LETTING DATE
10-21-2014

WARREN Co.
PCC PAVEMENT-GRADE AND REPLACE
NHSX-092-5(51)--3H-91

INDEX OF SHEETS

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IOWA DOT

Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

WARREN COUNTY

PCC PAVEMENT-GRADE AND REPLACE

Ia. 92 From Just West Of Co. Rd. R-57
East To Just East of South 'N' Street In Indianola

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
811 Know what's below. Call before you dig.

For Project Location Map
Refer to Sheet A.2

REVISIONS

	TOTAL
	00
PROJECT IDENTIFICATION NUMBER	
04-91-092-010-01	
PROJECT NUMBER	
NHSX-092-5(51)--3H-91	
R.O.W. PROJECT NUMBER	
STPN-092-5(50)--2J-91	

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X.73 - 90	Y Street Detours
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X.101 - 104	IA 92 South Side East End Detour
X.105 - 106	Spruce Street Detour
	* Color Plan Sheets

DESIGN DATA RURAL

2014	AADT	6500	V.P.D.
2034	AADT	11000	V.P.D.
2034	DHV	1130	V.P.H.
TRUCKS		8	%
Total Design ESALs		8,300,000	

DESIGN DATA URBAN

2014	AADT	9500	V.P.D.
2034	AADT	16000	V.P.D.
2034	DHV	1650	V.P.H.
TRUCKS		8	%
Total Design ESALs		11,500,000	

INDEX OF SEALS

SHEET NO.	NAME	TYPE
A.1	Jason M. Holst	Primary Signature Block
CH.1	David R. Claman	Hydraulic Signature Block
CS.1	Robert L. Stanley	Geotechnical Signature
J.5	Zachary Abrams	Signing Design Signature

ROADWAY DESIGN

LICENSED PROFESSIONAL ENGINEER Jason M. Holst 16923 IOWA

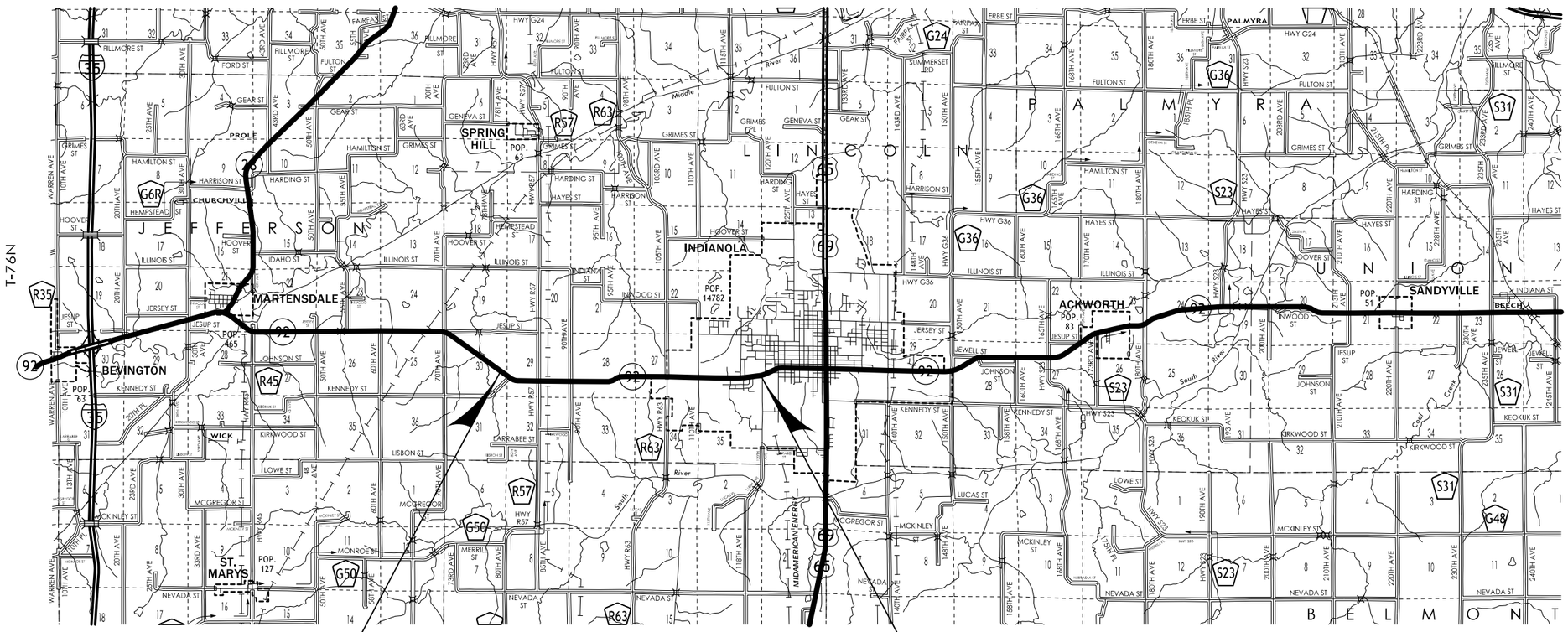
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature Jason M. Holst Date
Jason M. Holst
Printed or Typed Name

My license renewal date is December 31, 2015

Pages or sheets covered by this seal: A.1-A.2; B.1-B.12; C.1-C.27; D.1-D.29; E.1-E.7; F.1-F.9; G.1-G.11; H.1-H.15; HE.1-HE.6; J.1-J4; J.13-J.42; L.1-L.30; M.1-M30; S.1-S10; T.1-T.23; U.1-U.29; W.1-W.231; X.1-X.106

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER A.1



LOCATION MAP SCALE
0 1 2 3
Miles

LOCATION MAP SHEET

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER A.2

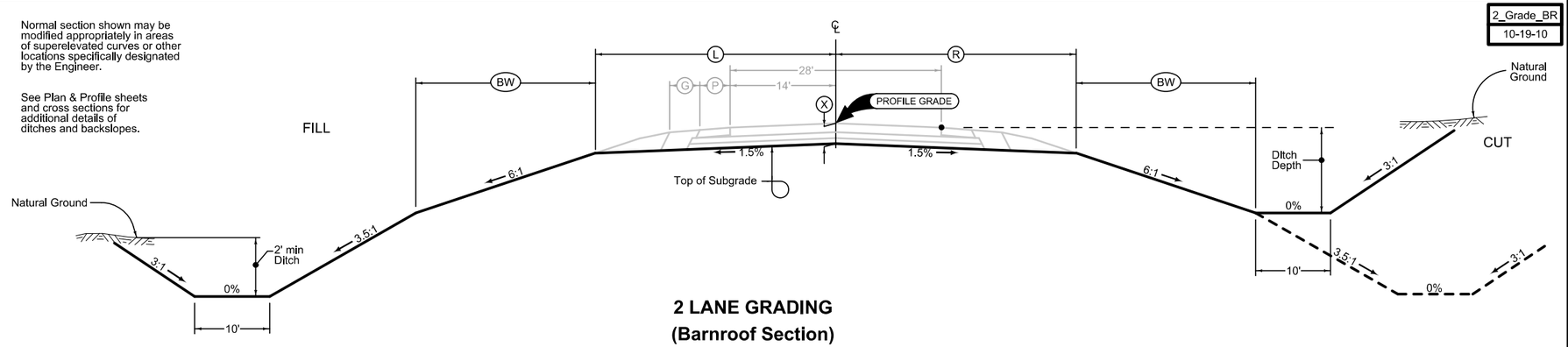
2:28:42 PM 6/24/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051A01.sht

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(BW) Feet
IA 92	256+50.00	391+00.00	35.2	35.2	22	16.4

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.

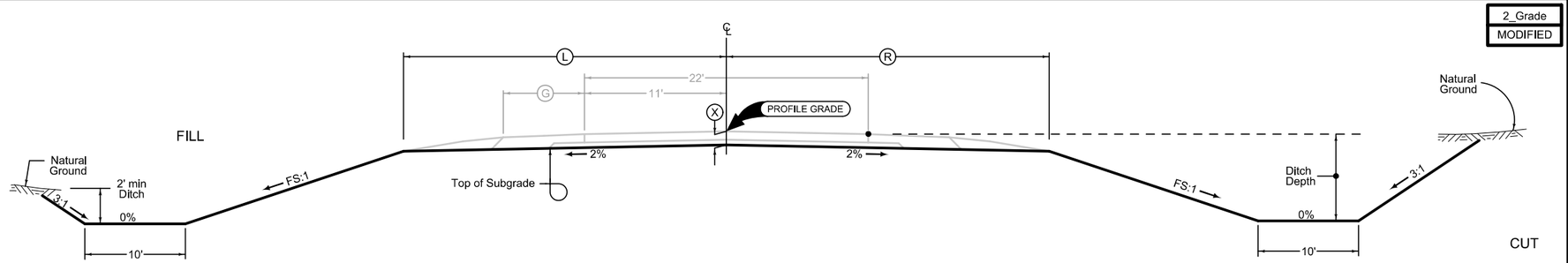
2_Grade_BR
10-19-10



2 LANE GRADING
(Barnroof Section)

LOCATION			DIMENSIONS			
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	FS
R-57	1280+60.00	1283+41.23	27.0	27.0	22	4
R-57	1384+16.17	1386+06.00	27.0	27.0	22	4
R-63	3388+60.00	3390+71.41	27	27	22	4
R-63	3391+41.99	3393+05.00	27	27	22	4

2_Grade
MODIFIED



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

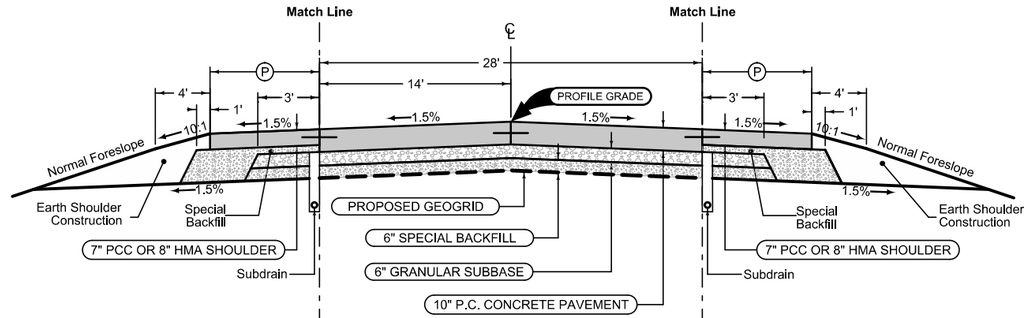
See plan & profile sheets and cross sections for additional details of ditches and backslopes.

2 LANE GRADING

Paved Shoulder Alternates

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-3
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

2_P_ALT_ 10-19-10		
STATION TO STATION		(P) Feet
256+50.00	282+86.00	8
291+18.00	390+19.00	8



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

2P_ 10-19-10	
STATION TO STATION	
256+50.00	391+00.00

Paved Shoulder Alternates

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-3
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

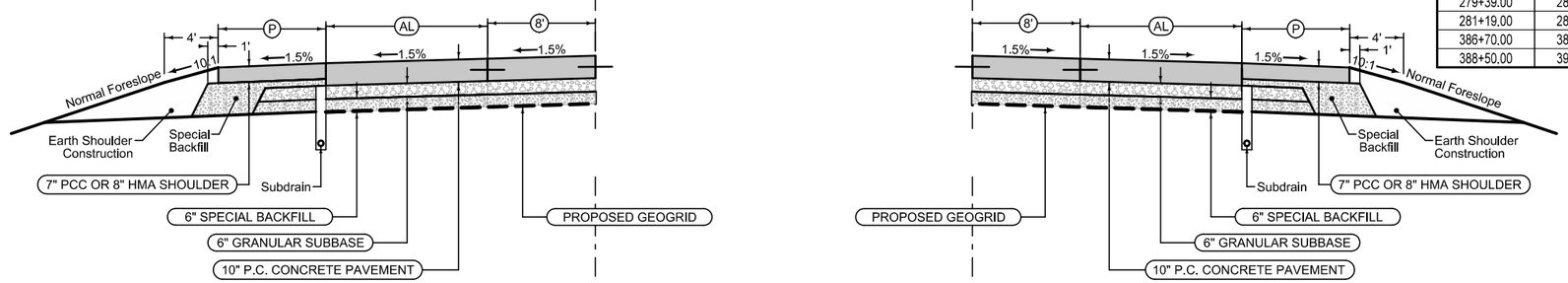
2_P_ALT_ 10-19-10		
STATION TO STATION		(P) Feet
257+70.00	279+39.00	8
284+80.50	286+70.00	8

Auxiliary Lane
Paved Shoulder Alternates
Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-3
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

2_AuxLane_PCC_ 10-19-10			2_AL_Shldr_ALT_ 10-19-10
STATION TO STATION		(AL) Feet	(P) Feet
284+48.00	289+38.00	10	6
289+38.00	292+08.00	10-0	6-0



Auxiliary Lane
Paved Shoulder Alternates
Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-3
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

2_AuxLane_PCC_ 10-19-10			2_AL_Shldr_ALT_ 10-19-10
STATION TO STATION		(AL) Feet	(P) Feet
279+39.00	281+19.00	0-10	0-6
281+19.00	282+94.00	10	6
386+70.00	388+50.00	0-10	0-6
388+50.00	390+25.00	10	6

Paved Shoulder Alternates With Adjacent Granular Shoulder

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-3
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

2_P_ALT_ 10-19-10			
STATION TO STATION		(P) Feet	(G) Feet
256+50.00	257+70.00	4	2-4

Paved Shoulder Alternates With Adjacent Granular Shoulder

PCC Shoulder Jointing:
Longitudinal joint: BT-1 or BT-3
Transverse joints: C at 20' spacing
HMA Shoulder Jointing:
Longitudinal joint: B

2_P_ALT_ 10-19-10			
STATION TO STATION		(P) Feet	(G) Feet
256+50.00	257+70.00	4	2-4

See Tab 100-24 for pavement quantities.
See Tab 112-9 for shoulder quantities.

IOWA 92 - RURAL

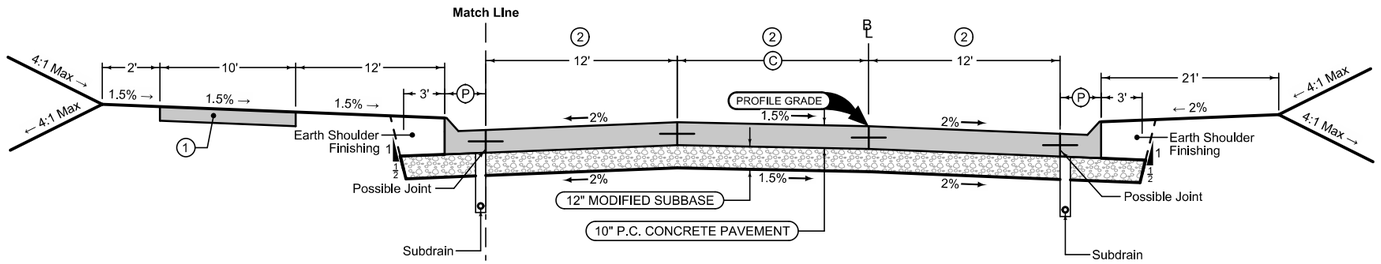
FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER B.2

Curbed Shoulder

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

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

			2_Curb_ MODIFIED
STATION TO STATION		(P) Feet	Curb Type See PV-102
391+00.00	443+18.01	3	6" Standard



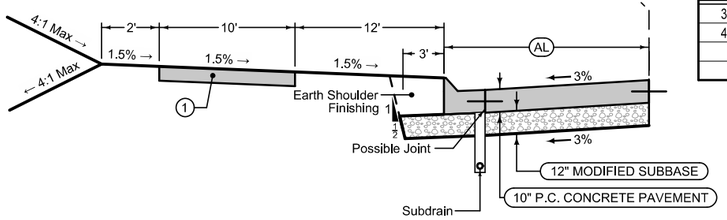
Mainline Jointing:
Transverse joints: CD at 20' spacing
Longitudinal joint: L-2

		2P_TWLTL_ 10-19-10
STATION TO STATION		(C) Feet
391+00.00	441+27.50	16
441+27.50	443+18.01	16-12

Auxiliary Lane

Longitudinal joint: L or KT
Transverse joint: Match Mainline

			4_AuxLane_PCC_ MODIFIED
Direction of Travel	BEGIN STATION	END STATION	(AL) Feet
WEST	391+92.00	396+82.00	13



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:CD at 20' spacing

			2_Curb_ MODIFIED
STATION TO STATION		(P) Feet	Curb Type See PV-102
391+00.00	443+18.01	3	6" Standard

See Tab 100-24 for pavement quantities.

(1) Recreational Trail - Refer to Typ. 7402 for additional information.

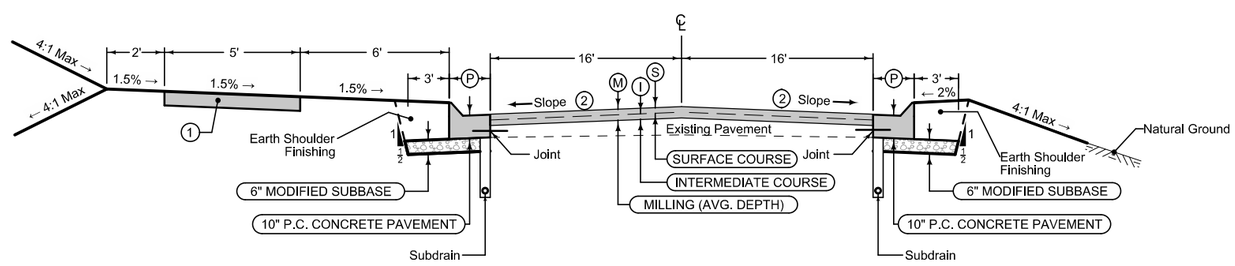
(2) Refer to L-Sheets for transition areas.

IOWA 92 - URBAN

Curbed Shoulder

Shoulder Jointing:
Longitudinal: BT-2
Transverse: C at 20' spacing

			2_Curb_ MODIFIED
STATION TO STATION		(P) Feet	Curb Type See PV-102
443+18.01	464+92.00	2.5	6" Standard



Curbed Shoulder

Shoulder Jointing:
Longitudinal: BT-2
Transverse: C at 20' spacing

			2_Curb_ MODIFIED
STATION TO STATION		(P) Feet	Curb Type See PV-102
443+18.01	464+92.00	2.5	6" Standard

HMA RESURFACING

LOCATION					
ROAD IDENTIFICATION	STATION TO STATION		(M) Inches	(S) Inches	(I) Inches
Ia. 92	443+18.01	465+01.01	3	1.5	1.5

(1) Recreational Trail - Refer to Typ. 7402 for additional information. See Tab 100-24 for pavement quantities.

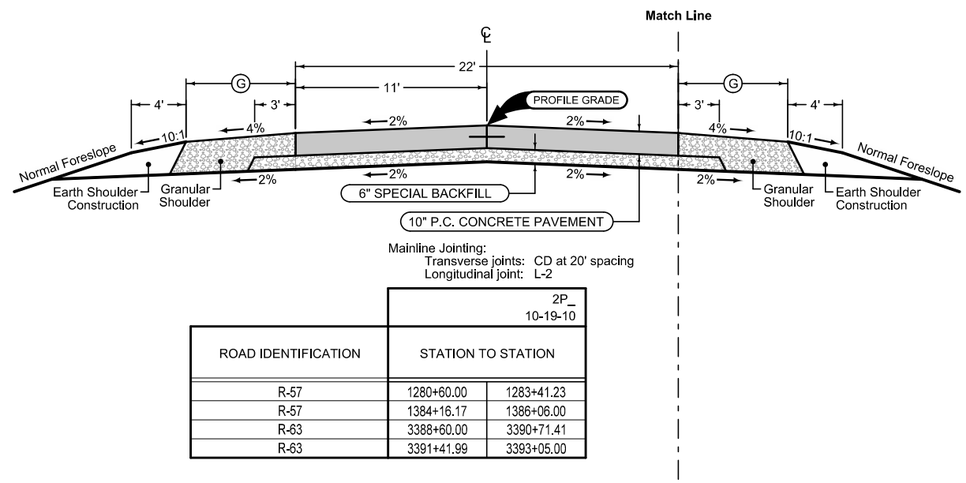
(2) Match finished slope to existing pavement, except the the maximum allowable slope is 3.0%, minimum allowable slope is 2.0%. Section may be modified as derected by the Engineer through areas of special shaping.

(3) Refer to Plan and Profile sheets for Curb Form Grade.

IOWA 92 - WIDENING & RESURFACE

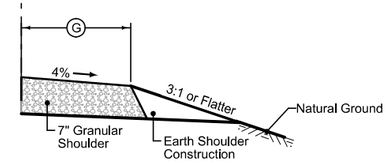
Granular Shoulder

ROAD IDENTIFICATION	STATION TO STATION		2_G_ 10-19-10 (G) Feet
R-57	1280+60.00	1283+41.23	6
R-57	1384+16.17	1386+06.00	6
R-63	3388+60.00	3390+71.41	6
R-63	3391+41.99	3393+05.00	6



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

ROAD IDENTIFICATION	STATION TO STATION		2P_ 10-19-10
R-57	1280+60.00	1283+41.23	
R-57	1384+16.17	1386+06.00	
R-63	3388+60.00	3390+71.41	
R-63	3391+41.99	3393+05.00	



Granular Shoulder

ROAD IDENTIFICATION	STATION TO STATION		2_G_ 10-19-10 (G) Feet
R-57	1280+60.00	1283+41.23	6
R-57	1384+16.17	1386+06.00	6
R-63	3388+60.00	3390+71.41	6
R-63	3391+41.99	3393+05.00	6

Granular Shoulder *

ROAD IDENTIFICATION	STATION TO STATION		2_G_ 10-19-10 (G) Feet
R-57	1277+35.00	1279+25.00	6
R-57	1387+86.00	1389+68.00	6
R-63	3385+50.00	3386+82.00	6
R-63	3394+93.00	3396+25.00	6

*After removal of Detour

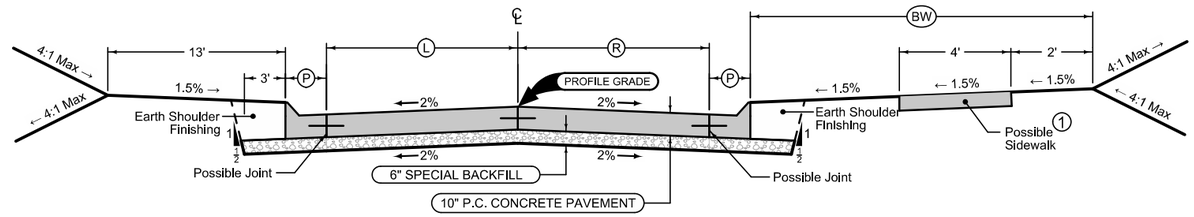
R-57 & R-63

Curbed Shoulder

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

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

			2_Curb_ MODIFIED
STATION TO STATION		(P) Feet	Curb Type See PV-102
4414+15.00	4417+25.32	1.5	6" Standard
4417+64.40	4422+60.00	1.5	6" Standard



Curbed Shoulder

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

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

			2_Curb_ MODIFIED	
STATION TO STATION		(P) Feet	Curb Type See PV-102	(BW) Feet
4414+15.00	4417+25.32	1.5	6" Standard	18
4417+64.40	4422+60.00	1.5	6" Standard	13

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

		2P_ 10-19-10	
STATION TO STATION		(L) Feet	(R) Feet
4414+15.00	4417+25.32	11	11
4417+64.40	4422+60.00	14	14

(1) Refer to S-sheets for Add. info

See Tab 100-24 for pavement quantities.

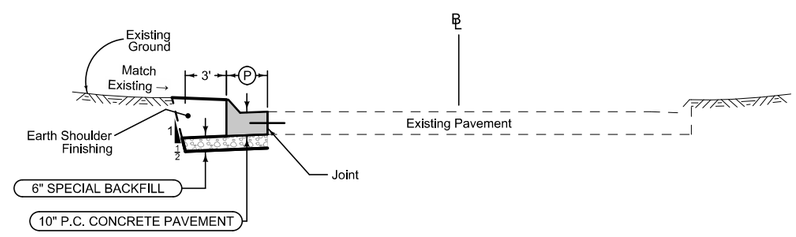
See Tab 112-9 for shoulder quantities.

Y ST

Curbed Shoulder

Shoulder Jointing:
Longitudinal: BT-2
Transverse: C at 20' spacing

			2_Curb_ MODIFIED
STATION TO STATION		(P) Feet	Curb Type See PV-102
4410+73.00 Lt	4411+62.00 Lt	1.5	6" Standard
4414+91.00 Rt	4415+37.00 Rt	1.5	6" Standard
4424+96.00 Lt	4425+66.00 Lt	1.5	6" Standard



(1) Recreational Trail - Refer to Typ. 7402 for additional information.

See Tab 100-24 for pavement quantities.

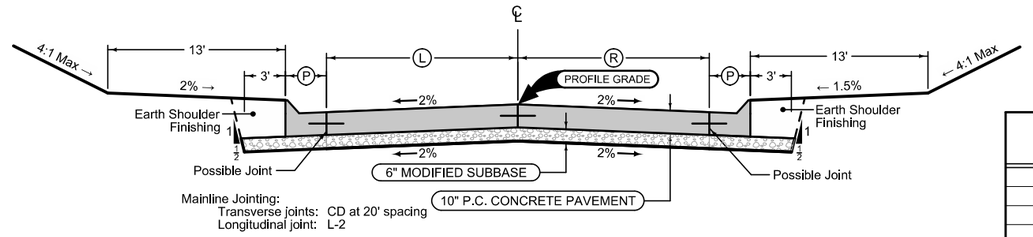
Y ST

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

	(1) STATION TO STATION		(P) Feet	2_Curb_ MODIFIED Curb Type See PV-102
SPRUCE ST	0	31.4	2	6" Standard
SOUTH 'R' ST	0	27.5	3.5	6" Standard
KENWOOD BLVD.	0	33.4	2	6" Standard
SOUTH 'P' ST-SOUTH	0	36.7	2	6" Standard
SOUTH 'P' ST-NORTH	0	33.7	2	6" Standard
SOUTH 'N' ST	0	16.1	6	6" Standard



	STATION TO STATION (1)		(L) Feet	(R) Feet
SPRUCE ST	0	31.4	10.5	10.5
SOUTH 'R' ST	0	27.5	12	12
KENWOOD BLVD.	0	33.4	18.5	18.5
SOUTH 'P' ST-SOUTH	0	36.7	13	13
SOUTH 'P' ST-NORTH	0	33.7	11	11
SOUTH 'N' ST	0	16.1	10	10

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

	(1) STATION TO STATION		(P) Feet	2_Curb_ MODIFIED Curb Type See PV-102
SPRUCE ST	0	31.4	2	6" Standard
SOUTH 'R' ST	0	27.5	3.5	6" Standard
KENWOOD BLVD.	0	33.4	2	6" Standard
SOUTH 'P' ST-SOUTH	0	36.7	2	6" Standard
SOUTH 'P' ST-NORTH	0	33.7	2	6" Standard
SOUTH 'N' ST	0	16.1	6	6" Standard

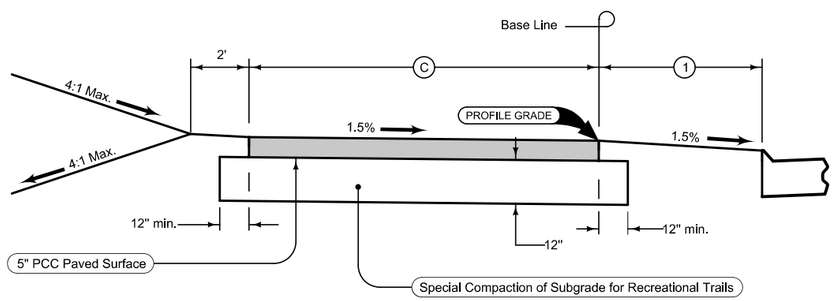
Refer to 'L' Sheets.
See Tab 100-24 for pavement quantities.
Curb shoulder quantities included with mainline pavement.

(1) Station based on distance from edge of mainline pavement.

(2) Use staking details for profile. Refer to L-Sheets.

TYPICAL URBAN INTERSECTION

7402
MODIFIED



Notes:

(1) Refer to other detail typicals and cross sections for distance from edge of Recreational Trail to back of curb.

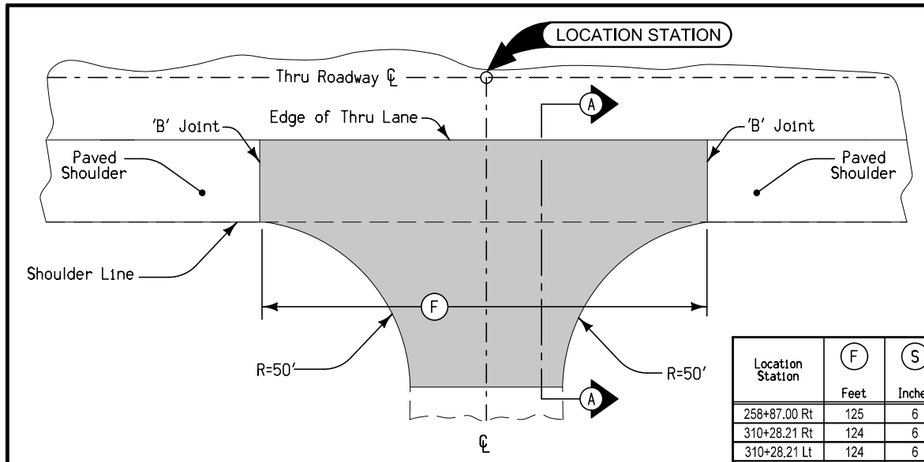
Refer to Tab 113-1 on C-sheets.

Contract bid items:
'Recreational Trail, Portland Cement Concrete,5 in.'
'Special Compaction of Subgrade for Recreational Trail'

STATION TO STATION		PAVEMENT TYPE	(C) Feet	
391+20.00	441+21.07	PCC	10	

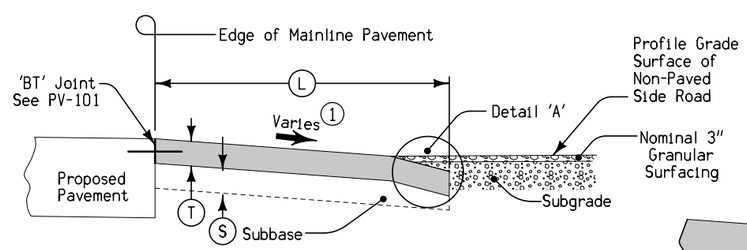
TYPICAL CROSS SECTION RECREATIONAL TRAIL PAVED SURFACE

7149M
MODIFIED



PLAN

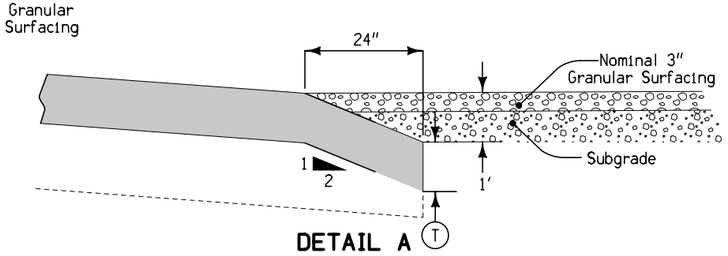
Location Station	(F) Feet	(S) Inches	(T) Inches	(L) (50' min.) Feet	Remarks
258+87.00 Rt	125	6	8	69.3	See Tab. 100-24, KENNEDY ST.
310+28.21 Rt	124	6	8	57.4	See Tab. 100-24, 90TH AVE.
310+28.21 Lt	124	6	8	58.6	See Tab. 100-24, 90TH AVE.



SECTION A-A

Special shaping of existing surface prior to placement of fillet or fillet extension may be required by the Engineer and is incidental to other work on the project.

(1) Profile grade of Side Road

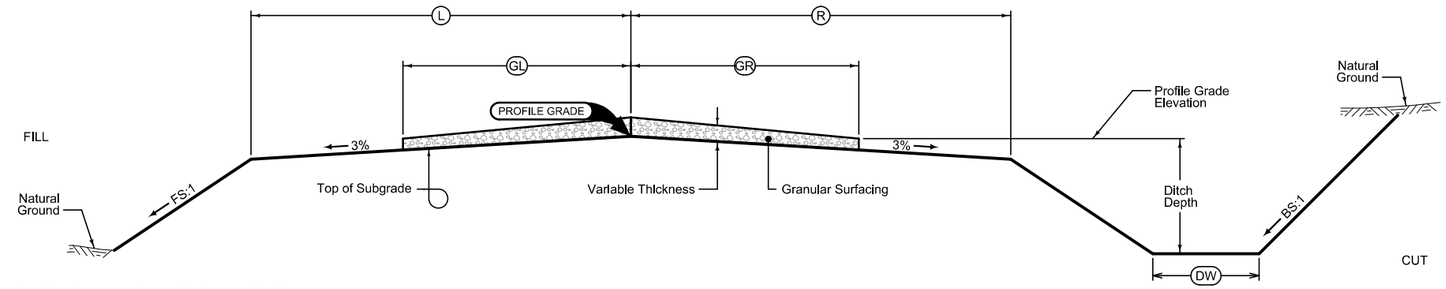


DETAIL A

FILLET EXTENSION FOR NON-PAVED SIDE ROADS

LOCATION			DIMENSIONS							Quantities	
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(GL) Feet	(GR) Feet	FS	BS	(DW) Feet	Length Mile	Granular Surfacing Tons
KENNEDY ST	1257+45.00	1258+68.00	15	15	12	12	3	3	5	0.023	54.7
90TH AVE	2305+85.00	2307+00.00	12-13	12-13	12	12	2.5-3	2.5-3	0	0.022	51.2
90TH AVE	2307+00.00	2308+00.00	13	13	12	12	3	3	0-5	0.019	44.5
90TH AVE	2308+00.00	2310+06.21	13	13	12	12	3	3	5	0.047	111.4
90TH AVE	2310+50.21	2313+85.00	13	13	12	12	3	3	5	0.063	149.0
Accessway 258	1259+09.00	1259+38.00	13	13-20	12	12	3	3	0	0.005	12.9
Accessway 258	1259+38.00	1259+90.00	13	20	12	12	3	3	0	0.010	23.1
Accessway 258	1259+90.00	1260+30.00	13	20-13	12	12	3	3	0	0.008	17.8
Accessway 258	1260+30.00	1261+20.00	13	13	12	12	3	3	0	0.017	40.1
Kirkwood St.	0+00.00	26+40.00	U.A.C.	U.A.C.	8	8	U.A.C.	U.A.C.	U.A.C.	0.500	1175.0
Detour Y St. SW	14409+91.69	14417+13.53	10	10	10	10	3	3	5	0.137	321.3
Detour Y St SE	24415+20.54	24418+46.15	10	10	10	10	3	3	5	0.061	144.5
Detour Y St NW	14416+96.30	14424+85.76	10	10	10	10	3	3	5	0.150	351.4
Detour Spruce St	19441+06.00	19442+36.05	12	12	10	10	3	2.5	5	0.025	57.9

2_GradeGran
Modified



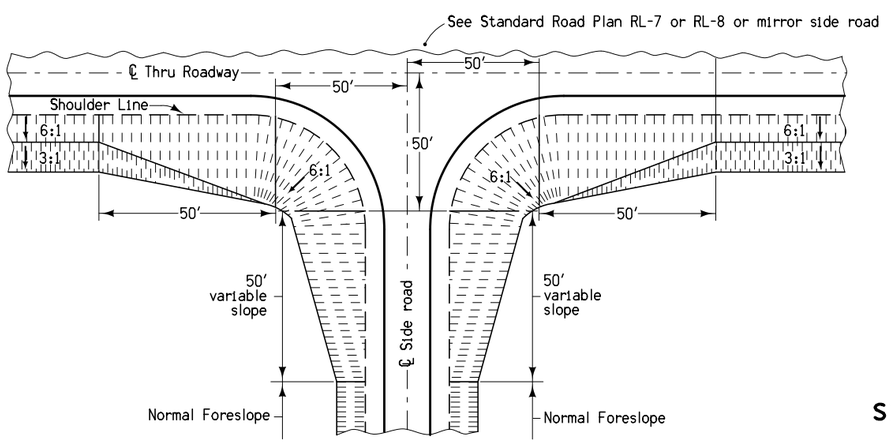
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

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

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

GRADING AND GRANULAR SURFACING

2117
04-15-08



SIDE ROAD GRADING (BARNROOF)

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER B.7

2_Detour
MODIFIED

LOCATION			DIMENSIONS				Quantities	
			HMA		PCC			
ROAD IDENTIFICATION	STATION TO STATION		(T) Inches	(SGW) Feet	(T) Inches	(SGW) Feet	Detour Pavement SY	Special Backfill Tons
IA 92 NE Tie-in	439+07.95	444+99.72	9	VARI	8	VARI	798.6	543.8
IA 92 SE Tie-in	441+22.91	441+23.02	9	VARI	8	VARI	163.8	119.8
		Totals					962.4	663.6

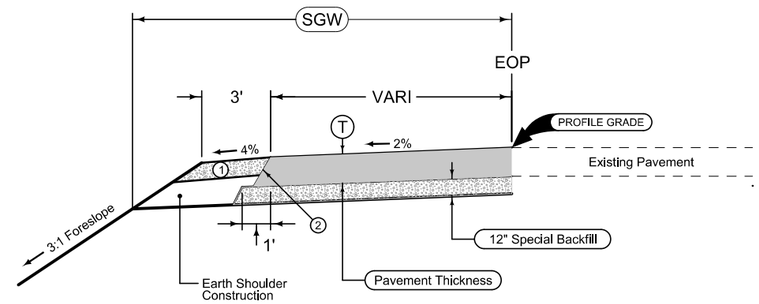
Quantity calculations based on vertical pavement edges.

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

Refer to L-Sheets.

(1) 6" Granular Shoulder

(2) Possible 1:1 slope



1 LANE DETOUR PAVING

2_Detour
MODIFIED

LOCATION			DIMENSIONS				Quantities	
			HMA		PCC			
ROAD IDENTIFICATION	STATION TO STATION		(T) Inches	(SGW) Feet	(T) Inches	(SGW) Feet	Detour Pavement SY	Special Backfill Tons
R-57	11277+89.54	11283+98.25	8	35	7	34.5	1254.3	432.6
R-57	11284+92.87	11290+40.39	8	35	7	34.5	1092.3	376.9
R-63	18386+48.19	18392+53.75	8	35	7	34.5	1476.2	506.0
R-63	18392+77.34	18397+71.90	8	35	7	34.5	1179.8	402.9
		Totals					5002.6	1688.4

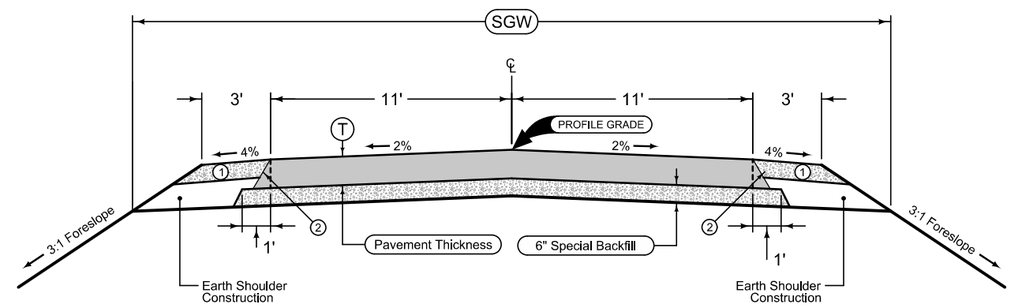
Quantity calculations based on vertical pavement edges.

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

Refer to L-Sheets.

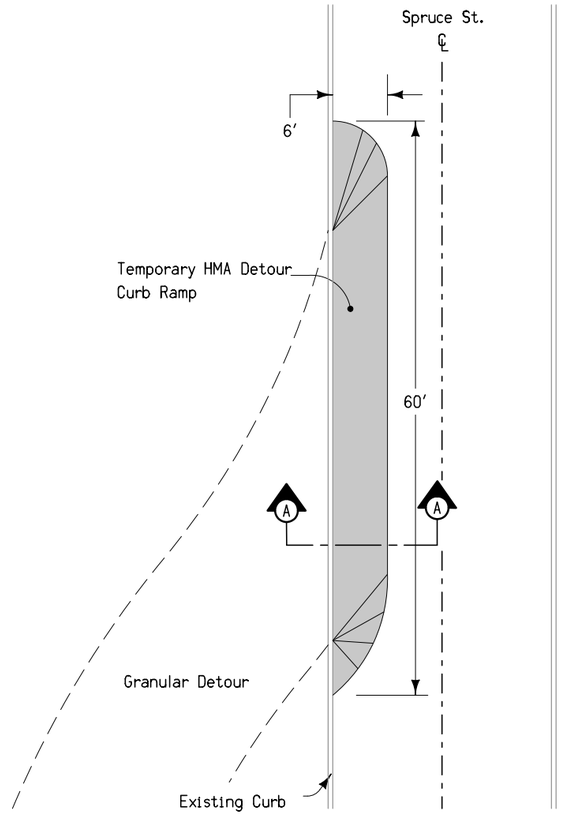
(1) 6" Granular Shoulder

(2) Possible 1:1 slope

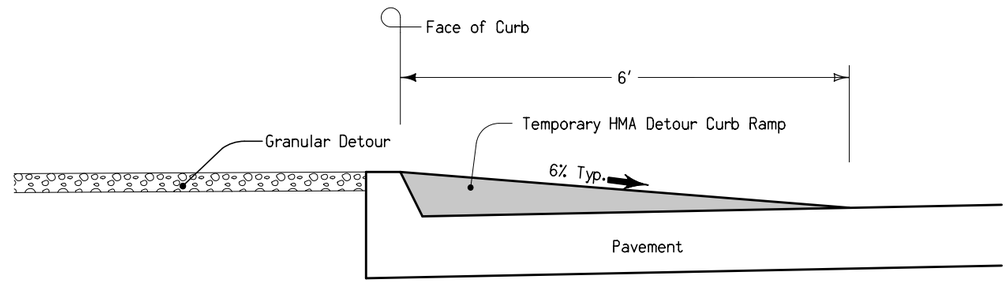


2 LANE DETOUR PAVING

DETRAMP
NEW



PLAN



SECTION A-A

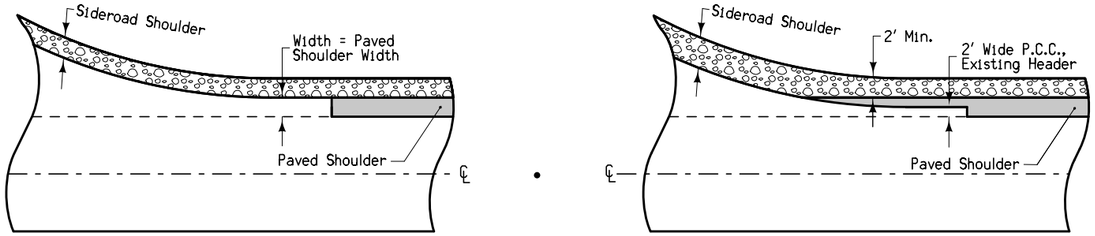
Bid as Temporary Pavement.

Removal of temporary HMA Detour Curb Ramp is incidental to Temporary Pavement.

Temporary Pavement area is 6.7 square yards.

TEMPORARY HMA DETOUR CURB RAMP

7154B
10-20-09

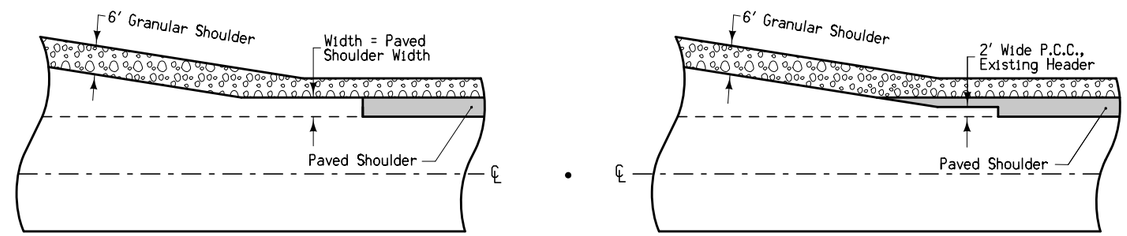


With Newly Constructed Returns

At UAC Returns

PAVED SHOULDER DETAIL AT RETURNS

7154A
10-20-09

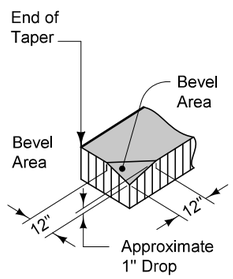


With Newly Constructed Turn Lanes

At UAC Turn Lanes

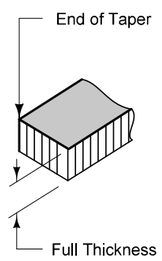
PAVED SHOULDER DETAIL AT TURN LANES

7101
10-19-10



DETAIL 'A'

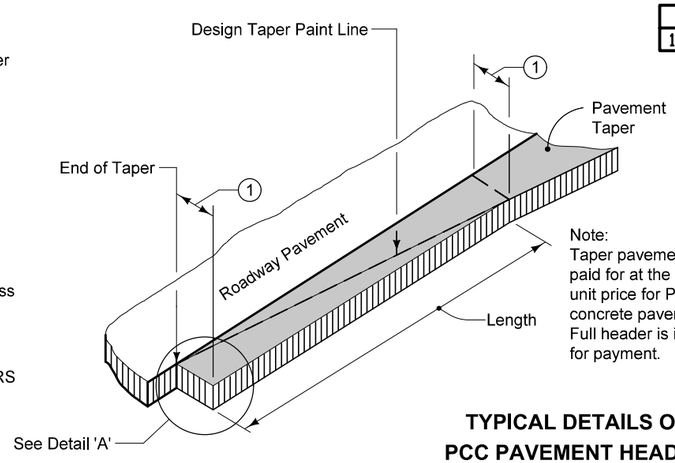
FOR GRANULAR SHOULDERS



DETAIL 'A'

FOR PAVED SHOULDERS

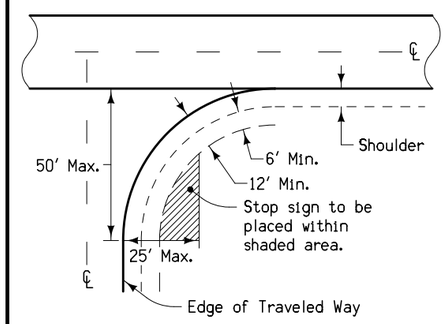
(1) Normal width is 2'-0". Construct 4'-0" width when butting into 4' wide HMA shoulders (See Typical 7154A).



