Revised

GRADING

NHSX-151-4(63)--3H-53

LETTING DATE 1-11-00

JONES COUNTY

TOTAL SHEETS
90

PROJECT NUMBER
NHS-151-4(63)--3H-53
R.O.W. PROJECT NUMBER
NHS-151-4(58)--19-53
PROJECT IDENTIFICATION NUMBER
94-53010-3

Form 520003wd (11-03)

Kent L. Ellis
16297
Iowa

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.

~~KEN YANNA~~ Kent L Ellis — Project Engineer — 12-10-04 Date

My license renewal date is December 31, 2005

2000 — Year; CJ Monya — Contractor; Carroll Kriegel — Project Inspector

Iowa Department of Transportation

Project Development Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

JONES COUNTY

Springville to Anamosa

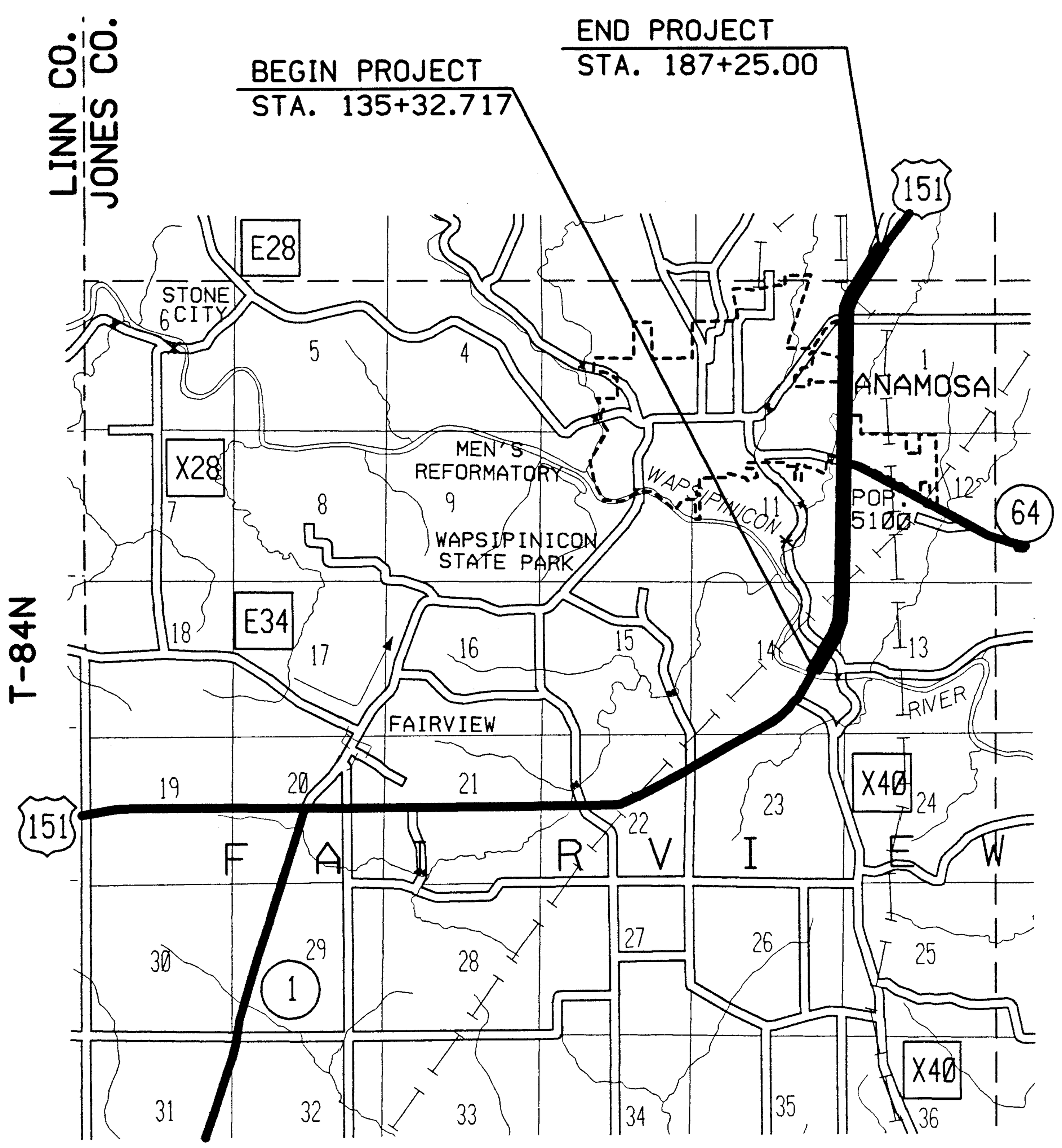
On U.S. 151

from the Wapsipinicon River 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.

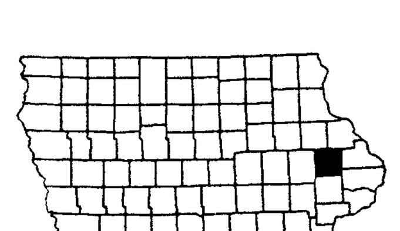
Value Engineering Saves. Refer to Standard Notation 203-4 on Sheet C.03



LOCATION MAP SCALE

0 1 2 3 4 5

KILOMETERS



INDEX OF SHEETS

105-3
09-27-94

PROJECT LENGTH SUMMARY

105-1
09-27-94

DIV.	LOCATION	m	km
	ROADWAY		
	Sta. 135+32.717 to Sta. 187+25.000	5,192.283	5.192
	BRIDGES		
	Sta. 157+59.890 to Sta. 158+08.140	-48.250	-0.048
	TOTAL LENGTH OF PROJECT	5,144.033	5.144

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
RA-40	03-26-96	RF-14	04-28-98	RL-2A	01-12-99	RS-64B	04-30-96
RA-55	03-26-96	RF-19B	12-13-94	RL-4	9-21-99		
RB-6	04-27-99	RF-19C	9-21-99	RL-6	12-13-94		
RC-7	10-28-97	RF-19E	9-21-99	RL-7	12-13-94		
RC-8	04-27-99	RF-19F	12-13-94	RL-9	12-08-95		
RC-9	04-27-99	RF-26	06-06-95	RL-12	06-06-95		
RC-10	04-27-99	RF-30A	03-28-95	RL-13	12-13-94		
RC-11	04-27-99	RF-30B	01-12-99	RL-14	01-12-99		
RC-16A	10-27-98	RF-31	10-28-97	RM-33	09-21-99		
RC-16B	09-21-99	RH-19	09-27-94	RP-1	04-28-98		
RE-3A	07-15-99	RH-37D	01-12-99	RP-2	04-28-98		
RE-7	10-28-97	RH-41B	01-12-99	RP-3	04-28-98		
RF-1	03-28-95	RH-50	04-27-99	RS-2	10-27-98		
RF-2	06-06-95	RH-51	04-27-99	RS-8	9-21-99		
RF-3	01-12-99	RH-52	03-26-96	RS-15	9-21-99		
RF-5	10-31-95	RH-53	01-12-99	RS-16	10-28-97		
RF-7	06-06-95	RL-1A	07-15-97	RS-26A	10-28-97		
RF-13	10-28-97	RL-1B	10-28-97	RS-64A	04-30-96		

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.01	ROBERT L. LENTZ	Primary Signature Block
C.06	ROBERT L. STANLEY	Geotechnical Design
E.01	WILLIAM OTTESEN	Side Road Design
A.03	ROBERT L. LENTZ	REVISION SHEET

10-27-98 101-4

DESIGN DATA RURAL

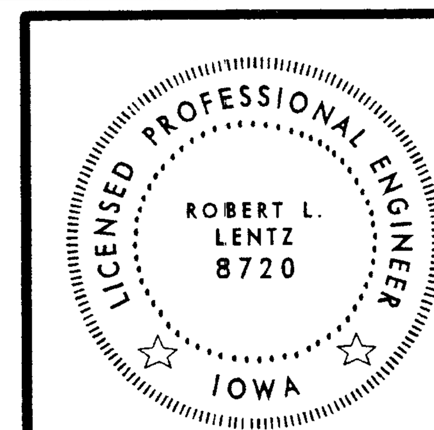
2001 AADT	6,640	V.P.D.
2021 AADT	7,950	V.P.D.
2021 DHV	850	V.P.H.
TRUCKS	11	%
Total Design ESALs		

REVISIONS

REVISED FEBRUARY 14, 2000
SEE TABULATION OF REVISIONS, SHEET A.03

37/

X150X



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 — 9 Nov 99 Date

Robert L. Lentz
Printed or Typed Name

My license renewal date is December 31, 1999.

Pages or sheets covered by this seal: A.01-A.02, B.01-B.12, C.01-C.05, C.08-C.16, D.01-D.09, E.02, F.01-F.02, G.01-G.08, J.01-J.07, K.01-K.11, L.01-L.04, R.01-R.21 T.01-T.05, U.01-U.04, V.01-V.07, W.01-W.45, X.01-X.18, Z.01-Z.13

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER A.01 1/90

dgn = I:\work\project\3412U\cadd\EAST\53151063.a01 levels = 1-58,60-63
prf = \\WATS01\DATA\PLOT\PL463P\a01.prf pen table = I:\plot\tables\halfxt.tbl
date = Tue Nov 9 07:59:29 1999

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

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)

dgn = I:\work\project\3412O\caddvest\53151063.a02
prf = \\WATSOI\DATA\PLOT\PL463P\a02.prf
date = Fri Oct 29 15:53:45 1999
pen table = I:\plot\tables\halfwt.tbl
levels = 1-63

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Jones	NHSX-151-4(63)--3H-53	A.02

Revised

LISTING OF PROJECT REVISIONS

111-23
09-27-94

DATE	SHEET NO.	DESCRIPTION OF REVISIONS
01-28-00	A.03	Add Sheet for Tabulation of Revisions 111-2.
	B.03	Correct Location Station from 2161+25 to 2161+37 on Typical 3205.
	B.09	Add Pavement Marking Detail 9016 for Left Lane Drop.
	C.01	Add Bid Item Painted Symbol and Legend, Item Code 2527--104000, Quantity of 17 Each and Renumber Items Accordingly. Revised Item No. 6, Item Code 2102--230100 from 9328.5 Mg to 9417.1 Mg. Revised Item No. 19, Item Code 2301--133240 from 17,134.2 Sq. M. to 17,339 Sq. M. Revised Item No. 20, Item Code 2301--153180 from 986.2 Sq. M. to 1,066.0 Sq. M. Revised Item No. 87, Item Code 2527--101000 from 13,340 M to 13,150.5 M. Revised Item No. 90, Item Code 2527--108000 from 2,867 M to 2,538 M. Revised Estimate Reference Note for Item 6.
	C.02	Revise Estimate Reference Notes Based on the Changes Made to Sheet C.01. Insert Note for Item No. 89 and renumber accordingly.
	C.04	Add Tabulation of Symbols, Tab. 108-29.
	C.10 - C.12	Revised Tabulation of Pavement Markings for the Revised Pavement Marking Layout on Ia-64.
	E.02	Revised Sheet for Additional Length to Right Lane From Sta. 2160+90 to Sta. 2161+01.
	K.09	Removed Stop Island.
	K.10	Removed Stop Island and Revised Jointing Accordingly.
	L.04	Revised Sheet for Additional Length to Right Lane From Sta. 2160+90 to Sta. 2161+01.
	R.01 - R.11	Revised Borrow Site Cross Sections to Show Updated Soils Information.
	R.12 - R.19	Revised Borrow Site Layout and Cross Sections.
	R.20 - R.21	Removed from Plans.
	U.05	Revised Pavement Marking Detail for the Ia-64 Area.

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 6 Mar 2000 Date

Robert L. Lentz
Printed or Typed Name

My license renewal date is December 31, 2000.

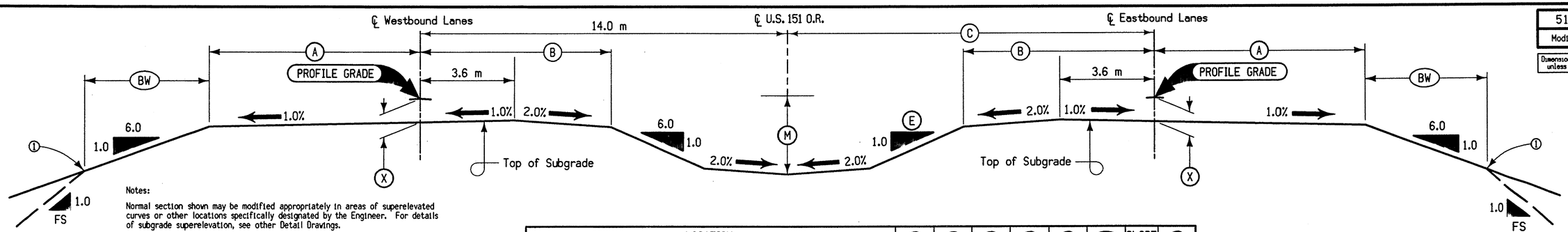
Pages or sheets covered by this seal:
A.03, B.03, B.09, C.01, C.02, C.04, C.10 - C.12,
E.02, K.09, K.10, L.04, R.01 - R.21, U.05

dgn = I:\WURK\project\3412U\cadd\east\b31b1063.aU3 levels = 1-63
prf = \\WATSOI\DATA\PLOT\PL463P\a03.prf pen table = I:\plot\tables\halfwt.tbl
date = Mon Mar 6 15:00:57 2000

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	A.03 3/90

Added 02-14-00

5103
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. For details of subgrade superelevation, see other Detail Drawings.

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

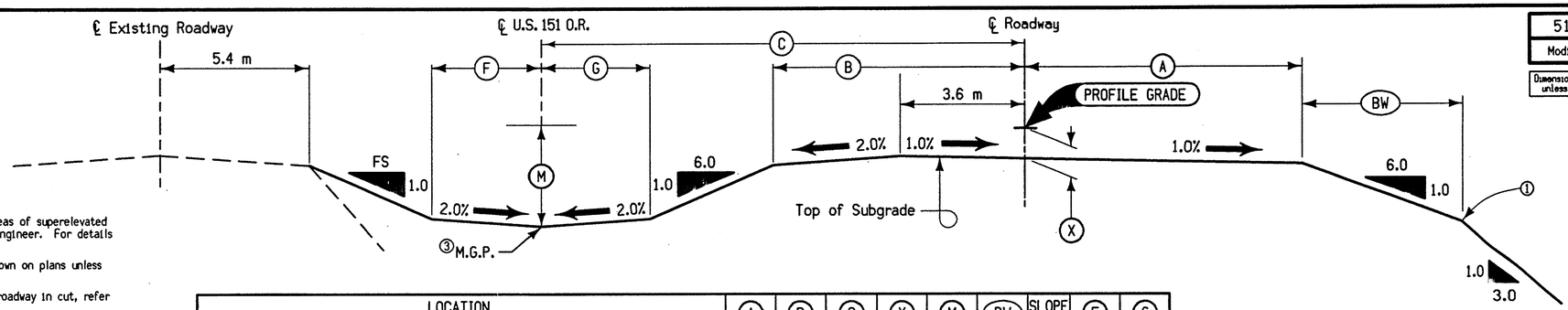
For typical cross sections of ditches and backslopes for roadway in cut, refer to other detail drawings within the plans.

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

(M) Design depth of median ditch.

LOCATION			A	B	C	X	M	BW	SLOPE	E
ROAD IDENTIFICATION	STATION TO STATION		m	m	m	mm	m	m	FS	m
Mainline	150+00.00	162+00.00	9.6	8.4	14.0	500	1.3	5.1	3.0	6.0

TYPICAL CROSS SECTION FOR GRADING (With Granular Subbase)



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.

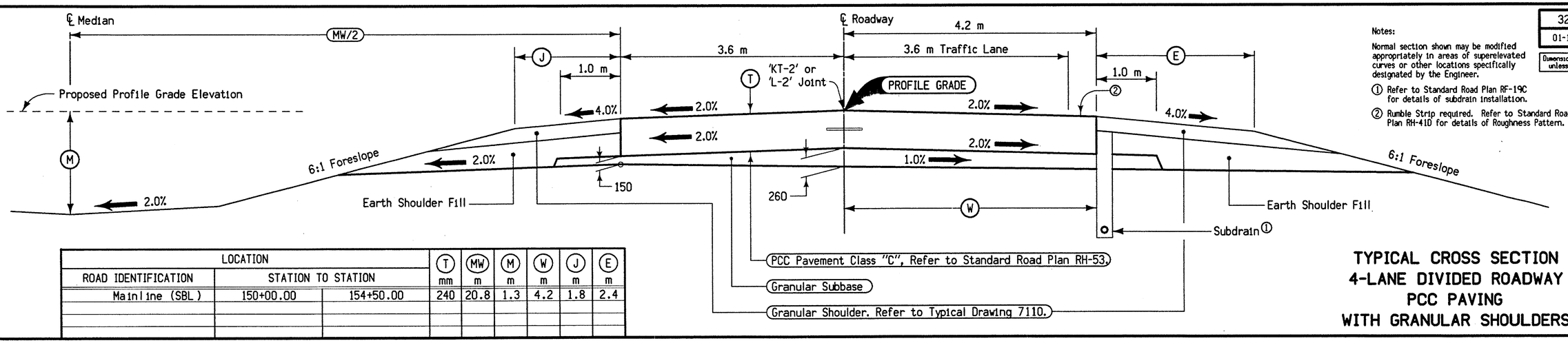
③ Through median grades both Eastbound and Westbound lane foreslopes will vary.

(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	135+32.717	150+00.00	Rt.	9.6	8.4	14.0	500	1.3	5.1	Var.	1.5	1.5
Mainline	162+00.00	172+25.00	Rt.	9.6	8.4	14.0	500	1.3	5.1	Var.	1.5	1.5
Mainline	172+25.00	177+50.00	Rt.	9.6	8.4	14.0	500	1.3	5.1	6.0	Var.	1.5
Mainline	177+50.00	187+25.00	Rt.	9.6	8.4	14.0	500	1.3	5.1	Var.	1.5	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 (SBL)	150+00.00	154+50.00	240	20.8	1.3	4.2	1.8	2.4

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

dgn = L:\WORK\PROJECT\3412D\CADD\EAS\b3151063.b01 levels = 1-63
prf = \\WATSO1\DATA\PLOT\PL463P\B01.PRF pen table = L:\plot\tables\halfwt.tbl
date = Thu Oct 28 07:57:37 1999

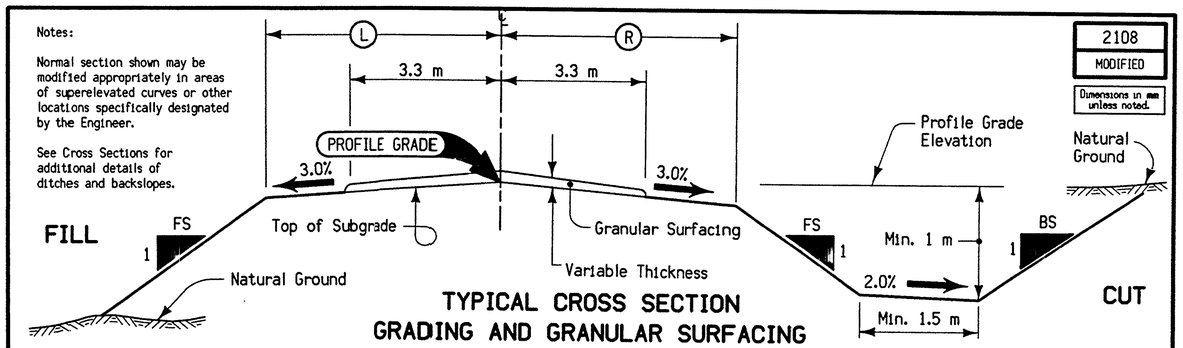
DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	B.01 4/90

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.

2108
MODIFIED
Dimensions in mm unless noted.



TYPICAL CROSS SECTION GRADING AND GRANULAR SURFACING

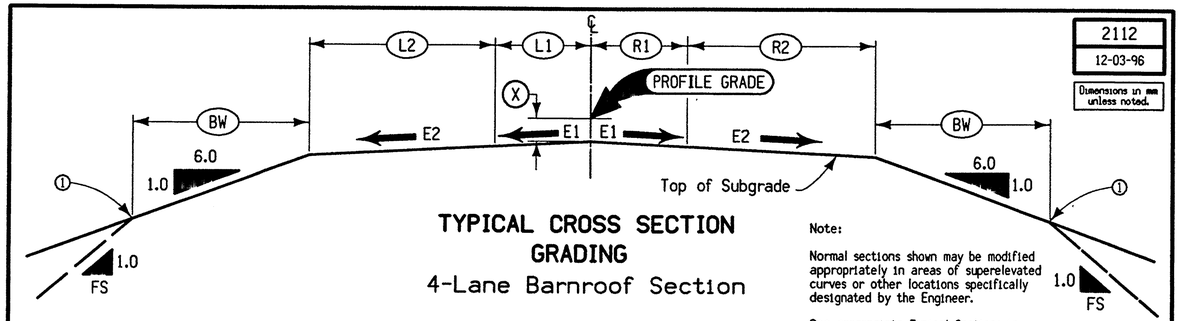
Granular Surfacing shall be placed as follows:

Stage 1 (Grading) Design application rate is 1130 Mg/km.

Stage 2 (Paving) Design application rate is _____ Mg/km.

LOCATION			DIMENSIONS		SLOPES	
ROAD IDENTIFICATION	STATION TO STATION		(L)	(R)	FS	BS
Shaw Road	3136+50.00	3137+41.00	5.4	5.4	3.0	2.5

2112
12-03-96
Dimensions in mm unless noted.



TYPICAL CROSS SECTION GRADING
4-Lane Barnroof Section

Note:

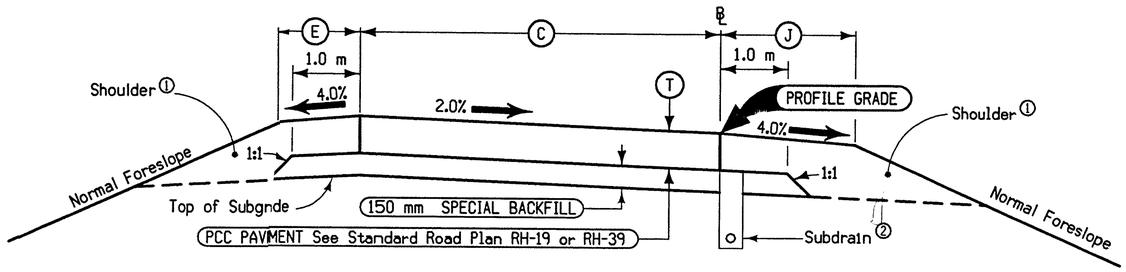
Normal sections shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

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

LOCATION			L1	L2	R1	R2	X	BW	FS	E1%	E2%
ROAD IDENTIFICATION	STATION TO STATION		m	m	m	m	mm	m			
Iowa Highway 64	2156+25.00	2159+60.00	N/A	N/A	3.6	9.9	390	4.1	3.0	2.0	3.0

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

N/A= NOT APPLICABLE



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.

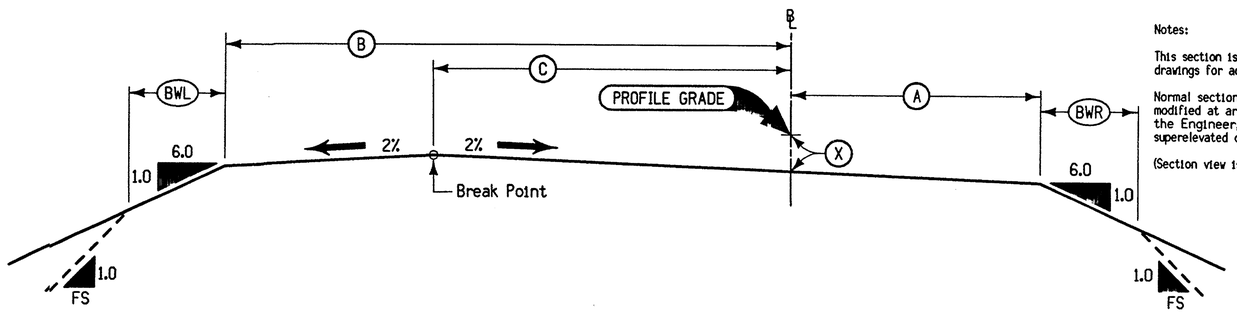
Normal section shown may be appropriately modified for areas specifically designated by the Engineer, such as intersections or superelevated curves.

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.

2503
04-27-99
Dimensions in mm unless noted.

LOCATION				DIMENSIONS				SHOULDER TYPE
INTERCHANGE	RAMP	STATION TO STATION		(T) mm	(C) m	(E) m	(J) m	
Iowa Highway 64	A	5154+30.0	5158+17.8	240	4.8	1.2	1.8	Paved
Iowa Highway 64	B	6157+20.3	6157+60.5	240	4.8	1.2	1.8	Paved
Iowa Highway 64	D	8158+13.2	8161+89.2	240	4.8	1.2	1.8	Paved



TYPICAL CROSS SECTION RAMP GRADING

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)

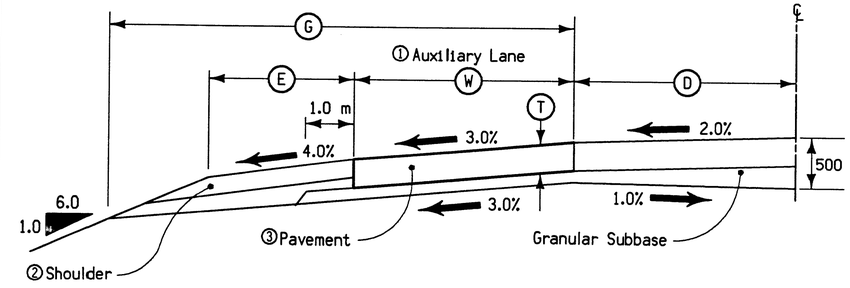
2512
04-27-99
Dimensions in mm unless noted.

LOCATION				DIMENSIONS						
INTERCHANGE	RAMP	STATION TO STATION		(A) m	(B) m	(C) m	(X) mm	FS	(BWL) m	(BWR) m
Iowa Highway 64	A	5154+30.0	5158+17.8	4.8	9.1	4.8	390	3.0	6.4	5.7
Iowa Highway 64	B	6153+10.0	6157+60.5	4.8	9.1	4.8	390	3.0	6.4	5.7
Iowa Highway 64	Loop C	7154+94.3	7156+55.3	4.8	9.8	5.5	390	3.0	6.5	5.7
Iowa Highway 64	D	8158+13.2	8161+89.2	4.8	9.1	4.8	390	3.0	6.4	5.7

dgn = L:\WORK\PROJECT\3412U\CADD\EAS\b31b1063.bU1 levels = 1-63
prf = \\WATSOI\DATA\PLOT\PL463P\B02.PRF pen table = I:\plot\tables\halfwt.tbl
date = Fri Sep 17 14:39:06 1999

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Jones	NHSX-151-4(63)--3H-53	B.02 5/90

Revised



2205
Modified
Dimensions in mm unless noted.

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.

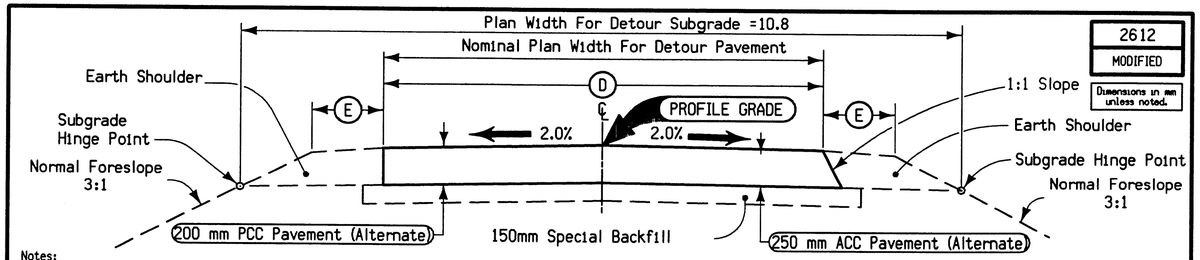
See Typical Cross Section for details of ditches and backslopes.

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

Section view is in direction of traffic.

LOCATION								
ROAD IDENTIFICATION	STATION TO STATION		SIDE	(D) m	(E) m	(W) m	(G) m	(T) mm
Mainline	136+89.00	137+39.00	NBL	3.6	1.8	3.6	8.8	240
Mainline	137+88.00	138+38.00	SBL	3.6	1.8	3.6	8.8	240
Mainline	172+42.95	172+92.73	NBL	3.6	1.8	3.6	8.8	240
Mainline	173+43.08	173+93.00	SBL	3.6	1.8	3.6	8.8	240
Mainline	180+00.50	180+50.50	NBL	3.6	1.8	3.6	8.8	240

GRADING AND PAVING
TYPICAL HALF SECTION
PROPOSED LEFT TURN LANE



2612
MODIFIED
Dimensions in mm unless noted.

Notes:

Details indicated hereon illustrate the general requirements for the construction of a paved detour sections where the pavement may be constructed as either of two types at the option of the contractor.

The P.C. Concrete option shall be constructed in conformance with current specifications for Class "A" P.C. Concrete Pavement. Transverse joints, center tie bars and sealing of the center longitudinal joint are not required.

Special compaction of subgrade is required and will be constructed and paid for in conformance with current specifications. (See Section 2109)

TYPICAL CROSS SECTION
DETOUR PAVEMENT ALTERNATES

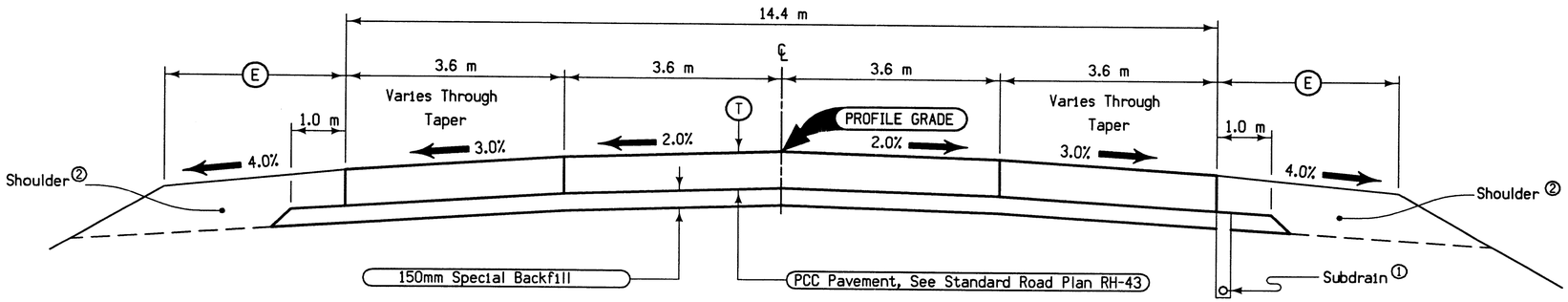
LOCATION		(D) m	(E) m	EARTH SHOULDER MATERIAL (m^3) ①②
STATION TO STATION				
8148+83.252	8155+56.433	7.2	1	81.4

Notes:

The Asphalt Cement Concrete option shall be constructed in conformance with current current specifications for Type "B" Asphalt Cement Concrete Base (Class 1), an approved commercial mix or a mix of higher quality. The price bid for "Detour Pavement" in square meters will be considered full compensation for building the detour pavement as detailed hereon.

① Per shoulder per station

② Quantity include 40% for shrinkage



3205
08-20-96
Dimensions in mm unless noted.

Notes:

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

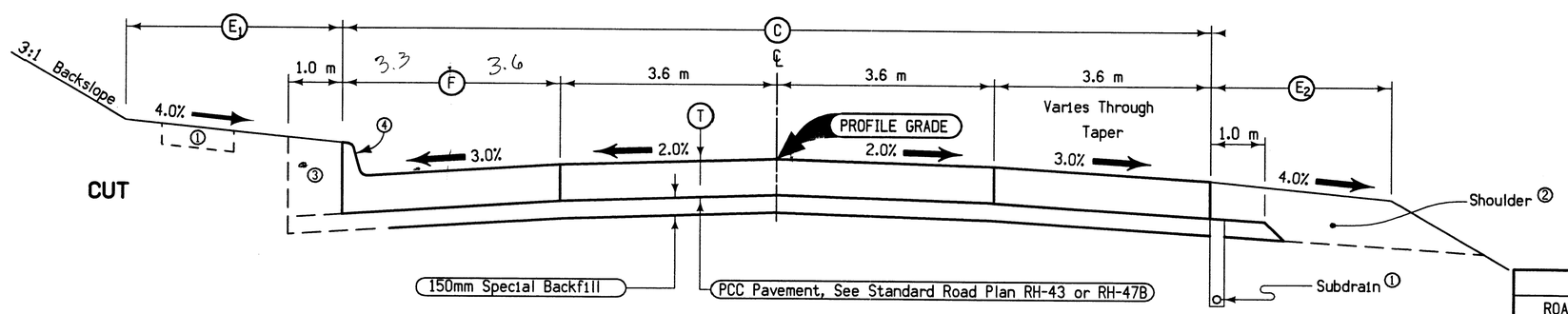
Refer to other drawings for details of shoulder design and construction.

① Refer to Standard Road Plan RF-19C.

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

TYPICAL CROSS SECTION
4-LANE
PCC PAVEMENT

LOCATION			(T) mm	(E) m
ROAD IDENTIFICATION	STATION TO STATION			
Iowa Highway 64				
Lt. and Rt.	2156+25	2156+70	240	3.0
Lt. and Rt. (1)	2159+60	2161+37	240	3.0
Rt. (1)	2161+37	2161+60	240	3.0
(1) = Utilize Existing Pavement for Center Two Lanes				



3206
Modified
Dimensions in mm unless noted.

Notes:

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

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

① Future Recreational Trail
② Excavate and Backfill 1.0 m.
③ Backfill
④ 150 mm Sloped Curb
⑤ Refer to Standard Road Plan RF-19C.

TYPICAL CROSS SECTION
4-LANE
PCC PAVEMENT WITH CURBS

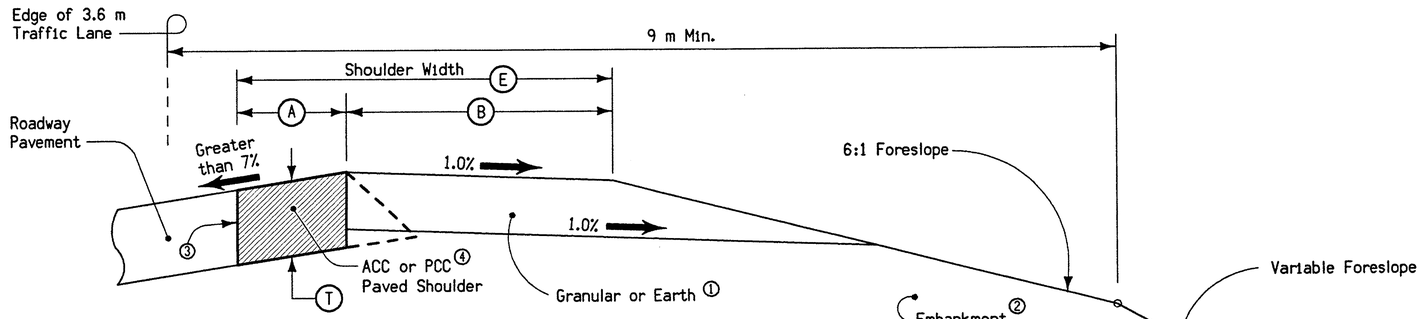
LOCATION			(E1) m	(T) mm	(C) m	(F) m	(E2) m
ROAD IDENTIFICATION	STATION TO STATION						
Iowa Highway 64			5.2	240	N.A.	6.9	3.0
	2156+70	2159+60					
N.A. = Not Applicable							

dgn = I:\WUHK\project\3412U\caddd\east\b3115l063.tb01 levels = 1-63
prf = \\WATSO1\DATA\PLOT\PL463P\b03.prf pen table = I:\plot\tables\halfwt.tbl
date = Tue Feb 22 14:26:08 2000

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	B.03 6/90

Revised 02-14-00

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



TYPICAL SECTION

LOCATION				PAVED SHOULDER TYPE	(T) mm	(E) m
ROAD IDENTIFICATION	STATION TO STATION		SIDE			
Mainline	139+00.56	142+14.28	Rt.	PCC	240	
Northbound						2.4
Southbound						1.8

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

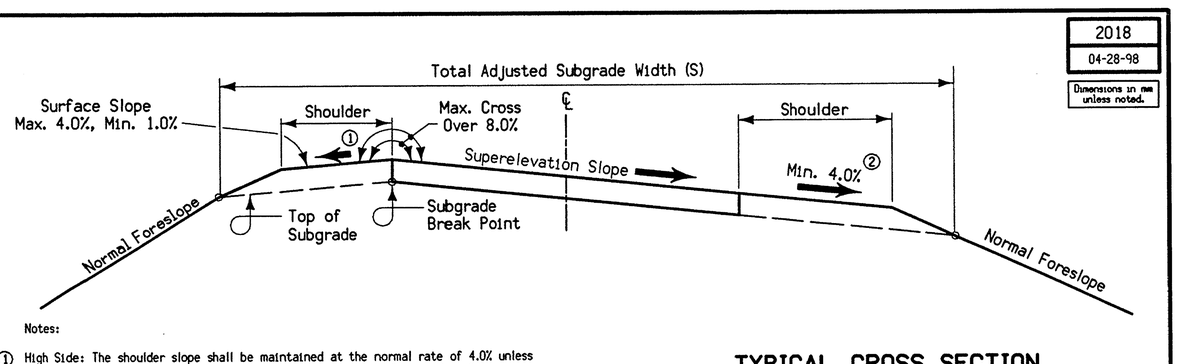
① Place same type of shoulder material as used on normal roadway shoulder.

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.

(FOR REFERENCE ONLY) TREATMENT FOR GRANULAR AND EARTH SHOULDERS ON HIGHSIDE OF CURVES SUPERELEVATED GREATER THAN 7%



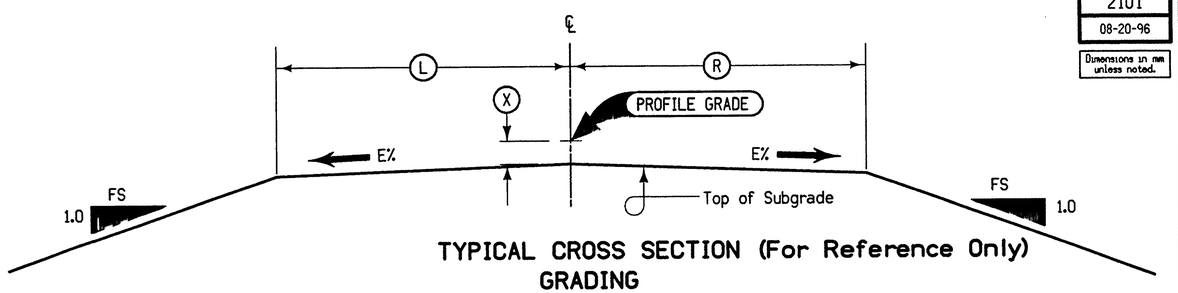
Notes:

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)

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



TYPICAL CROSS SECTION (For Reference Only) GRADING (Secondary Roads)

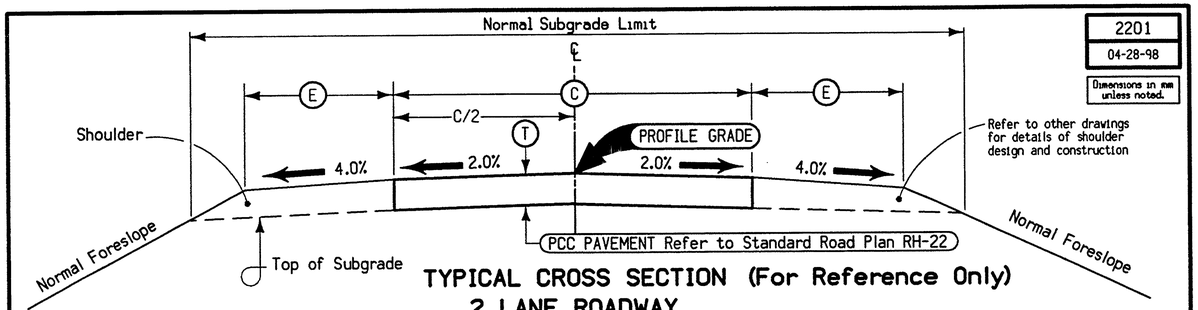
Note:

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						
130th Street	1173+37.74	1174+75	7.5	7.5	180	3	2

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



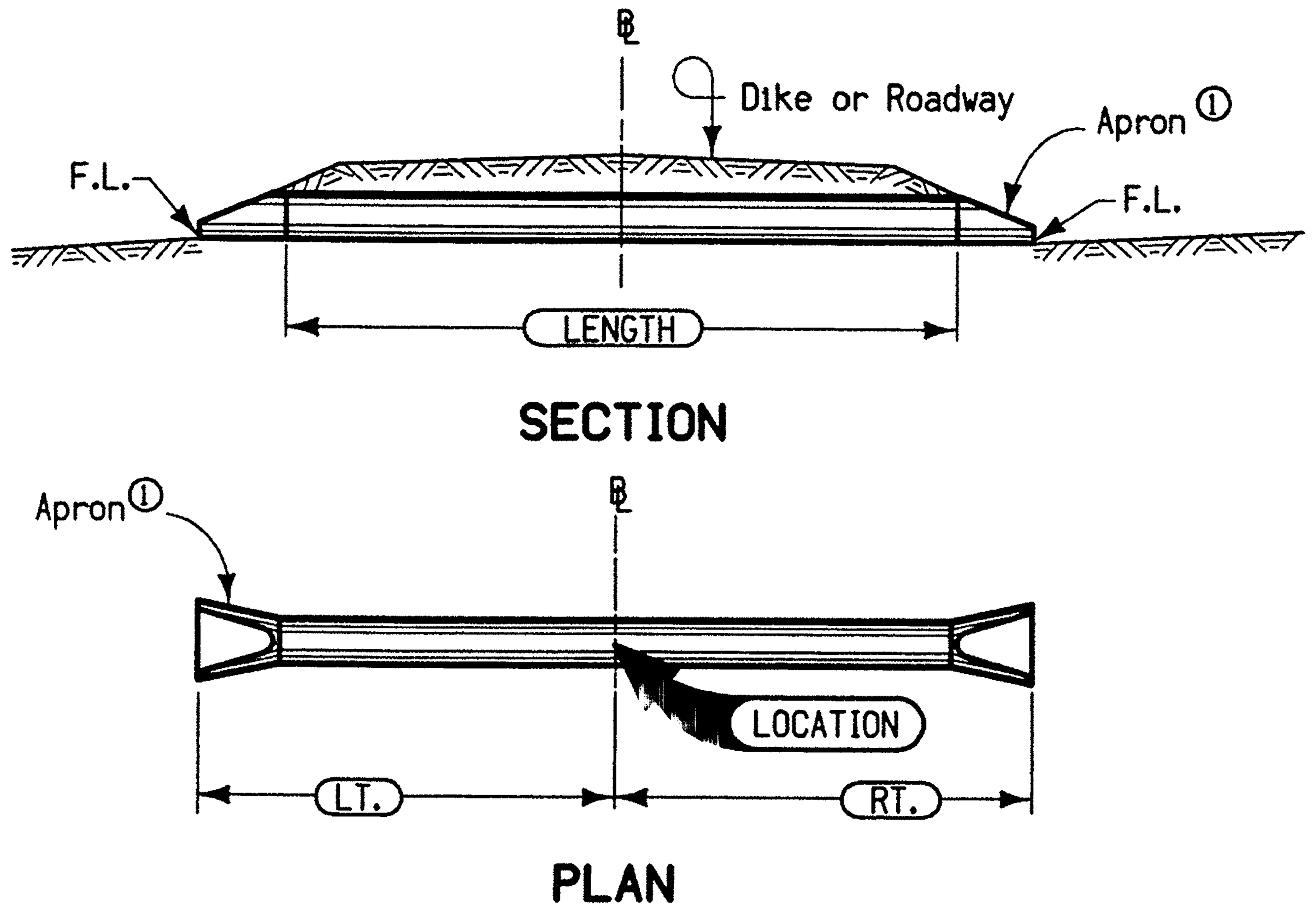
TYPICAL CROSS SECTION (For Reference Only) 2 LANE ROADWAY (Secondary Roads)

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					
130th Street	1173+37.74	1174+75	7.2	180	1.8	

2201
04-28-98
Dimensions in mm unless noted.



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

Notes:

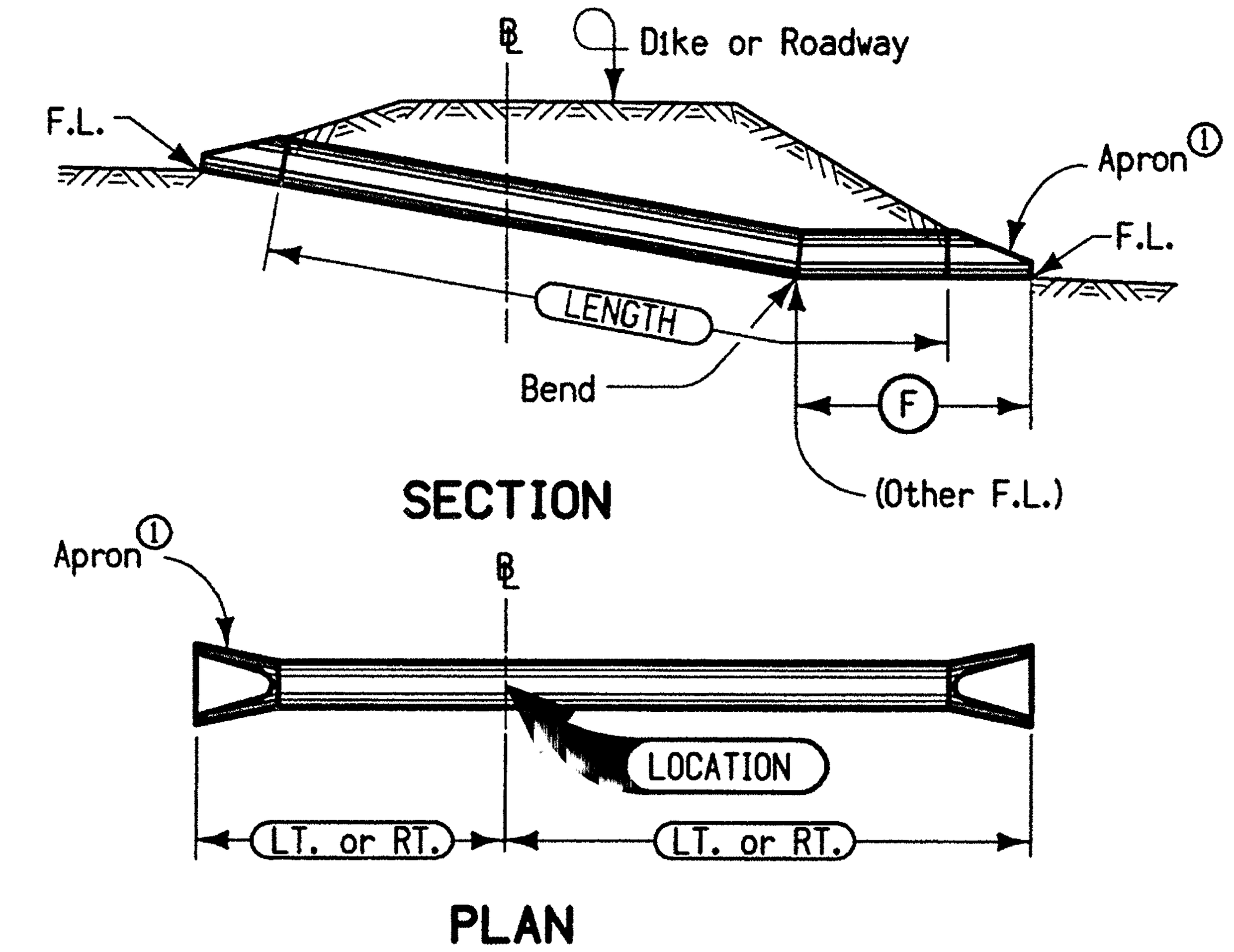
℄ shall be ℄ of roadway, dike, survey, or other; as detailed on plans.

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



1201
09-27-94
Dimensions in mm unless noted.

Notes:

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

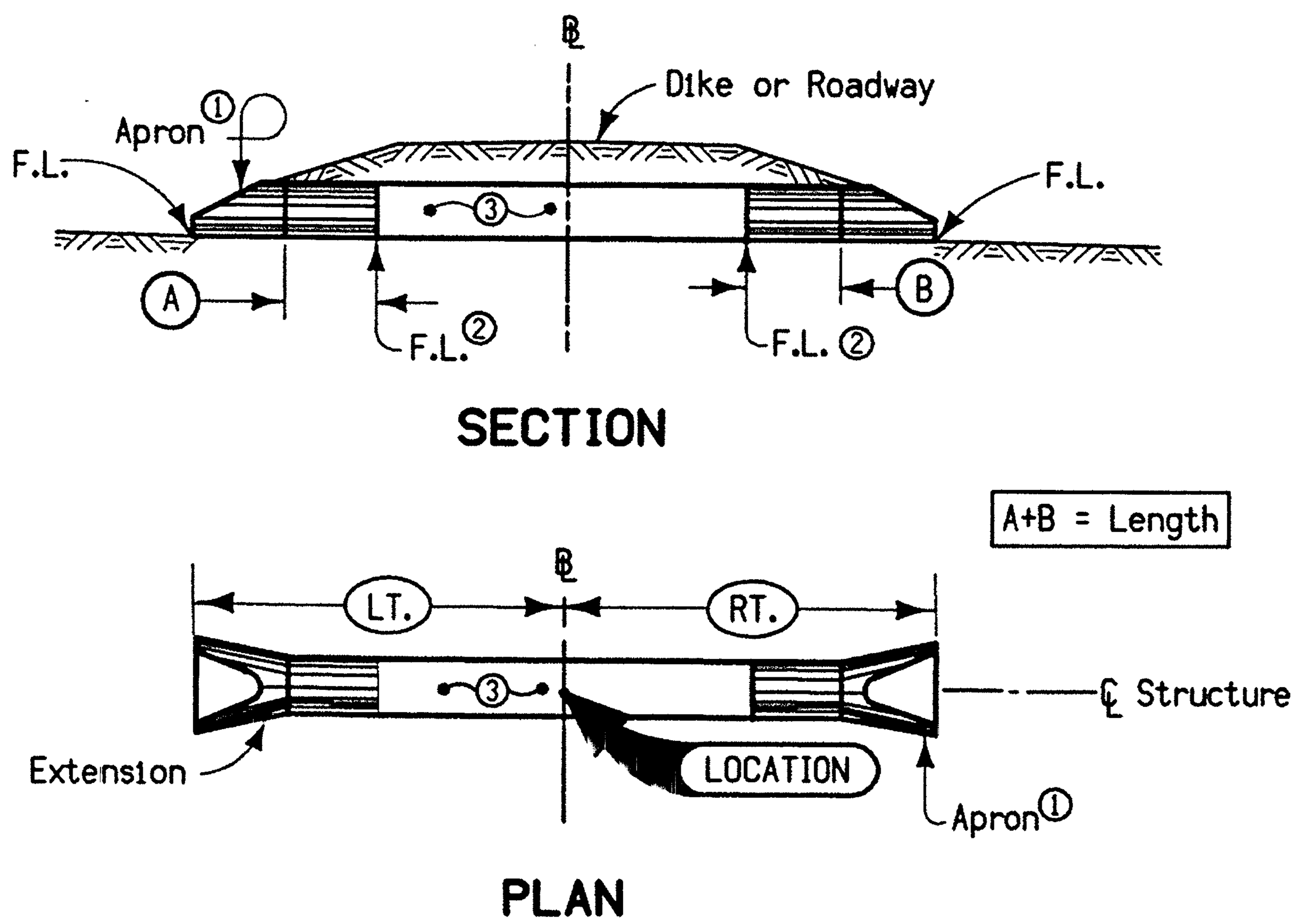
Skew angle is the angle which one end of the pipe is ahead (by stationing) of a line perpendicular to the ℄ (example skew Rt. ahead 30°).

"Bend" may be accomplished by use of metal elbow, Pipe Adapter (RF-2) Type "D" Section or Concrete Elbow (RF-13) as specified.

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 LETDOWN STRUCTURE



A+B = Length

1301
09-27-94
Dimensions in mm unless noted.

Notes:

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

Extension shall be on line of existing structure to Lt., Rt. or both as specified. Adaptors may be required, see Standard Road Plan RF-2.

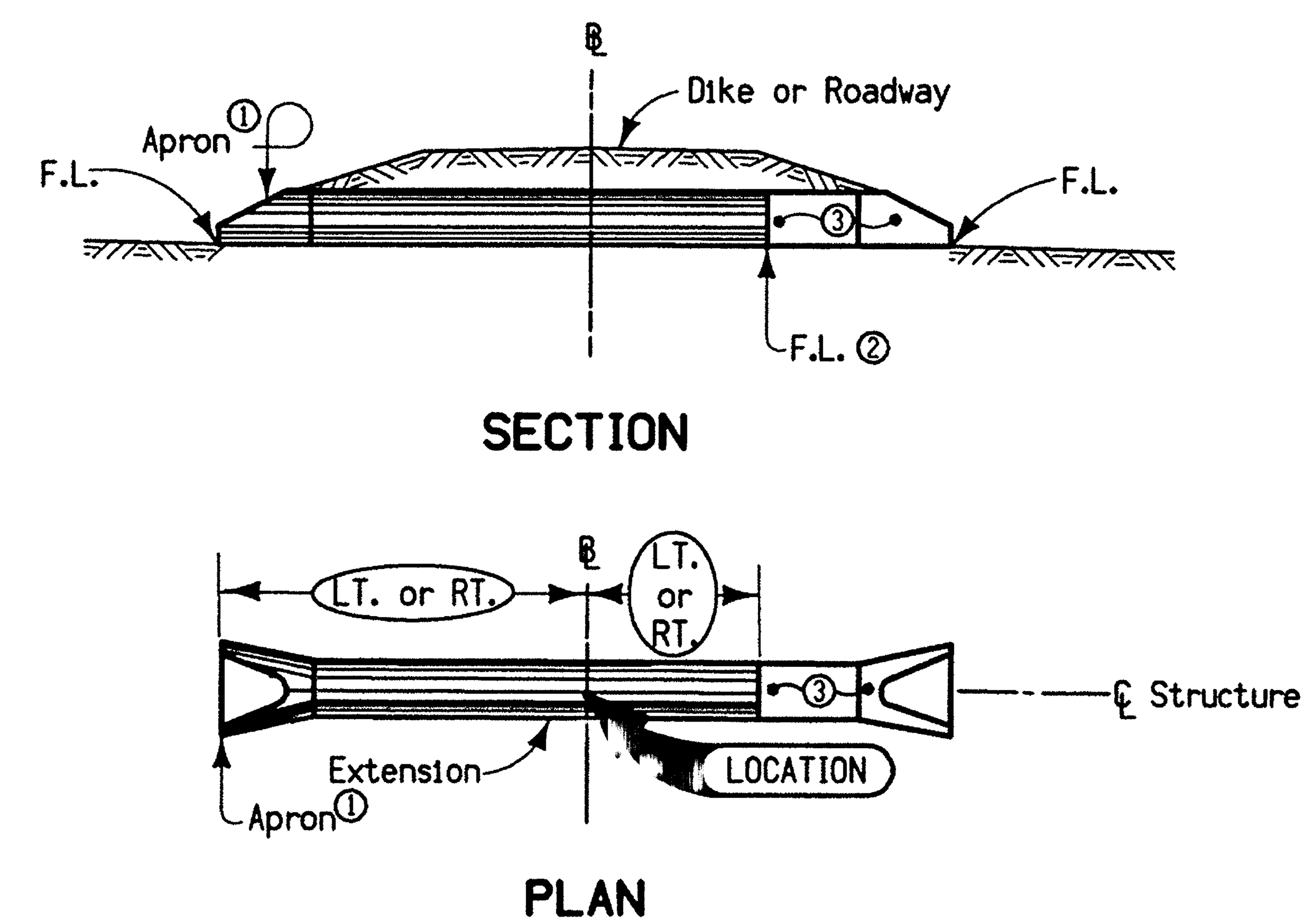
Refer to tabular listing and other plans for additional information.

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

② Optional type "D" section only when specified in tabulation.

③ Existing structure

PIPE EXTENSION



1301-X
Modified
Dimensions in mm unless noted.

Notes:

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

Extension shall be on line of existing structure to Lt., Rt. or both as specified. Adaptors may be required, see Standard Road Plan RF-2.

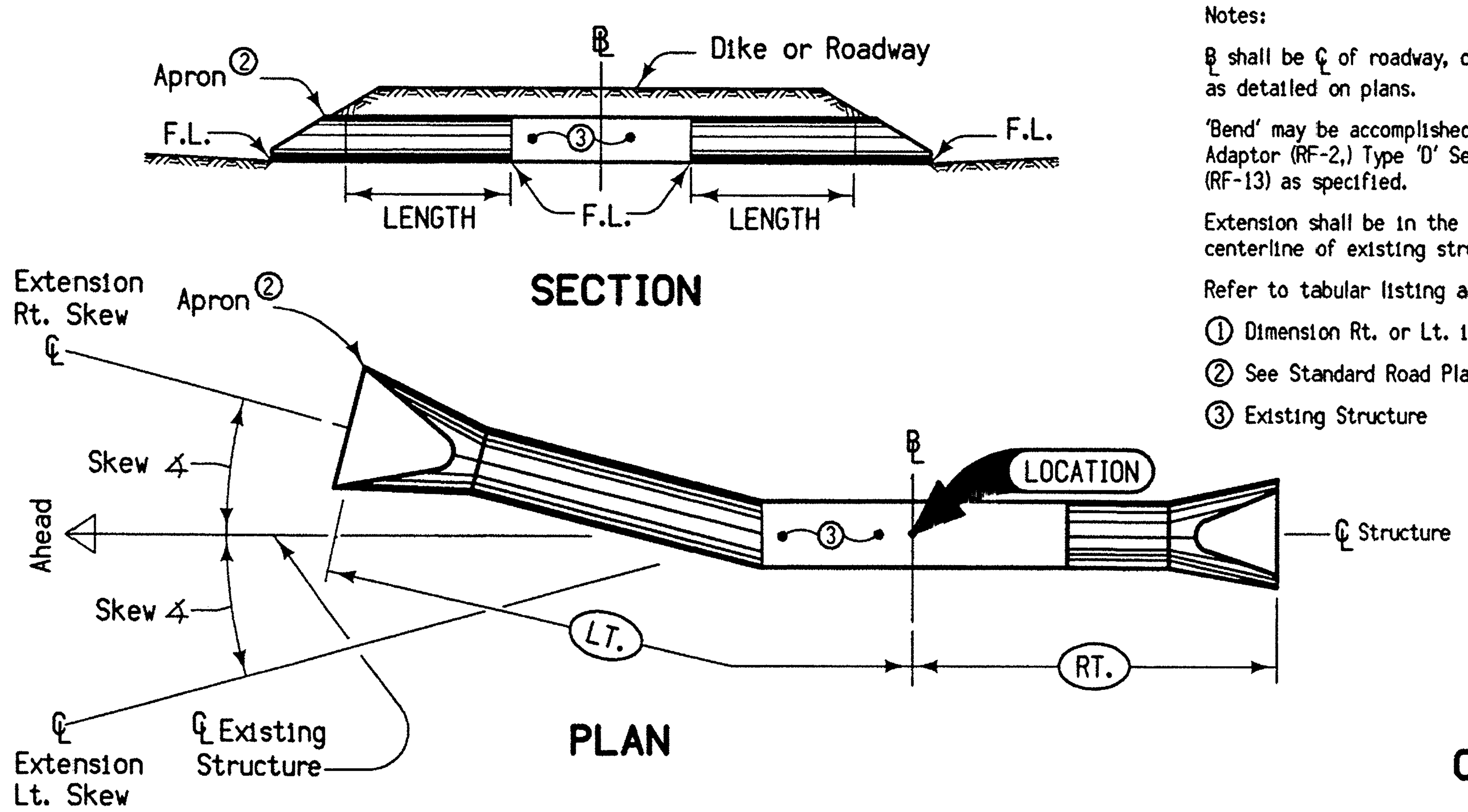
Refer to tabular listing and other plans for additional information.

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

② Optional type "D" section only when specified in tabulation.

③ Existing structure

PIPE EXTENSION



Notes:

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

'Bend' may be accomplished by use of metal elbow, Adaptor (RF-2,) Type 'D' Section or Concrete Elbow (RF-13) as specified.

Extension shall be in the direction specified with skew measured from centerline of existing structure.

Refer to tabular listing and other plans for additional information.

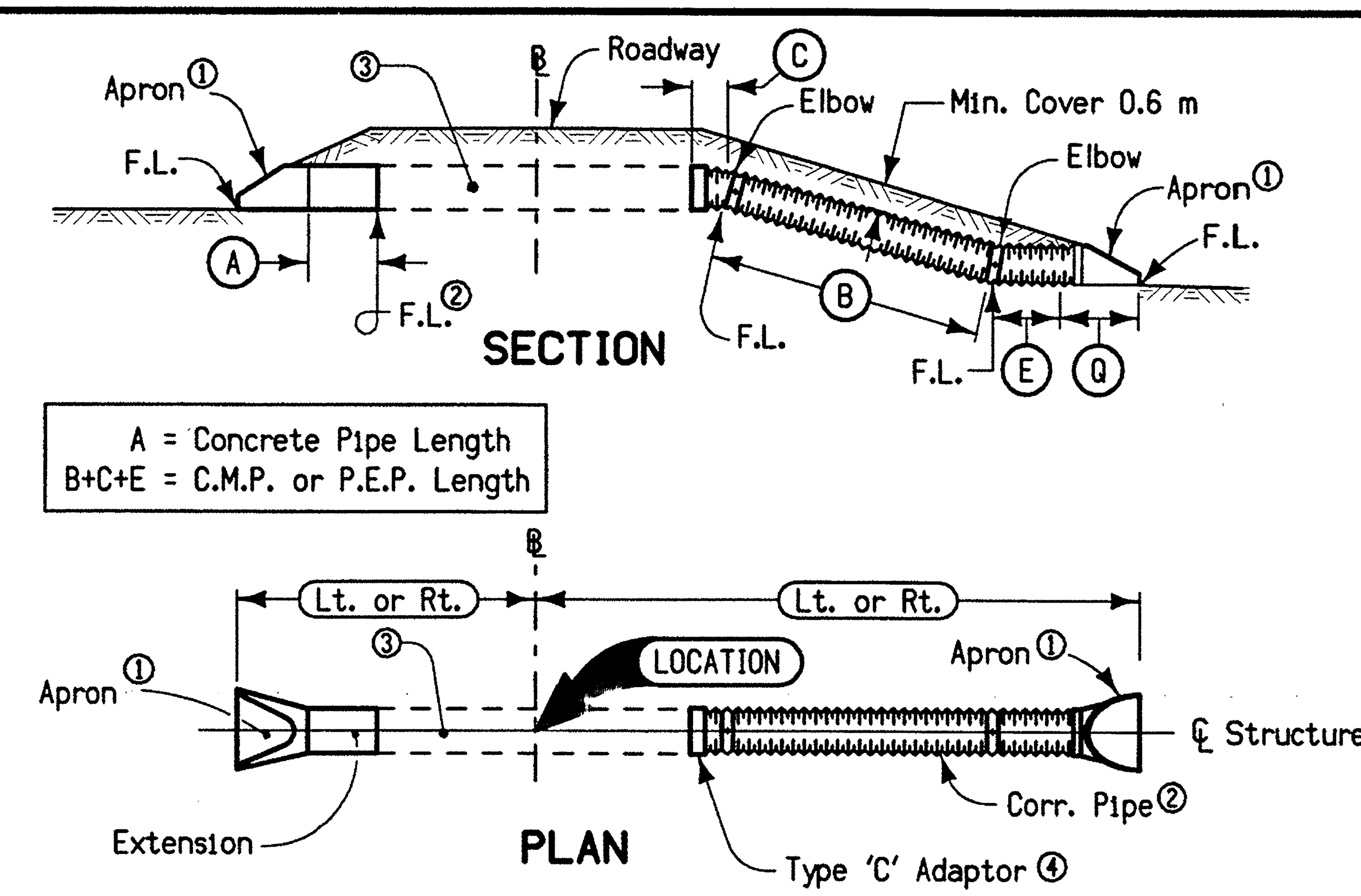
① Dimension Rt. or Lt. is measured at ℄ of pipe along laying length

② See Standard Road Plan RF-3 for concrete, or RF-5 for metal.

