IOWA DEPARTMENT OF TRANSPORTATION

TO OFFICE: Right of Way

DATE: April 5, 2013

ATTENTION: M. J. Sankey

REF. : Black Hawk County
Proj. #: NHSN-218-7(188)—2R-07
ROW#: NHSN-218-7(189)—2R-07
HSN-218-8(125)—R-09
PIN: 06-07-218-010

FROM: Mark Callahan, P.E.

OFFICE: District 2

SUBJECT: Right of Way Submittal (D5)

This project involves construction of an interchange at the existing U.S. 218/C57 intersection in north Black Hawk County. This project will also include a 1.5 mile realignment of the Cedar River Railroad that is adjacent to the west ROW of U.S. 218. U.S. 218 traffic will be maintained during construction. However, C57 will be closed during construction and a set of C57 detour routes will be implemented.

Access rights will be acquired on this project along C57 from Sta. 10578+91.5 to Sta. 10611+50.

The project directory is:
ProjectWise Explorer Datasources\PWMain\Documents\Projects\0721801006. No printed plan sheets are included with this submittal.

PDF files of the sheets can be found at:
ProjectWise Explorer Datasources\PWMain\Documents\Projects\0721801006\ Design\ DesignEvents\D5Submittal\D5_07218188_Plans.pdf and D5_07218188_X-Sec.

Plans and cross section files have been sheeted for batch plotting. The file, Project Documentation Shell – V8.xlsm has a description of the MicroStation and GEOPAK files, chains and profiles. It also specifies the scale and number of sheets in each file.

Construction need lines required for this project are at the catch (intercept) point and have been added to the design file. The Office of ROW is advised to attach the following design models:

File	Model	Level	Need Type
07218188.dsn	Road_Design_Line_Work	dsnGroundlineIntercept	Permanent and Temporary for driveway construction

Two final borrow sites have been selected for this project, Borrows 5 and 6b, and are still in review. The conceptual design for both borrows is a pond. The borrow

location(s) are shown in the project directory: ProjectWise Explorer Datasources\PWMain\Documents\Projects\0721801006\Soil_01\S2Submittal\072182 07_S2.PDF.

The project/Borrow 6b design will need to include a channel carrying drainage from the structures at Station 10608+22 and Station 10608+36 to Borrow 6b.

A designated area for off street parking of snow mobile trailers is desired to replace current parking in the southeast quadrant of the existing intersection. New parking could be accommodated at Borrow 6b once this borrow is no longer being used. There are some farmed wetlands located between the new interchange southbound ramps and the relocated railroad. It appears some of these can be avoided from construction activities. The Office of Location and Environment has requested the areas between the southbound U.S. 218 ramps and the relocated railroad remain in DOT possession and that the wetlands are called out in the plans and exclusionary fencing is used to avoid any unintentional impacts. Coordination with the Office of Rail Transportation and the CN railroad is required to determine the property boundary between CN Railroad and Iowa DOT. The unavoidable impacts to wetlands from this project will be mitigated at Ludwig Mitigation site located northeast of La Porte City, in Black Hawk County.

Utilities on this project are as follows:
Cedar Falls Utilities
Central Iowa Water Association
Winstream Communications
Qwest Local Network
Mediacom – Fiber Optics Cable
IDOT Intersection Lighting and Traffic Signals
Qwest Communications
360 Networks / Pinpoint Communications

The current letting date is July 15, 2014.
You may indicate your acceptance or request additional information by e-mail.

cc:
M. J. Kennerly
K. D. Nicholson
D. L. Maifield
R. L. Stanley
S. C. Marler
E. J. Ranney
D. A. Widick
S. J. Gent
T. Crouch
E. C. Wright
J. N. McCollough
J. Vortherms
Vicki Dumdei
D. Weibke
M. Hobbs
N. L. McDonald
G. A. Novey
D. R. Claman
J. P. Rost
B. Hofer
L. C. Funnell
T. L. Gettings
M. A. Swenson
J. W. Smith
D. A. Popp
B. Bradley
W. Sorenson
D. Little
P. Iljelmstad
E. Engle

PAVEMENT - GRADE AND NEW
NHSN-218-7(188)--2R-07
BLACK HAWK Co.

LETTING DATE

INDEX OF SHEETS

Iowa Department of Transportation

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

BLACK HAWK COUNTY

PAVEMENT - GRADE AND NEW

US 218/C-57 Interchange

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

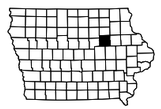
Value Engineering Saves. Refer to Article 1105.15 of the Specifications.

NO MILEAGE SUMMARY

REVISIONS

TOTAL
PROJECT IDENTIFICATION NUMBER
06-07-218-010
PROJECT NUMBER
NHSN-218-7(188)--2R-07
R.O.W. PROJECT NUMBER
NHSN-218-7(189)--2R-07

For Project Location Map
Refer to Sheet A.2



DESIGN DATA RURAL

2017	AADT	20243	V.P.D.
2037	AADT	28689	V.P.D.
2037	DHV	2964	V.P.H.
TRUCKS		14	%
Total Design ESALs		--	

INDEX OF SEALS

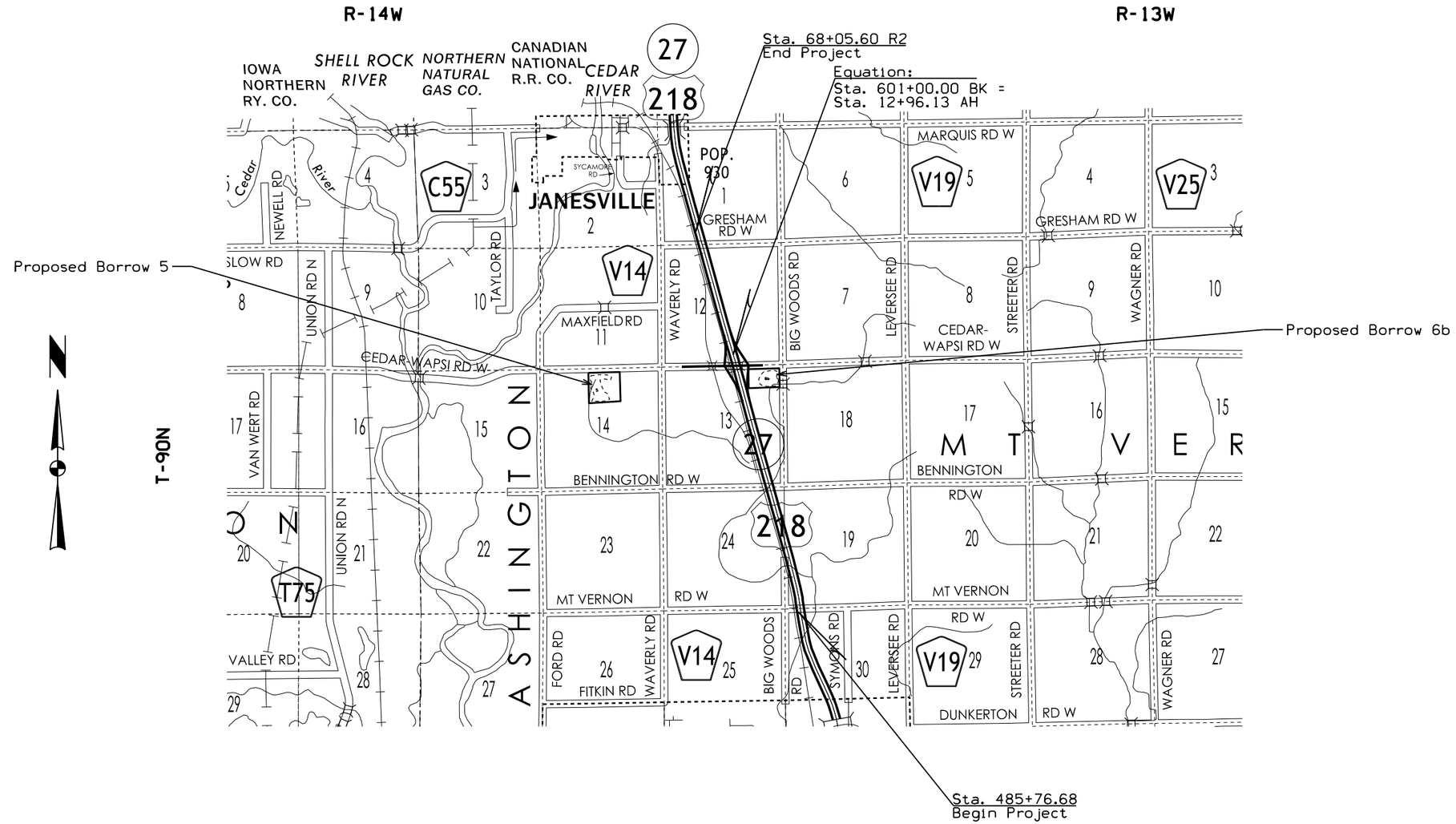
SHEET NO.	NAME	TYPE
A.1	X	Primary Signature Block
X	X	X

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN SUBMITTAL
Date: March 25, 2013

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER A.1



LOCATION MAP SCALE
0 0.5 1 1.5
Miles

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER A.2

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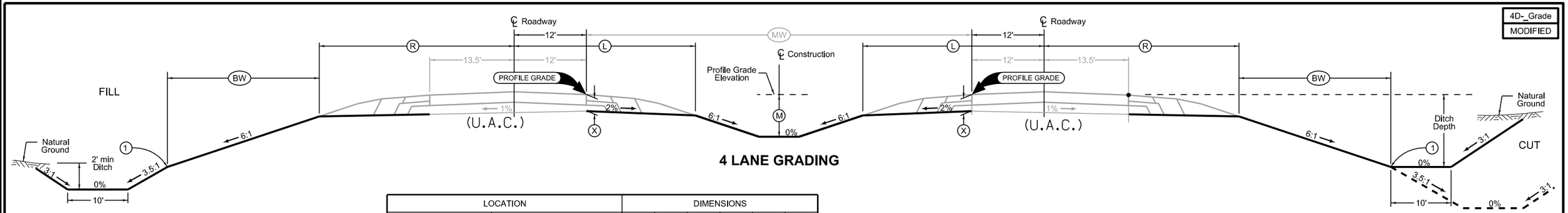
4D-_Grade
MODIFIED



4 LANE GRADING

LOCATION			DIMENSIONS					
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW) Feet	(MW) Feet	(M) Feet
US 218	485+76.68	492+69.61	26.5	30.5	15.7	15.5	64	4
US 218	540+10.17	546+99.75	26.5	30.5	15.7	15.5	64	4
US 218	570+66.18	36+82.65 R2	26.5	30.5	15.7	15.5	64-100	4
US 218	61+13.09 R2	68+05.60 R2	26.5	30.5	15.7	15.5	64	4

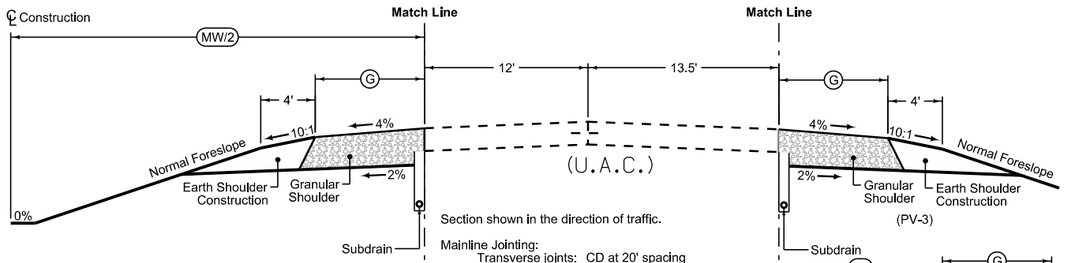
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.

(1) Refer to project plan and cross sections for specific location of foreslope change.

Granular Shoulder

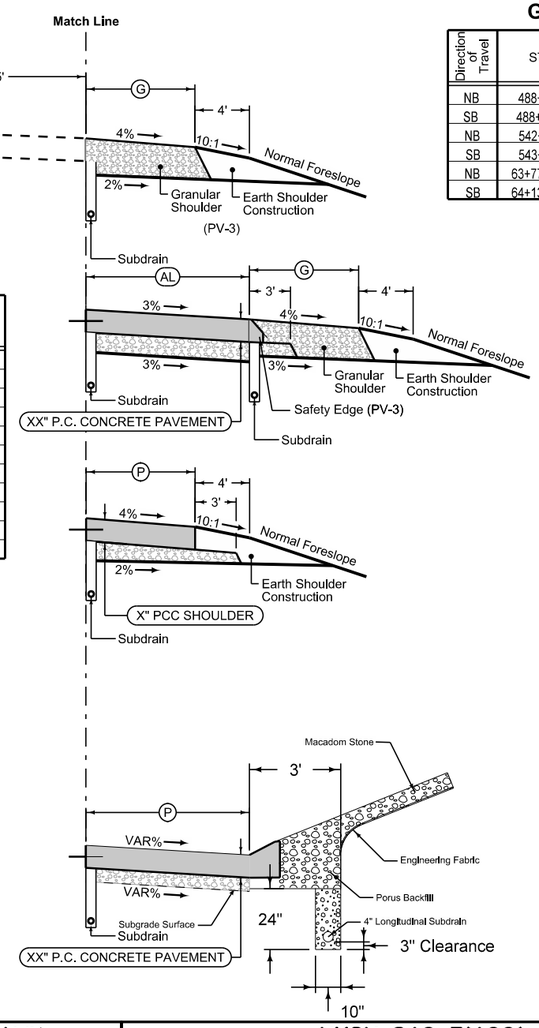
Direction of Travel	STATION TO STATION		(G) Feet
NB	485+76.68	491+12.40	6
SB	487+34.72	492+69.61	6
NB	540+10.17	545+13.43	6
SB	541+95.11	546+99.75	6
NB	586+87.41	599+57.63	6
SB	581+39.82	20+56.80 R2	6
NB	61+13.09 R2	66+27.84 R2	6
SB	62+85.28 R2	68+05.60 R2	6



Section shown in the direction of traffic.

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

Direction of Travel	BEGIN STATION	END STATION	(MW) Feet
NB	485+76.68	491+12.40	64
SB	487+34.72	492+69.61	64
NB	540+10.17	545+13.43	64
SB	541+95.11	546+99.75	64
NB	578+44.56	584+44.32	64-100
NB	586+78.41	599+57.63	80-100
SB	570+66.18	20+56.80 R2	80-100
SB	23+58.91 R2	29+58.91 R2	72-64
NB	24+52.68 R2	36+82.71 R2	70-64
NB	61+13.09 R2	66+27.84 R2	64
SB	62+85.34 R2	68+05.60 R2	64



Granular Shoulder

Direction of Travel	STATION TO STATION		(G) Feet
NB	488+42.11	489+69.67	8.5
SB	488+67.56	489+95.08	8.5
NB	542+50.34	543+94.40	8.5
SB	543+13.68	544+52.26	8.5
NB	63+77.60 R2	64+98.55 R2	8.5
SB	64+13.28 R2	65+39.39 R2	8.5

Granular Shoulder

Direction of Travel	STATION TO STATION		(G) Feet
NB	586+81.93	596+65.69	8.5
NB	598+36.67	23+80.43 R2	8.5
SB	596+14.00	597+05.90	8.5
SB	598+76.80	599+08.75	8.5

Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

Direction of Travel	STATION TO STATION		(AL) Feet	(G) Feet
SB	570+66.18	582+96.18	0-38	6
NB	578+44.56	584+44.32	0-40	6
SB	23+58.91 R2	29+58.91 R2	0-40	6
NB	24+40.01 R2	36+82.65 R2	0-38	6

Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: L-2 or KT-2
Transverse joints: C at 20' spacing

4_P_FullPCC_
10-19-10

Direction of Travel	BEGIN STATION	END STATION	(P) Feet
NB	596+65.69	597+10.71	13.5
NB	597+91.86	598+36.67	13.5
SB	597+05.90	597+50.81	13.5
SB	598+31.96	598+76.80	13.5

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

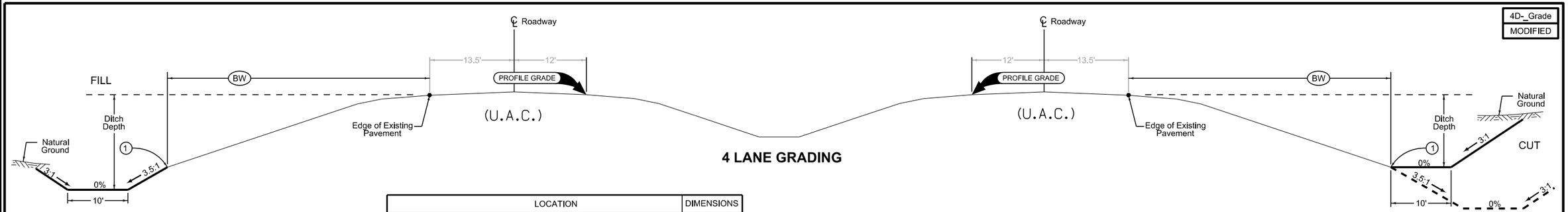
Direction of Travel	STATION TO STATION		(P) Feet	Curb Type See PV-102
NB	597+10.71	597+91.86	13.5	6" SLOPED
SB	597+50.81	598+31.96	13.5	6" SLOPED

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

US 218

4D-_ Grade
MODIFIED



4 LANE GRADING

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.

(1) Refer to project plan and cross sections for specific location of foreslope change.

LOCATION				DIMENSIONS
ROAD IDENTIFICATION	STATION TO STATION		SIDE	(BW) Feet
US 218	585+18.00	596+14.00	LEFT	32.5
US 218	599+44.00	19+00.00 R2	LEFT	32.5

See Tab 100-24 for pavement quantities.

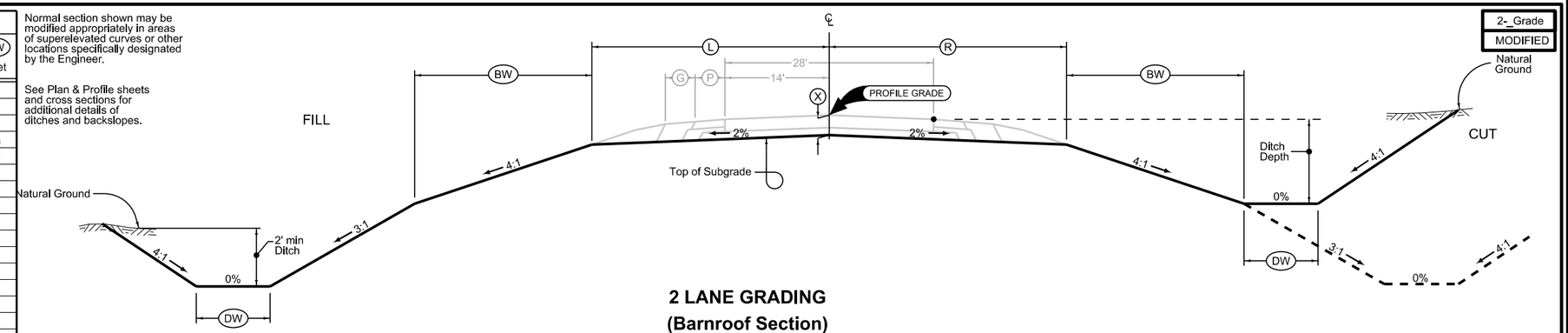
See Tab 112-9 for shoulder quantities.

US 218

LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW) Feet	(DW) Feet
COUNTY ROAD C-57	10570+50.00	10572+35.40	24.7-27.8	24.7-27.8	18	24.2	6
COUNTY ROAD C-57	10572+35.40	10582+20.00	27.8	27.8	18	24.2	6
COUNTY ROAD C-57	10582+20.00	10586+55.00	27.8-35.1	27.8-35.1	18	24.2	6
COUNTY ROAD C-57	10586+55.00	10587+00.00	35.1-35.8	35.1-35.8	18	24.2	30
COUNTY ROAD C-57	10587+00.00	10587+77.17	35.8	35.8	18	24.2	30

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

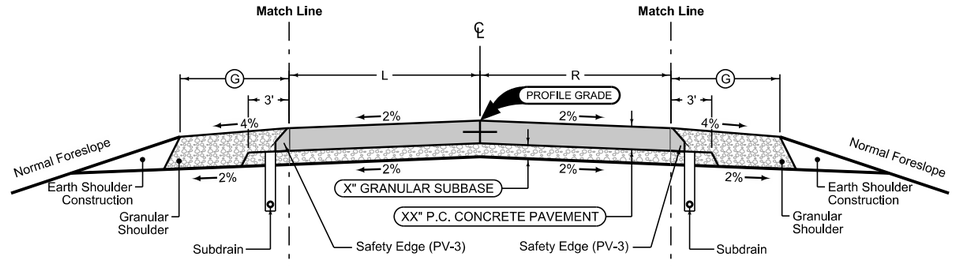
See Plan & Profile sheets and cross sections for additional details of ditches and backslopes.



2 LANE GRADING
(Barnroof Section)

Granular Shoulder

STATION TO STATION		(G) Feet
10570+50.00	10571+24.00	4.3-8
10571+24.00	10587+55.24	8



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

STATION TO STATION		L	R
10570+50.00	10572+35.40	10.9-14.0	10.9-14.0
10572+35.40	10582+20.00	14.0	14.0

Granular Shoulder

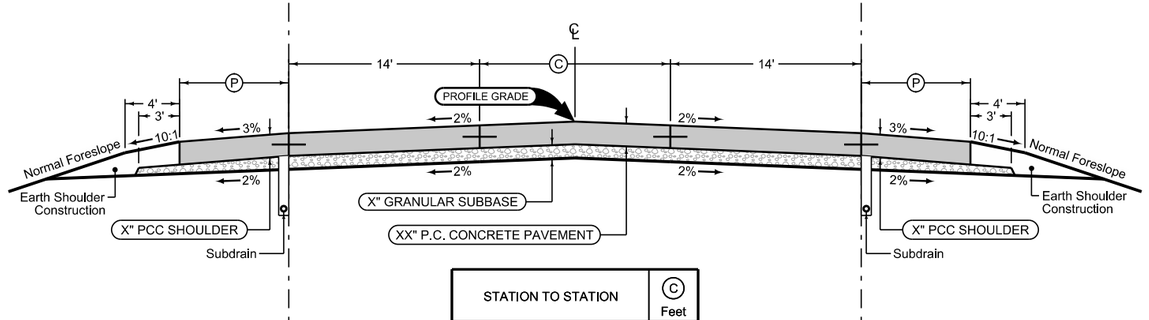
STATION TO STATION		(G) Feet
10570+50.00	10570+78.00	6.6-8
10570+78.00	10588+55.24	8

Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: L-2 or KT-2
Transverse joints: C at 20' spacing

2_P_FullPCC_ 10-19-10		
STATION TO STATION		(P) Feet
10587+55.24	10587+70.24	8

See Standard Road Plan RK-21 for more information.



STATION TO STATION		(C) Feet
10582+20.00	10587+00.00	0-16
10587+00.00	10589+46.71	16

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

Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: L-2 or KT-2
Transverse joints: C at 20' spacing

2_P_FullPCC_ 10-19-10		
STATION TO STATION		(P) Feet
10587+55.24	10587+84.10	8

See Standard Road Plan RK-21 for more information.

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

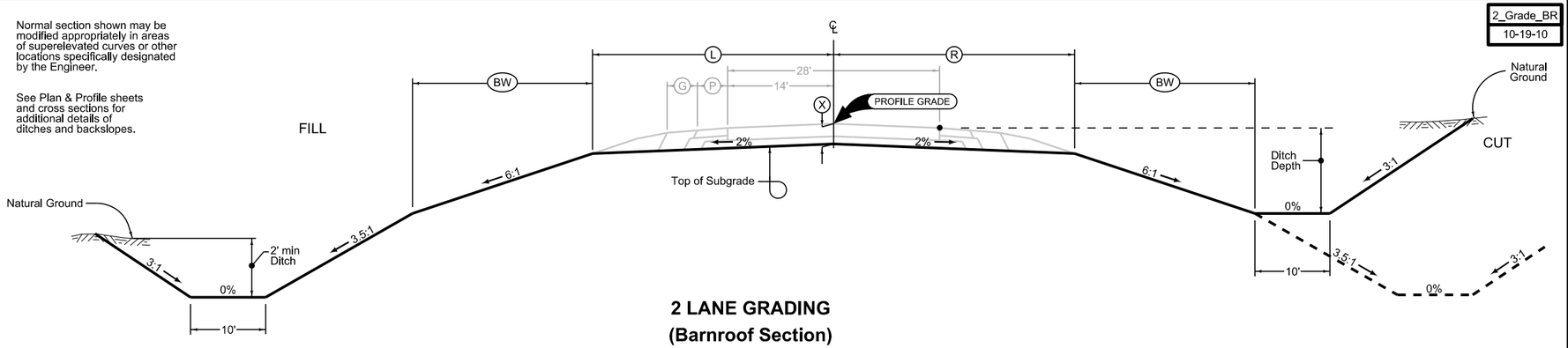
COUNTY ROAD C-57

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW) Feet
COUNTY ROAD C-57	10591+16.25	10596+50.03	41	41	18	9
COUNTY ROAD C-57	10599+40.11	10605+60.00	41	41	18	9
COUNTY ROAD C-57	10605+60.00	10612+00.00	41-30.3	41-30.3	18	9

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.

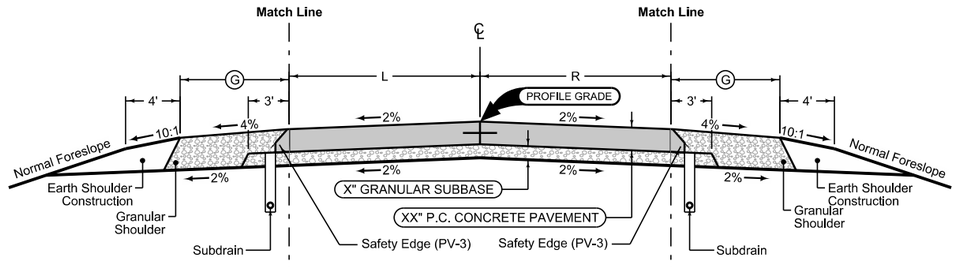
2_Grade_BR
10-19-10



2 LANE GRADING
(Barnroof Section)

Granular Shoulder

STATION TO STATION		(G) Feet
10591+38.17	10591+77.46	8
10593+41.98	10596+28.11	8
10599+62.04	10602+24.06	8
10603+57.74	10611+40.00	8
10611+40.00	10612+00.00	8-5



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

STATION TO STATION		L	R
10610+39.88	10610+40.00	14.0	14.0
10610+40.00	10612+00.00	11.3-14.0	11.3-14.0

Granular Shoulder

STATION TO STATION		(G) Feet
10591+38.17	10592+56.62	8
10593+75.76	10596+28.11	8
10599+62.04	10602+71.25	8
10604+33.96	10611+40.00	8
10611+40.00	10612+00.00	8-5

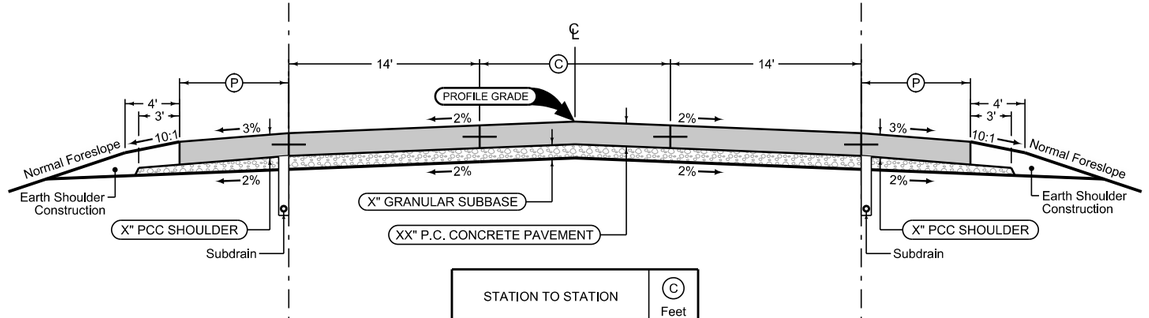
Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: L-2 or KT-2
Transverse joints: C at 20' spacing

2_P_FullPCC_
10-19-10

STATION TO STATION		(P) Feet
10591+09.32	10591+38.17	8
10596+28.11	10596+43.11	8
10599+33.19	10599+62.04	8

See Standard Road Plan RK-21 for more information.



STATION TO STATION		(C) Feet
10591+21.25	10596+50.03	16
10599+40.11	10605+60.00	16
10605+60.00	10610+39.88	16-0

Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: L-2 or KT-2
Transverse joints: C at 20' spacing

2_P_FullPCC_
10-19-10

STATION TO STATION		(P) Feet
10591+23.17	10591+38.17	8
10596+28.11	10596+56.96	8
10599+47.04	10599+62.04	8

See Standard Road Plan RK-21 for more information.

See Tab 100-24 for pavement quantities.

See Tab 112-9 for shoulder quantities.

COUNTY ROAD C-57

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER B.4

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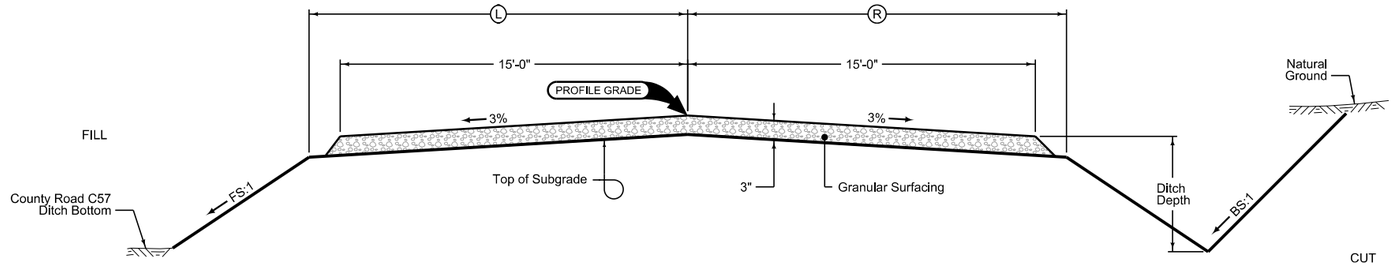
LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	FS	BS	Ditch Depth Feet
Frontage Road	100579+05.52	100587+22.00	15.8	15.8	3	3	2

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.

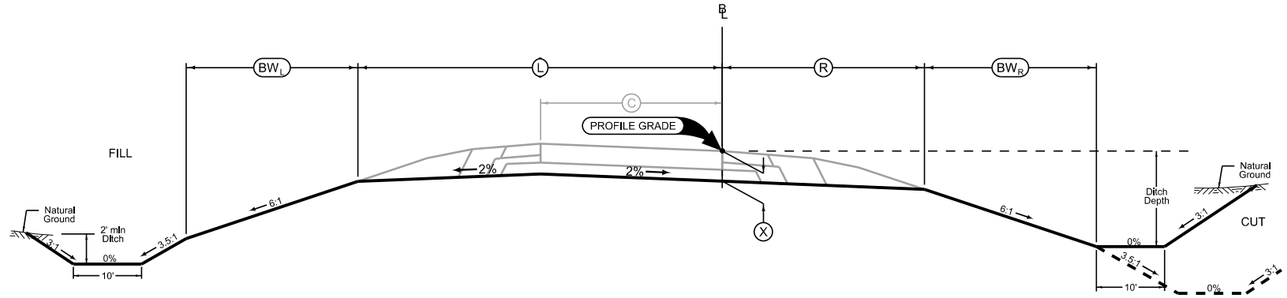
Place Granular Surfacing as follows:
Grading and Paving design application rate is 2330 tons per mile.

GRADING AND GRANULAR SURFACING

FRONTAGE ROAD

LOCATION				DIMENSIONS				
INTERCHANGE	RAMP	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW_L) Feet	(BW_R) Feet
US 218/CR C-57	A	1593+22.16	1606+40.73	30.4	16.1	16	9.6	7.9
US 218/CR C-57	B	2590+33.48	2602+92.75	30.4	16.1	16	9.6	7.9
US 218/CR C-57	C	3576+67.72	3592+75.43	30.4	16.1	16	15.6	13.9
US 218/CR C-57	D	4603+39.89	4619+57.50	30.4	16.1	16	9.6	7.9

1R_Grade
10-19-10



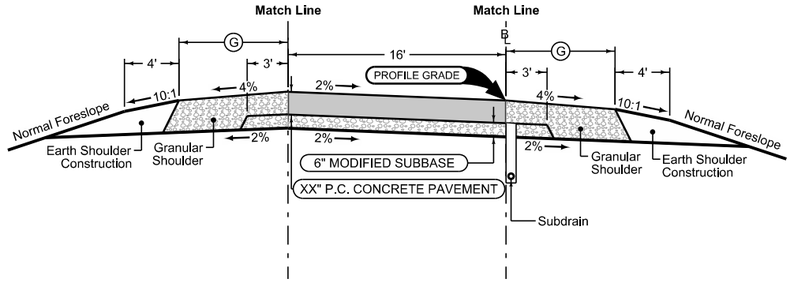
RAMP GRADING

Section view is in direction of traffic.

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

Granular Shoulder

		1R_G_ 10-19-10
BEGIN STATION	END STATION	(G) Feet
1593+22.16	1606+40.73	4
2590+33.48	2602+92.75	4
3576+67.72	3592+75.43	4
4603+39.89	4619+57.50	4



Section shown in the direction of traffic.

Ramp Jointing:
Transverse joints: CD at 20' spacing.

BEGIN STATION	END STATION
1593+22.16	1606+40.73
2590+33.48	2602+92.75
3576+67.72	3592+75.43
4603+39.89	4619+57.50

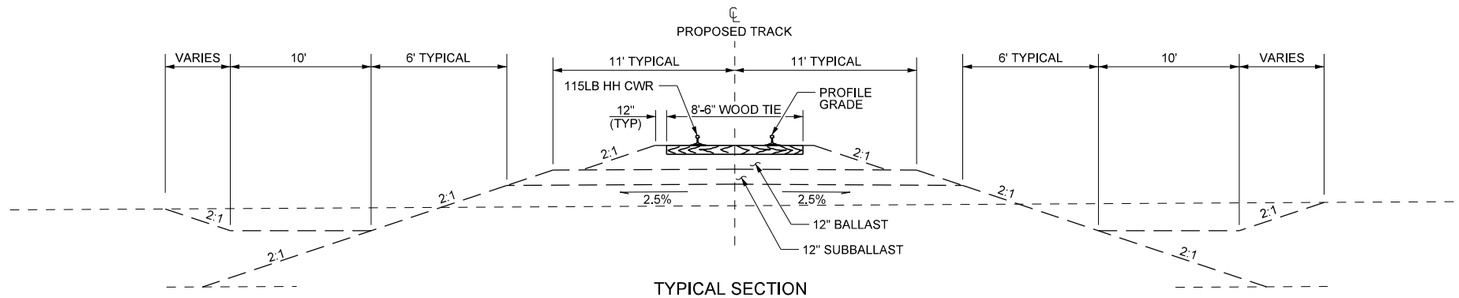
Granular Shoulder

		1R_G_ 10-19-10
BEGIN STATION	END STATION	(G) Feet
1593+22.16	1606+40.73	6
2590+33.48	2602+92.75	6
3576+67.72	3592+75.43	6
4603+39.89	4619+57.50	6

See Tab 100-24 for pavement quantities.

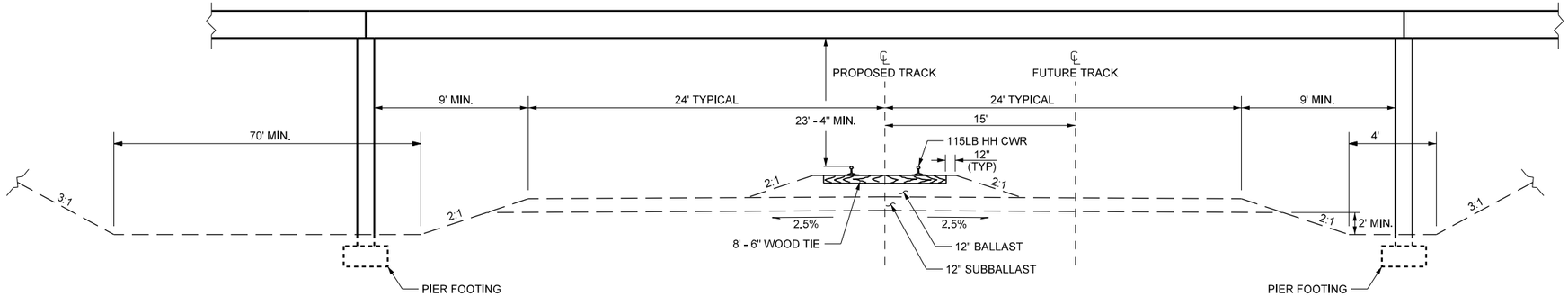
See Tab 112-9 for shoulder quantities.

US 218 and COUNTY ROAD 57
RAMPS A-D



TYPICAL SECTION
SINGLE TRACK

LOCATION		
ROAD IDENTIFICATION	STATION TO STATION	
Cedar River RR Co.	15550+48.36	15589+50.29
Cedar River RR Co.	15590+15.12	15629+83.97

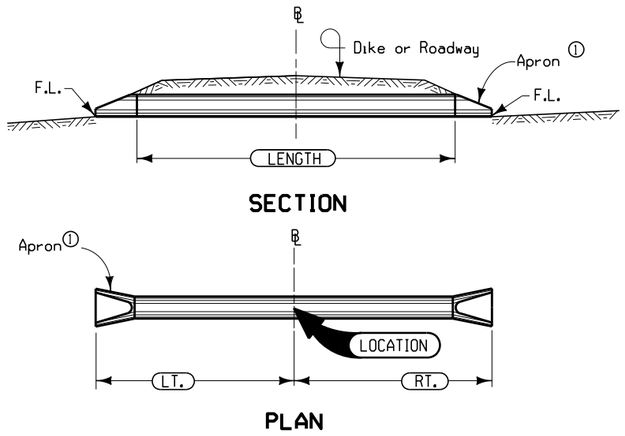


TYPICAL SECTION
SINGLE TRACK UNDER BRIDGE

LOCATION		
ROAD IDENTIFICATION	STATION TO STATION	
Cedar River RR Co.	15589+50.29	15590+15.12

Cedar River RR Co.

1101
04-30-02



Notes:

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

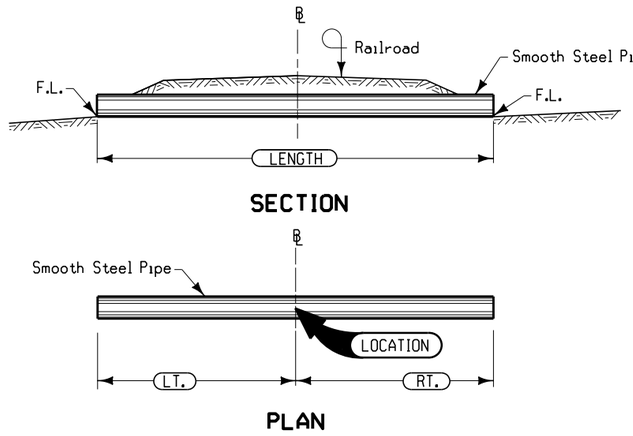
Skew angle is the angle which one end of the pipe is ahead (by stationing) of line perpendicular to the ℄ (example skew Rt. ahead 30°).

Refer to tabular listing and other plans for additional information.

① See Standard Road Plan RF-3 For Conc. or RF-5 for Metal.

PIPE CULVERT

1101
MODIFIED



Notes:

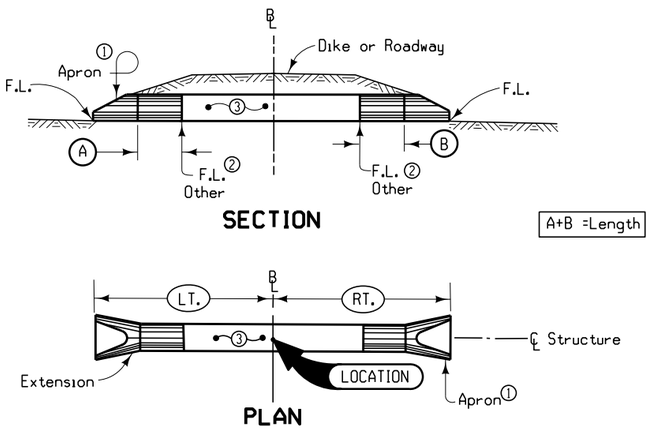
℄ shall be ℄ of Railroad, survey, or other; as detailed on plans.

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

Refer to tabular listing and other plans for additional information.

SMOOTH STEEL PIPE CULVERT

1301
10-03-00



Notes:

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

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

Refer to tabular listing and other plans for additional information.

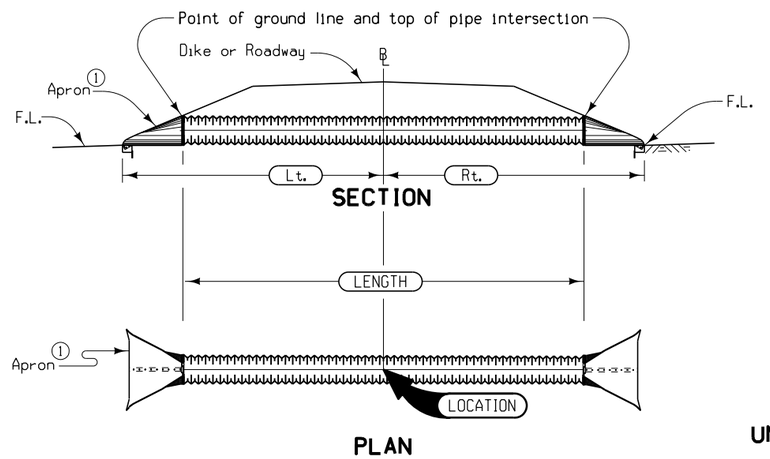
① See Standard Road Plan RF-3 for concrete, RF-5 for metal.

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

③ Existing structure.

PIPE EXTENSION

1601
04-21-09



Notes:

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

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

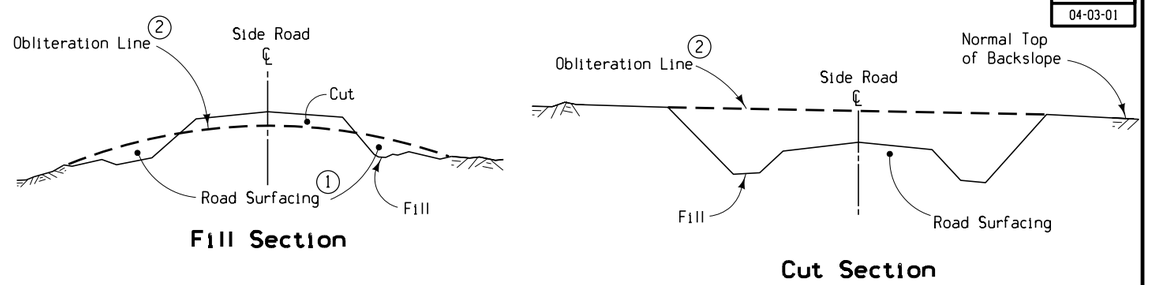
Refer to tabular listings and other plans for additional information.

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

Special Note:
Pipe Lengths are calculated based on length of Concrete Pipe.

UNCLASSIFIED PIPE CULVERT

4302
04-03-01



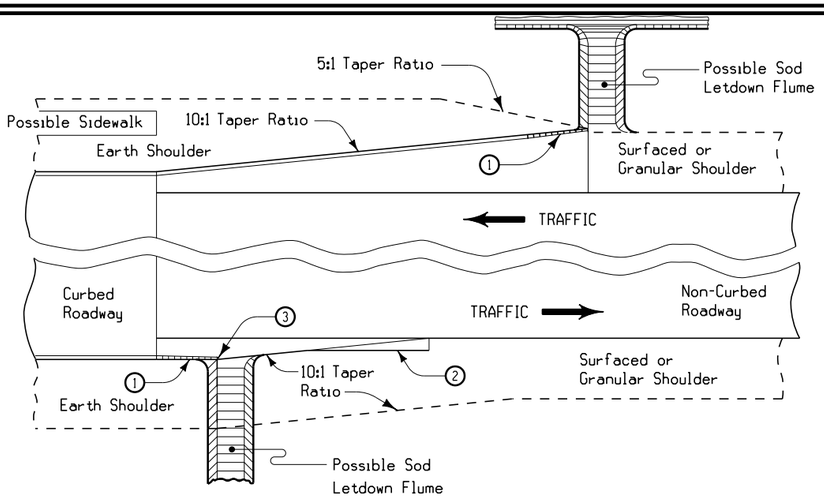
① Existing road surfacing (granular material) shall be placed as shown unless otherwise directed by the Engineer or provided for in the detail project plans.

② When specified, the upper 1' to be suitable for vegetation (grass or crops).

Note:
The work of obliterating or reshaping old roadbeds shall be done at the direction of the Engineer.

TYPICAL DETAILS FOR OBLITERATION EXISTING ROADBED

6147
11-10-92



① Runout curb in 10.0'

② End of Taper Details see Typical Detail 7101

③ End earth shoulder at the end of the curb transition when no flume is needed.

TRANSITION BETWEEN CURBED AND NON-CURBED ROADWAYS

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER 8.8

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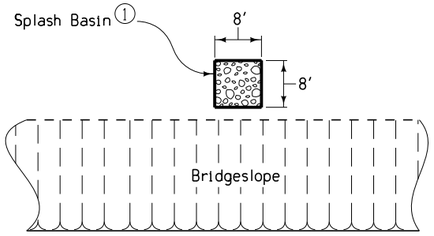
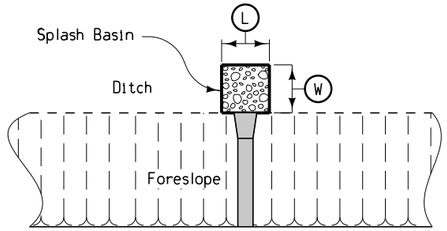
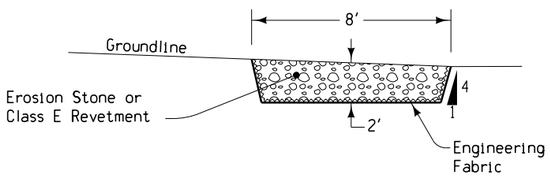
4404
04-20-10



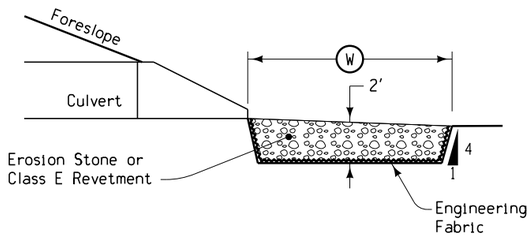
Splash Basin Under Bridge Drain Plan View



Splash Basin at Culvert Outlet Plan View



Splash Basin Under Bridge Drain Typical Section



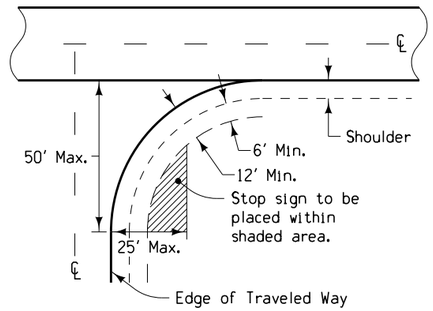
Splash Basin at Culvert Outlet Typical Section

1 Center splash basin directly under bridge drain.

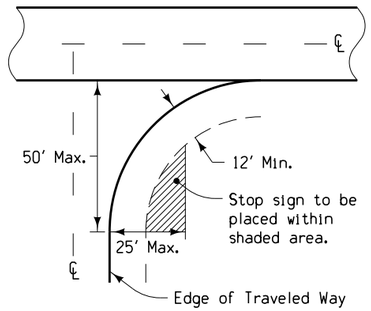
Refer to Tabulation 100-23 for additional information.

ROCK SPLASH BASIN

9503
07-15-97



CASE 'A' WITH SHOULDER



CASE 'B' WITHOUT SHOULDER

NOTES:

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

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

In rural areas, the lateral clearance should not be closer than 6' from the edge of a usable shoulder, or if none, 12' from edge of the traveled way.

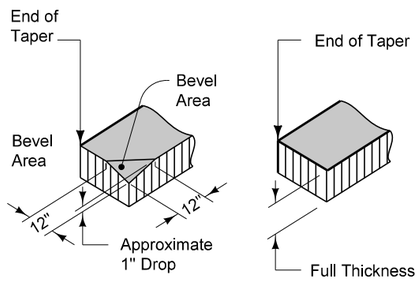
In urban areas, stop signs should be placed a minimum of 6' from the near edge of the intersected street or a minimum of 4' in advance of the near edge of a marked crosswalk. Lateral clearance may be reduced to a minimum of 2' from the face of a curb.

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

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

STOP SIGN PLACEMENT

7101
10-19-10



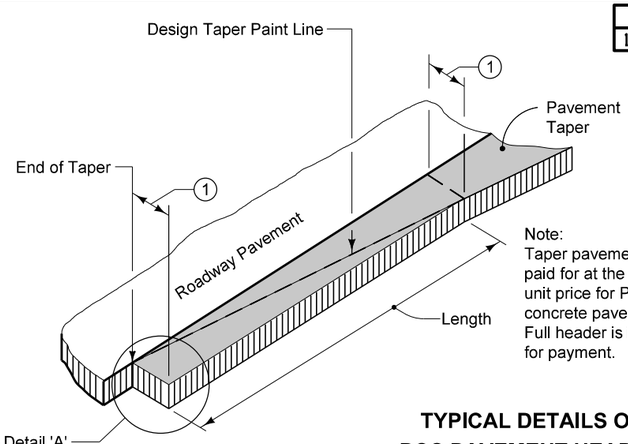
DETAIL 'A'

FOR
GRANULAR SHOULDERS

DETAIL 'A'

FOR
PAVED SHOULDERS

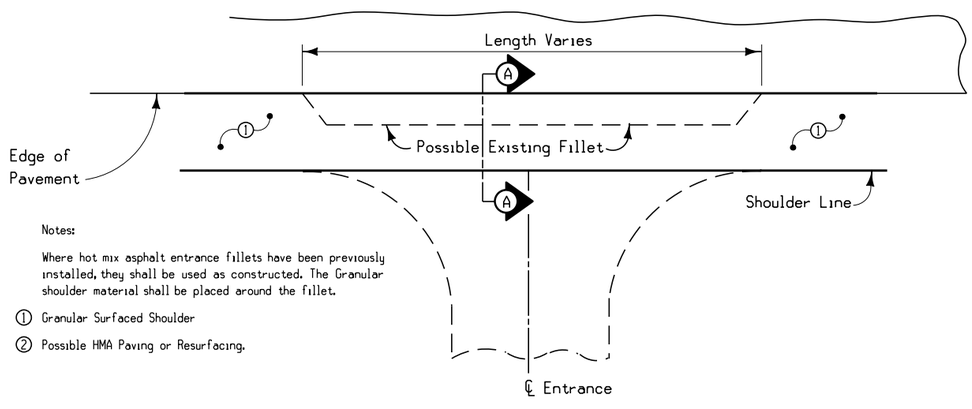
1 Normal width is 2'-0". Construct 4'-0" width when butting into 4' wide HMA shoulders (See Typical 7154A).



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

7117
10-02-01



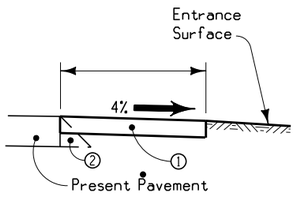
Notes:

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

1 Granular Surfaced Shoulder

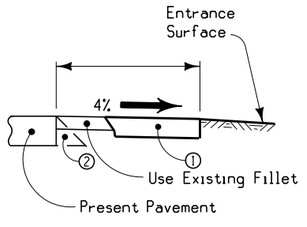
2 Possible HMA Paving or Resurfacing.

Plan



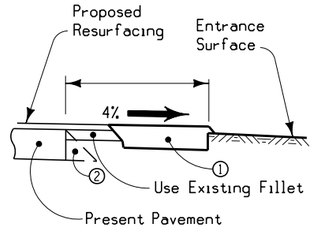
Section A-A

Without Fillet



Section A-A

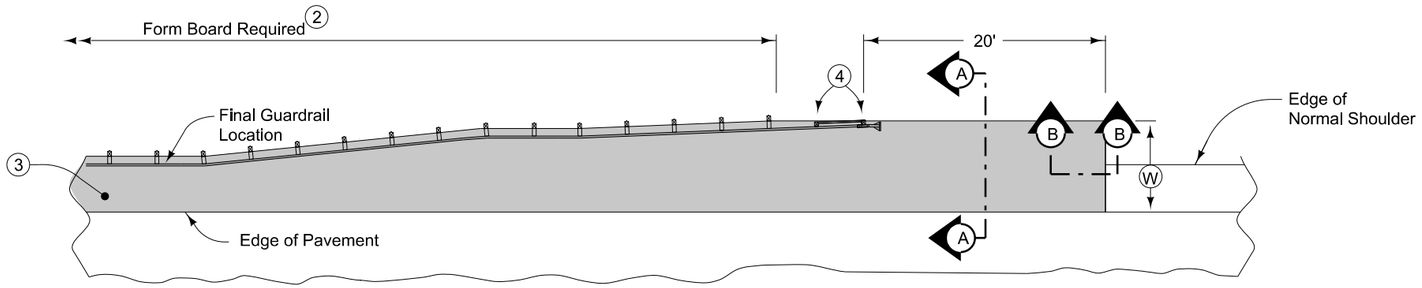
With Previous Fillet

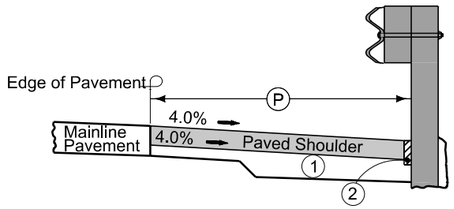


Section A-A

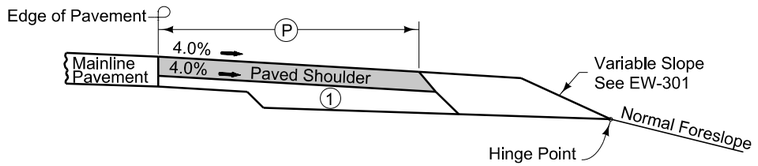
With Previous Fillet
And Resurfacing Less than 1½"

GRANULAR SHOULDER CONSTRUCTION THRU ENTRANCES

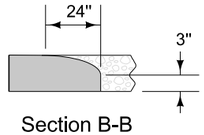




Typical Section with Form Board



Section A-A



Section B-B
Roll down at granular shoulder or earth.

6" HMA Paved Shoulder at guardrail. 7" PCC may be substituted with the following jointing layout:

Match mainline pavement joint spacing. When mainline pavement is 8" or greater in thickness, place additional transverse joints in shoulder at mid-panel of the mainline pavement. Place longitudinal joint at W/2 from edge of mainline pavement when W is greater than 10' wide. Terminate longitudinal joint at transverse joint less than 10' in length.

Compaction of HMA is required to face of guardrail post. Hand compaction will be allowed under guardrail.Removal & reinstallation of guardrail will be allowed with no additional payment.

Refer to Shoulder tabulation (112-9) for quantities.

(1) 6" subgrade treatment.

(2) When guardrail posts are installed prior to construction of paved shoulder, nail 1" x 6" untreated form boards along the face of guardrail posts for the length shown. This board is to prevent shoulder material from contacting the sides of the posts and altering the function of the guardrail. Form board not required for final 2 posts.

(3) Continue paved shoulder to existing paved shoulder or 20' beyond the end of guardrail.

(4) Shoulder may be notched for final 2 posts or post sleeves may be installed through pavement.

PAVED SHOULDER AT GUARDRAIL

SURVEY SYMBOLS

- LUM Luminaire
- SI Sign
- ROW Right of Way Rail
- PPA Power Pole Co. 1
- TEV Evergeen Tree
- SHR Shrub
- TDC Tree Deciduous
- LP L.P. Tank
- OUT Tile Outlet
- TSG Traffic Signal
- IN Storm Sewer Intake
- MH Utility Access (Manhole)
- BB Billboard
- MIS Miscellaneous
- MM Mile Marker Post
- SL Speed Limit Sign
- TPD Telephone Pedestal
- EB Electrical Box
- WV Water Valve
- UB Utility Box
- TVP TV Pedestal
- TLN Tree Line
- TIL Tile Line
- FCL Chain Link and Security Fence
- FW Wire Fence
- FWD Wood Fence
- DU Centerline Draw or Stream (Up)
- D Centerline Draw or Stream (Down)
- DIK Centerline of Dike or Dam
- EW Edge of Water
- BNK Stream Bank
- GDL Guard Rail Steel
- RIP Rip-Rap
- RR Centerline of Railroad Tracks
- UV Underground Utility Vault
- ELA Underground Electric Line Co. 1
- WLA Underground Water Line Co. 1
- TLA Underground Telephone Line Co. 1
- FOA Underground Fiber Optic Co. 1
- FOB Underground Fiber Optic Co. 2
- ELB Underground Electric Line Co. 2
- TLB Underground Telephone Line Co. 2
- TLC Underground Telephone Line Co. 3

UTILITY LEGEND

- Cedar Falls Utilties
- Central Iowa Water Association
- Winstream Communications
- Qwest Local Network
- Mediacom - Fiber Optics Cable
- IDOT Intersection Lighting & Traffic Signals
- Qwest Communications
- 360 Networks / Pinpoint Communications

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)	Existing Utilities
SHADING	**Design Color No.**	
Yellow	(4)	Highlight for Critical Notes or Features
Red	(3)	Delineates Restricted Areas
Lavender	(9)	Temporary Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Med	(80)	Proposed Granular Shading
Gray, Dark	(112)	Proposed Grade and Pave Shading "In conjunction with a paving project"
Brown, Light	(236)	Grading Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

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

Proposed Borrow Elements

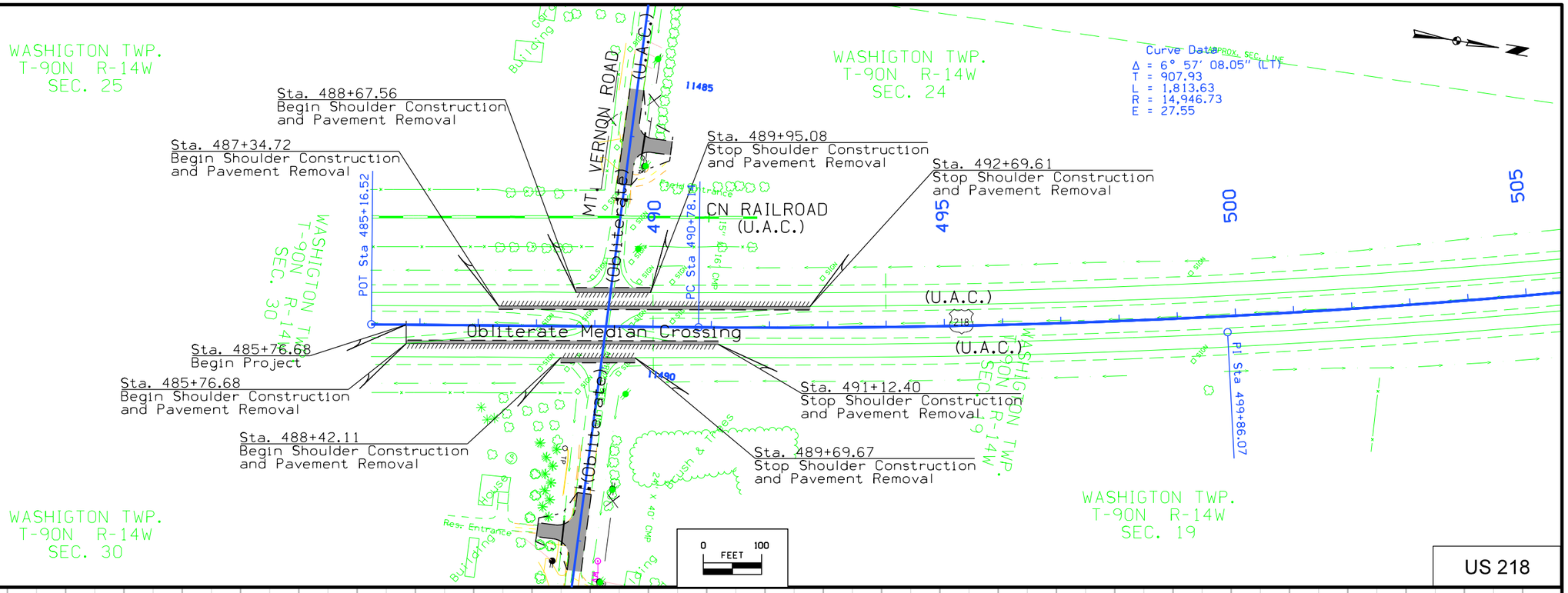
- Aquisition Outline
- Conceptual Outline

RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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



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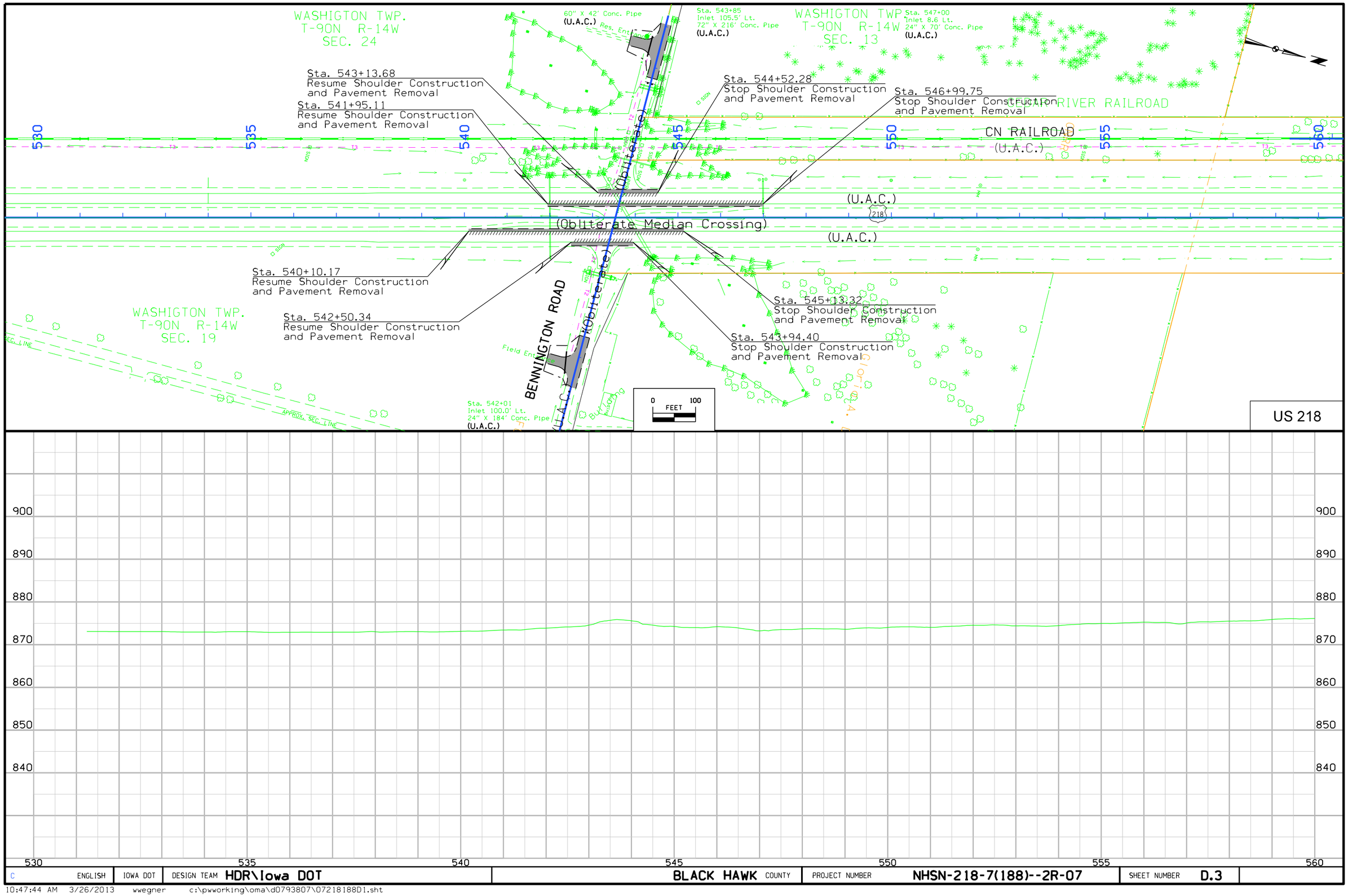

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WASHIGTON TWP.
T-90N R-14W
SEC. 13

CEDAR RIVER RR CO.

Sta. 574+15
Inlet 19.5 Lt.
24" X 76' Conc. Pipe
D.A. = Median Only
(U.A.C.)

24" X 30' Cast Iron Pipe
(U.A.C.)

Sta. 585+40
Inlet 6.7 Lt.
24" X 76' Conc. Pipe
D.A. = Median Only
(U.A.C.)

Sta. 581+39.82
Resume Shoulder Construction
and Pavement Removal

Sta. 596+14.00
Begin Shoulder Construction
and Pavement Removal

Sta. 599+08.75
Stop Shoulder Construction
and Pavement Removal

RAMP C

570 575 580 585 590 595 600

(Obliterate Railroad)

(U.A.C.)

218

(U.A.C.)

Sta. 586+78.41
Begin Shoulder Construction
and Pavement Removal

POT STA 597+75.39 (ML218)
POT STA 10597+84.13 (SRC57)

Sta. 599+57.63
Stop Shoulder Construction
and Pavement Removal

Sta. 586+81.93
Begin Shoulder Construction
and Pavement Removal

RAMP B

POND

Black Hawk County Conservation Board

COUNTY ROAD E57

RAMP D

US 218

Sta. 573+78
54" X 199' Conc. Pipe
D.A. = 200 Ac. F.
(U.A.C.)

Sta. 573+89
Dike

0 FEET 100

Sta. 585+6
24" X 204' Conc. Pipe
D.A. = 6 Ac. F.
Remove Outlet Apron
Extend From Outlet
With 24" x 40' RF-1
F.L. = Lt. 877.43
Rt. 877.43

Sta. 595+97.7
8" X 353' CMP
(ABANDON)

910
900
890
880
870
860
850

+67 Rt.
876.00

+0.18% Rt. Ditch Grade

+0.22% Lt. Ditch Grade

+52 Lt.
872.54

+89 Lt.
874.64

+44 Rt.
877.36

+18 Lt.
877.22

+0.18% Lt. Ditch Grade

+44 Lt.
879.30

+44 Lt.
880.80

Lt Med Rt	U.A.C.	Ditch Grade	Gore	Ditch Grade	Bridge	Lt Med Rt
	(Use Existing Ditch)	Ditch Grade	(Use Existing Ditch)	(Use Existing Ditch)		

570 575 580 585 590 595 600

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER D.4

10:48:25 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188D1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 12

Sta. 19+03
Inlet 87.2 Lt.
Sta. 19+2
24" X 86' Conc. Pipe
D.A. = 4 Ac. F.
(U.A.C.)

WASHIGTON TWP.
T-90N R-14W
SEC. 12

CEDAR RIVER RR CO.

24" X 30' Conc. Pipe
(U.A.C.)

Sta. 38+01
Inlet 19.0 Lt.
24" X 70' Conc. Pipe
D.A. = Median Only
(U.A.C.)

Sta. 41+01
Inlet 18.4 Lt.
24" X 68' Conc. Pipe
D.A. = Median Only
(U.A.C.)

RAMP A

Sta. 20+56.84 R 2
Stop Shoulder Construction
and Pavement Removal

(Obliterate Railroad)

(U.A.C.)

(U.A.C.)

Equation:
Sta. 601+00.00 BK =
=Sta. 12+96.13 AH

Sta. 23+80.43 R 2
Stop Shoulder Construction
and Pavement Removal

SEC CENTER
FOUND 12-90-14
ALUMINUM
MONUMENT

RAMP D

Sta. 19+01
Inlet 25.8 Rt.
24" X 86' Conc. Pipe
D.A. = 4 Plus Median Ac. F.
(U.A.C.)

Sta. 40+2
24" X 174' Conc. Pipe
D.A. = 28 Ac. F.
(U.A.C.)

0 FEET 100

US 218

600 15 20 25 30 35 40

910 900 890 880 870 860 850

Lt Med Rt

-0.07% Lt. Ditch Grade

+02.57 Lt.
880.29

+58.91 Lt.
881.50

-0.29% Lt. Ditch Grade

+40 Rt.
881.04

+82.70 Lt.
880.55

+0.13% Rt. Ditch Grade

+51 Rt.
881.85

-0.20% Rt. Ditch Grade

+65 Rt.
881.21

Ditch Grade (Use Existing Ditch) Ditch Grade (Use Existing Ditch)

(Use Existing Ditch)

(Use Existing Ditch) Ditch Grade Ditch Grade (Use Existing Ditch)

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER D.5

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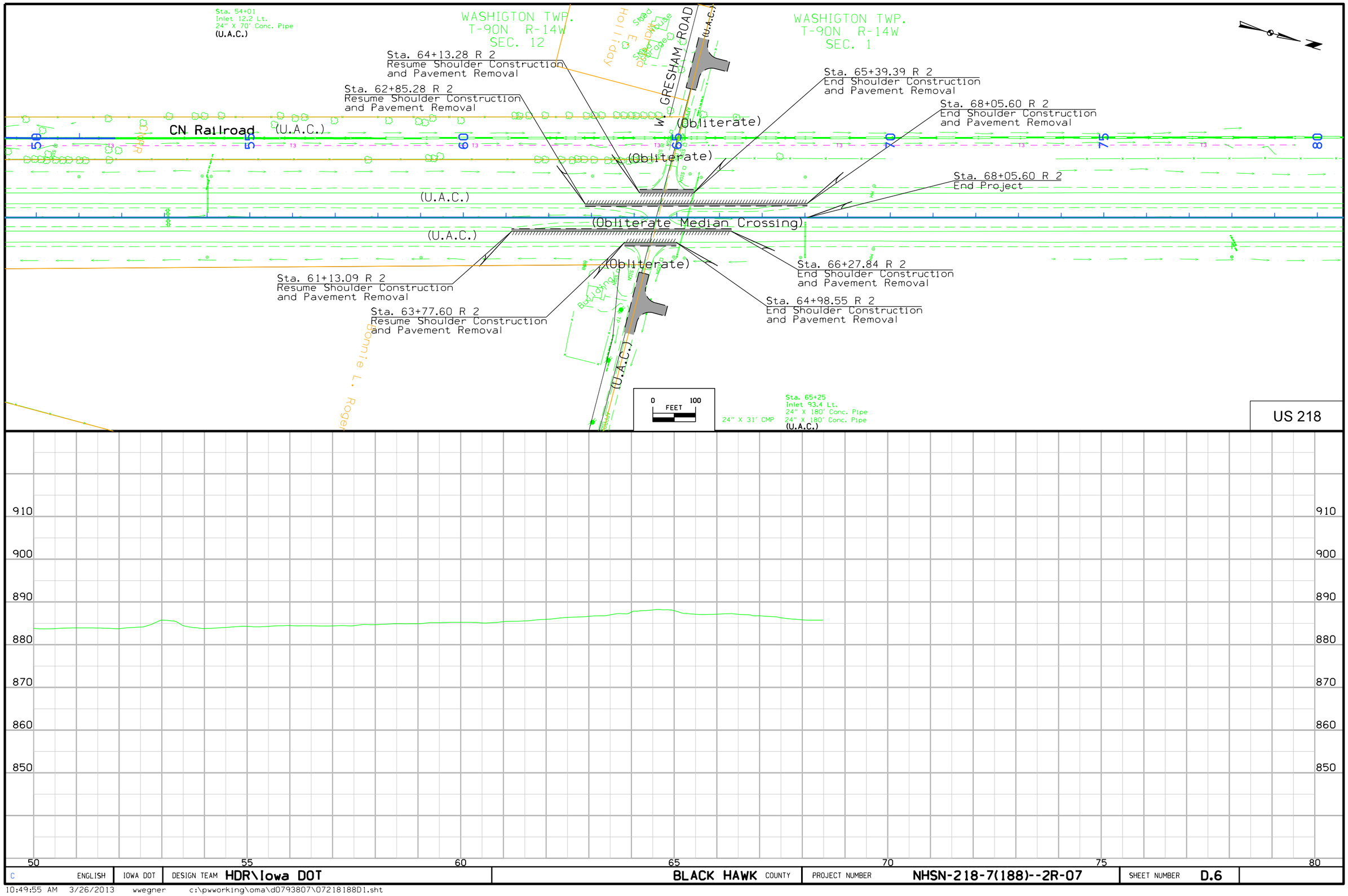

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10:49:55 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188D1.sht

Curve Data
Δ = 4° 55' 19.93" (RT)
T = 279.37
L = 558.41
R = 6,500.00
E = 6.00
Design Speed = 50mph
e = Normal Crown

WASHINGTON TWP.
T-90N R-14W
SEC. 12

Sta. 10578+91.50
Install 18" x 65' Uncl.
F.L. = Lt. 876.32
Rt. 876.25

Darrell D. Sells

Sta. 166+81
18" X 54' CMP
(REMOVE)

STA 10589+46.71
BUILD 60' X 336'
PRETENSION/PRECAST BRIDGE
SEE V.01

Sta. 10570+50.00
Begin 60:1 Taper

Sta. 10572+37.32
End 60:1 Taper

+02 Prop. Type "C" Ent. 18" Uncl. Pipe

Sta. 10587+00.00
End 60:1 Taper

STA 10593+00.00 SRC57
STA 1593+00.00 C57A
STA 3593+00.00 C57C

POT Sta 10569+00.00

10570

60:1 TAPER

PI Sta 10573+84.65

10575

COUNTY ROAD C-57

10580

Sta. 10582+20.00
Begin 60:1 Taper

10585

POT Sta 10587+68.74

POT STA. 10589+82.71
POT STA. 15589+82.71

10590

RAMP A

10595

(U.A.C.)

Tadd M. Cline
&
Holly A. Cline

PC Sta 10571+05.27

Sta. 10572+35.40
End 60:1 Taper

PRC Sta 10576+63.88

House
Garage
Shed
Building
State of Iowa

+91.50 Prop. Type "C" Ent.

PI Sta 10582+16.88

Sta. 10587+00.00
End 60:1 Taper

Sta. 10582+20.00
Begin 60:1 Taper

Sta. 10570+50.00
Begin County Road 57
Construction

15" X 26' Conc. Pipe

Sta. 10570+50.00
Begin 60:1 Taper

POT STA. 10578+91.50 (C57)
POT STA. 100578+91.50 (FRONTAGE)

0 FEET 100

15" X Unknown Length
Outlet End Buried
(REMOVE)

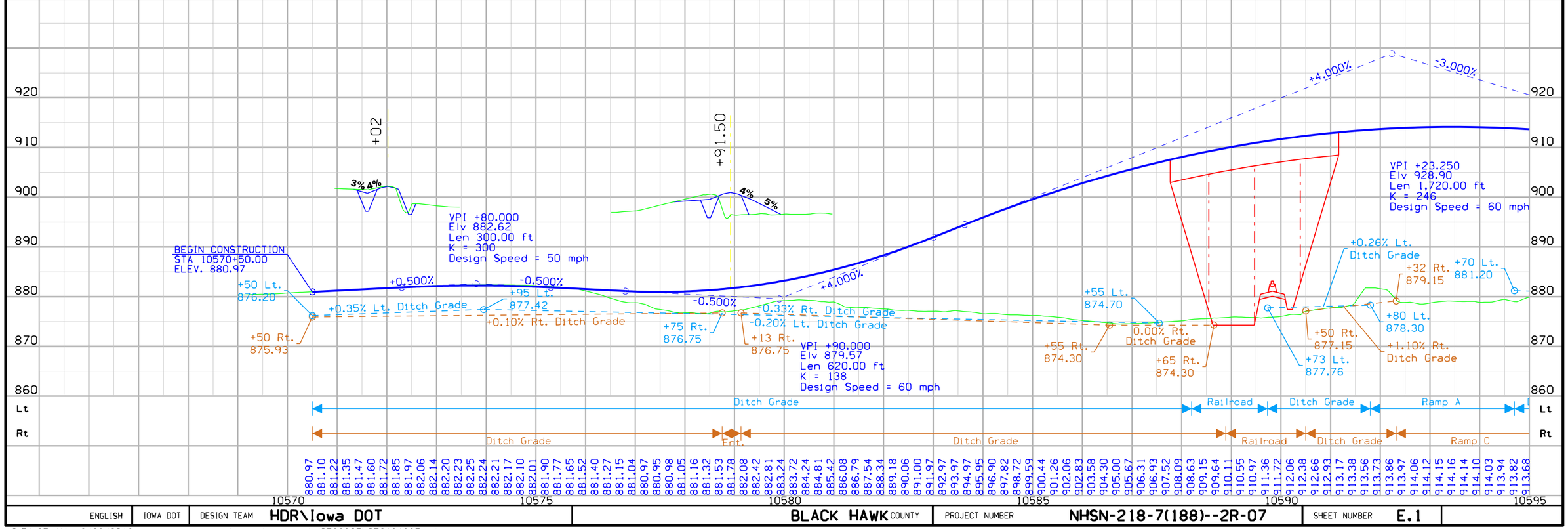
Curve Data
Δ = 6° 56' 05.50" (LT)
T = 553.21
L = 1,105.06
R = 9,130.00
E = 16.74
Design Speed = 60mph
e = Normal Crown

WASHINGTON TWP.
T-90N R-14W
SEC. 13

CEDAR RIVER RR CO.

RAMP C

COUNTY ROAD C-57



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER E.1

10:54:27 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188E1.sht

Sta. 10596+81
Install RF-1 (Size And Length TBD)
Skew = 13° Rt. Ahd.
F.L. = Lt. TBD
Rt. TBD

18" x 48' C.M.P.
(REMOVE)

15" x 23' Conc. Pipe.
(REMOVE)

WASHIGTON TWP.
T-90N R-14W
SEC. 12

STA 10597+95.08
BUILD 60' X 287' PRETENSION/
PRECAST BRIDGE
SEE V.02

STA 10603+15.00 SRC57
STA 2603+15.00 C57B
STA 4603+15.00 C57D

Sta. 10608+22.00
Install RF-1 (88" x 54" x 86')
F.L. = Lt. 877.22
Rt. 876.86

Sta. 10608+36.00
Install RF-1 (88" x 54" x 86')
F.L. = Lt. 877.22
Rt. 876.86

Sta. 190+32
24" X 55' Conc. Pipe
D.A. = Unknown GR
(REMOVE)

+50 Prop. Ent.
Type "C"
18" Uncl. Pipe

Sta. 10612+00.00
End 60:1 Taper

Big Woods Rd.

RAMP D

10595

10600

10605

10610

County Road C-57

Sta. 10605+60.00
Begin 60:1 Taper

PI Sta 10608+47.95

POT Sta 10613+51.82

(U.A.C.)

NE CORNER
SEC 13-90-14
FOUND 5/8" REBAR

POT STA. 10597+84.13
POT STA. 597+75.39

Curve Data
Δ = 1° 11' 19.30" (RT)
T = 207.47
L = 414.93
R = 20,000.00
E = 1.08
Design Speed = 60mph
e = Normal Crown

PC Sta 10606+40.47

PT Sta 10610+55.40

Sta. 10612+00.00
End Construction
County Road C-57

Sta. 10612+00.00
End 60:1 Taper

Black Hawk County
Conservation
Board

Sta. 10605+60.00
Begin 60:1 Taper

RAMP B

POND

Borrow 6b

+50 Prop. Ent.
Type "C"
18" Uncl. Pipe

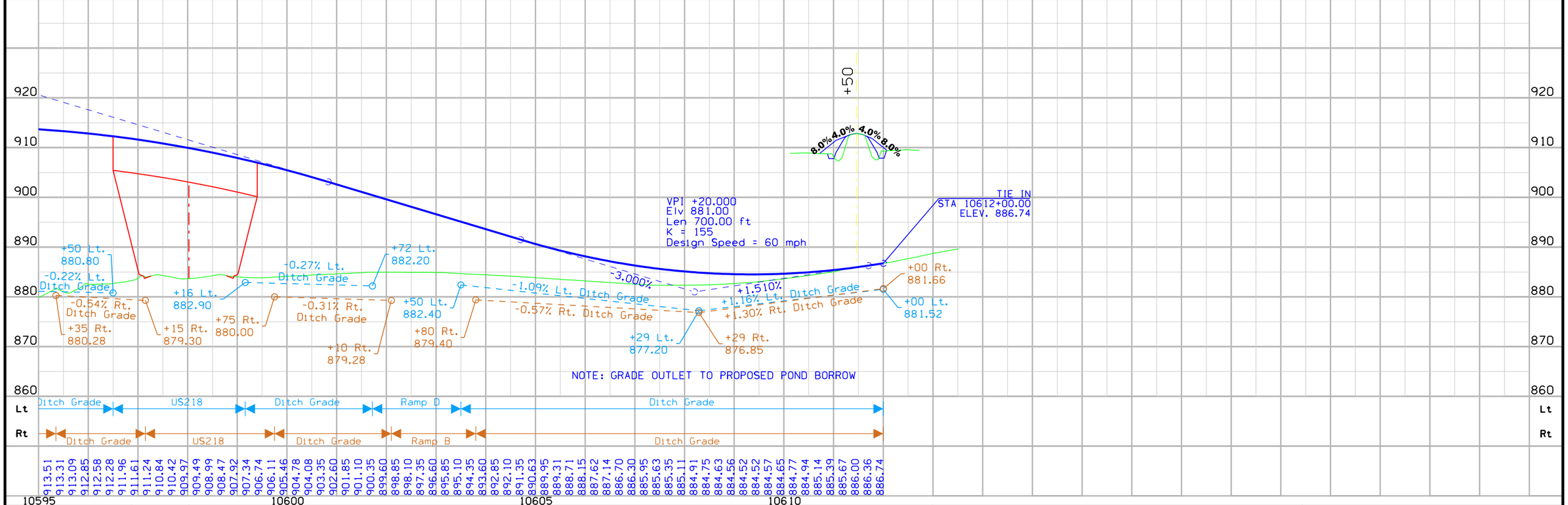
WASHIGTON TWP.
T-90N R-14W
SEC. 13

0 FEET 100

18" x 41' C.M.P.
(REMOVE)

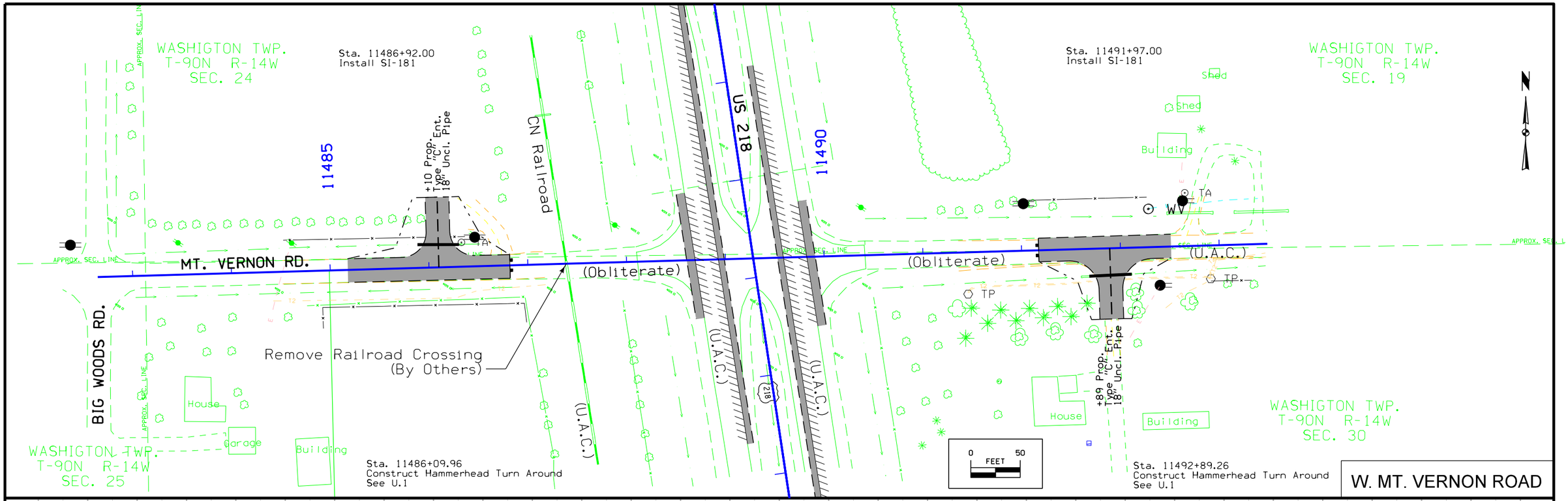
15" x 36' C.M.P.
(REMOVE)

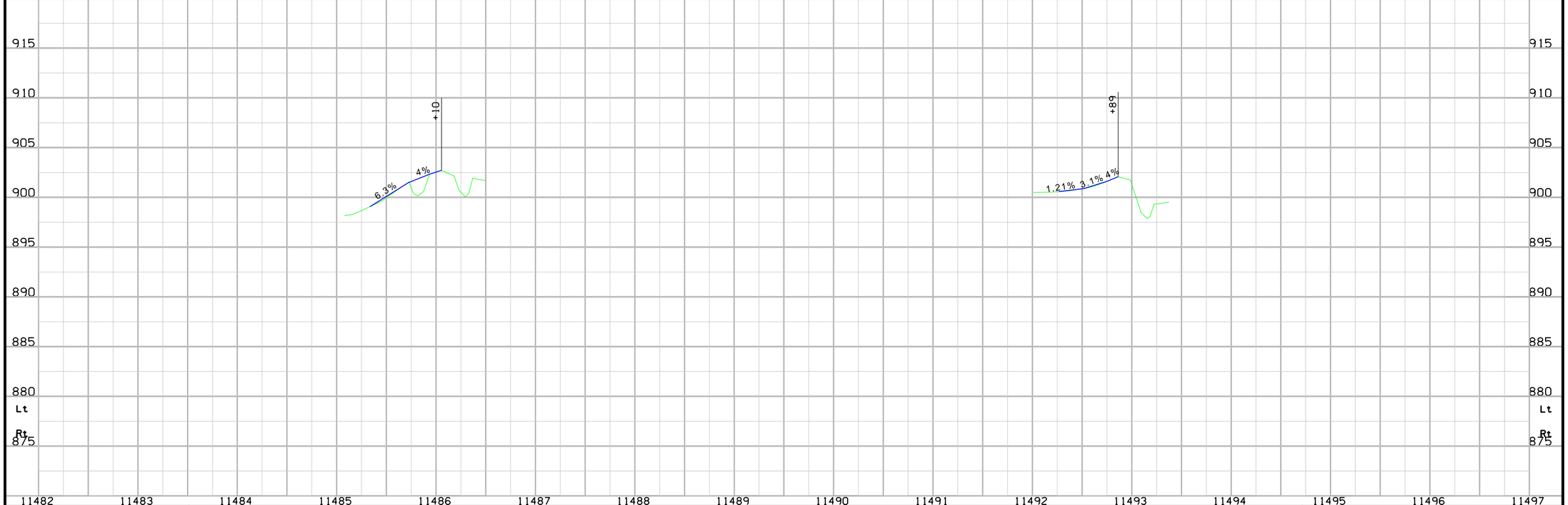
COUNTY ROAD C-57



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER E.2

11:04:24 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188E1.sht





C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R	SHEET NUMBER E.3	

11:07:49 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188E1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 18

WASHIGTON TWP.
T-90N R-14W
SEC. 24

WASHIGTON TWP.
T-90N R-14W
SEC. 19

24" X 40' CMP
24" X 28' Cont. Pipe
(REMOVE)

24" X CMP
(REMOVE)

Sta. 12540+35.00
Install SI-181

Sta. 12546+40.00
Install SI-181

12540

12545

POT Sta 12538+73.75

POT Sta 12549+85.85

Remove Railroad Crossing
(By Others)

(Obliterate)

(Obliterate)

W. Bennington Rd

Leversee Rd.

Building

Building

+53 Prop. Ent. Type "C" 18" Uncl. Pipe

+22 Prop. Ent. Type "C" 18" Uncl. Pipe

STA 543+62.32 ML218
STA 12543+62.32 BENNINGTON

US 218

CN Railroad

(U.A.C.)

(U.A.C.)

(U.A.C.)

8' X 4' X 47.35'
Octagon Culvert
(REMOVE)

0 FEET 50

Sta. 12539+52.88
Construct Hammerhead Turn
Around See U.1

Sta. 12547+21.76
Construct Hammerhead Turn
Around See U.1

W. BENNINGTON ROAD

+53
4%
2%

+22
2.7%
4.37%

895
890
885
880
875
870
865
860
Lt
Rt

12536 12537 12538 12539 12540 12541 12542 12543 12544 12545 12546 12547 12548 12549 12550 12551

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R	SHEET NUMBER E.4	

11:09:08 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188E1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 1

Remove Railroad Crossing
(By Others)

POT Sta 13060+30.10

+80 Prop. Type "C" Ent. 18" Uncl. Pipe

CN RAILROAD

13065

(Obliterate)

+69 Prop. Type "C" Ent. 24" Uncl. Pipe

POT Sta 13069+00.22

Sta 13065+87.34
Install SI-181

W. GRESHAM ROAD

APPROX. SEC. LINE

(Obliterate)

US 218

STA. 64+62.60 ML218
STA. 13064+62.60 WGRESHAM

Building

House

Garage

Shed

Shed

Martha E. Holliday

(U.A.C.)

(U.A.C.)

(U.A.C.)

el P. Apling

WASHIGTON TWP.
T-90N R-14W
SEC. 12

Sta. 13060+79.78
Construct Hammerhead Turn
Around See U.1

Sta 13062+15.50
Locked Gate for
Railroad Access

0 50
FEET

Sta. 13066+69.34
Construct Hammerhead Turn
Around See U.1

W. GRESHAM ROAD

5%

4%

+80

3.5%

4%

+69

905 900 895 890 885 880 875 870 875

13058 13059 13060 13061 13062 13063 13064 13065 13066 13067 13068 13069 13070 13071 13072

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R	SHEET NUMBER E.5	

11:09:34 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188E1.sht

Curve Data
Δ = 88° 04' 28.38" (RT)
T = 38.68
L = 61.49
R = 40.00
E = 15.64

Sta. 100587+32.00
Install SI-181

Sta. 100587+22.00
End Frontage Road

Sta. 100587+33.60
End Construction

+36.95 Prop. Type "C" Ent.

100580

PT Sta 100579+98.44

PI Sta 100579+75.63

PC Sta 100582+96.03

PI Sta 100583+49.60

PT Sta 100584+03.07

+20.90 Prop. Type "C" Ent. 18" Uncl. Pipe

100585

+50.00 Prop. Type "C" Ent. 18" Uncl. Pipe

100590

STA 100590+05.81 Frontage Road
STA 15591+76.12 Railroad

RAMP A

RAMP C

COUNTY ROAD C-57

PC Sta 100579+36.95

(U.A.C.)

STA 100578+91.50 Frontage Road
STA 10578+91.50 County Road C57

CEDAR RIVER RR CO.

Frontage Road

RDS Holdings L.L.C.

Tadd M. Cline
&
Holly A. Cline

State of Iowa

Curve Data
Δ = 6° 07' 57.93" (LT)
T = 53.57
L = 107.04
R = 1,000.00
E = 1.43

0 100 FEET

Tie-in to Edge of Pavement
+05.52
Elev. 881.41

VPI +22.000
Elv 879.28

Tie-in
+33.60
Elev. 875.41

-3.000%

-0.171%

-0.171%

-33.333%

VPI +31.520
Elv 880.63
Len 50.00 ft

+36.95

+20.90

+50

1.0%

1.7%

3.9%

2' V-Ditch

Common Ditch with C57

880.92 880.61 880.56 880.51 880.47 880.43 880.38 880.34 880.30 880.26 880.21 880.17 880.13 880.08 880.04 880.00 879.96 879.91 879.87 879.83 879.78 879.74 879.70 879.66 879.61 879.57 879.53 879.49 879.44 879.40 879.36 879.31 878.28

900 890 880 870 860 850 840

Lt
Rt

10570 100580 100585 100590 10595

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER E.6

11:10:03 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188E1.sht

Curve Data
Δ = 16° 45' 07.03" (LT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,605.20
Ls = 70.00
Design Speed = 49 MPH
Elevation = 1/2"

Sta. 15561+63.80
24" X 30' CIP
(REMOVE)

WASHIGTON TWP.
T-90N R-14W
SEC. 13

Curve Data
Δ = 16° 27' 49.67" (RT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,576.38
Ls = 70.00
Design Speed = 49 MPH
Elevation = 1/2"

Sta. 15554+80.79 (13.5' Clear Point)
Stop Track Construction by Cedar River RR Co.
Begin Track Construction by Iowa DOT

Sta. 15550+48.36
Begin Track Construction
on Wood Ties
Install Compromise Rail
100 LB to 115 LB RE
(By Cedar River RR Co.)

15550 15555 15560 15565 15570 15575

TS Sta 15550+48.36
SC Sta 15551+18.36
CS Sta 15567+23.56
ST Sta 15567+93.56
TS Sta 15571+01.33
SC Sta 15571+71.33
PI Sta 15559+25.26
PI Sta 15579+64.54

(U.A.C.)
US 218
(U.A.C.)
(U.A.C.)
(Obliterate Railroad)
CEDAR RIVER RR CO.
Deery Investment Inc.

0 FEET 100

CEDAR RIVER RR CO.

