



Iowa Department of Transportation

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM DICKINSON COUNTY

UNKNOWN PAVEMENT-GRADE AND REPLACE IA 86 From 1 mile S To Just N. of Minnesota State Line

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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



1-800-292-8989
www.iowaonecall.com



REVISIONS

TOTAL

124

PROJECT IDENTIFICATION NUMBER

07-30-086-010

PROJECT NUMBER

HSIPX-086-1(8)--3L-30

R.O.W. PROJECT NUMBER

STPN-086-1(9)--2J-30

INDEX OF SHEETS

105-3

10-18-05

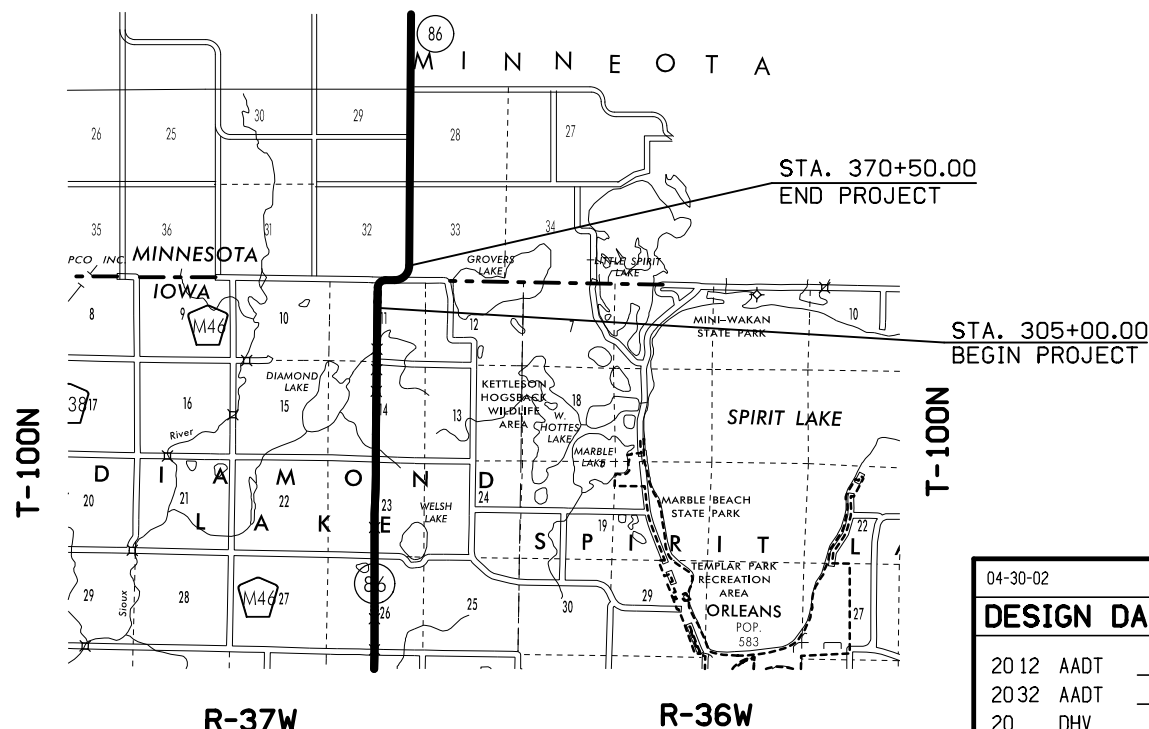
No.	Description
A.1	Title Sheet
A.2	Legend Sheet
B.1 - B.6	Typical Cross Sections
C.4	Points of Access Tabulation
D.1 - D.4	Plan and Profile Sheets - Mainline
E.1 - E.4	Plan and Profile Sheets - Sideroads and Entrances
G.1 - G.4	Reference Ties and Benchmarks
W.1 - W.77	Mainline Cross Sections
X.1 - X.28	Side Road Cross Sections

MILEAGE SUMMARY

105-1

09-27-94

Div.	Location	Lin. Ft.	Miles
1	Rural Dickinson County: Sta. 305+00.00 to Sta. 370+50.00	6,550.00	1.24
	Total Length of Project	6,550.00	1.24

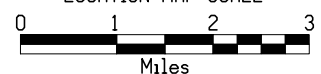


04-30-02 101-4

DESIGN DATA RURAL

2012 AADT	2100	V.P.D.
2032 AADT	3300	V.P.D.
20 DHV		V.P.H.
TRUCKS	15 %	
Total		
Design ESALs		

LOCATION MAP SCALE



PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: 2-11-11

LETTING DATE
08-21-2012

UNKNOWN PAVEMENT-GRADE AND REPLACE
HSIPX-086-1(8)--3L-30

DICKINSON CO.

ENGLISH

IOWA DOT

DESIGN TEAM J1a\Strum\Altenhofen

DICKINSON COUNTY

PROJECT NUMBER

HSIPX-086-1(8)--3L-30

SHEET NUMBER

A.1

STANDARD SYMBOLS

	Interstate Highway Symbol		Septic Tank
	U.S. Highway Symbol		Cistern
	Iowa Highway Symbol		L.P. Gas Tank (No Footing)
	County Road Highway Symbol		Underground Storage Tank
	Evergreen Tree		Latrine
	Deciduous Tree		Luminaire
	Fruit Tree		Traffic Signal
	Shrub (Bushes)		Traffic Signal with Luminaire
	Timber		Telephone Pedestal
	Hedge		Television Pedestal
	Stump		Telephone Pole
	Swamp		Telephone Pole (Second Company)
	Rock Outcrop		Telephone Pole (Third Company)
	Broken Concrete		Telephone Pole (Fourth Company)
	Revetment (Rip Rap)		Telephone Pole (Fifth Company)
	Cemetery		Power Pole
	Grave		Power Pole (Second Company)
	Cave		Power Pole (Third Company)
	Sink Hole		Power Pole (Fourth Company)
	Board Fence		Power Pole (Fifth Company)
	Chain Link or Security Fence		Electrical Highline Tower (Metal or Concrete)
	Wire Fence		Telephone Riser Pole
	Terrace		Power Riser Pole
	Earth Dam or Dike (Existing)		Telegraph Pole
	Earth Dam or Dike (Proposed)		Satellite TV Dish
	Tile Outlet		Existing Water Line
	Edge of Water		Existing Water Line (Second Company)
	Existing Drainage		Existing Sanitary Sewer Line
	Proposed Drainage		Existing Telephone Line
	Right of Way Rail or Lot Corner		Existing Telephone Line (Second Company)
	Concrete Monument		Existing Fiber Optics Telephone Line
	Well		Existing Storm Sewer Line
	Windmill		Existing Gas Line
	Beehive Intake		Existing High Pressure Gas Line
	Existing Intake		Existing Gas Line (Second Company)
	Proposed Intake		Existing High Pressure Gas Line (Second Company)
	Existing Utility Access (Manhole)		Existing Power Line
	Proposed Utility Access (Manhole)		Existing Power Line (Second Company)
	Fire Hydrant		Cable Television Line
	Water Hydrant (Rural)		

	Guardrail (Beam or Cable)
	Guard Post (one or two)
	Guard Post (over two)
	Filler Pipe
	Gas Valve
	Water Valve
	Speed Limit Sign
	Mile Marker Post
	Sign
	Water Hook Up
	Radio Tower
	Tower Anchor
	Electric Box
	Traffic Signal Control Box
	Rail Road Signal Control Box
	Telephone Switch Box

	Shading - Proposed Paved Surface
	Shading - Proposed Granular Surface
	Shading - Other, with identification
	Shading - Clearing & Grubbing Area

IOWA 1-CALL# 1-800-292-8989

UTILITY LEGEND

	Alliant Energy
	Iowa Lakes Electric
	Osceola County Rural Water
	Alliant Energy
	IDOT
	Mediacom
	Mediacom
	Quest Local Net
	Quest Local Net
	McLeod
	McLeod Network Service
	Knology
	Long Line Wireless Network
	Buried Fuel Line
	Iowa Great Lakes Sanitation District

UNIQUE SYMBOLS FOR THIS PROJECT

CPP - Corrugated Plastic Pipe

RIGHT OF WAY LEGEND

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

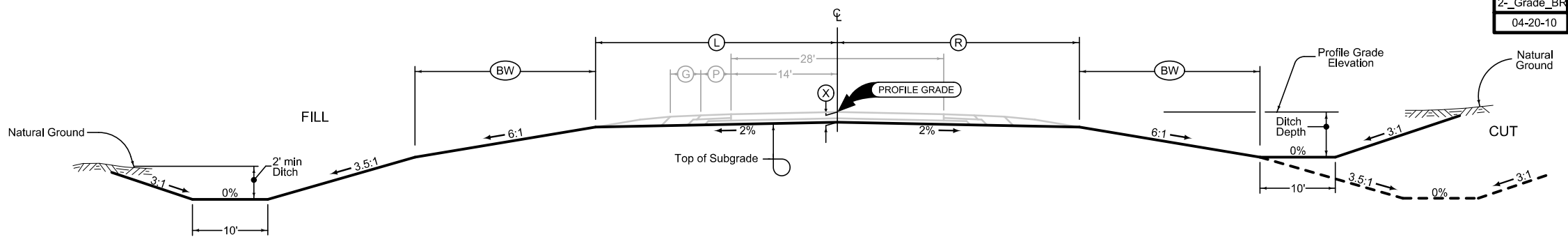
CONVENTIONAL SIGNS

	Survey Line
	Section Corner
	Proposed Profile Grade
	Railroad
	Field Tile
	Culverts
	Stream

Legend And Symbol Information Sheet

(Symbols are Typical Only)

LOCATION		DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION		(L)	(R)	(X)	(BW)
			Feet	Feet	Inches	Feet
IA 86	305+00.00	360+60.99	29.8	29.8	15.5	19.7



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)**

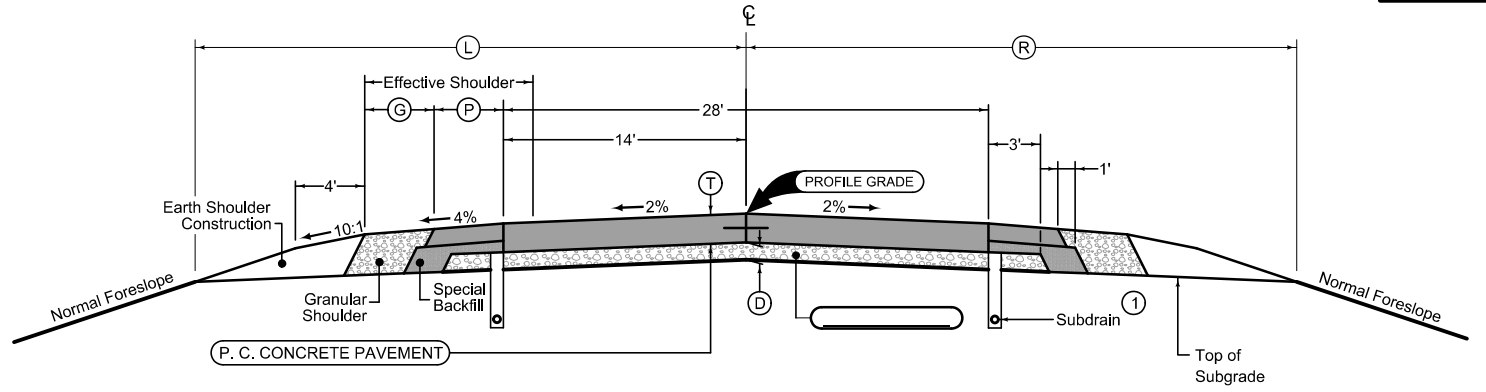
2-Grade_BR
04-20-10

LOCATION		MAINLINE				SHOULDER		
ROAD IDENTIFICATION	STATION TO STATION		(T)	(D)	(L)	(R)	(P)	(G)
			Inches	Inches	Feet	Feet	Feet	Feet
IA 86	305+00.00	360+60.99	9.5	6	29.8	29.8	4	4

Dimensions are symmetrical about the centerline.

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

① Refer to RF-19C.



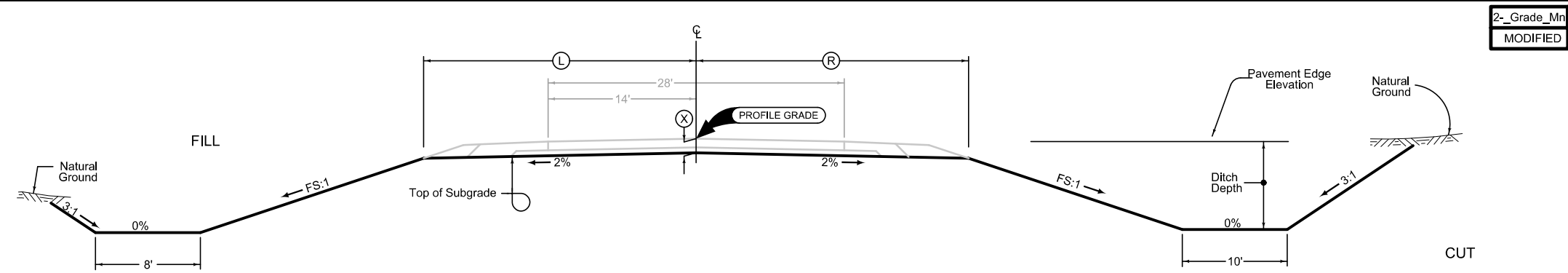
2-LANE PCC PAVING (Composite Shoulders)

2P_C-C
04-20-10

HMA Shoulder:
6" uniform thickness
Longitudinal joint: B

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

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	FS
MN 86	360+60.99	370+50.00	28.8	28.8	15.5	4:1



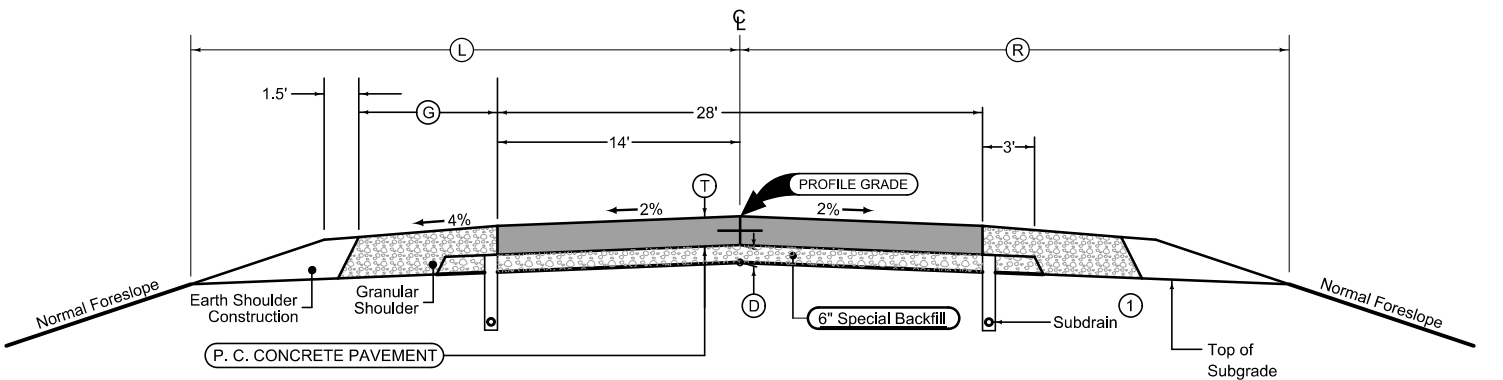
2 LANE GRADING - Minnesota

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

2-Grade_Mn
MODIFIED

LOCATION			MAINLINE					SHLDR
ROAD IDENTIFICATION	STATION TO STATION		(T) Inches	(D) Inches	(L) Feet	(R) Feet	(G) Feet	
MN 86	360+60.99	370+50.00	9.5	6	28.8	28.8	6	

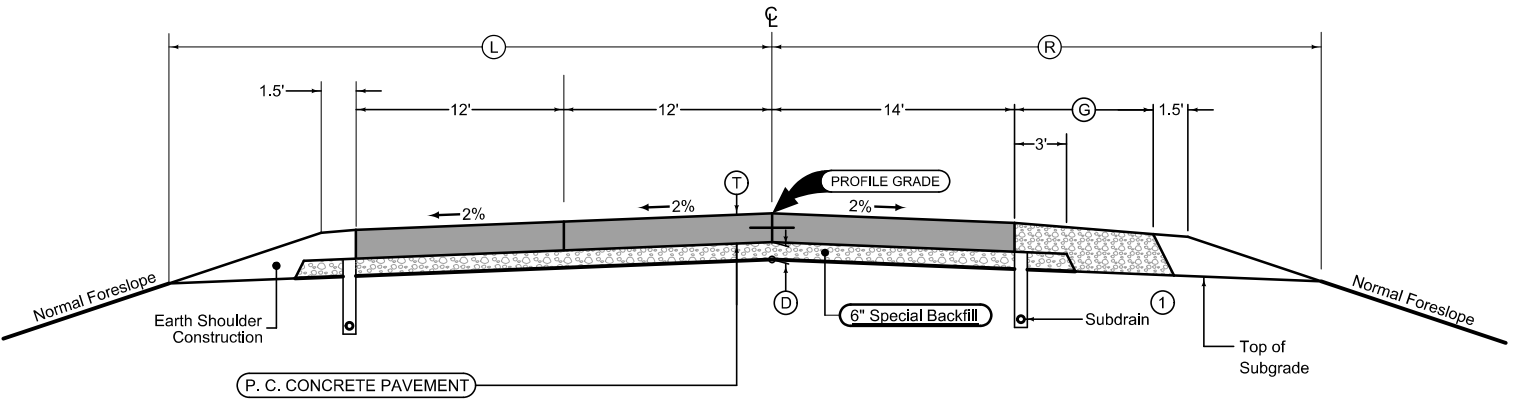
Dimensions are symmetrical about the centerline.
Normal sections shown may be appropriately modified for areas specifically designated by the Engineer such as intersections or super-elevated curves.
① Refer to RF-19C.
Mainline Pavement:
Transverse joints: CD at 15' spacing
Longitudinal joint: L-2



2-LANE PCC PAVING - Minnesota (Granular Shoulders)

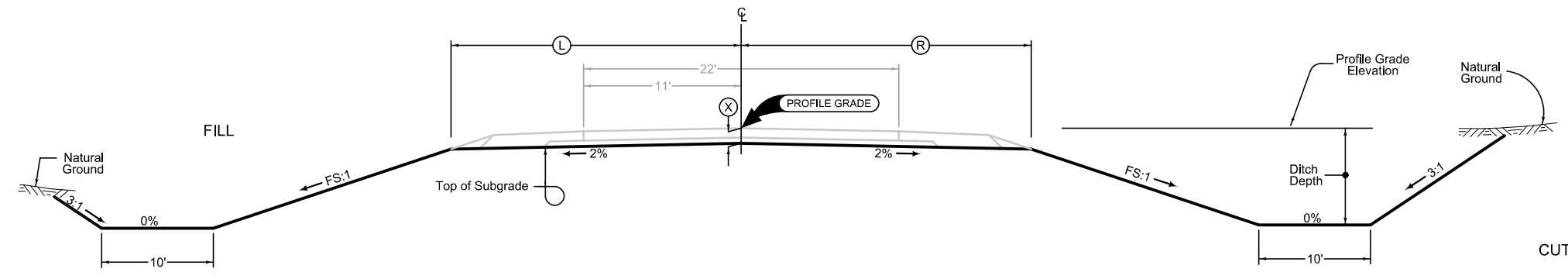
2P_G-G
MODIFIED

LOCATION			MAINLINE					SHLDR
ROAD IDENTIFICATION	STATION TO STATION		(T) Inches	(D) Inches	(L) Feet	(R) Feet	(G) Feet	
MN 86	361+81.91	367+50.00	9.5	6	33.4	28.8	6	



**2-LANE PCC PAVING WITH TURN LANE
Minnesota (Granular Shoulders)**

LOCATION		DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION	(L) Feet	(R) Feet	(X) Inches	FS
"Old" IA 86	1329+46.11 1339+65.00	19.0	19.0	15.5	3:1



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

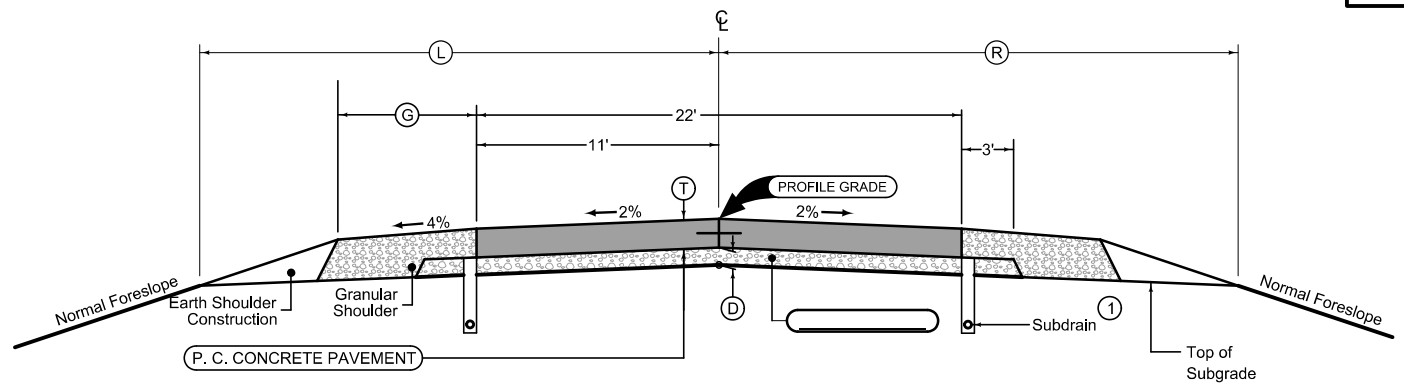
2-Grade
MODIFIED

LOCATION		MAINLINE					SHLDR
ROAD IDENTIFICATION	STATION TO STATION	(T) Inches	(D) Inches	(L) Feet	(R) Feet	(G) Feet	
"Old" IA 86	1329+46.11 1339+65.00	9.5	6	19.0	19.0	4	

Dimensions are symmetrical about the centerline.

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

① Refer to RF-19C.

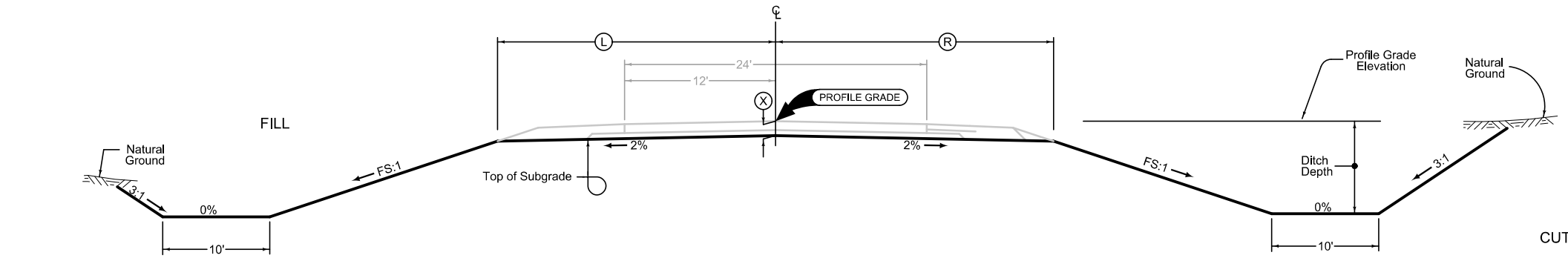


Mainline Pavement:
Transverse joints: CD at 20' spacing
Longitudinal joint: L-2

2-LANE PCC PAVING (Granular Shoulders)

2P_G-G
MODIFIED

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		Ⓛ Feet	Ⓡ Feet	Ⓧ Inches	FS
100th St	6351+50.00	6360+46.98	21.9	21.9	15.5	3:1



2-Grade
MODIFIED

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

2 LANE GRADING

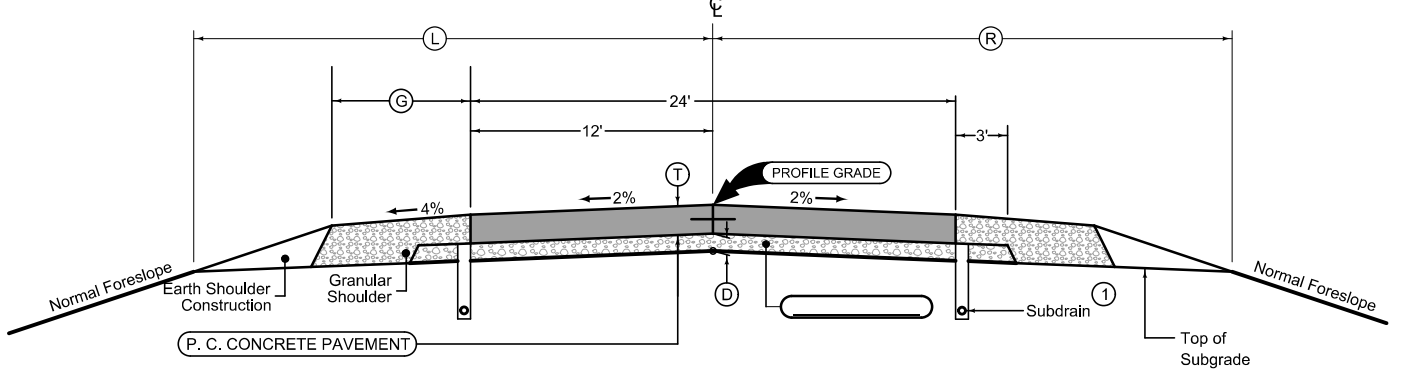
See plan & profile sheets and cross sections for additional details of ditches and backslopes.

LOCATION			MAINLINE					SHLDR
ROAD IDENTIFICATION	STATION TO STATION		Ⓣ Inches	ⓓ Inches	Ⓛ Feet	Ⓡ Feet	ⓑ Feet	ⓖ Feet
100th St	6351+50.00	6360+46.98	9.5	6	21.9	21.9	6	

Dimensions are symmetrical about the centerline.

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

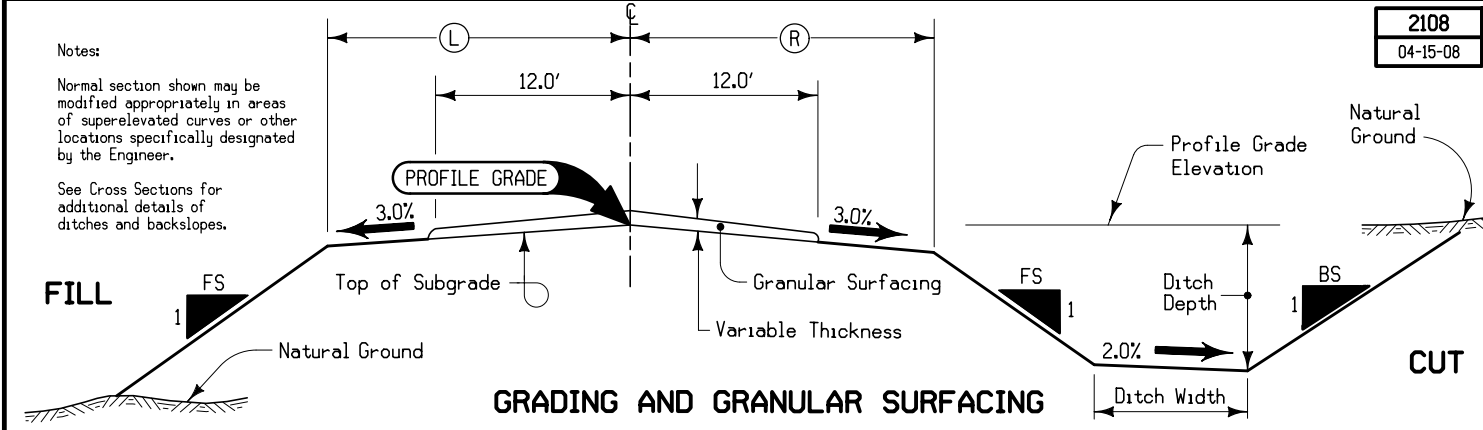
① Refer to RF-19C.



2P_G-G
MODIFIED

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

2-LANE PCC PAVING (Granular Shoulders)

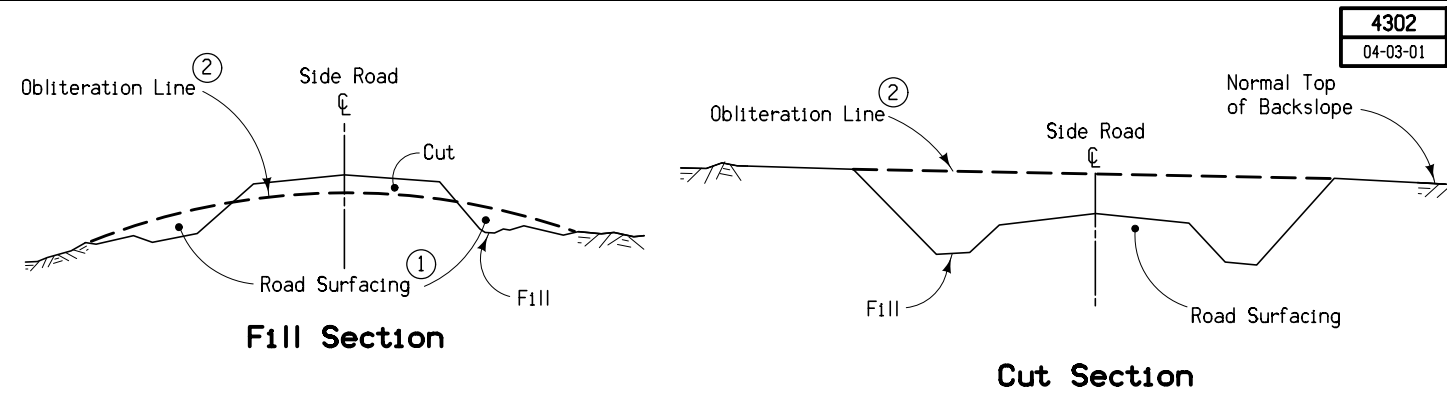


2108
04-15-08

Notes:
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.
See Cross Sections for additional details of ditches and backslopes.

Granular Surfacing shall be placed as follows:
Stage 1 (Grading) Design application rate is ___ tons per mile.
Stage 2 (Paving) Design application rate is ___ tons per mile.

ROAD IDENTIFICATION	LOCATION		DIMENSIONS		SLOPES	
	STATION TO STATION	STATION TO STATION	Ⓛ	Ⓡ	FS	BS
110th St	4311+93.82	4315+50.00	15	15	3	3
100th St	6360+78.99	6363+85.00	15	15	3	3



4302
04-03-01

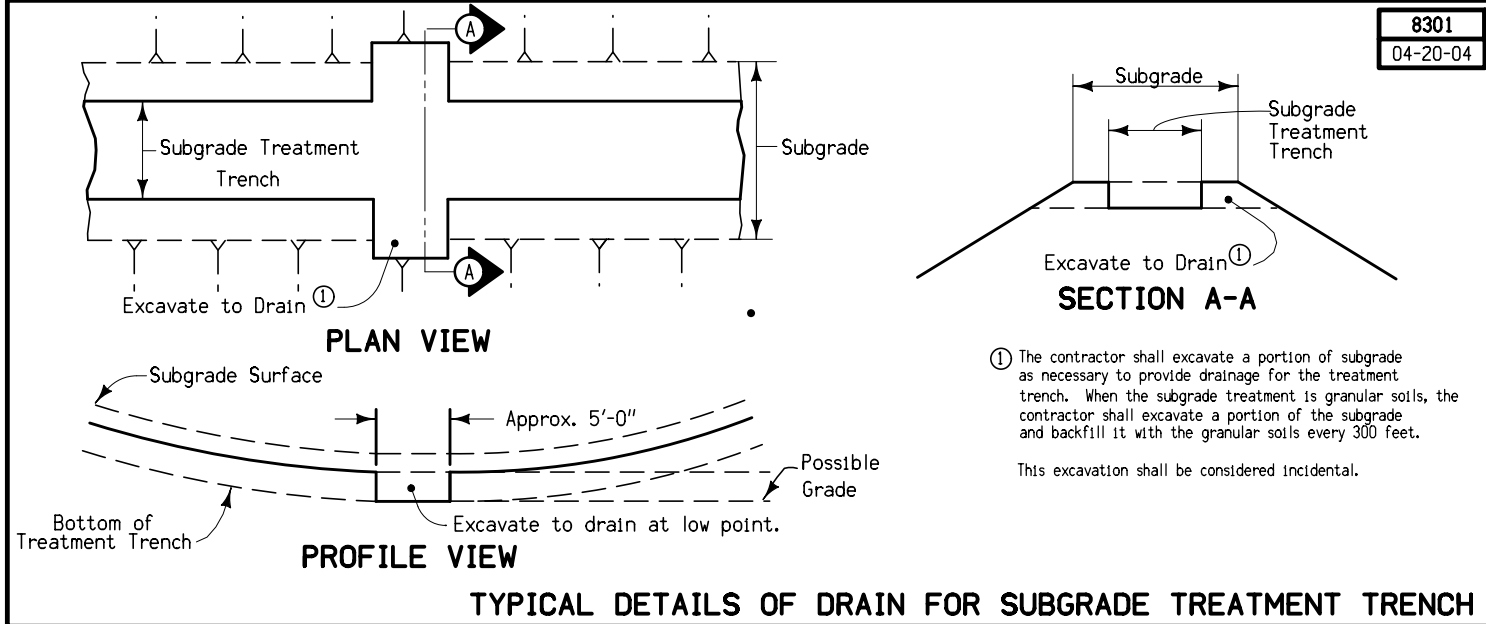
① Existing road surfacing (granular material) shall be placed as shown unless otherwise directed by the Engineer or provided for in the detail project plans.

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.

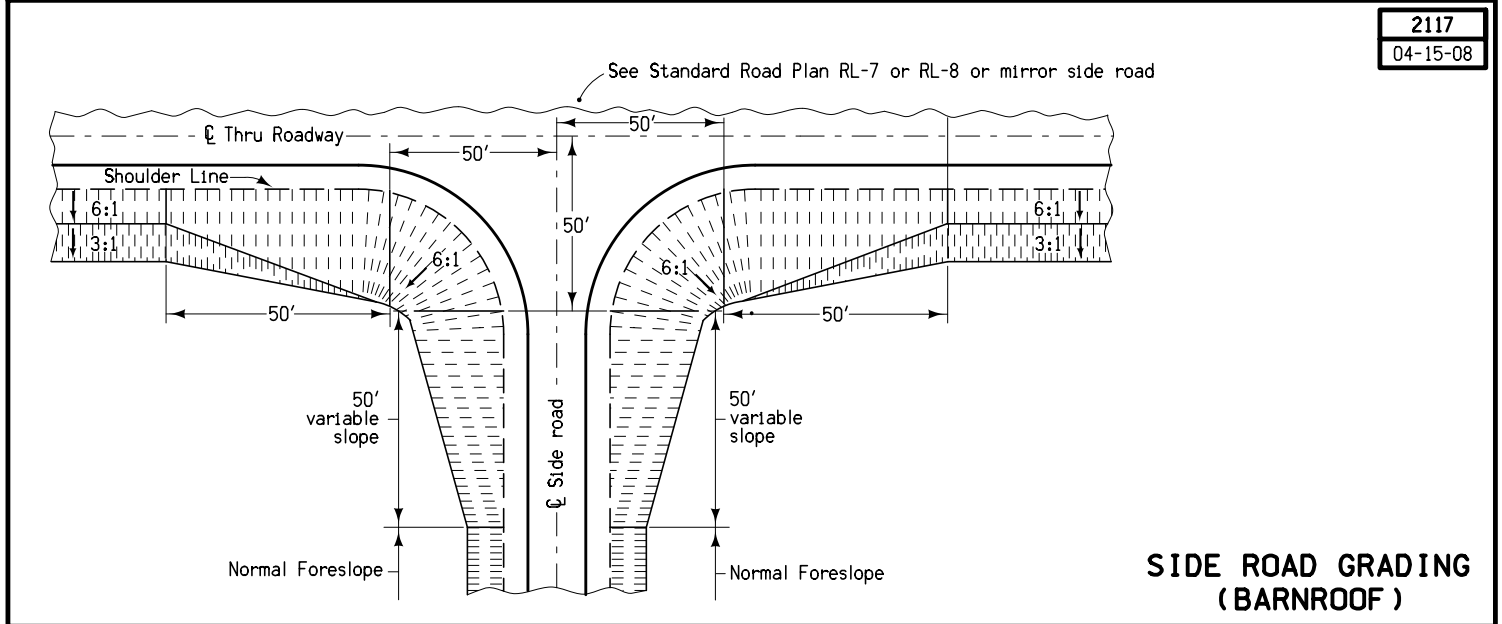
TYPICAL DETAILS FOR OBLITERATION EXISTING ROADBED

8301
04-20-04



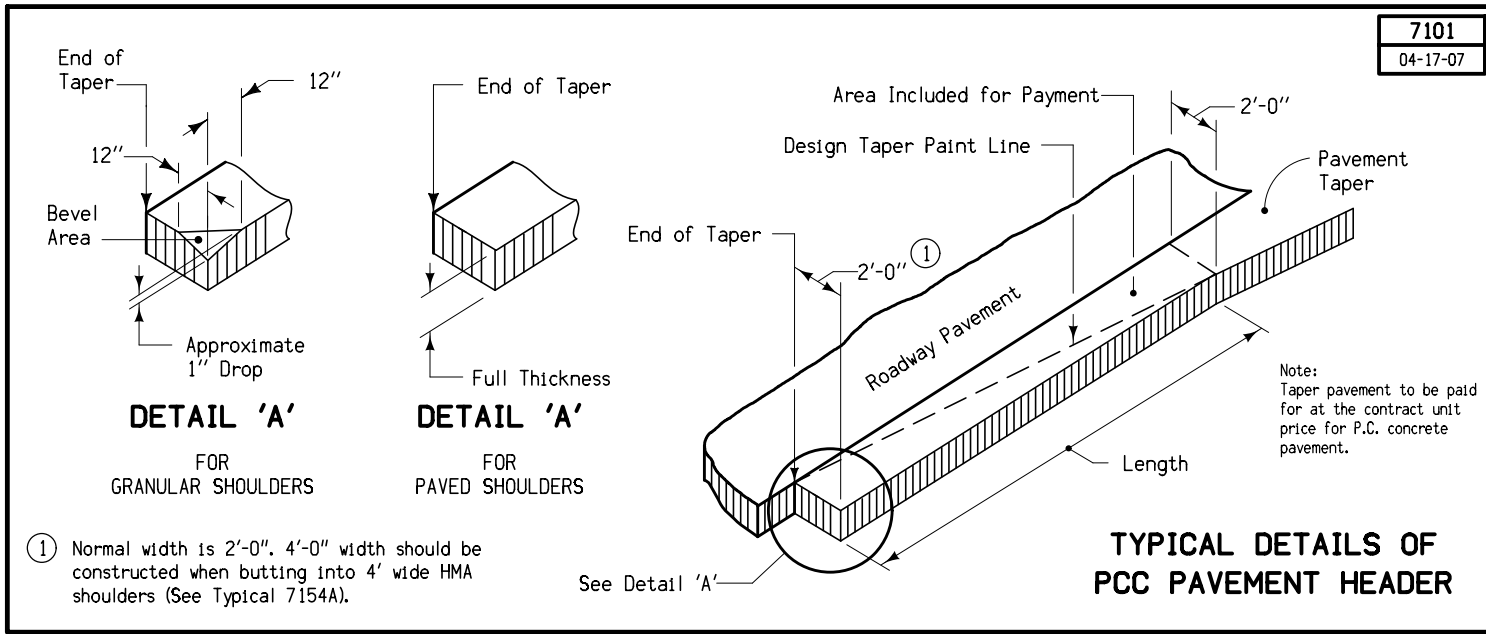
TYPICAL DETAILS OF DRAIN FOR SUBGRADE TREATMENT TRENCH

2117
04-15-08



SIDE ROAD GRADING (BARNROOF)

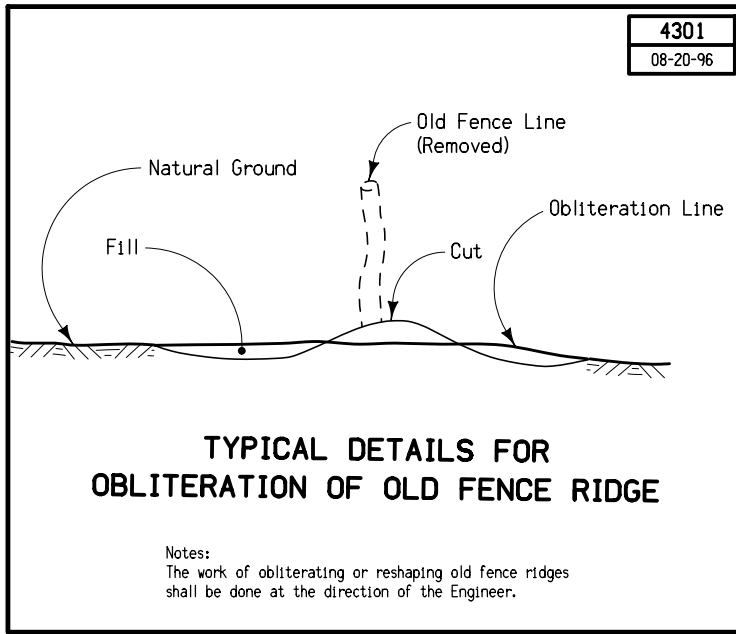
7101
04-17-07



TYPICAL DETAILS OF PCC PAVEMENT HEADER

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

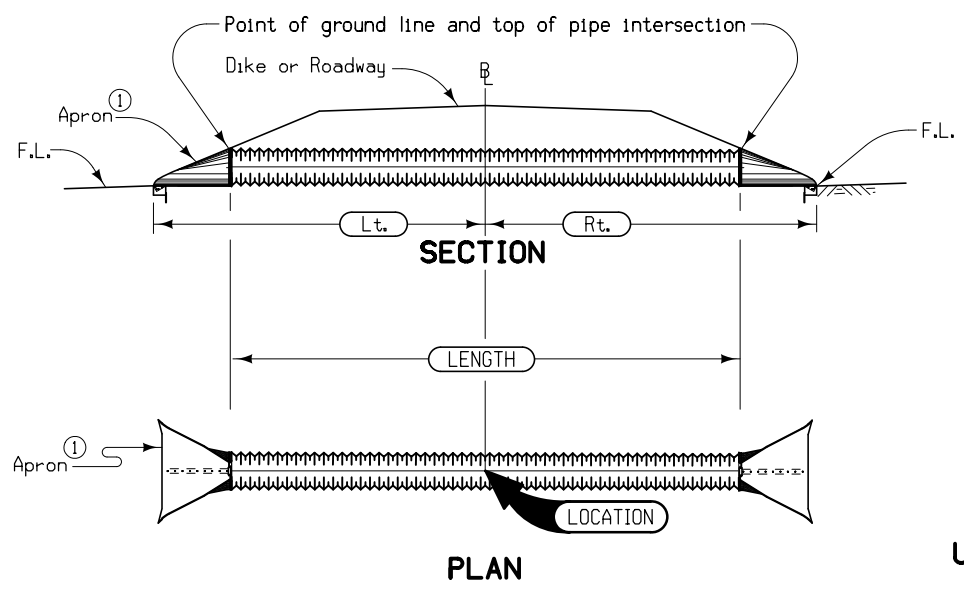
4301
08-20-96



TYPICAL DETAILS FOR OBLITERATION OF OLD FENCE RIDGE

Notes:
The work of obliterating or reshaping old fence ridges shall be done at the direction of the Engineer.

1601
04-21-09



Notes:
B.L. shall be C.L. 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 B.L. (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.

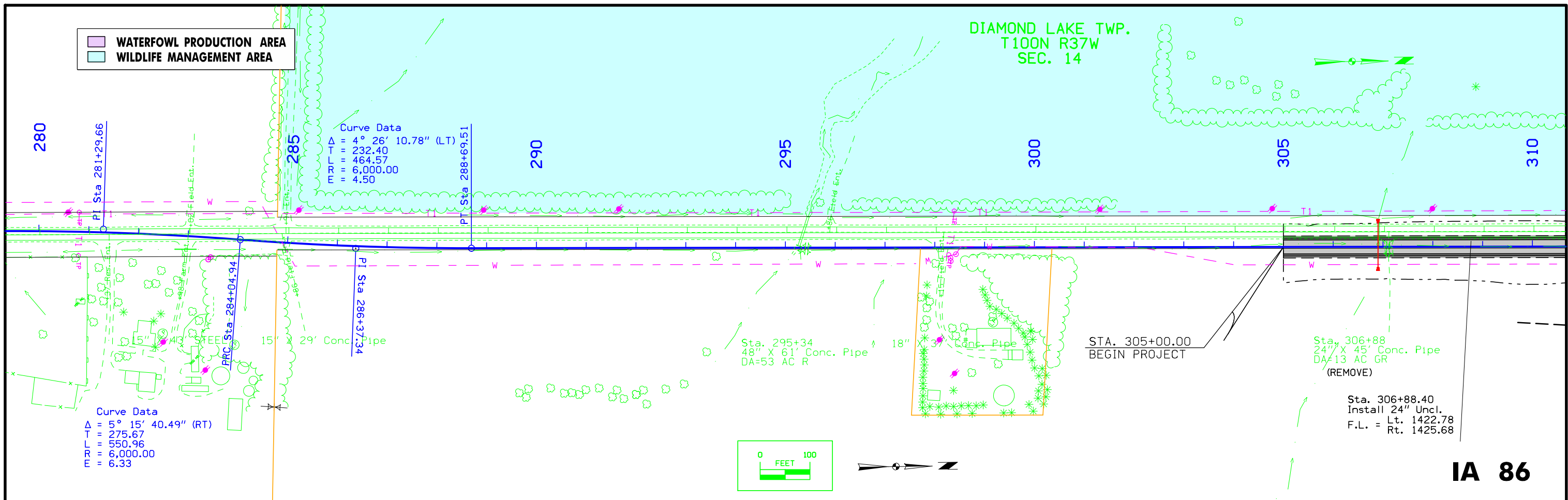
UNCLASSIFIED PIPE CULVERT

POINTS OF ACCESS

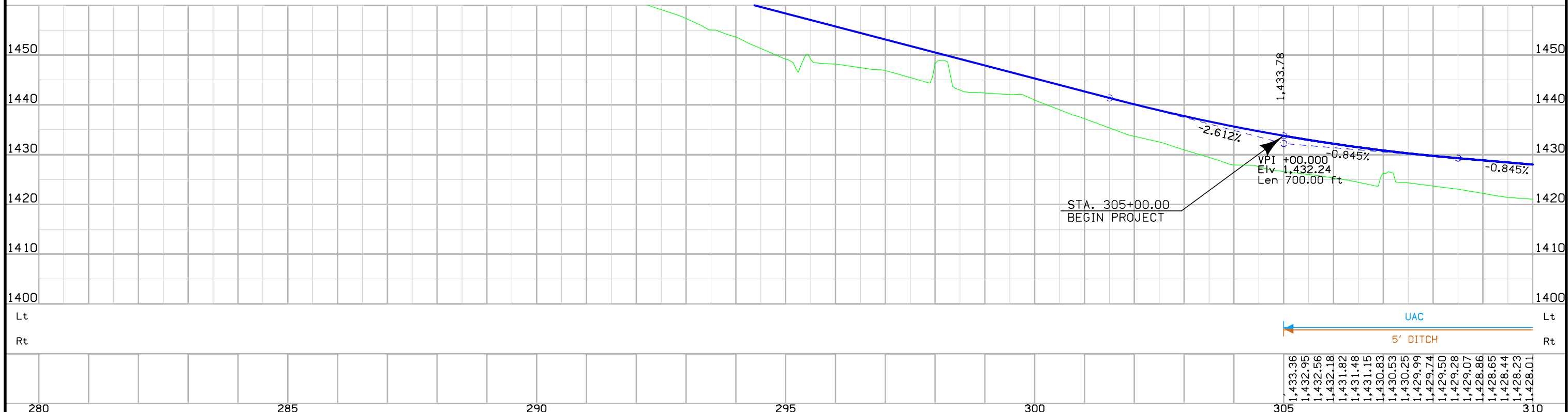
Refer to Cross-Sections

- ① Refer to MI-210
② Refer to RL-8 for Type B or C. Type A per plan.