③ Existing Structure

1302
03-28-95
Dimensions in mm unless noted.

PIPE EXTENSION HORIZONTAL BEND ONE OR BOTH ENDS



1305
07-15-97
Dimensions in mm unless noted.

Notes:

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

Extension shall be on line of existing structure to Lt., Rt. or both as specified. Adaptors may be required.

Refer to tabulation and other plans for additional information.

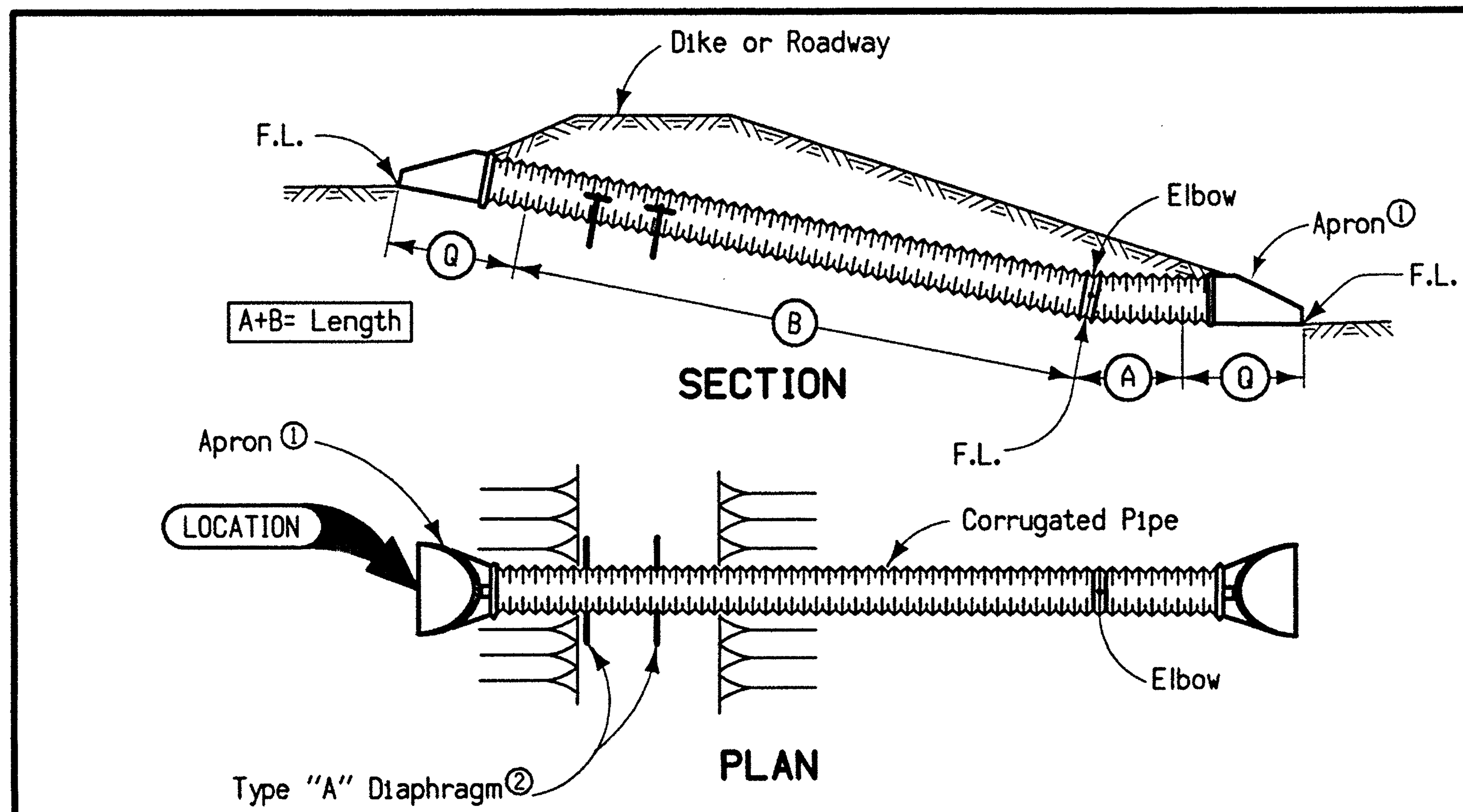
① See Standard Road Plan RF-3 for Concrete or Standard Road Plan RF-5 for Metal and Polyethylene.

② Optional Type 'D' Section only when specified in Tabulation.

③ Existing Structure.

④ See Standard Road Plan RF-2.

PIPE EXTENSION LETDOWN STRUCTURE WITH METAL APRON



1401
03-28-95
Dimensions in mm unless noted.

Notes:

Refer to tabular listing and other plans for additional information.

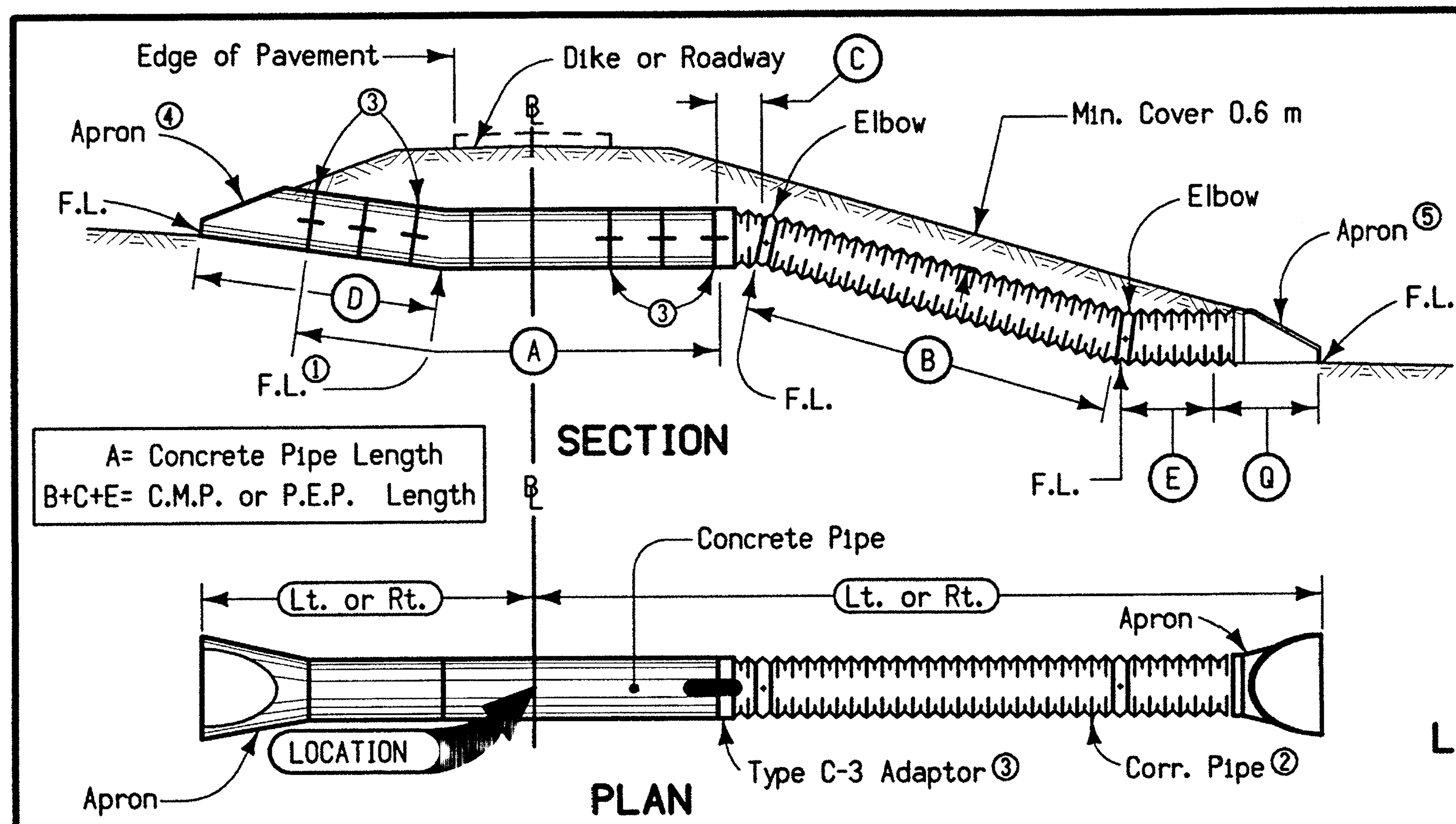
Positive type joint couplings are required.

If more than one diaphragm is specified, they will be installed 5 meters apart or as specified. (See Materials I.M. 441)

① See Standard Road Plan RF-5 for Metal and Polyethylene.

② See Standard Road Plan RF-7.

CORRUGATED PIPE LETDOWN STRUCTURE SINGLE ELBOW



1501
03-28-95
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 a line perpendicular to the ℄ (example skew Rt. ahead 30°).

Refer to tabular listing and other plans for additional information.

① Optional D section only when specified in tabulation.

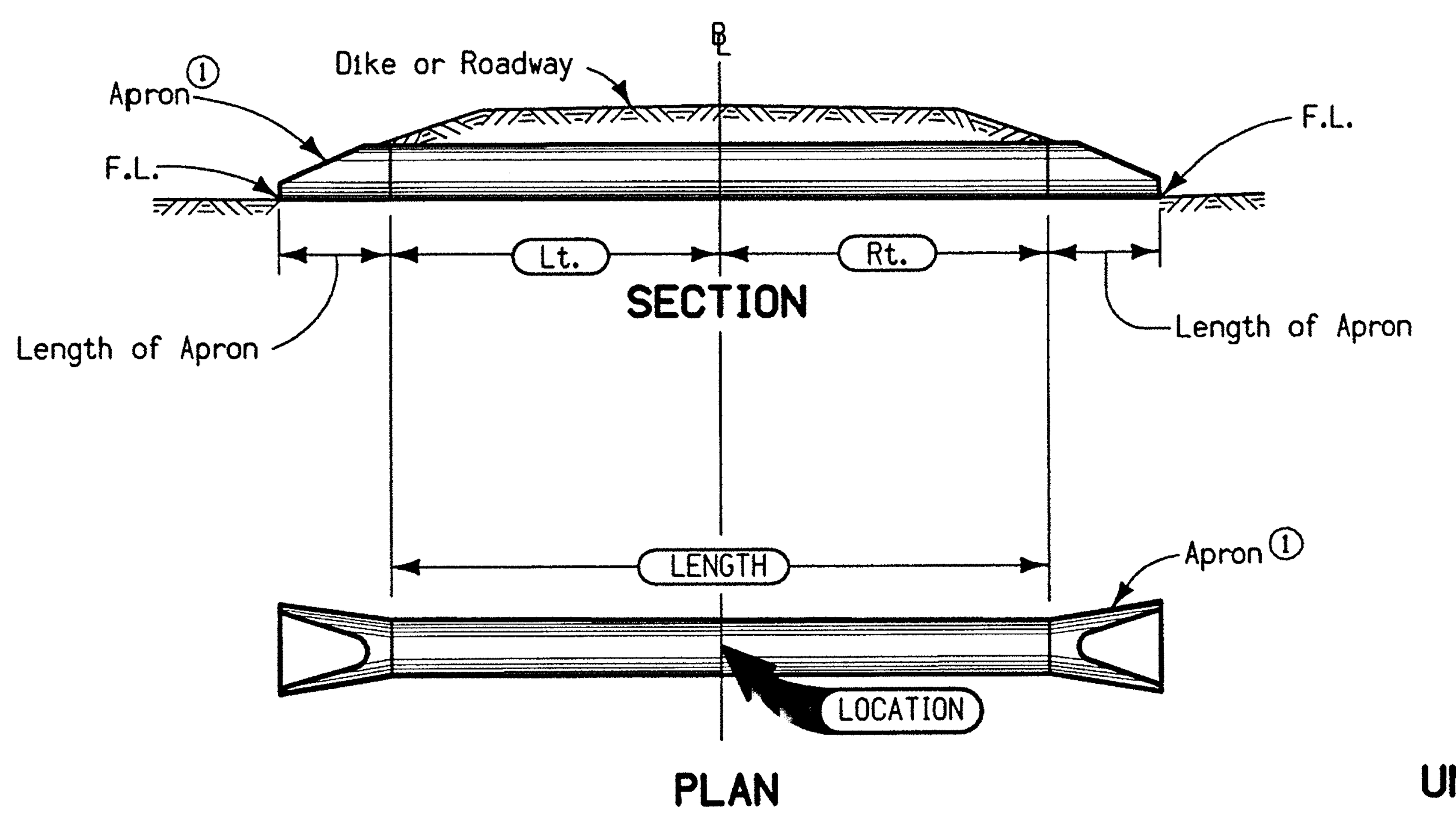
② Positive type joint couplings are required. (See Materials I.M. 441)

③ See Standard Road Plan RF-2 & RF-14.

④ See Standard Road Plan RF-3.

⑤ See Standard Road Plan RF-5 for Metal and Polyethylene.

CORRUGATED PIPE LETDOWN STRUCTURE WITH METAL APRON



1601
03-28-95
Dimensions in mm unless noted.

Notes:

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

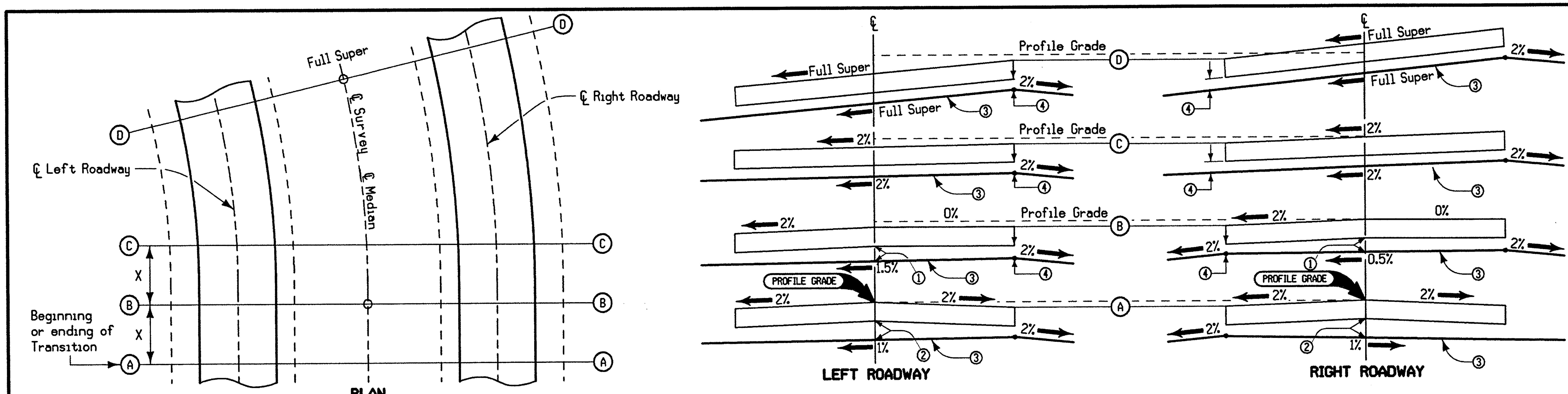
Skew angle is the angle which one end of the pipe is ahead (by stationing) of a line perpendicular to the ℄ (example skew Rt. ahead 30 degrees).

Refer to tabular listings and other plans for additional information.

The outer three joints are to be connected when the concrete option is used.

① See Standard Road Plan RF-3 for Concrete or RF-5 for Metal and Polyethylene.

UNCLASSIFIED PIPE CULVERT



5303
09-27-94
Dimensions in mm unless noted.

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

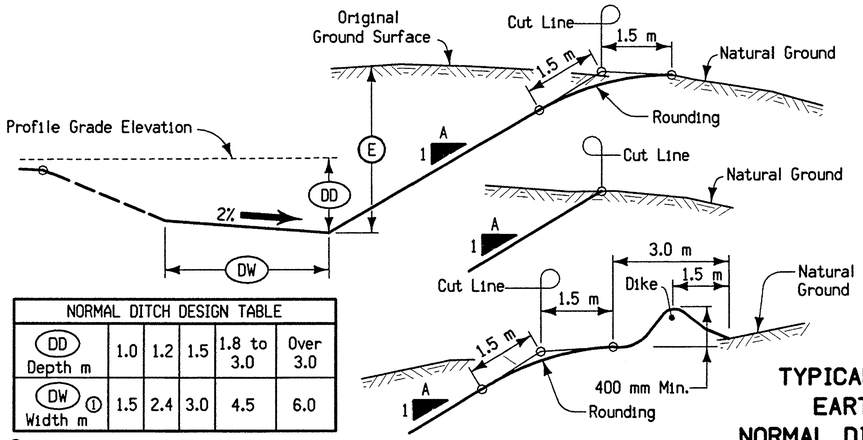
④ 150 mm

GRADING SUPERELEVATION NORMAL 1% SUBGRADE SLOPE DIVIDED ROADWAY

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	B.06

9/90

4101
09-27-94
Dimensions in mm unless noted.



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	4.5	6.0

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

Notes:

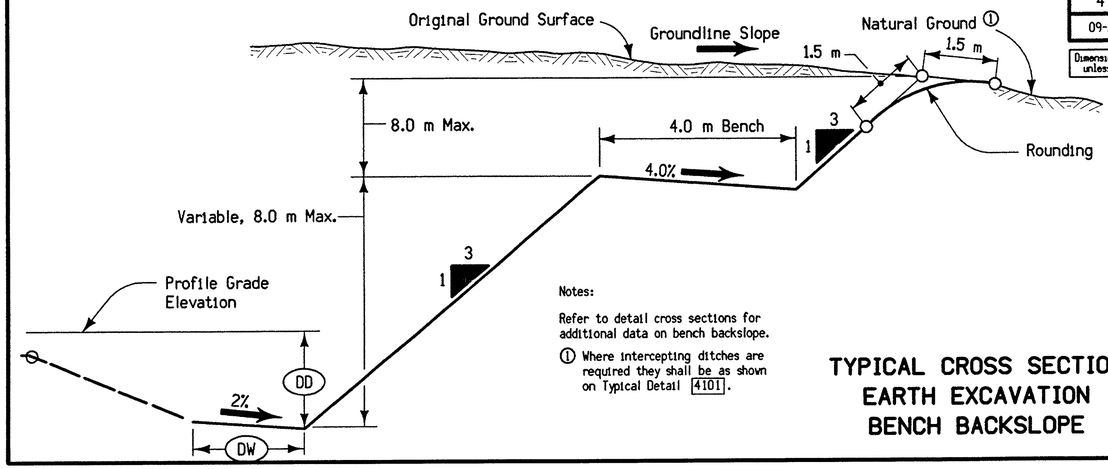
For normal conditions, backslopes (A) shall be 2.5 on 1.0 for E depths less than 7.5 m, unless specified otherwise. Refer to detail project plans and cross sections for Ditch Depth or for Special Ditches.

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.

TYPICAL CROSS SECTION EARTH EXCAVATION NORMAL DITCH AND BACKSLOPE

4104
09-27-94
Dimensions in mm unless noted.



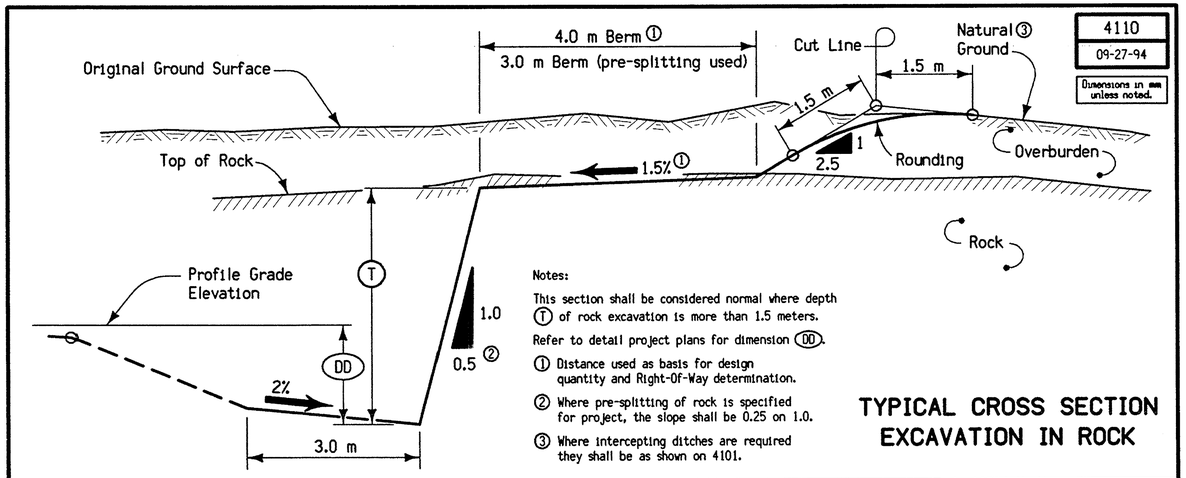
Notes:

Refer to detail cross sections for additional data on bench backslope.

① Where intercepting ditches are required they shall be as shown on Typical Detail 4101.

TYPICAL CROSS SECTION EARTH EXCAVATION BENCH BACKSLOPE

4110
09-27-94
Dimensions in mm unless noted.



Notes:

This section shall be considered normal where depth (T) of rock excavation is more than 1.5 meters.

Refer to detail project plans for dimension (DD).

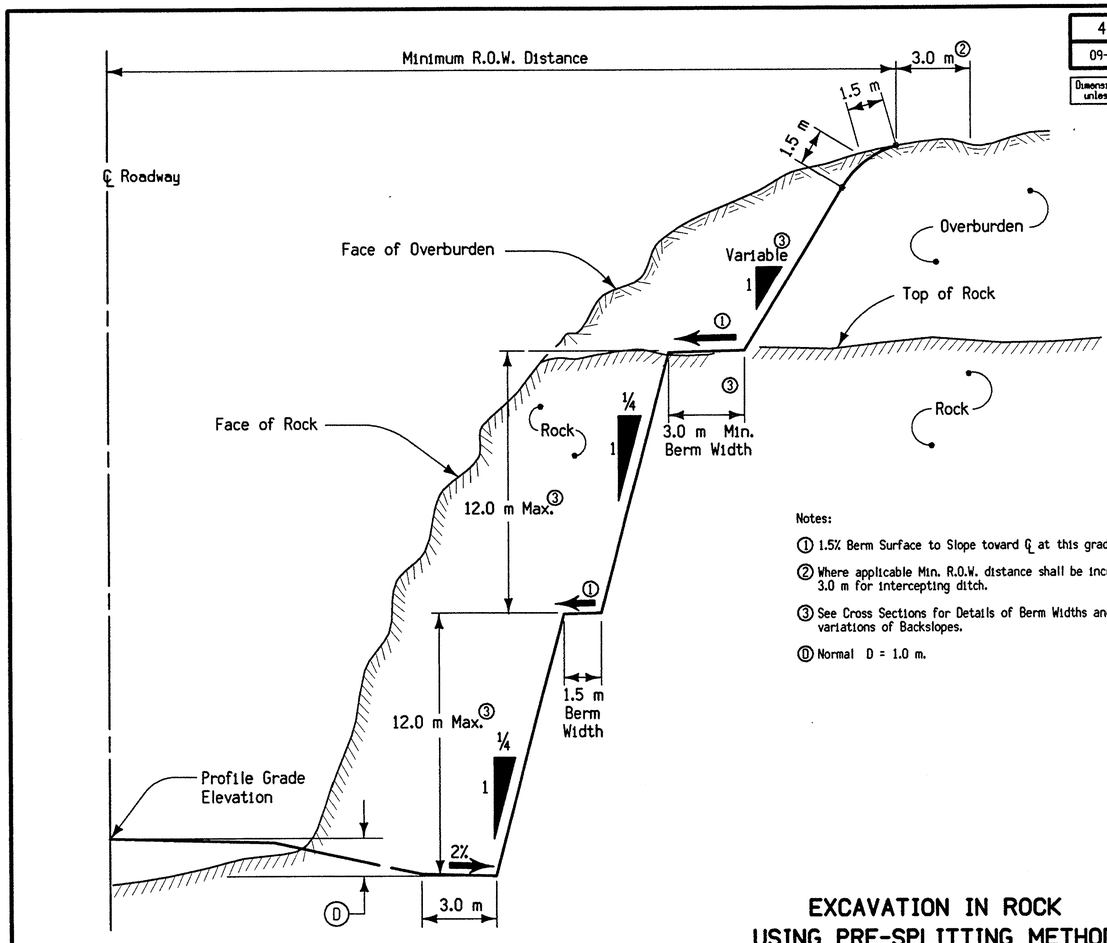
① Distance used as basis for design quantity and Right-Of-Way determination.

② Where pre-splitting of rock is specified for project, the slope shall be 0.25 on 1.0.

③ Where intercepting ditches are required they shall be as shown on 4101.

TYPICAL CROSS SECTION EXCAVATION IN ROCK

4111
09-27-94
Dimensions in mm unless noted.



Notes:

① 1.5% Berm Surface to Slope toward ℄ at this grade.

② Where applicable Min. R.O.W. distance shall be increased 3.0 m for intercepting ditch.

③ See Cross Sections for Details of Berm Widths and variations of Backslopes.

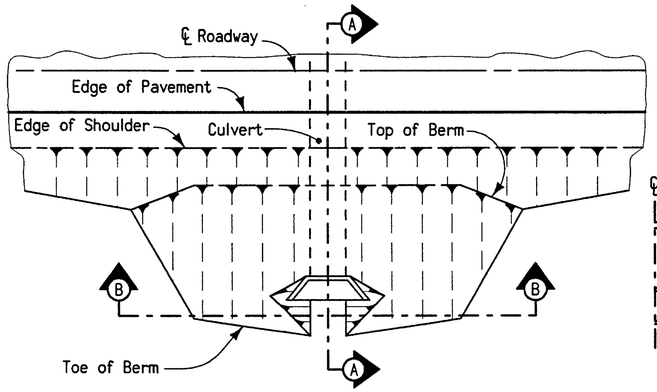
Ⓓ Normal D = 1.0 m.

EXCAVATION IN ROCK USING PRE-SPLITTING METHOD

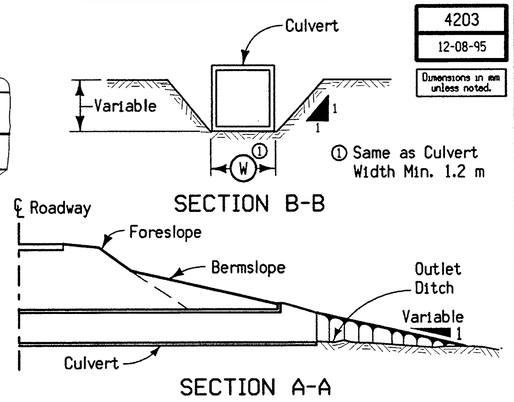
dgn = L:\WORK\PROJECT\3412U\CADD\EAS\N3315U63.bUS
prf = \\WATSO1\DATA\PLOT\PL463P\B07.PRF
date = Fri Sep 17 10:08:10 1999
pen table = L:\plot\tables\halfwt.tbl
levels = 1-63

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER		SHEET NUMBER
Skogerboe / EARTH TECH		IOWA DOT * OFFICE OF ROAD DESIGN	Jones		NHSX-151-4(63)--3H-53	B.07 10/00

4203
12-08-95
Dimensions in mm unless noted.

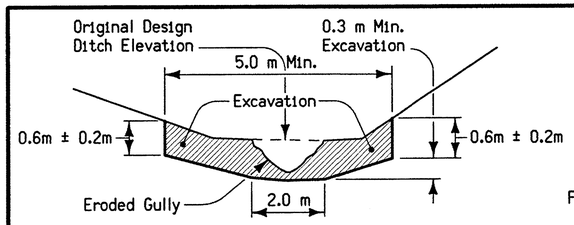


TYPICAL PLAN

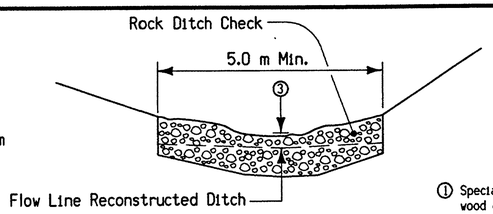


TYPICAL DETAILS FOR OUTLET DITCH THROUGH FORESLOPE BERM

4305
09-27-94
Dimensions in mm unless noted.

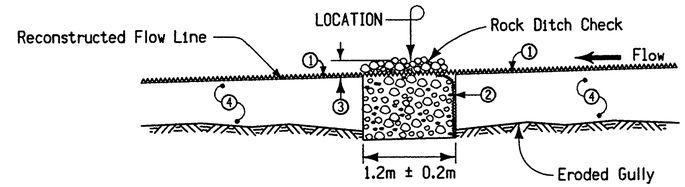


Typical Section Excavation



Typical Section at Ditch Check

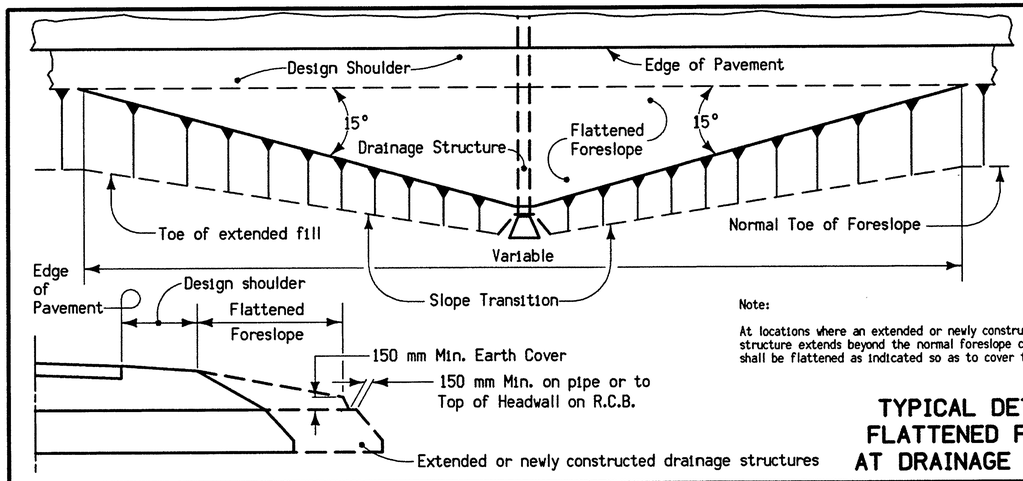
① Special ditch control wood excelsior mat.
② Engineering fabric
③ 75 mm Maximum.
④ Compacted Backfill



Longitudinal Section at Center Line of Ditch

REVETMENT ROCK DITCH CHECK

4304
09-27-94
Dimensions in mm unless noted.

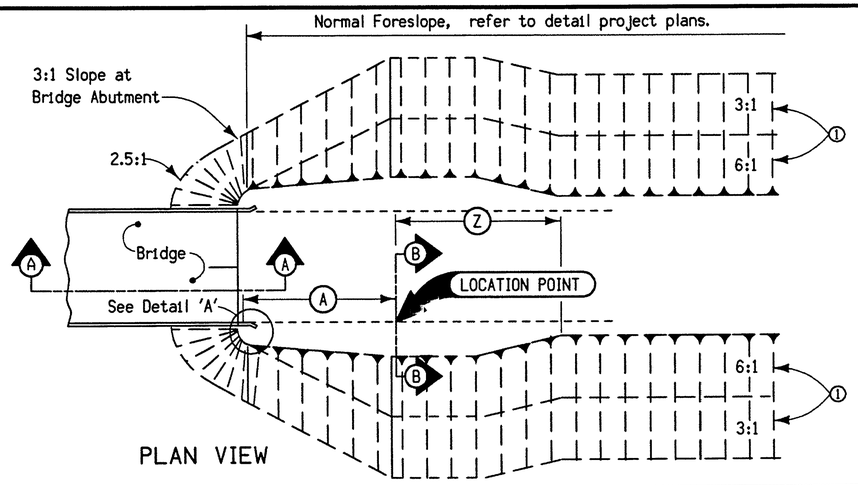


Note:

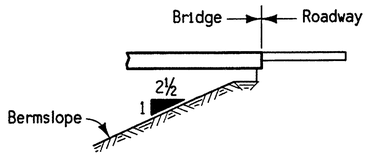
At locations where an extended or newly constructed drainage structure extends beyond the normal foreslope cover, the foreslope shall be flattened as indicated so as to cover the structure.

TYPICAL DETAILS OF FLATTENED FORESLOPE AT DRAINAGE STRUCTURE

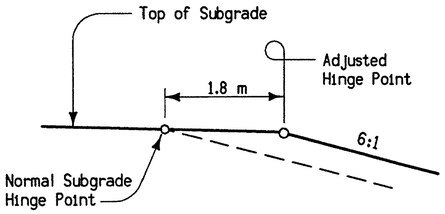
4306
01-12-99
Dimensions in mm unless noted.



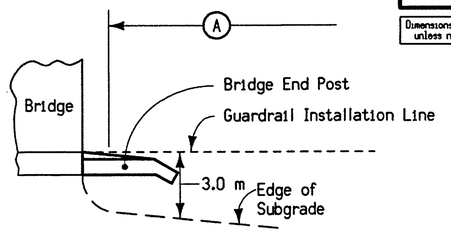
PLAN VIEW



SECTION A-A



SECTION B-B



DETAIL "A"

Notes:

Refer to tabulation 107-23 for listings of Location Points and Dimensions Ⓐ and Ⓩ.

① Barnroof section; refer to other Typical Drawings.

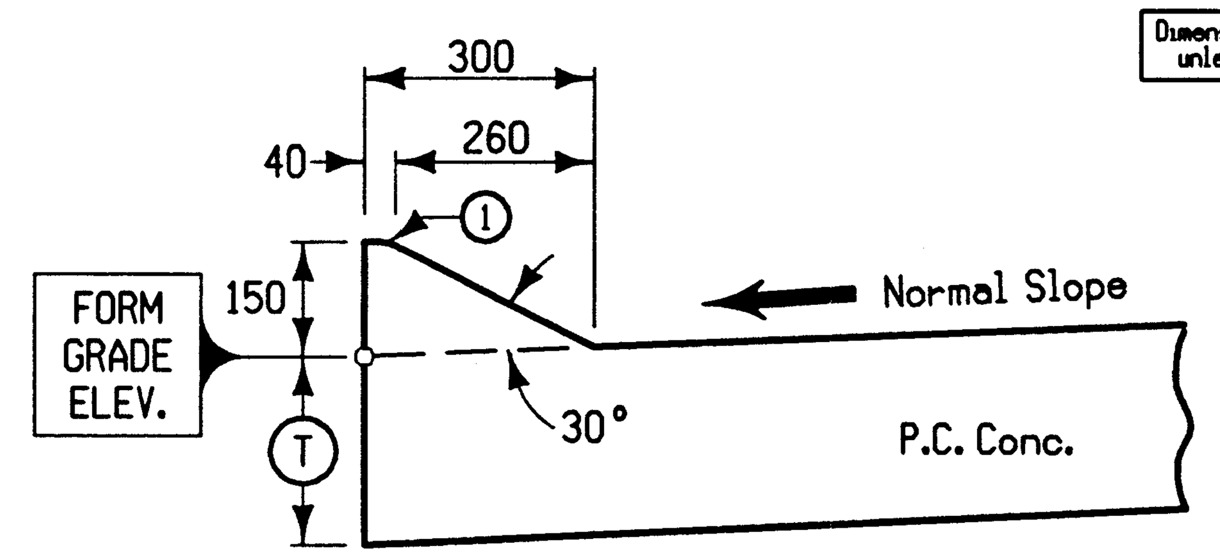
FORESLOPE TRANSITION AT BRIDGE FROM BARNROOF SECTION

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Jones		NHSX-151-4(63)--3H-53	B.08 11/90

dgn = L:\WORK\PROJECT\34120\CADD\EAS\53151063.bdb levels = 1-63
prf = \\WATSO1\DATA\PLOT\PL463P\B08.PRF pen table = L:\plot\tables\halfwt.tbl
date = Fri Sep 17 10:08:17 1999

Revised

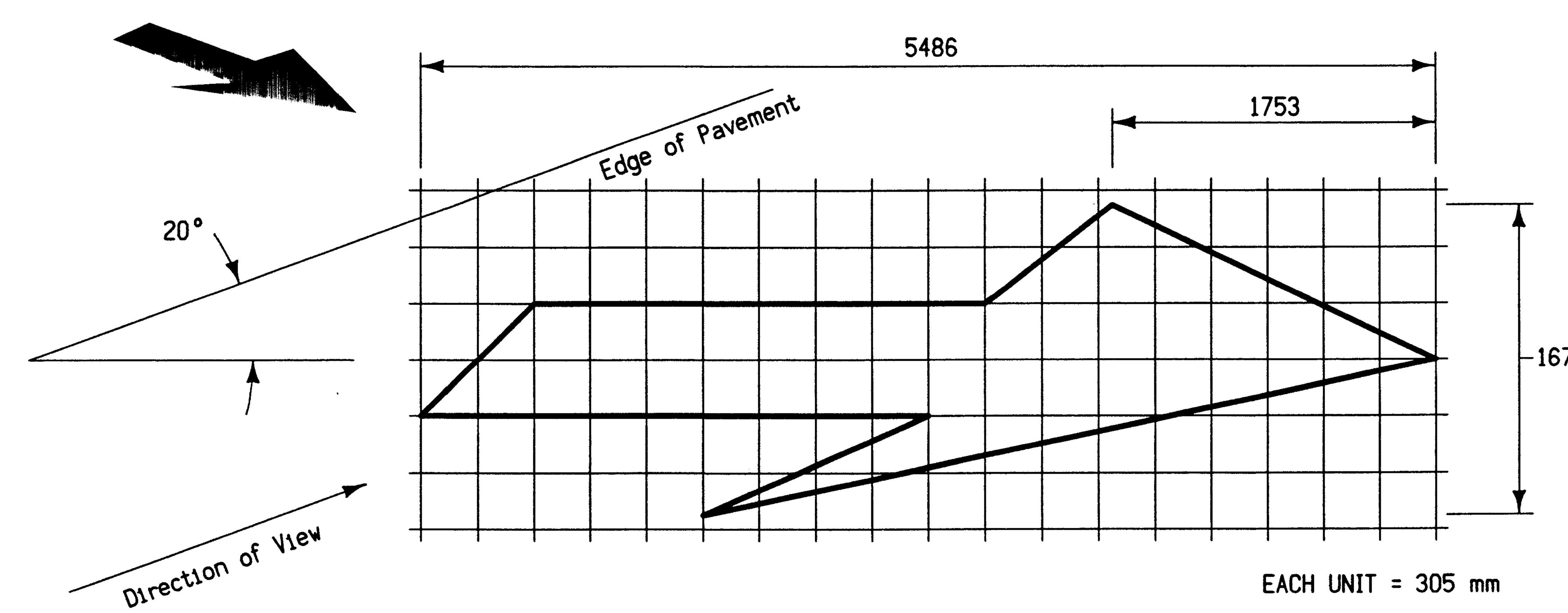
6128
09-27-94
Dimensions in mm unless noted.



(T) is the thickness specified for pavement
(1) 50 mm radius

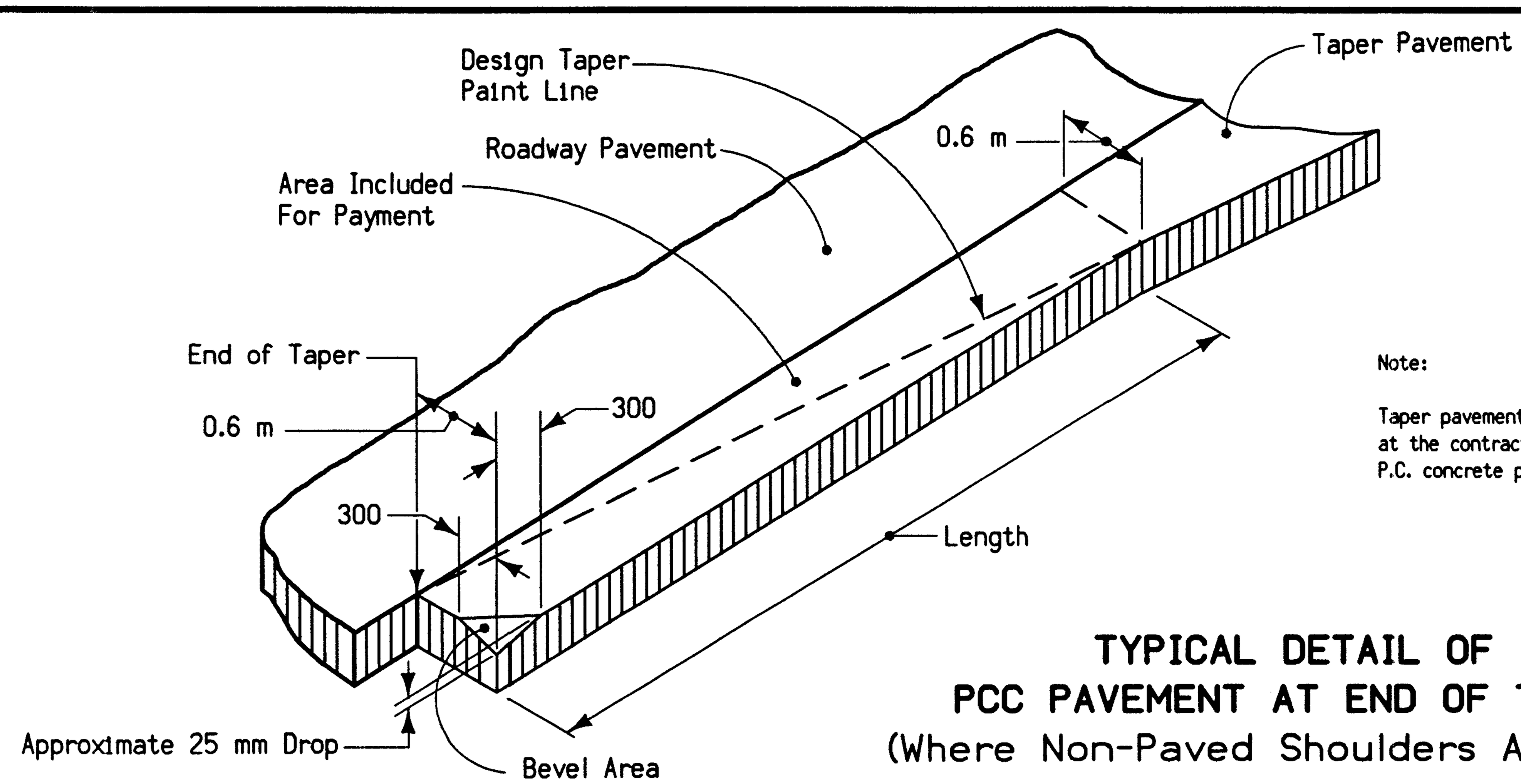
DETAILS OF INTEGRAL 150 mm SLOPED CURB

9016
07-15-97
Dimensions in mm unless noted.



PAVEMENT MARKINGS LEFT LANE DROP ARROWS

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

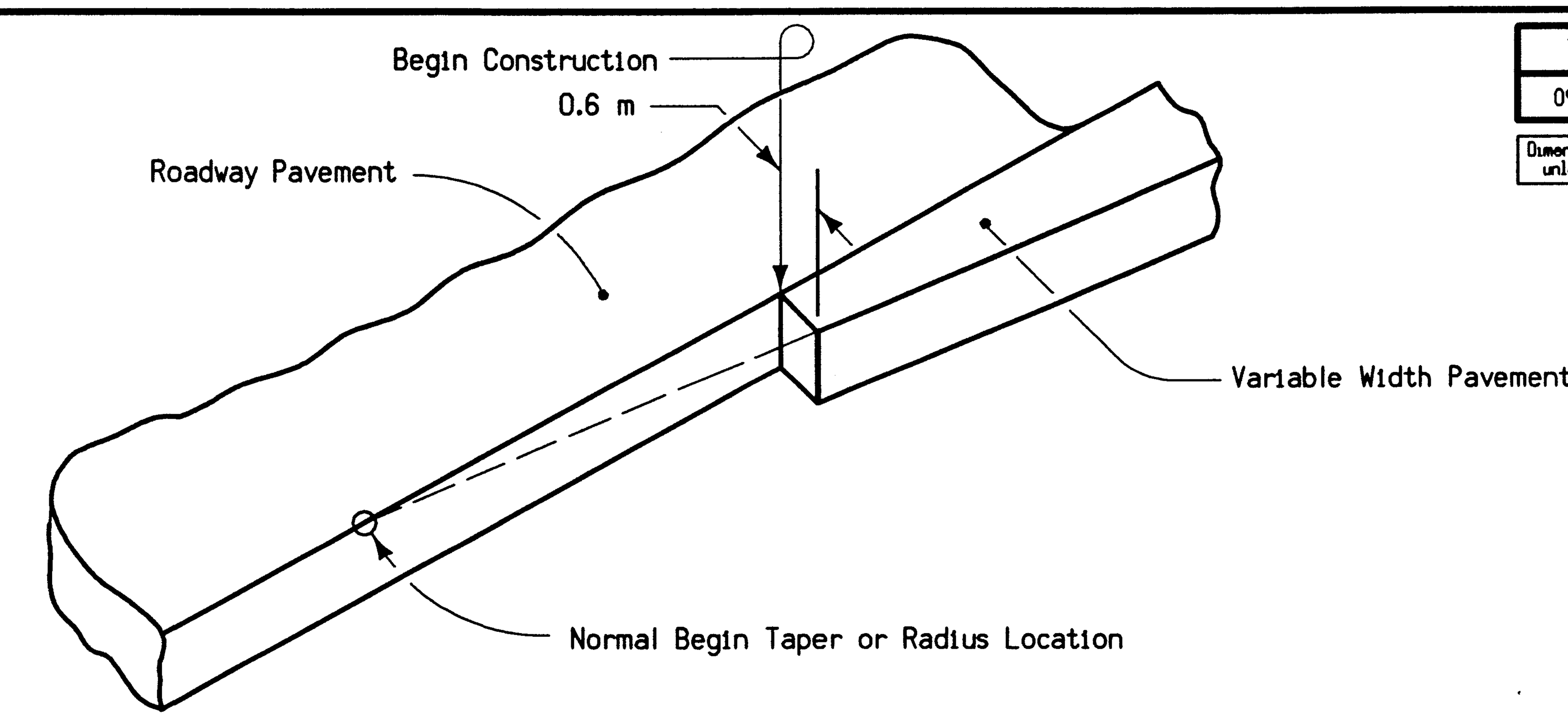


Note:

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

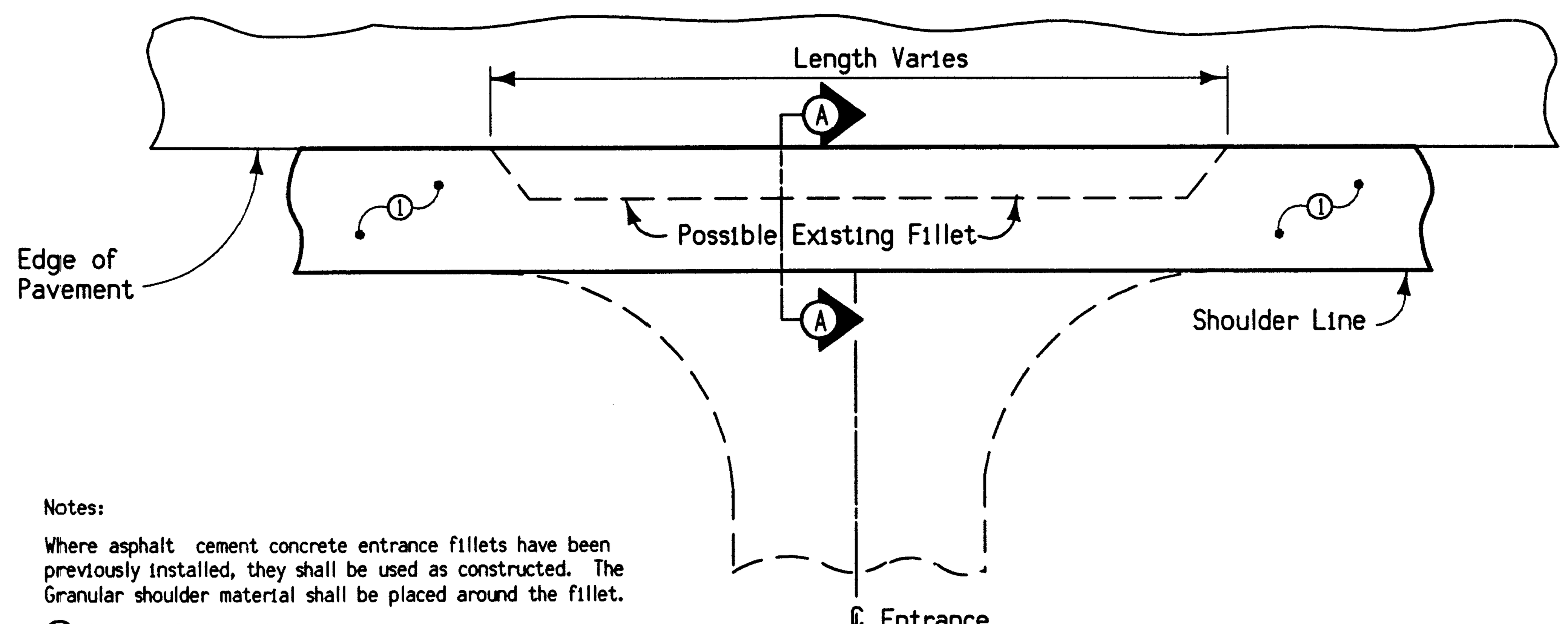
TYPICAL DETAIL OF PCC PAVEMENT AT END OF TAPER
(Where Non-Paved Shoulders Are Used)

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



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

7117
09-27-94
Dimensions in mm unless noted.



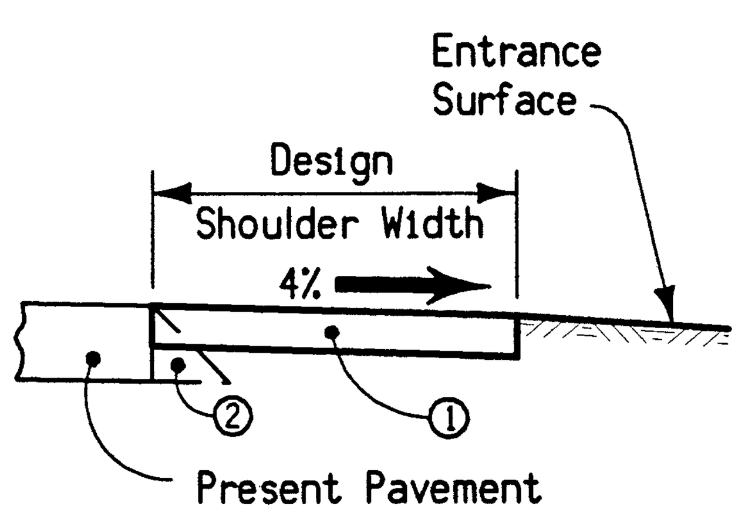
PLAN

Notes:

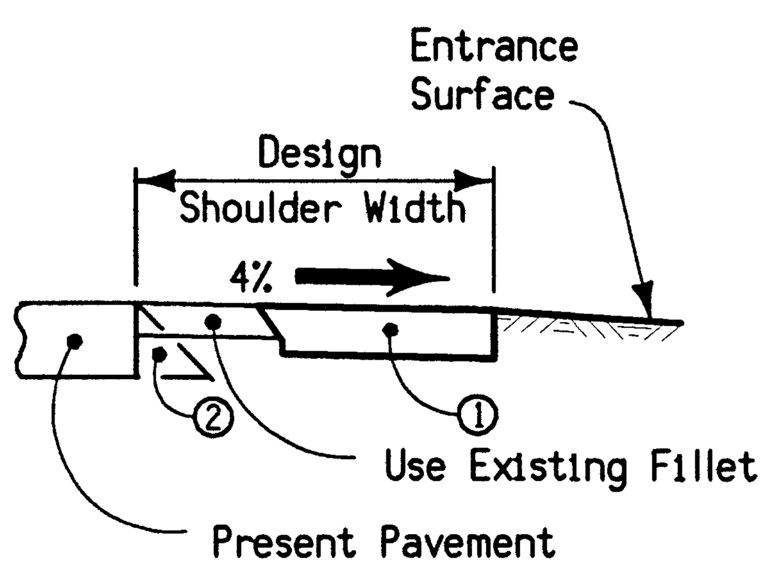
Where asphalt cement concrete entrance fillets have been previously installed, they shall be used as constructed. The Granular shoulder material shall be placed around the fillet.

(1) Granular Surfaced Shoulder

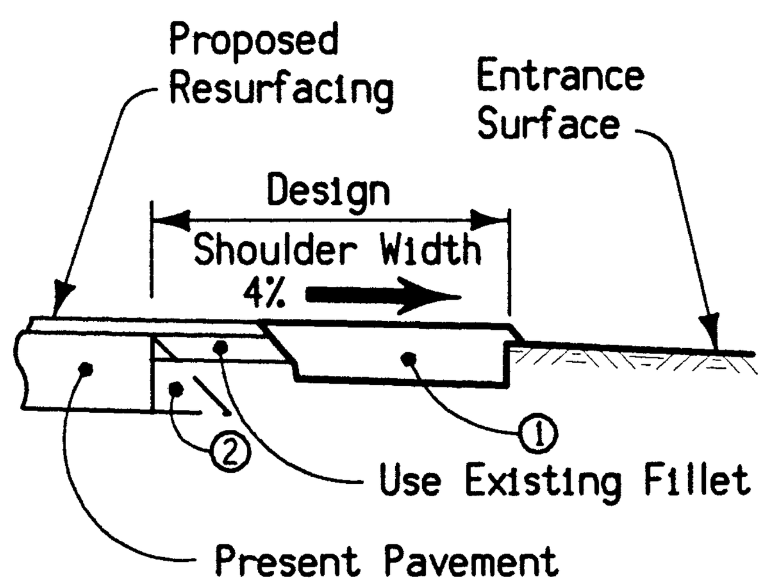
(2) Possible ACC Paving or Resurfacing.



SECTION A-A
Without Fillet



SECTION A-A
With Previous Fillet



SECTION A-A
With Previous Fillet
And resurfacing less than 40 mm

GRANULAR SHOULDER CONSTRUCTION THROUGH ENTRANCES

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	B.09

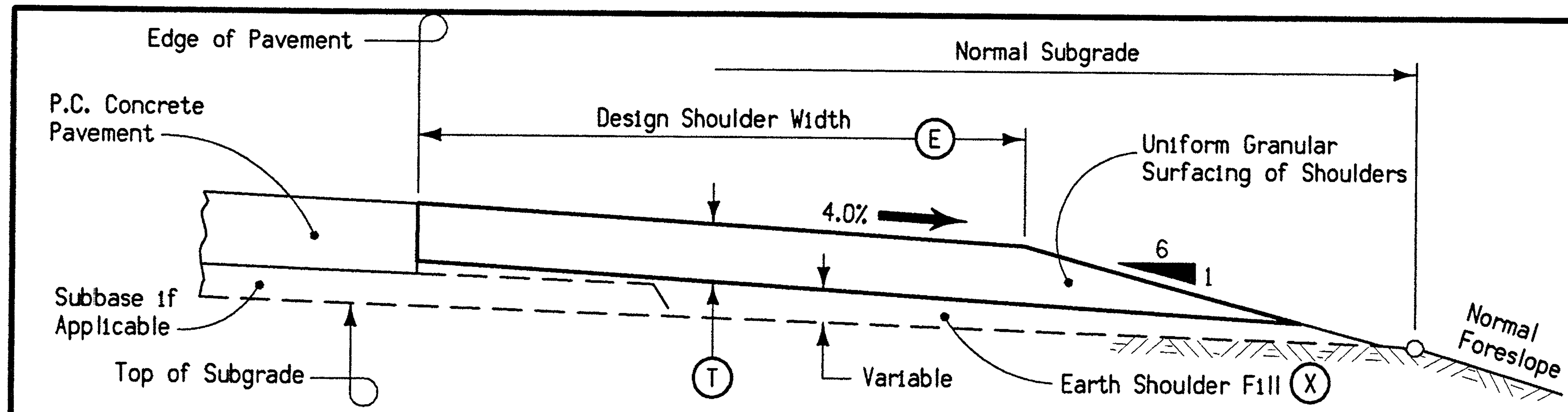
12/96
Revised 02-14-00

dgn = I:\WORK\project\34120\cadd\east\531b1063.b09 levels = 1-63
prf = \\WATS01\DATA\PLOT\PL463P\b09h.prf pen table = I:\plot\tables\halfwt.tbl
date = Tue Feb 22 14:26:18 2000

7110

12-03-96

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.

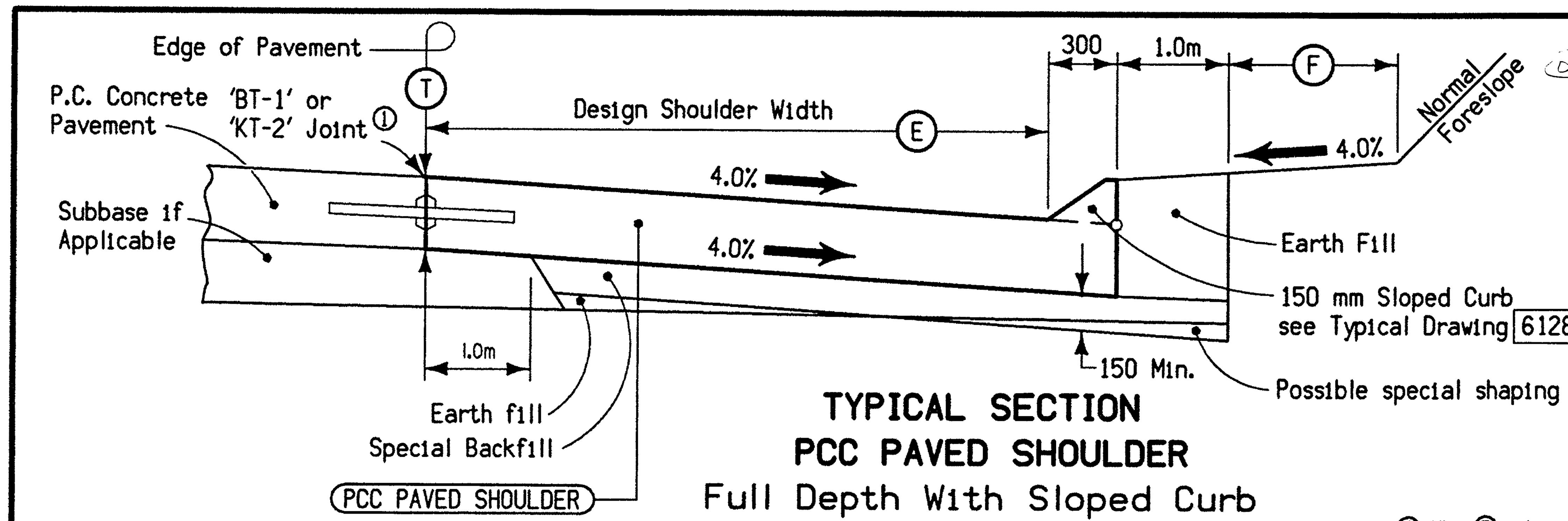
See Standard Road Plan RH-37D for construction requirements.

LOCATION			(E)	(T)	SIDE	(X)
ROAD IDENTIFICATION	STATION TO STATION		m	mm		m^3
U. S. HWY. 151 (S. B. LANES)	150+00	153+95	2.4	150	LT.	113.8
U. S. HWY. 151 (S. B. LANES)	150+00	153+95	1.8	150	RT.	81.9
IOWA HIGHWAY 64	2158+50	2159+80	3.0	150	RT.	130.1
IOWA HIGHWAY 64	2156+90	2161+74	3.0	150	RT.	130.1
IOWA HIGHWAY 64	2159+50	2161+84	3.0	150	LT.	130.1
ENTRANCE RAMP A 64	5153+60	5157+89	VAR	VAR	BOTH	VAR
EXIT RAMP D 64	8158+41	8163+50	VAR	VAR	BOTH	VAR

7129

MODIFIED

Dimensions in mm unless noted.



TYPICAL SECTION
PCC PAVED SHOULDER
Full Depth With Sloped Curb

LOCATION				DIMENSIONS			QUANTITIES ②		
ROAD IDENTIFICATION	STATION TO STATION		SIDE	(T) mm	(E) m	(F) m	SURFACE AREA m^2 ③	EARTH FILL VOLUME m^3	SPECIAL BACKFILL mg ③
IOWA HIGHWAY 64	2156+89	2159+26	LT.	240	3	4.2	330	39.09	111.375

① When (T) is less than 200 mm use 'BT-1' joint. When (T) is equal to or more than 200 mm 'L-2', 'KT-2' or modified 'BT-3' joint. Modified 'BT-3' requires a keyway. See Standard Road Plan RH-51 for joint details.

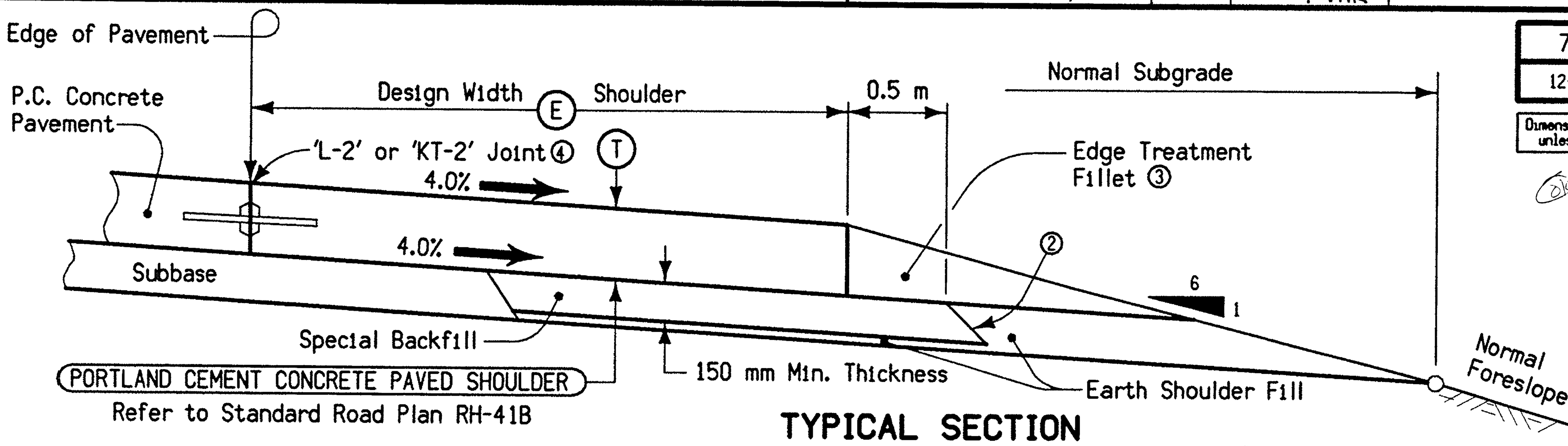
② Per Station Per Side.