Existing Top of Rail
877.50
BEGIN CONSTRUCTION
STA 15550+48.36
ELEV. 877.50
(TIE IN)
+0.084%
VPI +48.360
Elv 877.83
Len 300.00 ft
r = 0.08
+48
872.96
+48
872.96
+0.18% Lt. Ditch Grade
+0.18% Rt. Ditch Grade
+00, 874.10
+00
874.10
-0.26% Lt. Ditch Grade
-0.26% Rt. Ditch Grade
+0.322%
+38, 873.23
+90, 873.10
+88
873.10
+0.05% Rt.
Ditch Grade
+50
873.18
VPI +87.830
Elv 881.50
Len 300.00 ft
r = 0.10
+0.011%
+0.011%
+0.13% Lt. Ditch Grade
+0.11% Rt. Ditch Grade

910 900 890 880 870 860 850

Lt Ditch Grade No Ditch Ditch Grade
Rt Ditch Grade

877.50 877.54 877.58 877.62 877.67 877.71 877.76 877.83 877.92 878.04 878.17 878.32 878.48 878.64 878.80 878.96 879.12 879.28 879.45 879.61 879.77 879.93 880.09 880.25 880.41 880.57 880.73 880.89 881.05 881.20 881.31 881.40 881.47 881.50 881.52 881.52 881.53 881.53 881.54 881.54 881.55 881.56 881.56 881.57 881.57 881.58 881.58 881.59 881.59 881.60 881.61 881.61 881.62 881.62 881.63 881.63 881.64 881.64

15550 15555 15560 15565 15570 15575

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER E.7

11:10:38 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188E1.sht

Curve Data
Δ = 16° 27' 49.67" (RT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,576.38
Ls = 70.00
Design Speed = 49 MPH
Elevation = 1/2"

WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 12

COUNTY ROAD C-57

STA 15589+82.71 CEDAR RIVER RR CO.
STA 10589+82.71 SRC57

15580
15585
15590
15595
15600
15605

Pl Sta 15579+43.54
Pl Sta 15600+42.03
CS Sta 15587+47.71
ST Sta 15588+17.71
TS Sta 15591+47.70
SC Sta 15592+17.70
CS Sta 15608+55.10

CEDAR RIVER RR CO.

Carol A. Mast

RAMP A
RAMP C

Curve Data
Δ = 17° 04' 26.25" (RT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,637.40
Ls = 70.00
Design Speed = 49 MPH
Elevation = 1/2"

(Obliterate Railroad)
(U.A.C.)
(U.A.C.)
US 218

0 100 FEET

CEDAR RIVER RR CO.

VPI +26.150
Elv 881.67
Len 300.00 ft
r = 0.06

VPI +88.660
Elv 884.12
Len 300.00 ft
r = -0.03

VPI +88.770
Elv 885.06
Len 300.00 ft
r = -0.01

+0.180%
+0.095%
+0.052%

+0.13% Lt. Ditch Grade
-0.11% Rt. Ditch Grade
+68, 876.20
-0.50% Lt. Ditch Grade
+48
874.30
+50, 876.15
+0.12% Lt. Ditch Grade
-0.12% Ditch Grade
+75, 875.99
+69
874.70
+88, 875.61
+0.27% Lt. Ditch Grade
-0.01% Ditch Grade
+00
875.60
+00, 875.60
+0.10% Lt. Ditch Grade
+00
875.00
+50
875.25
+43
877.52
+0.35% Lt. Ditch Grade
+0.35% Rt. Ditch Grade
+10
877.40
+50, 878.60
+50
878.60
-0.72% Lt. Ditch Grade
-0.72% Rt. Ditch Grade
+32
876.57
+39
875.80

910
900
890
880
870
860
850

Lt: Ditch Grade | No Ditch | Ditch Grade | No Ditch | Ditch Grade | No Ditch
Rt: Ditch Grade | Bridge Berm | Ditch Grade | No Ditch | Ditch Grade | No Ditch No Ditch

881.65 881.66 881.68 881.71 881.76 881.82 881.89 881.98 882.07 882.16 882.25 882.34 882.43 882.52 882.61 882.70 882.79 882.88 882.97 883.06 883.15 883.24 883.33 883.42 883.51 883.60 883.69 883.78 883.87 883.95 884.03 884.10 884.16 884.22 884.27 884.32 884.36 884.41 884.46 884.51 884.55 884.60 884.65 884.70 884.74 884.79 884.84 884.88 884.93 884.98 885.02 885.06 885.09 885.12 885.15 885.17 885.20 885.22 885.25 885.28

15580 15585 15590 15595 15600 15605

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER E.8	

11:11:06 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188E1.sht

Sta. 15619+70.82
24" X 30' RCP
(REMOVE)

WASHIGTON TWP.
T-90N R-14W
SEC. 12

Curve Data
Δ = 16° 46' 28.55" (LT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,607.46
Ls = 70.00
Design Speed = 49 MPH
Elevation = 1/2"

15610
15615
15620
15625
15630

CS Sta 15608+55.10
ST Sta 15609+25.10
TS Sta 15612+36.51
SC Sta 15613+06.51
CEDAR RIVER RR CO.
(Obliterate Railroad)
PI Sta 15621+15.59

Sta. 15625+57.67 (13.5' Clear Point)
End Track Construction by Iowa DOT
Resume Track Construction by Cedar River RR Co.

CS Sta 15629+13.97
ST Sta 15629+83.97

Sta. 15629+83.97
End Track Construction
Install Compromise Rail
115 LB RE to 100 LB

(U.A.C.)
(U.A.C.)
(U.A.C.)
(U.A.C.)
US 218

0 FEET 100

CEDAR RIVER RR CO.

886.36
END CONSTRUCTION
STA 15629+83.97
ELEV. 886.36
(TIE IN)
Existing Top of Rail

+0.052%

+50
879.28
-0.78% Rt. Ditch Grade
+50
878.50
+80
879.35
+2.83% Rt. Ditch Grade

+1.12% Lt.
Ditch Grade
+50
879.65
+50
880.77

Lt Standard 10' Ditch Ditch Grade U.A.C. Lt
Rt Standard 10' Ditch Ditch Grade U.A.C. Standard 10' Ditch U.A.C. Rt

885.30 885.33 885.35 885.38 885.41 885.43 885.46 885.48 885.51 885.54 885.56 885.59 885.61 885.64 885.67 885.69 885.72 885.74 885.77 885.80 885.82 885.85 885.87 885.90 885.93 885.95 885.98 886.00 886.03 886.05 886.08 886.11 886.13 886.16 886.18 886.21 886.24 886.26 886.29 886.31 886.34

15610 15615 15620 15625 15630

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER E.9	

11:11:29 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188E1.sht

Survey Information

Black Hawk County
SAP 0667
HSIPX-218-7(207)--3L-07
US 218/County Road C 57 Intersection Survey in Black Hawk County

General Information

This survey is in English Units. This project adjoins a 2005 IDOT survey along US 218 at Janesville. Control used in 2005 was included in this survey.

Control Information -IDOT control monuments were utilized as a basis for project control. 23 Control Points were held fixed in the RTK calibration.

- 7 held fixed Vertically; 16,539,540,542,543,544,547,
- 6 held fixed Horizontally; 10,11,12,19,22,24
- 10 held fixed Vertically and Horizontally; 13,14,15,17,500,505,506,510,511,512,

Vertical Datum

Bench marks observed in a 2005 IDOT Adams survey are included in this survey. Both surveys are relative to NAVD 88 vertical datum. The IDOT survey in 2005 originated and terminated on BM 500 (NGS E39) setting BM 502 along the way. A digital level run in this survey between NGS BM 538 in Cedar Falls & BM 502 was observed. The total length of that level run was 5.5 miles with a missed closure of 0.024 feet.

NGS datasheets show a vertical difference of 0.02' to 0.06' in the area (29 higher than 88) between NAVD88 to NGVD29. Vertical Equations are as follows

BM # 538 this survey	Elev. =876.783
=NGS BM "Cedar Falls"	Elev. =876.78 (NAVD 88 NGS 2nd Order BM) (PID NK0019)
=NGS BM "Cedar Falls"	Elev. =876.84 (NGVD 29)
BM # 500 2005 Adams Survey	Elev. =906.32 (NAVD 88)
= NGS E 39	Elev. =906.32 (NAVD 88)
= NGS E 29	Elev. =906.35 (NGVD29)
BM # 502 2005 Adams Survey	Elev. =878.104 (NAVD88)
= BM 502 This Survey	Elev. =878.104 (NAVD88)

The following Vertical Equations were copied from a 2005 survey

BM # 507	2005 Adams Survey	Elev. = 884.98 (NAVD88)
=TBM # 172	F-218-7(94)-20-07 As built Plans	Elev. = 885.10 (Believed to be NGVD29)
BM # 517	2005 Adams Survey	Elev. = 930.09 (NAVD88)
= BM # 382	F-218-7(94)-20-07 As built Plans	Elev. = 930.20 (Believed to be NGVD29)
BM # 519	2005 Adams Survey	Elev. = 916.79 (NAVD88)
=TBM # 335	F-218-7(94)-20-07 As built Plans	Elev. = 916.89 (Believed to be NGVD29)
BM # 523	2005 Adams Survey	Elev. = 921.46 (NAVD88)
=TBM # 396	F-218-7(94)-20-07 As built Plans	Elev. = 921.50 (Believed to be NGVD29)
BM # 527	2005 Adams Survey	Elev. = 887.25 (NAVD88)
=BM # 35	F-218-7(94)-20-07 As built Plans	Elev. = 887.35 (Believed to be NGVD29)
BM # 522	2005 Adams Survey	Elev. = 911.08 (NAVD88)
=BM # 389.1	F-218-7(93)-20-07 As built Plans	Elev. = 911.14 (Believed to be NGVD29)

Horizontal Datum

Project Coordinate Transformation

Iowa State Plane North Zone coordinates in US feet were transformed to project ground coordinates using a 1/combined scale factor broadcast about a held point. The held State Plane coordinate and project coordinate at control point 18 are N= 3694759.04 E=5203921.53

1 / GRID = 1.000097128

VERTICAL DATUM = NAVD 88 <> HORIZONTAL DATUM = NAD 83 (1996)

Local Project Plane Coordinate Conversion Equation:
a. Local Project Coord y = [(State Plane y - hold point y) 1/grid factor] + hold point y
b. Local Project Coord x = [(State Plane x - hold point x) 1/grid factor] + hold point x

ALL COORDINATES CONVERTED TO ENGLISH UNITS

POINT	STATE PLANE COORD(Y)	STATE PLANE COORD(X)	POINT SCALE FACTOR	LOCAL PROJECT PLANE COORD(Y)	LOCAL PROJECT PLANE COORD(X)	ESTIMATED Static GPS DERIVED ORTHOMETRIC HEIGHT	Leveled ZC
G010	3669368.66	5210761.46	0.99994709	3669366.19	5210762.12	892.07	
G011	3673347.53	5209976.95	0.99994675	3673345.45	5209977.54	872.00	
G012	3676384.95	5208747.25	0.99994652	3676383.17	5208747.72	868.36	
G013	3679051.41	5208264.96	0.99994634	3679049.88	5208265.39	874.52	874.981
G014	3682551.10	5207318.37	0.99994612	3682549.91	5207318.70	874.46	875.002
G015	3685324.85	5206546.22	0.99994596	3685323.93	5206546.48	877.91	878.380
G016	3689022.15	5205629.32	0.99994578	3689021.60	5205629.49	890.31	890.757
G017	3691782.69	5204749.07	0.99994567	3691782.40	5204749.15	884.12	884.641
G018	3694759.04	5203921.53	0.99994557	3694759.04	5203921.53	888.32	
G019	3697662.28	5203134.08	0.99994549	3697662.56	5203134.00	886.90	
G020	3701007.65	5202951.41	0.99994543	3701008.26	5202951.31	926.25	
G021	3701470.46	5204073.44	0.99994542	3701471.12	5204073.45	909.78	
G022	3702491.38	5202107.92	0.99994540	3702492.14	5202107.74	926.23	
G023	3702899.10	5199067.37	0.99994540	3702899.89	5199066.90	896.54	
G024	3704559.93	5197985.47	0.99994538	3704560.88	5197984.90	907.13	
G025	3706967.66	5197713.26	0.99994537	3706968.85	5197712.65	908.82	
G026	3709092.24	5197619.98	0.99994537	3709093.63	5197619.37	923.86	
G027	3710927.12	5197132.97	0.99994538	3710928.69	5197132.32	908.75	
G028	3713481.12	5196622.64	0.99994540	3713482.94	5196621.94	957.85	
G029	3716119.28	5196894.49	0.99994544	3716121.35	5196893.81	967.37	
G030	3717115.88	5196225.66	0.99994546	3717118.05	5196224.91	995.18	
G500	3688187.00	5189692.97	0.99994581	3688186.36	5189691.59	906.32	906.32

Alignment

The mainline alignment of this survey is a retrace of NHS-218-7(88)-19-07 As-built plans Back & F-218-7(94)-20-07 As-built plans ahead. Stationing was backed up & carried forward from CP40. CP40 was also used in a 2005 IDOT survey.

Alignment Equations

POT Point # 40 Sta 12+96.13	This Survey Ahead
=POT Point # 40 Sta 12+96.13	2005 Adams Survey Ahead
=POT Point # 40 Sta 601+00.00	This Survey Back

The following Equations were copied from a 2005 survey

PI Point # 42 Sta 109+64.04	2005 Adams Survey Ahead
= PI Sta 109+60.45	F-218-7(94)-20-07 Asbuilt Plans

CP Point # 49 Sta 138+77.62 out .05 RT	2005 Adams Survey Ahead	
= OLD POT Sta 138+77.56 (back)	F-218-7(94)-20-07 Asbuilt Plans	
= OLD TS Sta 138+58.26 (ahead)	F-218-7(94)-20-07 Asbuilt Plans	

Note : This Equation was eliminated. This survey stationing was carried thru to EOP.

PI Point # 60 Sta 153+94.40	2005 Adams Survey Ahead
= PI Sta 153+75.00	F-218-7(94)-20-07 Asbuilt Plans

PI Point # 64 Sta 195+45.52	2005 Adams Survey Ahead
= PI Sta 195+26.31	F-218-8(22)-20-09 Paving Plans

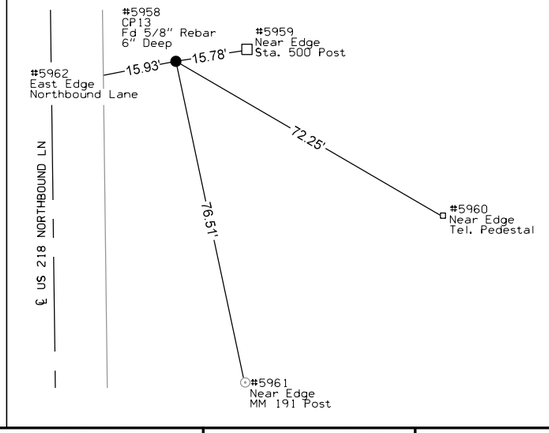
BENCHMARKS				ELEVATION
No. 500 Sta.	49+74.411	15399.347 Lt.	Y:3688186.398 X:5189691.650 Found NGS Monument Stamped E39 1934 S Side CO RD C-57	906.320
No. 502 Sta.	19+27.022	3118.966 Lt.	Y:3688543.149 X:5202339.458 RR Spk E Side PP Bent RR Spike NW QUAD C-57 & WAVERLY RD =BM 502 2005 J Adams surv	878.104
No. 503 Sta.	598+67.031	124.431 Lt.	Y:3688513.805 X:5205455.940 Fd "X" S.E. COR 2.5'CIRC Light Pole BASE 218 & C57=BM 503 2005 J Adams survey	882.299
No. 504 Sta.	24+79.492	43.764 Rt.	Y:3689923.369 X:5205238.265 Fd "X" In Conc PAVT. =BM 504 2005 J Adams survey El=886.321	886.321
No. 505 Sta.	40+01.048	89.296 Rt.	Y:3691401.424 X:5204874.176 Fd "X" Top Outlet 24" RCP EAST End RCP Under Both Lanes of U.S.#218	881.669
No. 506 Sta.	54+01.627	91.052 Lt.	Y:3692702.369 X:5204324.914 Fd "X" West End 24"RCP Under S.B. LANE U.S.#218	884.881
No. 507 Sta.	65+51.175	234.384 Lt.	Y:3693771.398 X:5203878.618 Fd 30D Spk In Washer STAMPED #172 In Fence COR POST @ N.W. COR. OF CVRR ROW & WEST GRESHAM ROAD. =TBM #172 ASBUILT PLANS F-218-7(94)--20-07 ELEV = 885.10 (NAVD 1929)	884.975
No. 508 Sta.	63+38.794	333.884 Rt.	Y:3693719.155 X:5204483.022 Fd RR Spk S.Side PP S. Side W. GRESHAM RD.	884.949
No. 509 Sta.	81+00.300	137.633 Lt.	Y:3695289.745 X:5203556.482 Fd 60D Spk E.Side RR TIE R.O.W. FENCE POST LT.	886.331
No. 510 Sta.	93+00.199	90.074 Lt.	Y:3696458.463 X:5203280.587 Fd Cut"X"Top W.End 24" RCP Under Both Lanes U.S.#218	884.755
No. 511 Sta.	105+00.045	89.571 Lt.	Y:3697621.222 X:5202967.442 Fd "X" West End 24" RCP Under South-Bound Lane.	886.640
No. 512 Sta.	116+36.213	108.231 Lt.	Y:3698755.855 X:5202780.274 Fd DOT BM Button W. HDWL Skewed Twin 12'X6' RCB. S.W. QUAD Seventh ST. & U.S.#218 @ COUNTY LINE.	891.091
No. 513 Sta.	116+93.527	990.773 Rt.	Y:3698885.709 X:5203872.907 Fd RR Spk S.Side PP N.Side Gravel RD/CO. LIne	908.068
No. 514 Sta.	132+00.379	132.142 Rt.	Y:3700332.523 X:5202938.175 Fd "X" E. End 24" RCP. Under N.B. LANE U.S.#218.	905.505
No. 515 Sta.	141+69.752	1274.234 Rt.	Y:3701453.188 X:5204013.418 Fd SET RR Spk N.Side PP South Side CO. RD. C-50	911.242
No. 522 Sta.	173+23.033	24.715 Lt.	Y:3702707.939 X:5200298.181 Fd DOT BM Button In N.E. COR. S.B. U.S.#218 BR. Conc Barrier Rail CEDAR RIVER BRIDGE. =911.14(NAVD29) BM #389.1 F-218-8(20)--20-09	911.081
No. 526 Sta.	117+46.922	1162.358 Lt.	Y:3698806.310 X:5201720.576 Cut "X" NE BOLT RR SIGNAL W. OF RR S. Side 7TH ST	887.362
No. 527 Sta.	109+64.944	832.948 Lt.	Y:3697963.897 X:5202144.268 Fd DOT Brass Button Center E HDWL E Side of Waverly Rd	887.246
No. 528 Sta.	93+67.259	1151.525 Lt.	Y:3696238.476 X:5202240.020 Fd RR Spk E Side PP JUST S. SYCAMORE RD W Side of Waverly Rd	888.548
No. 545 Sta.	531+54.561	5144.304 Lt.	Y:3680700.566 X:5202420.135 Set RR Spk E Side PP NORTH OF Address 6441 Drive Side of Waverly Rd	881.931
No. 546 Sta.	561+38.053	4349.748 Lt.	Y:3683787.851 X:5202385.234 Set RR Spk W Side PP 5TH PP N. OF Bennington Rd W. Side of Waverly Rd	882.027
No. 547 Sta.	590+39.636	3572.83 Lt.	Y:3686792.473 X:5202355.448 Set RR Spk W Side PP on N. Fence Line Address 7609 W Side of Waverly Rd	881.544
No. 550 Sta.	517+13.128	126.642 Lt.	Y:3680657.974 X:5207640.561 Set RR Spk E Side PP North Pole OF Twin PP W. Side 218	873.721
No. 551 Sta.	542+93.520	128.27 Rt.	Y:3683212.171 X:5207193.929 Cut "X" CL S. HDWL Bennington Rd & HWY 218	875.559
No. 552 Sta.	556+76.158	146.301 Rt.	Y:3684548.969 X:5206840.400 Set 60D Nail In Fencepost E Side Hwy 218	876.114
No. 553 Sta.	574+13.684	97.81 Rt.	Y:3686209.804 X:5206327.588 Cut "X" Outlet End 54"RCP E Side Hwy 218	877.504
No. 554 Sta.	584+90.006	120.748 Rt.	Y:3687252.868 X:5206061.206 Cut "X" Outlet End 24"RCP E Side Hwy 218	879.742
No. 555 Sta.	593+64.299	1951.959 Rt.	Y:3688585.959 X:5207591.105 Set RR Spk S Side PP NW QUAD C-57 BIG WOODS RD	894.834
No. 556 Sta.	19+00.747	114.397 Rt.	Y:3689384.752 X:5205461.482 Cut "X" on outlet end 24" RCP	882.769

C-57 Alignment

No. 555 Sta.	197+84.637	-47.387 Rt.	Y:3688585.959 X:5207591.105 Set RR Spk S Side PP NW QUAD C-57 BIG WOODS RD	894.834

MISCELLANEOUS LOCATIONS OUTSIDE PROJECT LIMITS			ELEVATION
No. 538	**********	Y:3660226.836 X:5204545.776 Approx Coordinate at NGS Disk in Park West of Downtown Cedar Falls & South of Ia 57 125' +/- N. OF CL. 3rd AVE. Located @ the center of Park A Standard Disk Stamped "CEDAR FALLS 1934 & flush with the ground EL=876.784 -PID # NK0019 (area has many trees GPS not available on mark coordinate estimated from OS point roughly 114.2 & North of the actual mark)	876.784
No. 539	**********	Y:3662271.153 X:5203996.944 Set RR Spk SE Side Electrolier Pole W.Side Center St. NEAR PRK ENT NORTH OF Bridge	864.697
No. 540	**********	Y:3665187.113 X:5203791.092 ArrowHead on F Hyd W. Side Center St. ACROSS ST FROM 1405 Waverly Rd	865.312
No. 541	**********	Y:3667624.874 X:5202549.748 Set RR Spk W Side PP E.Side Center St.. South OF GREEN AVE near 2301 Waverly Rd	871.798
No. 542	**********	Y:3670158.782 X:5202478.041 Cut "X" N Bolt F Hyd NW of "T" Inters west at MAPLE & Center St..	876.488
No. 543	**********	Y:3673405.463 X:5202537.675 Cut "X" SW Corner Conc Pad of old Lum Post @ Center St. address 4101	874.382
No. 544	**********	Y:3677615.570 X:5202446.436 Set RR Spk E Side PP S OF Mt Vernon RD. W. Side of Waverly Rd	875.008
No. 548	**********	Y:3678064.982 X:5208457.619 Cut "X" on E End 24" RCP NE QUAD 218 & W. MT Vernon Rd	869.447
No. 549	**********	Y:3679299.299 X:5208009.349 Set RR Spike In RR Tie Fence PST W Side 218 Sta 503+00	874.129
No. 557	**********	Y:3678004.281 X:5208245.162 Fd RR Spk E Side PP NW QUAD 218 & MT VERNON Rd =AB BM 192 El=873.669 (NAVD29) 1995 PCC Paving Plan NHS-218-7(88)--19-07	873.526
No. 558	**********	Y:3677984.578 X:5207694.346 RR Spk In E side PP	872.166
No. 559	**********	Y:3678014.318 X:5209160.832 Cut "X" Inlet 72" Cir RCP	870.670

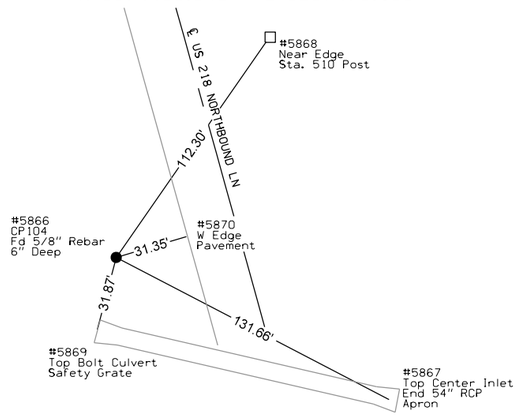
C.P. NO STATIONING
C.P. 13, Fd 5/8" Rebar 6" Deep
N=3679049.880 E=5208265.390



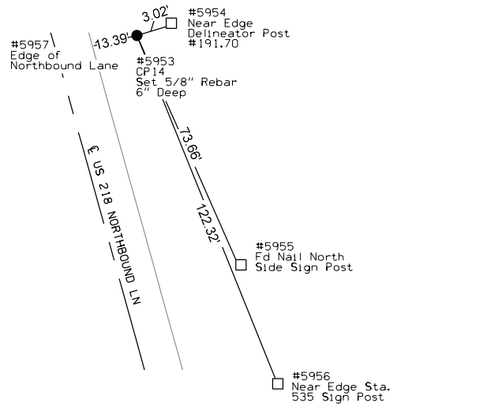
ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER G.2

7:44:34 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188G1.sht

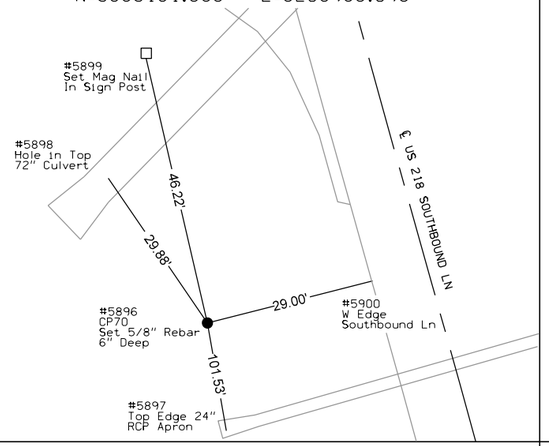
C.P. STA 509+28.26 RIGHT 0.00
C.P. 104, Fd 5/8" Rebar 6" Deep
N=3679935.843 E=5207973.106



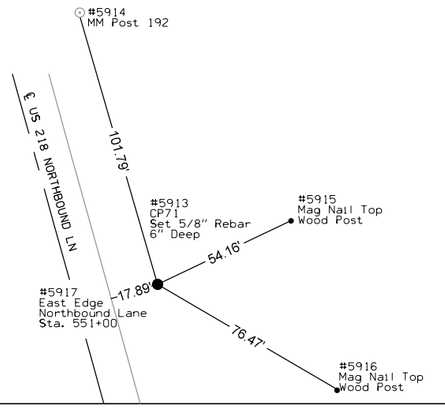
C.P. STA 536+22.06 RIGHT 70.81
C.P. 14, Fd 5/8" Rebar 6" Deep
N=3682549.910 E=5207318.700



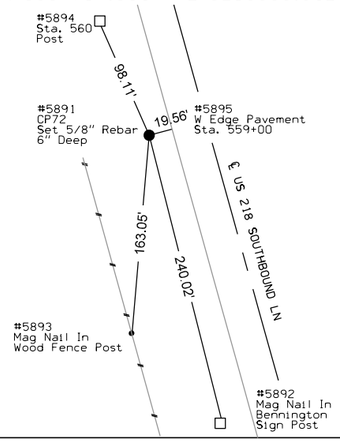
C.P. STA 543+00.81 LEFT 86.48
C.P. 70, Set 5/8" Rebar 6" Deep
N=3683161.585 E=5206985.095



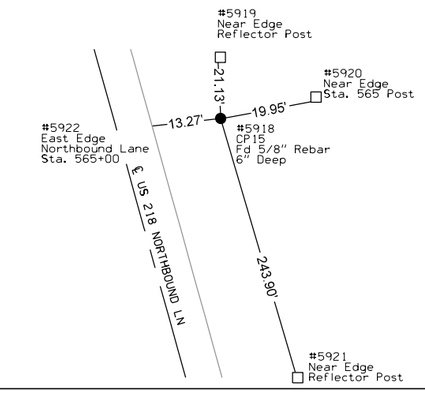
C.P. STA 551+00.84 RIGHT 75.64
C.P. 71, Set 5/8" Rebar 6" Deep
N=3683975.786 E=5206926.662



C.P. STA 559+00.05 LEFT 76.70
C.P. 72, Set 5/8" Rebar 6" Deep
N=3684704.831 E=5206565.512



C.P. STA 565+01.56 RIGHT 71.04
C.P. 15, Fd 5/8" Rebar 6" Deep
N=3685323.930 E=5206546.480



C.P. STA 573+01.00 LEFT 78.96
C.P. 73, Set 5/8" Rebar 6" Deep
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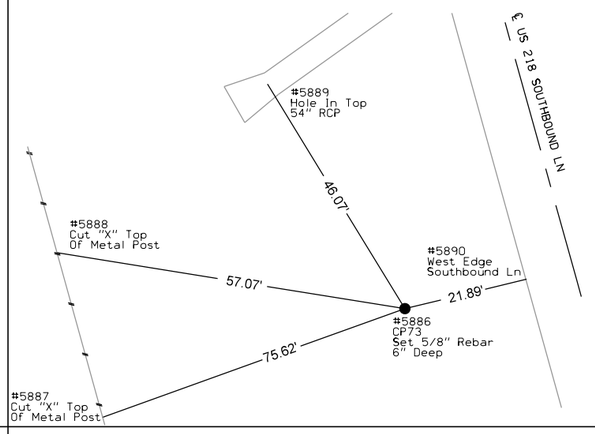

C.P. STA 575+00.09 RIGHT 0.00
C.P. 105, Fd 5/8" Rebar 6" Deep
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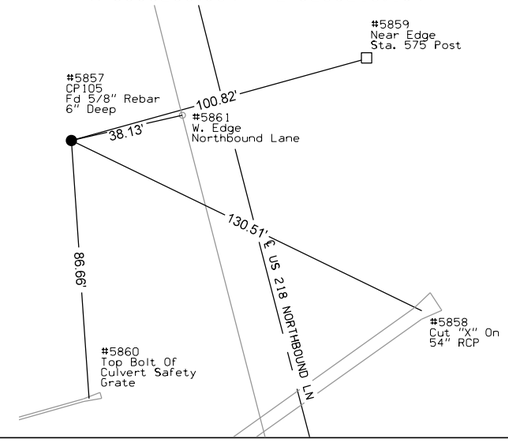
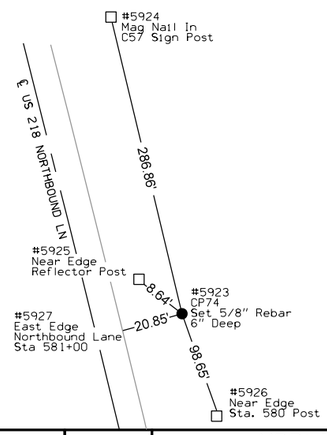


C.P. STA 581+00.06 RIGHT 103.55
C.P. 74, Set 5/8" Rebar 6" Deep
N=3686872.577 E=5206149.149



C.P. STA 590+01.26 LEFT 77.57
C.P. 75, Set 5/8" Rebar 6" Deep
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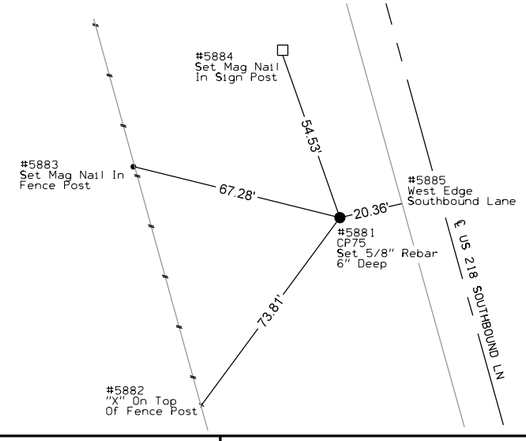
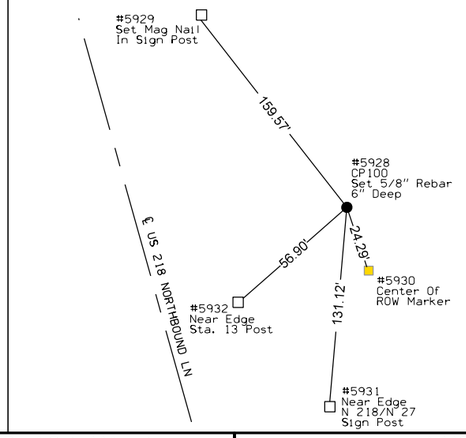
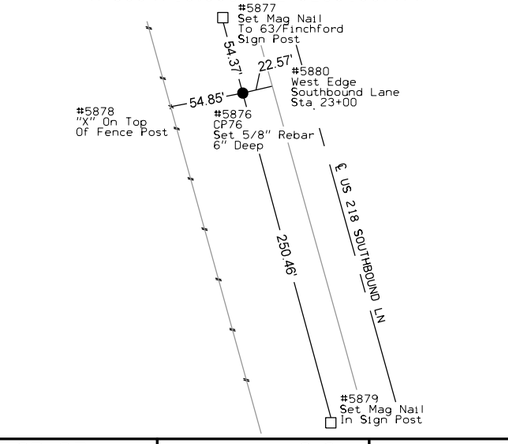


C.P. STA 13+20.36 RIGHT 188.51
C.P. 100, Set 5/8" Rebar 6" Deep
N=3688845.487 E=5205688.492



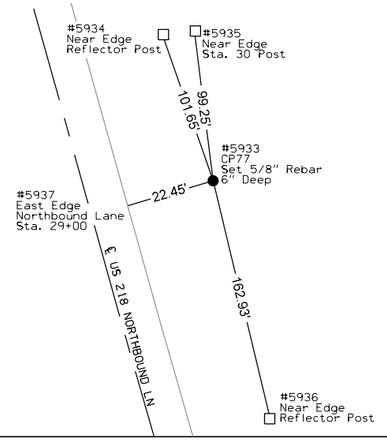
C.P. STA 23+01.71 LEFT 80.23
C.P. 76, Set 5/8" Rebar 6" Deep
N=3689718.850 E=5205166.477



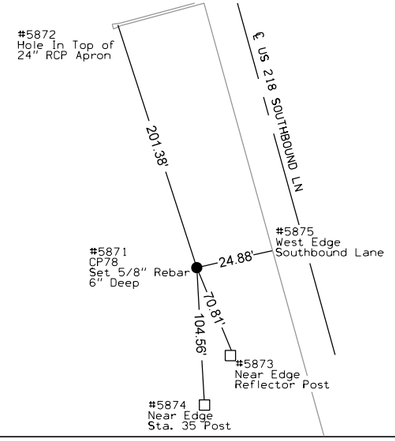
ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER G.3

7:56:29 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188G1.sht

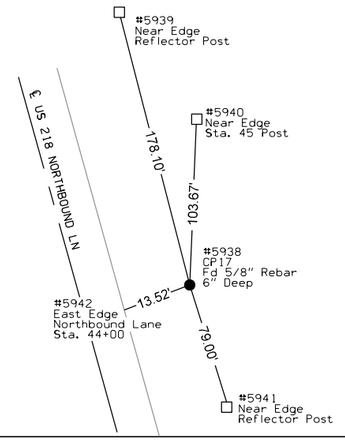
C.P. STA 29+00.58 RIGHT 79.91
C.P. 77, Set 5/8" Rebar 6" Deep
N=3690338.728 E=5205160.189



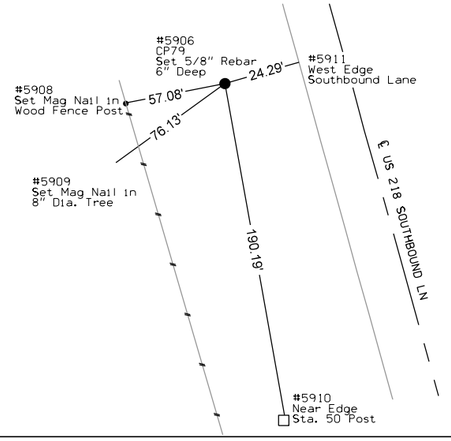
C.P. STA 36+00.99 LEFT 82.36
C.P. 78, Set 5/8" Rebar 6" Deep
N=3690969.987 E=5204816.071



C.P. STA 44+01.60 RIGHT 70.99
C.P. 17, Fd 5/8" Rebar 6" Deep
N=3691782.400 E=5204749.150



C.P. STA 51+92.06 LEFT 81.79
C.P. 79, Set 5/8" Rebar 6" Deep
N=3692502.959 E=5204390.024



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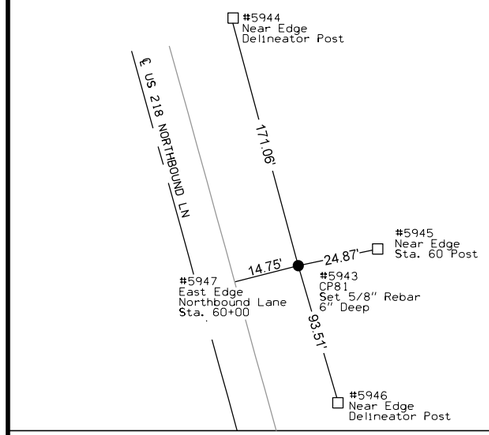

C.P. STA 65+38.17 LEFT 78.75
C.P. 82, Set 5/8" Rebar 6" Deep
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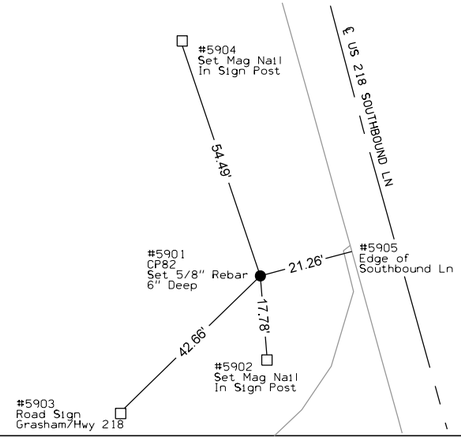
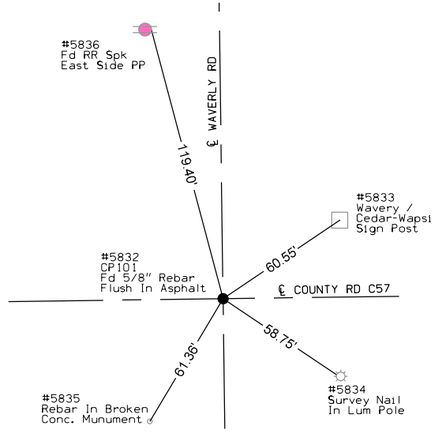
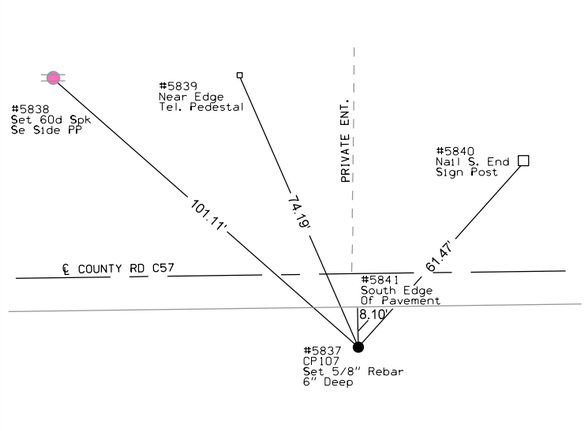


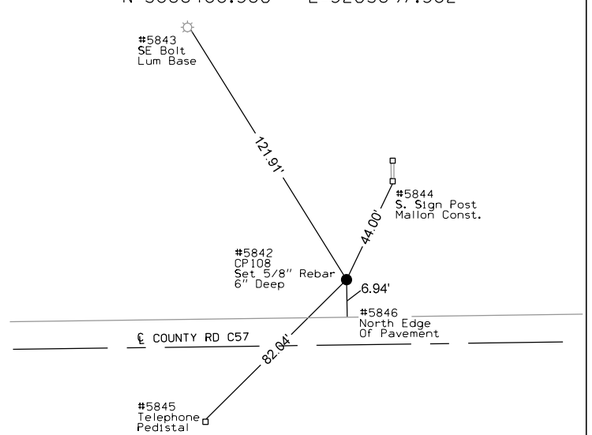
C.P. STA 145+61.06 RIGHT 0.00
C.P. 101, Fd Alignment PI
N=3688427.753 E=5202370.234



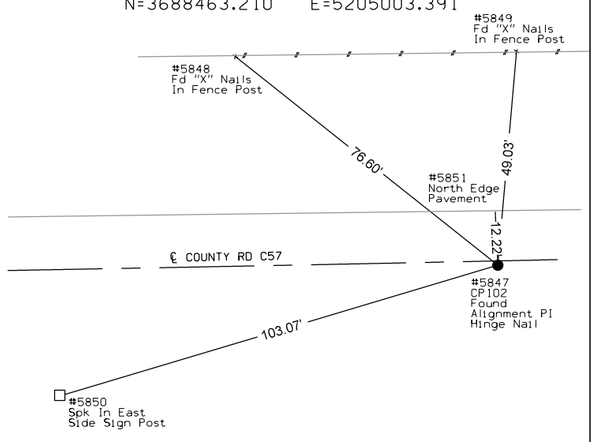
C.P. STA 152+11.55 RIGHT 18.55
C.P. 107, Set 5/8" Rebar 6" Deep
N=3688417.960 E=5203020.914



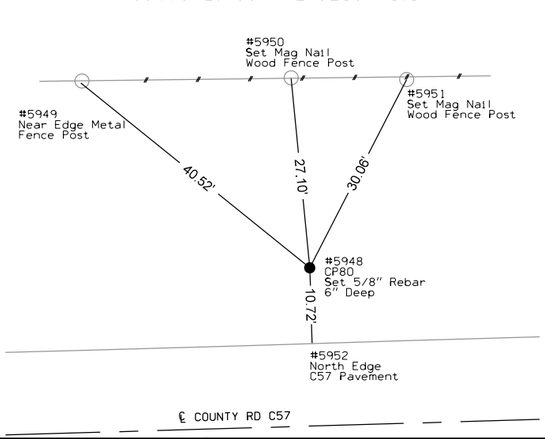
C.P. STA 160+88.77 LEFT 18.26
C.P. 108, Set 5/8" Rebar 6" Deep
N=3688466.580 E=5203897.562



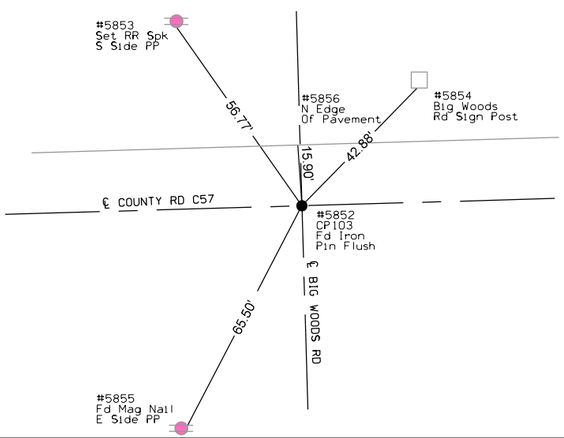
C.P. STA 171+94.45 RIGHT 0.98
C.P. 102, Fd Alignment PI
N=3688463.210 E=5205003.391



C.P. STA 191+62.62 LEFT 22.48
C.P. 80, Set 5/8" Rebar 6" Deep
N=3688542.955 E=5206970.077



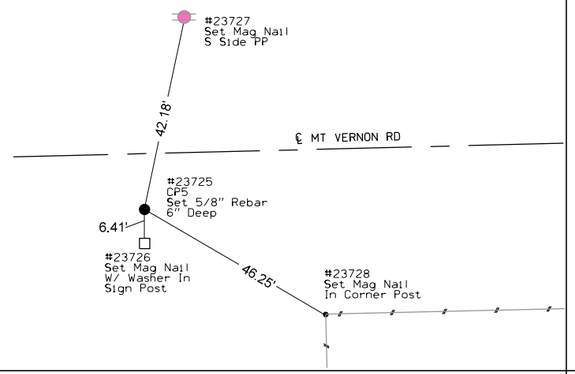
C.P. STA 198+15.89 RIGHT 0.00
C.P. 103, Fd Alignment PI
N=3688539.502 E=5207623.724



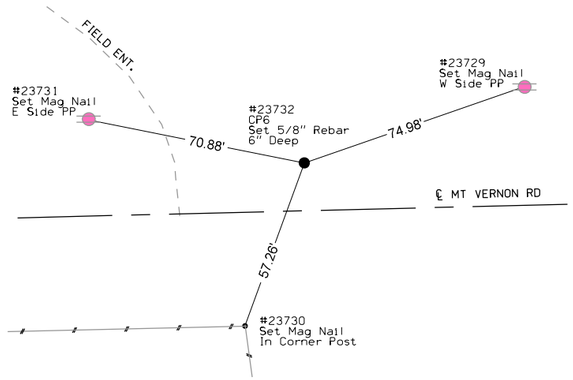
ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER G.4

7:56:46 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188G1.sht

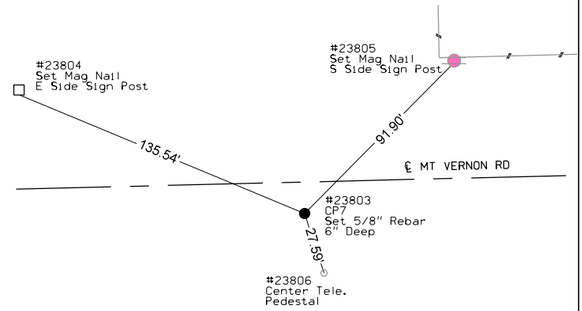
C.P. NO STATIONING
C.P. 5, Set 5/8" Rebar 6" Deep
N=3677944.4440 E=5207909.9420



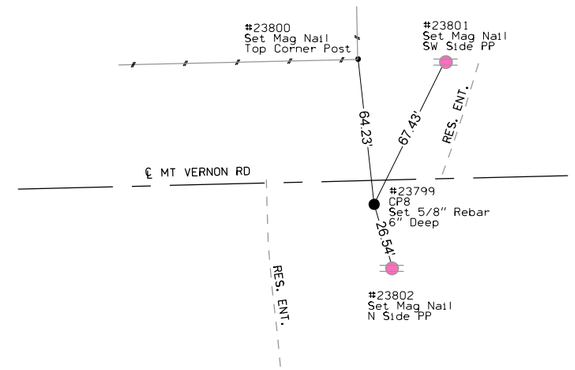
C.P. NO STATIONING
C.P. 6, Set 5/8" Rebar 6" Deep
N=3677979.4060 E=5208173.1560



C.P. NO STATIONING
C.P. 7, Set 5/8" Rebar 6" Deep
N=3677961.1530 E=5208594.6690



C.P. NO STATIONING
C.P. 8, Set 5/8" Rebar 6" Deep
N=3677969.4110 E=5208790.1220



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER G.5

7:57:14 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188G1.sht

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)
ML US 218																			
9998		485+16.52	3,677,572.83	5,208,445.55															
C2_1								490+78.14	3,678,128.14	5,208,361.57	499+86.07	3,679,025.86	5,208,225.79	508+91.77	3,679,900.54	5,207,982.36			
10004		12+96.13	3,688,771.61	5,205,513.44															
10001		99+78.52	3,697,136.09	5,203,185.50															
County Road C-57																			
30300		10569+00.00	3,688,432.84	5,202,718.76															
C57_10								10571+05.27	3,688,435.86	5,202,924.01	10573+84.65	3,688,439.97	5,203,203.36	10576+63.68	3,688,420.09	5,203,482.02			
C57_11								10576+63.68	3,688,420.09	5,203,482.02	10582+16.88	3,688,380.74	5,204,033.83	10587+68.74	3,688,408.30	5,204,586.35			
C57_12								10606+40.47	3,688,501.55	5,206,455.75	10608+47.95	3,688,511.89	5,206,662.97	10610+55.40	3,688,517.92	5,206,870.36			
30304		10613+51.82	3,688,526.54	5,207,166.64															
Ramp A																			
34000		1593+00.00	3,688,434.77	5,205,116.95															
RAMPA_1								1601+61.75	3,689,294.30	5,205,178.71	1603+56.64	3,689,488.69	5,205,192.67	1605+49.03	3,689,679.50	5,205,153.02			
34002		1606+40.73	3,689,769.28	5,205,134.36															
Ramp B																			
35000		2590+33.48	3,687,210.91	5,206,083.23															
RAMPB_1								2590+99.59	3,687,275.85	5,206,070.84	2593+18.44	3,687,490.81	5,206,029.80	2595+34.22	3,687,708.54	5,206,051.88			
35002		2603+15.00	3,688,485.34	5,206,130.69															
Ramp C																			
RAMPC_1								0+00.00	3,686,791.16	5,205,984.12	2+20.87	3,687,002.71	5,205,920.65	4+39.95	3,687,195.32	5,205,812.56			
36003		3593+00.00	3,688,434.77	5,205,116.95															
Ramp D																			
37000		4603+15.00	3,688,485.34	5,206,130.69															
RAMPD_1								4617+31.13	3,689,702.70	5,205,407.19	4618+44.43	3,689,800.10	5,205,349.30	4619+57.50	3,689,903.42	5,205,302.79			
RAMPD_2								4619+57.50	3,689,903.42	5,205,302.79	4620+78.17	3,690,013.45	5,205,253.25	4621+98.55	3,690,128.65	5,205,217.30			
W. Gresham Rd.																			
13000		13060+30.10	3,693,733.46	5,203,697.44															
13001		13069+00.22	3,693,752.67	5,204,567.35															
Bennington Rd.																			
12000		12538+73.65	3,683,228.30	5,206,565.63															
12001		12543+62.32	3,683,235.62	5,207,054.25															
12002		12549+85.75	3,683,244.85	5,207,677.61															
Mt. Vernon Rd.																			
11001		11482+64.68	3,677,952.39	5,207,722.06															
11003		11494+48.77	3,677,986.01	5,208,905.67															
Frontage Road																			
9000		100578+91.50	3,688,406.72	5,203,709.45															
ENT_10578-1								100579+36.95	3,688,452.17	5,203,709.05	100579+75.63	3,688,490.85	5,203,708.71	100579+98.44	3,688,492.49	5,203,747.35			
ENT_10578-2								100582+96.03	3,688,505.08	5,204,044.68	100583+49.60	3,688,507.35	5,204,098.20	100584+03.07	3,688,515.32	5,204,151.17			
9001		100590+05.81	3,688,605.01	5,204,747.21															
Chord Definition																			
CN Railroad																			
400		15549+00.00	3,684,707.19	5,206,452.96															
CNTRK-70-1B					15550+48.36	3,684,850.11	5,206,413.15				15550+95.03	3,684,895.06	5,206,400.62				15551+18.36	3,684,917.50	5,206,394.22
CNTRK-70-1								15551+18.36	3,684,917.50	5,206,394.22	15559+26.26	3,685,694.43	5,206,172.65	15567+23.56	3,686,379.79	5,205,744.90			
CNTRK-70-1A					15567+23.56	3,686,379.79	5,205,744.90				15567+46.89	3,686,399.59	5,205,732.54				15567+93.56	3,686,439.02	5,205,707.59
CNTRK-70-2B					15571+01.33	3,686,699.12	5,205,543.05				15571+48.00	3,686,738.55	5,205,518.10				15571+71.33	3,686,758.35	5,205,505.74
CNTRK-70-2								15571+71.33	3,686,758.35	5,205,505.74	15579+64.54	3,687,431.25	5,205,085.76	15587+47.71	3,688,192.95	5,204,864.39			
CNTRK-70-2A					15587+47.71	3,688,192.95	5,204,864.39				15587+71.04	3,688,215.35	5,204,857.88				15588+17.71	3,688,260.24	5,204,845.13
CNTRK-70-3B					15591+47.70	3,688,577.68	5,204,754.97				15591+94.37	3,688,622.57	5,204,742.22				15592+17.70	3,688,645.05	5,204,735.98
CNTRK-70-3								15592+17.70	3,688,645.05	5,204,735.98	15600+42.03	3,689,439.38	5,204,515.61	15608+55.10	3,690,263.61	5,204,528.10			
CNTRK-70-3A					15608+55.10	3,690,263.61	5,204,528.10				15608+78.43	3,690,286.94	5,204,528.46				15609+25.10	3,690,333.60	5,204,529.45
CNTRK-70-4B					15612+36.51	3,690,644.94	5,204,536.07				15612+83.17	3,690,691.59	5,204,537.06				15613+06.51	3,690,714.92	5,204,537.42
CNTRK-70-4								15613+06.51	3,690,714.92	5,204,537.42	15621+15.56	3,691,523.88	5,204,549.68	15629+13.97	3,692,304.61	5,204,337.47			
CNTRK-70-4A					15629+13.97	3,692,304.61	5,204,337.47				15629+37.30	3,692,327.13	5,204,331.35				15629+83.97	3,692,372.09	5,204,318.83
405		15630+83.97	3,692,468.42	5,204,292.01															

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)
RETURNS																			
C57A_RET_1																			
C57A_RET_1-1								10+00.00	3,688,459.45	5,205,170.09	10+15.01	3,688,458.70	5,205,155.10	10+27.03	3,688,471.58	5,205,147.39			
C57A_RET_1-2								10+27.03	3,688,471.58	5,205,147.39	10+39.25	3,688,482.06	5,205,141.12	10+51.13	3,688,494.16	5,205,139.44			
C57A_RET_1-3								10+51.13	3,688,494.16	5,205,139.44	10+61.64	3,688,504.56	5,205,138.00	10+72.07	3,688,515.05	5,205,138.76			
C57A_RET_2																			
C57A_RET_2-1								20+00.00	3,688,548.89	5,205,125.15	20+20.40	3,688,528.54	5,205,123.68	20+40.35	3,688,510.06	5,205,115.02			
C57A_RET_2-2								20+40.35	3,688,510.06	5,205,115.02	20+77.39	3,688,476.52	5,205,099.29	21+09.73	3,688,466.82	5,205,063.54			
C57A_RET_2-3								21+09.73	3,688,466.82	5,205,063.54	21+69.12	3,688,451.27	5,205,006.23	22+28.05	3,688,448.31	5,204,946.91			
C57B_RET_3																			
C57B_RET_3-1								30+00.00	3,688,460.57	5,206,075.78	30+15.38	3,688,461.34	5,206,091.14	30+27.58	3,688,447.96	5,206,098.75			
C57B_RET_3-2								30+27.58	3,688,447.96	5,206,098.75	30+39.97	3,688,437.20	5,206,104.88	30+52.02	3,688,424.88	5,206,106.24			
C57B_RET_3-3								30+52.02	3,688,424.88	5,206,106.24	30+62.62	3,688,414.35	5,206,107.40	30+73.14	3,688,403.80	5,206,106.33			
C57B_RET_4																			
C57B_RET_4-1								40+00.00	3,688,371.90	5,206,119.18	40+15.32	3,688,387.14	5,206,120.72	40+30.49	3,688,401.56	5,206,125.91			
C57B_RET_4-2								40+30.49	3,688,401.56	5,206,125.91	40+72.39	3,688,441.18	5,206,139.53	41+07.68	3,688,452.54	5,206,179.86			
C57B_RET_4-3								41+07.68	3,688,452.54	5,206,179.86	41+66.92	3,688,468.61	5,206,236.89	42+25.67	3,688,471.56	5,206,296.06			
C57C_RET_3																			
C57C_RET_3-1								30+00.00	3,688,409.65	5,205,054.94	30+49.55	3,688,412.12	5,205,104.43	30+92.59	3,688,375.49	5,205,137.80			
C57C_RET_3-2								30+92.59	3,688,375.49	5,205,137.80	31+21.61	3,688,354.03	5,205,157.34	31+50.51	3,688,329.65	5,205,173.08			
C57C_RET_3-3								31+50.51	3,688,329.65	5,205,173.08	31+90.77	3,688,295.82	5,205,194.93	32+31.01	3,688,260.71	5,205,214.63			
C57C_RET_4																			
C57C_RET_4-1								40+00.00	3,688,234.81	5,205,247.52	40+56.73	3,688,284.28	5,205,219.75	41+13.39	3,688,335.99	5,205,196.40			
C57C_RET_4-2								41+13.39	3,688,335.99	5,205,196.40	41+41.77	3,688,361.85	5,205,184.72	41+69.60	3,688,390.13	5,205,182.35			
C57C_RET_4-3								41+69.60	3,688,390.13	5,205,182.35	41+95.46	3,688,415.90	5,205,180.19	42+09.71	3,688,417.18	5,205,206.02			
C57D_RET_1																			
C57D_RET_1-1								10+00.00	3,688,510.45	5,206,192.55	10+51.17	3,688,507.90	5,206,141.45	10+95.78	3,688,545.34	5,206,106.58			
C57D_RET_1-2								10+95.78	3,688,545.34	5,206,106.58	11+21.63	3,688,564.25	5,206,088.96	11+47.37	3,688,585.54	5,206,074.32			
C57D_RET_1-3								11+47.37	3,688,585.54	5,206,074.32	11+88.80	3,688,619.67	5,206,050.85	12+30.19	3,688,655.28	5,206,029.69			
C57D_RET_2																			
C57D_RET_2-1								20+00.00	3,688,678.58	5,205,997.23	20+46.82	3,688,638.33	5,206,021.15	20+93.61	3,688,596.40	5,206,041.99			
C57D_RET_2-2								20+93.61	3,688,596.40	5,206,041.99	21+17.11	3,688,575.35	5,206,052.45	21+40.47	3,688,552.72	5,206,058.81			
C57D_RET_2-3								21+40.47	3,688,552.72	5,206,058.81	21+90.61	3,688,504.45	5,206,072.37	22+12.27	3,688,501.96	5,206,022.29			
C57 TAPERS																			
C57_LT_TPR-1								10582+20.00	3,688,411.44	5,204,037.94	10584+59.62	3,688,412.98	5,204,277.55	10586+99.12	3,688,427.12	5,204,516.75			
C57_RT_TPR-1								10582+20.00	3,688,383.45	5,204,037.65	10584+60.56	3,688,376.98	5,204,278.13	10587+01.01	3,688,383.16	5,204,518.61			

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER G.7

7:57:55 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188G1.sht

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	
ML US 218																
C2_1											6° 57′ 08.05″ LT	907.93′	1,813.63′	14,946.73′	27.55′	
County Road C-57																
C57_10											4° 55′ 19.93″ RT	279.37′	558.41′	6,500.00′	6.00′	
C57_11											6° 56′ 05.50″ LT	553.21′	1,105.06′	9,130.00′	16.74′	
C57_12											1° 11′ 19.30″ RT	207.47′	414.93′	20,000.00′	1.08′	
Frontage Road																
ENT_10578-1											88° 04′ 28.38″ RT	38.68′	61.49′	40.00′	15.64′	
ENT_10578-2											6° 07′ 57.93″ LT	53.57′	107.04′	1,000.00′	1.43′	
Ramp A																
RAMPA_1											15° 50′ 58.88″ LT	194.88′	387.28′	1,400.00′	13.50′	
Ramp B																
RAMPB_1											16° 36′ 05.77″ RT	218.85′	434.63′	1,500.00′	15.88′	
Ramp C																
RAMPC_1											12° 36′ 13.56″ LT	220.87′	439.95′	2,000.00′	12.16′	
Ramp D																
RAMPD_1											6° 29′ 06.39″ RT	113.31′	226.37′	2,000.00′	3.21′	
RAMPD_2											6° 54′ 20.33″ RT	120.67′	241.05′	2,000.00′	3.64′	
RETURNS																
C57A_RET_1																
C57A_RET_1-1											61° 57′ 22.10″ RT	15.01′	27.03′	25.00′	4.16′	
C57A_RET_1-2											23° 00′ 42.23″ RT	12.21′	24.10′	60.00′	1.23′	
C57A_RET_1-3											11° 59′ 51.18″ RT	10.51′	20.94′	100.00′	0.55′	
C57A_RET_2																
C57A_RET_2-1											21° 01′ 03.77″ RT	20.40′	40.35′	110.00′	1.88′	
C57A_RET_2-2											49° 41′ 30.58″ RT	37.04′	69.38′	80.00′	8.16′	
C57A_RET_2-3											12° 19′ 30.14″ RT	59.39′	118.31′	550.00′	3.20′	
C57B_RET_3																
C57B_RET_3-1											63° 12′ 53.54″ RT	15.38′	27.58′	25.00′	4.35′	
C57B_RET_3-2											23° 20′ 01.41″ RT	12.39′	24.44′	60.00′	1.27′	
C57B_RET_3-3											12° 05′ 58.87″ RT	10.60′	21.12′	100.00′	0.56′	
C57B_RET_4																
C57B_RET_4-1											13° 58′ 26.48″ RT	15.32′	30.49′	125.00′	0.94′	
C57B_RET_4-2											55° 17′ 10.57″ RT	41.90′	77.19′	80.00′	10.31′	
C57B_RET_4-3											12° 52′ 34.48″ RT	59.24′	117.98′	525.00′	3.33′	
C57C_RET_3																
C57C_RET_3-1											50° 31′ 27.51″ RT	49.55′	92.59′	105.00′	11.10′	
C57C_RET_3-2											9° 28′ 51.16″ RT	29.02′	57.92′	350.00′	1.20′	
C57C_RET_3-3											3° 32′ 53.62″ RT	40.27′	80.51′	1,300.00′	0.62′	
C57C_RET_4																
C57C_RET_4-1											4° 59′ 51.15″ RT	56.73′	113.39′	1,300.00′	1.24′	
C57C_RET_4-2											19° 31′ 04.55″ RT	28.38′	56.21′	165.00′	2.42′	
C57C_RET_4-3											91° 55′ 52.01″ RT	25.86′	40.11′	25.00′	10.97′	
C57D_RET_1																
C57D_RET_1-1											49° 53′ 26.39″ RT	51.17′	95.78′	110.00′	11.32′	
C57D_RET_1-2											8° 26′ 43.89″ RT	25.84′	51.59′	350.00′	0.95′	
C57D_RET_1-3											3° 47′ 45.09″ RT	41.42′	82.81′	1,250.00′	0.69′	
C57D_RET_2																
C57D_RET_2-1											4° 17′ 26.05″ RT	46.82′	93.61′	1,250.00′	0.88′	
C57D_RET_2-2											10° 44′ 29.92″ RT	23.50′	46.87′	250.00′	1.10′	
C57D_RET_2-3											102° 50′ 08.66″ RT	50.14′	71.79′	40.00′	24.14′	
C57 TAPERS																
C57_LT_TPR-1											3° 00′ 47.18″ LT	239.62′	479.12′	9,110.73′	3.15′	
C57_RT_TPR-1											3° 00′ 47.15″ LT	240.56′	481.01′	9,146.74′	3.16′	

ENGLISH | IOWA DOT | DESIGN TEAM HDR\Iowa DOT | BLACK HAWK COUNTY | PROJECT NUMBER NHSN-218-7(188)--2R-07 | SHEET NUMBER G.8

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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	
Chord Definitions															
CN Railroad															
CNTRK-70-1		16° 45′ 07.03″	0° 20′ 59.98″	70.00′	TS	0.04′	70.00′	0.14′	46.67′	23.33′	16° 03′ 07.06″ LT	807.90′	1,605.20′	5,729.65′	56.68′	
CNTRK-70-2		16° 27′ 49.67″	0° 20′ 59.98″	70.00′	TS	0.04′	70.00′	0.14′	46.67′	23.33′	15° 45′ 49.70″ RT	793.21′	1,576.38′	5,729.65′	54.65′	
CNTRK-70-3		17° 04′ 26.25″	0° 20′ 59.98″	70.00′	TS	0.04′	70.00′	0.14′	46.67′	23.33′	16° 22′ 26.28″ RT	824.33′	1,637.40′	5,729.65′	58.99′	
CNTRK-70-4		16° 46′ 28.55″	0° 20′ 59.98″	70.00′	TS	0.04′	70.00′	0.14′	46.67′	23.33′	16° 04′ 28.58″ LT	809.05′	1,607.46′	5,729.65′	56.84′	

ENGLISH | IOWA DOT | DESIGN TEAM HDR\Iowa DOT | BLACK HAWK COUNTY | PROJECT NUMBER NHSN-218-7(188)--2R-07 | SHEET NUMBER G.9

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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														
RAMP A	RAMPA_1	1400	6.0	186	62	PV-303	1600+93.55		1601+61.75	1602+17.55						1601+55.55	1601+55.55		
							1606+17.23		1605+49.03	1604+93.23						1605+55.23	1605+55.23		
RAMP B	RAMPB_1	1500	6.0	186	62	PV-303	2590+31.39		2590+99.59	2591+55.39						2590+93.39	2590+93.39		
							2596+02.42		2595+34.22	2594+78.42						2595+40.42	2595+40.42		
RAMP C	RAMPC_2	2000	5.4	168	62	PV-303			3577+18.74										
							3579+34.30		3578+78.70	3578+28.30						3578+71.86	3578+71.86		
RAMP D	RAMPD_1	2000	5.4	168	62	PV-303	4616+75.53		4617+31.13	4617+81.53						4617+37.97	4617+37.97		
									4619+57.50										

PARCEL CHECK BY PROJ UPDATED 05/08/13 14:09 PAGE: 1
AND: 2

R2360003 PARCEL CHECK LIST BY PROJECT NUMBER

COUNTY : BLACK HAWK PROJECT NO. :NHSN-218-7(189)--2R-07 PIN: 06-07-218010-00

CONSTRUCTION NO.:NHSN-218-7(188)--2R-07 ASSIGNED TO: SJD

DESCRIPTION : Cedar Falls to Waverly

PARCEL	KEY	OWNER	TYPE	R/W W.D OR EASE.	BORROW W.D OR EASE.	HOUSE OR OTHER	COMMERCIAL	OCC	ENVIRONMENTAL CONCERNS
0001	26574	BRADLEY W. BROWN	FEE						
0002	26575	GARY D. GRAZIER	FEE						
		JENNIFER M. GRAZIER	FEE						
0003	26576	STEVE S. CONRAD	FEE						
0003 A	26761	DON FIX	FEE						
		JOAN FIX	FEE						
0004	26577	BONNIE BROWN	FEE STATE OF IOWA						
		DONALD BROWN	FEE	0.77 EASE ACRE					
0005	26578	DEERY INVESTMENT INC.	FEE STATE OF IOWA						
				6.07 EASE ACRE					
				22.54 WD ACRE					
0005 R	26768	CEDAR RIVER RR CO.	FEE STATE OF IOWA						
				14.50 WD ACRE					
0006	26579	BLACK HAWK COUNTY CONSERVATION B	FEE STATE OF IOWA						
				12.96 WD ACRE					
0007	26580	ALLAN D. JOHNSON	FEE STATE OF IOWA						
		ROBIN R. JOHNSON	FEE	0.77 WD ACRE					
0008	26581	JAMES R. MCKINNEY	FEE STATE OF IOWA						
				1.26 WD ACRE					
0009	26582	JACK L. ANDERSON	FEE BLACK HAWK COUNTY						
				0.54 EASE ACRE					

R2360003 PARCEL CHECK LIST BY PROJECT NUMBER

COUNTY : BLACK HAWK PROJECT NO. :NHSN-218-7(189)--2R-07 PIN: 06-07-218010-00

CONSTRUCTION NO.:NHSN-218-7(188)--2R-07 ASSIGNED TO: SJD

DESCRIPTION : Cedar Falls to Waverly

PARCEL	KEY	OWNER	TYPE	R/W W.D OR EASE.	BORROW W.D OR EASE.	HOUSE OR OTHER	COMMERCIAL	OCC	ENVIRONMENTAL CONCERNS
0010	26583	POWER PAVERS INC	FEE	BLACK HAWK COUNTY					
				0.40 EASE ACRE					
0011	26584	RDS HOLDINGS LLC	FEE	BLACK HAWK COUNTY					
				0.41 EASE ACRE					
0012	26585	DARRELL D. SELLS	FEE	BLACK HAWK COUNTY					
0012	26585			0.22 EASE ACRE					
				STATE OF IOWA					
				0.06 WD ACRE					
0013	26586	CAROL A. MAST	FEE	BLACK HAWK COUNTY					
				0.18 EASE ACRE					
				STATE OF IOWA					
				2.81 EASE ACRE					
				21.40 WD ACRE					
0014	26769	BONNIE L. ROGERS	FEE	STATE OF IOWA					
				4.25 EASE ACRE					
				6.68 WD ACRE					
0015	26770	OSBORN FARMS, INC.	FEE						
0016	26771	CHARLES L. HESSE	FEE						

COUNTY of BLACK HAWK
1.75 EASEMENT ACRES

STATE OF IOWA
13.90 EASEMENT ACRES
80.17 WARRANTY DEED ACRES

R2360003 PARCEL CHECK LIST BY PROJECT NUMBER

COUNTY : BLACK HAWK PROJECT NO. :NHSN-218-7(189)--2R-07 PIN: 06-07-218010-00

CONSTRUCTION NO.:NHSN-218-7(188)--2R-07 ASSIGNED TO: SJD

DESCRIPTION : Cedar Falls to Waverly

PARCEL	KEY	OWNER	TYPE	R/W W.D OR EASE.	BORROW W.D OR EASE.	HOUSE OR OTHER	COMMERCIAL	OCC	ENVIRONMENTAL CONCERNS

18 TOTAL PARCELS ON PROJECT

4
DONALD & BONNIE BROWN

5
DEERY INVESTMENTS, INC

5R
CEDAR RIVER RAILROAD COMPANY

+75 Prop. Type "G" Dike Elev. = 880.55

5
DEERY INVESTMENTS, INC

+97 Field Entrance

ASHIGTON TWP. T-90N R-14W SEC. 13

CEDAR RIVER RR CO.

Sta. 574+15
Inlet 19.5 Lt.
24" X 76' Conc. Pipe
D.A. = Median Only
(U.A.C.)

571+90
℄235'±R

24" X 30' Cast Iron Pipe
(U.A.C.)

Sta. 574+15
Inlet 19.5 Lt.
24" X 76' Conc. Pipe
D.A. = Median Only

Sta. 581+39.82
Resume Shoulder Construction and Pavement Removal

Sta. 585+40
Inlet 6.7 Lt.
24" X 76' Conc. Pipe
D.A. = Median Only
(U.A.C.)

Sta. 585+40
Inlet 6.7 Lt.
24" X 76' Conc. Pipe
D.A. = Median Only

WASHIGTON TWP. T-90N R-14W SEC. 13

Sta. 596+14.00
Begin Shoulder Construction and Pavement Removal

RAMP C

Sta. 599+08.75
Stop Shoulder Construction and Pavement Removal

(Obliterate Railroad)

CEDAR RIVER RAILROAD

570 T3 575 T3 580 T3 585 T3 590 T3 595 T3 600

+49 Field Entrance

RR Service Entrance

(U.A.C.)

218

(U.A.C.)

Sta. 573+78
54" X 199' Conc. Pipe
D.A. = 200 Ac. F.

Sta. 573+89
Dike
575+78±R
℄151' (Corner)

Sta. 585+6
24" X 204' Conc. Pipe
D.A. = 6 Ac. F.

Sta. 586+78.41
Begin Shoulder Construction and Pavement Removal

POT STA 597+75.39 (ML218)
POT STA 10597+84.13 (SRC57)

Sta. 599+57.63
Stop Shoulder Construction and Pavement Removal

RAMP B

+68 Field Entrance

COUNTY ROAD 57

RAMP D

US 218

Sta. 586+81.93
Begin Shoulder Construction and Pavement Removal

Sta. 585+6
24" X 204' Conc. Pipe
D.A. = 6 Ac. F.
Remove Outlet Apron
Extend From Outlet
With 24" x 40' RF-1
F.L. = Lt. 877.43
Rt. 877.43

POND

Sta. 595+97.7
8" X 353' CMP
(ABANDON)

0 FEET 100

Sta. 573+78
54" X 199' Conc. Pipe
D.A. = 200 Ac. F.
(U.A.C.)

Sta. 573+89
Dike

BLACK HAWK CO CONSERVATION

6

7
ALLAN D. & ROBIN R. JOHNSON

7
ALLAN D. & ROBIN R. JOHNSON

Field Entrance

15" x 36' CMP

15" x 23' Conc. Pipe

+6 Field Entrance

597+60
℄580'

For Mainline Details Refer to Sheet No. D.4

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdel/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 5/7/13
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER H.1

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13
CAROL A. MAST

14
BONNIE L. ROGERS

5R
CEDAR RIVER
RAILROAD COMPANY

13
CAROL A. MAST

WASHIGTON TWP.
T-90N R-14W
SEC. 12

Sta. 19+03
Inlet 87.2 Lt.
Sta. 19+2
24" X 86' Conc. Pipe
D.A. = 4 Ac. F.
(U.A.C.)

WASHIGTON TWP.
T-90N R-14W
SEC. 12

CEDAR RIVER RR CO.

14
BONNIE L. ROGERS

24" X 30' Conc. Pipe
(U.A.C.)

Sta. 98+01
Inlet 19.0 Lt.
24" X 70' Conc. Pipe
D.A. = Median Only
(U.A.C.)

Sta. 41+01
Inlet 18.4 Lt.
24" X 68' Conc. Pipe
D.A. = Median Only
(U.A.C.)

RAMP A

Sta. 20+56.84 R 2
Stop Shoulder Construction
and Pavement Removal

600 15 20 (Obliterate Railroad) 25 30 35 40

T3 T3 T3

(U.A.C.)

(U.A.C.)

Equation:
Sta. 601+00.00 BK =
=Sta. 12+96.13 AH

23+20±R
℄185'

Sta. 23+80.43 R 2
Stop Shoulder Construction
and Pavement Removal

26+30
℄140'

8
JAMES R. MC KINNEY

37+10±R
℄120'

CHARLES L. & LISA HESSE

Sta. 40+2
24" X 174' Conc. Pipe
D.A. = 28 Ac. F.
(U.A.C.)

RAMP D

15+25
℄415'±PropR/W

15+40
℄490'

13+75
℄459'±PropR/W

Sta. 19+01
Inlet 25.8 Rt.
24" X 86' Conc. Pipe
D.A. = 4 Plus Median Ac. F.
(U.A.C.)

0 100
FEET

US 218

13 CAROL A. MAST

For Mainline Details
Refer to Sheet No. D.5

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdel/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 5/7/13
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSN-218-7(188)--2R-07	SHEET NUMBER H.2

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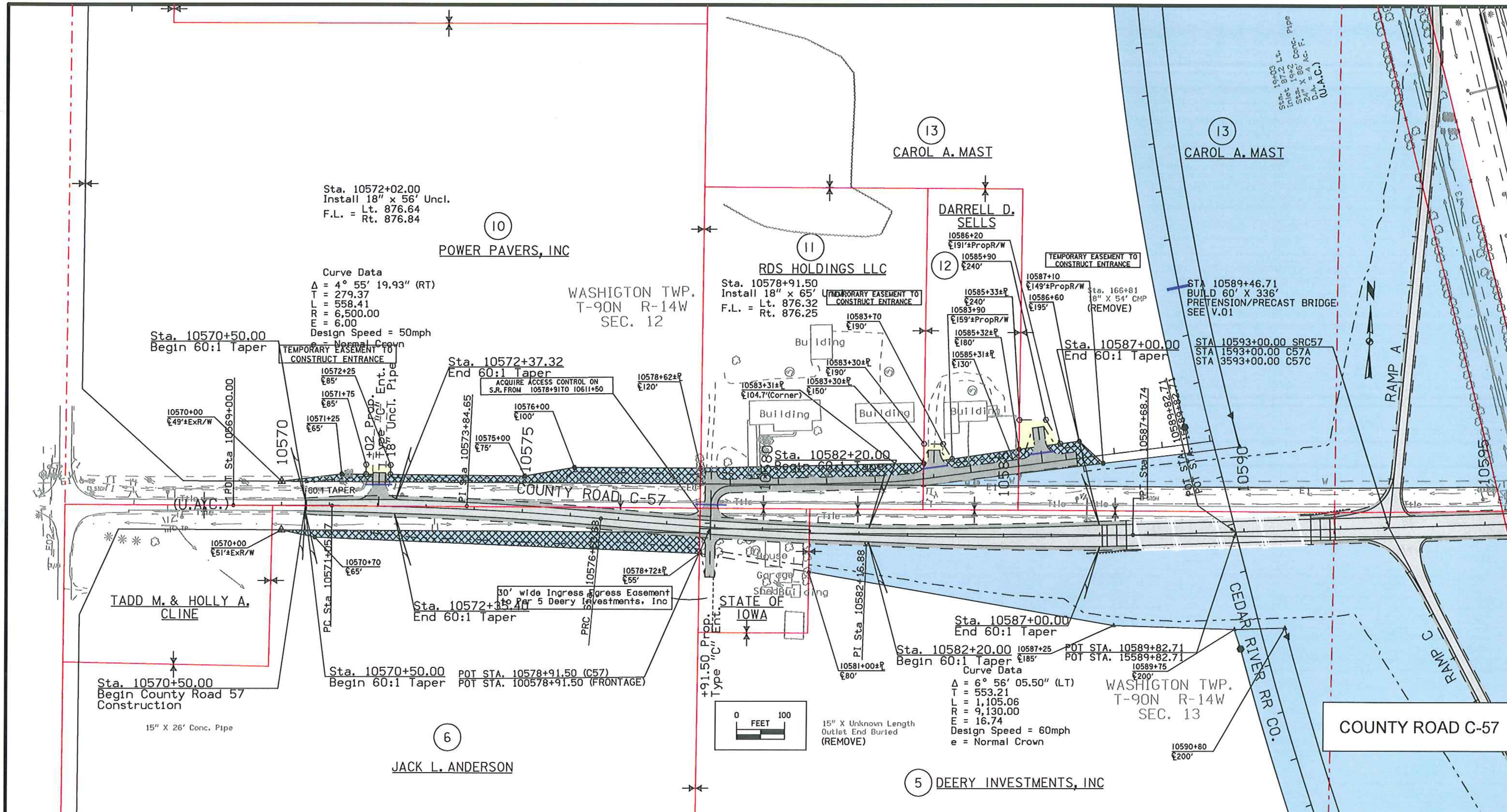

13
CAROL A. MAST
13
CAROL A. MAST
Sta. 10572+02.00
Install 18" x 56' Uncl.
F.L. = Lt. 876.64
Rt. 876.84
10
POWER PAVERS, INC
11
RDS HOLDINGS LLC
12
DARRELL D. SELLS
Curve Data
Δ = 4° 55' 19.93" (RT)
T = 279.37
L = 558.41
R = 6,500.00
E = 6.00
Design Speed = 50mph
e = Normal Crown
WASHIGTON TWP.
T-90N R-14W
SEC. 12
Sta. 10578+91.50
Install 18" x 65' Uncl.
F.L. = Lt. 876.32
Rt. 876.25
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE
Sta. 10570+50.00
Begin 60:1 Taper
Sta. 10572+37.32
End 60:1 Taper
ACQUIRE ACCESS CONTROL ON S.R. FROM 10578+91TO 10611+50
Sta. 10587+00.00
End 60:1 Taper
STA 10589+46.71
BUILD 60' X 336'
PRETENSION/PRECAST BRIDGE
SEE V.01
STA 10593+00.00 SRC57
STA 1593+00.00 C57A
STA 3593+00.00 C57C
Sta. 10582+20.00
Begin 60:1 Taper
COUNTY ROAD C-57
(U.A.C.)
Building
House
Garage
Shed
RAMP A
RAMP C
CEDAR RIVER RR CO.
TADD M. & HOLLY A. CLINE
Sta. 10570+50.00
Begin County Road 57 Construction
15" X 26' Conc. Pipe
Sta. 10570+50.00
Begin 60:1 Taper
Sta. 10572+35.40
End 60:1 Taper
30' wide Ingress Egress Easement to Par 5 Deery Investments, Inc
POT STA. 10578+91.50 (C57)
POT STA. 100578+91.50 (FRONTAGE)
STATE OF IOWA
6
JACK L. ANDERSON
0 FEET 100
15" X Unknown Length Outlet End Buried (REMOVE)
Sta. 10587+00.00
End 60:1 Taper
POT STA. 10589+82.71
POT STA. 15589+82.71
Curve Data
Δ = 6° 56' 05.50" (LT)
T = 553.21
L = 1,105.06
R = 9,130.00
E = 16.74
Design Speed = 60mph
e = Normal Crown
WASHIGTON TWP.
T-90N R-14W
SEC. 13
5 DEERY INVESTMENTS, INC
COUNTY ROAD C-57

For Side Road Details
Refer to Sheet No. E.1

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdel/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 5/7/13
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER HE.1

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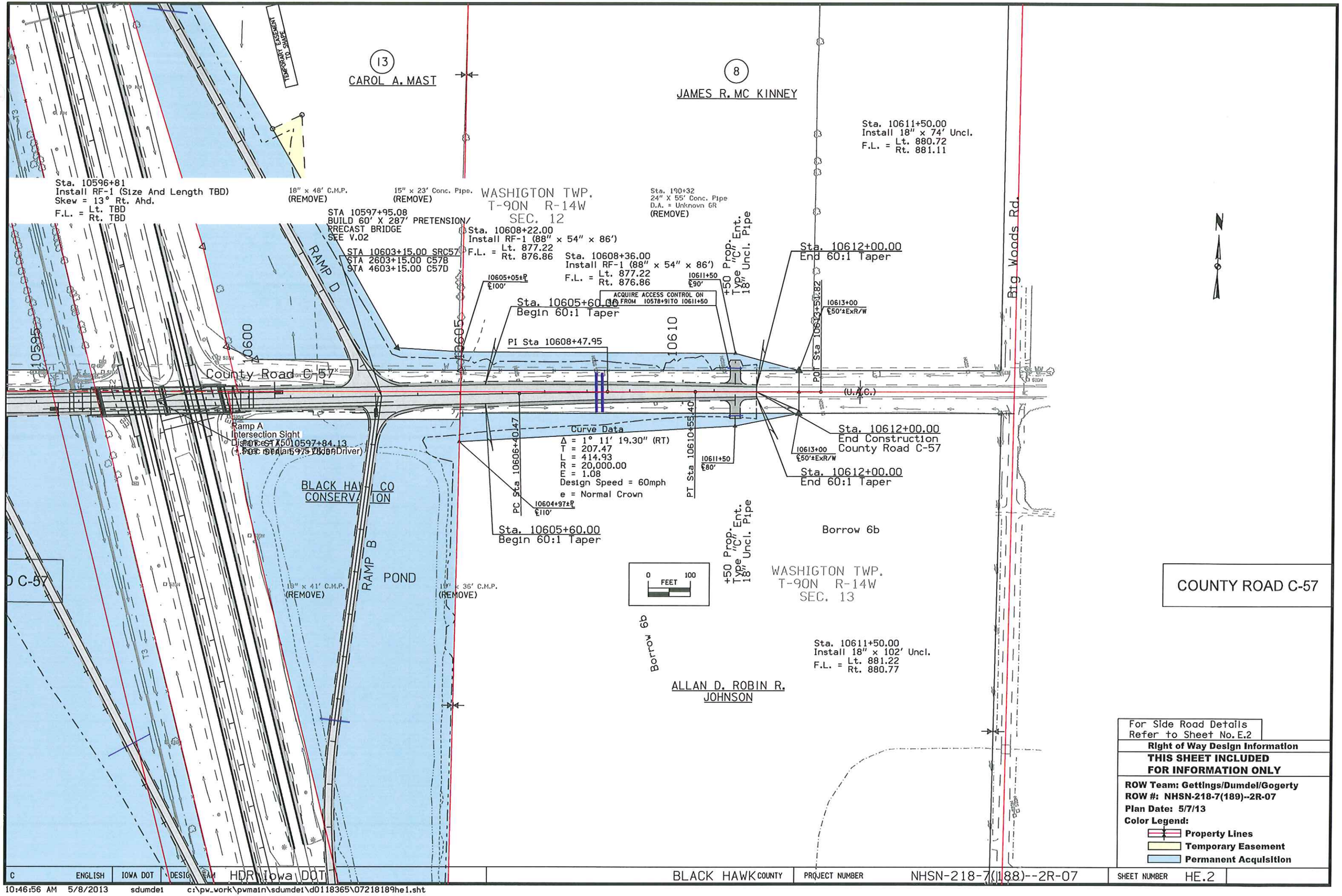
13
CAROL A. MAST
8
JAMES R. MC KINNEY
TEMPORARY EASEMENT TO SHARE
Sta. 10596+81
Install RF-1 (Size And Length TBD)
Skew = 13° Rt. Ahd.
F.L. = Lt. TBD
Rt. TBD
18" x 48' C.M.P.
(REMOVE)
15" x 23' Conc. Pipe
(REMOVE)
WASHIGTON TWP.
T-90N R-14W
SEC. 12
Sta. 190+32
24" X 55' Conc. Pipe
D.A. = Unknown GR
(REMOVE)
STA 10597+95.08
BUILD 60' X 287' PRETENSION/
PRECAST BRIDGE
SEE V.02
STA 10603+15.00 SRC57
STA 2603+15.00 C57B
STA 4603+15.00 C57D
Sta. 10608+22.00
Install RF-1 (88" x 54" x 86')
F.L. = Lt. 877.22
Rt. 876.86
Sta. 10608+36.00
Install RF-1 (88" x 54" x 86')
F.L. = Lt. 877.22
Rt. 876.86
+50 Prop. Ent. Type "C" 18" Uncl. Pipe
Sta. 10611+50.00
Install 18" x 74' Uncl.
F.L. = Lt. 880.72
Rt. 881.11
Sta. 10612+00.00
End 60:1 Taper
RAMP D
10595
10600
10605
10610
10605+05±℄ 100'
10611+50 ℄90'
ACQUIRE ACCESS CONTROL ON
AND FROM 10578+91TO 10611+50
Sta. 10605+60.00
Begin 60:1 Taper
10613+00 ℄50'±ExR/W
PI Sta 10608+47.95
POT Sta 10612+50.82
(U.A.C.)
County Road C-57
Ramp A
Intersection Sight
Distance STA10597+84.13
(1,500' Dataair 575 Vision Driver)
Curve Data
Δ = 1° 11' 19.30" (RT)
T = 207.47
L = 414.93
R = 20,000.00
E = 1.08
Design Speed = 60mph
e = Normal Crown
PC Sta 10606+40.47
PT Sta 10610+55.40
10611+50 ℄80'
Sta. 10612+00.00
End Construction
County Road C-57
10613+00 ℄50'±ExR/W
Sta. 10612+00.00
End 60:1 Taper
Btg Woods Rd.
BLACK HAWK CO CONSERVATION
RAMP B
POND
10604+97±℄ 110'
Sta. 10605+60.00
Begin 60:1 Taper
+50 Prop. Ent. Type "C" 18" Uncl. Pipe
Borrow 6b
0 FEET 100
WASHIGTON TWP.
T-90N R-14W
SEC. 13
Borrow 6b
Sta. 10611+50.00
Install 18" x 102' Uncl.
F.L. = Lt. 881.22
Rt. 880.77
ALLAN D. ROBIN R. JOHNSON
18" x 41' C.M.P.
(REMOVE)
18" x 36' C.M.P.
(REMOVE)
COUNTY ROAD C-57
For Side Road Details
Refer to Sheet No. E.2
Right of Way Design Information
THIS SHEET INCLUDED
FOR INFORMATION ONLY
ROW Team: Gettings/Dumdei/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 5/7/13
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition
C
ENGLISH
IOWA DOT
DESIGN AM
HDR Iowa DOT
BLACK HAWK COUNTY
PROJECT NUMBER
NHSN-218-7(188)--2R-07
SHEET NUMBER HE.2
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2

GARY D. & JENNIFER M.
GRAZIER

WASHIGTON TWP.
T-90N R-14W
SEC. 24

11485+55
℄90'

Sta. 11486+92.00
Install SI-181

11486+70
℄90'

+10 Prop. Ent. Type I
18" Uncl. Pipe

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

11485

CN Railroad

US 218

11490

TIMOTHY J. & SHEILA M.
COMBS

Sta. 11492+89.26
Install 18" x 49' Uncl.
F.L. = Lt. 868.10
Rt. 867.90

Sta. 11491+97.00
Install SI-181

WASHIGTON TWP.
T-90N R-14W
SEC. 19

Barns & Sheds

Building

MT. VERNON RD.

(Obliterate)

(U.A.C.)

(Obliterate)

(U.A.C.)

BIG WOODS RD.

Remove Railroad Crossing
(By Others)

MARC R. SCHWEER
& RONALD SCHWEER

House

Garage

Building

WASHIGTON TWP.
T-90N R-14W
SEC. 25

Sta. 11486+09.96
Construct Hammerhead Turn Around
See U.1

11492+50
℄33'±ExR/W

11493+25
℄33'±ExR/W

11493+15
℄80'

+89 Prop. Ent. Type I
18" Uncl. Pipe

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

House

Building

11492+65
℄80'

0 FEET 50

WASHIGTON TWP.
T-90N R-14W
SEC. 30

Sta. 11492+89.26
Construct Hammerhead Turn Around
See U.1

W. MT. VERNON ROAD

1

BRADLEY
BROWN

For Side Road Details
Refer to Sheet No. E.3

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdei/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 5/7/13
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER HE.3

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Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdel/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 5/6/13
Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

For Side Road Details Refer to Sheet No. E.4

WASHIGTON TWP.
T-90N R-14W
SEC. 13

DANNY J. MOULDS

24" X 48' CMP
24" X 28' Cont. Pipe
(REMOVE)

24" X [illegible]' CMP
(REMOVE)

Sta. 12540+35.00
Install SI-181

12540

POT Sta 12538+73.75

Remove Railroad Crossing
(By Others)

(Obliterate)

POT Sta 12538+73.75

+53 Prop. End "C" Type 18" Uncl. Pipe

12539+34±℄
℄90'

12539+24±℄
℄90'

WASHIGTON TWP.
T-90N R-14W
SEC. 24

Sta. 12539+52.88
Construct Hammerhead Turn
Around See U.1

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

DENNIS H. & JEANETTE GIBBS

CHRISTOPHER CONRAD

3
STEVE S. CONRAD

CN Railroad
(U.A.C.)

US 218
(U.A.C.)

GLORIA A. DAYTON

WASHIGTON TWP.
T-90N R-14W
SEC. 18

Building

Building

12545

Sta. 12546+40.00
Install SI-181

POT Sta 12549+85.85

W. Bennington Rd

(Obliterate)

STA 543+62.32 ML218
STA 12543+62.32 BENNINGTON

+22 Prop. End "C" Type 18" Uncl. Pipe

12546+65
℄85'

12547+75
℄85'

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

WASHIGTON TWP.
T-90N R-14W
SEC. 19

8' X 4' X 47.35' Octagon Culvert
(REMOVE)

0 FEET 50

Sta. 12547+21.76
Construct Hammerhead Turn
Around See U.1

3A
DON & JOAN FIX

Leverseee Rd.

W. BENNINGTON ROAD

N

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSN-218-7(188)--2R-07	SHEET NUMBER HE.4

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Sta. 13061+96
Install 18" x 45' Uncl.
F.L. = Lt. 880.15
Rt. 880.02

Sta. 13066+68
24" X 31' CMP
REMOVE
Install 24" x 39' Uncl.
F.L. = Lt. 883.11
Rt. 882.92

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

Sta 13065+87.34
Install SI-181

WASHIGTON TWP.
T-90N R-14W
SEC. 1

Remove Railroad Crossing
(By Others)

CHARLES L. HESSE (16)

13060+35
℄80'

13061+15
℄80'

+80 Prop. Type "C" Ent. 18" Uncl. Pipe

PDT Sta 13060+30.10

CN RAILROAD

13065

(Obliterate)

13066+25
℄85'

13067+15
℄85'

+69 Prop. Type "C" Ent. 24" Uncl. Pipe

PDT Sta 13069+00.22

(15)
OSBORN FARMS, INC

W. GRESHAM ROAD

(Obliterate)

US 218

STA. 64+62.60 ML 218
STA. 13064+62.60 WGRESHAM

Building

House
Garage
Shed
Shed

MICHAEL P. APLING

WASHIGTON TWP.
T-90N R-14W
SEC. 12

MATTHEW S. CHRISTOPHER

Sta. 13060+79.78
Construct Hammerhead Turn
Around See U.1

Sta 13062+15.50
Locked Gate for
Railroad Access

(U.A.C.)

(U.A.C.)

(U.A.C.)

0 FEET 50

BONNIE ROGERS (FEE)
MATTHEW CHRISTOPHER (CP)

Sta. 13066+69.34
Construct Hammerhead Turn
Around See U.1

W. GRESHAM ROAD

(14)
BONNIE L. ROGERS

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

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdel/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 5/7/13
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

SECTION 7 CENTER

Curve Data
Δ = 16° 45' 07.03" (LT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,605.20
Ls = 70.00
Design Speed = 49 MPH
Elevation = 1/2"

Sta. 15561+63.80
24" X 30' CIP
(REMOVE)

WASHIGTON TWP.
T-90N R-14W
SEC. 13

Curve Data
Δ = 16° 27' 49.67" (RT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,576.38
Ls = 70.00
Design Speed = 49 MPH
Elevation = 1/2"

4
DONALD & BONNIE BROWN

5
DEERY INVESTMENTS, INC

Sta. 15554+80.79 (13.5' Clear Point)
Stop Track Construction by Cedar River RR Co.
Begin Track Construction by Iowa DOT

15550
TS Sta 15550+48.36
SC Sta 15551+18.36
15555
15560
15565
15570
15575
PI Sta 15579+64.54

15551+16±P ℄50'(RR)
15551+16±P ℄50'(RR)
15561+55±P ℄50'(RR)

5R
CEDAR RIVER RAILROAD COMPANY

CS 15567+23.56 ℄50'(RR)
ST 15567+93.56 ℄50'(RR)
SC 15571+71.33 ℄50'(RR)
TS 15571+01.33 ℄50'(RR)

CS Sta 15567+23.56
ST Sta 15567+93.56
TS Sta 15571+01.33
SC Sta 15571+71.33

CEDAR RIVER RR CO.