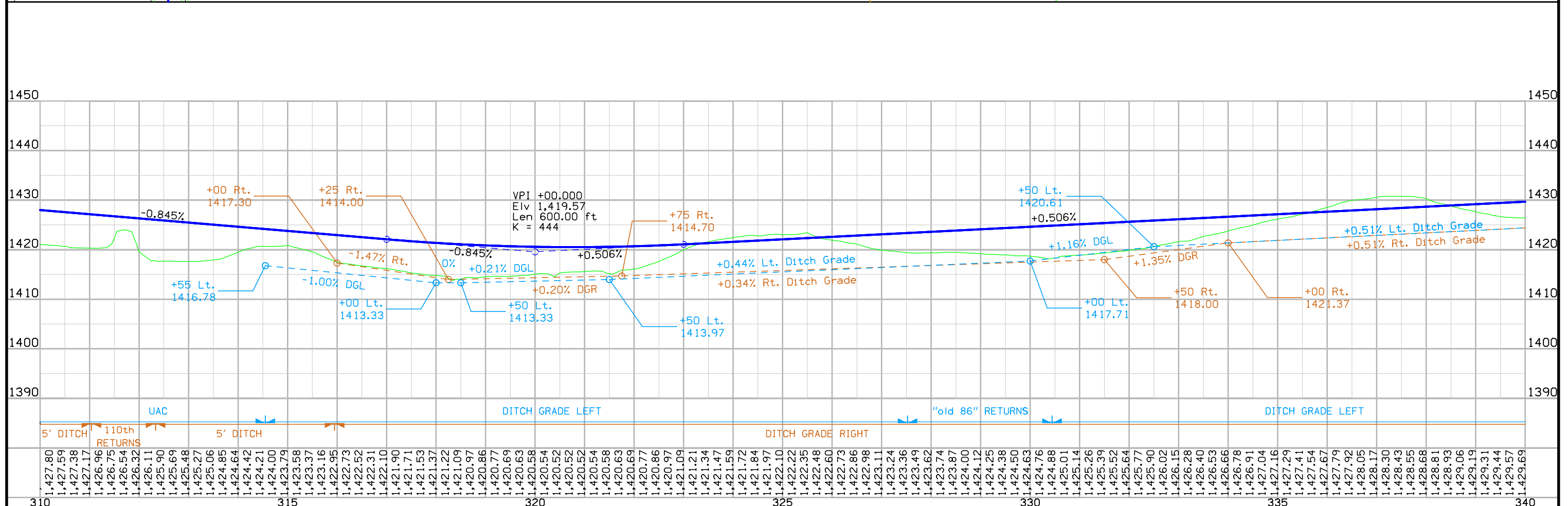
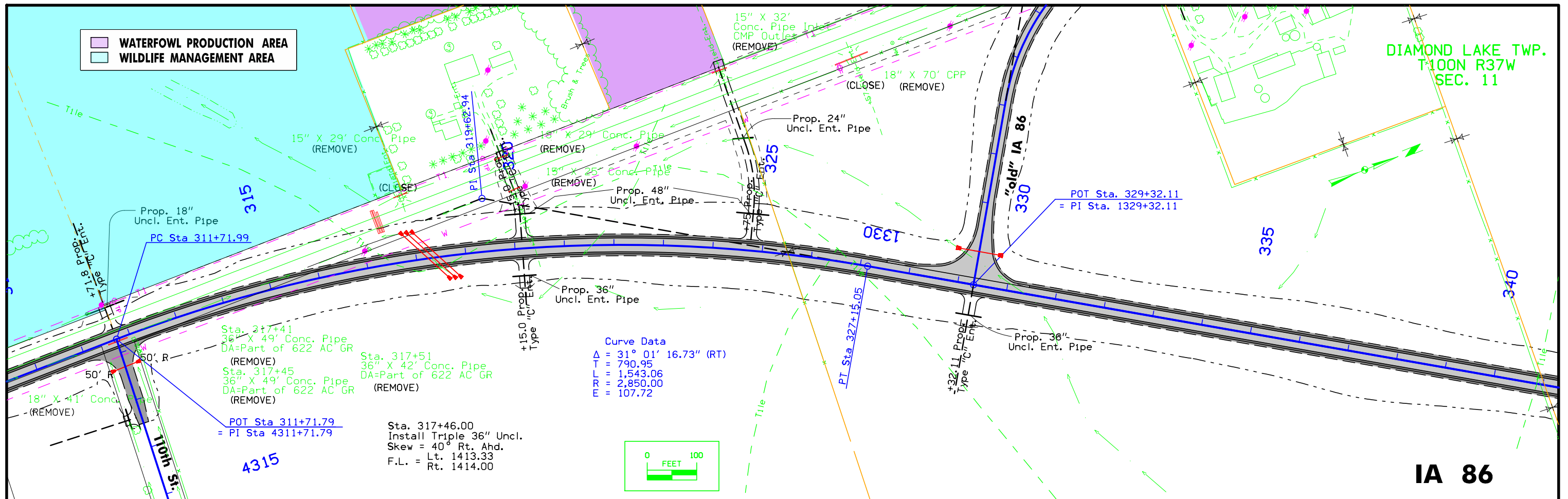
Location		Type ②	Length of Opening			W	PR ①	SR ②	Pipe Culvert (RF-30A or RF-30B)					Aprons	Driveway Surface Area		Driveway Surfacing Material	Remarks
Station	Side		Case ①	1 1/2" Dropped Curb	3" Dropped Curb				H	Size	Pipe Length	Lt. ②	Rt. ②		No.	HMA		
		A, B, or C	1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF		SY	SY	TON	
311+71.8	Lt.	C				24.0		15.0		18.0	76.0	39.5	41.7	2				
320+15.0	Lt.	C				20.0		15.0		48.0	45.0	29.9	29.1	2				
320+15.0	Rt.	C				20.0		15.0		36.0	37.0	24.0	23.5	2				
324+75.0	Lt.	C				20.0		15.0		48.0	49.0	32.4	30.7	2				
										24.0	30.0	19.1	17.9	2				
329+32.11	Rt.	C				24.0		15.0		36.0	41.0	26.3	25.2	2				
4313+35.0	Rt.	C				20.0		15.0		18.0	36.0	18.5	22.7	2				
1337+88.9	Lt.	C				20.0		15.0		18.0	54.0	36.9	22.3	2				
1337+88.9	Rt.	C				20.0	20.0	15.0		18.0	52.0	26.5	30.6	2				
1339+29.5	Rt.	C				20.0		15.0		18.0	54.0	27.4	31.7	2				
6352+16.5	Lt.	B				26.0		31.0										

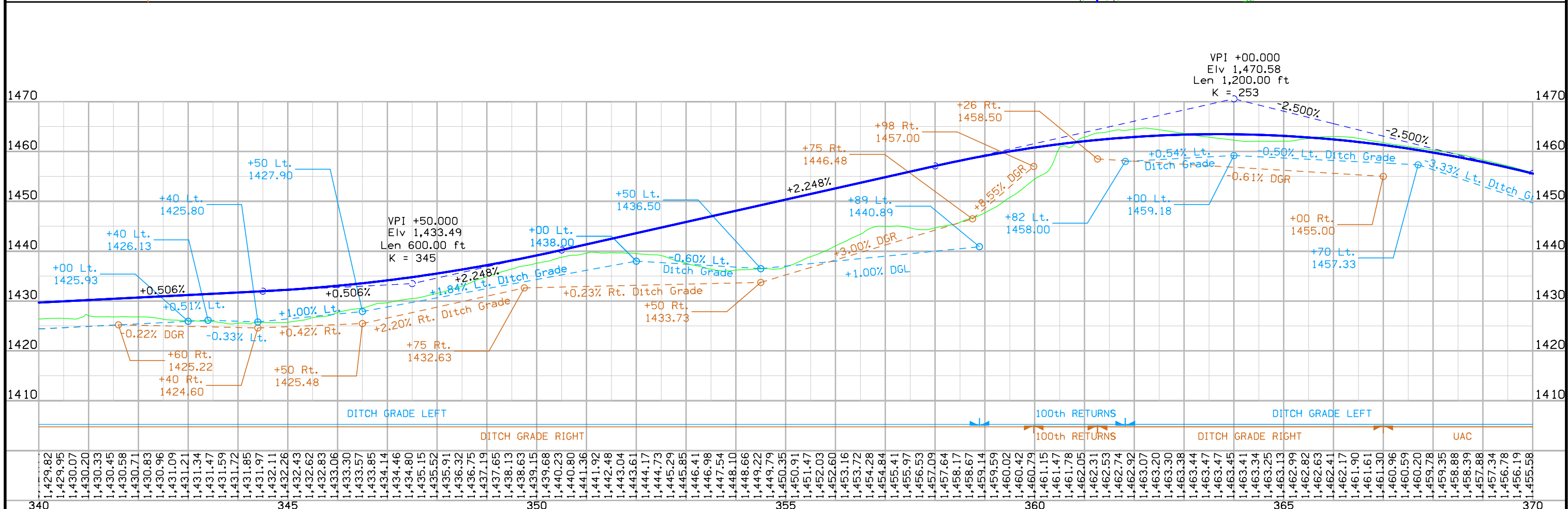
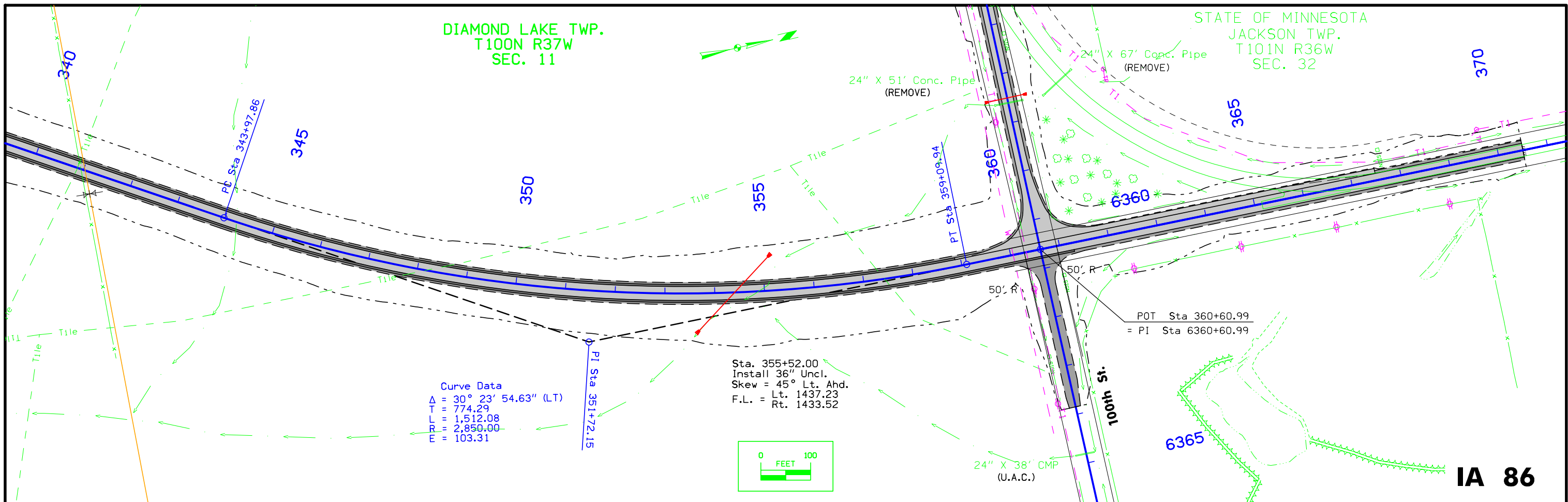


IA 86



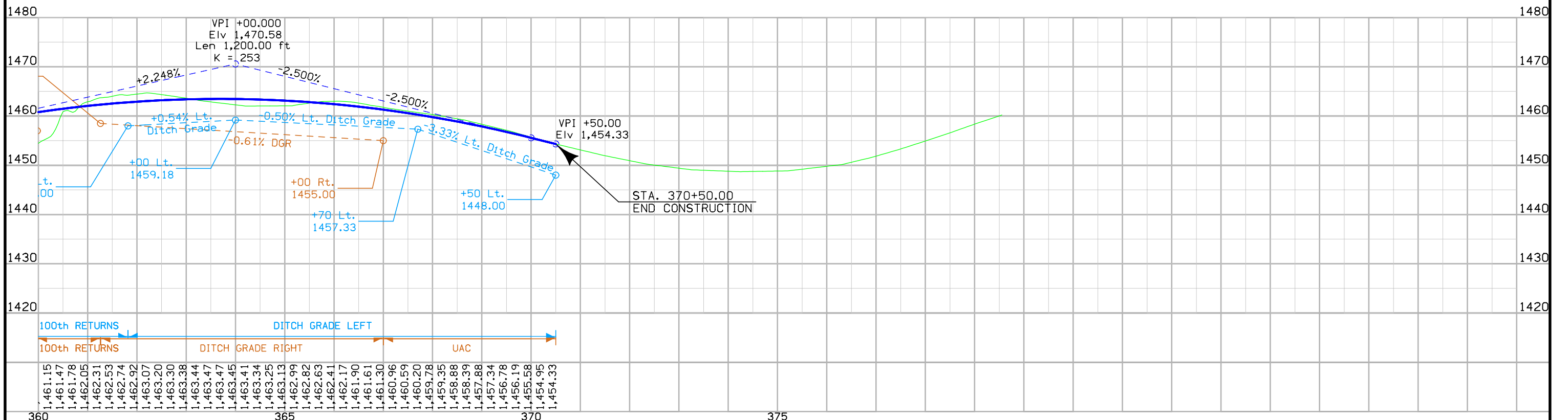
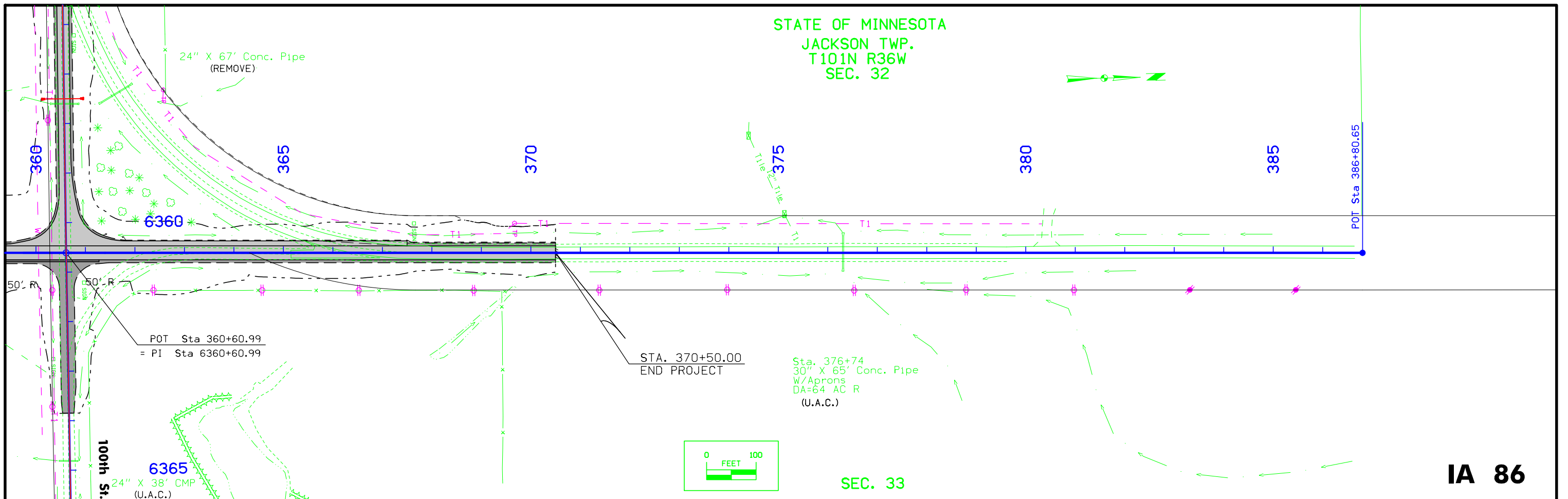
1,433.36	1,432.95	1,432.56	1,432.18	1,431.82	1,431.48	1,431.15	1,430.83	1,430.53	1,430.25	1,429.99	1,429.74	1,429.50	1,429.28	1,429.07	1,428.86	1,428.65	1,428.44	1,428.23	1,428.01
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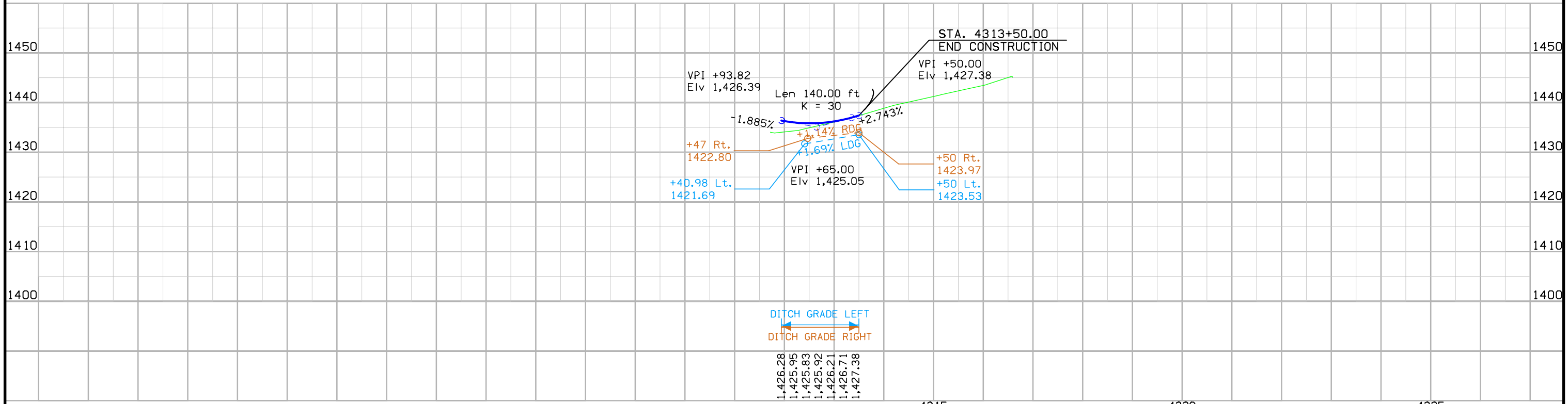
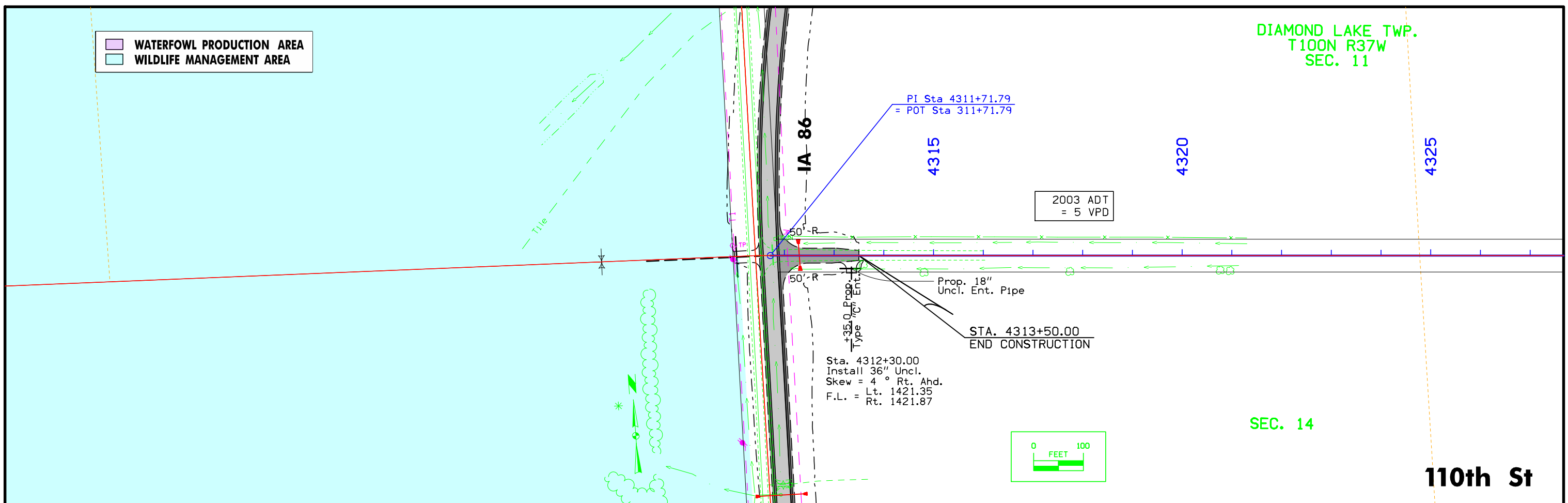
ENGLISH	IOWA DOT	DESIGN TEAM J1a\Strum\Altenhofen	DICKINSON COUNTY	PROJECT NUMBER HSIPX-086-1(8)--3L-30	SHEET NUMBER D.3
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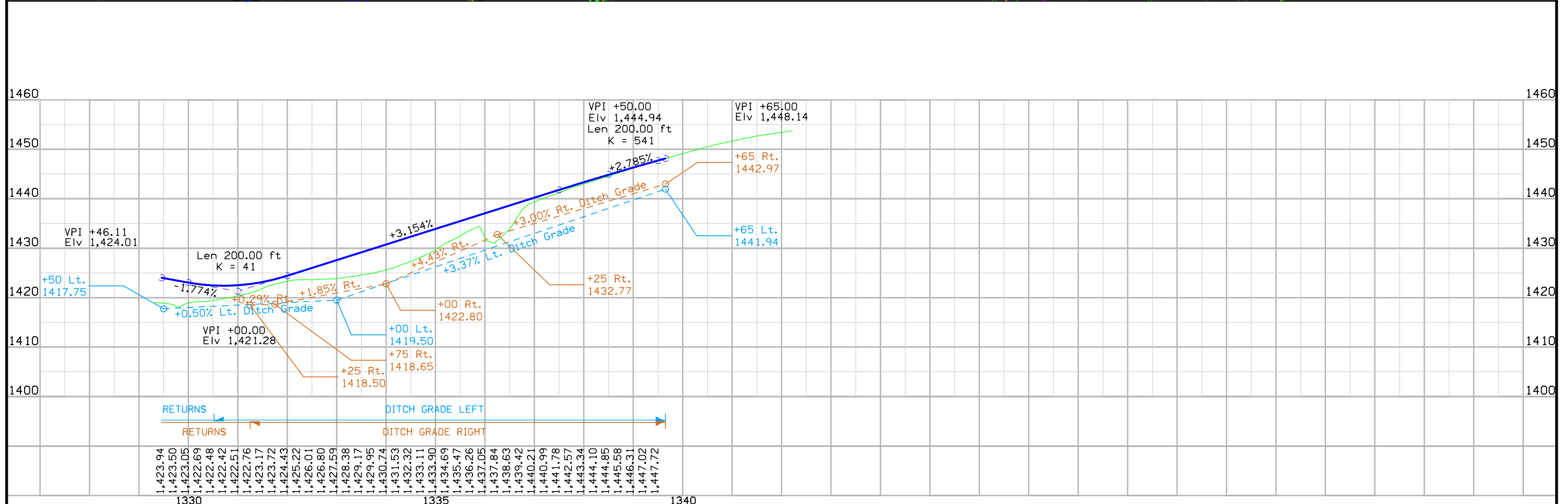
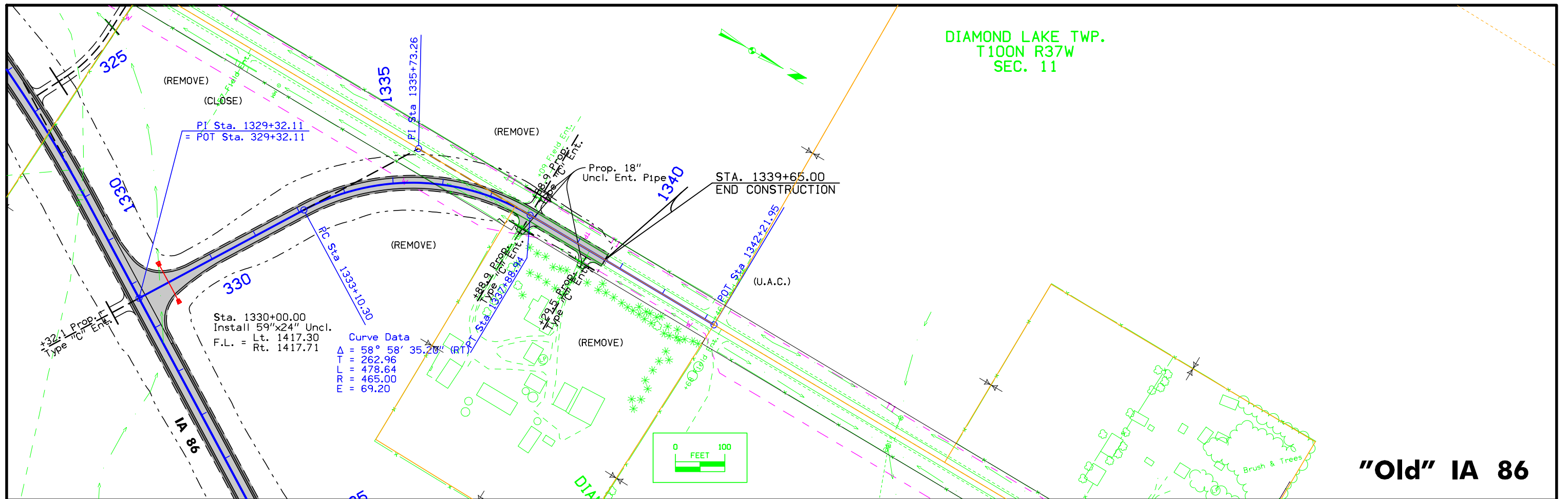
STATE OF MINNESOTA
JACKSON TWP.
T101N R36W
SEC. 32

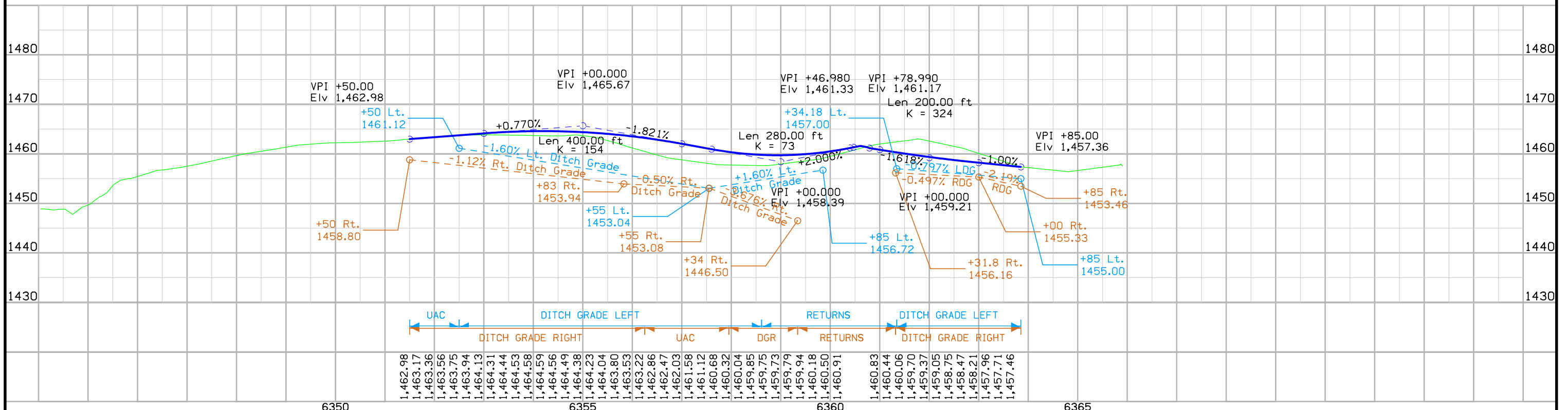
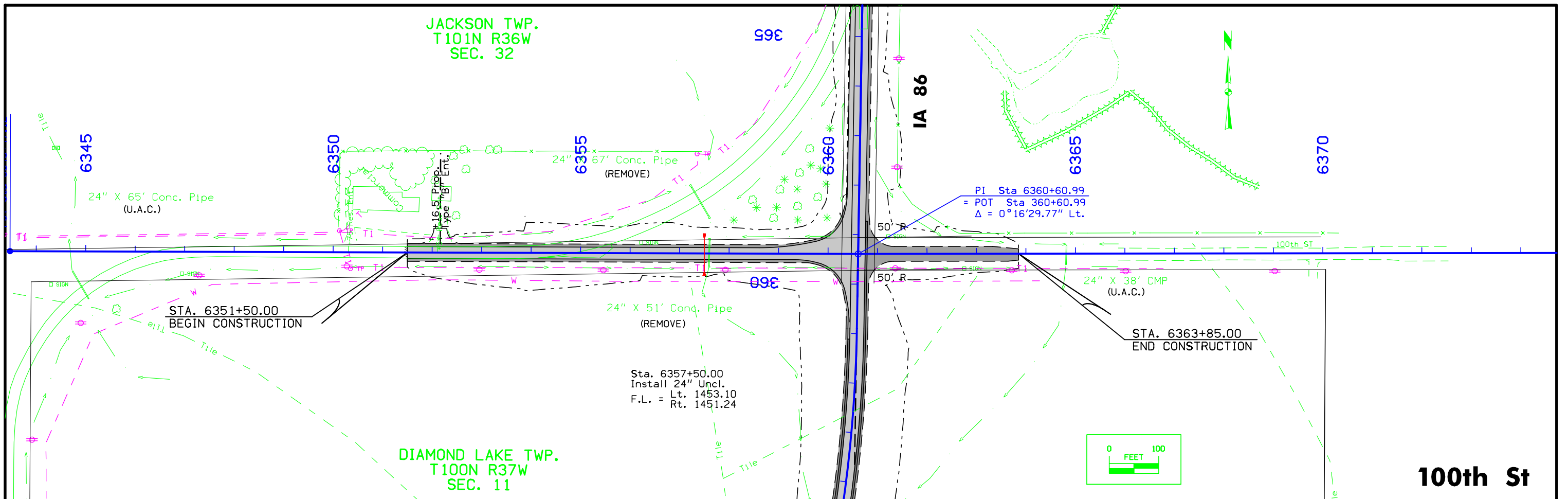


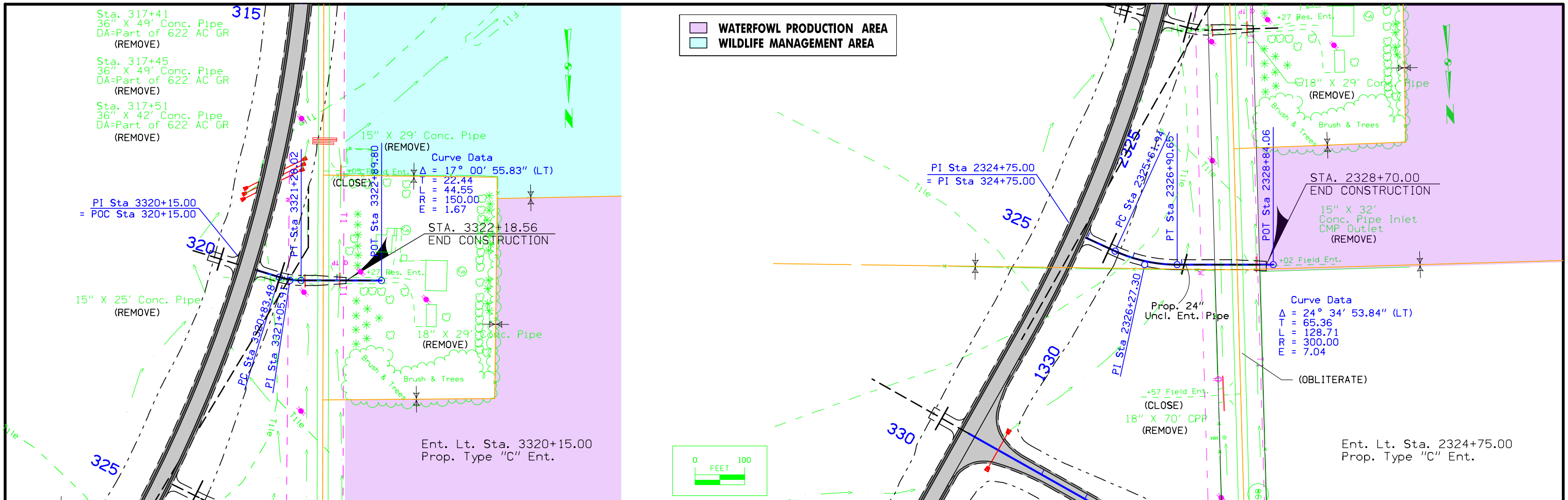
DIAMOND LAKE TWP.
T100N R37W
SEC. 11

WATERFOWL PRODUCTION AREA
WILDLIFE MANAGEMENT AREA









Dickinson County
 SAP 0600
 STPN-086-1(8)--2C-30-PIN: 07-30-086-010
 STPN-086-1(10)--2J-30 - Pin: 08-30-086-010
 Ia 86 - From 500' South of the Jct of Ia 9 North to 1/4 mile North of the Iowa Minnesota State Line

General Information

This survey is in English Units.

The Dickinson County GPS Control network monuments and OPUS points on site were utilized as a basis for project control. Multiple RTK GPS observations were made between new control & the existing county control points. If the relative position between county control monuments met the project objective, the published coordinate values were accepted in the Horizontal & Vertical Calibration of this project. Also 3-5 hour static GPS sessions were taken on points 100, 101,102,103,999 (A 20),998 (H 20),997 (MNDOT 18821 3207D PID DF6946),27(County 8027), 523 (MNDOT 18818 3207A),

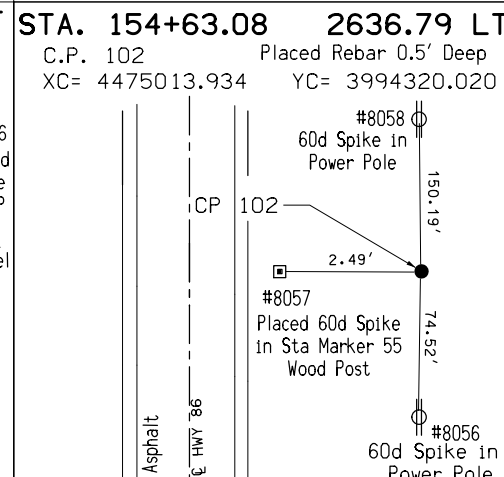
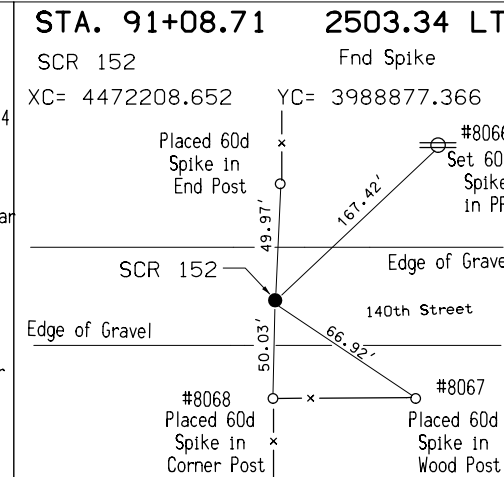
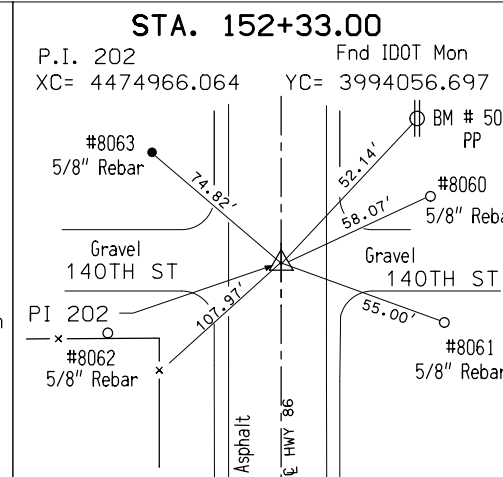
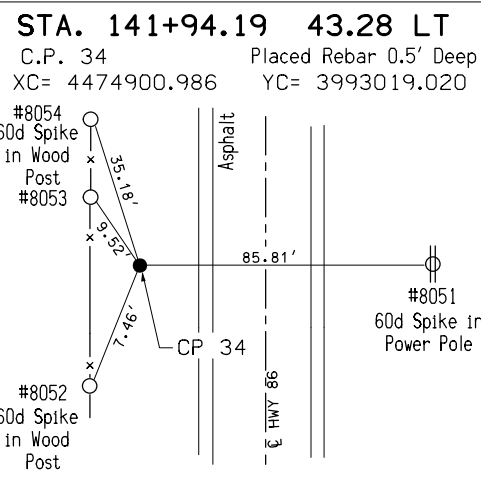
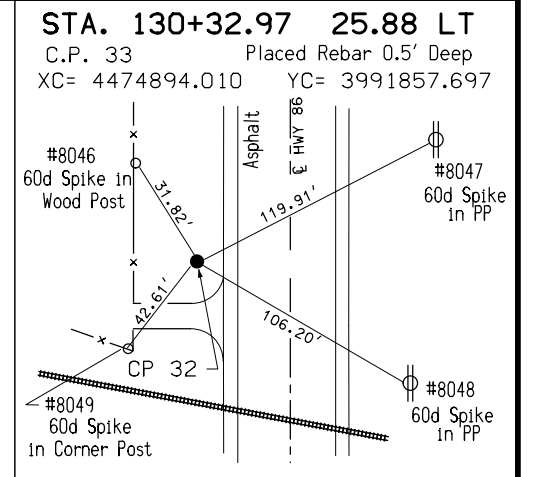
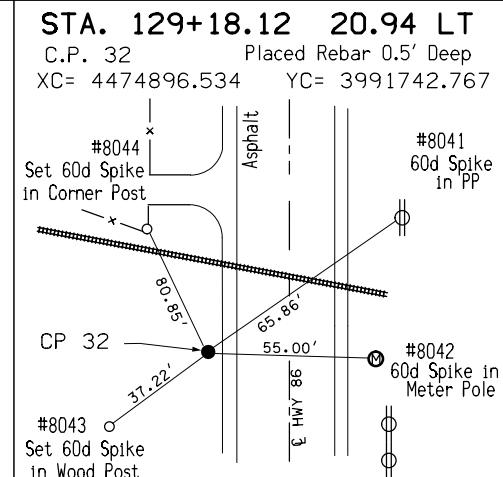
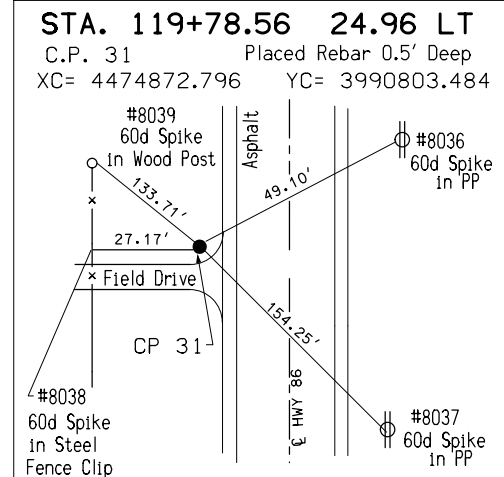
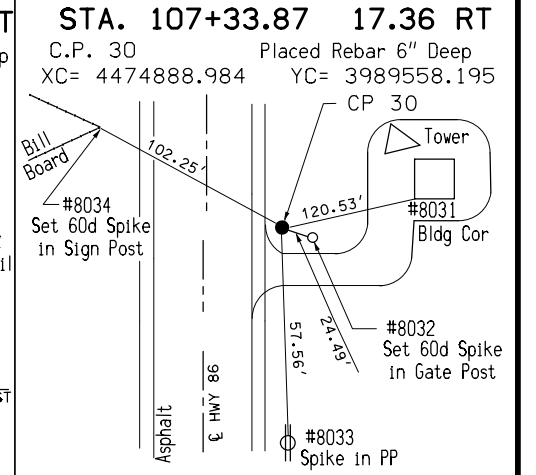
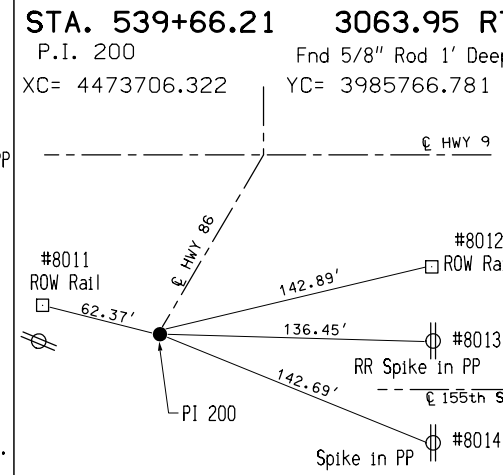
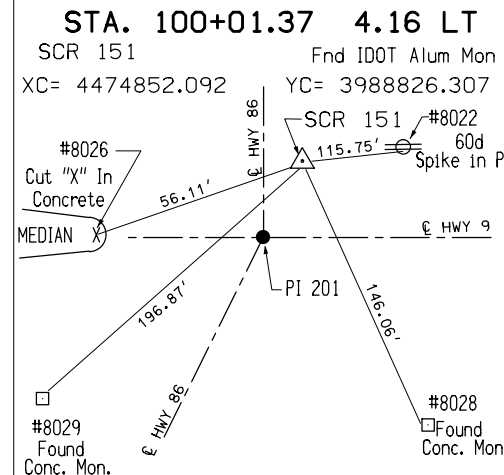
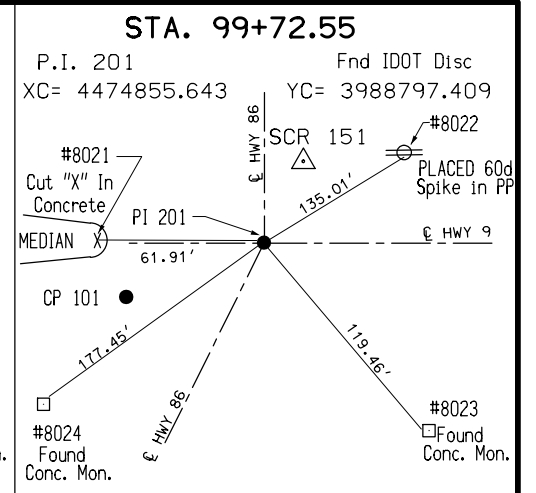
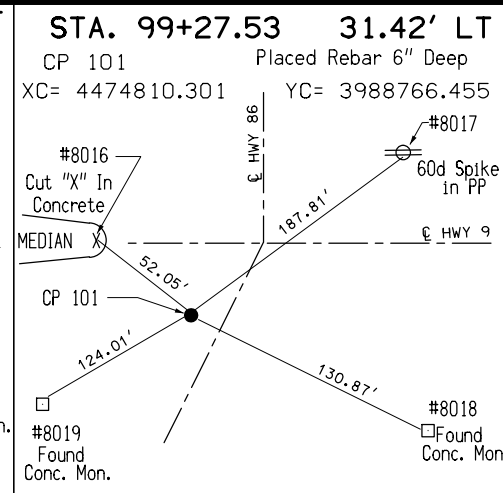
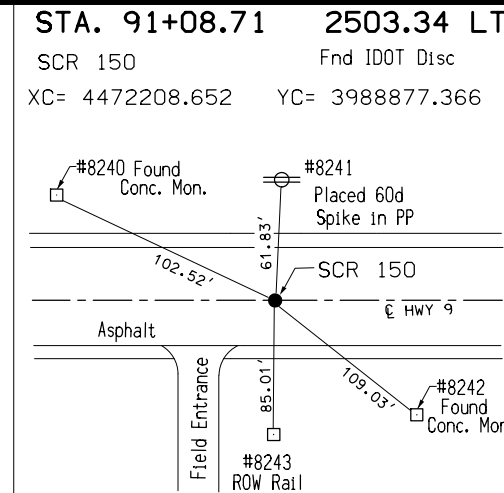
Points Held in RTK Calibration of this project 999,998,997(NGS H point PID DF6946), 27,100,103,996,995,22 (8022), 28(8028), 19(8019), 26(8026), 513,502,20(8020), 25(8025), 21(8021), 523 and 525

Vertical Datum

This survey is relative to NAVD 88 vertical datum fixing the published 2nd order vertical monuments in the area. A number of control points were also observed and computed using Opus. Opus elevations were compared to the published elevations on all vertical control in the area. Subtracting .11' from the Opus observation elevations equalled 2nd order Published elevations. A vertical calibration fixing seventeen points in the area established an elevation of 1465.10 on BM 523. The RMS calibration error of these seventeen elevation points is .005. A digital level loop originated and terminated on BM 523 holding elevation 1465.10 fixed. The NGS datasheets show a vertical difference of 0.5 +/-' (88 higher than 29) between NAVD88 to NGVD29 datum's in this area.