③ Bid Items

7126

12-03-96

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	EARTH FILL m^3	SPECIAL BACKFILL Mg ⑤
MAINLINE								
SOUTHBOUND	153+50	154+30	LT.	240	1.8	⑥	21.4	⑧
SOUTHBOUND	161+89	163+05	LT.	240	2.4	⑥	21.4	⑧
RAMP A	5154+30	5158+20	LT.	240	1.8	⑥	21.4	⑧
RAMP A	5154+30	5158+10	RT.	240	1.2	⑥	21.4	⑧
RAMB B	6153+10	6157+40	RT.	240	1.8	⑥	21.4	⑧
RAMB B	6152+95	6156+60	LT.	240	1.2	⑥	21.4	⑧
RAMP D	8158+12	8161+89	LT.	240	1.8	⑥	21.4	⑧
RAMP D	8158+10	8161+89	RT.	240	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

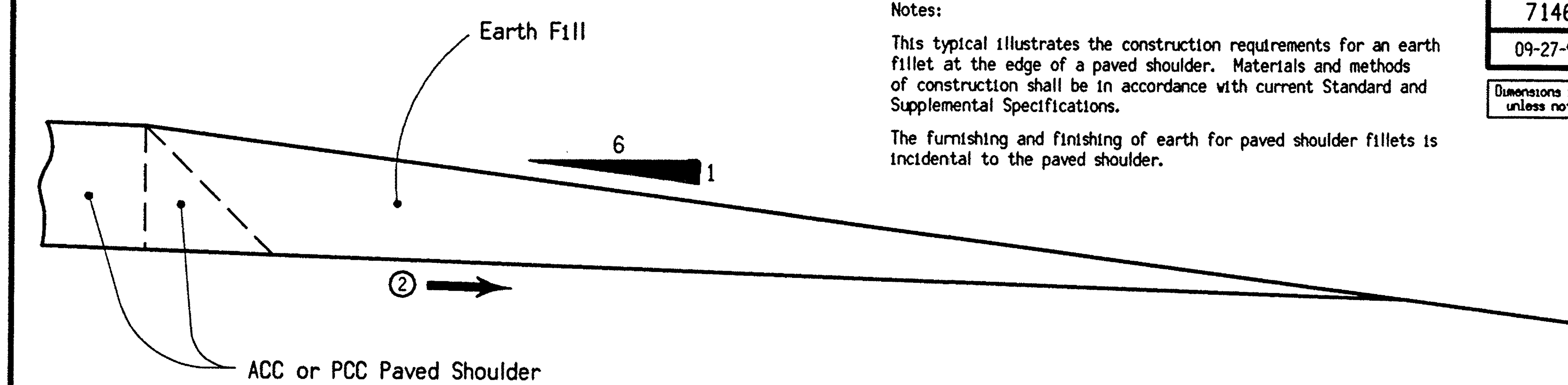
⑦ Earth Shoulder fill requires approximately (X) cubic meters of excavation, including 40% for shrinkage, per station

⑧ Included with special backfill under ramps and tapers.

7146

09-27-94

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.

① Not a bid item. Quantities are per station per side.

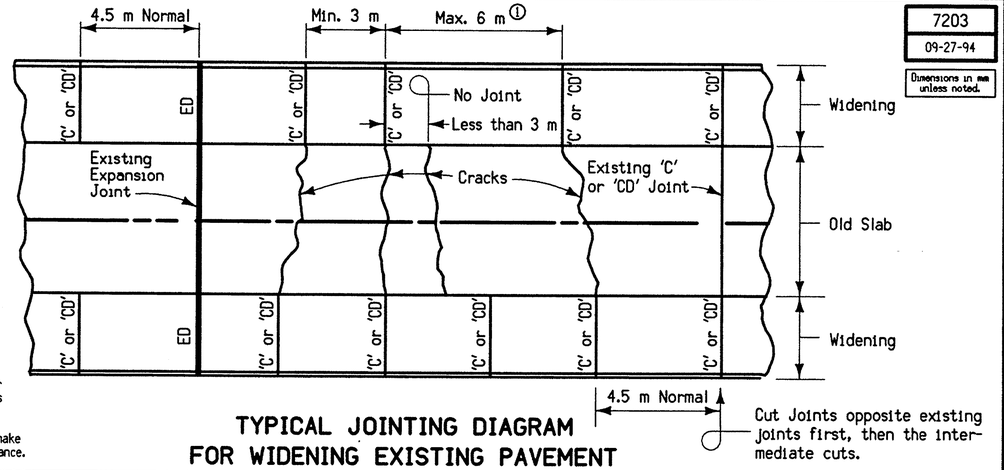
② Match slope of under side of shoulder pavement.

LOCATION				QUANTITIES ①
ROAD IDENTIFICATION	STATION TO STATION		SIDE	EARTH FILL m^3
MAINLINE	153+50	154+30		40% SHRINK
SOUTHBOUND	161+89	164+41	LT.	31.8
RAMP A	5154+30	5158+20	LT.	31.8
RAMP A	5154+30	5158+10	RT.	31.8
RAMB B	6153+10	6157+40	RT.	31.8
RAMB B	6152+95	6156+60	LT.	31.8
RAMP D	8158+12	8161+89	LT.	31.8
RAMP D	8158+10	8161+89	RT.	31.8
DETOUR PAVEMENT	149+12	154+92	LT	
DETOUR PAVEMENT	148+12	155+59	RT.	
MAIN LINE 151	150+00	153+60	LT.	
MAIN LINE 151	150+00	154+50	RT.	
MAIN LINE 64	2156+25	2161+74	RT.	
MAIN LINE 64	2156+89	2161+37	LT.	

EARTH FOR PAVED SHOULDER FILLET

dgn = L:\WORK\PROJECT\3412\CADD\AREAS\3151063.b09 levels = 1-63
prf = \\WATS01\DATA\PLOT\PL463P\B10.PRF pen table = l:\plot\tables\halfwt.tbl
date = Fri Oct 29 10:53:26 1999

7203
09-27-94
Dimensions in mm unless noted.



Notes:

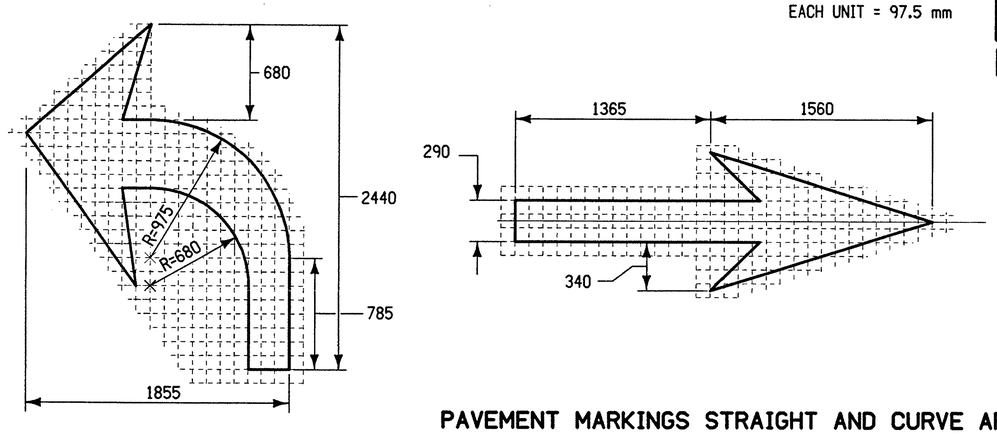
For joint details refer to Standard Road Plans RH-50 and RH-52.

① If more than 6 m make extra joint ½ distance.

TYPICAL JOINTING DIAGRAM FOR WIDENING EXISTING PAVEMENT

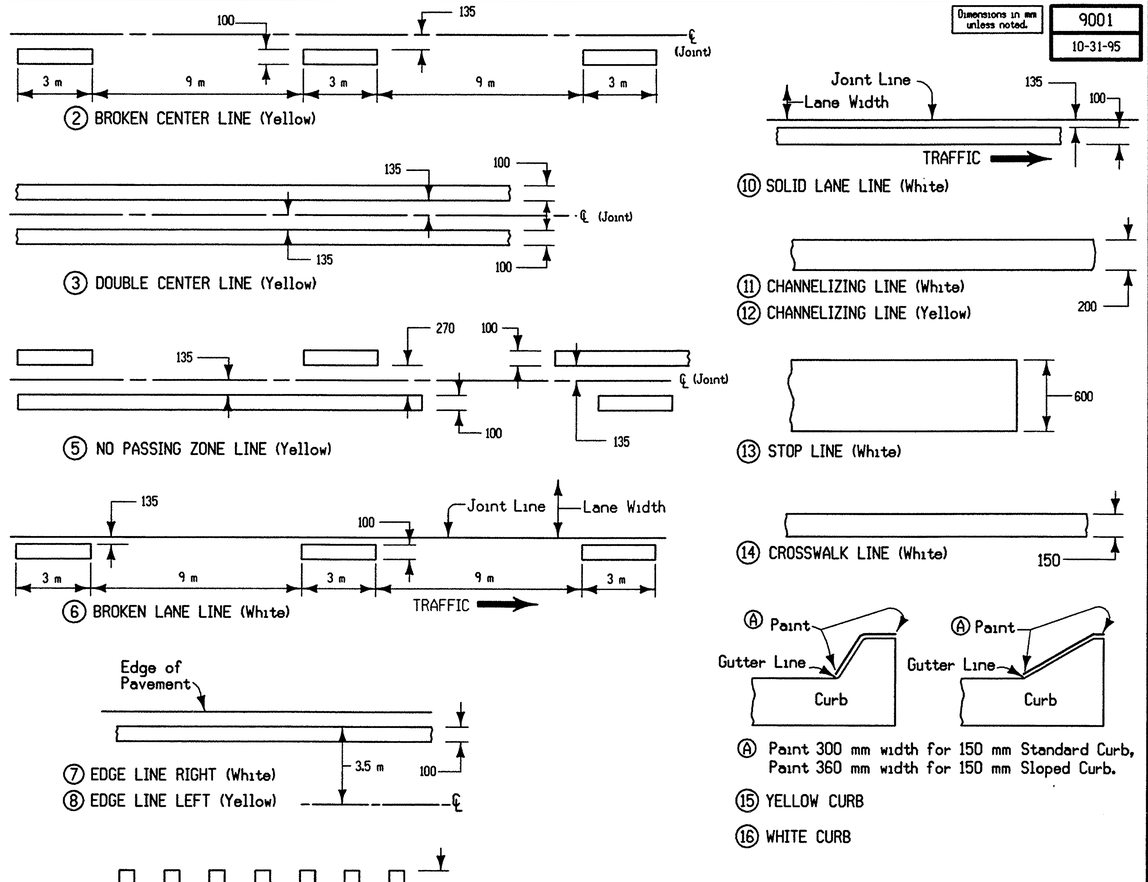
9002
04-28-98
Dimensions in mm unless noted.

EACH UNIT = 97.5 mm



PAVEMENT MARKINGS STRAIGHT AND CURVE ARROWS

9001
10-31-95
Dimensions in mm unless noted.



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

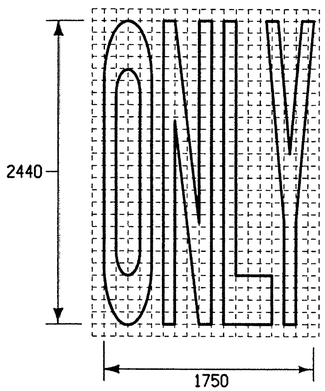
⑮ YELLOW CURB

⑯ WHITE CURB

STANDARD TYPES OF PAVEMENT MARKINGS

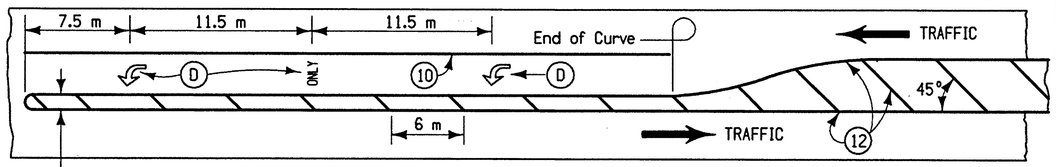
9008
06-06-95
Dimensions in mm unless noted.

EACH UNIT = 97.5 mm



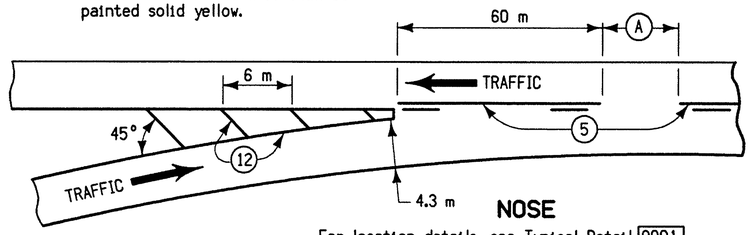
"ONLY" WORD 2440 mm

9402
12-03-96
Dimensions in mm unless noted.



When this dimension becomes less than 0.6 m the area shall be painted solid yellow.

LEFT TURN ISLAND



NOSE

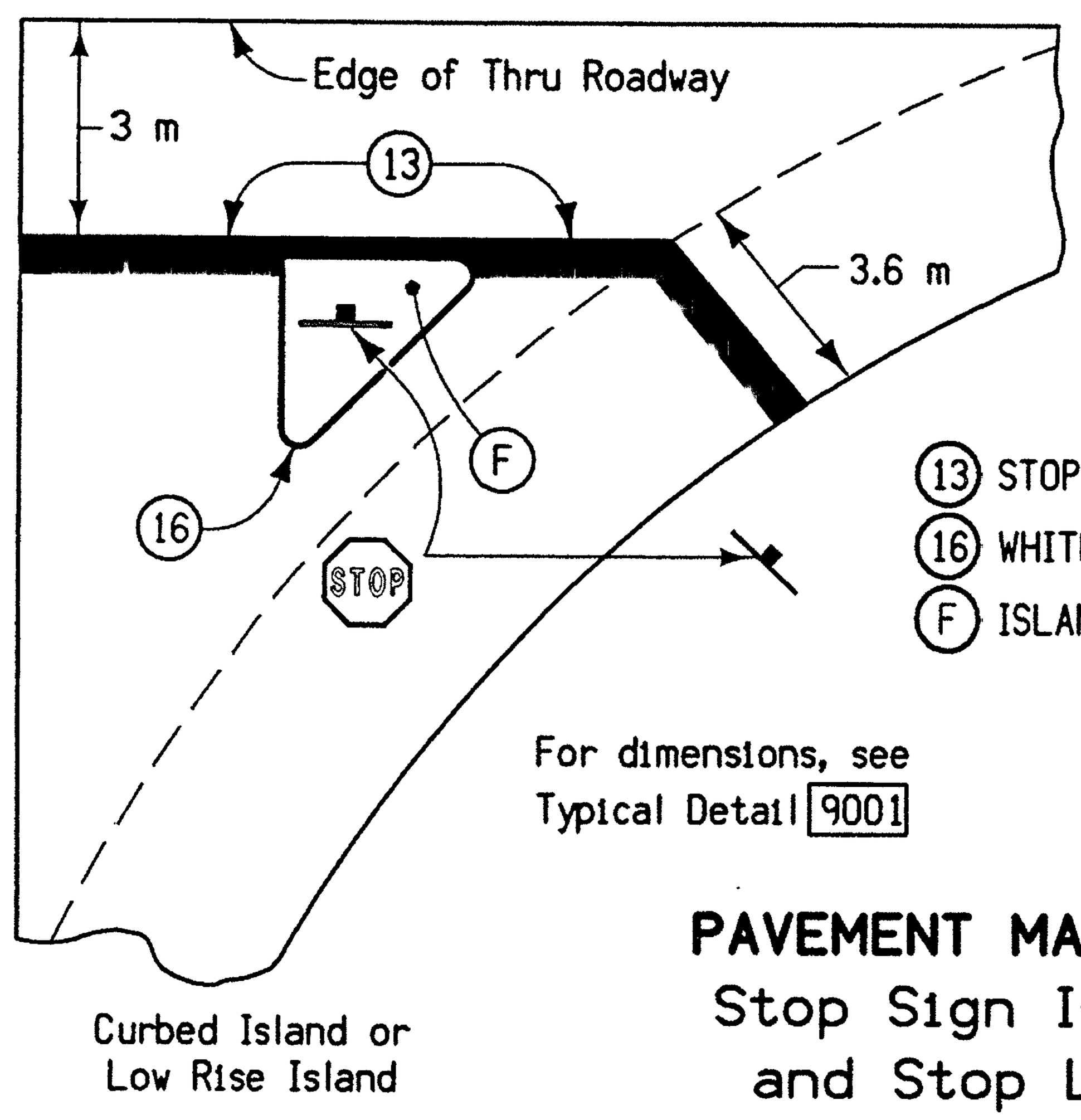
For location details, see Typical Detail 9001

⑤ NO PASSING ZONE LINE (Yellow)
⑩ SOLID LANE LINE (White)
⑫ CHANNELIZING LINE (Yellow)
Ⓐ If less than 120 meters, join the Yellow Lines.
Ⓓ Symbol (when specifically listed in Tabulation 108-29); for size and shape, refer to Typical Details 9002 and 9008.

PAVEMENT MARKINGS Painted Channelized Island

dgn = L:\WORK\PROJECT\3412\CADD\EAS\b31b1063.b09 levels = 1-63
prf = \\WATSOI\DATA\PLOT\PL463P\B11.PRF pen table = L:\plot\tables\halfwt.tbl
date = Thu Oct 28 07:57:58 1999

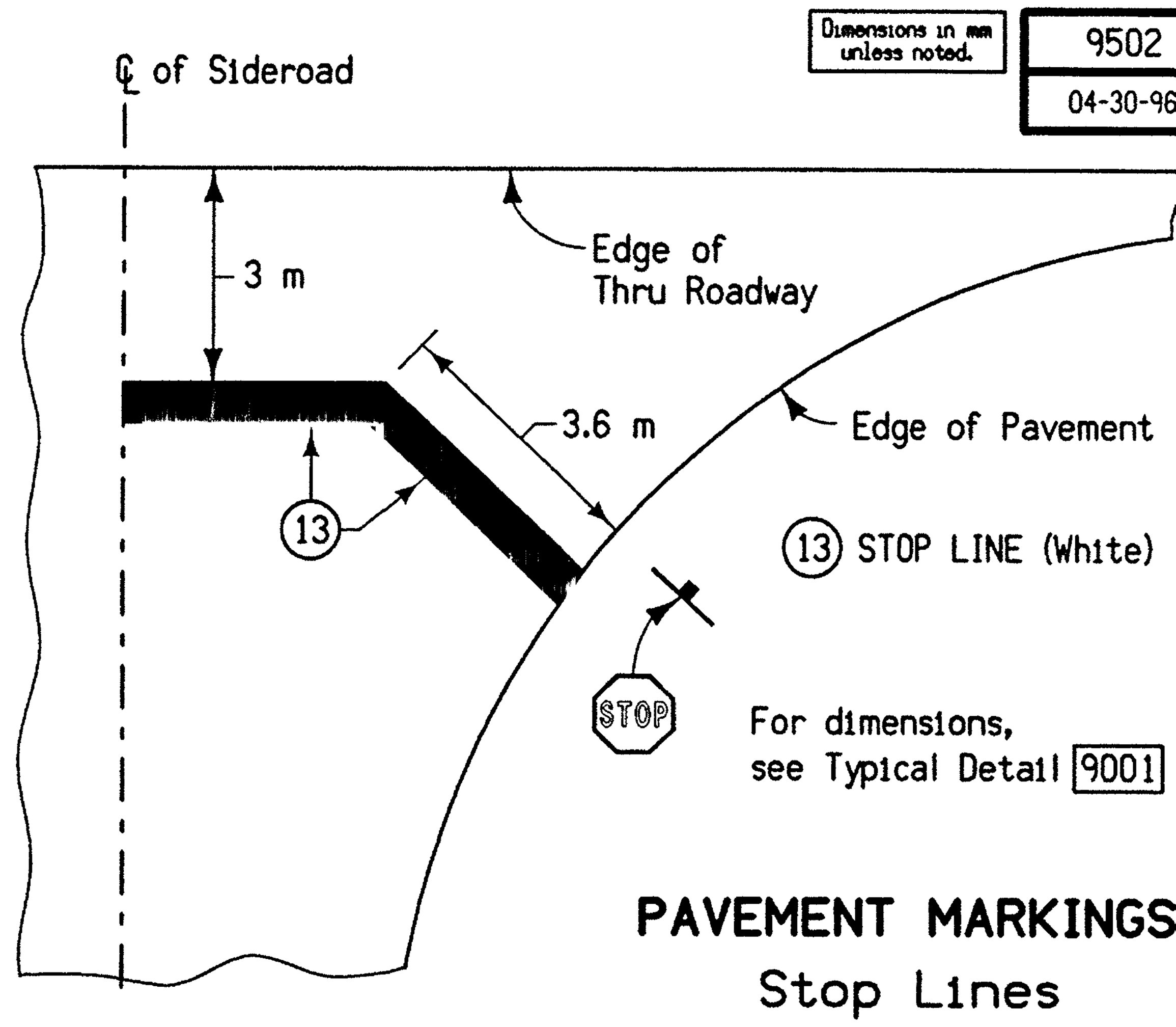
DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Jones	NHSX-151-4(63)--3H-53	B.11 14/90



(13) STOP LINE (White)
(16) WHITE CURB
(F) ISLAND

For dimensions, see Typical Detail 9001

PAVEMENT MARKINGS
Stop Sign Islands and Stop Lines

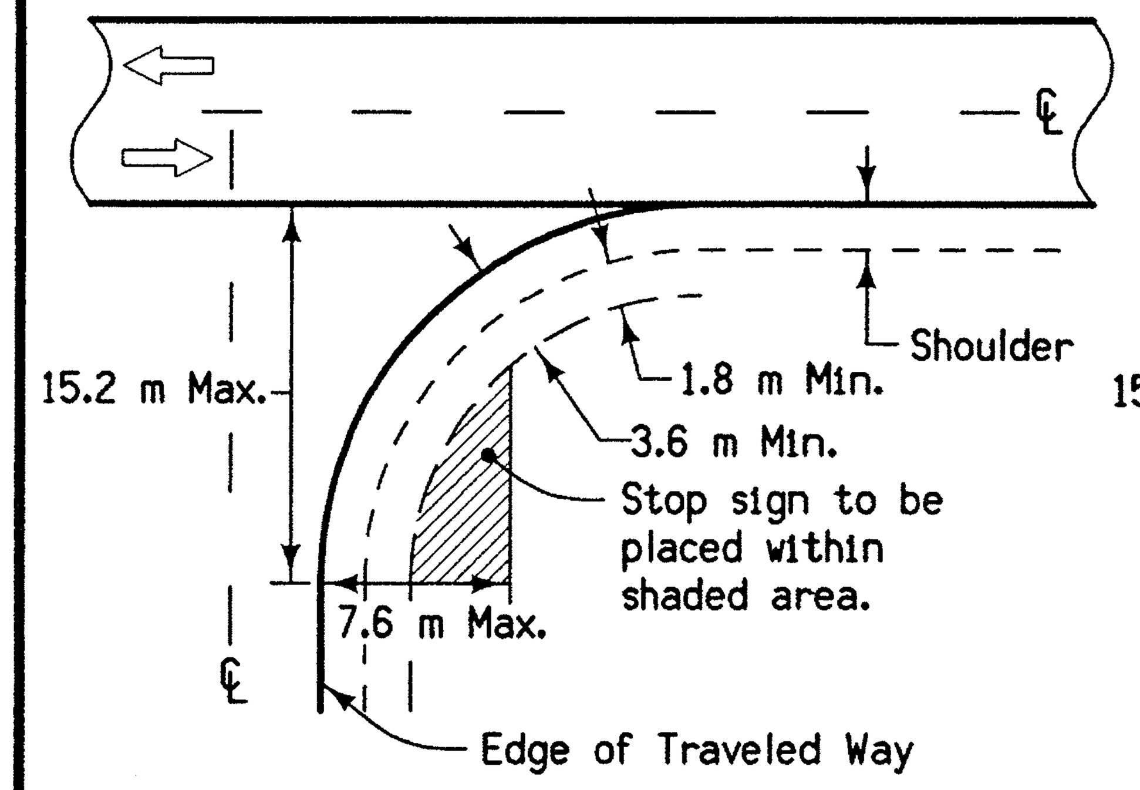


(13) STOP LINE (White)

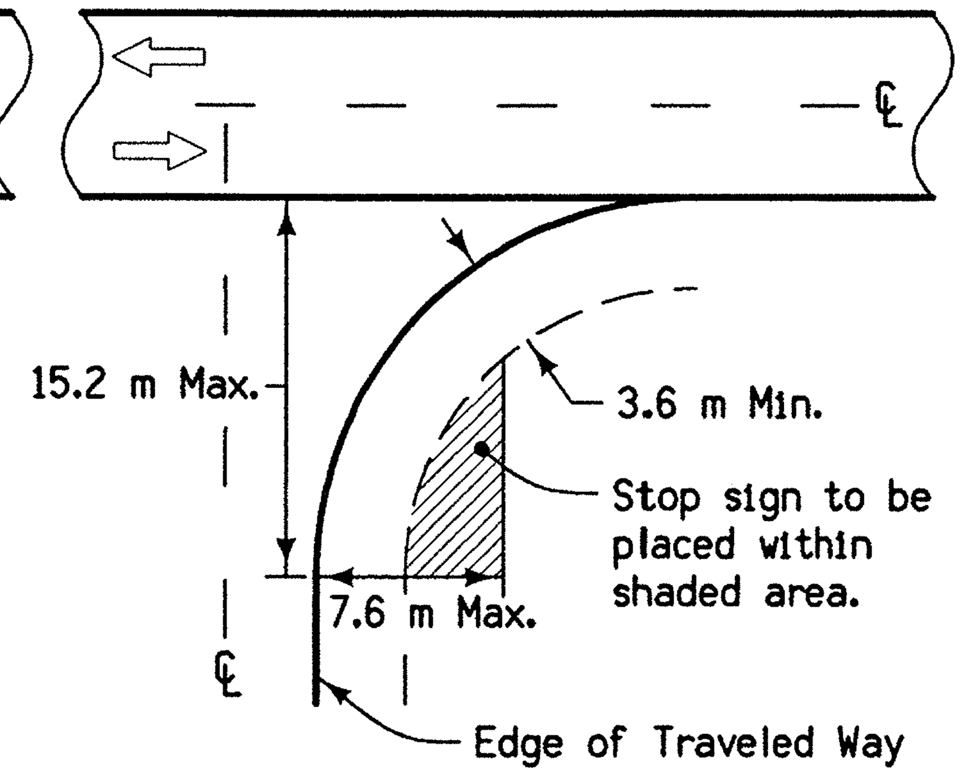
For dimensions, see Typical Detail 9001

PAVEMENT MARKINGS
Stop Lines

9503
07-15-97
Dimensions in mm unless noted.



CASE 'A'
WITH SHOULDER



CASE 'B'
WITHOUT SHOULDER

NOTES:

Stop signs should be confined to the shaded areas, but as close to the approach roadway as possible to provide the motorist with the best visual impact.

If possible, stop signs should be placed at the point where vehicles are to stop or as near as practical.

In rural areas, the lateral clearance should not be closer than 1.8 meters from the edge of a usable shoulder, or if none, 3.6 meters from edge of the traveled way.

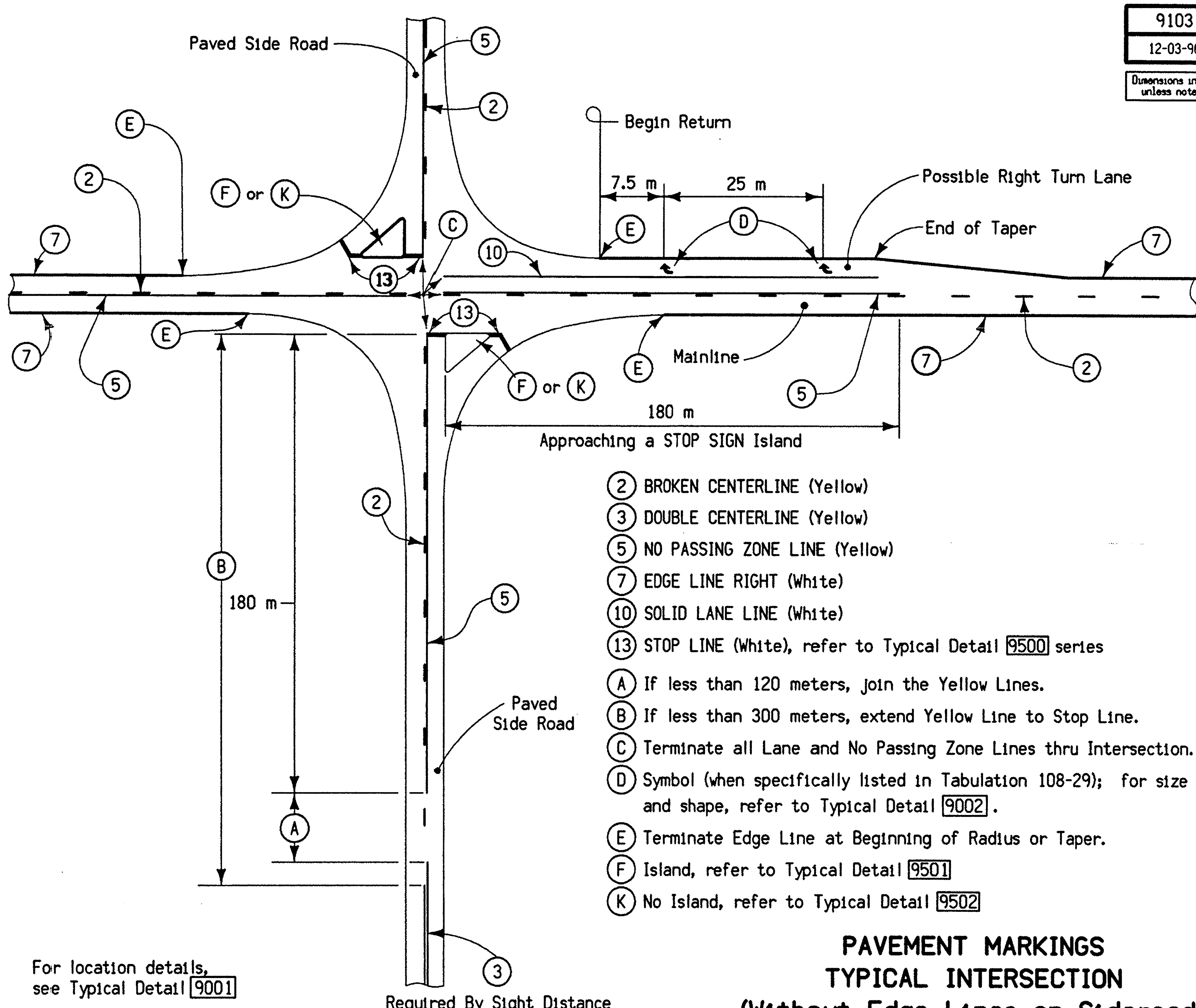
In urban areas, stop signs should be placed a minimum of 1.8 meters from the near edge of the intersected street or a minimum of 1.2 meters in advance of the near edge of a marked crosswalk. Lateral clearance may be reduced to a minimum of 0.6 meters from the face of a curb.

Where the approach roadway consists of two lanes of traffic, a second stop sign should be placed where it is visible to traffic in the inner lane.

At channelized intersections, the additional stop sign may be placed on a channelized island or median.

STOP SIGN PLACEMENT

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



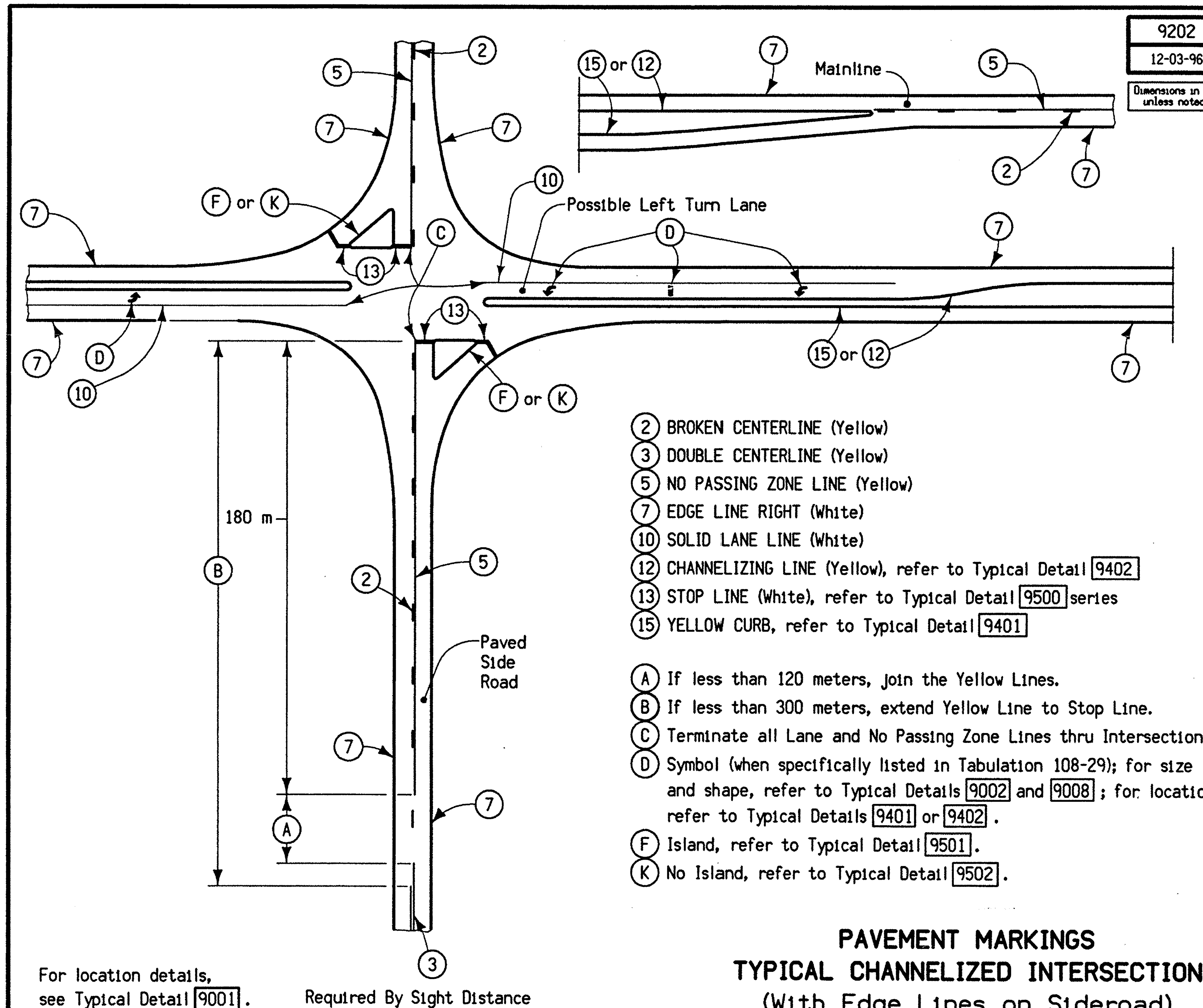
(2) BROKEN CENTERLINE (Yellow)
(3) DOUBLE CENTERLINE (Yellow)
(5) NO PASSING ZONE LINE (Yellow)
(7) EDGE LINE RIGHT (White)
(10) SOLID LANE LINE (White)
(13) STOP LINE (White), refer to Typical Detail 9500 series

(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

For location details, see Typical Detail 9001

PAVEMENT MARKINGS
TYPICAL INTERSECTION
(Without Edge Lines on Sideroad)

9202
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)
(12) CHANNELIZING LINE (Yellow), refer to Typical Detail 9402
(13) STOP LINE (White), refer to Typical Detail 9500 series
(15) YELLOW CURB, refer to Typical Detail 9401

(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 Details 9002 and 9008; for location, refer to Typical Details 9401 or 9402.
(F) Island, refer to Typical Detail 9501.
(K) No Island, refer to Typical Detail 9502.

For location details, see Typical Detail 9001.

PAVEMENT MARKINGS
TYPICAL CHANNELIZED INTERSECTION
(With Edge Lines on Sideroad)

dgn = L:\WORK\PROJECT\34120\CADD\EAST\53151063.b09 levels = 1-63
prf = \\WATS01\DATA\PLOT\PL463P\B12.PRF pen table = L:\plot\tables\halfwt.tbl
date = Thu Oct 28 07:58:06 1999

Revised

AS BUILT PROJECT QUANTITIES

Prop Line	Item Code	Item Description	Units	Quantity Placed
10	2101--100100	CLEAR+GRUB	UNIT	12,942.60
20	2102--100100	CL 10 EXCAVATION RDWY+BORROW	M3	702,009.00
30	2102--120400	CL 12 EXCAVATION BOULDER/ROCK FRAGMENT	M3	327.842
40	2102--210000	INTERCEPT DITCH+FLUME	M	270
50	2102--220100	SELECTED BACKFILL MAT'L	M3	53,732.90
60	2102--230100	SPECIAL BACKFILL MAT'L	MG	17,408.80
70	2102--250000	LOCATING TILE LINE	M	2,122.00
80	2105--100100	TOPSOIL STRIP SALVAGE+SPREAD	M3	50,083.20
90	2105--101000	TOPSOIL SPREAD	M3	23,686.00
100	2105--102000	TOPSOIL STRIP+STKP	M3	26,186.00
110	2107--100200	COMPACTION W/MOISTURE CONTROL	M3	5,097.50
120	2107--100400	COMPACT BACKFILL ADJ TO BRDG/CULV/STRUCT	M3	0
130	2108--100000	OVERHAUL (STATION METER)	ST-M	1,335,165.00
140	2111--100000	GRANULAR SUBBASE	M2	6,675.63
150	2121--100100	GRANULAR SHLD TYPE A	MG	2,956.52
160	2122--200240	PAVED SHLD PCC 240 MM	M2	3,684.68
170	2123--100200	EARTH SHLD CONSTRUCTION	M	4,918.00
180	2213--100200	RMVL OF FLUME	EACH	2
190	2301--133240	STD/S-F PCC PAV'T CL C CL 3 240 MM	M2	17,130.01
200	2301--153180	STD/S-F PCC PAV'T CL M CL 3 180 MM	M2	1,021.30
210	2301--600100	PCC PAV'T SAMPLE	LS	1
220	2312--110100	GRANULAR SURF ON RD CL A CR STONE	MG	1,643.09
230	2399--100110	DETOUR PAV'T	M2	8,300.33
240	2401--205030	RMVL OF INTAKE	EACH	4
250	2402--220000	EXCAVATION CL 20-RDWY PIPE CULV	M3	4,325.50
260	2416--100600	CONC 100D RDWY PIPE CULV 600 MM	M	524.11
270	2416--100750	CONC 100D RDWY PIPE CULV 750 MM	M	114.9
280	2416--100900	CONC 100D RDWY PIPE CULV 900 MM	M	40.81
290	2416--101050	CONC 100D RDWY PIPE CULV 1050 MM	M	52.43
300	2416--110600	CONC 150D RDWY PIPE CULV 600 MM	M	104.25
310	2416--111200	CONC 150D RDWY PIPE CULV 1200 MM	M	48.8
320	2416--120600	CONC 175D RDWY PIPE CULV 600 MM	M	99.99
330	2416--121050	CONC 175D RDWY PIPE CULV 1050 MM	M	112.2
340	2416--200600	CONC PIPE ELBOW 600 MM	EACH	7
350	2416--200900	CONC PIPE ELBOW 900 MM	EACH	1
360	2416--240375	CONC PIPE APRON 375 MM	EACH	1
370	2416--240600	CONC PIPE APRON 600 MM	EACH	35
380	2416--240750	CONC PIPE APRON 750 MM	EACH	3
390	2416--240900	CONC PIPE APRON 900 MM	EACH	2
400	2416--241050	CONC PIPE APRON 1050 MM	EACH	2
410	2416--241200	CONC PIPE APRON 1200 MM	EACH	2
420	2416--281000	RMV+REINSTALL CONC APRON </= TO 1000 MM	EACH	6
430	2416--281001	RMV+REINSTALL CONC APRON > 1000 MM	EACH	2
440	2416--320600	PIPE APRON GUARD (RF-26) 600 MM	EACH	16
450	2417--140450	CORR POLYETHYLENE RDWY PIPE CULV 450 MM	M	27.08
460	2417--140600	CORR POLYETHYLENE RDWY PIPE CULV 600 MM	M	208
470	2417--140750	CORR POLYETHYLENE RDWY PIPE CULV 750 MM	M	185.1
480	2417--220450	CORR METAL DPHRGM TYPE A 450 MM	EACH	2
490	2417--220750	CORR METAL DPHRGM TYPE A 750 MM	EACH	4
500	2417--330450	CORR POLYETHYLENE PIPE ELBOW 450 MM	EACH	1
510	2417--330600	CORR POLYETHYLENE PIPE ELBOW 600 MM	EACH	26
520	2417--330750	CORR POLYETHYLENE PIPE ELBOW 750 MM	EACH	2
530	2417--340450	METAL APRON 450 MM	EACH	2
540	2417--340600	METAL APRON 600 MM	EACH	13
550	2417--340750	METAL APRON 750 MM	EACH	4
560	2422--100600	UNCL ENT PIPE CULV 600 MM	M	185.25
570	2422--200600	UNCL RDWY PIPE CULV 600 MM	M	23.2
580	2422--300600	UNCL APRON 600 MM	EACH	12
590	2502--140100	STD SUBDRAIN DRAIN TILE 100 MM	M	37.5
600	2502--140150	STD SUBDRAIN DRAIN TILE 150 MM	M	80.6
610	2502--140200	STD SUBDRAIN DRAIN TILE 200 MM	M	185.3
620	2502--140250	STD SUBDRAIN DRAIN TILE 250 MM	M	129.2
630	2502--140300	STD SUBDRAIN DRAIN TILE 300 MM	M	0
640	2502--140375	STD SUBDRAIN DRAIN TILE 375 MM	M	0
650	2502--200100	LONGITUDINAL SUBDRAIN (BACKSLOPE) 100 MM	M	336
660	2502--250100	LONGITUDINAL SUBDRAIN (SHLD) 100 MM	M	1,693.00
670	2502--300195	SUBDRAIN OUTLET RF-19E	EACH	26
680	2503--140375	CONC 100D STORM SWR 375 MM	M	50
690	2503--400400	INTAKE RA-40	EACH	2
700	2505--000100	RMVL OF G'RAIL	M	242.8
710	2505--000200	RMVL OF POST	EACH	138
720	2505--000300	RMVL OF G'RAIL END ANCHOR	EACH	8
730	2506--100000	FLOWABLE MORTAR	M3	32.11
740	2507--001500	REVETMENT CL E	MG	3,443.61
750	2507--004000	ENGINEERING FABRIC	M2	4,687.81
760	2510--001000	RMVL OF PAV'T	M2	28,064.77
770	2518--000100	SAFETY CLOSURE	EACH	29
780	2518--100031	PERMANENT RD CLOSURE (RURAL) RE-3A	EACH	1
790	2519--100047	FIELD FENCE TYPE 47	M	943
800	2519--201800	CHAIN LINK FENCE 1.8 M (RC-10)	M	2,687.00
810	2520--100100	FIELD LABORATORY	EACH	1
820	2523--000200	ELECTRICAL CIRCUIT	M	228.2
830	2525--002000	SILT FENCE	M	3,880.41
840	2525--003000	SILT FENCE-DITCH CHECK	M	1,575.77
850	2525--005000	SILT BASIN	EACH	86

PROP LINE	ITEM CODE	AS BUILT PROJECT QUANTITIES	UNITS	QUANTITY PLACED
870	2527--101000	PAINTED PAV'T MARK	M	24,014.55
880	2527--103000	REMOVABLE TAPE MARK	M	2,248.80
890	2527--108000	PAV'T MARK RMVD	M	2,874.50
900	2528--101000	TRAFFIC CONTROL	LS	1
910	2528--104000	TEMPORARY TRAFFIC SIGNAL	EACH	0
920	2528--105000	TEMPORARY FLOODLIGHT LUMINAIRE	EACH	9
930	2528--107000	FLAGGER	DAY	84
940	2533--100000	MOBILIZATION	LS	0
950	2601--103000	STABILIZE CROP SEED+FERTILIZE	HA	64.01
960	2601--103100	STABILIZE CROP SEED+FERTILIZE (URBAN)	HA	0.94
970	2601--104100	FERTILIZE	HA	8.88
980	2601--104200	MULCH	HA	15.78
990	2599--000002	TRAINEE REIMBURSEMENT	HOUR	0
995	2525--004000	SILT DIKE	M	467
1000	2416--161001	RMV+REINSTALL RIGID PIPE CULV > 1000 MM	M	7.93
1005	2213--100200	RMVL OF FLUME	EACH	1
1015	2599--999902	('SQUARE METER' ITEM) Place CD baskets in PCC Paved Shoulder, 240mm	M2	2,612.80
1020	2599--999911	('MEGAGRAM' ITEM) Sand Blanket	MG	4,163.17
1025	2599--999911	('MEGAGRAM' ITEM) Sand from Borrow B	MG	1,225.00
1030	2102--100100	CL 10 EXCAVATION RDWY+BORROW Over Depth Excavation	M3	9,552.83
1035	2599--999916	('LUMP SUM' ITEM) Relocate Creek Channel	LS	1
1040	2507--002000	EROSION STONE	MG	324.3
1045	2599--999915	('EACH' ITEM) Removal of Light poles and Bases	EACH	14
1055	6100--250310	EWO\OVERDEPTH EXCAVATION-SUBDRAIN/SEWER	M	489
1060	2599--999916	('LUMP SUM' ITEM) Remove RCB Culvert	LS	1
1065	6100--260162	EWO\MOBILIZATION, EROSION CONTROL	EACH	12
1070	2422--100450	UNCL ENT PIPE CULV 450 MM	M	6.1
1075	2599--999915	('EACH' ITEM) Type 3 Pipe Joint Connectors (RF-14)	EACH	3
1080	6100--110710	EWO\WATER-DUST CONTROL	KL	880.84
1085	2599--999915	('EACH' ITEM) Standpipe for Erosion Control, 750 MM Dia.	EACH	1
1090	2599--999915	('EACH' ITEM) Standpipe for Erosion Control, 1200 MM Dia.	EACH	0
1095	2599--999916	('LUMP SUM' ITEM) Consultant Design Fees	LS	1
1100	2599--999916	('LUMP SUM' ITEM) VEIP for Alternate On-Site Detour "C"	LS	1
1105	2599--999907	('HECTARE' ITEM) Borrow Rights	HA	3.44
1110	2599--999916	('LUMP SUM' ITEM) Archeological Survey	LS	1
1115	2599--999916	('LUMP SUM' ITEM) VEIP for the Alternate Borrow	LS	1
1120	2528--102000	TEMP BARRIER RAIL	M	280.42

PROP. LINE	ITEM CODE	AS BUILT PROJECT QUANTITIES	UNITS	QUANTITY PLACED
1125	2524--610100	DELINEATOR SINGLE WHITE (RE-7)	EACH	46
1130	2524--610200	DELINEATOR DOUBLE WHITE (RE-7)	EACH	179
1135	2524--616030	RMV+REINSTALL DELINEATOR POST	EACH	76
1140	2599--999916	('LUMP SUM' ITEM) Four-Way Flasher	LS	1
1145	2599--999915	('EACH' ITEM) Mount Signs on Wood Posts	EACH	11
1150	2303--100000	ACC COMMERCIAL MIX AS PER PLAN	MG	183.64
1155	2599--999901	('METER' ITEM) Bale Checks	M	193.3
1160	2599--999916	('LUMP SUM' ITEM) Fuel Adjustment	LS	1
1165	2519--420000	RMVL OF EXIST FENCE	M	171
1170	2502--308200	SUBDRAIN OUTLET 200 MM DIA	EACH	6
1175	2416--161000	RMV+REINSTAL RIGID PIPE CULV </= TO 1000	M	28.6
1180	2599--999916	('LUMP SUM' ITEM) Purchase Traffic Control Materials	LS	1
1185	2301--600100	PCC PAV'T SAMPLE	LS	1
1190	6100--230110	EWO\PCC PAV'T COLD WEATHER PROTECTION	M2	798.99
1195	2599--999916	('LUMP SUM' ITEM) Pavement Thickness Incentive	LS	1
1200	2599--999916	('LUMP SUM' ITEM) Relocate Chain Link Fence	LS	1
1205	2599--999916	('LUMP SUM' ITEM) Realign Type C Entrance	LS	1
1210	2599--999916	('LUMP SUM' ITEM) Earth Dike	LS	1
1215	2599--999916	('LUMP SUM' ITEM) Reshape Foreslope	M	392
1220	2599--999901	('METER' ITEM) Full Depth Saw Cut	M	135
1225	2599--999901	('METER' ITEM) Full Depth Saw Cut	LS	1
1230	2599--999916	('LUMP SUM' ITEM) Extra Cost For CD Baskets	LS	1
1235	2599--999916	('LUMP SUM' ITEM) Extra Costs for Paving Ramp D	LS	1
1240	2599--999916	('LUMP SUM' ITEM) Over Depth Excavation for Selected Backfill Material	EACH	1
1245	2599--999915	('EACH' ITEM) C-1 Collar	LS	1
1250	2533--100000	MOBILIZATION	LS	1
1255	2599--999916	('LUMP SUM' ITEM) Concrete Flume	LS	1
1260	2599--999916	('LUMP SUM' ITEM) Participating Costs for Correcting Drain	EACH	-1
1265	2599--999915	('EACH' ITEM) Price Adj. 50.8 mm Plastic Conduit	EACH	1
1270	6200--700041	PRICE ADJ\INCENTIVE-PCC PAV'T SMOOTHNESS		

100-1A
07-15-97

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
2	2102--100100	Includes 384,648 cu. m of Borrov.
4	2102--210000	See Tab. 100-16, Sheet C.04 for locations and details.
5	2102--220100	See Tab. 103-3, Sheet C.06 for locations and details.
6	2102--230100	Item includes 2,905.2 MG under Detour Pavement as per Tab. X-1, Sheet C.08 and 5,195.9 MG under Ramps 'A' and D', Ramp 'A' taper and Ia. 64, 1,316 MG under Paved Shoulders.
7	2102--250000	Quantity is based on the length of nev construction. Locations to be determined at the time of construction.
8	2105--100100	See Tab. 103-4, Sheet C.06 for locations and details.
9	2105--101000	See Sheets R.01 and R.12 for information.
10	2105--102000	
11	2107--100200	See Tab. 103-6, Sheet C.06 for locations and details.
12	2107--100400	See Tab. 104-4, Sheet C.08 for locations and details.
13	2108--100000	Overhaul was calculated by mass diagram. Overhaul from borrow sites was calculated by assuming a center of mass.
14	2111--100000	See typicals for placement information. The contractor will not be allowed to operate construction equipment on the granular subbase.
15	2121--100100	See Typ. 7110, Sheet B.10 for locations and details.
16	2122--200240	See Typ. 7126, Sheet B.10, Typ. 7129, Sheet B.10 and Tab. 112-9, Sheet C.09 for locations and details.
17	2123--100200	Includes 1,470 m as per Typ. 7110, Sheet B.10 and 2,192 m as per Typ. 7126 and 7146 Sheet B.10. Item will include 1,639 cu. m of earth shoulder fill as per Typ. 7110, 1,040 cu. m of earth shoulder fill as per Typ. 7126 and 7146 and 93 cu. m of earth shoulder fill as per Typ. 7129.
18	2213--100200	See Tab. 104-3, Sheets C.14 - C.16 for locations and details.
19	2301--133240	The contractor shall use 'CD' joints at 6 m typical spacing. See Typ. 2503 Sheet B.02, Typ. 3205 Sheet B.03 and Typ. 3206 Sheet B.03 for Pavement Typical Cross Sections.
20	2301--153180	Item is for the construction of Chamber Drive and Grant Wood Drive. Traffic must be maintained for the businesses that utilize Grant Wood Drive and Chamber Drive.

dgn = I:\WURK\project\3412U\cadd\east\b3115l063.c01 levels = 1-3,6-11,15-19,26-30,32-40,42-45,50-53,60-63
prf = \\WATSO1\DATA\PLOT\PL463P\c01.prf pen table = I:\plot\tables\halfwt.tbl
date = Tue Feb 22 14:26:29 2000

Revised

dgn = I:\WORK\project\3412U\cadd\east\531b1063.cUI
prf = \\WATSO1\DATA\PLOT\PL463P\c02.prf
date = Tue Feb 22 14:26:40 2000
levels = 1-3,6-11,15-19,26-30,32-40,42-45,50-53,60-63
pen table = I:\plot\tables\halfwt.tbl

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
22	2312--110100	Includes 792.7 Mg for entrances, 342.8 Mg for side roads and 750 Mg for maintaining local access during construction as directed by the engineer.
23	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. 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. See J-Sheets and F-Sheets for locations and details.
24	2401--205030	See Tab. 110-2, Sheet C.09 for locations and details.
25	2402--220000	See Tab. 104-3 Sheets C.14 - C.16
26	2416--100600	
27	2416--100750	
28	2416--100900	
29	2416--101050	
30	2416--110600	
31	2416--111200	
32	2416--120600	
33	2416--121050	
34	2416--200600	
35	2416--200900	
36	2416--240375	See Tab. 104-5B, Sheet C.05 for locations and details.
37	2416--240600	
38	2416--240750	
39	2416--240900	
40	2416--241050	
41	2416--241200	
42	2416--281000	
43	2416--281001	
44	2416--320600	
45	2417--140450	
46	2417--140600	
47	2417--140750	
48	2417--220450	
49	2417--220750	
50	2417--330450	
51	2417--330600	
52	2417--330750	
53	2417--340450	
54	2417--340600	
55	2417--340750	
57	2422--200600	
56	2422--100600	See Tab. 102-1 Sheet C.04 for locations and details.
58	2422--300600	See Tab. 102-1 Sheet C.04 and Tab. 104-3 Sheet C.14-C.16 for locations and details.
59	2502--140100	Items are for modifications to tile lines encountered during "Locating Tile Lines". Location and details to be determined at time of construction.
60	2502--140150	
61	2502--140200	
62	2502--140250	
63	2502--140300	
64	2502--140375	
65	2502--200100	See Tab. 104-9, Sheet C.07 for locations and details.
66	2502--250100	
67	2502--300195	
68	2503--140375	See Tab. 104-5B, Sheet C.05 for locations and details.
69	2503--400400	See Tab. 104-5A, Sheet C.05 for locations and details.
70	2505--000100	See Tab. 110-7B, Sheet C.09 for locations and details.
71	2505--000200	
72	2505--000300	
73	2506--100000	See Tab. 110-9, Sheet C.09 for locations and details.
74	2507--001500	See Tab. X-2, Sheet C.07 or locations and details.
75	2507--004000	
76	2510--001000	See Tab. 110-1 Sheet C.09 and Tab. X-1 Sheet C.08 for locations and details.

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
77	2518--000100	See Tab. 108-13A Sheet C.08 for locations and details.
78	2518--100031	Item is for permanent road clusure on Old Ia. - 64 near Exit Ramp 'B'.
79	2519--100047	See Tab. 100-7B Sheet C.04 for locations and details.
80	2519--201800	
82	2523-000200	See Tab. 108-2, Sheet C.05 for locations and details item is only for conduit
83	2525--002000	See Tab. 100-17 Sheet C.04 for locations and details.
84	2525--003000	See Tab. 100-18 Sheet C.05 for locations and details.
85	2525--005000	See Tab. 100-14 Sheet C.04 for locations and details.
87	2527--101000	See Tab. 108-22 Sheet C.10 - C.12 for locations and details.
88	2527--103000	
89	2527--108000	See Tab. 108-29, Sheet C.04 for locations and details.
90	2527--108000	
91	2528--101000	See Tab. 108-23, Sheet J.01 for locations and details.
92	2528--104000	See Tab. 108-28, Sheet C.05 for locations and details.
93	2528--105000	See Tab. 108-27, Sheet C.05 for locations and details.
95	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.
96	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.
97	2601--104100	Fertilizer: Rate--500 kg of 13-13-13 or equivalent chemically combined commercial fertilizer per hectare. 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.
98	2601--104200	Mulch: Rate--3.5 megagrams of dry cereal straw per hectare.

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
NHS-151-4(65)--19-53	Wapsi. River Bridge
NHS-151-4(66)--19-53	Ia. 1 Interchange
NHS-151-4(67)--34-53	Ia. 64 Interchange
NHSX-151-4(64)--3H-53	RCB Culverts
NHSX-151-3(102)--3H-57	US 151 Grading - Springville to Wapsi.

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.

07-15-97 203-6

All the right-of-way for this project has been acquired in accordance with Standard Specification 1104.09, except the parcels listed below. The Contractor shall contact the Project Engineer prior to entering these properties to verify that acquisition has been completed.

Parcel No.	Station to Station	Reason Not Yet Available	Expected Date of Physical Occupancy
183A	158+25 159+86	In Condemnation- No Hearing date set	Nov. 30, 1999
186	159+93 163+21	R/W revised- In Condemnation- No Hearing date set	Nov. 30, 1999

09-27-94 212-1

Sounding and test boring data shown on plans were accumulated for designing and estimating purposes. Their appearance on the plan does not constitute a guarantee that conditions other than those indicated will not be encountered.

09-27-94 212-3

Presplitting operation shall consist of establishing a free surface in rock by the controlled use of explosives prior to primary blasting of the main excavation. The rock cut face formed shall be at a design slope of 0.25 on 1.0 unless noted otherwise on typical sections. The presplit holes shall follow the design slope lines and shall be spaced at intervals of not more than 1.2 meters. Except for the above limitation, the procedures followed shall be as recommended by a reliable powder company. This work shall be considered incidental to Class 12 excavation.

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.

09-27-94 213-6

The backfilling and associated embankment construction shall be completed within 14 working days after the curing period has expired for culvert extension.

The immediate embankment shall be placed to provide 8:1 slopes away from the culvert top.

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.

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.

09-27-94 232-5

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.

dgn = I:\work\project\3412U\cadd\east\b3ib1063.c03 levels = 1-3,5-63
prf = \\WATSO1\DATA\PLOT\PL463P\c03.prf pen table = I:\plot\tables\halfwt.tbl
date = Fri Oct 29 15:53:58 1999

Revised

TABULATION OF SILT BASINS

100-14
09-27-94

LOCATION STATION	SIDE	REMARKS
Mainline		
150+46	RT	
157+53	RT	
161+73	RT	
162+42	RT	
Exit Ramp B		
6157+34.5	RT	
Entrance Loop C		
7155+57	LT	
Exit Ramp D		
8158+25	RT	
Dubuque-130th Street		
1173+84.4	RT	
Iowa Highway 64		
2158+78	LT	
Shaw Road		
3137+40.4	RT	

TABULATION OF INTERCEPTING DITCHES

100-16
09-27-94

LOCATION STATION TO STATION		SIDE	LENGTH m	REMARKS
Mainline				
149+31	151+00	RT	169.00	Place Rock Flume
151+00	)	RT	101.00	Place Rock Flume
Total			270.00	

STAGE 2 FENCING BY GRADING CONTRACTOR

100-7B
09-27-94

After completion of Grading Work

LOCATION		SIDE	LENGTH m	REMARKS
Mainline : 148+00	172+60	RT	344.55	1.8m CHAIN LINK Fe
151+20	153+00	LT	183.60	Type 47 Field Fence
148+15	152+93	RT	462.00	Type 47 Field Fence
159+00	168+00	RT	842.95	1.8 m Chain Link Fe
161+89	172+50	LT	992.00	1.8 m Chain Link Fe
Entrance Ramp 'A'				
5156+48	5156+71	LT	23.00	Type 47 Field Fence
Exit Ramp 'B'				
6152+93	6155+83	RT	274.40	Type 47 Field Fence
6155+83	6157+26	RT	143.34	1.8 m Chain Link Fe
Exit Ramp 'D'				
8158+40	8161+89	LT	364.16	1.8 m Chain Link Fe
TOTAL TYPE 47 FIELD FENCE			943.00	
TOTAL 1.8 m CHAIN LINK FENCE			2687.00	

TABULATION OF SILT FENCES

100-17
09-27-94

LOCATION STATION TO STATION		SIDE	LENGTH m	REMARKS
Mainline				
135+25	139+65	RT	488	
144+15	145+35	RT	132	
148+10	150+52	RT	272	
150+52	153+07.8	RT	285.8	
151+50	153+50	LT	224	
159+55	161+85	RT	254	
161+85	163+00	RT	127	
163+90	164+25	LT	41	
164+38	168+50	RT	454	
170+70	171+80	RT	122	
173+75	176+00	RT	240	
179+50	180+50	RT	112	
181+87	183+00	RT	125	
184+10	184+50	RT	46	
186+00	187+00	RT	112	
Ramp A				
5154+29.6	5155+60	LT	148.4	
5156+20	5157+80	RT	178	
Ramp B				
6153+10	6154+70	RT	178	
6157+20	6157+40	RT	26	
6157+30	6157+55	LT	31	
Loop C				
7154+94.3	7155+20	RT	31.7	
7155+45	7156+10	LT	77	
7155+95	7156+55.3	RT	72.3	
Ramp D				
8158+37	8159+50	RT	125	
8158+37	8159+30	LT	105	
Dubuque-130th Street				
1173+75	1174+75	LT	12	
Iowa Highway 64				
2156+25	2157+25	LT	112	
2156+25	2160+15	RT	432	
2158+55	2159+30	LT	87	
Shaw Road				
3136+30	3137+28.4	RT	90.4	
3136+50	3137+28.4	LT	90.4	
	Total Length (m):		4840	

POINTS OF ACCESS (RL-7)

Refer to Detail Cross-Sections

102-1
03-26-96

LOCATION (RL-7) Station	Side	(W)	TYPE	PIPE CULVERT (RF-30A or RF-30B) (H)	Size 450 mm m	600 mm m	750 mm m		APRON No.	SURFACE MATERIAL Mg
Mainline										
144+85 NBL	RT	11.0	C-Joint	6.50		93.30			2	325.01
										0.00
148+00 NBL	RT	11.0	B-Joint	1.15		28.50			2	107.98
177+15 SBL	LT	7.2	C	NP						0.00
177+15 NBL	RT	7.2	C	NP						212.99
180+73 NBL	RT	7.2	C	NP		22.60			2	0.00
183+75 NBL	RT	11.0	C-Joint	NP						119.95
180+73 NBL	RT					12.20				
Shaw Road										
3136+91	LT	7.2	C	0.7		14.63			2	0.00
3136+91	RT	7.2	C	0.5		14.02			2	26.76
									Total:	792.69
183+75					6.10				CONSTRACT	mod.