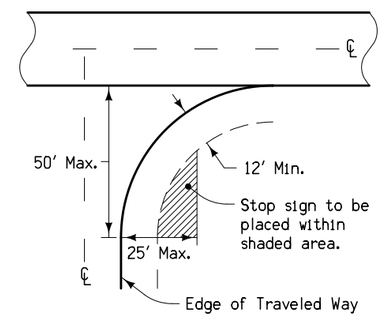
Note:
Taper pavement to be paid for at the contract unit price for P.C. concrete pavement. Full header is included for payment.

TYPICAL DETAILS OF PCC PAVEMENT HEADER

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.

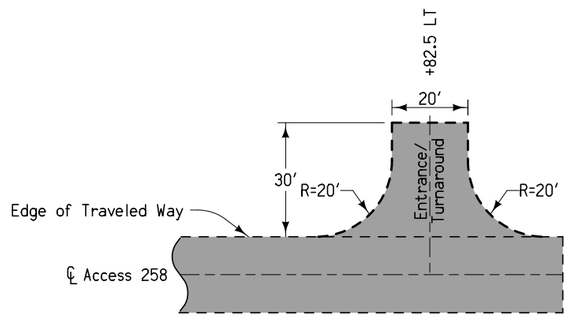
In urban areas, stop signs should be placed a minimum of 6' from the near edge of the intersected street or a minimum of 4' in advance of the near edge of a marked crosswalk. Lateral clearance may be reduced to a minimum of 2' from the face of a curb.

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

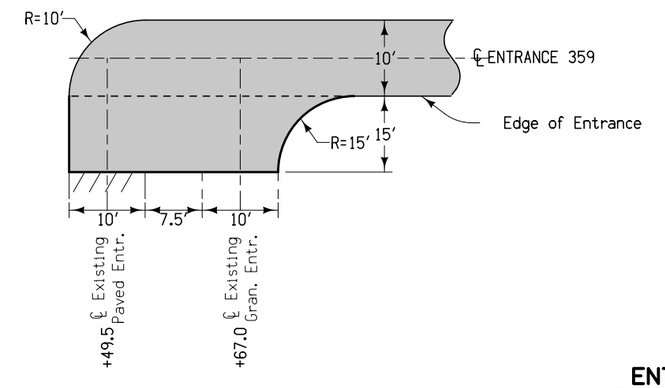
TURNAROUND
NEW



NOTES:
Refer to Plan and Profile sheets for profile of Entrance.

MAINTENANCE TURNAROUND DETAIL ACCESSWAY 258

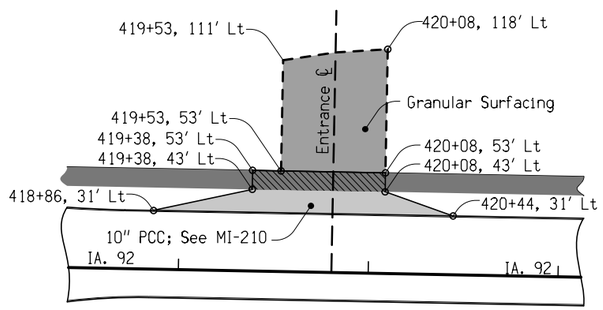
ENT359
NEW



NOTES:
Refer to Plan and Profile sheets for profile of Entrance.

ENTRANCE 359 TERMINAL DETAIL

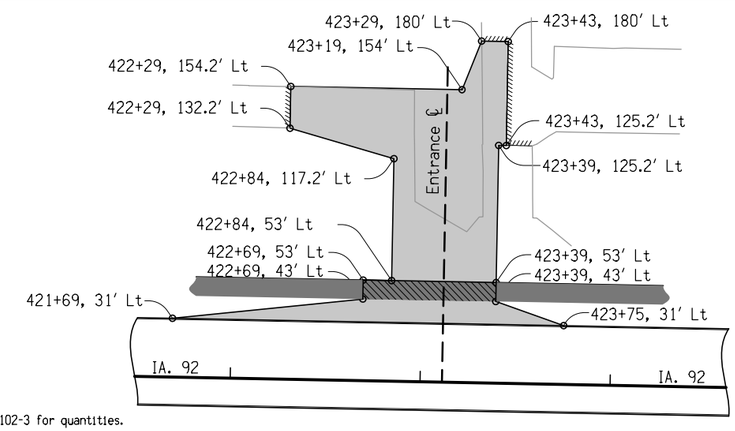
ENT419
NEW



NOTES:
Refer to Tab. 102-3 for quantities.
Refer to MI-210 for additional details.
Refer to Plan and Profile sheets for profile of Entrance.

ENTRANCE 419 CONSTRUCTION LIMITS

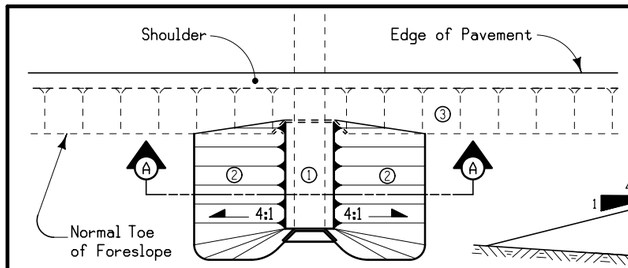
ENT423
NEW



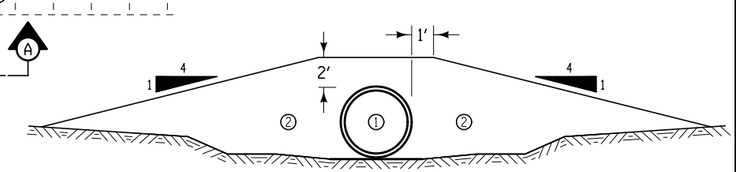
NOTES:
Refer to Tab. 102-3 for quantities.
Refer to MI-210 for additional details.
Refer to Plan and Profile sheets for profile of Entrance.

ENTRANCE 423 CONSTRUCTION LIMITS

4309
Modified



PLAN



SECTION A-A

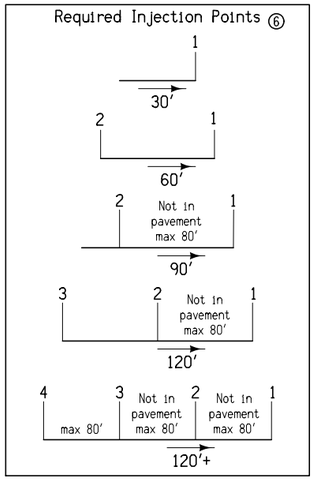
STATION	SIDE	Cu. Yds.
4414+30	Rt.	40
426+59	Rt.	110

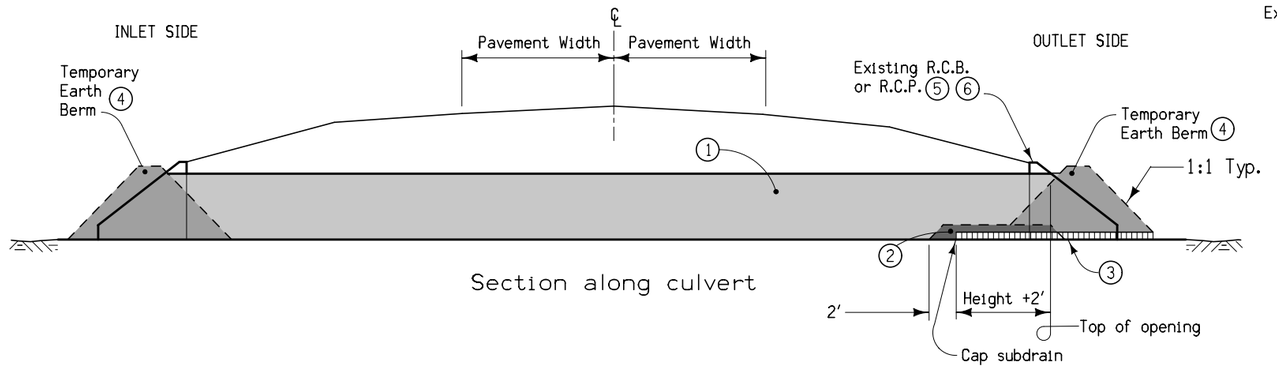
Notes:

① Storm Sewer Outlet
② Proposed Embankment
③ Adjacent Foreslope

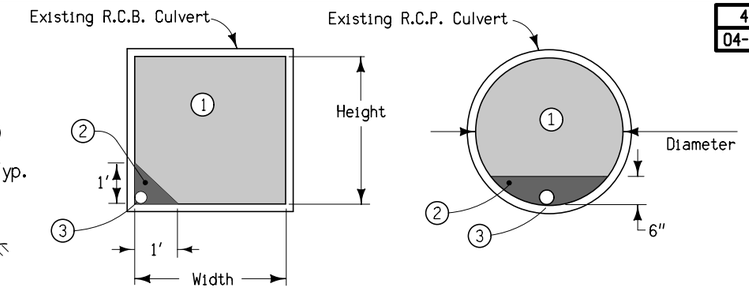
PLACEMENT OF EMBANKMENT AT STORM SEWER OUTLET

4315
04-15-08





Section along culvert

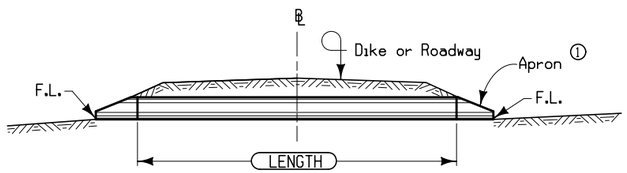


Section thru culvert

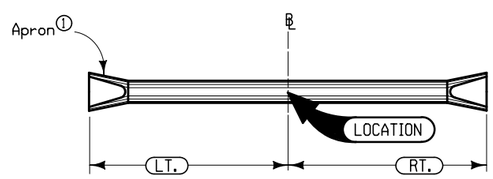
① Flowable Mortar.
② Granular Backfill.
③ 4″ subdrain at flowline elevation of culvert shall be extended into the culvert a distance of 2′ plus the height of the culvert. Granular Backfill covers subdrain and extends an additional 2′. Subdrain and granular backfill are incidental to flowable mortar.
④ Ends of culvert shall be plugged sufficiently to retain flowable mortar. Temporary earth berms are incidental to flowable mortar.
⑤ Removal of headwalls may be required.
⑥ Outlet shall be filled first. See injection point detail for additional information.

DETAILS OF CULVERT ABANDONMENT WITH FLOWABLE MORTAR
(Rectangular structures less than 8′ in either height or width. Circular structures less than 10′ Dia.)

1101
04-30-02



SECTION



PLAN

Notes:

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

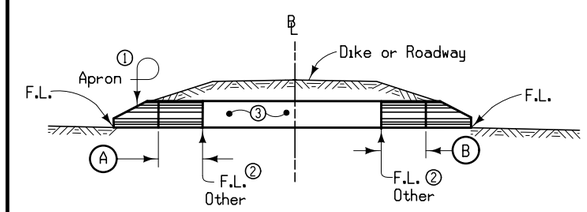
Skew angle is the angle which one end of the pipe is ahead (by stationing) of line perpendicular to the ℄ (example skew Rt. ahead 30°).

Refer to tabular listing and other plans for additional information.

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

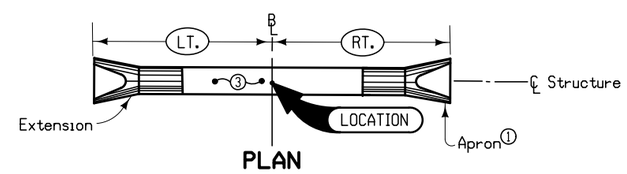
PIPE CULVERT

1301
10-03-00



SECTION

A+B =Length



PLAN

Notes:

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

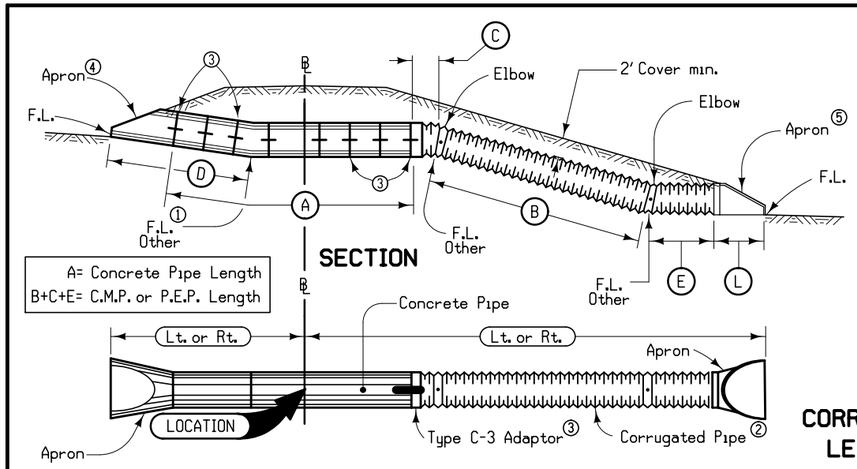
Extension shall be on line of existing structure to Lt., Rt. or both as specified. Adaptors may be required, see Standard Road Plan RF-2.

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

1501
04-20-10



SECTION

PLAN

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

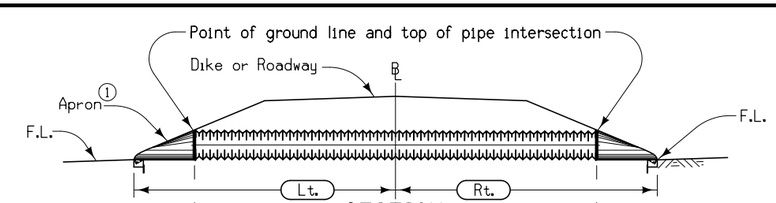
Skew angle is the angle which one end of the pipe is ahead (by stationing) of a line perpendicular to the ℄.

Refer to Tabulation 104-3.

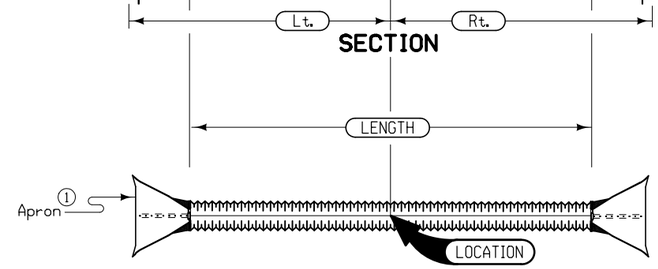
① Optional D section only when specified in tabulation.
② Standard type joint couplings are required. (See Materials I.M. 441)
③ See RF-2 & RF-14.
④ See RF-3.
⑤ See RF-5 for Metal and Polyethylene.

CORRUGATED PIPE - CONCRETE LETDOWN STRUCTURE WITH METAL APRON

1601
10-16-12



SECTION



PLAN

℄ 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).

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

UNCLASSIFIED PIPE CULVERT

100-1D
10-18-05

PROJECT DESCRIPTION

This project involves the reconstruction of IA 92 from west of Kennedy Street to east of 'N' Street in Indianola. The project is divided into a rural and an urban section.

The rural section extends from west of Kennedy Street easterly 2.5 miles to County Road R-63. This section of IA 92 west of Co. Rd. R-63 will be closed to thru traffic and detoured off site. Access to private properties will be maintained during construction. Traffic on Co. Rd. R-57, Co. Rd. R-63, and 'Y' St. will be also be maintained during construction. Traffic on Co. Rd. R-63 will be maintained except for the construction of the IA 92/R-63 intersection.

The urban section extends from Co. Rd. R-63 to just east of 'N' Street, a total distance of approximately 1.5 miles. It will include reconstruction from Co. Rd. R-63 to just east of Spruce Street; then a curb and gutter widening to the end of project where it meets the existing curb and gutter section. The traffic in the urban section will be maintained via staging. The reconstruction will consist of a 46' back-to-back curbed roadway including a 16' wide continuous center turn lane. The curb and gutter widening will be 37' back-to-back and UAC existing pavement.

Also, the project includes the construction of a 10' wide shared use path constructed on the north side of the roadway from Co. Rd. R-63 east to Spruce Street and a 5' wide sidewalk will be constructed on the north side of the roadway from Spruce Street east to South 'M' Street.

100-1A
07-15-97

ESTIMATED PROJECT QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.
1	2101-0850001	CLEARING AND GRUBBING	ACRE	81.3	
2	2102-0425070	SPECIAL BACKFILL	TON	26,397.9	
3	2102-2625001	EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED	CY	64,648.0	
4	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	127,386.0	
5	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY	305.0	
6	2102-4560000	LOCATING TILE LINES	STA	803.00	
7	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	62,950.0	
8	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	153,818.0	
9	2107-3825025	GRANULAR MATERIAL FOR BLANKET AND SUBDRAIN	CY	290.0	
10	2111-8174100	GRANULAR SUBBASE	SY	60,553.4	
11	2113-0001100	SUBGRADE STABILIZATION MATERIAL, POLYMER GRID	SY	100,414.0	
12	2115-0100000	MODIFIED SUBBASE	CY	10,550.1	
13	2121-7425010	GRANULAR SHOULDERS, TYPE A	TON	904.4	
14	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	283.30	
15	2123-7450020	SHOULDER FINISHING, EARTH	STA	160.00	
16	2212-0475095	CLEANING AND PREPARATION OF BASE	MILE	0.5	
17	2213-7100400	RELOCATION OF MAIL BOXES	EACH	42	
18	2214-5145150	PAVEMENT SCARIFICATION	SY	7,762.0	
19	2301-1033080	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C,	SY	1,125.2	
		CLASS 3 DURABILITY, 8 IN.			
20	2301-1033100	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C,	SY	86,454.3	
		CLASS 3 DURABILITY, 10 IN.			
21	2301-4875006	MEDIAN, P.C. CONCRETE, 6 IN.	SY	126.4	
22	2301-6911722	PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES	LS	1.00	
23	2303-0042500	HOT MIX ASPHALT MIXTURE (3,000,000 ESAL), INTERMEDIATE COURSE, 1/2	TON	968.5	
		IN. MIX			
24	2303-0043502	HOT MIX ASPHALT MIXTURE (3,000,000 ESAL), SURFACE COURSE, 1/2 IN.	TON	673.9	
		MIX, FRICTION L-2			
25	2303-0245828	ASPHALT BINDER, PG 58-28	TON	98.6	
26	2304-0100000	DETOUR PAVEMENT	SY	5,965.0	
27	2304-0101000	TEMPORARY PAVEMENT	SY	6.7	
28	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	TON	2,554.7	
29	2314-8257000	DUST CONTROL SURFACE TREATMENT	STA	0.00	
30	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	TON	1,823.8	
31	2401-6745650	REMOVAL OF EXISTING STRUCTURES	LS	1.00	
32	2402-0425040	FLOODED BACKFILL	CY	3,095.2	

100-1A
07-15-97

ESTIMATED PROJECT QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.
33	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	4,206.9	
34	2416-0100015	APRONS, CONCRETE, 15 IN. DIA.	EACH	13	
35	2416-0100018	APRONS, CONCRETE, 18 IN. DIA.	EACH	5	
36	2416-0100021	APRONS, CONCRETE, 21 IN. DIA.	EACH	1	
37	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	24	
38	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.	EACH	7	
39	2416-0100036	APRONS, CONCRETE, 36 IN. DIA.	EACH	2	
40	2416-1180018	CULVERT, CONCRETE ROADWAY PIPE, 18 IN. DIA.	LF	128	
41	2416-1180024	CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.	LF	1254	
42	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	304	
43	2416-1180036	CULVERT, CONCRETE ROADWAY PIPE, 36 IN. DIA.	LF	118	
44	2417-0225024	APRONS, METAL, 24 IN. DIA.	EACH	1	
45	2417-1060024	CULVERT, CORRUGATED METAL ROADWAY PIPE, 24 IN. DIA.	LF	64	
46	2422-0360018	APRONS, UNCLASSIFIED, 18 IN. DIA.	EACH	54	
47	2422-0360024	APRONS, UNCLASSIFIED, 24 IN. DIA.	EACH	2	
48	2422-0360036	APRONS, UNCLASSIFIED, 36 IN. DIA.	EACH	4	
49	2422-1722018	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA.	LF	2138	
50	2422-1722024	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 24 IN. DIA.	LF	74	
51	2422-1722036	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 36 IN. DIA.	LF	102	
52	2422-1723018	CULVERT, UNCLASSIFIED ROADWAY PIPE, 18 IN. DIA.	LF	212	
53	2422-1723024	CULVERT, UNCLASSIFIED ROADWAY PIPE, 24 IN. DIA.	LF	98	
54	2422-1723030	CULVERT, UNCLASSIFIED ROADWAY PIPE, 30 IN. DIA.	LF	44	
55	2435-0140200	MANHOLE, STORM SEWER, SW-402	EACH	1	
56	2435-0250800	INTAKE, SW-508	EACH	77	
57	2435-0251000	INTAKE, SW-510	EACH	17	
58	2435-0251224	INTAKE, SW-512, 24 IN.	EACH	1	
59	2435-0600010	MANHOLE ADJUSTMENT, MINOR	EACH	0	
60	2435-0600020	MANHOLE ADJUSTMENT, MAJOR	EACH	0	
61	2502-4388050	INTAKE, STANDPIPE, AS PER PLAN	EACH	2	
62	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	44,699.7	
63	2502-8215110	SUBDRAIN, CORRUGATED METAL PIPE, 10 IN. DIA.	LF	257	
64	2502-8220193	SUBDRAIN OUTLET (RF-19C)	EACH	166	
65	2502-8220196	SUBDRAIN OUTLET, RF-19E	EACH	124	
66	2502-8220197	SUBDRAIN OUTLET (RF-19F)	EACH	4	
67	2503-0114215	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP),	LF	1,382.0	
		2000D (CLASS III), 15 IN.			
68	2503-0114218	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP),	LF	4,378.0	
		2000D (CLASS III), 18 IN.			
69	2503-0114221	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP),	LF	1,005.0	
		2000D (CLASS III), 21 IN.			
70	2503-0114224	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP),	LF	1,245.0	
		2000D (CLASS III), 24 IN.			
71	2503-0114230	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP),	LF	274.0	
		2000D (CLASS III), 30 IN.			
72	2503-0114236	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP),	LF	19.0	
		2000D (CLASS III), 36 IN.			
73	2503-0124215	STORM SEWER GRAVITY MAIN, TRENCHLESS, REINFORCED CONCRETE PIPE (RCP),	LF	160.0	
		2000D (CLASS III), 15 IN.			
74	2503-0124218	STORM SEWER GRAVITY MAIN, TRENCHLESS, REINFORCED CONCRETE PIPE (RCP),	LF	118.0	
		2000D (CLASS III), 18 IN.			
75	2503-0124224	STORM SEWER GRAVITY MAIN, TRENCHLESS, REINFORCED CONCRETE PIPE (RCP),	LF	56.0	
		2000D (CLASS III), 24 IN.			
76	2503-0200036	REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN.	LF	650	
77	2503-0200341	STORM SEWER ABANDONMENT, FILL AND PLUG, LESS THAN OR EQUAL TO 36 IN.	LF	149	
		DIA.			
78	2506-4984000	FLOWABLE MORTAR	CY	104.6	
79	2510-6745850	REMOVAL OF PAVEMENT	SY	65,344.1	
80	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES	EACH	6	
81	2511-0302500	RECREATIONAL TRAIL, PORTLAND CEMENT CONCRETE, 5 IN.	SY	4,957.8	
82	2511-0310100	SPECIAL COMPACTION OF SUBGRADE FOR RECREATIONAL TRAIL	STA	50.00	
83	2511-6745900	REMOVAL OF SIDEWALK	SY	230.4	
84	2511-7526004	SIDEWALK, P.C. CONCRETE, 4 IN.	SY	1,373.3	
85	2511-7526006	SIDEWALK, P.C. CONCRETE, 6 IN.	SY	517.1	
86	2511-7526010	SIDEWALK, P.C. CONCRETE, 10 IN.	SY	155.6	
87	2511-7528101	DETECTABLE WARNINGS	SF	264	
88	2512-1725156	CURB AND GUTTER, P.C. CONCRETE, 1.5 FT.	LF	205.0	
89	2512-1725256	CURB AND GUTTER, P.C. CONCRETE, 2.5 FT.	LF	4,126.0	
90	2512-1750006	CURB AND GUTTER, P.C. CONCRETE, AS PER PLAN	LF	70.0	
91	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN.	SY	3,038.7	
92	2515-2475008	DRIVEWAY, P.C. CONCRETE, 8 IN.	SY	516.7	
93	2515-6745600	REMOVAL OF PAVED DRIVEWAY	SY	4,578.4	
94	2518-6910000	SAFETY CLOSURE	EACH	114	
95	2519-4200140	REMOVAL OF FENCE, FIELD	LF	16,922.0	
96	2519-4200190	REMOVAL OF FENCE, WOOD	LF	1,005.0	
97	2520-3350010	FIELD LABORATORY	EACH	1	
98	2526-8285000	CONSTRUCTION SURVEY	LS	1.00	
99	2527-8400065	TEMPORARY DELINEATORS	EACH	161	
100	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	631.15	
101	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS	STA	18.79	
102	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	78	
103	2527-9263180	PAVEMENT MARKINGS REMOVED	STA	33.66	
104	2528-8400157	TEMPORARY FLOODLIGHTING LUMINAIRE	EACH	10	

100-1A
07-15-97

ESTIMATED PROJECT QUANTITIES
(1 DIVISION PROJECT)

Item No.	Item Code	Item	Unit	Total	As Built Qty.
105	2528-8445110	TRAFFIC CONTROL	LS	1.00	
106	2528-8445113	FLAGGERS	EACH	See Proposal	
107	2529-2242320	CT JOINT	EACH	8	
108	2529-5070110	PATCHES, FULL-DEPTH FINISH, BY AREA	SY	363.0	
109	2529-5070120	PATCHES, FULL-DEPTH FINISH, BY COUNT	EACH	12	
110	2529-8174010	SUBBASE (PATCHES)	SY	363.0	
111	2529-8202000	RUMBLE STRIP PANEL (IN FULL DEPTH PATCH)	EACH	8	
112	2533-4980005	MOBILIZATION	LS	1.00	
113	2538-6975110	SEALING WELLS	EACH	3	
114	2548-0000200	MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE	STA	249.6	
115	2548-0000320	MILLED CENTERLINE RUMBLE STRIPS, PCC SURFACE	STA	123.5	
116	2554-0214000	FIRE HYDRANT ADJUSTMENT	EACH	8	
117	2590-0000020	PROJECT MANAGEMENT	LS	1.00	
118	2599-9999005	('EACH' ITEM) REMOVAL OF SILT BASINS	EACH	69	
119	2599-9999018	('SQUARE YARDS' ITEM) DRIVEWAY, P.C. CONCRETE, 10 IN.	SY	1,196.3	
120	2601-2633100	MOWING	ACRE	72.9	
121	2601-2634100	MULCHING	ACRE	58.1	
122	2601-2634105	MULCHING, BONDED FIBER MATRIX	ACRE	14.8	
123	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	58.1	
124	2601-2642120	STABILIZING CROP - SEEDING AND FERTILIZING (URBAN)	ACRE	14.8	
125	2602-0000020	SILT FENCE	LF	1,988.0	
126	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	7,671.0	
127	2602-0000050	SILT BASINS	EACH	138	
128	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	670.4	
129	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	7,500.0	
130	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	1,200.0	
131	2602-0000350	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	LF	2,400.0	
132	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1	
133	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1	
		ALTERNATE AA OPTION 1-PCC			
134	2102-0425071	SPECIAL BACKFILL	CY	15,153.7	
135	2122-5190007	PAVED SHOULDER, P.C. CONCRETE, 7 IN.	SY	22,581.8	
		ALTERNATE AA OPTION 2-HMA			
136	2102-0425071	SPECIAL BACKFILL	CY	13,620.0	
137	2122-5500080	PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 8 IN.	SY	22,581.8	

100-4A
10-29-02

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
1	2101-0850001	**CLEARING AND GRUBBING**
		Item is for the Clearing and Grubbing within construction need limits. Areas of Clearing and Grubbing
		within the construction need limits has been subtracted out.
		Item also includes the removal of existing shrubs except as noted in the Removal Details, see U-sheets
		for more information.
		Removal of field fence within the construction need limits is bid seperately.
-	-	-
2	2102-0425070	**SPECIAL BACKFILL**
		Refer to Typicals on B-sheets for additional details.
		Item includes 22985.9 Tons for PCC Pavement. Refer to Tab 100-24 on C-sheets.
		Item includes 663.6 Tons for 1 Lane Detour Paving. Refer to Typical B-sheets.
		Item includes 1688.4 Tons for 2 Lane Detour Paving. Refer to Typical B-sheets.
		Item includes 33.1 Tons for Curb and Gutter. Refer to Tab 112-9C on C-sheets.
		Item includes 1026.9 Tons for Driveways. Refer to Tab 102-3 on C-sheets.
-	-	-
3	2102-2625001	**EMBANKMENT-IN-PLACE, CONTRACTOR FURNISHED**
		Refer to Tab. 107-29 in 'T' sheets.
-	-	-
4	2102-2710070	**EXCAVATION, CLASS 10, ROADWAY AND BORROW**
		Item includes 127,386 CY from Template Quantities.
		Refer to Tab. 107-29 on the T-sheets.
		T-sheet quantities include Plowing and Shaping. Refer to Tab 107-31 on the CS-sheets for locations.
		Overhaul will not be measured or paid for, but shall be considered incidental to
		roadway excavation on this project.
		Item includes 150 CY for Embankment at Storm Sewer Outlets.
		Refer to Typ 4309 on the B-sheets.
-	-	-
5	2102-2712015	**EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS**
		Includes an estimated 200 CY of Boulders. Refer to Tab. 103-7 on CS-sheets.
		Item includes the removal of 105 CY of existing rip-rap revetment at culvert outlets. Refer to
		Removal Details on the U-sheets for locations.
		Dispose of excess material according to Article 1106.07 of the current specifications.
		Overhaul will not be measured or paid for, but shall be considered incidental to
		roadway excavation on this project.
-	-	-
6	2102-4560000	**LOCATING TILE LINES**
		Estimated at two times the project length.
-	-	-
7	2105-8425015	**TOPSOIL, STRIP, SALVAGE AND SPREAD**
		Refer to Tab. 103-4 on C-sheets for depths and locations.
-	-	-
8	2107-0875100	**COMPACTION WITH MOISTURE CONTROL**
		Cubic yards shown on the contract documents as determined by the template fill volume.
		Shrinkage will not be included in moisture control quantity.
		Refer to CS-sheets for application.
-	-	-
9	2107-3825025	**GRANULAR MATERIAL FOR BLANKET AND SUBDRAIN**
		Refer to Q-sheets for location details.
		Refer to Tab 104-5C on CS-sheets.
-	-	-
10	2111-8174100	**GRANULAR SUBBASE**
		Refer to Typicals on B-sheets for additional details.
		Item includes 60553.4 Tons for PCC Pavement. Refer to Tab 100-24 on C-sheets.
-	-	-
11	2113-0001100	**SUBGRADE STABILIZATION MATERIAL, POLYMER GRID**
		Geogrid shall be installed beneath Special Backfill to standard width and only to the edge of pavement in
		area of new subdrains.
		Refer to Tab. 104-9 on the CS-sheets for subdrain locations.
		Refer to Typicals on B-sheets for location details.
-	-	-
12	2115-0100000	**MODIFIED SUBBASE**
		Refer to Typicals on B-sheets for additional details.
		Item includes 10120.7 CY for PCC Pavement. Refer to Tab 100-24 on C-sheets.
		Item includes 429.4 Tons for Curb and Gutter. Refer to Tab 112-9C on C-sheets.
-	-	-
13	2121-7425010	**GRANULAR SHOULDERS, TYPE A**
		Refer to Typicals on B-sheets for details.
		Refer to Tab. 112-9 on C-sheets.

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
-	-	-
14	2123-7450000	**SHOULDER CONSTRUCTION, EARTH**
		Includes 13138 CY of earth shoulder fill material including 4 inches of topsoil (___ cu. yds.).
		Strip 8 inches of topsoil at the edge of the shoulder for use as 4 inches of topsoil.
-	-	-
15	2123-7450020	**SHOULDER FINISHING, EARTH**
		Refer to 'B' Sheets for details.
		Item includes xxxx STA for mainline.
		Item includes 42.3 STA for Curb and Gutter. Refer to Tab 112-9C on C-sheets.
		No payment for overhaul allowed for this material.
-	-	-
16	2212-0475095	**CLEANING AND PREPARATION OF BASE**
		This bid item is for the Resurfacing location of this project Sta. 441+18.01 to 465+01.01
-	-	-
17	2213-7100400	**RELOCATION OF MAIL BOXES**
		Refer to Tab MAILBOX on C-sheets for locations.
		The Contractor is responsible for coordinationg the relocation schedule with property owners and
		the US Post Office. If necessary, the Contractor is to provide temporary mailboxes until the permanent
		mailboxes can be reinstalled.
		METHOD OF MEASUREMENT: The quantity for Relocation of Mail Boxes will be measured by counting the number
		of mailboxes removed, temporarily relocated, and reinstalled.
		BASIS OF PAYMENT: The Contractor will be paid the contract unit price per each mailbox removed,
		temporarily relocated, and reinstalled.
-	-	-
18	2214-5145150	**PAVEMENT SCARIFICATION**
		Refer to Tab 100-25 on C-sheets.
-	-	-
19	2301-1033080	**STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 8 IN.**
		Item is for fillet extensions for non-paved side roads.
		Refer to Typ 7149M for on B-sheets for additional details.
		Refer to Tab 100-24 on C-sheets.
-	-	-
20	2301-1033100	**STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 10 IN.**
		Refer to Typicals on B-sheets.
		Refer to Tab 100-24 on C-sheets.
-	-	-
21	2301-4875006	**MEDIAN, P.C. CONCRETE, 6 IN.**
		Item is for Raised Islands at side road intersections.
		Refer to Standard Road Plan PV-20 for additional details.
		Refer to Tab. 112-4 on C-sheets.
-	-	-
22	2301-6911722	**PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES**
		- -
-	-	-
23	2303-0042500	**HOT MIX ASPHALT MIXTURE (3,000,000 ESAL), INTERMEDIATE COURSE, 1/2 IN. MIX**
		Refer to Tab 100-25 on C-sheets.
		Quantity includes 280.5 Ton for leveling. Refer to HMA thickness bar on D-sheets for estimation of total
		HMA Thickness.
		Quantity includes 5% for irregularities.
-	-	-
24	2303-0043502	**HOT MIX ASPHALT MIXTURE (3,000,000 ESAL), SURFACE COURSE, 1/2 IN. MIX, FRICTION L-2**
		Refer to Tab 100-25 on C-sheets.
		Quantity includes 5% for irregularities.
-	-	-
25	2303-0245828	**ASPHALT BINDER, PG 58-28**
		Estimated at a rate of 6%.
		Refer to Tab 100-25 on C-sheets.
-	-	-
26	2304-0100000	**DETOUR PAVEMENT**
		Item is for temporary detour pavements as shown on the F-sheets.
		Refer to Detour Typicals on B-sheets.
		Item includes 962.4 SY for 1 Lane Detour Paving
		Item includes 5002.6 SY for 2 Lane Detour Paving
-	-	-
27	2304-0101000	**TEMPORARY PAVEMENT**
		Item is for Temporary HMA Detour Curb Ramp used at Spruce Street.
		Refer to Typ DETRAMP on B-sheets for details.
		DESCRIPTION.
		Furnish, place, and remove HMA surface used to carry traffic during construction of permanent pavement.
		MATERIALS.

100-4A
10-29-02

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
		Use HMA 1,000,000 ESAL surface or intermediate course, 1/2 inch (12.5 mm) or 3/4 inch (19 mm), with
		PG 64-22 asphalt binder.
		CONSTRUCTION.
		A. HMA Paving.
		1. Meet the requirements of Section 2303.
		2. Place pavement in such a manner that it may be removed without damaging existing pavement
		surface.
		B. Pavement Removal
		Remove temporary pavement and replace, at no additional cost to the Contracting Authority, all
		concrete broken or damaged under or adjacent to temporary pavement during operations of placement
		and removal of temporary pavement.
		METHOD OF MEASUREMENT.
		Temporary Pavement constructed, in square yards will be the quantity shown in the contract documents.
		BASIS OF PAYMENT.
		A. Payment for Temporary Pavement will be the contract unit price per square yard.
		B. Payment is full compensation for furnishing material, equipment, and labor to construct and
		remove the temporary pavement in accordance with the contract documents.
-	-	-
28	2312-8260051	**GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE**
		Refer to Grading and Granular Surfacing typical on B-sheets.
-	-	-
29	2314-8257000	**DUST CONTROL SURFACE TREATMENT**
		Check with District regarding quantity. Double check with District that Calcium Chloride bid items should
		or shouldn't be used.
-	-	-
30	2315-8275025	**SURFACING, DRIVEWAY, CLASS A CRUSHED STONE**
		Refer to Tab 102-3 on C-sheets.
-	-	-
31	2401-6745650	**REMOVAL OF EXISTING STRUCTURES**
		Refer to Tab 110-2 on C-sheets.
		Refer to U-sheets for Removal Details.
-	-	-
32	2402-0425040	**FLOODED BACKFILL**
33	2402-2720100	**EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT**
		Refer to Tab 104-3 on CH-sheet.
-	-	-
34	2416-0100015	**APRONS, CONCRETE, 15 IN. DIA.**
		Includes 13 aprons for Storm Sewer. Refer to M-sheets for locations.
-	-	-
35	2416-0100018	**APRONS, CONCRETE, 18 IN. DIA.**
		Includes 3 aprons for storm sewer. Refer to M-sheets for locations.
		Includes 2 aprons for roadway culverts. Refer to Tab 104-3 on CH-sheets.
-	-	-
36	2416-0100021	**APRONS, CONCRETE, 21 IN. DIA.**
		Includes 1 apron for storm sewer. Refer to M-sheets for location.
-	-	-
37	2416-0100024	**APRONS, CONCRETE, 24 IN. DIA.**
		Includes 2 aprons for storm sewer. Refer to M-sheets for locations.
		Includes 22 aprons for roadway culverts. Refer to Tab 104-3 on CH-sheets.
-	-	-
38	2416-0100030	**APRONS, CONCRETE, 30 IN. DIA.**
		Includes 3 aprons for storm sewer. Refer to M-sheets for locations.
		Includes 4 aprons for roadway culverts. Refer to Tab 104-3 on CH-sheets.
-	-	-
39	2416-0100036	**APRONS, CONCRETE, 36 IN. DIA.**
		Includes 2 aprons for roadway culverts. Refer to Tab 104-3 on CH-sheets.
-	-	-
40	2416-1180018	**CULVERT, CONCRETE ROADWAY PIPE, 18 IN. DIA.**
41	2416-1180024	**CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.**
42	2416-1180030	**CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.**
43	2416-1180036	**CULVERT, CONCRETE ROADWAY PIPE, 36 IN. DIA.**
44	2417-0225024	**APRONS, METAL, 24 IN. DIA.**
45	2417-1060024	**CULVERT, CORRUGATED METAL ROADWAY PIPE, 24 IN. DIA.**
		Refer to Tab 104-3 on CH-sheet.
-	-	-
46	2422-0360018	**APRONS, UNCLASSIFIED, 18 IN. DIA.**
47	2422-0360024	**APRONS, UNCLASSIFIED, 24 IN. DIA.**
48	2422-0360036	**APRONS, UNCLASSIFIED, 36 IN. DIA.**
49	2422-1722018	**CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA.**
50	2422-1722024	**CULVERT, UNCLASSIFIED ENTRANCE PIPE, 24 IN. DIA.**
51	2422-1722036	**CULVERT, UNCLASSIFIED ENTRANCE PIPE, 36 IN. DIA.**
		Refer to Tab 102-3 on the C-sheets.
-	-	-
52	2422-1723018	**CULVERT, UNCLASSIFIED ROADWAY PIPE, 18 IN. DIA.**
53	2422-1723024	**CULVERT, UNCLASSIFIED ROADWAY PIPE, 24 IN. DIA.**
54	2422-1723030	**CULVERT, UNCLASSIFIED ROADWAY PIPE, 30 IN. DIA.**

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
		Refer to Tab 104-3 on CH-sheet.
-	-	-
55	2435-0140200	MANHOLE, STORM SEWER, SW-402
56	2435-0250800	INTAKE, SW-508
57	2435-0251000	INTAKE, SW-510
58	2435-0251224	INTAKE, SW-512, 24 IN.
		Refer to Tab 104-5B on M-sheets for additional information.
-	-	-
59	2435-0600010	MANHOLE ADJUSTMENT, MINOR
60	2435-0600020	MANHOLE ADJUSTMENT, MAJOR
		... needs to be calculated
-	-	-
61	2502-4388050	INTAKE, STANDPIPE, AS PER PLAN
		Refer to Tab. 104-5T on the C-sheets.
		Refer to D-sheets for additional location information.
-	-	-
62	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.
		Refer to Tab 104-9 on CS-sheets.
-	-	-
63	2502-8215110	SUBDRAIN, CORRUGATED METAL PIPE, 10 IN. DIA.
		Refer to Tab. 104-5T on the C-sheets.
-	-	-
64	2502-8220193	SUBDRAIN OUTLET (RF-19C)
65	2502-8220196	SUBDRAIN OUTLET, RF-19E
		Refer to Tab 104-9 on CS-sheets.
-	-	-
66	2502-8220197	SUBDRAIN OUTLET (RF-19F)
		Refer to Tab. 104-5T on the C-sheets.
-	-	-
67	2503-0114215	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 15 IN.
68	2503-0114218	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN.
69	2503-0114221	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 21 IN.
70	2503-0114224	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 24 IN.
71	2503-0114230	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 30 IN.
72	2503-0114236	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 36 IN.
73	2503-0124215	STORM SEWER GRAVITY MAIN, TRENCHLESS, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 15 IN.
74	2503-0124218	STORM SEWER GRAVITY MAIN, TRENCHLESS, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN.
75	2503-0124224	STORM SEWER GRAVITY MAIN, TRENCHLESS, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 24 IN.
		Refer to Tab 104-5B on M-sheets for additional information.
-	-	-
76	2503-0200036	REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN.
77	2503-0200341	STORM SEWER ABANDONMENT, FILL AND PLUG, LESS THAN OR EQUAL TO 36 IN. DIA.
		Refer to Tab 110-14 on C-sheets.
-	-	-
78	2506-4984000	FLOWABLE MORTAR
		Item includes 70.2 CY for Culvert Abandonment.
		Silt inside existing culverts need not be removed prior to placing flowable mortar.
		Refer to Typ 4315 on B-sheets and Tab 110-9 on C-sheets.
		Item includes 34.4 CY per Tab 104-3 on the CH-sheet.
-	-	-
79	2510-6745850	REMOVAL OF PAVEMENT
		Refer to Tab 110-1 on the C-sheets.
		Refer to Tab 102-5 on the C-sheets for pavement type information.
		Refer to the U-sheets for additional details.
		Item is to become the property of the Contractor.
-	-	-
80	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES
		Refer to Tab 110-15 on the C-sheets.
-	-	-
81	2511-0302500	RECREATIONAL TRAIL, PORTLAND CEMENT CONCRETE, 5 IN.
82	2511-0310100	SPECIAL COMPACTION OF SUBGRADE FOR RECREATIONAL TRAIL
		Refer to Typical 7402 on B-sheets for details.
		Refer to Tab 113-1 on C-sheets.
-	-	-
83	2511-6745900	REMOVAL OF SIDEWALK
		Refer to Tab 110-5 on the C-Sheets.
		Item includes 28 LF of full depth saw cut.
		Refer to Tab 113-2 for location of Pedestrian Path Closures.
-	-	-
84	2511-7526004	SIDEWALK, P.C. CONCRETE, 4 IN.
85	2511-7526006	SIDEWALK, P.C. CONCRETE, 6 IN.
		Refer to Tab 113-1 on C-sheets.
		Refer to tabulations on S-sheets for additional information.
		See sheet J.1 for Pedestrian Path Closures.
-	-	-
86	2511-7526010	SIDEWALK, P.C. CONCRETE, 10 IN.
		Item is for sidewalk thru entrances Lt. at Sta. 419+80.63 and Sta. 423+11.51.
		Refer to Tab 113-1 on C-sheets.
		Refer to tabulations on S-sheets for additional information.