Equations:

- BM 999 this survey Elev. =1413.40
- =BM A 20 Elev. =1413.40 (NGS V2 2nd NAVD 88 datum)
- =BM A 20 Elev. =1412.92 (NGS V2 2nd NGVD 29 datum)
- BM 998 this survey Elev. =1436.16
- =BM H 20 Elev. =1436.16 (NGS V2 2nd NAVD 88 datum)
- =BM H 20 Elev. =1435.63 (NGS V2 2nd NGVD 29 datum)
- BM # 523 this survey Elev. =1465.100
- =BM # 3207A Elev. =1465.189 Computed (MNDOT V3rd NAVD 88 datum)
- =BM # 3207A Elev. =1464.689 (MNDOT V3rd NGVD 29 datum)
- BM # 525 this survey Elev. =1445.736
- =BM # 3207A Elev. =1445.851 Computed (MNDOT V3rd NAVD 88 datum)
- =BM # 3207A Elev. =1445.351 (MNDOT V3rd NGVD 29 datum)
- BM 997 this survey Elev. =1417.006
- =MNDOT # 3207D Elev. =1417. (MNDOT 88 datum -elevation given to Foot only)
- BM 996 this survey Elev. =1470.60
- =BM Z 19 Elev. =1470.60 (NGS V2 2nd NAVD 88 datum)
- =BM Z 19 Elev. =1470.13 (NGS V2 2nd NGVD 29 datum)
- BM 993 this survey Elev. =1404.26
- =BM 347B Elev. =1402.85 AB Plan #FN-9-3(6)--21-30
- BM 994 this survey Elev. =1427.63
- =BM 344A Elev. =1425.69 AB Plan AB Plan #FA 564



DETAILS OF REFERENCE INFORMATION

All References are Plumb Distances unless otherwise noted.

Horizontal Datum

Project Coordinate Transformation

Iowa State Plane North Zone coordinates in US feet were transformed to project ground coordinated using a 1/combined scale factor broadcast about a held point near the center of the project. The held State Plane coordinate and project coordinate at CP 100 are N= 4002971.475 E=4474991.200

COMBINED FACTOR (GRID) = .999976216

1 / GRID = 1.000023784

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) / grid factor] + hold point y
- b. Local Project Coord x = [(State Plane x - hold point x) / grid factor] + hold point x

POINT	STATE PLANE COORD (Y)	STATE PLANE COORD (X)	POINT SCALE FACTOR	LOCAL PROJECT PLANE COORD (Y)	LOCAL PROJECT PLANE COORD (X)	ESTIMATED GPS DERIVED ORTHOMETRIC HEIGHT
101	3988766.792	4474810.306	0.999969840	3988766.455	4474810.301	1433.790
102	3994320.226	4475013.933	0.999972770	3994320.020	4475013.934	1459.046
103	4009975.582	4475179.934	0.999984380	4009975.749	4475179.938	1423.714
19	4014668.611	4467190.301	0.999988000	4014668.889	4467190.116	1407.579 = (Co GPS 8019)
20	4001852.590	4467094.511	0.999980000	4001852.563	4467094.323	1408.029 = (Co GPS 8020)
21	3988885.988	4466973.021	0.999968000	3988885.653	4466972.831	1481.969 = (Co GPS 8021)
22	3972731.188	4466581.300	0.999958000	3972730.469	4466581.100	1462.208 = (Co GPS 8022)
25	4014494.261	4478925.452	0.999987000	4014494.535	4478925.545	1436.349 = (Co GPS 8025)
26	4001838.200	4480553.841	0.999977000	4001838.173	4480553.973	1459.761 = (Co GPS 8026)
27	3987246.484	4483408.507	0.999969000	3987246.110	4483408.707	1437.235 = (Co GPS 8027)
28	3971063.960	4485451.439	0.999960000	3971063.201	4485451.688	1417.871 = (Co GPS 8028)
999	3993960.480	4497794.479	0.999974480	3993960.265	4497795.021	1413.400
523	4014547.456	4476058.131	0.999985580	4014547.731	4476058.157	1465.170
998	3995476.566	4451485.178	0.999973730	3995476.387	4451484.619	1436.113
997	4025186.198	4477071.548	0.999995450	4025186.726	4477071.597	1416.821
100	4002971.475	4474991.200	0.999976230	4002971.475	4474991.200	1494.623

The mainline alignment of this survey is a retrace of the Dickinson Co. S Proj No 1812(1) AB Plans. 100+00 was added to the ML stationing in order to avoid negative stationing. The mainline alignment was held fixed at PI Sta 152+33.00, stationing was backed south to the BOP of the survey & carried forward to the EOP without equation.

Alignment Equations:

ST Sta 73+20.422 ML Alignment this survey
=ST Sta 491+20.09 Ia 32 Dickinson Co. PCC Paving Plan #FN-490

PI Sta 99+72.55 ML Alignment this survey
=PI Sta 550+23.50 SR A this survey
=PI Sta 550+23.50 AB Plans

PI Sta 100+02.645 ML Alignment this survey
=PI Sta 2550+23.20 West Bound Lanes this survey (East of Jct Ia 9 & Ia 86)
=PI Sta 2550+23.20 AB Plan Office relocation alignment (From Plans)

PI Sta 152+33.00 ML Alignment this survey
=PI Sta 1152+33.00 SR B this survey
=PI Sta 52+33.00 S Proj No 1812(1) AB Plans

POT Sta 205+19.788 ML Alignment this survey
=POT Sta 2205+19.788 SR C this survey

POT Sta 258+12.296 ML Alignment this survey
=POT Sta 3258+12.296 SR D this survey

PI Sta 311+70.477 ML Alignment this survey
=PI Sta 4311+70.477 SR E this survey

PI Sta 322+65.32 ML Alignment this survey
=PI Sta 5322+65.32 SR F this survey

POT Sta 361+04.576 ML Alignment this survey
=PI Sta 6343+90.78 SR G this survey
=PI Sta 20+03 MNDOT AB Plans

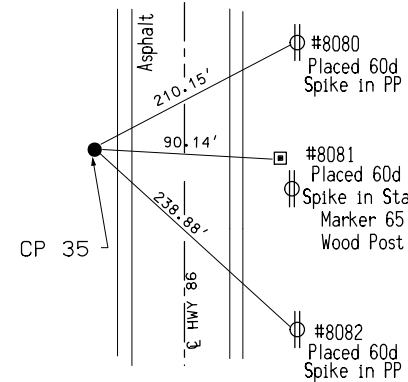
POT Sta 387+24.253 ML Alignment this survey
=POT Sta 43+27.0 MNDOT AB Plans

BOP
PI Fd IDOT Marker
PI Fd IDOT Button
PI Computed Point
PI Computed Point
PI Computed Point
PI Computed Point
PI Computed Point

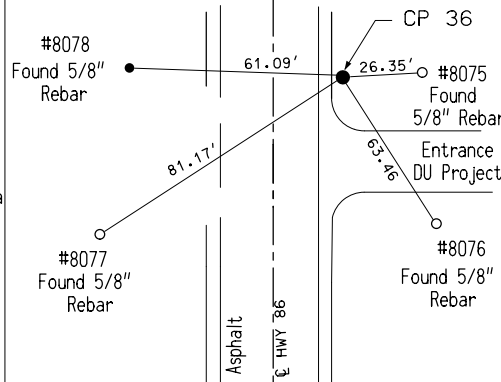
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PI Sta 99+72.55
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PI Sta 192+24.646
PI Sta 227+36.017
PI Sta 246+32.85
PI Sta 271+45.156
PI Sta 284+79.902

This Survey=AB Plan ST 491+20.09 Ia 32 Dickinson
This Survey= PI 550+23.50 AB Plan FN-9-3(16)*21-30
This Survey=PI Sta 52+33.00 S Proj No 1812(1) AB Plans
This Survey=PI Sta 92+24.7 S Proj No 1812(1) AB Plans
This Survey= PI Sta 127+40.5 S Proj No 1812(1) AB Plans
This Survey= PI Sta 146+39.0 S Proj No 1812(1) AB Plans
This Survey= PI Sta 171+49.2 S Proj No 1812(1) AB Plans
This Survey= PI Sta 184+90.9 S Proj No 1812(1) AB Plans

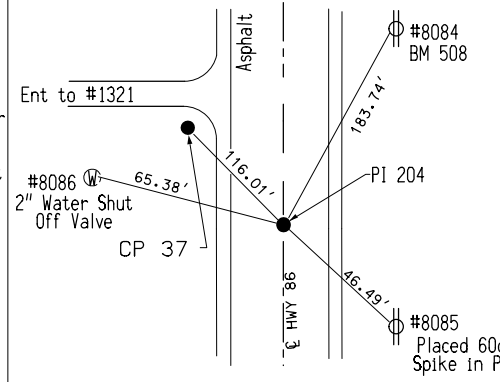
STA. 164+96.13 46.28 LT
C.P. 35 Placed Rebar 0.5' Deep
XC= 4474923.845 YC= 3995319.972



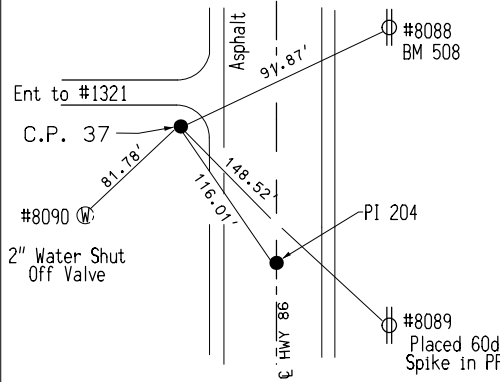
STA. 178+98.38 16.99 RT
C.P. 36 Placed Rebar 0.5' Deep
XC= 4474991.630 YC= 3996722.006



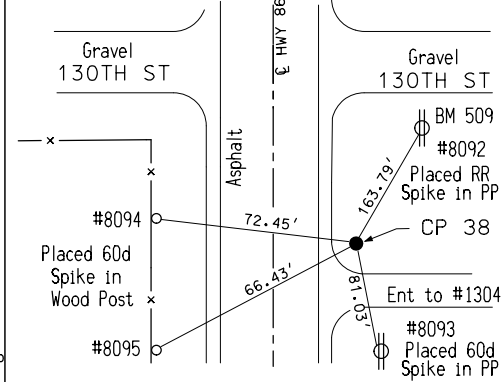
STA. 192+24.65
P.I. 204 Placed Mag Nail
XC= 4474978.909 YC= 3998048.322



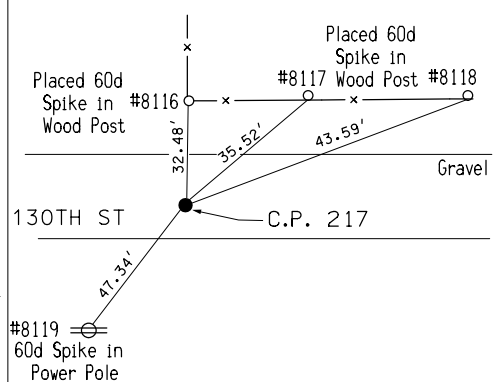
STA. 193+37.69 26.05 LT
C.P. 37 Placed Rebar 0.5' Deep
XC= 4474952.614 YC= 3998161.310



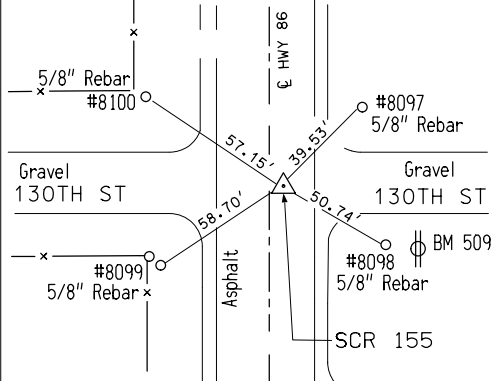
STA. 203+27.68 17.60 RT
C.P. 38 Placed Rebar 0.5' Deep
XC= 4474994.136 YC= 3999151.386



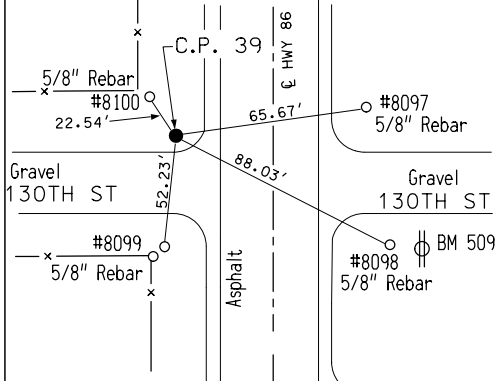
STA. 205+04.11 595.823 RT
C.P. 217 Placed Rebar 0.25' Deep
XC= 4475571.978 YC= 3999329.062



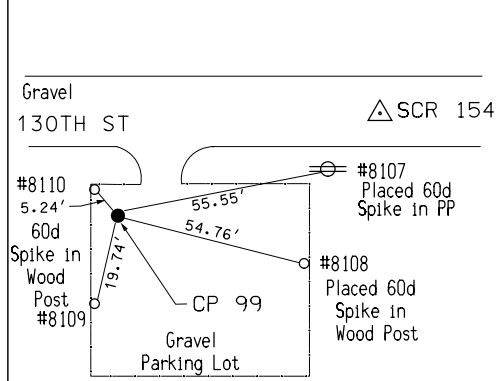
STA. 205+19.74 1.90 RT
SCR 155 Found PK Nail
XC= 4474978.019 YC= 3999343.413



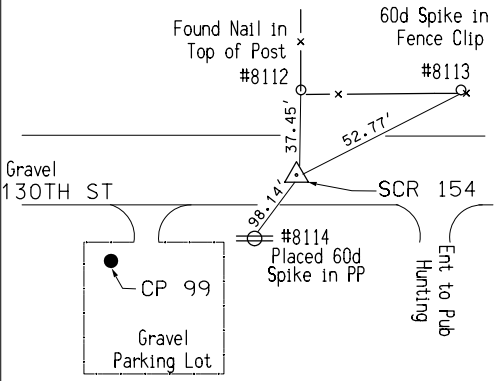
STA. 205+34.02
C.P. 39 Placed Rebar 0.5' Deep
XC= 4472266.604 YC= 3999376.198



STA. 205+58.35 2709.44 LT
C.P. 99 Placed Rebar 0.5' Deep
XC= 4472266.604 YC= 3999376.198



STA. 205+89.82 2560.82 LT
SCR 154 Fnd 1/2" Rod
XC= 4472415.159 YC= 3999407.980



DETAILS OF REFERENCE INFORMATION

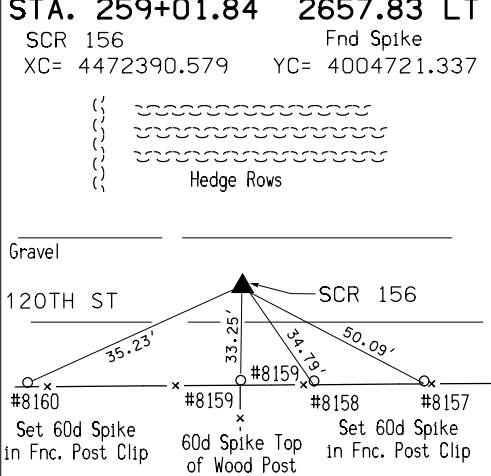
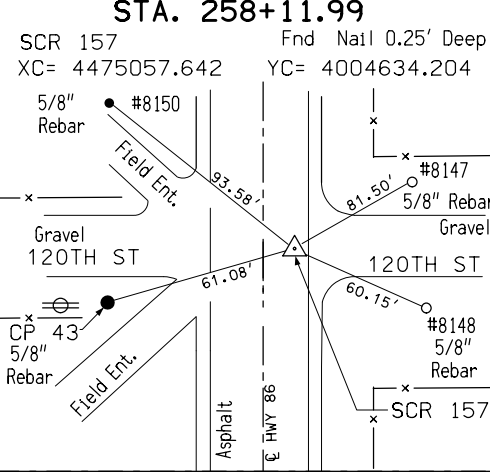
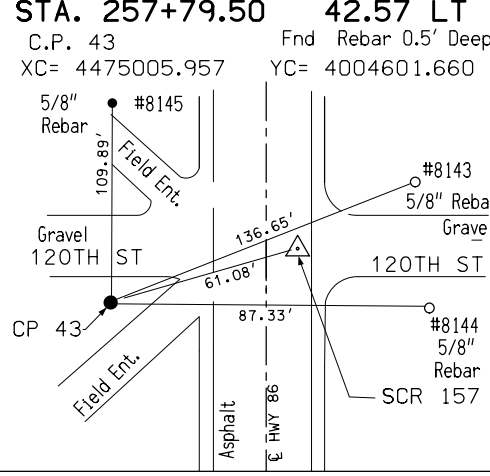
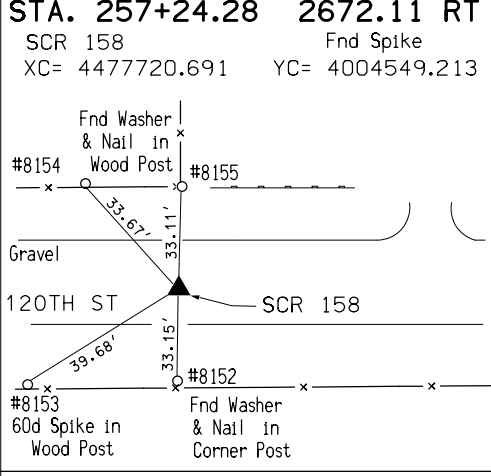
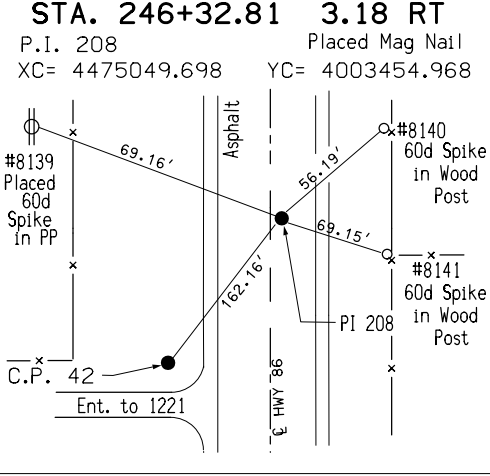
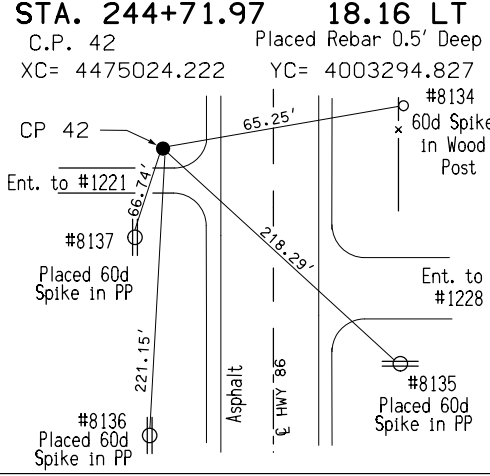
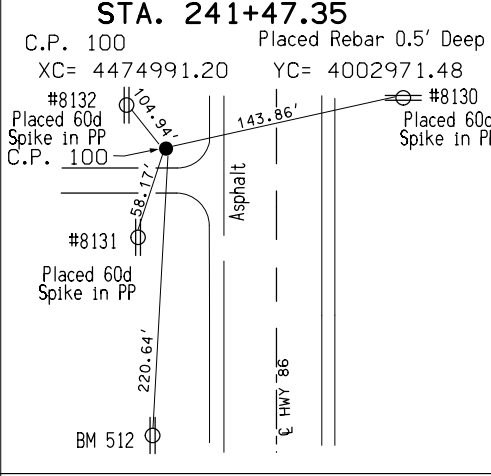
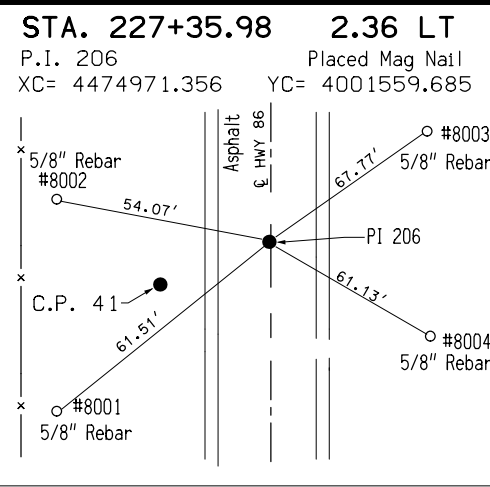
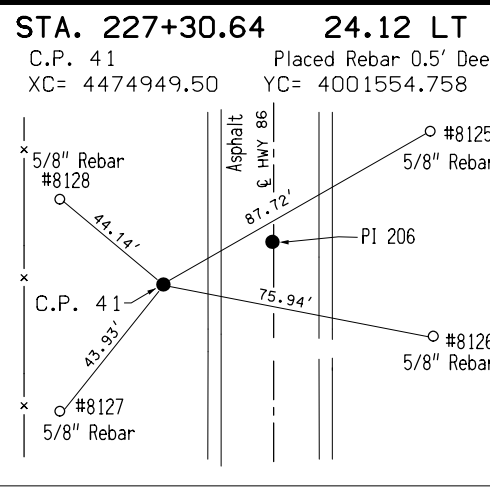
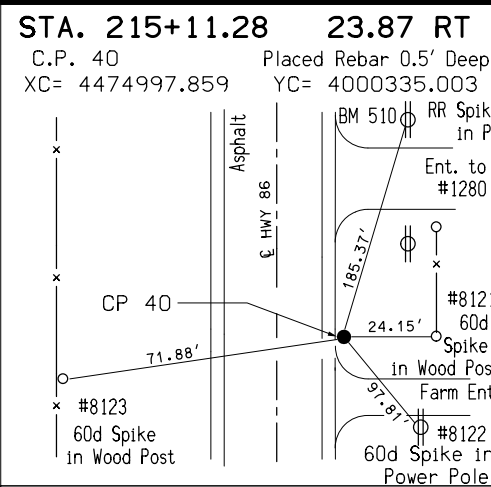
All References are Plumb Distances unless otherwise noted.

BENCHMARKS				ELEVATION	
No. 500 Sta.	98+73.710	76.119 Rt.	Y:3988677.997 X:4474891.767	Set RR Spk W Side PP	1431.768
No. 501 Sta.	113+31.160	58.421 Rt.	Y:3990154.490 X:4474942.569	Set RR Spk in West Side of Gate Post	1440.129
No. 502 Sta.	126+90.002	44.876 Rt.	Y:3991513.317 X:4474957.551	Cut "X" on NW Cor of Conc Pad	1438.414
No. 503 Sta.	138+98.425	42.143 Rt.	Y:3992721.531 X:4474980.184	Set RR Spk W Side PP	1430.888
No. 504 Sta.	152+61.823	43.448 Rt.	Y:3994085.380 X:4475009.605	Set RR Spk W Side PP	1453.507
No. 505 Sta.	164+82.534	46.22 Rt.	Y:3995306.076 X:4475016.305	Set RR Spk E Side PP	1458.466
No. 506 Sta.	172+85.303	45.452 Rt.	Y:3996108.843 X:4475018.120	Set RR Spk W Side PP	1432.240
No. 507 Sta.	186+57.032	44.591 Rt.	Y:3997480.567 X:4475021.673	Set RR Spk W Side PP	1434.401
No. 508 Sta.	194+04.287	37.079 Rt.	Y:3998228.042 X:4475015.602	Set RR Spk W Side PP	1459.577
No. 509 Sta.	204+89.399	44.573 Rt.	Y:3999313.168 X:4475020.761	SetRR Spk NW Side PP	1451.013
No. 510 Sta.	216+95.975	39.672 Rt.	Y:4000519.731 X:4475013.265	Set RR Spk W Side PP	1484.794
No. 511 Sta.	226+92.542	45.771 Lt.	Y:4001516.902 X:4474927.195	Fd Ref Tie Rebar	1498.542
No. 512 Sta.	239+26.717	37.762 Lt.	Y:4002750.997 X:4474982.805	Set RR Spk E Side PP	1491.451
No. 513 Sta.	252+06.555	22.428 Lt.	Y:4004028.739 X:4475026.685	Cut "V" on Inlet End of Rcp Apron	1483.407
No. 514 Sta.	257+79.495	42.555 Lt.	Y:4004601.659 X:4475005.974	Fd Ref Tie Rebar	1493.396
No. 515 Sta.	271+71.702	45.926 Lt.	Y:4005994.355 X:4475001.472	Set RR Spk E Side PP	1490.625
No. 516 Sta.	282+86.812	38.279 Lt.	Y:4007109.337 X:4475019.989	Set RR Spk E Side PP	1484.132
No. 517 Sta.	298+26.179	37.741 Lt.	Y:4008648.706 X:4475040.421	Set RR Spk E Side PP	1444.619
No. 518 Sta.	313+53.041	38.127 Rt.	Y:4010174.415 X:4475136.717	Set RR Spk E Side PP	1420.428
No. 519 Sta.	324+79.792	122.709 Lt.	Y:4011327.613 X:4475159.184	Set RR Spk W Side PP	1420.546
No. 520 Sta.	335+86.726	819.132 Lt.	Y:4012668.051 X:4475169.799	Set RR Spk E Side PP	1455.276
No. 521 Sta.	343+45.062	1408.794 Lt.	Y:4013625.637 X:4475093.611	Set RR Spk E Side PP	1468.315
No. 522 Sta.	359+07.493	1759.71 Lt.	Y:4014355.116 X:4475106.577	SetRR Spk NE Side PP	1453.072
No. 523 Sta.	361+65.303	813.68 Lt.	Y:4014547.731 X:4476058.157	FD MNDOT Monument BM =MNDOT# 3207A & 13818--MDOT 3rd Order 29 El=1464.689 2008 OPUS EL=1465.056	1465.100

No. 525 Sta.	375+13.468	72.08 Rt.	Y:4015874.024 X:4476976.344	FD MNDOT Monument BM =MNDOT# 3207B & 13819--MDOT 3rd Order 29 El=1445.35	1445.736
No. 993 Sta.	100+57.318	2142.077 Rt.	Y:3988837.191 X:4476999.027	Fd IHC BM on Inlet Hdwl TwIn 10 X 10 RCB =BM 347B Elev 1402.85 AB Plan #FN-9-3(6)--21-30	1404.261
No. 994 Sta.	95+96.146	846.492 Lt.	Y:3988745.620 X:4473930.684	Ball Of ROW Rail =BM 344A Elev=1425.69 AB Plan #FA 564	1427.633

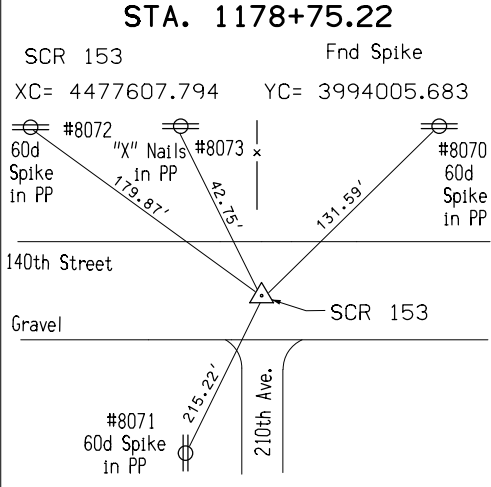
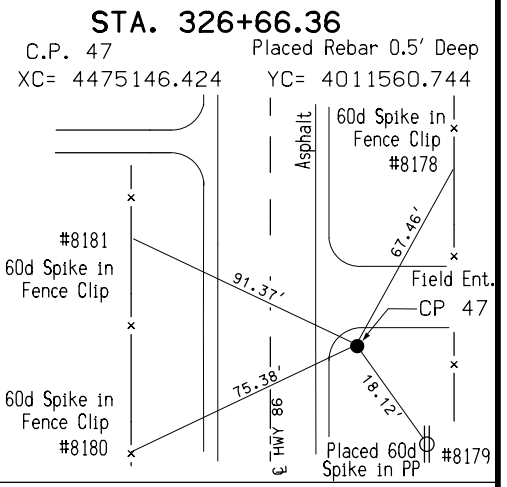
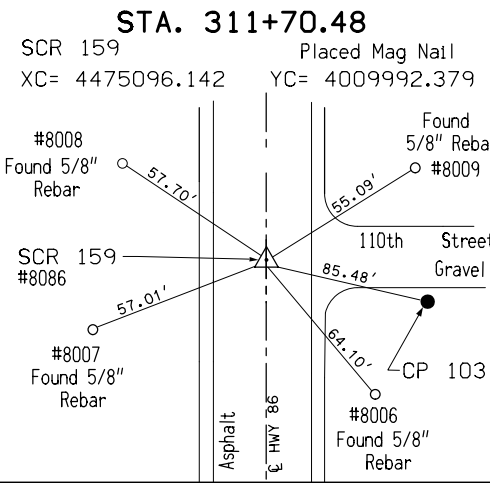
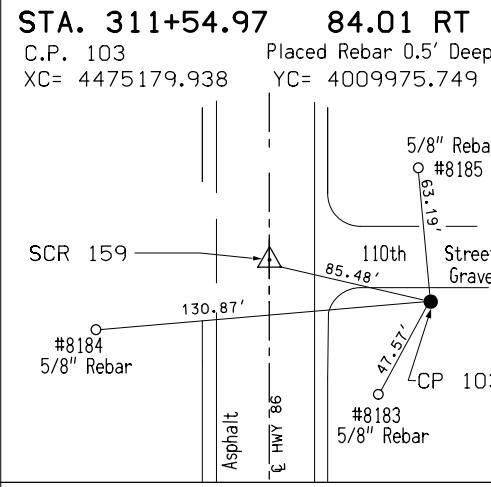
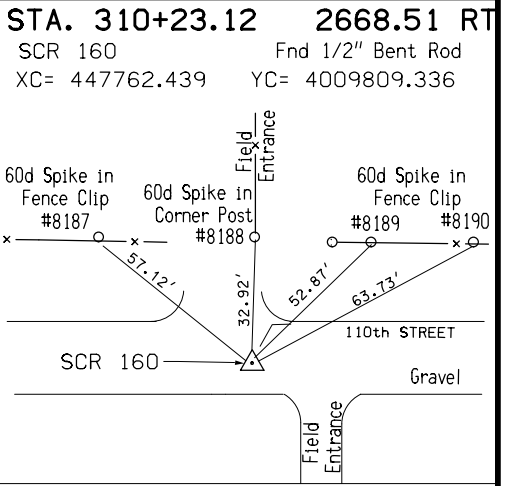
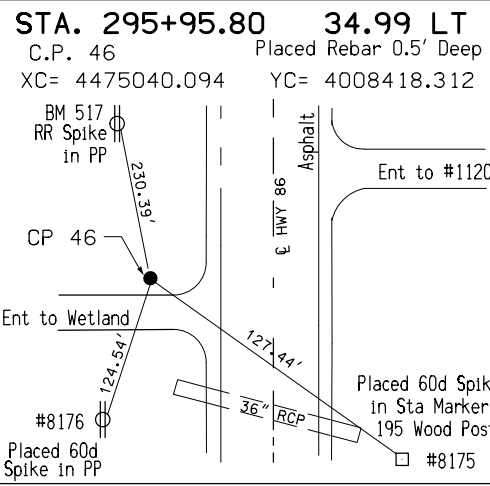
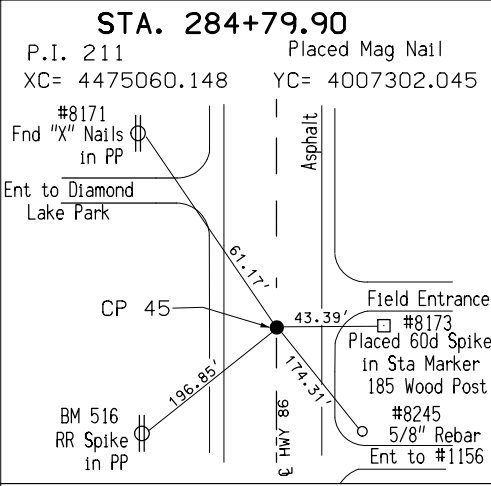
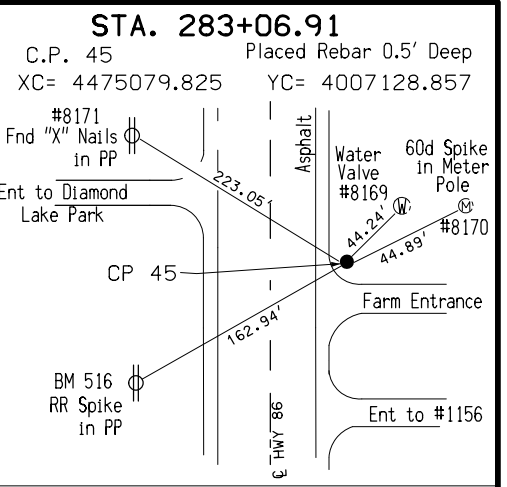
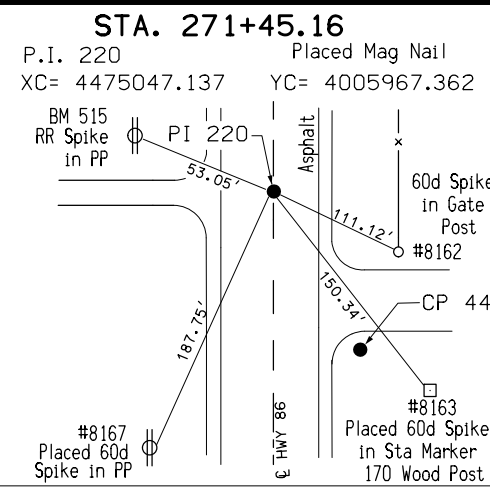
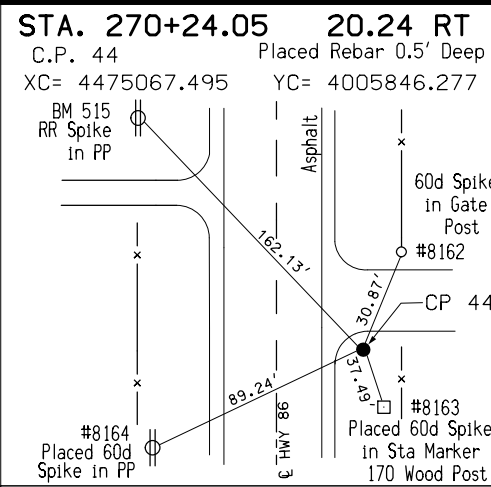
No. 996 Sta.	327+51.618	36550.22 Rt.	Y:3992503.136 X:4506611.047	Fd NGS 2nd Order Monu 5.8 M W. from Superior along RR Tracks from station at SUPERIOR 1.8 M SE of Station @ ORLEANS 62.5' SE of CL FARM-ROAD Crossing 45.7' SW of SW Rail 1' NE of the ROW Fenc a standard disk Stamped Z 19 1934 & set in the to of a Conc Post projecting 3" above the ground PID #OP0509 Z 19 1470.60(88) & 1470.13(29)	1470.601
No. 998 Sta.	79+30.338	24220.712 Lt.	Y:3995476.387 X:4451484.619	Fd NGS 2nd Order Monu 2.8 M. SE of old sta. @ Lake Park 70 Yards E of E End Conc & Stl Trestle 2320 64' SE of the CL of Sec Rd x-Ing 53'E. of CL Sec Rd 45.2' S. of S. Rai 1.5' N of the ROW Fe Standard Disk Stamped H 20 1934 & Set in the Top of a Conc Post projecting 3" above the ground PID #OP0518 H 1436.16(88) & 1435.63(29)	1436.160

MISCELLANEOUS LOCATIONS					
No. 995	Y:4019860.835 X:4476928.886	Fd MNDOT Monument BM =MNDOT# 3207C & 13820--MDOT 3rd Order 29 El=1435.053	1435.513		
No. 997	Y:4025186.726 X:4477071.597	Fd MNDOT Monu BM =MNDOT# 3207D & 13821 1416.992(88) & 1416.569(2 (MNDOT Elevations)The Mon is also NGS Monu PID DF6946 At 10.0 M S of LAKEFIELD 6.0 MI S.ALONG TH 86 From Jct TH 86 & Co Rd 34 (OLD TH 16) AT TH 8 MP 2.1 72'W OF TH 86 183' N of Co. Rd 4 E. 0.5 FT E of a Witness Post Flush w/Ground Magnetic&Suitable for GPS	1416.992		
No. 999	Y:3993960.265 X:4497795.021	Fd NGS 2nd Order Monu RR Track at SE Cor Inters 252nd Ave & 140TH ST. 16.2'N. of the N Rail of the RR a Standard Disk Stamped A 20 1934 & Set in the Top of a Conc Post Flush with the ground PID #OP0510 A 20 1413.40(88) & 1412.92(29)	1413.400		



DETAILS OF REFERENCE INFORMATION

All References are Plumb Distances unless otherwise noted.



DETAILS OF REFERENCE INFORMATION

All References are Plumb Distances unless otherwise noted.

R/W ACQUISITION IN THIS AREA WILL BE ACQUIRED
ON ROW PROJECT NO. STPN-86-1(11)--2J-30

STATE OF IOWA

DIAMOND LAKE TWP.
T100N R37W
SEC. 14

BURNELL H. WALKER
& BETTY J. WALKER

±44 Prop. Type "C" Ent.

±68 Field Ent.

±07 Prop. Type "C" Ent.

280

290

295

300

305

310

PI Sta 284+79.90
0°12'28.8" Lt
No Curve

29' Conc. Pipe
284+89±P
¢105'

289+60
¢135'

290+50
¢135'

295+05
¢120'

Sta. 295+34
48" X 61' Conc. Pipe
DA=53 AC R
Sta. 295+25
Install 48" RF-1
Skew = 18° Lt. Ahd.
F.L. = Lt. 1441.00
Rt. 1446.40

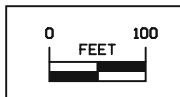
297+60±P
¢65'

STA. 305+00.00
BEGIN PROJECT
300+49±P
¢75'
300+41±P
¢130'

Sta. 306+88
24" X 45' Conc. Pipe
DA=13 AC GR
(REMOVE)

Sta. 306+88.40
Install 24" Uncl.
Lt. 1422.78
F.L. = Rt. 1425.68

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE



297+60±P
¢75'
297+58±P
¢110'
298+30
¢110'
298+55
¢75'±PROP.R/W

BRIAN D. CERNY
& GINA CERNY

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

20
JERRY CLARK

BRUCE B. WALKER

IA 86

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Gettings/Cuva/Richey	
ROW #: STPN-86-1(9)--2J-30	
Plan Date: 5/5/11	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

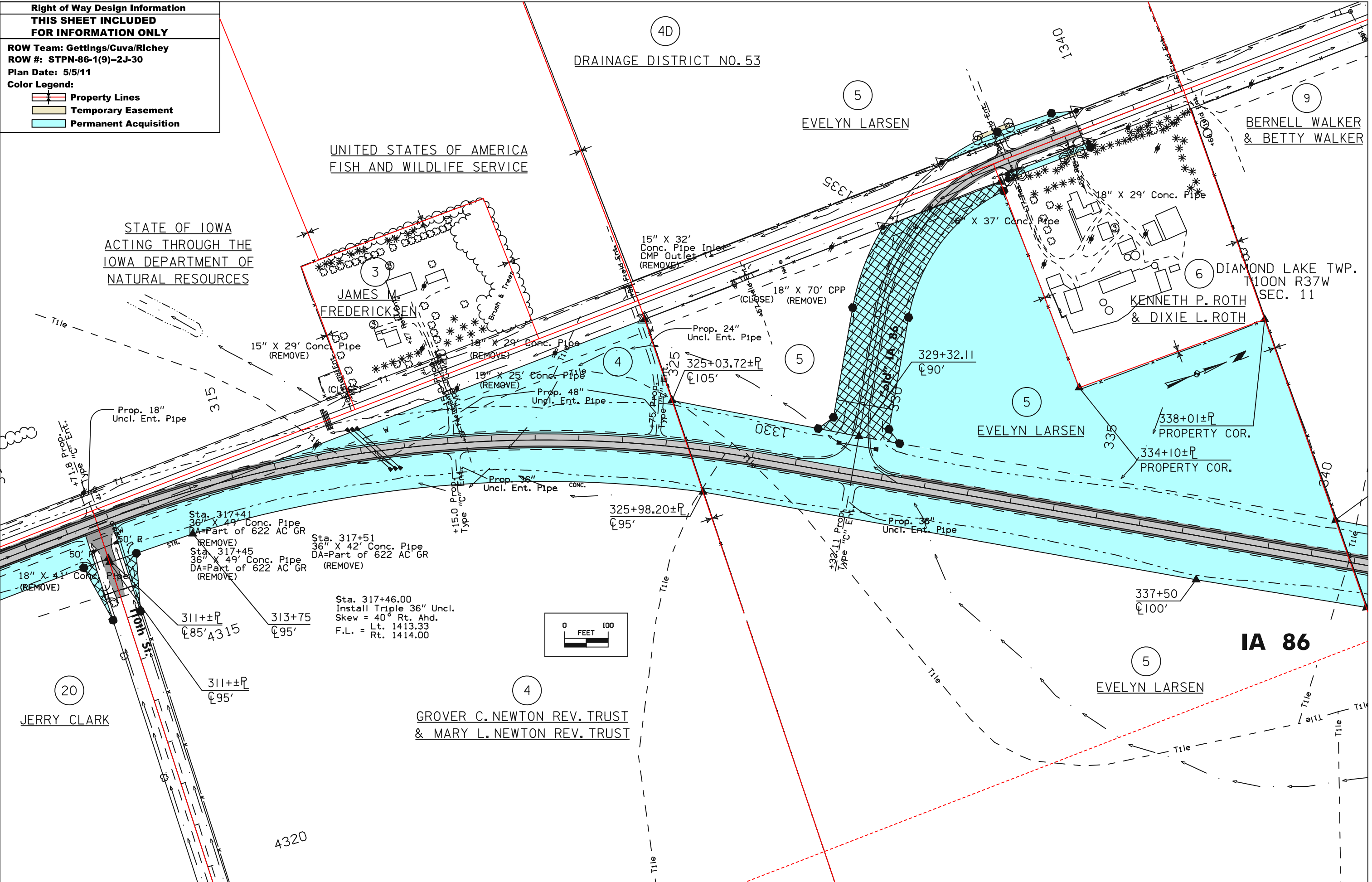
ROW Team: Gettings/Cuva/Richey

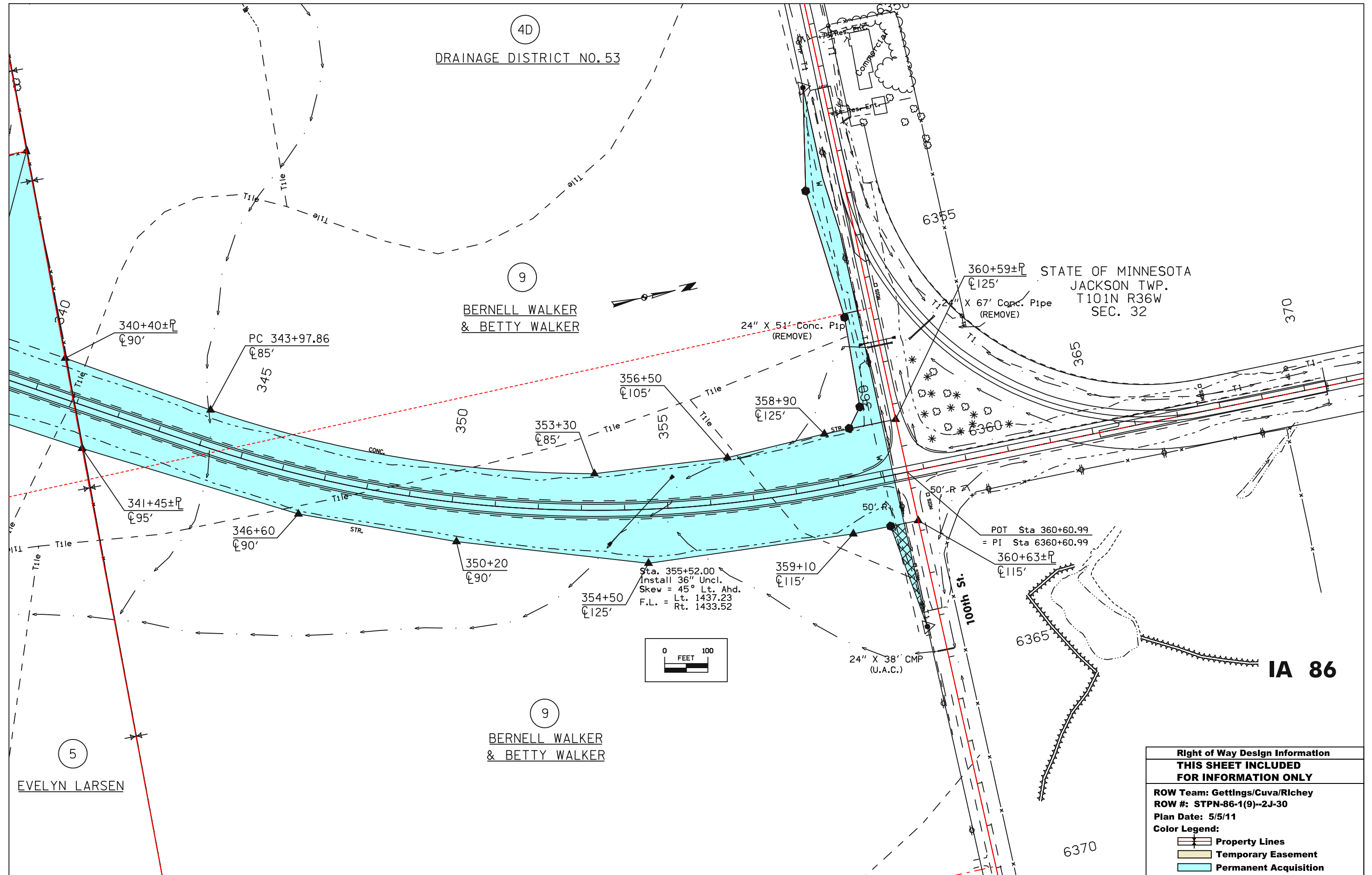
ROW #: STPN-86-1(9)-2J-30

Plan Date: 5/5/11

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition





4D
DRAINAGE DISTRICT NO. 53

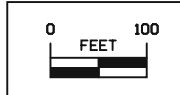
9
BERNELL WALKER
& BETTY WALKER

5
EVELYN LARSEN

9
BERNELL WALKER
& BETTY WALKER

STATE OF MINNESOTA
JACKSON TWP.
T101N R36W
SEC. 32

IA 86



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Gettings/Cuva/Richey	
ROW #: STPN-86-1(9)--2J-30	
Plan Date: 5/5/11	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