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

TABULATION OF PAVEMENT MARKING SYMBOLS AND LEGENDS

108-29
Modified

ROAD IDENTIFICATION	LOCATION STATION	SIDE	↰	↘	ONLY
IOWA HIGHWAY 64					
	2155+80	RT.		TYP. 9016	
	2155+95	RT.		TYP. 9016	
	2157+08	RT.	TYP. 9002		
	2157+20	RT.			TYP. 9008
	2157+31	RT.	TYP. 9002		
	2158+87	RT.	TYP. 9002		
	2158+99	RT.			TYP. 9008
	2159+10	RT.	TYP. 9002		
	2159+62	RT.	TYP. 9002		
	2159+75	RT.			TYP. 9008
	2159+89	RT.	TYP. 9002		
	2160+30	RT.	TYP. 9002		
	2160+39	RT.			TYP. 9008
	2160+61	RT.	TYP. 9002		
	2160+79	RT.	TYP. 9002		
	2160+87	RT.			TYP. 9008
	2160+96	RT.	TYP. 9002		
	TOTAL SYMBOLS = 17				

dgn = I:\WDHK\project\3412U\caddveast\b3115l063.c04 levels = 1-4,6-11,15-19,26-30,32-40,42-45,50-53,60-63
prf = \\WATSO1\DATA\PLOT\PL463P\c04.prf pen table = I:\plot\tables\halfwt.tbl
date = Tue Feb 22 14:26:50 2000

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Jones		NHSX-151-4(63)--3H-53	C.04 19/90

Revised 02-14-00

TABULATION OF SILT FENCES FOR DITCH CHECKS

100-18
09-27-94

LOCATION STATION	SIDE	m	REMARKS
Mainline			
135+50	RT	6	
136+40	RT	6	
137+30	RT	6	
138+40	RT	6	
139+10	RT	6	
144+30	RT	6	
145+20	RT	6	
148+40	RT	6	
149+00	RT	6	
149+90	RT	6	
150+40	RT	6	
151+20	RT	6	
151+50	RT	6	
151+10	LT	6	
151+80	RT	6	
151+90	LT	6	
152+10	RT	6	
152+20	LT	6	
152+40	RT	6	
152+50	LT	6	
152+80	LT	6	
153+00	RT	6	
153+10	RT	6	
153+40	LT	6	
159+70	RT	6	
160+90	RT	6	
162+10	RT	6	
162+90	RT	6	
164+10	LT	6	
164+50	RT	6	
164+80	RT	6	
166+00	RT	6	
166+90	RT	6	
167+50	RT	6	
168+10	RT	6	
170+90	RT	3	V-Ditch
171+50	RT	3	V-Ditch
173+90	RT	6	
174+50	RT	6	
175+10	RT	6	
175+70	RT	6	
179+60	RT	6	
180+20	RT	6	
182+00	RT	6	
182+30	RT	6	
182+60	RT	6	
182+90	RT	6	
184+30	RT	6	
186+50	RT	6	

TABULATION OF SILT FENCES FOR DITCH CHECKS

100-18
09-27-94

LOCATION STATION	SIDE	m	REMARKS
Ramp A			
5154+50	LT	6	
5154+80	LT	6	
5155+10	LT	6	
5155+40	LT	6	
5156+50	RT	6	
5157+20	RT	6	
5157+70	RT	6	
Ramp B			
6154+00	RT	6	
6157+30	RT	6	
6157+40	LT	6	
Loop C			
7155+10	RT	6	
7155+80	LT	6	
7156+20	RT	6	
Ramp D			
8158+80	RT	6	
8158+90	LT	6	
8159+20	LT	6	
Dubuque-130th Street			
1173+90	LT	6	
Iowa Highway 64			
2156+40	LT	6	
2157+00	LT	6	
2157+10	RT	6	
2158+00	RT	6	
2158+90	RT	6	
2159+90	RT	6	
2158+80	LT	6	
Shaw Road			
3136+70	RT	6	
3136+70	LT	6	
Total		444	

TABULATION OF TEMPORARY FLOODLIGHTING LUMINAIRES

108-27
04-30-96

NO.	LOCATION STATION	TYPE	NUMBER LUMIN.	REMARKS
RAMP	'A'			
	5154+00	Offset	1	Traffic Control, See Sheet J.07
MAINLINE				
	151+80	Offset	1	Haul Road, See Tab. 108-28
	152+20	Offset	1	Haul Road, See Tab. 108-28
	164+34	Offset	1	Traffic Control, See Sheet J.04
IA -	64			
	2156+50	Offset	1	Haul Road, See Tab. 108-28
	2156+90	Offset	1	Haul Road, See Tab. 108-28
		TOTAL	6	

TABULATION OF ELECTRICAL DUCTS

108-2
09-27-94

LOCATION	CONDUIT TYPE	DIA. mm	LENGTH m	REMARKS
Ia.-64				
Sta. 2156+47	Plastic	50.8	32.20	ACROSS LT HALF HWY 64
Sta. 2159+30	Plastic	50.8	36.60	18.3 m LT OF CL
Sta. 2159+60	Plastic	50.8	38.40	15.2 m LT OF CL HWY 64
Ramp A				
Sta. 5158+07.4	Plastic	50.8	28	UNDER RAMP A
Ramp B				
Sta. 6157+49	Plastic	50.8	39.60	
Ramp D				
Sta. 8158+23	Plastic	50.8	26	ACROSS RAMP D
Chamber Drive				
Lt. 19.8 From	Plastic	50.8	27.40	19.8 m RT OF CL HWY 64
Ia.-64 CL				WEST END CONDUIT @
STA. 3159+60				STA. 2159+30
		Total =	228.20	

TABULATION OF TEMPORARY TRAFFIC SIGNALS

108-28
04-30-96

NO.	LOCATION STATION	NUMBER SET-UPS	TYPE One Lane Traffic	TYPE Haul Road	TYPE Intersection	REMARKS
IA -	64					
	2156+70	1		1		SEE RS-16
HWY.	151					
	152+00	1		1		SEE RS-16

LIST OF INTAKES AND UTILITY ACCESSES

104-5A
09-27-94

NUMBER	LOCATION	TYPE OR STANDARD ROAD PLAN	FORM GRADE Elev.	BOTTOM WELL Elev.	NOTE
IOWA HIGHWAY 64					TIED LAST 3 JOINTS OF STORM
100	2157+23.9 Lt. 10.5 m	RA-40	247.481	244.500	SEWER PIPE (TYPE 3 RF-14)
101	2157+50 Lt. 10.5 m	RA-40	247.508	245.000	
	160+58				

LIST OF STORM SEWER PIPE

104-5B
09-27-94

LINE NUMBER	LOCATION From	LOCATION To	CLASS "D"	PIPE DIAMETER mm	LENGTH OF LINE m	SLOPE %	FLOW LINES INLET Elevation	FLOW LINES OUTLET Elevation	FLOW LINES OTHER Elevation	GRANULAR BACKFILL Mg	PIPE PROFILE SHEET NO.	NOTE
P-100	RF-3 Apron	100	1000	375	25.1	1.20%	244.560	244.260				RF-3 Apron @ Sta. 2157+00, Lt. 25.4 m.
P-101	101	100	1000	375	24.9	1.81%	245.050	244.600				
		TOTAL			50.0							
				750	2.44							INCREASED CITY STORM SEWER LINE

PROPOSED SUBGRADE TREATMENT

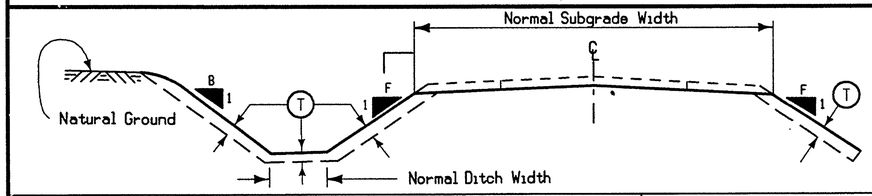
103-3
09-27-94

(For Additional Details see Soils Survey Sheet No. to .)

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	135+48 to 143+50	N.B.	0.6	9.2	Loam - Clay Loam F+15%	5906			66250	Borrow "A"	Includes Crossover and Storage Lanes
										(151+00 - 153+00)	
2	143+50 to 151+00	N.B.	0.6	9.2	Loam - Clay Loam F+15%	4761				(151+00 - 153+00)	
3	151+00 to 157+41	N.B.	0.6	Vari.	Loam - Clay Loam F+15%	5478				(151+00 - 153+00)	Includes Ramp and Loop Tapers
4	158+38 to 166+00	N.B.	Vari.	Vari.	Loam - Clay Loam F+15%	6102			192750	Borrow "B"	Includes Collector Lane
										(161+75 - 164+50)	
5A	166+00 to 172+90	N.B.	Vari.	9.2	Loam - Clay Loam F+15%	4380				(161+75 - 164+50)	Includes Crossover and Storage Lanes
5B	172+90 to 173+50	N.B.	0.6	9.2	Loam - Clay Loam F+15%	2070				Borrow "B"	Includes Crossover and Storage Lanes
6	173+50 to 181+00	N.B.	0.6	9.2	Loam - Clay Loam F+15%	5334				(161+75 - 164+50)	Includes Crossover and Storage Lanes
7	181+00 to 187+25	N.B.	0.6	9.2	Loam - Clay Loam F+15%	3968				(161+75 - 164+50)	
8	150+00 to 157+41	S.B.	0.6	Vari.	Loam - Clay Loam F+15%	4644				Borrow "A"	
9	158+38 to 164+00	S.B.	0.6	Vari.	Loam - Clay Loam F+15%	4429				Borrow "B"	
					SUBTOTAL =	47,735.9					
10	5154+38 To 5155+00		Vari.	Vari.	Loam - Clay Loam F+15%	1915				Borrow "A"	Includes Return to IA 64
11	6152+92 to 6157+60		0.6	Vari.	Loam - Clay Loam F+15%	2754				Borrow "A"	Includes Return to IA 64
12	7154+94 to 7156+55		0.6	7.5	Loam - Clay Loam F+15%	833				Borrow "A"	
13	8158+13 to 8162+05		0.6	Vari.	Loam - Clay Loam F+15%	495				Borrow "B"	Includes Return to IA 64
14	2156+25 to 2159+00		0.3	16.4	Special Backfill Art. 4132		3035				
					SUBTOTAL =	5997.0					
					TOTAL :	53,732.90					

TABULATION OF SPREADING TOPSOIL

103-4
10-27-98



NOTE:

This work shall be done in accordance with current specifications for "Stripping, Salvaging, and Spreading Topsoil". Prior to placing of topsoil on any cohesive soil, the area to be covered shall be scarified to a minimum depth of 75 mm.

Appropriate adjustments have been made in the template quantities to reflect the placement of topsoil on foreslope, backslope and ditch bottom as detailed hereon.

AREA No.	QUANTITY m^3 (1)	PLACEMENT DESCRIPTION LOCATION Station to Station		SIDE L or R	SLOPE B or F	T mm	TOPSOIL EXCAVATION AVAILABLE FROM Station to Station	REMARKS
	1096.2	136+50	138+50	R	BOTH	200	Mainline as indicated on T-sheets.	
	11667.6	141+00	156+00	R	F	200		
	9424.8	156+00	164+50	BOTH	BOTH	200		
	432.6	168+00	169+00	R	BOTH	200		
	152.6	172+00	172+50	R	BOTH	200		
		Ramp A						
	1675.8	5154+30	5158+00	BOTH	F	200	Ramp A	
		Ramp B						
	1366.4	6153+10	6157+61	BOTH	F	200	Ramp B	
		Loop C						
	333.2	7155+00	7156+55	BOTH	F	200	Loop C	
		Ramp D						
	1594.6	6158+13	6161+89	BOTH	F	200	Ramp A/ Ramp D Mainline	
		IA 64						
	2380	2156+25	2161+15	BOTH	F	200	Ramp B/ Loop C	

(1) Includes 40% shrink
30, 124m^3

EMBANKMENT WITH MOISTURE CONTROL

103-6
09-27-94

Moisture content shall be within the limits of minus ___ and plus ___ percentage points of optimum for maximum density within the area described and listed below.

LOCATION Station to Station	Lane	DEPTH m	COMPACT m^3	REMARKS
Note:				
Moisture control is required for all fill placed at a level of more than 8 meters below profile grade at any location. This does include backfill for culverts, including separate culvert contracts, but excludes stability berms beyond the normal foreslope template line. This shall include but not be limited to the following locations.				
144+00 to 144+50	1	Start 8 m below grade	5097.5	ML

SHRINKAGE DATA

103-7
09-27-94

COUNTY: DATE:
PROJECT:

STATION TO STATION	%	REMARKS
All ML cut	30%	
Borrow - "A" Previous "C"	30%	
Borrow - "B" Previous "D"	20%	
Limestone	0%	
Boulder Est. 500 cu. m		

ROBERT L. STANLEY 8468 LICENSED PROFESSIONAL ENGINEER 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.

Robert Stanley 11-1-99
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.07, Q.01-Q.13

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	
1	US 151	145+94	148+20	RT	1.8			100	231.0	145+94	19.E	113		.30 m BELOW DITCH BOTTOM
						100				148+20	19.E			
50	US 151	151+00	152+50	LT	1.1		165			151+00	E	68.6	0.9	ALONG RAMP TAPER
	SBL					100				152+50	E		0.9	
51	US 151	152+50	154+30	LT	1.1		196			152+50	E	81.1	0.9	ALONG RAMP TAPER
	SBL									154+30	E			
74	IA 64	2156+25	2156+90	RT	1.1	100	69			2156+25	E	45.6	0.9	
										2156+90				
75	IA 64	2156+90	2158+70	RT	1.1	100	198			[illegible]	E	68.6	0.9	
										2158+70				
76	IA 64	2158+70	2159+80	RT	1.1	100	126			2158+70	E	51.8	0.9	
										2159+80				
77	Ramp A	5154+30	5156+00	LT	1.1	100	185			5154+30	E	76.9	0.9	
										5156+00				
78	Ramp A	5156+00	5157+50	LT	1.1	100	164			5156+00	E	68.6	0.9	
										5157+50				
79	Ramp A	5157+50	5158+00	LT	1.1	100	65			5157+50	E	26.8	0.9	
80	Ramp A	5158+00	5158+25	LT	1.1	100	39			5158+00	E	16.3	0.9	Around Return
87	Ramp D	8158+22	8159+20	LT	1.1	100	115			8158+22	E	51.8	0.9	
										8159+20				
88	Ramp D	8159+20	8160+50	LT	1.1	100	145			8159+20	E	60.2	0.9	
										8160+50				
89	Ramp D	8160+50	8161+89	LT	1.1	100	155			8160+50	E	70.6	0.9	
										8161+89				
	Ramp B	6155+30	6156+35	RT				100	105.0	6155+30	19.E			(EXTRA) SOUTH OF SUPER 8 MOTEL
										6156+35	19.E			
	US 151	150+01	151+00	LT		100	110			150+01	E			CONTINUED TO EXITING S.B. LANES (EXTRA)
	SBL									151+00				

Tabulation of Tile Lines

Station To Staton	Type	Depth	Remarks
159+65	200 Plastic		Lt. foreslope, line from behind Walmart
160+86	100mm Plastic	1.12 m	Running NW
161+04	150mm Concrete	1.68 m	Running EW
161+09	75mm Clay	1.47 m	Running EW
161+09	200 mm Plastic		Lt. side, empty's into Fawn Creek
161+86	100 mm Clay	1.37 m	
162+51	75mm Clay	.91 m	Running SW
170+50 - 171+50	100mm Clay		
173+50 - 175+70	100mm		Found under pipe
181+89	200 Plastic		Rt. Ditch, tile line through NBL
186+00- 187+12			Found 2 lines
187+20	200 Plastic		Rt. Backslope, tile line out of old farmstead
2059+66	200 Plastic		Lt. Side HWY 64, tile line from Theisen's roof
2060+18	200 Plastic		Lt. Side HWY 64, tile line from Goodyear Store

Tabulation of of Rock Flumes and Ditches

X-22
10/29/1999

Type:
(1) Rip Rap
(2) Erosion Stone

Location	Width	Rock	Eng. Fabric	Type	Remarks
Mainline					
Sta. 135+07 - 135+25	4.6 m	86.15 mg	81.80 m2	1	Length = 17.80 m
Sta. 135+25 - 136+25	4.5 m	248.64 mg	450.0 m2	1	Length = 100.0 m (rt) broken concrete
Sta. 135+32		13.58 mg		2	Median
Sta. 135+35	3.5 m	110.25 mg	35.0 m2	1	Length = 10.0 m (top of backslope)
Sta. 136+25 - 137+10	6.0 m	217.56 mg	510.0 m2	1	Length = 85.0 m (rt) broken concrete
Sta. 136+30		13.58 mg		2	Median
Sta. 137+03 - 137+40	4.4 m	125.57 mg	162.80 m2	1	Length = 37.0 m (rt)
Sta. 138+02		13.58 mg		2	Median
Sta. 138+76		13.58 mg		2	Median
Sta. 139+50		13.58 mg		2	Median
Sta. 140+24		13.58 mg		2	Median
Sta. 141+00		13.58 mg		2	Median
Sta. 141+87		13.58 mg		2	Median
Sta. 142+48		13.58 mg		2	Median
Sta. 143+09		13.58 mg		2	Median
Sta. 143+40 - 143+65 (rt)	4.5 m	143.19 mg	113.40 m2	1	Length = 25.20 m
Sta. 143+67		13.58 mg		2	Median
Sta. 144+31		13.55 mg		2	Median
Sta. 151+00	4.6 m	40.97 mg	59.80 m2	1	Length = 13.0 m (rt) backslope
Sta. 151+31 - 151+83	5.1 m	82.22 mg	264.18 m2	1	Length = 51.80 m
Sta. 151+83 - 152+07	5.1 m	159.29 mg	122.40 m2	1	Length = 24.0 m
Sta. 152+07 - 152+65	5.1 m	223.56 mg	301.92 m2	1	Length = 59.20 m
Sta. 152+65 - 153+20	5.1 m	182.59 mg	280.50 m2	1	Length = 55.0 m
Sta. 157+65	5.1 m	12.50 mg	38.76 m2	1	Length = 7.60 m
Sta. 173+32 - 173+71 (rt)	4.5 m	199.91 mg	175.50 m2	1	Length = 39.0 m
Sta. 174+04		12.03 mg		2	Median
Sta. 174+32		12.04 mg		1	Median
Sta. 174+62		12.04 mg		1	Median
Sta. 174+92		12.04 mg		1	Median
Sta. 175+22		12.04 mg		1	Median
Sta. 175+52		12.04 mg		1	Median
Sta. 175+82		12.04 mg		1	Median
Sta. 176+12		12.00 mg		1	Median
Sta. 181+87 - 183+00	4.5	637.97 mg	508.50 m2	2	Length = 113.0 m
Entrance Ramp A					
Sta .5155+35 - 5156+13	5.10 m	300.73 mg	403.41 m2	1	Length = 79.10 m
Sta. 5156+00 - 5156+38	6.35 m	170.79 mg	242.57 m2	1	Length = 38.20 m
Sta. 5156+60 - 5156+83.6	8.20 m	90.68 mg	193.52 m2	1	Length = 23.60 m
Sta. 5157+74 - 5157+80	5.10 m	94.88 mg	93.33 m2	1	Length = 18.30 m
Sta. 5157+90 - 5158+10.7	5.60 m	37.47 mg	115.92 m2	1	Length = 20.70 m
Exit Ramp D					
Sta. 8161+81 - 8161+90	16.20 m	x	145.80 m2	x	Length = 9.00 m
Exit Ramp B					
Sta. 6155+90	5.80 m	53.79 mg	60.32 m2	2	Length = 10.40 m
Sta. 6155+90.	7.35 m	136.54 mg	105.15 m2	1	Length = 14.30 m
Sta. 6155+90	6.90 m	48.78 mg	80.40 m2	1	Length = 11.60 m
Iowa HWY 64					
Sta. 2156+83 - 2157+02	4.50 m	66.33 mg	85.50 m2	1	Length = 19.0 m
Sta. 2158+52	4.50 m	27.40 mg	34.20 m2	1	Length = 7.60 m (Flume)
Sta. 2160 +57	3.50 m	11.29 mg	23.45 m2	2	Length = 6.70 m

dgn = I:\work\project\3412U\caddveast\b3ib1U03.c04
prf = \\WATSO1\DATA\PL01\PL463P\c07.prf
date = Fri Oct 29 09:16:28 1999
levels = 1-4,6-11,15-19,26-30,32-40,42-45,50-53,60-63
pen table = I:\plot\tables\ia1wt.tbl

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	C.07 22/90

DRAINAGE STRUCTURES BY CULVERT CONTRACTOR

104-4
04-30-96

LOCATION	DESIGN NUMBER	SIZE m	KIND	LENGTH NEW CONST. m	NO. OF APRONS	FLOW LINE ELEVATION				DIMENSIONS - m				SKEW AHEAD Degrees		BY ROAD CONTRACTOR DIKE				COMP. BACKFILL m^3	REMARKS
										Total		Extensions				Rt. / Lt.	LOCATION STATION	TOP ELEV.	TYPE		
						Left	Right	Other	Other	Left	Right	Left	Right	Left	Right						
143+97.1	1198	0.9 X 0.9	RCB Ext. w/ Flume	95.1		261.96	251.50	255.67	250.00		137.90		95.1	15						⌀	Remove Existing Flume and Extend Rt.
153+54.3	1398	0.9 X 0.9	RCB Ext. Lt./Rt.	74.2		242.80	251.80	241.30 243.08	250.50	67.90	84.31	15.8	58.4	30						⌀	Remove Exist. Flume Lt. and Extend Lt. and Rt.
164+07.9	1698	3.6 X 3.6	RCB Ext. Lt./Rt.	46.8		244.20	244.80	244.24	244.40	16.73	46.93	8.3	38.5		30					⌀	Extend Left and Right.
186+03.92	1798	0.9 X 0.9	RCB Ext. w/ Flume	34.7		273.22	270.85	271.70	269.37		59.90		34.7		10					⌀	Remove Existing Flume and Extend Rt.
																		TOTAL		⌀	ITEM NOT USED

TABULATION OF GRADING FOR GUARDRAIL INSTALLATIONS

107-23
04-27-99

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

② Refer to Standard Road Plans RL-12, RL-14, and Typicals 4303 or 4306.

LOCATION POINT				TYPE	DIMENSIONS ②				CLASS 10 EXCAV. (1)	EMBANK. IN PLACE	PIPE			REMARKS
No.	Direction ① of Traffic	Station	SIDE		(BY) m		(Z) m				Size	Type	Length	
					A	T	A	T	m^3	m^3	mm		m	
1		157+14.918	Med.	5					250					
2		158+65.835	Med.	5					250					
3	NB	157+54.100	Rt.	2	2.5		15.3		100					
4	SB	158+25.200	Lt.	2	2.5		15.3		100					
5		137+76.586	Med.	5					250					
(1) Quantity Added to Templates Quantities. See the T-Sheets for the Tabulation of Earthwork.														

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
MAINLINE			
135+32.717		1	Bridge Approach
137+62	2		Access Location
143+97.1		2	0.9 m x 0.9 m RCB Ext.
149+90	1		Stage 3
153+54.3		4	0.9 m x 0.9 m RCB Ext.
157+70	3		Stage 5
157+90.6		4	Bridge Approach
164+07.9		2	3.6 m x 3.6 m RCB Ext.
173+20		2	Break in Grading
186+03.9		2	0.9 m x 0.9 m RCB Ext.
IA. 64			
2156+25	1		Stage 2
2157+05	1		Stage 3
2157+00	1		Stage 6
ENT. RAMP 'A'			
5158+05	1		Stage 3
EXIT RAMP 'B'			
6157+50	1		Stage 6
EXIT RAMP 'D'			
8158+35	1		Stage 2
Subtotal	12	17	
Total		29	

TABULATION OF DETOUR PAVEMENT

X-1
06-03-99

LOCATION STATION	SHEET NO.	SPECIAL BACKFILL (Mg)	AREA (Sq. m)
2156+02 To 2157+22	J.03	37.3	379.93
2156+90 To 2157+05		37.3	157.85
		41.7	
8161+89 To 164+41	J.04	217.2	1587.99 (1)
2156+88 To 2158+18	J.05		332.41
2158+36 To 2160+50		330.4	853.82
2161+38 To 2162+04		43.3	73.99
148+12 To 155+59	F - SHEETS	2197.9	4915.34
	TOTALS	2905.2	8300.33

(1) PAVEMENT WILL NOT BE REMOVED UNDER THIS CONTRACT.

dgn = I:\work\project\3412U\cadd\east\b31b1063.cd4
prf = \\WATSO1\DATA\PLOT\PL463P\c08.prf
date = Fri Oct 29 08:55:39 1999
pen table = I:\plot_tables\halfwt.tbl
levels = 1-4,6-11,15-19,26-30,32-40,42-45,50-53,60-63

TABULATION OF PAVED SHOULDERS

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

112-9
10-28-97

No.	① Direction of Traffic	LOCATION Station to Station		Side	(L) m	STANDARD ROAD PLAN AND/OR DETAIL DRAWING	(E) or (W) WIDTH m	SHOULDER AREA m²	REMARKS
Mainline									
	SB	161+89	163+05	LT	116	RH-41B	2.4	278.40	
	SB	153+50	154+30	LT	80	RH-41B	1.8	144.00	
Ramp A									
	SB	5154+30	5158+20	LT	431	RH-41B	1.8	776.16	
	SB	5154+30	5158+10	RT	409	RH-41B	1.2	490.92	
Ramp B									
	NB	6153+10	6157+40	RT	59	RH-41B	1.8	106.38	
	NB	6152+95	6156+60	LT	54	RH-41B	1.8	96.66	
Ramp D									
	SB	8158+12	8161+89	LT	429	RH-41B	1.8	773.10	
	SB	8158+10	8161+89	RT	377	RH-41B	1.2	451.80	
Iowa Highway 64									
	WB	2156+89	2159+26	LT	237	7129	3	782.10	
							TOTAL	3684.68	

Removal of Pavement

110-1
4/27/1999

* Not a Bid Item

Station To Station	Pavement Type	Area M2	Saw * Cut	Remarks
Mainline				
148+95 - 149+20.4				
149+99 - 162+00	AC	78.74		Asphalt fillet
148+12 - 155+59	AC	13,500.54		Existing Lanes
157+86 - 158+11	AC	4,915.34		Detour Pavement
Iowa HWY 64	AC	230.48		Existing Lanes
2156+23 -2157+07				
2156+02 - 2157+22	AC	1,324.30		Mainline EB
2156+90 - 2157+05	AC	272		Detour Pavement (South Side)
2157+07 - 2157+52	AC	157.85		Detour Pavement
2157+86 - 2158+86	AC	2,220.33		Mainline and radius
2157+86 - 2158+44	AC	966.60		Mainline and radius
2158+86 - 2159+60	AC	949.72		Mainline and radius
2156+88 - 2158+18	AC	647.68		Mainline
2158+36 - 2160+05	AC	332.41		Detour Pavement (rt)
2160+61	AC	851.32		Detour Pavement (rt)
2160+64	AC	246.56		Grantwood Drive
Entrance Ramp C	AC	216.87		Super 8 Motel and City Limits
7156+10				
	AC	735.45		Old Highway 64
Chamber Drive				
3159+41				
	AC	418.58		Walmart
Totals:		**28,064.77**		

TABULATION OF CULVERT ABANDONMENT

*Not a bid item.

110-9
07-15-97

LOCATION STATION	DESCRIPTION	FILL MATERIAL FLOWABLE MORTAR m³	FILL MATERIAL GRANULAR BACKFILL Mg	100 mm PERFORATED SUBDRAIN * m	REMARKS
149+44	0.6 m x 0.9 m x 88.4 m RCP	33.11			
	TOTAL	33.11			
7155+50	0.6m x 0.9m x 17.7m RCP				OLD HWY 64 (CONTRACT MOD.)

REMOVE or REMOVE & REINSTALL CABLE GUARDRAIL

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

110-7B
01-12-99

No.	① Direction of Traffic	LOCATION Station to Station		Side	CABLE REMOVE m	CABLE REMOVE & REINSTALL m	POSTS REMOVE No.	POSTS REMOVE & REINSTALL No.	END ANCHORAGE REMOVE No.	END ANCHORAGE REMOVE & REINSTALL No.	END ANCHORAGE TYPE	REMARKS
1	NB	163+43.6	164+58.3	RT	114.30		65		4			
1	SB	163+32.6	164+62.8	LT	128.50		73		4			
			TOTAL		242.80		138		8			

REMOVAL OF EXISTING STRUCTURES

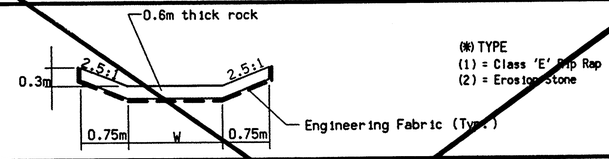
110-2
09-27-94

LOCATION	DESCRIPTION	DISPOSAL
Sta. 157+73 Rt.	Intake	213-1
Sta. 158+14 Lt.	Intake	213-1
Sta. 2158+10	INTAKE	213-1
Sta. 2158+10 LT	INTAKE	213-1

TABULATION OF ROCK FLUMES AND DITCHES

SEE C-07

X-2
10-29-99



LOCATION	W (m)	ROCK (Mg)	ENG. FABRIC (Sq. m)	TYPE (*)	REMARKS
MAINLINE					
143+80 Rt.	3	99.6	109.7	(1)	Flume along backslope Length = 20.9 m
150+30 Rt.	3	115.3	126.5	(1)	Flume along backslope Length = 24.2 m
151+20 to 152+25 Rt.	3	500.4	538.6	(1)	Length = 105 m
152+65 to 152+95 Rt.	3	143.0	156.1	(1)	Length = 30 m
163+91 to 164+25 Lt.	3	162.0	176.5	(1)	Length = 33.8 m
181+87 to 183+00 Rt.	3	538.5	579.4	(1)	Length = 113 m
RAMP A					
5154+30 to 5155+60 Lt	3	619.5	666.1	(1)	Length = 130.4 m
RAMP D					
8159+00 to 8159+30 Lt	3	143.0	156.1	(1)	Length = 30 m
TOTALS		2321.3	2509.0		

Added by Addendum

TABULATION OF EXISTING PAVEMENT

102-5
09-27-94

NO.	LOCATION	EXISTING PAVEMENT Type	COARSE AGGREGATE TYPE GRAVEL	COARSE AGGREGATE TYPE CRUSHED STONE	COARSE AGGREGATE 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	X		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	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		

dgn = I:\work\project\3412\U\cadd\east\53tb1063.c04 levels = 1-4,6-11,15-19,26-30,32-40,42-45,50-53,60-63
prf = \\WATSOI\DATA\PLOT\PL463P\c09.prf pen table = I:\plot\tables\halfwt.tbl
date = Fri Oct 29 15:44:32 1999

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
STAGE 2																			
IOWA HIGHWAY 64																			
	2154+70	2156+25	X							155									Place Removable Tape Marking
	2155+10	2156+25		X					115										Place Removable Tape Marking
	2156+25	2157+20		X					95										
	2156+25	2157+65	X							140									
	2156+00	2156+85	X							85									
STAGE 3																			
IOWA HIGHWAY 64																			
	2155+60	2156+25	X						65										Place Removable Tape Marking
	2154+70	2156+25	X							155									Remove Removable Tape Marking
	2155+10	2156+25		X					115										Remove Removable Tape Marking
	2155+62	2156+25		X						63									Place Removable Tape Marking
	2157+20	2157+65																	Place Removable Tape Marking
	2156+25	2157+20		X						95									
	2157+20	2157+65		X						45									Place Removable Tape Marking
	2155+60	2156+25		X						65									
STAGE 4																			
MAINLINE																			
	166+50	170+40	CL				390												
	166+50	170+40	CL		390														
	163+60	170+40	CL			680													Pavement Marking Removed
	162+00	166+50		X					450										
	162+05	166+50	X						445										
	162+05	166+50	CL			445													
ON-SITE DETOUR 'C'																			
	8148+00	8156+95	X						1025										
	8149+65	8155+25		X					560										
	8148+00	8155+70	CL			770													
	8155+25	8156+53		X					128										Place Removable Tape Marking
	8155+70	8156+53	CL			83													Place Removable Tape Marking
	8158+13	8162+05	X						392										
	8158+13	8162+05		X					392										
	8158+13	8162+05	CL			392													
ENTRANCE RAMP 'A'																			
	5156+53	5158+15	CL			162													
	5156+53	5158+15		X					162										
	5156+95	5158+15	X						120										
	5158+08			X											22				
IOWA HIGHWAY 64																			
	2156+60			X											7				
	2156+85		X												4				
EXIT RAMP 'D'																			
	8158+20		X												12				
STAGE 5																			
IOWA HIGHWAY 64																			
	2155+60	2156+25	X						65										Remove Removable Tape Marking
	2155+62	2156+25		X						63									Remove Removable Tape Marking
	2157+20	2157+65																	Remove Removable Tape Marking
	2157+20	2157+65		X						45									Remove Removable Tape Marking
	2156+90	2160+50		X					360										
	2156+90	2160+50	X						360										
	2156+90	2160+50	CL							360									

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Jones COUNTY | PROJECT NUMBER NHSX-151-4(63)--3H-53 | SHEET NUMBER C.10

Revised 02-14-00

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
CHAMBER DRIVE			CL		25														
STAGE 6																			
IOWA HIGHWAY 64																			
	2154+30	2156+50	CL						220										Place Removable Tape Marking
	2154+30	2156+50	X						220										Place Removable Tape Marking
	2156+50														4				
	2156+90	2159+25	X						235										
	2156+90	2159+25	CL							235									
	2156+90	2159+60		X					270										
	2159+60	2161+84	X						224										Pavement Marking Removed
	2159+60	2161+84	CL			224													Pavement Marking Removed
	2159+60	2161+84	X						224										Place Removable Tape Marking
	2159+60	2161+84	CL							224									Place Removable Tape Marking
	2159+60	2160+55		X					95										
	2156+90		X												4				
STAGE 7																			
IOWA HIGHWAY 64																			
	2156+00	2156+60		X				0	0					60					
	2156+00	2156+60		X				1.00	1.00					60					
	2154+30	2156+50	CL					0	0										Remove Removable Tape Marking
	2154+30	2156+50	X																Remove Removable Tape Marking
	2159+60	2161+84	X																Remove Removable Tape Marking
	2159+60	2161+84	CL							224									Remove Removable Tape Marking
	2159+60	2160+55		X				0	0										Pavement Marking Removed
	2156+90	2159+25	X					1.00	1.00										Pavement Marking Removed
	2156+90	2159+25	CL					0	0	235									Pavement Marking Removed
	2156+90	2159+60		X					270										Pavement Marking Removed
	2156+00	2156+55	X						55										
	2155+97	2156+70	CL											73					
	2155+97	2156+70	CL											73					
	2155+97	2156+70	CL											28					
	2156+30	2156+60		X					60										
	2156+90	2159+20	X						230										
	2157+00	2159+20	CL					220											
	2157+00	2157+97	CL									97							
	2157+00	2159+20	CL											220					
	2158+33	2159+20	CL									87							
	2157+00	2159+15		X					215										
	2159+60	2159+94	CL									34							
	2159+60	2160+55	CL											95					
	2160+27	2160+55	CL									28							
	2159+60	2160+50	CL					90											
	2159+80	2160+45	X						65										
	2159+75	2160+40		X					65										
	2160+82	2161+60	X						78										
	2160+82	2161+60		X					78										
	2160+72	2161+04	CL									32							
	2160+72	2161+04	CL									32							
	2160+72	2161+60	CL											88					
	2161+04	2161+60	CL											56					
															20				

dgn = I:\WURK\project\3412U\cadd\east\53151063.c10 levels = 1-63
prf = \\WAT501\DATA\PL463P\c11.prf pen table = ..\plot\tables\halfwt.tbl
date = Tue Feb 22 14:27:09 2000

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
	Marking Length Subtotal			415	1769	390	310	5807	980	0	310	0	753	73	0	0	0	
	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	1.00	1.00	
	Pavement Marking Total			103.75	3538	390	77.5	5807	980	0	310	0	1506	438	0	0	0	
	TOTAL PAINTED PAVEMENT MARKINGS			13150.25														
	Removable Tape Marking Subtotal			0	83	0	0	972	487	0	0	0	0	0	0	0	0	
	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	1.00	1.00	
	Pavement Marking Total			0	166	0	0	972	487	0	0	0	0	0	0	0	0	
	TOTAL REMOVABLE TAPE MARKINGS			1625														
	Pavement Markings Removed Subtotal			0	904	0	0	495	235	0	0	0	0	0	0	0	0	
	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	1.00	1.00	
	Pavement Marking Total			0	1808	0	0	495	235	0	0	0	0	0	0	0	0	
	TOTAL PAVEMENT MARKINGS REMOVED			2538														
	Removable Markings Removed Subtotal			0	0	0	0	180	487	0	0	0	0	0	0	0	0	
	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	1.00	1.00	
	Pavement Marking Total			0	0	0	0	180	487	0	0	0	0	0	0	0	0	
	TOTAL REMOVABLE MARKINGS REMOVED			667														

dgn = I:\WORK\project\3412U\cadd\east\53151063.c10 levels = 1-63
prf = \\WATS01\DATA\PLOT\PL463P\c12.prf pen table = I:\plot\tables\halfwt.tbl
date = Tue Feb 22 14:27:23 2000

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.

dgn = I:\work\project\3412U\cadd\east\3151063.c13 levels = 1-19,21-45,47-52,60-63
prf = \\WATSOI\DATA\PLOTNPL463P\c13.prf pen table = I:\plot\tables\halfwt.tbl
date = Fri Oct 29 15:44:50 1999

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

104-3
12-03-96

* Not a bid item

LOCATION	TYPE	SIZE mm	KIND OF PIPE	LENGTH NEW CONST. m	BEDDING CLASS	DESIGN COVER (H)	m CAMBER	APRON NO. Inlet	APRON NO. Outlet	ADAPTORS* RF-2 Type	ADAPTORS* RF-2 No.	CONNECTED PIPE JOINT* RF-14 Type	CONNECTED PIPE JOINT* RF-14 No.	FLOW LINE ELEVATIONS Lt.	FLOW LINE ELEVATIONS Rt.	FLOW LINE ELEVATIONS Other	DIMENSIONS m Total Lt.	DIMENSIONS m Total Rt.	DIMENSIONS m Extensions Lt.	DIMENSIONS m Extensions Rt.	SKEW AHEAD Degrees Lt.	SKEW AHEAD Degrees Rt.	DIKE Lt./Rt.	DIKE Location Station	DIKE Top Elevation	DIKE Type	CLASS 20 m3	EMBANK-MENT IN PLACE m3	REMARKS
136+25 NBL	1501 Med.	600	100D	17.64	C	0.8		1				3	6	239.800	239.599		9.89	21.80									16		Apron guard on inlet end.
			PEP	10.61					1	C-3	1			239.599	237.035	237.075												Use two 18° PEP elbows. A=17.64,
																												B=7.94, C=0.61, E=2.06, Q=1.98
137+90 NBL	1101 Med.	600	100D	24.38	C	1.1		1	1			3	6	241.978	241.030		11.88	16.24									20		Apron guard on inlet end.
139+95 NBL	1401 Side	450	PEP	27.28	C	1.1		1	1					250.554	245.000	245.072		34.05				21	Rt.	139+93	250.950	F			Use one 11° PEP elbow and two Type
																													A diaphragms. F.L. Lt.=29.8 m Rt.
																													and F.L. Rt.=42.5 m Rt. Dike is
																													30.6 m Rt., 1.5 m wide, inlet
																													slope=6:1, and outlet slope=5.5:1.
																													A=5.22, B=25.37, Q=2.01
141+50 NBL	1501 Med.	600	100D	20.08	C	0.8		1				3	6	256.661	256.435		9.51	31.77					Med.	141+37	257.300	M	3		Apron guard on inlet end.
			PEP	18.16					1	C-3	1			256.435	251.477	251.517												Use two 18° PEP elbows. A=20.08,
																													B=15.49, C=0.61, E=2.06, Q=1.98
																													Subgrade superelevation=7.31%
143+24.0	1305	600	175D	26.84	C	5.9				C-1	1	3	13	262.491ex	259.411	259.624ex		88.16		81.61		11 Ext.					881		Remove flume. Use one 4° RCP
			PEP	59.49					1	C-3	1			259.411	251.500	251.583												elbow, one 11° RCP elbow, and
																													two 8° PEP elbows. Place 11° bend
																													at 23.6 offset from O.R. A=20.73,
																													B=52.58, C=0.61, E=6.30, Q=1.98
144+15 NBL	1401 Side	750	PEP	101.07	C	1.6		1	1					261.700	251.500	251.680		105.03				18	Rt.	144+11	262.600	F			Use one 6° PEP elbow and two Type
																													A diaphragms. F.L. Lt.=57.4 m Rt.
																													and F.L. Rt.=89.5 m Rt. Dike is
																													58.7 m Rt., 1.6 m wide, inlet
																													slope=6:1, and outlet slope=9.5:1.
																													A=15.17, B=84.80, Q=2.82
145+11.1 NBL	1201 Med.	600	150D	65.23	C	4.1		1	1			3	37	271.233	264.093	264.257	11.54	57.41				31	Rt.	145+36	265.250	M	0		Apron guard on inlet end.
																													Use one 7° RCP elbow. F=16.41 m
																													Build dike at 56.9 m Rt. for cover.
147+80 NBL	1101 Med.	600	100D	20.12	C	0.8		1	1			3	6	274.194	273.994		10.02	13.83									38		Apron guard on inlet end. Flatten
																													foreslope per Typical 4304.
150+58.6	1302	900	100D	28.65	C	1.6		1		C-2	1	3	17	255.515ex	265.250	262.445ex		37.18		31.09		12 Ext.					29.5		Remove inlet apron and top of
																													headwall. Use one 12° RCP elbow.
																													Steepen foreslope to tie in to
																													existing RCB outlet. REMOVED FLUME
151+00 NBL	1101 Med.	600	100D	23.16	C	1.1		1	1			3	6	266.65	265.526		10.05	16.85					Med.	151+11	267.300	M	91		Apron guard on inlet end.
153+15 NBL	1401 Side	750	PEP	84.07	C	1.8		1	1					251.75	242.850	242.967		87.96				15	Lt.	153+22	253.000	F			Use one 6° PEP elbow and two Type
																													A diaphragms. F.L. Lt.=55.8 m Lt.
																													and F.L. Rt.=78.3 m Lt. Dike is
																													57.6 m Lt., 8.3 m wide, inlet
																													slope=2.5:1, and outlet slope=8:1.
																													A=9.70, B=74.36, Q=1.95
155+35 NBL	1101 Med.	600	100D	20.73	C	0.9		1	1			3	6	255.408	254.825		9.99	14.47									85		Apron guard on inlet end.
156+90 NBL	1501 Med.	600	100D	24.34	C	0.7		1				3	6	255.221	254.953		9.51	37.33									87		Apron guard on inlet end.
			PEP	19.51					1	C-3	1			254.953	249.588	249.629												Depressed inlet=0.01 m
																													Use two 18° PEP elbows. A=24.34,
																													B=16.77, C=0.61, E=2.14, Q=1.98
157+65.4	1101	1050	175D	112.20	C	6.2		1	1			3	63	243.000	246.500		61.50	55.55			10						1157		
161+85.7	1301-X	1050	100D	52.43	C	2.4				C-1	2	3	30	244.800	246.100	245.798ex	47.98	31.54	21.95	35.36							56		Remove and reinstall both aprons.
																245.235ex												

* Not a bid item

dgn = I:\work\project\3412U\cadd\east\b31b1063.c14
prf = \\WATSO1\DATA\PLOT\PL463P\c14.prf
date = Fri Oct 29 15:45:00 1999
pen table = I:\plot\tables\halfwt.tbl
levels = 1-3,6-11,15-19,26-30,32-40,42-45,50-53,60-63

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

104-3
12-03-96

* 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	ADAPTORS* RF-2 No.	CONNECTED PIPE JOINT* RF-14 Type	CONNECTED PIPE JOINT* RF-14 No.	FLOW LINE ELEVATIONS Lt.	FLOW LINE ELEVATIONS Rt.	FLOW LINE ELEVATIONS Other	DIMENSIONS m Total Lt.	DIMENSIONS m Total Rt.	DIMENSIONS m Extensions Lt.	DIMENSIONS m Extensions Rt.	SKEW AHEAD Degrees Lt.	SKEW AHEAD Degrees Rt.	DIKE Rt. / Lt.	DIKE Location Station	DIKE Top Elevation	DIKE Type	CLASS 20 m³	EMBANK-MENT IN PLACE m³	REMARKS
161+90 NBL	1501 Med.	600	100D	17.64	C	0.8		1				3	6	247.781	247.580		9.89	18.48									10		Apron guard on inlet end.
			PEP	7.11					1	C-3	1			247.58	246.123	246.163												Use two 18° PEP elbows. A=17.64,
																												B=4.46, C=0.61, E=2.04, Q=1.98
164+50 NBL (NEW LINE)	1501 MED	600	100 D	28.59	C	0.8		1	1	C-1																47		USE ONE 11° RCP ELBOW (NEW LINE)
166+40 NBL	1501 Med.	600	100D	17.64	C	0.8		1				3	6	249.736	249.535		9.89	18.50					Med.	166+30	250.400	M	10		Apron guard on inlet end.
			PEP	7.13					1	C-3	1			249.535	248.073	248.113												Use two 18° PEP elbows. A=17.64,
																												B=4.47, C=0.61, E=2.05, Q=1.98
170+60 NBL	1501 Med.	600	100D	17.64	C	0.8		1				3	6	258.419	258.218		9.89	21.52					Med.	170+50	259.100	M	0		Apron guard on inlet end.
			PEP	10.32					1	C-3	1			255+218	255.750	255.791												Use two 18° PEP elbows. A=17.64,
																												B=7.64, C=0.61, E=2.07, Q=1.98
170+69.9	1301-X	600	100D	37.19	C	2.6		1		C-1	1	3	22	257.747ex	255.650	256.712ex	2.76	36.29		39.05							198		Clean silted outlet.
																												Remove and reinstall outlet apron.
173+45 NBL	1501 Med.	600	100D	17.64	C	0.8		1				3	6	264.313	264.112		12.08	24.05									1		Apron guard on inlet end.
			PEP	15.29					1	C-3	1			264.112	260.075	260.116												Use two 18° PEP elbows. A=17.64,
																												B=12.58, C=0.61, E=2.10, Q=1.98
																												Subgrade superelevation=6.50%
173+76.5	1301-X	600	100D	42.06	C	4.8		1		C-1	1	3	24	263.581ex	260.679	261.147ex	4.72	39.21		43.93		10					46		Remove and reinstall outlet apron.
																												Use one 4° RCP elbow.
																												Subgrade superelevation=6.50%
177+35 NBL	1501 Med.	600	100D	17.03	C	0.8		1				3	6	272.378	272.183		9.90	23.75									0		Apron guard on inlet end.
			PEP	13.31					1	C-3	1			272.183	268.824	268.866												Use two 18° PEP elbows. A=17.03,
																												B=10.44, C=0.61, E=2.26, Q=1.98
																												Subgrade superelevation=2.07%
180+43.8	1301	750	100D	39.01	C	3.2			1	C-1	1	3	23	277.674ex	272.450	275.916ex		41.98		40.89							1		
181+00.5 NBL	1501 Med.	600	100D	23.73	C	0.8		1				3	6	277.582	277.320		13.69	23.97				24					0		Apron guard on inlet end.
			PEP	10.46					1	C-3	1			277.32	274.818	274.854												Use two 17° PEP elbows. A=23.73,
																												B=8.19, C=0.61, E=1.66, Q=1.98
																												Depressed inlet=0.01 m
181+82.6	1305	600	175D	32.31	C	6.3		1		C-1	1	3	19	274.731ex	271.837	272.166ex		53.25		44.95		22 Ext.					78		Use one 22° RCP elbow and
			PEP	11.08					1	C-3	1			271.837	269.250	269.294												two 18° PEP elbows. A=32.31,
																												B=8.01, C=0.61, E=2.46, Q=1.98
																												Existing skew is 23° Rt. Ahead.
182+35.6	1305	600	175D	40.84	C	6.6		1		C-1	1	3	24	275.152ex	271.575	271.990ex		70.35		55.82	4 Ext.						901		Use one 4° RCP elbow and
			PEP	13.29					1	C-3	1			271.575	269.250	269.306												two 14° PEP elbows. A=40.84,
																												B=9.04, C=0.61, E=3.64, Q=1.98
																												Existing skew is 4° Lt. Ahead.
184+09.8 NBL	1101 Med.	600	100D	24.99	C	1.3		1	1			3	6	278.134	277.198		11.69	17.03									12		Apron guard on inlet end. Vary SBL
																												median ditch foreslope to 3.6:1
																												and construct median ditch grade.
																												Shape to drain from existing RCP.
187+06.4	1305	600	150D	39.02	C	4.6		1		C-1	1	3	21	277.072ex	275.017	275.389ex		56.31		51.76	30						61		
			PEP	12.24					1	C-3	1			275.017	272.126	272.176												Use two 16° PEP elbows. A=36.58,
																												B=9.99, C=0.61, E=3.02, Q=1.98
Ramp A - IA Hwy. 64																											79		Subgrade superelevation=1.17%
5157+90.5	1101	1200	150D	48.80	C	4.8		1	1			3	28	241.000	242.500		26.46	27.19			21								at Sta. 5158+00.
Ramp B - IA Hwy. 64																													
6157+41.5	1101	600	100D	42.06	C	1.5		1	1			3	6	247.000	247.500		28.60	17.19			18						66		Subgrade superelevation=0.96%
Loop C - IA Hwy. 64																													Flatten foreslope per Typical 4304.
7155+45.0	1101	600	100D	23.77	C	1.0		1	1			3	6	251.700	251.525		17.10	10.41									154		Subgrade superelevation=8.00%
Ramp D - IA Hwy. 64																													
8158+37.0	1101	600	100D	43.61	C	3.8		1	1			3	23	242.050	244.050		21.90	20.84									97		
Iowa Highway 64																246.732ex												Remove and reinstall inlet
2158+66.2	1301	900	100D	12.16	C	1.2		1		C-1	2	3	8	247.100	246.600	246.672ex	23.14	20.29	9.89	4.74	29						10		and outlet aprons.
																													Subgrade superelevation=3.00%

dgn = I:\work\project\34120\caddveast\3315063.c14
pcf = \\WATSD1\DATA\PLOT\PL463P\c15.prf
date = Fri Oct 29 15:45:20 1999
pen table = I:\plot\tables_half_ft.tbl
levels = 1-3,6-11,15-19,26-30,32-40,42-45,50-53,60-63

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

104-3
12-03-96

* 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	ADAPTORS* RF-2 No.	CONNECTED PIPE JOINT* RF-14 Type	CONNECTED PIPE JOINT* RF-14 No.	FLOW LINE ELEVATIONS Lt.	FLOW LINE ELEVATIONS Rt.	FLOW LINE ELEVATIONS Other	DIMENSIONS m Total Lt.	DIMENSIONS m Total Rt.	DIMENSIONS m Extensions Lt.	DIMENSIONS m Extensions Rt.	SKEW AHEAD Degrees Lt.	SKEW AHEAD Degrees Rt.	DIKE Rt./Lt.	DIKE Location Station	DIKE Top Elevation	DIKE Type	CLASS 20 m³	EMBANK-MENT IN PLACE m³	REMARKS
Chamber Drive																													
2159+44	1101	750	100D	43.85	C			1				3	6	243.390	248.300		26.60	21.00			7								PLACED CONCRETE FLUME (CONT. MOD.)
Grant Wood Drive																													
2160+11.9 Lt.	1101	750	100D	29.61	C			1				3	6	249.400	249.274		14.40	15.30			5								
Grant Wood Drive																													
2160+13.5 Rt.	1101	600	100D	21.07	C			1	1			3	6	249.050	249.000		12.30	12.50			5								Twin Pipe
Grant Wood Drive																													
2160+13.5 Rt.	1101	600	100D	21.07	C			1	1			3	6	249.050	249.000		12.30	12.50			3.5								Twin Pipe
Shaw Road																													
3137+28.4	1601	600	Uncl.	23.20	C	0.9		1	1			3	6	240.531	240.797		13.56	9.61				7					91		
130th Street																													
1173+82.4	1601	750	Uncl.	1.83	C	2.6		1		C-1	1	3	2	259.310	259.290ex		15.10		3.70			29							BY PAVING CONTRACTOR (STANJO PIPE) (CONTRACT MOD.)
On-Site Detour 'C'																													
8149+81.6	Ext.	600	PEP	13.22					1					258.616ex	255.800			15.20				10 Ext.							Pipe inlet is 34.0 m Lt. of detour centerline. Use one 10° PEP elbow.
On-Site Detour 'C'																													
8149+85.2	Ext.	600	PEP	19.95					1	C-2	1			258.000ex	255.800			21.93			30 Ext.								Pipe inlet is 39.7 m Lt. of detour centerline. Use one 30° PEP elbow.
On-Site Detour 'C'																													
8150+60.1	Ext.	600	PEP	13.41					1	C-2	1			255.515ex	255.400			15.39				25 Ext.							Pipe inlet is 31.7 m Lt. of detour centerline. Use one 25° PEP elbow.
On-Site Detour 'C'																													
8154+08.3	Ext.	600	PEP	19.80					1	C-2	1			242.800	242.700			21.78											Pipe inlet is 31.0 m Lt. of detour centerline.
On-Site Detour 'C'			PEP	20.43					1					248.700	254.895	248.730													
8154+50.0	1403	450	PEP	20.42	C			1						254.895	255.000		25.41	6.51											Use two 18° PEP elbows and one Type A diaphragm. A=1.02, B=19.41, C=8.49

dgn = L:\WORK\PROJECT\3412U\CADD\EAS\153151063.c14
prf = \\WATSO1\DATA\PLOT\PL463P\C16.PRF
date = Fri Oct 29 15:59:28 1999
levels = 1-3,6-11,15-19,26-30,32-40,42-45,50-53,60-63
pen table = L:\plot\tables\halfwt.tbl

ACCESS LOCATIONS
STA. 131+32 RT.

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

160 Mary M. Watters Trust
George E. Watters, Trustee

TEMPORARY EASEMENT
TO CONSTRUCT ENTRANCE

Sta. 131+82.6
762 x 54.00 RCP
D.A.=5.10 HA. H

130+04 O.R.
℄ 79m(259')

131+38 O.R.
℄ 79m(259')

Prop. Entrance
Type C-32

CS Sta 131+36.829

ST Sta 132+28.829

Mary M. Watters Trust
George E. Watters, Trustee

CONC.

HO

HO

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

WAPSIPINICON

BEGIN PROJECT/GRADING
STA 135+32.717 O.R.

610 x 51.45
CMP
19.78

1915 x 12.03
CMP
27.15

EROSION CONTROL LEE

RIVER

128+67 O.R.
℄ 76m(249')

RI Sta 129+57.469

130+08 O.R.
℄ 98m(322')

130+78 O.R.
℄ 102m(335')± EX. R/W

132+84 O.R.
℄ 68m(223')± EX. R/W

133+25 O.R.
℄ 76m(249')

134+06± O.R.
℄ 41m(135')

135+01± O.R.
℄ 57m(187')

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

161 Donald S. Ruhl

161 Donald S. Ruhl

163 Robert J. and
Julie J. Majerus

SHED

2133

3134

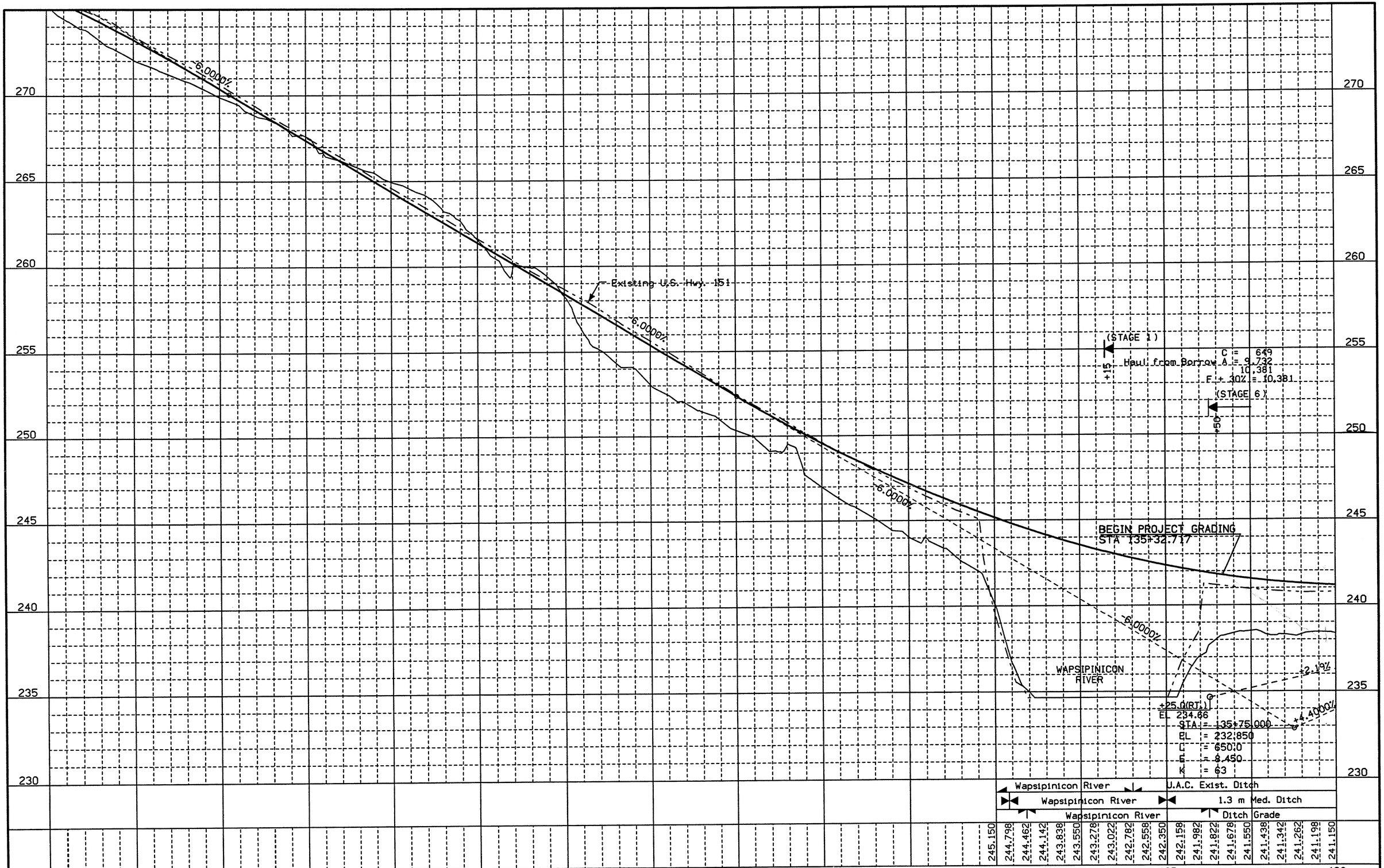
129 130 131 132 133 134 135 136

151

0 METERS 100
SCALE RATIO: 1:1000

dgn = I:\work\project\34120\cadd\EAST\53151063.d01
prf = \\WATS01\DATA\PLOT\PL463P\D01H.prf
date = Tue Nov 9 08:08:35 1999
pen table = I:\plot\tables\half_wt.tbl
levels = 1-4,7,8

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	D.01 29/90



DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF DESIGN		Jones	NHSX-151-4(63)--3H-53	D.02 39/90

prf = \\WATSO1\DATA\PLOT\PL463P\D02H.PRF
date = Fri Oct 29 10:53:50 1999

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	D.03

31/90

prf = \\WATS01\DATA\PLOT\PL463P\D03H.PRF
date = Fri Oct 29 10:54:03 1999

ACCESS LOCATIONS
STA. 144+85 RT.
STA. 148+00 LT. & RT.

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

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

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

SECTION 13

168 Ronald V. Shada

Sta. 143+94.50
.6096 x .9144 x 83.30 RCB w/ Flume
D.A.=4.10 HA, H
Install 0.9 m X 0.9 m RCB Extension
(By Structural Contractor NHSX-151-4(64)--3H-53)
Refer to Sheet V.04
Design No. 1198

610 x 28.56 CMP 35.49

Sta. 145+11.1 O.R. 14 m Rt.
Skew 31° Rt. Ahd.
Install 600 mm RF-1
F.L. Lt. 271.205
F.L. Rt. 264.093
Other 264.253

Sta. 147+80 O.R. 14 m Rt.
Install 600 mm RF-1
F.L. Lt. 274.194
F.L. Rt. 273.994

Prop. 600 mm Uncl. Ent. Pipe

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

148+12 O.R. ℄ 92m(302')

148+64 O.R. ℄ 92m(302')

+00 Prop. Type C Ent.

Install Type 47 Field Fence

149+09 ℄ 64m(210')± EX. R/W

150+00 O.R. ℄ 91m(299')

150+74 O.R. ℄ 92m(302')

151+24 O.R. ℄ 66m(217')± EX. R/W

Construct 3.6m Acceleration Lane V Adjacent to S.B.L. From Sta. 150+00 to Sta. 152+28

BEGIN PAVING S.B. LANES Sta. 150+00.000

640 x 98.52 CMP 31.39 (U.A.C.)

+06.2 FIELD ENT. (Close)

+94.7 FIELD ENT. (Close)

Section Line

+11 Prop. Type "F" Dike Elev.=262.600

+36 Prop. Type "M" Dike Elev.=265.250

Do Not Disturb Fence

Prop. 600 mm Uncl. Ent. Pipe

610 x 10.98 CMP 0.30 (Remove)

32.8 FARM ENT. (Close)

148+89± O.R. ℄ 47m(154') (Prop. Cor.)

Sta. 149+44.4
.6096 x .9144 x 88.40 RCB w/ Flume
D.A.=1.00 HA, H
(Abandon, Carry Ahead)

BEGIN PAVEMENT REMOVAL Sta. 150+00.000

Sta. 150+55.3
.6096 x .9144 x 66.80 RCB w/ Flume
D.A.=1.60 HA, H
Remove Inlet Apron and Top of Headwall
Sta. 151+58.6 O.R.
Skew 12° Rt. Ext.
Install 900 mm RF-1 Ext.
F.L. Lt. 255.515 (U.A.C.)
F.L. Rt. 265.250
Other 262.445 (Exist.)

Sta. 144+15 O.R. 57.37 m Rt.
Skew 18° Rt. Ahd.
Install 750 mm PEP Letdown
F.L. Lt. 261.700
F.L. Rt. 251.500
F.L. Other 251.680

Prop. 600 mm Uncl. Ent. Pipe

+85 Prop. Type B Joint Ent.

144+87 O.R. ℄ 98m(322')

144+87 O.R. ℄ 124m(407')

144+60 O.R. ℄ 124m(407')

145+10 O.R. ℄ 98m(322')

145+15 O.R. ℄ 124m(407')

145+83 O.R. ℄ 47m(154') Ex. R/W

146+36 O.R. ℄ 50m(164')

147+00 O.R. ℄ 50m(164')

147+82 O.R. ℄ 56m(184')

148+14± O.R. Install Type 47 ℄ 56m(184') Field Fence

147+98± O.R. ℄ 58m(184') HO

148+89± O.R. ℄ 50m(164')

150+00 O.R. ℄ 75m(264')

+00 Prop. Type B Joint Ent.

