LETTING DATE 5/15/2018

DUBUQUE Co. PCC PAVEMENT - GRADE AND REPLACE HSIPX-052-2(120)--3L-31

INDEX OF SHEETS

No.	DESCRIPTION
A Sheets	**Title Sheets**
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B Sheets	**Typical Cross Sections and Details**
B.1 - 12	Typical Cross Sections and Details
C Sheets	**Quantities and General Information**
C.1	Project Description
C.2	Estimated Project Quantities
C.3 - 6	Estimate Reference Information
C.7	Standard Road Plans
C.7	Index of Tabulations
C.8 - 16	Tabulations
CD Sheets	**Drainage Tabulations**
CD.1	Drainage Structures and Items
CE Sheets	**Erosion Control Tabulations**
CE.1 - 2	Pollution Prevention Plan
CE.2 - 14	Erosion Tabulations
CS Sheets	**Soils Tabulations**
CS.1 - 4	Soils Tabulations
D Sheets	**Mainline Plan and Profile Sheets**
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 10	U.S. 52
* D.11 - 14	Roundabout at U.S. 52 / Holy Cross / Tollgate
E Sheets	**Side Road Plan and Profile Sheets**
* E.1	Roundabout Circulator
* E.2	NB Holy Cross Roundabout
* E.3	SB Holy Cross Roundabout
* E.4	Maple Road
* E.5	SR Pfeiler Road East & Hingtgen Lane
* E.6	SR Midway Road
* E.7	SR Bankston Road & Pfeiler Road West
* E.8	SR Schmitt Lane
G Sheets	**Survey Sheets**
G.1	Survey & GPS Project Control Information
G.2	GPS Project Control Map
G.3 - 5	Alignment Coordinates
G.6 - 8	Curve Data
G.9	Horizontal Control Tab. & Super for all Alignments
H Sheets	**Right-of-Way Sheets**
* H.1	U.S. 52
* HE.2	Side Road ROW
J Sheets	**Traffic Control and Staging Sheets**
J.1	Traffic Control Plan
* J.2 - 3	Detour Plan
L Sheets	**Geometric, Staking and Jointing Sheets**
L.1 - 46	Geometric, Staking, Edge Profiles and Jointing Details
L.47 - 52	Special Mainline Superelevation Staking Details
M Sheets	**Storm Sewer Sheets**
M.1	Storm Sewer Tabulations
M.2	Storm Sewer Legend & Symbol Information Sheet
M.3 - 14	Storm Sewer Plan and Profile Sheets US 52 & Roundabout

IOWA DOT

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

DUBUQUE COUNTY

PCC PAVEMENT - GRADE AND REPLACE

From E. Jct. Pfeiler Rd. N. To Tollgate Rd. (Co. Rd. Y-13)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

REVISIONS

TOTAL 647
PROJECT IDENTIFICATION NUMBER
10-31-052-020-03
PROJECT NUMBER
HSIPX-052-2(120)--3L-31
R.O.W. PROJECT NUMBER
STPN-052-2(123)--2J-31

INDEX OF SHEETS

No.	DESCRIPTION
Q Sheets	**Soils Sheets**
Q.1	Soils Legend & Symbol Information Sheet
Q.2 - 19	Soils Sheets US 52 & Roundabout
T Sheets	**Earthwork Quantity Sheets**
* T.1.A - 1.D	Earthwork Legend
T.2 - 36	Earthwork Quantity Sheets
U Sheets	**500 Series, Mod.Stds. and Detail Sheets**
* U.1 - 3	Roundabout Pavement Markings
U.4	Modified EC-105 Transition Mat
U.5	570-2 Rock Check Dam
* U.6 - 8	570-4 Silt Fence Installation for Shallow or No Ditch
* U.9	570-5 Erosion Control for Intake or Manhole Well
* U.10	570-6 Open-Throat Curb Intake Sediment Filter
* U.11	570-7 Grate Intake Sediment Filter Bag
* U.12	570-10 Stabilized Construction Entrance
V Sheets	**Bridge and Culvert Situation Plans**
V.1 - 6	Bridge and Culvert Situation Plans
W Sheets	**Mainline Cross Sections**
W.1 - 277	Mainline Cross Sections
X Sheets	**Side Road Cross Sections**
X.1 - 26	Side Road & Roundabout Cross Sections
Z Sheets	**Roundabout Cross Sections**
* Z.1	Roundabout Cross Section Matchlines
Z.2 - 95	Roundabout Cross Sections

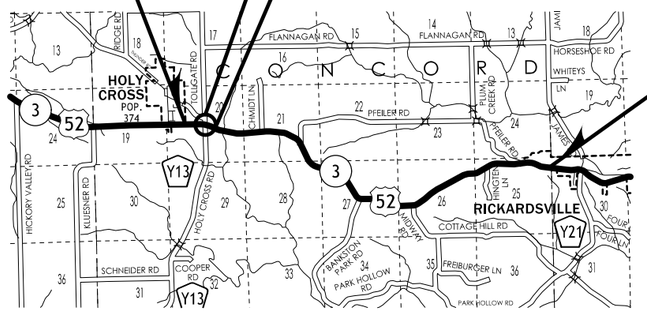
* Color Plan Sheets

Sta. 885+50
End Project

Roundabout

Sta. 864+58.63

Sta. 602+00
Begin Project



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LOCATION MAP SCALE
0 1 2 3
Miles

DESIGN DATA RURAL

2018	AADT	2086	V.P.D.
2038	AADT	2188	V.P.D.
2038	DHV	226	V.P.H.
TRUCKS		11	%
Total Design ESALs		600,000	

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Yanxiao Jia	Primary Signature Block
CD.1	Dave Claman	HYDRAULIC DESIGN
CS.1	Steve Megivern	GEOTECHNICAL DESIGN
V.1	Dean Bierwagen	STRUCTURAL DESIGN

ROADWAY DESIGN

LICENSED PROFESSIONAL ENGINEER — Yanxiao. Jia 14837 — IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Yanxiao Jia — 1-17-2018
Signature — Date

Yanxiao Jia
Printed or Typed Name

My license renewal date is December 31, 2018

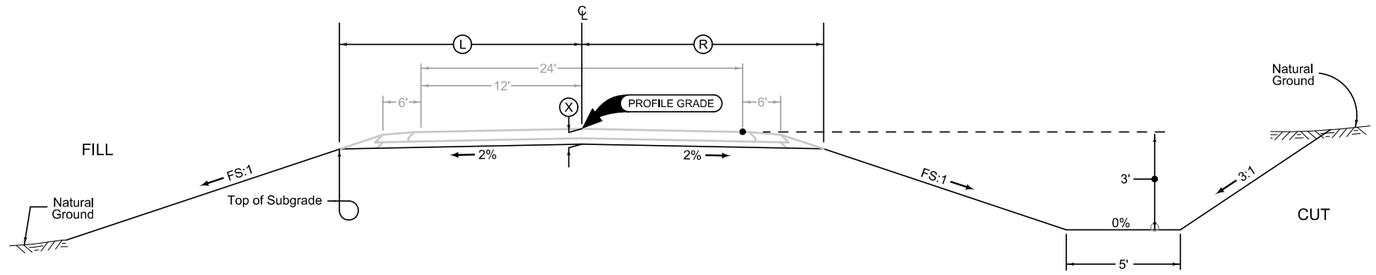
Pages or sheets covered by this seal: A.1, B.1-12, C.1-16, CE.1-14, D.1-14, E.1-8, G.1-9, J.1-3, L.1-52, M.1-14, T.1A-36, U.1-13, W.1-277, X.1-26, Z.1-95

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER A.1

1:38:04 PM 11/22/2017 kromsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120a01.sht

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	FS
US 52	601+50.0	864+58.63	25.5	25.5	21.5	4:1

G_2_Grade
MODIFIED



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

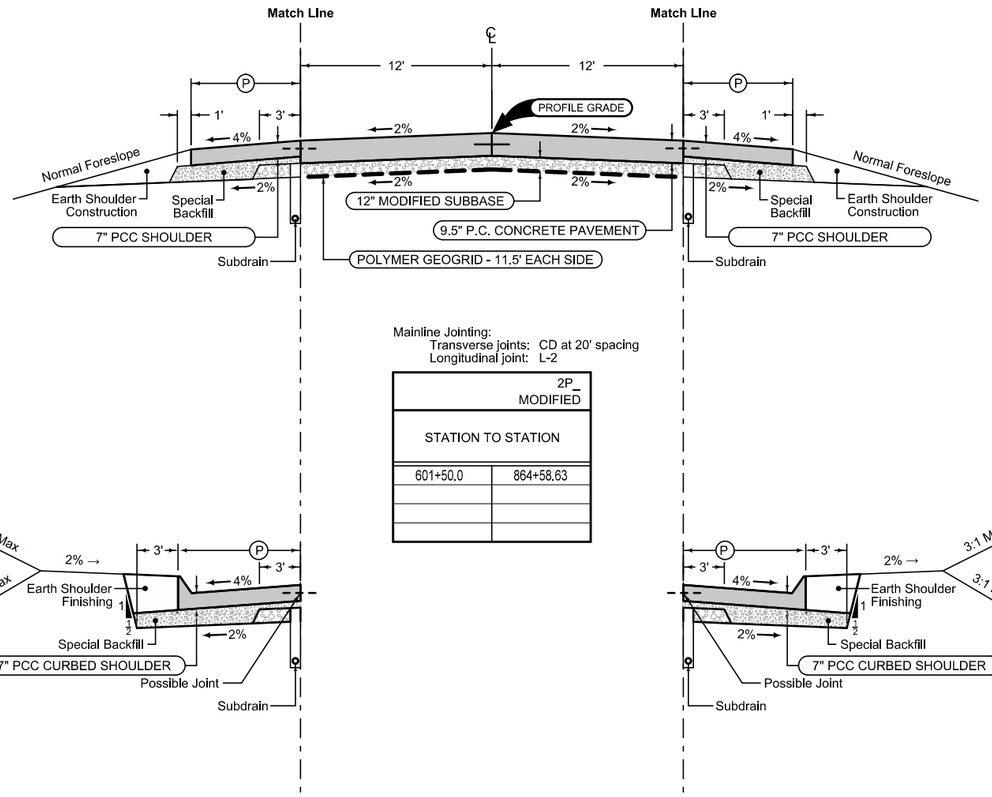
See plan & profile sheets and cross sections for additional details of ditches and backslopes.

2 LANE GRADING

PCC Paved Shoulder

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at 20' spacing

2_P_ALT_ 10-21-14		
STATION TO STATION		(P) Feet
601+50.0	640+85.0	6
650+50.0	656+00.0	6
658+50.0	714+60.0	6
718+62.0	751+00.0	6
756+26.9	788+94.9	6
792+18.0	864+58.6	6



Mainline Jointing:
Transverse joints: CD at 20' spacing
Longitudinal joint: L-2

2P_ MODIFIED	
STATION TO STATION	
601+50.0	864+58.63

PCC Paved Shoulder

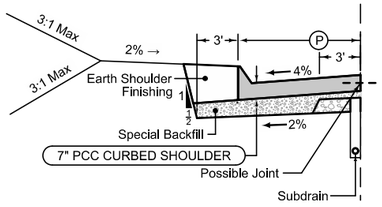
Shoulder Jointing:
Longitudinal joint: BT-1 or BT-5
Transverse joints: C at 20' spacing

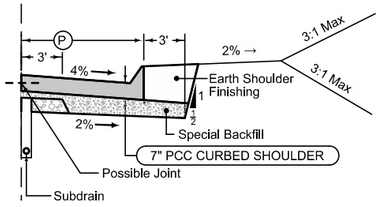
2_P_ALT_ 10-21-14		
STATION TO STATION		(P) Feet
601+50.0	640+71.2	6
643+45.9	697+40.0	6
706+90.0	739+72.0	6
745+50.0	754+00.0	6
757+50.0	823+50.0	6
828+00.0	861+58.7	6
864+50.0	864+58.6	6

PCC Curbed Shoulder

Shoulder Jointing:
Longitudinal: BT-1 or BT-5
Transverse: C at 20' spacing

2_Curb_ 04-19-11				
STATION TO STATION		(P) Feet	Curb Type See PV-102	Earth Shoulder Finishing Sta.
640+85.0	650+50.0	7	6" Sloped	9.65
656+00.0	658+50.0	7	6" Sloped	2.50
714+60.0	718+62.0	7	6" Sloped	4.02
751+00.0	756+26.9	7	6" Sloped	5.27
788+94.9	792+18.0	7	6" Sloped	3.23





PCC Curbed Shoulder

Shoulder Jointing:
Longitudinal: BT-1 or BT-5
Transverse: C at 20' spacing

2_Curb_ 04-19-11				
STATION TO STATION		(P) Feet	Curb Type See PV-102	Earth Shoulder Finishing Sta.
640+71.2	643+45.9	7	6" Sloped	2.75
697+40.0	706+90.0	7	6" Sloped	9.50
739+72.0	745+50.0	7	6" Sloped	5.78
754+00.0	757+50.0	7	6" Sloped	3.50
823+50.0	828+00.0	7	6" Sloped	4.50
861+58.7	864+50.0	7	6" Sloped	2.91

See Tab 100-24 or 100-25 for pavement quantities.

See Tab 112-9 for shoulder quantities.

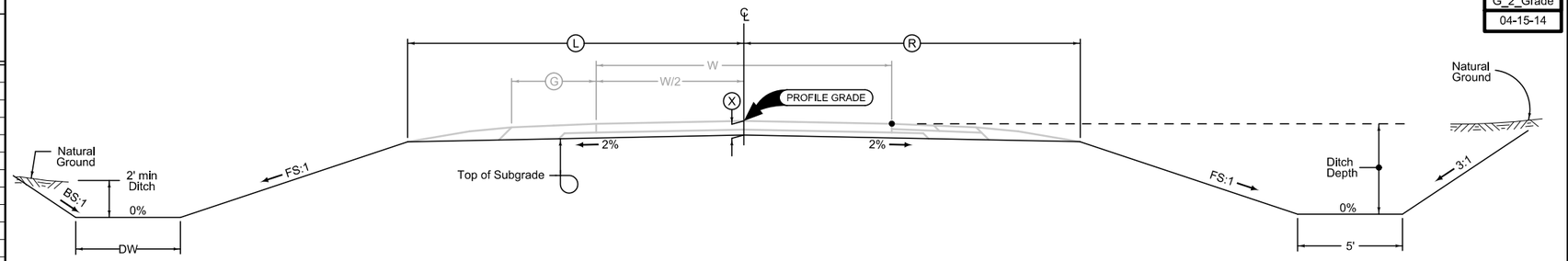
US 52

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER B.1

1:14:31 PM 10/3/2017 raltenh pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120b01.sht

LOCATION			DIMENSIONS					
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	FS	BS	DW
Pfeiler Road East	12622+11.54	12622+76.00	--	--	21.5	4	3	0
Hingtgen Lane	11644+75.00	11646+23.00	**	**	21.5	3	3	5
Midway Road	10702+62.0	10704+53.3	20.8	20.8	21.5	3	3	5
Bankston Park Road	9741+00.00	9742+49.10	21.7	21.7	21.5	4	3	5
Pfeiler Road West	8803+87.00	8804+52.03	--	--	21.5	4	3	5
Schmitt Lane	7832+10.14	7832+60.00	--	--	21.5	4	3	5
Maple Road	446882+44.9	446883+25.0	--	--	21.5	4	3	5
** See Cross Sections								

G_2_Grade
04-15-14



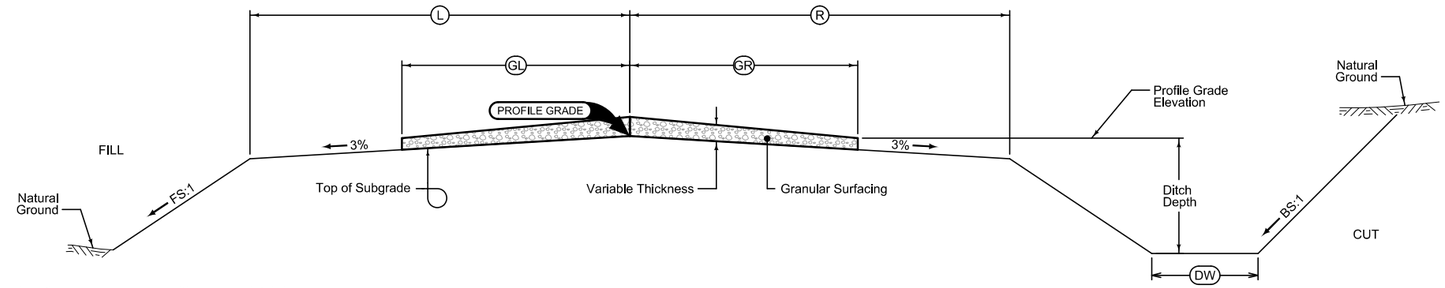
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See plan & profile sheets and cross sections for additional details of ditches and backslopes.

2 LANE GRADING

LOCATION			DIMENSIONS							Quantities	
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(GL) Feet	(GR) Feet	FS	BS	(DW) Feet	Length	Granular Surfacing Tons
Pfeiler Road East	12622+76.0	12623+15.00	14-10	14-10	14-10	14-10	**	**	5 **	39'	17.2
Hingtgen Lane	11642+25.00	11644+75.00	8	8	8	8	3	3	5 **	250'	110.3
Midway Road	10702+00.00	10702+52.00	13	13	13	13	3	3	5 **	52'	22.9
Midway Road	10702+52.00	10702+62.00	13-15	13-15	13-15	13-15	3	3	5 **	10'	4.4
Pfeiler Road West	8804+52.0	8806+50.0	12	12	12	12	4	3	5 **	197.97'	87.4
Schmitt Lane	7832+60.0	7836+50.0	15	15	15	15	4	3	5 **	439.86'	194.1
Schmitt Lane	7836+50.0	7837+00.00	15-10	15-10	15-10	15-10	4	3	5 **	50'	22.1
** See Cross Sections									Granular Surfacing Total =		458.4

2_GradeGran
Modified



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

See plan & profile sheets and cross sections for additional details of ditches and backslopes.

Place Granular Surfacing as follows:
Grade-Pave design application rate is 2330 tons per mile.

GRADING AND GRANULAR SURFACING

See Tab 100-24 or 100-25 for pavement quantities.

See Tab 112-9 for shoulder quantities.

COUNTY ROADS

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER B.2

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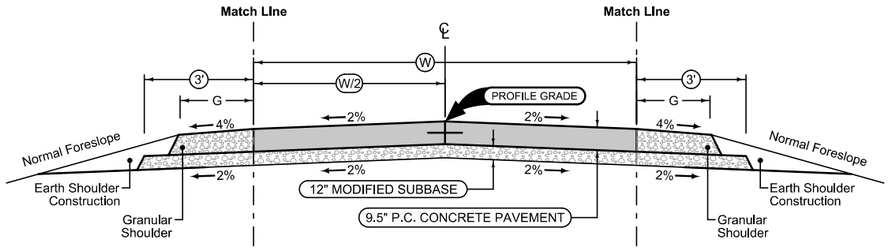
Granular Shoulder

2_G_SR_ 10-19-10			
STATION TO STATION			(G) Feet
Pfeiler Road E	12622+51.6	12622+76.0	2
Hingtgen Lane	11644+75.0	11644+95.0	0-2
Hingtgen Lane	11644+95.0	11645+60.4	2
Hingtgen Lane	11645+60.4	11645+75.5	0
Midway Road	10702+62.0	10703+91.5	2
Bankston Park Road	9741+00.0	9741+20.0	0-2
Bankston Park Road	9741+20.0	9741+95.0	2
Schmitt Lane	7832+10.14	7832+60.0	0
Maple Road	446882+80.3	446883+25.0	2
Pfeiler Road W	8803+92.09	8804+41.56	2
Pfeiler Road W	8804+41.56	8804+52.03	2-0



Mainline Jointing:
Transverse joints: CD at 20' spacing
Longitudinal joint: L-2

2P_ MODIFIED			
STATION TO STATION			(W) Feet
Pfeiler Road E	12622+11.5	12622+76.0	24
Hingtgen Lane	11644+75.0	11645+60.4	16
Hingtgen Lane	11645+60.4	11645+75.5	20
Hingtgen Lane	11645+75.5	11646+23.0	14
Midway Road	10702+62.0	10704+53.3	26
Bankston Park Road	9741+00.0	9742+49.1	24
Pfeiler Road W	8803+87.0	8804+52.0	24
Schmitt Lane	7832+10.1	7832+60.0	30
Maple Road	446882+44.9	446883+25.0	26

Granular Shoulder

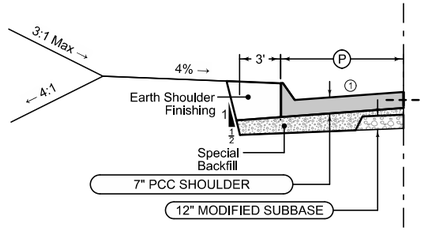
2_G_SR_ 10-19-10			
STATION TO STATION			(G) Feet
Pfeiler Road E	12622+29.7	12622+76.0	2
Hingtgen Lane	11644+75.0	11644+95.0	0-2
Hingtgen Lane	11644+95.0	11645+60.4	2
Hingtgen Lane	11645+60.4	11645+75.5	0
Midway Road	10702+62.0	10704+16.8	2
Bankston Park Road	9741+00.0	9742+15.0	0
Bankston Park Road	9741+15.0	9742+17.6	0-0.7
Pfeiler Road W	8803+91.52	8804+42.75	2
Pfeiler Road W	8804+42.75	8804+52.03	2-0
Schmitt Lane	7832+10.1	7832+60.0	0
Maple Road	446883+16.9	446883+25.0	2

Curbed Shoulder

Shoulder Jointing:
Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2
Staged : KT-2
Transverse:C at 20' spacing

2_Curb_ MODIFIED				
STATION TO STATION			(P) Feet	Curb Type See PV-102
Hingtgen Lane	11645+83.7	11646+23.00	3	6" Sloped



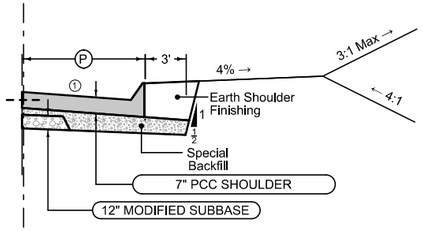
① 4% Cross Slope

Curbed Shoulder

Shoulder Jointing:
Longitudinal joint not required when distance from back of curb to nearest joint is less than 15':

Single pour: L-2
Staged : KT-2
Transverse:C at 20' spacing

2_Curb_ MODIFIED				
STATION TO STATION			(P) Feet	Curb Type See PV-102
Hingtgen Lane	11645+75.5	11646+23.00	3	6" Sloped



① 4% Cross Slope

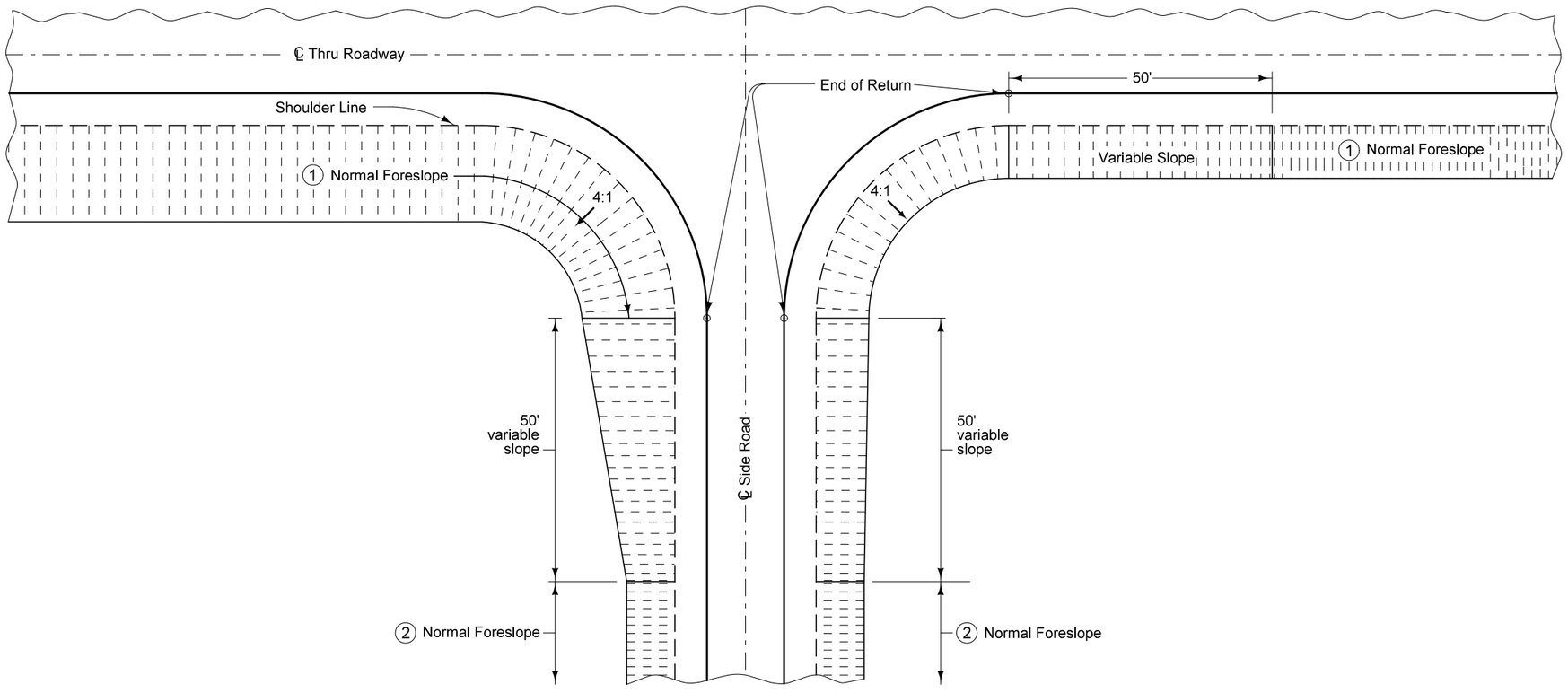
See Tab 100-24 or 100-25 for pavement quantities.

See Tab 112-9 for shoulder quantities.

PAVED COUNTY ROADS

① 4:1 foreslope.

② Refer to X sheets for foreslopes at each side road.



NORMAL FORESLOPES

SIDE ROAD GRADING

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER B.4

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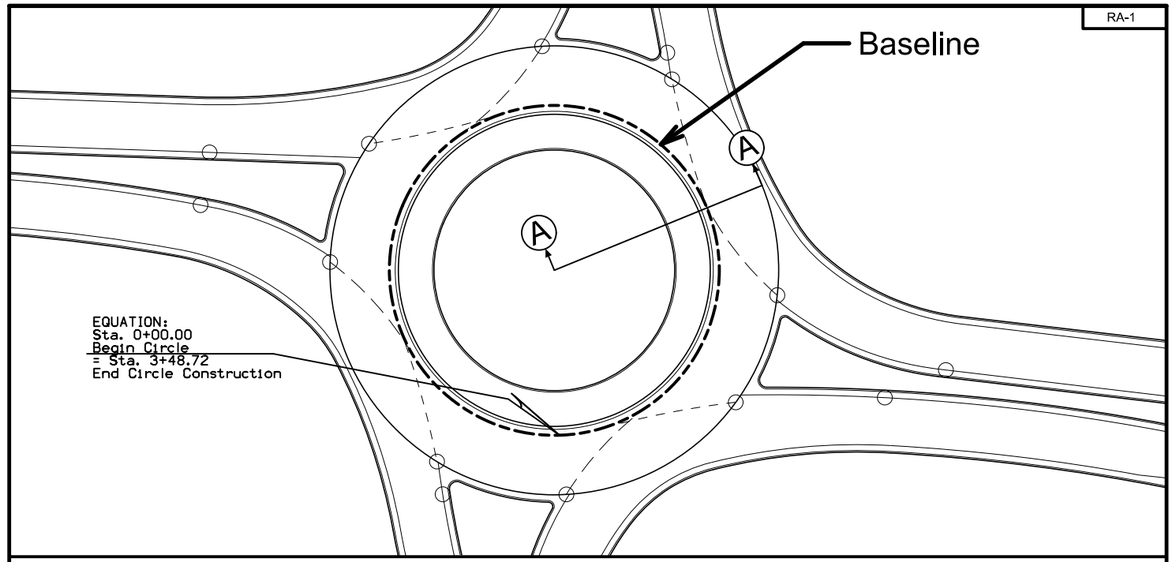
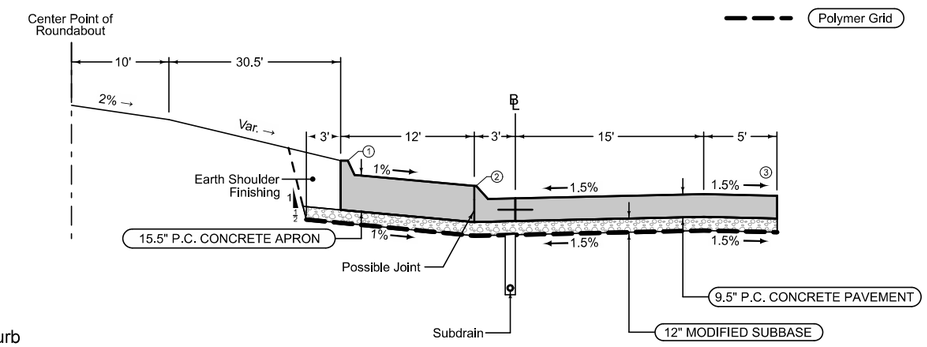
RA-1



Section A - A



① 6" Standard Curb

② 4" Sloped Curb

③ See 'L' Sheets and Cross Sections for more information

STATION TO STATION		
RA_CIRCLE	0+00.00	3+48.72

Circle Lane + Apron

Roundabout Typical Sections

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER B.5

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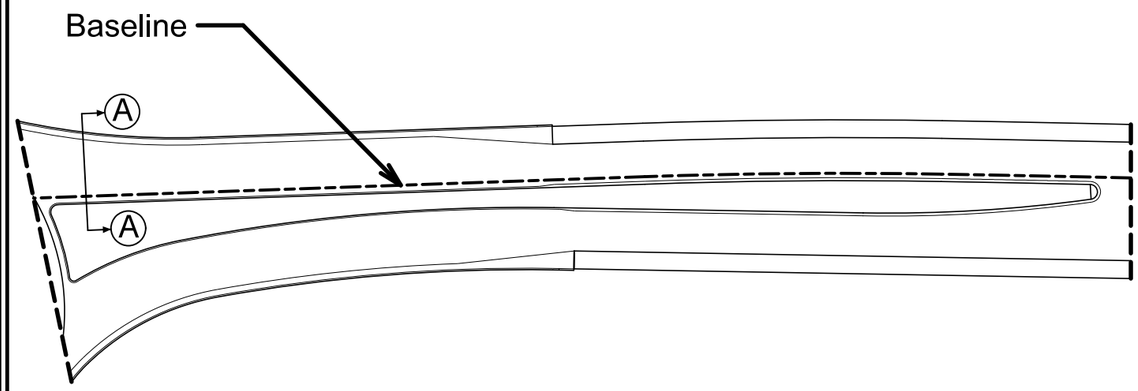
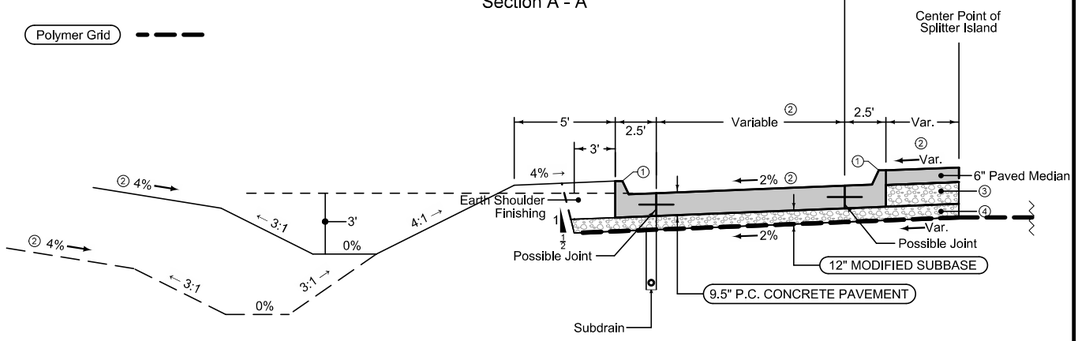
RA-2a



ML052EB
& = ℄
HOLYCROSSSB

Section A - A



6" Standard Curb ①

See 'L' Sheets and Cross Sections for more information ②

Modified Subbase see Tab. 112-5 ③

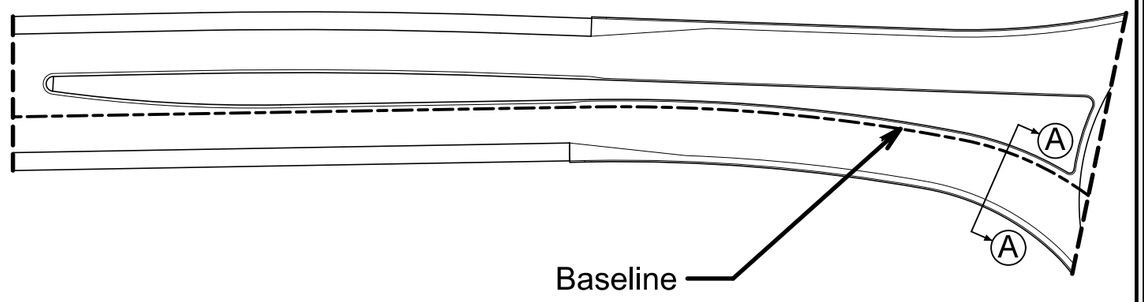
Modified Subbase see Tab. 100-24 ④

STATION TO STATION		
ML052EB	41873+56.26	41875+26.07
ML052EB	41870+24.46	41871+93.25
HOLYCROSSSB	436878+88.60	436879+84.57
HOLYCROSSSB	436876+20.32	436877+25.58

Curbed Approach Lane + Splitter Island

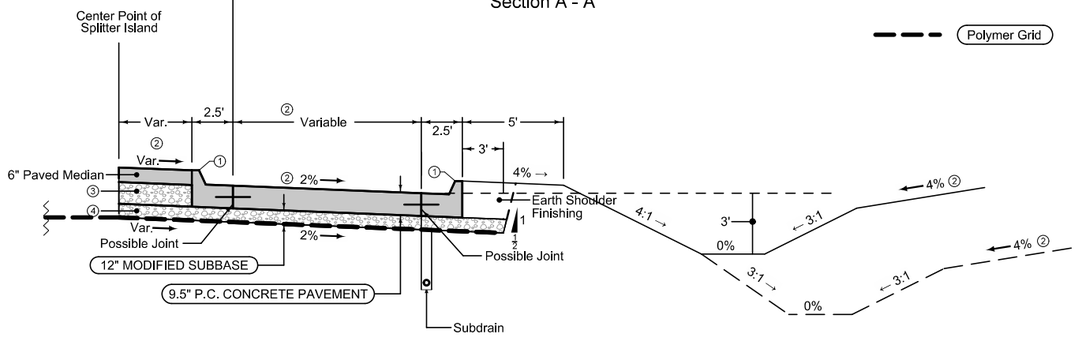
EB US 52 & SB Holy Cross

RA-2b



ML052WB
℄ = &
HOLYCROSSNB

Section A - A



① 6" Standard Curb

② See 'L' Sheets and Cross Sections for more information

③ Modified Subbase see Tab. 112-5

④ Modified Subbase see Tab. 100-24

STATION TO STATION		
ML052WB	40870+27.88	40871+95.52
ML052WB	40873+60.28	40875+27.39
HOLYCROSSNB	426876+20.74	426877+17.28
HOLYCROSSNB	426878+80.53	426879+85.31

Curbed Approach Lane + Splitter Island

WB US 52 & NB Holy Cross

Roundabout Typical Sections

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER B.6

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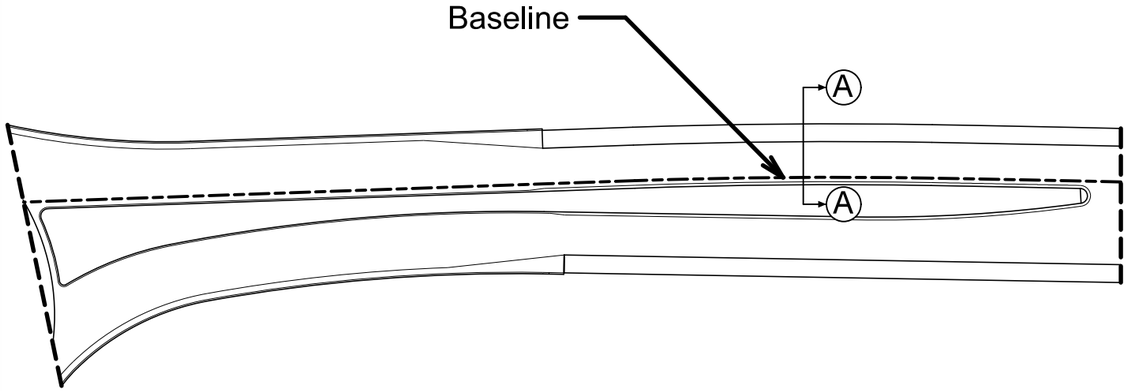
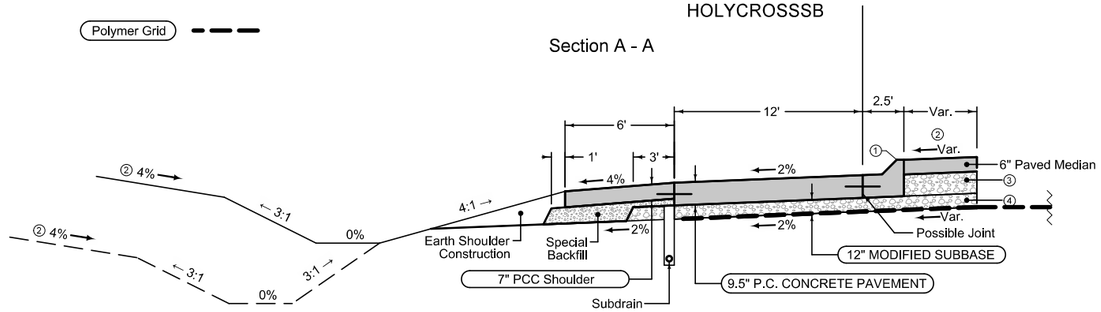
RA-3a



ML052EB
& = ℄
HOLYCROSSSB

Section A - A



6" Sloped Curb (1)

See 'L' Sheets and Cross Sections for more information (2)

Modified Subbase see Tab. 112-5 (3)

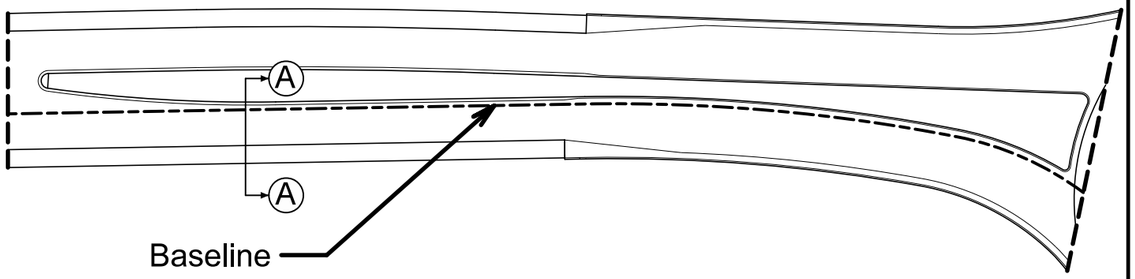
Modified Subbase see Tab. 100-24 (4)

STATION TO STATION		
ML052EB	41868+48.25	41870+24.46
ML052EB	41875+26.07	41876+99.28

Paved Shoulder Approach Lane + Splitter Island with Sloped Curb

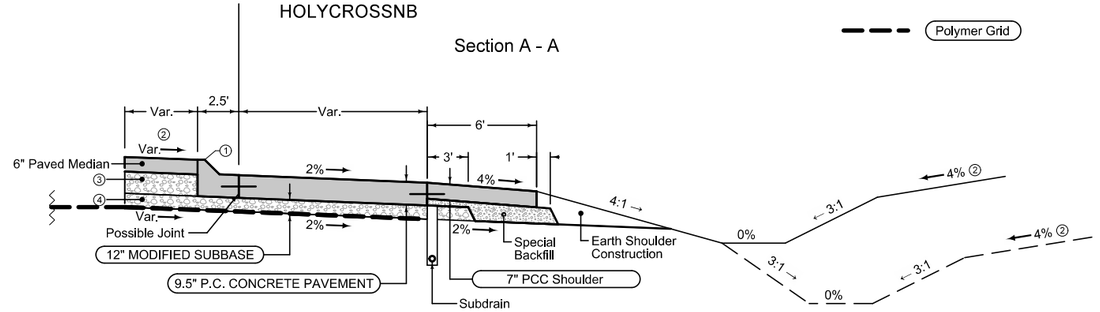
EB US 52 & SB Holy Cross

RA-3b



ML052WB
℄ = &
HOLYCROSSNB

Section A - A



(1) 6" Sloped Curb

(2) See 'L' Sheets and Cross Sections for more information

(3) Modified Subbase see Tab. 112-5

(4) Modified Subbase see Tab. 100-24

STATION TO STATION		
ML052WB	40868+48.17	40870+27.88
ML052WB	40875+27.39	40877+07.92

Paved Shoulder Approach Lane + Splitter Island with Sloped Curb

WB US 52 & NB Holy Cross

Roundabout Typical Sections

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER B.7

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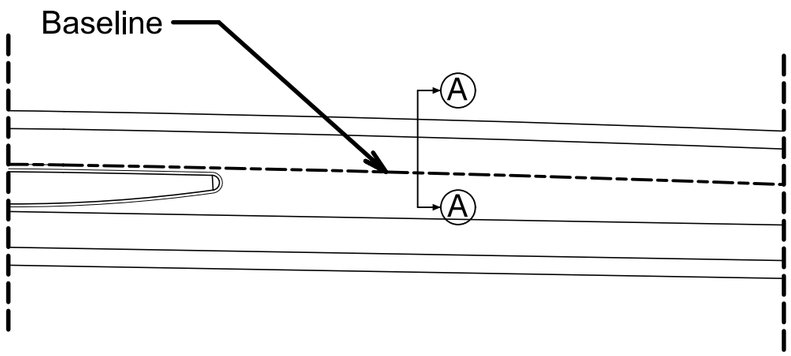
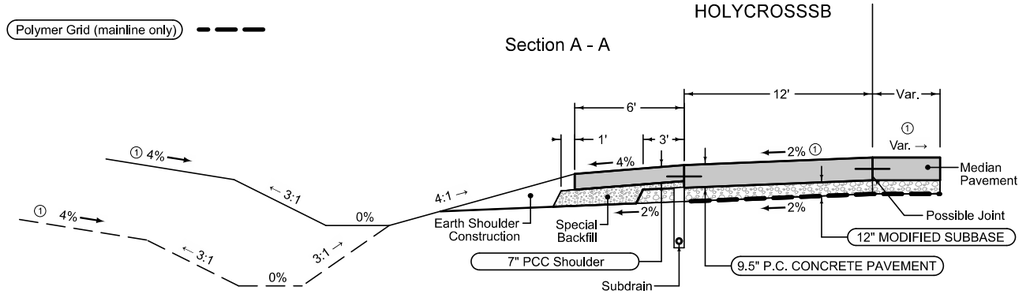
RA-4a



ML052EB
& = ℄
HOLYCROSSSB

Section A - A



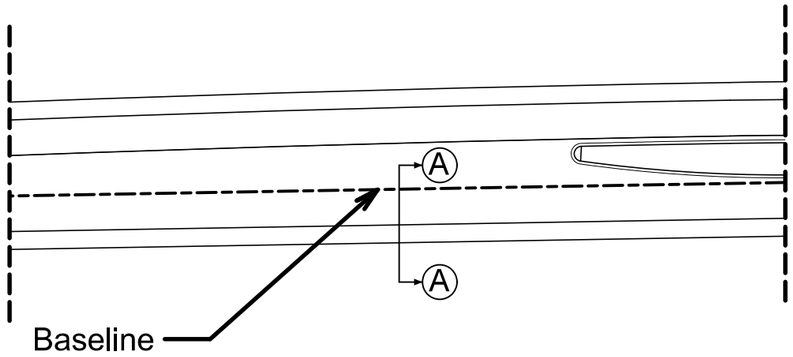
See 'L' Sheets and Cross Sections for more information ①

STATION TO STATION		
ML052EB	41864+98.78	41868+48.25
ML052EB	41876+99.28	41885+25.35

Paved Shoulder Approach Lane

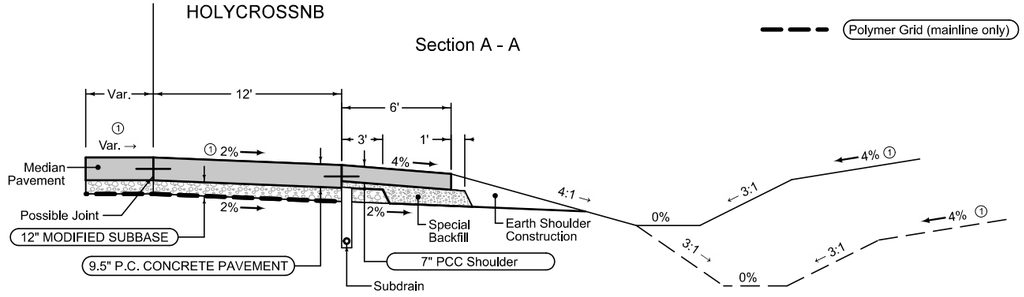
EB US 52 & SB Holy Cross

RA-4b



ML052WB
℄ = &
HOLYCROSSNB

Section A - A



① See 'L' Sheets and Cross Sections for more information

STATION TO STATION		
ML052WB	40864+98.79	40868+48.17
ML052WB	40877+07.92	40885+34.17

Paved Shoulder Approach Lane

WB US 52 & NB Holy Cross

Roundabout Typical Sections

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER B.8

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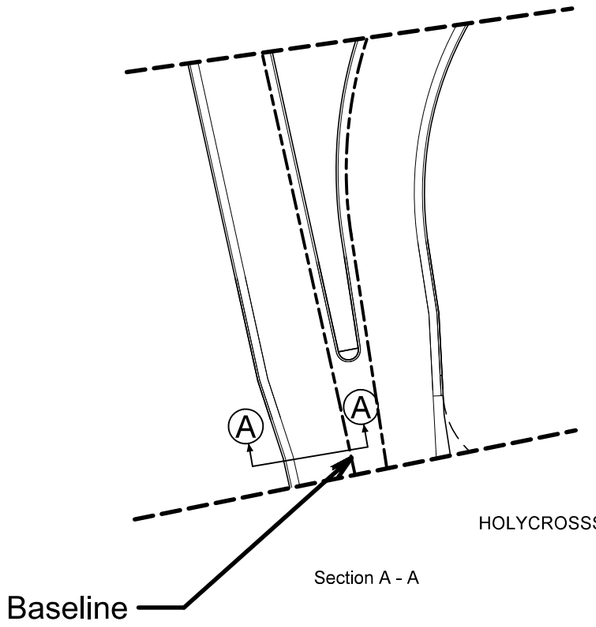
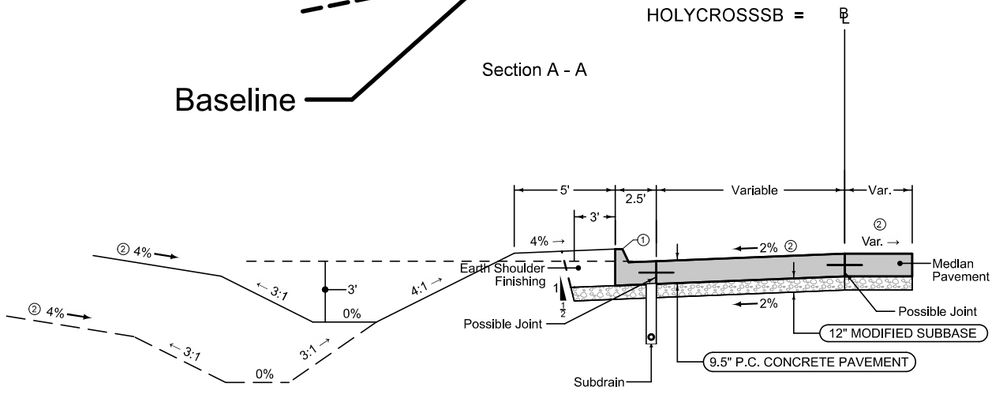
RA-5a



Section A - A



Standard Curb ①

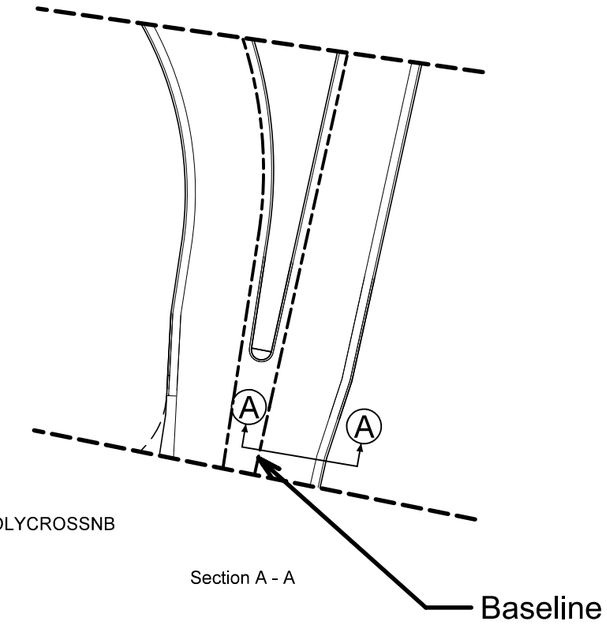
See 'L' Sheets and Cross Sections for more information ②

STATION TO STATION		
HOLYCROSSSB	436875+81.67	436876+20.32
HOLYCROSSSB	436879+84.57	436879+99.32

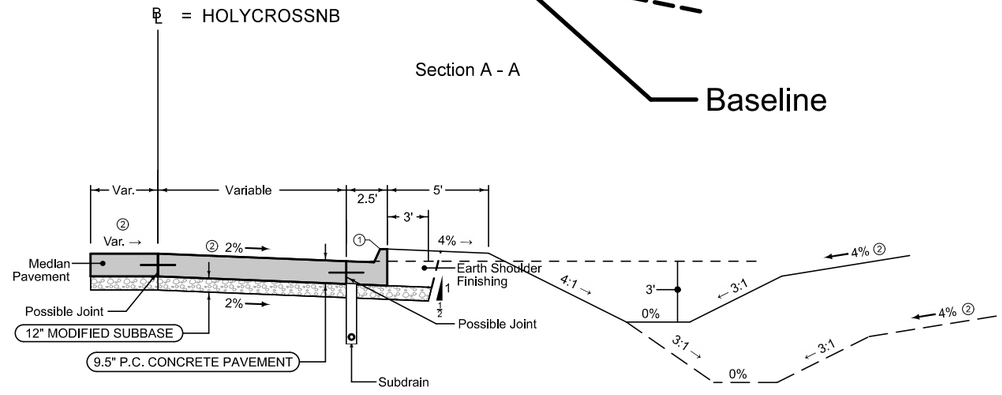
Curbed Shoulder Approach Lane

SB Holy Cross

RA-5b



Section A - A



① Standard Curb

② See 'L' Sheets and Cross Sections for more information

STATION TO STATION		
HOLYCROSSNB	426876+05.99	426876+20.74
HOLYCROSSNB	426879+85.31	426880+01.27

Curbed Shoulder Approach Lane

NB Holy Cross

Roundabout Typical Sections

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER B.9

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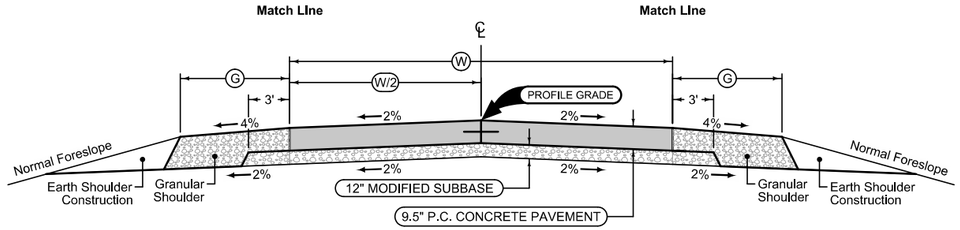
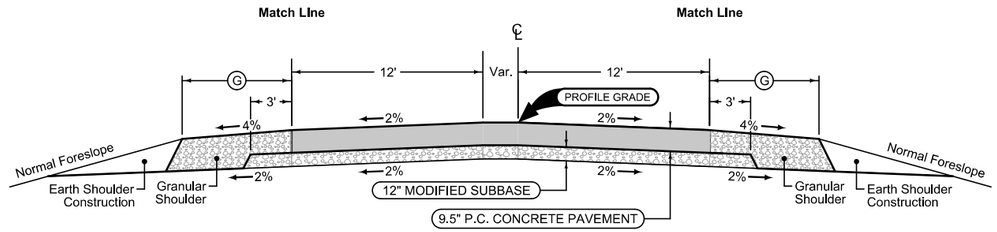
Granular Shoulder

2_G_SR_ 10-19-10			
STATION TO STATION			(G) Feet
HOLYCROSSNB	426874+25.00	426875+04.73	4
HOLYCROSSNB	426880+21.33	426881+67.70	4
HOLYCROSSNB	426883+03.20	426883+15.31	4



Mainline Jointing:
Transverse joints: CD at 20' spacing
Longitudinal joint: L-2

STATION TO STATION			(W) Feet
HOLYCROSSNB	426874+25.00	426874+58.75	24
HOLYCROSSNB	426881+46.89	426883+15.31	24



Mainline Jointing:
Transverse joints: CD at 20' spacing
Longitudinal joint: L-2

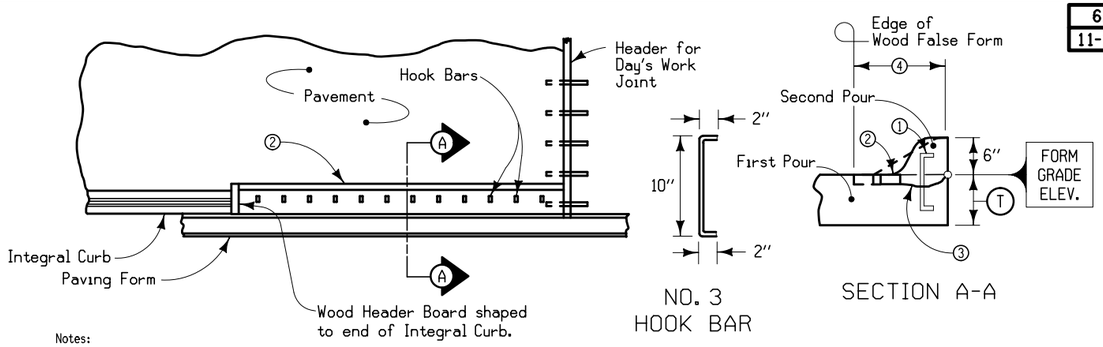
STATION TO STATION		
HOLYCROSSNB	426874+58.75	426875+04.73
HOLYCROSSNB	426880+21.36	426881+46.89

Granular Shoulder

2_G_SR_ 10-19-10			
STATION TO STATION			(G) Feet
HOLYCROSSNB	426874+25.00	426875+86.29	4
HOLYCROSSNB	426880+21.27	426883+15.31	4

Granular Shoulder Approach Lane
(Stationing = NB Holy Cross)

6115
11-10-92



NO. 3
HOOK BAR

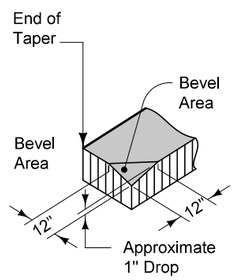
SECTION A-A

Notes:

1. Install hook bar at 12" intervals with top projecting so as to clear the paving equipment and as near the false form board as possible to maintain 2" surface clearance.
2. 2" x 4" False Form.
3. Excavate a slight cavity in concrete around each bar.
4. 12" maximum for Standard 6" Curb. 16" maximum for Sloped 6" Curb.

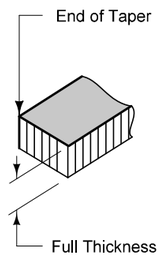
CONSTRUCTION WHERE CURB IS OMITTED AT END OF DAY'S RUN

7101
10-19-10



DETAIL 'A'

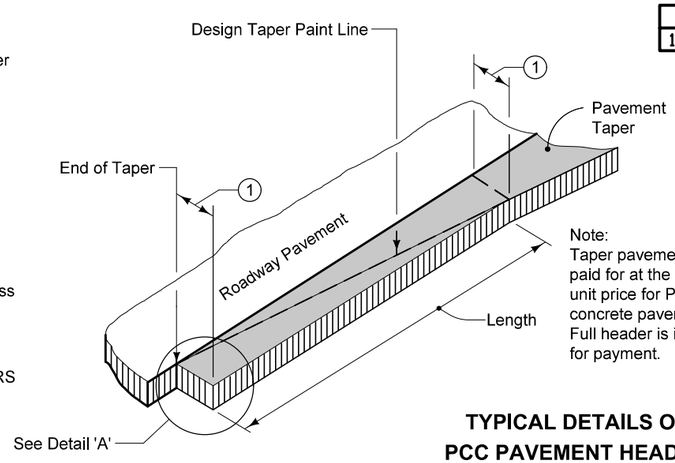
FOR
GRANULAR SHOULDERS



DETAIL 'A'

FOR
PAVED SHOULDERS

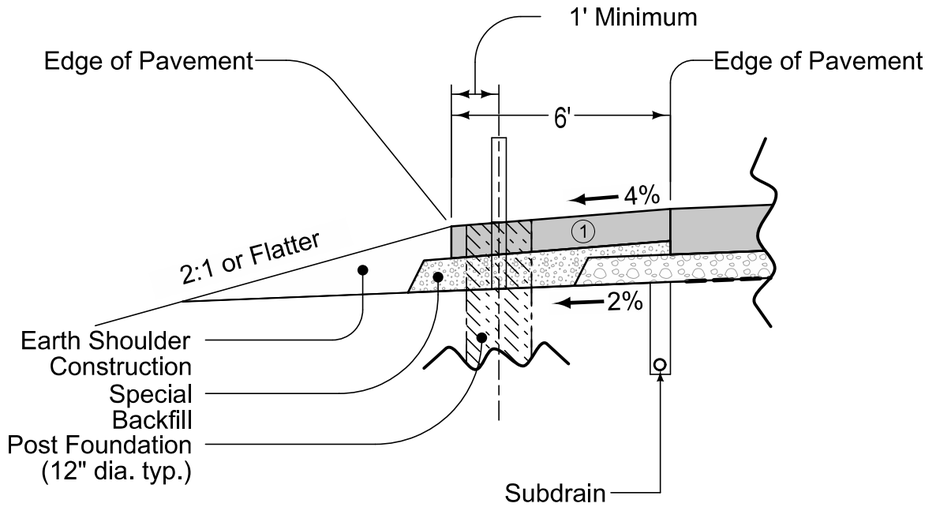
1. Normal width is 2'-0". Construct 4'-0" width when butting into 4' wide HMA shoulders (See Typical 7154A).



Note:
Taper pavement to be paid for at the contract unit price for P.C. concrete pavement. Full header is included for payment.

TYPICAL DETAILS OF PCC PAVEMENT HEADER

Sta. 857+44.97 - Sta. 859+73.81



(1) 7" PCC Shoulder

High Tension Cable Guardrail

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER B.12

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PROJECT DESCRIPTION

This project involves the reconstruction of US 52 (IA 3) from east of the junction with Pfeiler Road (east) north to just west of the Holy Cross/Toll Gate Road (County Road Y-13) intersection. A roundabout will be constructed at the intersection of US 52/Holy Cross/Toll Gate Road.

It also includes storm sewer installations, some curbed shoulder areas and other miscellaneous work.

An off-site detour shall be utilized.

ESTIMATED PROJECT QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2101-0850001	CLEARING AND GRUBBING	ACRE	44.5	
2	2102-0425071	SPECIAL BACKFILL	CY	20,428.4	
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	75,837.0	
4	2102-2710090	EXCAVATION, CLASS 10, WASTE	CY	64,544.0	
5	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY	150.0	
6	2102-2712070	EXCAVATION, CLASS 12, ROADWAY AND BORROW	CY	7,474.0	
7	2102-4560000	LOCATING TILE LINES	STA	568.00	
8	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	73,542.0	
9	2107-0425020	COMPACTING BACKFILL ADJACENT TO BRIDGES, CULVERTS OR STRUCTURES	CY	92.3	
10	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	58,330.0	
11	2113-0001100	SUBGRADE STABILIZATION MATERIAL, POLYMER GRID	SY	78,528.2	
12	2115-0100000	MODIFIED SUBBASE	CY	42,395.3	
13	2121-7425020	GRANULAR SHOULDERS, TYPE B	TON	234.8	
14	2122-5190007	PAVED SHOULDER, P.C. CONCRETE, 7 IN.	SY	37,377.6	
15	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	517.40	
16	2123-7450020	SHOULDER FINISHING, EARTH	STA	74.99	
17	2213-7100400	RELOCATION OF MAIL BOXES	EACH	27	
18	2301-1003095	STANDARD OR SLIP-FORM PORTLAND CEMENT CONCRETE PAVEMENT, QM-C, CLASS	SY	84,811.3	
		3 DURABILITY, 9.5 IN.			
19	2301-4875006	MEDIAN, P.C. CONCRETE, 6 IN.	SY	1,069.5	
20	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	TON	458.4	
21	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	TON	3,640.1	
22	2401-6745650	REMOVAL OF EXISTING STRUCTURES	LS	1.00	
23	2402-0425040	FLOODED BACKFILL	CY	998.7	
24	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	1,859.7	
25	2416-0100018	APRONS, CONCRETE, 18 IN. DIA.	EACH	11	
26	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	18	
27	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.	EACH	4	
28	2416-0100036	APRONS, CONCRETE, 36 IN. DIA.	EACH	1	
29	2416-0100084	APRONS, CONCRETE, 84 IN. DIA.	EACH	2	
30	2416-0102218	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 18 IN.	EACH	37	
31	2416-1180024	CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.	LF	350	
32	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	160	
33	2416-1180084	CULVERT, CONCRETE ROADWAY PIPE, 84 IN. DIA.	LF	114	
34	2416-1192218	CULVERT, 2000D LOW CLEARANCE CONCRETE ENTRANCE PIPE, EQUIVALENT	LF	1066	
		DIAMETER 18 IN.			
35	2422-0360018	APRONS, UNCLASSIFIED, 18 IN. DIA.	EACH	36	
36	2422-0360024	APRONS, UNCLASSIFIED, 24 IN. DIA.	EACH	4	
37	2422-1722018	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA.	LF	1108	
38	2422-1722024	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 24 IN. DIA.	LF	120	
39	2435-0140148	MANHOLE, STORM SEWER, SW-401, 48 IN.	EACH	1	
40	2435-0140200	MANHOLE, STORM SEWER, SW-402	EACH	2	
41	2435-0250500	INTAKE, SW-505	EACH	1	
42	2435-0250800	INTAKE, SW-508	EACH	12	
43	2435-0250900	INTAKE, SW-509	EACH	7	
44	2435-0254100	INTAKE, SW-541	EACH	3	
45	2435-0254200	INTAKE EXTENSION UNIT, SW-542	EACH	3	
46	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	46,786.0	
47	2502-8221303	SUBDRAIN OUTLET, DR-303	EACH	35	
48	2502-8221306	SUBDRAIN OUTLET, DR-306	EACH	173	
49	2503-0114218	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP),	LF	2,569.0	
		2000D (CLASS III), 18 IN.			
50	2503-0114224	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP),	LF	1,536.0	
		2000D (CLASS III), 24 IN.			
51	2503-0114230	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP),	LF	167.0	
		2000D (CLASS III), 30 IN.			
52	2503-0114236	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP),	LF	497.0	
		2000D (CLASS III), 36 IN.			
53	2503-0116318	STORM SEWER GRAVITY MAIN, TRENCHED, 2000D LOW CLEARANCE CONCRETE	LF	81.0	
		PIPE, EQUIVALENT DIAMETER 18 IN.			
54	2505-6000111	HIGH TENSION CABLE GUARDRAIL	LF	128.8	
55	2505-6000121	HIGH TENSION CABLE GUARDRAIL, END ANCHOR	EACH	2	
56	2506-4984000	FLOWABLE MORTAR	CY	41.4	
57	2507-3250005	ENGINEERING FABRIC	SY	687.7	
58	2507-8029000	EROSION STONE	TON	444.6	
59	2510-6745850	REMOVAL OF PAVEMENT	SY	89,576.5	
60	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN.	SY	2,640.8	
61	2515-2475008	DRIVEWAY, P.C. CONCRETE, 8 IN.	SY	137.9	
62	2515-6745600	REMOVAL OF PAVED DRIVEWAY	SY	811.4	
63	2518-6910000	SAFETY CLOSURE	EACH	11	
64	2519-3280000	FENCE, FIELD	LF	291.0	
65	2519-3300400	FIELD FENCE BRACE PANELS	EACH	4	
66	2520-3350015	FIELD OFFICE	EACH	1	
67	2526-8285000	CONSTRUCTION SURVEY	LS	1.00	
68	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	1,801.98	
69	2528-8445110	TRAFFIC CONTROL	LS	1.00	
70	2533-4980005	MOBILIZATION	LS	1.00	
71	2548-0000200	MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE	STA	558.2	
72	2548-0000320	MILLED CENTERLINE RUMBLE STRIPS, PCC SURFACE	STA	263.1	
73	2552-0000140	ROCK EXCAVATION	CY	1,020.5	
74	2599-9999001	('ACRES' ITEM) STABILIZING CROP - NATIVE GRASS SEEDING AND	ACRE	44.5	
		FERTILIZING			

100-1A
07-15-97

ESTIMATED PROJECT QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.
75	2599-9999001	('ACRES' ITEM) SUBGRADE STABILIZATION	ACRE	5.0	
76	2599-9999018	('SQUARE YARDS' ITEM) STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE	SY	389.6	
		PAVEMENT, CLASS C, CLASS 3 DURABILITY, 15.5 IN.			
77	2601-2633100	MOWING	ACRE	178.0	
78	2601-2634100	MULCHING	ACRE	44.5	
79	2601-2634105	MULCHING, BONDED FIBER MATRIX	ACRE	1.0	
80	2601-2640350	SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT	SQ	506.0	
81	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	44.5	
82	2601-2643110	WATERING FOR SOD, SPECIAL DITCH CONTROL, OR SLOPE PROTECTION	MGAL	448.00	
83	2601-2643300	MOBILIZATION FOR WATERING	EACH	3	
84	2601-2643412	TURF REINFORCEMENT MAT, TYPE 2	SQ	1,110.0	
85	2601-2643414	TURF REINFORCEMENT MAT, TYPE 4	SQ	624.0	
86	2601-2700020	TRANSITION MAT	SF	4112	
87	2602-0000020	SILT FENCE	LF	19,537.5	
88	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	8,601.0	
89	2602-0000050	SILT BASINS	EACH	124	
90	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	28,138.5	
91	2602-0000080	REMOVAL OF SILT BASINS	EACH	62	
92	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	2,814.0	
93	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE	LF	1,100.0	
94	2602-0000160	ROCK CHECK DAM	LF	2356	
95	2602-0000170	MAINTENANCE OF ROCK CHECK DAM	EACH	318	
96	2602-0000180	REMOVAL OF ROCK CHECK DAM	EACH	142	
97	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	990.0	
98	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	10,860.0	
99	2602-0000350	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	LF	11,850.0	
100	2602-0000400	TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY	EACH	10	
101	2602-0000410	MAINTENANCE OF TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY	EACH	10	
102	2602-0000420	REMOVAL OF TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY	EACH	10	
103	2602-0000500	OPEN-THROAT CURB INTAKE SEDIMENT FILTER	LF	104.0	
104	2602-0000510	MAINTENANCE OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	EACH	19	
105	2602-0000520	REMOVAL OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	EACH	19	
106	2602-0000530	GRATE INTAKE SEDIMENT FILTER BAG	EACH	2	
107	2602-0000540	MAINTENANCE OF GRATE INTAKE SEDIMENT FILTER BAG	EACH	2	
108	2602-0000550	REMOVAL OF GRATE INTAKE SEDIMENT FILTER BAG	EACH	2	
109	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1	
110	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1	
111	2612-0000520	ROADSIDE SPRAY FOR WEED CONTROL	ACRE	5.0	

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	2101-0850001	**CLEARING AND GRUBBING**
		Includes area within needs line shown on D Sheets.
-	-	-
2	2102-0425071	**SPECIAL BACKFILL**
		Refer to Typicals on B Sheets and Tab. 112-9.
-	-	-
3	2102-2710070	**EXCAVATION, CLASS 10, ROADWAY AND BORROW**
		A. Refer to T Sheets.
		B. Five areas of Plowing and Shaping are included. Refer to Tab. 107-31 on CS Sheets, Sheet Q.2, and cross sections for details.
		C. Overhaul is incidental to roadway excavation on this project and will not be paid for separately.
-	-	-
4	2102-2710090	**EXCAVATION, CLASS 10, WASTE**
		Refer to T Sheets.
-	-	-
5	2102-2712015	**EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS**
		A. Refer to Tab. 103-7 on CS Sheets.
		B. Dispose of excess material according to Article 1106.07 of the current specifications.
-	-	-
6	2102-2712070	**EXCAVATION, CLASS 12, ROADWAY AND BORROW**
		A. Refer to T Sheets.
		B. Rock overexcavation is not required under the roadbed.
		C. Dispose of excess material according to Article 1106.07 of the current specifications.
-	-	-
7	2102-4560000	**LOCATING TILE LINES**
		Estimated at twice the project length.
-	-	-
8	2105-8425015	**TOPSOIL, STRIP, SALVAGE AND SPREAD**
		A. Refer to Tab. 103-10 and T Sheets.
		B. Include an estimated of 68,578 cu. yds. for topsoil placement. Excess topsoil may be used for earth shoulder construction or spread on foreslope.
-	-	-
9	2107-0425020	**COMPACTING BACKFILL ADJACENT TO BRIDGES, CULVERTS OR STRUCTURES**
		Refer to Tab. 104-4 on Sheet CD.1.
-	-	-
10	2107-0875100	**COMPACTION WITH MOISTURE CONTROL**
		A. Refer to T Sheets and Tab. 103-6 on CS Sheets.
		B. Cubic yards shown on the contract documents as determined by the template fill volume. Shrinkage is not included in the moisture control quantity.
-	-	-
11	2113-0001100	**SUBGRADE STABILIZATION MATERIAL, POLYMER GRID**
		A. Refer to Typicals on B Sheets and Tab. 100-24.
		B. Quantity includes area under the mainline pavement and the roundabout (circle, truck apron, and all four approaches from the circle to the end of the splitter islands). Extra material required for overlaps are not calculated in the quantity provided and will not be paid for separately.
-	-	-
12	2115-0100000	**MODIFIED SUBBASE**
		Refer to Typicals on B Sheets and Tabs. 112-5 & 100-24.
-	-	-
13	2121-7425020	**GRANULAR SHOULDERS, TYPE B**
		Refer to Typicals on B Sheets and Tab. 112-9 for locations and details.
-	-	-
14	2122-5190007	**PAVED SHOULDER, P.C. CONCRETE, 7 IN.**
		A. Refer to Typicals on B Sheets and Tab. 112-9 for locations and details.
		B. Includes 4,505 linear feet of 6" integral sloped curb.
		C. Refer to Transition Mat on U sheets for details about the 5' curb runout and the beveled area at the end of the curb.
-	-	-
15	2123-7450000	**SHOULDER CONSTRUCTION, EARTH**
		A. Refer to Typicals on B Sheets and Tab. 112-9 for locations and details.
		B. Includes 499.1 stations on mainline and 18.3 stations on sideroads.
		C. Topsoil needed for earth shoulder construction is available from topsoil stripped from the project.
		C. Requires 8,369.6 cu. yds. of Class 10 for Earth Shoulder Fill. Material is available from Class 10 Waste. No payment for overhaul allowed for this material.
-	-	-
16	2123-7450020	**SHOULDER FINISHING, EARTH**
		A. Includes 74.99 stations of nominal 4 ft. wide shoulder.
		B. Material for the earth shoulders is included in the template quantities.
-	-	-
17	2213-7100400	**RELOCATION OF MAIL BOXES**
		A. Refer to Tab RLM-1 on C Sheets for locations.
		B. The Contractor is responsible for coordinating the relocation schedule with property owners and the US Post Office. Price bid includes installation of temporary mailboxes until the permanent mailboxes can be reinstall
		C. METHOD OF MEASUREMENT: The quantity for Relocation of Mail Boxes will be measured by counting the number of mailboxes removed and reinstalled.
		D. BASIS OF PAYMENT: The Contractor will be paid the contract unit price per each mailbox removed & reinstalled.
-	-	-
18	2301-1003095	**STANDARD OR SLIP-FORM PORTLAND CEMENT CONCRETE PAVEMENT, QM-C, CLASS 3 DURABILITY, 9.5 IN.**
		Refer to Typicals on B Sheets and Tab. 100-24.
-	-	-
19	2301-4875006	**MEDIAN, P.C. CONCRETE, 6 IN.**
		Refer to Typicals on B Sheets, L Sheets, and Tab. 112-5.
-	-	-

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ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
20	2312-8260051	**GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE**
		Refer to Typicals on B Sheets for details.
-	-	-
21	2315-8275025	**SURFACING, DRIVEWAY, CLASS A CRUSHED STONE**
		A. Refer to Tab. 102-3.
		B. Includes an additional 800 tons to maintain temporary access during construction.
-	-	-
22	2401-6745650	**REMOVAL OF EXISTING STRUCTURES**
		Refer to Tab. 110-2.
-	-	-
23	2402-0425040	**FLOODED BACKFILL**
		Refer to Tabs. 104-3 and 104-4 on Sheet CD.1.
-	-	-
24	2402-2720100	**EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT**
		Refer to Tab. 104-3.
-	-	-
25	2416-0100018	**APRONS, CONCRETE, 18 IN. DIA.**
		Refer to M Sheets.
-	-	-
26	2416-0100024	**APRONS, CONCRETE, 24 IN. DIA.**
		Refer to Tab. 104-3 on Sheet CD.1 and Tab. 104-5B on M Sheets.
-	-	-
27	2416-0100030	**APRONS, CONCRETE, 30 IN. DIA.**
		Refer to Tab. 104-3.
-	-	-
28	2416-0100036	**APRONS, CONCRETE, 36 IN. DIA.**
		Refer to M Sheets.
-	-	-
29	2416-0100084	**APRONS, CONCRETE, 84 IN. DIA.**
		Refer to Tab. 104-3.
-	-	-
30	2416-0102218	**APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 18 IN.**
		Refer to Tabs. 102-3 and 104-5B on M Sheets.
-	-	-
31	2416-1180024	**CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.**
32	2416-1180030	**CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.**
33	2416-1180084	**CULVERT, CONCRETE ROADWAY PIPE, 84 IN. DIA.**
		Refer to Tab. 104-3.
-	-	-
34	2416-1192218	**CULVERT, 2000D LOW CLEARANCE CONCRETE ENTRANCE PIPE, EQUIVALENT DIAMETER 18 IN.**
35	2422-0360018	**APRONS, UNCLASSIFIED, 18 IN. DIA.**
36	2422-0360024	**APRONS, UNCLASSIFIED, 24 IN. DIA.**
37	2422-1722018	**CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA.**
38	2422-1722024	**CULVERT, UNCLASSIFIED ENTRANCE PIPE, 24 IN. DIA.**
		Refer to Tab. 102-3.
-	-	-
39	2435-0140148	**MANHOLE, STORM SEWER, SW-401, 48 IN.**
40	2435-0140200	**MANHOLE, STORM SEWER, SW-402**
41	2435-0250500	**INTAKE, SW-505**
42	2435-0250800	**INTAKE, SW-508**
43	2435-0250900	**INTAKE, SW-509**
44	2435-0254100	**INTAKE, SW-541**
45	2435-0254200	**INTAKE EXTENSION UNIT, SW-542**
		Refer to M Sheets.
-	-	-
46	2502-8212034	**SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.**
		Refer to Tab. 104-9 on CS Sheets for quantities and Sheet Q.11 for a plan view layout of the subdrians at roundabout.
-	-	-
47	2502-8221303	**SUBDRAIN OUTLET, DR-303**
48	2502-8221306	**SUBDRAIN OUTLET, DR-306**
		Refer to Tab. 104-9 on CS Sheets.
-	-	-
49	2503-0114218	**STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN.**
50	2503-0114224	**STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 24 IN.**
51	2503-0114230	**STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 30 IN.**
52	2503-0114236	**STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 36 IN.**
53	2503-0116318	**STORM SEWER GRAVITY MAIN, TRENCHED, 2000D LOW CLEARANCE CONCRETE PIPE, EQUIVALENT DIAMETER 18 IN.**
		Refer to M Sheets.
-	-	-
54	2505-6000111	**HIGH TENSION CABLE GUARDRAIL**
55	2505-6000121	**HIGH TENSION CABLE GUARDRAIL, END ANCHOR**
		Refer to Tab. 108-9A. This guardrail is intended to protect the steep foreslope to the west of the twin entrances. Begin installation of the end anchor at Sta. 857+44.97. Post spacing shall be 20'. Adjust end anchor at Sta. 859+73.81 if necessary. Bid quantity of 128.8 is based on an end anchor length of 50'.
-	-	-
56	2506-4984000	**FLOWABLE MORTAR**
		Refer to Tab. 104-3.
-	-	-
57	2507-3250005	**ENGINEERING FABRIC**
58	2507-8029000	**EROSION STONE**
		Refer to Tab. 100-23 on CE Sheets.
-	-	-

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
59	**2510-6745850**	**REMOVAL OF PAVEMENT**
		Refer to Tabs. 110-1 and 102-5 on C Sheets.
-	-	-
60	**2515-2475006**	**DRIVEWAY, P.C. CONCRETE, 6 IN.**
61	**2515-2475008**	**DRIVEWAY, P.C. CONCRETE, 8 IN.**
		Refer to Tab. 102-3.
-	-	-
62	**2515-6745600**	**REMOVAL OF PAVED DRIVEWAY**
		A. Refer to Tab. 110-8.
		B. Requires 339.2 linear foot of full depth saw cut.
-	-	-
63	**2518-6910000**	**SAFETY CLOSURE**
		Refer to Tab. 108-13A on C Sheets.
-	-	-
64	**2519-3280000**	**FENCE, FIELD**
65	**2519-3300400**	**FIELD FENCE BRACE PANELS**
		Refer to Tab. 100-7.
-	-	-
66	**2520-3350015**	**FIELD OFFICE**
		- -
-	-	-
67	**2526-8285000**	**CONSTRUCTION SURVEY**
		Item also includes construction survey for projects NHSX-052-2(153)--3H-31 & NHSX-052-2(152)--3H-31.
-	-	-
68	**2527-9263109**	**PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED**
		Refer to Tab. 108-22 on C Sheets for quantities and Sheet U.1-U.3 for details at roundabout.
-	-	-
69	**2528-8445110**	**TRAFFIC CONTROL**
		A. Refer to Traffic Control Plan and detour signing layouts on J Sheets.
		B. Item also includes furnishing, erecting, maintaining, and removing all detour signs as per J Sheets.
-	-	-
70	**2533-4980005**	**MOBILIZATION**
		- -
-	-	-
71	**2548-0000200**	**MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE**
72	**2548-0000320**	**MILLED CENTERLINE RUMBLE STRIPS, PCC SURFACE**
		Refer to Tab. 112-10.
-	-	-
73	**2552-0000140**	**ROCK EXCAVATION**
		A. Item is for excavation of rocks encountered during installation of storm sewer pipes and structures.
		B. Refer to M and Q Sheets for appoximate locations of rock layers.
		C. Quantity is based on 1' below flowlines for pipes and 1' below bottom of well for structures.
-	-	-
74	**2599-9999001**	**('ACRES' ITEM) STABILIZING CROP - NATIVE GRASS SEEDING AND FERTILIZING**
		Included for areas where topsoil slope dressing has been spread and final grading is completed, and for areas identified for Native Grass Seeding per Standard Road Plan EC-502.
		Prepare seedbed according to 2601.03, B, 4, a. Fertilize all disturbed areas per Article 2601.03, C, 1.
		Seed mixture shall be:
		Oats 35 lbs. per acre
		Grain rye 35 lbs. per acre
		*Canada wildrye (Elymus canadensis) 5 lbs. PLS per acre
		*Big bluestem (Andropogon geradii) 3 lbs. PLS per acre
		*Little bluestem (Schizachyrium scoparium) 3 lbs. PLS per acre
		*Indiangrass (Sorghastrum nutans) 3 lbs. PLS per acre
		Sideoats grama (Bouteloua curtipendula) 3 lbs. PLS per acre
		Switchgrass (Panicum virgatum) 1 lbs. PLS per acre
		Partridge Pea (Chamaecrita fasciculate) 2 lbs. PLS per acre
		Butterfly weed (Asclepias tuberosa) 3 oz. PLS per acre
		Swamp Milkweed (Asclepias incarnata) 3 oz. PLS per acre
		*Note: Canada wildrye, Big bluestem, Little bluestem and Indiangrass shall be debearded or equal to facilitate the application of seed.
		For stabilizing crop only, seed will not be required to be certified as Source Identified Class (Yellow Tag) Source G0-Iowa.
		Seed may be applied by broadcasting or with a Native Grass Drill.
		Broadcasted seed will require one complete rolling of the area seeded with a cultipacker within 24 hours after seeding and prior to mulching or hydromulching.
		Native Grass Drilled seed must meet Article 2601.03, A, 11 and be completed per Article 2601.03, C, 5. prior to mulching or hydromulching.
		All seed shall be mixed off-site by a seed conditioner approved by the Iowa Crop Improvement or other state's Crop Improvement Association.
		Bags shall arrive onsite from seed conditioner in sealed/unopened bags.
-	-	-

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Item No.	Item Code	Description
75	**2599-9999001**	**('ACRES' ITEM) SUBGRADE STABILIZATION**
		Apply and distribute evenly and uniformly 1.5 tons per acre of dry cereal straw or native grass straw. Use Certified Noxious Weed Seed Free Mulch certified by the Iowa Crop Improvement Association or other state's Crop Improvement Associations.
		The general absence of straw longer than 6 inches after distribution will be considered excessive pulverization and will not be accepted.
		After the application of the dry cereal straw or native grass straw, apply a tackifier that will easily mix with water and shall be noncorrosive to hydraulic application equipment. The tackifier will be nonfoaming and contain mixture enhancers to prevent foaming and mixing problems during agitation in the application equipment.
		Application equipment will have both mechanical agitation and a slurry bypass.
		Application rate will be as indicated by the manufacturer product label for the site conditions and time of year.
		Tackifiers will be considered safe to the applicator, adjacent workers, and the environment when properly applied according to Environmental Protection Agency (EPA) and other regulatory agencies.
		Material Safety Data Sheets (MSDS) will be required to be submitted to the Engineer prior to application.
		The tackifier will be nontoxic to plants, fish and other wildlife and 100% biodegradable.
		The tackifier will be water soluble natural proteins, vegetable gums, guar gums, starch, psyllium, pitch, or rosen type blended with gelling and hardening agents, or a water soluble blend of hydrophilic polymers, viscosifiers, sticking aids and other gums.
		Guar gum based tackifiers will consist of a minimum of 95% guar gum, by weight. The remaining 5% will consist of dispersing and cross-link additives. Starch will be a non-ionic, cold-water soluble (pre-gelatinized) granular cornstarch. Psyllium will be a finely ground muciloid coating of plantago seeds that is applied in a wet slurry to the surface of the soil. Pitch and Rosen will be a non-ionic pitch and rosin emulsion that has a minimum solids content of 48 percent. The rosin will be a minimum of 26 percent of the total solids content. The tackifier will be a non-corrosive, water-dilutable emulsion that cures to water-insoluble binding and cementing agent upon application.
		Approved products include:
		Hyrdatack P by Innovative Turf Solutions, LLC
		HF5000 Tack by Rantec Corporation
		Second Nature Tacpac GTX by Central Fiber Corp.
		Startak 100 P by Chemstar
		Basis of Payment for Subgrade Stabilization will be the contract unit price per acre to the nearest 0.1 acre for Subgrade Stabilization. Payment is full compensation for preparing the area and all materials, labor, and equipment required to stabilized the subgrade.
-	-	-
76	**2599-9999018**	**('SQUARE YARDS' ITEM) STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 15.5 IN.**
		A. Refer to Typicals on B Sheets and Tab. 100-24.
		B. Section 2301 of the current Standard Specifications applies to this item.
-	-	-
77	**2601-2633100**	**MOWING**
		Estimate based on four mowings of entire seeded area when the vegetation reaches a height between 12 and 18 inches.
		Mow to a height of 4 to six inches.
		Complete all mowings with a flail-type mower. No rotary, disk, or sickle-type mowers will be allowed.
		Areas inaccessible to field equipment shall be cut with appropriate hand equipment and kept current with the mowing of adjacent areas.
-	-	-
78	**2601-2634100**	**MULCHING**
		Mulching per Article 2601.03, E, 2. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes.
		Included for areas requiring reshaping and seedbed preparation. Mulch shall be Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Associations.
		Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.
-	-	-
79	**2601-2634105**	**MULCHING, BONDED FIBER MATRIX**
		A Bonded Fiber Matrix shall be applied as the mulch for all areas designated as "Stabilizing Crop-Seeding and Fertilizing (Urban)".
		The seed and fertilizer for the area to be covered shall be applied before the Bonded Fiber Matrix Hydraulic Mulch application.
		Application rate shall be a minimum of 3000 lbs per acre.
-	-	-

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
80	**2601-2640350**	**SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT**
		All netting on the Special Ditch Control will be required to be organic biodegradable.
		Refer to Tab. 100-22 on CE Sheets for locations. Refer to Standard Road Plan EC-101.
		Prepare seedbed according to Article 2601.03, B, 4 and install according to Article 2601.03, H, 2 and
		seed according to Table 2601.03-7.
-	-	-
81	**2601-2642100**	**STABILIZING CROP - SEEDING AND FERTILIZING**
		Included for disturbed prior to final grading and topsoil placement. Refer to STABILIZING CROP - NATIVE GRASS
		SEEDING AND FERTILIZING for seeding once final grading and topsoil is placed. Seed and fertilize all rural
		disturbed areas per Article 2601.03, C, 1.
-	-	-
82	**2601-2643110**	**WATERING FOR SOD, SPECIAL DITCH CONTROL, OR SLOPE PROTECTION**
		Estimate based on four waterings of the Special Ditch Control and TRM at a rate of 50 gallons per square.
		The contractor shall water the required areas no later than the day following placement of the TRM and
		Special Ditch Control.
		If the Contractor fails to water by the second day following placement, a price adjustment
		will be assessed at a rate of $200.00 per calendar day until the watering has been completed.
		Additional waterings will be required at intervals of 5 to 8 calendar days. Perform all waterings unless
		notified by the Engineer in writing at least 1 calendar day prior to the day the watering is to occur. If the
		Contractor fails to complete the watering before the 8th calendar day has elapsed a price adjustment will be
		assessed at a rate of $200.00 per calendar day, beginning on the 9th day, until the watering is completed.
-	-	-
83	**2601-2643300**	**MOBILIZATION FOR WATERING**
		- -
-	-	-
84	**2601-2643412**	**TURF REINFORCEMENT MAT, TYPE 2**
		Refer to Tab. 100-22 for locations. Refer to Standard Road Plan EC-104.
		Install according to article 2601.03, H, 3.
		The seed and rate for the TRM application shall be as described in Table 2601.03-7 Ditches-Outside Shoulder
		Adjacent to Native Grass Seedings.
-	-	-
85	**2601-2643414**	**TURF REINFORCEMENT MAT, TYPE 4**
		Refer to Tab. 100-22 for locations. Refer to Standard Road Plan EC-104.
		Install according to article 2601.03, H, 3.
		The seed and rate for the TRM application shall be as described in Table 2601.03-7 Ditches-Outside Shoulder
		Adjacent to Native Grass Seedings.
-	-	-
86	**2601-2700020**	**TRANSITION MAT**
		Refer to Tab. 100-09 on CE Sheets for quantities and Sheet U.5 for details.
-	-	-
87	**2602-0000020**	**SILT FENCE**
		Refer to Tab. 100-17 on CE Sheets.
		The tabulation includes estimated locations for placement of "Silt Fence" to address
		erosion to be encountered during construction. Verify the specific locations with
		the Engineer prior to beginning placement. Bid item includes 25% additional quantity
		for field adjustments and replacements.
-	-	-
88	**2602-0000030**	**SILT FENCE FOR DITCH CHECKS**
		Refer to Tab. 100-18 on CE Sheets.
		The tabulation includes estimated locations for placement of "Silt Fence for Ditch Checks"
		to address erosion to be encountered during construction. Verify the specific locations
		with the Engineer prior to beginning placement. Bid item includes 50% additional quantity
		for field adjustments and replacements.
-	-	-
89	**2602-0000050**	**SILT BASINS**
		Refer to Tab. 100-14 on CE Sheets.
		The tabulation includes estimated locations for placement of "Silt Basins" to address
		erosion to be encountered during construction. Verify the specific locations with the
		Engineer prior to beginning placement. Bid item includes 100% additional quantity for
		field adjustment and maintenance.
-	-	-
90	**2602-0000071**	**REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS**
		This item is included for silt fence and silt fence for ditch check removal required for
		removal to allow for replacement (replacement to be paid separately)or for areas that have achieved
		70% permanent growth.
-	-	-
91	**2602-0000080**	**REMOVAL OF SILT BASINS**
		Refer to Tab. 100-14 on CE Sheets.
-	-	-

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ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
92	**2602-0000101**	**MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK**
		This item is included for clean-out and repair of the silt fence and silt fence for ditch
		checks during the project.
-	-	-
93	**2602-0000150**	**STABILIZED CONSTRUCTION ENTRANCE**
		A. Refer to U Sheets for details.
		B. Location is for: 1 entrance at each end of mainline and 1 entrance at each leg of the sideroads.
		C. Each entrance is estimated for 100 linear feet.
-	-	-
94	**2602-0000160**	**ROCK CHECK DAM**
95	**2602-0000170**	**MAINTENANCE OF ROCK CHECK DAM**
96	**2602-0000180**	**REMOVAL OF ROCK CHECK DAM**
		Refer to Tab. 100-32 on CE Sheets.
-	-	-
97	**2602-0000312**	**PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.**
		Refer to Standard Road Plan EC-101.
		Installed as directed by the Engineer.
		Perimeter and Slope Sediment Control Devices will be required to be constructed out of wood excelsior.
-	-	-
98	**2602-0000320**	**PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.**
		Refer to Tab. 100-22. Refer to Standard Road Plan EC-101.
		The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment
		Control Device, 12 in. Dia." to address erosion to be encountered during construction.
		Each log is to be 20 ft. in length with 5 ft. in ditch bottom and 7.5 ft. up the backslope/foreslope.
		Verify the specific locations with the Engineer prior to beginning placement.
		Bid item is to be used as ditch checks once Special Ditch Control and TRM is placed.
		Perimeter and Slope Sediment Control Devices will be required to be constructed out of wood excelsior.
-	-	-
99	**2602-0000350**	**REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE**
		Included for removal of perimeter and sediment control devices. All material shall become the property of
		the contractor and removed from the project within 24 hours.
-	-	-
100	**2602-0000400**	**TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY**
101	**2602-0000410**	**MAINTENANCE OF TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY**
102	**2602-0000420**	**REMOVAL OF TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY**
		Refer to U Sheets for details. The purpose of this device is to prevent silt from entering into an intake or
		manhole well. It is to be used when perimeter control device fails.
-	-	-
103	**2602-0000500**	**OPEN-THROAT CURB INTAKE SEDIMENT FILTER**
104	**2602-0000510**	**MAINTENANCE OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER**
105	**2602-0000520**	**REMOVAL OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER**
		Refer to Tab. 100-36 on CE Sheets for quantities and U Sheets for details.
-	-	-
106	**2602-0000530**	**GRATE INTAKE SEDIMENT FILTER BAG**
107	**2602-0000540**	**MAINTENANCE OF GRATE INTAKE SEDIMENT FILTER BAG**
108	**2602-0000550**	**REMOVAL OF GRATE INTAKE SEDIMENT FILTER BAG**
		Refer to Tab. 100-37 on CE Sheets for quantities and U Sheets for details.
-	-	-
109	**2602-0010010**	**MOBILIZATIONS, EROSION CONTROL**
		- -
-	-	-
110	**2602-0010020**	**MOBILIZATIONS, EMERGENCY EROSION CONTROL**
		- -
-	-	-

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
111	**2612-0000520**	**ROADSIDE SPRAY FOR WEED CONTROL**
		Apply as needed to control thistles and other invasive species as directed by the Engineer.
		In order to not exceed the herbicide's maximum annual use rate, combined applications may not exceed 100% of the seeded area per year.
		Use aminopyralid herbicide at a rate of 2.8 oz. per acre active ingredient (for example, for a 40.6% active ingredient product, apply at 7 oz. per acre). Use a surfactant according to label directions.
		Coordinate the herbicide applications with the Mowing bid item so there is at least 8 inches of re-growth on Canada thistle following mowing, and at least 14 calendar days prior to the next mowing.
		The Engineer will verify evidence of the specified herbicide effects to the treated areas 10 to 14 calendar days after application.
		See Herbicide Application Tab. 231-2.
		The quantity of Roadside Spray for Weed Control for which payment is made will be the acres displaying a complete visual herbicide control response to the target weed.
		For the number of acres of Roadside Spray for Weed Control measured by the Engineer, the Contractor will be paid contract unit price.
-	-	-
		The general absence of straw longer than 6 inches after distribution will be considered excessive pulverization and will not be accepted.
		After the application of the dry cereal straw or native grass straw, apply a tackifier that will easily mix with water and shall be noncorrosive to hydraulic application equipment. The tackifier will be nonfoaming and contain mixture enhancers to prevent foaming and mixing problems during agitation in the application equipment.
		Application equipment will have both mechanical agitation and a slurry bypass.
		Application rate will be as indicated by the manufacturer product label for the site conditions and time of year.
		Tackifiers will be considered safe to the applicator, adjacent workers, and the environment when properly applied according to Environmental Protection Agency (EPA) and other regulatory agencies.
		Material Safety Data Sheets (MSDS) will be required to be submitted to the Engineer prior to application.
		The tackifier will be nontoxic to plants, fish and other wildlife and 100% biodegradable.
		The tackifier will be water soluble natural proteins, vegetable gums, guar gums, starch, psyllium, pitch, or rosen type blended with gelling and hardening agents, or a water soluble blend of hydrophilic polymers, viscosifiers, sticking aids and other gums.
		Guar gum based tackifiers will consist of a minimum of 95% guar gum, by weight. The remaining 5% will consist of dispersing and cross-link additives. Starch will be a non-ionic, cold-water soluble (pre-gelatinized) granular cornstarch. Psyllium will be a finely ground muciloid coating of plantago seeds that is applied in a wet slurry to the surface of the soil. Pitch and Rosen will be a non-ionic pitch and rosin emulsion that has a minimum solids content of 48 percent. The rosin will be a minimum of 26 percent of the total solids content. The tackifier will be a non-corrosive, water-dilutable emulsion that cures to water-insoluble binding and cementing agent upon application.
		Approved products include:
		Hyrdatack P by Innovative Turf Solutions, LLC
		HF5000 Tack by Rantec Corporation
		Second Nature Tacpac GTX by Central Fiber Corp.
		Startak 100 P by Chemstar
		Basis of Payment for Subgrade Stabilization will be the contract unit price per acre to the nearest 0.1 acre for Subgrade Stabilization. Payment is full compensation for preparing the area and all materials, labor, and equipment required to stabilized the subgrade.
-	-	-

105-4
10-18-11

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
BA-351	04-20-10	High Tension Cable Guardrail
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-102	04-21-15	Pipe Culvert (Cover and Camber)
DR-103	04-21-15	Pipe Culvert (Installation Details)
DR-104	04-19-16	Depth of Cover Tables for Concrete and Corrugated Pipe
DR-111	10-17-17	Box Culvert (Backfill)
DR-121	10-17-17	Connected Pipe Joints
DR-201	04-21-15	Concrete Aprons
DR-202	04-21-15	Low Clearance Concrete Pipe Aprons
DR-203	04-21-15	Metal Pipe Aprons and Beveled Ends
DR-303	10-17-17	Subdrains (Longitudinal)
DR-306	10-17-17	Precast Concrete Headwall for Subdrain Outlets
DR-601	04-18-17	Reinforced Concrete Pipe Culvert
DR-651	04-18-17	Unclassified Pipe Culvert
EC-101	04-19-16	Wood Excelsior Mat for Ditch Protection
EC-104	04-19-16	Turf Reinforced Mat (TRM)
EC-201	10-17-17	Silt Fence
EC-204	04-18-17	Perimeter and Slope Sediment Control Devices
EC-301	10-18-16	Rock Erosion Control (REC)
EC-502	04-21-15	Seeding in Rural Areas
EW-101	10-17-17	Embankment and Rebuilding Embankments
EW-102	10-20-15	Allowable Placement of Unsuitable Soil in Embankments
EW-103	10-20-15	Embankment Subgrade Treatment, Moisture Density Control and Special Compaction
EW-110	10-20-15	Ditch Blocks and Dikes
EW-403	04-18-17	Temporary Erosion Control Measures
EW-501	10-20-15	Rural Entrance
MI-101	10-20-15	Fencing Layout
MI-103	10-20-15	Deer Fence and Field Fence Construction
MI-210	10-20-15	PCC Driveways and Alleys
PM-110	04-16-13	Line Types
PM-120	10-21-14	Stop Lines and Islands
PM-210	10-18-11	Separation in Two-Lane Roadway
PV-12	04-19-16	Milled Shoulder Rumble Strips
PV-13	10-17-17	Milled Centerline Rumble Strips
PV-101	10-17-17	Joints
PV-102	10-18-16	PCC Curb Details
PV-103	04-19-11	Manhole Boxouts in PCC Pavement
PV-104	04-19-11	Ramped Median Nose
PV-301	04-19-11	Superelevation Details Two Lane Roadway
SW-101	04-21-09	Trench Bedding and Backfill Zones
SW-102	04-18-17	Rigid Gravity Pipe Trench Bedding
SW-211	10-16-12	Special Pipe Connections for Storm Sewer
SW-401	04-21-09	Circular Storm Sewer Manhole
SW-402	04-21-09	Rectangular Storm Sewer Manhole
SW-505	10-16-12	Double Grate Intake
SW-508	10-21-14	Single Open-Throat Intake, Large Box
SW-509	10-21-14	Double Open-Throat Curb Intake, Small Box
SW-541	10-16-12	Open-Throat Curb Intake under Pavement
SW-542	04-18-17	Extension Unit for Open-Throat Curb Intake under Pavement
SW-602	04-21-15	Castings for Storm Sewer Manholes
SW-603	10-15-13	Castings for Grate Intakes
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	04-21-15	Work Within 15 ft of Traveled Way
TC-252	04-19-16	Routes Closed to Traffic

111-25
10-18-11

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232-10
10-21-14

EMERALD ASH BORER

Dispose of all wood material generated as a result of clearing and/or grubbing according to the Iowa Department of Agriculture and Land Stewardship's Emerald Ash Borer (EAB) Quarantine Order. For more information refer to http://www.iowatreepests.com/eab_regulations.html.

262-5
10-18-05

UTILITIES (POINT 25 PROJECT)

This is a POINT 25 project and is subject to the provisions of IAC 761-115.25.

281-1
10-18-16

SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide Permit 14, Permit No. 2017-0862. A copy of this permit is available from the Iowa DOT website (http://www.envpermits.iowadot.gov/). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Milepost	End Milepost				Type	Depth IN	Type	Depth IN	Type	Depth IN	Type	Depth IN	Source	Type	Durability Class	Type	
46	31	US 052	1	58.4	62.11	2011	V	HSIPX-052-2(99)--3L-31	HMA	2	HMA	2			SCR	1.5	BROWN	C.LST.			
47						2001		STP-52-2(87)--2C-31	AAC	2.5											
48						1996		MP-52-6(701)52--76-31	BSC								BROWN QRY.	C.LST.		VL 51MM AC	
49						1984		FN-52-2(43)--21-31	AAC	3					SCR	1					
50						1967		FN-3-9(2)--21-31	AAC	3											
51						1927		FA-148ABD	PCC	7							ROSE SPUR	C.LST.	I		
52	31	US 052	1	62.11	62.69	2008		STPN-52-2(97)--2J-31	HMA	1.5	HMA	1			SCR	2.5					
53						2008	W	STPN-52-2(97)--2J-31	HMA	1.5	HMA	1	HMA	5.5							
54						2001		STP-52-2(87)--2C-31	AAC	2.5											
55						1996		MP-52-6(701)52--76-31	BSC								BROWN QRY.	C.LST.		VL 51MM AC	
56						1984		FN-52-2(43)--21-31	AAC	3					SCR	1					
57						1967		FN-3-9(2)--21-31	AAC	3											
58						1927		FA-148ABD	PCC	7							ROSE SPUR	C.LST.	I		
59	31	US 052	1	62.69	63.09	2001		STP-52-2(87)--2C-31	AAC	2.5							BROWN	C.LST.			
60						1996		MP-52-6(701)52--76-31	BSC								BROWN QRY.	C.LST.		VL 51MM AC	
61						1984		FN-52-2(43)--21-31	AAC	3					SCR	1					
62						1967		FN-3-9(2)--21-31	AAC	3											
63						1927		FA-148ABD	PCC	7							ROSE SPUR	C.LST.	I		
64	31	US 052	1	63.09	64.23	2008		STPN-52-2(97)--2J-31	HMA	1.5	HMA	1			SCR	2.5					
65						2008	W	STPN-52-2(97)--2J-31	HMA	1.5	HMA	1	HMA	5.5							
66						2001		STP-52-2(87)--2C-31	AAC	2.5											
67						1996		MP-52-6(701)52--76-31	BSC								BROWN QRY.	C.LST.		VL 51MM AC	
68						1984		FN-52-2(43)--21-31	AAC	3					SCR	1					
69						1967		FN-3-9(2)--21-31	AAC	3											
70						1927		FA-148ABD	PCC	7							ROSE SPUR	C.LST.	I		
71	31	US 052	1	64.23	69.06	2011	V	MP-052-6(712)61--76-31	HMA	2					SCR	1.5					
72						2001		STP-52-2(87)--2C-31	AAC	2.5											
73						1996		MP-52-6(701)52--76-31	BSC								BROWN QRY.	C.LST.		VL 51MM AC	
74						1984		FN-52-2(43)--21-31	AAC	3					SCR	1					
75						1967		FN-3-9(2)--21-31	AAC	3											
76						1927		FA-148ABD	PCC	7							ROSE SPUR	C.LST.	I		

DIRECTION KEY:
1 NB OR EB

PROJECT TYPE KEY:
V - VARIOUS LOCATIONS
W - WIDENING

SECTION TYPE DESCRIPTIONS:
AAC TYPE A ASPHALT CEMENT CONCRETE
BSC BITUMINOUS SEAL COAT
HMA HOT MIX ASPHALT
PCC PORTLAND CEMENT CONCRETE
SCR SCARIFICATION

GM

GEODETIC MARKERS

Location			Remarks
Station	Offset	Side	
621+74.96	44	Rt.	(1)
632+75.00	44	Rt.	(1)
658+45.00	29	Lt.	(1)
691+05.00	35	Rt.	Reset Marker Location (2)
714+64.00	115	Lt.	(1)
753+42.00	31	Lt.	Place PVC Pipe over Marker (2)
755+98.00	31	Rt.	(1)
858+60.00	32	Lt.	Reset Marker Location (2)
874+01.00	126	Rt.	(1)

(1) Do not Disturb

(2) By others prior to construction. Contact the Resident Construction Engineer for new locations.

110-1
04-16-13

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5

* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area SY	Saw Cut* LF	Remarks
ML052						
601+50.00	864+58.63	Both	PCC/HMA	77723.0	24.0	Type and thickness varies, see Tab 102_5 for details.
Sur052						
550+68.38	571+59.65	Both	PCC/HMA	5962.7	24.0	Sur052 used in ML052EB, ML052WB and Roundabout Area
SRHOLYCROSS						
+49.88	4+01.45	Both	PCC/HMA	1788.8	24.0	
4+32.46	9+24.52	Both	PCC/HMA	1973.1	24.0	
SRPFEILERW						
8805+53.94	8805+54.25	Both	PCC/HMA	277.4		
SRHINGTGEN						
11646+20.80	11644+60.62	Both	PCC/HMA	316.3		
SRMIDWAY						
10702+62.02	10704+63.44	Both	PCC/HMA	654.5		
SRBANKSTON						
9741+00.00	9742+46.01	Both	PCC/HMA	515.8	24.0	
SRMAPLE						
446882+55.32	446883+25.00	Both	PCC/HMA	365.0	26.0	
			Total:	**89576.5**	**146.0**	

110-2
04-16-13

REMOVAL OF EXISTING STRUCTURES

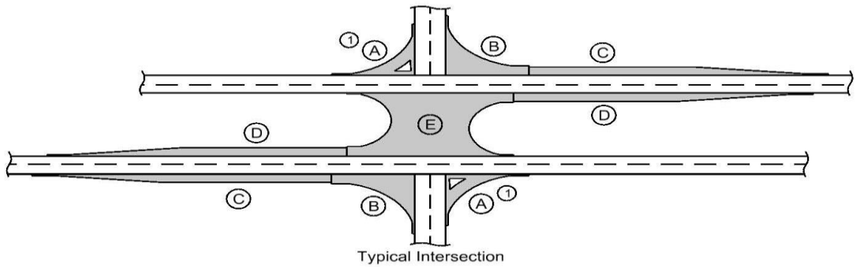
Location	Description	Remarks
324+56.22	2' x 2' x 33.5' RCB	Sheet D.3 (1)
338+33.73	2' x 2' x 42.9' RCB	Sheet D.3 (1)
449+88.15	2' x 2' x 19' RCB	Sheet D.7
495+11.46	2' x 2' x 46.3' RCB	Sheet D.9
544+74.42	10' x 6' x 64' RCB	Sheet D.10
Total = 5		
(1) Extensions are incidental to Class 10 Excavation		

110-8
08-01-08

REMOVAL OF CONCRETE DRIVES

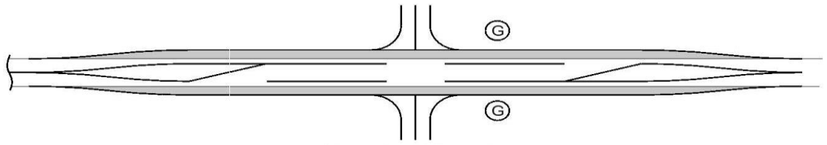
Location Station	Side	Area SY	Remarks
618+10.00	S	97.6	HMA 13.8' sawcut
672+72.00	S	83.1	HMA 45' sawcut
700+95.03	NW	195.2	PCC 172.2' sawcut
714+64.00	N	43.0	PCC no sawcut
717+89.58	S	118.0	PCC 46.3' sawcut
718+25.50	N	79.7	PCC 24' sawcut
755+90.00	SW	61.3	HMA 11.3' sawcut
838+62.00	N	76.3	PCC 10.9' sawcut
845+52.00	N	57.0	PCC 15.7' sawcut
Total		811.4	Sawcut = 339.2'

PCC PAVEMENT

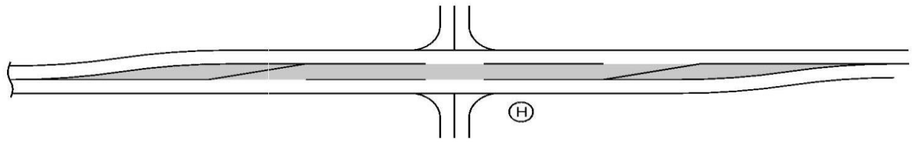


Typical Intersection

Ramp or Loop Taper (2)



Channelized Intersection
Widen Existing Roadway



Channelized Intersection
Reconstructed Roadway

(1) Does not include raised island area or curb. Refer to tabulation 112-4 for quantities.

(2) Refer to PV-410, PV-411, PV-412, and PV-414.

(3) Quantity includes Pavement Header.

Location				Mainline			Area (3)								Total Area By Pavement Thickness		Special Backfill	Modified Subbase	Polymer Grid	Remarks
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	A (1)	B	C	D	E	F (2)	G	H	SY					
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	15½ IN	9½ IN	TONS	CY	SY	
ML052	WB	601+50.00	864+58.63	12.0	26308.6	35078.2										35078.2		15755.0	33616.5	
ML052	EB	601+50.00	864+58.63	12.0	26308.6	35078.2										35078.2		15755.0	33616.5	
ML052 East Leg																3035.6		1145.4	2163.4	Special Backfill calculated for the SE quadrant
ML052 South Leg																1286.5		350.2	3179.6	Special Backfill calculated for the SW quadrant
ML052 West Leg																4910.9		2108.6	3415.0	Special Backfill calculated for the NW quadrant
ML052 North Leg																1587.4		615.3	2537.2	Special Backfill calculated for the NE quadrant
Roundabout																1027.6		4850.0		Includes truck apron modified subase
Truck Apron															389.6					
SRFEILERE		12622+11.54	12622+76.00	24.0	64.5	171.9	19.3	20.6								209.3		77.0		
SRHINGTGEN		11644+75.00	11645+60.36	16.0	85.4	151.8										151.8		137.1		
SRHINGTGEN		11645+60.36	11646+23.00	20.0	62.6	139.2	64.2	35.5								238.9		138.1		
SRMIDWAY		10702+62.00	10704+53.29	26.0	191.3	552.6	43.3	96.1								692.0		270.3		
SRBANKSTON		9741+00.00	9742+49.10	24.0	149.1	397.6	33.0	75.1								505.7		198.6		
SRPFEILERW		8803+87.00	8804+52.03	24.0	65.0	173.4	81.9	112.3								367.7		129.2		
SRSCHMITT		7832+10.14	7832+60.00	30.0	49.9	166.2	44.6	40.6								251.4		87.7		
SRMAPLE		446882+44.88	446883+25.00	26.0	80.1	231.5	39.2	119.4								390.1		139.0		
Totals =															389.6	84811.3		41756.5	78528.2	

SHOULDERS

(1) Lane(s) to which the shoulder is adjacent.
(2) Bid Item
(3) Applies only for Paved Shoulders constructed on project with existing granular shoulders.
(4) Does not include shrink.

Calculations assume a HMA unit weight (lbs/cf) of 0, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Location					Quantities																	
Road Identification	(1) Direction Of Traffic	Station to Station		Side	(P) Width	(G) Width	(L) Length	Class 13 Excavation (3)	Hot Mix Asphalt		Binder	Paved Shoulder	Reinforced Paved Shoulder	Special Backfill				Modified Subbase	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks
														HMA Alternate		PCC Alternate					STA (2)	HMA	PCC	
					FT	FT	FT	CY (2)	TON	TON/STA	TONS	SY (2)	SY (2)	TON (2)	TON/STA	TON (2)	TON/STA	CY (2)	TON (2)	TON/STA		CY (4)	CY (4)	
																								cardinal directions
US 52	SB	601+50.00	640+85.00	Lt	6.0		3935.0					2623.3				1388.4	35.3	*			39.4		643.3	EB
US 52	SB	640+85.00	645+86.35	Lt	7.0		501.3					389.9				283.6	56.6	*						EB Curbed Shoulder
US 52	SB	646+70.47	650+50.00	Lt	7.0		379.5					295.2				214.7	56.6	*						EB Curbed Shoulder
US 52	SB	650+50.00	656+00.00	Lt	6.0		550.0					366.7				194.1	35.3	*			5.5		89.9	EB
US 52	SB	656+00.00	658+50.00	Lt	7.0		250.0					194.4				141.4	56.6	*						EB Curbed Shoulder
US 52	SB	658+50.00	704+16.93	Lt	6.0		4566.9					3044.6				1611.3	35.3	*			45.7		746.7	EB
US 52	SB	705+38.42	714+60.00	Lt	6.0		921.6					614.4				325.2	35.3	*			9.2		150.7	EB
US 52	SB	714+60.00	718+62.00	Lt	7.0		402.0					312.7				227.4	56.6	*						EB Curbed Shoulder
US 52	SB	718+62.00	742+22.72	Lt	6.0		2360.7					1573.8				832.9	35.3	*			23.6		386.0	EB
US 52	SB	743+26.65	751+00.00	Lt	6.0		773.4					515.6				272.9	35.3	*			7.7		126.4	EB
US 52	SB	751+00.00	756+26.90	Lt	7.0		526.9					409.8				298.0	56.6	*						EB Curbed Shoulder
US 52	SB	756+26.90	788+94.90	Lt	6.0		3268.0					2178.7				1153.0	35.3	*			32.7		534.3	EB
US 52	SB	788+94.90	792+18.00	Lt	7.0		323.1					251.3				114.0	35.3	*						EB Curbed Shoulder
US 52	SB	792+18.00	864+58.63	Lt	6.0		7240.6					4827.1				2554.7	35.3	*			72.4		1183.8	EB
US 52	NB	601+50.00	621+68.79	Rt	6.0		2018.8					1345.9				712.3	35.3	*			20.2		330.1	WB
US 52	NB	622+49.15	640+71.20	Rt	6.0		1822.1					1214.7				642.9	35.3	*			18.2		297.9	WB
US 52	NB	640+71.20	643+45.90	Rt	7.0		274.7					213.7				155.4	56.6	*						WB Curbed Shoulder
US 52	NB	643+45.90	697+40.00	Rt	6.0		5394.1					3598.7				1903.2	35.3	*			53.9		881.9	WB
US 52	NB	697+40.00	706+90.00	Rt	7.0		950.0					738.9				537.3	56.6	*						WB Curbed Shoulder
US 52	NB	706+90.00	739+72.00	Rt	6.0		3282.0					2188.0				1158.0	35.3	*			32.8		536.6	WB
US 52	NB	739+72.00	745+50.00	Rt	7.0		578.0					449.6				326.9	56.6	*						WB Curbed Shoulder
US 52	NB	745+50.00	754+00.00	Rt	6.0		850.0					566.7				299.9	35.3	*			8.5		139.0	WB
US 52	NB	754+00.00	757+50.00	Rt	7.0		350.0					272.2				198.0	56.6	*						WB Curbed Shoulder
US 52	NB	757+50.00	802+95.94	Rt	6.0		4545.9					3030.6				1603.9	35.3	*			45.5		743.2	WB
US 52	NB	804+37.07	823+50.00	Rt	6.0		1912.9					1275.3				674.9	35.3	*			19.1		312.7	WB
US 52	NB	823+50.00	828+00.00	Rt	7.0		450.0					350.0				158.8	35.3	*						WB Curbed Shoulder
US 52	NB	828+00.00	831+46.52	Rt	6.0		346.5					231.0				122.3	35.3	*			3.5		56.7	WB
US 52	NB	832+51.41	861+58.71	Rt	6.0		2907.3					1938.2				1025.8	35.3	*			29.1		475.3	WB
US 52	NB	861+58.71	864+50.00	Rt	7.0		291.3					226.6				164.8	56.6	*						WB Curbed Shoulder
US 52	NB	864+50.00	864+58.60	Rt	6.0		8.6					5.7				3.0	35.3	*			0.1		1.4	WB
US 52 (ML052WB)	NB	40864+58.63	40870+27.88	Rt	6.0		569.3					379.5				200.8	35.3	*			5.7		93.1	WB
US 52 (ML052WB)	NB	40875+27.39	40885+64.46	Rt	6.0		1037.1					691.4				365.9	35.3	*			10.4		169.6	WB
US 52 (ML052EB)	SB	41864+58.63	41870+24.46	Lt	6.0		565.8					377.2				199.6	35.3	*			5.7		92.5	EB
US 52 (ML052EB)	SB	41875+26.07	41885+55.64	Lt	6.0		1029.6					686.4				363.3	35.3	*			10.3		168.3	EB
																								cardinal directions
Pfeiler Rd East	NW	12622+29.70	12622+76.00			2.0	46.3											*	5.9	12.8	0.5			
" Return	NW	+22.33	+39.53			2.0	17.2											*	2.2	12.8	0.2			Return 1
Pfeiler Rd East	SE	12622+51.60	12622+76.00			2.0	24.4											*	3.1	12.8	0.2			
" Return	SE	+00.00	+13.80			2.0	13.8											*	1.8	12.8	0.1			Return 2
Hingtgen Lane	NB	11644+85.03	11645+60.40			2.0	75.4											*	9.7	12.8	0.8			
Hingtgen Lane	SB	11644+85.03	11645+60.40			2.0	75.4											*	9.7	12.8	0.8			
Midway Road	NB	10702+62.00	10703+91.50			2.0	129.5											*	16.6	12.8	1.3			
" Return	NB	+00.00	+43.58			2.0	43.6											*	5.6	12.8	0.4			Return 4
Midway Road	SB	10702+62.00	10704+16.80			2.0	154.8											*	19.8	12.8	1.5			
" Return	SB	+22.17	+85.60			2.0	63.4											*	8.1	12.8	0.6			Return 3
Bankston	SB	9741+10.00	9741+94.97			2.0	85.0											*	10.9	12.8	0.8			
" Return	SB	+21.66	+78.75			2.0	57.1											*	7.3	12.8	0.6			Return 3
" Return	NB	+02.28	+34.54			2.0	32.3											*	4.1	12.8	0.3			Return 4
Pfeiler Rd West	NB	+27.48	1+05.79			2.0	78.3											*	10.0	12.8	0.8			Return 1
Pfeiler Rd West	SB	+04.90	+66.84			2.0	61.9											*	7.9	12.8	0.6			Return 2
Maple	EB	446882+80.27	446883+25.00			2.0	44.7											*	5.7	12.8	0.4			
" Return	EB	+00.00	+52.49			2.0	52.5											*	6.7	12.8	0.5			Return 4
Maple	WB	446883+16.93	446883+25.00			2.0	8.1											*	1.0	12.8	0.1			
" Return	WB	+16.45	+88.01			2.0	71.6											*	9.2	12.8	0.7			Return 3
Holycross NB	NB	426874+25.00	426875+86.29	Rt		4.0	161.3											*	20.7	12.8	1.6			
Holycross NB	NB	426880+21.27	426883+15.31	Rt		4.0	294.0											*	37.7	12.8	2.9			
Holycross SB	SB	436874+25.00	436875+05.98	Lt		4.0	81.0											*	10.4	12.8	0.8			
Holycross SB	SB	436880+19.32	436881+67.39	Lt		4.0	148.1											*	19.0	12.8	1.5			
Holycross SB	SB	436883+02.88	436883+15.00	Lt		4.0	12.1											*	1.6	12.8	0.1			
*Qtys included on Tab 100-24																								
Totals =								0.0				37377.6	0.0	0.0		20428.4		0.0	234.8		517.4			

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.
(1) Refer to MI-210
(2) Refer to EW-501.
(3) Refer to EW-501 or EW-502.
*Predetermined for access point not constructed with this project.

Location		Type	Length of Opening (1)			W	(1) (2) PR	(2) SR	Pipe Culvert (3)					Aprons	Driveway Surface Area		Driveway Surfacing Material	Remarks
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1½" Dropped Curb	3" Dropped Curb				H	Size	Pipe Length	Lt.	Rt.		PCC 8"	PCC 6"		
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF	No.	SY	SY	TON	
601+96.00	Rt.	C				24.0		10.0	1.5	18 LC	42.0	25.7	22.6	2			20.556	*
607+50.00	Rt.	C				30.0		15.0									43.131	
610+85.00	Lt.	C				24.0	10,15									111.8		
611+15.00	Rt.	C				24.0		10.0									29.960	
617+45.00	Rt.	C				24.0		15.0	2.0	18.0	52.0	38.9	28.2	2			31.528	
618+10.00	Lt.	C				30.0	15.0									139.9	44.072	
627+68.50	Rt.	C		12.0		24.0											13.584	
637+47.00	Rt.	C				30.0		15.0	1.5	18 LC	47.0	27.4	25.9	2			65.916	*
640+12.00	Rt.	C				24.0		15.0	2.0	18.0	53.0	28.1	32.4	2			31.735	
640+91.00	Rt.	C		30.0		20.0											14.182	
642+57.00	Lt.	C		34.0		24.0											23.202	
643+75.00	Rt.	C		40.0		30.0											31.948	
644+00.00	Lt.	C		44.0		30.0											17.990	
656+68.00	Lt.	C		34.0		20.0											13.405	
658+80.00	Lt.	C		28.0		30.0											37.618	
663+07.00	Rt.	C				30.0		15.0	2.6	18.0	65.0	38.1	34.4	2			42.189	
669+63.00	Rt.	C				30.0			1.3	18 LC	48.0	28.6	25.7	2			23.065	*
669+77.50	Lt.	C				30.0		15.0	1.8	18.0	52.0	27.2	32.3	2			30.366	
672+54.50	Rt.	C				30.0											36.698	
672+72.00	Lt.	B				45.0	10.0		1.3	18 LC	67.0	37.4	35.8	2		165.6	52.154	*
688+78.00	Rt.	C				30.0		15.0	1.5	18.0	47.0	26.5	28.0	2			31.654	
692+35.00	Rt.	C				30.0		15.0	1.4	18 LC	47.0	25.9	27.4	2			30.937	*
692+35.00	Lt.	C				30.0		15.0	1.3	18 LC	46.0	26.5	25.8	2			27.398	*
697+00.00	Rt.	C				30.0		15.0									26.478	
697+50.00	Lt.	C				25.0		15.0	1.2	18 LC	41.0	24.1	23.1	2			22.908	*
698+75.00	Rt.	B		60.0		45.0											25.480	
699+75.00	Lt.	B				45.0											39.911	
701+21.00	Lt.	C				30.0											18.309	
701+25.00	Rt.	B		62.0		45.0									57.8		18.211	
703+00.00	Rt.	B		62.0		45.0											30.580	
10702+42.00	Lt.	C				30.0			1.2	24.0	50.3	30.9	31.7	2		387.0	139.997	Midway Road
707+25.00	Rt.	B				30.0		15.0									41.878	
714+64.00	Rt.	C				30.0	20.0									147.9	10.185	
715+25.00	Lt.	B		60.0		45.0											35.333	
718+25.50	Lt.	B		55.0		45.0										76.8	5.138	
718+25.50	Rt.	C				24.0	15.0								80.1		25.231	
724+50.00	Lt.	C				24.0		15.0	1.3	18 LC	40.0	19.8	26.4	2			24.941	Bury FL 6", *
730+50.00	Rt.	C				30.0		15.0	3.4	18.0	78.0	40.9	44.6	2			47.394	
734+22.00	Rt.	C				30.0		10.0	1.8	18.0	53.0	26.7	33.8	2			25.648	
734+88.00	Lt.	B				40.0		15.0	1.5	24.0	69.0	47.2	31.8	2			53.414	
736+02.00	Rt.	C				30.0		15.0	2.2	18.0	67.0	25.4	49.1	2			30.916	
740+04.00	Rt.	C		54.0		24.0	15.0									50.7	30.244	
740+90.00	Lt.	B				45.0											25.988	
9739+27.00	Lt.	C				30.0		10.0								505.8	159.324	Bankston Road
9741+93.00	Rt.	C				24.0											26.789	
747+50.00	Lt.	C				30.0		15.0	2.0	18.0	56.0	27.9	35.6	2			33.131	
753+06.00	Lt.	C		50.0		30.0	10.0										34.052	
755+74.50	Rt.	C		50.0		30.0	10.0										24.077	
755+90.00	Lt.	C		60.0		30.0	15.0									127.4		
764+48.00	Rt.	C				24.0		10.0									13.941	
764+62.00	Lt.	C				30.0		15.0									37.972	
774+22.50	Rt.	C				30.0		15.0	1.7	18.0	51.0	32.6	25.9	2			31.266	
786+88.50	Lt.	C				30.0		15.0	1.5	18 LC	50.0	29.9	22.6	2			35.277	*
789+29.00	Lt.	C		60.0		30.0		15.0									34.150	
789+64.00	Rt.	C				24.0		15.0	1.7	18.0	48.0	23.9	31.6	2			33.775	
790+48.50	Lt.	C		44.0		24.0		10.0									24.003	
792+20.00	Rt.	C				30.0		15.0	2.3	18.0	61.0	29.3	39.2	2			50.243	
792+48.00	Lt.	C				30.0		15.0									37.331	
803+75.00	Lt.	C				36.0		15.0	1.3	18 LC	53.0	29.3	30.0	2			47.208	*
8805+15.00	Rt.	C				30.0		15.0	1.3	18.0	43.8	29.6	26.4	2		367.7	166.299	Pfeiler Road West
809+80.00	Rt.	C				30.0		15.0	2.0	18 LC	63.0	24.2	45.1	2			37.993	*
816+56.00	Rt.	C				30.0		15.0	1.0	18 LC	51.0	35.2	22.0	2			30.401	*
818+97.00	Lt.	C				30.0		15.0	2.0	18 LC	62.0	23.4	43.1	2			41.615	*
826+10.00	Rt.	C		56.7		30.0		20.0									42.977	
826+10.00	Lt.	C				30.0		15.0	3.7	18.0	95.0	67.7	34.8	2			89.481	
831+57.88	Lt.	C				30.0		15.0	3.4	18.0	87.0	61.4	33.1	2			67.963	
838+62.00	Rt.	C				24.0	15.0		1.6	18 LC	49.0	21.7	33.6	2		108.7		*
838+68.00	Lt.	C				30.0		15.0	2.5	18.0	68.0	46.9	28.6	2			37.100	
842+41.00	Rt.	C				30.0		15.0									26.849	
845+24.00	Lt.	C				30.0		15.0	1.8	18 LC	60.0	23.8	42.4	2			28.424	*
845+52.00	Rt.	C				24.0	15.0		1.2	18 LC	47.0	32.0	21.3	2		105.8		*
850+00.00	Lt.	C				24.0		10.0	1.4	18 LC	58.0	20.6	43.7	2			25.046	*

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.
(1) Refer to MI-210
(2) Refer to EW-501.
(3) Refer to EW-501 or EW-502.
*Predetermined for access point not constructed with this project.

Location		Type	Length of Opening (1)			W	(1)(2) PR	(2) SR	Pipe Culvert (3)					Aprons	Driveway Surface Area		Driveway Surfacing Material	Remarks
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1½" Dropped Curb	3" Dropped Curb				H	Size	Pipe Length	Lt.	Rt.		PCC 8"	PCC 6"		
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF	No.	SY	SY	TON	
854+30.00	Rt.	C				30.0	15.0		2.8	18.0	89.0	70.5	26.0	2			39.988	
856+59.50	Lt.	C				20.0		10.0	1.1	18 LC	110.0		34.5	2			16.597	*
857+13.00	Lt.	C				20.0		10.0	3.1	18 LC	85.0	24.6	66.6				11.046	*
861+60.00	Lt.	C				16.0		22&51		18.0	42.0			2			31.311	
41882+87.50	Lt.	C				30.0		15.0								164.7	51.891	
426875+68.00	Rt.	C				32.0		30.0								131.8	41.524	
436875+55.00	Lt.	C				24.0	10.0									60.9	24.406	
		Totals:		895.7	0.0					Size	Length			Aprons	137.9	2652.6	2804.903	
										18.0	**1107.8**			**36**				
										18 LC	**1066.0**			**36**				*LC = Low Clearance Pipe
										24.0	**119.3**			**4**				
to be closed																		
622+60.00																		US 52
626+58.00	Rt.																	US 52
704+82.00	Rt.																	US 52
729+07.50	Rt.																	US 52
731+75.00	Rt.																	US 52
741+29.50	Rt.																	US 52
743+33.00	Lt.																	US 52
746+62.50	Rt.																	US 52
749+03.00	Lt.																	US 52
827+10.00	Lt.																	US 52
857+10.00	Lt.																	US 52
861+90.00	Lt.																	
8804+38.00																		Pfeiler Road West

MILLED RUMBLE STRIPS

See PV-12 and PV-13.

* Calculated at 18" width for Shoulder.

Location			Length		Type (Centerline, Rt or Lt Shoulder	Fog Seal* (Milled Rumble Strip)	Effective Shoulder Width			Remarks
Road Identification	Station to Station		PCC	HMA		Shoulder	PCC Paved	HMA Paved	Granular\ Earth	
			STA	STA		GAL	FT	FT	FT	
US 52 (ML052)	601+50.00	864+58.63	263.09		Centerline	0.0				
US 52 (ML052)	601+50.00	864+58.63	263.09		Left Shoulder	0.0	6.0			
US 52 (ML052)	601+50.00	864+58.63	263.09		Right Shoulder	0.0	6.0			
US 52 (ML052WB)	40864+58.63	40870+27.88	5.69		Right Shoulder	0.0	6.0			
US 52 (ML052WB)	40875+27.39	40885+64.46	10.37		Right Shoulder	0.0	6.0			
US 52 (ML052EB)	41864+58.63	41870+24.46	5.66		Left Shoulder	0.0	6.0			
US 52 (ML052EB)	41875+26.07	41885+55.64	10.30		Left Shoulder	0.0	6.0			
		Totals:								
		Centerline	263.09							
		Shoulder	558.19							

FENCING

* Bid Item

Refer to MI-101, MI-102, MI-103, MI-104, 510-3, and 510-5

Location				Side	Chain Link				Deer				Field				Channel Crossing		Remarks
From		To			Fence		Gate				Gate				Gate				
Station	Offset	Station	Offset		Length*	Type	No.*	Type	Fence Length*	Brace Panels*	No.*	Type	Fence Length*	Brace Panels*	No.*	Type	Length*	Type	
					LF		EACH		LF	EACH	EACH		LF	EACH	EACH		LF		
742+65.27	33.0	742+72.14	54.0	RT									22.0	2					
742+72.14	54.0	745+79.65	54.0	RT									269.0	2					
Total =													291.0	4					

108-13A
08-01-08

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
602+00.00	1		Beginning of Project
622+11.00	1		Pfeiler Road East
646+31.00	1		Hingtgen Lane
742+72.00	1		Midway Road
742+72.00	1		Bankston Park Road
803+75.00	1		Pfeiler Road West
831+98.00	1		Schmitt Lane
9+50.00	1		Holy Cross North
+14.00	1		Holy Cross South
446883+50.00	1		Maple
885+50.00	1		End of Project
Totals:	**11**	**0**	

RLM
Special

RELOCATION OF MAILBOX

Location		Count	Remarks
Station	Side	0	
ML052			
611+00.11	Rt.	1.0	
611+00.11	Lt.	1.0	
617+83.00	Rt.	1.0	
626+16.80	Rt.	1.0	
642+36.71	Lt.	1.0	
643+91.50	Rt.	1.0	
688+56.00	Rt.	1.0	
697+28.00	Lt.	1.0	
699+30.00	Lt.	1.0	
718+39.00	Rt.	1.0	
734+43.00	Rt.	1.0	
734+43.00	Lt.	1.0	
736+02.00	Lt.	2.0	
743+14.00	Lt.	1.0	
755+75.00	Lt.	1.0	
755+75.00	Rt.	1.0	
764+29.00	Rt.	1.0	
764+96.00	Lt.	2.0	
789+06.00	Lt.	1.0	
789+48.00	Rt.	1.0	
825+79.00	Rt.	1.0	
838+34.40	Rt.	1.0	
856+85.07	Rt.	1.0	
861+82.71	Rt.	2.0	
Total:		27.0	

103-10
04-18-17

TOPSOIL STRIPPING AND PLACEMENT

Location				Topsoil Stripping Thickness	Topsoil Placement Thickness	Remarks
Road Identification	Dir. of Traffic	Begin Station	End Station	IN	IN	
ML 52		601+50	608+00	18.0	15.0	
ML 52		608+00	628+00	4.0	15.0	
ML 52		628+00	817+00	18.0	15.0	
ML 52		817+00	830+00	0.0	15.0	
ML 52		830+00	845+00	18.0	15.0	
ML 52		845+00	860+00	6.0	15.0	
ML 52		860+00	864+58.63	18.0	15.0	
EB ML 52		41864+58.63	41872+02.07	18.0	15.0	
WB ML 52		40864+58.63	40872+02.02	18.0	15.0	
WB ML 52		40873+52.40	40885+64.46	18.0	15.0	
NB Holy Cross		426874+25	426877+24.32	18.0	15.0	
SB Holy Cross		436874+25	436883+15	18.0	15.0	
Tollgate Road		426878+70.58	426883+15.31	18.0	15.0	
RoundAbout Circulator		0+00	3+40	0.0	15.0	
Pfeiler Road East		12622+25	12623+15	4.0	15.0	
Midway Road		10701+65	10704+25	18.0	15.0	
Hingtgen Lane		11642+25	11646+00	18.0	15.0	
Schmitt Lane		7832+25	7837+00	18.0	15.0	
Bankston Park Road		9741+00	97+42.25	18.0	15.0	
Pfeiler Road West		8804+00	8806+50	18.0	15.0	
HolyCross Return 1		0+00	1+40	18.0	15.0	
HolyCross Return 2		0+00	1+70.64	18.0	15.0	
HolyCross Return 3		0+00	1+25	18.0	15.0	
HolyCross Return 4		0+00	1+50	18.0	15.0	
Maple Road		446882+50	446883+25	18.0	15.0	

108-9A
04-20-10

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

HIGH TENSION CABLE GUARDRAIL

Refer to BA-351.