UNITED STATES OF AMERICA
FISH AND WILDLIFE SERVICE

JAMES M.
FREDERICKSEN

4D
DRAINAGE DISTRICT NO. 53

4
GROVER C. NEWTON REV. TRUST
& MARY L. NEWTON REV. TRUST

DIAMOND LAKE TWP.
T100N R37W
SEC. 11

R/W ACQUISITION IN THIS AREA WILL BE ACQUIRED
ON ROW PROJECT NO. STPN-86-1(11)--2J-30

STATE OF IOWA
ACTING THROUGH THE
IOWA DEPARTMENT OF
NATURAL RESOURCES

4312+65±PROP.R/W
⊘65'
PI Sta 4311+71.79
= POT Sta 311+71.79

4315

4320

4325

4313+95
⊘33±EX.R/W

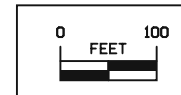
Prop. 18"
Uncl. Ent. Pipe
4313+95
⊘33±EX.R/W
STA. 4313+50.00
END CONSTRUCTION

ACQUIRE ACCESS CONTROL ON
S.R. FROM 4312+56± TO 4313+34±

Sta. 4312+30.00
Install 36" Uncl.
Skew = 4° Rt. Ahd.
F.L. = Lt. 1421.35
Rt. 1421.87

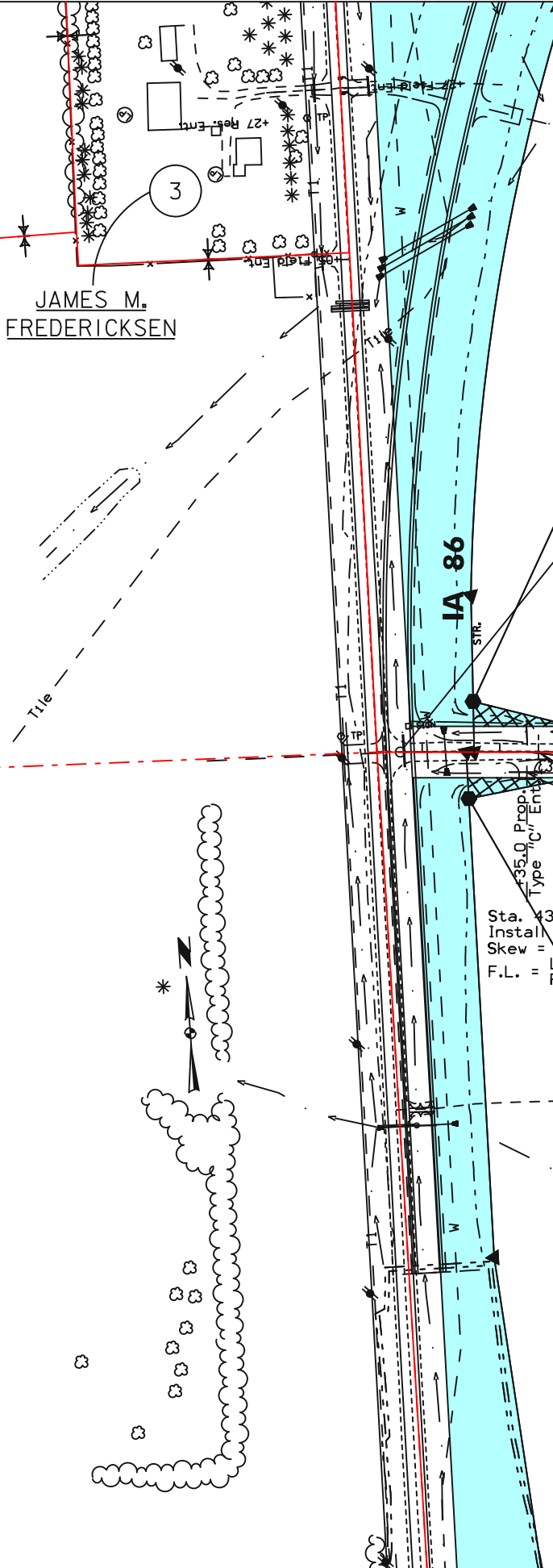
4312+60±PROP.R/W
⊘60'

SEC. 14



110th St




20
JERRY CLARK



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: GETTINGS/CUVA/RICHEY	
ROW #: STPN-86-1(9)--2J-30	
Plan Date: 5/24/11	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

UNITED STATES
OF AMERICA
FISH AND
WILDLIFE
SERVICE

(4D)
DRAINAGE DISTRICT NO. 53

Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: GETTINGS/CUVA/RICHEY	
ROW #: STPN-86-1(9)--2J-30	
Plan Date: 5/24/11	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

(5)
EVELYN LARSEN

DIAMOND LAKE TWP.
T100N R37W
SEC. 11

(7)
BERNITA B. ANDERSEN

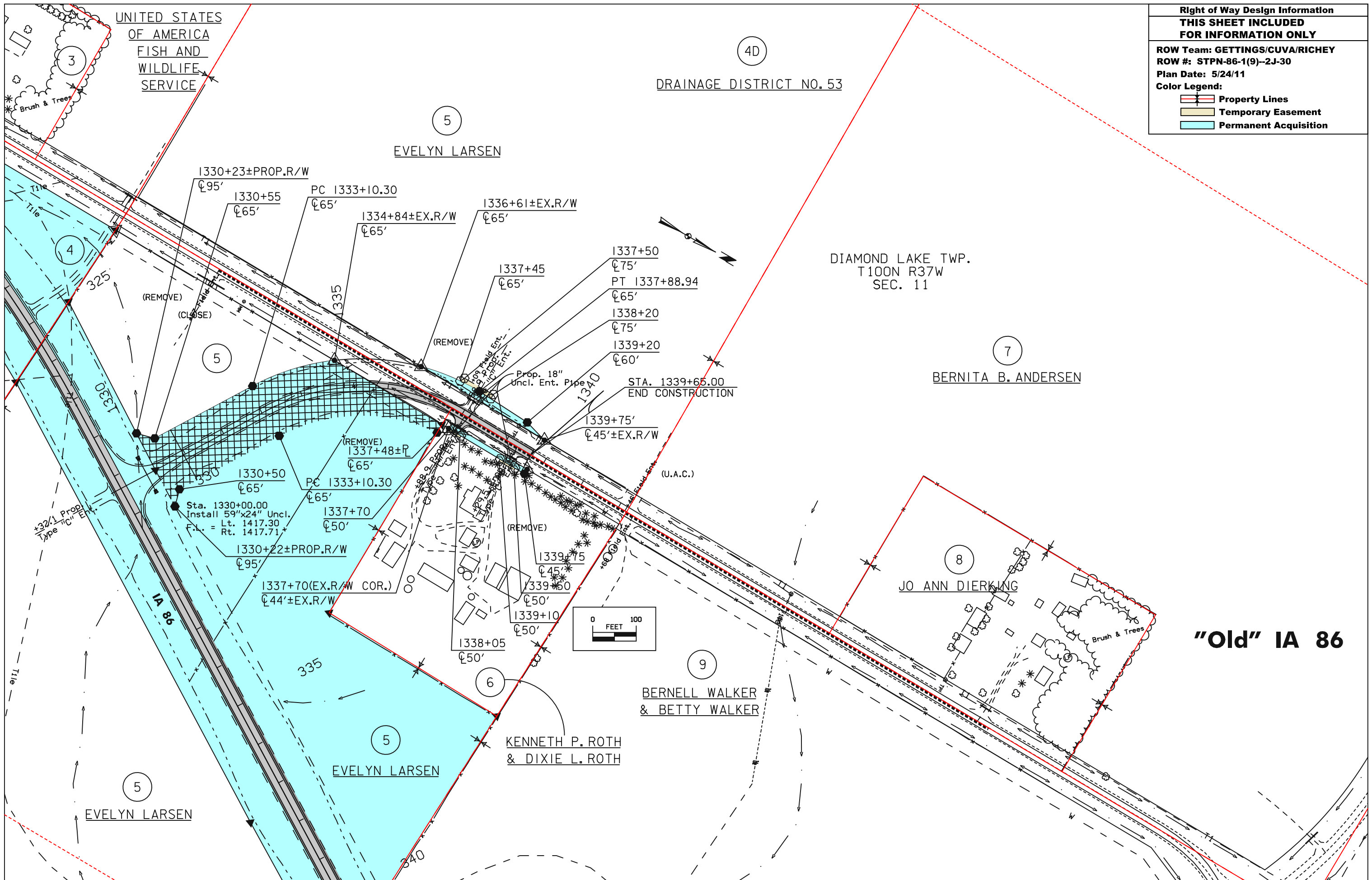
(8)
JO ANN DIERKING




"Old" IA 86

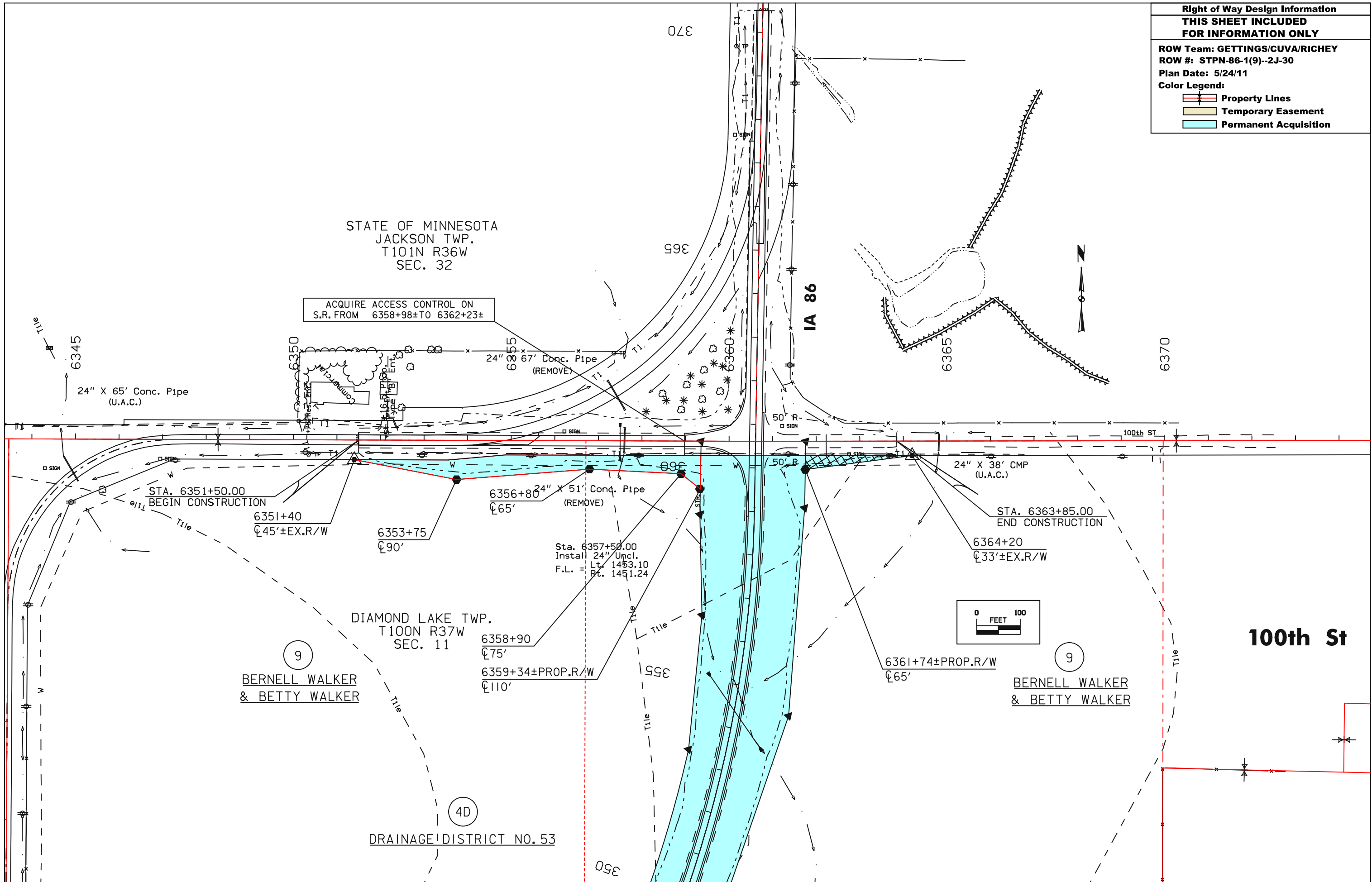
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BERNELL WALKER
& BETTY WALKER

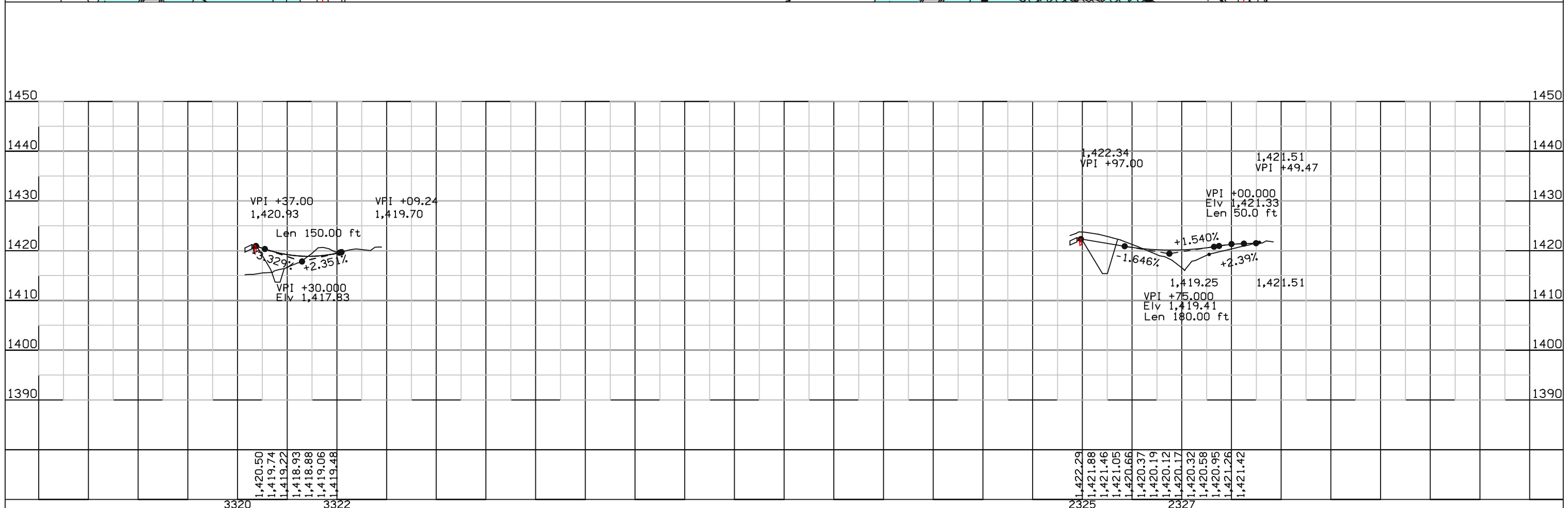
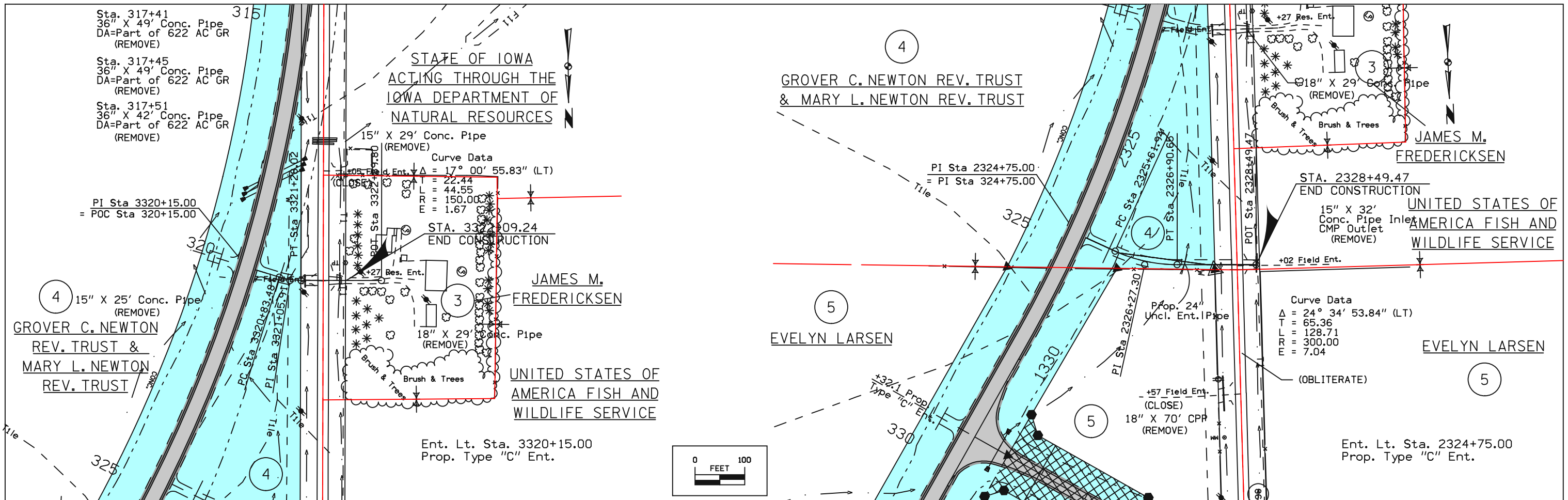
(6)
KENNETH P. ROTH
& DIXIE L. ROTH

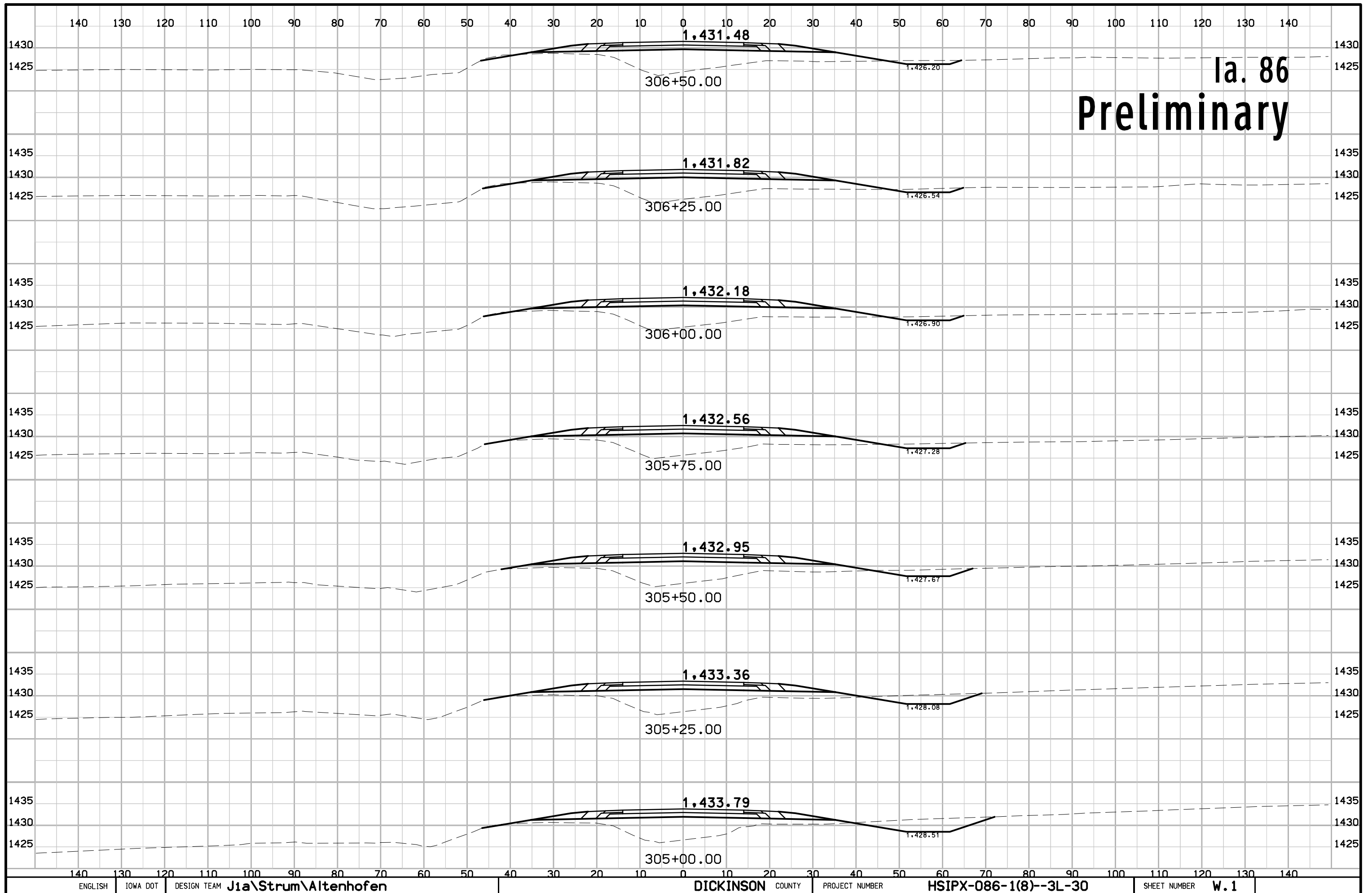
(5)
EVELYN LARSEN



Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: GETTINGS/CUVA/RICHEY	
ROW #: STPN-86-1(9)--2J-30	
Plan Date: 5/24/11	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition

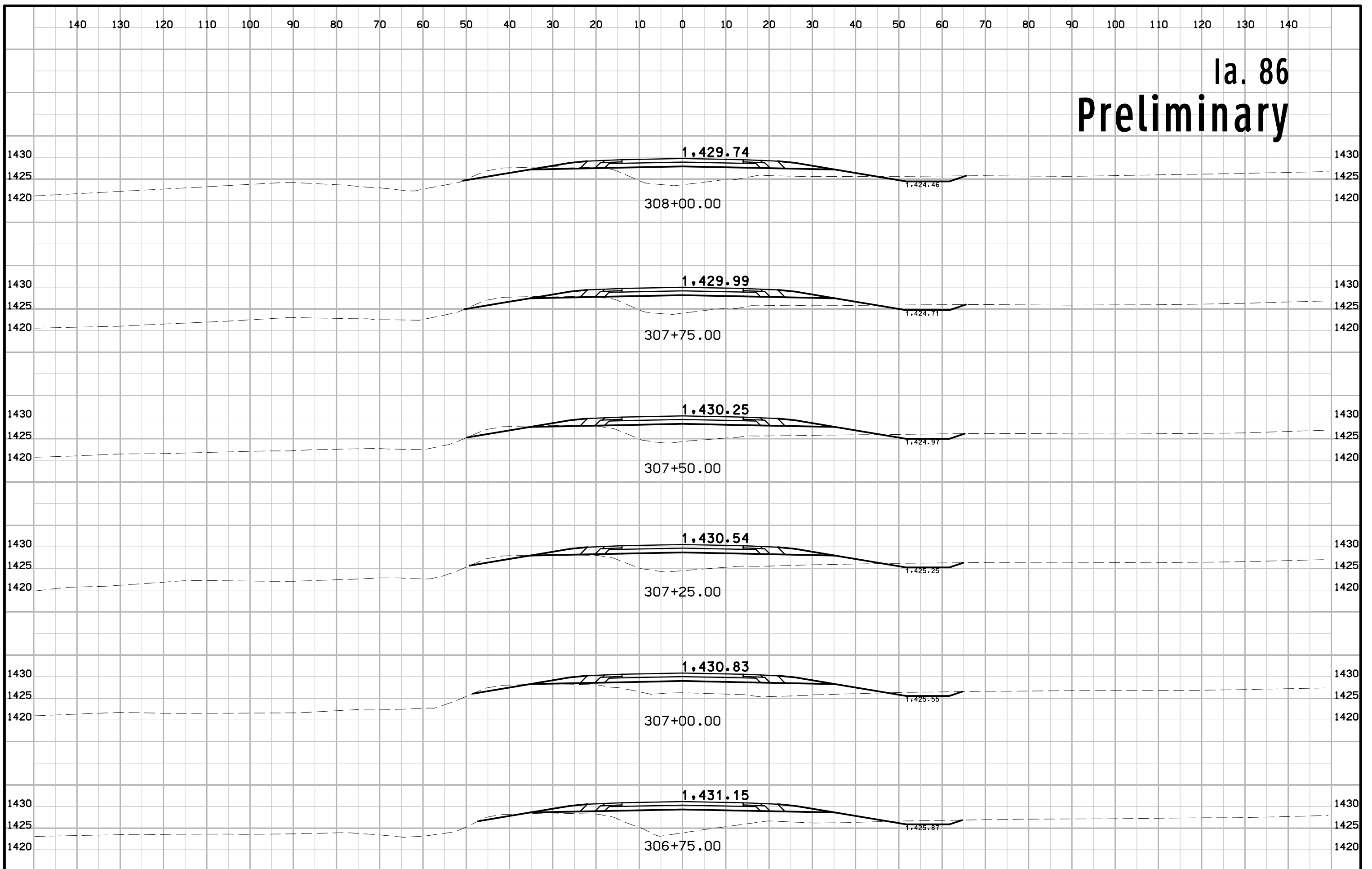




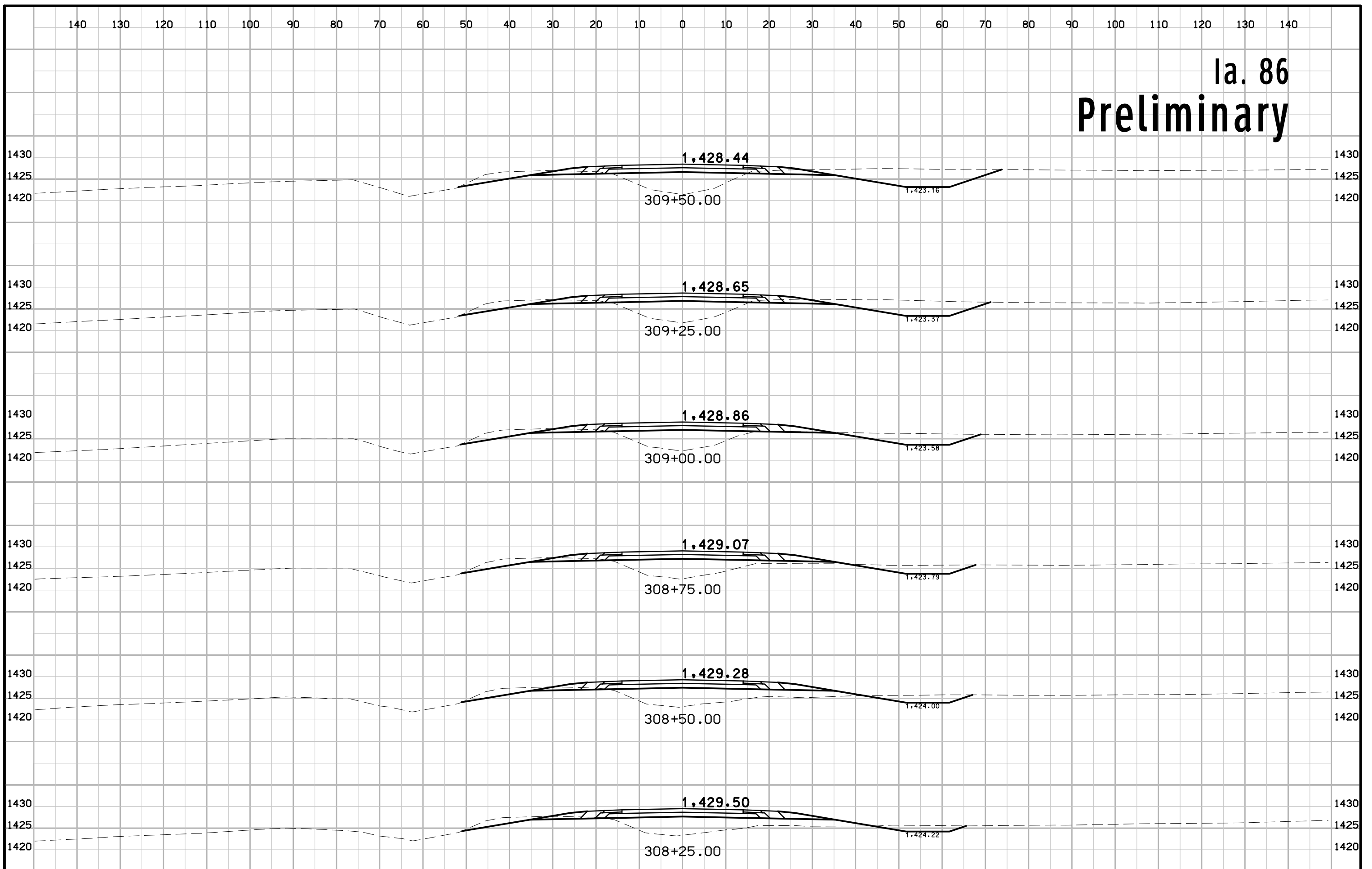


Ia. 86
Preliminary

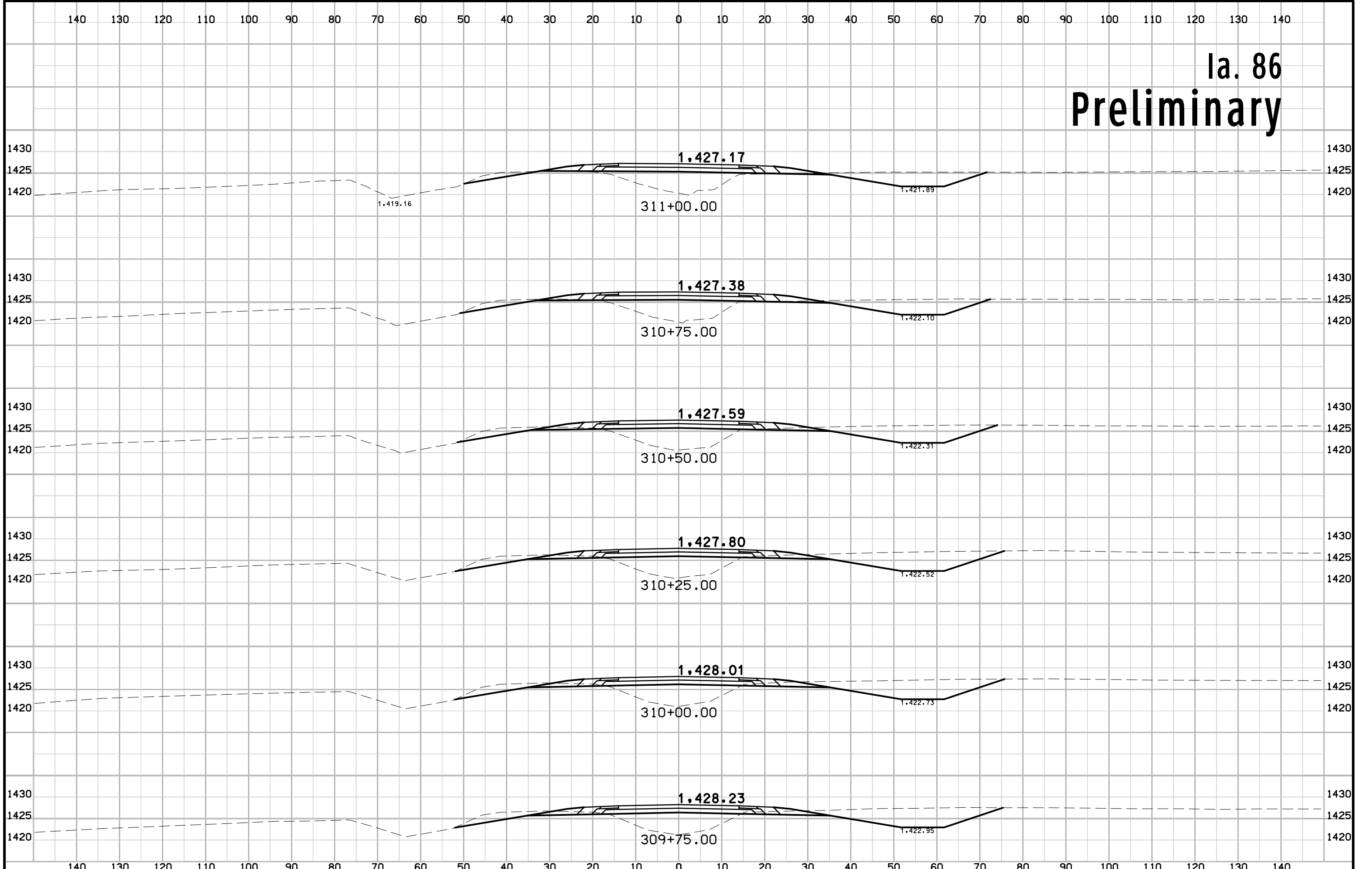
Ia. 86 Preliminary

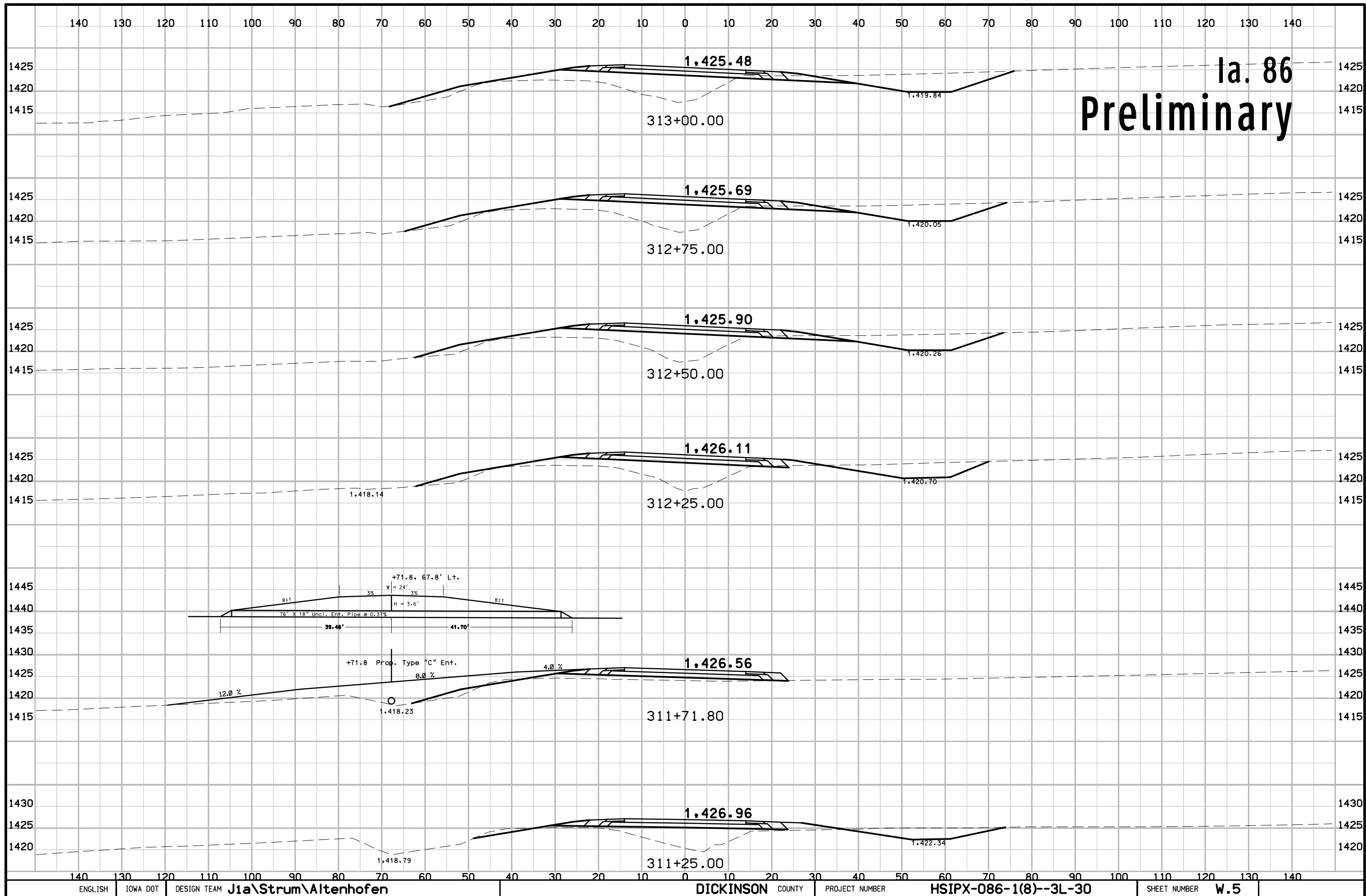


Ia. 86 Preliminary



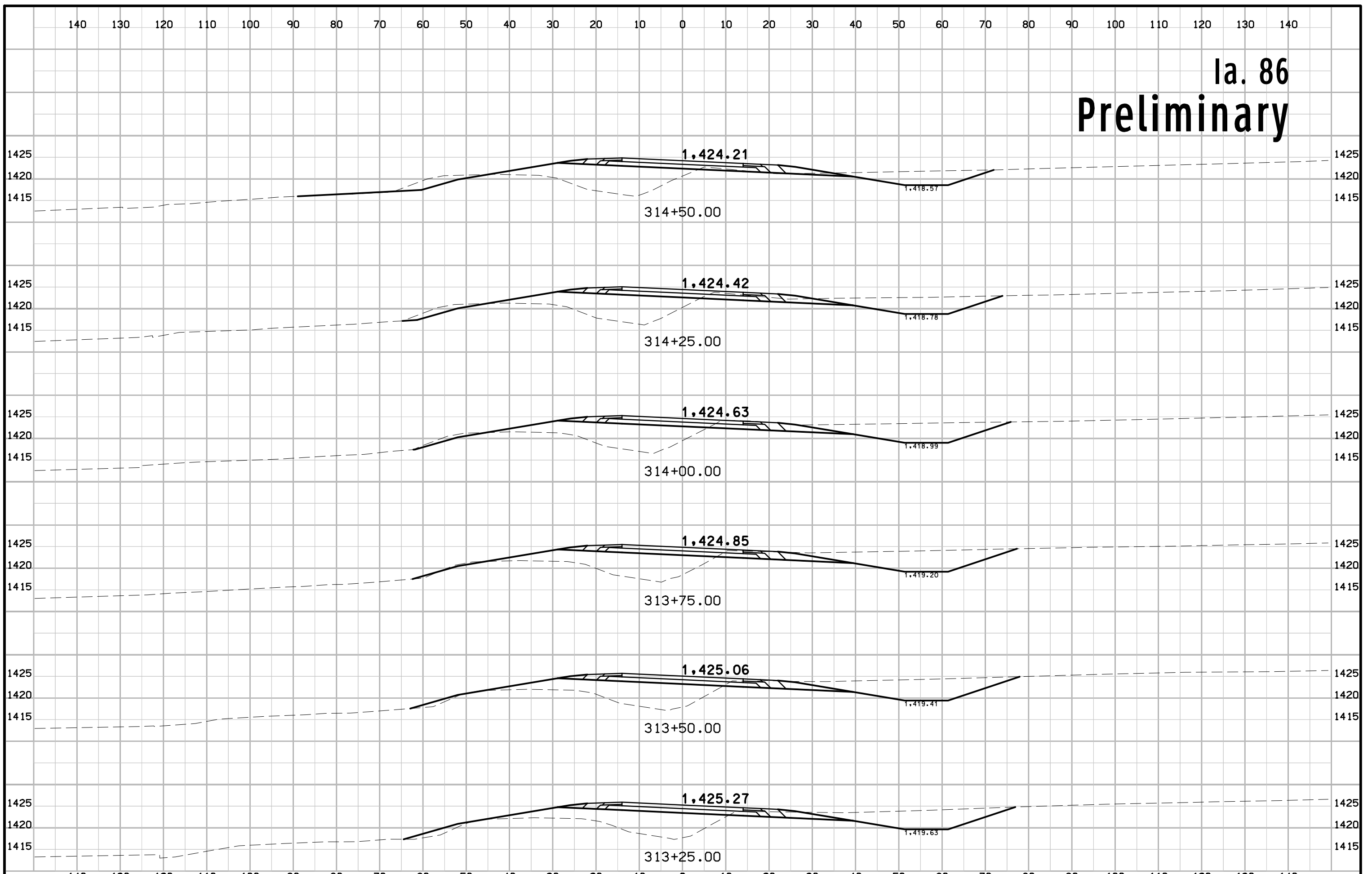
Ia. 86 Preliminary



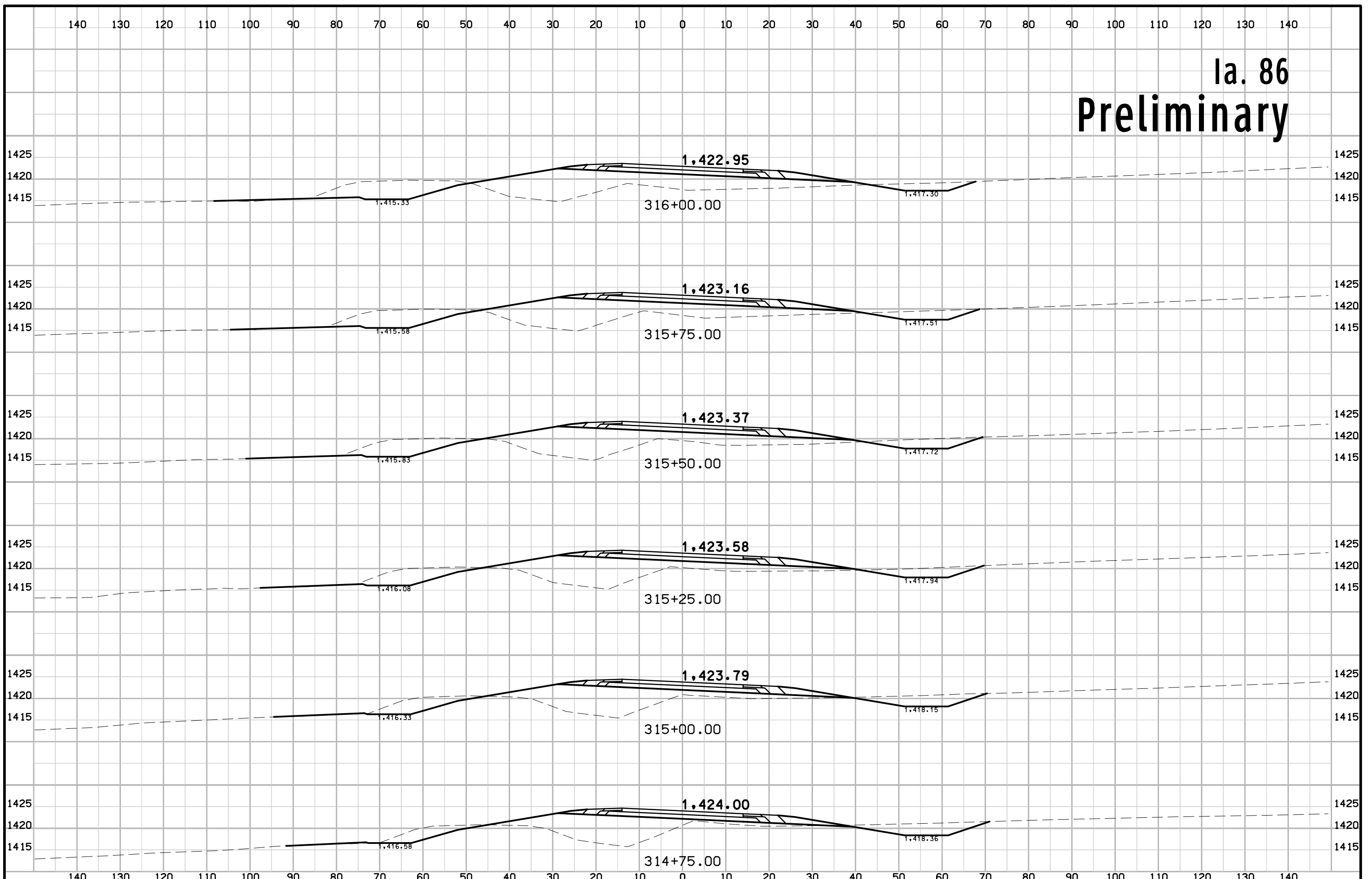


la. 86
Preliminary

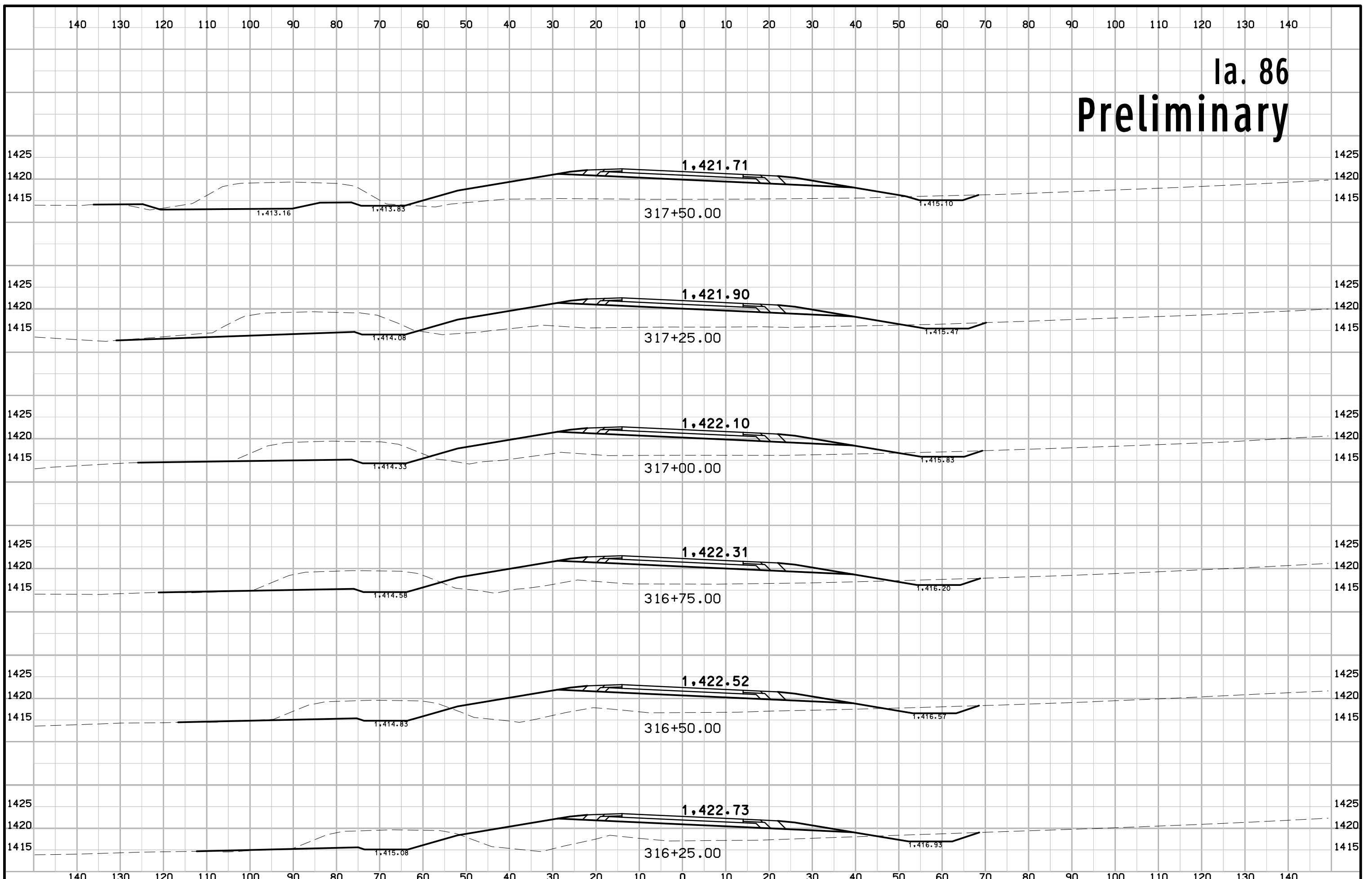
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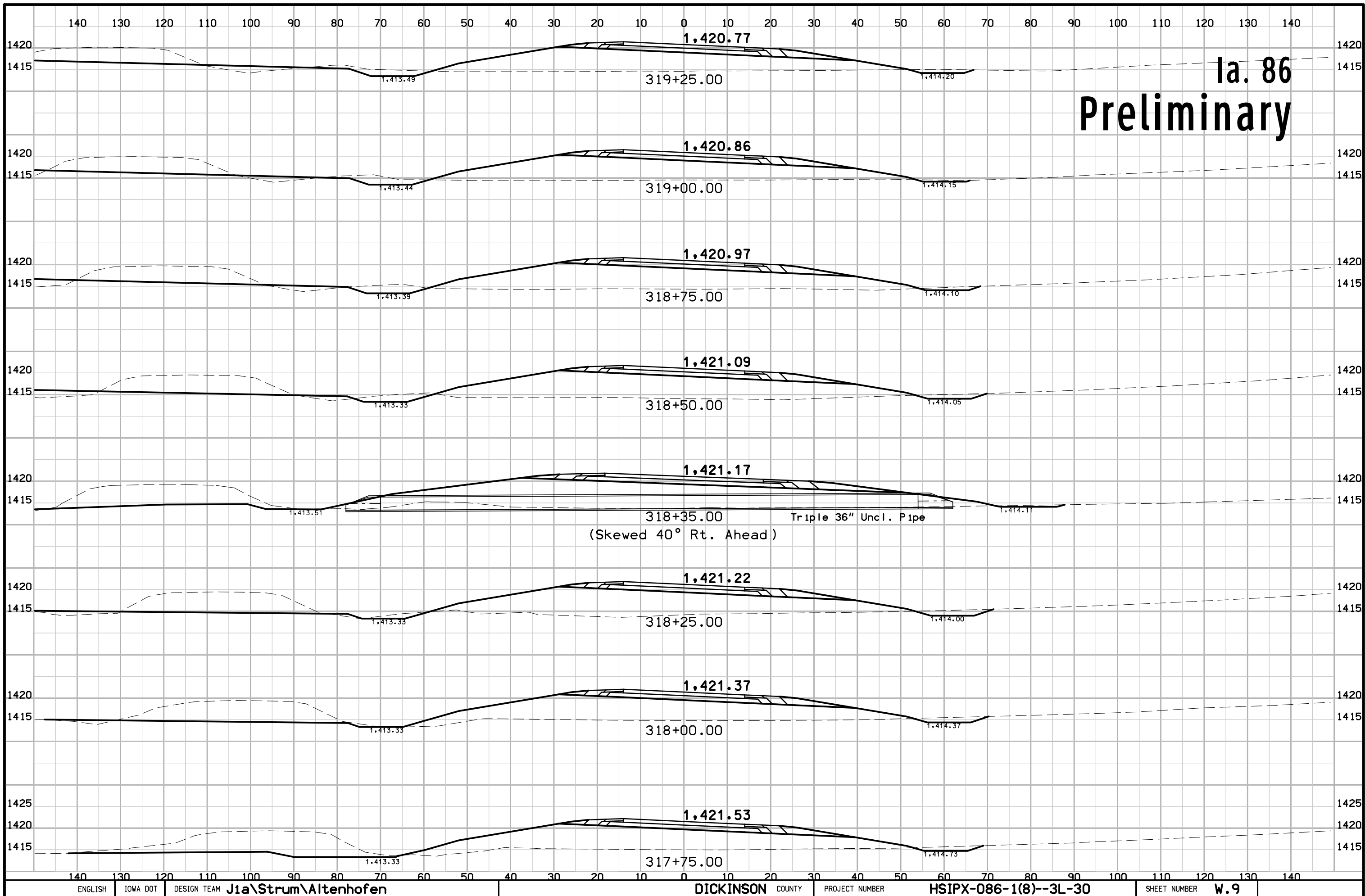


