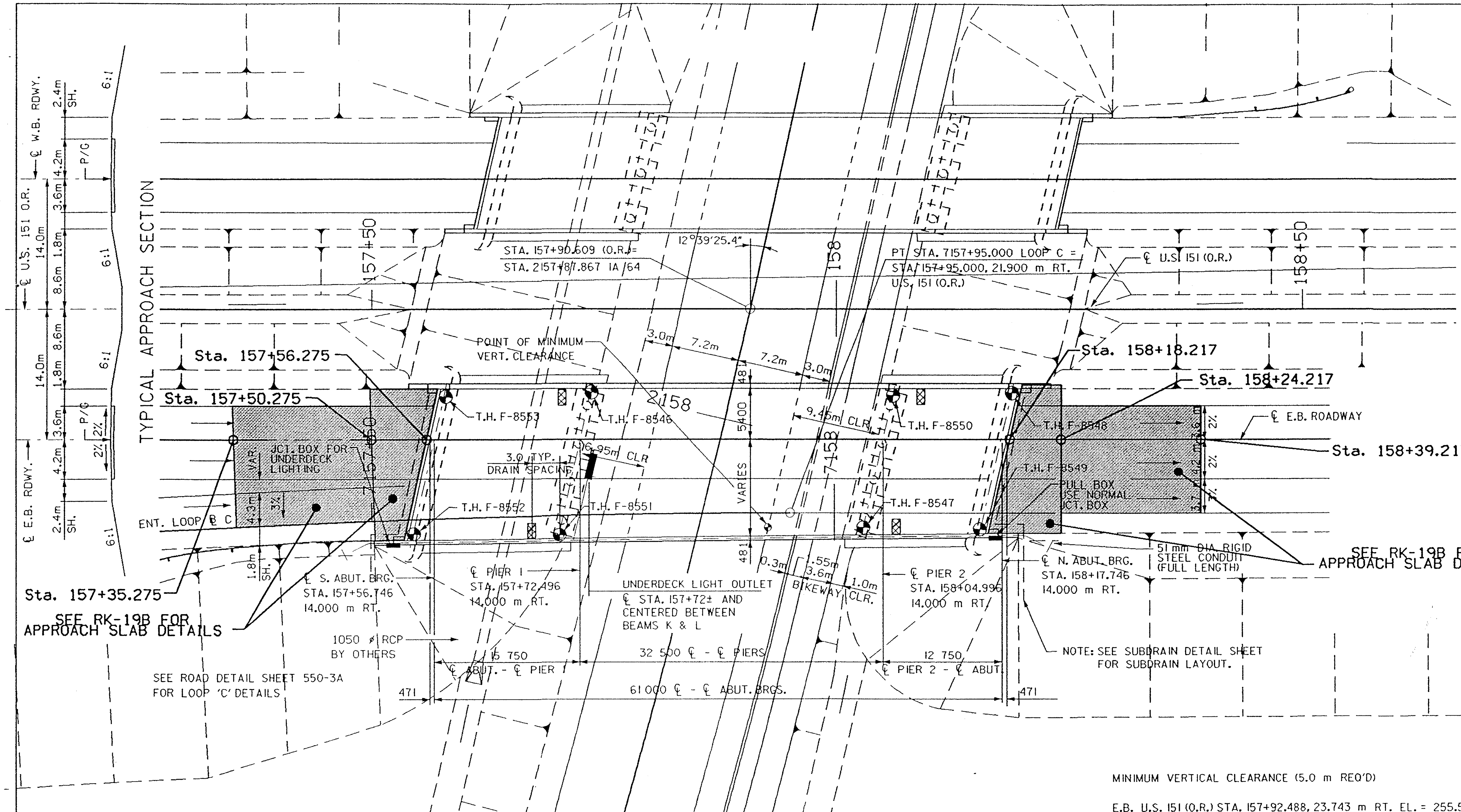
+0.2277% / -2.5317%

U.S. HWY. 151 PROFILE GRADE

-0.5000% / +0.9649%

VPI STA. 2157+35.000 (O.R.)
EL = 247.645
VCL = 70.000 m

IA HWY 64 PROFILE GRADE



TYPICAL APPROACH SECTION
℄ U.S. 151 O.R.
℄ W.B. RDWY.
℄ E.B. RDWY.
6:1
P/G
Sta. 157+56.275
Sta. 157+50.275
Sta. 157+35.275
SEE RK-19B FOR APPROACH SLAB DETAILS
STA. 157+90.609 (O.R.)=
STA. 2157+87.867 IA 64
12°39'25.4"
PT STA. 7157+95.000 LOOP C =
STA. 157+95.000, 21.900 m RT.
U.S. 151 (O.R.)
℄ U.S. 151 (O.R.)
POINT OF MINIMUM VERT. CLEARANCE
Sta. 158+18.217
Sta. 158+24.217
Sta. 158+39.217
℄ E.B. ROADWAY
T.H. F-8553
T.H. F-8546
T.H. F-8550
T.H. F-8548
T.H. F-8549
T.H. F-8552
T.H. F-8551
T.H. F-8547
JCT. BOX FOR UNDERDECK LIGHTING
3.0 TYP. DRAIN SPACING
6.95m CLR
9.45m CLR
PULL BOX USE NORMAL JCT. BOX
51mm DIA RIGID STEEL CONDUIT (FULL LENGTH)
ENT. LOOP ℄ C
℄ S. ABUT. BRG. STA. 157+56.746 14.000 m RT.
℄ PIER 1 STA. 157+72.496 14.000 m RT.
UNDERDECK LIGHT OUTLET ℄ STA. 157+72± AND CENTERED BETWEEN BEAMS K & L
BIKEWAY
℄ PIER 2 STA. 158+04.996 14.000 m RT.
℄ N. ABUT. BRG. STA. 158+17.746 14.000 m RT.
1050 ∅ RCP BY OTHERS
SEE ROAD DETAIL SHEET 550-3A FOR LOOP 'C' DETAILS
15 750 ℄ ABUT. - ℄ PIER
32 500 ℄ - ℄ PIERS
12 750 ℄ PIER 2 - ℄ ABUT.
61 000 ℄ - ℄ ABUT. BRGS.
471
NOTE: SEE SUBDRAIN DETAIL SHEET FOR SUBDRAIN LAYOUT.
157+50
158
158+50

SITUATION PLAN - BRIDGE (E.B.L.)

NOTE :
MINIMUM CLEAR ZONE REQUIRED IS 6.5 m ON IA 64. FUTURE BIKEWAY ON NORTH SIDE OF IA 64.

IA 64 CURVE DATA

P.I. STA. 2159+41.145
Δ = 14°41'19.56" RT.
R = 1165.011 m
T = 150.159 m
L = 298.671 m
E = 9.637 m
e = 3.0%
L = 44.0 m
x = 30.0 m

MINIMUM VERTICAL CLEARANCE (5.0 m REQ'D)

E.B. U.S. 151 (O.R.) STA. 157+92.488, 23.743 m RT. EL. = 255.515 (PROFILE GRADE)
IA 64 (O.R.) STA. 2158+10.501 EL. = 248.374 (PROFILE GRADE)
SUPERSTRUCTURE DEPTH TO LOW CONC. (INCL. CROWN AND SUPERELEV.) = 2.032 m
E.B. MIN. VERTICAL CLEARANCE = 5.109 m

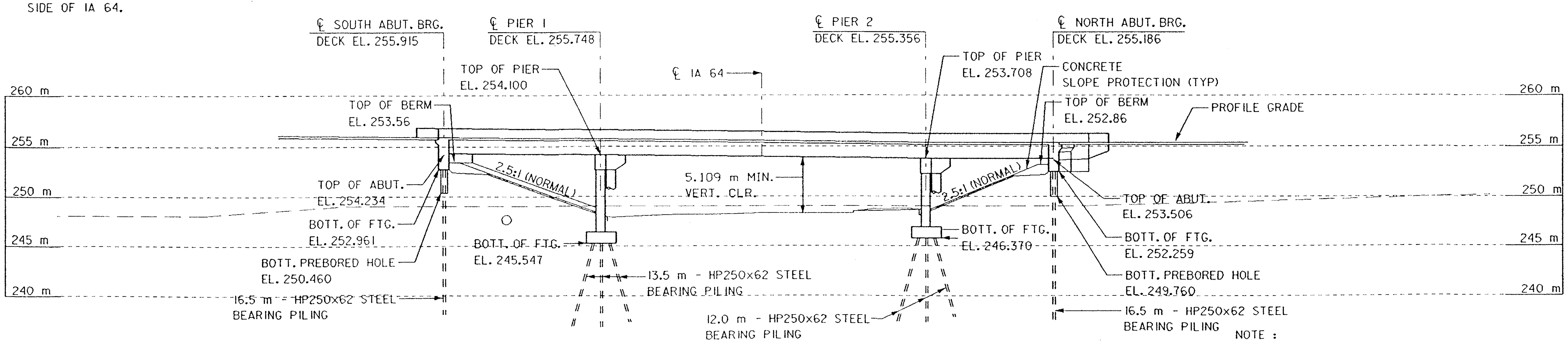
TRAFFIC DATA

2001	AADT	6590 VPD
2021	AADT	7910 VPD
2021	DHV	850 VPH
TRUCKS		12%

LOCATION

U.S. 151 OVER IA 64
T84N R4W
SECTION 11
FAIRVIEW TWP.
JONES COUNTY

METERS 0 25



℄ SOUTH ABUT. BRG. DECK EL. 255.915
℄ PIER 1 DECK EL. 255.748
℄ PIER 2 DECK EL. 255.356
℄ NORTH ABUT. BRG. DECK EL. 255.186
TOP OF PIER EL. 254.100
℄ IA 64
TOP OF PIER EL. 253.708
CONCRETE SLOPE PROTECTION (TYP)
TOP OF BERM EL. 253.56
TOP OF BERM EL. 252.86
PROFILE GRADE
260 m
255 m
250 m
245 m
240 m
TOP OF ABUT. EL. 254.234
2.5:1 (NORMAL)
5.109 m MIN. VERT. CLR.
TOP OF ABUT. EL. 253.506
BOTT. OF FTG. EL. 252.961
BOTT. OF FTG. EL. 245.547
BOTT. OF FTG. EL. 246.370
BOTT. OF FTG. EL. 252.259
BOTT. PREBORED HOLE EL. 250.460
BOTT. PREBORED HOLE EL. 249.760
13.5 m - HP250x62 STEEL BEARING PILING
16.5 m - HP250x62 STEEL BEARING PILING
12.0 m - HP250x62 STEEL BEARING PILING
16.5 m - HP250x62 STEEL BEARING PILING

LONGITUDINAL SECTION - ALONG ℄ ROADWAY (E.B.L.)

NOTE :
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.

DESIGN FOR 12°39'25" SKEW (L.A.)

EAST BOUND
61.0 m × VARIABLE WIDTH PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

15.75 m & 12.75 END SPANS — 32.50 m CENTER SPAN

SITUATION PLAN

STA. 157+90.609 (O.R.) ℄ U.S. HWY. 151
STA. 2157+87.867 (O.R.) ℄ IA 64
NOVEMBER, 1999

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION
DESIGN SHEET NO. 2 OF 22 FILE NO. 29164 DESIGN NO. 1498

EARTH TECH | JONES COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | STATE IOWA | FHWA REGION 7 | FISCAL YEAR | SHEET NO. V.16 | TOTAL SHEETS [redacted]

169-198

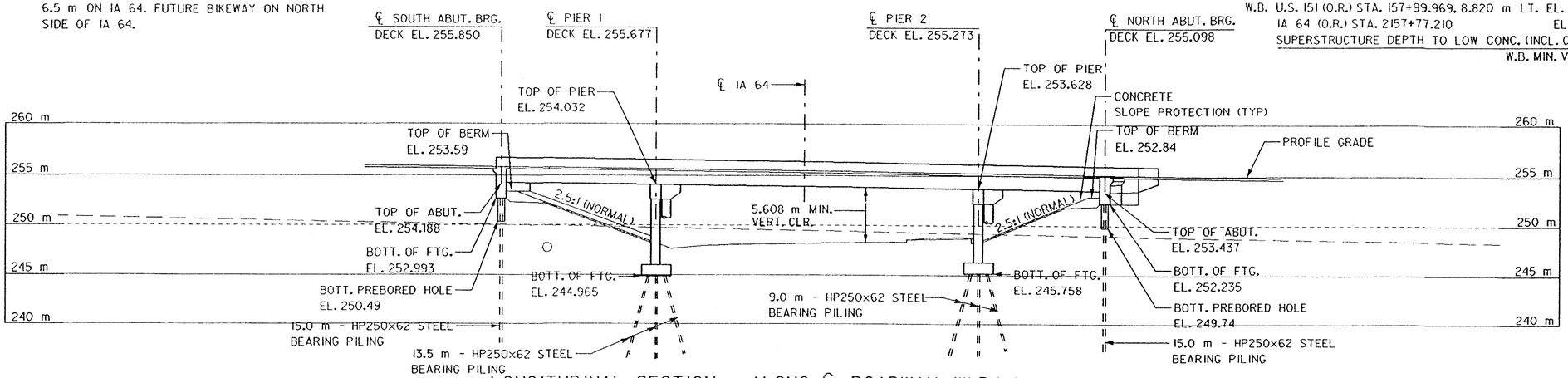
NOTE :
MINIMUM CLEAR ZONE REQUIRED IS 6.5 m ON IA 64. FUTURE BIKEWAY ON NORTH SIDE OF IA 64.

MINIMUM VERTICAL CLEARANCE (5.0 m REQ'D)

W.B. U.S. 151 (O.R.) STA. 157+99.969, 8.820 m LT. EL. = 255.421 (PROFILE GRADE)
IA 64 (O.R.) STA. 2157+77.210 EL. = 248.052 (PROFILE GRADE)
SUPERSTRUCTURE DEPTH TO LOW CONC. (INCL. CROWN AND SUPEREL.) = 1.761 m
W.B. MIN. VERTICAL CLEARANCE = 5.608 m

BENCH MARK:

FOR NEW BENCH MARK INFORMATION, SEE PAGE G.18



LONGITUDINAL SECTION - ALONG ℄ ROADWAY (W.B.L.)

VPI STA. 157+80.000 (O.R.)
EL = 257.250
VCL = 460.000 m
+0.2277%
-2.5317%

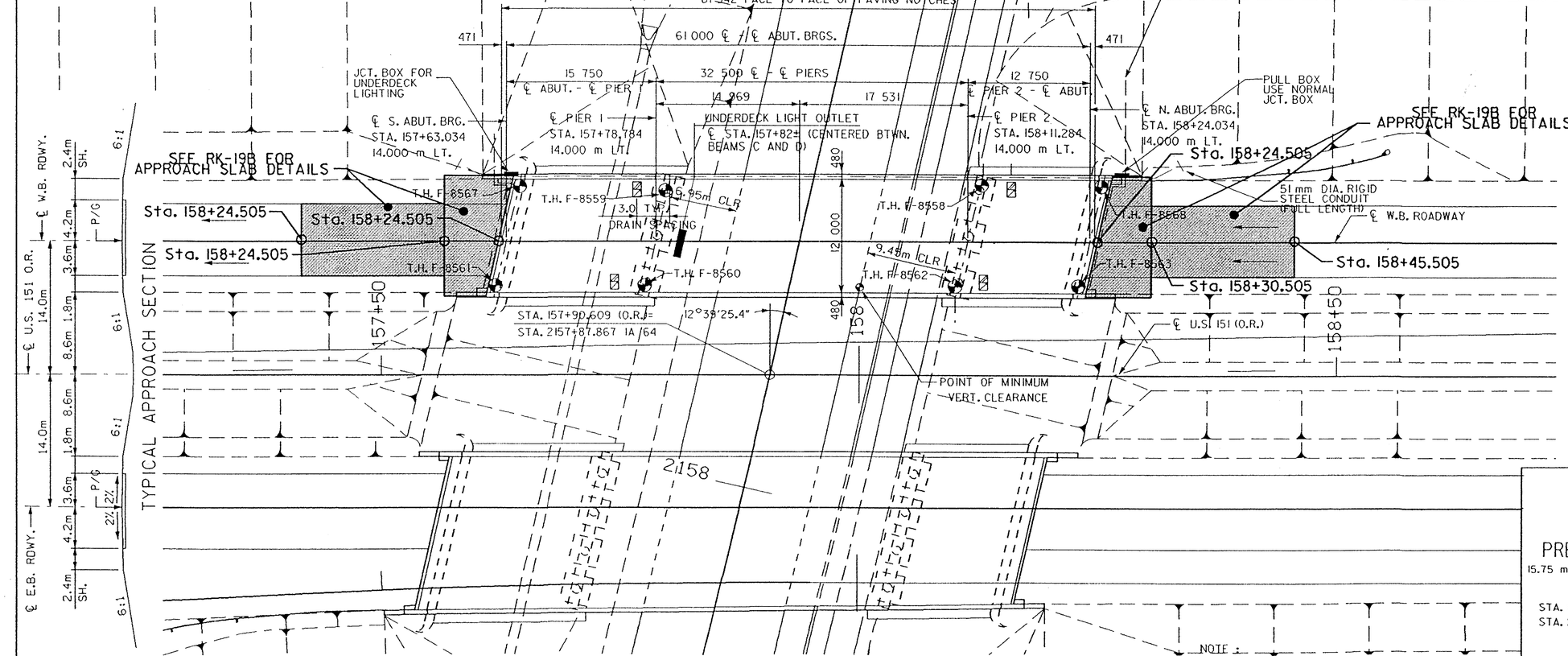
U.S. HWY. 151 PROFILE GRADE

-0.5000%
+0.9649%
VPI STA. 2157+35.000 (O.R.)
EL = 247.645
VCL = 70.000 m

IA HWY 64 PROFILE GRADE

IA 64 CURVE DATA

P.I. STA. 2159+41.145
Δ = 14°41'19.56" RT.
R = 1165.011 m
T = 150.159 m
L = 298.671 m
E = 9.637 m
e = 3.0%
L = 44.0 m
x = 30.0 m



SITUATION PLAN - BRIDGE (W.B.L.)

TRAFFIC DATA

2001 AADT	6590 VPD
2021 AADT	7910 VPD
2021 DHV	850 VPH
TRUCKS	12%

LOCATION

U.S. 151 OVER IA 64
T84N R4W
SECTION 11
FAIRVIEW TWP.
JONES COUNTY

0 METERS 25

NOTE :
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.

DESIGN FOR 12°39'25" SKEW (L.A.)

WEST BOUND
61.0 m x 12.0 m PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

15.75 m & 12.75 END SPANS 32.50 m CENTER SPAN

SITUATION PLAN

STA. 157+90.609 (O.R.) ℄ U.S. HWY. 151
STA. 2157+87.867 (O.R.) ℄ IA 64

NOVEMBER, 1999

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 20 FILE NO. 29164 DESIGN NO. 1598

EARTH TECH

COUNTY	PROJECT NUMBER					
	NHSX-151-3(112)--3H-57	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		IOWA	7		V.17	[redacted]

BENCH MARK:

FOR NEW BENCH MARK INFORMATION,

SEE PAGE G.18

-6.0000% +4.4000%

VPI STA. 135+75.000 (O.R.)
EL = 232.850
VCL = 650.000 m

U.S. HWY. 151 PROFILE GRADE

WAPSIPINICON RIVER

℄ EXIST. PIER 1

℄ EXIST. PIER 2

G/W

SIGN

℄ W.B. ROADWAY & EXIST. U.S. 151 DESIGN NO. 162

240

℄ U.S. 151 (O.R.)

20°

℄ PROP. 133.0 m x 12.0 m CONT. WPG BRIDGE
STA. 134+66.217, 14.0 m RT. (O.R.)

Sta. 133+98.908

F-8540

F-8541

F-8542

F-8543

F-8544

F-8545

F-8557

Sta. 133+77.908

SEE RK-19B FOR APPROACH SLAB DETAILS

① JUNCTION BOX

Sta. 133+92.908

Sta. 135+33.526

Sta. 135+39.526

℄ E.B. ROADWAY & PROFILE GRADE

Sta. 135+54.526

① JUNCTION BOX

SEE RK-19B FOR APPROACH SLAB DETAILS

480 RAIL

12 000 ROADWAY

480 RAIL

50.8 mm DIA RIGID STEEL CONDUIT (FULL LENGTH)

9000 | 13 000 | 16 000 | 18 600 | 16 000 | 13 000 | 9000

℄ DRAINS TYP. BOTH SIDES OF BRIDGE

℄ S. ABUT. BRG.
STA. 133+99.717
14.000 m RT.

℄ PIER 1
STA. 134+40.917
14.000 m RT.

℄ PIER 2
STA. 134+91.517
14.000 m RT.

℄ N. ABUT. BRG.
STA. 135+32.717
14.000 m RT.

41 200 | 50 600 ℄ - ℄ PIERS | 41 200

℄ S. ABUT. - ℄ PIER 1 | ℄ PIER 2 - ℄ N. ABUT.

809

133 000 ℄ - ℄ ABUT. BRGS.

134 618 FACE TO FACE OF PAVING NOTCHES

NOTES:
MEDIAN GUARD RAIL NOT SHOWN, TO BE DESIGNED.

① JUNCTION BOX FOR CONDUIT. SEE LIGHTING DETAIL SHEET FOR DETAILS.

SITUATION PLAN - BRIDGE (E.B.L.)

IOWA DEPARTMENT OF NATURAL RESOURCES FLOOD PLAIN DEVELOPMENT PERMIT NUMBER FP99-30
THIS PROJECT IS COVERED BY THE CORPS OF ENGINEERS
NATIONWIDE 404 PERMIT. ITEMS #14 AND #25

TYPICAL APPROACH SECTION

℄ U.S.151 (O.R.)
℄ W.B. RDWY. & EXIST. U.S. 151
℄ E.B. RDWY.