No.	Location: Direction of (1) Traffic	Location: Station	Location: Side	Dimensions: Offset D_θ FT	Dimensions: Approach C_A FT	Dimensions: Obstacle C_O FT	Dimensions: Trailing C_T FT	Bid Items: Protection Length (C_A+C_θ+C_T) FT	Bid Items: End Anchor No.	Remarks
1	EB	859+73.81	EB	5.0				128.8	2	Protects steep foreslope

112-5
10-20-15

CONCRETE MEDIANS

* Bid item

Begin Station	End Station	Type	Area* SY	Modified Subbase CY	Special Backfill CY	Remarks
41868+44.75	41871+96.23	6 inch	364.3	217.6		Chain ML052EB - East leg
41873+54.34	41877+02.78	6 inch	380.7	227.4		Chain ML052EB - West leg
426878+77.49	426879+88.31	6 inch	161.4	96.4		Chain HOLYCROSSNB - North leg
426876+17.74	426877+19.20	6 inch	163.1	97.4		Chain HOLYCROSSNB - South leg
	Total =		1069.5	638.8		

100-27
10-20-09

PAVEMENT SMOOTHNESS + PCC TEXTURE

Road Identification	Begin Station	End Station	Proposed Posted Speed: 35 or less	Proposed Posted Speed: 40 - 45	Proposed Posted Speed: over 45	Remarks
US 52	601+50.00	885+50.00			x	
Holy Cross/Tollgate (Roundabout area)	426874+25.00	426883+15.00	x			

PAVEMENT MARKING LINE TYPES

See PM-110

*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.25
DCY4: Double Centerline (Yellow) @ 2.00
NPY4: No Passing Zone Line (Yellow) @ 1.25
BLW4: Broken Lane Line (White) @ 0.25
ELW4: Edge Line Right (White) @ 1.00
ELY4: Edge Line Left (Yellow) @ 1.00
CHY8: Channelizing Line (Yellow) @ 2.00
YLW2: Yield Line (White) @ 1.71
SLW4: Solid Lane Line (White) @ 1.00
STY6: Standard Curb 6" (Yellow) @ 3.03
SPY4: Sloped Curb 4" (Yellow) @ 3.23
STW6: Standard Curb 6" (White) @ 3.03
DLW4: Dotted Line (White) @ 0.33
SLW2: Stop Line (White) @ 6.00

Location								Length by Line Type (Unfactored)														Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	CHY8	YLW2	SLW4	STY6	SPY4	STW6	DLW4	SLW2	
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
ML052																						
	601+50.00	621+68.79		Waterborne/Solvent Paint		X			20.19													
	601+50.00	621+68.79		Waterborne/Solvent Paint			X					20.19										
	601+50.00	645+86.35		Waterborne/Solvent Paint	X							44.36										
	622+49.15	645+86.35		Waterborne/Solvent Paint		X			23.37													
	622+49.15	802+95.96		Waterborne/Solvent Paint			X					180.47										
	464+74.64	704+16.93		Waterborne/Solvent Paint		X			239.43													
	464+74.64	704+16.93		Waterborne/Solvent Paint	X							239.42										
	705+38.42	742+22.72		Waterborne/Solvent Paint		X			36.84													
	705+38.42	742+22.72		Waterborne/Solvent Paint	X							36.84										
	743+26.65	802+95.96		Waterborne/Solvent Paint		X			59.69													
	743+26.65	864+58.63		Waterborne/Solvent Paint	X							121.32										
	804+37.09	831+46.52		Waterborne/Solvent Paint		X			27.09													
	804+37.09	831+46.52		Waterborne/Solvent Paint			X					27.09										
	832+51.41	864+58.63		Waterborne/Solvent Paint		X			32.07													
	832+51.41	864+58.63		Waterborne/Solvent Paint			X					32.07										
ML052WB																						
	40864+80.74	40868+74.97		Waterborne/Solvent Paint		X								3.94								
	40864+58.63	40870+27.88		Waterborne/Solvent Paint			X					5.69										
	40868+44.59	40871+97.27		Waterborne/Solvent Paint		X											7.33					
	40870+27.88	40873+08.06		Waterborne/Solvent Paint															3.64			
	40871+95.50			Waterborne/Solvent Paint	X	X	X								0.23							
	40871+95.50	40872+02.02		Waterborne/Solvent Paint	X											0.07						
	40873+40.94	40875+27.39		Waterborne/Solvent Paint			X												3.30			
	40873+52.67	40873+60.36		Waterborne/Solvent Paint	X											0.08						
	40873+60.36	40877+07.00		Waterborne/Solvent Paint		X											7.32					
	40875+27.39	40885+64.46		Waterborne/Solvent Paint			X					10.37										
	40877+07.00	40885+34.17		Waterborne/Solvent Paint		X								8.27								
	40885+34.17	40885+64.46		Waterborne/Solvent Paint		X			0.30													
ML052EB																						
	41864+58.63	41870+24.46		Waterborne/Solvent Paint	X							5.66										
	41864+80.66	41868+48.10		Waterborne/Solvent Paint		X								3.67								
	41870+24.46	41872+17.61		Waterborne/Solvent Paint	X														3.23			
	41871+93.25	41872+02.07		Waterborne/Solvent Paint			X									0.09						
	41872+37.06	41875+26.07		Waterborne/Solvent Paint	X														2.89			
	41873+50.00	41873+58.36		Waterborne/Solvent Paint	X											0.08						
	41873+56.30			Waterborne/Solvent Paint	X	X	X								0.23							
	41876+49.15	41885+55.64		Waterborne/Solvent Paint	X							9.06										
	41876+49.15	41885+25.35		Waterborne/Solvent Paint	X									8.76								
HOLYCROSSNB																						
	426874+25.00	426874+58.75		Waterborne/Solvent Paint		X			0.34													
	426874+25.00	426875+86.29		Waterborne/Solvent Paint			X					1.61										
	426874+58.75	426875+86.29		Waterborne/Solvent Paint		X								1.28								
	426875+86.29	426877+17.28		Waterborne/Solvent Paint		X											2.52					
	426877+17.28			Waterborne/Solvent Paint	X	X	X								0.23							
	426877+17.28	426877+24.33		Waterborne/Solvent Paint	X											0.07						
	426878+70.58	426878+80.53		Waterborne/Solvent Paint	X											0.10						
	426878+70.58	426880+08.58		Waterborne/Solvent Paint		X											2.50					
	426879+85.37	426881+46.93		Waterborne/Solvent Paint		X								1.62								
	426880+08.58	426883+15.31		Waterborne/Solvent Paint			X					3.07										
	426881+46.93	426883+15.31		Waterborne/Solvent Paint		X			1.68													
HOLYCROSSSB																						
	436874+25.00	436875+05.49		Waterborne/Solvent Paint	X							0.80										
	436874+58.75	436876+20.54		Waterborne/Solvent Paint		X								1.62								
	436877+25.58	436877+35.36		Waterborne/Solvent Paint		X										0.10						
	436878+81.64	436878+88.60		Waterborne/Solvent Paint		X										0.07						
	436878+88.60			Waterborne/Solvent Paint	X	X	X								0.23							
	436880+19.32	436881+67.39		Waterborne/Solvent Paint	X							1.48										
	436879+84.28	436881+46.62		Waterborne/Solvent Paint		X								1.62								
Roundabout																						
	+02.00	+52.72		Waterborne/Solvent Paint			X													0.51		
	+52.72	+78.12		Waterborne/Solvent Paint			X									0.25						
	+78.12	1+42.20		Waterborne/Solvent Paint			X													0.64		
	1+42.20	1+76.08		Waterborne/Solvent Paint			X									0.34						
	1+76.08	2+30.61		Waterborne/Solvent Paint			X													0.55		
	2+30.61	2+56.46		Waterborne/Solvent Paint			X									0.26						
	2+56.46	3+16.78		Waterborne/Solvent Paint			X													0.60		
	3+16.78	+02.00		Waterborne/Solvent Paint			X									0.34						
	+00.00	3+48.18		Waterborne/Solvent Paint		X												3.48				

PAVEMENT MARKING LINE TYPES

See PM-110

*BCY4 - Place on the same side of the roadway to match existing markings near the project.
**NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.
***MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.25
DCY4: Double Centerline (Yellow) @ 2.00
NPY4: No Passing Zone Line (Yellow) @ 1.25
BLW4: Broken Lane Line (White) @ 0.25
ELW4: Edge Line Right (White) @ 1.00
ELY4: Edge Line Left (Yellow) @ 1.00
CHY8: Channelizing Line (Yellow) @ 2.00
YLW2: Yield Line (White) @ 1.71
SLW4: Solid Lane Line (White) @ 1.00
STY6: Standard Curb 6" (Yellow) @ 3.03
SPY4: Sloped Curb 4" (Yellow) @ 3.23
STW6: Standard Curb 6" (White) @ 3.03
DLW4: Dotted Line (White) @ 0.33
SLW2: Stop Line (White) @ 6.00

Location							Length by Line Type (Unfactored)													
Road ID	Station to Station	Dir. of Travel	Marking Type	Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	CHY8	YLW2	SLW4	STY6	SPY4	STW6	DLW4	SLW2		Remarks
				L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
SRPFEILERE																						
	12622+53.91		Waterborne/Solvent Paint			X														0.12		
SRHINGTGEN																						
	11646+05.73		Waterborne/Solvent Paint			X														0.12		
SRMIDWAY																						
	10704+43.36		Waterborne/Solvent Paint			X														0.12		
SRBANKSTON																						
	9742+34.39		Waterborne/Solvent Paint			X														0.12		
SRPFEILERW																						
	8804+74.99		Waterborne/Solvent Paint			X														0.12		
SRSCHMITT																						
	7832+38.21		Waterborne/Solvent Paint			X														0.12		
			Factored Total: Waterborne/Solvent Paint				-	882.00	-	-	739.50	-	61.56	1.57	1.85	59.60	11.24	39.57	0.77	4.32	-	
			Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based							1801.98												

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.
* Not a bid item
(1) Diameter or equivalent diameter
(2) UNCL = Unclassified Pipe CMP = Corrugated Metal Pipe RCP = Reinforced Concrete Pipe LCP = Arch or Elliptical Low Clearance Pipe SARC = Steel Arch Pipe
(3) Backfill according to DR-101

Drainage Area	Location	Type	Size (1)	Kind Of Pipe (2)	Length New Const.	Bedding Class	Design Cover (H)	Camber* (DR-102)	Apron No.		Apron Guard* (DR-213)	Elbow* (DR-141)	Diaphragm* (DR-501)	Tee Section* (DR-142)	"D" Section* (DR-141)	Reducer*	Type 'C' Connections* (DR-122)		Connected Pipe Joint* (DR-121)	4" Perforated Subdrain*	Flow Line Elevations				Dimensions Lin. Ft. Total		Dimensions Lin. Ft. Extensions		Skew Ahead Degrees		Dike Rt./Lt.	Dike Location Station	Dike Top Elevation	Dike Type	Class 20	Flowable Mortar	Floodable* Backfill (A)	Porous* Backfill (B)	Flooded Backfill (3) (A+B)	Remarks
ACRE			IN		LF		FT	FT	IN	OUT	No.	No.	No.	No.	No.	No.	Type	No.	Type	FT	Lt.	Rt.	Other	Other	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.				CY	CY	CY	CY	CY	
1.0	602+75.00	DR-601	24	RCP	64		3.8	0.08	1	1							Type 3				1111.04	1116.50			47.2	28.9									104.5	10.8	47.9	5.5	53.4	
2.0	638+55.00	DR-601	24	RCP	60		3.1	0.08	1	1							Type 3				1121.97	1127.00			41.7	30.7									106.3	9.5	34.6	5.2	39.8	
5.0	652+30.00	DR-601	24	RCP	80		5.0	0.08	1	1							Type 3				1126.80	1119.18			39.8	52.1									165.3	0.0	87.3	6.7	94.0	
5.0	670+56.00	DR-601	24	RCP	68		3.3	0.08	1	1							Type 3				1128.20	1126.16			40.4	39.9									95.7	9.8	38.0	5.8	43.8	
11.0	732+25.00	DR-601	30	RCP	62		3.2	0.08	1	1							Type 3				1158.42	1163.00			44.1	30.1									109.3	11.3	47.6	5.7	53.3	
5.0	763+90.00	DR-601	24	RCP	78		4.5	0.08	1	1							Type 3				1159.84	1167.50			50.0	40.0									123.6	0.0	74.5	6.6	81.1	
11.0	809+15.00	DR-601	30	RCP	98		7.2	0.17	1	1							Type 3				1150.88	1158.54			64.7	45.3				20					271.1	0.0	64.4	8.8	73.2	
389.0	858+75.00	DR-601	84	RCP	114		10.1	0.25	1	1							Type 3				1091.08	1093.81			70.6	61.9				5					883.9	0.0	447.4	17.3	464.7	
							(a)																																	
					Pipes				Aprons																															
	Totals:	ipe Size	24		350				10																							Totals:							
			30		160				4																							Class 20 Excavation			1859.7				
			84		114				2																							Flowable Mortar				41.4			
																																Flooded Backfill						903.3	
	(a) H measured at centerline of the roadway.																																							

ROADWAY ITEMS FOR DRAINAGE STRUCTURES INSTALLED BY CULVERT CONTRACTOR

* Not a Bid Item
(1) Backfill according to DR-111

Location	Design Number	Size	Kind	By Road Contractor: Dike Rt./Lt.	Dike Location Station	Dike Top. Elev.	Dike Type	Compacting Backfill Adjacent CY	Compaction w/Moisture Control CY	Compaction w/Moisture and Density CY	Floodable* Backfill (A) CY	Porous* Backfill (B) CY	Flooded Backfill (1) (A+B) CY	Excavation Type	Excavation Quantity CY	Revetment Type	Revetment Quantity TONS	Engineering Fabric SY	Remarks
US 52																			
820+14.00	417	6'x7'	Precast RCB					51.9					48.0						
836+00.00	517	6'x7'	Precast RCB					40.4					47.4						

HYDRAULIC DESIGN

LICENSED PROFESSIONAL ENGINEER
David R. Claman
11571
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

David R. Claman — 11/28/2017
Signature — Date

David R. Claman
Printed or Typed Name
My license renewal date is December 31, 2018

Pages or sheets covered by this seal: CD.1

POLLUTION PREVENTION PLAN

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed per plan revisions or by contract modification, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The prime contractor shall be responsible for compliance and implementation of the 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.

I. ROLES AND RESPONSIBILITES
- A. Designer:
  1. Prepares Base PPP included in the project plan.
  2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
  3. Signature authority on the Base PPP and NOI.
- B. Contractor/Subcontractor:
  1. Affected contractors/subcontractors are co-permittees with the IDOT and will sign a certification statement adhering to the requirements of the NPDES permit and this PPP plan. Affected contractors/subcontractors are anyone responsible for sediment or erosion controls or involved in land disturbing activities. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
  2. Submit an Erosion Control Implementation Plan (ECIP) according to Specifications Section 2602 and any additional plan notes.
  3. Install and maintain appropriate controls.
  4. Supervise and implement good housekeeping practices.
  5. Conduct joint required inspections of the site with inspection staff.
  6. Comply with training and certification requirements of Specifications Section 2602.
  7. Signature authority on Co-Permittee Certification Statements and storm water inspection reports.
- C. RCE/Inspector:
  1. Update PPP whenever there is a change in design, construction, operation or maintenance, which has a significant effect on the discharge of pollutants from the project.
  2. Maintain an up-to-date record that identifies contractors and subcontractors as co-permittees.
  3. Make these plans available to the DNR upon their request.
  4. Conduct joint required inspections of the site with the contractor/subcontractor.
  5. Complete an inspection report after each inspection.
  6. Signature authority on storm water inspection reports and Notice of Discontinuation (NOD).

II. PROJECT SITE DESCRIPTION
- A. This Pollution Prevention Plan (PPP) is for the reconstruction of a two lane highway.
- B. This PPP covers approximately 247 acres with an estimated 74 acres being disturbed. The portion of the PPP covered by this contract has 74 acres disturbed.
- C. The PPP is located in an area of 1 soil association (Downs - Fayette - Nordness). The estimated weighted average runoff coefficient number for this PPP after completion will be 0.43.
- D. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including:
  1. Drainage patterns – Plan and Profile sheets and Situation plans.
  2. Proposed Slopes – Cross Sections.
  3. Areas of Soil Disturbance – construction limits shown on Plan and Profile sheets.
  4. Location of Structural Controls – Tabulations on C sheets.
  5. Locations of Non-structural Controls – Tabulations on C sheets.
  6. Locations of Stabilization Practices – generally within construction limits shown on Plan and Profile sheets.
  7. Surface Waters (including wetlands) – Project Location Map and Plan and Profile sheets.
  8. Locations where storm water is discharged – Plan and Profile sheets.
- E. The base site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries.
- F. Runoff from this work will flow into ditches and unnamed creeks that flow to the Maquoketa River.

III. CONTROLS
- A. The contractor's ECIP specified in Article 2602.03 for accomplishment of storm water controls should clearly describe the intended sequence of major activities and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water monitoring inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B.
  1. EROSION AND SEDIMENT CONTROLS
     a. Stabilization Practices
        1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
        2) Stabilization practices shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased.
        3) 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.
        4) Permanent and Temporary Stabilization practices to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation.

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        5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
        6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan. Additional information may be found in Tabulations in the C or T sheets of the plans or is referenced in Standard Specifications Section 2105.
     b. Structural Practices
        1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
        2) Structural practices to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B sheets of the plans or are referenced in the Standard Road Plans Tabulation.
     c. Storm Water Management
        1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located on the C sheets of the plan, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.
  2. OTHER CONTROLS
     a. 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.
        1) Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
        2) Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
        3) Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
        4) Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
        5) Spill Prevention and Control - Implement procedures to contain and clean-up spills and prevent material discharges to the storm drain system and waters of the state.
        6) Concrete Residuals and Washout Wastes - Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
        7) Concrete Grooving/Grinding Slurry – Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
        8) Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onside fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water.
        9) Litter Management - Ensure employees properly dispose of litter.
        10) Dewatering – Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.
  3. 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.

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

V. INSPECTION REQUIREMENTS
- A. Inspections shall be made jointly by the contractor and the contracting authority at least once every seven calendar days. Storm water monitoring inspections will include:
  1. Date of the inspection.
  2. Summary of the scope of the inspection.
  3. Name and qualifications of the personnel making the inspection.
  5. Review erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
  6. Major observations related to the implementation of the PPP.
  7. Identify corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water monitoring inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection.

VI. NON-STORM WATER DISCHARGES
This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of patio blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION
Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS
- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - May include Plan Revisions or Contract Modifications for new items, storm water monitoring inspection reports, and

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POLLUTION PREVENTION PLAN

fieldbook entries made by the inspector.

C. IDR - Inspector's Daily Report – this contains the inspector's daily diary and bid item postings.

D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).

E. Signature Authority - Representative from Designer, Contractor/Subcontractor, or RCE/Inspector authorized to sign various storm water documents.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____
Signature

_____
Printed or Typed Name

_____
Signature

_____
Printed or Typed Name

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STORMWATER DRAINAGE BASIN

Basin No.	Station to Station		Side	Disturbed Area Acres	Discharge Point Station	Discharge Point Side	Required Storage Volume CF	Remarks
1	601+50.00	611+15.00	Both	1.9	602+70.00	Left	6768.0	
2	611+15.00	622+90.00	Right	1.0	622+59.00	Right	3672.0	
3	610+60.00	630+67.00	Left	2.3	Sheet Flow	Left	8136.0	
4	621+73.00	631+25.00	Right	0.8	Sheet Flow	Right	2772.0	
5	630+67.00	643+75.00	Both	2.4	Sheet Flow	Left	8568.0	Culvert Discharge at 638+50
6	643+75.00	659+50.00	Both	3.3	Sheet Flow	Right	11916.0	Culvert Discharge at 652+31 Right
7	658+62.00	663+20.00	Left	0.5	Sheet Flow	Left	1728.0	
8	659+21.00	704+10.00	Both	5.3	670+60.00	Right	18972.0	
9	672+55.00	697+50.00	Right	2.2	672+74.00	Right	8028.0	
10	704+15.00	705+15.00	Left	0.3	704+82.00	Left	936.0	
11	705+15.00	714+72.00	Left	1.1	705+41.00	Left	4032.0	
12	697+50.00	718+25.00	Right	2.3	697+50.00	Right	8424.0	Storm Sewer to Discharge Point
13	714+65.00	745+85.00	Both	6.1	732+24.00	Left	21924.0	Some Sheet Flow Sta.726 to Sta.730
14	745+85.00	754+00.00	Right	0.8	753+58.00	Right	2736.0	
15	745+85.00	764+61.00	Both	2.9	763+89.00	Left	10548.0	
16	764+61.00	801+61.00	Left	3.2	Sheet Flow	Left	11412.0	Partial Sheet Flow Sta.779 to Sta.786
17	764+61.00	785+80.00	Right	2.1	Sheet Flow	Right	7560.0	Partial Sheet Flow Sta.770 to Sta.780
18	785+80.00	797+00.00	Right	1.3	Sheet Flow	Right	4608.0	Partial Sheet Flow Sta.786 to Sta.788
19	797+00.00	804+60.00	Right	0.7	Sheet Flow	Right	2556.0	Partial Sheet Flow Sta.797 to Sta.799
20	801+61.00	812+75.00	Both	2.5	808+92.00	Left	9072.0	
21	812+75.00	831+94.00	Both	6.2	820+00.00	Left	22356.0	
22	831+94.00	842+21.00	Both	3.0	835+80.00	Left	10692.0	
23	842+21.00	864+58.00	Both	5.2	858+63.00	Left	18792.0	
		Totals:		**57.3**			**206208.0**	**Total Required**

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HERBICIDE

For all herbicide applications, the following provisions shall apply.

1. Follow all laws, rules and regulations related to the handling of pesticides, including but not limited to:
   a. Follow all herbicide label directions, restrictions, and precautions.
   b. The company responsible for the herbicide applicator must be licensed with Iowa Department of Agriculture and Land Stewardship (IDALS) as a commercial pesticide applicator company.
   c. The person applying the herbicide must be certified through IDALS as a pesticide applicator in Category 6, Right-of-Way. For herbicide applications that require an aquatic certification, the applicator must also be certified as a pesticide applicator in Category 5, Aquatics.
   d. Use herbicide and adjuvant products labeled for the application site:
      i. For applications on the primary highway right-of-way, use only products labeled for use on highway rights-of-way or roadsides.
      ii. For applications to or over water, use only products labeled for corresponding use in aquatic sites, unless intermittent pockets of standing water, such as tire ruts, and the product is labeled for such use.
      iii. For applications to areas in the water conveyance portion of the ditch that do not contain water at the time of application, use only products labeled for non-irrigation ditch banks or aquatic sites.
   e. Do not apply any herbicide to or over standing or flowing water unless required coverage is obtained under a National Pollutant Discharge and Elimination System (NPDES) Pesticide Discharge Permit through Iowa DNR. If standing or flowing water is encountered in areas when they need to be sprayed, notify Iowa DOT (Roadside Development) to determine if submittal of a Notice of Intent (NOI) is required.

2. Schedule work according to weather conditions and take measures to avoid off-target damage, such as runoff, leaching, drift and volatilization.
   a. Do not spray herbicide 24 hours prior to forecast precipitation that is expected to cause significant runoff conditions.
   b. For areas with saturated soil, such as ditch bottoms, do not spray herbicide 24 hours prior to forecast precipitation, unless using products labeled for aquatic sites.
   c. For conventional applications, avoid applications when wind speed exceeds 10 mph. For invert applications, avoid applications when wind speed exceeds 15 mph.
   d. For conventional foliar applications, use a drift retardant and maintain drift control throughout the application period by adding more to the tank as it breaks down from agitation.
   e. Avoid spraying volatile products when temperatures are forecast to exceed 85° F within 3 days.
   f. Check the IDALS Sensitive Crops Directory and do not spray adjacent to a listed operation when wind is blowing towards it.

3. Respond to allegations of any off-target damage attributed to handling and spraying of herbicide.

4. Provide the following documents to the Engineer for approval not less than 2 weeks prior to the application.
   a. A copy of the herbicide and adjuvant labels, including any applicable supplemental labels.
   b. A copy of the herbicide and adjuvant Material Safety Data Sheets (MSDS.)

5. Have copies of the herbicide and adjuvant labels and MSDSs on-hand and at locations of storage, transport, and application.

6. Schedule work to maximize efficiency of the herbicide application in relation to weather conditions and plant growth stage. Follow any label recommendations given as "for best results."
   a. For weed applications:
      i. To determine if weeds are "actively growing," use as a guideline that there needs to have been at least 1 hour of temperature above 65° F and 1 hour of sun in the day prior to, of, or forecast before a rain the day after the application.
      ii. For spring applications to thistles, apply after basal leaves of Canada thistles are fully extended, and after rosettes of musk thistle are at least 8 inches diameter, but before flower stage.
      iii. For fall applications to thistles, apply prior to the second hard freeze of 28° F, unless otherwise listed in the label directions.
   b. For tree and brush applications:

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HERBICIDE

      i. For foliar applications and cut stump/surface applications with water-soluble products, apply after leaves are fully opened in the spring and prior to leaf discoloration in the fall.
      ii. For cut stump applications with oil soluble products, do not apply during periods of heavy sap flow. Use as a guideline that heavy sap flow occurs in late winter to early spring when nighttime temperatures below 32° F are followed by daytime temperatures above 32° F with sunny conditions.
      iii. For cut stump and basal bark applications, add sufficient dye so that treated areas are visible to inspection 7 days after application.

7. Notify the Engineer prior to calibrating, mixing and applying herbicides, including incidental items.

8. Provide copies of daily spray logs to the RCE at the end of each week of spraying (form provided by Iowa DOT).

9. If Contractor does not complete spray item on schedule, the Engineer may adjust the schedule.

SUMMARY OF STORMWATER STORAGE

Basin No.	Item	Total Storage Volume Provided CF	Total Storage Volume Required CF	Remarks
1	Silt Fences for Ditch Check	8613.2		
1	Rock Check Dam	0.0		
1	Silt Basin	570.0		
1	Total Storage	9183.2	6768.0	Requirement Met
2	Silt Fences for Ditch Check	6472.8		
2	Rock Check Dam	4373.0		
2	Silt Basin	0.0		
2	Total Storage	10845.8	3672.0	Requirement Met
3	Silt Fences for Ditch Check	1578.1		
3	Rock Check Dam	4068.0		
3	Silt Basin	2725.0		
3	Total Storage	8371.1	8136.0	Requirement Met
4	Silt Fences for Ditch Check	632.0		
4	Rock Check Dam	1627.0		
4	Silt Basin	1875.0		
4	Total Storage	4134.0	2772.0	Requirement Met
5	Silt Fences for Ditch Check	4470.6		
5	Rock Check Dam	3254.0		
5	Silt Basin	2662.5		
5	Total Storage	10387.1	8568.0	Requirement Met
6	Silt Fences for Ditch Check	5221.1		
6	Rock Check Dam	0.0		
6	Silt Basin	6912.5		
6	Total Storage	12133.6	11916.0	Requirement Met
7	Silt Fences for Ditch Check	1996.8		
7	Rock Check Dam	0.0		
7	Silt Basin	0.0		
7	Total Storage	1996.8	1728.0	Requirement Met
8	Silt Fences for Ditch Check	28199.0		
8	Rock Check Dam	0.0		
8	Silt Basin	0.0		
8	Total Storage	28199.0	18972.0	Requirement Met
9	Silt Fences for Ditch Check	8691.2		
9	Rock Check Dam	0.0		
9	Silt Basin	0.0		
9	Total Storage	8691.2	8028.0	Requirement Met
10	Silt Fences for Ditch Check	0.0		
10	Rock Check Dam	0.0		
10	Silt Basin	1400.0		
10	Total Storage	1400.0	936.0	Requirement Met
11	Silt Fences for Ditch Check	4276.6		
11	Rock Check Dam	0.0		
11	Silt Basin	1400.0		
11	Total Storage	5676.6	4032.0	Requirement Met
12	Silt Fences for Ditch Check	5308.8		
12	Rock Check Dam	0.0		
12	Silt Basin	3575.0		
12	Total Storage	8883.8	8424.0	Requirement Met
13	Silt Fences for Ditch Check	18280.4		
13	Rock Check Dam	0.0		
13	Silt Basin	8075.0		
13	Total Storage	26355.4	21924.0	Requirement Met
14	Silt Fences for Ditch Check	1954.2		
14	Rock Check Dam	0.0		
14	Silt Basin	1225.0		
14	Total Storage	3179.2	2736.0	Requirement Met
15	Silt Fences for Ditch Check	6353.0		
15	Rock Check Dam	0.0		
15	Silt Basin	6106.3		
15	Total Storage	12459.3	10548.0	Requirement Met
16	Silt Fences for Ditch Check	9207.6		
16	Rock Check Dam	0.0		
16	Silt Basin	6137.5		
16	Total Storage	15345.1	11412.0	Requirement Met

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SUMMARY OF STORMWATER STORAGE

Basin No.	Item	Total Storage Volume Provided CF	Total Storage Volume Required CF	Remarks
17	Silt Fences for Ditch Check	6823.0		
17	Rock Check Dam	0.0		
17	Silt Basin	4500.0		
17	Total Storage	11323.0	7560.0	Requirement Met
18	Silt Fences for Ditch Check	2657.7		
18	Rock Check Dam	0.0		
18	Silt Basin	2375.0		
18	Total Storage	5032.7	4608.0	Requirement Met
19	Silt Fences for Ditch Check	0.0		
19	Rock Check Dam	0.0		
19	Silt Basin	2700.0		
19	Total Storage	2700.0	2556.0	Requirement Met
20	Silt Fences for Ditch Check	7460.4		
20	Rock Check Dam	0.0		
20	Silt Basin	2737.5		
20	Total Storage	10197.9	9072.0	Requirement Met
21	Silt Fences for Ditch Check	9014.7		
21	Rock Check Dam	7678.4		
21	Silt Basin	9447.5		
21	Total Storage	26140.5	22356.0	Requirement Met
22	Silt Fences for Ditch Check	6442.2		
22	Rock Check Dam	1779.8		
22	Silt Basin	4012.5		
22	Total Storage	12234.5	10692.0	Requirement Met
23	Silt Fences for Ditch Check	10072.9		
23	Rock Check Dam	12610.8		
23	Silt Basin	3725.0		
23	Total Storage	26408.7	18792.0	Requirement Met
	Project Total Storage	**Provided**	**Required**	
		261278.5	**206208.0**	

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TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
601+50.00	602+69.00	Lt.	139.0	
602+80.00	605+62.00	Lt.	322.0	
605+35.00	607+31.00	Rt.	216.0	
605+38.00	607+36.00	Rt.	218.0	
607+70.50	608+30.50	Rt.	80.0	
612+33.00	617+93.00	Lt.	620.0	
618+28.00	621+42.00	Lt.	354.0	
622+59.00	626+78.00	Rt.	479.0	
627+80.00	631+18.00	Rt.	378.0	
630+68.00	638+49.00	Lt.	861.0	
631+18.00	638+49.00	Lt.	811.0	
638+65.00	640+66.00	Lt.	241.0	
638+67.00	640+62.00	Lt.	215.0	
640+88.00	642+35.00	Lt.	167.0	
640+93.00	642+36.00	Lt.	163.0	
642+76.00	643+73.00	Lt.	117.0	
643+75.00	652+10.00	Lt.	935.0	
649+00.00	652+25.00	Rt.	365.0	
652+35.00	656+50.00	Rt.	475.0	
652+50.00	659+50.00	Rt.	780.0	
655+85.00	659+15.00	Lt.	370.0	
659+50.00	663+20.00	Lt.	410.0	
667+15.00	669+45.00	Rt.	270.0	
670+62.00	672+55.00	Rt.	213.0	
	none			Basin 9
10701+50.00	10702+50.00	Rt.	120.0	Midway Rd.
	none			Basin 11
715+00.00	715+50.00	Rt.	70.0	
723+00.00	733+00.00	Lt.	1100.0	
740+00.00	743+00.00	Lt.	340.0	
743+75.00	745+85.00	Rt.	250.0	
720+00.00	721+00.00	Rt.	120.0	
745+85.00	746+48.00	Rt.	83.0	
748+10.00	748+70.00	Rt.	80.0	
753+40.00	754+00.00	Rt.	80.0	Note Next Line
754+00.00	754+72.00	Rt.	92.0	Cont. From Basin 14
767+00.00	781+00.00	Lt.	1540.0	
776+50.00	780+50.00	Rt.	440.0	
785+75.00	788+50.00	Rt.	315.0	
807+90.00	809+13.00	Lt.	143.0	
816+70.00	819+00.00	Rt.	270.0	
821+41.00	823+28.00	Rt.	207.0	
840+00.00	842+09.00	Lt.	249.0	Note Next Line
857+80.00	860+00.00	Rt.	260.0	
842+09.00	844+00.00	Lt.	211.0	Cont. From Basin 22
859+85.00	863+86.00	Lt.	461.0	
Silt Fence Tab Total			**15630.0**	
Silt Fence Bid Total			**19537.5**	**125% Of Tab Total**
Maintenance Total			**1954.0**	**10% of Bid Total**
Removal Total			**19537.5**	**100% of Bid Total**

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10-15-13

SILT DITCHES

Refer to EW-403

Station to Station	Side	LF	Remarks
TBD			

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OPEN-THROAT CURB INTAKE SEDIMENT FILTER

Possible Detail: 570-6

Location Station	Side	Installation	Maintenance	Removal	Remarks
		LF	EACH	EACH	
705+00.00	Rt.	4.0	1	1	ML052
703+45.00	Rt.	4.0	1	1	ML052
701+75.00	Rt.	4.0	1	1	ML052
699+25.00	Rt.	4.0	1	1	ML052
697+50.00	Rt.	4.0	1	1	ML052
742+00.00	Rt.	4.0	1	1	ML052
740+40.00	Rt.	4.0	1	1	ML052
752+70.00	Lt.	4.0	1	1	ML052
755+00.00	Lt.	4.0	1	1	ML052
790+80.00	Lt.	4.0	1	1	ML052
826+65.00	Rt.	4.0	1	1	ML052
863+25.00	Rt.	4.0	1	1	ML052
+25.00	Rt.	8.0	1	1	(1)
40869+75.00	Lt.	8.0	1	1	ML052WB
40868+80.00	Lt.	8.0	1	1	ML052WB
436876+35.60	Lt.	8.0	1	1	(3)
436877+00.00	Lt.	8.0	1	1	(3)
+50.00	Rt.	8.0	1	1	RA Circle
1+04.42	Rt.	8.0	1	1	(2)
(1) SRHINGTGEN RET 4					
(2) HOLYCROSS RET3					
(3) HOLYCROSS SB					
Total:		**104.0**	**19**	**19**	

100-37
04-18-17

GRATE INTAKE SEDIMENT FILTER BAG

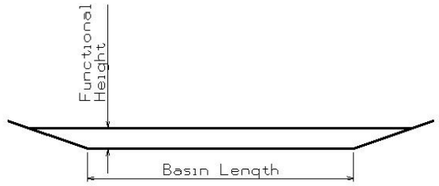
Possible Detail: 570-7

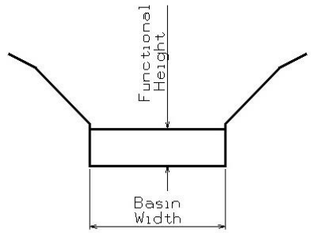
Location Station	Side	Installation	Maintenance	Removal	Remarks
		EACH	EACH	EACH	
00+87.18	Lt.	2	2	2	RA Circle

100-14
10-18-16

SILT BASINS

Possible Standard: EW-403





* The functional height used in the volume equation is 95% of effective height. Effective height is 3 feet as shown in EW-403.
* Volume equation: (0.5*Length*(Width*Height+Width*(Height-Length*Avg%Slope))

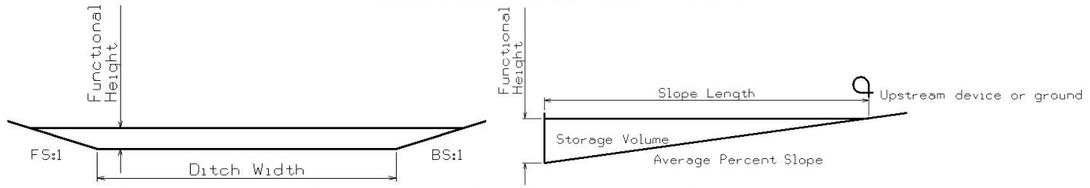
Basin No.	Location		Bid Items		Stormwater Storage Volume Summary					Remarks
	Station	Side	Installation	Removal	Basin Width	Basin Length	Height	Avg. % Slope	Volume*	
			EACH	EACH	FT	FT	FT		CF	
1	602+75.00	Lt.	1	1	10.0	20.0	2.85	0.0%	570.0	Culv. Outflow
3	621+44.00	Lt.	1	1	10.0	50.0	2.85	0.0%	1425.0	Ditch Outlet
3	612+33.00	Lt.	1	1	10.0	50.0	2.85	1.0%	1300.0	Ditch Outlet
4	623+00.00	Rt.	1	1	10.0	50.0	2.85	7.2%	712.5	Pfeiler Road
4	626+28.00	Rt.	1	1	10.0	50.0	2.85	2.1%	1162.5	Ditch Outlet
5	638+50.00	Lt.	1	1	10.0	50.0	2.85	0.0%	1425.0	Culv. Outflow
5	640+75.00	Lt.	1	1	10.0	50.0	2.85	1.5%	1237.5	Curb Letdown
6	652+25.00	Lt.	1	1	10.0	50.0	2.85	0.0%	1425.0	Culv. Inlet
6	652+35.00	Lt.	1	1	10.0	50.0	2.85	0.0%	1425.0	Culv. Inlet
6	652+30.00	Rt.	1	1	10.0	50.0	2.85	0.0%	1425.0	Culv. Outflow
6	650+67.00	Lt.	1	1	10.0	50.0	2.85	1.0%	1300.0	Curb Letdown
6	656+44.00	Rt.	1	1	10.0	50.0	2.85	0.7%	1337.5	Ditch Outlet
10	10702+62.00	Rt.	1	1	10.0	50.0	2.85	0.2%	1400.0	Midway Ditch Outlet
11	10701+65.00	Lt.	1	1	10.0	50.0	2.85	0.2%	1400.0	Midway Ditch Outlet
12	715+06.00	Rt.	1	1	10.0	50.0	2.85	1.8%	1200.0	
12	707+70.00	Rt.	1	1	10.0	50.0	2.85	1.8%	1200.0	Storm Sewer Inlet
12	697+52.00	104'Rt.	1	1	10.0	50.0	2.85	2.0%	1175.0	Storm Sewer Outlet
13	732+25.00	Lt.	1	1	10.0	50.0	2.85	0.1%	1412.5	Culv. Outflow
13	732+70.00	Lt.	1	1	10.0	50.0	2.85	0.1%	1412.5	Ditch Outlet
13	739+00.00	Lt.	1	1	10.0	50.0	2.85	4.2%	900.0	Storm Sewer Outlet
13	743+10.00	Lt.	1	1	10.0	50.0	2.85	3.1%	1037.5	Culv. Inlet
13	739+56.00	Rt.	1	1	10.0	50.0	2.85	8.0%	712.5	Curb Letdown
13	732+22.00	Rt.	1	1	10.0	50.0	2.85	1.0%	1300.0	Culv. Inlet
13	732+27.00	Rt.	1	1	10.0	50.0	2.85	1.0%	1300.0	Culv. Inlet
14	753+42.00	Rt.	1	1	10.0	50.0	2.85	1.6%	1225.0	Ditch Outlet
15	750+15.00	Lt.	1	1	10.0	50.0	2.85	1.0%	1300.0	SS Inlet
15	756+45.00	Lt.	1	1	10.0	50.0	2.85	2.0%	1175.0	SS Outlet
15	763+90.00	Lt.	1	1	5.0	50.0	2.85	4.3%	443.8	Longitudinal to ROW
15	763+77.00	Lt.	1	1	10.0	50.0	2.85	4.3%	887.5	Before Splash Basin
15	763+90.00	Rt.	1	1	10.0	50.0	2.85	2.3%	1137.5	In front of Intake
15	757+75.00	Rt.	1	1	10.0	50.0	2.85	2.1%	1162.5	After Curb Letdown
16	767+10.00	Lt.	1	1	10.0	50.0	2.85	1.5%	1237.5	
16	770+25.00	Lt.	1	1	10.0	50.0	2.85	1.6%	1225.0	
16	780+70.00	Lt.	1	1	10.0	50.0	2.85	1.0%	1300.0	
16	788+80.00	Lt.	1	1	10.0	50.0	2.85	1.9%	1187.5	
16	792+89.00	Lt.	1	1	10.0	50.0	2.85	1.9%	1187.5	
17	773+43.00	Rt.	1	1	10.0	50.0	2.85	1.4%	1250.0	
17	776+50.00	Rt.	1	1	10.0	50.0	2.85	1.6%	1225.0	
17	779+50.00	Rt.	1	1	10.0	50.0	2.85	0.2%	1400.0	
17	781+40.00	Rt.	1	1	5.0	50.0	2.85	1.4%	625.0	
18	788+40.00	Rt.	1	1	10.0	50.0	2.85	1.9%	1187.5	
18	792+48.00	Rt.	1	1	10.0	50.0	2.85	1.9%	1187.5	
19	799+00.00	Rt.	1	1	10.0	50.0	2.85	0.4%	1375.0	
19	802+00.00	Rt.	1	1	10.0	50.0	2.85	0.8%	1325.0	
20	809+33.00	Rt.	1	1	10.0	50.0	2.85	0.0%	1425.0	
20	808+91.00	Lt.	1	1	10.0	50.0	2.85	0.9%	1312.5	
21	828+00.00	Lt.	1	1	15.0	100.0	2.85	4.9%	2137.5	
21	821+00.00	Lt.	1	1	15.0	100.0	2.85	5.1%	2137.5	
21	819+75.00	Lt.	1	1	12.0	100.0	2.85	4.7%	1710.0	
21	818+69.00	Lt.	1	1	10.0	50.0	2.85	8.4%	712.5	
21	820+25.00	Rt.	1	1	10.0	50.0	2.85	3.1%	1037.5	
21	823+24.00	Rt.	1	1	10.0	50.0	2.85	4.5%	862.5	
21	828+60.00	Rt.	1	1	10.0	50.0	2.85	4.6%	850.0	
22	836+19.00	Rt.	1	1	10.0	50.0	2.85	0.0%	1425.0	
22	835+18.00	Lt.	1	1	10.0	50.0	2.85	5.3%	762.5	
22	836+33.00	Lt.	1	1	10.0	50.0	2.85	6.7%	712.5	
22	835+83.00	Lt.	1	1	10.0	50.0	2.85	2.5%	1112.5	
23	858+00.00	Lt.	1	1	10.0	50.0	2.85	15.1%	712.5	
23	858+67.00	Lt.	1	1	5.0	50.0	2.85	5.2%	387.5	Longitudinal to ROW
23	861+00.00	Lt.	1	1	10.0	50.0	2.85	3.5%	987.5	
23	858+00.00	Rt.	1	1	10.0	50.0	2.85	4.7%	837.5	
23	859+25.00	Rt.	1	1	10.0	50.0	2.85	5.0%	800.0	
	Silt Basin Tab Totals:		62	62					72161.3	
			2x							
	Bid Item Total:		**124**	**62**						

FILE NO.	ENGLISH	DESIGN TEAM **Jia\Skogerboe\Altenhofen**	**DUBUQUE** COUNTY	PROJECT NUMBER **HSIPX-052-2(120)--3L-31**	SHEET NUMBER **CE.4**

11/14/2017 2:24:10 PM kromsey c:\pw_work\pwmain\kromsey\d0181828\31052120ce01.xlsm

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201 Possible Detail: 570-4



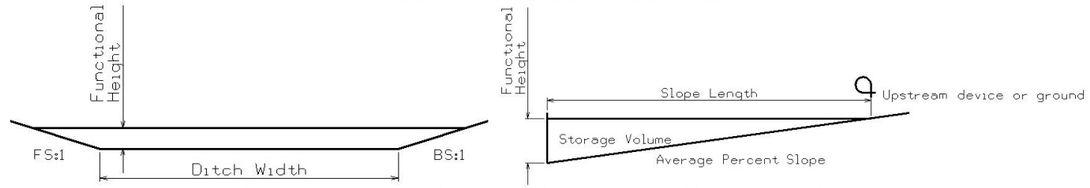
* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: [0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg. % Slope	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
1	1	602+60.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	0.9%	1009.7	
1	1	602+80.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.1%	651.4	
1	1	603+80.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	0.5%	2051.9	
1	1	609+05.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	4.9%	228.0	
1	1	609+40.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	4.9%	228.0	
1	1	609+75.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	4.9%	228.0	
1	1	610+10.00	Rt.	11.0	1.1	11.0	4.0	2.7	0.0	2.5%	151.1	
1	1	610+70.00	Rt.	11.0	1.1	11.0	4.0	2.7	0.0	0.4%	951.7	
1	1	606+50.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	4.5%	263.5	
1	1	606+85.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	4.5%	263.5	
1	1	607+20.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	4.5%	263.5	
1	1	607+32.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	4.5%	263.5	
1	1	607+80.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	4.5%	263.5	
1	1	608+25.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	4.5%	263.5	
1	1	608+60.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	4.5%	263.5	
1	1	608+95.00	Lt.	18.0	1.8	18.0	5.0	3.0	5.0	5.0%	243.8	
1	1	609+30.00	Lt.	18.0	1.8	18.0	5.0	3.0	5.0	5.0%	243.8	
1	1	609+65.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	4.0%	260.6	
1	1	610+05.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	4.0%	260.6	
1	1	610+45.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	4.0%	260.6	
											8613.2	Basin Total
2	1	616+40.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	3.4%	333.7	
2	1	616+85.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	1.5%	741.6	
2	1	617+85.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	0.0%	2335.9	
2	1	621+00.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	0.0%	2051.9	
2	1	622+00.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	0.8%	1009.7	
											6472.8	Basin Total
3	1	627+95.00	Lt.	18.0	1.8	18.0	4.5	3.0	5.0	2.1%	405.6	
3	1	628+55.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	2.1%	390.8	
3	1	629+15.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	2.1%	390.8	
3	1	629+75.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	2.1%	390.8	
											1578.1	Basin Total
4	5	630+00.00	Rt.	20.0	2.0	20.0	4.0	0.0	13.0	2.1%	632.0	
											632.0	Basin Total
5	1	631+65.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	2.5%	325.7	
5	1	632+15.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	2.5%	325.7	
5	1	632+65.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.5%	325.7	
5	1	638+30.00	Rt.	18.0	1.8	18.0	5.0	3.0	5.0	0.5%	2193.9	
5	1	638+80.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	1.7%	557.0	
5	1	639+55.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	1.4%	742.7	
											4470.6	Basin Total
6	1	647+45.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.0%	1009.7	
6	1	648+20.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.8%	488.5	
6	1	652+10.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.0%	1009.7	
6	1	652+60.00	Lt.	15.0	1.5	15.0	3.0	3.0	5.0	2.1%	454.7	
6	1	653+35.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	2.1%	564.6	
6	1	654+10.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	-1.3%	752.8	
6	1	655+10.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	1.9%	564.6	
6	1	655+85.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	2.9%	376.4	
											5221.1	Basin Total
7	5	659+35.00	Lt.	107.0	10.7	107.0	4.0	0.0	100.0	0.3%	499.2	
7	5	660+35.00	Lt.	107.0	10.7	107.0	4.0	0.0	100.0	0.3%	499.2	
7	5	661+35.00	Lt.	107.0	10.7	107.0	4.0	0.0	100.0	0.3%	499.2	
7	5	662+35.00	Lt.	107.0	10.7	107.0	4.0	0.0	100.0	0.3%	499.2	
											1996.8	
8	1	662+50.00	Rt.	20.0	2.0	20.0	6.3	3.0	5.0	0.0%	2371.5	
8	1	664+10.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.5%	2051.9	
8	1	665+65.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.9%	1009.7	
8	1	667+20.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.9%	1009.7	

100-18
10-18-16

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201 Possible Detail: 570-4

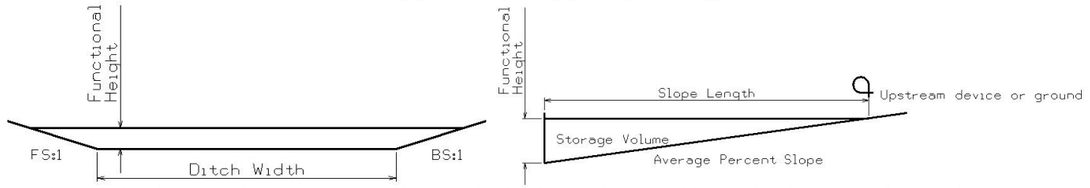


* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: [0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg. % Slope	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
6	1	647+45.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.0%	1009.7	
6	1	648+20.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.8%	488.5	
6	1	652+10.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.0%	1009.7	
6	1	652+60.00	Lt.	15.0	1.5	15.0	3.0	3.0	5.0	2.1%	454.7	
6	1	653+35.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	2.1%	564.6	
6	1	654+10.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	-1.3%	752.8	
6	1	655+10.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	1.9%	564.6	
6	1	655+85.00	Lt.	20.0	2.0	20.0	6.3	3.0	5.0	2.9%	376.4	
											5221.1	Basin Total
7	5	659+35.00	Lt.	107.0	10.7	107.0	4.0	0.0	100.0	0.3%	499.2	
7	5	660+35.00	Lt.	107.0	10.7	107.0	4.0	0.0	100.0	0.3%	499.2	
7	5	661+35.00	Lt.	107.0	10.7	107.0	4.0	0.0	100.0	0.3%	499.2	
7	5	662+35.00	Lt.	107.0	10.7	107.0	4.0	0.0	100.0	0.3%	499.2	
											1996.8	
8	1	662+50.00	Rt.	20.0	2.0	20.0	6.3	3.0	5.0	0.0%	2371.5	
8	1	664+10.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.5%	2051.9	
8	1	665+65.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.9%	1009.7	
8	1	667+20.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.9%	1009.7	
8	1	668+20.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.9%	1009.7	
8	1	669+20.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.4%	651.4	
8	1	669+20.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.4%	651.4	
8	1	665+10.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.8%	1009.7	
8	1	666+65.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.9%	1009.7	
8	1	668+20.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.7%	1009.7	
8	1	669+20.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.2%	651.4	
8	1	670+70.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.2%	651.4	
8	1	671+70.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	1.0%	1009.7	
8	1	673+30.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	0.9%	1009.7	
8	1	674+85.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	0.8%	1009.7	
8	1	676+40.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	1.0%	1009.7	
8	1	677+95.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	0.9%	1009.7	
8	1	681+05.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	1.0%	1009.7	
8	1	682+60.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	1.2%	651.4	
8	1	683+60.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	1.1%	1009.7	
8	1	685+15.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	0.9%	1009.7	
8	1	689+85.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	1.1%	651.4	
8	1	690+85.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	0.8%	1009.7	
8	1	691+85.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	0.8%	1009.7	
8	1	692+90.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	0.8%	1009.7	
8	1	694+45.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	1.0%	1009.7	
8	1	697+00.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	0.5%	2051.9	
8	1	698+00.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	0.6%	651.4	
											28199.0	Basin Total
9	1	674+45.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	0.8%	1009.7	
9	1	676+00.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.0%	1009.7	
9	1	677+55.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	0.9%	1009.7	
9	1	679+10.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.0%	1009.7	
9	1	685+30.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	0.9%	1009.7	
9	1	686+85.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	0.6%	1061.8	
9	1	691+95.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	0.8%	96.4	
9	1	692+90.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	0.8%	1149.4	
9	1	694+45.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.0%	1009.7	
9	1	696+00.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	0.6%	325.7	
											8691.2	Basin Total
11	1	10702+80.00	Lt.	15.0	1.5	15.0	3.0	3.0	5.0	-0.2%	794.2	Midway Rd.
11	1	709+60.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	2.0%	488.5	
11	1	710+35.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	2.2%	390.8	
11	1	710+95.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	0.5%	2051.9	
11	1	714+10.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	2.8%	370.8	
11	5	714+60.00	Lt.	7.0	0.7	7.0	4.0	0.0	0.0	1.2%	180.4	
											4276.6	
12	1	707+90.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.8%	488.5	
12	1	708+65.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.8%	488.5	
12	1	709+40.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.8%	488.5	

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201 Possible Detail: 570-4



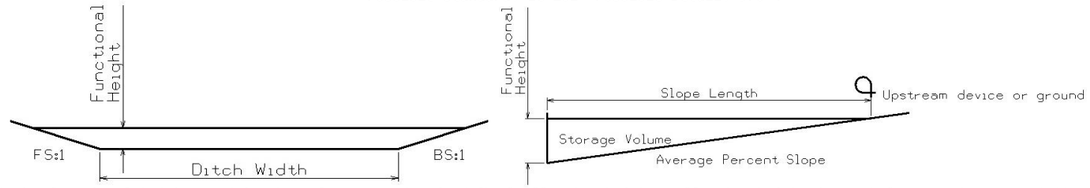
* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: [0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg. % Slope	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
12	1	710+15.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.8%	488.5	
12	1	710+90.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.8%	488.5	
12	1	711+65.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.8%	488.5	
12	1	712+40.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.8%	488.5	
12	1	713+15.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.8%	488.5	
12	1	713+90.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.8%	488.5	
12	1	716+65.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.3%	651.4	
12	1	717+65.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.2%	260.6	
											5308.8	
13	1	721+75.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.7%	488.5	
13	1	722+50.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.9%	488.5	
13	1	723+10.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.2%	390.8	
13	1	723+85.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.0%	488.5	
13	1	724+60.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.0%	488.5	
13	1	725+20.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.3%	390.8	
13	1	728+35.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-0.5%	2335.9	
13	1	729+90.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-0.6%	1149.4	
13	1	732+00.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.6%	1009.7	
13	1	732+50.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.6%	651.4	
13	1	733+50.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.6%	293.1	
13	1	734+70.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.6%	651.4	
13	1	736+50.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	3.6%	293.1	
13	1	736+95.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	3.6%	293.1	
13	1	737+40.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	3.8%	260.6	
13	1	737+80.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	4.1%	169.4	
13	1	718+60.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.7%	260.6	
13	1	720+15.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.7%	1009.7	
13	1	721+15.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.2%	651.4	
13	1	721+90.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.7%	488.5	
13	1	722+65.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.9%	488.5	
13	1	723+25.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.2%	390.8	
13	1	735+40.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	4.5%	228.0	
13	1	735+75.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	4.5%	228.0	
13	1	736+10.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	3.3%	293.1	
13	1	736+55.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	3.6%	293.1	
13	1	737+00.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	3.8%	260.6	
13	1	737+40.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	3.8%	260.6	
13	1	737+80.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	4.1%	260.6	
13	1	738+20.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	4.1%	260.6	
13	1	738+60.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	4.2%	228.0	
13	1	738+95.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	4.2%	228.0	
13	1	739+25.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	4.2%	228.0	
13	1	739+60.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	4.3%	228.0	
13	1	740+00.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	4.0%	260.6	
13	1	743+30.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	3.3%	333.7	
13	1	743+75.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	3.3%	333.7	
13	1	744+20.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	3.3%	333.7	
13	1	744+65.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	-0.1%	889.9	
											18280.4	
14	1	749+30.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.2%	651.4	
14	1	750+30.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.4%	651.4	
14	1	751+30.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.6%	651.4	
											1954.2	
15	1	757+90.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.1%	84.7	
15	1	758+65.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.0%	488.5	
15	1	759+40.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-1.9%	556.2	
15	1	760+00.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-2.3%	444.9	
15	1	760+60.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-2.3%	444.9	
15	1	761+20.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-2.3%	444.9	
15	1	747+00.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.3%	749.1	
15	1	748+90.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.2%	651.4	
15	1	749+90.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.1%	651.4	
15	1	756+55.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.2%	208.4	
15	1	757+50.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.1%	488.5	
15	1	761+25.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.3%	228.0	

100-18
10-18-16

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201 Possible Detail: 570-4

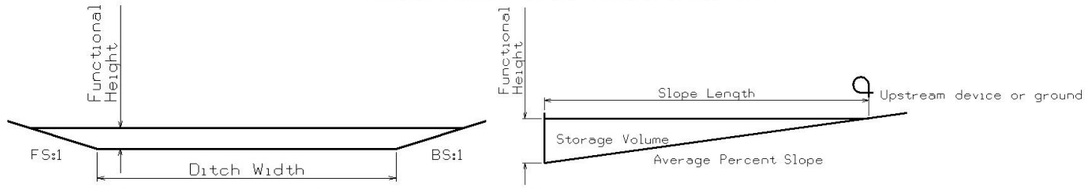


* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: [0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg. % Slope	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
15	1	761+60.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.3%	228.0	
15	1	761+95.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.3%	228.0	
15	1	762+30.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.3%	228.0	
15	1	762+65.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.3%	228.0	
											6353.0	
16	1	782+35.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	1.9%	556.2	
16	1	783+10.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	2.2%	444.9	
16	1	783+70.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	2.1%	556.2	
16	1	784+45.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	2.0%	556.2	
16	1	785+20.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	2.0%	556.2	
16	1	785+95.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	2.2%	444.9	
16	1	787+40.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	1.9%	556.2	
16	1	793+10.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	1.8%	488.5	
16	1	793+85.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	1.4%	651.4	
16	1	794+85.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	0.8%	1009.7	
16	1	796+40.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	0.5%	2051.9	
16	1	799+55.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	0.4%	1335.3	
											9207.6	
17	1	764+70.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	3.7%	74.2	
17	1	765+20.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-2.6%	370.8	
17	1	765+70.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-2.6%	370.8	
17	1	766+70.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-1.5%	741.6	
17	1	767+70.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-1.4%	741.6	
17	1	768+70.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-1.5%	741.6	
17	1	769+70.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-1.3%	741.6	
17	1	770+70.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-1.4%	741.6	
17	1	771+70.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.6%	651.4	
17	1	772+70.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.4%	651.4	
17	1	773+70.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.4%	651.4	
17	1	775+05.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.6%	345.2	
											6823.0	
18	1	790+20.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	2.7%	325.7	
18	1	790+70.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	2.2%	390.8	
18	1	791+30.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.8%	312.7	
18	1	792+70.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.9%	488.5	
18	1	793+45.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.8%	488.5	
18	1	794+20.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.3%	651.4	
											2657.7	
20	1	804+25.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-1.3%	185.4	
20	1	804+75.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-2.8%	370.8	
20	1	805+15.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-3.8%	296.6	
20	1	805+50.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.2%	259.5	
20	1	805+85.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.2%	259.5	
20	1	806+15.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-5.2%	222.5	
20	1	806+85.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.9%	259.5	
20	1	807+20.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.9%	259.5	
20	1	807+55.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.9%	259.5	
20	1	809+60.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	3.4%	293.1	
20	1	810+05.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	3.4%	293.1	
20	1	810+50.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	3.4%	293.1	
20	1	810+95.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	3.4%	293.1	
20	1	811+40.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	2.3%	390.8	
20	1	812+00.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.1%	456.0	
20	1	803+20.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.1%	1048.7	
20	1	804+55.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.8%	325.7	
20	1	810+15.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	5.0%	228.0	
20	1	810+50.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	5.0%	228.0	
20	1	810+85.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	5.0%	228.0	
20	1	811+20.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	2.3%	390.8	
20	1	811+80.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	1.8%	488.5	
20	1	812+55.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	0.5%	130.3	
											7460.4	
21	1	813+85.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.2%	651.4	

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201 Possible Detail: 570-4



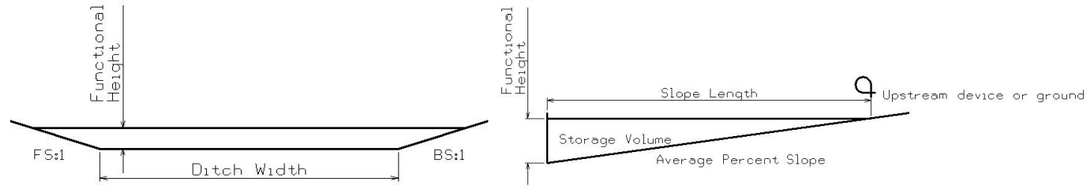
* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: [0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg. % Slope	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
21	1	814+45.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.3%	390.8	
21	1	814+85.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-3.7%	296.6	
21	1	815+20.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.6%	259.5	
21	1	815+55.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.9%	259.5	
21	1	815+90.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.9%	259.5	
21	1	816+25.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.9%	259.5	
21	1	816+60.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.9%	259.5	
21	1	816+95.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.9%	259.5	
21	1	817+30.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.5%	259.5	
21	1	829+30.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	3.9%	296.6	
21	1	829+70.00	Rt.	20.0	2.0	20.0	6.0	3.0	5.0	3.1%	370.8	
21	1	830+20.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.8%	488.5	
21	1	830+95.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	0.4%	403.9	
21	1	813+55.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.2%	651.4	
21	1	814+15.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.3%	390.8	
21	1	814+55.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-3.7%	260.6	
21	1	814+95.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-3.7%	260.6	
21	1	815+30.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.6%	228.0	
21	1	815+65.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.9%	228.0	
21	1	816+00.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.9%	228.0	
21	1	816+35.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.9%	228.0	
21	1	816+70.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.9%	228.0	
21	1	817+05.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.5%	228.0	
21	1	817+40.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.5%	228.0	
21	1	821+75.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	5.1%	228.0	
21	1	822+10.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	5.1%	228.0	
21	1	822+45.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	5.1%	228.0	
21	1	822+80.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	5.1%	228.0	
21	1	823+15.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	5.1%	228.0	
											9014.7	
22	1	832+70.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-3.7%	260.6	
22	1	833+10.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-3.7%	260.6	
22	1	833+50.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-3.6%	260.6	
22	1	833+90.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-3.6%	260.6	
22	1	834+40.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.6%	325.7	
22	1	836+65.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	7.1%	162.8	
22	1	836+90.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	7.1%	162.8	
22	1	837+15.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	7.1%	162.8	
22	1	837+40.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	7.1%	162.8	
22	1	837+65.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	7.1%	162.8	
22	1	837+90.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	7.1%	162.8	
22	1	838+15.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	7.1%	162.8	
22	1	839+10.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	3.7%	260.6	
22	1	839+50.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	3.0%	325.7	
22	1	840+00.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	2.2%	390.8	
22	1	840+60.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.2%	651.4	
22	1	841+60.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.1%	312.7	
22	1	832+70.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-3.7%	104.2	
22	1	833+00.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-5.3%	195.4	
22	1	833+30.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-5.3%	195.4	
22	1	833+60.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-5.3%	195.4	
22	1	833+90.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-5.3%	195.4	
22	1	837+60.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	3.2%	293.1	
22	1	838+05.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	4.2%	228.0	
22	1	839+20.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	3.7%	260.6	
22	1	839+60.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	3.0%	325.7	
											6442.2	
23	1	842+90.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.4%	162.8	
23	1	843+90.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.8%	1009.7	
23	1	844+50.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.2%	390.8	
23	1	845+00.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.6%	325.7	
23	1	846+15.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-3.9%	260.6	
23	1	846+50.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.3%	228.0	
23	1	846+85.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.3%	228.0	
23	1	847+20.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.2%	228.0	
23	1	847+60.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-3.9%	260.6	

100-18
10-18-16

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201 Possible Detail: 570-4



* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: [0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg. % Slope	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
22	1	838+05.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	4.2%	228.0	
22	1	839+20.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	3.7%	260.6	
22	1	839+60.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	3.0%	325.7	
											6442.2	
23	1	842+90.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.4%	162.8	
23	1	843+90.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-0.8%	1009.7	
23	1	844+50.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.2%	390.8	
23	1	845+00.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.6%	325.7	
23	1	846+15.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-3.9%	260.6	
23	1	846+50.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.3%	228.0	
23	1	846+85.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.3%	228.0	
23	1	847+20.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.2%	228.0	
23	1	847+60.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-3.9%	260.6	
23	1	848+00.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.0%	260.6	
23	1	848+40.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.0%	260.6	
23	1	848+75.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-4.3%	228.0	
23	1	849+05.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-5.1%	195.4	
23	1	849+35.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-5.1%	195.4	
23	1	849+65.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-5.5%	195.4	
23	1	849+95.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	-5.5%	195.4	
23	1	861+50.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	1.3%	84.7	
23	1	862+50.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	2.1%	488.5	
23	1	863+25.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	3.6%	260.6	
23	1	863+65.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	4.1%	260.6	
23	1	864+05.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	3.9%	260.6	
23	1	864+45.00	Rt.	17.0	1.7	17.0	4.0	3.0	5.0	3.9%	84.7	
23	1	844+20.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-1.5%	651.4	
23	1	844+80.00	Lt.	17.0	1.7	17.0	4.0	3.0	5.0	-2.2%	390.8	
23	1	845+95.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	-3.4%	333.7	
23	1	846+35.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	-3.9%	296.6	
23	1	846+70.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.3%	259.5	
23	1	847+05.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.2%	259.5	
23	1	847+40.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.2%	259.5	
23	1	847+80.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	-3.9%	296.6	
23	1	848+20.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.0%	296.6	
23	4	848+55.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.3%	259.5	
23	4	848+90.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	-4.3%	259.5	
23	4	849+20.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	-5.1%	222.5	
23	4	849+50.00	Lt.	20.0	2.0	20.0	6.0	3.0	5.0	-5.5%	222.5	
											10072.9	
		Ditch Check Total		**5734.0**	**573.4**	**5734.0**						
		SFDC Bid Total		**8601.0**	**860.1**	**8601.0**	**150% Of Total**					

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
697+55.00	707+45.00	Rt.		990.0		Drainage Basin #12 at Midway North Parking Lot (Strm. Swr.)
609+00.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
609+33.00		Rt.			**20.0**	**Used as ditch check over the top of Special Ditch Control/TRM**
609+66.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
610+00.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
631+50.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
631+94.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
632+38.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
632+82.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
633+26.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
633+70.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
634+14.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
634+58.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
635+02.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
635+46.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
635+90.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
636+34.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
636+78.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
637+25.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
732+60.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
732+87.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
733+14.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
733+41.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
733+68.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
733+95.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
734+22.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
734+49.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
734+76.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
735+03.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
735+30.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
735+57.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
735+84.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
736+11.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
736+38.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
736+65.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
736+92.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
737+19.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
737+46.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
737+73.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
738+00.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
738+27.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
738+54.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
738+81.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
739+08.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
739+35.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
739+62.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
739+89.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
740+16.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
740+43.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
740+70.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
740+97.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
741+24.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
741+51.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
741+78.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
742+05.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
742+32.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
742+59.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
742+86.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
743+13.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
743+40.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
743+67.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
744+00.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
735+00.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
735+27.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
735+54.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
735+81.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
736+08.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
736+35.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
736+62.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
736+89.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
737+16.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
737+43.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
737+70.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
737+97.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
738+24.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
738+51.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
738+78.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM

100-19
04-19-16

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
739+05.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
739+32.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
739+59.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
739+86.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
740+13.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
740+40.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
740+67.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
740+94.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
741+21.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
741+48.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
741+75.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
742+02.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
742+29.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
742+56.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
742+83.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
743+10.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
743+37.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
743+64.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
744+00.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
760+50.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
760+94.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
761+38.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
761+82.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
762+26.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
762+70.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
763+14.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
763+58.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
763+90.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
760+50.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
760+77.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
761+04.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
761+31.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
761+58.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
761+85.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
762+12.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
762+39.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
762+66.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
762+93.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
763+20.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
763+47.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
763+74.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
764+01.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
764+28.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
764+55.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
764+82.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
765+09.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
765+36.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
765+63.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
765+90.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
766+17.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
766+50.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
805+00.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
805+22.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
805+44.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
805+66.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
805+88.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
806+10.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
806+32.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
806+54.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
806+76.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
806+98.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
807+20.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
807+42.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
807+64.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
807+86.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
808+08.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
808+30.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
808+52.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
808+74.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
808+96.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
809+18.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
809+40.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
809+62.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
809+84.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
810+06.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
810+28.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
810+50.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
810+72.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia LF	12 inch Dia LF	20 inch Dia LF	
811+00.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
805+00.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
805+27.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
805+54.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
805+81.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
806+08.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
806+35.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
806+62.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
806+89.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
807+16.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
807+43.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
807+70.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
807+97.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
808+24.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
808+51.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
808+78.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
809+05.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
809+32.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
809+59.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
809+86.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
810+13.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
810+50.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
813+50.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
813+72.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
813+94.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
814+16.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
814+38.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
814+60.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
814+82.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
815+04.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
815+26.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
815+48.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
815+70.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
815+92.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
816+14.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
816+36.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
816+58.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
816+80.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
817+02.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
817+24.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
817+46.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
817+68.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
817+90.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
818+12.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
818+34.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
818+56.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
818+78.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
819+00.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
819+22.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
819+44.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
819+66.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
819+88.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
820+10.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
820+32.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
820+54.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
820+76.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
820+98.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
821+20.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
821+42.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
821+64.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
821+86.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
822+08.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
822+30.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
822+52.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
822+74.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
822+96.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
823+18.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
823+40.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
823+62.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
823+84.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
824+06.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
824+28.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
824+50.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
824+72.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
824+94.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
825+16.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
825+38.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
825+60.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
825+82.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM

100-19
04-19-16

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia LF	12 inch Dia LF	20 inch Dia LF	
826+04.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
826+26.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
826+48.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
826+70.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
826+92.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
827+14.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
827+36.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
827+58.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
827+80.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
828+02.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
828+24.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
828+46.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
828+68.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
828+90.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
829+12.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
829+34.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
829+56.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
829+78.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
830+00.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
830+22.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
830+44.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
830+66.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
830+88.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
831+00.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
813+50.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
813+72.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
813+94.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
814+16.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
814+38.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
814+60.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
814+82.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
815+04.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
815+26.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
815+48.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
815+70.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
815+92.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
816+14.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
816+36.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
816+58.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
816+80.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
817+02.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
817+24.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
817+46.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
817+68.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
817+90.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
818+12.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
818+34.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
818+56.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
818+78.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
819+00.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
819+22.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
819+44.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
819+66.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
819+88.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
820+10.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
820+32.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
820+54.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
820+76.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
820+98.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
821+20.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
821+42.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
821+64.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
821+86.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
822+08.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
822+30.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
822+52.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
822+74.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
822+96.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
823+18.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
823+40.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
823+62.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
823+84.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
824+06.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
824+28.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
824+50.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
824+72.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
824+94.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
825+16.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
825+38.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
825+60.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
825+82.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
826+04.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
826+26.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
826+48.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
826+70.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
826+92.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
827+14.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
827+36.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
827+58.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
827+80.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
828+02.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
828+24.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
828+46.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
828+68.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
828+90.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
829+12.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
829+34.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
829+56.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
829+78.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
830+00.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
830+22.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
830+44.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
830+66.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
830+88.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
831+00.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
833+00.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
833+27.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
833+54.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
833+81.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
834+08.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
834+35.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
834+62.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
834+89.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
835+00.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
834+50.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
834+69.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
834+88.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
835+07.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
835+26.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
835+45.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
835+64.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
835+83.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
836+02.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
836+21.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
836+40.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
836+59.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
836+78.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
836+97.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
837+16.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
837+35.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
837+54.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
837+73.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
837+92.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
838+11.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
838+30.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
838+49.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
838+68.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
838+87.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
839+06.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
839+25.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
839+44.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
839+63.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
839+82.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
840+01.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
840+20.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
840+39.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
840+58.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
840+77.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
840+96.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
841+15.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
841+34.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
841+53.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
841+72.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
841+91.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
842+10.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
842+29.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
842+48.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
842+67.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
842+86.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM

100-19
04-19-16

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
843+05.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
843+32.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
843+59.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
843+86.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
844+13.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
844+40.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
844+67.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
844+94.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
845+21.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
845+48.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
845+75.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
846+02.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
846+29.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
846+56.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
846+83.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
847+10.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
847+37.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
847+64.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
847+91.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
848+18.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
848+45.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
848+72.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
848+99.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
849+26.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
849+53.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
849+80.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
850+07.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
850+34.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
850+61.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
850+88.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
851+15.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
851+42.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
851+69.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
851+96.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
852+23.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
852+50.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
852+77.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
853+04.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
853+31.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
853+58.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
853+85.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
854+12.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
854+39.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
854+66.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
854+93.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
855+20.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
855+47.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
855+74.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
856+00.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
836+00.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
836+33.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
836+66.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
836+99.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
837+32.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
837+65.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
837+98.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
838+31.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
838+64.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
838+97.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
839+30.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
839+63.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
839+96.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
840+29.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
840+62.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
840+95.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
841+28.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
841+61.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
841+94.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
842+27.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
842+60.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
842+93.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
843+26.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
843+59.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
843+92.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
844+25.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
844+58.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
844+91.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
845+24.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
845+57.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
845+90.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM

100-19
04-19-16

PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE

Possible Standards: EC-204

Location			Length of Installation			Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	
846+23.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
846+56.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
846+89.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
847+22.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
847+55.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
847+88.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
848+21.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
848+54.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
848+87.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
849+20.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
849+53.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
849+86.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
850+19.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
850+52.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
850+85.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
851+18.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
851+51.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
851+84.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
852+17.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
852+50.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
852+83.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
853+16.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
853+49.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
853+82.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
854+15.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
854+48.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
854+81.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
855+14.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
855+47.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
855+80.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
856+13.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
856+46.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
856+79.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
857+12.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
857+45.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
857+78.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
858+11.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
858+44.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
858+77.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
859+10.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
859+43.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
859+76.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
860+09.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
860+42.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
860+75.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
861+08.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
861+41.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
861+74.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
862+07.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
862+40.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
862+73.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
863+06.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
863+39.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
863+72.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
864+00.00		Lt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
859+50.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
859+83.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
860+16.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
860+49.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
860+82.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
861+15.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
861+48.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
861+81.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
862+14.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
862+47.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
862+80.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
863+13.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
863+46.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
863+79.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
864+12.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
864+50.00		Rt.			20.0	Used as ditch check over the top of Special Ditch Control/TRM
	Totals:		**0.0**	**990.0**	**10860.0**	

100-09
10-17-17

TRANSITION MAT

Refer to Sheet U.4

Location Station	Length	Width	Area	Remarks
	LF	LF	SF	
US 52				
640+76.75	16	20	320	Rt. Side
640+89.00	16	20	320	Lt. Side
650+54.00	16	20	320	Lt. Side
656+04.00	16	20	320	Lt. Side
697+44.00	16	20	320	Rt. Side
714+64.00	16	20	320	Lt. Side
739+81.00	16	20	320	Rt. Side
756+30.87	16	20	320	Lt. Side
757+54.00	16	20	320	Rt. Side
789+03.86	16	20	320	Lt. Side
823+54.00	16	20	320	Rt. Side
861+27.93	12	12	144	Lt. Side
861+62.71	16	20	320	Rt. Side
Pfeiler Rd. E				
2622+64.00	8	16	128	Rt. Side
		Total:	4112	

ROLLED EROSION CONTROL

Refer to EC-101, EC-103 and EC-104

Location				L	W	Turf Reinforcement Mat (TRM) (EC-104)				Slope Protection (EC-103)	Special Ditch Control (EC-101)	Remarks
Road Identification	Begin Station	End Station	Side			Type 1	Type 2	Type 3	Type 4			
				FT	FT	Squares	Squares	Squares	Squares	Squares	Squares	
Highway52												
	609+00.00	610+00.00	Rt.	100	16		16					
	631+50.00	637+25.00	Rt.	575	16						92	
	732+60.00	744+00.00	Lt.	1140	16		182					
	735+00.00	744+00.00	Rt.	900	16		144					
	760+50.00	763+90.00	Lt.	340	16						54	
	760+50.00	766+50.00	Rt.	600	16						96	
	805+00.00	811+00.00	Lt.	600	16						96	
	805+00.00	810+50.00	Rt.	550	16						88	
	813+50.00	831+00.00	Lt.	1750	16				280			
	813+50.00	831+00.00	Rt.	1750	16		280					
	833+00.00	835+00.00	Lt.	200	16		32					
	834+50.00	856+00.00	Rt.	2150	16				344			
	836+00.00	864+50.00	Lt.	2850	16		456					
	859+50.00	864+50.00	Rt.	500	16						80	
					Totals:	**0**	**1110**	**0**	**624**	**0**	**506**	

ROCK EROSION CONTROL

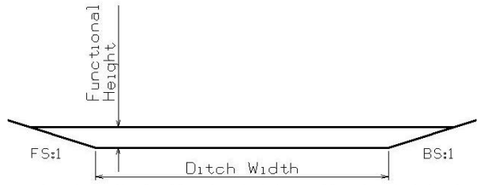
Refer to EC-301

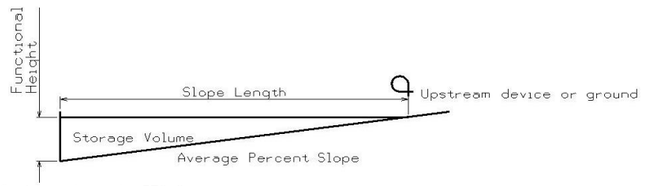
Location				L	W	Rock Erosion Control (REC)					Material Bid Quantities			Remarks
Road Identification	Begin Station	End Station	Side			Type 1 Rock Ditch Check	Type 2 Rock Ditch	Type 3 Rock Flume	Type 4 Rock Splash Basin	Type 5 Rock Slope Protection	Erosion Stone	Class E Revetment	Eng. Fabric	
			Lt./Rt.	FT	FT						TON	TON	SY	
US 52	602+69.50	602+80.50	Lt.	11	11				x		14.5		25.0	
	638+49.27	638+60.73	Lt.	11	11				x		14.5		25.0	
	640+55.63	640+71.19	Rt.	15.5	12.5			x			23.3		35.8	
	640+68.72	640+85.00	Lt.	16	18			x			34.6		48.9	
	650+50.00	650+66.00	Lt.	16	12			x			23.0		35.6	
	652+24.22	652+35.78	Rt.	11	11				x		14.5		25.0	
	655+84.35	656+00.00	Lt.	15.5	6			x			11.2		21.7	
	670+50.50	670+61.50	Rt.	11	11				x		14.5		25.0	
	714+44.44	714+59.93	Lt.	15.49	16			x			29.7		43.3	
	732+19.00	732+31.00	Lt.	12	12				x		17.3		28.4	
	739+56.00	739+72.00	Rt.	16	11			x			21.1		33.3	
	745+49.81	745+67.04	Rt.	17	16.5			x			33.7		47.8	
	756+26.87	756+42.87	Lt.	16	11.5			x			22.1		34.4	
	757+50.00	757+66.00	Rt.	16	6.5			x			12.5		23.3	
	763+84.30	763+95.70	Lt.	11.4	11				x		15.0		25.7	
	788+79.11	788+94.78	Lt.	15.67	17.5			x			32.9		47.0	
	808+80.88	808+97.46	Lt.	12	12				x		17.3		28.4	
	819+91.74	820+09.12	Lt.	15	15				x		27.0		40.1	
	835+68.75	835+87.97	Lt.	15	15				x		27.0		40.1	
	858+58.31	858+77.81	Lt.	18	18				x		38.9		53.8	
		Totals:				**0**	**0**	**10**	**10**	**0**	**444.6**	**0.0**	**687.7**	

NOTES:
ES Calc (Col. N) = L*W*2ft deep*120lb/ft^3/2000lb/ton
EF (Col. P) = (2'height+L+2'height)* (2'height+W+2'height)/9(ft^2/yd^2)

ROCK CHECK DAM

Possible Detail: 570-2





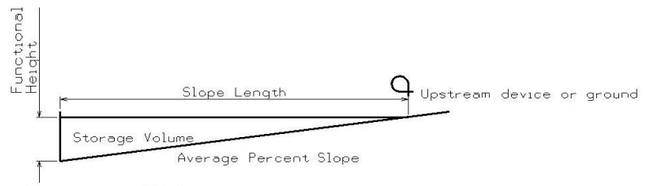
* The functional height used in the volume equation is 90% of effective height. Effective height is 2 feet as shown in 570-2.

* Volume equation: $[0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]$

Basin No.	Location			Bid Items			Stormwater Storage Volume Summary					Remarks
	Station	Side	Offset	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg. % Slope	Volume*	
			FT	LF	Each	Each	FS:1	BS:1	FT		CF	
2	612+50.00	Rt.		17.0	3	1	4.0	3.0	5.0	2.0%	1017.0	
2	613+50.00	Rt.		17.0	3	1	4.0	3.0	5.0	3.4%	559.4	
2	614+05.00	Rt.		17.0	3	1	4.0	3.0	5.0	3.4%	559.4	
2	614+60.00	Rt.		17.0	3	1	4.0	3.0	5.0	3.4%	559.4	
2	615+15.00	Rt.		17.0	3	1	4.0	3.0	5.0	3.4%	559.4	
2	615+70.00	Rt.		17.0	3	1	4.0	3.0	5.0	3.4%	559.4	
2	616+25.00	Rt.		17.0	3	1	4.0	3.0	5.0	3.4%	559.4	
3	624+15.00	Lt.		17.0	3	1	4.0	3.0	5.0	2.1%	813.6	
3	624+95.00	Lt.		17.0	3	1	4.0	3.0	5.0	2.1%	813.6	
3	625+75.00	Lt.		17.0	3	1	4.0	3.0	5.0	2.1%	813.6	
3	626+55.00	Lt.		17.0	3	1	4.0	3.0	5.0	2.1%	813.6	
3	627+35.00	Lt.		17.0	3	1	4.0	3.0	5.0	2.1%	813.6	
4	625+00.00	Rt.		17.0	3	1	4.0	3.0	5.0	2.1%	813.6	
4	625+80.00	Rt.		17.0	3	1	4.0	3.0	5.0	2.1%	813.6	
5	633+15.00	Rt.		17.0	3	1	4.0	3.0	5.0	2.5%	813.6	
5	633+95.00	Rt.		17.0	3	1	4.0	3.0	5.0	2.5%	813.6	
5	634+75.00	Rt.		17.0	3	1	4.0	3.0	5.0	2.5%	813.6	
5	635+55.00	Rt.		17.0	3	1	4.0	3.0	5.0	2.5%	813.6	
21	823+50.00	Lt.		17.0	3	1	4.0	3.0	5.0	7.2%	254.3	
21	823+75.00	Lt.		17.0	3	1	4.0	3.0	5.0	7.2%	254.3	
21	824+00.00	Lt.		17.0	3	1	4.0	3.0	5.0	7.2%	254.3	
21	824+25.00	Lt.		17.0	3	1	4.0	3.0	5.0	7.2%	254.3	
21	824+50.00	Lt.		17.0	3	1	4.0	3.0	5.0	7.2%	254.3	
21	824+75.00	Lt.		17.0	3	1	4.0	3.0	5.0	7.2%	254.3	
21	825+00.00	Lt.		17.0	3	1	4.0	3.0	5.0	7.2%	254.3	
21	825+25.00	Lt.		17.0	3	1	4.0	3.0	5.0	7.2%	254.3	
21	825+50.00	Lt.		17.0	3	1	4.0	3.0	5.0	5.9%	305.1	
21	825+80.00	Lt.		17.0	3	1	4.0	3.0	5.0	5.9%	305.1	
21	826+10.00	Lt.		17.0	3	1	4.0	3.0	5.0	6.1%	305.1	
21	826+40.00	Lt.		17.0	3	1	4.0	3.0	5.0	6.1%	305.1	
21	826+70.00	Lt.		17.0	3	1	4.0	3.0	5.0	6.1%	305.1	
21	827+00.00	Lt.		17.0	3	1	4.0	3.0	5.0	6.1%	305.1	
21	827+30.00	Lt.		17.0	3	1	4.0	3.0	5.0	6.0%	305.1	
21	827+60.00	Lt.		17.0	3	1	4.0	3.0	5.0	5.6%	305.1	
21	827+90.00	Lt.		17.0	3	1	4.0	3.0	5.0	5.6%	305.1	
21	828+20.00	Lt.		17.0	3	1	4.0	3.0	5.0	4.9%	406.8	
21	828+60.00	Lt.		17.0	3	1	4.0	3.0	5.0	4.6%	406.8	
21	829+00.00	Lt.		17.0	3	1	4.0	3.0	5.0	3.9%	508.5	
21	829+50.00	Lt.		17.0	3	1	4.0	3.0	5.0	3.1%	559.4	
21	830+05.00	Lt.		17.0	3	1	4.0	3.0	5.0	1.8%	1017.0	
22	834+65.00	Rt.		17.0	3	1	4.0	3.0	5.0	-6.6%	254.3	
22	834+90.00	Rt.		17.0	3	1	4.0	3.0	5.0	-6.6%	254.3	
22	835+15.00	Rt.		17.0	3	1	4.0	3.0	5.0	-6.6%	254.3	
22	835+40.00	Rt.		17.0	3	1	4.0	3.0	5.0	-6.6%	254.3	
22	835+65.00	Rt.		17.0	3	1	4.0	3.0	5.0	-6.6%	254.3	
22	835+90.00	Rt.		17.0	3	1	4.0	3.0	5.0	-6.6%	254.3	
22	836+40.00	Rt.		17.0	3	1	4.0	3.0	5.0	-6.6%	254.3	
23	850+25.00	Rt.		17.0	3	1	4.0	3.0	5.0	5.4%	356.0	
23	850+60.00	Rt.		17.0	3	1	4.0	3.0	5.0	5.4%	356.0	
23	850+95.00	Rt.		17.0	3	1	4.0	3.0	5.0	5.4%	356.0	
23	851+30.00	Rt.		17.0	3	1	4.0	3.0	5.0	5.5%	356.0	
23	851+65.00	Rt.		17.0	3	1	4.0	3.0	5.0	5.5%	356.0	
23	852+00.00	Rt.		17.0	3	1	4.0	3.0	5.0	5.5%	356.0	
23	852+35.00	Rt.		17.0	3	1	4.0	3.0	5.0	5.9%	305.1	
23	852+65.00	Rt.		17.0	3	1	4.0	3.0	5.0	5.9%	305.1	
23	852+95.00	Rt.		17.0	3	1	4.0	3.0	5.0	5.9%	305.1	
23	853+25.00	Rt.		17.0	3	1	4.0	3.0	5.0	6.0%	305.1	
23	853+55.00	Rt.		17.0	3	1	4.0	3.0	5.0	-6.2%	305.1	
23	853+80.00	Rt.		17.0	3	1	4.0	3.0	5.0	-6.2%	305.1	
23	854+80.00	Rt.		17.0	3	1	4.0	3.0	5.0	-6.3%	305.1	
23	855+05.00	Rt.		17.0	3	1	4.0	3.0	5.0	-6.1%	305.1	

ROCK CHECK DAM

Possible Detail: 570-2



* The functional height used in the volume equation is 90% of effective height. Effective height is 2 feet as shown in 570-2.

* Volume equation: $[0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]$

Basin No.	Location			Bid Items			Stormwater Storage Volume Summary					Remarks
	Station	Side	Offset	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg. % Slope	Volume*	
			FT	LF	Each	Each	FS:1	BS:1	FT		CF	
23	855+30.00	Rt.		17.0	3	1	4.0	3.0	5.0	-6.1%	305.1	
23	855+55.00	Rt.		17.0	3	1	4.0	3.0	5.0	-6.2%	305.1	
23	855+80.00	Rt.		17.0	3	1	4.0	3.0	5.0	-6.2%	305.1	
23	856+05.00	Rt.		17.0	3	1	4.0	3.0	5.0	-12.8%	203.4	
23	856+30.00	Rt.		17.0	3	1	4.0	3.0	5.0	-12.8%	203.4	
23	856+55.00	Rt.		17.0	3	1	4.0	3.0	5.0	-12.8%	203.4	
23	856+80.00	Rt.		17.0	3	1	4.0	3.0	5.0	-12.8%	203.4	
23	850+35.00	Lt.		17.0	3	1	4.0	3.0	5.0	5.4%	356.0	
23	850+70.00	Lt.		17.0	3	1	4.0	3.0	5.0	5.4%	356.0	
23	851+05.00	Lt.		17.0	3	1	4.0	3.0	5.0	5.4%	356.0	
23	851+40.00	Lt.		17.0	3	1	4.0	3.0	5.0	5.4%	356.0	
23	851+75.00	Lt.		17.0	3	1	4.0	3.0	5.0	5.6%	305.1	
23	852+05.00	Lt.		17.0	3	1	4.0	3.0	5.0	5.6%	305.1	
23	852+35.00	Lt.		17.0	3	1	4.0	3.0	5.0	5.8%	305.1	
23	852+65.00	Lt.		17.0	3	1	4.0	3.0	5.0	5.8%	305.1	
23	852+95.00	Lt.		17.0	3	1	4.0	3.0	5.0	5.9%	305.1	
23	853+25.00	Lt.		17.0	3	1	4.0	3.0	5.0	6.0%	305.1	
23	853+55.00	Lt.		17.0	3	1	4.0	3.0	5.0	6.1%	305.1	
23	853+85.00	Lt.		17.0	3	1	4.0	3.0	5.0	6.2%	305.1	
23	853+15.00	Lt.		17.0	3	1	4.0	3.0	5.0	6.2%	305.1	
23	854+60.00	Lt.		17.0	3	1	4.0	3.0	5.0	-6.3%	305.1	
23	854+85.00	Lt.		17.0	3	1	4.0	3.0	5.0	-6.3%	305.1	
23	855+10.00	Lt.		17.0	3	1	4.0	3.0	5.0	-6.1%	305.1	
23	855+35.00	Lt.		17.0	3	1	4.0	3.0	5.0	-6.1%	305.1	
23	855+60.00	Lt.		17.0	3	1	4.0	3.0	5.0	-6.2%	305.1	
23	855+85.00	Lt.		17.0	3	1	4.0	3.0	5.0	-6.2%	305.1	
23	856+10.00	Lt.		17.0	3	1	4.0	3.0	5.0	-6.2%	305.1	
				Inst. (LF)	**Maint. (EA)**	**Removal (EA)**						
	Total RCD:			**1496.0**	**264**	**88**	**Required**					
	--add--											
	10% S.F.D.C.			**860.1**	**54**	**54**	**Possible**					
	Bid Totals:			**2356.1**	**318**	**142**	**Bid**					

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

* Not a bid item. Bridge berm quantities assume a trench depth of 24 inches.

Location					Longitudinal Subdrain (DR-303)							Subdrain Outlet			
Line No.	Road or Lane Identification	Station to Station		Side	Depth D	Shoulder Size	Shoulder Length	Backslope Size	Backslope Length	Bridge Berm (EW-203 or EW-204) Standard Road Plan and Type	Bridge Berm Size	Bridge Berm Length	DR-303, DR-305 or DR-306 Station	DR-303, DR-305 or DR-306 Standard Road Plan and Type	Porous* Backfill	Class "A"* Crushed Stone	Remarks
					IN	IN	FT	IN	FT		IN	FT			CY	CY	
1	EB ML	601+50.00	604+80.00	LT	24.0	4.0	370.0						601+50.00	DR-306	17.1	0.2	
													604+80.00	DR-306		0.2	
2	EB ML	609+85.00	615+00.00	LT	24.0	4.0	555.0						609+85.00	DR-306	25.7	0.2	
													615+00.00	DR-306		0.2	
3	EB ML	615+00.00	620+25.00	LT	24.0	4.0	565.0						615+00.00	DR-306	26.2	0.2	
													620+25.00	DR-306		0.2	
4	EB ML	620+25.00	624+25.00	LT	24.0	4.0	440.0						620+25.00	DR-306	20.4	0.2	
													624+25.00	DR-306		0.2	
5	EB ML	628+65.00	633+00.00	LT	24.0	4.0	475.0						628+65.00	DR-306	22.0	0.2	
													633+00.00	DR-306		0.2	
6	EB ML	633+00.00	638+25.00	LT	24.0	4.0	565.0						633+00.00	DR-306	26.2	0.2	
													638+25.00	DR-306		0.2	Sag.
7	EB ML	638+25.00	640+80.00	LT	24.0	4.0	295.0						638+25.00	DR-306	13.7	0.2	
													640+80.00	DR-306		0.2	
8	EB ML	640+80.00	646+16.61	LT	24.0	4.0	558.6						640+80.00	DR-306	25.9	0.2	
													646+16.61	DR-303			Outlet into I-2,Sta. 646+16 around return.
9	EB ML	646+60.00	647+00.00	LT	24.0	4.0	44.0						646+60.00	DR-306	2.0	0.2	
													647+00.00	DR-303			Outlet into I-5, Sta. 647+00.
10	EB ML	647+00.00	648+25.00	LT	24.0	4.0	129.0						647+00.00	DR-303	6.0		Outlet into I-5, Sta. 647+00.
													648+25.00	DR-303			Outlet into I-6, Sta. 648+25.
11	EB ML	648+25.00	649+25.00	LT	24.0	4.0	104.0						648+25.00	DR-303	4.8		Outlet into I-6, Sta. 648+25.
													649+25.00	DR-303			Outlet into I-7, Sta. 649+25.
12	EB ML	659+00.00	664+00.00	LT	24.0	4.0	540.0						659+00.00	DR-306	25.0	0.2	
													664+00.00	DR-306		0.2	
13	EB ML	664+00.00	670+50.00	LT	24.0	4.0	690.0						664+00.00	DR-306	31.9	0.2	
													670+50.00	DR-306		0.2	
14	EB ML	670+58.00	675+50.00	LT	24.0	4.0	532.0						670+58.00	DR-306	24.6	0.2	
													675+50.00	DR-306		0.2	
15	EB ML	675+50.00	680+50.00	LT	24.0	4.0	540.0						675+50.00	DR-306	25.0	0.2	
													680+50.00	DR-306		0.2	
16	EB ML	680+50.00	685+50.00	LT	24.0	4.0	540.0						680+50.00	DR-306	25.0	0.2	
													685+50.00	DR-306		0.2	
17	EB ML	685+50.00	689+00.00	LT	24.0	4.0	390.0						685+50.00	DR-306	18.1	0.2	
													689+00.00	DR-306		0.2	
18	EB ML	689+00.00	693+35.00	LT	24.0	4.0	475.0						689+00.00	DR-306	22.0	0.2	
													693+35.00	DR-306		0.2	
19	EB ML	697+00.00	699+25.00	LT	24.0	4.0	265.0						697+00.00	DR-306	12.3	0.2	
													699+25.00	DR-306		0.2	
20	EB ML	707+65.00	711+35.00	LT	24.0	4.0	410.0						707+65.00	DR-306	19.0	0.2	
													711+35.00	DR-306		0.2	
21	EB ML	718+75.00	724+00.00	LT	24.0	4.0	565.0						718+75.00	DR-306	26.2	0.2	
													724+00.00	DR-306		0.2	
22	EB ML	724+00.00	730+50.00	LT	24.0	4.0	690.0						724+00.00	DR-306	31.9	0.2	
													730+50.00	DR-306		0.2	
23	EB ML	730+50.00	735+50.00	LT	24.0	4.0	540.0						730+50.00	DR-306	25.0	0.2	
													735+50.00	DR-306		0.2	
24	EB ML	735+50.00	739+90.00	LT	24.0	4.0	480.0						735+50.00	DR-306	22.2	0.2	
													739+90.00	DR-306		0.2	
25	EB ML	747+75.00	752+70.00	LT	24.0	4.0	517.0						747+75.00	DR-306	23.9	0.2	
													752+70.00	DR-303			Outlet into I-25, Sta. 752+70.
26	EB ML	752+70.00	755+00.00	LT	24.0	4.0	234.0						752+70.00	DR-303	10.8		Outlet into I-25, Sta. 752+70.
													755+00.00	DR-303			Outlet into I-26, Sta. 755+00.
27	EB ML	755+00.00	762+50.00	LT	24.0	4.0	772.0						755+00.00	DR-303	35.7		Outlet into I-26, Sta. 755+00.
													762+50.00	DR-306		0.2	
28	EB ML	762+50.00	767+50.00	LT	24.0	4.0	540.0						762+50.00	DR-306	25.0	0.2	
													767+50.00	DR-306		0.2	
29	EB ML	767+50.00	772+50.00	LT	24.0	4.0	540.0						767+50.00	DR-306	25.0	0.2	
													772+50.00	DR-306		0.2	
30	EB ML	772+50.00	778+50.00	LT	24.0	4.0	640.0						772+50.00	DR-306	29.6	0.2	

GEOTECHNICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
Stephen J. Megivern
12550
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature Date

Stephen J. Megivern

Printed or Typed Name

My license renewal date is December 31, 20 18

Pages or sheets covered by this seal: CS.1-CS.4, Q.1-Q.19

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

* Not a bid item. Bridge berm quantities assume a trench depth of 24 inches.

Location						Longitudinal Subdrain (DR-303)								Subdrain Outlet				
Line No.	Road or Lane Identification	Station to Station		Side	Depth (D)	Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)				DR-303, DR-305 or DR-306		Porous* Backfill	Class "A"* Crushed Stone	Remarks
						Size	Length	Size	Length	Standard Road Plan and Type	Size	Length		Station	Standard Road Plan and Type			
					IN	IN	FT	IN	FT		IN	FT				CY	CY	
														778+50.00	DR-306		0.2	
31	EB ML	778+50.00	779+85.00	LT	24.0	4.0	175.0							778+50.00	DR-306	8.1	0.2	
														779+85.00	DR-306		0.2	
32	EB ML	792+70.00	797+00.00	LT	24.0	4.0	470.0							792+70.00	DR-306	21.8	0.2	
														797+00.00	DR-306		0.2	
33	EB ML	797+00.00	802+00.00	LT	24.0	4.0	540.0							797+00.00	DR-306	25.0	0.2	
														802+00.00	DR-306		0.2	
34	EB ML	802+00.00	807+00.00	LT	24.0	4.0	540.0							802+00.00	DR-306	25.0	0.2	
														807+00.00	DR-306		0.2	
35	EB ML	807+00.00	809+25.00	LT	24.0	4.0	265.0							807+00.00	DR-306	12.3	0.2	Sag.
														809+25.00	DR-306		0.2	
36	EB ML	809+25.00	814+25.00	LT	24.0	4.0	540.0							809+25.00	DR-306	25.0	0.2	
														814+25.00	DR-306		0.2	
37	EB ML	814+25.00	820+00.00	LT	24.0	4.0	615.0							814+25.00	DR-306	28.5	0.2	
														820+00.00	DR-306		0.2	
38	EB ML	820+00.00	825+00.00	LT	24.0	4.0	540.0							820+00.00	DR-306	25.0	0.2	
														825+00.00	DR-306		0.2	
39	EB ML	825+00.00	830+00.00	LT	24.0	4.0	540.0							825+00.00	DR-306	25.0	0.2	
														830+00.00	DR-306		0.2	
40	EB ML	830+00.00	836+00.00	LT	24.0	4.0	640.0							830+00.00	DR-306	29.6	0.2	
														836+00.00	DR-306		0.2	
41	EB ML	836+00.00	839+00.00	LT	24.0	4.0	340.0							836+00.00	DR-306	15.7	0.2	
														839+00.00	DR-306		0.2	
42	EB ML	839+00.00	844+65.00	LT	24.0	4.0	605.0							839+00.00	DR-306	28.0	0.2	
														844+65.00	DR-306		0.2	
43	EB ML	851+90.00	856+00.00	LT	24.0	4.0	450.0							851+90.00	DR-306	20.8	0.2	
														856+00.00	DR-306		0.2	
44	EB ML	856+00.00	860+25.00	RT	24.0	4.0	465.0							856+00.00	DR-306	21.5	0.2	
														860+25.00	DR-306		0.2	
45	WB ML	601+50.00	606+50.00	RT	24.0	4.0	540.0							601+50.00	DR-306	25.0	0.2	
														606+50.00	DR-306		0.2	
46	WB ML	606+50.00	609+95.00	RT	24.0	4.0	385.0							606+50.00	DR-306	17.8	0.2	
														609+95.00	DR-306		0.2	
47	WB ML	621+65.00	626+00.00	RT	24.0	4.0	475.0							621+65.00	DR-306	22.0	0.2	
														626+00.00	DR-306		0.2	
48	WB ML	626+00.00	630+00.00	RT	24.0	4.0	440.0							626+00.00	DR-306	20.4	0.2	
														630+00.00	DR-306		0.2	
49	WB ML	630+00.00	633+00.00	RT	24.0	4.0	340.0							630+00.00	DR-306	15.7	0.2	
														633+00.00	DR-306		0.2	
50	WB ML	633+00.00	637+15.00	RT	24.0	4.0	455.0							633+00.00	DR-306	21.1	0.2	
														637+15.00	DR-306		0.2	
51	WB ML	646+40.00	651+75.00	RT	24.0	4.0	575.0							646+40.00	DR-306	26.6	0.2	
														651+75.00	DR-306		0.2	
52	WB ML	651+75.00	655+00.00	RT	24.0	4.0	365.0							651+75.00	DR-306	16.9	0.2	
														655+00.00	DR-306		0.2	
53	WB ML	655+00.00	657+90.00	RT	24.0	4.0	330.0							655+00.00	DR-306	15.3	0.2	
														657+90.00	DR-306		0.2	
54	WB ML	665+85.00	670+75.00	RT	24.0	4.0	530.0							665+85.00	DR-306	24.5	0.2	
														670+75.00	DR-306		0.2	
55	WB ML	670+75.00	675+00.00	RT	24.0	4.0	465.0							670+75.00	DR-306	21.5	0.2	
														675+00.00	DR-306		0.2	
56	WB ML	675+00.00	680+00.00	RT	24.0	4.0	540.0							675+00.00	DR-306	25.0	0.2	
														680+00.00	DR-306		0.2	
57	WB ML	680+00.00	682+60.00	RT	24.0	4.0	300.0							680+00.00	DR-306	13.9	0.2	
														682+60.00	DR-306		0.2	
58	WB ML	687+15.00	688+60.00	RT	24.0	4.0	185.0							687+15.00	DR-306	8.6	0.2	
														688+60.00	DR-306		0.2	
59	WB ML	693+40.00	697+50.00	RT	24.0	4.0	432.0							693+40.00	DR-306	20.0	0.2	
														697+50.00	DR-303			Outlet to I-14 at Sta. 697+50.
60	WB ML	697+50.00	699+25.00	RT	24.0	4.0	179.0							697+50.00	DR-303	8.3		
														699+25.00	DR-303			Outlet to I-13 at Sta. 699+25.
61	WB ML	699+25.00	701+75.00	RT	24.0	4.0	254.0							699+25.00	DR-303	11.8		
														701+75.00	DR-303			Outlet to I-12 at Sta. 701+75.
62	WB ML	701+75.00	703+45.00	RT	24.0	4.0	174.0							701+75.00	DR-303	8.1		
														703+45.00	DR-303			Outlet to I-11 at Sta. 703+45.
63	WB ML	703+45.00	705+00.00	RT	24.0	4.0	159.0							703+45.00	DR-303	7.4		
														705+00.00	DR-303			Outlet to I-10 at Sta. 705+00.
64	WB ML	705+00.00	710+00.00	RT	24.0	4.0	522.0							705+00.00	DR-306	24.2	0.2	
														710+00.00	DR-306		0.2	
65	WB ML	710+00.00	715+00.00	RT	24.0	4.0	540.0							710+00.00	DR-306	25.0	0.2	
														715+00.00	DR-306		0.2	
66	WB ML	715+00.00	717+00.00	RT	24.0	4.0	240.0							715+00.00	DR-306	11.1	0.2	
														717+00.00	DR-306		0.2	
67	WB ML	717+00.00	722+00.00	RT	24.0	4.0	540.0							717+00.00	DR-306	25.0	0.2	
														722+00.00	DR-306		0.2	
68	WB ML	722+00.00	726+85.00	RT	24.0	4.0	525.0							722+00.00	DR-306	24.3	0.2	
														726+85.00	DR-306		0.2	
69	WB ML	732+30.00	737+00.00	RT	24.0	4.0	510.0							732+30.00	DR-306	23.6	0.2	

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

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Location						Longitudinal Subdrain (DR-303)								Subdrain Outlet				
Line No.	Road or Lane Identification	Station to Station		Side	Depth (D)	Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)				DR-303, DR-305 or DR-306		Porous* Backfill	Class "A"* Crushed Stone	Remarks
						Size	Length	Size	Length	Standard Road Plan and Type	Size	Length		Station	Standard Road Plan and Type			
					IN	IN	FT	IN	FT		IN	FT				CY	CY	
														737+00.00	DR-306		0.2	
70	WB ML	737+00.00	740+40.00	RT	24.0	4.0	362.0							737+00.00	DR-306	16.8	0.2	
														740+40.00	DR-303			Outlet to I-22 at Sta. 740+40.
71	WB ML	740+40.00	742+00.00	RT	24.0	4.0	164.0							740+40.00	DR-303	7.6		Outlet to I-22 at Sta. 740+00.
														742+00.00	DR-303			Outlet to I-21 at Sta. 742+00.
72	WB ML	742+00.00	747+00.00	RT	24.0	4.0	522.0							742+00.00	DR-303	24.2		Outlet to I-21 at Sta. 742+00.
														747+00.00	DR-306		0.2	
73	WB ML	747+00.00	752+00.00	RT	24.0	4.0	540.0							747+00.00	DR-306	25.0	0.2	
														752+00.00	DR-306		0.2	
74	WB ML	752+00.00	758+00.00	RT	24.0	4.0	640.0							752+00.00	DR-306	29.6	0.2	
														758+00.00	DR-306		0.2	
75	WB ML	772+00.00	776+50.00	RT	24.0	4.0	490.0							772+00.00	DR-306	22.7	0.2	
														776+50.00	DR-306		0.2	
76	WB ML	776+50.00	778+50.00	RT	24.0	4.0	240.0							776+50.00	DR-306	11.1	0.2	
														778+50.00	DR-306		0.2	
77	WB ML	778+50.00	783+50.00	RT	24.0	4.0	540.0							778+50.00	DR-306	25.0	0.2	
														783+50.00	DR-306		0.2	
78	WB ML	783+50.00	788+50.00	RT	24.0	4.0	540.0							783+50.00	DR-306	25.0	0.2	
														788+50.00	DR-306		0.2	
79	WB ML	788+50.00	793+50.00	RT	24.0	4.0	540.0							788+50.00	DR-306	25.0	0.2	
														793+50.00	DR-306		0.2	
80	WB ML	793+50.00	797+00.00	RT	24.0	4.0	390.0							793+50.00	DR-306	18.1	0.2	
														797+00.00	DR-306		0.2	
81	WB ML	797+00.00	801+25.00	RT	24.0	4.0	465.0							797+00.00	DR-306	21.5	0.2	
														801+25.00	DR-306		0.2	
82	WB ML	810+50.00	812+50.00	RT	24.0	4.0	240.0							810+50.00	DR-306	11.1	0.2	
														812+50.00	DR-306		0.2	
83	WB ML	819+25.00	820+25.00	RT	24.0	4.0	140.0							819+25.00	DR-306	6.5	0.2	
														820+25.00	DR-306		0.2	Sag.
84	WB ML	820+25.00	826+65.00	RT	24.0	4.0	662.0							820+25.00	DR-306	30.6	0.2	
														826+65.00	DR-303			Outlet into I-32 at Sta. 826+65.
85	WB ML	832+75.00	836+00.00	RT	24.0	4.0	365.0							832+75.00	DR-306	16.9	0.2	
														836+00.00	DR-306		0.2	Sag.
86	WB ML	836+00.00	841+00.00	RT	24.0	4.0	540.0							836+00.00	DR-306	25.0	0.2	
														841+00.00	DR-306		0.2	
87	WB ML	841+00.00	846+00.00	RT	24.0	4.0	540.0							841+00.00	DR-306	25.0	0.2	
														846+00.00	DR-306		0.2	
88	WB ML	846+00.00	851+00.00	RT	24.0	4.0	540.0							846+00.00	DR-306	25.0	0.2	
														851+00.00	DR-306		0.2	
89	WB ML	851+00.00	856+00.00	RT	24.0	4.0	540.0							851+00.00	DR-306	25.0	0.2	
														856+00.00	DR-306		0.2	
90	WB ML	856+00.00	860+75.00	RT	24.0	4.0	515.0							856+00.00	DR-306	23.8	0.2	
														860+75.00	DR-306		0.2	
91	WB ML	860+75.00	863+75.00	RT	24.0	4.0	322.0							860+75.00	DR-306	14.9	0.2	
														863+75.00	DR-303		0.2	Outlet into I-35 at Sta. 863+75.
92	EB 52	41866+15.00	41868+25.00	LT	24.0	4.0	250.0							41866+15.00	DR-306	11.6	0.2	
														41868+25.00	DR-306		0.2	
93	EB 52	41868+25.00	41870+25.00	LT	24.0	4.0	240.0							41868+25.00	DR-306	11.1	0.2	
														41870+25.00	DR-306		0.2	
94	EB 52	41875+28.00	41880+50.00	LT	24.0	4.0	562.0							41875+28.00	DR-306	26.0	0.2	
														41880+50.00	DR-306		0.2	
95	EB 52	41880+50.00	41885+55.00	LT	24.0	4.0	525.0							41880+50.00	DR-306	24.3	0.2	
																		Cap at Sta. 41885+55.
96	WB 52	863+25.00	40868+25.00	RT	24.0	4.0	522.0							863+25.00	DR-303	24.2		Outlet into I-35 at Sta. 863+25 mainline stationing.
														40868+25.00	DR-306		0.2	
97	WB 52	40875+28.00	40880+50.00	RT	24.0	4.0	562.0							40875+28.00	DR-306	26.0	0.2	
														40885+50.00	DR-306		0.2	
98	WB 52	40880+50.00	40885+64.00	RT	24.0	4.0	534.0							40880+50.00	DR-306	24.7	0.2	
																		Cap at Sta. 40885+64.
99	NB/HC	426874+25.00	426875+25.00	RT	24.0	4.0	122.0									5.6		Cap at Sta. 426874+25.
														426875+25.00	DR-306		0.2	
100	NB/HC	426880+21.00	426883+15.00	RT	24.0	4.0	311.0							426880+21.00	DR-306	14.4	0.2	
																		Cap at Sta. 426883+15.
101	SB/HC	436874+25.00	436876+35.60	LT	24.0	4.0	212.6									9.8		Cap at Sta. 436874+25, See Note #2.
														436876+35.60	DR-303			Outlet into I-42 at Sta. 436876+35.60
102	SB/HC	436876+35.60	436877+36.00	LT	24.0	4.0	110.0							436876+35.60	DR-303	6.7		Outlet into I-42 at Sta. 436876+35.60
														436877+36.00	DR-303			Outlet into I-46 at Sta. 436877+36.= Sta.1+04.42 (HC_Ret3.)
103	SB/HC	436880+19.00	436878+92.00	LT	24.0	4.0	116.0							436880+19.00		7.2		Cap at Sta. 436880+19. See Note #2.
														436878+92.00	DR-303			Outlet into Culvert at Sta. 436878+92. See Note #2.
104	SB/HC	436880+20.00	436883+15.00	LT	24.0	4.0	315.0							436880+20.00	DR-306	14.6	0.2	
														436883+15.00				Cap at Sta. 436883+15.
105	WB 52	40869+75.00	40871+92.80	MED	24.0	4.0	320.0							40869+75.00	DR-303	19.7		Outlet into I-38 at Sta. 40869+75. See Note #2.
																		Cap at Sta. 40871+92.8.
106	WB52/NBHC	40870+30.53	426880+20.50	RT	24.0	4.0	403.0							40870+30.53	DR-306	18.7	0.2	See Note #2.
																		Cap at Sta. 426880+20.50.
107	WB52/SBHC	40875+27.39	436878+92.00	LT	24.0	4.0	236.0									14.6		Cap at Sta. 40875+27.39, see Note #2.
														436878+92	DR-303			Outlet into Culvert at Sta. 436878+92.
108	EB 52	41875+26.00	41873+08.51	RT	24.0	4.0	232.0									10.7		Cap at Sta. 41875+26, see Note #2.

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

* Not a bid item. Bridge berm quantities assume a trench depth of 24 inches.

Location						Longitudinal Subdrain (DR-303)								Subdrain Outlet				
Line No.	Road or Lane Identification	Station to Station		Side	Depth D	Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)				DR-303, DR-305 or DR-306		Porous* Backfill	Class "A"* Crushed Stone	Remarks
						Size	Length	Size	Length	Standard Road Plan and Type	Size	Length		Station	Standard Road Plan and Type			
					IN	IN	FT	IN	FT		IN	FT				CY	CY	
														41873+08.51	DR-303			EB52 Sta. 41873+08.51=Intake No. 46, Sta. 01+04.42. (HC_Ret3)
109	NBHC/EB52	426876+06.59	41870+25.00	RT	24.0	4.0	349.0							426876+06.59				Cap at Sta. 426876+06.59, see Note #2.
														41870+25.00	DR-306	16.2	0.2	
110	RA Circle	+87.18	3+48.72	RT	24.0	4.0	301.5							+87.18	DR-303	14.0		Outlet both ends of pipe into I-40. See Note #2.
														3+48.72	DR-303			
	Totals						46785.8								DR-303 = 35		34.8	
															DR-306 = 173			

NOTE: #1 ALL LONGITUDINAL SUBDRAINS ARE TYPE 7 WITH PCC OR TYPE 8 WITH HMA(ACC) UNLESS OTHERWISE NOTED IN REMARKS COLUMN.

NOTE: #2 LONGITUDINAL SUBDRAINS NOS. 101, 102, 103, 105, 106, 107, 108, 109, AND 110 ARE TYPE 12 INSTALLATION.

NOTE: #3 ALL TYPE 12 INSTALLATIONS ARE PRIOR TO PLACEMENT OF SUBBASE AND GEOGRID.

NOTE: #4 ADJUST LONGITUDINAL SUBDRAINS IN FIELD AS NECESSARY.

NOTE: #5 THERE ARE AREAS WHERE BROKEN AND WEATHERED LIMESTONE MAY BE ENCOUNTERED AT BOTTOM OF TRENCH.

103-7
08-01-08

SHRINKAGE DATA

Material	%	Remarks
Topsoil	40%	
Entire project.	30%	
B & W Limestone		0% Swell
Boulder Estimate		150 Cu. Yds.

103-6
10-17-17

EMBANKMENT WITH MOISTURE CONTROL

Moisture Control is required for all Class 10 fill placed in all locations and depths. Stability berms placed outside the normal foreslope template and topsoil will not require Moisture Control.