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ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
		Requires 12" Modified Subbase which will be paid for seperately.
-	-	-
87	2511-7528101	DETECTABLE WARNINGS
		Refer to Tab 113-1 on C-sheets.
		Refer to tabulations on S-sheets for additional information.
		See sheet J.1 for Pedestrian Path Closures.
-	-	-
88	2512-1725156	CURB AND GUTTER, P.C. CONCRETE, 1.5 FT.
		Refer to Typical Y St. on B-sheets.
		Refer to Tab 112-9C on C-sheets.
-	-	-
89	2512-1725256	CURB AND GUTTER, P.C. CONCRETE, 2.5 FT.
		Refer to Typical 'IOWA 92-Widening & Resurface' on B-sheets.
		Refer to Tab 112-9C on C-sheets.
-	-	-
90	2512-1750006	CURB AND GUTTER, P.C. CONCRETE, AS PER PLAN
		Item is for Raised Islands at side road intersections.
		Refer to Standard Road Plans PV-20 and PV-102 for additional details.
		Refer to Tab. 112-4 on C-sheets.
-	-	-
91	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN.
		Refer to Tab 102-3 on C-sheets.
-	-	-
92	2515-2475008	DRIVEWAY, P.C. CONCRETE, 8 IN.
		Refer to Tab 102-3 on C-sheets.
		Entrance 359 requires 6" special backfill that will be paid for seperately.
-	-	-
93	2515-6745600	REMOVAL OF PAVED DRIVEWAY
		Refer to Tab. 110-8 on the C-sheets.
		Item includes 768 LF of full depth saw cut.
-	-	-
94	2518-6910000	SAFETY CLOSURE
		Item includes 30 Road Closures and 84 Safety Closures.
		Refer to Tab. 108-13A on C-heets.
-	-	-
95	2519-4200140	REMOVAL OF FENCE, FIELD
96	2519-4200190	REMOVAL OF FENCE, WOOD
		Refer to Tab 100-17R on C-sheets.
		Refer to Removal Details on the U-sheets.
-	-	-
97	2520-3350010	FIELD LABORATORY
		- -
-	-	-
98	2526-8285000	CONSTRUCTION SURVEY
		- -
-	-	-
99	2527-8400065	TEMPORARY DELINEATORS
		Refer to Standard Road Plan TC-253 and J-sheets for layout information.
		Item includes 42 delineators for R-57 Detour.
		Item includes 48 delineators for R-63 Detour.
		Item includes 33 delineators for SW Y St. Detour.
		Item includes 48 delineators for NW Y St. Detour.
-	-	-
100	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED
101	2527-9263131	WET RETROREFLECTIVE REMOVABLE TAPE MARKINGS
		Refer to Tab 108-22 on C-sheets.
		Refer to U-sheets for additional details.
-	-	-
102	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED
		Refer to Tab 108-29 on C-sheets.
-	-	-
103	2527-9263180	PAVEMENT MARKINGS REMOVED
		Refer to Tab 108-22 on C-sheets.
-	-	-
104	2528-8400157	TEMPORARY FLOODLIGHTING LUMINAIRE
		Refer to Tab 108-27 on C-sheets.
-	-	-
105	2528-8445110	TRAFFIC CONTROL
		- -
-	-	-
106	2528-8445113	FLAGGERS
		- -
-	-	-
107	2529-2242320	CT JOINT
108	2529-5070110	PATCHES, FULL-DEPTH FINISH, BY AREA
109	2529-5070120	PATCHES, FULL-DEPTH FINISH, BY COUNT
110	2529-8174010	SUBBASE (PATCHES)

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
111	2529-8202000	**RUMBLE STRIP PANEL (IN FULL DEPTH PATCH)**
		Item includes Rumble Strip Panels in adjacent county roads.
		Refer to Tab 112-7 and Tab 102-6C for additional information.
	2529-5070110	**PATCHES, FULL-DEPTH FINISH, BY AREA**
		Item includes patches on existing IA 92.
		Refer to Tab 102-6C on C-sheets.
	2529-8174010	**SUBBASE (PATCHES)**
		Item includes patches on existing IA 92.
		Refer to Tab 102-6C on C-sheets.
-	-	-
112	2533-4980005	**MOBILIZATION**
		- -
-	-	-
113	2538-6975110	**SEALING WELLS**
		Includes wells:
		Sta. 270+16, 12' Rt (Parcel 7)
		Sta. 282+55, 71' Lt (Parcel 12)
		Sta. 282+65, 120' Rt (Parcel 13)
		All locations are approximate.
-	-	-
114	2548-0000200	**MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE**
115	2548-0000320	**MILLED CENTERLINE RUMBLE STRIPS, PCC SURFACE**
		Refer to Tab 112-10 on C-sheets.
-	-	-
116	2554-0214000	**FIRE HYDRANT ADJUSTMENT**
		- -
-	-	-
117	2590-0000020	**PROJECT MANAGEMENT**
		- -
-	-	-
118	2599-9999005	**('EACH' ITEM) REMOVAL OF SILT BASINS**
		Fill the silt basin with Class 10 material and a minimum of 4 inches of topsoil.
		Furnish Class 10 material according to Section 2107 of the Standard Specifications and compact the material by driving over the material a minimum of two times. Furnish and place topsoil according to Section 2105 of the Standard Specifications. Smooth the surface of the topsoil and leave in a finished condition so it will drain properly. This will be incidental to the bid item.
		METHOD OF MEASUREMENT: The Engineer will count the number of silt basins removed.
		BASIS OF PAYMENT: Payment will be the contract unit price for each silt basin removed. Payment is full compensation for providing, preparing, transporting, and placing the Class 10 material and topsoil. The Contractor has the option, at no additional cost to the Contracting Authority, of stripping and stockpiling the Class 10 material and topsoil from constructing silt basins for later use in silt basin removal. Overhaul will not be paid for this item.
-	-	-
119	2599-9999018	**('SQUARE YARDS' ITEM) DRIVEWAY, P.C. CONCRETE, 10 IN.**
		Item is for entrances Lt. at Sta. 419+80.63 (in front of sidewalk only) and Sta. 423+11.51.
		10" PCC Driveways will have 12" of Modified Subbase, which will be paid for seperately.
		Refer to Tab 102-3 on C-sheets.
-	-	-
120	2601-2633100	**MOWING**
		Estimate based on one mowing of all seeded areas in Ocotber 2014. Areas inaccessible to field equipment shall be cut with appropriate hand equipment and kept current with the mowing of adjacent areas. Vegetation shall be mowed to between four and six inches in height.
-	-	-
121	2601-2634100	**MULCHING**
		Mulching per Article 2601.03, E, 2. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes.
		Included for areas requiring reshaping and seedbed preparation. Mulch shall be Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Associations.
		Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.
-	-	-
122	2601-2634105	**MULCHING, BONDED FIBER MATRIX**
		A Bonded Fibre Matrix shall be applied as the mulch for all areas designated as "Stabilizing Crop-Seeding and Fertilizing (Urban)".
		The seed and fertilizer for the area to be covered shall be applied before the Bonded Fibre Matrix Hydraulic Mulch application.
		Application rate shall be a minimum of 3000 lbs per acre.

ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
-	-	-
123	2601-2642100	**STABILIZING CROP - SEEDING AND FERTILIZING**
		Included for disturbed areas as directed by the Engineer.
		All rural disturbed areas shall be seeded and fertilizer per Article 2601.03, C, 1
-	-	-
124	2601-2642120	**STABILIZING CROP - SEEDING AND FERTILIZING (URBAN)**
		Included for disturbed areas as directed by the Engineer.
		All urban disturbed areas shall be seeded and fertilizer per Article 2601.03, C, 2.
-	-	-
125	2602-0000020	**SILT FENCE**
		Refer to Tab 100-17 on C-sheets.
		The tabulation includes estimated locations for placement of "Silt Fence" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement.
		Bid item includes 25% additional quantity for field adjustments and replacements.
-	-	-
126	2602-0000030	**SILT FENCE FOR DITCH CHECKS**
		Refer to Tab 100-18 on C-sheets.
		The tabulation includes estimated locations for placement of “Silt Fence for Ditch Checks” to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement.
		Bid item includes 50% additional quantity for field adjustments and replacements.
-	-	-
127	2602-0000050	**SILT BASINS**
		Refer to Tab 100-14 on C-sheets.
		The tabulation includes estimated locations for placement of “Silt Basins” to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement.
		Bid item includes 100% additional quantity for field adjustments and maintenance.
-	-	-
128	2602-0000101	**MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK**
		This item is included for clean-out and repair of the silt fence and silt fence for ditch checks during the grading project.
		Refer to Tabulations 100-17 and 100-18.
-	-	-
129	2602-0000312	**PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.**
		Item is included for temporary perimeter sediment control, inlet protection, and water velocity reduction on slopes or ditches at locations to be determined during construction. Verify specific locations with the Engineer prior to beginning placement.
		Perimeter and Slope Sediment Control Devices will be required to be constructed out of wood excelsior.
		Quantity includes 6300 LF for protection of 126 intakes calculated at an average of 50 LF per intake.
-	-	-
130	2602-0000320	**PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.**
		Item is included for temporary perimeter sediment control, inlet protection, and water velocity reduction on slopes or ditches at locations to be determined during construction. Verify specific locations with the Engineer prior to beginning placement.
		Perimeter and Slope Sediment Control Devices will be required to be constructed out of wood excelsior.
-	-	-
131	2602-0000350	**REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE**
		Included for removal of perimeter and sediment control devices. All material shall become the property of the contractor and removed from the project within 24 hours.
-	-	-
132	2602-0010010	**MOBILIZATIONS, EROSION CONTROL**
		- -
-	-	-
133	2602-0010020	**MOBILIZATIONS, EMERGENCY EROSION CONTROL**
		- -
-	-	-

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ESTIMATE REFERENCE INFORMATION

Item No.	Item Code	Description
		ALTERNATE AA OPTION 1-PCC
134	**2102-0425071**	**SPECIAL BACKFILL**
135	**2122-5190007**	**PAVED SHOULDER, P.C. CONCRETE, 7 IN.**
		Refer to Typicals on B-sheets for details.
		Refer to Tab. 112-9 on C-sheets.
-	-	-
		ALTERNATE AA OPTION 2-HMA
136	**2102-0425071**	**SPECIAL BACKFILL**
137	**2122-5500080**	**PAVED SHOULDER, HOT MIX ASPHALT MIXTURE, 8 IN.**
		Refer to Typicals on B-sheets for details.
		Refer to Tab. 112-9 on C-sheets.
-	-	-

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STANDARD ROAD PLANS

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

Number	Date	Title
EC-101	04-20-10	Wood Excelsior Mat for Ditch Protection
EC-102	04-20-10	Sod for Ditch Protection
EC-103	04-20-10	Wood Excelsior Mat for Slope Protection
EC-201	04-20-10	Silt Fence
EC-202	10-21-14	Floating Silt Curtain
EC-204	10-16-12	Perimeter and Slope Sediment Control Devices
EW-101	04-19-11	Embankment and Rebuilding Embankments
EW-102	10-21-14	Allowable Placement of Unsuitable Soil in Embankments
EW-110	10-15-13	Ditch Blocks and Dikes
EW-403	10-15-13	Temporary Erosion Control Measures
EW-501	10-15-13	Rural Entrance
LI-130	10-21-14	Temporary Floodlighting Luminaires
MI-210	10-15-13	PCC Driveways and Alleys
MI-220	10-16-12	Detectable Warnings and Pedestrian Ramp
PM-110	04-16-13	Line Types
PM-111	10-16-12	Symbols and Legends
PM-120	10-21-14	Stop Lines and Islands
PM-210	10-18-11	Separation in Two-Lane Roadway
PM-520	04-19-11	Two-Lane Roadway with no Turn Lanes (Two-Way Stop Condition)
PM-521	04-19-11	Two-Lane Roadway with Right Turn Lanes
PM-522	10-16-12	Two-Lane Roadway with Left Turn Lanes
PM-550	04-19-11	Two-Lane Roadway with Two-Way Left Turn Lane
PR-102	10-21-14	Full Depth PCC Patch without Dowels
PR-103	10-21-14	Full Depth PCC Patch with Dowels
PR-140	10-21-14	Subbase Patches
PV-10	04-19-11	Rumble Strip Panel for Intersection Approach
PV-11	04-20-10	Structural Rumble Strips
PV-12	04-17-12	Milled Shoulder Rumble Strips
PV-13	04-19-11	Milled Centerline Rumble Strips
PV-20	10-21-14	Paved Islands
PV-101	10-21-14	Joints
PV-102	04-15-14	PCC Curb Details
PV-103	04-19-11	Manhole Boxouts in PCC Pavement
PV-301	04-19-11	Superelevation Details Two Lane Roadway
RF-3	10-15-13	Concrete Aprons
RF-5	04-16-13	Metal Pipe Aprons and Beveled Ends
RF-13	10-18-11	Pipe Bends and Half Pipe
RF-14	04-16-13	Connected Pipe Joints
RF-19B	04-17-12	Subdrains Standard (Farm Tile Replacement)
RF-19C	10-16-12	Subdrains (Longitudinal)
RF-19E	10-21-14	Outlets for Longitudinal, Transverse and Backslope Subdrains
RF-19F	10-16-12	Subdrain Outlets (Standard Subdrain, Pressure Release and Special)
RF-21	10-18-11	Culvert Pipe Tee Sections
RF-26	10-15-13	Pipe Apron Guard
RF-30A	04-15-14	Pipe Culvert (Bedding and Backfill)
RF-30B	10-19-10	Pipe Culvert (Cover and Camber)
RF-30C	04-16-13	Pipe Culvert (Installation Details)
RF-30D	10-21-14	Box Culvert (Backfill)
RF-31	03-28-95	Depth of Cover Tables for Concrete Pipe
RF-32	10-19-10	Depth of Cover Tables for Corrugated Pipe
SI-101	04-21-09	Locations - Type 'A' Signs
SI-102	10-20-09	Locations - Type 'B' Signs
SI-131	10-18-11	Installation - Type 'A' Signs
SI-132	04-20-10	Installation - Type 'B' Signs
SI-881	10-15-13	Special Signs for Workzones
SW-101	04-21-09	Trench Bedding and Backfill Zones
SW-102	04-21-09	Rigid Gravity Pipe Trench Bedding
SW-105	10-20-09	Miscellaneous Pipe Bedding
SW-211	10-16-12	Special Pipe Connections for Storm Sewer
SW-402	04-21-09	Rectangular Storm Sewer Manhole
SW-508	10-21-14	Single Open-Throat Intake, Large Box
SW-510	10-21-14	Double Open-Throat Curb Intake, Large Box
SW-512	10-21-14	Circular Area Intake
SW-602	04-15-14	Castings for Storm Sewer Manholes
SW-604	10-20-09	Castings for Area Intakes
TC-1	04-16-13	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	10-15-13	Shoulder Closure (One Lane)
TC-213	04-17-12	Lane Closure with Flaggers
TC-228	10-15-13	Lane Closure Involving TWLTL
TC-251	04-17-12	Temporary Road Closure
TC-252	04-17-12	Routes Closed to Traffic
TC-253	10-21-14	Paved On-Site Detour
TC-273	04-20-10	Construction Site Entrance
TC-282	04-19-11	Uneven Lanes

POLLUTION PREVENTION PLAN

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

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The prime contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

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

II. PROJECT SITE DESCRIPTION
- A. This Pollution Prevention Plan (PPP) is for the construction of highway 92 in Warren county.
- B. This PPP covers approximately 103 acres with an estimated 81 acres being disturbed. The portion of the PPP covered by this contract has 81 acres disturbed.
- C. The PPP is located in an area of one (1) soil association (Sharpsburg - Shelby - Adair). The estimated average SCS runoff curve number for this PPP after completion will be 69.0.
- D. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including:
  1. Drainage patterns – Plan and Profile sheets and Situation plans.
  2. Proposed Slopes – Cross Sections.
  3. Areas of Soil Disturbance – construction limits shown on Plan and Profile sheets.
  4. Location of Structural Controls – Tabulations on C sheets.
  5. Locations of Non-structural Controls – Tabulations on C sheets.
  6. Locations of Stabilization Practices – generally within construction limits shown on Plan and Profile sheets.
  7. Surface Waters (including wetlands) – Plan and Profile sheets.
  8. Locations where storm water is discharged – Plan and Profile sheets.
- E. The base site map is amended by contract modifications and progress payments of completed erosion control work.
- F. Runoff from this work will flow into various ditches and tributaries to Middle River, and South River.

III. CONTROLS
- A. The contractor's work plan and sequence of operations specified in Article 2602.03 for accomplishment of storm water controls should clearly describe the intended sequence of major activities and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Section 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water monitoring inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B.
  1. EROSION AND SEDIMENT CONTROLS
     - a. Stabilization Practices
       1) Site plans will ensure that existing vegetation is preserved where attainable and disturbed portions of the site will be stabilized.
       2) Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased.
       3) Temporary stabilizing seeding shall be completed as the disturbed areas are constructed. If construction activity is not planned to occur in a disturbed area for at least 21 days, the area shall be stabilized by temporary seeding or mulching within 14 days. Other stabilizing methods shall be used outside the seeding time period.
       4) Stabilization measures to be used for this project are located in the Estimated Project Quantities (100-1A) and Estimate Reference Information (100-4A) located on the C sheets of the plan. Additional items may be found in the Inspector's Daily Reports (IDR) or Contract Modifications.
     - b. Structural Practices
       1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site.
       2) Structural items to be used for this project are located in the Estimated Project Quantities (100-1A) and Estimate Reference Information (100-4A) located on the C sheets of the plan, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B sheets of the plan or are referenced in the Standard Road Plans Tabulation.
     - c. Storm Water Management
       1) Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.
  2. OTHER CONTROLS
     - a. Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.
       1) Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
       2) Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
       3) Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
       4) Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
       5) Spill Prevention and Control - Implement procedures to contain and clean-up spills and prevent material discharges to the storm drain system and waters of the state.
       6) Concrete Residuals and Washout Wastes - Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located.
       7) Vehicle and Equipment Cleaning - Employ washing practices that prevent contamination of surface and ground water from wash water.
       8) Vehicle and Equipment Fueling and Maintenance - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onside fuels and proper disposal of used engine oil or other fluids on site.
       9) Litter Management - Ensure employees properly dispose of litter.
  3. APPROVED STATE OR LOCAL PLANS
     During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

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

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

VI. NON-STORM WATER DISCHARGES
This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of patio blocks, Class A stone, erosion stone or other appropriate materials.

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

VIII. DEFINITIONS
- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - May include Plan Revisions or Contract Modifications for new items and fieldbook entries made by the inspector.
- C. IDR - Inspector's Daily Report – this contains the inspector's daily diary and item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials.
- E. Signature Authority - Representative from Designer, Contractor/Subcontractor, or RCE/Inspector authorized to sign various storm water documents.

213-3
04-15-14

SUBSOIL TILLAGE

All stockpile areas, haul roads, and areas used for equipment on this project require subsoil tillage to an average depth of 16 to 20 inches prior to placement of topsoil and/or stabilizing crop seeding. Complete this tillage at 3 foot maximum centers and at right angles to the finished slope.

Use tillage equipment equipped with an arrowhead type shoe that will provide lateral displacement and limit the movement of the subsoil to the surface. Obtain the Engineer's approval for the equipment. This work is incidental to other work on the project.

Following the subsoil tillage, the area is to remain in a "loosened" condition. Additional compaction or the operation of heavy equipment, other than required for topsoil placement and shaping, will not be allowed on areas which have received subsoil tillage.

262-5
10-18-05

UTILITIES (POINT 25 PROJECT)

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

281-1
10-15-13

SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S. Army Corps of Engineers NWP 14-Linear Transportation Projects, , Permit No. 2013-813.
A copy of this permit is available from the Iowa DOT website (http://envpermits.iowadot.gov/CMEPortalENV/Home.aspx). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

108-13A
08-01-08

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type Road Qty.	Closure Type Hazard Qty.	Remarks
Roads			
Stage 2A			
283+90	1		Ia 92
309+80	1		Ia 92
4412+50	1		Y Street (So.)
4417+60	1		Y Street
Stage 2B			
256+00	1		Ia 92
1257+35	1		Kennedy Drive
284+15	1		Ia 92
284+55	1		Ia 92
1279+85	1		R-57 (So.)
1283+75	1		R-57 (No.)
2307+65	1		90th Street (1)
2312+85	1		90th Street (1)
391+95	1		Ia 92 (1)
3387+30	1		R-63 (So.) (1)
3394+45	1		R-63 (No.) (1)
416+20	1		Ia 92 (1)
416+60	1		Ia 92 (1)
4412+50	1		Y Street (So.) (1)
4417+60	1		Y Street (1) (2)
443+52	1		Ia 92 (EB Lane Only)
Stage 2C			
284+00	1		Ia 92
418+65	1		Ia 92 (2)
419+35	1		Ia 92 (2)
Stage 2D			
391+30	1		Ia 92
416+80	1		Ia 92
Stage 3A			
391+50	1		Ia 92 (WB Lane Only) (3)
4417+48	1		Y Street (3)
Stage 3B			
441+36	1		Ia 92 (85' Lt. on Spruce)
Stage 3C			
4424+15	1		Y Street (No.)
Stage 3D			
417+90	1		Ia 92 (WB Lane Only)
Entrances			
Stage 2			
270+56 Lt		2	
270+56 Rt		2	
276+46 Lt		2	
291+80 Lt		2	
219+80 Rt		2	
297+08 Lt		2	
297+08 Rt		2	
305+08 Rt		2	
312+60 Rt		2	Existing until removed
315+00 Rt		2	New
324+07 Lt		2	
324+07 Rt		2	
334+27 Rt		2	
341+03 Lt		2	
341+03 Rt		2	
352+40 Lt		2	
352+40 Rt		2	
356+60 Rt		2	Existing until removed
359+18 Lt		2	New
359+18 Rt		2	
359+90 Lt		2	Existing until removed
361+85 Lt		2	Existing until removed
363+75 Lt		2	Existing until removed
365+37 Lt		2	New
365+37 Rt		2	
375+45 Lt		2	
375+45 Rt		2	
407+00 Rt		2	
430+78 Rt		2	
433+47 Rt		2	
440+48 Rt		2	
442+23 Rt		2	

108-13A
08-01-08

SAFETY CLOSURES

Refer to Section 2518 of the Standard Specifications

Station	Closure Type Road Qty.	Closure Type Hazard Qty.	Remarks
Stage 3			
398+16 Lt		2	
407+00 Lt		2	
419+80 Lt		2	
423+11 Lt		2	
425+99 Lt		2	
427+53 Lt		2	
429+54 Lt		2	
431+96 Lt		2	
433+46 Lt		2	
438+08 Lt		2	
Totals	30	84	

(1) To remain in place for Stage 2C.
(2) To remain in place for Stage 2D.
(3) To remain in place for Stages 3B and 3C.

108-27
10-16-12

TEMPORARY FLOODLIGHTING LUMINAIRES

No.	Location Station	Offset	Number Lumin.	Remarks
1	11278+10	30' Rt	1	R-57 South Detour
2	11283+70	30' Rt	1	R-57 South Detour
3	11285+20	30' Rt	1	R-57 North Detour
4	11290+20	30' Rt	1	R-57 North Detour
5	18386+70	30' Rt	1	R-63 South Detour
6	18392+20	30' Rt	1	R-63 South Detour
7	18393+05	30' Rt	1	R-63 North Detour
8	18397+50	30' Rt	1	R-63 North Detour
9	14410+10	30' Lt	1	Y St. South Detour
10	14425+05	30' Lt	1	Y St. North Detour
Total			10	

100-18
04-20-10

TABULATION OF SILT FENCES FOR DITCH CHECKS

Refer to EC-201

Location Station	Side	Length LF	Remarks
256+45.00	Lt	28.0	
256+90.00	Lt	21.0	
257+15.00	Lt	19.0	
257+40.00	Lt	18.0	
257+65.00	Lt	18.0	
257+90.00	Lt	22.0	
258+10.00	Lt	21.0	
258+50.00	Lt	23.0	
258+75.00	Lt	23.0	
259+00.00	Lt	23.0	
259+25.00	Lt	23.0	
259+50.00	Lt	23.0	
259+75.00	Lt	23.0	
260+25.00	Lt	23.0	
260+50.00	Lt	26.0	
260+75.00	Lt	26.0	
262+25.00	Lt	26.0	
263+50.00	Lt	26.0	
265+00.00	Lt	23.0	
266+50.00	Lt	23.0	
268+00.00	Lt	23.0	
269+50.00	Lt	21.0	
271+00.00	Lt	26.0	
272+50.00	Lt	26.0	
276+25.00	Lt	23.0	
276+50.00	Lt	23.0	
276+75.00	Lt	23.0	
277+00.00	Lt	23.0	
277+65.00	Lt	17.0	
278+00.00	Lt	17.0	
278+50.00	Lt	23.0	
278+90.00	Lt	23.0	
279+30.00	Lt	23.0	
279+70.00	Lt	23.0	
280+10.00	Lt	23.0	
280+85.00	Lt	23.0	
292+00.00	Lt	26.0	
293+30.00	Lt	26.0	
295+00.00	Lt	26.0	
295+75.00	Lt	26.0	
298+50.00	Lt	26.0	
300+00.00	Lt	23.0	
301+50.00	Lt	26.0	
305+25.00	Lt	26.0	
306+00.00	Lt	22.0	
306+75.00	Lt	20.0	
309+00.00	Lt	23.0	
324+00.00	Lt	22.0	
324+75.00	Lt	23.0	
325+50.00	Lt	25.0	
326+90.00	Lt	26.0	
327+30.00	Lt	25.0	
327+70.00	Lt	23.0	
328+10.00	Lt	23.0	
328+50.00	Lt	23.0	
330+00.00	Lt	26.0	
331+40.00	Lt	22.0	
332+40.00	Lt	23.0	
333+50.00	Lt	22.0	
334+25.00	Lt	19.0	
335+20.00	Lt	25.0	
335+60.00	Lt	24.0	
336+50.00	Lt	26.0	
337+25.00	Lt	26.0	
338+10.00	Lt	26.0	
339+60.00	Lt	26.0	
389+00.00	Lt	25.0	

100-18
04-20-10

TABULATION OF SILT FENCES FOR DITCH CHECKS

Refer to EC-201

Location Station	Side	Length LF	Remarks
257+75.00	Rt	25.0	
258+75.00	Rt	28.0	
259+75.00	Rt	26.0	
261+25.00	Rt	26.0	
262+75.00	Rt	26.0	
270+00.00	Rt	22.0	
270+75.00	Rt	22.0	
271+80.00	Rt	23.0	
272+20.00	Rt	23.0	
272+60.00	Rt	26.0	
278+50.00	Rt	23.0	
286+00.00	Rt	21.0	
286+40.00	Rt	18.0	
286+80.00	Rt	18.0	
291+50.00	Rt	24.0	
292+70.00	Rt	23.0	
293+10.00	Rt	23.0	
295+00.00	Rt	23.0	
295+75.00	Rt	20.0	
296+50.00	Rt	20.0	
297+25.00	Rt	23.0	
298+00.00	Rt	23.0	
298+75.00	Rt	23.0	
299+50.00	Rt	23.0	
300+25.00	Rt	26.0	
301+00.00	Rt	28.0	
301+50.00	Rt	28.0	
304+50.00	Rt	28.0	
305+75.00	Rt	23.0	
306+50.00	Rt	23.0	
307+25.00	Rt	23.0	
308+00.00	Rt	18.0	
311+00.00	Rt	26.0	
311+75.00	Rt	28.0	
315+25.00	Rt	23.0	
315+50.00	Rt	23.0	
315+75.00	Rt	23.0	
316+00.00	Rt	23.0	
316+25.00	Rt	22.0	
316+75.00	Rt	22.0	
318+00.00	Rt	23.0	
319+50.00	Rt	23.0	
323+90.00	Rt	26.0	
324+30.00	Rt	23.0	
324+70.00	Rt	23.0	
325+10.00	Rt	23.0	
325+50.00	Rt	23.0	
327+00.00	Rt	23.0	
327+75.00	Rt	23.0	
328+00.00	Rt	23.0	
328+25.00	Rt	23.0	
328+50.00	Rt	23.0	
328+75.00	Rt	23.0	
329+00.00	Rt	23.0	
330+35.00	Rt	22.0	
330+75.00	Rt	23.0	
331+40.00	Rt	23.0	
331+65.00	Rt	23.0	
331+90.00	Rt	23.0	
332+15.00	Rt	20.0	
332+40.00	Rt	18.0	
333+25.00	Rt	19.0	
333+50.00	Rt	20.0	
333+75.00	Rt	21.0	
334+00.00	Rt	22.0	

100-18
04-20-10

TABULATION OF SILT FENCES FOR DITCH CHECKS

Refer to EC-201

Location Station	Side	Length LF	Remarks
334+25.00	Rt	23.0	
334+50.00	Rt	23.0	
334+75.00	Rt	23.0	
335+05.00	Rt	23.0	
335+70.00	Rt	26.0	
336+10.00	Rt	26.0	
337+00.00	Rt	26.0	
337+75.00	Rt	26.0	
339+90.00	Rt	22.0	
340+30.00	Rt	21.0	
341+70.00	Rt	21.0	
342+10.00	Rt	22.0	
380+25.00	Rt	20.0	
381+00.00	Rt	23.0	
381+75.00	Rt	23.0	
382+50.00	Rt	23.0	
383+25.00	Rt	23.0	
1258+10.00	Lt	22.0	Kennedy St.
1258+10.00	Rt	22.0	Kennedy St.
1281+30.00	Lt	24.0	R-57
1282+05.00	Lt	24.0	R-57
1385+05.00	Lt	13.0	R-57
1385+45.00	Lt	12.0	R-57
1385+85.00	Lt	11.0	R-57
1281+00.00	Rt	23.0	R-57
1281+20.00	Rt	23.0	R-57
1281+60.00	Rt	23.0	R-57
1282+00.00	Rt	26.0	R-57
1282+40.00	Rt	23.0	R-57
2306+00.00	Lt	12.0	90th Ave.
2306+75.00	Lt	12.0	90th Ave.
2307+50.00	Lt	15.0	90th Ave.
2308+25.00	Lt	17.0	90th Ave.
2309+00.00	Lt	17.0	90th Ave.
2312+35.00	Lt	17.0	90th Ave.
2306+00.00	Rt	12.0	90th Ave.
2306+75.00	Rt	17.0	90th Ave.
2307+50.00	Rt	17.0	90th Ave.
2308+25.00	Rt	17.0	90th Ave.
2309+00.00	Rt	17.0	90th Ave.
2310+90.00	Rt	23.0	90th Ave.
2312+35.00	Rt	15.0	90th Ave.
3388+60.00	Lt	22.0	R-63
3389+25.00	Lt	25.0	R-63
3388+75.00	Rt	22.0	R-63
3389+50.00	Rt	21.0	R-63
3390+25.00	Rt	14.0	R-63
3392+20.00	Rt	23.0	R-63
3392+50.00	Rt	23.0	R-63
11279+00.00	Rt	22.0	Detour R-57
11279+40.00	Rt	21.0	Detour R-57
11279+80.00	Rt	22.0	Detour R-57
11280+20.00	Rt	22.0	Detour R-57
11280+60.00	Rt	22.0	Detour R-57
11281+00.00	Rt	22.0	Detour R-57
11281+40.00	Rt	22.0	Detour R-57
11281+80.00	Rt	22.0	Detour R-57
11282+20.00	Rt	22.0	Detour R-57
11282+60.00	Rt	22.0	Detour R-57
11283+00.00	Rt	22.0	Detour R-57
11283+50.00	Rt	22.0	Detour R-57
11285+40.00	Rt	22.0	Detour R-57
11285+80.00	Rt	22.0	Detour R-57
11286+20.00	Rt	22.0	Detour R-57
11286+40.00	Rt	22.0	Detour R-57
11286+80.00	Rt	22.0	Detour R-57

100-18
04-20-10

TABULATION OF SILT FENCES FOR DITCH CHECKS

Refer to EC-201

Location Station	Side	Length LF	Remarks
11287+20.00	Rt	22.0	Detour R-57
11287+60.00	Rt	22.0	Detour R-57
11288+00.00	Rt	22.0	Detour R-57
11288+75.00	Rt	22.0	Detour R-57
11289+50.00	Rt	22.0	Detour R-57
11289+75.00	Rt	22.0	Detour R-57
18388+60.00	Lt	10.0	Detour R-63
18389+00.00	Lt	17.0	Detour R-63
18389+75.00	Lt	13.0	Detour R-63
18390+50.00	Lt	17.0	Detour R-63
18391+25.00	Lt	17.0	Detour R-63
18391+65.00	Lt	15.0	Detour R-63
18392+00.00	Lt	14.0	Detour R-63
18392+40.00	Lt	18.0	Detour R-63
18392+90.00	Lt	17.0	Detour R-63
18389+75.00	Rt	15.0	Detour R-63
18390+40.00	Rt	17.0	Detour R-63
18390+80.00	Rt	17.0	Detour R-63
18391+20.00	Rt	17.0	Detour R-63
18391+60.00	Rt	17.0	Detour R-63
18392+00.00	Rt	17.0	Detour R-63
14412+50.00	Rt	15.0	Detour Y St. - Stage I
14413+25.00	Rt	17.0	Detour Y St. - Stage I
14414+00.00	Rt	17.0	Detour Y St. - Stage I
14414+75.00	Rt	16.0	Detour Y St. - Stage I
14415+25.00	Rt	15.0	Detour Y St. - Stage I
14416+00.00	Rt	15.0	Detour Y St. - Stage I
14416+75.00	Rt	16.0	Detour Y St. - Stage I
14412+50.00	Lt	17.0	Detour Y St. - Stage I
14413+25.00	Lt	17.0	Detour Y St. - Stage I
14414+00.00	Lt	17.0	Detour Y St. - Stage I
14414+75.00	Lt	17.0	Detour Y St. - Stage I
14415+25.00	Lt	17.0	Detour Y St. - Stage I
14416+00.00	Lt	14.0	Detour Y St. - Stage I
14416+75.00	Lt	16.0	Detour Y St. - Stage I
24415+90.00	Rt	18.0	Detour Y St. - Stage IA
24416+05.00	Lt	18.0	Detour Y St. - Stage IA
14417+36.00	Rt	14.0	Detour Y St. - Stage 2
14417+76.00	Rt	16.0	Detour Y St. - Stage 2
14417+71.00	Lt	15.0	Detour Y St. - Stage 2
Subtotal		5114.0	
+50%		2557.0	
Total		7671.0	

100-14
10-15-13

SILT BASINS

Refer to EW-403

Location Station	Side	Remarks
257+80.00	48'Rt	
258+20.00	51'Rt	
257+80.00	107'Lt	
258+05.00	108'Lt	
257+40.00	190'Lt	
257+60.00	214'Lt	
258+70.00	212'Rt	
265+00.00	101'Rt	
277+60.00	119'Lt	
277+90.00	119'Lt	
277+60.00	73'Rt	
277+90.00	73'Rt	
287+20.00	68'Rt	
288+50.00	66'Rt	
291+30.00	112'Rt	
292+50.00	73'Lt	
292+90.00	73'Lt	
307+20.00	76'Lt	
307+60.00	76'Lt	
307+90.00	86'Rt	
308+40.00	86'Rt	
315+90.00	58'Lt	
316+20.00	58'Lt	
316+40.00	96'Rt	
316+70.00	96'Rt	
329+70.00	92'Rt	
330+00.00	92'Rt	
329+70.00	65'Lt	
330+05.00	65'Lt	
332+60.00	105'Rt	
332+90.00	102'Rt	
332+90.00	73'Lt	
333+20.00	71'Lt	
340+60.00	149'Rt	
341+60.00	142'Rt	
341+80.00	114'Rt	
342+10.00	82'Lt	
342+40.00	77'Lt	
357+90.00	69'Rt	
358+20.00	69'Rt	
357+90.00	63'Lt	
358+20.00	63'Lt	
379+40.00	80'Rt	
379+80.00	80'Rt	
379+70.00	57'Lt	
379+90.00	57'Lt	
390+20.00	81'Lt	
390+50.00	101'Lt	
394+80.00	64'Rt	
395+20.00	64'Rt	
395+30.00	82'Lt	
395+60.00	82'Lt	
426+20.00	161'Rt	
436+30.00	81'Lt	
436+60.00	81'Lt	
436+50.00	79'Rt	
1280+70.00	35'Lt	R-57
1386+00.00	40'Lt	R-57
1388+60.00	36'Rt	R-57
2305+40.00	25'Rt	90th Ave
2305+85.00	17'Lt	90th Ave
3385+60.00	47'Rt	R-63
3388+10.00	47'Lt	R-63
4414+30.00	134'Rt	Y' St.
14413+75.00	40'Rt	Y' St. Detour
14413+75.00	25'Lt	Y' St. Detour
14414+00.00	25'Lt	Y' St. Detour
14418+00.00	37'Lt	Y' St. Detour
14418+50.00	37'Lt	Y' St. Detour
Subtotal	69	
+100%	69	
Total	138	

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
Hwy. 92				
257+50.00	259+25.00	Lt	175	
276+75.00	278+75.00	Lt	200	
278+75.00	279+50.00	Lt	75	
265+25.00	267+25.00	Rt	200	
267+25.00	269+25.00	Rt	200	
269+25.00	271+25.00	Rt	200	
292+00.00	292+25.00	Rt	25	
R-57				
1280+60.00	1282+25.00	Rt	165	R-57
1385+00.00	1386+00.00	Lt	100	R-57
90th St				
2308+75.00	2309+50.00	Lt	75	90th St.
2308+75.00	2309+50.00	Rt	75	90th St.
R-63				
3389+00.00	3390+00.00	Rt	100	R-63
	Subtotal		1590	
	+25%		398	
	Total		1988	

100-17R
MODIFIED

TABULATION OF FENCE REMOVAL

Location			Length	Remarks
Begin Station	End Station	Side	LF	
256+23.9, 133.4'Lt	258+34.1, 197'Lt		410	Field
256+49.4, 50.0'Lt	258+31.56, 50.3'Lt		182	Field
258+61.6, 199.0'Lt	261+46.0, 47.2'Lt		369	Field
260+45.7, 50.5'Lt	260+46.0, 145.0'Lt		95	Field
262+18.3, 45.3'Lt	266+52.2, 71.2'Lt		420	Field
268+55.0, 63.5'Lt	269+72.0, 73.0'Lt		117	Field
263+27.8, 95.0'Rt	267+38.2, 6.5'Rt		447	Field
265+28.8,28.8'Rt	265+45.3, 133.8'Rt		106	Field
265+44.4, 128.4'Rt	267+74.4, 133.0'Rt		266	Field
266+75.5, 108.7'Rt	268+71.0, 3.3'Rt		273	Field
267+25.2, 58.1'Rt	267+46.5, 104.6'Rt		54	Wood
268+70.5, 100.6'Rt	269+35.8, 120.5'Rt		80	Field
270+51.8, 29.1'Rt	270+48.1, 202.7'Rt		182	Wood
270+47.8, 225'Rt	270+48.1, 202.7'Rt		22	Field
270+52.0, 29.0'Rt	278+64.0, 35.0'Rt		812	Field
287+75.9, 115.0'Lt	290+86.1, 115.0'Lt		413	Field
292+27.8, 60.7'Lt	302+87.7, 72.0'Lt		1060	Field
307+28.0, 26.0'Rt	307+42.9, 25.8'Rt		199	Wood
307+42.9, 25.8'Rt	310+00, 25.6'Rt		257	Field
314+17.1, 61.8'Lt	323+53.7, 76'Lt		938	Field
318+45.0, 25.0'Rt	323+56.1, 26.2'Rt		511	Field
323+56.1, 9.6'Rt	323+56.7, 110.0'Rt		100	Field
323+72.3, 86.5'Lt	339+52.6, 90.9'Lt		1613	Field
326+86.6, 110.3'Rt	327+71.6, 8.5'Rt		187	Field
327+86.9, 9.6'Rt	334+26.8, 8.7'Rt		640	Field
334+26.8, 8.7'Rt	334+28.9, 105.6'Rt		97	Field
334+26.8, 8.7'Rt	342+44.4, 52.2'Rt		826	Field
341+82.5, 41.4'Lt	350+97.6, 53.8'Lt		916	Field
342+44.4, 52.2'Rt	342+62.6, 110.3'Rt		69	Wood
342+80, 114.3'Rt	343+08.8, 68.6'Rt		67	Wood
343+08.8, 68.6'Rt	344+66.6, 128.2'Rt		178	Field
354+56.5. 76.7'Lt	355+90.2, 16.4'Lt		196	Field
355+06.8, 90.0'Rt	355+10.1' 60.3' Rt		30	Wood
356+81.1, 135.1'Rt	361+82.5, 58.2'Rt		560	Field
359+75.1, 103.6'Lt	359+78.4, 23.0'Lt		81	Wood
361+83.6, 95.0'Rt	363+00, 56.0'Rt		152	Field
365+77.4, 95.0'Lt	375+07.4, 58.1'Lt		980	Field
373+62.0, 91.8'Lt	373+63.7, 66.9'Lt		25	Wood
374+80.0, 91.3'Lt	374+80.7, 70.8'Lt		21	Wood
375+06.9, 91.1'Lt	375+07.4, 58.1'Lt		33	Wood
376+46.0, 100.0'Rt	377+70.0, 110.0'Rt		254	Field
377+65.1, 95.0'Lt	387+33.9, 71.8'Lt		1008	Field
377+67.2, 38.5'Rt	384+86.3, 1.2'Lt		744	Field
461+55.0,52.8'Lt	464+00.0,52.3'Lt		245	Wood
R-57				
1280+46.4, 50.6'Lt	1281+66.1, 69.6'Lt		145	Field
1385+84.1, 50.7'Rt	1389+96.5, 49.3'Rt		412	Field
90th Ave.				
2305+50.0, 36.72'Rt	2306+07.0, 55.0'Rt		77	Field
2305+50.0, 25.4'Lt	2310+03.0, 28.6'Lt		453	Field
	Totals			
	Field		16320	
	Wood		1005	

102-5
10-16-12

EXISTING PAVEMENT

No.	Location: County	Route	Dir. of Travel	Begin Milepost	End Milepost	Year	Type	Project Number	Surface: Type	Surface: Depth IN	Base: Type	Base: Depth IN	Subbase: Type	Subbase: Depth IN	Removal: Type	Removal: Depth IN	Coarse Aggregate: Source	Coarse Aggregate: Type	Coarse Aggregate: Durability Class	Reinforcement: Type	Remarks
1	Warren	Ia.92	EB & WB	120.85	129.91	1992		FN-92-5(31)--21-91	AAC	3					AAC	0.5	University	Gravel			AAC=Type A Asphalt Cement Concrete
2	"	"	"	"	"	1983		FN-92-5(20)--21-91	BSC												BSC=Bituminous Seal Coat
3	"	"	"	"	"	1952		P-1023W	BAC	1.5	TBB	1.5									BAC=Type B Asphalt Cement Concrete
4	"	"	"	"	"	1930		P-569	PC7	7	PC7						Earlham	Gravel	1		PC7=10"-7"-10" PCC Concrete Slab

110-1
04-16-13

REMOVAL OF PAVEMENT

Refer to Tabulation 102-5

* Not a Bid Item

Begin Station	End Station	Side	Pavement Type	Area SY	Saw Cut* LF	Remarks
256+50.00	259+85.60	EB & WB	HMA, PCC	894.9	24.0	Ia. 92
259+85.60	266+94.70	EB & WB	HMA, PCC	2048.5		Ia. 92
266+94.70	440+60.00	EB & WB	HMA, PCC	46307.5		Ia. 92
440+60.00	443+18.01	EB & WB	HMA, PCC	863.6	35.0	Ia. 92 - width 24' to 35'
443+18.01	465+01.01	Lt	HMA, PCC	453.8	2183.0	Pavement edge removal for widening
443+18.01	465+01.01	Rt	HMA, PCC	472.6	2183.0	Pavement edge removal for widening
284+24.95	287+27.07	WB	HMA, PCC	313.8		Turning Lane at R-57
256+50.00	390+00.00	Lt & Rt	HMA	621.1		21 Driveway fillets, 2 Sideroad fillets (90th Ave.)
441+21.63		45'Lt-57'Lt	PCC	1.0	12.0	Spruce St. curb to be removed for detour const.
441+44.68		38'Lt-59'Lt	PCC	1.6	21.0	Spruce St. curb to be removed for detour const.
440+88.94	441+58.58	Lt	PCC	105.7	25.0	Remaining Spruce St. pavement and returns
443+40.85	444+24.64	Rt	PCC	128.1	14.0	"R" St. pavement and returns
451+47.64	452+39.61	Lt	PCC	186.3	60.0	S. Kenwood Blvd. Pavement & Returns
453+92.98	454+76.86	Rt	PCC	174.3	25.0	S. "P" St. pavement and returns
455+28.84	456+00.00	Lt	PCC	123.8	64.0	S. "P" St. pavement and returns
461+86.25	462+60.36	Rt	PCC	33.7	28.0	S. "N" St. returns
R-57						
1280+60.00	1283+81.10	NB & SB	HMA	786.2	22.0	R-57 South
1384+00.43	1386+06.00	NB & SB	HMA	501.1	22.0	R-57 North
R-57		NB & SB	HMA	592.5		R-57 returns
284+24.95	287+27.07	WB	HMA, PCC	313.8		Turning Lane at R-57
R-63						
3389+00.00	3391+35.75	NB & SB	HMA	672.5	22.0	R-63 South
3391+60.00	3393+05.00	NB & SB	HMA	356.5	22.0	R-63 North
R-63		NB & SB	HMA	519.3		R-63 returns
Y Street						
4414+15.00	4417+73.13	NB & SB	PCC	1124.7	31.0	Y St. South, Pavement & Returns
4417+90.70	4422+60.00	NB & SB	PCC	1795.3	31.0	Y St. North, Pavement & Returns
4410+73.00	4411+62.00	NB	PCC	14.8	92.0	Y St. Curb at Detour
4414+91.00	4415+37.00	SB	PCC	7.7	49.0	Y St. Curb at Detour
4424+96.00	4425+66.00	NB	PCC	11.7	73.0	Y St. Curb at Detour
DETOURS						
439+07.78	441+22.33	Lt	HMA	200.9		Mainline Detour Paving at East End Tie-In
441+45.03	445+00.00	Lt	HMA	600.5		Mainline Detour Paving at East End Tie-In
441+22.97	443+48.00	Rt	HMA	86.0		Mainline Detour Paving at East End Tie-In
11277+89.54	11283+98.25	NB & SB	HMA	1270.8		Co.Rd. R-57 Detour Pavement
11284+92.87	11289+34.28	NB & SB	HMA	1109.1		Co.Rd. R-57 Detour Pavement
18386+48.19	18392+53.72	NB & SB	HMA	1472.8		Co.Rd. R-63 Detour Pavement
18392+77.35	18397+71.90	NB & SB	HMA	1177.7		Co.Rd. R-63 Detour Pavement
			Totals =	65344.1	5038.0	

110-5
08-01-08

SIDEWALK REMOVAL

Begin Station	End Station	Area SY	Remarks
417+68.00 Rt		114.0	270' South along 'Y' St.
441+44.50 Lt		8.8	East side of Spruce St.
451+72.06 Lt		7.6	West side of S. Kenwood St.
452+26.29 Lt		8.0	East side of S. Kenwood St.
454+14.44 Rt		10.5	West side of S. 'P' St.
454+66.22 Rt		11.0	East side of S. 'P' St.
454+70.00 Lt		53.3	East to S. 'P' St. and north
455+79.30 Lt		17.2	East side of S. 'P' St.
	Totals =	230.4	

110-8
08-01-08

REMOVAL OF CONCRETE DRIVES

Location: Station	Side	Area SY	Remarks
324+07.61	Rt	113.9	
356+56.57	Rt	84.5	
398+16.98	Lt	196.1	
423+11.51	Lt	911.7	Removal as directed by Engineer
425+99.40	Lt	136.5	
427+53.90	Lt	108.7	
429+54.16	Lt	149.8	
430+78.41	Rt	339.5	
431+96.41	Lt	100.5	
433+46.06	Lt	35.7	
433+47.85	Rt	775.2	Includes parking lot
440+48.56	Rt	125.7	
442+23.75	Rt	192.1	
446+48.51	Rt	181.9	
446+56.51	Lt	134.7	
447+68.44	Rt	173.8	
448+17.01	Lt	203.8	
448+54.51	Rt	168.4	
449+42.01	Lt	185.9	
458+76.10	Lt	85.6	
460+15.20	Lt	108.8	
461+34.29	Lt	65.8	
Total =		4578.4	