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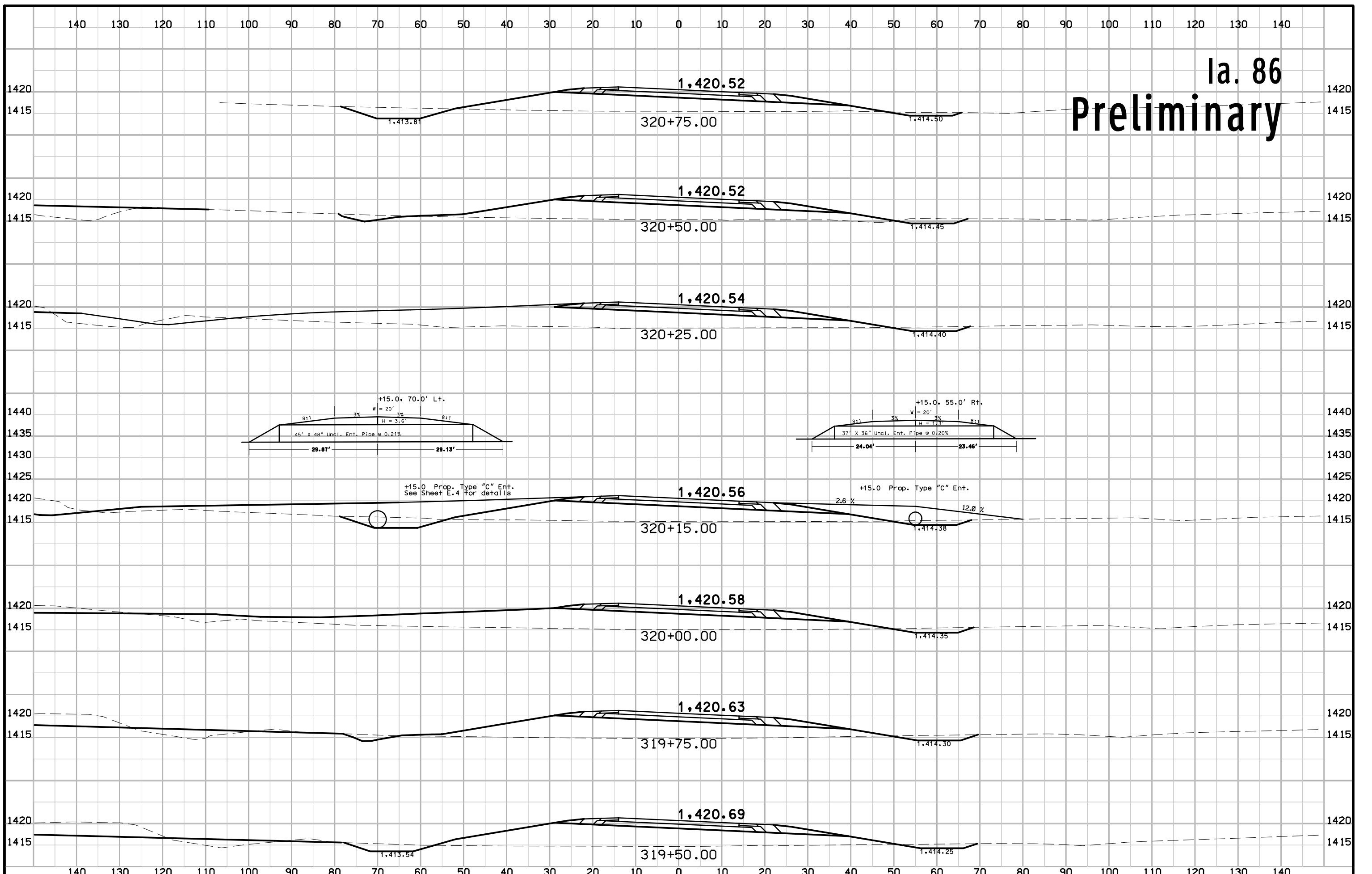
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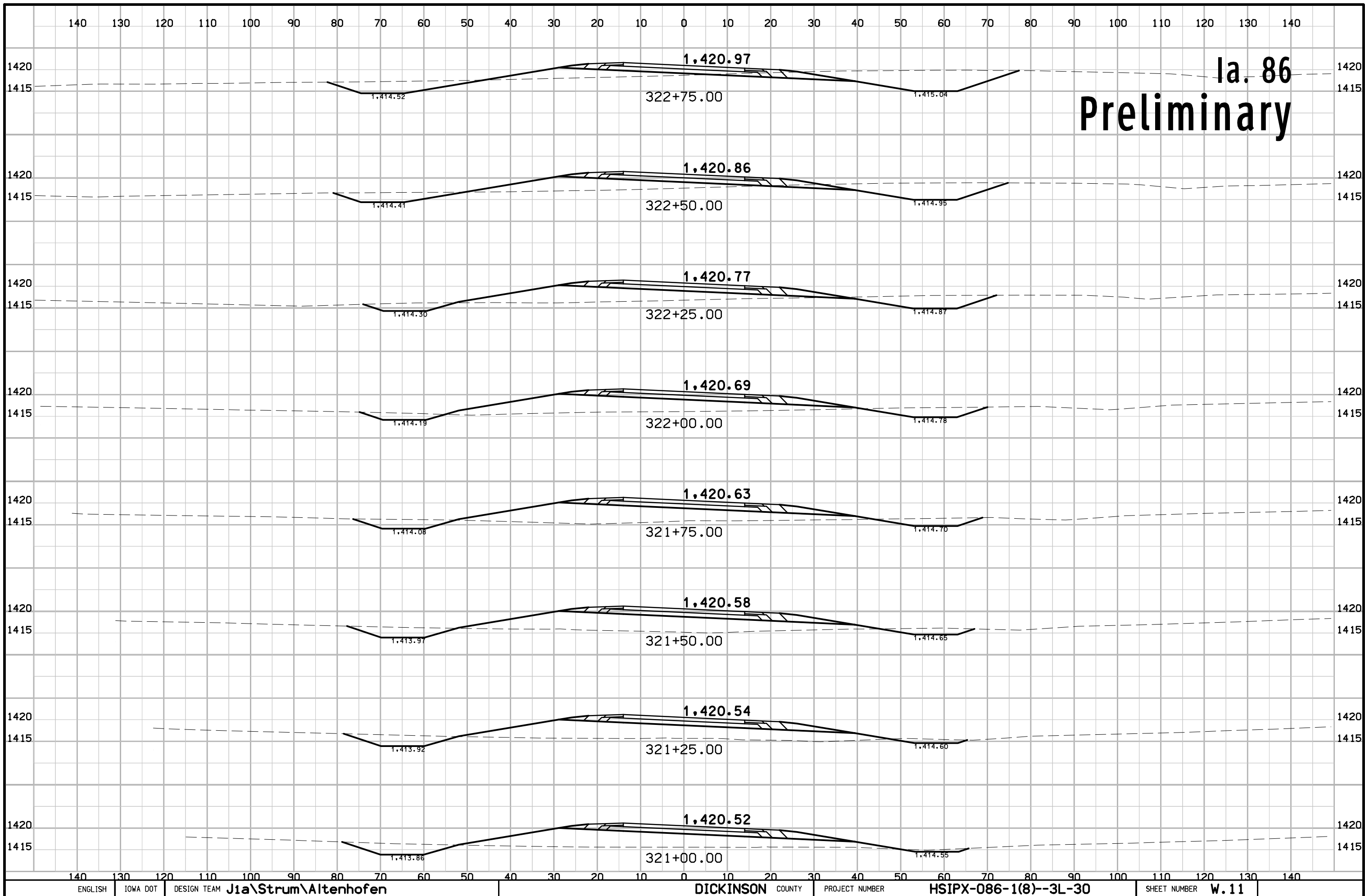




la. 86
Preliminary

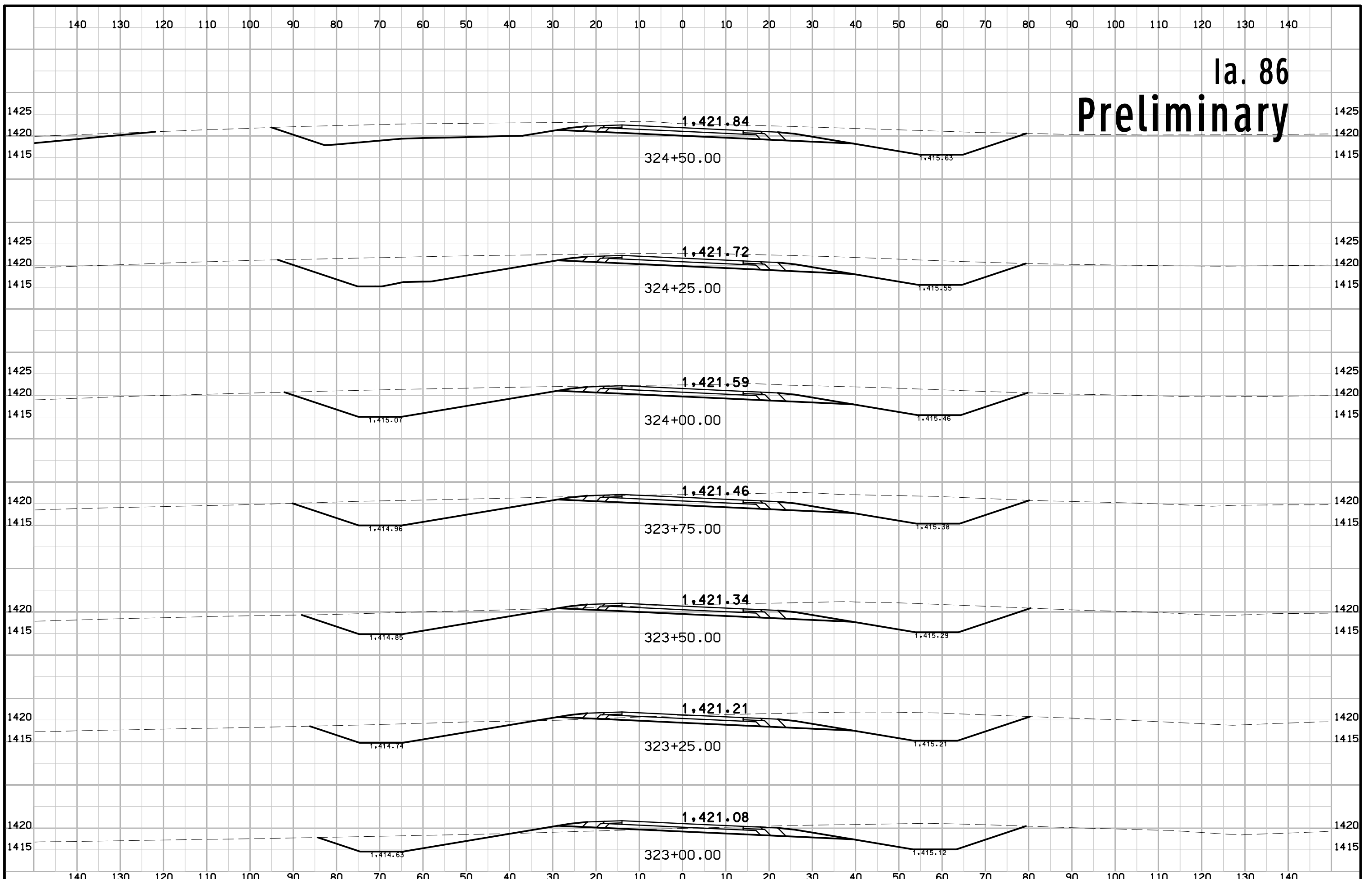
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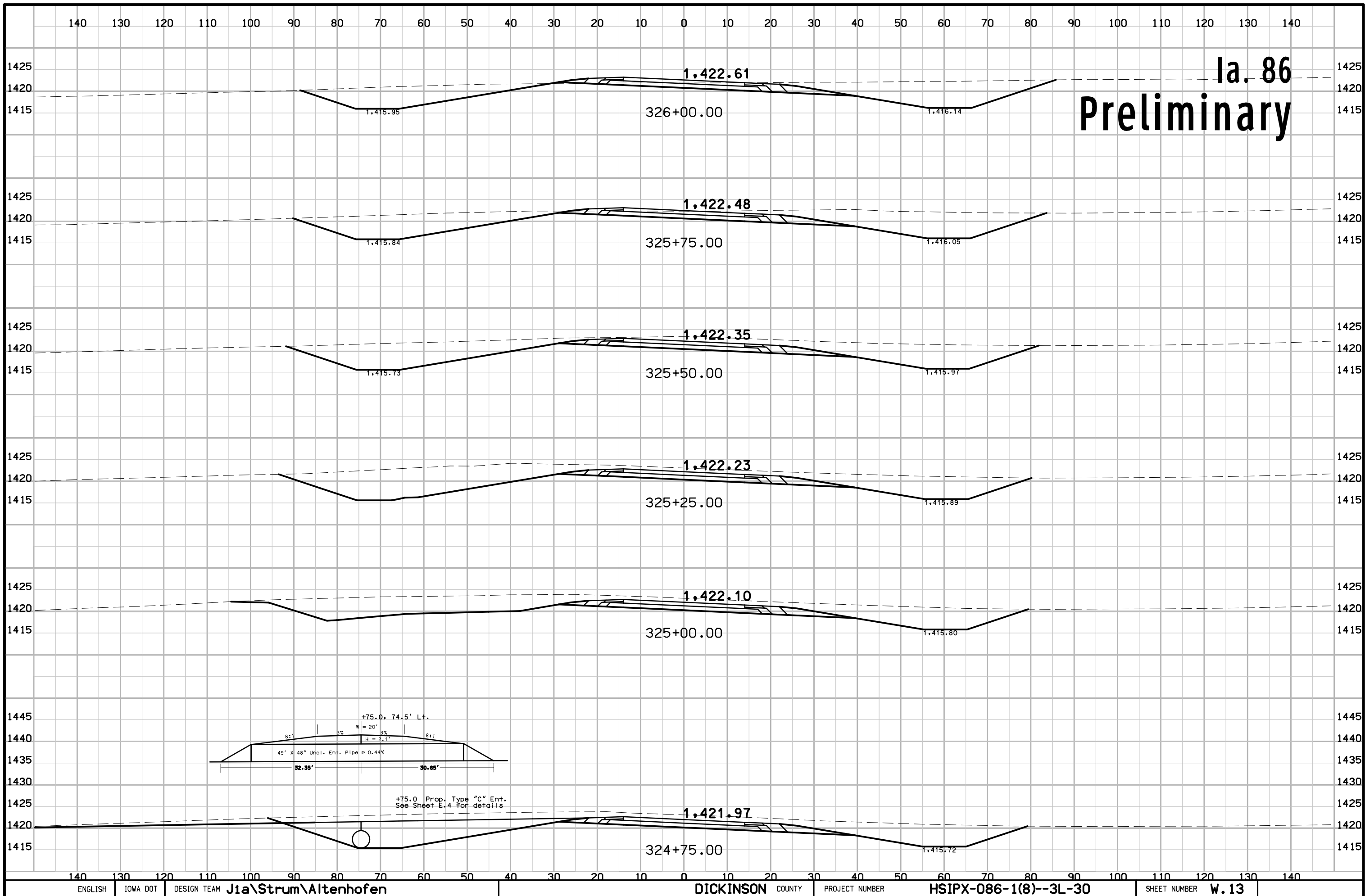




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Preliminary

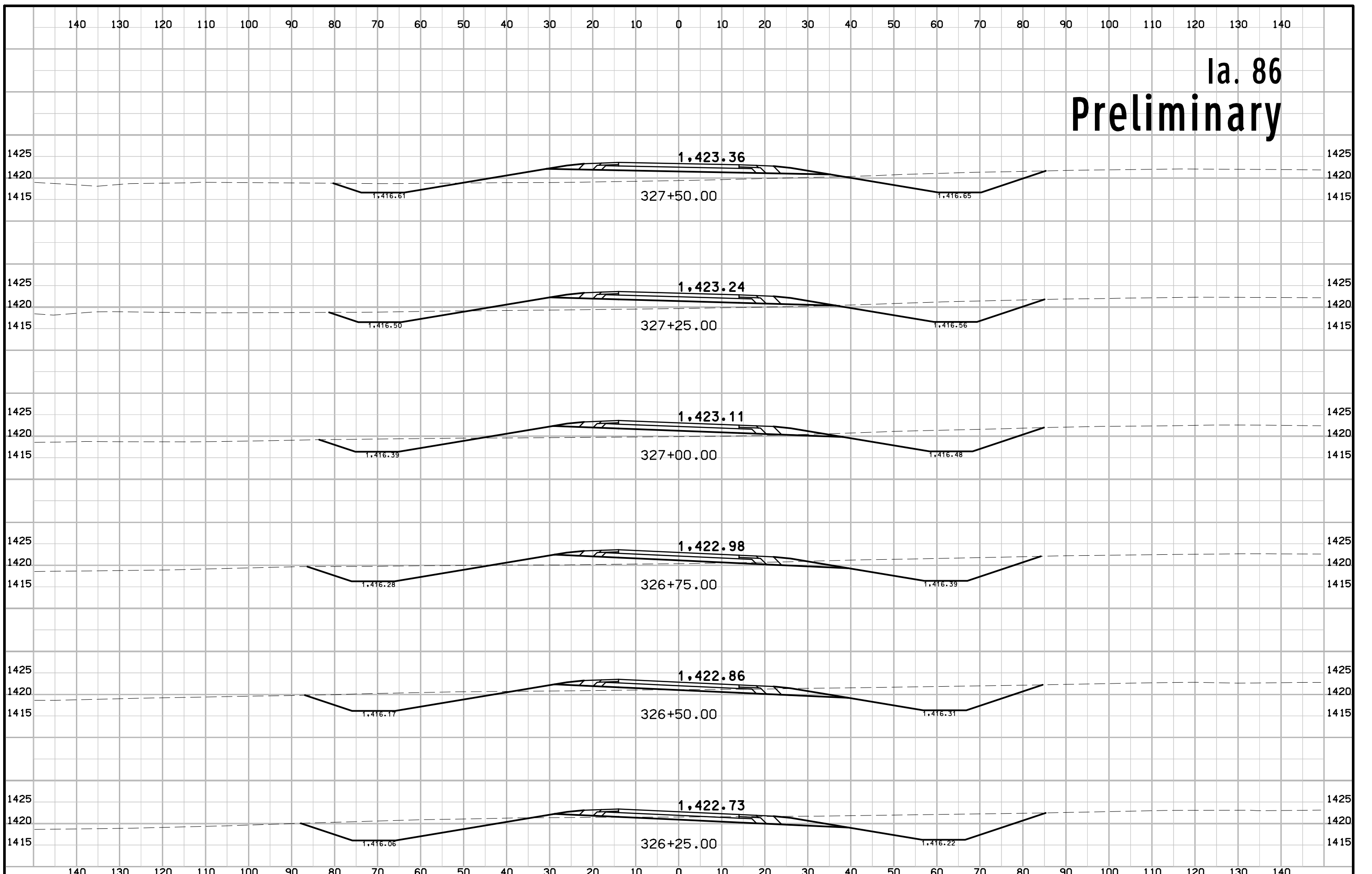
Ia. 86 Preliminary



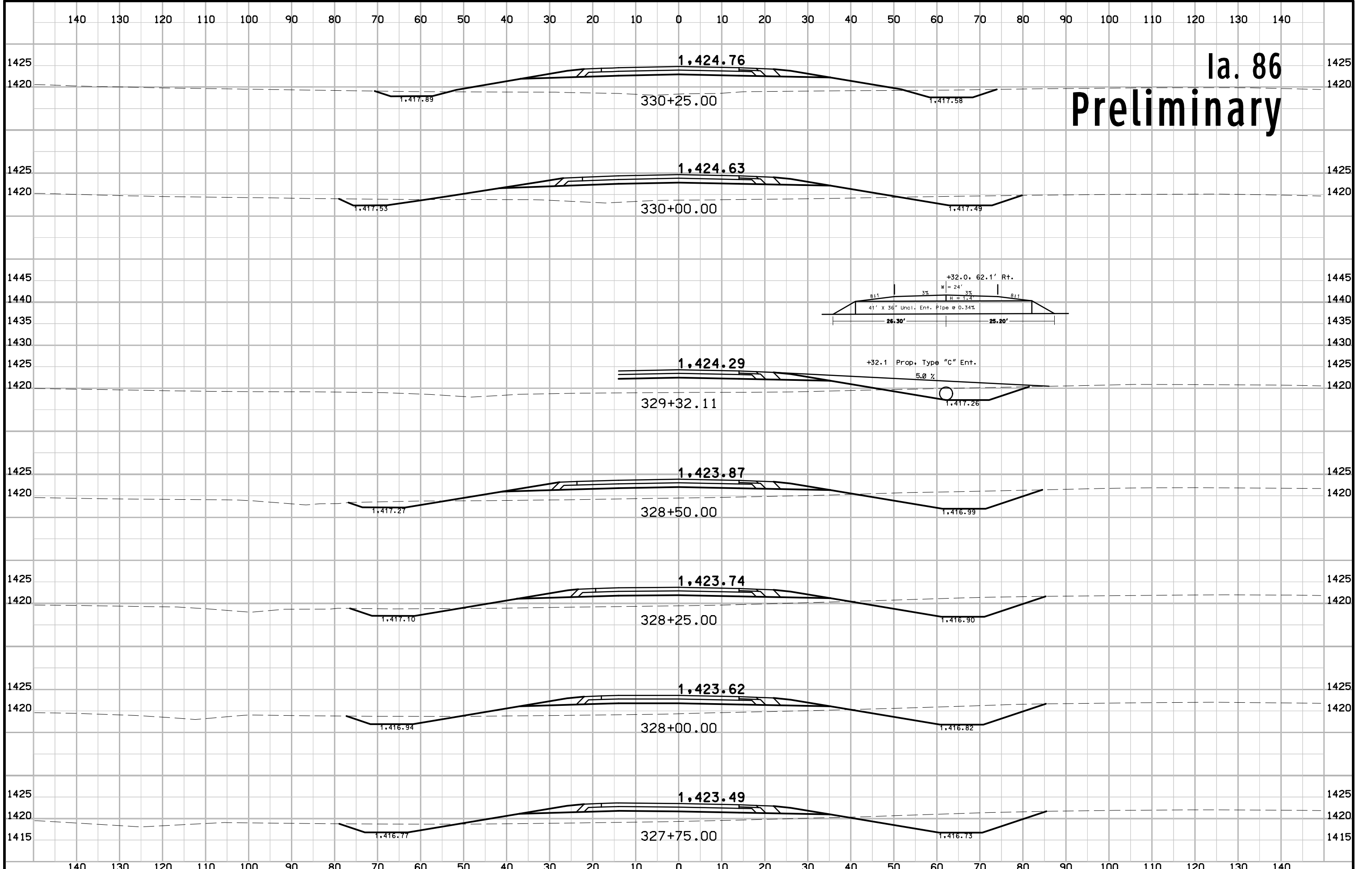


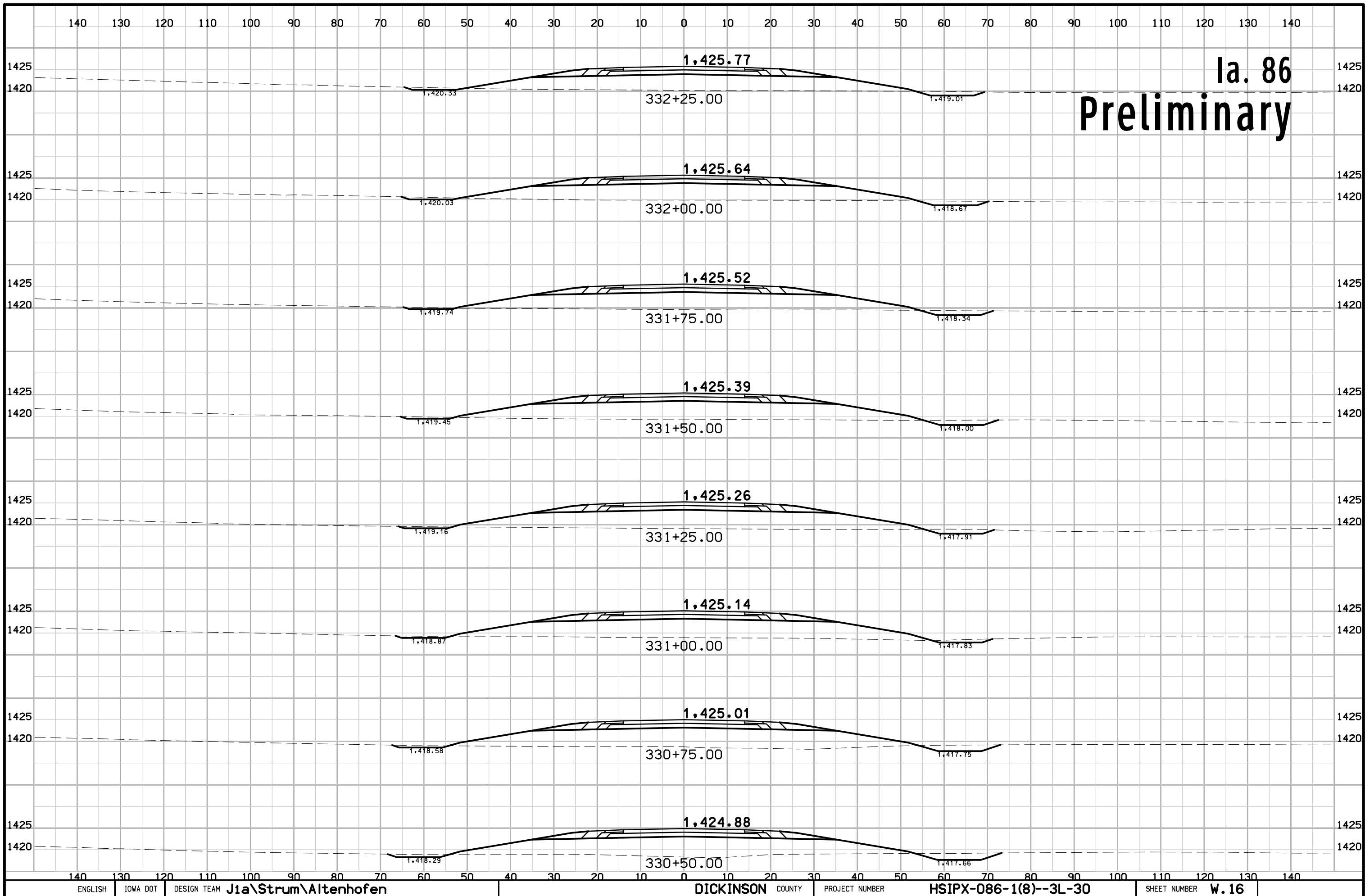
la. 86
Preliminary

Ia. 86 Preliminary

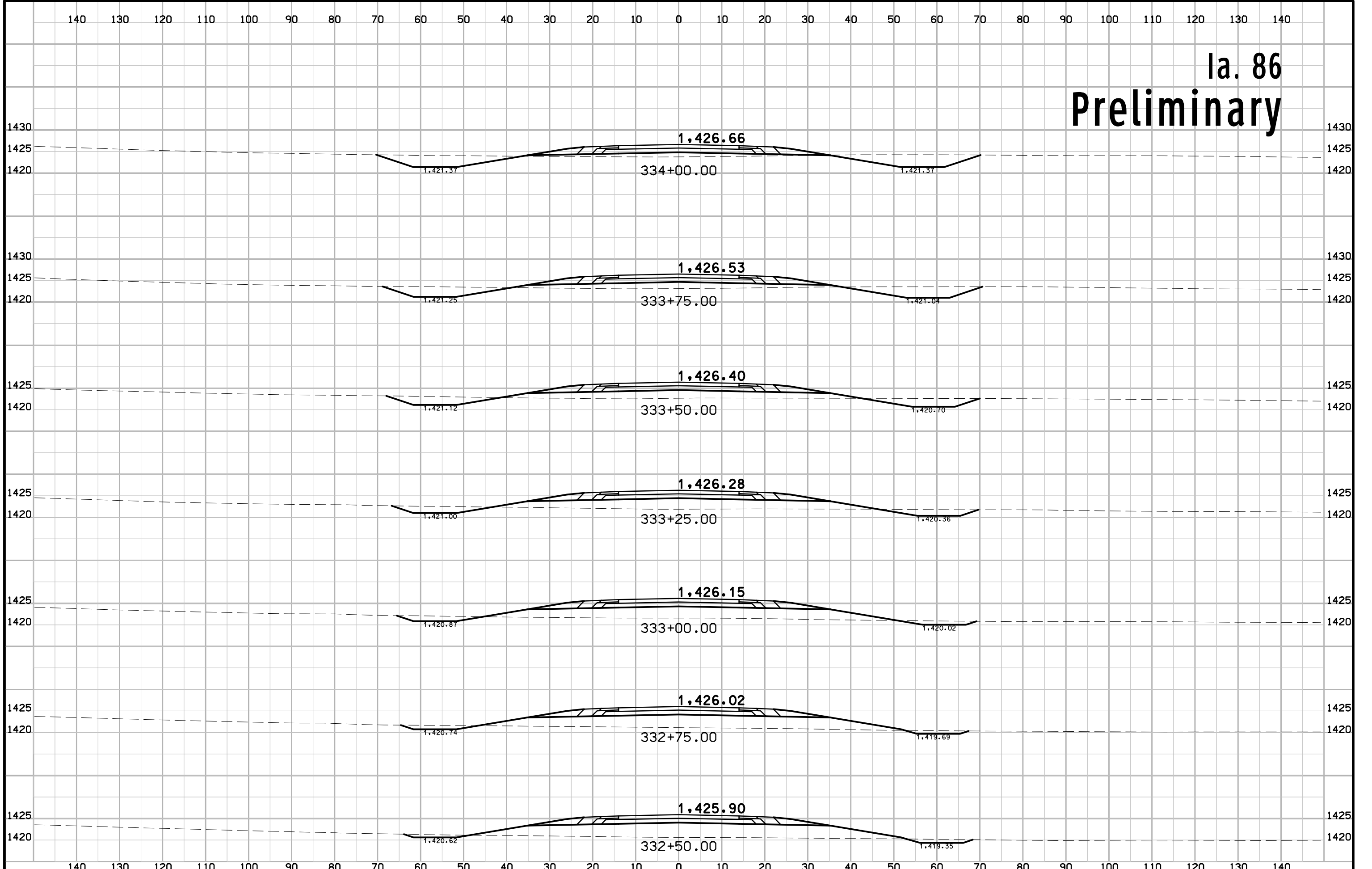


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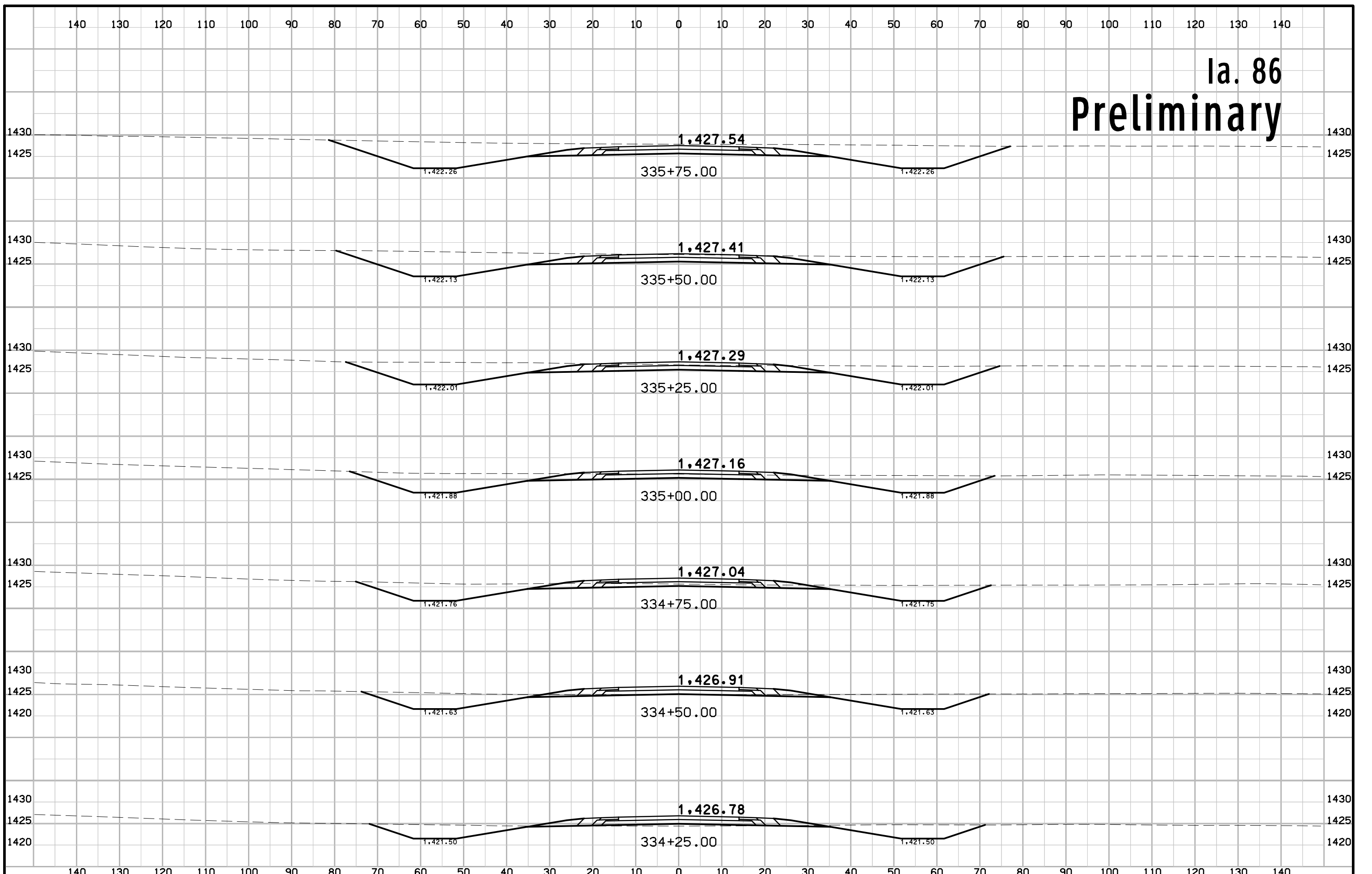