107-31
04-19-11

PLOWING AND SHAPING

Refer to Standard Road Plan EW-101

Station to Station		D FT	Remarks
654+00	656+50	3.0	US 52 Mainline
705+25	707+00	3.0	US 52 Mainline
713+00	715+75	3.0	US 52 Mainline
804+00	807+75	3.0	US 52 Mainline
426878+97.62	426879+75	5.0	NB Holy Cross

SURVEY SYMBOLS

- TLNR Tree Line Right
- FWD Wood Fence
- SIGN SI Sign
- TDC Tree Deciduous
- PPB Power Pole Co. 2
- FW Wire Fence
- MH Utility Access (Manhole)
- HDG Hedge Row
- TEV Evergeen Tree
- FCL Chain Link and Security Fence
- GRV Grave
- RET Retaining Walls
- TLNL Tree Line Left
- WEL Well
- TP TPD Telephone Pedestal
- SHR Shrub
- Flg FLG Flag Poles
- PR Electic Riser Pole
- UB UB Utility Box
- GP GP Guard Post (Less Than 4 Posts)
- TFR Tree Fruit
- Tile TIL Tile Line
- EB EB Electrical Box
- IN Storm Sewer Intake
- BIN Grain Bin
- PPA Power Pole Co. 1
- OUT Tile Outlet
- GDL Guard Rail Steel
- STP Stump
- TR Telephone Riser Pole
- LUM Luminaire
- MM MM Mile Marker Post
- WH WHD Water Hydrant
- LP LP L.P. Tank
- ST SEP Septic Tank
- PLG Location of General Photo
- WV WV Water Valve
- INB Storm Sewer Beehive Intake
- BB BB Billboard
- TV Satelite TV Dish
- AST AST Above Ground Storage Tank
- SNP Unpaved Shoulder
- ENU Edge Unpaved Entrance & Parking
- ENT Centerline BL of Entrance
- D Centerline Draw or Stream (Down)
- EP Edge of Paved Roads (ML or SR)
- SH Paved Shoulder
- BNK Stream Bank
- DU Centerline Draw or Stream (Up)
- EG Edge of Gravel Road
- RIP Rip-Rap
- CU Back of Curb
- GU Gutter In Front of Curb
- DIK Centerline of Dike or Dam
- TER Terrace
- EW Edge of Water
- WM Wind Mill
- Cell Phone Tower

UTILITY LEGEND

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PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.		
Green	(2)	Existing Topographic Features and Labels	10-31-052-020-03
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation	
Magenta	(5)	Existing Utilities	HSIPX-052-2(120)--3L-31
SHADING	**Design Color No.**		
Yellow	(4)	Highlight for Critical Notes or Features	STPN-052-2(123)--2J-31
Red	(3)	Delineates Restricted Areas	STPN-052-2(123)--2J-31
Lavender	(9)	Temporary Pavement Shading	
Gray, Light	(48)	Proposed Pavement Shading	
Gray, Med	(80)	Proposed Granular Shading	
Gray, Dark	(96)	PCC Paved Shoulder with Curb	
Gray, Darker	(128)	PCC Paved Shoulder	
Tan	(8)	Proposed Sidewalk Shading	
Blue, Light	(230)	Proposed Sidewalk Landing Shading	
Pink	(11)	Proposed Sidewalk Ramp Shading	

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

- Reference Point / Station — Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Trench Drain
- HighTension Cable Guardrail
- Sheet Pile
- Pavement Removal
- Clearing & Grubbing Area

RIGHT-OF-WAY LEGEND

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

GEODETIC MARKER

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER D.1

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JEFFERSON TWP.
T-90N R-1E
SEC. 30

CONCORDE TWP.
T-90N R-1W
SEC. 25

Curve Data
Δ = 35° 41′ 45.64″ (LT)
T = 460.44
L = 890.91 e = 0.058
R = 1,430.00 L = 148′
E = 72.30 x = 51′

POT Sta 600+00.00

U.S. 62

Sta. 601+50.00
Begin Project
Begin Construction

+96.00 Prop. Type 'C' Ent. W = 24.0'

Prop. 18″ LC Conc. Ent. Pipe
Sta. 288+73.61
24″ X 43.6′ CMP
D.A. = 1 Ac - Ter R
(Remove)

Sta. 602+75.00
Install 24″ RCP
F.L. = Lt. 1111.04
Rt. 1116.50

PC Sta 605+72.77

+50.00 Prop. Type 'C' Ent. W = 30.0'

PT Sta 607+66.17

PT Sta 609+55.36

PC Sta 610+25.06

+85.00 Prop. Type 'C' Ent. W = 24.0'

+15.00 Prop. Type 'C' Ent. W = 24.0'

18″ X 29.8′ C.M.P.
(Remove)

Curve Data
Δ = 20° 40′ 48.84″ (RT)
T = 193.40
L = 382.59 e = 0.06
R = 1,060.00 L = 153′
E = 17.50 x = 51′

PI Sta 614+85.51

+10.00 Prop. Type 'C' Ent. W = 30.0'

PT Sta 619+15.97

+45.00 Prop. Type 'C' Ent. W = 24.0'

Prop. 18″ Uncl. Ent. Pipe

Do Not Disturb

Do Not Disturb

+60.00 Ent. to Close POT Sta 621+94.66 = POT Sta 12621+94.66

Pfeiler Road East

For Side Road Details
Refer to Sheet No. E.5

PC Sta 625+15.17

595 600 605 610 615 620 625

U.S. 52

STA. 601+50.00 (ML052)
BEGIN CONSTRUCTION

+96 1,119.87 +1.2% +2.2%

+50 Rt. 1117.63 -0.90% Rt. Ditch Grade

+75 Rt. 1116.50 +1.51% Rt. Ditch Grade

+50 Rt. 1117.63

+0.500%

VPI +25.000
Elv 1,122.24
Len 475.00 ft
K = 119

+4.500%

+00 Rt. 1131.17 +4.79% Rt. Ditch Grade

+37 Rt. 1138.56

+00 Rt. 1135.96

+50 Rt. 1136.96

+75 Rt. 1138.40

VPI +25.000
Elv 1,144.74
Len 500.00 ft
K = 63

+50 -6.7%

-3.400%

-0.40% DG -1.93%

+10 +5.8% +14%

VPI +50.000
Elv 1,116.69
Len 900.00 ft
K = 164

-3.400%

+ 00 Rt. 1119.87

-0.5% +2.100%

+70 Rt. 1119.02

+85 +15 -0.9% +2% +3% +8% +0.7%

+45 +2% +5.6%

1150 1140 1130 1120 1110 1100 1090

Lt / Rt: Ditch Grade | No Ditch | V-Ditch | 3′ Ditch | Ditch Grade | 2′ Ditch | Ditch Grade | No Ditch | 3′ Ditch | Ditch Grade | SR | 3′ Ditch | UAC

595 600 605 610 615 620 625

FILE NO.	ENGLISH	DESIGN TEAM Jla \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER D.2

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CONCORDE TWP.
T-90N R-1W
SEC. 25

For Side Road Detail
Refer to Sheet No. D.5

Sta. 324+56.22
2' X 2' X 33.5' RCB w/
30" X 4.8' RCP Ext. Lt.
18" X 10.6' RCP Ext. Rt.
D.A. = 2 Ac - Ter R
(Remove)

Sta. 638+55.00
Install 24" RCP
F.L. = Lt. 1121.97
Rt. 1127.00

Curve Data
Δ = 31° 42' 24.96" (LT)
T = 301.02
L = 586.59
R = 1,060.00
E = 41.91
e = 0.06
L = 153'
x = 51'

21+94.66
12621+94.66
PC Sta 625+15.17
PI Sta 626+40.77
PT Sta 627+65.74
+58.00 Close Ent.
+68.50 Prop. Type C Ent. W = 24.0' Joint Ent.
Hog Gar
U.S. 52
Do Not Disturb
PC Sta 638+20.96
+85.00 Begin Curb
+47.00 Prop. Type C Ent. W = 30.0'
+12.00 Prop. Type C Ent. W = 24.0'
+71.20 Begin Curb
15" X 19.2' C.M.P. (Remove)
Prop. 18"LC Conc. Ent. Pipe
15" X 39.6' Plastic (Remove)
Prop. 18" Uncl. Ent. Pipe
+91.00 Prop. Type C Ent. W = 20.0'
PI Sta 641+21.98
+45.91 End Curb
15" X 19.9' C.M.P. (Remove)
+57.00 Prop. Type C Ent. W = 24.0'
+24.00 Prop. Type C Ent. W = 30.0'
+75.00 Prop. Type C Ent. W = 30.0'
Ho
Barn
Hinatgen Lane
POT Sta 646+35.00
= POT Sta 11646+35.00
PC Sta 644+07.55
+50.00 End Curb
11645
PC Sta 652+19.53
PI Sta 655+13.75
Sta. 652+30.00
Install 24" RCP
F.L. = Lt. 1126.80
Rt. 1119.18
Sta. 338+33.74
2' X 2' X 42.9' RCB w/
24" X 6.4' Conc Pipe
D.A. = 5 Ac - Ter R
(Remove)
Curve Data
Δ = 31° 19' 34.
T = 297.22
L = 579.55
R = 1,060.00
E = 40.88
e = 0.06
L = 153'
x = 51'
Curve Data
Δ = 10° 02' 22.86" (RT)
T = 125.61
L = 250.57
R = 1,430.00
E = 5.51
e = 0.058
L = 148'
x = 51'
0 100 FEET

U.S. 52

VPI +50.000
Elv 1,141.89
Len 525.00 ft
K = 114
+2.100%
-2.500%
VPI +25.000
Elv 1,127.52
Len 600.00 ft
K = 156
-2.500%
+1.350%
VPI +50.000
Elv 1,138.66
Len 500.00 ft
K = 169
-1.600%
VPI +00.000
Elv 1,128.26
Len 600.00 ft
K = 180
+1.725%
+68.5
-4.6%
13.6%
+47
+6.5%
+2%
+12
+0.76%
+4.1%
+00
-1%
+50 Rt. 1127.78
-0.38% Rt.
DG
+1.53% Rt.
Ditch Grade
+55 Rt. 1127.00
+50 Rt. 1128.46
+1.350%
+85 Lt. 1123.00
+3.64%
Lt. DG
+0.5%
+55 Lt. 1118.40
+75 Lt. 1119.80
0.9%
+8.1%
+57
+75
-0.3%
+04 Rt. 1134.89
+1.350%
DG
-0.88% Rt.
+00 Rt. 1134.04
+50 Lt. 1129.19
+00 Lt. 1128.08
DG
-1.227%
+00 Lt. 1126.86
DG
-0.20%
DG
+1.997%
+30 Lt. 1126.80

Lt	3' Ditch	2' Ditch	No Ditch	3' Ditch	No Ditch	Ditch Grade	Ditch Grade	3' Ditch	Curb & Gutter	Ditch Grade	Curb & Gutter	No Ditch	3' Ditch	Transition	Ditch Grade	No Ditch	3' Ditch	Lt
Rt																		Rt

625	630	635	640	645	650	655
1,128.77 1,129.29 1,129.82 1,130.34 1,130.87 1,131.39 1,131.92 1,132.44 1,132.97 1,133.49 1,134.02 1,134.54 1,135.07 1,135.59 1,136.12 1,136.64 1,137.11 1,137.52 1,137.88 1,138.19 1,138.44 1,138.64 1,138.78 1,138.87 1,138.90 1,138.88 1,138.80 1,138.67 1,138.48 1,138.24 1,137.94 1,137.59 1,137.18 1,136.72 1,136.21 1,135.64 1,135.02 1,134.41 1,133.85 1,133.32 1,132.84 1,132.40 1,131.99 1,131.63 1,131.30 1,131.02 1,130.77 1,130.57 1,130.41 1,130.28 1,130.20 1,130.16 1,130.15 1,130.19 1,130.27 1,130.38 1,130.54 1,130.74 1,130.97 1,131.25 1,131.57 1,131.91 1,132.24 1,132.58 1,132.92 1,133.26 1,133.59 1,133.93 1,134.27 1,134.61 1,134.94 1,135.28 1,135.60 1,135.88 1,136.13 1,136.34 1,136.51 1,136.64 1,136.74 1,136.80 1,136.83 1,136.81 1,136.76 1,136.68 1,136.55 1,136.39 1,136.20 1,135.96 1,135.69 1,135.38 1,135.04 1,134.66 1,134.26 1,133.86 1,133.46 1,133.06 1,132.67 1,132.33 1,132.01 1,131.73 1,131.49 1,131.28 1,131.11 1,130.97 1,130.86 1,130.79 1,130.75 1,130.75 1,130.78 1,130.85 1,130.95 1,131.09 1,131.26 1,131.47 1,131.71 1,131.98 1,132.29 1,132.64 1,133.02 1,133.43						

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER D.3

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SEC. 25

Curve Data
Δ = 29° 59′ 53.79″ (LT)
T = 341.61
L = 667.55
R = 1,275.00
E = 44.97

Sta. 356+64.31
24″ X 49.0′ CMP
D.A. = 5 Ac - Ter R
(Remove)

Sta. 670+56.00
Install 24″ RCP
F.L. = Lt. 1128.20
Rt. 1126.16

15″ X 20.2′ C.M.P.
(Remove)

Prop. 18″
Uncl. Ent. Pipe

18″ X 40.1′ C.M.P.
(Remove)

Prop. 18″
Uncl. Ent. Pipe

Curve Data
Δ = 5° 43′ 37.25″ (LT)
T = 163.56
L = 326.85
R = 3,270.00
E = 4.09
e = 0.038
Ls = 97′
x = 51′

+00.00
Begin Curb

+68.00 Prop.
Type 'C' Ent.
W = 20.0′

+80.00 Prop.
Type 'C' Ent.
W = 30.0′

Do Not Disturb

+50.00
End Curb

PI Sta 655+13.75

PRC Sta 657+96.08

Curve Data
Δ = 31° 19′ 34.37″ (RT)
T = 297.22
L = 579.55
R = 1,060.00
E = 40.88
e = 0.06
Ls = 153′
x = 51′

PI Sta 661+37.70

U.S. 52

+07.00 Prop.
Type 'C' Ent.
W = 30.0′

Prop. 18″
Uncl. Ent. Pipe

PT Sta 664+63.63

Prop. 18″LC
Conc. Ent. Pipe

+77.50 Prop.
Type 'C' Ent.
W = 30.0′

+63.00 Prop.
Type 'C' Ent.
W = 30.0′

+72.00 Prop.
Type 'B' Ent.
W = 45.0′

+54.50 Prop.
Type 'C' Ent.
W = 30.0′

Barn
Barn
House

PC Sta 683+18.62

PI Sta 684+82.19

PI Sta 686+45.48

655 660 665 670 675 680 685
350 355 360 365 370

0 FEET 100

U.S. 52

VPI +00.000
Elv 1,140.33
Len 700.00 ft
K = 289

+1.725%
-0.700%
-0.18% Rt. Ditch Grade
+50 Rt. 1136.14
+50 Rt. 1135.60

-5.8%
-11.9%
-16.7%
+0.850%

-0.700%
-1.21% Lt.
+1.07% Lt.
Ditch Grade
-1.40% Rt. Ditch Grade
+50 Rt. 1131.14
+00 Lt. 1130.09
+50 Rt. 1126.93
+56 Lt. 1128.20
+00 Lt. 1129.74

VPI +00.000
Elv 1,131.93
Len 400.00 ft
K = 258

0.85%
+11.2%
+5.5%
+0%
+2.2%
+1%

+68
+80
+07
+77.5
+63
+54.5
+72

1160 1150 1140 1130 1120 1110 1100

Lt: 3′ Ditch | Curb & Gutter (No Ditch) | No Ditch | 3′ Ditch | Ditch Grade
Rt: 3′ Ditch | Ditch Grade | 3′ Ditch | Ditch Grade | No Ditch | 3′ Ditch

655 660 665 670 675 680 685

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER D.4

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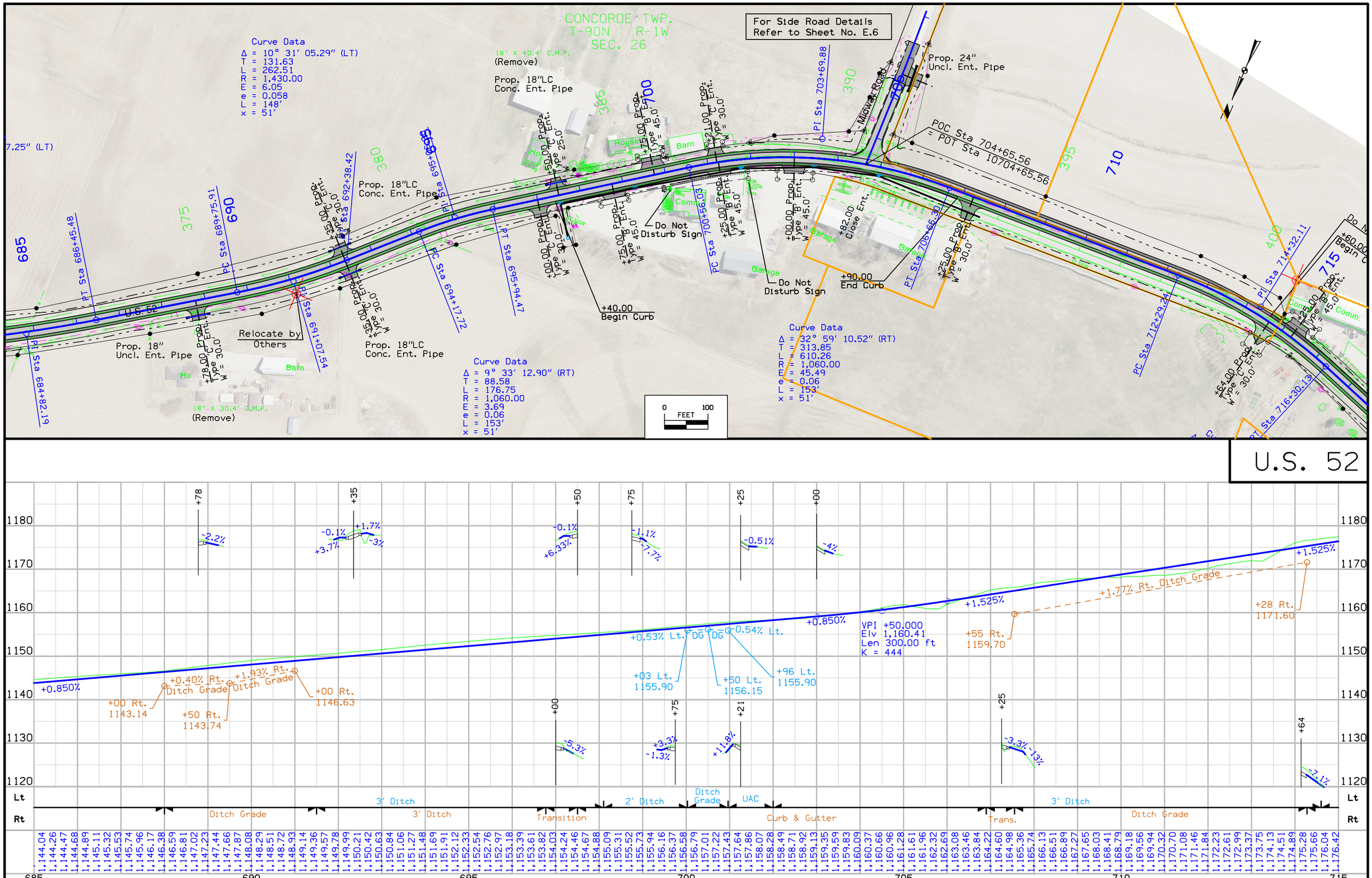

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER D.5

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For Side Road Details
Refer to Sheet No. E.7

CONCORDE TWP.
T-90N R-1W
SEC. 27

Curve Data
Δ = 18° 57′ 46.73″ (LT)
T = 177.03
L = 350.82
R = 1,060.00
E = 14.68
e = 0.06
L = 153′
x = 51′

Sta. 418+24.04
30″ X 57.4′ CMP
D.A. = 11 Ac - Ter R
(Remove)

Sta. 732+25.00
Install 30″ RCP
F.E. = Lt. 1158.42
Rt. 1163.00

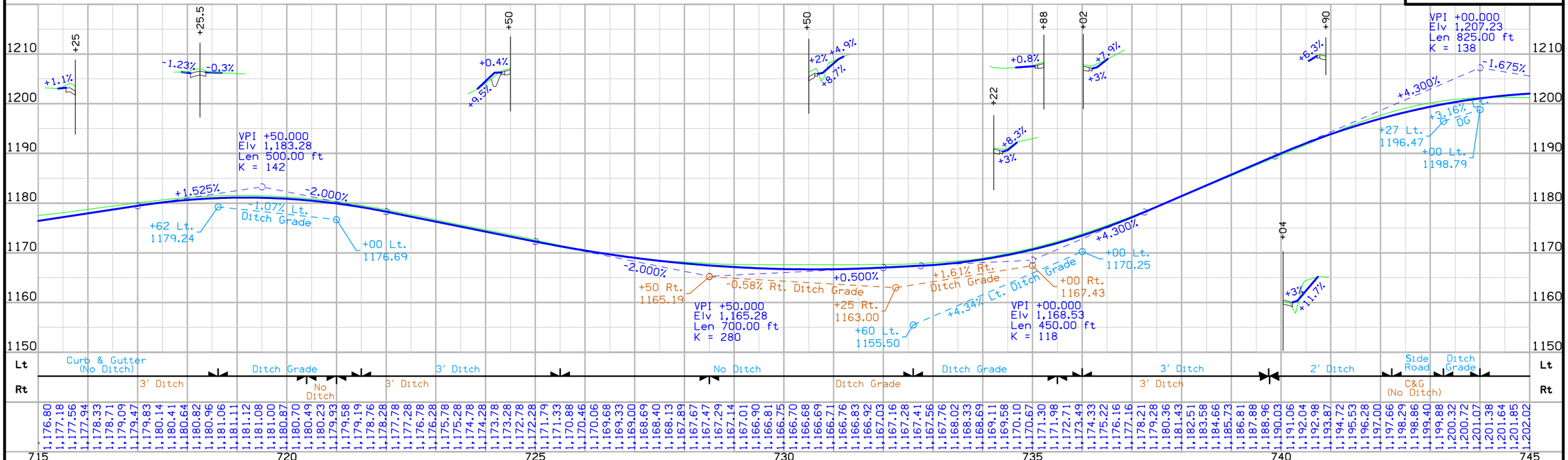
Sta. 429+48.94, 22.89′ Lt.
18″ X 110.1′ CMP w/
15″ X Approx. 23.9′ CMP "T"
D.A. = 2 Ac - Ter R
(Remove)

Curve Data
Δ = 21° 40′ 08.11″ (RT)
T = 202.87
L = 400.89
R = 1,060.00
E = 19.24
e = 0.06
L = 153′
x = 51′

Curve Data
Δ = 58° 37′ 01.93″ (RT)
T = 275.07
L = 501.30
R = 490.00
E = 71.93
e = 0.06
L = 153′
x = 51′

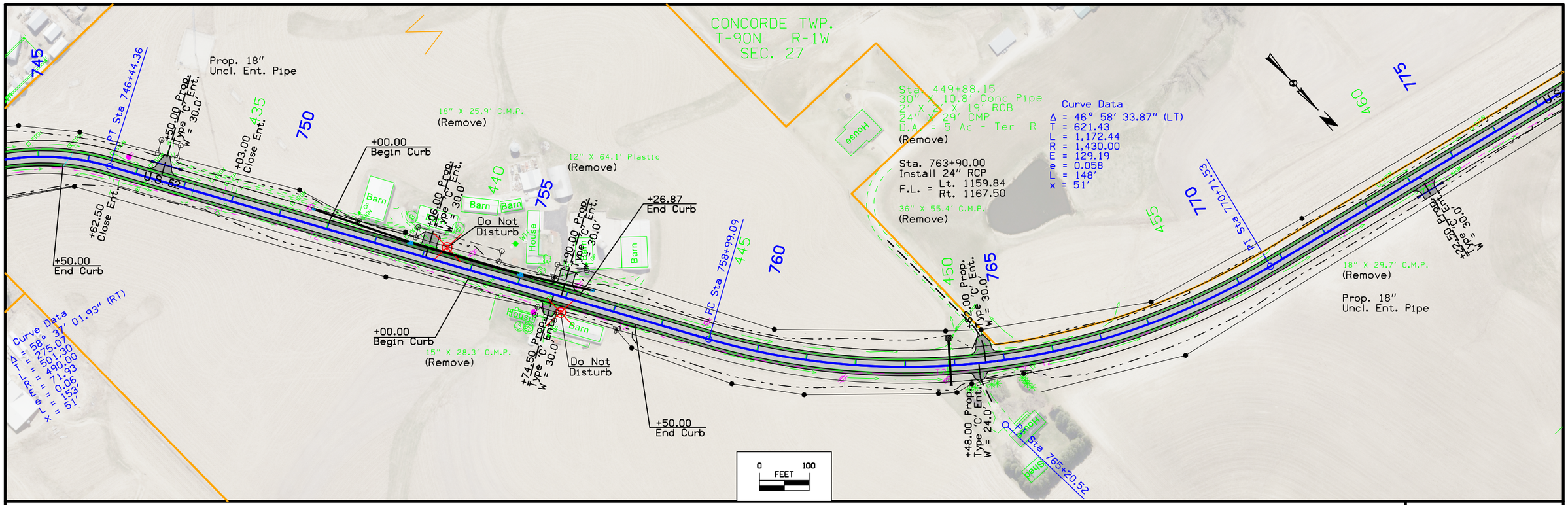
0 100 FEET

U.S. 52

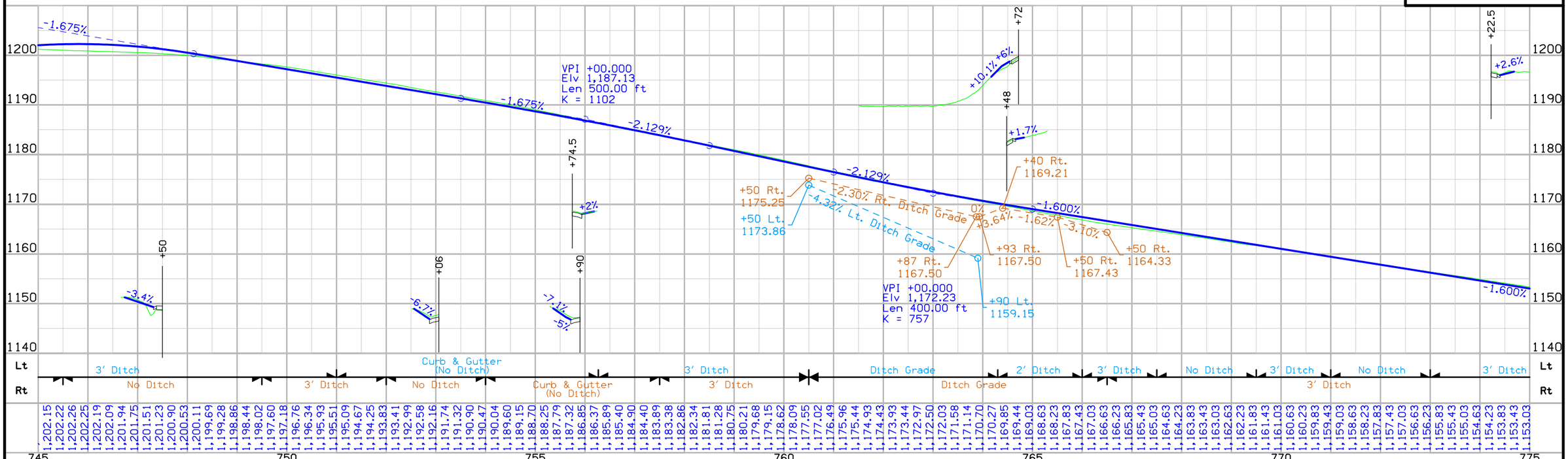


FILE NO.	ENGLISH	DESIGN TEAM	J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER	HSIPX-052-2(120)--3L-31	SHEET NUMBER	D.6

9:26:01 AM 10/3/2017 kromsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120d02.sht

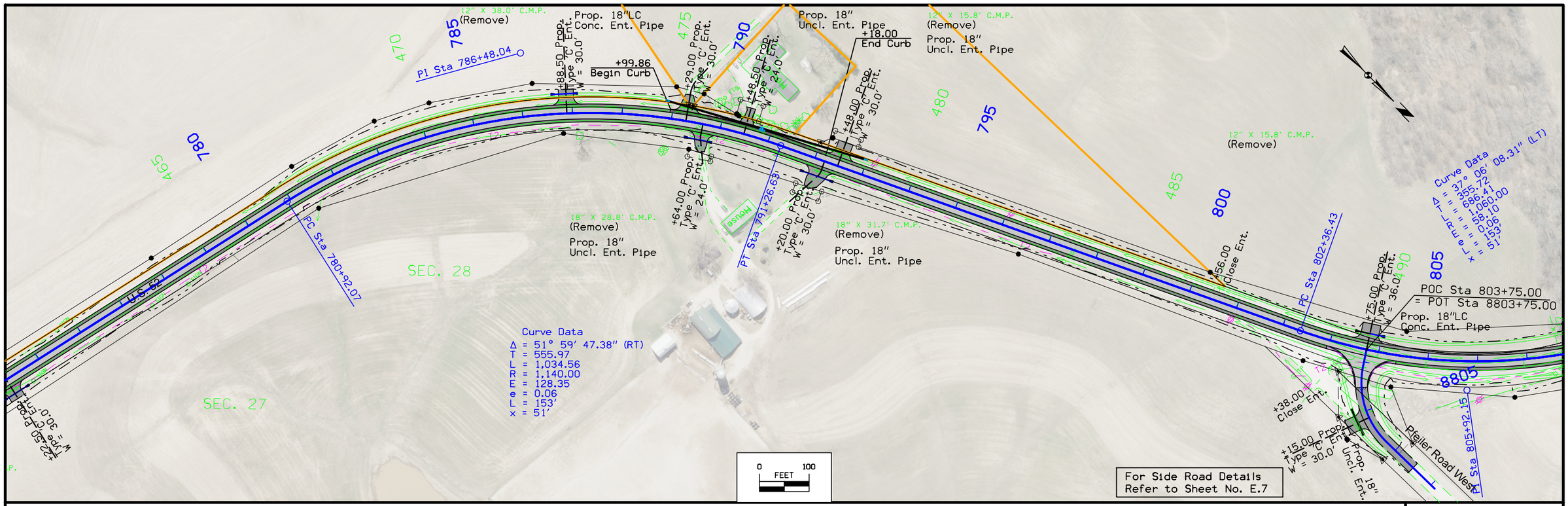


U.S. 52

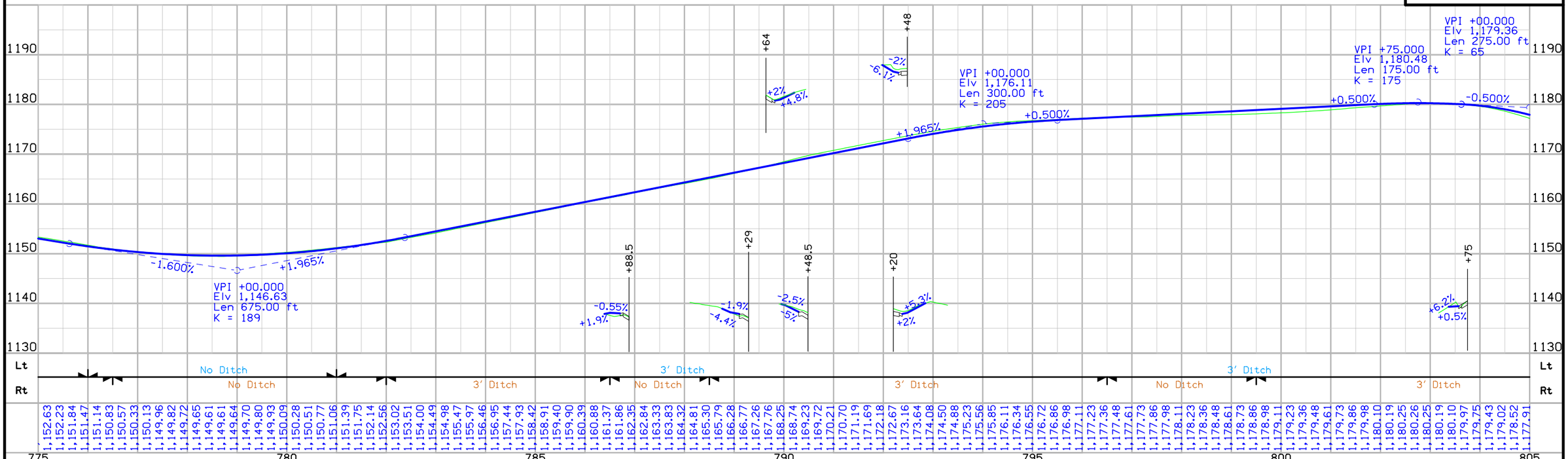


FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER D.7

3:55:42 PM 10/2/2017 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120d02.sht

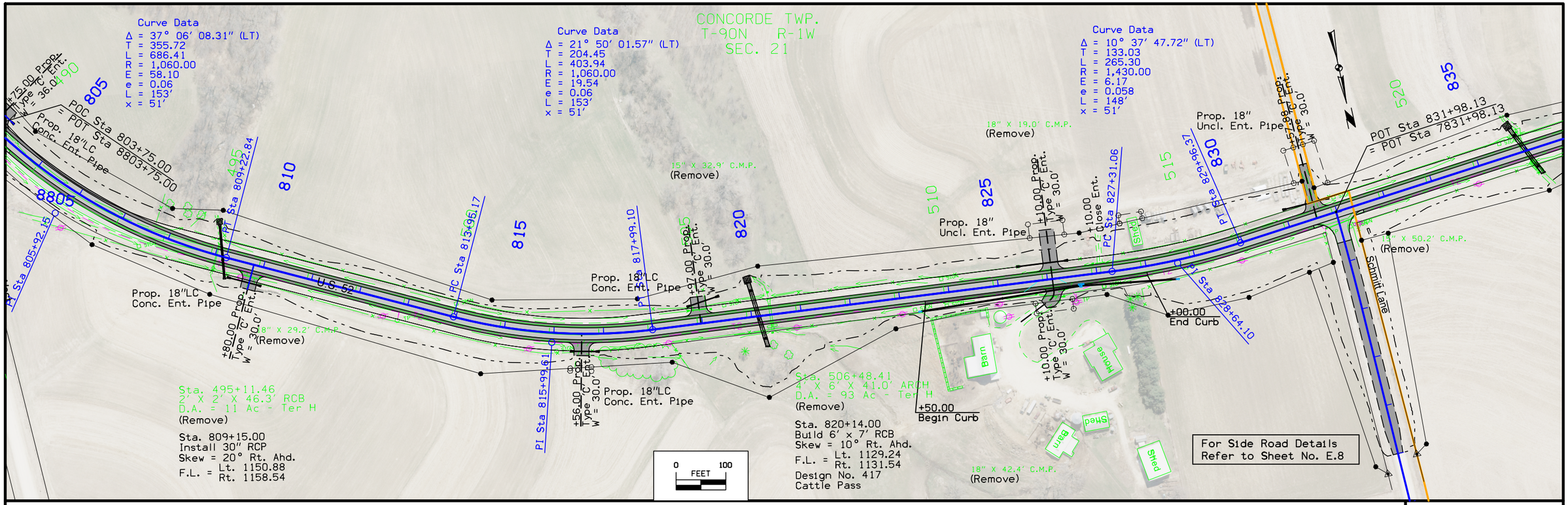


U.S. 52



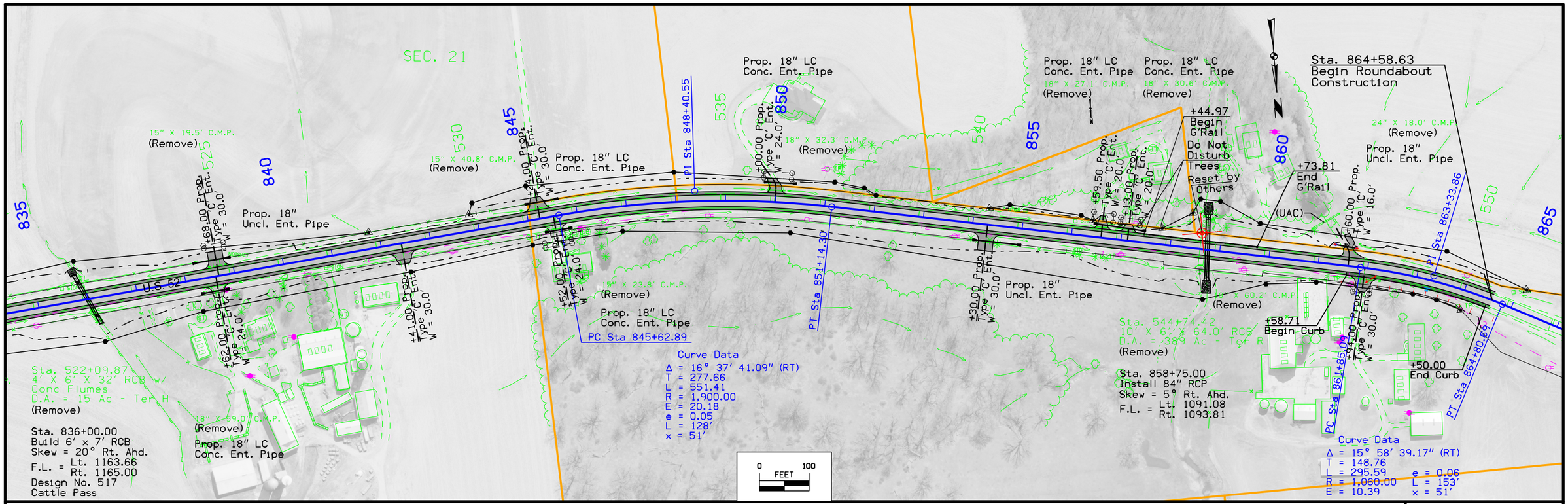
FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER D.8

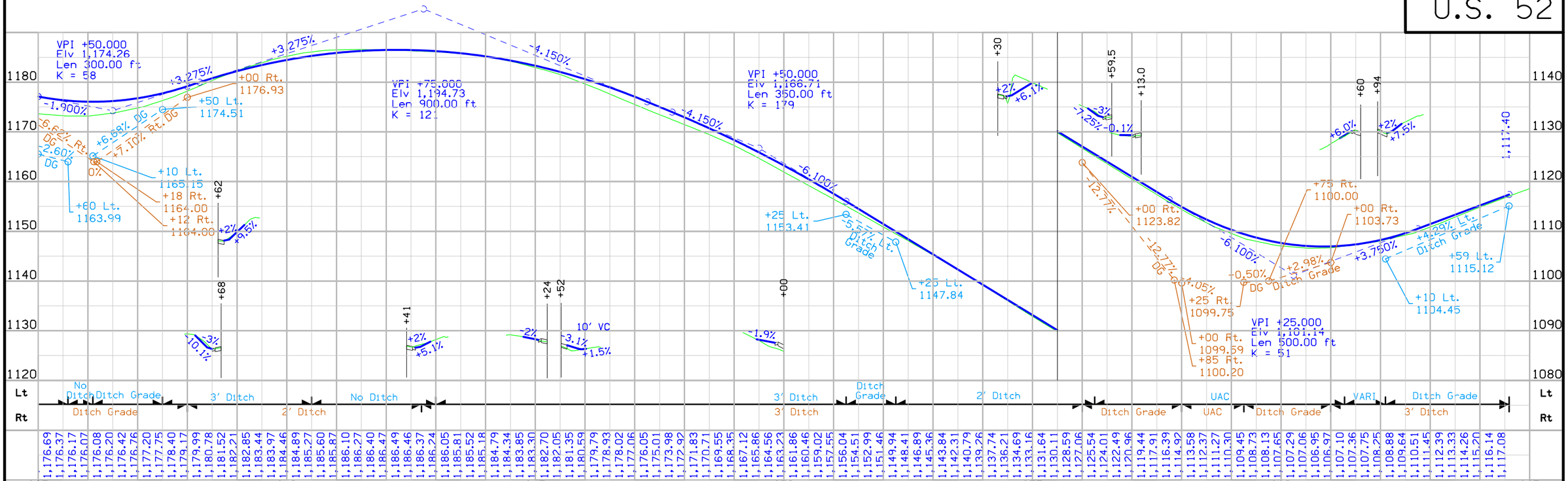
3:55:50 PM 10/2/2017 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120d02.sht



FILE NO.	ENGLISH	DESIGN TEAM	DUBUQUE COUNTY	PROJECT NUMBER	SHEET NUMBER
		Jia \ Skogerboe \ Altenhofen		HSIPX-052-2(120)--3L-31	D.9

3:55:59 PM 10/2/2017 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120d02.sht





FILE NO.	ENGLISH	DESIGN TEAM	J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER	HSIPX-052-2(120)--3L-31	SHEET NUMBER	D.10

2:14:50 PM 11/2/2017 kromsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120d02.sht

WB US 52 & Roundabout

Curve Data
Δ = 21° 23' 59.24" (LT)
T = 94.48
L = 186.75
R = 500.00
E = 8.85

Sta. 40864+58.63
Begin WB ML052 Construction

Sta. 40872+02.02
Stop WB ML052 Construction

Sta. 40873+52.40
Resume WB ML052 Construction

Curve Data
Δ = 2° 59' 07.59" (LT)
T = 49.93
L = 99.83
R = 1,916.00
E = 0.65

CONCORDE TWP.
T-90N R-1W
SEC. 20

Sta. 558+96.99, 83.09' Lt.
24" X 107.9' CMP
D.A. = 1.5 Ac - Ter R
Remove

Sta. 554+00.18
36" X 77.2' CMP
D.A. = 13 Ac - Ter R
UAC

Curve Data
Δ = 42° 24' 57.69" (RT)
T = 40.74
L = 77.73
R = 105.00
E = 7.63

Sta. 559+46.97, 100.09' Rt.
24" X 99.6' CMP
D.A. = 2.5 Ac - Ter R

Sta. 564+29.70
60" X 148.7' Conc. Pipe
60" X 74.9' CMP
D.A. = 70 Ac - Ter H

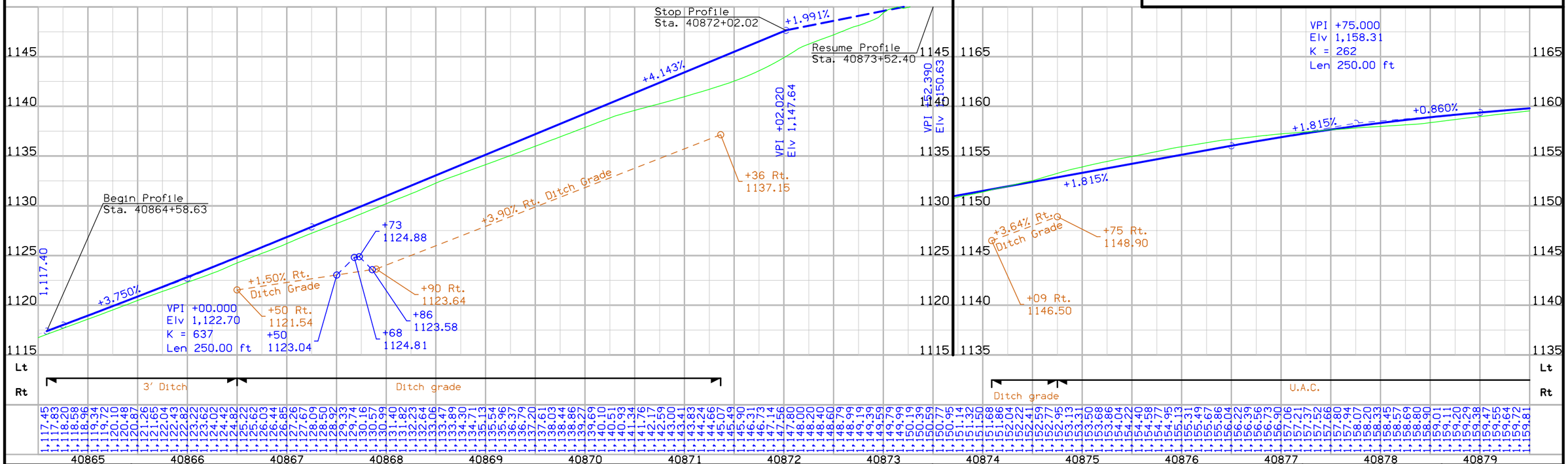
Do Not Disturb

Holy Cross Rd

Tollgate Rd

US 52

0 50 FEET



FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
		J1a \ Skogerboe \ Altenhofen	DUBUQUE	HSIPX-052-2(120)--3L-31	D.11

3:56:08 PM 10/2/2017 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120d02.sht

CONCORDE TWP.
T-90N R-1W
SEC. 20

24" X 129.0' C.M.P.

40880

PRC Sta 40880+95.96

PI Sta 40883+15.09

15'R

15'R

40885

POT Sta 40885+64.46

US 52

PT Sta 40885+34.17

Curve Data
Δ = 2° 05' 32.14" (RT)
T = 219.13
L = 438.20
R = 12,000.00
E = 2.00

Sta. 40885+64.46
End WB ML052 Construction
= Sta. 885+50 (ML052)
End Project

0 50
FEET

WB US 52 & Roundabout

End Profile
Sta. 40885+64.46

1,175.91

+3.950%

+0.860%

VPI +14.450
Elv 1,162.08
K = 129
Len 400.00 ft

1180
1175
1170
1165
1160
1155
1150

Lt
Rt

U.A.C.

1,159.90 1,159.98 1,160.07 1,160.15 1,160.24 1,160.33 1,160.41 1,160.51 1,160.61 1,160.72 1,160.84 1,160.96 1,161.09 1,161.24 1,161.38 1,161.54 1,161.70 1,161.87 1,162.05 1,162.24 1,162.43 1,162.64 1,162.85 1,163.07 1,163.29 1,163.52 1,163.76 1,164.01 1,164.27 1,164.53 1,164.81 1,165.09 1,165.37 1,165.67 1,165.97 1,166.28 1,166.60 1,166.92 1,167.26 1,167.60 1,167.95 1,168.31 1,168.67 1,169.04 1,169.42 1,169.81 1,170.20 1,170.60 1,170.99 1,171.39 1,171.78 1,172.18 1,172.57 1,172.97 1,173.36 1,173.76 1,174.15 1,174.55 1,174.94 1,175.34 1,175.73

40880 40881 40882 40883 40884 40885

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER D.12

3:56:14 PM 10/2/2017 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120d02.sht

EB US 52 & Roundabout

Sta. 41863+22.63
PC

41865

US 52

Sta. 558+96.99, 83.0' Lt.
24" X 107.9' CMP
D.A. = 1.5 Ac - Ter R
Remove

Curve Data
Δ = 28° 12' 28.45" (LT)
T = 175.88
L = 344.62
R = 700.00
E = 21.76

PC Sta 41868+72.98

41870

Shed

Holy Cross Rd

PT Sta 41871+17.60

Curve Data
Δ = 32° 44' 21.37" (LT)
T = 30.84
L = 60.00
R = 105.00
E = 4.44

PC Sta 41873+33.04

PCC Sta 41873+93.04

41875

41876

Curve Data
Δ = 12° 01' 42.11" (LT)
T = 63.21
L = 125.96
R = 600.00
E = 3.32

RT Sta 41875+19.00

CONCORDE TWP.
T-90N R-1W
SEC. 20

US 52

PT Sta 41869+58.63

Sta. 41864+58.63
Begin EB ML052 Construction
= Sta. 864+58.63 (ML052)

Curve Data
Δ = 14° 47' 06.57" (RT)
T = 137.53
L = 273.53
R = 1,060.00
E = 8.88

PI Sta 41870+48.86

PI Sta 41873+63.89

PI Sta 41874+56.25

Sta. 41873+49.86
Resume EB ML052 Construction

Sta. 554+00.18
36" X 77.2' CMP
D.A. = 13 Ac - Ter R
UAC

Sta. 41872+02.07
Stop EB ML052 Construction

Tollgate Rd

Sta. 436879+05, 100.09' Rt.
24" X 99.6' CMP
D.A. = 2.5 Ac - Ter R

Sta.
60"
60"
D.A.
UAC

0 50
FEET

Stop Profile
Sta. 41872+02.07

+2.001%

+4.240%

+4.240%

+3.750%

Begin Profile
Sta. 41864+58.63

1,117.40

VPI +75.000
Elv 1,125.51
K = 816
Len 400.00 ft

+50 Lt.
1132.00

+8.00%
DG

+7.00% Lt.
Ditch Grade

+75 Lt.
1134.00

VPI +02.070
Elv 1,147.86

+51 Lt.
1139.30

VPI +49.860
Elv 1,150.82

+1.779%

+1.779%

VPI +75.000
Elv 1,158.38
K = 272
Len 250.00 ft

Resume Profile
Sta. 41873+49.86

1145 1140 1135 1130 1125 1120 1115

1165 1160 1155 1150 1145 1140 1135

Lt
Rt

3' Ditch

Ditch Grade

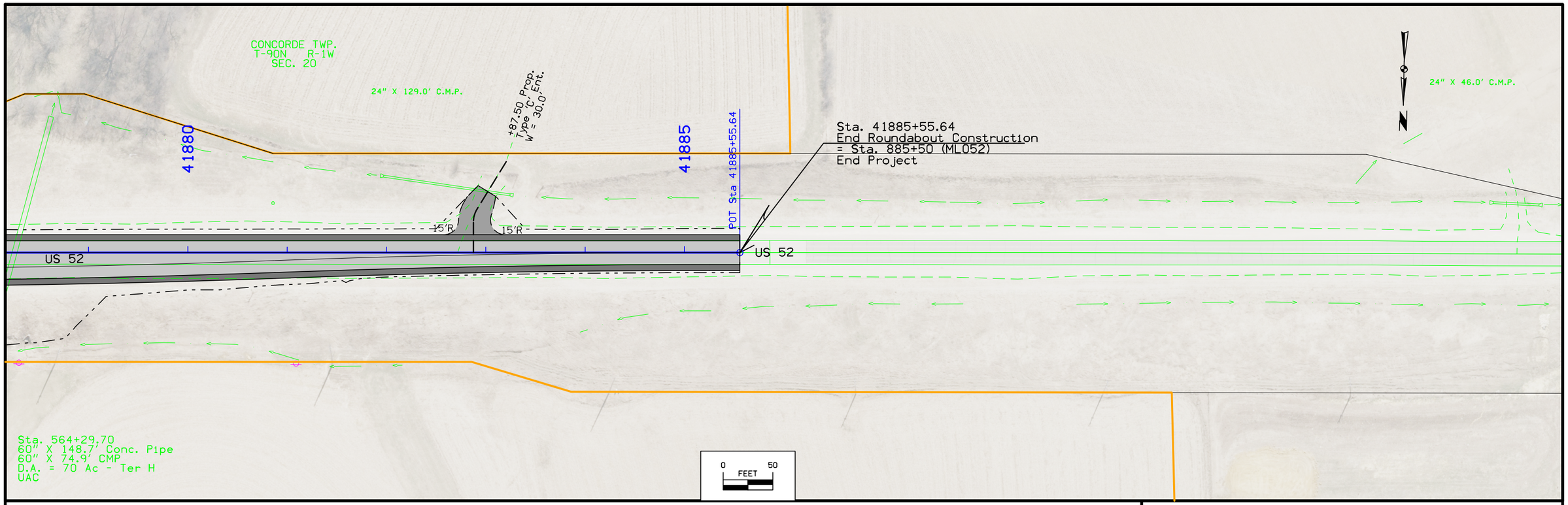
U.A.C.

1,117.45 1,117.83 1,118.20 1,118.58 1,118.95 1,119.33 1,119.71 1,120.09 1,120.48 1,120.86 1,121.24 1,121.63 1,122.02 1,122.41 1,122.80 1,123.19 1,123.58 1,123.97 1,124.37 1,124.76 1,125.16 1,125.56 1,125.96 1,126.36 1,126.76 1,127.16 1,127.57 1,127.97 1,128.38 1,128.79 1,129.20 1,129.61 1,130.02 1,130.43 1,130.85 1,131.26 1,131.68 1,132.10 1,132.52 1,132.94 1,133.36 1,133.78 1,134.21 1,134.63 1,135.05 1,135.48 1,135.90 1,136.33 1,136.75 1,137.17 1,137.60 1,138.02 1,138.45 1,138.87 1,139.29 1,139.72 1,140.14 1,140.57 1,140.99 1,141.41 1,141.84 1,142.26 1,142.69 1,143.11 1,143.53 1,143.96 1,144.38 1,144.81 1,145.23 1,145.65 1,146.08 1,146.50 1,146.93 1,147.35 1,147.77 1,148.02 1,148.22 1,148.42 1,148.62 1,148.82 1,149.02 1,149.22 1,149.42 1,149.62 1,149.82 1,150.02 1,150.22 1,150.42 1,150.62 1,150.82 1,151.00 1,151.18 1,151.36 1,151.53 1,151.71 1,151.89 1,152.07 1,152.25 1,152.42 1,152.60 1,152.78 1,152.96 1,153.13 1,153.31 1,153.49 1,153.67 1,153.85 1,154.02 1,154.20 1,154.38 1,154.56 1,154.74 1,154.91 1,155.09 1,155.27 1,155.45 1,155.62 1,155.80 1,155.98 1,156.16 1,156.33 1,156.51 1,156.68 1,156.84 1,157.00 1,157.16 1,157.31 1,157.46 1,157.61 1,157.75 1,157.89 1,158.03 1,158.16 1,158.29 1,158.41 1,158.53 1,158.65 1,158.76

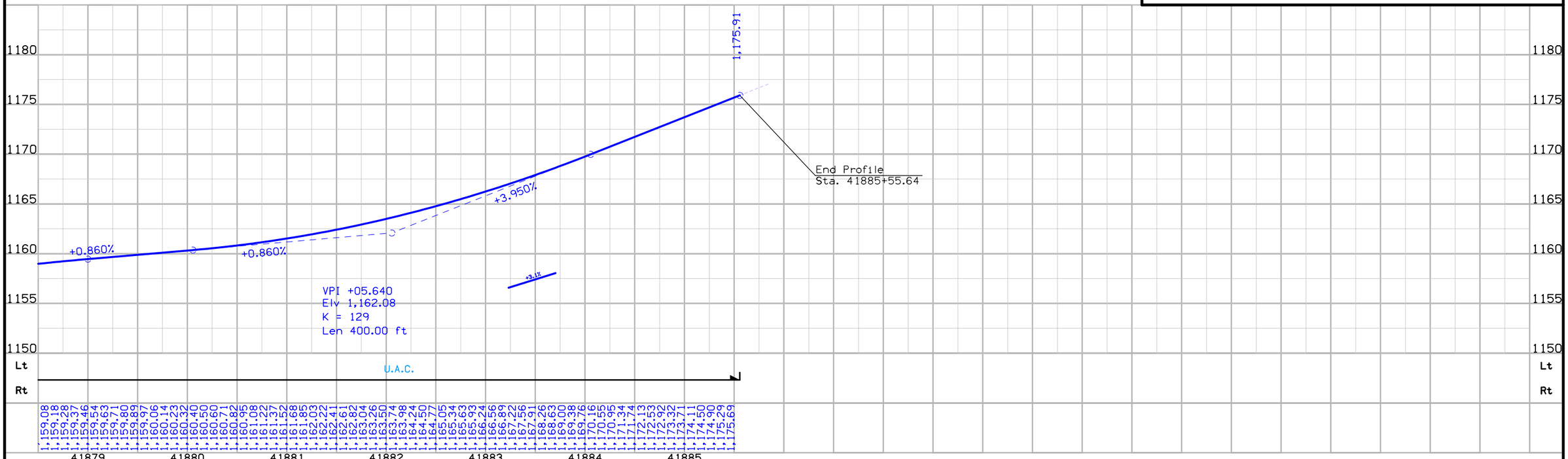
41865 41866 41867 41868 41869 41870 41871 41872 41873 41874 41875 41876 41877 41878

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER D.13

3:56:21 PM 10/2/2017 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120d02.sht

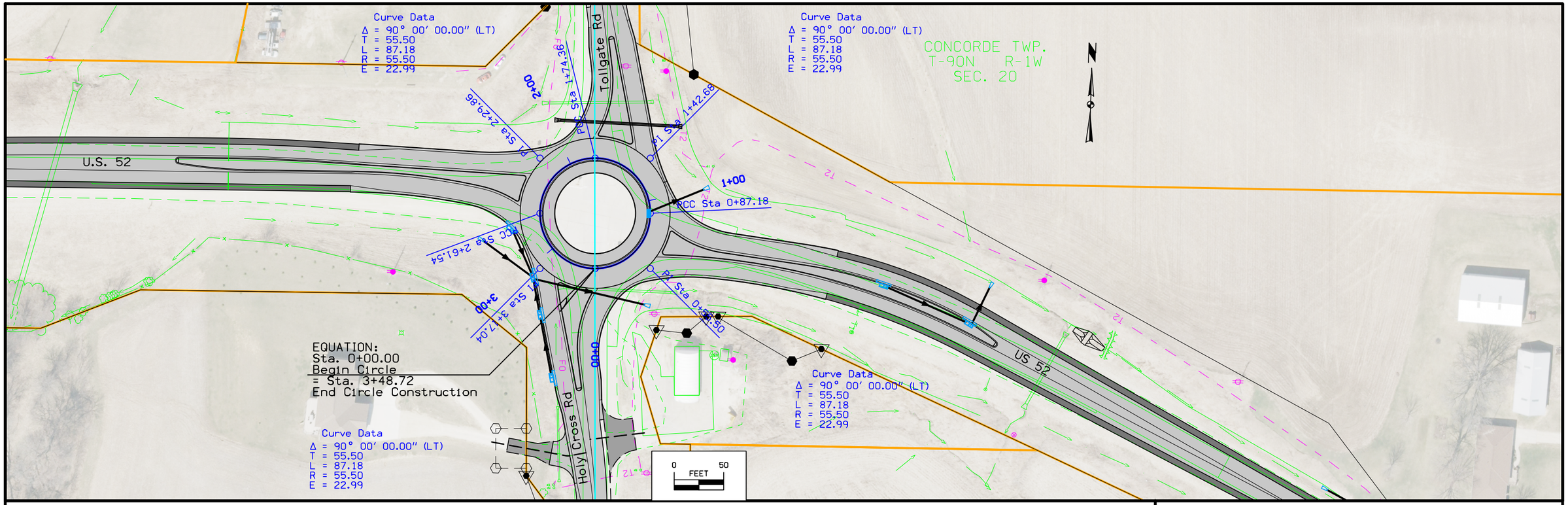


EB US 52 & Roundabout

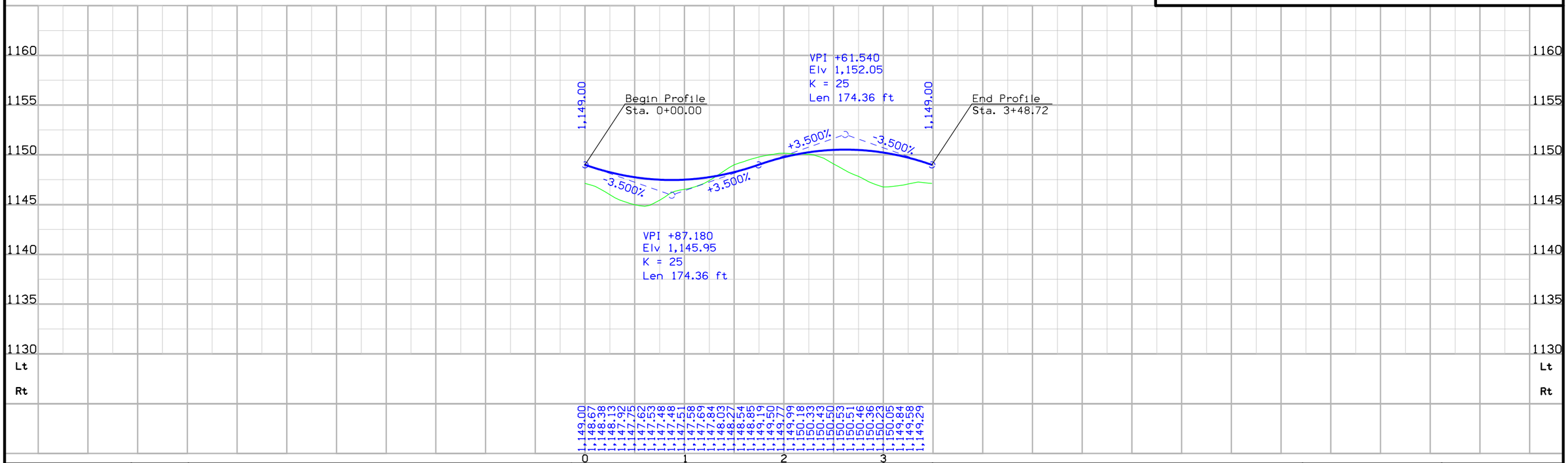


FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER D.14

3:56:27 PM 10/2/2017 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120d02.sht



Roundabout Circulator



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER E.1

4:06:39 PM 10/2/2017 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\31052020l0\Design_(120)_Sec3\31052120e01.sht

CONCORDE TWP.
T-90N R-1W
SEC. 20

Curve Data
Δ = 6° 53′ 45.82″ (LT)
T = 30.13
L = 60.18
R = 500.00
E = 0.91

Sta. 426877+24.32
Stop NB Holy Cross Construction

Sta. 426874+25.00
Begin NB Holy Cross Construction

15" X 23.8' C.M.P.

18" X 70.6' C.M.P.

Sta. 558+96.99, 83.09' Lt.
24" X 107.9' CMP
D.A. = 1.5 Ac - Ter R

Sta. 559+89.56, 449.74' Rt.
30" X 101.5' CMP
D.A. = 1.5 Ac - Ter R

Curve Data
Δ = 6° 57′ 05.88″ (LT)
T = 21.26
L = 42.47
R = 350.00
E = 0.65

426875
426880
426885

PC Sta 426874+95.66
PT Sta 426875+55.84
PC Sta 426876+98.53
PT Sta 426878+99.00
PC Sta 426881+00.58
PT Sta 426882+17.61
PCT Sta 426886+17.61

Holy Cross Rd

Maple Road

15′R

Tollgate Rd.

Tollgate Rd

Sta. 426883+15.31
End NB Holy Cross Construction

Permanent ROW

Sta. 558+21.18, 327.82' Lt.
24" X 63.5' CMP
D.A. = 1 Ac - Ter R

PT Sta 426875+25.78

(HOLYCROSSNB)
+68.00 Prop.
Type 'C' Ent.
W=32'

Shed

PC Sta 426876+48.84
PT Sta 426877+72.66

PC Sta 426878+56.53
PT Sta 426878+77.79
PC Sta 426880+54.01
PT Sta 426881+46.89

Sta. 426878+70.58
Resume NB Holy Cross Construction

Sta. 559+46.97, 100.09' Rt.
24" X 99.6' CMP
D.A. = 2.5 Ac - Ter R

Curve Data
Δ = 10° 38′ 37.48″ (RT)
T = 46.58
L = 92.88
R = 500.00
E = 2.16

Curve Data
Δ = 50° 38′ 49.33″ (RT)
T = 49.69
L = 92.82
R = 105.00
E = 11.16

US 52

0 50
FEET

NB Holy Cross Rd & Roundabout

Begin Profile
Sta. 426874+25.00

1,157.93

-2.350%

VPI +50.000
Elv 1,155.00
K = 131
Len 125.00 ft

-3.307%

VPI +24.320
Elv 1,149.23

-0.580%

Stop Profile
Sta. 426877+24.32

VPI +70.580
Elv 1,148.38

Resume Profile
Sta. 426878+70.58

+3.308%

+5.150%

VPI +23.230
Elv 1,164.62
K = 139
Len 125.00 ft

1,168.53

+4.250%

End Profile
Sta. 426883+15.31

+00 Rt.
1159.26

+4.26% Rt. Ditch Grade

VPI +75.000
Elv 1,151.84
K = 68
Len 125.00 ft

+88 Rt.
1141.70

U.A.C.
3′ Ditch
Ditch Grade

1175
1170
1165
1160
1155
1150
1145
Lt
Rt

426872	426873	426874	426875	426876	426877	426878	426879	426880	426881	426882	426883	426884	426885	426886

Lt	Rt
157.82	157.82
157.58	157.58
157.35	157.35
157.11	157.11
156.88	156.88
156.64	156.64
156.41	156.41
156.17	156.17
155.92	155.92
155.66	155.66
155.40	155.40
155.13	155.13
154.85	154.85
154.56	154.56
154.27	154.27
153.96	153.96
153.65	153.65
153.34	153.34
153.01	153.01
152.68	152.68
152.35	152.35
152.02	152.02
151.69	151.69
151.36	151.36
151.03	151.03
150.70	150.70
150.37	150.37
150.04	150.04
149.70	149.70
149.37	149.37
149.20	149.20
149.14	149.14
149.08	149.08
149.02	149.02
148.97	148.97
148.91	148.91
148.85	148.85
148.79	148.79
148.73	148.73
148.68	148.68
148.62	148.62
148.56	148.56
148.50	148.50
148.44	148.44
148.39	148.39
148.69	148.69
149.02	149.02
149.36	149.36
149.69	149.69
150.02	150.02
150.37	150.37
150.73	150.73
151.11	151.11
151.51	151.51
151.91	151.91
152.34	152.34
152.77	152.77
153.23	153.23
153.69	153.69
154.18	154.18
154.67	154.67
155.18	155.18
155.70	155.70
156.21	156.21
156.73	156.73
157.24	157.24
157.76	157.76
158.27	158.27
158.79	158.79
159.30	159.30
159.82	159.82
160.33	160.33
160.85	160.85
161.36	161.36
161.88	161.88
162.38	162.38
162.88	162.88
163.37	163.37
163.85	163.85
164.33	164.33
164.80	164.80
165.26	165.26
165.71	165.71
166.16	166.16
166.60	166.60
167.03	167.03
167.46	167.46
167.88	167.88
168.31	168.31

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
		J1a \ Skogerboe \ Altenhofen	DUBUQUE	HSIPX-052-2(120)--3L-31	E.2

4:06:45 PM 10/2/2017 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120e01.sht

CONCORDE TWP.
T-90N R-1W
SEC. 20

Sta. 558+96.99, 83.09' Lt.
24" X 107.9' CMP
D.A. = 1.5 Ac - Ter R
Remove

Sta. 436877+35.36
Stop SB Holy Cross Construction

Sta. 436874+25.00
Begin SB Holy Cross Construction

(HOLYCROSSSB)
+55.00 Prop.
Type 'C'
W = 24.0'
Ent.

436875

18" X 70.6' C.M.P.

15" X 23.8' C.M.P.
UAC

Holy Cross Rd

US 52

436880

Sta. 436883+05, 449.34' Rt.
30" X 101.5' CMP
D.A. = 1.5 Ac - Ter R
Plug and Abandon Existing

(MAPLE ROAD)
+31.93 Prop.
Type 'B'
W = 26.0'
Ent.

436885

15'R

15'R

Tollgate Rd

Sta. 436883+15.00
End SB Holy Cross Construction

Sta. 436878+81.64
Resume SB Holy Cross Construction

Sta. 558+21.18, 327.82' Lt.
24" X 63.5' CMP
D.A. = 1 Ac - Ter R
UAC

US 52

0 50
FEET

Sta. 436879+05, 100.09' Rt.
24" X 99.6' CMP
D.A. = 2.5 Ac - Ter R

SB Holy Cross Rd & Roundabout

Begin Profile
Sta. 436874+25.00

1,157.93

-2.350%

+70 Lt.
1153.00

+0.45% Lt.
Ditch Grade

+26 Lt.
1153.25

VPI +50.000
Elv 1,154.99
K = 139
Len 125.00 ft

Stop Profile
Sta. 436877+35.36

-3.250%

-1.188%

VPI +35.360
Elv 1,150.21

-0.583%

VPI +81.640
Elv 1,149.36

Resume Profile
Sta. 436878+81.64

+2.665%

+2.665%

VPI +75.000
Elv 1,150.93
K = 48
Len 100.00 ft

VPI +75.000
Elv 1,151.85
K = 50
Len 125.00 ft

+5.150%

+3.17% Lt.
DG

+50 Lt.
1152.47

+4.67% Lt.
Ditch Grade

+00 Lt.
1154.05

+67 Lt.
1157.20

VPI +25.000
Elv 1,164.72
K = 139
Len 125.00 ft

1,168.55

+4.250%

End Profile
Sta. 436883+15.00

0% +5.10%
DG

+03 Lt.
1160.80

+15 Lt.
1161.31

+05 Lt.
1160.80

1170
1165
1160
1155
1150
1145

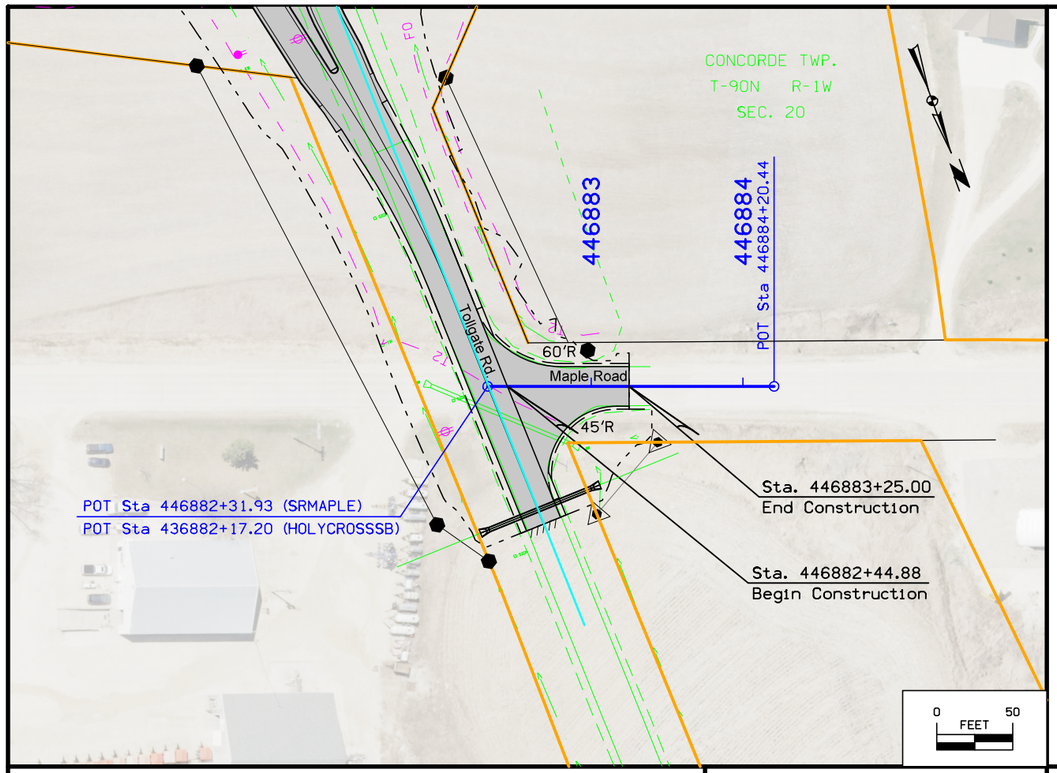
Lt
Rt

UAC | Ditch Grade | Curbed Shoulder | 3' Ditch | Ditch Grade | Side Road/U.A.C. | DG

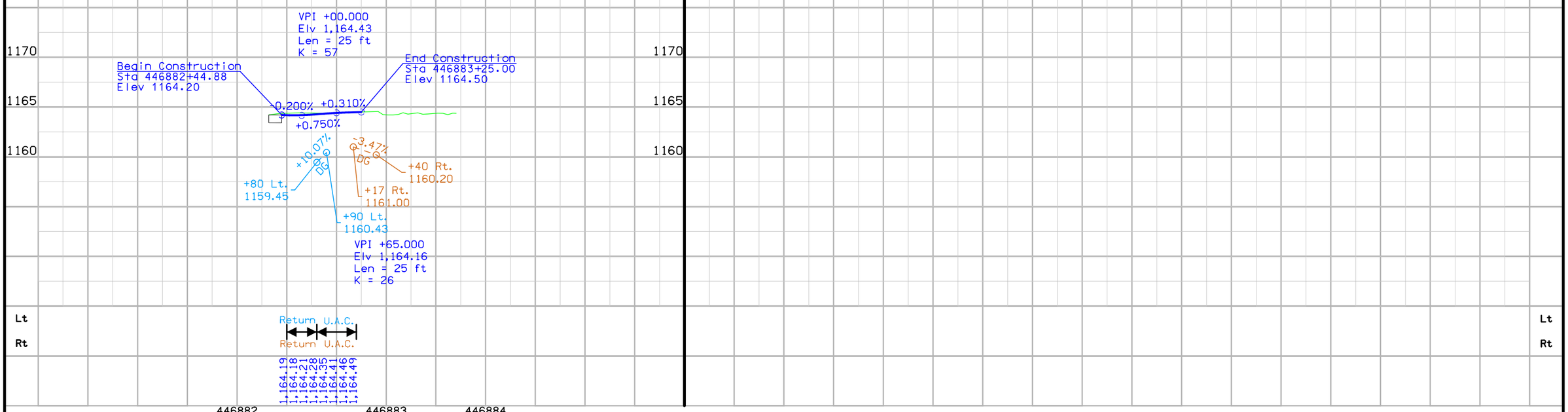
1,157.81 1,157.58 1,157.34 1,157.11 1,156.87 1,156.64 1,156.40 1,156.16 1,155.91 1,155.66 1,155.40 1,155.13 1,154.85 1,154.57 1,154.28 1,153.98 1,153.67 1,153.36 1,153.04 1,152.72 1,152.40 1,152.09 1,151.81 1,151.64 1,151.30 1,151.08 1,150.88 1,150.70 1,150.54 1,150.40 1,150.28 1,150.19 1,150.13 1,150.07 1,150.01 1,149.95 1,149.89 1,149.84 1,149.78 1,149.72 1,149.66 1,149.60 1,149.54 1,149.49 1,149.43 1,149.37 1,149.58 1,149.85 1,150.12 1,150.39 1,150.68 1,150.99 1,151.32 1,151.67 1,152.04 1,152.43 1,152.84 1,153.28 1,153.73 1,154.20 1,154.69 1,155.20 1,155.71 1,156.23 1,156.74 1,157.26 1,157.77 1,158.29 1,158.80 1,159.32 1,159.83 1,160.35 1,160.86 1,161.38 1,161.89 1,162.39 1,162.89 1,163.38 1,163.87 1,164.35 1,164.82 1,165.28 1,165.73 1,166.18 1,166.62 1,167.06 1,167.49 1,167.91 1,168.34

436872 436873 436874 436875 436876 436877 436878 436879 436880 436881 436882 436883 436884 436885 436886

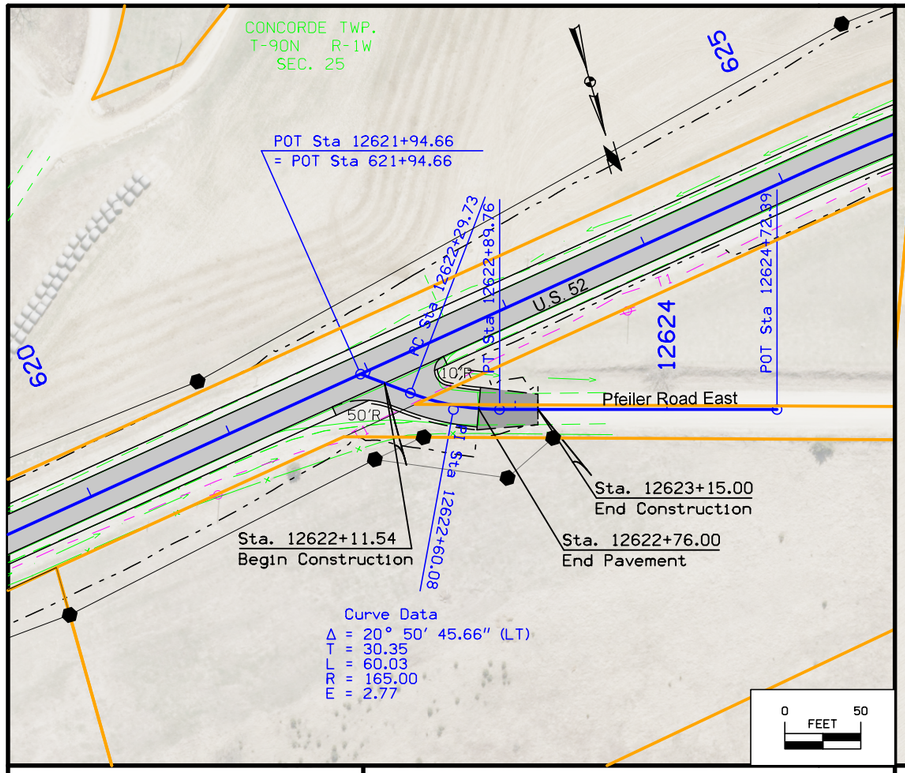
FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER E.3

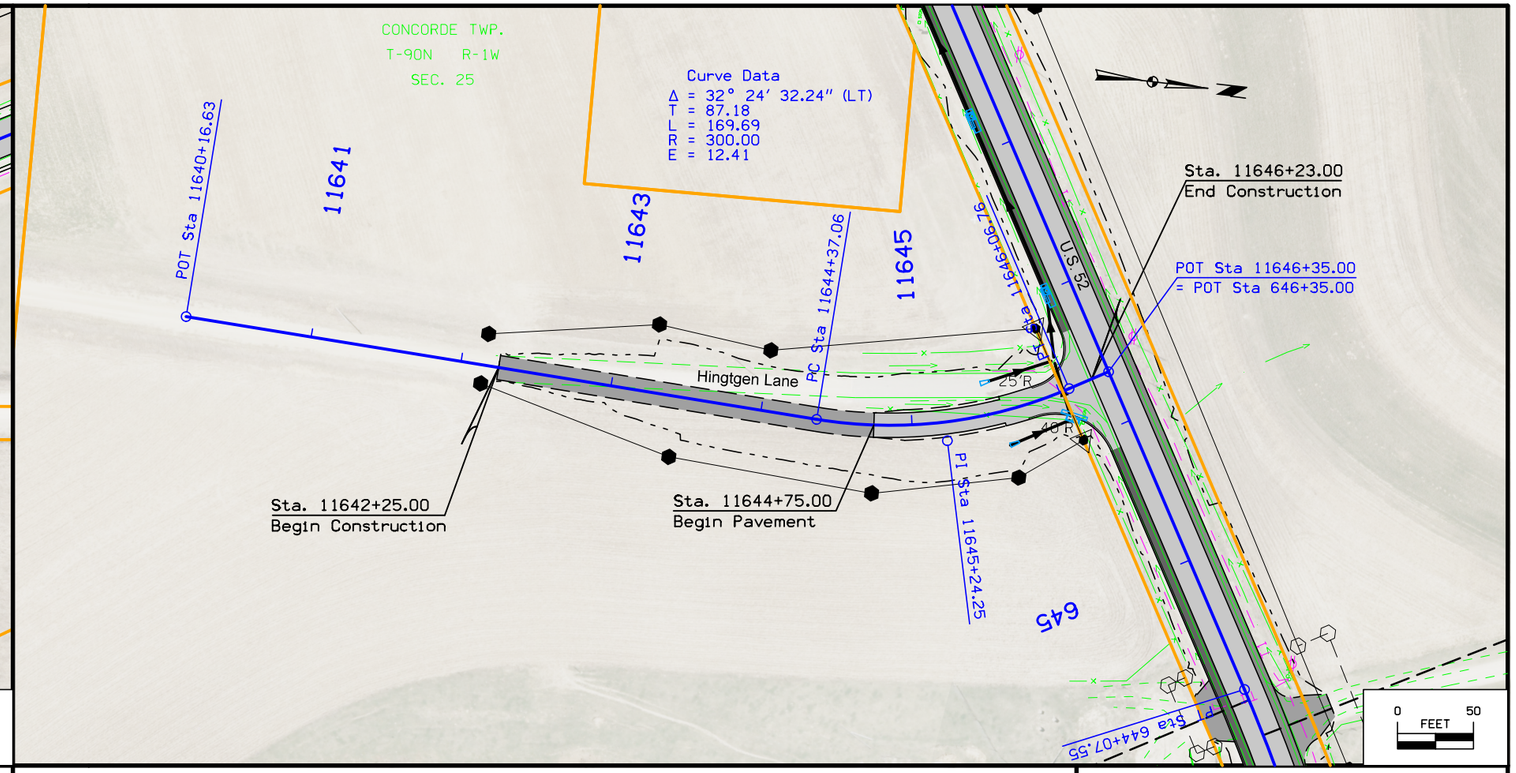


Maple Road

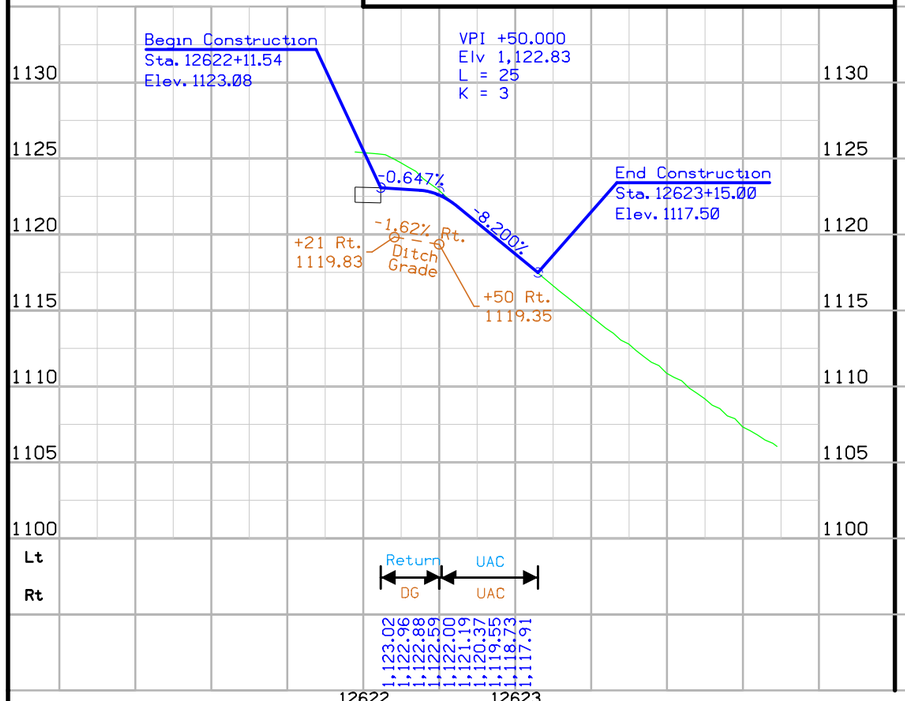


FILE NO.	ENGLISH	DESIGN TEAM	J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER	HSIPX-052-2(120)--3L-31	SHEET NUMBER	E.4

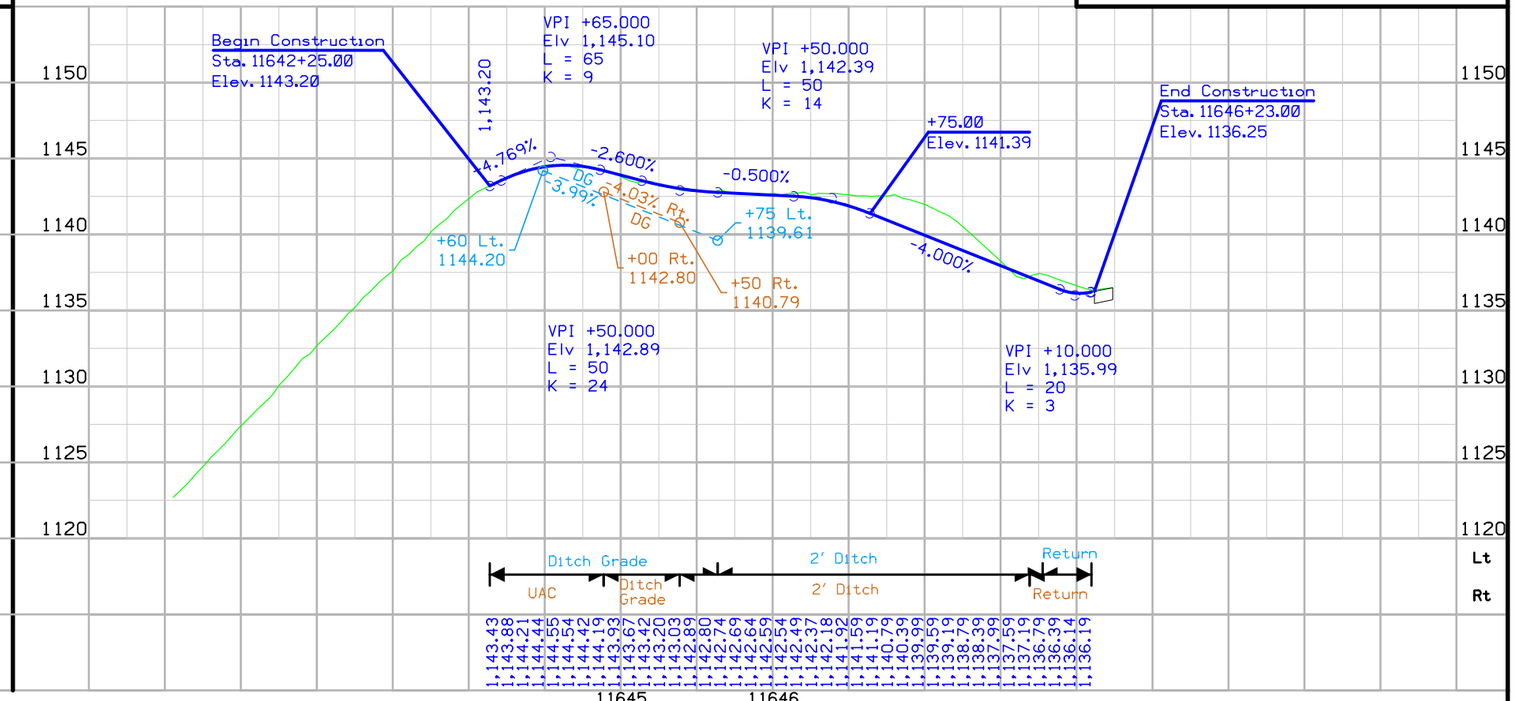




Pfeiler Road East



Hingtgen Lane



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER E.5

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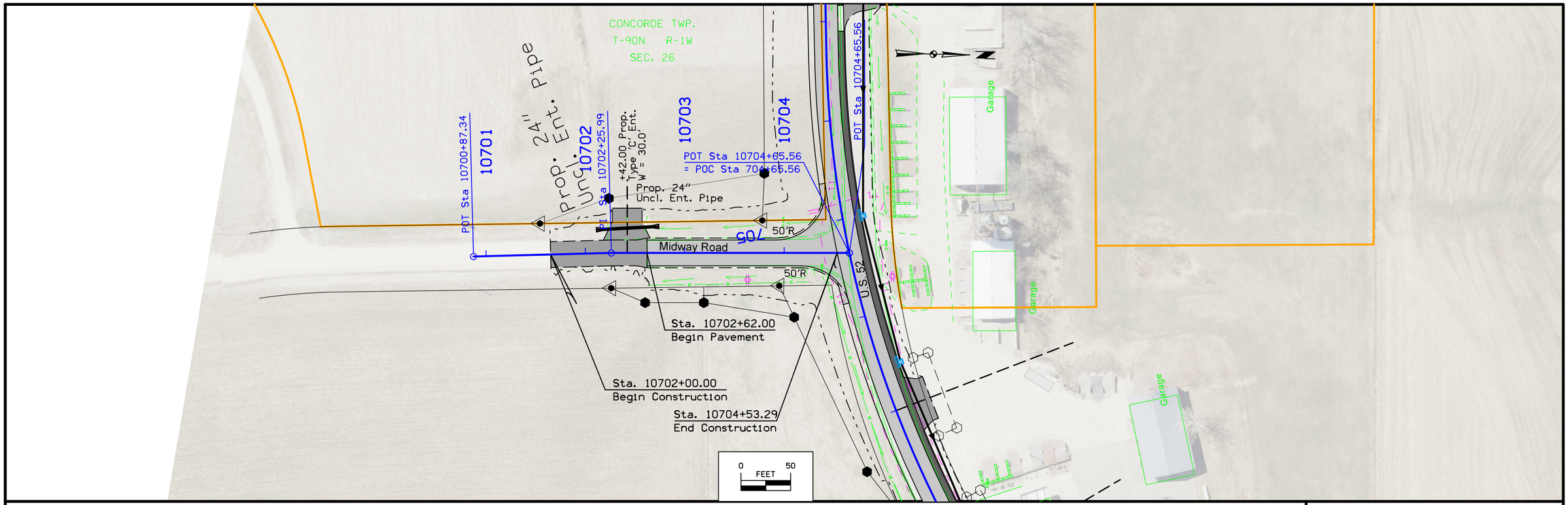
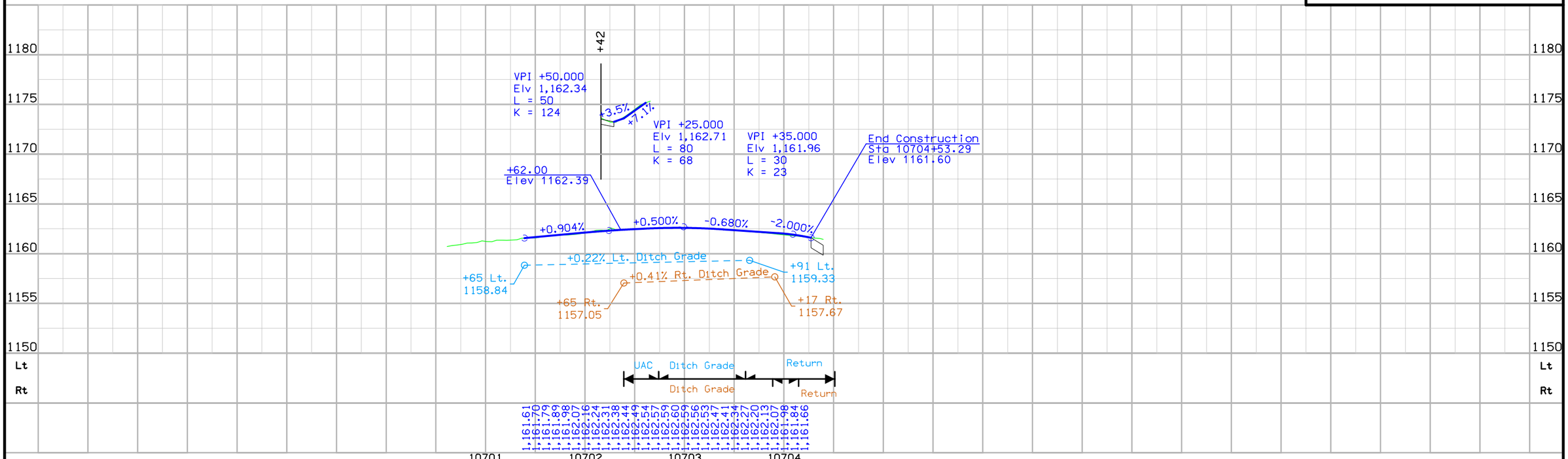


Midway Road



FILE NO.	ENGLISH	DESIGN TEAM	J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER	HSIPX-052-2(120)--3L-31	SHEET NUMBER	E.6

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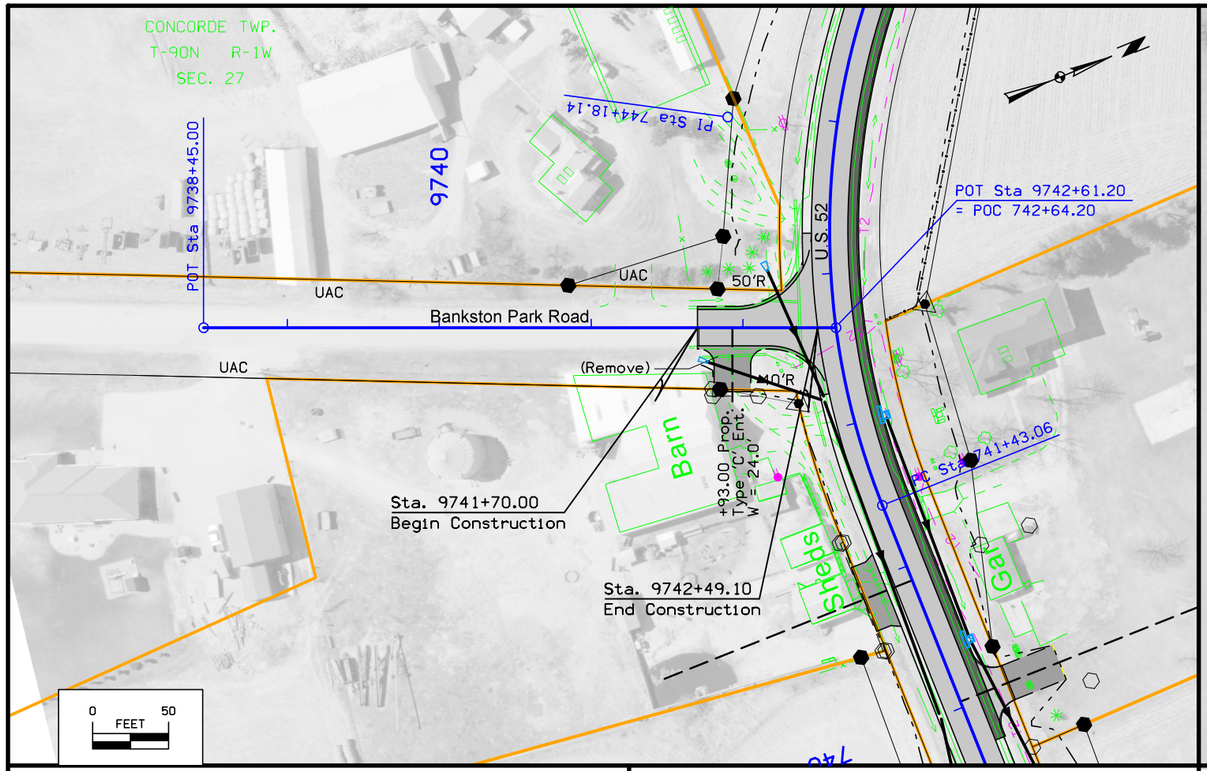
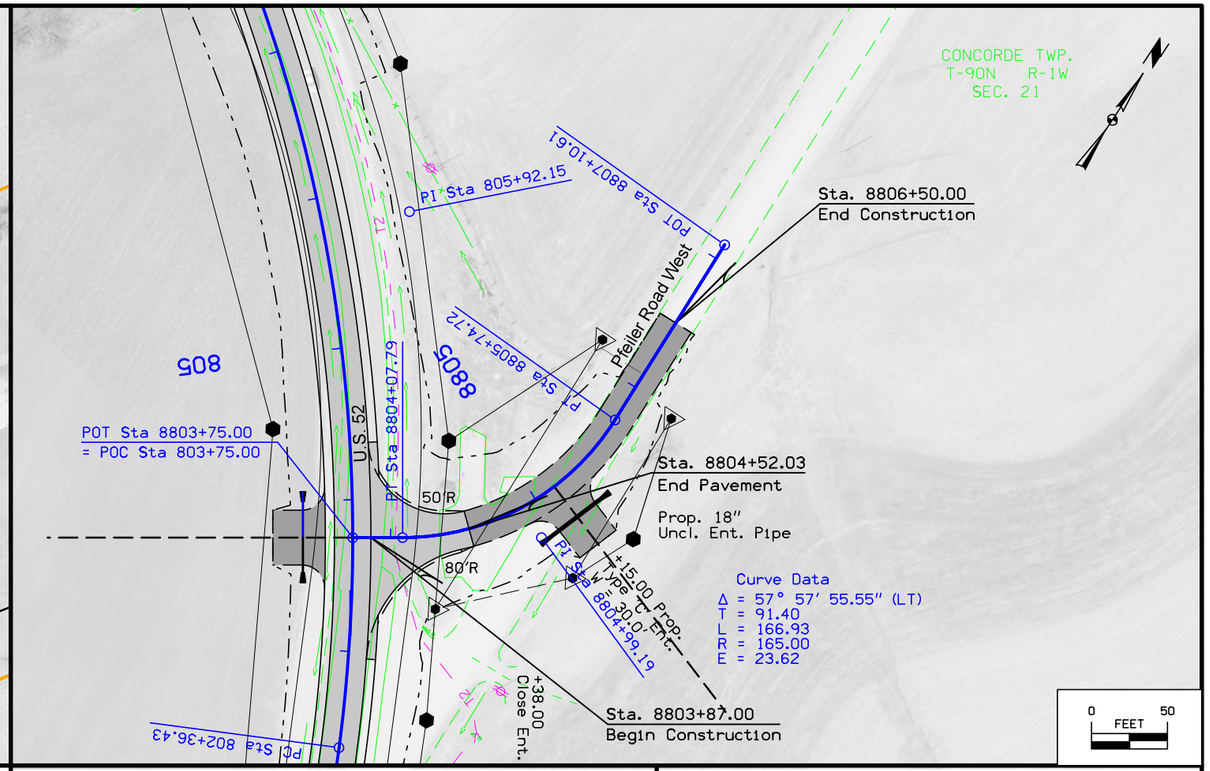
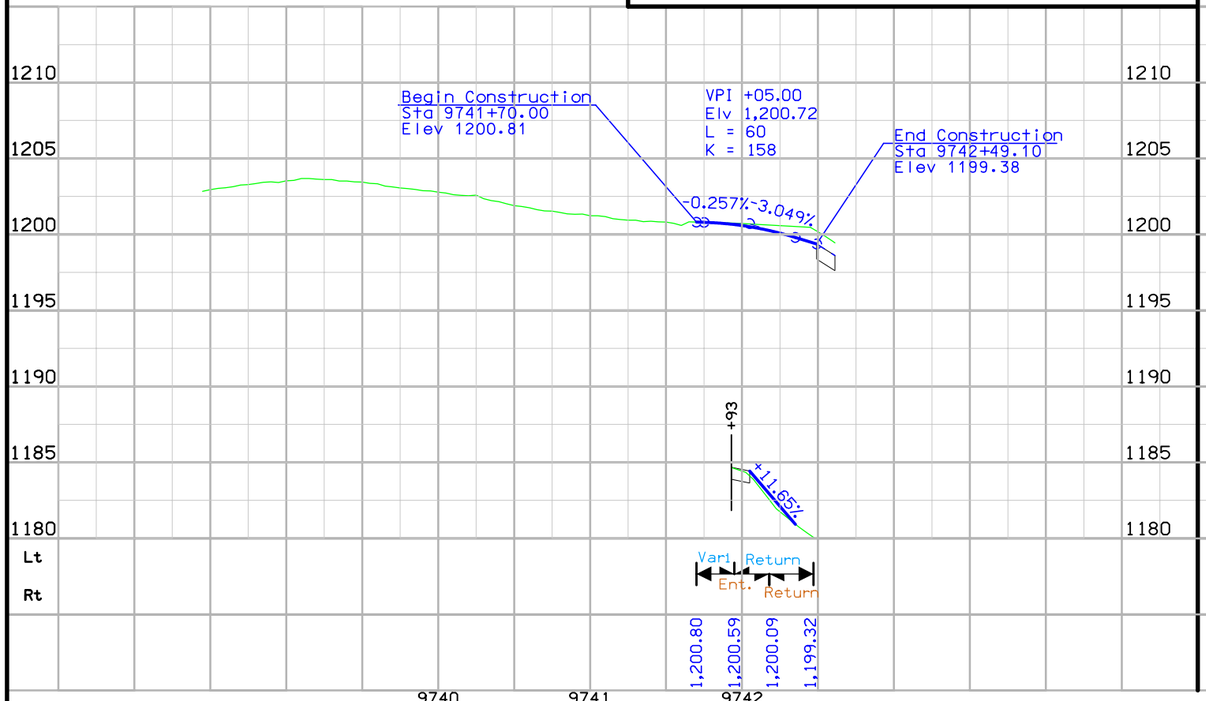
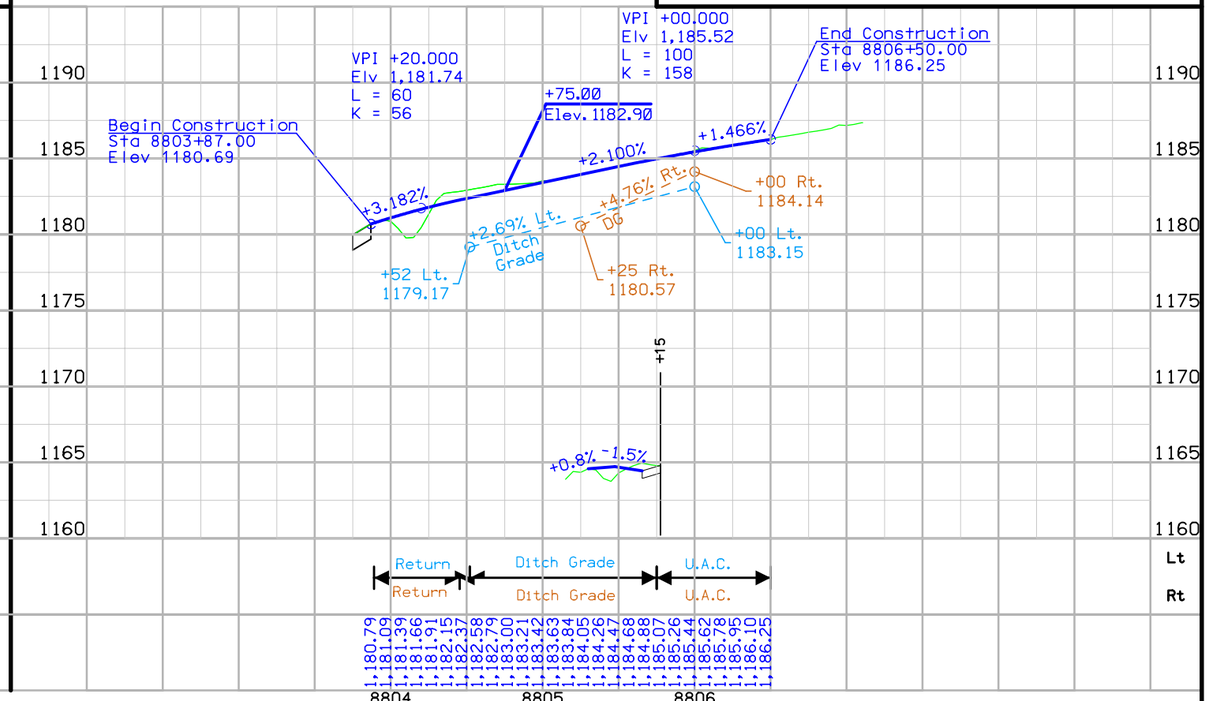




Bankston Park Road

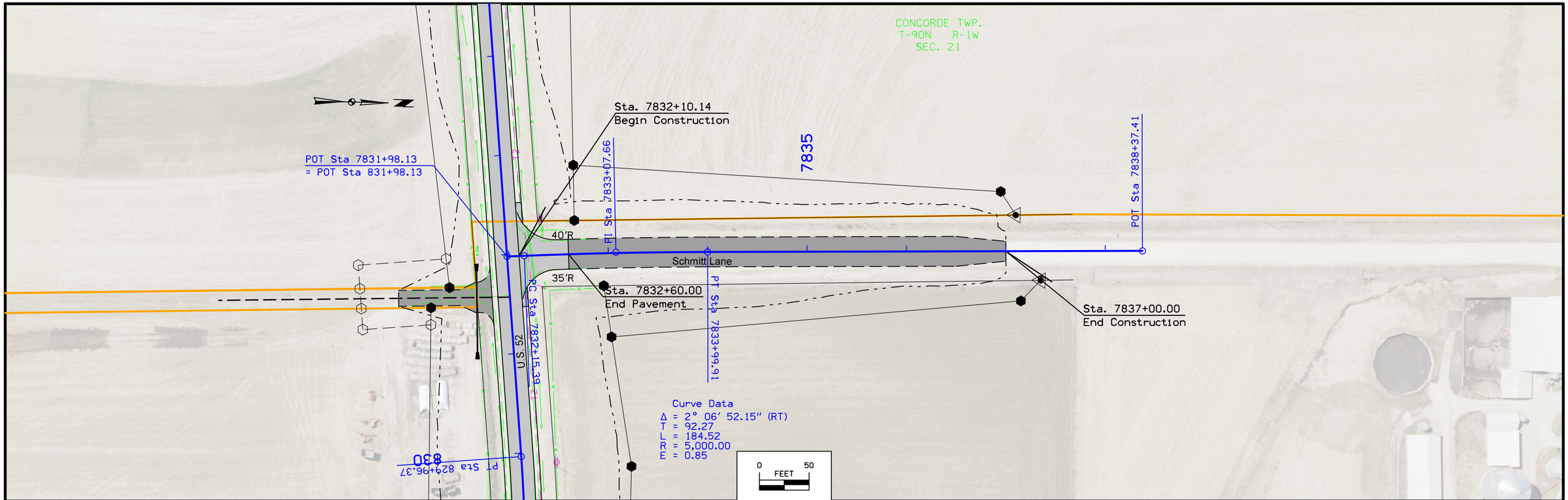


Pfeiler Road West



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER E.7

11:18:32 AM 11/13/2017 kromsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\31052020l0\Design_(120)_Sec3\31052120e01.sht



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER E.8

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Survey Information

General Information

Measurement units for this survey are US survey feet. This survey is for proposed HMA resurfacing and widening. Project datum and control information is provided by Design Survey Office. This project is a full DTM survey. This survey is for segment 3 of 4 total segments in Project Scheduling as of April 11, 2013.

Geoid 12A was used for GNSS observations on this project.

Vertical Control

Vertical datum for this survey is NAVD 88 relative to National Geodetic Survey marks located throughout the project.

NGS 1st. Order Class I mark designated A178 has a published Elev. Of 1121.97
Survey Elev. = 1121.97

NGS 1st. Order Class I mark designated F178 has a published Elev. Of 1101.50
Survey Elev. = 1101.50

NGS 1st. Order Class I mark designated H178 has a published Elev. Of 1133.84
Survey Elev. = 1133.84

Horizontal Control

A National Geodetic Survey marker was used to transfer NAD 83 (2011) Iowa State Plane North Zone (US Survey Feet.) coordinates to Project Control. Redundant RTK observations were used to verify the published values. The project coordinates are scaled around NGS Pt. A178 at 3687343.14 N, 5619919.96 E, 1121.97 EL. Additional control points were placed throughout the project using a GNSS Base-Rover setup relative to Pt. A178. A minimum of three observations with appropriate time spans between were averaged. The horizontal standard deviation of these observations was less than 0.03 ft. at 95% confidence level (2 sigma).

1/Combined Scale Factor of project= 1.000102260823

Alignment Information

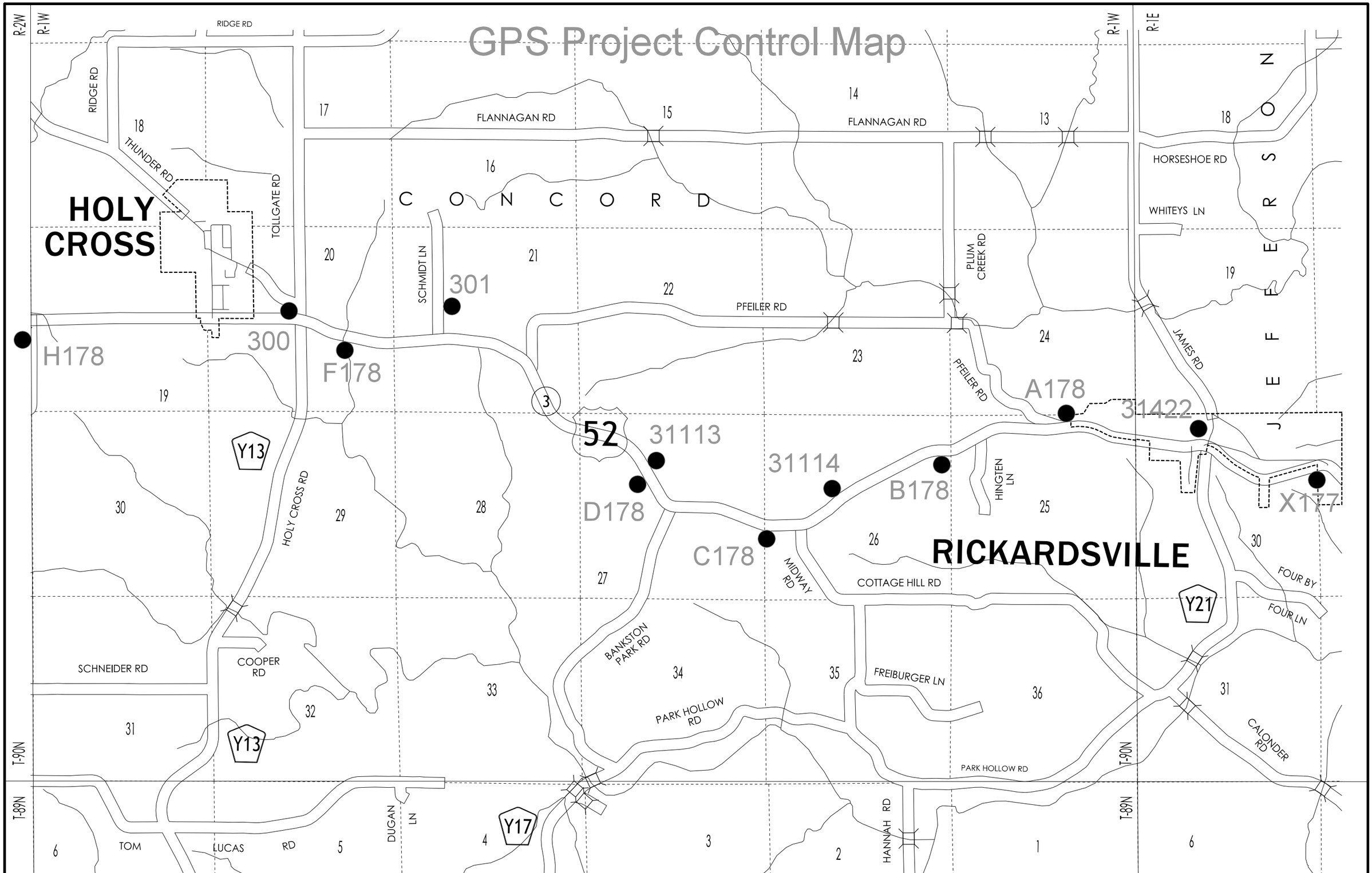
The horizontal alignment for this survey is a retrace of As-built Plans Fed. Aid Project No. 148 (1926 Paving). Survey stationing was equated to the plan PI at STA 549+43.4 and run back and ahead without station equation throughout the survey.

A 1964 Pavement widening plan FN-3-9(2)21-31 was also referenced to develop alignment. The widening plan added at least one curve and apparently modified curve data on some curves. Survey alignment is intended to best fit the existing centerline while keeping survey curve data as close to plan curve data as reasonable. The alignment contains 25 curves and 2 additional PI's. Survey located numerous reference monuments from the 1926 Paving project adjacent to PCs and PTs and used the record offset to centerline wherever possible. Survey also made an effort to use the record tangent length and/or record degree of curve wherever possible.

Survey stationing varies from plan stationing between 0 and four feet between the beginning of the alignment at PC Sta. 255+58.13 and PI Sta.549+43.40. West and ahead of PI Sta.549+43.4 a 1994 Grade & PCC Pave Plan at the intersection of US 52 with County Trunk Y-13 Just East of Holy Cross reconstructed and shortened the 1926 Paving alignment by several feet. Due to the fact Survey stationing is continuous and follows the 1994 reconstruction the stationing at the west end of the alignment is about 10 ft. less than the 1926 Paving plan.

GPS PROJECT CONTROL

Point	North	East	Elevation	Station	Offset	Feature	Description
X177	3686325.817	5627261.395	905.860	Off Chain	Off Chain	CP	FD COAST GEODETIC SURVEY BENCH MARK
31422	3686941.205	5624047.811	1109.387	265+97.31	84.079	CP	FD COAST GEODETIC SURVEY - STATE SURVEY STATION 31 NO. 422 - 6IN X 6IN CONC BASE
A178	3687343.140	5619919.960	1121.970	307+75.26	44.167	CP	FD COAST GEODETIC SURVEY BENCH MARK
B178	3686559.650	5616418.446	1137.980	344+55.07	-27.152	CP	FD US COAST GEODETIC SURVEY BENCH MARK
31114	3685141.318	5613517.042	1150.290	377+13.36	35.348	CP	FD COAST GEODETIC SURVEY - STATE SURVEY STATION 31 NO. 114 - 6IN X 6IN CONC BASE
C178	3684207.773	5611414.565	1177.670	400+74.85	-123.347	CP	FD COAST GEODETIC SURVEY BENCH MARK
D178	3685635.834	5608032.585	1190.940	439+43.61	-31.321	CP	FD COAST GEODETIC SURVEY BENCH MARK
31113	3685887.472	5607954.560	1188.605	441+99.59	30.996	CP	FD COAST GEODETIC SURVEY - STATE SURVEY STATION 31 NO.118 - 6IN X 6IN CONC BASE
301	3689803.299	5601916.345	1202.160	517+67.09	306.336	CP	SET 5/8" REBAR
F178	3689504.974	5599259.196	1101.50	544+70.19	-32.436	CP	FOUND NGS MONUMENT DESIGNATION F178 - PID NJ0373
300	3690124.502	5597819.862	1160.675	560+11.50	126.350	CP	FD ALUMINUM DISK
H178	3689643.411	5590167.017	1133.840	Off Chain	Off Chain	CP	FOUND NGS MONUMENT DESIGNATION H178 - PID NJ0422



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER G.2

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ALIGNMENT COORDINATES

101-16
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
ML052																			
25225		569+58.27	3,686,279.39	5,624,879.13															
25226								569+58.84	3,686,279.67	5,624,878.63	572+00.47	3,686,397.55	5,624,667.71	574+39.70	3,686,562.91	5,624,491.54			
25227								576+09.68	3,686,679.25	5,624,367.59	579+67.75	3,686,924.30	5,624,106.51	582+75.48	3,686,867.86	5,623,752.92			
25228								584+91.78	3,686,833.76	5,623,539.32	586+24.43	3,686,812.85	5,623,408.33	587+55.37	3,686,828.62	5,623,276.62			
25229		594+00.00	3,686,905.26	5,622,636.57															
25300		600+00.00	3,686,976.60	5,622,040.82															
25301								605+72.77	3,687,044.70	5,621,472.12	607+66.17	3,687,067.69	5,621,280.09	609+55.36	3,687,157.02	5,621,108.56			
25302								610+25.06	3,687,189.21	5,621,046.73	614+85.51	3,687,401.88	5,620,638.35	619+15.97	3,687,336.31	5,620,182.60			
25303								625+15.17	3,687,250.97	5,619,589.51	626+40.77	3,687,233.08	5,619,465.18	627+65.74	3,687,237.14	5,619,339.64			
25304								638+20.96	3,687,271.25	5,618,284.97	641+21.98	3,687,280.98	5,617,984.11	644+07.55	3,687,131.13	5,617,723.04			
25305								652+16.53	3,686,728.41	5,617,021.42	655+13.75	3,686,580.46	5,616,763.64	657+96.08	3,686,588.09	5,616,466.53			
25306								657+96.08	3,686,588.09	5,616,466.53	661+37.70	3,686,596.86	5,616,125.02	664+63.63	3,686,433.72	5,615,824.88			
25307								683+18.62	3,685,547.83	5,614,195.10	684+82.19	3,685,469.71	5,614,051.40	686+45.48	3,685,377.65	5,613,916.20			
25308								689+75.91	3,685,191.66	5,613,643.08	691+07.54	3,685,117.57	5,613,534.29	692+38.42	3,685,024.87	5,613,440.84			
25309								694+17.72	3,684,898.59	5,613,313.56	695+06.30	3,684,836.21	5,613,250.68	695+94.47	3,684,785.13	5,613,178.31			
25310								700+56.03	3,684,518.94	5,612,801.23	703+69.88	3,684,337.95	5,612,544.83	706+66.30	3,684,325.72	5,612,231.22			
25311								712+29.24	3,684,303.80	5,611,668.70	714+32.11	3,684,295.89	5,611,465.99	716+30.13	3,684,363.40	5,611,274.68			
25312								727+80.75	3,684,746.29	5,610,189.63	729+57.78	3,684,805.20	5,610,022.69	731+31.58	3,684,806.66	5,609,845.67			
25313								741+43.06	3,684,815.02	5,608,834.21	744+18.14	3,684,817.30	5,608,559.15	746+44.36	3,685,053.31	5,608,417.85			
25314								758+99.09	3,686,129.84	5,607,773.33	765+20.52	3,686,663.01	5,607,454.12	770+71.53	3,686,793.43	5,606,846.53			
25315								780+92.07	3,687,007.61	5,605,848.71	786+48.04	3,687,124.30	5,605,305.12	791+26.63	3,687,624.47	5,605,062.37			
25316								802+36.43	3,688,622.90	5,604,577.81	805+92.15	3,688,942.92	5,604,422.49	809+22.84	3,689,104.47	5,604,105.57			
25317								813+95.17	3,689,318.96	5,603,684.75	815+99.61	3,689,411.81	5,603,502.60	817+99.10	3,689,430.25	5,603,298.99			
25318								827+31.06	3,689,514.32	5,602,370.83	828+64.10	3,689,526.32	5,602,238.34	829+96.37	3,689,513.67	5,602,105.91			
25319								845+62.89	3,689,364.76	5,600,546.47	848+40.55	3,689,338.37	5,600,270.07	851+14.30	3,689,392.17	5,599,997.68			
25320								861+85.09	3,689,599.67	5,598,947.18	863+33.86	3,689,628.49	5,598,801.24	864+80.69	3,689,696.38	5,598,668.87			
25321								867+10.49	3,689,801.25	5,598,464.39	871+86.60	3,690,018.51	5,598,040.74	876+43.50	3,690,010.33	5,597,564.70			
25400		888+77.71	3,689,989.12	5,596,330.68															
ML052EB																			
9099		41861+85.10	3,689,599.67	5,598,947.18															
9100								41861+85.10	3,689,599.67	5,598,947.18	41863+22.63	3,689,626.32	5,598,812.26	41864+58.63	3,689,686.52	5,598,688.61			
9101								41868+72.98	3,689,867.89	5,598,316.06	41870+48.86	3,689,944.87	5,598,157.92	41872+17.61	3,689,937.97	5,597,982.18			
9102		41872+17.61	3,689,937.97	5,597,982.18															
9103		41873+33.04	3,689,974.30	5,597,872.61															
9104								41873+33.04	3,689,974.30	5,597,872.61	41873+63.89	3,689,995.64	5,597,850.34	41873+93.04	3,690,001.55	5,597,820.07			
9105								41873+93.04	3,690,001.55	5,597,820.07	41874+56.25	3,690,013.65	5,597,758.03	41875+19.00	3,690,012.57	5,597,694.83			
9106		41885+55.64	3,689,994.75	5,596,658.34															
ML052WB																			
8999		40861+85.10	3,689,599.67	5,598,947.18															
9000								40861+85.10	3,689,599.67	5,598,947.18	40863+43.10	3,689,630.28	5,598,792.18	40864+98.79	3,689,704.77	5,598,652.84			
9001								40868+74.97	3,689,882.13	5,598,321.09	40869+69.44	3,689,926.67	5,598,237.78	40870+61.72	3,689,937.74	5,598,143.95			
9002								40871+41.85	3,689,947.13	5,598,064.37	40871+82.60	3,689,951.91	5,598,023.91	40872+19.58	3,689,982.72	5,597,997.25			
9003		40872+19.58	3,689,982.72	5,597,997.25															
9004		40873+40.94	3,690,017.87	5,597,881.10															
9005								40875+57.93	3,690,025.44	5,597,664.25	40876+07.86	3,690,027.19	5,597,614.35	40876+57.76	3,690,026.33	5,597,564.43			
9006								40876+57.76	3,690,026.33	5,597,564.43	40878+76.89	3,690,022.56	5,597,345.33	40880+95.96	3,690,010.80	5,597,126.52			
9007								40880+95.96	3,690,010.80	5,597,126.52	40883+15.09	3,689,999.04	5,596,907.72	40885+34.17	3,689,995.27	5,596,688.62			
9008		40885+64.46	3,689,994.75	5,596,658.34								13° 59′ 06.67″	RT 241.63′	480.85′	1,970.00′	14.76′			
SRPFEILERE																			
31100		12621+94.66	3,687,296.62	5,619,906.74															
31101								12622+29.73	3,687,317.78	5,619,878.78	12622+60.08	3,687,336.09	5,619,854.57	12622+89.76	3,687,344.60	5,619,825.44			
31103		12624+72.39	3,687,395.76	5,619,650.12															
SRPFEILERE_RET1																			
31110								0+00.00	3,687,312.18	5,619,930.64	0+20.87	3,687,309.21	5,619,909.99	0+39.53	3,687,321.80	5,619,893.35			
SRPFEILERE_RET2																			
31120								0+00.00	3,687,319.33	5,619,854.61	0+29.28	3,687,304.91	5,619,880.09	0+24.83	3,687,300.74	5,619,851.11			
SRHINGTGEN																			
31000		11640+16.63	3,686,410.69	5,617,560.62															
31000								11644+37.06	3,686,830.70	5,617,579.35	11645+24.25	3,686,917.80	5,617,583.24	11646+06.76	3,686,993.41	5,617,539.84			
31003		11646+35.00	3,687,017.90	5,617,525.78															

ALIGNMENT COORDINATES

101-16
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
SRHINGTGEN_RET3																			
31030								0+00.00	3,686,983.77	5,617,504.47	0+26.53	3,686,996.98	5,617,527.49	0+40.76	3,686,973.22	5,617,539.30			
SRHINGTGEN_RET4																			
31040								0+00.00	3,686,974.16	5,617,561.03	0+36.63	3,687,007.41	5,617,545.66	0+59.31	3,687,025.64	5,617,577.42			
SRMIDWAY																			
30900		10700+87.34	3,683,974.39	5,612,440.47															
30901		10702+25.99	3,684,112.91	5,612,434.28															
30902		10704+65.56	3,684,352.43	5,612,429.87															
SRMIDWAY_RET3																			
30930								0+00.00	3,684,326.54	5,612,360.30	0+57.61	3,684,335.70	5,612,417.17	0+85.60	3,684,278.10	5,612,418.24			
SRMIDWAY_RET4																			
30940								0+00.00	3,684,303.91	5,612,443.76	0+38.61	3,684,342.51	5,612,443.05	0+65.75	3,684,352.97	5,612,480.22			
SRBANKSTON																			
30800		9738+45.00	3,684,445.51	5,608,557.31															
30801		9742+61.20	3,684,830.91	5,608,714.43															
SRBANKSTON_RET3																			
30830								0+00.00	3,684,839.37	5,608,650.70	0+50.21	3,684,820.60	5,608,697.27	0+78.75	3,684,774.11	5,608,678.32			
SRBANKSTON_RET4																			
30840								0+00.00	3,684,786.00	5,608,709.08	0+32.17	3,684,815.78	5,608,721.22	0+54.18	3,684,810.32	5,608,752.92			
SRPFEILERW																			
30700		8803+75.00	3,688,743.26	5,604,509.34															
30701								8804+07.79	3,688,761.30	5,604,536.72	8804+99.19	3,688,811.58	5,604,613.04	8805+74.72	3,688,902.96	5,604,610.90			
30703		8807+10.61	3,689,038.81	5,604,607.71															
SRPFEILERW_RET1																			
30710								0+00.00	3,688,681.53	5,604,560.81	0+59.35	3,688,733.39	5,604,531.94	1+02.12	3,688,776.06	5,604,573.19			
SRPFEILERW_RET2																			
30720								0+00.00	3,688,798.19	5,604,560.96	0+61.75	3,688,751.76	5,604,520.23	0+89.02	3,688,801.25	5,604,483.30			
SRSCHMITT																			
30600		7831+98.13	3,689,494.49	5,601,905.06															
30601								7832+15.39	3,689,511.72	5,601,903.96	7833+07.66	3,689,603.80	5,601,898.09	7833+99.91	3,689,696.04	5,601,895.62			
30602		7838+37.41	3,690,133.38	5,601,883.90															
SRSCHMITT_RET1																			
30610								0+00.00	3,689,511.34	5,601,955.29	0+36.35	3,689,507.89	5,601,919.10	0+56.30	3,689,544.18	5,601,917.02			
SRSCHMITT_RET2																			
30620								0+00.00	3,689,543.48	5,601,887.01	0+38.51	3,689,505.03	5,601,889.21	0+61.31	3,689,501.37	5,601,850.88			
RA_CIRCLE																			
35102								0+00.00	3,689,924.91	5,597,936.70	0+55.50	3,689,926.65	5,597,992.17	0+87.18	3,689,982.12	5,597,990.42			
35104								0+87.18	3,689,982.12	5,597,990.42	1+42.68	3,690,037.60	5,597,988.68	1+74.36	3,690,035.85	5,597,933.21			
35106								1+74.36	3,690,035.85	5,597,933.21	2+29.86	3,690,034.11	5,597,877.73	2+61.54	3,689,978.63	5,597,879.48			
35108								2+61.54	3,689,978.63	5,597,879.48	3+17.04	3,689,923.16	5,597,881.22	3+48.72	3,689,924.91	5,597,936.70			

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER G.4

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ALIGNMENT COORDINATES

101-16
10-20-09

Name	Location	Point on Tangent			Begin Spiral			Begin Curve			Simple Curve PI or Master PI of SCS			End Curve			End Spiral		
		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates		Station	Coordinates	
			Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)		Y (Northing)	X (Easting)
RA_ISLAND																			
37102								0+00.00	3,689,970.38	5,597,935.27	0+10.00	3,689,970.70	5,597,945.26	0+15.71	3,689,980.69	5,597,944.95			
37104								0+15.71	3,689,980.69	5,597,944.95	0+25.71	3,689,990.69	5,597,944.63	0+31.42	3,689,990.37	5,597,934.64			
37106								0+31.42	3,689,990.37	5,597,934.64	0+41.42	3,689,990.06	5,597,924.64	0+47.12	3,689,980.06	5,597,924.96			
37108								0+47.12	3,689,980.06	5,597,924.96	0+57.12	3,689,970.07	5,597,925.27	0+62.83	3,689,970.38	5,597,935.27			
HOLYCROSSNB																			
9200		426869+34.96	3,689,120.53	5,597,961.99															
9201								426874+95.66	3,689,680.95	5,597,944.37	426875+25.78	3,689,711.06	5,597,943.42	426875+55.84	3,689,740.84	5,597,938.86			
9202								426876+48.84	3,689,832.77	5,597,924.80	426876+98.53	3,689,881.89	5,597,917.29	426877+41.66	3,689,918.84	5,597,950.50			
9203		426877+41.66	3,689,918.84	5,597,950.50															
9204		426878+56.53	3,690,030.87	5,597,975.91															
9205								426878+56.53	3,690,030.87	5,597,975.91	426878+77.79	3,690,052.03	5,597,973.88	426878+99.00	3,690,072.79	5,597,969.30			
9206								426880+54.01	3,690,224.16	5,597,935.89	426881+00.58	3,690,269.64	5,597,925.86	426881+46.89	3,690,316.19	5,597,924.39			
9207		426882+17.61	3,690,386.88	5,597,922.17															
9208		426886+17.61	3,690,786.62	5,597,907.85															
HOLYCROSSSB																			
9300		436869+34.96	3,689,120.53	5,597,961.99															
9301								436874+58.75	3,689,644.06	5,597,945.53	436875+05.33	3,689,690.61	5,597,944.06	436875+51.64	3,689,736.09	5,597,934.03			
9302								436877+03.25	3,689,884.14	5,597,901.35	436877+26.14	3,689,906.49	5,597,896.42	436877+48.96	3,689,929.30	5,597,894.44			
9303		436877+48.96	3,689,929.30	5,597,894.44															
9304		436878+64.86	3,690,042.29	5,597,920.22															
9305								436878+64.86	3,690,042.29	5,597,920.22	436879+13.81	3,690,079.07	5,597,952.52	436879+56.47	3,690,127.46	5,597,945.12			
9306								436880+49.50	3,690,219.42	5,597,931.05	436880+79.63	3,690,249.20	5,597,926.50	436881+09.68	3,690,279.31	5,597,925.55			
9307		436882+17.30	3,690,386.88	5,597,922.17															
9308		436886+17.30	3,690,786.62	5,597,907.85															
HOLYCROSS_RET1																			
30510								0+00.00	3,689,964.86	5,598,071.95	0+25.75	3,689,967.88	5,598,046.38	0+50.00	3,689,984.58	5,598,026.78			
30511								0+50.00	3,689,984.58	5,598,026.78	0+57.67	3,689,989.55	5,598,020.95	0+65.21	3,689,996.04	5,598,016.87			
30512								0+65.21	3,689,996.04	5,598,016.87	1+03.16	3,690,028.17	5,597,996.69	1+40.21	3,690,065.47	5,597,989.67			
HOLYCROSS_RET2																			
30520								0+00.00	3,690,127.54	5,597,926.39	0+34.18	3,690,093.75	5,597,931.56	0+65.00	3,690,065.79	5,597,911.90			
30521								0+65.00	3,690,065.79	5,597,911.90	0+83.62	3,690,050.57	5,597,901.19	1+00.64	3,690,046.05	5,597,883.13			
30522								1+00.64	3,690,046.05	5,597,883.13	1+35.87	3,690,037.50	5,597,848.95	1+70.64	3,690,038.73	5,597,813.74			
HOLYCROSS_RET3																			
30530								0+00.00	3,689,985.05	5,597,807.63	0+25.75	3,689,980.51	5,597,832.97	0+50.00	3,689,962.68	5,597,851.54			
30531								0+50.00	3,689,962.68	5,597,851.54	0+58.18	3,689,957.01	5,597,857.44	0+66.22	3,689,949.76	5,597,861.22			
30532								0+66.22	3,689,949.76	5,597,861.22	0+96.45	3,689,922.96	5,597,875.21	1+26.22	3,689,893.23	5,597,880.65			
HOLYCROSS_RET4																			
30540								0+00.00	3,689,830.18	5,597,943.91	0+37.12	3,689,866.87	5,597,938.30	0+70.00	3,689,895.93	5,597,961.40			
30541								0+70.00	3,689,895.93	5,597,961.40	0+87.00	3,689,909.24	5,597,971.98	1+02.77	3,689,913.34	5,597,988.47			
30542								1+02.77	3,689,913.34	5,597,988.47	1+32.99	3,689,920.63	5,598,017.81	1+62.77	3,689,918.93	5,598,047.99			
SRMAPLE																			
30570		446882+31.93	3,690,386.78	5,597,922.17															
30571		446884+20.44	3,690,451.28	5,597,745.04															
SRMAPLE_RET3																			
30590								0+00.00	3,690,471.98	5,597,907.11	0+66.79	3,690,405.23	5,597,909.50	0+88.01	3,690,428.08	5,597,846.75			
SRMAPLE_RET4																			
30595								0+00.00	3,690,391.11	5,597,872.30	0+40.62	3,690,377.21	5,597,910.47	0+71.41	3,690,336.61	5,597,911.74			

SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

Name	Location	Δ_{scs}	Horizontal Alignment Data												Remarks
			Spiral Data								Curve Data				
			θs	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R	E	
ML052																
25226											13° 59′ 06.67″ RT	241.63′	480.85′	1,970.00′	14.76′	
25227											52° 15′ 22.23″ LT	358.07′	665.79′	730.00′	83.09′	
25228											15° 53′ 52.44″ RT	132.65′	263.60′	950.00′	9.22′	
25301											20° 40′ 48.84″ RT	193.40′	382.59′	1,060.00′	17.50′	
25302											35° 41′ 45.64″ LT	460.44′	890.91′	1,430.00′	72.30′	
25303											10° 02′ 22.86″ RT	125.61′	250.57′	1,430.00′	5.51′	
25304											31° 42′ 24.96″ LT	301.02′	586.59′	1,060.00′	41.91′	
25305											31° 19′ 34.37″ RT	297.22′	579.55′	1,060.00′	40.88′	
25306											29° 59′ 53.79″ LT	341.61′	667.55′	1,275.00′	44.97′	
25307											5° 43′ 37.25″ LT	163.56′	326.85′	3,270.00′	4.09′	
25308											10° 31′ 05.29″ LT	131.63′	262.51′	1,430.00′	6.05′	
25309											9° 33′ 12.90″ RT	88.58′	176.75′	1,060.00′	3.69′	
25310											32° 59′ 10.52″ RT	313.85′	610.26′	1,060.00′	45.49′	
25311											21° 40′ 08.11″ RT	202.87′	400.89′	1,060.00′	19.24′	
25312											18° 57′ 46.73″ LT	177.03′	350.82′	1,060.00′	14.68′	
25313											58° 37′ 01.93″ RT	275.07′	501.30′	490.00′	71.93′	
25314											46° 58′ 33.87″ LT	621.43′	1,172.44′	1,430.00′	129.19′	
25315											51° 59′ 47.38″ RT	555.97′	1,034.56′	1,140.00′	128.35′	
25316											37° 06′ 08.31″ LT	355.72′	686.41′	1,060.00′	58.10′	
25317											21° 50′ 01.57″ LT	204.45′	403.94′	1,060.00′	19.54′	
25318											10° 37′ 47.72″ LT	133.03′	265.30′	1,430.00′	6.17′	
25319											16° 37′ 41.09″ RT	277.66′	551.41′	1,900.00′	20.18′	
25320											15° 58′ 39.17″ RT	148.76′	295.59′	1,060.00′	10.39′	
25321											28° 08′ 08.56″ LT	476.11′	933.02′	1,900.00′	58.75′	
ML052EB																
9100											14° 47′ 06.57″ RT	137.53′	273.53′	1,060.00′	8.88′	
9101											28° 12′ 28.45″ LT	175.88′	344.62′	700.00′	21.76′	
9104											32° 44′ 21.37″ LT	30.84′	60.00′	105.00′	4.44′	
9105											12° 01′ 42.11″ LT	63.21′	125.96′	600.00′	3.32′	
ML052WB																
9000											16° 57′ 20.85″ RT	158.00′	313.69′	1,060.00′	11.71′	
9001											21° 23′ 59.24″ LT	94.48′	186.75′	500.00′	8.85′	
9002											42° 24′ 57.69″ RT	40.74′	77.73′	105.00′	7.63′	
9005											2° 59′ 07.59″ LT	49.93′	99.83′	1,916.00′	0.65′	
9006											2° 05′ 32.14″ LT	219.13′	438.20′	12,000.00′	2.00′	
9007											2° 05′ 32.14″ RT	219.13′	438.20′	12,000.00′	2.00′	
SRPFEILERE																
31101											20° 50′ 45.66″ LT	30.35′	60.03′	165.00′	2.77′	
SRPFEILERE_RET1																
31110											45° 18′ 06.49″ RT	20.87′	39.53′	50.00′	4.18′	
SRPFEILERE_RET2																
31120											142° 17′ 19.24″ RT	29.28′	24.83′	10.00′	20.94′	
SRHINGTGEN																
31000											32° 24′ 32.24″ LT	87.18′	169.69′	300.00′	12.41′	
SRHINGTGEN_RET3																
31030											93° 24′ 32.22″ RT	26.53′	40.76′	25.00′	11.46′	
SRHINGTGEN_RET4																
31040											84° 57′ 30.33″ RT	36.63′	59.31′	40.00′	14.24′	
SRMIDWAY_RET3																
30930											98° 05′ 15.66″ RT	57.61′	85.60′	50.00′	26.28′	
SRMIDWAY_RET4																
30940											75° 20′ 44.20″ RT	38.61′	65.75′	50.00′	13.17′	

SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

Name	Location	Δ_{scs}	Horizontal Alignment Data												Remarks
			Spiral Data								Curve Data				
			θs	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R	E	
SRBANKSTON_RET3																
30830											90° 14′ 25.15″ RT	50.21′	78.75′	50.00′	20.86′	
SRBANKSTON_RET4																
30840											77° 36′ 27.77″ RT	32.17′	54.18′	40.00′	11.33′	
SRPFEILERW																
30701											57° 57′ 55.55″ LT	91.40′	166.93′	165.00′	23.62′	
SRPFEILERW_RET1																
30710											73° 08′ 23.37″ RT	59.35′	102.12′	80.00′	19.61′	
SRPFEILERW_RET2																
30720											102° 00′ 21.91″ RT	61.75′	89.02′	50.00′	29.46′	
SRSCHMITT																
30601											2° 06′ 52.15″ RT	92.27′	184.52′	5,000.00′	0.85′	
SRSCHMITT_RET1																
30610											92° 10′ 06.47″ RT	36.35′	56.30′	35.00′	15.46′	
SRSCHMITT_RET2																
30620											87° 49′ 11.59″ RT	38.51′	61.31′	40.00′	15.52′	
RA_CIRCLE																
35102											90° 00′ 00.00″ LT	55.50′	87.18′	55.50′	22.99′	
35104											90° 00′ 00.00″ LT	55.50′	87.18′	55.50′	22.99′	
35106											90° 00′ 00.00″ LT	55.50′	87.18′	55.50′	22.99′	
35108											90° 00′ 00.00″ LT	55.50′	87.18′	55.50′	22.99′	
RA_ISLAND																
37102											90° 00′ 00.00″ LT	10.00′	15.71′	10.00′	4.14′	
37104											90° 00′ 00.00″ LT	10.00′	15.71′	10.00′	4.14′	
37106											90° 00′ 00.00″ LT	10.00′	15.71′	10.00′	4.14′	
37108											90° 00′ 00.00″ LT	10.00′	15.71′	10.00′	4.14′	
HOLYCROSSNB																
9201											6° 53′ 45.82″ LT	30.13′	60.18′	500.00′	0.91′	
9202											50° 38′ 49.33″ RT	49.69′	92.82′	105.00′	11.16′	
9205											6° 57′ 05.88″ LT	21.26′	42.47′	350.00′	0.65′	
9206											10° 38′ 37.48″ RT	46.58′	92.88′	500.00′	2.16′	
HOLYCROSSSB																
9301											10° 38′ 37.66″ LT	46.58′	92.88′	500.00′	2.16′	
9302											7° 28′ 59.15″ RT	22.89′	45.71′	350.00′	0.75′	
9305											49° 59′ 17.86″ LT	48.95′	91.61′	105.00′	10.85′	
9306											6° 53′ 45.82″ RT	30.13′	60.18′	500.00′	0.91′	
HOLYCROSS_RET1																
30510											33° 42′ 12.24″ RT	25.75′	50.00′	85.00′	3.81′	
30511											17° 25′ 53.31″ RT	7.67′	15.21′	50.00′	0.58′	
30512											21° 29′ 09.30″ RT	37.95′	75.00′	200.00′	3.57′	
HOLYCROSS_RET2																
30520											43° 48′ 51.91″ RT	34.18′	65.00′	85.00′	6.62′	
30521											40° 50′ 26.26″ RT	18.62′	35.64′	50.00′	3.35′	
30522											16° 02′ 34.15″ RT	35.23′	70.00′	250.00′	2.47′	

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER G.7

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SPIRAL OR CIRCULAR CURVE DATA

101-17
04-19-11

Name	Location	Δ_{scs}	Horizontal Alignment Data												Remarks
			Spiral Data								Curve Data				
			θs	Ls	Ts	Es	Xc	Yc	L.T.	S.T.	Δ_c	T	L	R	E	
HOLYCROSS_RET3																
30530											33° 42′ 12.24″ RT	25.75′	50.00′	85.00′	3.81′	
30531											18° 35′ 04.39″ RT	8.18′	16.22′	50.00′	0.66′	
30532											17° 11′ 19.44″ RT	30.23′	60.00′	200.00′	2.27′	
HOLYCROSS_RET4																
30540											47° 11′ 05.13″ RT	37.12′	70.00′	85.00′	7.75′	
30541											37° 32′ 53.75″ RT	17.00′	32.77′	50.00′	2.81′	
30542											17° 11′ 19.44″ RT	30.23′	60.00′	200.00′	2.27′	
SRMAPLE_RET3																
30590											112° 03′ 32.73″ RT	66.79′	88.01′	45.00′	35.53′	
SRMAPLE_RET4																
30595											68° 11′ 27.27″ RT	40.62′	71.41′	60.00′	12.45′	

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER G.8

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SUPERELEVATION DATA

See PV-300 Series

Road Identification	Circular Curve or Spiral Curve Name	Radius	Superelevation Data			Standard Road Plan	Section A-A	Section B-B	Section C-C	Section D-D	Section E-E	Section F-F	Case A	Case B	Case C	Case S	Case T	Case U	Remarks
			e	L	x														
		FT	%	FT	FT														
U.S. 52	25301	1060	6.0	153	51	PV-301	604+14.67	604+65.67	605+16.67	606+18.67			605+72.77			605+67.67	605+67.67		
													609+55.36			608+83.00	608+83.00		See Sheet L.47
U.S. 52	25302	1430	5.8	148	51	PV-301							610+25.06			610+86.07	610+86.07		See Sheet L.47
													619+15.97			619+17.50	619+17.50		See Sheet L.47
U.S. 52	25303	1430	5.8	148	51	PV-301	623+60.57	624+11.57	624+62.57	625+59.57			625+15.17			625+13.64	625+13.64		
							629+20.34	628+69.34	628+18.34	627+21.34			627+65.74			627+67.27	627+67.27		
U.S. 52	25304	1060	6.0	153	51	PV-301	636+62.86	637+13.86	637+64.86	638+66.86			638+20.96			638+15.86	638+15.86		
													644+07.55			644+12.65	644+12.65		See Sheet L.48
U.S. 52	25305	1060	6.0	153	51	PV-301							652+16.53			652+11.43	652+11.43		See Sheet L.49
													657+96.08			656+93.00	656+93.00		See Sheet L.49
U.S. 52	25306	1275	6.0	153	51	PV-301							657+96.08			658+97.00	658+97.00		See Sheet L.49
							666+21.73	665+70.73	665+19.73	664+17.73			664+63.63			664+68.73	664+68.73		
U.S. 52	25307	3070	3.8	97	51	PV-301	681+99.72	682+50.72	683+01.72	683+47.72			683+18.62						
							687+64.38	687+13.38	686+62.38	686+16.38			686+45.48						
U.S. 52	25308	1430	5.8	148	51	PV-301	688+21.31	688+72.31	689+23.31	690+20.31			689+75.91			689+74.38	689+74.38		
													692+38.42			692+23.93	692+23.93		See Sheet L.50
U.S. 52	25309	1060	6.0	153	51	PV-301							694+17.72			694+27.00	694+27.00		See Sheet L.50
							697+52.57	697+01.57	696+50.57	695+48.57			695+94.47			695+99.57	695+99.57		
U.S. 52	25310	1060	6.0	153	51	PV-301	698+97.93	699+48.93	699+99.93	701+01.93			700+56.03			700+50.93	700+50.93		
							708+24.40	707+73.40	707+22.40	706+20.40			706+66.30			706+71.40	706+71.40		
U.S. 52	25311	1060	6.0	153	51	PV-301	710+71.14	711+22.14	711+73.14	712+75.14			712+29.24			712+24.14	712+24.14		
							717+88.23	717+37.23	716+86.23	715+84.23			716+30.13			716+35.23	716+35.23		
U.S. 52	25312	1060	6.0	153	51	PV-301	739+84.96	740+35.96	740+86.96	741+88.96			741+43.06			741+37.96	741+37.96		
													731+31.58			731+36.68	731+36.68		See Sheet L.50
U.S. 52	25313	490	6.0	153	51	PV-301	739+84.96	740+35.96	740+86.96	741+88.96			741+43.06			741+37.96	741+37.96		
							748+02.46	747+51.46	747+00.46	745+98.46			746+44.36			746+49.46	746+49.46		
U.S. 52	25314	1430	5.8	148	51	PV-301	757+44.49	757+95.49	758+46.49	759+43.49			758+99.09			758+97.56	758+97.56		
							772+26.13	771+75.13	771+24.13	770+27.13			770+71.53			770+73.06	770+73.06		
U.S. 52	25315	1140	6.0	153	51	PV-301	779+33.97	779+84.97	780+35.97	781+37.97			780+92.07			780+86.97	780+86.97		
							792+84.73	792+33.73	791+82.73	790+80.73			791+26.63			791+31.73	791+31.73		
U.S. 52	25316	1060	6.0	153	51	PV-301	800+78.33	801+29.33	801+80.33	802+82.33			802+36.43			802+31.33	802+31.33		
													809+22.84			809+27.94	809+27.94		See Sheet L.51
U.S. 52	25317	1060	6.0	153	51	PV-301							813+95.17			813+90.07	813+90.07		See Sheet L.51
							819+57.20	819+06.20	818+55.20	817+53.20			817+99.10			818+04.20	818+04.20		
U.S. 52	25318	1430	5.8	148	51	PV-301	825+76.46	826+27.46	826+78.46	827+75.46			827+31.06			827+29.53	827+29.53		
													829+96.37			829+97.90	829+97.90		See Sheet L.52
U.S. 52	25319	1900	5.0	128	51	PV-301	844+22.29	844+73.29	845+24.29	846+01.29			845+62.89			845+75.69	845+75.69		
							852+54.90	852+03.90	851+52.90	850+75.90			851+14.30			851+01.50	851+01.50		
U.S. 52	25320	1060	6.0	153	51	PV-301	860+26.99	860+77.99	861+28.99	862+30.99			861+85.09			861+79.99	861+79.99		
							866+38.79	865+87.79	865+36.79	864+34.79			864+80.69			864+85.79	864+85.79		

108-23A
08-01-08

TRAFFIC CONTROL PLAN

1) U.S. 52 will be closed during construction. Through traffic on U.S. 52 will be detoured to U.S. 20 and IA 136.
   Refer to Sheets J.2 and J.3 for the proposed detour. Detour signing will be installed and maintained by the Contractor.

2) Roundabout at Holy Cross shall be constructed when school is not in session. Refer to sheets D.11 - D.14 and E.1 - E.4
   for location and limits of the roundabout construction (Site 1).

3) All side roads will be closed. Local access shall be maintained.

108-25
10-21-14

511 TRAVEL RESTRICTIONS

Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
U.S. 52	Both	Dubuque	From E. Jct. Pfeiler Rd. N. To Tollgate Rd. (Co. Rd. Y-13)	No travel restictions; closed.								