MAILBOX

TABULATION OF MAILBOX TURNOUTS

Location Station	Side	Remarks
Mainline 92		
262+00.00	Lt.	1
269+50.00	Lt.	2
271+40.00	Lt.	1
276+25.00	Lt.	6
281+90.00	Rt.	1
285+30.00	Lt.	1
291+60.00	Lt.	1
297+05.00	Lt.	1
305+30.00	Lt.	1
90th Ave.		
2313+25.00	Rt.	1
2308+00.00	Rt.	1
Mainline 92		
324+25.00	Lt.	1
341+10.00	Lt.	1
353+00.00	Lt.	2
356+75.00	Lt.	1
361+70.00	Lt.	1
363+90.00	Lt.	1
365+50.00	Lt.	2
375+40.00	Lt.	3
422+80.00	Lt.	1
423+75.00	Lt.	1
427+30.00	Lt.	1
431+75.00	Lt.	1
432+25.00	Lt.	1
433+90.00	Lt.	1
433+90.00	Rt.	1
437+80.00	Lt.	1
438+40.00	Lt.	1
442+80.00	Rt.	1
446+75.00	Lt.	1
448+40.00	Lt.	2
		Total = 42 Mailboxes

110-14
04-16-13

SANITARY OR STORM SEWER ABANDONMENT OR REMOVAL

* Not a bid item

Location/Description	Sanitary or Storm Sewer	Abandonment, Plug Only or Abandonment, Plug and Fill or Removal	Length of Pipe ≤ 36 inch diameter (LF)	Length of Pipe > 36 inch diameter (LF)	Fill Material* Flowable Mortar or CLSM (CY)	Remarks
Sta 4414+35	Storm Sewer	Removal	35			
Sta 4417+40 to 4422+60	Storm Sewer	Removal	549			
Sta 4422+60 to Sta 4424+08.3	Storm Sewer	Abandonment, Plug and Fill	149			
Sta 416+13, 94' Lt	Storm Sewer	Removal	60			Remove when Detour is removed (I-210A & P-210A)
Sta 4414+64, 41' Lt	Storm Sewer	Removal	6			Remove when Detour is removed (I-219A)
		Totals				
		Removal	650			
		Abandonment, Plug and Fill	149			

110-15
04-16-13

REMOVAL OF INTAKES AND UTILITY ACCESSES

No.	Location/Description	Type	Remarks
3	Sta. 4414+35	Intakes	
2	Sta. 4419+96	Intakes	
1	Sta. 4421+52	Utilities	
6	Total		

110-9
10-18-11

CULVERT ABANDONMENT

Refer to Details 4315 and 4316

* Not a bid item

Location Station	Description	Fill Material: Flowable Mortar (CY)	Fill Material: Granular Backfill* (TON)	4" Perforated Subdrain* (LF)	Remarks
277+57.37	2x2 RCB w/30" RCP ext.	9.4	0.2	4.0	Remove aprons and extensions
292+63.66	3x2 RCB w/36" ext.	12.2	0.2	4.0	Remove aprons and extensions
307+42.49	3x2 RCB w/36" ext.	13.0	0.2	4.0	Remove aprons and extensions
315+86.80	2x2 RCB w/30" ext.	8.8	0.2	4.0	Remove aprons and extensions
329+73.63	2x2 RCB w/30" ext.	9.0	0.2	4.0	Remove aprons and extensions
332+80.53	2x2 RCB w/30" ext.	9.0	0.2	4.0	Remove aprons and extensions
341+78.56	2x2 RCB w/30" ext.	8.8	0.2	4.0	Remove aprons and extensions
	Total =	70.2			

110-2
04-16-13

REMOVAL OF EXISTING STRUCTURES

Location	Description	Remarks
261+65, 31' Lt	Conc. block retaining wall	Driveway culvert retaining wall
262+03, 31' Lt	Conc. block retaining wall	Entrance culvert retaining wall
304+79, 87' Rt	7.4' x 8.6' Conc. Slab	Slab and flag pole
307+42	2x2 RCB w/30" ext.	Remove existing extensions and headwalls and remove steel retaining walls at inlet end
307+45, 61' Lt	Steel retaining wall	Culvert retaining wall
332+81	2x2 RCB w/30" ext.	Remove existing extensions and headwalls
361+60, 17' Lt	Conc. block retaining wall	Entrance culvert retaining wall
361+79, 17' Lt	Conc. block retaining wall	Entrance culvert retaining wall
342+72, 108' Rt	Cattle grate	Steel grate cattle guard
361+79, 17' Lt	Conc. block retaining wall	Driveway culvert retaining wall
364+98, 41' Rt	Concrete	Concrete encased apron on entrance pipe
365+57, 42' Rt	Concrete	Concrete encased apron on entrance pipe
379+69	2x2 RCB w/30" ext.	Remove existing extensions and headwalls
390+79	2x2 RCB w/30" ext.	Remove existing extensions and headwalls
395+44	2x2 RCB w/30" ext.	Remove existing extensions and headwalls
395+45, 85' Lt	Concrete slab	Remove existing concrete slab under apron 2.0' x 4.0'
397+68, 79' Lt	Concrete slab	Remove existing concrete slab under apron 2.0' x 4.0'
398+65, 80' Lt	Concrete slab	Remove existing concrete slab under apron 1.6' x 2.4'
422+43	2x2 RCB w/30" ext.	Remove existing extensions and headwalls
426+74	2x2 RCB w/30" ext.	Remove existing extensions and headwalls
436+45	2x2 RCB w/30" ext.	Remove existing extensions and headwalls

ADJUSTMENT OF FIXTURES

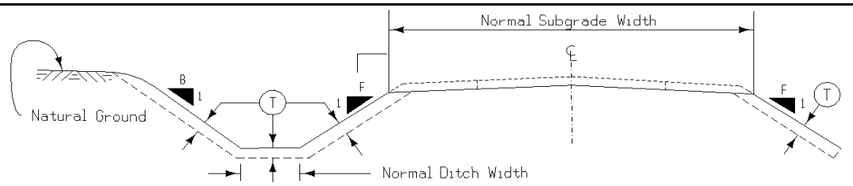
No.	Location Station	Type of Fixture	Adjustment
1	282+89.30	Manhole	Existing water access MH w/ 15" lid
	26.4' Rt.		
2	287+69.70	Elec. Box	Existing conc. slab w/
	63.1' Lt.		
3	291+24.16	Manhole	Existing 15" water MH w/14" basin
	98.6' Lt.		
4	324+43.80	Manhole	Existing 15" water meter MH lid w/ 14" basin
	14.6' Rt.		
5	354+20.01	Manhole	Existing 15" water meter MH lid w/ 14" basin
	55.9' Lt.		
6	356+22.84	Manhole	Existing 15" water meter MH lid w/ 15" basin
	61.6' Rt.		
7	360+74.10	Manhole	Existing 15" water meter MH lid w/ 14" basin
	48.9' Lt.		
8	390+49.84	Manhole	Existing 24" San. Sewer MH lid w/ 3-4" lifts 48" conc. basin
	10.4' Rt.		
9	390+48.30	Manhole	Existing 24" San. Sewer MH lid w/ 3-4" lifts 48" conc. basin
	115.5' Lt.		
10	416+86.27	Manhole	Existing 26" San. Sewer MH lid w/48" conc. basin
	34.2' Rt.		
11	416+83.05	Manhole	Existing 24" San. Sewer MH lid w/48" conc. basin
	116.9' Lt.		
12	417+06.83	Manhole	Existing 1.0' x 1.5' MH lid
	126.3' Lt.		
13	417+02.50	Manhole	Existing 26" storm sewer MH lid w/ 5.3' x 5.3'conc. Slab over a 4.0' x 4.0
	417.9' Lt.		
14	417+78.10	Manhole	Existing 2.5' x 4.0' Fiber optic vault
	110.6' Lt.		
15	417+60.40	Electric Handhole	Existing 2.0' X 3.0' Electric handhole
	33.8' Rt.		
16	417+59.88	Electric Handhole	Existing 2.0' X 3.0' Electric handhole
	27.3' Rt.		
17	418+02.72	Fire Hydrant	Existing fire hydrant
	88.9' Lt.		
18	418+16.01	Electric Handhole	Existing 6.0' x 6.0' Electric handhole
	12.7' Rt.		
19	421+87.95	Manhole	Existing 26" San. Sewer MH lid w/48" conc. basin
	31.3' Rt.		
20	420+70.97	Fire Hydrant	Existing fire hydrant
	89.1' Lt.		
21	422+48.46	Fiber Optic Handhole	Existing 3.2' x 2.2' Fiber optic handhole
	92.1' Lt.		
22	426+47.30	Fiber Optic Handhole	Existing 4.0' x 2.5' Fiber optic handhole
	98.3'Lt.		
23	426+76.88	Fire Hydrant	Existing fire hydrant
	90.9' Lt.		
24	426+88.20	Manhole	Existing 26" San. Sewer MH lid w/48" conc. basin
	35.1' Rt.		
25	430+91.99	Manhole	Existing 26" San. Sewer MH lid w/48" conc. basin
	35.2' Rt.		
26	432+80.42	Manhole	Existing 23" water MH lid w/ 65" conc. Lid and 60" conc. Basin
	25.4' Rt.		
27	432+81.01	Water Valve	Existing water valve w/ steel cap
	20.8' Rt.		
28	432+95.23	Manhole	Existing 24" San. Sewer MH lid w/48" conc. basin
	13.9' Rt.		
29	432+60.00	Water Valve	Existing water valve
	78.4' Lt.		
30	432+65.50	Water Valve	Existing water valve
	79.9' Lt.		
31	432+84.42	Water Valve	Existing water valve
	76.0' Lt.		
32	434+27.64	Tele MH	Existing 32" telephone MH lid
	1.24' Lt.		
33	436+05.68	Manhole	Existing 24" San. Sewer MH lid w/48" conc. basin
	71.6' Lt.		
34	440+16.22	Manhole	Existing 24" San. Sewer MH lid w/48" conc. basin
	54.8' Lt.		
35	441+13.70	Manhole	Existing 24" San. Sewer MH lid w/48" conc. basin
	43.2' Lt.		
36	441+51.50	Water Valve	Existing water valve
	53.9' Lt.		
37	443+52.50	Manhole	Existing 24" San. Sewer MH lid w/48" conc. basin
	42.9' Lt.		
38	444+08.14	Water Valve	Existing water valve
	50.3' Lt.		
39	444+11.97	Water Valve	Existing water valve
	51.5' Lt.		
40	444+14.33	Water Valve	Existing water valve
	50.9' Lt.		
41	111+15.90	Fire Hydrant	Existing fire hydrant
	50.8' Lt.		

104-10
08-01-08

ADJUSTMENT OF FIXTURES

No.	Location Station	Type of Fixture	Adjustment
42	444+12.57	Water Valve	Existing water valve w/ 7" lid
	36.3'Rt.		
43	444+20.65	Water Valve	Existing water valve w/ 7" lid
44	447+36.12	Electric Box	Existing electric box w/3.1' x 3.6' base
	59.6' Lt.		
45	448+19.54	Water Valve	Existing water valve
	33.2' Rt.		
46	448+19.69	Fire Hydrant	Existing fire hydrant
	35.4' Rt.		
47	451+60.85	Fire Hydrant	Existing fire hydrant
	39.9' Lt.		
48	451+64.06	Water Valve	Existing water valve w/ 7" lid
	39.7' Lt.		
49	451+67.80	Water Valve	Existing water valve w/ 7" lid
	35.1' Lt.		
50	451+65.10	Water Valve	Existing water valve w/ 7" lid
	23.5' Rt.		
51	451+72.85	Tele MH	Existing 32" telephone MH lid
	36.4' Rt.		
52	451+82.83	Water Valve	Existing water valve
	39.5' Lt.		
53	451+84.10	Water Valve	Existing water valve
	43.5' Lt.		
54	452+00.17	Manhole	Existing San. Sewer MH lid
	34.8' Lt.		
55	453+92.87	Water Valve	Existing water valve w/ 7" lid
	33.9' Rt.		
56	453+93.03	Fire Hydrant	Existing fire hydrant
	35.7' Rt.		
57	460+68.09	Electric Box	Existing electric box w/2.5' x 1.5' base
	36.0' Rt.		
58	461+98.82	Fire Hydrant	Existing fire hydrant
	38.2' Rt.		
59	461+98.30	Water Valve	Existing water valve
	36.7' Rt.		
60	462+07.59	Manhole	Existing storm sewer MH w/4.0' x 4.0' conc. basin
	31.4' Rt.		
61	462+15.10	Manhole	Existing 21" San. Sewer MH lid w/48" conc. basin
	28.5' Rt.		
62	462+39.80	Water Valve	Existing 4" water valve access
	28.4' Rt.		
	Totals		
	Manhole, Minor		
	Manhole, Major		
	Fire Hydrant	8	

TABULATION OF SPREADING TOPSOIL



Perform this work according to Section 2105. Prior to placing topsoil on any cohesive soil, scarify the area to be covered to a minimum depth of 3 inches.

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

Placement Description								Topsoil Excavation Available From			
Area No.	Quantity CY	Location Station to Station		Side L. or R.	Slope B. or F.	T IN	Remarks	Amount Reserved CY	Station to Station		Remarks
1	43274.0	256+00.00	390+00.00	Both	Both	8.0	ML092:Rural	52952.0	256+00.00	390+00.00	ML092:Rural
2	10534.0	390+25.00	443+18.00	Both	Both	8.0	ML092: Urban STG1B and STG2B	9301.0	390+25.00	443+18.00	ML092: Urban STG1B and STG2B
3	1792.0	443+23.01	464+92.00	Both	Both	8.0	ML092: Widening	126.0	443+23.01	464+92.00	ML092: Widening
4	133.0	1257+10.00	1258+50.00	Both	Both	8.0	Kennedy	0.0	1257+10.00	1258+50.00	Kennedy
5	703.0	1280+60.00	1283+50.00	Both	Both	8.0	R57S	0.0	1280+60.00	1283+50.00	R57S
6	303.0	1384+25.00	1386+06.00	Both	Both	8.0	R57N	0.0	1384+25.00	1386+06.00	R57N
7	1231.0	2305+85.00	2313+85.00	Both	Both	8.0	90th		2305+85.00	2313+85.00	90th
8	699.0	3388+60.00	3390+75.00	Both	Both	8.0	R63S	0.0	3388+60.00	3390+75.00	R63S
9	251.0	3391+31.95	3393+05.00	Both	Both	8.0	R63N	0.0	3391+31.95	3393+05.00	R63N
10	422.0	4414+15.00	4417+25.32	Both	Both	8.0	YSTS	0.0	4414+15.00	4417+25.32	YSTS
11	754.0	4417+64.40	4422+60.00	Both	Both	8.0	YSTN	0.0	4417+64.40	4422+60.00	YSTN
12	1735.0	11277+89.54	11290+40.39	Both	Both	8.0	DET R57	0.0	11277+89.54	11290+40.39	Detour R57
13	1119.0	18388+00.00	18396+25.00	Both	Both	8.0	DET R63	0.0	18388+00.00	18396+25.00	R63
TOTAL	62950.0						TOTAL	62379.0			

LIST OF SUBDRAIN WORK

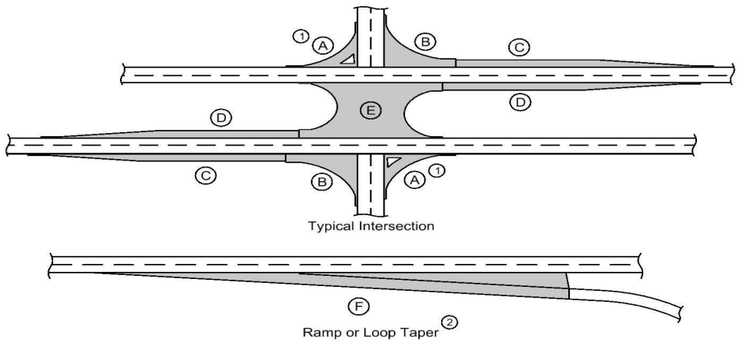
Refer to Standard Road Plans RF-3, RF-5, RF-14, RF-19A, RF-19B, RF-19C, RF-19E and RF-19F

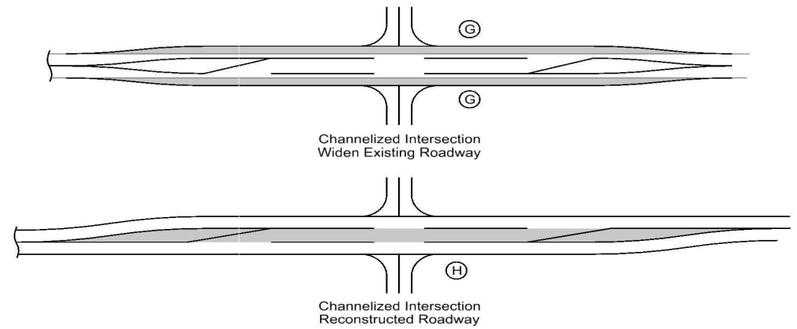
* Not a bid item

Location				Pipe			Aprons		Outlets								
No.	Station to Station		Type of Installation	Concrete C.M.P., C.M.P. Coated, or Plastic	Dia. IN	Length LF	RF-3 No.	RF-5 No.	RF-19E No.	RF-19F Type	RF-19F No.	Connected Pipe Joints (RF-14)* Type	Trench Drain LF	Granular Material Blanket CY	Porous Backfill* CY	Class "A" Crushed Stone* CY	Remarks
1	292+04 90' Rt	292+75.00 80' Rt	Case 'B'	C.M.P. Coated	10.0	72											Install Intake, Standpipe I-1 @ Sta 292+75, 80' Rt at inlet end
2	307+71 109' Lt	307+62 91' Lt	Case 'C'	C.M.P. Coated	10.0	22				A	1						
3	308+04.00 91' Rt	307+98 108' Rt	Case 'A'	C.M.P. Coated	10.0	18											Install Intake, Standpipe I-2 @ Sta 308+04, 91' Rt at inlet end
4A	1388+80 73' Rt		Case 'C'							A	1						(A)
4B	1388+80 73' Rt	1388+77 49' Rt	Cases 'A' and 'C'	C.M.P. Coated	10.0	23				A	1						(B)
5A	4414+58 154' Lt		Case 'C'							A	1						(A)
5B	4414+58 154' Lt	4414+34 34' Lt	Case 'A'	C.M.P. Coated	10.0	122											(B) Outlet into Intake I-219 Refer to Tab. 104-5B in M-sheets
			Totals		10.0	257					4						Intake, Standpipe quantity = 2 each

(A) Outlet only; Replace existing tile with RF-19F outlet at detour ditch location.
(B) Remove outlet and extend tile line after removal of detour.

PCC PAVEMENT

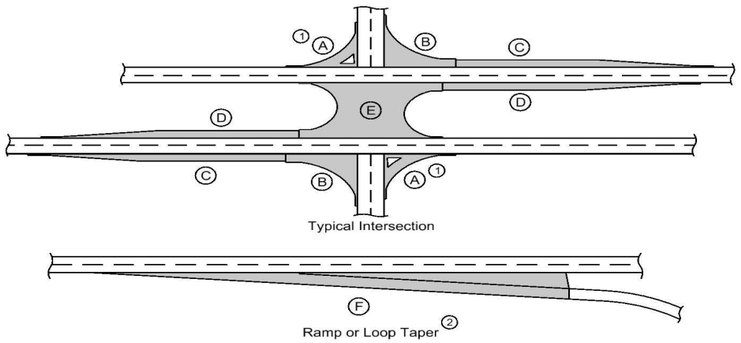


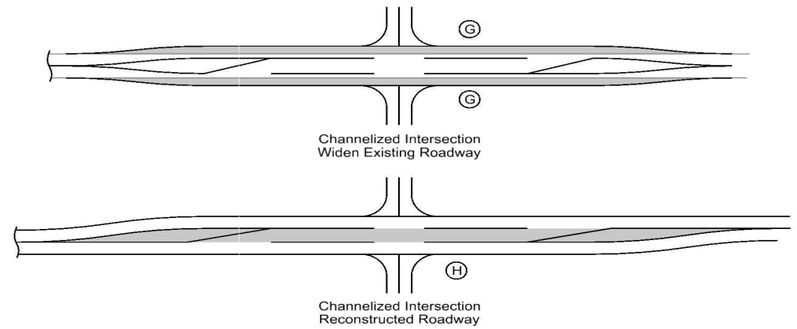


1. Does not include island area or curb. Refer to tabulation 112-4 for quantities.
2. Refer to PV-410, PV-411, PV-412, and PV-414.
3. Quantity includes Pavement Header.

Location				Mainline			Area (3)								Total Area By Pavement Thickness		Special Backfill	Modified Subbase	Granular Subbase	Remarks
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	A (2)	B	C	D	E	F	G	H	SY					
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	10 IN	8 IN	TONS	CY	SY	
IA 92	WB	256+50.00	271+47.79	14.0	1497.8	2329.9									2329.9		904.3		2912.4	
IA 92	EB	256+50.00	271+47.79	14.0	1497.8	2329.9									2329.9		904.3		2919.4	
IA 92	WB	271+47.79	301+54.21	14.0	3006.4	4676.7									4676.7		1815.1		5845.9	
IA 92	EB	271+47.79	301+54.21	14.0	3006.4	4676.7									4676.7		1815.1		5845.9	
IA 92	Both	271+47.79	301+54.21	Varies	3006.4									3786.7	3786.7		1192.8		3786.7	Center Turn Lane & Channelized Area
IA 92 - E.B. Turn Lane	EB	279+39.00	282+94.00	Varies	355.0				567.8						567.8		178.8		567.8	Rt. Turn Lane at Co. Rd. R-57
IA 92 - W.B. Turn Lane	WB	284+48.00	292+08.00	Varies	760.0				1306.7						1306.7		411.6		1306.7	Rt. Turn Lane at Co. Rd. R-57
IA 92	WB	301+54.21	378+78.79	14.0	7724.6	#######									12016.0		4663.8		15019.8	
IA 92	EB	301+54.21	378+78.79	14.0	7724.6	#######									12016.0		4663.8		15019.8	
IA 92	WB	378+78.79	391+00.00	14.0	1221.2	1899.7									1899.7		737.3		2374.6	
IA 92	EB	378+78.79	391+00.00	14.0	1221.2	1899.7									1899.7		737.3		2374.6	
IA 92	EB	378+78.79	391+00.00	Varies	1221.2									1392.1	1392.1		438.5		1397.8	Center Turn Lane & Channelized Area
IA 92	EB	386+70.00	390+25.00	Varies	355.0				567.9						567.9		178.9		567.9	Rt. Turn Lane at Co. Rd. R-63
IA 92	WB	391+92.00	398+19.88	Varies	627.9				614.3						614.3		193.5		614.3	Rt. Turn Lane at Co. Rd. R-63
IA 92	WB	391+00.00	441+09.29	15.0	5009.3	8348.8									8348.8			3385.9		
IA 92	EB	391+00.00	441+09.29	15.0	5009.3	8348.8									8348.8			3385.9		
IA 92	Both	391+00.00	441+27.50	16.0	5027.5	8937.8									8937.8			2979.3		Center Turn Lane
IA 92	WB	441+09.29	443+18.01	Varies	208.7	345.8									345.8			138.9		
IA 92	EB	441+09.29	443+18.01	Varies	208.7	306.0									306.0			124.1		
IA 92	Both	441+27.50	443+18.01	Varies	190.5	320.0									320.0			106.7		Center Turn Lane
Kennedy St.	NB & SB	1258+03.53	1258+72.80	24.0	69.3	399.8										399.8	132.1			Typical 7149M
R-57	NB & SB	1280+60.00	1283+59.24	22.0	299.2	731.5									731.5		293.3			Mainline
R-57	NB & SB	1383+98.17	1386+06.00	22.0	207.8	508.0									508.0		203.6			Mainline
R-57	NB	1383+98.17	1386+06.00	Varies	207.8			462.6							462.6		172.9			Return #1-NE Quad. Of Intersection
R-57	SB	1383+98.17	1385+36.60	Varies	138.4		398.8								398.8		151.7			Return #2-NW Quad. Of Intersection
R-57	SB	1281+54.45	1283+59.24	Varies	204.8			456.8							456.8		170.8			Return #3-SW Quad. Of Intersection
R-57	NB	1282+22.45	1283+59.24	Varies	136.8		402.0								402.0		152.6			Return #4-SE Quad. Of Intersection
90th St.	NB & SB	2309+56.83	2310+14.21	24.0	57.4	153.0										153.0	48.2			Typical 7149M
90th St.	NB & SB	2310+42.21	2311+00.84	24.0	58.6	156.3										156.3	49.2			Typical 7149M
90th St.	NB	2309+56.83	2310+14.21	Varies	57.4		104.0									104.0	35.5			Typical 7149M
90th St.	SB	2309+56.83	2310+14.21	Varies	57.4			104.0								104.0	35.5			Typical 7149M
90th St.	SB	2310+42.21	2311+00.84	Varies	58.6		104.0									104.0	35.5			Typical 7149M

PCC PAVEMENT





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

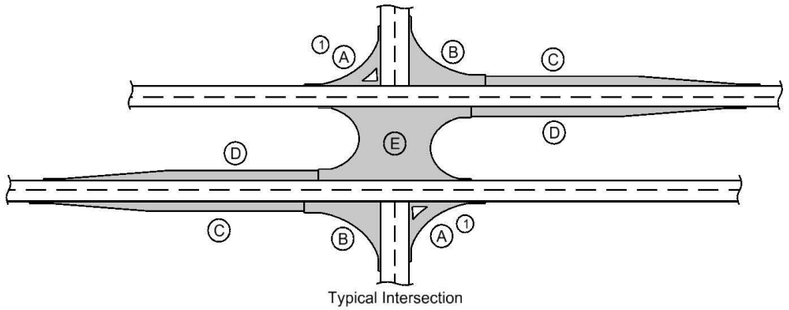
(2) Refer to PV-410, PV-411, PV-412, and PV-414.

(3) Quantity includes Pavement Header.

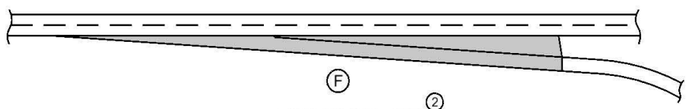
Location				Mainline			Area (3)								Total Area By Pavement Thickness		Special Backfill	Modified Subbase	Granular Subbase	Remarks
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	A (2)	B	C	D	E	F	G	H	SY					
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	10 IN	8 IN	TONS	CY	SY	
90th St.	NB	2310+42.21	2311+00.84	Varies	58.6			104.0								104.0	35.5			Typical 7149M
R-63	NB & SB	3388+60.00	3390+88.93	22.0	228.9	559.6									559.6		224.3			Mainline
R-63	NB & SB	3391+34.46	3393+05.00	22.0	170.5	416.9									416.9		167.1			Mainline
R-63	NB	3391+34.46	3393+02.01	Varies	167.5			364.3							364.3		137.2			Return #1-NE Quad. Of Intersection
R-63	SB	3391+34.46	3392+50.13	Varies	115.7		372.1								372.1		142.7			Return #2-NW Quad. Of Intersection
R-63	SB	3389+14.04	3390+88.93	Varies	174.9			442.6							442.6		162.7			Return #3-SW Quad. Of Intersection
R-63	NB	3389+77.13	3390+88.93	Varies	111.8		278.1								278.1		109.3			Return #4-SE Quad. Of Intersection
Y Street	NB & SB	4414+15.00	4417+25.21	25.0	310.2	861.7									861.7		336.6			Mainline; See Note (1) below
Y Street	NB & SB	4417+64.32	4422+60.00	31.0	495.7	1707.3									1707.3		641.9			Mainline
Y Street	NB	4417+64.32	4419+15.98	Varies	151.7			232.6							232.6		97.7			Return #1-NE Quad. Of Intersection
Y Street	SB	4417+64.32	4418+93.99	Varies	129.7		256.9								256.9		106.8			Return #2-NW Quad. Of Intersection
Y Street	SB	4415+71.91	4417+25.21	Varies	153.3			201.7							201.7		85.8			Return #3-SW Quad. Of Intersection
Y Street	NB	4416+01.51	4417+25.21	Varies	123.7		227.7								227.7		93.8			Return #4-SE Quad. Of Intersection
Spruce St.						102.0									102.0		39.1			Includes 70.6' of curb
R St.						138.4									138.4		51.4			Includes 78.5' of curb
S. Kenwood Blvd						197.9									197.9		71.3			Includes 90.4' of curb
South P St. (South)						194.2									194.2		71.7			Includes 104.9' of curb
South P St. (North)						163.7									163.7		61.5			Includes 98.9' of curb
South N St.						89.7									89.7		33.5			Includes 54.9' of curb
														Totals=	86454.3	1125.2	22985.9	10120.7	60553.4	

Notes:
(1) Quantities do not include Curb and Gutter on right side from Sta. 4414+91 to 4415+37 due to Detour Construction. Refer to Tab 112-9C.

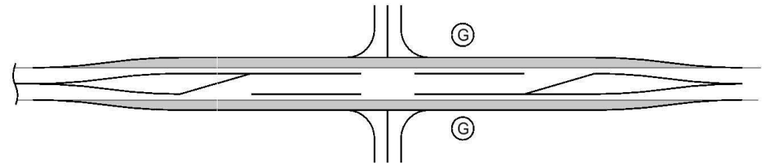
HMA PAVEMENT



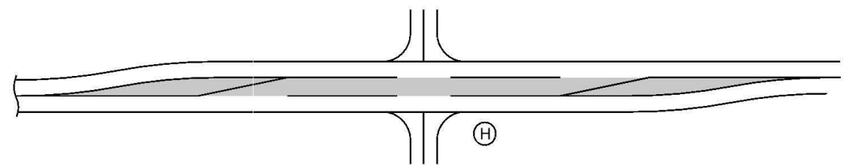
Typical Intersection



Ramp or Loop Taper (2)



Channelized Intersection
Widen Existing Roadway



Channelized Intersection
Reconstructed Roadway

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

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

Calculations assume a surface course unit weight (lbs/cf) of 147, an intermediate course unit weight (lbs/cf) of 147, a base course unit weight (lbs/cf) of 145, and a special backfill unit weight (lbs/cf) of 140.

Location				Mainline			Area								Bid Items													
															Hot Mix Asphalt Pavement						Binder							
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	A (1)	B	C	D	E	F	G	H	Surface		Intermediate		Base		Surface	Intermediate	Base	Special Backfill	Modified Subbase	Granular Subbase	Pavement Scarification	Remarks
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	TONS	SY	TONS	SY	TONS	SY	TONS	TONS	TONS	TONS	CY	SY	SY	
IA 92 Scarify	Both	443+18.01	465+01.01	32.0	2183.0	7761.8																					7762.0	
IA 92	Both	443+18.01	465+01.01	32.0	2183.0	7761.8									641.802	7761.8	641.802	7761.8			38.508	38.508						(1)
IA 92 Leveling	Both	452+00.00	465+01.01	32.0	1301.0	4625.8											280.498	4625.8				16.830						
												+5% for Irregularities			32.090		46.115				1.925	2.767						
															Totals 673.892		968.415				40.434	58.105					7762.0	

(1) Leveling area used to generate new profile. Refer to HMA thickness bar on D-sheets for an estimation of total thickness.
This quantity uses an estimated average thickness in the leveling area.

112-10
04-19-11

MILLED RUMBLE STRIPS

See PV-12 and PV-13.

* Calculated at 18" width for Shoulder.

Location										
Road Identification	Station to Station		Length PCC	Length HMA	Type (Centerline, Rt or Lt Shoulder	Fog Seal* (Milled Rumble Strip) Shoulder	Effective Shoulder Width PCC Paved	HMA Paved	Granular\ Earth	Remarks
			STA	STA		GAL	FT	FT	FT	
Iowa 92 Mainline	256+50.00	380+00.00	123.50		Centerline	0.0				
Iowa 92 Mainline	256+50.00	281+94.00	25.44		Left Shoulder	0.0				
Iowa 92 Mainline	291+50.00	389+14.00	97.64		Left Shoulder	0.0				
Iowa 92 Mainline	256+50.00	280+39.00	23.89		Right Shoulder	0.0				
Iowa 92 Mainline	284+40.00	387+00.00	102.60		Right Shoulder	0.0				
Total Centerline =			123.50							
Total Shoulder =			249.57							

112-7
10-19-10

RUMBLE STRIP PANELS

Refer to Standard Road Plan PV-10.

Location			Pavement		Remarks
Road Ident.	Station	Side	New	Existing	
Co. Rd. R-57	1277+43	Rt.		X	in Patch
South	1280+43	Rt.		X	in Patch
Co. Rd. R-57	1387+14	Lt.		X	in Patch
North	1390+14	Lt.		X	in Patch
Co. Rd. R-63	3384+35	Rt.		X	in Patch
South	3387+35	Rt.		X	in Patch
Co. Rd. R-63	3394+92	Lt.		X	in Patch
North	3397+92	Lt.		X	in Patch

102-6C
10-21-14

FULL-DEPTH PATCHES

Refer to Standard Roads Plans PR-101, PR-102, PR-103, PR-104 and PR-140.

Location			Dimension			PCC Patches												
Count	Station or Milepost	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
						PR-103	PR-102	PR-104			PR-140	PR-101	PR-101 or PR-140			PR-101		
		L, R, or B	FT	FT	IN	SY	SY	SY	SY	TON	SY	SY	No.	No.	No.	No.	No.	
1	451+75	R	6.0	12.0	11.0	8.0					8.0							
1	451+75	L	6.0	12.0	11.0	8.0					8.0							
1	460+35	R	20.0	12.0	11.0	26.7					26.7							
1	461+06	R	20.0	12.0	11.0	26.7					26.7							
1	1277+43	R	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
1	1280+43	R	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
1	1387+14	L	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
1	1390+14	L	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
1	3384+35	R	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
1	3387+35	R	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
1	3394+92	L	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
1	3397+92	L	30.0	11.0	7.4		36.7				36.7				1			See Tab 112-7
12	Totals					69.4	293.6				363.0							

112-9C
NEW

Curb and Gutter

Refer to PV-102 and 6000 Detail Series.

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

Location								Quantities							
Road Identification	Direction Of Traffic (1)	Station to Station		Side	Curb Type	Pavement Thickness	Width	Length	Class 13 Excavation (3)	Special Backfill		Modified Subbase	Earth Shoulder Finishing		Remarks
						IN	FT	FT	CY (2)	TON (2)	TON/STA	CY (2)	STA (2)	CY (4)	
IA 92	WB	443+18.01	451+46.61	Lt	6" Standard	10	2.5	828.6				86.2	8.3	154.7	
IA 92	WB	452+38.91	455+21.32	Lt	6" Standard	10	2.5	282.4				29.4	2.8	52.7	
IA 92	WB	456+11.24	465+01.01	Lt	6" Standard	10	2.5	889.8				92.6	8.9	166.1	
IA 92	EB	441+22.91	443+41.50	Rt	6" Standard	10	2.5	218.6				22.7	2.2		
IA 92	EB	444+22.50	453+91.57	Rt	6" Standard	10	2.5	969.1				100.9	9.7	180.9	
IA 92	EB	454+86.45	461+85.60	Rt	6" Standard	10	2.5	699.2				72.8	7.0	130.5	
IA 92	EB	462+62.57	465+01.01	Rt	6" Standard	10	2.5	238.4				24.8	2.4	44.5	
Y Street	SB	4410+73.00	4411+62.00	Lt	6" Standard	10	1.5	89.0		14.4	16.2		0.9	16.6	after removal of detour
Y Street	NB	4414+91.00	4415+37.00	Rt	6" Standard	10	1.5	46.0		7.4	16.2		0.5	8.6	after removal of detour
Y Street	SB	4424+96.00	4425+66.00	Lt	6" Standard	10	1.5	70.0		11.3	16.2		0.7	13.1	after removal of detour
						Totals				33.1		429.4	43.3		
						Curb	1.5	205.0							
						Curb	2.5	4126.0							

112-04
10-15-13

CURBS AND ISLANDS

Refer to PV-20, PV-102, and 6000s Detail Series.

(1) Bid Item

Point No.	Station	Offset	Island Interior Area (1)	Curb and Gutter			Remarks
				Curb Type	Gutter Width	Length (1)	
			SY		FT	LF	
A	283+53.81	41.0' Lt.					
	1384+09.30	14.0' Lt.					
B	283+40.37	41.0' Lt.					
C	1384+19.19	15.0' Lt.	63.2	6" Sloped PCC		33.8	Refer to Modified PV-20 Detail in the 'U' Sheets
A	283+87.71	25.0' Rt.					
	1283+47.97	14.0' Rt.					
B	284+01.84	25.0' Rt.					
C	1283+37.33	15.0' Rt.	63.2	6" Sloped PCC		36.2	Refer to Modified PV-20 Detail in the 'U' Sheets
	Totals =		126.4			70.0	

SHOULDERS

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

Calculations assume a HMA unit weight (lbs/cf) of 145, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

Location								Quantities																	
Road Identification	Direction Of Traffic (1)	Station to Station		Side	(P) Width	(G) Width	(L) Length	Class 13 Excavation (3)	Hot Mix Asphalt		Binder	Paved Shoulder	Reinforced Paved Shoulder	Special Backfill				Modified Subbase	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks
														HMA Alternate		PCC Alternate						HMA	PCC	
					FT	FT	FT	CY (2)	TON	TON/STA	TONS	SY (2)	SY (2)	TON (2)	TON/STA	TON (2)	TON/STA	CY (2)	TON (2)	TON/STA	STA (2)	CY (4)	CY (4)	
Ia 92	WB	256+50.00	257+70.00	Lt	4.0	2 to 4	120.0		23.2	19.4	1.4	53.3		51.0	42.5	56.3	46.9		15.0	12.5	1.2	47.3	47.3	
"	EB	256+50.00	257+70.00	Rt	4.0	2 to 4	120.0		23.2	19.4	1.4	53.3		51.0	42.5	56.3	46.9		15.0	12.5	1.2	47.3	48.0	
"	WB	257+70.00	281+93.58	Lt	8.0		2423.6		936.5	38.6	56.2	2154.3		1302.9	53.8	1448.8	59.8				24.2	1578.0	1585.2	
"	EB	257+70.00	258+12.03	Rt	8.0		42.0		16.2	38.6	1.0	37.4		22.6	53.8	25.1	59.8				0.4	32.1	32.2	
	EB	259+36.67	279+39.00	Rt	8.0		2002.3		773.8	38.6	46.4	1779.8		1076.5	53.8	1197.0	59.8				20.0	1527.0	1532.9	
"	WB	281+93.58	282+79.35	Lt	0 to 6		85.8		12.4	14.5	0.7	28.6		11.1	13.0	13.4	15.6				0.9	17.6	17.6	
"	WB	282+79.35	283+22.95	Lt	6.0		43.6		12.6	29.0	0.8	29.1		16.3	37.5	18.3	41.9				0.4	17.6	17.6	portion of R-5
"	EB	279+39.00	280+39.00	Rt	0 to 6		100.0		14.5	14.5	0.9	33.3		13.0	13.0	15.6	15.6				1.0	54.4	55.0	
"	EB	280+39.00	283+15.78	Rt	6.0		276.8		80.3	29.0	4.8	184.5		103.7	37.5	115.9	41.9				2.8	142.8	145.4	portion of R-5
"	EB	284+18.63	284+61.62	Rt	6.0		43.0		12.5	29.0	0.7	28.7		16.1	37.5	18.0	41.9				0.4	22.9	23.1	
"	EB	284+61.62	285+41.84	RT	6.0	0.0	80.2		11.6	14.5	0.7	26.7		10.4	13.0	12.5	15.6				0.8	32.1	33.0	
"	WB	284+27.41	290+88.00	Lt	6.0		660.6		191.6	29.0	11.5	440.4		247.4	37.5	276.5	41.9				6.6	282.6	285.0	
"	WB	290+88.00	291+55.36	Lt	6 to 1.5		67.4		13.0	19.4	0.8	28.1		14.2	21.1	16.7	24.8				0.7	28.1	28.3	
"	EB	285+41.84	309+67.10	Rt	8.0		2425.3		937.2	38.6	56.2	2155.8		1303.8	53.8	1449.8	59.8				24.3	1124.6	1127.3	
	EB	310+91.11	386+70.00	Rt	8.0		7578.9		2928.7	38.6	175.7	6736.8		4074.4	53.8	4530.7	59.8				75.8	3514.4	3522.8	
"	WB	292+08.00	309+65.31	Lt	8.0		1757.3		679.1	38.6	40.7	1562.1		944.7	53.8	1050.5	59.8				17.6	814.2	816.8	
	WB	310+89.32	389+20.00	Lt	8.0		7830.7		3026.0	38.6	181.6	6960.6		4209.8	53.8	4681.2	59.8				78.3	3628.2	3639.8	
"	EB	386+70.00	387+70.00	Rt	0 to 6		100.0		14.5	14.5	0.9	33.3		13.0	13.0	15.6	15.6				1.0	41.7	42.0	
"	EB	387+70.00	390+48.62	Rt	6.0		278.6		80.8	29.0	4.8	185.7		104.3	37.5	116.6	41.9				2.8	113.8	114.6	portion of R-6
"	WB	389+20.00	390+13.50	Lt	0 to 6		93.5		13.6	14.5	0.8	31.2		12.1	13.0	14.6	15.6				0.9	37.4	35.2	
"	WB	390+13.50	390+71.72	Lt	6.0		58.2		16.9	29.0	1.0	38.8		21.8	37.5	24.4	41.9				0.6	24.3	24.4	portion of R-6
Co. Rd. R-57																								
R-57																								
"	NB	1277+35.00	1279+25.00	Rt		6.0	190.0												48.9	25.8	1.9	2.9	2.9	Detour removal
"	NB	1280+60.00	1283+25.78	Rt		6.0	265.8												125.6	47.3	2.7			
"	NB	1384+34.94	1386+06.00	Rt		6.0	171.1												80.8	47.3	1.7			
"	NB	1387+86.00	1389+68.00	Rt		6.0	182.0												46.9	25.8	1.8	2.8	2.8	Detour removal
"	SB	1280+60.00	1283+22.61	Lt		6.0	262.6												124.1	47.3	2.6			
"	SB	1384+35.03	1386+06.00	Lt		6.0	171.0												80.8	47.3	1.7			
Co. Rd. R-63																								
R-63																								
"	NB	3385+50.00	3386+82.00	Rt		6.0	132.0												34.0	25.8	1.3	2.0	2.0	Detour removal
"	NB	3388+60.00	3390+53.08	Rt		6.0	193.1												91.2	47.3	1.9			
"	NB	3391+77.07	3393+05.00	Rt		6.0	127.9												60.4	47.3	1.3			
"	NB	3394+93.00	3396+25.00	Rt		6.0	132.0												34.0	25.8	1.3	2.0	2.0	Detour removal
"	SB	3388+60.00	3390+50.73	Lt		6.0	190.7												90.1	47.3	1.9			
"	SB	3391+83.39	3393+05.00	Lt		6.0	121.6												57.5	47.3	1.2			