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO SHAPE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

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

169 David M. and Elizabeth Remley

170 Paul A. and Esther L. McNamer

171 Fred F. and Connie S. Fisher

BEGIN 4-LANE CONSTRUCTION Sta. 150+00.000

0 METERS 100
SCALE RATIO: 1:1000

See Sheet F.01, F.02 For Details on On-Site Detour 'C'

(STAGE 4) ← C = 20,200

+00 (STAGE 6)

+29

C = 65,698
Haul from Sta. 153+00 = 58,385
124,083

F + 30% = 124,083

STA = 147+00.000
EL = 282.350
L = 680.000
E = +6.800
K = 85

+4.4000%
Type C Joint Ent. Sta 145+85(Lt)
-4.0%
-10.0%
+10.0%
Fill Berm Rt. See X-Sect for Details
+10
+1.30%
+35.0(RT.) EL 263.80
F.L. Lt. 261.969 Rt. 255.671
+4.00%
+35.0(RT.) EL 262.50
+15.0(RT.) EL 261.70

Existing U.S. Hwy. 151

+4.4000%
Type C Ent. Sta 148+00(Lt)
Type B Joint Ent. Sta 148+00(Rt)
+10%
-2%
-1%
-7.8%
-3.6000%
+10.0(RT.) EL 273.78
-4.72%

-3.6000%
25.0(RT.) 268.35
-1.13%
F.L. Lt. 258.616 Rt. 267.939
+4.33%
+00.0(RT.) EL 267.50
-0.57%
+52.0(RT.) EL 265.25
F.L. Lt. 255.515 Rt. 262.700

	144	145	146	147	148	149	150	151
	1.3 m Med. Ditch	Cross-over Type Ent.	Ditch Grade	U.A.C. Exist. Ditch	1.3 m Med. Ditch	Type 'C' Ent.	Cross-over Type 'B' Ent.	U.A.C. Exist. Ditch	1.3 m Med. Ditch	No Ditch
	Letdown - Ditch Dike	Ditch Grade		No Ditch	1.5 m x 3.0 m Ditch Trans.	1.0 m x 1.5 m Ditch	1.5 m x 3.0 m Ditch Trans.	Ditch Grade		
270	267.390 267.825 268.247 268.657 269.056	269.443 269.819 270.182 270.534 270.874	271.202 271.519 271.823 272.116 272.397	272.667 272.925 273.170 273.405 273.627	273.837 274.036 274.223 274.399 274.562	274.714 274.854 274.982 275.099 275.203	275.296 275.377 275.447 275.505 275.550	275.585 275.607 275.617 275.616 275.603	275.579 275.542 275.494 275.434 275.362	275.279 275.183 275.076 274.957 274.827	274.685 274.530 274.365 274.187 273.997	273.796 273.583 273.359 273.122 272.874	272.614 272.342 272.059 271.763 271.456	271.137 270.807 270.465 270.110 269.750	269.390 269.030 268.670 268.310 267.950
265															
260															

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF DESIGN | Jones | COUNTY | PROJECT NUMBER NHSX-151-4(63)--3H-53 | SHEET NUMBER D.04 32/90

prf = \\WATSO1\DATA\PLOT\PL463P\D04H.PRF
date = Fri Oct 29 10:54:22 1999

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	D.05 33/90

prf = \\WATS01\DATA\PLOT\PL463P\D05H.PRF
date = Fri Oct 29 10:54:40 1999

ACCESS LOCATIONS

None this sheet.

Sta. 163+96.6
3.86 x 3.64 x 16.80 RCB
D.A.=404.70 HA, R
Install 3.6 m X 3.6 m
RCB Extension
(By Structural Contractor
NHSX-151-4(64)--3H-53)
Refer to Sheet V.06
Design No. 1698

END 4 LANE CONSTRUCTION
BEGIN 2 LANE NBL CONSTRUCTION
Sta. 164+01.500

STA 164+50 NEW LINE
INSTALL 600mm RF-1

SECTION 11 | SECTION 2

182 Fawn Creek Court & Sales, LTD.

8159+78.072 Sag
E.S. 27.143m(89.05')

Install 1.8m Chain Link Fence

8161+16.481
E.S. 23.042m(75.60')

P.C. Sta 8160+62.816
Exit Ramp D

Point "M", Detail 550-1
P.T. Sta 8161+89.231 Ramp D =
Sta 161+89.757, 32.300 Lt.
U.S. 151 O.R.

162+95± O.R. ℄
℄ 49m(161')

P.I. Sta 8161+26.196

183A City of Anamosa, Jones County, Iowa

Exit Ramp D

25:1 Taper

Install 1.8m Chain Link Fence

158+86± O.R. ℄
℄ 47.6m(156') (Corr. Cor.)

158+32± O.R. ℄
℄ 48m(157')± EX. R/W

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. ℄
℄ 47.6m(155.84')

MEADOW RIDGE SECOND ADDITION

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)

183A City of Anamosa, Iowa

COM

PARKING

Sta. 161+83.6
1060 x 25.00 RCP
D.A.=22.30 HA, R
Remove and Reinstall
Both Aprons
Sta. 161+85.7 O.R.
Install 1050 mm RF-1 Ext.'s
F.L. Lt. 244.800
F.L. Rt. 246.100
Other 245.798 (Exist.), 245.235 (Exist.)

186 Carroll R. and Connie S. Humpal

Sta. ~~161+99.0 R. 14 m Rt~~
Install 600 mm RF-1
F.L. Lt. 247.781
F.L. Rt. 246.123
Other 247.580, 246.163

END PAVEMENT REMOVAL
Sta. 162+00

163+21± O.R. ℄
℄ 43m(141')

TEMPORARY EASEMENT TO SHAPE

164+10 O.R.
℄ 63m(207')

164+56 O.R.
℄ 63m(207')

164+69 O.R.
℄ 34m(112')± Ex. R/W

164+50 O.R.
℄ 45m(148')

GREEN

TEE

164+00
℄ 59m(194')

164+91 O.R.
℄ 33m(108')± Ex. R/W

Section Line

FAIRVIEW TWP.
T-80-N R-4W

SECTION 12 | SECTION 1

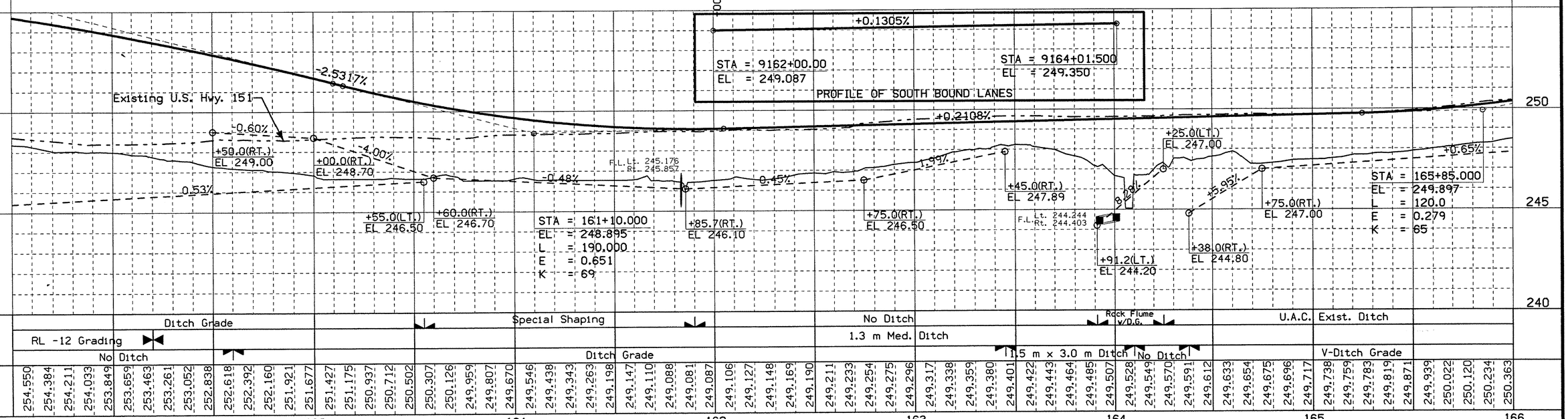
192 Fawn Creek Inc.

0 METERS 100
SCALE RATIO: 1:1000

C = 9,035
Haul from Borrow B = 80,622
89,657

F + 30% = 9,035
F + 20% = 80,622
89,657

(STAGE 6)



Ditch Grade | Special Shaping | No Ditch | Rock Flume w/D.G. | U.A.C. | Exist. Ditch

RL -12 Grading | 1.3 m Med. Ditch | V-Ditch Grade

No Ditch | Ditch Grade | 1.5 m x 3.0 m Ditch | No Ditch

254.550 254.384 254.211 254.033 253.849 253.659 253.463 253.261 253.052 252.838 252.618 252.392 252.160 251.921 251.677 251.427 251.175 250.937 250.712 250.502 250.307 250.126 249.959 249.807 249.670 249.546 249.438 249.343 249.263 249.198 249.147 249.110 249.088 249.081 249.087 249.106 249.127 249.148 249.169 249.190 249.211 249.233 249.254 249.275 249.296 249.317 249.338 249.359 249.380 249.401 249.422 249.443 249.464 249.485 249.507 249.528 249.549 249.570 249.591 249.612 249.633 249.654 249.675 249.696 249.717 249.738 249.759 249.783 249.819 249.871 249.939 250.022 250.120 250.234 250.363

159 160 161 162 163 164 165 166

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF DESIGN | Jones COUNTY | PROJECT NUMBER NHSX-151-4(63)--3H-53 | SHEET NUMBER D.06 34/90

prf = \\WATSO1\DATA\PLOT\PL463P\D06H.PRF
date = Wed Oct 27 13:27:01 1999

ELI SHADA

FAIRVIEW TWP.
T-84N R-4W
SECTION 2

ASGROW SEED CO.

SCALE

WILSON R. KOUBA

Jeffrey J. and Joann K. Hinz

ACCESS LOCATIONS
STA. 173+20 LT. & RT.

+30 Prop.
Type "M" Dike
Elev.=250.400

Install 1.8m
Chain Link Fence

+50 Prop.
Type "M" Dike
Elev.=259.100

P.T. Sta 1170+47.080

P.C. Sta 1173+16.797

U.S. 151

166+30 O.R.
℄ 40m(131')

167+30 O.R.
℄ 40m(131')

Sta. 166+40 O.R. 14 m Rt.
Install 600 mm RF-1
w/ PEP Letdown
F.L. Lt. 249.736
F.L. Rt. 248.073
Other 249.535, 248.113

192 Fawn Creek Inc.

TEMPORARY EASEMENT TO SHAPE

FAIRVIEW TWP.
T-84N R-4W
SECTION 1

GREEN

Sta. 170+60 O.R. 14 m Rt.
Install 600 mm RF-1
w/ PEP Letdown
F.L. Lt. 258.419
F.L. Rt. 255.750
Other 255.218, 255.791

170+40 O.R.
℄ 40m(131')

Sta. 170+70.0
610 x 24.94 RCP
D.A.=1.214 HA, R
Clean Silted Outlet
Remove and Reinstall
Outlet Apron
Sta. 170+69.9 O.R.
Install 600 mm RF-1 Ext.
F.L. Lt. 257.747 (U.A.C.)
F.L. Rt. 255.650
Other 256.712 (Exist.)

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. 173+45 O.R. 14 m Rt.
Install 600 mm RF-1
w/ PEP Letdown
F.L. Lt. 264.313
F.L. Rt. 260.075
Other 264.112 260.116

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

130TH STREET

173+70 O.R.
℄ 46m(151')

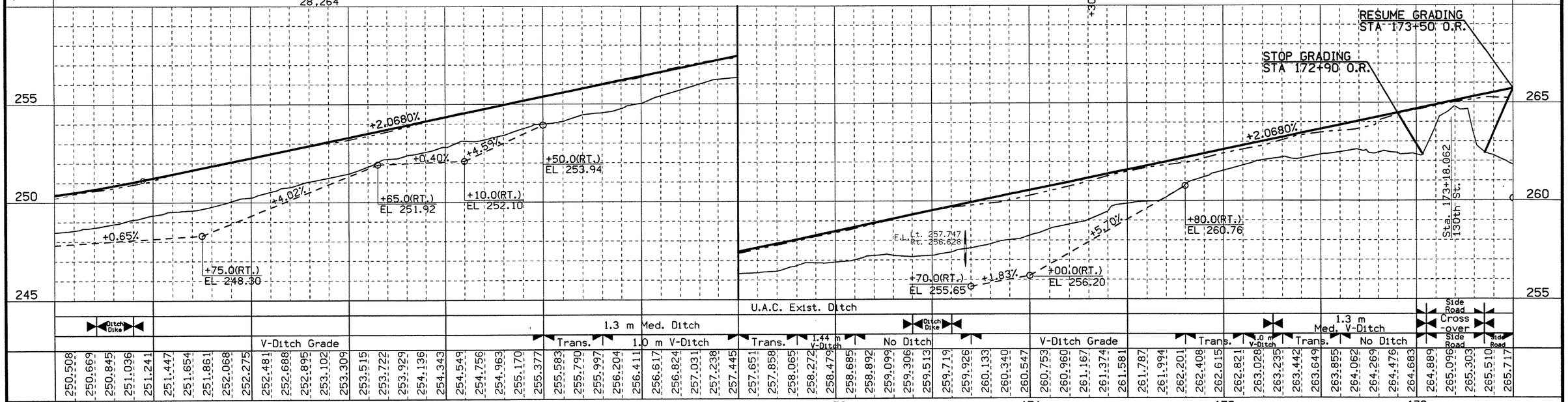
173+41± O.R. EX. R/W
℄ 64m(210')

0 METERS 100
SCALE RATIO: 1:1000

(STAGE 6)

C = 16,293
Haul from IA-64 Stage 5/6 = 11,392
Haul from Borrow B = 579
28,264

F + 30% = 28,264



DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	D.07 35/90

prf = \\WATSO1\DATA\PLOT\PL463P\D07H.PRF
date = Fri Oct 29 10:54:59 1999

dgn = L:\WORK\PROJECT\34120\CADD\EAST\53151063.d08 levels = 1-4,7,8
prf = \\WATSO1\DATA\PLOT\PL463P\D08H.PRF pen table = L:\plot\tables\halfwt.tbl
date = Fri Oct 29 10:55:19 1999

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	D.08

36/90

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	D.09 37/90

prf = \\WATSO1\DATA\PLOT\PL463P\D09H.PRF
date = Fri Oct 29 10:55:41 1999

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

163 Robert J. and Julie J. Majerus

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

Curve Data
= 49°43'50.019" L
T = 103.329
L = 193.518
E = 22.780
R = 222.956

LEAD MINE ROAD

ACQUIRE ACCESS CONTROL
FROM STA. 3136+91 TO STA. 3137+41

STA. 3136+50.000
BEGIN CONSTRUCTION

TEMPORARY EASEMENT
TO CONSTRUCT ENTRANCE

PROP. 0.61 m ENT. PIPE

+91 PROP. TYPE "C" ENT.

STA. 137+62.083 M.L. =
STA. 3137+59.527 S.R.

SHAW ROAD

STA. 3137+41.002
END CONSTRUCTION

STA. 3137+28.4
Skew 138 Rt. Ahd
Install 600mm RF-1.
F.L. Lt. 240.531
F.L. Rt. 240.797

Raoul P. and
Janice Lou Swanson

164 Brian D. and Jill J. Darrow

164A Stone City Estates, Ltd.

TEMPORARY EASEMENT
TO CONSTRUCT ENTRANCE

Shaw Road

Sta. 3141+47.3
914 x 17.00 RCP
D.A.=34.80 HA, H

0 METERS 100
SCALE RATIO: 1:1000

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.

WILLIAM OTTESEN 3995 LICENSED PROFESSIONAL ENGINEER IOWA

Signature 10/29/1999 Date

William Ottesen
Printed or Typed Name

My license renewal date is December 31, 2000.

Pages or sheets covered by this seal: E.01 and E.03

(STAGE 6)
C = 1,443
F + 30% = 263
Haul to Sta. 136+00 = 1,180
1,443

TIE IN
STA. 3136+50.000
EL. 241.657

STA = 3137+15.000
EL = 241.935
L = 50.000
E = 0.099

+0.427%
+2.009%
+0.807% (RT)
+0.717% (LT)

TIE TO E.S.
STA. 3137+41.022
EL. 242.458

+50 Rt. 240.169
+50 Lt. 239.974
+26.5 Lt. 240.531
+29.5 Rt. 240.797

Type C Ent.
Sta 3136+91(Lt & Rt)

Ditch Grade
Ditch Grade

241.657	241.700	241.743	241.785	241.828	241.887	241.977	242.099	242.252	242.437

240 235 230

3135 3136 3137 3138 3139 3140 3141

dgn = L:\WORK\PROJECT\3412D\CADD\EAS1\53151063.e01
prf = \\WATSO1\DATA\PLOT\PL463P\E01H.PRF
date = Fri Oct 29 09:42:58 1999
levels = 1-4,7,8
pen table = i:\plot\tables\halfwt.tbl

DESIGN TEAM	Skogerboe / ROBINSON	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	E.01

38/53

Revised

dgn = l:\WORK\project\34120\cadd\east\53151063.e02 levels = 1-59,61-63
prf = \\WATS01\DATA\PLOT\PL463P\e02h.prf pen table = l:\plot\tables\halfwt.tbl
date = Tue Feb 22 14:27:34 2000

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	E.02

39/90

Revised 02-14-00

206 D. A. Downing and C. R. McNamara dba MACDOW, a partnership

205 Lloyd A. Brickley

FAIRVIEW TWP.
T-84N R-4W
SECTION 1

STA. 173+19.651 M.L. O.R.
STA. 1173+19.356 S.R.

STA. 1173+37.739
BEGIN CONSTRUCTION

STA. 1174+75.000
END CONSTRUCTION

89°31'51.7"
95°23'26.88"

130TH ST.

DUBUQUE RD

381 x 9.0 CMP 9.7

457 x 10.75 CMP 8.5

457 x 11.83 CMP

457 x 7.50 CMP 8.9

457 x 8.20 CMP 7.6

457 x 7.82 CMP 7.5

457 x 7.90 CMP 20.2

Sta. 1173+82.4
762 x 29.47 RCP
D.A.=5.664 HA, R
Sta. 1173+82.4
Skew 29° Rt. Ahd.
Install 750 mm RF-1 Ext.
F.L. Lt. 259.310
F.L. Rt. 259.290 (Exist.)
(By Paving Contractor)

Refer to Sheet No. D.07 for Mainline Details

ACQUIRE ACCESS CONTROL
FROM STA. 1173+38 TO STA. 1173+88

192 Fawn Creek, Inc.

0 METERS 100
SCALE RATIO: 1:1000

(FOR REFERENCE ONLY)
DUBUQUE - 130TH STREET

TIE TO E.S.
STA. 1173+37.739
EL. 264.547

3.7852%

+2.072%

TIE IN
STA. 1174+75.000
EL. 262.280

+3.60% (Lt)
+.88% (Lt)
+2.36% (Lt)

+00 Lt.
260.500

+40 Lt.
260.850

+75 Lt.
261.673

+75 Lt.
259.600

STA = 1174+25.000
EL = 261.244
L = 100.000
E = -0.732

F.L. Lt. 259.400
Rt. 258.243

1.5 m Ditch w/ Ditch Grade
No Ditch

265
260
255

1171 1172 1173 1174 1175 1176 1177

264.461 264.083 263.704 263.326 262.954 262.634 262.373 262.170 262.026 261.941 261.914 261.945 262.035 262.184

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / ROBINSON		IOWA DOT * OFFICE OF DESIGN	Jones	NHSX-151-4(63)--3H-53	E.03 40/90

prf = \\WATSO1\DATA\PLOT\PL463P\E03.PRF
date = Wed Oct 27 13:34:13 1999

ON-SITE DETOUR 'C'

0 METERS 100
SCALE RATIO: 1:1000

Begin On-Site Detour 'C'
Sta. 8147+50.000 =
Sta. 147+50.000, 17.6 m Lt.
Tie into Southbound Lanes

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

148+12 O.R. ℄ 92m(302')
148+64 O.R. ℄ 92m(302')

POBSta 8147+50.000
PCSta 8147+74.045
PTSta 8148+25.944

Sta. 8149+85.2, 39.7 m Lt.
Skew 30° Lt. Ext.
Install 600 mm PEP Ext.
F.L. Lt. 258.000 (Exist.)
F.L. Rt. 255.800

Sta. 8149+81.6, 34.0 m Lt.
Skew 10° Rt. Ext.
Install 600 mm PEP Ext.
F.L. Lt. 258.616 (Exist.)
F.L. Rt. 255.800

Sta. 8150+60.1, 31.7 m Rt.
Skew 25° Rt. Ext.
Install 600 mm PEP Ext.
F.L. Lt. 255.515 (Exist.)
F.L. Rt. 255.400

146 147 8147 148 8148 149 8149 150 8150 151 8151 152 8152 153 8153

SIGN

Section Line

℄ Office Relocation

TEMPORARY EASEMENT TO REMOVE BORROW

146+36 O.R. ℄ 50m(164')
147+00 O.R. ℄ 50m(164')
147+82 O.R. ℄ 56m(184')
148+41 O.R. ℄ 56m(184')
147+99.999 POBSta
147+88.2 O.R. ℄ 56m(184')

R/W & A/C

(STAGE 1)
+83

C = 2,869
Haul from Borrow A = 73,066
75,935

F + 30% = 75,935

STA 8148+83.252
EL 274.420

STA 8150+30.000
EL 270.800
L = 80.000
E = -0.135
K = 59.290

-2.4668%
-4.0000%

2%
+83.252
+45.072
+25.000

Constant Slope
Uniform Transition
Constant Slope

1.5m x 3.0m Ditch
Existing U.S. 151
Special Shaping
No Ditch
Tie into U.S. 151 Barnroof to Create V-Ditch
1.5 m x 3.0 m Ditch
No Ditch

275 270 265 270 265 260

274.254 274.007 273.760 273.513 273.267 273.020 272.773 272.527 272.280 272.033 271.787 271.530 271.255 270.960 270.647 270.314 269.962 269.590 269.200 268.800 268.400 268.000 267.600 267.300 266.800 266.400 266.000 265.600 265.200 264.800 264.400 264.000 263.600 263.200 262.800 262.400 262.000 261.600 261.200 260.800 260.400 260.000

8149 8150 8151 8152 8153

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN		Jones	NHSX-151-4(63)--3H-53	F.01 41/90

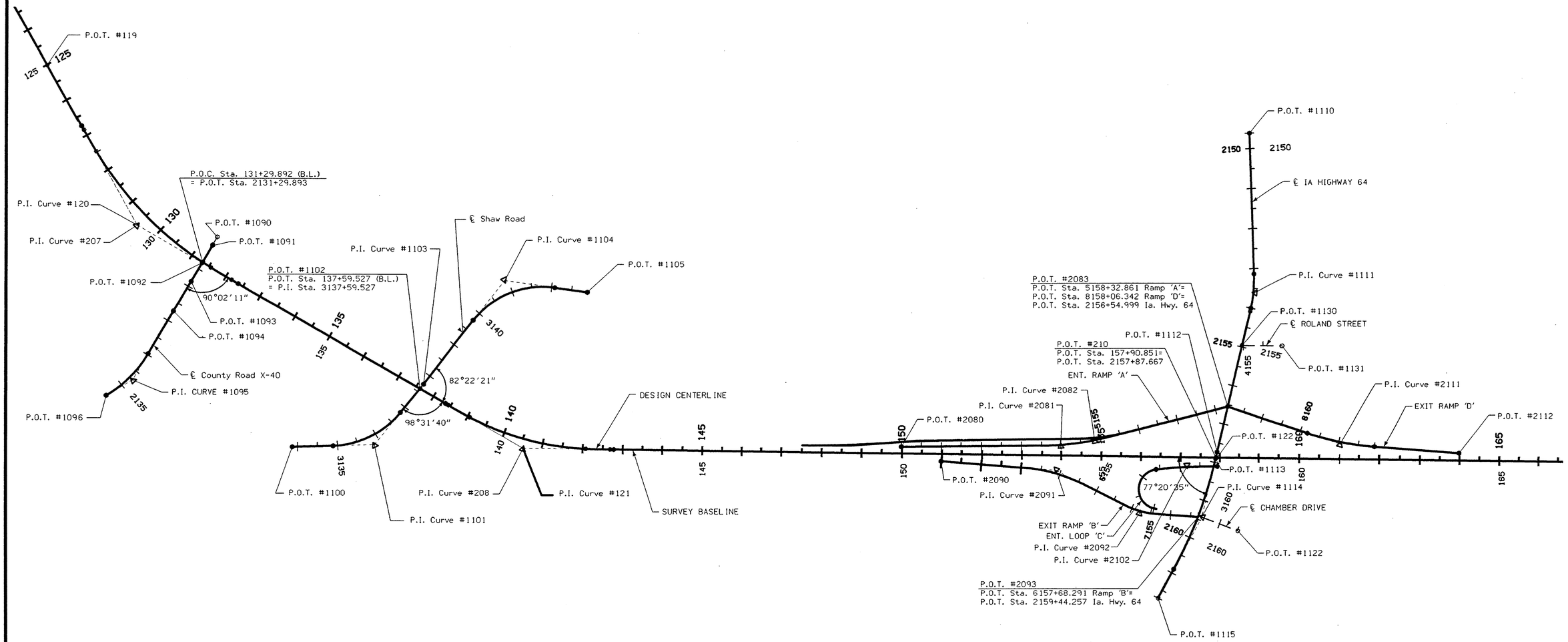
dgn = L:\WORK\PROJECTS\34120\CADD\EAS\b31b1063.fol
prf = \\WATSON\DATA\PLOT\PL463P\F01H.PRF
date = Fri Oct 29 10:56:33 1999
levels = 1,2,4,5,9,29,62
pen table = I:\plot\tables\halfwt.tbl

ON-SITE DETOUR 'C'

dgn = L:\WORK\PROJECT\3412\CADD\EAST\3151063.F02
prf = \\WATSON\DATA\PLOT\PL463PVF02H.PRF
date = Wed Oct 27 13:29:07 1999
levels = 1-63
pen table = l:\plot\tables\halfwt.tbl

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	F.02

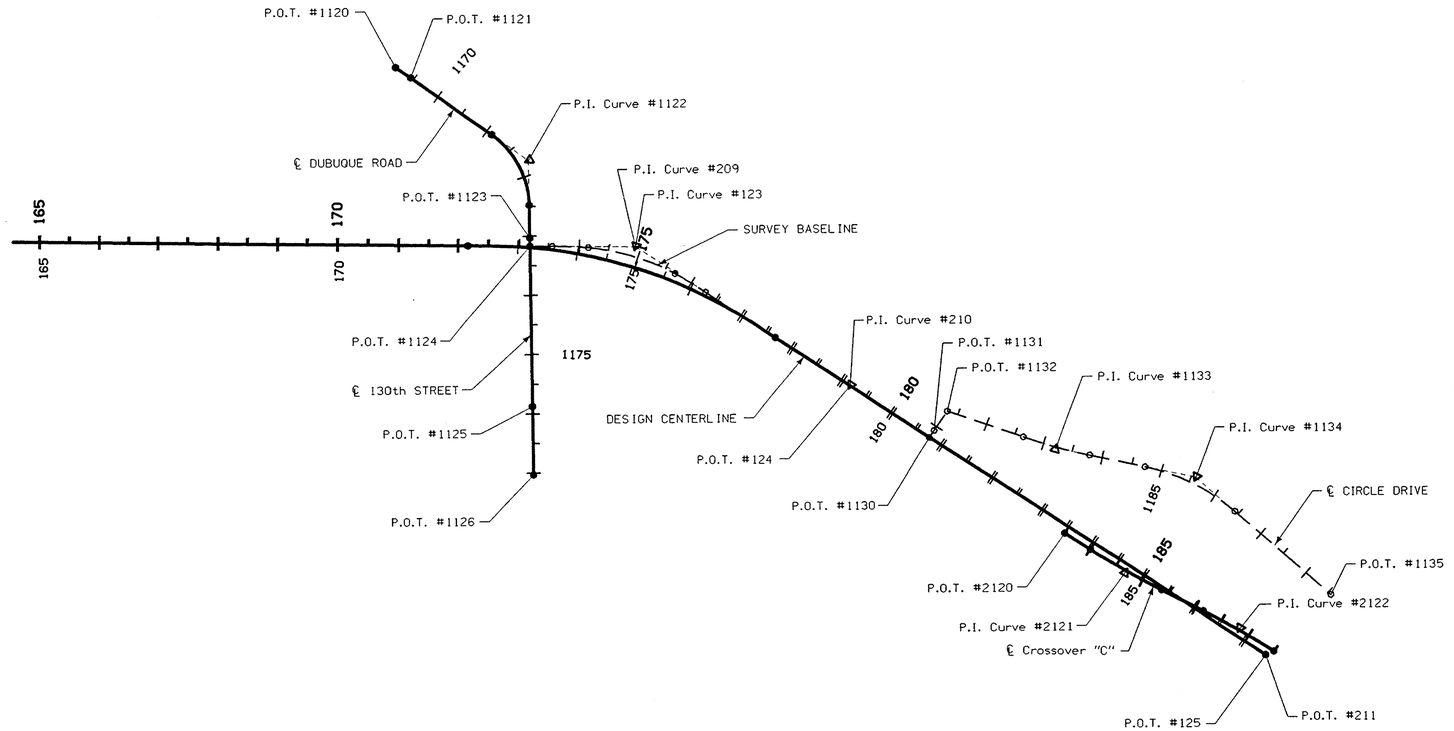
42/9



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

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	.		Jones	NHSX-151-4(63)--3H-53	G.01 43/90

prf = \\WATSO1\DATA\PLOT\PL463P\G01.PRF
date = Wed Oct 27 13:29:34 1999



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

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH		IOWA DOT * OFFICE OF DESIGN	Jones	NHSX-151-4(63)--3H-53	G.02 44/90

prf = \\WATSO1\DATA\PLOT\PL463P\G02.PRF
date = Wed Oct 27 13:29:43 1999

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	
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	
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				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				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	7.30%	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	6.50%	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				210
211	187+41.078	12626.567	17850.307																													211

ALIGNMENT DATA
SURVEY BASELINE AND
O.R. CENTERLINE

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Jones		NHSX-151-4(63)--3H-53	G.03

dgn = 'l:\work\project\34120\cadd\east\53151063.g03 levels = 1-63
prf = \\WATSO1\DATA\PLOT\PL463P\G03.prf pen table = l:\plot\tables\halfpt.tbl
date = Fri Oct 29 08:10:22 1999

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.													
			Coordinates			Coordinates			Coordinates												
		Station	North	East	Station	North	East	Station	North	East	Δ	R	T	L	E	e	L	m	x		
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						
	1105	3142+88.691	8294.431	16711.690																	
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

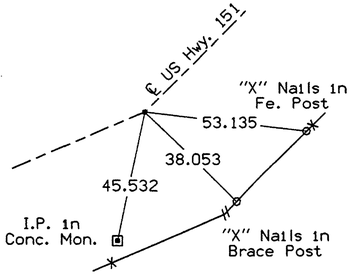
LOCATION	CURVE NUMBER	CURVE POINTS									CIRCULAR CURVE DATA					SUPERELEVATION DATA				CURVE NUMBER	COMMENTS
		P.I. (OR P.O.T.)			P.C.			P.T.													
			Coordinates			Coordinates			Coordinates												
		Station	North	East	Station	North	East	Station	North	East	Δ	R	T	L	E	e	L	m	x		
Ia. Hwy. 64 Ent. Ramp 'A'	2080	5150+49.940	9132.653	17101.204																	
	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																	
Ia. Hwy. 64 Exit Ramp 'B'	2090	6150+96.524	9179.109	17138.292																	
	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																	
Ia. Hwy. 64 Ent. Loop 'C'	2100	7153+86.198	9829.738	17271.746																	
	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																	
Ia. Hwy. 64 Exit Ramp 'D'	2110	8158+06.342	9900.371	17016.022																	
	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	8163+99.699	10482.264	17121.063																	
Crossover 'D'	2120	183+50.000	12294.212	17643.834																	
	2121	184+68.538	12392.902	17709.497	184+00.001	12335.841	17671.531	185+36.927	12453.915	17740.719	6°32'15.84"	1200.000	68.537	136.926	1.956						
	2122	186+82.719	12583.701	17807.134	186+14.193	12522.698	17775.917	187+51.096	12640.753	17845.092	6°32'11.96"	1200.000	68.526	136.903	1.955						
	2123	188+01.095	12682.381	17872.788																	
On-Site Detour 'C'	2130	8147+50.000	8832.670	17097.000																	
	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	See F.01 and F.02					
	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	for Super Elevation Data					
	2133	8156+98.024	9777.664	17043.000																	

ALIGNMENT DATA
SIDEROADS, ACCESSWAYS AND INTERCHANGE

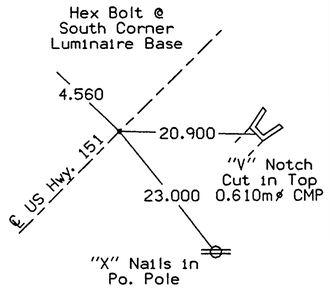
DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	G.04 46/90

dgn = I:\work\project\34120\caddveast\53151063.g04 levels = 1-63
prf = \\WATSO1\DATA\PLOT\PL463P\G04.prf pen table = I:\plot\tables\halfwt.tbl
date = Fri Oct 29 08:10:36 1999

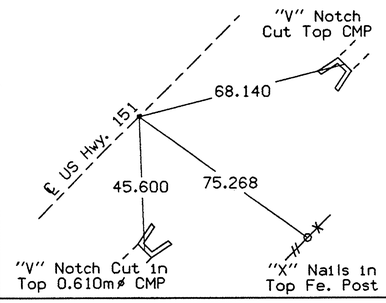
P.I. STA. 129+54.987
Set Iron Pin



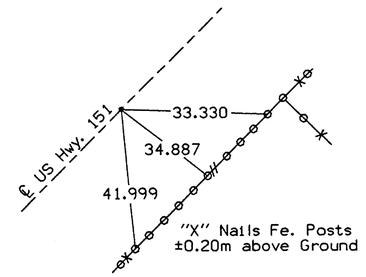
C.S. STA. 131+53.806
Set Iron Pin



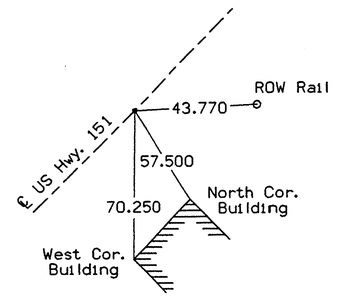
S.T. STA. 132+14.782
Set Iron Pin



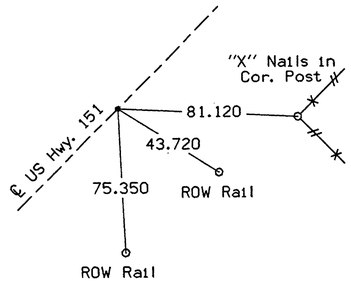
P.O.T. STA. 136+00.018
Set Iron Pin



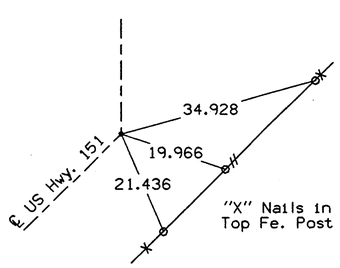
T.S. STA. 138+42.753
Set Iron Pin



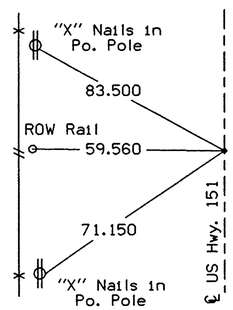
S.C. STA. 139+03.729
Set Iron Pin



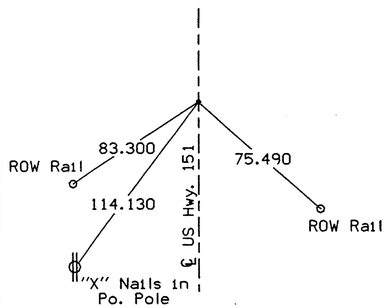
P.I. STA. 140+58.887
Set Iron Pin



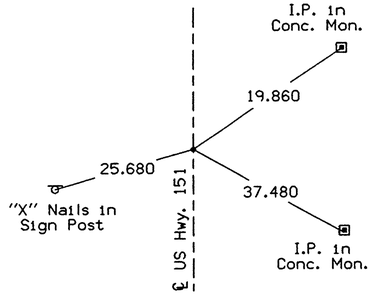
C.S. STA. 142+05.812
Set Iron Pin



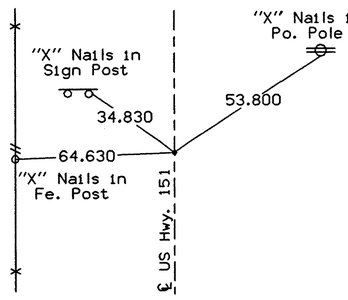
S.T. STA. 142+66.788
Set Iron Pin



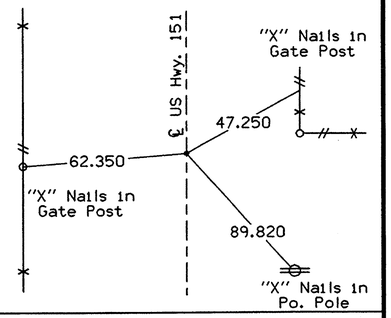
P.O.T. STA. 146+00.000
Set Iron Pin



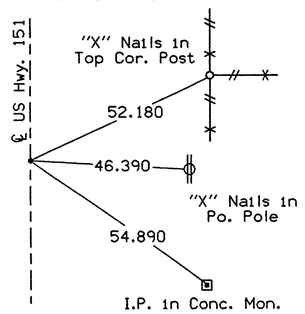
P.O.T. STA. 147+50.000
Set Iron Pin



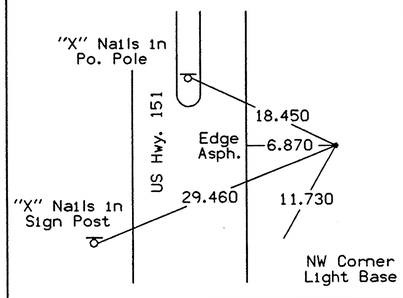
P.O.T. STA. 148+90.000
Set Iron Pin



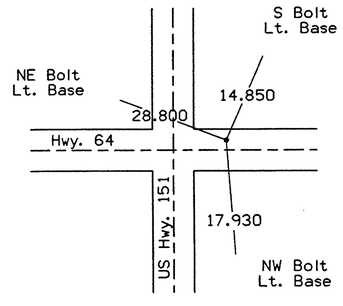
P.O.T. STA. 152+90.941
Set Iron Pin



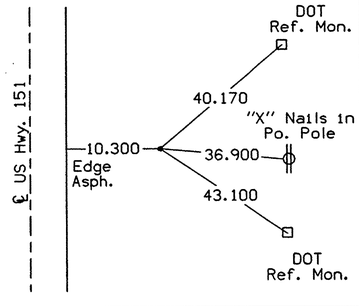
P.O.T. STA. 156+00.000
Set Iron Pin



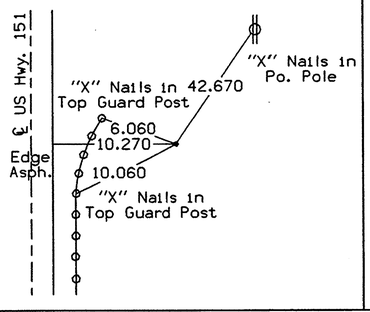
P.I. STA. 157+91.026
Set P.K. Nail



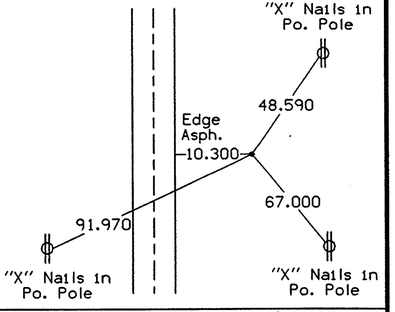
P.O.T. STA. 161+00.000
Set Iron Pin



P.O.T. STA. 164+50.000
Set Iron Pin



P.O.T. STA. 168+00.000
Set Iron Pin



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

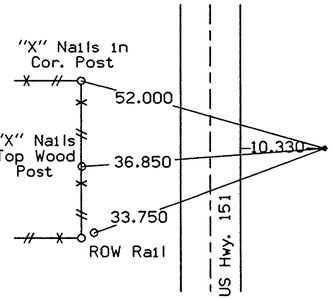
DETAILS OF REFERENCE INFORMATION

All References Plumb Distances (unless otherwise noted)

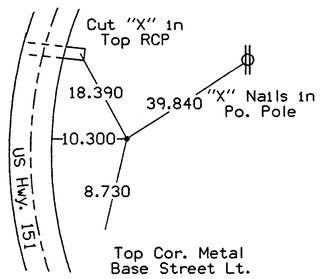
prf = \\WATSO1\DATA\PLOT\PL463P\G05.PRF
date = Wed Oct 27 13:30:16 1999

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	G.05 47/90

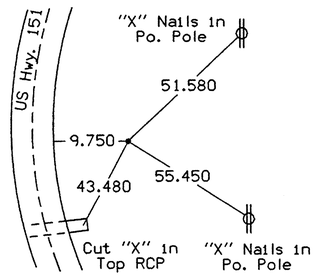
P.O.T. STA. 172+00.000
Set Iron Pin



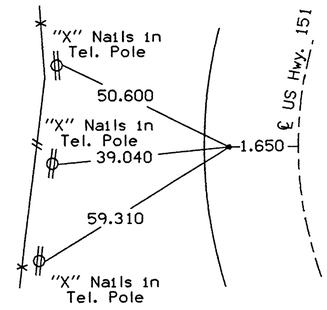
T.S. STA. 173+54.158
Set Iron Pin



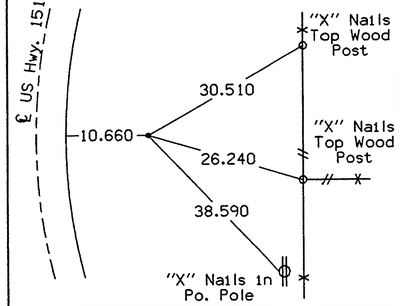
S.C. STA. 174+15.134
Set Iron Pin



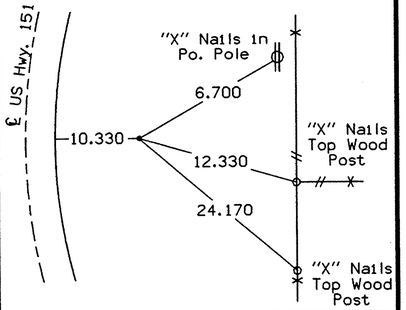
P.I. STA. 174+94.397
Set P.K. Nail



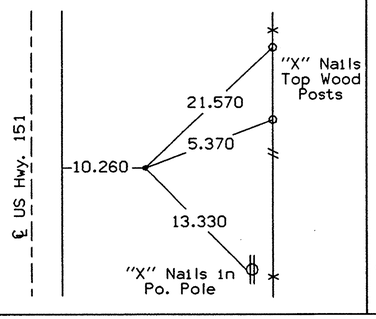
C.S. STA. 175+67.485
Set Iron Pin



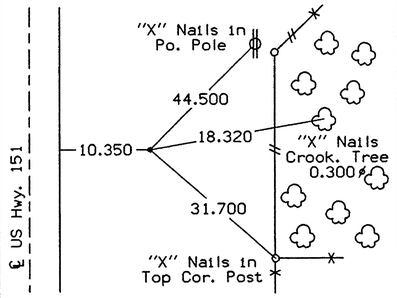
S.T. STA. 176+28.461
Set Iron Pin



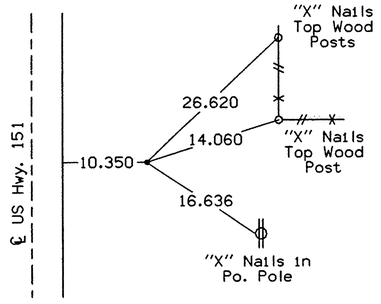
P.I. STA. 179+17.754
Set Iron Pin



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

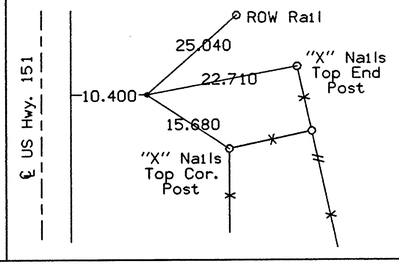


P.O.T. STA. 185+00.000
Set Iron Pin



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)

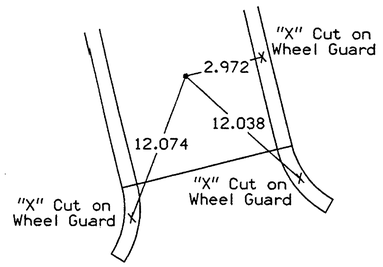


NOTES:
1) All distances measured horizontally.
2) All distances are in meters.

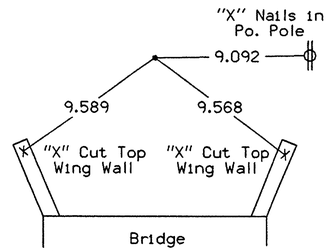
DETAILS OF REFERENCE INFORMATION

All References Plumb Distances (unless otherwise noted)

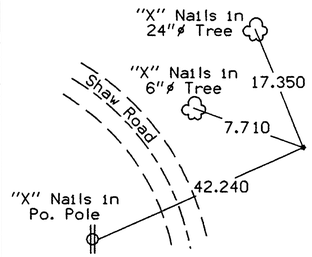
SHAW ROAD
P.O.T. STA. 3133+86.791
Cut "X" in Bridge Deck



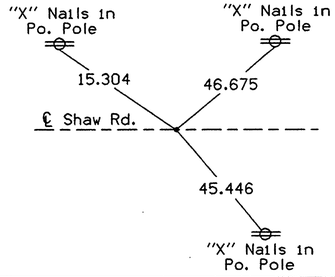
SHAW ROAD
P.C. STA. 3134+88.613
Set Iron Pin



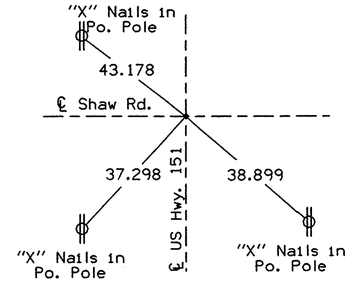
SHAW ROAD
P.I. STA. 3135+91.941
Set Iron Pin



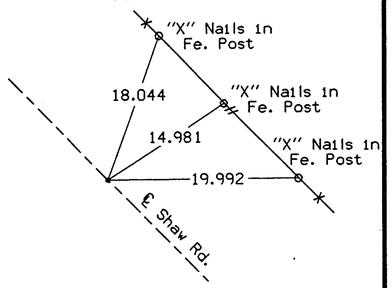
SHAW ROAD
P.T. STA. 3136+82.130
Set Iron Pin



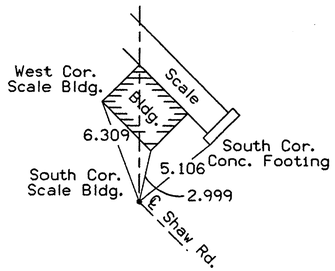
SHAW ROAD
P.O.T. STA. 3137+59.527
Set Iron Pin



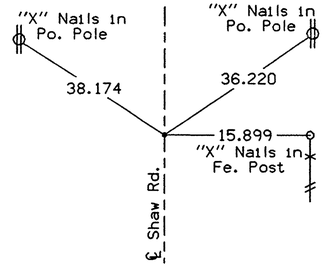
SHAW ROAD
P.C. STA. 3139+77.092
Cut "X" in Pav't.



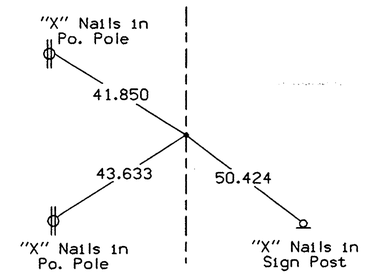
SHAW ROAD
P.I. STA. 3141+04.543
Set Iron Pin



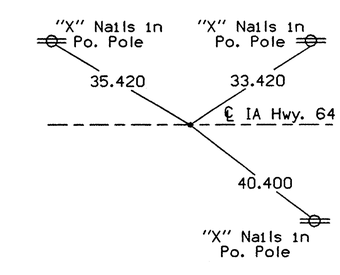
SHAW ROAD
P.T. STA. 3142+07.870
Cut "X" in Pav't.



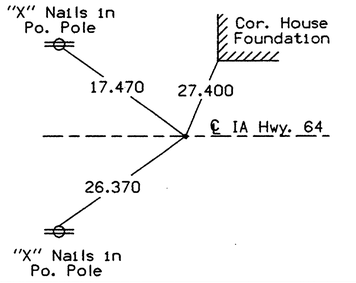
SHAW ROAD
P.O.T. STA. 3142+88.691
P - K Nail



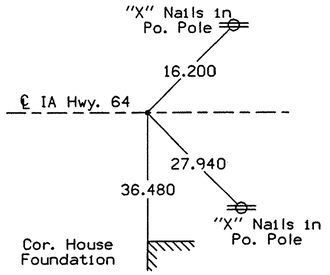
IOWA HIGHWAY 64
P.C. STA. 2153+13.458
P - K Nail



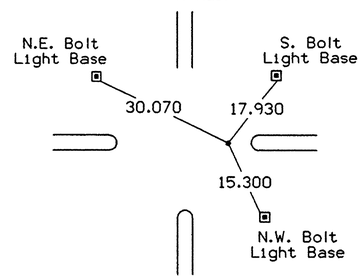
IOWA HIGHWAY 64
P.I. STA. 2153+61.296
P - K Nail



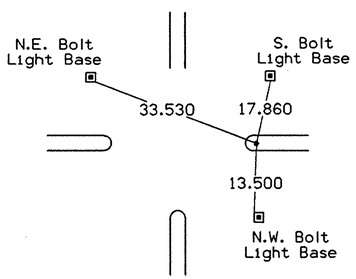
IOWA HIGHWAY 64
P.T. STA. 2154+08.564
P - K Nail



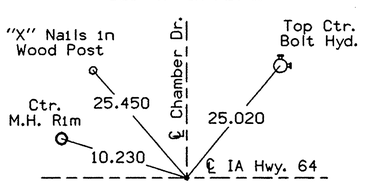
IOWA HIGHWAY 64
P.O.T. STA. 2157+87.868
P - K Nail



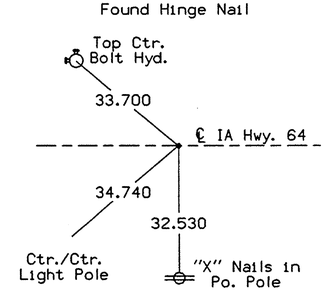
IOWA HIGHWAY 64
P.C. STA. 2157+90.986
Cut "X" in Pav't.



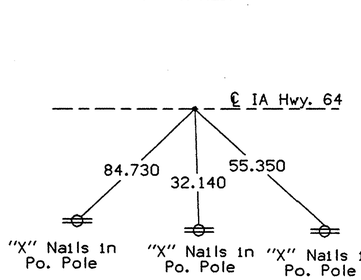
IOWA HIGHWAY 64
P.I. STA. 2159+41.146
Cut "X" in Pav't.



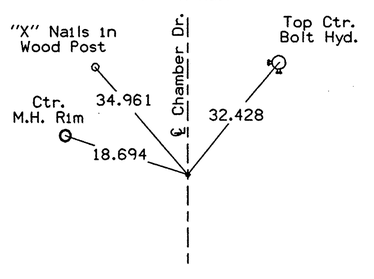
IOWA HIGHWAY 64
P.I. STA. 2160+89.660
Found Hinge Nail



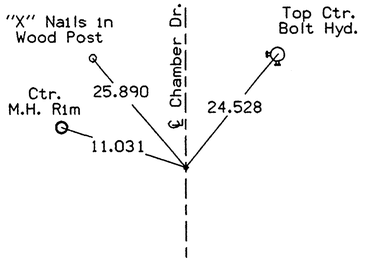
IOWA HIGHWAY 64
P.O.T. STA. 2161+71.880
P - K Nail



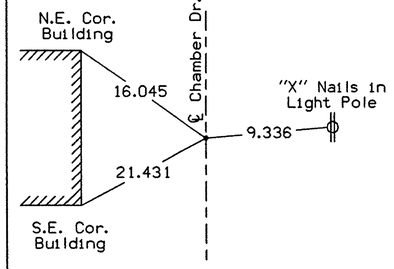
CHAMBER DRIVE
P.O.T. STA. 3159+41.327
P - K Nail



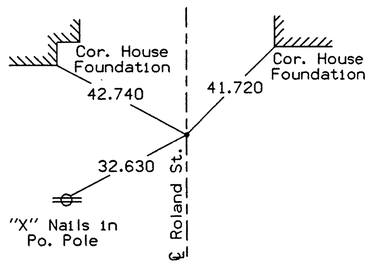
CHAMBER DRIVE
P.O.T. STA. 3159+50.843
P - K Nail



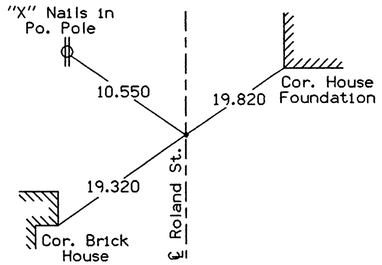
CHAMBER DRIVE
P.O.T. STA. 3160+50.843
P - K Nail



ROLAND STREET
P.O.T. STA. 4154+96.436
P - K Nail



ROLAND STREET
P.O.T. STA. 4155+96.436
P - K Nail



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

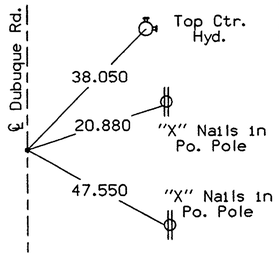
DETAILS OF REFERENCE INFORMATION

All References Plumb Distances (unless otherwise noted)

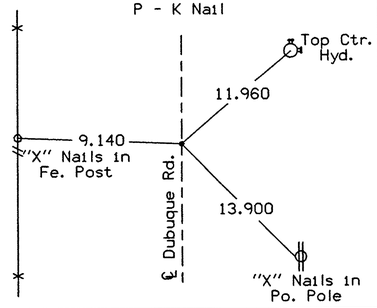
prf = \\WATSO1\DATA\PLOT\PL463P\G07.PRF
date = Wed Oct 27 13:30:30 1999

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	G.07 49/90

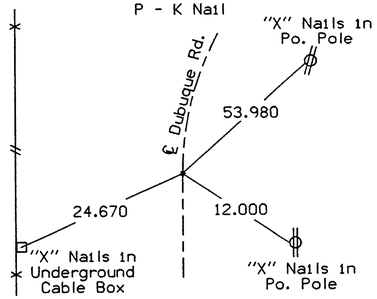
DUBUQUE ROAD
P.O.T. STA. 1169+13.871
P - K Nail



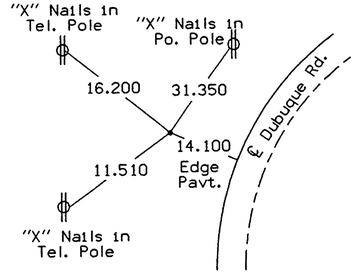
DUBUQUE ROAD
P.I. STA. 1169+44.241
P - K Nail



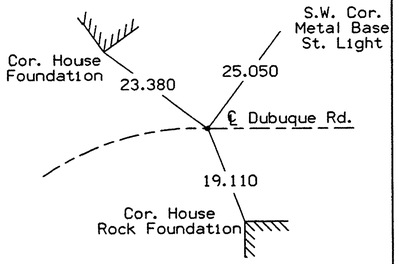
DUBUQUE ROAD
P.C. STA. 1171+09.623
P - K Nail



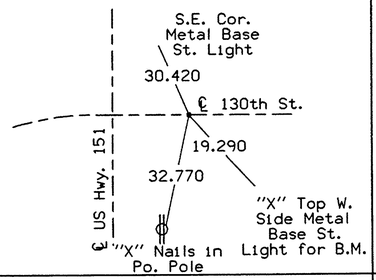
DUBUQUE ROAD
P.I. STA. 1171+84.361
Set Iron Pin



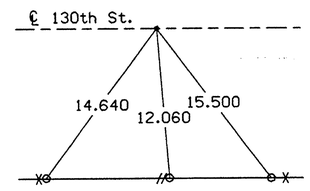
DUBUQUE ROAD
P.T. STA. 1172+47.980
P - K Nail



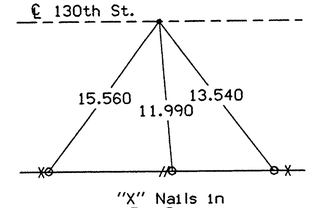
130TH STREET
P.O.T. STA. 1173+16.797
P - K Nail



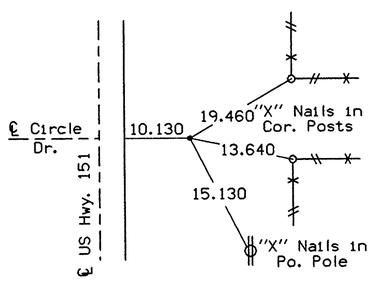
130TH STREET
P.O.T. STA. 1175+87.443
Set Iron Pin



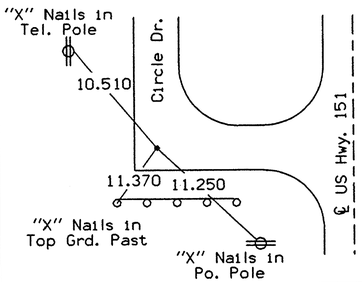
130TH STREET
P.O.T. STA. 1177+02.793
Set Iron Pin



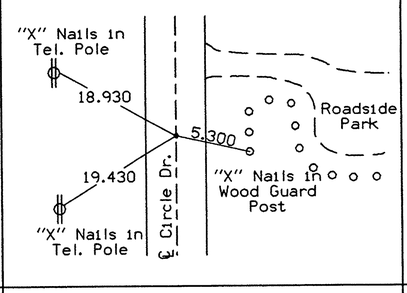
CIRCLE DRIVE
P.O.T. STA. 1180+77.944
Set Iron Pin



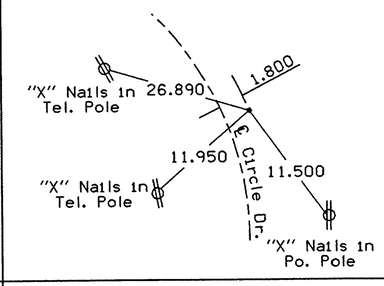
CIRCLE DRIVE
P.I. STA. 1181+31.734
P - K Nail



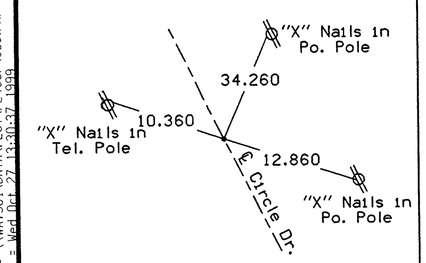
CIRCLE DRIVE
P.C. STA. 1182+64.437
P - K Nail



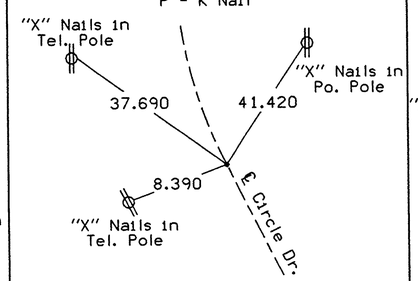
CIRCLE DRIVE
P.I. STA. 1183+21.814
P - K Nail



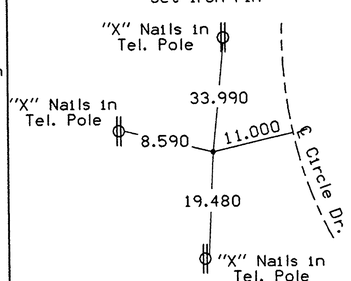
CIRCLE DRIVE
P.T. STA. 1183+79.040
P - K Nail



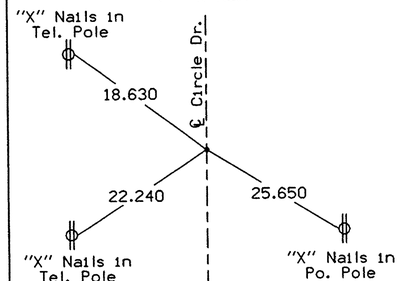
CIRCLE DRIVE
P.C. STA. 1184+71.734
P - K Nail



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



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



BENCH MARKS

UPDATED BENCH MARKS TO BE COMPLETED

ON PAVING PROJECT:

NHSX-151-3(112)—3H-57

GPS MONUMENT COORDINATES

NO.	LOCAL GRID NORTH	LOCAL GRID EAST	IOWA STATE PLANE NORTH ZONE NORTH	IOWA STATE PLANE NORTH ZONE EAST
1	5000.000	5000.000	1064348.917	1672668.700
2	5120.571	5414.125	1064479.668	1673079.696
3	5686.810	7137.883	1065088.208	1674788.847
4	6037.529	8803.147	1065480.022	1676450.839
5	6161.773	10638.128	1065649.336	1678276.076
6	6134.030	11856.064	1065651.647	1679494.243
7	6146.932	13764.858	1065711.629	1681402.010
8	6420.496	15621.974	1066023.501	1682951.800
9	7324.591	16712.260	1066961.555	1684319.267
10	8699.373	17050.618	1068344.172	1684623.588
11	10182.030	17093.558	1069827.347	1684629.938
12	11622.341	17138.428	1071269.220	1684639.238
13	12417.753	18349.161	1073092.878	1685805.310
14	15075.155	19495.783	1074777.901	1686910.571
15	16680.015	20421.306	1076404.995	1687796.162

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

prf = \\WATSO1\DATA\PLOT\PL463P\G08.PRF
date = Wed Oct 27 13:30:37 1999

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF DESIGN	Jones		NHSX-151-4(63)--3H-53	G.08 50/90

TRAFFIC CONTROL PLAN

108-23
09-27-94

1. Traffic will be maintained on US Hwy. 151 and Iowa 64 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-8, RS-15, RS-16, RS-26, RS-64A and RS-64B, and Detail Sheets J.03 - J.06 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: NHS-151-4(65)--19-53, NHS-151-4(66)--19-53, NHS-151-4(67)--3H-53, NHSX-151-4(64)--3H-53 and NHSX-151-3(102)--3H-57.

4. All traffic control devices shall be furnished, erected, maintained, and removed by the contractor.

5. Article 2528.12 of the Standard Specifications requires maintainance of all traffic control devices, including maintenance of the devices during nonworking hours in order to assure proper operation.

6. Where possible, all post-mounted signs shall be place at least 0.6 m beyond the curb or edge of shoulder.

7. The location for storage equipment by the contractor during non-working hours shall be as approved by the engineer in charge of construction.

8. 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.

9. 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.

10. 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.

11. Proposed changes in the traffic control plan shall be reviewed with the Office of Construction before changes are made.

12. 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.

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 and Ia. 64 through traffic may be maintained at all times.

STAGE 1

Traffic
Hwy. 151 - Traffic is to remain as is.
IA. 64 - Traffic is to remain as is.