111-01
04-17-12

COORDINATED OPERATIONS

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work
NHSX-052-2(152)--3H-31	Traffic Signs
NHSX-052-2(153)--3H-31	Lighting

IOWA DOT

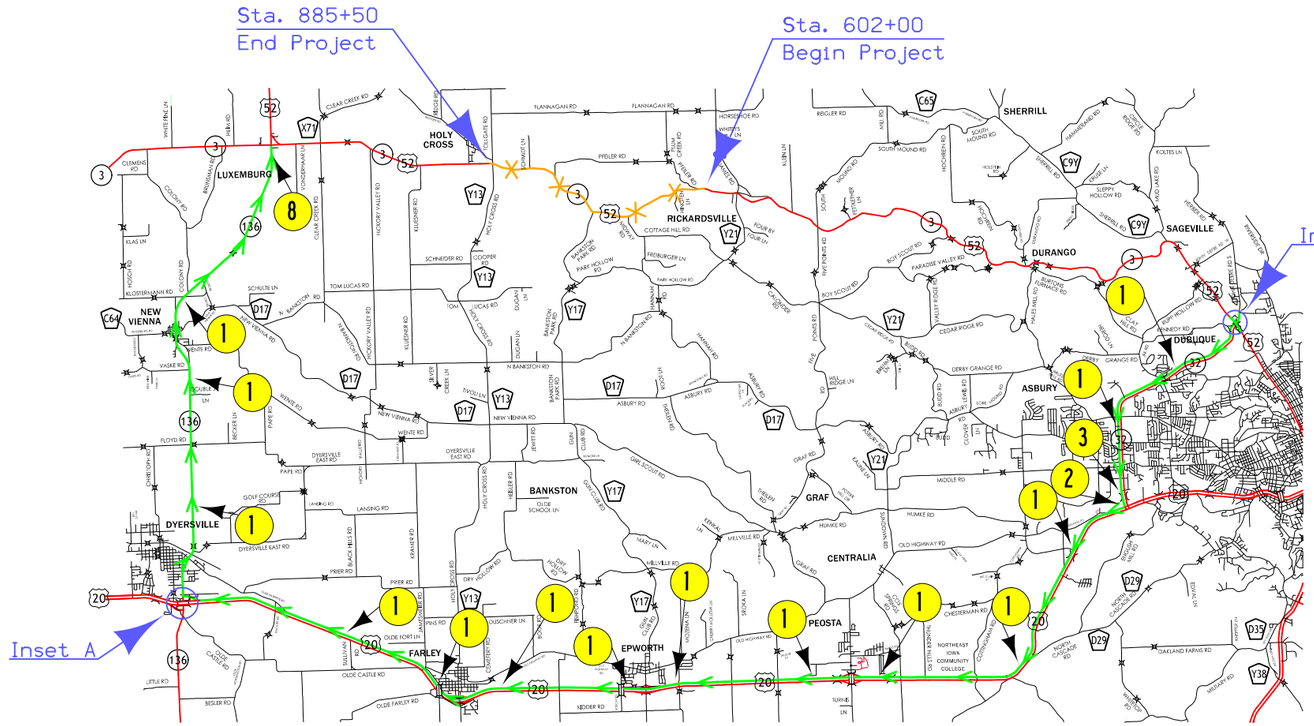
ROAD DETOUR

US 52/IA 3 Detour Route for Pavement Reconstruction project

STP-052-2(120)--2C-31

Dubuque County

Northbound US 52
Westbound IA 3



1 DETOUR NORTH 52 / DETOUR WEST 3

2 DETOUR NORTH 52 / DETOUR WEST 3

3 DETOUR NORTH 52 / DETOUR WEST 3

4 DETOUR NORTH 52 / DETOUR WEST 3

5 DETOUR NORTH 52 / DETOUR WEST 3

6 DETOUR NORTH 52 / DETOUR WEST 3

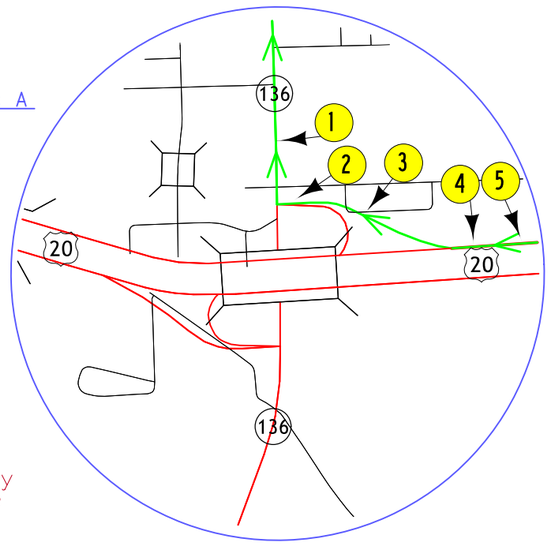
7 DETOUR NORTH 52 / DETOUR WEST 3

8 END DETOUR NORTH 52 / END DETOUR WEST 3

= Location of reconstruction project

= Detour Route

Inset A



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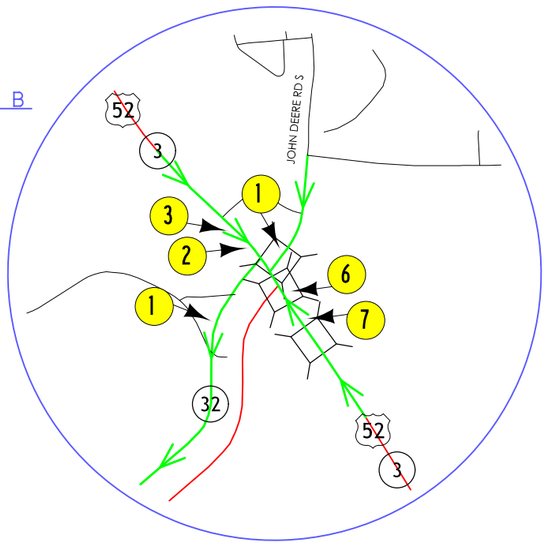

** NOTE: The quantity of detour signs and the locations provided are for guidance. If field conditions (i.e. grade, existing signs, etc.) require a modification, additional signs, or safety concerns arise, please contact the project supervisor and the appropriate accommodations will be made.

FILE NO.	ENGLISH	DESIGN TEAM	C.LOHRER	DUBUQUE	COUNTY	PROJECT NUMBER	STP-052-2(120)--2C-31	SHEET NUMBER	J.2

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IOWA DOT

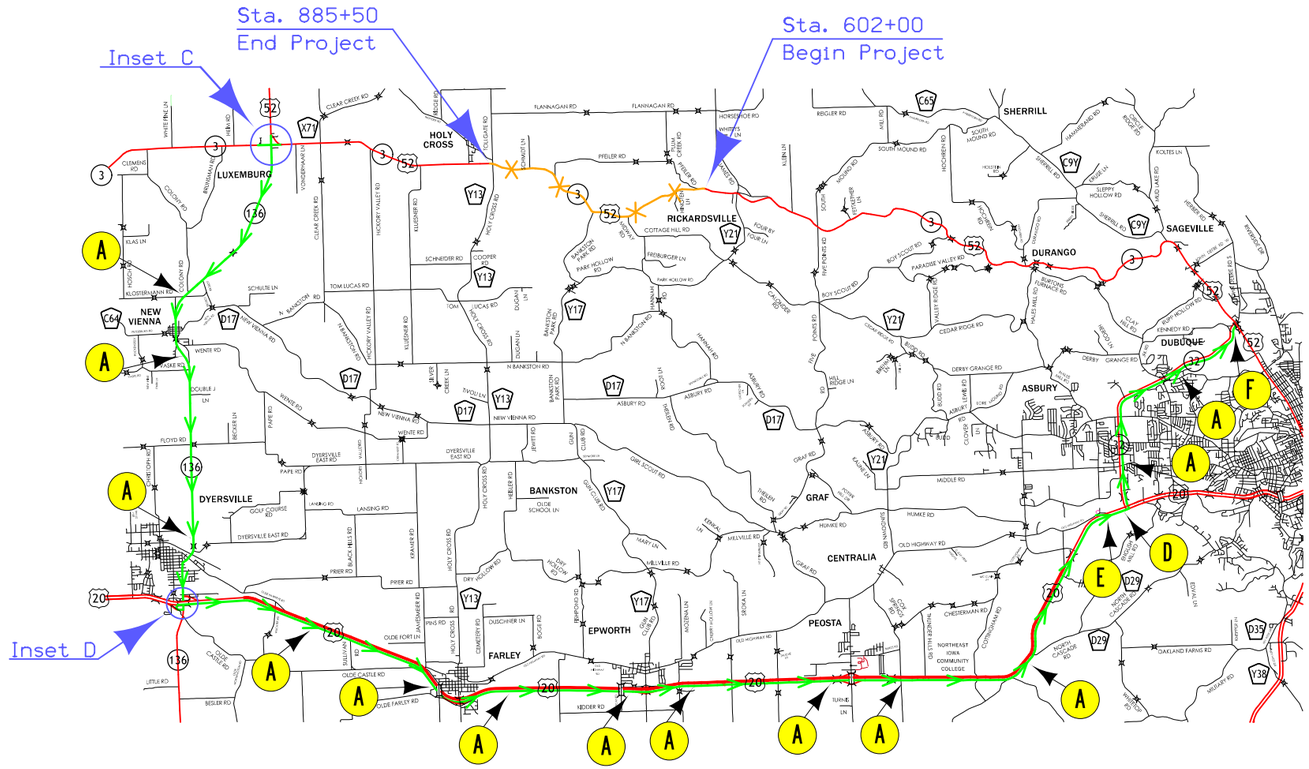
ROAD DETOUR

US 52/IA 3 Detour Route for Pavement Reconstruction project

STP-052-2(120)--2C-31

Dubuque County

Southbound US 52
Eastbound IA 3



A — DETOUR SOUTH 52 / DETOUR EAST 3

B — DETOUR SOUTH 52 / DETOUR EAST 3

C — DETOUR SOUTH 52 / DETOUR EAST 3

D — DETOUR SOUTH 52 / DETOUR EAST 3

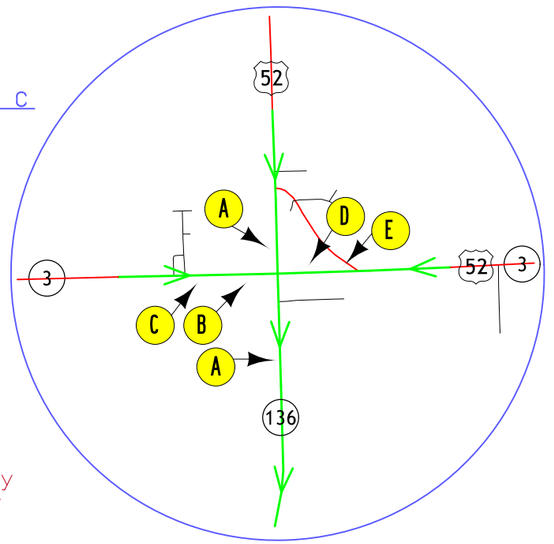
E — DETOUR SOUTH 52 / DETOUR EAST 3

F — END DETOUR SOUTH 52 / END DETOUR EAST 3

= Location of reconstruction project

= Detour Route

Inset C



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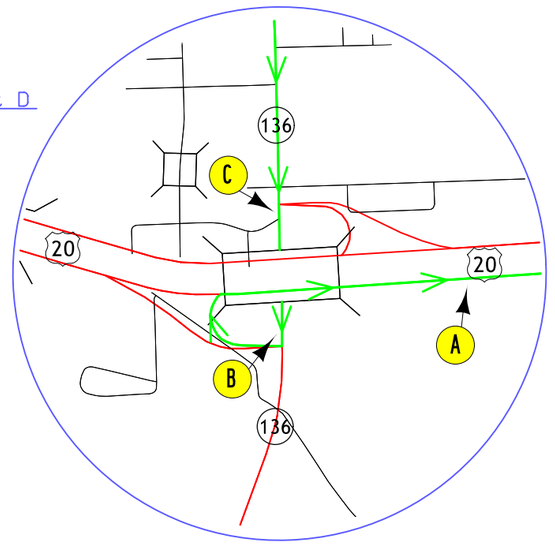

** NOTE: The quantity of detour signs and the locations provided are for guidance. If field conditions (i.e. grade, existing signs, etc.) require a modification, additional signs, or safety concerns arise, please contact the project supervisor and the appropriate accommodations will be made.

FILE NO.	ENGLISH	DESIGN TEAM	C.LOHRER	DUBUQUE	COUNTY	PROJECT NUMBER	STP-052-2(120)--2C-31	SHEET NUMBER	J.3

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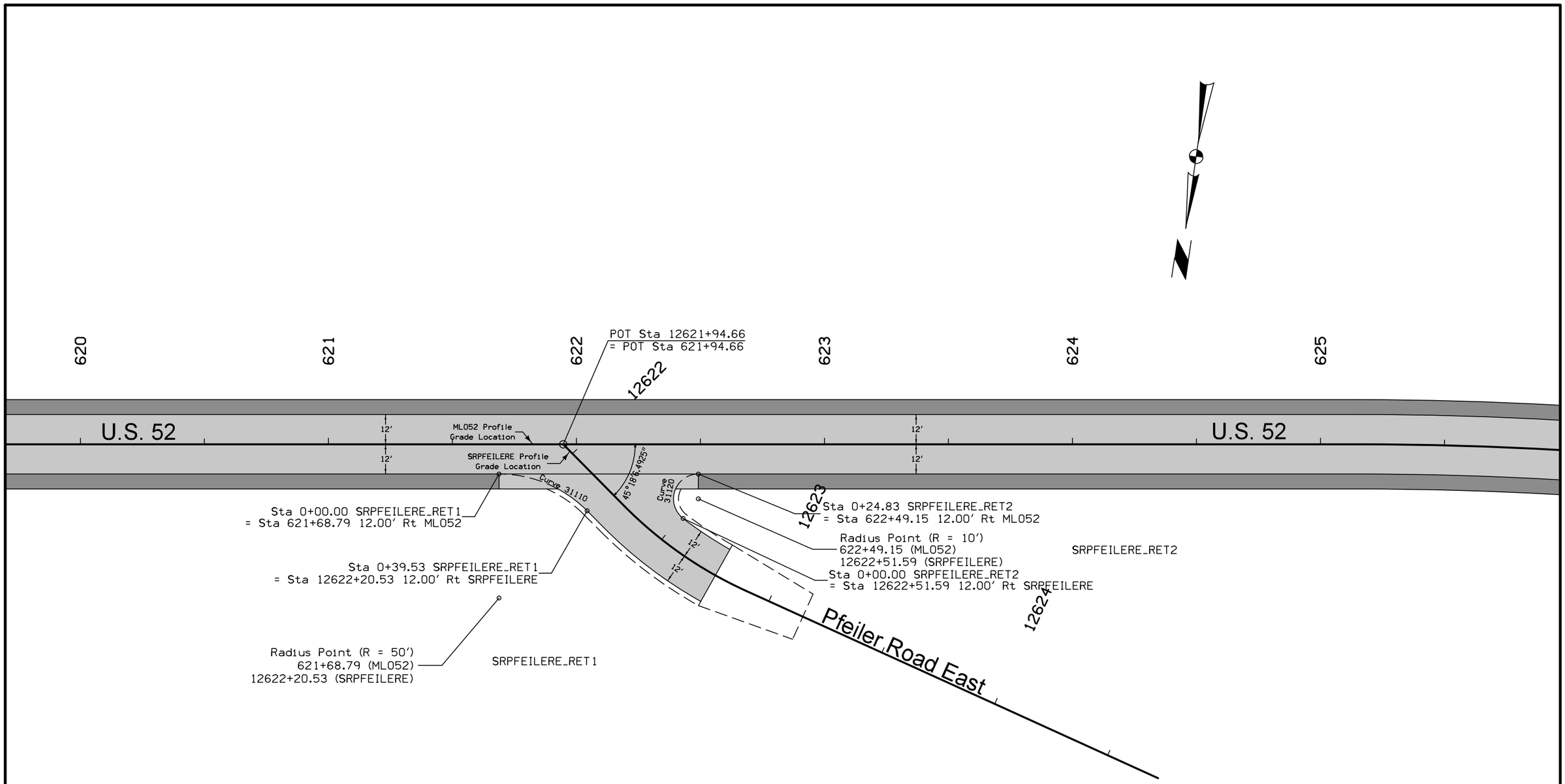

Geometric Details
Pfeiler Road East

0 FEET 20

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.1

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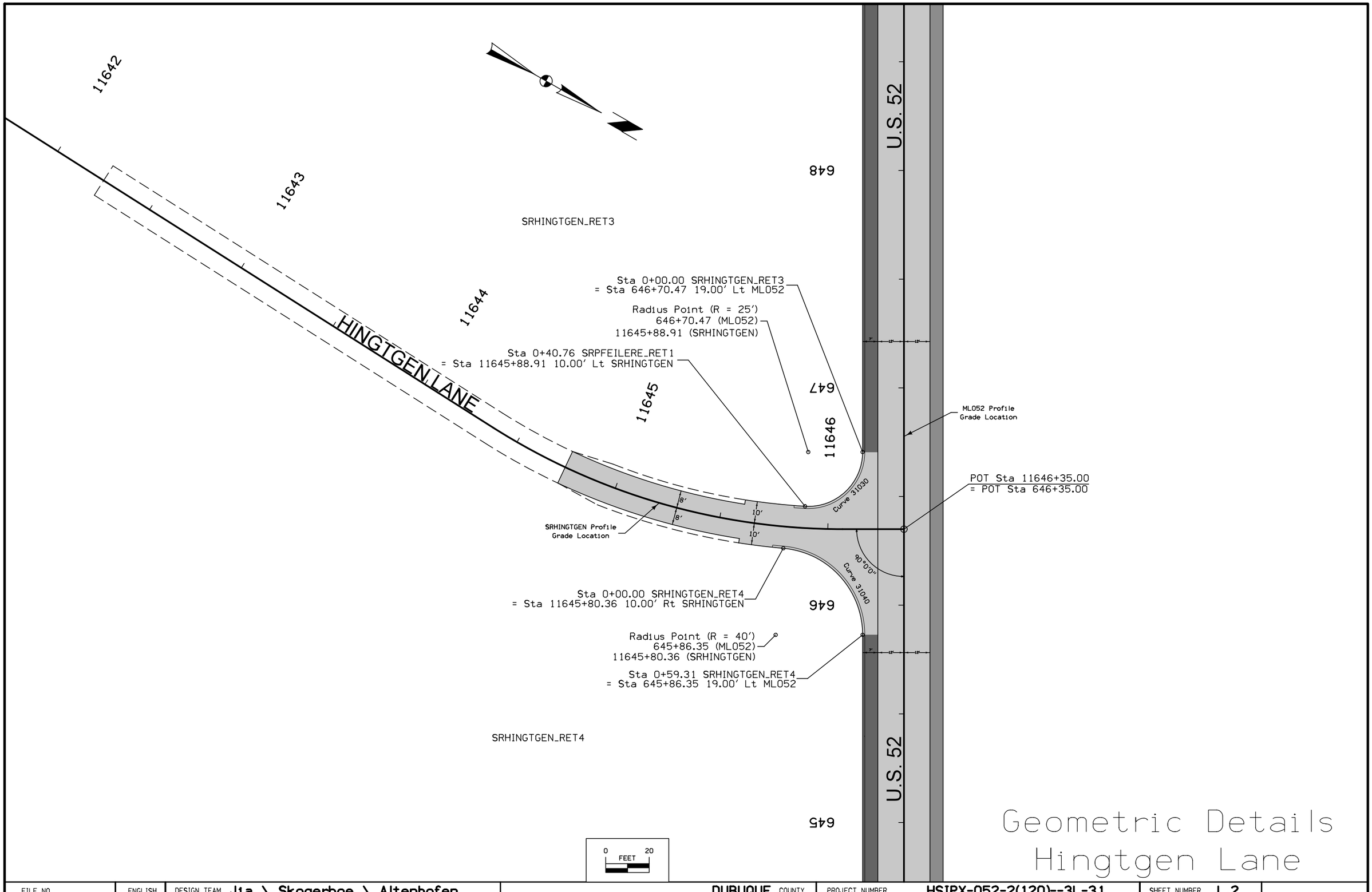

Geometric Details
Hingtgen Lane

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.2

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620 621 622 623 624 625

12622

US 52 — Constant 2% Slope — ML052 Profile Grade Location — Constant 2% Slope — US 52

Constant 2% Slope — 1123.01 — Special Shaping — 1123.16 — Constant 2% Slope

Sta 0+24.83 SRPFEILERE_RET2
= Sta 622+49.15 12.00' Rt ML052
1123.43

Sta 0+00.00 SRPFEILERE_RET1
= Sta 621+68.79 12.00' Rt ML052
1122.95

12623

Sta 0+12.83 SRPFEILERE_RET2
= Sta 622+39.83 18.38' Rt ML052
= Sta 12622+40.76 18.85' Lt SRPFEILERE
1123.15

Sta 0+19.77 SRPFEILERE_RET1
= Sta 621+88.05 15.86' Rt ML052
= Sta 12622+01.28 15.86' Rt SRPFEILERE
1122.95

= Sta 12622+51.59 12.00' Lt SRPFEILERE
Sta 0+00.00 SRPFEILERE_RET2
1122.75

12624

SRPFEILERE_RET2

Sta 0+39.53 SRPFEILERE_RET1
= Sta 12622+29.73 12.00' Rt SRPFEILERE
1122.90

SRPFEILERE_RET1

SRPFEILERE Profile Grade Location

PFEILER ROAD EAST

LEGEND

CONSTANT SLOPE — NO SHADING

UNIFORM TRANSITION

SPECIAL SHAPING

0 FEET 20

Staking Details
Pfeiler Road East

Sta 0+00.00 SRHINGTGEN_RET3
= Sta 646+70.47 19.00' Lt ML052
1135.71

11644

Sta 0+19.02 SRHINGTGEN_RET3
= Sta 646+53.23 25.89' Lt ML052
= Sta 11646+09.11 18.23' Lt SRHINGTGEN
1135.98

HINGTGEN LANE

Sta 0+40.76 SRHINGTGEN_RET3
= Sta 11645+88.91 10.00' Lt SRHINGTGEN
1136.64

11645

647

11646

US 52 — Constant 2% Slope — Constant 2% Slope

SRHINGTGEN_RET3

ML052 Profile Grade Location

Constant 2% Slope — Constant 2% Slope — Special Shaping — 1136.22

Special — Unif. Trans. — 1136.28

SRHINGTGEN Profile Grade Location

Sta 0+00.00 SRHINGTGEN_RET4
= Sta 11645+80.36 10.00' Rt SRHINGTGEN
1136.99

646

Sta 0+29.38 SRHINGTGEN_RET4
= Sta 646+13.57 29.69' Rt ML052
= Sta 11646+05.41 21.43' Rt SRHINGTGEN
1136.08

SRHINGTGEN_RET4

Sta 0+59.31 SRHINGTGEN_RET4
= Sta 645+86.35 19.00' Lt ML052
1136.21

LEGEND

CONSTANT SLOPE — NO SHADING

UNIFORM TRANSITION

SPECIAL SHAPING

0 FEET 20

Staking Details
Hingtgen Lane

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.3

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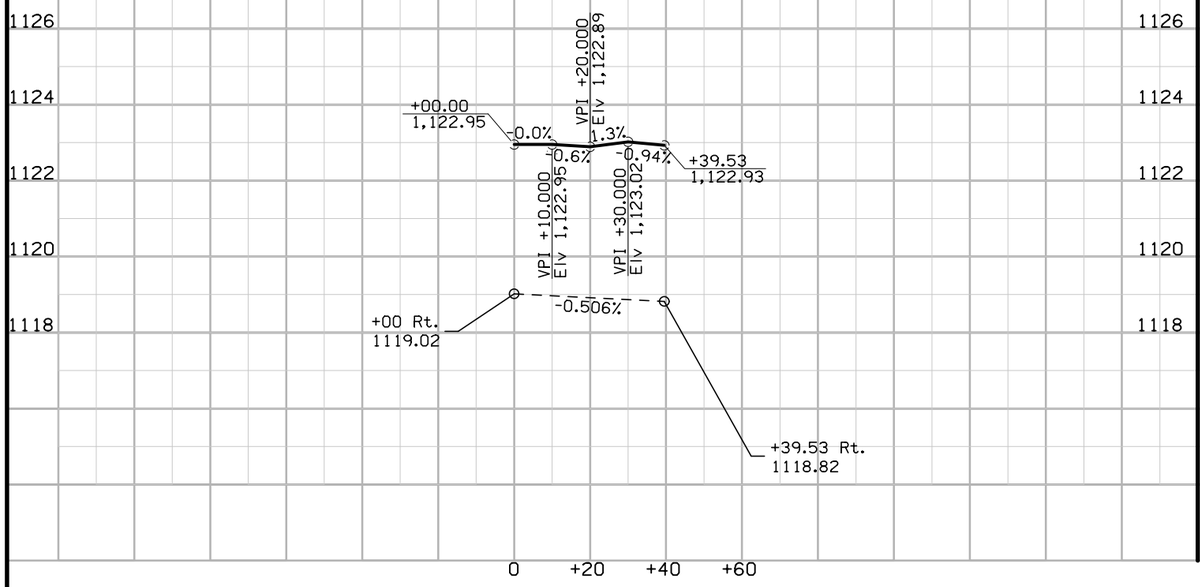
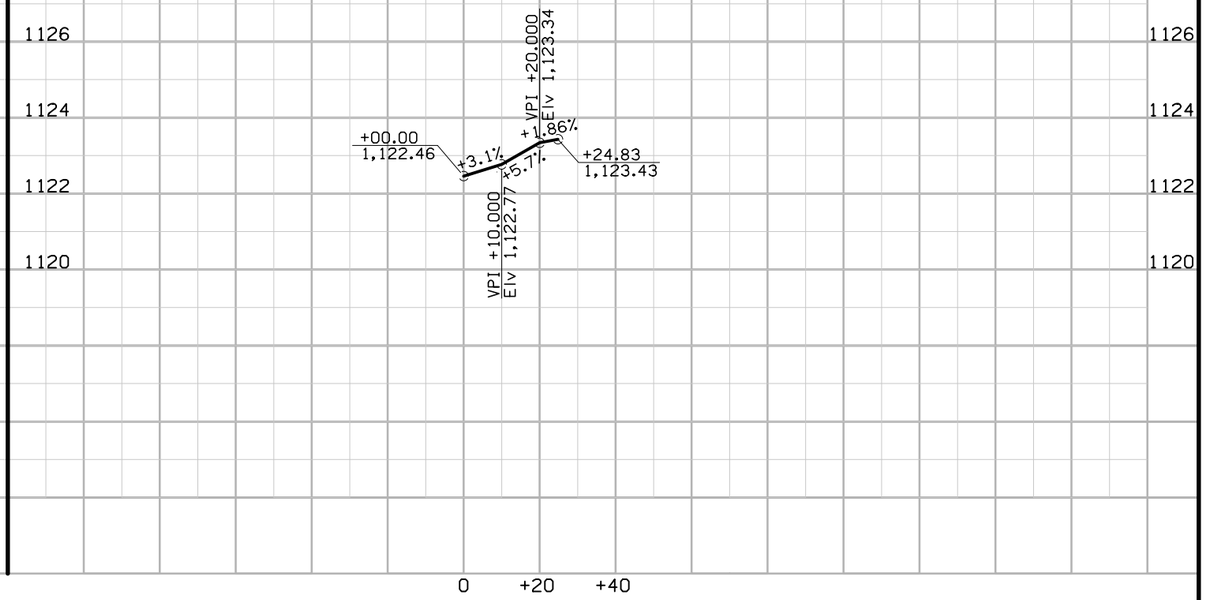
SRPFEILERE_RET1

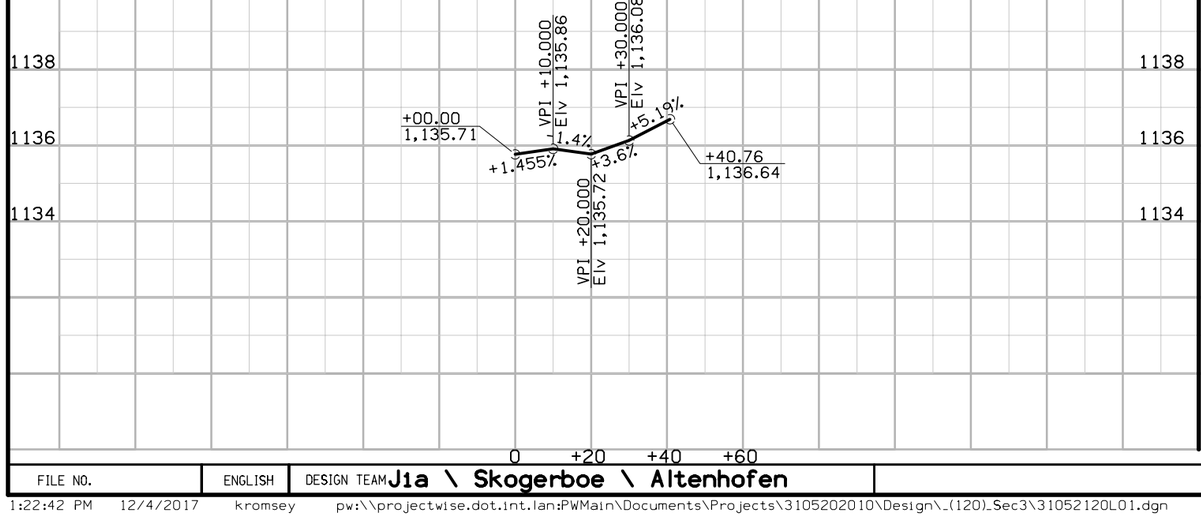


SRPFEILERE_RET2

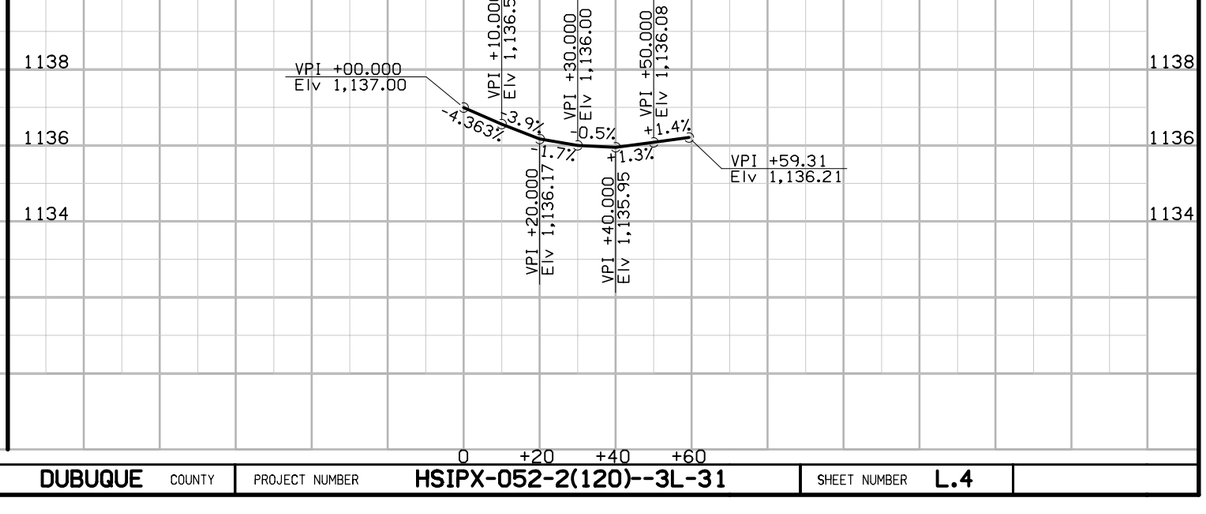


Edge Returns Profiles Intersection of US 52/IA 3 and Pfeiler Rd E

SRHINGTGEN_RET3



SRHINGTGEN_RET4



Edge Returns Profiles Intersection of US 52/IA 3 and Hingtgen Lane

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.4

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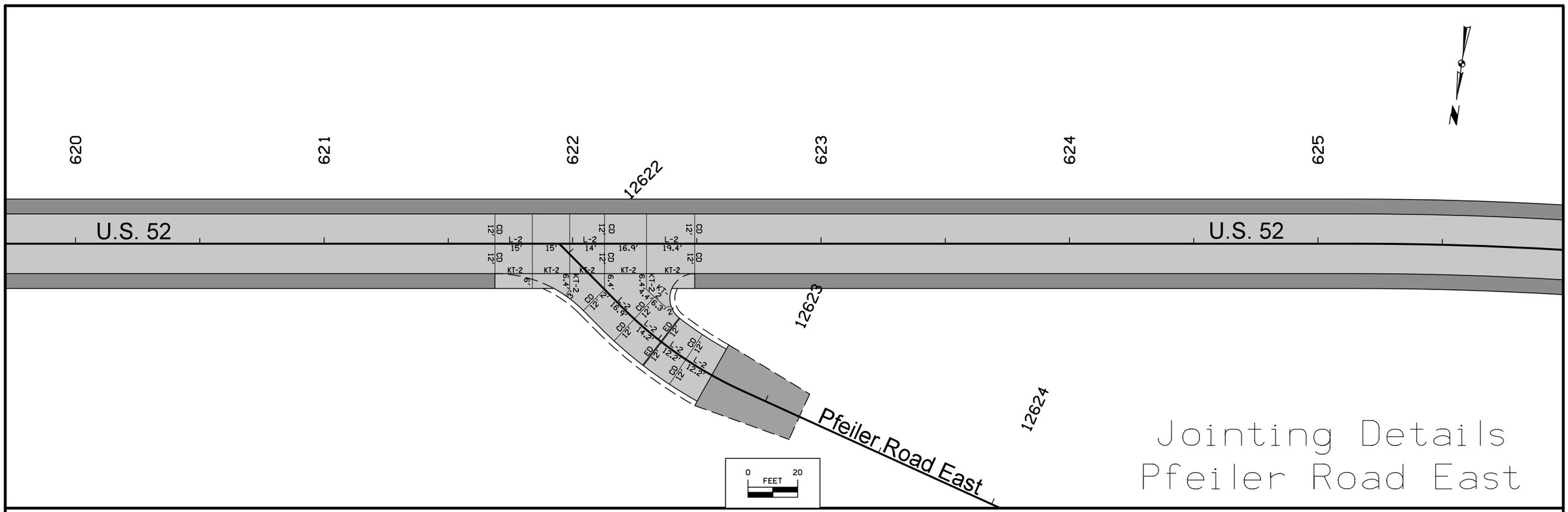
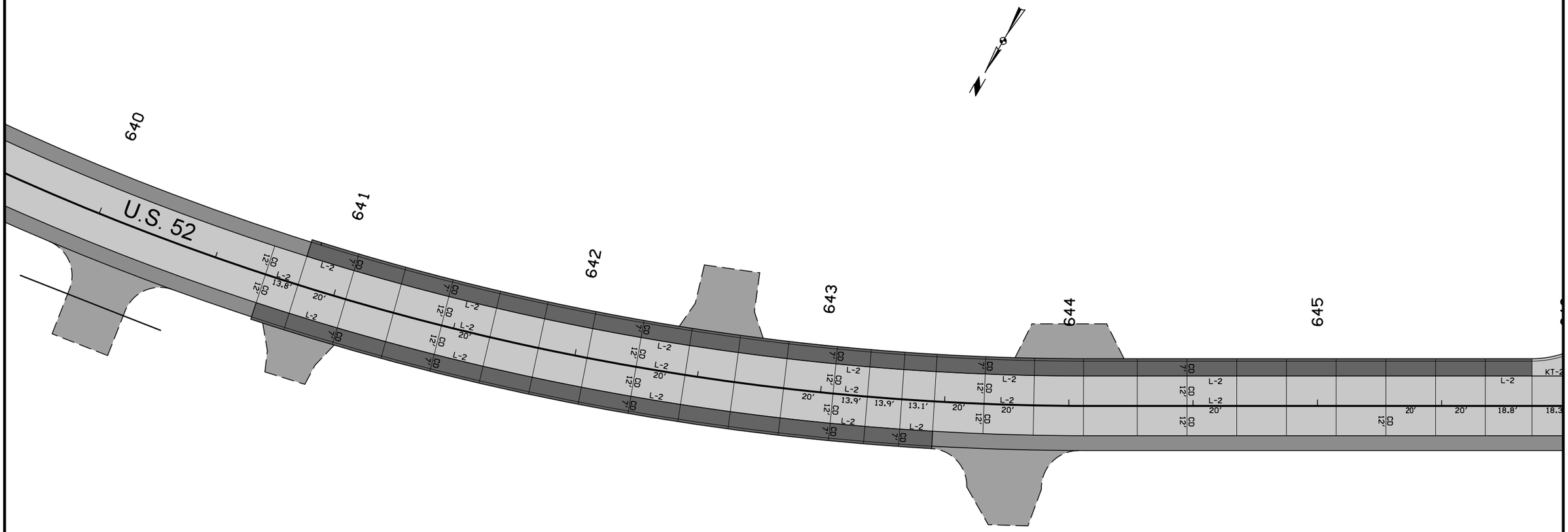


Jointing Details
Pfeiler Road East

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.5

3:25:25 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn

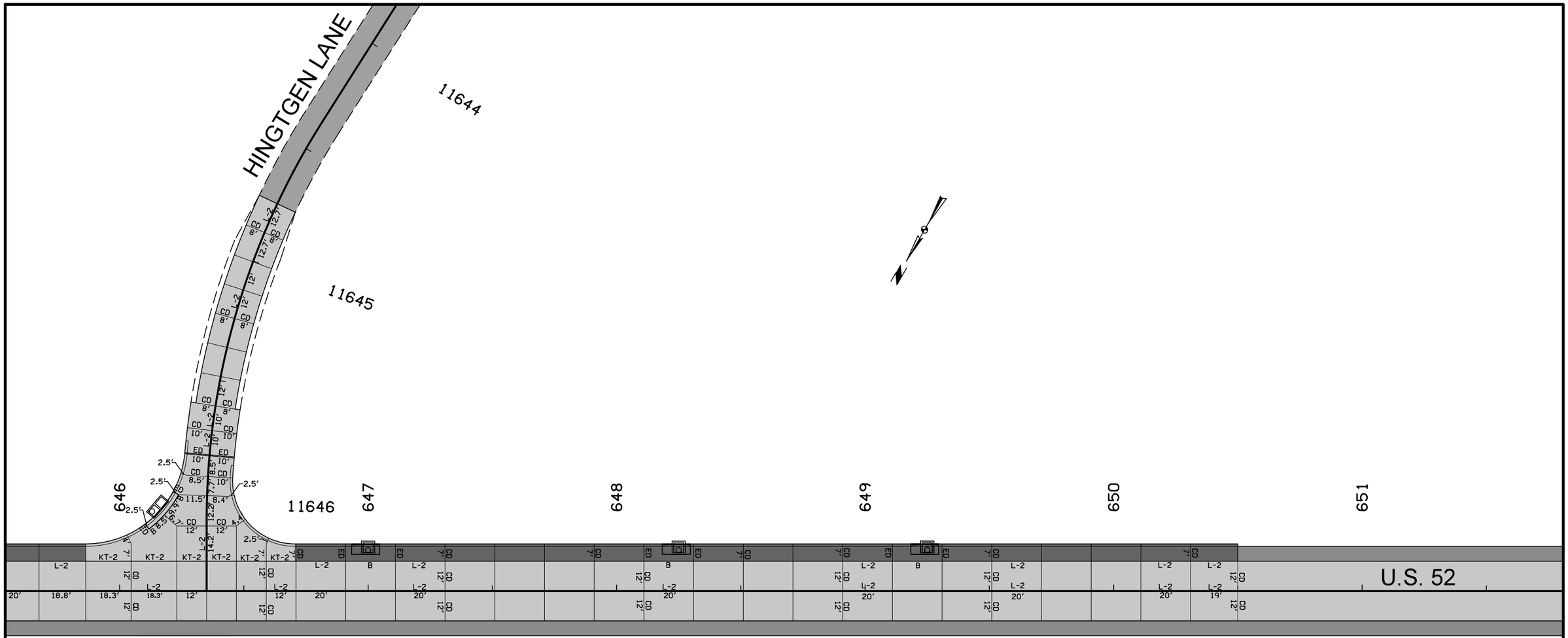


Jointing Details
Hingtgen Lane

0 FEET 20

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.6

3:25:29 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn

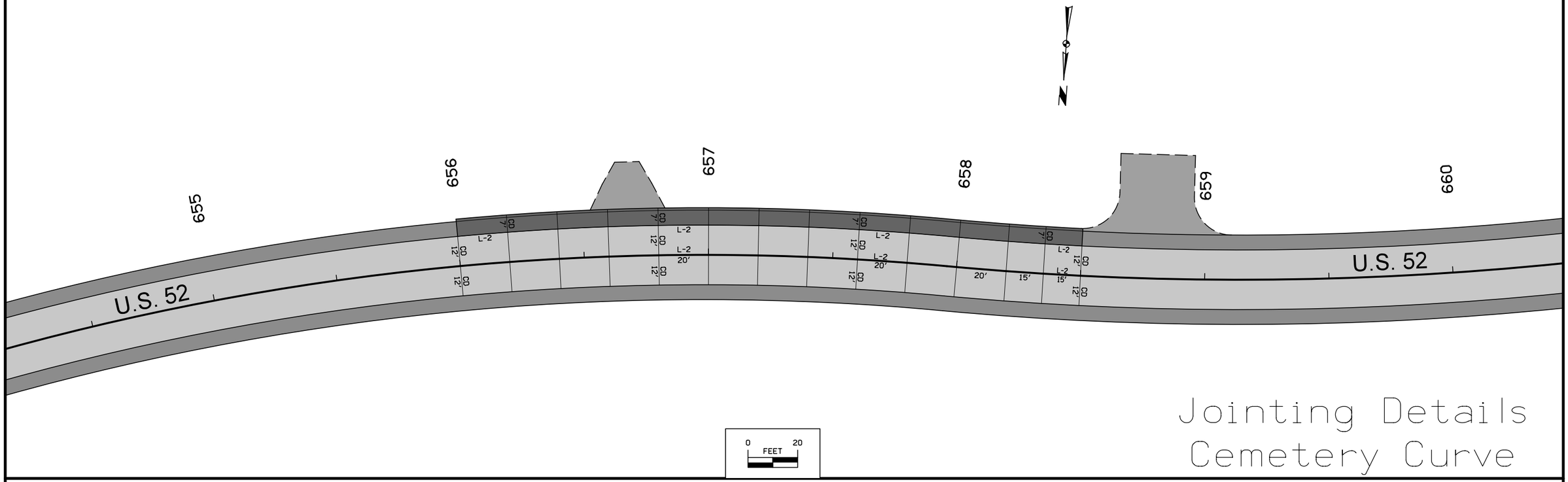


0 FEET 20

Jointing Details
Hingtgen Lane

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.7

3:25:33 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn



Jointing Details
Cemetery Curve

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.8

3:25:42 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn

Geometric Details
Midway Road

U.S. 52

MIDWAY ROAD

706

705

704

703

SRMIDWAY_RET3

Sta 0+00.00 SRMIDWAY_RET3
= Sta 705+38.42 12.00' Lt ML052

Radius Point (R = 50')
705+38.42 (ML052)
10703+91.46 (SRMIDWAY)

Sta 0+85.60 SRMIDWAY_RET3
= Sta 10703+91.46 13.00' Lt SRMIDWAY

10702

10703

10704

Curve 30930

77°58'27.30"

ML052 Profile
Grade Location

POT Sta 10704+65.56
= POC Sta 704+65.56

13'

13'

SRHMIDWAY Profile
Grade Location

Curve 30940

12' 12' 7'

12' 12' 7'

Sta 0+00.00 SRMIDWAY_RET4
= Sta 10704+16.80 13.00' Rt SRMIDWAY

Radius Point (R = 50')
704+16.93 (ML052)
10704+16.80 (SRMIDWAY)

Sta 0+65.75 SRMIDWAY_RET4
= Sta 704+16.93 12.00' Lt ML052

SRMIDWAY_RET4

0 FEET 20

FILE NO.	ENGLISH	DESIGN TEAM **J1a \ Skogerboe \ Altenhofen**	**DUBUQUE** COUNTY	PROJECT NUMBER **HSIPX-052-2(120)--3L-31**	SHEET NUMBER **L.9**

3:25:47 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn

Geometric Details
Bankston Park Road

U.S. 52

BANKSTON PARK ROAD

SRBANKSTON_RET3

Sta 0+00.00 SRBANKSTON_RET3
= Sta 743+26.65 12.00' Lt ML052

Radius Point (R = 50')
743+26.65 (ML052)
9741+94.97 (SRBANKSTON)

Sta 0+78.75 SRBANKSTON_RET3
= Sta 9741+94.97 12.00' Lt SRBANKSTON

9740 9741 9742 743 744

Curve 30830

POT Sta 9742+61.20
= POC 742+64.20

SRBANKSTON Profile
Grade Location

Curve 30840

ML052 Profile
Grade Location

12' 12' 7'

Sta 0+00.00 SRBANKSTON_RET4
= Sta 9741+17.59 12.00' Rt SRBANKSTON

Radius Point (R = 40')
742+22.72 (ML052)
9741+17.59 (SRBANKSTON)

742

SRBANKSTON_RET4

Sta 0+54.18 SRBANKSTON_RET4
= Sta 742+22.72 12.00' Lt ML052

741

0 FEET 20

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.10

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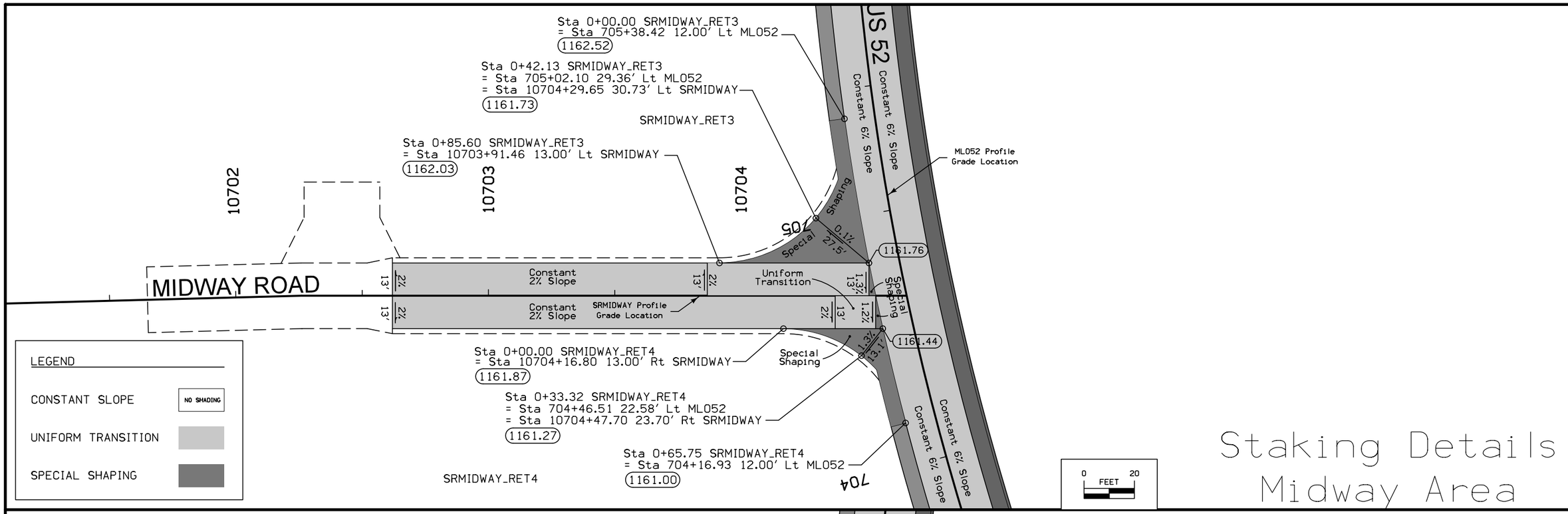
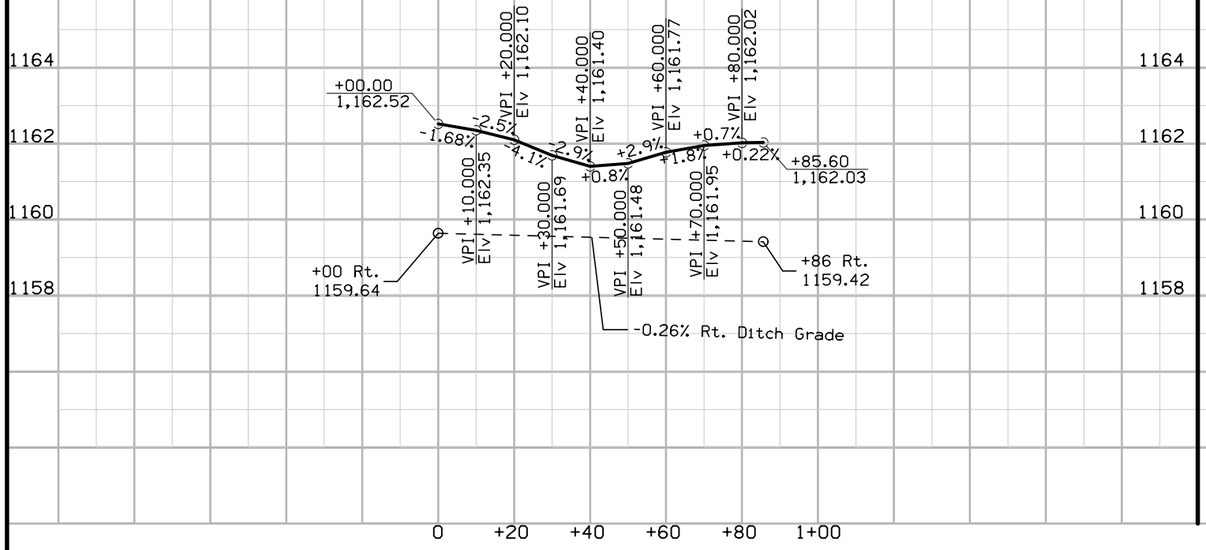


FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.11

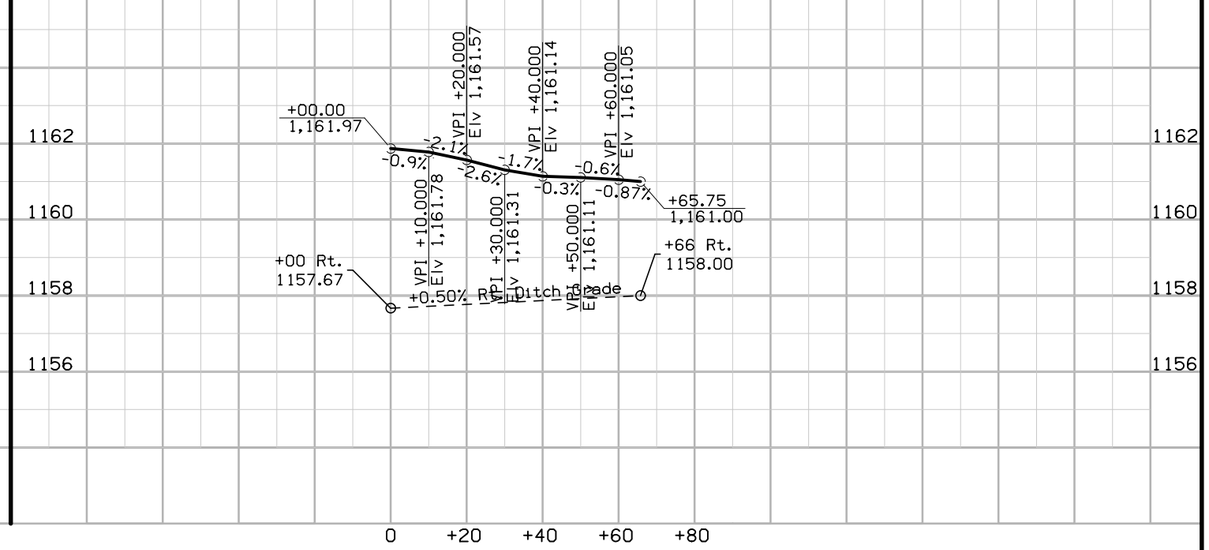
3:26:01 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn

SRMIDWAY_RET3

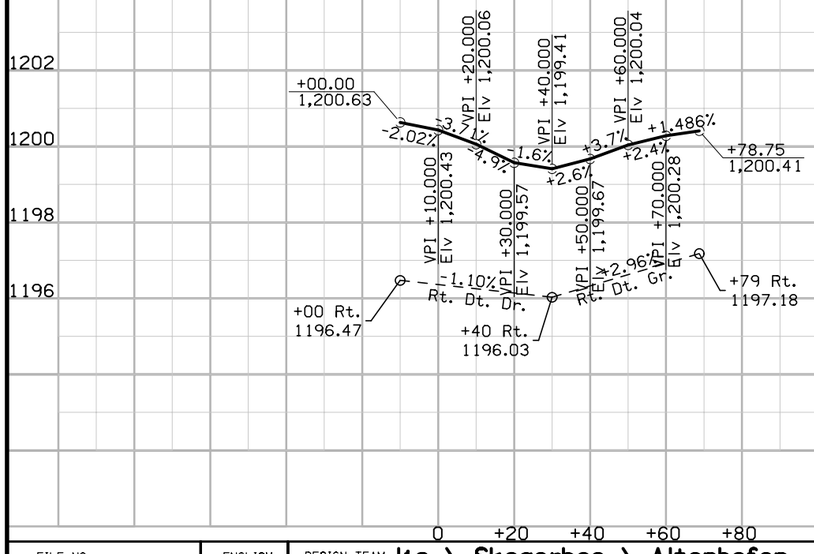


SRMIDWAY_RET4

Edge Returns Profiles
Intersection of US 52/IA 3
and Midway Road

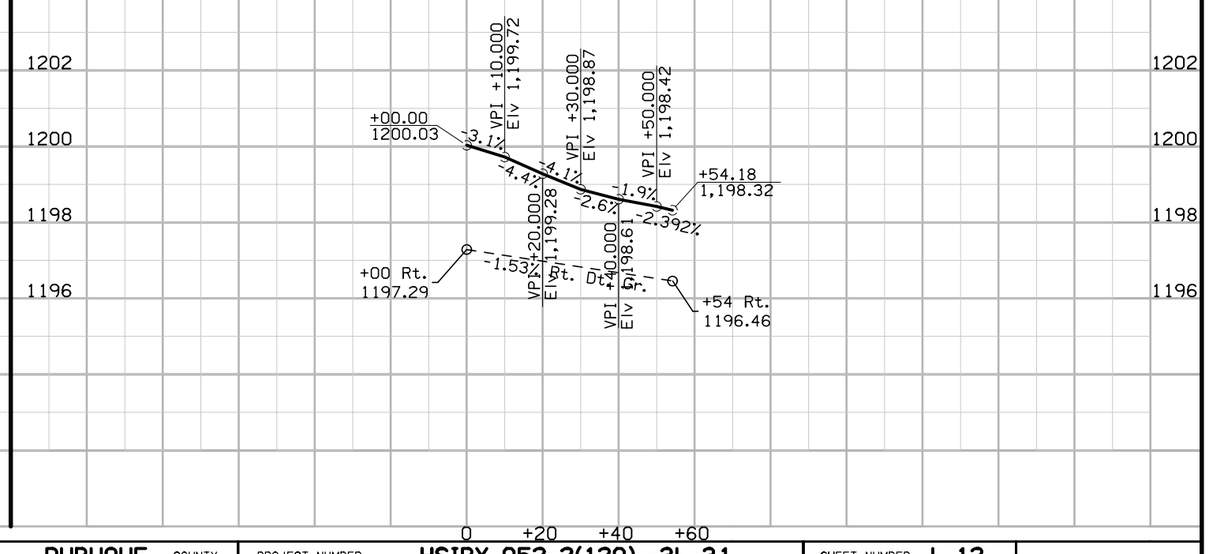


SRBANKSTON_RET3



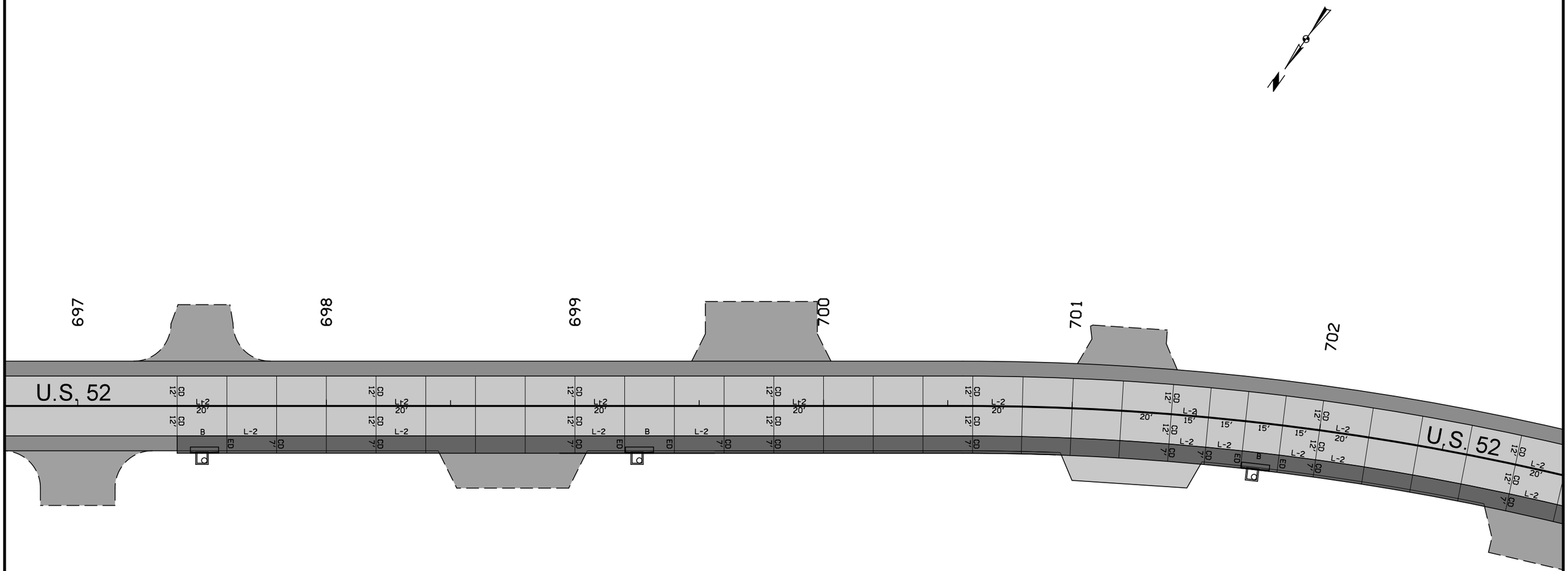
SRBANKSTON_RET4

Edge Returns Profiles
Intersection of US 52/IA 3
and Bankston Park Road



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.12

1:23:29 PM 12/4/2017 kromsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn



Jointing Details
Midway Area

0 20
FEET

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.13

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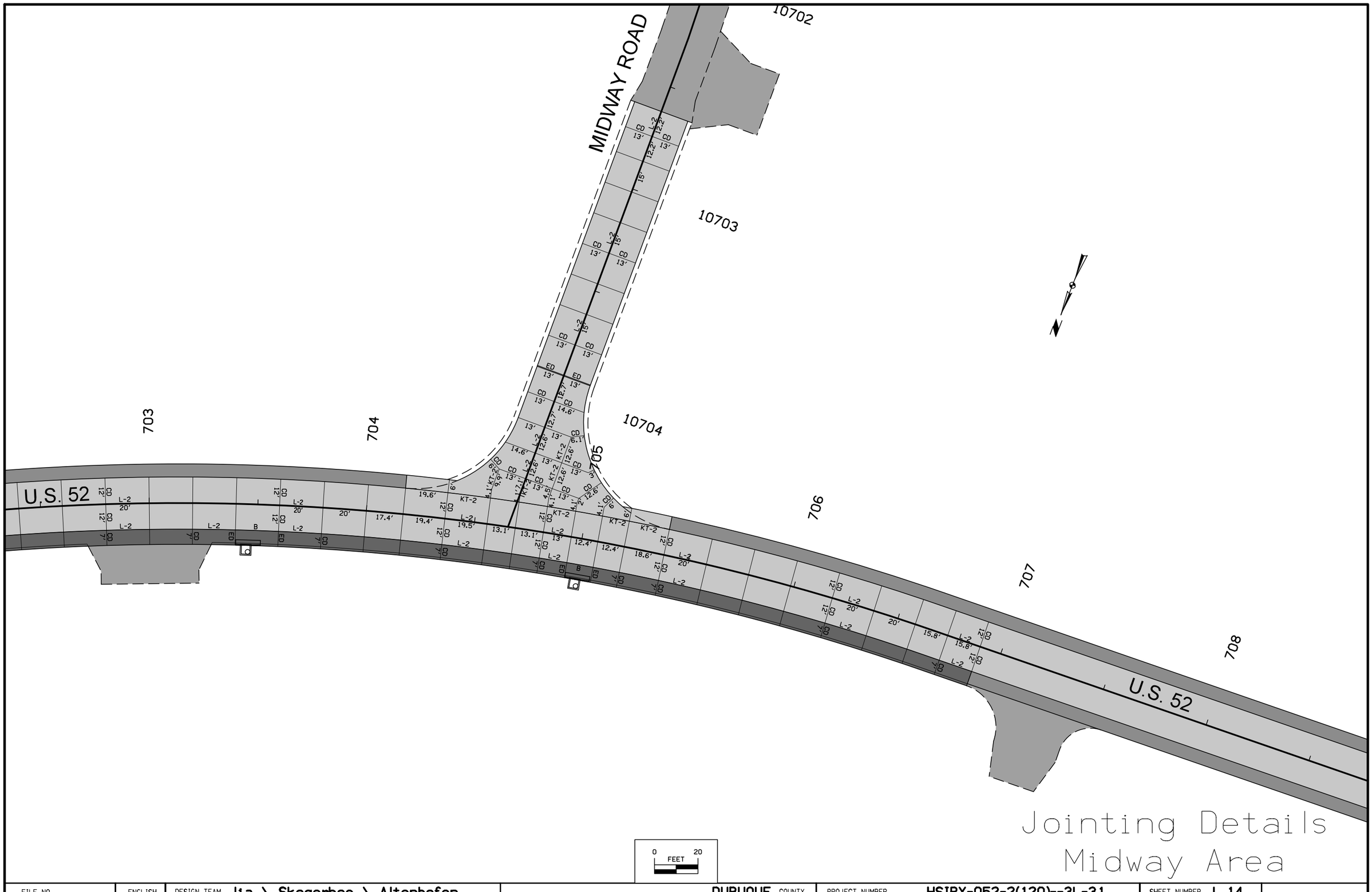

Jointing Details
Midway Area

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.14

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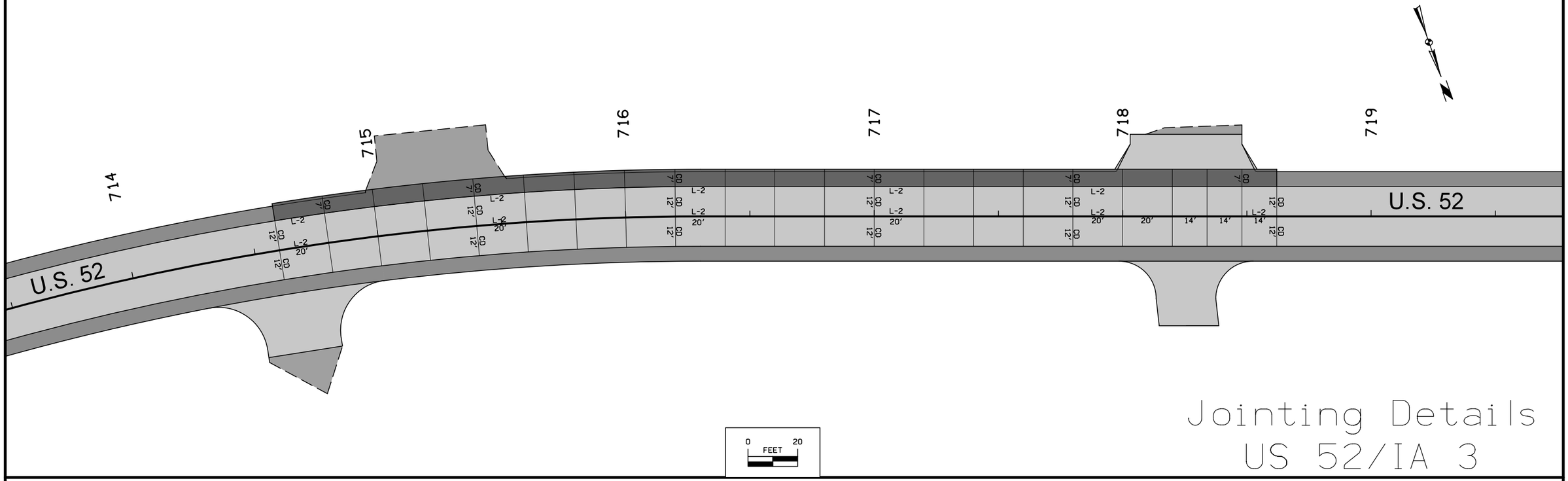

Jointing Details
US 52/IA 3

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.15

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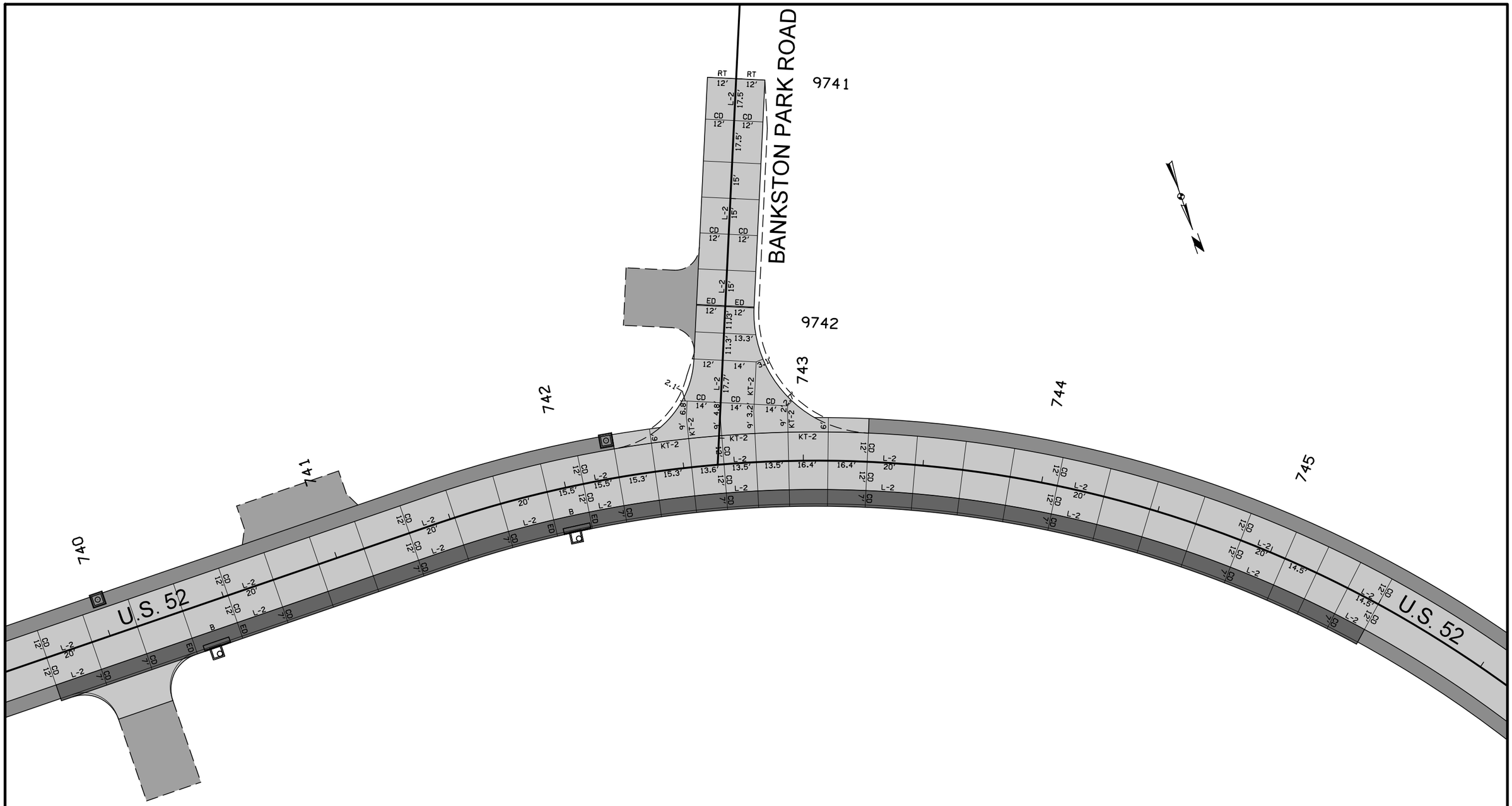

0 FEET 20

Jointing Details
Bankston Park Road

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.16

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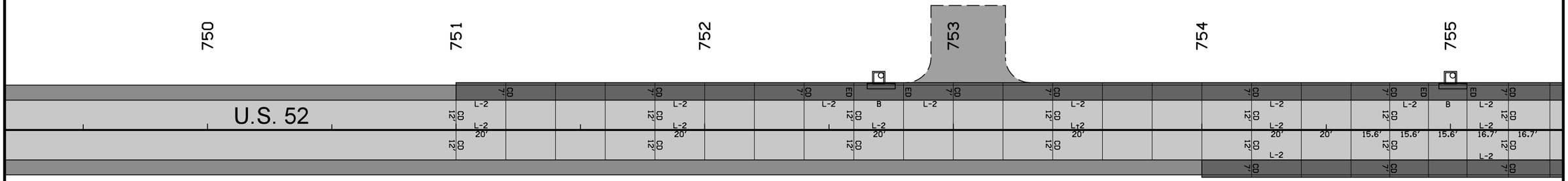
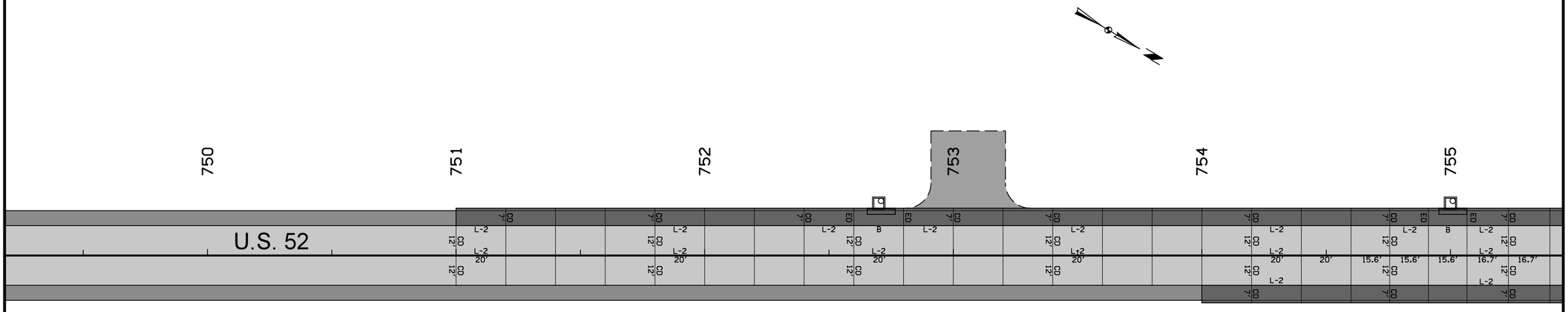


0 FEET 20

Jointing Details
US 52/IA 3



0 FEET 20

Jointing Details
US 52/IA 3

FILE NO.	ENGLISH	DESIGN TEAM **J1a \ Skogerboe \ Altenhofen**	**DUBUQUE** COUNTY	PROJECT NUMBER **HSIPX-052-2(120)--3L-31**	SHEET NUMBER **L.17**

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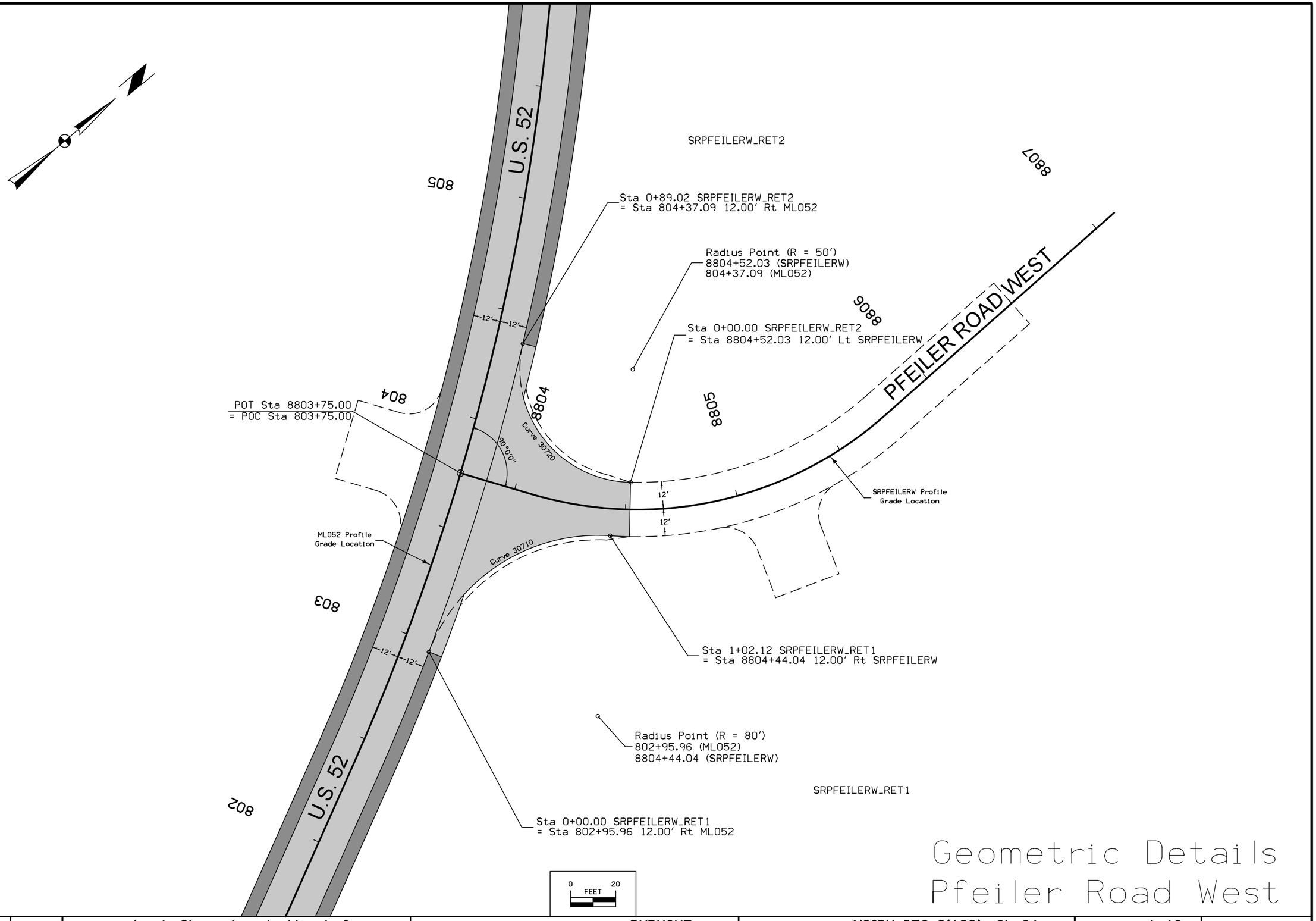

Geometric Details
Pfeiler Road West

FILE NO.	ENGLISH	DESIGN TEAM **J1a \ Skogerboe \ Altenhofen**	**DUBUQUE** COUNTY	PROJECT NUMBER **HSIPX-052-2(120)--3L-31**	SHEET NUMBER **L.18**

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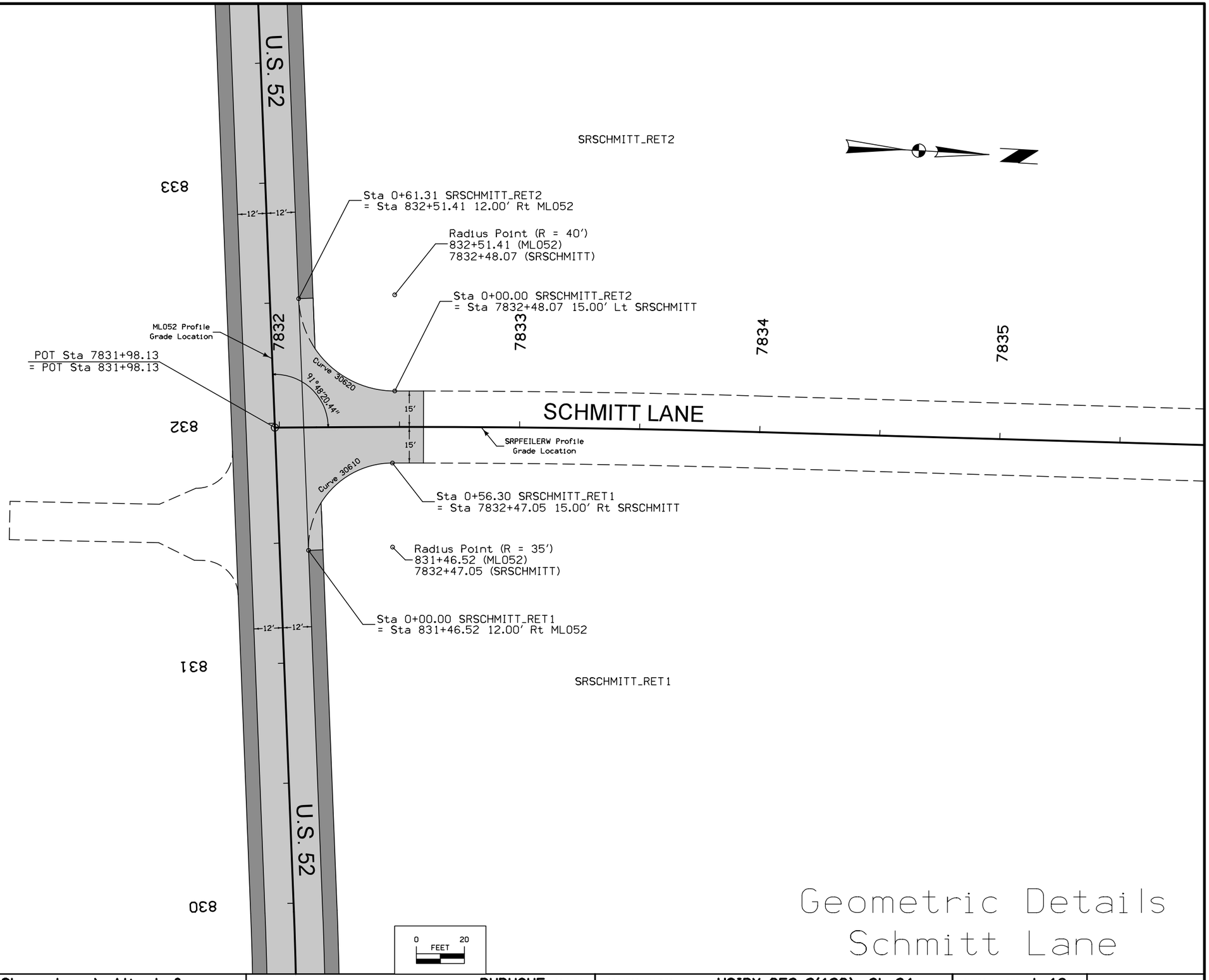

Geometric Details
Schmitt Lane

FILE NO.	ENGLISH	DESIGN TEAM **J1a \ Skogerboe \ Altenhofen**	**DUBUQUE** COUNTY	PROJECT NUMBER **HSIPX-052-2(120)--3L-31**	SHEET NUMBER **L.19**

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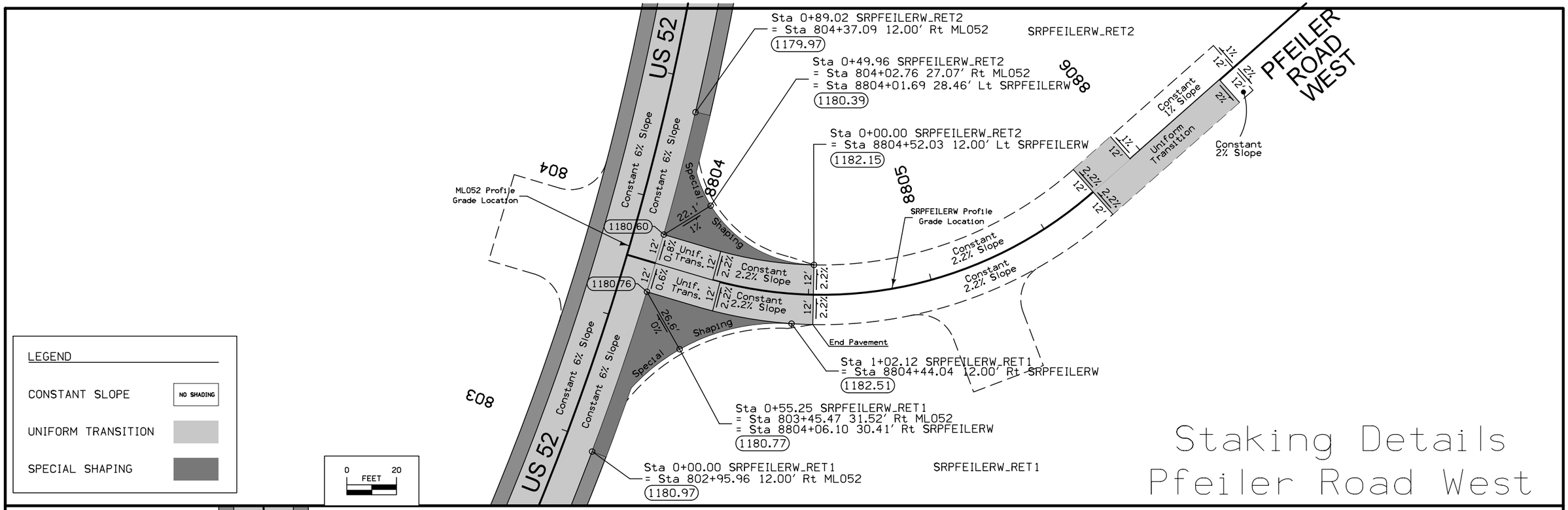
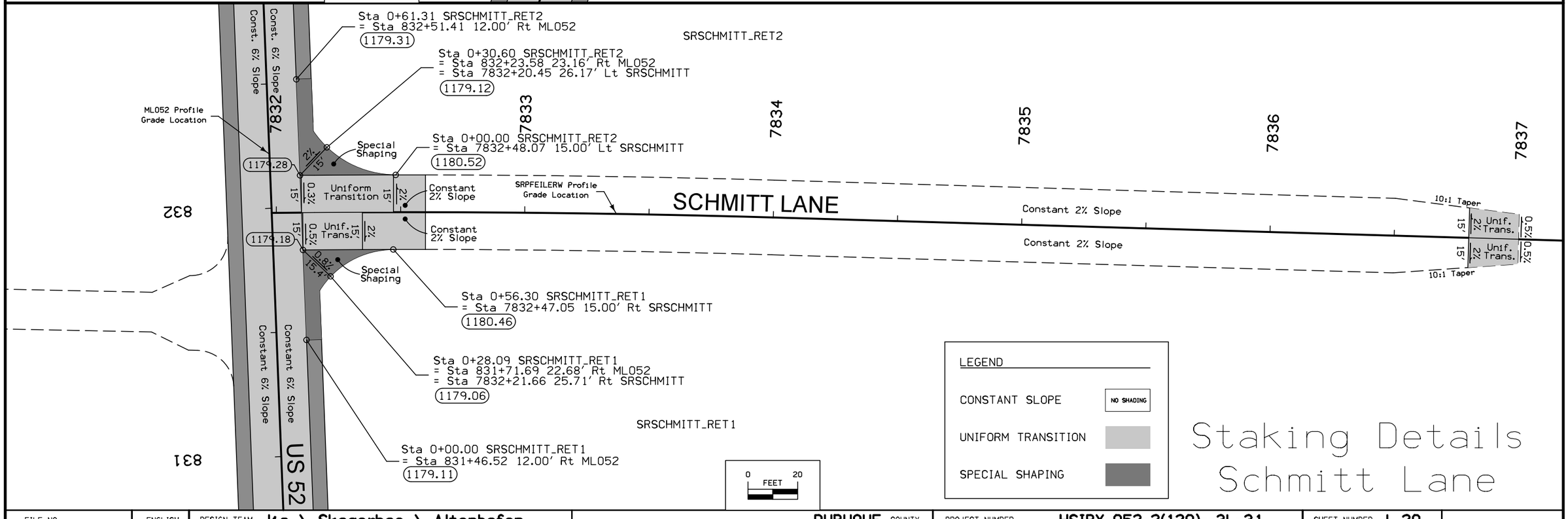


Staking Details
Pfeiler Road West

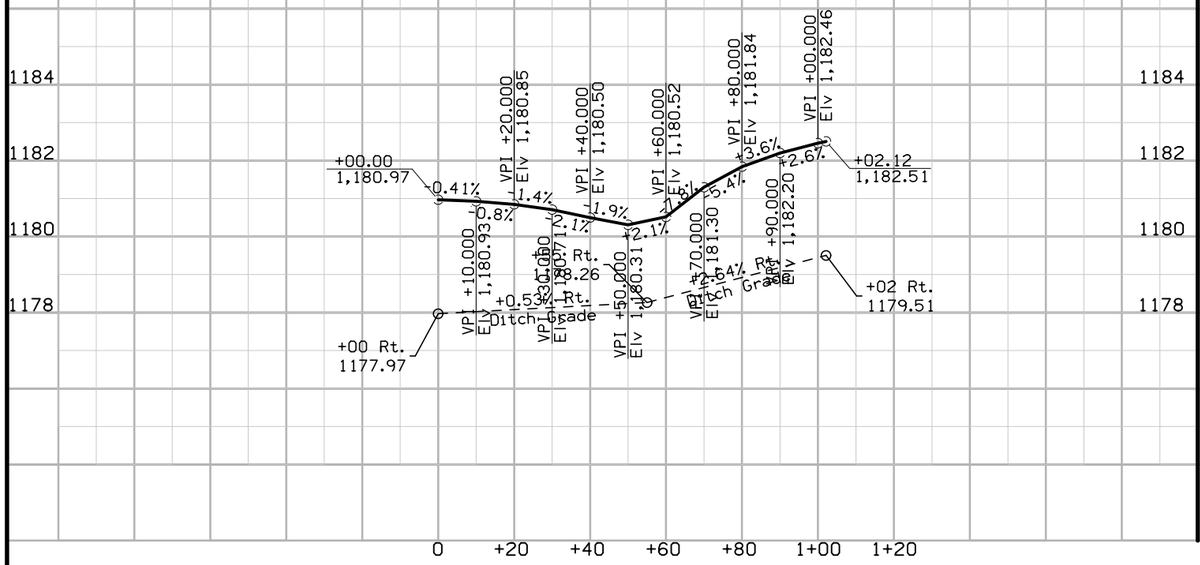


Staking Details
Schmitt Lane

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.20

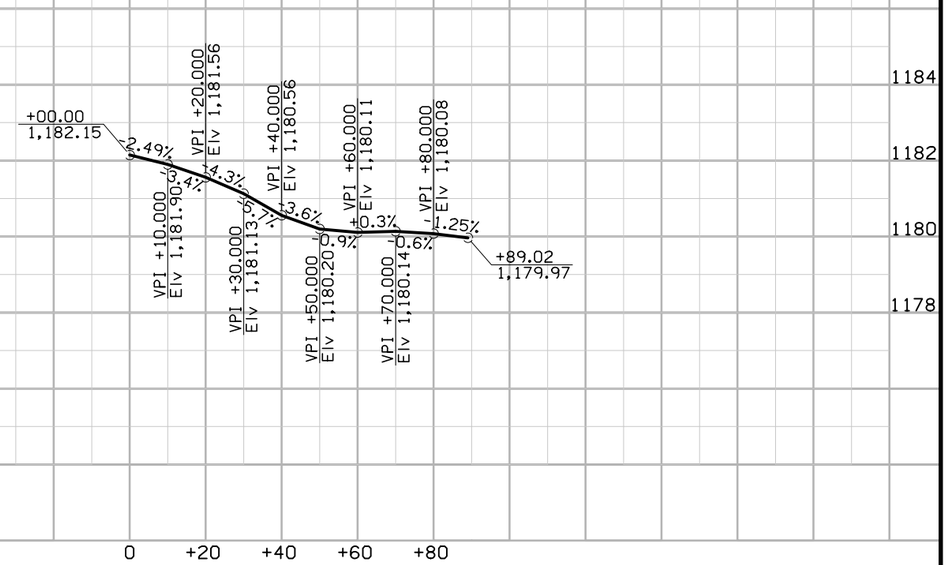
3:26:41 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn

SRPFEILERW_RET1

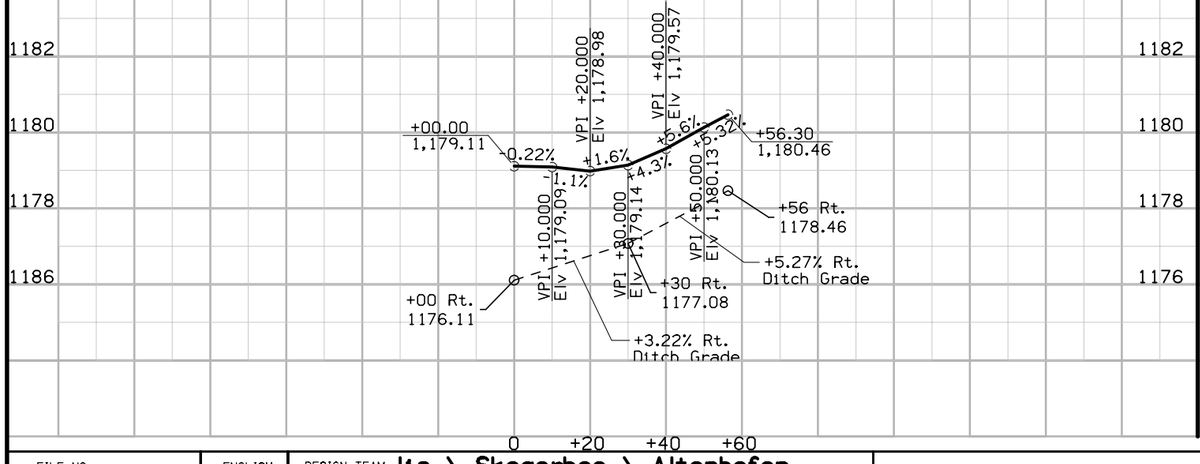


SRPFEILERW_RET2

Edge Returns Profiles Intersection of US 52/IA 3 and Pfeiler Road W

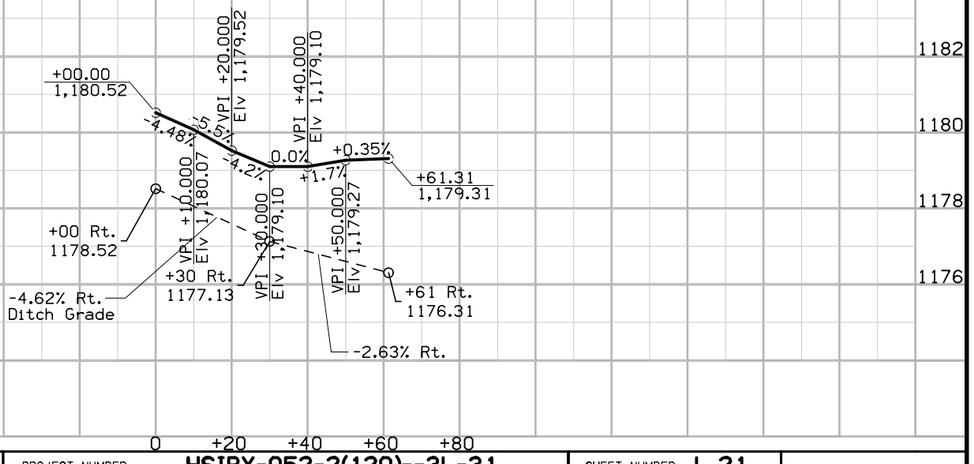


SRSCHMITT_RET1



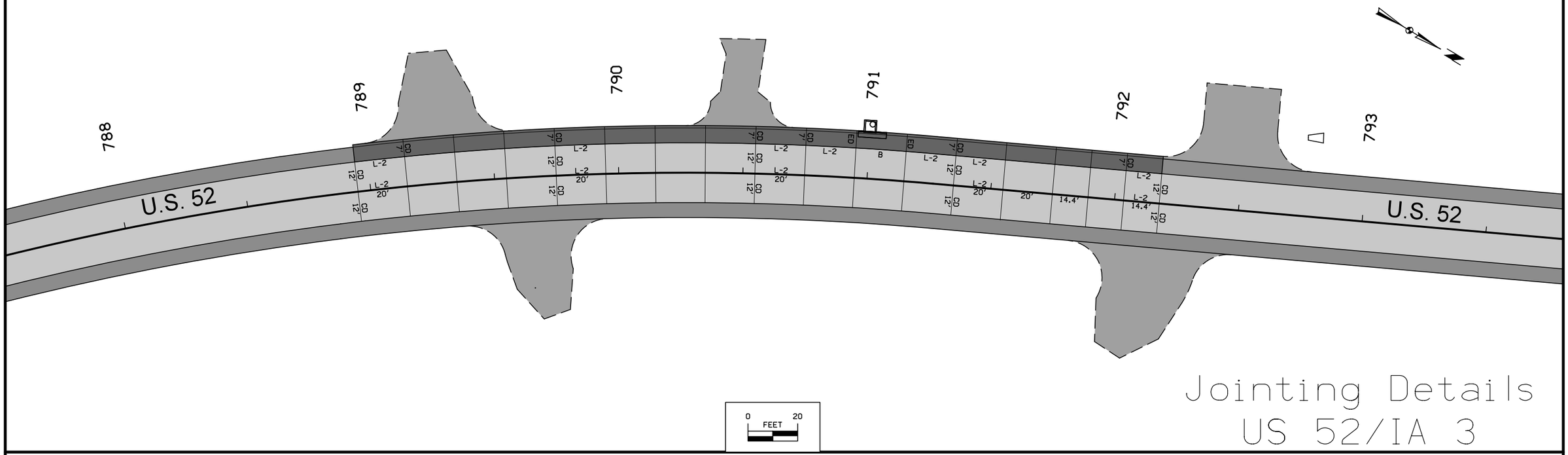
SRSCHMITT_RET2

Edge Returns Profiles Intersection of US 52/IA 3 and Schmitt Lane

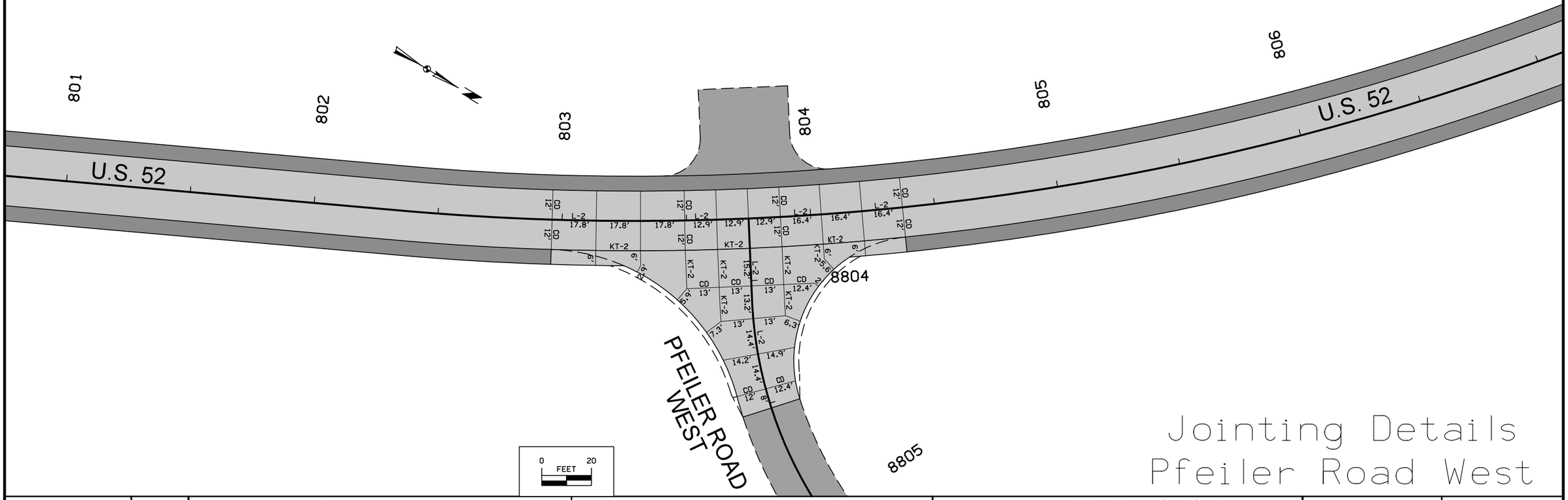


FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.21

1:25:15 PM 12/4/2017 kromsey pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn



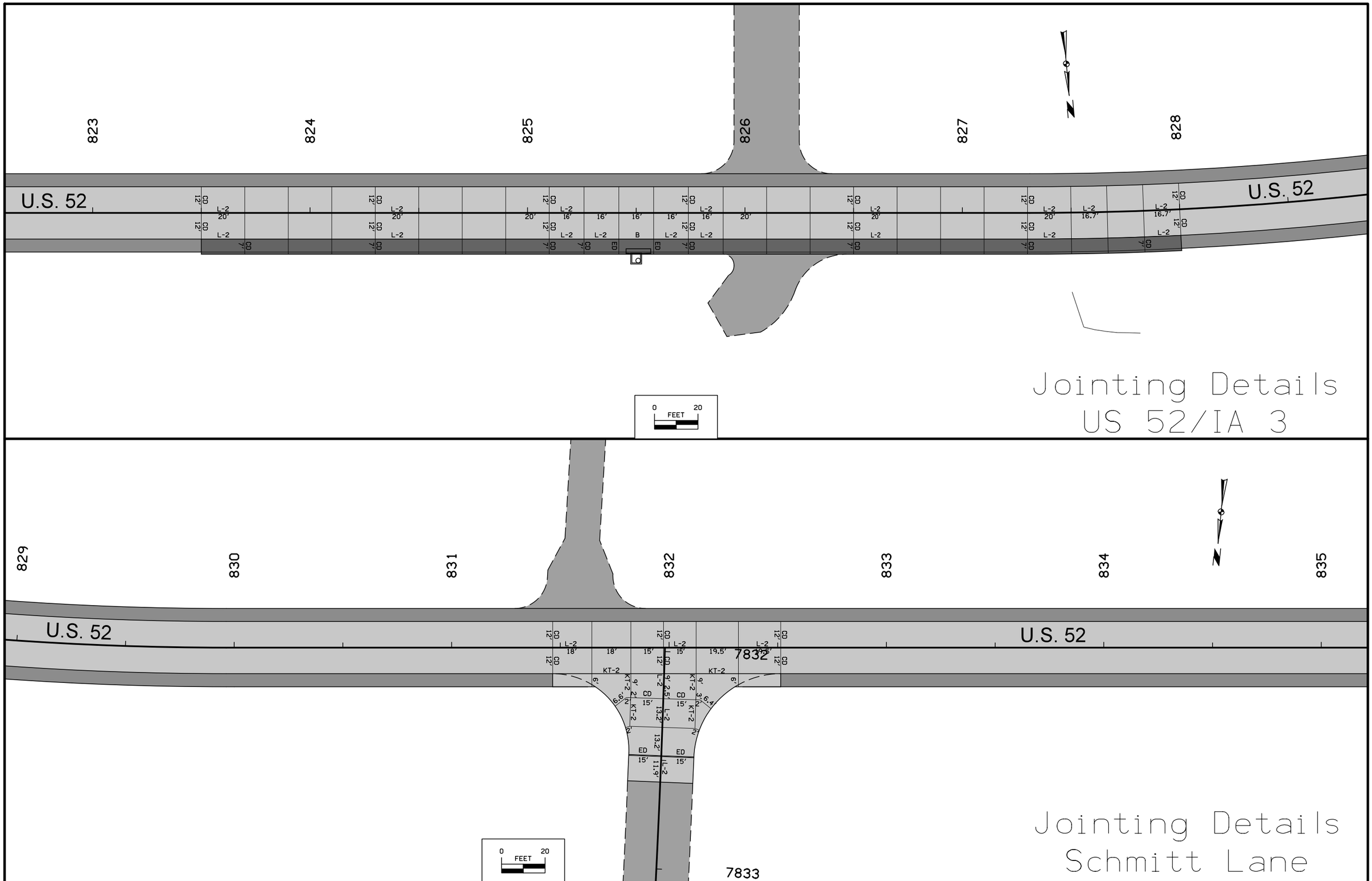
Jointing Details
US 52/IA 3



Jointing Details
Pfeiler Road West

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.22

3:26:50 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn



Jointing Details
US 52/IA 3

Jointing Details
Schmitt Lane

FILE NO.	ENGLISH	DESIGN TEAM **J1a \ Skogerboe \ Altenhofen**	**DUBUQUE** COUNTY	PROJECT NUMBER **HSIPX-052-2(120)--3L-31**	SHEET NUMBER **L.23**

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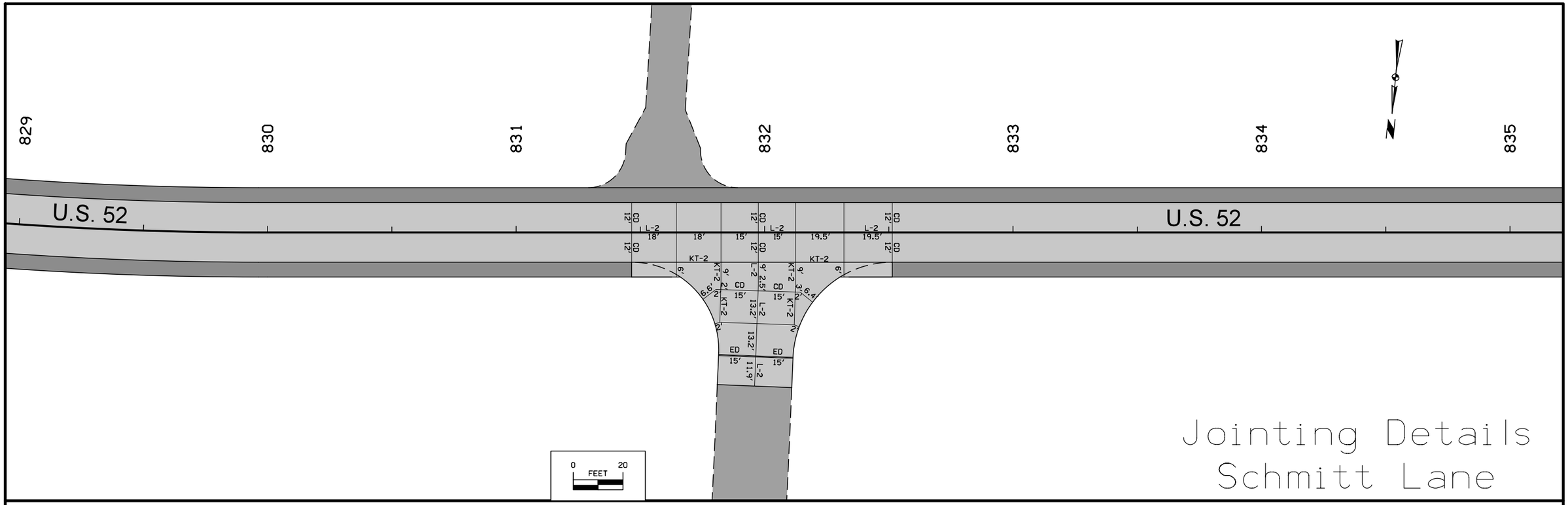

Jointing Details
Schmitt Lane

FILE NO.	ENGLISH	DESIGN TEAM **J1a \ Skogerboe \ Altenhofen**	**DUBUQUE** COUNTY	PROJECT NUMBER **HSIPX-052-2(120)--3L-31**	SHEET NUMBER **L.24**

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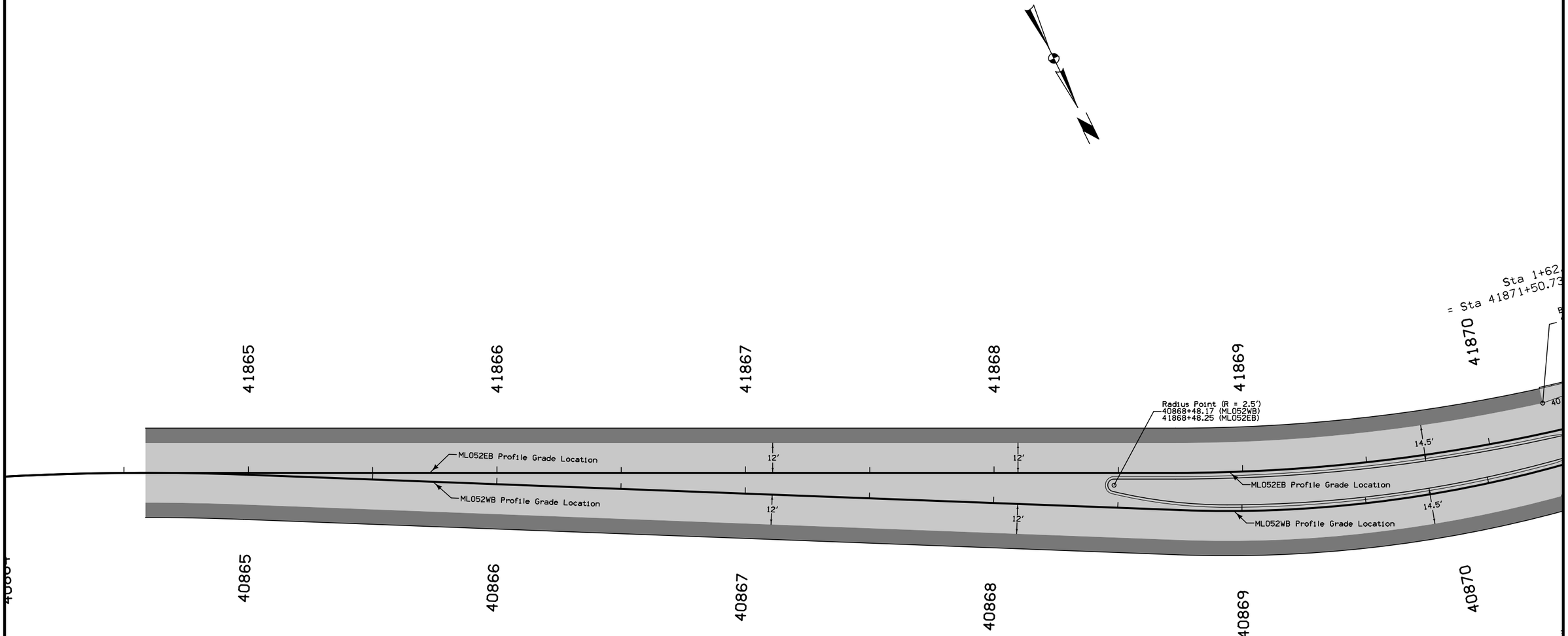
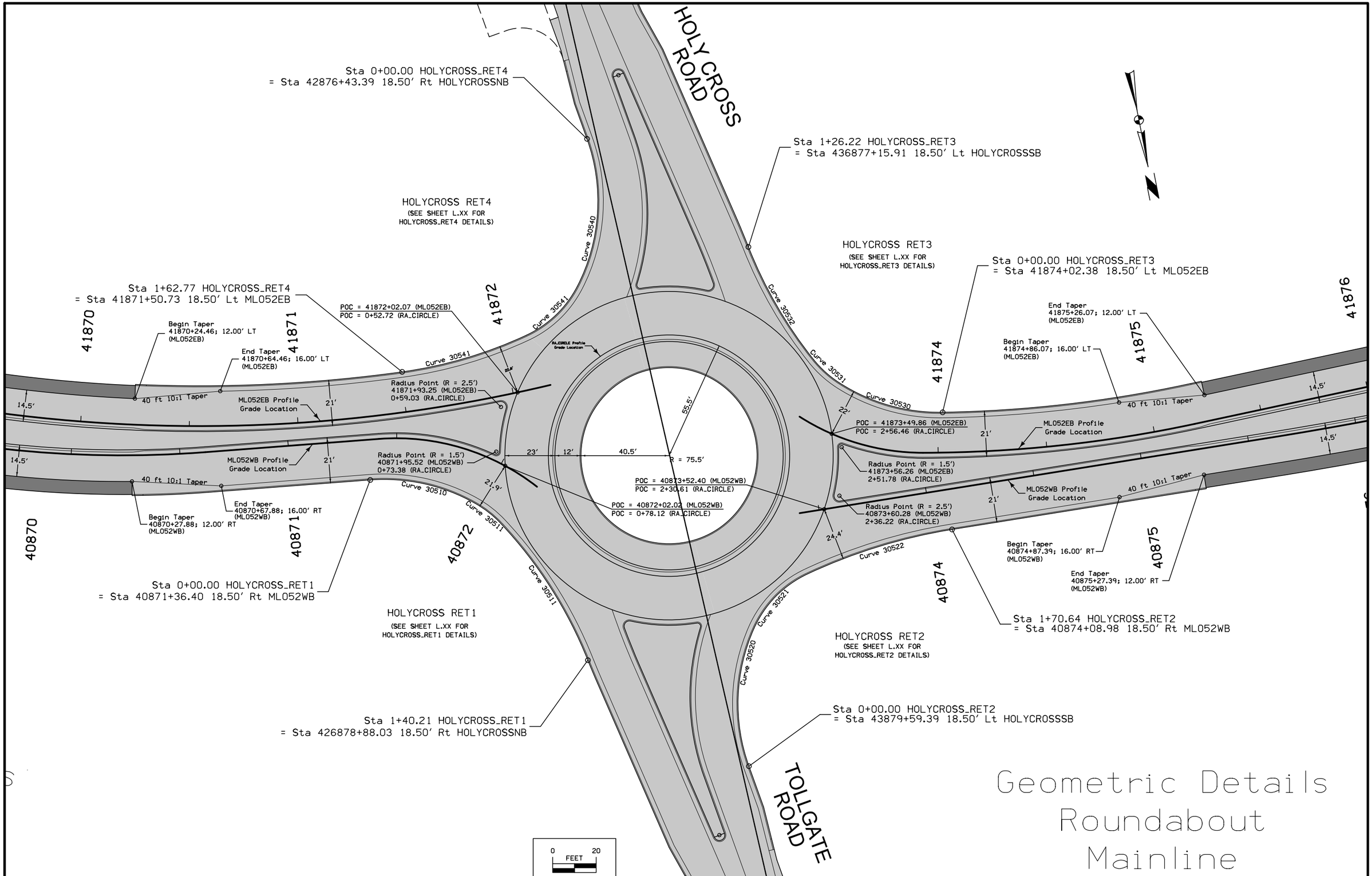


Geometric Details
Roundabout
Mainline

0 20
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.25

3:27:06 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn



Geometric Details Roundabout Mainline

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.26

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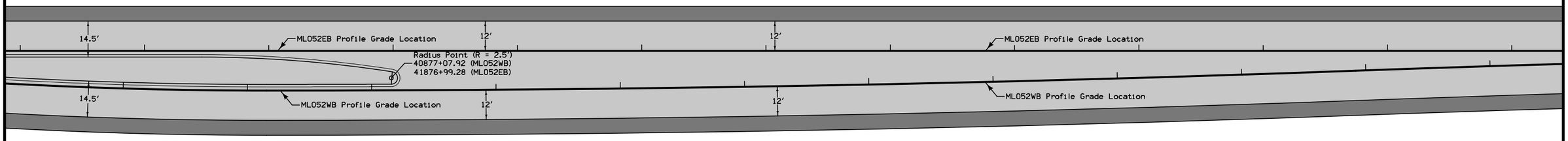

0 FEET 20

Geometric Details
Roundabout
Mainline

FILE NO.	ENGLISH	DESIGN TEAM **J1a \ Skogerboe \ Altenhofen**	**DUBUQUE** COUNTY	PROJECT NUMBER **HSIPX-052-2(120)--3L-31**	SHEET NUMBER **L.27**

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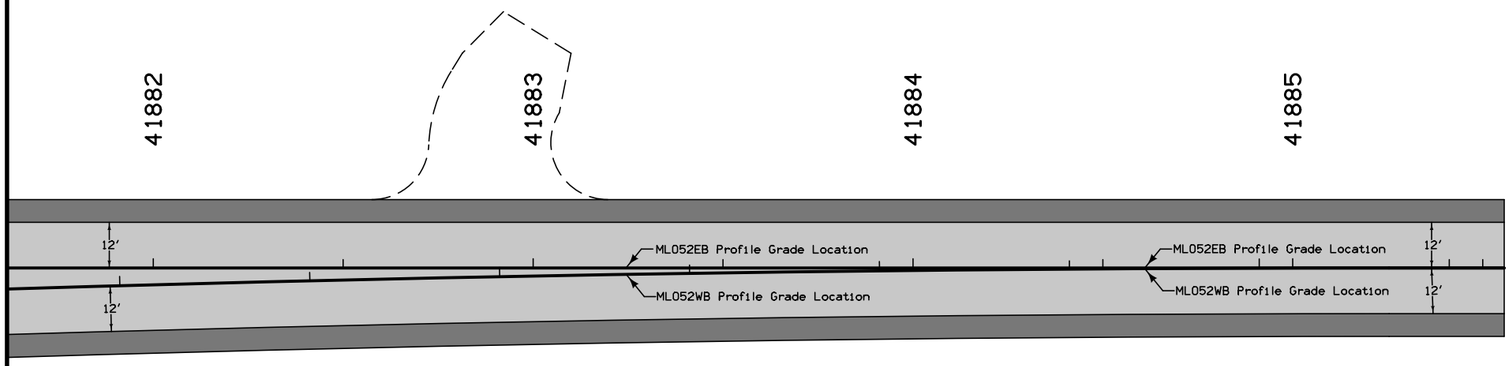
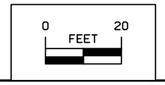
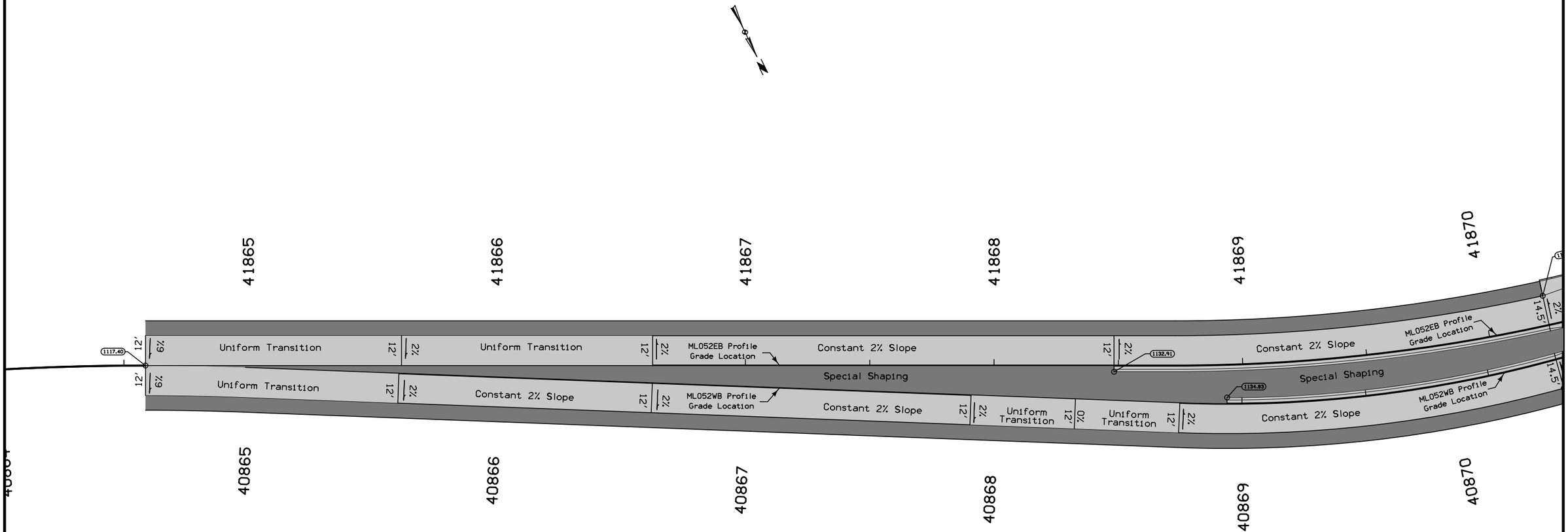




Geometric Details
Roundabout
Mainline

FILE NO.	ENGLISH	DESIGN TEAM **J1a \ Skogerboe \ Altenhofen**	**DUBUQUE** COUNTY	PROJECT NUMBER **HSIPX-052-2(120)--3L-31**	SHEET NUMBER **L.28**

3:27:21 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn



LEGEND

CONSTANT SLOPE — NO SHADING

UNIFORM TRANSITION

SPECIAL SHAPING

0 20 FEET

Staking Details
Roundabout
Mainline

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.29

3:27:27 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn

Sta 0+00.00 HOLYCROSS_RET4
= Sta 426876+43.39 18.50' Rt HOLYCROSSNB
1151.54

HOLYCROSS RET4

Sta 0+50.00 HOLYCROSS_RET4
= Sta 426877+03.85 21.61' Rt HOLYCROSSNB
1149.48

Sta 1+00.00 HOLYCROSS_RET4
= Sta 0+33.98 29.24' Rt RA_CIRCLE
1147.95

Sta 1+50.00 HOLYCROSS_RET4
= Sta 41871+63.85 18.79' Lt ML052EB
1145.86

Sta 1+62.77 HOLYCROSS_RET4
= Sta 41871+50.73 18.50' Lt ML052EB
1145.32

HOLYCROSS RET3

Sta 1+26.22 HOLYCROSS_RET3
= Sta 436877+15.91 18.50' Lt HOLYCROSSSB
1150.08

Sta 1+00.00 HOLYCROSS_RET3
= Sta 3+03.86 31.08' Rt RA_CIRCLE
1149.91

Sta 0+50.00 HOLYCROSS_RET3
= Sta 2+71.40 29.77' Lt RA_CIRCLE
1150.49

Sta 0+00.00 HOLYCROSS_RET3
= Sta 41874+02.38 18.50' Lt ML052EB
1151.38

Sta 0+00.00 HOLYCROSS_RET1
= Sta 40871+36.40 18.50' Rt ML052WB
1144.62

Sta 0+50.00 HOLYCROSS_RET1
= Sta 0+87.97 36.43' Rt RA_CIRCLE
1146.87

Sta 1+00.00 HOLYCROSS_RET1
= Sta 1+19.52 25.33' Rt RA_CIRCLE
1147.74

HOLYCROSS RET1

Sta 1+40.21 HOLYCROSS_RET1
= Sta 426878+88.03 18.50' Rt HOLYCROSSNB
1148.59

Sta 1+70.64 HOLYCROSS_RET2
= Sta 40874+08.98 18.50' Rt ML052WB
1151.28

Sta 1+50.00 HOLYCROSS_RET2
= Sta 40873+88.37 19.35' Rt ML052WB
1150.91

Sta 1+00.00 HOLYCROSS_RET2
= Sta 2+09.30 27.90' Rt RA_CIRCLE
1150.14

Sta 0+50.00 HOLYCROSS_RET2
= Sta 436878+98.75 20.31' Lt HOLYCROSSSB
1149.89

HOLYCROSS RET2

Sta 0+00.00 HOLYCROSS_RET2
= Sta 436879+59.39 18.50' Lt HOLYCROSSSB
1151.28

41870 41871 41872 41874 41875 41876
40870 40871 40872 40874 40875

ML052EB Profile Grade Location
ML052WB Profile Grade Location

Constant 2% Slope
Special Shaping
Uniform Transition
Constant 1.5% Slope
Constant 1% Slope
Const. 1.5% Slope
Constant 2% Slope

LEGEND

CONSTANT SLOPE — NO SHADING
UNIFORM TRANSITION
SPECIAL SHAPING

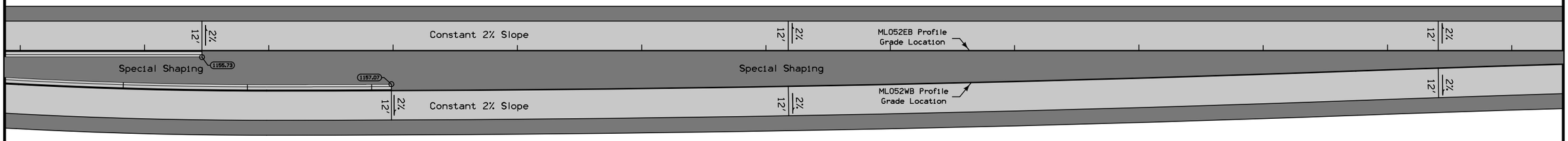
0 FEET 20

Staking Details
Roundabout
Mainline

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.30

3:27:32 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn

41876 41877 41878 41879 41880 41881



40876 40877 40878 40879 40880 40881

LEGEND

CONSTANT SLOPE — NO SHADING

UNIFORM TRANSITION

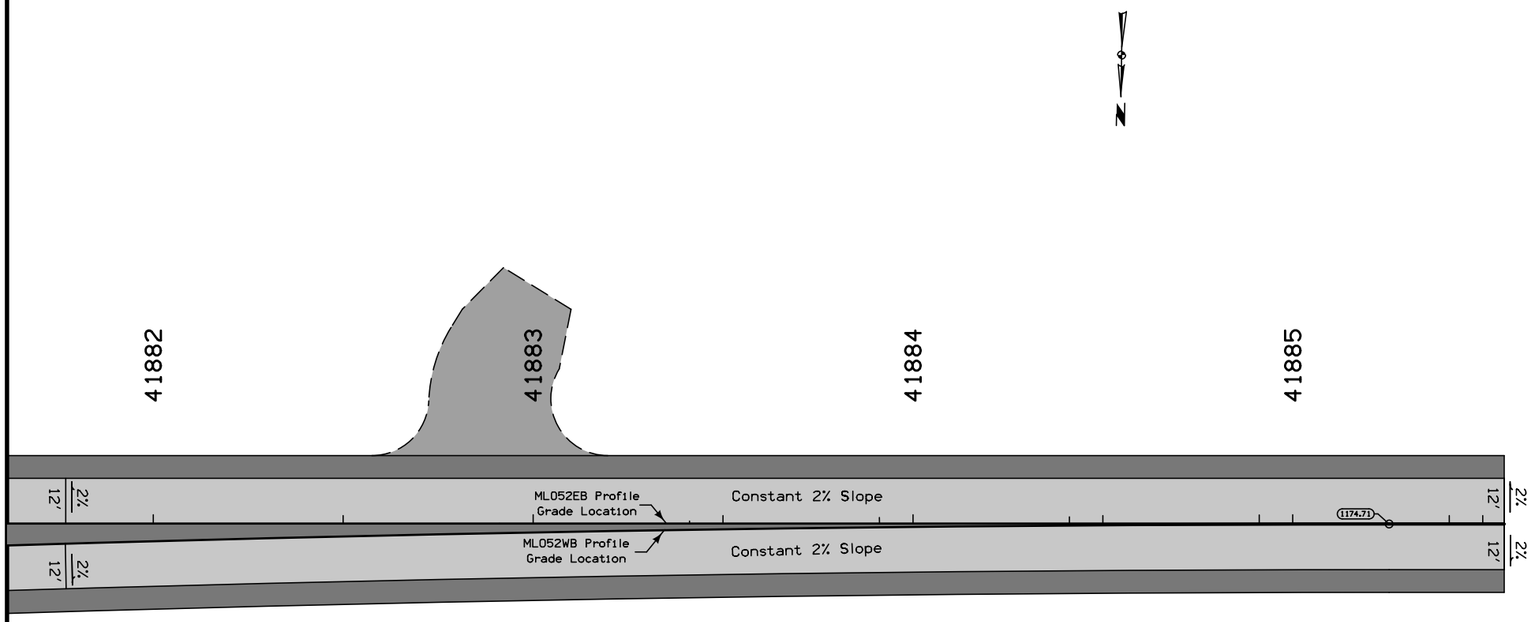
SPECIAL SHAPING

0 FEET 20

Staking Details
Roundabout
Mainline

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.31

3:27:37 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn



LEGEND

CONSTANT SLOPE — NO SHADING

UNIFORM TRANSITION

SPECIAL SHAPING

0 FEET 20

Staking Details
Roundabout
Mainline

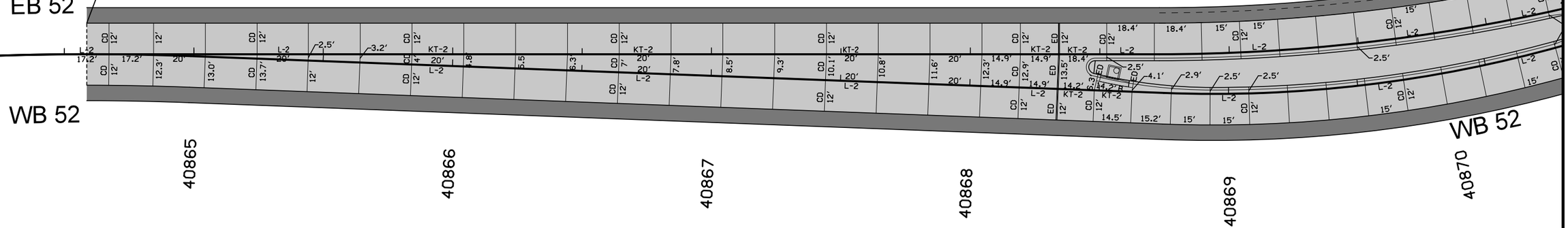
FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.32

3:27:41 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn

Sta. 41864+58.63 (ML052EB)
= Sta. 864+58.63 (ML052)
Begin Roundabout
End Construction

41865 41866 41867 41868 41869 41870

EB 52



WB 52

40865 40866 40867 40868 40869 40870

0 FEET 20

Jointing Details
Roundabout
Mainline

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.33

3:27:45 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn

HOLY CROSS ROAD

TOLLGATE ROAD

EB 52

WB 52

41870 41871 41872 41874 41875 41876

40870 40871 40872 40874 40875

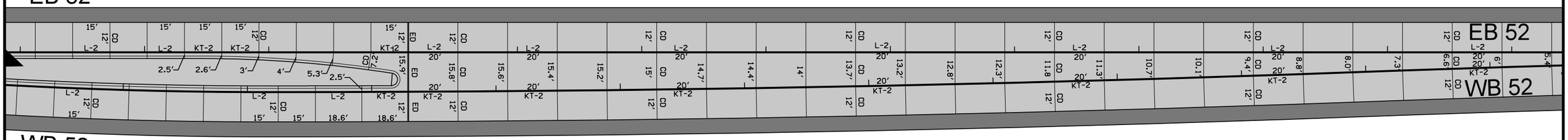
0 20 FEET

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.34

3:53:12 PM 10/2/2017 raltenh pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn

41876 41877 41878 41879 41880 41881

EB 52



WB 52

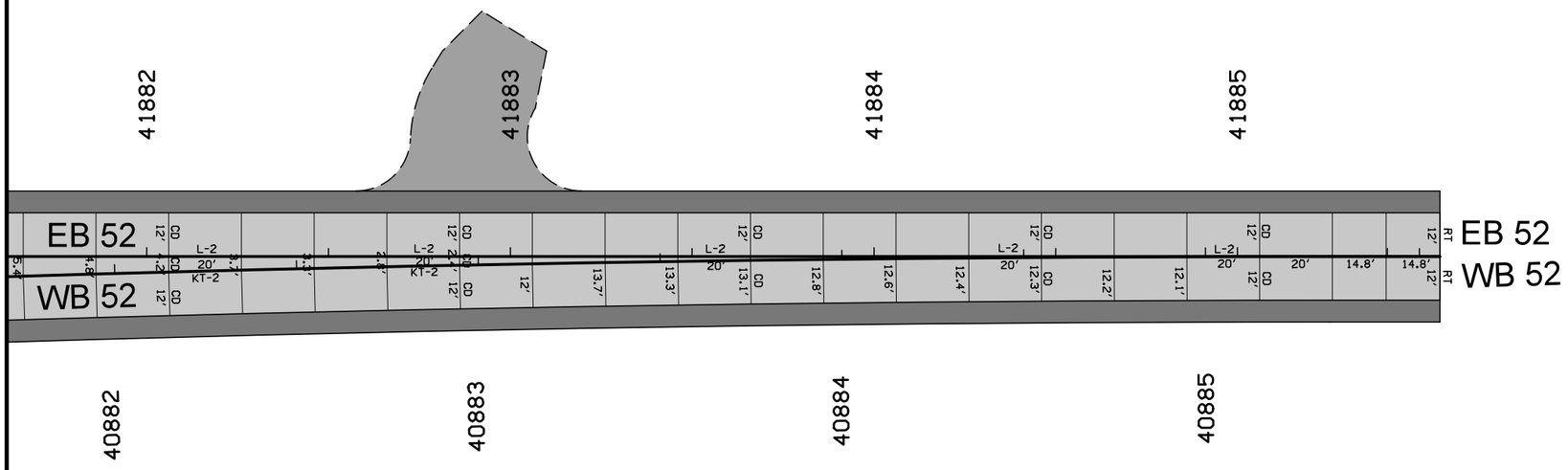
40876 40877 40878 40879 40880 40881

0 FEET 20

Jointing Details Roundabout Mainline

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.35

3:28:03 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn



0 FEET 20

Jointing Details Roundabout Mainline

FILE NO.	ENGLISH	DESIGN TEAM **J1a \ Skogerboe \ Altenhofen**	**DUBUQUE** COUNTY	PROJECT NUMBER **HSIPX-052-2(120)--3L-31**	SHEET NUMBER **L.36**