14.0m | 8.6m | 6:1
1.8m
14.0m | 8.6m | 6:1
3.6m
4.3m | 2% P/G | 2%
2.3m SH. | 6:1

HYDRAULIC DATA

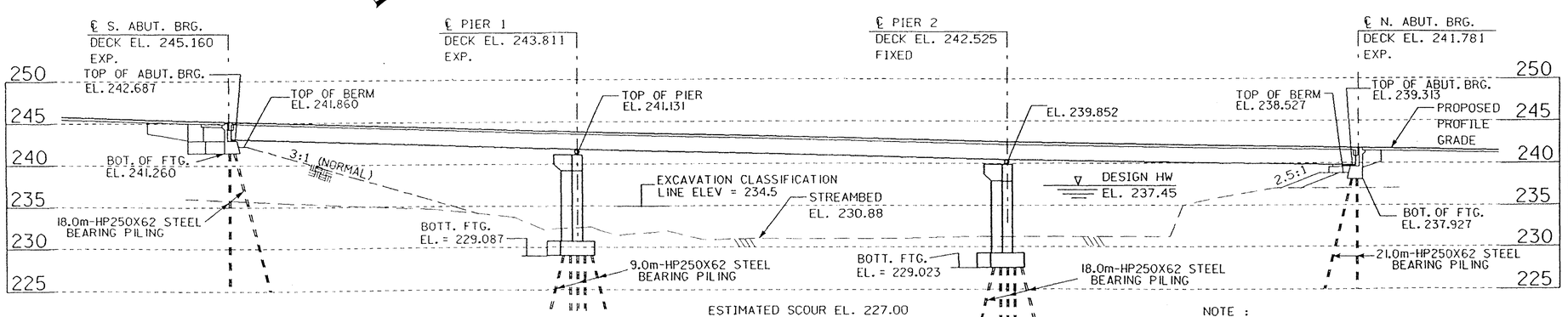
DRAINAGE AREA = 4084 km^2
STREAM SLOPE = 0.29 mm/m
Q50 = 733 m^3/s
NATURAL STAGE = 237.45
STAGE W/BACKWATER = 237.45
Q100 = 835 m^3/s
NATURAL STAGE = 237.87
STAGE W/BACKWATER = 237.87
CALCULATED SCOUR EL. = 227.0
Q500 = 997 m^3/s
NATURAL STAGE = 238.51
Q OVERTOPPING = GREATER THAN 500 -YR.
EXTREME H.W. STAGE = NOT AVAILABLE

TRAFFIC DATA

2001	AADT	7820 VPD
2021	AADT	9370 VPD
2021	DHV	1006 VPH
TRUCKS		11%

LOCATION

U.S. 151 OVER THE WAPSIPINICON RIVER
T84N - R4W
SECTION 14
FAIRVIEW TWP.
JONES COUNTY



LONGITUDINAL SECTION - ALONG ℄ EAST BOUND ROADWAY

NOTE :
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.

DESIGN FOR 20° SKEW (R.A.)

133.0 m x 12.0 m CONTINUOUS WELDED PLATE GIRDER BRIDGE

41.20 m END SPANS | 50.60 m CENTER SPAN

SITUATION PLAN

STA. 134+66.217,14.000 m RT. (O.R.) ℄ U.S. HIGHWAY 151

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 27 | FILE NO. 29164 | DESIGN NO. 1298

S.B.I. NO.		PROJECT NUMBER		STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
17198B	EARTH TECH	JONES COUNTY	NHSX-151-3(112)--3H-57	IOWA	7		V.18	

171-198

LIVE PROJECT NO. [illegible]
ACCTING ID: [illegible]
☒ SUBSTANTIAL ☐ NON-SUBSTANTIAL
☒ PARTICIPATING ☐ NON-PARTICIPATING
FWHA Concurrence 3-18-04

Contract Modification

Iowa Department of Transportation — 5/5/2004 10:21 AM — FieldManager 3.2a

Contract: 53-1514-085, PCC PAVEMENT - GRADE & REPLACE

Cont. Mod. Number	Revision Number	Cont. Mod. Date	Net Change	Awarded Contract Amount
33	3	5/5/2004	$308,657.20	$11,354,812.81

Route
HWY 151

Contract Location
JONES COUNTY NHSX-151-4(85)--3H-53

Short Description
Curve Widening at US 151 and 130th Street

Description of Changes
The geometrics of a horizontal curve located within a use-as-constructed segment of the southbound lanes of US 151 near Anamosa at 130th Street from station 165+00+ to 187+10+ does not meet the 110 kph design standards. After evaluating several design alternatives from the design consultant, the Department decided to construct a widening unit on the inside of the existing curve, thereby flattening the curve to meet the requirements for a 110 kph design speed. Existing pavement that is in excess of what is needed for two lanes would be removed and existing turn lanes would be reconstructed. Construction would be performed while maintaining traffic. In accordance with approvals on Staff Action Number 04-0715, dated March 18, 2004, the project limits will be extended to include widening of the curve at 130th Street as extra work on this contact. All agreed unit and lump sum prices established for this work were considered fair and reasonable when compared to similar work on contracts in the US 151 corridor and the "Summary of Awarded Contract Unit Prices for English & Metric Items - 2003," considering the quantities and nature of the work involved.

New Items
Project: 53-1514-085, 020219 069 BJC
Category: 0002, WORK ON US 151 EAST OF ANAMOSA (FOR CONTRACT ADMINISTRATION)

Item Description	Item Code	Prop.Ln.	ItemType	Unit	Proposed Qty.	Unit Price	Dollar Value
('LUMP SUM' ITEM) Mobilization	2599--999916	1467	SUPPLEMENT	LS	1.000	19,500.00000	$19,500.00
Reason: See Description of Changes							
ASPH BINDER, PG 64-28	2303--246428	1412	SUPPLEMENT	MG	44.000	300.00000	$13,200.00
Reason: See Description of Changes							
CL 10 EXCAVATION RDWY+BORROW	2102--100100	1372	SUPPLEMENT	M3	2,132.000	6.50000	$13,858.00
Reason: See Description of Changes							
CONC 1000 RDWY PIPE CULV 600 MM	2416--100600	1422	SUPPLEMENT	M	4.300	180.00000	$774.00
Reason: See Description of Changes							

New Items
Project: 53-1514-085, 020219 069 BJC
Category: 0002, WORK ON US 151 EAST OF ANAMOSA (FOR CONTRACT ADMINISTRATION)

Item Description	Item Code	Prop.Ln.	ItemType	Unit	Proposed Qty.	Unit Price	Dollar Value
EARTH SHLD CONSTRUCTION	2123--100200	1392	SUPPLEMENT	M	621.000	5.00000	$3,105.00
Reason: See Description of Changes							
FABRIC REINFORCEMENT	2303--500000	1417	SUPPLEMENT	M2	664.000	6.75000	$4,482.00
Reason: See Description of Changes							
FLAGGER	2528--107000	1462	SUPPLEMENT	DAY	10.000	225.00000	$2,250.00
Reason: See Description of Changes							
GRANULAR SHLD TYPE A	2121--100100	1477	SUPPLEMENT	MG	423.000	15.00000	$6,345.00
Reason: See description of Changes							
GRANULAR SUBBASE	2111--100000	1382	SUPPLEMENT	M2	2,601.000	9.00000	$23,409.00
Reason: See Description of Changes							
HMA (3M ESAL) SURF, 12.5 MM, FRIC L-3	2303--043123	1472	SUPPLEMENT	MG	734.000	53.00000	$38,902.00
Reason: See description of Changes							
LONGITUDINAL SUBDRAIN (SHLD) 100 MM	2502--250100	1432	SUPPLEMENT	M	400.000	18.00000	$7,200.00
Reason: See Description of Changes							
PAINTED PAV'T MARK, WATERBORNE/SOLVENT	2527--101001	1447	SUPPLEMENT	M	883.000	2.50000	$2,207.50
Reason: See Description of Changes							
PAV'T MARK RMVD	2527--108000	1452	SUPPLEMENT	M	100.000	3.50000	$350.00
Reason: See Description of Changes							

Contract: 53-1514-085 — Cont. Mod.: 33, Rev. 3 — Page 2 of 4

LISTING OF PROJECT REVISIONS

111-23
09-27-94

DATE	SHEET NO.	DESCRIPTION OF REVISIONS
04-03-01	A.03	Add Sheet for Listing of Project Revisions. 111-23.
	L.02	Revise Pavement Joint Layouts.
	L.04	
	L.06	
	L.08	
	L.11	
	L.13	
	L.15	
	L.17	
	L.19	
	L.21	
	L.23	
	L.26	
	L.28	
	L.31	
04-08-02	A.03	Revise 111-23 for 04 08 02 plan revision.
	B.03	Modify Typical X-29, revise Station limits.
	B.06	Revise Station limits, Typical 7110.
	C.05	Add Subgrade Treatment #6, #7 to Tab. 103-3.
	C.13	Revise Station limit and quantities, Sta. 173+20, Tab. 110-1.
	C.15	Revise Station limits and quantities. Tab. X-50.
	C.20	Add Station limits and quantities for Curve Reconstruction at 130th Street.
	D.23	Revise notes, add Curve Reconstruction centerline.
	D.24	Revise notes, add Curve Reconstruction centerline.
	E.08	Revise notes, add Curve Reconstruction centerline.
	G.05	Add Curve Reconstruction Centerline.
	G.06	Add Curve Reconstruction Centerline.
	L.27	Remove callouts at NW quadrant, add reference to L.32 - L.35.
	L.28	Remove joints at NW quadrant, add reference to L.32 - L.35.
	L.29	Revise edge profile, SB U.S. 151 to WB 130th St.
	L.32	Add sheet showing new intersection design.
	L.33	Add sheet showing new pavement jointing layout.
	L.34	Add sheet showing new intersection design.
	L.35	Add sheet showing new pavement jointing layout.
04-08-04	A.03	Revise 111-23 for 04-08-04 plan revision.
	B.03	Modify Typical X-29 for highside shoulder and backslopes.
	B.06	Revise Station limits and quantities. Typical 7110.
	C.05	Add Culvert at Sta. 173+76.5 to Tab. 104-3. Revise Subgrade Treatment #6, #7, Tab. 103-3
	C.13	Revise Station limit and quantities, Sta. 173+20, Tab. 110-1. Add Removal, Sta. 173+00 to 174+50, to Tab. 110-1
	C.15	Revise Station limits and quantities at Sta. 173+20. Tab. X-50.
	C.20	No Change, Included for Contractor Information
	D.23	No Change, Included for Contractor Information
	D.24	Revise ROW, Add Culvert Extension at Sta. 173+76.5 (Lt.). Revise Left Ditch Bar Graph
	E.08	No Change, Included for Contractor Information
	G.05	No Change, Included for Contractor Information
	G.06	No Change, Included for Contractor Information
	L.27	Revise Intersection Paving Requirements Notes and Quantities, Tab. 101-2
	L.28	No Change, Included for Contractor Information
	L.29	Revise edge profile, SB U.S. 151 to WB 130th St.
	L.32	Revise Return Geometry for NW Quadrant U.S. 151 and 130th St. Revise Circular Curve D.13, Tab. 101-10c
	L.33	No Change, Included for Contractor Information
	L.34	No Change, Included for Contractor Information
	L.35	No Change, Included for Contractor Information
	XSC.01 - XSC.05	Revised Cross Sections, Sta. 9173+50 to 9176+50

HORIZONTAL CURVE RECONSTRUCTION - US 151

SB LANE ANAMOSA @ 130th STREET

FINAL PROJECT QUANTITIES SEE CONTRACT NO. 53-1514-085

Contract Modification

Iowa Department of Transportation — 5/5/2004 10:21 AM — FieldManager 3.2a

New Items
Project: 53-1514-085, 020219 069 BJC
Category: 0002, WORK ON US 151 EAST OF ANAMOSA (FOR CONTRACT ADMINISTRATION)

Item Description	Item Code	Prop.Ln.	ItemType	Unit	Proposed Qty	Unit Price	Dollar Value
PAV'T SCARIFICATION	2214--101200	1397	SUPPLEMENT	M2	2,075.000	6.50000	$13,487.50
Reason: See Description of Changes							
RMV+REINSTALL CONC APRON </= TO 1000 MM	2416--281000	1427	SUPPLEMENT	EACH	1.000	500.00000	$500.00
Reason: See Description of Changes							
RMVL OF PAV'T	2510--001000	1442	SUPPLEMENT	M2	634.000	35.20000	$22,316.80
Reason: See Description of Changes							
SPECIAL BACKFILL MAT'L	2102--230100	1377	SUPPLEMENT	MG	1,756.000	14.00000	$24,584.00
Reason: See Description of Changes							
STD/S-F PCC PAV'T QM-C CL 3I 260 MM	2301--104260	1482	SUPPLEMENT	M2	2,136.000	49.90000	$106,586.40
Reason: See description							
SUBDRAIN OUTLET RF-19F	2502--300195	1437	SUPPLEMENT	EACH	4.000	150.00000	$600.00
Reason: See Description of Changes							
TRAFFIC CONTROL	2528--101000	1457	SUPPLEMENT	LS	1.000	5,000.00000	$5,000.00
Reason: See Description of Changes							

Subtotal for Category 0002: $308,657.20
Subtotal for Project 53-1514-085: $308,657.20

LICENSED PROFESSIONAL ENGINEER — ROBERT L. LENTZ — 8720 — IOWA

I hereby certify that this plan was prepared under my supervision and that engineering decisions with regard to the design were made by me or by other duly licensed Professional Engineers under the laws of the State of Iowa.

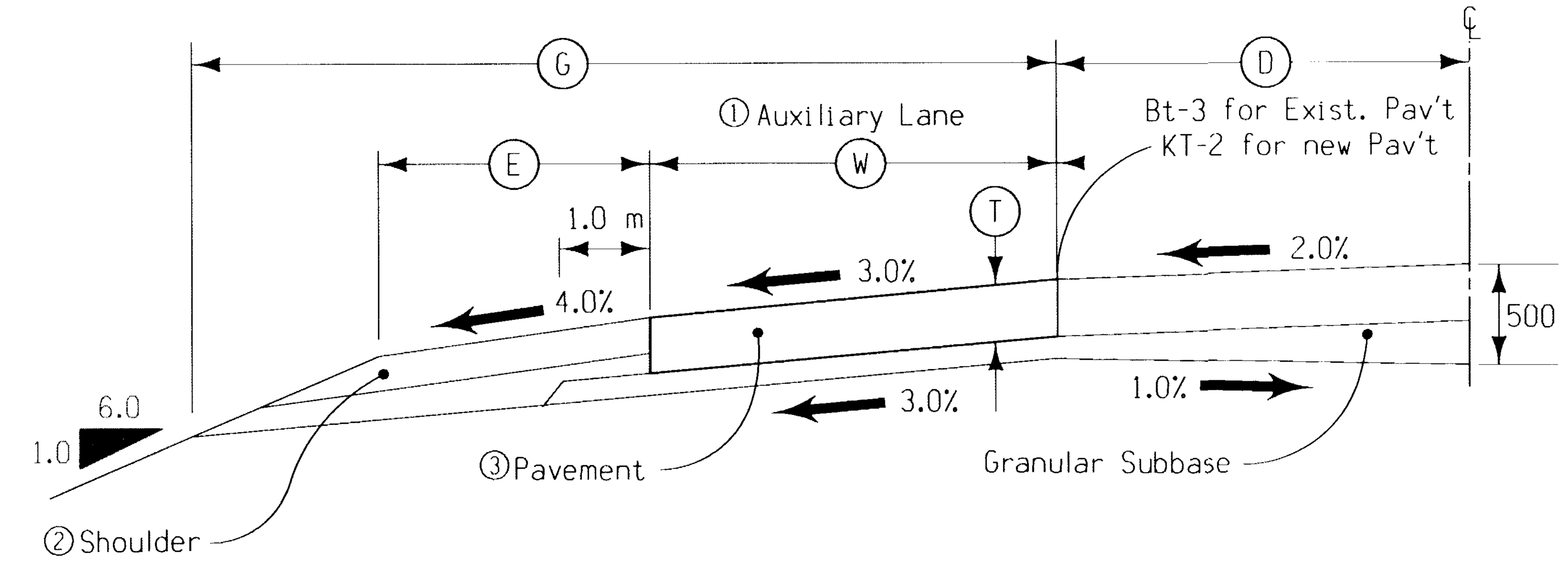
Signature: [signature] — Date: 16 Apr 04

Robert L. Lentz
Printed or Typed Name

My license renewal date is December 31, 2005.

Pages or sheets covered by this seal:
04/03/01 Revision: A.03, L.02, L.04, L.06, L.08, L.11, L.13, L.15, L.17, L.19, L.21, L.23, L.26, L.28, L.31
04/08/02 Revision: A.03, B.03, B.06, C.05, C.13, C.15, C.20, D.23, D.24, E.08, G.05, G.06, L.27, L.28, L.29, L.32, L.33, L.34, L.35
04/08/04 Revision: A.03, B.03, B.06, C.05, C.13, C.15, C.20, C.23, D.24, E.08, G.05, G.06, L.27, L.28, L.29, L.32, L.33, L.34, L.35, XSC.01-XSC.05

2205
Modified
Dimensions in mm unless noted.



LOCATION			SIDE	(D) m	(E) m	(W) m	(G) m	(T) mm
ROAD IDENTIFICATION	STATION TO STATION							
Mainline	18+40.00	18+90.00	WBL	3.6	1.8	3.6	8.8	260
Mainline	35+46.00	35+96.00	WBL	3.6	1.8	3.6	8.8	260
Mainline	38+73.00	39+23.00	EBL	3.6	1.8	3.6	8.8	260
Mainline	51+30.03	51+80.00	EBL	3.6	1.8	3.6	8.8	260
Mainline	52+34.00	52+84.00	WBL	3.6	1.8	3.6	8.8	260
Mainline	64+08.70	64+58.70	EBL	3.6	1.8	3.6	8.8	260
Mainline	86+27.00	86+77.00	EBL	3.6	1.8	3.6	8.8	260
Mainline	87+21.00	87+71.00	WBL	3.6	1.8	3.6	8.8	260
Mainline	94+49.50	94+99.50	EBL	3.6	1.8	3.6	8.8	260
Mainline	104+37.00	104+87.00	EBL	3.6	1.8	3.6	8.8	260
Mainline	105+43.00	105+96.22	WBL	3.6	1.8	3.6	8.8	260
Mainline	113+34.50	113+84.50	EBL	3.6	1.8	3.6	8.8	260
Mainline	117+63.01	117+13.00	EBL	3.6	1.8	3.6	8.8	260
Mainline	117+60.00	118+10.00	WBL	3.6	1.8	3.6	8.8	260
Mainline	131+58.43	132+08.97	WBL	3.6	1.8	3.6	8.8	260
Mainline	136+89.00	137+39.00	EBL	3.6	1.8	3.6	8.8	260
Mainline	137+88.00	138+38.00	WBL	3.6	1.8	3.6	8.8	260
Mainline	172+42.95	172+92.73	EBL	3.6	1.8	3.6	8.8	260
Mainline	173+43.08	173+93.00	WBL	3.6	1.8	3.6	8.8	*
Mainline	180+00.50	180+50.50	EBL	3.6	1.8	3.6	8.8	260

* 260mm PCC with 75mm HMA overlay on turn lane and adjacent mainline paving.

Notes:

① Details shall be similar for construction on either side (by stationing) of roadway.

② Refer to other drawings for details of shoulder design and construction.

③ Pavement for auxiliary lane shall be constructed according to requirements specified for through roadway pavement.

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

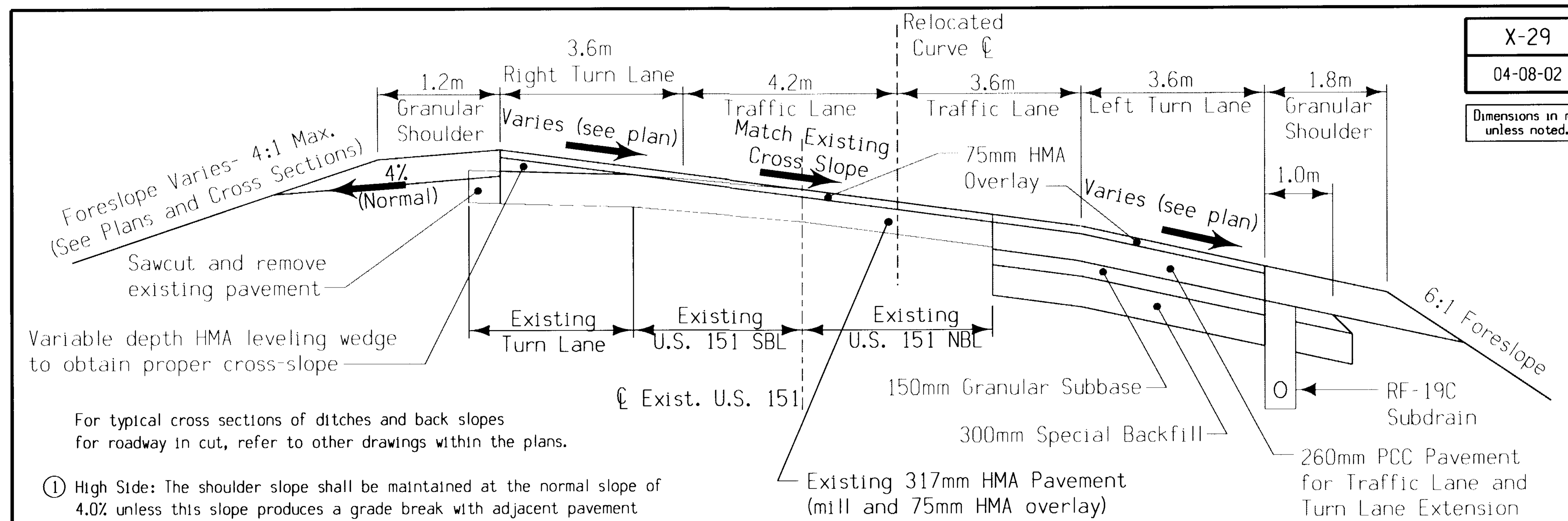
See Typical Cross Section for details of ditches and backslopes.

Refer to Intersection Details (L sheets) for additional information.

Section view is in direction of traffic.

GRADING AND PAVING TYPICAL HALF SECTION PROPOSED LEFT TURN LANE

X-29
04-08-02
Dimensions in mm unless noted.



For typical cross sections of ditches and back slopes for roadway in cut, refer to other drawings within the plans.

① High Side: The shoulder slope shall be maintained at the normal slope of 4.0% unless this slope produces a grade break with adjacent pavement of more than 8.0%. The shoulder slope shall be determined by a 8.0% break with adjacent pavement. If superelevation slope exceeds 7.0%, shoulder slope will be 1% away from roadway.

② For joint details see Standard Road Plan RH-51.