(U.A.C.)
US 218
(U.A.C.)
(U.A.C.)
PI Sta 15559+26.26

(Obliterate Railroad)

T3

0 100 FEET

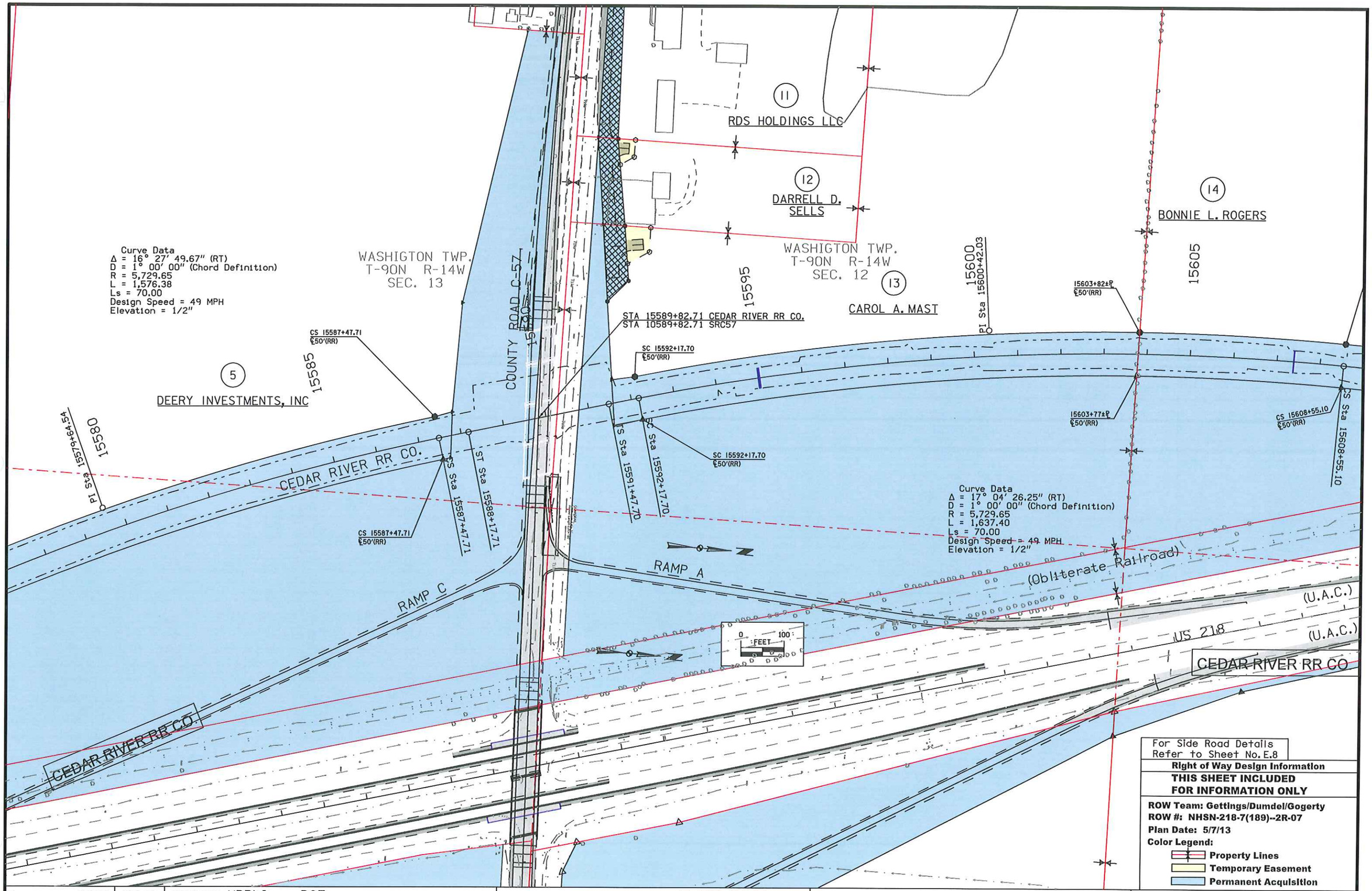
Sta. 15550+48.36
Begin Track Construction
on Wood Ties
Install Compromise Rail
100 LB to 115 LB RE
(By Cedar River RR Co.)

7
ALLAN D. & ROBIN R. JOHNSON

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

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdel/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 5/7/13
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**



C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSN-218-7(188)--2R-07	SHEET NUMBER HE.7

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OGERS

14
BONNIE L. ROGERS

CS 15608+55.10
℄50'(RR)

15610

ST 15609+25.10
℄50'(RR)

TS 15612+36.51
℄50'(RR)

Ts Sta 15612+36.51

SC Sta 15613+06.51

SC 15613+06.51
℄50'(RR)

15615

CEDAR RIVER RR CO.

CS 15608+55.10
℄50'(RR)

Cs Sta 15608+55.10

Sta 15609+25.10

ST 15609+25.10
℄50'(RR)

TS 15612+36.51
℄50'(RR)

SC 15613+06.51
℄50'(RR)

15618+81±℄
℄50'(RR)

15620

WASHIGTON TWP.
T-90N R-14W
SEC. 12

Curve Data
Δ = 16° 46' 28.55" (LT)
D = 1° 00' 00" (Chord Definition)
R = 5,729.65
L = 1,607.46
Ls = 70.00
Design Speed = 49 MPH
Elevation = 1/2"

14
BONNIE L. ROGERS

5R
CEDAR RIVER
RAILROAD COMPANY

15625

Sta. 15625+57.67 (13.5' Clear Point)
End Track Construction by Iowa DOT
Resume Track Construction by Cedar River RR Co.

15629+07±℄
℄50'(RR)

15629+07±℄
℄50'(RR)

Cs Sta 15629+13.97

St Sta 15629+83.97

15630

Sta. 15629+83.97
End Track Construction
Install Compromise Rail
115 LB RE to 100 LB

(Obliterate Railroad)

30 35 40 45 50

(U.A.C.)Railroad

Pt Sta 15621+35.56

(U.A.C.)

218

US 218

(U.A.C.)

(U.A.C.)

(U.A.C.)

(U.A.C.)

0 100
FEET

CEDAR RIVER RR CO.

8
JAMES R. MC KINNEY

BONNIE L. ROGERS (FEE)
MATTHEW CHRISTOPHER (CP)

CHARLES L. & LISA HESSE

SECTION CENTER

For Side Road Details
Refer to Sheet No. E.9

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdei/Gogerty
ROW #: NHSN-218-7(189)--2R-07
Plan Date: 5/7/13
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

STAGING NOTES

STAGING NOTES

Stage 1:

Traffic:

- Maintain two-way traffic on US 218.
- Maintain County Road C-57 East of US 218.
- Close County Road C-57 West of US 218 from Station 10585+00 to 10597+00.
- Detour traffic to Waverly road. See Sheet J.3 for detour route.
- "SB" Traffic will be detoured to the Lone Tree Road Interchange via Waverly Road.
- "NB" traffic will be detoured to County Road C-50 via Waverly Road.
- Maintain CN Railroad Traffic on the Existing Track.

Construction:

- Install temporary railroad turn-out at Sta. 15550+48.36 (by Cedar River RR Co.).
- Construct the proposed CN Railroad track from Sta. 15560+00 to Sta. 15620+00.
- Grade and surcharge the County Road C-57 Roadway from Sta 10584+00 to Sta. 10595+00 and Ramp A and Ramp C, that is clear of existing railroad.
- Construct Frontage Road.

Stage 2:

Traffic:

- Close County Road C-57 west and east of US 218. Detour map is provided on Sheet J.3.
- "SB" Traffic will be detoured to the Lone Tree Road Interchange via Wagner, Dunkerton, and Big Woods Road.
- "NB" traffic will be detoured to NB 218 via county road V25 and county road C-50.
- Maintain at least one lane of traffic in each direction, on US 218 through the construction area of the interchange. The contractor is allowed to close one lane of traffic that is adjacent to the shoulder and paving construction per standard road plan TC 418.
- CN Railroad track outage of XX hours to construct tie in connections. Open to full operations following track outages.

Construction:

- Construct the proposed CN Railroad at the east and south connection to the existing track. DOT contractor to coordinate with Cedar River RR Co. to complete cut-over.
- Obliterate the existing CN Railroad track after the proposed track is completed.
- Obliterate the median intersection at US 218 and County Road C-57 and re-grade with a depressed median with granular shoulders.
- Remove the existing turn lanes along US 218 and re-grade with granular shoulders.
- Construct the bridges over the proposed CN Railroad and existing US 218 will be completed in this stage. The railroad bridge is at Sta. 10589+82.71 and the bridge over US 218 is at Sta. 10597+84.13.
- Pump out lake at the Southeast corner of the intersection at County Road C-57 and US 218.
- Grade and pave the Interchange Ramps (A-D) and County Road C-57.

Stage 3:

Traffic:

- The Interchange at County Road C-57 and US 218 is completed and open to traffic.
- CN Railroad track is open and fully operational.
- Close accesses at Mt. Vernon Road, Bennington Road, and W. Gresham Road to US 218. The contractor is allowed to close one lane of traffic adjacent to the construction per standard road plan TC 418.

Construction:

At the intersection of US 218 and Mt. Vernon Road
- Saw-cut and remove the left turn lanes and intersection pavement, replace with granular shoulders and a depressed median.
- Construct hammerhead turnarounds on both sides of US-218.
- Obliterate and re-grade with granular shoulders the existing connections at US 218.
- Mt. Vernon Road will be an access point for the CN Railroad so a gate needs to be installed east of the west Hammerhead turnaround.

At the intersection of US 218 and Bennington Road
- Saw-cut and remove the left turn lanes and intersection pavement, replace with granular shoulders and a depressed median.
- Construct hammerhead turnarounds on both sides of US-218.
- Obliterate and re-grade with granular shoulders at the existing connections of US 218
- Bennington Road will be an access point for the CN Railroad so a gate will be installed east of the west Hammerhead turnaround.

At the intersection of US 218 and Gresham Road
- Saw-cut and remove the left turn lanes and intersection pavement, replace with granular shoulders and a depressed median.
- Construct hammerhead turnarounds on both sides of US-218.
- Obliterate and re-grade with granular shoulders at the existing connections of US 218.
- Gresham Road will be an access point for the CN Railroad a gate will be installed east of the west Hammerhead turnaround.

CROSS SECTION VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Med	(237)	Future Proposed Pavement Shading

CROSS SECTION VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

- Pavement Removal
- Proposed Granular Subbase
- Proposed Special Backfill
- Temporary Barrier Rail
- Proposed Granular Shoulder
- Temporary Shoulder
- Existing Shoulder Strengthening
- Permanent Barrier Rail
- Channelizing Device

PLAN VIEW COLOR LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Pavement Marking Call Outs
Blue	(1)	Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Yellow	(4)	Pavement Markings, Yellow
Off White	(254)	Pavement Markings, White

SHADING	Design Color No.	
Green, Light	(225)	Existing Pavement Shading
Gray, Light	(48)	Previously Constructed Pavement Shading
Gray, Med	(80)	Proposed Granular Surface Shading
Gray, Med	(80)	Previously Constructed Granular Surface Shading
Blue, Light	(230)	Proposed Pavement Shading
Lavender	(9)	Temporary Pavement Shading
Brown, Light	(236)	Proposed Grading Limits Shading
Pink, Dark	(13)	Proposed MSE or CIP Wall Shading
Red	(3)	Proposed Bridge Shading and Sign Trusses
Black w/Gray, Light Fill	(0,48)	Previously Constructed Structure

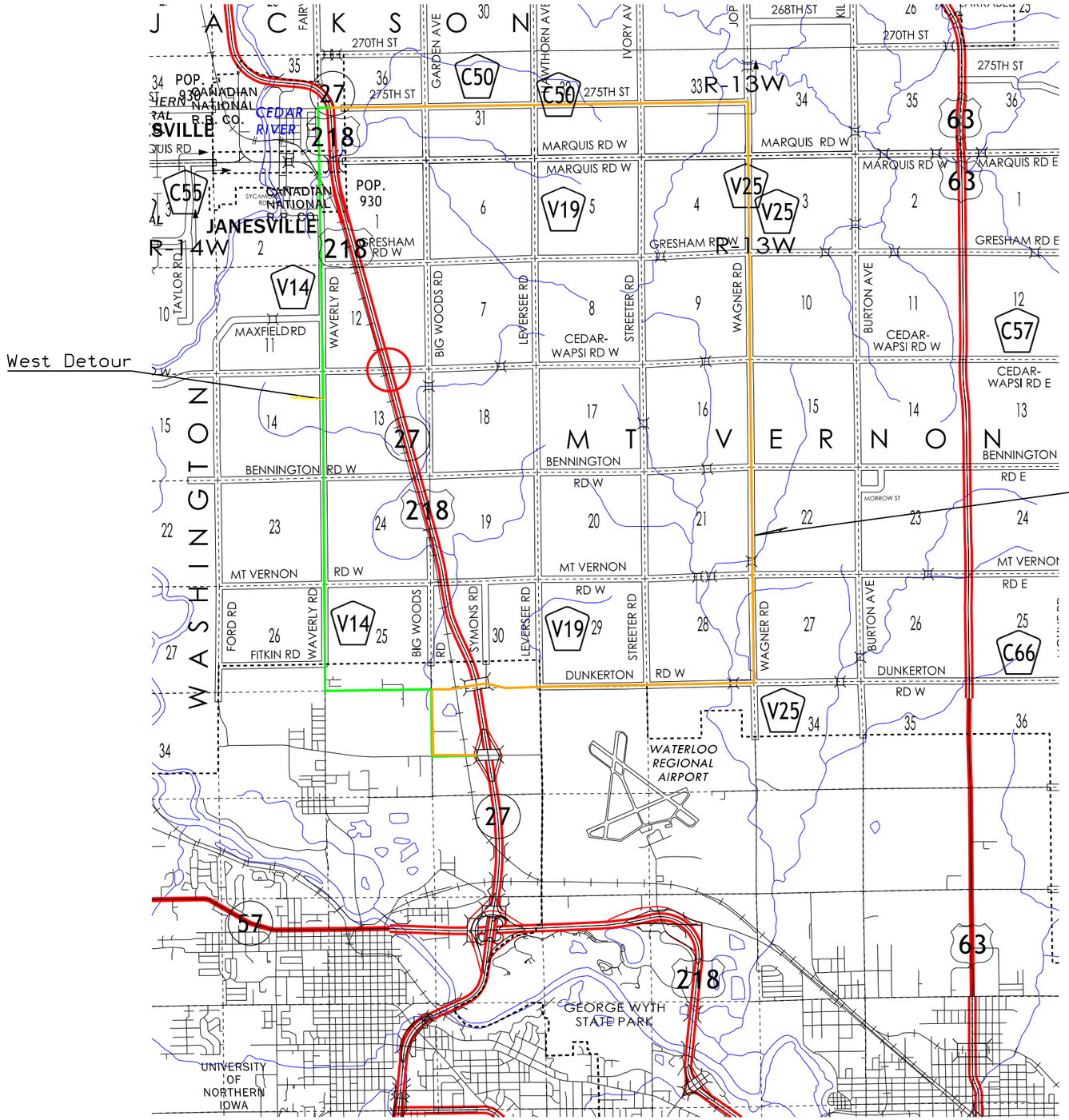
PLAN VIEW PATTERN AND SYMBOL LEGEND OF TRAFFIC CONTROL AND STAGING SHEETS

- Channelizing Device
- Drum
- Temporary Lane Separator
- Tubular Marker
- Channelizer Marker
- Concrete Barrier Marker
- Delineator
- Temporary Barrier Rail
- Pavement Removal
- Crash Cushion
- Traffic Signal
- Flagger
- Temporary Floodlighting
- Traffic Sign
- Type III Barricade
- Type A Warning Light
- Direction of Traffic
- Safety Closure

NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)



DETOUR MAP

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER J.3	

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INSTALL TEMPORARY TURN-OUT
(BY CEDAR RIVER RR CO.)

BUILD FRONTAGE ROAD

ROAD CLOSED
R11-2
48" x 30"

BUILD ROADWAY EMBANKMENT

BUILD RAILROAD

ROAD CLOSED
R11-2
48" x 30"

Cedar River RR Co.

County Road C-57

US 218

545 550 555 560 565 570 575 580 585 590 595 600 15

POT Sta 12+96.13

EQUATION:
Sta 601+00.00 BK =
Sta 12+96.13 AH

County Road C-57

0 200
FEET

STAGE 1

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER J.4

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BUILD FRONTAGE ROAD

ROAD CLOSED
R11-2
48" x 30"

BUILD ROADWAY EMBANKMENT

County Road C-57

BUILD RAILROAD

Cedar River RR Co.

ROAD CLOSED
R11-2
48" x 30"

590 595 600 15 20 25 30 35 40 45 50 55 60

POT Sta 12+96.13

Sta 601+00.00 BK = Sta 12+96.13 AH
EQUATION:

US 218

(U.A.C.)

(U.A.C.)

County Road C-57

0 200
FEET

STAGE 1

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER J.5	

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BUILD RAILROAD

Cedar River RR Co.

US 218

(U.A.C.)

(U.A.C.)

(U.A.C.)

(Obliterate)

Ramp A

Ramp B

Ramp C

Ramp D

County Road C-57

County Road C-57

EQUATION:
Sta 601+00.00 BK =
Sta 12+83.52 AH

545 550 555 560 565 570 575 580 585 590 595 600 15

ROAD CLOSED

R11-2
48" x 30"

0 200
FEET

STAGE 2

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER J.6	

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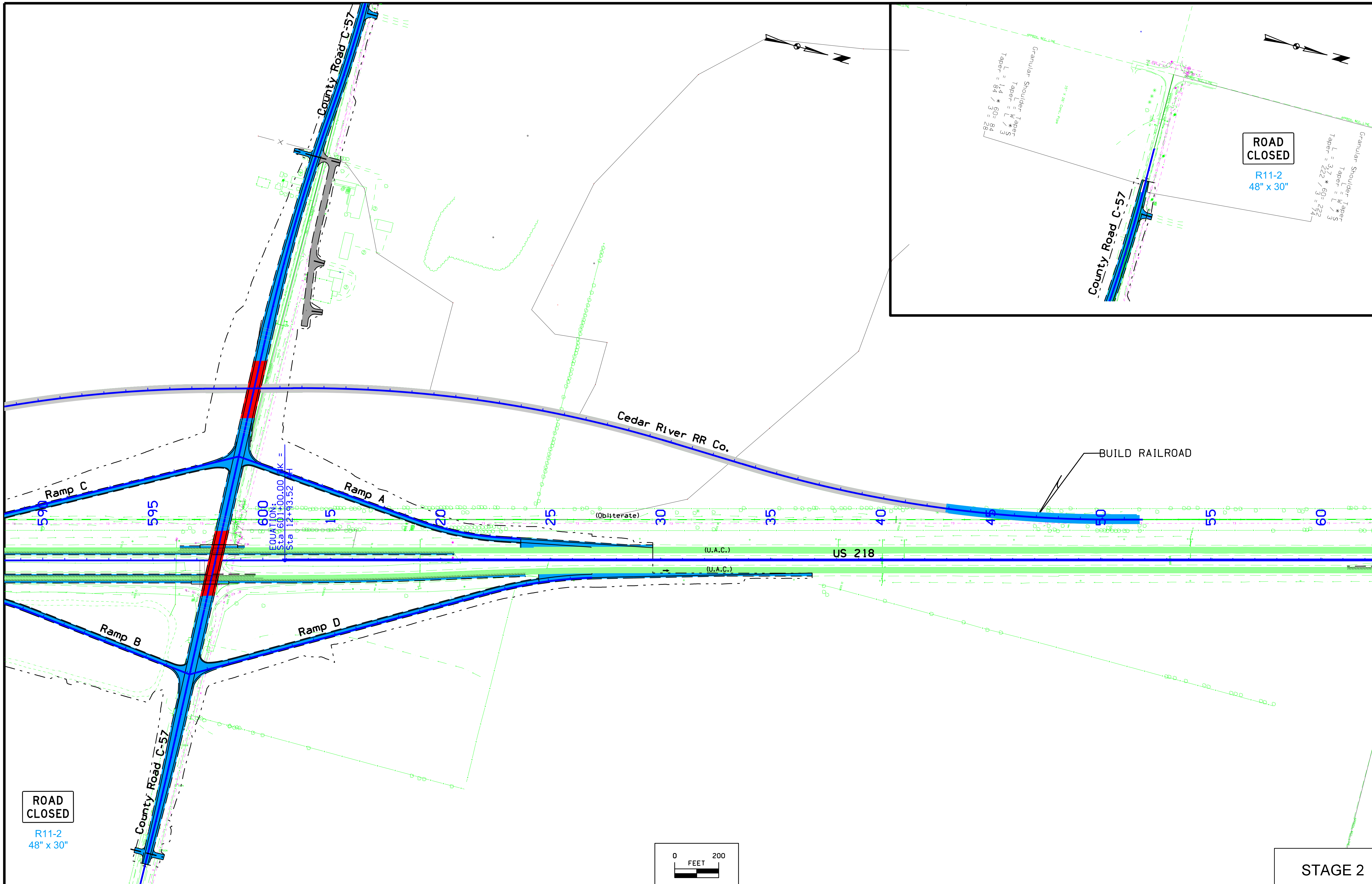

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER J.7

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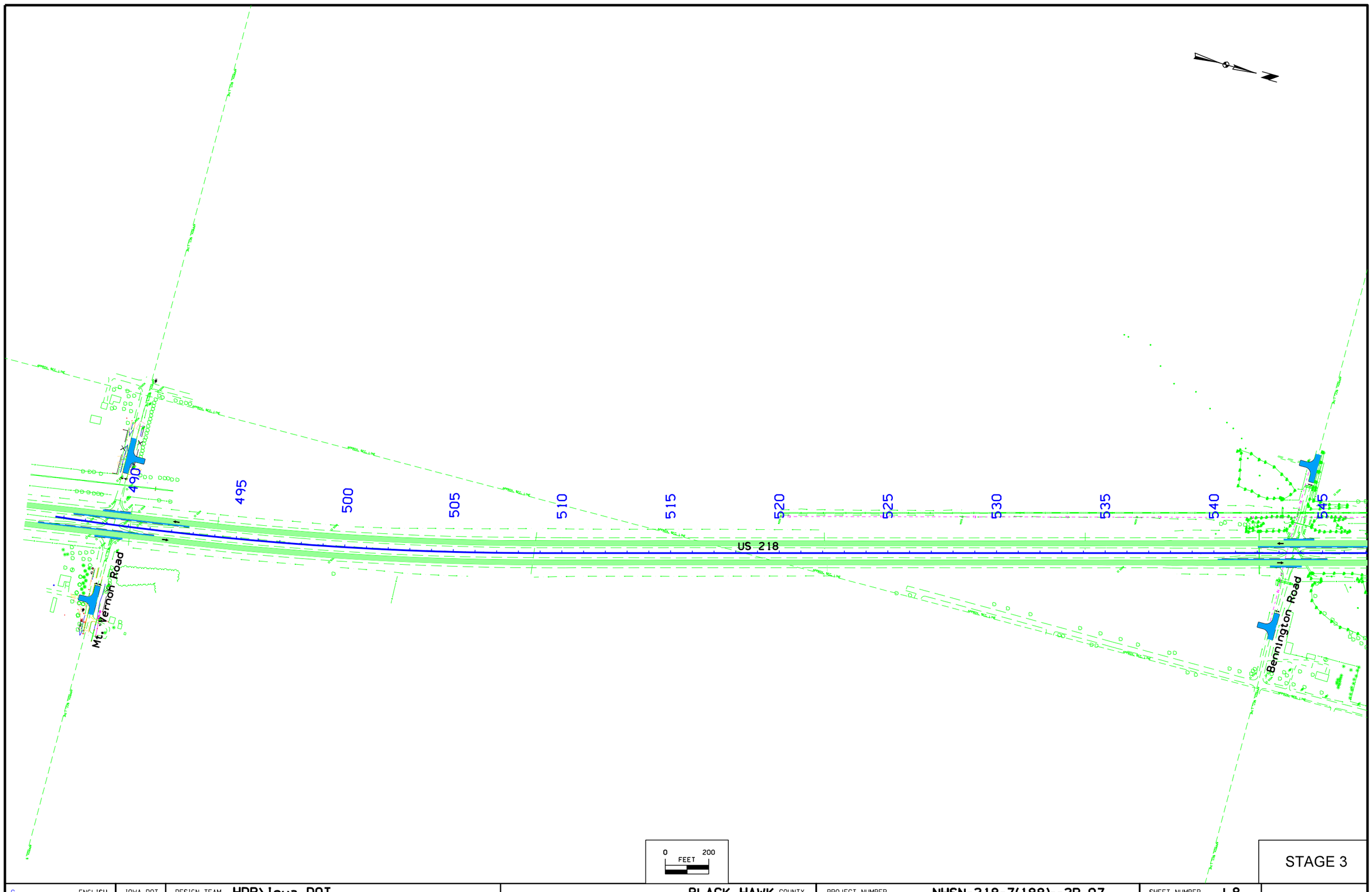

STAGE 3

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSN-218-7(188)--2R-07	SHEET NUMBER J.8	

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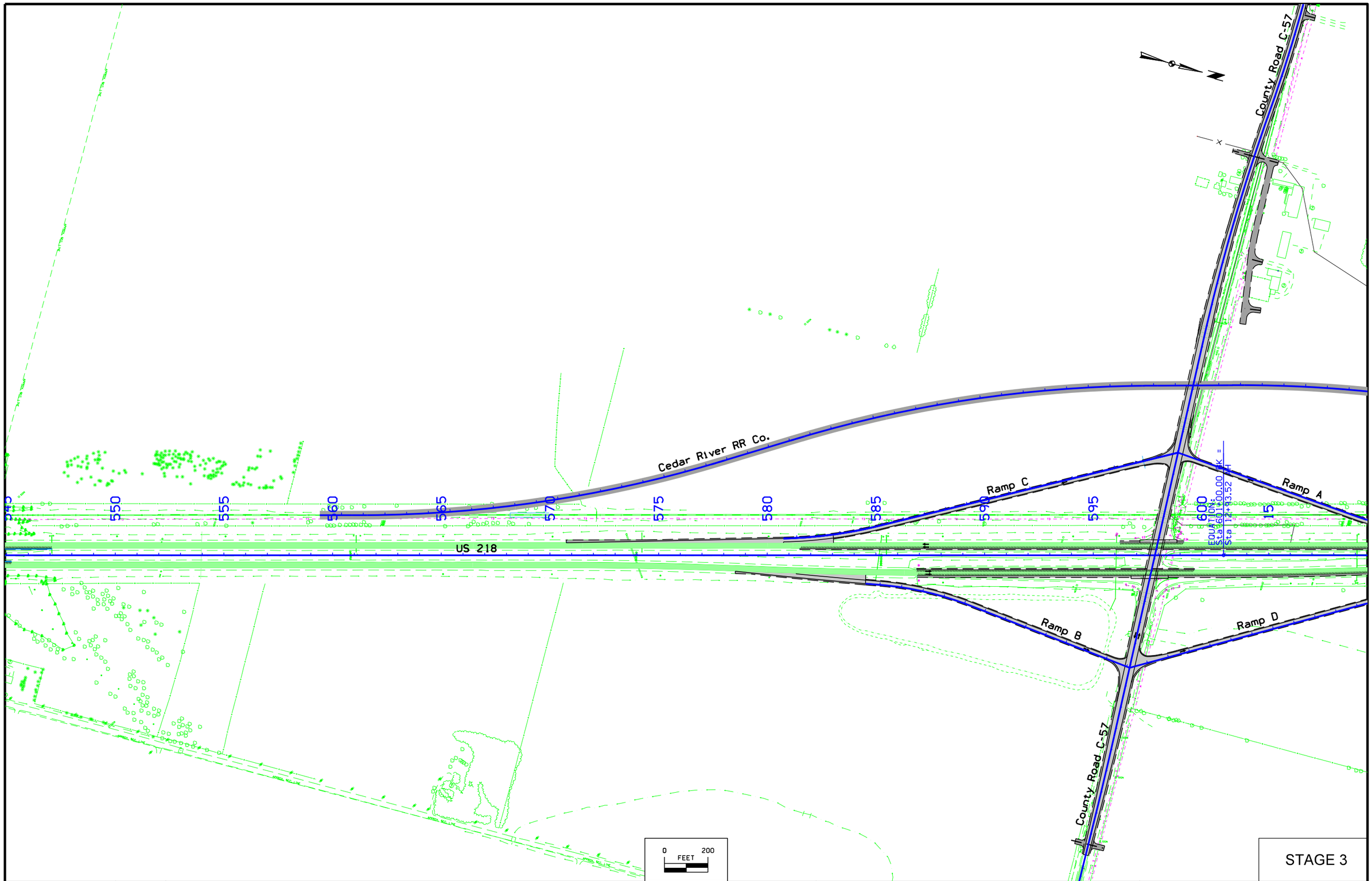

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER J.9	

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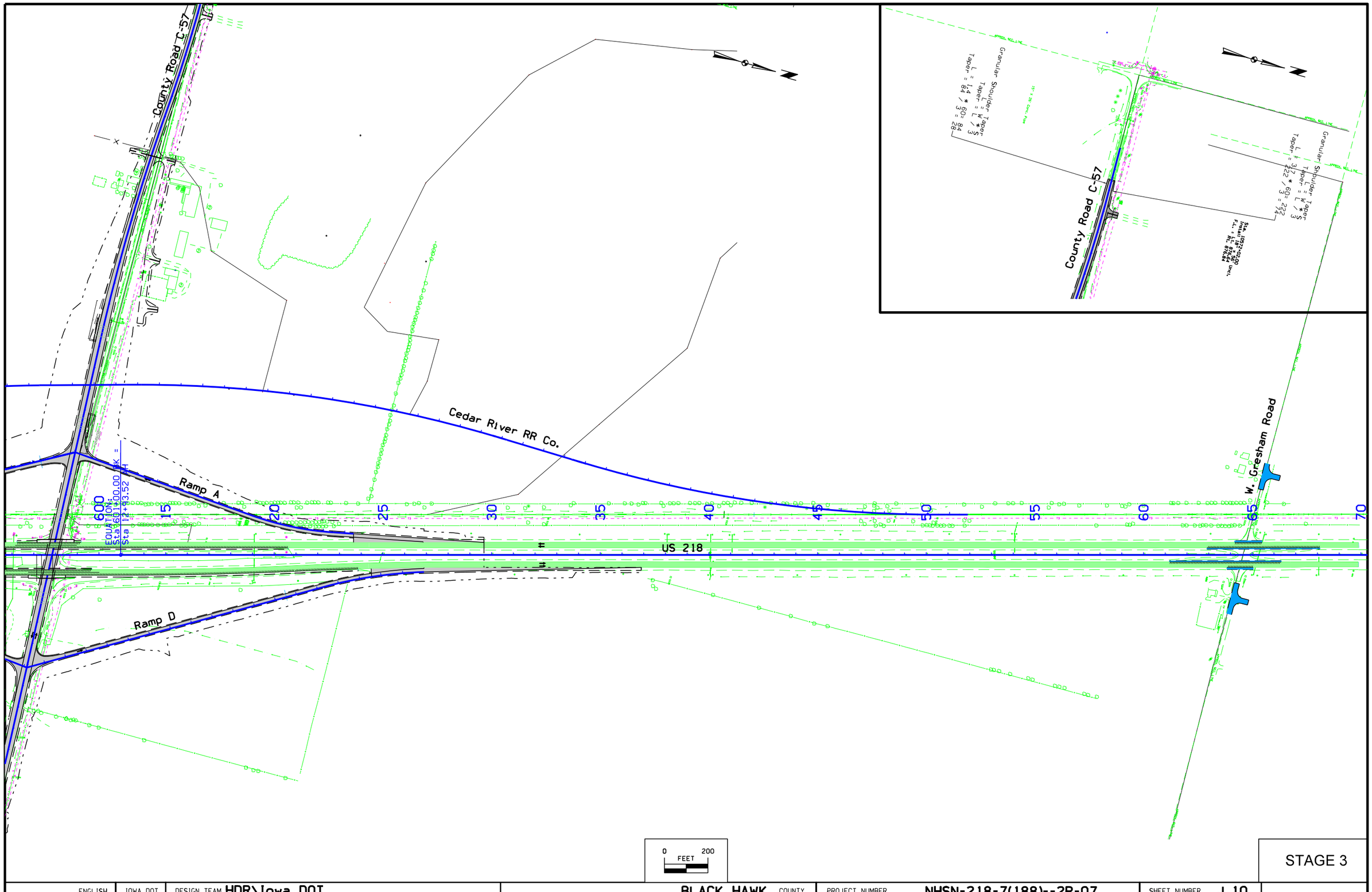

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER J.10

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Curve Data
Δ = 12° 36' 13.56" (LT)
T = 220.87
L = 439.95
R = 2,000.00
E = 12.16
e = 5.4
L = 168.00
x = 62.00
m = 50.40
DS = 60 mph

+75 Prop.
Type "G" Dike
Elev. = 880.55

Sta. 3584+00.00
Install 24" x 98' RCP
F.L. = Lt. 876.81
Rt. 878.55

WASHIGTON TWP.
T-90N R-14W
SEC. 13

Deery Investment Inc.

CEDAR RIVER RR CO.

POT STA. 10589+82.71
POT STA. 15589+82.71

POT 10593+00.00 (SRC57)
PI 1593+00.00 (C57A)
PI 3593+00.00 (C57C)

3590
3585
3580
3575

WASHIGTON TWP.
T-90N R-14W
SEC. 13

RAMP C

63°33'12.29"

POT Sta. 580+65.86, 77.56 LT
PT Sta 3574+38.74
Point G Standard Road Plan PV-411

PC Sta 3574+38.74
PI Sta 3576+59.61
PT Sta 3578+78.70

Curve Ramp C

1000' Taper 50:1 Ratio

(U.A.C.)

(U.A.C.)

US 218

Curve Ramp B

PC Sta 2590+99.59
PI Sta 2593+18.44
PT Sta 2595+34.22

2595

POT STA 597+75.39 (ML218)
POT STA 10597+84.13 (SRC57)

RAMP B

81°21'6.18"

Black Hawk County Conservation Board

POND

POT Sta. 584+43.67, 130.48 RT
PT Sta 2590+33.48
Point M Standard Road Plan PV-410

2600

POT 10603+15.00 (SRC57)
PI 2603+15.00 (C57B)
PI 4603+15.00 (C57D)

Curve Data
Δ = 16° 36' 05.77" (RT)
T = 218.85
L = 434.63
R = 1,500.00
E = 15.88
e = 6.0
L = 186.00
x = 62.00
m = 55.80
DS = 60 mph

0 100 FEET

Borrow 6b

Sta. 2595+50.00
Install 24" x 60' RCP
F.L. = Lt. 878.35
Rt. 878.24

US 218 WITH COUNTY ROAD C-57
INTERCHANGE
RAMP B AND C

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER K.1

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WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 12

CEDAR RIVER RR CO.

Carol A. Most

Bonnie L. Rogers

POT 10593+00.00 (SRC57)
PI 1593+00.00 (C57A)
PI 3593+00.00 (C57C)

1595

1600

1605

Curve Data
Δ = 15° 50' 58.88" (LT)
T = 194.88
L = 387.28
R = 1,400.00
E = 13.50
e = 6.0
L = 186.00
x = 62.00
m = 55.80
DS = 60 mph

PC Sta 1601+61.75
PI Sta 1603+56.64
PCC Sta 1605+49.03
POT Sta 1606+40.73

POT Sta. 23+58.91 R 2, 97.70 LT

POT Sta 1606+40.73
Point M Standard Road Plan PV-410

RAMP A

83°2'4.49"

600' Taper 15:1 Ratio

(U.A.C.)

US 218

(U.A.C.)

1000' Taper 50:1 Ratio

POT STA 597+75.39 (ML218)
POT STA 10597+84.13 (SRC57)

62°7'55.37"

RAMP D

4610

4615

4620

PC Sta 4617+31.13
PI Sta 4618+44.13
PCC Sta 4619+57.50
PI Sta 4620+78.17
PT Sta 4621+98.55

POT Sta. 26+82.88 R 2, 78.55 RT

PCC Sta 4621+98.55
Point G Modified Standard Road Plan PV-411

SEC CENTER
FOUND 12-90-14
ALUMINUM
MONUMENT

Carol A. Most

James R. McKinney

POT 10603+15.00 (SRC57)
PI 2603+15.00 (C57B)
PI 4603+15.00 (C57D)

4605

Curve Data
Δ = 6° 29' 06.39" (RT)
T = 113.31
L = 226.37
R = 2,000.00
E = 3.21
e = 5.4
L = 168.00
x = 62.00
m = 50.40
DS = 60 mph

Curve Data
Δ = 6° 54' 20.33" (RT)
T = 120.67
L = 241.05
R = 2,000.00
E = 3.64
e = 5.4
L = 168.00
x = 62.00
m = 50.40
DS = 60 mph

Sta. 4613+46
Install 30" x 82' RCP
Skew = 36° Lt. Ahd.
F.L. = Lt. 880.20
Rt. 880.10

0 100
FEET

US 218 WITH COUNTY ROAD C-57
INTERCHANGE
RAMP A AND D

C	ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER K.2

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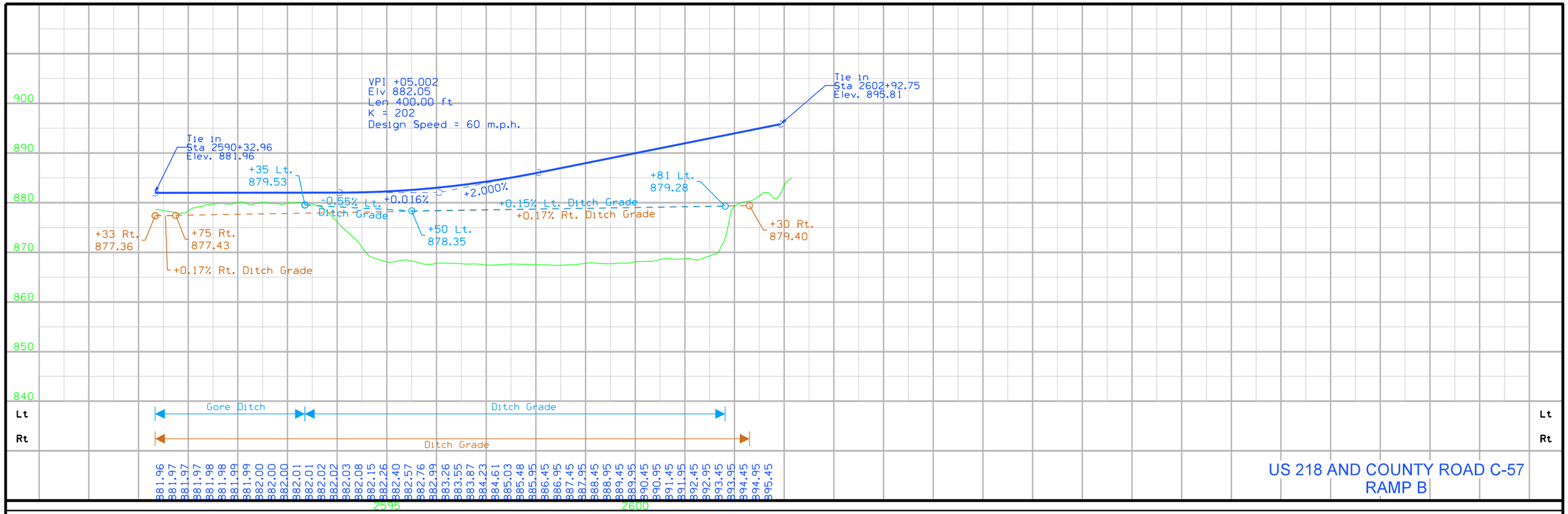

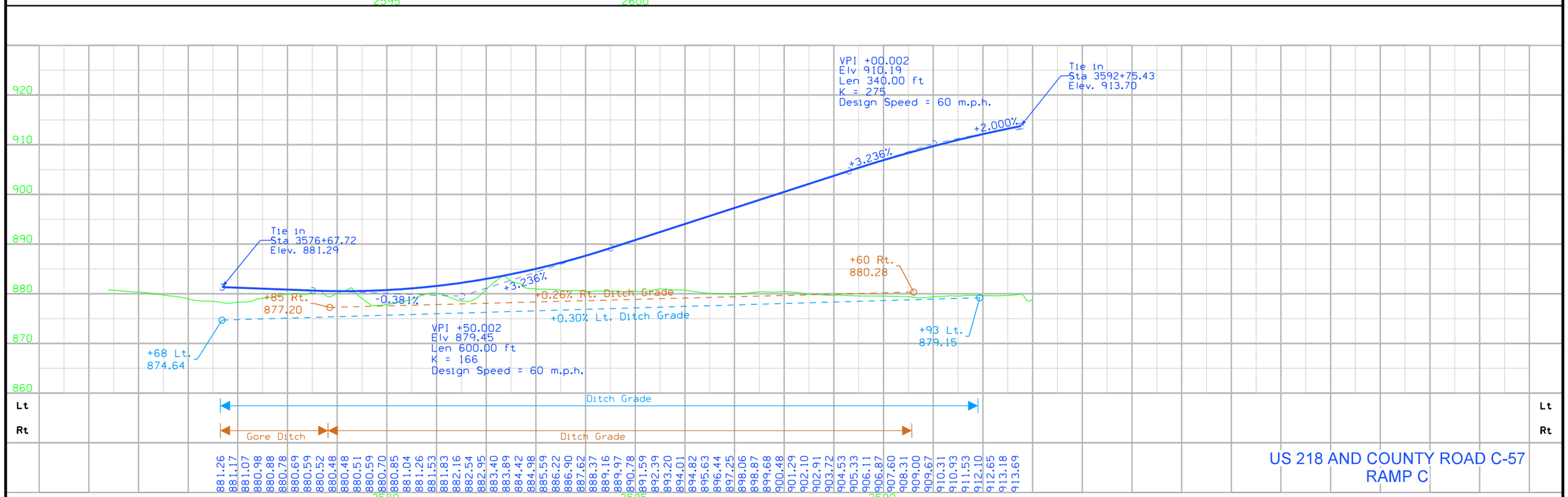

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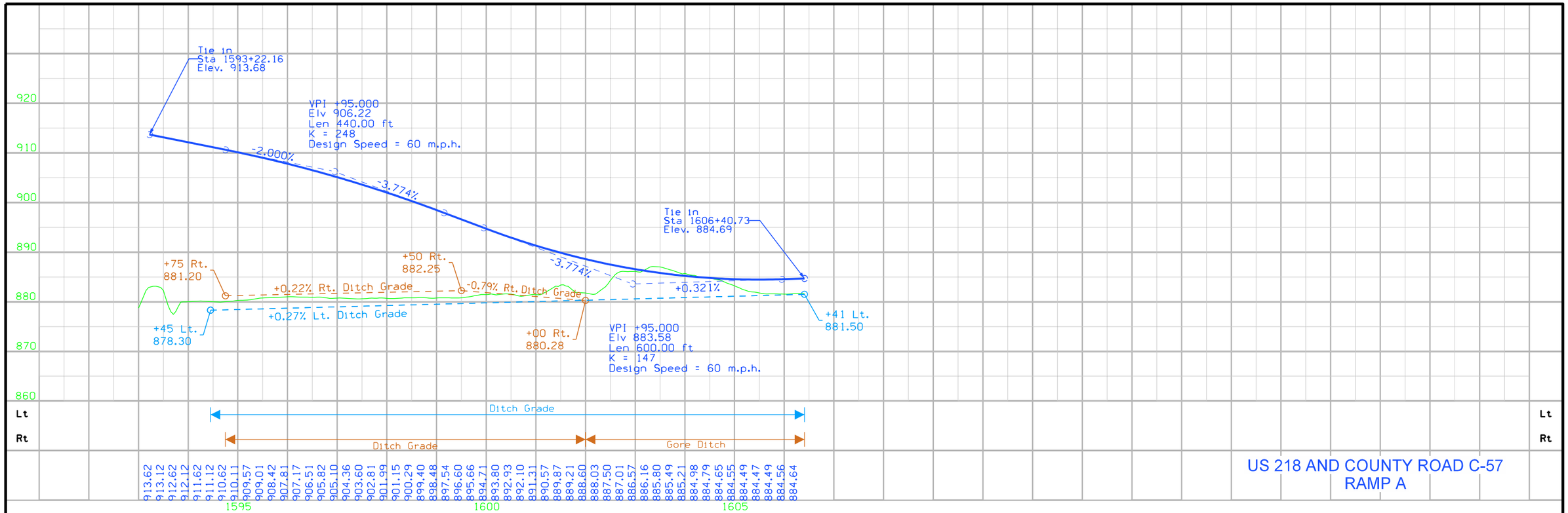

C ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER K.4	

11:36:14 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188K1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 12

Sta. 10591+30.85
-22.00 LT (SRC57)

2.0% 14.0' | 2% 8' | 2% 8' | 2.0% 14.0'

CONSTANT 2.00% SLOPE

Sta. 10592+36.82
22.00 RT (SRC57)

CURVE C57A RET 2-3

Sta. 1593+28.15
-55.57 LT (C57A)

C57C RET 3

CURVE C57C RET 3-1

POT 10593+00.00 (SRC577)
PI 1593+00.00 (SRC57A)
PI 3593+00.00 (SRC57C)

RADIUS = 79.0'

C57A RET 2

Sta. 3592+38.10
-10.83 LT (C57C)

CURVE C57A RET 2-2

CURVE C57C RET 3-2

SPECIAL SHAPING

Sta. 1593+74.96
-7.32 LT (C57A)

Sta. 3591+80.85
-2.49 LT (C57C)

CURVE C57A RET 2-1

CURVE C57C RET 3-3

0.11%

UNIFORM TRANSITION

2.0% 16.0'

63°33'12.29"

83°24'49"

0.40%

Sta. 1594+14.41
0.00 RT (C57A)

Sta. 3591+00.40
0.00 RT (C57C)

RAMP C

SPECIAL SHAPING

+67.47

+24.12

+75.00

RAMP A

CONSTANT 2.00% SLOPE

Sta. 1593+81.63
16.00 RT (C57A)

CURVE C57A RET 1-3

Sta. 1593+60.85
18.18 RT (C57A)

CURVE C57A RET 1-2

Sta. 1593+38.90
27.73 RT (C57A)

CURVE C57A RET 1-1

Sta. 10593+54.31
-22.00 LT (SRC57)

Sta. 3591+74.97
20.94 RT (C57C)

CURVE C57C RET 4-2

+08.00

CURVE C57C RET 4-1

Sta. 3590+61.72
16.00 RT (C57C)

Sta. 3592+29.06
35.19 RT (C57C)

CURVE C57C RET 4-3

Sta. 10593+88.09
22.00 RT (SRC57)

C57C RET 4

C57A RET 1

3590 3591 3592 3593 1593 1594 1595 1596

0 20
FEET

GEOMETRIC & STAKING DETAILS
US 218 WITH COUNTY ROAD C-57
INTERCHANGE RAMP A & C

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER K.5

11:37:03 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188K1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 12

2600

2601

2602

2603

4604

4605

4606

RAMP B

RAMP D

C57B RET 3

C57B RET 4

C57D RET 2

C57D RET 1

Sta. 10602+58.92
22.00 RT (SRC57)

CURVE C57B RET 3-1

Sta. 2602+74.60
-28.00 LT (C57B)

CURVE C57B RET 3-2

Sta. 2602+52.39
-18.22 LT (C57B)

CURVE C57B RET 3-3

Sta. 2602+31.43
-16.00 LT (C57B)

Sta. 2602+00.99
0.00 RT (C57B)

CURVE C57B RET 4-1

Sta. 2602+31.17
3.70 RT (C57B)

CURVE C57B RET 4-2

Sta. 2602+87.34
52.24 RT (C57B)

CURVE C57B RET 4-3

Sta. 10604+79.48
22.00 RT (SRC57)

Sta. 10602+07.57
-22.00 LT (SRC57)

Sta. 4604+09.65
-27.36 LT (C57D)

CURVE
C57D RET 2-3

CURVE
C57D RET 2-2

Sta. 4604+55.79
-19.50 LT (C57D)

CURVE
C57D RET 2-1

Sta. 4605+49.31
-16.00 LT (C57D)

Sta. 4605+12.69
0.00 RT (C57D)

CURVE C57D RET 1-3

Sta. 4604+29.94
2.74 RT (C57D)

CURVE C57D RET 1-2

Sta. 4603+78.90
9.93 RT (C57D)

CURVE C57D RET 1-1

POT 10603+15.00 (SRC57)
PI 2603+15.00 (C57B)
PI 4603+15.00 (C57D)

Sta. 10603+78.04
-22.00 LT (SRC57)

CONSTANT 2.00% SLOPE

2.0%
14.0'

2%
8'

UNIFORM TRANSITION

2.0%
16.0'

3.35%

4.45%

SPECIAL SHAPING

81°21'6.18"

62°7'55.37"

+48.00

+90.31

+48.35

+52.00

0 FEET 20

GEOMETRIC & STAKING DETAILS
US 218 WITH COUNTY ROAD C-57
INTERCHANGE RAMP B & D

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER K.6

11:37:21 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188K1.sht

WASHIGTON TWP.
T-90N R-14W
SEC. 13

WASHIGTON TWP.
T-90N R-14W
SEC. 13

POT STA. 10589+82.71
POT STA. 15589+82.71

CEDAR RIVER RR CO.

3575
3580
3585
3590

RAMP C

RAMP B

Ditch Dike

US 218

SEE EW-204 FOR BRIDGE BERM GRADING

Grading Out Pond

2595
2600

CR 57

3:1
3.5:1
6:1
6:1+3.5:1
2%
0%
1.0%
0.75%
1.5%
2.8%
0.2%

0 100
FEET

US 218 WITH COUNTY ROAD C-57
INTERCHANGE GRADING

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER K.7

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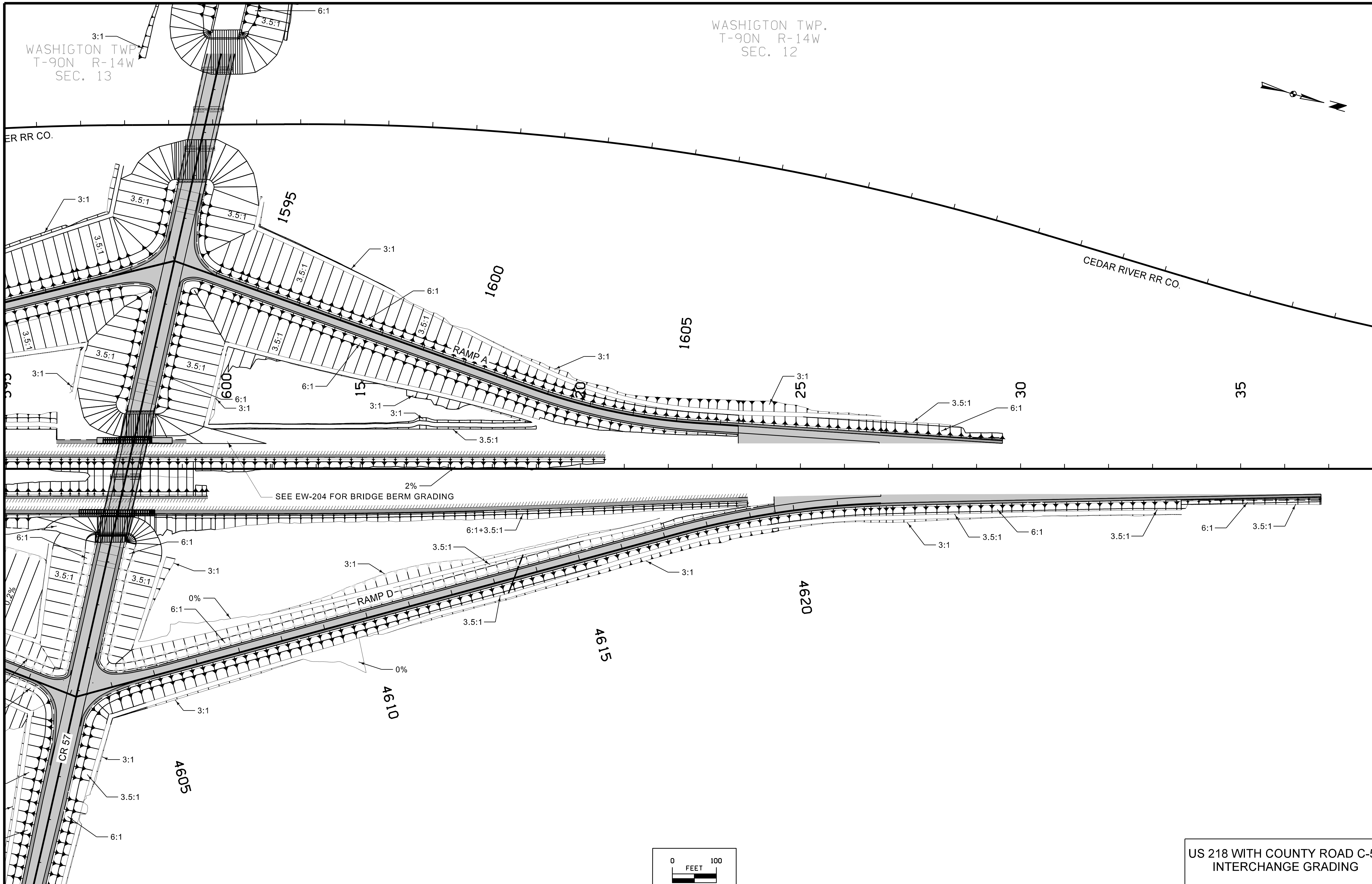

US 218 WITH COUNTY ROAD C-57
INTERCHANGE GRADING

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER K.8

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ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER R.1

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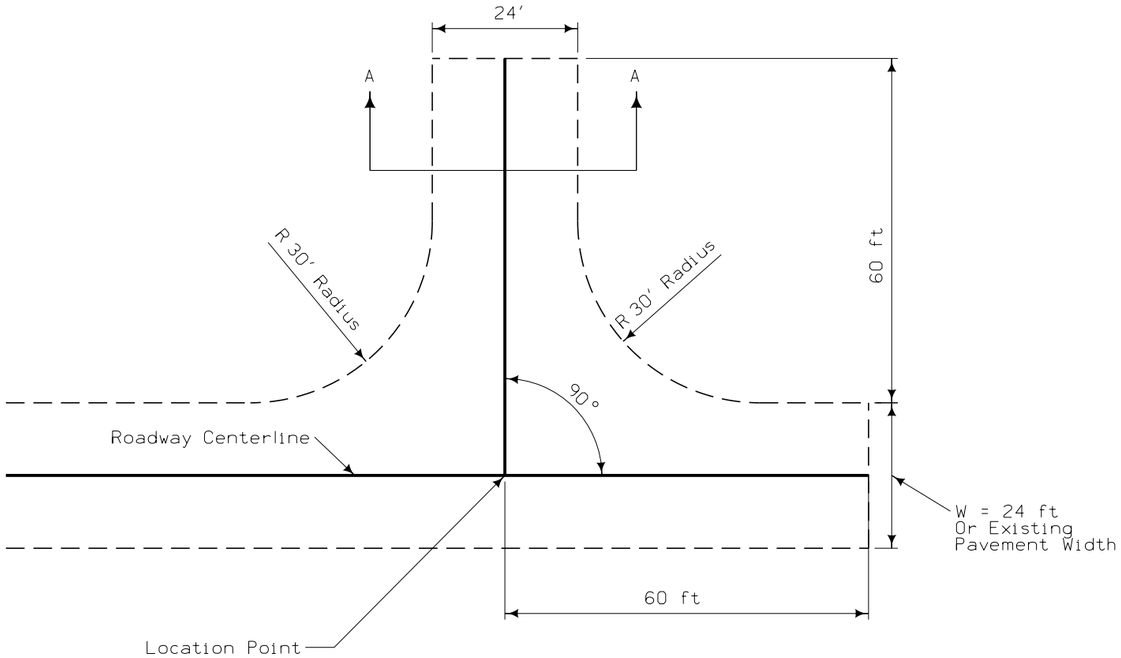
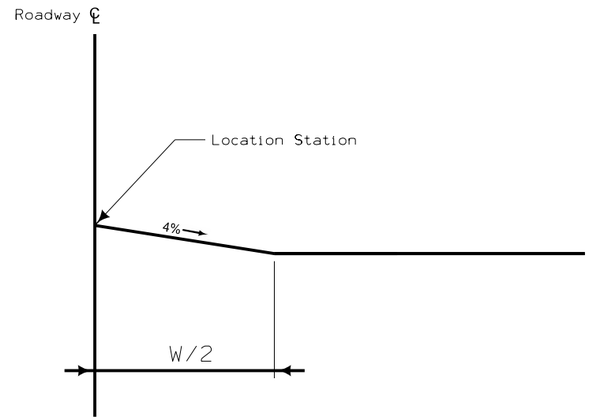


Typical Hammer Head Turnaround
No Scale

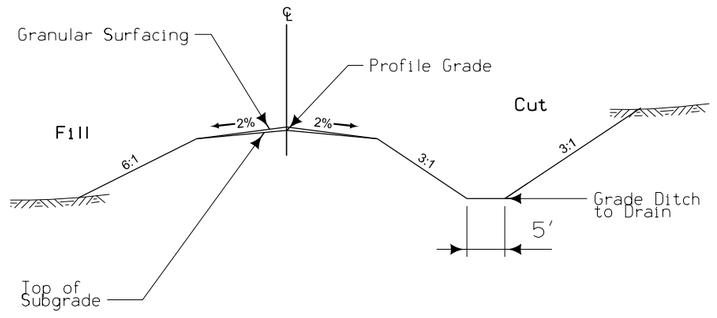
Notes:

Hammer Head Turnaround may be reversed to match Plan Sheet Configuration.

Granular Surfacing shall be placed at an application rate of 25 Tons/Sta.



Typical Hammer Head Profile
No Scale

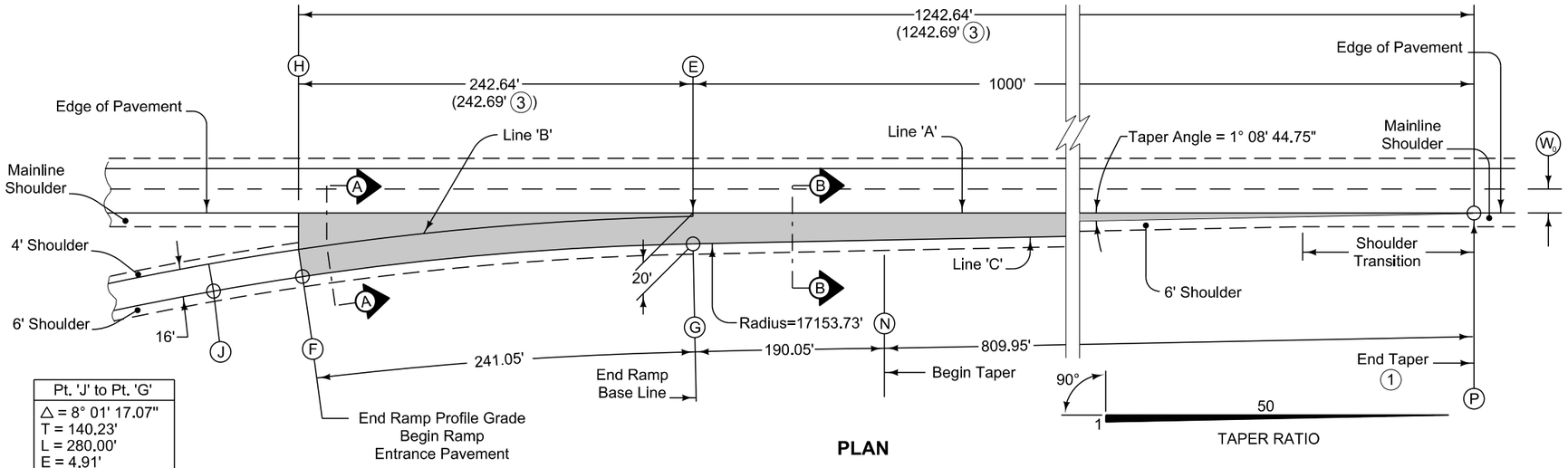


SECTION A-A
No Scale

HAMMER HEAD TURNAROUND DETAIL SHEET

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER U.1

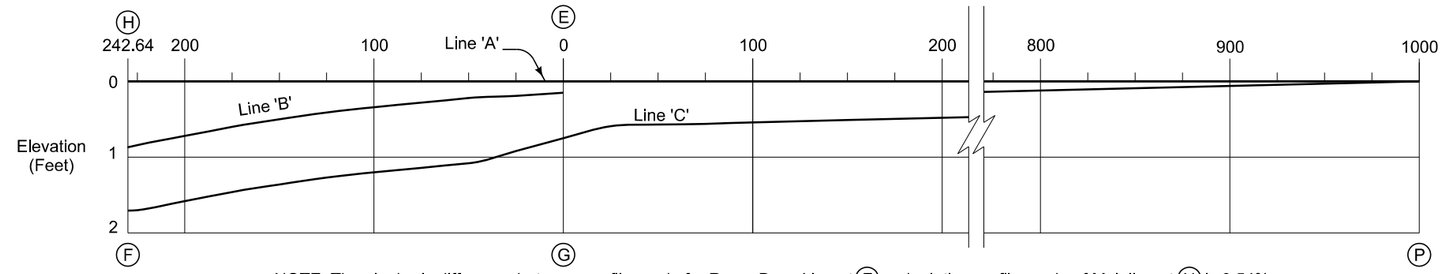
8:20:16 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188U1.sht



PLAN

Pt. 'J' to Pt. 'G'
△ = 8° 01' 17.07"
T = 140.23'
L = 280.00'
E = 4.91'
R = 2000.00'

Pt. 'G' to Pt. 'N'
△ = 0° 38' 05.20"
T = 95.02'
L = 190.05'
E = 0.26'
R = 17153.73'

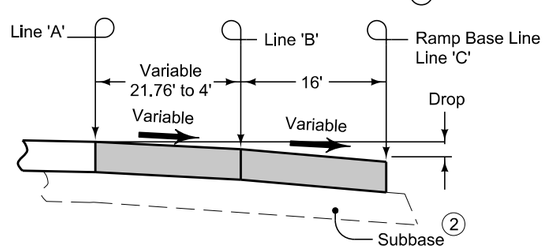


NOTE: The algebraic difference between profile grade for Ramp Base Line at (F) and relative profile grade of Mainline at (H) is 0.54%.

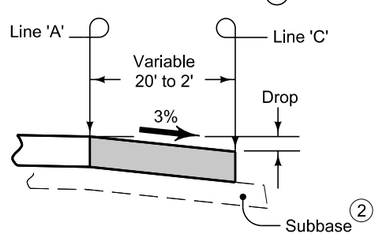
PROFILE

TABLE OF OFFSETS AND DROPS FOR 16' RAMP TAPER																								
Distance From Point (E) Along Line 'A' (Ft.)		242.69	225	200	175	150	125	100	75	50	25	0	25	50	75	100	200	300	400	500	600	700	800	900	1000
From Line 'A' To Line 'B'	Offset (Ft.)	21.76	19.59	16.75	14.19	11.91	9.90	8.17	6.72	5.54	4.63	4.0													
	Slope (%)	← Constant 4.0% Slope →										3.78													
	Drop (Ft.)	0.87	0.78	0.67	0.57	0.48	0.40	0.33	0.27	0.22	0.19	0.15													
From Line 'B' To Line 'C'	Offset (Ft.)	← Constant 16.0' Offset →																							
	Slope (%)	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	4.58	3.78													
	Drop (Ft.)	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.73	0.60													
From Line 'A' To Line 'C'	Offset (Ft.)												19.5	19.0	18.5	18.0	16.0	14.0	12.0	10.0	8.0	6.0	4.0	2.0	0.0
	Slope (%)												← Constant 3.0% Slope →												
	Drop (Ft.)	1.73	1.64	1.53	1.43	1.34	1.26	1.19	1.13	1.08	0.92	0.75	0.59	0.57	0.56	0.54	0.48	0.42	0.36	0.30	0.24	0.18	0.12	0.06	0.0
Distance From Point (G) Along Line 'C' (Ft.)		241.05	223.49	198.46	173.55	148.66	123.80	98.95	74.12	49.30	24.49	0.00													

(H) (E) (F) (G) (P)



SECTION A-A



SECTION B-B

TABLE OF SHOULDER TRANSITION LENGTHS			
W_0	Shoulder Width beyond Edge of Mainline Pavement		
	8'	10'	12'
12'	NA	200'	300'
14'	100'	200'	NA

NOTE: W_0 is the width of the outside lane to the Edge of Pavement.

Construct ramp entrance pavement the same thickness as mainline pavement.

Ramp entrance pavement shown by shaded area is 1831 square yards.

For joint details, see PV-101

(1) For header construction details at the end of taper, see Typical 7101 or Typical 7102.

(2) Construct subbase for ramp entrance pavement the same thickness as mainline subbase.

(3) Measured along the outside edge of existing mainline pavement.

MODIFIED STANDARD ROAD PLAN

REVISION
2 10-18-11

PV-411

SHEET 1 of 2

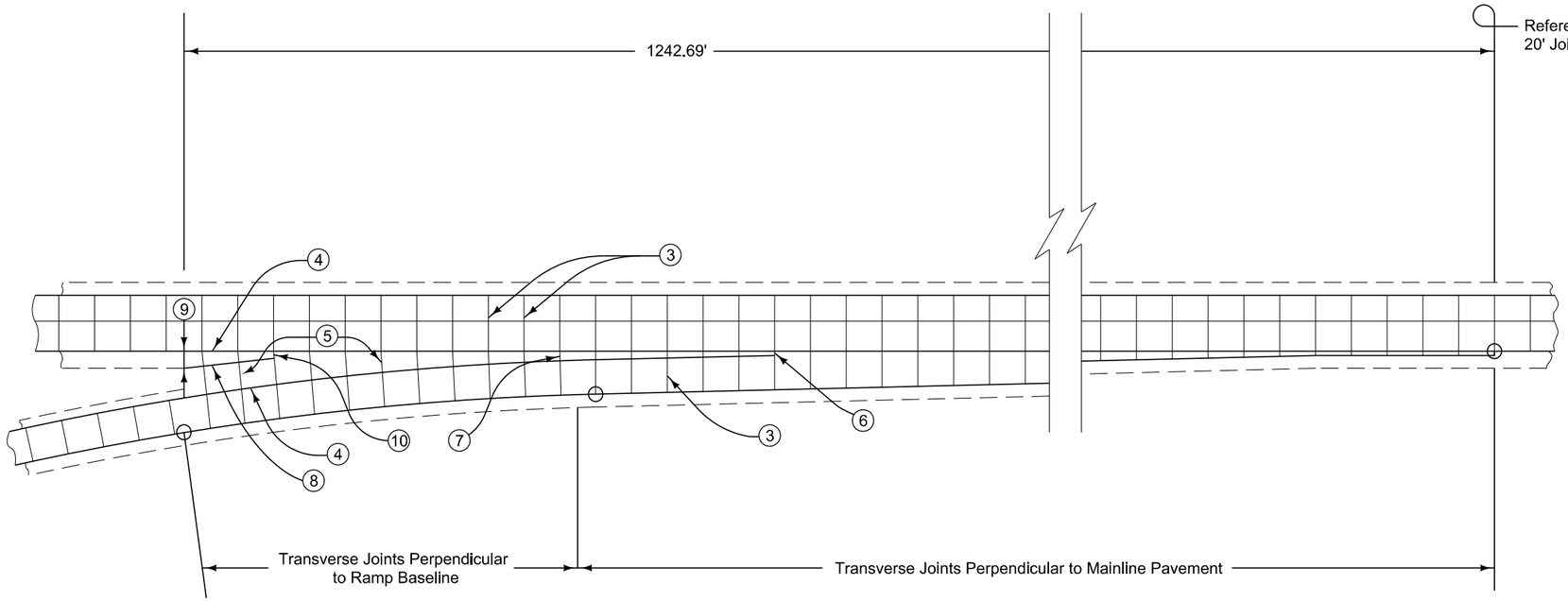
REVISIONS: Revised to accommodate the curvature of mainline lanes.

APPROVED BY DESIGN METHODS ENGINEER

ACCELERATION TAPER (RAMP D) FOR 16' ENTRANCE RAMP

ENGLISH | IOWA DOT | DESIGN TEAM HDR\Iowa DOT | BLACK HAWK COUNTY | PROJECT NUMBER NHSN-218-7(188)--2R-07 | SHEET NUMBER U.2

8:23:25 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188U1.sht



③ 'CD' Joints at 20' spacing.

④ 'BT-2' or 'KT-2' Joint.

⑤ 'C' Joint.

⑥ 'B' Joint. 2' minimum, 4' maximum.

⑦ Construct transverse joints on the exit ramp taper perpendicular to the tapered edge where the gore area is greater than 4 feet.

⑧ 'C' Joint parallel to ramp baseline.

⑨ 10' minimum, or equal to mainline shoulder width.

⑩ 'B' or 'C' Joint. 2' minimum. 4' maximum.

16' ENTRANCE RAMP

MODIFIED STANDARD ROAD PLAN

REVISION: 2 — 10-18-11

PV-411

SHEET 2 of 2

REVISIONS: Revised to accommodate the curvature of mainline lanes.

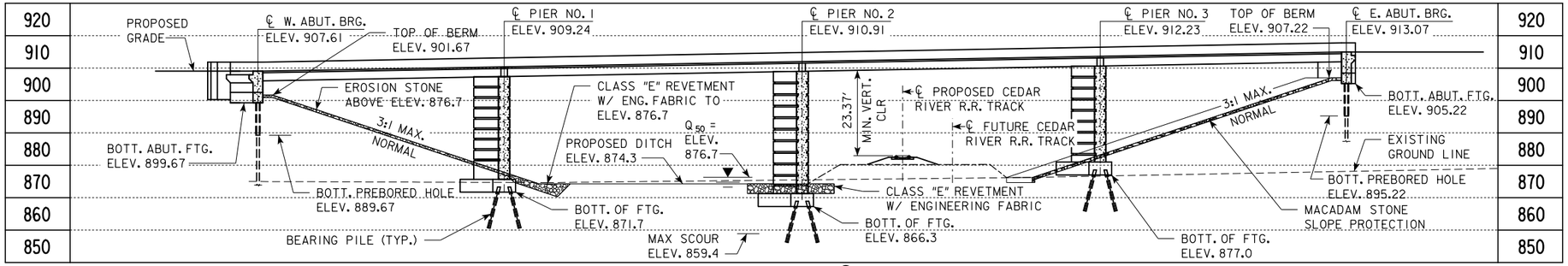
APPROVED BY DESIGN METHODS ENGINEER

ACCELERATION TAPER (RAMP D) FOR 16' ENTRANCE RAMP

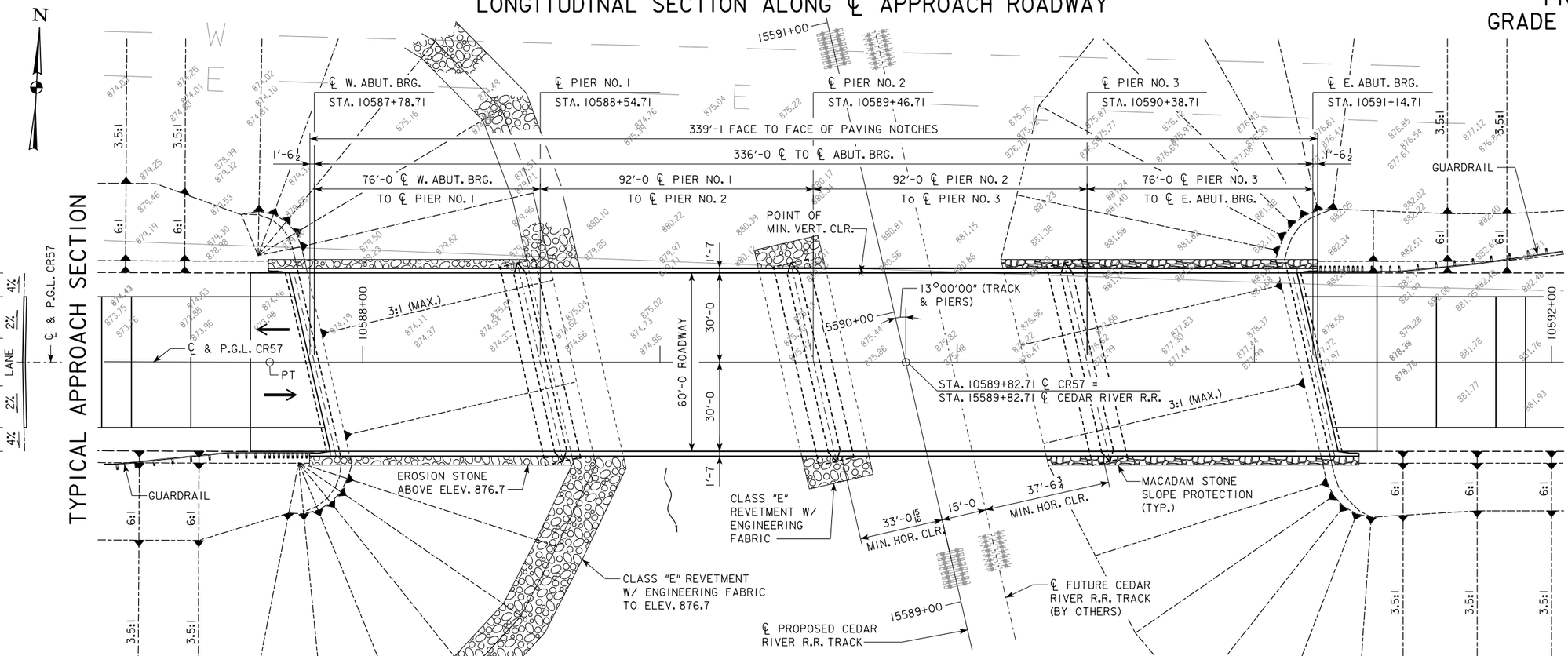
ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER U.3

8:23:43 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188U1.sht

BM. NO. 554 EXISTING US218 STA. 584+90.006, 120.748' RT. CUT "X" AT OUTLET END OF 24" RCP, E. SIDE OF HWY 218 ELEV. 879.742



LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY



TYPICAL APPROACH SECTION

SITUATION PLAN

4.000% -3.000%

PVI STA. 10592+23.25
PVI ELEV. 928.90
LVC = 1720.00 FT

PROPOSED PROFILE GRADE ON CR57

0.18%

PVI STA. 15581+26.15
PVI ELEV. 881.67
LVC = 300.00 FT

PVI STA. 15594+88.66
PVI ELEV. 884.12
LVC = 300.00 FT

PROPOSED PROFILE GRADE ON CEDAR RIVER R.R.

HYDRAULIC DATA

DRAINAGE AREA = 0.8 SQ. MI.
STREAM SLOPE = 4 FT./MI.

Q2 = 39 CFS
STAGE = ELEV. 874.7
CHANNEL VELOCITY = 1.4 FPS

Q_{50} = 141 CFS
STAGE = ELEV. 876.7
BACKWATER = 0.13 FT.
AVG. BRIDGE VELOCITY = 0.75 FPS

Q_{100} = 1,095 CFS
STAGE = ELEV. 879.3
BACKWATER = 0.80 FT.
AVG. BRIDGE VELOCITY = 2.2 FPS
CALCULATED DESIGN SCOUR = 6.9 FT.

Q OVERTOP= 2,200 CFS
AVG. BRIDGE VELOCITY = 3.5 FPS
ROADWAY OVERTOP ELEV. 881.1
STA. 10577+48.89

Q_{500} = 2,578 CFS
STAGE = ELEV. 881.0
AVE. BRIDGE VELOCITY = 3.5 FPS
CALCULATED CHECK SCOUR = 14.9 FT.

EXTREME HW STAGE = 881.0
DATE = JUNE 10, 2008
AVG. LOW WATER STAGE = DRY

TRAFFIC ESTIMATE

2017 AADT	1,538	VPD
2037 AADT	2,195	VPD
TRUCKS	7	%
TOTAL DESIGN ESALs	-	

UTILITIES LEGEND:

E - CEDAR FALLS UTILITIES
W - CENTRAL IOWA WATER ASSOCIATION

MINIMUM VERTICAL CLEARANCE

OVERHEAD STATION = 10589+67.06, 30' LT.
OVERHEAD ELEVATION = 910.55
UNDERPASS STATION = 15590+15.46, 8.5' LT.
UNDERPASS ELEVATION = 883.27
DEPTH OF SUPERSTRUCTURE = 3.92'
(SLAB, HAUNCH & BTB BEAM)
MINIMUM VERTICAL CLEARANCE = 23.37'

NOTES:
ALL UNITS IN FEET UNLESS NOTED OTHERWISE.
TL-4 BRIDGE RAILING PROPOSED.
TOP OF BRIDGE DECK CROWN IS 0.03' BELOW PROFILE GRADE TO ACCOUNT FOR PARABOLIC CROWN.
PIER TYPE - DIAPHRAGM
BEAM TYPE - BTB
CLASS E REVETMENT STONE IS EMBEDDED.
AESTHETIC TREATMENTS SHALL BE ESTABLISHED BY THE IOWA DOT AESTHETICS BRIDGE SPECIALIST.
DECK DRAINS, IF REQUIRED, SHALL NOT BE POSITIONED BETWEEN PIER NO. 2 AND PIER NO. 3.

LOCATION

CR57 OVER CEDAR RIVER R.R.
T-90N R-14W
SECTIONS 12 & 13
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
IOWA CROSSING NO. _____
FRA CROSSING NO. _____
FHWA NO. _____
BRIDGE MAINT. NO. _____
LATITUDE 42.613592°
LONGITUDE -92.446714°

HYDRAULIC DESIGN

LICENSED PROFESSIONAL ENGINEER
Philip E. Rossbach
13920
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
Philip E. Rossbach
Printed or Typed Name

My license renewal date is December 31, 2014

Pages or sheets covered by this seal: V.1-V.3

0 ENGLISH 40
SCALE IN FEET

PRELIMINARY

DESIGN FOR 13° SKEW (R.A.)

336'-0 x 60'-0 PRETENSIONED PRECAST CONCRETE BEAM BRIDGE

76'-0, 92'-0, 92'-0, 76'-0 SPANS (BTB BEAMS)

SITUATION PLAN

STATION 10589+46.71 (℄ CR57) MARCH 2013

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 3 FILE NO. _____ DESIGN NO. 215

DESIGN TEAM HDR | BLACK HAWK COUNTY | PROJECT NUMBER NHSN-218-7(188)--2R-07 | SHEET NUMBER V.1

BM. NO. 554 EXISTING US218 STA. 584+90.006, 120.748' RT. CUT "X" AT OUTLET END OF 24" RCP, E. SIDE OF HWY 218 ELEV. 879.742

N

℄ CR57

℄ W. ABUT. BRG.
STA. 10587+78.7

℄ E. ABUT. BRG.
STA. 10591+14.71

℄ EXISTING CEDAR
RIVER R.R. TRACK
(TO BE RELOCATED)

GUARDRAIL

EROSION STONE
SLOPE PROTECTION

CLASS "E" REVETMENT,
SEE DETAIL DESIGN
SHEET 3.

MACADAM STONE
SLOPE PROTECTION

BERM LINING/STONE TOE CL. "E"
REVEMENT, SEE DETAIL DESIGN SHEET 3

℄ PROPOSED CEDAR
RIVER R.R. TRACK

℄ FUTURE CEDAR
RIVER R.R. TRACK

3:1 (TYP.)

3:1 (MAX.)

SITE PLAN

BERM SLOPE LOCATION TABLE

	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV	STATION	OFFSET	ELEV
A1	10588+59.61	34.58' LT.	874.30	10590+09.73	34.58' LT.	877.40
A2	10588+67.60	0.00'	874.30	10590+17.71	0.00'	877.34
A3	10588+75.58	34.58' RT.	874.30	10590+25.70	34.58' RT.	877.27
B1	10587+75.34	34.58' LT.	901.67	10591+02.11	34.58' LT.	907.22
B2	10587+83.33	0.00'	901.67	10591+10.09	0.00'	907.22
B3	10587+91.31	34.58' RT.	901.67	10591+18.07	34.58' RT.	907.22
W1	10587+63.22	34.58' LT.	906.08	10591+16.32	34.58' LT.	911.92
W3	10587+77.10	34.58' RT.	906.41	10591+30.17	34.58' RT.	912.05

REVETMENT LAYOUT

(R1) STA. 10587+63.2 LT., END BANK LINING/STONE TOE

(R2) STA. 10587+77.1 RT., END BANK LINING/STONE TOE

0 ENGLISH 60
SCALE IN FEET

DESIGN FOR 13° SKEW (R.A.)

336'-0 x 60'-0 PRETENSIONED PRECAST CONCRETE BEAM BRIDGE

76'-0, 92'-0, 92'-0, 76'-0 SPANS (BTB BEAMS)

SITUATION PLAN - SITE

STATION 10589+46.71 (℄ CR57) MARCH 2013

BLACK HAWK COUNTY

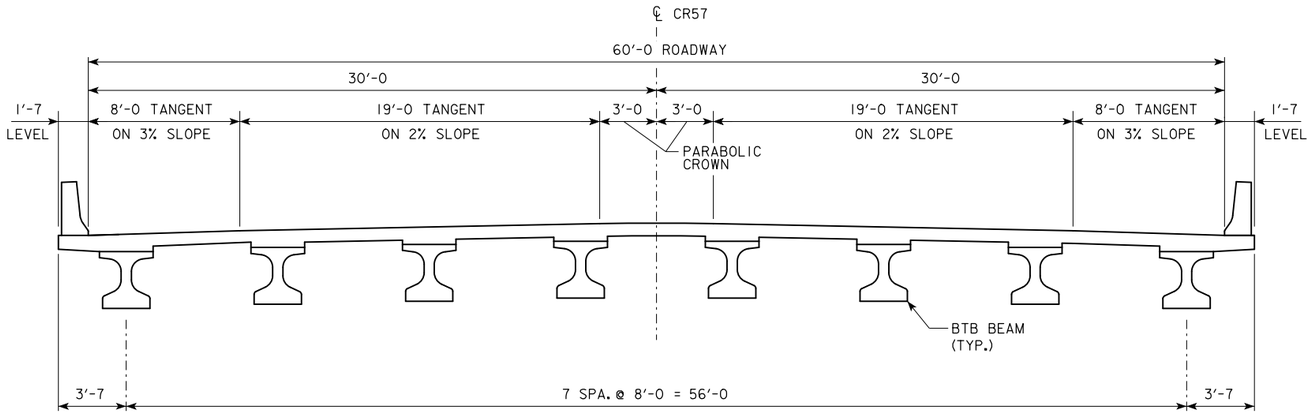
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 3 FILE NO. _____ DESIGN NO. 215

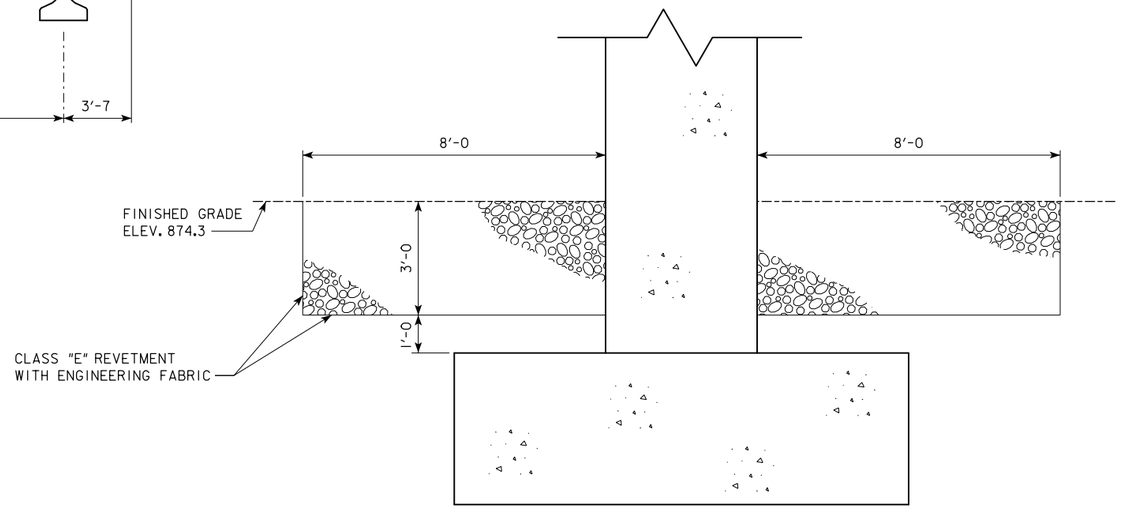
PRELIMINARY

DESIGN TEAM HDR | BLACK HAWK COUNTY | PROJECT NUMBER NHSN-218-7(188)--2R-07 | SHEET NUMBER V.2

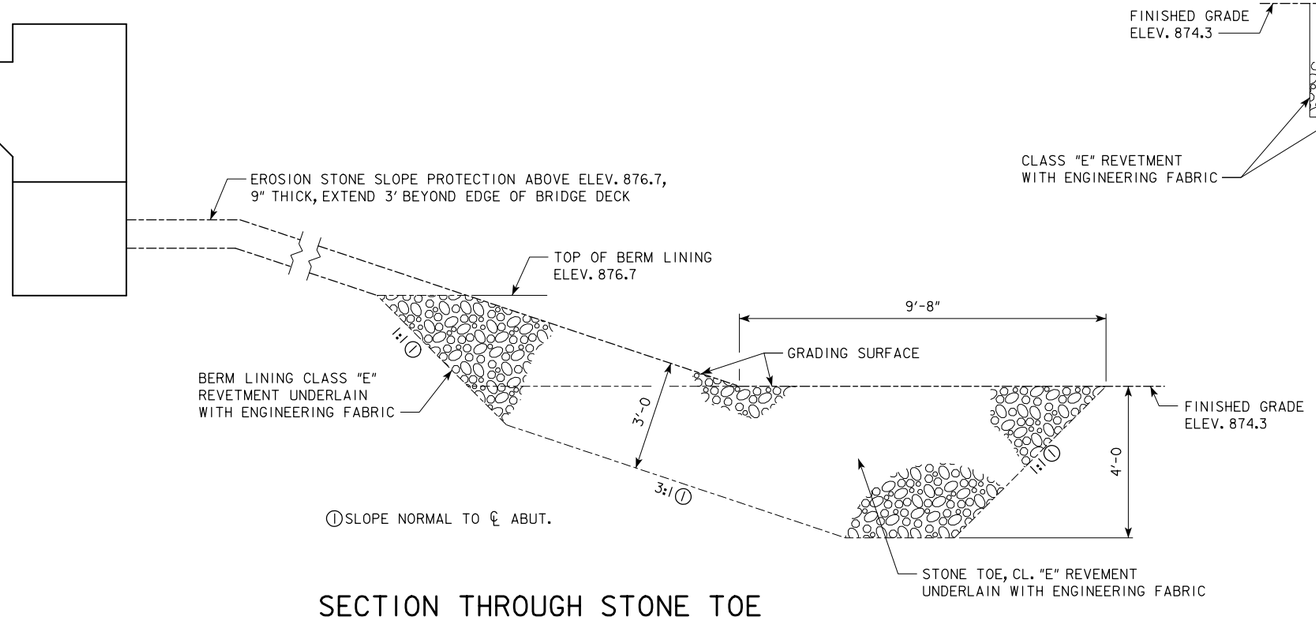
3/26/2013 6:32:40 PM chunter pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\Iowa_Department_of_Transportation\IDOT_US_218_C57_InterPrelimDes\IDOT_US_218_C57_InterPrelimDes\13.00_CAD\13.03_Bridge\TS&L07218188 TSL_07_0188_02 11x17bw_pdf.pltcfg



TYPICAL SECTION



SECTION THROUGH SCOUR PROTECTION BLANKET AT PIER NO. 2



SECTION THROUGH STONE TOE AND BERM LINING AT WEST ABUTMENT

ESTIMATED BERM ARMORING QUANTITIES

REVETMENT TYPE / LOCATION	REVETMENT CL. E (TON)	EROSION STONE (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
BERM LINING/STONE TOE - WEST BERM	1350.3	-	928.5	843.9
SLOPE PROTECTION - WEST BERM	-	248.1	-	155.1
SCOUR PROTECTION - PIER NO. 2	254.1	-	232.5	38.8
TOTALS	1,604.4	248.1	1,161.0	1,037.8

REVEMENT EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE
REVEMENT AND EROSION STONE ESTIMATED AT 1.6 TON/CY

PRELIMINARY

DESIGN FOR 13° SKEW (R.A.)

336'-0 x 60'-0 PRETENSIONED PRECAST CONCRETE BEAM BRIDGE

76'-0, 92'-0, 92'-0, 76'-0 SPANS (BTB BEAMS)

SITUATION PLAN - MISC.

STATION 10589+46.71 (℄ CR57) MARCH 2013

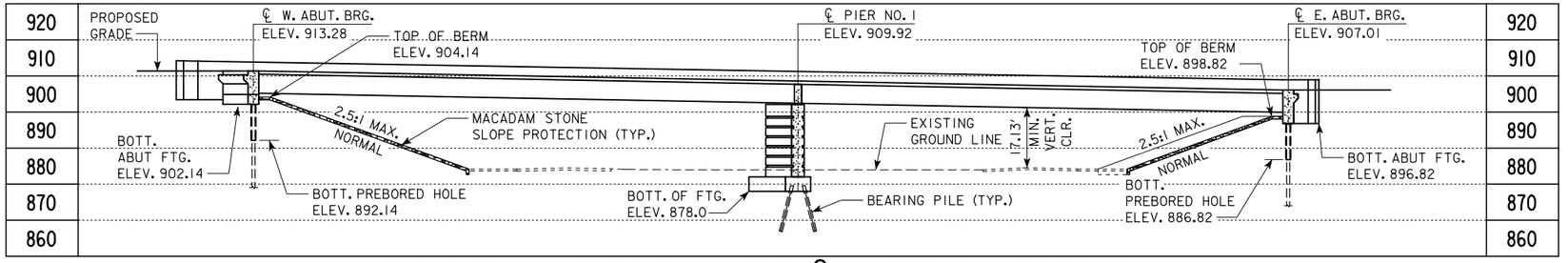
BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

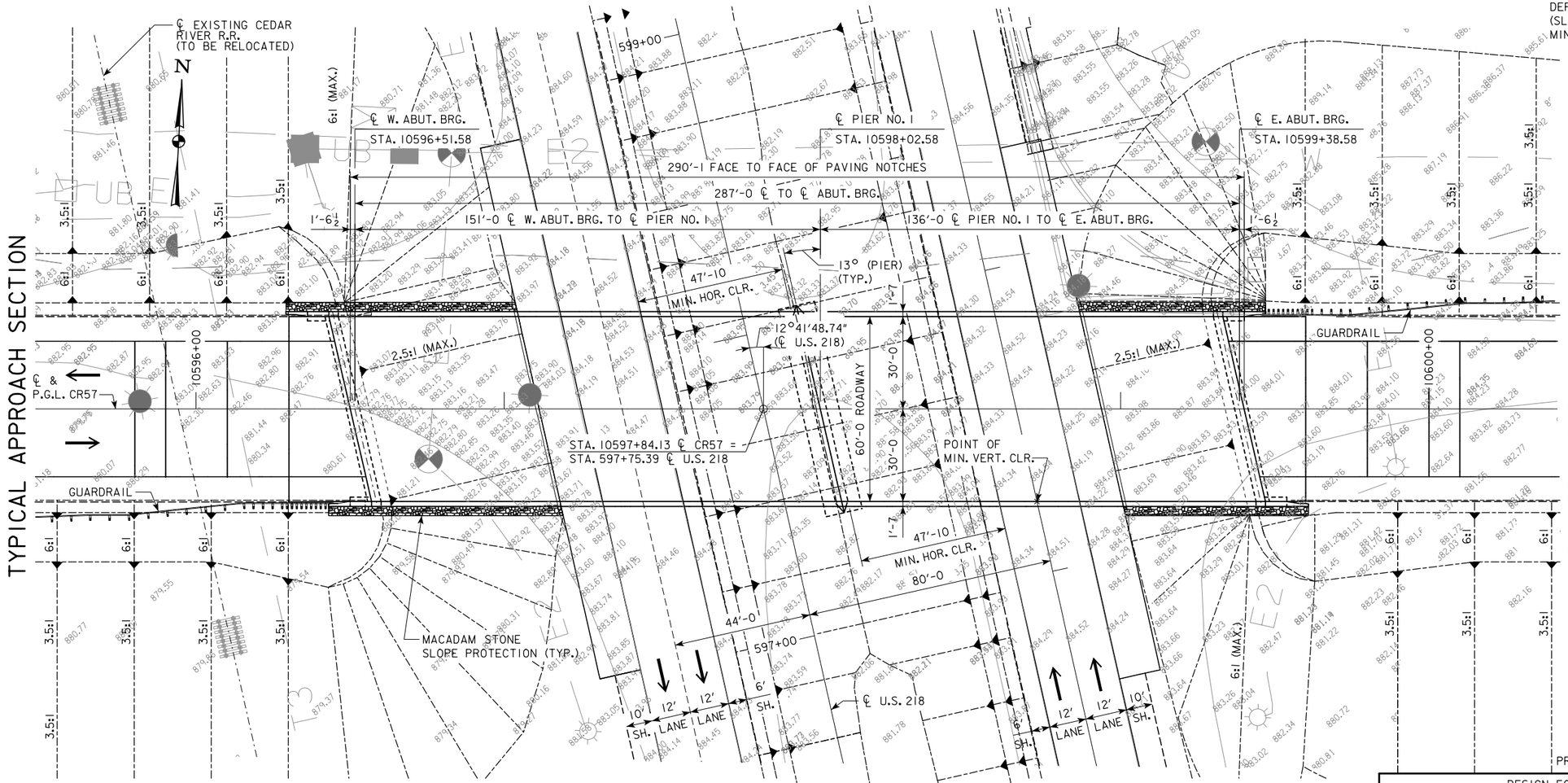
DESIGN SHEET NO. 3 OF 3 FILE NO. _____ DESIGN NO. 215

DESIGN TEAM HDR | BLACK HAWK COUNTY | PROJECT NUMBER NHSN-218-7(188)--2R-07 | SHEET NUMBER V.3

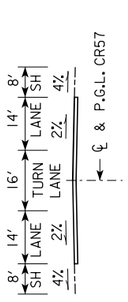
BM. NO. 554 STA. 584+90.006, 120.748' RT. CUT "X" AT OUTLET END OF 24" RCP, E. SIDE OF HWY 218, ELEV. 879.742



LONGITUDINAL SECTION ALONG ℄ APPROACH ROADWAY



TYPICAL APPROACH SECTION



UTILITY LEGEND

E CEDAR FALLS UTILITIES
E2 IDOT INTERSECTION LIGHTING
T3 360 NETWORKS/PINPOINT COMMUNICATIONS
W CENTRAL IOWA WATER ASSOCIATION

SITUATION PLAN

PVI STA. 10592+23.25
PVI ELEV. 928.90 LVC = 1720.00 FT

PROPOSED PROFILE GRADE CR57

MIN. VERT. CLEARANCE

OVERHEAD STA. = 10598+72.89, 30.0' RT.
OVERHEAD ELEVATION = 907.83'
UNDERPASS STA 597+26.61, 80.0 RT.
UNDERPASS ELEVATION = 884.53'
DEPTH OF SUPERSTRUCTURE = 6.17'
(SLAB, HAUNCH & BTE BEAM)
MIN. VERT. CLEARANCE = 17.13'

TRAFFIC ESTIMATE

2017 AADT	2186	V.P.D.
2037 AADT	3121	V.P.D.
TRUCKS	8	%
TOTAL DESIGN ESALs	-	

LOCATION

CR57 OVER U.S. 218
T-90N, R-14W
SECTIONS 12 & 13
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
42.830345° LATITUDE
-92.443565° LONGITUDE
FHWA NO. _____
BRIDGE MAINT. NO. _____

NOTES:
ALL UNITS IN FEET UNLESS NOTED OTHERWISE.
TL-4 BRIDGE RAILING PROPOSED.
2-SPAN GRADING SHOWN.
TOP BRIDGE DECK CROWN IS 0.03' BELOW PROFILE GRADE TO ACCOUNT FOR PARABOLIC CROWN.
PIER TYPE - DIAPHRAGM
BEAM TYPE - BTE
AESTHETIC TREATMENTS SHALL BE ESTABLISHED BY THE IOWA DOT AESTHETICS BRIDGE SPECIALIST.