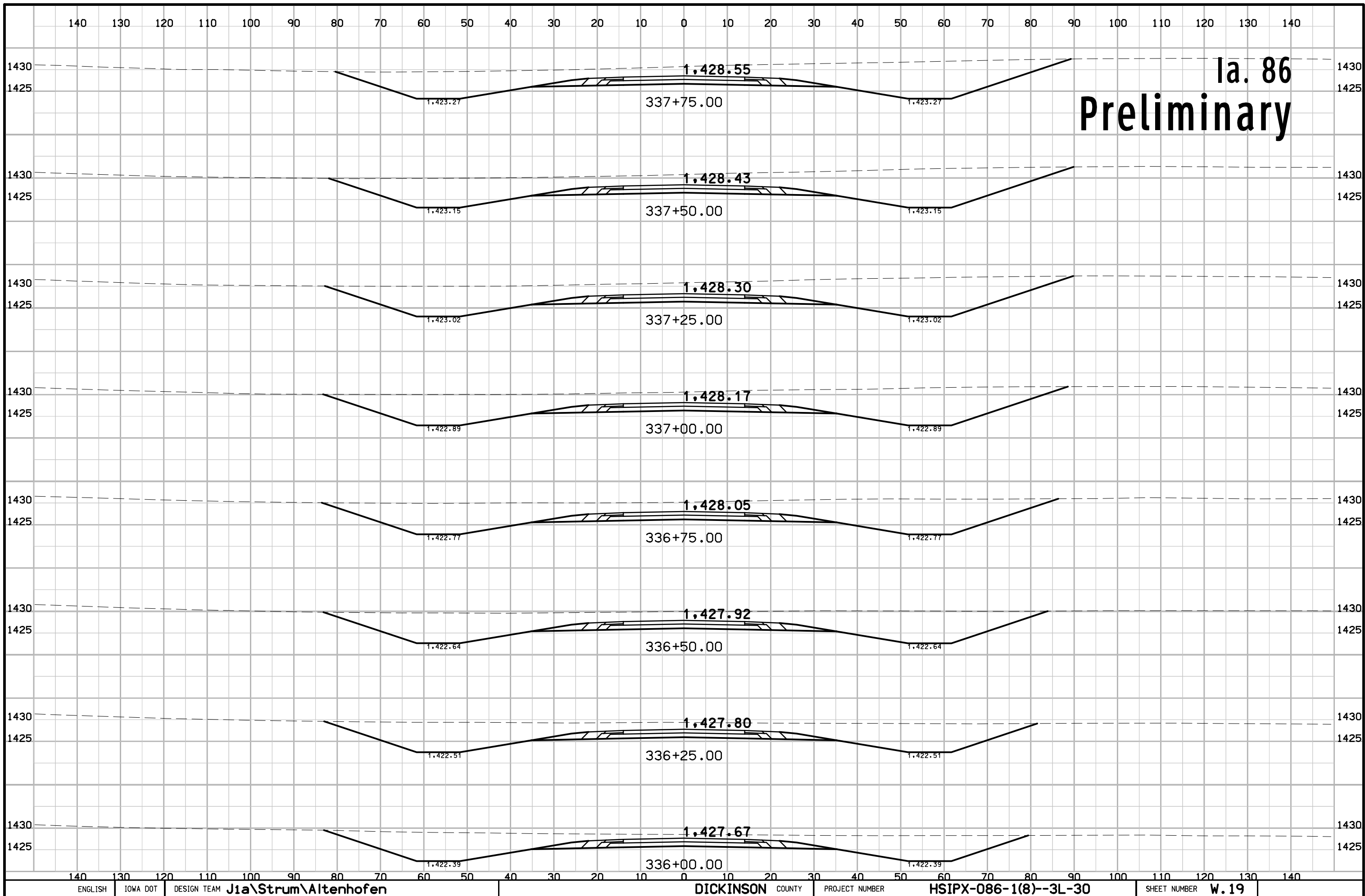


Ia. 86 Preliminary

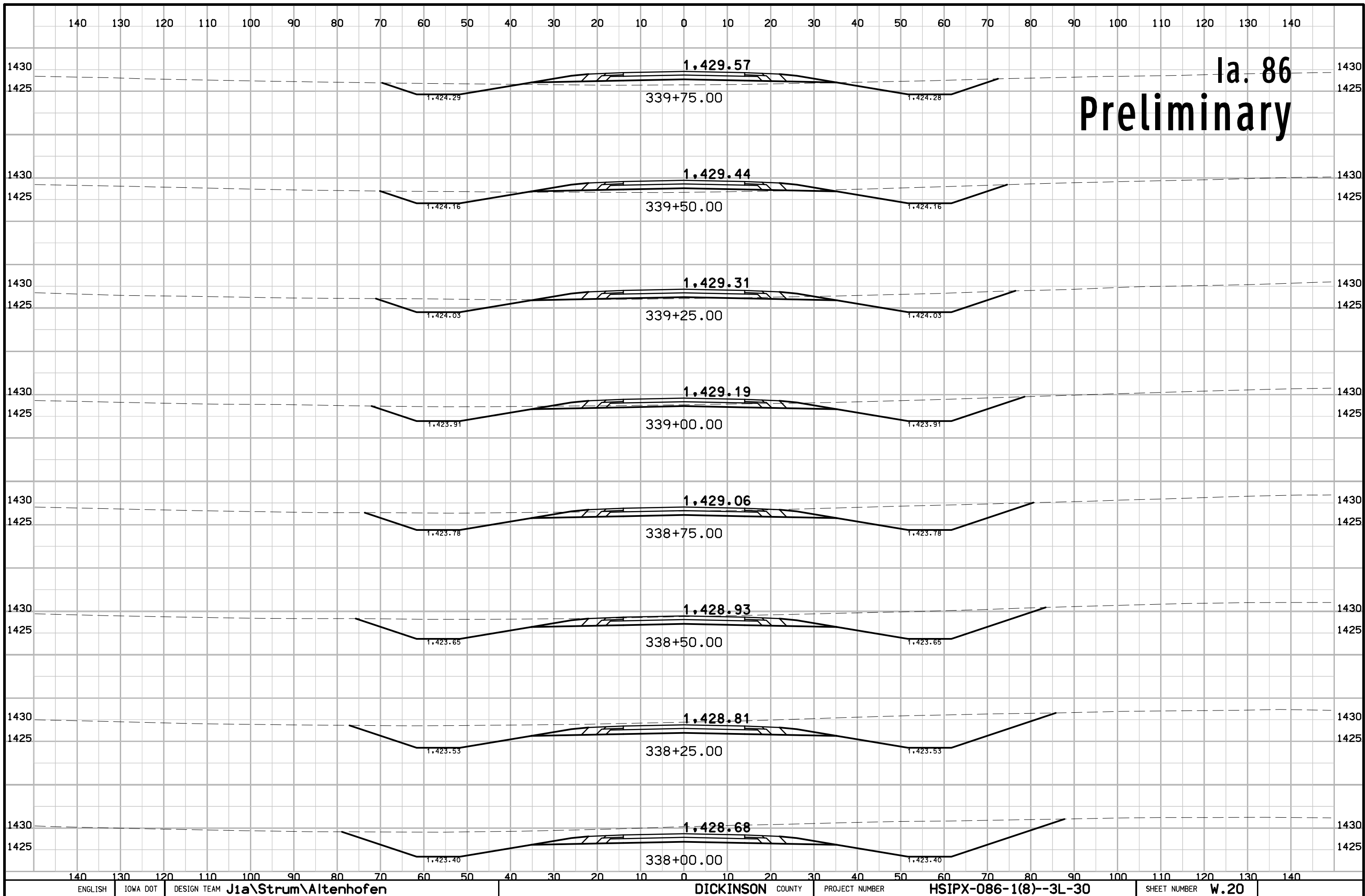


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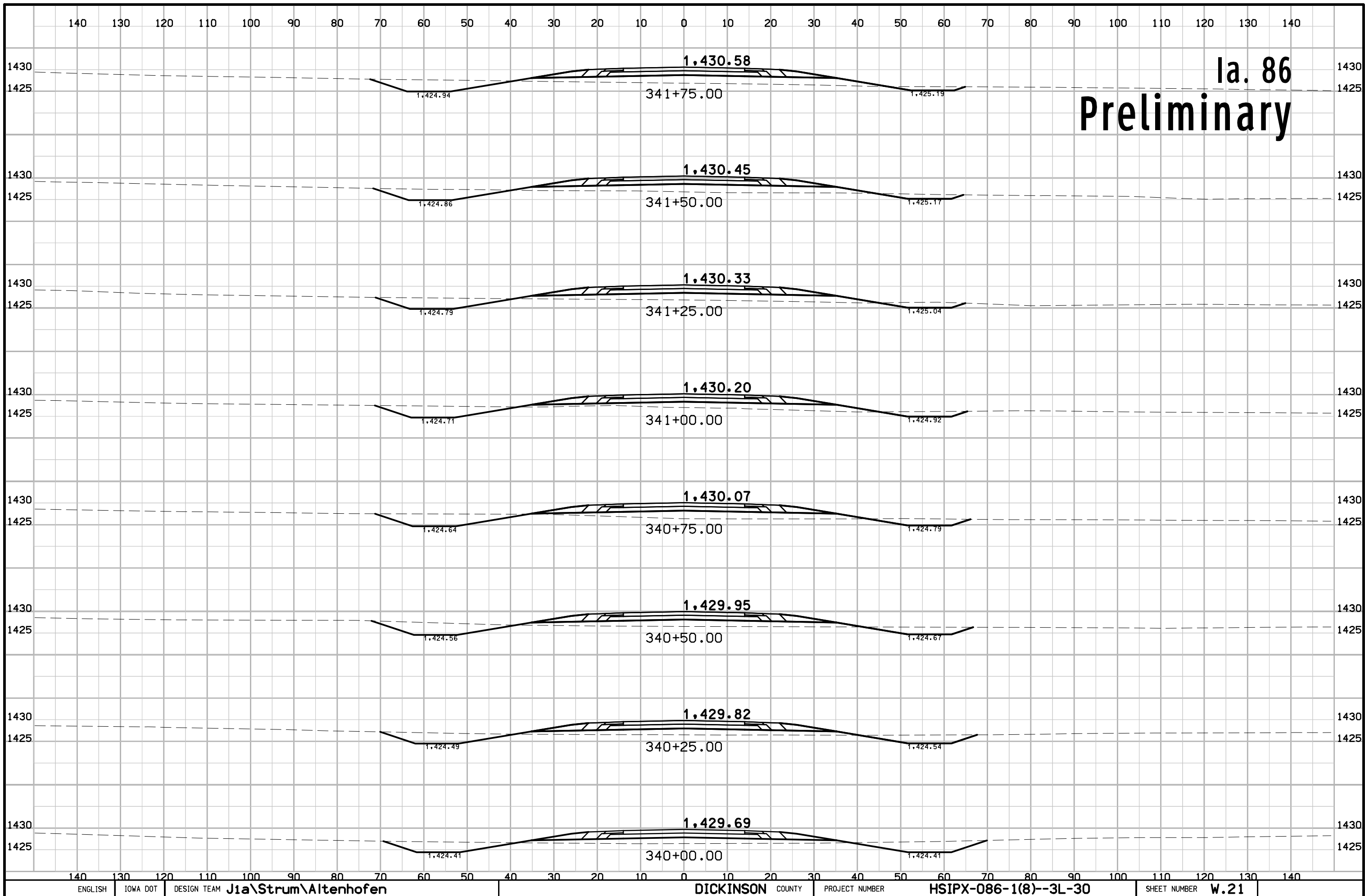


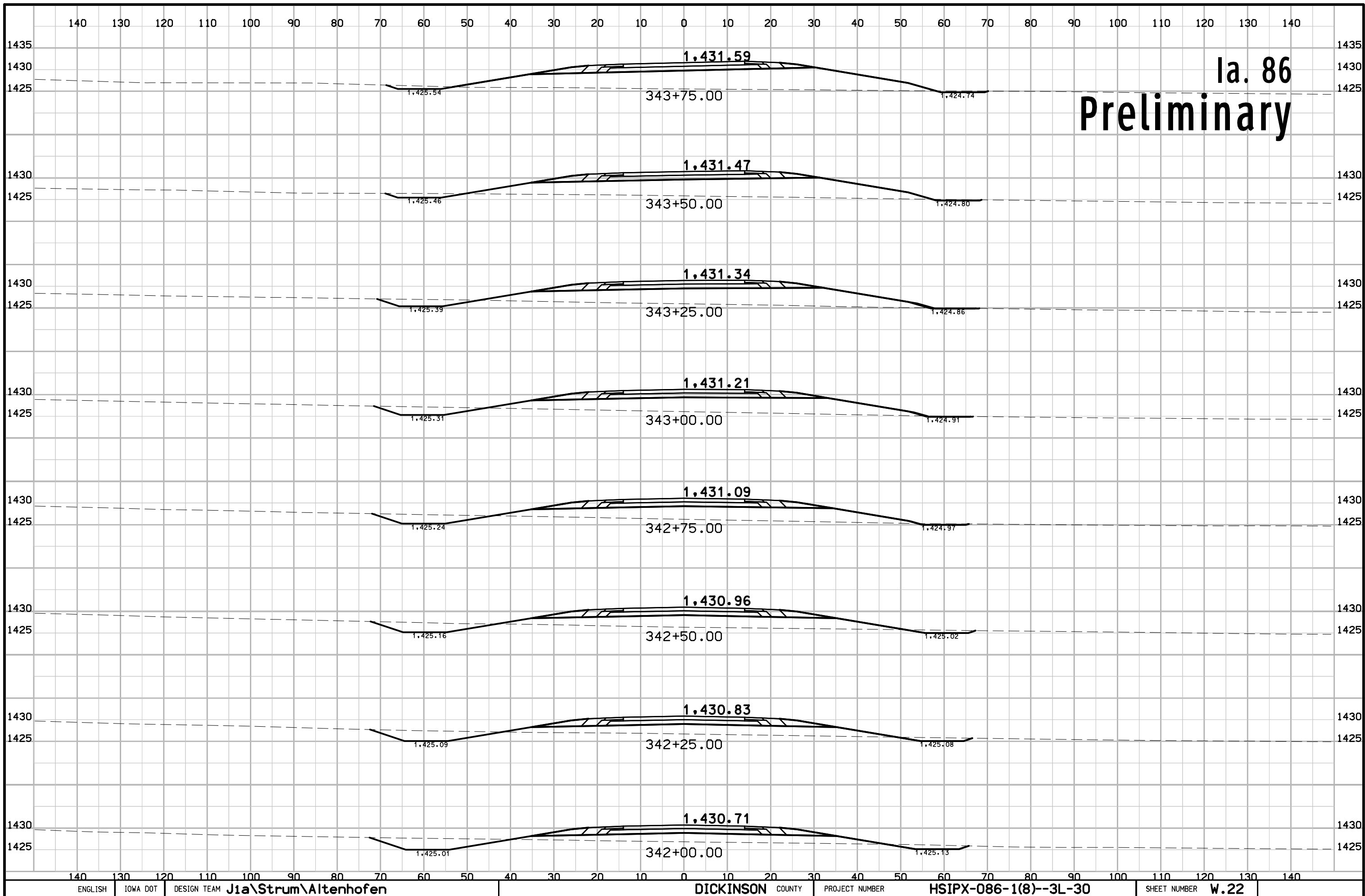


la. 86
Preliminary

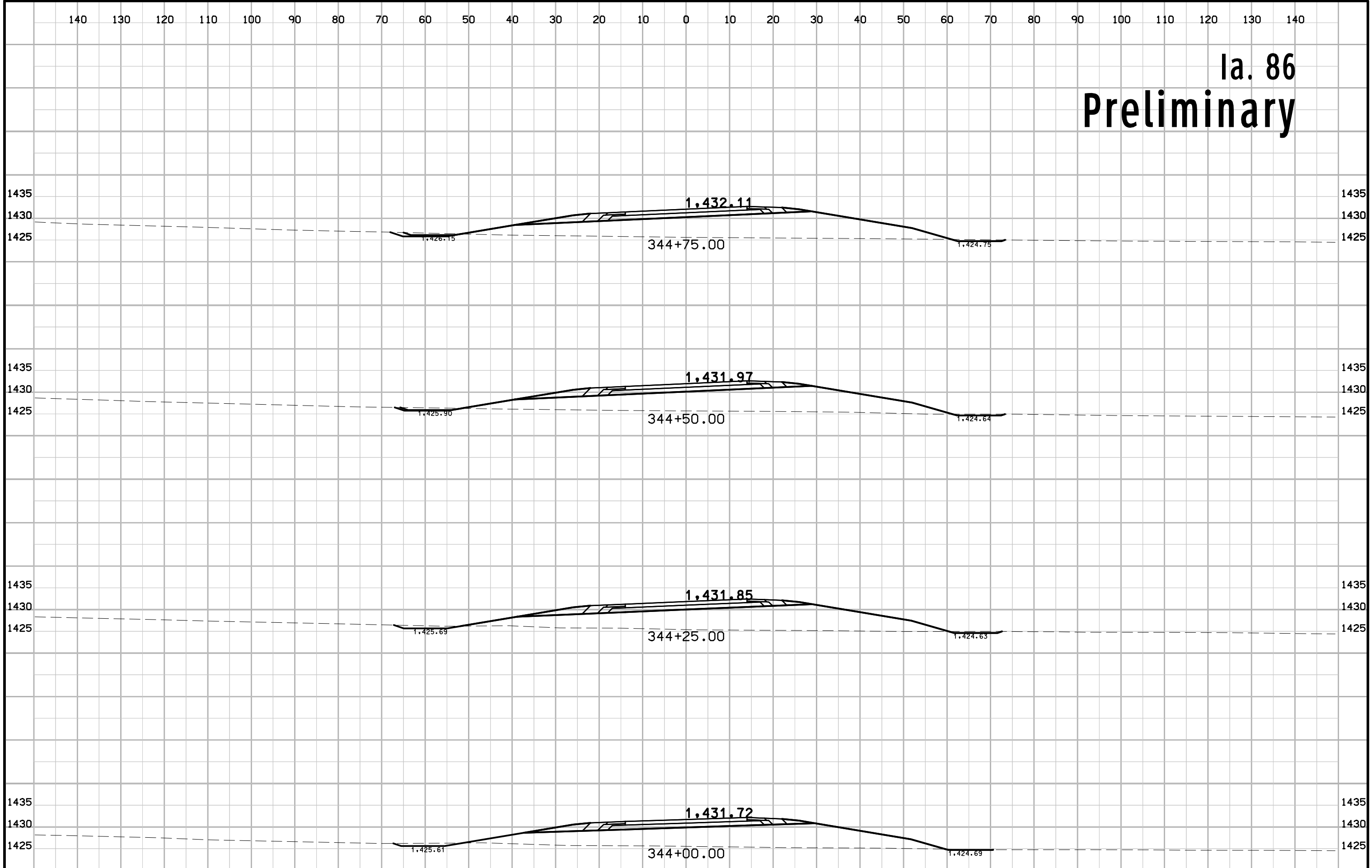


la. 86
Preliminary

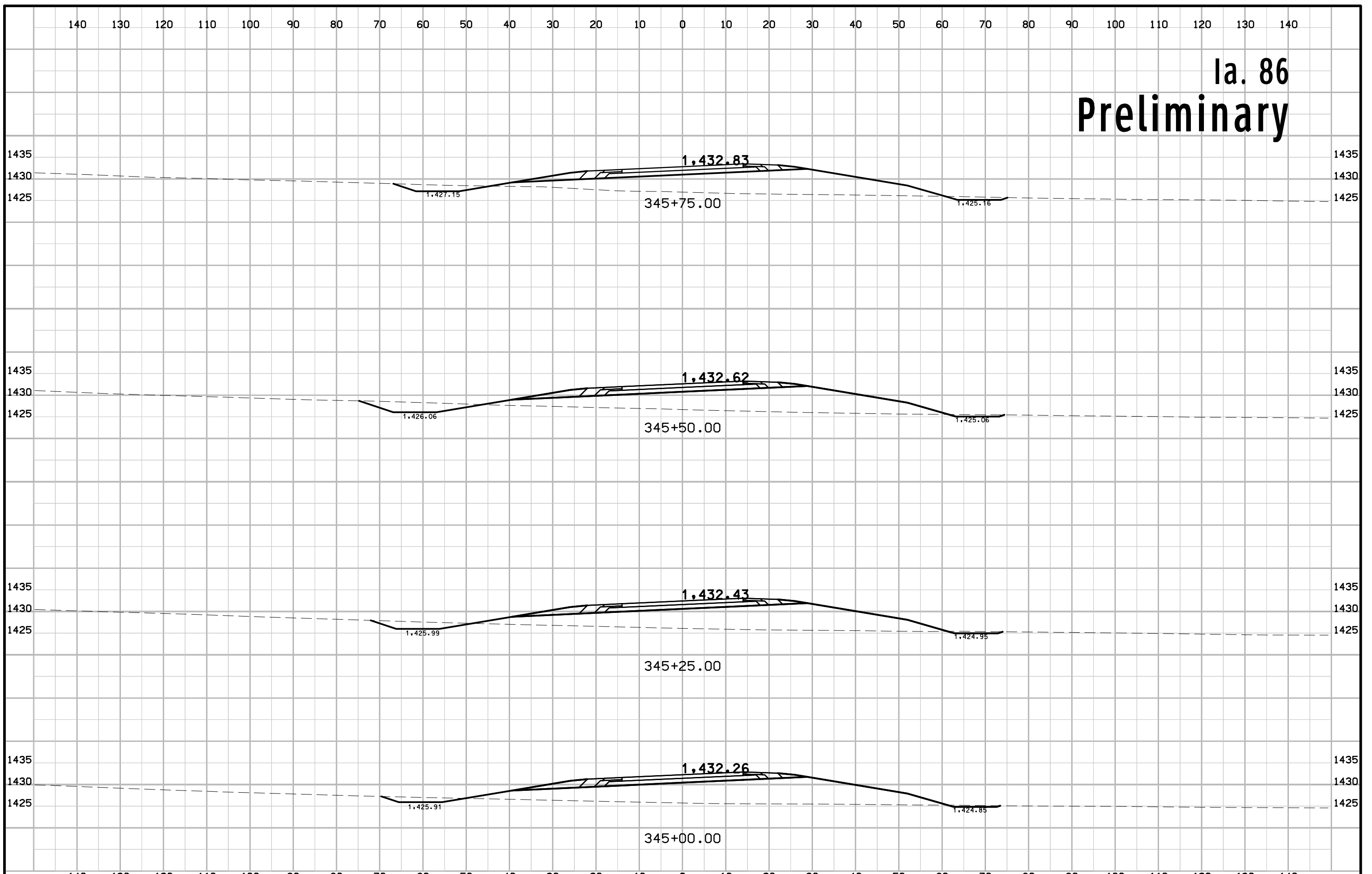


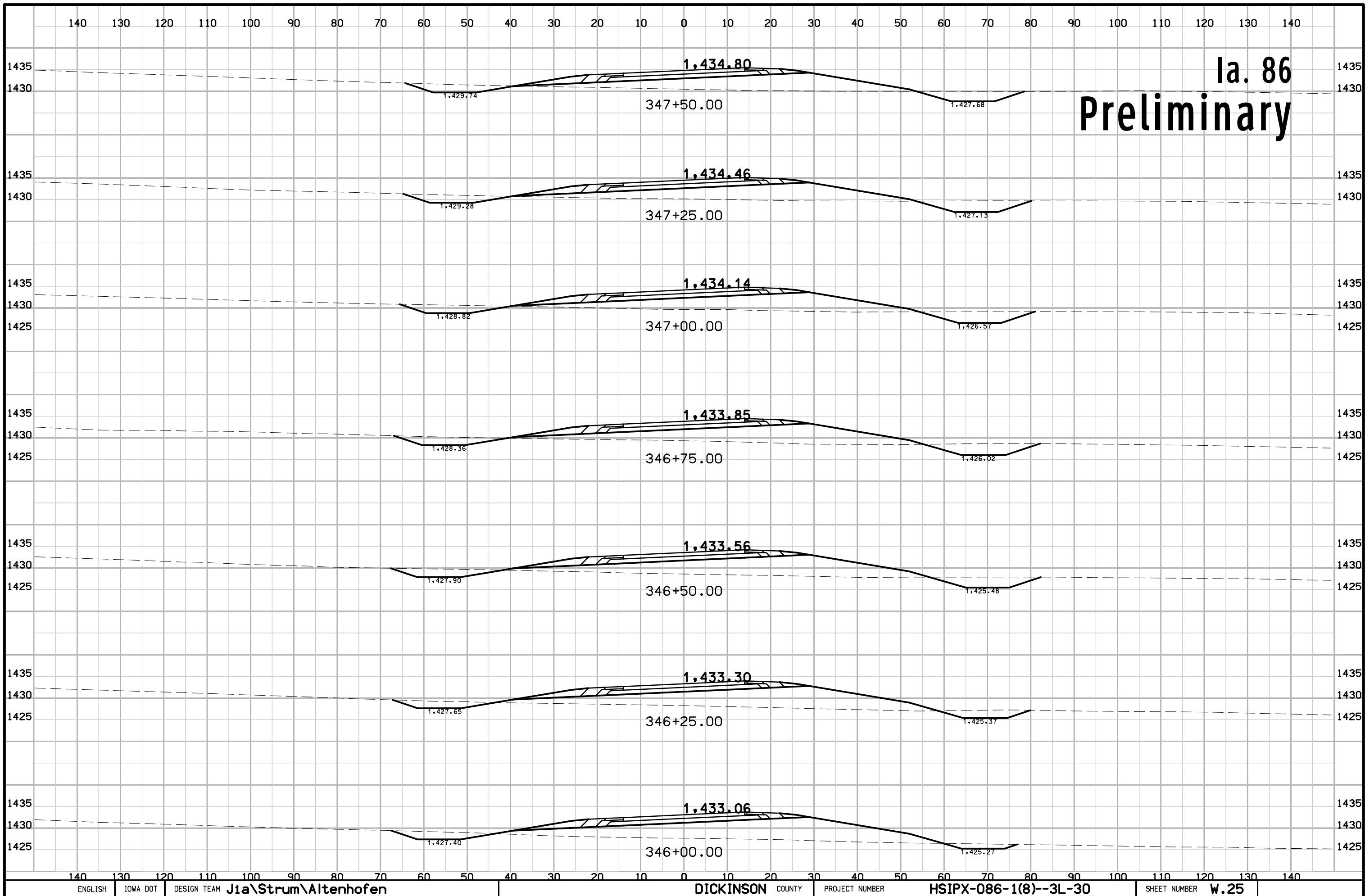


Ia. 86 Preliminary

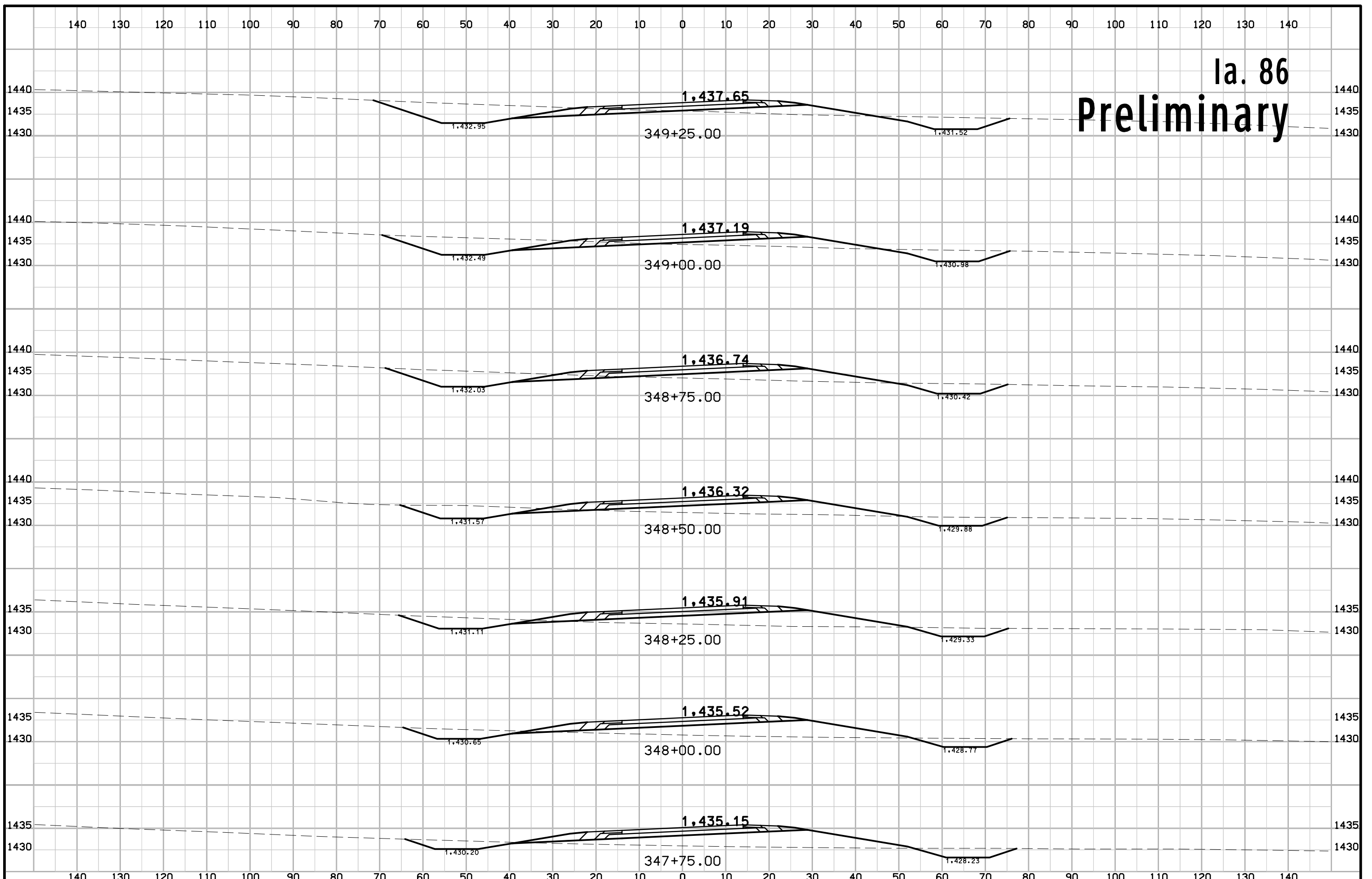


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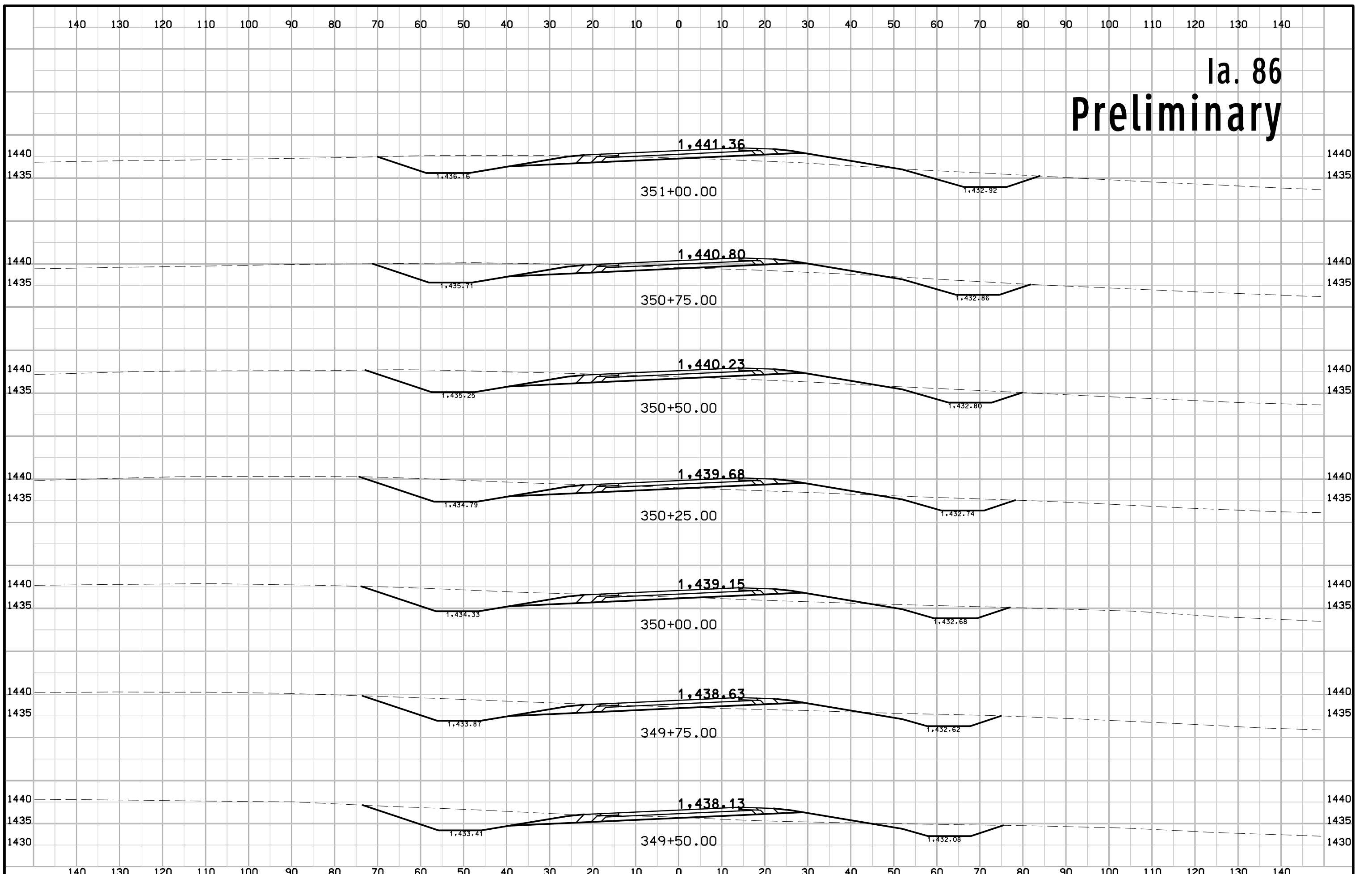




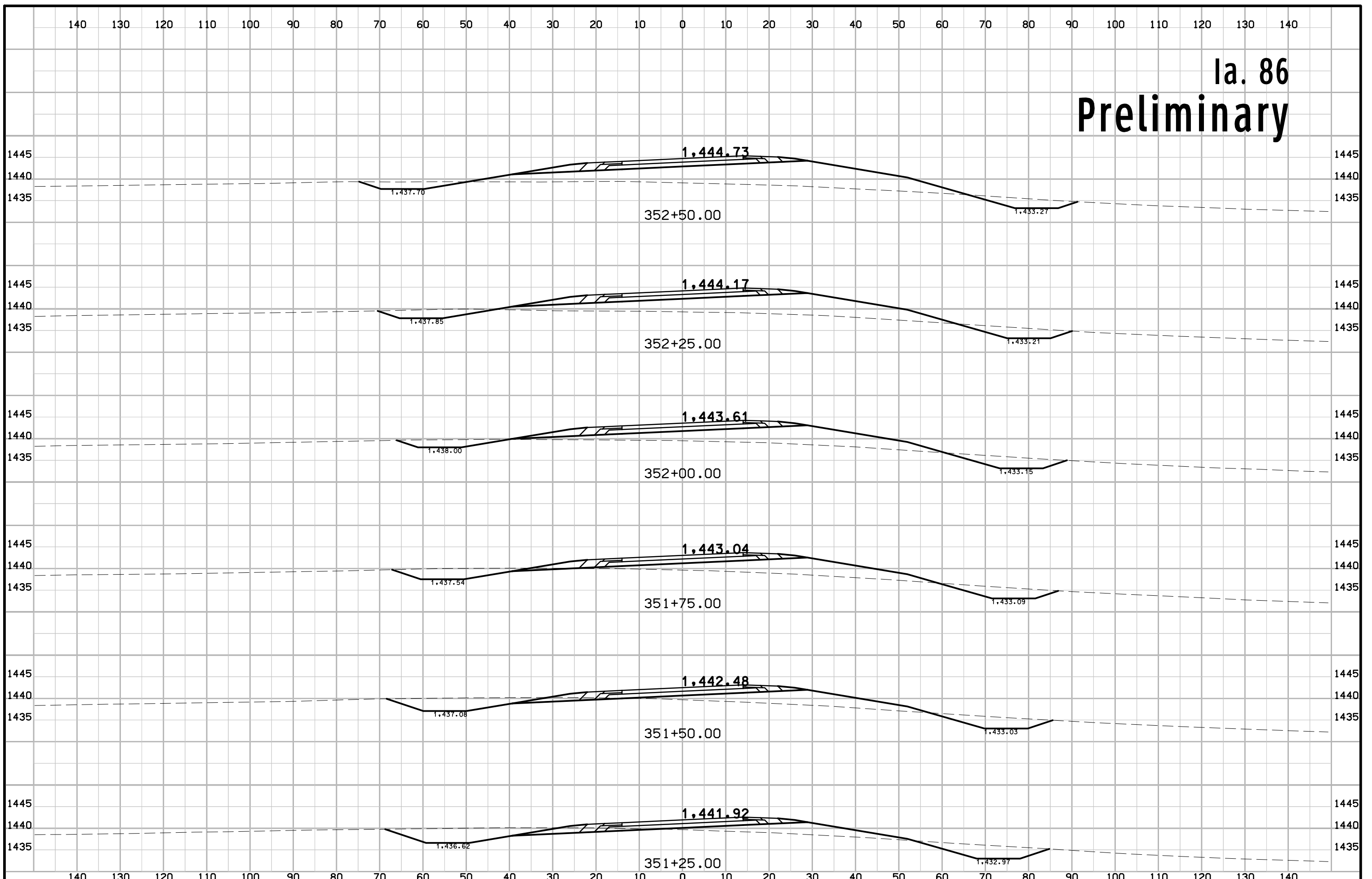
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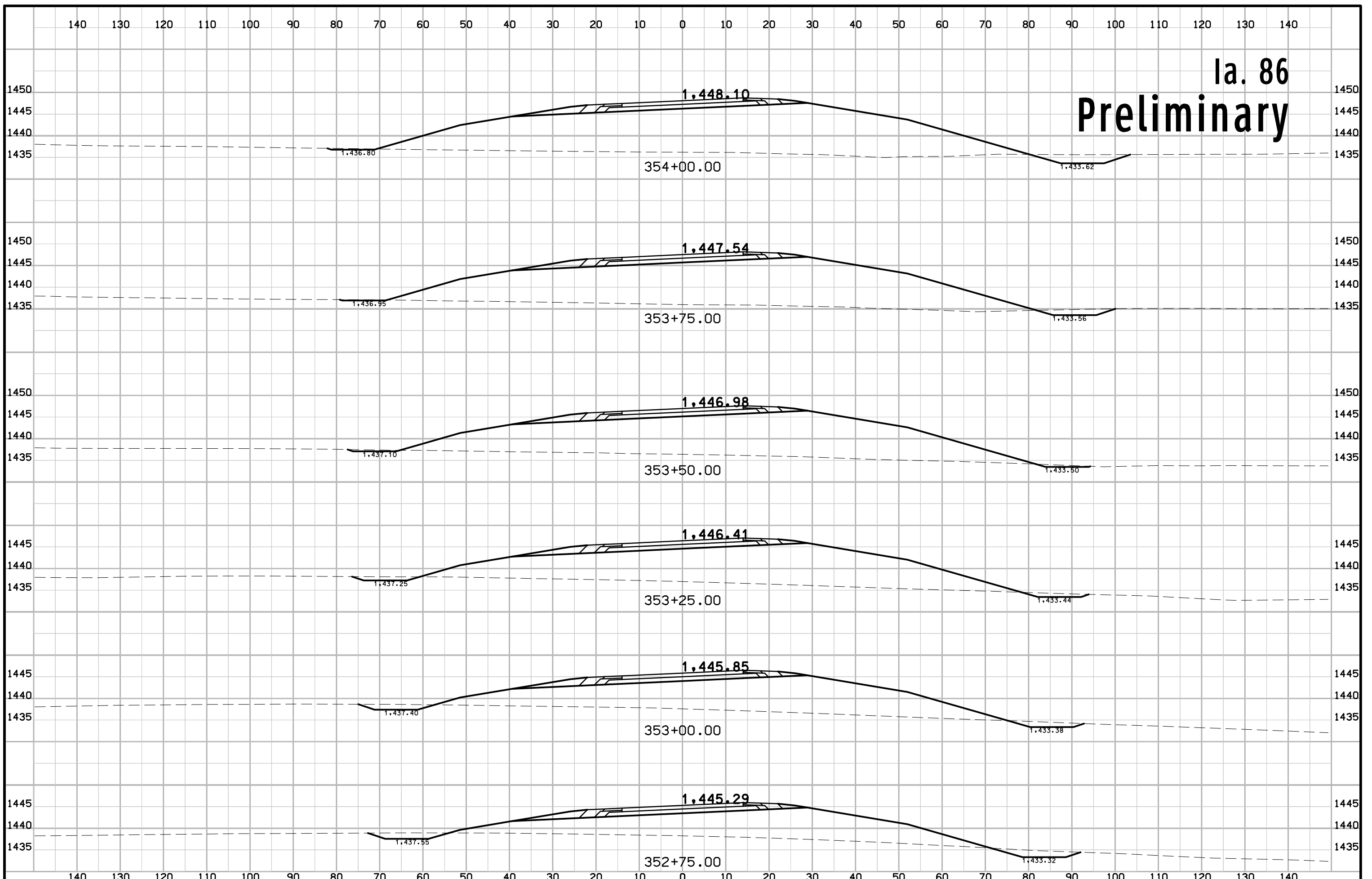
Ia. 86 Preliminary



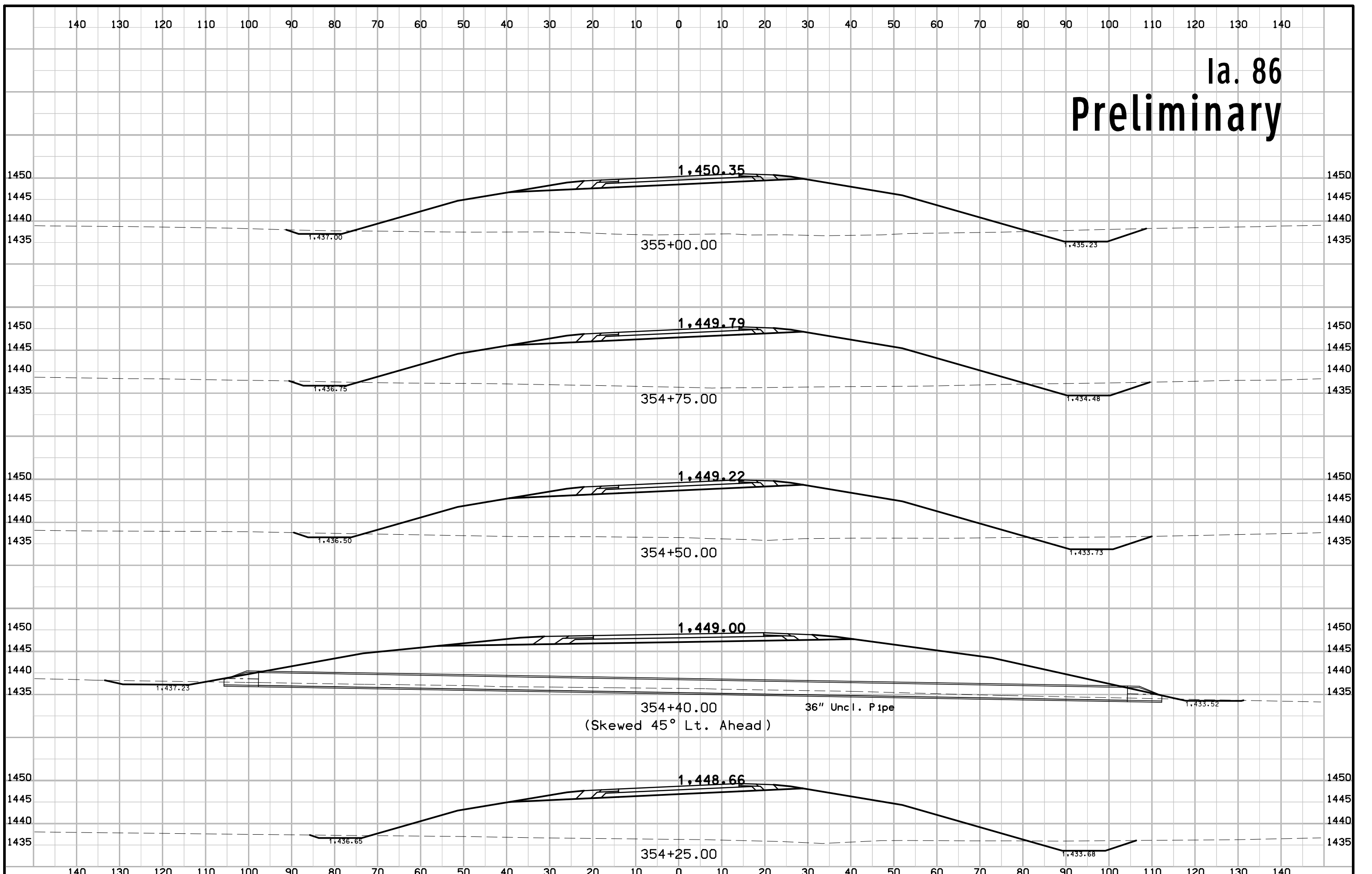
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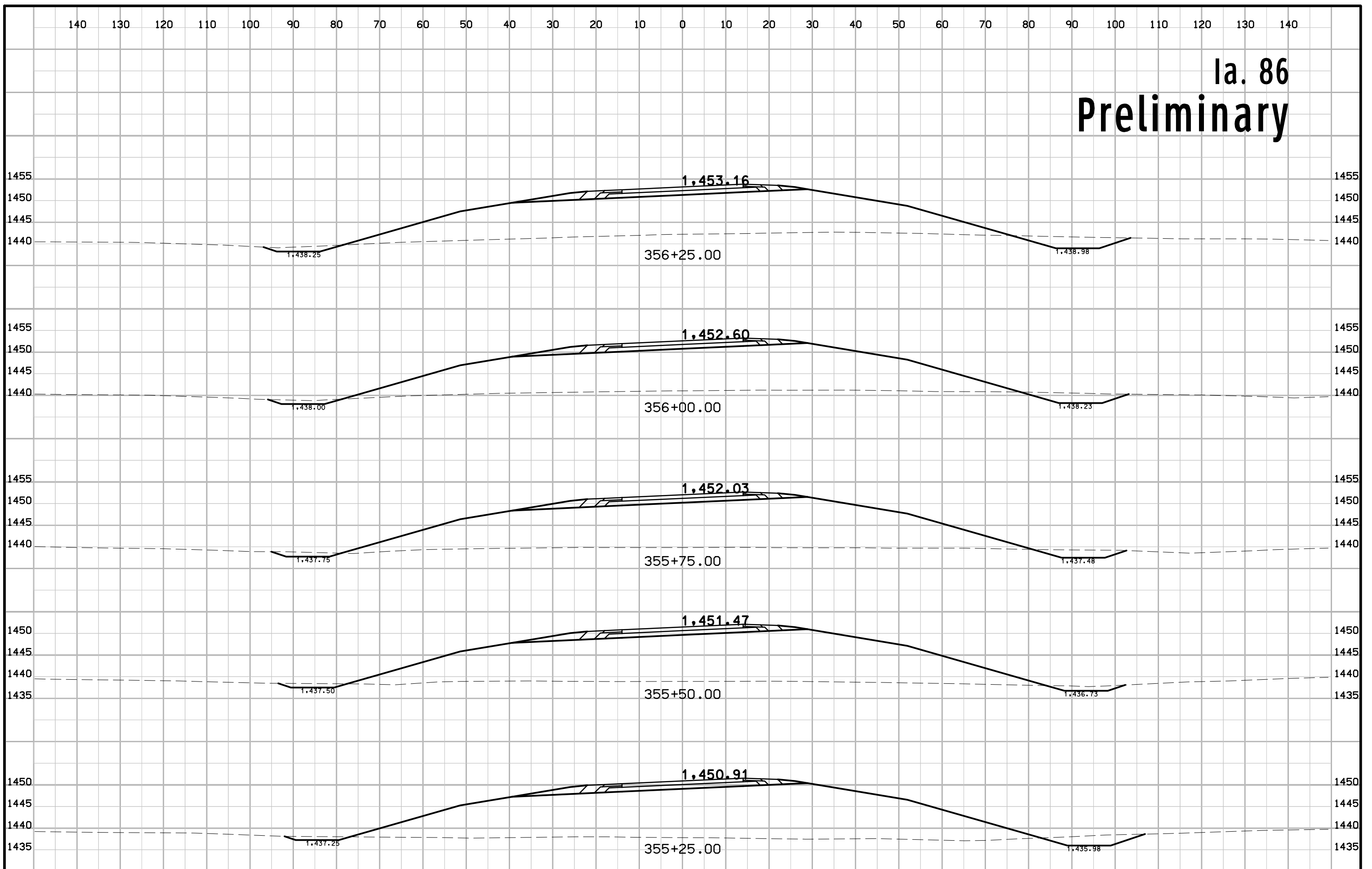
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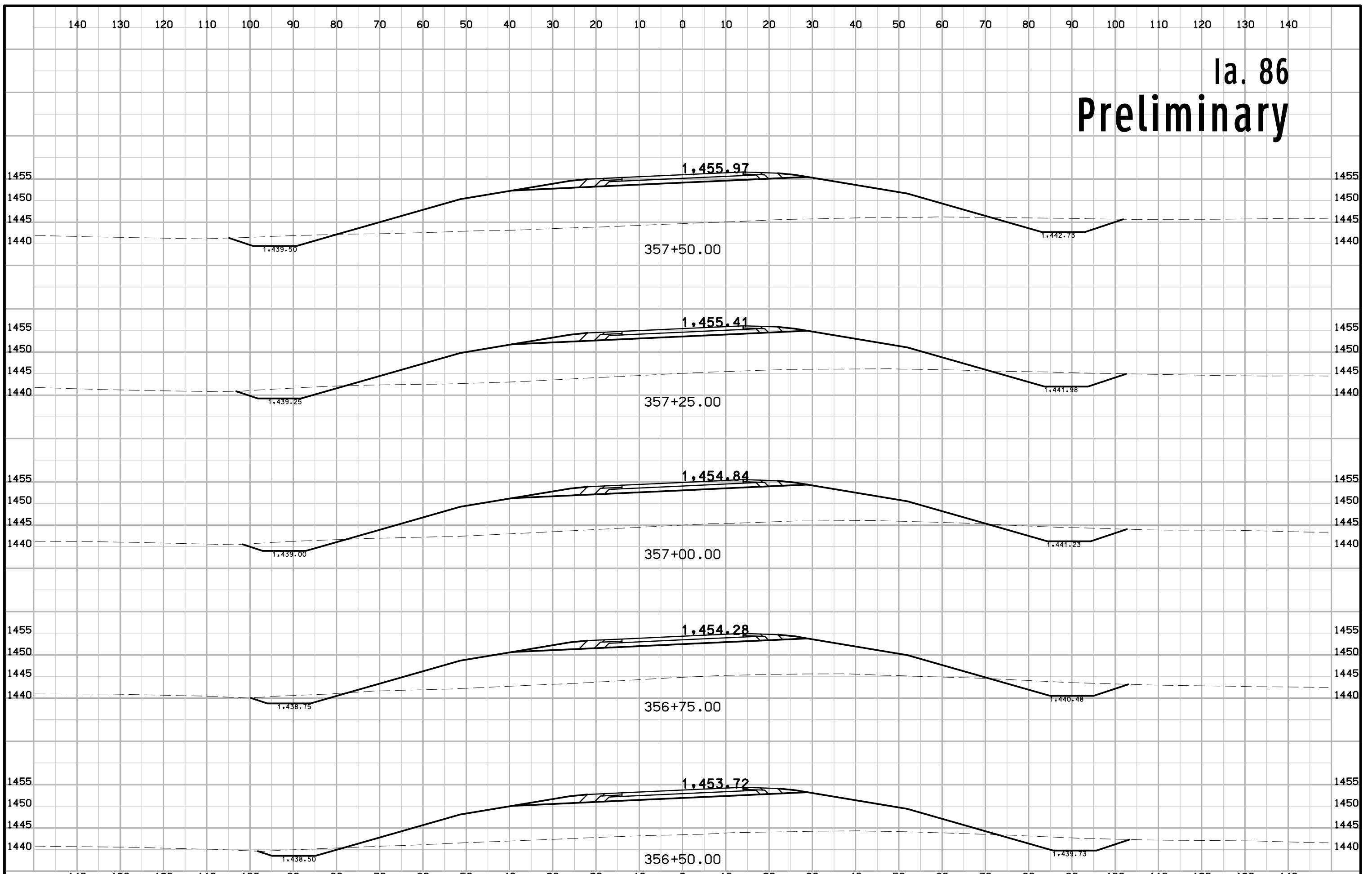
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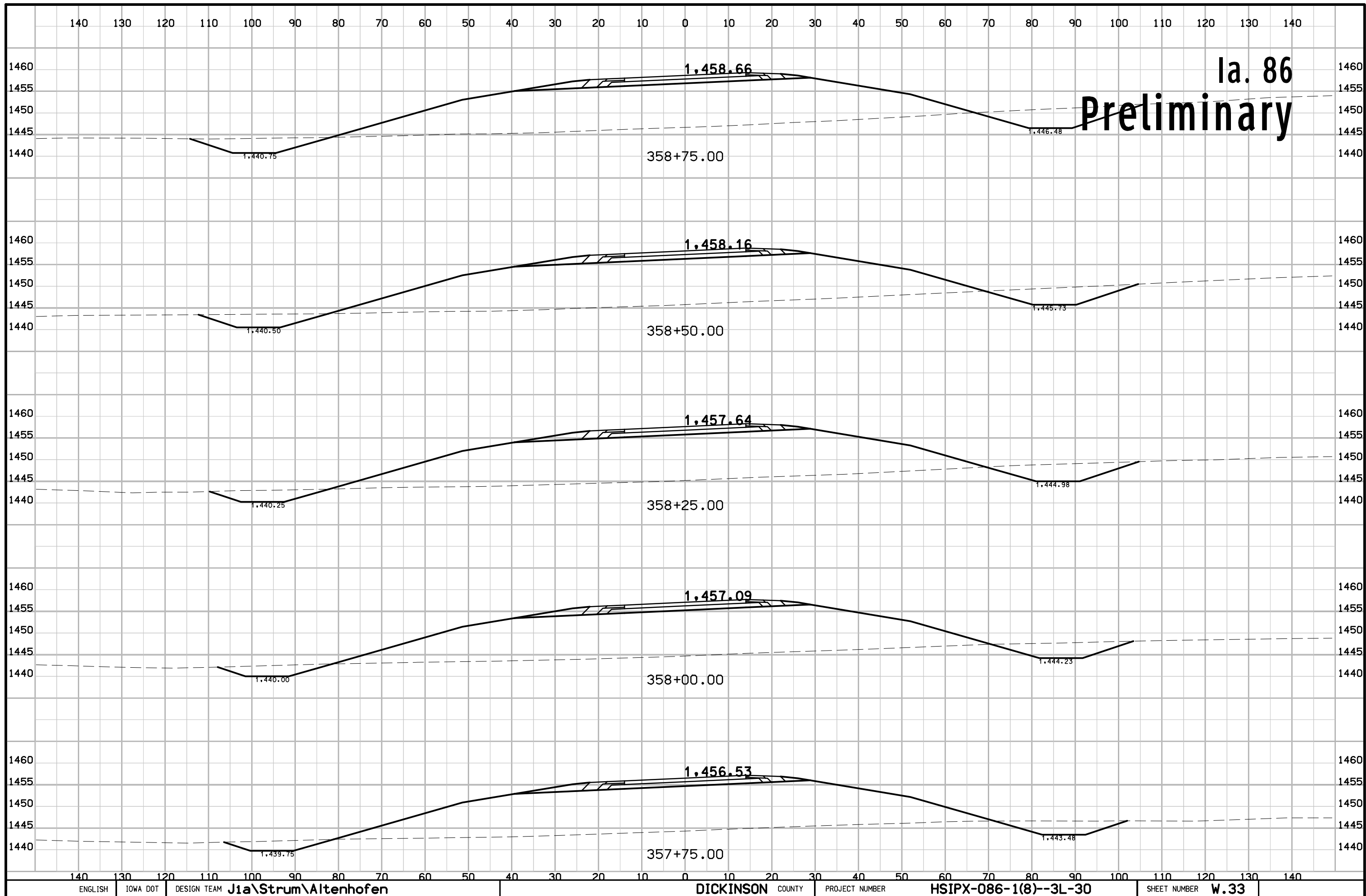