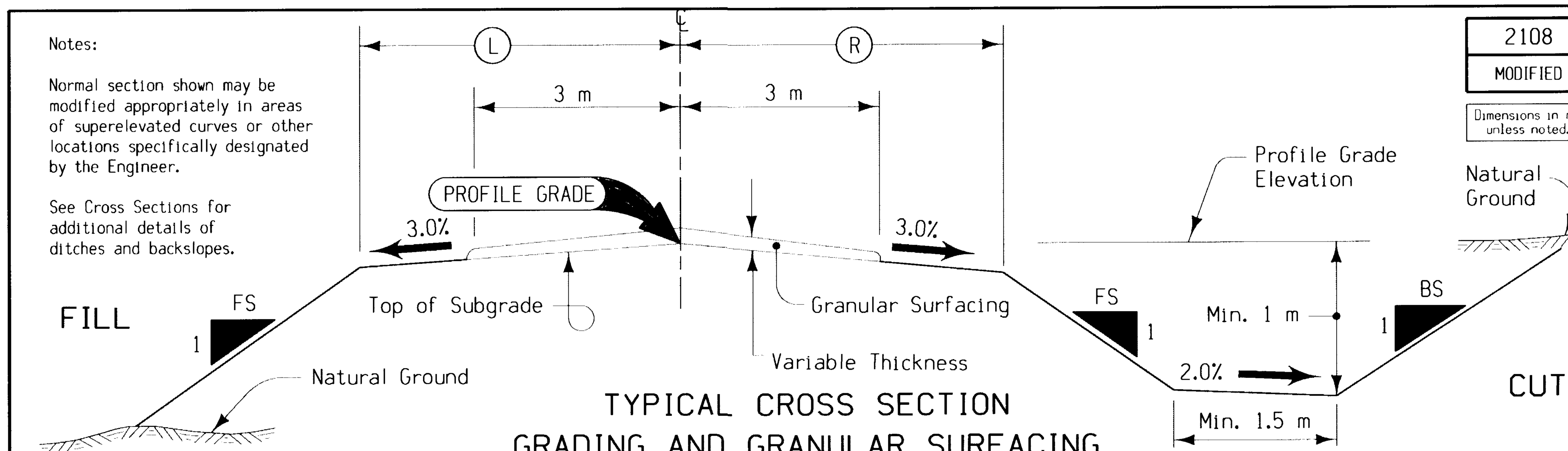
TYPICAL SECTION WIDENING ON EXISTING PAVEMENT Vicinity of 130th Street Curve Relocation (Sta. 9173+23 to 9176+56)

2108
MODIFIED
Dimensions in mm unless noted.

Notes:

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

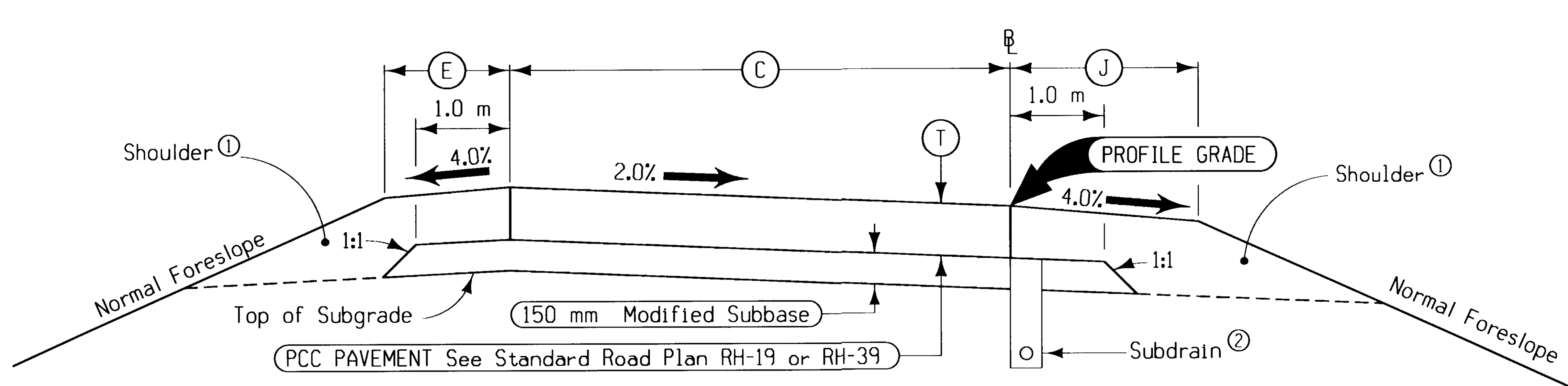
See Cross Sections for additional details of ditches and backslopes.



TYPICAL CROSS SECTION GRADING AND GRANULAR SURFACING

LOCATION			DIMENSIONS		SLOPES	
ROAD IDENTIFICATION	STATION TO STATION		(L)	(R)	FS	BS
Side Road			4.2	4.2	3.0	2.5

2503
04-25-00
Dimensions in mm unless noted.



TYPICAL CROSS SECTION PCC RAMP PAVING

Notes:

Subbase may be constructed to a width greater than that indicated.

Any such extra width of subbase shall be considered incidental to other work and not be measured for payment.

Section view is in direction of traffic.

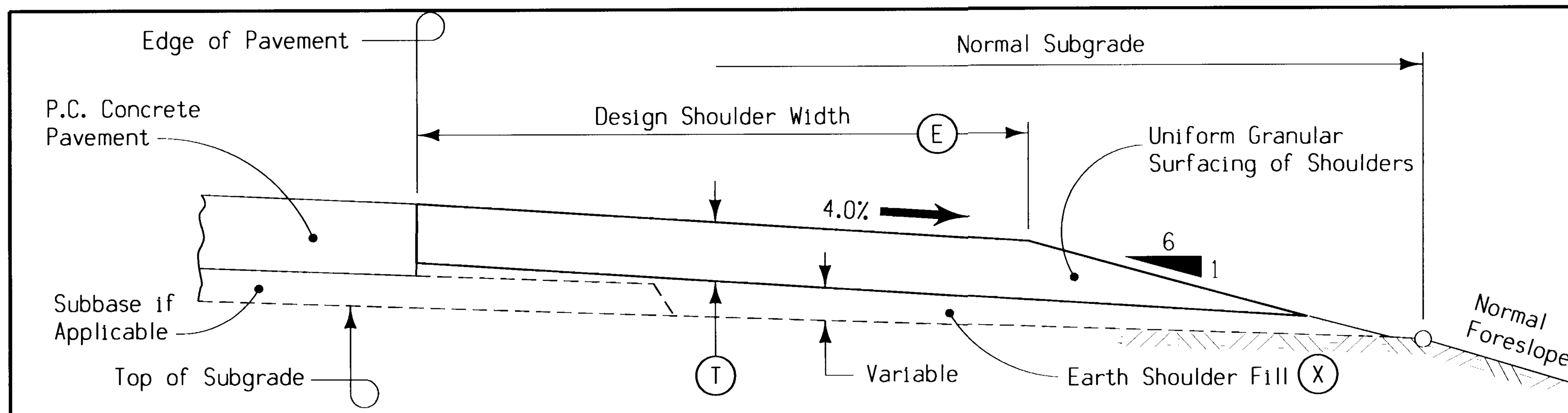
Normal section shown may be appropriately modified for areas specifically designated by the Engineer, such as intersections or superelevated curves.

① Refer to other drawing for details of shoulder design and construction.

② Refer to Standard Road Plan RF-19C for details of subdrain installation.

LOCATION				DIMENSIONS				SHOULDER TYPE
INTERCHANGE	RAMP	STATION TO STATION		(T) mm	(C) m	(E) m	(J) m	
(L) Iowa Highway 1	B	2076+75.252	2079+40.00	260	5.5	1.2	1.8	Paved
(R) Iowa Highway 1	C	3075+30.00	3080+10.36	260	4.8	1.2	1.8	Paved
(R) Iowa Highway 64	B	6153+10.00	6157+20.00	260	4.8	1.2	1.8	Paved
(L) Iowa Highway 64	C	7154+94.349	7156+55.32	260	5.5	1.2	1.8	Paved

7110
Modified
Dimensions in mm unless noted.



TYPICAL SECTION
TYPE 'A' OR 'B' GRANULAR SHOULDER
Adjacent to PCC Pavement

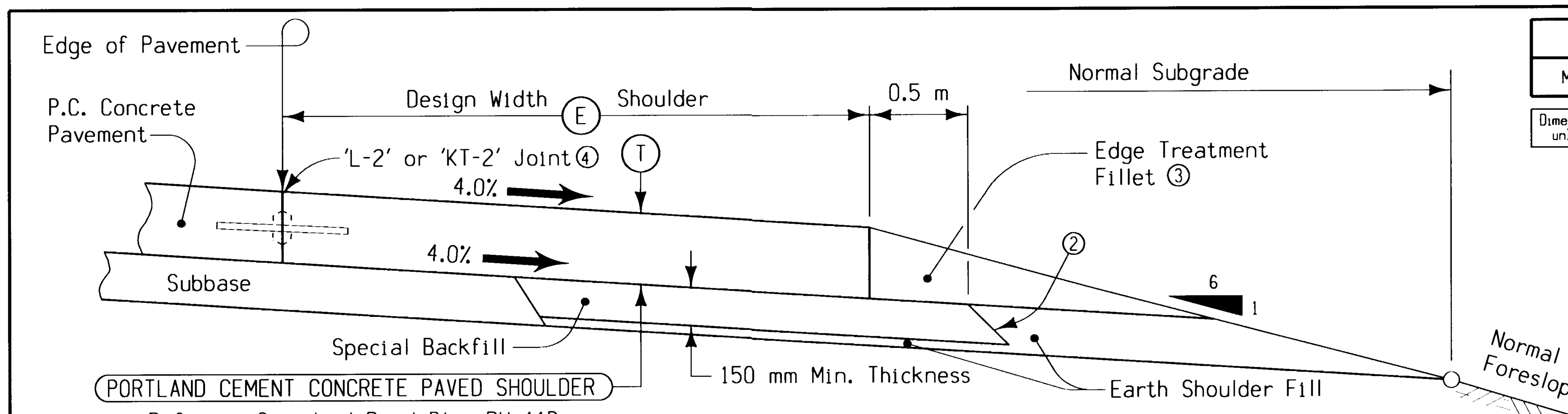
Note:

Earth Shoulder fill requires approximately (X) cubic meters of excavation, including 40 % for shrinkage, per station.

See Standard Road Plan RH-37D for construction requirements.

LOCATION			(E)	(T)	SIDE	(X)
ROAD IDENTIFICATION	STATION TO STATION		m	mm		m^3
Mainline						
Westbound	15+40	64+50	2.4	150	Lt.	125.3
	15+40	65+75	1.8	150	Rt.	92.5
	72+00	82+00	2.4	150	Lt.	125.3
	72+00	84+00	1.8	150	Rt.	92.5
	83+10	84+00	1.8	150	Lt.	92.5
	154+50	164+00	1.8	150	Rt.	92.5
	154+50	162+10	2.4	150	Lt.	125.3
	163+10	164+00	1.8	150	Lt.	92.5
(Relocated Curve)	9173+50	9175+43	1.2	150	Rt.	68.3
(Relocated Curve)	9175+43	9176+56	2.4	150	Rt.	125.3
(Relocated Curve)	9173+40	9176+56	1.8	150	Lt.	92.5
Eastbound	21+00	24+00	2.4	150	Rt.	125.3
	21+00	24+00	1.8	150	Lt.	92.5
	67+95	74+30	2.4	150	Rt.	125.3
	74+30	75+78	1.8	150	Rt.	92.5
	76+85	80+10	2.4	150	Rt.	125.3
	80+90	83+50	1.8	150	Rt.	92.5
	83+50	151+07	2.4	150	Rt.	125.3
	151+07	153+10	1.8	150	Rt.	92.5
	152+95	156+55	2.4	150	Rt.	125.3
	158+30	161+50	1.8	150	Rt.	92.5
	161+50	187+10	2.4	150	Rt.	125.3
	67+95	187+10	1.8	150	Lt.	92.5
X-28	1452+50	1455+00	2.4	150	Lt.	37.9
	1452+50	1455+00	2.4	150	Rt.	37.9
X-40	2131+46	2132+25	2.4	150	Lt.	37.9
	2131+46	2132+25	2.4	150	Rt.	37.9
130th Street	1173+35	1174+75	1.8	150	Lt.	34.7
	1173+35	1174+75	1.8	150	Rt.	34.7
X-Over @ Sta. 4+50	700+37	702+78	1.2	150	Rt.	0.0
	701+95	704+16	1.2	150	Lt.	0.0

7126
Modified
Dimensions in mm unless noted.



TYPICAL SECTION
Full Depth PCC Paved Shoulder

LOCATION				DIMENSIONS		QUANTITIES (1)		
ROAD IDENTIFICATION	STATION TO STATION		SIDE	(T) mm	(E) m	SURFACE AREA m^2 (5)	VOLUME (7) m^3	SPECIAL BACKFILL Mg (5)
IA-1 Loop B	2076+60	2079+39	LT	260	1.2	(6)	21.4	(8)
	2076+60	2079+39	RT	260	1.8	(6)	21.4	(8)
IA-1 Ramp C	3075+08	3080+90	RT	260	1.8	(6)	21.4	(8)
	3075+00	3076+00	LT	260	1.8	(6)	21.4	(8)
	3076+00	3080+10	LT	260	1.2	(6)	21.4	(8)
IA-64 Ramp C	6153+10	6157+20	RT	260	1.8	(6)	21.4	(8)
	6153+00	6156+62	LT	260	1.2	(6)	21.4	(8)
	6156+62	6157+20	LT	260	1.8	(6)	21.4	(8)
IA-64 Loop C	7154+94	7157+50	RT	260	1.8	(6)	21.4	(8)
	7154+94	7156+55	LT	260	1.2	(6)	21.4	(8)

(1) Per station per side. See Standard Road Plan RH-41B for basis of estimate.

(2) Approximately 1:1 Slope

(3) Refer to appropriate detail drawings.

(4) When (T) is less than 200 mm use 'BT-1' Joint. When (T) is equal to or more than 200 mm use 'L-2', 'KT-2' or modified 'BT-3'. Modified 'BT-3' requires a keyway. See Standard Road Plan RH-51 for joint details.

(5) Bid Items

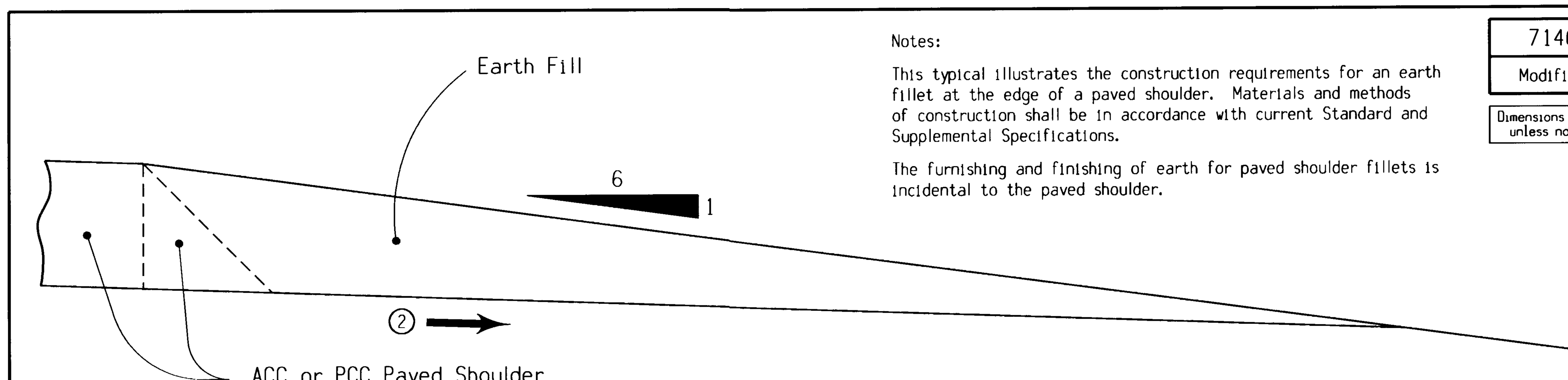
(6) See Tab. 112-9

(7) Earth Shoulder fill requires approximately (X) cubic meters of excavation, including 40% for shrinkage, per station.

(8) Included with special backfill under ramps and tapers. See tab. X-50 on Sheet C.15 for details.

(9) Max breakover is 7%. When superelevation exceeds 7%, pared shoulders high side will have a 1% slope on to Ramp or Loop.

7146
Modified
Dimensions in mm unless noted.



Notes:

This typical illustrates the construction requirements for an earth fillet at the edge of a paved shoulder. Materials and methods of construction shall be in accordance with current Standard and Supplemental Specifications.

The furnishing and finishing of earth for paved shoulder fillets is incidental to the paved shoulder.

LOCATION				QUANTITIES (1)
ROAD IDENTIFICATION	STATION TO STATION		SIDE	EARTH FILL m^3 40% Shrink
IA-1 Loop B	2076+60	2079+39	LT	37.6
	2076+60	2079+39	RT	37.6
IA-1 Ramp C	3075+08	3080+90	RT	37.6
	3075+00	3076+00	LT	37.6
	3076+00	3080+10	LT	37.6
IA-64 Ramp C	6153+10	6157+20	RT	37.6
	6153+00	6156+62	LT	37.6
	6156+62	6157+20	LT	37.6
IA-64 Loop C	7154+94	7157+50	RT	37.6
	7154+94	7156+55	LT	37.6

(1) Not a bid item. Quantities are per station per side.

(2) Match slope of under side of shoulder pavement.

EARTH FOR PAVED SHOULDER FILLET

PROPOSED SUBGRADE TREATMENT

103-3
MODIFIED

NO.	LOCATION Station to Station	DESCRIPTION Side	Depth	Width	TYPE Material + Shrink %	QUANTITY m^3	Mg	POLYMER GRID m^2	AVAILABLE FROM Quantity	Station to Station	REMARKS
1	15+40 to 23+50		0.3	9.2	Special Backfill 4132		5495				Includes Cross Over & Storage Lanes @ Sta. 18+14
2	51+00 to 53+50		0.3	9.2	Special Backfill 4132		1863				Includes Cross Over & Storage Lanes @ Sta. 52+09
3	128+50 to 133+80		0.3	9.2	Special Backfill 4132		3761				Includes Cross Over & Storage Lanes
4	1452+45 to 1455+00 (X-28)		0.3	9.2	Special Backfill 4132		1579				
5	2131+48 to 2132+25 (X-40)		0.3	9.2	Special Backfill 4132		477				
					TOTALS		15010				
6	9173+25 to 9174+50		0.3	4.6	Special Backfill 4132		310				Right Turn Lane @ 130th St., Includes Return
7	9172+75 to 9176+56		0.3	4.6	Special Backfill 4132		1445				Curve Widening & Left Turn Lane @ 130th St., Includes Crossover

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

104-3
10-03-00

* Not a bid item

LOCATION	TYPE	SIZE mm	KIND OF PIPE	LENGTH NEW CONST. m	BEDDING CLASS	DESIGN COVER (H)	CAMBER m	APRON NO. Inlet	APRON NO. Outlet	ADAPTORS* RF-2 Type	CONNECTED PIPE JOINT* RF-14 Type	FLOW LINE ELEVATIONS Lt.	Rt.	Other	DIMENSIONS m Total Lt.	Total Rt.	Extensions Lt.	Extensions Rt.	SKEW AHEAD Degrees Lt.	Rt.	DIKE Lt./Rt.	Location Station	Top Elevation	Type	CLASS 20 m^3	EMBANKMENT IN PLACE m^3	REMARKS
131+10 EBL	1101 Med.	600	100D	21.34	C	0.8		1	1	3	6	259.317	259.200		9.56	15.51									156		Pipe Apron Guard
183+20 EBL	1101 Med.	600	100D	20.12	C	0.8		1	1	3	6	278.190	277.990												50		Pipe Apron Guard
County Road X-40 2132+00.0	1101	600	100D	24.38	C	1.4		1	1	3	6	257.000	257.500		14.14	13.98											
130th Street 1173+82.4	1101	750	100D	15.85	C	2.6		1	1	3	6	259.310	259.290		11.19	8.41				29					230		
173+76.5	1301	600	100D	4.27	C	1.0				1	2	263.900	260.679	263.581	41.35	39.21	4.27	0		29							Remove and Relay Inlet Apron
																							TOTAL		436		

TABULATION OF BRIDGE END DRAIN

① Refer to Standard Road Plan RF-38
② Not a Bid Item

104-8
02-11-00

LOCATION Bridge Station	Bridge Corner	Distance DI-1 or DI-2 ①	SHOULDER ① Panels Required A B C or D	PCC m^2	Polymer Grid m^2 ②	INSTALLATION INFORMATION Elevation Form Grade	(A)	(B)	(C)	Length (L1)	(L2)	SPECIAL BACKFILL Mg ②	REMARKS
76+39													
WBL	NW	10.5	B	16.68	16.68	290.081	290.051	288.301	282.523	2.78	24.7	16.9	(1) Sta. 76+07.5 Lt.
EBL	SW	10.5	C/D	26.16	26.16	289.622	289.592	287.842	280.893	2.18	28.8	13.2	(1) Sta. 76+01.7 Rt.
134+66													
EBL	SE	6.6	C	16.68	16.68	241.409	241.379	239.629	235.098	2.78	21.1	33.8	(1) Sta. 135+43.9 Rt
157+90													
WBL	NW	6.6	C	16.68	16.68	254.729	254.699	252.949	245.300	2.78	24.6	16.9	(1) Sta. 158+34.0 Lt
EBL	NE	9.8	B	13.08	13.08	254.824	254.794	253.044	247.150	2.18	28.1	13.2	(1) Sta. 158+27.2 Rt
TOTALS	5			89.28							127.3		

(1) Additional Polymer Grid and Granular Subbase Along Pavement Edges is Accounted for Under the Bridge Approach Tabulation.

TABULATION OF SAFETY CLOSURES

108-13A
10-28-97

Refer to Section 2518 of the Standard Specifications

STATION	CLOSURE TYPE Road Qty.	Hazard Qty.	REMARKS
163+80 WBL	1		
4+30 WBL	1		Traffic Control
18+14	2		Access Location
35+22	2		Access Location
39+46	2		Access Location
64+75	2		Access Location
66+50	1		Traffic Control
67+00	1		Traffic Control
72+00	1		Traffic Control
76+39		4	Bridge Approach
83+80	1		Traffic Control
86+97	2		Access Location
105+15	2		Access Location
117+37	2		Access Location
134+66		2	Bridge Approach
137+62	2		Access Location
157+90.6		4	Bridge Approach
163+80 WBL	1		Traffic Control
173+20		2	Access Location
IA-1 ENT. RAMP 'C'	1		Traffic Control
3075+20			
IA-64 EXIT RAMP 'B'			
6157+50	1		Traffic Control
TOTAL	37		

REMOVAL OF PAVEMENT

110-1
04-27-99

* Not a bid item.

STATION TO STATION		PAVEMENT TYPE	AREA m²	SAW CUT m*	REMARKS
WBL					
15+40	24+00		6555	7.2	Stage II (WBL & X-Over)
81+90	84+60		384		Stage IV (see J.02)
82+00	83+00		372		Stage II (see J.02)
83+00	84+00		572	8.4	Stage III (see J.02)
84+00	85+20		145		Stage III (see J.02)
162+00	164+00		1530	7.2	Stage II (see J.03)
162+40	164+60		233		Stage IV (see J.03)
163+05	164+00		942	13.4	Stage III (see J.03)
164+00	165+20		140		Stage III (see J.03)
173+20	9176+27		621	638.0	Stage II (right turn lane)
EBL					
21+00 Lt. Lane	24+00 Lt. Lane		1210	7.2	Stage IV (see J.04)
21+00 Rt. Lane	24+00 Rt. Lane		1210	7.2	Stage V (see J.04)
20+40	24+60		400		Stage V (see J.04)
20+40	24+60		400		Stage VI (see J.04)
X-Overs					
63+70	69+40		2800		Stage III
Sideroads					
1452+00	1455+00		2385	7.2	X-28
2131+48	2132+25		965	7.2	X-40
1173+05	1173+20		245	7.2	130th Street
	TOTALS		20522		
04/08/04 PLAN REVISION					
173+00	173+40		156.5	385.7	Stage I Curve Relocation
173+20	9176+27		634.1	325.0	Stage II Curve Relocation
	CURVE RELOCATION TOTAL:		790.6	710.7	

TABULATION OF PAVED SHOULDERS

112-9
10-28-97

① Lane(s) to which the shoulder is adjacent.