Construction Activities
Hwy. 151 - Grade the north bridge berm along the Wapsipinicon River from Sta. 135+33 to Sta. 136+50.
IA. 64 - Pave Shoulder Run-around on West Bound Lanes from Sta. 2156+00 to Sta. 2157+20. Remove Raised Median and Place Detour Pav't from Sta. 2157+00 to Sta. 2157+63. Utilize Traffic Control Layout RS-2.
Other - Grade Entrance Ramp 'A', Exit Ramp 'D' and On-Site Detour 'C'.

STAGE 2

Traffic
Hwy. 151 - Close Rt. Acceleration Lane on South Bound Lanes from Sta. 148+00 to Sta. 151+00. Utilize Traffic Control Layout RS-64A.
IA. 64 - Route Head-To-Head Traffic on the existing two West Bound Lanes. Utilize Traffic Control Layout RS-64A and Layout on Sheet J.03.

Construction Activities
IA. 64 - Remove Pavement on East Bound Lanes from Sta. 2156+25 to Sta. 2157+05 and from 1.2 m Lt. of CL South to Edge of Pavement. Place P.C. Pavement from Sta. 2156+25 to Sta. 2156+91 on East Bound Lanes. Place Detour Pav't from Sta. 2156+91 to Sta. 2157+05 on East Bound Lanes.
Other - Pave Entrance Ramp 'A' and On-Site Detour 'C'.

STAGE 3

Traffic
Hwy. 151 - To Remain as in Stage 2. During Construction of Connector Between Exit. Ramp 'D' and Exist. Hwy. 151, Utilize RS-2.
IA. 64 - Route Head-To-Head Traffic on the New East Bound Lanes Constructed during Stage 2. Utilize Traffic Control Layout RS-64B and Layout on Sheet J.03.

Construction Activities
IA. 64 - Remove Pavement on West Bound Lanes from Sta. 2156+25 to Sta. 2157+05 and from 1.2 m Lt. of CL North to Edge of Pavement. Place P.C. Pavement from Sta. 2156+25 to Sta. 2156+91 on West Bound Lanes. Place Detour Pav't from Sta. 2156+91 to Sta. 2157+05 on West Bound Lanes.
Other - Pave Exit Ramp 'D' and Connector Between Exit Ramp 'D' and Exist. Hwy. 151. See Sheet J.04 for Limits of Construction.

STAGE 4

Traffic
Hwy. 151 - Route Head-To-Head Traffic from Exist. Hwy. 151 on to On-Site Detour 'C', Entrance Ramp 'A', Exit Ramp 'D' and on to Exist. Hwy. 151. Utilize Traffic Control Layout RS-8, Layout on Sheet J.04 and Layout on Sheet J.05.
IA. 64 - Traffic to Remain as in Stage 3 With Modifications as per Traffic Control Layout on Sheet J.05.

Construction Activities
Hwy. 151 - Grade North Bound and South Bound Lanes from Sta. 150+00 to Sta. 162+00 which includes the IA. 64 bridge berms.
IA. 64 - Construct Detour Pavement as Detailed on Sheet J.04. Utilize Traffic Control Layout RS-2.

STAGE 5

Traffic
Hwy. 151 - To Remain as in Stage 4.
IA. 64 - Route Head to Head Traffic on to Detour Pavement and Existing East Bound Lanes. Utilize Traffic Control Layout on Sheet J.05.

STAGING NOTES

108-26
09-27-94

Construction Activities
Hwy. 151 - Pave South Bound Lanes and Ramp 'A' Taper from Sta. 150+00 to Sta. 154+50.
IA. 64 - Pave West Bound Lanes, Shoulder and Curb from Sta. 2156+91 to Sta. 2159+60. Pave West Bound Lane Outside of Existing Pav't from Sta. 2159+60 to Sta. 2161+15. Construct Detour Pavement as Detailed on Sheet J.05.
Other - Construct Chamber Drive Utilizing Type 'M' Concrete. Construction Will be Staged to Allow Access to Walmart.

STAGE 6

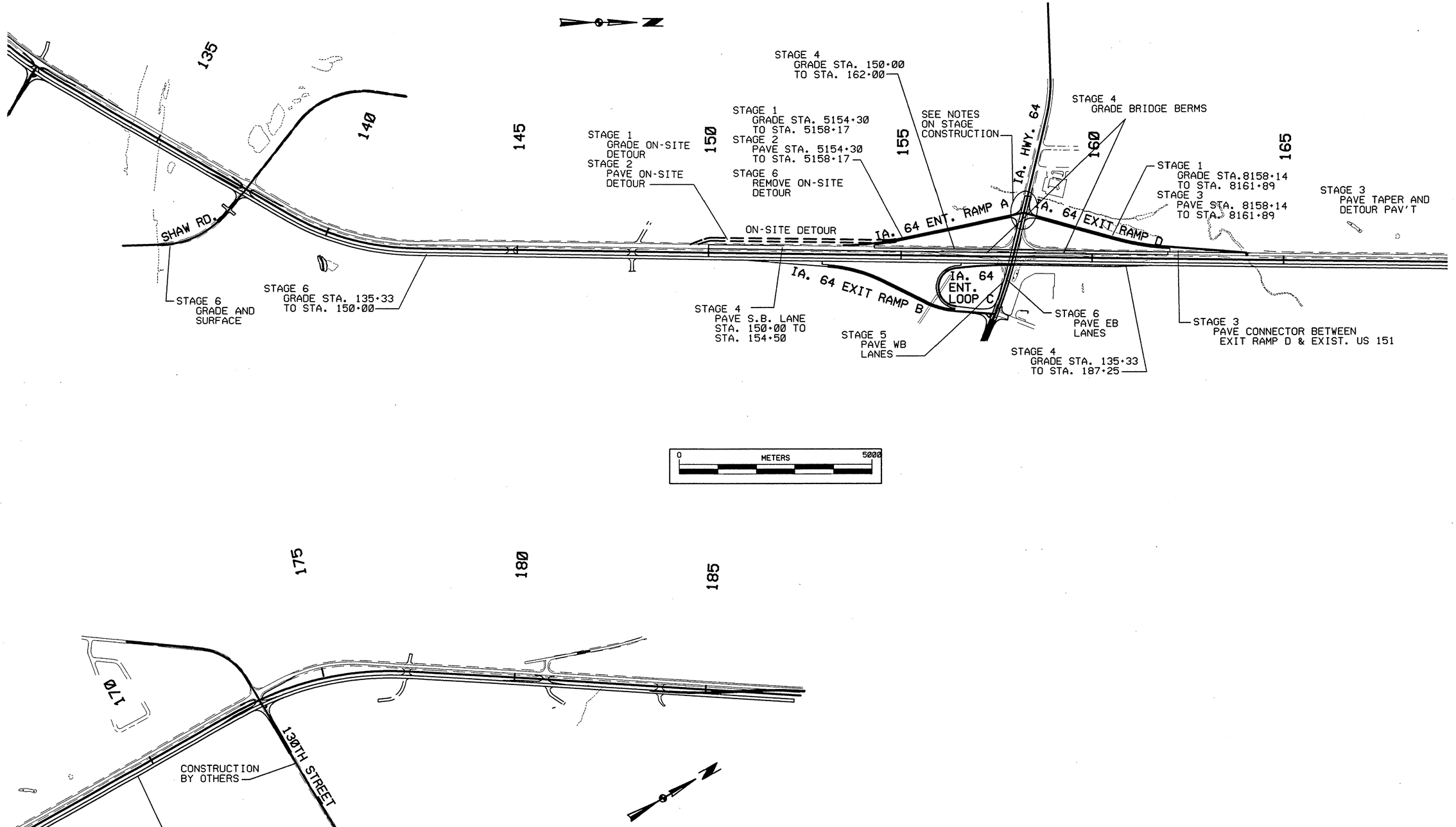
Traffic
Hwy. 151 - Route Head to Head Traffic from Exist. Hwy. 151 on to Newly Paved S. B. Lanes, Ent. Ramp 'A', Ex. Ramp 'D' and on to Exist. Hwy. 151. Utilize Traffic Control Layout on Sheet J.07.
IA. 64 - Route Head to Head Traffic on to Newly Paved West Bound Lanes. Utilize Traffic Control Layout on Sheet J.06.

Construction Activities
IA. 64 - Pave East Bound Lanes from Sta. 2156+91 to Sta. 2159+60. Pave East Bound Lane Outside of Existing Pav't from Sta. 2159+60 to Sta. 2161+15
Other - Remove On-Site Detour 'C'. Grade and Surface Shaw Rd. Grade Exit Ramp 'B' and Entrance Loop 'C'. Construct Grant Wood Drive Using Type 'M' Concrete. Construction Will be Staged to Allow Access to Businesses.
Hwy. 151 - Grade North Bound Lanes from Sta. 135+50 to Sta. 150+00 and from Sta. 162+00 to Sta. 187+25.

STAGE 7

Traffic
Hwy. 151 - To Remain as in Stage 6.
IA. 64 - Route IA. 64 Traffic on to Newly Constructed East Bound and West Bound Lanes.

dgn = L:\WORK\PROJECT\34120\CAUD\EAS1\53151063.j01 levels = 1-3,62
pen table = i:\plot\tables\halfwt.tbl
data = \\WATSO1\DATA\PLOT\PL463P\J01H.PRF
date = Thu Oct 28 07:58:14 1999



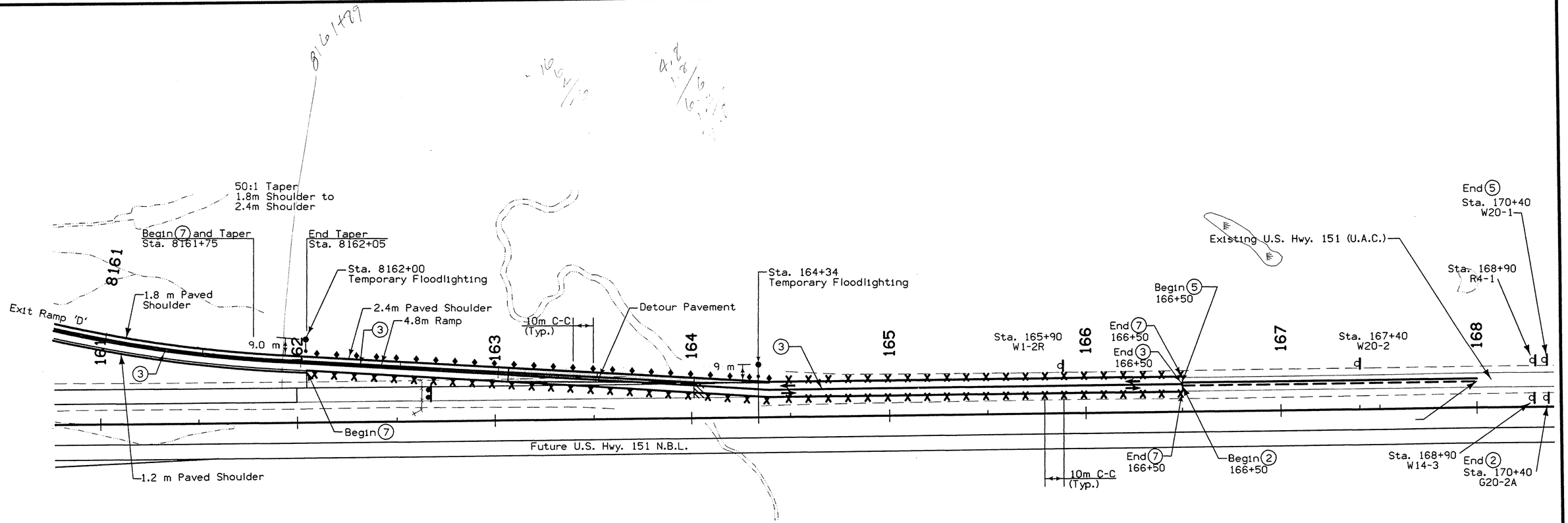
STAGE CONSTRUCTION LAYOUT
STA. 134+00 TO STA. 185+00

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
SKOGERBOE / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	JONES		NHSX-151-4(63)--3H-53	J.02


Construct Connector Between New and Proposed Pavement Utilizing Detour Pavement
Raised Median Removal and Detour Pavement Placed. Stage I
Detour Pavement Constructed During Stage 1
RAMP D
Sta. 2156+25
Lt. 8.4 m
(7) 8.4 m Lt. ℄
2155
2156
2157
2158
2159
2160
Begin (8)
(8)
Sta. 2158+75
W1-4R
W13-1 (35mph)
Sta. 2159+80
W20-2
Sta. 2160+85
W20-1
20:1
12:1
15:1
(7) 1.2 m Lt. ℄
Begin (7)
3.6 m Rt.
Drums @ 10 m c-c
(typ.)
End (7)
End (8)
Type I Barricades
10 m c-c
IA. HWY. 64
Sawcut and Remove Pavement to 1.2 m Lt. of ℄
See RS-64A for Right Lane Closure on East Bound Lane
Construct South Two Lanes and Ramp A
RAMP A
G20-2A
(Sta. 2160+85
Grade Stage 1
Maintain Traffic on Existing US 151
STAGE 2
LEGEND
Paint Lines
Note: (X) Refers to pavement marking type (see tabulation 108-22).
(3) Double Center Line (Yellow)
(7) Edge Line Right (White)
(8) Edge Line Left (Yellow)
Detour Pavement
Type I Barricade / Vertical Panel
Type II Barricade
Type III Barricade
Drum
Sign
Delineator
Temporary Floodlighting
Construct Connector Between New and Proposed Pavement Utilizing Detour Pavement
Drums @ 10 m c-c
(typ.)
Construct North Two Lanes and Ramp D
Begin (7)
Type I Barricades
@10 m c-c (typ.)
See RS-64B for Left Lane Closure on East Bound Lane
Sta. 2158+75
W1-4L
W13-1 (35mph)
Sta. 2159+80
W20-2
Sta. 2160+85
W20-1
(8)
(7) 0.6 m Rt. ℄
(8) 3.9 m Rt. ℄
End (8)
G20-2A
(Sta. 2158+80)
G20-2A
(Sta. 2160+85
METERS
0
100
Maintain Traffic on Existing US 151
STAGE 3

IOWA HIGHWAY 64 TRAFFIC CONTROL
STAGES 2 AND 3

DESIGN TEAM	Skogerboe / ROBINSON	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	J.03



LEGEND

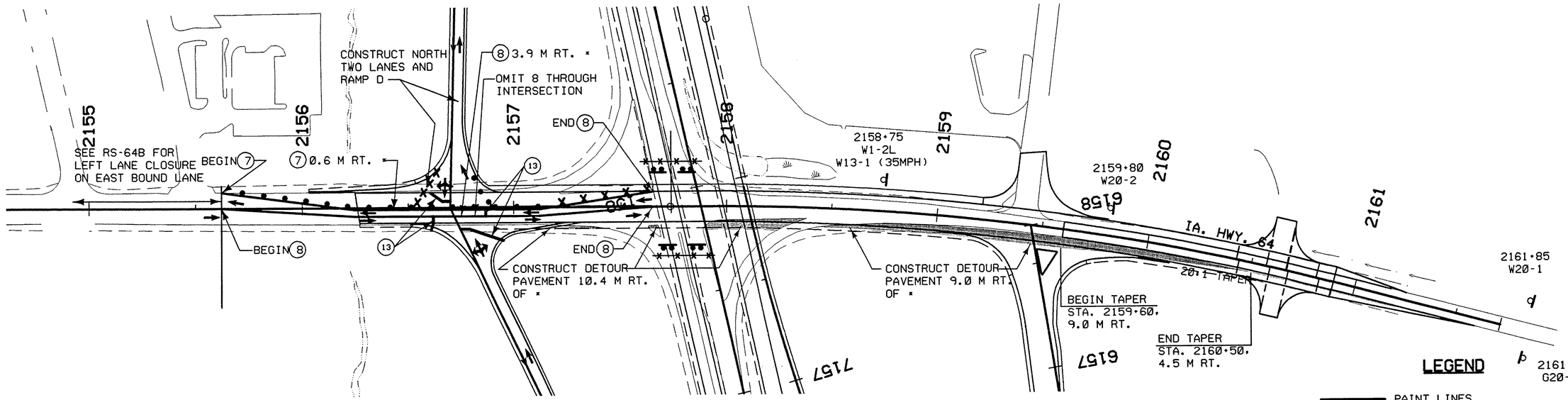
- Paint Lines
  Note: (X) Refers to pavement marking type (see tabulation 108-22).
  - (3) Double Center Line (Yellow)
  - (7) Edge Line Right (White)
  - (8) Edge Line Left (Yellow)
- Detour Pavement
- Type I Barricade / Vertical Panel
- Type II Barricade
- Type III Barricade
- Drum
- Sign
- Delineator
- Temporary Floodlighting

0 METERS 100

EXIT RAMP 'D' / EXIST. HWY. 151
STAGE CONSTRUCTION AND
TRAFFIC CONTROL STAGE 4

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Jones		NHSX-151-4(63)--3H-53	J.04 54/9

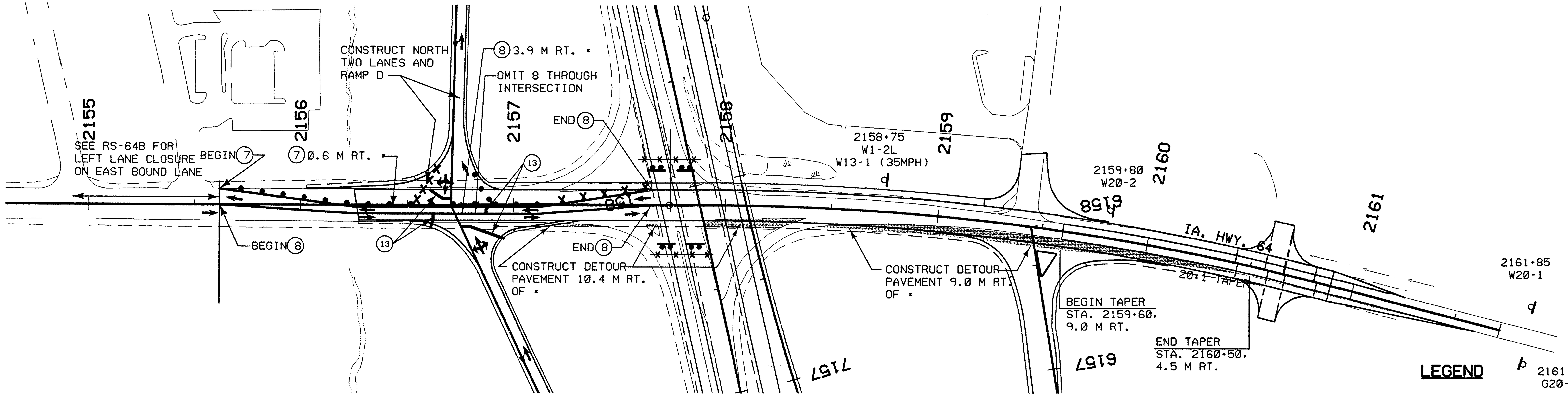
dgn = L:\WORK\project\3412U\cadd\EAS1\53151063.J04 levels = 1-62
prf = \\WATSD1\DATA\PLOT\PL463P\J04h.prf pen table = L:\plot\tables\halfwt.tbl
date = Fri Jul 2 14:16:42 1999



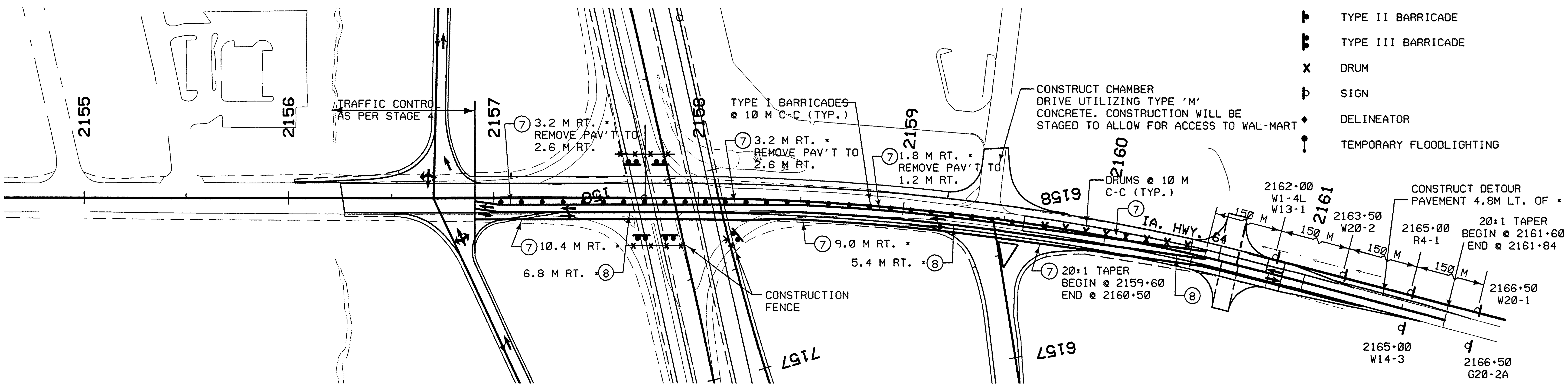
IOWA HIGHWAY 64 TRAFFIC CONTROL
STAGES 4 AND 5

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
SKOGERBOE / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	JONES		NHSX-151-4(63)--3H-53	J.05 55/69

LEVELS * 1-62
PEN TABLE * L:\PLOT\TABLES\HALFWT.TBL
DGN * L:\WORK\PROJECT\34120\CAUD\EAS1\D3151063.J05
PRF * \\WATS01\DATA\PLOT\PL463P\J05H.PRF
DATE * THU OCT 28 07:58:40 1999



STAGE 4



STAGE 5

LEGEND

PAINT LINES
NOTE: (X) REFERS TO PAVEMENT MARKING TYPE (SEE TABULATION 108-22).

(3) DOUBLE CENTER LINE (YELLOW)

(7) EDGE LINE RIGHT (WHITE)

(8) EDGE LINE LEFT (YELLOW)

DETOUR PAVEMENT

● TYPE I BARRICADE / VERTICAL PANEL

TYPE II BARRICADE

TYPE III BARRICADE

x DRUM

SIGN

◆ DELINEATOR

TEMPORARY FLOODLIGHTING

IOWA HIGHWAY 64 TRAFFIC CONTROL
STAGES 4 AND 5

DESIGN TEAM SKOGERBOE / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	JONES COUNTY	PROJECT NUMBER NHSX-151-4(63)--3H-53	SHEET NUMBER J.05

56/90

STAGE 6

LEGEND

PAINT LINES

NOTE: (X) REFERS TO PAVEMENT MARKING TYPE (SEE TABULATION 108-22).

- (3) DOUBLE CENTER LINE (YELLOW)
- (7) EDGE LINE RIGHT (WHITE)
- (8) EDGE LINE LEFT (YELLOW)
- (13) STOP LINE (WHITE)

DETOUR PAVEMENT

TYPE I BARRICADE / VERTICAL PANEL

TYPE II BARRICADE

TYPE III BARRICADE

DRUM

SIGN

DELINEATOR

TEMPORARY FLOODLIGHTING

N

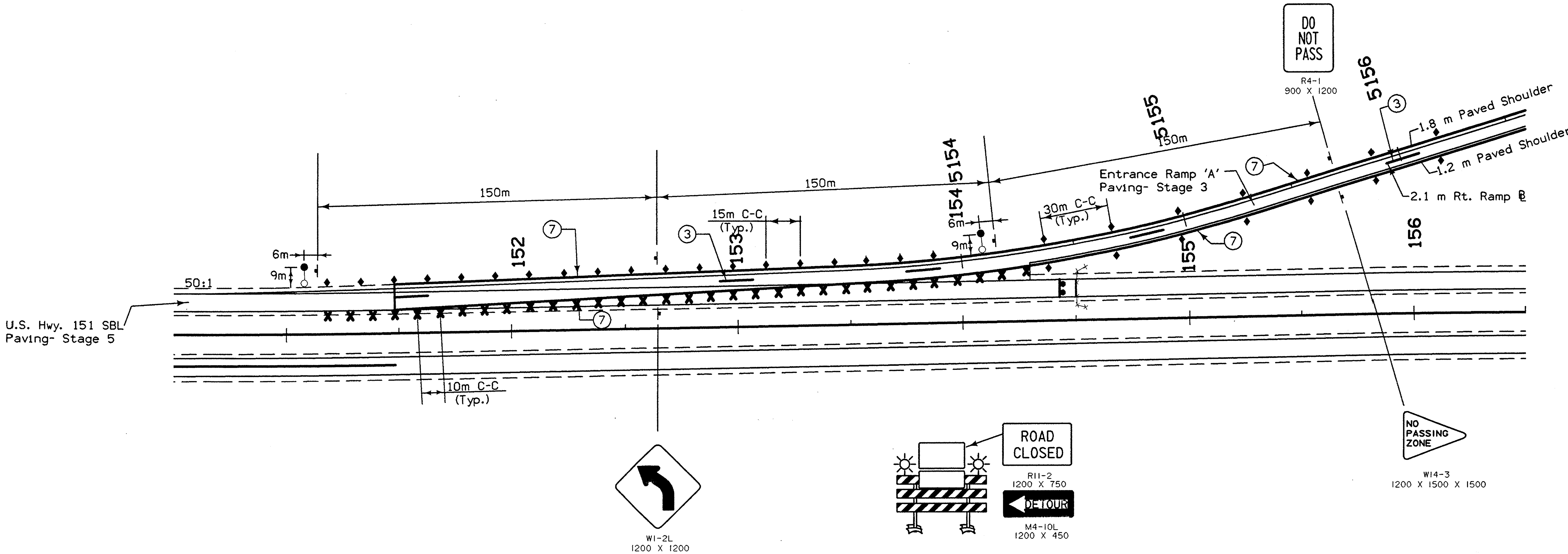
0 METERS 1000

IOWA HIGHWAY 64 TRAFFIC CONTROL
STAGE 6

DESIGN TEAM SKOGERBOE / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	JONES	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	J.06

57/90

UGN : L:\WORK\PROJECT\34120\CADD\EAST\53151063.J06
PRF : \\WATS01\DATA\PLOT\PL463P\J06H.PRF
DATE : THU OCT 28 07:58:51 1999
LEVELS : 1-62
PEN TABLE : L:\PLOT\TABLES\HALFWT.TBL



LEGEND

- Paint Lines
  - Note: (X) Refers to pavement marking type (see tabulation 108-22).
  - (3) Double Center Line (Yellow)
  - (7) Edge Line Right (White)
- Type I Barricade / Vertical Panel
- Type II Barricade
- Type III Barricade (Type 'A' Low Intensity Flashing Warning Lights Required for Nighttime Use)
- Drum
- Traffic Sign
- Delineator (single white delineators, mounted back-to-back)
- Temporary Floodlighting
- Orange Plastic Safety Fence

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.

N

METERS 0 100
SCALE RATIO: 1:1000

ENT. RAMP 'A' / HWY. 151
TRAFFIC CONTROL
STAGE 5


IA. HWY. NO. 64
5157+00± EX. R/W
E.S. 41.478m(136.08')
5156+71.524
E.S. 51.130m(167.75')
172 Constance McKean
Refer to Sheet No. E.02
for Side Road Details
5154+00.681
E.S. 63.497m(208.32')
Install Type 47
Field Fence
5155+41.810
E.S. 42.206m(138.47')
P.T. Sta 5154+90.966
Sta 5158+25.816 Ramp A
Sta 8158+06.342 Ramp D
Sta 2156+70.240 Ia. 64
5154+00.085
610 x 44.86
CMP
49.71
P.C.C. Sta 5154+50.000
P.I. Sta 5154+70.489
Sta 157+90.609 US Hwy 151 O.R. =
Sta 2157+87.867 Ia Hwy 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 Creek
Install 1.8m
Chain Link Fence
8161+16.481
E.S. 23.042m(75.60')
P.C. Sta 8160+62.816
183A City of Anamosa, Jones County, Iowa
P.I. Sta 8161+26.196
P.I. Sta 6153+89.097
P.C. / P.T.
Sta 7156+40.000
P.I. Sta 7157+17.611
Sta. 157+59.2
1060 x 83.40 RCP
D.A.=12.30 HA. R
6154+00
E.S. 38m(125')
P.T. Sta 6154+66.179
Install Type 47
Field Fence
Remove Pavement
P.T. Sta 7157+95.000
Loop C =
Sta 157+95.000, 21.900 Rt.
U.S. 151 O.R.
158+37 O.R.
℄ 48m(157')± EX. R/W
159+00 O.R.
℄ 42m(138')
159+09± O.R. ℞
℄ 53.085m(174')
159+86± O.R. ℞
℄ 54m(177')
Install 1.8m
Chain Link Fence
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(155.84')
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)
183A
City of Anamosa,
Iowa
COM
SECTION 12
6154+84
E.S. 50m(164')
Install 1.8m
Chain Link Fence
P.C. Sta 6155+82.242
P.C. Sta 7154+94.349
P.I. Sta 6156+22.535
P.T. Sta 6156+61.764
6155+87± EX. R/W
E.S. 31m(102')
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
183
Wal-Mart
Properties, Inc.
MEADOW RIDGE
FAIRVIEW
SECTION
PARKING
COM

IOWA HWY. 64
INTERCHANGE

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	K.01

59/90

prf = \\WATSO1\DATA\PLOT\PL463P\K01.PRF
date = Wed Sep 15 14:23:03 1999

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	K.02 60/90

prf = \\WATS01\DATA\PLOT\PL463P\K02.PRF
date = Fri Oct 29 10:56:47 1999

dgn = I:\work\project\3412U\cadd\east\3151063.k03
prf = \\WATSO1\DATA\PLOT\PL463P\k03.prf
date = Fri Oct 29 11:52:42 1999
levels = 1-4,7,8
pen table = I:\plot\tables\halfwt.tbl

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	K.03 61/90

P.I. Sta 5154+70.489

P.I. Sta 8161+26.196

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

P.I. Sta 7157+17.611

Sta. 157+59.2
1060 x 83.40 RCP
D.A.=12.30 HA, R

Sta. 7155+45.0
Install 600 mm RF-1
F.L. Lt. 251.700
F.L. Rt. 251.525

Sta. 6157+41.5.
Skew 18° Lt. Ahd.
Install 600 mm RF-1
F.L. Lt. 247.000
F.L. Rt. 247.500

Sta 6157+68.291 Ramp B =
Sta 2159+44.257 Ia. Hwy 64 O.R.

P.C. Sta 7154+94.349

P.C. Sta 6155+82.242

Sta 6156+22.535

P.T. Sta 6156+61.764

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

Install 1.8m
Chain Link Fence

MEADOW RIDGE
SECOND ADDITION

Sta. 161+83.6
1060 x 25.00 RCP
D.A.=22.30 HA, R

END PAVEME
REMOVAL
Sta. 162+00

City of Anamosa

COM

PARKING

FAIRVIEW TWP.
T-83N R-4W
SECTION 12 SECTION 1

Section Line

MEADOW

ENTRANCE LOOP C

(STAGE 4)

C = 6,015

F + 30% = 2,208
Haul to Sta. 156+70
6,015

+94.3

+55.3

STA 7156+20.000
EL 256.149
L = 45.000
E = -0.227
K = 11.172

STA 7156+55.324
EL 256.141

-0.0222%

STA 7154+94.349
EL 251.435

4.0056%

4.45%

3.51%

1.9857%

+10.0(LT.)
EL 254.59

+95.0(RT.)
EL 253.37

+45.0(LT.)
EL 251.70

+55.3(RT.)
EL 251.25

STA 7155+10.000
EL 251.743
L = 30.000
E = 0.076
K = 14.706

Special Shaping | Ditch Grade | Special Shaping
1.5 m x 3.0 m Ditch | Ditch Grade

251.555 251.819 252.152 252.544 252.944 253.345 253.745 254.146 254.547 254.947 255.345 255.678 255.922 256.077 256.142 256.142

255 250 245

7155 7156 7157 7158 7159 7160

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Jones		NHSX-151-4(63)--3H-53	K.04 62/90

dgn = I:\work\project\34120\cadd\east\b31b1063.ku4
prf = \\WATSON\DATA\PLOT\PL463P\k04.prf
date = Fri Oct 29 11:53:01 1999
pen table = I:\plot\tables\halfwt.tbl
levels = 1-4,7,8

8154+50.0
l 450 mm CMP Letdown
t. 248.700
t. 255.000

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

Sta. 8157+90.5
Skew 21° lt. Ahd.
Install 1200 mm RF-1
F.L. Lt. 241.125
F.L. Rt. 242.500

. Sta 5154+90.966

Sta 5158+25.816 Ramp A =
Sta 8158+06.342 Ramp D =
Sta 2156+70.240 Ia. 64

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

Sta. 8158+37.0.
Install 600 mm RF-1
F.L. Lt. 242.050
F.L. Rt. 244.050

P.C. Sta 8160+62.816

Point "M", Detail 550-1
P.T. Sta 8161+89.231 Ramp D =
Sta 161+89.757, 32.300 Lt.
U.S. 151 O.R.

P.I. Sta 8161+26.196

City of Anamosa
City hall
107 S. Ford Street
Anamosa, Iowa 52205

SECTION 11 SECTION 2

0.488

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

P.I. Sta 7157+17.611

Sta. 157+59.169
1060 X 83.4 R.C.P.
D.A.=12.30 HA, R.

7155+45.0.
all 600 mm RF-1
Lt. 251.700
Rt. 251.525

SHED

161+39.5± O.R. Lot Line
℄ 42.2m(138') (Prop R/W)

Sta. 161+83.615
1060 X 25.0 R.C.P.
D.A.=22.30 HA, G.R.

MEADOW RIDGE Ave

EXIT RAMP D

STA 8158+13.228 RAMP D =
STA 2156+55.000,
7.200 LT IA HWY 64
EL 248.007

STA 8161+89.231 RAMP D =
STA 161+89.757
US HWY 151 O.R.
EL 248.574

STA = 8161+00.000
EL = 248.389
L = 100.000
E = -0.107
K = 117.235

-2.0000%
1.0586%
0.2073%
VPI

+37.0(RT.)
EL 244.05
VPI
+50.0(RT.)
EL 245.31
+30.0(LT.)
EL 245.20
+37.0(LT.)
EL 242.05
+00.0(LT.)
EL 243.40

1.12%
6.01%
2.14%

STA = 8159+00.000
EL = 246.272
L = 120.000
E = 0.459
K = 39.233

Ditch Grade
Ditch Grade
1.5 m x 3.0 m Ditch
No Ditch
Special Shaping

250
245
240

247.872 247.672 247.472 247.285 247.123 246.986 246.876 246.790 246.731 246.696 246.687 246.704 246.746 246.814 246.907 247.013 247.119 247.224 247.330 247.436 247.542 247.648 247.754 247.860 247.961 248.054 248.139 248.215 248.282 248.341 248.392 248.434 248.467 248.492 248.512 248.533 248.553

8158 8159 8160 8161 8162 8163

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Jones | COUNTY | PROJECT NUMBER NHSX-151-4(63)--3H-53 | SHEET NUMBER K.05 63/9

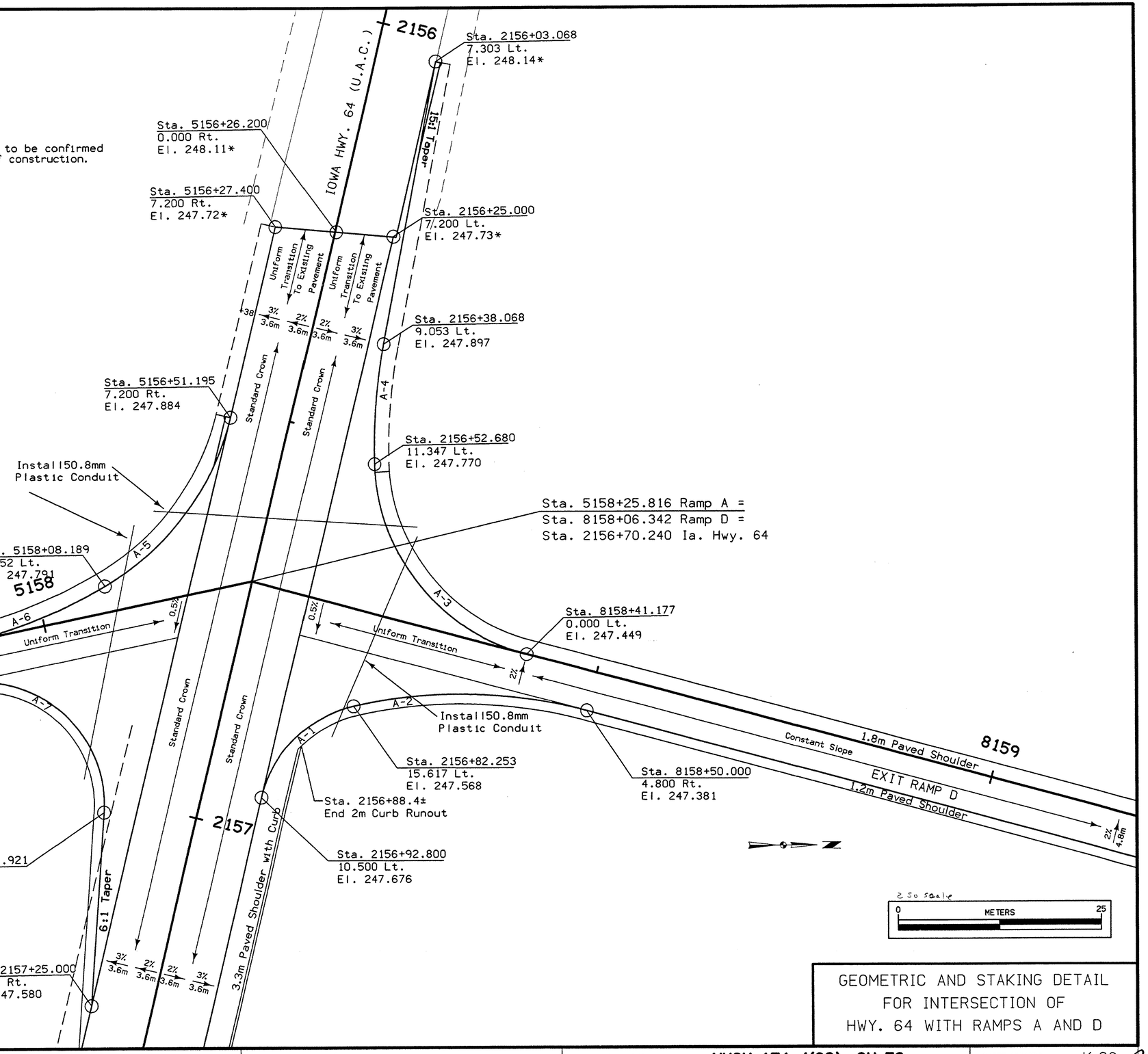
dgn = L:\WORK\PROJECT\34120\CADD\EAST\53151063.k05 levels = 1-4,7,8
pref = \\WATSO1\DATA\PLOTYPL\463P\K05.PRF pen table = L:\plot\tables\halfwt.tbl
date = Fri Jul 2 12:12:48 1999

CIRCULAR CURVE DATA

101-10C
09-27-94

NO.	Δ	R	T	L	E
A-1	63.965	15	9.367	16.746	15
A-2	27.532	60	14.699	28.831	60
A-3	73.568	25	18.691	32.100	25
A-4	12.064	70	7.397	14.739	70
A-5	46.003	33	14.009	26.496	33
A-6	18.652	60	9.853	19.532	60
A-7	105.860	15	19.855	27.714	15

* NOTE:
Elevations to be confirmed at time of construction.



INTERSECTION PAVING REQUIREMENTS

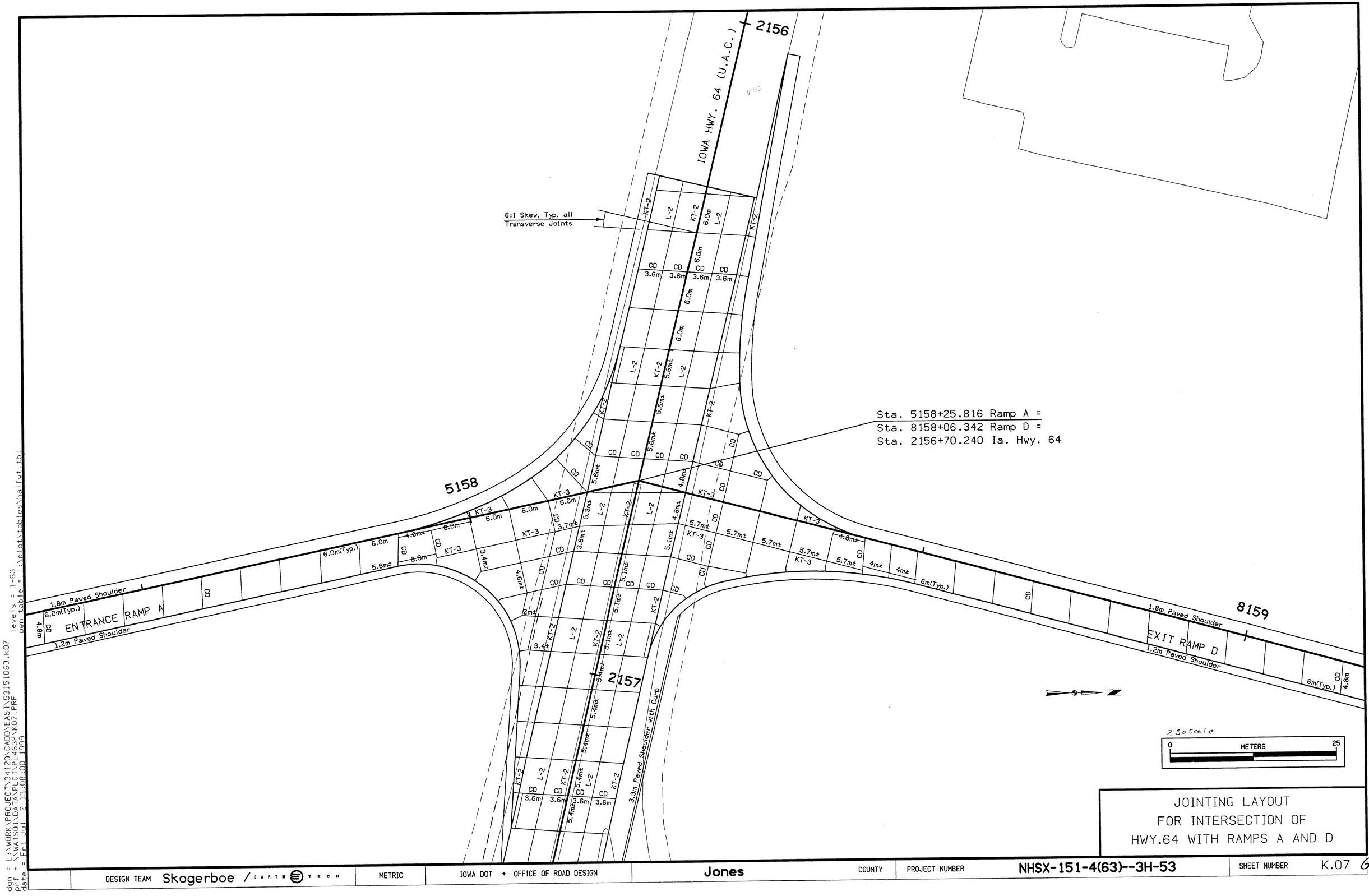
101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2	761.08	
Island	m^2		
Curb	m		

GEOMETRIC AND STAKING DETAIL FOR INTERSECTION OF HWY. 64 WITH RAMPS A AND D

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN	Jones		NHSX-151-4(63)--3H-53	K.06 64/99

dgn = I:\work\project\34120\cadd\east\53151063.k06 levels = 1-63
prf = \\WATSO1\DATA\PL01\PL463P\K06.prf pen table = I:\plot\tables\halfwt.tbl
date = Fri Oct 29 11:27:28 1999



JOINTING LAYOUT
FOR INTERSECTION OF
HWY.64 WITH RAMPS A AND D

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH		IOWA DOT * OFFICE OF ROAD DESIGN	Jones	NHSX-151-4(63)--3H-53	K.07 65/90

dgn = L:\WORK\PROJECT\34120\CADD\EAST\53151063.k07 levels = 1-63
prf = \\WATSO1\DATA\PLOT\PL463P\K07.PRF pen table = L:\plot\tables\halfwt.tbl
date = Fri Jul 2 13:08:00 1999

PAVEMENT EDGE PROFILES
FOR IA. HWY. 64 AND RAMPS A AND D

DESIGN TEAM Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	K.08

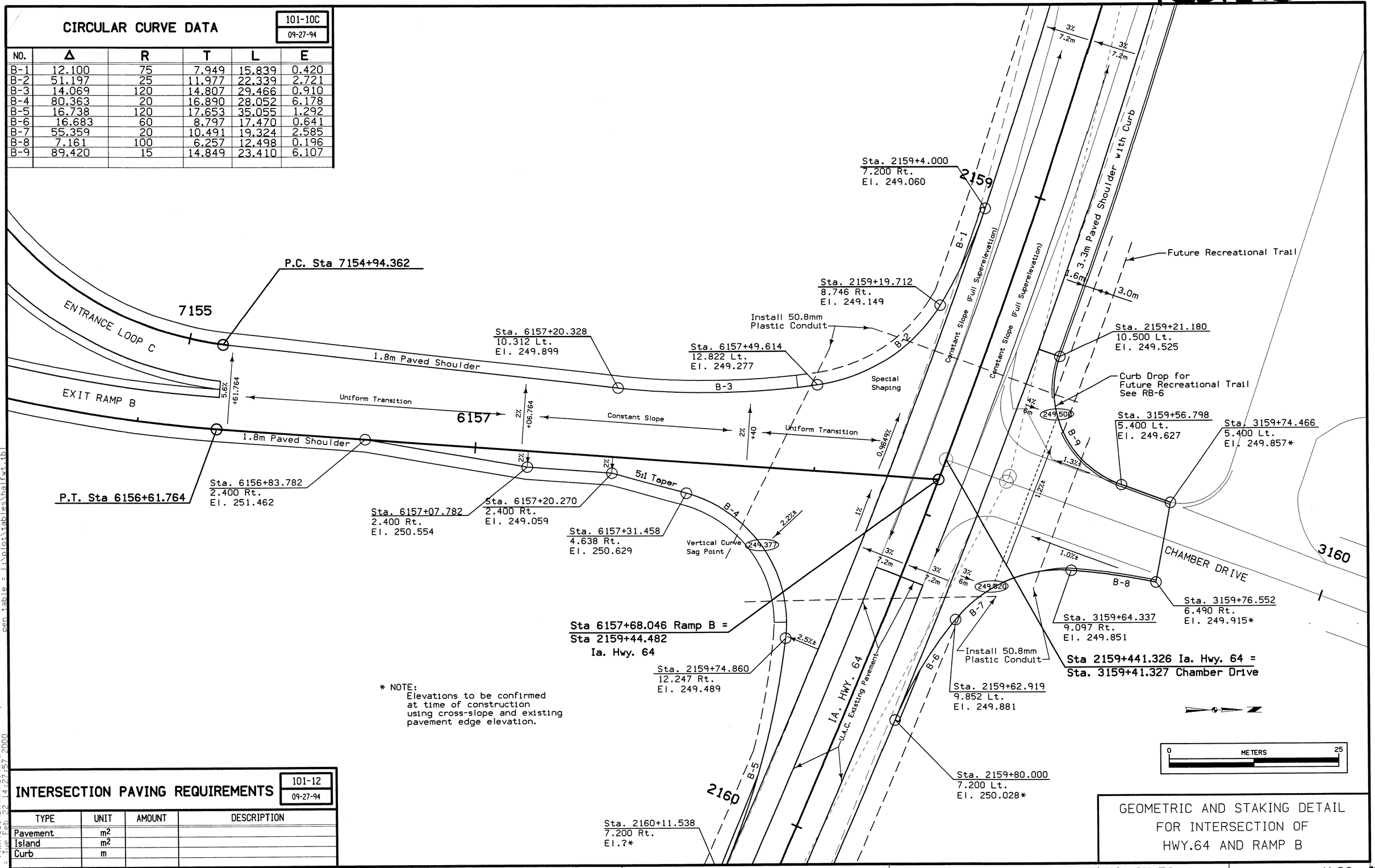
dgn = L:\WORK\PROJECT\3412\0\CADD\EAST\53151063.K08
prf = \\WATS01\DATA\PLOT\PL463P\K08.PRF
date = Wed Jun 30 12:59:21 1999
levels = 1-63
pen table = l:\plot\tables\halfwt.tbl

Revised

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



* 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		
Island	m^2		
Curb	m		

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			Jones	NHSX-151-4(63)--3H-53	K.09 67/90

Revised 02-14-00

dgn = I:\WORK\project\34120\cadd\east\53151063.k09
pref = \\WATSOI\DATA\PLOT\PL463P\K09.prf
date = Tue Feb 22 14:27:57 2000
pen table = I:\plot\tables\half\wt.tbl
levels = 1-63

Revised

P.C. Sta 7154+94.362

P.T. Sta 6156+61.764

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

7155

6157

2159

2160

3160

ENTRANCE LOOP C

EXIT RAMP B

IA. HWY. 64

CHAMBER DRIVE

6:1 Skew, Typ. all Transverse Joints

Future Recreational Trail

3.0m

Curb Drop for Future Recreational Trail See RB-6

180 mm Type 'M' PCC

Match Existing Transverse Joints

1.8m Paved Shoulder

3.3m Paved Shoulder with Curb

KT-2 6m(Typ.)

KT-2 4.7m±

KT-2 4.8m+

KT-2 6.5m±

KT-2 6.0m±

KT-2 4.0m±

KT-2 3.9m±

KT-2 6.6m±

CD 3.6m

CD 4.8m

L-2

BT

C

0 METERS 25

INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2		
Island	m^2		
Curb	m		

JOINTING LAYOUT
FOR INTERSECTION OF
HWY.64 AND RAMP B

DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH	IOWA DOT * OFFICE OF ROAD DESIGN		Jones	NHSX-151-4(63)--3H-53	K.10 68/90

Revised 02-14-00

dgn = I:\WORK\project\34120\caddd\east\53151063.k10 levels = 1-63
prf = \\WATSO1\DATA\PLOTTYPE.463P\K10.prf pen table = I:\plot\tables\halfwt.tbl
date = Fri Feb 25 12:12:06 2000

B-1 to B-3
EB Ia. Hwy. 64
to Ent. Loop 'C'

0+00.000
7.200m Rt. Sta. 2159+04.000
El. 249.060

0+15.839
8.746m Rt. Sta. 2159+19.712
El. 249.149

0+38.178
12.822m Lt. Sta. 6157+49.614
El. 249.277

0+67.644
10.312m Lt. Sta. 6157+20.328
El. 249.899

Ia. Hwy. 64
+0.9649%

+0.56%

+3.17%

Ext. Loop 'C'
+4.000%

VPI Sta. 0+50
El. 249.340
L= 30
E= 0.644

B-1
75m R.
15.839m

B-2
25m R.
22.339m

B-3
120m R.
29.466m

B-6 to B-8
WB Ia. Hwy. 64 to
Chamber Dr.

0+00.000
7.200m Lt. Sta. 2159+80.000
El. 250.028

0+17.470
9.852m Lt. Sta. 2159+62.919
El. 249.881

0+36.794
9.097m Rt. Sta. 3159+64.337
El. 249.851

0+49.292
8.490m Rt. Sta. 3159+76.552
El. 249.915

Ia. Hwy. 64
-0.9649%

-0.84%

+0.39%

Chamber Dr.
1.5%±

VPI Sta. 0+24.648
El. 249.820
No V.C.

B-6
60m R.
17.470m

B-7
20m R.
19.324m

B-8
100m R.
12.498m

B-4 to B-5
Exit Ramp 'B'
To EB IA. Hwy. 64

0+00.000
2.400m Rt. Sta. 6157+20.270
El. 250.059

0+11.410
4.683m Rt. Sta. 6157+31.458
El. 249.629

0+39.462
12.326m Rt. Sta. 2159+74.582
El. 249.489

0+74.517
6.807m Rt. Sta. 2160+09.362
El. 249.83±

Exit Ramp 'B'(Turn Lane)
-3.96%

-3.80%

+0.97%

Exist. IA. Hwy. 64
+1.00%±

VPI Sta. 0+20
El. 249.30
L= 20
E= 0.119

5:1 Taper
11.410m

B-5
20m R.
28.052m

B-6
120m R.
35.053m

0+00.000
5.400m Lt. Sta. 3159+56.798
El. 249.627

0+23.410
10.500m Lt. Sta. 2159+21.180
El. 249.525

Chamber Dr.
-1.7%±

-0.89%

+0.28%

Ia. Hwy. 64
-0.9649%

VPI Sta. 0+14.324
El. 249.500
No V.C.

B-9
15m R.
23.410m

PAVEMENT EDGE PROFILES
FOR IA. HWY. 64 AND RAMP B

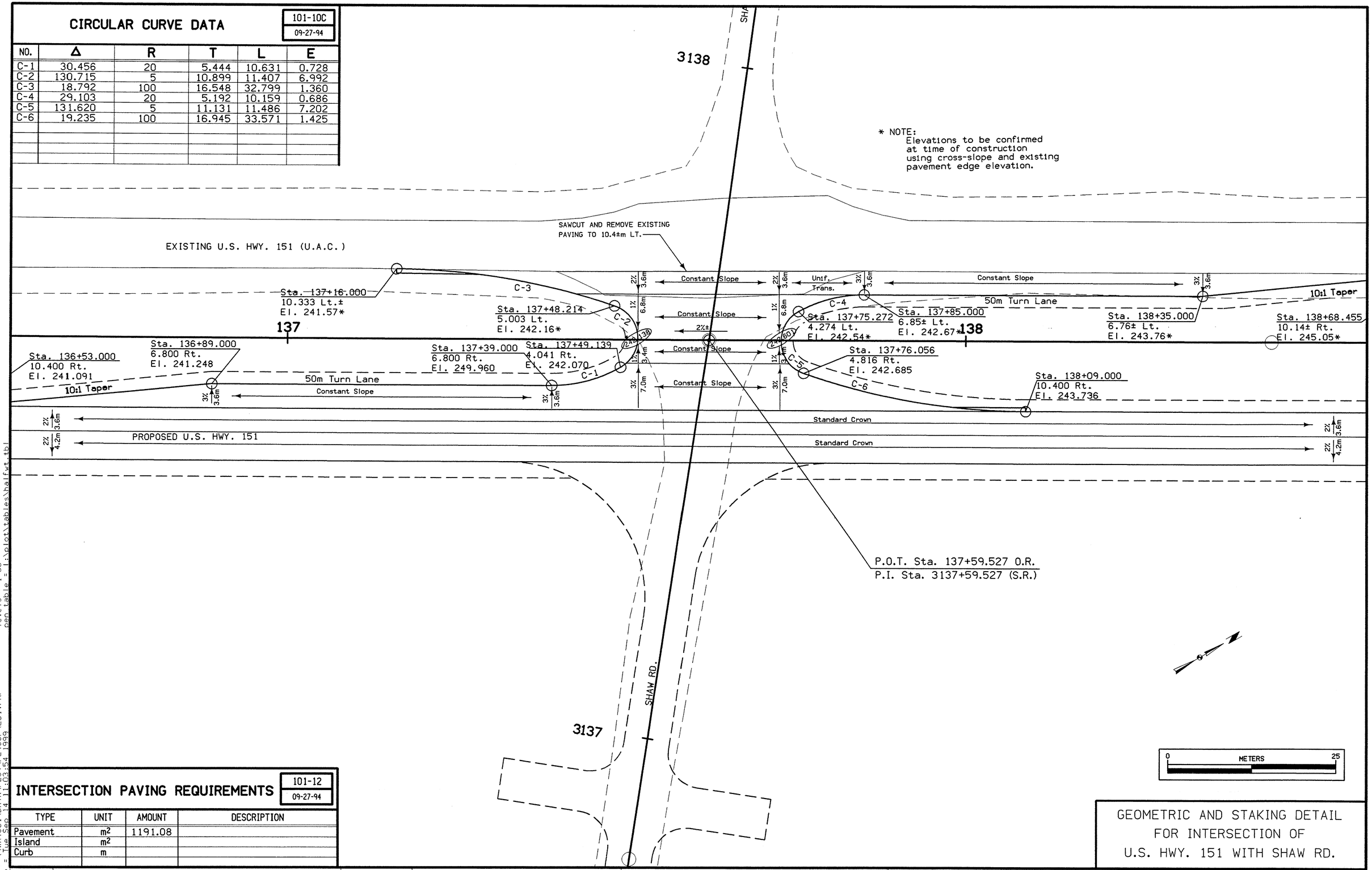
DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Jones | COUNTY | PROJECT NUMBER NHSX-151-4(63)--3H-53 | SHEET NUMBER K.11 69/90

dgn = I:\work\project\3412\Cadd\east\b31b1063.k11 levels = I-63
prf = \\WATSOI\DATA\PLOTPL463P\K11.prf pen table = I:\plot\tables\halfwt.tbl
date = Fri Oct 29 14:46:03 1999

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	1191.08	
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			Jones	NHSX-151-4(63)--3H-53	L.01

70/90

dgn = L:\WORK\PROJECT\34120\CADD\EAS\53151063.101
prf = \WATSO1\DATA\PLOTKPL463P\L01.PRF
date = Tue Sep 14 11:03:54 1999
levels = 1-63
pen table = I:\plot\tables\halfwt.tbl

CIRCULAR CURVE DATA

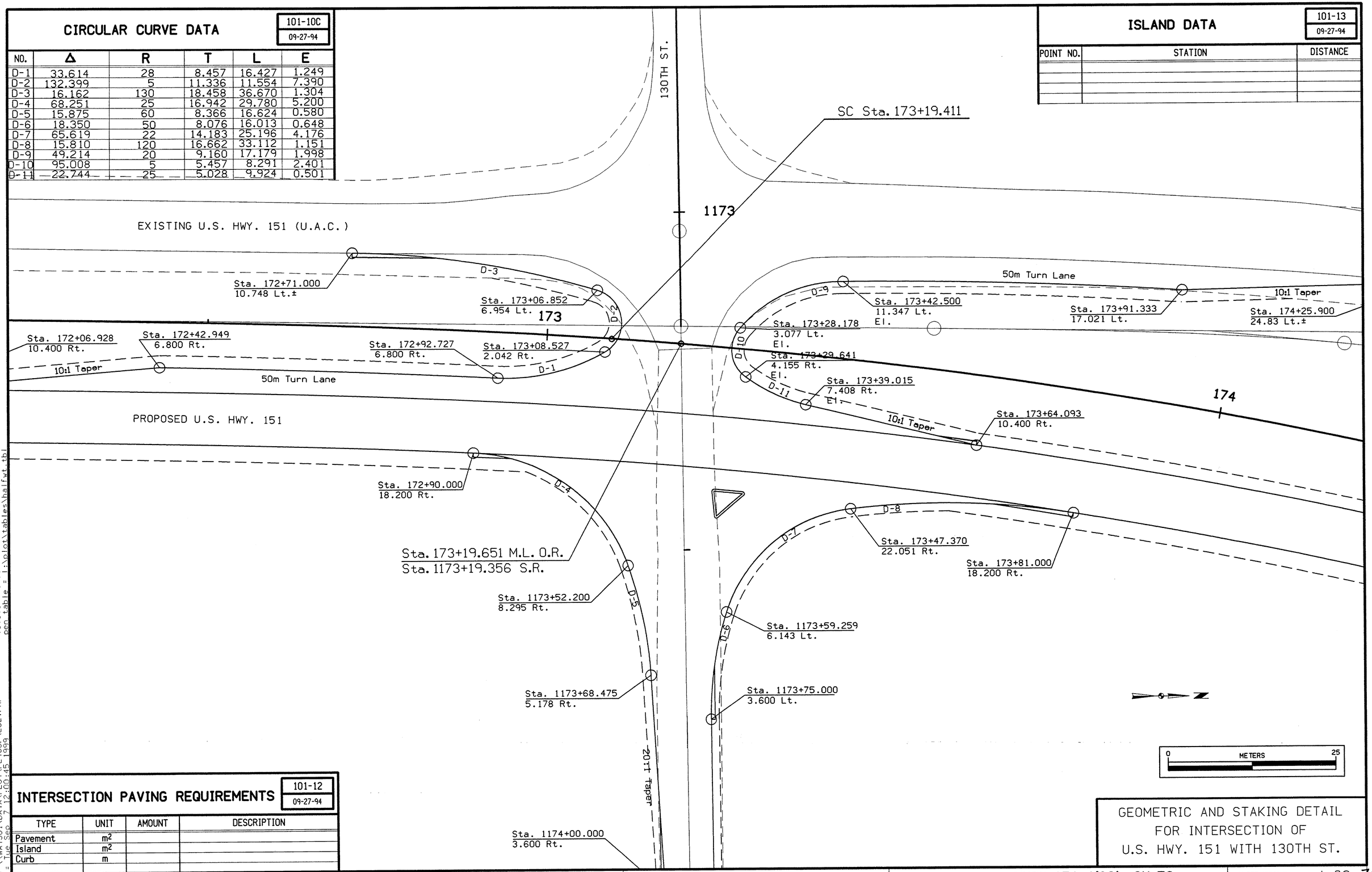
101-10C
09-27-94

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.	STATION	DISTANCE



INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2		
Island	m^2		
Curb	m		

GEOMETRIC AND STAKING DETAIL
FOR INTERSECTION OF
U.S. HWY. 151 WITH 130TH ST.