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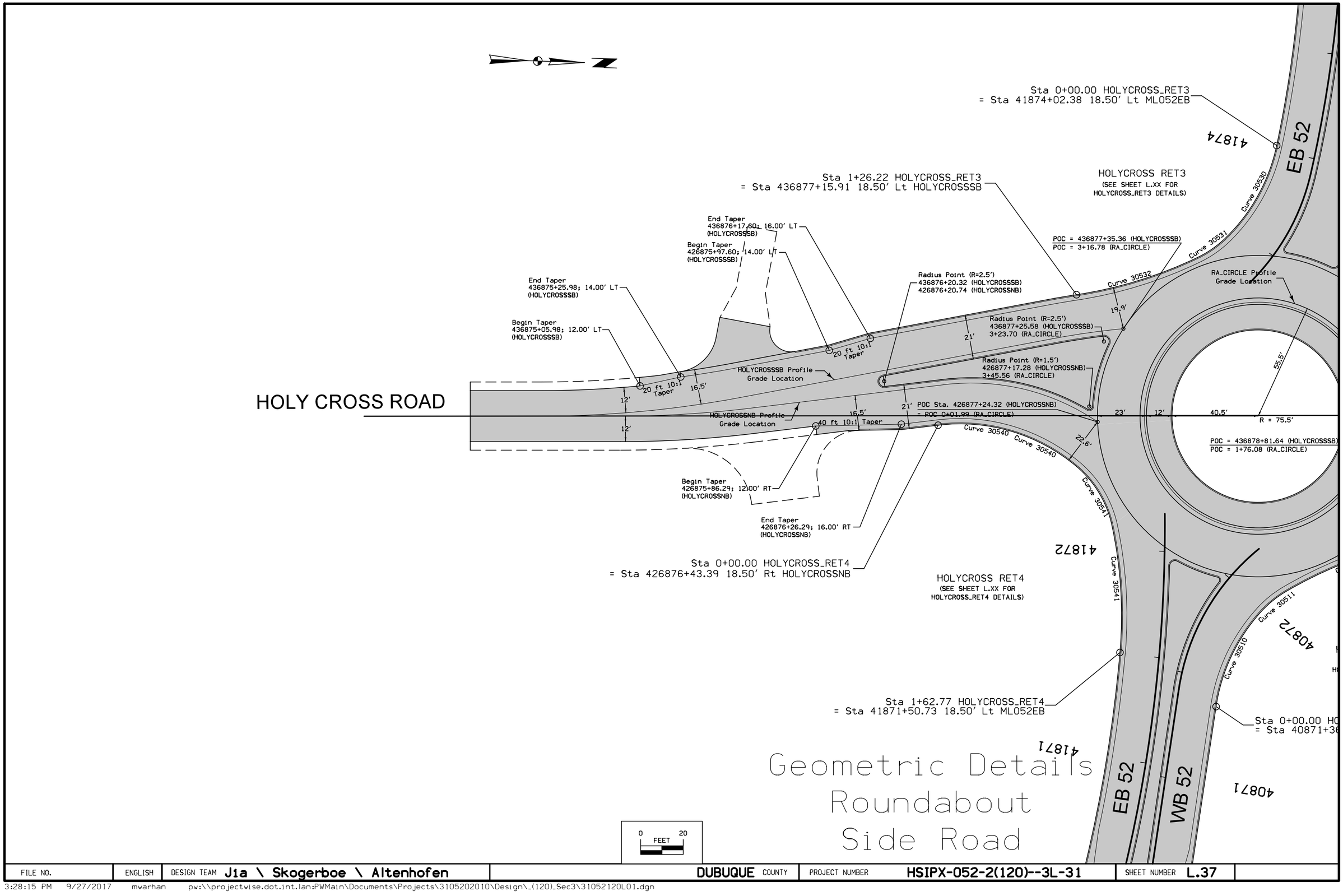
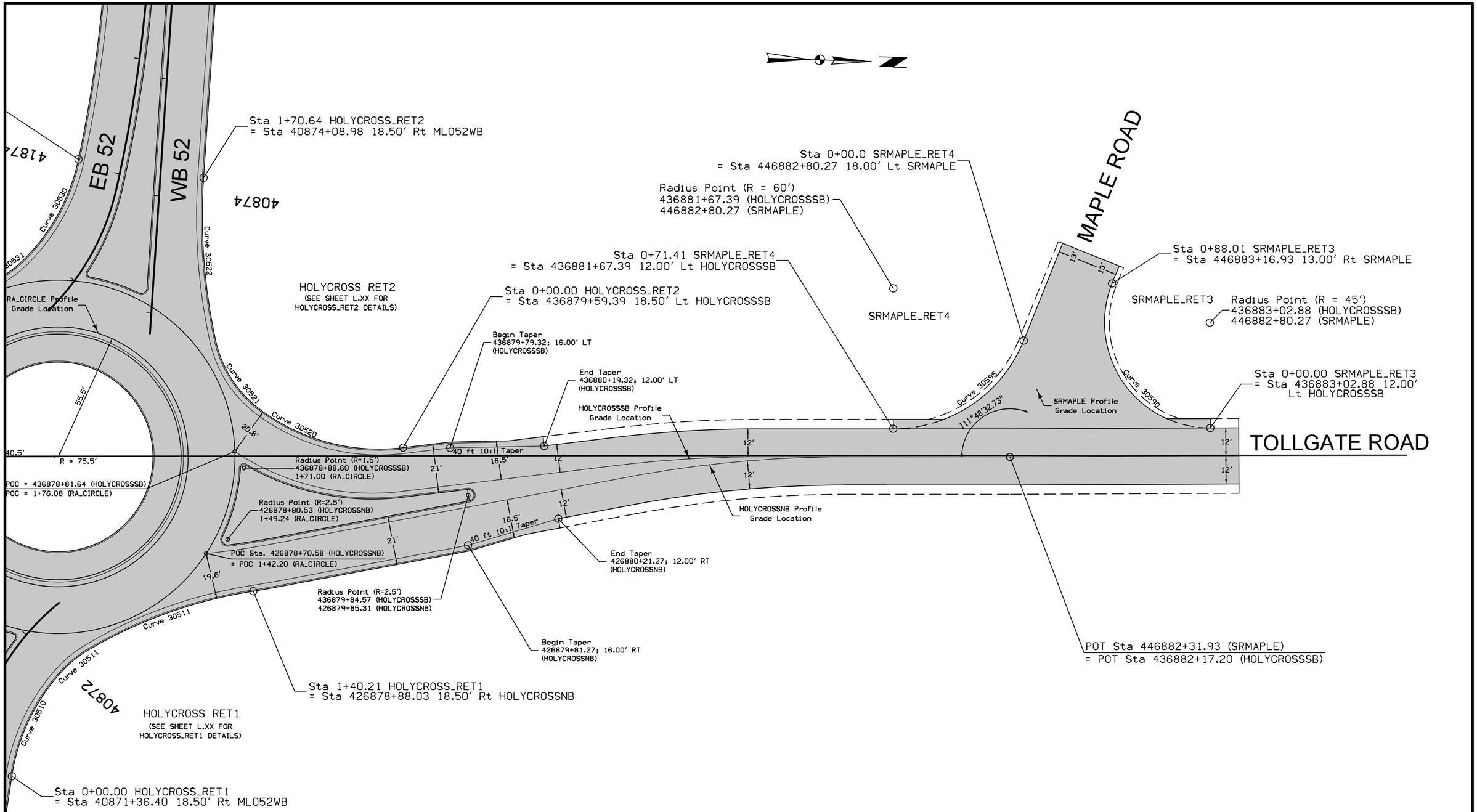


FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.37

3:28:15 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn



Geometric Details
Roundabout Side Road & Maple Rd Intersection

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.38

3:28:18 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn

= Sta 41874+02.38 18.50' Lt ML052EB
Sta 0+00.00 HOLYCROSS_RET3

HOLYCROSS_RET3

Sta 0+50.00 HOLYCROSS_RET3
= Sta 2+71.40 29.77' Rt RA_CIRCLE

Radius Point (R = 85')
Curve 30530
= Sta 41874+02.38 103.50' Lt ML052EB

Curve 30531
Radius Point (R = 50')
= Sta 41873+56.37 72.16' Lt ML052EB

Sta 0+66.22 HOLYCROSS_RET3
= Sta 2+81.64 24.33' Rt RA_CIRCLE

Radius Point (R = 200')
Curve 30532
= Sta 41875+32.58 155.14' Lt ML052EB
(Point Not Located on Sheet)

Sta 1+26.22 HOLYCROSS_RET3
= Sta 436877+15.91 18.50' Lt HOLYCROSSSB

HOLY CROSS ROAD

EB 52

WB 52

40875

Sta 1+70.64 HOLYCROSS_R
= Sta 40874+08.98 18.50

Sta 1+00.64 HOL
= Sta 42+09.69

40874

Radius
Curve 3
= Sta 4

Radius Point (R =
Curve 30521
= Sta 40873+53.7

Sta 0+65.00 HOLYCROSS
= Sta 1+87.24 32.97' R

S
=

CUR 30530

CUR 30531

CUR 30532

CUR 30522

CUR 30521

CUR 30520

426874

426875

426876

426877

CUR 30540

CUR 30541

CUR 30542

Sta 0+00.00 HOLYCROSS_RET4
= Sta 426876+43.39 18.50' Rt HOLYCROSSNB

Sta 0+70.00 HOLYCROSS_RET4
= Sta 0+15.10 32.99' Rt RA_CIRCLE

Radius Point (R = 200')
Curve 30542
= Sta 41871+50.73 218.50' Lt ML052EB

Radius Point (R = 50')
Curve 30541
= Sta 41872+00.31 73.63' Lt ML052EB

Radius Point (R = 85')
Curve 30540
= Sta 41871+68.96 95.20' Lt ML052EB

Sta 1+02.77 HOLYCROSS_RET4
= Sta 0+35.65 30.29' Rt RA_CIRCLE

HOLYCROSS_RET4

Sta 1+62.77 HOLYCROSS_RET4
= Sta 41871+50.73 18.50' Lt ML052EB

3

2

0

1

CUR 30512

CUR 30511

CUR 30510

Radius Point (R = 200')
Curve 30512
= Sta 40870+44.76 168.89' Rt ML052WB
(Point Not Located on Sheet)

40872

426879

426880

Sta 0+00.00 HOLYCROSS_R
= Sta 40871+36.40 18.50

Sta 0+65.21 HOLYCROSS_RET1
= Sta 0+95.92 27.90' Rt RA_CIRCLE

Radius Point (R = 50')
Curve 30511
= Sta 40871+86.81 71.35' Rt ML052WB

EB 52

WB 52

Geometric Details
Roundabout Returns

0 FEET 20

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.39

3:28:22 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\31052020l0\Design_(120)_Sec3\31052120L01.dgn

EB 52

WB 52

Sta 1+70.64 HOLYCROSS_RET2
= Sta 40874+08.98 18.50' Rt ML052WB

Sta 1+00.64 HOLYCROSS_RET2
= Sta 42+09.69 28.16' Rt RA_CIRCLE

HOLYCROSS_RET2

2 HOLYCROSS_RET3
4.33' Rt RA_CIRCLE

Radius Point (R = 200')
Curve 30532
a 41875+32.58 155.14' Lt ML052EB
(Point Not Located on Sheet)

CUR 30530

CUR 30531

CUR 30532

40874

CUR 30522

Radius Point (R = 85')
Curve 30520
= Sta 40873+83.03 95.41' Rt ML052WB

Radius Point (R = 250')
Curve 30522
= Sta 40874+08.98 268.50' Rt ML052WB

Radius Point (R = 50')
Curve 30521
= Sta 40873+53.71 76.29' Rt ML052WB

Sta 0+65.00 HOLYCROSS_RET2
= Sta 1+87.24 32.97' Rt RA_CIRCLE

CUR 30521

436879

Sta 0+00.00 HOLYCROSS_RET2
= Sta 436879+59.39 18.50' Lt HOLYCROSSSB

436880

436881

436882

436883

CUR 30520

TOLLGATE ROAD

CUR 30512

Radius Point (R = 200')
Curve 30512
= Sta 40870+44.76 168.89' Rt ML052WB
(Point Not Located on Sheet)

CUR 30511

40872

CUR 30510

Sta 0+00.00 HOLYCROSS_RET1
= Sta 40871+36.40 18.50' Rt ML052WB

Sta 0+65.21 HOLYCROSS_RET1
= Sta 0+95.92 27.90' Rt RA_CIRCLE

Radius Point (R = 50')
Curve 30511
= Sta 40871+86.81 71.35' Rt ML052WB

Radius Point (R = 85')
Curve 30510
= Sta 40871+36.40 103.50' Rt ML052WB

WB 52

40871

HOLYCROSS_RET1

Sta 0+50.00 HOLYCROSS_RET1
= Sta 40871+96.86 21.60' Rt ML052WB

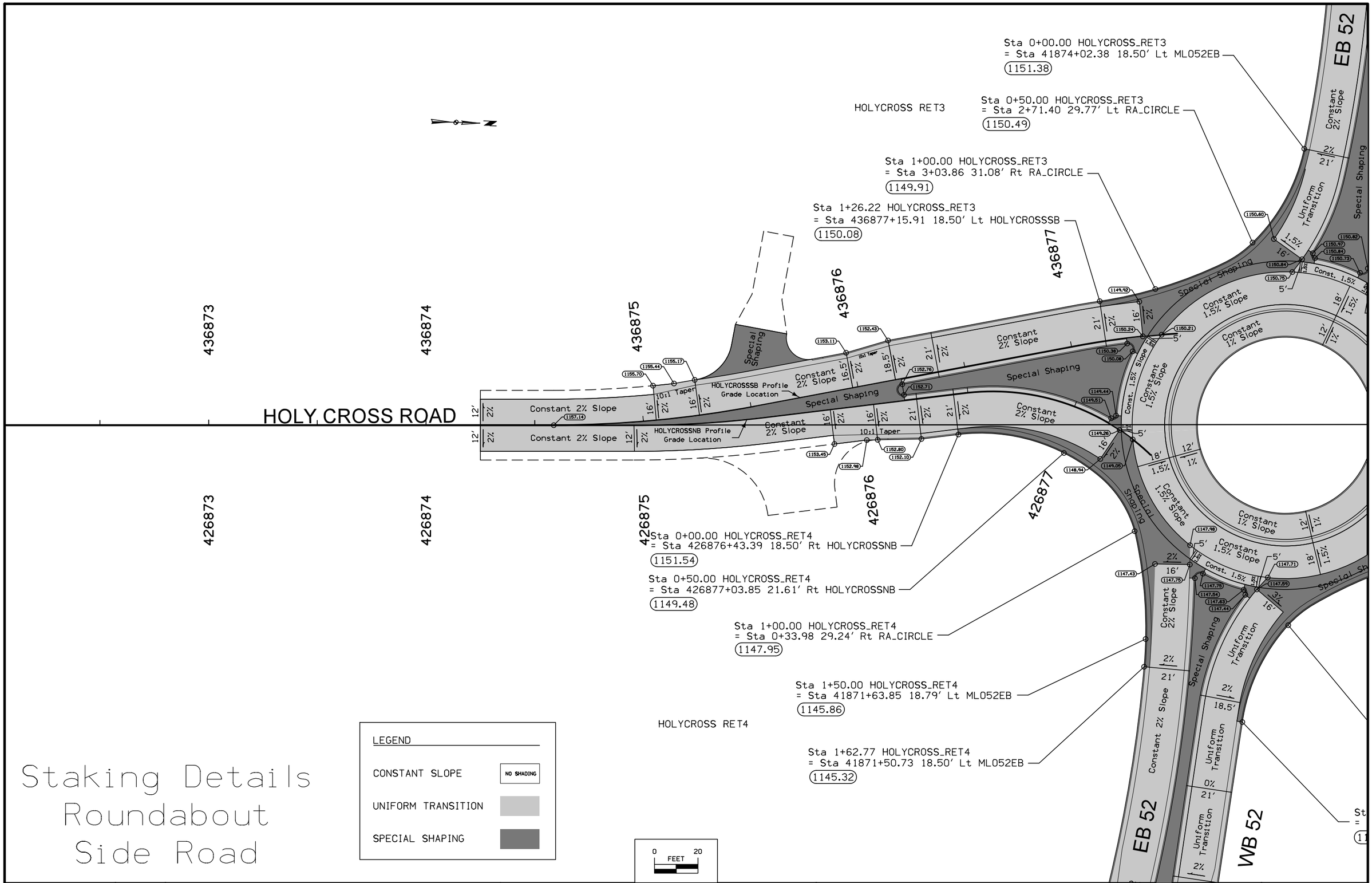
Sta 0+00.00 HOLYCROSS_RET1
= Sta 40871+36.40 18.50' Rt ML052WB

0 20
FEET

Geometric Details
Roundabout Returns

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.40

3:28:26 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn



Staking Details
Roundabout
Side Road

LEGEND

CONSTANT SLOPE	NO SHADING
UNIFORM TRANSITION	
SPECIAL SHAPING	

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.41

3:28:31 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn

EB 52

WB 52

MAPLE ROAD

TOLLGATE ROAD

Sta 1+70.64 HOLYCROSS_RET2
= Sta 40874+08.98 18.50' Rt ML052WB
1151.28

Sta 1+50.00 HOLYCROSS_RET2
= Sta 40873+88.37 19.35' Rt ML052WB
1150.91

HOLYCROSS RET2

Sta 1+00.00 HOLYCROSS_RET2
= Sta 2+09.30 27.90' Rt RA_CIRCLE
1150.14

Sta 0+50.00 HOLYCROSS_RET2
= Sta 436878+98.75 20.31' Lt HOLYCROSSSB
1149.89

Sta 0+00.00 HOLYCROSS_RET2
= Sta 436879+59.39 18.50' Lt HOLYCROSSSB
1151.28

Sta 0+00.00 SRMAPLE_RET4
= Sta 446882+80.27 13.00' Lt SRMAPLE
1163.63

Sta 0+35.70 SRMAPLE_RET4
= Sta 436882+01.02 22.31' Lt HOLYCROSSSB
= Sta 446882+46.63 23.31' Lt SRMAPLE
1163.14

Sta 0+71.41 SRMAPLE_RET4
= Sta 436881+67.39 12.00' Lt HOLYCROSSSB
1161.52

SRMAPLE_RET4

Sta 0+81.01 SRMAPLE_RET3
= Sta 446883+16.93 13.00' Rt SRMAPLE
1164.26

SRMAPLE_RET3

Sta 0+44.01 SRMAPLE_RET3
= Sta 436882+65.56 31.86' Lt HOLYCROSSSB
= Sta 446882+79.62 32.86' Rt SRMAPLE
1165.03

Sta 0+00.00 SRMAPLE_RET3
= Sta 436883+02.88 12.00' Lt
HOLYCROSSSB
1167.79

436879 436880 436881 436882 436883 436884

426879 426880 426881 426882 426883 426884

HOLYCROSSSB Profile Grade Location

HOLYCROSSNB Profile Grade Location

Sta 1+40.21 HOLYCROSS_RET1
= Sta 426878+88.03 18.50' Rt HOLYCROSSNB
1148.59

Sta 1+00.00 HOLYCROSS_RET1
= Sta 1+19.52 25.33' Rt RA_CIRCLE
1147.74

HOLYCROSS RET1

Sta 0+50.00 HOLYCROSS_RET1
= Sta 0+87.97 36.43' Rt RA_CIRCLE
1146.87

Sta 0+00.00 HOLYCROSS_RET1
= Sta 40871+36.40 18.50' Rt ML052WB
1144.62

LEGEND

CONSTANT SLOPE — NO SHADING

UNIFORM TRANSITION

SPECIAL SHAPING

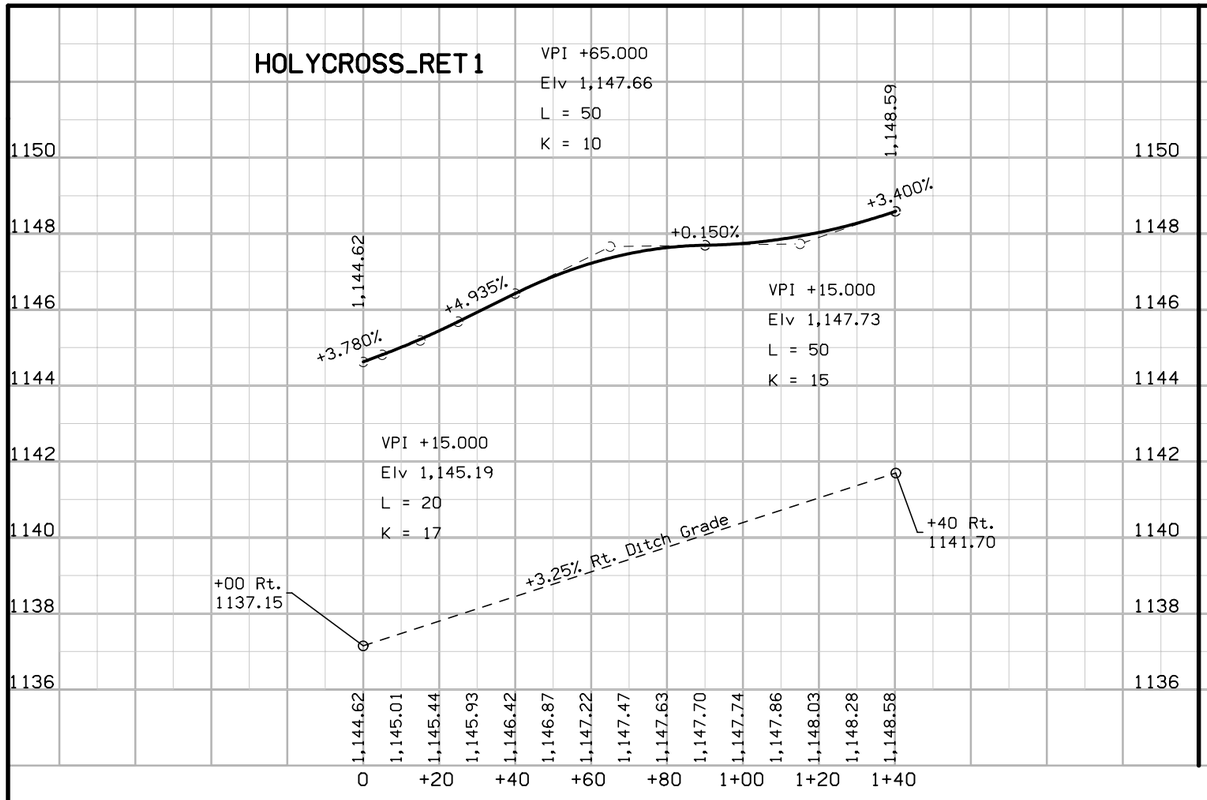
0 20 FEET

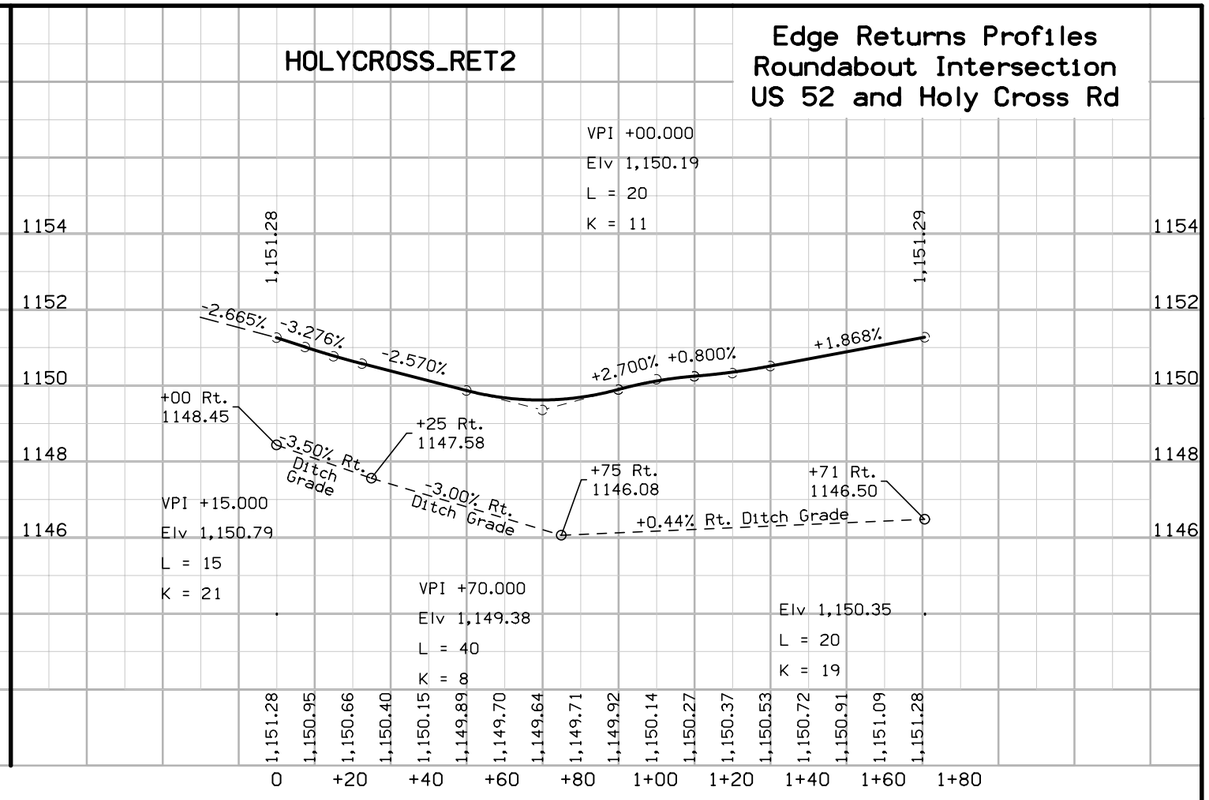
Staking Details
Roundabout Side Road & Maple Rd Intersection

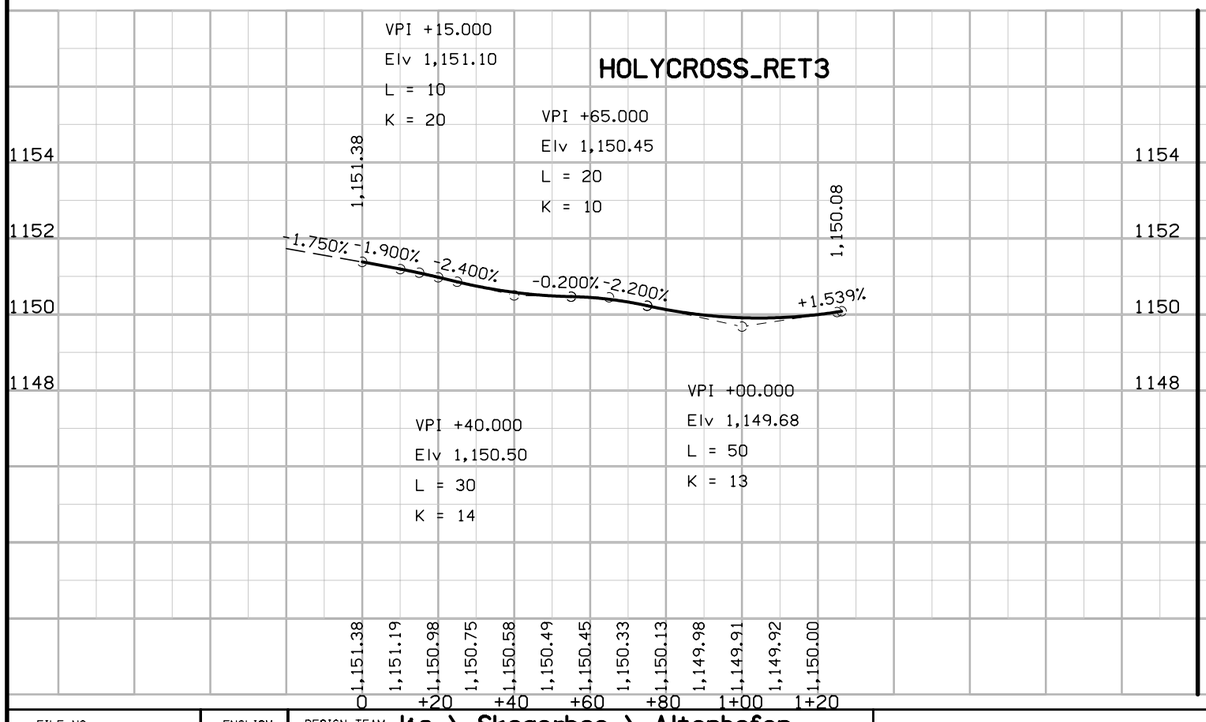
FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.42

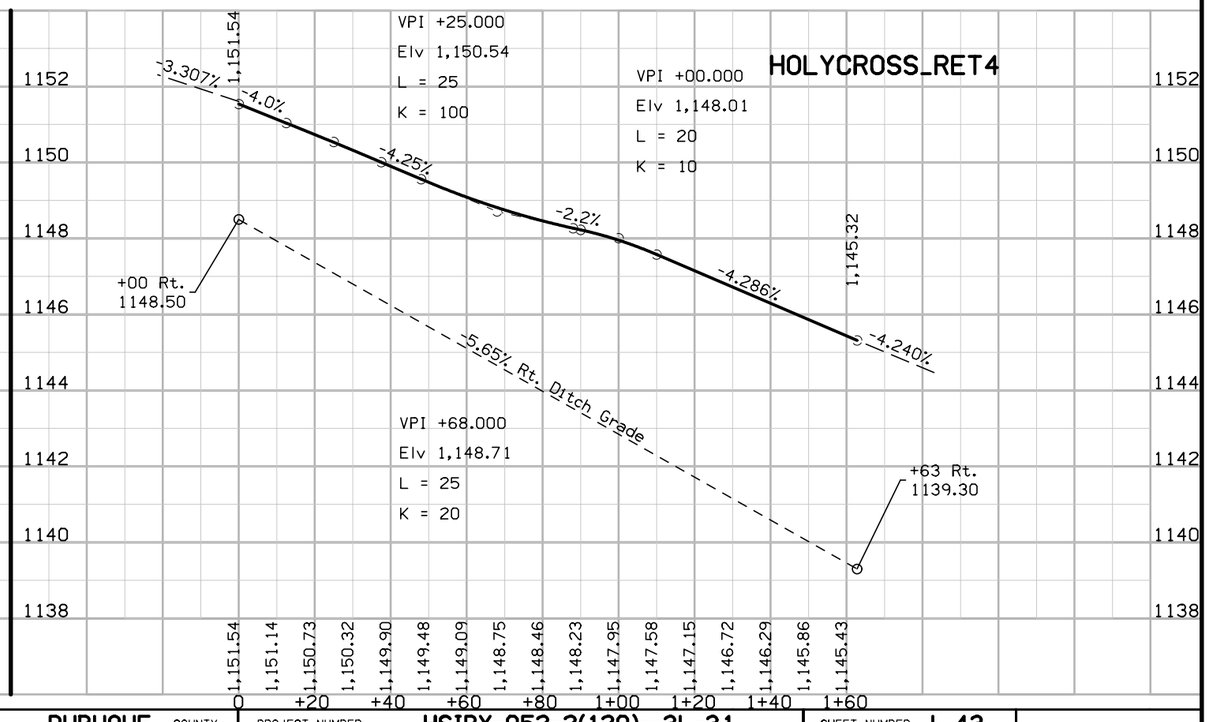
3:28:36 PM 9/27/2017 mwarhan pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120L01.dgn

Edge Returns Profiles
Roundabout Intersection
US 52 and Holy Cross Rd





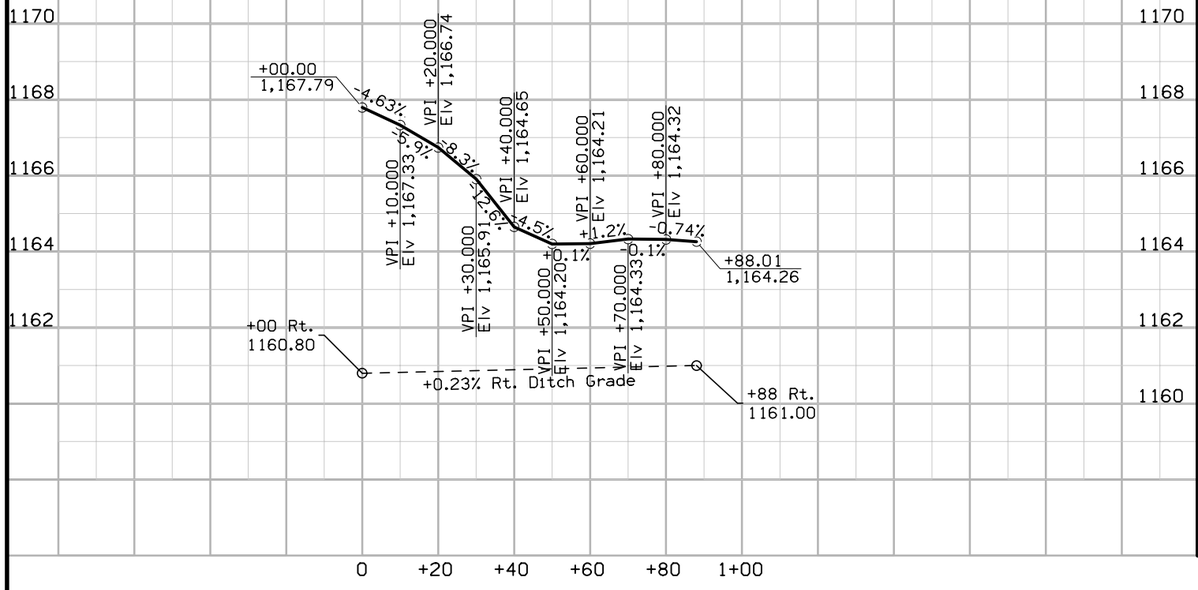




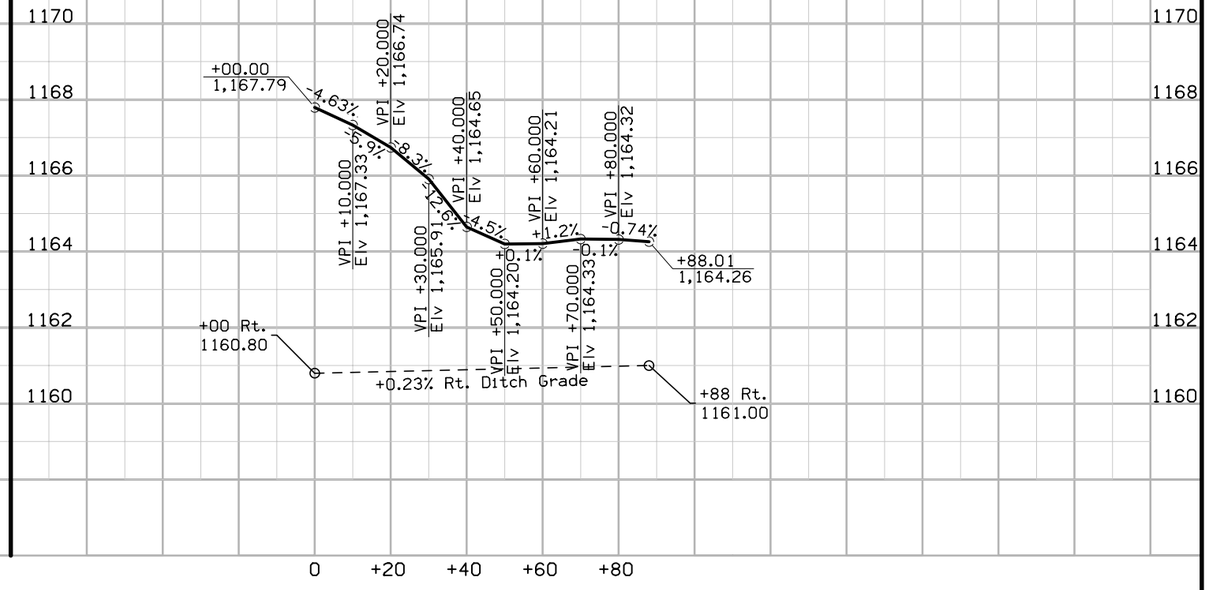
FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.43

Edge Returns Profiles Intersection of Tollgate Road and Maple Rd

SRMAPLE_RET3



SRMAPLE_RET4



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.44

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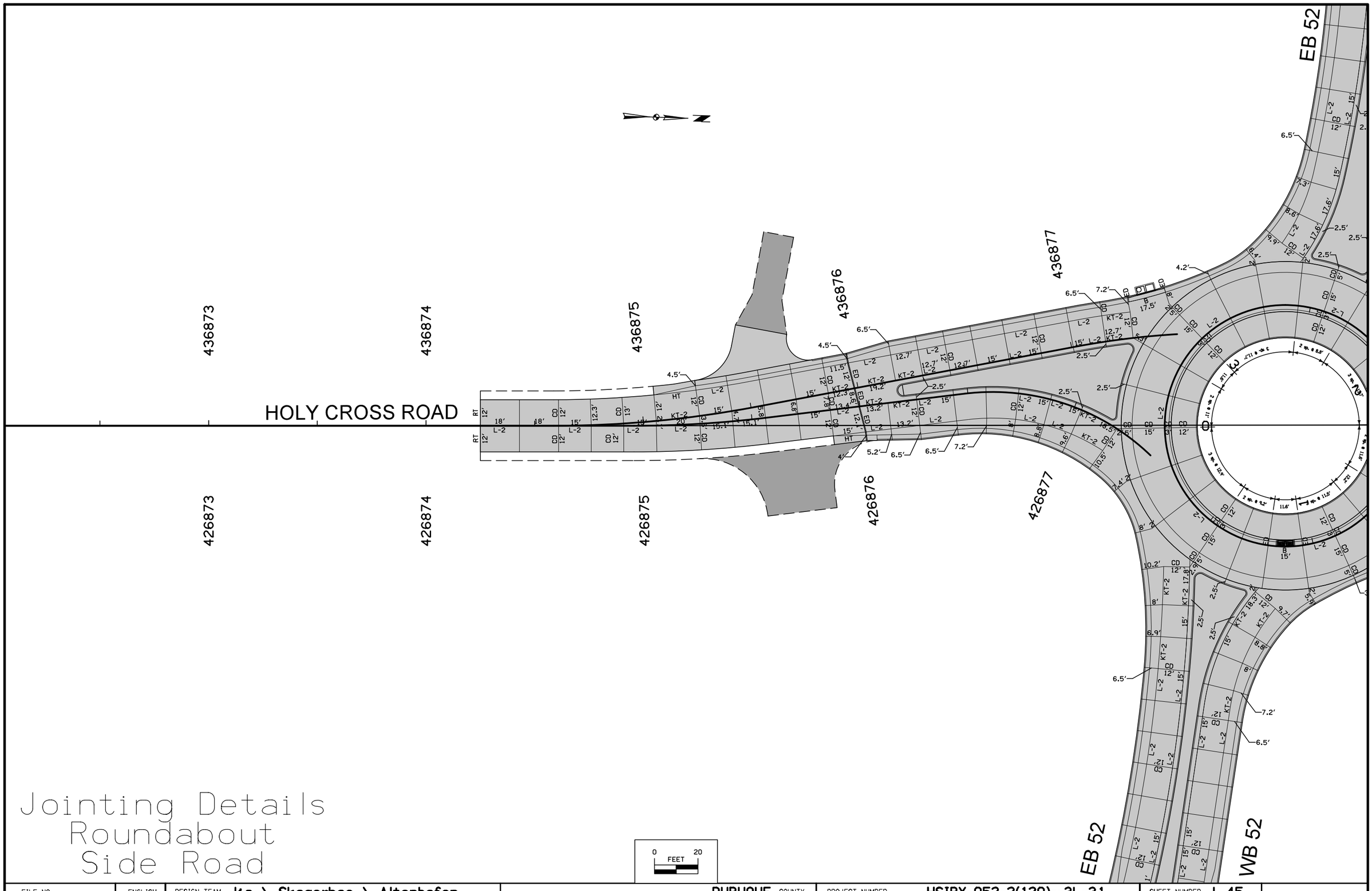

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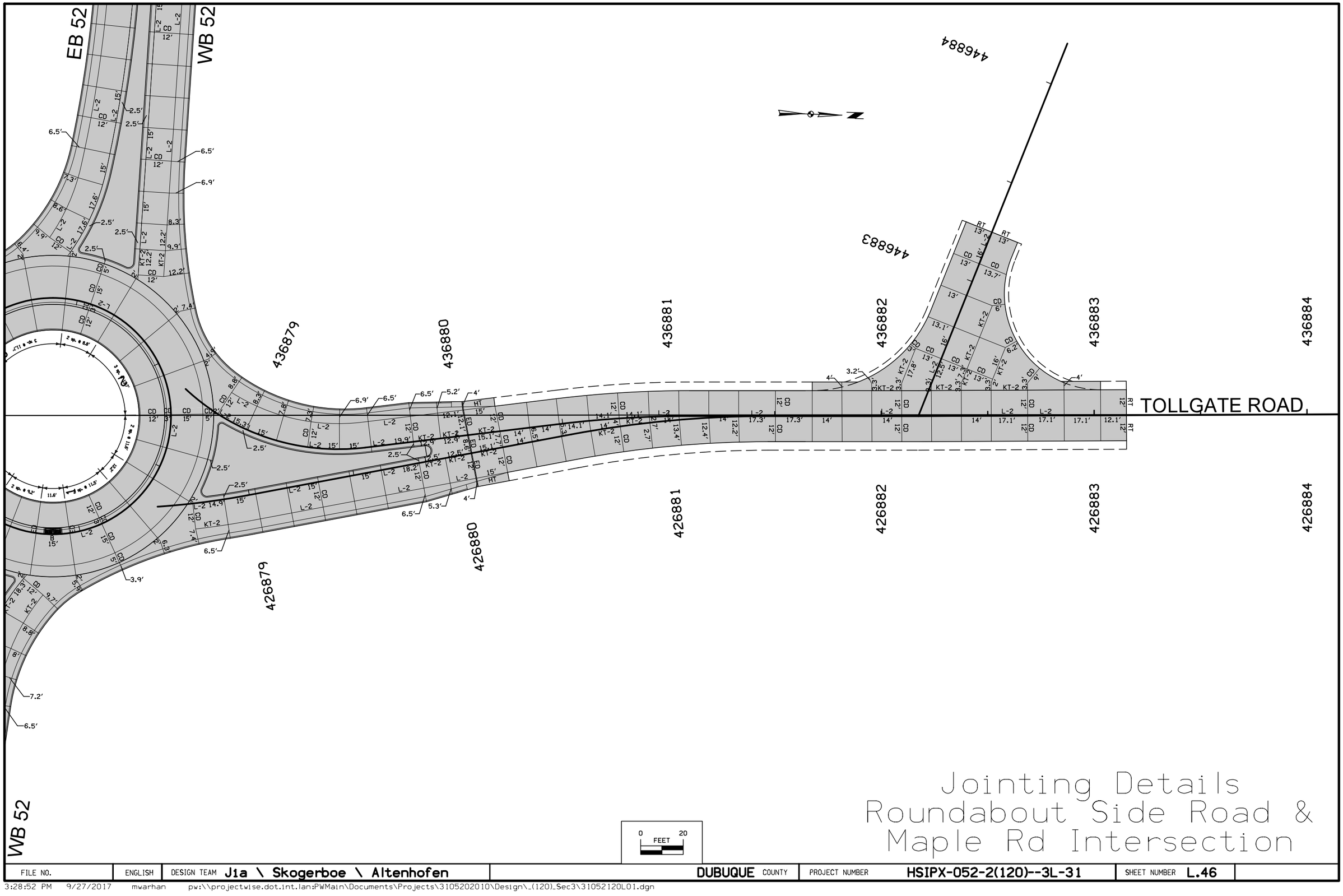

Jointing Details Roundabout Side Road & Maple Rd Intersection

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.46

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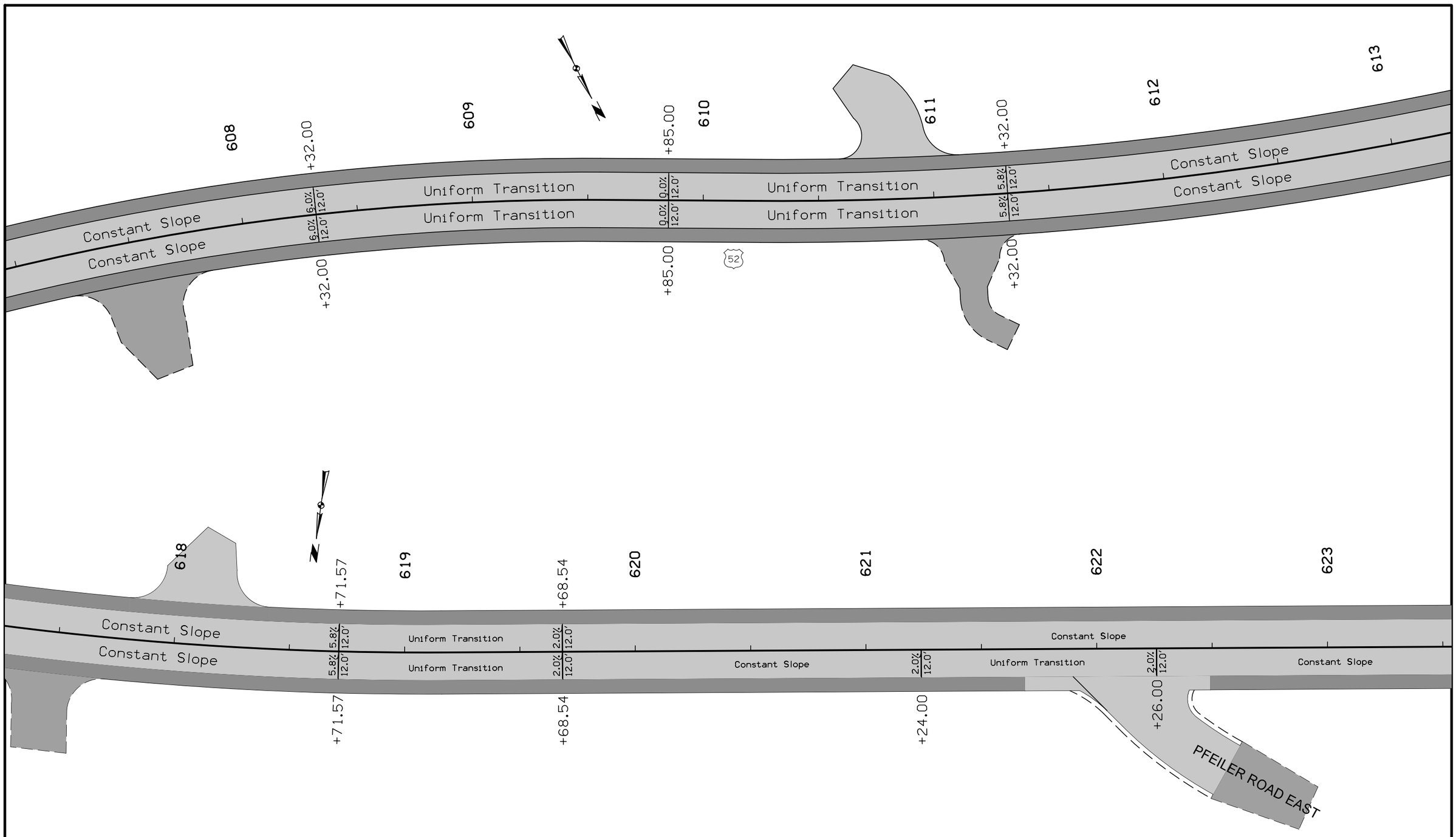

US 52 Superelevation Staking

0 20 FEET

FILE NO.	ENGLISH	DESIGN TEAM **J1a \ Skogerboe \ Altenhofen**	**DUBUQUE** COUNTY	PROJECT NUMBER **HSIPX-052-2(120)--3L-31**	SHEET NUMBER **L.47**

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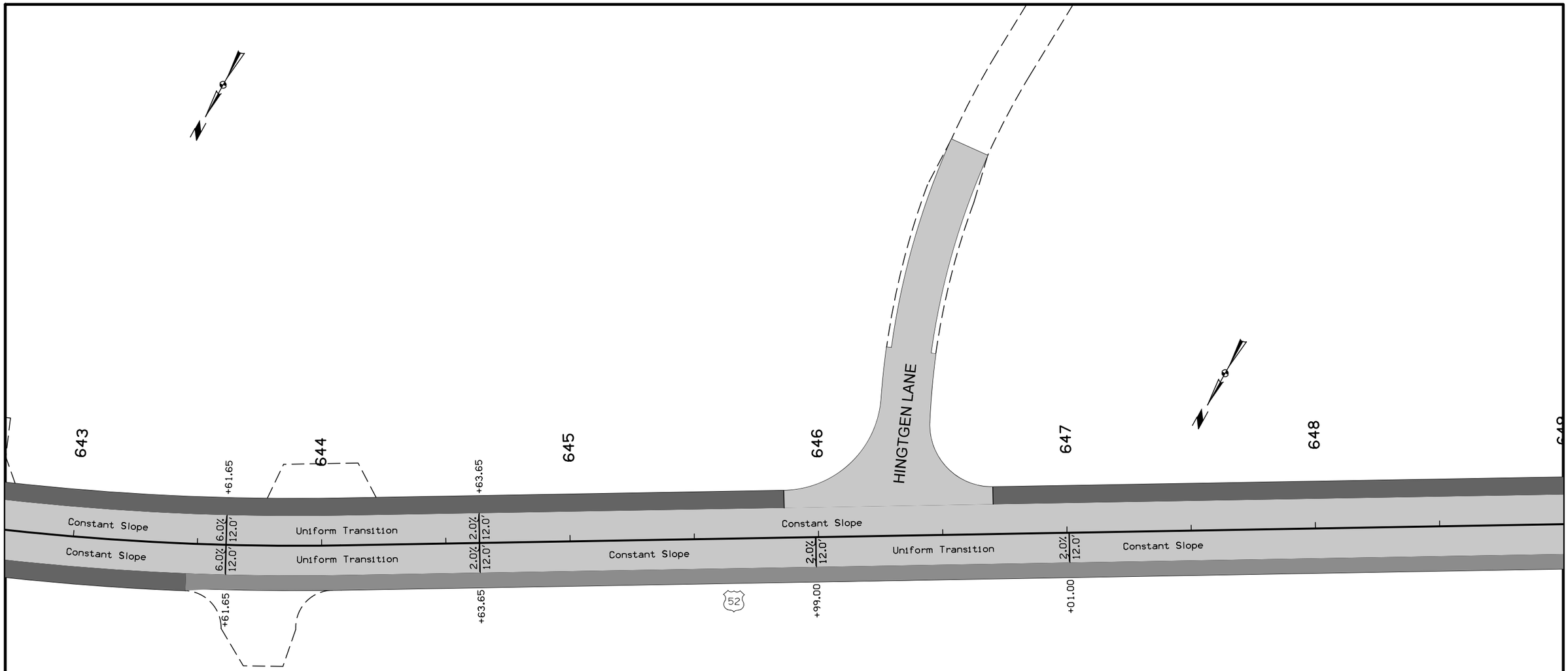
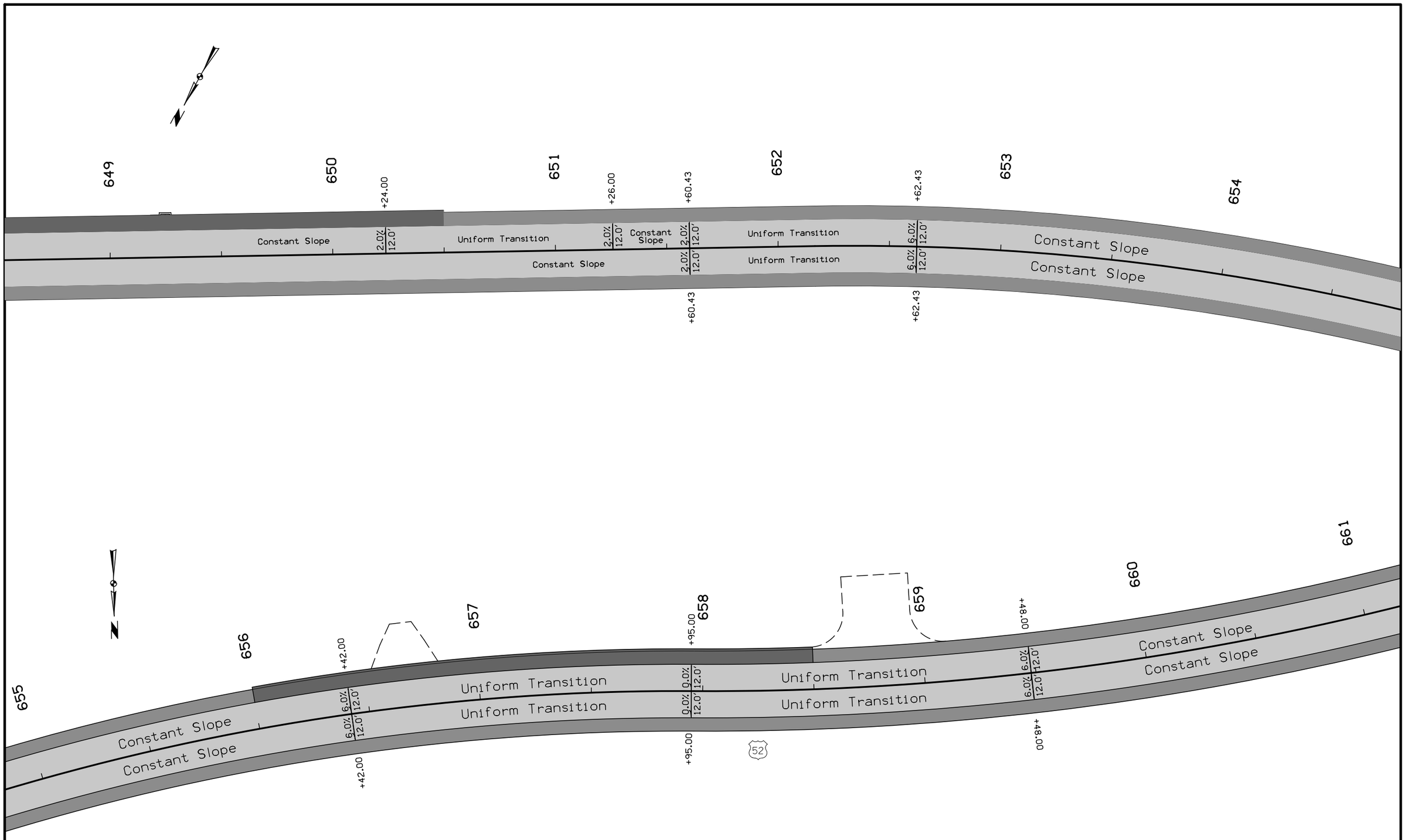


0 FEET 20

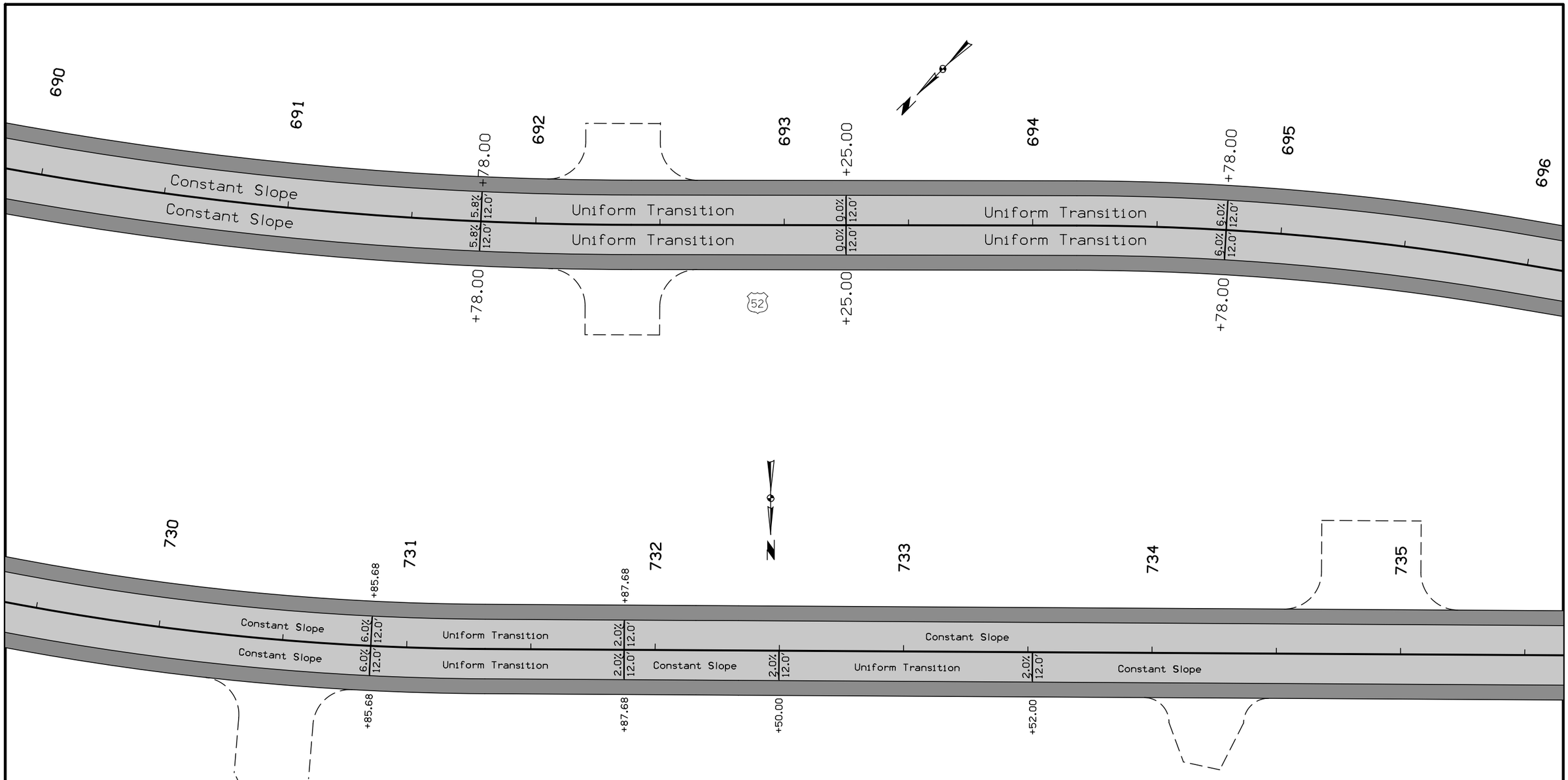
US 52 Superelevation Staking

FILE NO.	ENGLISH	DESIGN TEAM **J1a \ Skogerboe \ Altenhofen**	**DUBUQUE** COUNTY	PROJECT NUMBER **HSIPX-052-2(120)--3L-31**	SHEET NUMBER **L.48**



US 52 Superelevation Staking

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.49



US 52 Superelevation Staking

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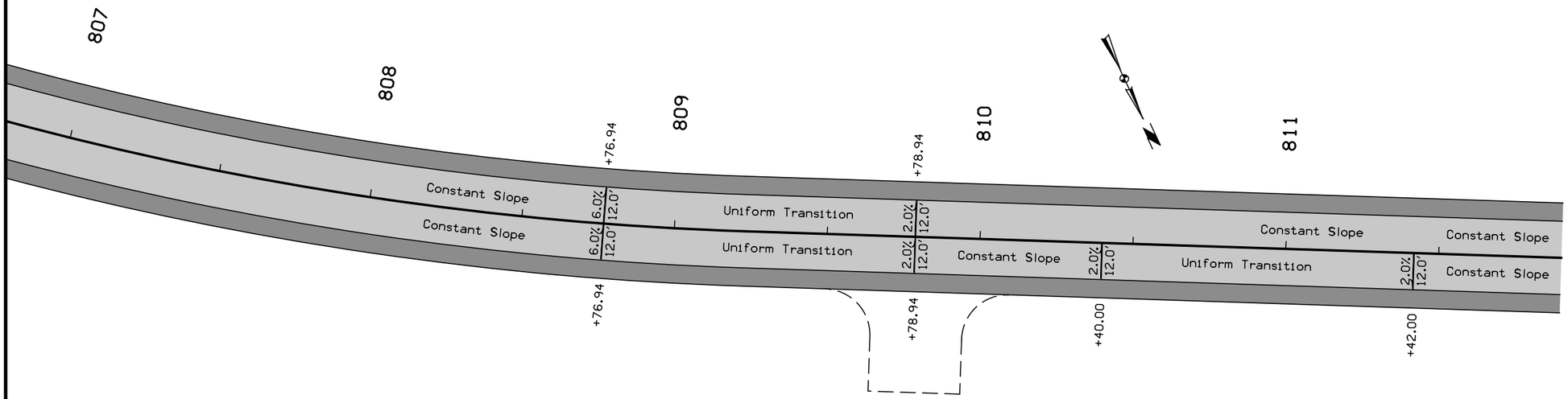

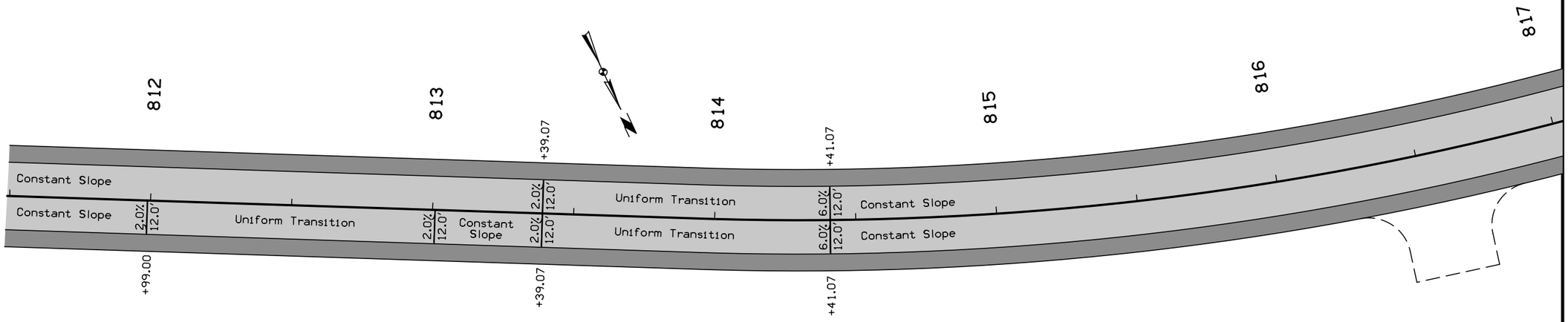

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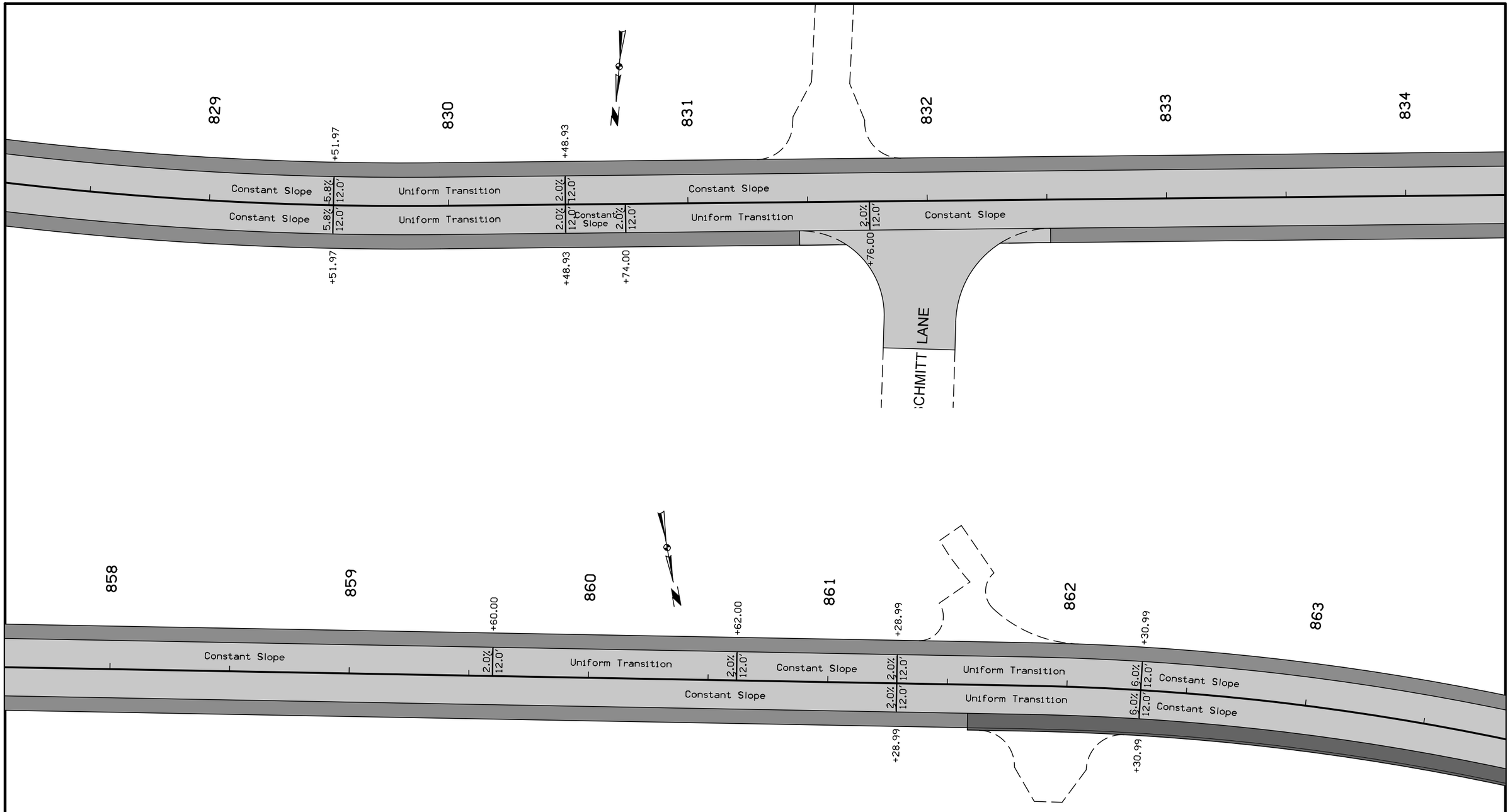
US 52 Superelevation Staking

FILE NO.	ENGLISH	DESIGN TEAM **J1a \ Skogerboe \ Altenhofen**	**DUBUQUE** COUNTY	PROJECT NUMBER **HSIPX-052-2(120)--3L-31**	SHEET NUMBER **L.51**



0 20 FEET

US 52 Superelevation Staking

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER L.52

(1) Diameter or equivalent diameter

* Bid Item

** For SW-545

STORM SEWER

INTAKES AND UTILITY ACCESSES

No.	Location Station and Offset	*Type or Standard Road Plan	Form Grade	Bottom Well	Extension Length**	Notes
			Elev.	Elev.	FT	
1	11645+60.00; 23.00' RT	18" DR-201		1134.33		(1) Inlet
2	00+25.00; 00.00' RT	SW-509	1136.1	1131.41		(9)
3	11645+50.00; 21.00' LT	18" DR-201		1135.23		(1) Inlet
4	00+20.10; 04.92' RT	SW-401 (48")		1130.93		(8) Manhole Access
5	647+00.00; 19.00' LT	SW-541 + 542 Ext.	1135.4	1130.42		
6	648+25.00' 19.00' LT	SW-541 + 542 Ext.	1133.7	1128.9		
7	649+25.00; 19.00' LT	SW-541 + 542 Ext.	1132.2	1127.51		
8	652+00.00' 42.00' LT	24" DR-201		1126.86		Outlet
9	707+60.00; 39.00' RT	18" DR-201		1159.79		Inlet
10	705+00.00; 19.00' RT	SW-508	1160.1	1155.18		
11	703+45.00; 19.00' RT	SW-508	1158.4	1153.4		
12	701+75.00; 19.00' RT	SW-508	1156.9	1152.2		
13	699+25.00; 19.00' RT	SW-508	1155.4	1150.68		
14	697+50.00; 19.00' RT	SW-508	1153.9	1148.01		
15	697+50.00; 103.7' RT	36" DR-201		1147.3		Outlet
16	00+40.00; 23.43' RT	24" DR-201		1196.03		(10) Inlet
17	9741+71.00; 20.60' RT	18" DR-206		1197.34		(2) Inlet
18	742+20.00; 16.00' LT	4x4 SW-402				Manhole Access
19	740+00.00; 16.00' LT	4x4 SW-402				Manhole Access
20	739+00.00; 32.00' LT	24" DR-201		1182.49		Outlet
21	742+00.00; 19.00' RT	SW-508	1195.9	1191.48		
22	740+40.00; 19.00' RT	SW-508	1191.1	1186.46		
23	739+25.00; 32.00' RT	18" DR-201		1183.57		Outlet
24	750+60.00; 31.00' LT	18" DR-201		1192.94		Inlet
25	752+70.00; 19.00' LT	SW-508	1192.1	1187.46		
26	755+00.00; 19.00' LT	SW-508	1188.2	1183.5		
27	756+50.00; 29.00' LT	24" DR-201		1183.27		Outlet
28	793+00.00; 31.00' LT	18" DR-201		1170.84		Inlet
29	790+80.00; 19.00' LT	SW-508	1170.4	1165.6		
30	788+85.00; 35.00' LT	24" DR-201		1164.12		Outlet
31	828+60.00; 38.00' RT	18" DR-201		1171.86		Inlet
32	826+65.00; 19.00' RT	SW-508	1167.2	1161.4		
33	823+35.00; 32.00' RT	18" DR-201		1150.87		Outlet
34	40864+90.00; 31.00' RT	18" DR-201		1115.01		(3) Inlet
35	863+25.00; 19.00' RT	SW-508	1111.2	1106.03		
36	861+25.00; 31.00' RT	24" DR-201		1103.87		Outlet
	Roundabout					
37	40869+75.00; 02.50' LT	SW-509	1138.2	1131.69		(3)(11)
38	40868+80.00; 02.80' LT	SW-509	1134.3	1128.46		(3)(11)
39	40868+80.00; 43.96' RT	18" DR-201		1127.15		(3) Outlet
40	00+87.18; 03.00' LT	SW-505	1147.4	1140.94		(4)
41	00+50.00; 33.80' RT	24" DR-201		1138.77		(5) Outlet
42	436876+35.60: 18.50' LT	SW-509	1151.9	1145.35		
43	436877+00.00; 18.50' LT	SW-509	1150.3	1144.49		
44	00+25.00; 28.00' RT	18" DR-201		1146.22		(6) Inlet
45	00+50.00; 00.00' RT	SW-509	1150.5	1144.49		
46	01+04.42; 00.00' RT	SW-509	1149.9	1143.89		(6)
47	01+00.00; 24.84' RT	24" DR-201		1142.85		(7) Outlet

Chains in Reference Note	Totals	
(1) SRHINGTGEN	18" DR-201	11
(2) SRBANKSTON	SW-509	7
(3) ML052WB	SW-401 (48")	1
(4) RA_CIRCLE	SW-541 + 542 Ext.	3
(5) HOLYCROSS_RET1	24" DR-201	8
(6) HOLYCROSS_RET3	SW-508	12
(7) HOLYCROSS_RET4	36" DR-201	1
(8) SRHINGTGEN_RET3	18" DR-206	1
(9) SRHINGTGEN_RET4	4x4 SW-402	2
(10) SRBANKSTON_RET3	SW-505	1
(11) EAST1 - 0+39.81		

PIPES

Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 2 ft length is added to each side of the Design Length to account for estimated length to center of structures.

Line Number	Intake/ Utility Access No. From	To	Class 'D'	(1) Pipe Size	Bid* Length	Design Length	Slope %	Connected Pipe Joint (DR-121)	Flow Lines: Inlet Elevation	Outlet Elevation	Other Elevation	Pipe Profile Sheet No.	Notes
				IN	FT	FT		Type					
P-1	1	2	2000	18	37.86	35.9	5.07	3	1134.026	1132.208		M3	
P-2	2	4	2000	18	38.2	36.2	0.5		1131.908	1131.728		M3	
P-3	3	4	2000	18	44.81	42.8	3.95	3	1134.992	1133.301		M3	
P-4	4	5	2000	18	43.9	41.9	0.499		1131.428	1131.219		M3	
P-5	5	6	2000	18	123	121.0	1.01		1130.919	1129.695		M3	
P-6	6	7	2000	18	98	96.0	1.34		1129.395	1128.112		M3	
P-7	7	8	2000	24	269.97	268.0	0.42	3	1128.012	1126.886		M3	0.1' FL Drop
P-9	9	10	2000	18	250.04	248.0	1.5	3	1159.702	1155.981		M5	
P-10	10	11	2000	24	149.8	147.8	0.98		1155.681	1154.203		M5	
P-11	11	12	2000	30	164.5	162.5	0.56		1153.903	1153		M5	
P-12	12	13	2000	36	245.5	243.5	0.5		1152.7	1151.483		M4	
P-13	13	14	2000	36	173	171.0	1.39		1151.183	1148.814		M4	
P-14	14	15	2000	36	74.7	72.7	1.5	3	1148.514	1147.424		M4	
P-16	16	18	2000	24	92.36	90.4	2.5	3	1195.88	1193.621		M6	
P-17	17	18	2000	18 LC	80.7	78.7	6.01	3	1196.966	1192.236		M6	
P-18	18	19	2000	24	220.3	218.3	3.2		1191.936	1184.95		M6	
P-19	19	20	2000	24	95.17	93.2	2.17	3	1184.65	1182.628		M6	
P-21	21	22	2000	18	155.48	153.5	3.08		1191.982	1187.257		M7	
P-22	22	23	2000	18	109.45	107.5	2.99	3	1186.957	1183.744		M7	
P-24	24	25	2000	18	204.16	202.2	2.25	3	1192.809	1188.26		M8	
P-25	25	26	2000	18	228	226.0	1.62		1187.96	1184.299		M8	
P-26	26	27	2000	24	144.09	142.1	0.495	3	1183.999	1183.296		M8	
P-28	28	29	2000	18	215.04	213.0	2.24	3	1171.171	1166.399		M9	
P-29	29	30	2000	24	193.9	191.9	0.997	3	1166.099	1164.186		M9	
P-31	31	32	2000	18	192.48	190.5	4.9	3	1171.535	1162.201		M10	
P-32	32	33	2000	18	324.1	322.1	3.36	3	1161.901	1151.078		M10	
P-34	34	35	2000	18	155	153.0	5.14	3	1114.695	1106.831		M11	
P-35	35	36	2000	24	190.72	188.7	1.37	3	1106.531	1103.946		M11	
Roundabout													
P-37	37	38	2000	18	88.06	86.1	3.4		1132.186	1129.264		M12	
P-38	38	39	2000	18	42.8	40.8	3.87	3	1128.964	1127.385		M12	
P-40	40	41	2000	24	60.4	58.4	4.13	3	1141.437	1139.025		M13	
P-42	42	43	2000	18	58.4	56.4	1		1145.852	1145.288		M14	
P-43	43	46	2000	18	32.26	30.3	1		1144.988	1144.685		M14	
P-44	44	46	2000	18	60.75	58.8	2.1	3	1146.093	1144.859		M14	
P-45	45	46	2000	18	47.4	45.4	0.5		1144.988	1144.761		M14	
P-46	46	47	2000	24	115.2	113.2	1.24	3	1144.385	1142.981		M14	

Totals	
18	2549.19
24	1531.91
30	164.5
36	493.2
18 LC	80.7

SURVEY SYMBOLS

- TLNR Tree Line Right
- FWD Wood Fence
- SI Sign
- TDC Tree Deciduous
- PPB Power Pole Co. 2
- FW Wire Fence
- MH Utility Access (Manhole)
- HDG Hedge Row
- TEV Evergeen Tree
- FCL Chain Link and Security Fence
- GRV Grave
- RET Retaining Walls
- TLNL Tree Line Left
- WEL Well
- TPD Telephone Pedestal
- SHR Shrub
- FLG Flag Poles
- PR Electic Riser Pole
- UB Utility Box
- GP Guard Post (Less Than 4 Posts)
- TFR Tree Fruit
- TIL Tile Line
- EB Electrical Box
- IN Storm Sewer Intake
- BIN Grain Bin
- PPA Power Pole Co. 1
- OUT Tile Outlet
- GDL Guard Rail Steel
- STP Stump
- TR Telephone Riser Pole
- LUM Luminaire
- MM Mile Marker Post
- WHD Water Hydrant
- LP L.P. Tank
- SEP Septic Tank
- PLG Location of General Photo
- WV Water Valve
- INB Storm Sewer Beehive Intake
- BB Billboard
- TV Satelite TV Dish
- AST Above Ground Storage Tank
- SNP Unpaved Shoulder
- ENU Edge Unpaved Entrance & Parking
- ENT Centerline BL of Entrance
- D Centerline Draw or Stream (Down)
- EP Edge of Paved Roads (ML or SR)
- SH Paved Shoulder
- BNK Stream Bank
- DU Centerline Draw or Stream (Up)
- EG Edge of Gravel Road
- RIP Rip-Rap
- CU Back of Curb
- GU Gutter In Front of Curb
- DIK Centerline of Dike or Dam
- TER Terrace
- EW Edge of Water
- WM Wind Mill
- Cell Phone Tower

UTILITY LEGEND

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PLAN VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK	Design Color No.	
Gray, Dark	(112)	Existing Topographic Features, Utilities, and Labels
Black	(17)	Proposed Storm Sewer Details, Alignment, Stationing, Tic Marks, and Alignment Annotation
SHADING	Design Color No.	
Gray, Light	(48)	Proposed Pavement Shading

PROFILE VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK	Design Color No.	
Gray, Dark	(112)	Existing Ground Line Profile and Existing Utilities Information
Black	(17)	Proposed Pipes and Intakes

PLAN VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

- Plug and Abandon Existing Pipe or Structure
- Removal of Existing Pipe or Structure
- Previously Constructed Pipe or Structure
- Direction of Pipe Flow

PROFILE VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

- Existing Ground
- Proposed Ground
- Previously Constructed Pipe or Structure
- Proposed Pipe or Structure

Reference Point
Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Clearing & Grubbing Area
- Pavement Removal

RIGHT-OF-WAY LEGEND

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

STORM SEWER LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES M)

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER M.2

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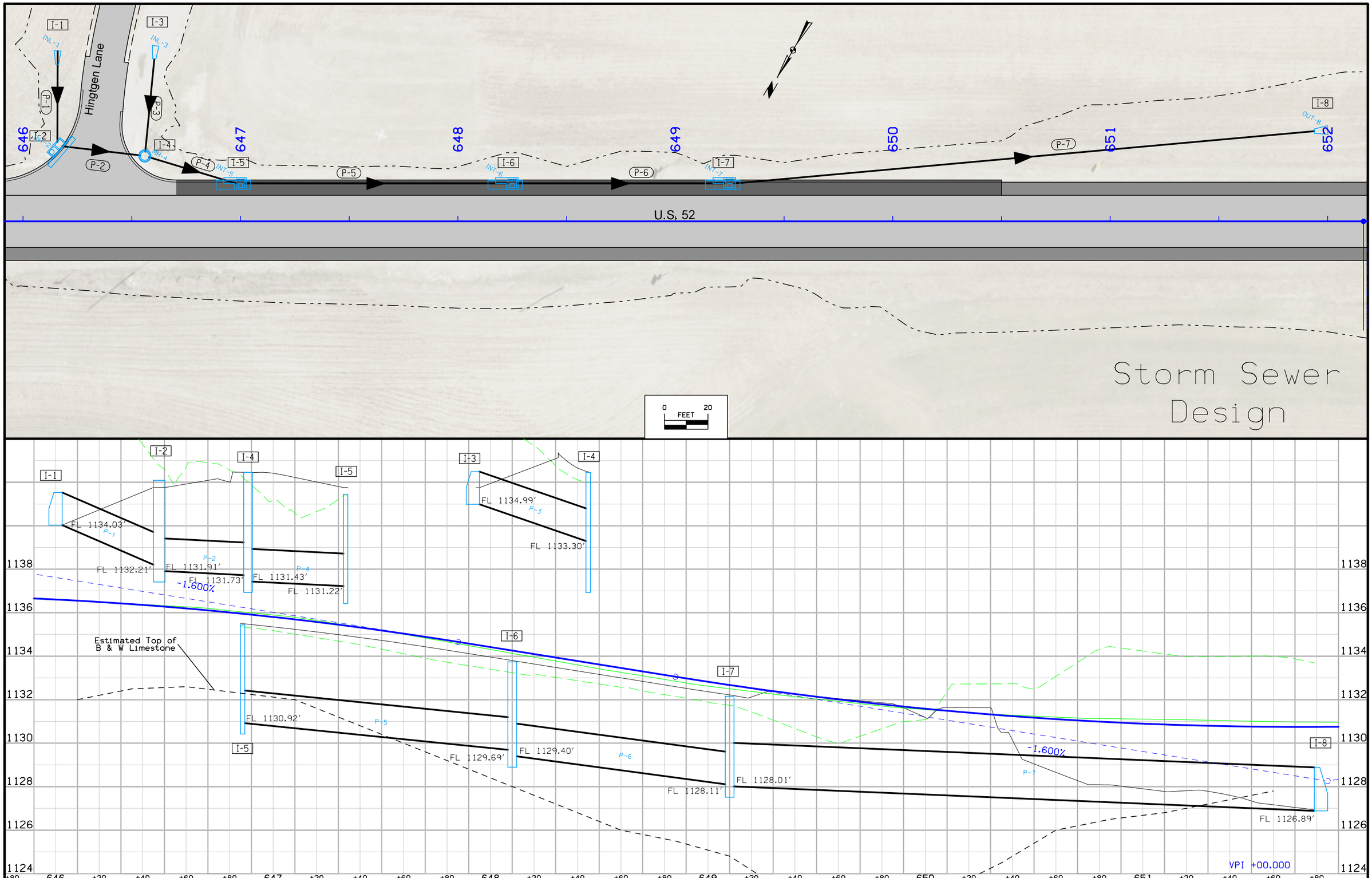

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER M.3	

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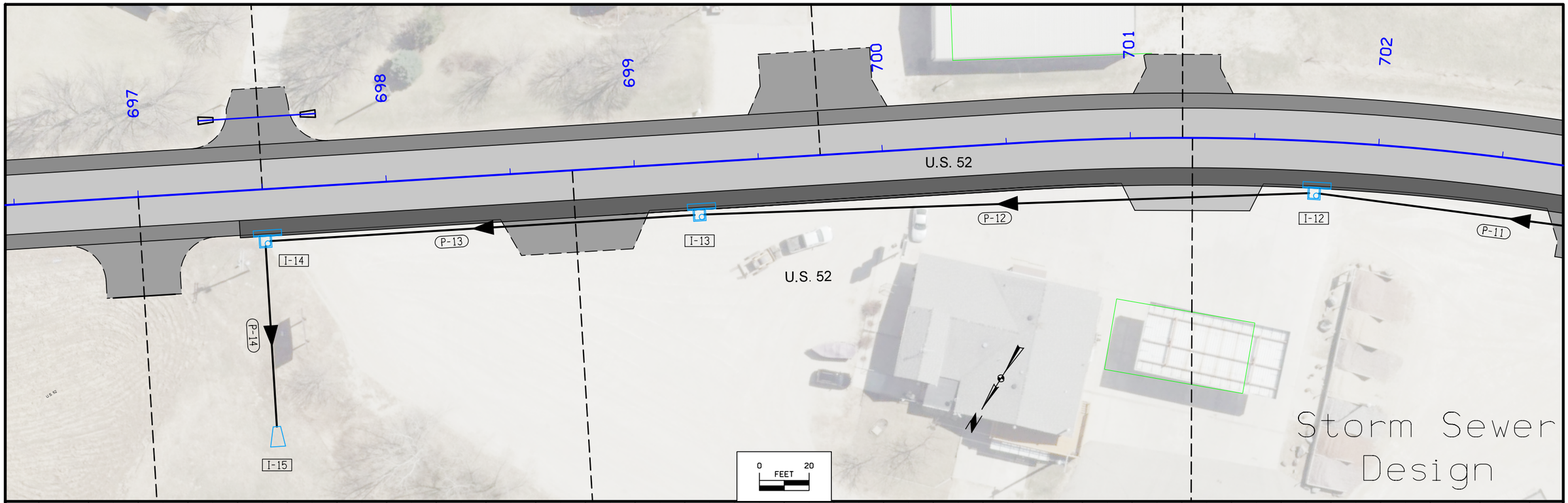
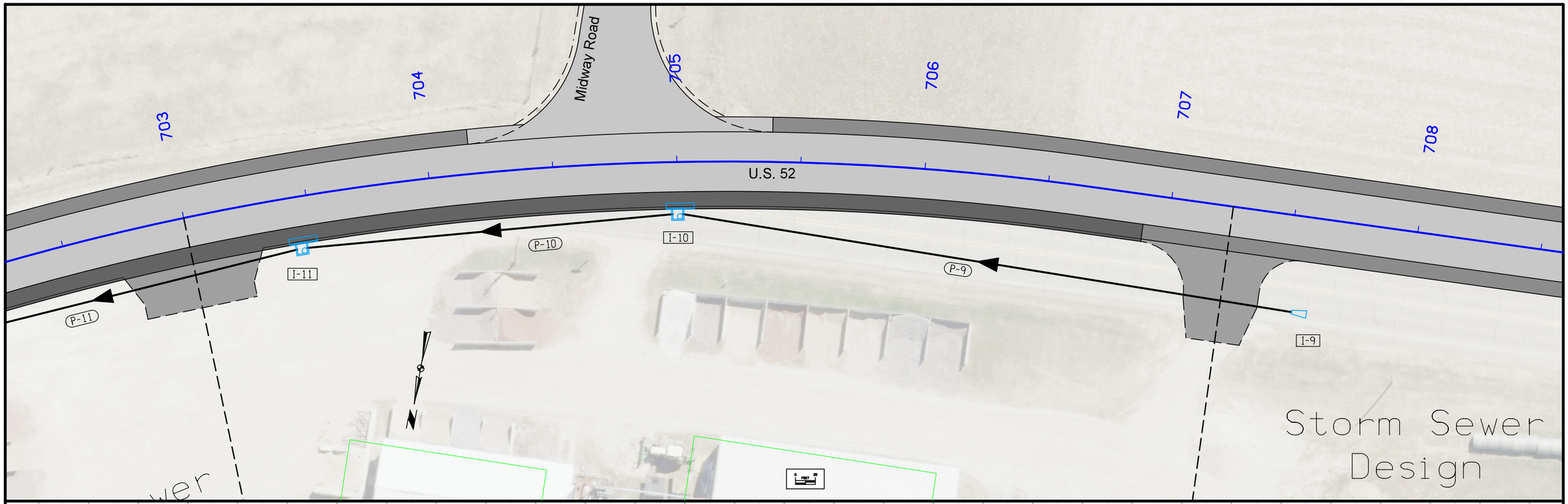


FILE NO.	ENGLISH	DESIGN TEAM	J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER	HSIPX-052-2(120)--3L-31	SHEET NUMBER	M.4

1:04:59 PM 10/2/2017 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120m03.dgn



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER M.5

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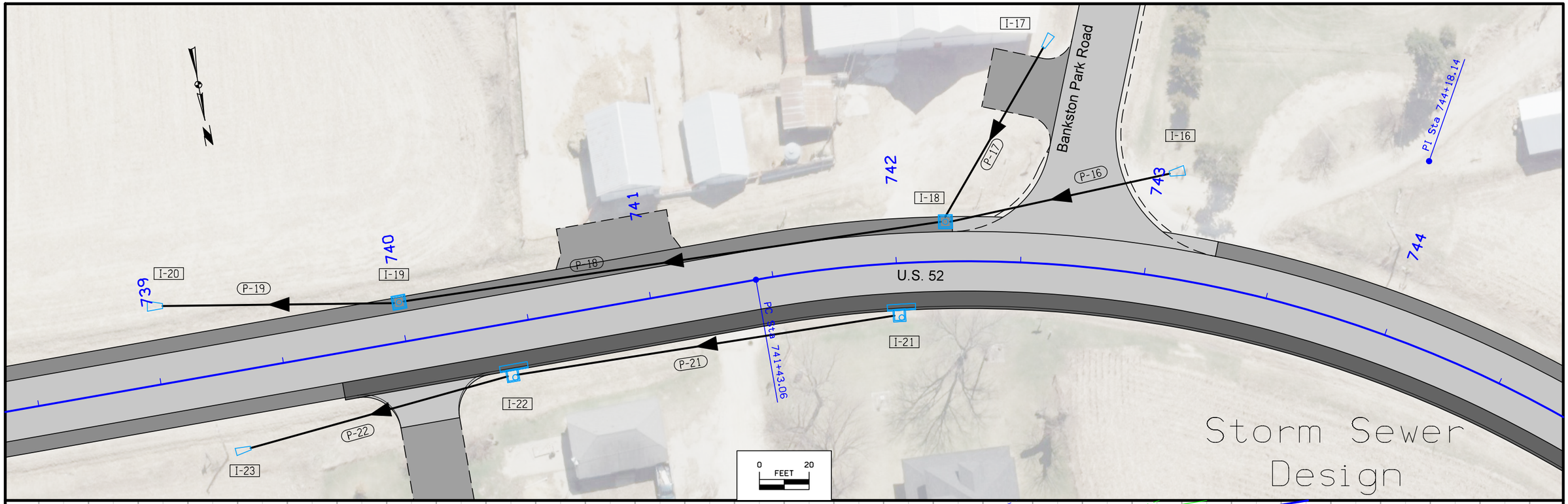

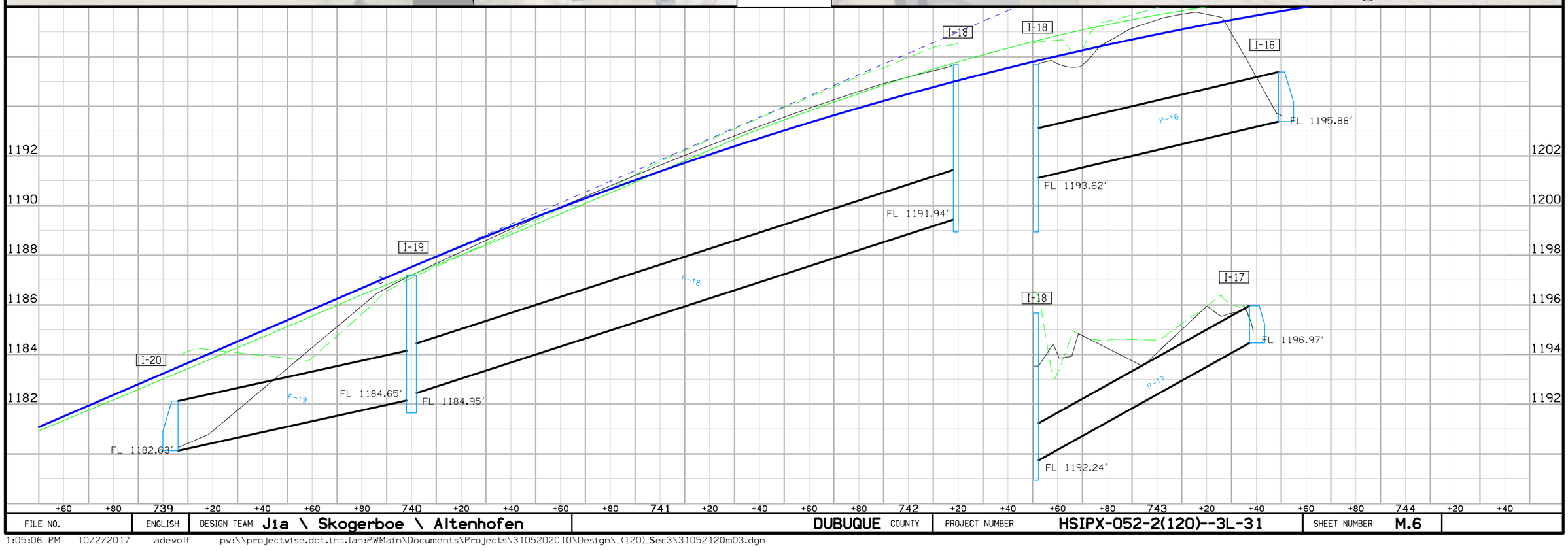

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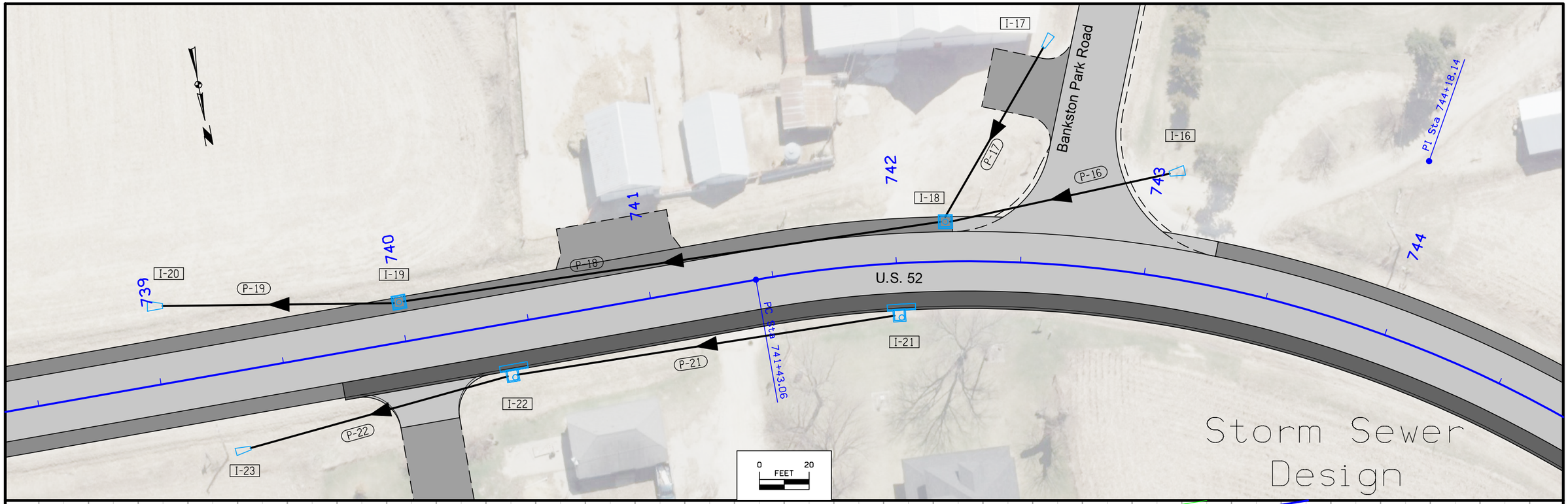

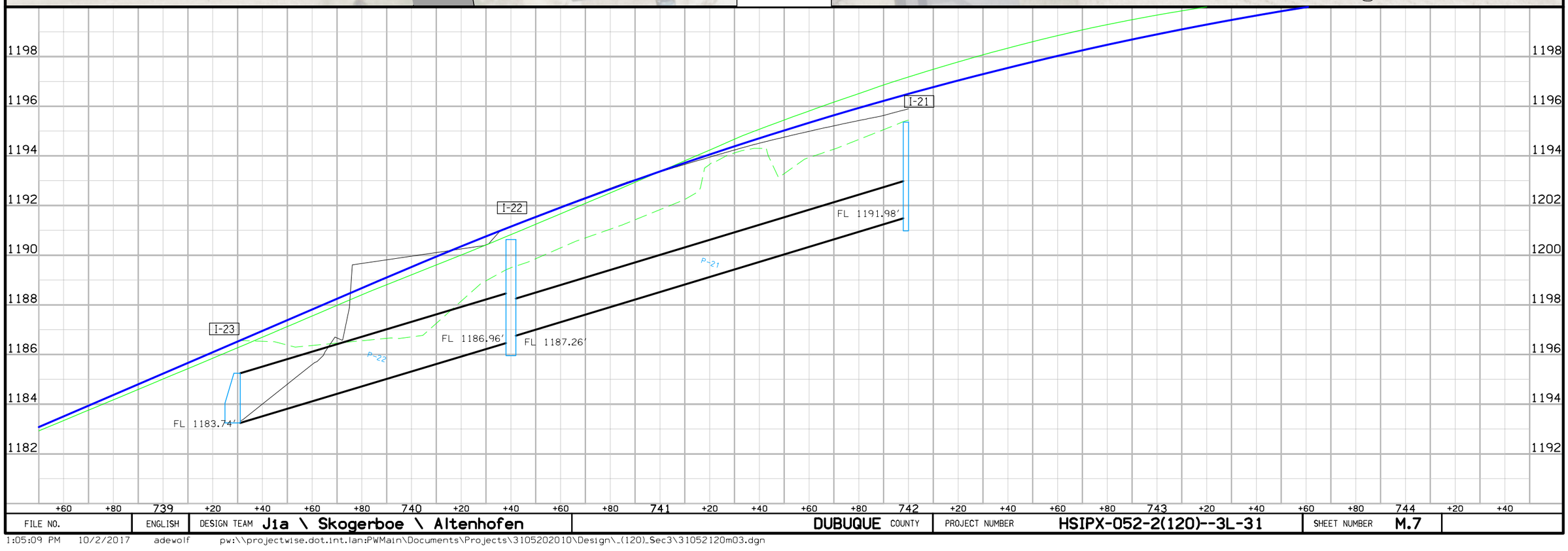

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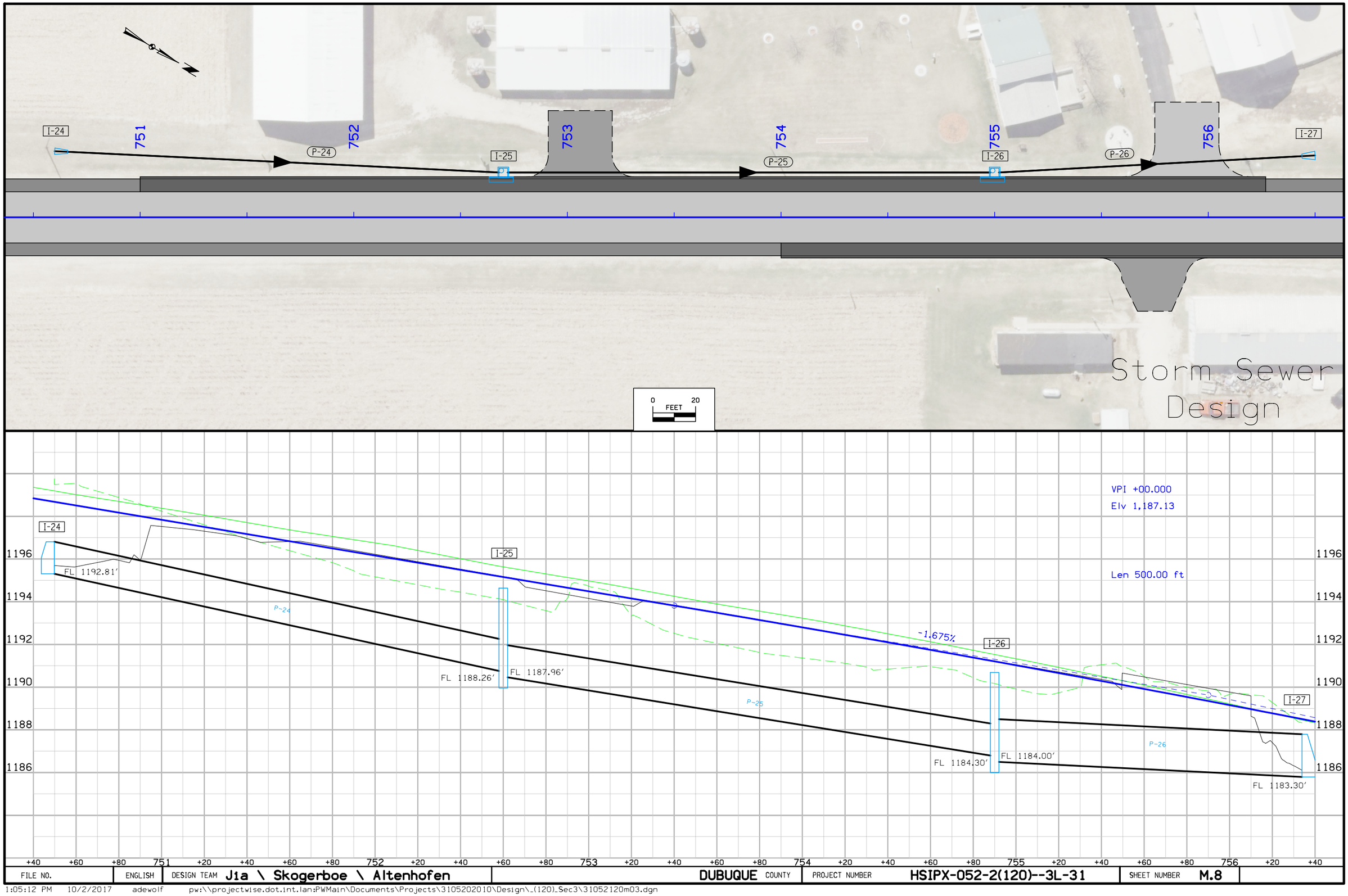

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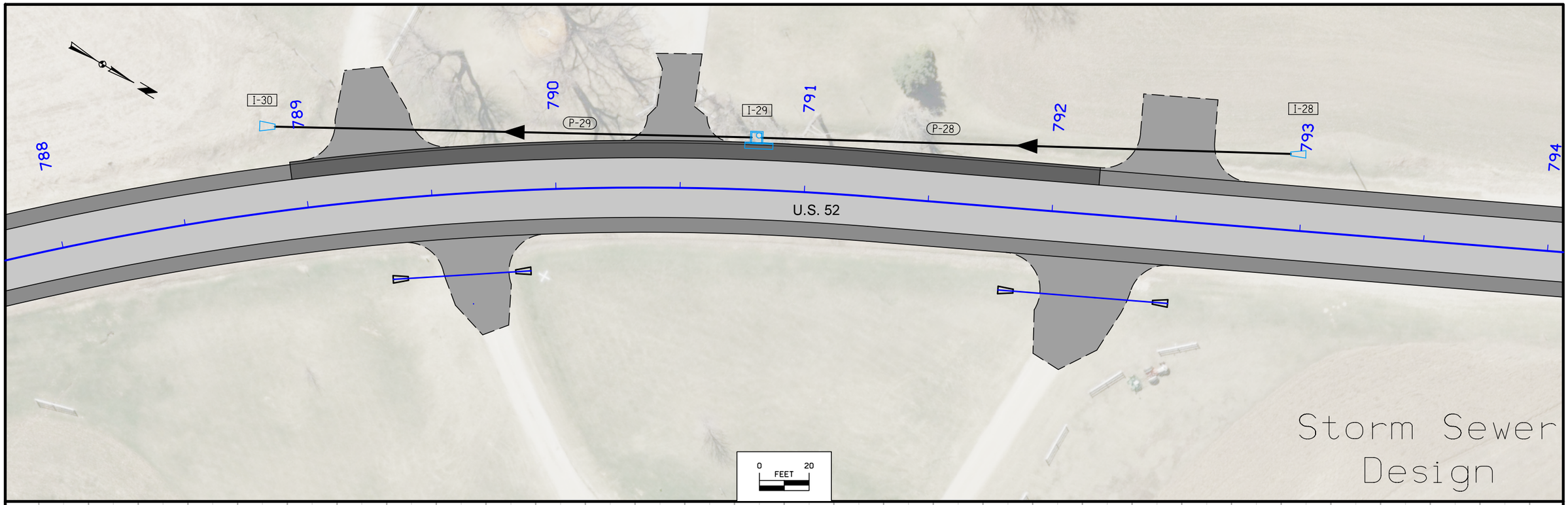
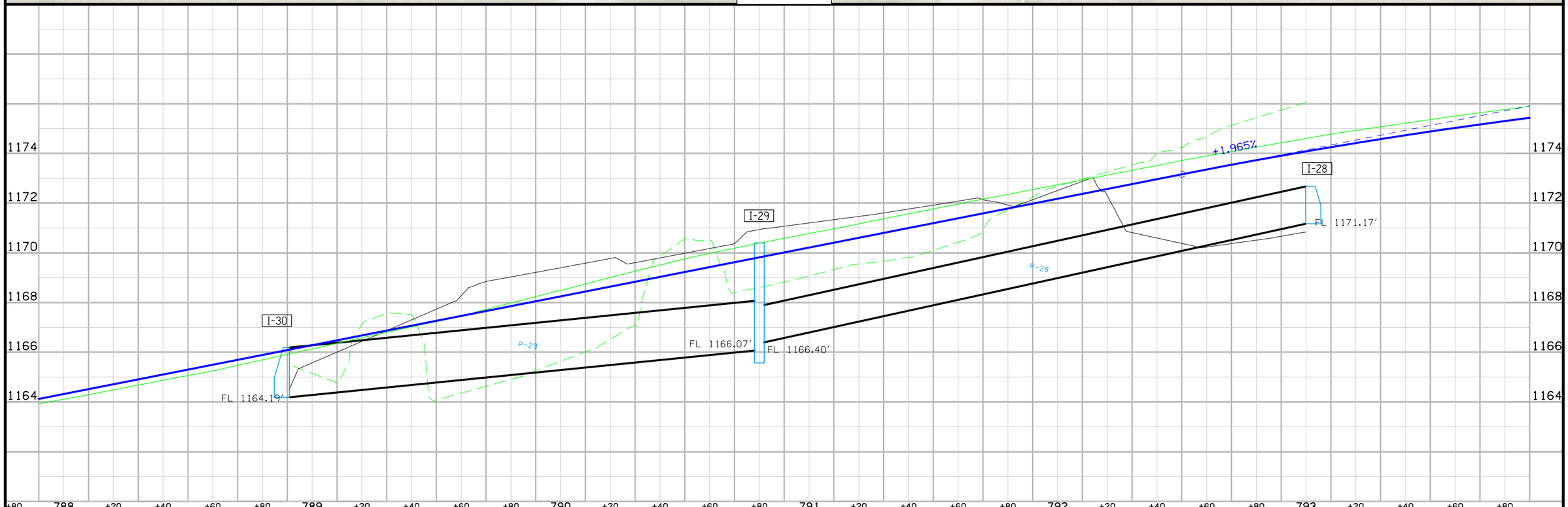


Storm Sewer Design



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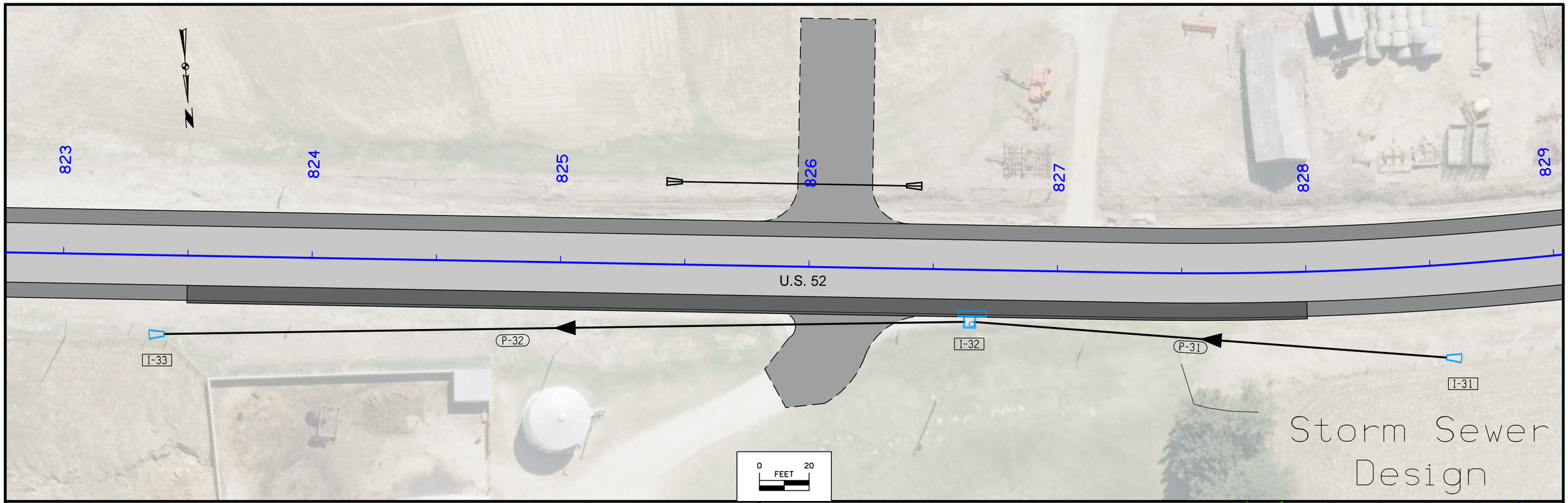
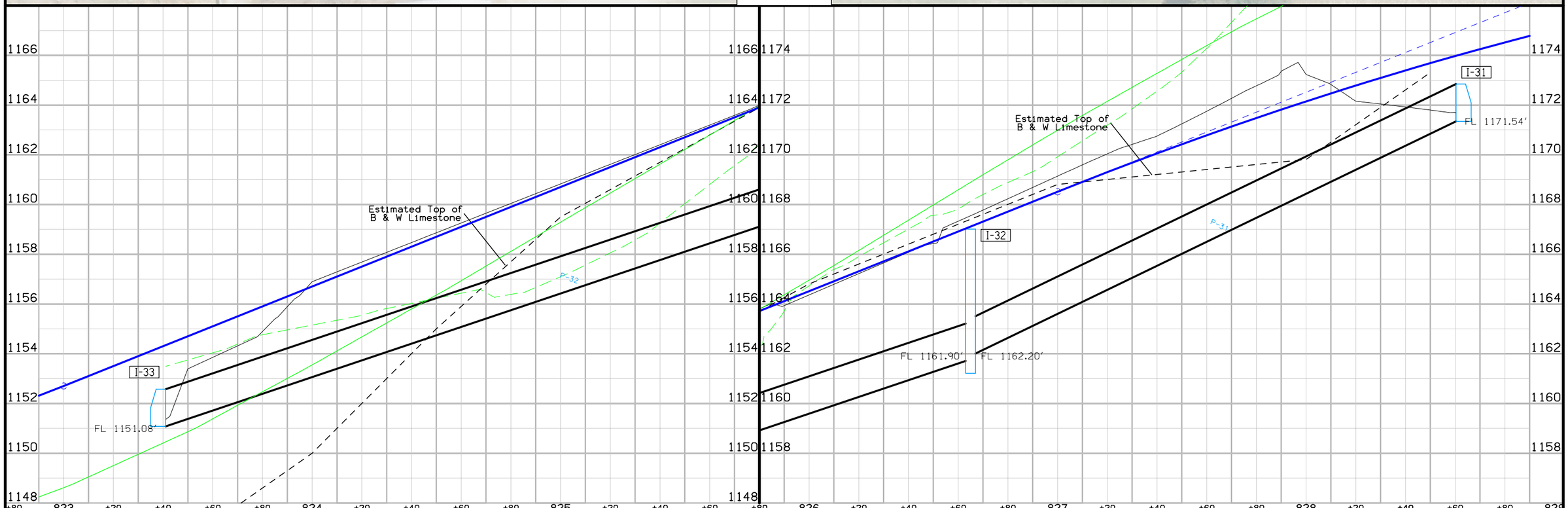


Storm Sewer Design



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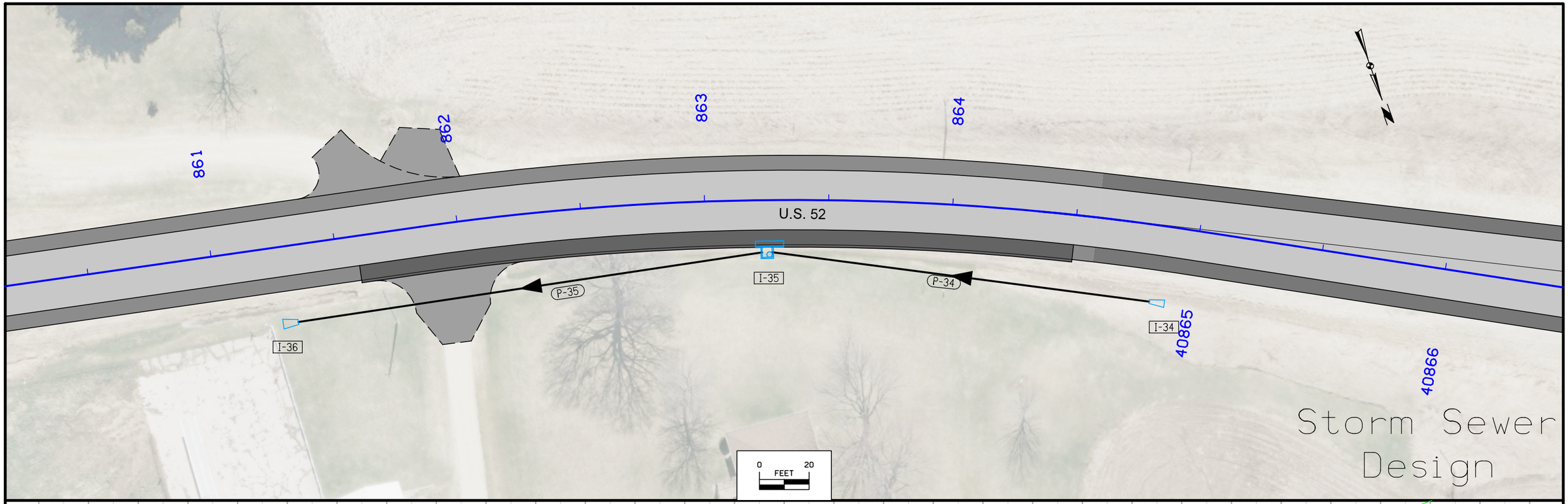

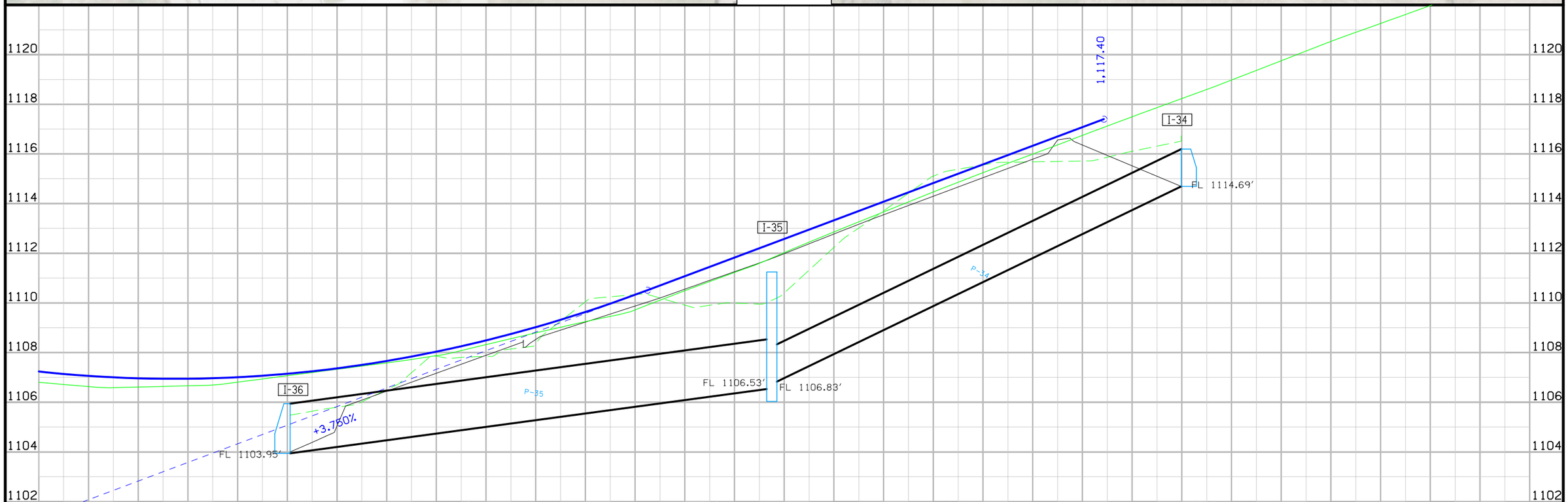

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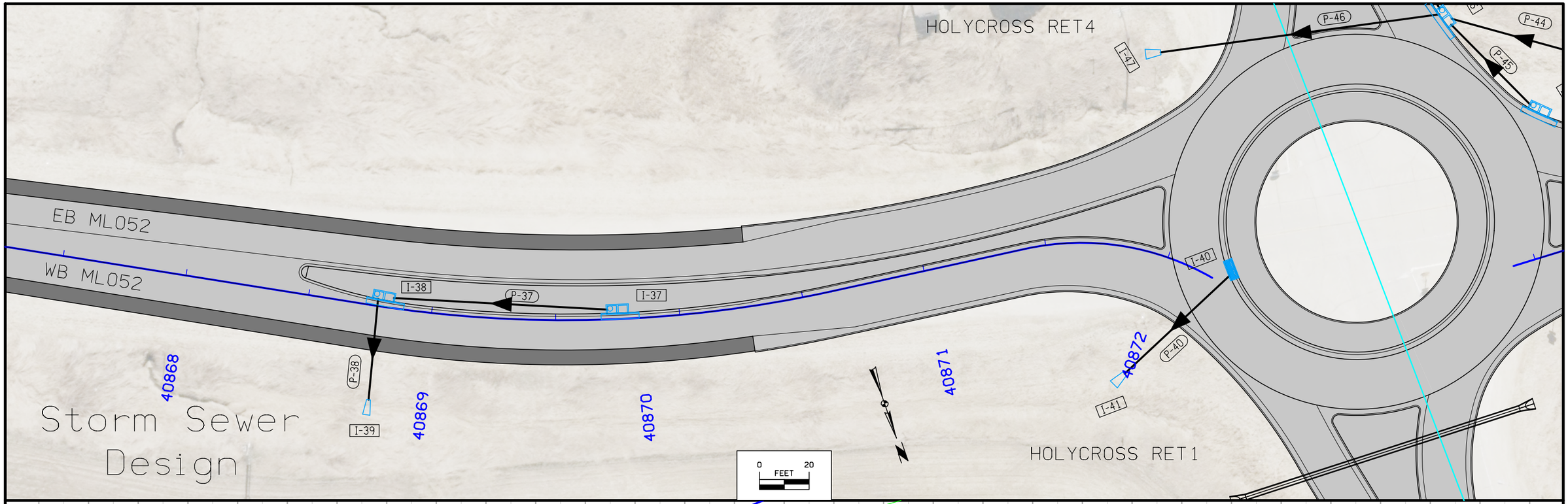

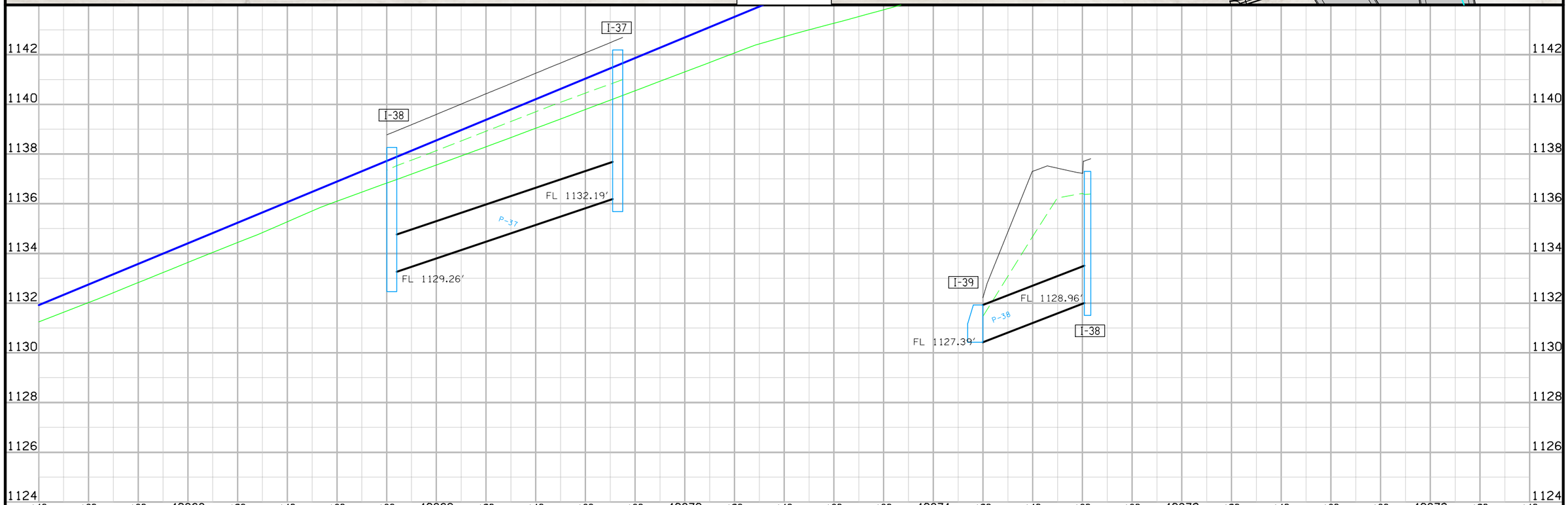

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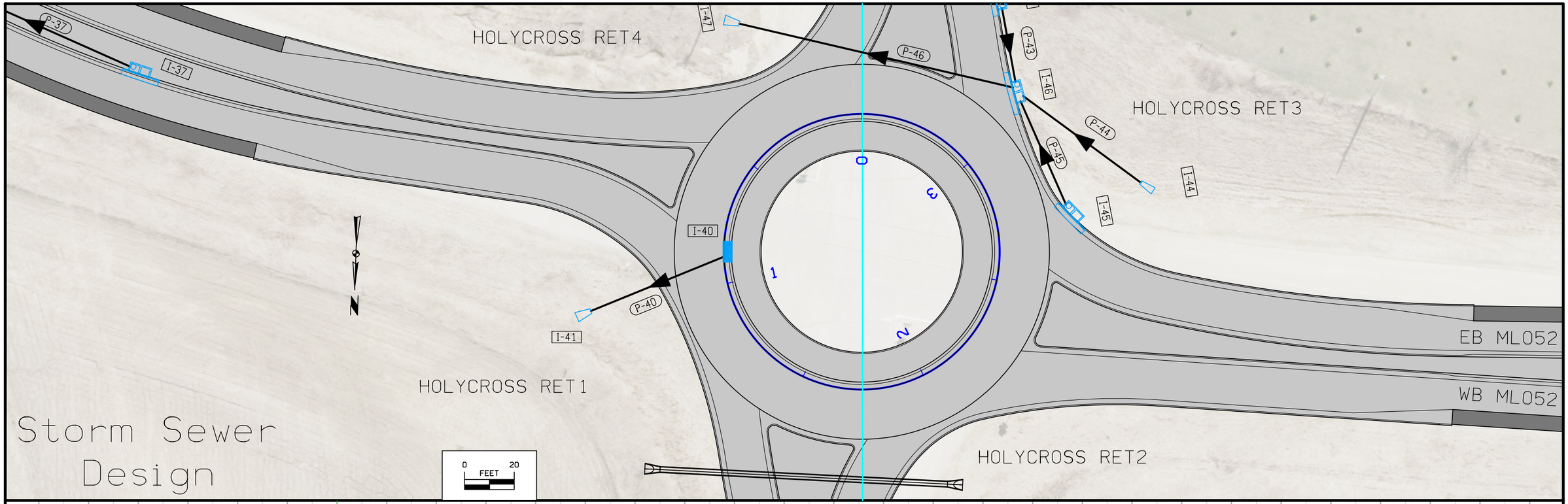

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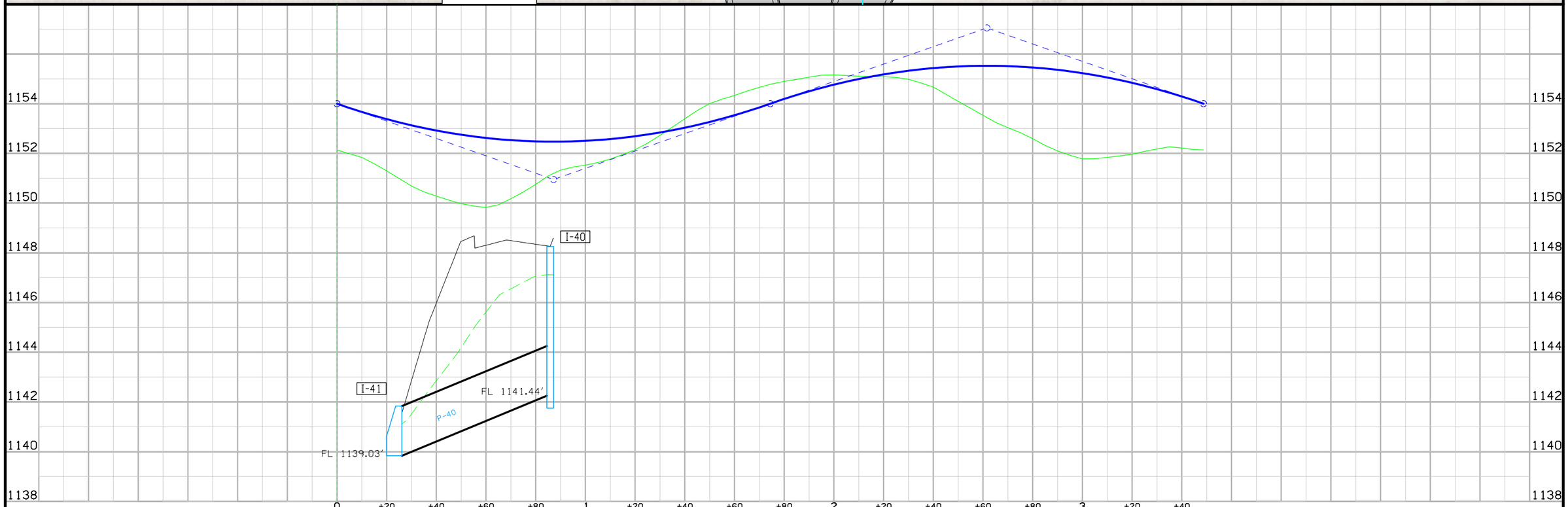

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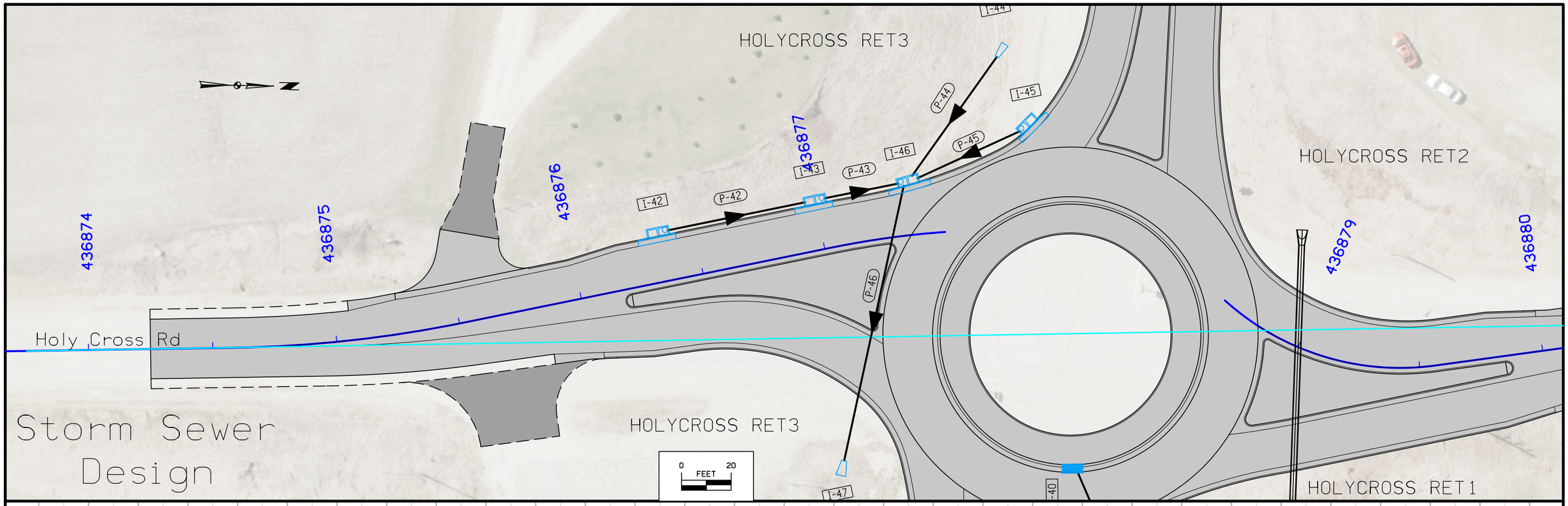

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SURVEY SYMBOLS

- TLNR Tree Line Right
- FWD Wood Fence
- SI Sign
- TDC Tree Deciduous
- PPB Power Pole Co. 2
- FW Wire Fence
- MH Utility Access (Manhole)
- HDG Hedge Row
- TEV Evergeen Tree
- FCL Chain Link and Security Fence
- GRV Grave
- RET Retaining Walls
- TLNL Tree Line Left
- WEL Well
- TPD Telephone Pedestal
- SHR Shrub
- FLG Flag Poles
- PR Electic Riser Pole
- UB Utility Box
- GP Guard Post (Less Than 4 Posts)
- TFR Tree Fruit
- TIL Tile Line
- EB Electrical Box
- IN Storm Sewer Intake
- BIN Grain Bin
- PPA Power Pole Co. 1
- OUT Tile Outlet
- GDL Guard Rail Steel
- STP Stump
- TR Telephone Riser Pole
- LUM Luminaire
- MM Mile Marker Post
- WHD Water Hydrant
- LP L.P. Tank
- SEP Septic Tank
- PLG Location of General Photo
- WV Water Valve
- INB Storm Sewer Beehive Intake
- BB Billboard
- TV Satelite TV Dish
- AST Above Ground Storage Tank
- SNP Unpaved Shoulder
- ENU Edge Unpaved Entrance & Parking
- ENT Centerline BL of Entrance
- D Centerline Draw or Stream (Down)
- EP Edge of Paved Roads (ML or SR)
- SH Paved Shoulder
- BNK Stream Bank
- DU Centerline Draw or Stream (Up)
- EG Edge of Gravel Road
- RIP Rip-Rap
- CU Back of Curb
- GU Gutter In Front of Curb
- DIK Centerline of Dike or Dam
- TER Terrace
- EW Edge of Water
- WM Wind Mill
- Cell Phone Tower

UTILITY LEGEND

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PLAN VIEW COLOR LEGEND OF SOILS SHEETS

LINEWORK	Design	Color No.	
Green		(2)	Existing Topographic Features and Labels
Purple (Halo)		(15)	Backslope Drains
Blue		(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
SHADING	**Design**	**Color No.**	
Brown, Light		(236)	Core Out

PROFILE VIEW COLOR LEGEND OF SOILS SHEETS

LINEWORK	Design	Color No.	
Blue		(1)	Proposed Alignment, Stationing, and Alignment Annotation
Green		(2)	Existing Ground Line Profile
Green, Med		(227)	Topsoil
Green, Med		(227)	Slope Dressing Only
Orange		(6)	Loam
Brown, Dark		(238)	Class 10
Brown, Med		(237)	Sand
Red		(3)	Unsuitable A
Pink, Dark		(13)	Unsuitable B
Pink		(11)	Unsuitable C
Red		(3)	Shale
Red		(3)	Waste
Gray, Light		(48)	Broken and Weathered Rock
Gray, Med		(80)	Rock
Gray, V.Dark		(128)	Boulders

PATTERN AND SYMBOL LEGEND OF SOILS SHEETS

Date(s) Drilled Jan. 2017

- Drill
- Dig/Core
- $-H_2O-$ Water
- Treatment
- Sandstone
- DRY Dry
- Sand Blanket
- Unsuitable A
- S Sample
- Soil Remediation Area
- Unsuitable B
- Plugged
- Select Soil
- Unsuitable C
- M Moisture
- Select Sand
- Sandy Soil
- Shelby
- Slope Dressing Only
- Boulders
- Blow Count
- Broken and Weathered Rock
- Shale
- Dens. Core
- Rock

- Reference Point
- Survey Line
- Station
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Clearing & Grubbing Area
- Pavement Removal

RIGHT-OF-WAY LEGEND

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

NOTE: Sounding and test boring data shown in the plans were accumulated for designing and estimating purposes. Their appearance on the plans does not constitute a guarantee that conditions other than those indicated will be encountered. Details and notes shown elsewhere shall be used for roadway and structure construction.