No.	Direction of Traffic ①	Station to Station		Side	Ⓛ m	STANDARD ROAD PLAN AND/OR DETAIL DRAWING	Ⓔ or Ⓦ WIDTH m	SHOULDER AREA m²	REMARKS
1	EB	2076+60	2079+39	LT	279	RH-41B	1.2	334.8	Exit Loop B
2	EB	2076+60	2079+39	RT	279	RH-41B	1.8	502.2	Exit Loop B
3	EB	3075+08	3080+90	RT	582	RH-41B	1.8	1047.6	Entrance Ramp C
4	EB	3075+00	3076+00	LT	100	RH-41B	1.8	180.0	Entrance Ramp C
5	EB	3076+00	3080+10	LT	410	RH-41B	1.2	492.0	Entrance Ramp C
6	EB	6153+10	6157+20	RT	410	RH-41B	1.8	738.0	Exit Ramp B
7	EB	6153+00	6156+62	LT	362	RH-41B	1.2	434.4	Exit Ramp B
8	EB	6156+62	6157+20	LT	58	RH-41B	1.8	104.4	Exit Ramp B
9	EB	7154+94	7157+50	RT	256	RH-41B	1.8	460.8	Entrance Loop C
10	EB	7154+94	7156+55	LT	161	RH-41B	1.2	193.2	Entrance Loop C
						TOTAL		4487.4	

REMOVE or REMOVE AND REINSTALL BEAM GUARDRAIL

110-7A
10-28-97

① Lane(s) to which the installation is adjacent.

No.	Direction of Traffic ①	Station	Side	STEEL BEAM GUARDRAIL Remove m	Remove & Reinstall m	POST (mm) Remove No.	Remove & Reinstall 200x200 No.	250x250 No.	150x200 No.	150x150 No.	END ANCHORAGE Remove No.	Remove & Reinstall No.	Type	REMARKS
	WB	133+96	RT	38		22								
	WB	135+24	RT	33		19								
		TOTAL		71		41								

TABULATION OF BRIDGE APPROACH SECTION

112-6
10-03-00

(Refer to Standard Road Plan RF-19E, RK-16, RK-19A, RK-19B, RK-19C, RK-19D, RK-19E, RK-19F, RK-19G, RK-19H, or RK-19J)

① Not a bid item

LOCATION Bridge Station	End	APPROACH PAVEMENT Ⓣ Thickness mm	Pay Length m	Non-Reinf. Pavement Area m²	Reinforced Pavement Area m²	Fixed or Movable Abutment F or M	SUBDRAIN Perforated Subdrain ① 100 mm m	Subdrain Outlet ① Station	Side	Porous Backfill ① m³	Class 'A' Crushed Stone Backfill ① m³	APPROACH SUBGRADE Modified Subbase ① m³	Polymer Grid ① m²	REMARKS
Mainline				117	78.8		11.5			1.7	0.5	99.59	221.31	
				117	77.1		11.5			1.7	0.5	98.91	219.80	
76+39 WBL	W	300		267.2	191.3	M	25.5	173.1	Lt.	3.8	0.5	220.97	491.04	
76+39 WBL	E	300		117	74.8	M	11.5	172.6	Lt.	1.7	0.5	97.76	217.24	
76+39 EBL	W	300		82.5	42.7	M	13.4	153.1	Rt.	2.0	0.5	67.17	149.27	
76+39 EBL	E	300				M		157.9	Rt.					mainline
76+39 EBL	E	300		117	81.5	M	11.5	2148.3	Rt.	1.7	0.5	101.06	224.58	loop B
				117	80.3		11.5			1.7	0.5	100.47	223.26	
134+66 EBL	W	300				F		213.9	Rt.					
134+66 EBL	E	300		117	116.1	F	11.5	186.5	Rt.	1.7	0.5	116.08	257.95	
				117	110.4		11.5			1.7	0.5	113.23	251.62	
157+91 WBL	W	300		191.5	147.7	M	19.4	201.6	Lt.	2.9	0.5	165.96	368.80	
157+91 WBL	E	300		171	150.3	M	11.5	200.5	Lt.	1.7	0.5	158.75	352.78	
157+91 EBL	W	300				M		195.3	Rt.					
157+91 EBL	E	300		1531.2	1151	M	150.3	194.2	Rt.	22.5	5.5	1339.94	2977.65	

TABULATION OF DELINEATORS AND OBJECT MARKERS

108-17
04-28-98

Refer to Standard Plans RE-48A-B* and RE-29C

LOCATION Station	Type*	DELINEATOR Single White D-1W Number	OBJECT MARKER Type 2 OM2-3YV Number	Type 3 OM-3L Number	Type 3 OM-3R Number	REMARKS
WBL	3			1		
76+78.6	3				1	
76+85.1						
EBL	3				1	
2075+96	3			1		
76+01.2						
	3			1		
133+95.9	3				1	
134+00.5						
	3				1	
7157+50.1	3			1		
157+54						
WBL	3			1		
158+26.8	3				1	
158+29.5						
				10		
TOTAL						

TABULATION OF TEMPORARY FLOODLIGHTING LUMINAIRES

108-27
04-30-96

NO.	LOCATION STATION	TYPE	NUMBER LUMIN.	REMARKS
	STAGE II			
	6+00	Offset	1	Traffic Control, Sheet J.07
	69+00	Offset	1	
	82+00	Offset	1	Traffic Control, Sheet J.08
	85+00	Offset	1	Traffic Control, Sheet J.05
	162+00	Offset	1	Traffic Control, Sheet J.05
	165+00	Offset	1	Traffic Control, Sheet J.05
				Traffic Control, Sheet J.05
	STAGE IV			
	21+00	Offset	1	
	24+00	Offset	1	Traffic Control, Sheet J.06
				Traffic Control, Sheet J.06
	1073+50	Offset	2	Traffic Control, RS-15
(*)	184+75	Offset	1	Traffic Control, Sheet J.09
(*)	186+25	Offset	1	Traffic Control, Sheet J.09
	TOTAL		12	

(*) ARE NOT TO BE REMOVED BY THIS PROJECT

TABULATION OF NEW PAVEMENT

X-50
06-03-99

ROAD IDENTIFICATION	STATION TO STATION		TYPE (mm)	AREA (m2)	GRANULAR SUBBASE (under roadway) (m2)	GRANULAR SUBBASE (under shoulder) (m2)	MODIFIED SUBBASE (under roadway) (m3)	MODIFIED SUBBASE (under shoulder) (m3)	REMARKS
Mainline WBL									
	15+40	23+00	260 PCC	5925	5925	1413.71	---	---	Stage II
	23+00	64+50	260 PCC	32425	32425	7927.64	---	---	Stage I
	72+00	75+95	260 PCC	3090	3090	791.62	---	---	Stage I
	77+00	82+50	260 PCC	4290	4290	1054.33	---	---	Stage I
	82+50	84+00	260 PCC	1295	1295	204.60	---	---	Stage II (includes Ramp D gore area)
	83+00	84+00	260 PCC	695	695	99.74	---	---	Stage III (Ramp D taper area)
	154+50	157+42	260 PCC	2180	2180	584.00	---	---	Stage I
	158+46	162+00	260 PCC	2640	2640	712.48	---	---	Stage I
	162+00	164+00	260 PCC	1530	1530	205.98	---	---	Stage II (includes Ramp D gore area)
	163+00	164+00	260 PCC	945	945	101.44	---	---	Stage III (Ramp D taper area)
04/08/04 PLAN REVISION									
	9172+80±	9176+56	260 PCC	1763.6	1763.6	378.0			Stage 1 Curve Relocation
	9172+80±	9176+56	260 PCC	372.6	372.6	86.9			Stage 2 Curve Relocation
Mainline EBL									
	21+00	24+00	260 PCC	1175	1175	299.39	---	---	Stage IV (Lt. lane)
	21+00	24+00	260 PCC	1175	1175	298.85	---	---	Stage IV (Rt. lane)
	67+95	75+75	260 PCC	6080	6080	1411.19	---	---	Stage I
	76+85	133+78	260 PCC	44535	44535	10177.49	---	---	Stage I
	135+55	157+35	260 PCC	17198	17198	4098.99	---	---	Stage I
	158+39	187+25	260 PCC	22450	22450	5356.90	---	---	Stage I
Median Crossovers									
	18+14		260 PCC	1115	1115	220.44	---	---	Stage I
	35+22		260 PCC	850	850	186.60	---	---	Stage I
	39+46		260 PCC	810	810	194.14	---	---	Stage I
	52+10		260 PCC	1470	1470	351.46	---	---	Stage I
	64+75		260 PCC	1000	1000	258.87	---	---	Stage I
	86+97		260 PCC	1110	1110	276.01	---	---	Stage I
	95+18		260 PCC	720	720	172.73	---	---	Stage I
	105+15		260 PCC	1340	1340	302.83	---	---	Stage I
	114+03		260 PCC	685	685	174.73	---	---	Stage I
	117+37		260 PCC	1350	1350	280.45	---	---	Stage I
	131+32		260 PCC	1150	1150	189.31	---	---	Stage I
	137+62		260 PCC	1210	1210	276.64	---	---	Stage I
	173+19		260 PCC (2)	2503	2503	508.00	---	---	Stage I- Includes Left Turn Lane
	180+74		260 PCC	820	820	194.33	---	---	Stage I
Ramps / Loops									
	2076+75	2079+40	260 PCC	2215	137.50	49.74	194.75	81.94	Stage I (IA 1B) - includes ramp taper
	3075+30	3080+10	260 PCC	4400	243.44	114.45	416.56	143.78	Stage I (IA 1C) - includes ramp taper
	6152+95	6157+20	260 PCC	3800	196.02	59.51	373.98	134.23	Stage I (IA 64B) - includes ramp taper
	7154+95	7156+55	260 PCC	2625	255.04	120.33	138.71	50.53	Stage I (IA 64C) - includes ramp taper
Sideroads									
	1453+03	1455+00	260 PCC	1420	---	---	---	---	Stage I (X-28)
	2132+00	2132+25	260 PCC	180	---	---	---	---	Stage I (X-40)
	1174+00	1174+75	260 PCC	540	---	---	---	---	Stage I (130th Street)
		TOTALS		179310	→	203075	→	1534	

(2) with 75mm HMA overlay

TABULATION OF DETOUR PAVEMENT

X-51
06-03-99

STATION TO STATION		SHEET NO.	SPECIAL BACKFILL (Mg)	DETOUR PAVEMENT (Sq. m)
3+10	7+65	F.01	590	1275
20+40	24+60	J.04	418	400
20+40	24+60	J.04	418	400
81+90	84+60	J.02	312	385
84+00	85+20	J.02	131	145
162+40	164+60	J.03	228	235
164+00	165+20	J.03	127	140
184+16	186+84	U.07	3852	2649 (1)
TOTALS			6076	5629

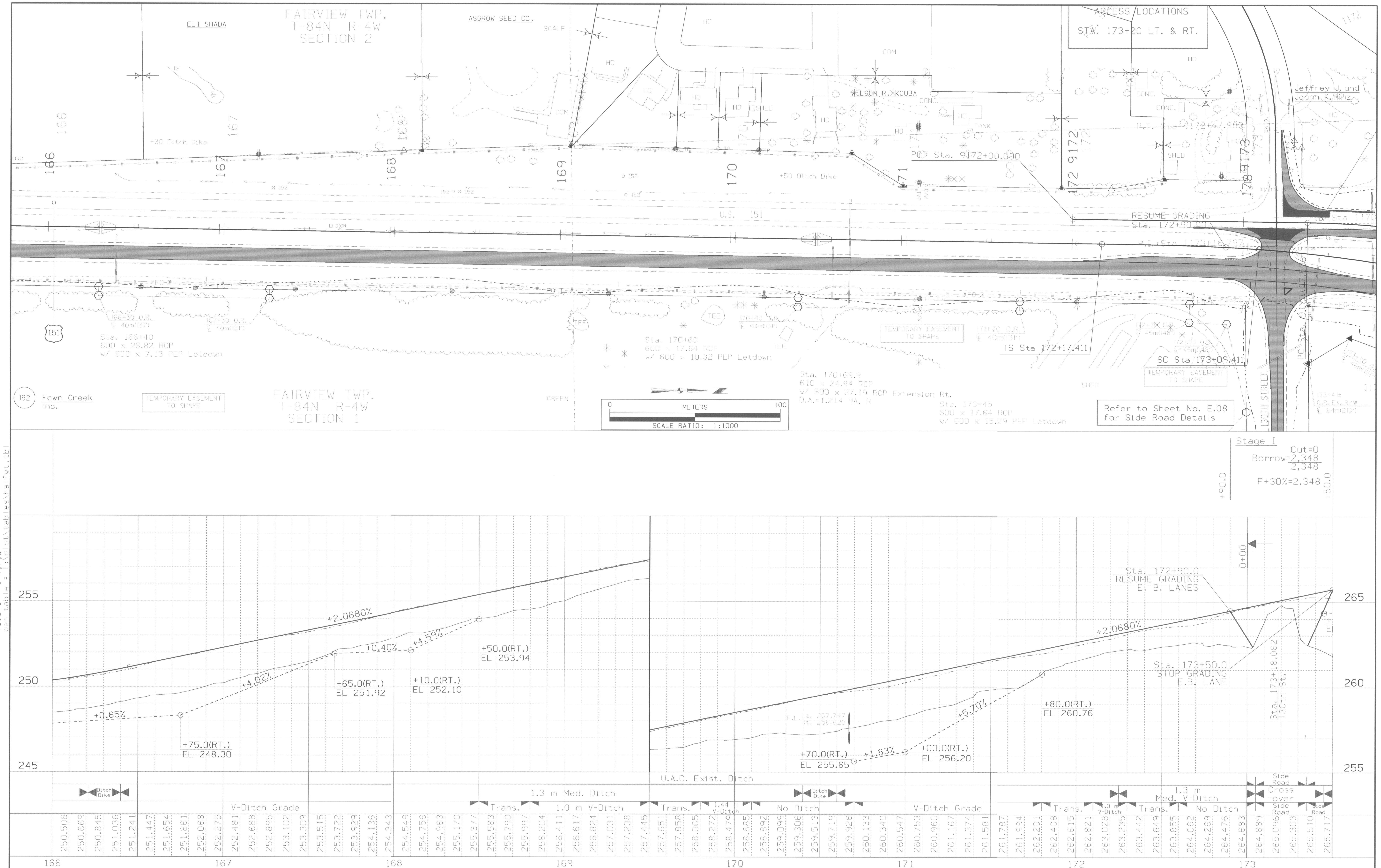
(1) Pavement Will Not Be Removed By This Contract.

TABULATION OF PAVEMENT MARKINGS

108-22
10-31-95

(2) Broken Center Line (Yellow)
(3) Double Center Line (Yellow)
(5) No-Passing Zone Line (Yellow)
(6) Broken Lane Line (White)
(7) Edge Line Right (White)
(8) Edge Line Left (Yellow)
(9) Dotted Line (White)
(10) Solid Lane Line (White)
(11) Channelizing Line (White)
(12) Channelizing Line (Yellow)
(13) Stop Line (White)
(14) Crosswalk Line (White)
(15) Yellow Curb
(16) White Curb

ROAD IDENTIFICATION	LOCATION STATION TO STATION		SIDE L	SIDE R	LENGTH (m) (2)	(3)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	REMARKS
	82+05	85+00		WBL					295										
	162+00	165+00		WBL					300										
	162+00	163+39		WBL									139						
	162+00	163+39		WBL									139						
	162+00	165+00	WBL	CL				300											
	162+00	165+00	WBL							300									
	163+39	164+12		WBL							73								
Stage IV																			
Mainline	20+40	24+60		EBL					420										
	20+40	21+00		EBL						60									Removable Tape Marking
	21+00	24+00		EBL						300									
	24+00	24+60		EBL						60									Removable Tape Marking
Stage V																			
	20+40	21+00		EBL						60									Remove Removable Tape Marking
	24+00	24+60		EBL						60									Remove Removable Tape Marking
Mainline	20+40	24+60	EBL							420									
	20+40	21+00	EBL							60									Removable Tape Marking
	21+00	24+00	EBL							300									
	24+00	24+60	EBL							60									Removable Tape Marking
Stage VI																			
	20+40	21+00	EBL							60									Remove Removable Tape Marking
	24+00	24+60	EBL							60									Remove Removable Tape Marking
Mainline	21+00	24+00	EBL							300									
	21+00	24+00	EBL	CL				300											
	21+00	24+00		EBL					300										
	LENGTH SUBTOTALS				0	1570	0	0	0	1305	0	0	1135	1165	0	0	0	0	Removable Tape Marking
					0	2680	0	0	1605	1305	0	0	1135	1165	0	0	0	0	Remove Removable Tape Marking
					0	463	285	28386	31053	33847	518	1639	2292	1153	130	0	0	0	Pavement Marking
					0	4222	300	2230	7053	65	0	0	0	0	32	0	0	0	Pavement Marking Removed
	QUANTITY FACTORS				0.25	2.00	1.00	0.25	1.00	1.00	0.33	1.00	2.00	2.00	6.00	1.50			
	TOTALS				0	3140	0	0	0	1305	0	0	2270	2330	0	0	0	0	Removable Tape Marking, TOTAL = 9,045
					0	5360	0	0	1605	1305	0	0	2270	2330	0	0	0	0	Remove Removable Tape Marking, TOTAL = 12,870
					0	926	285	7097	31053	33847	171	1639	4584	2306	780	0	0	0	Pavement Marking, TOTAL = 82,688
					0	8444	300	558	7053	65	0	0	0	0	192	0	0	0	Pavement Marking Removed, TOTAL = 16,612
ADDED FOR CURVE RECONSTRUCTION S.B.L. @ 130TH STREET																			
	173+20	175+30		WBL								210							
	173+55	176+55		WBL					300										
	173+40	176+50	℄					310											
	173+20	173+90	WBL									70							
	174+25	176+50	WBL							225									
	LENGTH SUBTOTAL							310	300	225		280							
	QUANTITY FACTOR							0.25	1.0	1.0		1.0							
	TOTALS							78	300	225		280							


FAIRVIEW TWP.
T-84N R 4W
SECTION 2
ELI SHADA
ASGROW SEED CO.
ACCESS LOCATIONS
STA. 173+20 LT. & RT.
WILSON R. KOUBA
Jeffrey J. and
Joann K. Hinz
+30 Ditch Dike
+50 Ditch Dike
POT Sta. 9172+00.000
RESUME GRADING
Sta. 172+90.00
U.S. 151
Sta. 166+40
600 x 26.82 RCP
w/ 600 x 7.13 PLP Letdown
Sta. 170+60
600 x 17.64 RCP
w/ 600 x 10.32 PLP Letdown
TEMPORARY EASEMENT TO SHAPE
TS Sta 172+17.411
SC Sta 173+09.411
Sta. 170+69.9
610 x 24.94 RCP
w/ 600 x 37.19 RCP Extension Rt.
D.A.=1.214 HA. R
Sta. 173+45
600 x 17.64 RCP
w/ 600 x 15.29 PLP Letdown
192 Fawn Creek Inc.
FAIRVIEW TWP.
T-84N R-4W
SECTION 1
METERS
SCALE RATIO: 1:1000
Refer to Sheet No. E.08
for Side Road Details
130TH STREET
Stage I
Cut=0
Borrow=2,348
2,348
F+30%=2,348
+2.0680%
+0.65%
+4.02%
+0.40%
+4.59%
+75.0(RT.)
EL 248.30
+65.0(RT.)
EL 251.92
+10.0(RT.)
EL 252.10
+50.0(RT.)
EL 253.94
+70.0(RT.)
EL 255.65
+1.83%
+00.0(RT.)
EL 256.20
+5.70%
+80.0(RT.)
EL 260.76
Sta. 172+90.0
RESUME GRADING
E. B. LANES
Sta. 173+50.0
STOP GRADING
E.B. LANE
Sta. 173+18.062
130th St.
U.A.C. Exist. Ditch
Ditch Dike
1.3 m Med. Ditch
V-Ditch Grade
Trans.
1.0 m V-Ditch
1.44 m V-Ditch
No Ditch
1.3 m Med. V-Ditch
Side Road
Cross-over
166
167
168
169
170
171
172
173

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	D.23

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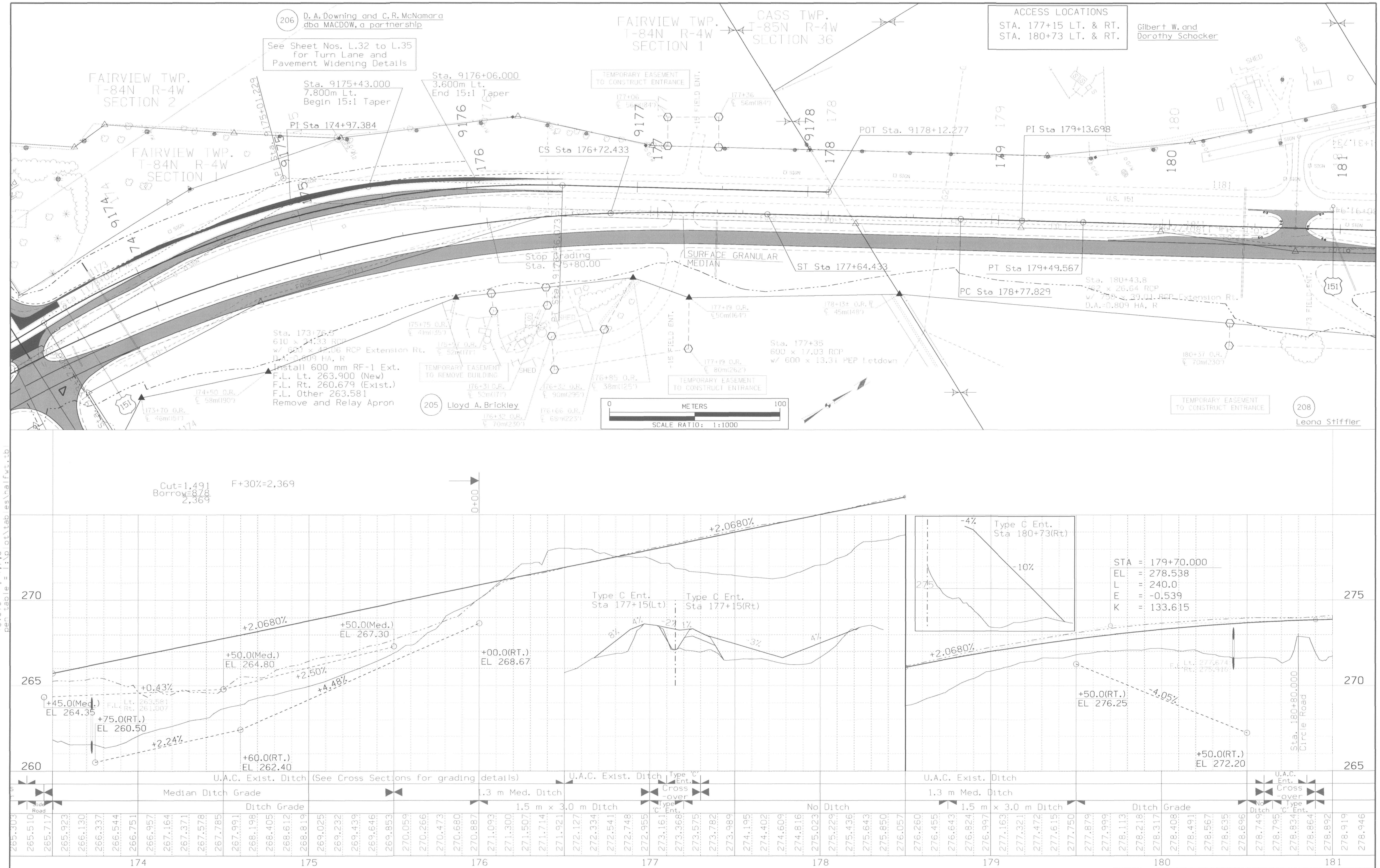
Revised 04/08/04