0 ENGLISH 40
SCALE IN FEET

PRELIMINARY

DESIGN FOR 13° SKEW (R.A.)

287'-0 x 60'-0 PRETENSIONED PRECAST CONCRETE BEAM BRIDGE

151'-0, 136'-0 SPANS (BTE BEAMS)

SITUATION PLAN

STATION 10597+95.08 (℄ CR57) MARCH 2013

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 1 OF 3 FILE NO. _____ DESIGN NO. 115

DESIGN TEAM HDR	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER V.4

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BM. NO. 554 STA. 584+90.006, 120.748' RT. CUT "X" AT OUTLET END OF 24" RCP, E. SIDE OF HWY 218, ELEV. 879.742

SITE PLAN

BERM SLOPE LOCATION TABLE

	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV	STATION	OFFSET	ELEV
A1	10597+03.55	34.58' LT.	883.65	10598+86.02	34.58' LT.	883.70
A2	10597+11.35	0.00'	883.65	10598+93.81	0.00'	883.66
A3	10597+19.14	34.58' RT.	883.60	10599+01.60	34.58' RT.	884.71
B1	10596+48.21	34.58' LT.	903.64	10599+25.97	34.58' LT.	898.32
B2	10596+56.20	0.00'	903.64	10599+33.96	0.00'	898.32
B3	10596+64.18	34.58' RT.	903.64	10599+41.39	34.58' RT.	898.32
W1	10596+29.15	34.58' LT.	911.37	10599+47.15	34.58' LT.	905.65
W3	10596+43.00	34.58' RT.	911.20	10599+61.00	34.58' RT.	905.30

RECOVERABLE BERM LOCATION TABLE

	WEST ABUTMENT			EAST ABUTMENT		
	STATION	OFFSET	ELEV	STATION	OFFSET	ELEV
B	10596+48.21	34.58' LT.	903.64	10599+41.94	34.58' LT.	898.32
C1	10596+66.43	199.34' LT.	883.77	10599+25.88	142.82' RT.	883.60
C2	10596+56.05	229.52' LT.	883.63	10599+36.37	172.99' RT.	883.49
C3	10596+57.37	262.34' LT.	883.97	10599+35.05	205.82' RT.	883.83

PRELIMINARY

DESIGN FOR 13° SKEW (R.A.)

287'-0 x 60'-0 PRETENSIONED PRECAST CONCRETE BEAM BRIDGE

151'-0, 136'-0 SPANS (BTE BEAMS)

SITUATION PLAN - SITE

STATION 10597+95.08 (℄ CR57) MARCH 2013

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 3 FILE NO. _____ DESIGN NO. 115

DESIGN TEAM HDR | BLACK HAWK COUNTY | PROJECT NUMBER NHSN-218-7(188)--2R-07 | SHEET NUMBER V.5

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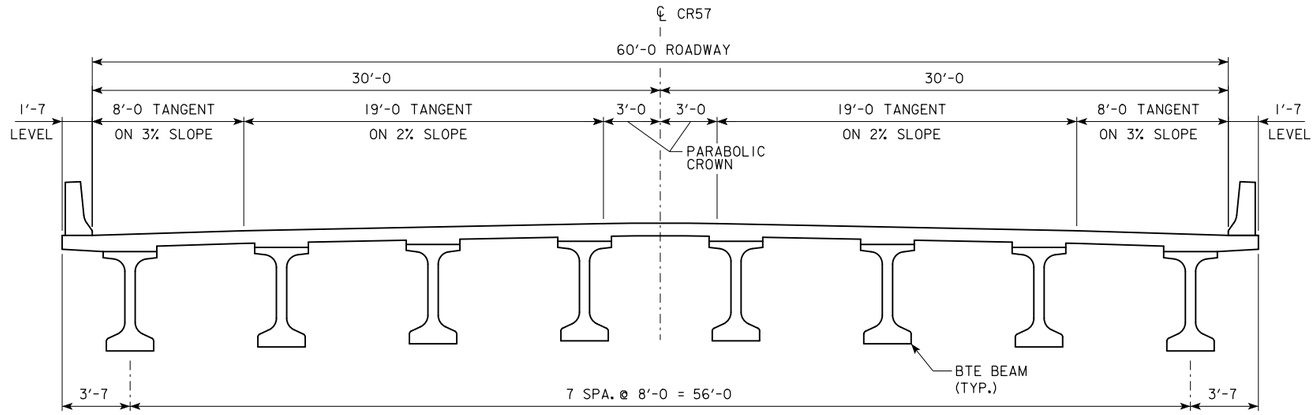


TYPICAL SECTION

PRELIMINARY

DESIGN FOR 13° SKEW (R.A.)

287'-0 x 60'-0 PRETENSIONED PRECAST CONCRETE BEAM BRIDGE

151'-0, 136'-0 SPANS (BTE BEAMS)

SITUATION PLAN - MISC.

STATION 10597+95.08 (℄ CR57) MARCH 2013

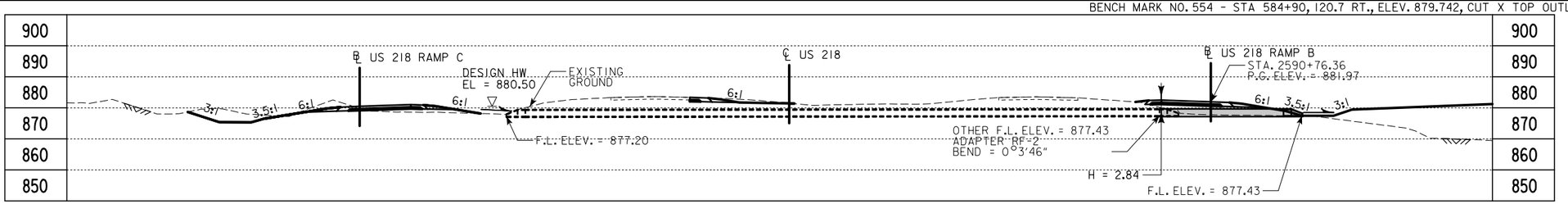
BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

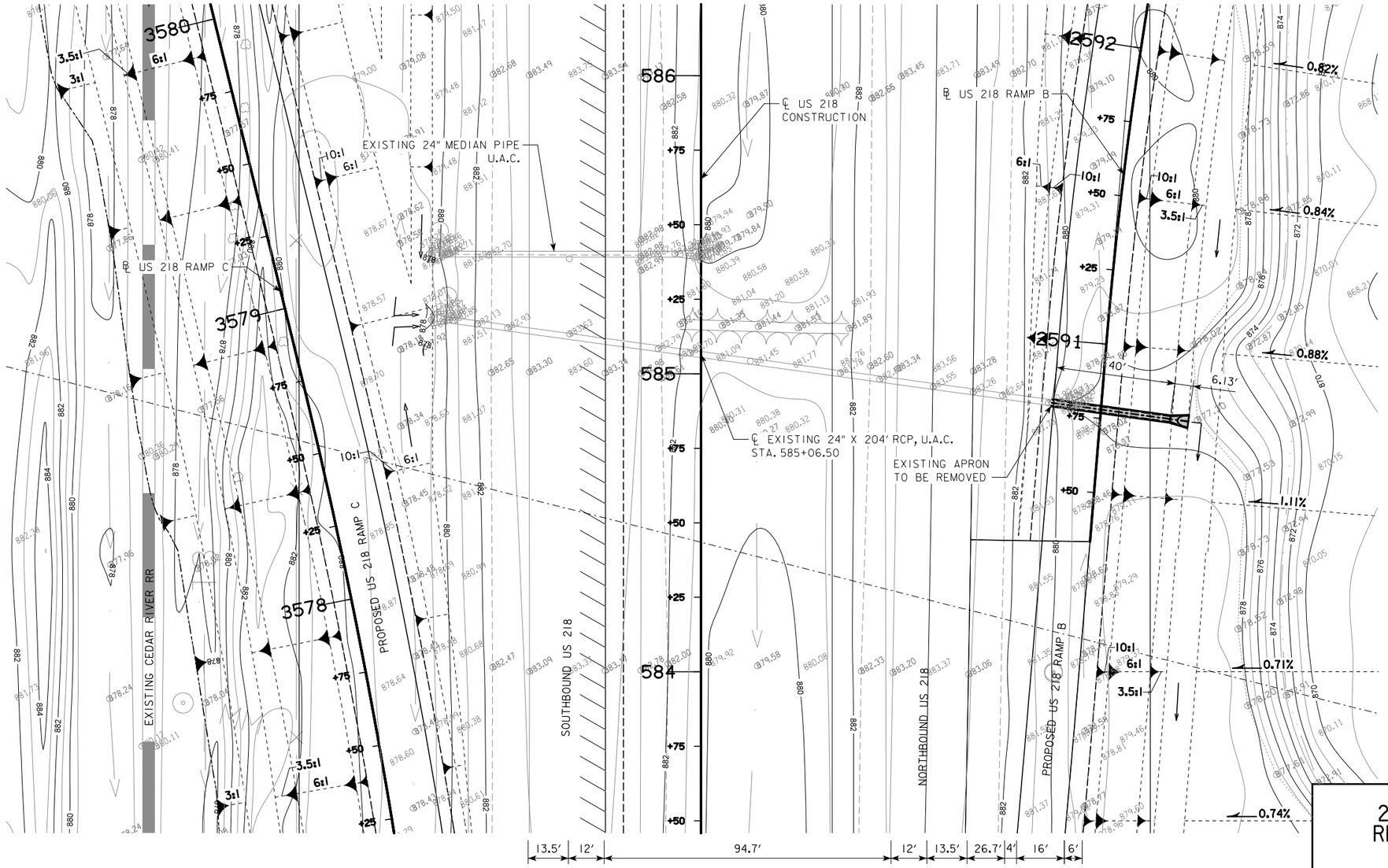
DESIGN SHEET NO. 3 OF 3 FILE NO. _____ DESIGN NO. 115

DESIGN TEAM HDR	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER V.6

BENCH MARK NO. 554 - STA 584+90, 120.7 RT., ELEV. 879.742, CUT X TOP OUTLET END 24" RCP EAST SIDE HWY 218



LONGITUDINAL SECTION AT CULVERT INVERTS



0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

2005 AADT	539	V.P.D.
2037 AADT	1423	V.P.D.
2037 DHV	--	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALs	--	

LOCATION

US 218 RAMP B
T-90 N R-14 W
SECTION 13
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.6103098I
LONGITUDE 92.44239810

HYDRAULIC DATA

DRAINAGE AREA = 8 ACRES - FLAT
Q_{50} = 14.8 CFS
HW ELEV. = 880.50

PRELIMINARY

DESIGN FOR 0° SKEW

24 in. x 40 ft. Ext. Right REINFORCED CONCRETE PIPE

PLAT PLAN

STATION 585+06.50 (℄ US 218) SEPTEMBER 2012

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

PLAT PLAN

DESIGN TEAM	HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER	NHSN-218-7(188)--2R-07	SHEET NUMBER V.7

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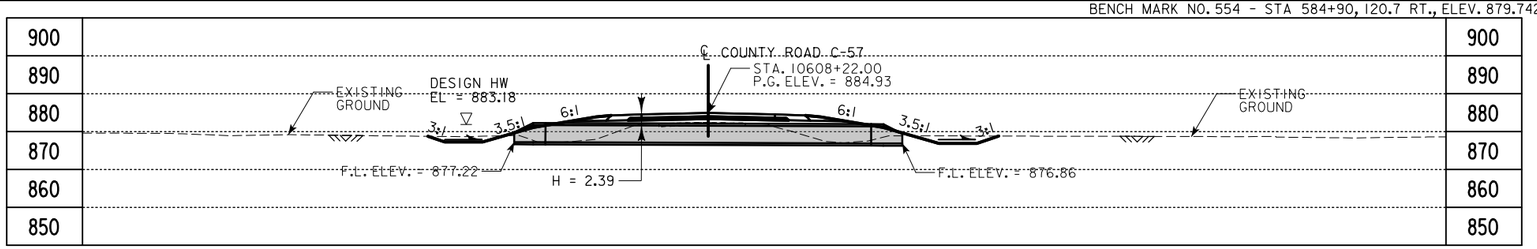
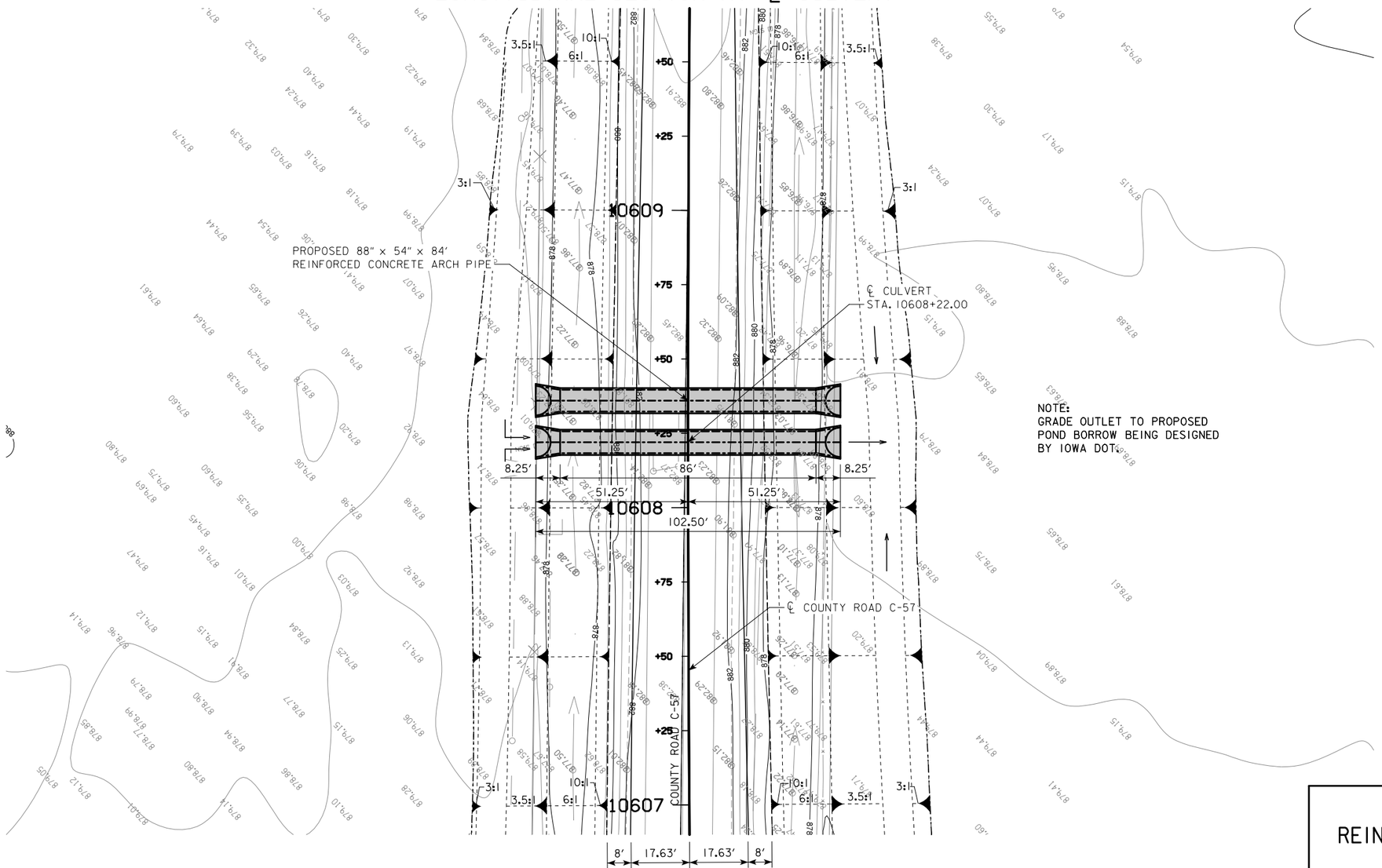
BENCH MARK NO. 554 - STA 584+90, 120.7 RT., ELEV. 879.742, CUT X TOP OUTLET END 24" RCP EAST SIDE HWY 218



LONGITUDINAL SECTION AT ℄ CULVERT



PLAT PLAN

N

0 ENGLISH 40
SCALE IN FEET

NOTE:
GRADE OUTLET TO PROPOSED POND BORROW BEING DESIGNED BY IOWA DOT.

TRAFFIC ESTIMATE

2005 AADT	1161	V.P.D.
2037 AADT	2055	V.P.D.
2037 DHV	--	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALs	--	

LOCATION

C-57
T-90 N R-14 W
SECTION 12
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.613779723
LONGITUDE 92.439751998

HYDRAULIC DATA

DRAINAGE AREA = 763 ACRES - FLAT
Q_{50} = 438.4 CFS
HW ELEV. = 883.18

PRELIMINARY

DESIGN FOR 0° SKEW

88 in. x 54 in. x 86 ft.
REINFORCED CONCRETE ARCH PIPE

PLAT PLAN

STATION 10608+22.00 (℄ COUNTY ROAD C-57) SEPTEMBER 2012

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

DESIGN TEAM HDR/Iowa DOT | BLACK HAWK COUNTY | PROJECT NUMBER NHSN-218-7(188)--2R-07 | SHEET NUMBER V.8

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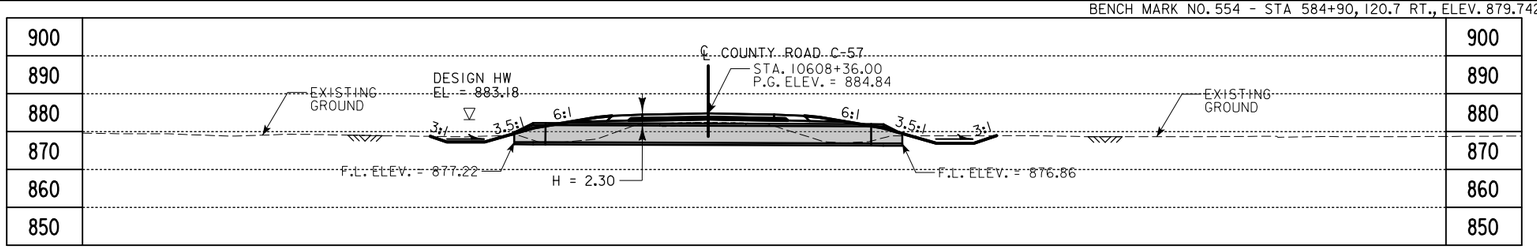
BENCH MARK NO. 554 - STA 584+90, 120.7 RT., ELEV. 879.742, CUT X TOP OUTLET END 24" RCP EAST SIDE HWY 218



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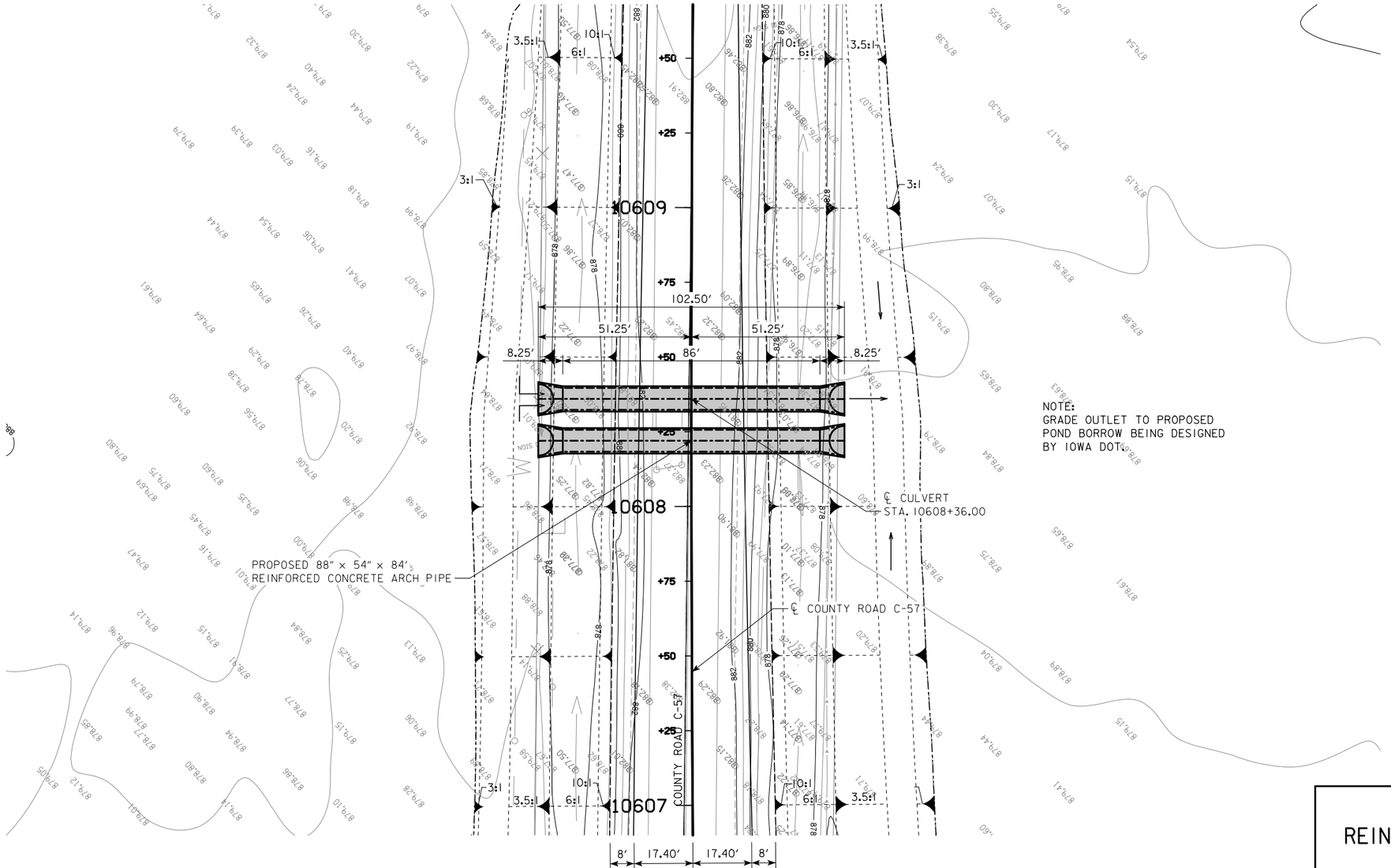

PLAT PLAN

N

0 ENGLISH 40
SCALE IN FEET

NOTE:
GRADE OUTLET TO PROPOSED POND BORROW BEING DESIGNED BY IOWA DOT.

TRAFFIC ESTIMATE

2005 AADT	1161	V.P.D.
2037 AADT	2055	V.P.D.
2037 DHV	--	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALs	--	

LOCATION

C-57
T-90 N R-14 W
SECTION 12
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.613780806
LONGITUDE 92.439700040

HYDRAULIC DATA

DRAINAGE AREA = 763 ACRES - FLAT
Q_{50} = 438.4 CFS
HW ELEV. = 883.18

PRELIMINARY

DESIGN FOR 0° SKEW

88 in. x 54 in. x 86 ft.
REINFORCED CONCRETE ARCH PIPE

PLAT PLAN

STATION 10608+36.00 (℄ COUNTY ROAD C-57) SEPTEMBER 2012

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

DESIGN TEAM HDR/Iowa DOT | BLACK HAWK COUNTY | PROJECT NUMBER NHSN-218-7(188)--2R-07 | SHEET NUMBER V.9

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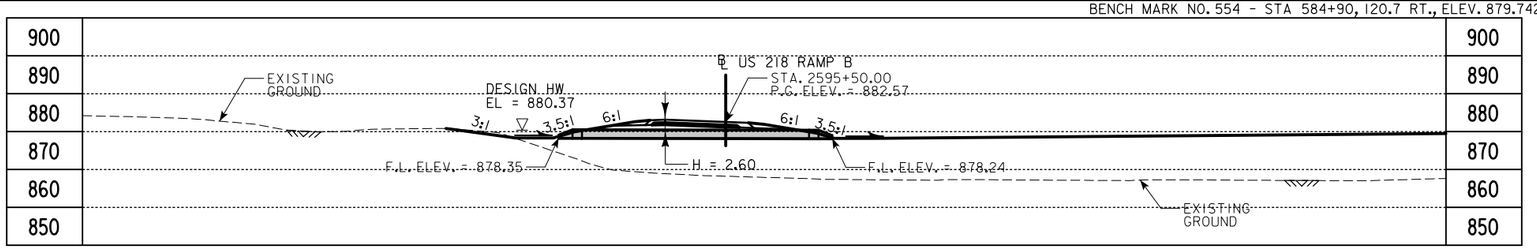
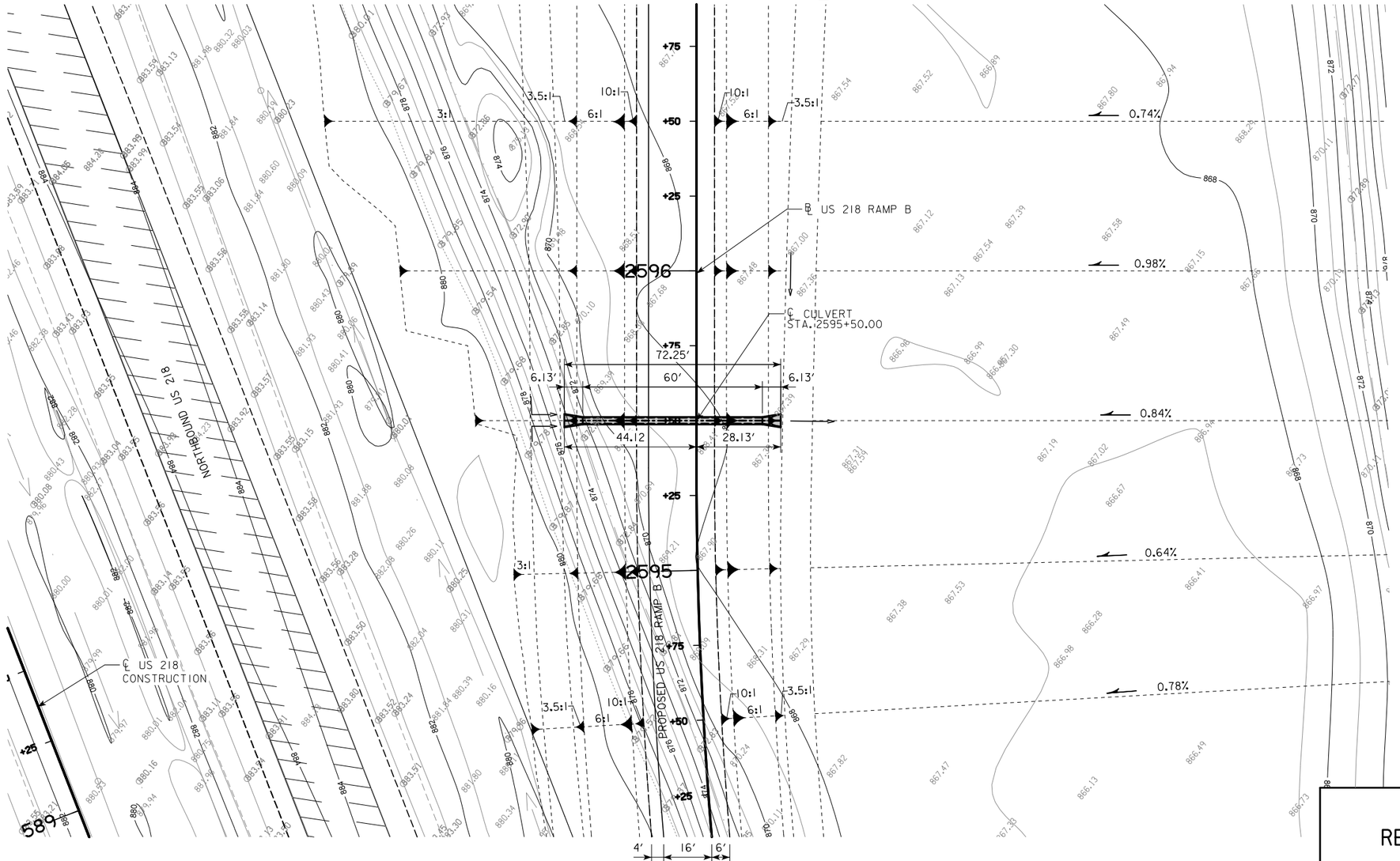
BENCH MARK NO. 554 - STA 584+90, 120.7 RT., ELEV. 879.742, CUT X TOP OUTLET END 24" RCP EAST SIDE HWY 218



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

N

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

2005 AADT	539	V.P.D.
2037 AADT	1423	V.P.D.
2037 DHV	--	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALs	--	

LOCATION

US 218 RAMP B
T-90 N R-14 W
SECTION 13
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.61164466
LONGITUDE 92.441956514

HYDRAULIC DATA

DRAINAGE AREA = 5.8 ACRES - FLAT
Q_{50} = 11.9 CFS
HW ELEV. = 880.37

PRELIMINARY

DESIGN FOR 0° SKEW

24 in. x 60 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STATION 2595+50.00 (℄ RAMP B US 218) SEPTEMBER 2012

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

DESIGN TEAM HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER V.10

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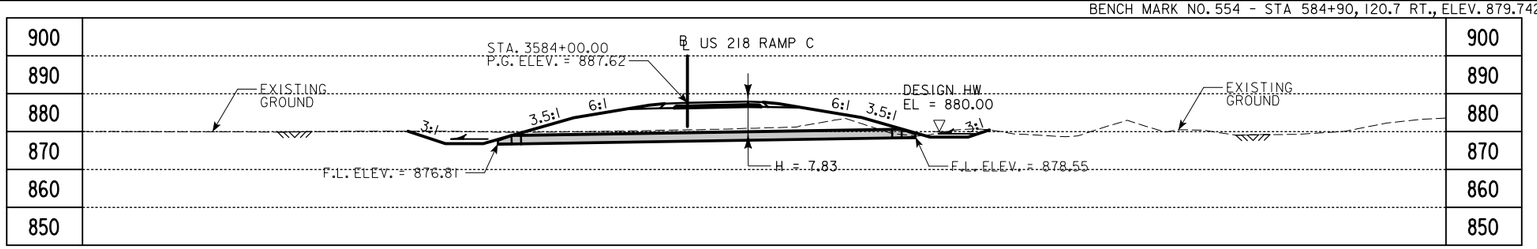
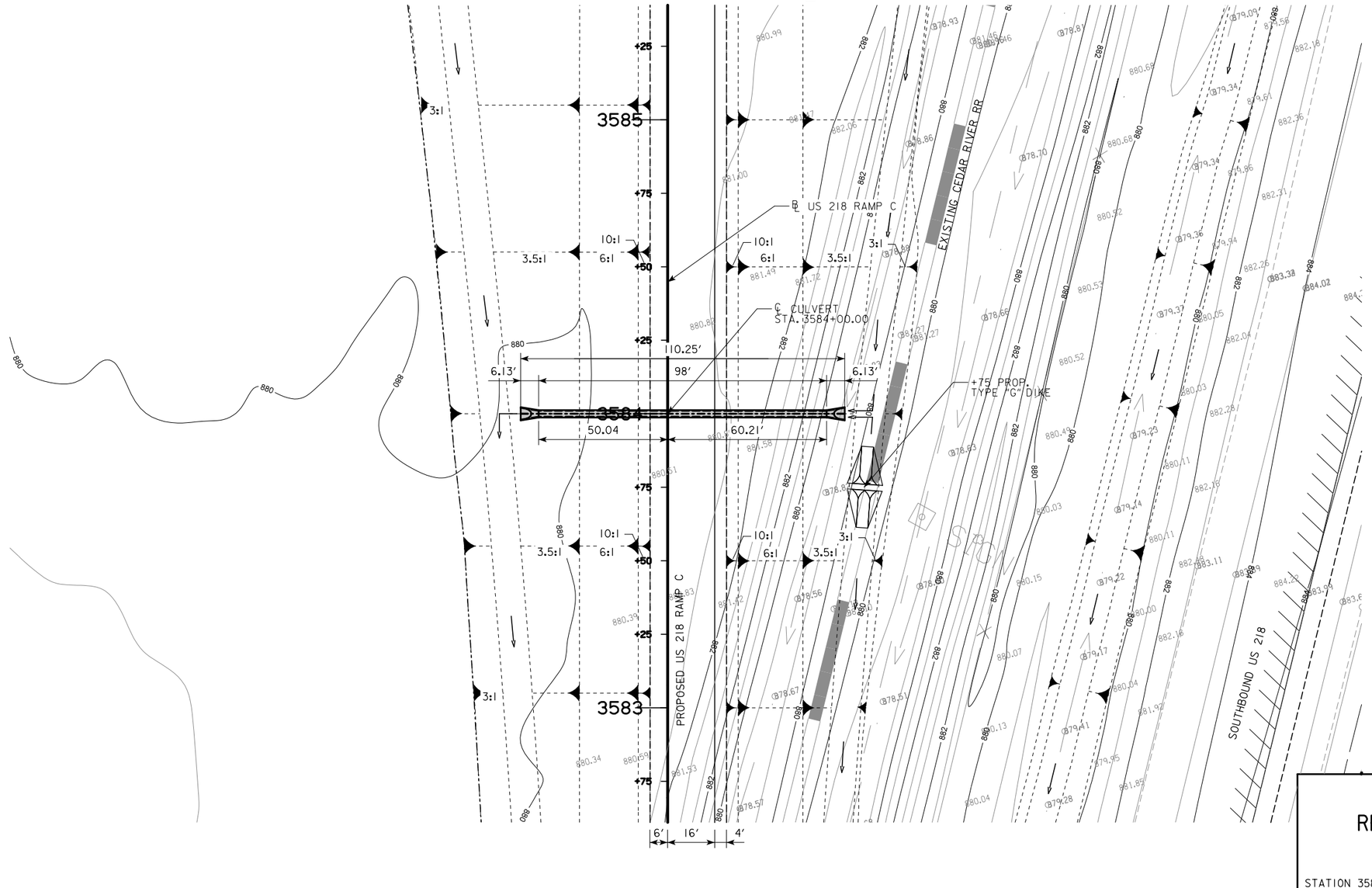
BENCH MARK NO. 554 - STA 584+90, 120.7 RT., ELEV. 879.742, CUT X TOP OUTLET END 24" RCP EAST SIDE HWY 218



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

TRAFFIC ESTIMATE

2005 AADT	868	V.P.D.
2037 AADT	1536	V.P.D.
2037 DHV	--	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALs	--	

LOCATION

US 218 RAMP C
T-90 N R-14 W
SECTION 13
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.611457569
LONGITUDE 92.44380263I

HYDRAULIC DATA

DRAINAGE AREA = 3.3 ACRES - FLAT
Q_{50} = 7.8 CFS
HW ELEV. = 880.00

PRELIMINARY

DESIGN FOR 0° SKEW

24 in. x 98 ft. REINFORCED CONCRETE PIPE

PLAT PLAN

STATION 3584+00.00 (℄ RAMP C US 218) SEPTEMBER 2012

BLACK HAWK COUNTY

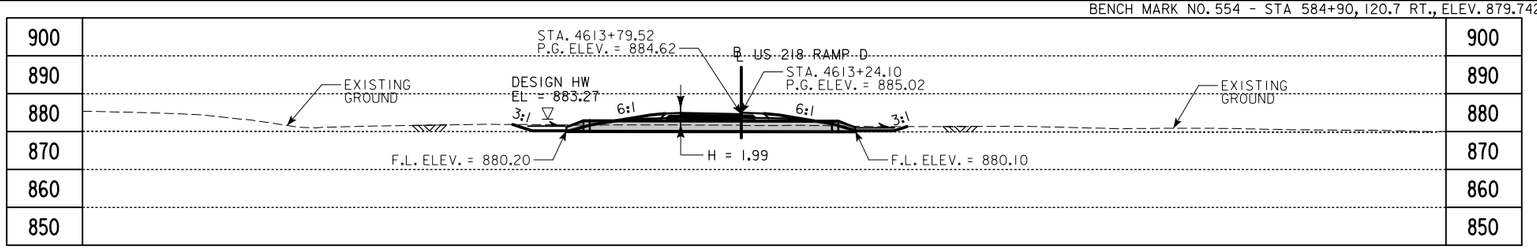
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

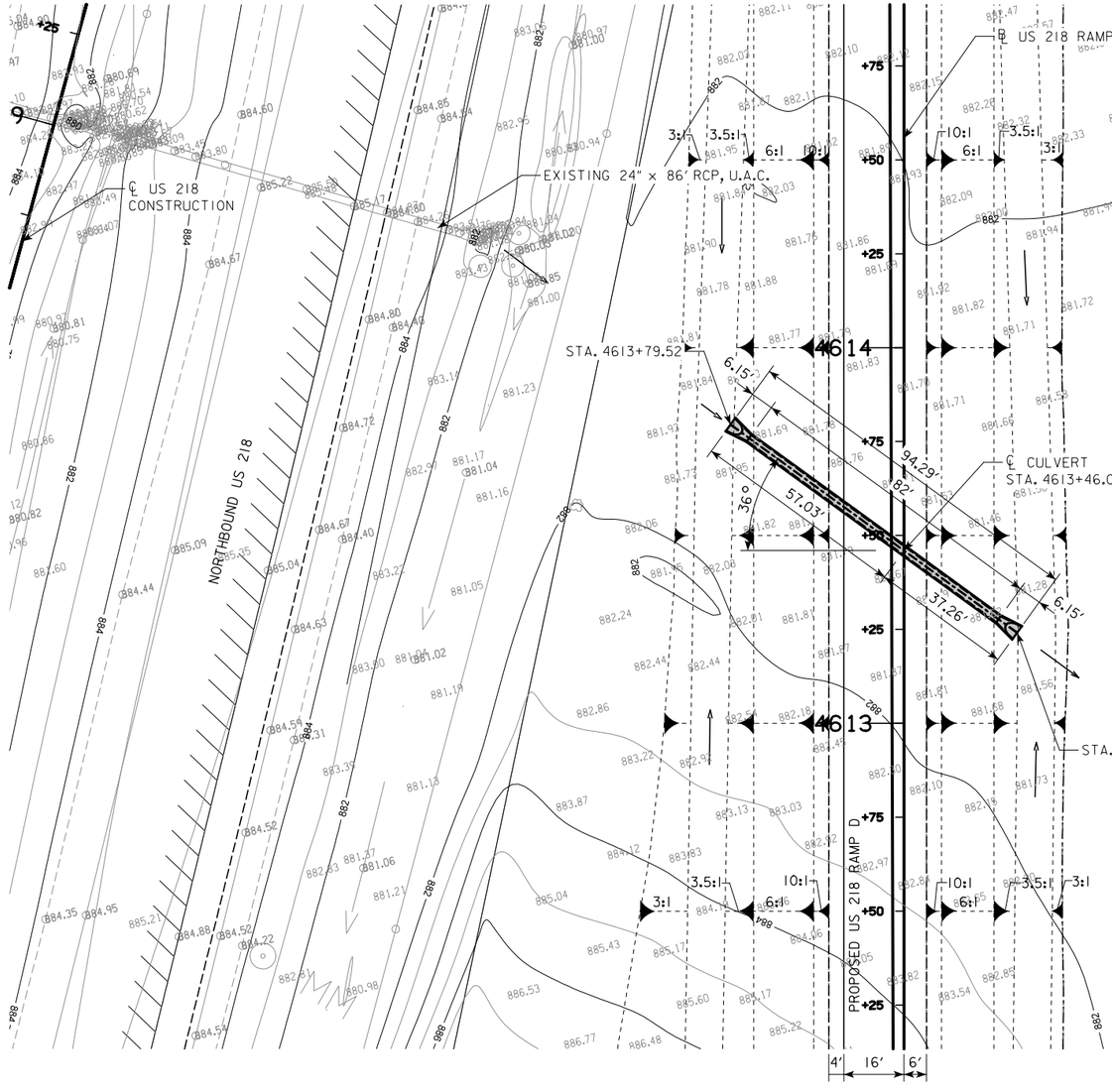
DESIGN TEAM HDR/Iowa DOT | BLACK HAWK COUNTY | PROJECT NUMBER NHSN-218-7(188)--2R-07 | SHEET NUMBER V.11

3/26/2013 6:58:44 PM chunter pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\Iowa_Department_of_Transportation\IDOT_US_218_C57_InterPrelimDes\IDOT_US_218_C57_InterPrelimDes\13.00_CAD\13.03_Bridge\07218188 STA_3584+00.00 11x17bw_pdf.pltcfg

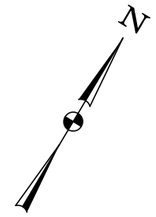
BENCH MARK NO. 554 - STA 584+90, 120.7 RT., ELEV. 879.742, CUT X TOP OUTLET END 24" RCP EAST SIDE HWY 218



LONGITUDINAL SECTION AT CULVERT INVERTS



PLAT PLAN



0 ENGLISH 40
SCALE IN FEET

NOTE:
GRADING IS REQUIRED TO OUTLET TO EXISTING SWALE

TRAFFIC ESTIMATE

2005 AADT	539	V.P.D.
2037 AADT	954	V.P.D.
2037 DHV	--	V.P.H.
TRUCKS	8	%
TOTAL DESIGN ESALs	--	

LOCATION

US 218 RAMP D
T-90 N R-14 W
SECTION 12
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.616179966
LONGITUDE 92.443549865

HYDRAULIC DATA

DRAINAGE AREA = 18 ACRES - FLAT
Q_{50} = 27.3 CFS
HW ELEV. = 883.27

PRELIMINARY

DESIGN FOR 36° SKEW, LT. AHEAD

30 in. x 82 ft.
REINFORCED CONCRETE PIPE

PLAT PLAN

STATION 4613+46.00 (℄ RAMP D US 218) SEPTEMBER 2012

BLACK HAWK COUNTY

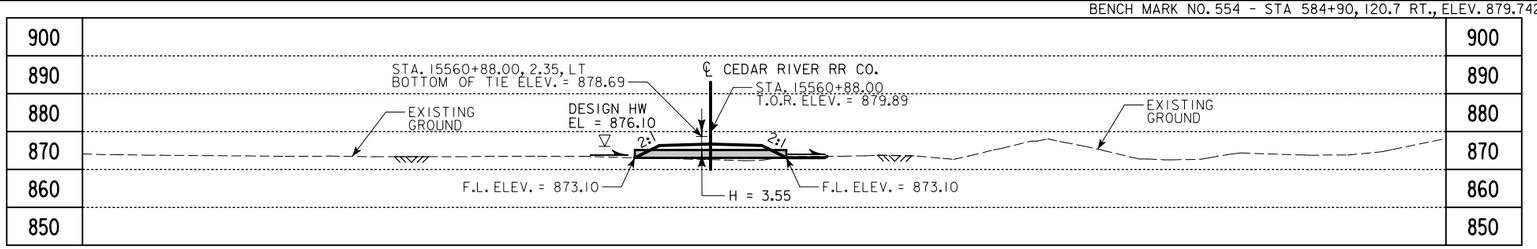
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

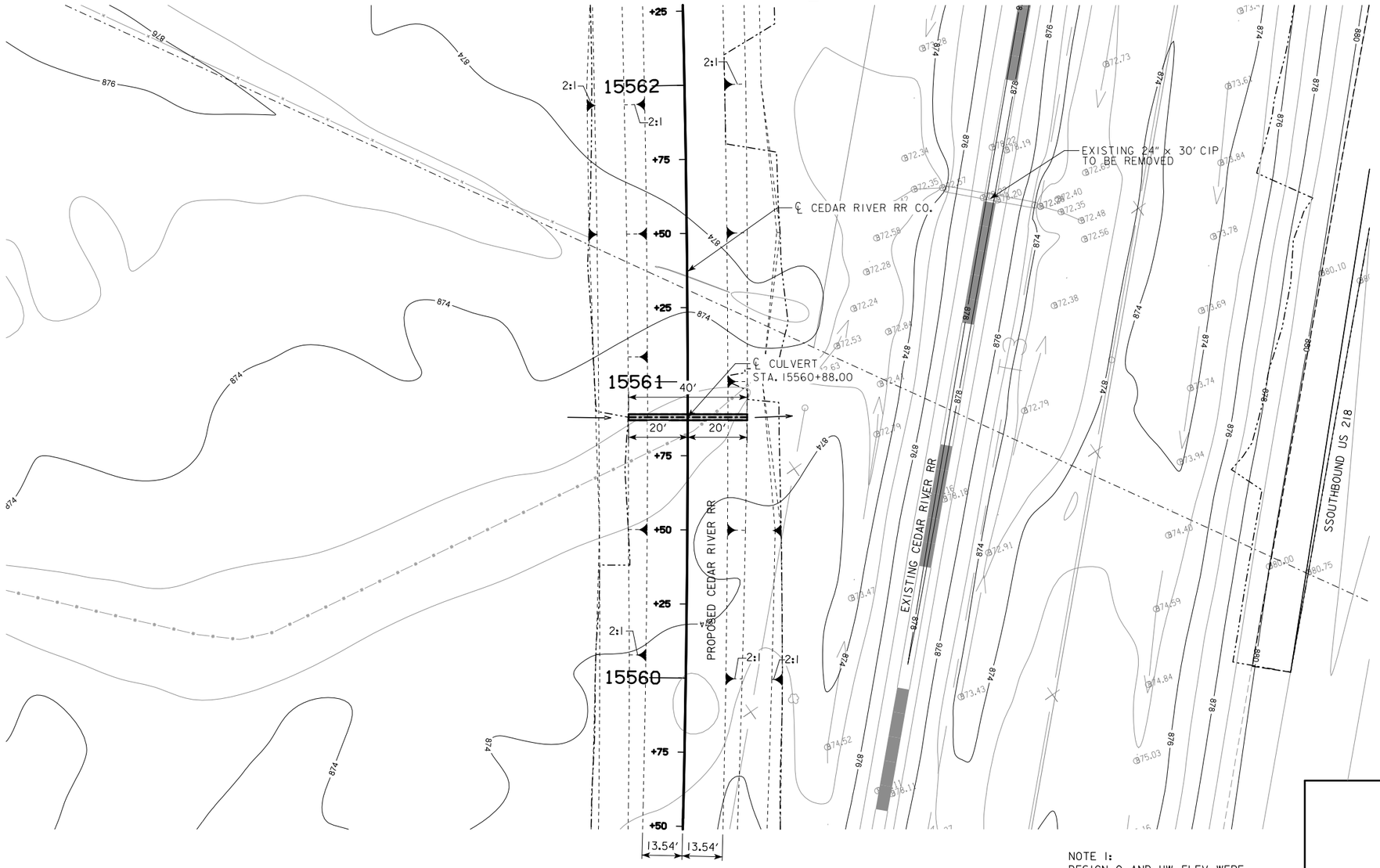
DESIGN TEAM HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER V.12

3/26/2013 6:51:55 PM chunter pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\Iowa_Department_of_Transportation\IDOT_US_218_C57_InterPrelimDes\IDOT_US_218_C57_InterPrelimDes\13.00_CAD\13.03_Bridge\07218188 STA_4613+46.00 11x17bw_pdf.pltcfg

BENCH MARK NO. 554 - STA 584+90, 120.7 RT., ELEV. 879.742, CUT X TOP OUTLET END 24" RCP EAST SIDE HWY 218



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

N

0 ENGLISH 40
SCALE IN FEET

LOCATION

CEDAR RIVER RR CO.
T-90 N R-14 W
SECTION 13
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.606428217
LONGITUDE 92.442054701

HYDRAULIC DATA

DRAINAGE AREA =
Q_{50} = 19.8 CFS (NOTE 1)
HW ELEV. = 876.10

PRELIMINARY

NOTE 1:
DESIGN Q AND HW ELEV. WERE CALCULATED FROM TWO DIMENSIONAL HYDRAULIC MODEL DUE TO SPLIT FLOW CONDITION UPSTREAM FROM CULVERT LOCATION.

DESIGN FOR 0° SKEW

24 in. x 40 ft.
SMOOTH STEEL PIPE

PLAT PLAN

STATION 15560+88.00 (℄ CEDAR RIVER RR CO.) SEPTEMBER 2012

BLACK HAWK COUNTY

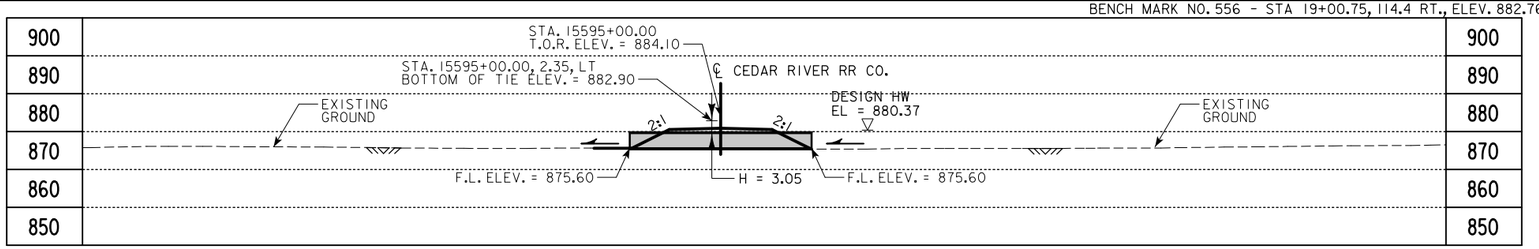
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

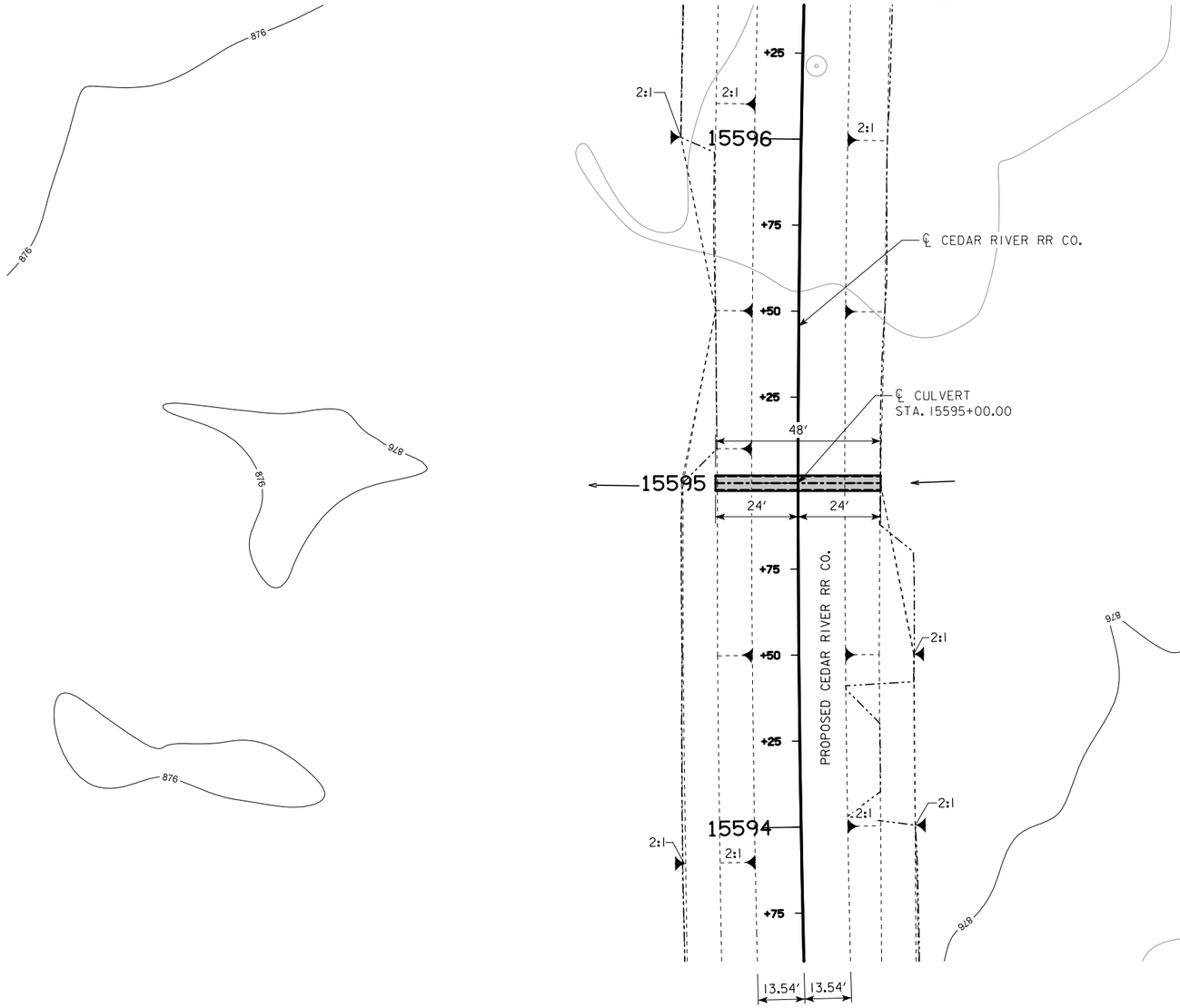
DESIGN TEAM HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER V.13

3/26/2013 6:55:25 PM chunter pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\Iowa_Department_of_Transportation\IDOT_US_218_C57_InterPrelimDes\IDOT_US_218_C57_InterPrelimDes\13.00_CAD\13.03_Bridge\07218188 STA_15560+88.00 11x17bw_pdf.pltcfg

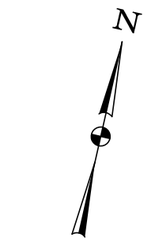
BENCH MARK NO. 556 - STA 19+00.75, 114.4 RT., ELEV. 882.769, CUT X TOP OUTLET END 24" RCP



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN



0 ENGLISH 40
SCALE IN FEET

LOCATION

CEDAR RIVER RR CO.
T-90 N R-14 W
SECTION 12
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.614969649
LONGITUDE 92.447050582

HYDRAULIC DATA

DRAINAGE AREA = 86 ACRES - FLAT
Q_{50} = 87.4 CFS
HW ELEV. = 880.37

PRELIMINARY

DESIGN FOR 0° SKEW
48 in. x 48 ft.
SMOOTH STEEL PIPE

PLAT PLAN

STATION 15595+00.00 (℄ CEDAR RIVER RR CO.) SEPTEMBER 2012

BLACK HAWK COUNTY

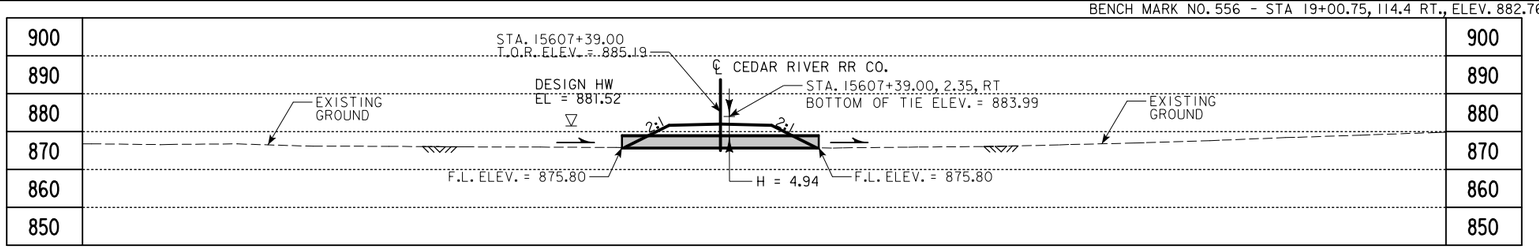
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

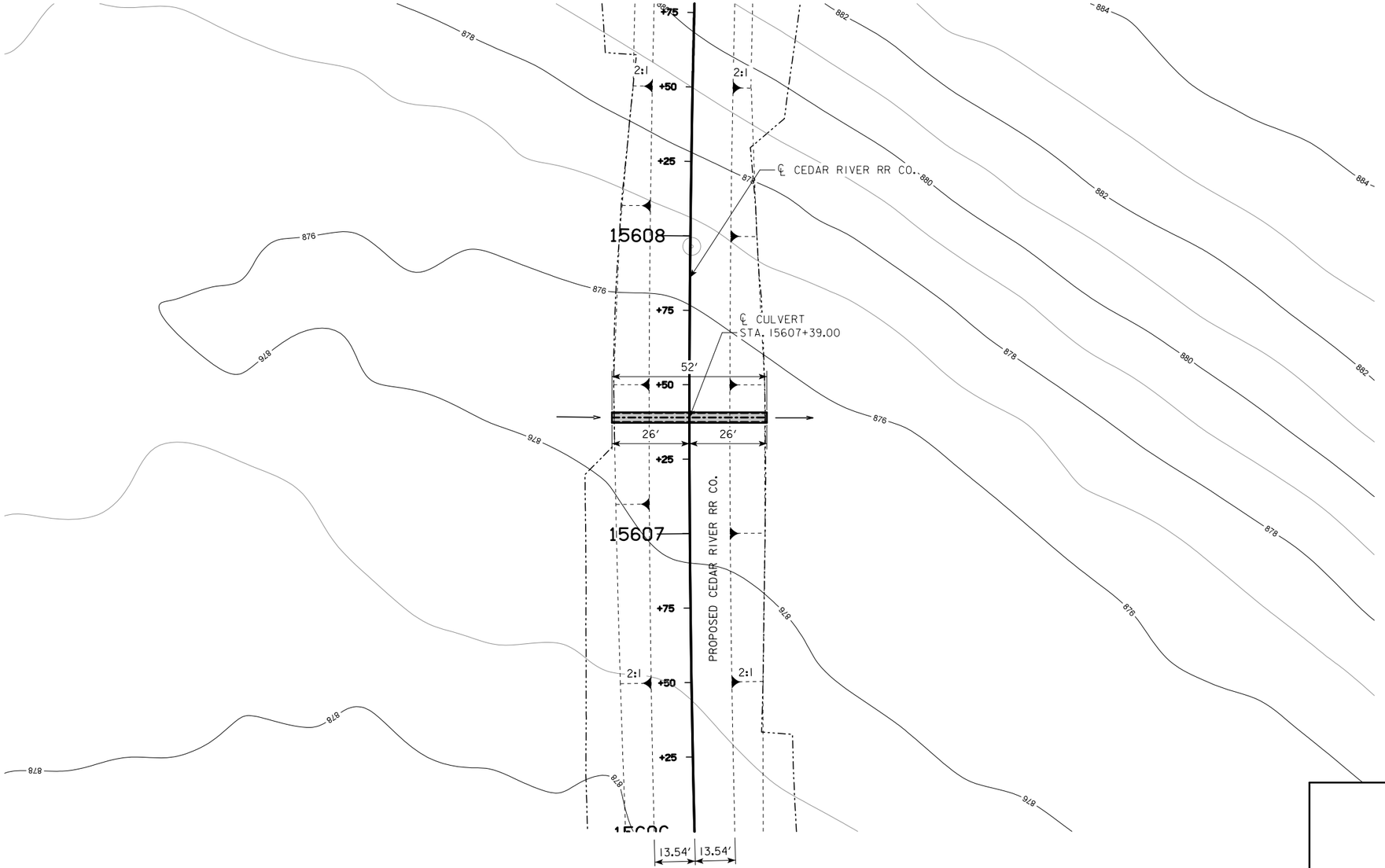
DESIGN TEAM HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER V.14

3/26/2013 6:56:16 PM chunter pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\Iowa_Department_of_Transportation\IDOT_US_218_C57_InterPrelimDes\IDOT_US_218_C57_InterPrelimDes\13.00_CAD\13.03_Bridge\07218188 STA_15595+00.00 11x17bw_pdf.pltcfg

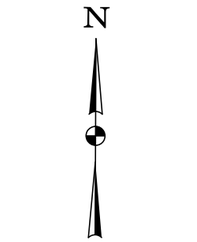
BENCH MARK NO. 556 - STA 19+00.75, 114.4 RT., ELEV. 882.769, CUT X TOP OUTLET END 24" RCP



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN



0 ENGLISH 40
SCALE IN FEET

LOCATION

CEDAR RIVER RR CO.
T-90 N R-14 W
SECTION 12
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.618345677
LONGITUDE 92.447512787

HYDRAULIC DATA

DRAINAGE AREA = 62 ACRES - FLAT
Q_{50} = 68.6 CFS
HW ELEV. = 881.52

PRELIMINARY

DESIGN FOR 0° SKEW

36 in. x 52 ft.
SMOOTH STEEL PIPE

PLAT PLAN

STATION 15607+39.00 (℄ CEDAR RIVER RR CO.) SEPTEMBER 2012

BLACK HAWK COUNTY

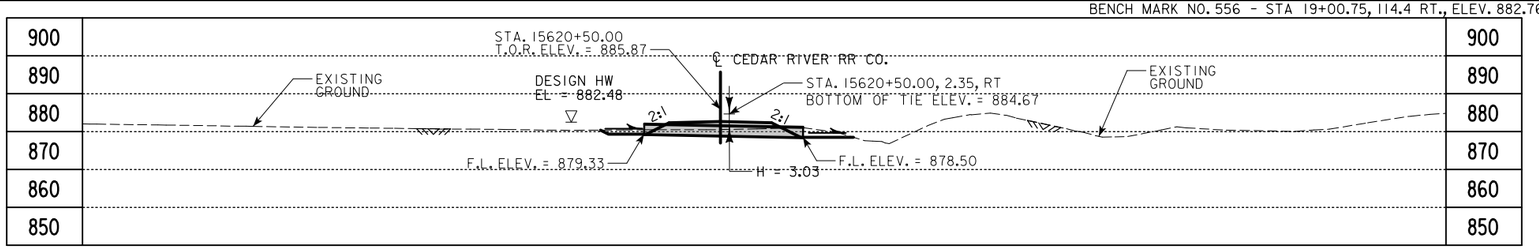
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

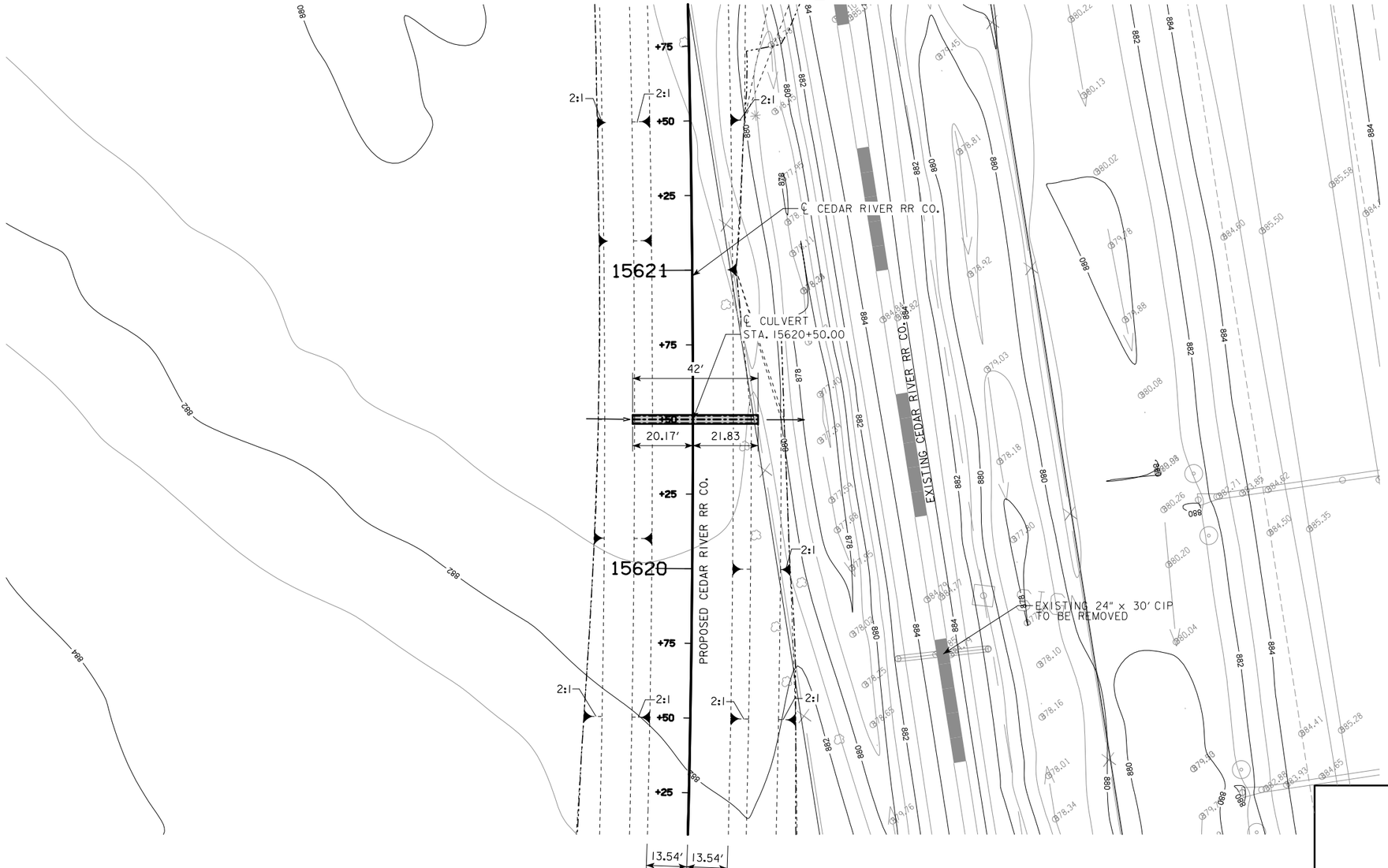
DESIGN TEAM HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER V.15

3/26/2013 6:56:58 PM chunter pw:\\PWAPPOMA001:NorthCentral_Omaha\Documents\Iowa_Department_of_Transportation\IDOT_US_218_C57_InterPrelimDes\IDOT_US_218_C57_InterPrelimDes\13.00_CAD\13.03_Bridge\07218188 STA_15607+39.00 11x17bw_pdf.pltcfg

BENCH MARK NO. 556 - STA 19+00.75, 114.4 RT., ELEV. 882.769, CUT X TOP OUTLET END 24" RCP



LONGITUDINAL SECTION ALONG ℄ CULVERT



PLAT PLAN

0 ENGLISH 40
SCALE IN FEET

LOCATION

CEDAR RIVER RR CO.
T-90 N R-14 W
SECTION 12
WASHINGTON TOWNSHIP
BLACK HAWK COUNTY
LATITUDE 42.621939496
LONGITUDE 92.447552639

HYDRAULIC DATA

DRAINAGE AREA = 28 ACRES - FLAT
Q_{50} = 38.1 CFS
HW ELEV. = 882.48

PRELIMINARY

DESIGN FOR 0° SKEW

36 in. x 42 ft.
SMOOTH STEEL PIPE

PLAT PLAN

STATION 15620+50.00 (℄ CEDAR RIVER RR CO.) SEPTEMBER 2012

BLACK HAWK COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

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

DESIGN TEAM HDR/Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER V.16

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LINE STYLE LEGEND OF CROSS SECTION SHEETS (ROAD)

- Proposed Finished Grade of Adjacent Template
- Existing Ground Line
- Proposed Template
- Proposed Topsoil Placement
- Additional Topsoil Removal
- Subgrade Treatment
- Granular Shoulder
- Pavement
- Existing Pipe\RCB
- Proposed Pipe\RCB
- Proposed Dike
- All Elements Associated with Proposed Entrances

SYMBOL LEGEND OF CROSS SECTION SHEETS

Existing ROW — Existing Right-of-Way Limit

Proposed ROW — Proposed Right-of-Way Limit

Temporary ROW — Temporary Right-of-Way Limit

CROSS SECTION LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES W, X, Y, & Z)

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.1

9:43:31 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188lgd.sht

US218
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

EXISTING ROW

875.46 96.51 | 876.96 91.24 | 879.09 78.50 | 880.70 67.24 | 880.94 61.24 | 881.05 57.54 | 881.10 32.12 | 881.06 33.72 | 881.05 59.16

572+50.00

878.44 80.99 | 879.02 77.50 | 880.63 66.24 | 880.87 60.24 | 880.95 57.56 | 881.02 32.14 | 880.98 33.21 | 880.99 58.64

572+00.00

877.86 83.04 | 878.95 76.50 | 880.56 65.24 | 880.80 59.24 | 880.85 57.55 | 880.92 32.12 | 880.89 32.89 | 880.90 58.33

571+50.00

878.88 75.50 | 878.81 77.79 | 880.49 64.24 | 880.73 58.24 | 880.75 57.55 | 880.83 32.10 | 880.80 32.58 | 880.82 58.03

571+00.00

878.77 77.35 | 880.45 63.56 | 880.69 57.56 | 880.78 32.12 | 880.72 32.51 | 880.73 57.95

570+66.18

880.66 57.57 | 880.75 32.12 | 880.68 32.48 | 880.69 57.91

570+50.00

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.2

9:21:06 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

US218
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

EXISTING ROW — 874.53 127.09 — 872.98 122.45 — 872.98 112.45 — 877.33 97.24 — 879.45 84.50 — 881.06 73.24 — 881.30 67.24 — 881.59 57.52 — 881.64 32.09 — 881.60 38.89 — 881.57 64.32 — EXIST ROW

575+50.00

880

EXISTING ROW — 874.69 127.11 — 872.87 121.65 — 872.87 111.65 — 877.28 96.24 — 879.40 83.50 — 881.01 72.24 — 881.25 66.24 — 881.51 57.53 — 881.55 32.10 — 881.50 37.68 — 881.48 63.09 — EXIST ROW

575+00.00

880

EXISTING ROW — 873.92 124.29 — 872.76 120.81 — 872.76 110.81 — 877.21 95.24 — 879.33 82.50 — 880.94 71.24 — 881.18 65.24 — 881.41 57.53 — 881.45 32.13 — 881.40 36.72 — 881.41 62.17 — EXISTIN ROW

574+50.00

880

EXISTING ROW — 873.70 123.13 — 872.65 119.98 — 872.65 109.98 — 877.14 94.24 — 879.27 81.50 — 880.88 70.24 — 881.12 64.24 — 881.32 57.53 — 881.35 32.16 — 881.31 35.77 — 881.27 61.25 — EXISTING ROW

574+00.00

880

EXISTING ROW — 874.90 100.89 — 877.09 93.24 — 879.21 80.50 — 880.82 69.24 — 881.06 63.24 — 881.23 57.53 — 881.26 32.13 — 881.23 35.00 — 881.19 60.46 — EXISTING ROW

573+50.00

880

EXISTING ROW — 876.02 95.77 — 877.03 92.24 — 879.15 79.50 — 880.76 68.24 — 881.00 62.24 — 881.14 57.52 — 881.18 32.10 — 881.15 34.24 — 881.11 59.67 — EXISTING ROW

573+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.3

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Preliminary US218

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

EXISTING ROW

877.52 138.84 | 873.64 127.22 | 873.64 117.22 | 877.67 103.13 | 879.79 90.40 | 881.40 79.13 | 881.64 73.13 | 882.11 57.57 | 882.19 32.12 | 882.15 47.87 | 882.11 73.28 | 881.87 79.28 | 880.44 89.50 | 877.72 105.79 | 876.31 110.73 | 876.31 120.73 | 878.29 126.66 | EX

578+44.56

877.69 138.97 | 873.54 128.53 | 873.54 116.53 | 877.63 102.24 | 879.75 89.51 | 881.36 78.24 | 881.60 72.24 | 882.04 57.58 | 882.10 32.12 | 882.06 46.22 | 882.01 71.63 | 877.91 104.13 | 876.23 110.00 | 876.23 120.00 | 876.< 122.0 | EX

578+00.00

878.37 140.52 | 873.43 125.71 | 878.43 115.71 | 877.57 101.24 | 879.69 88.51 | 881.30 77.24 | 881.54 71.24 | 881.95 57.52 | 882.02 32.09 | 881.99 44.56 | 881.92 70.00 | 877.92 102.50 | 876.15 108.70 | 876.15 118.70 | 876.4 119.2 | EX

577+50.00

877.92 138.68 | 873.32 124.88 | 873.32 114.88 | 877.50 100.24 | 879.63 87.51 | 881.24 76.24 | 881.48 70.24 | 881.86 57.46 | 881.94 32.06 | 881.91 42.92 | 881.83 68.38 | 877.76 100.88 | 876.06 106.82 | 876.06 116.82 | 876. 117. | EX

577+00.00

876.98 135.39 | 873.21 124.06 | 873.21 114.06 | 877.44 99.24 | 879.57 86.50 | 881.18 75.24 | 881.42 69.24 | 881.77 57.48 | 881.83 32.07 | 881.81 41.51 | 881.74 66.97 | EX

576+50.00

875.64 130.88 | 873.10 123.24 | 873.10 113.24 | 877.38 98.24 | 879.50 85.50 | 881.12 74.24 | 881.36 68.24 | 881.68 57.51 | 881.72 32.08 | 881.71 40.11 | 881.66 65.55 | EX

576+00.00

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.4

9:21:09 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

Preliminary US218

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

878.27 142.70 | EXISTING ROW | 874.14 130.30 | 874.14 120.30 | 877.78 107.56 | 879.71 95.98 | 881.51 83.56 | 881.74 77.56 | 882.35 61.56 | 882.50 57.46 | 882.56 32.11 | 882.57 55.90 | 882.48 81.34 | 882.04 96.07 | 881.65 102.07 | 880.22 112.26 | 878.92 120.07 | 876.70 127.85 | 876.70 137.85 | 879.14 145.19 | EXIST ROW

580+66.18

878.34 143.22 | EXISTING ROW | 874.10 130.50 | 874.10 120.50 | 877.89 107.24 | 879.90 95.19 | 881.63 83.24 | 881.82 77.24 | 882.47 57.46 | 882.54 32.11 | 882.53 55.37 | 882.45 80.81 | 882.04 94.46 | 881.66 100.46 | 880.22 110.73 | 878.93 118.46 | 876.67 126.38 | 876.67 136.38 | 879.17 143.89 | EX

580+50.00

878.17 142.25 | EXISTING ROW | 873.99 129.71 | 873.99 119.71 | 877.84 106.24 | 879.97 93.51 | 881.58 82.24 | 881.82 76.24 | 882.38 57.44 | 882.46 32.11 | 882.42 53.72 | 882.35 79.16 | 882.04 89.42 | 881.80 95.42 | 880.19 106.69 | 879.07 113.42 | 876.58 122.12 | 876.58 132.12 | 879.04 139.50 | EX

580+00.00

890
880

877.92 141.03 | EXISTING ROW | 873.88 128.90 | 873.88 118.90 | 877.78 105.24 | 879.91 92.51 | 881.52 81.24 | 881.76 75.24 | 882.29 57.49 | 882.37 32.11 | 882.34 51.82 | 882.29 77.26 | 882.08 84.27 | 881.84 90.27 | 880.23 101.54 | 878.86 109.76 | 876.50 118.05 | 876.50 128.05 | 879.37 136.66 | EX

579+50.00

877.61 139.62 | EXISTING ROW | 873.77 128.08 | 873.77 118.08 | 877.72 104.24 | 879.85 91.51 | 881.46 80.24 | 881.70 74.24 | 882.20 57.55 | 882.29 32.11 | 882.26 49.93 | 882.24 75.37 | 882.13 79.02 | 881.89 85.02 | 880.28 96.29 | 878.35 107.87 | 876.41 114.65 | 876.41 124.65 | 878.59 131.19 | EX

579+00.00

877.53 138.94 | EXISTING ROW | 873.66 127.31 | 873.66 117.31 | 877.68 103.24 | 879.80 90.51 | 881.41 79.24 | 881.65 73.24 | 882.12 57.56 | 882.20 32.12 | 882.16 48.07 | 882.12 73.66 | 881.88 79.66 | 880.27 90.93 | 877.76 106.00 | 876.32 111.03 | 876.32 121.03 | 878.39 127.25 | EX

578+50.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.5

9:21:10 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

Preliminary US218

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890 / 880

582+50.00

879.58 154.23 | MATCH LINE | 874.55 139.16 | EXISTING ROW | 874.55 129.16 | 877.24 119.76 | 878.87 109.95 | 880.97 95.76 | 881.30 89.76 | 882.17 73.66 | 882.81 57.53 | 882.88 32.13 | 881.23 16.04 | 881.10 9.89 | 882.86 61.16 | 882.79 86.53 | 882.46 97.51 | 881.98 113.58 | 881.58 119.58 | 880.17 129.67 | MATCH LINE | 878.56 139.29 | EXISTING ROW | 877.02 144.69 | 877.02 154.69 | 879.95 163.49

582+00.00

878.06 145.80 | EXISTING ROW | 874.44 134.96 | 874.44 124.96 | 877.36 114.75 | 878.99 104.95 | 881.09 90.75 | 881.41 84.75 | 882.28 68.69 | 882.73 57.51 | 882.81 32.14 | 881.16 16.05 | 881.07 11.69 | 882.79 59.91 | 882.70 85.30 | 882.47 92.89 | 881.99 108.96 | 881.59 114.96 | 880.17 125.05 | 878.57 134.67 | 876.93 140.39 | MATCH LINE | EXISTING ROW | 876.85 146.06 | 879.97 155.43

581+50.00

877.55 141.50 | EXISTING ROW | 874.33 131.84 | 874.33 121.84 | 877.42 111.01 | 879.06 101.21 | 881.16 87.01 | 881.48 81.01 | 882.35 64.98 | 882.65 57.49 | 882.71 32.12 | 881.06 16.03 | 882.72 58.46 | 882.62 83.88 | 882.50 88.16 | 882.01 104.23 | 881.61 110.23 | 880.20 120.32 | 878.59 129.94 | 876.85 136.06 | MATCH LINE

581+39.82

877.48 140.86 | EXISTING ROW | 874.36 131.34 | 874.31 121.34 | 877.43 110.41 | 879.06 100.60 | 881.16 86.41 | 881.49 80.41 | 882.35 64.38 | 882.63 57.49 | 882.70 32.12 | 882.70 58.17 | 882.61 83.59 | 882.50 87.18 | 882.02 103.26 | 881.62 109.26 | 880.20 119.35 | 878.63 128.78 | MATCH LINE | 876.83 135.09 | EXISTING ROW | 876.83 145.09 | MATCH LINE

581+24.33

877.88 141.47 | EXISTING ROW | 874.27 130.66 | 874.27 120.66 | 877.44 109.58 | 879.07 99.78 | 881.17 85.58 | 881.49 79.58 | 882.36 63.56 | 882.60 57.48 | 882.67 32.12 | 882.68 57.72 | 882.59 83.14 | 882.50 85.64 | 882.03 101.76 | 881.63 107.76 | 880.21 117.85 | 878.89 125.76 | MATCH LINE | 876.80 133.09 | EXISTING ROW | 876.80 143.09 | 879.68 151.72 | MATCH LINE

581+00.00

878.30 142.48 | EXISTING ROW | 874.22 130.22 | 874.22 120.22 | 877.55 108.53 | 879.30 98.09 | 881.29 84.53 | 881.58 78.53 | 882.36 62.52 | 882.56 57.47 | 882.62 32.11 | 882.64 57.01 | 882.55 82.45 | 882.04 99.40 | 881.63 105.40 | 880.23 115.43 | 878.90 123.40 | 876.76 130.90 | 876.76 140.90 | EXISTING ROW | 879.36 148.71

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.6

9:21:11 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

Preliminary US218

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890 880 870

EXISTING ROW

MATCH LINE

877.36 145.80

877.36 155.80

879.66 376.24

883.18 57.50

883.25 32.10

881.59 16.01

881.38 5.16

883.26 65.08

883.15 90.51

882.44 114.42

882.20 120.43

880.59 131.70

879.46 138.43

877.36 145.80

EXI

584+43.67

880.13 142.90

878.82 150.80

877.28 156.17

877.28 166.17

878.69 364.09

883.09 57.49

883.17 32.11

881.52 16.02

881.33 6.40

883.20 64.40

883.06 89.82

882.43 110.75

881.95 126.80

881.55 132.80

584+00.00

880.15 138.59

878.83 146.50

877.20 152.22

877.20 162.22

878.43 329.41

882.99 57.53

883.06 32.11

881.41 16.02

881.22 6.86

883.07 63.41

882.98 88.80

882.45 106.44

881.96 122.50

881.56 128.50

583+50.00

878.85 142.09

877.11 148.18

877.11 158.18

879.68 165.88

882.89 57.56

882.95 32.12

881.30 16.03

881.12 7.41

882.94 62.41

882.89 87.77

882.46 102.03

881.98 118.09

881.58 124.09

880.16 134.18

583+00.00

878.56 143.46

877.10 148.57

877.10 158.57

879.70 166.38

880.21 82.48

880.46 77.77

882.56 63.57

882.89 57.56

882.95 32.12

881.29 16.03

881.12 7.61

882.93 62.32

882.88 87.67

882.46 101.69

881.98 117.75

881.58 123.75

880.16 133.84

582+96.18

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.7

9:21:13 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

US218
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890 / 880 / 870

EXISTING ROW

877.37 107.32 | 877.37 97.32 | 879.44 90.08 | 883.49 57.58 | 883.54 32.13 | 881.89 16.04 | 881.68 5.86 | 883.45 67.14 | 883.49 92.64 | EXI

586+00.00

878.70 111.44 | 877.28 107.18 | 877.28 97.18 | 879.32 90.05 | 883.39 57.55 | 883.44 32.11 | 881.79 16.02 | 881.55 3.97 | 883.40 66.55 | 883.38 92.02 | EXI

585+50.00

℄ US 218 STA 585+06.50 - RCP

883.30 57.52 | 883.34 32.09 | 881.69 16.00 | 881.34 1.09 | 883.34 65.96 | 883.28 91.40 | EXI

F.L. ELEV. = 877.20

OTHER F.L. ELEV. = 877.43
ADAPTER RF-2
BEND = 0°3'46"

585+00.00

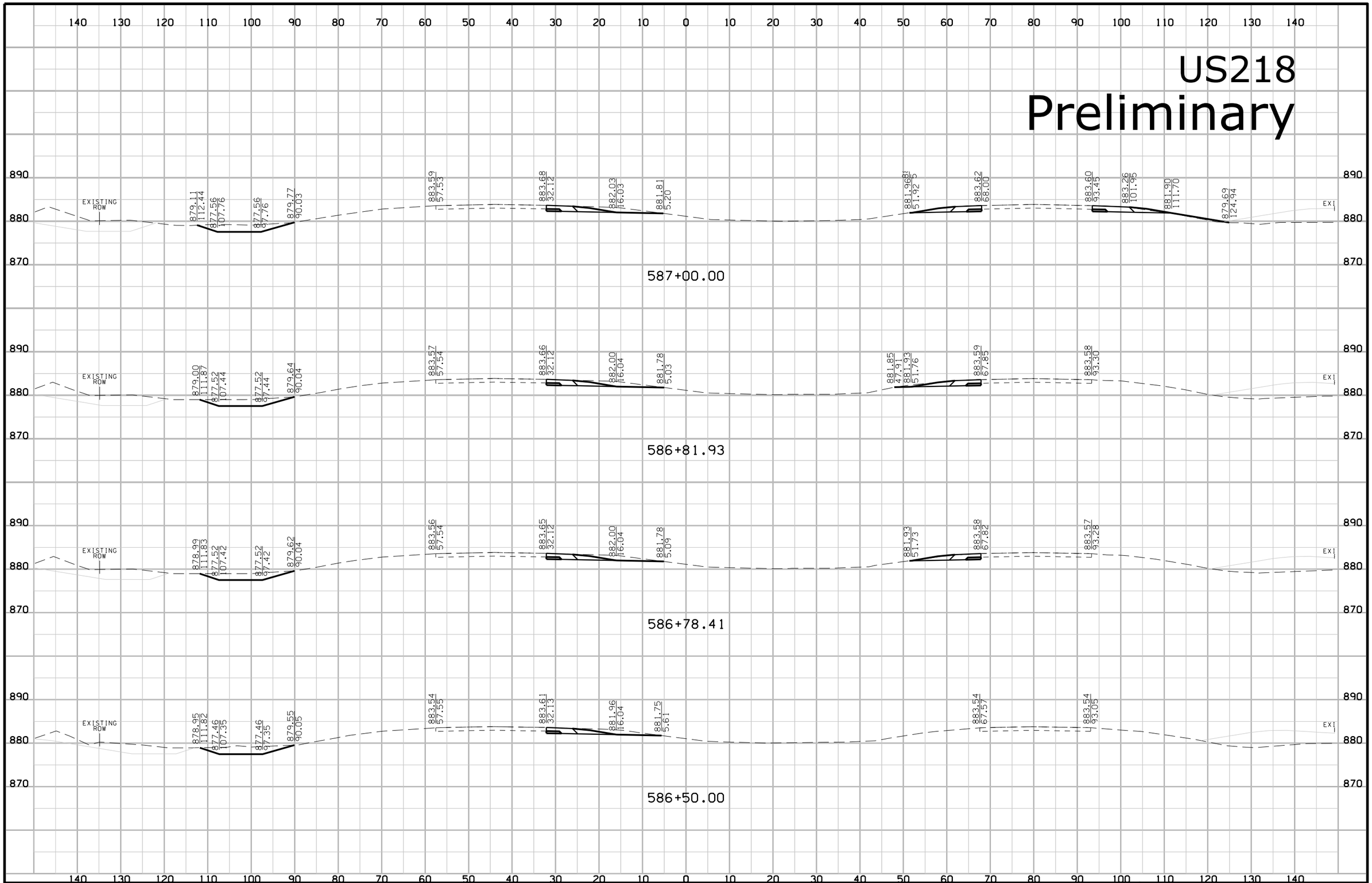
883.19 57.51 | 883.26 32.10 | 881.60 16.01 | 881.38 5.06 | 883.27 65.18 | 883.17 90.61 | EXI

584+50.00

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.8

9:21:14 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

US218
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.9

9:21:16 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

US218
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890 880 870

EXISTING ROW

879.04 110.50 877.93 107.17 877.93 97.17 879.98 89.96
883.85 57.46
883.89 32.03
882.23 15.94
882.03 5.95
882.14 46.43
882.25 52.14
883.91 68.23
883.81 93.70
883.47 102.20
882.11 111.95
881.90 122.44
EXI

589+00.00

879.09 110.68 877.83 106.92 877.83 96.92 879.83 89.94
883.79 57.44
883.83 32.01
882.18 15.92
881.97 5.25
882.10 46.91
882.20 52.19
883.86 68.28
883.76 93.72
883.42 102.22
882.06 111.97
881.91 119.41
EXI

588+50.00

879.50 112.85 877.74 107.59 877.74 97.59 879.93 89.92
883.73 57.42
883.78 31.99
882.13 15.90
881.91 5.27
882.07 48.34
882.15 52.24
883.81 68.33
883.71 93.74
883.37 102.24
882.02 111.96
881.95 115.48
EXI

588+00.00

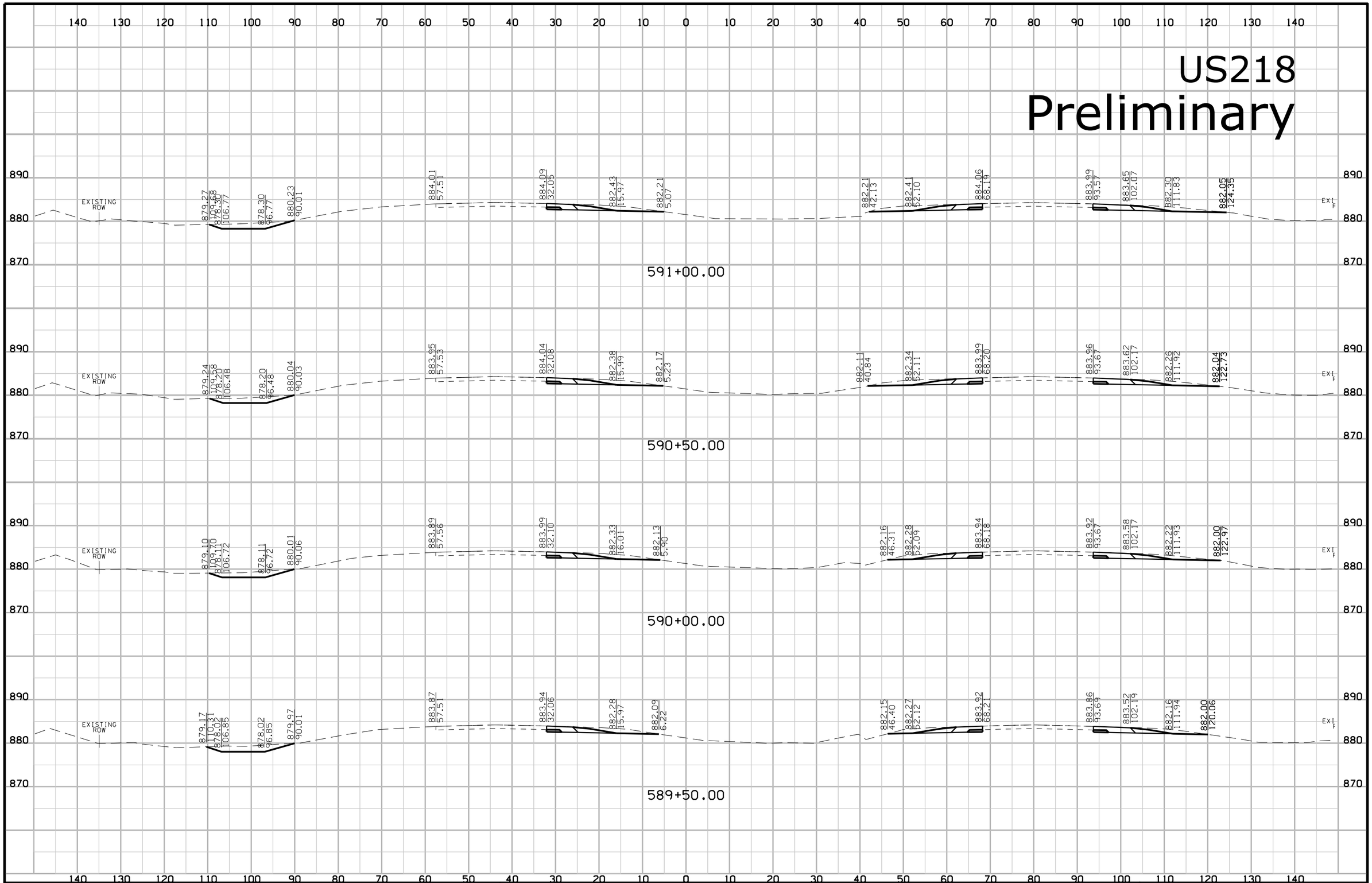
879.46 113.51 877.65 108.07 877.65 98.07 879.96 89.98
883.66 57.48
883.73 32.05
882.08 15.96
881.85 4.82
881.92 45.39
882.06 52.08
883.71 68.17
883.66 93.60
883.32 102.10
881.96 111.85
879.84 124.54
EXI