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

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

Location		Type	Length of Opening (1)			W	(1) (2) PR	(2) SR	Pipe Culvert (3)					Aprons	Driveway Surface Area		Driveway Surfacing Material	Remarks
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1½" Dropped Curb	3" Dropped Curb				H	Size	Pipe Length	Lt.	Rt.		HMA	PCC		
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF	No.	SY	SY	TON	
270+56.00	Lt	Jt. C				30.0		15.0	3.7	18.0	76.0	47.0	41.2	2			29.500	ENT270
						14.0		15.0	2.4	18.0	46.0	34.4	23.8	2			163.000	ENT269 - Jt. w/ENT270
270+56.00	RT	Jt. C				30.0		15.0	7.0	18.0	134.0	63.6	82.5	2			70.000	ENT270
276+46.00	Lt	Jt. C				24.0		15.0	6.4	18.0	112.0	55.2	68.6	2			54.000	ENT275 & ENT276
291+80.00	Lt	C				20.0		15.0	2.9	18.0	62.0	34.2	40.0	2			23.000	ENT291
291+80.00	Rt	C				20.0		15.0	4.0	18.0	74.0	48.0	38.2	2			37.000	ENT291
297+08.00	Lt	Jt. C				30.0		15.0	2.1	18.0	60.0	37.9	34.3	2			21.000	ENT297
297+08.00	Rt	Jt. C				30.0		15.0	4.4	18.0	92.0	44.4	59.9	2			58.500	ENT298
						12.0		-	1.8	18.0	18.0	12.4	17.8	2			24.000	ENT297 - Jt. w/ENT298
305+31.00	Rt	C				20.0		15.0	3.1	18.0	68.0	48.7	31.5	2			25.500	ENT305
315+00.00	Rt	C				24.0		15.0	4.0	18.0	112.0	76.0	48.0	2			140.000	ENT315
324+07.61	Lt	C				24.0		15.0	3.5	18.0	80.0	40.5	51.7	2			29.000	ENT323
324+07.61	Rt	C				24.0		20.0								155.9		ENT323: 6" PCC Driveway
334+27.00	Rt	C				24.0		15.0	4.6	18.0	82.0	42.4	51.8	2			38.000	ENT334
341+03.00	Lt	Jt. C				35.0		15.0									44.000	ENT341
341+03.00	Rt	C				24.0		15.0	8.9	36.0	86.0	50.1	48.1	2			203.000	ENT341
352+40.00	Lt	C				24.0		15.0									53.520	ENT352
352+40.00	Rt	C				24.0		15.0	1.9	18.0	50.0	32.7	29.5	2			20.000	ENT352
359+18.00	Lt	C				24.0		15.0	3.3	18.0	72.0	44.3	39.8	2			125.000	ENT359
359+18.00	Rt	Jt. C				24.0		15.0	4.9	18.0	92.0	50.0	42.0	2		516.7		ENT359: 8" PCC and 6" Spec Backfill (171.9 Ton); Refer to Typ. ENT359; Req. RCP
						10.0		15.0	1.6	36.0	16.0	7.0	9.0	2				ENT359: Align pipe with ML draw at Sta. 358+05; Requires RCP
365+37.00	Lt	B				30.0		15.0	3.9	18.0	86.0	49.9	48.3	2			88.800	ENT365
365+37.00	Rt	C				24.0		15.0	3.8	18.0	80.0	43.4	48.8	2			47.870	ENT365
375+45.00	Lt	C				24.0		15.0	3.3	18.0	72.0	40.5	43.7	2			25.200	ENT375
375+45.00	Rt	C				24.0		15.0	5.4	18.0	106.0	61.6	56.5	2			39.200	ENT375
387+95.00	Lt	Safety Ramp				36.0												
398+16.98	Lt	B	1	52.0		37.0	12.0									228.4		
407+00.00	Lt	C	1	38.5		24.0	12.0									165.2		
407+00.00	Rt	C	1	38.5		24.0	12.0									83.3		
419+80.63	Lt	Jt. B	2 Mod.	155.3		70.0										151.9	80.000	Refer to Typ. ENT419; 10" PCC and 12" Spec Backfill (144.7 Ton); 4" Gran Surface
423+11.51	Lt	Jt. B	2 Mod.	206.0		70.0										1044.4		Refer to Typ. ENT423; 10" PCC and 12" Special Backfill (710.3 Ton)
425+99.40	Lt	B	1	42.0		24.0										162.1		
427+53.90	Lt	B	1	42.0		24.0										144.9		
429+54.16	Lt	B	1	50.0		32.0										181.6		
430+78.41	Rt	B	1	42.0		24.0										151.7		
431+96.41	LT	Jt. B	1	43.0		25.0										114.1		
433+46.06	Lt	B	1	44.5		26.5										78.3		
433+47.85	Rt	B	1	42.0		24.0										138.3		
438+08.06	Lt	B	1	42.0		24.0										71.7		
440+48.56	Rt	B	1	42.4		24.0										70.8		
442+23.75	Rt	B	1	63.5		51.3										157.7		
446+48.51	Rt	Jt. B	1	62.0		44.0										164.4		
446+56.51	Lt	B	1	41.0		35.0										196.7		
447+68.44	Rt	B	1	63.0		33.0										115.0		
448+17.01	Lt	B	1	36.0		30.0										168.9		
448+54.51	Rt	B	1	51.0		33.0										115.0		
449+42.01	Lt	B	1	44.0		38.0										150.0		
448+76.10	Lt	B	1	38.0		24.0										72.4		
460+15.20	Lt	B	1	38.0		24.0										85.9		
461+34.29	Lt	B	1	38.0		24.0										66.2		
ACCESS 258																		
1259+82.50	Lt	Jt. C				12.0		15.0	8.5	24.0	74.0	32.6	46.6	2			139.400	ENT258A
1259+82.50	Lt	Jt. C				10.0		15.0									63.800	ENT258B
1260+80.00	Lt	C				20.0		20.0									12.000	ENT258C
1261+20.00	CL	C				12.0											46.000	ENT258D
Co. Rd. R-57																		
1281+92.00	Lt	C				20.0		15.0	2.3	18.0	60.0	38.0	34.0	2			16.680	ENT1281
1281+92.00	Rt	C				20.0		15.0	3.5	18.0	94.0	36.0	70.0	2			19.240	ENT1281
1386+92.00	Rt	C				24.0		15.0	4.5	18.0	138.0	114.0	36.0	2			31.520	ENT1386
90th AVE																		
2306+07.14	Rt	C				24.0		15.0	4.1	18.0	70.0	36.0	46.0	2			10.400	ENT2306
2307+80.00	Rt	C				20.0		15.0	4.0	18.0	92.0	42.0	62.0	2			17.200	ENT2307
2313+08.00	Rt	C				20.0		15.0	2.5	18.0	60.0	40.0	32.0	2			12.000	ENT2313
Co. Rd. R-63																		
3388+79.00	Lt	C				24.0		15.0		18.0	50.0	36.2	26.0	2			16.480	

ACCESS POINTS AND SAFETY RAMPS

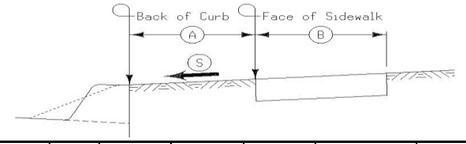
Refer to Cross-Sections

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

Location		Type	Length of Opening (1)			W	(1) (2) PR	(2) SR	Pipe Culvert (3)					Aprons	Driveway Surface Area		Driveway Surfacing Material	Remarks
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1½" Dropped Curb	3" Dropped Curb				H	Size	Pipe Length	Lt.	Rt.		HMA	PCC		
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF	No.	SY	SY	TON	
									Totals									
										18.0	2138.0			54			1823.810	Surfacing, Driveway, Crushed Stone
										24.0	74.0			2		3038.7		6" PCC Driveway
										36.0	102.0			4		516.7		8" PCC Driveway
																1196.3		10" PCC Driveway
																		Special Backfill Total = 1026.9 Ton

SIDEWALKS

See MI-220 and S Sheets

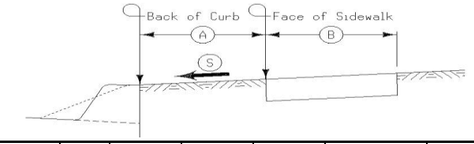


Road Id	Station to Station		Side	A	B	S	4" PCC Sidewalk	6" PCC Sidewalk	Other	Detectable Warnings	Remarks
				FT	FT	%	SY	SY	SY	SF	
IA 92	391+36.28	391+47.85	Lt	Varies	10.00	2.00%		12.9		26	
	391+47.85	392+48.17		Varies	10.00	2.00%			111.5		5" Rec Trail
	392+48.17	397+98.46		12.00	10.00	2.00%			611.4		5" Rec Trail
	397+98.46	398+35.48		12.00	10.00			41.1			Driveway
	398+35.48	406+88.00		12.00	10.00	2.00%			947.2		5" Rec Trail
	406+88.00	407+12.00		12.00	10.00			26.7			Driveway
	407+12.00	415+53.57		12.00	10.00	2.00%			935.1		5" Rec Trail
	415+53.57	416+54.85		Varies	10.00	2.00%			112.5		5" Rec Trail
	416+54.85	416+80.98		Varies	10.00	2.00%		29.0		48	
	417+78.05	417+95.59		Varies	10.00	2.00%		19.5		34	
	417+95.59	418+71.33		Varies	10.00	2.00%			84.2		5" Rec Trail
	418+71.33	419+38.13		12.00	10.00	2.00%			74.2		5" Rec Trail
	419+38.13	420+08.13		12.00	10.00				77.8		10" Sidewalk (1)
	420+08.13	422+69.01		12.00	10.00	2.00%			289.9		5" Rec Trail
	422+69.01	423+39.01		12.00	10.00				77.8		10" Sidewalk (1)
	423+39.01	425+87.40		12.00	10.00	2.00%			276.0		5" Rec Trail
	425+87.40	426+11.40		12.00	10.00			26.7			Driveway
	426+11.40	427+41.90		12.00	10.00	2.00%			145.0		5" Rec Trail
	427+41.90	427+65.90		12.00	10.00			26.7			Driveway
	427+65.90	429+38.16		12.00	10.00	2.00%			191.4		5" Rec Trail
	429+38.16	429+70.16		12.00	10.00			35.6			Driveway
	429+70.16	431+83.91		12.00	10.00	2.00%			237.5		5" Rec Trail
	431+83.91	432+08.91		12.00	10.00			27.8			Driveway
	432+08.91	433+32.81		12.00	10.00	2.00%			137.7		5" Rec Trail
	433+32.81	433+59.31		12.00	10.00			29.4			Driveway
	433+59.31	437+96.06		12.00	10.00	2.00%			485.3		5" Rec Trail
	437+96.06	438+20.47		12.00	10.00			27.1			Driveway
	438+20.47	441+07.59		12.00	10.00	2.00%			319.0		5" Rec Trail
	441+07.59	441+21.92		Varies	10.00	2.00%		15.9		20	
	441+45.71	441+56.71		Varies	5.00	2.00%		6.1		10	
	441+56.71	441+64.44		14.50	5.00	2.00%	4.3				
	441+64.44	442+53.92		Varies	5.00	2.00%	49.7				
	442+53.92	446+39.01		6.00	5.00	2.00%	213.9				
	446+39.01	446+74.01		6.00	5.00			19.4			
	446+74.01	448+01.91		6.00	5.00	2.00%	71.1				
	448+01.91	448+32.10		6.00	5.00			16.8			
	448+32.10	449+22.88		6.00	5.00	2.00%	50.4				
	449+22.88	449+61.13		6.00	5.00			21.3			
	449+61.13	451+46.61		6.00	5.00	2.00%	103.0				
	451+46.61	451+58.50		Varies	5.00	2.00%	6.6				
	451+58.50	451+67.49		Varies	5.00	2.00%		5.0		10	
	452+18.04	452+25.56		Varies	5.00	2.00%		4.2			
	452+25.56	452+38.91		Varies	5.00	2.00%	7.4				
	452+38.91	455+21.28		6.00	5.00	2.00%	156.9				
	455+21.28	455+38.76		Varies	5.00	2.00%	9.7				
	455+38.76	455+45.43		Varies	5.00	2.00%		3.7		16	
	455+87.10	455+98.09		Varies	5.00	2.00%		6.1			
	455+98.09	456+11.24		Varies	5.00	2.00%	7.3				
	456+11.24	458+64.96		6.00	5.00	2.00%	141.0				
	458+64.96	458+89.04		6.00	5.00			13.4			
	458+89.04	460+03.93		6.00	5.00	2.00%	63.8				
	460+03.93	460+27.99		6.00	5.00			13.4			
	460+27.99	461+22.29		6.00	5.00	2.00%	52.4				
	461+22.29	461+46.29		6.00	5.00			13.3			
	461+46.29	464+98.64		6.00	5.00	2.00%	195.7				
	464+98.64	465+03.64		6.00	5.00	2.00%	2.8				
	391+40.71	391+56.60	Rt	Varies	10.00	2.00%		17.7			
	391+56.60	391+80.78		Varies	10.00	2.00%	26.9				
R-63S	3390+62.10	3390+75.53	Rt	Varies	10.00	2.00%		14.9		20	
R-63N	3391+45.10	3391+65.87	Rt	Varies	10.00	2.00%		23.1		20	
Y St.	4414+15.00	4416+01.51	Rt	12.00	4.00	2.00%	82.9				
	4416+01.51	4416+63.61		Varies	4.00	2.00%	27.6				
	4416+99.20	4417+04.26		Varies	5.00	2.00%	2.8				
	4417+04.26	4417+12.60		Varies	5.00	2.00%		4.6		10	
Y St.											
Ret. 4	+64.49	1+15.76	Rt	6.00	4.00	2.00%	22.8				
Ret. 4	1+15.76	1+24.20		Varies	4.00	2.00%	3.8				

113-1
04-16-13

SIDEWALKS

See MI-220 and S Sheets



Road Id	Station to Station		Side	A	B	S	4" PCC Sidewalk	6" PCC Sidewalk	Other	Detectable Warnings	Remarks
				FT	FT	%	SY	SY	SY	SF	
Y St.	4417+68.19	4417+74.97	Rt	Varies	5.00	2.00%		3.8		10	
Spruce St.							3.8				
S Kenwood Blvd			Lt				8.4				
			Rt				4.5				
South P St.											
Ret. 1							13.6				
Ret. 2							15.6				
Ret. 3							12.8				
								3.9		10	
Ret. 4							11.9				
								4.8		20	
IA 92 Crossing								3.3		10	
Totals							1373.3	517.1		264	
									4957.8		5" Rec Trail
									155.6		10" Sidewalk (1)

(1) Matches 10" Driveway Pavement. Requires 12" Special Backfill that is tabulated with driveway pavement (Tab 102-3)

PAVEMENT MARKING LINE TYPES

See PM-110

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

BCY4: Broken Centerline (Yellow) @ 0.25 DCY4: Double Centerline (Yellow) @ 2.00 NPY4: No Passing Zone Line (Yellow) @ 1.25 BLW4: Broken Lane Line (White) @ 0.25 ELW4: Edge Line Right (White) @ 1.00
ELY4: Edge Line Left (Yellow) @ 1.00

Location								Length by Line Type (Unfactored)															Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4										
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
STAGE 2B																							
R-57 Detour	11277+89.54	11279+38.20	SB	Wet Retroreflective Removable Tape			X					1.49											Right Edge Line
R-57 Detour	11279+38.20	11288+91.65	SB	Waterborne/Solvent Paint			X					9.53											Right Edge Line
R-57 Detour	11288+91.65	11290+40.39	SB	Wet Retroreflective Removable Tape			X					1.49											Right Edge Line
R-57 Detour	11277+89.54	11278+95.60	NB	Wet Retroreflective Removable Tape	X				1.06														Centerline (Solid)
R-57 Detour	11278+95.60	11289+34.28	NB	Waterborne/Solvent Paint	X				10.39														Centerline (Solid)
R-57 Detour	11289+34.28	11290+40.39	NB	Wet Retroreflective Removable Tape	X				1.06														Centerline (Solid)
R-57 Detour	11277+89.54	11290+40.39	NB	Waterborne/Solvent Paint			X					12.51											Right Edge Line
R-57 (So.)	1277+35.33	1279+85.00	NB	Removal of Paint	X			2.50		2.50													Existing Centerline Removal
R-57 (No.)	1387+25.00	1389+67.34	NB	Removal of Paint	X			2.42		2.42													Existing Centerline Removal
R-63 Detour	18386+48.19	18387+71.41	SB	Wet Retroreflective Removable Tape			X					1.23											Right Edge Line
R-63 Detour	18387+71.41	18396+47.81	SB	Waterborne/Solvent Paint			X					8.76											Right Edge Line
R-63 Detour	18396+47.81	18397+71.90	SB	Wet Retroreflective Removable Tape			X					1.24											Right Edge Line
R-63 Detour	18386+48.19	18387+39.83	NB	Wet Retroreflective Removable Tape	X				0.92														Centerline (Solid)
R-63 Detour	18387+39.83	18392+05.00	NB	Waterborne/Solvent Paint	X				4.65														Centerline (Solid)
R-63 Detour	18393+20.00	18396+78.99	NB	Waterborne/Solvent Paint	X				3.59														Centerline (Solid)
R-63 Detour	18396+78.99	18397+71.90	NB	Wet Retroreflective Removable Tape	X				0.93														Centerline (Solid)
R-63 Detour	18386+48.19	18392+53.30	NB	Waterborne/Solvent Paint			X					6.92											Right Edge Line
R-63 Detour	18392+77.34	18397+71.90	NB	Waterborne/Solvent Paint			X					5.26											Right Edge Line
R-63 (So.)	3385+50.00	3387+30.00	NB	Removal of Paint	X			1.80		1.80													Existing Centerline Removal
R-63 (No.)	3394+45.00	3396+25.00	NB	Removal of Paint	X			1.80		1.80													Existing Centerline Removal
Ia 92	439+07.78	441+22.23	WB	Removal of Paint	X				2.14														Existing Centerline Removal
Ia 92	441+46.19	445+00.00	WB	Removal of Paint	X				3.54														Existing Centerline Removal
Ia 92	439+07.78	441+22.23	WB	Removal of Paint			X					2.14											Existing Right Edge Line Removal
Ia 92	441+46.19	445+00.00	WB	Removal of Paint			X					3.54											Existing Right Edge Line Removal
Ia 92	439+07.78	441+22.23	WB	Waterborne/Solvent Paint			X					2.26											Right Edge Line
Ia 92	441+46.19	445+00.00	WB	Waterborne/Solvent Paint			X					3.66											Right Edge Line
Ia 92	439+07.78	441+10.85	EB	Waterborne/Solvent Paint	X				2.09														Centerline (Solid)
Ia 92	441+57.60	445+00.00	EB	Waterborne/Solvent Paint	X				3.45														Centerline (Solid)
Ia 92	439+07.78	443+38.00	EB	Waterborne/Solvent Paint			X					4.40											Right Edge Line
STAGE 2C																							
R-57 Detour	11277+89.54	11279+38.20	SB	Removal of Removable Tape			X					1.49											Right Edge Line Tape Removal
R-57 Detour	11277+89.54	11278+95.60	NB	Removal of Removable Tape	X				1.06														Centerline Tape Removal
R-57 Detour	11283+90.53	11284+99.76	NB	Removal of Paint	X							1.09											Edge Line Removal on new pavement
R-57 Detour	11283+98.10	11284+92.87	NB	Removal of Paint		X			0.95														Centerline Removal on new pavement
R-57 Detour	11284+03.66	11284+88.26	NB	Removal of Paint			X					0.85											Edge Line Removal on new pavement
R-57 Detour	11288+91.65	11290+40.39	SB	Removal of Removable Tape			X					1.49											Edge Line Removal on new pavement
R-57 Detour	11289+34.28	11290+40.39	NB	Removal of Removable Tape	X				1.06														Centerline Tape Removal
Ia 92	256+50.00	271+47.79	EB	Waterborne/Solvent Paint		X		14.98															Centerline (Dashed)
Ia 92	256+50.00	258+12.30	EB	Waterborne/Solvent Paint			X					1.62											Right Edge Line
Ia 92	256+50.00	258+45.63	WB	Waterborne/Solvent Paint			X					1.96											Right Edge Line
Ia 92	259+37.19	282+74.15	EB	Waterborne/Solvent Paint			X					23.37											Right Edge Line
Ia 92	259+30.97	282+80.60	WB	Waterborne/Solvent Paint			X					23.50											Right Edge Line
Ia 92	265+45.59	271+47.79	EB	Waterborne/Solvent Paint		X				6.02													Centerline (Solid)
Ia 92	271+47.79	282+94.00	BOTH	Waterborne/Solvent Paint		X								27.40									Channelizing (Includes Diagonals)
Ia 92	279+48.41	281+19.00	EB	Waterborne/Solvent Paint		X												1.71					Bike Lane, Left Edge Line (Dotted)
Ia 92	280+19.00	281+19.00	EB	Waterborne/Solvent Paint			X											1.00					Bike Lane, Right Edge Line (Dotted)
Ia 92	281+19.00	282+94.00	EB	Waterborne/Solvent Paint			X								1.75								Bike Lane, Left Edge Line (Solid)
Ia 92	281+19.00	282+94.00	EB	Waterborne/Solvent Paint			X								1.75								Bike Lane, Right Edge Line (Solid)
Ia 92	281+44.00	282+94.00	EB	Waterborne/Solvent Paint			X								1.50								Left Turn Lane, Right Edge Line
R-57 (So.)	1283+50.11		NB	Waterborne/Solvent Paint		X										0.86							Stop Line
R-57 (So.)	1283+35.76	1283+49.97	NB	Waterborne/Solvent Paint		X											0.50						Curb of Stop Island
R-57 (So.)	1280+60.00	1283+36.28	BOTH	Waterborne/Solvent Paint			X					6.34											Right Edge Lines (Includes Returns)
R-57 (So.)	1280+60.00	1283+50.11	SB	Waterborne/Solvent Paint			X	2.90															Centerline (Dashed)
R-57 (So.)	1280+60.00	1283+50.11	NB	Waterborne/Solvent Paint			X			2.90													Centerline (Solid)
R-57 (No.)	1384+10.19		NB	Waterborne/Solvent Paint		X										0.86							Stop Line
R-57 (No.)	1384+10.19	1384+19.41	NB	Waterborne/Solvent Paint		X											0.50						Curb of Stop Island
R-57 (No.)	1384+08.94	1386+06.00	BOTH	Waterborne/Solvent Paint			X					4.93											Right Edge Line (Includes Returns)
R-57 (No.)	1384+10.19	1386+06.00	SB	Waterborne/Solvent Paint			X	1.96															Centerline (Dashed)
R-57 (No.)	1384+10.19	1386+06.00	NB	Waterborne/Solvent Paint			X			1.96													Centerline (Solid)
STAGE 2D																							
Ia 92	284+48.00	301+54.00	BOTH	Waterborne/Solvent Paint		X								43.06									Channelizing (Includes Diagonals)
Ia 92	284+48.00	289+38.00	EB	Waterborne/Solvent Paint			X								4.90								Bike Lane, Right Edge Line (Solid)
Ia 92	284+48.00	289+38.00	EB	Waterborne/Solvent Paint			X								4.90								Bike Lane, Left Edge Line (Solid)
Ia 92	289+38.00	291+03.48	EB	Waterborne/Solvent Paint			X											1.65					Bike Lane, Right Edge Line (Dotted)
Ia 92	289+38.00	292+08.00	EB	Waterborne/Solvent Paint			X											2.70					Bike Lane, Left Edge Line (Dotted)
Ia 92	284+48.00	285+98.00	EB	Waterborne/Solvent Paint		X									1.50								Left Turn Lane, Right Edge Line

PAVEMENT MARKING LINE TYPES

See PM-110

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

BCY4: Broken Centerline (Yellow) @ 0.25 DCY4: Double Centerline (Yellow) @ 2.00 NPY4: No Passing Zone Line (Yellow) @ 1.25 BLW4: Broken Lane Line (White) @ 0.25 ELW4: Edge Line Right (White) @ 1.00
ELY4: Edge Line Left (Yellow) @ 1.00

Location								Length by Line Type (Unfactored)															Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4										
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
Ia 92	284+80.48	309+66.63	EB	Waterborne/Solvent Paint			X					24.86											Right Edge Line
Ia 92	284+96.44	309+65.39	WB	Waterborne/Solvent Paint			X					24.69											Right Edge Line
Ia 92	310+92.58	390+05.86	EB	Waterborne/Solvent Paint			X					79.13											Right Edge Line
Ia 92	310+89.64	389+14.00	WB	Waterborne/Solvent Paint			X					78.24											Right Edge Line
Ia 92	301+54.21	372+78.79	EB	Waterborne/Solvent Paint	X			71.25															Centerline (Dashed)
Ia 92	372+78.79	378+78.79	WB	Waterborne/Solvent Paint	X			6.00															Centerline (Dashed)
Ia 92	301+54.21	307+54.21	WB	Waterborne/Solvent Paint	X			6.00															Centerline (Solid)
Ia 92	372+78.79	378+78.79	EB	Waterborne/Solvent Paint	X			6.00															Centerline (Solid)
Ia 92	378+78.79	387+55.00	EB	Waterborne/Solvent Paint	X									8.76									Channelizing (Right Side Only)
Ia 92	378+78.79	390+25.00	WB	Waterborne/Solvent Paint	X									11.46									Channelizing (Left Side Only)
Ia 92	388+50.00	390+25.00	EB	Waterborne/Solvent Paint			X								1.75								Bike Lane, Right Edge Line (Solid)
Ia 92	388+75.00	390+25.00	EB	Waterborne/Solvent Paint	X										1.50								Left Turn Lane, Right Edge Line
Ia 92	388+50.00	390+25.00	EB	Waterborne/Solvent Paint		X									1.75								Bike Lane, Left Edge Line (Solid)
Ia 92	386+70.00	388+50.00	EB	Waterborne/Solvent Paint		X											1.80						Bike Lane, Left Edge Line (Dotted)
Ia 92	387+50.00	388+50.00	EB	Waterborne/Solvent Paint			X										1.00						Bike Lane, Right Edge Line (Dotted)
R-63 Detour	18386+48.19	18387+71.41	SB	Removal of Removable Tape			X					1.23											Right Edge Line Tape Removal
R-63 Detour	18396+47.81	18397+71.90	SB	Removal of Removable Tape			X					1.24											Right Edge Line Tape Removal
R-63 Detour	18386+48.19	18387+39.83	NB	Removal of Removable Tape	X				0.92														Centerline Tape Removal
R-63 Detour	18396+78.99	18397+71.90	NB	Removal of Removable Tape	X				0.93														Centerline Tape Removal
R-63 (So.)	3390+74.87		NB	Waterborne/Solvent Paint			X									0.55							Stop Line
R-63 (So.)	3388+60.00	3390+76.00	BOTH	Waterborne/Solvent Paint			X					4.99											Right Edge Lines (Includes Returns)
R-63 (So.)	3388+60.00	3390+74.87	SB	Waterborne/Solvent Paint	X			2.15															Centerline (Dashed)
R-63 (So.)	3388+60.00	3390+74.87	NB	Waterborne/Solvent Paint	X					2.15													Centerline (Solid)
R-63 (No.)	3391+47.22		SB	Waterborne/Solvent Paint			X									0.58							Stop Line
R-63 (No.)	3391+50.00	3393+05.00	BOTH	Waterborne/Solvent Paint			X					5.17											Right Edge Lines (Includes Returns)
R-63 (No.)	3391+47.22	3393+05.00	NB	Waterborne/Solvent Paint	X			1.58															Centerline (Dashed)
R-63 (No.)	3391+47.22	3393+05.00	SB	Waterborne/Solvent Paint	X					1.58													Centerline (Solid)
STAGE 3A																							
Ia 92	443+20.00	445+00.00	WB	Wet Retroreflective Removable Tape			X					1.80											Temporary Removable Tape
Ia 92	443+20.00	445+00.00	WB	Wet Retroreflective Removable Tape	X				1.80														Temporary Removable Tape
Y St. (So.)	4417+13.00		NB	Waterborne/Solvent Paint			X									0.52							Stop Line
STAGE 3D																							
Ia 92	378+78.79	390+25.00	EB	Waterborne/Solvent Paint	X									6.78									Channelizing (Includes Diagonals)
Ia 92	391+79.93	393+29.93	EB	Waterborne/Solvent Paint	X				1.50														Centerline (Double Solid)
Ia 92	391+79.93	396+69.88	WB	Waterborne/Solvent Paint			X								4.90								Right Turn Lane, Left Edge Line
Ia 92	391+79.93	393+29.93	WB	Waterborne/Solvent Paint	X										1.50								Left Turn Lane, Right Edge Line
Ia 92	393+29.93	415+87.18	WB	Waterborne/Solvent Paint	X			22.57		22.57													Head to Head Left Turn Lane
Ia 92	393+29.93	416+49.07	EB	Waterborne/Solvent Paint	X			23.19		23.19													Head to Head Left Turn Lane
Y St. (No.)	4417+80.00		SB	Waterborne/Solvent Paint			X									0.52							Stop Line
STAGE 4A																							
Ia 92	415+87.18	416+49.07	WB	Waterborne/Solvent Paint	X			0.62		0.62													Head to Head Left Turn Lane
Ia 92	418+14.39	441+09.72	BOTH	Waterborne/Solvent Paint	X			45.90		45.90													Head to Head Left Turn Lane
Ia 92	441+57.53	443+18.01	BOTH	Waterborne/Solvent Paint	X			1.60		1.60													Head to Head Left Turn Lane
STAGE 4B																							
Ia 92	443+18.01	443+59.12	EB	Waterborne/Solvent Paint	X			0.41		0.41													Place after Stage 4B completion
Ia 92	444+04.83	451+71.73	EB	Waterborne/Solvent Paint	X			7.67		7.67													Place after Stage 4B completion
Ia 92	452+08.26	454+19.75	EB	Waterborne/Solvent Paint	X			2.11		2.11													Place after Stage 4B completion
Ia 92	454+58.22	455+56.13	EB	Waterborne/Solvent Paint	X			0.98		0.98													Place after Stage 4B completion
Ia 92	455+77.28	462+10.82	EB	Waterborne/Solvent Paint	X			6.34		6.34													Place after Stage 4B completion
Ia 92	462+37.86	465+01.01	EB	Waterborne/Solvent Paint	X			2.63		2.63													Place after Stage 4B completion
STAGE 4C																							
Ia 92	443+18.01	443+59.12	WB	Waterborne/Solvent Paint	X			0.41		0.41													Place after Stage 4C completion
Ia 92	444+04.83	451+71.73	WB	Waterborne/Solvent Paint	X			7.67		7.67													Place after Stage 4C completion
Ia 92	452+08.26	454+19.75	WB	Waterborne/Solvent Paint	X			2.11		2.11													Place after Stage 4C completion
Ia 92	454+58.22	455+56.13	WB	Waterborne/Solvent Paint	X			0.98		0.98													Place after Stage 4C completion
Ia 92	455+77.28	462+10.82	WB	Waterborne/Solvent Paint	X			6.34		6.34													Place after Stage 4C completion
Ia 92	462+37.86	465+01.01	WB	Waterborne/Solvent Paint	X			2.63		2.63													Place after Stage 4C completion

PAVEMENT MARKING LINE TYPES

See PM-110

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

BCY4: Broken Centerline (Yellow) @ 0.25
DCY4: Double Centerline (Yellow) @ 2.00
NPY4: No Passing Zone Line (Yellow) @ 1.25
BLW4: Broken Lane Line (White) @ 0.25
ELW4: Edge Line Right (White) @ 1.00
ELY4: Edge Line Left (Yellow) @ 1.00

Location							Length by Line Type (Unfactored)															Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4									
					L	C	R	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	STA	
				Factored Total: Waterborne/Solvent Paint				61.75	51.34	185.96	-	332.10	-	-	-	-	-	-	-	-	-	-	
				Factored Total: Wet Retroreflective Removable Tape				-	11.54	-	-	7.25	-	-	-	-	-	-	-	-	-	-	
				Factored Total: Removal of Paint				2.13	13.26	10.65	-	7.62	-	-	-	-	-	-	-	-	-	-	
				Factored Total: Removal of Removable Tape				-	7.94	-	-	5.45	-	-	-	-	-	-	-	-	-	-	
				Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based							631.15												
				Bid Quantity: Wet Retroreflective Removable Tape Markings							18.79												
				Bid Quantity: Pavement Markings Removed							33.66												
				Incidental Removal of Removable Tape							13.39												

PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Road Identification	Location Station	Location Side	STAW	RTAW	LTAW	CSRW	CSLW	CSTW	CRLW	FERW	LLRW	RLRW	RRCW	BLSW	WCSW	WPSB	SCLW	XNGW	STPW	AHDW	ONLW	BIKW	LANW	XITW	Groove Cuts EACH	Remarks
STAGE 2C																										
Ia 92 at R-57	283+68.17				2																1					WB Left Turn Lane (PM-522)
Ia 92 at R-57	283+68.17		1																							WB Center Lane (PM-522)
Ia 92 at R-57	283+68.17													2												WB Bike Lane
Ia 92 at R-57	283+68.17			2																						WB Right Turn Lane (PM-522)
STAGE 2D																										
Ia 92 at R-57	283+73.24				2																1					EB Left Turn Lane (PM-522)
Ia 92 at R-57	283+73.24		1																							EB Center Lane (PM-522)
Ia 92 at R-57	283+73.24													2												EB Bike Lane
Ia 92 at R-57	283+73.24			2																						EB Right Turn Lane (PM-522)
STAGE 3D																										
Ia 92 at R-63	391+03.42				2																1					EB Left Turn Lane (PM-522)
Ia 92 at R-63	391+03.42		1																							EB Center Lane (PM-522)
Ia 92 at R-63	391+03.42													2												EB Bike Lane
Ia 92 at R-63	391+03.42			2																						EB Right Turn Lane (PM-522)
Ia 92 at R-63	391+03.95				2																1					WB Left Turn Lane (PM-522)
Ia 92 at R-63	391+03.95		1																							WB Center Lane (PM-522)
Ia 92 at R-63	391+03.95			2																						WB Right Turn Lane (PM-522)
Ia 92	393+70.00			1	1																					Center Lane (PM-550)
Ia 92	398+20.00			1	1																					Center Lane (PM-550)
Ia 92	402+70.00			1	1																					Center Lane (PM-550)
Ia 92	407+20.00			1	1																					Center Lane (PM-550)
Ia 92	411+70.00			1	1																					Center Lane (PM-550)
STAGE 4A																										
Ia 92	416+20.00			1	1																					Center Lane (PM-550)
Ia 92	418+50.00			1	1																					Center Lane (PM-550)
Ia 92	423+00.00			1	1																					Center Lane (PM-550)
Ia 92	427+50.00			1	1																					Center Lane (PM-550)
Ia 92	432+00.00			1	1																					Center Lane (PM-550)
Ia 92	436+50.00			1	1																					Center Lane (PM-550)
STAGE 4C																										
Ia 92	440+80.00			1	1																					Center Lane (PM-550)
Ia 92	441+80.00			1	1																					Center Lane (PM-550)
Ia 92	443+00.00			1	1																					Center Lane (PM-550)
Ia 92	444+40.00			1	1																					Center Lane (PM-550)
Ia 92	448+90.00			1	1																					Center Lane (PM-550)
Ia 92	451+30.00			1	1																					Center Lane (PM-550)
Ia 92	452+50.00			1	1																					Center Lane (PM-550)
Ia 92	453+90.00			1	1																					Center Lane (PM-550)
Ia 92	455+00.00			1	1																					Center Lane (PM-550)
Ia 92	456+20.00			1	1																					Center Lane (PM-550)
Ia 92	460+50.00			1	1																					Center Lane (PM-550)
Ia 92	461+80.00			1	1																					Center Lane (PM-550)
Ia 92	462+70.00			1	1																					Center Lane (PM-550)
	Totals		4	32	32	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	4	0	0	0	0	
	Bid Total		78																							

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.
* Not a bid item
(1) UNCL = Unclassified Pipe CMP = Corrugated Metal Pipe RCP = Reinforced Concrete Pipe LCP = Arch or Elliptical Low Clearance Pipe SARC = Steel Arch Pipe

Drainage Area	Location	Type	Size	Kind Of Pipe (1)	Length New Const.	Bedding Class	Design Cover (H)	Camber* (RF-30B)	Apron No.		Apron Guard* (RF-26)	Elbow* (RF-13)	Diaphragm* (RF-7)	Tee Section* (RF-21)	"D" Section* (RF-13)	Reducer*	Adaptors* (RF-2)		Connected Pipe Joint* (RF-14)	4" Perforated Subdrain*	Flow Line Elevations				Dimensions Lin. Ft. Total		Dimensions Lin. Ft. Extensions		Skew Ahead Degrees		Dike				Class 20	Flowable Mortar	Floodable* Backfill	Porous* Backfill	Flooded Backfill	Remarks
																															Rt. / Lt.	Location Station	Top Elevation	Type			(A)	(B)	(A+B)	
ACRE			IN		LF		FT	FT	IN	OUT	No.	No.	No.	No.	No.	No.	Type	No.	Type	FT	Lt.	Rt.	Other	Other	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.					CY	CY	CY	CY	CY	
2.0	258+00.00	1501	24	RCP	72	B	3.3		1													946.26				46.1									312.7	10.6	275.1	10.0	285.1	
			24	CMP	64	B				1											932.10		932.44	944.99	99.7															
1.0	1258+24.00	1101	24	RCP	58	B	2.0		1	1											947.27	948.68			38.9	31.3				12					109.7		86.1	5.8	91.9	Kennedy St
	1259+79.31	1101	18	RCP	128	B	9.9		1	1											932.10	941.40			87.3	52.7				28					617.6		599.7	8.7	608.4	Access 258
4.4	277+75.00	1101	24	RCP	166	B	10.1		1	1											956.16	965.80			111.6	66.4									290.1		205.9	13.5	219.4	
	283+94.88	1101	24	RCP					1													949.88		(2)																500' Lt, R-57
21.0	292+75.00	1101	36	RCP	118	B	4.0		1	1											961.55	957.85			66.7	67.3									159.4	23.8	164.0	12.4	176.5	
16.0	307+75.00	1101	30	RCP	146	B	8.8		1	1											968.21	964.34			73.1	85.2				20					174.6		188.7	13.0	201.7	
3.0	2310+85.00	1101	24	RCP	54	B	1.8		1	1											970.16	970.96			32.3	33.9			6						73.5		76.0	6.0	82.0	90th Ave.
6.0	315+86.80	1101	24	RCP	136	B	7.3		1	1											970.77	965.60			64.4	83.8				19					170.1		163.8	11.3	175.1	
8.4	329+85.00	1101	24	RCP	136	B	8.4		1	1											953.31	944.65			58.2	87.8									166.0		155.4	11.0	166.4	
17.0	332+95.00	1101	30	RCP	158	B	10.1		1	1											950.07	940.00			68.3	101.7			11						167.0		185.1	13.8	198.9	
4.0	342+14.00	1101	24	RCP	136	B	7.6		1	1											969.19	963.86			61.7	86.4			9						666.7		156.6	11.2	167.7	
5.0	358+05.00	1101	24	RCP	104	B	4.9		1	1											966.75	964.88			54.9	61.4									161.8		99.9	8.8	108.7	
9.0	379+74.00	1101	24	RCP	120	B	6.2		1	1											967.25	962.58			58.3	73.8			6						128.3		150.7	9.9	160.7	
7.0	391+07.00	1101	24	RCP	196	B	4.1		1	1											966.73	963.79			110.9	97.4				37					375.9		412.1	10.5	422.6	
3.0	3392+20.00	1101	24	RCP	76	B	2.0		1	1											966.80	967.40			40.1	48.2									67.1		23.0	7.2	30.2	Co.Rd.R-63
	R-57 Detour																																							
	11281+25.00	1601	18	UNCL	50	C	2.5														960.49	956.79			22.0	28.0									67.5					(3)
	11287+15.00	1601	18	UNCL	60	C	3.5														961.44	958.00			22.0	38.0									100.4					(3)
	11289+55.00	1301	24	UNCL	18	C																949.88		(2)				18.0												(3)
	R-63 Detour																																							
	18389+00.00	1601	24	UNCL	80	C	5.9														957.59	955.19			36.0	44.0									225.8					(3)
	Y St. SW Dtr																																							
	14413+60.00	1601	30	UNCL	44	C	1.4														960.00	959.00			21.0	23.0									52.8					(3)
	Y St. NW Dtr																																							
	14417+75.00	1601	18	UNCL	38	C	1.0														962.78	963.00			20.0	18.0									35.3					(3)
	14423+55.00	1601	18	UNCL	64	C	2.0														963.84	963.66			26.0	38.0			48						84.7					(3)
(1) A=72', B=46', C=2', E=18', L=3.5'																																								
(2) Remove existing apron and extend																																								
(3) Remove with Detour																																								
	Totals																																							
			18	RCP	128				2																										4206.9	34.4			3095.2	
			24	RCP	1254				22																															
			30	RCP	304				4																															
			36	RCP	118				2																															
			24	CMP	64				1																															
			18	UNCL	212																																			
			24	UNCL	98																																			
			30	UNCL	44																																			

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

Printed or Typed Name
My license renewal date is December 31, 20 ___

Pages or sheets covered by this seal: _____

104-5C
04-17-12

LIST OF SUBDRAIN WORK

Refer to Standard Road Plans RF-3, RF-5, RF-14, RF-19A, RF-19B, RF-19C, RF-19E and RF-19F

* Not a bid item

Location				Pipe			Aprons		Outlets							
No.	Station to Station		Type of Installation	Concrete C.M.P., C.M.P. Coated, or Plastic	Dia.	Length	RF-3	RF-5	RF-19E	RF-19F	Connected Pipe Joints (RF-14)*	Trench Drain	Granular Material Blanket	Porous Backfill*	Class "A" Crushed Stone*	Remarks
1	307+40.42	307+99.32	Working Blanket										31.0			1.0 ft. Granular Working Blanket in drainageway
2	329+71.02	329+89.57	Working Blanket										28.0			1.0 ft. Granular Working Blanket in drainageway
3	332+71.85	332+94.04	Working Blanket										24.0			1.0 ft. Granular Working Blanket in drainageway
4	341+29.65	342+54.51	Working Blanket										93.0			1.0 ft. Granular Working Blanket in drainageway
5	379+47.27	380+14.69	Working Blanket										44.0			1.0 ft. Granular Working Blanket in drainageway
6	394+86.07	395+46.91	Working Blanket										40.0			1.0 ft. Granular Working Blanket in drainageway
7	436+38.29	436+57.06	Working Blanket										30.0			1.0 ft. Granular Working Blanket in drainageway
													290.0			Total

103-6
04-19-11

EMBANKMENT WITH MOISTURE CONTROL

Moisture content shall be within the limits of minus 2 and plus 2 percentage points of Optimum Moisture Content for maximum density within the area described and listed below.