179-198



D. A. Downing and C. R. McNamara
dba MACDOW, a partnership
206
See Sheet Nos. L.32 to L.35 for Turn Lane and Pavement Widening Details
FAIRVIEW TWP. T-84N R-4W SECTION 1
CASS TWP. T-85N R-4W SECTION 36
ACCESS LOCATIONS
STA. 177+15 LT. & RT.
STA. 180+73 LT. & RT.
Gilbert W. and Dorothy Schocker
FAIRVIEW TWP. T-84N R-4W SECTION 2
Sta. 9175+43.000
7.800m Lt.
Begin 15:1 Taper
Sta. 9176+06.000
3.600m Lt.
End 15:1 Taper
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE
PI Sta 174+97.384
CS Sta 176+72.433
POT Sta. 9178+12.277
PI Sta 179+13.698
Stop Grading
Sta. 175+80.00
SURFACE GRANULAR MEDIAN
ST Sta 177+64.433
PT Sta 179+49.567
PC Sta 178+77.829
Sta. 180+43.8
Sta. 177+35
600 x 17.03 RCP
w/ 600 x 13.31 HEP Letdown
Sta. 173+76.8
Install 600 mm RF-1 Ext.
F.L. Lt. 263.900 (New)
F.L. Rt. 260.679 (Exist.)
F.L. Other 263.581
Remove and Relay Apron
TEMPORARY EASEMENT TO REMOVE BUILDING
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE
205
Lloyd A. Brickley
METERS
SCALE RATIO: 1:1000
208
Leona Stiffler
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE
151
Cut=1,491
Borrow=878
2,369
F+30%=2,369
+2.0680%
Type C Ent. Sta 180+73(Rt)
-4%
-10%
STA = 179+70.000
EL = 278.538
L = 240.0
E = -0.539
K = 133.615
Type C Ent. Sta 177+15(Lt)
Type C Ent. Sta 177+15(Rt)
+50.0(Med.) EL 267.30
+50.0(Med.) EL 264.80
+00.0(RT.) EL 268.67
+45.0(Med.) EL 264.35
+75.0(RT.) EL 260.50
+60.0(RT.) EL 262.40
+0.43%
+2.50%
+4.48%
+2.24%
+50.0(RT.) EL 276.25
-4.05%
+50.0(RT.) EL 272.20
Sta. 180+80.000 Circle Road
270
265
260
275
U.A.C. Exist. Ditch (See Cross Sections for grading details)
Median Ditch Grade
Ditch Grade
1.3 m Med. Ditch
1.5 m x 3.0 m Ditch
U.A.C. Exist. Ditch
Type 'C' Ent.
Cross -over
No Ditch
Ditch Grade
174
175
176
177
178
179
180
181

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	D.24

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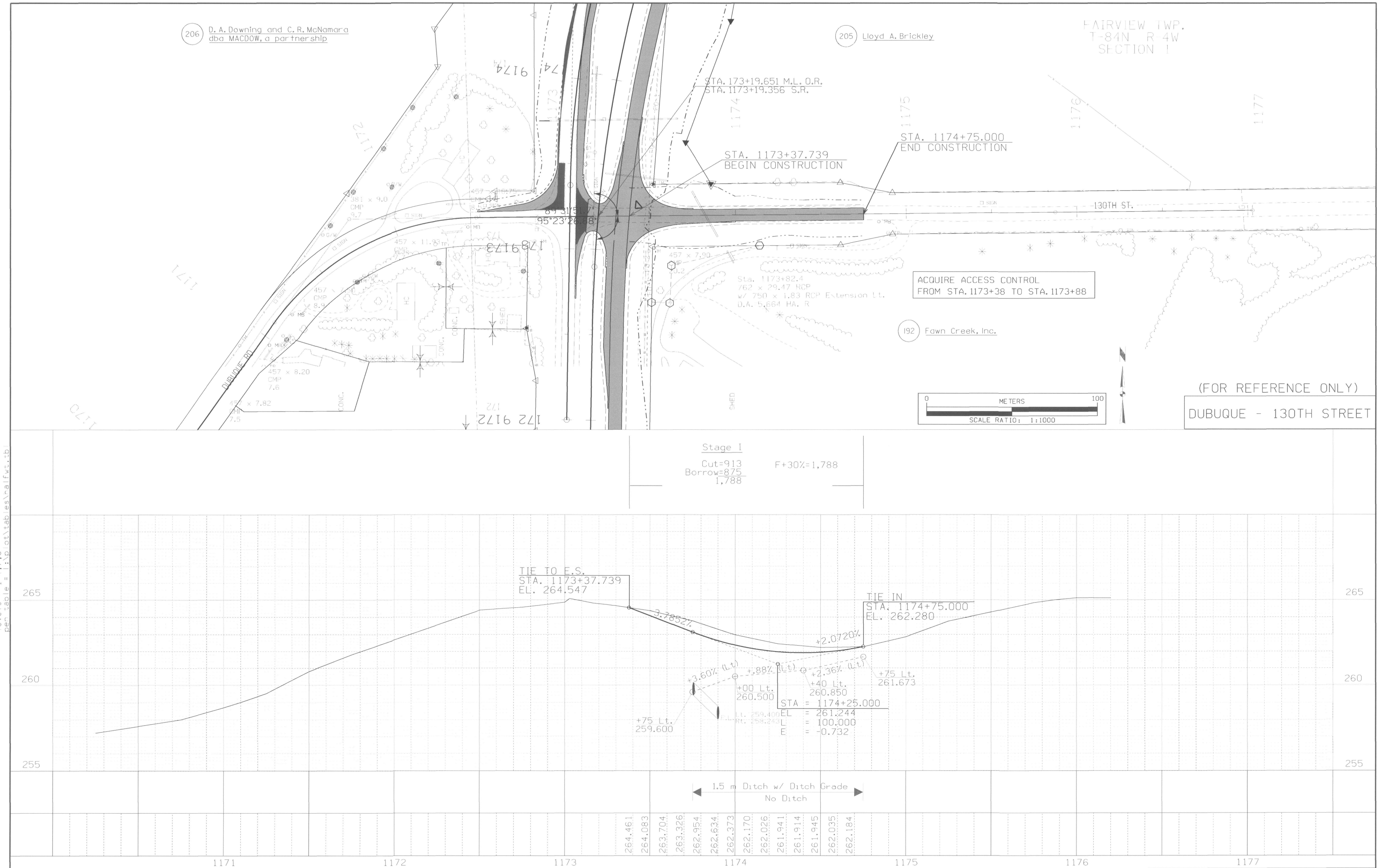
Revised 04/08/04

180 - 198



DESIGN TEAM Skogerboe / ROBINSON | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER E.08

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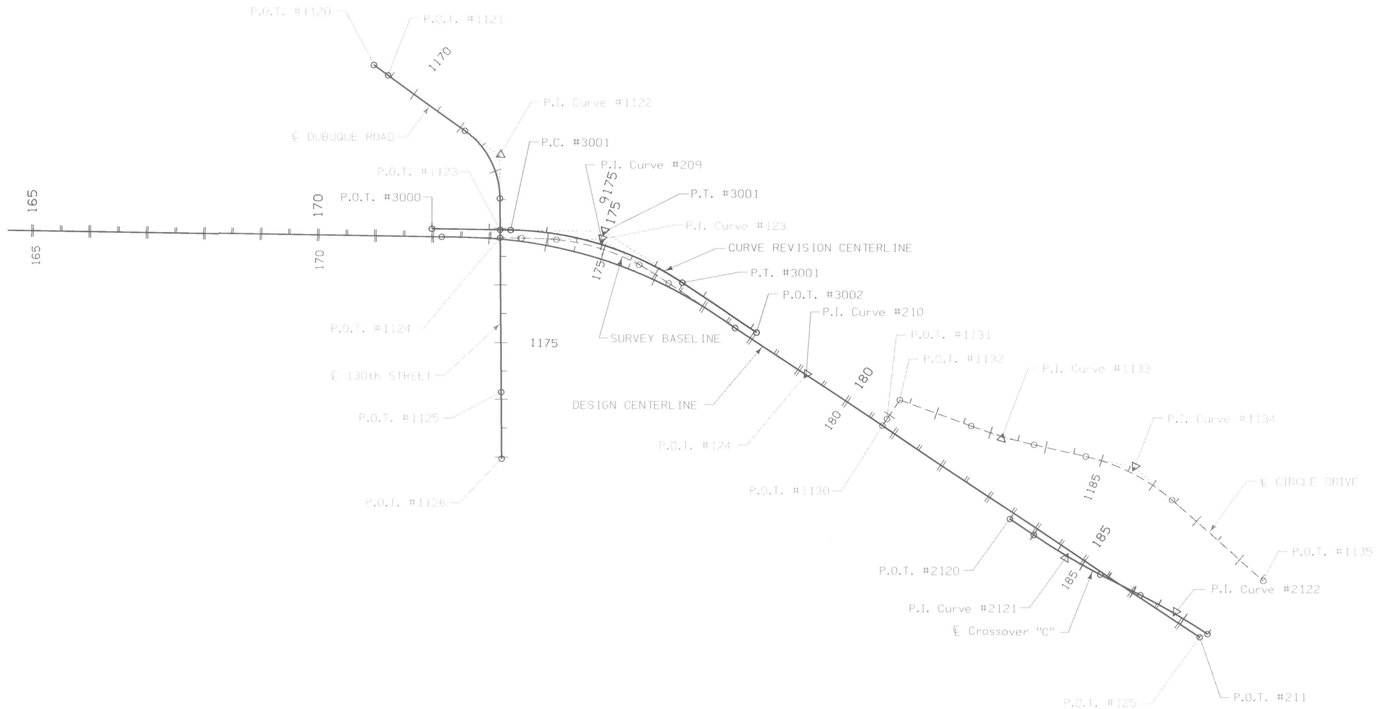
Revised 04/08/04

181-198



GEOMETRIC LAYOUT
STA. 165+00 TO STA. 187+50

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	G.05

Revised 04/08/04

182-198

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SURVEY BASELINE DATA

POINT NUMBER	OVERALL CURVE DATA – P.O.T. OR P.I. Station	P.O.T. OR P.I. Coordinates North	P.O.T. OR P.I. Coordinates East	T.S. or P.C. Station	T.S. or P.C. Coordinates North	T.S. or P.C. Coordinates East	S.T. or P.T. Station	S.T. or P.T. Coordinates North	S.T. or P.T. Coordinates East	S.C. Station	S.C. Coordinates North	S.C. Coordinates East	C.S. Station	C.S. Coordinates North	C.S. Coordinates East
100	0+00.671	4629.999	4075.572												
101	5+65.097	4881.285	4580.975	4+01.112	4808.278	4434.138	7+28.123	4925.681	4738.836						
102	9+08.219	4974.439	4912.206	8+16.779	4949.683	4824.181	9+99.657	5000.000	5000.000						
103	14+30.978	5120.572	5414.126	13+42.350	5095.797	5329.031	15+19.605	5144.674	5499.414						
104	17+49.627	5207.228	5720.766	15+67.396	5157.671	5545.403	19+31.528	5274.755	5890.024						
105	22+40.300	5389.171	6176.815	20+67.800	5325.251	6016.595	24+12.519	5437.003	6342.550						
106	36+38.528	5776.964	7520.482	35+96.690	5765.363	7480.285	36+80.350	5786.625	7561.189						
107	47+05.467	6023.352	8558.599	46+74.398	6016.178	8528.370	47+36.530	6029.446	8589.064						
108	52+03.203	6120.982	9046.673												
109	56+04.611	6195.927	9441.022	55+64.118	6188.367	9401.241	56+44.871	6196.015	9481.515						
110	59+96.938	6196.778	9833.581												
111	68+01.733	6200.238	10638.368												
112	75+69.906	6203.241	11406.535												
113	75+99.654	6202.989	11436.282												
114	75+99.995	6202.986	11436.624												
115	76+00.000	6174.987	11436.387												
116	84+05.500	6168.169	12241.857	82+36.980	6169.596	12073.344	85+74.009	6169.992	12410.367						
117	105+08.159	6190.913	14344.405												
118	109+79.065	6195.797	14815.285	107+21.048	6193.121	14557.281	112+27.354	6322.558	15040.017	107+82.024	6194.453	14618.240	111+66.378	6293.215	14986.570
119	124+99.550	6947.576	16148.095												
120	129+54.987	7171.327	16544.779	126+83.726	7038.059	16308.512	132+14.782	7405.911	16680.987	127+44.702	7068.623	16361.271	131+53.806	7353.537	16649.767
121	140+58.887	8135.885	17104.839	138+42.753	7948.975	16996.312	142+66.787	8351.996	17108.019	139+03.729	8002.135	17026.169	142+05.811	8291.050	17106.250
122	157+91.027	9876.071	17130.445												
123	174+94.397	11579.259	17155.349	173+54.159	11439.036	17153.299	176+28.462	11696.294	17232.612	174+15.135	11499.941	17155.841	175+67.486	11644.530	17200.418
124	179+17.753	11937.721	17391.995												
125	187+45.134	12626.567	17850.307												

POINT NUMBER	SPIRAL CURVE DATA △	Ts	Es	Is	LT	ST	Xo	Yo	CIRCULAR CURVE DATA Δc	Rc	Tc	Lc	Ec	SUPERELEVATION DATA e	L	x	POINT NUMBER
100																	
101									10°43'43.27"	1746.379	163.985	327.011	7.682				
102									0°31'29.84"	19960.081	91.440	182.878	.209				
103									0°27'08.94"	22445.000	88.628	177.255	.175				
104									5°58'10.05"	3495.000	182.231	364.133	4.748				
105									5°39'04.33"	3495.000	172.499	344.719	4.254				
106									2°44'48.92"	1745.000	41.838	83.660	.501				
107									2°02'24.15"	1745.000	31.069	62.132	.277				
108																	
109									10°38'11.16"	435.000	40.493	80.754	1.881				
110																	
111																	
112																	
113																	
114																	
115																	
116									1°06'16.96"	17480.000	168.520	337.029	.812				
117																	
118	28°49'52.09"	258.018	28.950	60.976	40.653	20.328	60.969	0.700	24°53'00.56"	885.000	195.256	384.355	21.284				
119																	
120	30°26'00.30"	271.261	32.337	60.976	40.653	20.328	60.969	0.700	26°29'08.77"	885.000	208.274	409.104	24.177				
121	29°17'53.29"	216.134	24.081	60.976	40.655	20.329	60.695	0.873	24°22'38.92"	710.000	153.361	302.082	16.374				
122																	
123	32°35'38.07"	140.238	16.128	60.976	40.665	20.338	60.936	1.652	23°16'38.87"	375.000	77.241	152.351	7.872				
124																	
125																	

OFFICE RELOCATION DATA

POINT NUMBER	OVERALL CURVE DATA – P.O.T. OR P.I. Station	P.O.T. OR P.I. Coordinates North	P.O.T. OR P.I. Coordinates East	T.S. or P.C. Station	T.S. or P.C. Coordinates North	T.S. or P.C. Coordinates East	S.T. or P.T. Station	S.T. or P.T. Coordinates North	S.T. or P.T. Coordinates East	S.C. Station	S.C. Coordinates North	S.C. Coordinates East	C.S. Station	C.S. Coordinates North	C.S. Coordinates East
200	15+19.633	5165.833	5493.437												
201	18+30.020	5250.243	5792.126	16+52.068	5201.849	5620.881	20+07.821	5310.688	5959.497						
202	22+38.875	5389.171	6176.814	20+74.827	5333.448	6022.519	24+02.806	5434.660	6334.429						
203	36+37.267	5776.964	7520.482	35+77.326	5760.343	7462.892	36+97.184	5790.806	7578.802						
204	55+78.799	6225.320	9409.560	52+33.356	6145.548	9073.454	59+20.510	6217.903	9754.924						
204A	67+96.604	6199.093	10630.816	66+94.993	6201.275	10529.228	68+98.187	6201.041	10732.408						
204B	75+33.327	6213.214	11367.431	73+21.683	6209.158	11155.826	77+44.718	6199.374	11578.623						
205	82+48.468	6166.432	12081.294	80+57.733	6178.905	11890.967	84+39.018	6168.495	12272.018						
206	109+81.905	6196.011	14815.664	107+12.382	6193.096	14546.156	112+41.777	6328.425	15050.418	108+04.382	6195.712	14638.108	111+49.777	6284.651	14969.512
207	129+57.469	7171.327	16544.779	126+74.716	7032.413	16298.502	132+28.829	7415.849	16686.758	127+66.716	7079.011	16377.815	131+36.829	7337.125	16639.173
208	140+61.442	8135.885	17104.839	138+36.559	7941.409	16991.918	142+78.276	8360.743	17108.148	139+30.559	8023.747	17037.224	141+84.276	8266.830	17104.601
209	174+97.384	11579.503	17155.510	172+17.411	11299.560	17151.391	177+64.433	11813.153	17309.759	173+09.411	11391.493	17154.507	176+72.433	11735.430	17260.561
210	179+13.698	11937.721	17391.995	178+77.829	11907.787	17372.233	179+49.567	11967.584	17411.864						
211	187+41.078	12626.567	17850.307												
CURVE	REVISION CENTERLINE														
3000	9172+00.000	11282.359	17137.006												
3001	9175+01.229	11583.556	17141.410	9173+37.506	11419.850	17137.017	9176+56.073	11720.190	17231.612						
3002	187+41.078	12626.567	17850.307												

POINT NUMBER	SPIRAL CURVE DATA △	Ts	Es	Is	LT	ST	Xo	Yo	CIRCULAR CURVE DATA Δc	Rc	Tc	Lc	Ec	SUPERELEVATION DATA e	L	x	POINT NUMBER
200																	200
201									4° 4'35.84"	5000.000	177.951	355.752	3.166	NC	0	0	201
202									3°45'30.11"	5000.000	164.048	327.979	2.691	NC	0	0	202
203									2°44'49.00"	2500.000	59.941	119.858	.719	.0240	92	75	203
204									14°34'54.65"	2700.000	345.443	687.153	22.009	.0228	92	80.6	204
204A									2°19'42.36"	5000.000	101.611	203.194	1.032	NC	0	0	204A
204B									4°50'51.48"	5000.000	211.644	423.036	4.477	NC	0	0	204B
205									4°22'09.16"	5000.000	190.735	381.286	3.637	NC	0	0	205
206	28°48'20.21"	269.523	28.649	92.000	61.342	30.675	91.974	1.621	22°44'48.30"	870.000	175.002	345.395	17.427	.0615	92	30.1	206
207	30°26'00.56"	282.753	32.031	92.000	61.342	30.675	91.974	1.621	24°22'28.65"	870.000	187.899	370.113	20.060	.0615	92	30.1	207
208	29°17'53.18"	224.883	23.407	94.000	62.682	31.348	93.955	2.165	21°22'40.11"	680.000	128.351	253.717	12.007	.0730	94	26	208
209	32°35'18.98"	279.974	33.937	92.000	61.344	30.676	91.970	1.763	25°59'58.52"	800.000	184.692	363.023	21.043	.065%	92	28	209
210									0°12'19.85"	20000.000	35.869	71.738	.032	NC	0	0	210
211																	211
CURVE																	
3000																	3000
3001									32°35'37.85"	560.000	163.723	308.567	23.443	MATCH EXISTING CROSS SLOPE			3001
3002																	3002

STATION EQUATION:
Sta. 85+77.352 O.R. (Back) =
Sta. 85+76.444 O.R. (Ahead)
N=6169.991, E=12410.344

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DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER G.06

date = Wed Apr 14 16:17:02 2004 prf = \\USWAISO1\DATA\PLOT\PL857BW\G06.prf

Revised 04/08/04

183-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
D-1	33.614	28	8.457	16.427	1.249
D-2	132.399	5	11.336	11.554	7.390
D-3	16.162	130	18.458	36.670	1.304
D-4	68.251	25	16.942	29.780	5.200
D-5	15.875	60	8.366	16.624	0.580
D-6	18.350	50	8.076	16.013	0.648
D-7	65.619	22	14.183	25.196	4.176
D-8	15.810	120	16.662	33.112	1.151
D-9	49.214	20	9.160	17.179	1.998
D-10	95.008	5	5.457	8.291	2.401
D-11	22.744	25	5.028	9.924	0.501

ISLAND DATA

101-13
09-27-94

POINT NO.	LOCATION	ELEVATION
1	1173+41.406, 4.530 Lt.	264.470
2	1173+45.101, 4.849 Lt.	264.580
3	1173+41.351, 8.739 Lt.	264.290

Refer to sheets L.32 through L.35 for geometric details of left and right turn lanes on Southbound U.S. Hwy. 151 at 130th Street.

INTERSECTION PAVING REQUIREMENTS

101-12
Modified

TYPE	UNIT	AMOUNT	DESCRIPTION	COMMENTS
Pavement	m^2	2917.87	230.62 SE quad., 284.92 NE quad 1270.00 Lt. turns & X-over 1132.33 Deceleration lane and NW quad	By others
Island	m^2	8.00	150mm, Median PCC	By others
Curb	m	13.00	100mm, Sloped Curb	By others
04/08/04 Revision				
260mm PCC w/ 75mm HMA overlay	m^2	1763.6	STAGE I Curve Reconstruction Left turn lane and crossover	
260mm PCC w/ 75mm HMA overlay	m^2	372.6	STAGE II Curve Reconstruction Intersection returns	

GEOMETRIC AND STAKING DETAIL FOR INTERSECTION OF U.S. HWY. 151 WITH 130TH ST.