587+50.00

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.10

9:21:17 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

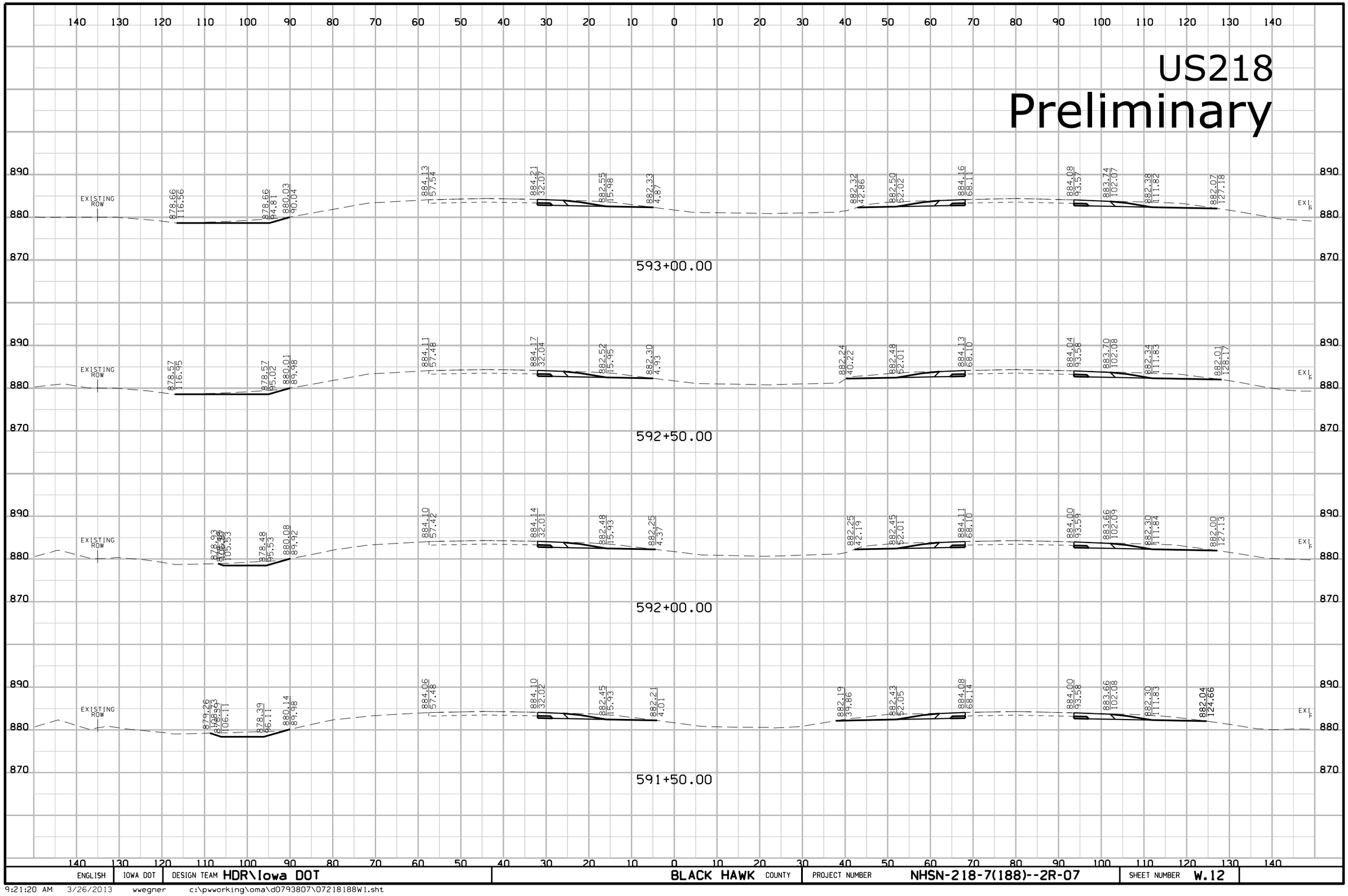
US218
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.11

9:21:18 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

US218
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.12

9:21:20 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

US218
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880
870

EXISTING ROW

879.03 122.03
879.03 96.14
880.79 89.99
884.14 57.49
884.26 32.07
882.60 15.98
882.29 0.14
882.22 35.13
882.56 51.88
884.21 67.97
884.15 93.47
883.81 101.97
882.45 111.72
882.01 133.78
EXIST

595+00.00

878.94 119.77
878.94 95.82
880.60 90.01
884.12 57.51
884.24 32.08
882.58 15.99
882.33 3.40
882.28 37.14
882.57 51.97
884.23 68.06
884.11 93.53
883.77 102.03
882.41 111.78
882.02 131.32

594+50.00

878.85 118.49
878.85 94.49
880.12 90.03
884.11 57.53
884.22 32.08
882.57 15.99
882.32 3.48
882.30 41.92
882.50 52.01
884.15 68.10
884.12 93.56
883.78 102.06
882.42 111.81
882.07 129.20

594+00.00

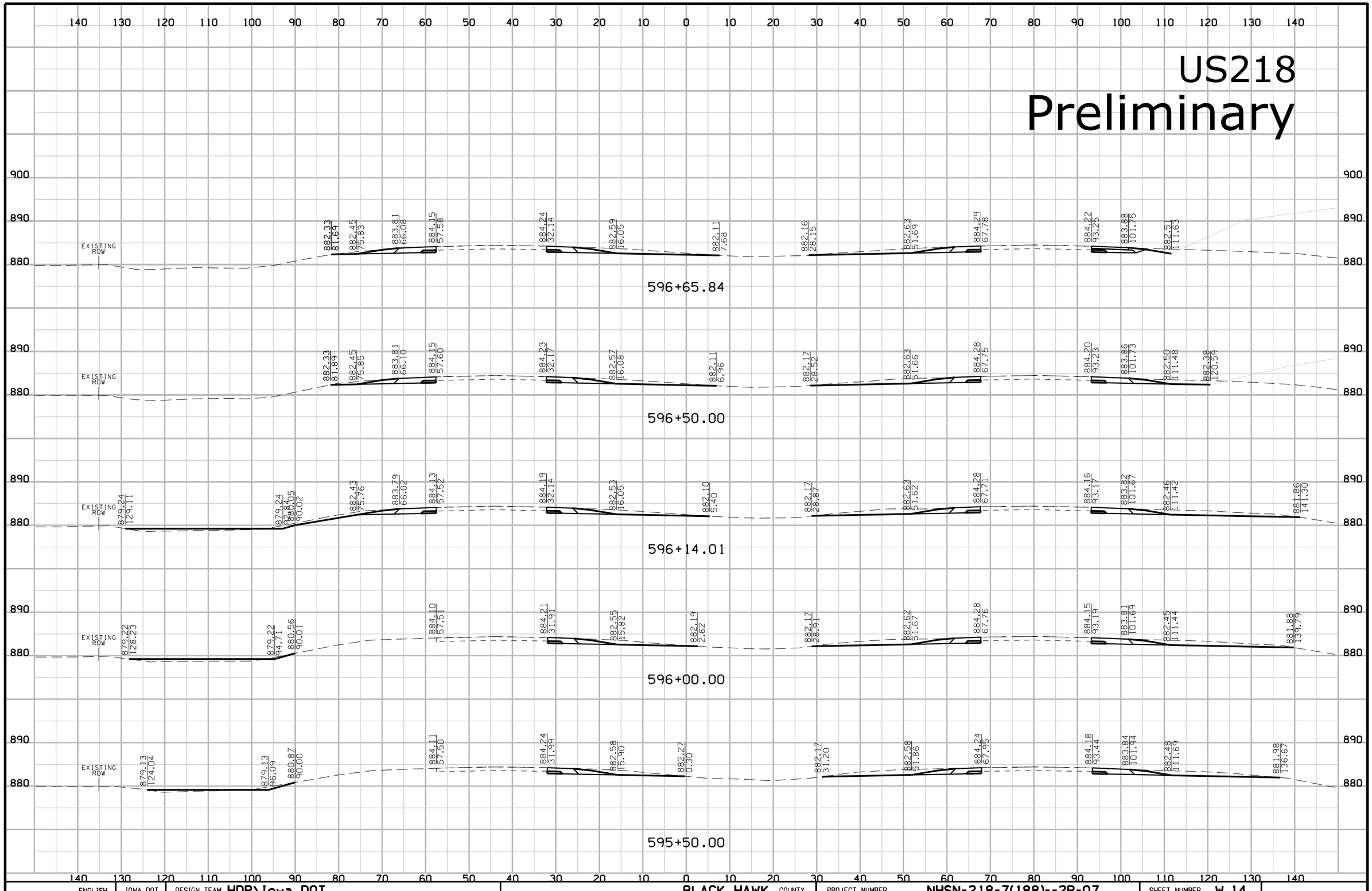
878.76 117.44
878.76 94.45
880.02 90.03
884.12 57.53
884.22 32.08
882.56 15.99
882.32 4.12
882.26 40.13
882.50 52.02
884.16 68.10
884.10 93.57
883.76 102.07
882.40 111.82
882.05 129.22

593+50.00

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.13

9:21:21 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

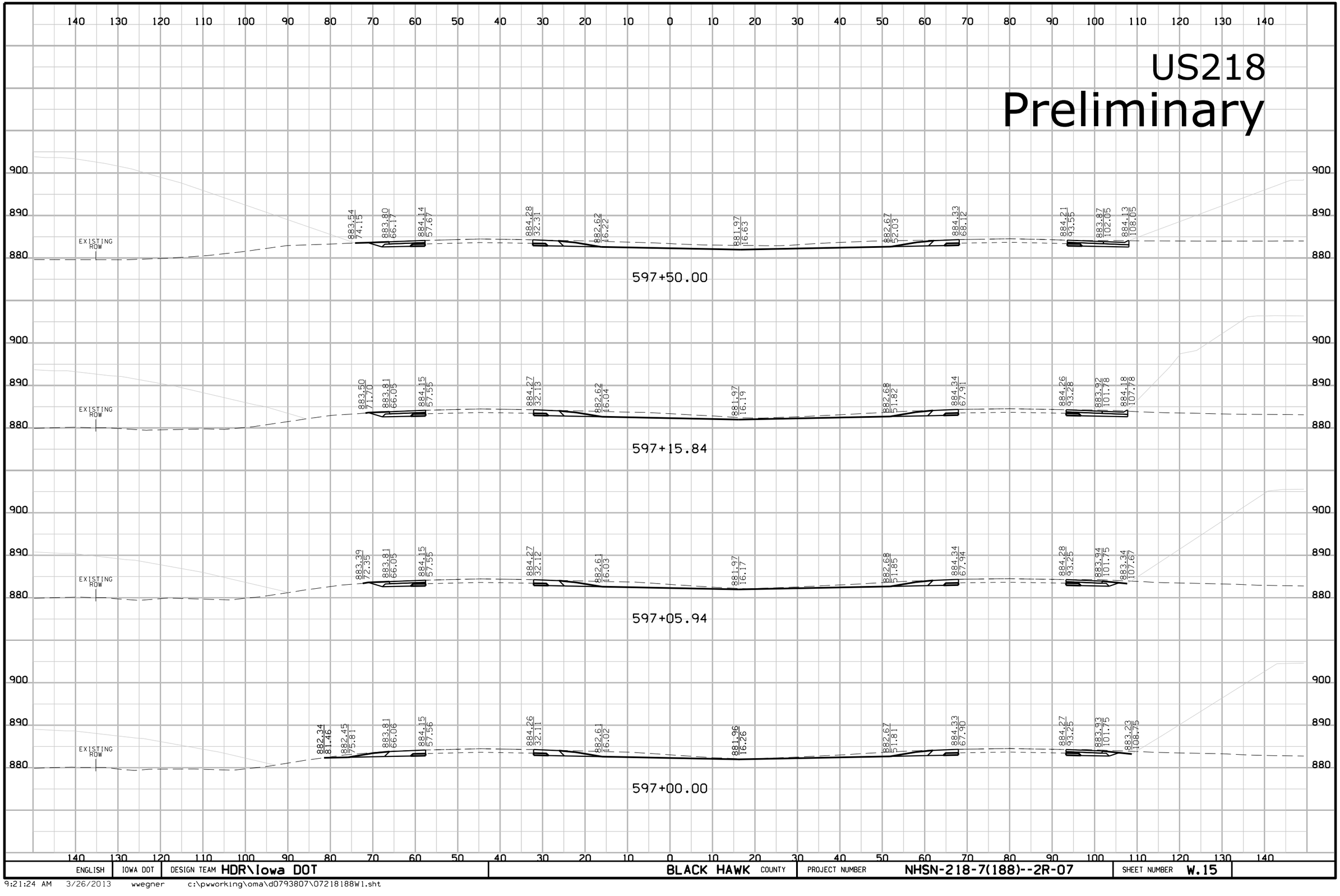
US218
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.14

9:21:22 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

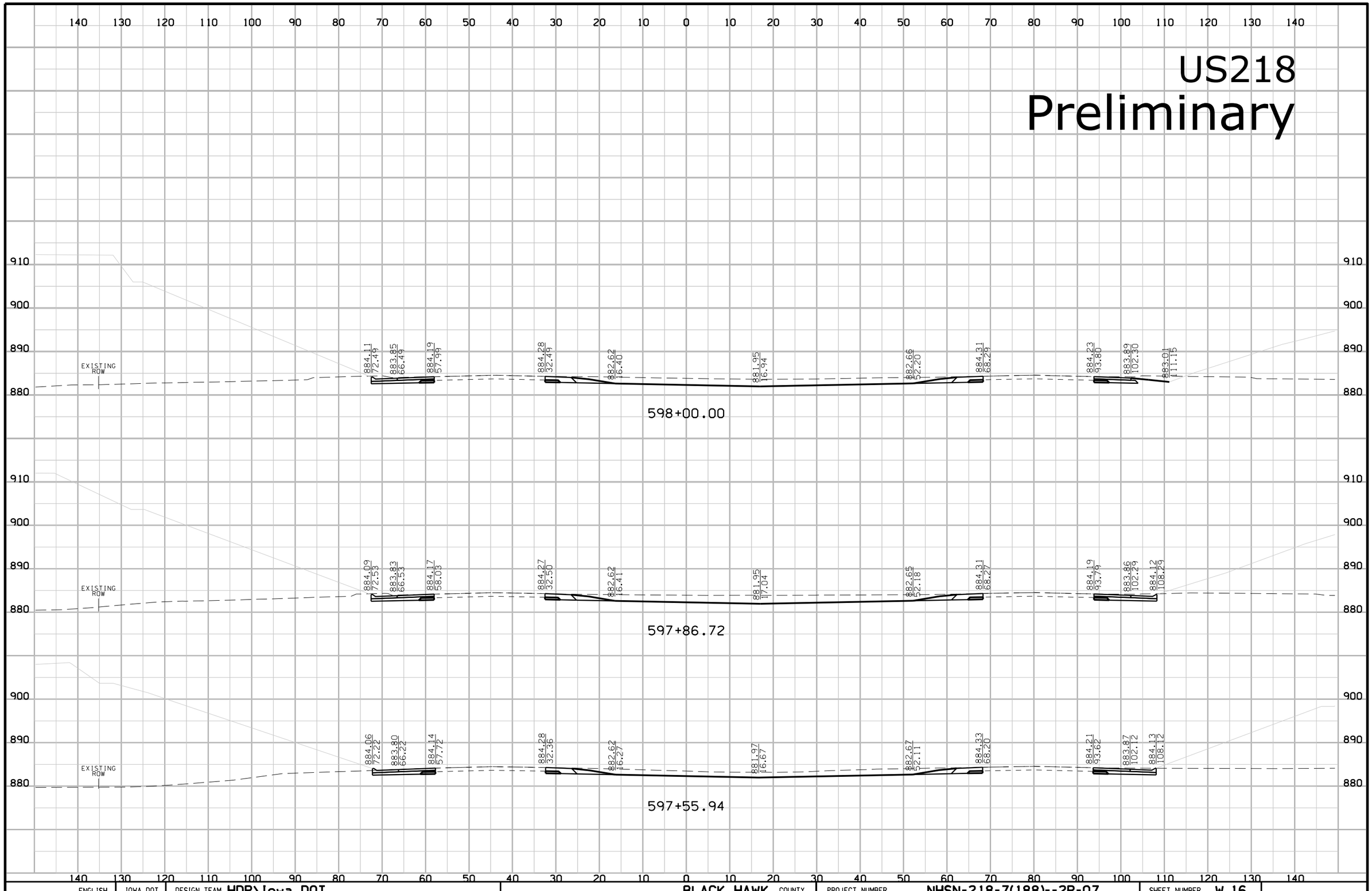
US218
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.15

9:21:24 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

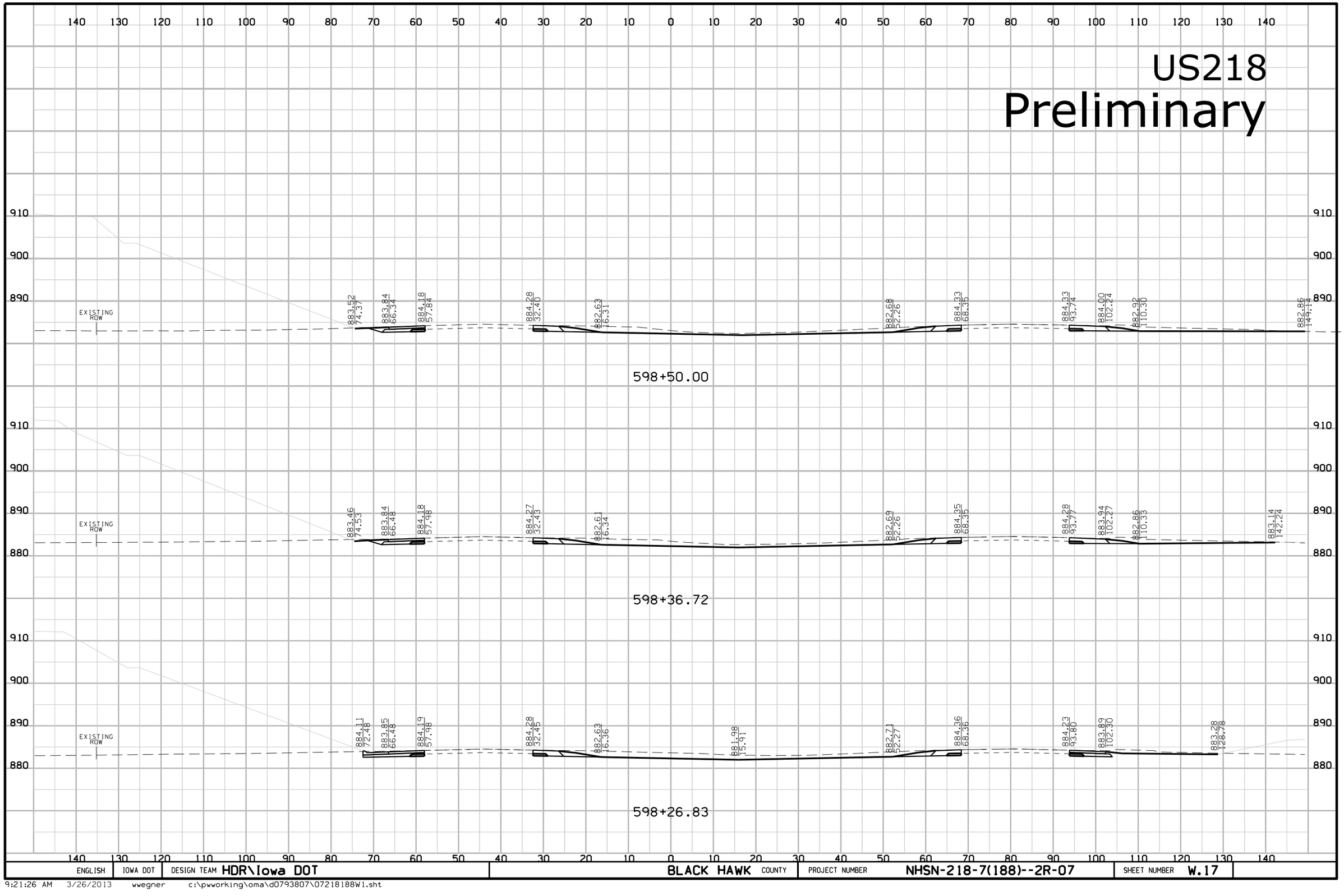
US218
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.16

9:21:25 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

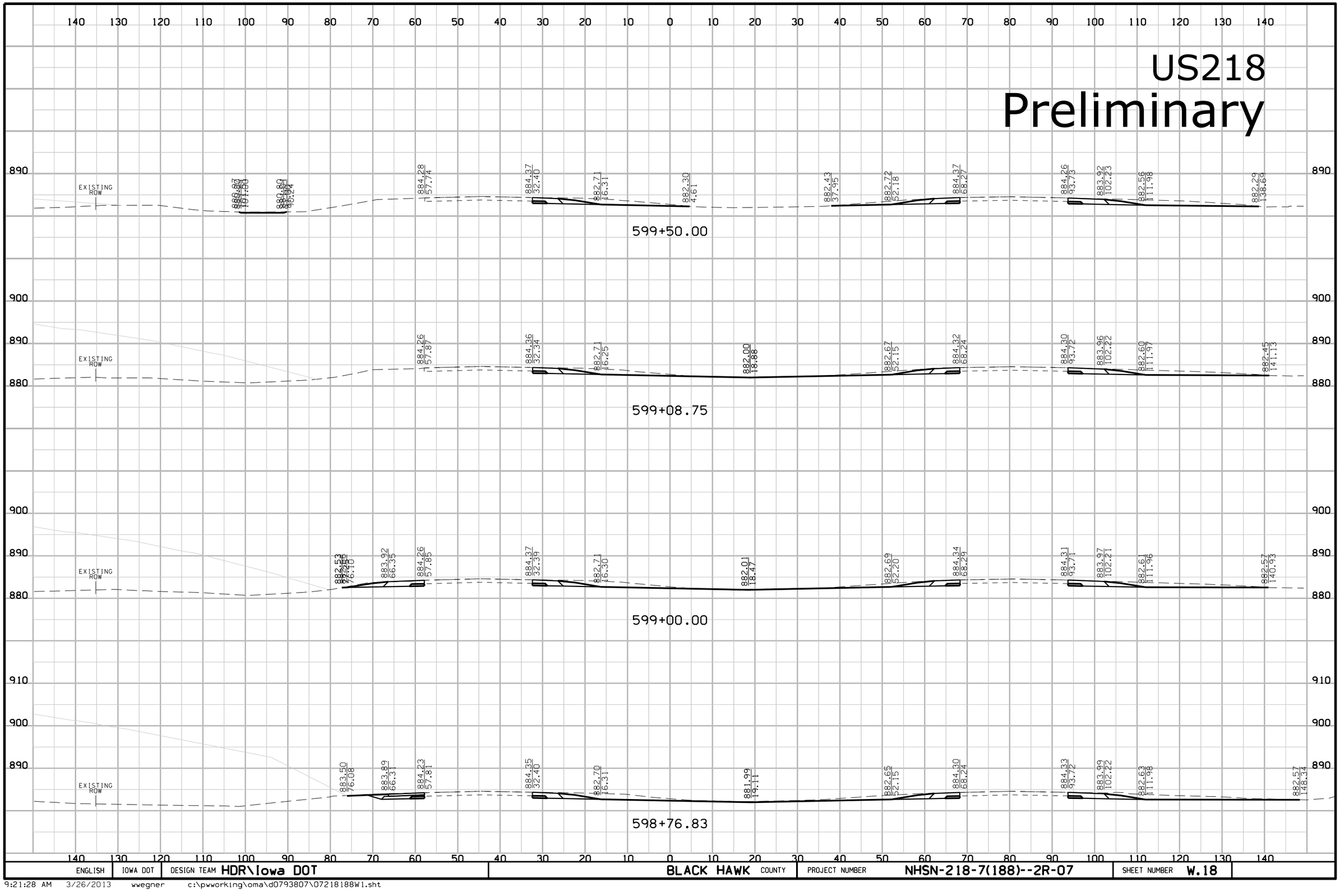
US218
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.17

9:21:26 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

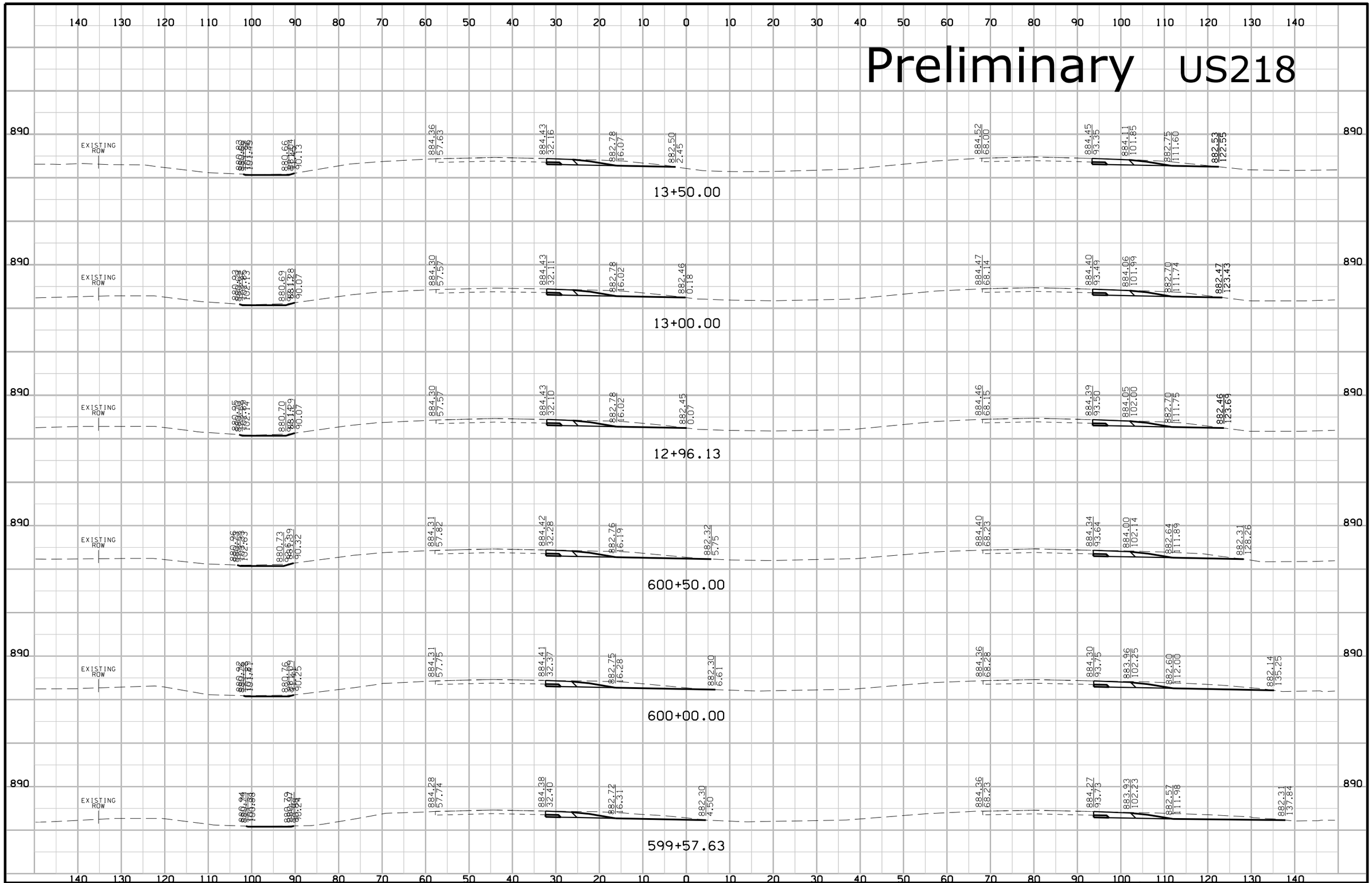
US218
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.18

9:21:28 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

Preliminary US218



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.19

9:21:29 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

Preliminary US218

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890

EXISTING ROW

882.96 116.03 | 880.46 108.54 | 880.46 98.54 | 882.86 90.15 | 884.79 57.65 | 884.84 32.24 | 883.18 16.15 | 882.93 3.76 | 884.86 64.44 | 884.81 89.81 | 884.47 98.31 | 883.11 108.06 | 882.93 116.71

16+50.00

890

EXISTING ROW

881.50 106.84 | 880.49 103.84 | 880.49 93.84 | 881.54 90.16 | 884.70 57.86 | 884.73 32.24 | 883.08 16.15 | 882.83 3.90 | 884.78 65.46 | 884.73 90.82 | 884.39 99.32 | 883.03 109.08 | 882.82 119.61

16+00.00

890

EXISTING ROW

881.17 [illegible] 102.62 | 880.53 [illegible] 90.17 | 884.62 57.67 | 884.67 32.23 | 883.01 16.14 | 882.77 4.24 | 884.73 66.18 | 884.67 91.57 | 884.33 100.07 | 882.97 109.82 | 882.76 120.42

15+50.00

890

EXISTING ROW

881.17 [illegible] 101.66 | 880.56 [illegible] 90.17 | 884.54 57.67 | 884.60 32.21 | 882.94 16.12 | 882.67 2.47 | 884.68 66.91 | 884.61 92.31 | 884.27 100.81 | 882.91 110.56 | 882.71 120.80

15+00.00

890

EXISTING ROW

881.03 [illegible] 101.43 | 880.59 [illegible] 90.19 | 884.48 57.69 | 884.53 32.24 | 882.88 16.15 | 882.60 2.39 | 884.63 67.38 | 884.55 92.77 | 884.22 101.27 | 882.86 111.02 | 882.68 119.93

14+50.00

890

EXISTING ROW

881.03 [illegible] 101.18 | 880.63 [illegible] 90.21 | 884.42 57.71 | 884.47 32.26 | 882.81 16.17 | 882.54 2.55 | 884.58 67.85 | 884.50 93.22 | 884.16 101.72 | 882.80 111.47 | 882.59 122.04

14+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.20

9:21:31 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

Preliminary US218

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

EXISTING ROW

885.28 57.67 | 885.33 32.25 | 883.68 16.16 | 883.44 4.53 | 885.33 55.72 | 885.25 81.08 | 884.91 89.58 | 883.55 99.34 | 883.35 109.59

19+50.00

881.41 110.10 | 880.29 107.73 | 880.29 97.73 | 882.45 90.18 | 885.18 57.68 | 885.25 32.24 | 883.60 16.15 | 883.32 2.42 | 885.23 57.57 | 885.17 82.93 | 884.83 91.43 | 883.47 101.18 | 883.22 113.78

19+00.00

881.95 109.29 | 880.33 104.43 | 880.33 94.43 | 881.55 90.17 | 885.11 57.67 | 885.20 32.24 | 883.55 16.15 | 883.29 3.34 | 885.16 59.18 | 885.10 84.54 | 884.77 93.04 | 883.41 102.79 | 883.20 113.10

18+50.00

882.26 109.67 | 880.36 103.96 | 880.36 93.96 | 881.45 90.16 | 885.04 57.66 | 885.15 32.24 | 883.49 16.15 | 883.23 2.93 | 885.09 60.78 | 885.04 86.15 | 884.70 94.65 | 883.34 104.41 | 883.15 114.00

18+00.00

882.30 110.43 | 880.39 104.72 | 880.39 94.72 | 881.70 90.15 | 884.96 57.65 | 885.04 32.24 | 883.39 16.15 | 883.13 3.37 | 885.02 62.11 | 884.96 87.47 | 884.62 95.97 | 883.26 105.72 | 883.05 116.39

17+50.00

882.26 110.59 | 880.43 105.09 | 880.43 95.09 | 881.84 90.14 | 884.88 57.64 | 884.94 32.24 | 883.28 16.15 | 883.02 2.96 | 884.95 63.43 | 884.88 88.79 | 884.54 97.29 | 883.18 107.04 | 883.00 115.93

17+00.00

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.21

9:21:32 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

Preliminary US218

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

885.65 57.77
885.69 32.31
885.72 45.13
885.60 70.57
885.26 79.07
883.90 88.82
883.80 94.29
EXISTING ROW
22+00.00

EXISTING ROW
885.60 57.73
885.62 32.28
885.66 47.27
885.55 72.70
885.21 81.20
883.85 90.96
883.75 96.22
EXISTING ROW
21+50.00

EXISTING ROW
885.56 57.69
885.56 32.25
885.60 49.40
885.50 74.84
885.16 83.34
883.80 93.09
883.65 100.62
EXISTING ROW
21+00.00

EXISTING ROW
885.48 57.68
885.53 32.25
885.53 51.33
885.43 76.74
885.09 85.24
883.73 94.99
883.56 103.62
EXISTIN ROW
20+56.84

EXISTING ROW
885.46 57.68
885.51 32.25
883.86 16.16
883.78 12.39
885.51 51.63
885.42 77.04
885.08 85.54
883.72 95.29
883.55 103.95
EXISTIN ROW
20+50.00

EXISTING ROW
885.37 57.66
885.41 32.25
883.75 16.16
883.66 11.28
885.42 53.86
885.34 79.24
885.00 87.74
883.64 97.49
883.47 105.93
EXIS RO
20+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.22

9:21:33 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

Preliminary US218

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

EXISTING ROW

881.38 130.80 | 881.38 120.83 | 883.01 111.05 | 884.42 100.96 | 884.83 94.96 | 885.31 78.93 | 885.94 57.67 | 886.01 32.25 | 886.01 138.55 | 885.99 64.02

24+00.00

881.44 131.41 | 881.44 121.41 | 882.95 112.36 | 884.36 102.26 | 884.76 96.26 | 885.24 80.23 | 885.92 57.68 | 886.00 32.26 | 885.98 139.13 | 885.87 64.60

23+80.43

880.73 136.70 | 880.73 126.70 | 882.88 113.79 | 884.29 103.70 | 884.69 97.70 | 885.18 81.66 | 885.89 57.70 | 885.98 32.28 | 885.95 139.77 | 885.85 65.23 | 885.39 73.74 | 884.17 67.68 | 884.09 86.33

23+58.95

885.88 57.70 | 885.97 32.28 | 885.94 140.04 | 885.84 65.49 | 885.50 73.99 | 884.14 83.74 | 884.08 86.83

23+50.00

ROW

885.82 57.74 | 885.93 32.31 | 885.86 141.53 | 885.79 66.96 | 885.45 75.46 | 884.09 85.21 | 884.00 89.83

23+00.00

ROW

885.74 57.76 | 885.81 32.31 | 885.79 143.33 | 885.70 68.76 | 885.36 77.26 | 884.00 87.01 | 883.89 92.68

22+50.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.23

9:21:35 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

US218
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

EXISTING ROW
881.84 126.26
880.79 123.52
880.79 123.52
883.65 97.73
885.07 87.63
885.47 81.63
885.95 65.60
886.19 57.66
886.23 32.28
886.28 34.21
886.25 59.56
885.96 66.81
885.09 82.85
884.77 88.85
882.67 103.05
882.04 106.85
881.25 109.60
881.25 111.28
EXISTING ROW

26+00.00

EXISTING ROW
882.35 130.08
880.94 125.86
880.94 114.06
883.51 101.06
884.93 90.96
885.33 84.96
885.81 68.93
886.15 57.65
886.17 32.25
886.24 35.17
886.20 60.55
885.78 71.04
884.91 87.12
884.59 93.12
882.49 107.31
881.85 111.18
881.18 113.45
881.18 114.78
EXISTING ROW

25+50.00

885.48 141.29
EXISTING ROW
881.09 148.11
881.09 118.11
883.37 104.39
884.79 94.30
885.19 88.30
885.67 72.26
886.11 57.63
886.10 32.23
886.19 36.14
886.14 61.53
885.54 76.53
884.67 92.65
884.35 98.65
882.25 112.85
881.62 116.25
881.62 118.39
EXISTING ROW

25+00.00

888.43 151.08
MATCH LINE
MATCH LINE
EXISTING ROW
881.23 129.47
881.23 119.47
883.19 107.72
884.61 97.63
885.01 91.63
885.49 75.59
886.03 57.65
886.06 32.24
886.10 37.34
886.02 62.78
885.20 83.29
884.32 99.46
884.00 105.46
881.90 119.66
881.05 134.21
883.30 140.96
EXISTING ROW

24+50.00

889.11 153.26
MATCH LINE
MATCH LINE
EXISTING ROW
881.26 129.73
881.26 119.73
883.16 108.35
884.57 98.26
884.97 92.26
885.45 76.22
886.01 57.65
886.05 32.24
886.09 37.57
885.99 67.13
885.48 73.13
883.38 87.33
881.49 100.25
881.04 113.55
EXISTING ROW

24+40.56

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.24

9:21:36 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

Preliminary US218

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890

EXISTING ROW

880.66 102.83 | 881.95 98.30 | 884.07 85.57 | 885.68 74.30 | 885.92 68.30 | 886.24 57.73 | 886.36 32.26 | 886.29 32.20 | 886.17 57.70 | 885.75 75.31 | 885.56 81.31 | 883.88 93.01 | 882.82 99.31 | 881.52 103.90 | 881.52 113.90 | 882.85 117.89 | EXISTING ROW

28+00.00

890

EXISTING ROW

880.68 105.74 | 881.85 101.64 | 883.97 88.90 | 885.58 77.64 | 885.82 71.64 | 886.24 57.75 | 886.34 32.25 | 886.31 32.59 | 886.25 58.07 | 885.69 76.60 | 885.51 82.60 | 883.83 94.30 | 882.78 100.60 | 881.45 105.24 | 881.45 115.24 | 883.20 120.49 | EXISTING ROW

27+50.00

890

880

EXISTING ROW

880.58 109.05 | 881.75 104.97 | 883.87 92.24 | 885.48 80.97 | 885.72 74.97 | 886.24 57.77 | 886.33 32.25 | 886.34 32.98 | 886.22 58.44 | 885.59 78.03 | 885.39 84.03 | 883.68 95.94 | 882.66 102.03 | 881.38 106.50 | 881.38 116.50 | 883.10 121.64 | EXISTING ROW

27+00.00

890

880

EXISTING ROW

880.55 109.53 | 881.52 106.12 | 883.87 92.04 | 885.26 82.12 | 885.68 76.12 | 886.23 57.67 | 886.27 32.25 | 886.28 33.16 | 886.25 58.63 | 886.10 62.55 | 885.49 78.56 | 885.27 84.56 | 883.46 96.37 | 882.53 102.56 | 881.36 106.66 | 881.36 116.66 | 882.95 121.41 | EXISTING ROW

26+82.70

890

880

EXISTING ROW

880.56 109.17 | 881.51 106.37 | 883.86 92.29 | 885.25 82.37 | 885.67 76.37 | 886.27 32.25 | 886.28 33.21 | 886.25 58.67 | 886.09 62.67 | 885.47 78.68 | 885.24 84.68 | 883.41 97.21 | 882.50 102.68 | 881.36 106.69 | 881.36 116.69 | 882.91 121.35 | EXISTING ROW

26+78.91

890

880

EXISTING ROW

881.35 121.16 | 880.65 108.30 | 883.78 94.39 | 885.20 84.30 | 885.60 78.30 | 886.08 62.27 | 886.22 57.67 | 886.26 32.26 | 886.28 33.58 | 886.25 59.00 | 886.05 63.83 | 885.28 79.84 | 884.99 85.84 | 883.00 99.36 | 882.26 103.84 | 881.32 107.13 | 881.32 117.13 | 882.57 120.89 | EXISTING ROW

26+50.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.25

9:21:38 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

Preliminary US218

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890

EXISTING ROW

885.98 57.72 | 886.07 32.24 | 886.08 31.93 | 886.01 57.41 | 885.63 70.14 | 885.45 76.14 | 883.76 87.85 | 882.71 94.14 | 881.85 97.17 | 881.85 107.27

EXISTING ROW

30+50.00

890

EXISTING ROW

886.06 57.71 | 886.13 32.25 | 886.16 31.94 | 886.07 57.38 | 885.66 71.15 | 885.48 77.15 | 883.79 88.85 | 882.74 93.15 | 881.78 98.52 | 881.78 108.92

EXISTING ROW

30+00.00

890

EXISTING ROW

886.10 57.72 | 886.17 32.23 | 886.19 31.97 | 886.13 57.43 | 885.69 71.97 | 885.51 77.97 | 883.93 89.68 | 882.78 95.97 | 881.73 99.64 | 881.73 110.27

EXISTING ROW

29+58.91

890

EXISTING ROW

884.24 75.58 | 885.86 64.31 | 886.10 57.72 | 886.18 32.23 | 886.20 31.97 | 886.14 57.44 | 885.70 72.15 | 885.52 78.15 | 883.83 89.85 | 882.78 96.15 | 881.72 99.88 | 881.72 110.89

EXISTING ROW

29+50.00

890

EXISTING ROW

884.10 75.91 | 885.80 67.64 | 886.04 61.64 | 886.16 57.73 | 886.23 32.21 | 886.24 32.00 | 886.20 57.51 | 885.73 73.15 | 885.55 79.15 | 883.86 90.86 | 882.82 97.15 | 881.65 101.23 | 881.65 112.25 | 881.65 113.03

EXISTING ROW

29+00.00

890

EXISTING ROW

881.30 82.01 | 884.13 82.24 | 885.75 70.97 | 885.99 64.97 | 886.20 57.72 | 886.29 32.23 | 886.26 32.10 | 886.24 57.58 | 885.74 74.17 | 885.56 80.17 | 883.88 91.87 | 882.83 98.17 | 881.58 102.53 | 881.58 102.53 | 881.58 115.08

EXISTING ROW

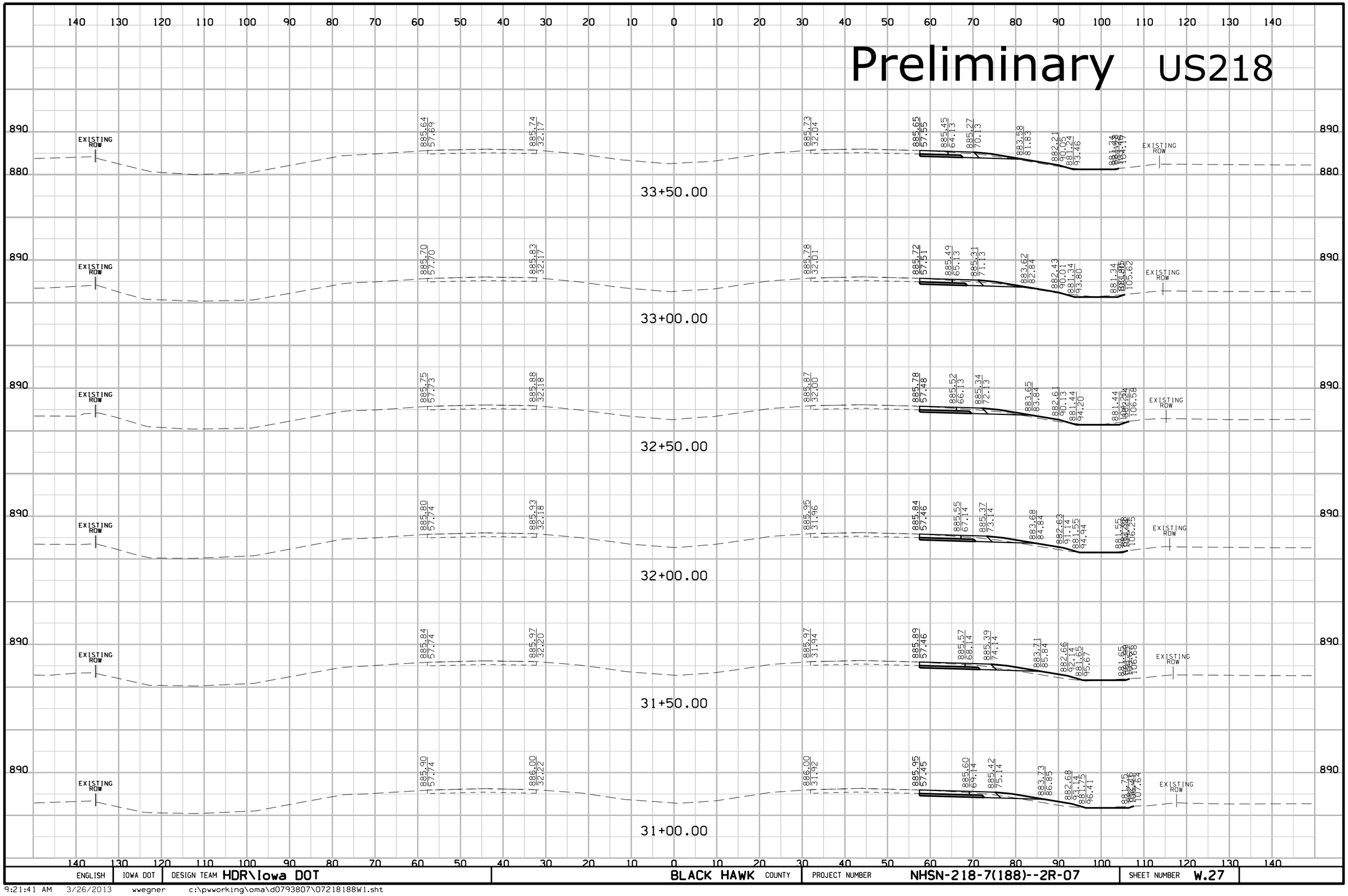
28+50.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.26

9:21:39 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

Preliminary US218



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.27

9:21:41 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188W1.sht

Preliminary US218

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890 / 880

EXISTING ROW

885.28 57.63 | 885.42 32.07 | 885.33 31.91 | 885.26 57.46 | 885.26 58.11 | 885.00 64.11 | 883.39 75.38 | 883.23 80.78 | EXISTING ROW

36+50.00

885.31 57.67 | 885.49 32.08 | 885.40 32.00 | 885.27 57.53 | 885.23 59.11 | 884.99 65.11 | 883.37 76.38 | 883.22 81.50 | EXISTING ROW

36+00.00

885.35 57.71 | 885.53 32.14 | 885.46 32.02 | 885.37 57.53 | 885.29 60.12 | 885.05 66.12 | 883.44 77.39 | 883.31 81.63 | EXISTING ROW

35+50.00

885.40 57.72 | 885.56 32.20 | 885.52 32.04 | 885.46 57.54 | 885.35 61.12 | 885.11 67.12 | 883.50 80.49 | EXISTING ROW

35+00.00

885.45 57.73 | 885.60 32.18 | 885.58 32.07 | 885.51 57.58 | 885.38 62.12 | 885.14 68.12 | 883.52 80.96 | EXISTING ROW

34+50.00

885.54 57.71 | 885.64 32.17 | 885.63 32.09 | 885.57 57.61 | 885.40 63.13 | 885.16 69.13 | 883.55 81.48 | EXISTING ROW

34+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.28

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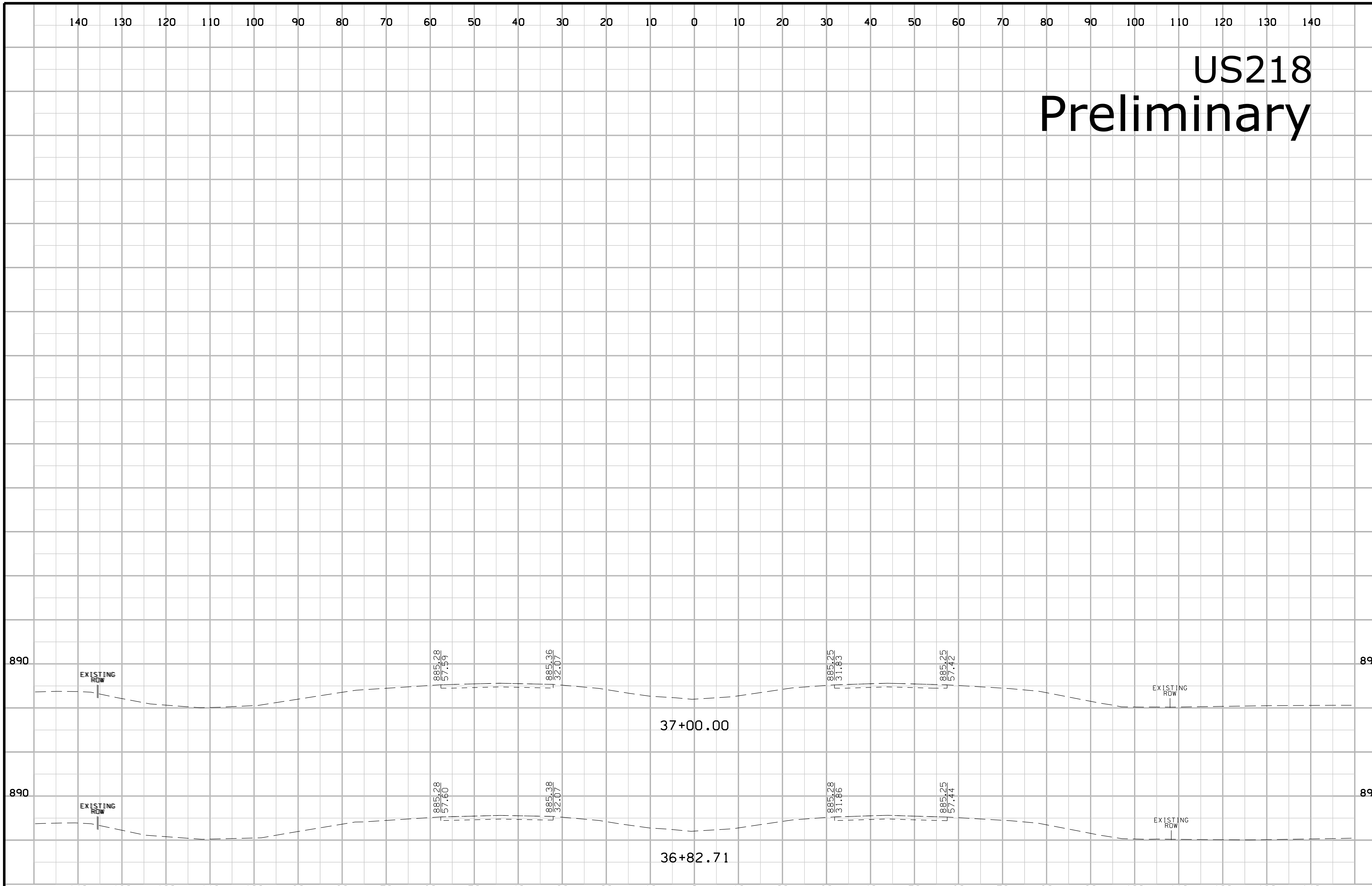

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER W.29	

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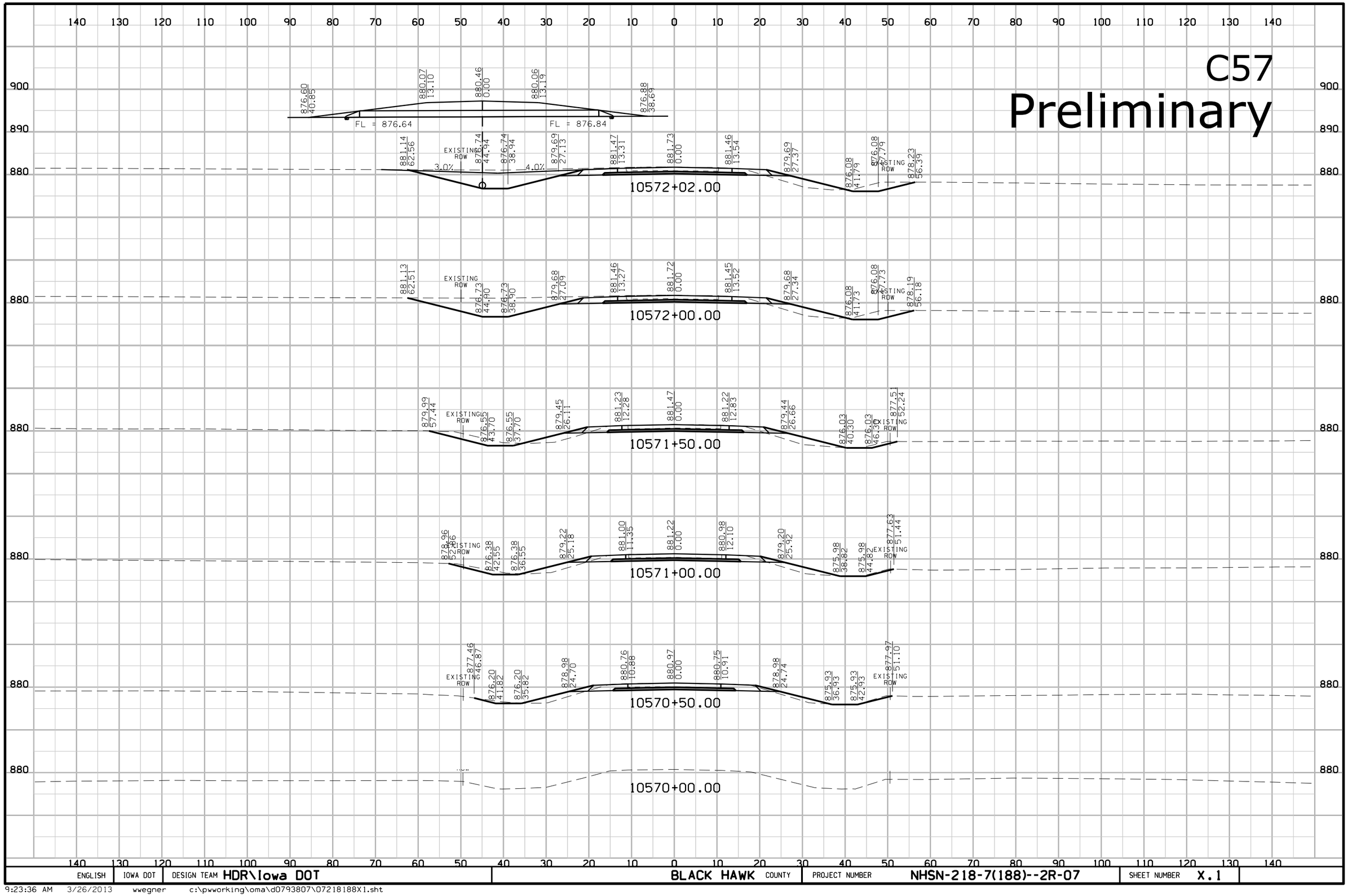
C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.1

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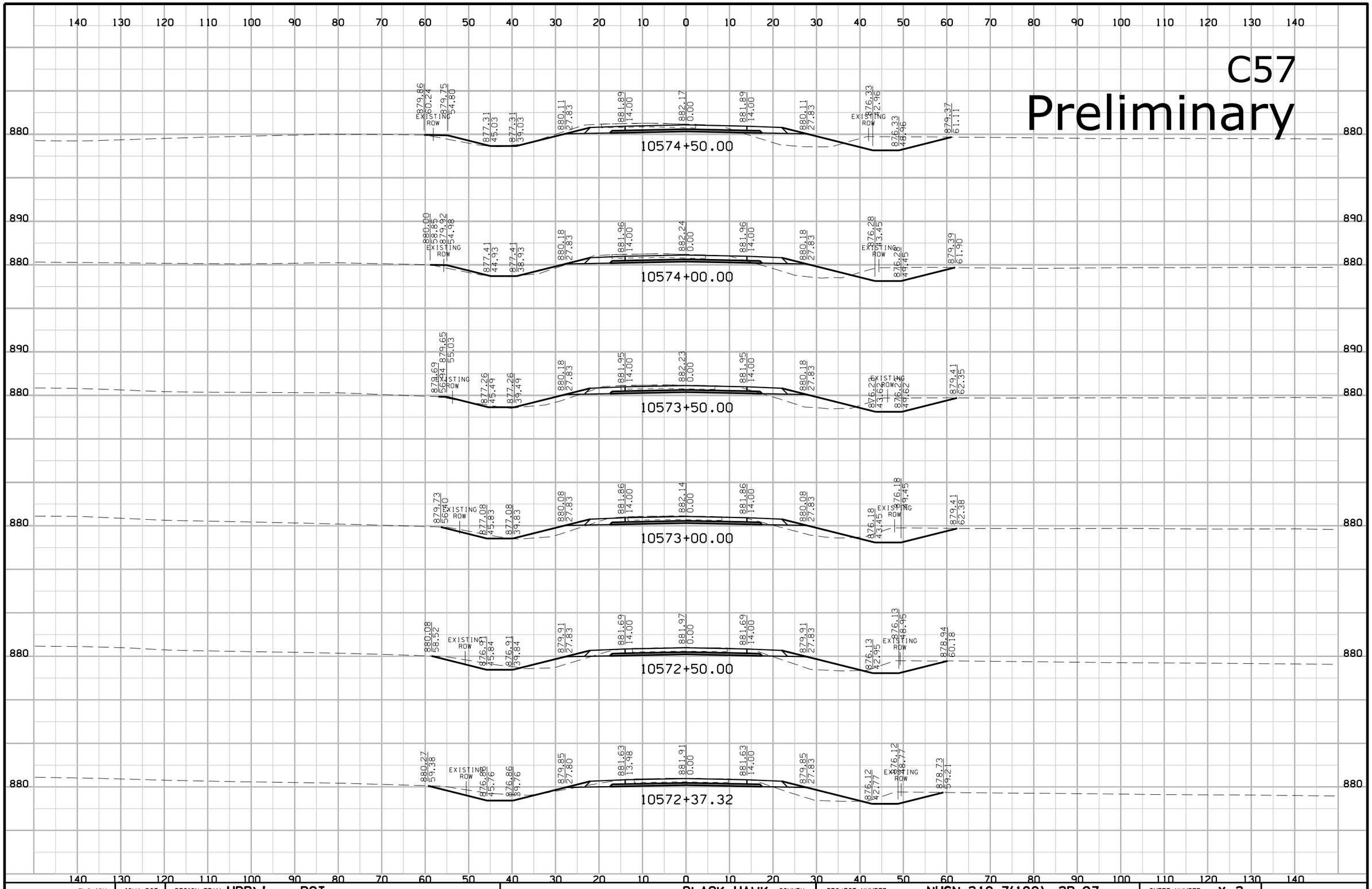
C57

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.2

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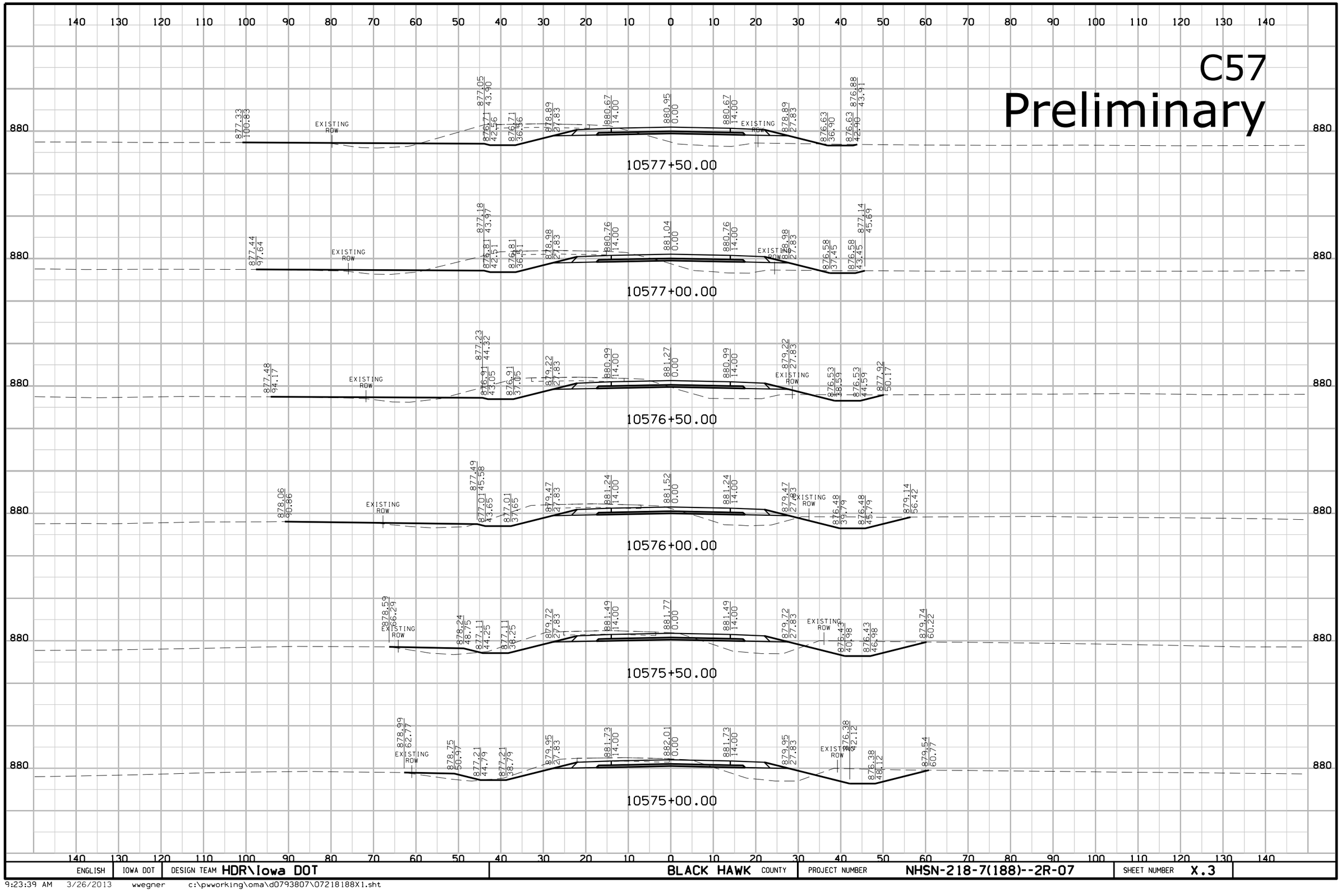
C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.3

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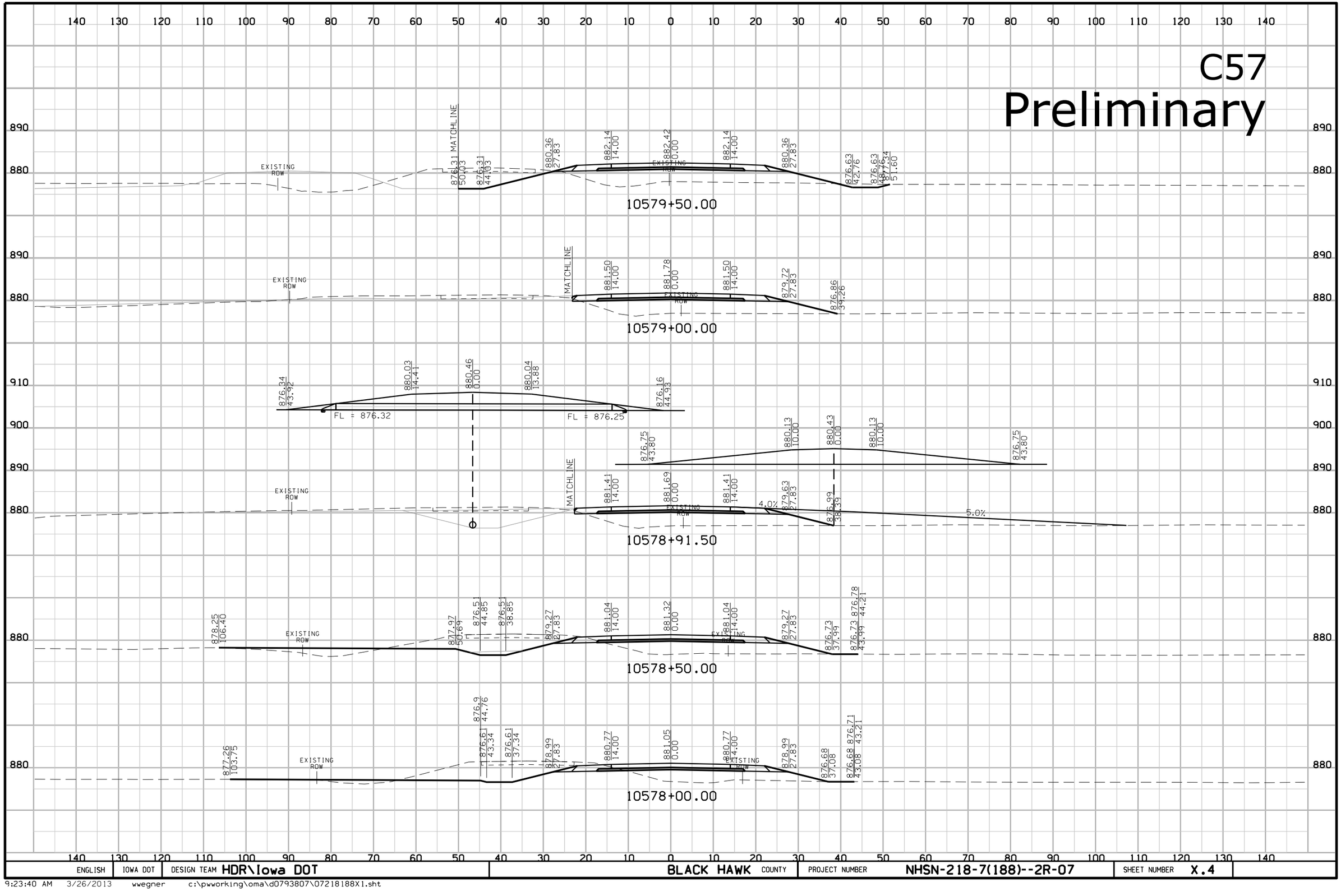
C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.4

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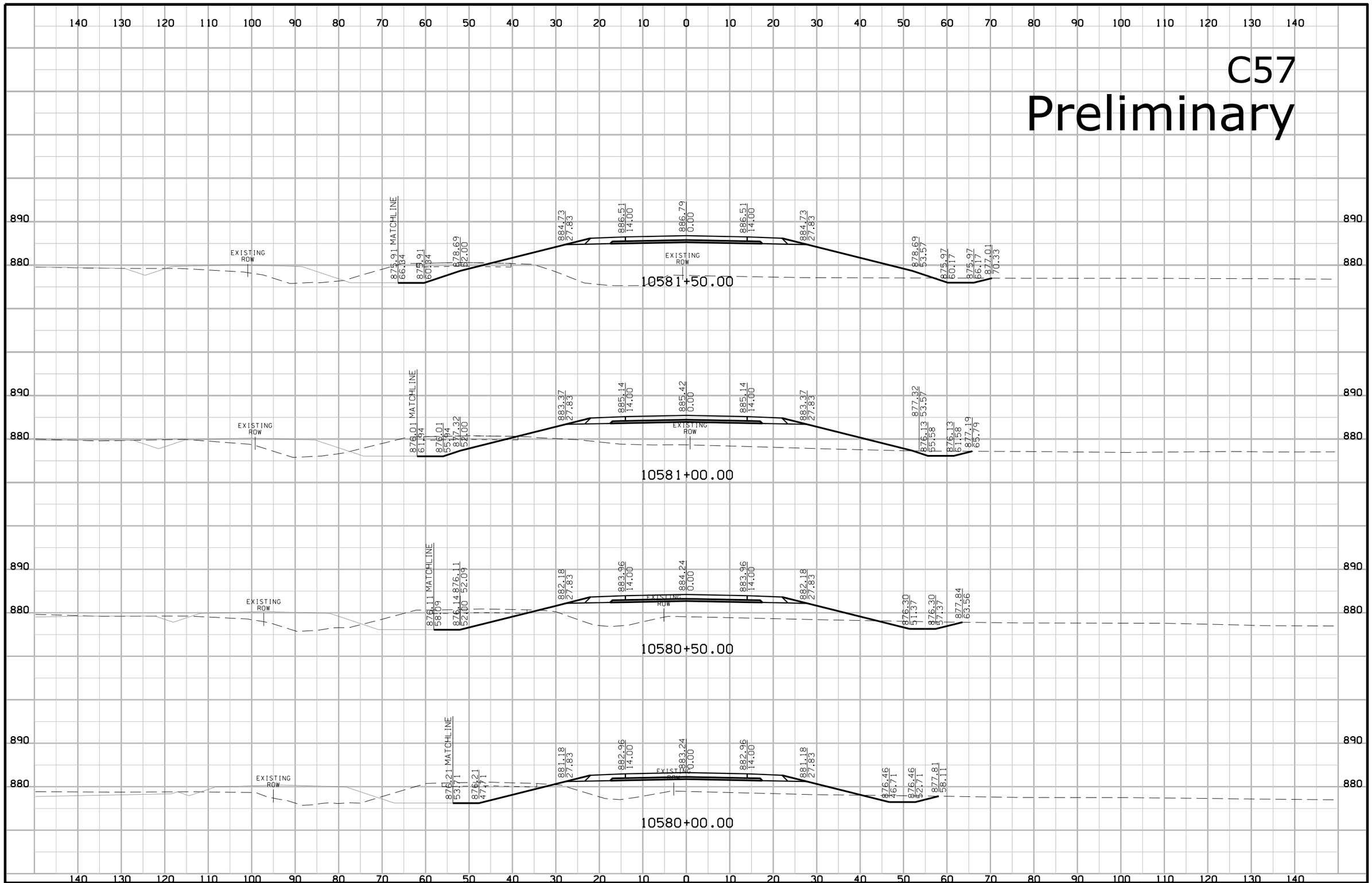
C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.5

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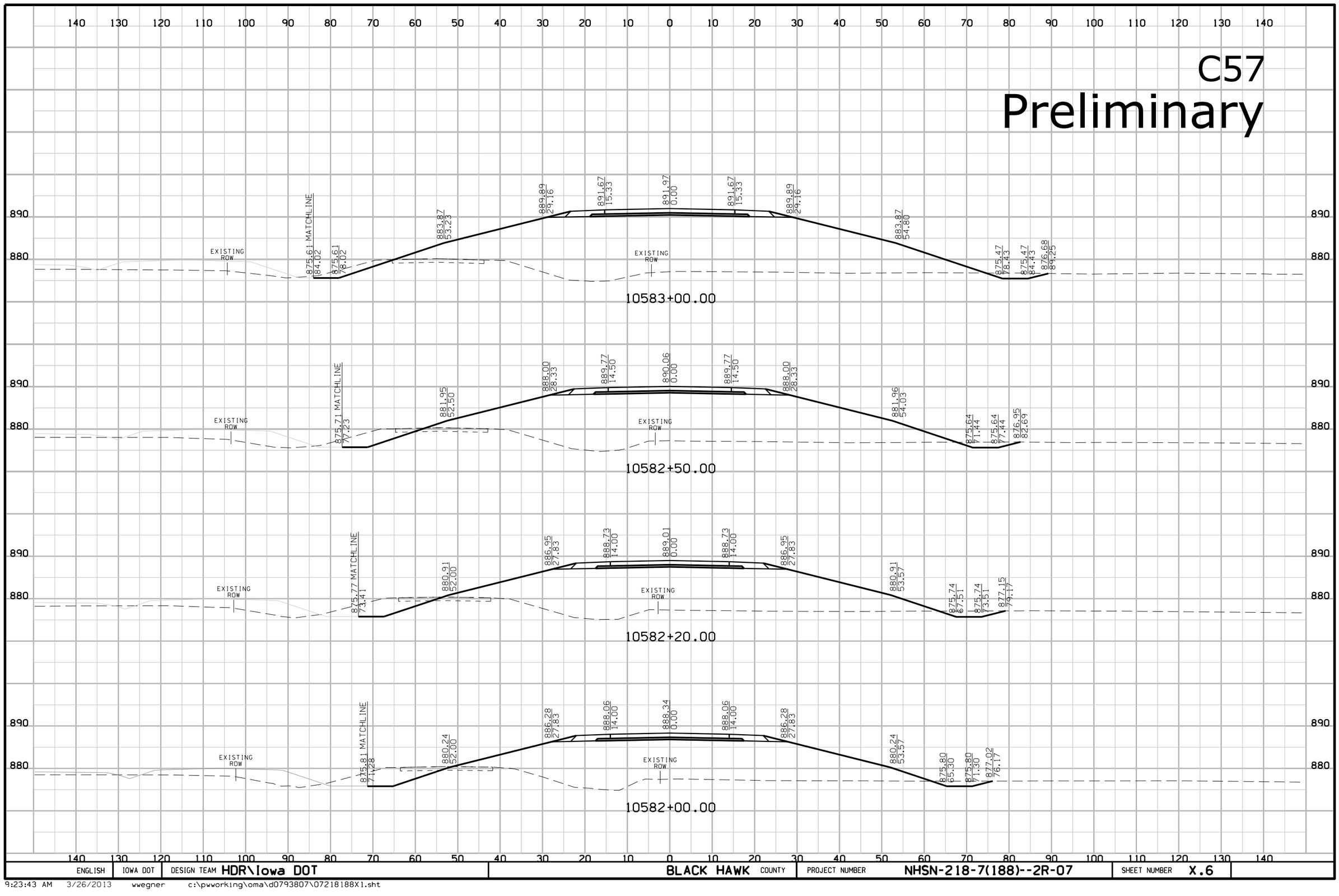
C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.6

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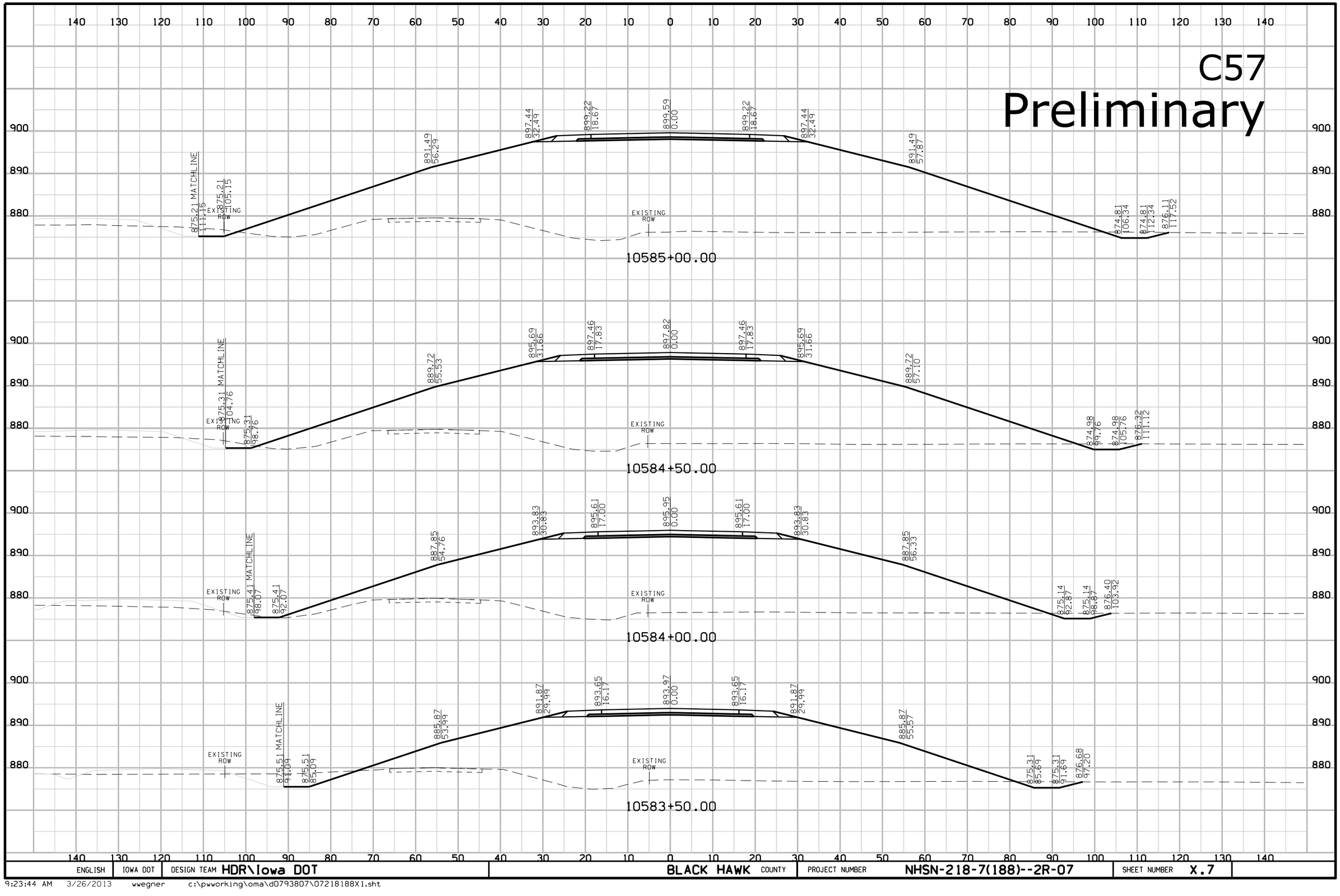
C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.7

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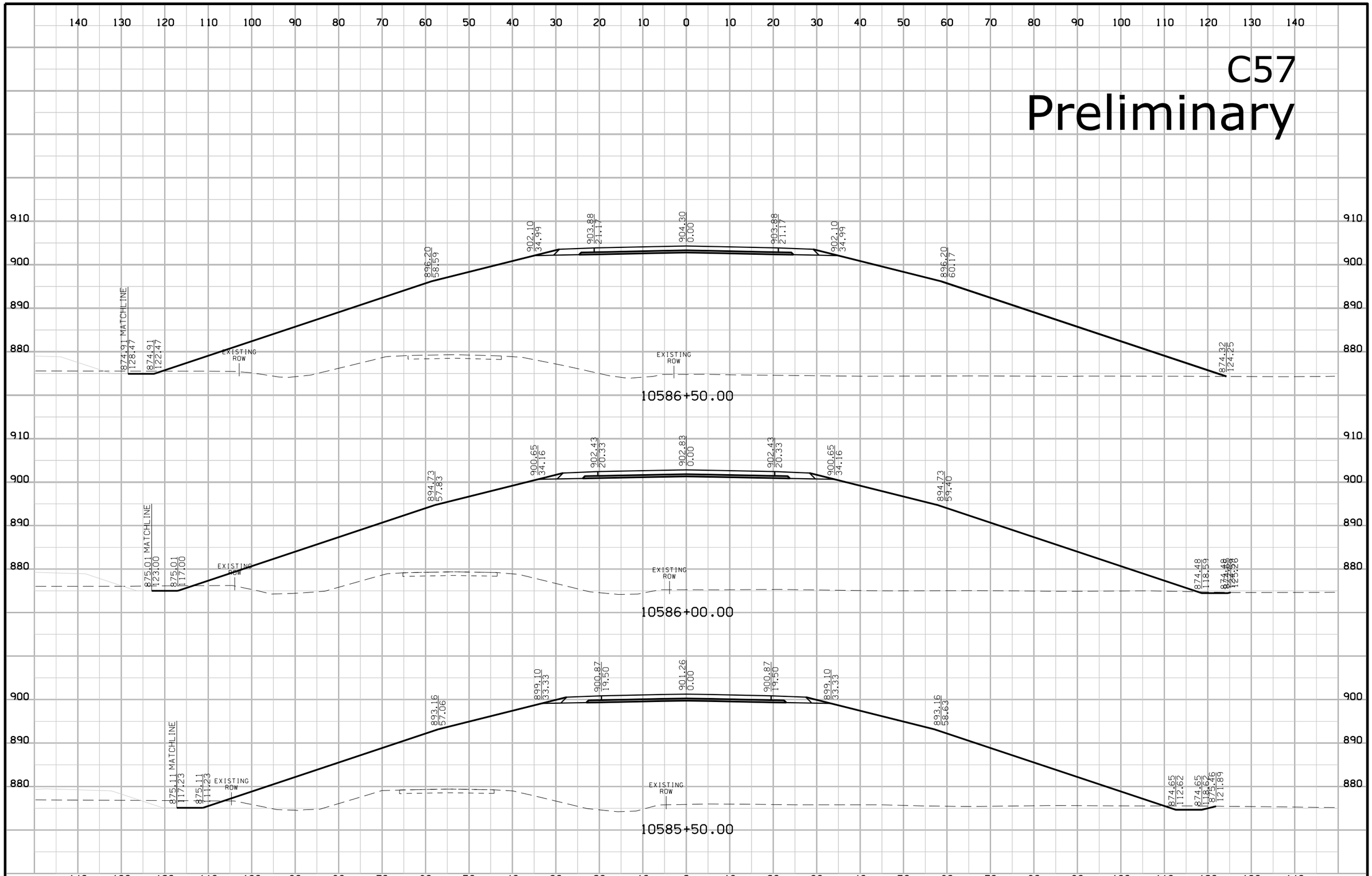
C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.8

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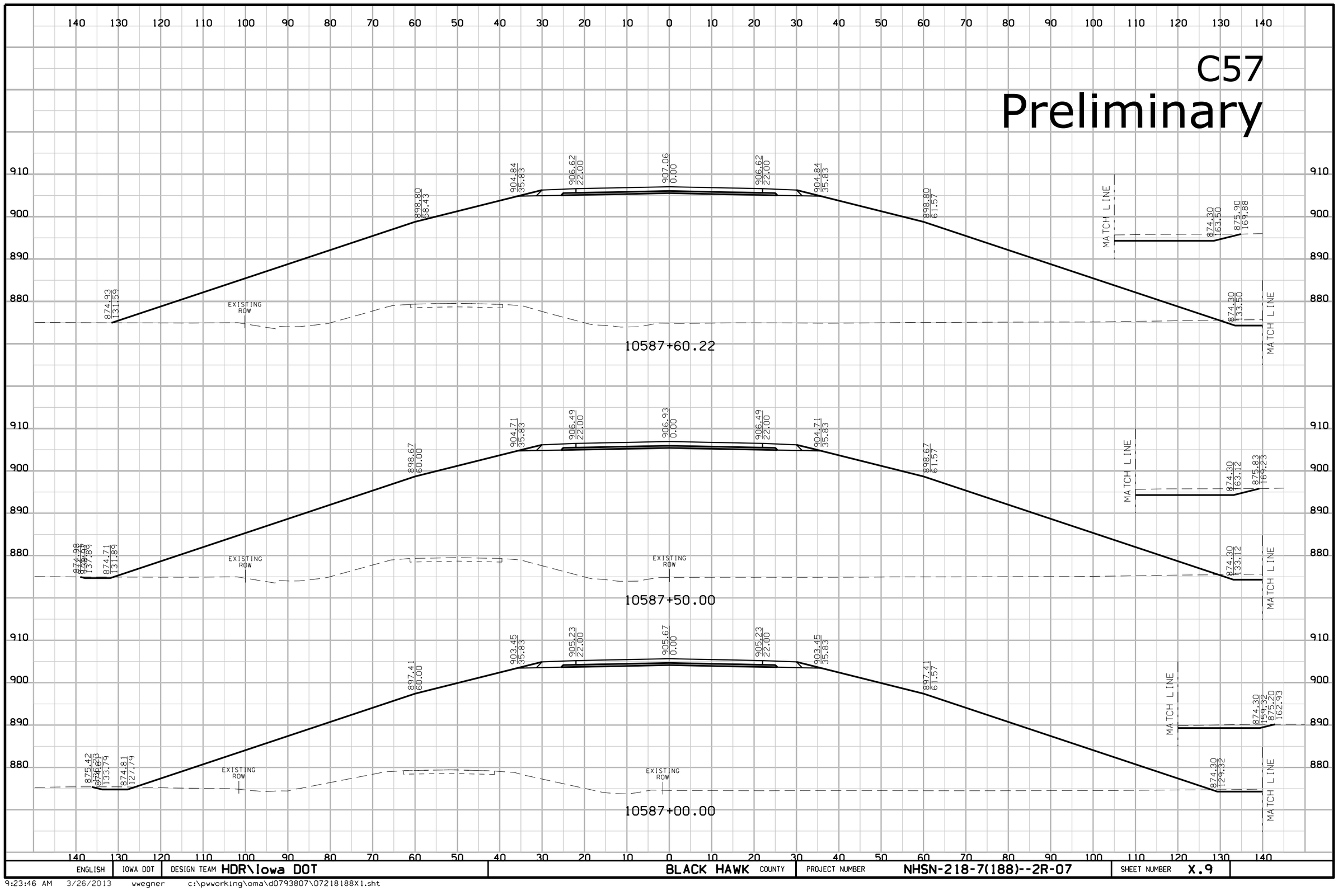
C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.9

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C57
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

910 900 890 880

907.65 22.00 | 908.09 0.00 | 907.65 22.00

EXISTING ROW

EXISTING ROW

10588+00.00

907.13 22.00 | 907.52 0.00 | 907.13 22.00 | 905.35 36.06

899.31 58.43

MATCH LINE

874.30 165.18 | 876.40 173.58

874.90 133.23

EXISTING ROW

874.30 135.18

MATCH LINE

10587+82.17

905.20 35.83 | 906.97 22.00 | 907.41 0.00 | 906.97 22.00 | 905.19 36.06

899.15 58.64

899.21 61.57

MATCH LINE

874.30 164.73 | 876.24 172.48

874.91 132.95

EXISTING ROW

874.30 134.73

MATCH LINE

10587+75.24

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.10

9:23:48 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

C57

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

910
900
890
880

910.53
22.00

910.97
0.00

910.53
22.00

EXISTING ROW

EXISTING ROW

10589+50.00

909.67
22.00

910.11
0.00

909.67
22.00

908.71
22.00

909.15
0.00

908.71
22.00

10589+00.00

10588+50.00

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.11

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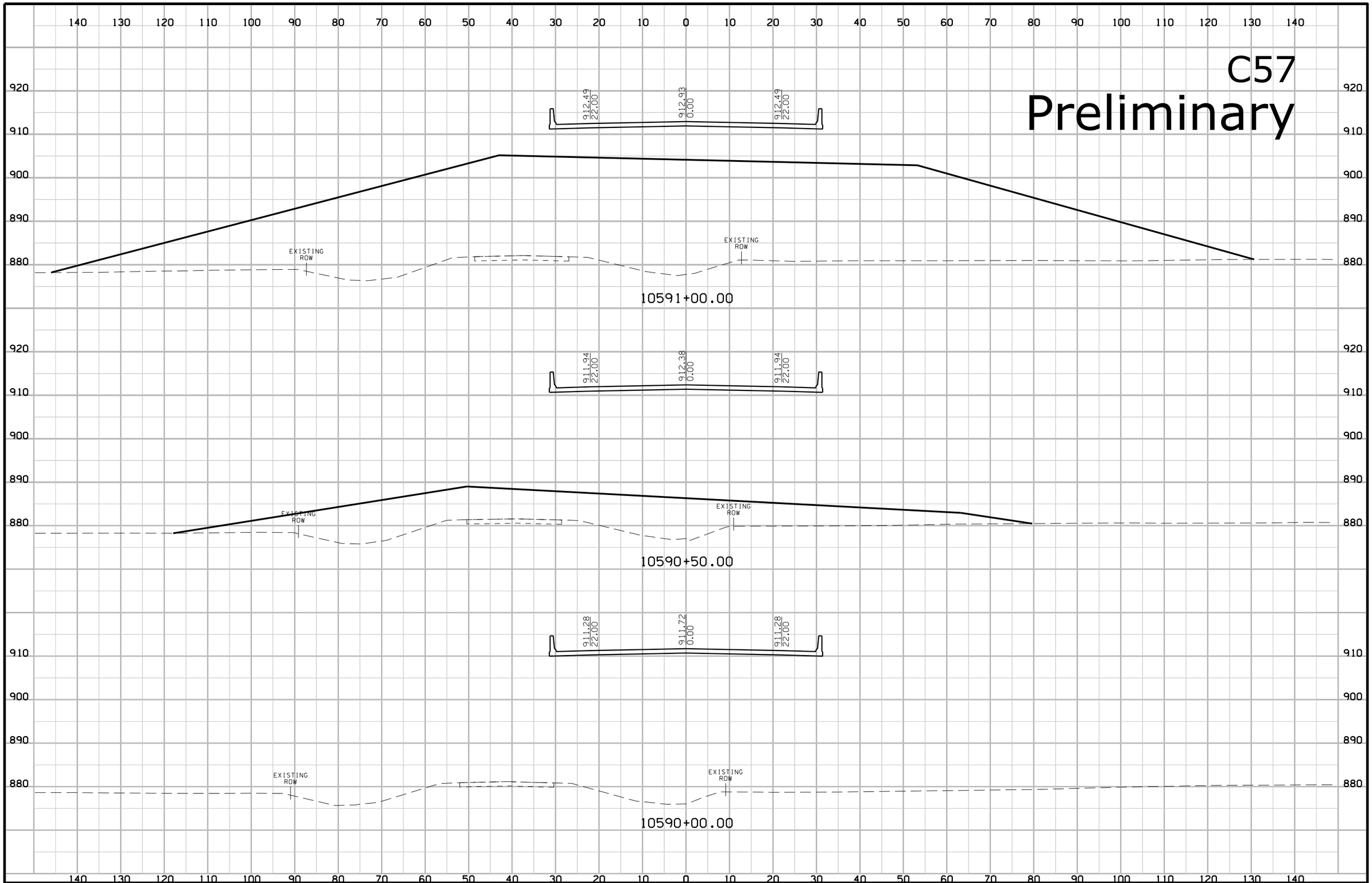
C57

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.12

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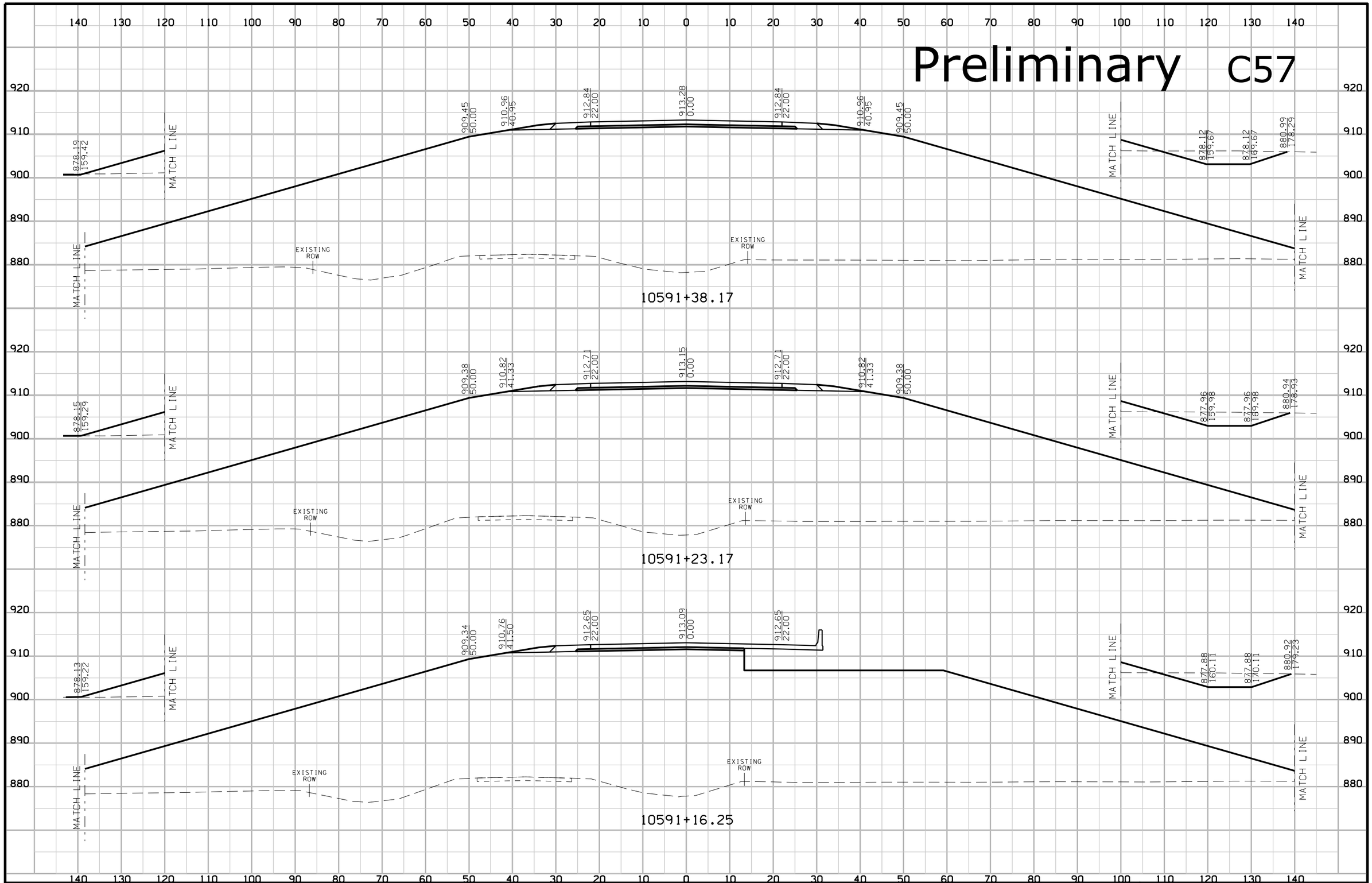
Preliminary C57



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.13

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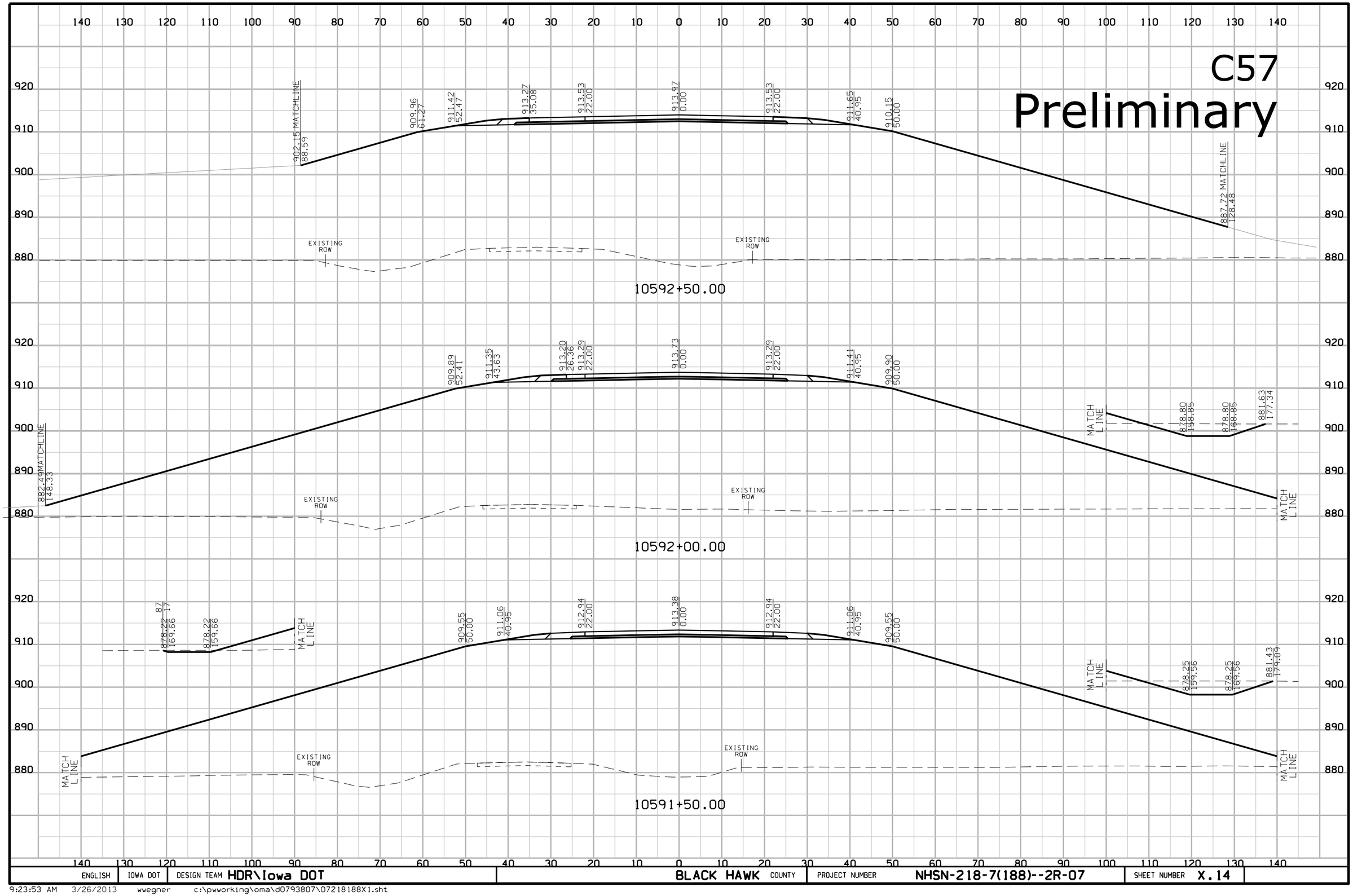
C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.14