SOILS LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES Q & R)

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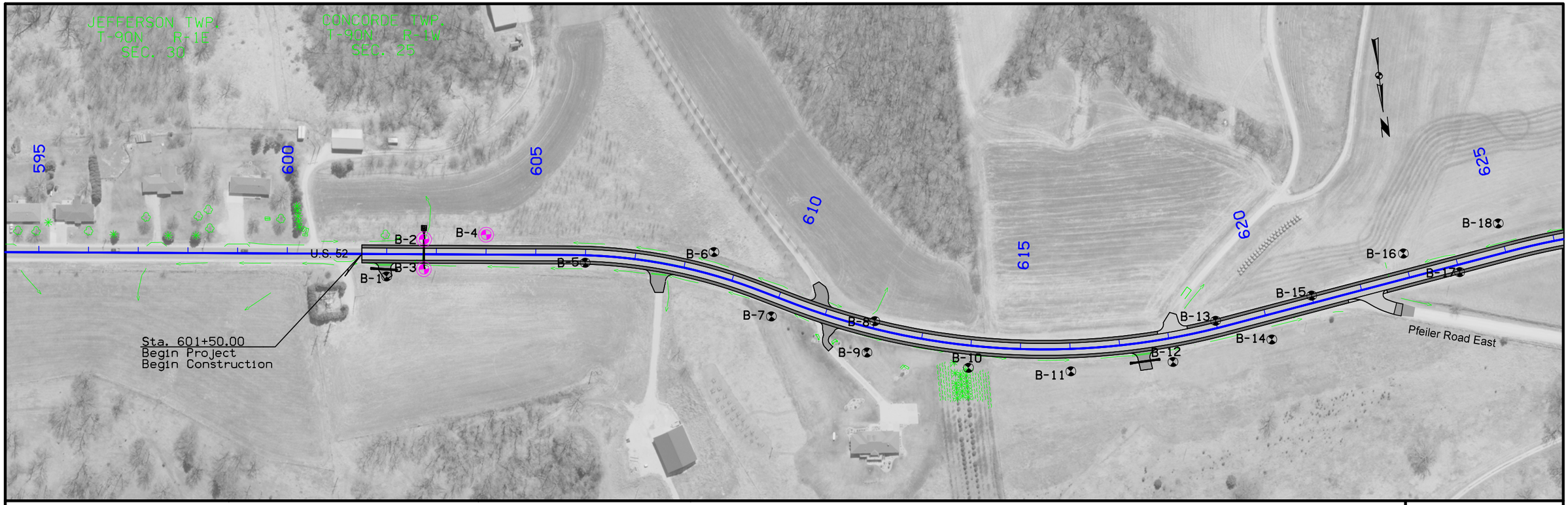
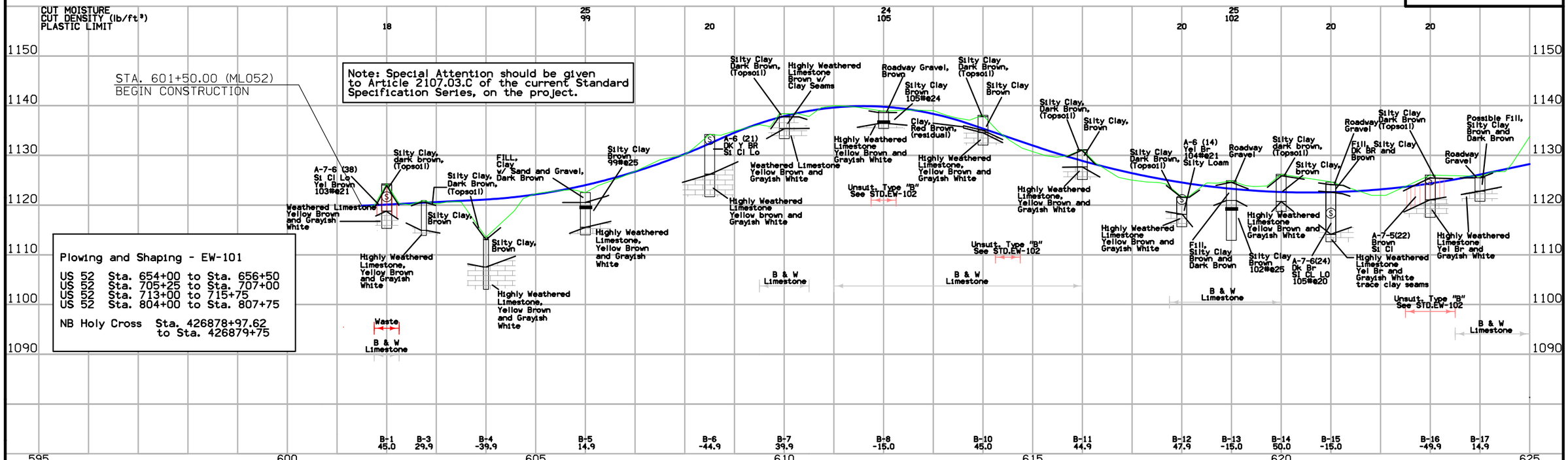


U.S. 52



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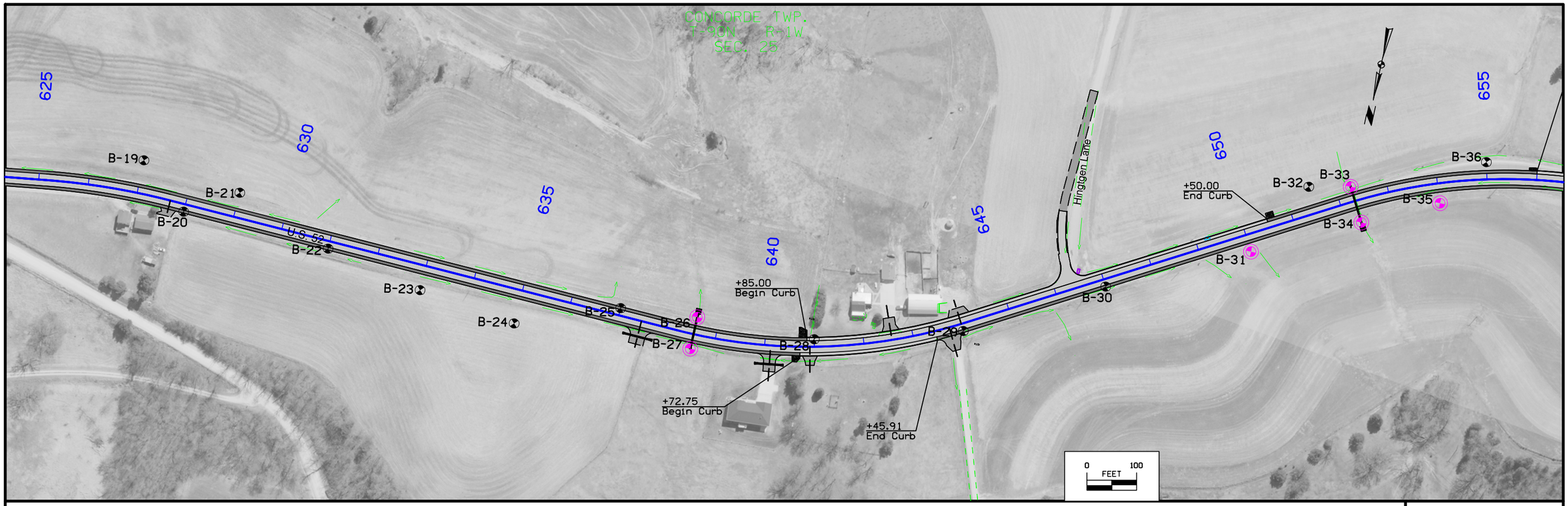

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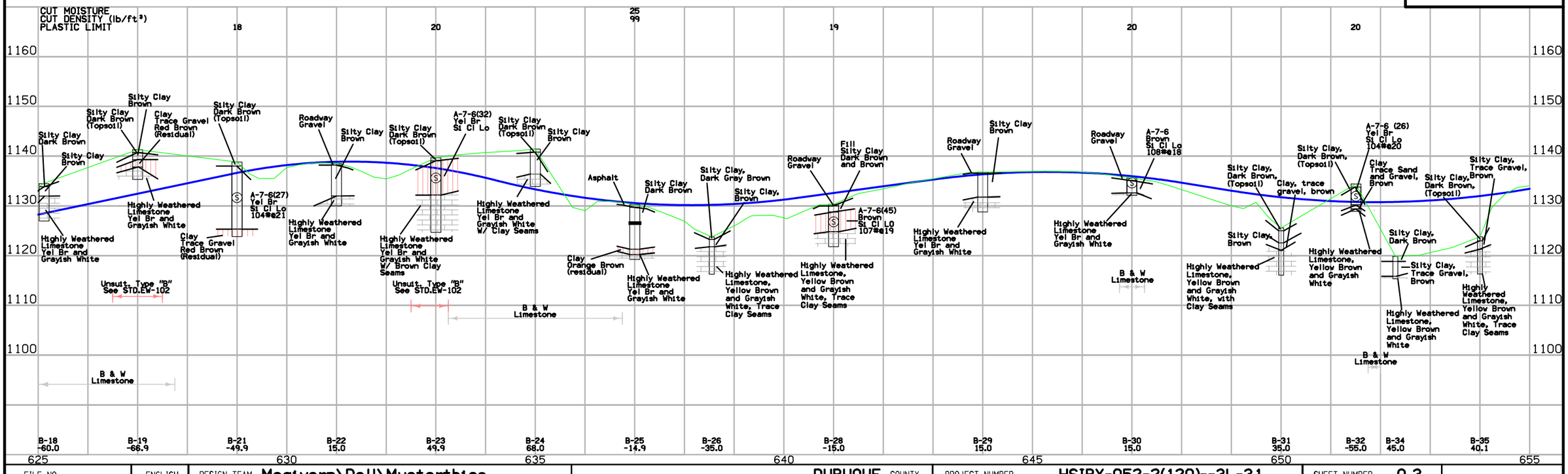

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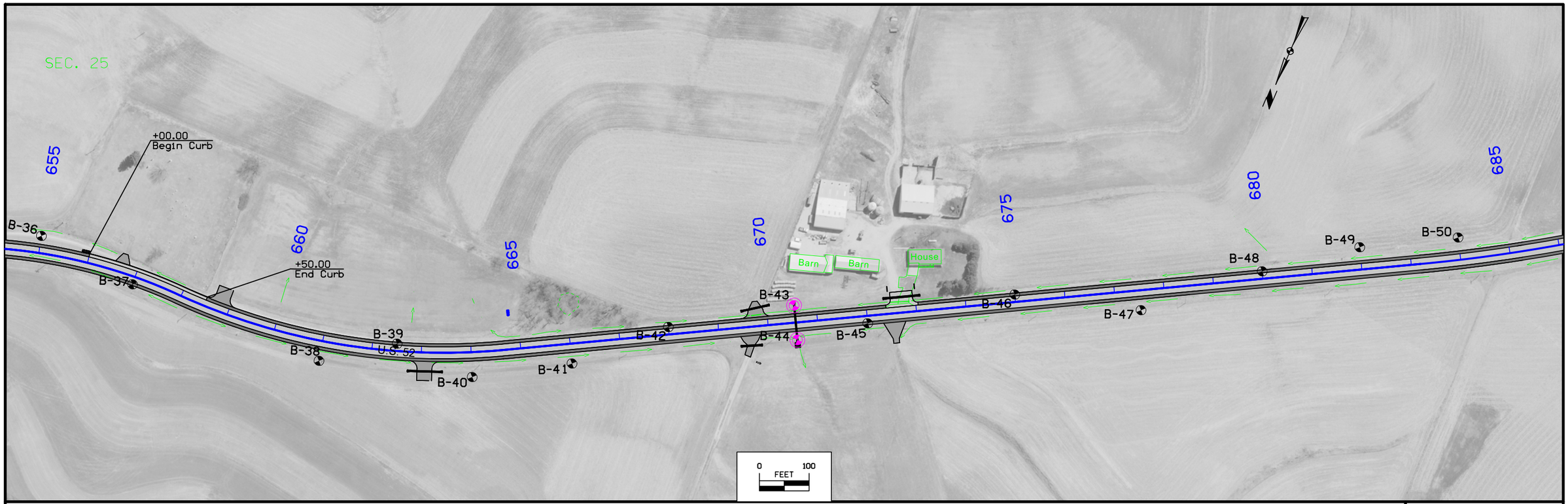

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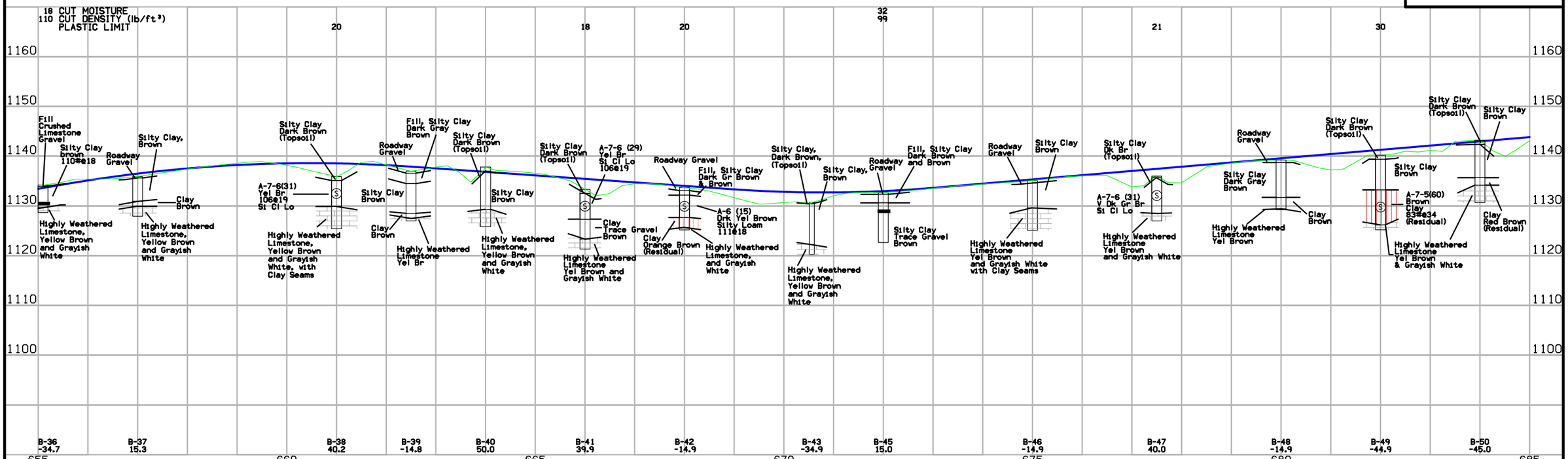

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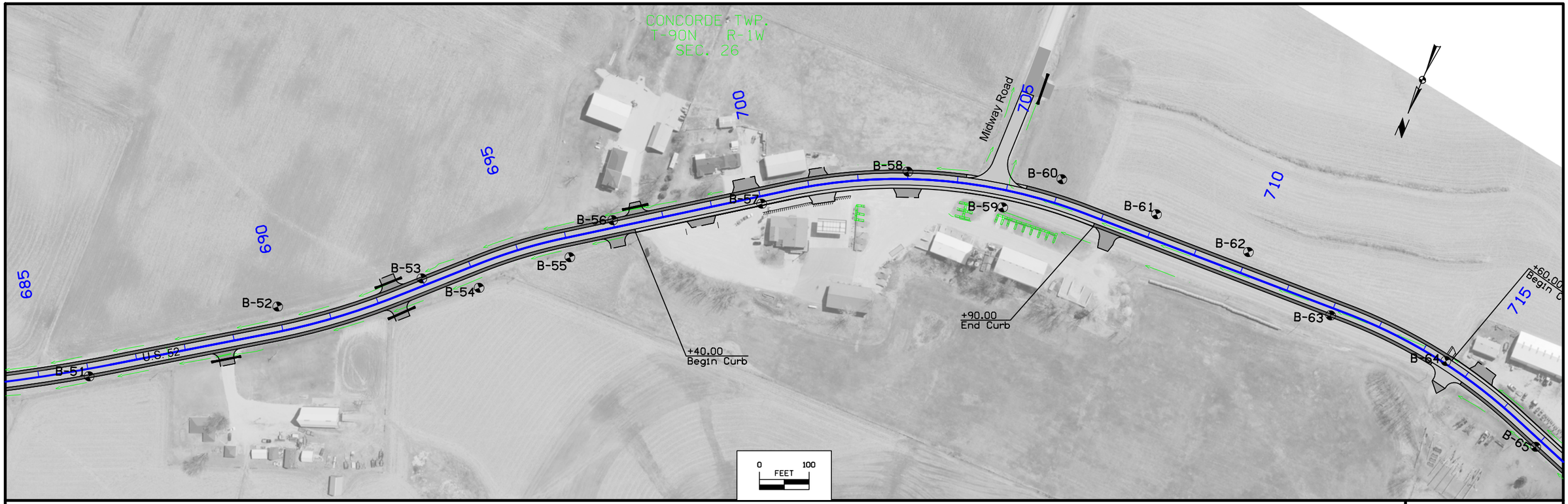

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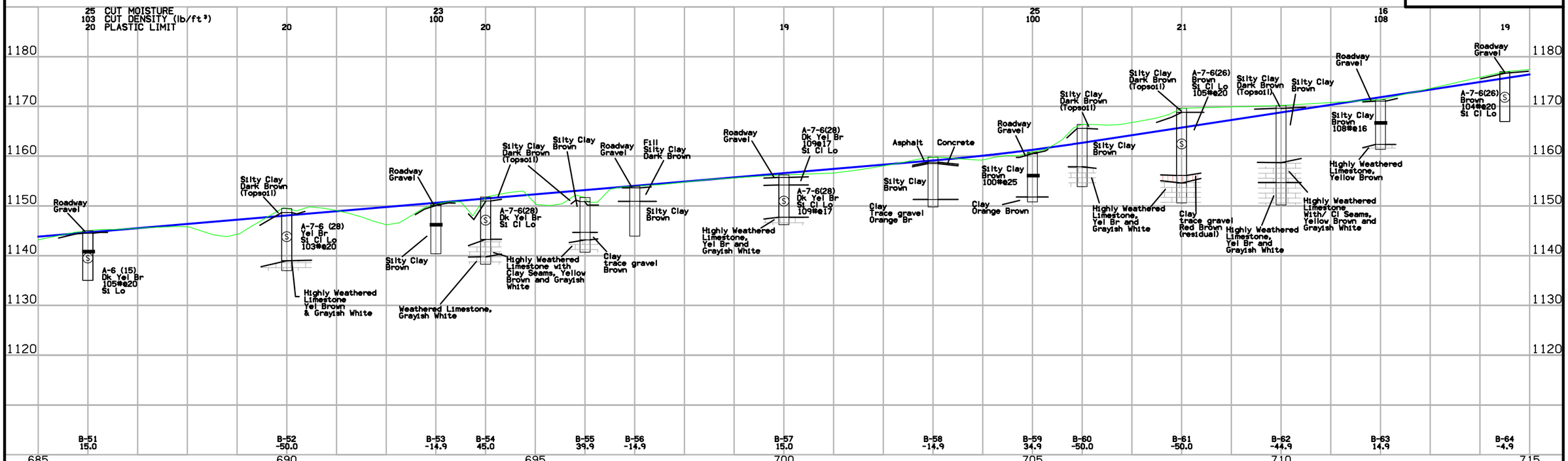

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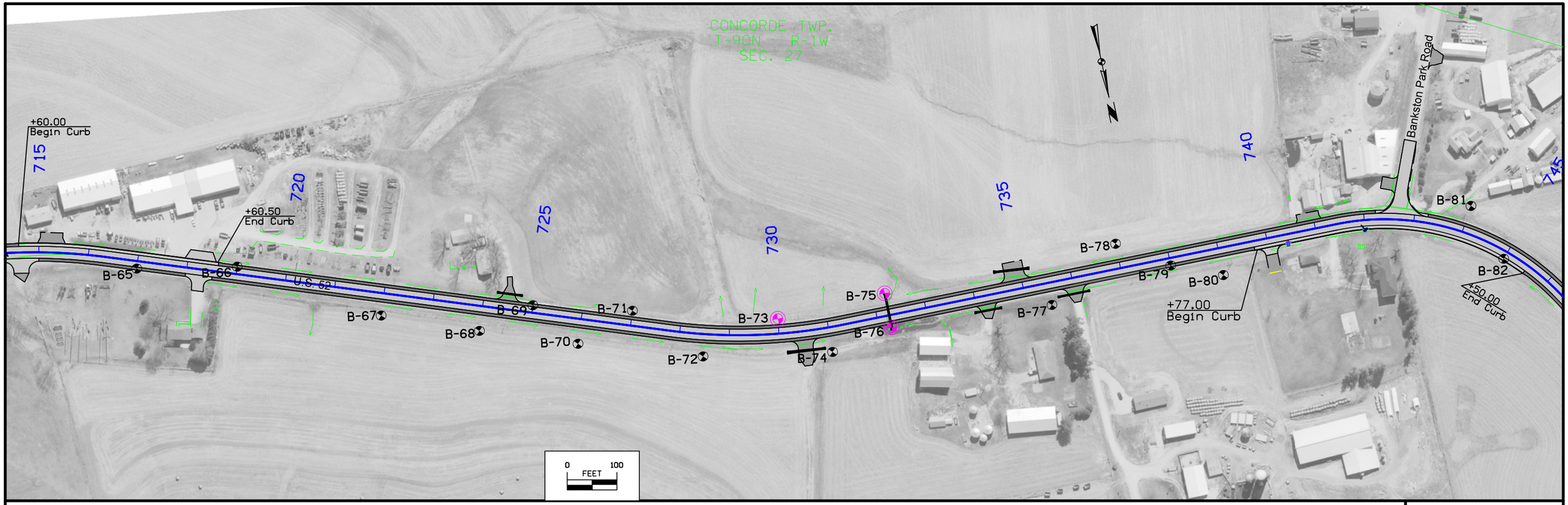

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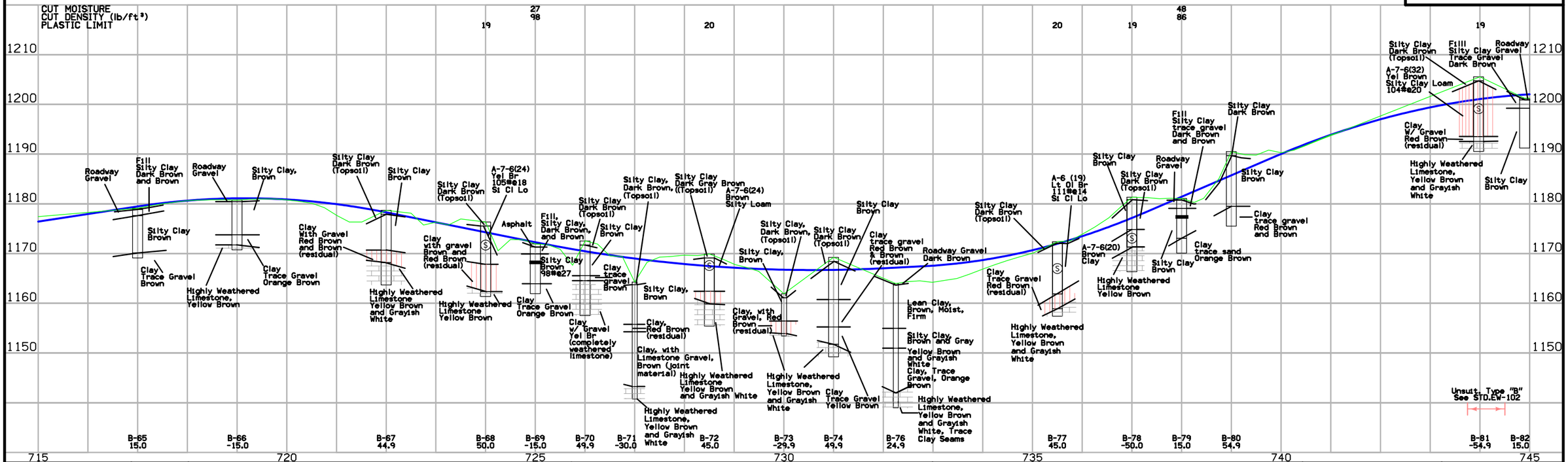

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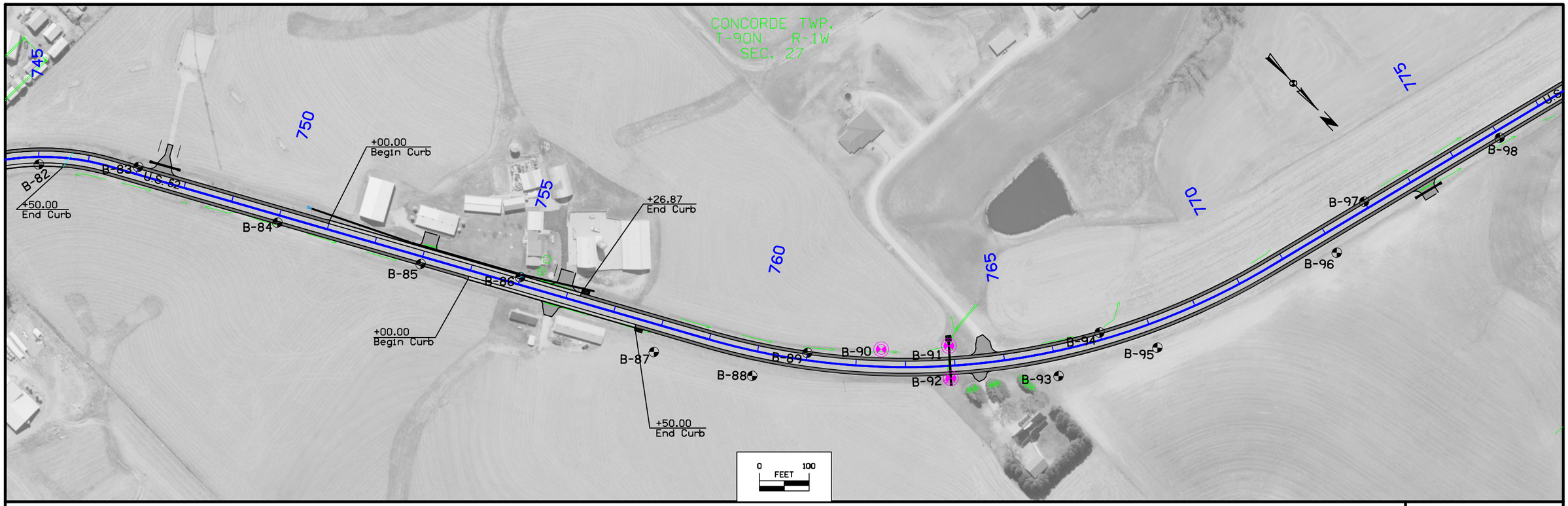

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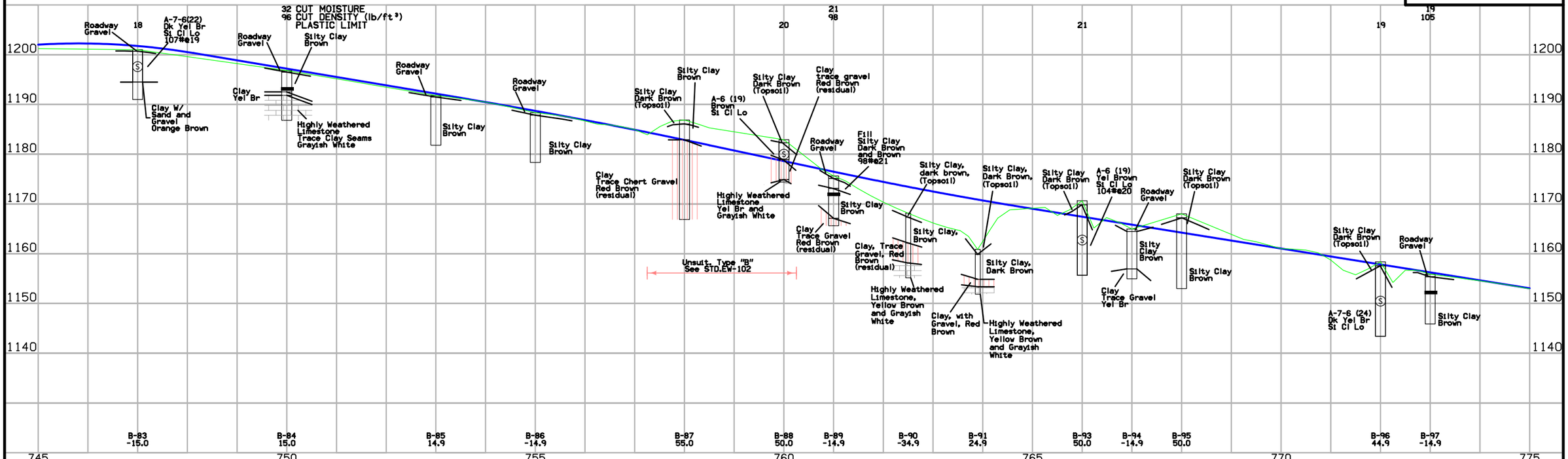

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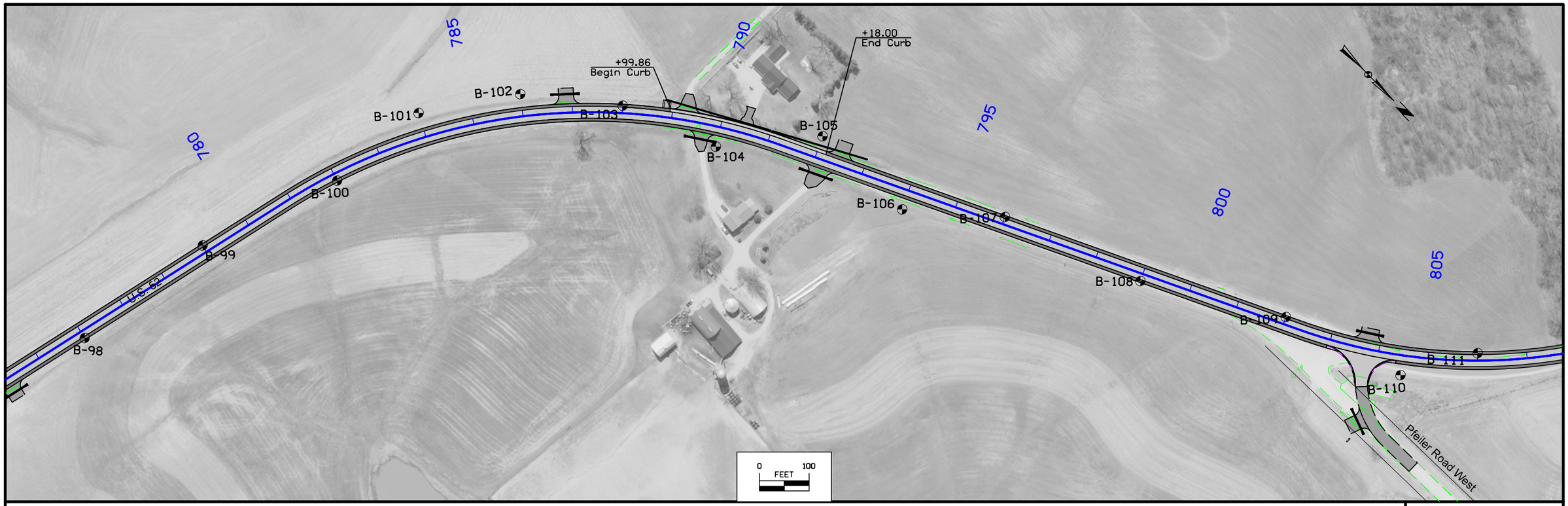

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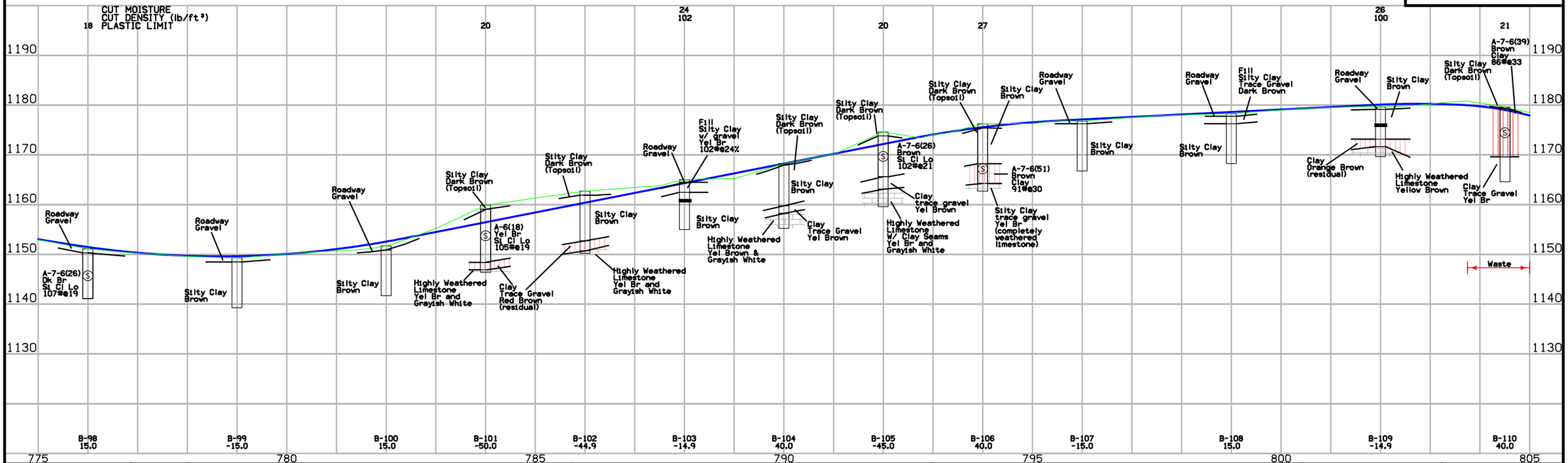

FILE NO.	ENGLISH	DESIGN TEAM Meg1vern\Dell\Mueterth1es	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER Q.8

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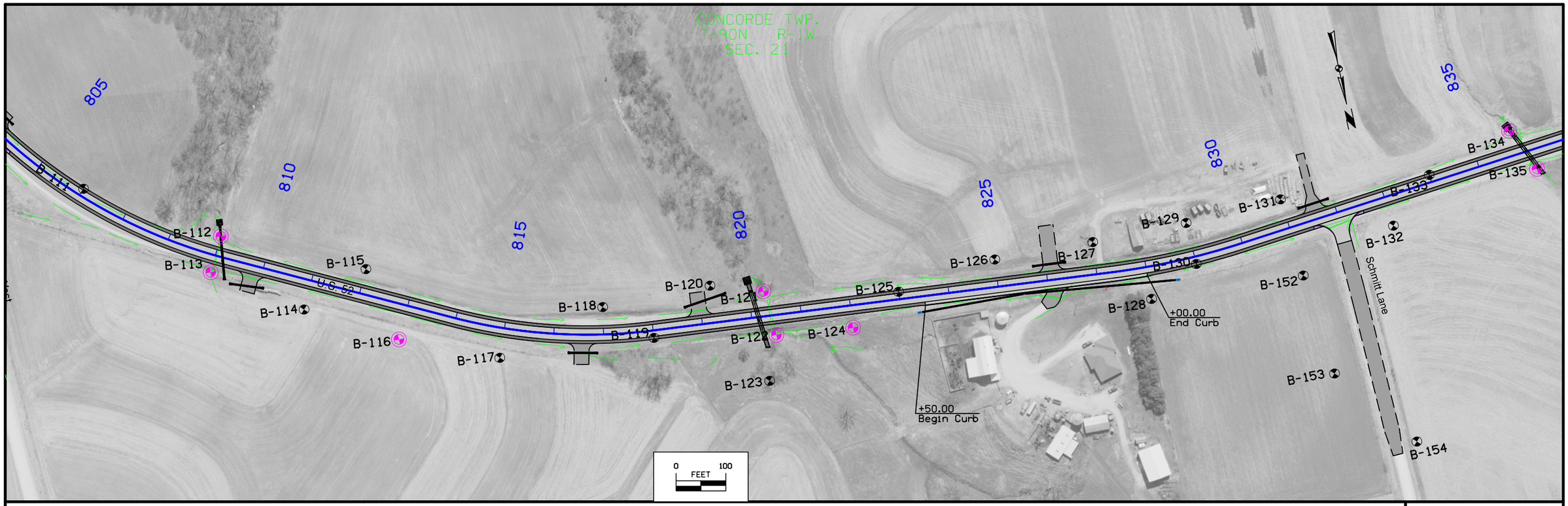

FILE NO.	ENGLISH	DESIGN TEAM	DUBUQUE COUNTY	PROJECT NUMBER	SHEET NUMBER
		Megivern\Dell\Mueterthies		HSIPX-052-2(120)--3L-31	Q.9

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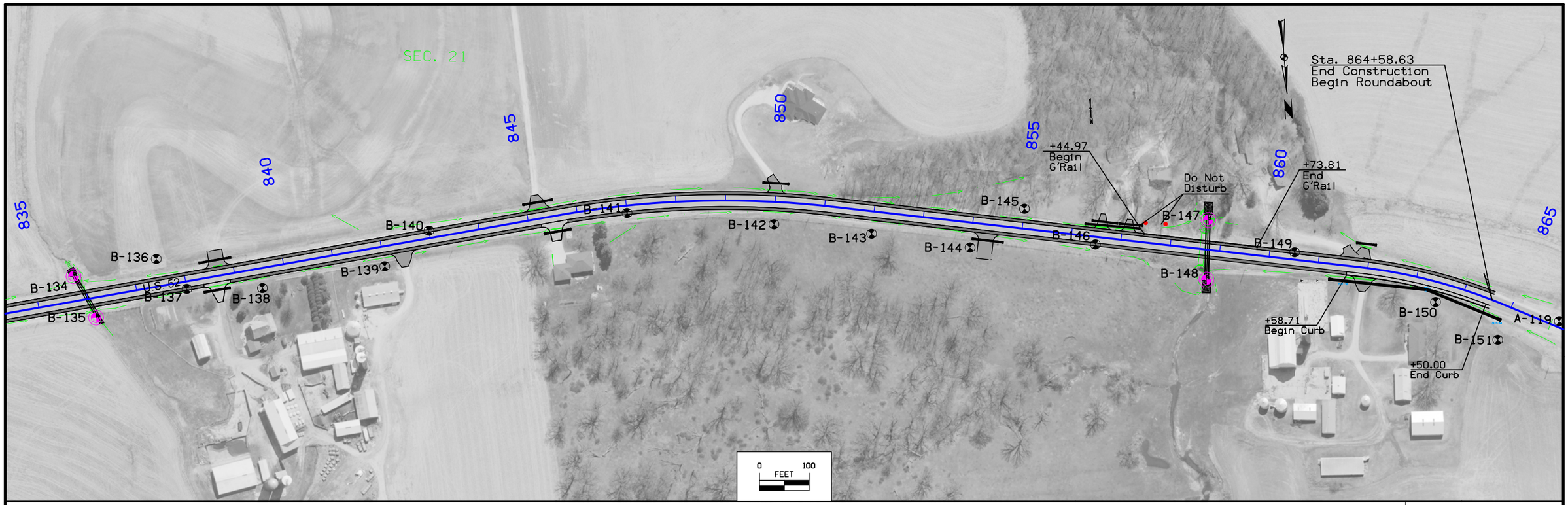
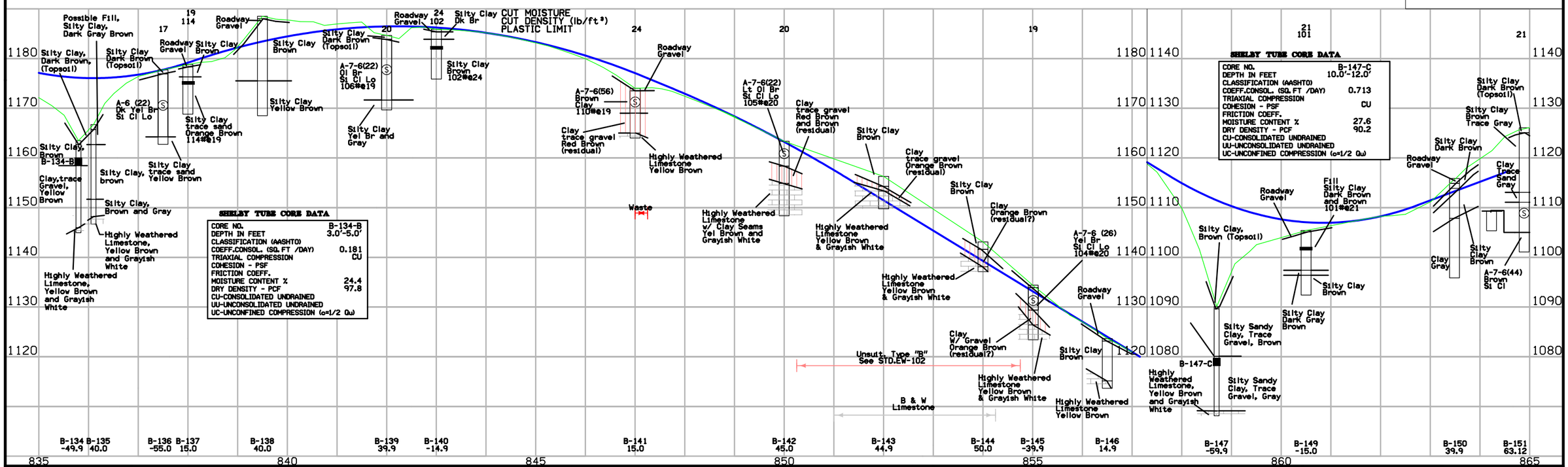


U.S. 52



FILE NO.	ENGLISH	DESIGN TEAM Megivern\Dell\Mueterth1es	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER Q.10

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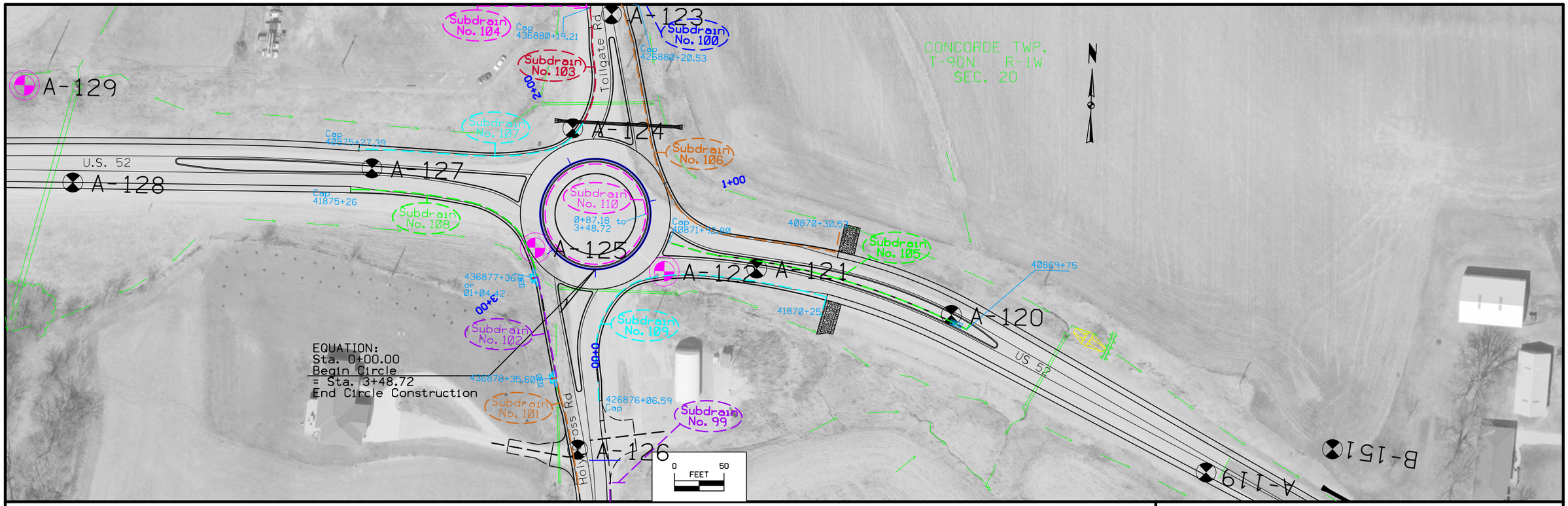
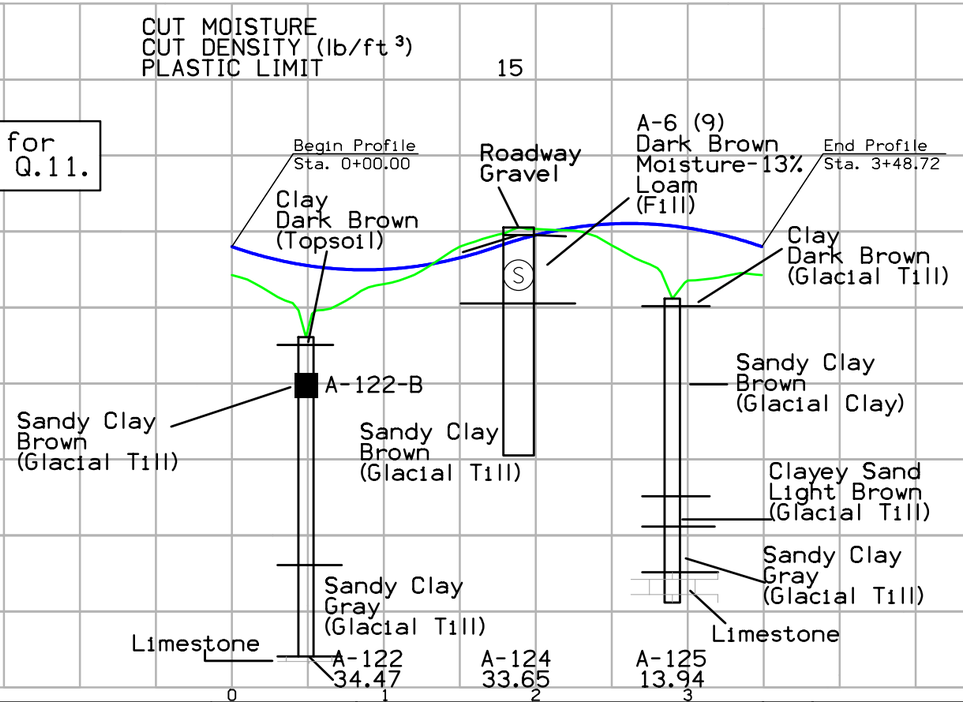


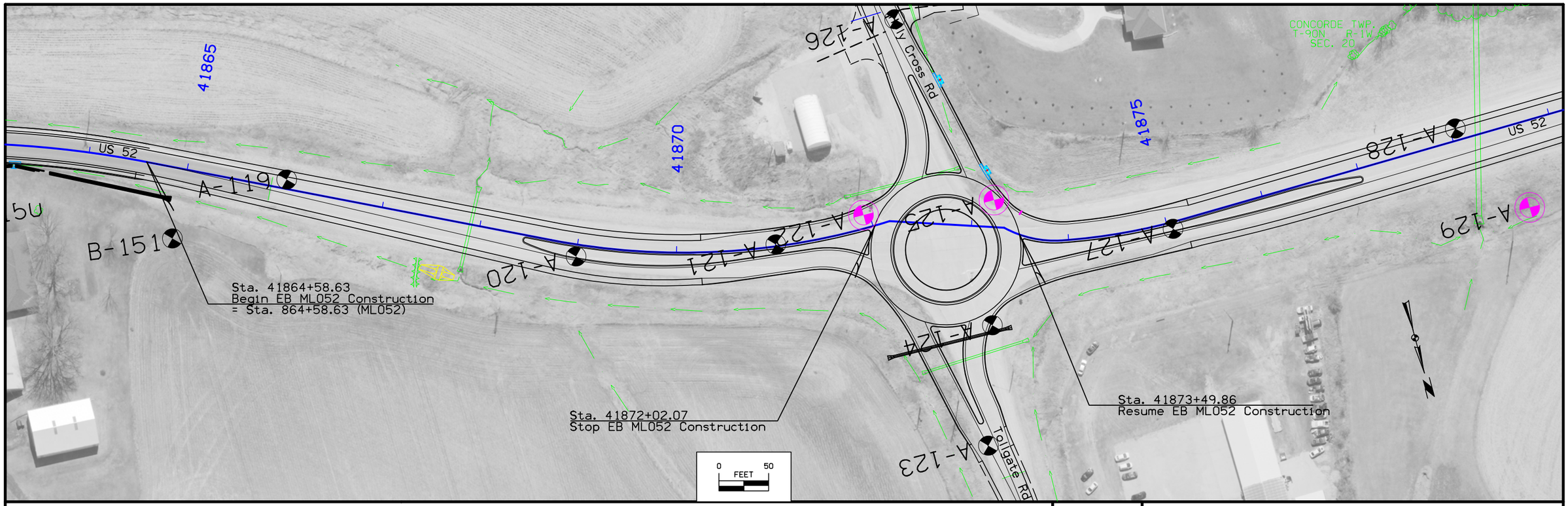
Roundabout Circulator

Subdrains shown for clarity on sheet Q.11.



SHELBY TUBE CORE DATA

CORE NO.	A-122-B
DEPTH IN FEET	4'-6'
CLASSIFICATION (AASHTO)	
COEFF.CONSOL. (SQ.FT /DAY)	
TRIAXIAL COMPRESSION	CU
COHESION - PSF	468
FRICTION COEFF.	0.28
MOISTURE CONTENT %	18.3
DRY DENSITY - PCF	112.5
CU-CONSOLIDATED UNDRAINED	
UU-UNCONSOLIDATED UNDRAINED	
UC-UNCONFINED COMPRESSION (c=1/2 Qu)	

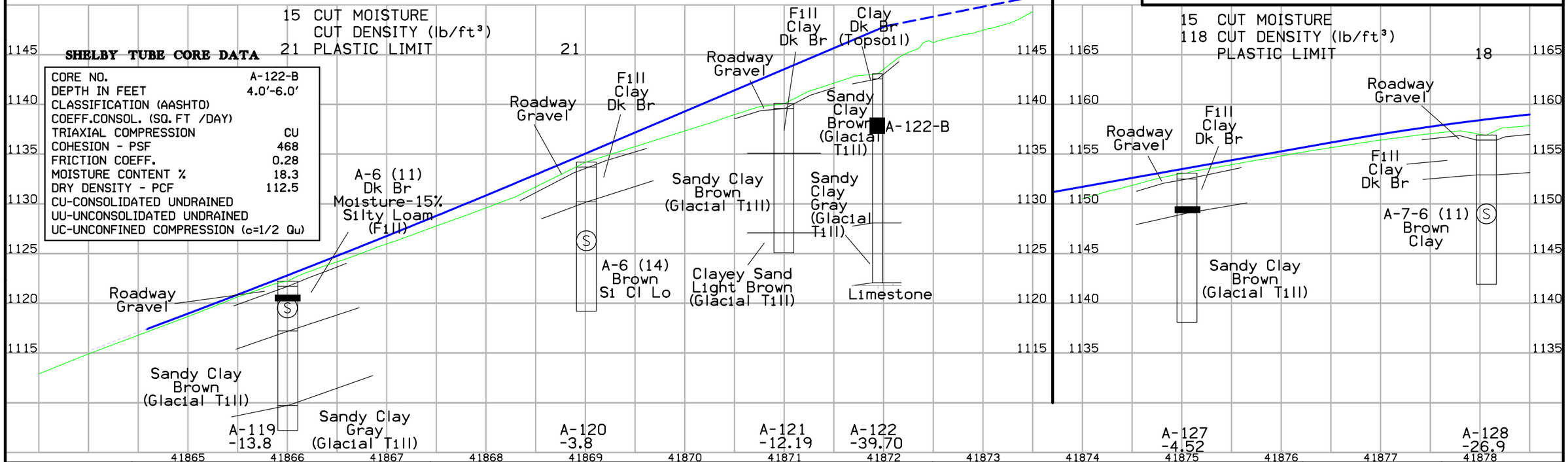


EB US 52 & Roundabout

SHELBY TUBE CORE DATA

CORE NO.	A-122-B
DEPTH IN FEET	4.0'-6.0'
CLASSIFICATION (AASHTO)	
COEFF.CONSOL. (SQ.FT /DAY)	
TRIAXIAL COMPRESSION	CU
COHESION - PSF	468
FRICTION COEFF.	0.28
MOISTURE CONTENT %	18.3
DRY DENSITY - PCF	112.5

CU-CONSOLIDATED UNDRAINED
UU-UNCONSOLIDATED UNDRAINED
UC-UNCONFINED COMPRESSION (c=1/2 Qu)



FILE NO.	ENGLISH	DESIGN TEAM	Megivern\Dell\Mueterthies	DUBUQUE COUNTY	PROJECT NUMBER	HSIPX-052-2(120)--3L-31	SHEET NUMBER Q.12

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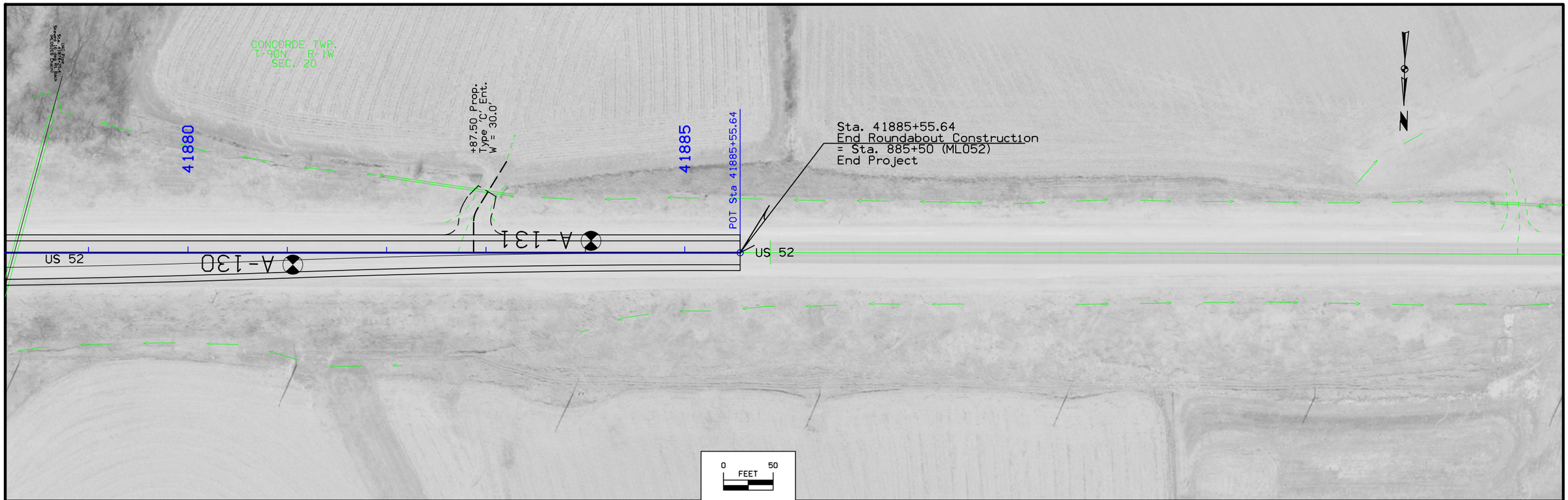

EB US 52 & Roundabout

FILE NO.	ENGLISH	DESIGN TEAM Megivern\Dell\Mueterthies	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER Q.13

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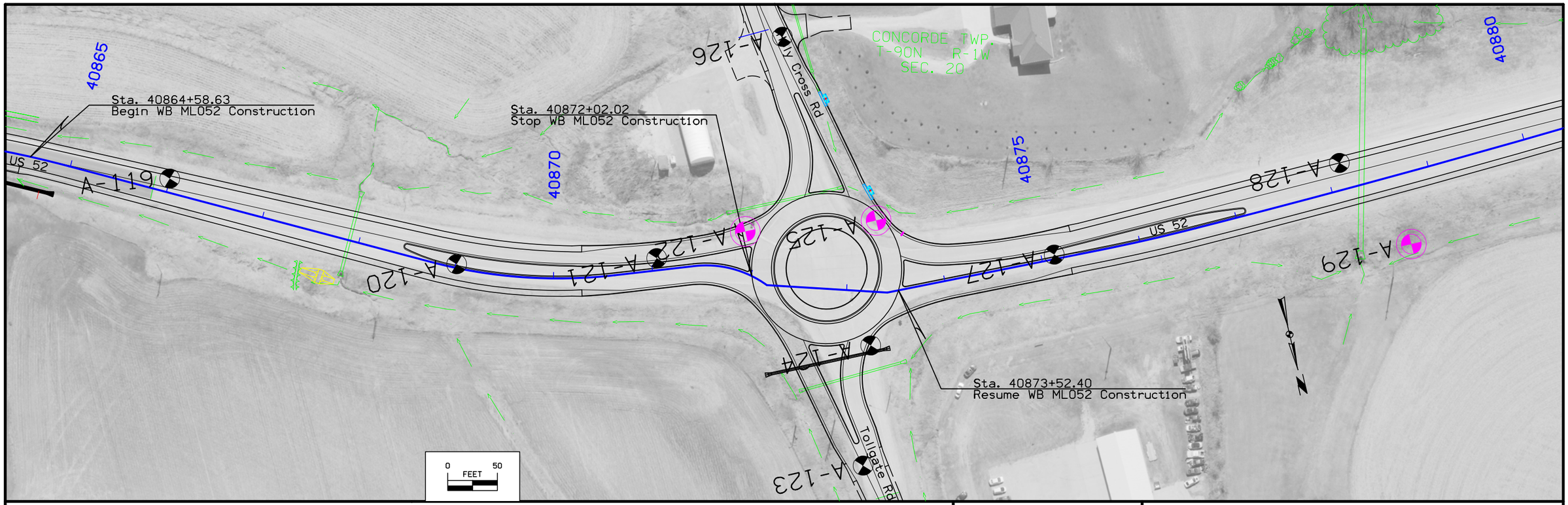
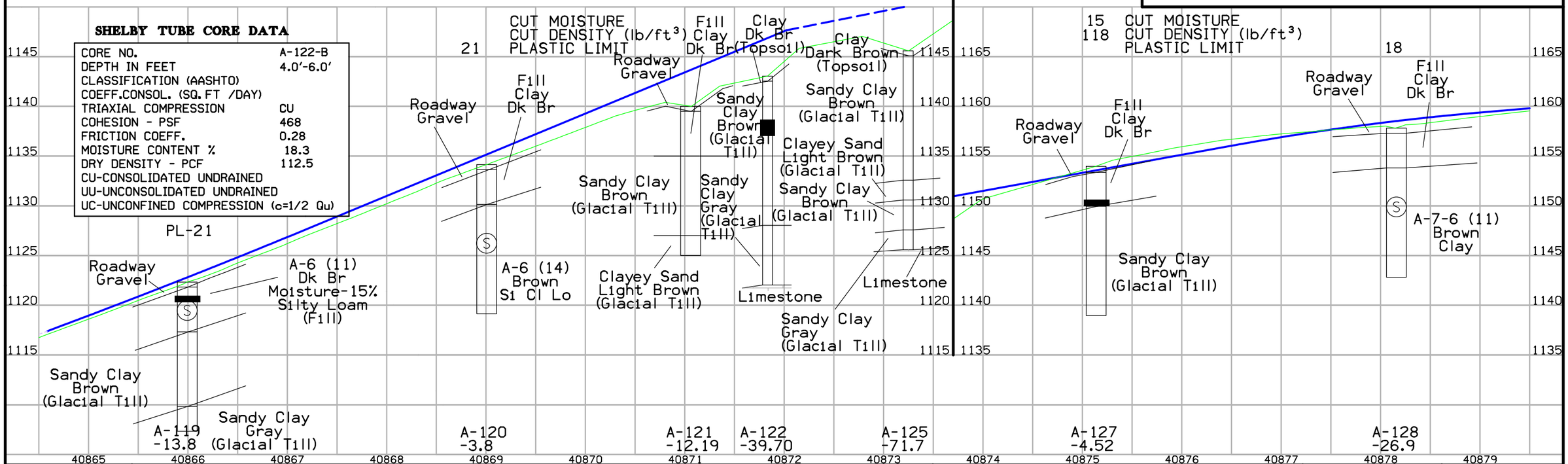


WB US 52 & Roundabout

SHELBY TUBE CORE DATA

CORE NO.	A-122-B
DEPTH IN FEET	4.0'-6.0'
CLASSIFICATION (AASHTO)	
COEFF.CONSOL. (SQ.FT /DAY)	
TRIAXIAL COMPRESSION	CU
COHESION - PSF	468
FRICTION COEFF.	0.28
MOISTURE CONTENT %	18.3
DRY DENSITY - PCF	112.5

CU-CONSOLIDATED UNDRAINED
UU-UNCONSOLIDATED UNDRAINED
UC-UNCONFINED COMPRESSION (c=1/2 Qu)



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CONCORDE TWP.
T-90N R-1W
SEC. 20

40880

40885

A-130

A-131

US 52

Sta. 40885+64.46
End WB ML052 Construction
= Sta. 885+50 (ML052)
End Project

0 FEET 50

WB US 52 & Roundabout

End Profile
Sta. 40885+64.46

CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

17

18

Roadway Gravel

A-7-6(26)
Brown
Silty Clay
Loam
(Fill)

Roadway Gravel

A-7-6 (13)
Dk Br
Moisture-15%
Gr Cl Lo
(Fill)

Highly Weathered
Limestone
Yellowish Brown
and Grayish White

Sandy Clay
Brown
(Glacial Till)

1175
1170
1165
1160
1155
1150
1145

A-130
4.6

A-131
-12.0

40880 40881 40882 40883 40884 40885

FILE NO.	ENGLISH	DESIGN TEAM Megivern\Dell\Mueterthies	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER Q.15

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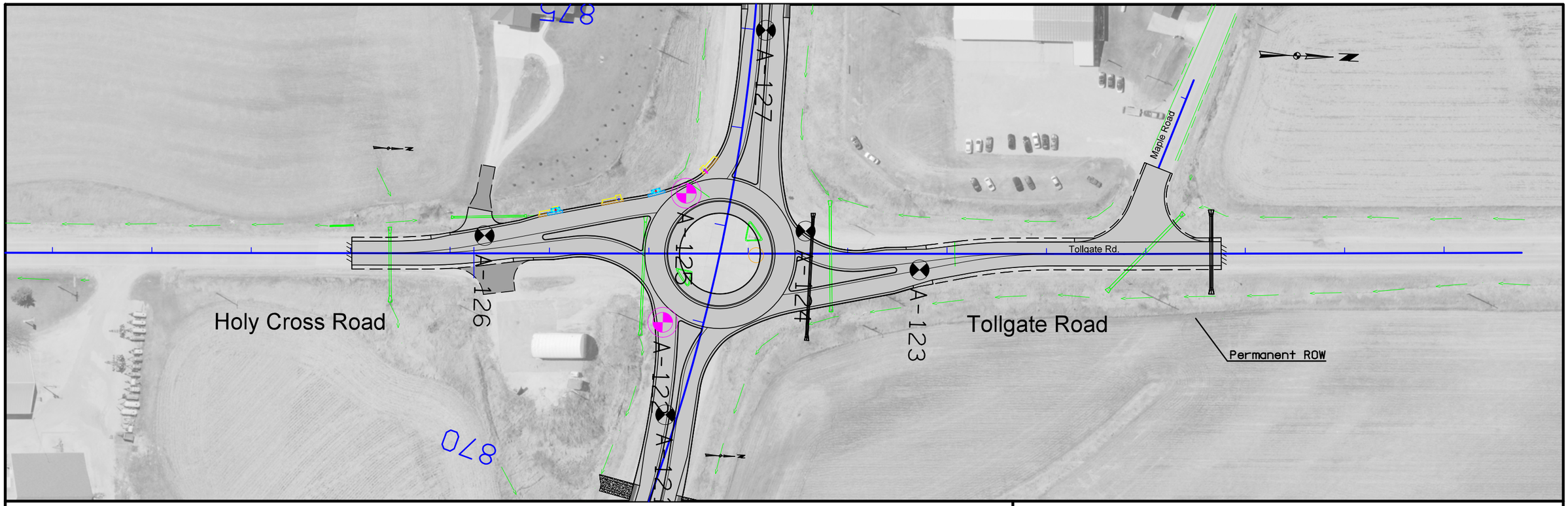

NB Holy Cross Rd & Roundabout

CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

14 15 18 112

1170 1165 1160 1155 1150 1145 1140

Roadway Gravel
Fill Clay Dk Br
A-7-6(19) Brown Moisture-14% Clay Loam
A-126 -13.77

Roadway Gravel
A-6 (9) Dk Br Moisture-13% Loam (Fill)
Sandy Clay Brown (Glacial Till)
A-124 -59.82

Roadway Gravel
Fill Clay Dk Br
Sandy Clay Brown (Glacial Till)
A-123 -0.41

426872 426873 426874 426875 426876 426877 426878 426879 426880 426881 426882 426883 426884 426885 426886

FILE NO.	ENGLISH	DESIGN TEAM Megivern\Dell\Mueterthies	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER Q.16

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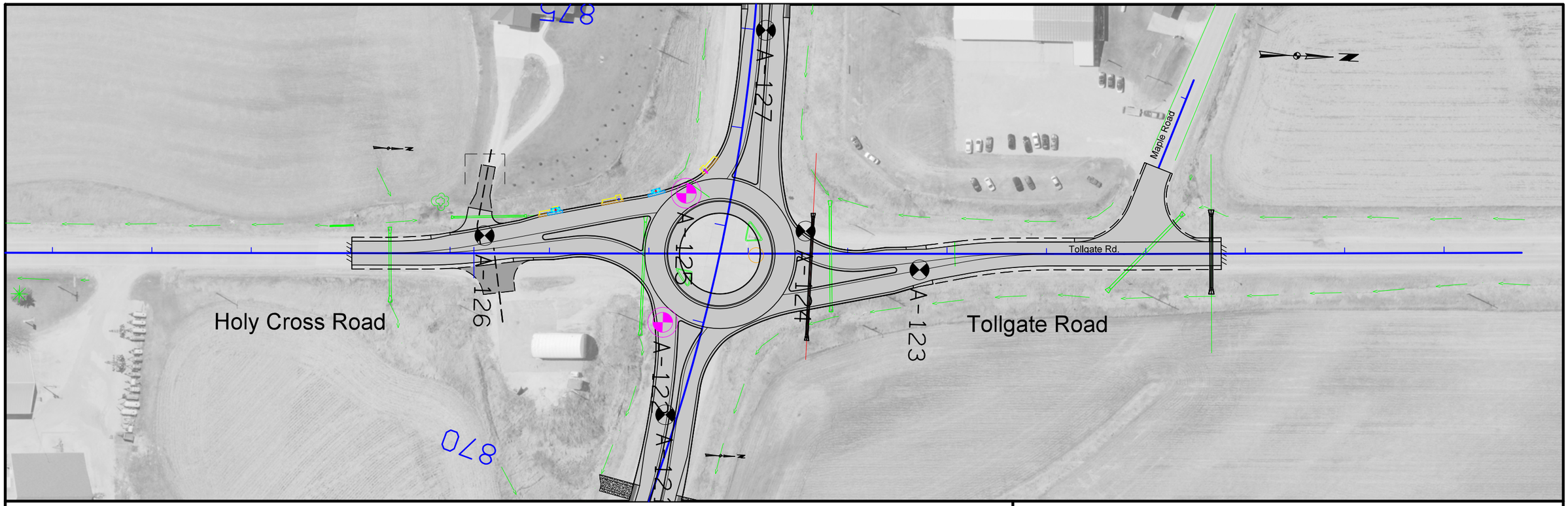
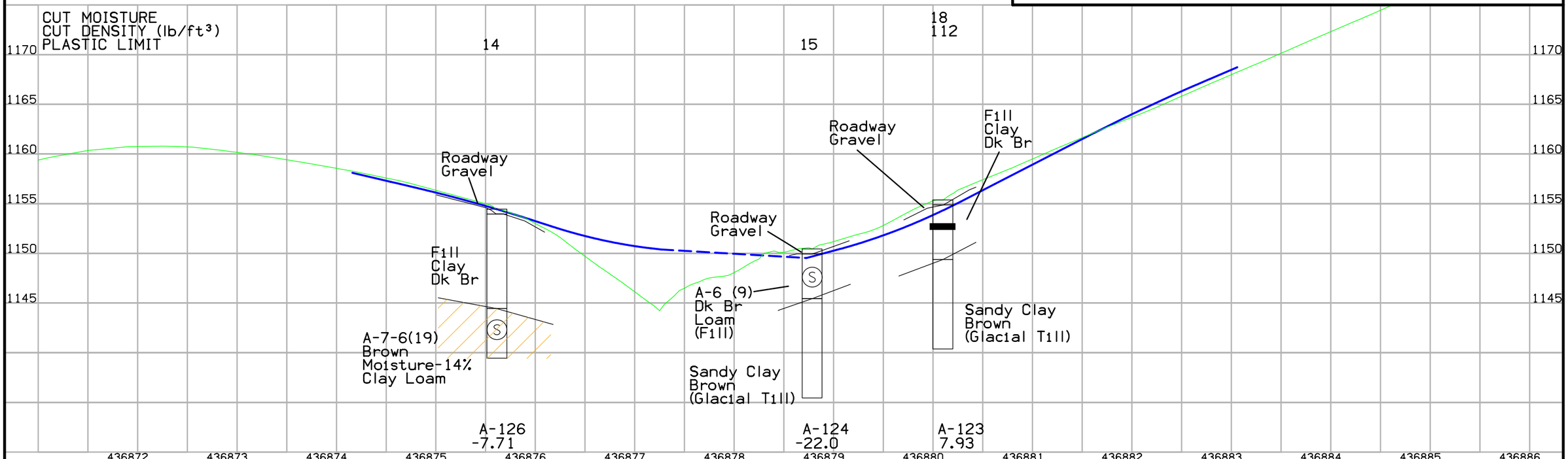
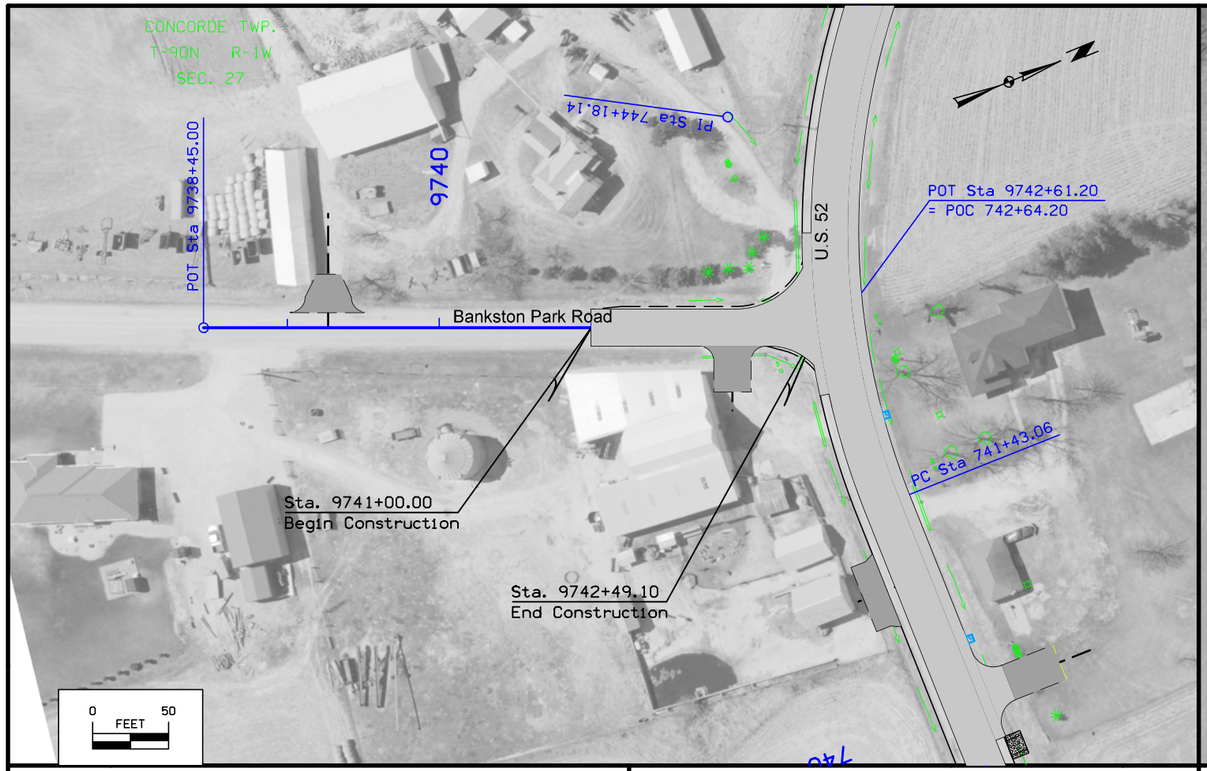
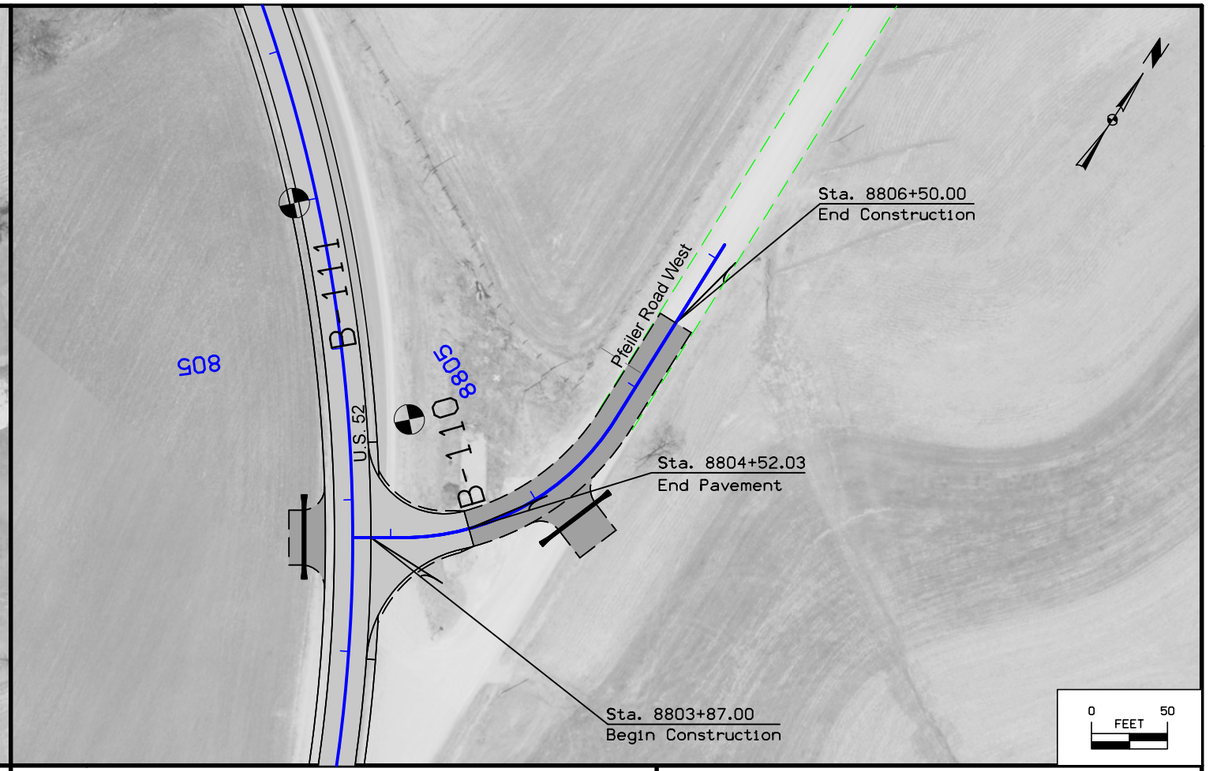


SB Holy Cross Rd & Roundabout



FILE NO.	ENGLISH	DESIGN TEAM Meg1vern\Dell\Mueterth1es	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER Q.17





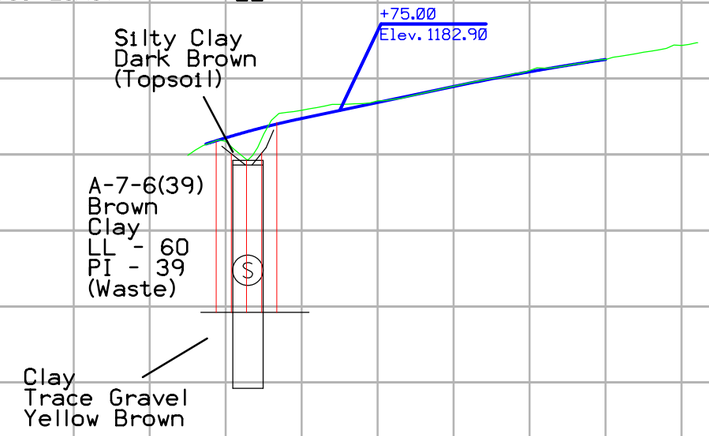
Bankston Park Road

No Boring Information On Bankston Road.

9740 9741 9742

Pfeiler Road West

CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT 22



B-110
Lt.77.6

8804 8805 8806

FILE NO.	ENGLISH	DESIGN TEAM Megivern\Dell\Mueterthies	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER Q.18

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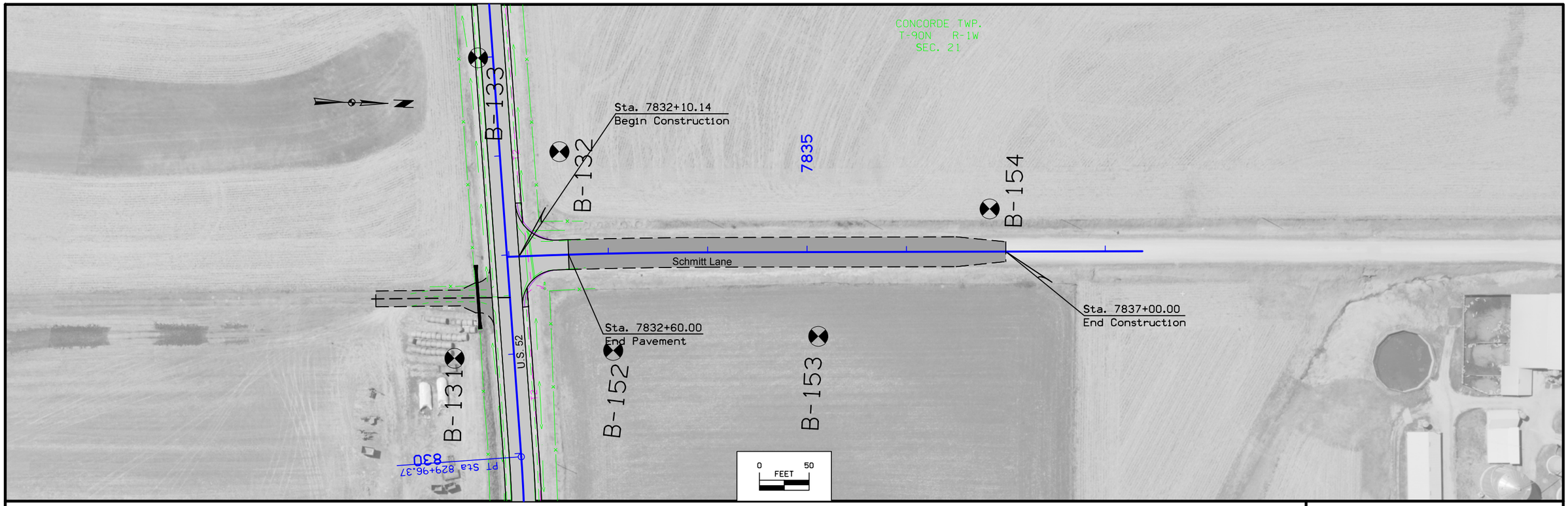
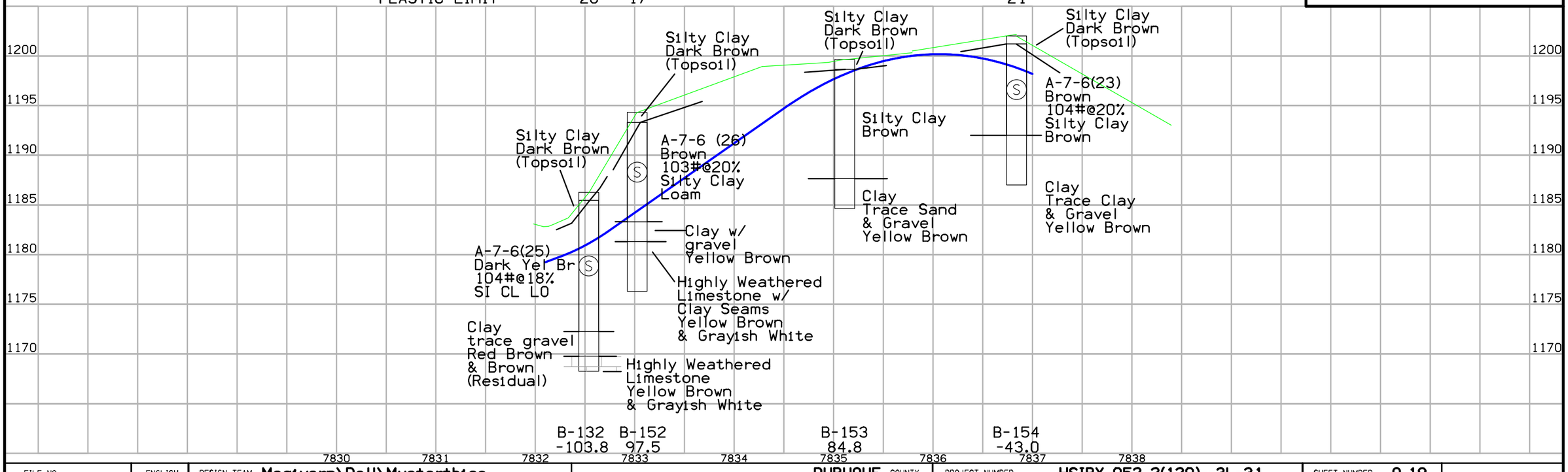


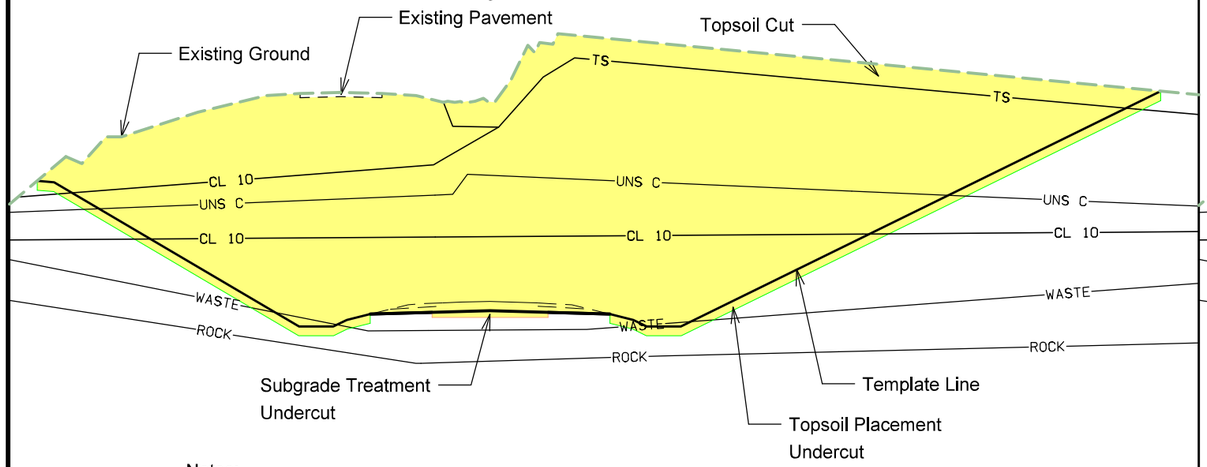
Schmitt Lane



FILE NO.	ENGLISH	DESIGN TEAM Megivern\Dell\Mueterthies	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER Q.19

11:29:20 AM 7/14/2017 amueter pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Soils\Q18.sht

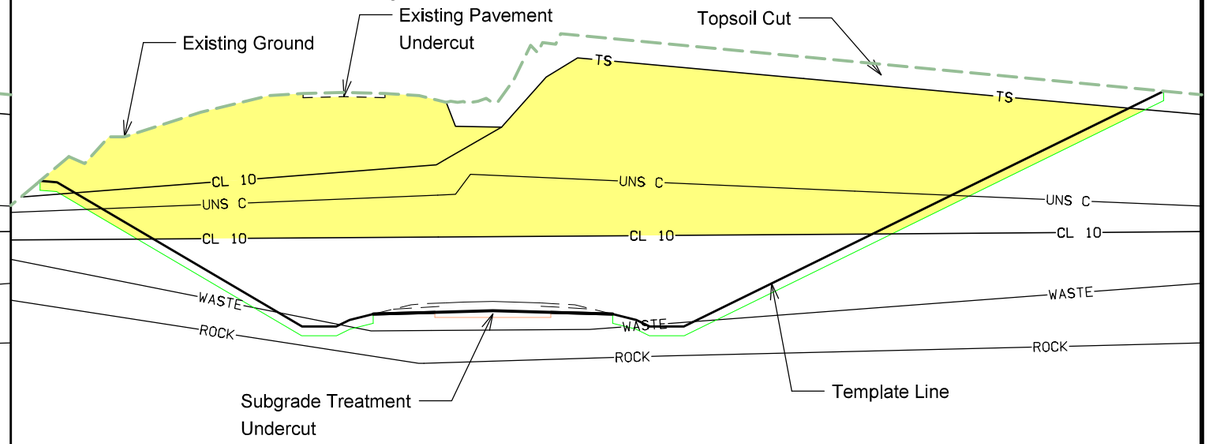
CUT SIDE Total Cut Unadjusted — RURAL



Notes:

1. "Total Cut Unadjusted" Column includes all cut values in the Station Range based on Typical, Topsoil and Subgrade Treatment needs.
2. "Total Cut Unadjusted" does not include and Existing Pavement values inside or outside the cut template as shown on cross sections.
3. Tabulated Plowing and Shaping operations are included in the "Total Cut Unadjusted" values.

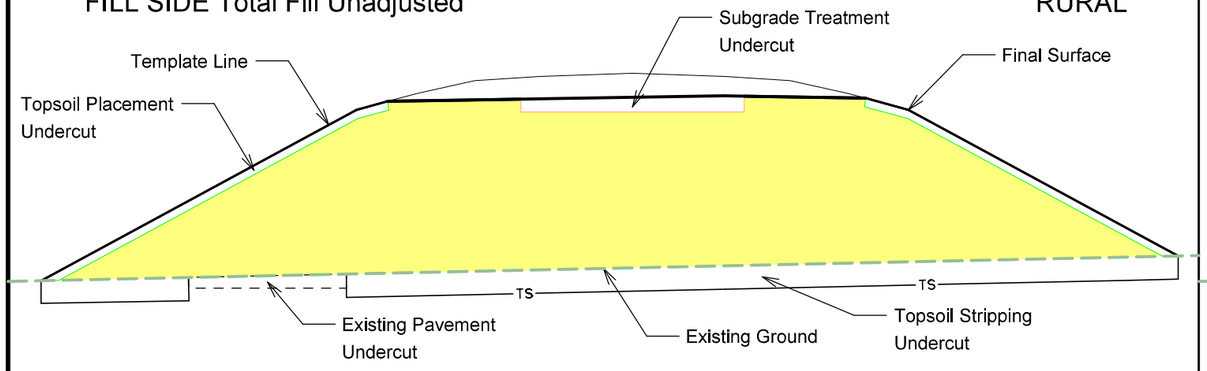
CUT SIDE Total Cut Adjusted



Notes:

1. "Total Cut Adjusted" Column includes all cut values usable as Class 10 material.
2. "Total Cut Adjusted" does not include and Existing Pavement , Existing Topsoil, or material to be wasted.

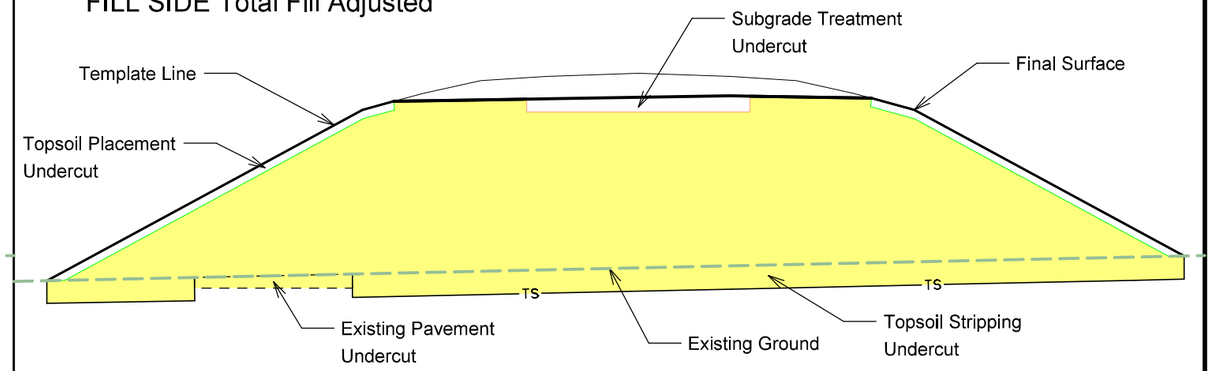
FILL SIDE Total Fill Unadjusted — RURAL



Notes:

1. "Total Fill Unadjusted" Column includes all Class 10, 12, and 13 fill. This excludes the topsoil, subgrade treatment, subbase, new pavement, and shoulder fill needs in that station range.
2. "Total Fill Unadjusted" Column does not include adjustments for additional fill from cuts such as existing pavement removed, plowing and shaping operations, entrances, dikes, or topsoil stripping.

FILL SIDE Total Fill Adjusted

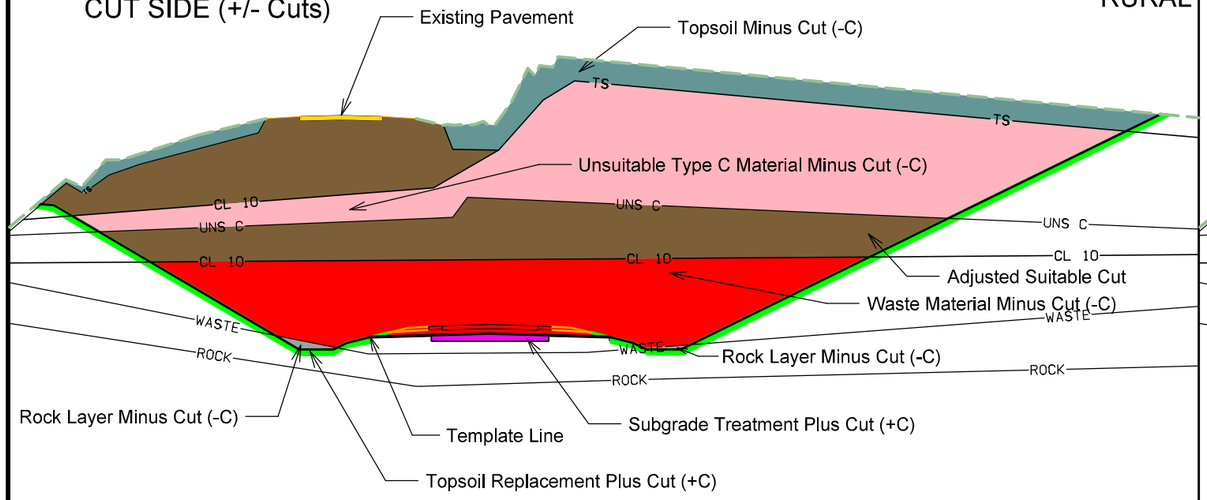


Notes:

1. "Total Fill Adjusted" Column includes all Class 10, 12, and 13 fill and adjustments for additional fill from cuts such as existing pavement, plowing and shaping operations, entrances, dikes, and topsoil stripping.
2. The available area to place unsuitable materials in the T Sheet tabulation does not include the undercut values from the topsoil stripping, existing pavement, or plowing and shaping

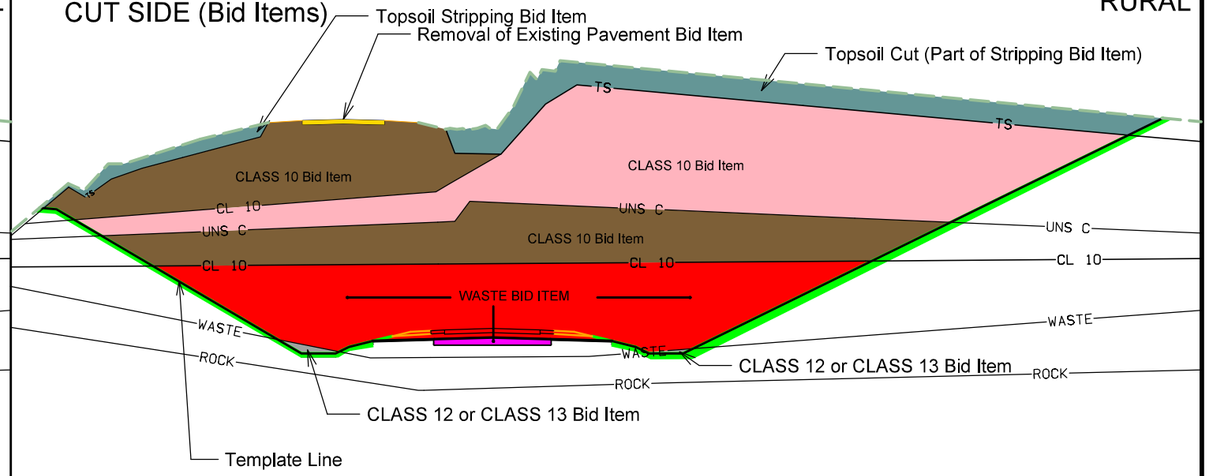
CUT SIDE (+/- Cuts)

RURAL



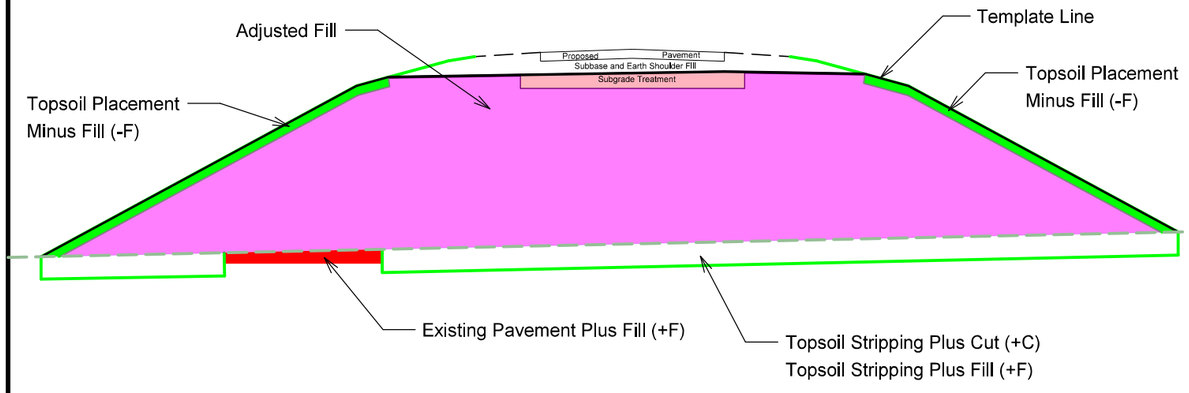
CUT SIDE (Bid Items)

RURAL



FILL SIDE (+/- Fills)

RURAL

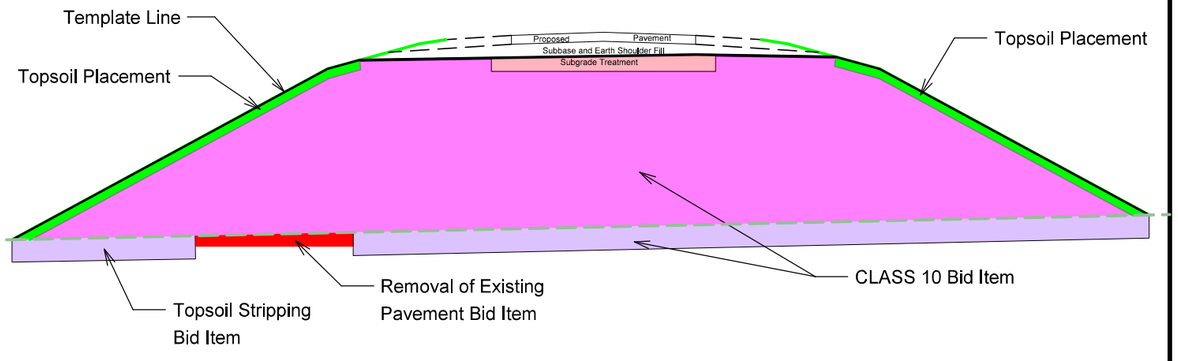


Notes:

1. "Add Quantity +C" columns are additional cut encountered that is not Typical, Topsoil, or Subgrade Treatment Based. (Entrance, Dike, Etc.)
2. "-C" columns are either soil types or Class 10, 12, or 13 designated material that is encountered in the cut station range that is paid for by other bid items.
3. The "(SoilType) Cut" columns are soil types encountered in the cut that are paid by either Class 10, 12 or 13.
4. The "Adjusted Clas (10,12 or 13)" columns are the sum of all various soil types encountered in that station range, that are paid by Class 10, 12, or 13 bid items.
5. Refer to Standard Road Plan EW-102 for placement of unsuitable soil types.

FILL SIDE (Bid Items)

RURAL



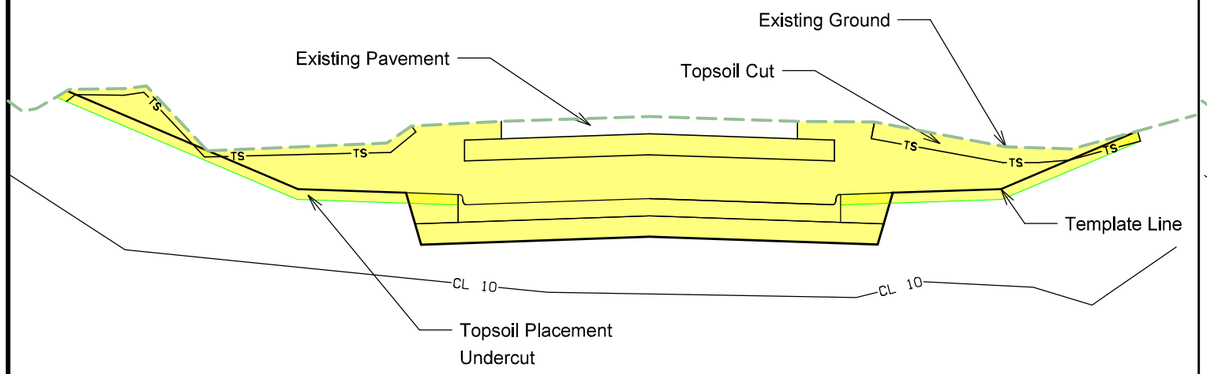
Notes:

1. Refer to Standard Road Plan EW-102 for placement of unsuitable soil types.

FILE NO.	ENGLISH	DESIGN TEAM	J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER	HSIPX-052-2(120)--3L-31	SHEET NUMBER	T.1B

3:55:43 PM 8/31/2017 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120T01.sht

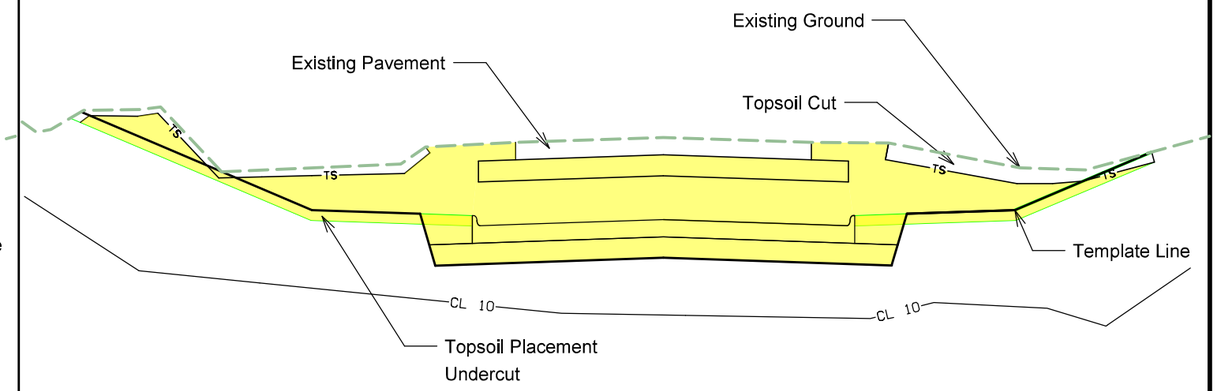
CUT SIDE Total Cut Unadjusted — URBAN



Notes:

1. "Total Cut Unadjusted" Column includes all cut values in the Station Range based on Typical, Topsoil and Subgrade Treatment needs.
2. "Total Cut Unadjusted" does not include and Existing Pavement values inside or outside the cut template as shown on cross sections.
3. Tabulated Plowing and Shaping operations are included in the "Total Cut Unadjusted" values.

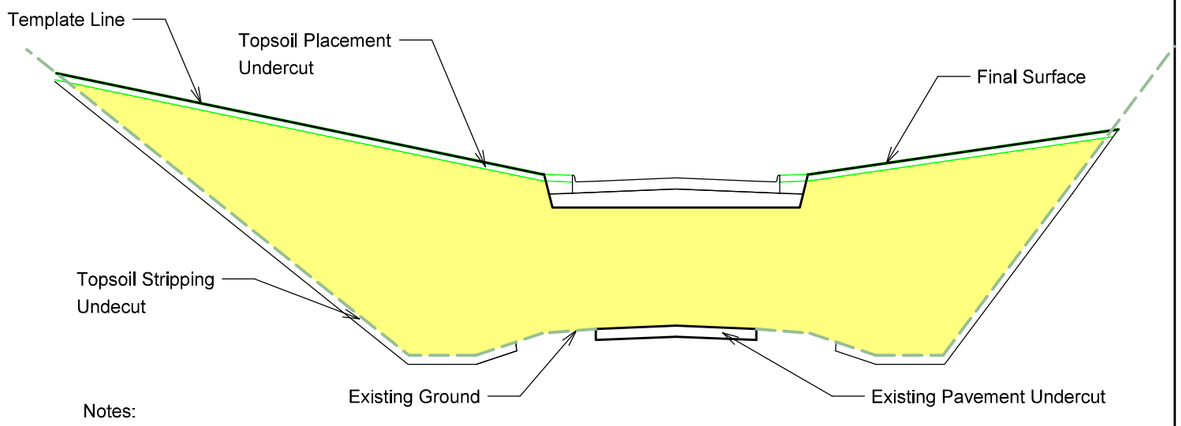
CUT SIDE Total Cut Adjusted — URBAN



Notes:

1. "Total Cut Adjusted" Column includes all cut values usable as Class 10 material.
2. "Total Cut Adjusted" does not include and Existing Pavement , Existing Topsoil, or material to be wasted.

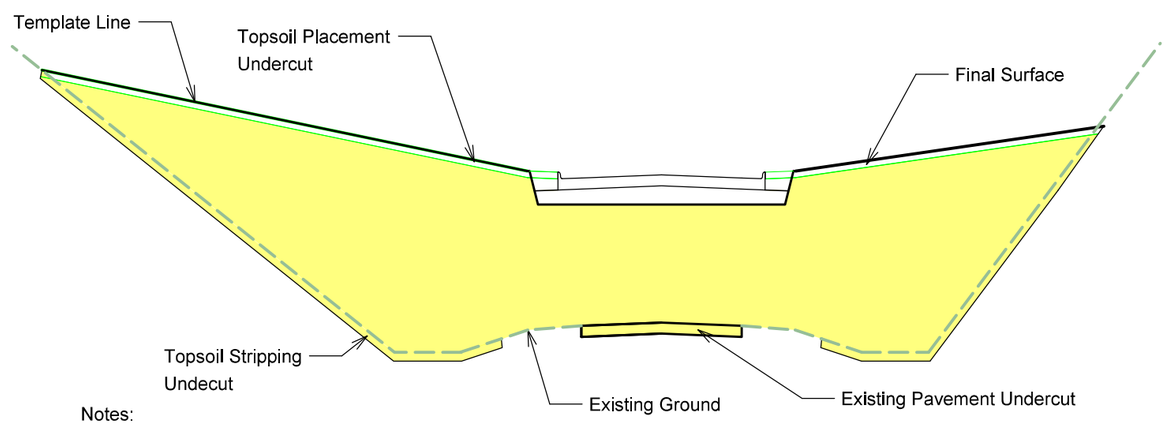
FILL SIDE Total Fill Unadjusted — URBAN



Notes:

1. "Total Fill Unadjusted" Column includes all Class 10, 12, and 13 fill. This excludes the topsoil, subgrade treatment, subbase, new pavement, and shoulder fill needs in that station range.
2. "Total Fill Unadjusted" Column does not include adjustments for additional fill from cuts such as existing pavement removed, plowing and shaping operations, entrances, dikes, or topsoil stripping.

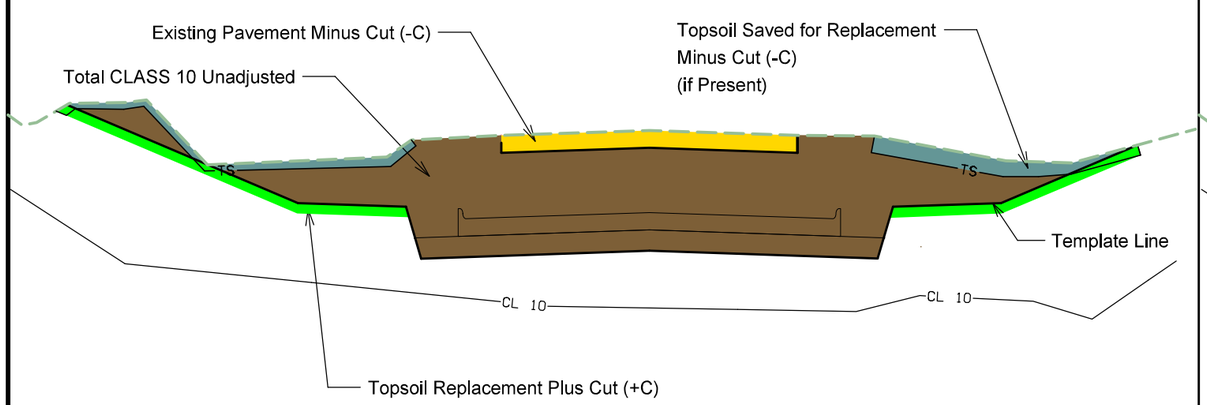
FILL SIDE Total Fill Adjusted — URBAN



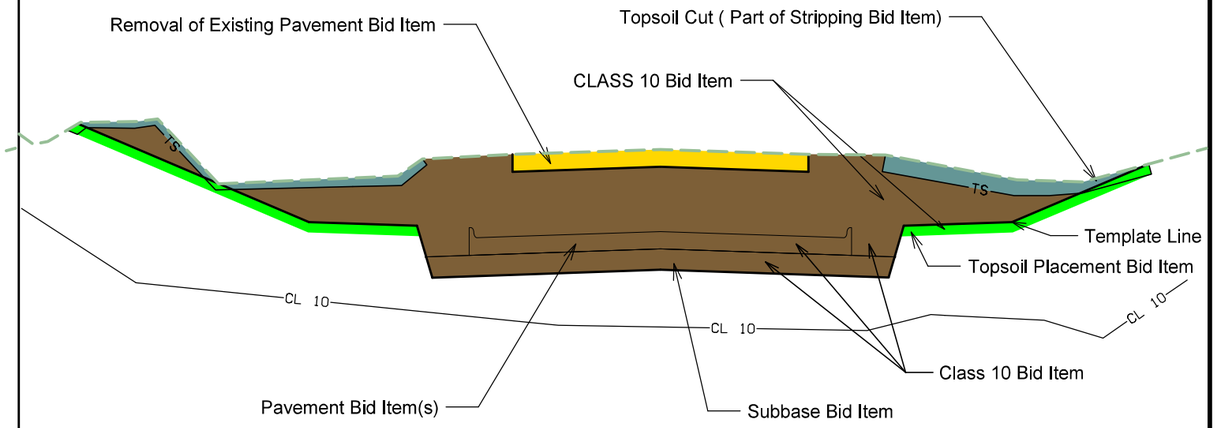
Notes:

1. "Total Fill Adjusted" Column includes all Class 10, 12, and 13 fill and adjustments for additional fill from cuts such as existing pavement, plowing and shaping operations, entrances, dikes, and topsoil stripping.
2. The available area to place unsuitable materials in the T Sheet tabulation does not include the undercut values from the topsoil stripping, existing pavement, or plowing and shaping

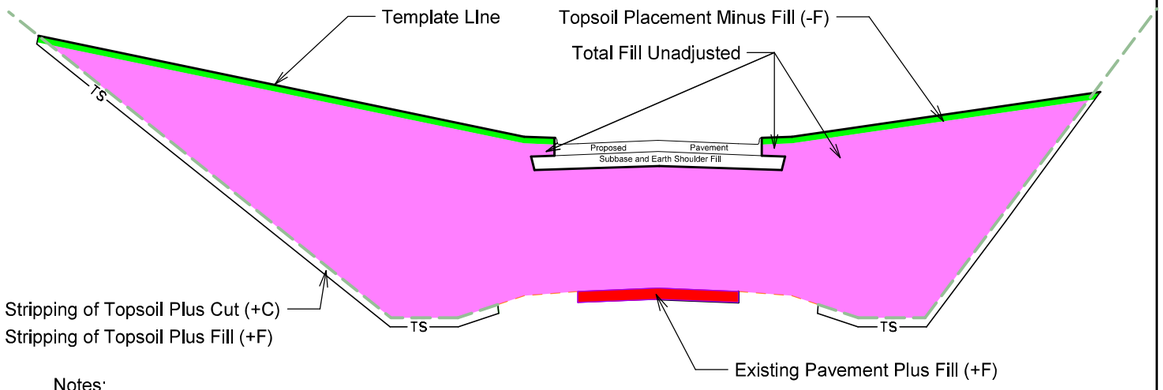
CUT SIDE (+/- Cuts) — URBAN



CUT SIDE (Bid Items) — URBAN



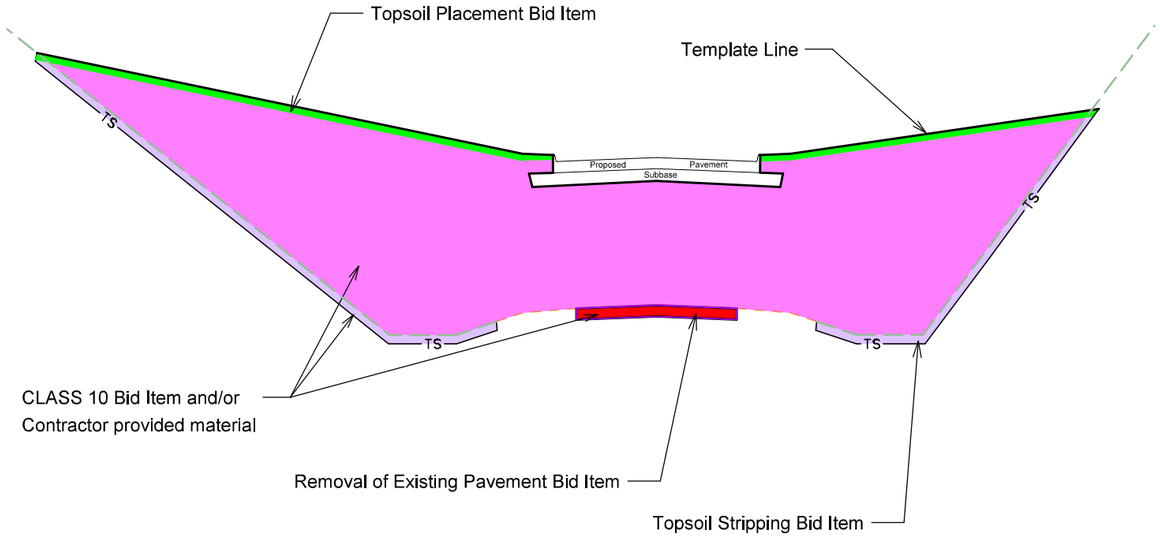
FILL SIDE (+/- Fills) — URBAN



Notes:

1. "Manually Calculated Cut Adjustments +C" columns are additional cut encountered that is not Typical, Topsoil, or Subgrade Treatment Based. (Entrance, Dike, Etc.)
2. "-C" columns are either soil types or Class 10, 12, or 13 designated material that is encountered in the cut station range that is paid for by other bid items.
3. The "(SoilType) Cut" columns are soil types encountered in the cut that are paid by either Class 10, 12 or 13.
4. The "Adjusted Clas (10,12 or 13)" columns are the sum of all various soil types encountered in that station range, that are paid by Class 10, 12, or 13 bid items.