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER L.27

date = Wed Apr 14 16:17:36 2004 prf = \\USWAIS01\DATA\PLOT\PL857BW\L27.prf

Revised 04/08/04

PAVING JOINT LAYOUT
FOR INTERSECTION OF
U.S. HWY. 151 WITH 130TH ST.

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER L.28

date = Wed Apr 14 16:17:54 2004 prf = \\USWAIS01\DATA\PLOT\PL85\BW\L28.prf

Revised 04-08-04

185-198

EDGE PROFILES FOR INTERSECTION OF 130TH STREET WITH EXISTING U.S. HWY.151

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER NHSX-151-3(112)--3H-57	SHEET NUMBER L.29

date - Wed Apr 14 16:18:12 2004 prf - \\USWAIS01\DATA\PLOT\PL857BW\L29.prf

Revised 04/08/04

186-198

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
D-9	49.687	20	9.260	17.344	2.040
D-12	9.697	50	4.241	8.462	0.180
D-13	77.810	25	20.176	33.951	7.126

STAGING NOTES

108-26
09-27-94

Stage 1 - Construct Pavement Widening on US 151 SB lanes

Traffic Control as per RS-63B
US 151 traffic to be maintained at all times.
Median crossover to be completed in halves, under traffic.

Grade pavement widening Sta 9173+44 to 9176+56
Remove existing median crossover pavement.
Grade median crossover at 130th Street

Mill 75mm of existing HMA Pavement right of relocation centerline from Sta 9173+44 to 9176+56

Pave PCC pavement for widening to match top of existing pavement.
Pave PCC pavement for median crossover to match existing pavement (without milling)

Pave 75mm HMA overlay right of relocation centerline from 9172+71 to 9176+56.
(Overlay both new and existing pavement)

Place granular shoulder, paint pavement markings

Stage 2 - Construct Right Turn Lane on US 151 SB Lanes

Traffic Control as per RS-63A
US 151 traffic to be maintained at all times.
Traffic on new pavement, right of relocation centerline.
130th Street North of US 151 shall remain open during construction.

Sawcut and remove pavement

Grade right turn lane from 9173+20 to 9175+43
Grade intersection return at 130th Street

Mill 75mm existing HMA pavement left of relocation centerline from Sta 9173+44 to 9176+56

Pave PCC pavement for widening and intersection return to match top of milled existing HMA pavement.

Pave variable depth HMA leveling course for right turn lane from 9173+44 to 9174+50.

Pave 75mm HMA overlay left of relocation centerline.
(Overlay both new and existing pavement)

Place granular shoulder, paint pavement markings

* NOTE:
Elevations to be confirmed at time of construction using cross-slope and existing pavement edge elevation.

NOTE:
Pavement designated as "UAC Existing Pavement" between 9172+71 and 9176+56 shall be milled 75mm and overlaid with 75mm HMA.
See Staging Notes.

NOTE:
Fabric Reinforcement to be placed at existing ℄ joint and at joint between new and existing pavements prior to HMA Overlay.

GEOMETRIC DETAILS
CURVE RECONSTRUCTION AT INTERSECTION OF
U.S. HWY. 151
AND 130TH STREET

PAVING JOINT LAYOUT
CURVE RECONSTRUCTION AT
INTERSECTION OF
U.S. HWY. 151
AND 130TH STREET

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	L.33

date - Fri Apr 16 08:40:48 2004 prf = \\USWATS01\DATA\PLOT\PL857BW\L33.prf

Revised 04/08/04

188-198

GEOMETRIC DETAILS
CURVE RECONSTRUCTION AT
INTERSECTION OF
U.S. HWY. 151
AND 130TH STREET

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones | COUNTY | PROJECT NUMBER | NHSX-151-3(112)--3H-57 | SHEET NUMBER L.34

date = Fri Apr 16 08:41:06 2004 prf = \\USWAT50T\DATA\PLOT\PL857BW\L34.prf

Revised 04/08/04

189-198

PAVING JOINT LAYOUT
CURVE RECONSTRUCTION AT INTERSECTION OF U.S. HWY. 151 AND 130TH STREET

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Linn/Jones | COUNTY | PROJECT NUMBER NHSX-151-3(112)--3H-57 | SHEET NUMBER L.35

date : Wed Apr 14 16:19:18 2004 prf = \\USWATS01\DATA\PLOT\PL857BW\L35.prf

Revised 04/08/04

190-198

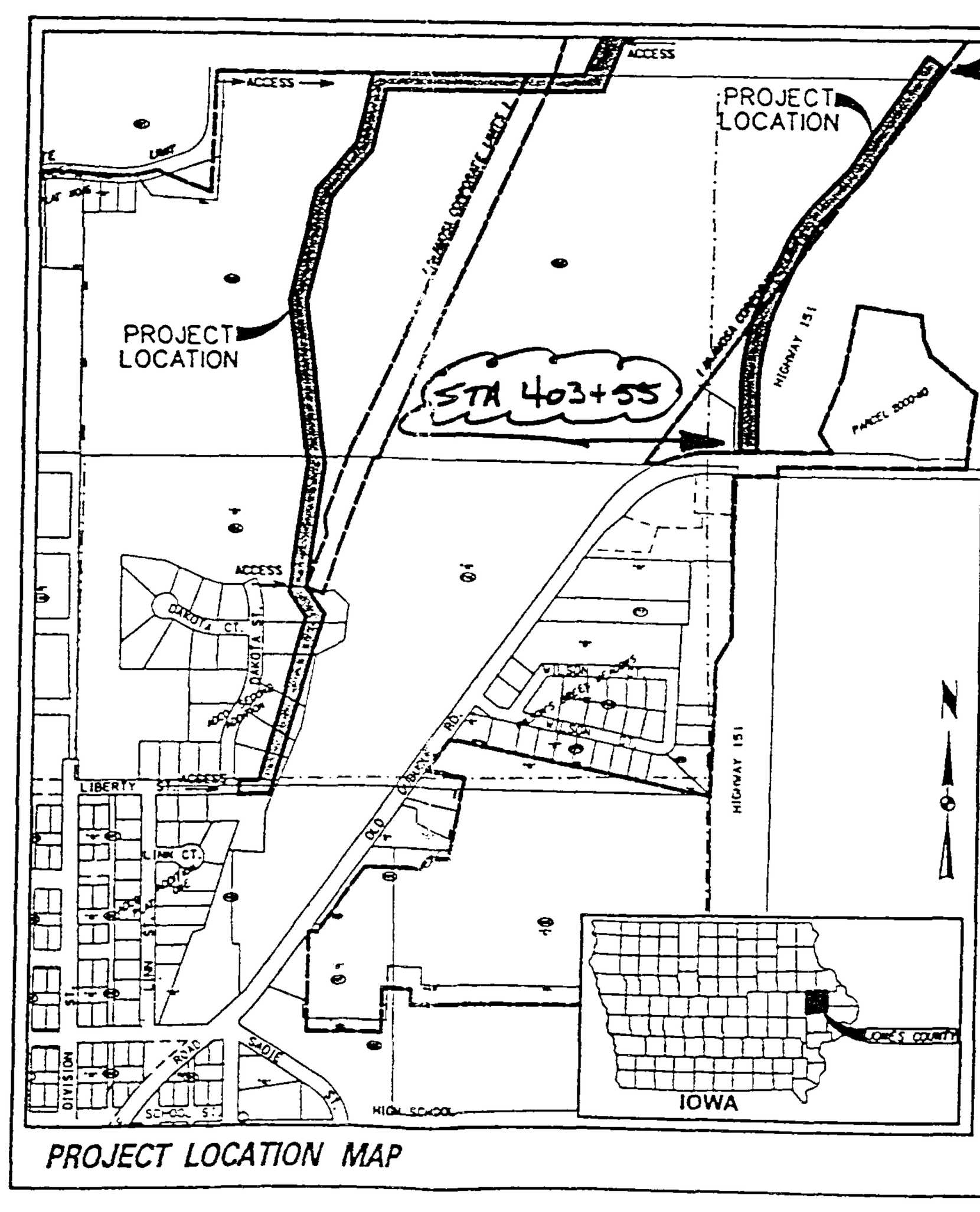
STALLION CREEK SANITARY SEWER
& US 151 WATER MAIN EXTENSION
CITY OF ANAMOSA, IOWA
2004

MAYOR
JON HATCHER
CITY COUNCIL
BOB GEORGE, DENNIS HANSEN, BRIAN HARMON, BERNIE KEENEY, HERB SPENCER & STEVE VACA
CITY ADMINISTRATOR
JOHN HALDEMAN
CITY CLERK
JOHN HALDEMAN
PUBLIC WORKS DIRECTOR
LARRY DRISCOLL

UTILITY WARNING
THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.

LEGEND

IOWA ONE CALL 800/292-8989



PROJECT LOCATION MAP

Save for Asbuilt work when both/Dubuque Rd is included in Asbuilt set

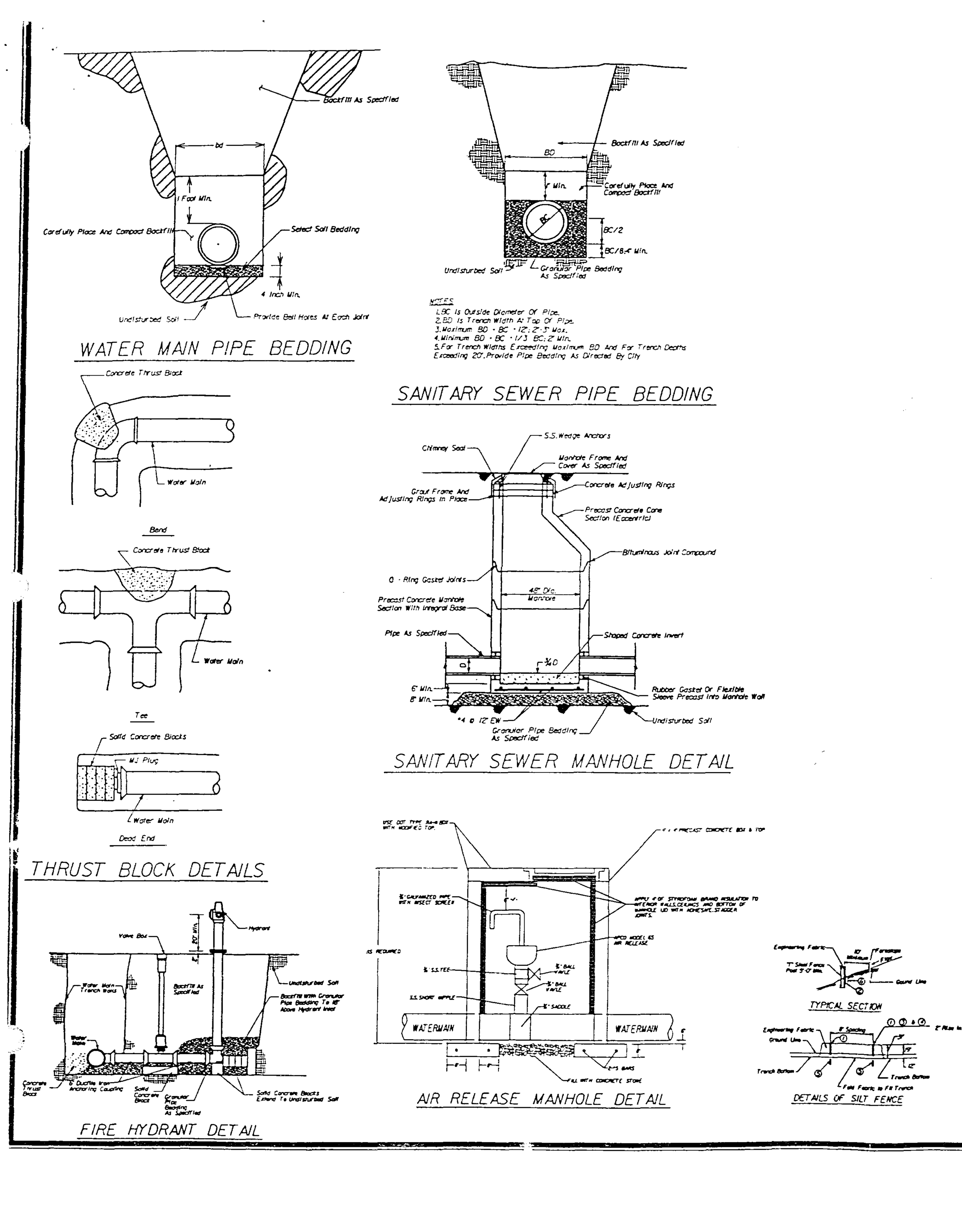
SHEET INDEX
1. TITLE SHEET
2. GENERAL NOTES & DETAIL SHEET
3.-10. SANITARY SEWER PLAN & PROFILE
11.-14. WATER MAIN PLAN & PROFILE

3/1/04

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.
David A. Stoklasa, P.E. Date
License Number 7627
My License Renewal Date is December 31, 2004
Pages or sheets covered by this seal: 1 THRU 14

City of Anamosa Permit # 5311-2004-01

STALLION CREEK SANITARY SEWER & US 151 WATER MAIN EXTENSION
TITLE SHEET — ANAMOSA, IOWA
SNYDER & ASSOCIATES | 2005 BOWLING STREET S.W. CEDAR RAPIDS, IOWA 52404
Project No. 103.0948 | File No. CRD-256 | Date 12/18/03
Sheet 1 of 14



CITY OF ANAMOSA
JONES COUNTY, IOWA

STORM WATER POLLUTION PREVENTION PLAN

All contractors/subcontractors shall conduct their operations in a manner that minimizes erosion and prevents sediments from leaving the highway right-of-way and easements. The prime contractor shall be responsible for compliance and implementation of the storm Water Pollution Prevention Plan (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.

1. SITE DESCRIPTION

This Pollution Prevention Plan (PPP) is for the construction of 3760 LF Sanitary Sewer & 2311 LF of Water Main. This PPP covers approximately 7.5 acre with an estimated 7.5 acre being disturbed. The portion of the PPP covered by this contract has 7.5 acre disturbed.

The PPP is located in an area of Silty Clay (SC) and Silty Loam (SL), from the Unified Soil Classification System. The hydrologic soil group is Type B. The estimated average SCS runoff curve number for this PPP after completion will be 58.

Refer to the grading plan for locations of typical slopes and ditch grades. Refer to this plan for major structural and non-structural controls. A copy of this plan will be on file at the project engineer's office. Runoff from this work will flow into Stallion Creek, Fawn Creek, and then the Wapsipinicon River.

POTENTIAL SOURCES OF POLLUTION:
Site sources of pollution generated as a result of this work relate to silts and sediment which may be transported as a result of a storm event. However, this PPP provides conveyance for other (non-project related) operations. These other operations have storm water runoff, the regulation of which is beyond the control of this PPP. Potentially this runoff can contain various pollutants related to site-specific land uses. Examples are:

Rural Agricultural Activities:
Runoff from agricultural land use can potentially contain chemicals including herbicides, pesticides, fungicides and fertilizers.

Commercial and Industrial Activities:
Runoff from commercial, industrial, and commerce land use may contain constituents associated with the specific operation. Such operations are subject to potential leaks and spills which could be commingled with run-off from the facility. Pollutants associated with commercial and industrial activities are not readily available since they are typically proprietary.

2. CONTROLS

At locations where runoff can move offsite, silt fence shall be placed along the perimeter of the areas to be disturbed prior to beginning grading, excavation or clearing and grubbing operations. Vegetation in areas not needed for construction shall be preserved. As areas reach their final grade, additional silt fences, silt basins, intercepting ditches, sod flumes, letdowns, bridge end drains, and earth dikes shall be installed as specified in the plans and/or as required by the project engineer. This will include using silt fence as ditch checks and to protect intakes. Temporary stabilizing seeding shall be completed as the disturbed areas are constructed. If construction activity is not planned to occur in a disturbed area for at least 21 days, the area shall be stabilized by temporary seeding or mulching within 14 days. Other stabilizing methods shall be used outside the seeding time period.

As the work progresses, additional erosion control items may be required as determined by the engineer after field investigation. These may be items such as silt fence and other appropriate measures shall be installed by the Contractor, as directed by the engineer. The Contractor will complete the construction with the establishment of permanent perennial vegetation of all disturbed areas.

3. 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.

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.

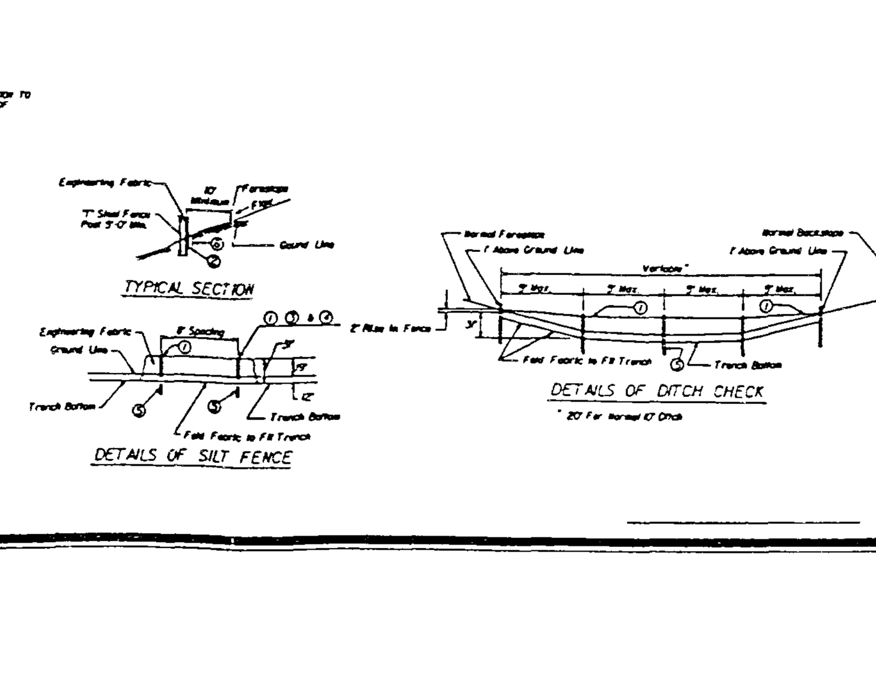
4. MAINTENANCE

The contractor is required to maintain all temporary erosion control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. Cleaning of silt control devices shall begin when the features have lost 50% of their capacity.

5. INSPECTIONS

Inspections shall be made jointly by the contractor and the contracting authority every seven calendar days and after each rain event that is 1/4" or greater. The contractor shall immediately begin corrective action on all deficiencies found. The findings of this inspection shall be recorded in the project diary. This PPP may be revised based on the findings of the inspection. The contractor shall implement all revisions. All corrective actions shall be completed within 3 calendar days of the inspection.

6. NON-STORM DISCHARGES
This includes subsurface drains (i.e. longitudinal and standard subdrains), slope drains and bridge end drains. The velocity of the discharge from these features may be ontrolled by the use of patio blocks, Class A stone or erosion stone.



1. Secure top of engineering fabric to steel post.
2. Engineering fabric to be folded across the bottom of the trench.
3. Make vertical cut in top fold area of fabric. Pull out and twist cord.
4. Loop cord around post forming a loop. Pull wire through fold area of fabric and secure around post.
5. Steel post to be embedded 28" below trench bottom.
6. 12" deep x 4" wide minimum trench, backfill to be compacted.
7. Steel line posts for field fence (t-section), exclusive of anchor plate, shall weigh not less than 1.3 pounds per foot.
8. Woven fabric of minimum 36" width as per Iowa dot 4196.01a.
9. Compact all backfill with mechanical tamper or pneumatic tamper.