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

Proposed Subgrade Treatment will consist of:
STA 256+50.00 to STA 390+00.00: 6" layer of Special Backfill over Geogrid, under Pavement Design's Granular Subbase drainage layer

STA 390+00.00 to STA 443+18.01: 12" Modified Subbase

STA 443+18.01 to STA 464+92.00: 6" Modified Subbase

Paved Sideroads: Special Backfill

107-31
04-19-11

PLOWING AND SHAPING

Refer to Standard Road Plan EW-101

Station to Station		D FT	Remarks
264+50	281+50	5.0	
297+50	303+00	5.0	
305+00	309+50	5.0	
315+00	323+00	5.0	
331+00	339+00	5.0	
371+50	384+75	5.0	
3390+25	3390+75	5.0	SR 63S

103-7
08-01-08

SHRINKAGE DATA

Material	%	Remarks
Topsoil	40%	
Class 10	30%	
Unsuitable	30%	
Boulder Estimate		200 CY

104-9
10-15-13

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

(1) Refer to EW-203, EW-204, or EW-211.
*Not a bid item

Location						Longitudinal Subdrain (RF-19C)							Subdrain Outlet					
Line No.	Road or Lane Ident.	Station to Station		Side	Depth (D) IN	Shoulder Size IN	Shoulder Length FT	Backslope Size IN	Backslope Length FT	Bridge Berm (1) Size IN	Bridge Berm (1) Type	Bridge Berm (1) Length FT	RF-19C, RF-19E, or RF-19F Station	Size IN	Standard Road Plan and Type	Porous* Backfill CY	Class "A"* Crushed Stone CY	Remarks
1	IA 92	256+50.00	260+00.00	RT	42.0	4.0	390.0						256+50.00	6.0	RF-19E	36.1		
													260+00.00	6.0	RF-19E		0.2	
2	IA 92	260+00.00	265+00.00	RT	42.0	4.0	540.0						260+00.00	6.0	RF-19E	50.0		
													265+00.00	6.0	RF-19E		0.2	
3	IA 92	265+00.00	270+00.00	RT	42.0	4.0	540.0						265+00.00	6.0	RF-19E	50.0		
													270+00.00	6.0	RF-19E		0.2	
4	IA 92	270+00.00	275+00.00	RT	42.0	4.0	540.0						270+00.00	6.0	RF-19E	50.0		
													275+00.00	6.0	RF-19E		0.2	
5	IA 92	275+00.00	279+39.00	RT	42.0	4.0	479.0						275+00.00	6.0	RF-19E	44.4		
													279+39.00	6.0	RF-19E		0.2	
6	IA 92	279+39.00	283+30.00	RT	42.0	4.0	451.0						279+39.00	6.0	RF-19E	41.8		
													283+30.00	6.0	RF-19E		0.2	OUTLET ALONG TURN RADIUS
7	IA 92	284+15.00	285+45.00	RT	42.0	4.0	190.0						284+15.00	6.0	RF-19E	17.6		OUTLET ALONG TURN RADIUS
													285+45.00	6.0	RF-19E		0.2	
8	IA 92	285+45.00	289+00.00	RT	42.0	4.0	395.0						285+45.00	6.0	RF-19E	36.6		
													289+00.00	6.0	RF-19E		0.2	
9	IA 92	289+00.00	292+00.00	RT	42.0	4.0	340.0						289+00.00	6.0	RF-19E	31.5		
													292+00.00	6.0	RF-19E		0.2	
10	IA 92	292+00.00	295+00.00	RT	42.0	4.0	340.0						292+00.00	6.0	RF-19E	31.5		
													295+00.00	6.0	RF-19E		0.2	
11	IA 92	295+00.00	300+00.00	RT	42.0	4.0	540.0						295+00.00	6.0	RF-19E	50.0		
													300+00.00	6.0	RF-19E		0.2	
12	IA 92	300+00.00	305+00.00	RT	42.0	4.0	540.0						300+00.00	6.0	RF-19E	50.0		
													305+00.00	6.0	RF-19E		0.2	
13	IA 92	305+00.00	311+25.00	RT	42.0	4.0	665.0						305+00.00	6.0	RF-19E	61.6		
													311+25.00	6.0	RF-19E		0.2	
14	IA 92	311+25.00	315+00.00	RT	42.0	4.0	415.0						311+25.00	6.0	RF-19E	38.4		
													315+00.00	6.0	RF-19E		0.2	

GEOTECHNICAL DESIGN

LICENSED PROFESSIONAL ENGINEER
Robert L. Stanley
08468
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: Robert Stanley Date: 7-2-14

Robert L. Stanley
Printed or Typed Name
My license renewal date is December 31, 2014

Pages or sheets covered by this seal: CS.1-CS.5, Q.1-Q.32

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

(1) Refer to EW-203, EW-204, or EW-211.
*Not a bid item

Location						Longitudinal Subdrain (RF-19C)							Subdrain Outlet					
Line No.	Road or Lane Ident.	Station to Station		Side	Depth (D)	Shoulder		Backslope		Bridge Berm (1)			RF-19C, RF-19E, or RF-19F			Porous* Backfill	Class "A"* Crushed Stone	Remarks
						Size	Length	Size	Length	Size	Type	Length	Station	Size	Standard Road Plan and Type			
					IN	IN	FT	IN	FT	IN		FT		IN		CY	CY	
15	IA 92	315+00.00	320+00.00	RT	42.0	4.0	540.0						315+00.00	6.0	RF-19E	50.0		
													320+00.00	6.0	RF-19E		0.2	
16	IA 92	320+00.00	325+00.00	RT	42.0	4.0	540.0						320+00.00	6.0	RF-19E	50.0		
													325+00.00	6.0	RF-19E		0.2	
17	IA 92	325+00.00	329+00.00	RT	42.0	4.0	440.0						325+00.00	6.0	RF-19E	40.7		
													329+00.00	6.0	RF-19E		0.2	
18	IA 92	329+00.00	331+75.00	RT	42.0	4.0	315.0						329+00.00	6.0	RF-19E	29.2		
													331+75.00	6.0	RF-19E		0.2	
19	IA 92	331+75.00	335+00.00	RT	42.0	4.0	365.0						331+75.00	6.0	RF-19E	33.8		
													335+00.00	6.0	RF-19E		0.2	
20	IA 92	335+00.00	340+00.00	RT	42.0	4.0	540.0						335+00.00	6.0	RF-19E	50.0		
													340+00.00	6.0	RF-19E		0.2	
21	IA 92	340+00.00	345+00.00	RT	42.0	4.0	540.0						340+00.00	6.0	RF-19E	50.0		
													345+00.00	6.0	RF-19E		0.2	
22	IA 92	345+00.00	350+50.00	RT	42.0	4.0	590.0						345+00.00	6.0	RF-19E	54.6		
													350+50.00	6.0	RF-19E		0.2	
23	IA 92	350+50.00	356+75.00	RT	42.0	4.0	665.0						350+50.00	6.0	RF-19E	61.6		
													356+75.00	6.0	RF-19E		0.2	
24	IA 92	356+75.00	361+00.00	RT	42.0	4.0	465.0						356+75.00	6.0	RF-19E	43.1		
													361+00.00	6.0	RF-19E		0.2	
25	IA 92	361+00.00	365+00.00	RT	42.0	4.0	440.0						361+00.00	6.0	RF-19E	40.7		
													365+00.00	6.0	RF-19E		0.2	
26	IA 92	365+00.00	370+00.00	RT	42.0	4.0	540.0						365+00.00	6.0	RF-19E	50.0		
													370+00.00	6.0	RF-19E		0.2	
27	IA 92	370+00.00	375+00.00	RT	42.0	4.0	540.0						370+00.00	6.0	RF-19E	50.0		
													375+00.00	6.0	RF-19E		0.2	
28	IA 92	375+00.00	380+00.00	RT	42.0	4.0	540.0						375+00.00	6.0	RF-19E	50.0		
													380+00.00	6.0	RF-19E		0.2	
29	IA 92	380+00.00	386+70.00	RT	42.0	4.0	710.0						380+00.00	6.0	RF-19E	65.7		
													386+70.00	6.0	RF-19E		0.2	
30	IA 92	386+70.00	390+55.00	RT	42.0	4.0	445.0						386+70.00	6.0	RF-19E	41.2		
													390+55.00	6.0	RF-19E		0.2	OUTLET ALONG TURN RADIUS
31	IA 92	391+36.00	393+50.00	RT	24.0	4.0	256.0						391+36.00	6.0	RF-19E	11.9		OUTLET ALONG TURN RADIUS
													393+50.00	6.0	RF-19C		0.1	INTAKE 104
32	IA 92	393+50.00	393+89.83	RT	24.0	4.0	43.8						393+50.00	6.0	RF-19C	2.0		INTAKE 104
													393+89.83	6.0	RF-19C		0.0	INTAKE 107
33	IA 92	393+89.83	394+30.00	RT	24.0	4.0	44.2						393+89.83	6.0	RF-19C	2.0		INTAKE 107
													394+30.00	6.0	RF-19C		0.0	INTAKE 108
34	IA 92	394+30.00	395+35.95	RT	24.0	4.0	109.9						394+30.00	6.0	RF-19C	5.1		INTAKE 108
													395+35.95	6.0	RF-19C		0.0	INTAKE 111
35	IA 92	395+35.95	397+00.00	RT	24.0	4.0	168.1						395+35.95	6.0	RF-19C	7.8		INTAKE 111
													397+00.00	6.0	RF-19C		0.0	INTAKE 102
36	IA 92	397+00.00	399+00.00	RT	24.0	4.0	204.0						397+00.00	6.0	RF-19C	9.4		INTAKE 102
													399+00.00	6.0	RF-19C		0.0	INTAKE 101
37	IA 92	399+00.00	404+50.00	RT	24.0	4.0	554.0						399+00.00	6.0	RF-19C	25.6		INTAKE 101
													404+50.00	6.0	RF-19C		0.0	INTAKE 201
38	IA 92	404+50.00	407+39.00	RT	24.0	4.0	293.0						404+50.00	6.0	RF-19C	13.6		INTAKE 201
													407+39.00	6.0	RF-19C		0.0	INTAKE 203
39	IA 92	407+39.00	409+50.00	RT	24.0	4.0	215.0						407+39.00	6.0	RF-19C	10.0		INTAKE 203
													409+50.00	6.0	RF-19C		0.0	INTAKE 205
40	IA 92	409+50.00	411+70.00	RT	24.0	4.0	224.0						409+50.00	6.0	RF-19C	10.4		INTAKE 205
													411+70.00	6.0	RF-19C		0.0	INTAKE 207
41	IA 92	411+70.00	413+85.00	RT	24.0	4.0	219.0						411+70.00	6.0	RF-19C	10.1		INTAKE 207
													413+85.00	6.0	RF-19C		0.0	INTAKE 209
42	IA 92	413+85.00	415+95.00	RT	24.0	4.0	214.0						413+85.00	6.0	RF-19C	9.9		INTAKE 209
													415+95.00	6.0	RF-19C		0.0	INTAKE 211
43	IA 92	415+95.00	4416+06.96	RT	24.0	4.0	240.0						415+95.00	6.0	RF-19C	11.1		INTAKE 211
													4416+06.96	6.0	RF-19C		0.0	INTAKE 216
44	IA 92	4416+07.00	421+00.00	RT	24.0	4.0	460.0						4416+07.00	6.0	RF-19C	21.3		INTAKE 213
													421+00.00	6.0	RF-19C		0.0	INTAKE 301
45	IA 92	421+00.00	422+61.70	RT	24.0	4.0	165.7						421+00.00	6.0	RF-19C	7.7		INTAKE 301
													422+61.70	6.0	RF-19C		0.0	INTAKE 303
46	IA 92	422+61.70	425+30.00	RT	24.0	4.0	272.3						422+61.70	6.0	RF-19C	12.6		INTAKE 303
													425+30.00	6.0	RF-19C		0.0	INTAKE 305
47	IA 92	425+30.00	426+35.00	RT	24.0	4.0	109.0						425+30.00	6.0	RF-19C	5.0		INTAKE 305
													426+35.00	6.0	RF-19C		0.0	INTAKE 307
48	IA 92	426+35.00	426+67.15	RT	24.0	4.0	36.2						426+35.00	6.0	RF-19C	1.7		INTAKE 307
													426+67.15	6.0	RF-19C		0.0	INTAKE 315
49	IA 92	426+67.15	427+00.00	RT	24.0	4.0	36.8						426+67.15	6.0	RF-19C	1.7		INTAKE 315
													427+00.00	6.0	RF-19C		0.0	INTAKE 313
50	IA 92	427+00.00	428+00.00	RT	24.0	4.0	104.0						427+00.00	6.0	RF-19C	4.8		INTAKE 313
													428+00.00	6.0	RF-19C		0.0	INTAKE 311
51	IA 92	428+00.00	431+15.00	RT	24.0	4.0	319.0						428+00.00	6.0	RF-19C	14.8		INTAKE 311
													431+15.00	6.0	RF-19C		0.0	INTAKE 309
52	IA 92	431+15.00	435+57.00	RT	24.0	4.0	446.0						431+15.00	6.0	RF-19C	20.6		INTAKE 309
													435+57.00	6.0	RF-19C		0.0	INTAKE 401
53	IA 92	435+57.00	436+00.00	RT	24.0	4.0	47.0						435+57.00	6.0	RF-19C	2.2		INTAKE 401

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

(1) Refer to EW-203, EW-204, or EW-211.
*Not a bid item

Location						Longitudinal Subdrain (RF-19C)							Subdrain Outlet					
					Depth	Shoulder		Backslope		Bridge Berm (1)			RF-19C, RF-19E, or RF-19F			Porous* Backfill	Class "A"* Crushed Stone	Remarks
Line No.	Road or Lane Ident.	Station to Station		Side	(D)	Size	Length	Size	Length	Size	Type	Length	Station	Size	Standard Road Plan and Type			
					IN	IN	FT	IN	FT	IN		FT		IN		CY	CY	
													436+00.00	6.0	RF-19C		0.0	INTAKE 403
54	IA 92	436+00.00	436+45.00	RT	24.0	4.0	49.0						436+00.00	6.0	RF-19C	2.3		INTAKE 403
													436+45.00	6.0	RF-19C		0.0	INTAKE 413
55	IA 92	436+45.00	437+72.04	RT	24.0	4.0	131.0						436+45.00	6.0	RF-19C	6.1		INTAKE 413
													437+72.04	6.0	RF-19C		0.0	INTAKE 412
56	IA 92	437+72.04	439+20.00	RT	24.0	4.0	152.0						437+72.04	6.0	RF-19C	7.0		INTAKE 412
													439+20.00	6.0	RF-19C		0.0	INTAKE 411
57	IA 92	439+20.00	441+02.00	RT	24.0	4.0	186.0						439+20.00	6.0	RF-19C	8.6		INTAKE 411
													441+02.00	6.0	RF-19C		0.0	INTAKE 409
58	IA 92	441+02.00	442+62.95	RT	24.0	4.0	164.9						441+02.00	6.0	RF-19C	7.6		INTAKE 409
													442+62.95	6.0	RF-19C		0.0	INTAKE 407
59	IA 92	442+62.95	444+30.00	RT	24.0	4.0	171.1						442+62.95	6.0	RF-19C	7.9		INTAKE 407
													444+30.00	6.0	RF-19C		0.0	INTAKE 501
60	IA 92	444+30.00	445+80.00	RT	24.0	4.0	154.0						444+30.00	6.0	RF-19C	7.1		INTAKE 501
													445+80.00	6.0	RF-19C		0.0	INTAKE 610
61	IA 92	445+80.00	447+20.00	RT	24.0	4.0	144.0						445+80.00	6.0	RF-19C	6.7		INTAKE 610
													447+20.00	6.0	RF-19C		0.0	INTAKE 615
62	IA 92	447+20.00	448+95.00	RT	24.0	4.0	179.0						447+20.00	6.0	RF-19C	8.3		INTAKE 615
													448+95.00	6.0	RF-19C		0.0	INTAKE 620
63	IA 92	448+95.00	450+30.00	RT	24.0	4.0	139.0						448+95.00	6.0	RF-19C	6.4		INTAKE 620
													450+30.00	6.0	RF-19C		0.0	INTAKE 625
64	IA 92	450+30.00	451+70.00	RT	24.0	4.0	144.0						450+30.00	6.0	RF-19C	6.7		INTAKE 625
													451+70.00	6.0	RF-19C		0.0	INTAKE 630
65	IA 92	451+70.00	453+77.00	RT	24.0	4.0	211.0						451+70.00	6.0	RF-19C	9.8		INTAKE 630
													453+77.00	6.0	RF-19C		0.0	INTAKE 635
66	IA 92	453+77.00	456+25.00	RT	24.0	4.0	252.0						453+77.00	6.0	RF-19C	11.7		INTAKE 635
													456+25.00	6.0	RF-19C		0.0	INTAKE 640
67	IA 92	456+25.00	458+40.00	RT	24.0	4.0	219.0						456+25.00	6.0	RF-19C	10.1		INTAKE 640
													458+40.00	6.0	RF-19C		0.0	INTAKE 645
68	IA 92	458+40.00	459+75.00	RT	24.0	4.0	139.0						458+40.00	6.0	RF-19C	6.4		INTAKE 645
													459+75.00	6.0	RF-19C		0.0	INTAKE 650
69	IA 92	459+75.00	461+00.00	RT	24.0	4.0	129.0						459+75.00	6.0	RF-19C	6.0		INTAKE 650
													461+00.00	6.0	RF-19C		0.0	INTAKE 655
70	IA 92	461+00.00	461+75.00	RT	24.0	4.0	79.0						461+00.00	6.0	RF-19C	3.7		INTAKE 655
													461+75.00	6.0	RF-19C		0.0	INTAKE 760
71	IA 92	461+75.00	463+90.00	RT	24.0	4.0	219.0						461+75.00	6.0	RF-19C	10.1		INTAKE 760
													463+90.00	6.0	RF-19C		0.0	INTAKE 770
72	IA 92	463+90.00	464+95.00	RT	24.0	4.0	109.0						464+90.00	6.0	RF-19C	5.0		INTAKE 770
													464+95.00	6.0	RF-19C		0.0	INTAKE 775
73	IA 92	256+50.00	260+00.00	LT	42.0	4.0	390.0						256+50.00	6.0	RF-19E	36.1		
													260+00.00	6.0	RF-19E		0.2	
74	IA 92	260+00.00	265+00.00	LT	42.0	4.0	540.0						260+00.00	6.0	RF-19E	50.0		
													265+00.00	6.0	RF-19E		0.2	
75	IA 92	265+00.00	270+00.00	LT	42.0	4.0	540.0						265+00.00	6.0	RF-19E	50.0		
													270+00.00	6.0	RF-19E		0.2	
76	IA 92	270+00.00	275+00.00	LT	42.0	4.0	540.0						270+00.00	6.0	RF-19E	50.0		
													275+00.00	6.0	RF-19E		0.2	
77	IA 92	275+00.00	279+00.00	LT	42.0	4.0	440.0						275+00.00	6.0	RF-19E	40.7		
													279+00.00	6.0	RF-19E		0.2	
78	IA 92	279+00.00	281+91.00	LT	42.0	4.0	331.0						279+00.00	6.0	RF-19E	30.6		
													281+91.00	6.0	RF-19E		0.2	
79	IA 92	281+91.00	283+25.00	LT	42.0	4.0	194.0						281+91.00	6.0	RF-19E	18.0		
													283+25.00	6.0	RF-19E		0.2	OUTLET ALONG TURN RADIUS
80	IA 92	284+20.00	288+00.00	LT	42.0	4.0	440.0						284+20.00	6.0	RF-19E	40.7		OUTLET ALONG TURN RADIUS
													288+00.00	6.0	RF-19E		0.2	
81	IA 92	288+00.00	292+08.00	LT	42.0	4.0	448.0						288+00.00	6.0	RF-19E	41.5		
													292+08.00	6.0	RF-19E		0.2	
82	IA 92	292+08.00	295+00.00	LT	42.0	4.0	332.0						292+08.00	6.0	RF-19E	30.7		
													295+00.00	6.0	RF-19E		0.2	
83	IA 92	295+00.00	300+00.00	LT	42.0	4.0	540.0						295+00.00	6.0	RF-19E	50.0		
													300+00.00	6.0	RF-19E		0.2	
84	IA 92	300+00.00	305+00.00	LT	42.0	4.0	540.0						300+00.00	6.0	RF-19E	50.0		
													305+00.00	6.0	RF-19E		0.2	
85	IA 92	305+00.00	311+25.00	LT	42.0	4.0	665.0						305+00.00	6.0	RF-19E	61.6		
													311+25.00	6.0	RF-19E		0.2	
86	IA 92	311+25.00	315+00.00	LT	42.0	4.0	415.0						311+25.00	6.0	RF-19E	38.4		
													315+00.00	6.0	RF-19E		0.2	
87	IA 92	315+00.00	320+00.00	LT	42.0	4.0	540.0						315+00.00	6.0	RF-19E	50.0		
													320+00.00	6.0	RF-19E		0.2	
88	IA 92	320+00.00	325+00.00	LT	42.0	4.0	540.0						320+00.00	6.0	RF-19E	50.0		
													325+00.00	6.0	RF-19E		0.2	
89	IA 92	325+00.00	329+00.00	LT	42.0	4.0	440.0						325+00.00	6.0	RF-19E	40.7		
													329+00.00	6.0	RF-19E		0.2	
90	IA 92	329+00.00	331+75.00	LT	42.0	4.0	315.0						329+00.00	6.0	RF-19E	29.2		
													331+75.00	6.0	RF-19E		0.2	
91	IA 92	331+75.00	335+00.00	LT	42.0	4.0	365.0						331+75.00	6.0	RF-19E	33.8		
													335+00.00	6.0	RF-19E		0.2	

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

(1) Refer to EW-203, EW-204, or EW-211.
*Not a bid item

Location						Longitudinal Subdrain (RF-19C)							Subdrain Outlet					
Line No.	Road or Lane Ident.	Station to Station		Side	Depth (D)	Shoulder		Backslope		Bridge Berm (1)			RF-19C, RF-19E, or RF-19F			Porous* Backfill	Class "A"* Crushed Stone	Remarks
						Size	Length	Size	Length	Size	Type	Length	Station	Size	Standard Road Plan and Type			
					IN	IN	FT	IN	FT	IN		FT		IN		CY	CY	
92	IA 92	335+00.00	340+00.00	LT	42.0	4.0	540.0						335+00.00	6.0	RF-19E	50.0		
													340+00.00	6.0	RF-19E		0.2	
93	IA 92	340+00.00	345+00.00	LT	42.0	4.0	540.0						340+00.00	6.0	RF-19E	50.0		
													345+00.00	6.0	RF-19E		0.2	
94	IA 92	345+00.00	350+50.00	LT	42.0	4.0	590.0						345+00.00	6.0	RF-19E	54.6		
													350+50.00	6.0	RF-19E		0.2	
95	IA 92	350+50.00	356+75.00	LT	42.0	4.0	665.0						350+50.00	6.0	RF-19E	61.6		
													356+75.00	6.0	RF-19E		0.2	
96	IA 92	356+75.00	361+00.00	LT	42.0	4.0	465.0						356+75.00	6.0	RF-19E	43.1		
													361+00.00	6.0	RF-19E		0.2	
97	IA 92	361+00.00	365+00.00	LT	42.0	4.0	440.0						361+00.00	6.0	RF-19E	40.7		
													365+00.00	6.0	RF-19E		0.2	
98	IA 92	365+00.00	370+00.00	LT	42.0	4.0	540.0						365+00.00	6.0	RF-19E	50.0		
													370+00.00	6.0	RF-19E		0.2	
99	IA 92	370+00.00	375+00.00	LT	42.0	4.0	540.0						370+00.00	6.0	RF-19E	50.0		
													375+00.00	6.0	RF-19E		0.2	
100	IA 92	375+00.00	380+00.00	LT	42.0	4.0	540.0						375+00.00	6.0	RF-19E	50.0		
													380+00.00	6.0	RF-19E		0.2	
101	IA 92	380+00.00	385+00.00	LT	42.0	4.0	540.0						380+00.00	6.0	RF-19E	50.0		
													385+00.00	6.0	RF-19E		0.2	
102	IA 92	385+00.00	389+12.00	LT	42.0	4.0	452.0						385+00.00	6.0	RF-19E	41.9		
													389+12.00	6.0	RF-19E		0.2	
103	IA 92	389+12.00	390+68.00	LT	42.0	4.0	216.0						389+12.00	6.0	RF-19E	20.0		
													390+68.00	6.0	RF-19E		0.2	OUTLET ALONG TURN RADIUS
104	IA 92	391+32.00	393+50.00	LT	24.0	4.0	260.0						391+32.00	6.0	RF-19E	12.0		OUTLET ALONG TURN RADIUS
													393+50.00	6.0	RF-19C		0.1	INTAKE 103
105	IA 92	393+50.00	393+89.83	LT	24.0	4.0	43.8						393+50.00	6.0	RF-19C	2.0		INTAKE 103
													393+89.83	6.0	RF-19C		0.0	INTAKE 106
106	IA 92	393+89.83	394+30.00	LT	24.0	4.0	44.2						393+89.83	6.0	RF-19C	2.0		INTAKE 106
													394+30.00	6.0	RF-19C		0.0	INTAKE 105
107	IA 92	394+30.00	395+36.30	LT	24.0	4.0	110.3						394+30.00	6.0	RF-19C	5.1		INTAKE 105
													395+36.30	6.0	RF-19C		0.0	INTAKE 110
108	IA 92	395+36.30	399+00.00	LT	24.0	4.0	367.7						395+36.30	6.0	RF-19C	17.0		INTAKE 110
													399+00.00	6.0	RF-19C		0.0	INTAKE 100
109	IA 92	399+00.00	404+50.00	LT	24.0	4.0	554.0						399+00.00	6.0	RF-19C	25.6		INTAKE 100
													404+50.00	6.0	RF-19C		0.0	INTAKE 200
110	IA 92	404+50.00	407+39.00	LT	24.0	4.0	293.0						404+50.00	6.0	RF-19C	13.6		INTAKE 200
													407+39.00	6.0	RF-19C		0.0	INTAKE 202
111	IA 92	407+39.00	409+55.00	LT	24.0	4.0	220.0						407+39.00	6.0	RF-19C	10.2		INTAKE 202
													409+55.00	6.0	RF-19C		0.0	INTAKE 204
112	IA 92	409+55.00	411+70.00	LT	24.0	4.0	219.0						409+55.00	6.0	RF-19C	10.1		INTAKE 204
													411+70.00	6.0	RF-19C		0.0	INTAKE 206
113	IA 92	411+70.00	413+85.00	LT	24.0	4.0	219.0						411+70.00	6.0	RF-19C	10.1		INTAKE 206
													413+85.00	6.0	RF-19C		0.0	INTAKE 208
114	IA 92	413+85.00	416+95.00	LT	24.0	4.0	314.0						413+85.00	6.0	RF-19C	14.5		INTAKE 208
													416+95.00	6.0	RF-19C		0.0	INTAKE 210
115	IA 92	416+95.00	4418+45.06	LT	24.0	4.0	220.0						416+95.00	6.0	RF-19C	10.2		INTAKE 210
													4418+45.06	6.0	RF-19C		0.0	INTAKE 233
116	IA 92	4418+45.00	418+71.33	LT	24.0	4.0	140.0						4418+45.00	6.0	RF-19C	6.5		INTAKE 232
													418+71.33	6.0	RF-19C		0.0	INTAKE 299
117	IA 92	418+71.33	421+00.00	LT	24.0	4.0	232.7						418+71.33	6.0	RF-19C	10.8		INTAKE 299
													421+00.00	6.0	RF-19C		0.0	INTAKE 300
118	IA 92	421+00.00	423+82.00	LT	24.0	4.0	286.0						421+00.00	6.0	RF-19C	13.2		INTAKE 300
													423+82.00	6.0	RF-19C		0.0	INTAKE 302
119	IA 92	423+82.00	425+30.00	LT	24.0	4.0	152.0						423+82.00	6.0	RF-19C	7.0		INTAKE 302
													425+30.00	6.0	RF-19C		0.0	INTAKE 304
120	IA 92	425+30.00	426+35.00	LT	24.0	4.0	109.0						425+30.00	6.0	RF-19C	5.0		INTAKE 304
													426+35.00	6.0	RF-19C		0.0	INTAKE 306
121	IA 92	426+35.00	426+67.15	LT	24.0	4.0	36.2						426+35.00	6.0	RF-19C	1.7		INTAKE 306
													426+67.15	6.0	RF-19C		0.0	INTAKE 314
122	IA 92	426+67.15	427+00.00	LT	24.0	4.0	36.8						426+67.15	6.0	RF-19C	1.7		INTAKE 314
													427+00.00	6.0	RF-19C		0.0	INTAKE 312
123	IA 92	427+00.00	428+00.00	LT	24.0	4.0	104.0						427+00.00	6.0	RF-19C	4.8		INTAKE 312
													428+00.00	6.0	RF-19C		0.0	INTAKE 310
124	IA 92	428+00.00	431+15.00	LT	24.0	4.0	319.0						428+00.00	6.0	RF-19C	14.8		INTAKE 310
													431+15.00	6.0	RF-19C		0.0	INTAKE 308
125	IA 92	431+15.00	435+57.00	LT	24.0	4.0	446.0						431+15.00	6.0	RF-19C	20.6		INTAKE 308
													435+57.00	6.0	RF-19C		0.0	INTAKE 400
126	IA 92	435+57.00	436+00.00	LT	24.0	4.0	47.0						435+57.00	6.0	RF-19C	2.2		INTAKE 400
													436+00.00	6.0	RF-19C		0.0	INTAKE 402
127	IA 92	436+00.00	436+45.00	LT	24.0	4.0	49.0						436+00.00	6.0	RF-19C	2.3		INTAKE 402
													436+45.00	6.0	RF-19C		0.0	INTAKE 405
128	IA 92	436+45.00	437+72.00	LT	24.0	4.0	131.0						436+45.00	6.0	RF-19C	6.1		INTAKE 405
													437+72.00	6.0	RF-19C		0.0	INTAKE 415
129	IA 92	437+72.00	439+20.00	LT	24.0	4.0	152.0						437+72.00	6.0	RF-19C	7.0		INTAKE 415
													439+20.00	6.0	RF-19C		0.0	INTAKE 410
130	IA 92	439+20.00	441+19.00	LT	24.0	4.0	203.0						439+20.00	6.0	RF-19C	9.4		INTAKE 410

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

(1) Refer to EW-203, EW-204, or EW-211.
*Not a bid item

Location						Longitudinal Subdrain (RF-19C)							Subdrain Outlet					
Line No.	Road or Lane Ident.	Station to Station		Side	Depth (D)	Shoulder		Backslope		Bridge Berm (1)			RF-19C, RF-19E, or RF-19F			Porous* Backfill	Class "A"* Crushed Stone	Remarks
						Size	Length	Size	Length	Size	Type	Length	Station	Size	Standard Road Plan and Type			
					IN	IN	FT	IN	FT	IN		FT		IN		CY	CY	
													441+19.00	6.0	RF-19C		0.0	INTAKE 408
131	IA 92	441+19.00	443+23.00	LT	24.0	4.0	208.0						441+19.00	6.0	RF-19C	9.6		INTAKE 408
													443+23.00	6.0	RF-19C		0.0	INTAKE 703
132	IA 92	443+23.00	444+50.00	LT	24.0	4.0	131.0						443+23.00	6.0	RF-19C	6.1		INTAKE 703
													444+50.00	6.0	RF-19C		0.0	INTAKE 702
133	IA 92	444+50.00	445+80.00	LT	24.0	4.0	134.0						444+50.00	6.0	RF-19C	6.2		INTAKE 702
													445+80.00	6.0	RF-19C		0.0	INTAKE 701
134	IA 92	445+80.00	447+40.00	LT	24.0	4.0	164.0						445+80.00	6.0	RF-19C	7.6		INTAKE 701
													447+40.00	6.0	RF-19C		0.0	INTAKE 715
135	IA 92	447+40.00	448+80.00	LT	24.0	4.0	144.0						447+40.00	6.0	RF-19C	6.7		INTAKE 715
													448+80.00	6.0	RF-19C		0.0	INTAKE 714
136	IA 92	448+80.00	450+30.00	LT	24.0	4.0	154.0						448+80.00	6.0	RF-19C	7.1		INTAKE 714
													450+30.00	6.0	RF-19C		0.0	INTAKE 713
137	IA 92	450+30.00	453+77.00	LT	24.0	4.0	351.0						450+30.00	6.0	RF-19C	16.3		INTAKE 713
													453+77.00	6.0	RF-19C		0.0	INTAKE 753
138	IA 92	453+77.00	455+10.00	LT	24.0	4.0	137.0						453+77.00	6.0	RF-19C	6.3		INTAKE 753
													455+10.00	6.0	RF-19C		0.0	INTAKE 754
139	IA 92	455+10.00	456+25.00	LT	24.0	4.0	119.0						455+10.00	6.0	RF-19C	5.5		INTAKE 754
													456+25.00	6.0	RF-19C		0.0	INTAKE 755
140	IA 92	456+25.00	458+40.00	LT	24.0	4.0	219.0						456+25.00	6.0	RF-19C	10.1		INTAKE 755
													458+40.00	6.0	RF-19C		0.0	INTAKE 756
141	IA 92	458+40.00	459+75.00	LT	24.0	4.0	139.0						458+40.00	6.0	RF-19C	6.4		INTAKE 756
													459+75.00	6.0	RF-19C		0.0	INTAKE 757
142	IA 92	459+75.00	461+00.00	LT	24.0	4.0	129.0						459+75.00	6.0	RF-19C	6.0		INTAKE 757
													461+00.00	6.0	RF-19C		0.0	INTAKE 758
143	IA 92	461+00.00	461+75.00	LT	24.0	4.0	79.0						461+00.00	6.0	RF-19C	3.7		INTAKE 758
													461+75.00	6.0	RF-19C		0.0	INTAKE 759
144	IA 92	461+75.00	463+90.00	LT	24.0	4.0	219.0						461+75.00	6.0	RF-19C	10.1		INTAKE 759
													463+90.00	6.0	RF-19C		0.0	INTAKE 769
145	IA 92	463+90.00	464+95.00	LT	24.0	4.0	109.0						463+90.00	6.0	RF-19C	5.0		INTAKE 769
													464+95.00	6.0	RF-19C		0.0	INTAKE 768
Totals							44699.7								290	3421.0	12.4	

NOTE: LONGITUDINAL SUBDRAINS 1 - 30 AND 73 - 103 ARE TYPE 7b WITH PCC OR TYPE 8b WITH HMA (ACC).
NOTE: LONGITUDINAL SUBDRAINS 31 - 72 AND 104 - 145 ARE TYPE 12.
NOTE: THERE ARE 124 RF-19E OUTLETS AND 166 RF-19C OUTLETS.

SURVEY SYMBOLS

- TDC Tree Deciduous
- PPA Power Pole Co. 1
- FWD Wood Fence
- LUM Luminaire
- TEV Evergeen Tree
- LP L.P. Tank
- D Centerline Draw or Stream (Down)
- RET Retaining Walls
- SI Sign
- SHR Shrub
- SI Sign
- EW Edge of Water
- DIK Centerline of Dike or Dam
- FLG Flag Poles
- WM Wind Mill
- FCL Chain Link and Security Fence
- HDG Hedge Row
- TV Satelite TV Dish
- RT Radio Tower
- INB Storm Sewer Beehive Intake
- WV Water Valve
- FHD Fire Hydrants
- WEL Well
- MH Utility Access (Manhole)
- LUM Luminaire
- MIS Miscellaneous
- TPD Telephone Pedestal
- EB Electrical Box
- UB Utility Box
- PR Electic Riser Pole
- FW Wire Fence
- GP Guard Post (Less Than 4 Posts)
- IN Storm Sewer Intake
- TLN Treeline
- TVP TV Pedestal
- SEP Septic Tank
- OUT Tile Outlet
- TIL Tile Line
- UST Underground Tank
- GV Gas Valve
- DU Centerline Draw or Stream (Up)
- BNK Stream Bank
- BL Topo Breakline
- RIP Rip-Rap

- St.S. STA Storm Sewer Line Co. 1
- F03 FOC Underground Fiber Optic Co. 3
- F05 FOE Underground Fiber Optic Co. 5
- F02 FOB Underground Fiber Optic Co. 2
- San. SAA Sanitary Sewer Line Co. 1
- T1 TLA Underground Telephone Line Co. 1
- E1 ELA Underground Electric Line Co. 1
- G GLA Underground Gas Line Co. 1
- TV TVA Underground TV Cable Co. 1
- W WLA Underground Water Line Co. 1
- F0 FOA Underground Fiber Optic Co. 1
- E2 ELB Underground Electric Line Co. 2
- San.2 SAB Sanitary Sewer Line Co. 2
- G2 GLB Underground Gas Line Co. 2
- F04 FOD Underground Fiber Optic Co. 4
- W2 WLB Underground Water Line Co. 2

UTILITY LEGEND

- F0 FOA Paetac Iowa Communications Network
- F02 FOB Lightcore (Digital Teleport)
- F03 FOC Iowa Network Service
- F04 FOD Indianola Municipal Utilities
- F05 FOE MCI
- T1 TLA Qwest
- E1 ELA Mid-American
- E2 ELB Indianola Municipal Utlities
- TV TVA Mediacom
- W WLA Indianola Municipal Utilities
- W2 WLB Warren Rural Water
- San. SAA City of Indianola
- San.2 SAB Private
- G GLA Mid-American
- G2 GLB Kinder Morgan
- St.S. STA City of Indianola
- PPA Mid-American

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
Brown, Light	(236)	Grading Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading
Green, Light	(225)	Existing Pavement Shading

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

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

RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

Lincoln TWP.
T-76N R-24W
SEC. 29

Curve Data (Survey)
Δ = 34° 40′ 53.90″ (LT)
T = 357.80
L = 693.62
R = 1,145.89
E = 54.56

Curve Data
Δ = 29° 11′ 23.92″ (LT)
T = 398.39
L = 779.48
R = 1,530.00
E = 51.02

SCS PI Sta 264+10.92
Δ = 35° 10′ 54.09″ (LT)
Theta = 2° 59′ 45.09″
Ls = 160.00
Ts = 565.29
Es = 75.79
P = 0.70
K = 79.99
Xc = 159.96
Yc = 2.79
LT = 106.68
ST = 53.35
LC = 159.98

Prop. 24″
Uncl. Ent. Pipe

POT Sta 255+00.00
255

(ENT258A)

(ENT1258B)

18″ X 45.0′
C.M.P.
(Remove)

Prop. 18″
Uncl. Ent. Pipe

(ENT258C)

ACCESS 258

260

(ENT258D)

TS Sta 258+45.63

SC Sta 260+29.63

IA 92 (ML092)

Sta. 256+00.00
Begin Project

Sta. 256+50.00
Begin Paving

POS STA 258+87.00 ML092(OR)
= POT STA 1258+87.00 SRKENNEDY
= POT STA 1258+87.00 ACCESS258

POT STA 1258+86.95 SRKENNEDY

88°59′55.17″

89°03′11.70″

PI Sta 259+52.32

KENNEDY ST.

18″ X 40.0′
C.M.P.
(Remove)

(Close)

Building

Parking
Gravel

PI Sta 263+46.10
(Survey)

PI Sta 264+04.03

Prop. 18″
Uncl. Ent. Pipe

(ENT269)

15″ X 20.0′
C.M.P.
(Remove)

15″ X 21.0′
C.M.P.
(Remove)

265

270

POS Sta 267+85.11

SC Sta 267+40.11

CS Sta 267+85.11

ST Sta 268+38.46

PI Sta 268+38.46

Sta 266+82.52

Parking
Gravel

House

Foundation

Barn

Mobile Home

Sta. 258+34.35
2′ X 2′ X 46.0′ RCB
W/ 30″ Conc Pipe Extensions
D.A. = 2 Ac - R
(Plug & Abandon)

Sta. 258+00.0
Install 24″ RCP
w/CMP letdown
Lt. 932.10
F.L. = Rt. 946.26
Other 932.44
Other 944.99

Sta. 258+99.86, 41.76 Rt.
18″ X 45.0′ Conc Pipe
D.A. = 1 Ac - R
(Remove)

0 50
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.2

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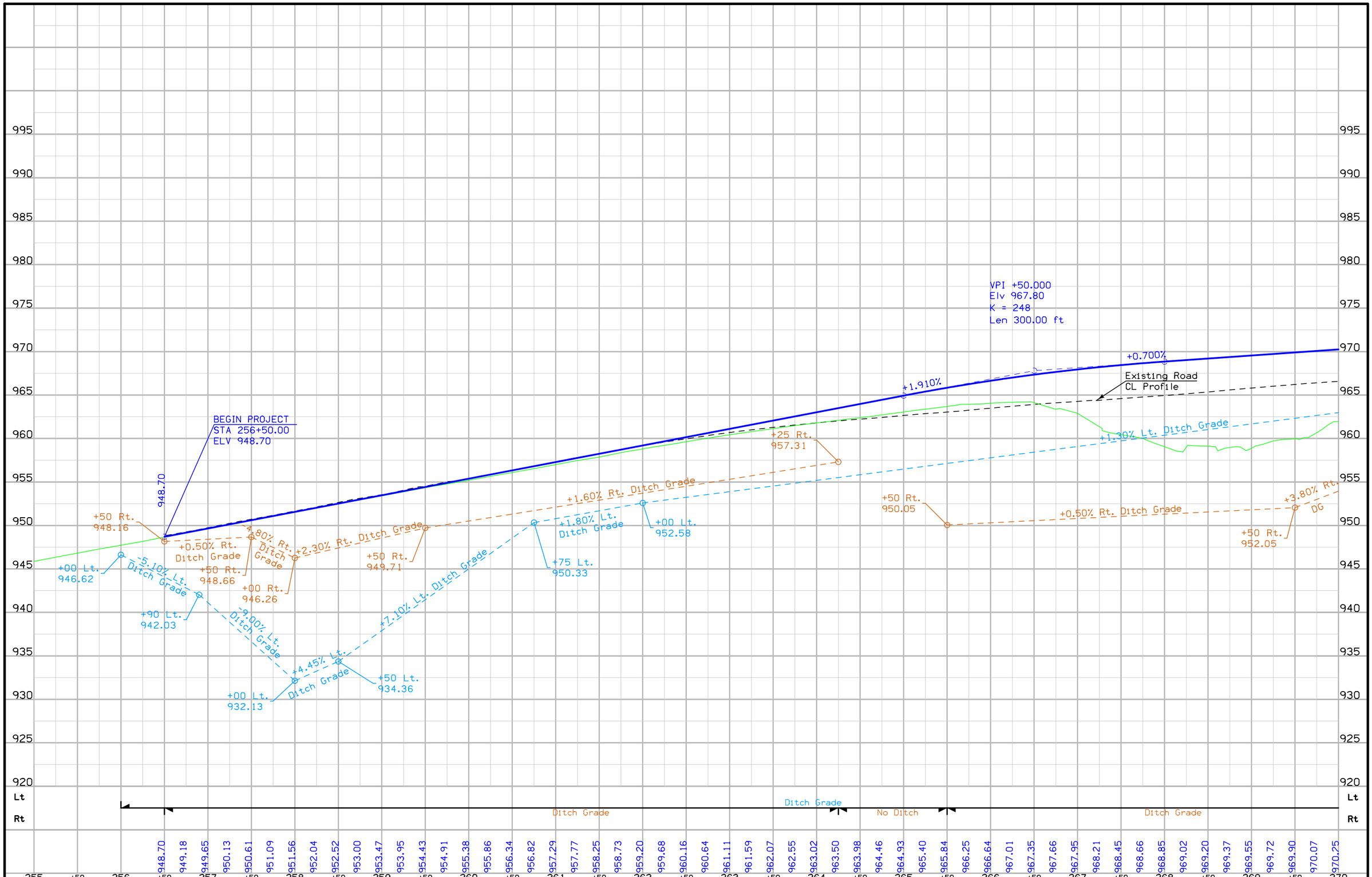

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.3

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Lincoln TWP.
T-76N R-24W
SEC. 29

84TH AVE

IA 92 (ML092)

R 57 (SR57N)

R 57 (SR57S)

+56 Prop. Jt. Type "C" Ent. (ENT270)

+46 Prop. Jt. Type "C" Ent. (ENT276)

(ENT275)

(ENT270)

15" X 30.0' C.M.P. (Remove)

18" X 24.0' C.M.P. (Remove)

18" X 62.0' C.M.P. (Remove)

15" X 28.0' C.M.P. (Remove)

15" X 36.0' C.M.P.

15" X 37.0' Conc. Pipe

18" X 35.0' C.M.P. (Remove)

15" X 48.0' C.M.P. (Remove)

18" X 57.0' C.M.P. (Remove)

Prop. 18" Uncl. Ent. Pipe

(Close)

PI Sta 283+70.97(Survey)

POT STA 283+68.17 ML092
= PI STA 1383+68.17 SR57N

POT STA 283+73.24 ML092
= PI STA 1283+73.24 SR57S

270

275

280

285

House

Garage

Shed

Barn

Silo

Conc.

Play Ground

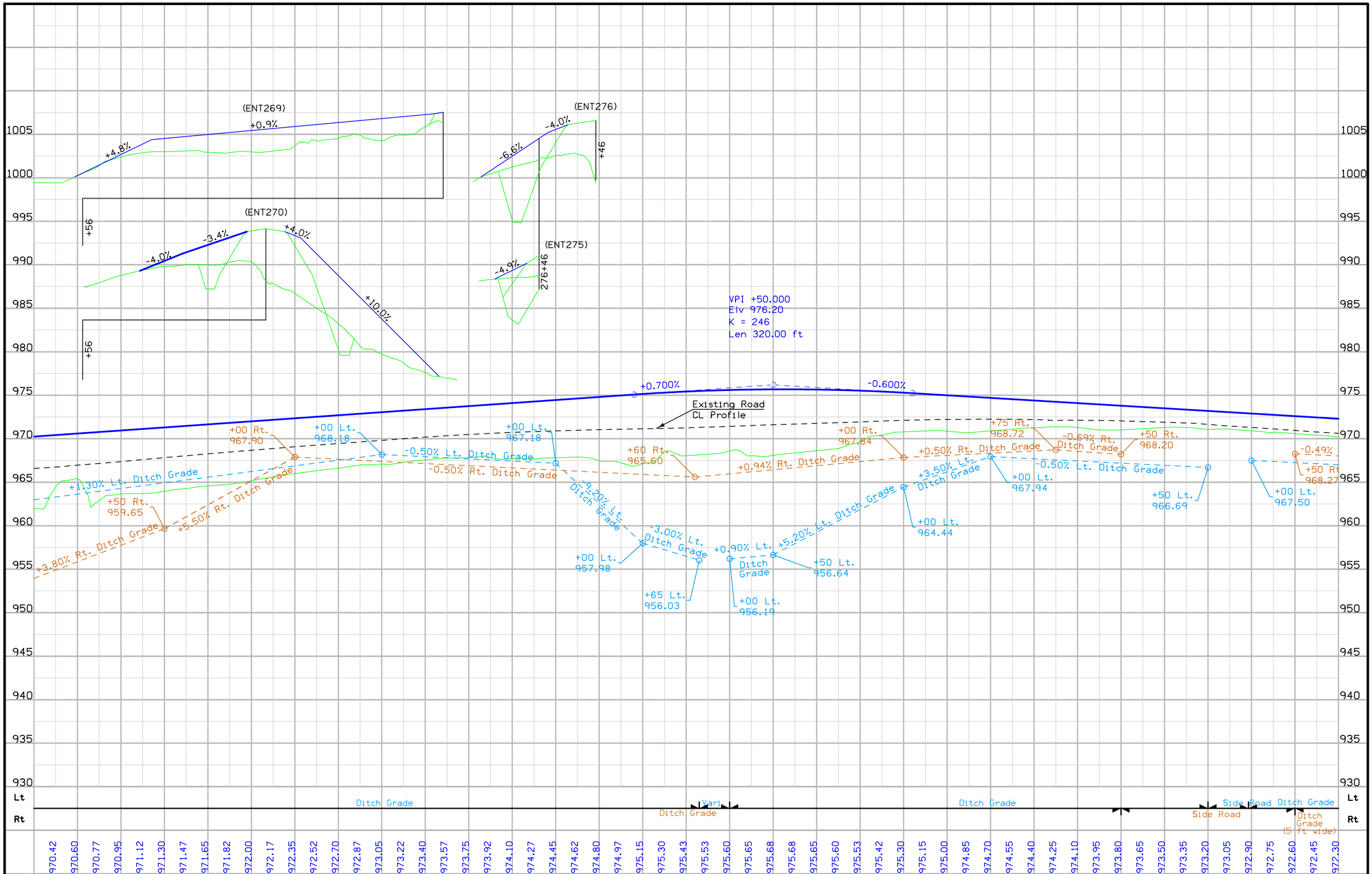
Sta. 277+57.37
2' X 2' X 53.0' RCB
W/ 30" Conc. Pipe Extension
D.A. = 4 Ac - R
(Plug & Abandon)

Sta. 277+75.0
Install 24" RCP
F.L. = Lt. 956.16
Rt. 965.80

0 FEET 50

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.4

4:11:52 PM 7/11/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051D02.sht



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.5

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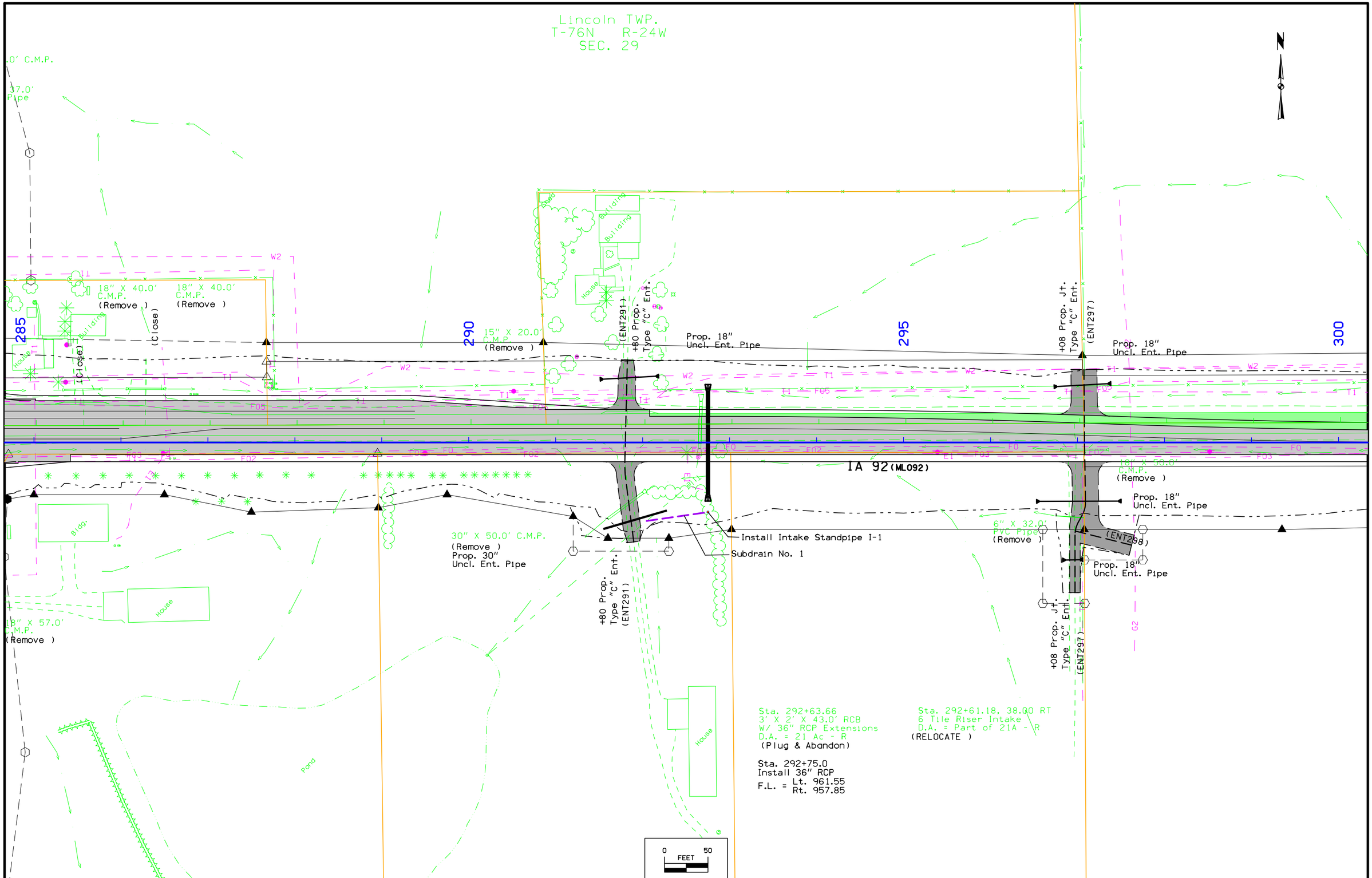