FILL SIDE (Bid Items) — URBAN



FILE NO.	ENGLISH	DESIGN TEAM	J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER	HSIPX-052-2(120)--3L-31	SHEET NUMBER	T.1D

3:55:45 PM 8/31/2017 adewolf pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120T01.sht

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
ML052																						
601+50.00																						
601+75.00	103	47	52	0	26	4	2	51	0	0	9	1		10	13	38	0	0	52	16	22	30
602+00.00	86	26	38	0	27	11	10	37	0	0	11			11	14	23	0	0	38	0	0	38
602+25.00	99	24	45	0	28	13	17	37	1	0	24		54	79	103	-66	0	0	45	13	18	27
602+50.00	120	49	57	0	28	5	8	54	5	0	44			49	64	-10	0	0	57	38	53	4
602+75.00	180	90	90	0	28	0	0	90	14	0	61			75	98	-8	0	0	90	57	80	10
603+00.00	204	96	107	0	27	0	0	96	17	0	61			78	101	-6	0	0	107	61	85	22
603+25.00	173	80	93	0	27	0	0	80	12	0	51			63	82	-2	0	0	93	58	81	12
603+50.00	153	64	89	0	27	0	0	64	12	0	51			63	82	-18	0	0	89	55	77	12
603+75.00	137	52	85	0	27	0	0	52	14	0	52			66	86	-34	0	0	85	53	74	11
604+00.00	126	44	82	0	27	0	0	44	12	0	52			64	83	-39	0	0	82	51	71	11
604+25.00	116	38	78	0	27	0	0	38	9	0	49			58	75	-37	0	0	78	47	66	12
604+50.00	100	30	70	0	27	0	0	30	7	0	41			48	62	-32	0	0	70	41	57	13
604+75.00	82	22	59	0	27	0	0	22	6	0	33			39	51	-29	0	0	59	33	46	13
605+00.00	67	17	50	0	27	0	0	17	5	0	29			34	44	-27	0	0	50	25	35	15
605+25.00	54	13	41	0	27	0	0	13	5	0	28			33	43	-30	0	0	41	18	25	16
605+50.00	48	12	36	0	33	0	0	12	5	0	29			34	44	-32	0	0	36	13	18	18
605+75.00	58	15	42	0	37	0	0	15	5	0	28			33	43	-28	0	0	42	17	24	18
606+00.00	69	18	50	0	32	0	0	18	5	0	28			33	43	-25	0	0	50	24	34	16
606+25.00	74	21	53	0	27	0	0	21	5	0	27			32	42	-21	0	0	53	26	36	17
606+50.00	87	28	58	0	31	0	0	28	6	0	28			34	44	-16	0	0	58	30	42	16
606+75.00	99	36	63	0	36	0	0	36	9	0	29			38	49	-13	0	0	63	34	48	15
607+00.00	106	39	67	0	36	0	0	39	15	0	32			47	61	-22	0	0	67	36	50	17
607+25.00	107	37	69	0	36	0	0	37	17	0	33			50	65	-28	0	0	69	36	50	19
607+50.00	115	55	60	0	37	0	0	55	11	0	24			35	46	10	0	0	60	41	57	3
607+75.00	121	61	60	0	32	0	0	61	9	0	23		34	66	86	-25	0	0	60	41	57	3
608+00.00	119	47	72	0	27	0	0	47	14	0	32			46	60	-13	0	0	72	40	56	16
608+25.00	110	65	45	0	33	0	0	65	14	0	19			33	43	22	0	0	45	42	59	-14
608+50.00	104	86	17	0	32	0	0	86	12	0	6			18	23	63	0	0	17	44	62	-45
608+75.00	108	91	17	0	24	0	0	91	10	0	5	3		18	23	68	0	0	17	45	63	-46
609+00.00	110	94	16	0	32	0	0	94	8	0	4			12	16	78	0	0	16	44	62	-46
609+25.00	109	93	16	0	31	0	0	93	7	0	4			11	14	79	0	0	16	42	59	-43
609+50.00	93	76	15	0	21	2	0	78	3	0	3	6		12	16	62	0	0	15	25	35	-20
609+75.00	80	53	15	0	31	11	0	64	1	0	3			4	5	59	0	0	15	8	11	4
610+00.00	71	41	13	0	33	18	0	59	0	0				0	0	59	0	0	13	5	7	6
610+25.00	81	43	12	0	17	26	0	69	0	0		10		10	13	56	0	0	12	4	6	6
610+50.00	98	48	13	0	17	37	0	85	0	0		10		10	13	72	0	0	13	5	7	6
610+75.00	120	90	10	0	27	19	0	109	0	0				0	0	109	0	0	10	13	18	-8
611+00.00	145	139	6	0	27	0	0	139	0	0			50	50	65	75	0	0	6	19	27	-21
611+25.00	146	135	10	0	27	1	0	136	0	0				0	0	136	0	0	10	18	25	-15
611+50.00	139	122	14	0	27	3	0	125	0	0	1		63	64	83	42	0	0	14	17	24	-10
611+75.00	124	101	13	0	27	10	0	111	0	0				0	0	111	0	0	13	11	15	-2
612+00.00	118	89	13	3	27	12	0	104	0	0				0	0	104	0	0	13	6	8	5
612+25.00	138	103	15	3	27	17	0	123	0	0	1			1	1	122	0	0	15	6	8	7
612+50.00	159	127	16	0	27	16	0	143	0	0				0	0	143	0	0	16	11	15	1
612+75.00	156	124	16	0	27	16	0	140	0	0				0	0	140	0	0	16	12	17	-1
613+00.00	140	101	16	0	28	22	0	123	0	0				0	0	123	0	0	16	8	11	5
613+25.00	122	88	16	0	28	19	0	107	0	0	1			1	1	106	0	0	16	8	11	5
613+50.00	115	88	15	0	31	12	0	100	1	0	2			3	4	96	0	0	15	12	17	-2
613+75.00	122	94	17	0	35	12	0	106	2	0	3			5	7	100	0	0	17	19	27	-10
614+00.00	128	90	18	5	35	15	0	110	3	0	3			6	8	102	0	0	18	22	31	-13
614+25.00	128	89	18	5	31	15	0	109	4	0	3			7	9	100	0	0	18	22	31	-13
614+50.00	128	96	19	0	29	14	0	110	4	0	3			7	9	101	0	0	19	24	34	-15
614+75.00	134	106	19	0	31	8	0	114	5	0	4			9	12	102	0	0	19	30	42	-23
615+00.00	140	117	19	0	29	3	0	120	5	0	5			10	13	107	0	0	19	35	49	-30
615+25.00	140	120	18	0	28	2	0	122	4	0	3			7	9	113	0	0	18	34	48	-30
615+50.00	137	114	18	0	28	5	0	119	4	0	3			7	9	110	0	0	18	30	42	-24
615+75.00	137	113	18	0	27	7	0	120	4	0	3			7	9	111	0	0	18	28	39	-21
616+00.00	140	116	18	0	27	7	0	123	3	0	3			6	8	115	0	0	18	26	36	-18
616+25.00	145	125	17	0	27	3	0	128	2	0	3			5	7	122	0	0	17	30	42	-25
616+50.00	153	137	16	0	27	0	0	137	1	0	2			3	4	133	0	0	16	37	52	-36
616+75.00	161	145	16	0	27	0	0	145	1	0	2			3	4	141	0	0	16	38	53	-37
617+00.00	166	151	15	0	27	0	0	151	0	0	2			2	3	148	0	0	15	35	49	-34
617+25.00	168	154	14	0	27	0	0	154	0	0	1			1	1	153	0	0	14	33	46	-32
617+50.00	180	172	9	0	27	0	0	172	0	0				0	0	172	0	0	9	32	45	-36
617+75.00	201	188	10	0	27	2	0	190	0	0	1		111	112	145	45	0	0	10	26	36	-26
618+00.00	216	189	14	0	27	14	0	203	0	0				0	0	203	0	0	14	14	20	-6
618+25.00	241	218	12	0	27	11	0	229	0	0			221	221	287	-58	0	0	12	23	32	-20
Subtotals:	8,354	5,592	2,310	16	1,915	392	37	6,000	318	0	1,002	30	533	1,883	2,448	3,552	0	0	2,310	1,847	2,586	-276

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
618+25.00	251	237	14	0	27	0	0	237	0	0				0	0	237	0	0	14	36	50	-36
618+50.00	254	237	16	0	27	0	0	237	0	0				0	0	237	0	0	16	36	50	-34
618+75.00	264	248	16	0	27	0	0	248	0	0				0	0	248	0	0	16	36	50	-34
619+00.00	271	255	16	0	27	0	0	255	0	0	1			1	1	254	0	0	16	36	50	-34
619+25.00	279	263	16	0	27	0	0	263	0	0				0	0	263	0	0	16	36	50	-34
619+50.00	282	266	16	0	27	0	0	266	0	0				0	0	266	0	0	16	35	49	-33
619+75.00	276	255	16	0	27	6	0	261	0	0				0	0	261	0	0	16	26	36	-20
620+00.00	277	256	15	0	27	6	0	262	0	0				0	0	262	0	0	15	25	35	-20
620+25.00	279	265	15	0	27	0	0	265	0	0				0	0	265	0	0	15	32	45	-30
620+50.00	270	255	14	0	27	0	0	255	0	0				0	0	255	0	0	14	30	42	-28
620+75.00	251	238	14	0	27	0	0	238	0	0				0	0	238	0	0	14	28	39	-25
621+00.00	232	219	13	0	27	0	0	219	0	0				0	0	219	0	0	13	25	35	-22
621+25.00	229	217	12	0	27	0	0	217	0	0				0	0	217	0	0	12	29	41	-29
621+50.00	241	232	9	0	27	0	0	232	0	0				0	0	232	0	0	9	32	45	-36
621+75.00	202	195	6	0	27	0	0	195	0	0				0	0	195	0	0	6	23	32	-26
622+00.00	159	152	6	0	27	0	0	152	0	0				0	0	152	0	0	6	17	24	-18
622+25.00	187	170	8	9	27	0	0	179	0	0				0	0	179	0	0	8	20	28	-20
622+50.00	212	145	10	57	27	0	0	202	0	0				0	0	202	0	0	10	24	34	-24
622+75.00	209	52	10	146	27	0	0	198	0	0				0	0	198	0	0	10	20	28	-18
623+00.00	226	39	11	175	15	0	0	214	0	0		12		12	16	198	0	0	11	19	27	-16
623+25.00	225	129	12	83	15	0	0	212	0	0		12		12	16	196	0	0	12	22	31	-19
623+50.00	200	168	13	6	27	13	0	187	0	0				0	0	187	0	0	13	16	22	-9
623+75.00	185	144	13	0	26	28	0	172	0	0		1		1	1	171	0	0	13	12	17	-4
624+00.00	174	125	14	0	27	35	0	160	0	0				0	0	160	0	0	14	11	15	-1
624+25.00	179	126	16	0	27	37	0	163	0	0	1			1	1	162	0	0	16	12	17	-1
624+50.00	184	133	18	0	27	33	0	166	0	0	2			2	3	163	0	0	18	12	17	1
624+75.00	190	138	19	0	27	33	0	171	1	0	3			4	5	166	0	0	19	11	15	4
625+00.00	199	128	20	0	27	51	0	179	1	0	3			4	5	174	0	0	20	10	14	6
625+25.00	211	129	20	0	27	62	0	191	0	0	1			1	1	190	0	0	20	11	15	5
625+50.00	233	155	20	0	28	58	0	213	0	0	1			1	1	212	0	0	20	14	20	0
625+75.00	251	163	20	0	28	68	0	231	0	0				0	0	231	0	0	20	13	18	2
626+00.00	274	160	21	0	27	92	0	252	0	0				0	0	252	0	0	21	11	15	6
626+25.00	301	154	20	22	28	105	0	281	0	0				0	0	281	0	0	20	15	21	-1
626+50.00	316	166	19	50	28	82	0	298	0	0				0	0	298	0	0	19	22	31	-12
626+75.00	319	167	19	72	28	61	0	300	0	0				0	0	300	0	0	19	24	34	-15
627+00.00	320	181	19	61	28	59	0	301	0	0	1			1	1	300	0	0	19	24	34	-15
627+25.00	314	239	18	23	27	35	0	297	0	0				0	0	297	0	0	18	31	43	-25
627+50.00	301	271	17	7	27	6	0	284	0	0				0	0	284	0	0	17	41	57	-40
627+75.00	278	261	17	0	27	1	0	262	0	0			11	11	14	248	0	0	17	47	66	-49
628+00.00	254	209	45	0	27	0	0	209	0	0	1			1	1	208	0	0	45	46	64	-19
628+25.00	241	170	71	0	27	0	0	170	0	0	2			2	3	167	0	0	71	44	62	9
628+50.00	230	157	73	0	27	0	0	157	0	0	5			5	7	151	0	0	73	43	60	13
628+75.00	208	136	72	0	27	0	0	136	1	0	9			10	13	123	0	0	72	40	56	16
629+00.00	179	113	66	0	27	0	0	113	1	0	10			11	14	99	0	0	66	35	49	17
629+25.00	160	94	66	0	26	0	0	94	2	0	13	1		16	21	73	0	0	66	35	49	17
629+50.00	147	79	67	0	27	0	0	79	2	0	18			20	26	53	0	0	67	36	50	17
629+75.00	131	67	63	0	27	0	0	67	2	0	19			21	27	40	0	0	63	33	46	17
630+00.00	114	59	55	0	27	0	0	59	1	0	17			18	23	36	0	0	55	27	38	17
630+25.00	107	59	47	0	27	0	0	59	1	0	23			24	31	28	0	0	47	29	41	6
630+50.00	96	54	42	0	26	0	0	54	1	0	20	1		22	29	25	0	0	42	26	36	6
630+75.00	66	41	25	0	26	0	0	41	0	0	7	1		8	10	31	0	0	25	8	11	14
631+00.00	50	40	10	0	27	0	0	40	0	0	3			3	4	36	0	0	10	0	0	10
631+25.00	64	45	19	0	27	0	0	45	0	0	3			3	4	41	0	0	19	6	8	11
631+50.00	83	53	30	0	28	0	0	53	0	0	5			5	7	47	0	0	30	12	17	13
631+75.00	97	65	32	0	27	0	0	65	0	0	3			3	4	61	0	0	32	14	20	12
632+00.00	115	79	36	0	27	0	0	79	0	0	2			2	3	76	0	0	36	17	24	12
632+25.00	135	94	41	0	27	0	0	94	0	0	2			2	3	91	0	0	41	21	29	12
632+50.00	163	80	47	36	27	0	0	116	0	0	2			2	3	113	0	0	47	26	36	11
632+75.00	196	55	53	87	27	0	0	142	0	0	2			2	3	139	0	0	53	31	43	10
633+00.00	219	52	59	98	27	10	0	160	0	0	2			2	3	157	0	0	59	26	36	23
633+25.00	236	49	65	91	28	32	0	172	0	0	2			2	3	169	0	0	65	18	25	40
633+50.00	267	126	71	44	28	26	0	196	0	0	2			2	3	193	0	0	71	24	34	37
633+75.00	294	208	76	0	27	10	0	218	0	0	2			2	3	215	0	0	76	31	43	33
634+00.00	313	226	80	0	27	7	0	233	0	0	2			2	3	230	0	0	80	36	50	30
634+25.00	322	234	82	0	26	6	0	240	0	0	2	1		3	4	236	0	0	82	35	49	33
634+50.00	311	213	82	0	26	17	0	230	0	0	2	1		3	4	226	0	0	82	30	42	40
634+75.00	293	190	81	0	27	22	0	212	0	0	3			3	4	208	0	0	81	26	36	45
635+00.00	267	158	78	0	27	31	0	189	0	0	3			3	4	185	0	0	78	22	31	47
635+25.00																						
Subtotals:	14,863	10,538	2,222	1,067	1,815	1,032	0	12,637	13	0	199	30	11	253	329	12,308	0	0	2,222	1,701	2,381	-160

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.3

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Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
635+25.00	239	132	75	0	27	31	0	163	0	0	4			4	5	158	0	0	75	20	28	47
635+50.00	217	130	70	0	27	17	0	147	0	0	3			3	4	143	0	0	70	21	29	41
635+75.00	214	128	76	0	27	9	0	137	1	0	9			10	13	124	0	0	76	26	36	40
636+00.00	214	122	85	0	27	8	0	130	2	0	16			18	23	107	0	0	85	32	45	40
636+25.00	210	118	86	0	27	5	0	123	2	0	20			22	29	94	0	0	86	35	49	37
636+50.00	205	115	89	0	28	2	0	117	5	0	28			33	43	74	0	0	89	42	59	30
636+75.00	204	113	91	0	27	0	0	113	8	0	35			43	56	57	0	0	91	49	69	22
637+00.00	200	113	87	0	27	0	0	113	12	0	35			47	61	52	0	0	87	52	73	14
637+25.00	202	117	85	0	26	0	0	117	16	0	36	1		53	69	48	0	0	85	52	73	12
637+50.00	197	112	85	0	26	0	0	112	13	0	38	1	66	118	154	-42	0	0	85	52	73	12
637+75.00	186	103	84	0	27	0	0	103	8	0	36			44	57	46	0	0	84	53	74	10
638+00.00	191	105	86	0	28	0	0	105	3	0	33			36	47	58	0	0	86	53	74	12
638+25.00	197	104	93	0	27	0	0	104	3	0	38			41	53	51	0	0	93	54	76	17
638+50.00	39	19	20	0	6	0	0	19	2	0	10			12	16	3	0	0	20	10	14	6
638+55.00	147	73	73	0	23	0	0	73	6	0	30			36	47	26	0	0	73	39	55	18
638+75.00	169	92	77	0	27	0	0	92	4	0	23			27	35	57	0	0	77	45	63	14
639+00.00	156	87	69	0	27	0	0	87	2	0	17			19	25	62	0	0	69	39	55	14
639+25.00	148	82	66	0	27	0	0	82	2	0	15			17	22	60	0	0	66	37	52	14
639+50.00	139	75	64	0	27	0	0	75	3	0	15			18	23	52	0	0	64	35	49	15
639+75.00	150	81	69	0	27	0	0	81	4	0	17			21	27	54	0	0	69	39	55	14
640+00.00	157	82	74	0	27	0	0	82	4	0	20			24	31	51	0	0	74	42	59	15
640+25.00	113	49	64	0	27	0	0	49	5	0	26		110	141	184	-135	0	0	64	34	48	16
640+50.00	71	22	49	0	27	0	0	22	7	0	30			37	48	-26	0	0	49	22	31	18
640+75.00	67	19	48	0	34	0	0	19	9	0	38			47	61	-42	0	0	48	16	22	26
641+00.00	74	16	58	0	43	0	0	16	23	0	50		16	89	115	-99	0	0	58	27	38	20
641+25.00	74	14	59	0	36	0	0	14	32	0	51			83	108	-94	0	0	59	35	49	10
641+50.00	67	14	53	0	36	0	0	14	23	0	45			68	88	-74	0	0	53	30	42	11
641+75.00	62	15	47	0	36	0	0	15	17	0	38			55	72	-57	0	0	47	26	36	11
642+00.00	62	18	44	0	34	0	0	18	14	0	34			48	62	-44	0	0	44	24	34	10
642+25.00	55	26	29	0	34	0	0	26	10	0	21			31	40	-14	0	0	29	16	22	7
642+50.00	51	29	23	0	27	0	0	29	9	0	12			21	27	2	0	0	23	11	15	8
642+75.00	56	27	29	0	29	0	0	27	8	0	12			20	26	1	0	0	29	11	15	14
643+00.00	58	30	28	0	30	0	0	30	8	0	9			17	22	8	0	0	28	9	13	15
643+25.00	70	37	32	0	28	0	0	37	7	0	5			12	16	21	0	0	32	14	20	12
643+50.00	88	64	24	0	27	0	0	64	4	0				4	5	59	0	0	24	20	28	-4
643+75.00	97	67	30	0	27	0	0	67	4	0	8		45	57	74	-7	0	0	30	19	27	3
644+00.00	90	48	42	0	27	0	0	48	4	0	11			15	20	29	0	0	42	17	24	18
644+25.00	82	45	38	0	27	0	0	45	5	0	8			13	17	28	0	0	38	18	25	13
644+50.00	79	40	38	0	27	0	0	40	5	0	11			16	21	19	0	0	38	18	25	13
644+75.00	73	37	36	0	27	0	0	37	5	0	11			16	21	16	0	0	36	17	24	12
645+00.00	69	34	35	0	28	0	0	34	5	0	11			16	21	13	0	0	35	17	24	11
645+25.00	58	29	29	0	30	0	0	29	5	0	11			16	21	8	0	0	29	11	15	14
645+50.00	53	26	27	0	29	0	0	26	5	0	12			17	22	4	0	0	27	9	13	14
645+75.00	56	32	24	0	28	0	0	32	5	0	10			15	20	13	0	0	24	11	15	9
646+00.00	49	30	18	0	28	0	0	30	2	0	5			7	9	21	0	0	18	9	13	5
646+25.00	47	27	20	0	27	0	0	27	0	0	2			2	3	24	0	0	20	10	14	6
646+50.00	72	40	33	0	27	0	0	40	3	0	6			9	12	28	0	0	33	17	24	9
646+75.00	89	47	42	0	27	0	0	47	5	0	10			15	20	28	0	0	42	14	20	22
647+00.00	84	44	40	0	27	0	0	44	4	0	8			12	16	28	0	0	40	4	6	34
647+25.00	89	48	40	0	27	0	0	48	4	0	7			11	14	34	0	0	40	10	14	26
647+50.00	95	54	41	0	27	0	0	54	4	0	6			10	13	41	0	0	41	18	25	16
647+75.00	100	57	43	0	28	0	0	57	4	0	7			11	14	43	0	0	43	18	25	18
648+00.00	108	60	48	0	30	0	0	60	4	0	6			10	13	47	0	0	48	23	32	16
648+25.00	104	57	47	0	31	0	0	57	4	0	6			10	13	44	0	0	47	22	31	16
648+50.00	92	46	46	0	32	0	0	46	4	0	7			11	14	32	0	0	46	16	22	24
648+75.00	80	33	46	0	33	0	0	33	4	0	8			12	16	17	0	0	46	16	22	24
649+00.00	66	25	40	0	33	0	0	25	4	0	14			18	23	2	0	0	40	14	20	20
649+25.00	58	24	34	0	32	0	0	24	5	0	18			23	30	-6	0	0	34	8	11	23
649+50.00	65	25	40	0	30	0	0	25	5	0	24			29	38	-13	0	0	40	13	18	22
649+75.00	80	26	54	0	28	0	0	26	7	0	38			45	59	-33	0	0	54	22	31	23
650+00.00	95	28	66	0	27	0	0	28	15	0	46			61	79	-51	0	0	66	33	46	20
650+25.00	110	36	75	0	27	0	0	36	22	0	45			67	87	-51	0	0	75	43	60	15
650+50.00	144	62	82	0	27	0	0	62	22	0	42			64	83	-21	0	0	82	50	70	12
650+75.00	195	102	92	0	27	0	0	102	19	0	42			61	79	23	0	0	92	59	83	10
651+00.00	220	125	96	0	28	0	0	125	17	0	42			59	77	48	0	0	96	63	88	8
651+25.00	228	130	98	0	27	0	0	130	17	0	43			60	78	52	0	0	98	61	85	13
651+50.00	239	135	103	0	27	1	0	136	18	0	45			63	82	54	0	0	103	56	78	25
651+75.00	262	149	112	0	27	2	0	151	22	0	49			71	92	59	0	0	112	59	83	29
652+00.00																						
Subtotals:	8,177	4,251	3,846	0	1,924	75	0	4,326	534	0	1,468	2	237	2,241	2,913	1,413	0	0	3,846	1,917	2,684	1,162

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.4

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Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
652+00.00	281	153	128	0	28	0	0	153	36	0	62			98	127	26	0	0	128	75	105	23
652+25.00	59	31	28	0	6	0	0	31	11	0	15			26	34	-3	0	0	28	17	24	4
652+30.00	235	131	104	0	24	0	0	131	38	0	50			88	114	17	0	0	104	67	94	10
652+50.00	272	155	116	0	28	0	0	155	22	0	50			72	94	61	0	0	116	77	108	8
652+75.00	237	133	104	0	28	0	0	133	21	0	43			64	83	50	0	0	104	69	97	8
653+00.00	220	120	100	0	29	0	0	120	29	0	43			72	94	26	0	0	100	66	92	8
653+25.00	200	103	97	0	28	0	0	103	36	0	45			81	105	-2	0	0	97	65	91	6
653+50.00	182	88	95	0	28	0	0	88	40	0	48			88	114	-26	0	0	95	63	88	7
653+75.00	170	78	93	0	27	0	0	78	44	0	50			94	122	-44	0	0	93	62	87	6
654+00.00	224	133	92	0	24	0	0	133	45	63	52	3		163	212	-79	0	0	92	61	85	7
654+25.00	210	121	90	0	22	0	0	121	40	58	52	5		155	202	-81	0	0	90	60	84	6
654+50.00	186	107	79	0	23	0	0	107	35	57	53	4		149	194	-87	0	0	79	51	71	8
654+75.00	168	97	71	0	19	0	0	97	33	56	56	8		153	199	-102	0	0	71	44	62	9
655+00.00	173	99	74	0	17	0	0	99	29	58	59	10		156	203	-104	0	0	74	47	66	8
655+25.00	175	103	72	0	20	0	0	103	19	62	55	7		143	186	-83	0	0	72	45	63	9
655+50.00	167	104	63	0	20	0	0	104	8	67	45	7		127	165	-61	0	0	63	38	53	10
655+75.00	170	113	57	0	21	0	0	113	8	89	41	6		144	187	-74	0	0	57	34	48	9
656+00.00	169	122	47	0	34	0	0	122	8	108	33			149	194	-72	0	0	47	20	28	19
656+25.00	167	134	34	0	36	0	0	134	3	115	14			132	172	-38	0	0	34	7	10	24
656+50.00	71	32	40	0	28	0	0	32	1	0	13			14	18	14	0	0	40	10	14	26
656+75.00	93	46	47	0	27	0	0	46	3	0	18		21	42	54	-8	0	0	47	16	22	25
657+00.00	102	58	44	0	27	0	0	58	5	0	13			18	23	35	0	0	44	22	31	13
657+25.00	107	64	43	0	27	0	0	64	4	0	10			14	18	46	0	0	43	20	28	15
657+50.00	109	66	43	0	27	0	0	66	4	0	8			12	16	50	0	0	43	20	28	15
657+75.00	107	64	43	0	27	0	0	64	4	0	7			11	14	50	0	0	43	20	28	15
658+00.00	107	64	43	0	27	0	0	64	4	0	7			11	14	50	0	0	43	20	28	15
658+25.00	101	60	41	0	27	0	0	60	4	0	6			10	13	47	0	0	41	19	27	14
658+50.00	95	55	40	0	27	0	0	55	2	0	6			8	10	45	0	0	40	18	25	15
658+75.00	110	52	59	0	27	0	0	52	1	0	22			23	30	22	0	0	59	22	31	28
659+00.00	114	49	65	0	27	0	0	49	3	0	26		17	46	59	-10	0	0	65	27	38	27
659+25.00	95	41	54	0	27	0	0	41	5	0	17			22	29	12	0	0	54	27	38	16
659+50.00	86	33	52	0	27	0	0	33	9	0	21			30	39	-6	0	0	52	25	35	17
659+75.00	80	28	51	0	30	0	0	28	12	0	25			37	48	-20	0	0	51	24	34	17
660+00.00	83	26	57	0	30	0	0	26	14	0	28			42	55	-29	0	0	57	29	41	16
660+25.00	91	26	65	0	32	0	0	26	15	0	32			47	61	-35	0	0	65	35	49	16
660+50.00	95	28	67	0	32	0	0	28	15	0	32			47	61	-33	0	0	67	37	52	15
660+75.00	100	32	68	0	34	0	0	32	16	0	31			47	61	-29	0	0	68	38	53	15
661+00.00	109	39	70	0	34	0	0	39	16	0	31			47	61	-22	0	0	70	39	55	15
661+25.00	119	49	71	0	34	0	0	49	17	0	30			47	61	-12	0	0	71	40	56	15
661+50.00	128	57	71	0	34	0	0	57	16	0	28			44	57	0	0	0	71	40	56	15
661+75.00	134	67	66	0	33	0	0	67	15	0	25			40	52	15	0	0	66	36	50	16
662+00.00	139	77	62	0	33	0	0	77	13	0	22			35	46	32	0	0	62	33	46	16
662+25.00	148	85	63	0	30	0	0	85	11	0	21			32	42	43	0	0	63	34	48	15
662+50.00	156	88	69	0	30	0	0	88	9	0	23			32	42	46	0	0	69	39	55	14
662+75.00	166	90	76	0	27	0	0	90	6	0	25			31	40	50	0	0	76	45	63	13
663+00.00	174	99	75	0	27	0	0	99	2	0	19			21	27	72	0	0	75	44	62	13
663+25.00	180	110	70	0	27	0	0	110	1	0	14		164	179	233	-123	0	0	70	41	57	13
663+50.00	188	120	68	0	27	0	0	120	1	0	14			15	20	101	0	0	68	40	56	12
663+75.00	205	133	72	0	27	0	0	133	2	0	15			17	22	111	0	0	72	41	57	15
664+00.00	220	144	76	0	27	0	0	144	1	0	14			15	20	125	0	0	76	44	62	14
664+25.00	226	147	78	0	27	0	0	147	1	0	11			12	16	131	0	0	78	46	64	14
664+50.00	224	147	77	0	27	0	0	147	0	0	8			8	10	137	0	0	77	46	64	13
664+75.00	220	144	77	0	27	0	0	144	0	0	6			6	8	136	0	0	77	47	66	11
665+00.00	216	138	78	0	27	0	0	138	0	0	5			5	7	132	0	0	78	48	67	11
665+25.00	205	128	77	0	27	0	0	128	0	0	6			6	8	120	0	0	77	48	67	10
665+50.00	186	112	74	0	28	0	0	112	0	0	8			8	10	102	0	0	74	45	63	11
665+75.00	168	97	71	0	27	0	0	97	1	0	11			12	16	81	0	0	71	42	59	12
666+00.00	155	87	68	0	27	0	0	87	1	0	14			15	20	68	0	0	68	39	55	13
666+25.00	145	79	66	0	27	0	0	79	2	0	15			17	22	57	0	0	66	37	52	14
666+50.00	138	73	65	0	27	0	0	73	2	0	15			17	22	51	0	0	65	36	50	15
666+75.00	133	68	65	0	26	0	0	68	2	0	15	1		18	23	45	0	0	65	36	50	15
667+00.00	130	64	66	0	26	0	0	64	2	0	15	1		18	23	41	0	0	66	37	52	14
667+25.00	129	59	70	0	27	0	0	59	2	0	19			21	27	32	0	0	70	40	56	14
667+50.00	131	54	77	0	27	0	0	54	3	0	27			30	39	15	0	0	77	45	63	14
667+75.00	134	49	84	0	27	0	0	49	7	0	37			44	57	-8	0	0	84	50	70	14
668+00.00	136	47	90	0	27	0	0	47	15	0	46			61	79	-32	0	0	90	54	76	14
668+25.00	143	49	94	0	27	0	0	49	25	0	53			78	101	-52	0	0	94	57	80	14
668+50.00	154	55	99	0	27	0	0	55	33	0	57			90	117	-62	0	0	99	61	85	14
668+75.00	163	61	101	0	27	0	0	61	32	0	56			88	114	-53	0	0	101	63	88	13
Subtotals:	10,506	5,701	4,809	0	1,847	0	0	5,701	860	733	1,886	52	201	3,732	4,852	849	0	0	4,809	2,770	3,878	931

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
668+75.00	169	68	101	0	27	0	0	68	24	0	49			73	95	-27	0	0	101	63	88	13
669+00.00	176	81	95	0	27	0	0	81	11	0	34			45	59	23	0	0	95	58	81	14
669+25.00	188	95	93	0	27	0	0	95	1	0	27			28	36	59	0	0	93	50	70	23
669+50.00	192	100	92	0	27	0	0	100	0	0	19			19	25	75	0	0	92	47	66	26
669+75.00	178	90	89	0	26	0	0	90	3	0	18	1	161	183	238	-148	0	0	89	47	66	23
670+00.00	167	75	92	0	26	0	0	75	6	0	31	1		38	49	26	0	0	92	46	64	28
670+25.00	164	64	100	0	26	0	0	64	11	0	50	1		62	81	-17	0	0	100	43	60	40
670+50.00	39	14	25	0	6	0	0	14	4	0	15			19	25	-11	0	0	25	10	14	11
670+56.00	116	45	71	0	21	0	0	45	9	0	40			49	64	-19	0	0	71	28	39	32
670+75.00	134	58	76	0	27	0	0	58	4	0	34			38	49	9	0	0	76	30	42	34
671+00.00	123	55	68	0	27	0	0	55	3	0	27			30	39	16	0	0	68	28	39	29
671+25.00	113	50	62	0	27	0	0	50	2	0	25			27	35	15	0	0	62	27	38	24
671+50.00	102	44	58	0	27	0	0	44	3	0	24			27	35	9	0	0	58	25	35	23
671+75.00	95	39	56	0	27	0	0	39	5	0	24			29	38	1	0	0	56	25	35	21
672+00.00	95	37	58	0	28	0	0	37	7	0	27			34	44	-7	0	0	58	27	38	20
672+25.00	119	41	78	0	30	0	0	41	4	0	40			44	57	-16	0	0	78	29	41	37
672+50.00	123	63	60	0	30	0	0	63	3	0	35		24	62	81	-18	0	0	60	28	39	21
672+75.00	98	61	37	0	30	0	0	61	5	0	18		86	109	141	-80	0	0	37	24	34	3
673+00.00	96	39	56	0	30	0	0	39	4	0	20			24	31	8	0	0	56	25	35	21
673+25.00	102	39	63	0	29	0	0	39	3	0	20			23	30	9	0	0	63	30	42	21
673+50.00	109	43	65	0	29	0	0	43	3	0	21			24	31	12	0	0	65	32	45	20
673+75.00	112	46	65	0	29	0	0	46	3	0	21			24	31	15	0	0	65	32	45	20
674+00.00	111	46	65	0	29	0	0	46	4	0	21			25	33	14	0	0	65	32	45	20
674+25.00	117	50	67	0	29	0	0	50	5	0	22			27	35	15	0	0	67	34	48	19
674+50.00	121	53	68	0	27	0	0	53	6	0	22			28	36	17	0	0	68	35	49	19
674+75.00	118	51	68	0	27	0	0	51	7	0	23			30	39	12	0	0	68	35	49	19
675+00.00	114	48	67	0	27	0	0	48	7	0	23			30	39	9	0	0	67	34	48	19
675+25.00	112	45	67	0	30	0	0	45	7	0	24			31	40	5	0	0	67	34	48	19
675+50.00	112	45	67	0	33	0	0	45	7	0	24			31	40	5	0	0	67	34	48	19
675+75.00	114	46	68	0	30	0	0	46	7	0	24			31	40	6	0	0	68	35	49	19
676+00.00	117	48	68	0	29	0	0	48	7	0	24			31	40	8	0	0	68	35	49	19
676+25.00	119	51	69	0	32	0	0	51	8	0	24			32	42	9	0	0	69	36	50	19
676+50.00	123	54	70	0	29	0	0	54	8	0	24			32	42	12	0	0	70	36	50	20
676+75.00	128	57	71	0	29	0	0	57	8	0	24			32	42	15	0	0	71	37	52	19
677+00.00	134	62	72	0	31	0	0	62	8	0	24			32	42	20	0	0	72	38	53	19
677+25.00	143	69	74	0	29	0	0	69	8	0	24			32	42	27	0	0	74	39	55	19
677+50.00	146	72	74	0	28	0	0	72	7	0	23			30	39	33	0	0	74	40	56	18
677+75.00	146	72	74	0	29	0	0	72	6	0	23			29	38	34	0	0	74	40	56	18
678+00.00	142	69	73	0	29	0	0	69	5	0	22			27	35	34	0	0	73	40	56	17
678+25.00	134	62	71	0	29	0	0	62	5	0	23			28	36	26	0	0	71	38	53	18
678+50.00	123	55	68	0	29	0	0	55	5	0	23			28	36	19	0	0	68	35	49	19
678+75.00	112	48	64	0	29	0	0	48	6	0	23			29	38	10	0	0	64	33	46	18
679+00.00	102	41	61	0	28	0	0	41	5	0	23			28	36	5	0	0	61	30	42	19
679+25.00	93	35	58	0	28	0	0	35	4	0	23			27	35	0	0	0	58	27	38	20
679+50.00	89	32	57	0	28	0	0	32	3	0	23			26	34	-2	0	0	57	26	36	21
679+75.00	87	31	56	0	27	0	0	31	2	0	21			23	30	1	0	0	56	25	35	21
680+00.00	87	31	56	0	27	0	0	31	3	0	21			24	31	0	0	0	56	25	35	21
680+25.00	91	33	58	0	27	0	0	33	4	0	22			26	34	-1	0	0	58	27	38	20
680+50.00	96	36	60	0	27	0	0	36	5	0	23			28	36	0	0	0	60	28	39	21
680+75.00	100	39	61	0	27	0	0	39	5	0	23			28	36	3	0	0	61	30	42	19
681+00.00	103	42	61	0	27	0	0	42	5	0	24			29	38	4	0	0	61	30	42	19
681+25.00	104	45	59	0	27	0	0	45	6	0	25			31	40	5	0	0	59	28	39	20
681+50.00	110	50	61	0	27	0	0	50	5	0	24			29	38	12	0	0	61	29	41	20
681+75.00	122	55	66	0	27	0	0	55	4	0	23			27	35	20	0	0	66	34	48	18
682+00.00	130	61	69	0	27	0	0	61	4	0	23			27	35	26	0	0	69	36	50	19
682+25.00	136	65	71	0	27	0	0	65	5	0	23			28	36	29	0	0	71	39	55	16
682+50.00	139	69	71	0	27	0	0	69	6	0	23			29	38	31	0	0	71	39	55	16
682+75.00	142	71	71	0	27	0	0	71	7	0	25			32	42	29	0	0	71	40	56	15
683+00.00	142	72	70	0	28	0	0	72	9	0	25			34	44	28	0	0	70	39	55	15
683+25.00	145	75	70	0	28	0	0	75	9	0	26			35	46	30	0	0	70	39	55	15
683+50.00	148	78	70	0	27	0	0	78	8	0	25			33	43	35	0	0	70	39	55	15
683+75.00	151	81	70	0	27	0	0	81	6	0	24			30	39	42	0	0	70	39	55	15
684+00.00	151	82	69	0	27	0	0	82	4	0	23			27	35	47	0	0	69	39	55	14
684+25.00	150	81	69	0	27	0	0	81	2	0	24			26	34	47	0	0	69	38	53	16
684+50.00	145	78	67	0	27	0	0	78	1	0	23			24	31	47	0	0	67	37	52	15
684+75.00	137	71	65	0	27	0	0	71	0	0	21			21	27	44	0	0	65	35	49	16
685+00.00	129	65	64	0	27	0	0	65	0	0	21			21	27	38	0	0	64	35	49	15
685+25.00	123	60	63	0	27	0	0	60	1	0	22			23	30	30	0	0	63	34	48	15
685+50.00																						
Subtotals:	8,448	3,829	4,618	0	1,874	0	0	3,829	362	0	1,686	3	271	2,322	3,019	810	0	0	4,618	2,341	3,277	1,341

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
685+50.00	122	59	62	0	27	0	0	59	3	0	23			26	34	25	0	0	62	34	48	14
685+75.00	123	59	63	0	28	0	0	59	4	0	24			28	36	23	0	0	63	34	48	15
686+00.00	122	59	63	0	28	0	0	59	4	0	23			27	35	24	0	0	63	34	48	15
686+25.00	122	58	64	0	27	0	0	58	4	0	23			27	35	23	0	0	64	35	49	15
686+50.00	121	56	65	0	28	0	0	56	5	0	24			29	38	18	0	0	65	35	49	16
686+75.00	117	52	65	0	28	0	0	52	5	0	24			29	38	14	0	0	65	35	49	16
687+00.00	116	50	66	0	27	0	0	50	6	0	23			29	38	12	0	0	66	35	49	17
687+25.00	120	52	68	0	27	0	0	52	5	0	22			27	35	17	0	0	68	36	50	18
687+50.00	126	56	70	0	27	0	0	56	5	0	21			26	34	22	0	0	70	38	53	17
687+75.00	130	58	71	0	27	0	0	58	5	0	21			26	34	24	0	0	71	39	55	16
688+00.00	133	62	71	0	27	0	0	62	3	0	18			21	27	35	0	0	71	40	56	15
688+25.00	148	73	74	0	27	0	0	73	2	0	16			18	23	50	0	0	74	44	62	12
688+50.00	172	95	77	0	27	0	0	95	1	0	12			13	17	78	0	0	77	48	67	10
688+75.00	167	89	77	0	26	0	0	89	2	0	17	1	74	94	122	-33	0	0	77	47	66	11
689+00.00	147	72	75	0	27	0	0	72	3	0	25			28	36	36	0	0	75	45	63	12
689+25.00	154	77	77	0	27	0	0	77	5	0	28			33	43	34	0	0	77	46	64	13
689+50.00	164	84	80	0	27	0	0	84	7	0	28			35	46	39	0	0	80	48	67	13
689+75.00	172	90	82	0	27	0	0	90	8	0	25			33	43	47	0	0	82	49	69	13
690+00.00	179	94	85	0	27	0	0	94	8	0	23			31	40	54	0	0	85	50	70	15
690+25.00	184	99	86	0	27	0	0	99	9	0	20			29	38	61	0	0	86	51	71	15
690+50.00	192	104	87	0	27	0	0	104	8	0	19			27	35	69	0	0	87	51	71	16
690+75.00	194	109	85	0	27	0	0	109	6	0	15			21	27	82	0	0	85	50	70	15
691+00.00	193	110	83	0	27	0	0	110	5	0	14			19	25	85	0	0	83	49	69	14
691+25.00	190	108	82	0	27	0	0	108	4	0	14			18	23	85	0	0	82	48	67	15
691+50.00	184	104	79	0	27	0	0	104	3	0	13			16	21	83	0	0	79	46	64	15
691+75.00	172	96	76	0	27	0	0	96	3	0	13			16	21	75	0	0	76	43	60	16
692+00.00	163	88	76	0	27	0	0	88	2	0	16			18	23	65	0	0	76	41	57	19
692+25.00	165	86	79	0	27	0	0	86	1	0	19		113	133	173	-87	0	0	79	40	56	23
692+50.00	160	86	74	0	27	0	0	86	0	0	11			11	14	72	0	0	74	41	57	17
692+75.00	159	88	70	0	27	0	0	88	0	0	5			5	7	82	0	0	70	42	59	11
693+00.00	165	93	71	0	27	0	0	93	0	0	4			4	5	88	0	0	71	43	60	11
693+25.00	169	97	72	0	27	0	0	97	0	0	3			3	4	93	0	0	72	44	62	10
693+50.00	178	104	75	0	27	0	0	104	0	0	4			4	5	99	0	0	75	46	64	11
693+75.00	191	114	77	0	27	0	0	114	0	0	5			5	7	108	0	0	77	47	66	11
694+00.00	204	125	79	0	27	0	0	125	0	0	5			5	7	119	0	0	79	49	69	10
694+25.00	211	131	80	0	27	0	0	131	0	0	6			6	8	123	0	0	80	49	69	11
694+50.00	212	131	81	0	27	0	0	131	0	0	8			8	10	121	0	0	81	49	69	12
694+75.00	198	121	77	0	27	0	0	121	0	0	8			8	10	111	0	0	77	46	64	13
695+00.00	187	114	73	0	27	0	0	114	0	0	8			8	10	104	0	0	73	42	59	14
695+25.00	189	115	74	0	27	0	0	115	0	0	9			9	12	103	0	0	74	43	60	14
695+50.00	187	114	73	0	27	0	0	114	0	0	8			8	10	104	0	0	73	42	59	14
695+75.00	182	111	71	0	27	0	0	111	0	0	5			5	7	105	0	0	71	41	57	14
696+00.00	172	104	68	0	27	0	0	104	0	0	4			4	5	99	0	0	68	39	55	13
696+25.00	157	93	64	0	27	0	0	93	0	0	4			4	5	88	0	0	64	37	52	12
696+50.00	145	84	61	0	27	0	0	84	0	0	5			5	7	78	0	0	61	35	49	12
696+75.00	137	77	60	0	27	0	0	77	0	0	8			8	10	67	0	0	60	32	45	15
697+00.00	123	70	53	0	27	0	0	70	0	0	10		37	47	62	9	0	0	53	23	32	21
697+25.00	187	79	108	0	27	0	0	79	2	0	69			71	92	-13	0	0	108	21	29	79
697+50.00	190	90	100	0	27	0	0	90	4	0	65		47	116	150	-60	0	0	100	24	34	66
697+75.00	107	80	27	0	27	0	0	80	4	0	1			5	7	74	0	0	27	21	29	-2
698+00.00	94	70	24	0	28	0	0	70	3	0	1			4	5	65	0	0	24	18	25	-1
698+25.00	87	64	23	0	27	0	0	64	3	0	1			4	5	59	0	0	23	14	20	3
698+50.00	83	60	23	0	26	0	0	60	2	0	1	1		4	5	55	0	0	23	11	15	8
698+75.00	82	59	23	0	26	0	0	59	2	0	1	1		4	5	54	0	0	23	11	15	8
699+00.00	87	64	22	0	26	0	0	64	3	0	2	1		6	8	56	0	0	22	15	21	1
699+25.00	99	76	23	0	26	0	0	76	3	0	1	1		5	7	70	0	0	23	20	28	-5
699+50.00	107	78	29	0	26	0	0	78	4	0	7	1		12	16	62	0	0	29	20	28	1
699+75.00	98	68	30	0	27	0	0	68	4	0	10		38	52	68	1	0	0	30	18	25	5
700+00.00	88	62	25	0	27	0	0	62	4	0	9			13	17	45	0	0	25	20	28	-3
700+25.00	81	59	22	0	27	0	0	59	4	0	10			14	18	41	0	0	22	20	28	-6
700+50.00	80	57	23	0	27	0	0	57	4	0	12			16	21	36	0	0	23	19	27	-4
700+75.00	76	54	23	0	27	0	0	54	4	0	16			20	26	28	0	0	23	10	14	9
701+00.00	71	49	22	0	27	0	0	49	3	0	19			22	29	20	0	0	22	0	0	22
701+25.00	68	48	20	0	27	0	0	48	3	0	18		3	24	31	17	0	0	20	0	0	20
701+50.00	68	51	17	0	27	0	0	51	3	0	9			12	16	35	0	0	17	8	11	6
701+75.00	71	52	19	0	27	0	0	52	4	0	6			10	13	39	0	0	19	18	25	-6
702+00.00	68	46	22	0	28	0	0	46	3	0	11			14	18	28	0	0	22	20	28	-6
702+25.00	67	42	25	0	28	0	0	42	3	0	12			15	20	23	0	0	25	23	32	-7
702+50.00																						
Subtotals:	9,577	5,479	4,091	0	1,837	0	0	5,479	195	0	964	6	312	1,477	1,920	3,559	0	0	4,091	2,312	3,237	854

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
702+50.00	66	35	31	0	27	0	0	35	3	0	13			16	21	14	0	0	31	24	34	-3
702+75.00	66	32	34	0	27	0	0	32	3	0	15			18	23	9	0	0	34	21	29	5
703+00.00	72	35	37	0	27	0	0	35	3	0	16			19	25	10	0	0	37	22	31	6
703+25.00	86	46	40	0	27	0	0	46	5	0	17			22	29	17	0	0	40	26	36	4
703+50.00	99	57	43	0	27	0	0	57	7	0	17			24	31	26	0	0	43	30	42	1
703+75.00	100	54	46	0	26	0	0	54	7	0	17			24	31	23	0	0	46	31	43	3
704+00.00	71	47	24	0	26	0	0	47	5	0	9	1		15	20	28	0	0	24	21	29	-5
704+25.00	48	48	0	0	26	0	0	48	4	0		1		5	7	42	0	0	0	10	14	-14
704+50.00	54	54	0	0	27	0	0	54	4	0				4	5	49	0	0	0	10	14	-14
704+75.00	56	56	0	0	27	0	0	56	4	0				4	5	51	0	0	0	9	13	-13
705+00.00	54	54	0	0	25	0	0	54	4	0		2		6	8	46	0	0	0	8	11	-11
705+25.00	298	256	43	0	23	0	0	256	4	158	1	4		167	217	39	0	0	43	25	35	8
705+50.00	355	267	88	0	20	0	0	267	4	126	5	7		142	185	82	0	0	88	44	62	26
705+75.00	356	265	91	0	17	0	0	265	5	122	8	10		145	189	77	0	0	91	44	62	29
706+00.00	365	270	94	0	15	0	0	270	5	120	9	12		146	190	80	0	0	94	44	62	32
706+25.00	372	278	94	0	15	0	0	278	5	118	8	12		143	186	92	0	0	94	44	62	32
706+50.00	380	287	93	0	17	0	0	287	3	115	8	10		136	177	110	0	0	93	46	64	29
706+75.00	388	296	92	0	23	0	0	296	1	99	8	4		112	146	150	0	0	92	51	71	21
707+00.00	315	225	90	0	27	0	0	225	0	0	7			7	9	216	0	0	90	57	80	10
707+25.00	338	246	93	0	27	0	0	246	0	0	8		132	140	183	63	0	0	93	61	85	8
707+50.00	352	256	96	0	27	0	0	256	0	0	8			8	10	246	0	0	96	63	88	8
707+75.00	350	254	96	0	27	0	0	254	0	0	8			8	10	244	0	0	96	62	87	9
708+00.00	347	251	96	0	27	0	0	251	0	0	8			8	10	241	0	0	96	61	85	11
708+25.00	343	248	95	0	27	0	0	248	0	0	7			7	9	239	0	0	95	61	85	10
708+50.00	339	245	95	0	27	0	0	245	0	0	7			7	9	236	0	0	95	60	84	11
708+75.00	334	239	95	0	27	0	0	239	0	0	9			9	12	227	0	0	95	59	83	12
709+00.00	316	223	93	0	27	0	0	223	0	0	9			9	12	211	0	0	93	58	81	12
709+25.00	292	201	91	0	27	0	0	201	0	0	9			9	12	189	0	0	91	56	78	13
709+50.00	268	178	89	0	27	0	0	178	0	0	10			10	13	165	0	0	89	54	76	13
709+75.00	241	154	87	0	27	0	0	154	0	0	9			9	12	142	0	0	87	52	73	14
710+00.00	214	131	83	0	27	0	0	131	0	0	8			8	10	121	0	0	83	49	69	14
710+25.00	190	111	79	0	27	0	0	111	0	0	11			11	14	97	0	0	79	46	64	15
710+50.00	179	102	77	0	27	0	0	102	0	0	16			16	21	81	0	0	77	45	63	14
710+75.00	176	101	76	0	27	0	0	101	1	0	22			23	30	71	0	0	76	44	62	14
711+00.00	174	99	75	0	27	0	0	99	2	0	28			30	39	60	0	0	75	43	60	15
711+25.00	173	99	75	0	27	0	0	99	2	0	31			33	43	56	0	0	75	43	60	15
711+50.00	174	99	75	0	27	0	0	99	3	0	31			34	44	55	0	0	75	44	62	13
711+75.00	177	102	75	0	27	0	0	102	2	0	27			29	38	64	0	0	75	44	62	13
712+00.00	182	105	76	0	27	0	0	105	1	0	23			24	31	74	0	0	76	44	62	14
712+25.00	186	109	77	0	27	0	0	109	1	0	20			21	27	82	0	0	77	44	62	15
712+50.00	191	113	78	0	27	0	0	113	0	0	17			17	22	91	0	0	78	45	63	15
712+75.00	198	119	79	0	27	0	0	119	0	0	15			15	20	100	0	0	79	45	63	16
713+00.00	284	206	78	0	27	0	0	206	0	82	13			95	124	83	0	0	78	44	62	16
713+25.00	289	211	78	0	27	0	0	211	0	82	13			95	124	88	0	0	78	44	62	16
713+50.00	294	217	77	0	27	0	0	217	0	84	11			95	124	94	0	0	77	44	62	15
713+75.00	294	219	76	0	27	0	0	219	0	85	8			93	121	98	0	0	76	43	60	16
714+00.00	281	209	72	0	27	0	0	209	0	85	9			94	122	87	0	0	72	40	56	16
714+25.00	255	189	66	0	27	0	0	189	0	85	15			100	130	59	0	0	66	31	43	23
714+50.00	240	197	43	0	27	0	0	197	1	103	12			116	151	46	0	0	43	18	25	18
714+75.00	252	233	18	0	27	0	0	233	3	140	2		35	180	234	-1	0	0	18	9	13	5
715+00.00	189	176	13	0	27	0	0	176	3	88	1			92	120	56	0	0	13	6	8	5
715+25.00	177	165	11	0	27	0	0	165	3	85	3		6	97	126	40	0	0	11	2	3	8
715+50.00	225	208	16	0	27	0	0	208	4	137	5			146	190	18	0	0	16	8	11	5
715+75.00	92	67	25	0	27	0	0	67	4	0	6			10	13	54	0	0	25	18	25	0
716+00.00	97	68	29	0	27	0	0	68	4	0	6			10	13	55	0	0	29	20	28	1
716+25.00	102	72	31	0	27	0	0	72	4	0	5			9	12	60	0	0	31	21	29	2
716+50.00	107	75	32	0	27	0	0	75	4	0	4			8	10	65	0	0	32	22	31	1
716+75.00	111	78	33	0	27	0	0	78	4	0	4			8	10	68	0	0	33	23	32	1
717+00.00	114	80	34	0	27	0	0	80	4	0	3			7	9	71	0	0	34	22	31	3
717+25.00	116	81	34	0	27	0	0	81	4	0	2			6	8	73	0	0	34	21	29	5
717+50.00	118	83	35	0	28	0	0	83	4	0	2			6	8	75	0	0	35	20	28	7
717+75.00	121	86	35	0	28	0	0	86	4	0	1			5	7	80	0	0	35	20	28	7
718+00.00	126	90	36	0	28	0	0	90	3	0	1			4	5	85	0	0	36	20	28	8
718+25.00	132	82	50	0	28	0	0	82	2	0	11		79	92	120	-38	0	0	50	20	28	22
718+50.00	139	78	61	0	28	0	0	78	1	0	13			14	18	60	0	0	61	26	36	25
718+75.00	137	77	60	0	27	0	0	77	0	0	6			6	8	69	0	0	60	31	43	17
719+00.00	128	68	60	0	27	0	0	68	0	0	10			10	13	55	0	0	60	30	42	18
719+25.00	119	60	59	0	27	0	0	60	1	0	12			13	17	43	0	0	59	29	41	18
719+50.00																						
Subtotals:	13,874	9,822	4,053	0	1,777	0	0	9,822	145	1,914	677	63	252	3,051	3,967	5,855	0	0	4,053	2,382	3,335	718

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
719+50.00	113	55	58	0	27	0	0	55	2	0	15			17	22	33	0	0	58	28	39	19
719+75.00	110	53	57	0	26	0	0	53	3	0	17	1		21	27	26	0	0	57	27	38	19
720+00.00	105	52	53	0	26	0	0	52	3	0	19	1		23	30	22	0	0	53	24	34	19
720+25.00	110	53	57	0	26	0	0	53	5	0	25	1		31	40	13	0	0	57	28	39	18
720+50.00	119	54	64	0	26	0	0	54	5	0	28	1		34	44	10	0	0	64	34	48	16
720+75.00	118	57	61	0	27	0	0	57	2	0	17			19	25	32	0	0	61	31	43	18
721+00.00	133	70	64	0	27	0	0	70	0	0	10			10	13	57	0	0	64	33	46	18
721+25.00	158	88	70	0	26	0	0	88	0	0	8	1		9	12	76	0	0	70	38	53	17
721+50.00	172	100	73	0	26	0	0	100	0	0	6	1		7	9	91	0	0	73	41	57	16
721+75.00	181	106	75	0	26	0	0	106	0	0	6	1		7	9	97	0	0	75	42	59	16
722+00.00	186	111	76	0	26	0	0	111	0	0	5	1		6	8	103	0	0	76	43	60	16
722+25.00	191	113	77	0	26	0	0	113	0	0	6	1		7	9	104	0	0	77	43	60	17
722+50.00	189	113	76	0	26	0	0	113	0	0	6	1		7	9	104	0	0	76	43	60	16
722+75.00	186	112	75	0	26	0	0	112	0	0	6	1		7	9	103	0	0	75	43	60	15
723+00.00	186	111	75	0	25	0	0	111	0	0	7	2		9	12	99	0	0	75	43	60	15
723+25.00	189	113	76	0	25	0	0	113	0	0	9	2		11	14	99	0	0	76	44	62	14
723+50.00	193	115	77	0	25	0	0	115	0	0	12	2		14	18	97	0	0	77	44	62	15
723+75.00	196	118	78	0	25	0	0	118	0	0	14	2		16	21	97	0	0	78	45	63	15
724+00.00	199	121	78	0	26	0	0	121	0	0	14	1		15	20	102	0	0	78	45	63	15
724+25.00	224	127	97	0	26	0	0	127	0	0	29	1		30	39	88	0	0	97	46	64	33
724+50.00	222	125	97	0	26	0	0	125	1	0	32	1	63	97	127	-2	0	0	97	46	64	33
724+75.00	194	116	78	0	26	0	0	116	3	0	19	1		23	30	86	0	0	78	45	63	15
725+00.00	190	111	78	0	27	0	0	111	5	0	21			26	34	77	0	0	78	45	63	15
725+25.00	183	106	76	0	27	0	0	106	6	0	21			27	35	71	0	0	76	44	62	14
725+50.00	171	101	71	0	27	0	0	101	6	0	21			27	35	66	0	0	71	39	55	16
725+75.00	162	93	68	0	26	0	0	93	7	0	23	1		31	40	53	0	0	68	36	50	18
726+00.00	154	85	69	0	26	0	0	85	7	0	24	1		32	42	43	0	0	69	38	53	16
726+25.00	144	74	71	0	27	0	0	74	7	0	27			34	44	30	0	0	71	40	56	15
726+50.00	135	63	72	0	27	0	0	63	8	0	31			39	51	12	0	0	72	41	57	15
726+75.00	127	56	71	0	29	0	0	56	9	0	32			41	53	3	0	0	71	41	57	14
727+00.00	125	54	71	0	29	0	0	54	10	0	32			42	55	-1	0	0	71	42	59	12
727+25.00	129	57	73	0	28	0	0	57	10	0	33			43	56	1	0	0	73	43	60	13
727+50.00	135	61	74	0	27	0	0	61	9	0	32			41	53	8	0	0	74	43	60	14
727+75.00	144	68	76	0	27	0	0	68	6	0	30			36	47	21	0	0	76	44	62	14
728+00.00	156	80	76	0	27	0	0	80	3	0	24			27	35	45	0	0	76	44	62	14
728+25.00	170	94	76	0	27	0	0	94	1	0	20			21	27	67	0	0	76	44	62	14
728+50.00	181	101	80	0	27	0	0	101	1	0	22			23	30	71	0	0	80	49	69	11
728+75.00	183	106	77	0	27	0	0	106	2	0	19			21	27	79	0	0	77	46	64	13
729+00.00	179	104	75	0	27	0	0	104	4	0	17			21	27	77	0	0	75	44	62	13
729+25.00	180	94	86	0	27	0	0	94	6	0	28			34	44	50	0	0	86	52	73	13
729+50.00	185	94	91	0	27	0	0	94	8	0	33			41	53	41	0	0	91	56	78	13
729+75.00	189	101	89	0	27	0	0	101	6	0	30			36	47	54	0	0	89	54	76	13
730+00.00	203	118	85	0	27	0	0	118	3	0	23			26	34	84	0	0	85	52	73	12
730+25.00	222	137	85	0	27	0	0	137	1	0	22			23	30	107	0	0	85	46	64	21
730+50.00	221	140	81	0	27	0	0	140	0	0	20		253	273	355	-215	0	0	81	43	60	21
730+75.00	212	137	76	0	27	0	0	137	0	0	11			11	14	123	0	0	76	45	63	13
731+00.00	209	131	77	0	27	0	0	131	0	0	9			9	12	119	0	0	77	45	63	14
731+25.00	193	120	73	0	27	0	0	120	0	0	7			7	9	111	0	0	73	43	60	13
731+50.00	176	106	70	0	27	0	0	106	0	0	6			6	8	98	0	0	70	41	57	13
731+75.00	161	95	66	0	27	0	0	95	0	0	11			11	14	81	0	0	66	40	56	10
732+00.00	164	80	84	0	30	0	0	80	20	0	41			61	79	1	0	0	84	50	70	14
732+25.00	169	67	102	0	30	0	0	67	62	0	65			127	165	-98	0	0	102	61	85	17
732+50.00	166	62	104	0	28	0	0	62	80	0	62			142	185	-123	0	0	104	67	94	10
732+75.00	174	68	107	0	27	0	0	68	64	0	52			116	151	-83	0	0	107	69	97	10
733+00.00	179	79	101	0	27	0	0	79	38	0	41			79	103	-24	0	0	101	64	90	11
733+25.00	184	88	96	0	26	0	0	88	19	0	35	1		55	72	17	0	0	96	60	84	12
733+50.00	190	95	95	0	26	0	0	95	9	0	28	1		38	49	46	0	0	95	59	83	12
733+75.00	194	101	93	0	27	0	0	101	2	0	20			22	29	72	0	0	93	59	83	10
734+00.00	209	118	91	0	27	0	0	118	1	0	16			17	22	96	0	0	91	58	81	10
734+25.00	208	122	86	0	26	0	0	122	1	0	13	1	90	105	136	-14	0	0	86	56	78	8
734+50.00	205	120	85	0	27	0	0	120	0	0	7			7	9	111	0	0	85	54	76	10
734+75.00	219	132	88	0	27	0	0	132	0	0	4		176	180	233	-101	0	0	88	53	74	14
735+00.00	215	128	87	0	26	0	0	128	1	0	7	1		9	12	116	0	0	87	53	74	13
735+25.00	214	127	87	0	26	0	0	127	1	0	9	1		11	14	113	0	0	87	54	76	11
735+50.00	225	137	88	0	26	0	0	137	0	0	5	1		6	8	129	0	0	88	57	80	8
735+75.00	241	153	88	0	26	0	0	153	0	0	4	1		5	7	147	0	0	88	57	80	8
736+00.00	242	155	87	0	26	0	0	155	0	0	4	1	135	140	182	-27	0	0	87	57	80	7
736+25.00	241	151	91	0	27	0	0	151	0	0	5			5	7	145	0	0	91	59	83	9
736+50.00																						
Subtotals:	12,132	6,753	5,385	0	1,815	0	0	6,753	447	0	1,357	33	716	2,553	3,319	3,434	0	0	5,385	3,143	4,400	985

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.9

9/11/2017 4:11:51 PM adewolf C:\Users\adewolf\Desktop\US 52 Earthwork\31052120_T02.xlsm

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
736+50.00	251	158	93	0	27	0	0	158	0	0	5			5	7	152	0	0	93	60	84	9
736+75.00	254	160	93	0	27	0	0	160	0	0	7			7	9	151	0	0	93	59	83	10
737+00.00	248	156	92	0	27	0	0	156	1	0	8			9	12	144	0	0	92	59	83	10
737+25.00	241	150	91	0	27	0	0	150	1	0	10			11	14	136	0	0	91	59	83	9
737+50.00	237	146	91	0	18	0	0	146	1	0	12	9		22	29	117	0	0	91	59	83	9
737+75.00	237	147	91	0	18	0	0	147	2	0	12	9		23	30	117	0	0	91	59	83	9
738+00.00	237	147	90	0	28	0	0	147	2	0	12			14	18	129	0	0	90	59	83	8
738+25.00	234	144	90	0	29	0	0	144	2	0	13			15	20	125	0	0	90	58	81	9
738+50.00	229	139	90	0	30	0	0	139	2	0	13			15	20	120	0	0	90	58	81	9
738+75.00	231	139	91	0	31	0	0	139	2	0	14			16	21	118	0	0	91	59	83	9
739+00.00	233	141	91	0	32	0	0	141	2	0	14			16	21	120	0	0	91	58	81	10
739+25.00	212	124	88	0	32	0	0	124	2	0	14			16	21	103	0	0	88	55	77	11
739+50.00	146	74	72	0	33	0	0	74	2	0	20			22	29	45	0	0	72	43	60	12
739+75.00	115	37	78	0	34	0	0	37	6	0	51			57	74	-37	0	0	78	23	32	46
740+00.00	102	31	70	0	36	0	0	31	9	0	49		26	84	109	-78	0	0	70	12	17	53
740+25.00	74	29	45	0	32	0	0	29	8	0	23			31	40	-11	0	0	45	17	24	21
740+50.00	77	27	50	0	27	0	0	27	9	0	29			38	49	-22	0	0	50	22	31	19
740+75.00	93	34	59	0	28	0	0	34	8	0	23			31	40	-6	0	0	59	31	43	16
741+00.00	105	40	65	0	28	0	0	40	6	0	13		34	53	69	-29	0	0	65	39	55	10
741+25.00	123	51	72	0	27	0	0	51	6	0	15			21	27	24	0	0	72	45	63	9
741+50.00	150	70	80	0	27	0	0	70	5	0	14			19	25	45	0	0	80	52	73	7
741+75.00	164	84	80	0	27	0	0	84	5	0	8			13	17	67	0	0	80	54	76	5
742+00.00	150	81	69	0	27	0	0	81	4	0	3			7	9	72	0	0	69	49	69	1
742+25.00	123	65	59	0	27	0	0	65	4	0	1			5	7	59	0	0	59	43	60	-1
742+50.00	115	58	57	0	27	0	0	58	4	0	1			5	7	52	0	0	57	41	57	0
742+75.00	107	51	56	0	27	0	0	51	4	0	9			13	17	34	0	0	56	35	49	7
743+00.00	106	45	61	0	27	0	0	45	4	0	37			41	53	-8	0	0	61	17	24	37
743+25.00	212	113	99	0	27	0	0	113	4	0	60			64	83	30	0	0	99	31	43	56
743+50.00	314	92	137	86	27	0	0	178	5	0	65			70	91	87	0	0	137	61	85	52
743+75.00	295	0	138	157	27	0	0	157	6	0	68			74	96	61	0	0	138	59	83	55
744+00.00	264	0	135	129	27	0	0	129	5	0	72			77	100	29	0	0	135	53	74	61
744+25.00	232	33	132	67	27	0	0	100	6	0	74			80	104	-4	0	0	132	49	69	63
744+50.00	196	60	126	10	26	0	0	70	7	0	77	1		85	111	-41	0	0	126	45	63	63
744+75.00	159	41	119	0	34	0	0	41	9	0	79			88	114	-73	0	0	119	40	56	63
745+00.00	129	20	109	0	40	0	0	20	14	0	79			93	121	-101	0	0	109	38	53	56
745+25.00	111	11	100	0	25	0	0	11	19	0	77	2		98	127	-116	0	0	100	34	48	52
745+50.00	99	8	91	0	11	0	0	8	23	0	70	16		109	142	-134	0	0	91	32	45	46
745+75.00	93	7	86	0	9	0	0	7	24	0	65	18		107	139	-132	0	0	86	33	46	40
746+00.00	93	11	82	0	8	0	0	11	20	0	58	19		97	126	-115	0	0	82	32	45	37
746+25.00	90	14	76	0	26	0	0	14	15	0	47	1		63	82	-68	0	0	76	32	45	31
746+50.00	101	30	71	0	27	0	0	30	11	0	33			44	57	-27	0	0	71	37	52	19
746+75.00	114	45	70	0	26	0	0	45	8	0	24	1		33	43	2	0	0	70	39	55	15
747+00.00	112	44	69	0	42	0	0	44	7	0	22			29	38	6	0	0	69	40	56	13
747+25.00	132	43	89	0	31	0	0	43	7	0	43			50	65	-22	0	0	89	39	55	34
747+50.00	128	40	88	0	22	0	0	40	6	0	44	5	99	154	200	-160	0	0	88	37	52	36
747+75.00	101	36	65	0	31	0	0	36	4	0	23			27	35	1	0	0	65	34	48	17
748+00.00	97	36	61	0	37	0	0	36	4	0	23			27	35	1	0	0	61	30	42	19
748+25.00	99	40	58	0	34	0	0	40	5	0	22			27	35	5	0	0	58	27	38	20
748+50.00	109	46	62	0	31	0	0	46	3	0	18			21	27	19	0	0	62	30	42	20
748+75.00	127	59	68	0	29	0	0	59	1	0	11			12	16	43	0	0	68	35	49	19
749+00.00	159	84	75	0	27	0	0	84	0	0	4			4	5	79	0	0	75	40	56	19
749+25.00	195	113	82	0	27	0	0	113	0	0	1			1	1	112	0	0	82	46	64	18
749+50.00	224	136	88	0	26	0	0	136	0	0	1	1		2	3	133	0	0	88	51	71	17
749+75.00	246	153	93	0	27	0	0	153	0	0	1			1	1	152	0	0	93	55	77	16
750+00.00	259	164	96	0	27	0	0	164	0	0				0	0	164	0	0	96	58	81	15
750+25.00	261	166	96	0	28	0	0	166	0	0				0	0	166	0	0	96	57	80	16
750+50.00	239	149	90	0	28	0	0	149	0	0	1			1	1	148	0	0	90	52	73	17
750+75.00	191	113	79	0	27	0	0	113	1	0	5			6	8	105	0	0	79	41	57	22
751+00.00	156	86	70	0	27	0	0	86	2	0	11			13	17	69	0	0	70	31	43	27
751+25.00	136	72	63	0	27	0	0	72	3	0	15			18	23	49	0	0	63	22	31	32
751+50.00	119	62	57	0	27	0	0	62	4	0	16			20	26	36	0	0	57	19	27	30
751+75.00	108	55	53	0	28	0	0	55	4	0	13			17	22	33	0	0	53	20	28	25
752+00.00	100	49	51	0	28	0	0	49	4	0	13			17	22	27	0	0	51	22	31	20
752+25.00	96	44	52	0	28	0	0	44	4	0	17			21	27	17	0	0	52	24	34	18
752+50.00	87	41	46	0	28	0	0	41	6	0	21			27	35	6	0	0	46	19	27	19
752+75.00	93	41	52	0	28	0	0	41	5	0	35			40	52	-11	0	0	52	9	13	39
753+00.00	101	42	59	0	28	0	0	42	3	0	42			45	59	-17	0	0	59	3	4	55
753+25.00	93	41	52	0	28	0	0	41	7	0	33			40	52	-11	0	0	52	12	17	35
753+50.00																						
Subtotals:	10,864	4,968	5,449	449	1,878	0	0	5,417	357	0	1,813	82	159	2,411	3,134	2,283	0	0	5,449	2,693	3,770	1,680

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
753+50.00	92	40	53	0	27	0	0	40	12	0	28			40	52	-12	0	0	53	25	35	18
753+75.00	98	40	58	0	27	0	0	40	11	0	27			38	49	-9	0	0	58	31	43	15
754+00.00	91	40	51	0	27	0	0	40	10	0	24			34	44	-4	0	0	51	26	36	15
754+25.00	83	40	43	0	27	0	0	40	9	0	22			31	40	0	0	0	43	19	27	16
754+50.00	83	40	43	0	26	0	0	40	9	0	21	1		31	40	0	0	0	43	19	27	16
754+75.00	85	39	45	0	26	0	0	39	9	0	23	1		33	43	-4	0	0	45	18	25	20
755+00.00	82	37	45	0	26	0	0	37	10	0	23	1		34	44	-7	0	0	45	16	22	23
755+25.00	82	40	43	0	27	0	0	40	8	0	23			31	40	0	0	0	43	10	14	29
755+50.00	110	45	65	0	27	0	0	45	5	0	49			54	70	-25	0	0	65	3	4	61
755+75.00	117	40	77	0	27	0	0	40	7	0	62			69	90	-50	0	0	77	2	3	74
756+00.00	93	32	61	0	27	0	0	32	7	0	40			47	61	-29	0	0	61	10	14	47
756+25.00	93	39	54	0	27	0	0	39	6	0	21			27	35	4	0	0	54	20	28	26
756+50.00	111	55	56	0	29	0	0	55	5	0	16			21	27	28	0	0	56	27	38	18
756+75.00	119	60	59	0	29	0	0	60	5	0	17			22	29	31	0	0	59	29	41	18
757+00.00	115	47	58	10	29	0	0	57	4	0	17			21	27	30	0	0	58	29	41	17
757+25.00	121	34	66	20	29	0	0	54	2	0	17			19	25	29	0	0	66	34	48	18
757+50.00	162	60	82	20	29	0	0	80	0	0	17			17	22	58	0	0	82	46	64	18
757+75.00	210	89	90	30	29	0	0	119	1	0	18			19	25	94	0	0	90	53	74	16
758+00.00	220	90	90	40	27	0	0	130	1	0	18			19	25	105	0	0	90	54	76	14
758+25.00	213	88	87	38	27	0	0	126	1	0	17			18	23	103	0	0	87	52	73	14
758+50.00	214	92	86	37	27	0	0	129	1	0	16			17	22	107	0	0	86	52	73	13
758+75.00	224	96	87	41	27	0	0	137	0	0	16			16	21	116	0	0	87	52	73	14
759+00.00	228	90	88	51	27	0	0	141	1	0	15			16	21	120	0	0	88	52	73	15
759+25.00	231	88	89	54	27	0	0	142	2	0	15			17	22	120	0	0	89	53	74	15
759+50.00	233	91	90	52	27	0	0	143	2	0	15			17	22	121	0	0	90	54	76	14
759+75.00	230	94	89	47	27	0	0	141	2	0	15			17	22	119	0	0	89	53	74	15
760+00.00	223	95	89	39	27	0	0	134	2	0	14			16	21	113	0	0	89	53	74	15
760+25.00	213	103	88	22	27	0	0	125	2	0	14			16	21	104	0	0	88	52	73	15
760+50.00	206	114	90	2	27	0	0	116	2	0	17			19	25	91	0	0	90	53	74	16
760+75.00	197	105	92	0	27	0	0	105	4	0	20			24	31	74	0	0	92	55	77	15
761+00.00	184	91	93	0	27	0	0	91	6	0	24			30	39	52	0	0	93	55	77	16
761+25.00	171	78	93	0	27	0	0	78	8	0	27			35	46	33	0	0	93	55	77	16
761+50.00	159	66	92	0	27	0	0	66	10	0	31			41	53	13	0	0	92	54	76	16
761+75.00	151	59	92	0	27	0	0	59	14	0	36			50	65	-6	0	0	92	54	76	16
762+00.00	146	54	92	0	27	0	0	54	17	0	40			57	74	-20	0	0	92	54	76	16
762+25.00	138	47	92	0	27	0	0	47	22	0	44			66	86	-39	0	0	92	54	76	16
762+50.00	129	37	92	0	27	0	0	37	28	0	48			76	99	-62	0	0	92	54	76	16
762+75.00	123	30	93	0	27	0	0	30	32	0	54			86	112	-82	0	0	93	55	77	16
763+00.00	119	26	93	0	27	0	0	26	37	0	59			96	125	-99	0	0	93	54	76	17
763+25.00	120	24	96	0	28	0	0	24	46	0	64			110	143	-119	0	0	96	56	78	18
763+50.00	124	22	102	0	27	0	0	22	51	0	69			120	156	-134	0	0	102	61	85	17
763+75.00	76	13	64	0	17	0	0	13	33	0	43			76	99	-86	0	0	64	39	55	9
763+90.00	49	9	41	0	11	0	0	9	20	0	29			49	64	-55	0	0	41	25	35	6
764+00.00	97	21	76	0	27	0	0	21	26	0	56			82	107	-86	0	0	76	41	57	19
764+25.00	88	26	62	0	30	0	0	26	3	0	35			38	49	-23	0	0	62	22	31	31
764+50.00	91	31	60	0	30	0	0	31	1	0	27		18	46	60	-29	0	0	60	18	25	35
764+75.00	70	27	42	0	31	0	0	27	1	0	18		38	57	74	-47	0	0	42	15	21	21
765+00.00	53	21	32	0	31	0	0	21	2	0	14			16	21	0	0	0	32	10	14	18
765+25.00	50	15	35	0	33	0	0	15	3	0	17			20	26	-11	0	0	35	11	15	20
765+50.00	71	21	50	0	39	0	0	21	4	0	18			22	29	-8	0	0	50	22	31	19
765+75.00	120	50	70	0	33	0	0	50	4	0	18			22	29	21	0	0	70	38	53	17
766+00.00	163	81	82	0	33	0	0	81	3	0	19			22	29	52	0	0	82	47	66	16
766+25.00	186	99	87	0	40	0	0	99	2	0	19			21	27	72	0	0	87	51	71	16
766+50.00	195	107	88	0	33	0	0	107	2	0	19			21	27	80	0	0	88	52	73	15
766+75.00	191	104	87	0	27	0	0	104	1	0	21			22	29	75	0	0	87	51	71	16
767+00.00	182	101	81	0	27	0	0	101	2	0	23			25	33	69	0	0	81	45	63	18
767+25.00	178	103	76	0	27	0	0	103	3	0	24			27	35	68	0	0	76	41	57	19
767+50.00	180	105	76	0	27	0	0	105	3	0	23			26	34	71	0	0	76	41	57	19
767+75.00	181	104	77	0	27	0	0	104	2	0	23			25	33	72	0	0	77	43	60	17
768+00.00	183	107	76	0	27	0	0	107	2	0	22			24	31	76	0	0	76	42	59	17
768+25.00	183	108	75	0	27	0	0	108	2	0	22			24	31	77	0	0	75	41	57	18
768+50.00	176	102	74	0	27	0	0	102	2	0	22			24	31	71	0	0	74	40	56	18
768+75.00	167	94	73	0	27	0	0	94	2	0	22			24	31	63	0	0	73	39	55	18
769+00.00	164	88	76	0	27	0	0	88	2	0	21			23	30	58	0	0	76	42	59	17
769+25.00	164	85	79	0	29	0	0	85	2	0	18			20	26	59	0	0	79	46	64	15
769+50.00	162	84	79	0	29	0	0	84	2	0	16			18	23	61	0	0	79	46	64	15
769+75.00	162	82	80	0	28	0	0	82	2	0	15			17	22	60	0	0	80	46	64	16
770+00.00	157	78	79	0	28	0	0	78	1	0	14			15	20	59	0	0	79	45	63	16
770+25.00																						
Subtotals:	9,882	4,363	5,021	503	1,889	0	0	4,866	543	0	1,771	3	56	2,373	3,085	1,782	0	0	5,021	2,657	3,720	1,301

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
770+25.00	147	69	77	0	27	0	0	69	1	0	15			16	21	48	0	0	77	43	60	17
770+50.00	132	60	73	0	27	0	0	60	1	0	17			18	23	37	0	0	73	40	56	17
770+75.00	121	52	68	0	28	0	0	52	2	0	21			23	30	22	0	0	68	36	50	18
771+00.00	116	49	67	0	29	0	0	49	2	0	24			26	34	15	0	0	67	35	49	18
771+25.00	119	49	70	0	29	0	0	49	3	0	27			30	39	10	0	0	70	39	55	15
771+50.00	125	53	72	0	29	0	0	53	2	0	27			29	38	15	0	0	72	40	56	16
771+75.00	127	57	71	0	29	0	0	57	2	0	23			25	33	25	0	0	71	39	55	16
772+00.00	128	59	69	0	28	0	0	59	1	0	19			20	26	33	0	0	69	36	50	19
772+25.00	124	60	64	0	28	0	0	60	1	0	14			15	20	41	0	0	64	32	45	19
772+50.00	119	60	59	0	27	0	0	60	0	0	10			10	13	47	0	0	59	27	38	21
772+75.00	114	60	54	0	27	0	0	60	0	0	7			7	9	51	0	0	54	24	34	20
773+00.00	110	60	50	0	27	0	0	60	0	0	4			4	5	55	0	0	50	24	34	16
773+25.00	112	61	50	0	27	0	0	61	0	0	6			6	8	53	0	0	50	23	32	18
773+50.00	110	61	49	0	27	0	0	61	0	0	7			7	9	52	0	0	49	23	32	17
773+75.00	108	60	48	0	27	0	0	60	0	0	9			9	12	48	0	0	48	23	32	16
774+00.00	117	66	51	0	27	0	0	66	0	0	8			8	10	56	0	0	51	23	32	19
774+25.00	115	63	52	0	27	0	0	63	0	0	8		81	89	116	-53	0	0	52	21	29	23
774+50.00	101	52	49	0	27	0	0	52	0	0	10			10	13	39	0	0	49	19	27	22
774+75.00	98	50	48	0	26	0	0	50	0	0	11	1		12	16	34	0	0	48	18	25	23
775+00.00	94	48	46	0	26	0	0	48	0	0	11	1		12	16	32	0	0	46	17	24	22
775+25.00	90	46	45	0	26	0	0	46	0	0	11	1		12	16	30	0	0	45	16	22	23
775+50.00	86	42	44	0	27	0	0	42	0	0	13			13	17	25	0	0	44	15	21	23
775+75.00	85	37	48	0	27	0	0	37	0	0	15			15	20	18	0	0	48	18	25	23
776+00.00	82	33	49	0	27	0	0	33	1	0	17			18	23	10	0	0	49	19	27	22
776+25.00	74	29	45	0	27	0	0	29	2	0	20			22	29	0	0	0	45	16	22	23
776+50.00	69	26	43	0	27	0	0	26	3	0	24			27	35	-9	0	0	43	14	20	23
776+75.00	65	25	40	0	27	0	0	25	4	0	26			30	39	-14	0	0	40	12	17	23
777+00.00	65	23	42	0	29	0	0	23	5	0	28			33	43	-20	0	0	42	14	20	22
777+25.00	73	21	52	0	30	0	0	21	5	0	35			40	52	-31	0	0	52	21	29	23
777+50.00	82	20	62	0	28	0	0	20	7	0	43			50	65	-45	0	0	62	30	42	20
777+75.00	85	19	66	0	29	0	0	19	10	0	49			59	77	-58	0	0	66	32	45	21
778+00.00	85	18	67	0	29	0	0	18	11	0	53			64	83	-65	0	0	67	33	46	21
778+25.00	82	17	65	0	29	0	0	17	9	0	50			59	77	-60	0	0	65	32	45	20
778+50.00	79	18	61	0	29	0	0	18	5	0	42			47	61	-43	0	0	61	29	41	20
778+75.00	72	19	52	0	28	0	0	19	5	0	35			40	52	-33	0	0	52	21	29	23
779+00.00	66	22	43	0	29	0	0	22	5	0	29			34	44	-22	0	0	43	14	20	23
779+25.00	68	25	42	0	28	0	0	25	4	0	27			31	40	-15	0	0	42	14	20	22
779+50.00	70	28	42	0	27	0	0	28	3	0	26			29	38	-10	0	0	42	15	21	21
779+75.00	69	29	40	0	27	0	0	29	2	0	24			26	34	-5	0	0	40	14	20	20
780+00.00	71	29	42	0	27	0	0	29	2	0	23			25	33	-4	0	0	42	16	22	20
780+25.00	72	28	44	0	27	0	0	28	2	0	22			24	31	-3	0	0	44	18	25	19
780+50.00	79	30	49	0	27	0	0	30	3	0	23			26	34	-4	0	0	49	22	31	18
780+75.00	92	34	57	0	27	0	0	34	5	0	23			28	36	-2	0	0	57	27	38	19
781+00.00	95	40	55	0	27	0	0	40	6	0	22			28	36	4	0	0	55	26	36	19
781+25.00	103	44	59	0	28	0	0	44	8	0	23			31	40	4	0	0	59	28	39	20
781+50.00	118	48	69	0	29	0	0	48	8	0	24			32	42	6	0	0	69	36	50	19
781+75.00	127	54	73	0	28	0	0	54	8	0	24			32	42	12	0	0	73	40	56	17
782+00.00	136	60	76	0	27	0	0	60	7	0	24			31	40	20	0	0	76	42	59	17
782+25.00	147	68	78	0	27	0	0	68	6	0	23			29	38	30	0	0	78	44	62	16
782+50.00	154	75	80	0	27	0	0	75	4	0	22			26	34	41	0	0	80	46	64	16
782+75.00	160	79	81	0	31	0	0	79	3	0	21			24	31	48	0	0	81	46	64	17
783+00.00	168	86	82	0	31	0	0	86	3	0	20			23	30	56	0	0	82	47	66	16
783+25.00	179	95	83	0	27	0	0	95	3	0	19			22	29	66	0	0	83	48	67	16
783+50.00	185	101	84	0	27	0	0	101	3	0	18			21	27	74	0	0	84	48	67	17
783+75.00	186	101	84	0	27	0	0	101	3	0	19			22	29	72	0	0	84	48	67	17
784+00.00	183	98	85	0	27	0	0	98	3	0	21			24	31	67	0	0	85	49	69	16
784+25.00	181	96	85	0	27	0	0	96	3	0	22			25	33	64	0	0	85	49	69	16
784+50.00	180	94	86	0	27	0	0	94	3	0	22			25	33	62	0	0	86	50	70	16
784+75.00	177	91	85	0	27	0	0	91	4	0	22			26	34	57	0	0	85	49	69	16
785+00.00	169	87	82	0	27	0	0	87	4	0	22			26	34	53	0	0	82	47	66	16
785+25.00	159	83	76	0	27	0	0	83	4	0	23			27	35	48	0	0	76	42	59	17
785+50.00	150	80	71	0	27	0	0	80	4	0	22			26	34	46	0	0	71	38	53	18
785+75.00	147	76	71	0	28	0	0	76	4	0	23			27	35	41	0	0	71	37	52	19
786+00.00	140	71	70	0	28	0	0	71	5	0	24			29	38	33	0	0	70	36	50	20
786+25.00	131	62	68	0	27	0	0	62	6	0	26			32	42	20	0	0	68	35	49	19
786+50.00	120	54	66	0	29	0	0	54	4	0	22			26	34	20	0	0	66	33	46	20
786+75.00	116	49	66	0	29	0	0	49	0	0	18		80	98	128	-79	0	0	66	32	45	21
787+00.00	111	43	68	0	27	0	0	43	5	0	24			29	38	5	0	0	68	34	48	20
787+25.00																						
Subtotals:	7,820	3,602	4,210	0	1,880	0	0	3,602	219	0	1,486	3	162	1,870	2,431	1,171	0	0	4,210	2,074	2,904	1,306

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
787+25.00	103	35	68	0	27	0	0	35	9	0	31			40	52	-17	0	0	68	35	49	19
787+50.00	93	27	66	0	27	0	0	27	10	0	33			43	56	-29	0	0	66	33	46	20
787+75.00	83	21	62	0	27	0	0	21	12	0	34			46	60	-39	0	0	62	30	42	20
788+00.00	77	17	59	0	27	0	0	17	15	0	35			50	65	-48	0	0	59	27	38	21
788+25.00	80	19	61	0	27	0	0	19	14	0	33			47	61	-42	0	0	61	29	41	20
788+50.00	95	27	68	0	30	0	0	27	12	0	30			42	55	-28	0	0	68	34	48	20
788+75.00	109	37	72	0	35	0	0	37	13	0	35			48	62	-25	0	0	72	26	36	36
789+00.00	124	47	77	0	34	0	0	47	8	0	43			51	66	-19	0	0	77	16	22	55
789+25.00	135	57	77	0	32	0	0	57	10	0	40			50	65	-8	0	0	77	18	25	52
789+50.00	146	65	80	0	31	0	0	65	23	0	41		136	200	261	-196	0	0	80	32	45	35
789+75.00	140	63	77	0	29	0	0	63	20	0	35		77	132	171	-108	0	0	77	39	55	22
790+00.00	124	61	63	0	27	0	0	61	9	0	20			29	38	23	0	0	63	31	43	20
790+25.00	153	75	78	0	27	0	0	75	5	0	32			37	48	27	0	0	78	26	36	42
790+50.00	164	85	79	0	27	0	0	85	4	0	30			34	44	41	0	0	79	26	36	43
790+75.00	157	90	68	0	30	0	0	90	5	0	17			22	29	61	0	0	68	32	45	23
791+00.00	164	94	70	0	30	0	0	94	5	0	17			22	29	65	0	0	70	34	48	22
791+25.00	167	96	71	0	27	0	0	96	6	0	18			24	31	65	0	0	71	36	50	21
791+50.00	168	94	74	0	27	0	0	94	5	0	22			27	35	59	0	0	74	36	50	24
791+75.00	171	91	80	0	27	0	0	91	4	0	30			34	44	47	0	0	80	33	46	34
792+00.00	182	100	82	0	27	0	0	100	1	0	25			26	34	66	0	0	82	37	52	30
792+25.00	212	126	85	0	27	0	0	126	0	0	12		126	138	179	-53	0	0	85	47	66	19
792+50.00	238	148	90	0	27	0	0	148	0	0	8		107	115	149	-1	0	0	90	52	73	17
792+75.00	242	154	88	0	27	0	0	154	0	0	5			5	7	148	0	0	88	52	73	15
793+00.00	233	145	87	0	28	0	0	145	0	0	7			7	9	136	0	0	87	51	71	16
793+25.00	214	131	84	0	28	0	0	131	0	0	8			8	10	121	0	0	84	49	69	15
793+50.00	198	118	81	0	28	0	0	118	0	0	9			9	12	106	0	0	81	46	64	17
793+75.00	185	107	78	0	27	0	0	107	0	0	10			10	13	94	0	0	78	44	62	16
794+00.00	176	99	76	0	27	0	0	99	0	0	11			11	14	85	0	0	76	42	59	17
794+25.00	168	95	74	0	26	0	0	95	0	0	11	1		12	16	79	0	0	74	41	57	17
794+50.00	161	89	72	0	26	0	0	89	0	0	12	1		13	17	72	0	0	72	39	55	17
794+75.00	148	79	69	0	27	0	0	79	0	0	11			11	14	65	0	0	69	37	52	17
795+00.00	135	69	66	0	27	0	0	69	0	0	11			11	14	55	0	0	66	35	49	17
795+25.00	125	61	64	0	26	0	0	61	0	0	11	1		12	16	45	0	0	64	33	46	18
795+50.00	117	55	62	0	27	0	0	55	0	0	13			13	17	38	0	0	62	32	45	17
795+75.00	111	51	60	0	27	0	0	51	0	0	15			15	20	32	0	0	60	30	42	18
796+00.00	106	47	59	0	27	0	0	47	1	0	17			18	23	24	0	0	59	29	41	18
796+25.00	102	44	58	0	27	0	0	44	1	0	18			19	25	19	0	0	58	28	39	19
796+50.00	93	40	53	0	28	0	0	40	2	0	19			21	27	13	0	0	53	24	34	19
796+75.00	85	35	50	0	30	0	0	35	3	0	21			24	31	4	0	0	50	21	29	21
797+00.00	83	32	50	0	32	0	0	32	3	0	22			25	33	-1	0	0	50	22	31	19
797+25.00	84	31	52	0	33	0	0	31	4	0	24			28	36	-5	0	0	52	23	32	20
797+50.00	84	31	54	0	34	0	0	31	4	0	25			29	38	-7	0	0	54	24	34	20
797+75.00	84	29	54	0	30	0	0	29	4	0	26			30	39	-10	0	0	54	25	35	19
798+00.00	80	27	53	0	31	0	0	27	4	0	25			29	38	-11	0	0	53	24	34	19
798+25.00	76	25	51	0	31	0	0	25	3	0	23			26	34	-9	0	0	51	23	32	19
798+50.00	72	22	50	0	33	0	0	22	3	0	22			25	33	-11	0	0	50	22	31	19
798+75.00	71	21	50	0	33	0	0	21	3	0	23			26	34	-13	0	0	50	22	31	19
799+00.00	75	22	53	0	25	0	0	22	3	0	22	2		27	35	-13	0	0	53	25	35	18
799+25.00	79	22	57	0	23	0	0	22	2	0	22	4		28	36	-14	0	0	57	28	39	18
799+50.00	77	21	57	0	22	0	0	21	2	0	22	5		29	38	-17	0	0	57	28	39	18
799+75.00	76	19	57	0	22	0	0	19	2	0	22	5		29	38	-19	0	0	57	28	39	18
800+00.00	77	20	57	0	22	0	0	20	2	0	21	5		28	36	-16	0	0	57	28	39	18
800+25.00	82	24	58	0	22	0	0	24	1	0	18	5		24	31	-7	0	0	58	29	41	17
800+50.00	85	27	58	0	22	0	0	27	0	0	16	5		21	27	0	0	0	58	30	42	16
800+75.00	85	28	57	0	31	0	0	28	0	0	16			16	21	7	0	0	57	30	42	15
801+00.00	84	31	53	0	40	0	0	31	0	0	12			12	16	15	0	0	53	31	43	10
801+25.00	82	36	46	0	33	0	0	36	0	0	11			11	14	22	0	0	46	31	43	3
801+50.00	81	45	36	0	26	0	0	45	0	0	10	1		11	14	31	0	0	36	30	42	-6
801+75.00	88	53	35	0	26	0	0	53	0	0	9	1		10	13	40	0	0	35	32	45	-10
802+00.00	100	60	41	0	27	0	0	60	0	0	8			8	10	50	0	0	41	34	48	-7
802+25.00	114	67	47	0	19	0	0	67	0	0	6	8		14	18	49	0	0	47	37	52	-5
802+50.00	130	76	53	0	21	0	0	76	0	0	3	6		9	12	64	0	0	53	40	56	-3
802+75.00	106	62	45	0	28	0	0	62	0	0	1			1	1	61	0	0	45	28	39	6
803+00.00	78	43	35	0	24	0	0	43	0	0	1	3		4	5	38	0	0	35	14	20	15
803+25.00	85	47	38	0	21	0	0	47	0	0	1	6		7	9	38	0	0	38	15	21	17
803+50.00	92	46	42	0	19	0	4	46	0	0	2	8		10	13	33	0	0	42	15	21	21
803+75.00	99	47	44	0	16	0	8	47	0	0	2	11	61	74	96	-49	0	0	44	15	21	23
804+00.00	208	103	46	0	13	0	59	103	0	98	4	14		116	151	-48	0	0	46	16	22	24
804+25.00																						
Subtotals:	8,301	4,011	4,217	0	1,851	0	71	4,011	237	98	1,249	92	506	2,182	2,837	1,174	0	0	4,217	2,091	2,927	1,290

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
804+25.00	254	39	66	0	20	0	149	39	0	95	6	7		108	140	-101	0	0	66	34	48	18
804+50.00	282	42	83	0	27	0	158	42	0	88	4			92	120	-78	0	0	83	50	70	13
804+75.00	264	107	80	0	27	0	77	107	0	87	5			92	120	-13	0	0	80	47	66	14
805+00.00	235	139	75	0	27	0	22	139	0	84	7			91	118	21	0	0	75	43	60	15
805+25.00	208	136	72	0	25	0	0	136	0	76	17	2		95	124	13	0	0	72	41	57	15
805+50.00	187	115	72	0	24	0	0	115	3	64	33	3		103	134	-19	0	0	72	40	56	16
805+75.00	169	97	72	0	23	0	0	97	12	55	40	4		111	144	-47	0	0	72	40	56	16
806+00.00	159	88	72	0	20	0	0	88	15	52	41	7		115	150	-62	0	0	72	40	56	16
806+25.00	158	86	71	0	16	0	0	86	9	54	40	11		114	148	-62	0	0	71	39	55	16
806+50.00	183	99	85	0	14	0	0	99	5	57	34	13		109	142	-43	0	0	85	51	71	14
806+75.00	228	127	101	0	15	0	0	127	4	60	30	12		106	138	-11	0	0	101	63	88	13
807+00.00	244	145	99	0	16	0	0	145	3	64	27	11		105	137	9	0	0	99	62	87	12
807+25.00	232	138	95	0	18	0	0	138	3	66	27	9		105	137	2	0	0	95	58	81	14
807+50.00	201	110	91	0	28	0	0	110	13	67	33			113	147	-37	0	0	91	54	76	15
807+75.00	101	16	85	0	30	0	0	16	36	0	50			86	112	-96	0	0	85	48	67	18
808+00.00	98	10	89	0	33	0	0	10	77	0	68			145	189	-179	0	0	89	52	73	16
808+25.00	119	13	106	0	33	0	0	13	129	0	83			212	276	-263	0	0	106	67	94	12
808+50.00	135	16	119	0	32	0	0	16	160	0	94			254	330	-314	0	0	119	77	108	11
808+75.00	139	13	126	0	41	0	0	13	192	0	104			296	385	-372	0	0	126	76	106	20
809+00.00	141	18	123	0	40	0	0	18	145	0	91			236	307	-289	0	0	123	74	104	19
809+25.00	152	38	114	0	40	0	0	38	51	0	60			111	144	-106	0	0	114	74	104	10
809+50.00	168	60	108	0	38	0	0	60	16	0	36			52	68	-8	0	0	108	69	97	11
809+75.00	178	77	100	0	35	0	0	77	4	0	27		135	166	216	-139	0	0	100	62	87	13
810+00.00	181	90	91	0	30	0	0	90	3	0	22			25	33	58	0	0	91	56	78	13
810+25.00	193	106	87	0	27	0	0	106	1	0	15			16	21	85	0	0	87	52	73	14
810+50.00	224	136	88	0	27	0	0	136	0	0	9			9	12	124	0	0	88	53	74	14
810+75.00	271	179	92	0	27	0	0	179	0	0	4			4	5	174	0	0	92	56	78	14
811+00.00	329	230	99	0	27	0	0	230	0	0	1			1	1	229	0	0	99	62	87	12
811+25.00	398	289	109	0	27	0	0	289	0	0				0	0	289	0	0	109	70	98	11
811+50.00	452	327	118	4	27	4	0	335	0	0				0	0	335	0	0	118	69	97	21
811+75.00	490	323	123	27	27	17	0	367	0	0				0	0	367	0	0	123	63	88	35
812+00.00	520	352	126	28	27	13	0	393	0	0	1			1	1	392	0	0	126	74	104	22
812+25.00	516	387	125	5	26	0	0	392	0	0		1		1	1	391	0	0	125	85	119	6
812+50.00	475	355	120	0	27	0	0	355	0	0	1			1	1	354	0	0	120	82	115	5
812+75.00	420	307	114	0	28	0	0	307	0	0	3			3	4	303	0	0	114	77	108	6
813+00.00	380	271	109	0	28	0	0	271	0	0	7			7	9	262	0	0	109	74	104	6
813+25.00	361	255	106	0	27	0	0	255	0	0	11			11	14	241	0	0	106	71	99	7
813+50.00	344	240	104	0	27	0	0	240	1	0	14			15	20	221	0	0	104	69	97	8
813+75.00	329	226	103	0	27	0	0	226	1	0	17			18	23	203	0	0	103	67	94	9
814+00.00	324	222	102	0	28	0	0	222	1	0	17			18	23	199	0	0	102	66	92	10
814+25.00	325	223	102	0	28	0	0	223	0	0	16			16	21	202	0	0	102	66	92	10
814+50.00	335	231	105	0	28	0	0	231	0	0	16			16	21	210	0	0	105	68	95	10
814+75.00	344	238	106	0	28	0	0	238	0	0	17			17	22	216	0	0	106	69	97	10
815+00.00	341	236	105	0	28	0	0	236	0	0	17			17	22	214	0	0	105	69	97	9
815+25.00	328	225	103	0	28	0	0	225	1	0	16			17	22	203	0	0	103	68	95	8
815+50.00	300	199	102	0	28	0	0	199	2	0	16			18	23	176	0	0	102	68	95	7
815+75.00	260	160	100	0	28	0	0	160	1	0	16			17	22	138	0	0	100	67	94	6
816+00.00	216	119	97	0	28	0	0	119	1	0	16			17	22	97	0	0	97	64	90	8
816+25.00	178	76	102	0	28	0	0	76	0	0	26			26	34	42	0	0	102	60	84	18
816+50.00	155	49	106	0	28	0	0	49	1	0	44		68	113	147	-98	0	0	106	49	69	37
816+75.00	139	44	95	0	28	0	0	44	2	0	43			45	59	-15	0	0	95	48	67	28
817+00.00	109	66	43	0	28	0	0	66	5	0	16			21	27	39	0	0	43	58	81	-38
817+25.00	81	81	0	0	28	0	0	81	17	0				17	22	59	0	0	0	64	90	-90
817+50.00	67	67	0	0	27	0	0	67	33	0				33	43	24	0	0	0	66	92	-92
817+75.00	54	54	0	0	26	0	0	54	34	0		1		35	46	9	0	0	0	66	92	-92
818+00.00	43	43	0	0	21	0	0	43	31	0		6		37	48	-5	0	0	0	63	88	-88
818+25.00	30	30	0	0	14	0	0	30	40	0		13		53	69	-39	0	0	0	57	80	-80
818+50.00	32	32	0	0	9	0	0	32	70	0		18		88	114	-82	0	0	0	60	84	-84
818+75.00	60	60	0	0	3	0	0	60	121	0		24		145	189	-129	0	0	0	71	99	-99
819+00.00	65	65	0	0	0	0	0	65	184	0		28	351	563	732	-667	0	0	0	82	115	-115
819+25.00	64	64	0	0	23	0	0	64	248	0		5		253	329	-265	0	0	0	97	136	-136
819+50.00	150	78	0	0	23	73	0	151	318	0		5		323	420	-269	0	0	0	94	132	-132
819+75.00	341	43	0	0	0	298	0	341	433	0		27		460	598	-257	0	0	0	84	118	-118
820+00.00	465	37	0	0	0	428	0	465	566	0		27		593	771	-306	0	0	0	88	123	-123
820+25.00	434	75	0	0	0	359	0	434	319	0		27		346	450	-16	0	0	0	92	129	-129
820+50.00	310	71	0	0	0	239	0	310	595	0		27		622	809	-499	0	0	0	93	130	-130
820+75.00	146	49	0	0	0	97	0	146	531	0		28		559	727	-581	0	0	0	92	129	-129
821+00.00	45	30	0	0	0	15	0	45	510	0		27		537	698	-653	0	0	0	95	133	-133
821+25.00																						
Subtotals:	15,859	8,769	5,086	64	1,596	1,543	406	10,376	4,947	969	1,338	343	555	8,152	10,597	-221	0	0	5,086	4,425	6,195	-1,109

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.14

9/11/2017 4:11:51 PM adewolf C:\Users\adewolf\Desktop\US 52 Earthwork\31052120_T02.xlsm

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
821+25.00	19	18	0	0	0	1	0	19	494	0		27		521	677	-658	0	0	0	95	133	-133
821+50.00	14	13	0	0	0	1	0	14	468	0		27		495	644	-630	0	0	0	90	126	-126
821+75.00	18	15	0	0	23	3	0	18	229	0		4		233	303	-285	0	0	0	83	116	-116
822+00.00	20	16	0	0	23	4	0	20	168	0		4		172	224	-204	0	0	0	76	106	-106
822+25.00	23	21	0	0	0	1	0	22	297	0		27		324	421	-399	0	0	0	72	101	-101
822+50.00	27	27	0	0	23	0	0	27	231	0		4		235	306	-279	0	0	0	64	90	-90
822+75.00	26	26	0	0	46	0	0	26	196	0				196	255	-229	0	0	0	53	74	-74
823+00.00	27	27	0	0	23	0	0	27	176	0		4		180	234	-207	0	0	0	49	69	-69
823+25.00	28	28	0	0	29	0	0	28	148	0				148	192	-164	0	0	0	45	63	-63
823+50.00	39	39	0	0	54	0	0	39	117	0				117	152	-113	0	0	0	43	60	-60
823+75.00	67	67	0	0	50	0	0	67	93	0				93	121	-54	0	0	0	49	69	-69
824+00.00	96	96	0	0	50	0	0	96	75	0				75	98	-2	0	0	0	52	73	-73
824+25.00	118	118	0	0	50	0	0	118	57	0				57	74	44	0	0	0	52	73	-73
824+50.00	122	65	0	0	25	22	36	87	19	0		2		21	27	60	0	0	0	39	55	-55
824+75.00	111	4	0	0	24	40	67	44	33	0		3		36	47	-3	0	0	0	28	39	-39
825+00.00	121	8	0	0	36	42	71	50	32	0				32	42	8	0	0	0	30	42	-42
825+25.00	161	76	0	0	25	45	40	121	27	0		2		29	38	83	0	0	0	32	45	-45
825+50.00	206	145	0	0	27	61	0	206	19	0				19	25	181	0	0	0	34	48	-48
825+75.00	249	153	0	0	28	96	0	249	9	0				9	12	237	0	0	0	24	34	-34
826+00.00	289	171	0	0	27	119	0	290	4	0			360	364	473	-183	0	0	0	13	18	-18
826+25.00	333	192	0	0	27	141	0	333	3	0				3	4	329	0	0	0	21	29	-29
826+50.00	373	206	0	0	27	167	0	373	3	0				3	4	369	0	0	0	27	38	-38
826+75.00	400	191	0	0	27	209	0	400	4	0				4	5	395	0	0	0	18	25	-25
827+00.00	440	224	0	0	27	216	0	440	4	0				4	5	435	0	0	0	19	27	-27
827+25.00	545	369	0	0	27	176	0	545	4	0				4	5	540	0	0	0	45	63	-63
827+50.00	709	593	0	0	27	116	0	709	3	0				3	4	705	0	0	0	75	105	-105
827+75.00	808	770	0	0	27	38	0	808	1	0				1	1	807	0	0	0	87	122	-122
828+00.00	920	907	0	0	27	13	0	920	0	0				0	0	920	0	0	0	98	137	-137
828+25.00	1,121	1,091	0	0	27	31	0	1,122	0	0				0	0	1,122	0	0	0	104	146	-146
828+50.00	1,281	1,226	0	0	27	55	0	1,281	0	0				0	0	1,281	0	0	0	100	140	-140
828+75.00	1,366	1,161	0	0	27	206	0	1,367	0	0				0	0	1,367	0	0	0	88	123	-123
829+00.00	1,431	1,120	0	0	27	312	0	1,432	0	0				0	0	1,432	0	0	0	82	115	-115
829+25.00	1,496	1,237	0	0	27	259	0	1,496	0	0				0	0	1,496	0	0	0	89	125	-125
829+50.00	1,539	1,316	0	0	27	223	0	1,539	0	0				0	0	1,539	0	0	0	94	132	-132
829+75.00	1,550	1,352	0	0	27	197	0	1,549	0	0				0	0	1,549	0	0	0	97	136	-136
830+00.00	1,518	1,239	102	0	27	176	0	1,415	0	0				0	0	1,415	0	0	102	99	139	-37
830+25.00	1,449	1,092	199	0	27	158	0	1,250	0	0				0	0	1,250	0	0	199	97	136	63
830+50.00	1,352	1,017	191	0	27	144	0	1,161	0	0				0	0	1,161	0	0	191	92	129	62
830+75.00	1,257	940	184	0	27	134	0	1,074	0	0				0	0	1,074	0	0	184	88	123	61
831+00.00	1,165	901	178	0	27	86	0	987	0	0				0	0	987	0	0	178	87	122	56
831+25.00	845	673	151	0	27	21	0	694	0	0	27			27	35	659	0	0	151	69	97	54
831+50.00	548	407	141	0	27	0	0	407	0	0	71		330	401	521	-114	0	0	141	48	67	74
831+75.00	430	324	106	0	27	0	0	324	0	0	44			44	57	267	0	0	106	41	57	49
832+00.00	299	245	54	0	27	0	0	245	0	0				0	0	245	0	0	54	34	48	6
832+25.00	219	173	46	0	27	0	0	173	0	0				0	0	173	0	0	46	28	39	7
832+50.00	272	196	76	0	27	0	0	196	0	0				0	0	196	0	0	76	47	66	10
832+75.00	321	215	106	0	27	0	0	215	0	0	3			3	4	211	0	0	106	67	94	12
833+00.00	264	160	104	0	25	0	0	160	1	0	12	2		15	20	141	0	0	104	65	91	13
833+25.00	241	136	105	0	33	0	0	136	4	0	21			25	33	104	0	0	105	66	92	13
833+50.00	217	113	104	0	46	0	0	113	3	0	27			30	39	74	0	0	104	65	91	13
833+75.00	190	87	103	0	23	0	0	87	32	0	31	4		67	87	0	0	0	103	64	90	13
834+00.00	164	61	103	0	23	0	0	61	73	0	37	4		114	148	-87	0	0	103	64	90	13
834+25.00	144	40	103	0	23	0	0	40	42	0	46	4		92	120	-80	0	0	103	64	90	13
834+50.00	165	52	113	0	23	0	0	52	109	0	54	4		167	217	-165	0	0	113	72	101	12
834+75.00	210	81	128	0	46	0	0	81	127	0	58			185	241	-160	0	0	128	85	119	9
835+00.00	222	88	134	0	46	0	0	88	142	0	62			204	265	-177	0	0	134	91	127	7
835+25.00	222	86	136	0	23	0	0	86	156	0	71	4		231	300	-214	0	0	136	91	127	9
835+50.00	224	80	143	0	23	0	0	80	188	0	87	4		279	363	-283	0	0	143	92	129	14
835+75.00	231	82	149	0	23	0	0	82	230	0	96	4		330	429	-347	0	0	149	96	134	15
836+00.00	230	83	147	0	23	0	0	83	124	0	88	4		216	281	-198	0	0	147	98	137	10
836+25.00	203	67	136	0	46	0	0	67	0	0	74			74	96	-29	0	0	136	90	126	10
836+50.00	173	54	119	0	46	0	0	54	0	0	58			58	75	-21	0	0	119	78	109	10
836+75.00	163	55	108	0	46	0	0	55	0	0	45			45	59	-4	0	0	108	68	95	13
837+00.00	174	73	101	0	23	0	0	73	8	0	35	4		47	61	12	0	0	101	62	87	14
837+25.00	175	83	92	0	22	0	0	83	11	0	28	5		44	57	26	0	0	92	54	76	16
837+50.00	168	82	86	0	44	0	0	82	4	0	25			29	38	44	0	0	86	49	69	17
837+75.00	171	87	84	0	42	0	0	87	1	0	20			21	27	60	0	0	84	48	67	17
838+00.00	182	98	85	0	32	0	0	98	0	0	15			15	20	79	0	0	85	49	69	16
838+25.00																						
Subtotals:	29,901	22,258	3,917	0	1,973	3,513	214	25,771	4,169	0	1,135	147	690	6,141	7,983	17,788	0	0	3,917	4,375	6,125	-2,208

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
838+25.00	199	114	86	0	30	0	0	114	0	0	9			9	12	102	0	0	86	52	73	13
838+50.00	223	137	87	0	32	0	0	137	0	0	4			4	5	132	0	0	87	55	77	10
838+75.00	265	174	91	0	27	0	0	174	0	0	2		222	224	291	-117	0	0	91	58	81	10
839+00.00	291	200	90	0	27	0	0	200	0	0	1			1	1	199	0	0	90	59	83	8
839+25.00	280	197	83	0	27	0	0	197	0	0				0	0	197	0	0	83	57	80	3
839+50.00	251	176	75	0	27	0	0	176	0	0				0	0	176	0	0	75	51	71	4
839+75.00	219	150	68	0	27	0	0	150	0	0	1			1	1	149	0	0	68	45	63	5
840+00.00	190	127	62	0	27	0	0	127	0	0	1			1	1	126	0	0	62	38	53	9
840+25.00	156	107	48	0	27	0	0	107	0	0	1			1	1	106	0	0	48	28	39	9
840+50.00	129	93	36	0	27	0	0	93	0	0	1			1	1	92	0	0	36	20	28	8
840+75.00	119	85	34	0	27	0	0	85	0	0	1			1	1	84	0	0	34	19	27	7
841+00.00	109	77	33	0	27	0	0	77	0	0	1			1	1	76	0	0	33	19	27	6
841+25.00	101	69	32	0	27	0	0	69	0	0	1			1	1	68	0	0	32	18	25	7
841+50.00	91	60	31	0	27	0	0	60	0	0	1			1	1	59	0	0	31	17	24	7
841+75.00	82	53	29	0	27	0	0	53	0	0	1			1	1	52	0	0	29	16	22	7
842+00.00	83	54	30	0	28	0	0	54	0	0	1			1	1	53	0	0	30	16	22	8
842+25.00	97	60	37	0	30	0	0	60	0	0	4			4	5	55	0	0	37	19	27	10
842+50.00	108	65	43	0	31	0	0	65	0	0	5		74	79	102	-37	0	0	43	23	32	11
842+75.00	109	66	43	0	31	0	0	66	0	0	3			3	4	62	0	0	43	25	35	8
843+00.00	108	66	42	0	31	0	0	66	0	0	3			3	4	62	0	0	42	25	35	7
843+25.00	107	66	42	0	30	0	0	66	0	0	3			3	4	62	0	0	42	24	34	8
843+50.00	108	65	43	0	29	0	0	65	0	0	5			5	7	59	0	0	43	24	34	9
843+75.00	128	72	56	0	28	0	0	72	0	0	6			6	8	64	0	0	56	33	46	10
844+00.00	149	79	70	0	29	0	0	79	0	0	6			6	8	71	0	0	70	43	60	10
844+25.00	148	77	71	0	30	0	0	77	0	0	7			7	9	68	0	0	71	43	60	11
844+50.00	142	70	71	0	33	0	0	70	0	0	10			10	13	57	0	0	71	43	60	11
844+75.00	133	63	70	0	30	0	0	63	0	0	11			11	14	49	0	0	70	42	59	11
845+00.00	122	80	43	0	27	0	0	80	0	0	6			6	8	72	0	0	43	41	57	-14
845+25.00	112	95	17	0	27	0	0	95	2	0	3		89	94	123	-28	0	0	17	40	56	-39
845+50.00	96	79	17	0	25	0	0	79	5	0	4	2	53	64	83	-4	0	0	17	41	57	-40
845+75.00	79	62	17	0	23	0	0	62	10	0	5	4		19	25	37	0	0	17	41	57	-40
846+00.00	70	53	17	0	19	0	0	53	12	0	6	8		26	34	19	0	0	17	40	56	-39
846+25.00	68	51	17	0	11	0	0	51	14	0	7	16		37	48	3	0	0	17	42	59	-42
846+50.00	68	51	17	0	8	0	0	51	18	0	7	19		44	57	-6	0	0	17	43	60	-43
846+75.00	61	25	16	0	3	0	20	25	21	0	7	24		52	68	-43	0	0	16	40	56	-40
847+00.00	55	0	15	0	2	0	40	0	23	0	8	26		57	74	-74	0	0	15	35	49	-34
847+25.00	52	18	14	0	4	0	19	18	25	0	7	24		56	73	-55	0	0	14	35	49	-35
847+50.00	51	37	15	0	5	0	0	37	26	0	7	22		55	72	-35	0	0	15	37	52	-37
847+75.00	55	40	15	0	6	0	0	40	26	0	7	21		54	70	-30	0	0	15	39	55	-40
848+00.00	63	47	16	0	8	0	0	47	25	0	7	19		51	66	-19	0	0	16	40	56	-40
848+25.00	70	54	16	0	10	0	0	54	23	0	7	17		47	61	-7	0	0	16	41	57	-41
848+50.00	73	57	16	0	12	0	0	57	19	0	7	15		41	53	4	0	0	16	40	56	-40
848+75.00	74	59	16	0	23	0	0	59	16	0	6	4		26	34	25	0	0	16	40	56	-40
849+00.00	80	64	16	0	23	0	0	64	15	0	6	4		25	33	32	0	0	16	40	56	-40
849+25.00	93	75	17	0	13	0	0	75	15	0	7	14		36	47	28	0	0	17	41	57	-40
849+50.00	113	96	17	0	12	0	0	96	14	0	5	15		34	44	52	0	0	17	44	62	-45
849+75.00	146	126	19	0	10	0	0	126	8	0	5	17		30	39	87	0	0	19	48	67	-48
850+00.00	155	121	20	15	10	0	0	136	8	0	5	17	88	118	154	-18	0	0	20	50	70	-50
850+25.00	143	109	19	15	10	0	0	124	13	0	6	17		36	47	77	0	0	19	48	67	-48
850+50.00	145	95	19	31	11	0	0	126	12	0	6	16		34	44	82	0	0	19	46	64	-45
850+75.00	155	62	20	68	13	6	0	136	10	0	5	14		29	38	98	0	0	20	42	59	-39
851+00.00	174	70	21	75	15	9	0	154	10	0	5	12		27	35	119	0	0	21	40	56	-35
851+25.00	185	74	21	72	29	18	0	164	10	0	5			15	20	145	0	0	21	34	48	-27
851+50.00	182	61	21	51	31	49	0	161	9	0	6			15	20	142	0	0	21	22	31	-10
851+75.00	182	54	22	27	24	79	0	160	5	0	8	3		16	21	139	0	0	22	12	17	5
852+00.00	198	61	22	27	27	88	0	176	1	0	7			8	10	166	0	0	22	9	13	9
852+25.00	237	80	23	43	16	91	0	214	0	0	6	11		17	22	192	0	0	23	12	17	6
852+50.00	271	106	24	56	4	85	0	247	0	0	6	23		29	38	209	0	0	24	15	21	3
852+75.00	268	112	23	64	17	68	0	244	0	0	4	10		14	18	226	0	0	23	21	29	-6
853+00.00	249	89	21	67	30	72	0	228	0	0	2			2	3	225	0	0	21	19	27	-6
853+25.00	247	77	21	64	16	85	0	226	0	0	3	11		14	18	208	0	0	21	14	20	1
853+50.00	226	62	20	71	15	73	0	206	0	0	3	12		15	20	187	0	0	20	14	20	0
853+75.00	197	53	19	79	28	46	0	178	0	0	3			3	4	174	0	0	19	16	22	-3
854+00.00	193	67	21	88	29	17	0	172	0	0	5			5	7	166	0	0	21	23	32	-11
854+25.00	206	98	24	84	19	1	0	183	0	0	8	8		16	21	162	0	0	24	34	48	-24
854+50.00	209	105	22	81	10	0	0	186	0	0	6	17		23	30	156	0	0	22	42	59	-37
854+75.00	174	43	19	46	22	66	0	155	0	0	3	5		8	10	145	0	0	19	41	57	-38
855+00.00	139	55	19	0	30	66	0	121	0	0	4			4	5	116	0	0	19	38	53	-34
855+25.00																						
Subtotals:	9,861	5,445	2,297	1,124	1,450	919	79	7,488	395	0	319	447	526	1,687	2,194	5,294	0	0	2,297	2,312	3,237	-940

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
855+25.00	119	101	18	0	27	0	0	101	0	0	4			4	5	96	0	0	18	35	49	-31
855+50.00	106	88	18	0	27	0	0	88	0	0	5			5	7	82	0	0	18	32	45	-27
855+75.00	93	76	17	0	31	0	0	76	1	0	4			5	7	70	0	0	17	30	42	-25
856+00.00	101	83	18	0	36	0	0	83	2	0	5			7	9	74	0	0	18	34	48	-30
856+25.00	119	98	21	0	36	0	0	98	3	0	9			12	16	82	0	0	21	37	52	-31
856+50.00	129	107	22	0	36	0	0	107	4	0	11		29	44	58	50	0	0	22	38	53	-31
856+75.00	138	117	22	0	32	0	0	117	5	0	10			15	20	98	0	0	22	45	63	-41
857+00.00	138	115	23	0	33	0	0	115	12	0	11		34	57	74	41	0	0	23	49	69	-46
857+25.00	106	82	24	0	39	0	0	82	44	0	12			56	73	9	0	0	24	55	77	-53
857+50.00	64	37	27	0	39	0	0	37	106	0	19			125	163	-126	0	0	27	63	88	-61
857+75.00	43	16	27	0	39	0	0	16	149	0	23			172	224	-208	0	0	27	66	92	-65
858+00.00	38	10	28	0	40	0	0	10	156	0	25			181	235	-225	0	0	28	69	97	-69
858+25.00	41	9	32	0	40	0	0	9	217	0	29			246	320	-311	0	0	32	83	116	-84
858+50.00	49	8	42	0	32	0	0	8	425	0	39			464	603	-595	0	0	42	102	143	-101
858+75.00	47	9	38	0	23	0	0	9	424	0	37	4		465	605	-596	0	0	38	96	134	-96
859+00.00	39	11	28	0	22	0	0	11	255	0	26	5		286	372	-361	0	0	28	82	115	-87
859+25.00	41	15	27	0	21	0	0	15	219	0	22	5		246	320	-305	0	0	27	79	111	-84
859+50.00	48	22	26	0	29	0	0	22	186	0	20			206	268	-246	0	0	26	76	106	-80
859+75.00	51	25	25	0	30	0	0	25	155	0	19			174	226	-201	0	0	25	71	99	-74
860+00.00	78	18	61	0	28	0	0	18	126	0	47			173	225	-207	0	0	61	64	90	-29
860+25.00	106	10	95	0	36	0	0	10	108	0	75			183	238	-228	0	0	95	58	81	14
860+50.00	99	11	88	0	35	0	0	11	88	0	68			156	203	-192	0	0	88	52	73	15
860+75.00	88	14	75	0	29	0	0	14	50	0	54			104	135	-121	0	0	75	41	57	18
861+00.00	81	21	60	0	27	0	0	21	19	0	37			56	73	-52	0	0	60	30	42	18
861+25.00	69	25	44	0	29	0	0	25	6	0	23			29	38	-13	0	0	44	17	24	20
861+50.00	54	23	31	0	30	0	0	23	2	0	18			20	26	-3	0	0	31	4	6	25
861+75.00	75	23	52	0	32	0	0	23	2	0	42		65	109	142	-119	0	0	52	0	0	52
862+00.00	92	20	72	0	30	0	0	20	9	0	58			67	87	-67	0	0	72	13	18	54
862+25.00	87	15	72	0	34	0	0	15	18	0	56			74	96	-81	0	0	72	26	36	36
862+50.00	81	10	72	0	42	0	0	10	20	0	55			75	98	-88	0	0	72	27	38	34
862+75.00	77	10	68	0	43	0	0	10	19	0	46			65	85	-75	0	0	68	29	41	27
863+00.00	76	11	65	0	35	0	0	11	15	0	38			53	69	-58	0	0	65	29	41	24
863+25.00	78	14	64	0	34	0	0	14	12	0	35			47	61	-47	0	0	64	27	38	26
863+50.00	85	19	66	0	41	0	0	19	10	0	35			45	59	-40	0	0	66	26	36	30
863+75.00	91	22	69	0	40	0	0	22	9	0	38			47	61	-39	0	0	69	27	38	31
864+00.00	90	19	70	0	39	0	0	19	10	0	41			51	66	-47	0	0	70	26	36	34
864+25.00	97	20	77	0	33	0	0	20	8	0	48			56	73	-53	0	0	77	25	35	42
864+50.00	50	17	32	0	10	0	0	17	2	0	14			16	21	-4	0	0	32	15	21	11
864+58.63																						
ML052																						
Totals:	181,483	106,732	63,247	3,223	28,560	7,474	807	117,429	16,637	3,714	19,508	1,350	5,315	46,524	60,483	56,947	0	0	63,247	40,718	57,006	6,244

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.17

9/11/2017 4:11:51 PM adewolf C:\Users\adewolf\Desktop\US 52 Earthwork\31052120_T02.xlsm

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
ML052EB																						
41864+58.63																						
41864+75.00	37	10	27	0	11	0	0	10	4	0	13			17	22	-12	0	0	27	15	21	6
41865+00.00	56	15	41	0	15	0	0	15	4	0	20			24	31	-16	0	0	41	23	32	9
41865+25.00	48	10	38	0	12	0	0	10	2	0	20			22	29	-19	0	0	38	21	29	9
41865+50.00	40	9	32	0	13	0	0	9	1	0	18			19	25	-16	0	0	32	16	22	10
41865+75.00	37	11	26	0	13	0	0	11	1	0	15			16	21	-10	0	0	26	12	17	9
41866+00.00	35	11	24	0	11	0	0	11	0	0	13			13	17	-6	0	0	24	11	15	9
41866+25.00	31	10	21	0	13	0	0	10	0	0	11			11	14	-4	0	0	21	9	13	8
41866+50.00	26	9	17	0	16	0	0	9	0	0	10			10	13	-4	0	0	17	6	8	9
41866+75.00	25	9	16	0	12	0	0	9	0	0	10			10	13	-4	0	0	16	5	7	9
41867+00.00	26	8	18	0	7	0	0	8	1	0	12	1		14	18	-10	0	0	18	7	10	8
41867+25.00	27	6	21	0	10	0	0	6	2	0	14			16	21	-15	0	0	21	9	13	8
41867+50.00	27	3	23	0	9	0	0	3	3	0	16			19	25	-22	0	0	23	12	17	6
41867+75.00	25	2	23	0	4	0	0	2	4	0	15	4		23	30	-28	0	0	23	13	18	5
41868+00.00	26	1	24	0	7	0	0	1	5	0	14	1		20	26	-25	0	0	24	14	20	4
41868+25.00	25	0	25	0	11	0	0	0	6	0	15			21	27	-27	0	0	25	16	22	3
41868+50.00	26	0	26	0	7	0	0	0	7	0	20	4		31	40	-40	0	0	26	17	24	2
41868+75.00	26	0	26	0	3	0	0	0	6	0	20	11		37	48	-48	0	0	26	19	27	-1
41869+00.00	27	0	27	0	15	0	0	0	7	0	20	1		28	36	-36	0	0	27	21	29	-2
41869+25.00	29	0	29	0	15	0	0	0	8	0	21	2		31	40	-40	0	0	29	23	32	-3
41869+50.00	30	0	30	0	15	0	0	0	10	0	22	2		34	44	-44	0	0	30	25	35	-5
41869+75.00	33	0	33	0	14	0	0	0	14	0	25	3		42	55	-55	0	0	33	28	39	-6
41870+00.00	36	0	36	0	0	0	0	0	22	0	29	17		68	88	-88	0	0	36	29	41	-5
41870+25.00	45	0	45	0	0	0	0	0	50	0	41	15		106	138	-138	0	0	45	33	46	-1
41870+50.00	63	0	63	0	0	0	0	0	84	0	49	13		146	190	-190	0	0	63	48	67	-4
41870+75.00	69	0	69	0	0	0	0	0	104	0	50	10		164	213	-213	0	0	69	54	76	-7
41871+00.00	63	0	63	0	0	0	0	0	123	0	54	7		184	239	-239	0	0	63	46	64	-2
41871+25.00	56	0	56	0	0	0	0	0	133	0	50	3		186	242	-242	0	0	56	39	55	1
41871+50.00	52	0	52	0	0	0	0	0	133	0	44			177	230	-230	0	0	52	36	50	2
41871+75.00	26	0	26	0	0	0	0	0	85	0	21			106	138	-138	0	0	26	18	25	1
41872+00.00	0	0	0	0	0	0	0	0	31	0				31	40	-40	0	0	0	0	0	0
41872+02.07	0	0	0	0	0	0	0	0	2	0				2	3	-3	0	0	0	0	0	0
Gap	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0
41873+49.86	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0
41873+50.00	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0
41873+75.00	1	1	0	0	6	0	0	1	0	0		5		5	7	-6	0	0	0	0	0	0
41874+00.00	1	1	0	0	16	0	0	1	0	0		4		4	5	-4	0	0	0	0	0	0
41874+25.00	8	8	0	0	21	0	0	8	2	0		1		3	4	4	0	0	0	6	8	-8
41874+50.00	16	16	0	0	23	0	0	16	4	0				4	5	11	0	0	0	12	17	-17
41874+75.00	20	20	0	0	24	0	0	20	4	0				4	5	15	0	0	0	9	13	-13
41875+00.00	22	22	0	0	24	0	0	22	4	0				4	5	17	0	0	0	8	11	-11
41875+25.00	24	24	0	0	23	0	0	24	4	0				4	5	19	0	0	0	7	10	-10
41875+50.00	24	24	0	0	21	0	0	24	1	0				1	1	23	0	0	0	3	4	-4
41875+75.00	24	24	0	0	19	0	0	24	0	0				0	0	24	0	0	0	0	0	0
41876+00.00	25	25	0	0	17	0	0	25	0	0				0	0	25	0	0	0	0	0	0
41876+25.00	25	25	0	0	15	0	0	25	0	0		2		2	3	22	0	0	0	0	0	0
41876+50.00	25	25	0	0	13	0	0	25	0	0		4		4	5	20	0	0	0	0	0	0
41876+75.00	26	26	0	0	13	0	0	26	0	0		5		5	7	20	0	0	0	0	0	0
41877+00.00	26	26	0	0	13	0	0	26	0	0		3		3	4	22	0	0	0	0	0	0
41877+25.00	25	25	0	0	13	0	0	25	0	0				0	0	25	0	0	0	0	0	0
41877+50.00	25	25	0	0	13	0	0	25	0	0				0	0	25	0	0	0	0	0	0
41877+75.00	24	24	0	0	13	0	0	24	0	0				0	0	24	0	0	0	0	0	0
41878+00.00	21	21	0	0	13	0	0	21	0	0				0	0	21	0	0	0	0	0	0
41878+25.00	18	18	0	0	14	0	0	18	1	0				1	1	17	0	0	0	0	0	0
41878+50.00	16	16	0	0	14	0	0	16	2	0				2	3	13	0	0	0	0	0	0
41878+75.00	16	16	0	0	14	0	0	16	2	0				2	3	13	0	0	0	0	0	0
41879+00.00	17	17	0	0	15	0	0	17	1	0				1	1	16	0	0	0	0	0	0
41879+25.00	18	18	0	0	14	0	0	18	1	0				1	1	17	0	0	0	0	0	0
41879+50.00	19	19	0	0	13	0	0	19	1	0				1	1	18	0	0	0	0	0	0
41879+75.00	20	20	0	0	13	0	0	20	1	0				1	1	19	0	0	0	0	0	0
41880+00.00	20	20	0	0	13	0	0	20	1	0				1	1	19	0	0	0	0	0	0
41880+25.00	21	21	0	0	13	0	0	21	1	0				1	1	20	0	0	0	0	0	0
41880+50.00	22	22	0	0	13	0	0	22	0	0				0	0	22	0	0	0	0	0	0
41880+75.00	22	22	0	0	13	0	0	22	0	0				0	0	22	0	0	0	0	0	0
41881+00.00	40	40	0	0	13	0	0	40	0	0				0	0	40	0	0	0	0	0	0
41881+25.00	40	40	0	0	13	0	0	40	0	0				0	0	40	0	0	0	0	0	0
41881+50.00	23	23	0	0	13	0	0	23	0	0				0	0	23	0	0	0	0	0	0
41881+75.00	23	23	0	0	13	0	0	23	0	0				0	0	23	0	0	0	0	0	0
Subtotals:	1,769	811	957	0	734	0	0	811	882	0	682	118	0	1,682	2,187	-1,376	0	0	957	670	938	19

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
41881+75.00	23	23	0	0	13	0	0	23	0	0				0	0	23	0	0	0	0	0	0
41882+00.00	22	22	0	0	13	0	0	22	0	0				0	0	22	0	0	0	0	0	0
41882+25.00	22	22	0	0	13	0	0	22	0	0				0	0	22	0	0	0	0	0	0
41882+50.00	21	21	0	0	13	0	0	21	1	0				1	1	20	0	0	0	0	0	0
41882+75.00	10	10	0	0	7	0	0	10	0	0				0	0	10	0	0	0	0	0	0
41882+87.50	10	10	0	0	7	0	0	10	0	0				0	0	10	0	0	0	0	0	0
41883+00.00	21	21	0	0	13	0	0	21	1	0				1	1	20	0	0	0	0	0	0
41883+25.00	20	20	0	0	13	0	0	20	1	0				1	1	19	0	0	0	0	0	0
41883+50.00	33	33	0	0	10	0	0	33	1	0		3		4	5	28	0	0	0	0	0	0
41883+75.00	34	34	0	0	9	0	0	34	1	0		4		5	7	28	0	0	0	0	0	0
41884+00.00	20	20	0	0	13	0	0	20	1	0				1	1	19	0	0	0	0	0	0
41884+25.00	21	21	0	0	13	0	0	21	1	0				1	1	20	0	0	0	0	0	0
41884+50.00	22	22	0	0	13	0	0	22	0	0				0	0	22	0	0	0	0	0	0
41884+75.00	23	23	0	0	12	0	0	23	0	0				0	0	23	0	0	0	0	0	0
41885+00.00	24	24	0	0	12	0	0	24	0	0				0	0	24	0	0	0	0	0	0
41885+25.00	25	25	0	0	12	0	0	25	0	0				0	0	25	0	0	0	0	0	0
41885+50.00	6	6	0	0	3	0	0	6	0	0				0	0	6	0	0	0	0	0	0
41885+55.63																						
ML052EB																						
Totals:	2,126	1,168	957	0	923	0	0	1,168	889	0	682	125	0	1,696	2,205	-1,037	0	0	957	670	938	19

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.19	

9/11/2017 4:11:51 PM adewolf C:\Users\adewolf\Desktop\US 52 Earthwork\31052120_T02.xlsm

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
ML052WB																						
40864+58.63																						
40864+75.00	130	90	40	0	12	0	0	90	2	0	40			42	55	35	0	0	40	27	38	2
40865+00.00	221	156	65	0	16	0	0	156	3	0	65			68	88	68	0	0	65	45	63	2
40865+25.00	213	148	65	0	18	0	0	148	3	0	65	4		72	94	54	0	0	65	45	63	2
40865+50.00	184	122	62	0	22	0	0	122	3	0	62			65	85	38	0	0	62	43	60	2
40865+75.00	164	103	61	0	23	0	0	103	3	0	61	1		65	85	19	0	0	61	44	62	-1
40866+00.00	152	90	62	0	24	0	0	90	3	0	62			65	85	6	0	0	62	45	63	-1
40866+25.00	100	57	43	0	21	0	0	57	3	0	43			46	60	-3	0	0	43	29	41	2
40866+50.00	45	23	22	0	17	0	0	23	3	0	13	1		17	22	1	0	0	22	12	17	5
40866+75.00	53	29	24	0	18	0	0	29	2	0	15			17	22	7	0	0	24	13	18	6
40867+00.00	80	50	30	0	23	0	0	50	2	0	30			32	42	8	0	0	30	17	24	6
40867+25.00	105	67	38	0	23	0	0	67	1	0	38			39	51	16	0	0	38	23	32	6
40867+50.00	134	89	45	0	17	0	0	89	1	0	45	3		49	64	25	0	0	45	29	41	4
40867+75.00	143	94	49	0	16	0	0	94	2	0	49	4		55	72	23	0	0	49	31	43	6
40868+00.00	117	69	48	0	15	0	0	69	2	0	48	4		54	70	-1	0	0	48	29	41	7
40868+25.00	93	46	47	0	13	0	0	46	4	0	47	5		56	73	-27	0	0	47	27	38	9
40868+50.00	99	45	54	0	6	0	0	45	7	0	54	3		64	83	-38	0	0	54	31	43	11
40868+75.00	105	43	62	0	0	0	0	43	13	0	62			75	98	-55	0	0	62	35	49	13
40869+00.00	105	39	66	0	2	0	0	39	23	0	66	2		91	118	-79	0	0	66	37	52	14
40869+25.00	102	34	68	0	4	0	0	34	32	0	68	3		103	134	-100	0	0	68	37	52	16
40869+50.00	103	33	70	0	9	0	0	33	39	0	70			109	142	-109	0	0	70	38	53	17
40869+75.00	113	40	73	0	8	0	0	40	42	0	73			115	150	-110	0	0	73	40	56	17
40870+00.00	115	43	72	0	7	0	0	43	39	0	72			111	144	-101	0	0	72	41	57	15
40870+25.00	115	43	72	0	10	0	0	43	33	0	72			105	137	-94	0	0	72	42	59	13
40870+50.00	120	47	73	0	5	0	0	47	38	0	73	6		117	152	-105	0	0	73	47	66	7
40870+75.00	119	47	72	0	2	0	0	47	39	0	72	11		122	159	-112	0	0	72	52	73	-1
40871+00.00	100	38	62	0	23	0	0	38	24	0	62			86	112	-74	0	0	62	48	67	-5
40871+25.00	87	36	51	0	40	0	0	36	12	0	51			63	82	-46	0	0	51	43	60	-9
40871+50.00	44	20	24	0	20	0	0	20	12	0	24	4		40	52	-32	0	0	24	21	29	-5
40871+75.00	0	0	0	0	28	0	0	0	8	0				8	10	-10	0	0	0	0	0	0
40872+00.00	0	0	0	0	28	0	0	0	3	0				3	4	-4	0	0	0	0	0	0
40872+02.02	0	0	0	0	0	0	0	0	0	0		1		1	1	-1	0	0	0	0	0	0
Gap	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0
40873+52.40	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0
40873+75.00	34	34	0	0	5	0	0	34	0	0				0	0	34	0	0	0	0	0	0
40874+00.00	37	37	0	0	6	0	0	37	0	0				0	0	37	0	0	0	0	0	0
40874+25.00	151	94	57	0	2	0	0	94	11	0	57			68	88	6	0	0	57	38	53	4
40874+50.00	247	135	112	0	1	0	0	135	19	0	112			131	170	-35	0	0	112	73	102	10
40874+75.00	160	82	78	0	0	0	0	82	12	0	78			90	117	-35	0	0	78	45	63	15
40875+00.00	93	48	45	0	1	0	0	48	8	0	45			53	69	-21	0	0	45	18	25	20
40875+25.00	93	52	41	0	2	0	0	52	5	0	41			46	60	-8	0	0	41	16	22	19
40875+50.00	104	65	39	0	4	0	0	65	2	0	39			41	53	12	0	0	39	13	18	21
40875+75.00	115	76	39	0	5	0	0	76	1	0	39			40	52	24	0	0	39	12	17	22
40876+00.00	119	80	39	0	6	0	0	80	1	0	39			40	52	28	0	0	39	12	17	22
40876+25.00	120	81	39	0	7	0	0	81	1	0	39			40	52	29	0	0	39	12	17	22
40876+50.00	111	73	38	0	4	0	0	73	2	0	38			40	52	21	0	0	38	11	15	23
40876+75.00	96	60	36	0	1	0	0	60	2	0	36			38	49	11	0	0	36	10	14	22
40877+00.00	85	52	33	0	1	0	0	52	2	0	33			35	46	7	0	0	33	8	11	22
40877+25.00	75	45	30	0	7	0	0	45	3	0	30			33	43	2	0	0	30	4	6	24
40877+50.00	82	46	36	0	14	0	0	46	4	0	36			40	52	-6	0	0	36	9	13	23
40877+75.00	107	51	56	0	14	0	0	51	4	0	56			60	78	-27	0	0	56	29	41	15
40878+00.00	128	47	81	0	14	0	0	47	6	0	81	6		93	121	-74	0	0	81	50	70	11
40878+25.00	131	38	93	0	14	0	0	38	8	0	93	13		114	148	-110	0	0	93	61	85	8
40878+50.00	126	35	91	0	14	0	0	35	8	0	91	7		106	138	-103	0	0	91	60	84	7
40878+75.00	133	45	88	0	14	0	0	45	7	0	88			95	124	-79	0	0	88	58	81	7
40879+00.00	125	51	74	0	14	0	0	51	6	0	74			80	104	-53	0	0	74	46	64	10
40879+25.00	81	37	44	0	14	0	0	37	5	0	44	7		56	73	-36	0	0	44	21	29	15
40879+50.00	51	27	24	0	14	0	0	27	4	0	24	7		35	46	-19	0	0	24	6	8	16
40879+75.00	72	39	33	0	14	0	0	39	4	0	33			37	48	-9	0	0	33	14	20	13
40880+00.00	101	56	45	0	14	0	0	56	3	0	45			48	62	-6	0	0	45	25	35	10
40880+25.00	112	64	48	0	14	0	0	64	3	0	48	7		58	75	-11	0	0	48	28	39	9
40880+50.00	123	72	51	0	14	0	0	72	3	0	51	14		68	88	-16	0	0	51	32	45	6
40880+75.00	138	82	56	0	14	0	0	82	3	0	56	7		66	86	-4	0	0	56	37	52	4
40881+00.00	91	57	34	0	15	0	0	57	3	0	34			37	48	9	0	0	34	20	28	6
40881+25.00	34	25	9	0	14	0	0	25	3	0	9			12	16	9	0	0	9	0	0	9
40881+50.00	31	24	7	0	14	0	0	24	3	0	7			10	13	11	0	0	7	0	0	7
40881+75.00	28	24	4	0	15	0	0	24	3	0	4			7	9	15	0	0	4	0	0	4
40882+00.00	24	23	1	0	14	0	0	23	3	0	1	7		11	14	9	0	0	1	0	0	1
Subtotals:	6,619	3,598	3,021	0	790	0	0	3,598	553	0	3,003	127	0	3,683	4,788	-1,190	0	0	3,021	1,739	2,435	586

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
40882+00.00	22	22	0	0	14	0	0	22	2	0		7		9	12	10	0	0	0	0	0	0
40882+25.00	22	22	0	0	14	0	0	22	2	0				2	3	19	0	0	0	0	0	0
40882+50.00	21	21	0	0	14	0	0	21	1	0				1	1	20	0	0	0	0	0	0
40882+75.00	20	20	0	0	15	0	0	20	1	0		6		7	9	11	0	0	0	0	0	0
40883+00.00	19	19	0	0	15	0	0	19	1	0		14		15	20	-1	0	0	0	0	0	0
40883+25.00	18	18	0	0	15	0	0	18	1	0		7		8	10	8	0	0	0	0	0	0
40883+50.00	17	17	0	0	15	0	0	17	1	0				1	1	16	0	0	0	0	0	0
40883+75.00	17	17	0	0	15	0	0	17	1	0				1	1	16	0	0	0	0	0	0
40884+00.00	17	17	0	0	15	0	0	17	1	0				1	1	16	0	0	0	0	0	0
40884+25.00	17	17	0	0	15	0	0	17	1	0				1	1	16	0	0	0	0	0	0
40884+50.00	17	17	0	0	15	0	0	17	1	0				1	1	16	0	0	0	0	0	0
40884+75.00	17	17	0	0	15	0	0	17	1	0				1	1	16	0	0	0	0	0	0
40885+00.00	17	17	0	0	15	0	0	17	1	0				1	1	16	0	0	0	0	0	0
40885+25.00	18	18	0	0	15	0	0	18	0	0				0	0	17	0	0	0	0	0	0
40885+50.00	11	11	0	0	9	0	0	11	0	0				0	0	18	0	0	0	0	0	0
40885+64.45																11						
ML052WB																						
Totals:	6,889	3,868	3,021	0	1,006	0	0	3,868	567	0	3,003	161	0	3,731	4,851	-983	0	0	3,021	1,739	2,435	587

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.21

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Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
HolycrossSB																						
436874+25.00																						
436874+50.00	14	13	0	0	13	0	0	13	0	0				0	0	13	0	0	0	0	0	0
436874+75.00	53	42	12	0	13	0	0	42	0	0	2			2	3	39	0	0	12	6	8	4
436875+00.00	69	44	25	0	12	0	0	44	0	0	4			4	5	39	0	0	25	15	21	4
436875+25.00	53	20	33	0	10	0	0	20	0	0	11			11	14	6	0	0	33	20	28	5
436875+50.00	42	23	19	0	6	0	0	23	0	0	7			7	9	14	0	0	19	12	17	2
436875+55.00	5	5	0	0	1	0	0	5	0	0				0	0	5	0	0	0	0	0	0
436875+75.00	22	22	0	0	1	0	0	22	0	0		3		3	4	18	0	0	0	0	0	0
436876+00.00	35	16	19	0	0	0	0	16	4	0	12			16	21	-5	0	0	19	7	10	9
436876+25.00	43	4	39	0	0	0	0	4	11	0	30			41	53	-49	0	0	39	10	14	25
436876+50.00	40	2	39	0	0	0	0	2	19	0	35			54	70	-68	0	0	39	5	7	32
436876+75.00	38	0	38	0	0	0	0	0	32	0	34			66	86	-86	0	0	38	3	4	34
436877+00.00	42	0	42	0	0	0	0	0	57	0	38			95	124	-124	0	0	42	6	8	34
436877+25.00	24	0	24	0	0	0	0	0	79	0	23			102	133	-133	0	0	24	5	7	17
436877+35.36	0	0	0	0	0	0	0	0	34	0				34	44	-44	0	0	0	3	4	-4
Gap	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0
436878+81.64	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0
436879+00.00	139	139	0	0	0	0	0	139	12	0				12	16	123	0	0	0	0	0	0
436879+25.00	115	115	0	0	8	0	0	115	20	0				20	26	89	0	0	0	42	59	-59
436879+50.00	46	46	0	0	15	0	0	46	0	0		6		6	8	38	0	0	0	0	0	0
436879+75.00	115	94	22	0	20	0	0	94	6	0	10	7		23	30	64	0	0	22	26	36	-14
436880+00.00	163	123	40	0	26	0	0	123	7	0	18			25	33	91	0	0	40	41	57	-17
436880+25.00	217	183	34	0	23	0	0	183	2	0	14			16	21	162	0	0	34	32	45	-11
436880+50.00	196	163	32	0	20	0	0	163	1	0	13			14	18	145	0	0	32	29	41	-9
436880+75.00	127	99	27	0	17	0	0	99	1	0	7	8		16	21	78	0	0	27	20	28	-1
436881+00.00	104	79	24	0	15	0	0	79	0	0	2	8		10	13	66	0	0	24	15	21	3
436881+25.00	61	30	31	0	14	0	0	30	0	0	8			8	10	20	0	0	31	21	29	2
436881+50.00	66	25	41	0	14	0	0	25	0	0				0	0	25	0	0	41	77	108	-67
436881+75.00	40	16	24	0	14	0	0	16	0	0				0	0	16	0	0	24	65	91	-67
436882+00.00	9	9	0	0	13	0	0	9	0	0		1		1	1	8	0	0	0	0	0	0
436882+25.00	8	8	0	0	13	0	0	8	0	0		8		8	10	-2	0	0	0	0	0	0
436882+50.00	6	6	0	0	14	0	0	6	0	0		7		7	9	-3	0	0	0	0	0	0
436882+75.00	6	6	0	0	14	0	0	6	0	0				0	0	6	0	0	0	0	0	0
436883+00.00	5	5	0	0	14	0	0	5	0	0				0	0	5	0	0	0	0	0	0
436883+05.00	8	3	5	0	1	0	0	3	0	0	3			3	4	-1	0	0	5	3	4	1
436883+15.00	27	11	16	0	0	0	0	11	0	0	7			7	9	2	0	0	16	10	14	2
HolycrossSB																						
Totals:	1,938	1,351	586	0	311	0	0	1,351	285	0	278	48	0	611	795	557	0	0	586	473	663	-77

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.22

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Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
HolycrossNB																						
426874+25.00	74	16	58	0	9	0	0	16	0	0				0	0	16	0	0	58	86	120	-62
426874+50.00	65	18	47	0	9	0	0	18	0	0	22			22	29	-11	0	0	47	32	45	2
426874+75.00	42	22	20	0	9	0	0	22	0	0	8			8	10	12	0	0	20	12	17	3
426875+00.00	25	25	0	0	10	0	0	25	0	0				0	0	25	0	0	0	0	0	0
426875+25.00	27	27	0	0	13	0	0	27	0	0				0	0	27	0	0	0	0	0	0
426875+50.00	20	20	0	0	11	0	0	20	0	0				0	0	20	0	0	0	0	0	0
426875+68.00	7	7	0	0	5	0	0	7	0	0				0	0	7	0	0	0	0	0	0
426875+75.00	39	28	11	0	17	0	0	28	0	0	11			11	14	14	0	0	11	0	0	11
426876+00.00	56	38	18	0	17	0	0	38	2	0	11			13	17	21	0	0	18	13	18	0
426876+25.00	36	28	8	0	36	0	0	28	2	0	1			3	4	24	0	0	8	13	18	-10
426876+50.00	5	5	0	0	33	0	0	5	1	0				1	1	4	0	0	0	0	0	0
426876+75.00	0	0	0	0	10	0	0	0	9	0		11		20	26	-26	0	0	0	0	0	0
426877+00.00	0	0	0	0	10	0	0	0	16	0		13		29	38	-38	0	0	0	0	0	0
426877+24.32	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0
Gap	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0
426878+70.58	1	1	0	0	0	0	0	1	0	0				0	0	1	0	0	0	0	0	0
426878+75.00	47	47	0	0	1	0	0	47	51	0		1		52	68	-21	0	0	0	21	29	-29
426878+97.62	23	18	5	0	0	0	0	18	9	10	3	1		23	30	-12	0	0	5	4	6	-1
426879+00.00	229	135	95	0	2	0	0	135	96	88	59	1		244	317	-182	0	0	95	42	59	36
426879+25.00	221	130	91	0	0	0	0	130	84	102	56			242	315	-185	0	0	91	41	57	34
426879+50.00	235	151	84	0	0	0	0	151	63	121	49			233	303	-152	0	0	84	41	57	27
426879+75.00	108	33	75	0	0	0	0	33	39	0	40	1		80	104	-71	0	0	75	40	56	19
426880+00.00	113	47	66	0	2	0	0	47	14	0	28	1		43	56	-9	0	0	66	37	52	14
426880+25.00	125	65	60	0	5	0	0	65	1	0	17			18	23	42	0	0	60	34	48	12
426880+50.00	123	66	57	0	7	0	0	66	0	0	9			9	12	54	0	0	57	35	49	8
426880+75.00	116	62	54	0	8	0	0	62	0	0	5			5	7	56	0	0	54	36	50	4
426881+00.00	108	54	53	0	8	0	0	54	0	0	6			6	8	46	0	0	53	37	52	1
426881+25.00	98	46	52	0	8	0	0	46	0	0	11			11	14	32	0	0	52	37	52	0
426881+50.00	93	41	52	0	8	0	0	41	0	0	15			15	20	22	0	0	52	37	52	0
426881+75.00	89	35	54	0	8	0	0	35	0	0	15			15	20	16	0	0	54	38	53	1
426882+00.00	82	28	54	0	8	0	0	28	0	0	19			19	25	3	0	0	54	38	53	1
426882+25.00	82	28	54	0	4	0	0	28	3	0	29	4		36	47	-19	0	0	54	37	52	2
426882+50.00	77	25	52	0	4	0	0	25	6	0	32	4		42	55	-30	0	0	52	36	50	2
426882+75.00	65	19	45	0	8	0	0	19	3	0	26			29	38	-19	0	0	45	29	41	4
426883+00.00	12	4	8	0	2	0	0	4	0	0	4			4	5	-1	0	0	8	5	7	1
426883+05.31	21	7	14	0	3	0	0	7	0	0	6			6	8	-1	0	0	14	9	13	1
426883+15.31																						
HolycrossNB																						
Totals:	2,464	1,276	1,187	0	275	0	0	1,276	399	321	482	37	0	1,239	1,611	-335	0	0	1,187	790	1,106	82

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.23

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Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
HolycrossRet1																						
+00.00	66	12	53	0	1	0	0	12	7	0	23	6		36	47	-35	0	0	53	42	59	-6
+25.00	60	8	52	0	0	0	0	8	19	0	28	4		51	66	-58	0	0	52	43	60	-8
+50.00	65	4	61	0	0	0	0	4	52	0	44			96	125	-121	0	0	61	43	60	1
+75.00	78	11	67	0	0	0	0	11	82	0	47			129	168	-157	0	0	67	45	63	4
1+00.00	90	22	67	0	0	0	0	22	85	0	43			128	166	-144	0	0	67	46	64	3
1+25.00	53	16	38	0	0	0	0	16	49	0	23			72	94	-78	0	0	38	27	38	0
1+40.21																						
HolycrossRet1 Totals:	412	73	338	0	1	0	0	73	294	0	208	10	0	512	666	-593	0	0	338	246	345	-7

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.24

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Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
HolycrossRet2																						
+00.00																						
+25.00	156	94	62	0	8	0	0	94	27	0	41			68	88	6	0	0	62	69	97	-35
+50.00	159	94	64	0	7	0	0	94	30	0	41			71	92	2	0	0	64	71	99	-35
+75.00	159	88	71	0	6	0	0	88	35	0	43			78	101	-13	0	0	71	71	99	-28
1+00.00	145	54	91	0	3	0	0	54	52	0	58			110	143	-89	0	0	91	76	106	-15
1+25.00	106	12	94	0	0	0	0	12	50	0	70			120	156	-144	0	0	94	69	97	-3
1+50.00	68	0	68	0	0	0	0	0	28	0	56			84	109	-109	0	0	68	47	66	2
1+70.64	89	24	65	0	0	0	0	24	18	0	32			50	65	-41	0	0	65	48	67	-2
HolycrossRet2																						
Totals:	882	366	515	0	24	0	0	366	240	0	341	0	0	581	756	-390	0	0	515	451	632	-117

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.25

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Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
HolycrossRet3																						
+00.00	12	7	5	0	0	0	0	7	6	0	3			9	12	-5	0	0	5	17	24	-19
+25.00	19	4	15	0	0	0	0	4	78	0	13			91	118	-114	0	0	15	36	50	-35
+50.00	42	1	41	0	0	0	0	1	146	0	40			186	242	-241	0	0	41	46	64	-23
+75.00	62	0	62	0	0	0	0	0	146	0	59			205	267	-267	0	0	62	37	52	10
1+00.00	46	0	46	0	0	0	0	0	97	0	44			141	183	-183	0	0	46	25	35	11
1+25.00																						
HolycrossRet3 Totals:	181	12	169	0	0	0	0	12	473	0	159	0	0	632	822	-810	0	0	169	161	226	-57

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.26

9/11/2017 4:11:51 PM adewolf C:\Users\adewolf\Desktop\US 52 Earthwork\31052120_T02.xlsm

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
HolycrossRet4																						
+00.00																						
+25.00	43	38	6	0	11	0	0	38	4	0				4	5	33	0	0	6	28	39	-33
+50.00	54	54	0	0	13	0	0	54	4	0		1		5	7	48	0	0	0	33	46	-46
+75.00	67	53	13	0	6	0	0	53	6	0	1	8		15	20	34	0	0	13	37	52	-39
1+00.00	102	75	27	0	1	0	0	75	21	0	15	12		48	62	13	0	0	27	43	60	-33
1+25.00	135	87	48	0	0	0	0	87	47	0	28	5		80	104	-17	0	0	48	50	70	-22
1+50.00	102	37	65	0	0	0	0	37	75	0	33			108	140	-103	0	0	65	49	69	-4
HolycrossRet4																						
Totals:	503	344	159	0	31	0	0	344	157	0	77	26	0	260	338	6	0	0	159	240	336	-177

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.27

9/11/2017 4:11:52 PM adewolf C:\Users\adewolf\Desktop\US 52 Earthwork\31052120_T02.xlsm

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
RoundaboutCircle																						
+00.00	8	8	0	0	5	0	0	8	31	0		15		46	60	-52	0	0	0	18	25	-25
+10.00	0	0	0	0	0	0	0	0	52	0		19		71	92	-92	0	0	0	18	25	-25
+20.00	0	0	0	0	0	0	0	0	55	0		18		73	95	-95	0	0	0	18	25	-25
+30.00	0	0	0	0	0	0	0	0	58	0		18		76	99	-99	0	0	0	18	25	-25
+40.00	0	0	0	0	9	0	0	0	61	0		10		71	92	-92	0	0	0	18	25	-25
+50.00	0	0	0	0	9	0	0	0	63	0		11		74	96	-96	0	0	0	18	25	-25
+60.00	0	0	0	0	0	0	0	0	60	0		21		81	105	-105	0	0	0	18	25	-25
+70.00	0	0	0	0	1	0	0	0	49	0		19		68	88	-88	0	0	0	18	25	-25
+80.00	1	1	0	0	3	0	0	1	40	0		15		55	72	-71	0	0	0	18	25	-25
+90.00	2	2	0	0	5	0	0	2	36	0		12		48	62	-60	0	0	0	18	25	-25
1+00.00	3	3	0	0	5	0	0	3	34	0		11		45	59	-56	0	0	0	18	25	-25
1+10.00	5	5	0	0	4	0	0	5	32	0		11		43	56	-51	0	0	0	18	25	-25
1+20.00	8	8	0	0	4	0	0	8	30	0		11		41	53	-45	0	0	0	18	25	-25
1+30.00	13	13	0	0	6	0	0	13	27	0		10		37	48	-35	0	0	0	18	25	-25
1+40.00	20	20	0	0	8	0	0	20	26	0		11		37	48	-28	0	0	0	18	25	-25
1+50.00	25	25	0	0	10	0	0	25	26	0		10		36	47	-22	0	0	0	18	25	-25
1+60.00	26	26	0	0	11	0	0	26	25	0		10		35	46	-20	0	0	0	18	25	-25
1+70.00	22	22	0	0	10	0	0	22	25	0		10		35	46	-24	0	0	0	18	25	-25
1+80.00	18	18	0	0	9	0	0	18	26	0		10		36	47	-29	0	0	0	18	25	-25
1+90.00	16	16	0	0	8	0	0	16	26	0		10		36	47	-31	0	0	0	18	25	-25
2+00.00	14	14	0	0	7	0	0	14	26	0		9		35	46	-32	0	0	0	18	25	-25
2+10.00	11	11	0	0	8	0	0	11	29	0		10		39	51	-40	0	0	0	18	25	-25
2+20.00	8	8	0	0	9	0	0	8	31	0		11		42	55	-47	0	0	0	18	25	-25
2+30.00	6	6	0	0	10	0	0	6	35	0		11		46	60	-54	0	0	0	18	25	-25
2+40.00	2	2	0	0	8	0	0	2	38	0		13		51	66	-64	0	0	0	18	25	-25
2+50.00	0	0	0	0	3	0	0	0	43	0		17		60	78	-78	0	0	0	18	25	-25
2+60.00	0	0	0	0	0	0	0	0	50	0		19		69	90	-90	0	0	0	18	25	-25
2+70.00	0	0	0	0	0	0	0	0	58	0		18		76	99	-99	0	0	0	18	25	-25
2+80.00	0	0	0	0	0	0	0	0	65	0		16		81	105	-105	0	0	0	18	25	-25
2+90.00	0	0	0	0	0	0	0	0	69	0		16		85	111	-111	0	0	0	18	25	-25
3+00.00	0	0	0	0	0	0	0	0	70	0		16		86	112	-112	0	0	0	18	25	-25
3+10.00	0	0	0	0	0	0	0	0	68	0		17		85	111	-111	0	0	0	18	25	-25
3+20.00	0	0	0	0	0	0	0	0	64	0		18		82	107	-107	0	0	0	18	25	-25
3+30.00	0	0	0	0	0	0	0	0	58	0		20		78	101	-101	0	0	0	18	25	-25
3+40.00	0	0	0	0	0	0	0	0	48	0		19		67	87	-87	0	0	0	18	25	-25
3+48.72																						
RoundaboutCircle Totals:	208	208	0	0	152	0	0	208	1,534	0	0	492	0	2,026	2,634	-2,426	0	0	0	630	882	-882

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
BankstonParkRd																						
9741+00.00	66	39	27	0	7	0	0	39	0	0	10	7		17	22	17	0	0	27	10	14	13
9741+25.00	75	36	39	0	14	0	0	36	0	0	10			10	13	23	0	0	39	21	29	10
9741+50.00	102	54	49	0	16	0	0	54	0	0	8			8	10	44	0	0	49	27	38	11
9741+75.00	96	58	38	0	13	0	0	58	0	0	6			6	8	50	0	0	38	25	35	3
9741+93.00	27	20	7	0	5	0	0	20	0	0	1		25	26	34	-14	0	0	7	7	10	-3
9742+00.00	41	41	0	0	17	0	0	41	0	0				0	0	41	0	0	0	6	8	-8
9742+25.00	29	29	0	0	16	0	0	29	0	0				0	0	29	0	0	0	0	0	0
9742+49.10																						
BankstonParkRd																						
Totals:	436	277	160	0	88	0	0	277	0	0	35	7	25	67	88	190	0	0	160	96	135	26

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.29

9/11/2017 4:11:52 PM adewolf C:\Users\adewolf\Desktop\US 52 Earthwork\31052120_T02.xlsm

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
HingtgenLane																						
11642+25.00																						
11642+50.00	11	3	7	0	0	0	0	3	0	0	6			6	8	-5	0	0	7	4	6	1
11642+75.00	24	11	14	0	0	0	0	11	2	0	9			11	14	-3	0	0	14	12	17	-3
11643+00.00	42	21	21	0	0	0	0	21	3	0	12			15	20	2	0	0	21	18	25	-4
11643+25.00	68	36	32	0	0	0	0	36	4	0	15			19	25	11	0	0	32	27	38	-6
11643+50.00	118	69	49	0	0	0	0	69	2	0	15			17	22	47	0	0	49	41	57	-8
11643+75.00	160	99	61	0	0	0	0	99	0	0	16			16	21	78	0	0	61	52	73	-12
11644+00.00	165	103	61	0	0	0	0	103	1	0	18			19	25	78	0	0	61	51	71	-10
11644+25.00	156	96	60	0	0	0	0	96	2	0	18			20	26	70	0	0	60	50	70	-10
11644+50.00	155	92	63	0	0	0	0	92	1	0	17			18	23	69	0	0	63	51	71	-9
11644+75.00	172	104	68	0	5	0	0	104	0	0	12	1		13	17	87	0	0	68	47	66	2
11645+00.00	217	145	72	0	10	0	0	145	0	0	4	1		5	7	139	0	0	72	45	63	9
11645+25.00	246	173	73	0	11	0	0	173	0	0				0	0	173	0	0	73	47	66	7
11645+50.00	239	169	70	0	11	0	0	169	0	0				0	0	169	0	0	70	46	64	6
11645+75.00	169	113	56	0	12	0	0	113	2	0	4			6	8	105	0	0	56	34	48	8
11646+00.00	64	41	23	0	10	0	0	41	2	0	4			6	8	33	0	0	23	11	15	8
11646+23.00	14	14	0	0	9	0	0	14	2	0				2	3	11	0	0	0	0	0	0
HingtgenLane																						
Totals:	2,020	1,289	730	0	68	0	0	1,289	21	0	150	2	0	173	225	1,065	0	0	730	536	751	-21

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.30

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Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
MapleRd																						
446882+44.88	6	6	0	0	4	0	0	6	0	0				0	0	6	0	0	0	0	0	0
446882+50.00	27	27	0	0	18	0	0	27	0	0				0	0	27	0	0	0	0	0	0
446882+75.00	28	28	0	0	18	0	0	28	0	0		1		1	1	27	0	0	0	0	0	0
446883+00.00	35	15	19	0	9	0	0	15	0	0	7	1		8	10	5	0	0	19	17	24	-5
446883+25.00																						
MapleRd																						
Totals:	96	76	19	0	49	0	0	76	0	0	7	2	0	9	12	65	0	0	19	17	24	-5

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.31

9/11/2017 4:11:52 PM adewolf C:\Users\adewolf\Desktop\US 52 Earthwork\31052120_T02.xlsm

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
MidwayRd																						
10702+00.00																						
10702+25.00	72	32	40	0	0	0	0	32	2	0	2			4	5	27	0	0	40	36	50	-10
10702+42.00	63	48	15	0	0	0	0	48	1	0				1	1	47	0	0	15	26	36	-21
10702+50.00	32	31	1	0	0	0	0	31	0	0			155	155	202	-171	0	0	1	12	17	-16
10702+75.00	117	79	38	0	9	0	0	79	0	0	3			3	4	75	0	0	38	43	60	-22
10703+00.00	133	62	71	0	18	0	0	62	0	0	6			6	8	54	0	0	71	46	64	7
10703+25.00	144	71	73	0	18	0	0	71	0	0	6			6	8	63	0	0	73	48	67	6
10703+50.00	158	79	79	0	18	0	0	79	0	0	6			6	8	71	0	0	79	52	73	6
10703+75.00	169	86	83	0	18	0	0	86	0	0	7			7	9	77	0	0	83	53	74	9
10704+00.00	187	97	90	0	18	0	0	97	0	0	9			9	12	85	0	0	90	54	76	14
10704+25.00	111	63	48	0	18	0	0	63	0	0	6			6	8	55	0	0	48	28	39	9
10704+50.00	11	11	0	0	9	0	0	11	0	0				0	0	11	0	0	0	0	0	0
10704+53.29	2	2	0	0	0	0	0	2	0	0				0	0	2	0	0	0	0	0	0
MidwayRd																						
Totals:	1,199	661	538	0	126	0	0	661	3	0	45	0	156	204	265	397	0	0	538	398	558	-20

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.32

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Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
PfeilerRdEast																						
12622+11.54																						
12622+25.00	74	73	1	0	13	0	0	73	0	0				0	0	73	0	0	1	9	13	-12
12622+50.00	113	108	5	0	20	0	0	108	0	0	1			1	1	107	0	0	5	14	20	-15
12622+75.00	73	65	8	0	14	0	0	65	0	0	1			1	1	64	0	0	8	10	14	-6
12623+00.00	38	31	7	0	6	0	0	31	0	0	1			1	1	30	0	0	7	13	18	-11
12623+15.00	7	6	2	0	0	0	0	6	0	0				0	0	6	0	0	2	7	10	-8
PfeilerRdEast																						
Totals:	305	283	23	0	53	0	0	283	0	0	3	0	0	3	4	280	0	0	23	53	75	-52

FILE NO.	ENGLISH	DESIGN TEAM Jia\Skogerboe\Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER T.33	

9/11/2017 4:11:52 PM adewolf C:\Users\adewolf\Desktop\US 52 Earthwork\31052120_T02.xlsm

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
PfeilerRdWest																						
8803+87.00																						
8804+00.00	18	18	0	0	0	0	0	18	0	0				0	0	18	0	0	0	0	0	0
8804+25.00	33	33	0	0	0	0	0	33	0	0				0	0	33	0	0	0	0	0	0
8804+50.00	75	75	0	0	0	0	0	75	0	0				0	0	75	0	0	0	11	15	-15
8804+75.00	163	156	8	0	0	0	0	156	0	0				0	0	156	0	0	8	47	66	-58
8805+00.00	185	156	29	0	0	0	0	156	1	0	6			7	9	147	0	0	29	65	91	-62
8805+15.00	93	61	32	0	0	0	0	61	1	0	9			10	13	48	0	0	32	35	49	-17
8805+25.00	61	33	27	0	0	0	0	33	0	0	6			6	8	25	0	0	27	24	34	-7
8805+50.00	131	65	66	0	0	0	0	65	2	0	6			8	10	55	0	0	66	59	83	-17
8805+75.00	92	37	54	0	0	0	0	37	3	0	2			5	7	31	0	0	54	48	67	-13
8806+00.00	39	14	25	0	0	0	0	14	3	0	1			4	5	9	0	0	25	23	32	-7
8806+25.00	5	1	4	0	0	0	0	1	2	0	1			3	4	-3	0	0	4	4	6	-2
8806+50.00	5	1	4	0	0	0	0	1	1	0	1			2	3	-2	0	0	4	4	6	-2
PfeilerRdWest																						
Totals:	900	650	249	0	0	0	0	650	13	0	32	0	0	45	59	592	0	0	249	320	448	-199

Refer to Standard Road Plans EW-101 and EW-102.