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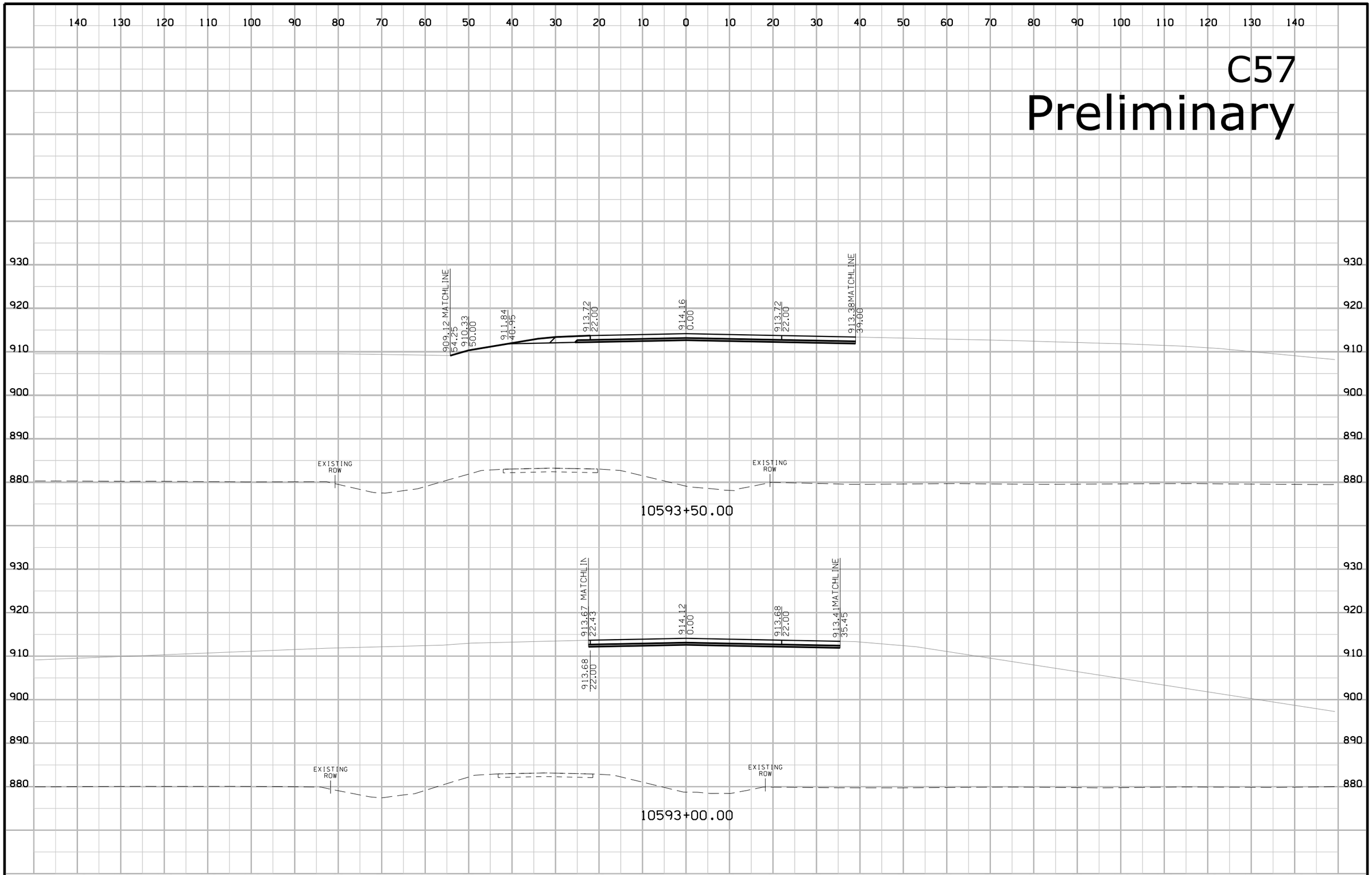
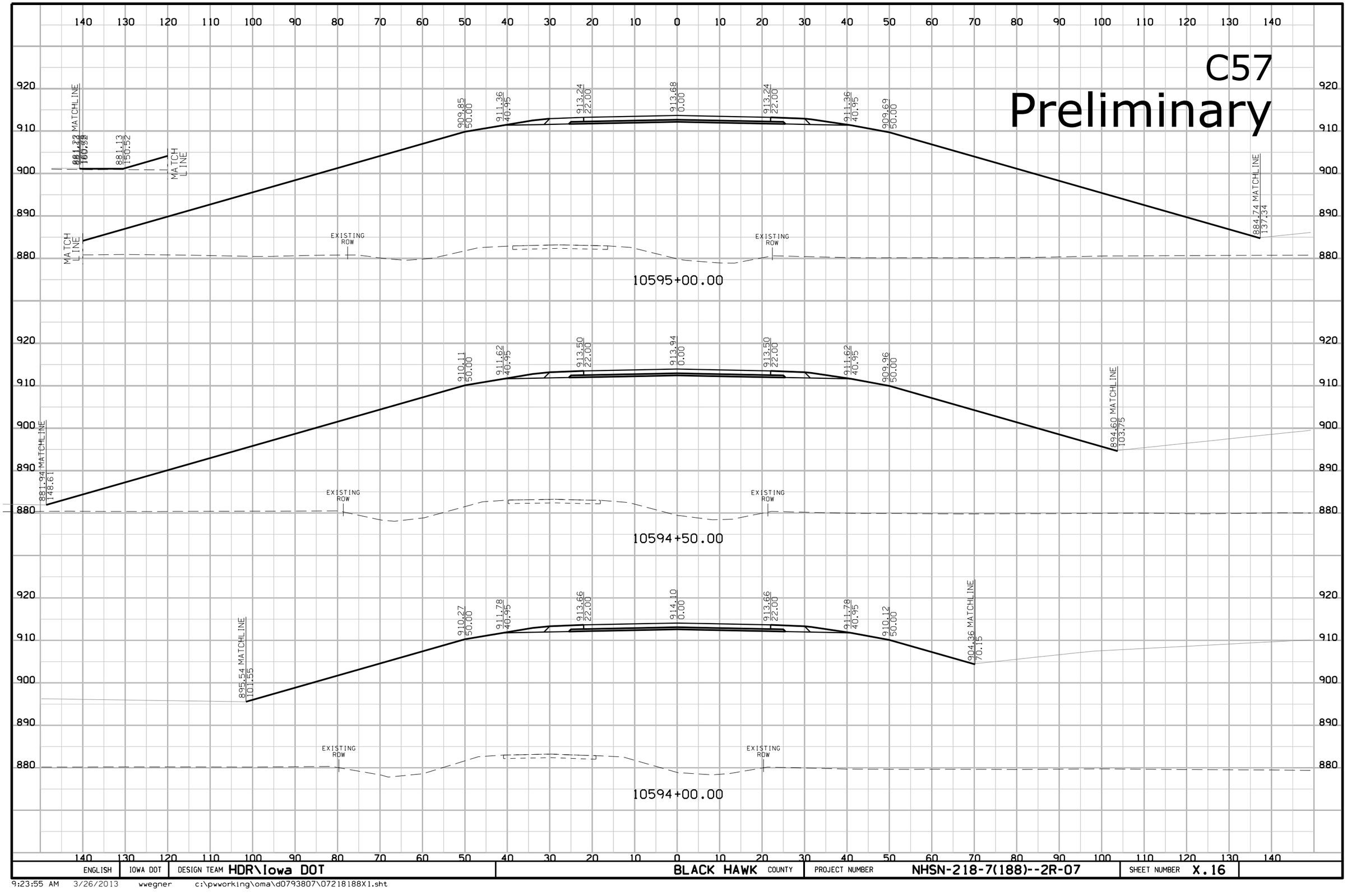
C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.15

9:23:54 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

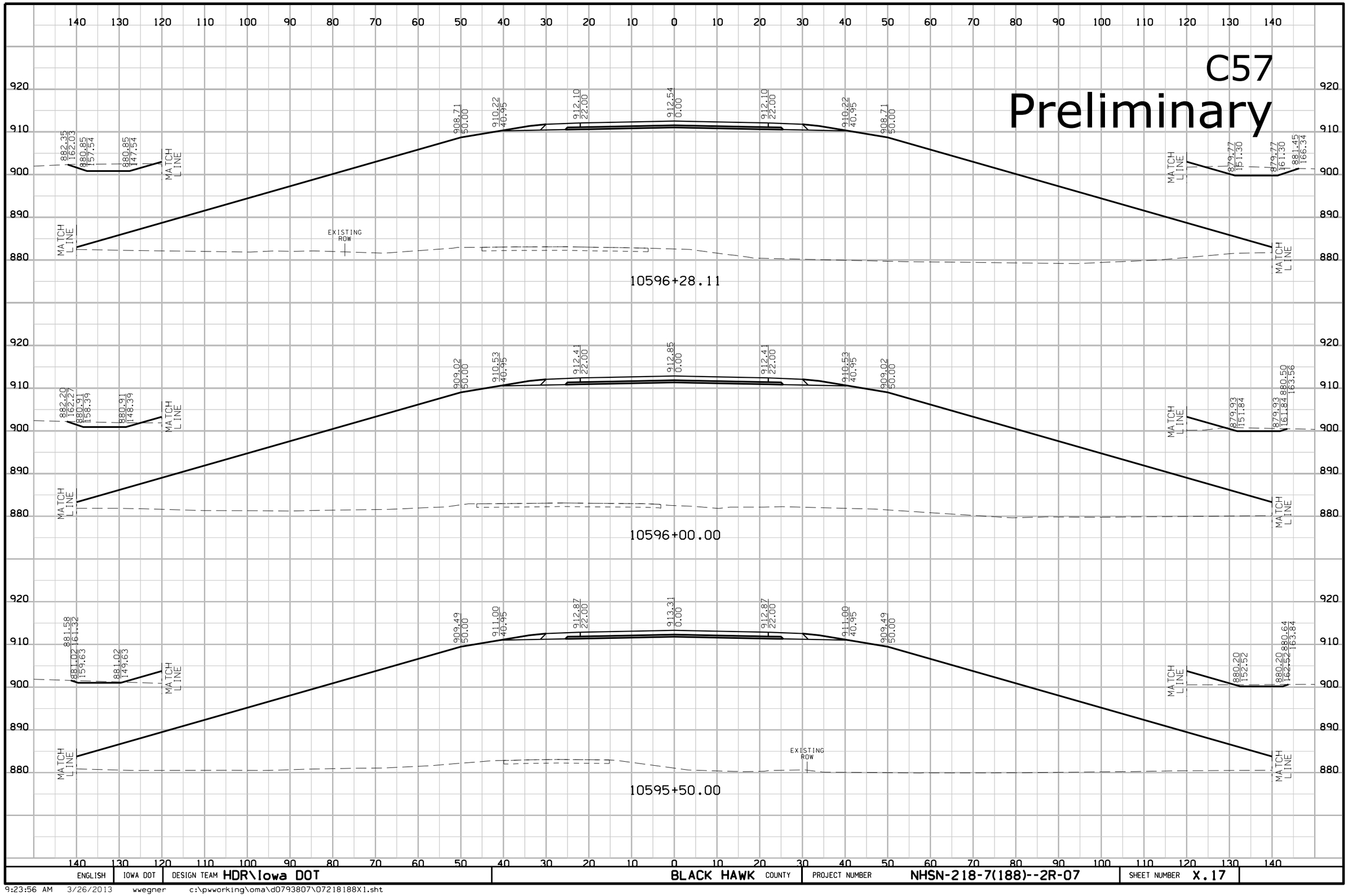
C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.16

9:23:55 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.17

9:23:56 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

C57

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

910 900 890 880

911.17 22.00 | 911.61 0.00 | 911.17 22.00

10597+00.00

920 910 900 890 880

880.80 157.49 | 880.80 157.07 | 880.80 147.07 | MATCH LINE

912.28 0.00 | 911.84 22.00 | 909.95 41.50 | 908.53 50.00

MATCH LINE | 879.65 151.08 | MATCH LINE

EXISTING ROW

10596+50.00

920 910 900 890 880

880.98 157.73 | 880.82 157.23 | 880.82 147.23 | MATCH LINE

908.59 50.00 | 910.04 41.33 | 911.93 22.00 | 912.37 0.00 | 911.93 22.00 | 910.04 41.33 | 908.59 50.00

MATCH LINE | 879.69 151.16 | MATCH LINE

EXISTING ROW

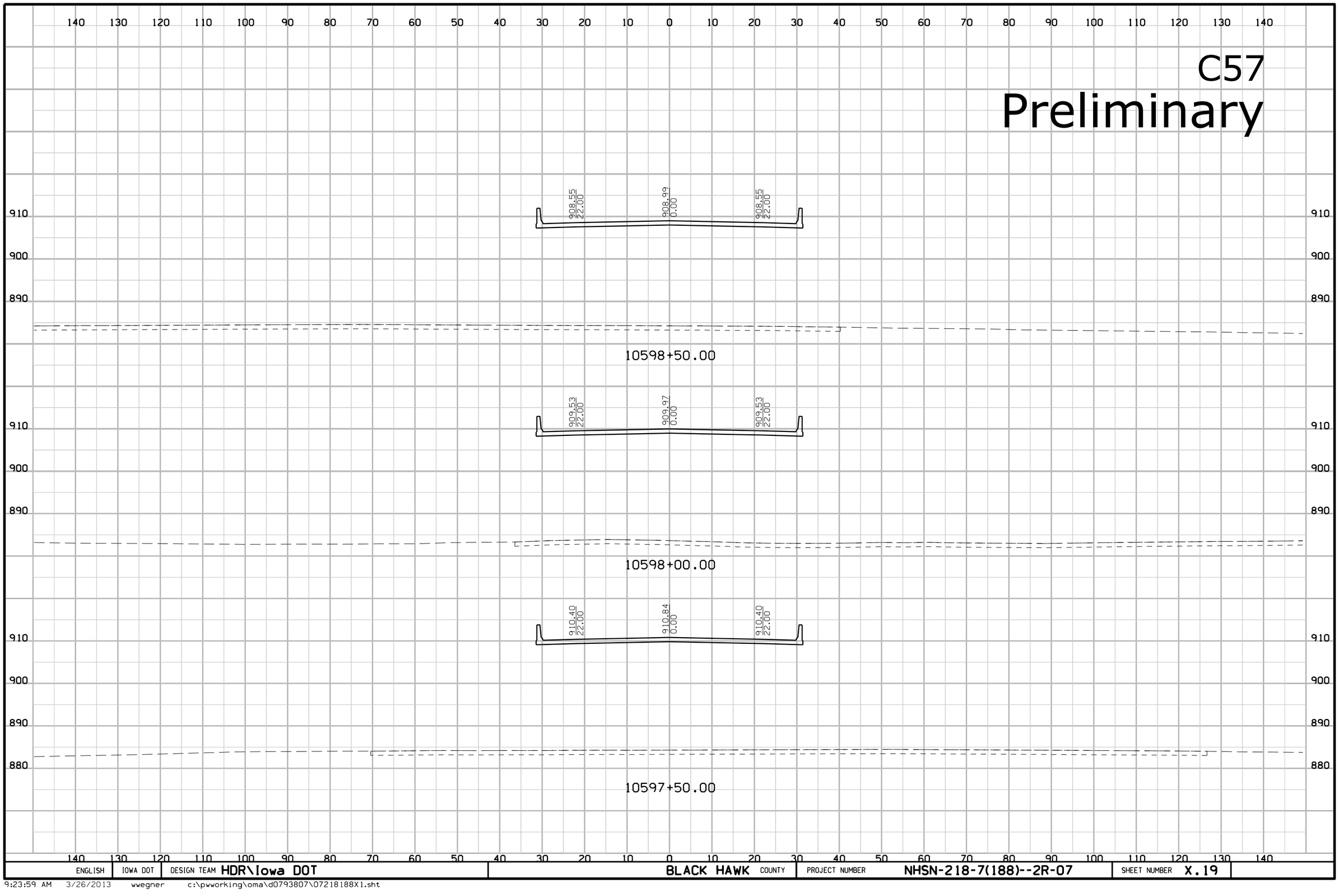
10596+43.11

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.18

9:23:58 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

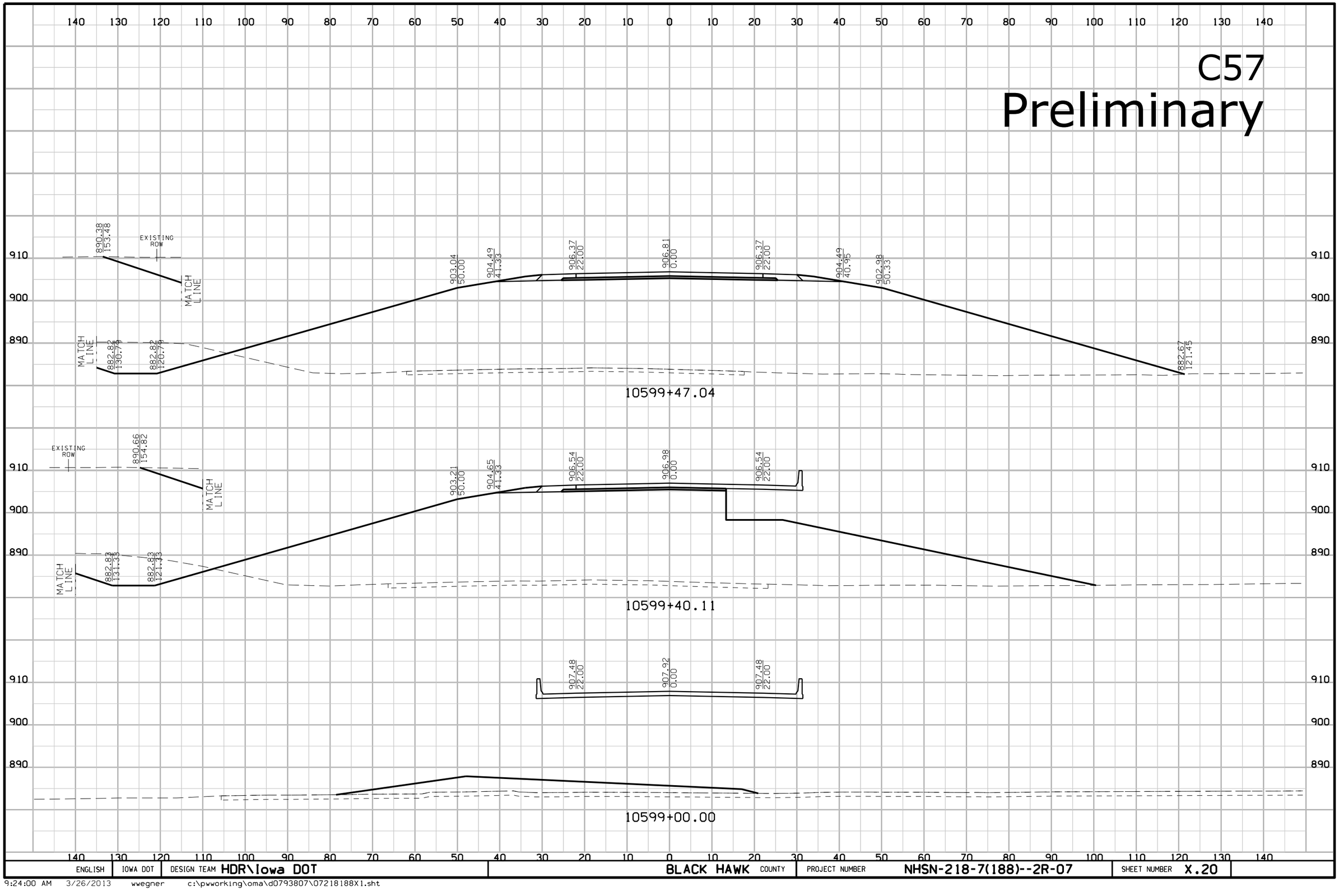
C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.19

9:23:59 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.20

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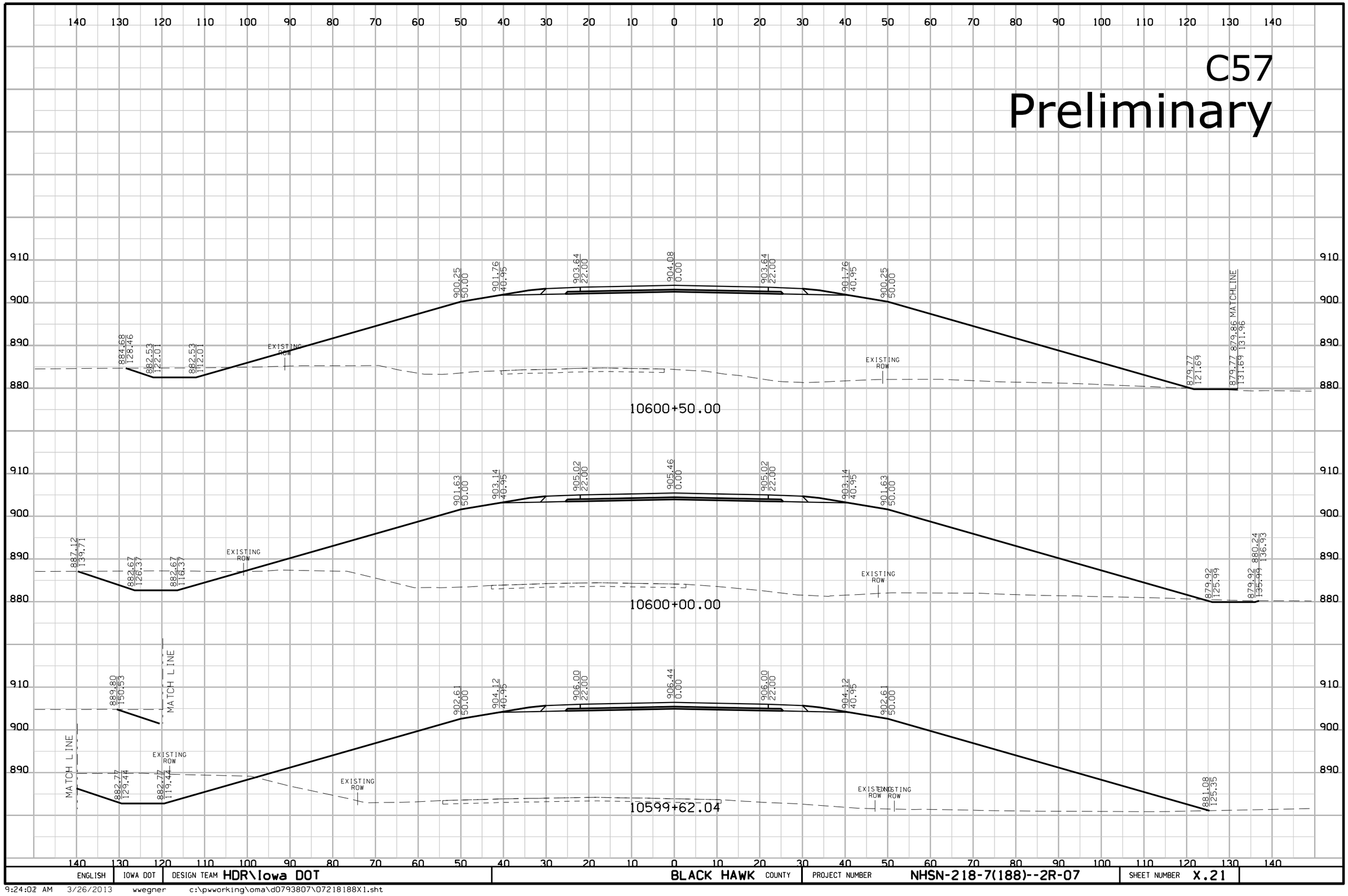
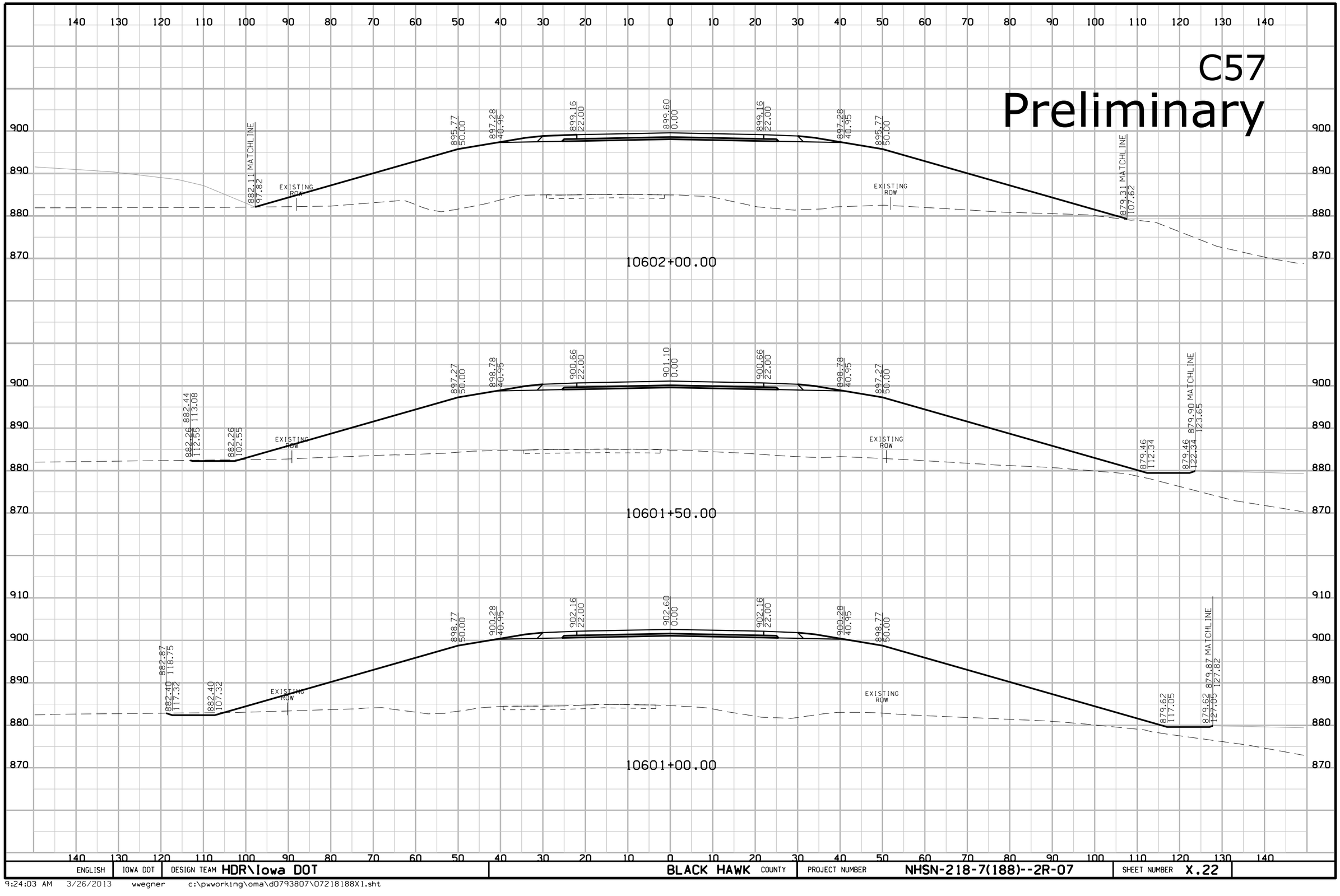
C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.21

9:24:02 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.22

9:24:03 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

C57
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

910 900 890 880 870

895.25 MATCHLINE
43.55

895.31
41.86

895.71
22.00

896.15
0.00

895.71
22.00

895.54 MATCHLINE
30.53

EXISTING ROW

EXISTING ROW

10603+15.00

896.16 MATCHLINE
22.00

896.60
0.00

896.16
22.00

896.10 MATCHLINE
25.04

EXISTING ROW

EXISTING ROW

10603+00.00

897.05 MATCHLINE
52.38

897.66
22.00

898.10
0.00

897.66
22.00

895.78
40.95

894.27
50.00

887.90 MATCHLINE
72.32

EXISTING ROW

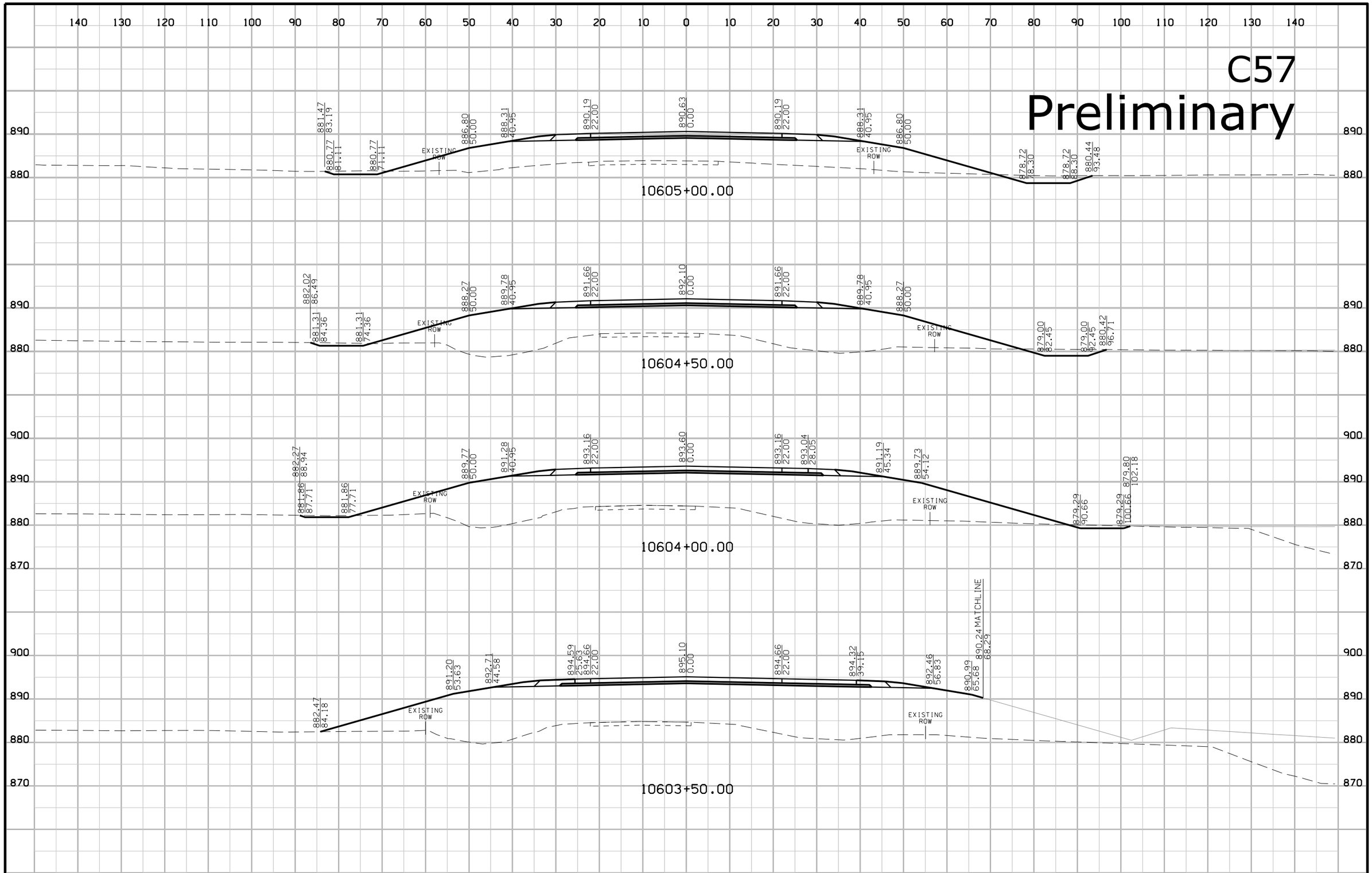
EXISTING ROW

10602+50.00

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.23

9:24:04 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.24

9:24:05 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

C57

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890 / 880

878.77 72.46 | 878.06 70.31 | 878.06 60.31 | EXISTING ROW | 881.80 47.21 | 883.37 37.79 | 885.25 18.83 | 885.63 0.00 | 885.25 18.83 | 883.37 37.79 | EXISTING ROW 881.80 47.21 | 877.30 62.97 | 877.30 72.97 | 879.13 78.45

10607+50.00

879.08 72.94 | 878.60 71.52 | 878.60 61.52 | EXISTING ROW | 882.48 47.95 | 884.03 38.62 | 885.91 19.67 | 886.30 0.00 | 885.91 19.67 | 884.03 38.62 | EXISTING ROW 882.48 47.95 | 877.58 65.08 | 877.58 75.08 | 879.54 80.95

10607+00.00

879.62 74.71 | 879.14 73.29 | 879.14 63.29 | EXISTING ROW | 883.32 48.68 | 884.86 39.45 | 886.73 20.50 | 887.14 0.00 | 886.73 20.50 | 884.86 39.45 | EXISTING ROW 883.32 48.68 | 877.87 67.76 | 877.87 77.76 | 879.47 82.58

10606+50.00

879.82 76.03 | 879.69 75.63 | 879.69 65.63 | EXISTING ROW | 884.32 49.41 | 885.84 40.29 | 887.72 21.33 | 888.15 0.00 | 887.72 21.33 | 885.84 40.29 | EXISTING ROW 884.32 49.41 | 878.15 71.00 | 878.15 81.00 | 879.45 84.90

10606+00.00

880.12 67.90 | EXISTING ROW | 885.23 50.00 | 886.74 40.95 | 888.62 22.00 | 889.06 0.00 | 888.62 22.00 | 886.74 40.95 | 885.23 50.00 | EXISTING ROW | 878.38 74.00 | 878.38 84.00 | 879.59 87.64

10605+60.00

880.23 68.38 | EXISTING ROW | 885.48 50.00 | 886.99 40.95 | 888.87 22.00 | 889.31 0.00 | 888.87 22.00 | 886.99 40.95 | 885.48 50.00 | EXISTING ROW | 878.43 74.66 | 878.43 84.66 | 879.61 88.18

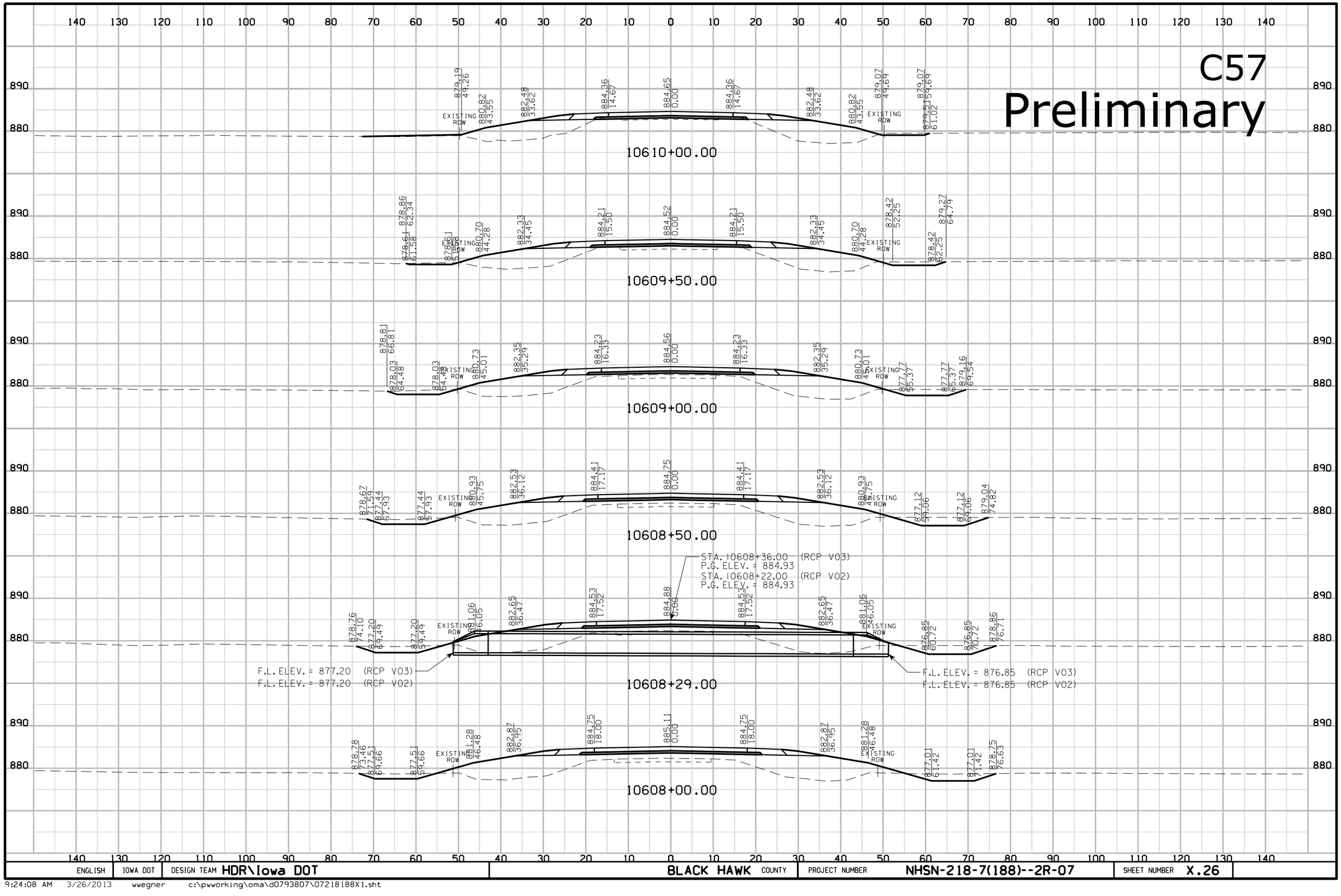
10605+50.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.25

9:24:07 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

C57
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.26

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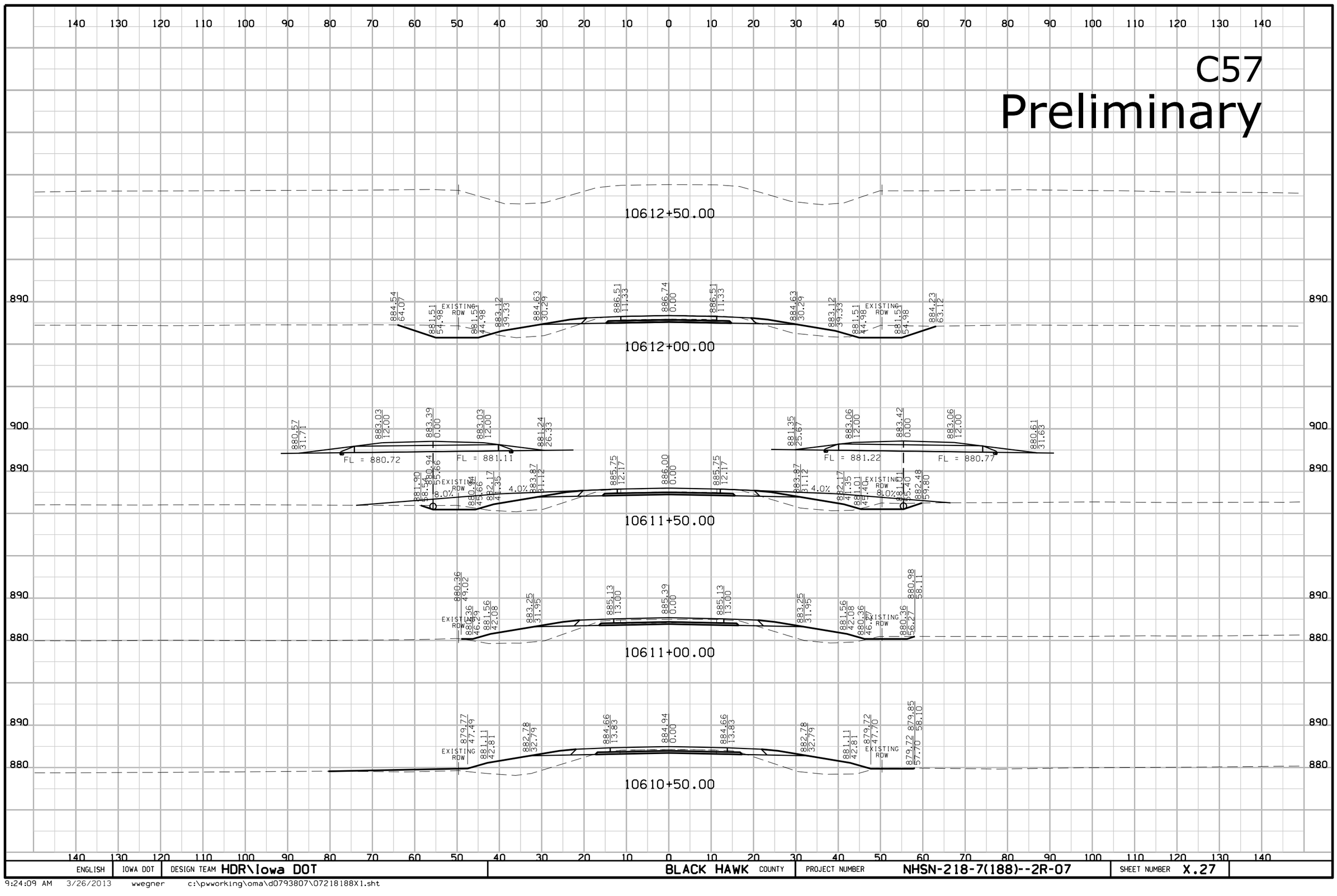
C57

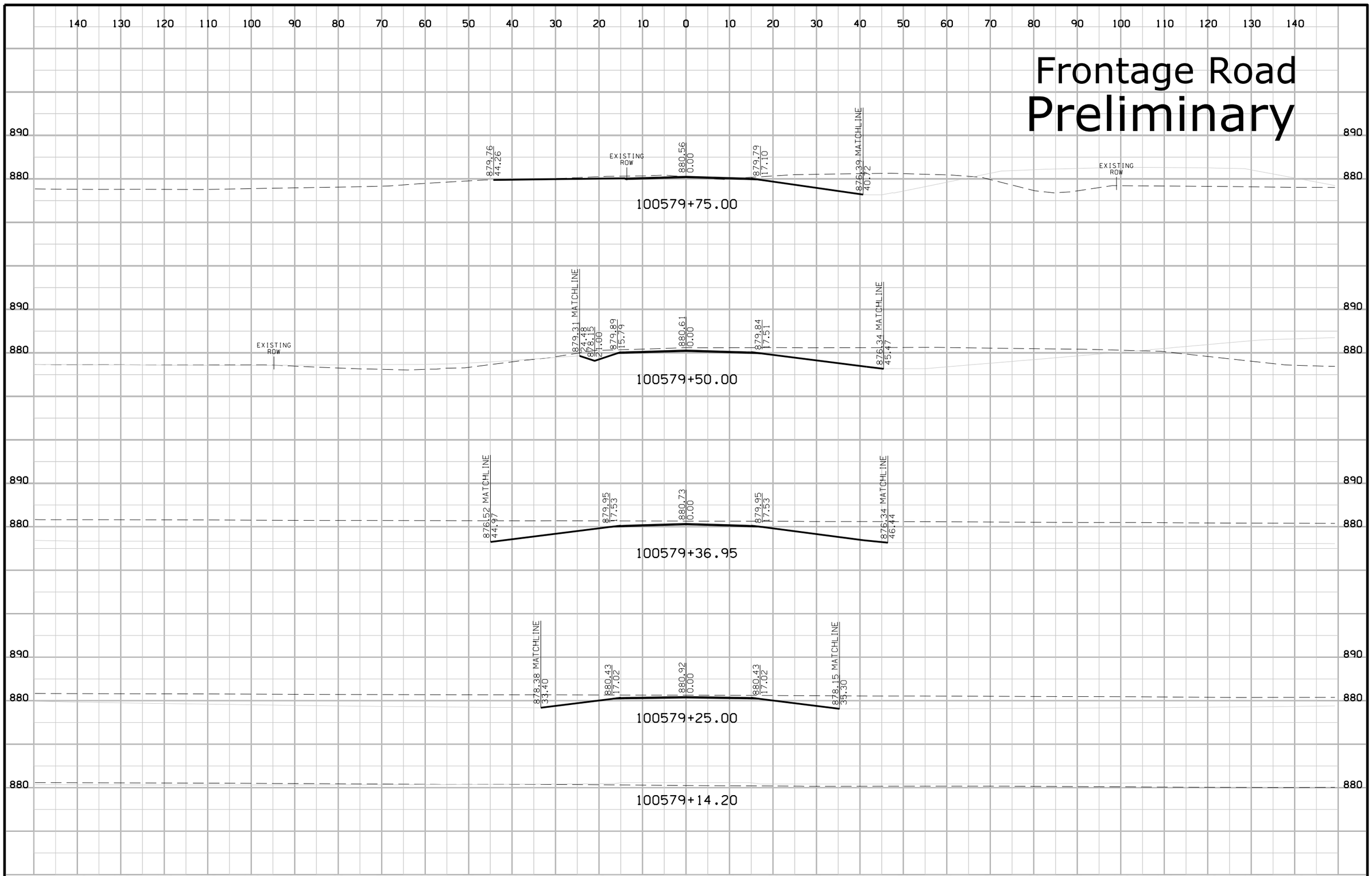
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.27

9:24:09 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

Frontage Road
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.28

9:24:27 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

Frontage Road
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

878.84
23.74
877.42
21.00
879.66
15.79
EXISTING ROW
880.38
0.00
879.66
15.79
876.24
26.05
876.24 MATCHLINE
39.28
EXISTING ROW

100580+75.00

878.42
22.32
877.21
21.00
879.70
15.79
EXISTING ROW
880.43
0.00
879.70
15.79
876.29
26.03
876.29 MATCHLINE
39.33
EXISTING ROW

100580+50.00

877.52
22.48
879.75
15.79
EXISTING ROW
880.47
0.00
879.75
15.79
876.34
26.01
876.34 MATCHLINE
39.12
EXISTING ROW

100580+25.00

876.36
26.09
879.79
15.79
EXISTING ROW
880.51
0.00
879.79
15.79
876.39
25.98
876.39 MATCHLINE
38.66
EXISTING ROW

100580+00.00

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.29

9:24:28 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

Frontage Road
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

879.64
26.68
877.75
21.00
879.49
15.79
880.21
EXISTING
ROW
879.49
15.79
876.04
26.14
876.04 MATCHLINE
38.06
EXISTING
ROW

100581+75.00

879.39
25.78
877.80
21.00
879.53
15.79
880.26
EXISTING
ROW
879.53
15.79
876.09
26.12
876.09 MATCHLINE
38.44
EXISTING
ROW

100581+50.00

879.24
25.21
877.84
21.00
879.57
15.79
880.30
EXISTING
ROW
879.57
15.79
876.14
26.09
876.14 MATCHLINE
38.61
EXISTING
ROW

100581+25.00

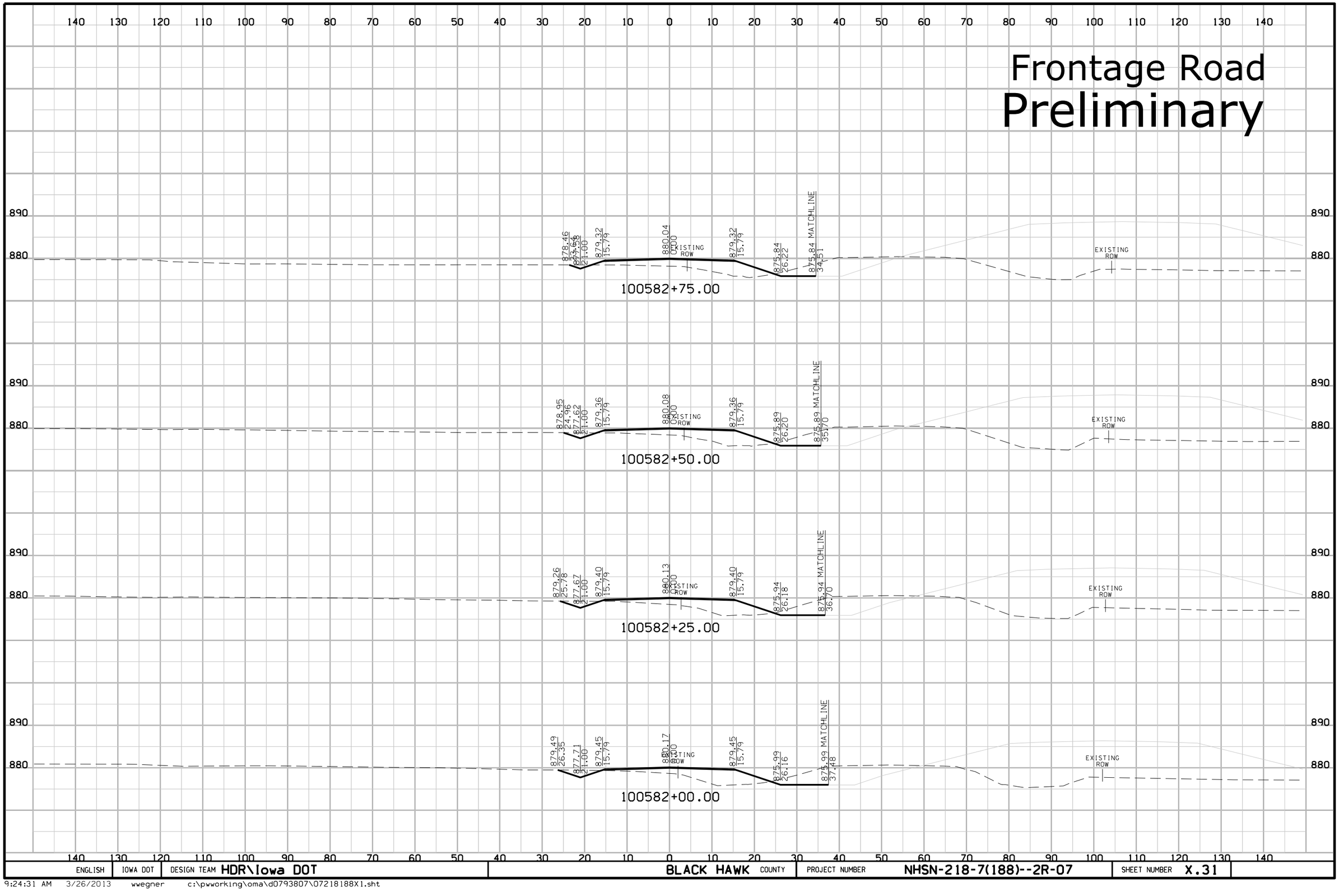
879.09
24.61
877.88
21.00
879.62
15.79
880.34
EXISTING
ROW
879.62
15.79
876.19
26.07
876.19 MATCHLINE
38.98
EXISTING
ROW

100581+00.00

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.30

9:24:30 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

Frontage Road
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.31

9:24:31 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

Frontage Road
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

877.63
877.75
877.86
878.00
21.00
879.15
15.79
879.87
0.00
EXISTING ROW
879.15
15.79
875.62
26.36
875.62 MATCHLINE
30.28
EXISTING ROW

100583+75.00

877.74
877.75
877.86
878.00
21.00
879.19
15.79
879.91
0.00
EXISTING ROW
879.19
15.79
875.68
26.33
875.68 MATCHLINE
31.03
EXISTING ROW

100583+50.00

878.00
877.60
21.00
879.23
15.79
879.96
0.00
EXISTING ROW
879.23
15.79
875.73
26.29
875.73 MATCHLINE
31.88
EXISTING ROW

100583+25.00

878.21
877.45
21.00
879.28
15.79
880.00
0.00
EXISTING ROW
879.28
15.79
875.79
26.25
875.79 MATCHLINE
33.10
EXISTING ROW

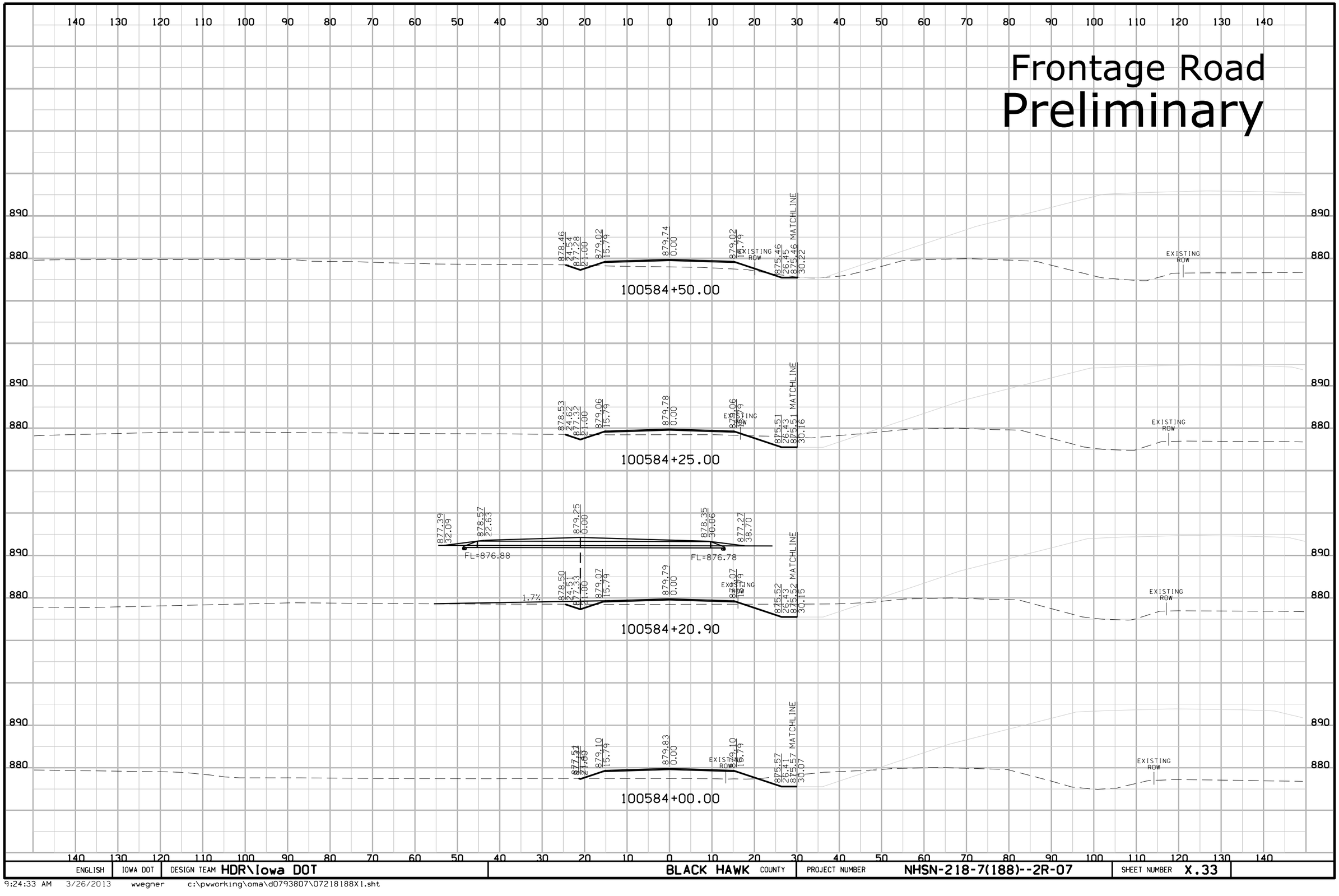
100583+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.32

9:24:32 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

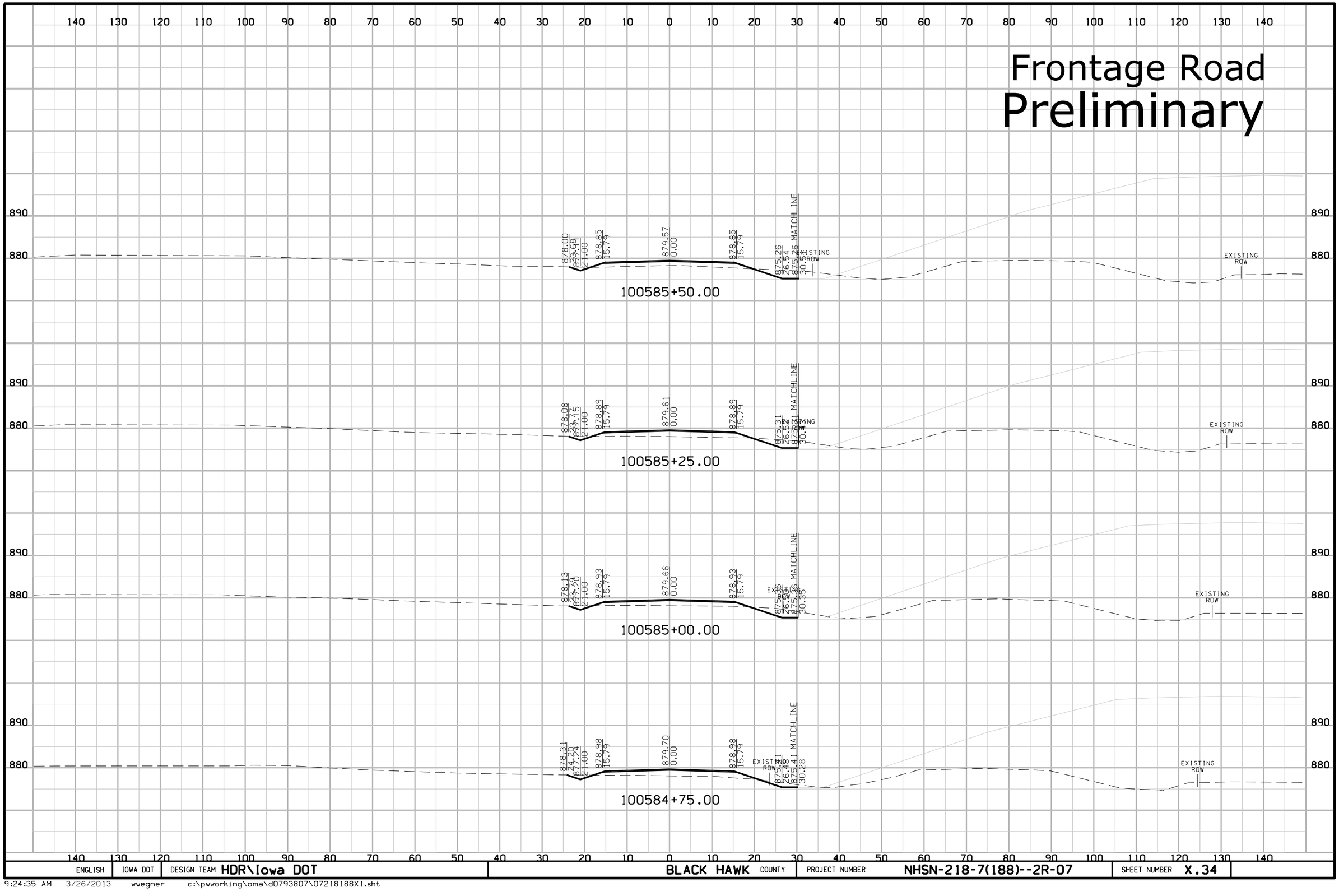
Frontage Road
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.33

9:24:33 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

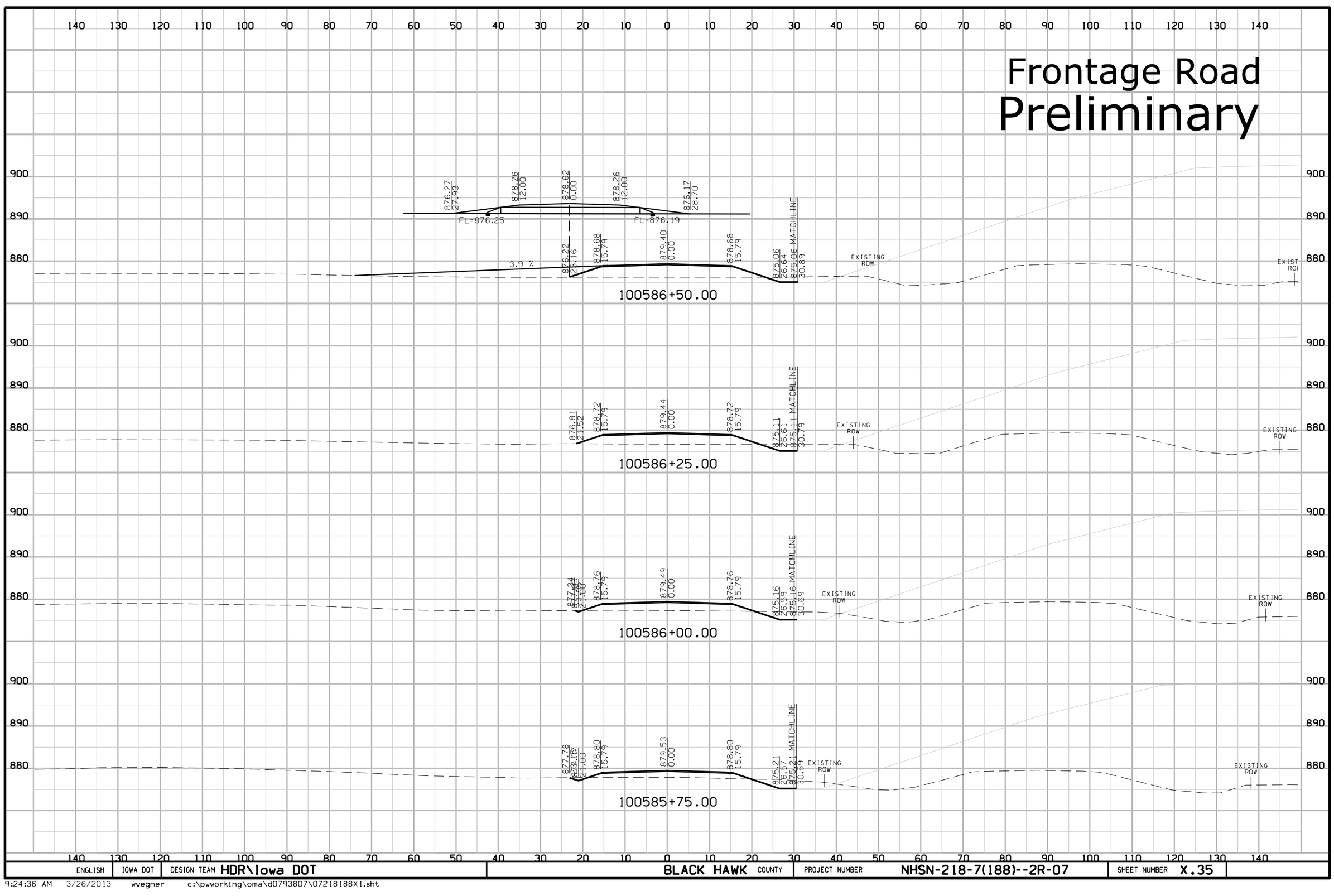
Frontage Road
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.34

9:24:35 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

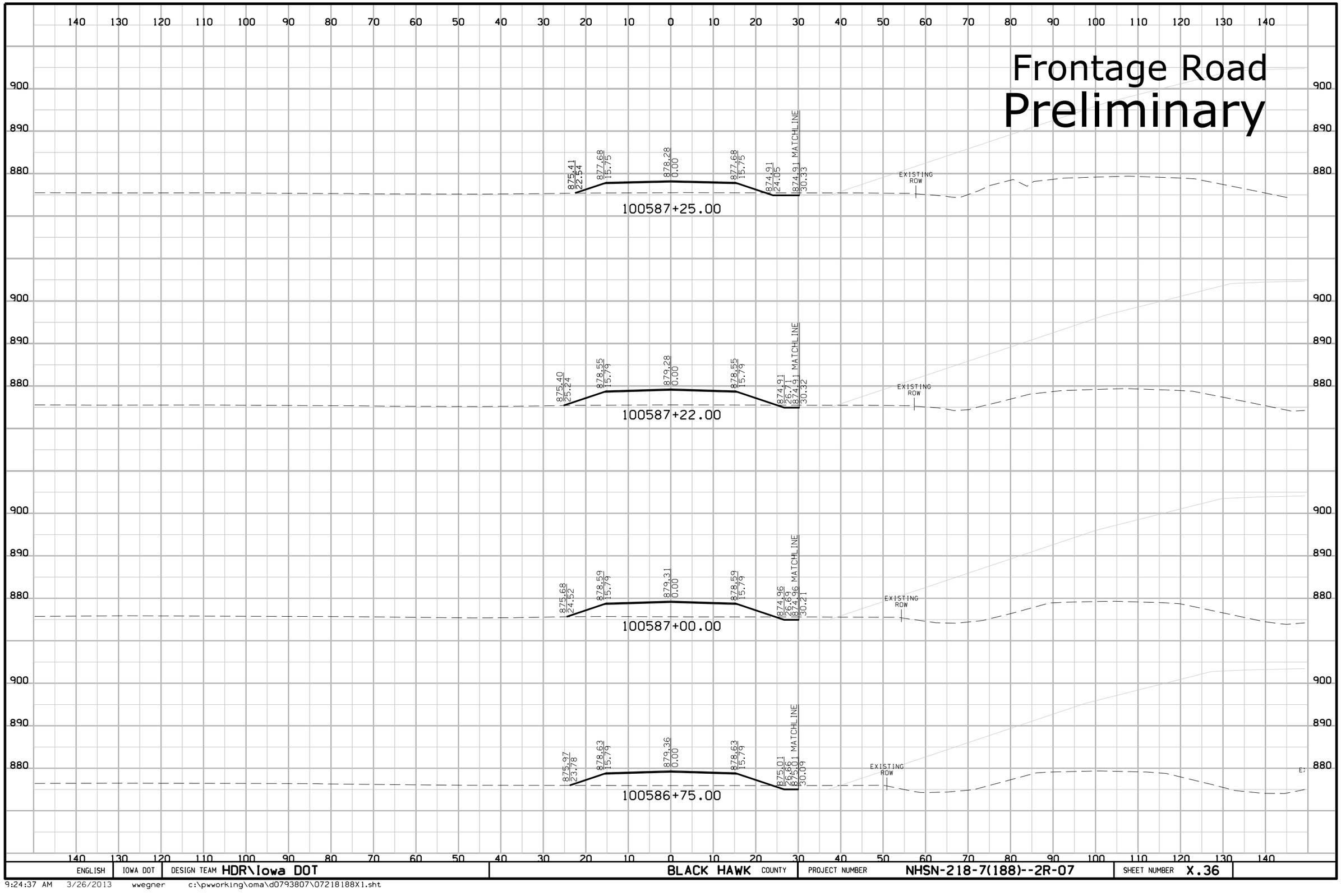
Frontage Road
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.35

9:24:36 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

Frontage Road
Preliminary

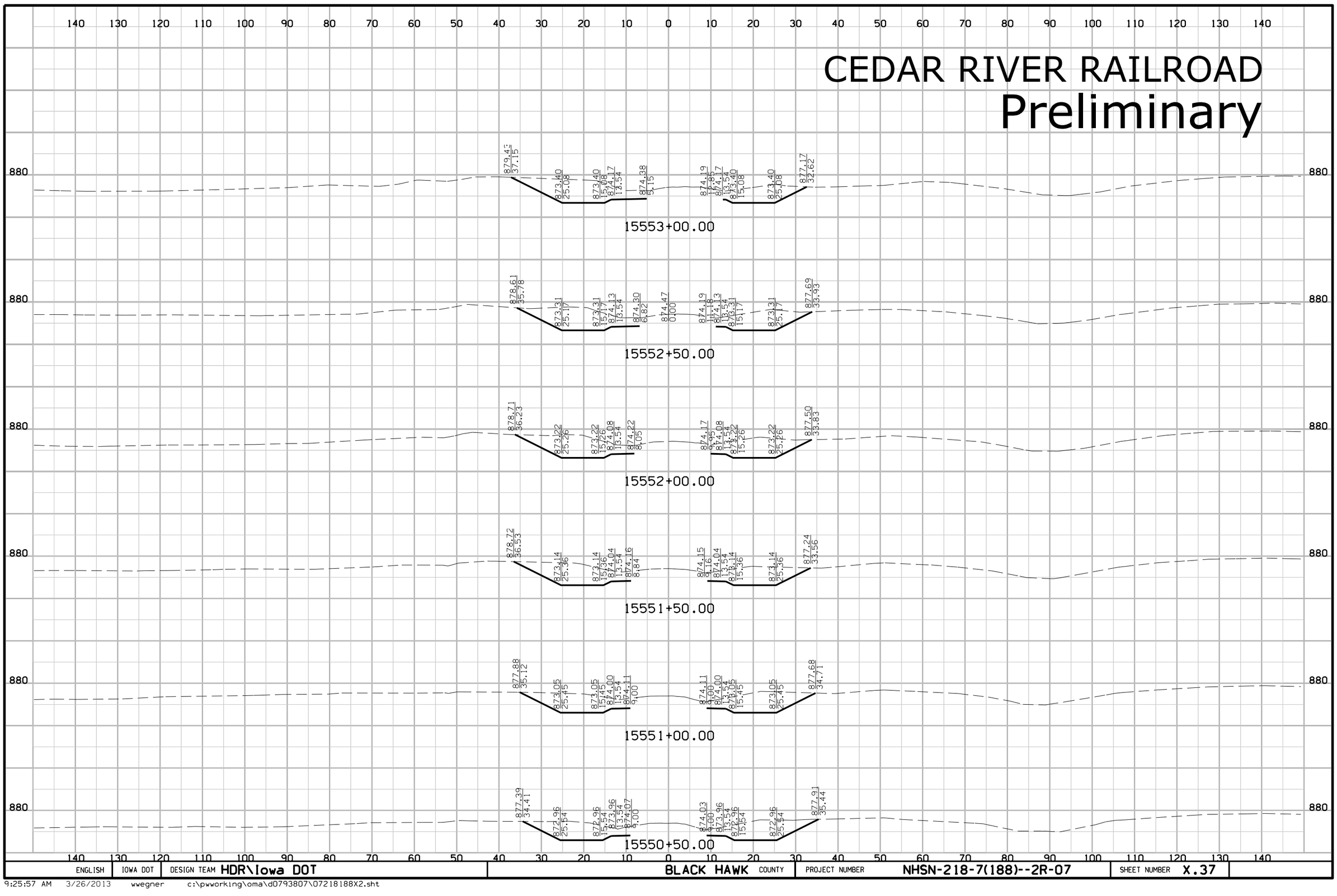


ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.36

9:24:37 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X1.sht

CEDAR RIVER RAILROAD

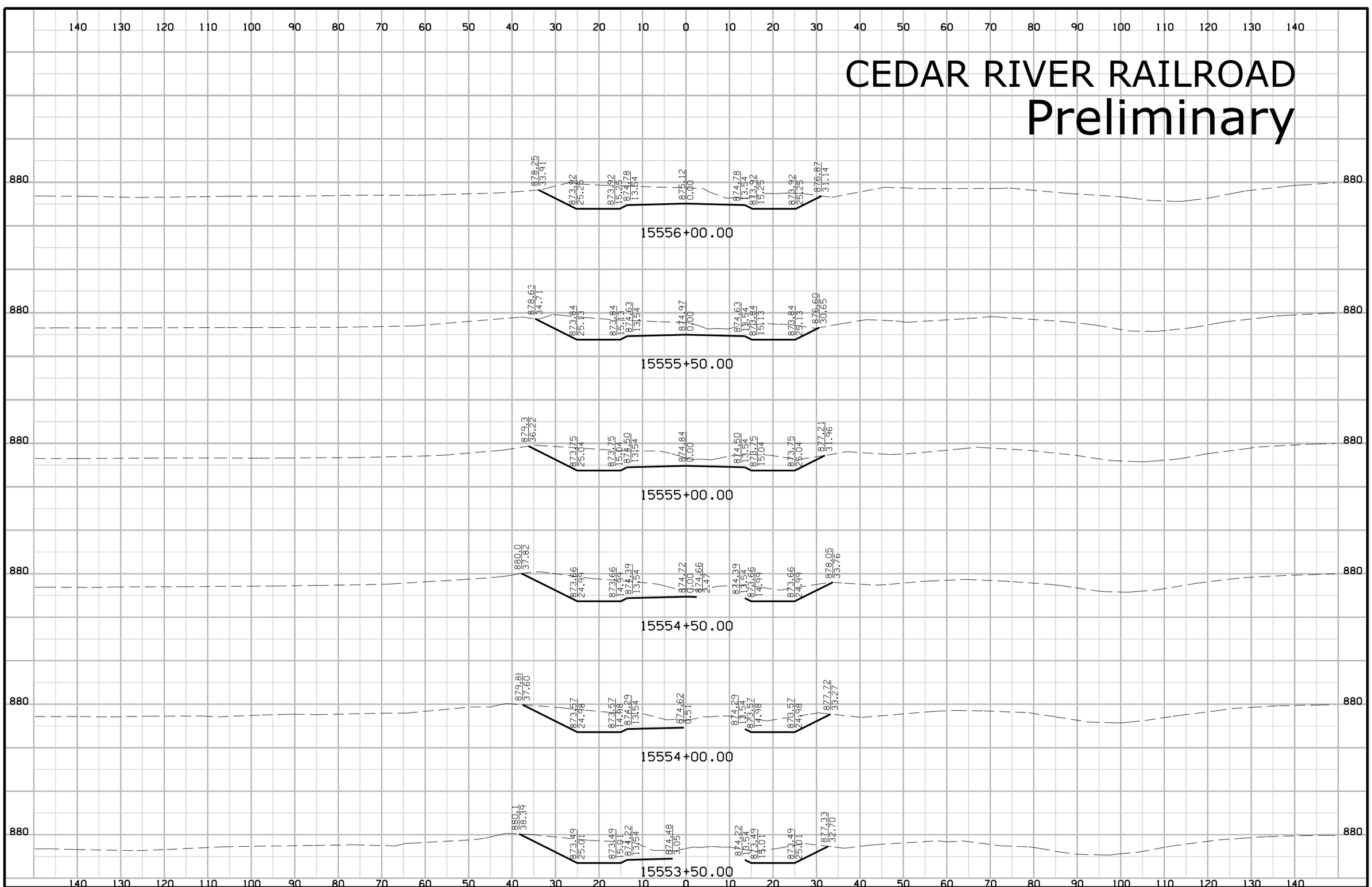
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.37

9:25:57 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD
Preliminary

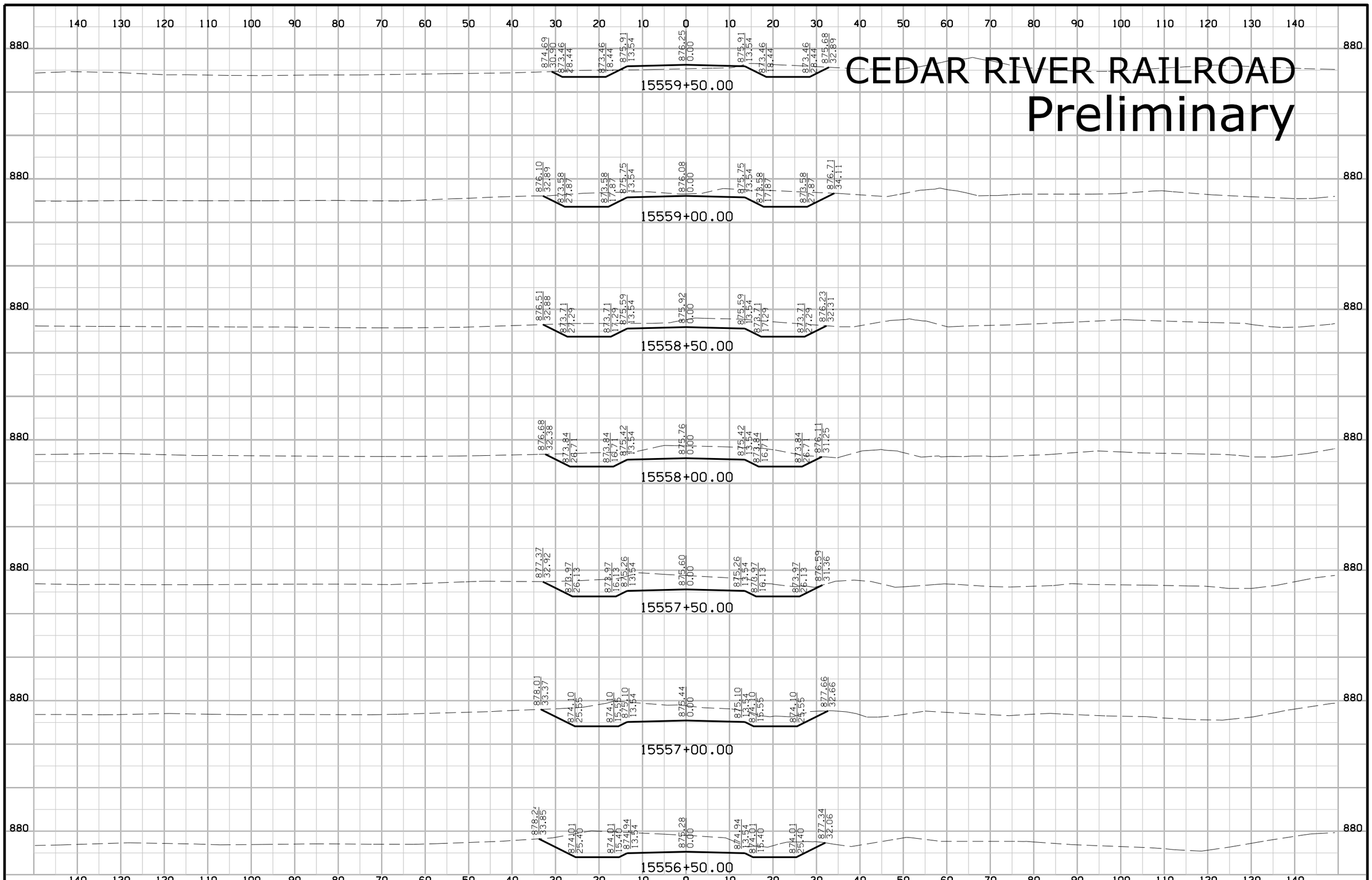


ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.38

9:25:59 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.39

9:26:00 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

873.50 31.04 873.31 30.67 | 873.31 20.67 | 876.87 13.54 | 877.21 0.00 | 876.87 13.54 | 873.18 20.93 | 873.18 30.93 873.30 31.17

15562+50.00

880

873.65 31.29 873.25 30.47 | 873.25 20.47 | 876.71 13.54 | 877.05 0.00 | 876.71 13.54 | 873.16 20.65 | 873.16 25.84

15562+00.00

880

874.53 32.99 873.18 30.28 | 873.18 20.28 | 876.55 13.54 | 876.89 0.00 | 876.55 13.54 | 873.13 20.38 | 873.13 30.38 873.69 31.49

15561+50.00

880

873.79 31.44 873.12 30.09 | 873.1[illegible] 20.09 | 876.39 13.54 | 876.73 0.00 | 876.39 13.54 | 873.1[illegible] 20.10 | 873.11 25.23

15561+00.00

880

873.03 19.93 | 876.23 13.54 | 876.57 0.00 | 876.23 13.54 | 873.20 19.60 | 873.20 24.60 874.21 31.64

15560+50.00

880

874.09 30.54 873.33 29.02 | 873.33 19.02 | 876.07 13.54 | 876.41 0.00 | 876.07 13.54 | 873.33 19.02 | 873.33 24.02 875.12 32.62

15560+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.40

9:26:02 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

874.47 33.22 873.70 31.68 | 873.70 21.68 | 877.77 13.54 | 878.11 0.00 | 877.77 13.54 | 873.51 22.07 | 873.51 32.07 874.43 33.91

15565+50.00

880

875.21 34.73 873.64 31.58 | 873.64 21.58 | 877.66 13.54 | 878.00 0.00 | 877.66 13.54 | 873.46 21.95 | 873.46 31.95 874.73 34.49

15565+00.00

880

875.31 34.90 873.57 31.43 | 873.57 21.43 | 877.52 13.54 | 877.85 0.00 | 877.52 13.54 | 873.40 21.77 | 873.40 31.77 874.99 34.95

15564+50.00

880

874.97 34.16 873.51 31.24 | 873.51 21.24 | 877.36 13.54 | 877.69 0.00 | 877.36 13.54 | 873.35 21.56 | 873.35 31.56 874.49 33.85

15564+00.00

880

874.02 32.21 873.44 31.05 | 873.44 21.05 | 877.19 13.54 | 877.53 0.00 | 877.19 13.54 | 873.29 21.35 | 873.29 31.35 874.07 32.90

15563+50.00

880

873.49 31.09 873.38 30.86 | 873.38 20.86 | 877.03 13.54 | 877.37 0.00 | 877.03 13.54 | 873.24 21.14 | 873.24 31.14 873.56 31.78

15563+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.41

9:26:03 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

875.99 35.13 874.09 31.33 | 874.09 21.33 | 877.99 13.54 | 878.33 0.00 | 877.99 13.54 | 873.84 21.84 | 873.84 31.84 875.19 34.53

15568+50.00

880

875.69 34.77 874.03 31.45 | 874.03 21.45 | 877.98 13.54 | 878.32 0.00 | 877.98 13.54 | 873.79 21.94 | 873.79 31.94 874.97 34.30

15568+00.00

880

875.25 34.15 873.96 31.57 | 873.96 21.57 | 877.98 13.54 | 878.32 0.00 | 877.98 13.54 | 873.73 22.04 | 873.73 32.04 875.35 35.27

15567+50.00

880

874.50 32.88 873.90 31.68 | 873.90 21.68 | 877.97 13.54 | 878.30 0.00 | 877.97 13.54 | 873.68 22.12 | 873.68 32.12 875.18 35.12

15567+00.00

880

874.12 32.31 873.83 31.73 | 873.83 21.73 | 877.93 13.54 | 878.27 0.00 | 877.93 13.54 | 873.62 22.15 | 873.62 32.15 874.45 33.81

15566+50.00

880

874.25 32.70 873.77 31.73 | 873.77 21.73 | 877.86 13.54 | 878.20 0.00 | 877.86 13.54 | 873.57 22.14 | 873.57 32.14 874.18 33.37

15566+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.42

9:26:04 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

875.15 31.96 874.48 30.62 | 874.48 20.62 | 878.02 13.54 | 878.36 0.00 | 878.02 13.54 | 874.17 21.25 | 874.17 31.25 875.97 34.84

15571+50.00

880

875.22 32.34 874.42 30.74 | 874.42 20.74 | 878.02 13.54 | 878.36 0.00 | 878.02 13.54 | 874.12 21.34 | 874.12 31.34 875.68 34.47

15571+00.00

880

875.14 32.43 874.35 30.86 | 874.35 20.86 | 878.01 13.54 | 878.35 0.00 | 878.01 13.54 | 874.06 21.44 | 874.06 31.44 875.76 34.85

15570+50.00

880

875.06 32.53 874.29 30.98 | 874.29 20.98 | 878.01 13.54 | 878.34 0.00 | 878.01 13.54 | 874.01 21.54 | 874.01 31.54 875.40 34.34

15570+00.00

880

875.21 33.06 874.22 31.10 | 874.22 21.10 | 878.00 13.54 | 878.34 0.00 | 878.00 13.54 | 873.95 21.64 | 873.95 31.64 875.70 35.15

15569+50.00

880

876.36 35.62 874.16 31.21 | 874.16 21.21 | 877.99 13.54 | 878.33 0.00 | 877.99 13.54 | 873.90 21.74 | 873.90 31.74 875.64 35.24

15569+00.00

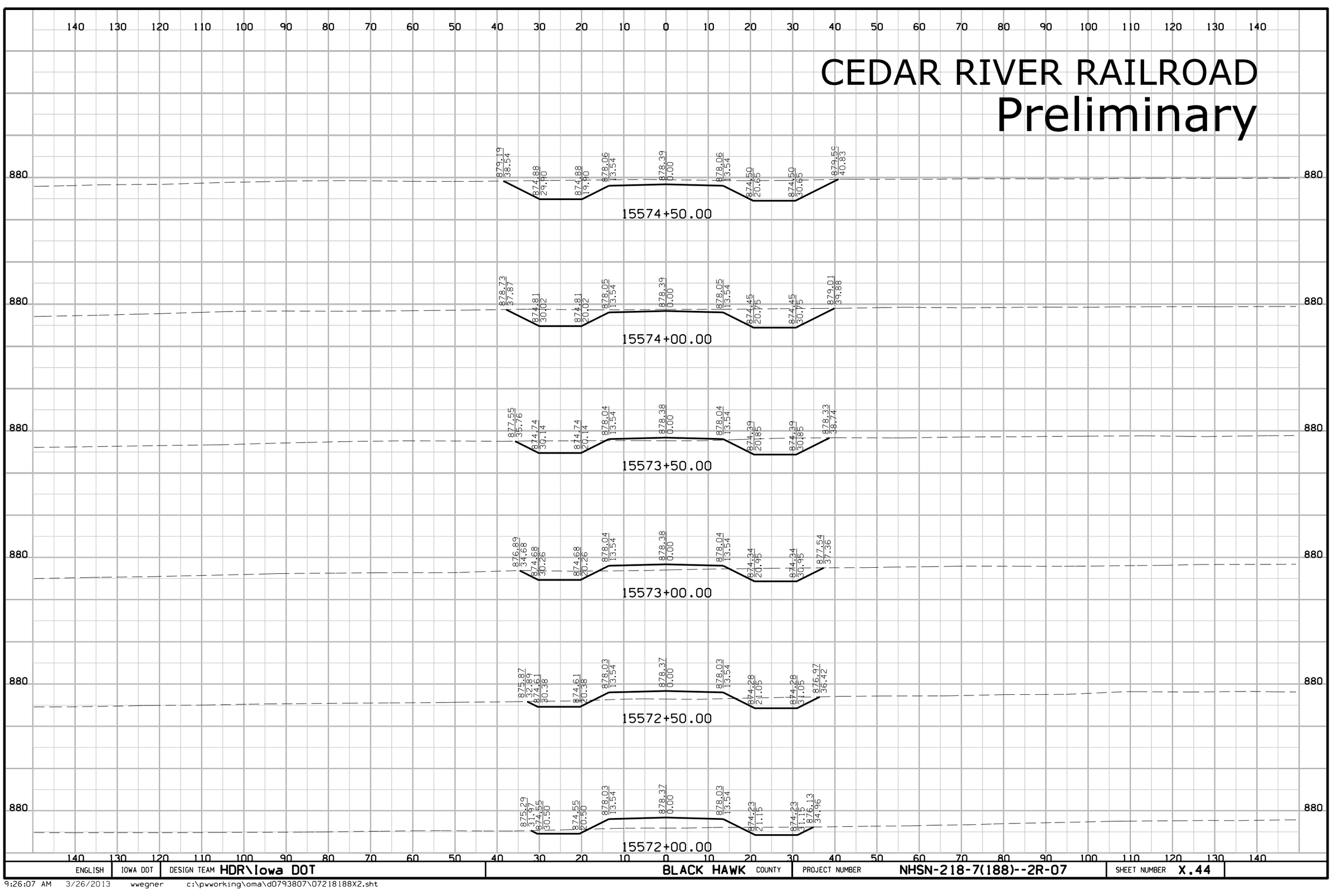
140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.43

9:26:06 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD

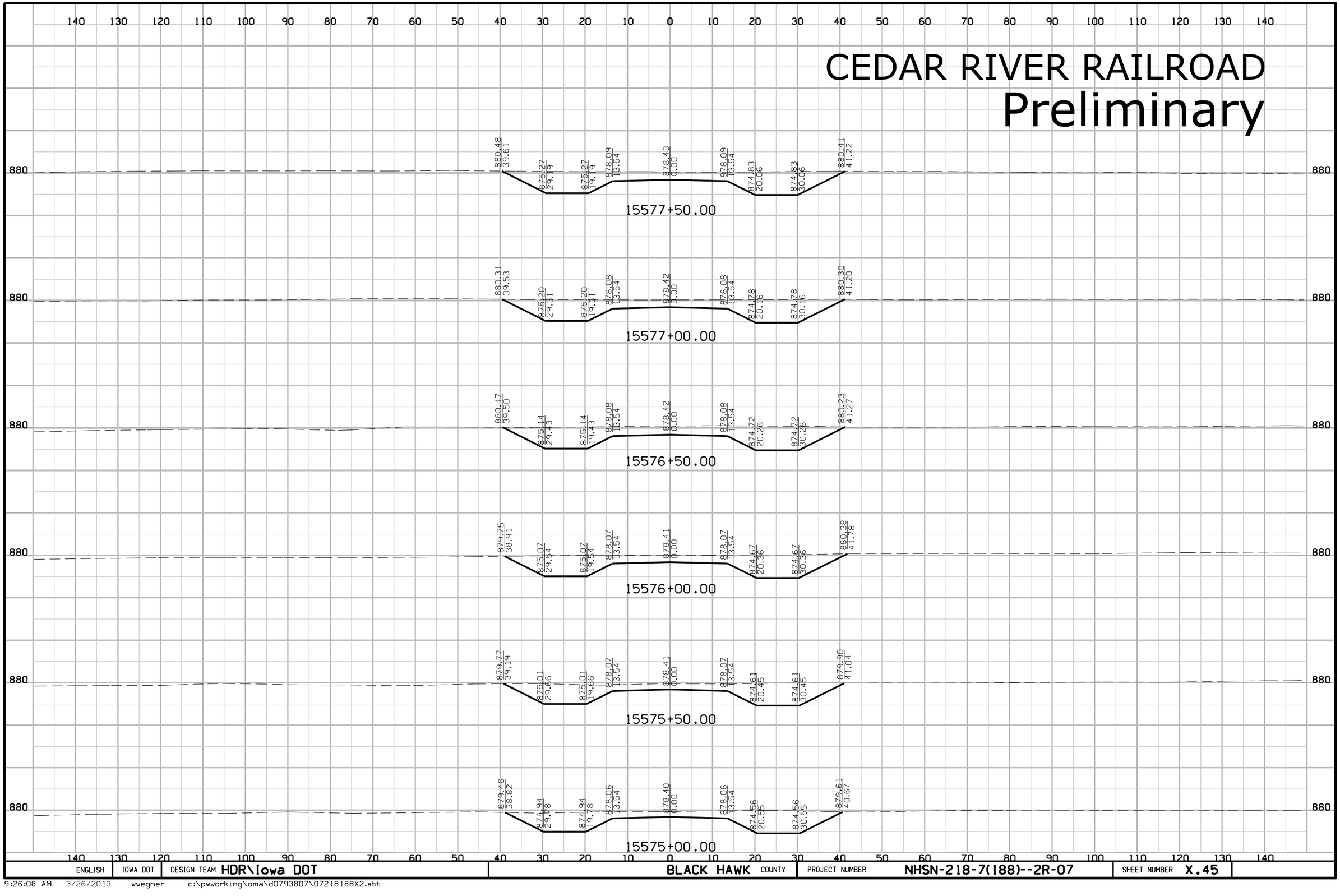
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.44

9:26:07 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.45

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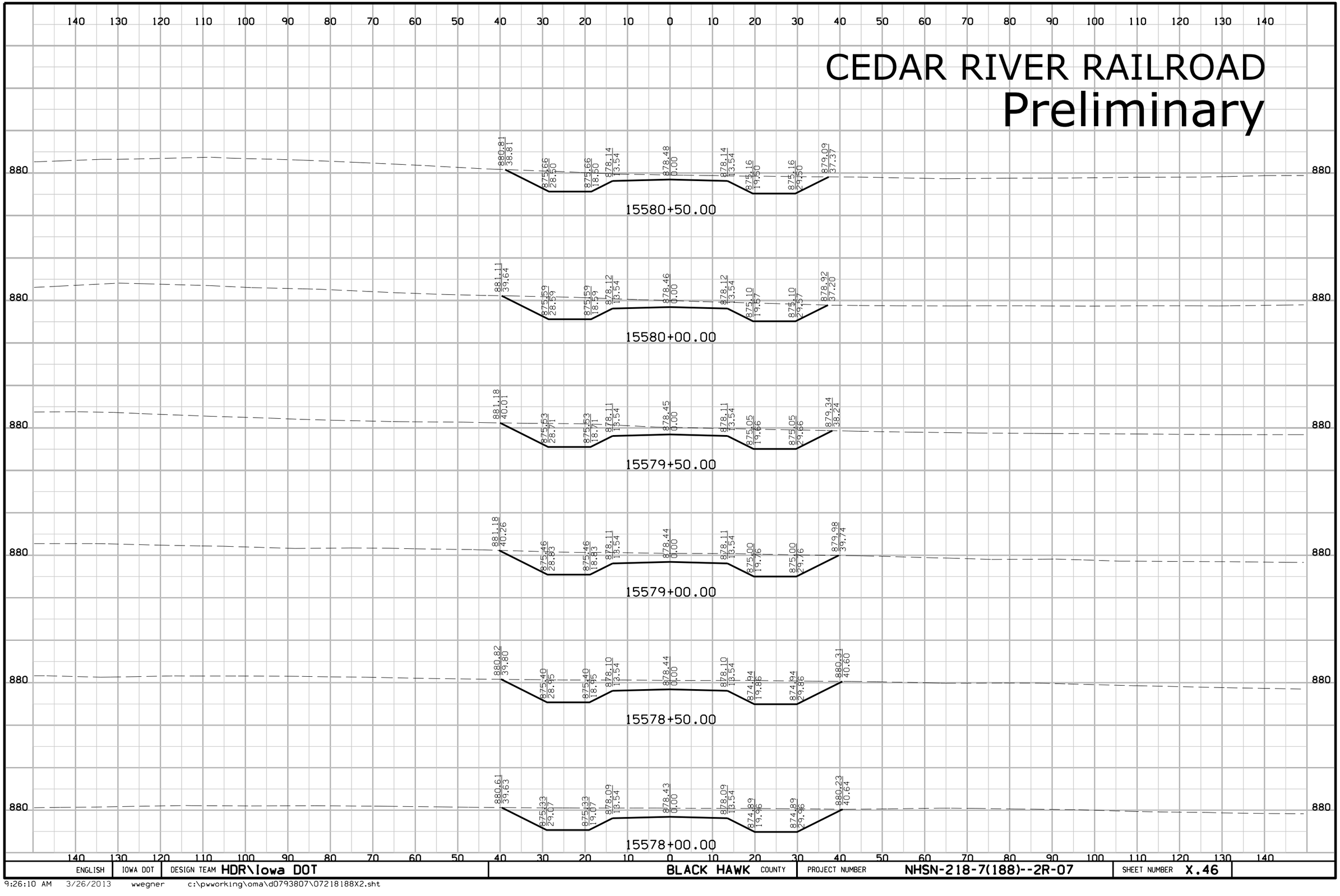
CEDAR RIVER RAILROAD
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.46