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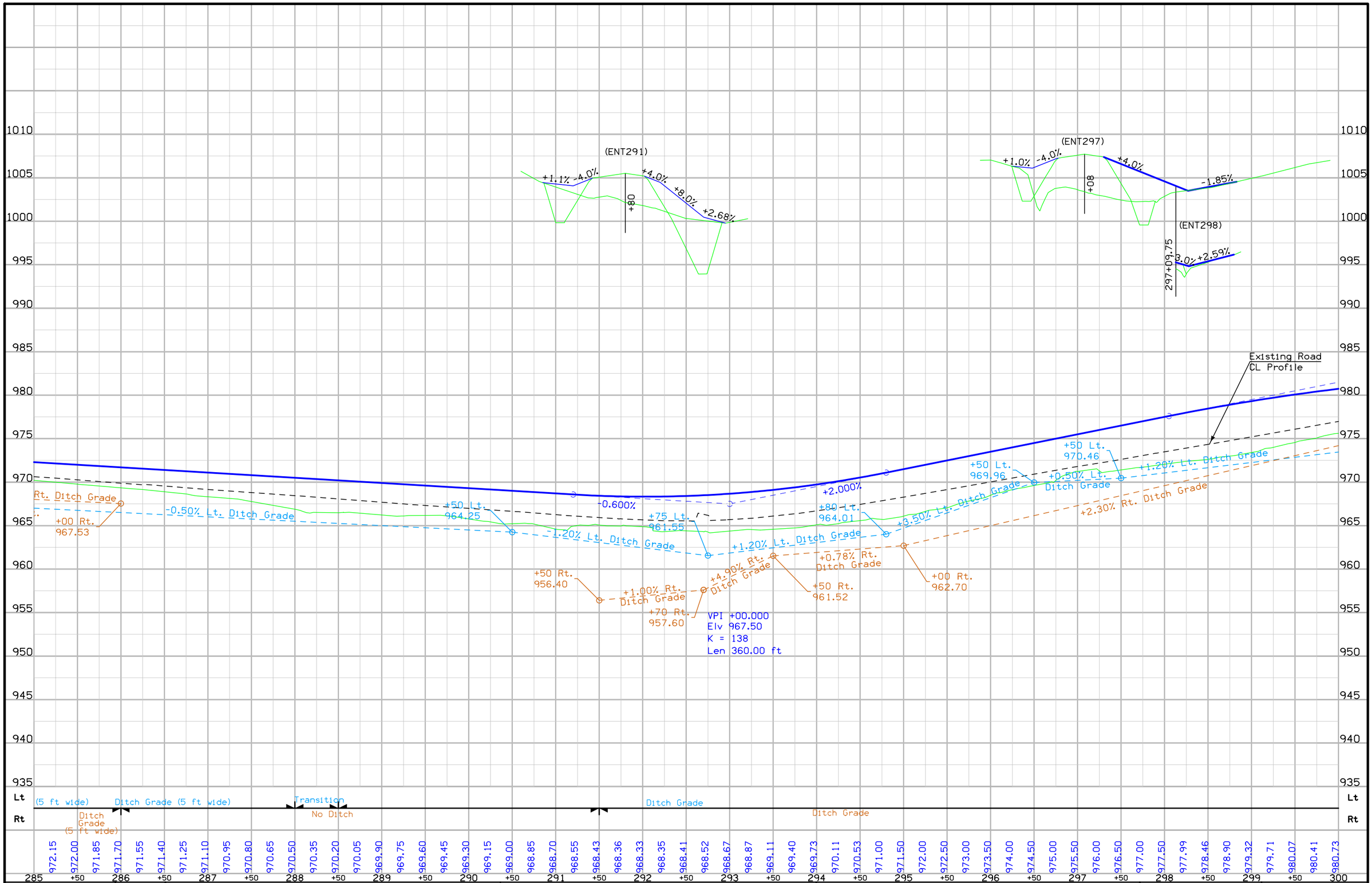

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.7

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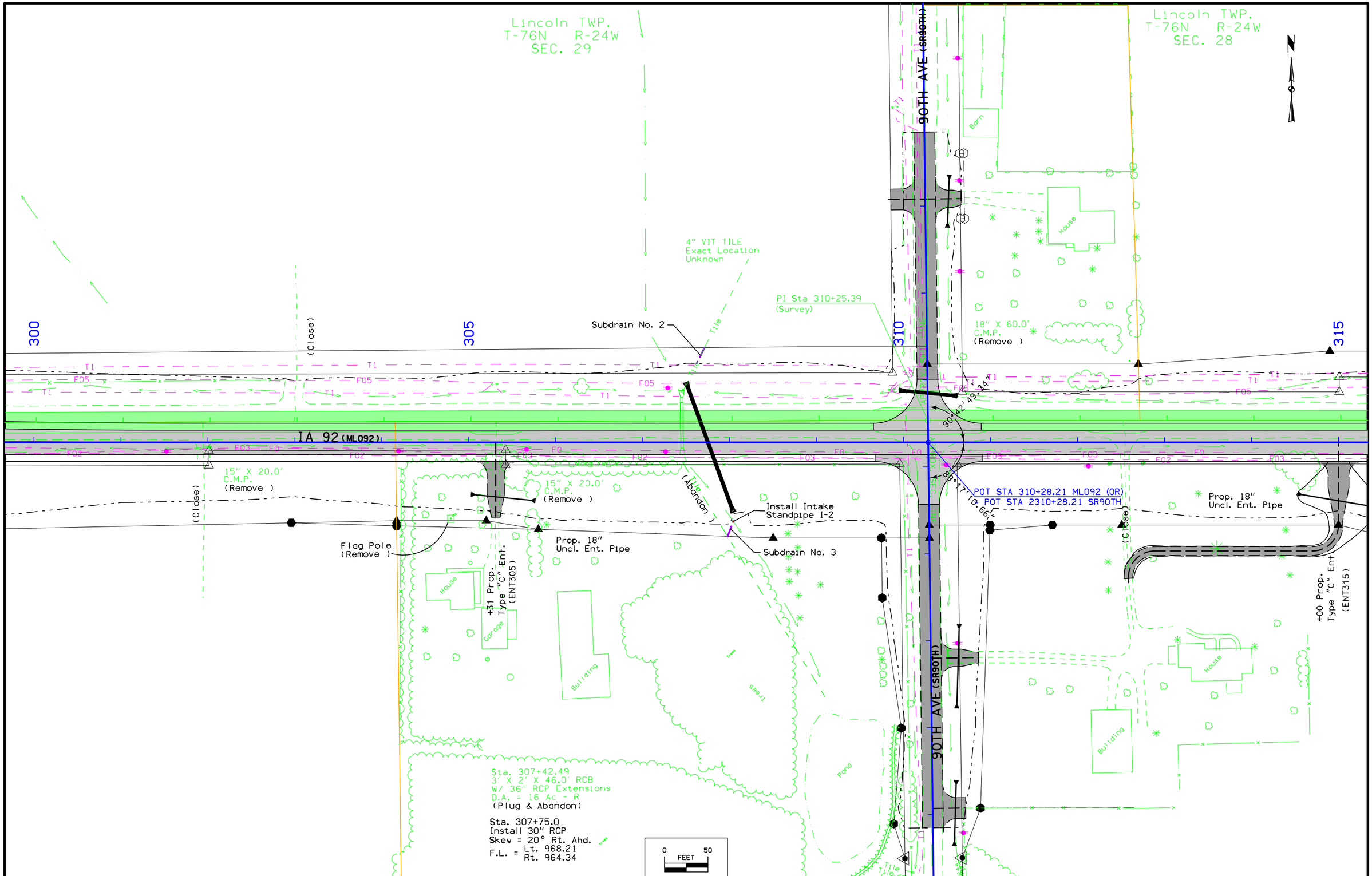

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.8

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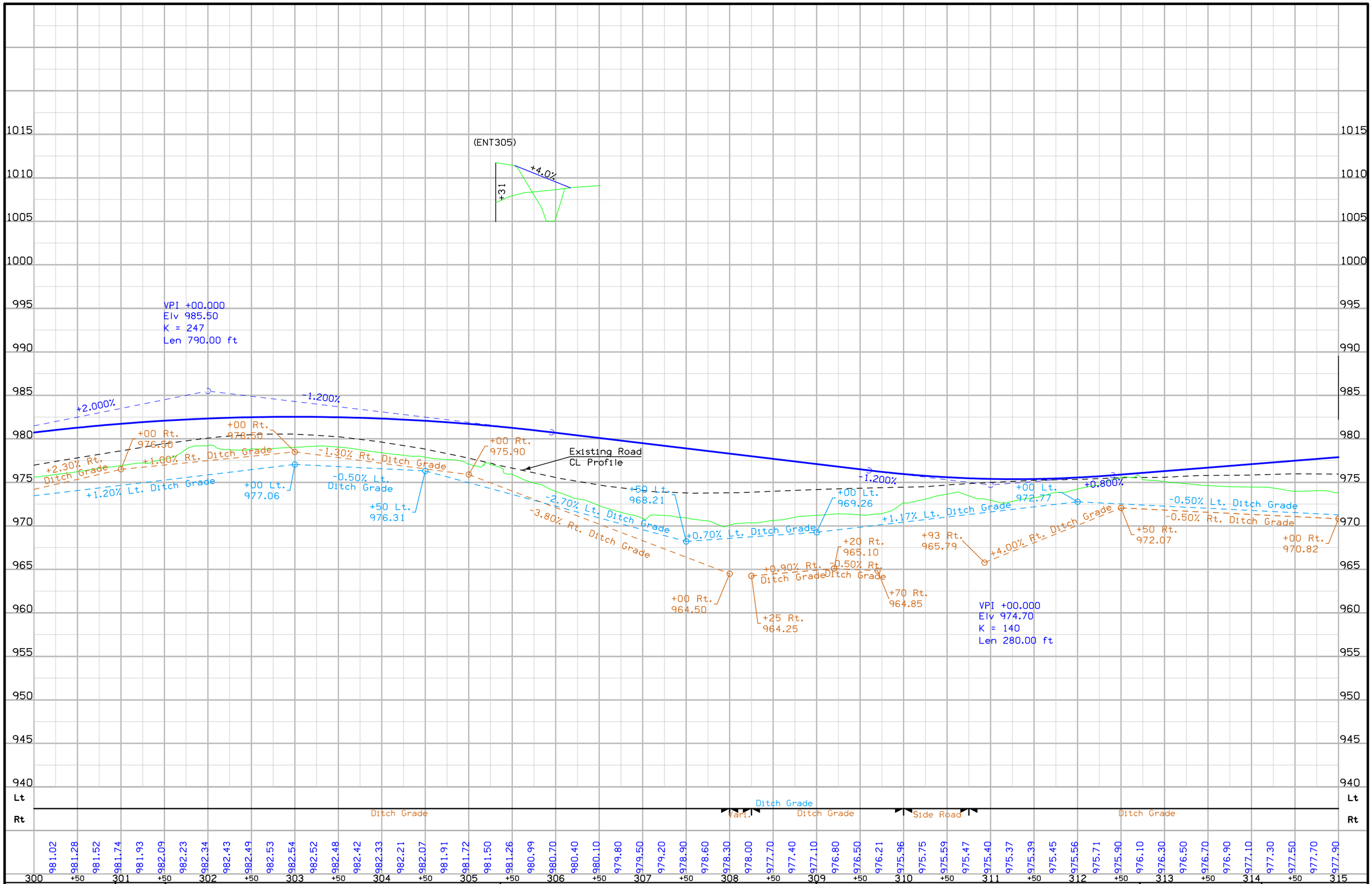

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.9

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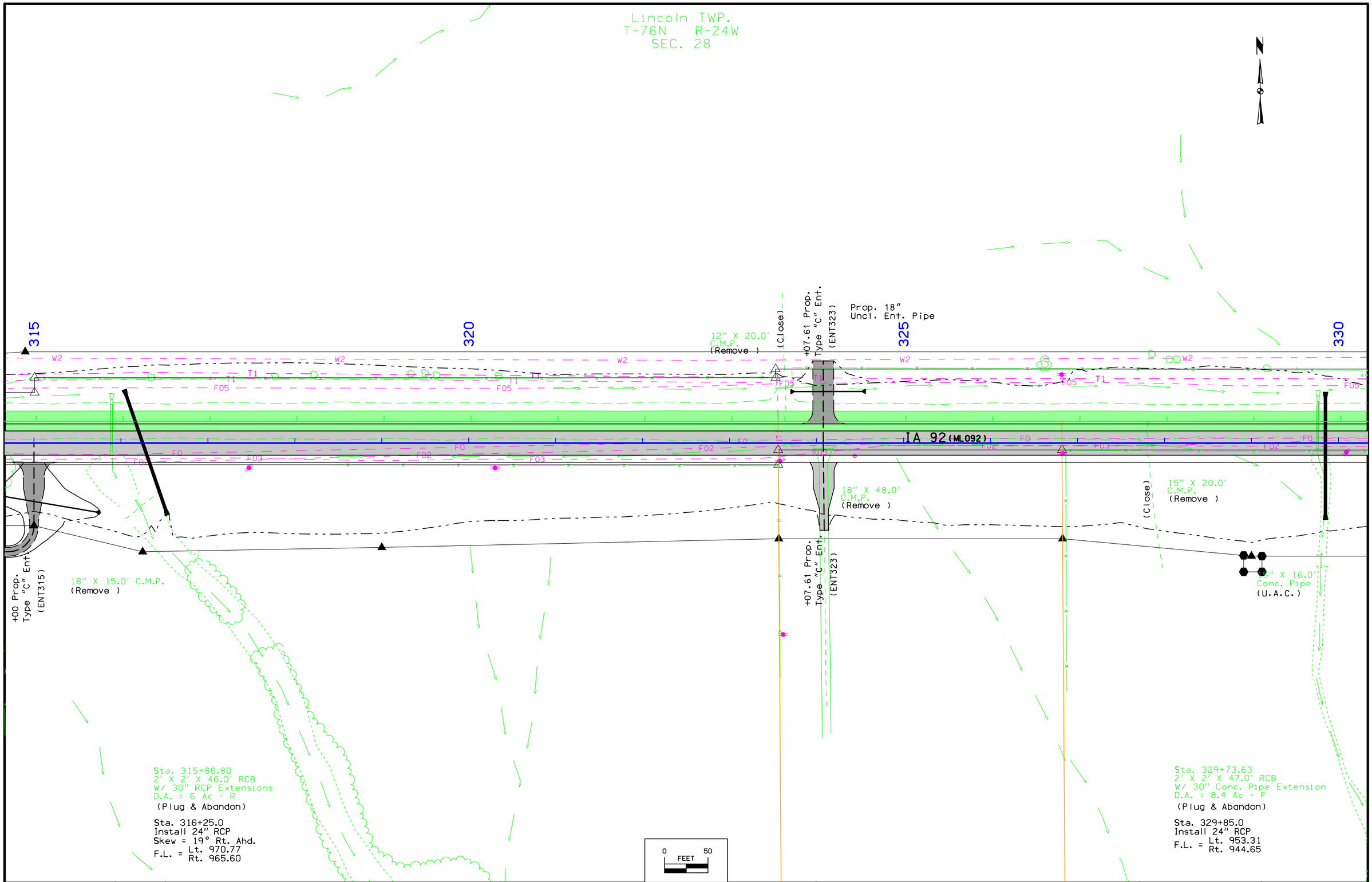

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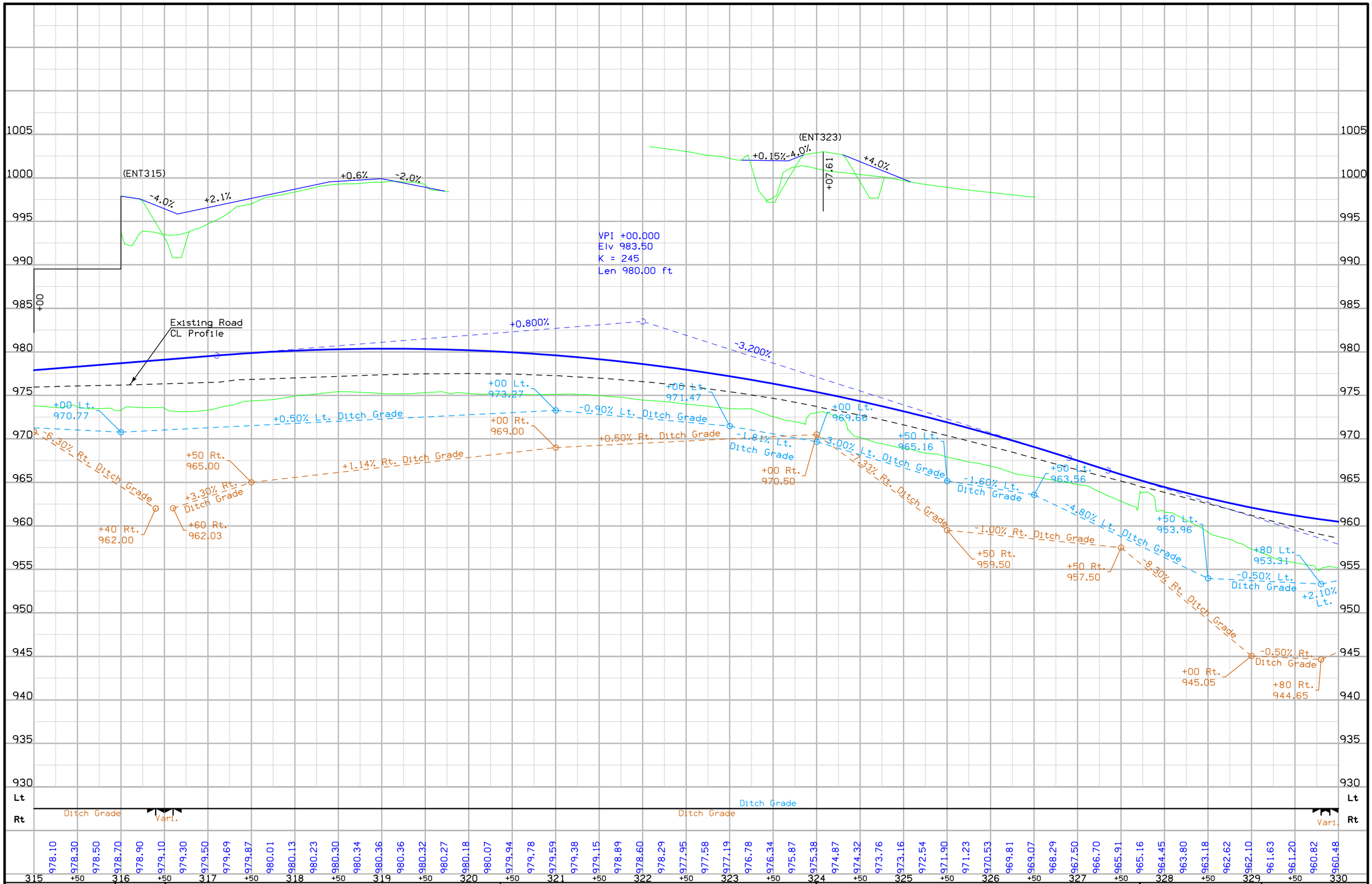

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.11

4:12:11 PM 7/11/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051D02.sht

Lincoln TWP.
T-76N R-24W
SEC. 28

Curve Data
Δ = 21° 58′ 51.50″ (LT)
T = 297.14
L = 586.97
R = 1,530.00
E = 28.59

SCS PI Sta 342+33.59
Δ = 27° 58′ 21.68″ (LT)
Theta = 2° 59′ 45.09″
Ls = 160.00
Ts = 461.25
Es = 47.46
P = 0.70
K = 79.99
Xc = 159.96
Yc = 2.79
LT = 106.68
ST = 53.35
LC = 159.98

Curve Data (Survey)
Δ = 32° 51′ 54.10″ (LT)
T = 337.60
L = 656.58
R = 1,144.67
E = 48.75

330
335
340
345

PI Sta 336+71.87
(Survey)

TS Sta 337+72.34

SC Sta 339+32.34

Fd Sta 340+35.67
(Survey)

CS Sta 345+19.31

IA 92 (ML092)

18″ X 23.0′
C.M.P.
(Remove)

Prop. 18″
Uncl. Ent. Pipe

+27 Prop.
Type "C" Ent.
(ENT334)

SPI Sta 338+79.02

Prop. 36″
Uncl. Ent. Pipe

(Close)

+03 Prop.
Type "C" Ent.
(ENT341)

18″ X 57.0′
C.M.P.
(Remove)

12″ X 24.0′
C.M.P.
(Remove)

PI Sta 343+73.27
(Survey)

PI Sta 342+29.48

House
Shed
Shed
Shed
Foundation

Sta. 332+80.53
2′ X 2′ X 50.0′ RCB
W/ 30″ RCP Extensions
D.A. = 17 Ac - R
(Plug & Abandon)
Sta. 332+95.0
Install 30″ RCP
Skew = 11° Lt. Ahd.
F.L. = Lt. 950.07
Rt. 940.00

Sta. 341+78.56
2′ X 2′ X 46.0′ RCB
W/ 30″ RCP Extensions
D.A. = 4 Ac - F
(Plug & Abandon)
Sta. 342+14.0
Install 24″ RCP
Skew = 9 ° Lt. Ahd.
F.L. = Lt. 969.19
Rt. 963.86

0 50
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.12

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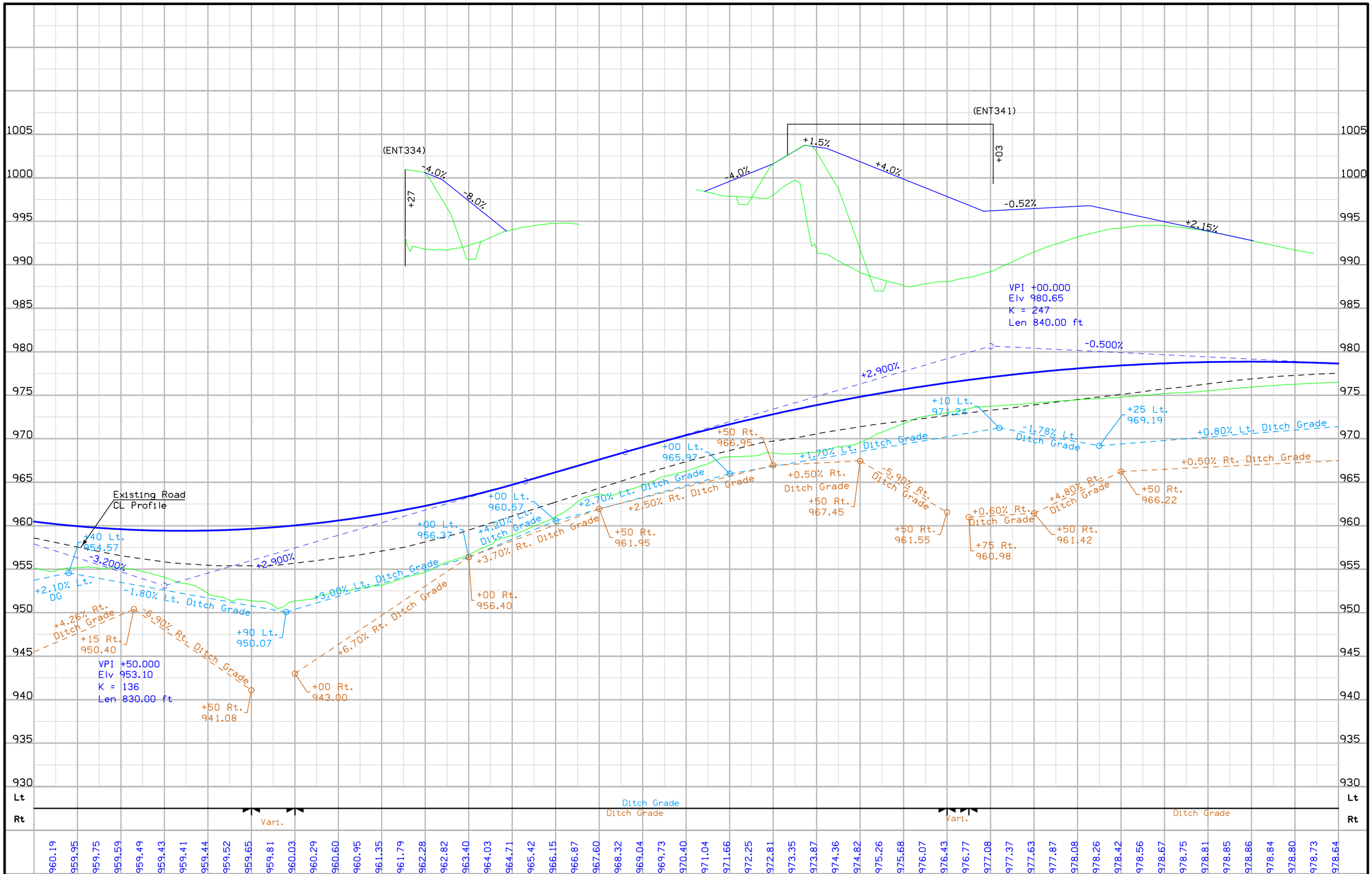

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.13

4:12:16 PM 7/11/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\91092010 04\Design\91092051D02.sht

Lincoln TWP.
T-76N R-24W
SEC. 28

IA 92 (ML092)

PI Sta 351+45.19 (Survey)
PI Sta 352+51.5
SPI Sta 345+72.66
SPI Sta 356+03.17
CS Sta 345+19.31
ST Sta 346+79.31
PT Sta 346+92.26 (Survey)
SPI Sta 348+91.99
TS Sta 347+85.31
PC Sta 348+38.86 (Survey)
SC Sta 349+45.31
CS Sta 355+49.82
ST Sta 357+03.82
PT Sta 354+61.33 (Survey)

+40 Prop. Type "C" Ent. (ENT352)
+18 Prop. Type "C" Ent. (ENT359)
+18 Prop. Joint Type "C" Ent. (ENT359)

Prop. 18" Uncl. Ent. Pipe
Prop. 36" RCP Ent. Pipe Skew 10° Rt. Ah.
Prop. 18" RCP Ent. Pipe

15" X 18.0' C.M.P. (Remove)
15" X 56.0' C.M.P. (Remove)
15" C.M.P. (Remove)

(Close)

Curve Data
Δ = 33° 09' 29.88" (RT)
T = 341.30
L = 663.44
R = 1,146.39
E = 49.73

Curve Data
Δ = 22° 38' 15.66" (RT)
T = 306.25
L = 604.51
R = 1,530.00
E = 30.35
SCS PI Sta 352+55.89
Δ = 28° 37' 45.84" (RT)
Theta = 2° 59' 45.09"
Ls = 160.00
Ts = 470.58
Es = 49.74
P = 0.70
K = 79.99
Xc = 159.96
Yc = 2.79
LT = 106.68
ST = 53.35
LC = 159.98

Sta. 358+05.35
2' X 2' X 39.0' RCB
W/ 30" RCP Extensions
D.A. = 5 Ac - F
(Remove)

Sta. 358+05.0
Install 24" RCP
F.L. = Lt. 966.75
Rt. 964.88

0 FEET 50

FILE NO.	ENGLISH	DESIGN TEAM Jla\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.14

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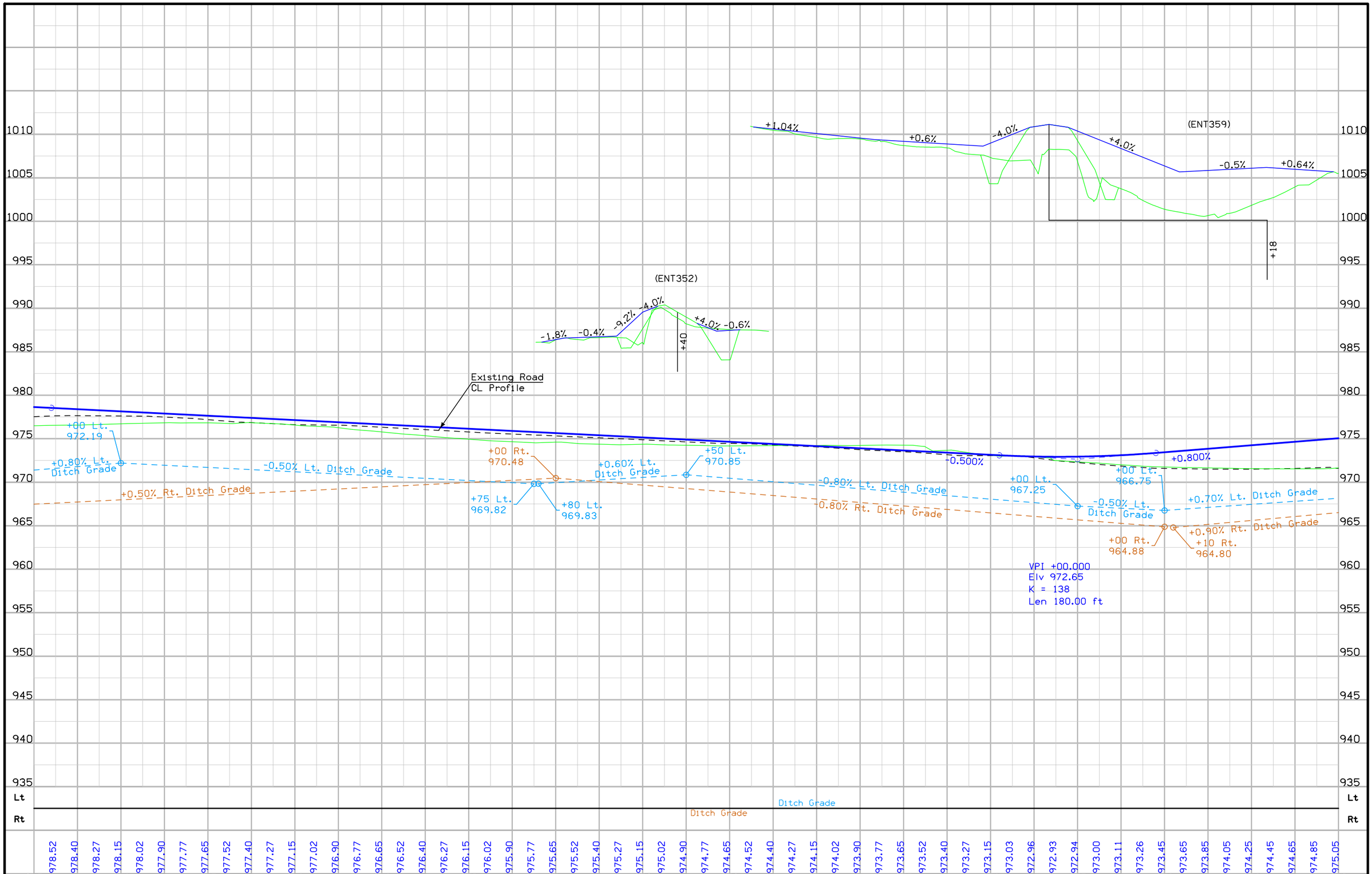

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.15

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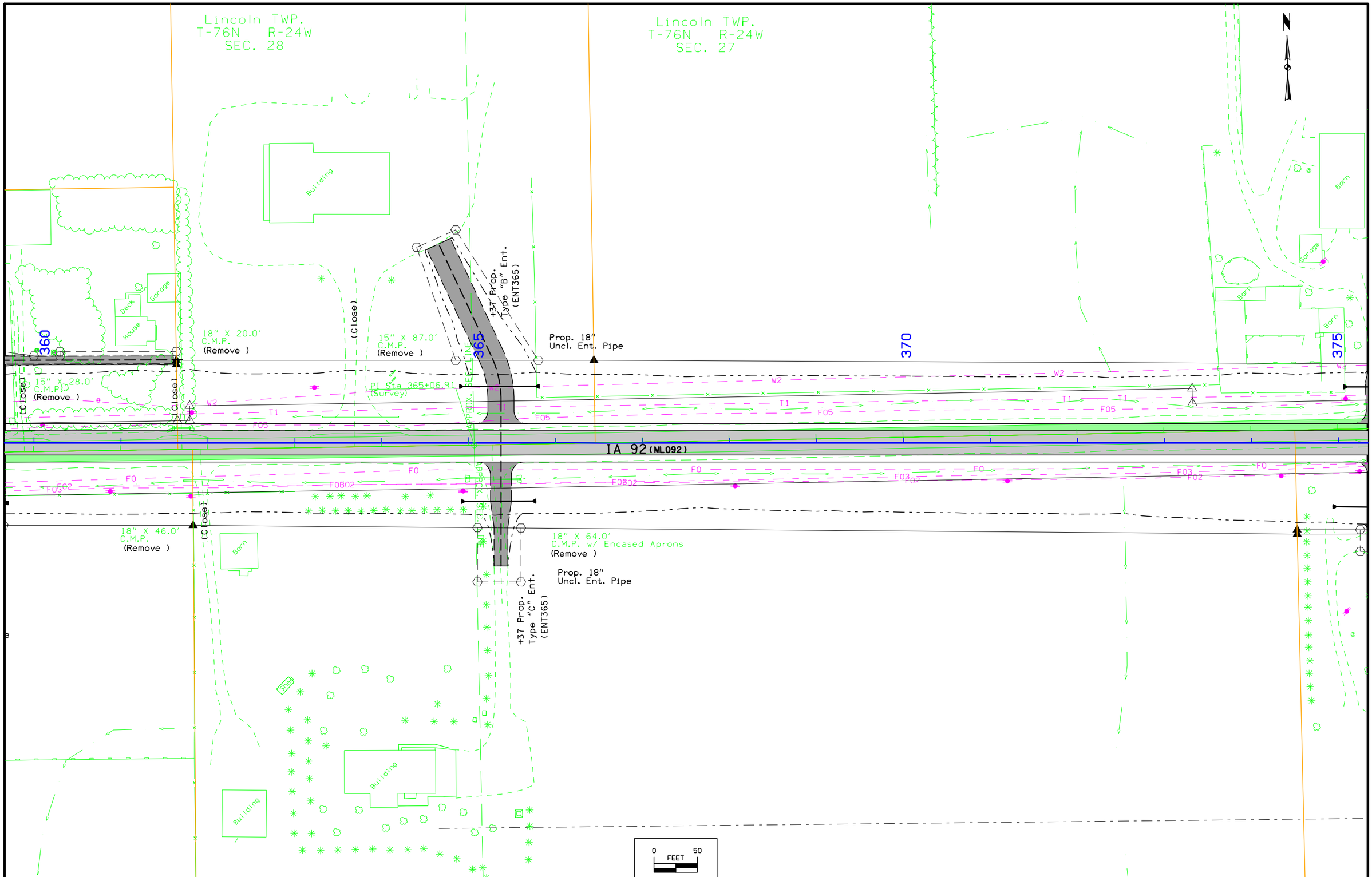

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.16

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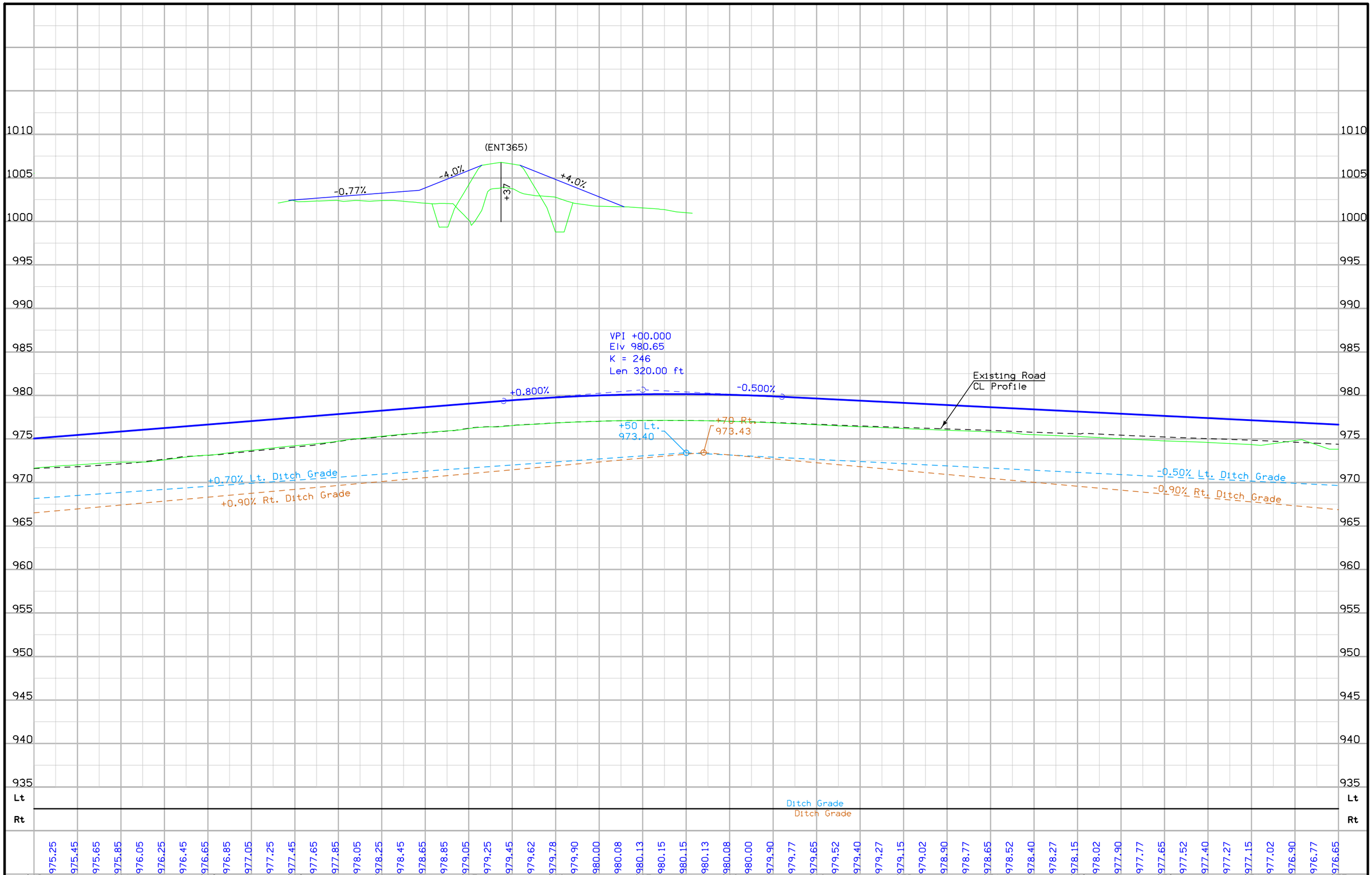

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.17

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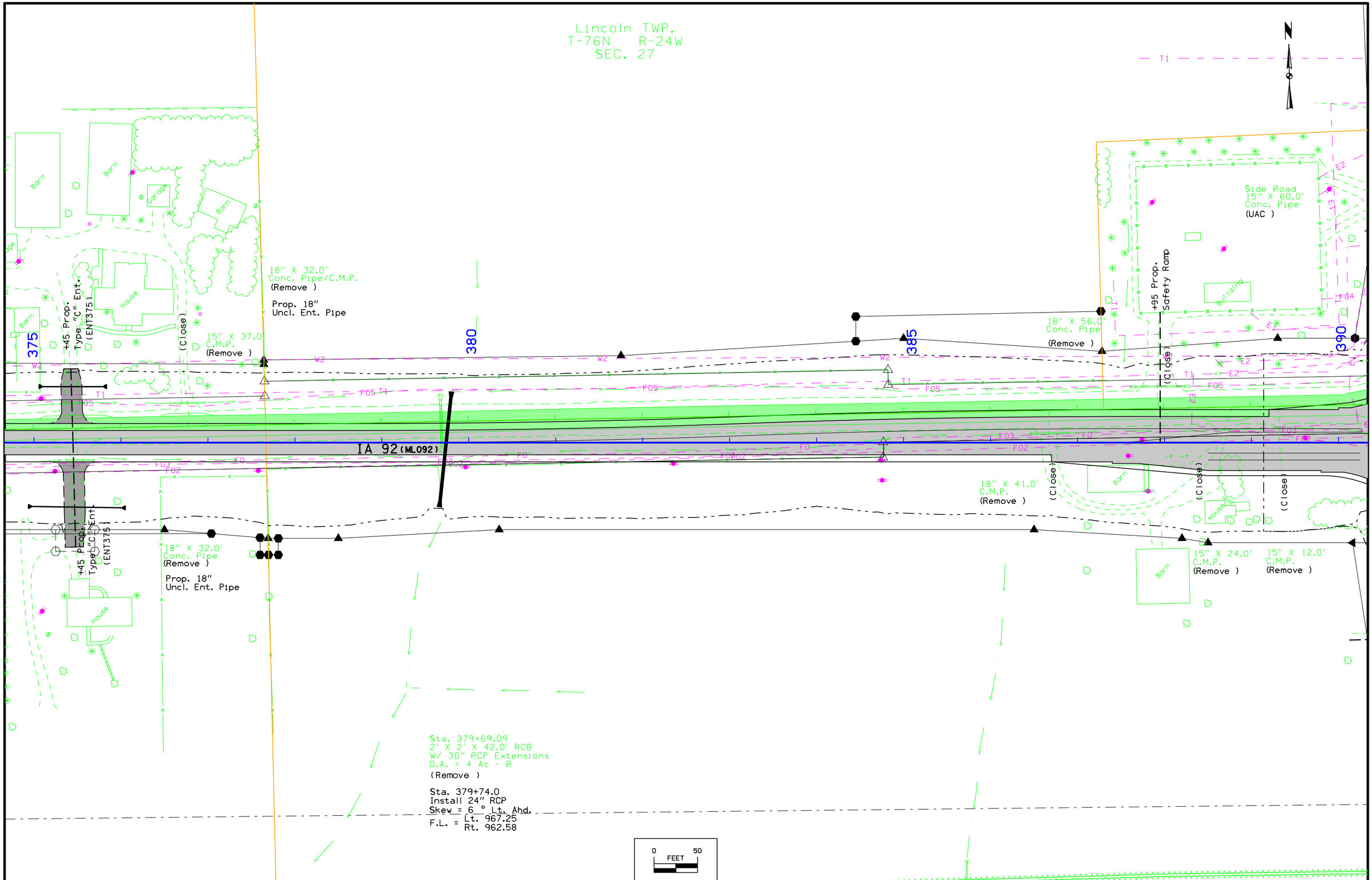

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.18

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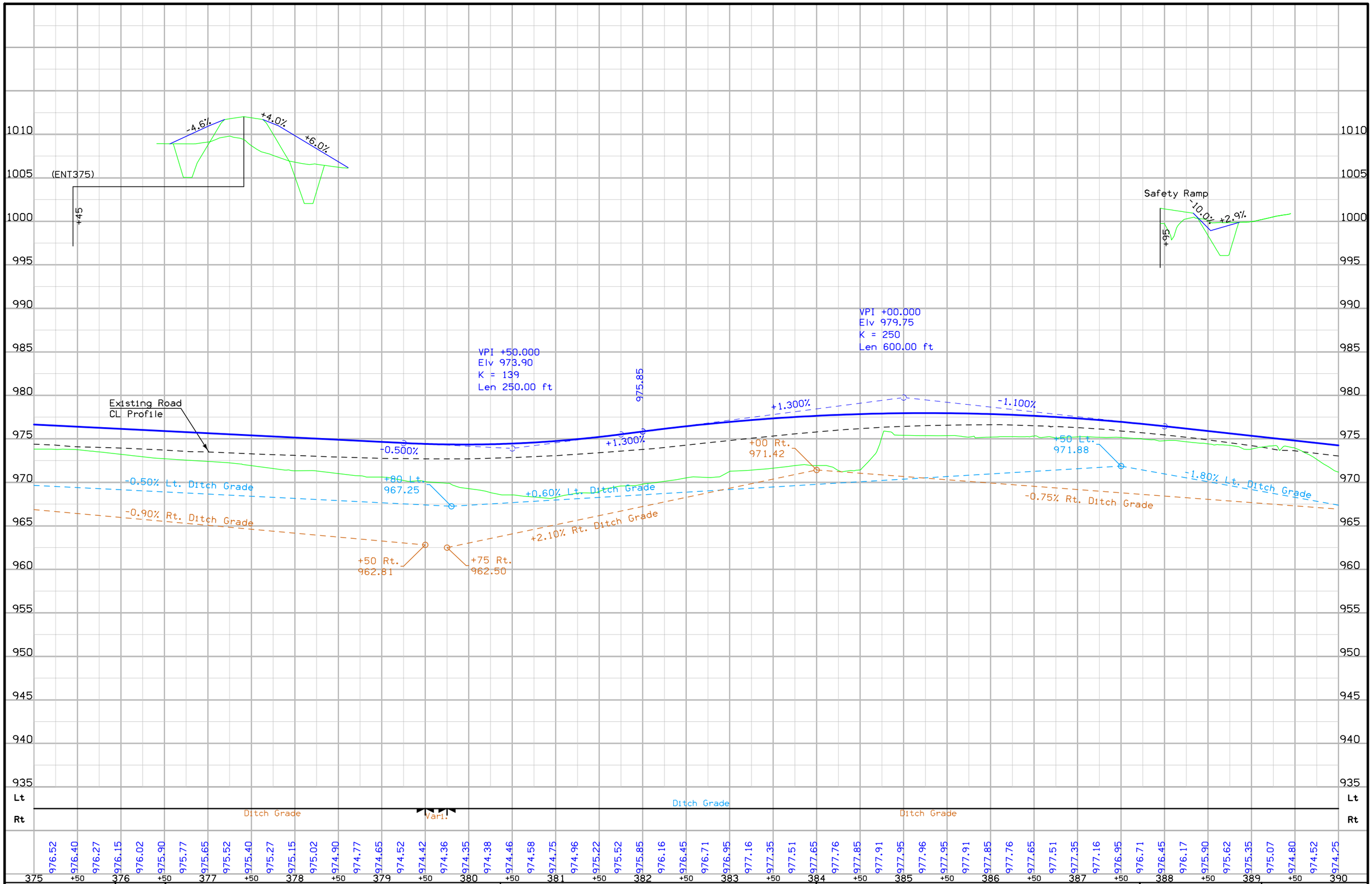