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
SchmittLane																						
7832+10.14																						
7832+25.00	87	87	0	0	0	0	0	87	0	0				0	0	87	0	0	0	0	0	0
7832+50.00	364	364	0	0	0	0	0	364	0	0				0	0	364	0	0	0	39	55	-55
7832+75.00	603	576	27	0	0	0	0	576	0	0				0	0	576	0	0	27	90	126	-99
7833+00.00	633	544	88	0	0	0	0	544	0	0				0	0	544	0	0	88	101	141	-53
7833+25.00	638	517	121	0	0	0	0	517	0	0				0	0	517	0	0	121	99	139	-18
7833+50.00	635	517	118	0	0	0	0	517	0	0				0	0	517	0	0	118	95	133	-15
7833+75.00	637	521	116	0	0	0	0	521	0	0				0	0	521	0	0	116	94	132	-16
7834+00.00	636	521	115	0	0	0	0	521	0	0	1			1	1	520	0	0	115	92	129	-14
7834+25.00	630	517	113	0	0	0	0	517	0	0				0	0	517	0	0	113	90	126	-13
7834+50.00	614	504	110	0	0	0	0	504	0	0				0	0	504	0	0	110	88	123	-13
7834+75.00	576	471	106	0	0	0	0	471	0	0				0	0	471	0	0	106	84	118	-12
7835+00.00	521	422	100	0	0	0	0	422	0	0				0	0	422	0	0	100	79	111	-11
7835+25.00	459	365	94	0	0	0	0	365	0	0				0	0	365	0	0	94	74	104	-10
7835+50.00	396	307	89	0	0	0	0	307	0	0				0	0	307	0	0	89	69	97	-8
7835+75.00	338	251	86	0	0	0	0	251	0	0	1			1	1	250	0	0	86	66	92	-7
7836+00.00	275	193	82	0	0	0	0	193	0	0	1			1	1	192	0	0	82	63	88	-6
7836+25.00	223	143	80	0	0	0	0	143	0	0	1			1	1	142	0	0	80	61	85	-6
7836+50.00	188	107	80	0	0	0	0	107	0	0	6			6	8	99	0	0	80	60	84	-4
7836+75.00	140	67	73	0	0	0	0	67	0	0	5			5	7	61	0	0	73	57	80	-7
7837+00.00	72	26	46	0	0	0	0	26	0	0	2			2	3	23	0	0	46	40	56	-10
SchmittLane																						
Totals:	8,665	7,020	1,644	0	0	0	0	7,020	0	0	17	0	0	17	23	6,998	0	0	1,644	1,441	2,018	-374

Refer to Standard Road Plans EW-101 and EW-102.

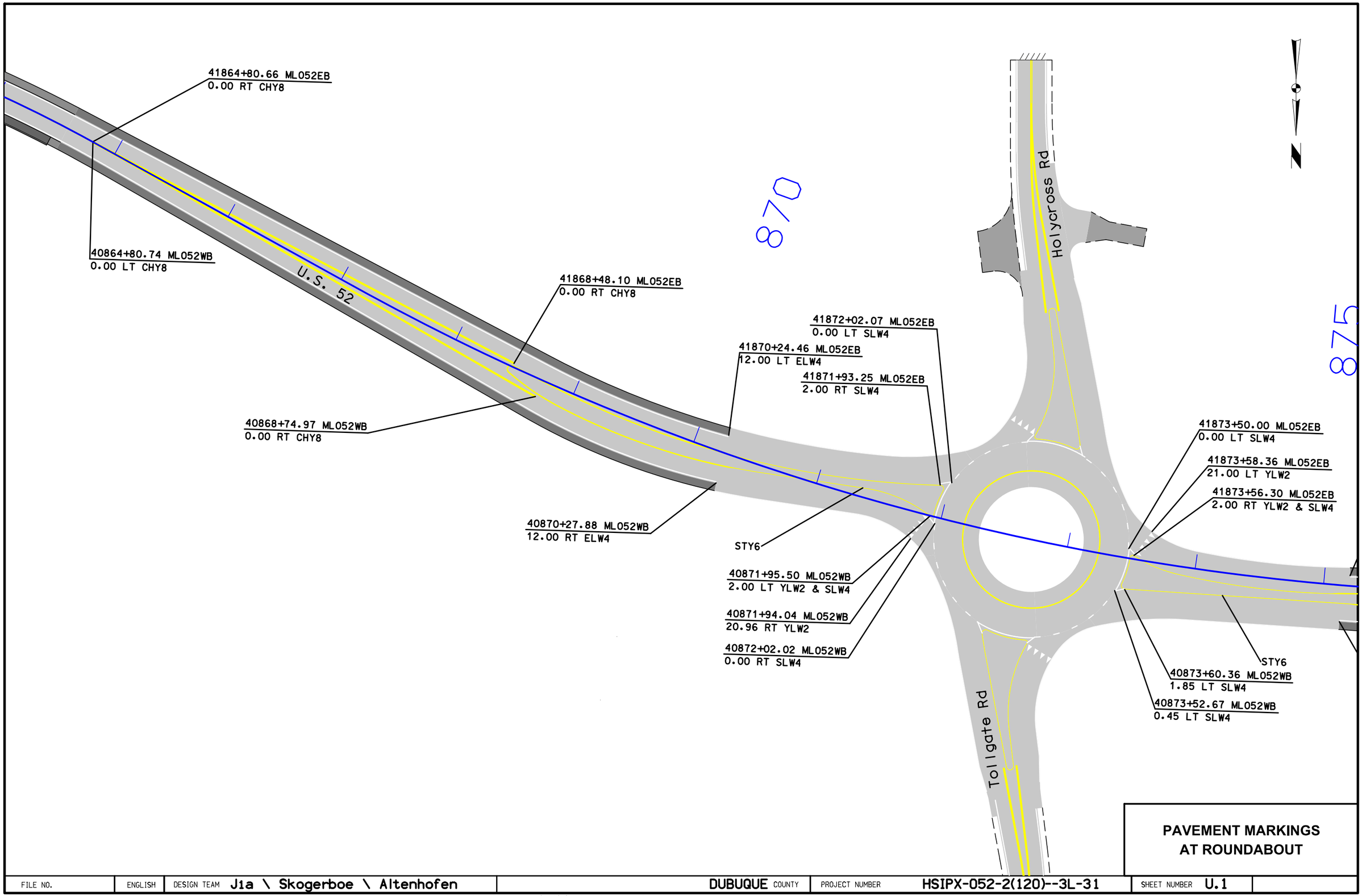
TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut								Fill								Checks (EW-102)		Topsoil			
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
	[2]+[3]+[4]+[6]+[7]													[9]+[10]+[11]+[12]+[13]	[14] X 1.3	[8]-[15]					[20] X 1.4	[19]-[21]
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Pavement Removal Volume	Template B & W Rock Volume	Template Waste Volume	Total Cut Adjusted	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manual Entrance Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink
Summary:																						
ML052	181,483	106,732	63,247	3,223	28,560	7,474	807	117,429	16,637	3,714	19,508	1,350	5,315	46,524	60,483	56,947	0	0	63,247	40,718	57,006	6,244
ML052EB	2,126	1,168	957	0	923	0	0	1,168	889	0	682	125	0	1,696	2,205	-1,037	0	0	957	670	938	19
ML052WB	6,889	3,868	3,021	0	1,006	0	0	3,868	567	0	3,003	161	0	3,731	4,851	-983	0	0	3,021	1,739	2,435	587
HolycrossSB	1,938	1,351	586	0	311	0	0	1,351	285	0	278	48	0	611	795	557	0	0	586	473	663	-77
HolycrossNB	2,464	1,276	1,187	0	275	0	0	1,276	399	321	482	37	0	1,239	1,611	-335	0	0	1,187	790	1,106	82
HolycrossRet1	412	73	338	0	1	0	0	73	294	0	208	10	0	512	666	-593	0	0	338	246	345	-7
HolycrossRet2	882	366	515	0	24	0	0	366	240	0	341	0	0	581	756	-390	0	0	515	451	632	-117
HolycrossRet3	181	12	169	0	0	0	0	12	473	0	159	0	0	632	822	-810	0	0	169	161	226	-57
HolycrossRet4	503	344	159	0	31	0	0	344	157	0	77	26	0	260	338	6	0	0	159	240	336	-177
RoundaboutCircle	208	208	0	0	152	0	0	208	1,534	0	0	492	0	2,026	2,634	-2,426	0	0	0	630	882	-882
BankstonParkRd	436	277	160	0	88	0	0	277	0	0	35	7	25	67	88	190	0	0	160	96	135	26
HingtgenLane	2,020	1,289	730	0	68	0	0	1,289	21	0	150	2	0	173	225	1,065	0	0	730	536	751	-21
MapleRd	96	76	19	0	49	0	0	76	0	0	7	2	0	9	12	65	0	0	19	17	24	-5
MidwayRd	1,199	661	538	0	126	0	0	661	3	0	45	0	156	204	265	397	0	0	538	398	558	-20
PfeilerRdEast	305	283	23	0	53	0	0	283	0	0	3	0	0	3	4	280	0	0	23	53	75	-52
PfeilerRdWest	900	650	249	0	0	0	0	650	13	0	32	0	0	45	59	592	0	0	249	320	448	-199
SchmittLane	8,665	7,020	1,644	0	0	0	0	7,020	0	0	17	0	0	17	23	6,998	0	0	1,644	1,441	2,018	-374
Project Totals:	210,707	125,654	73,542	3,223	31,667	7,474	807	136,351	21,512	4,035	25,027	2,260	5,496	58,330	75,837	60,523	0	0	73,542	48,979	68,578	4,970

Bid Items:

Excavation, Class 10, Roadway and Borrow:	75,837 = [15]
Excavation, Class 10, Waste:	64,544 = ([8] - [15]) + [4] + [7]
Excavation, Class 12, Roadway and Borrow:	7,474 = [6]
Topsoil, Strip, Salvage and Spread:	73,542 = [19]



PAVEMENT MARKINGS AT ROUNDABOUT

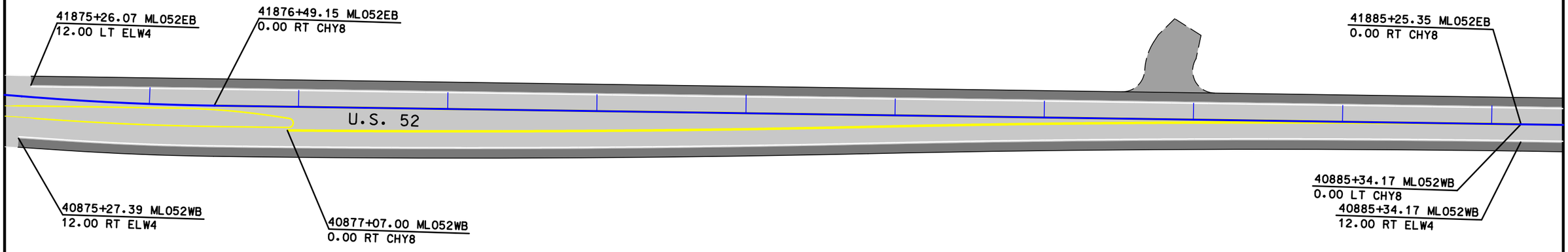
FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER U.1

3:09:28 PM 9/29/2017 raltenh pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120U02.dgn

875

880

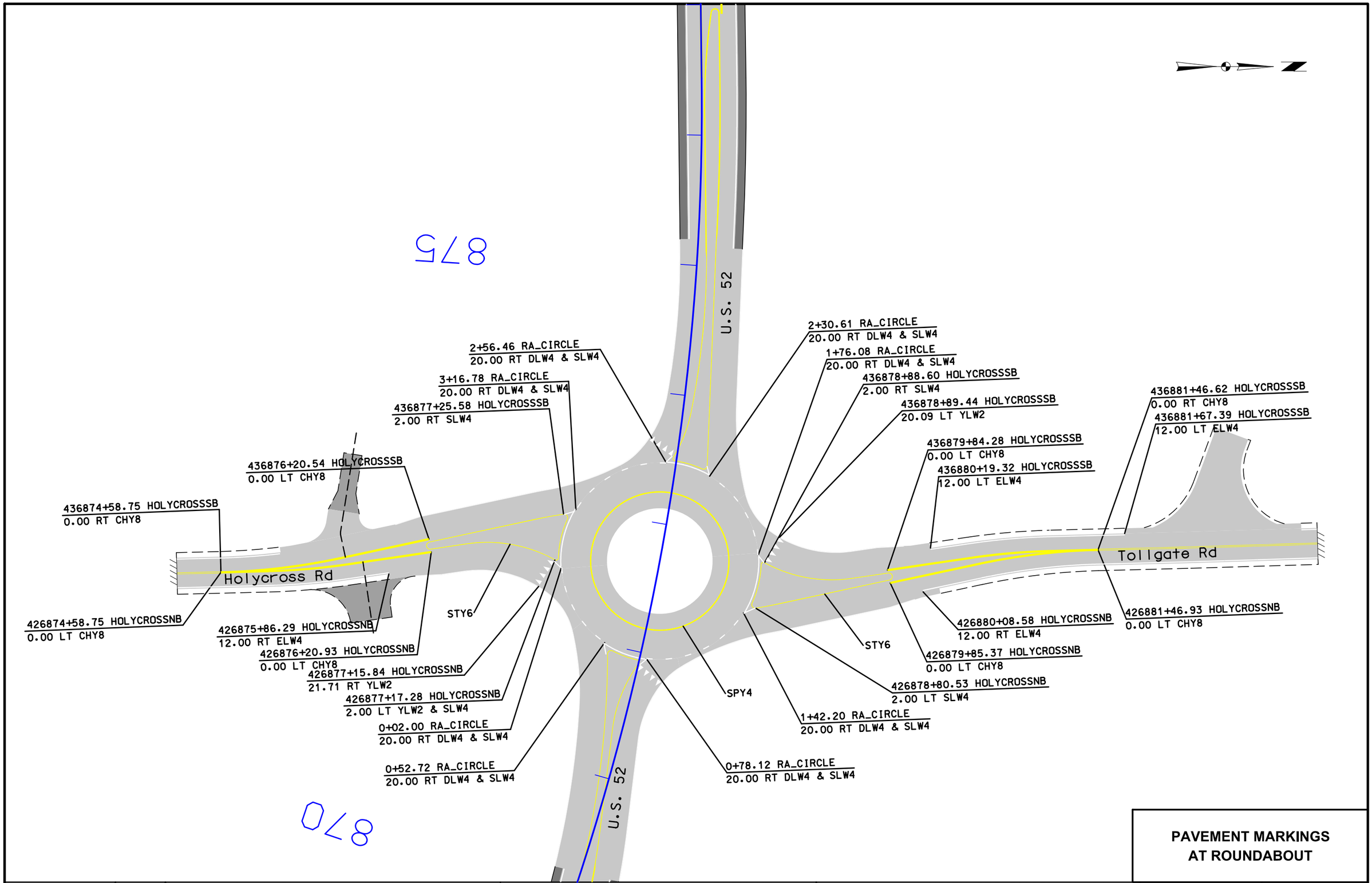
885



PAVEMENT MARKINGS AT ROUNDABOUT

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER U.2

3:09:30 PM 9/29/2017 raltenh pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120U02.dgn



PAVEMENT MARKINGS AT ROUNDABOUT

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER U.3

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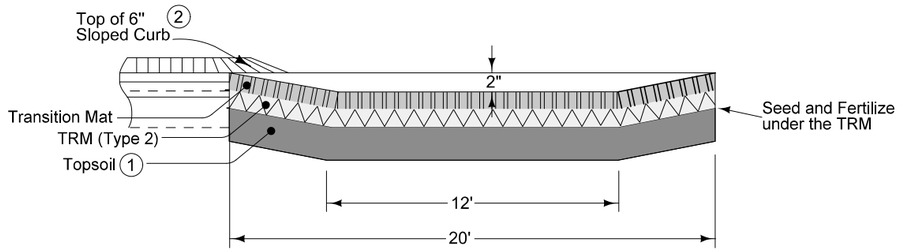
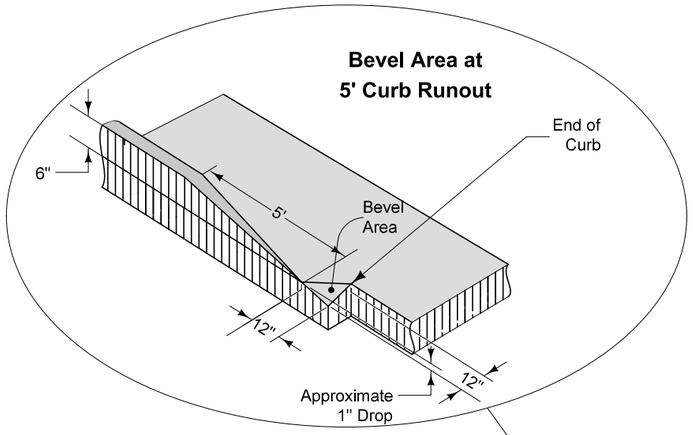
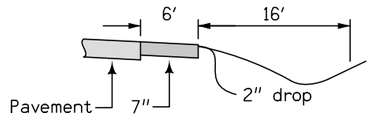
Refer to Standard Road Plan EC-104 for the placement of the TRM.

- Place at same thickness as surrounding area. Refer to T Sheets to determine topsoil thickness for the surrounding area.
- 6" Sloped Curb - Refer to PV-102 for details.

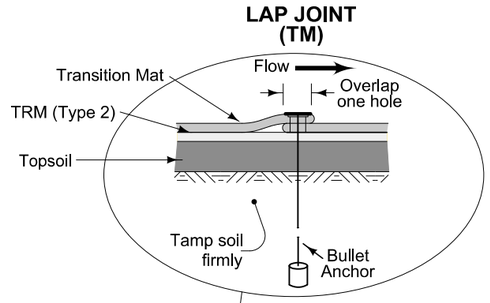


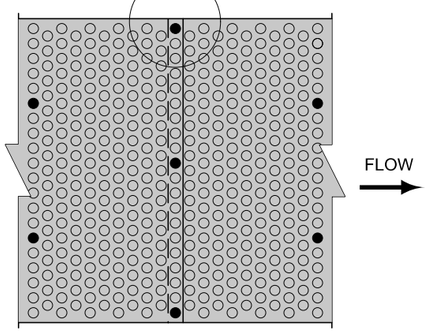
SECTION A-A



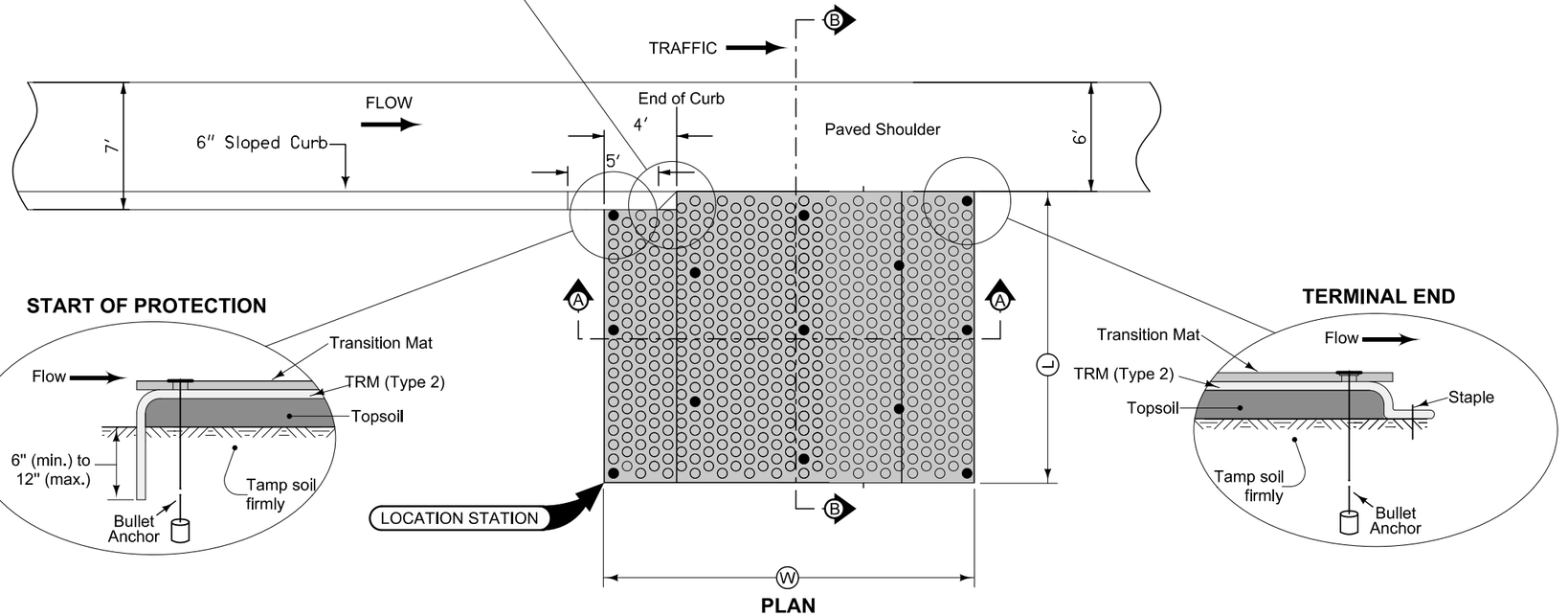


SECTION B-B





PLAN

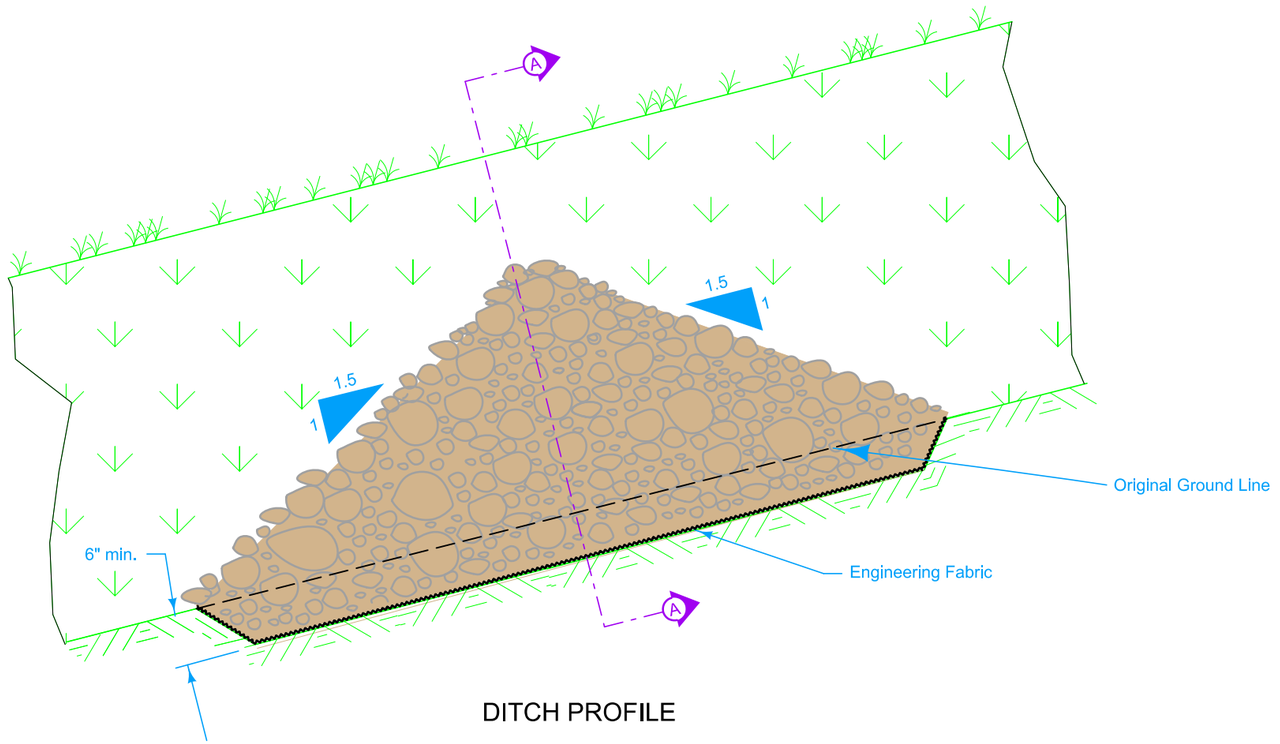


PLAN

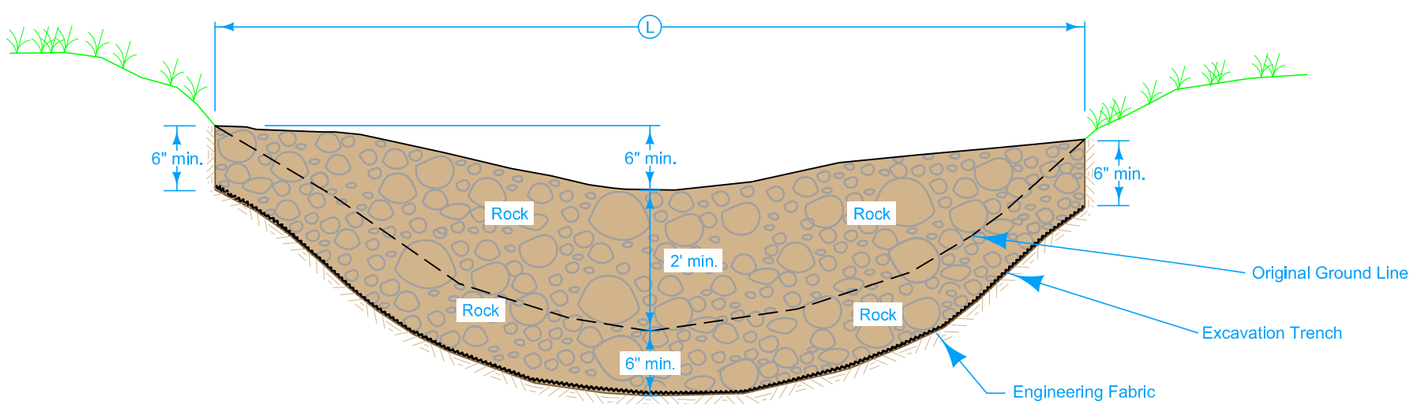
TRM (Type 2) TM

TRANSITION MAT (TM)

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER U.4



DITCH PROFILE



SECTION A-A

Use Class D Revetment to construct Rock Check Dam.

Method of Measurement for Rock Check Dam will be in linear feet to the nearest 0.1 feet.

Basis of Payment for Rock Check Dam will be the contract unit price per linear foot. Payment is full compensation for all materials, labor, and equipment required to construct the Rock Check Dam as shown. Class 10 excavation required to cut trench and engineering fabric installed prior to placing revetment are incidental and will not be paid for separately.

Method of Measurement for Maintenance of Rock Check Dam will be by count.

Basis of Payment for Maintenance of Rock Check Dam will be at the contract unit price for each occurrence. Payment is full compensation for clean out and disposal of material when capacity reaches 50%, and for any repair that is needed during the project.

Method of Measurement for Removal of Rock Check Dam will be by count.

Basis of Payment for Removal of Rock Check Dam will be at the contract unit price for each Rock Check Dam removed. Payment is full compensation for all labor and equipment required to remove all rock and material above original ditch grade. Rock, silt, and engineering fabric that is flush with and/or below final ditch grade will be allowed to remain in the excavation trench.

Possible Contract Items:
- Rock Check Dam
- Maintenance of Rock Check Dam
- Removal of Rock Check Dam

Possible Tabulation:
- 100-32

IOWADOT

ROAD DESIGN DETAIL

REVISION	
1	10-17-17

570-2

SHEET 1 of 1

REVISIONS: Modified some linework for clarity on the "Original Ground Line".

ROCK CHECK DAM

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER U.5

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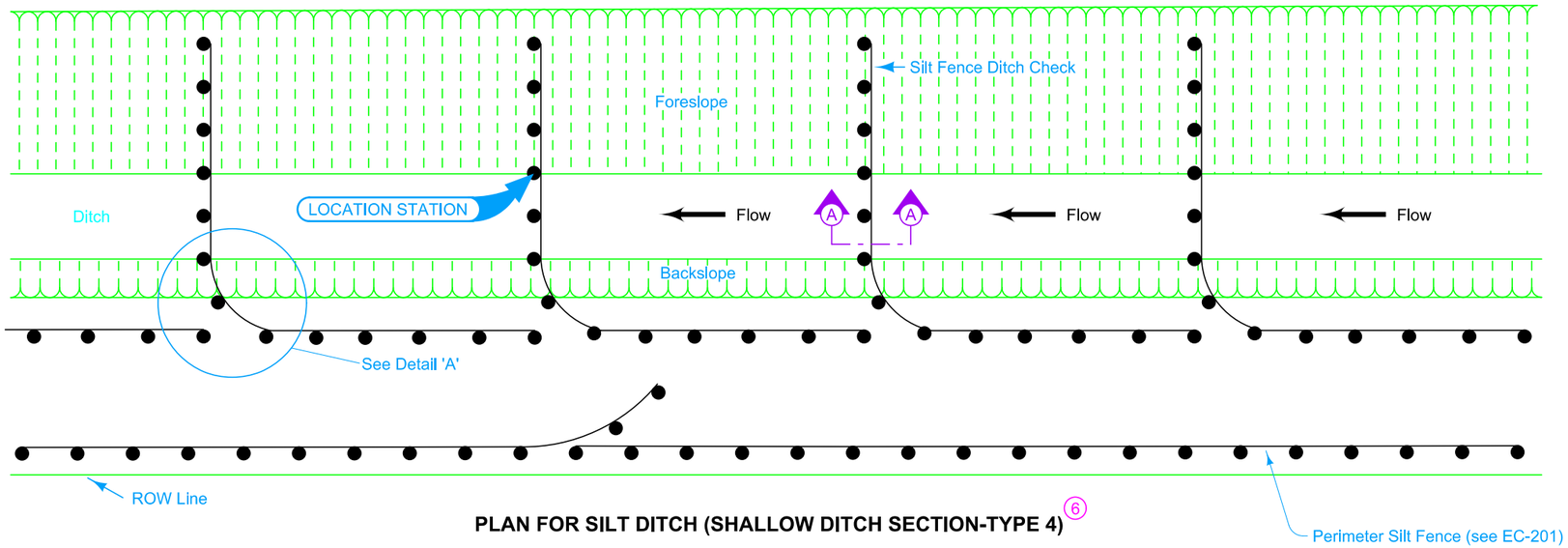
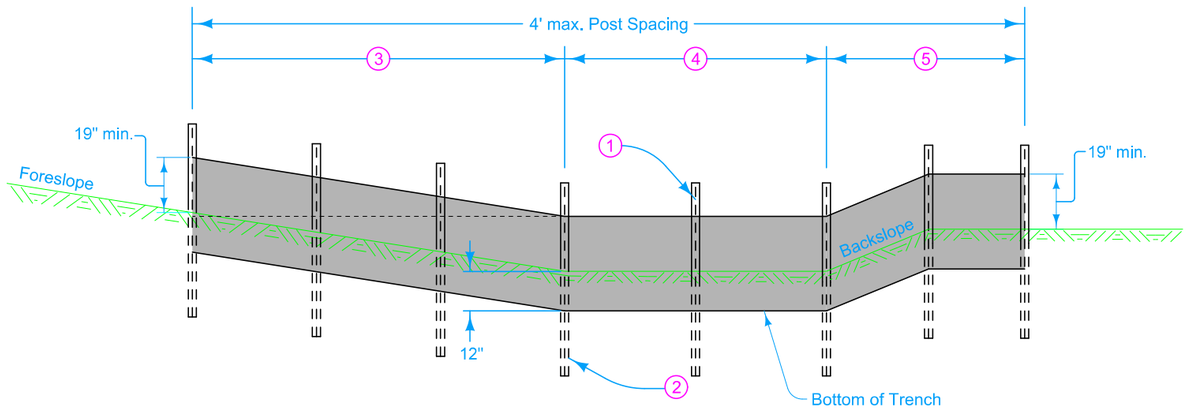
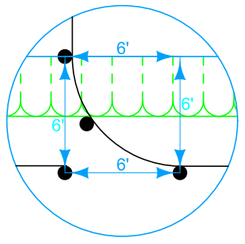


PLAN FOR SILT DITCH (SHALLOW DITCH SECTION-TYPE 4) (6)



FRONT VIEW



Detail 'A'

Install all silt fence using a silt fence machine. Use manual (trench) installation if physical conditions prohibit machine installation.

For machine installation, compact by driving over each side of silt fence at least two times with device exerting 60 p.s.i. or greater.

For manual installation, compact with a mechanical or pneumatic tamper.

1. Secure top of engineering fabric to steel posts using cable ties (50 lb.) or wire. See attachment to post.
2. Embed all posts 28 inches below the ground line.
3. The minimum end span (in feet) = 2 X Foreslope (H:V).
4. Locate posts at toe of foreslope and toe of backslope and space remaining posts equally.
5. Place posts as shown in Detail 'A' to transition from transverse to parallel installation. Place one post at the backslope intercept and the other beyond the intercept.
6. Refer to tabulation 100-18.

Possible Contract Item:
Silt Fence for Ditch Checks

Possible Tabulation:
100-18

IOWA DOT

REVISION

1	10-17-17

ROAD DESIGN DETAIL

570-4

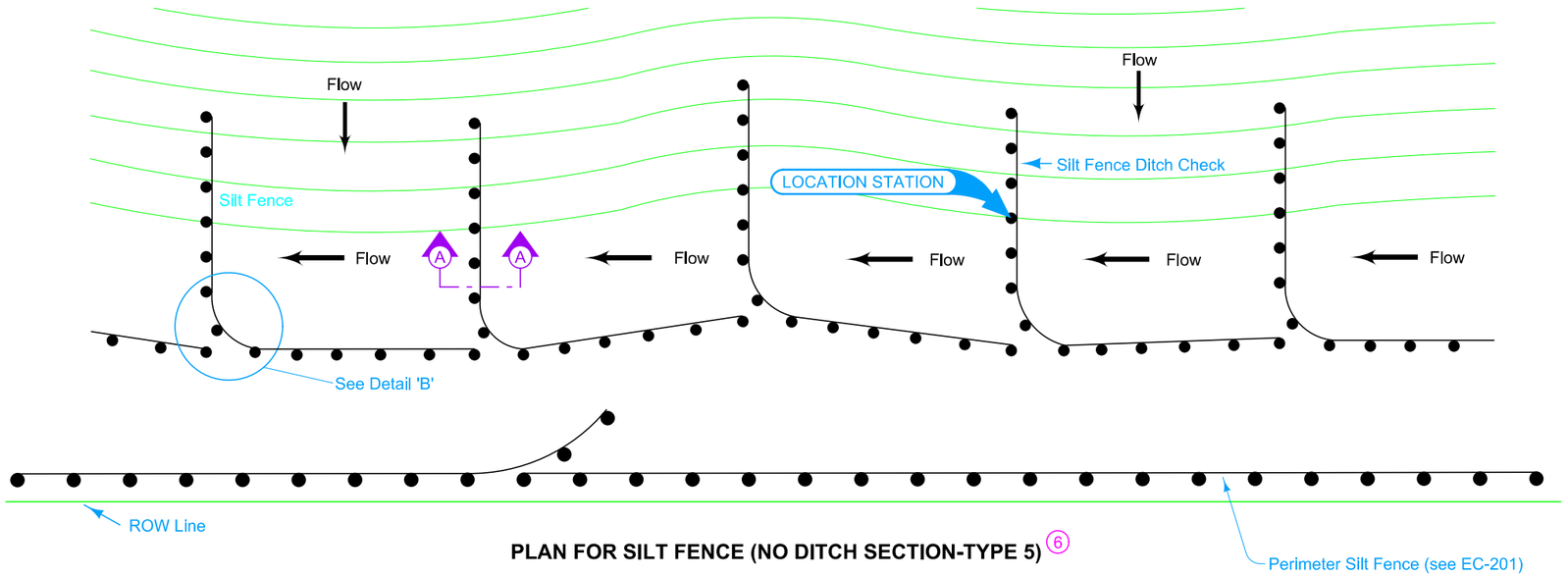
SHEET 1 of 3

REVISIONS: Added Designer Info button and silt fence along ROW line. Renumbered circle note 8 on page 3 to circle note 9.

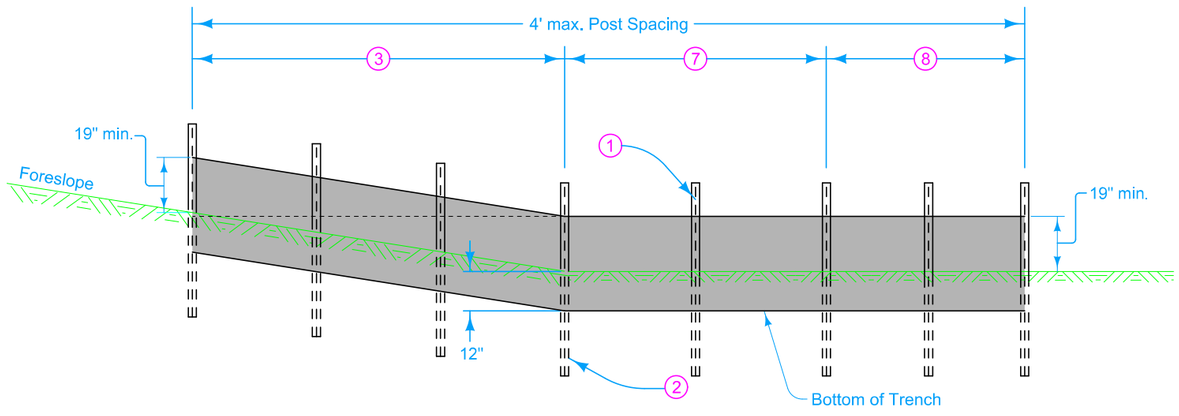
SILT FENCE INSTALLATION FOR SHALLOW OR NO DITCH

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER U.6

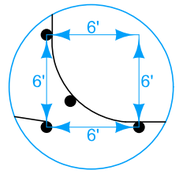
11:48:34 AM 9/29/2017 raltenh pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120U06.sht



PLAN FOR SILT FENCE (NO DITCH SECTION-TYPE 5) (6)



FRONT VIEW



Detail 'B'

(1) Secure top of engineering fabric to steel posts using cable ties (50 lb.) or wire. See attachment to post.

(2) Embed all posts 28 inches below the ground line.

(3) The minimum end span (in feet) = 2 X Foreslope (H:V).

(6) Refer to tabulation 100-18.

(7) Locate post at toe of forslope. Locate 2 additional posts at 4 foot spacing.

(8) Place posts as shown in Detail 'B' to transition from transverse to parallel installation. The parallel portion of the installation should approximately parallel the intercept of the foreslope.

Contour Lines

IOWA DOT

ROAD DESIGN DETAIL

REVISION	
1	10-17-17

570-4

SHEET 2 of 3

REVISIONS: Added Designer Info button and silt fence along ROW line. Renumbered circle note 8 on page 3 to circle note 9.

SILT FENCE INSTALLATION FOR SHALLOW OR NO DITCH

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER U.7

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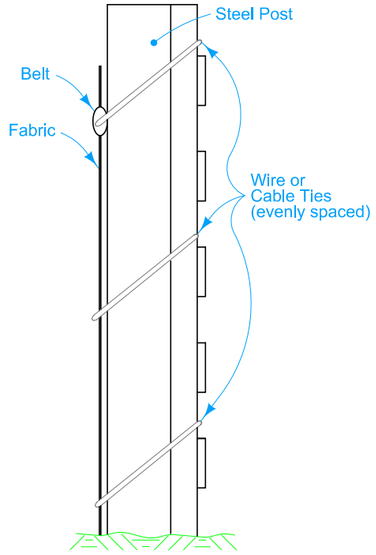
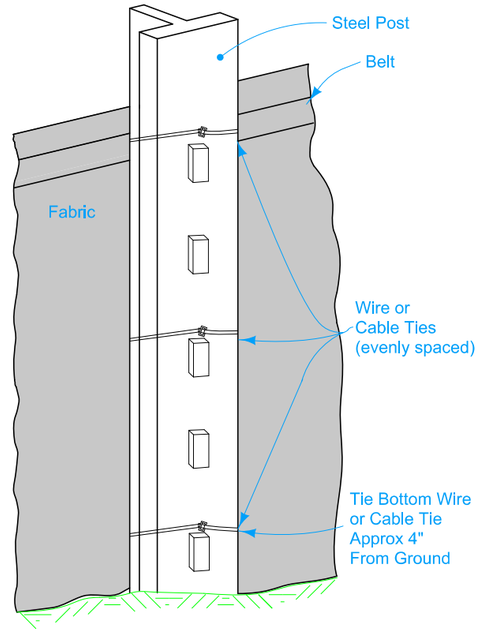


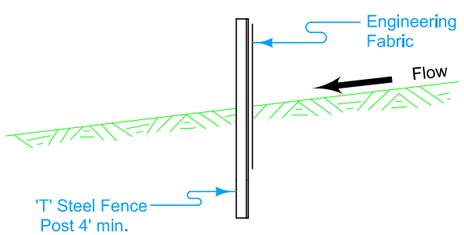
PROFILE VIEW
ATTACHMENT TO POST



BACK VIEW
ATTACHMENT TO POST

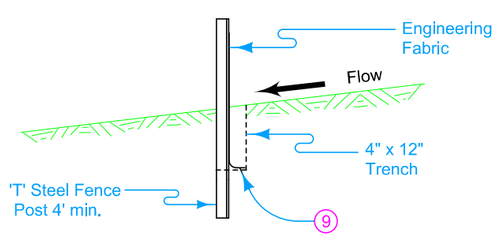
(9) For manual installation only, fold engineering fabric along bottom of trench.

DITCH CHECK - MACHINE INSTALLATION



SECTION A-A

DITCH CHECK - MANUAL INSTALLATION



SECTION A-A

IOWA DOT

ROAD DESIGN DETAIL

REVISION	
1	10-17-17

570-4

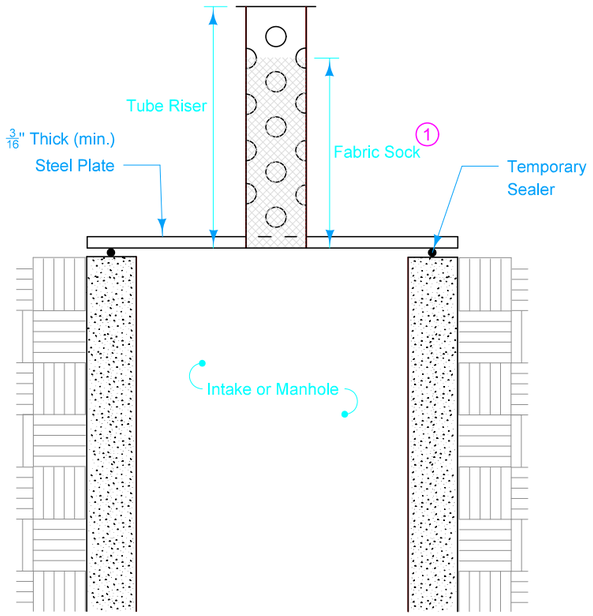
SHEET 3 of 3

REVISIONS: Added Designer Info button and silt fence along ROW line. Renumbered circle note 8 on page 3 to circle note 9.

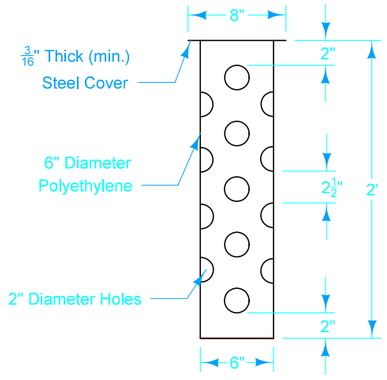
SILT FENCE INSTALLATION FOR SHALLOW OR NO DITCH

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER U.8

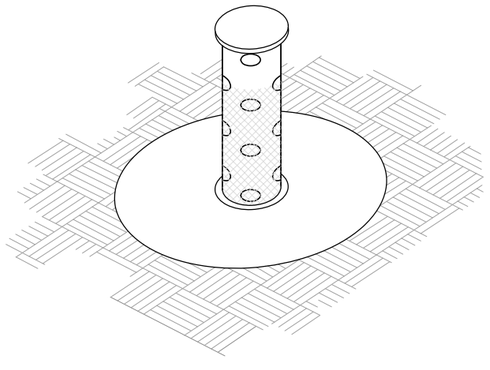
11:48:39 AM 9/29/2017 raltenh pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120U06.sht



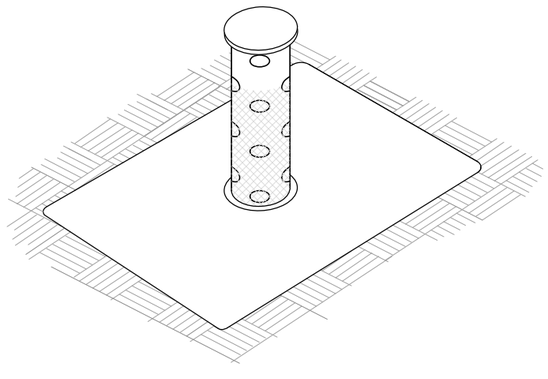
SECTION VIEW



TUBE RISER 2

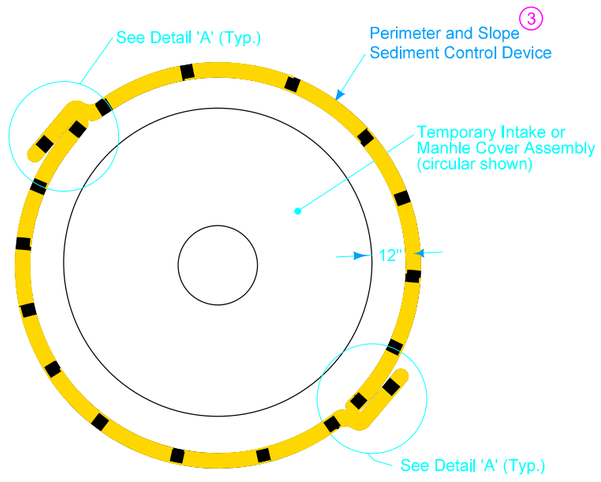


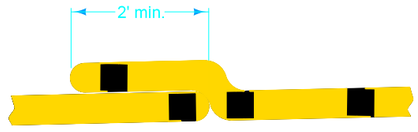
ISOMETRIC VIEW
(Circular)



ISOMETRIC VIEW
(Rectangular)

TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY





DETAIL 'A' 4
(Overlap Joint)

PERIMETER AND SLOPE SEDIMENT CONTROL

Method of Measurement for Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each device installed.

Method of Measurement for Maintenance of Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Maintenance of Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each occurance. Payment is full compensation for inspecting fabric sock and replacing when flow capicity has been reduced to 50%.

Method of Measurment for Removal of Temporary Intake or Manhole Cover Assembly will be by count.

Basis of Payment for Removal of Temporary Intake or Manhole Cover Assembly will be at the contract unit price for each device removed.

1. Wrap fabric sock around tube riser. Use fabric complying with Article 4196.01, B, 1 with a minimum flow rate of 90 gallons per minute per square foot. Ensure top of sock is below form grade elevation.
2. Tube riser may be such that it can be pushed down and pulled up.
3. Place Perimeter and Slope Sediment Control Devices around all intake or manhole wells. Use 20 inch diameter device.
4. Extra material required to install overlaps will not be included in the installation length.

Possible Contract Items:
- Temporary Intake or Manhole Cover Assembly
- Maintenance of Temporary Intake or Manhole Cover Assembly
- Removal of Temporary Intake or Manhole Cover Assembly
- Perimeter and Slope Sediment Control Device

Possible Tabulations:
- 100-11
- 100-19

IOWADOT

ROAD DESIGN DETAIL

REVISION	
1	04-18-17

570-5

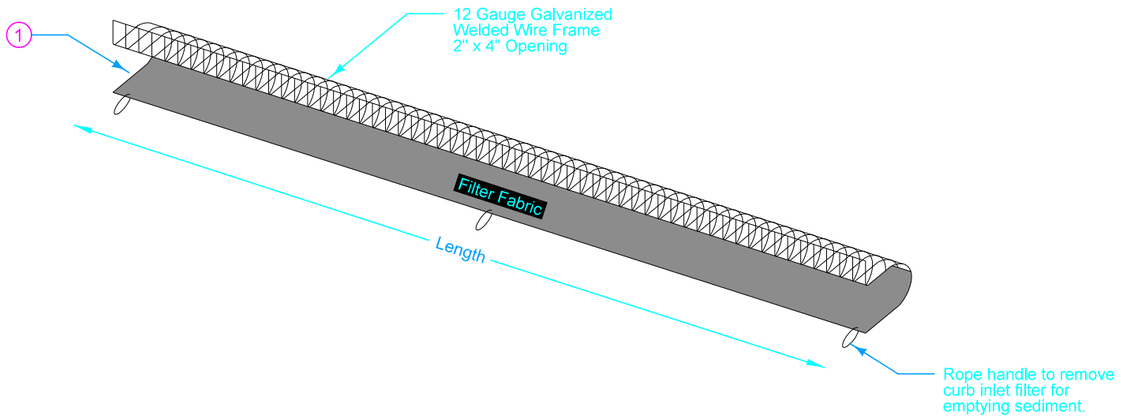
SHEET 1 of 1

REVISIONS: Add bid items for maintenance and removal. Added basis of payment and method of measurement.

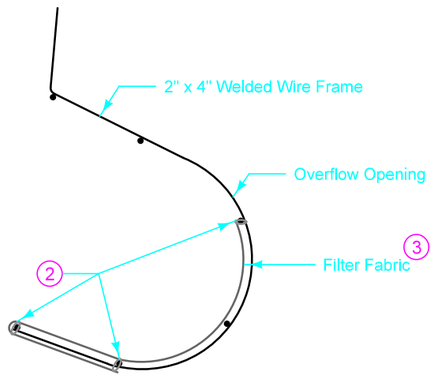
EROSION CONTROL FOR INTAKE OR MANHOLE WELL

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER U.9

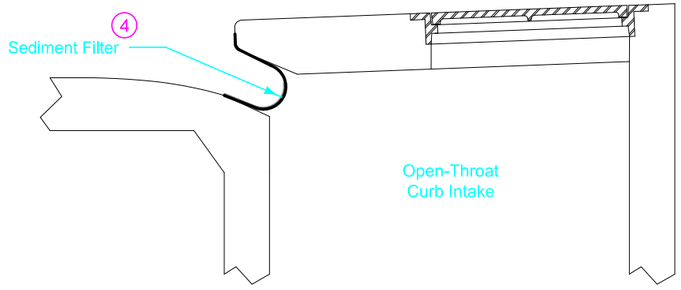
11:48:41 AM 9/29/2017 raltenh pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120U06.sht



OPEN-THROAT CURB INTAKE SEDIMENT FILTER



SEDIMENT FILTER CROSS SECTION



SEDIMENT FILTER PLACEMENT

Remove sediment filter upon stabilization of sediment sources.

Measurement for Open-throat Curb Intake Sediment Filter will be in feet to the nearest foot.

Basis of Payment for Open-throat Curb Intake Sediment Filter will be at the contract unit price per foot. Payment is full compensation for furnishing all equipment, labor, and materials required to install the Open-throat Curb Intake Sediment Filter as shown.

Method of Measurement for Maintenance of Open-throat Curb Intake Sediment Filter will be by count.

Basis of Payment for Maintenance of Open-throat Curb Intake Sediment Filter will be at the contract unit price for each occurence. Payment is full compensation for clean out and disposal of material when sediment accumulation depth reaches 2 inches, and for any other repair needed during the project.

Measurement for Removal of Open-throat Curb Intake Sediment Filter will be by count.

Basis of Payment for Removal of Open-throat Curb Intake Sediment Filter will be at the contract unit price for each Open-throat Curb Intake Sediment Filter removed. Payment is full compensation for all labor and equipment required for removal.

(1) Trim frame as needed to tightly fit in the intake throat. Overlap fabric a minimum of 3 inches and securely fasten.

(2) Securely attach filter fabric to the wire frame leaving an overflow opening above the filter fabric.

(3) Woven material meeting the requirements of Table 4196.01-1 of the Standard Specifications, except a maximum apparent opening size US Sieve No. 10 and a minimum flow rate of 145 gallons per minute per square foot.

(4) Insert sediment filter to create a compression fit in the intake throat.

Possible Contract Items:
Open-throat Curb Intake Sediment Filter
Maintenance of Open-throat Curb Intake Sediment Filter
Removal of Open-throat Curb Intake Sediment Filter

Possible Tabulation:
100-36

IOWA DOT

ROAD DESIGN DETAIL

REVISION	
NEW	04-18-17

570-6

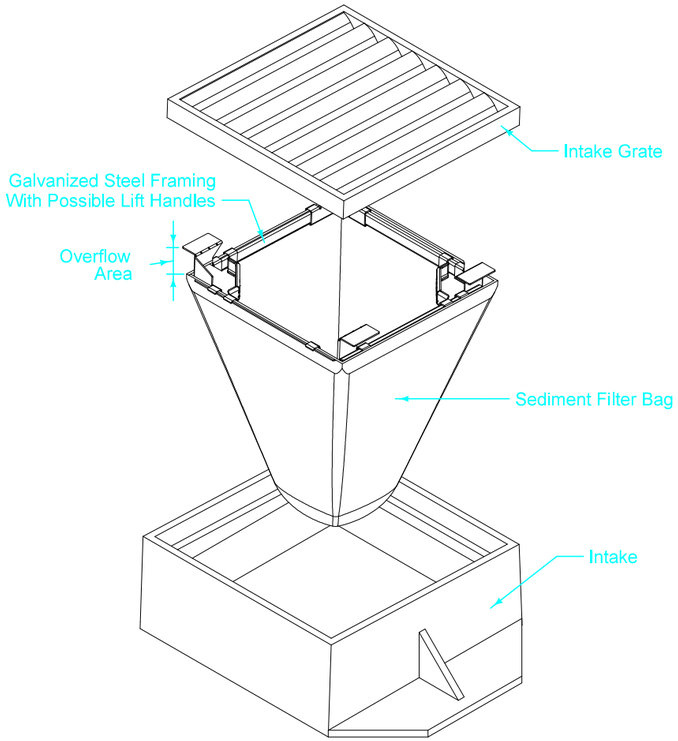
SHEET 1 of 1

REVISIONS: NEW

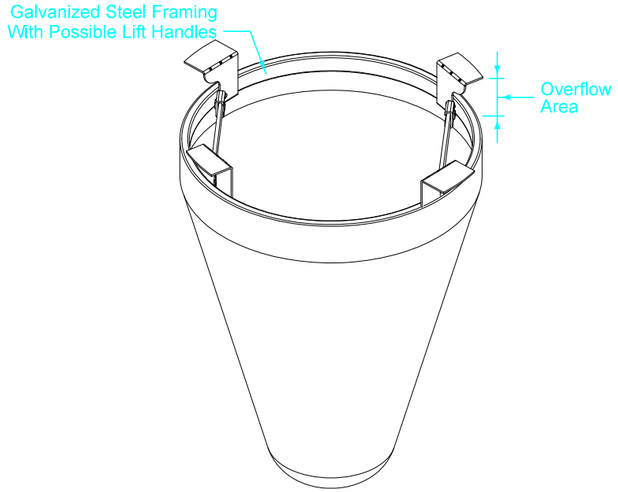
OPEN-THROAT CURB INTAKE SEDIMENT FILTER

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER U.10

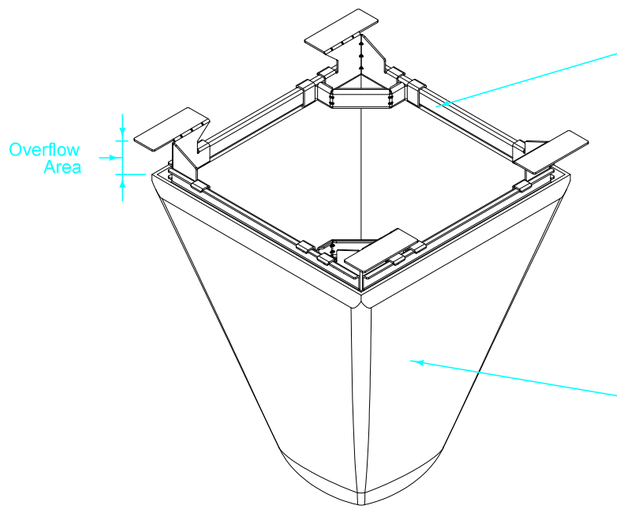
11:48:45 AM 9/29/2017 raltenh pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120U06.sht



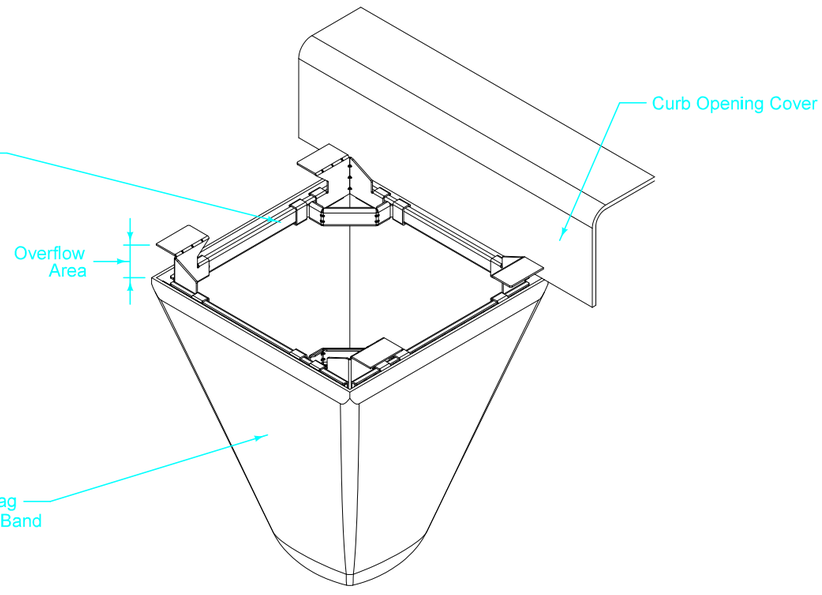
TYPICAL SEDIMENT FILTER BAG PLACEMENT



SEDIMENT FILTER BAG FOR CIRCULAR GRATE



SEDIMENT FILTER BAG FOR SQUARE
OR RECTANGULAR GRATE



SEDIMENT FILTER BAG FOR COMBINATION
GRATE WITH CURB OPENING

Remove sediment filter bag upon stabilization of sediment sources.

Measurement for Grate Intake Sediment Filter Bag will be by count.

Basis of Payment for Grate Intake Sediment Filter Bag will be at the contract unit price for each device installed. Payment is full compensation for furnishing all equipment, labor, and materials required to install the Grate Intake Sediment Filter Bag as shown.

Method of Measurement for Maintenance of Grate Intake Sediment Filter Bag will be by count.

Basis of Payment for Maintenance of Grate Intake Sediment Filter Bag will be at the contract unit price for each occurence. Payment is full compensation for clean out and disposal of material when capacity reaches 50%, and for any other repair needed during the project.

Measurement for Removal of Grate Intake Sediment Filter Bag will be by count.

Basis of Payment for Removal of Grate Intake Sediment Filter Bag will be at the contract unit price for each device removed. Payment is full compensation for all labor and equipment required for removal.

(1) Woven material meeting the requirements of Table 4196.01-1 of the Standard Specifications, except a maximum apparent opening size US Sieve No. 10 and a minimum flow rate of 145 gallons per minute per square foot.

Possible Contract Items:
- Grate Intake Sediment Filter Bag
- Maintenance of Grate Intake Sediment Filter Bag
- Removal of Grate Intake Sediment Filter Bag

Possible Tabulation:
- 100-37

IOWA DOT

ROAD DESIGN DETAIL

REVISION	
NEW	04-18-17

570-7

SHEET 1 of 1

REVISIONS: NEW

GRATE INTAKE
SEDIMENT FILTER BAG

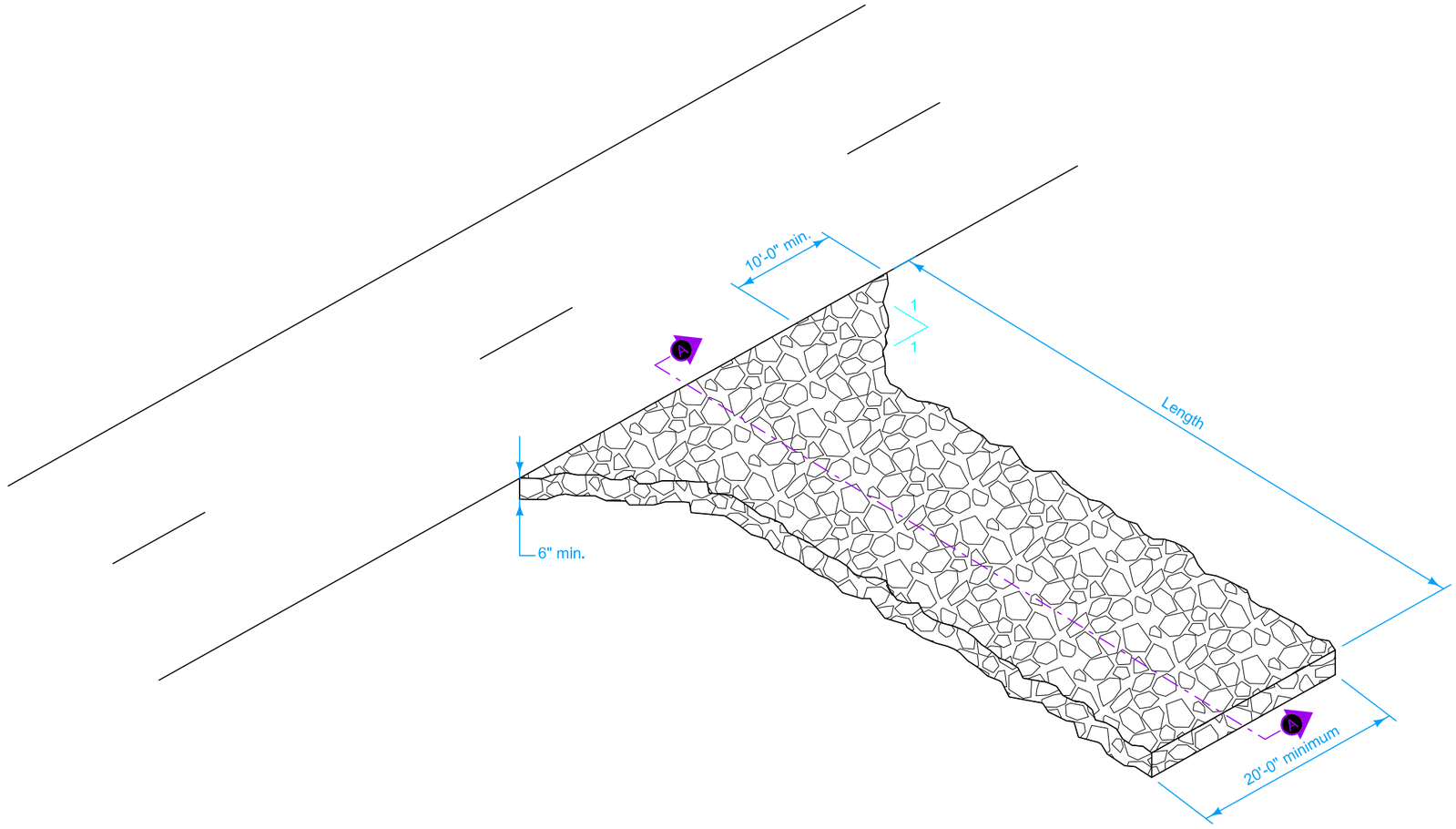
FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER U.11

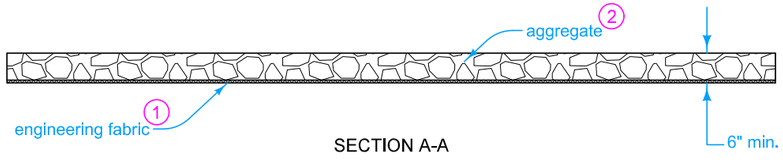
11:48:49 AM 9/29/2017 raltenh pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120U06.sht

Obtain the Engineer's approval for location and length of stabilized entrances prior to constructing.

Method of Measurement for Stabilized Construction Entrance will be in linear feet measured along the length of the entrance at the entrance centerline.

Basis of Payment for Stabilized Construction Entrance will be at the contract unit price per linear foot. Payment is full compensation for furnishing all materials and work necessary for installation, maintenance, and removal of stabilized construction entrance. Maintenance includes installing additional material or cleaning required to maintain the entrance in a functional contdition.





SECTION A-A

1 Place engineering fabric prior to placing aggregate. Use fabric for Embankment Erosion Control complying with Section 4196 of the Standard Specifications.

2 Use aggregate meeting Gradation No. 13 of Section 4109 of the Standard Specificaitons.

Possible Contract Item:
Stabilized Construction Entrance

IOWADOT

REVISION	
NEW	04-18-17

ROAD DESIGN DETAIL

570-10

SHEET 1 of 1

REVISIONS: NEW

STABILIZED CONSTRUCTION ENTRANCE

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Skogerboe \ Altenhofen	DUBUQUE COUNTY	PROJECT NUMBER HSIPX-052-2(120)--3L-31	SHEET NUMBER U.12

11:48:52 AM 9/29/2017 raltenh pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120U06.sht

ESTIMATED PRECAST CULVERT QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.
1	2102-0425071	SPECIAL BACKFILL	CY	25.4	
2	2401-6750001	REMOVALS, AS PER PLAN	LS	1.00	
3	2402-2720000	EXCAVATION, CLASS 20	CY	589	
4	2415-2110607	PRECAST CONCRETE BOX CULVERT, 6 FT. X 7 FT.	LF	97.2	
5	2415-2200607	PRECAST CONCRETE BOX CULVERT STRAIGHT END SECTION, 6 FT. X 7 FT.	EACH	2	
6	2533-4980005	MOBILIZATION	LS	1.00	

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
1	2102-0425071	SPECIAL BACKFILL RECLAIMED ASPHALT PAVEMENT (RAP) AND RECLAIMED HMA SHALL NOT BE USED FOR THE SPECIAL BACKFILL.
2	2401-6750001	REMOVALS, AS PER PLAN - -
3	2402-2720000	EXCAVATION, CLASS 20 INCLUDES 25.4 CU. YDS. FOR CORE-OUT FOR SPECIAL BACKFILL.
4	2415-2110607	PRECAST CONCRETE BOX CULVERT, 6 FT. X 7 FT. - -
5	2415-2200607	PRECAST CONCRETE BOX CULVERT STRAIGHT END SECTION, 6 FT. X 7 FT. - -
6	2533-4980005	MOBILIZATION - -

HYDRAULIC DESIGN

LICENSED PROFESSIONAL ENGINEER
David R. Claman
11571
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature Date

David R. Claman

Printed or Typed Name

My license renewal date is December 31, 2018

Pages or sheets covered by this seal: SHEETS V.2 & V.5

STRUCTURAL DESIGN

LICENSED PROFESSIONAL ENGINEER
Dean G. Bierwagen
11506
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature Date

Dean G. Bierwagen

Printed or Typed Name

My license renewal date is December 31, 2018

Pages or sheets covered by this seal: SHEETS V.1 THRU V.6

DESIGN FOR A 10° RA SKEW

6'-0 X 7'-0 X 100'-0 PRECAST RCB CULVERT CATTLE PASS ESTIMATED QUANTITIES

STA. 820+14 (℄ US 52) NOVEMBER 2017

DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 3 FILE NO. 31283 DESIGN NO. 417

DESIGN TEAM DGB * MSF * TWE | DUBUQUE COUNTY | PROJECT NUMBER HSIPX-052-2(120)--37-31 | SHEET NUMBER V. 1

GENERAL NOTES:

IT IS THE INTENT OF THIS DESIGN TO REPLACE THE EXISTING 4' X 6' RCB CATTLE PASS WITH A 6' X 7' PRECAST REINFORCED CONCRETE BOX CULVERT CATTLE PASS.

FAINT LINES ON PLANS INDICATE EXISTING STRUCTURE.

UTILITY COMPANIES AND MUNICIPALITIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE CONTRACTOR OF THE CONSTRUCTION STARTING DATE.

THE PRECAST R.C.B. CULVERT SECTIONS ARE DESIGNED FOR HL-93 LIVE LOAD AND EARTH FILLS OF 2-13 FEET.

THE PRECAST R.C.B. BARREL AND END SECTIONS SHALL CONFORM TO IOWA D.O.T. SINGLE PRECAST R.C.B. CULVERT STANDARDS. AT THE CONTRACTOR'S OPTION, PRECAST BARREL SECTIONS MAY CONFORM TO ASTM C1577.

EXCESS CLASS 20 EXCAVATION MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED AT THE CONSTRUCTION SITE, AS DIRECTED BY THE ENGINEER.

THE BID ITEM "REMOVALS AS PER PLAN" SHALL INCLUDE ALL COSTS ASSOCIATED WITH REMOVING THE EXISTING CATTLE PASS. REMOVALS SHALL BE IN ACCORDANCE WITH SECTION 2401 OF THE STANDARD SPECIFICATIONS.

THE LENGTH IN LINEAR FEET OF PRECAST REINFORCED CONCRETE BOX CULVERT WILL BE BASED ON THE PLAN QUANTITY. FOR THE NUMBER OF LINEAR FEET GIVEN ON THE PLAN, THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE PER LINEAR FOOT. THE PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR AND EQUIPMENT NECESSSARY TO COMPLETE THE WORK EXCEPT FOR BID ITEMS "CONCRETE BOX CULVERT STRAIGHT END SECTION", "EXCAVATION, CLASS 20", AND "SPECIAL BACKFILL".

FOR EACH PRECAST BOX CULVERT STRAIGHT END SECTION INSTALLED THE CONTRACTOR WILL BE PAID THE CONTRACT PRICE PER EACH. THE PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL (INCLUDING LINTEL BEAMS AND CURTAIN WALLS), LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK EXCEPT FOR BID ITEMS "PRECAST CONCRETE BOX CULVERT", "CLASS 20 EXCAVATION" AND "SPECIAL BACKFILL".

THE CURTAIN WALL AND THE TYPE 3 LINTEL BEAM OR TYPE I PARAPET SHALL BE PRECAST.

THE CONTRACTOR SHALL FURNISH AND INSTALL CULVERT TIES FOR ALL JOINTS. THE MAIN SECTION JOINTS WILL HAVE ONE TIE ON EACH SIDE OF THE BARREL AND THE LAST BARREL SECTION WILL BE ATTACHED TO THE END SECTIONS WITH TWO TIES PER SIDE. THE END SECTION JOINTS WILL HAVE TWO TIES PER SIDE.

CULVERT TIES SHALL BE INCLUDED IN THE COST FOR PRECAST CONCRETE BOX CULVERT. TIE RODS WILL BE 1 INCH DIAMETER STEEL AND SHALL MEET REQUIREMENTS OF ASTM A709 GRADE 36 OR EQUAL.

CULVERT TIE ASSEMBLIES SHALL BE GALVANIZED AFTER FABRICATION.

THREADED ENDS OF CONCRETE TIES SHALL BE PLACED ON THE FILL DIRT SIDE OF THE SECTIONS (SEE U-BOLT DETAIL ON THIS SHEET.)

THE LIMITS FOR EXCAVATION FOR THE PRECAST CONCRETE BOX CULVERT SHALL BE AS SHOWN ON THE "SPECIAL BACKFILL BEDDING DETAIL".

A MINIMUM OF 6 INCHES OF SPECIAL BACKFILL WITH A MAXIMUM AGGREGATE SIZE OF $\frac{3}{8}$ INCH SHALL BE USED AS BEDDING FOR THE PRECAST BOX CULVERT. THE BEDDING SHALL BE SHAPED TO A FLAT BASE USING A TEMPLATE. THE 6 INCH SPECIAL BACKFILL BEDDING SHALL BE BID AS SPECIAL BACKFILL.

THE CONTRACTOR SHALL SUBMIT DETAILS OF THE PROPOSED PRECAST BOX SECTIONS FOR ALL PROJECTS. THE DETAILS SHALL INCLUDE THE FOLLOWING INFORMATION AS FOUND ON THE "SUBMITTAL SHOP DRAWING" STANDARD SHEET:

A. A SITUATION PLAN DRAWING SHOWING THE BACK TO BACK PARAPET DIMENSION FOR THE LINE OF THE CULVERT SECTIONS.
B. DIMENSION THE NUMBER OF PRECAST SECTIONS AND SECTION LENGTHS.
C. A DETAIL OF THE PRECAST BARREL SECTIONS SHOWING A CROSS SECTION VIEW OF THE SECTION, STEEL LOCATIONS, DIMENSIONS, ETC.
D. A DETAIL OF THE PRECAST CULVERT END SECTION SHOWING A CROSS SECTION VIEW OF THE SECTIONS, STEEL LOCATIONS, DIMENSIONS, ETC. SIMILAR TO THE END SECTION DETAILS SHOWN IN THE IDOT STANDARDS.

THE CONTRACTOR SHALL PROVIDE ALL INFORMATION SHOWN ON THE SUBMITTAL SHOP DRAWING SHEET REGARDLESS OF WHICH PRECAST BOX OPTION IS SELECTED. SHOP DRAWINGS SHALL BE SUBMITTED WITH THE FOLLOWING NAMING CONVENTION:

(Paren)_County_DesignNumber_SubmittalDescription.pdf
Example: (090)_BlackHawk_Design915_DeckDrains.pdf

APPROVAL OF DETAILS IS NOT REQUIRED FOR PROJECTS CONFORMING TO "ASTM C1577" AND "IDOT STANDARDS" PRECAST BOX OPTIONS WITH END SECTIONS CONFORMING TO "IDOT STANDARDS." HOWEVER, THE DETAILS SHALL BE RECEIVED BY THE OFFICE OF BRIDGES AND STRUCTURES PRIOR TO THE START OF FABRICATION.

APPROVAL OF DETAILS IS REQUIRED FOR "NONSTANDARD" PRECAST BOX OPTIONS AND "NONSTANDARD" END SECTION OPTIONS. BOXES AND END SECTIONS REQUIRING OPENINGS OR ATTACHMENTS SHALL BE CONSIDERED NONSTANDARD. THE CONTRACTOR SHALL ALLOW THIRTY WORKING DAYS FOR THE ENGINEER'S REVIEW PRIOR TO THE START OF FABRICATION.

THE ROAD WILL BE CLOSED DURING CONSTRUCTION.

DETAILS REQUIRING APPROVAL SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER CURRENTLY REGISTERED IN THE STATE OF IOWA. BOXCAR SOFTWARE VERSION 3.1 OR LATER, OR OTHER EQUIVALENT SOFTWARE, CAN BE USED TO DESIGN THE PRECAST BOX CULVERT BARREL SECTIONS; PROVIDING THE ANALYSIS MEETS THE MINIMUM REQUIREMENTS ESTABLISHED FOR THE IDOT STANDARDS AS FOUND IN THE IDOT BRIDGE DESIGN MANUAL. THE MINIMUM REQUIREMENTS INCLUDE REINFORCEMENT CLEARANCE REQUIREMENTS USED IN THE "IDOT STANDARDS."

INSTALLATION NOTES:

PRECAST CONCRETE BOX CULVERT SECTIONS SHALL BE LAID WITH THE GROOVE END OF EACH SECTION UP-GRADE, AND THE SECTIONS SHALL BE TIGHTLY JOINED. CONCRETE TIES TO BE USED ONLY TO HOLD BOX SECTIONS TOGETHER, NOT FOR PULLING SECTIONS TIGHT. JOINT OPENINGS BETWEEN SECTIONS SHOULD BE AS TIGHT AS PRACTICABLE AND LIMITED TO A MAXIMUM OF $\frac{3}{4}$ INCH OPENINGS. THE JOINT ON THE BOTTOM OF THE CULVERT SHALL BE SEALED WITH A FLEXIBLE WATER TIGHT 1 INCH BUTYL ROPE GASKET AS PER MATERIALS I.M. 491.09.

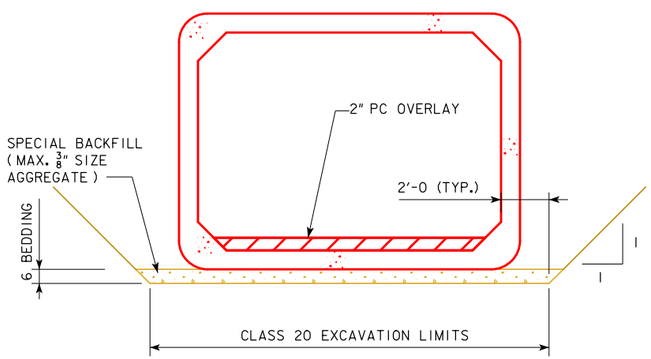
BUTYL ROPE GASKET SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER AND SHALL EXTEND VERTICALLY 6 INCHES ABOVE THE BOTTOM FILLET. ALL JOINTS SHALL BE TRIMMED CLEAN ON THE INSIDE AFTER SEALING.

THE CONTRACTOR SHALL PLACE A 2 FOOT WIDE PIECE OF ENGINEERING FABRIC AROUND THE TOP AND SIDES OF EACH PRECAST JOINT. THE FABRIC SHALL BE CENTERED WITH 1 FOOT ON EACH SIDE OF THE JOINT, THE FABRIC SHALL BE ATTACHED TO THE WALLS AND TOP OF EACH SECTION TO PREVENT THE FABRIC FROM SLIPPING OFF THE JOINT DURING BACKFILLING OPERATIONS. ATTACHMENT METHODS SHALL BE APPROVED BY THE ENGINEER. ALL COSTS INCLUDING MATERIAL AND LABOR ASSOCIATED WITH PROVIDING THE ENGINEERING FABRIC AND INSTALLING IT AS REQUIRED SHALL BE INCLUDED IN THE BID ITEMS "PRECAST CONCRETE BOX CULVERT" AND "PRECAST BOX CULVERT STRAIGHT END SECTION". THE ENGINEERING FABRIC SHALL BE IN ACCORDANCE WITH ARTICLE 4196.01, B, 3, OF THE STANDARD SPECIFICATIONS.

DURING BACKFILLING THE COMPACTION ADJACENT TO THE BOTTOM CORNER RADII OR CHAMFER SHALL BE ACCOMPLISHED WITH A MECHANICAL HAND COMPACTOR.

THE CONTRACTOR SHALL FURNISH AND INSTALL LIFTING HOLE PLUGS FOR EACH SECTION. LIFTING HOLES SHALL BE PLUGGED WITH A PRECAST CONCRETE PLUG OR PLASTIC PLUG APPROVED BY THE ENGINEER, SEALED AND COVERED WITH A 2'-0 x 2'-0 PIECE OF ENGINEERING FABRIC CENTERED OVER THE HOLE AND ATTACHED TO THE SECTION TO PREVENT THE FABRIC FROM SLIPPING. THE INTERIOR OF LIFTING HOLE PLUGS SHALL BE GROUTED FOR A FLUSH FINISH.

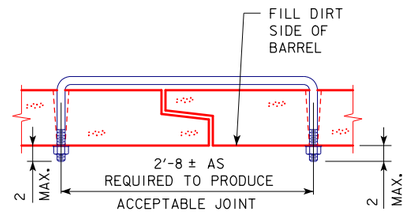
THE FLOOR OF THE PRECAST BARREL SECTIONS AND FLOOR OF THE PRECAST END SECTIONS IS TO BE ROUGHENED BY BROOM OR TINE AT LEAST $\frac{1}{2}$" DEEP TO FACILITATE A GOOD BOND TO THE PC OVERLAY WALKWAY.



SPECIAL BACKFILL BEDDING DETAIL

SPECIAL BACKFILL SHALL TERMINATE 3'-0 SHORT OF THE PRECAST CURTAIN WALL.

U BOLT TIE ORIENTATION DETAILS



(ORIENTATION TYP. FOR ALL TIE-BOLT TYPES AT ALL BARREL AND END SECTION JOINTS)

SPECIFICATIONS:

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH ED., SERIES OF 2010.

CONSTRUCTION:
IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, CURRENT SERIES, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN STRESSES:

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH ED., SERIES OF 2010:
BAR REINFORCEMENT IN ACCORDANCE WITH AASHTO LRFD SECTION 5, GRADE 60.
WELDED WIRE REINFORCEMENT IN ACCORDANCE WITH AASHTO LRFD SECTION 5.
CONCRETE IN ACCORDANCE WITH AASHTO LRFD SECTION 5, f'c FOR BARREL SECTIONS AS NOTED ON CULVERT BARREL DETAIL STANDARDS, FOR END SECTION DESIGN f'c = 5 KSI.

STANDARDS:
FOR DETAILS AND NOTES NOT SHOWN REFER TO THE FOLLOWING IOWA D.O.T. - HIGHWAY STANDARDS:

STANDARD	ISSUED	REVISED
PRCB G1-13	JANUARY, 2013	07-2016
* PRCB G2-13	JANUARY, 2013	07-2016
PRCB 6-13	JANUARY, 2013	-----
* PES 2-13-T3	JANUARY, 2013	07-2016
PES 3-13-T3	JANUARY, 2013	07-2016
PES 4-13	JANUARY, 2013	-----

*THREADED ENDS OF CONCRETE TIES SHALL BE PLACED ON THE FILL DIRT SIDE OF THE SECTIONS. REFER TO U BOLT TIE ORIENTATION DETAILS ON THIS SHEET.

DESIGN FOR A 10° RA SKEW

6'-0 X 7'-0 X 100'-0 PRECAST RCB CULVERT CATTLE PASS

GENERAL NOTES

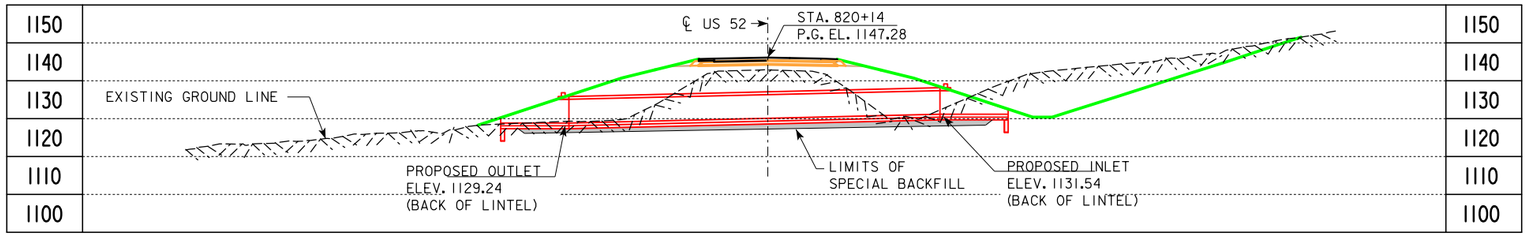
STA. 820+14 (℄ US 52) NOVEMBER 2017

DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

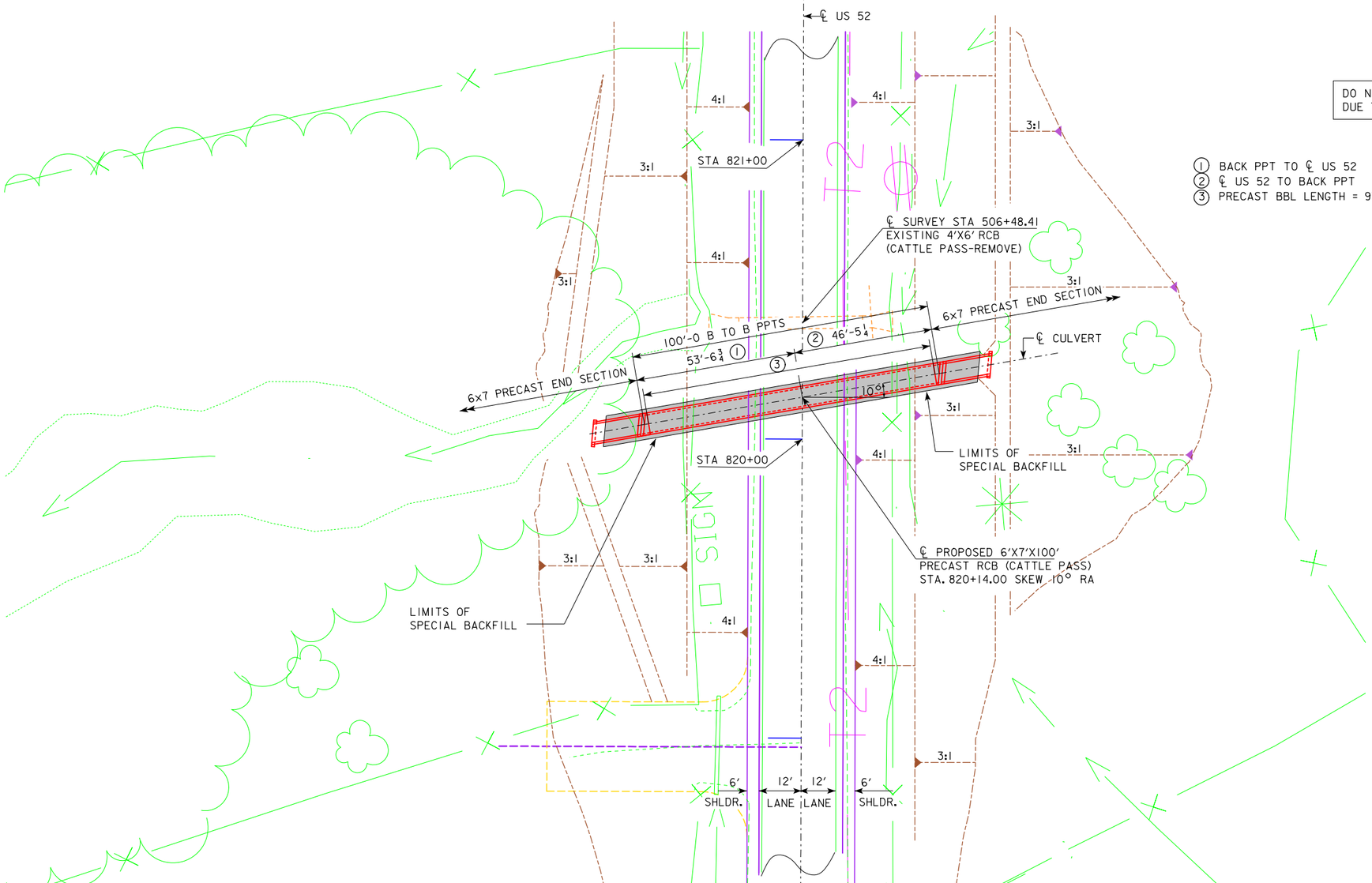
DESIGN SHEET NO. 2 OF 3 FILE NO. 31283 DESIGN NO. 417

DESIGN TEAM DGB * MSF * TWE | DUBUQUE COUNTY | PROJECT NUMBER HSIPX-052-2(120)--37-31 | SHEET NUMBER V. 2



LONGITUDINAL SECTION ALONG ℄ CULVERT CATTLE PASS

DESIGN FILL HEIGHT = 2-13 FEET.
ANTICIPATED SETTLEMENT = NEGLIGIBLE



SITUATION PLAN

DO NOT PLACE RIP RAP AT INLET OR OUTLET
DUE TO CULVERT BEING USED AS CATTLE PASS

① BACK PPT TO ℄ US 52
② ℄ US 52 TO BACK PPT
③ PRECAST BBL LENGTH = 97.2 FEET

N

HYDRAULIC DATA

DRAINAGE AREA = 93 ACRES HILLY
Q_{50} = 187 CFS

UTILITIES LEGEND:

T2 - WINDSTREAM (QLD)
⊖ - MAQUOKETA VALLEY REC

LOCATION

ON US 52 OVER SMALL STREAM
T-90N R-1W
SECTION 21
CONCORD TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42.5932427°
LONGITUDE -90.9674201°

DESIGN FOR A 10° RA SKEW

6'-0 X 7'-0 X 100'-0 PRECAST RCB CULVERT CATTLE PASS

SITUATION PLAN

STA. 820+14 (℄ US 52) NOVEMBER 2017

DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 3 OF 3 FILE NO. 31283 DESIGN NO. 417

DESIGN TEAM DGB * MSF * TWE | DUBUQUE COUNTY | PROJECT NUMBER HSIPX-052-2(120)--37-31 | SHEET NUMBER V. 3

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ESTIMATED PRECAST CULVERT QUANTITIES

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.
1	2102-0425071	SPECIAL BACKFILL	CY	21.3	
2	2401-6750001	REMOVALS, AS PER PLAN	LS	1.00	
3	2402-2720000	EXCAVATION, CLASS 20	CY	347	
4	2415-2110607	PRECAST CONCRETE BOX CULVERT, 6 FT. X 7 FT.	LF	75.2	
5	2415-2200607	PRECAST CONCRETE BOX CULVERT STRAIGHT END SECTION, 6 FT. X 7 FT.	EACH	2	
6	2533-4980005	MOBILIZATION	LS	1.00	

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
1	2102-0425071	SPECIAL BACKFILL RECLAIMED ASPHALT PAVEMENT (RAP) AND RECLAIMED HMA SHALL NOT BE USED FOR THE SPECIAL BACKFILL.
2	2401-6750001	REMOVALS, AS PER PLAN - -
3	2402-2720000	EXCAVATION, CLASS 20 INCLUDES 21.3 CU. YDS. FOR CORE-OUT FOR SPECIAL BACKFILL.
4	2415-2110607	PRECAST CONCRETE BOX CULVERT, 6 FT. X 7 FT. - -
5	2415-2200607	PRECAST CONCRETE BOX CULVERT STRAIGHT END SECTION, 6 FT. X 7 FT. - -
6	2533-4980005	MOBILIZATION - -

DESIGN FOR A 20° RA SKEW

6'-0 X 7'-0 X 78'-0 PRECAST RCB CULVERT CATTLE PASS

ESTIMATED QUANTITIES

STA. 836+00 (℄ US 52) NOVEMBER 2017

DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 3 FILE NO. 31283 DESIGN NO. 517

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GENERAL NOTES:

IT IS THE INTENT OF THIS DESIGN TO REPLACE THE EXISTING 4' X 6' RCB CATTLE PASS WITH A 6' X 7' PRECAST REINFORCED CONCRETE BOX CULVERT CATTLE PASS.

FAINT LINES ON PLANS INDICATE EXISTING STRUCTURE.

UTILITY COMPANIES AND MUNICIPALITIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE CONTRACTOR OF THE CONSTRUCTION STARTING DATE.

THE PRECAST R.C.B. CULVERT SECTIONS ARE DESIGNED FOR HL-93 LIVE LOAD AND EARTH FILLS OF 2-13 FEET.

THE PRECAST R.C.B. BARREL AND END SECTIONS SHALL CONFORM TO IOWA D.O.T. SINGLE PRECAST R.C.B. CULVERT STANDARDS. AT THE CONTRACTOR'S OPTION, PRECAST BARREL SECTIONS MAY CONFORM TO ASTM C1577.

EXCESS CLASS 20 EXCAVATION MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED AT THE CONSTRUCTION SITE, AS DIRECTED BY THE ENGINEER.

THE BID ITEM "REMOVALS AS PER PLAN" SHALL INCLUDE ALL COSTS ASSOCIATED WITH REMOVING THE EXISTING CATTLE PASS. REMOVALS SHALL BE IN ACCORDANCE WITH SECTION 2401 OF THE STANDARD SPECIFICATIONS.

THE LENGTH IN LINEAR FEET OF PRECAST REINFORCED CONCRETE BOX CULVERT WILL BE BASED ON THE PLAN QUANTITY. FOR THE NUMBER OF LINEAR FEET GIVEN ON THE PLAN, THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE PER LINEAR FOOT. THE PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, LABOR AND EQUIPMENT NECESSSARY TO COMPLETE THE WORK EXCEPT FOR BID ITEMS "CONCRETE BOX CULVERT STRAIGHT END SECTION", "EXCAVATION, CLASS 20", AND "SPECIAL BACKFILL".

FOR EACH PRECAST BOX CULVERT STRAIGHT END SECTION INSTALLED THE CONTRACTOR WILL BE PAID THE CONTRACT PRICE PER EACH. THE PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL (INCLUDING LINTEL BEAMS AND CURTAIN WALLS), LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK EXCEPT FOR BID ITEMS "PRECAST CONCRETE BOX CULVERT", "CLASS 20 EXCAVATION" AND "SPECIAL BACKFILL".

THE CURTAIN WALL AND THE TYPE 3 LINTEL BEAM OR TYPE I PARAPET SHALL BE PRECAST.

THE CONTRACTOR SHALL FURNISH AND INSTALL CULVERT TIES FOR ALL JOINTS. THE MAIN SECTION JOINTS WILL HAVE ONE TIE ON EACH SIDE OF THE BARREL AND THE LAST BARREL SECTION WILL BE ATTACHED TO THE END SECTIONS WITH TWO TIES PER SIDE. THE END SECTION JOINTS WILL HAVE TWO TIES PER SIDE.

CULVERT TIES SHALL BE INCLUDED IN THE COST FOR PRECAST CONCRETE BOX CULVERT. TIE RODS WILL BE 1 INCH DIAMETER STEEL AND SHALL MEET REQUIREMENTS OF ASTM A709 GRADE 36 OR EQUAL.

CULVERT TIE ASSEMBLIES SHALL BE GALVANIZED AFTER FABRICATION.

THREADED ENDS OF CONCRETE TIES SHALL BE PLACED ON THE FILL DIRT SIDE OF THE SECTIONS (SEE U-BOLT DETAIL ON THIS SHEET.)

THE LIMITS FOR EXCAVATION FOR THE PRECAST CONCRETE BOX CULVERT SHALL BE AS SHOWN ON THE "SPECIAL BACKFILL BEDDING DETAIL".

A MINIMUM OF 6 INCHES OF SPECIAL BACKFILL WITH A MAXIMUM AGGREGATE SIZE OF $\frac{3}{8}$ INCH SHALL BE USED AS BEDDING FOR THE PRECAST BOX CULVERT. THE BEDDING SHALL BE SHAPED TO A FLAT BASE USING A TEMPLATE. THE 6 INCH SPECIAL BACKFILL BEDDING SHALL BE BID AS SPECIAL BACKFILL.

THE CONTRACTOR SHALL SUBMIT DETAILS OF THE PROPOSED PRECAST BOX SECTIONS FOR ALL PROJECTS. THE DETAILS SHALL INCLUDE THE FOLLOWING INFORMATION AS FOUND ON THE "SUBMITTAL SHOP DRAWING" STANDARD SHEET:

A. A SITUATION PLAN DRAWING SHOWING THE BACK TO BACK PARAPET DIMENSION FOR THE LINE OF THE CULVERT SECTIONS.
B. DIMENSION THE NUMBER OF PRECAST SECTIONS AND SECTION LENGTHS.
C. A DETAIL OF THE PRECAST BARREL SECTIONS SHOWING A CROSS SECTION VIEW OF THE SECTION, STEEL LOCATIONS, DIMENSIONS, ETC.
D. A DETAIL OF THE PRECAST CULVERT END SECTION SHOWING A CROSS SECTION VIEW OF THE SECTIONS, STEEL LOCATIONS, DIMENSIONS, ETC. SIMILAR TO THE END SECTION DETAILS SHOWN IN THE IDOT STANDARDS.

THE CONTRACTOR SHALL PROVIDE ALL INFORMATION SHOWN ON THE SUBMITTAL SHOP DRAWING SHEET REGARDLESS OF WHICH PRECAST BOX OPTION IS SELECTED. SHOP DRAWINGS SHALL BE SUBMITTED WITH THE FOLLOWING NAMING CONVENTION:

(Paren)_County_DesignNumber_SubmittalDescription.pdf
Example: (090)_BlackHawk_Design915_DeckDrains.pdf

APPROVAL OF DETAILS IS NOT REQUIRED FOR PROJECTS CONFORMING TO "ASTM C1577" AND "IDOT STANDARDS" PRECAST BOX OPTIONS WITH END SECTIONS CONFORMING TO "IDOT STANDARDS." HOWEVER, THE DETAILS SHALL BE RECEIVED BY THE OFFICE OF BRIDGES AND STRUCTURES PRIOR TO THE START OF FABRICATION.

APPROVAL OF DETAILS IS REQUIRED FOR "NONSTANDARD" PRECAST BOX OPTIONS AND "NONSTANDARD" END SECTION OPTIONS. BOXES AND END SECTIONS REQUIRING OPENINGS OR ATTACHMENTS SHALL BE CONSIDERED NONSTANDARD. THE CONTRACTOR SHALL ALLOW THIRTY WORKING DAYS FOR THE ENGINEER'S REVIEW PRIOR TO THE START OF FABRICATION.

THE ROAD WILL BE CLOSED DURING CONSTRUCTION.

DETAILS REQUIRING APPROVAL SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER CURRENTLY REGISTERED IN THE STATE OF IOWA. BOXCAR SOFTWARE VERSION 3.1 OR LATER, OR OTHER EQUIVALENT SOFTWARE, CAN BE USED TO DESIGN THE PRECAST BOX CULVERT BARREL SECTIONS; PROVIDING THE ANALYSIS MEETS THE MINIMUM REQUIREMENTS ESTABLISHED FOR THE IDOT STANDARDS AS FOUND IN THE IDOT BRIDGE DESIGN MANUAL. THE MINIMUM REQUIREMENTS INCLUDE REINFORCEMENT CLEARANCE REQUIREMENTS USED IN THE "IDOT STANDARDS."

INSTALLATION NOTES:

PRECAST CONCRETE BOX CULVERT SECTIONS SHALL BE LAID WITH THE GROOVE END OF EACH SECTION UP-GRADE, AND THE SECTIONS SHALL BE TIGHTLY JOINED. CONCRETE TIES TO BE USED ONLY TO HOLD BOX SECTIONS TOGETHER, NOT FOR PULLING SECTIONS TIGHT. JOINT OPENINGS BETWEEN SECTIONS SHOULD BE AS TIGHT AS PRACTICABLE AND LIMITED TO A MAXIMUM OF $\frac{3}{4}$ INCH OPENINGS. THE JOINT ON THE BOTTOM OF THE CULVERT SHALL BE SEALED WITH A FLEXIBLE WATER TIGHT 1 INCH BUTYL ROPE GASKET AS PER MATERIALS I.M. 491.09.

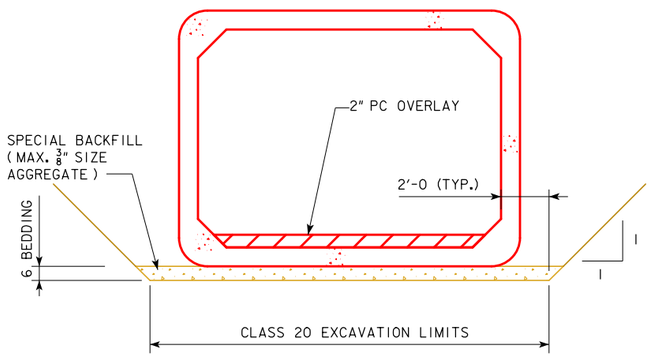
BUTYL ROPE GASKET SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER AND SHALL EXTEND VERTICALLY 6 INCHES ABOVE THE BOTTOM FILLET. ALL JOINTS SHALL BE TRIMMED CLEAN ON THE INSIDE AFTER SEALING.

THE CONTRACTOR SHALL PLACE A 2 FOOT WIDE PIECE OF ENGINEERING FABRIC AROUND THE TOP AND SIDES OF EACH PRECAST JOINT. THE FABRIC SHALL BE CENTERED WITH 1 FOOT ON EACH SIDE OF THE JOINT, THE FABRIC SHALL BE ATTACHED TO THE WALLS AND TOP OF EACH SECTION TO PREVENT THE FABRIC FROM SLIPPING OFF THE JOINT DURING BACKFILLING OPERATIONS. ATTACHMENT METHODS SHALL BE APPROVED BY THE ENGINEER. ALL COSTS INCLUDING MATERIAL AND LABOR ASSOCIATED WITH PROVIDING THE ENGINEERING FABRIC AND INSTALLING IT AS REQUIRED SHALL BE INCLUDED IN THE BID ITEMS "PRECAST CONCRETE BOX CULVERT" AND "PRECAST BOX CULVERT STRAIGHT END SECTION". THE ENGINEERING FABRIC SHALL BE IN ACCORDANCE WITH ARTICLE 4196.01, B, 3, OF THE STANDARD SPECIFICATIONS.

DURING BACKFILLING THE COMPACTION ADJACENT TO THE BOTTOM CORNER RADII OR CHAMFER SHALL BE ACCOMPLISHED WITH A MECHANICAL HAND COMPACTOR.

THE CONTRACTOR SHALL FURNISH AND INSTALL LIFTING HOLE PLUGS FOR EACH SECTION. LIFTING HOLES SHALL BE PLUGGED WITH A PRECAST CONCRETE PLUG OR PLASTIC PLUG APPROVED BY THE ENGINEER, SEALED AND COVERED WITH A 2'-0 x 2'-0 PIECE OF ENGINEERING FABRIC CENTERED OVER THE HOLE AND ATTACHED TO THE SECTION TO PREVENT THE FABRIC FROM SLIPPING. THE INTERIOR OF LIFTING HOLE PLUGS SHALL BE GROUTED FOR A FLUSH FINISH.

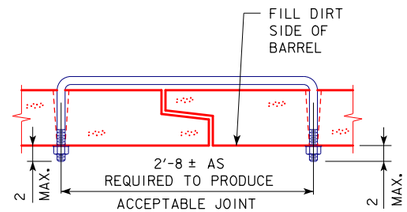
THE FLOOR OF THE PRECAST BARREL SECTIONS AND FLOOR OF THE PRECAST END SECTIONS IS TO BE ROUGHENED BY BROOM OR TINE AT LEAST $\frac{1}{2}$" DEEP TO FACILITATE A GOOD BOND TO THE PC OVERLAY WALKWAY.



SPECIAL BACKFILL BEDDING DETAIL

SPECIAL BACKFILL SHALL TERMINATE 3'-0 SHORT OF THE PRECAST CURTAIN WALL.

U BOLT TIE ORIENTATION DETAILS



(ORIENTATION TYP. FOR ALL TIE-BOLT TYPES AT ALL BARREL AND END SECTION JOINTS)

SPECIFICATIONS:

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH ED., SERIES OF 2010.

CONSTRUCTION:
IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, CURRENT SERIES, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

DESIGN STRESSES:

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH ED., SERIES OF 2010:
BAR REINFORCEMENT IN ACCORDANCE WITH AASHTO LRFD SECTION 5, GRADE 60.
WELDED WIRE REINFORCEMENT IN ACCORDANCE WITH AASHTO LRFD SECTION 5.
CONCRETE IN ACCORDANCE WITH AASHTO LRFD SECTION 5, f'c FOR BARREL SECTIONS AS NOTED ON CULVERT BARREL DETAIL STANDARDS, FOR END SECTION DESIGN f'c = 5 KSI.

STANDARDS:
FOR DETAILS AND NOTES NOT SHOWN REFER TO THE FOLLOWING IOWA D.O.T. - HIGHWAY STANDARDS:

STANDARD	ISSUED	REVISED
PRCB G1-13	JANUARY, 2013	07-2016
* PRCB G2-13	JANUARY, 2013	07-2016
PRCB 6-13	JANUARY, 2013	-----
* PES 2-13-T3	JANUARY, 2013	07-2016
PES 3-13-T3	JANUARY, 2013	07-2016
PES 4-13	JANUARY, 2013	-----

*THREADED ENDS OF CONCRETE TIES SHALL BE PLACED ON THE FILL DIRT SIDE OF THE SECTIONS. REFER TO U BOLT TIE ORIENTATION DETAILS ON THIS SHEET.

DESIGN FOR A 20° RA SKEW

6'-0 X 7'-0 X 78'-0 PRECAST RCB CULVERT CATTLE PASS

GENERAL NOTES

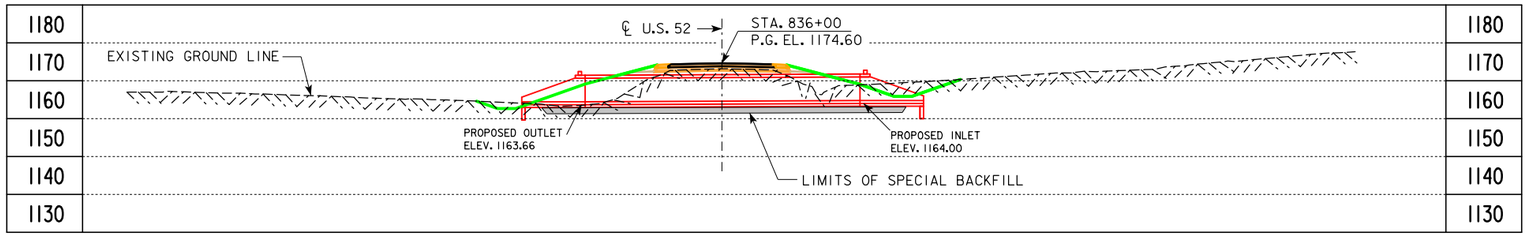
STA. 836+00 (℄ US 52) NOVEMBER 2017

DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

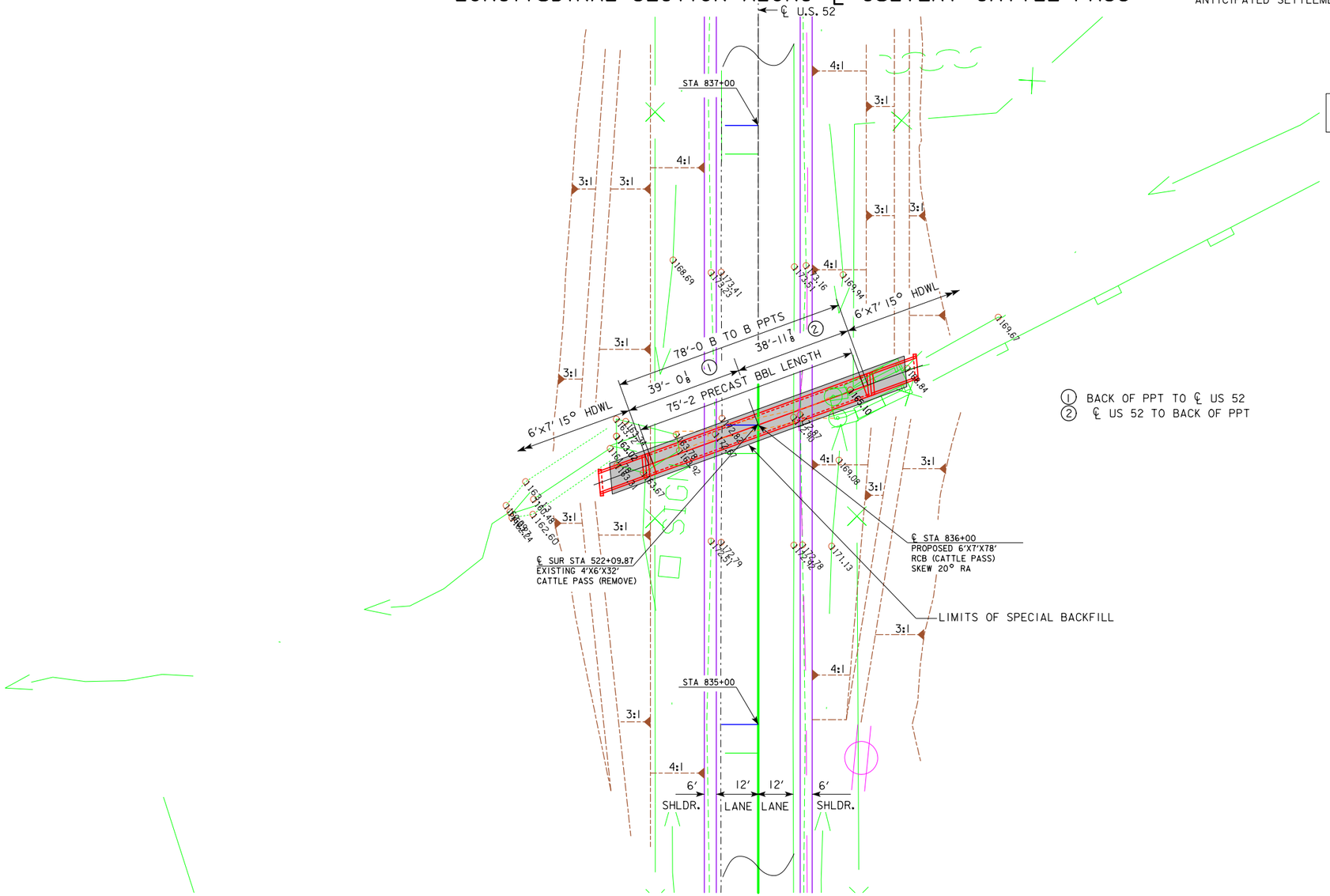
DESIGN SHEET NO. 2 OF 3 FILE NO. 31283 DESIGN NO. 517

DESIGN TEAM DGB * MSF * XXX | DUBUQUE COUNTY | PROJECT NUMBER HSIPX-052-2(120)--37-31 | SHEET NUMBER V. 5



LONGITUDINAL SECTION ALONG ℄ CULVERT CATTLE PASS

DESIGN FILL HEIGHT = 2-13 FEET.
ANTICIPATED SETTLEMENT = NEGLIGIBLE



DO NOT PLACE RIP RAP AT INLET OR OUTLET
DUE TO CULVERT BEING USED AS CATTLE PASS

① BACK OF PPT TO ℄ US 52
② ℄ US 52 TO BACK OF PPT

N

HYDRAULIC DATA

DRAINAGE AREA = 15 ACRES HILLY
Q_{50} = 47 CFS

UTILITIES LEGEND:

T2 - WINDSTREAM (QLD)
⊖ - MAQUOKETA VALLEY REC

LOCATION

ON US 52 OVER SMALL STREAM
T-90N R-1W
SECTION 21
CONCORD TOWNSHIP
DUBUQUE COUNTY
LATITUDE 42.5933907°
LONGITUDE -90.9732844°

SITUATION PLAN

DESIGN FOR A 20° RA SKEW

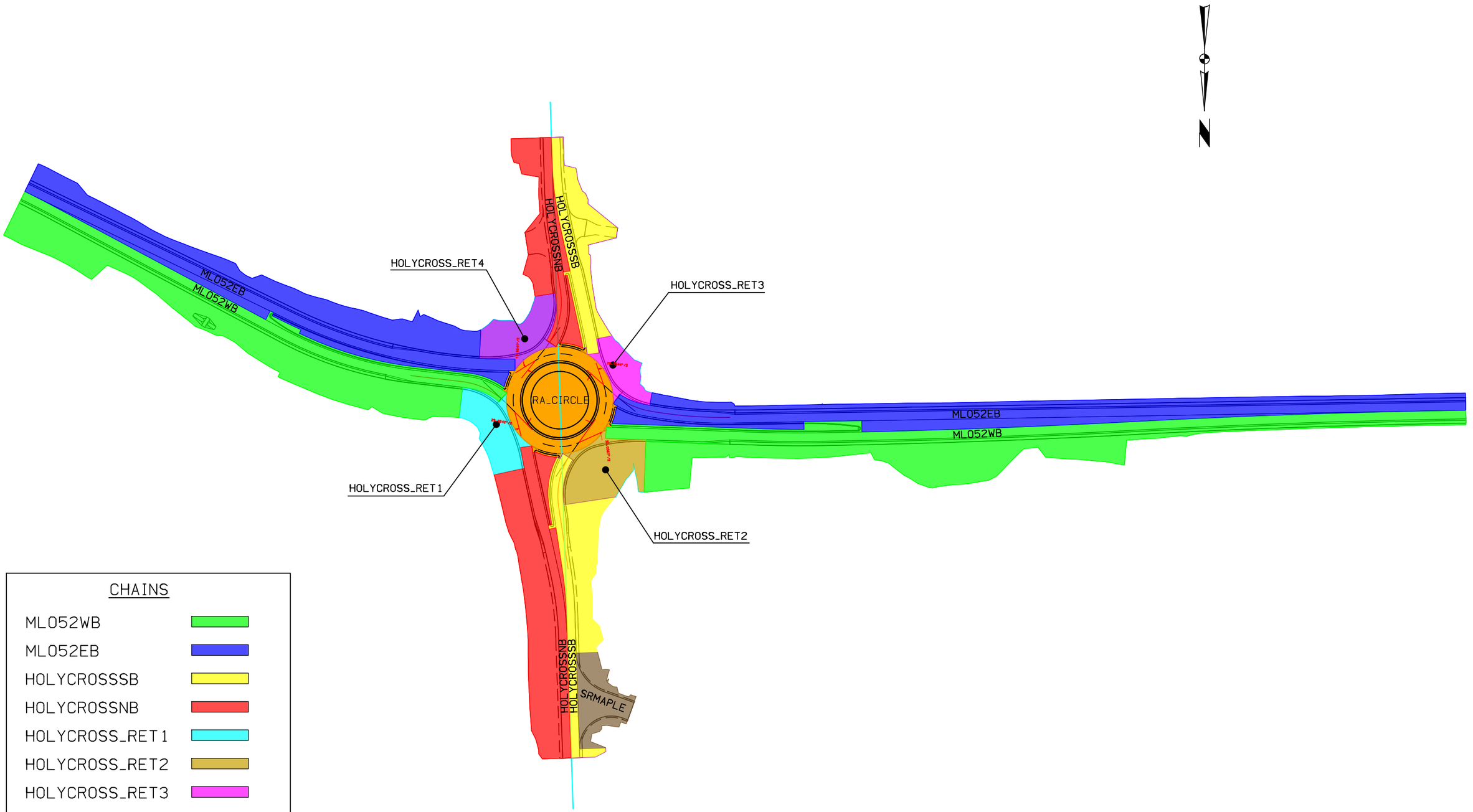
6'-0 X 7'-0 X 78'-0 PRECAST RCB CULVERT CATTLE PASS SITUATION PLAN

STA. 836+00 (℄ US 52) NOVEMBER 2017

DUBUQUE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 3 OF 3 FILE NO. 31283 DESIGN NO. 517



CHAINS

- ML052WB
- ML052EB
- HOLYCROSSSB
- HOLYCROSSNB
- HOLYCROSS_RET1
- HOLYCROSS_RET2
- HOLYCROSS_RET3
- HOLYCROSS_RET4
- RA_CIRCLE
- SRMAPLE

Roundabout Cross Section Matchlines

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
		J1a \ Skogerboe \ Altenhofen	DUBUQUE	HSIPX-052-2(120)--3L-31	Z.1

10:20:24 AM 10/2/2017 raltenh pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\3105202010\Design_(120)_Sec3\31052120z01.sht