9:26:10 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

879.33 35.08 | 876.05 28.51 | 876.05 18.51 | 878.53 13.54 | 878.87 0.00 | 878.53 13.54 | 875.49 19.63 | 875.49 29.63 | 881.55 41.74

15583+50.00

880

879.32 35.14 | 876.98 28.46 | 876.98 18.46 | 878.44 13.54 | 878.78 0.00 | 878.44 13.54 | 875.43 19.56 | 875.43 29.56 | 880.67 40.04

15583+00.00

880

879.36 35.31 | 875.92 28.42 | 875.92 18.42 | 878.35 13.54 | 878.69 0.00 | 878.35 13.54 | 875.38 19.49 | 875.38 29.49 | 879.76 38.24

15582+50.00

880

879.97 36.62 | 875.85 28.39 | 875.85 18.39 | 878.28 13.54 | 878.62 0.00 | 878.28 13.54 | 875.32 19.45 | 875.32 29.45 | 879.26 37.32

15582+00.00

880

879.94 36.70 | 875.79 28.40 | 875.79 18.40 | 878.22 13.54 | 878.56 0.00 | 878.22 13.54 | 875.27 19.44 | 875.27 29.44 | 878.98 36.86

15581+50.00

880

880.64 38.26 | 875.72 28.44 | 875.72 18.44 | 878.17 13.54 | 878.51 0.00 | 878.17 13.54 | 875.21 19.45 | 875.21 29.45 | 879.06 37.14

15581+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.47

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CEDAR RIVER RAILROAD

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

879.64 39.80 | 875.29 31.10 | 875.29 21.10 | 879.07 13.54 | 879.41 0.00 | 879.07 13.54 | 875.82 20.05 | 875.82 30.05 | 880.40 39.21

15586+50.00

880

879.40 38.13 | 875.54 30.42 | 875.54 20.42 | 878.98 13.54 | 879.32 0.00 | 878.98 13.54 | 875.76 19.98 | 875.76 29.98 | 880.39 39.22

15586+00.00

880

879.43 37.03 | 875.79 29.74 | 875.79 19.74 | 878.89 13.54 | 879.23 0.00 | 878.89 13.54 | 875.71 19.91 | 875.71 29.91 | 880.52 39.53

15585+50.00

880

879.37 35.72 | 876.04 29.06 | 876.04 19.06 | 878.80 13.54 | 879.14 0.00 | 878.80 13.54 | 875.65 19.84 | 875.65 29.84 | 880.95 40.42

15585+00.00

880

879.60 35.46 | 876.18 28.61 | 876.18 18.61 | 878.71 13.54 | 879.05 0.00 | 878.71 13.54 | 875.60 19.77 | 875.60 29.77 | 881.62 41.81

15584+50.00

880

879.49 35.31 | 876.11 28.56 | 876.11 18.56 | 878.62 13.54 | 878.96 0.00 | 878.62 13.54 | 875.54 19.70 | 875.54 29.70 | 882.21 43.03

15584+00.00

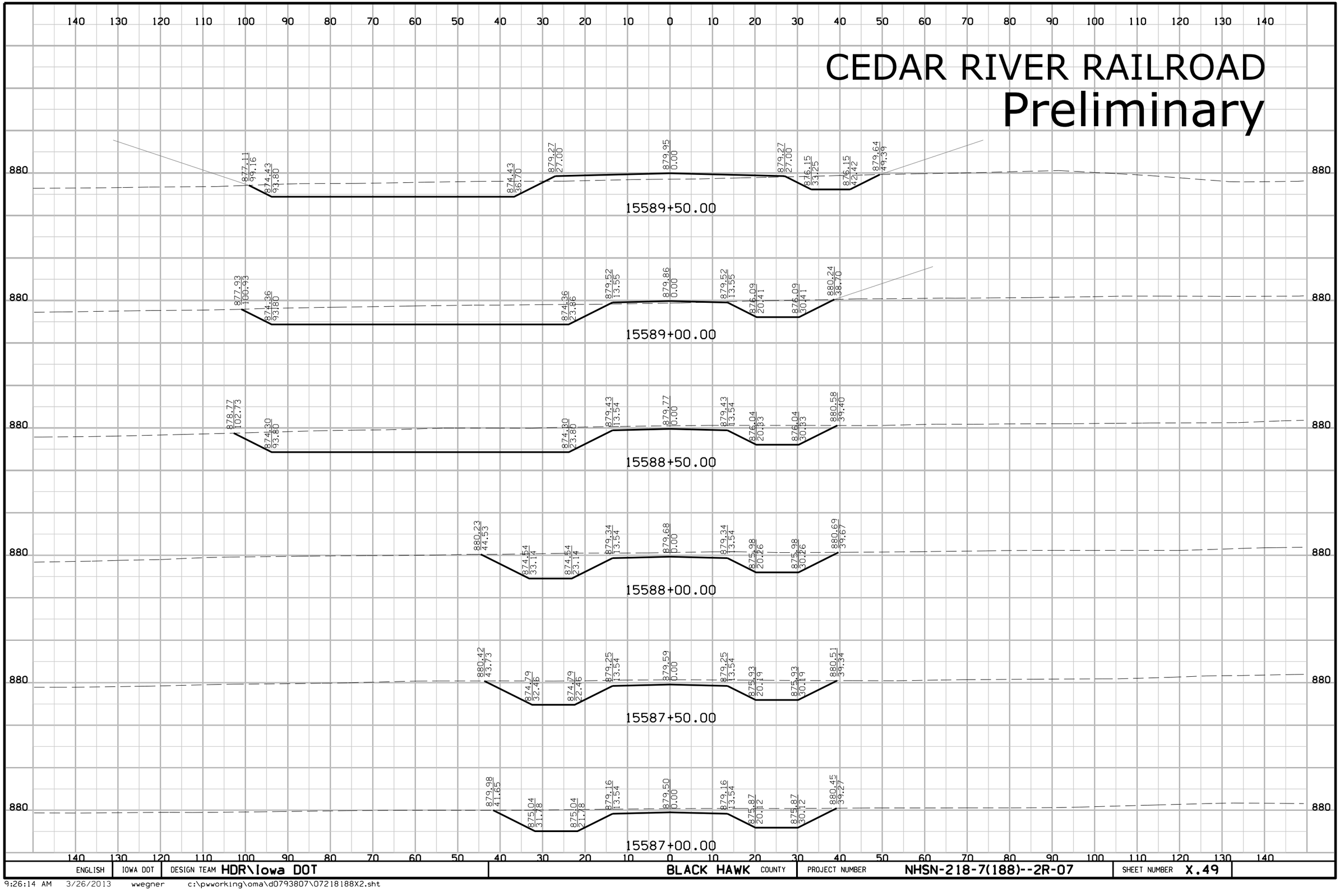
140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.48

9:26:13 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD

Preliminary

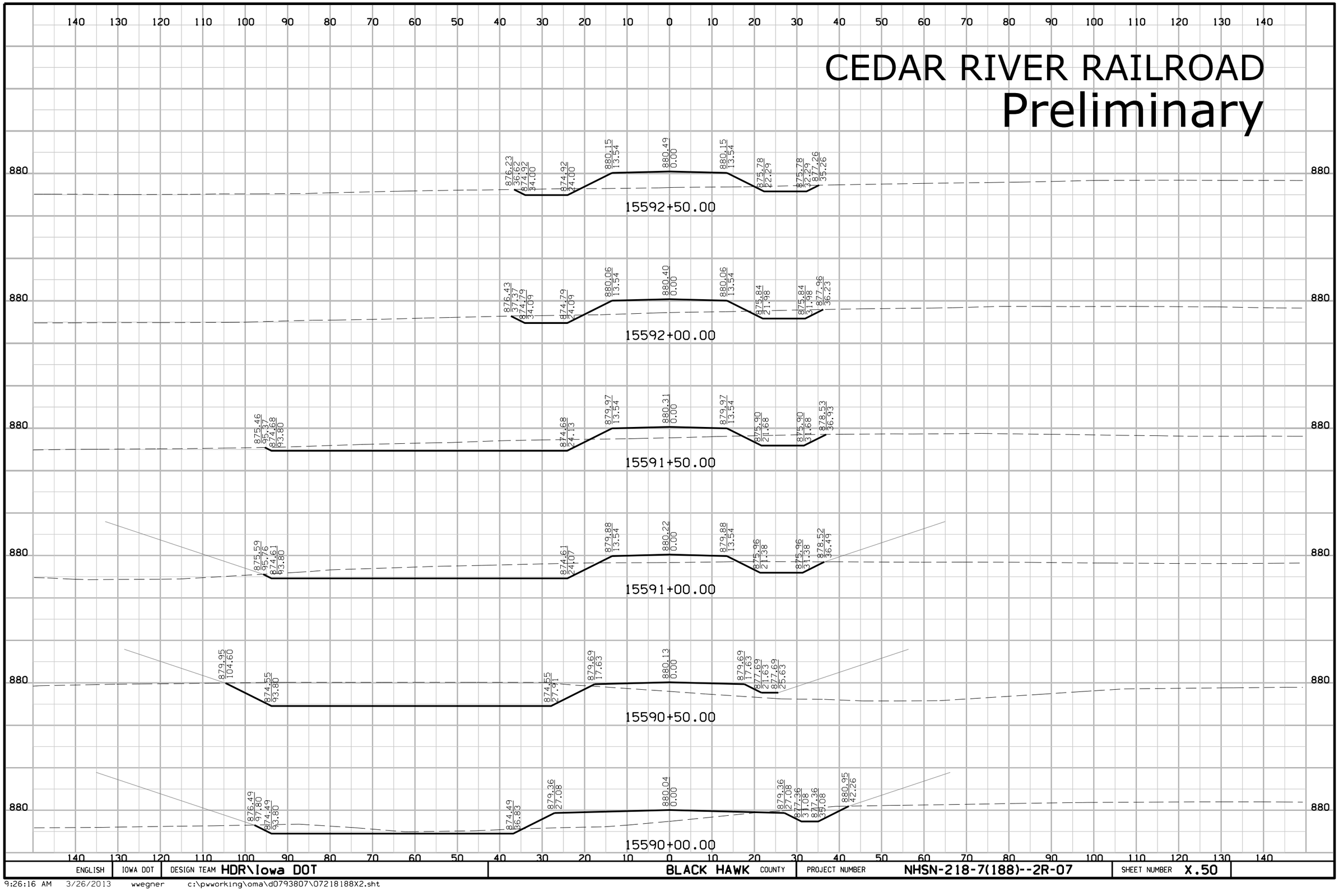


ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.49

9:26:14 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.50

9:26:16 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

875.29 24.20 | 880.63 13.54 | 880.96 0.00 | 880.63 13.54 | 874.91 24.47

15595+50.00

880

875.68 33.62 | 875.60 33.47 | 875.60 23.47 | 880.56 13.54 | 880.90 0.00 | 880.56 13.54 | 875.37 23.92

15595+00.00

880

875.65 33.99 | 875.46 33.61 | 875.46 23.61 | 880.49 13.54 | 880.83 0.00 | 880.49 13.54 | 875.60 23.32 | 875.60 33.32 | 875.69 33.51

15594+50.00

880

875.74 34.54 | 875.33 33.71 | 875.33 23.71 | 880.41 13.54 | 880.75 0.00 | 880.41 13.54 | 875.61 23.15 | 875.61 33.15 | 875.63 33.19

15594+00.00

880

875.64 34.71 | 875.19 33.82 | 875.19 23.82 | 880.33 13.54 | 880.67 0.00 | 880.33 13.54 | 875.65 22.90 | 875.65 32.90 | 875.88 33.36

15593+50.00

880

875.75 35.30 | 875.06 33.91 | 875.06 23.91 | 880.24 13.54 | 880.58 0.00 | 880.24 13.54 | 875.71 22.59 | 875.71 32.59 | 876.50 34.17

15593+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.51

9:26:17 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

875.25 39.77 | 875.26 24.86 | 880.92 13.54 | 881.26 0.00 | 880.92 13.54 | 874.07 27.25

15598+50.00

880

876.15 36.80 | 875.20 34.89 | 875.20 24.89 | 880.87 13.54 | 881.21 0.00 | 880.87 13.54 | 874.66 25.98

15598+00.00

880

876.46 37.51 | 875.15 34.89 | 875.15 24.89 | 880.83 13.54 | 881.16 0.00 | 880.83 13.54 | 874.96 25.26

15597+50.00

880

876.24 37.18 | 875.10 34.90 | 875.10 24.90 | 880.78 13.54 | 881.12 0.00 | 880.78 13.54 | 874.79 25.52

15597+00.00

880

875.25 35.30 | 875.05 34.90 | 875.05 24.90 | 880.73 13.54 | 881.07 0.00 | 880.73 13.54 | 874.59 25.83

15596+50.00

880

875.04 34.99 | 875.00 34.91 | 875.00 24.91 | 880.68 13.54 | 881.02 0.00 | 880.68 13.54 | 874.92 25.07

15596+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.52

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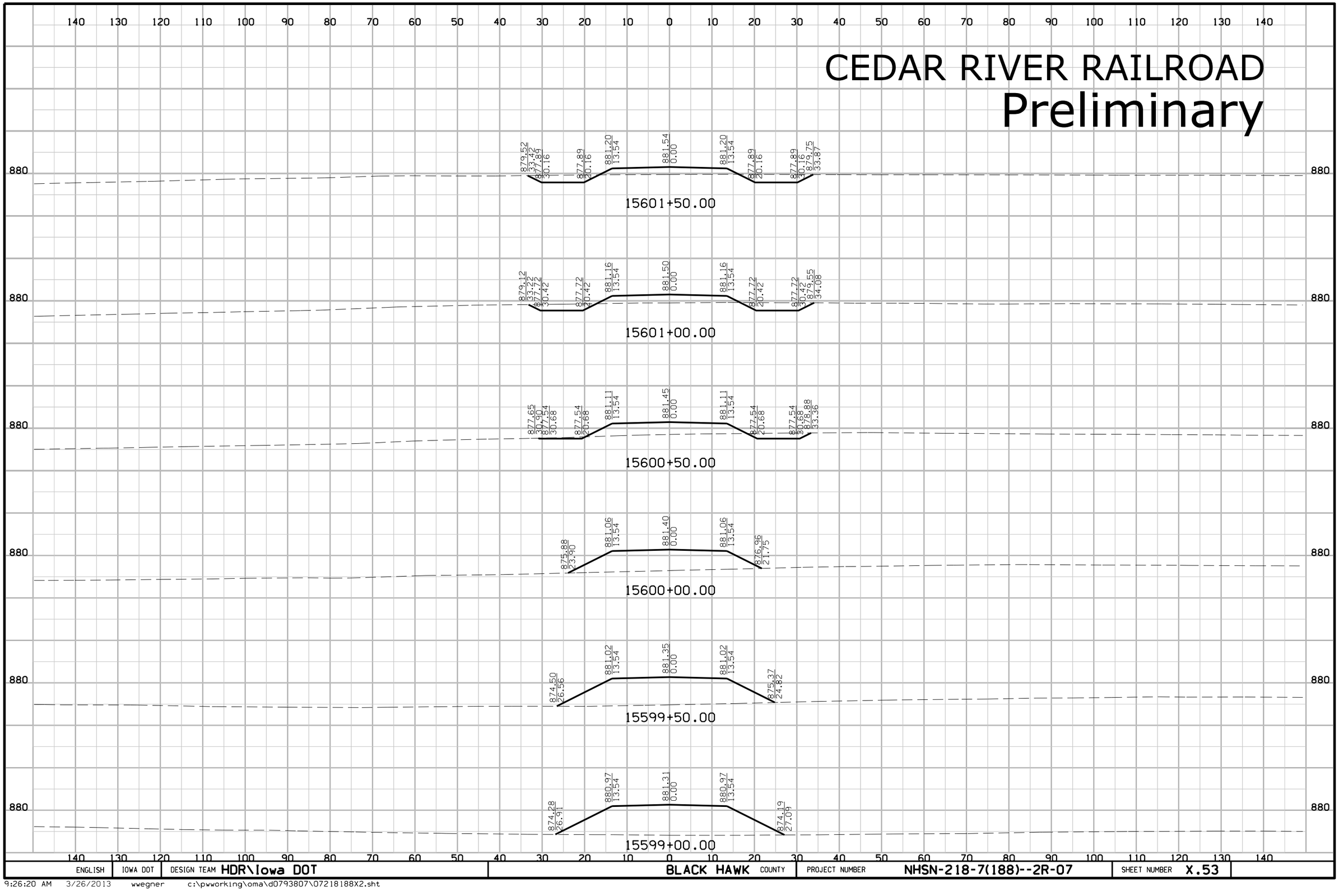
CEDAR RIVER RAILROAD
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.53

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CEDAR RIVER RAILROAD

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

880.80 36.59 877.88 30.74 877.88 20.74 881.48 13.54 881.82 0.00 881.48 13.54 877.88 20.74 877.88 30.74 880.39 35.76

15604+50.00

880.

881.17 35.80 878.24 29.94 878.24 19.94 881.44 13.54 881.78 0.00 881.44 13.54 878.24 19.94 878.24 29.94 880.81 35.07

15604+00.00

880.

880.97 33.86 878.60 29.13 878.60 19.13 881.39 13.54 881.73 0.00 881.39 13.54 878.60 19.13 878.60 29.13 880.94 33.81

15603+50.00

880.

880.34 33.22 878.42 29.39 878.42 19.39 881.35 13.54 881.68 0.00 881.35 13.54 878.42 19.39 878.42 29.39 880.31 33.15

15603+00.00

880.

879.90 32.94 878.25 29.64 878.25 19.64 881.30 13.54 881.64 0.00 881.30 13.54 878.25 19.65 878.25 29.65 880.15 33.45

15602+50.00

880.

879.73 33.22 878.07 29.90 878.07 19.90 881.25 13.54 881.59 0.00 881.25 13.54 878.07 19.90 878.07 29.90 879.92 33.60

15602+00.00

880.

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.54

9:26:21 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

880

875.71 25.44 | 881.66 13.54 | 882.00 0.00 | 881.66 13.54 | 875.80 25.26

15607+50.00

880

876.24 24.97 | 876.08 34.65 | 876.08 24.65 | 881.63 13.54 | 881.97 0.00 | 881.63 13.54 | 875.77 25.27

15607+00.00

880

877.21 25.42 | 876.44 33.88 | 876.44 23.88 | 881.61 13.54 | 881.95 0.00 | 881.61 13.54 | 876.37 24.01

15606+50.00

880

878.20 35.90 | 876.80 33.10 | 876.80 23.10 | 881.58 13.54 | 881.92 0.00 | 881.58 13.54 | 876.80 23.10 | 876.80 33.10 | 877.36 34.22

15606+00.00

880

879.63 37.27 | 877.16 32.32 | 877.16 22.32 | 881.55 13.54 | 881.89 0.00 | 881.55 13.54 | 877.16 22.32 | 877.16 32.32 | 878.87 35.75

15605+50.00

880

880.52 37.54 | 877.52 31.54 | 877.52 21.54 | 881.52 13.54 | 881.86 0.00 | 881.52 13.54 | 877.52 21.54 | 877.52 31.54 | 879.95 36.40

15605+00.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.55

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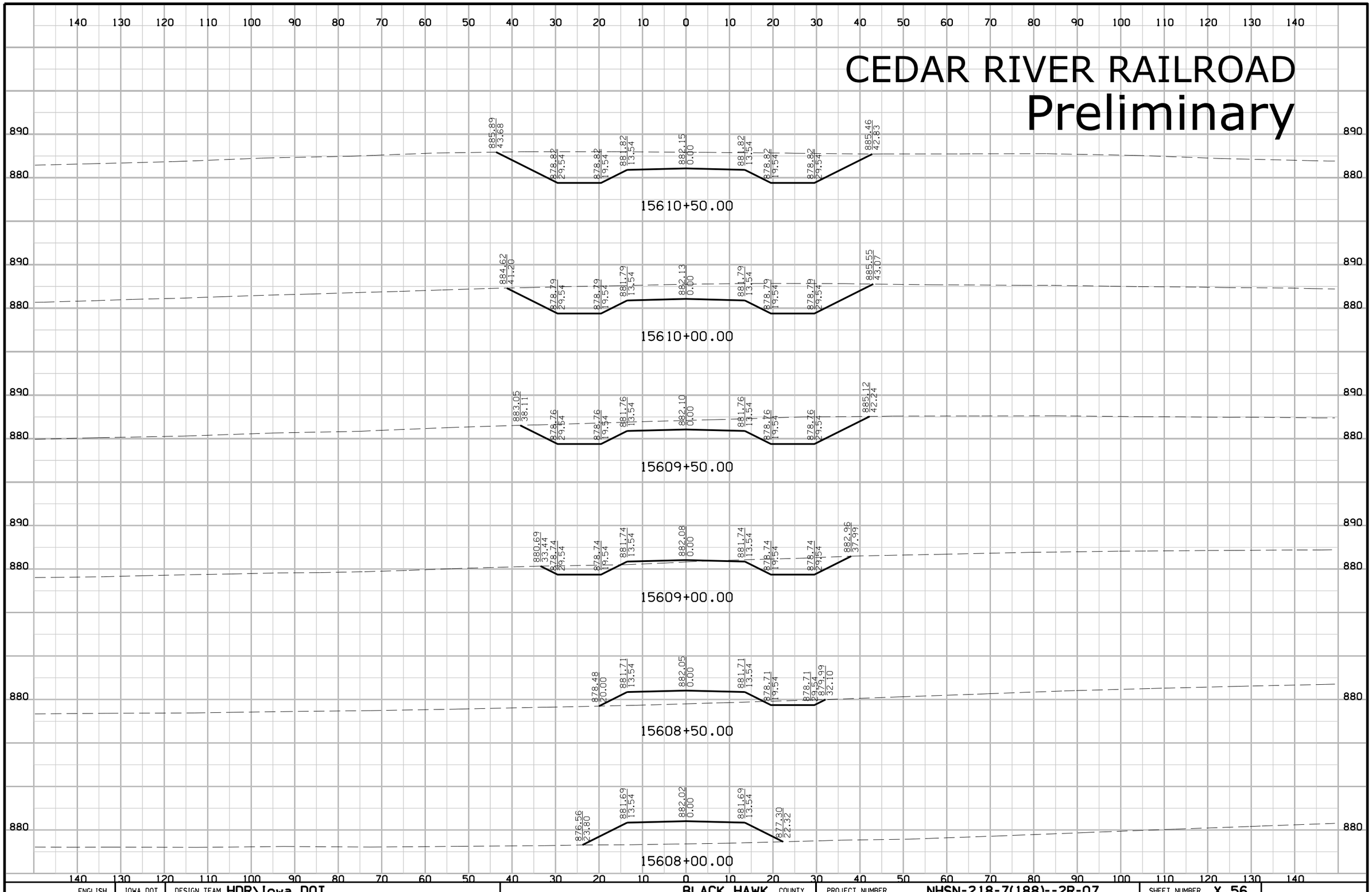
CEDAR RIVER RAILROAD

Preliminary

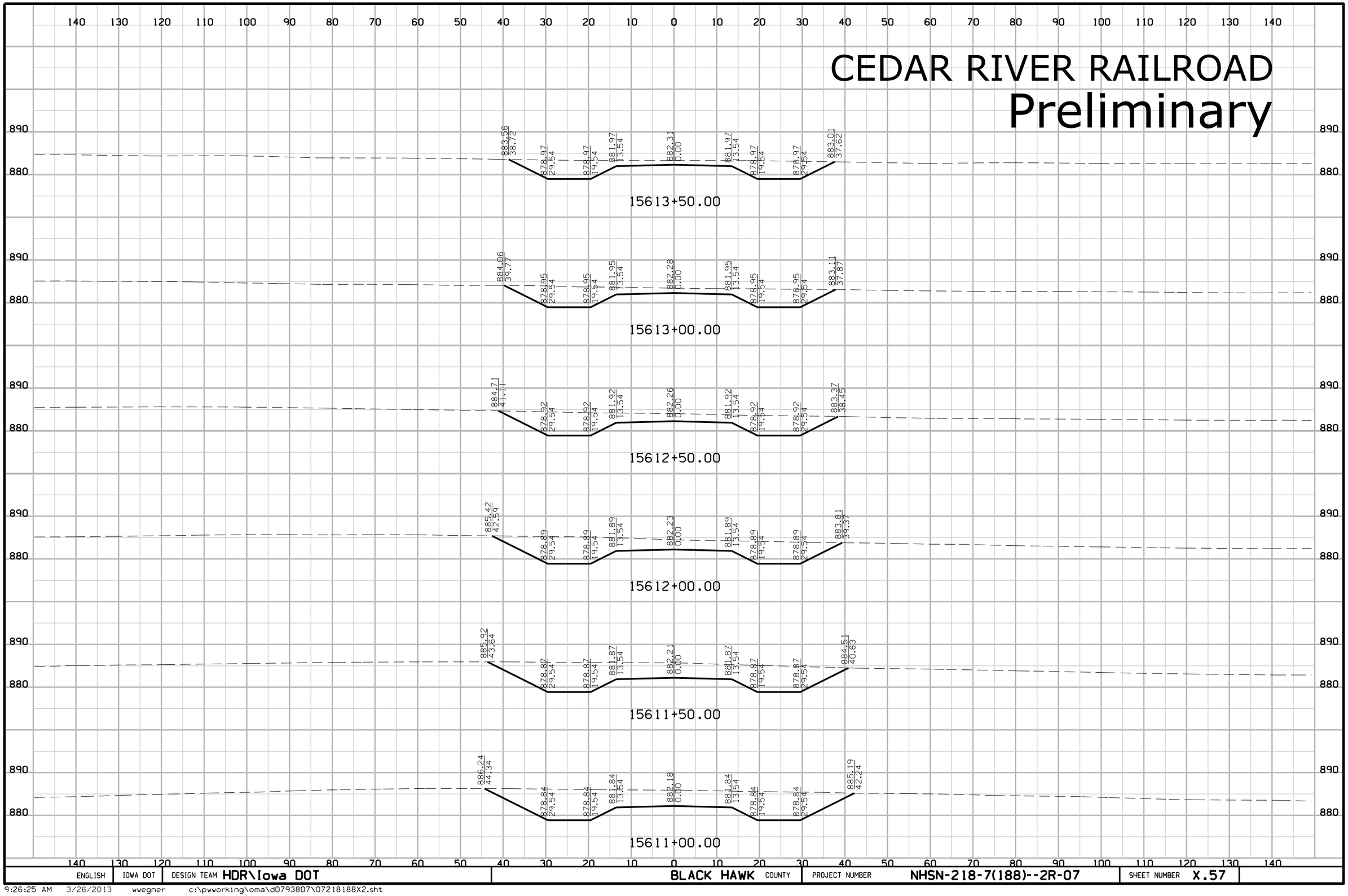


ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.56

9:26:24 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD

Preliminary

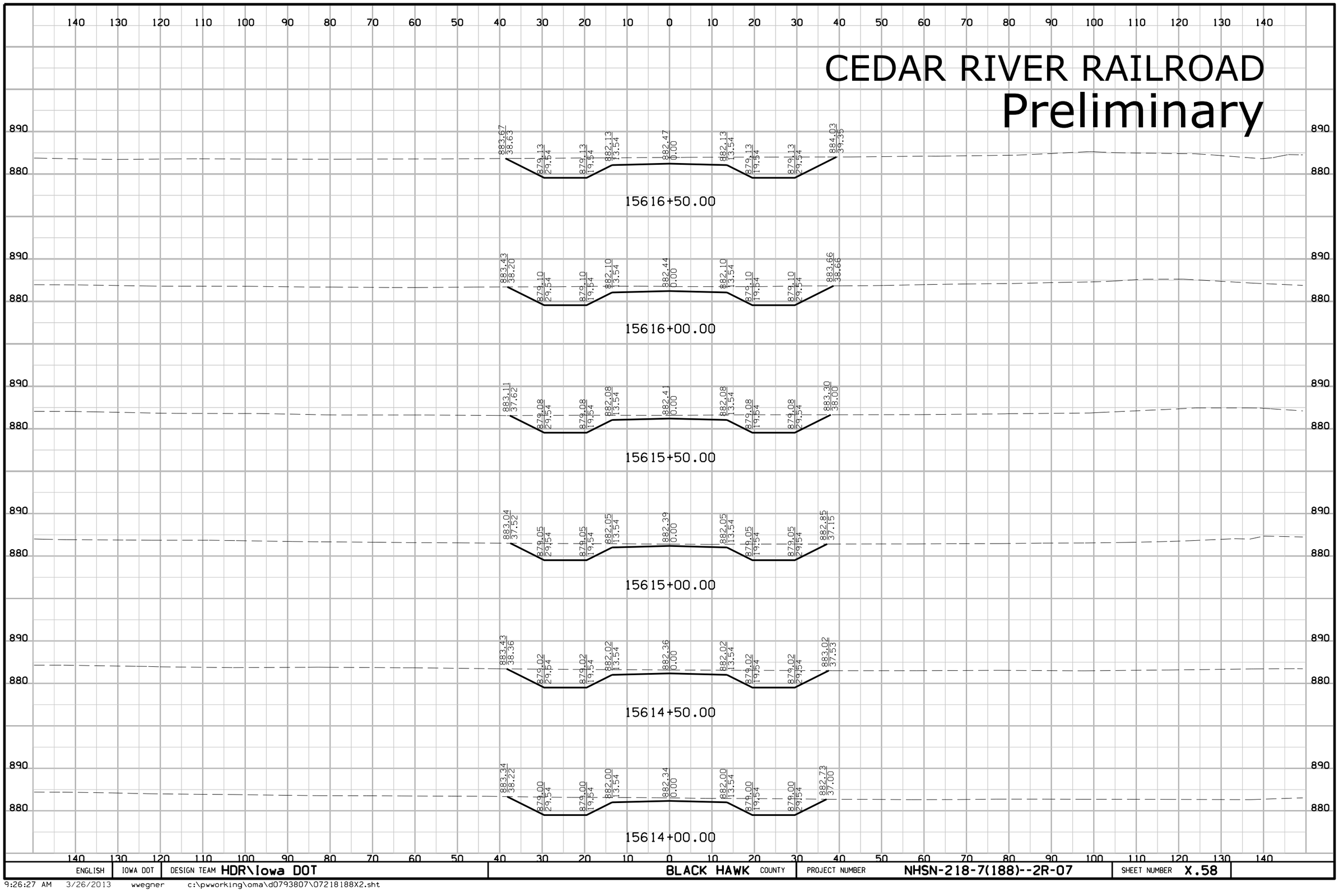


ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.57

9:26:25 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD

Preliminary

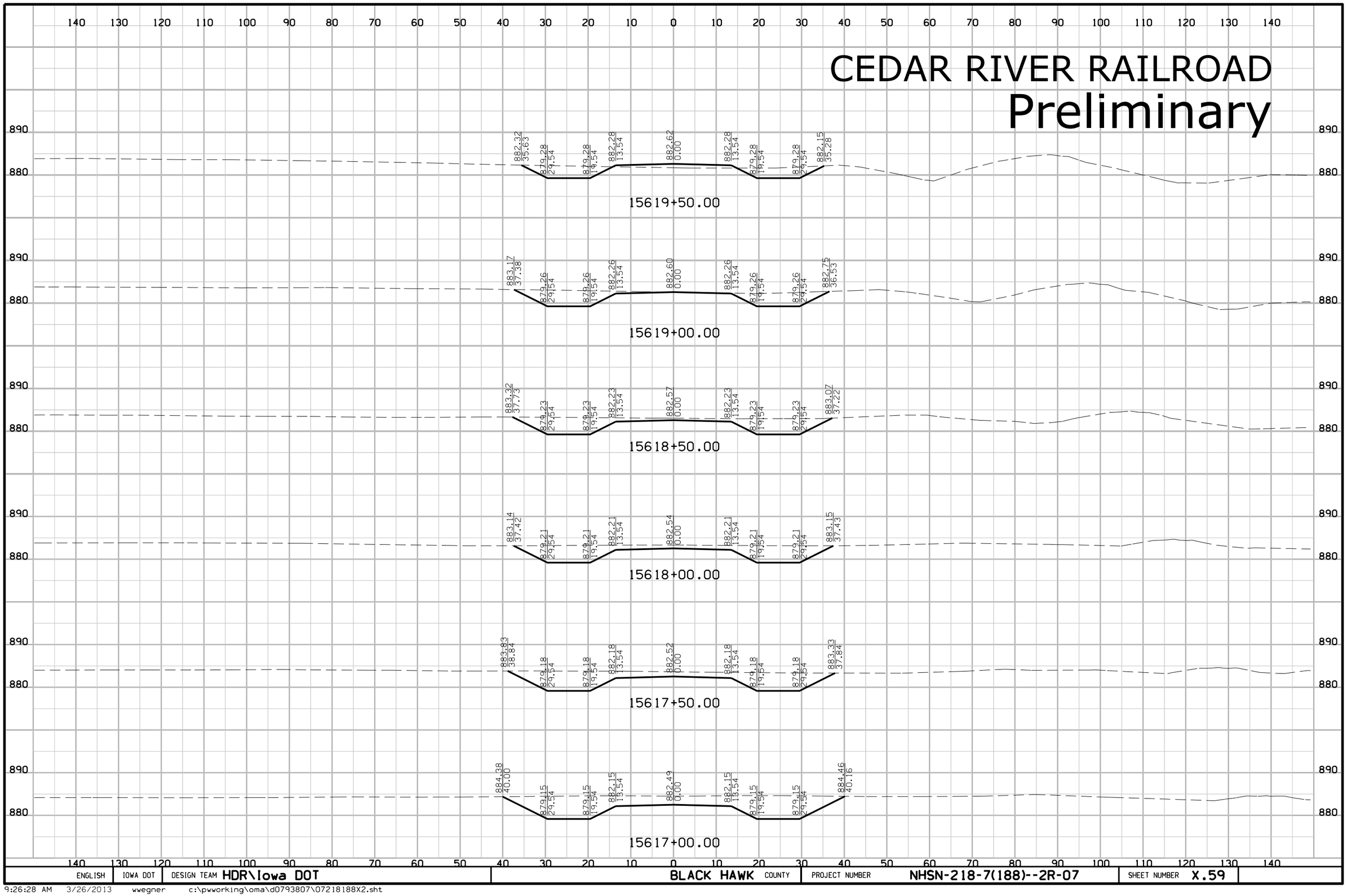


ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.58

9:26:27 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD

Preliminary

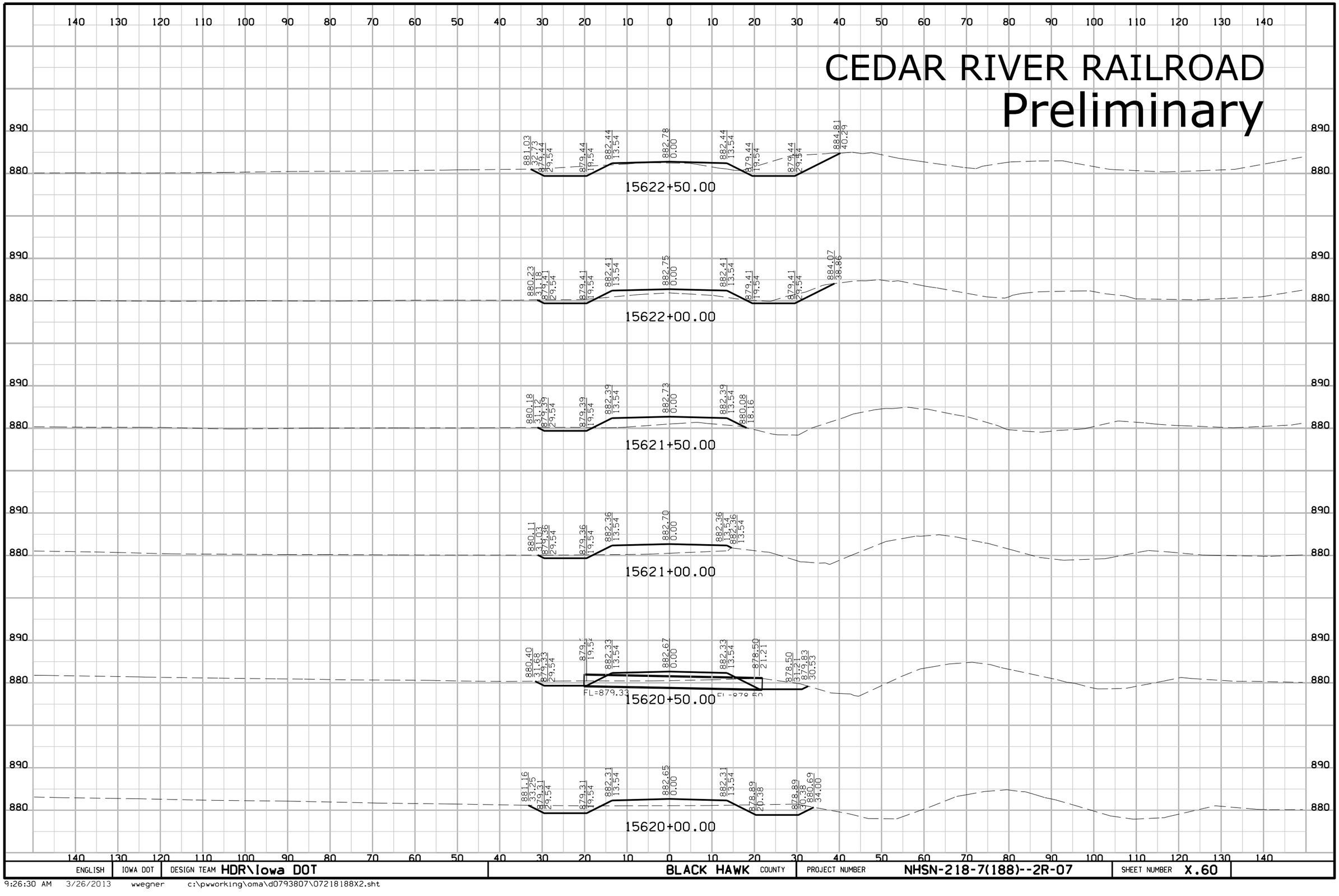


ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.59

9:26:28 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD

Preliminary

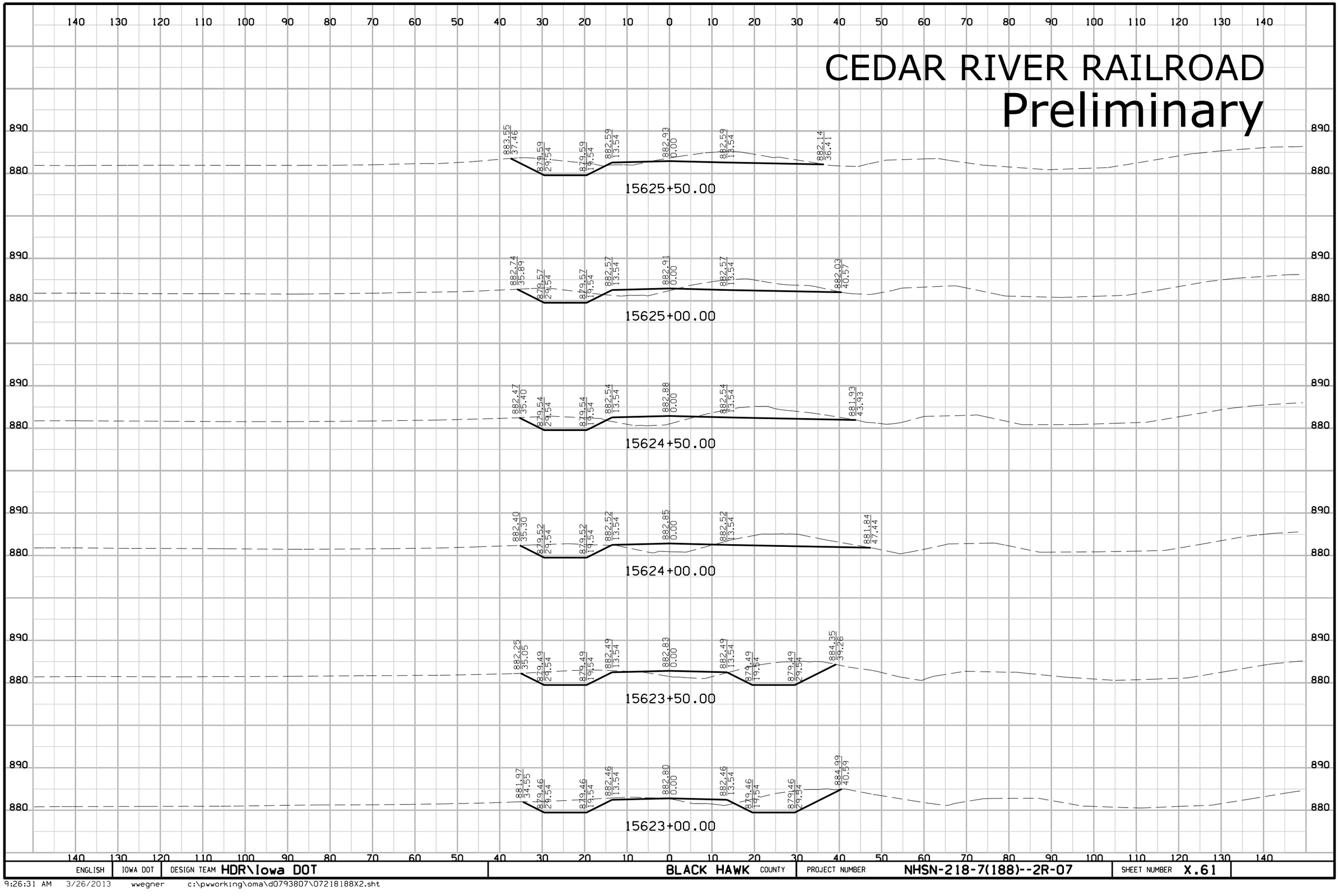


ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.60

9:26:30 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.61

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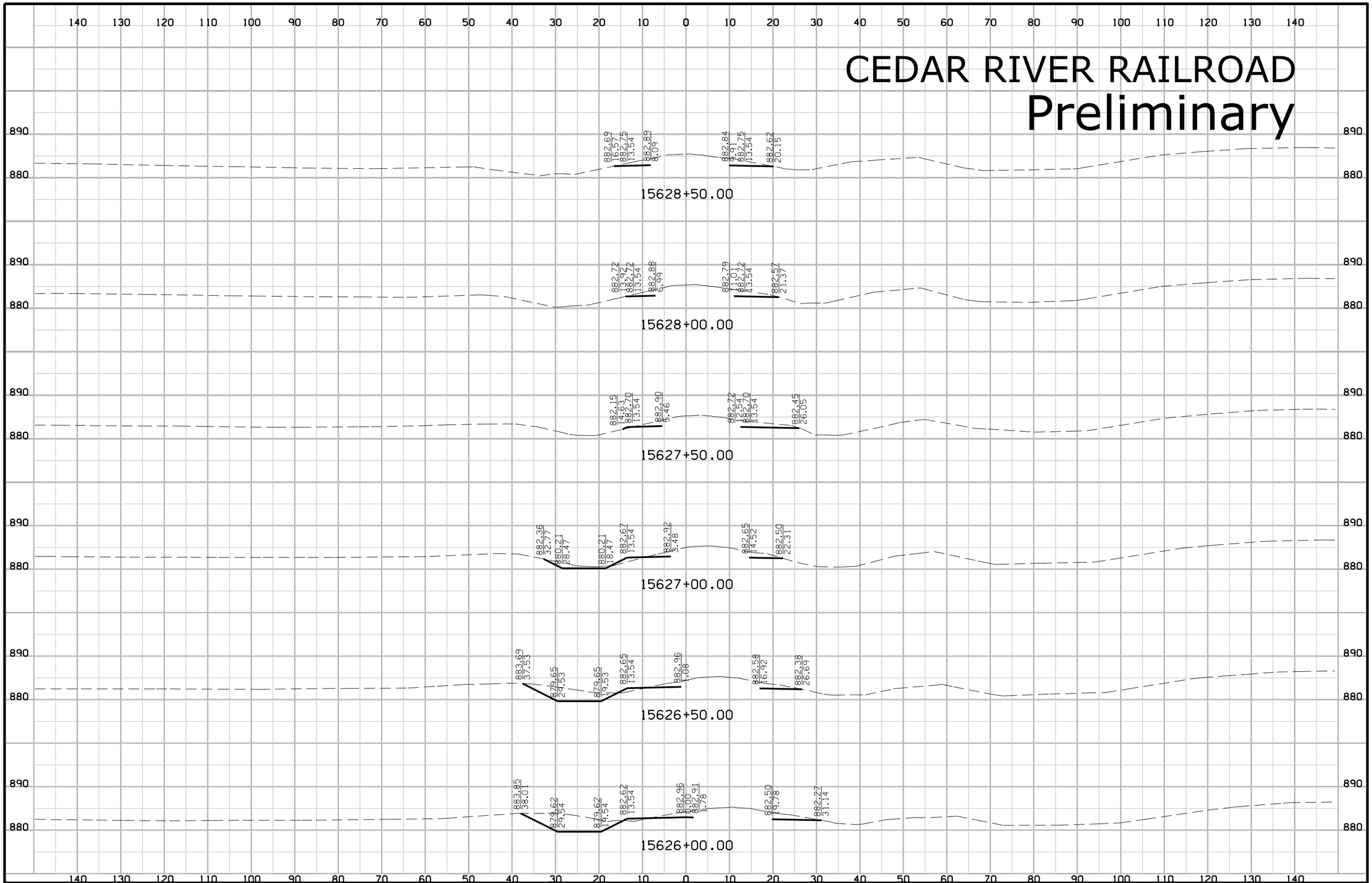
CEDAR RIVER RAILROAD

Preliminary

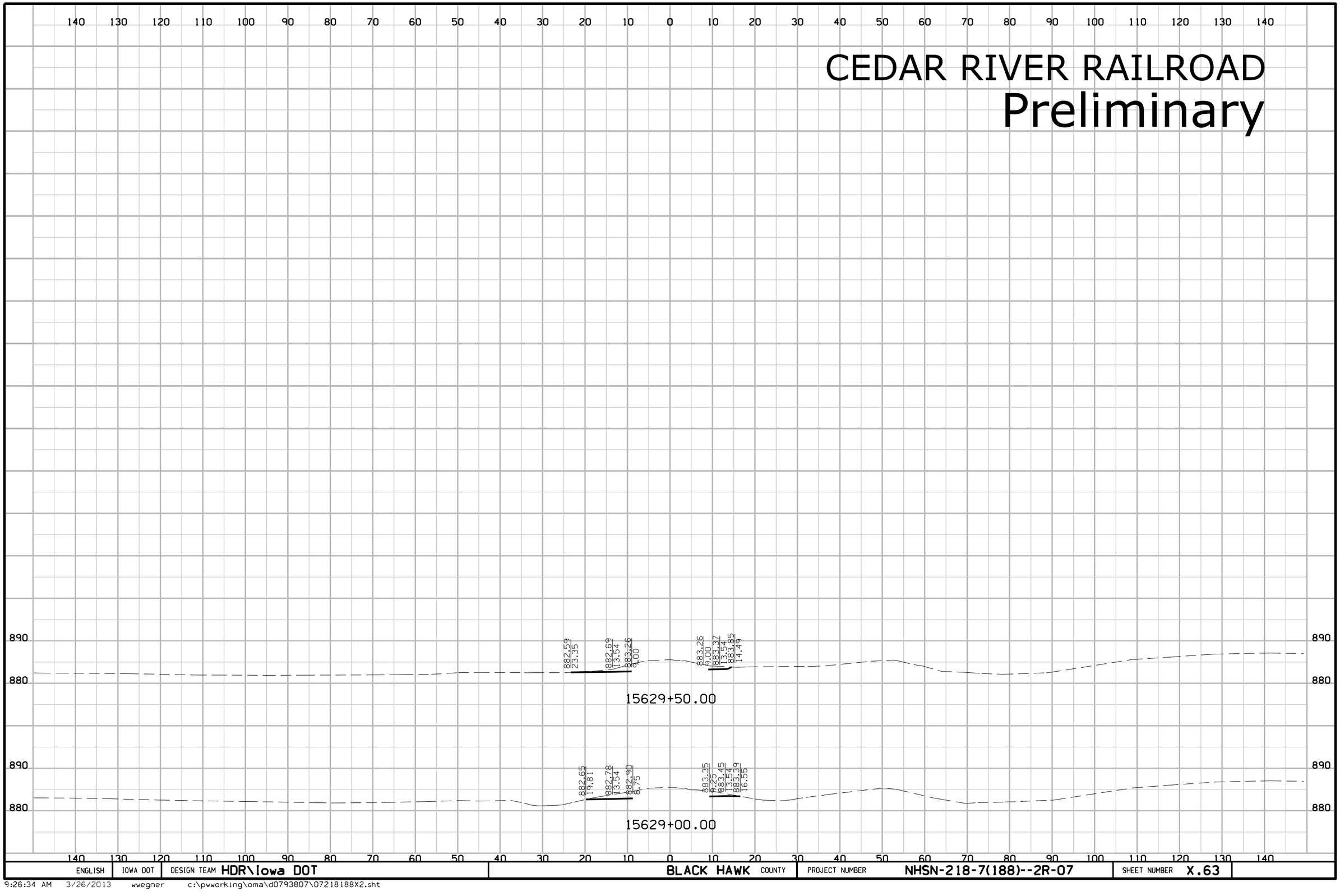


ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.62

9:26:33 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

CEDAR RIVER RAILROAD

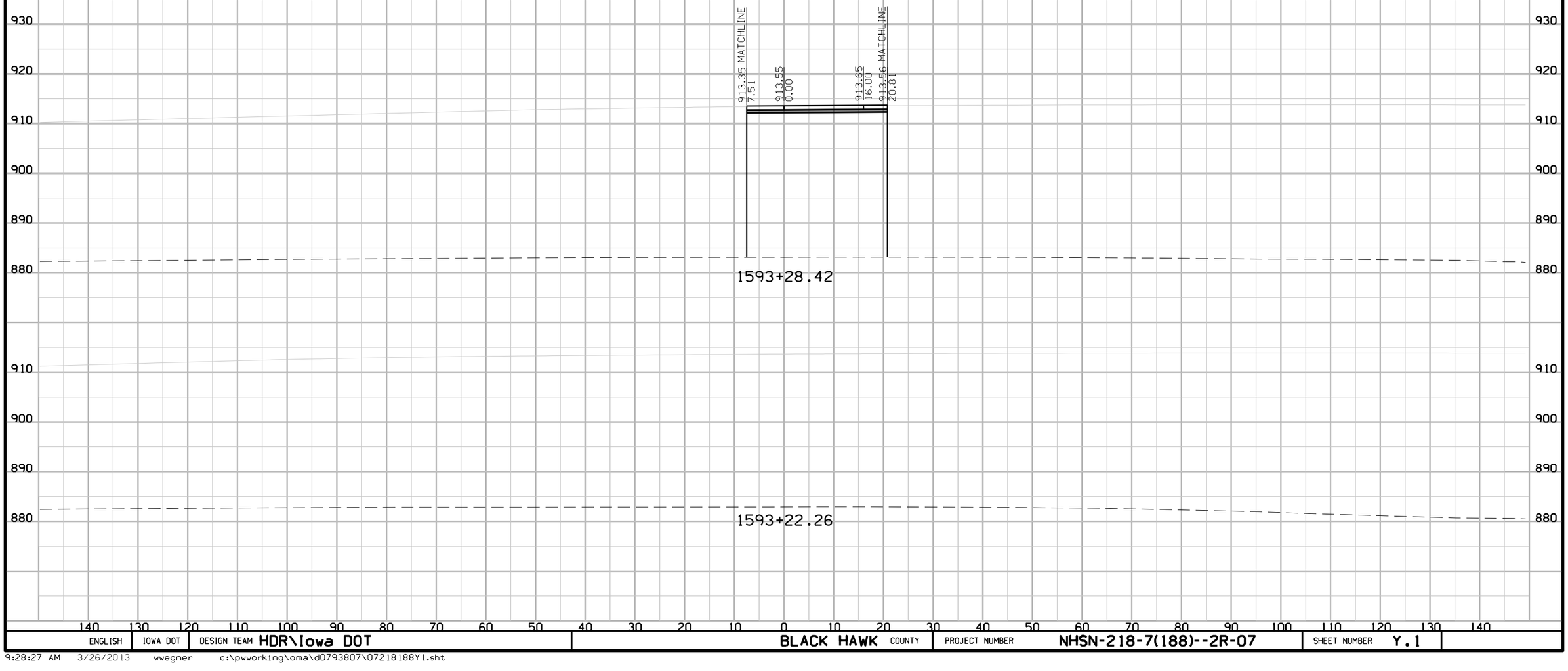
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER X.63

9:26:34 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188X2.sht

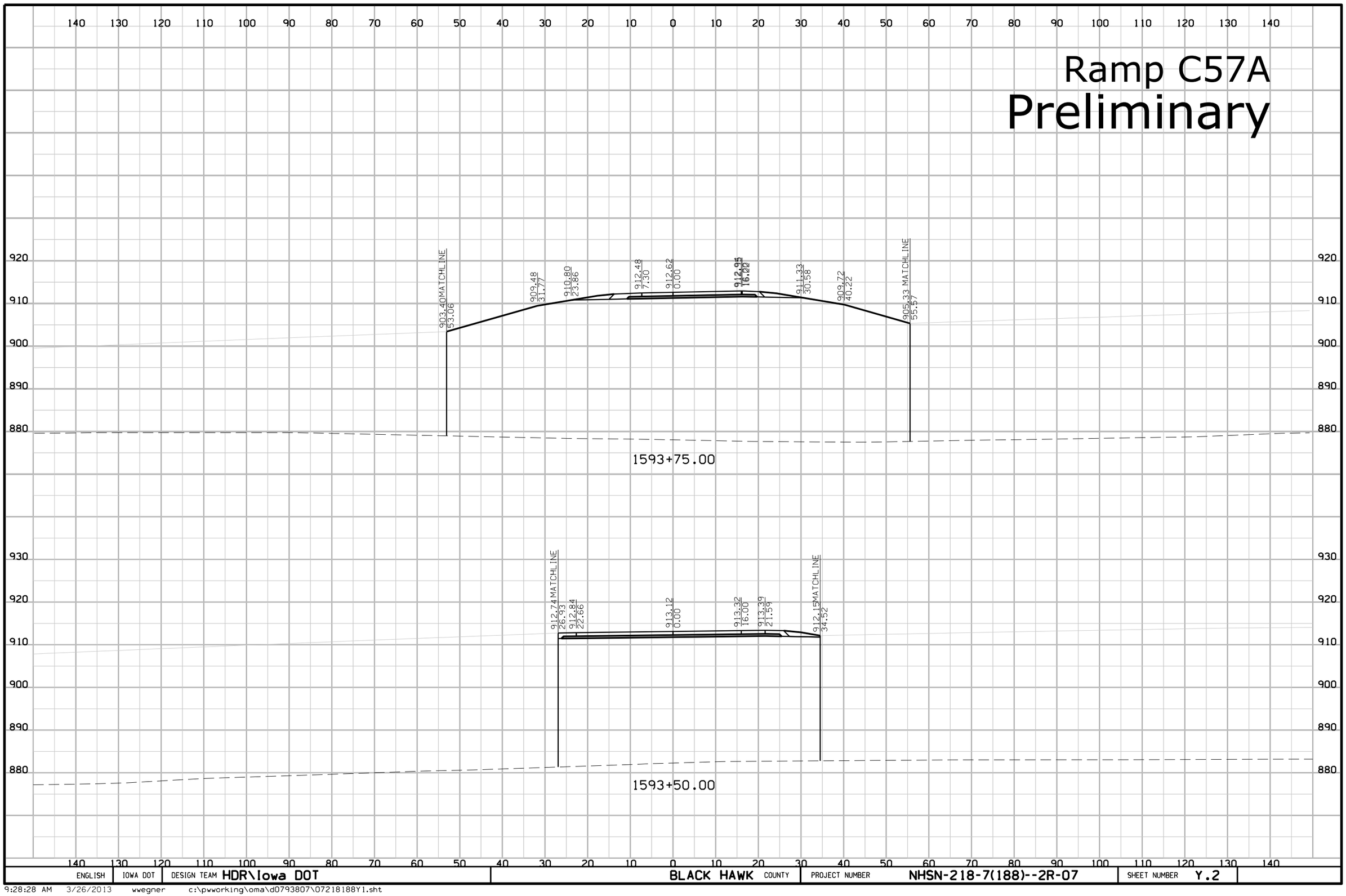
Ramp C57A
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.1

9:28:27 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57A
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.2

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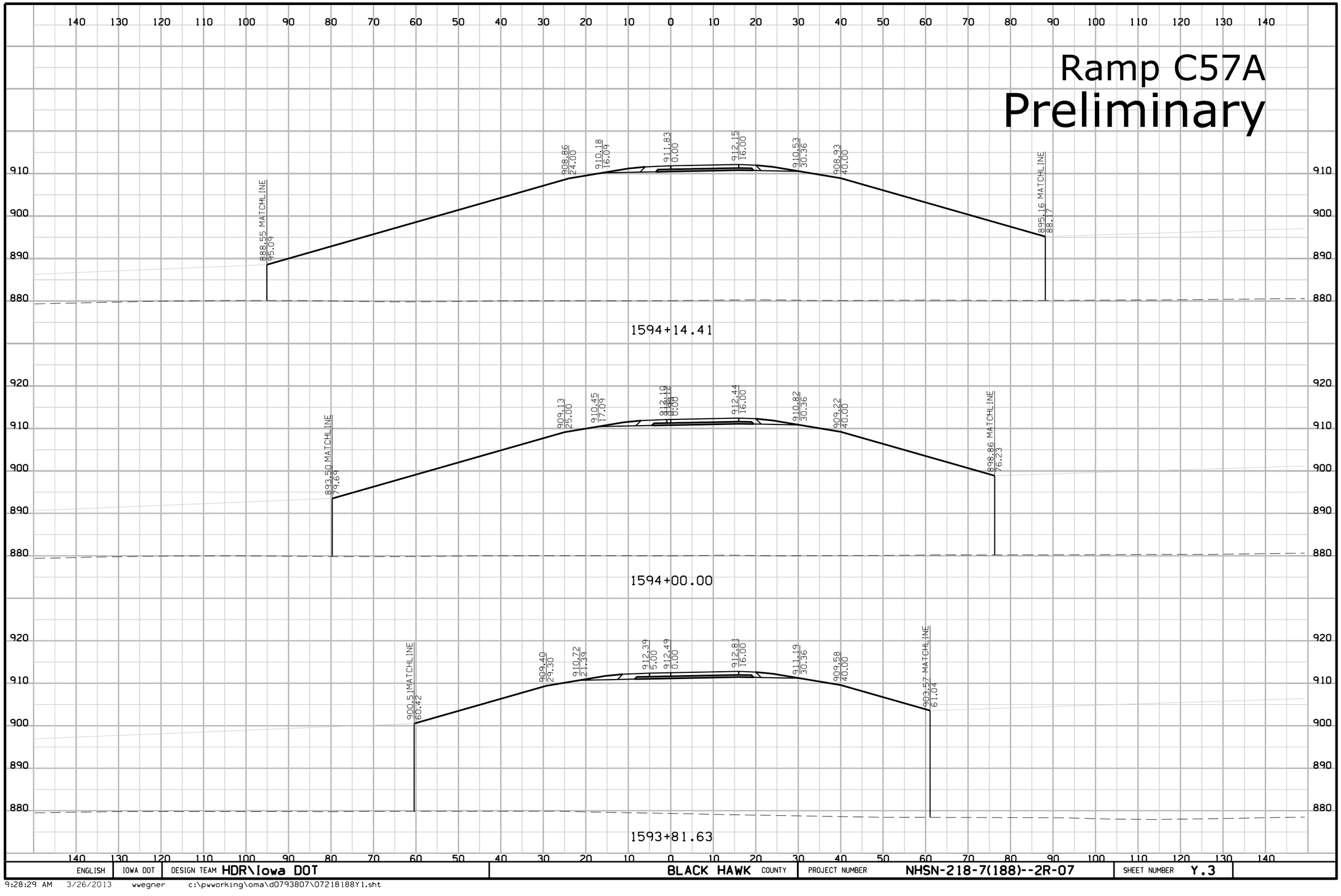
Ramp C57A
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.3

9:28:29 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57A
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

910
900
890
880

906.04
24.00
907.35
16.09
909.01
0.00
909.33
16.00
907.71
30.36
906.10
40.00

879.30
878.85
130.10
878.58
120.10

881.37
126.58
881.37
136.58
881.37

1595+50.00

907.14
24.00
908.46
16.09
910.11
0.00
910.43
16.00
908.81
30.36
907.20
40.00

879.09
878.45
134.42
878.45
124.42

881.26
130.82
881.26
140.82

1595+00.00

908.15
24.00
909.47
16.09
911.12
0.00
911.44
16.00
909.82
30.36
908.22
40.00

878.41 MATCHLINE
878.43
139.43
878.31
128.43

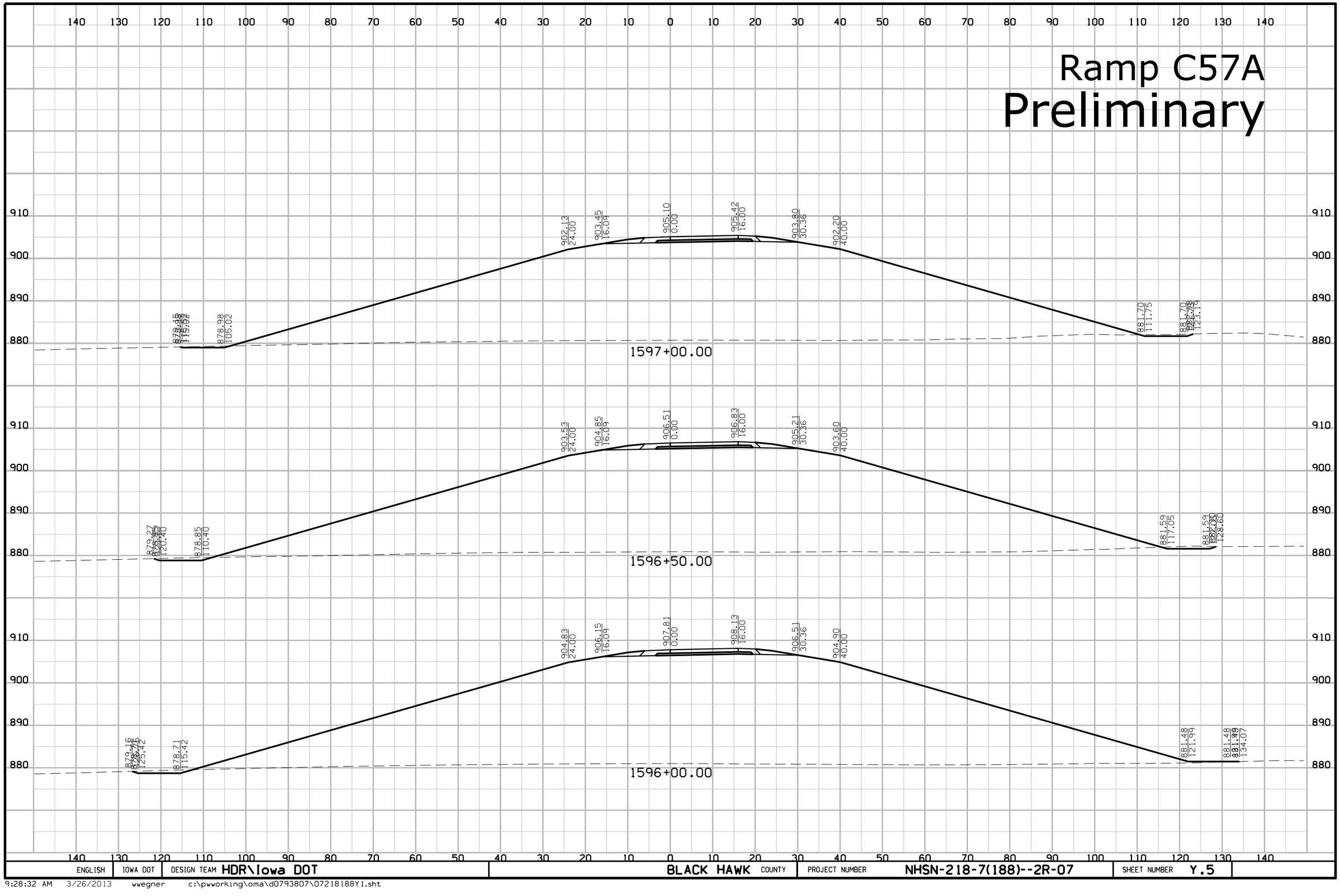
886.00 MATCHLINE
117.77

1594+50.00

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.4

9:28:31 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

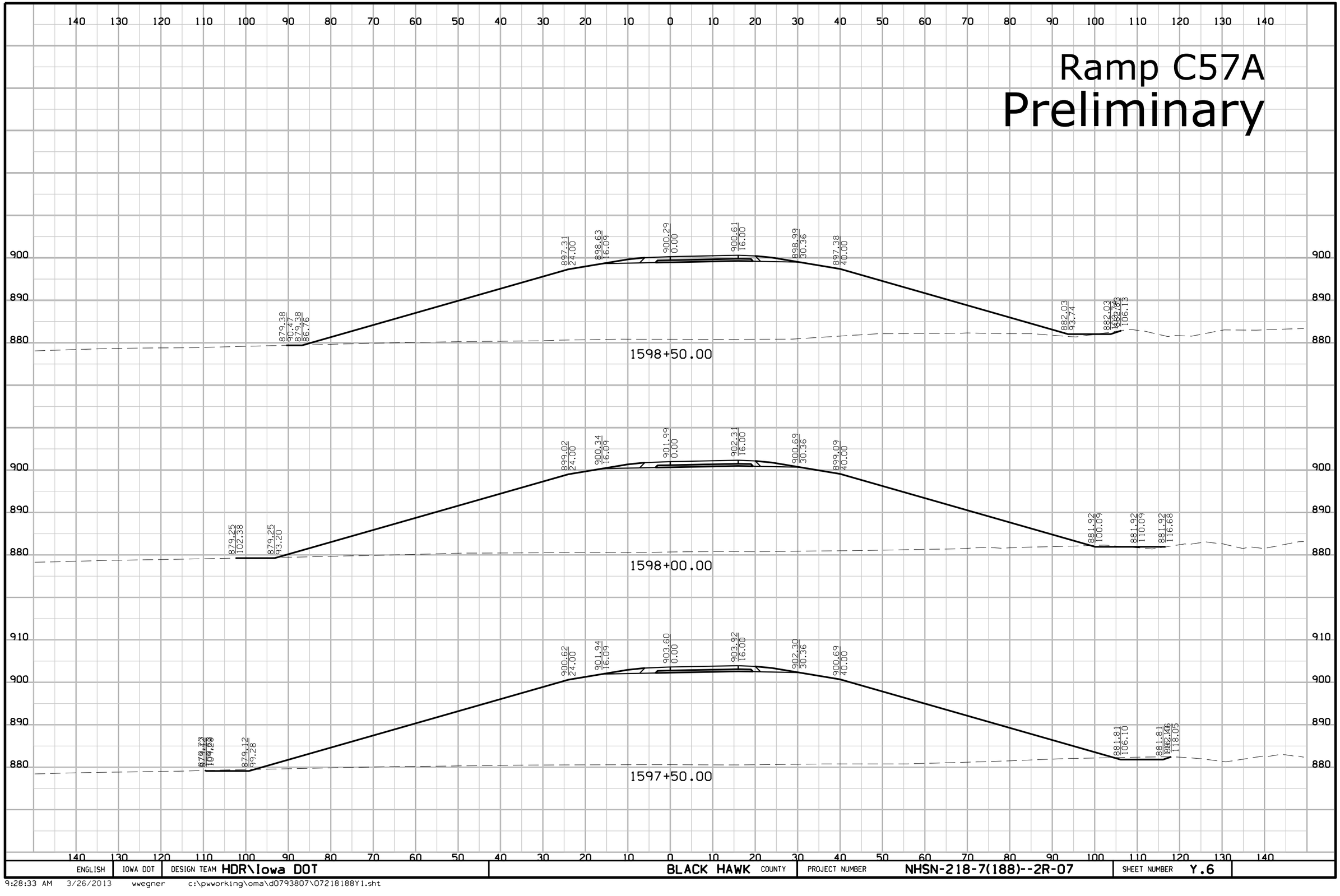
Ramp C57A
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.5

9:28:32 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

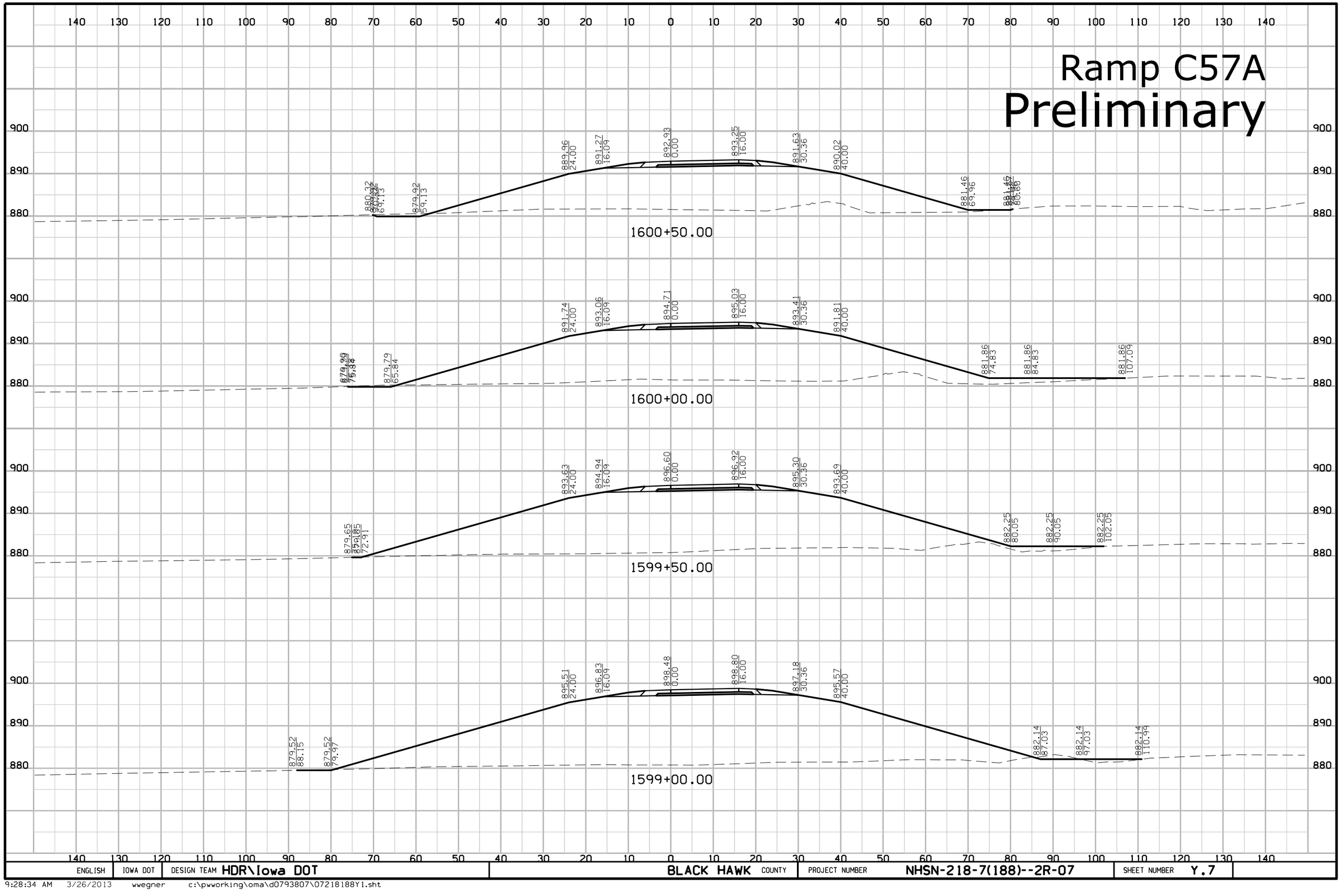
Ramp C57A
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.6

9:28:33 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57A
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.7

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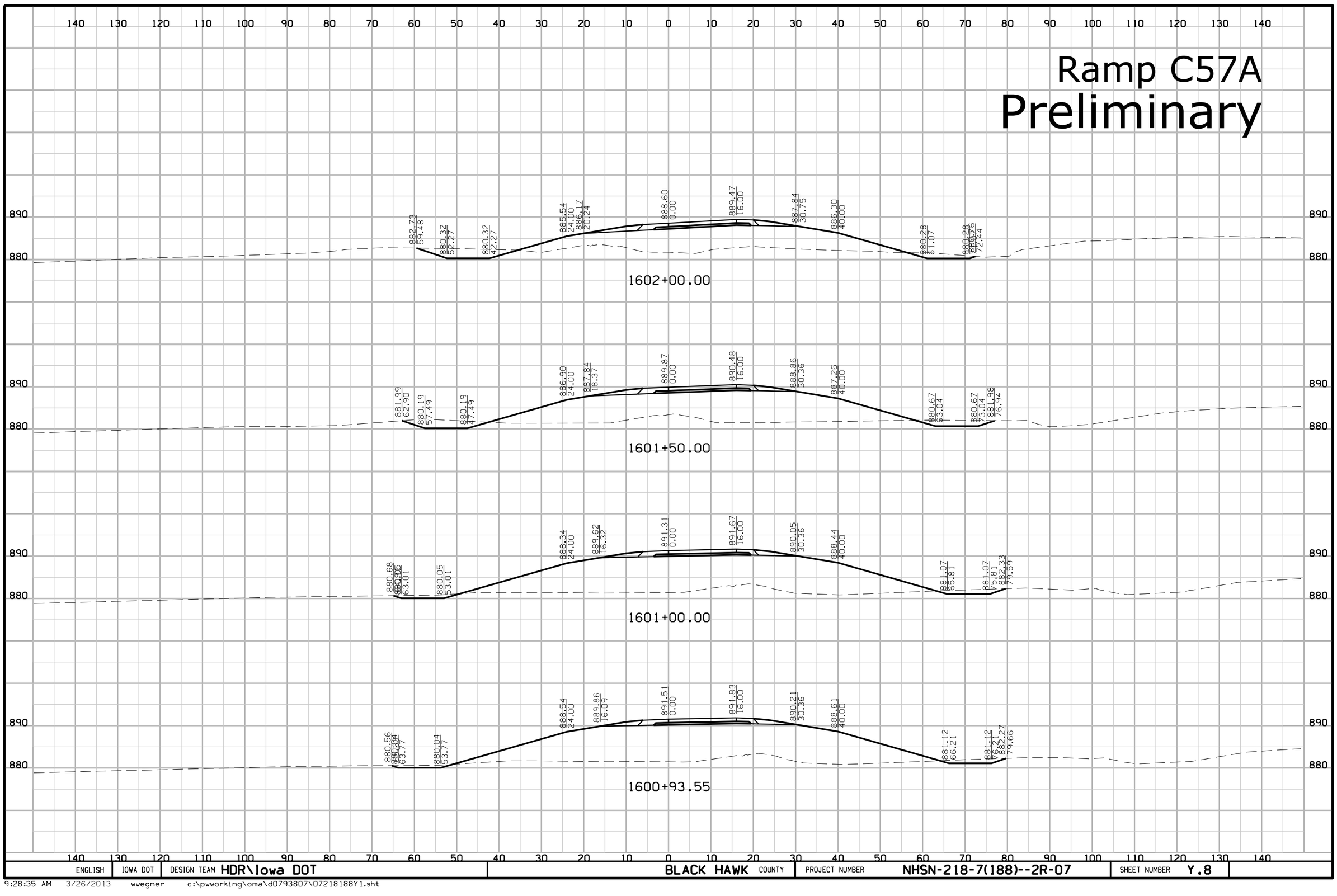
Ramp C57A
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.8

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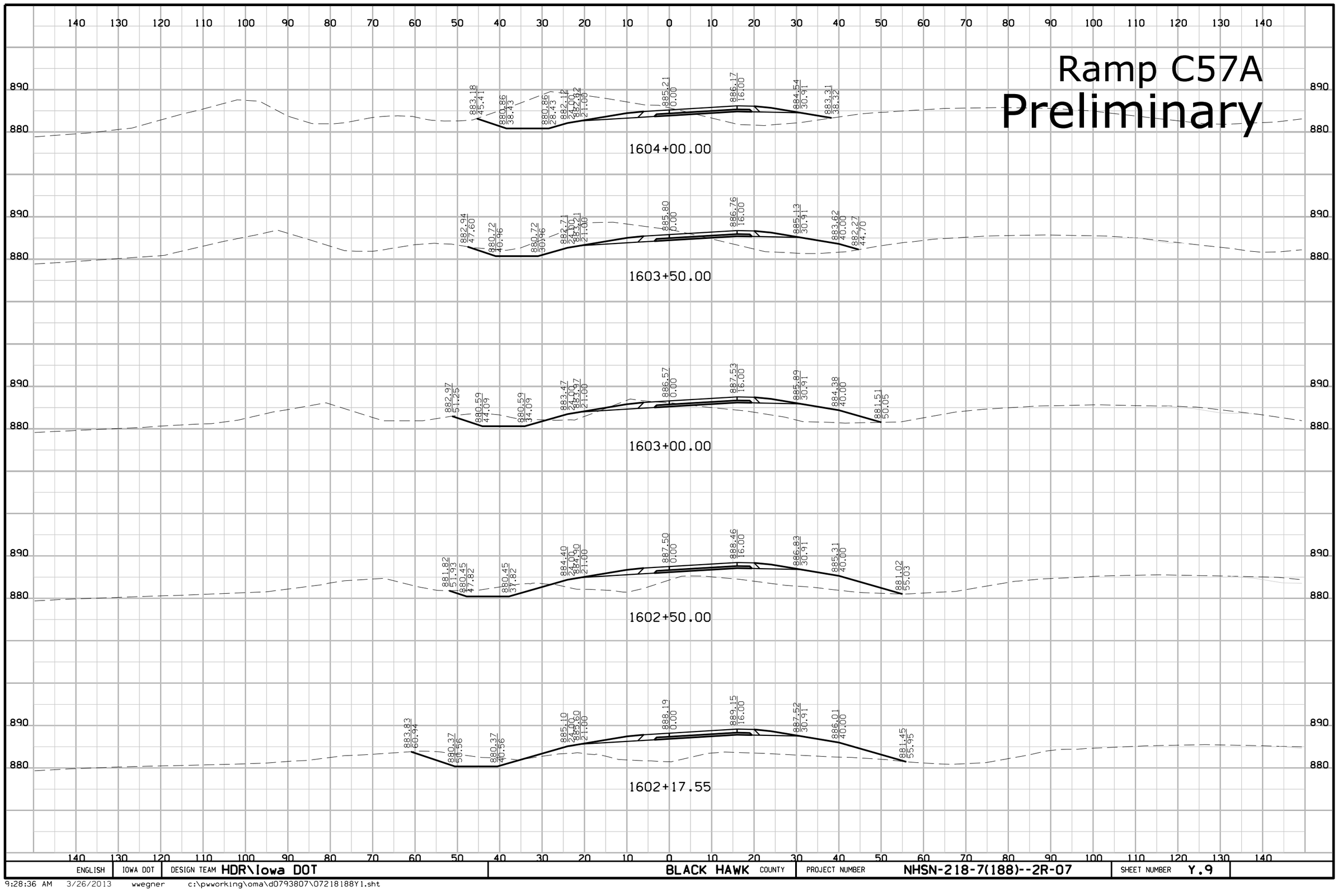
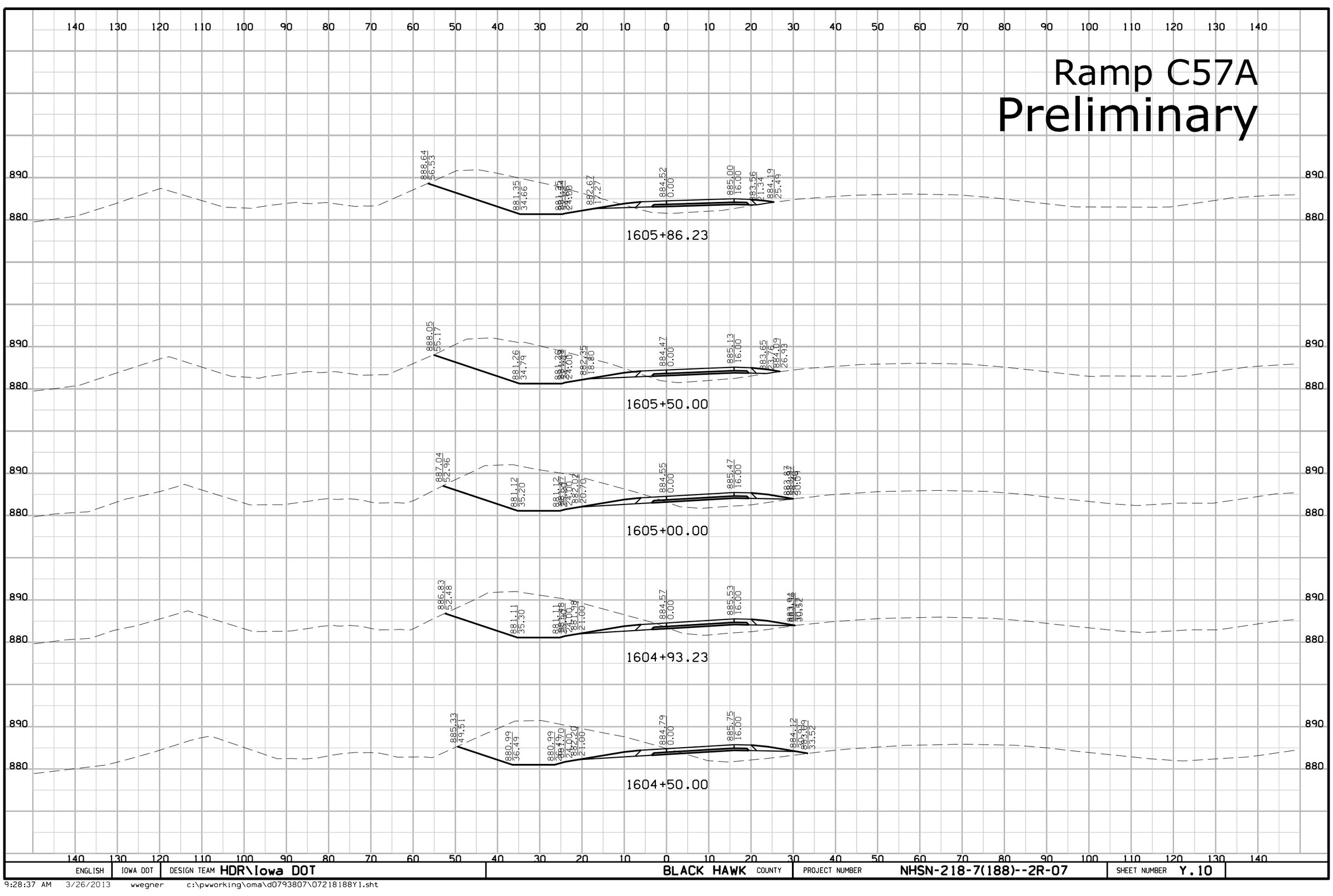
Ramp C57A
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.9

9:28:36 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57A
Preliminary

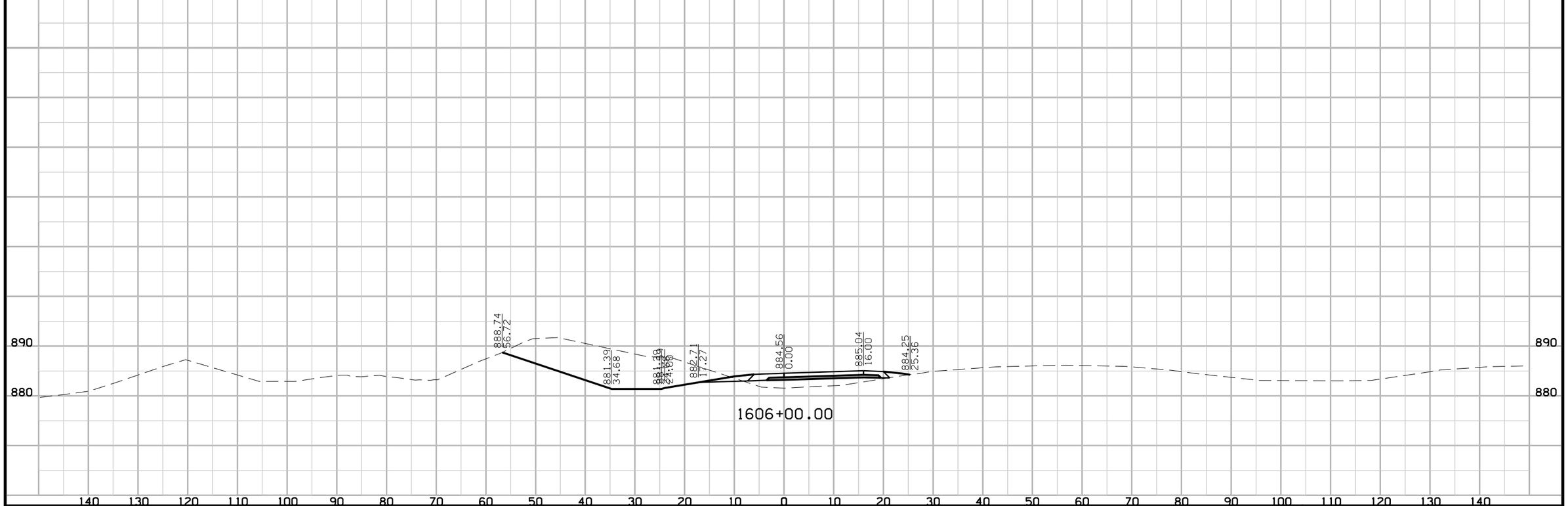


ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.10

9:28:37 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57A

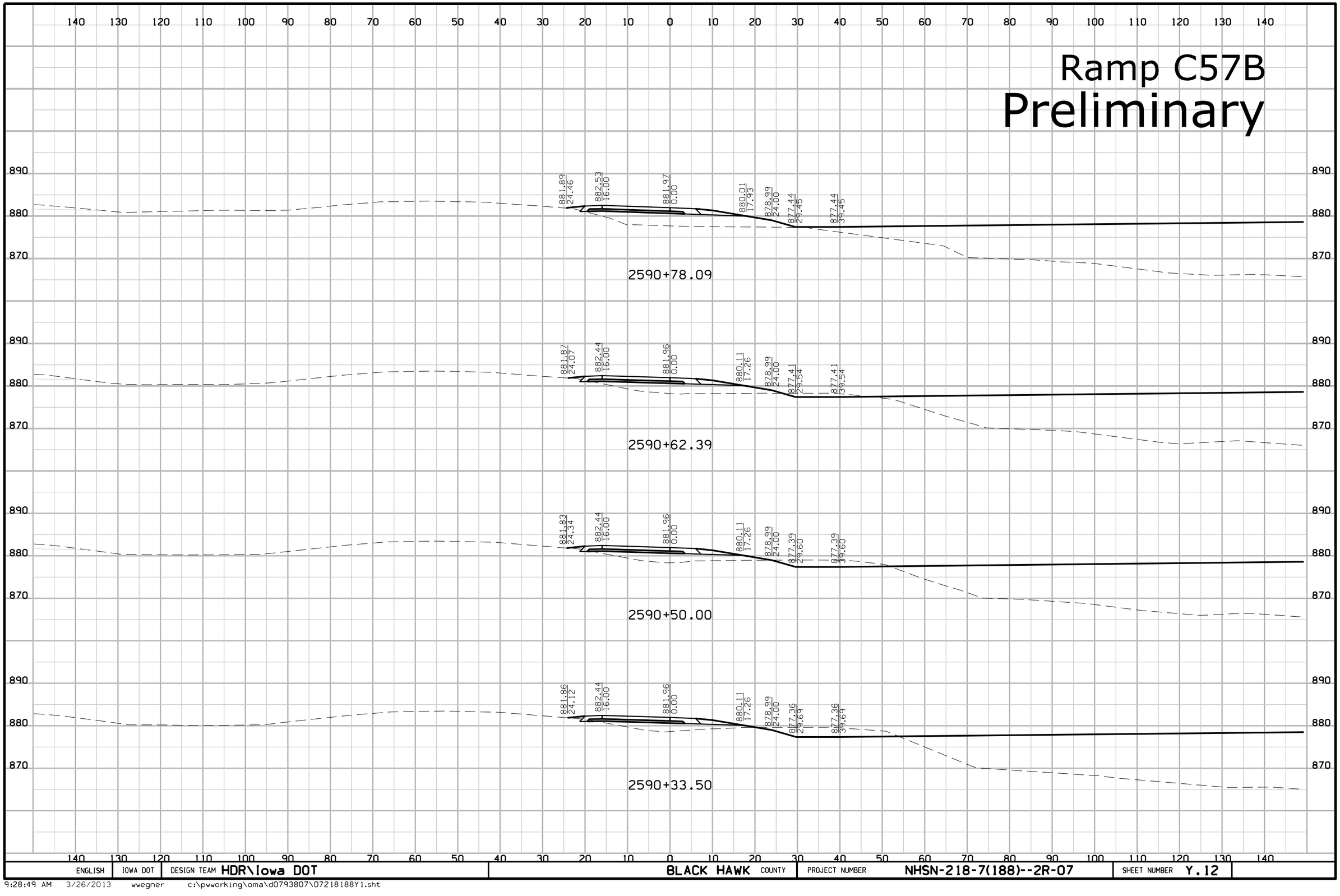
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.11

9:28:38 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

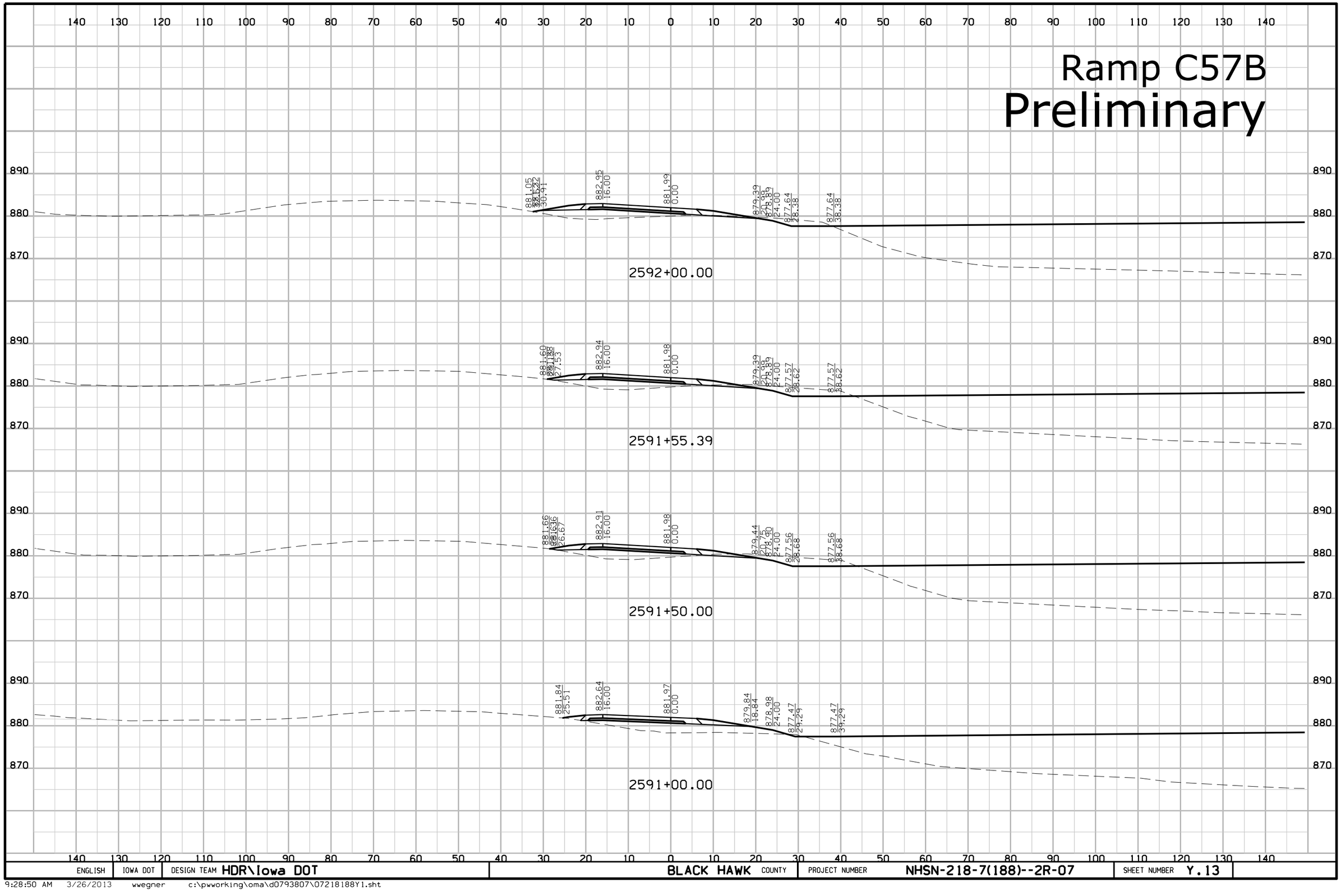
Ramp C57B
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.12