STALLION CREEK SANITARY SEWER & US 151 WATER MAIN EXTENSION
GENERAL NOTES & DETAIL SHEET — ANAMOSA, IOWA
SNYDER & ASSOCIATES | 2005 BOWLING STREET S.W. CEDAR RAPIDS, IOWA 52404
Project No. 103.0948 | File No. CRD-256 | Date 12/18/03
Sheet 2 of 14

OFFICE OF DESIGN • CADD • PRODUCED	FISCAL YEAR	COUNTY	PROJECT NUMBER	SHEET NUMBER

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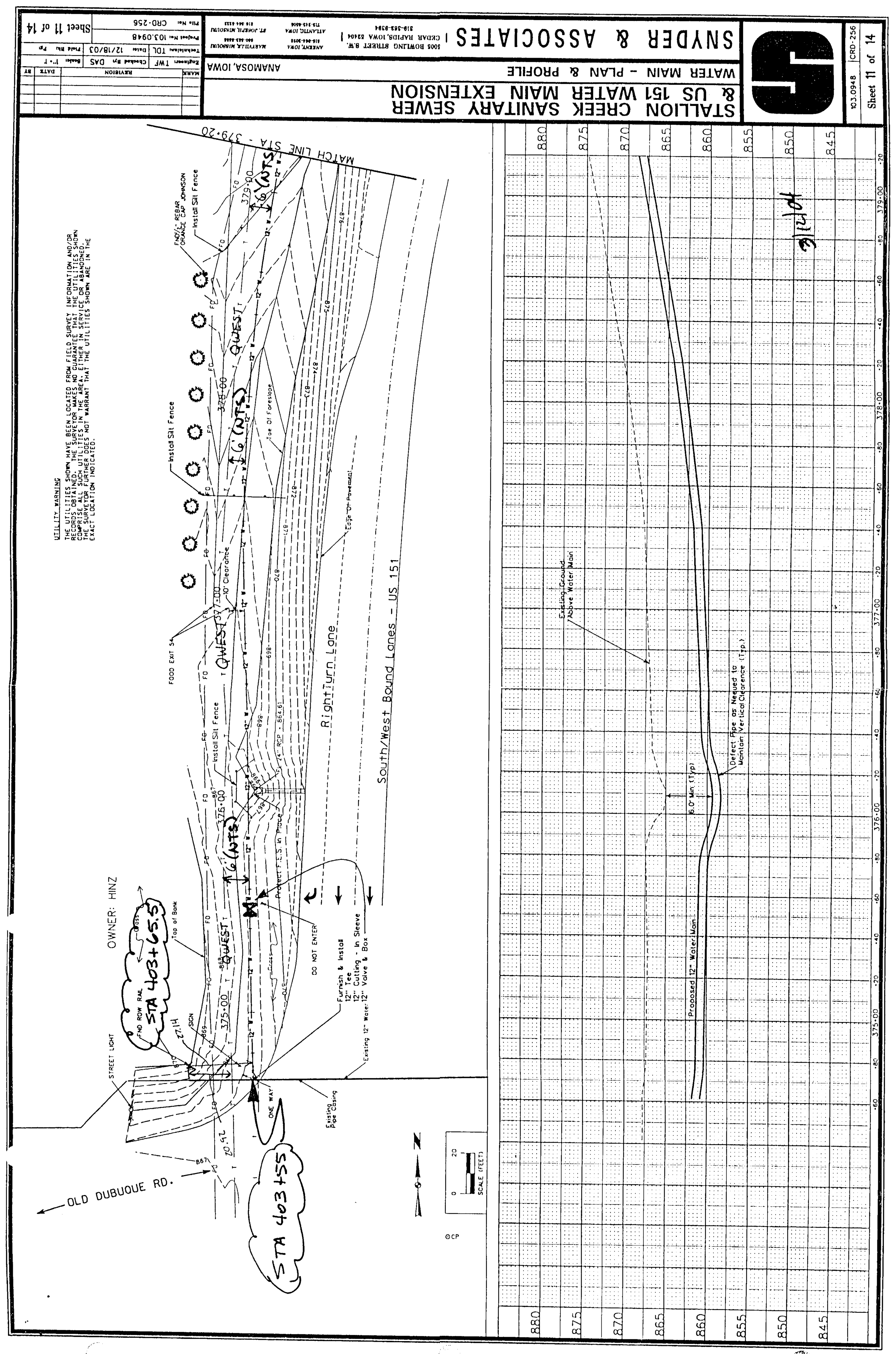
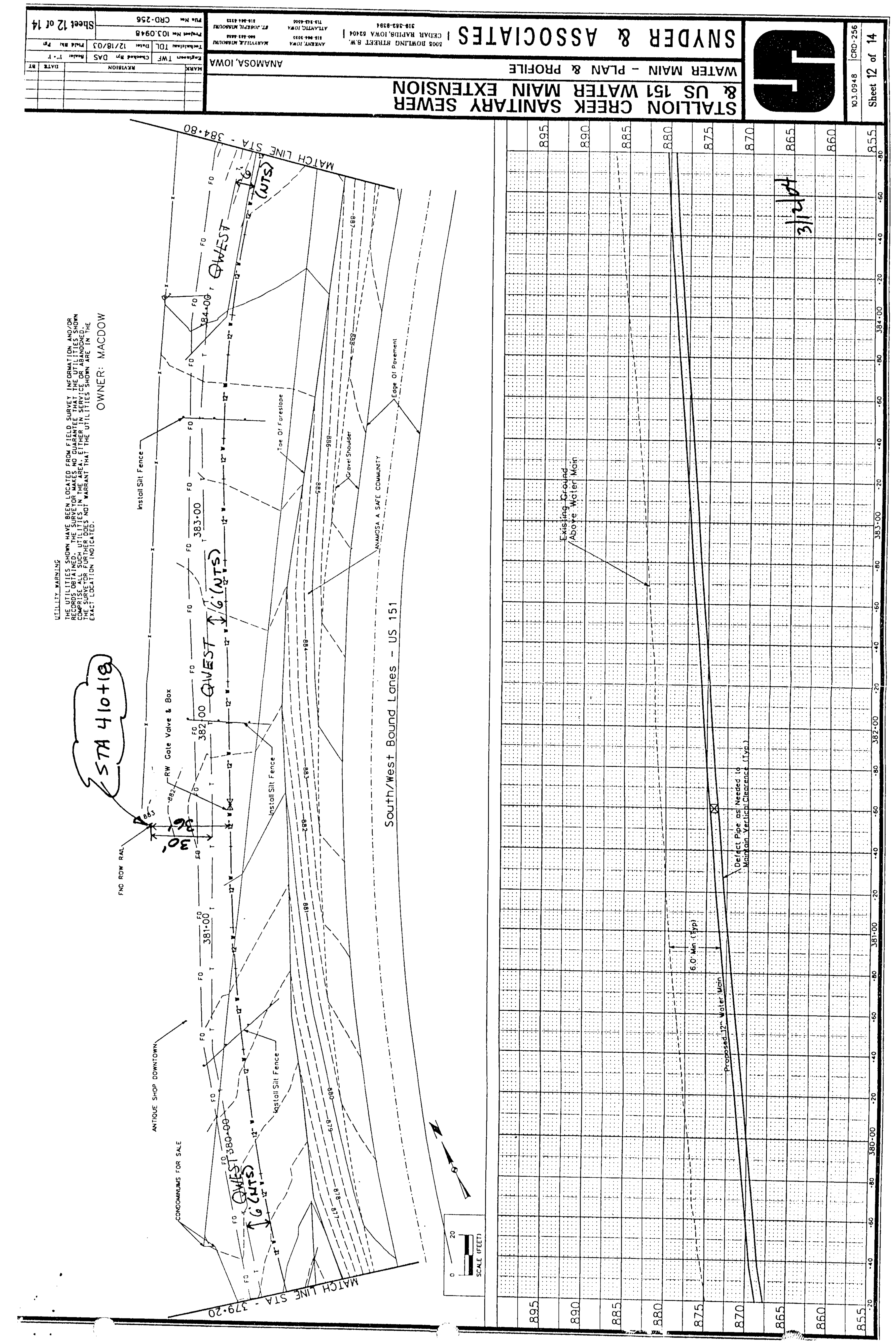
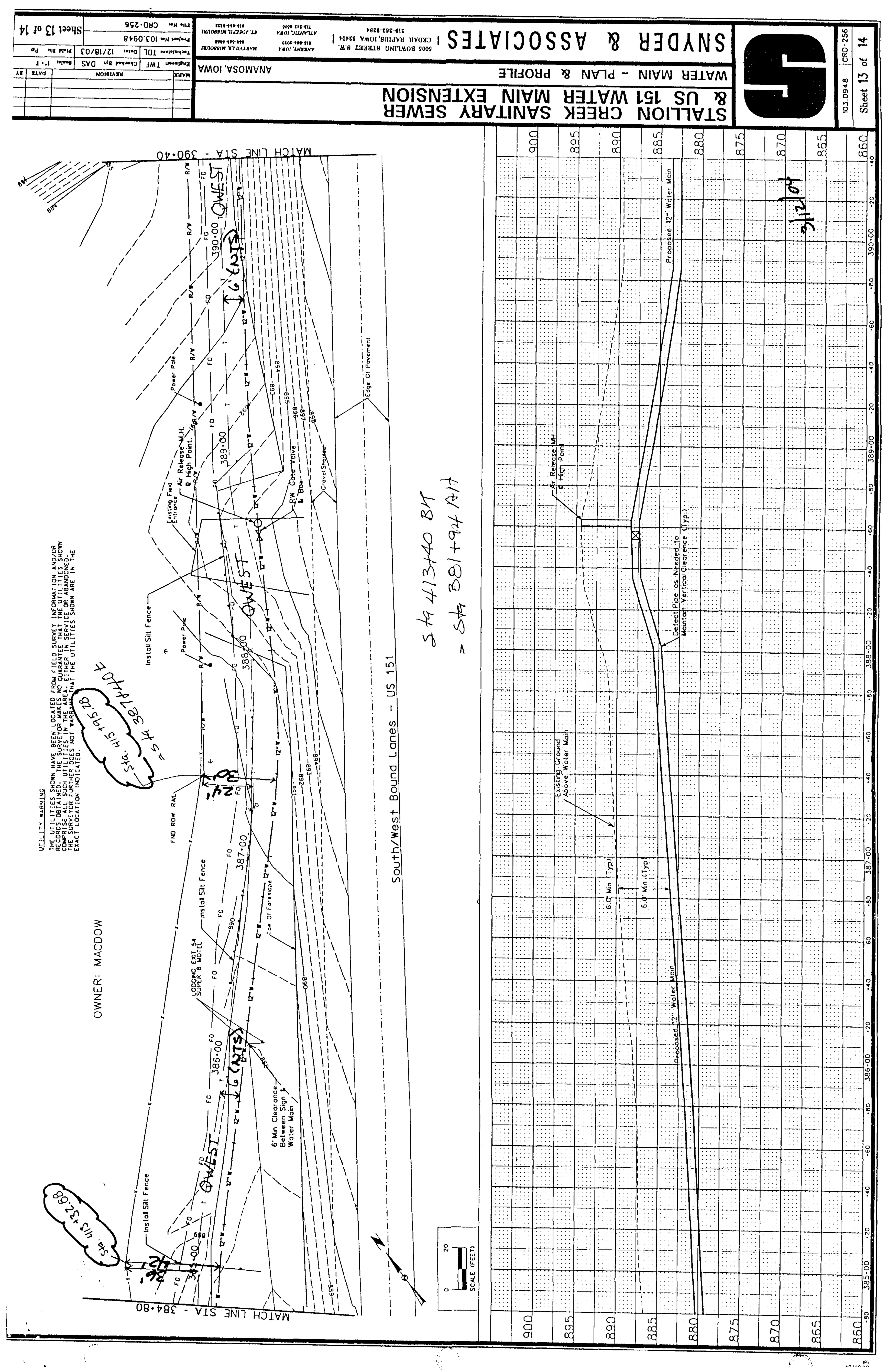
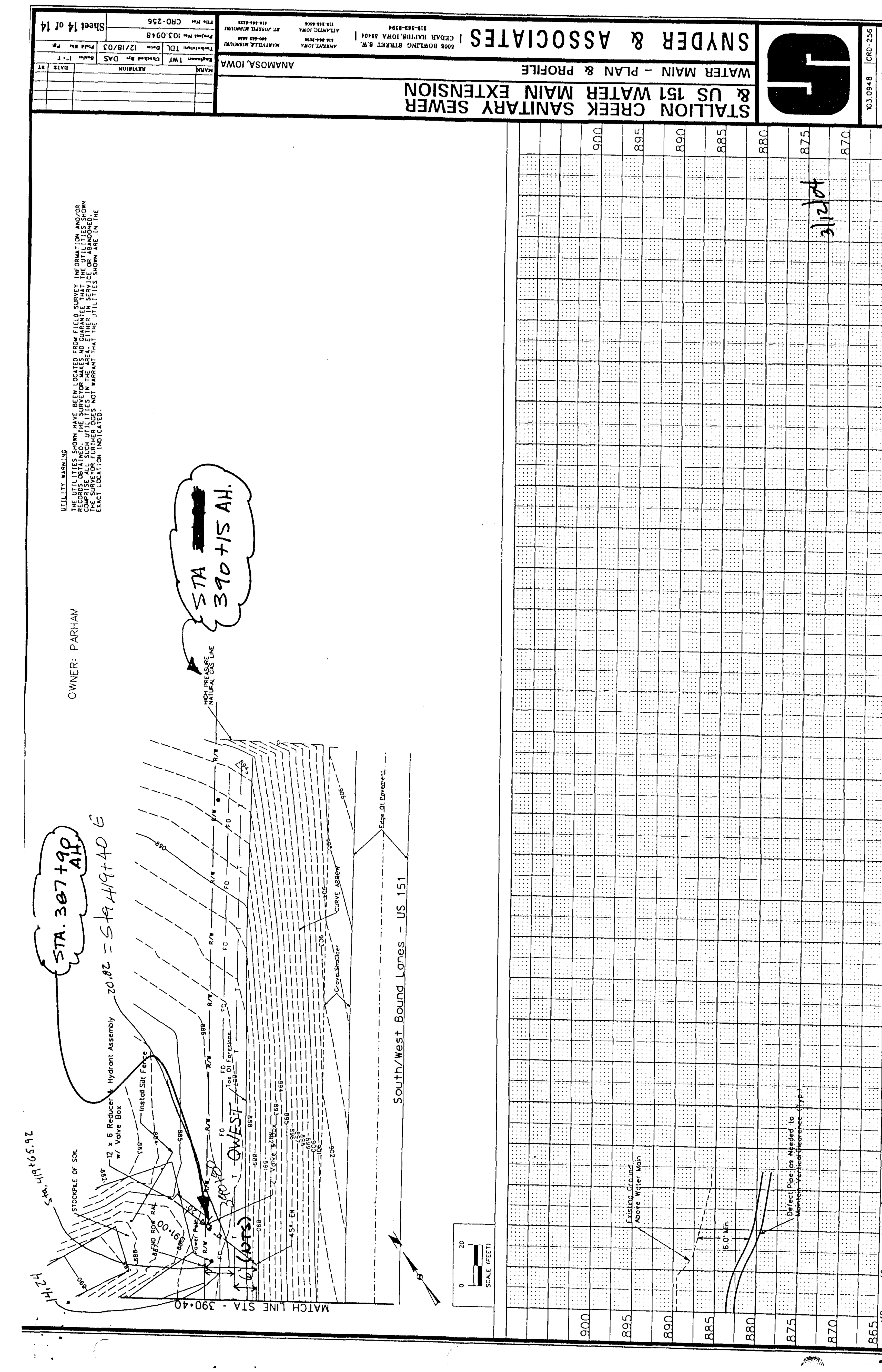
191 - 199


STALLION CREEK SANITARY SEWER & US 151 WATER MAIN EXTENSION
WATER MAIN - PLAN & PROFILE
ANAMOSA, IOWA
SNYDER & ASSOCIATES
5005 BOWLING STREET S.W. CEDAR RAPIDS, IOWA 52404 319-362-9394
103.0948
CRD-256
Sheet 11 of 14
Engineer: TWF
Checked By: DAS
Technician: TDL
Date: 12/18/03
Project No: 103.0948
File No: CRD-256
MATCH LINE STA - 379+20
UTILITY WARNING
THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.
OWNER: HINZ
QWEST
6' (NTS)
STA 403+65.5
STA 403+55
Install Silt Fence
Toe Of Foreslope
Edge Of Pavement
Right Turn Lane
South/West Bound Lanes - US 151
Furnish & Install 12" Tee 12" Cutting - In Sleeve 12" Valve & Box
Existing 12" Water
DO NOT ENTER
ONE WAY
STREET LIGHT
OLD DUBUQUE RD.
SCALE (FEET)
Existing Ground Above Water Main
Defect Pipe as Needed to Maintain Vertical Clearance (Typ.)
6.0' Min (Typ)
Proposed 12" Water Main
3/2/04


STALLION CREEK SANITARY SEWER & US 151 WATER MAIN EXTENSION
WATER MAIN - PLAN & PROFILE
ANAMOSA, IOWA
SNYDER & ASSOCIATES
103.0948
CRD-256
Sheet 12 of 14
MATCH LINE STA - 384+80
MATCH LINE STA - 379+20
UTILITY WARNING
OWNER: MACDOW
QWEST
6' (NTS)
STA 410+18
RW Gate Valve & Box
FND ROW RAIL
Install Silt Fence
Toe Of Foreslope
Gravel Shoulder
Edge Of Pavement
ANAMOSA A SAFE COMMUNITY
South/West Bound Lanes - US 151
ANTIQUE SHOP DOWNTOWN
CONDOMINIUMS FOR SALE
SCALE (FEET)
Existing Ground Above Water Main
Defect Pipe as Needed to Maintain Vertical Clearance (Typ.)
6.0' Min (Typ)
Proposed 12" Water Main
3/2/04





OFFICE OF DESIGN • CADD • PRODUCED		FISCAL YEAR		COUNTY	PROJECT NUMBER	SHEET NUMBER

03-FEB-2004 15:15 mclem w:\Highway\Design\PreDesign\Marilynclemfiles\POTTI-80\K25080.C03

192-192

① Refer to Standard Road Plan RF-19C.
② Refer to Soils Sheets

TABULATION OF LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

104-9
03-28-95
*Not a bid item

LOCATION					LONGITUDINAL SUBDRAIN					SUBDRAIN OUTLET RF-19E or RF-22		POROUS BACKFILL*	CLASS "A" CRUSHED STONE *	REMARKS
Line No.	Road or Lane Ident.	Station to Station		Side	Depth (D)	Shoulder ①		Backslope ②		Station	Type			
					m	Dia. mm	Length m	Dia. mm	Length m			Mg	Mg	
145	US 151	176 64+50	65+67	RT	1.1	100	128			64+50	E	56.0	0.9	
										@ 65+57	E		0.9	
146	US 151	171 65+67	67+25	RT	1.1	100	169				E	68.6	0.9	AT STA. 66+75 BEGIN NEW CONSTRUCTION N.B. LANE
										@ 67+25	E		0.9	
147	US 151	178 67+25	68+15	RT	1.1	100	99			68+15	E	43.5	0.9	
											E		0.9	
148	US 151	135 68+20	69+50	RT	1.1	100	141			68+20	E	60.2	0.9	
											E		0.9	
149	US 151	134 69+50	71+00	RT	1.1	100	161			@ 69+50	E	68.6	0.9	
											E		0.9	
150	US 151	133 71+00	72+50	RT	1.1	100	162			@ 71+00	E	68.6	0.9	
											E		0.9	
151	US 151	132 72+50	74+00	RT	1.1	100	163			@ 72+50	E	68.6	0.9	
											E		0.9	
152	US 151	131 74+00	75+50	RT	1.1	100	168			@ 74+00	E	83.2	0.9	
										75+50	E		0.9	
153	US 151	179 76+82	78+50	RT	1.1	100	177				E	72.7	0.9	
											E		0.9	
154	US 151	143 78+50	79+50	RT	1.1	100	113			@ 78+50	E	72.7	0.9	
										79+50	E		0.9	
155	US 151	144 80+10	81+50	RT	1.1	100	150			80+10	E	64.4	0.9	ALONG RAMP TAPER.
											E		0.9	
156	US 151	145 81+50	83+00	RT	1.1	100	170			@ 81+50	E	68.6	0.9	ALONG RAMP TAPER.
											E		0.9	
157	US 151	146 83+00	84+50	RT	1.1	100	182			@ 83+00	E	68.6	0.9	
											E		0.9	
158	US 151	147 84+50	85+30	RT	1.1	100	94			@ 84+50	E	39.3	0.9	
										85+30	E		0.9	
159	US 151	71 85+30	86+80	RT	1.1	100	165				E	68.6	0.9	
											E		0.9	
160	US 151	70 86+80	88+50	RT	1.1	100	181			@ 86+80	E	76.9	0.9	
											E		0.9	
161	US 151	69 88+50	90+13	RT	1.1	100	175			@ 88+50	E	68.6	0.9	
										90+13	E		0.9	
162	US 151	68 90+18	91+50	RT	1.1	100	165			90+18	E	68.6	0.9	
											E		0.9	
163	US 151	67 91+50	93+00	RT	1.1	100	163			@ 91+50	E	68.6	0.9	
											E		0.9	
164	US 151	66 93+00	94+50	RT	1.1	100	164			@ 93+00	E	68.6	0.9	
										@ 94+50	E		0.9	
165	US 151	65 94+50	95+00	RT	1.1	100	64			95+00	E	68.6	0.9	
165 A	US 151	64 95+05	96+00	RT	1.1	100	106			95+05	E		0.9	
166	US 151	63 96+00	97+50	RT	1.1	100	163			@ 96+00	E	68.6	0.9	
											E		0.9	
167	US 151	62 97+50	99+00	RT	1.1	100	162			@ 97+50	E	68.6	0.9	
											E		0.9	
168	US 151	61 99+00	100+50	RT	1.1	100	163			@ 99+00	E	68.6	0.9	
											E		0.9	
169	US 151	60 100+50	102+00	RT	1.1	100	165			@ 100+50	E	68.6	0.9	
											E		0.9	
170	US 151	59 102+00	103+50	RT	1.1	100	165			@ 102+00	E	68.6	0.9	
											E		0.9	
171	US 151	58 103+50	103+80	RT	1.1	100	43			@ 103+80	E	18.4	0.9	
											E		0.9	
172	US 151	57 103+80	105+50	RT	1.1	100	186				E	76.9	0.9	
											E		0.9	
173	US 151	56 105+50	107+00	RT	1.1	100	158			@ 105+50	E	66.5	0.9	
											E		0.9	
174	US 151	55 107+00	107+50	RT	1.1	100	56			@ 107+00	E	25.5	0.9	
										107+50	E		0.9	
175	US 151	54 107+53	109+00	RT	1.1	100	142			107+53	E	67.3	0.9	
											E		0.9	
176	US 151	53 109+00	109+50	RT	1.1	100	63			@ 109+00	E	30.9	0.9	
											E		0.9	
177	US 151	52 109+50	111+00	RT	1.1	100	137			@ 109+50	E	63.1	0.9	
											E		0.9	
178	US 151	51 111+00	112+50	RT	1.1	100	147			@ 111+00	E	68.6	0.9	
										112+50	E		0.9	
179	US 151	50 112+25	113+50	RT	1.1	100	136			112+25	E	58.1	0.9	
											E		0.9	
180	US 151	49 113+50	114+95	RT	1.1	100	151			@ 113+50	E	68.6	0.9	
										114+95	E		0.9	

ELI SHADA

FAIRVIEW TWP.
T-84N R-4W
SECTION 2

ASGROW SEED CO.

SCALE

WILSON R. KOUBA

ACCESS LOCATIONS
STA. 173+20 LT. & RT.

Jeffrey J. and
Joann K. Hinz

+30 Ditch Dike

+50 Ditch Dike

POT Sta. 9172+00.000

P.T. Sta 1172+47.980

RESUME GRADING
Sta. 172+90.00

P.I. Sta 1173+10.797

U.S. 151

166+30 O.R.
℄ 40m(131')

167+30 O.R.
℄ 40m(131')

Sta. 166+40
600 x 26.82 RCP
w/ 600 x 7.13 PEP Letdown

Sta. 170+60
600 x 17.64 RCP
w/ 600 x 10.32 PEP Letdown

170+40 O.R.
℄ 40m(131')

TEMPORARY EASEMENT
TO SHAPE

171+70 O.R.
℄ 40m(131')

TS Sta 172+17.411

172+78 O.R.
℄ 45m(148')

172+93 O.R.
℄ 45m(148')

SC Sta 173+09.411

TEMPORARY EASEMENT
TO SHAPE

Sta. 170+69.9
610 x 24.94 RCP
w/ 600 x 37.19 RCP Extension Rt.
D.A.=1.214 HA. R

Sta. 173+45
600 x 17.64 RCP
w/ 600 x 15.29 PEP Letdown

173+70 O.R.
℄ 46m(151')

173+41± O.R. EX. R/W
℄ 64m(210')

130TH STREET

Refer to Sheet No. E.08
for Side Road Details

192 Fawn Creek Inc.

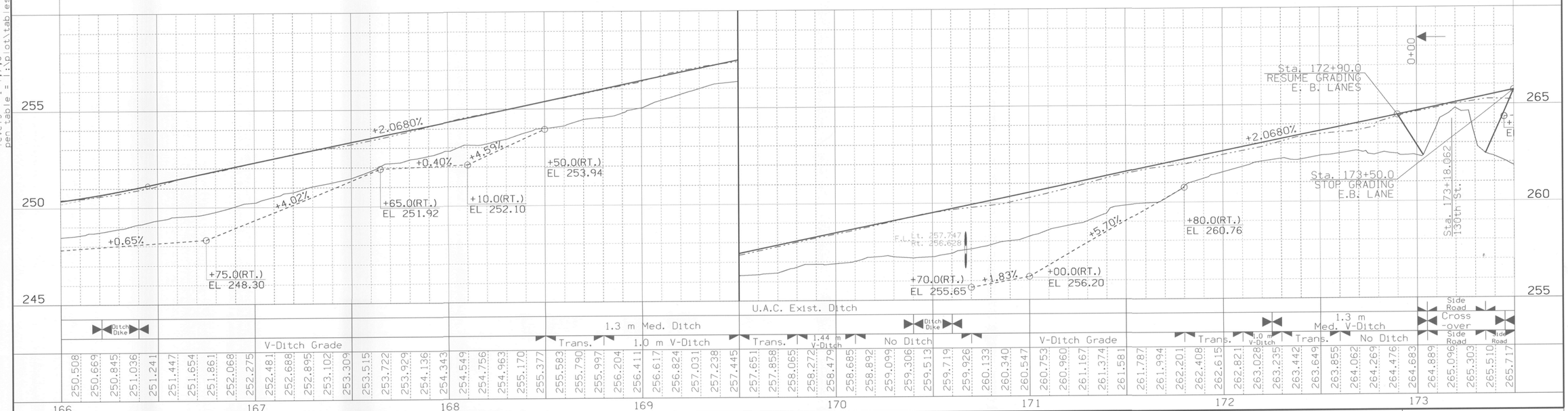
TEMPORARY EASEMENT
TO SHAPE

FAIRVIEW TWP.
T-84N R-4W
SECTION 1

0 METERS 100
SCALE RATIO: 1:1000

Stage I
Cut=0
Borrow=2,348
2,348
F+30%=2,348

+90.0 +50.0



DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	D.23

Revised 04/08/04

179-198

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206 D. A. Downing and C. R. McNamara dba MACDOW, a partnership

See Sheet Nos. L.32 to L.35 for Turn Lane and Pavement Widening Details

FAIRVIEW TWP. T-84N R-4W SECTION 2

FAIRVIEW TWP. T-84N R-4W SECTION 1

FAIRVIEW TWP. T-84N R-4W SECTION 12

CASS TWP. T-85N R-4W SECTION 36

ACCESS LOCATIONS
STA. 177+15 LT. & RT.
STA. 180+73 LT. & RT.