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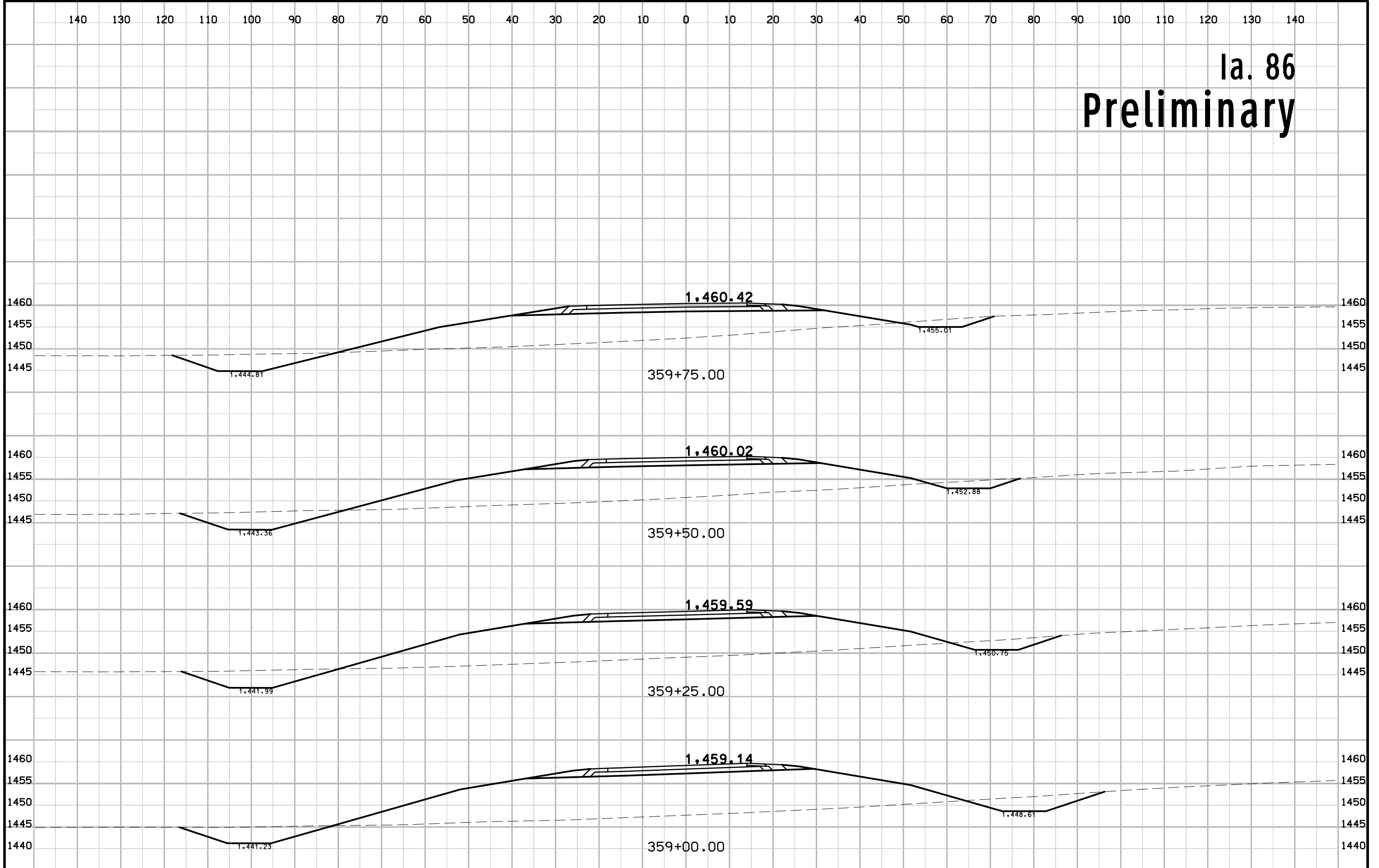


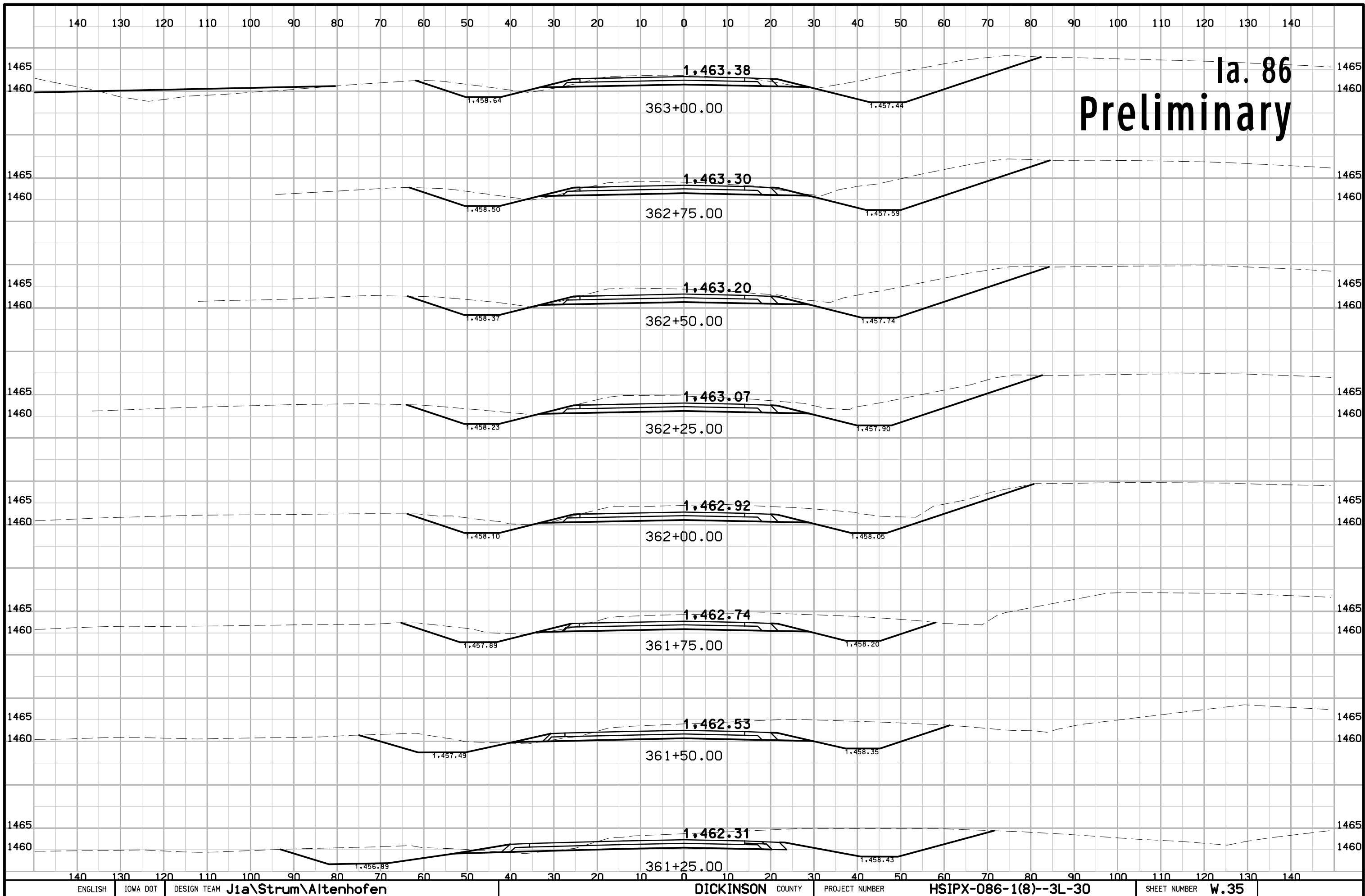
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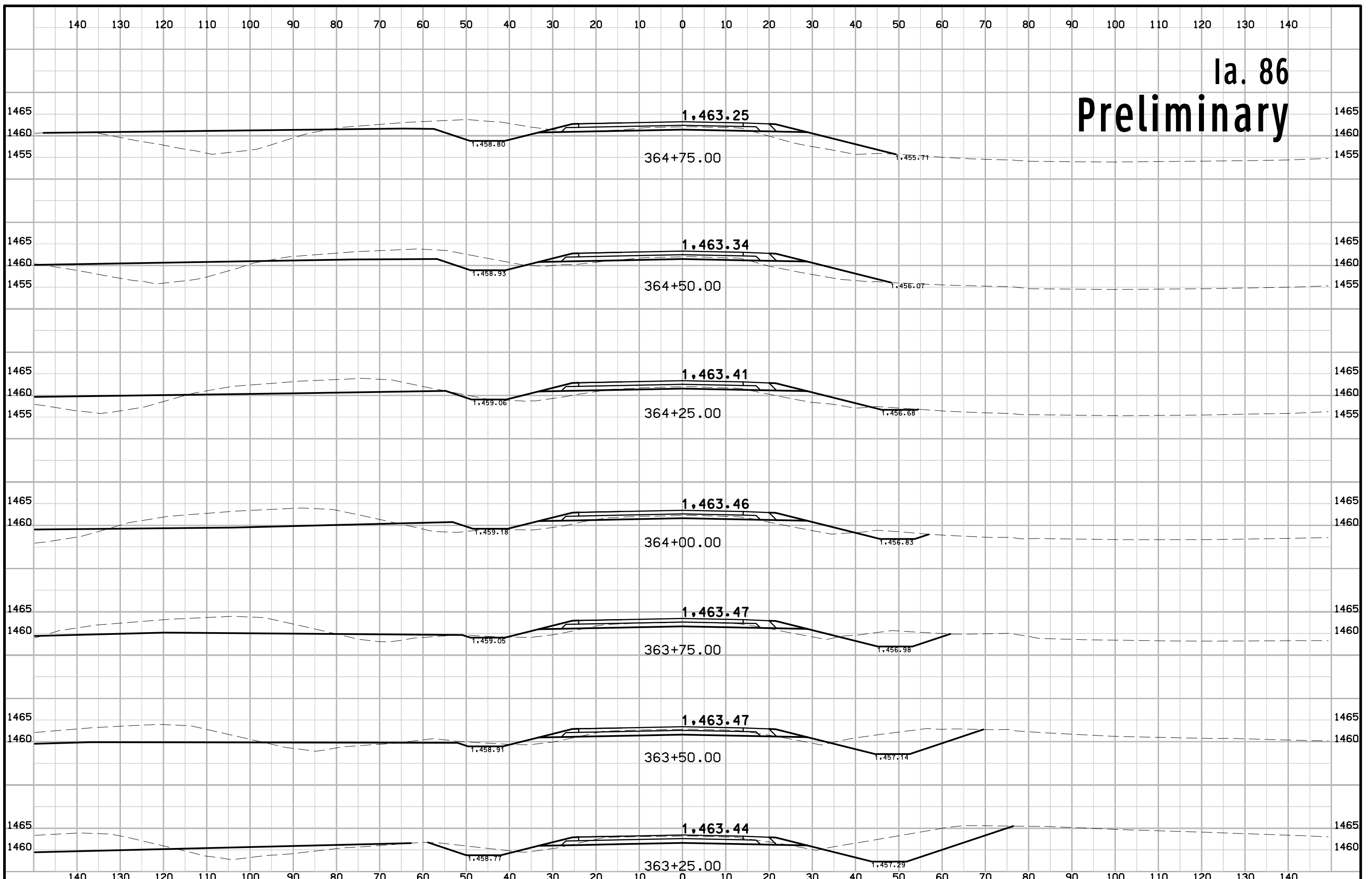