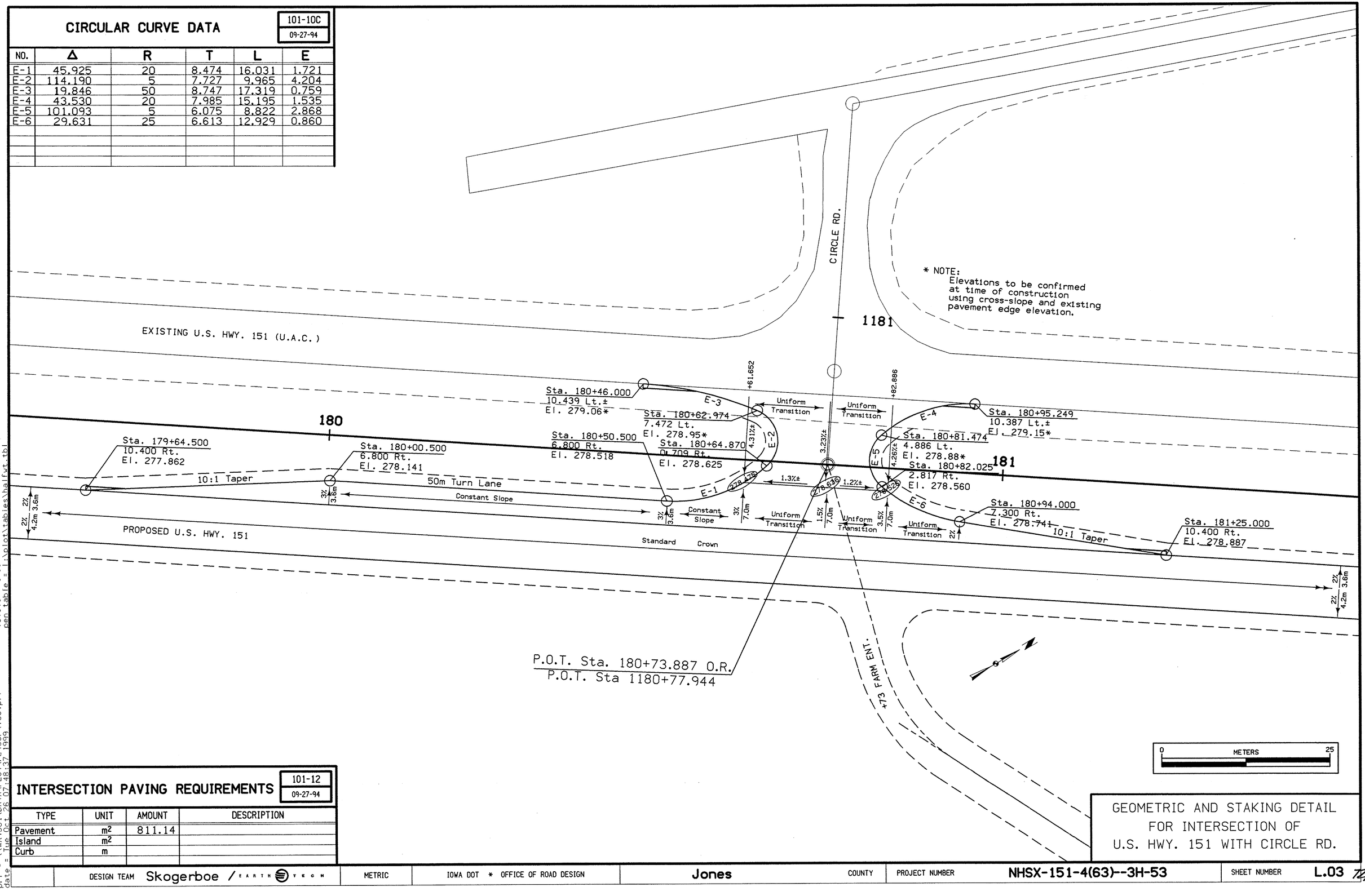
DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Jones	NHSX-151-4(63)--3H-53	L.02 71/90

dgn = L:\WORK\PROJECT\34120\CADD\EAST\53151063.102 levels = 1-63
prf = \\WATSO1\DATA\PLOT\PL463P\L02.PRF pen table = L:\plot\tables\halfwt.tbl
date = Tue Sep 7 12:00:45 1999

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

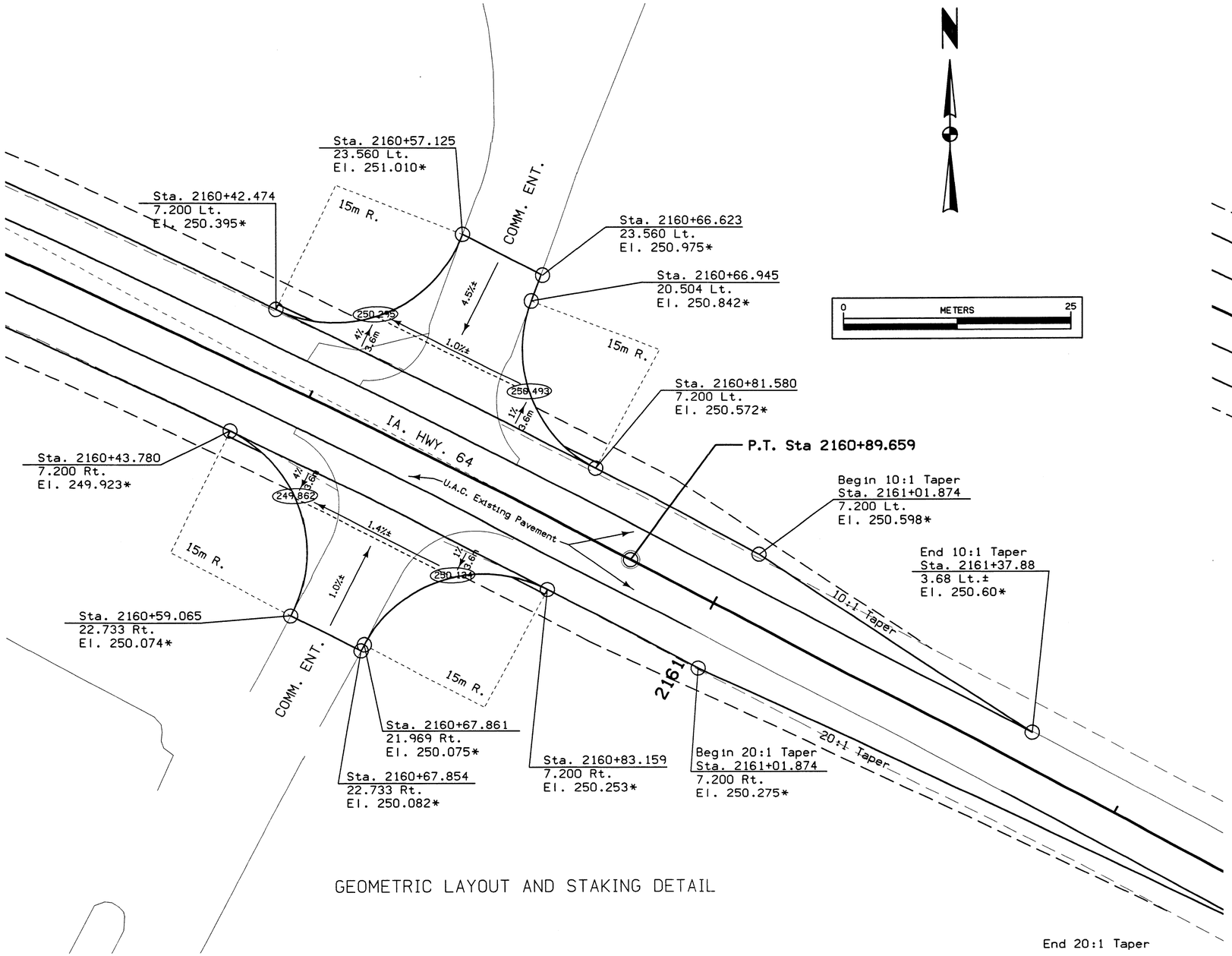
TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2	811.14	
Island	m^2		
Curb	m		

GEOMETRIC AND STAKING DETAIL FOR INTERSECTION OF U.S. HWY. 151 WITH CIRCLE RD.

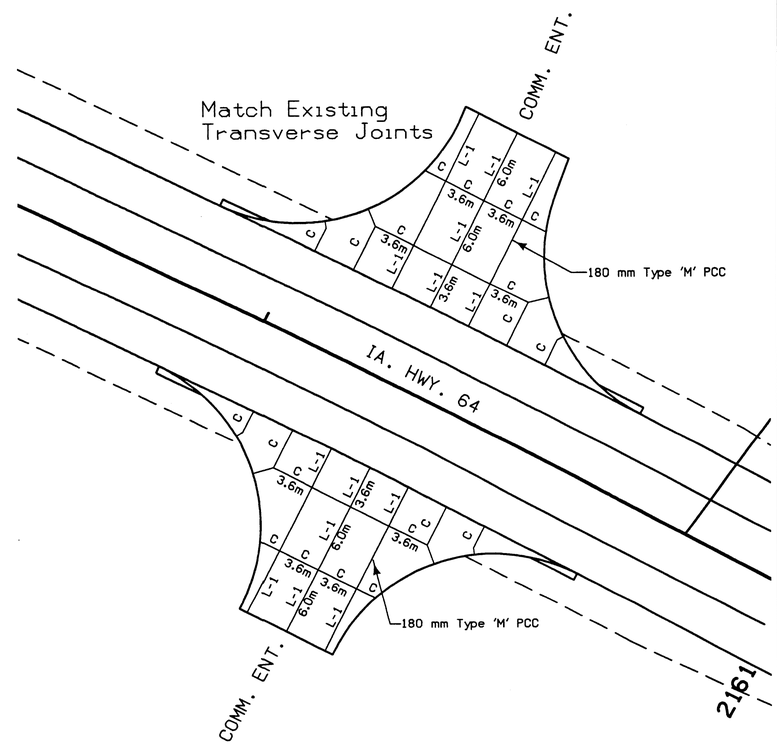
DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Jones COUNTY | PROJECT NUMBER NHSX-151-4(63)--3H-53 | SHEET NUMBER L.03 72/90

dgn = I:\WUHK\project\3412U\cadd\east\531b1083.103 levels = 1-63
prf = \\WATSO1\DATA\PLOT\PL463P\103.prf pen table = I:\plot\tables\halfwt.tbl
date = Tue Oct 26 07:48:37 1999

Revised



GEOMETRIC LAYOUT AND STAKING DETAIL



PAVING JOINT LAYOUT

INTERSECTION PAVING REQUIREMENTS

101-12
09-27-94

TYPE	UNIT	AMOUNT	DESCRIPTION
Pavement	m^2		
Island	m^2		
Curb	m		

GEOMETRIC AND STAKING DETAIL
AND PAVING JOINT LAYOUT
FOR INTERSECTION OF IA. HWY. 64
WITH ENTRANCES AT STA. 2160+64±

DESIGN TEAM	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH			Jones	NHSX-151-4(63)--3H-53	L.04 73/9

Revised 02-14-00

dgn = I:\WDHK\project\34120\cadd\east\53151063.104
prf = \\WATSO1\DATA\PLOT\PL463P\104.prf
date = Fri Feb 25 12:12:20 2000
pen table = I:\plot\tables\halfwt.tbl
levels = 1-63

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 1																																		
Detour C																																		8148+83
8148+83																																		
8149+00	94	0	0		0		0	0	0	0	94	0	0	0	0		10	0	9	0		0		0		0	0		9	0	30	12	0	
8149+50	250	0	0		0		0	0	0	0	250	0	0	0	0		10	0	775	0		0		0		0	0		775	0	30	1008	0	
8150+00	25	0	0		0		0	0	0	0	25	0	0	0	0		10	0	3000	0		0		0		0	0		3000	0	30	3900	0	
8150+50	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	4925	0		0		0		0	0		4925	0	30	6403	0	
8151+00	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	3950	0		0		0		0	0		3950	0	30	5135	0	
8151+50	475	0	0		0		0	0	0	0	475	0	0	0	0		10	0	1700	0		0		0		0	0		1700	0	30	2210	0	
8152+00	525	0	0		0		0	0	0	0	525	0	0	0	0		10	0	1075	0		0		0		0	0		1075	0	30	1398	0	
8152+50	50	0	0		0		0	0	0	0	50	0	0	0	0		10	0	3250	0		0		0		0	0		3250	0	30	4225	0	
8153+00	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	6550	0		0		0		0	0		6550	0	30	8515	0	
8153+50	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	8300	0		0		0		0	0		8300	0	30	10790	0	
8154+00	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	11700	0		0		0		0	0		11700	0	30	15210	0	
8154+50	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	10025	0		0		0		0	0		10025	0	30	13033	0	
8155+00	675	0	0		0		0	0	0	0	675	0	0	0	0		10	0	2825	0		0		0		0	0		2825	0	30	3673	0	
8155+50	675	0	0		0		0	0	0	0	675	0	0	0	0		10	0	200	0		0		0		0	0		200	0	30	260	0	
8155+56	100	0	0		0		0	0	0	0	100	0	0	0	0		10	0	125	0		0		0		0	0		125	0	30	163	0	
																																		8155+56
Ramp A																																		5154+30
5154+30	290	0	0		23		0	0	0	147	166	0	0	0	0		10	0	2420	0		0		120		82	0		2218	0	30	2883	0	
5154+50	4425	0	5		144		0	0	0	394	4180	0	0	0	0		10	0	3050	0		0		127		198	0		2725	0	30	3543	0	
5155+00	11975	0	107		145		0	0	0	432	11795	0	0	0	0		10	0	150	0		0		0		97	0		53	0	30	69	0	
5155+50	13025	0	203		67		0	0	0	378	12917	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
5156+00	5700	0	203		54		0	0	0	351	5606	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
5156+50	825	0	102		28		0	0	0	195	760	0	0	0	0		10	0	3150	0		0		128		102	0		2920	0	30	3796	0	
5157+00	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	5575	0		0		200		203	0		5172	0	30	6724	0	
5157+50	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	5100	0		0		161		203	0		4736	0	30	6157	0	
5158+00																																		5158+00
Ramp D																																		
8158+13																																		8158+13
8158+50	814	0	70		59		0	0	0	62	881	0	0	0	0		10	0	1388	0		0		83		75	0		1230	0	30	1599	0	
8159+00	350	0	11		62		0	0	0	159	264	0	0	0	0		10	0	2150	0		0		151		192	0		1807	0	30	2349	0	
8159+50	125	0	33		41		0	0	0	76	123	0	0	0	0		10	0	825	0		0		100		170	0		555	0	30	722	0	
8160+00	0	0	22		0		0	0	0	0	22	0	0	0	0		10	0	1900	0		0		128		182	0		1590	0	30	2067	0	
8160+50	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	2750	0		0		140		203	0		2407	0	30	3129	0	
8161+00	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	2950	0		0		146		203	0		2601	0	30	3381	0	
8161+50	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	2775	0		0		135		203	0		2437	0	30	3168	0	
8161+89	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	1794	0		0		94		158	0		1542	0	30	2005	0	
																																		8161+89
Mainline																																		135+15
135+15																																		
135+32.7	115	0	0		0		0	0	0	34	81	0	0	0	0		10	0	1062	0		0		0		52	0		1010	0	30	1313	0	
135+50	225	0	0		0		0	0	0	66	159	0	0	0	0		10	0	2076	0		0		0		103	0		1973	0	30	2565	0	
136+00	450	0	0		0		0	0	0	131	319	0	0	0	0		10	0	4075	0		0		0		148	0		3927	0	30	5105	0	
136+50	125	0	0		0		0	0	0	35	90	0	0	0	0		10	0	1075	0		0		0		0	0		1075	0	30	1398	0	
																																		136+50
STAGE 2																																		2156+25
Iowa Hwy. 64																																		
2156+25																																		
2156+50	300	0	71		0		0	69	0	13	289	0	0	0	0		10	0	500	0		2		101		0	0		401	0	30	521	0	
2156+91	472	0	116		0		0	117	0	23	448	0	0	0	0		10	0	451	0		2		101		0	0		352	0	30	458	0	
																																		2156+91
STAGE 3																																		2156+25
Iowa Hwy. 64																																		
2156+25																																		
2156+50	125	0	53		6		0	52	0	0	132	0	0	0	0		10	0	425	0		6		89		0	0		342	0	30	445	0	
2156+91	492	0	86		33		0	91	0	0	520	0	0	0	0		10	0	451	0		5		97		0	0		359	0	30	467	0	
																																		2156+91

OVERHAUL = 58,978 STA. m

OVERHAUL = 20,741 STA. m

OVERHAUL = 42,777 STA. m

OVERHAUL = 142,386 STA. m

NO OVERHAUL

NO OVERHAUL

levels = 1-63
pen table = I:\plot\tables\halfwt.tbl

dgn = L:\WORK\PROJECT\3412U\CADD\EAS\b/1b1063.t01
prf = \\WATSO1\DATA\PLOT\PL463P\T01.PRF
date = Fri Oct 29 14:29:10 1999

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Jones | COUNTY | PROJECT NUMBER NHSX-151-4(63)--3H-53 | SHEET NUMBER T.01 74/90

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 4																																		
Mainline																																		
150+00																																		+00
150+50	150	0	148		0		0	83	0	29	186	0	0	0	0		10	0	4125	Dike		0		149		148	0		3828	0	30	4976	0	
151+00	4650	0	297		60		0	83	0	367	4557	0	0	0	0		10	0	4250	37		82		205		297	0		3867	0	30	5027	0	NO OVERHAUL
151+50	9800	0	375		148		0	0	0	563	9760	0	0	0	0		10	0	475	0		164		134		219	0		286	0	30	372	0	
152+00	5500	0	226		169		0	0	0	288	5607	0	0	0	0		10	0	3500	0		167		235		367	0		3065	0	30	3985	0	
152+50	250	0	0		108		0	0	0	164	194	0	0	0	0		10	0	10500	0		169		423		593	0		9653	0	30	12549	0	
153+00	75	0	0		26		0	0	0	101	0	0	0	0	0		10	0	16800	0		168		567		593	0		15808	0	30	20550	0	
153+50	25	0	0		0		0	0	0	0	25	0	0	0	0		10	0	15850	Dike		167		501		593	0		14923	0	30	19400	0	
154+00	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	11375	17		168		497		593	0		10470	0	30	13611	0	+23.3
154+50	3175	0	6		31		0	0	0	185	3027	0	0	0	0		10	0	7125	0		168		370		587	0		6336	0	30	8237	0	
155+00	8100	0	6		31		0	0	0	409	7728	0	0	0	0		10	0	4825	0		168		204		587	0		4202	0	30	5463	0	
155+50	11425	0	137		31		0	0	0	530	11063	0	0	0	0		10	0	4975	0		177		251		457	0		4444	0	30	5777	0	
156+00	9800	0	218		121		0	0	0	587	9552	0	0	0	0		10	0	5950	0		202		248		375	0		5529	0	30	7188	0	
156+50	5200	0	82		118		0	0	0	424	4976	0	0	0	0		10	0	9900	Guardrail		217		274		511	0		9332	0	30	12132	0	
157+00	2400	0	0		106		0	0	0	210	2296	0	0	0	0		10	0	17350	250		236		422		593	0		16821	0	30	21867	0	
157+50	1775	0	0		205		0	0	0	217	1763	0	0	0	0		10	0	24550	100		317		608		593	0		23766	0	30	30896	0	
157+60	255	0	0		51		0	0	0	30	276	0	0	0	0		10	0	5315	0		75		133		119	0		5138	0	30	6679	0	
157+76	0	0	0		41		0	0	0	0	41	0	0	0	0		10	0	4200	0		60		107		95	0		4058	0	30	5275	0	
158+08	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
158+21	0	0	0		33		0	0	0	0	33	0	0	0	0		10	0	2828	100		49		87		77	0		2813	0	30	3657	0	+76
158+50	986	0	0		100		0	0	0	161	925	0	0	0	0		10	0	11890	250		184		329		344	0		11651	0	30/20	14395	0	+08
159+00	1975	0	0		54		0	0	0	434	1595	0	0	0	0		10	0	18400	0		227		464		593	0		17570	0	20	21084	0	
159+50	1675	0	0		97		0	0	0	421	1351	0	0	0	0		10	0	15500	0		173		421		593	0		14659	0	20	17591	0	
160+00	2850	0	0		208		0	0	0	550	2508	0	0	0	0		10	0	10225	0		149		310		593	0		9471	0	20	11365	0	
160+50	1675	0	0		144		0	0	0	370	1449	0	0	0	0		10	0	6175	0		131		270		593	0		5443	0	20	6532	0	
161+00	300	0	55		33		0	0	0	123	265	0	0	0	0		10	0	5600	0		113		282		539	0		4892	0	20	5870	0	
161+50	200	0	203		17		0	0	0	84	336	0	0	0	0		10	0	4575	0		80		235		390	0		4030	0	20	4836	0	
162+00	350	0	297		19		0	0	0	93	573	0	0	0	0		10	0	4125	0		26		248		297	0		3606	0	20	4327	0	OVERHAUL = 446,131 STA. m
																																		+00
Ramp 'B'																																		
6153+10																																		+10
6153+50	120	0	0		8		0	0	0	87	41	0	0	0	0		10	0	6040	0		0		166		163	0		5711	0	30	7424	0	
6154+00	1350	0	0		71		0	0	0	263	1158	0	0	0	0		10	0	3275	0		0		85		204	0		2986	0	30	3882	0	
6154+50	9000	0	102		96		0	0	0	421	8777	0	0	0	0		10	0	250	0		0		0		102	0		148	0	30	192	0	
6155+00	17275	0	204		63		0	0	0	443	17099	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
6155+50	16600	0	204		86		0	0	0	478	16412	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
6156+00	10625	0	204		116		0	0	0	492	10453	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
6156+50	4075	0	204		86		0	0	0	388	3977	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
6157+00	1300	0	270		83		0	0	0	387	1266	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
6157+50	1025	0	175		88		0	0	0	324	964	0	0	0	0		10	0	350	0		0		11		148	0		191	0	30	248	0	
6157+61	77	0	22		7		0	0	0	18	88	0	0	0	0		10	0	132	0		0		10		46	0		76	0	30	99	0	NO OVERHAUL
																																		+61
Loop 'C'																																		
7154+50																																		+50
7155+00	1025	0	83		28		0	0	0	162	974	0	0	0	0		10	0	25	0		0		0		0	0		25	0	30	33	0	
7155+50	2600	0	165		55		0	0	0	321	2499	0	0	0	0		10	0	25	0		0		0		0	0		25	0	30	33	0	
7156+00	2075	0	165		61		0	0	0	308	1993	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
7156+50	600	0	83		46		0	0	0	192	537	0	0	0	0		10	0	1525	0		0		61		112	0		1352	0	30	1758	0	NO OVERHAUL
7156+55	18	0	0		2		0	0	0	8	12	0	0	0	0		10	0	330	0		0		13		22	0		295	0	30	384	0	
																																		+55
STAGE 5																																		
																																		+91
owa Hwy. 64																																		
2156+91																																		
2157+00	171	0	19		12		0	21	0	0	181	0	0	0	0		10	0	45	0		0		11		0	0		34	0	30	44	0	
2157+50	1025	0	138		62		0	142	0	0	1083	0	0	0	0		10	0	125	0		0		30		0	0		95	0	30	124	0	
2158+00	900	0	171		28		0	173	0	0	926	0	0	0	0		10	0	150	0		0		38		0	0		112	0	30	146	0	
2158+50	500	0	161		0		0	151	0	0	510	0	0	0	0		10	0	550	0		0		83		0	0		467	0	30	607	0	
2159+00	475	0	150		8		0	106	0	0	527	0	0	0	0		10	0	750	0		0		79		0	0		671	0	30	872	0	
2159+50	475	0	150		13		0	86	0	0	552	0	0	0	0		10	0	450	0		0		58		0	0		392	0	30	510	0	
2160+00	325	0	91		11		0	40	0	0	387	0	0	0	0		10	0	275	0		0		46		19	0		210	0	30	273	0	
2160+50	350	0	26		12		0	0	0	0	388	0	0	0	0		10	0	375	0		0		44		44	0		287	0	30	373	0	
2161+00	500	0	28		14		0	0	0	0	542	0	0	0	0		10	0	300	0		0		44		29	0		227	0	30	295	0	
2161+15	195	0	11		5		0	0	0	0	211	0	0	0	0		10	0	60	0		0		13		3	0		44	0	30	57	0	OVERHAUL = 8,588 STA. m
																																		+15

levels = 1-63
pen table = I:\plot\tables\halfwt.tbl

dgn = L:\WORK\PROJECT\3412U\CADD\EAS\b/15063.t01
prf = \\WATSO1\DATA\PLOT\PL463P\T02.PRF
date = Fri Oct 29 14:29:19 1999

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	T.02 75/90

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	UNSUITABLE C - 3	UNSUITABLE 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 6																																		
Iowa Hwy. 64																																		
2156+91																																		+91
2157+00	99	0	25		6		0	27	0	0	103	0	0	0	0		10	0	18	0		0		8		0	0		10	0	30	13	0	
2157+50	1650	0	108		85		0	145	0	0	1698	0	0	0	0		10	0	50	0		0		23		0	0		27	0	30	35	0	OVERHAUL = 30,058 STA. m
2158+00	3150	0	75		124		0	110	0	0	3239	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
2158+50	2050	0	86		82		0	82	0	0	2136	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
2159+00	575	0	96		38		0	81	0	0	628	0	0	0	0		10	0	125	0		0		42		0	0		83	0	30	108	0	
2159+50	350	0	96		24		0	54	0	0	416	0	0	0	0		10	0	150	0		0		31		0	0		119	0	30	155	0	
2160+00	300	0	71		25		0	15	0	0	381	0	0	0	0		10	0	125	0		0		22		0	0		103	0	30	134	0	
2160+50	625	0	68		25		0	0	0	0	718	0	0	0	0		10	0	325	0		0		42		25	0		258	0	30	335	0	
2161+00	975	0	98		11		0	0	0	0	1084	0	0	0	0		10	0	375	0		0		52		25	0		298	0	30	387	0	
2161+84	180	0	16		0		0	0	0	0	196	0	0	0	0		10	0	45	0		0		10		0	0		35	0	30	46	0	+84
Mainline																																		
135+50	0	0	0		60		0	0	0	35	25	0	0	0	0		10	0	1074	0		0		176		148	0		750	0	30	975	0	+50
136+00	74	0	0		40		0	0	0	76	38	0	0	0	0		10	0	2768	0		0		151		297	0		2320	0	30	3016	0	
136+50	199	0	0		39		0	0	0	97	141	0	0	0	0		10	0	2442	Crossover		0		116		297	0		2029	0	30	2638	0	
137+00	447	0	62		57		0	0	0	56	510	0	0	0	0		10	0	886	188		0		87		234	0		753	0	30	979	0	
137+50	378	0	62		49		0	0	0	42	447	0	0	0	0		10	0	991	0		0		93		234	0		664	0	30	863	0	
138+00	138	0	0		32		0	0	0	68	102	0	0	0	0		10	0	2354	0		0		119		297	0		1938	0	30	2519	0	
138+50	179	0	0		30		0	0	0	56	153	0	0	0	0		10	0	4062	0		0		158		297	0		3607	0	30	4689	0	
139+00	172	0	0		22		0	0	0	60	134	0	0	0	0		10	0	5109	Dike		0		188		297	0		4624	0	30	6011	0	
139+50	1477	0	148		46		0	0	0	186	1485	0	0	0	0		10	0	2727	37		0		107		148	0		2509	0	30	3262	0	
140+00	3588	0	297		75		0	0	0	312	3648	0	0	0	0		10	0	348	0		0		17		0	0		331	0	30	430	0	
140+50	5017	0	297		85		0	0	0	352	5047	0	0	0	0		10	0	272	Dike		0		6		0	0		266	0	30	346	0	
141+00	2840	0	157		46		0	0	0	195	2848	0	0	0	0		10	0	2228	19		0		130		140	0		1977	0	30	2570	0	
141+50	538	0	143		21		0	0	0	87	615	0	0	0	0		10	0	2184	0		0		154		140	0		1890	0	30	2457	0	
142+00	533	0	135		21		0	0	0	87	602	0	0	0	0		10	0	3461	0		0		124		135	0		3202	0	30	4163	0	
142+50	121	0	138		12		0	0	0	45	226	0	0	0	0		10	0	3605	0		0		145		146	0		3314	0	30	4308	0	+27
143+00	122	0	138		12		0	0	0	45	227	0	0	0	0		10	0	11035	Dikes+entr		0		158		159	0		10718	0	30	13933	0	
143+50	781	0	0		18		0	0	0	79	720	0	0	0	0		10	0	20703	50		0		331		297	0		20125	0	30	26163	0	
144+00	1709	0	0		46		0	0	0	197	1558	0	0	0	0		10	0	17509	16152		0		412		297	0		32952	0	30	42838	0	
144+50	2081	0	0		44		0	0	0	285	1840	0	0	0	0		10	0	12113	Crossover		0		414		297	0		11402	0	30	14823	0	
145+00	2190	0	148		61		0	0	0	352	2047	0	0	0	0		10	0	4476	132		0		219		148	0		4241	0	30	5513	0	
145+50	3666	0	297		90		0	0	0	388	3665	0	0	0	0		10	0	2	Dike		0		0		0	0		2	0	30	3	0	
146+00	7006	0	297		77		0	0	0	477	6903	0	0	0	0		10	0	2	0		0		0		0	0		2	0	30	3	0	
146+50	8485	0	297		63		0	0	0	536	8309	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
147+00	9164	Entrance	297		77		0	0	0	496	9042	0	0	0	0		10	0	0	C-over+entr		0		0		0	0		0	0	30	0	0	
147+50	9010	1239	297		91		0	0	0	391	10246	0	0	0	0		10	0	0	1048		0		0		0	0		1048	0	30	1362	0	
148+00	6277	0	297		112		0	0	0	359	6327	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
148+50	2584	0	148		89		0	0	0	270	2551	0	0	0	0		10	0	1342	0		0		68		148	0		1126	0	30	1464	0	
149+00	1647	0	0		40		0	0	0	185	1502	0	0	0	0		10	0	5111	0		0		144		297	0		4670	0	30	6071	0	
149+50	6116	0	154		79		0	84	0	329	5936	0	0	0	0		10	0	4519	0		0		158		291	0		4070	0	30	5291	0	+29
150+00	7500	0	154		61		0	84	0	213	7418	0	0	0	0		11	0	750	0		0		81		143	0		526	0	30	684	0	
150+50	3925	0	0		0		0	0	0	0	3925	0	0	0	0		12	0	0	0		0		0		0	0		0	0	30	0	0	
151+00	2200	0	0		0		0	0	0	0	2200	0	0	0	0		13	0	0	0		0		0		0	0		0	0	30	0	0	
151+50	3300	0	0		0		0	0	0	0	3300	0	0	0	0		14	0	0	0		0		0		0	0		0	0	30	0	0	
152+00	4350	0	0		0		0	0	0	0	4350	0	0	0	0		15	0	0	0		0		0		0	0		0	0	30	0	0	
152+50	4450	0	0		0		0	0	0	0	4450	0	0	0	0		16	0	0	0		0		0		0	0		0	0	30	0	0	
153+00	5925	0	0		0		0	0	0	0	5925	0	0	0	0		17	0	0	0		0		0		0	0		0	0	30	0	0	
153+50	8275	0	0		0		0	0	0	0	8275	0	0	0	0		18	0	0	0		0		0		0	0		0	0	30	0	0	
154+00	5250	0	0		0		0	0	0	0	5250	0	0	0	0		19	0	0	0		0		0		0	0		0	0	30	0	0	
5154+30	6975	0	0		0		0	0	0	0	6975	0	0	0	0		20	0	0	0		0		0		0	0		0	0	30	0	0	
5154+50	6075	0	0		0		0	0	0	0	6075	0	0	0	0		21	0	0	0		0		0		0	0		0	0	30	0	0	
5155+00	4000	0	0		0		0	0	0	0	4000	0	0	0	0		22	0	0	0		0		0		0	0		0	0	30	0	0	OVERHAUL = 390,308 STA. m
5155+50	850	0	0		0		0	0	0	0	850	0	0	0	0		23	0	0	0		0		0		0	0		0	0	30	0	0	
5156+00																																		+00

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
Mainline																																		
162+00																																		+00
162+50	200	0	297		48		0	0	0	99	446	0	0	0	0		10	0	1775	0		0		84		0	0		1691	0	30	2198	0	
163+00	825	0	593		149		0	0	0	400	1167	0	0	0	0		10	0	2050	0		0		118		0	0		1932	0	30	2512	0	
163+50	2425	0	445		138		0	0	0	435	2573	0	0	0	0		10	0	425	0		0		156		148	0		121	0	30	157	0	
164+00	2525	0	148		75		0	0	0	199	2549	0	0	0	0		10	0	1475	0		0		179		297	0		999	0	30	1299	0	
164+50	950	0	0		47		0	0	0	88	909	0	0	0	0		10	0	2600	0		0		108		297	0		2195	0	30	2854	0	
165+00	250	0	0		24		0	0	0	53	221	0	0	0	0		10	0	2300	0		0		97		297	0		1906	0	30	2478	0	
165+50	75	0	0		23		0	0	0	51	47	0	0	0	0		10	0	1825	Dike		0		98		297	0		1430	0	30	1859	0	
166+00	75	0	0		18		0	0	0	38	55	0	0	0	0		10	0	1750	17		0		113		297	0		1357	0	30	1764	0	
166+50	50	0	0		20		0	0	0	38	32	0	0	0	0		10	0	1975	0		0		118		297	0		1560	0	30	1962	0	
167+00	50	0	148		44		0	0	0	232	10	0	0	0	0		10	0	1850	0		0		77		148	0		1625	0	30	2113	0	
167+50	400	0	297		94		0	0	0	446	345	0	0	0	0		10	0	950	0		0		21		0	0		929	0	30	1208	0	
168+00	775	0	297		107		0	0	0	423	756	0	0	0	0		10	0	175	0		0		0		0	0		175	0	30	228	0	
168+50	725	0	297		87		0	0	0	438	671	0	0	0	0		10	0	75	0		0		0		0	0		75	0	30	98	0	
169+00	1950	0	297		77		0	0	0	486	1838	0	0	0	0		10	0	50	0		0		0		0	0		50	0	30	65	0	
169+50	2900	0	297		81		0	0	0	338	2940	0	0	0	0		10	0	50	Dike		0		0		0	0		50	0	30	65	0	
170+00	1400	0	148		45		0	0	0	103	1620	0	0	0	0		10	0	150	84		0		82		148	0		4	0	30	5	0	
170+50	125	0	0		10		0	0	0	22	113	0	0	0	0		10	0	1775	0		0		161		297	0		1317	0	30	1712	0	
171+00	30	0	0		25		0	0	0	54	1	0	0	0	0		10	0	3529	0		0		125		297	0		3107	0	30	4039	0	
171+50	75	0	148		62		0	0	0	285	0	0	0	0	0		10	0	2375	0		0		47		148	0		2180	0	30	2701	0	
172+00	1525	0	297		89		0	0	0	451	1460	0	0	0	0		10	0	625	Crossover		0		0		0	0		625	0	30	813	0	
172+50	1825	0	148		42		0	0	0	198	1850	0	0	0	0		10	0	100	139		0		86		148	0		5	0	30	7	0	
173+00	350	0	0		0		0	0	0	0	350	0	0	0	0		10	0	1750	0		0		185		297	0		1268	0	30	1648	0	
173+50	44	0	0		9		0	0	0	51	2	0	0	0	0		10	0	5209	0		0		191		297	0		4721	0	30	6137	0	
174+00	170	0	0		41		0	0	0	204	7	0	0	0	0		10	0	7735	0		0		161		297	0		7277	0	30/20	9290	0	
174+50	1100	0	0		57		0	0	0	258	899	0	0	0	0		10	0	7700	0		0		129		297	0		7274	0	20	8729	0	
175+00	1450	0	0		46		0	0	0	197	1299	0	0	0	0		10	0	6125	0		0		107		297	0		5721	0	20	6865	0	
175+50	850	0	112		62		0	0	0	334	690	0	0	0	0		10	0	4150	0		0		55		185	0		3910	0	20	4692	0	
176+00	1125	0	260		71		0	0	0	571	885	0	0	0	0		10	0	1600	Cover+entr		0		9		37	0		1554	0	20	1865	0	
176+50	3950	0	297		60		0	0	0	559	3748	0	0	0	0		10	0	100	975		0		0		0	0		1075	0	20	1290	0	
177+00	4052	0	148		30		0	0	0	229	4001	0	0	0	0		10	0	0	0		0		0		0	0		0	0	20	0	0	
177+50	500	0	0		0		0	0	0	0	500	0	0	0	0		10	0	3475	0		0		234		297	0		2944	0	20	3533	0	
178+00	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	6450	0		0		172		297	0		5981	0	20	7177	0	
178+50	9	0	75		10		0	0	0	92	2	0	0	0	0		10	0	4157	0		0		97		222	0		3838	0	20	4606	0	
179+00	250	0	223		55		0	0	0	334	194	0	0	0	0		10	0	1300	0		0		35		73	0		1192	0	20	1430	0	
179+50	955	0	148		60		0	0	0	330	833	0	0	0	0		10	0	225	Crossover		0		69		148	0		8	0	20	10	0	
180+00	800	0	0		15		0	0	0	95	720	0	0	0	0		10	0	1325	181		0		189		297	0		1020	0	20	1224	0	
180+50	225	0	0		0		0	0	0	7	218	0	0	0	0		10	0	4725	3200		0		223		297	0		7405	0	20/30	9414	0	
181+00	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	5600	Entrance		0		178		297	0		5125	0	20	6150	0	
181+50	45	0	0		14		0	0	0	57	2	0	0	0	0		10	0	4185	0		0		218		297	0		3670	0	20	4404	0	
182+00	144	0	0		48		0	0	0	191	1	0	0	0	0		10	0	7565	0		0		210		297	0		7058	0	20	8470	0	
182+50	950	0	20		58		0	0	0	200	828	0	0	0	0		10	0	8450	0		0		88		277	0		8085	0	20	9702	0	
183+00	975	0	168		69		0	0	0	379	833	0	0	0	0		10	0	3575	Cover+entr		0		21		128	0		3426	0	20	4111	0	
183+50	1425	0	148		45		0	0	0	314	1304	0	0	0	0		10	0	725	341.7		0		62		148	0		856.7	0	20	1028	0	
184+00	1275	0	148		45		0	0	0	284	1184	0	0	0	0		10	0	925	0		0		62		148	0		715	0	20	858	0	
184+50	950	0	148		45		0	0	0	284	859	0	0	0	0		10	0	925	0		0		67		148	0		710	0	20	852	0	
185+00	950	0	0		0		0	0	0	0	950	0	0	0	0		10	0	1025	0		0		200		297	0		528	0	20	634	0	
185+50	0	0	0		0		0	0	0	0	0	0	0	0	0		10	0	5200	0		0		296		297	0		4607	0	20	5528	0	
186+00	30	0	0		12		0	0	0	40	2	0	0	0	0		10	0	11048	0		0		307		297	0		10444	0	20	12533	0	
186+50	121	0	0		43		0	0	0	160	4	0	0	0	0		10	0	11729	0		0		287		297	0		11145	0	20	13374	0	
187+00	500	0	0		62		0	0	0	239	323	0	0	0	0		10	0	9125	0		0		287		297	0		8541	0	20	10249	0	
187+25	450	0	0		31		0	0	0	120	361	0	0	0	0		10	0	4300	0		0		144		148	0		4008	0	20	4810	0	
																																		+25
Shaw Road																																		+50
3136+50																																		
3136+75	150	0	0		40		0	0	0	0	190	0	0	0	0		10	0	200	0		0		50		0	0		150	0	30	195	0	
3137+00	175	0	0		63		0	0	0	0	238	0	0	0	0		10	0	75	0		0		23		0	0		52	0	30	68	0	
3137+25	350	0	0		84		0	0	0	0	434	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
3137+41	500	0	0		81		0	0	0	0	581	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
																																		+41
Borrow Site "A"																																		
149+40																																		
150+00	4580	0	0		0		0	0	0	370	4210	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
150+50	17275	0	0		0		0	0	0	1141	16134	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
151+00	53275	0	0		0		0	0	0	905	52370	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
151+50	74850	0	0		0		0	0	0	1253	73597	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
152+00	60000	0	0		0		14040	0	0	1869	44091	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
152+50	40575	0	0		0		18921	0	0	1745	19909	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	
152+79	7946	0	0		0		2831	0	0	523	4592	0	0	0	0		10	0	0	0		0		0		0	0		0	0	30	0	0	

OVERHAUL = 2,473 STA. m

OVERHAUL = 589,858 STA. m

OVERHAUL = 1,977,595 STA. m

NO OVERHAUL

dgn = L:\WORK\PROJECT\34120\CADD\EASIN5/IS1063.tU1
prf = \\WATSOI\DATA\PLOT\PL463P\T04.PRF
date = Fri Oct 29 14:29:35 1993
pen table = L:\Plot\Tables\halfwt.tbl
levels = 1-63

DESIGN TEAM Skogerboe / EARTH TECH | METRIC | IOWA DOT * OFFICE OF ROAD DESIGN | Jones COUNTY | PROJECT NUMBER NHSX-151-4(63)--3H-53 | SHEET NUMBER T.04 77/90

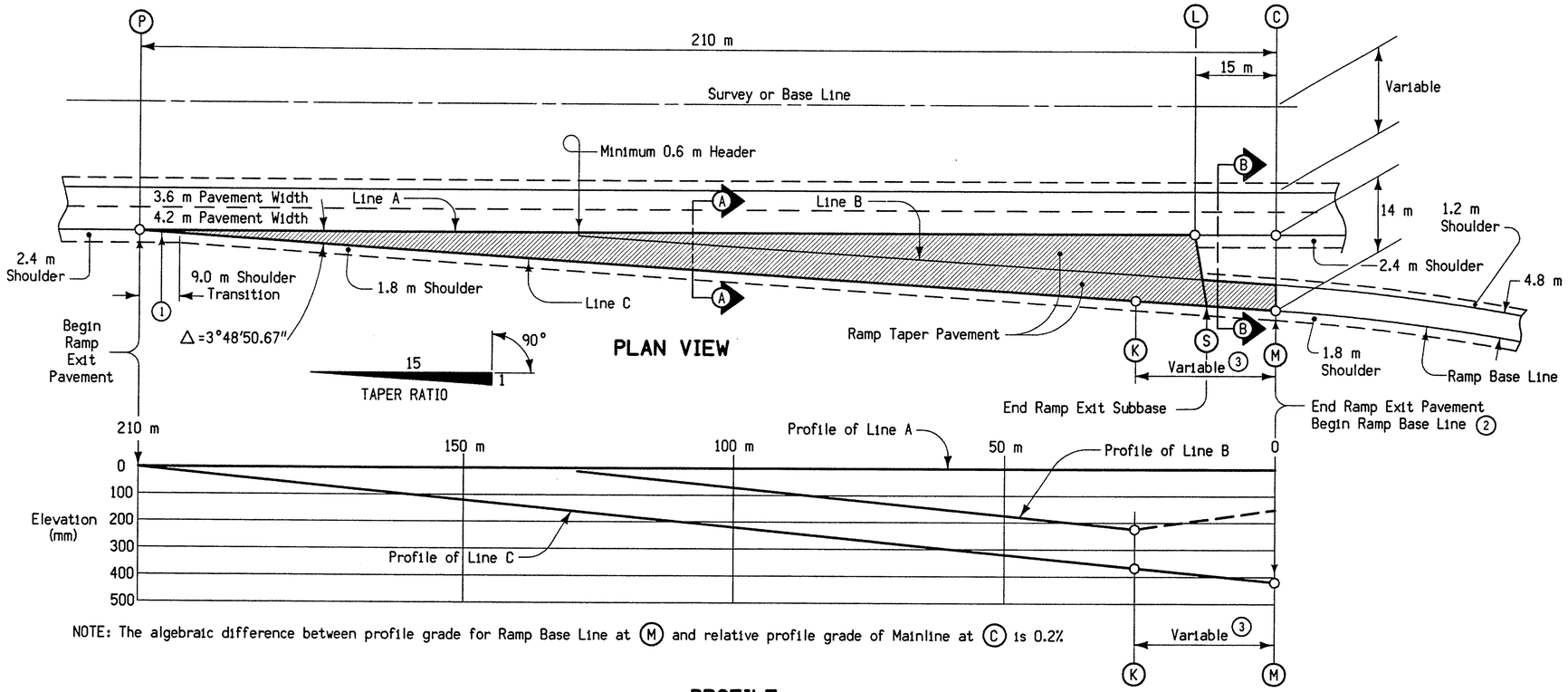
TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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
Borrow Site "B"																																	
161+70																																	
162+00	14115	0	0		0		6089	0	0	881	7145	0	608	0	0		10	0	0	0		0		0	0		0	0	30	0	0	
162+50	59825	0	0		0		31480	0	0	3248	25097	0	1558	0	0		10	0	0	0		0		0	0		0	0	30	0	0	
163+00	78600	0	0		0		43580	0	0	6108	28912	0	545	0	0		10	0	0	0		0		0	0		0	0	30	0	0	
163+50	78075	0	0		0		27105	0	0	7528	43442	0	0	0	0		10	0	0	0		0		0	0		0	0	30	0	0	
164+00	51075	0	0		0		6525	0	0	7003	37547	0	0	0	0		10	0	0	0		0		0	0		0	0	30	0	0	
164+50	17015	0	0		0		1668	0	0	5378	9969	0	0	0	0		10	0	0	0		0		0	0		0	0	30	0	0	
165+00	1790	0	0		0		0	0	0	1638	152	0	0	0	0		10	0	0	0		0		0	0		0	0	30	0	0	
165+07	11	0	0		0		0	0	0	9	2	0	0	0	0		10	0	0	0		0		0	0		0	0	30	0	0	

dgn = L:\WORK\PROJECT\3412U\CADD\EASIN5/151063.tb5 levels = 1-63
prf = \\WATSOI\DATA\PLOT\PL463P\T05.PRF pen table = L:\plot\tables\halfwt.tbl
date = Fri Oct 29 14:32:08 1999

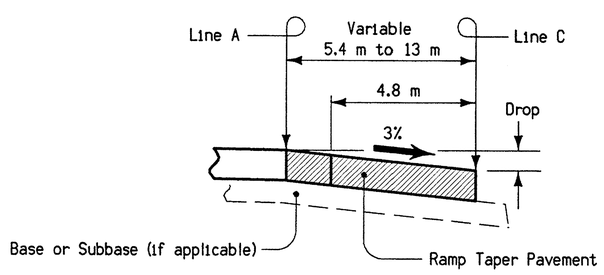


C

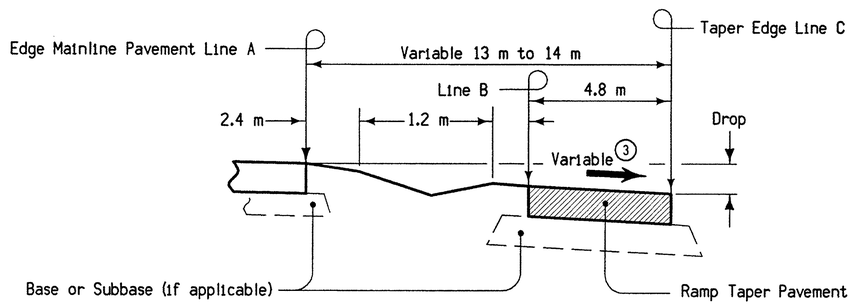
TABLE OF OFFSETS AND DROPS FOR 4.8 m RAMP TAPER																						
Distance (m) From Point C Along Line A	210	200	190	180	170	160	150	140	130	120	110	100	90	80	70	60	50	40	30	20	10	0
Offset (m) From Line A To Line C	0	0.667	1.333	2.000	2.667	3.333	4.000	4.667	5.333	6.000	6.667	7.333	8.000	8.667	9.333	10.000	10.667	11.333	12.000	12.667	13.333	14.000
Drop (mm) From Line A To Line C	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420

M

NOTE: The elevations at edge of taper from BEGIN TAPER to POINT M are established by a constant 3% slope across the appropriate taper widths based on the Taper Ratio of 15:1, Drop = (0.03) x (Offset).



SECTION A-A



SECTION B-B

GENERAL NOTES:

This detail sheet shows ramp alignment and grade data for the ramp exit pavement.

Materials and methods of construction shall be in accordance with current Standard and Supplemental Specifications.

Ramp exit pavement shall be the same thickness as the mainline pavement. Ramp exit subbase for both A.C.C. and P.C.C. pavement shall be the same thickness as the mainline subbase.

Ramp exit pavement area shown by shaded area is 1345 square meters.

In order to assure proper drainage, any special shaping of exit area between lines A and B shall be accomplished by methods approved by the Engineer.

Refer to Detail Sheet 550-5 for jointing layout.

Refer to typical cross sections and appropriate Standard Road Plans for design details and requirements for shoulders.

1. For header construction details at the beginning of taper, refer to the appropriate Typical 7101, 7102, or 7120.
2. Refer to detail project plans for ramp alignment and grade data.
3. The ramp pavement cross slope is determined by superelevation rotated about line C. Refer to Standard Road Plan RP-3 and detail project plans for superelevation transition requirements.

GENERAL REQUIREMENTS			
IDENTIFICATION		EQUIVALENT STATIONS	
INTERCHANGE	RAMP	C	M

All dimensions given in millimeters unless noted.

M

METRIC VERSION

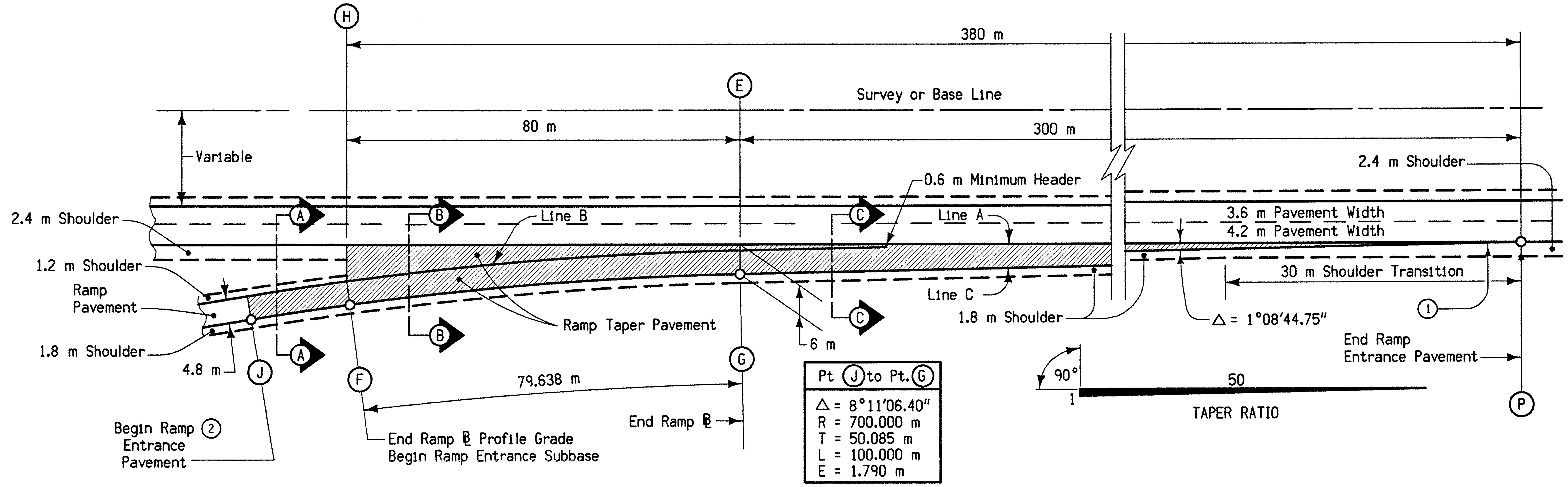
Project Development Division

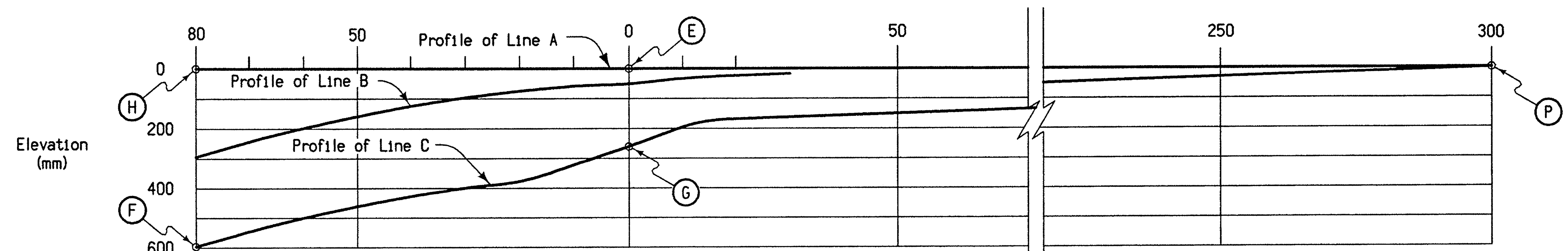
DETAIL SHEET 550-1

REVISION: Revise shoulder and pavement widths (outside lane).	REVISION NO.	REVISION DATE
	9	10-27-98

DECELERATION TAPER FOR 4.8 m EXIT RAMP

dgn = L:\WORK\PROJECT\34120\CADD\EAS1\531510163.U01 levels = 1-63
prf = \\WATSO1\DATA\PLOT\PL463P\U01.PRF pen table = L:\plot\tables\halfwt.tbl
date = Wed Jun 30 15:08:23 1999





NOTE: The algebraic difference between profile grade for Ramp Base Line at Ⓕ and relative profile grade of Mainline at Ⓗ is 0.54%.

PROFILE

GENERAL NOTES:

This detail sheet shows ramp alignment and grade data for the ramp entrance pavement.

Materials and methods of construction shall be in accordance with current Standard and Supplemental Specifications.

Ramp entrance pavement shall be the same thickness as the main-line pavement. Ramp entrance subbase for both A.C.C. and P.C.C. pavement shall be the same thickness as the mainline subbase.

Ramp entrance pavement area shown by shaded area is 1663 square meters.

In order to assure proper drainage, any special shaping of entrance area between lines A and B shall be accomplished by methods approved by the Engineer.

Refer to Detail Sheet 550-5 for jointing layout.

Refer to typical cross sections and appropriate Standard Road Plans for design details and requirements for shoulders.

① For header construction details at the beginning of taper, refer to the appropriate Typical 7101, 7102, or 7120.

② Refer to detail project plans for ramp alignment and grade data.

③ The ramp pavement cross slope between point Ⓙ and point Ⓕ is determined by superelevation rotated about line "C". Refer to Standard Road Plan RP-3 and detail project plans for superelevation transition requirements.

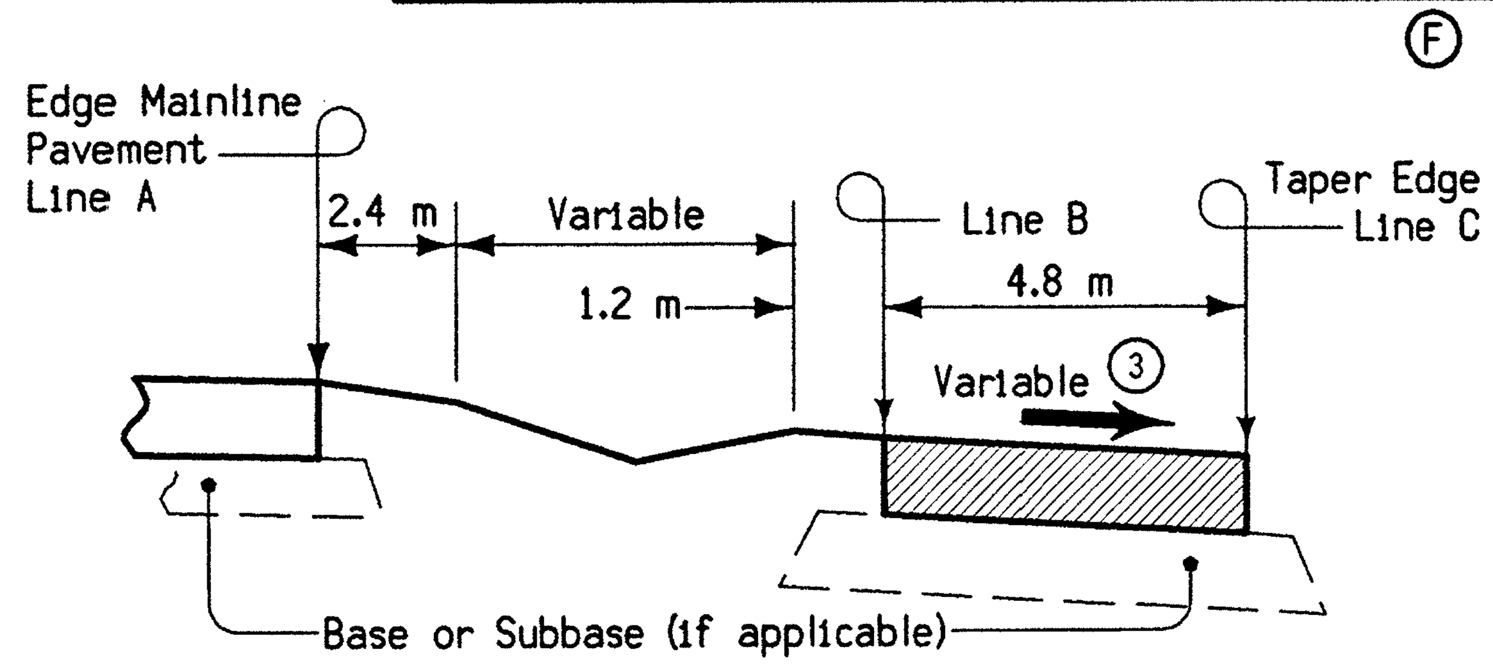
TABLE OF OFFSETS AND DROPS FOR 4.8 m RAMP TAPER

Distance From Point Ⓔ Along Line A (m)		80 (Ⓗ)	70	60	50	40	30	20	10	0 (Ⓔ)	10	20	50	100	150	200	250	300
From Line A To Line B	Offset (m)	7.356	6.083	4.955	3.971	3.131	2.435	1.880	1.469	1.200								
	Slope (%)	← Constant 4.00% Slope →																
	Drop (mm)	294	243	198	159	125	97	75	59	48								
From Line B To Line C	Offset (m)	← Constant 4.8 m Offset →																
	Slope (%)	6.30	6.30	6.30	6.30	6.30	6.30	6.30	5.46	4.41								
	Drop (mm)	302	302	302	302	302	302	302	262	212								
From Line A To Line C	Offset (m)									6.000	5.800	5.600	5.000	4.000	3.000	2.000	1.000	0.000
	Slope (%)									4.41	3.36	3.00	← Constant 3.00% →					
	Drop (mm)	596	545	500	461	427	399	377	322	260	195	168	150	120	90	60	30	0
Distance From Point Ⓖ Along Line C (m)		79.638 (Ⓕ)	69.626	59.631	49.651	39.684	29.728	19.780	9.840	0.000 (Ⓖ)								

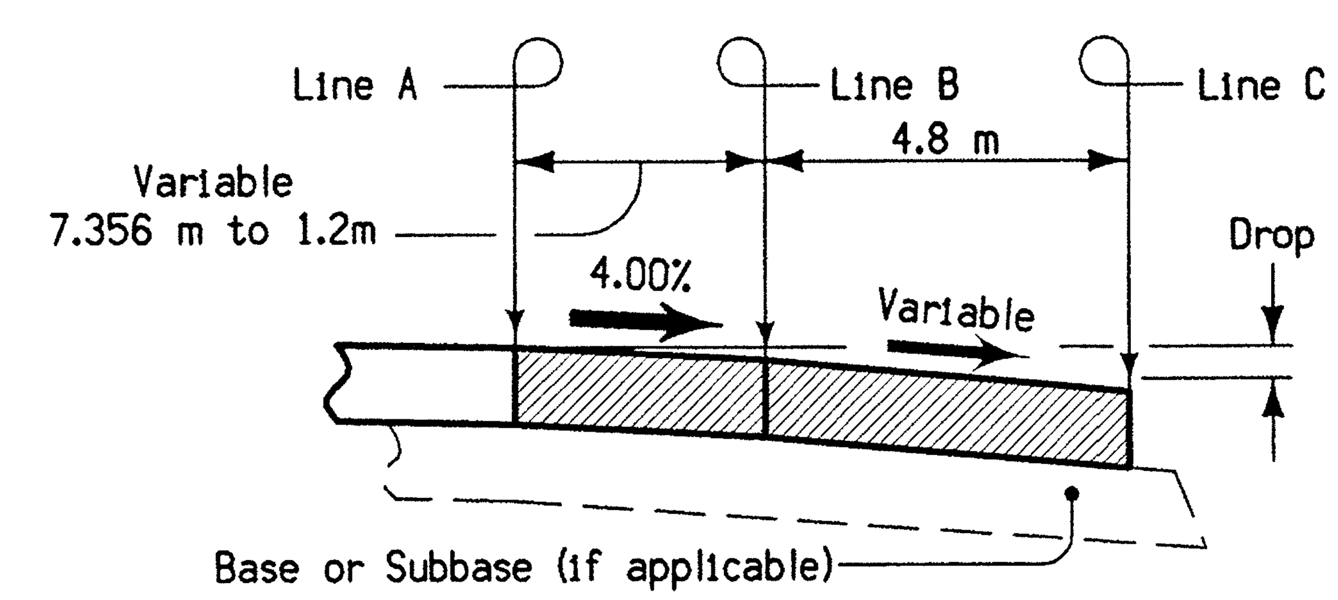
GENERAL REQUIREMENTS

IDENTIFICATION		EQUIVALENT STATIONS	
INTERCHANGE	RAMP	Ⓔ	Ⓖ

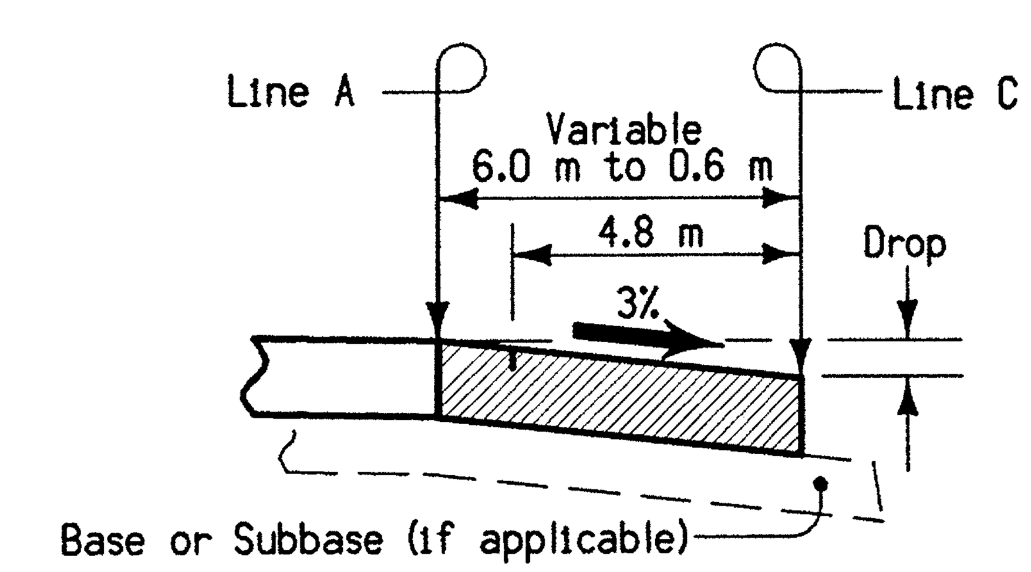
All dimensions given in millimeters unless noted.