Gilbert W. and Dorothy Schocker

Sta. 9175+43.000
7.800m Lt.
Begin 15:1 Taper

PI Sta 174+97.384

Sta. 9176+06.000
3.600m Lt.
End 15:1 Taper

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

177+06 ℄ 56m(184')

177+36 ℄ 56m(184')

+15 FIELD ENT.

CS Sta 176+72.433

POT Sta. 9178+12.277

PI Sta 179+13.698

U.S. 151

Stop Grading Sta. 175+80.00

SURFACE GRANULAR MEDIAN

ST Sta 177+64.433

PT Sta 179+49.567

PC Sta 178+77.829

Sta. 180+43.8
762 x 26.64 RCP
w/ 750 x 39.01 RCP Extension Rt.
D.A.=0.809 HA, R

Sta. 173+76.5
610 x 34.33 RCP
w/ 600 x 42.06 RCP Extension Rt.
D.A.=0.809 HA, R
Install 600 mm RF-1 Ext.
F.L. Lt. 263.900 (New)
F.L. Rt. 260.679 (Exist.)
F.L. Other 263.581
Remove and Relay Apron

175+75 O.R. ℄ 41m(135')

175+97 O.R. ℄ 52m(171')

TEMPORARY EASEMENT TO REMOVE BUILDING

176+31 O.R. ℄ 52m(171')

176+32 O.R. ℄ 90m(295')

176+85 O.R. ℄ 38m(125')

176+32 O.R. ℄ 70m(230')

176+66 O.R. ℄ 68m(223')

177+19 O.R. ℄ 50m(164')

178+13± O.R. ℄ 45m(148')

177+19 O.R. ℄ 80m(262')

Sta. 177+35
600 x 17.03 RCP
w/ 600 x 13.31 PEP Letdown

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

180+37 O.R. ℄ 70m(230')

174+50 O.R. ℄ 58m(190')

173+70 O.R. ℄ 46m(151')

205 Lloyd A. Brickley

0 METERS 100
SCALE RATIO: 1:1000

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

208 Leona Stiffler

Cut=1,491
Borrow=878
2,369

F+30%=2,369

0+00

+2.0680%

+50.0(Med.) EL 267.30

+50.0(Med.) EL 264.80

+00.0(RT.) EL 268.67

+0.43%

+2.50%

+4.48%

+45.0(Med.) EL 264.35

F.L. Lt. 263.581 Rt. 261.007

+75.0(RT.) EL 260.50

+2.24%

+60.0(RT.) EL 262.40

Type C Ent. Sta 177+15(Lt)

Type C Ent. Sta 177+15(Rt)

6%

A'/

-2 1%

-3%

A'/

-4%

Type C Ent. Sta 180+73(Rt)

-10%

STA = 179+70.000
EL = 278.538
L = 240.0
E = -0.539
K = 133.615

+2.0680%

F.L. Lt. 277.674 Rt. 275.916

+50.0(RT.) EL 276.25

-4.05%

+50.0(RT.) EL 272.20

Sta. 180+80.000 Circle Road

270
265
260

275
270
265

U.A.C. Exist. Ditch (See Cross Sections for grading details)
Median Ditch Grade
Ditch Grade
1.3 m Med. Ditch
1.5 m x 3.0 m Ditch
U.A.C. Exist. Ditch
Type 'C' Ent. Cross-over Type 'C' Ent.
No Ditch
U.A.C. Exist. Ditch
1.3 m Med. Ditch
1.5 m x 3.0 m Ditch
Ditch Grade
U.A.C. Ent. Cross-over Type 'C' Ent.
Side Road Ditch

265.303 265.510 265.717 265.923 266.130 266.337 266.544 266.751 266.957 267.164 267.371 267.578 267.785 267.991 268.198 268.405 268.612 268.819 269.025 269.232 269.439 269.646 269.853 270.059 270.266 270.473 270.680 270.887 271.093 271.300 271.507 271.714 271.921 272.127 272.334 272.541 272.748 272.955 273.161 273.368 273.575 273.782 273.989 274.195 274.402 274.609 274.816 275.023 275.229 275.436 275.643 275.850 276.057 276.260 276.455 276.643 276.824 276.997 277.163 277.321 277.472 277.615 277.750 277.879 277.999 278.113 278.218 278.317 278.408 278.491 278.567 278.635 278.696 278.749 278.795 278.834 278.864 278.892 278.919 278.946

174 175 176 177 178 179 180 181

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	D.24

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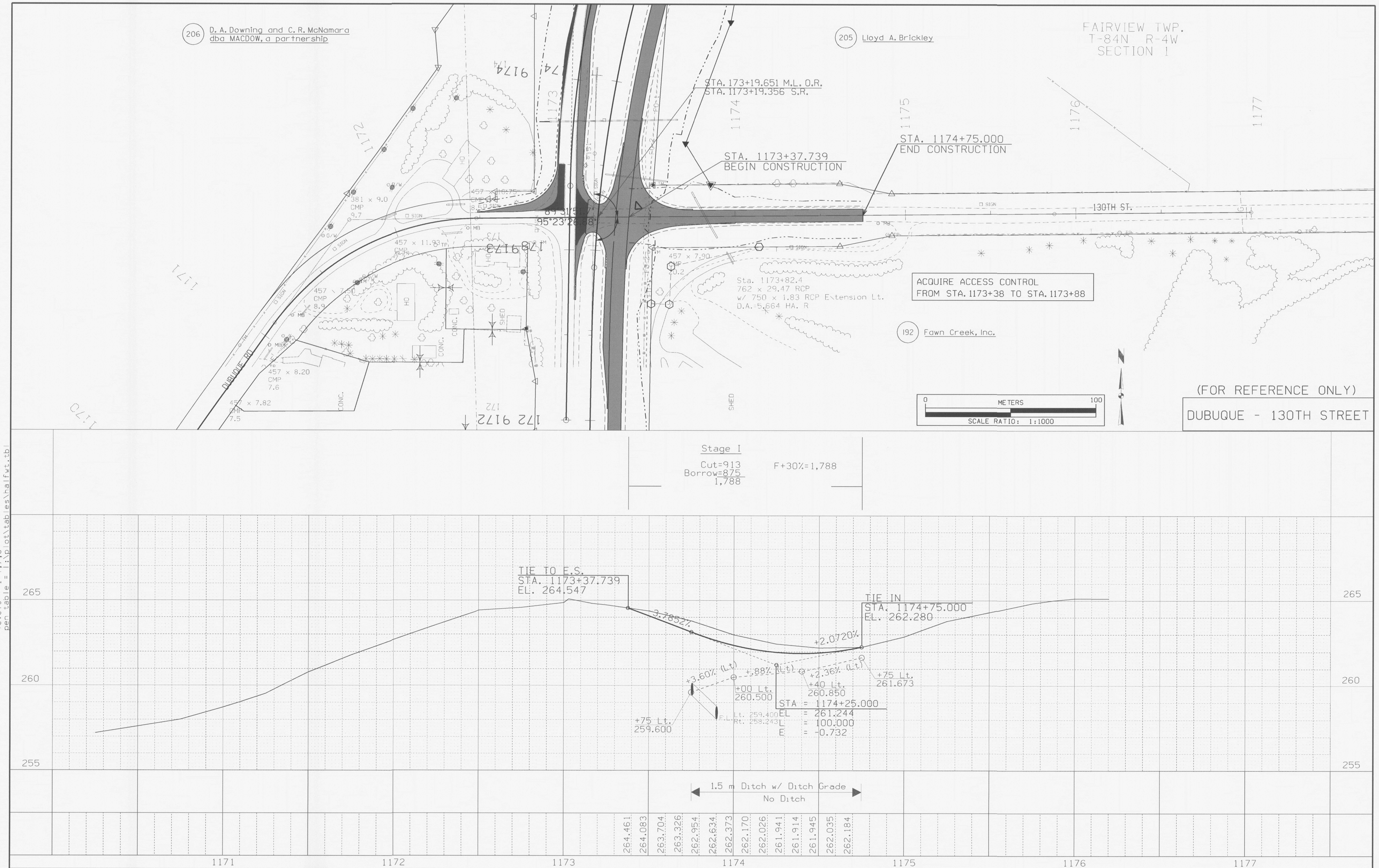
Revised 04/08/04
180 - 198



DESIGN TEAM Skogerboe / ROBINSON	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER NHSX-151-3(112)--3H-57	SHEET NUMBER E.08

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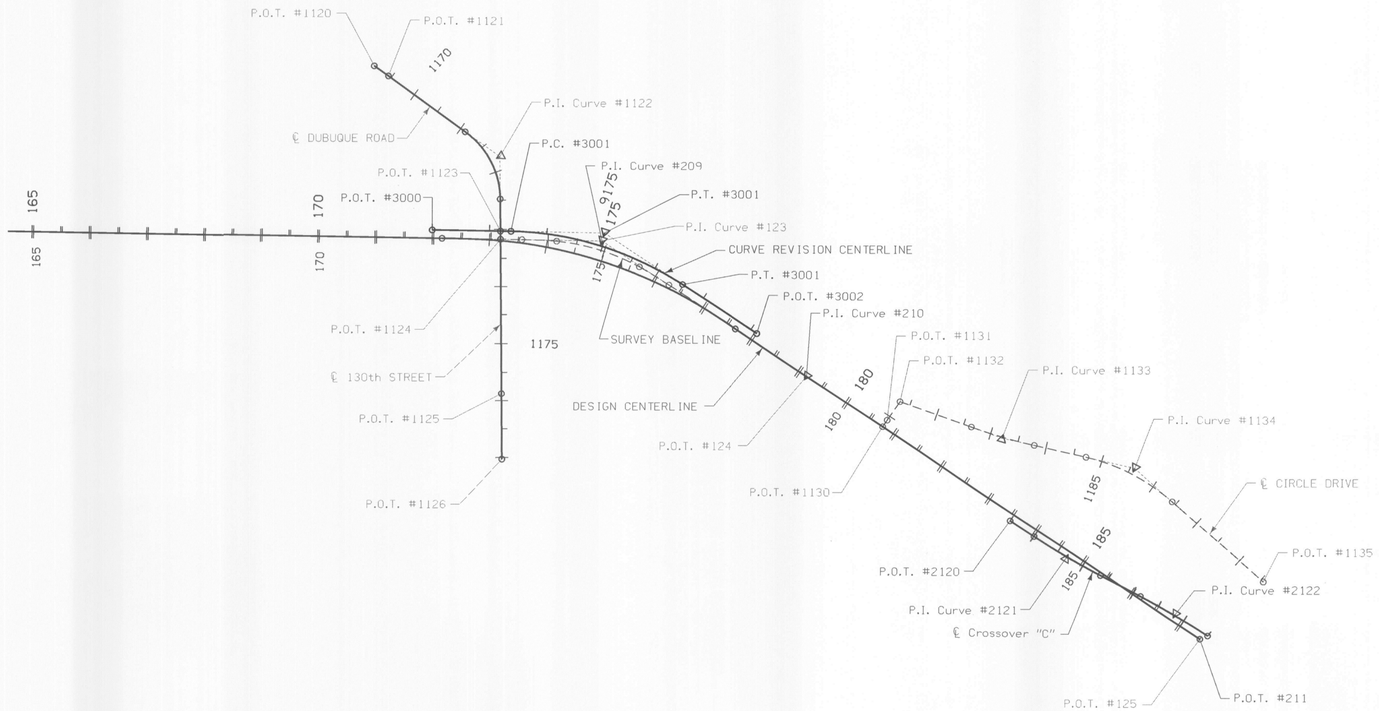
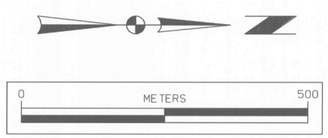
Revised 04/08/04

181-198





GEOMETRIC LAYOUT
STA. 165+00 TO STA. 187+50

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	G.05

Revised 04/08/04

182-198

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SURVEY BASELINE DATA

POINT NUMBER	OVERALL CURVE DATA															SPIRAL CURVE DATA								CIRCULAR CURVE DATA					SUPERELEVATION DATA			POINT NUMBER
	P.O.T. OR P.I.			T.S. or P.C.			S.T. or P.T.			S.C.			C.S.																		
		Coordinates			Coordinates			Coordinates			Coordinates			Coordinates																		
	Station	North	East	Station	North	East	Station	North	East	Station	North	East	Station	North	East	Δ	Ts	Es	Is	LT	ST	Xo	Yo	Δc	Rc	Tc	Lc	Ec	e	L	x	
100	0+00.671	4629.999	4075.572																												100
101	5+65.097	4881.285	4580.975	4+01.112	4808.278	4434.138	7+28.123	4925.681	4738.836															10°43'43.27"	1746.379	163.985	327.011	7.682				101
102	9+08.219	4974.439	4912.206	8+16.779	4949.683	4824.181	9+99.657	5000.000	5000.000															0°31'29.84"	19960.081	91.440	182.878	.209				102
103	14+30.978	5120.572	5414.126	13+42.350	5095.797	5329.031	15+19.605	5144.674	5499.414															0°27'08.94"	22445.000	88.628	177.255	.175				103
104	17+49.627	5207.228	5720.766	15+67.396	5157.671	5545.403	19+31.528	5274.755	5890.024															5°58'10.05"	3495.000	182.231	364.133	4.748				104
105	22+40.300	5389.171	6176.815	20+67.800	5325.251	6016.595	24+12.519	5437.003	6342.550															5°39'04.33"	3495.000	172.499	344.719	4.254				105
106	36+38.528	5776.964	7520.482	35+96.690	5765.363	7480.285	36+80.350	5788.625	7561.189															2°44'48.92"	1745.000	41.838	83.660	.501				106
107	47+05.467	6023.352	8558.599	46+74.398	6016.178	8528.370	47+36.530	6029.446	8589.064															2°02'24.15"	1745.000	31.069	62.132	.277				107
108	52+03.203	6120.982	9046.673																													108
109	56+04.611	6195.927	9441.022	55+64.118	6188.367	9401.241	56+44.871	6196.015	9481.515															10°38'11.16"	435.000	40.493	80.754	1.881				109
110	59+96.938	6196.778	9833.581																													110
111	68+01.733	6200.238	10638.368																													111
112	75+69.906	6203.241	11406.535																													112
113	75+99.654	6202.989	11436.282																													113
114	75+99.995	6202.986	11436.624																													114
115	76+00.000	6174.987	11436.387																													115
116	84+05.500	6168.189	12241.857	82+36.980	6169.596	12073.344	85+74.009	6169.992	12410.367															1°06'16.96"	17480.000	168.520	337.029	.812				116
117	105+08.159	6190.913	14344.405																													117
118	109+79.065	6195.797	14815.285	107+21.048	6193.121	14557.281	112+27.354	6322.558	15040.017	107+82.024	6194.453	14618.240	111+66.378	6293.215	14986.570	28°49'52.09"	258.018	28.950	60.976	40.653	20.328	60.969	0.700	24°53'00.56"	885.000	195.256	384.355	21.284				118
119	124+99.550	6947.576	16148.095																													119
120	129+54.987	7171.327	16544.779	126+83.726	7038.059	16308.512	132+14.782	7405.911	16680.987	127+44.702	7068.623	16361.271	131+53.806	7353.537	16649.767	30°26'00.30"	271.261	32.337	60.976	40.653	20.328	60.969	0.700	26°29'08.77"	885.000	208.274	409.104	24.177				120
121	140+58.887	8135.885	17104.839	138+42.753	7948.975	16996.312	142+66.787	8351.996	17108.019	139+03.729	8002.135	17026.169	142+05.811	8291.050	17106.250	29°17'53.29"	216.134	24.081	60.976	40.655	20.329	60.695	0.873	24°22'38.92"	710.000	153.361	302.082	16.374				121
122	157+91.027	9876.071	17130.445																													122
123	174+94.397	11579.259	17155.349	173+54.159	11439.036	17153.299	176+28.462	11696.294	17232.612	174+15.135	11499.941	17155.841	175+67.486	11644.530	17200.418	32°35'38.07"	140.238	16.128	60.976	40.665	20.338	60.936	1.652	23°16'38.87"	375.000	77.241	152.351	7.872				123
124	179+17.753	11937.721	17391.995																													124
125	187+45.134	12626.567	17850.307																													125

OFFICE RELOCATION DATA

POINT NUMBER	OVERALL CURVE DATA															SPIRAL CURVE DATA								CIRCULAR CURVE DATA					SUPERELEVATION DATA			POINT NUMBER
	P.O.T. OR P.I.			T.S. or P.C.			S.T. or P.T.			S.C.			C.S.																		
		Coordinates			Coordinates			Coordinates			Coordinates			Coordinates																		
	Station	North	East	Station	North	East	Station	North	East	Station	North	East	Station	North	East	Δ	Ts	Es	Is	LT	ST	Xo	Yo	Δc	Rc	Tc	Lc	Ec	e	L	x	
200	15+19.633	5165.833	5493.437																													200
201	18+30.020	5250.243	5792.126	16+52.068	5201.849	5620.881	20+07.821	5310.688	5959.497															4° 4'35.84"	5000.000	177.951	355.752	3.166	NC	0	0	201
202	22+38.875	5389.171	6176.814	20+74.827	5333.448	6022.519	24+02.806	5434.660	6334.429															3°45'30.11"	5000.000	164.048	327.979	2.691	NC	0	0	202
203	36+37.267	5776.964	7520.482	35+77.326	5760.343	7462.892	36+97.184	5790.806	7578.802															2°44'49.00"	2500.000	59.941	119.858	.719	.0240	92	75	203
204	55+78.799	6225.320	9409.560	52+33.356	6145.548	9073.454	59+20.510	6217.903	9754.324															14°34'54.65"	2700.000	345.443	687.153	22.009	.0228	92	80.6	204
204A	67+96.604	6199.093	10630.816	66+94.993	6201.275	10529.228	68+98.187	6201.041	10732.408															2°19'42.36"	5000.000	101.611	203.194	1.032	NC	0	0	204A
204B	75+33.327	6213.214	11367.431	73+21.683	6209.158	11155.826	77+44.718	6199.374	11578.623															4°50'51.48"	5000.000	211.644	423.036	4.477	NC	0	0	204B
205	82+48.468	6166.432	12081.294	80+57.733	6178.905	11890.967	84+39.018	6168.495	12272.018															4°22'09.16"	5000.000	190.735	381.286	3.637	NC	0	0	205
206	109+81.905	6196.011	14815.664	107+12.382	6193.096	14546.156	112+41.777	6328.425	15050.418	108+04.382	6195.712	14638.108	111+49.777	6284.651	14969.512	28°48'20.21"	269.523	28.649	92.000	61.342	30.675	91.974	1.621	22°44'48.30"	870.000	175.002	345.395	17.427	.0615	92	30.1	206
207	129+57.469	7171.327	16544.779	126+74.716	7032.413	16298.502	132+28.829	7415.849	16686.758	127+66.716	7079.011	16377.815	131+36.829	7337.125	16639.173	30°26'00.56"	282.753	32.031	92.000	61.342	30.675	91.974	1.621	24°22'28.65"	870.000	187.899	370.113	20.060	.0615	92	30.1	207
208	140+61.442	8135.885	17104.839	138+36.559	7941.409	16991.918	142+78.276	8360.743	17108.148	139+30.559	8023.747	17037.224	141+84.276	8266.830	17104.601	29°17'53.18"	224.883	23.407	94.000	62.682	31.348	93.955	2.165	21°22'40.11"	680.000	128.351	253.717	12.007	.0730	94	26	208
209	174+97.384	11579.503	17155.610	172+17.411	11249.560	17151.391	177+64.433	11813.153	17309.759	173+09.411	11391.493	17154.507	176+72.433	11735.430	17260.561	32°35'18.98"	279.974	33.937	92.000	61.344	30.676	91.970	1.763	25°59'58.52"	800.000	184.692	363.023	21.043	.0654	92	28	209
210	179+13.698	11937.721	17391.995	178+77.829	11907.787	17372.233	179+49.567	11967.584	17411.864															0°12'19.85"	20000.000	35.869	71.738	.032	NC	0	0	210
211	187+41.078	12626.567	17850.307																													211
CURVE	REVISION CENTERLINE																															
3000	9172+00.000	11282.359	17137.006																													3000
3001	9175+01.229	11583.556	17141.410	9173+37.506	11419.850	17137.017	9176+56.073	11720.190	17231.612															32°35'37.85"	560.000	163.723	308.567	23.443	MATCH EXISTING CROSS SLOPE			3001
3002	187+41.078	12626.567	17850.307																													3002

STATION EQUATION:
Sta. 85+77.352 O.R. (Back) =
Sta. 85+76.444 O.R. (Ahead)
N=6169.991, E=12410.344

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Linn/Jones	COUNTY	PROJECT NUMBER	NHSX-151-3(112)--3H-57	SHEET NUMBER	G.06

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Revised 04/08/04

183-198