9:28:49 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57B
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.13

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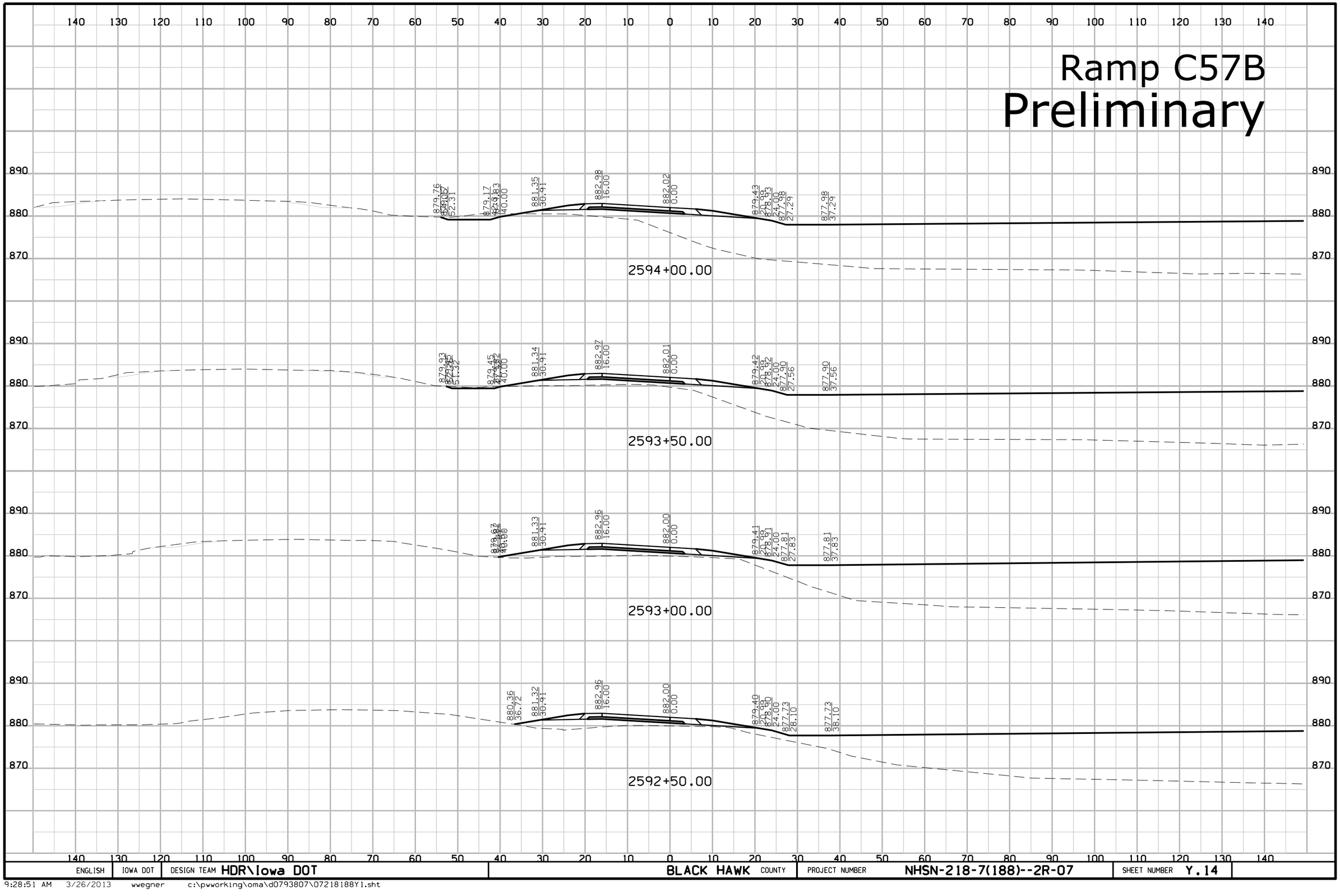
Ramp C57B
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.14

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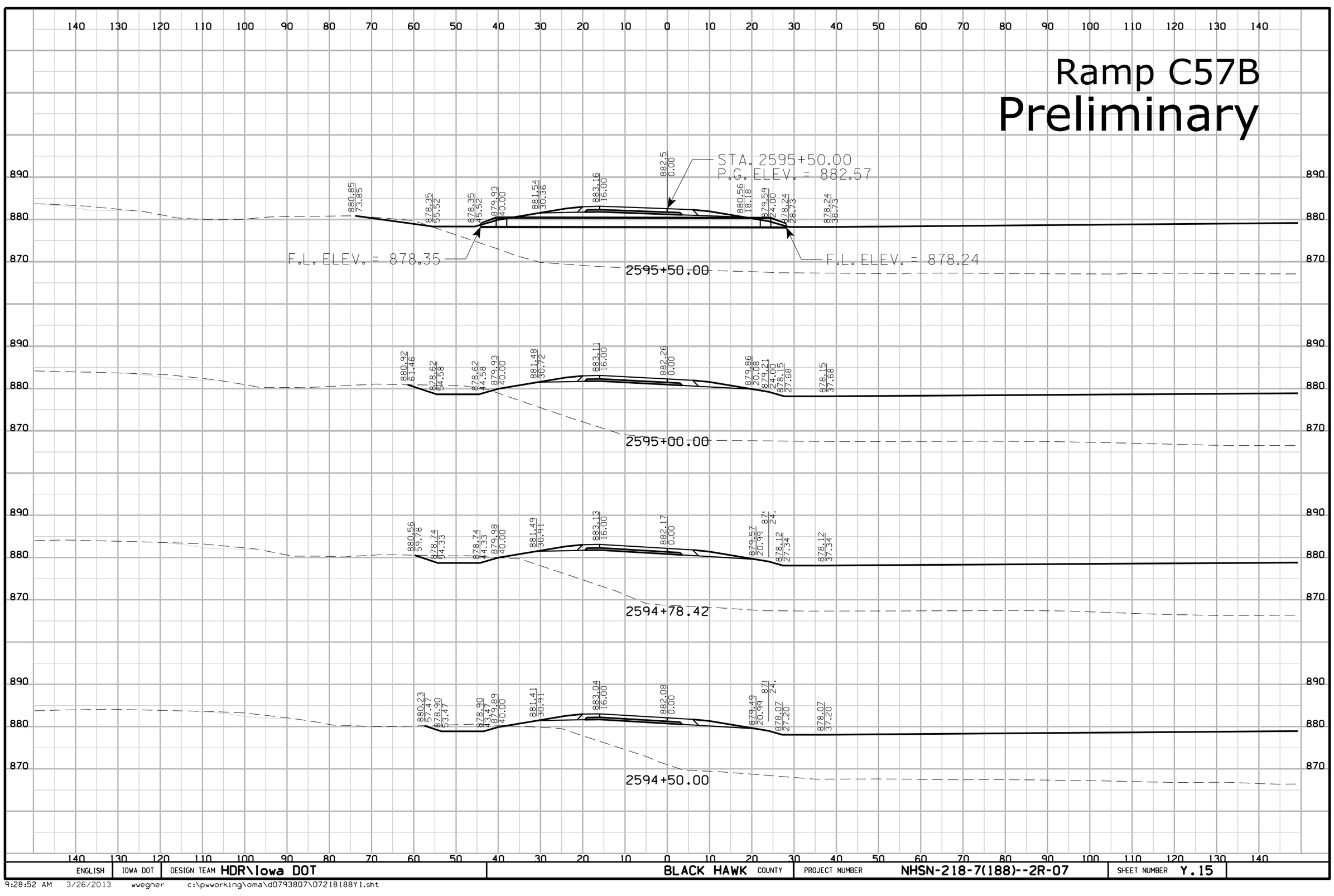
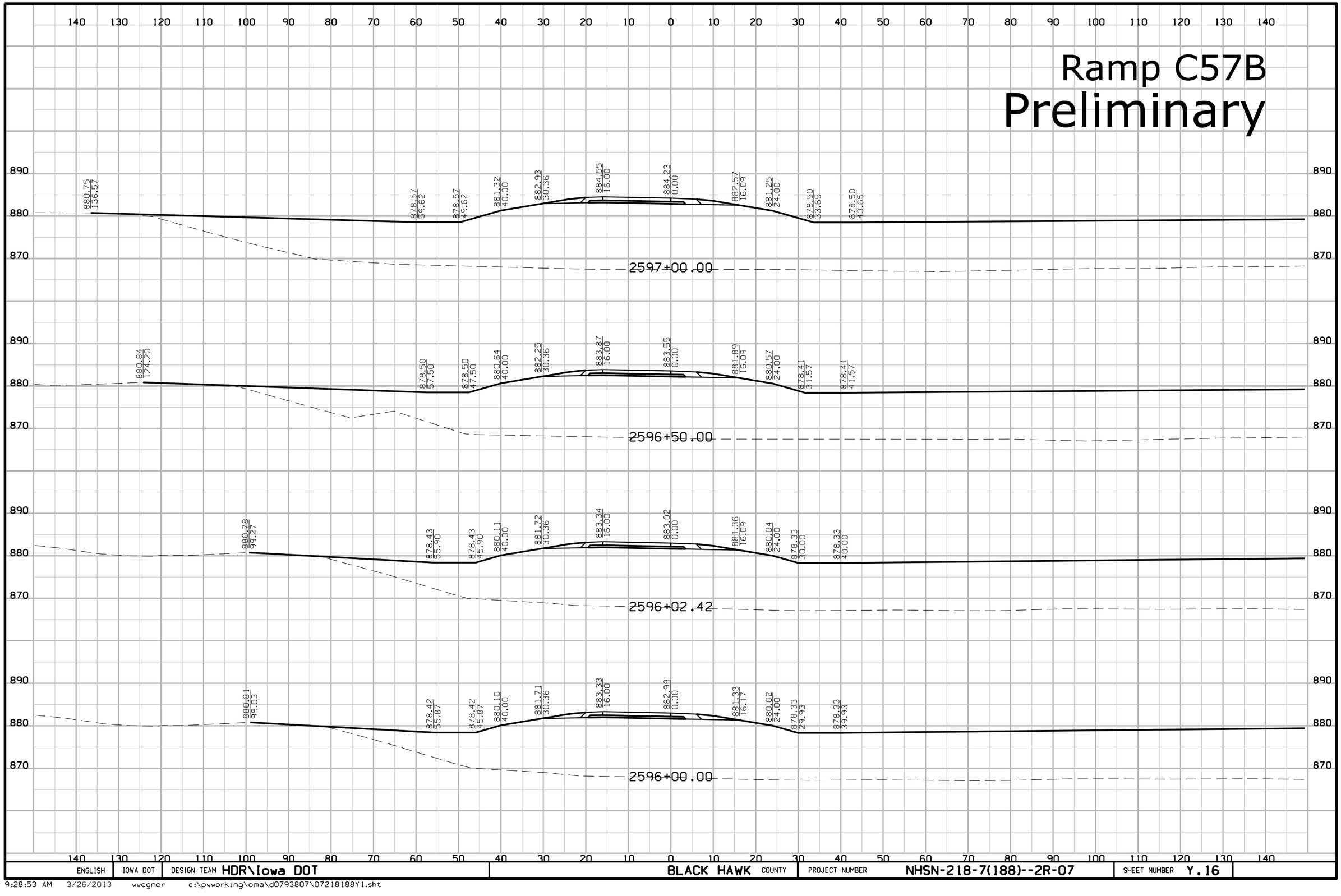
Ramp C57B
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.15

9:28:52 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57B
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.16

9:28:53 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57B
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890 880 870

878.87 71.63 | 878.87 61.63 | 885.05 40.00 | 886.65 30.36 | 888.27 16.00 | 887.95 0.00 | 886.30 16.09 | 884.98 24.00 | 878.84 45.50 | 878.84 55.50

2599+00.00

878.79 68.39 | 878.79 58.39 | 884.05 40.00 | 885.65 30.36 | 887.27 16.00 | 886.95 0.00 | 885.30 16.09 | 883.98 24.00 | 878.75 42.30 | 878.75 52.30

2598+50.00

878.72 65.15 | 878.72 55.15 | 883.05 40.00 | 884.65 30.36 | 886.27 16.00 | 885.95 0.00 | 884.30 16.09 | 882.98 24.00 | 878.67 39.10 | 878.67 49.10

2598+00.00

878.64 62.17 | 878.64 52.17 | 882.12 40.00 | 883.73 30.36 | 885.35 16.00 | 885.03 0.00 | 883.37 16.09 | 882.05 24.00 | 878.58 36.16 | 878.58 46.16

2597+50.00

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.17

9:28:55 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57B

Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

900
890
880
870

879.16 84.60 | 879.16 74.60 | 889.05 40.00 | 890.65 30.36 | 892.27 16.00 | 891.95 0.00 | 890.30 16.09 | 888.98 24.00 | 879.18 58.31 | 879.18 68.31

2601+00.00

879.09 81.36 | 879.09 71.36 | 888.05 40.00 | 889.65 30.36 | 891.27 16.00 | 890.95 0.00 | 889.30 16.09 | 887.98 24.00 | 879.09 55.11 | 879.09 65.11

2600+50.00

879.01 78.12 | 879.01 68.12 | 887.05 40.00 | 888.65 30.36 | 890.27 16.00 | 889.95 0.00 | 888.30 16.09 | 886.98 24.00 | 879.01 51.90 | 879.01 61.90

2600+00.00

878.94 74.88 | 878.94 64.88 | 886.05 40.00 | 887.65 30.36 | 889.27 16.00 | 888.95 0.00 | 887.30 16.09 | 885.98 24.00 | 878.92 48.70 | 878.92 58.70

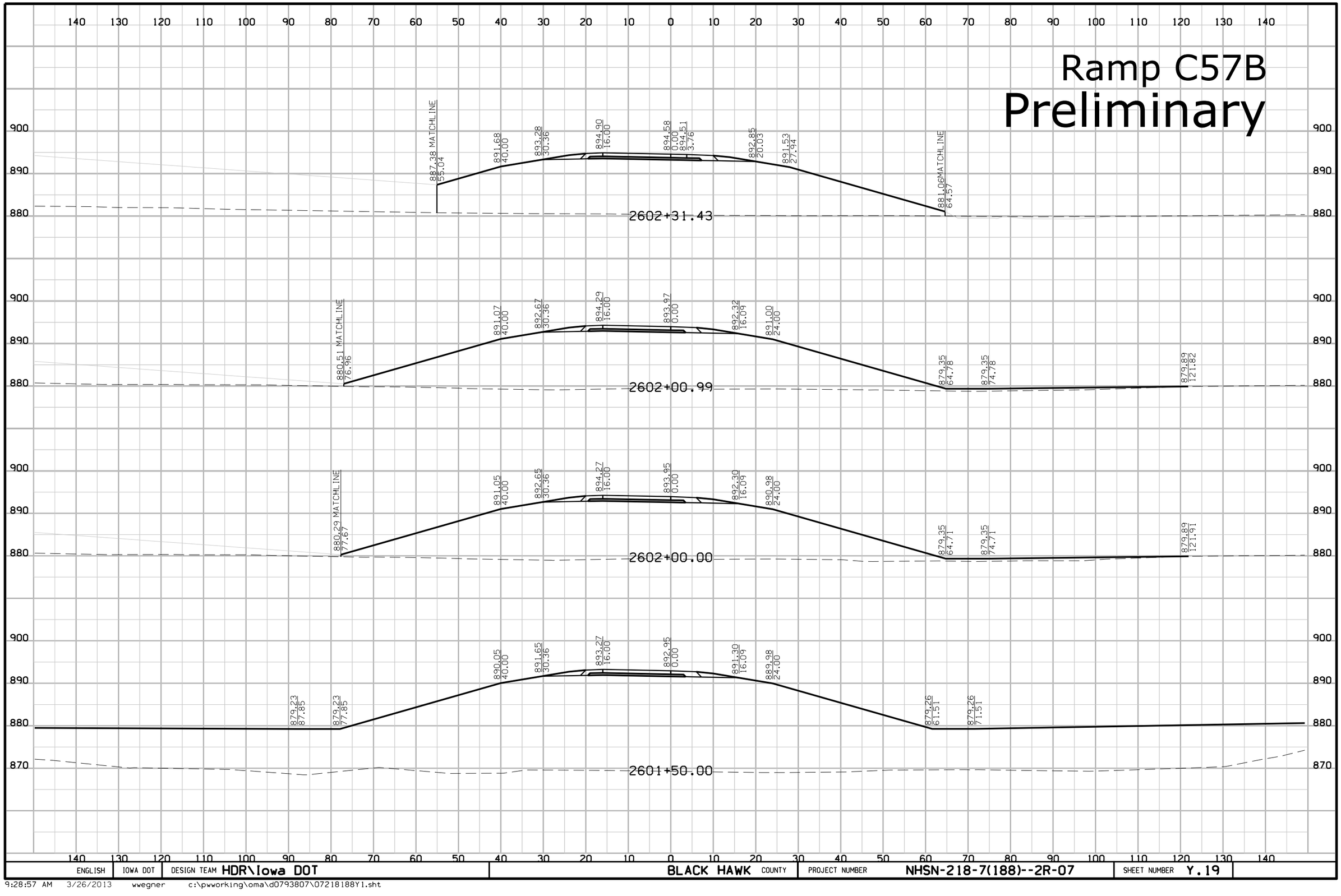
2599+50.00

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.18

9:28:56 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57B
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.19

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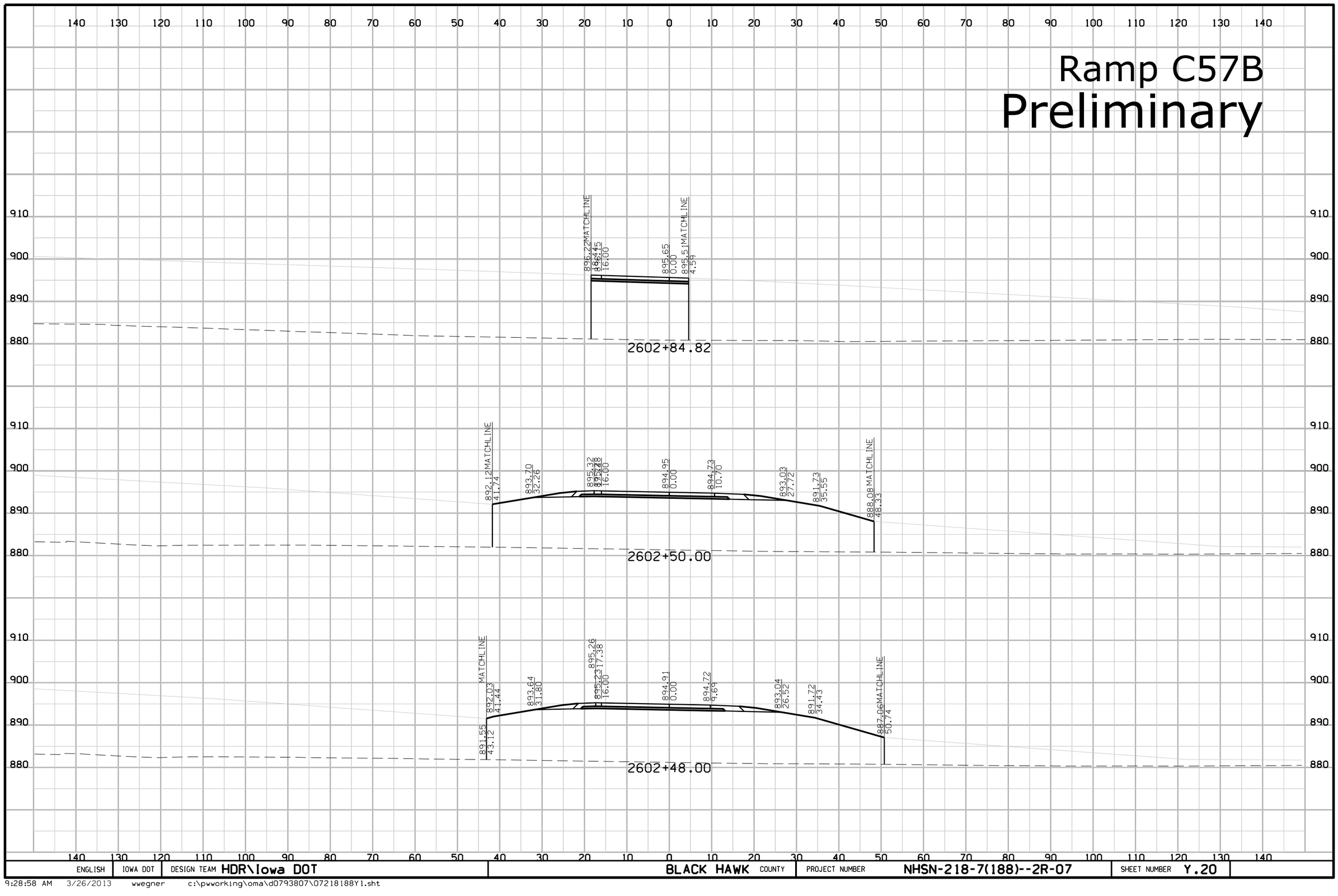
Ramp C57B
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.20

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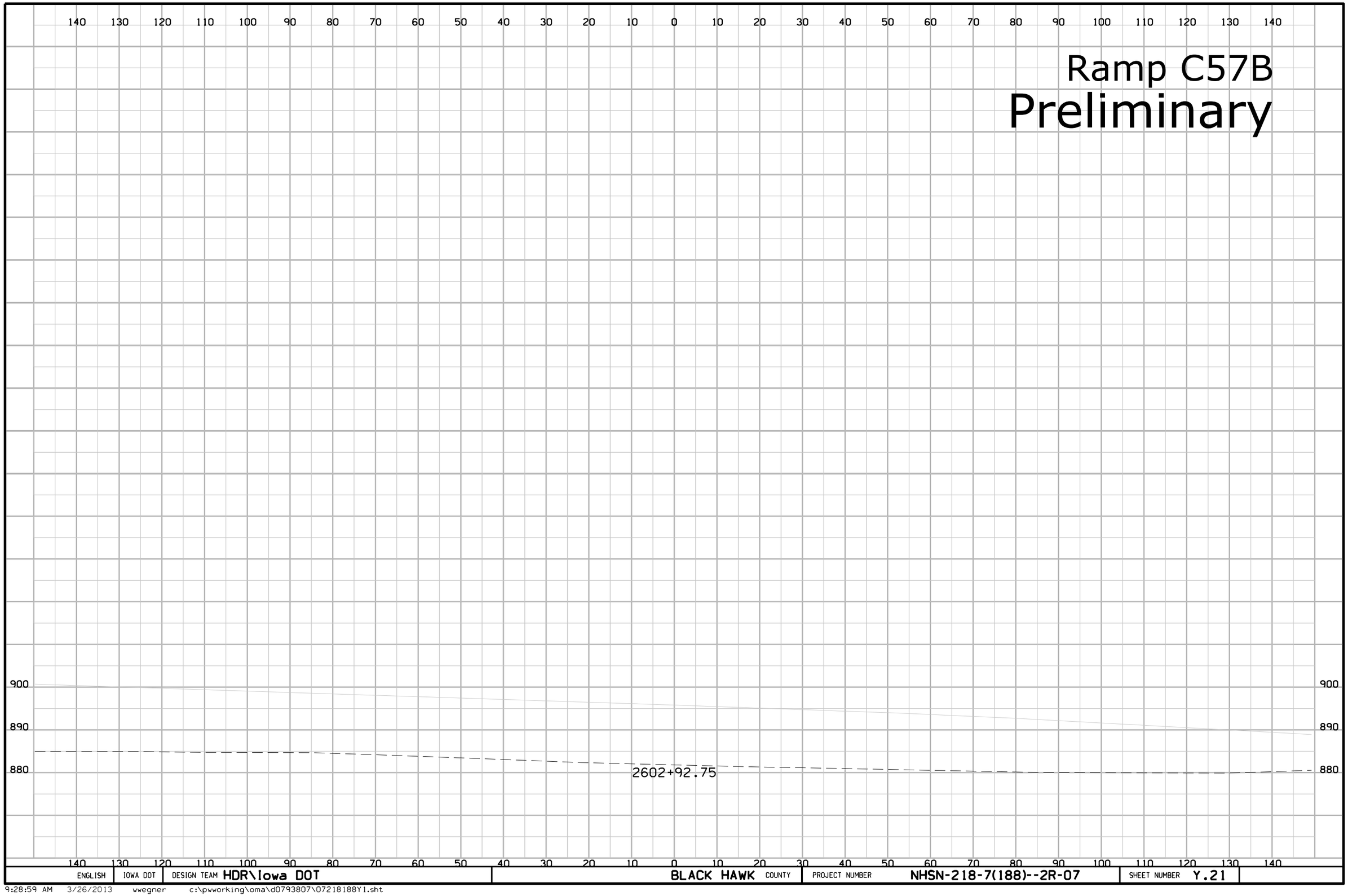
Ramp C57B

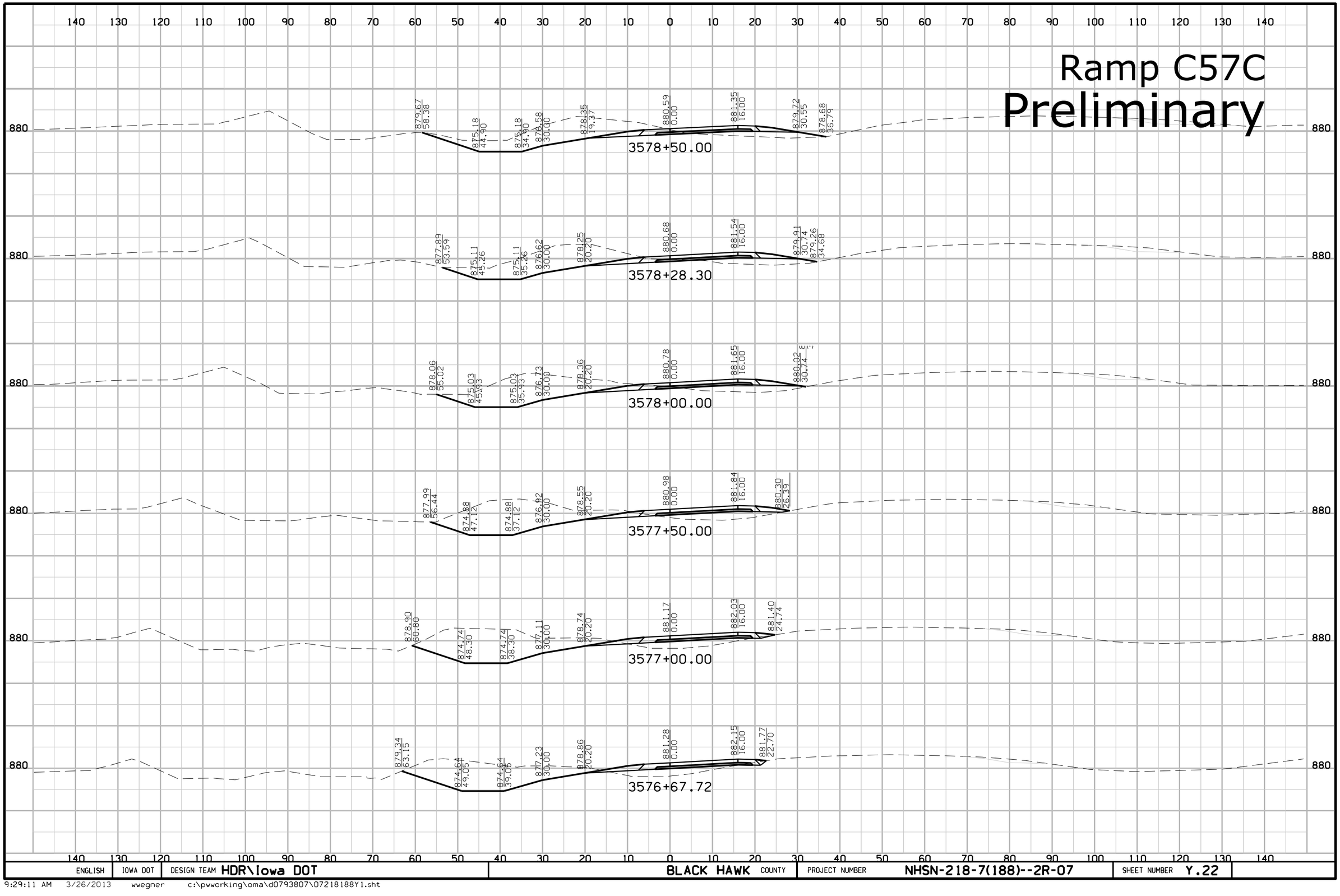
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.21

9:28:59 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

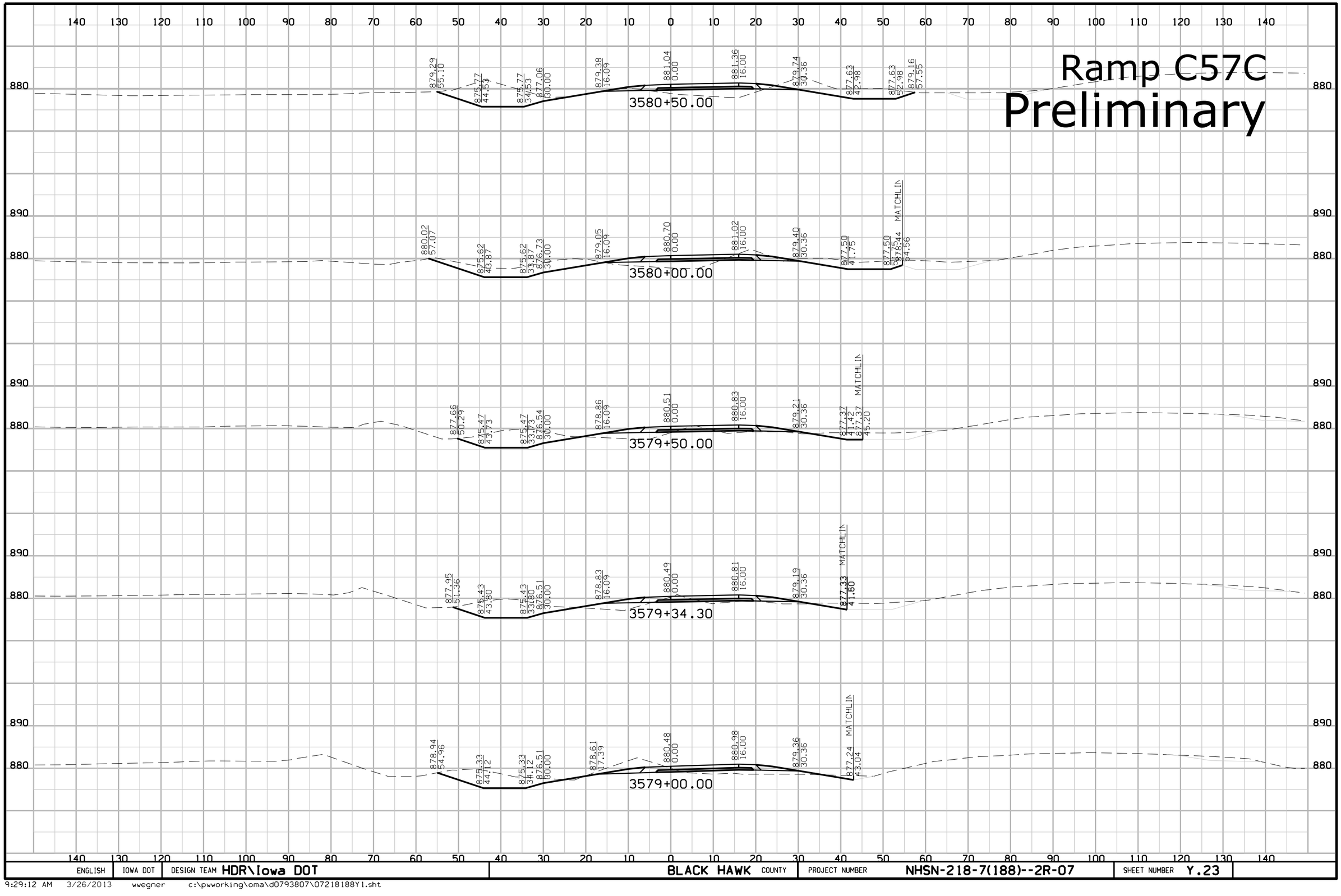
Ramp C57C
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.22

9:29:11 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57C
Preliminary

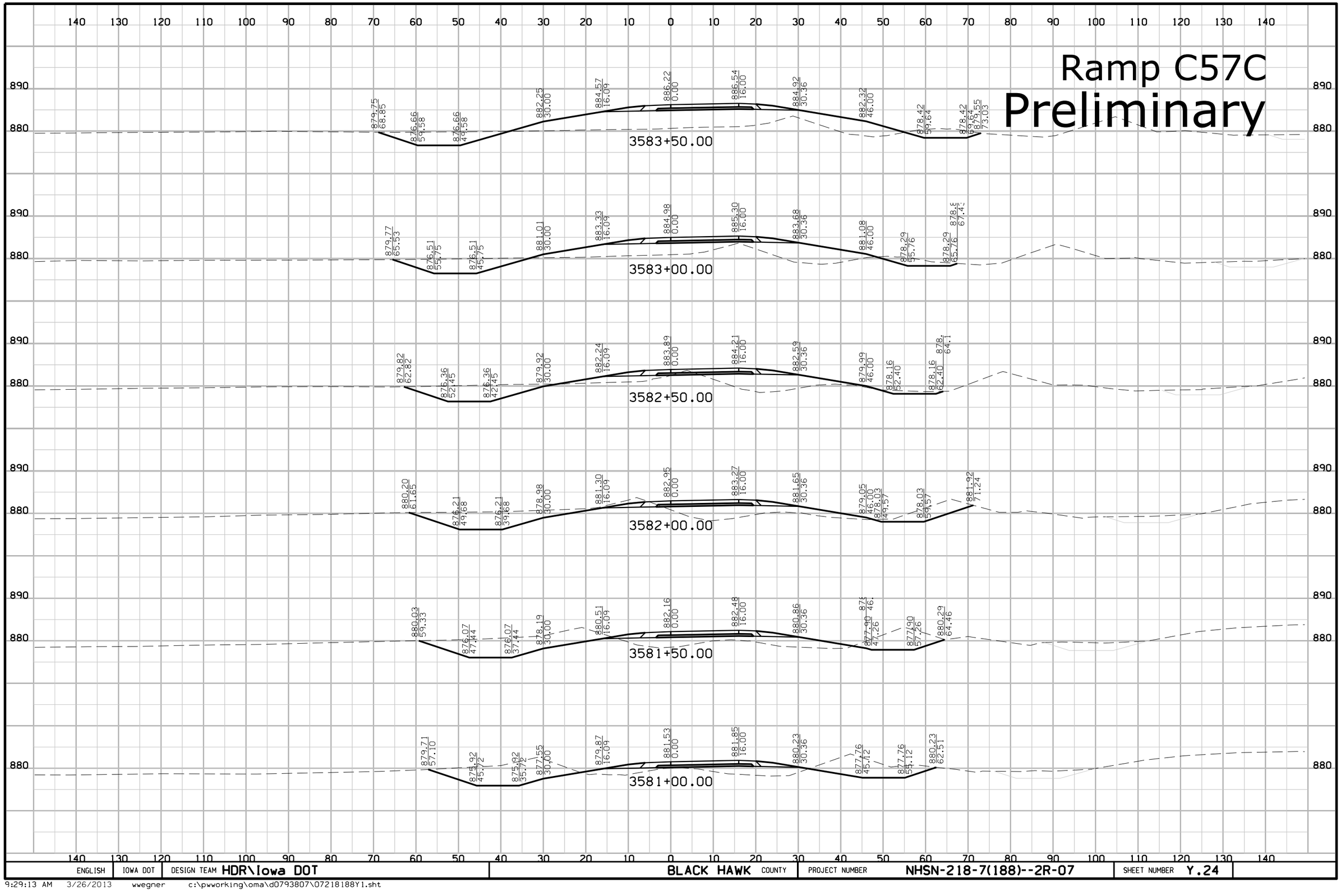


ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.23

9:29:12 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57C

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.24

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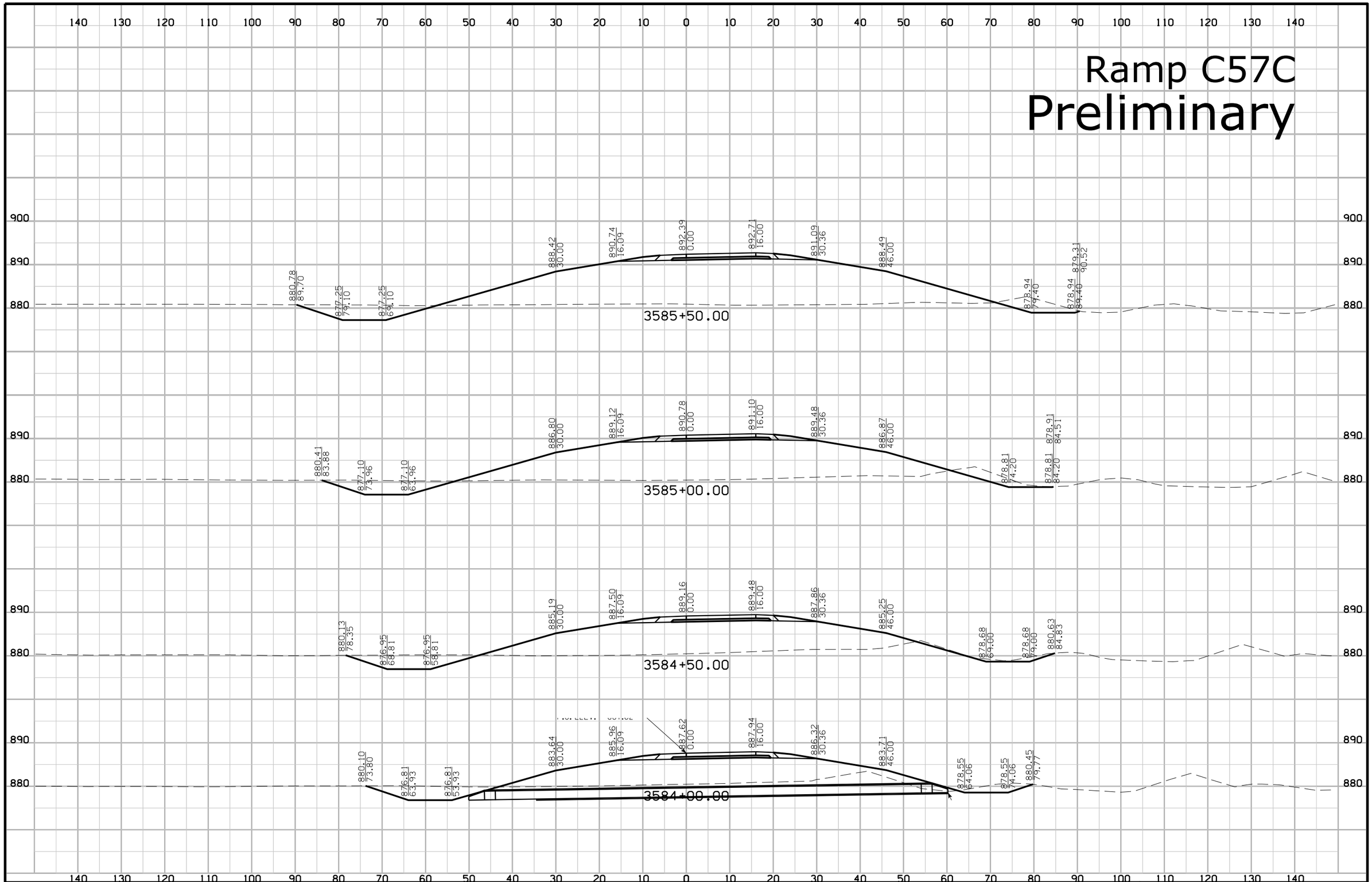
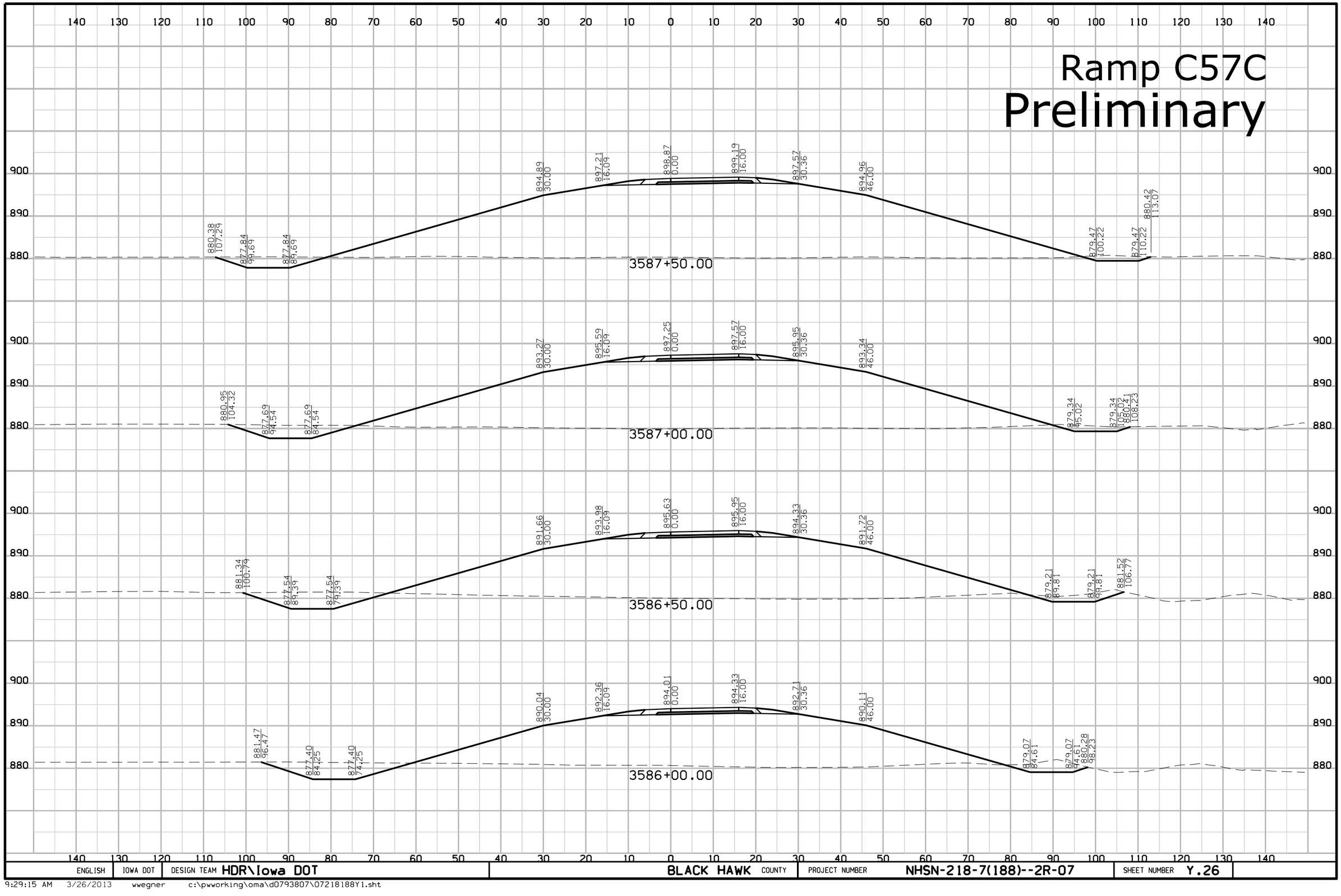
Ramp C57C
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.25

9:29:14 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

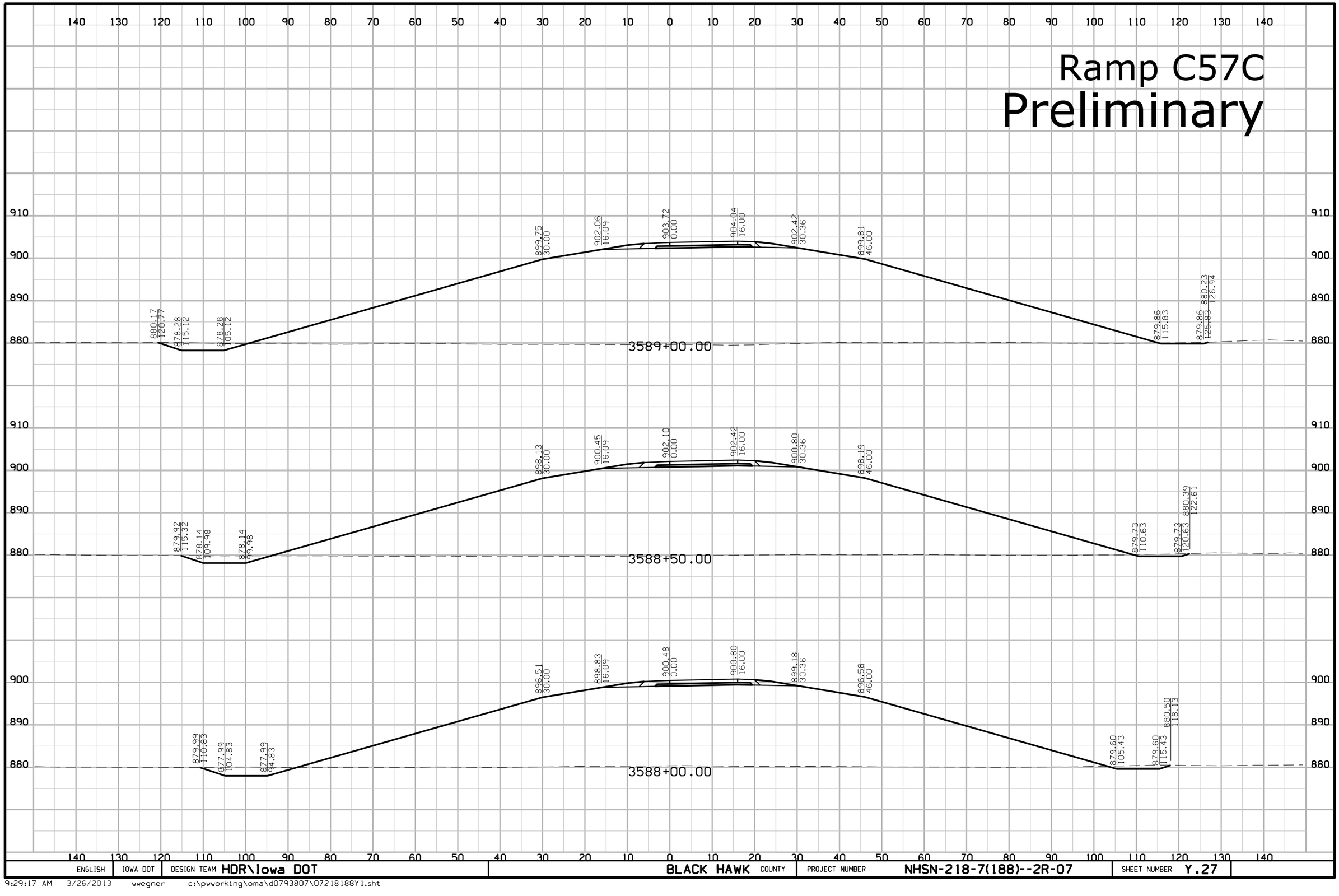
Ramp C57C
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.26

9:29:15 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57C
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.27

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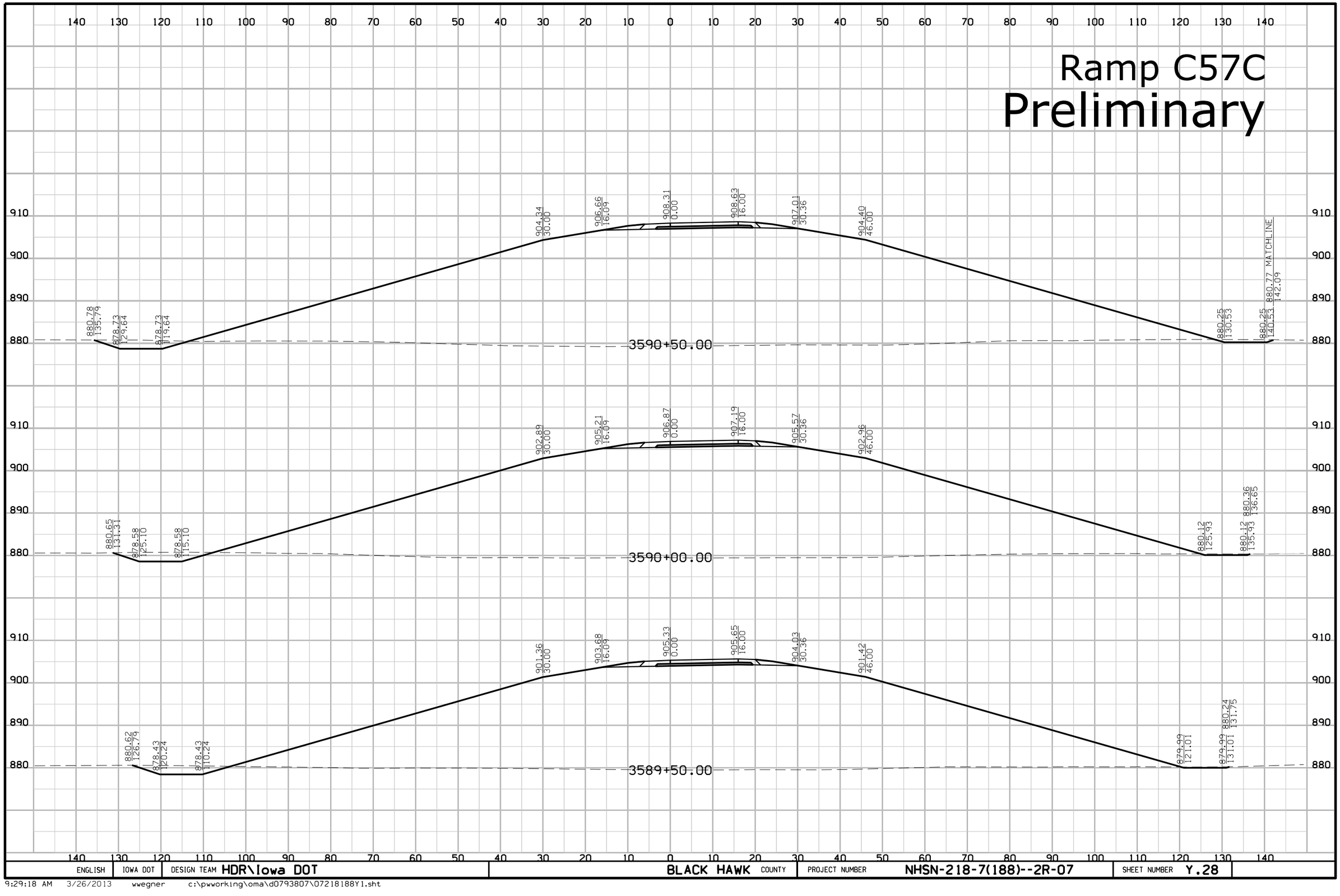
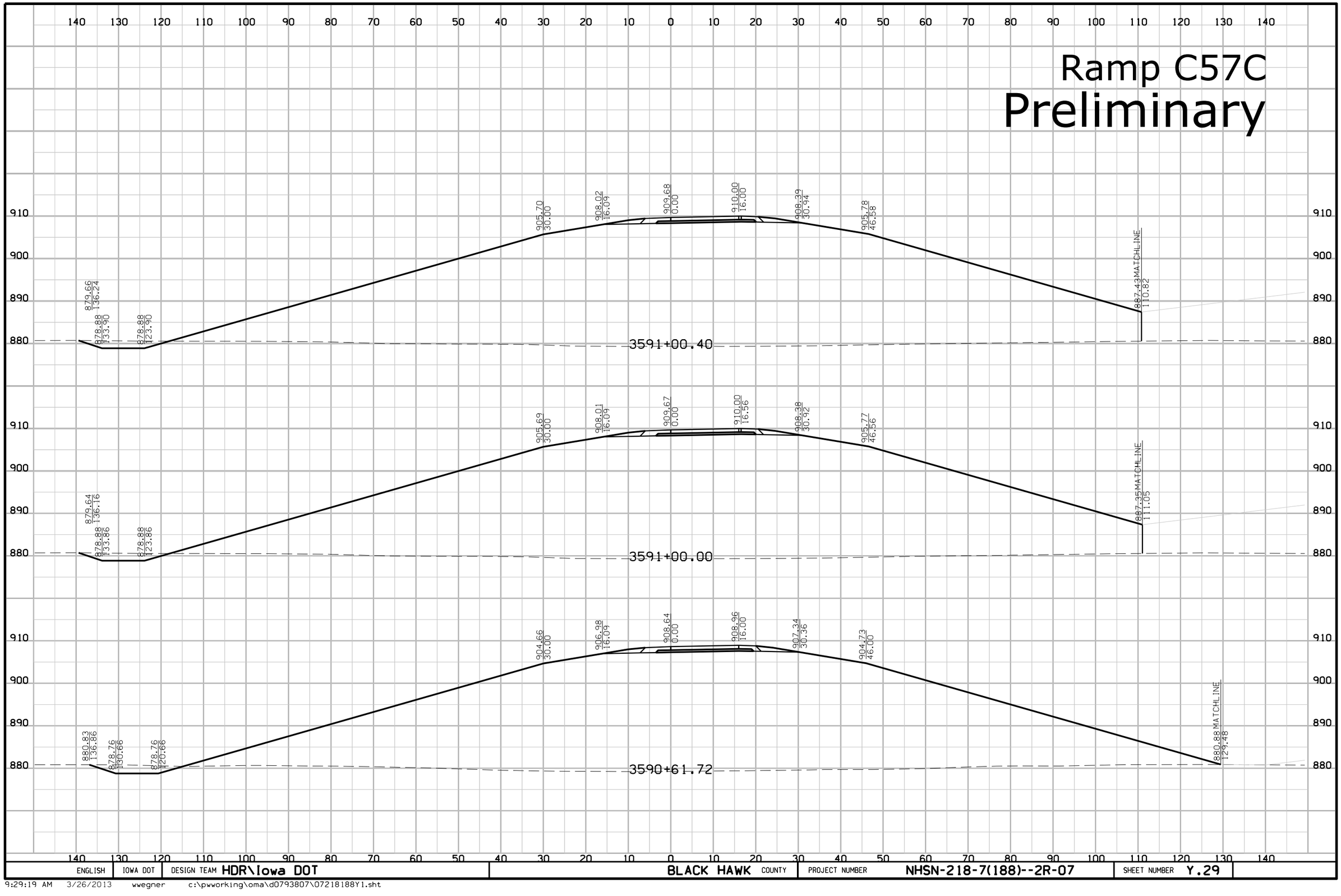
Ramp C57C
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.28

9:29:18 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

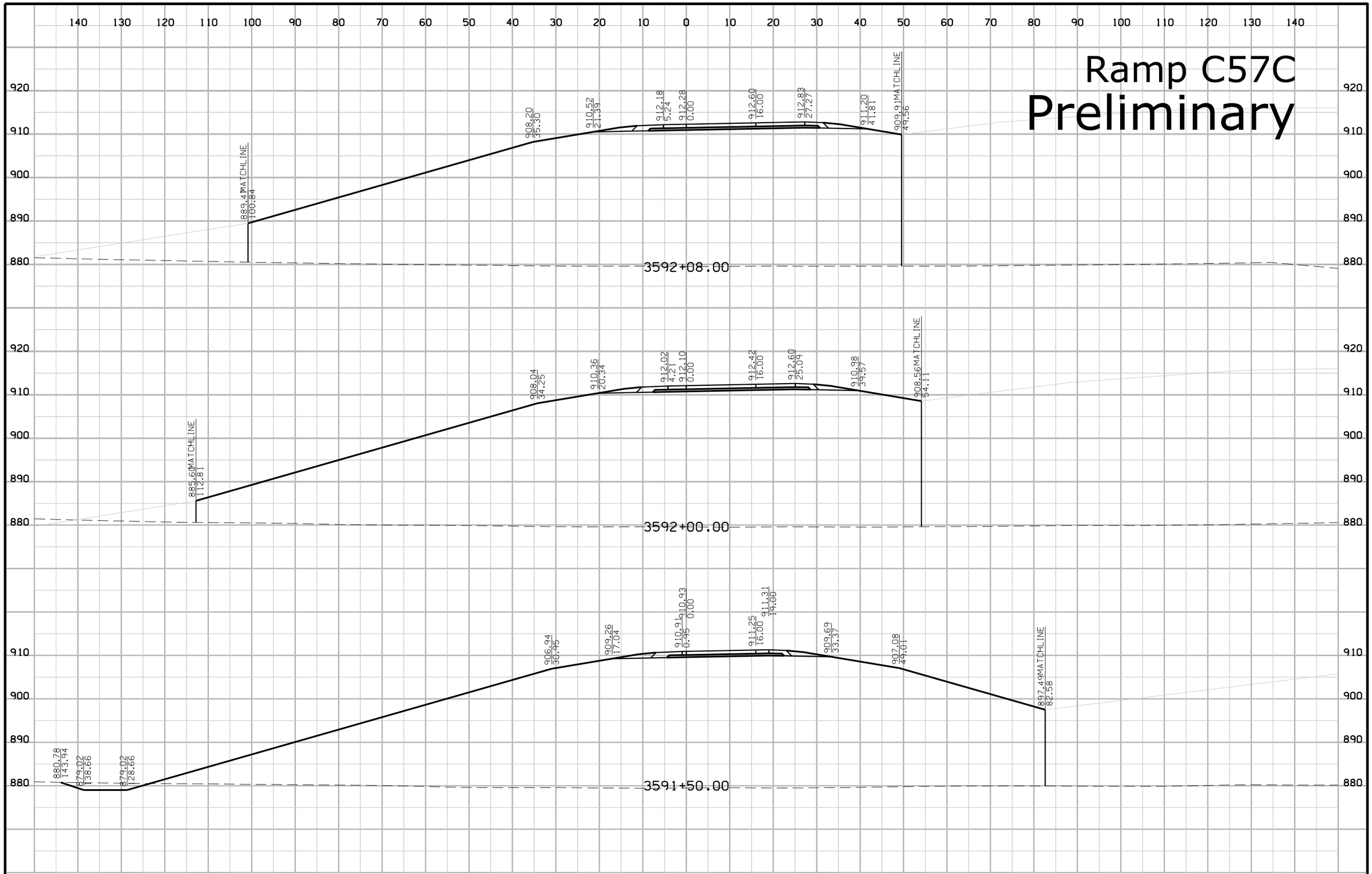
Ramp C57C
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.29

9:29:19 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57C
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.30

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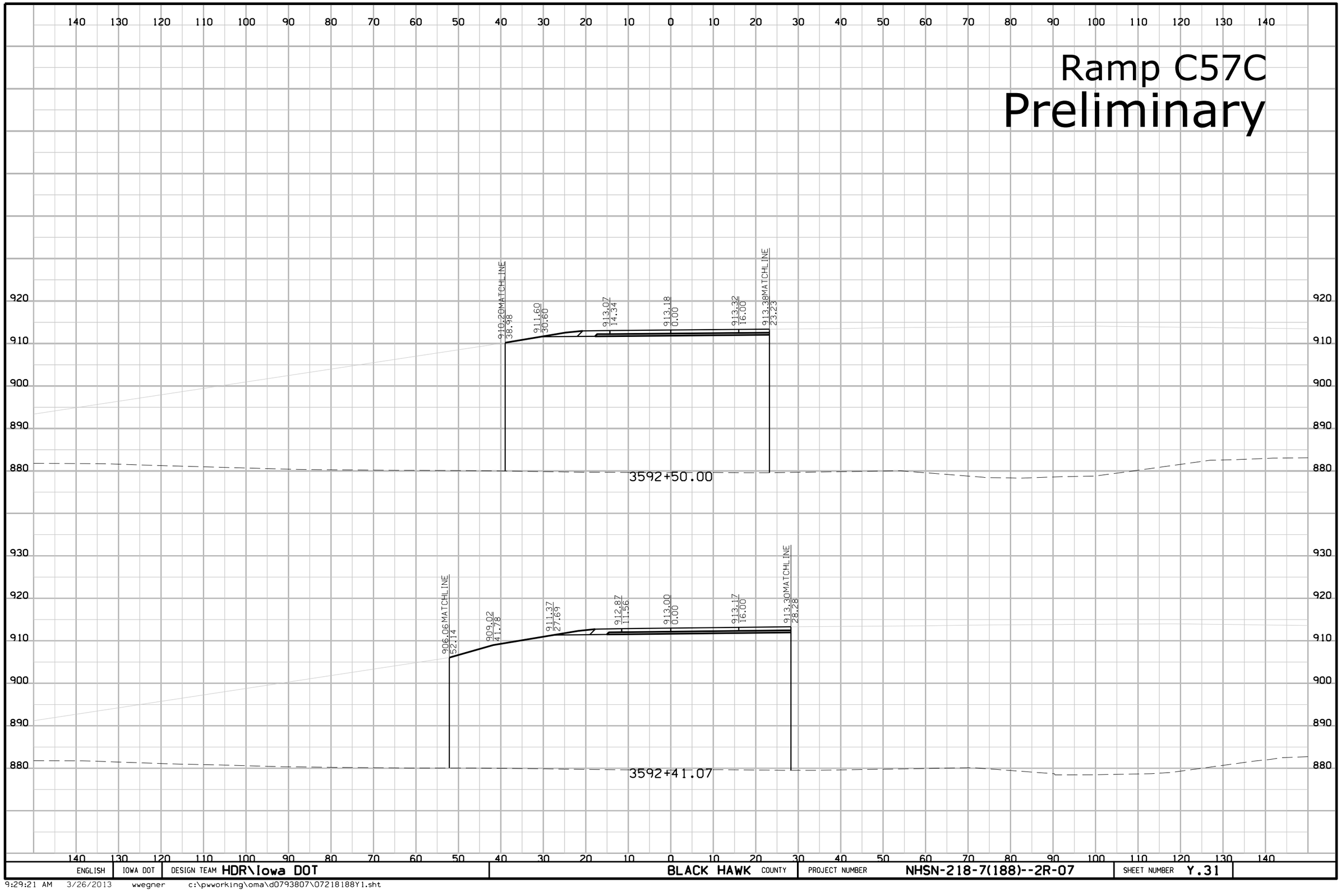
Ramp C57C

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.31

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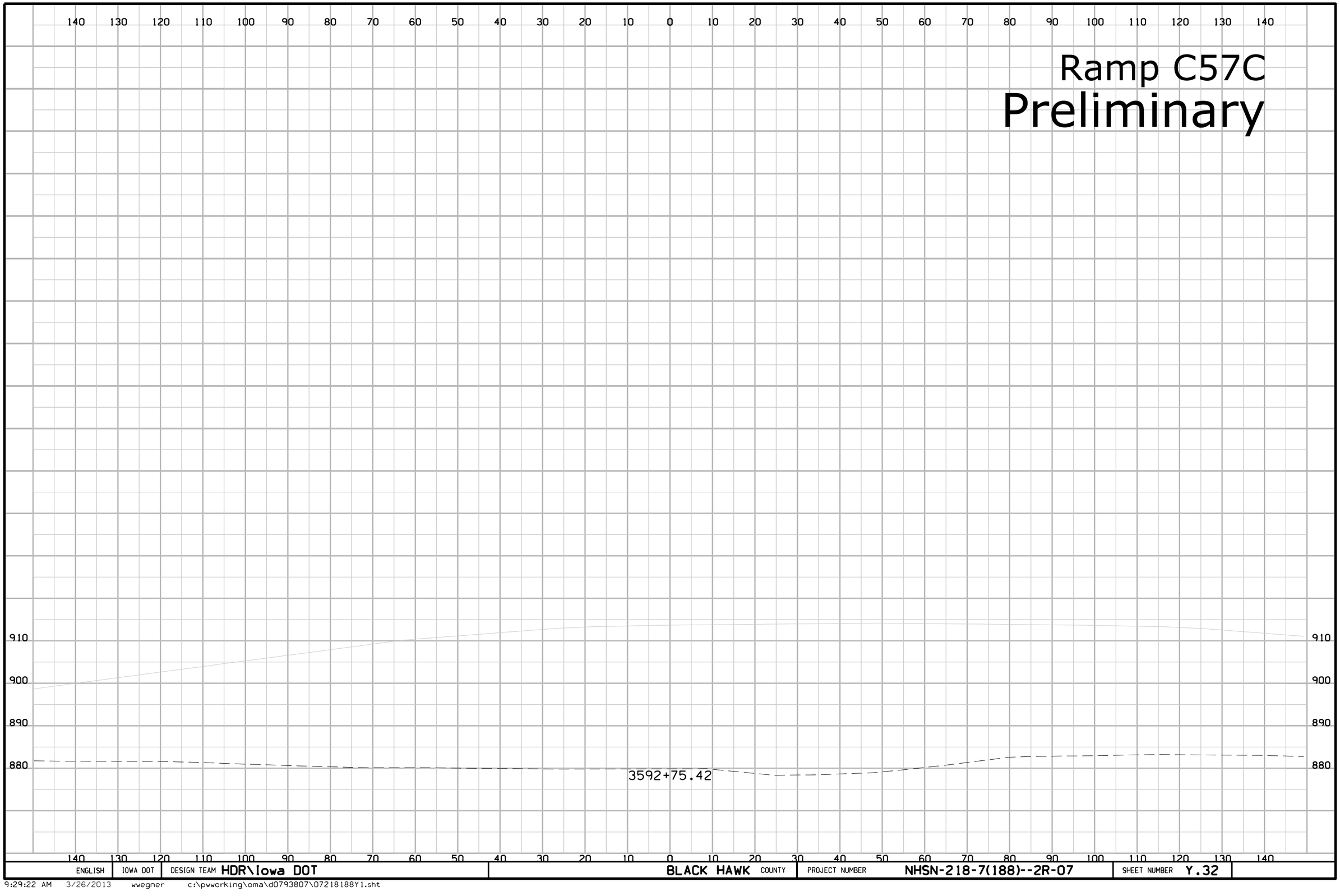
Ramp C57C

Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.32

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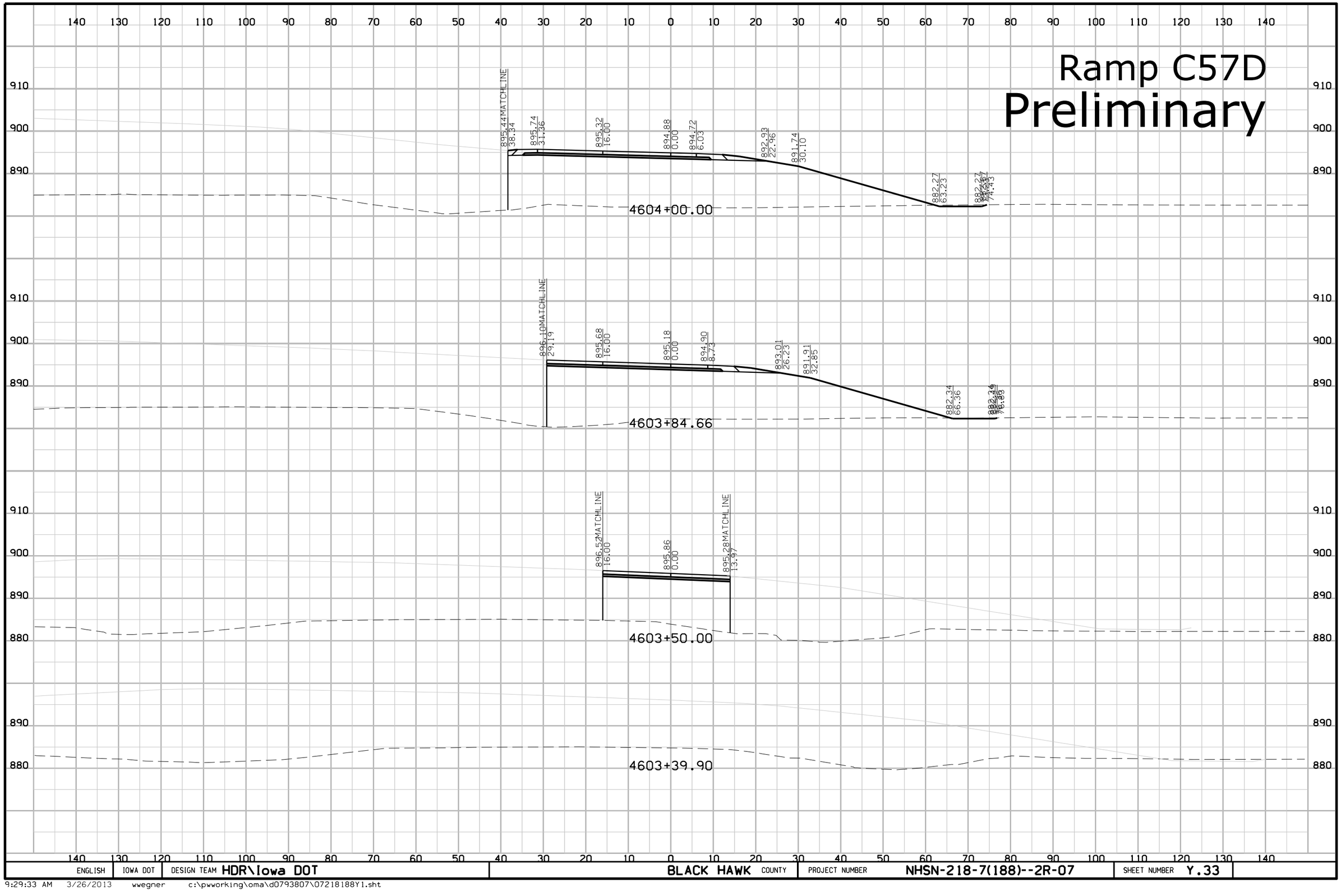
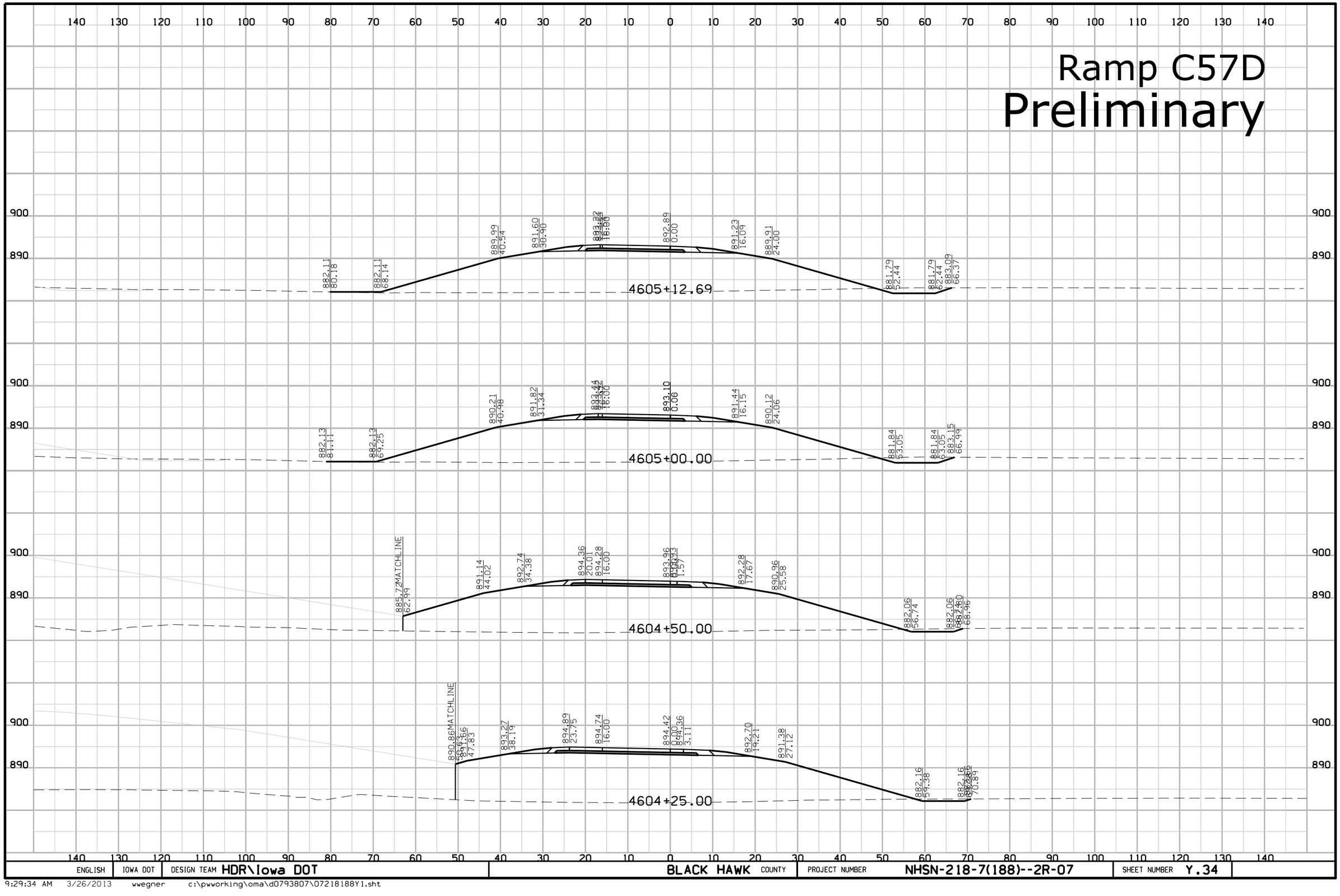
Ramp C57D
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.33

9:29:33 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57D
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.34

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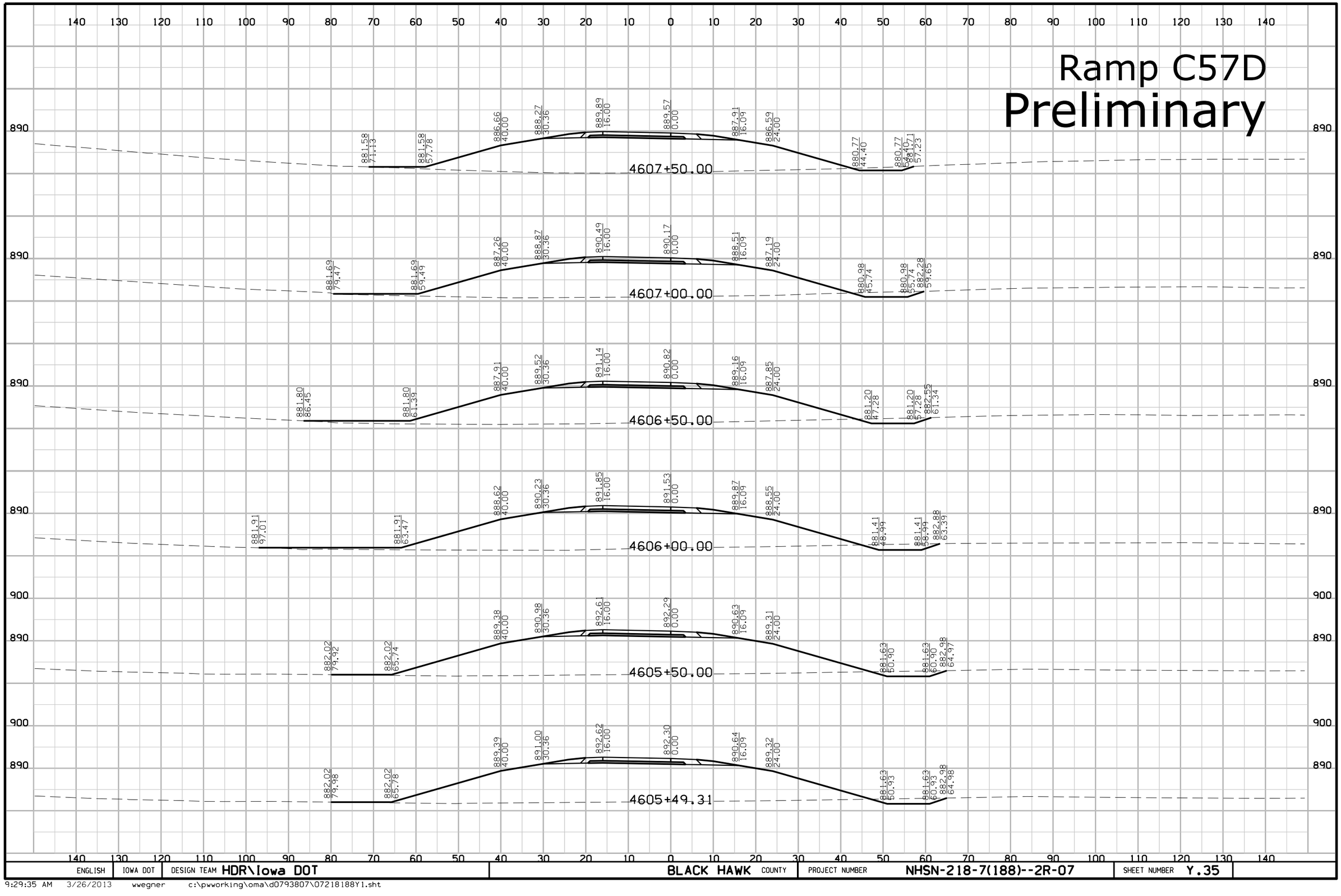
Ramp C57D
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.35

9:29:35 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57D
Preliminary

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

890
880

888.98
85.23
880.92
61.06
880.92
51.06
884.08
40.00
885.69
30.36
887.31
16.00
886.99
0.00
885.33
16.09
884.01
24.00
881.07
34.28
881.01
44.28

4610+50.00

887.28
80.69
881.03
61.93
881.03
51.93
884.44
40.00
886.04
30.36
887.66
16.00
887.34
0.00
885.69
16.09
884.37
24.00
880.63
37.08
880.63
41.74

4610+00.00

885.11
74.70
881.14
62.80
881.14
52.80
884.80
40.00
886.40
30.36
888.02
16.00
887.70
0.00
886.05
16.09
884.73
24.00
880.19
39.88
880.19
106.88

4609+50.00

883.24
69.73
881.25
63.76
881.25
53.76
885.18
40.00
886.79
30.36
888.41
16.00
888.09
0.00
886.43
16.09
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24.00
880.12
41.48
880.12
77.38

4609+00.00

882.36
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888.85
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888.53
0.00
886.87
16.09
885.55
24.00
880.34
42.27
880.34
61.35

4608+50.00

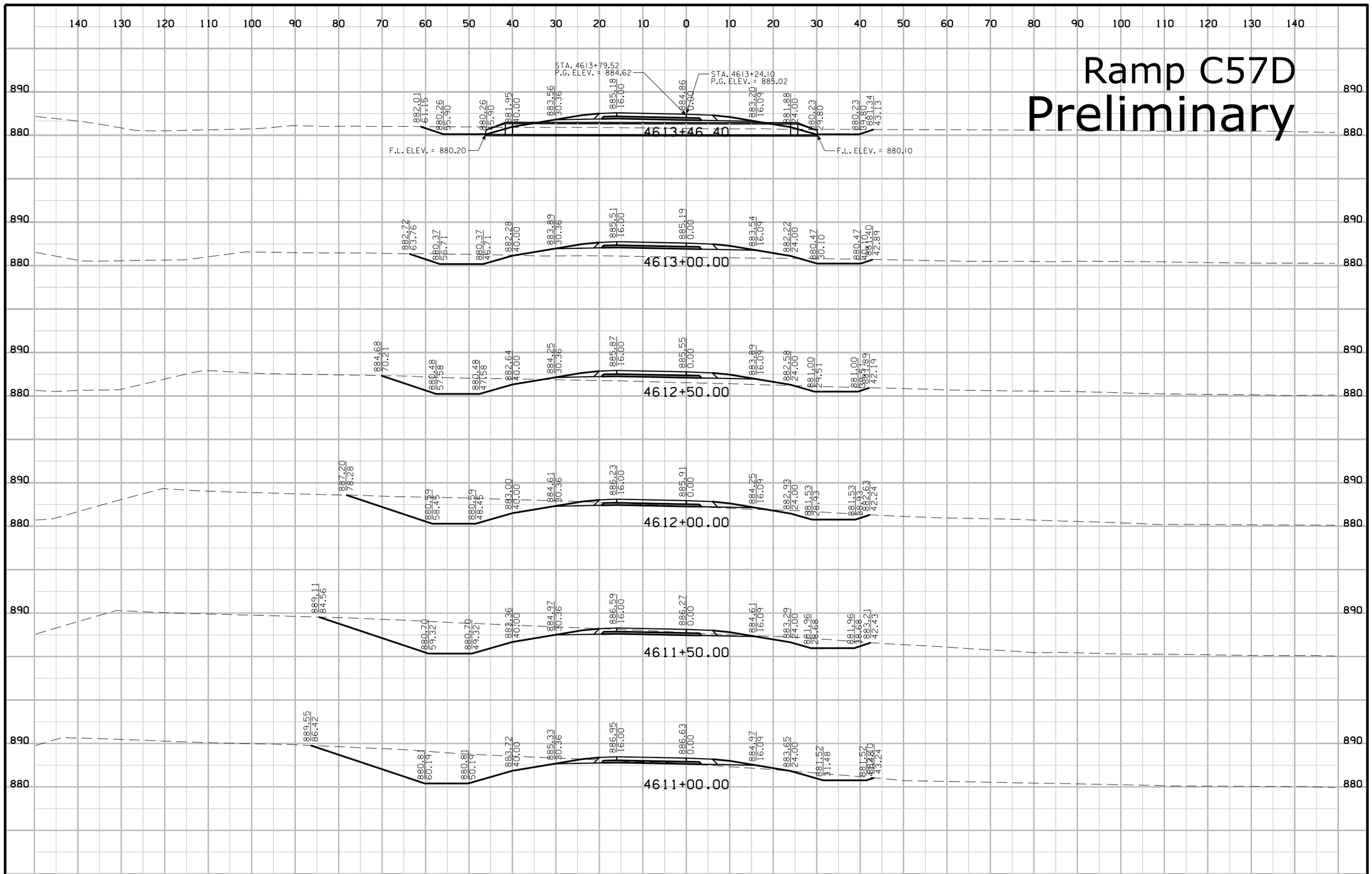
881.82
881.25
881.25
886.11
40.00
887.72
30.36
889.34
16.00
889.02
0.00
887.37
16.09
886.05
24.00
880.55
43.24
880.55
880.46
880.46
154.47

4608+00.00

ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.36

9:29:36 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

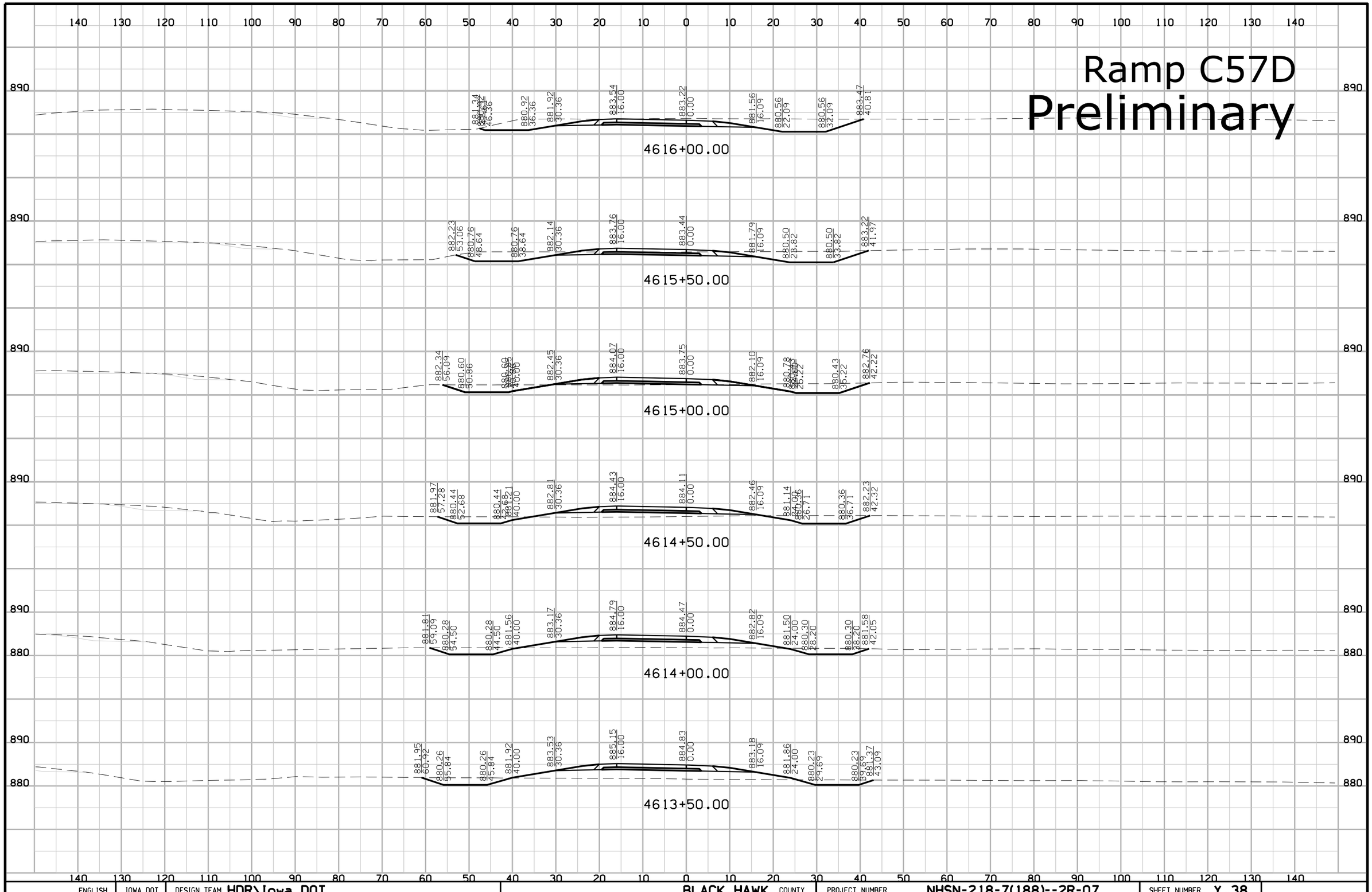
Ramp C57D
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.37

9:29:38 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57D
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.38

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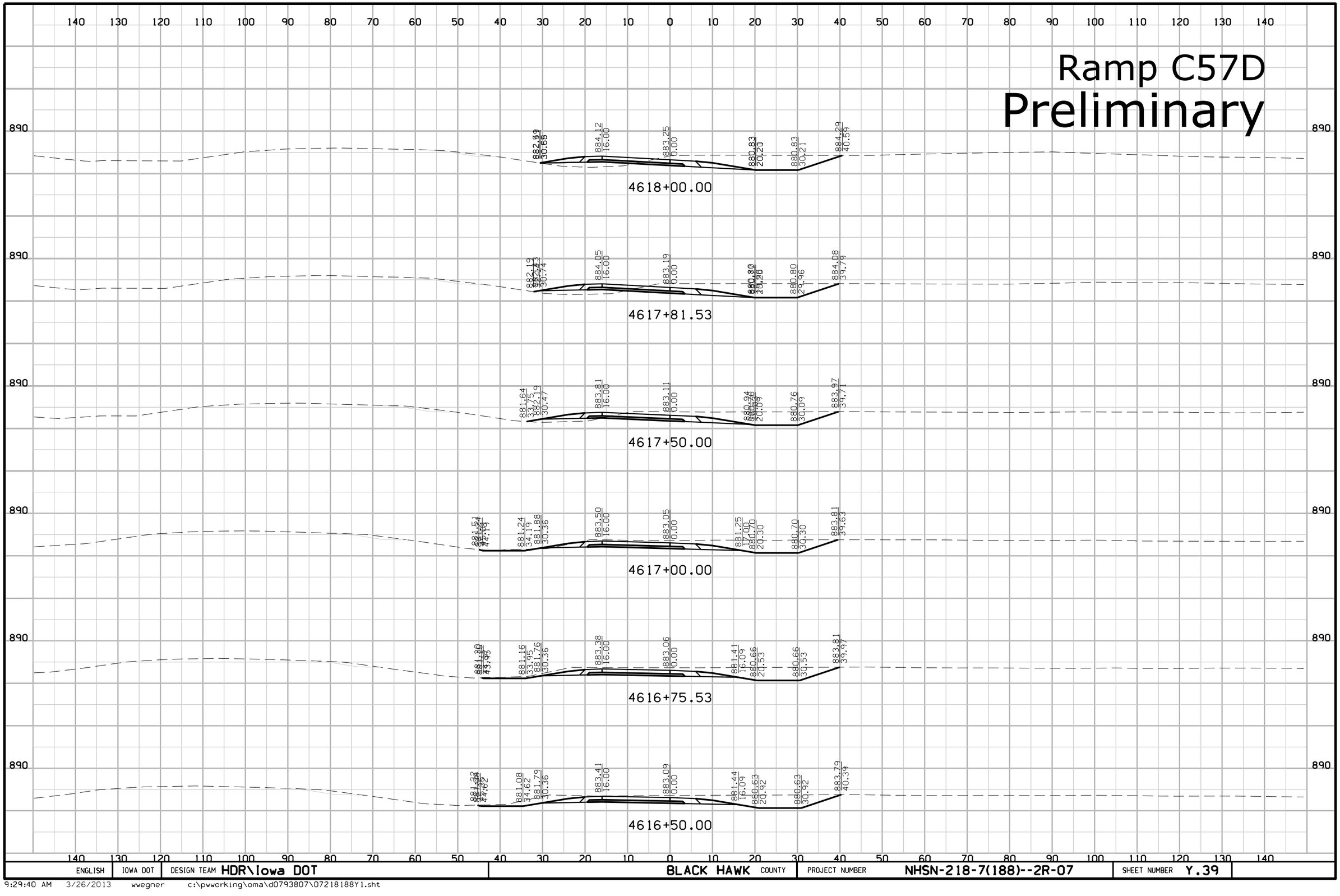
Ramp C57D

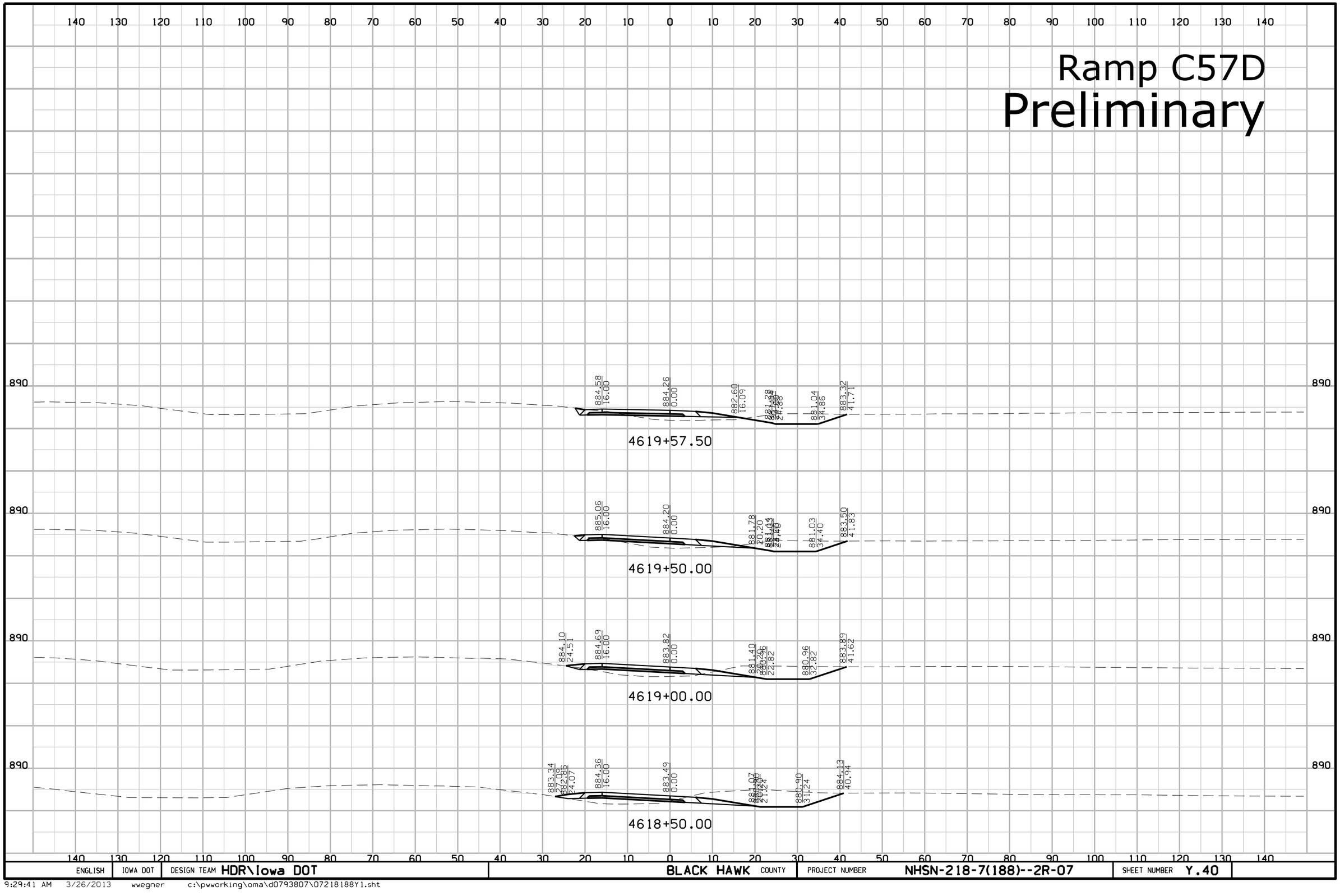
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.39

9:29:40 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht

Ramp C57D
Preliminary



ENGLISH	IOWA DOT	DESIGN TEAM HDR\Iowa DOT	BLACK HAWK COUNTY	PROJECT NUMBER NHSN-218-7(188)--2R-07	SHEET NUMBER Y.40

9:29:41 AM 3/26/2013 wwegner c:\pwworking\oma\d0793807\07218188Y1.sht