SECTION A-A



SECTION B-B



SECTION C-C

M METRIC VERSION

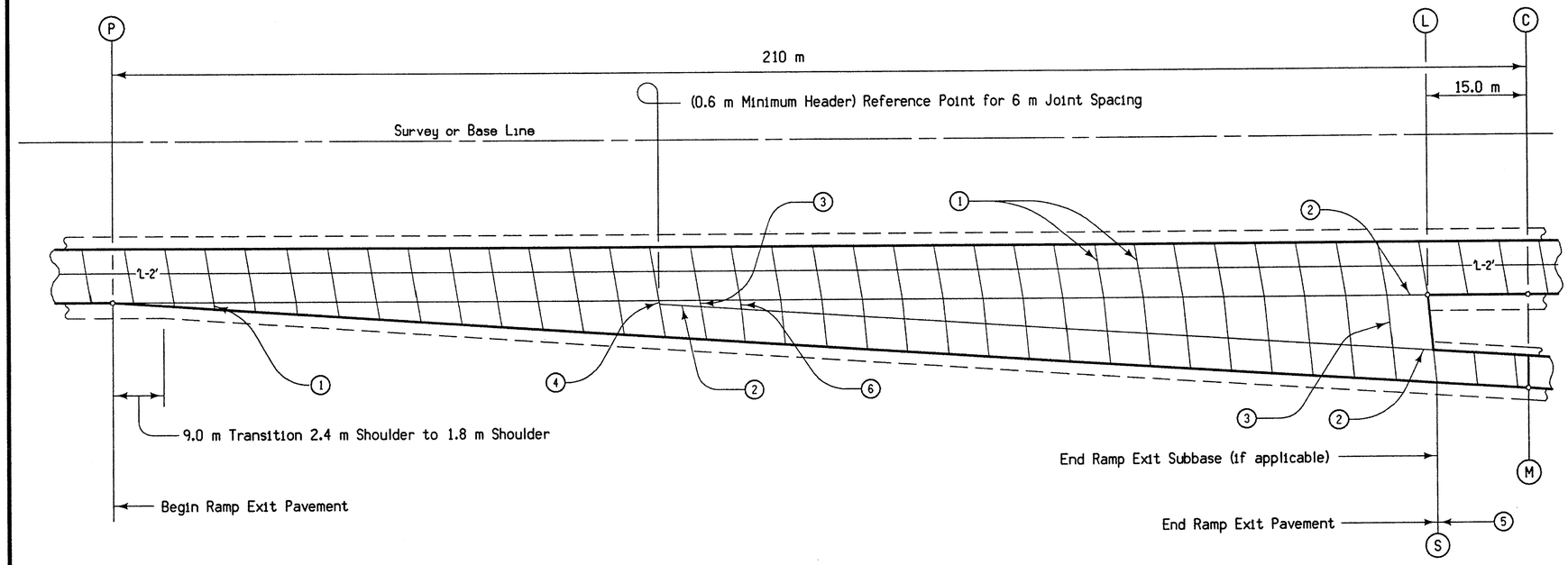
Project Development Division

DETAIL SHEET 550-2C

REVISION	REVISION NO.	REVISION DATE
Revise shoulder and pavement widths (outside lane).	5	10-27-98

ACCELERATION TAPER FOR 4.8 m ENTRANCE RAMP (e max. = 8%)

dgn = L:\WORK\PROJECT\3412U\CADD\EAST\5315063.dU1 levels = 1-63
prf = \\WATSO1\DATA\PLOT\PL463P\U02.PRF pen table = l:\plot\tables\halfwt.tbl
date = Wed Jun 30 15:13:16 1999



4.8 m EXIT 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.

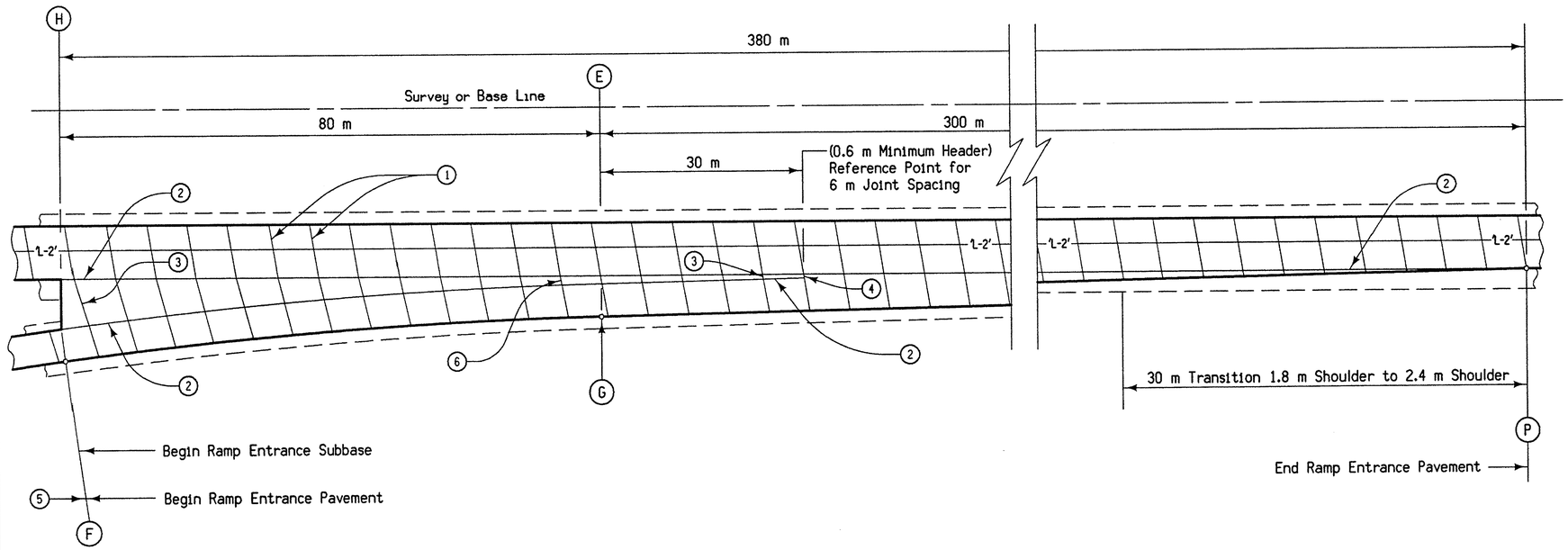
Refer to Standard Road Plans RH–50, RH–51 and RH–52 for details of construction of pavement joints.

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



4.8 m ENTRANCE RAMP

SPECIAL NOTES:

(1) All mainline transverse joints through the taper shall be 'CD' Joints skewed at 6:1 right ahead and shall be 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

Project Development Division

DETAIL SHEET 550–5

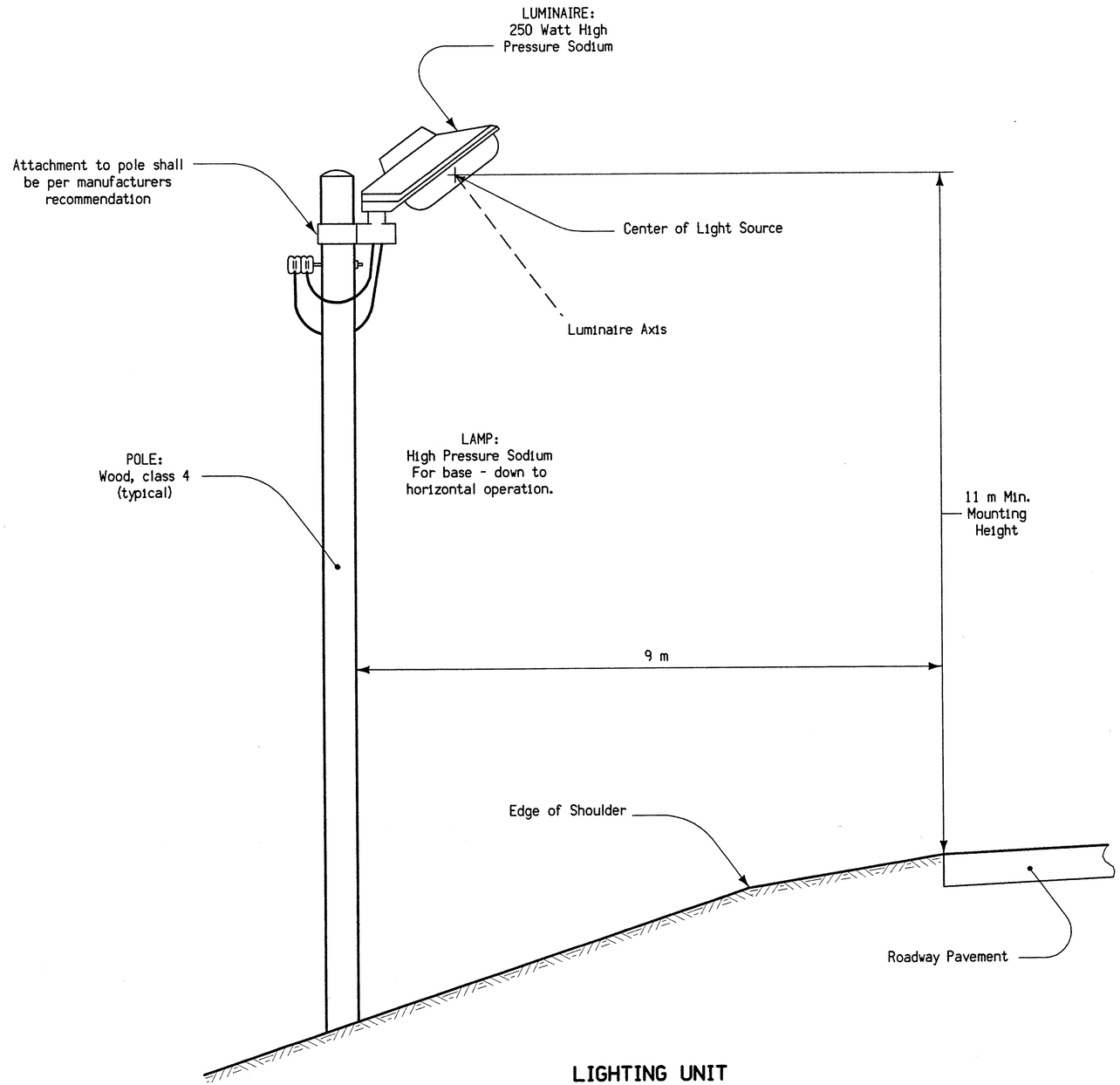
REVISION: Revise shoulder width from 2.3 m to 2.4 m.	REVISION NO.	REVISION DATE
	2	10-27-98

METRIC VERSION

TYPICAL JOINTING DETAILS FOR 4.8 m EXIT AND ENTRANCE RAMP

DESIGN TEAM	Skogerboe / EARTH TECH	METRIC	IOWA DOT * OFFICE OF ROAD DESIGN	Jones	COUNTY	PROJECT NUMBER	NHSX-151-4(63)--3H-53	SHEET NUMBER	U.03 81/90

dgn = L:\WORK\PROJECT\34120\CADD\EAS1\53150063.u01
prf = \\WATSO1\DATA\PL0T\PL463P\U03.PRF
date = Wed Jun 30 15:13:23 1999
pen table = I:\plot\tables\halfwt.tbl
levels = 1-63



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

METRIC VERSION

Project Development Division

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	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / EARTH TECH		IOWA DOT * OFFICE OF ROAD DESIGN	Jones	NHSX-151-4(63)--3H-53	U.04 82/190

dgn = L:\WORK\PROJECT\3412U\CADD\EAS\b3151U63.u01
prf = \\WATSOI\DATA\PLOTPL463P\U04.PRF
date = Wed Jun 30 15:08:42 1999
levels = 1-63
pen table = i:\plottables\halfwt.tbl

Revised

NOTE:
Pavement markings for Exit Ramp 'D' and Entrance Ramp 'A' shown here are for a future project. See Tab 108-22 for proper placement of pavement markings during staged construction.

NOTE:
Pavement markings shown for Entrance Ramp 'C' and Exit Ramp 'B' to be completed by a future project.

- ③ Double Centerline (yellow)
- ⑤ No Passing Zone Line (yellow)
- ⑥ Broken Lane Line (white)
- ⑦ Edge Line Right (white)
- ⑧ Edge Line Left (yellow)
- ⑩ Solid Lane Line (white)
- ⑫ Channelizing Line (yellow)
- ⑬ Stop Line (white)

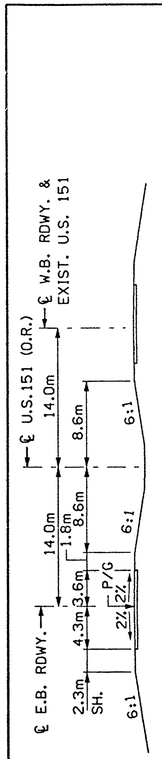
- Ⓒ Terminate All Lane and No Passing Zone Lines thru Intersection
- Ⓓ Symbol (when specifically listed in Tabulation 108-29); for size and shape, refer to Typical Details 9002, 9008 and 9016.

PAVEMENT MARKING DETAIL AT IA HWY 64 AND CHAMBER DRIVE

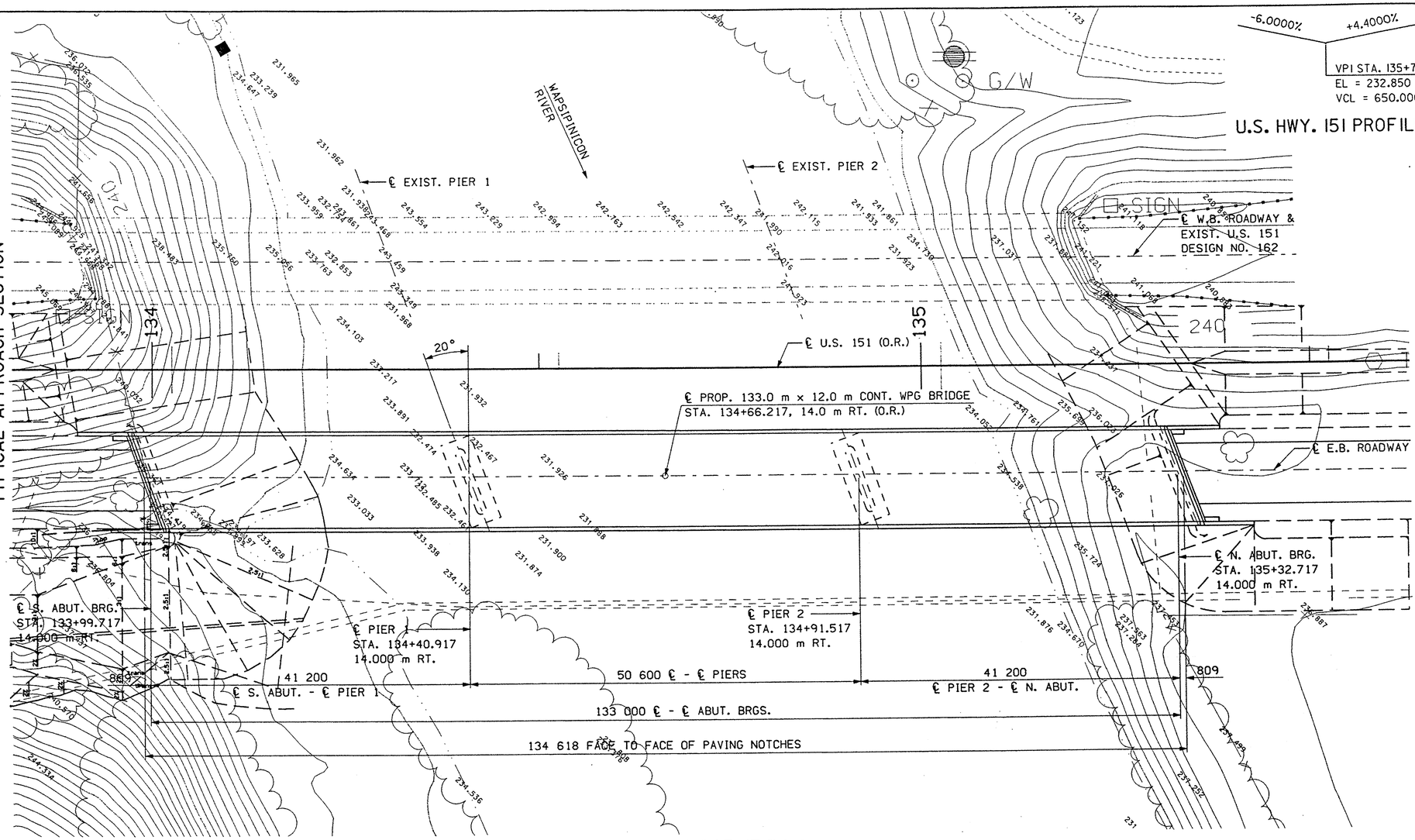
DESIGN TEAM	METRIC		COUNTY	PROJECT NUMBER	SHEET NUMBER
Skogerboe / Earth Tech	IOWA DOT * OFFICE OF ROAD DESIGN	Jones		NHSX-151-4(63)--3H-53	U.05 83/00

Revised 02-14-00

dgn = I:\WURK\project\3412U\cadd\east\b31b1063.udb levels = 1-56,58-63
pen_table = I:\plot\tables\halfwt.tbl
prf = \\WATSOI\DATA\PLOT\PL463P\u05.prf
date = Tue Feb 22 14:28:40 2000



TYPICAL APPROACH SECTION



SITUATION PLAN - BRIDGE (E.B.L.)

U.S. HWY. 151 PROFILE GRADE

-6.0000% +4.4000%

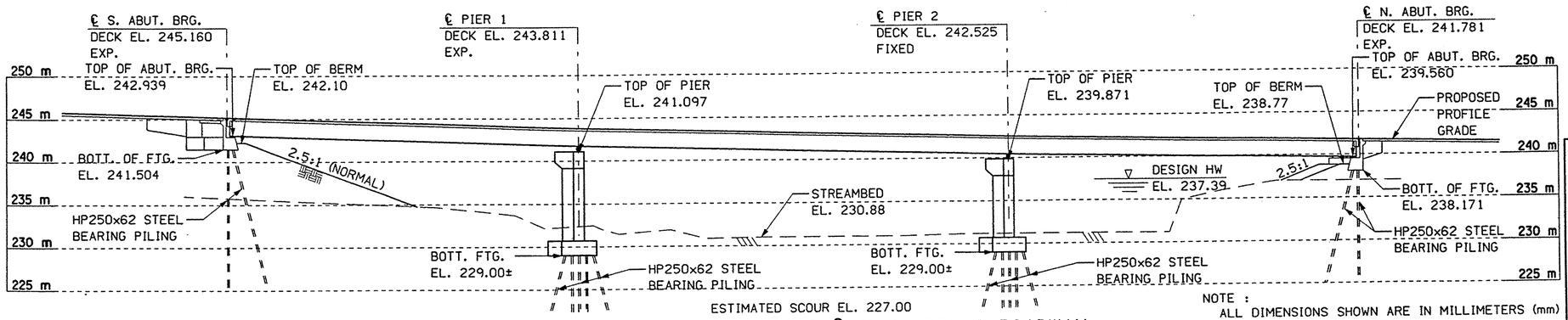
VPI STA. 135+75.000 (O.R.)
EL = 232.850
VCL = 650.000 m

~~BENCH MARK :~~
~~SURVEY ℄ STA. 133+86.101, 19.638m LT.~~
~~TOP U.S.G.S. BRASS CAP ℄ S.W. TOP~~
~~ABUTMENT HWY 151 BRIDGE OVER~~
~~WAPSIPINICON RIVER EL. = 245.098~~

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 HW STAGE = NOT AVAILABLE

NOTE:
MEDIAN GUARD RAIL NOT SHOWN, TO BE DESIGNED.



LONGITUDINAL SECTION - ALONG ℄ EAST BOUND ROADWAY

NOTE :
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm)
UNLESS OTHERWISE NOTED OR SHOWN.

TRAFFIC DATA

2001	AADT	5530 VPD
2021	AADT	6630 VPD
2021	DHV	712 VPH
TRUCKS		13%

LOCATION

U.S. 151 OVER THE
WAPSIPINICON RIVER
T84N - R4W
SECTION 14
FAIRVIEW TWP.
JONES COUNTY

0 METERS 30

DESIGN FOR 20°00'00" 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 MARCH 1998

JONES COUNTY, IOWA

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. _____

07/02/99

DESIGNED BY RMJ TRACED BY JAE
DETAILED BY RMJ CHECKED BY LLK

RUST Rust Environment & Infrastructure Inc.

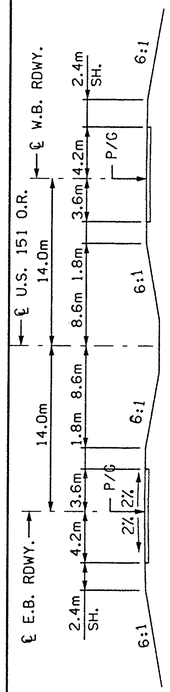
JONES COUNTY

PROJECT NUMBER	NHSX-151-4(63)--3H-53					
STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7			B4/90

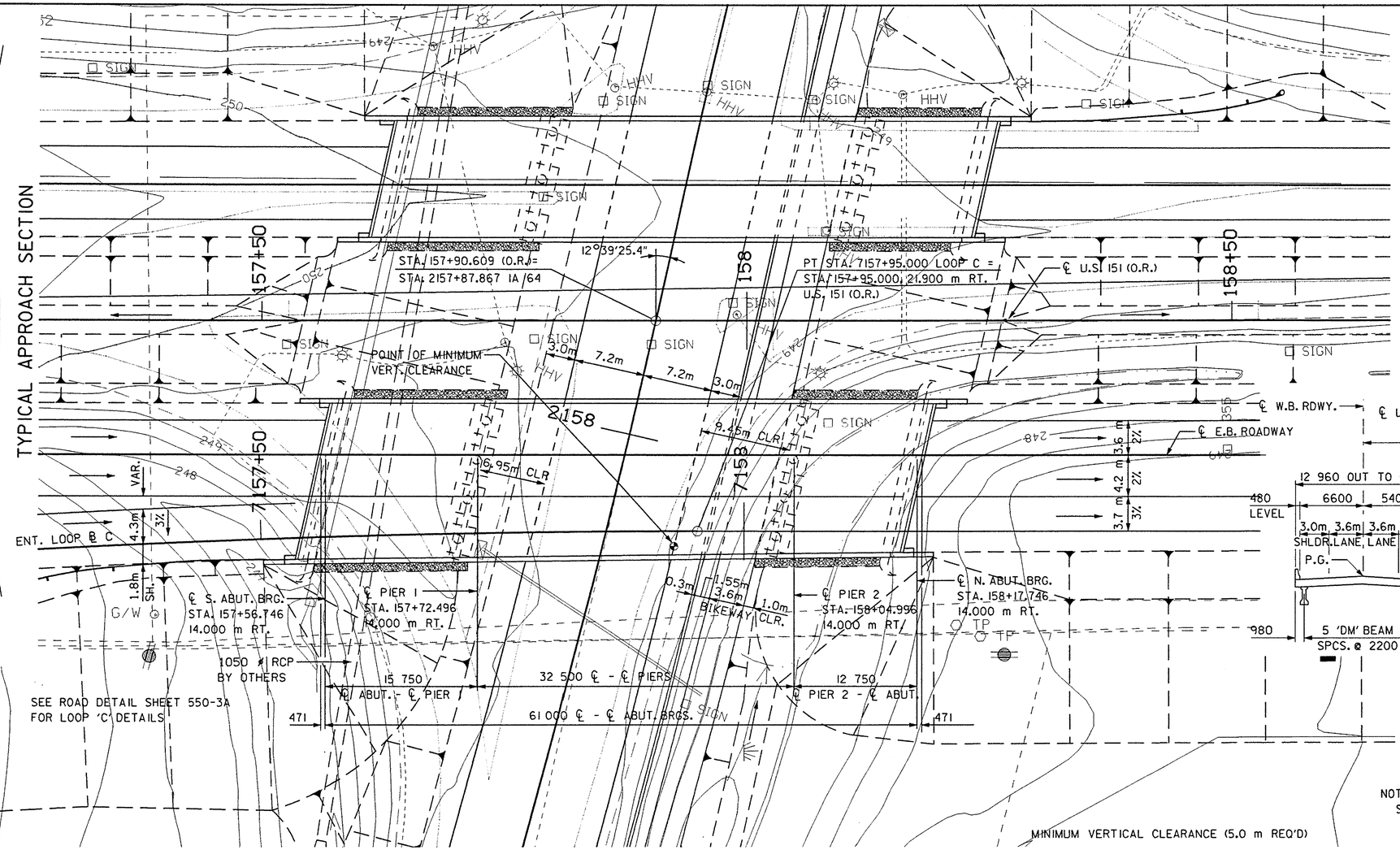
V.01

~~BENCH MARK :~~

~~NO. 39, 60 dd SPIKE PoPo, SURVEY ℄ STA. 142+66.197, 50.853 m LT. EL. = 265.429~~



TYPICAL APPROACH SECTION



SEE ROAD DETAIL SHEET 550-3A FOR LOOP 'C' DETAILS

SITUATION PLAN - BRIDGE (E.B.L.)

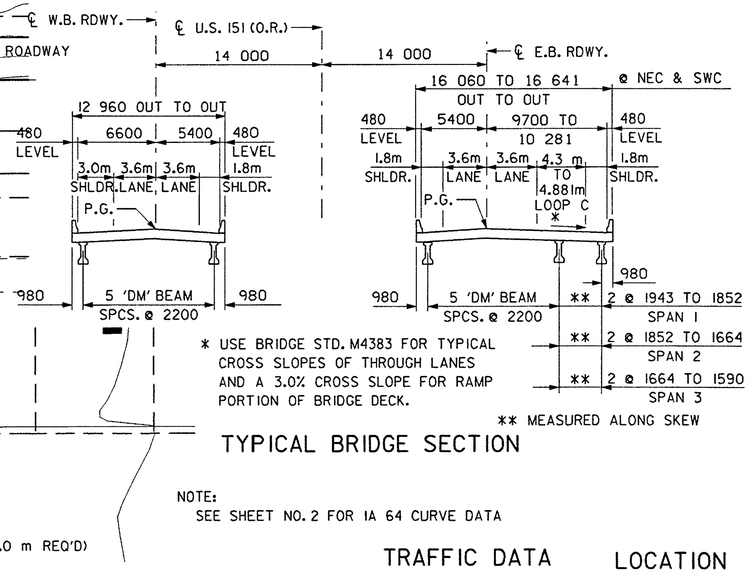
NOTE :
MINIMUM CLEAR ZONE REQUIRED IS 6.5 m ON IA 64. FUTURE BIKEWAY ON NORTH SIDE OF IA 64, NOT SHOWN. MEDIAN GUARD RAIL NOT SHOWN, TO BE DESIGNED.

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



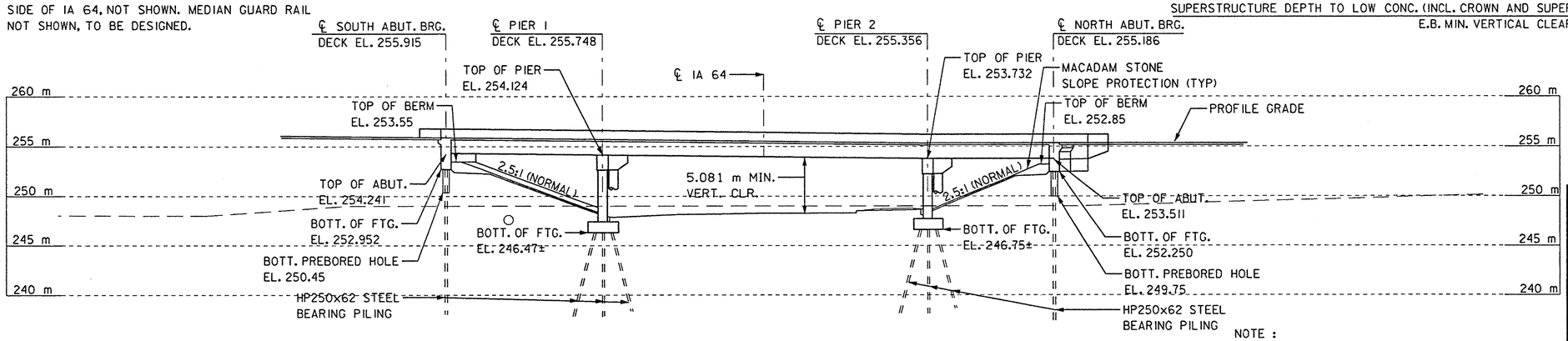
* USE BRIDGE STD. M4383 FOR TYPICAL CROSS SLOPES OF THROUGH LANES AND A 3.0% CROSS SLOPE FOR RAMP PORTION OF BRIDGE DECK.

** MEASURED ALONG SKEW

TYPICAL BRIDGE SECTION

NOTE:
SEE SHEET NO. 2 FOR IA 64 CURVE DATA

MINIMUM VERTICAL CLEARANCE (5.0 m REQ'D)



LONGITUDINAL SECTION - ALONG ℄ ROADWAY (E.B.L.)

NOTE :
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.

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.) = 2.060 m
E.B. MIN. VERTICAL CLEARANCE = 5.081 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

0 METERS 25

DESIGN FOR 12°39'25" SKEW (L.A.)

61.0 m x 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

MARCH 1998

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 1 OF 2 FILE NO. _____ DESIGN NO. _____

07/02/99

DESIGNED BY	RMJ	CHECKED BY	JAE
DETAILED BY	RMJ	CADD FILE	LLK

EARTH TECH

JONES COUNTY

PROJECT NUMBER	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NHSX-151-4(63)--3H-53	IOWA	7			65/90

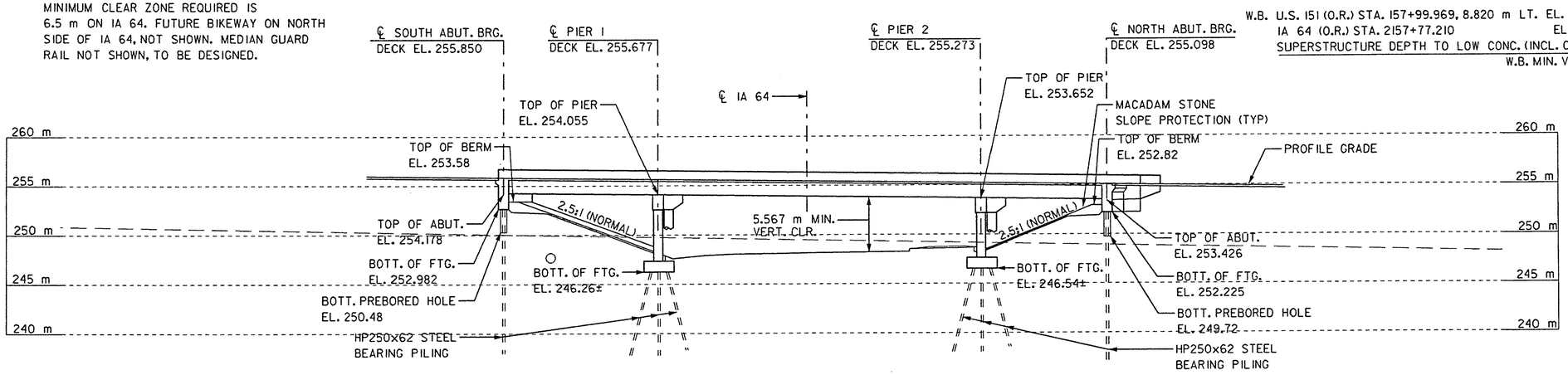
V.02

NOTE :
MINIMUM CLEAR ZONE REQUIRED IS 6.5 m ON IA 64. FUTURE BIKEWAY ON NORTH SIDE OF IA 64, NOT SHOWN. MEDIAN GUARD RAIL NOT SHOWN, TO BE DESIGNED.

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.) = 1.802 m
W.B. MIN. VERTICAL CLEARANCE = 5.567 m

~~BENCH MARK :~~
~~NO. 39, 60 dd SPIKE POP6~~
~~SURVEY ℄ STA. 142+66.177,~~
~~50.853 m LT. EL. = 265.429~~



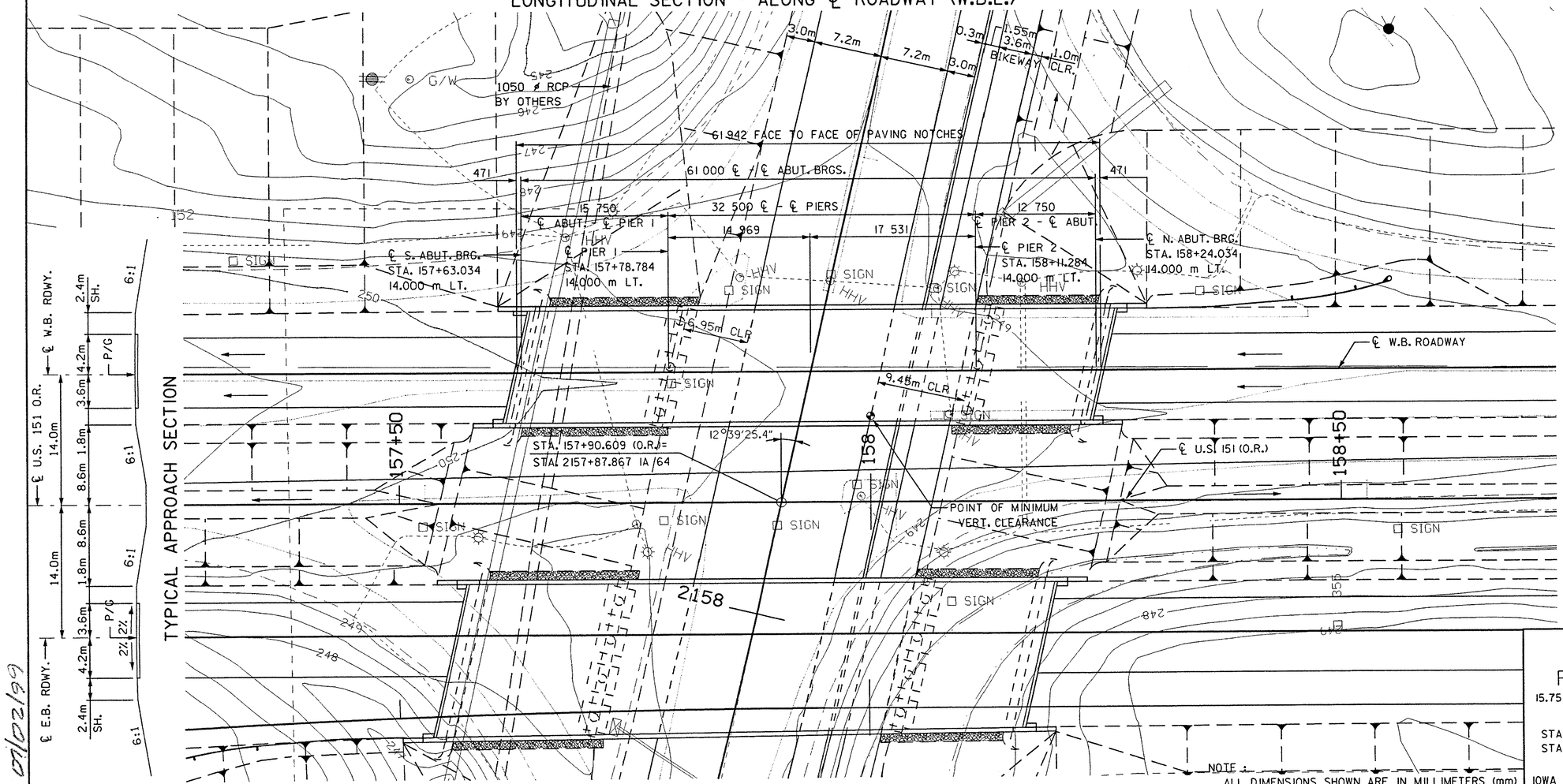
LONGITUDINAL SECTION - ALONG ℄ ROADWAY (W.B.L.)

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



TYPICAL APPROACH SECTION

SITUATION PLAN - BRIDGE (W.B.L.)

NOTE :
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.

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 = 3.3%
L = 75.0 m
x = 45.5 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

0 METERS 25

DESIGN FOR 12°39'25" SKEW (L.A.)

61.0 m x 12.0 m PRETENSIONED PRESTRESSED CONCRETE BEAM BRIDGE

15.75 m & 12.75 m 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

MARCH 1998

JONES COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 2 OF 2 FILE NO. _____ DESIGN NO. _____

DESIGNED BY	RMJ	CHECKED BY	JAE
DETAILED BY	RMJ	CADD FILE	LLK

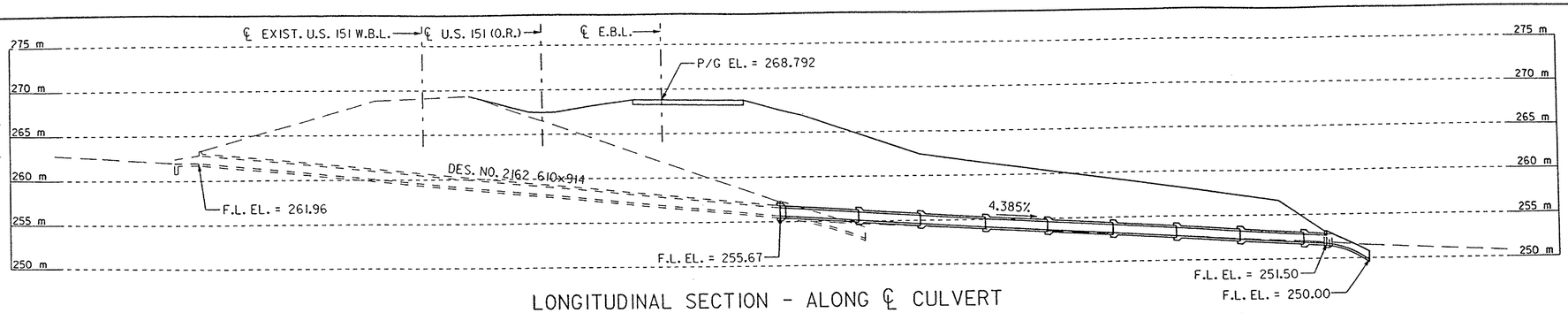
EARTH TECH

JONES COUNTY

PROJECT NUMBER	STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
NHSX-151-4(63)--3H-53	IOWA	7			86/90

03/02/98

V.03



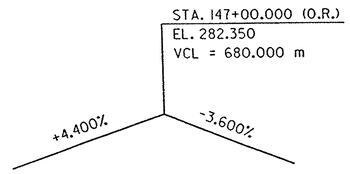
LONGITUDINAL SECTION - ALONG ℄ CULVERT

ESTIMATED SETTLEMENT =

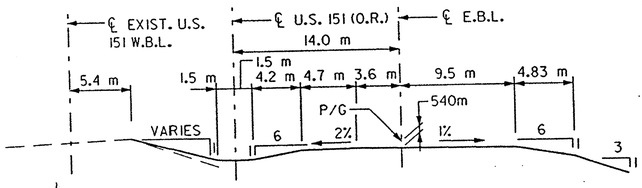
~~BENCH MARK :~~

~~NO. 39, SURVEY ℄ STA. 142+66.177, 50.853 m LT.~~

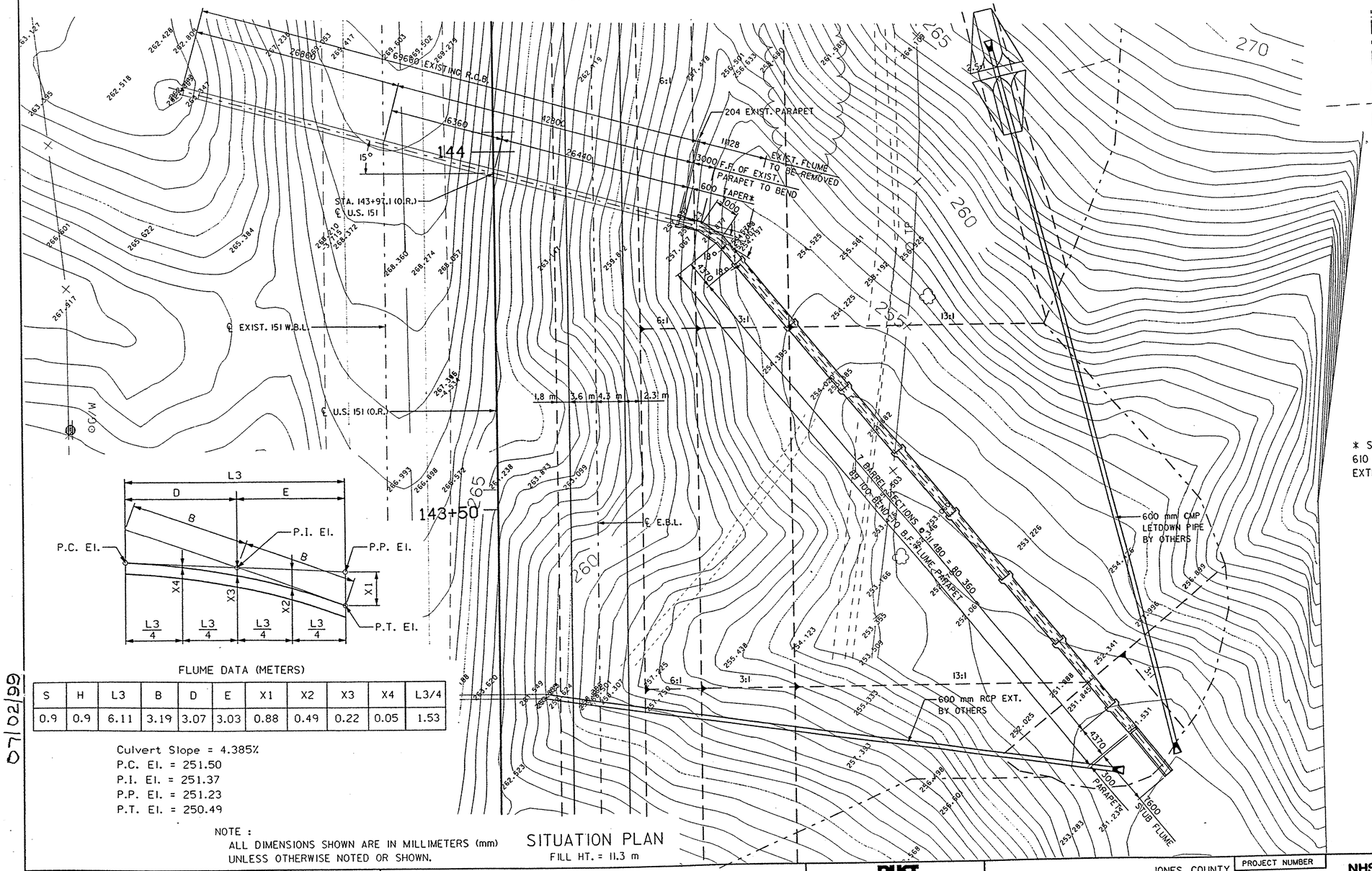
~~60 dd SPIKE Po. Po.~~ ~~EL. = 265.429~~



U.S. HWY. 151 PROFILE GRADE



TYPICAL APPROACH SECTION



FLUME DATA (METERS)

S	H	L3	B	D	E	X1	X2	X3	X4	L3/4
0.9	0.9	6.11	3.19	3.07	3.03	0.88	0.49	0.22	0.05	1.53

Culvert Slope = 4.385%
P.C. El. = 251.50
P.I. El. = 251.37
P.P. El. = 251.23
P.T. El. = 250.49

NOTE :
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm)
UNLESS OTHERWISE NOTED OR SHOWN.

SITUATION PLAN
FILL HT. = 11.3 m

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

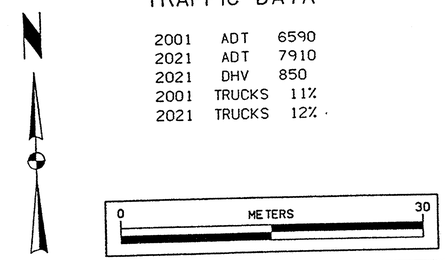
LOCATION

T84N - R4W
SECTION 13 & 14
FAIRVIEW TWP.
JONES COUNTY

* SPAN TAPERS FROM 610 TO 900 IN NEW EXTENSION.

TRAFFIC DATA

2001	ADT	6590
2021	ADT	7910
2021	DHV	850
2001	TRUCKS	11%
2021	TRUCKS	12%



DESIGN FOR 15° SKEW (L.A.) EXTENSION RIGHT WITH TWO - 18° BENDS AND STUB FLUME

0.9 m x 0.9 m x 95.1 m REINFORCED CONCRETE BOX CULVERT EXT.

SITUATION PLAN

STA. 143+97.1 (O.R.) ℄ U.S. HIGHWAY 151 — 1998

JONES COUNTY, IOWA

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. 1198

07/02/99

DESIGNED BY DLN TRACED BY JAE
DETAILED BY DLN CHECKED BY RMJ

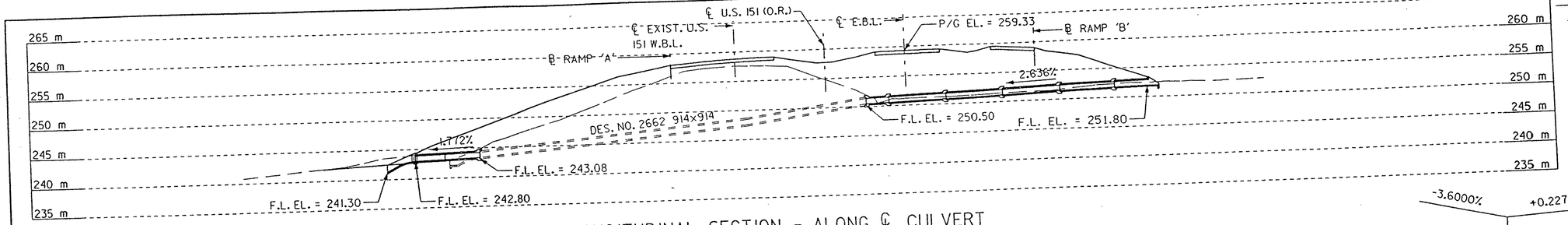
RUST
Rust Environment & Infrastructure Inc.

JONES COUNTY

PROJECT NUMBER NHSX-151-4(63)--3H-53

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7			67/90

V.04

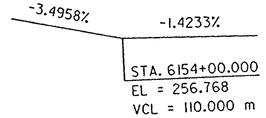


LONGITUDINAL SECTION - ALONG ℄ CULVERT

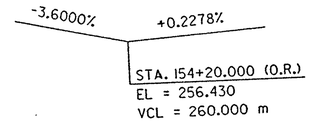
ESTIMATED SETTLEMENT =

BENCH MARK :

NO. 41, SURVEY ℄ STA. 152+90.000, 18.000 m RT.
60 dd SPIKE Po. Po. EL. = 252.833

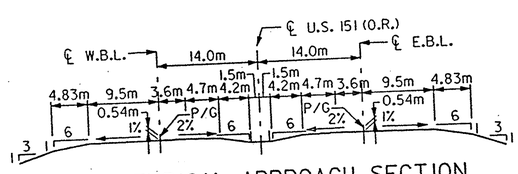


RAMP 'B' PROFILE GRADE

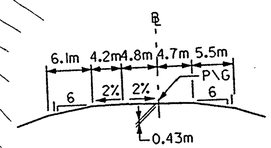


U.S. HWY 151 PROFILE GRADE

NOTE:
FOR RAMP 'A' TAPER ALIGNMENT AND PROFILE REFER TO ROAD DESIGN DETAIL 550-2C

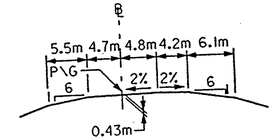


TYPICAL APPROACH SECTION



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 = 32.800

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

T84N - R4W
SECTION 11 & 12
FAIRVIEW TWP.
JONES COUNTY

TRAFFIC DATA

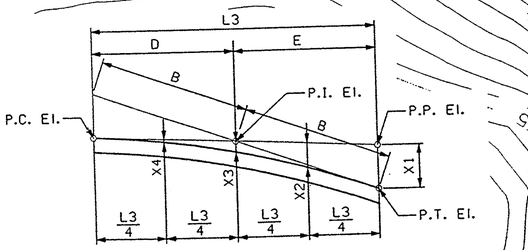
2001	ADT	6590
2021	ADT	7910
2021	DHV	850
2001	TRUCKS	11%
2021	TRUCKS	12%

0 METERS 40

CHANNEL SHAPING

PLACE 18.0 m OF 900ø TEMPORARY PIPE DUE TO ON-SITE DETOUR

NOTE:
BOTH EXISTING HEADWALLS AND PORTION OF EXISTING BARREL TO BE REMOVED AS SHOWN.



FLUME DATA (METERS)

S	H	L3	B	D	E	X1	X2	X3	X4	L3/4
0.9	0.9	5.52	2.90	2.77	2.76	0.89	0.50	0.22	0.06	1.38

Culvert Slope = 1.772%
P.C. El. = 242.80
P.I. El. = 242.75
P.P. El. = 242.70
P.T. El. = 241.82

SITUATION PLAN

FILL HT. = 7.0 m

NOTE :
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.

DESIGN FOR 30° SKEW (L.A.) EXTENSION LEFT
WITH 19° BEND AND STUB FLUME AND EXTENSION RIGHT

0.9 m x 0.9 m x 74.2 m REINFORCED CONCRETE BOX CULVERT EXT. SITUATION PLAN

1998

STA. 153+54.3 (O.R.) ℄ U.S. HIGHWAY 151

JONES COUNTY, IOWA

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. DESIGN NO. 1398

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7			88/90

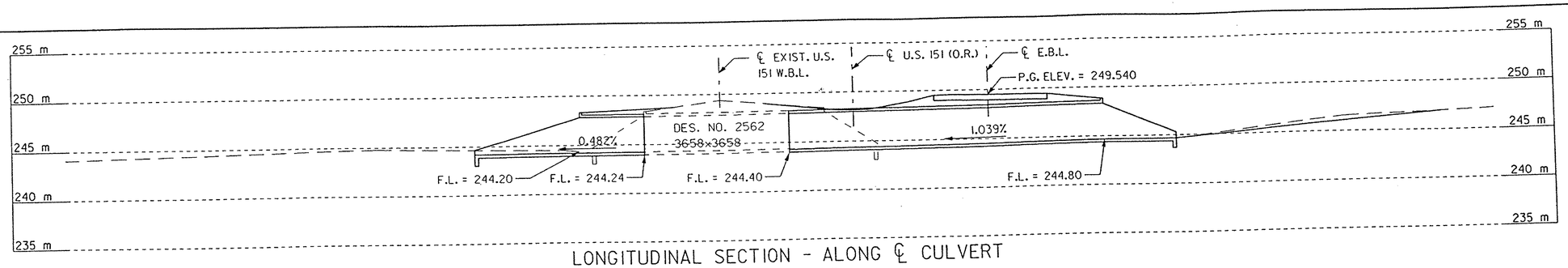
JONES COUNTY | PROJECT NUMBER NHSX-151-4(63)--3H-53

V.05

DESIGNED BY DLN TRACED BY JAE
DETAILED BY DLN CHECKED BY RMJ

RUST
Rust Environment & Infrastructure Inc.

07/02/99



LONGITUDINAL SECTION - ALONG ℄ CULVERT

ESTIMATED SETTLEMENT =

~~BENCH MARK :~~

~~NO. 44, SURVEY ℄ STA. 164+00.685, 6.850 m LT.~~
~~FND BRASS PLUG TOP CTR. E. HDWL. BOX CULVERT~~
~~℄ HWY 151 & FAWN CREEK 0.25 MI. N. OF JCT.~~
~~HWY 151 AND HWY 64 EL. = 249.170~~

-2.5318% +0.2108%

STA. 161+10.000 (O.R.)
EL = 248.895
VCL = 190.000

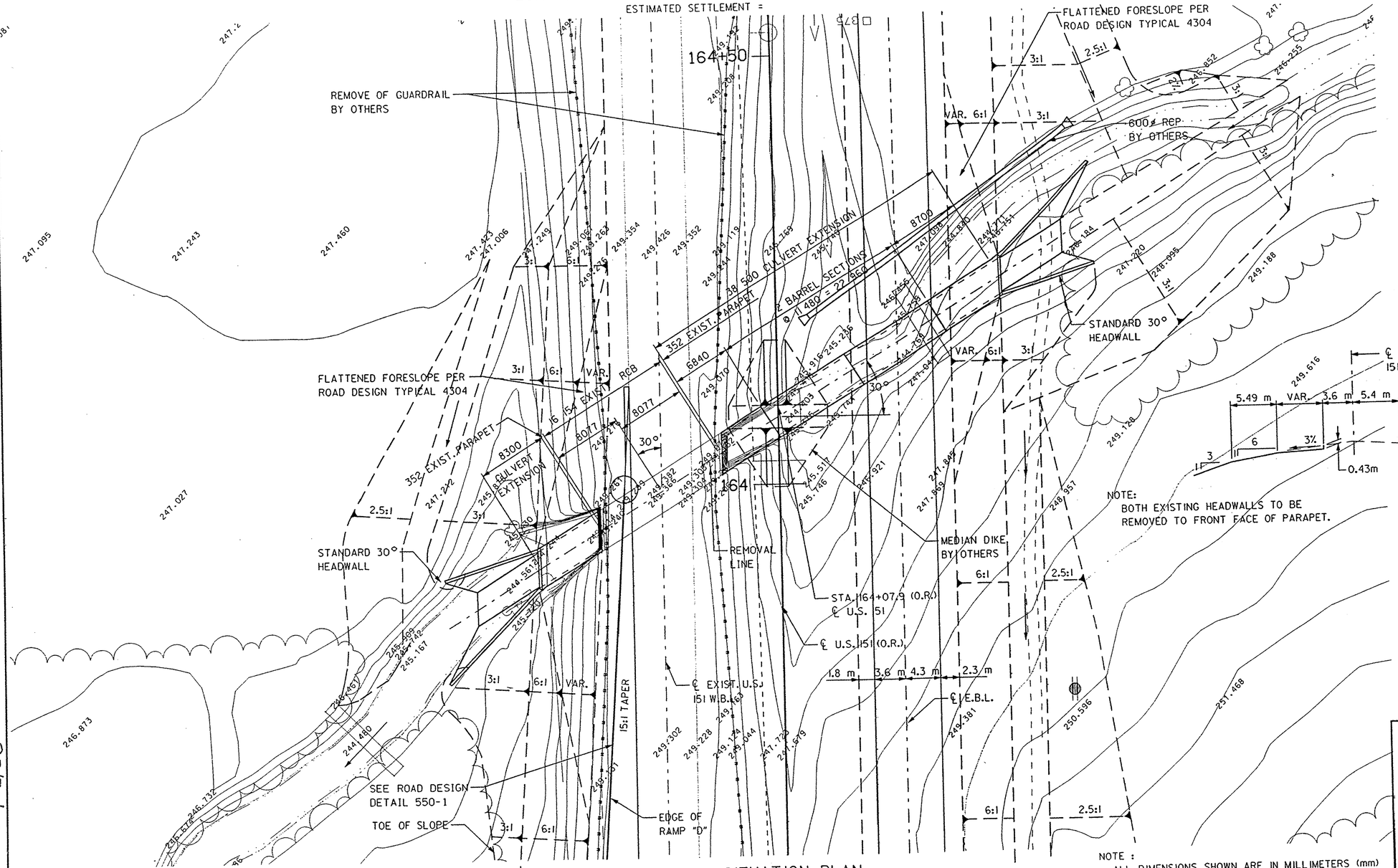
U.S. HWY. 151 PROFILE GRADE

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

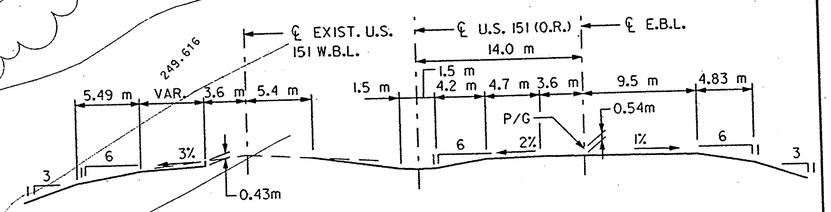
LOCATION

T84N - R4W
SECTION 1 & 2
FAIRVIEW TWP.
JONES COUNTY



SITUATION PLAN

FILL HT. = 0.9 m



TYPICAL APPROACH SECTION

NOTE:
BOTH EXISTING HEADWALLS TO BE REMOVED TO FRONT FACE OF PARAPET.

TRAFFIC DATA

2001	ADT	5530
2021	ADT	6630
2021	DHV	712
2001	TRUCKS	11%
2021	TRUCKS	13%

0 METERS 25

NOTE :
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.

DESIGN FOR 30° SKEW (R.A.) EXTENSION LEFT AND RIGHT

3.6 m x 3.6 m x 46.8 m REINFORCED CONCRETE BOX CULVERT EXT.

SITUATION PLAN

STA. 164+07.9 (O.R.) ℄ U.S. HIGHWAY 151 1998

JONES COUNTY, IOWA

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. 1698

DESIGNED BY DLN TRACED BY JAE
DETAILED BY DLN CHECKED BY RMJ

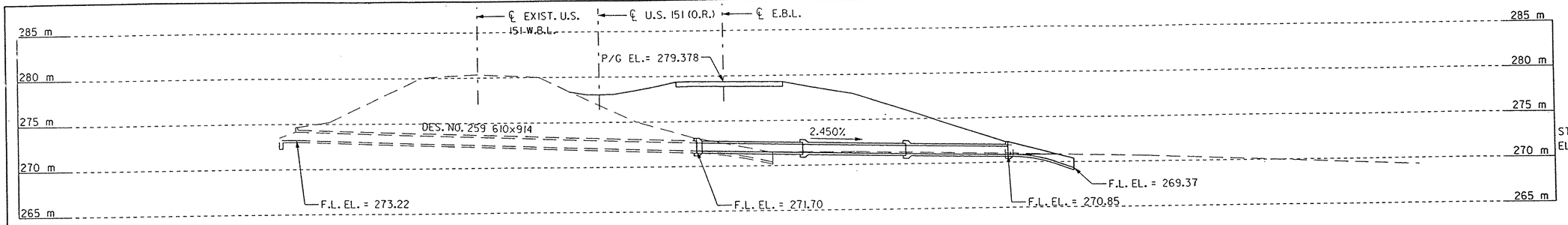
RUST Rust Environment & Infrastructure Inc.

JONES COUNTY | PROJECT NUMBER NHSX-151-4(63)--3H-53

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7			89/120

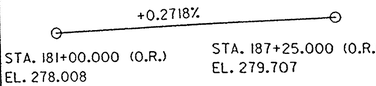
V.06

07/02/99

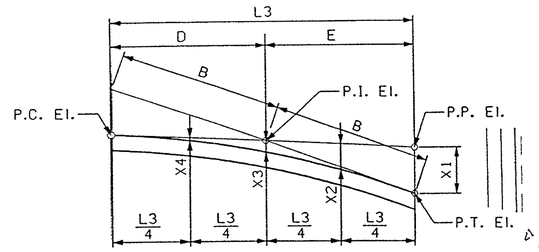


~~BENCH MARK :~~

~~NO. 39, SURVEY ℄ STA. 142+66.177, 50.853 m LT. 60 dd SPIKE PO.PO. EL. = 265.429~~



U.S. HWY. 151 PROFILE GRADE



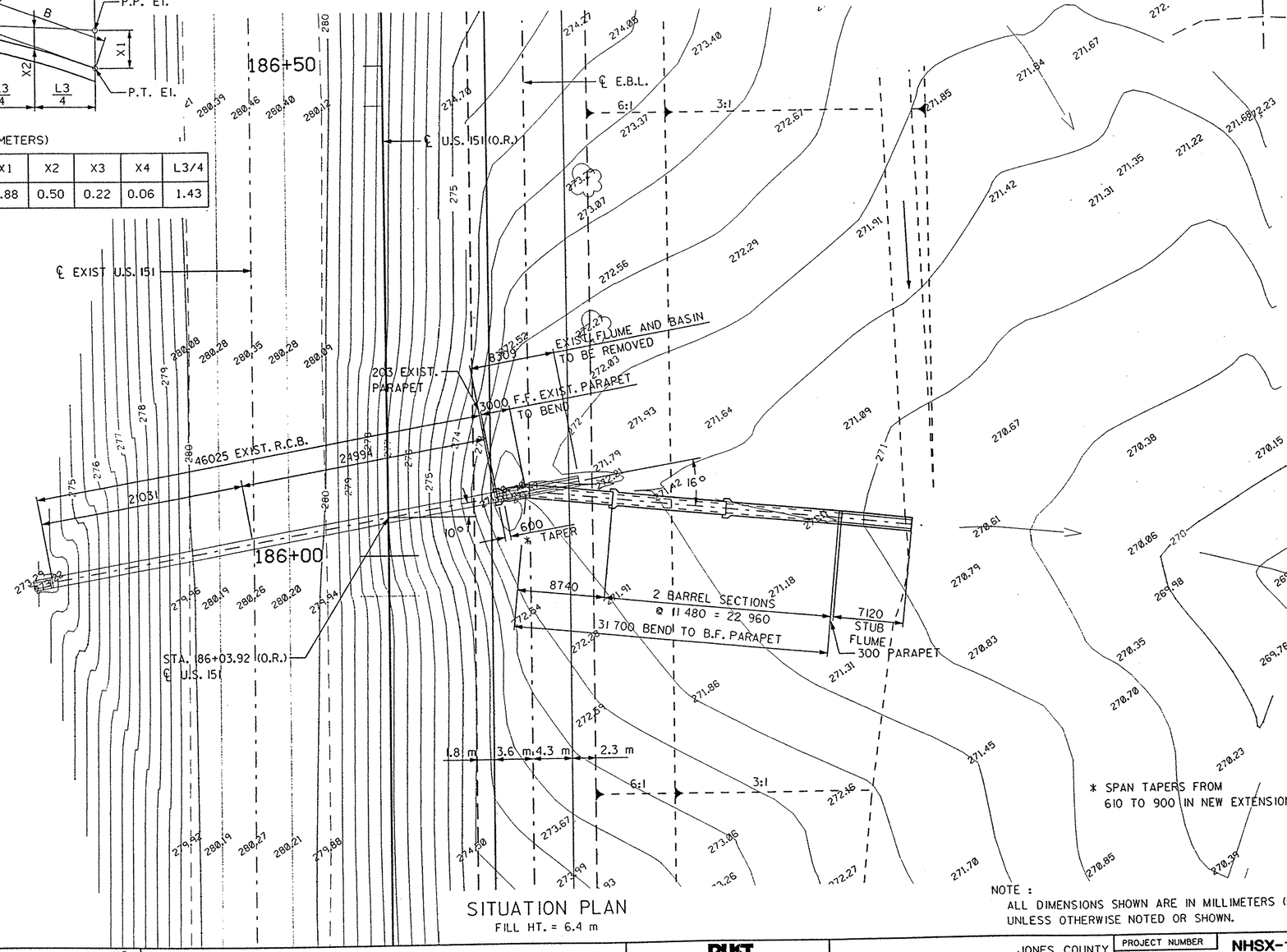
LONGITUDINAL SECTION - ALONG ℄ CULVERT

ESTIMATED SETTLEMENT =

FLUME DATA (METERS)

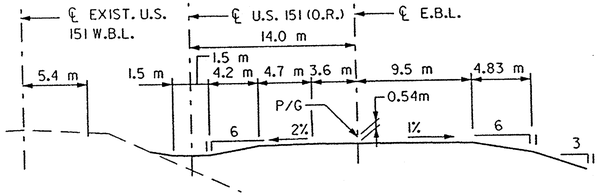
S	H	L3	B	D	E	X1	X2	X3	X4	L3/4
0.9	0.9	5.73	3.01	2.88	2.86	0.88	0.50	0.22	0.06	1.43

Culvert Slope = 2.450%
P.C. El. = 270.85
P.I. El. = 270.78
P.P. El. = 270.71
P.T. El. = 269.83



SITUATION PLAN
FILL HT. = 6.4 m

* SPAN TAPERS FROM 610 TO 900 IN NEW EXTENSION



TYPICAL APPROACH SECTION

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

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

NOTE :
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED OR SHOWN.

DESIGN FOR 10° SKEW (R.A.) EXTENSION RIGHT WITH 16° BEND AND STUB FLUME

0.9 m x 0.9 m x 34.7 m REINFORCED CONCRETE BOX CULVERT EXT.

SITUATION PLAN

STA. 186+03.92 (O.R.) ℄ U.S. HIGHWAY 151 1998

JONES COUNTY, IOWA

IOWA DEPARTMENT OF TRANSPORTATION - PROJECT DEVELOPMENT DIVISION

DESIGN SHEET NO. 1 OF 1 FILE NO. _____ DESIGN NO. 1798

DESIGNED BY _____ DLN TRACED BY JAE
DETAILED BY _____ DLN CHECKED BY RMJ

RUST Rust Environment & Infrastructure Inc.

JONES COUNTY | PROJECT NUMBER NHSX-151-4(63)--3H-53

STATE	FHWA REGION	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	7			20/20

V.07

07/02/03