Ia. 86 Preliminary

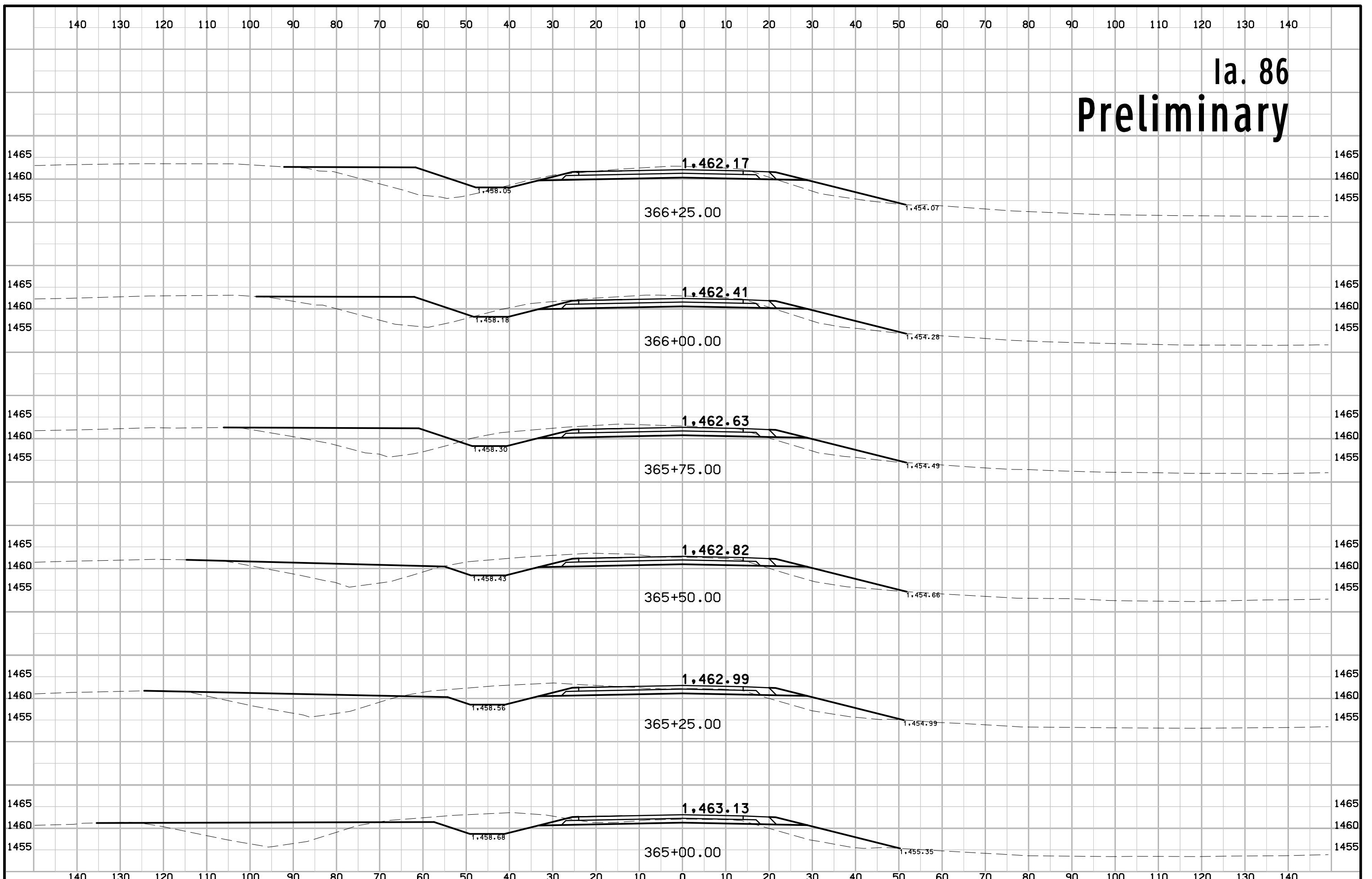


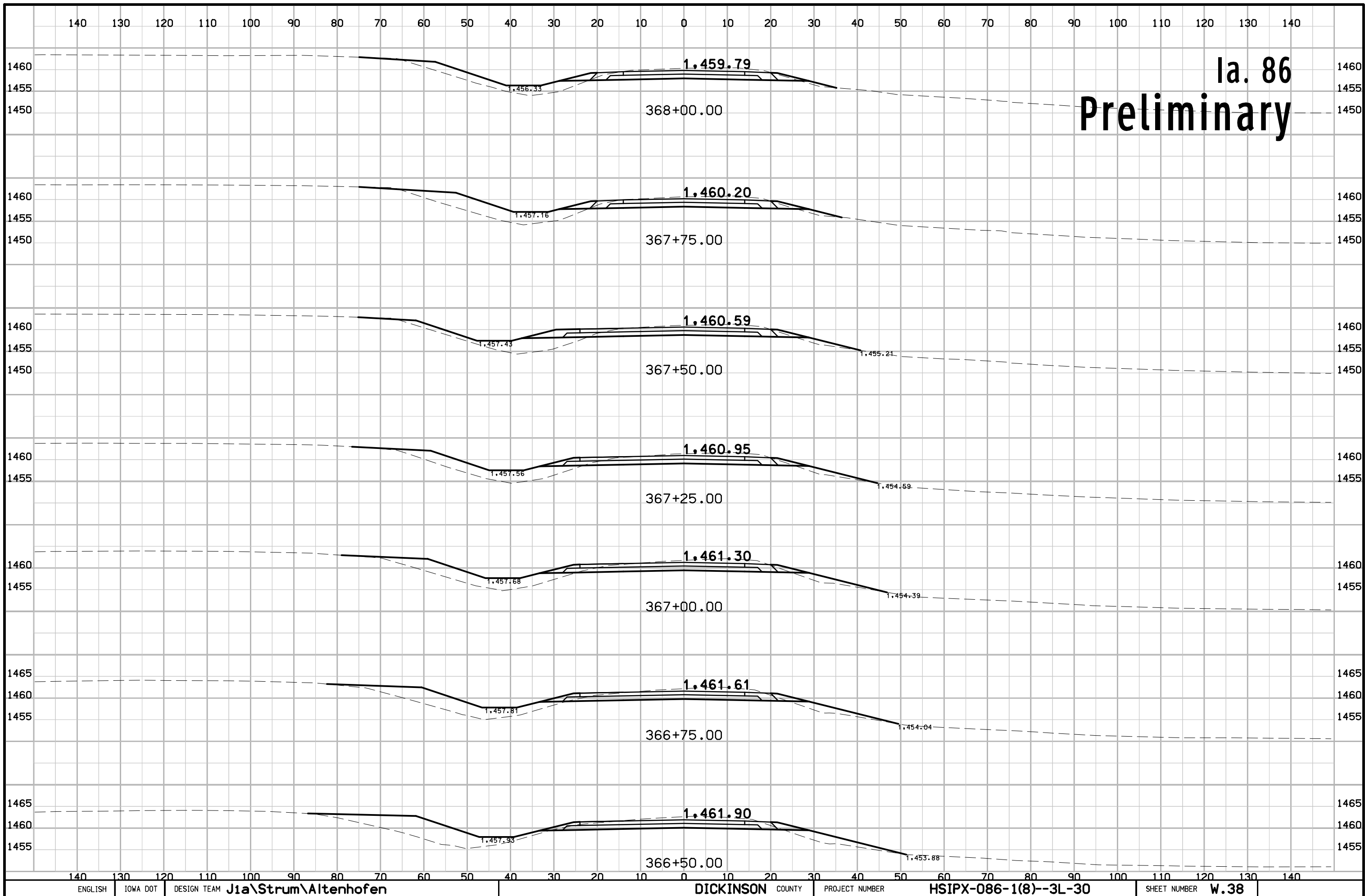


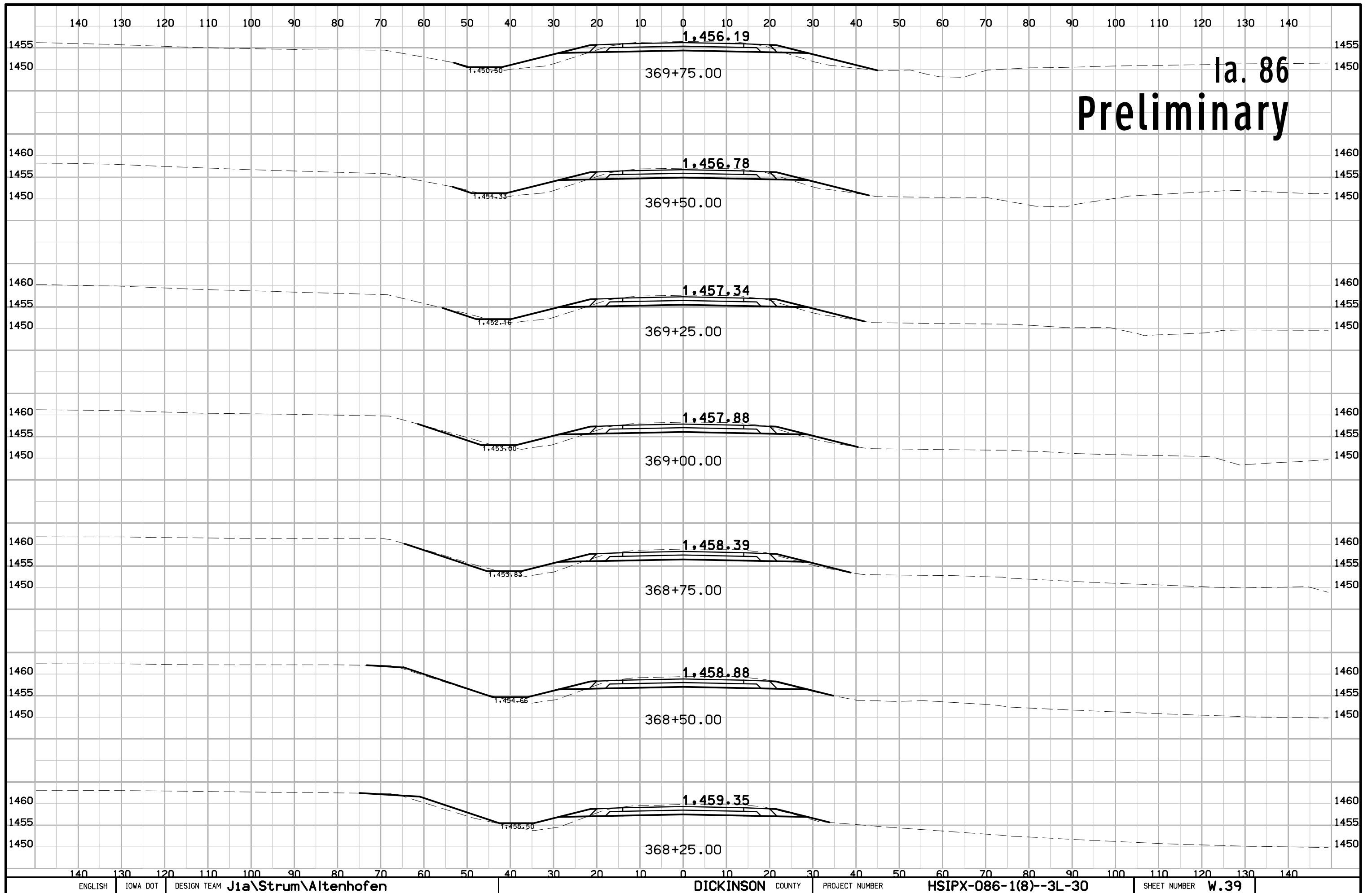
Ia. 86 Preliminary



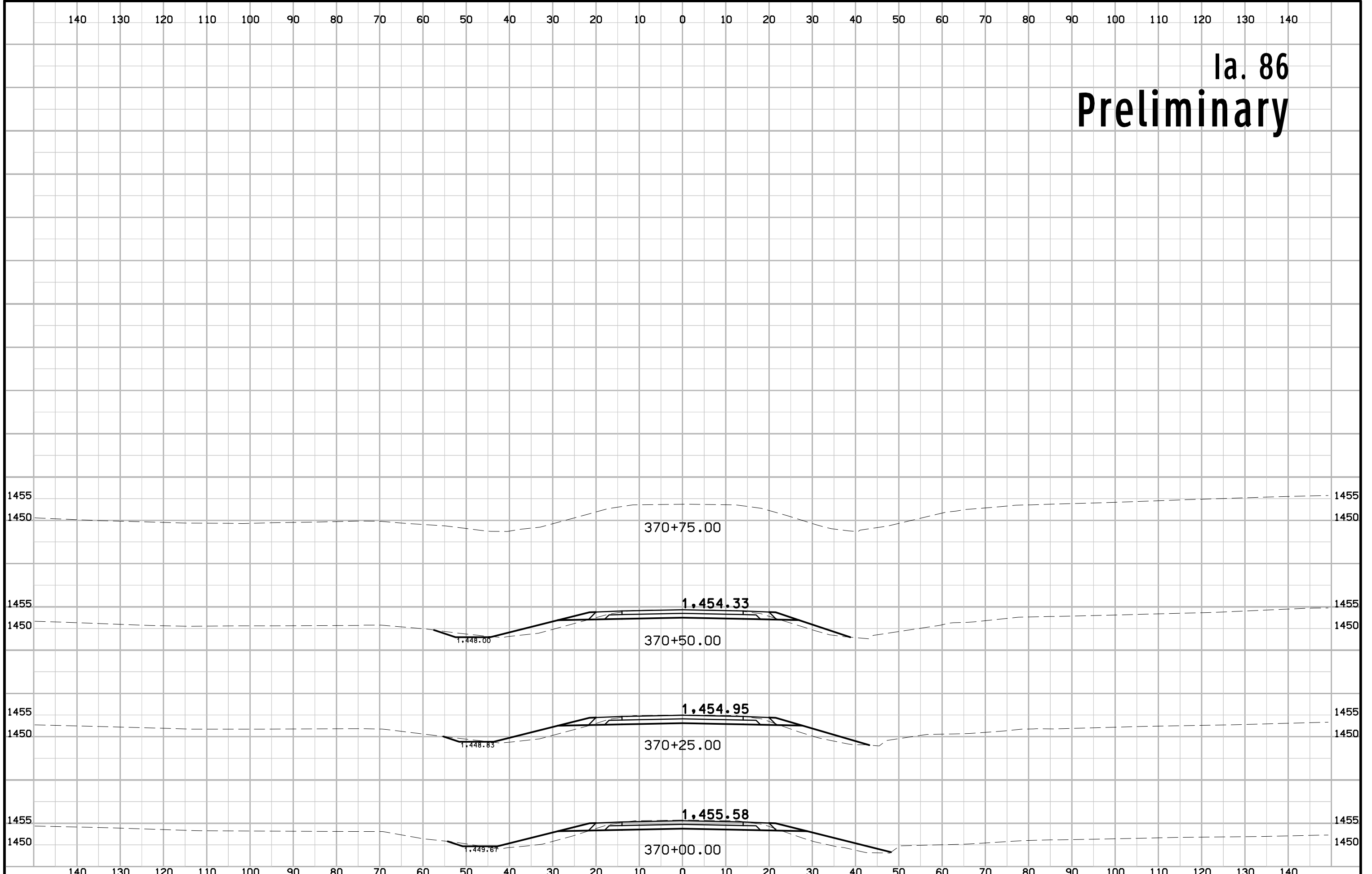
Ia. 86 Preliminary



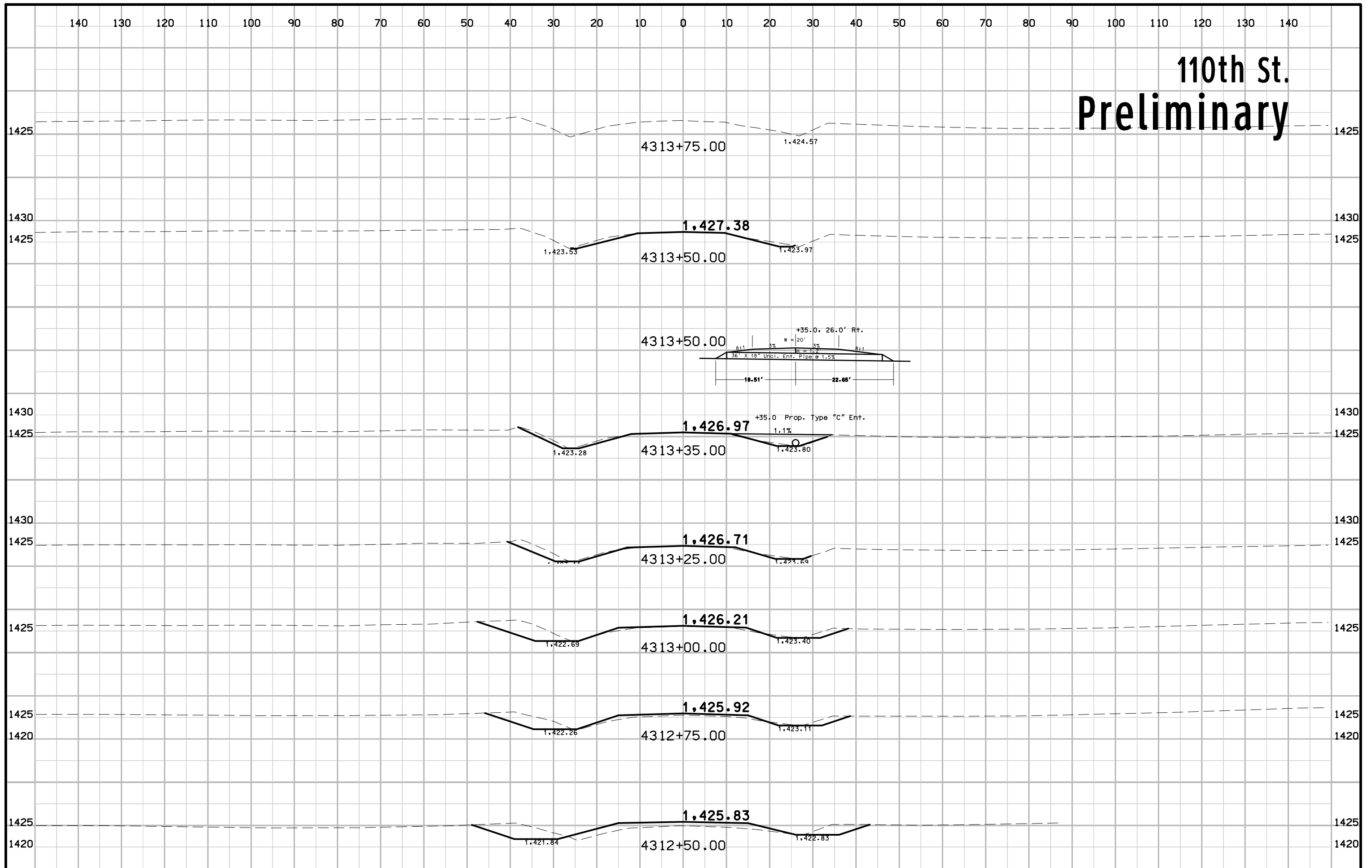




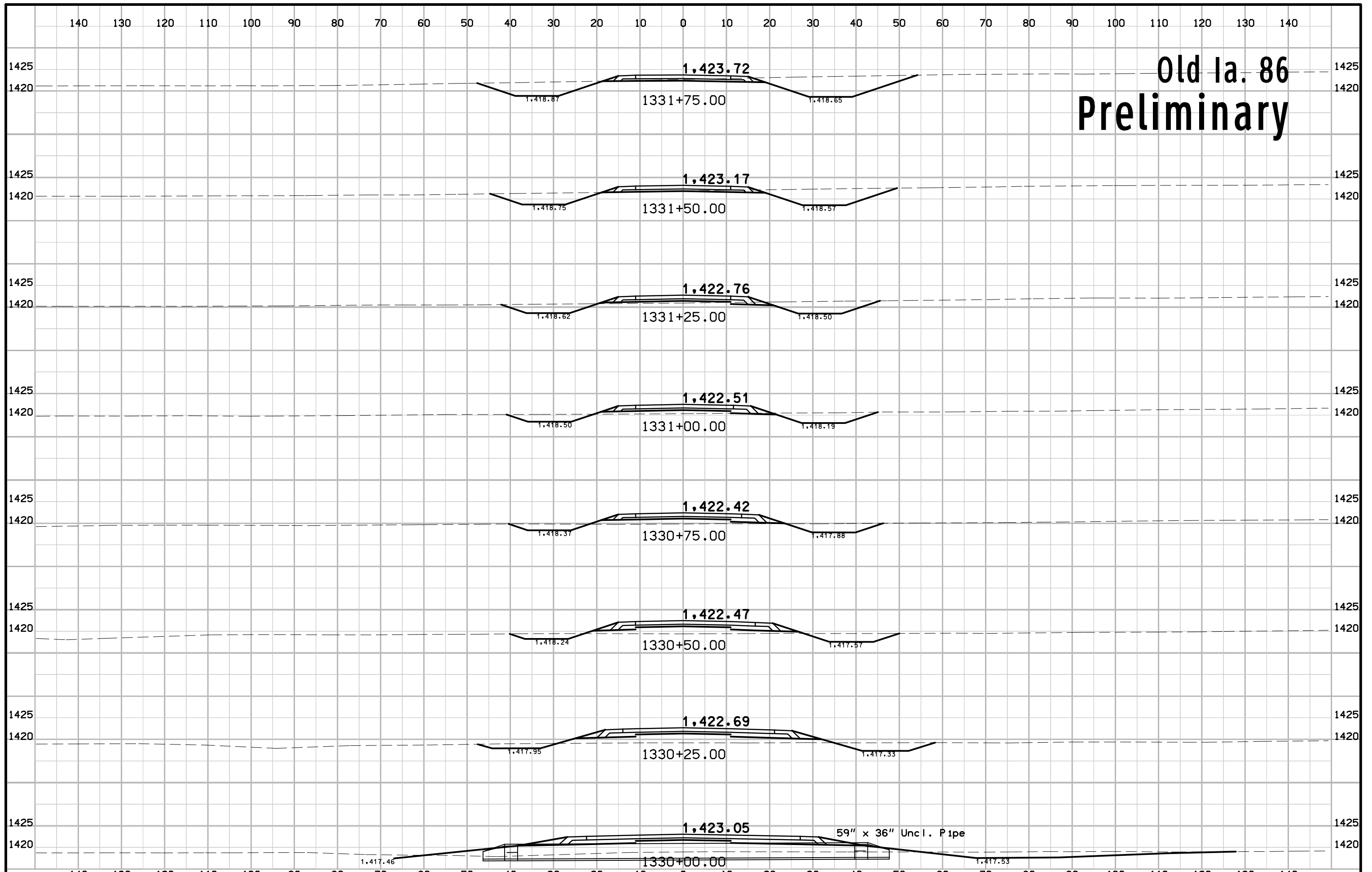
Ia. 86 Preliminary



110th St. Preliminary

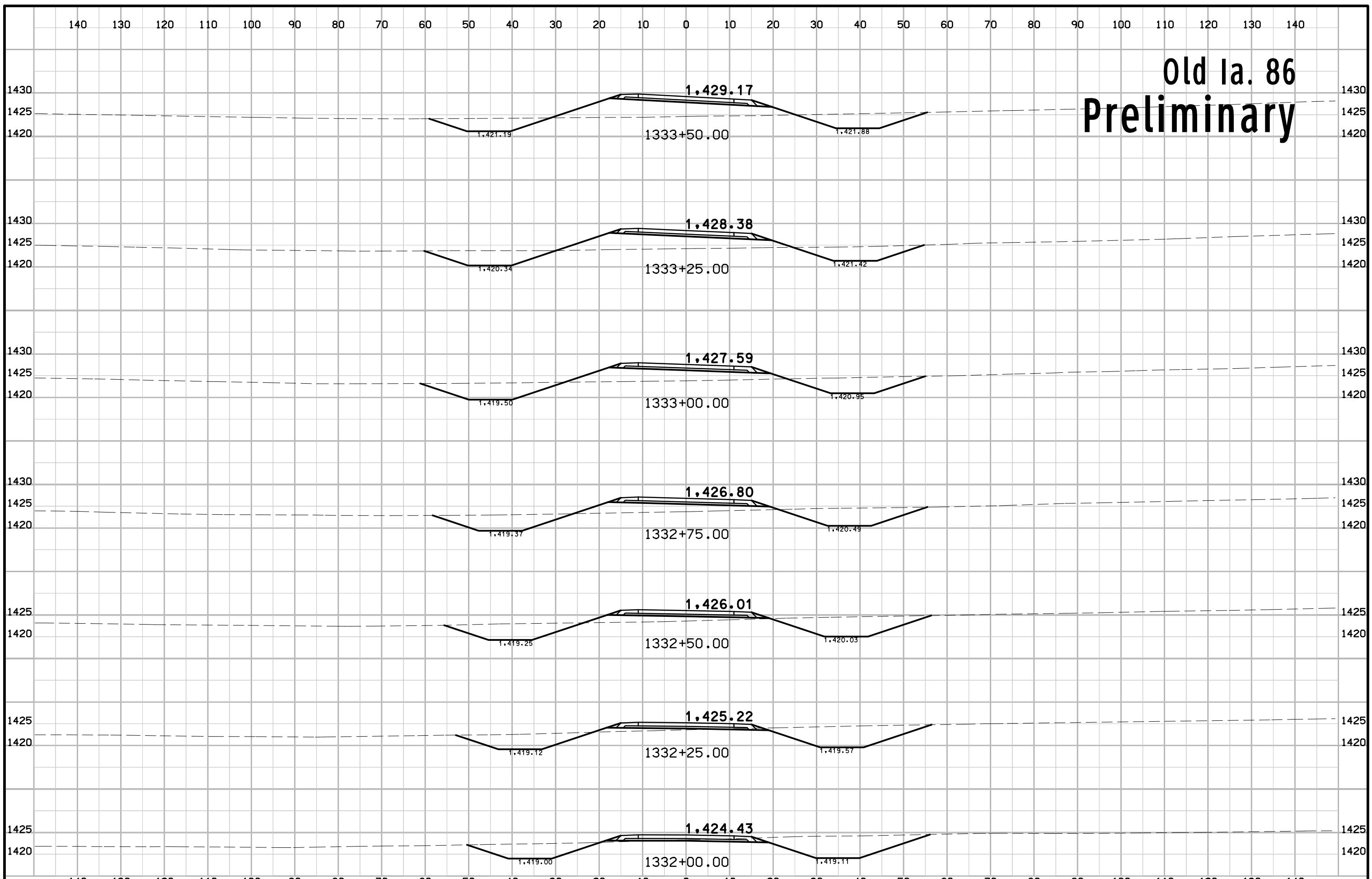


Old Ia. 86 Preliminary

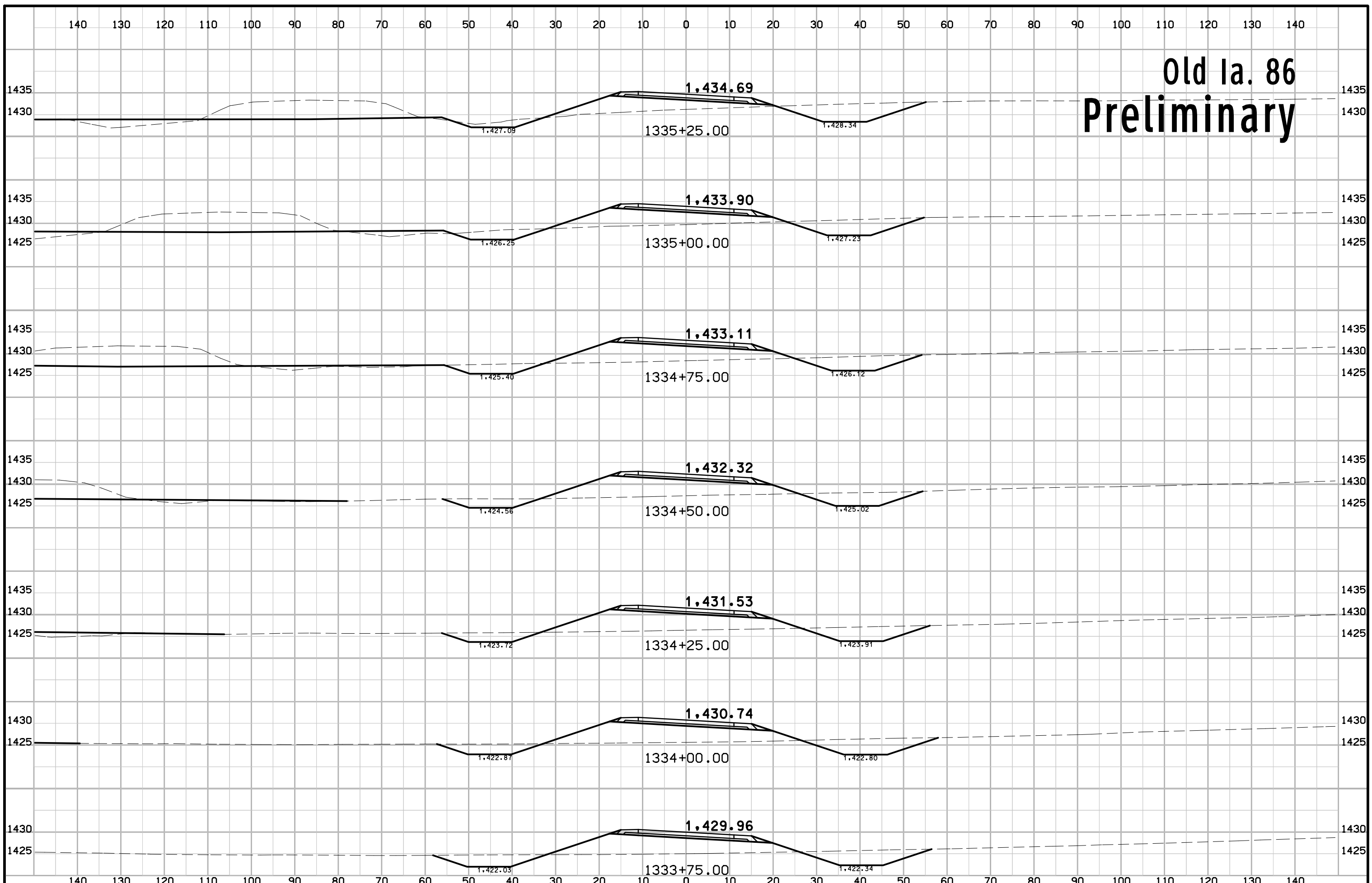


59" x 36" Uncl. Pipe

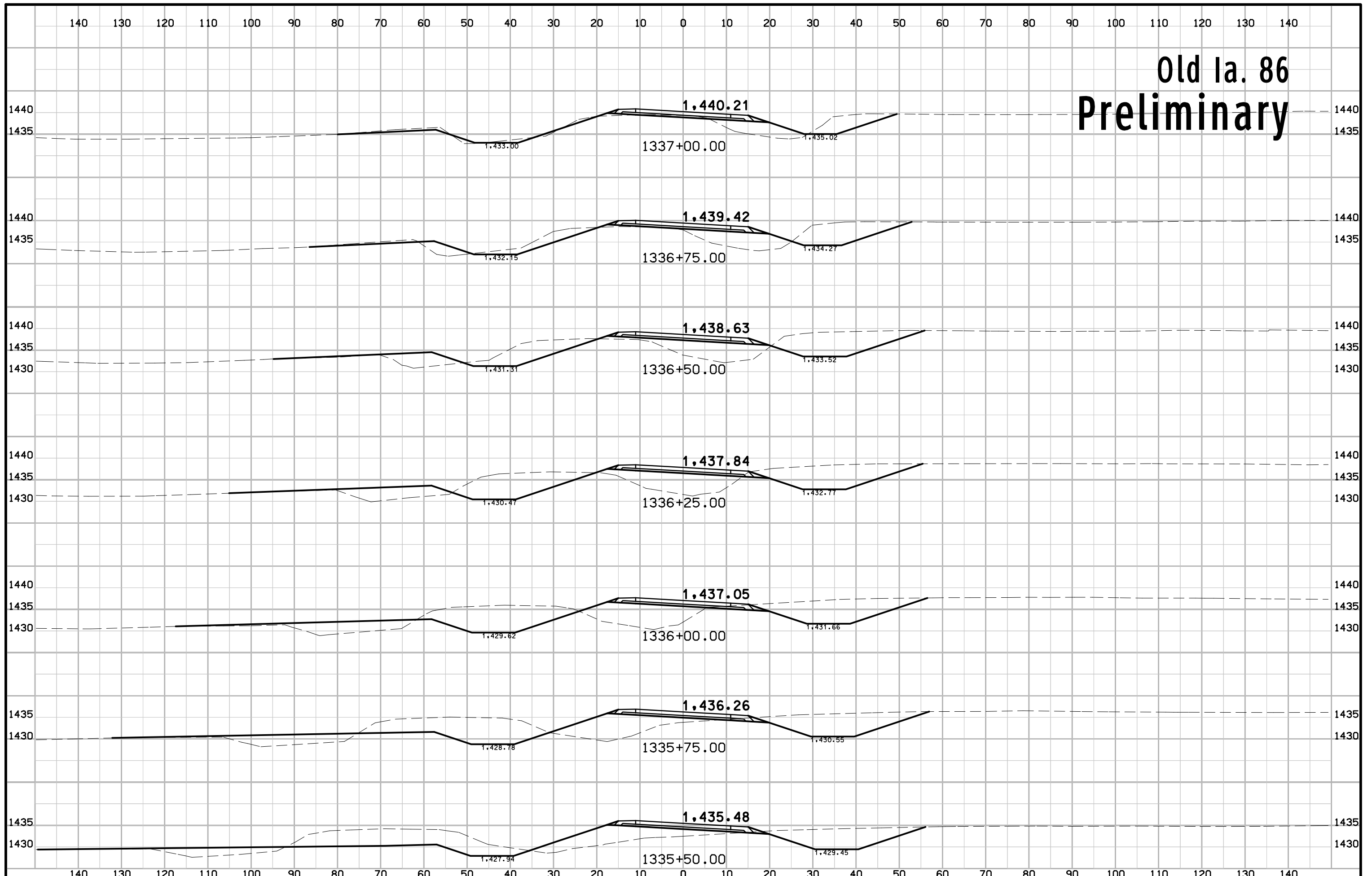
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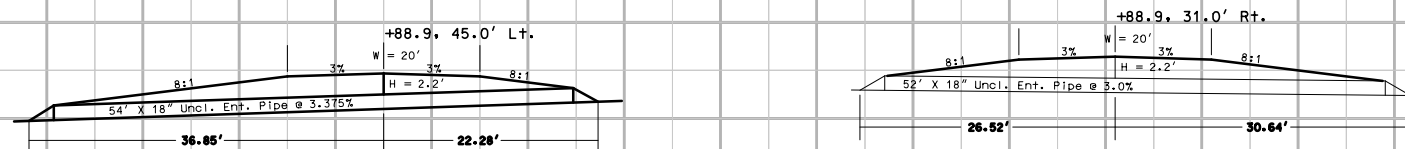
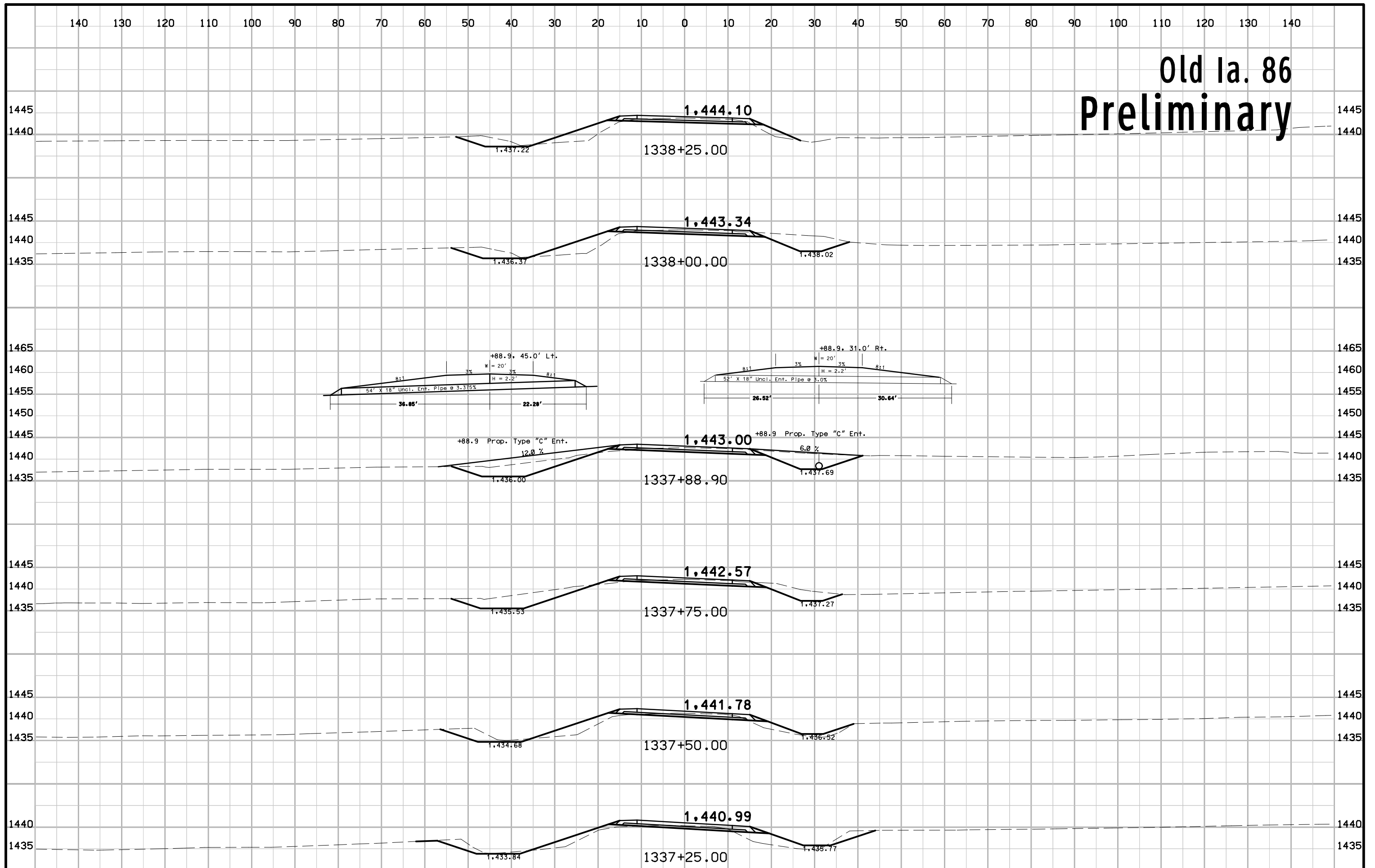
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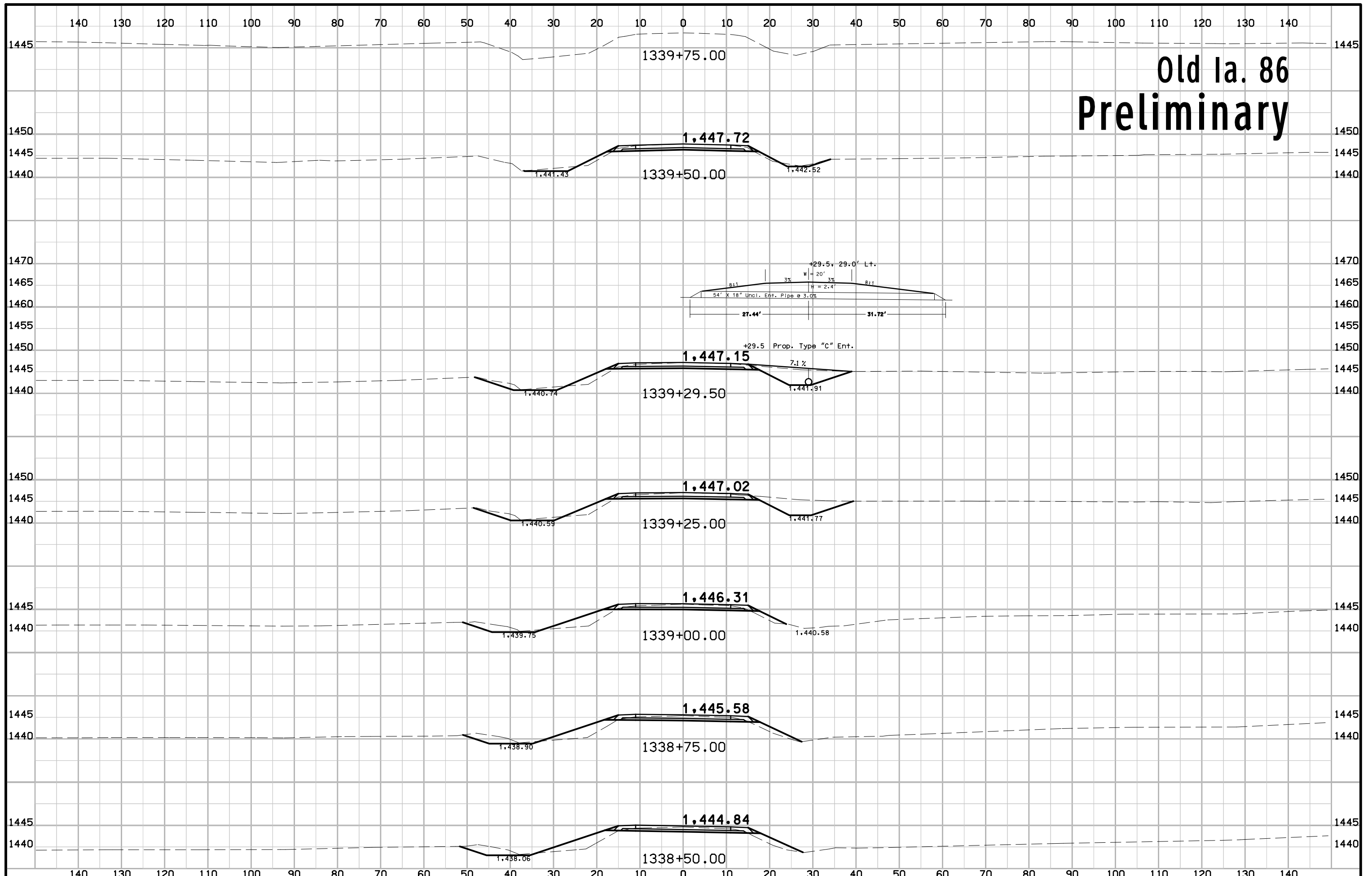
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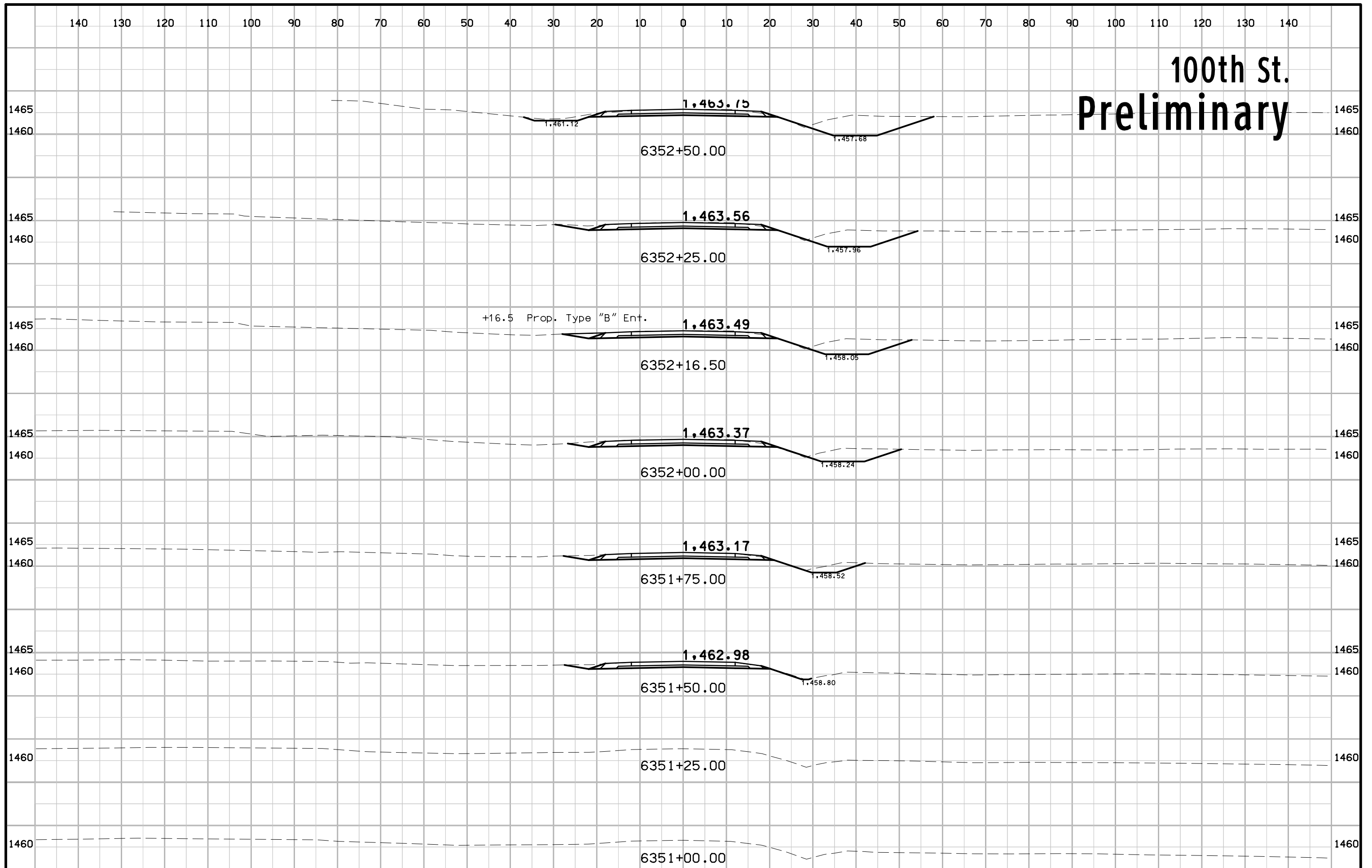
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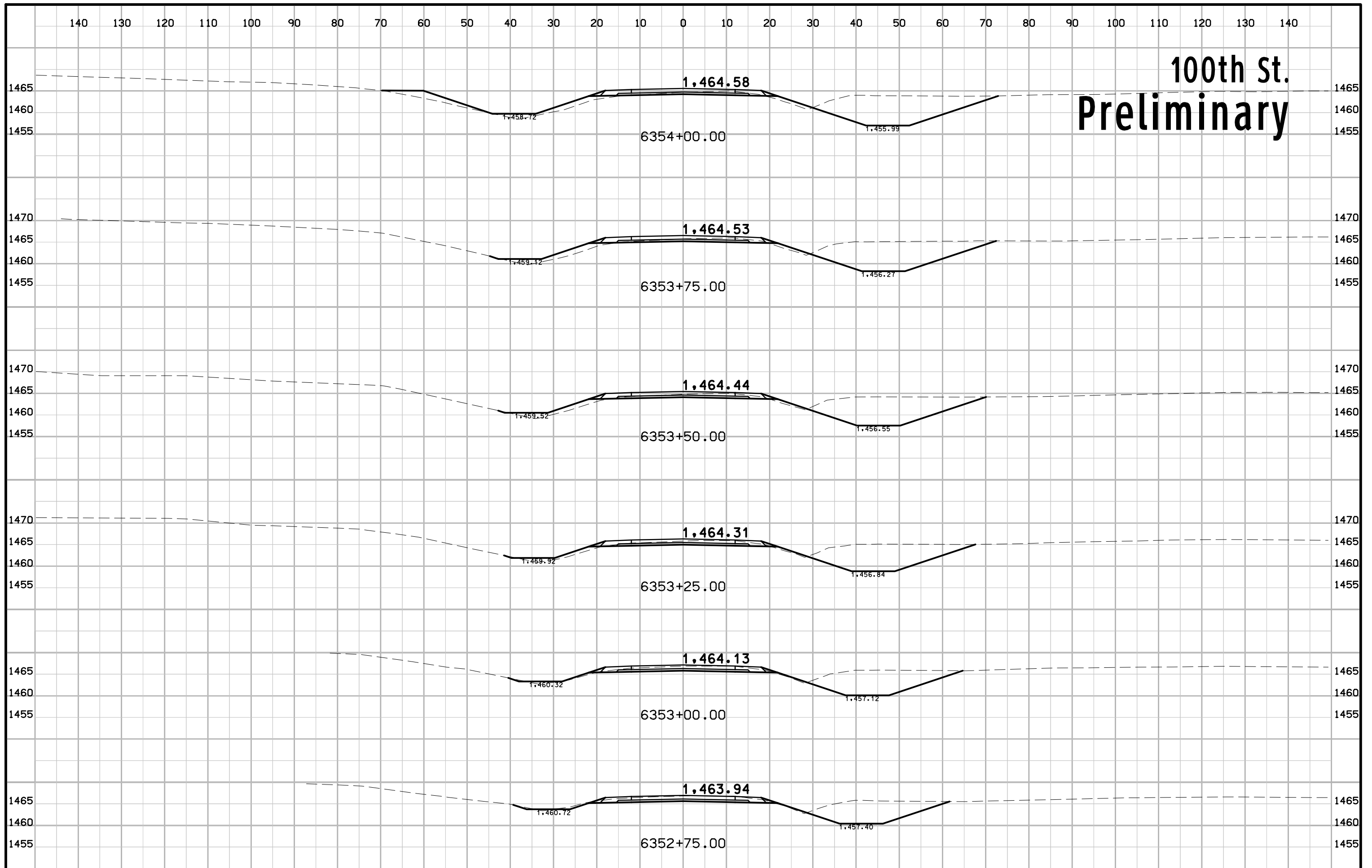
Old Ia. 86 Preliminary



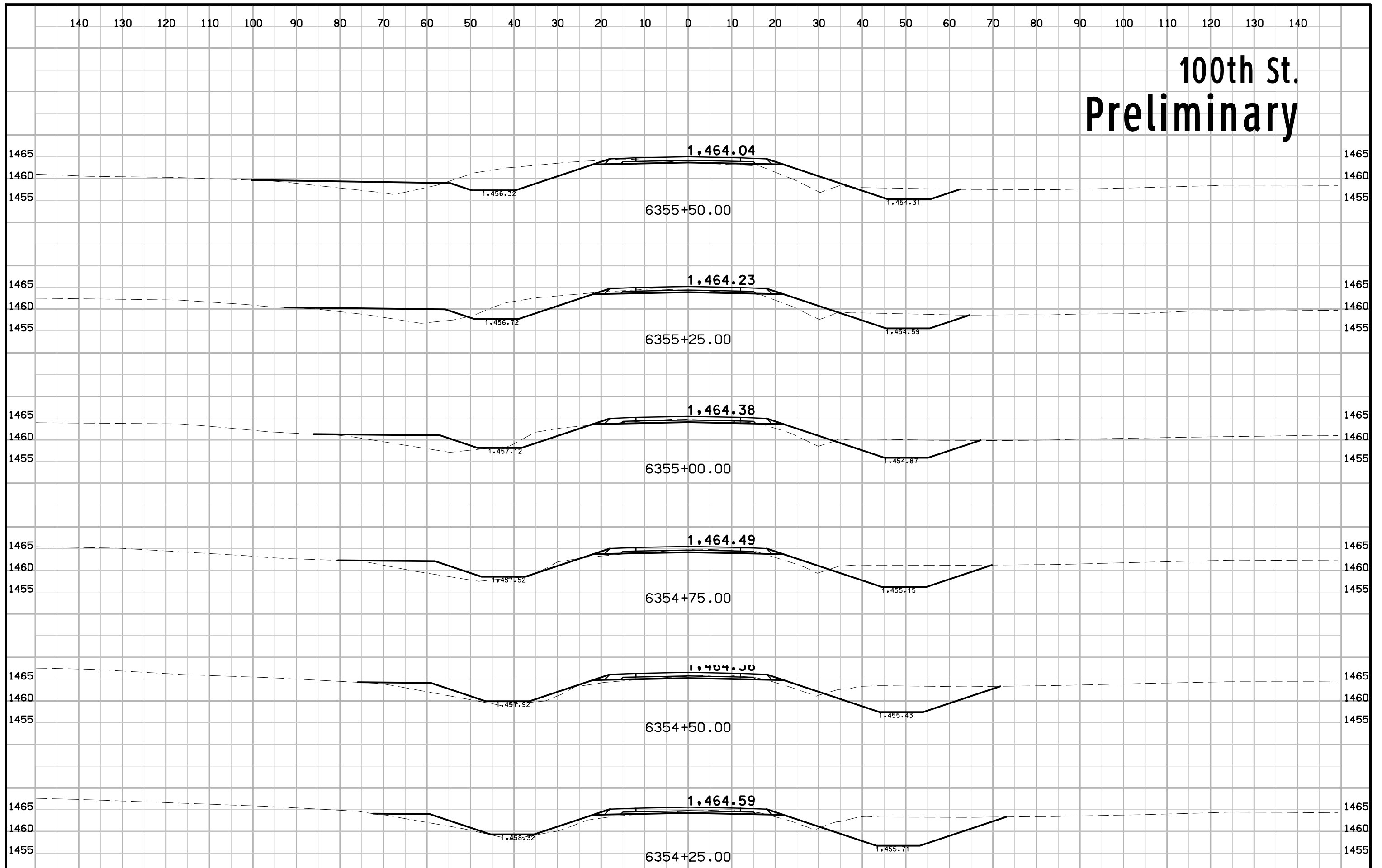
100th St. Preliminary



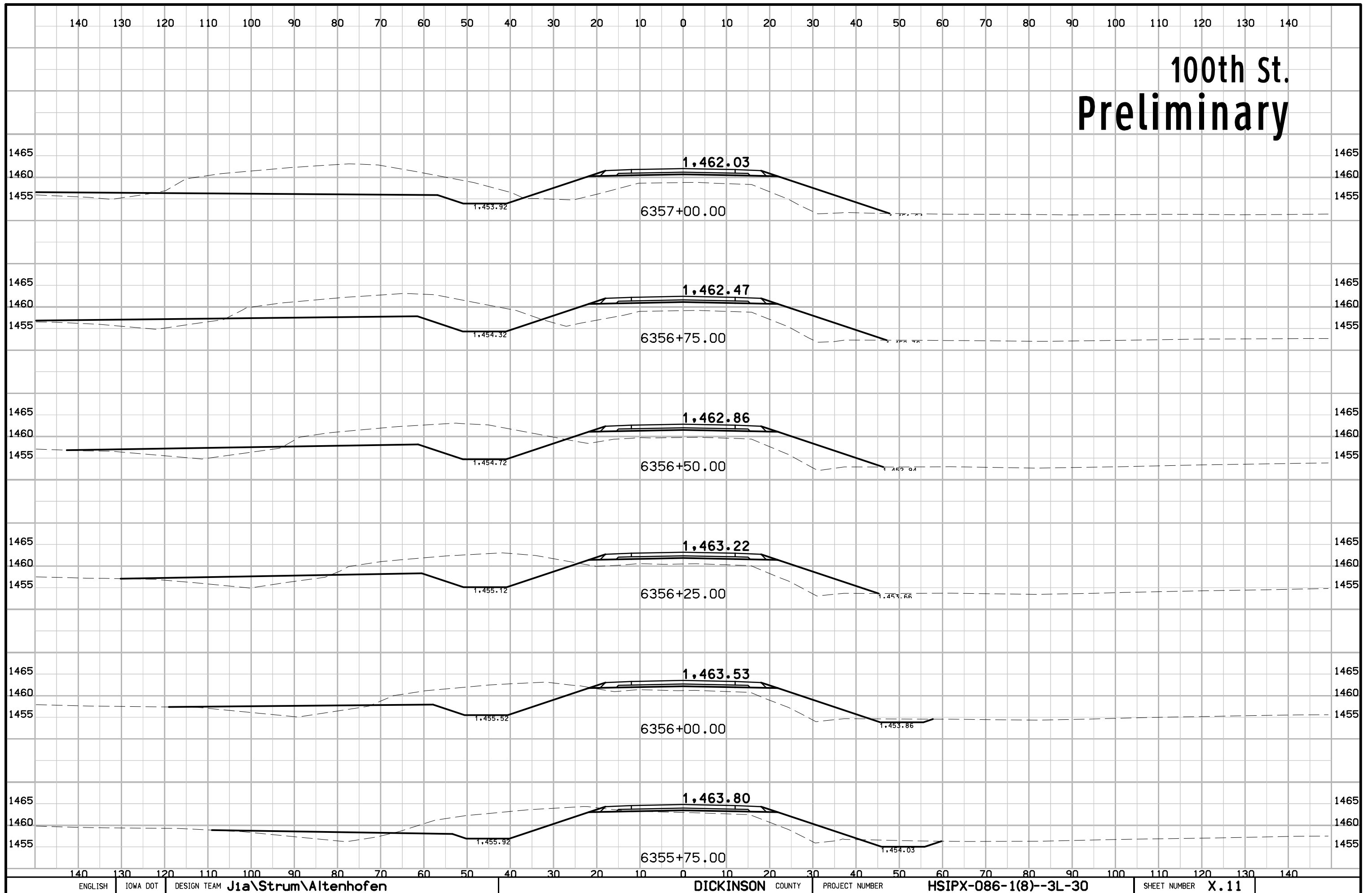
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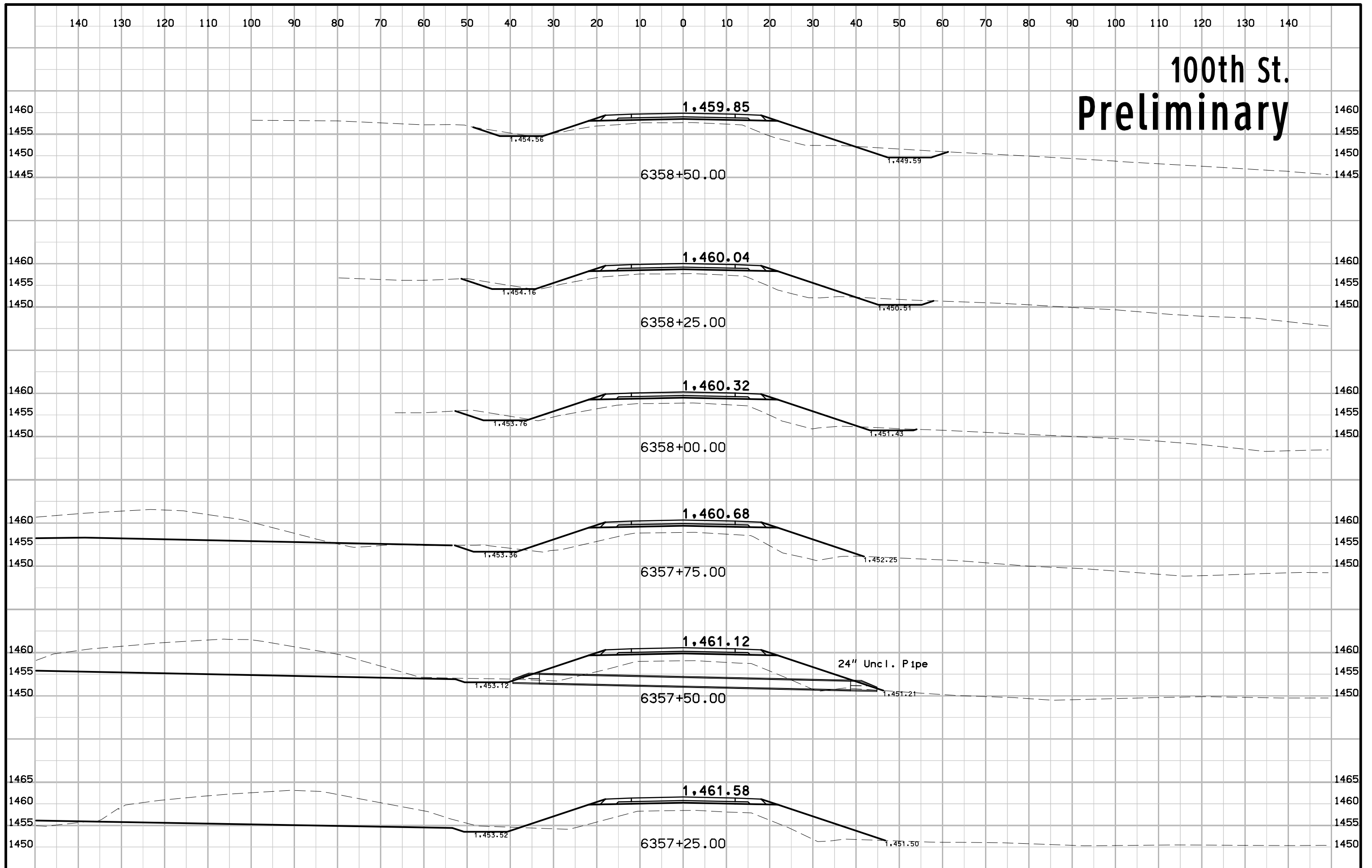
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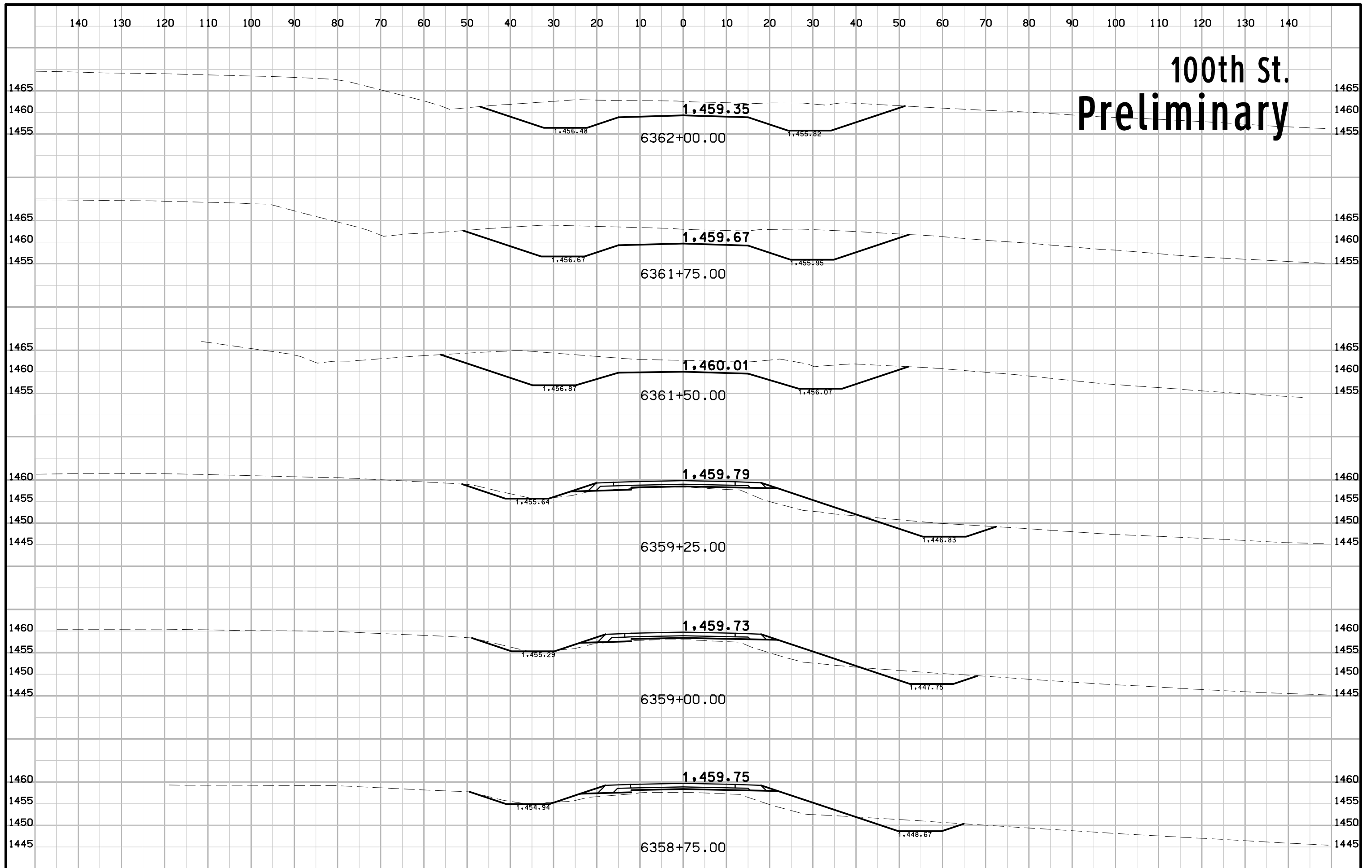
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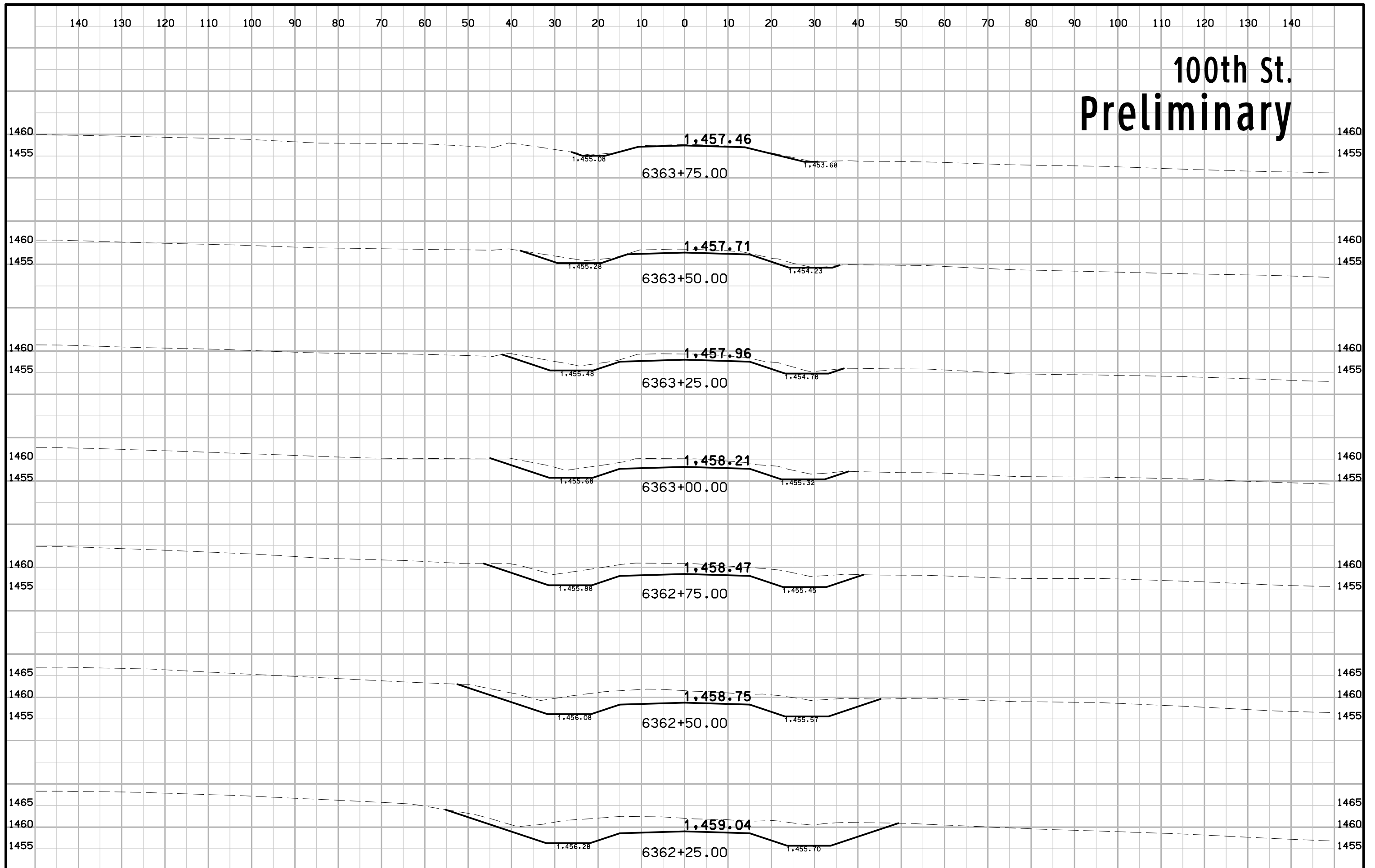
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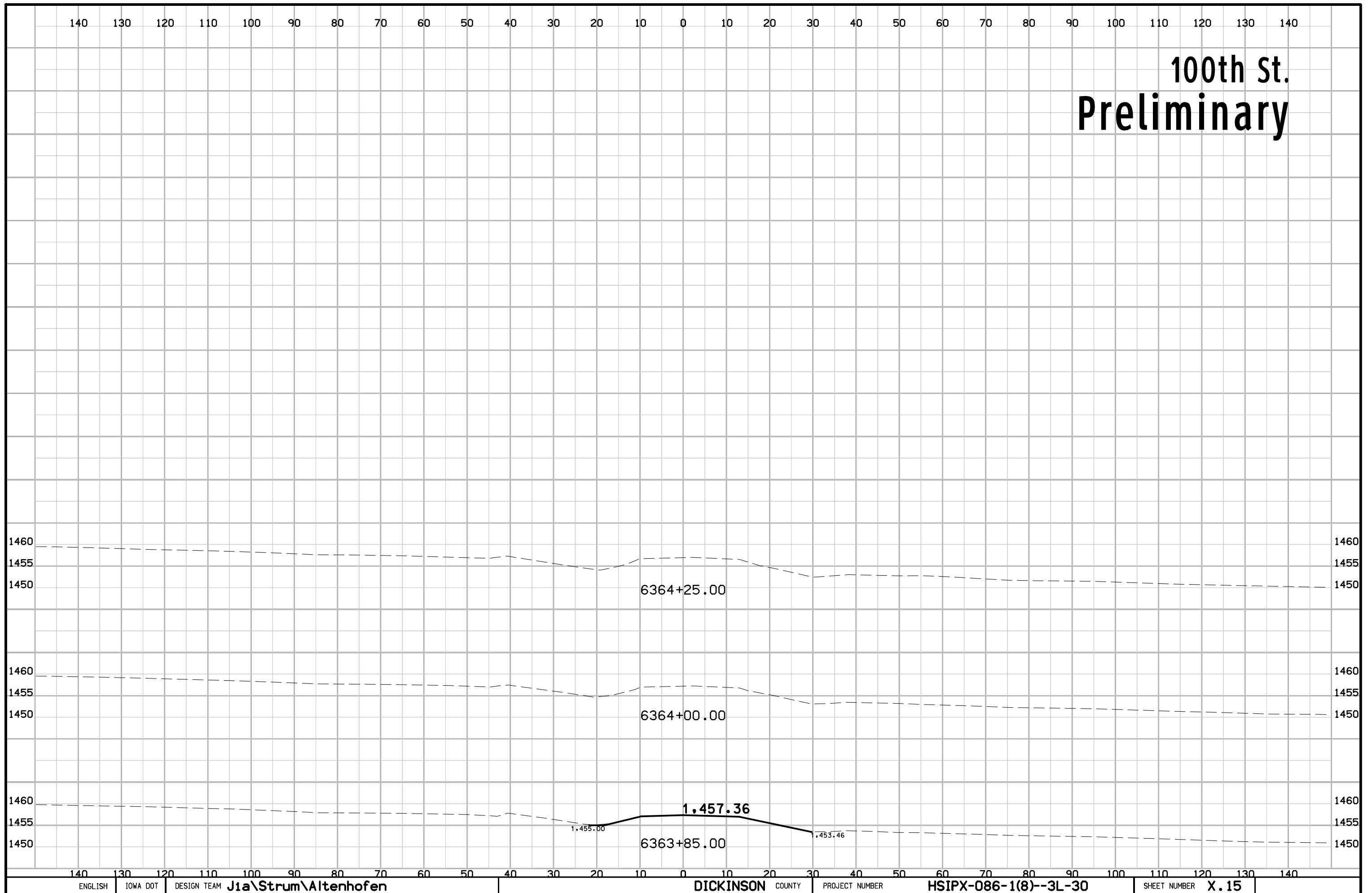
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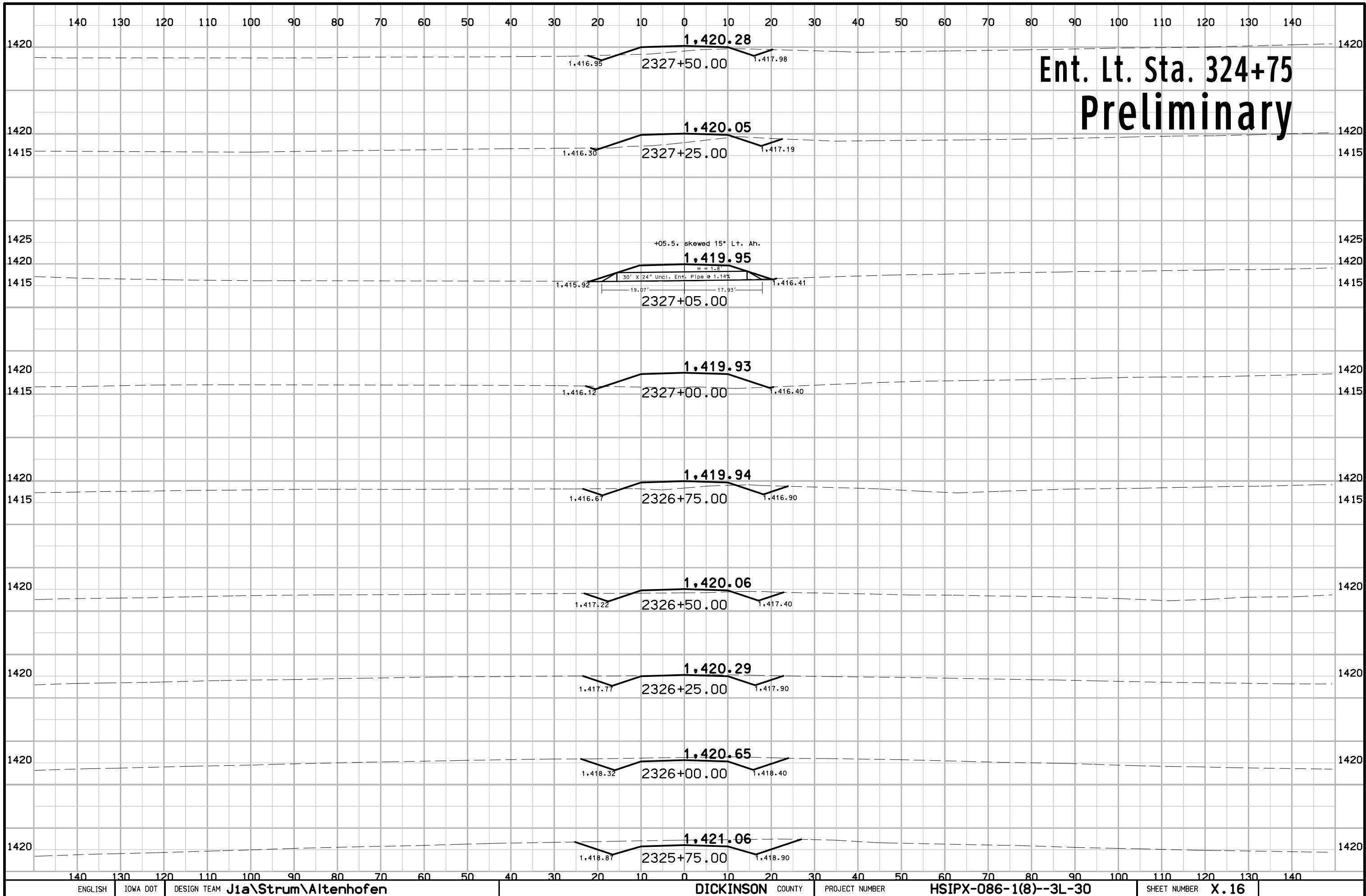


100th St. Preliminary



100th St. Preliminary





Ent. Lt. Sta. 324+75 Preliminary