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.19

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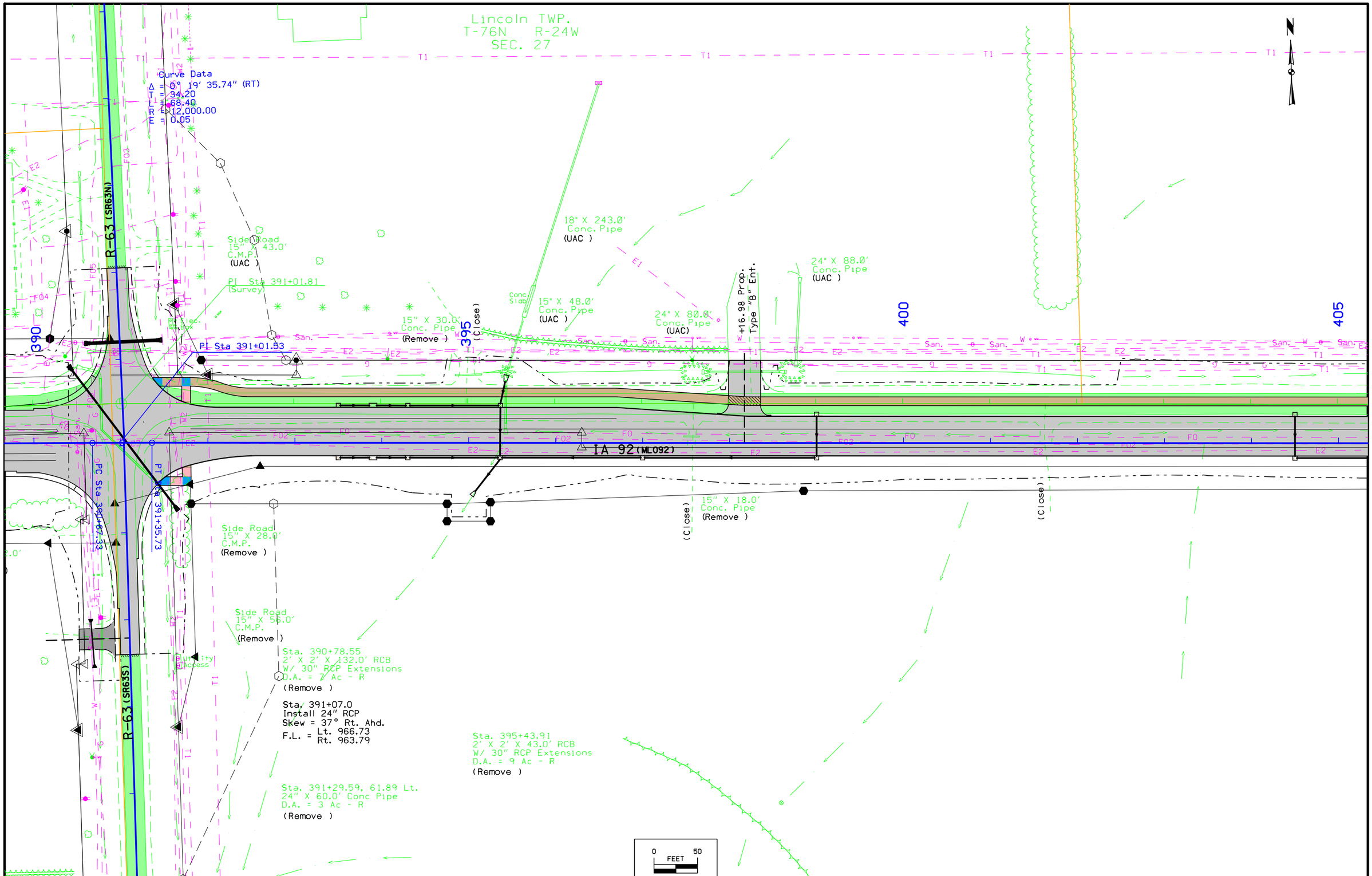

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.20

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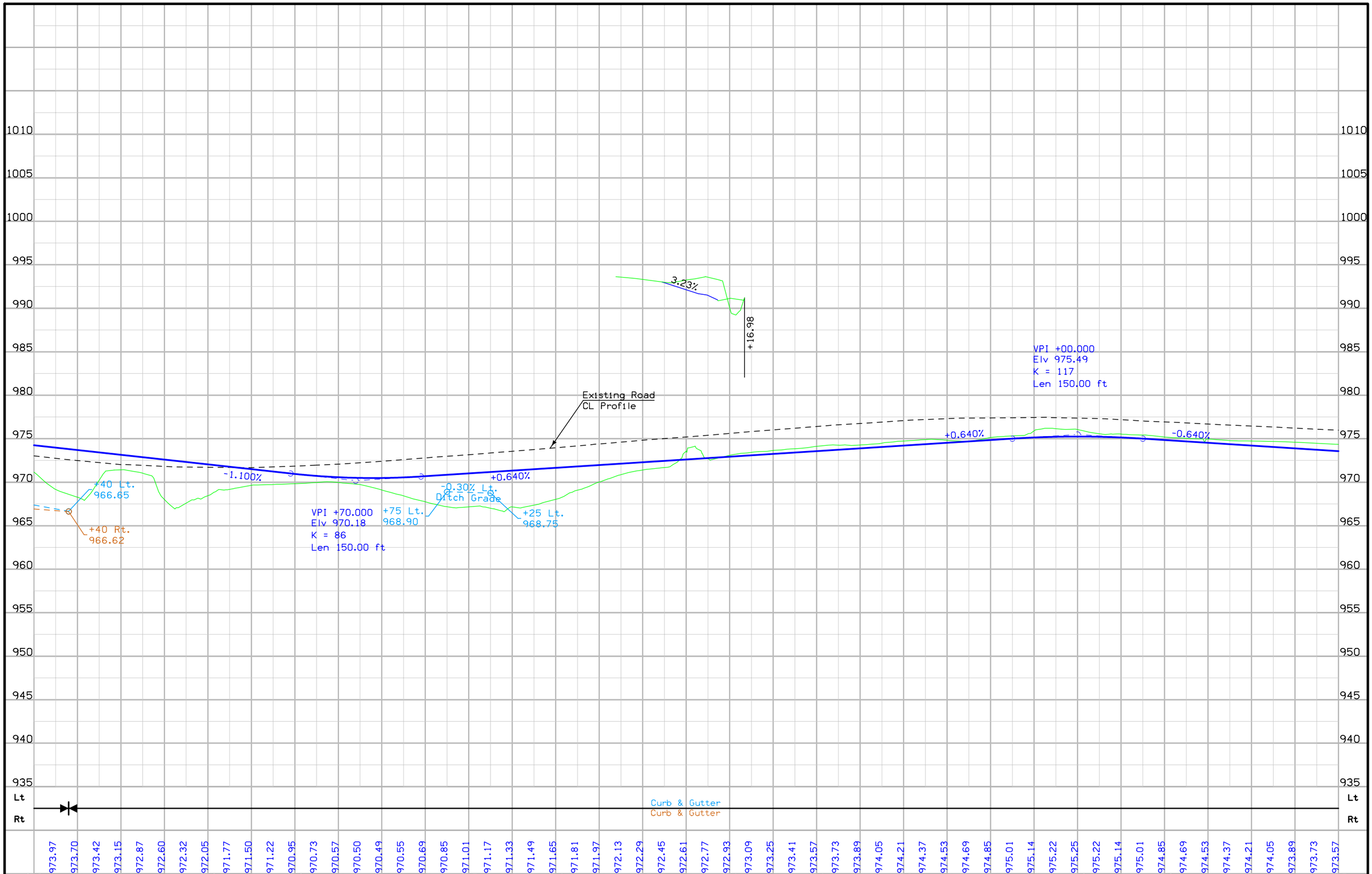

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Lincoln TWP.
T-76N R-24W
SEC. 27

Sta. 417+03.73, 37.07 Lt.
22' X 14" X 60.0' Arch Conc Pipe
D.A. = 4 Ac - r
(Remove)

Curve Data
Δ = 0° 25' 37.45" (LT)
T = 44.72
L = 89.45
R = 12,000.00
E = 0.08

PI Sta 417+36.67
(Survey)

405 410 415 420

+00 Prop.
Type "C" Ent.

15" X 24.0'
C.M.P.
(Remove)

15" X 48.0'
C.M.P.
(Remove)

(Close)

+80.63 Prop. Jt.
Type "B" Ent.

IA 92 (ML092)

'Y' ST (SRYSTN)

'Y' ST (SRYSTS)

PC Sta 416+90.59

PI Sta 417+35.31

PT Sta 417+80.03

4" Tile

Sta. 412+66.92, 247.41 RT
6 Tile Riser Intake
D.A. = 5A - R
(U.A.C.)

Sta. 414+54.06, 307.09 RT
6 Tile Riser Intake
D.A. = 2A - R
(U.A.C.)

Sta. 417+30.31, 350.36 Rt
30" X 44.0' CMP
D.A. = 16 Ac - R
(Remove)

0 FEET 50

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.22

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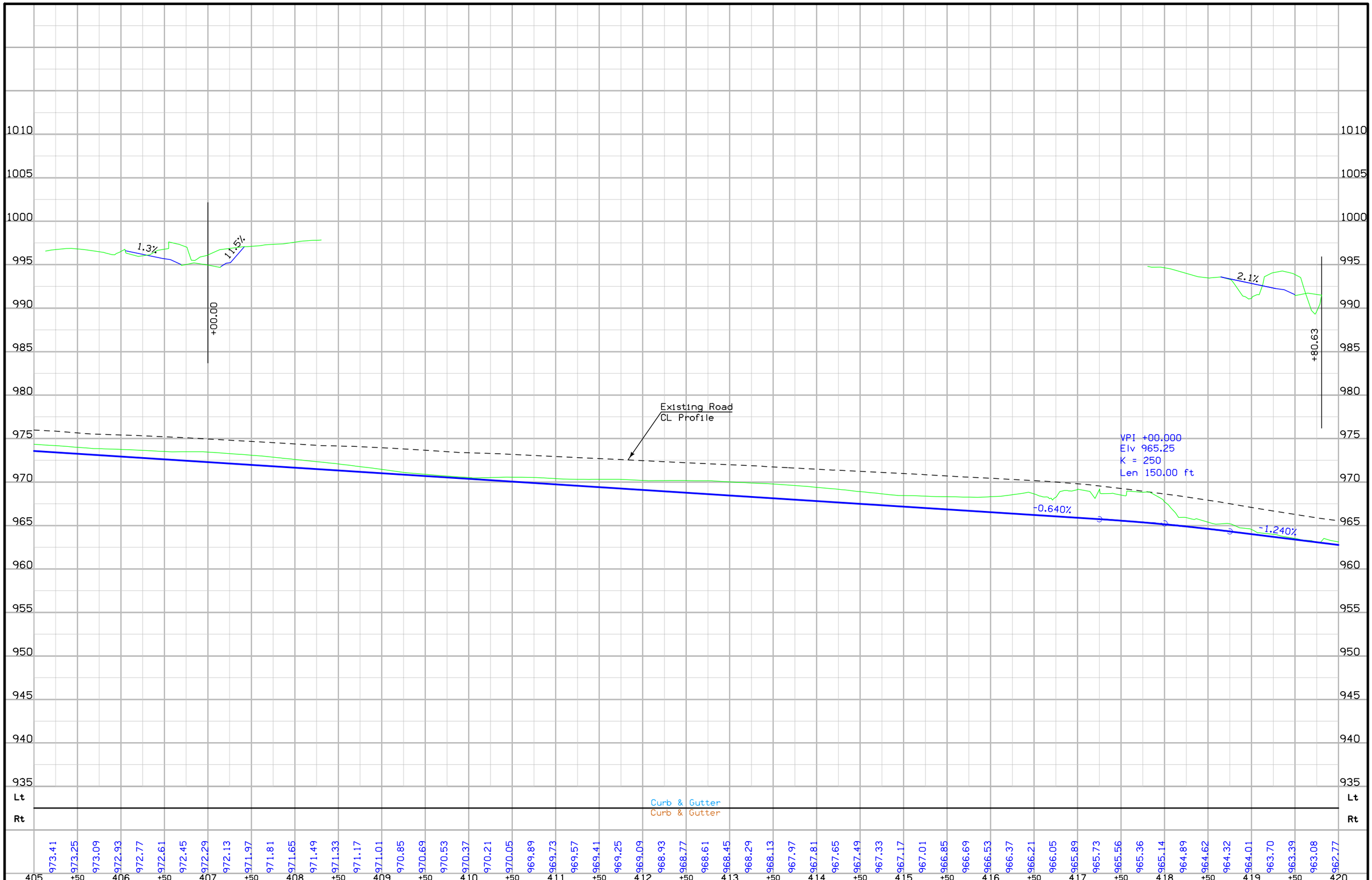

FILE NO.	ENGLISH	DESIGN TEAM Jla\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.23

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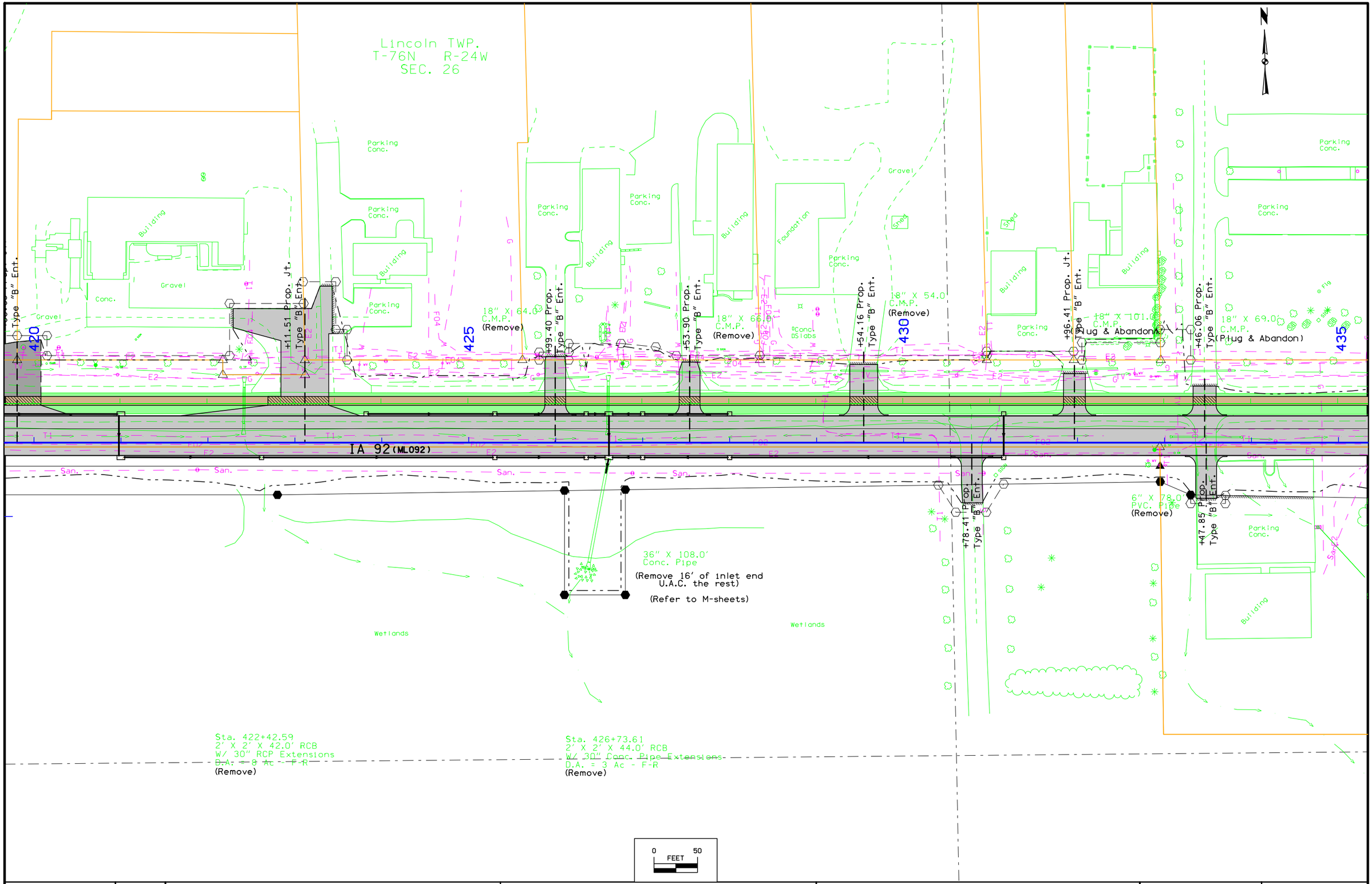

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.24

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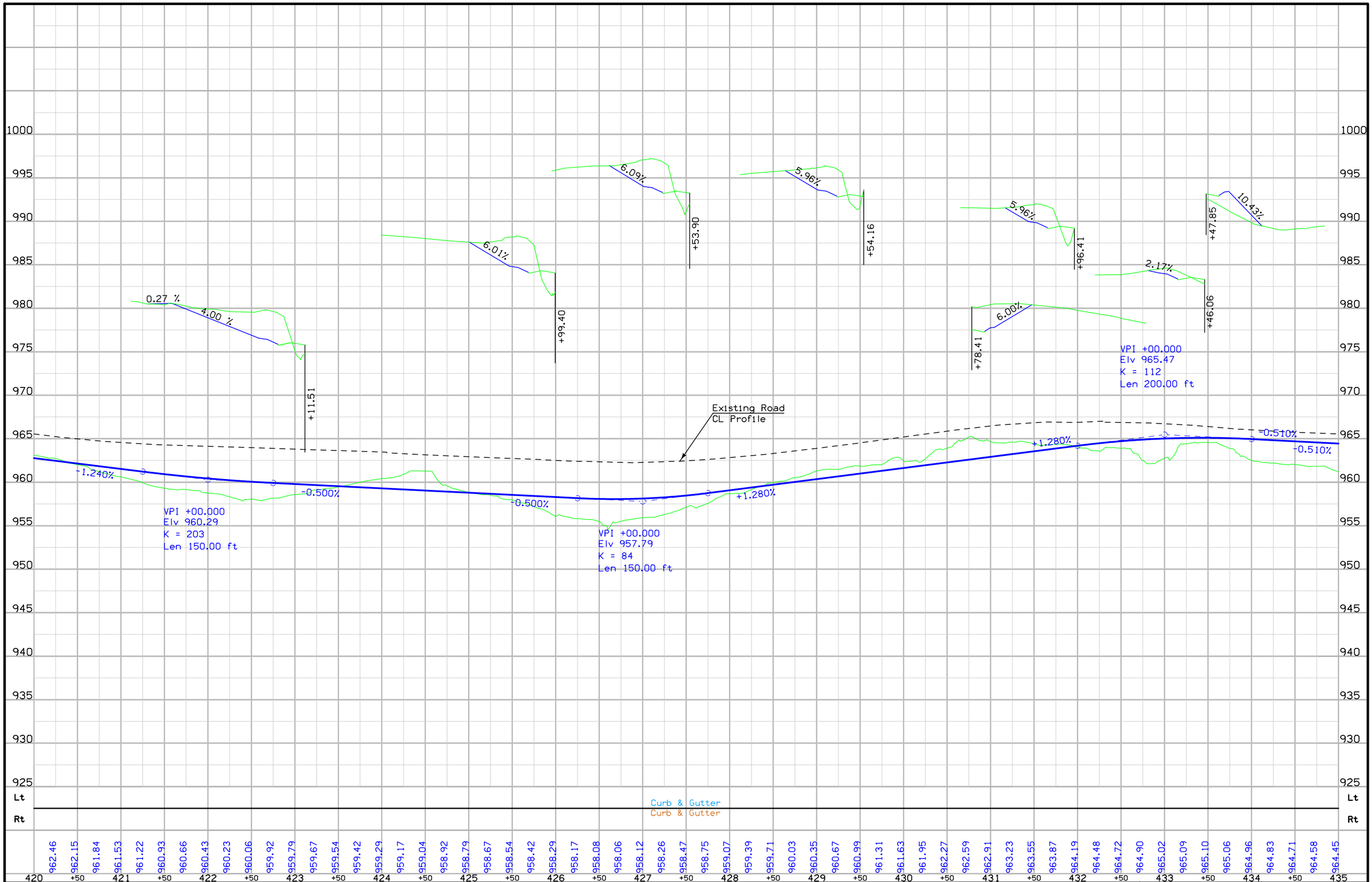

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.25

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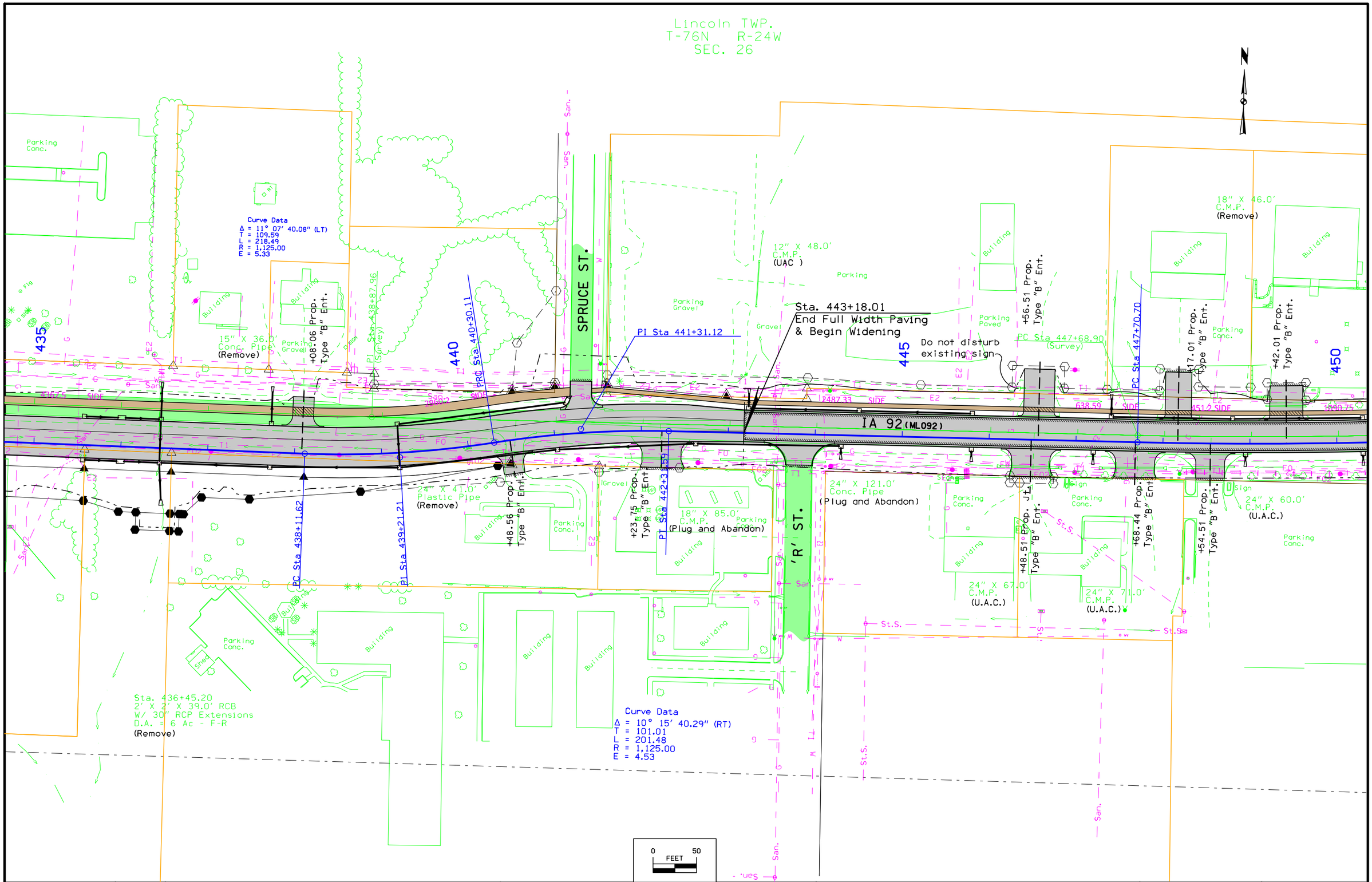

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.26

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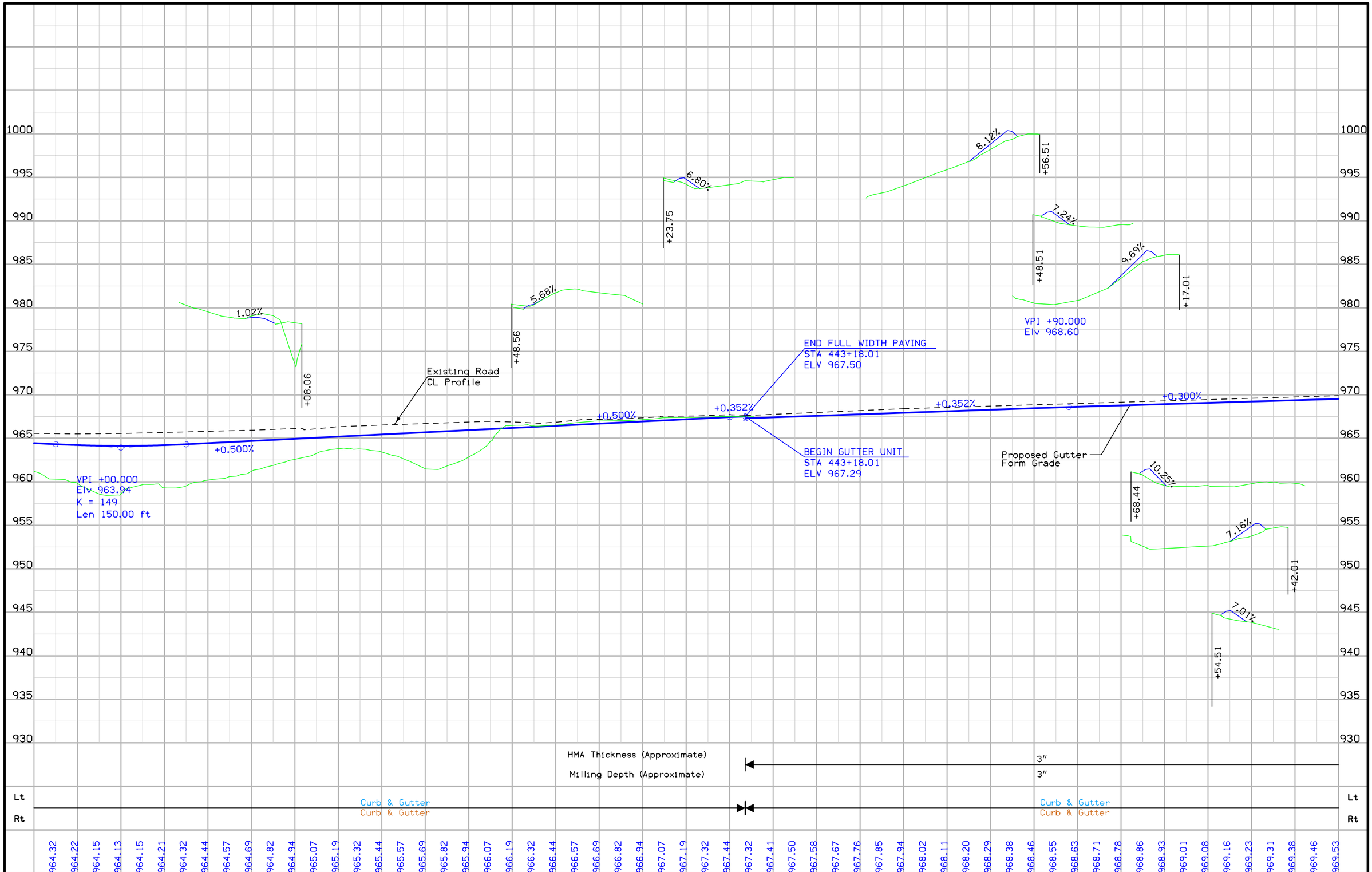

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.27

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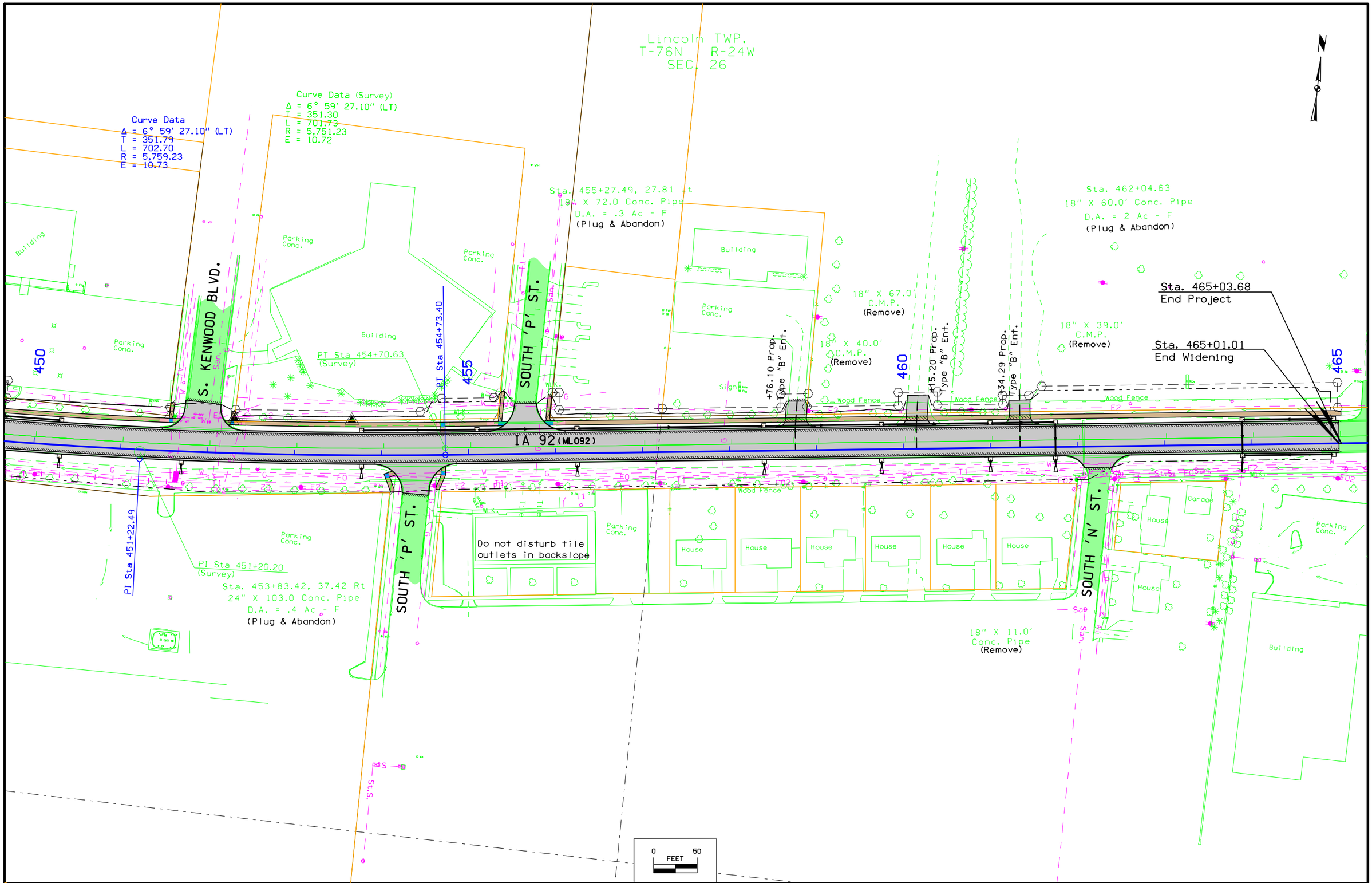

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER D.28

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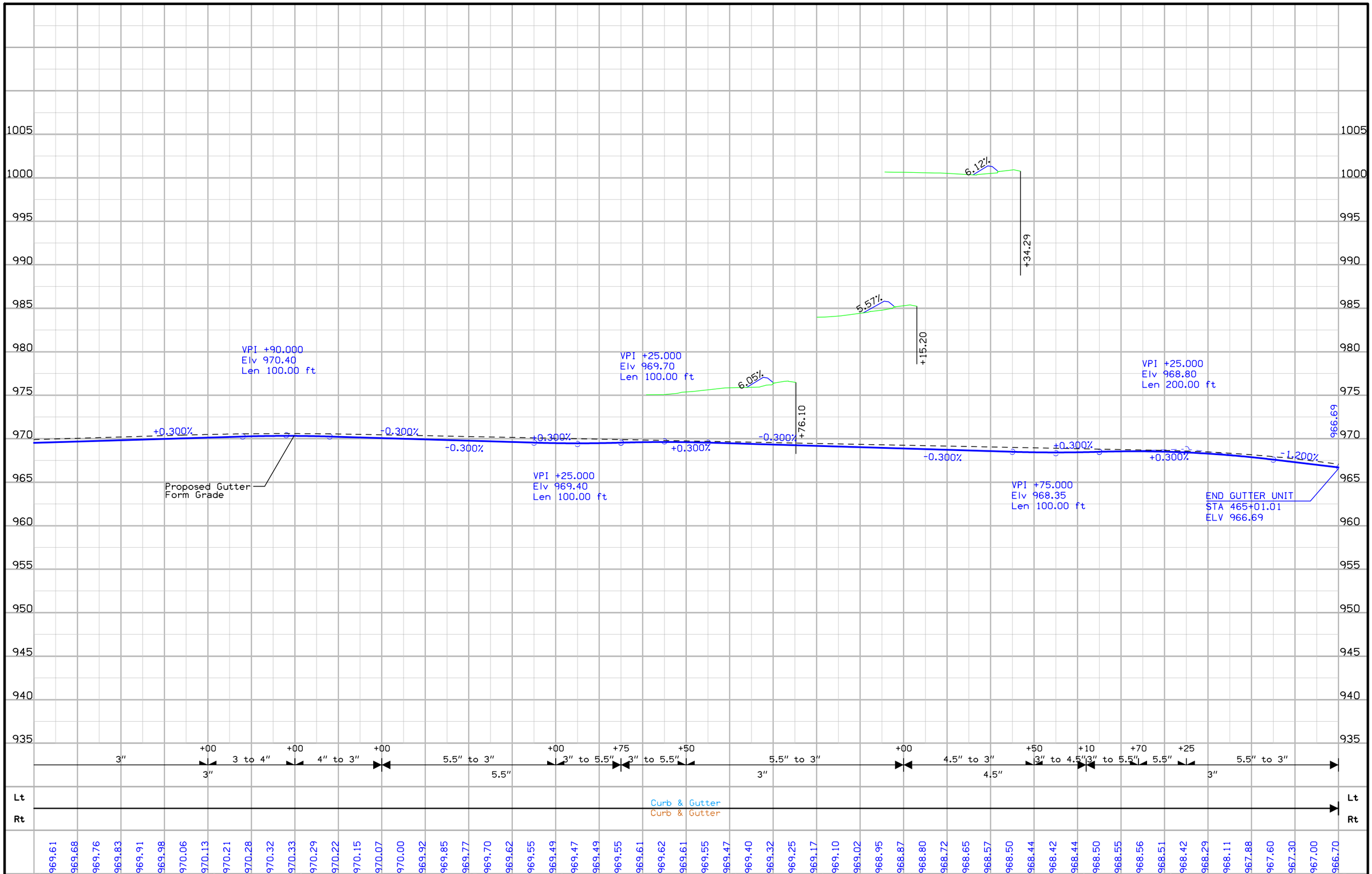

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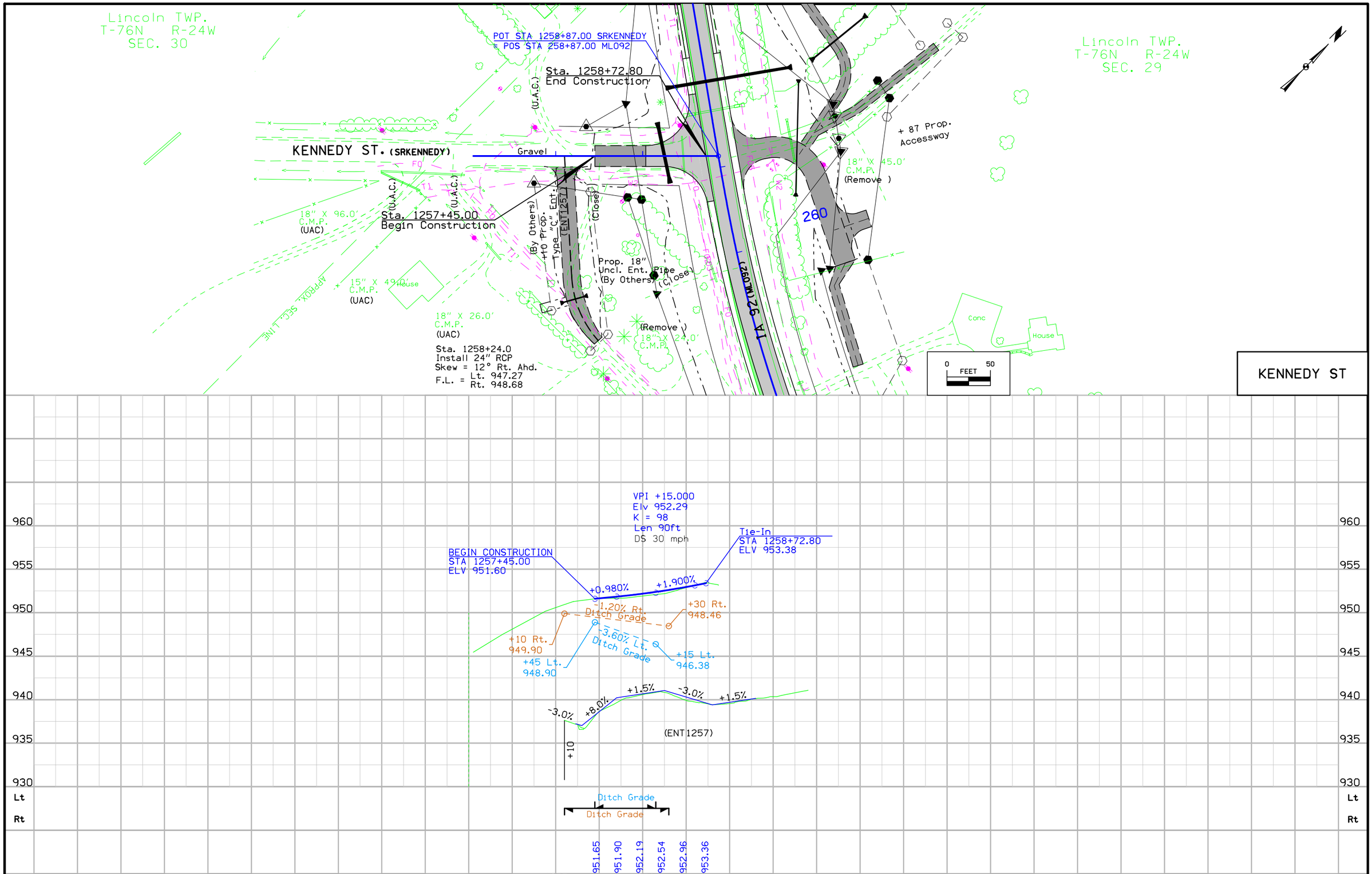

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER E.1

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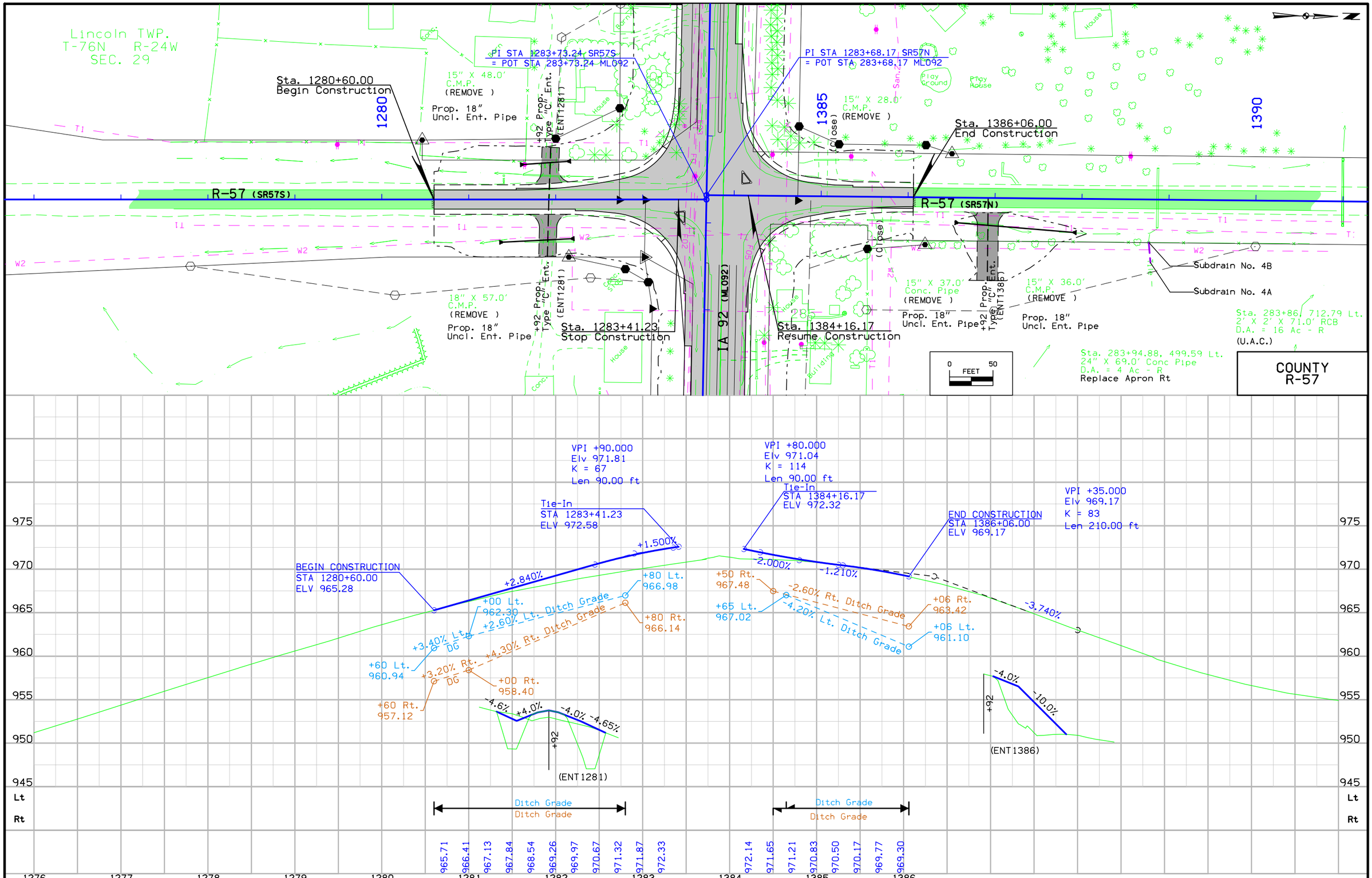

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER E.2

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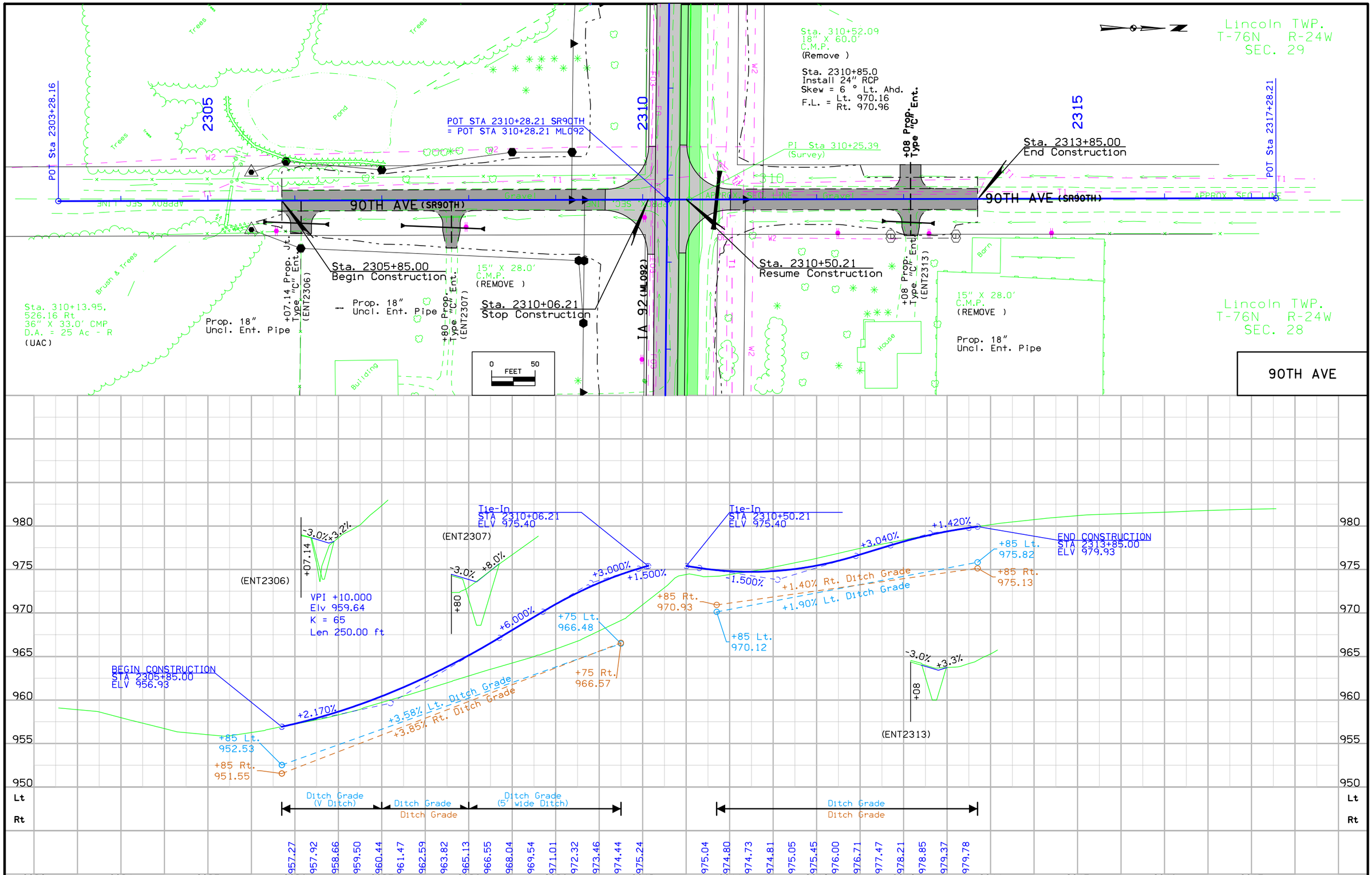

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER E.3

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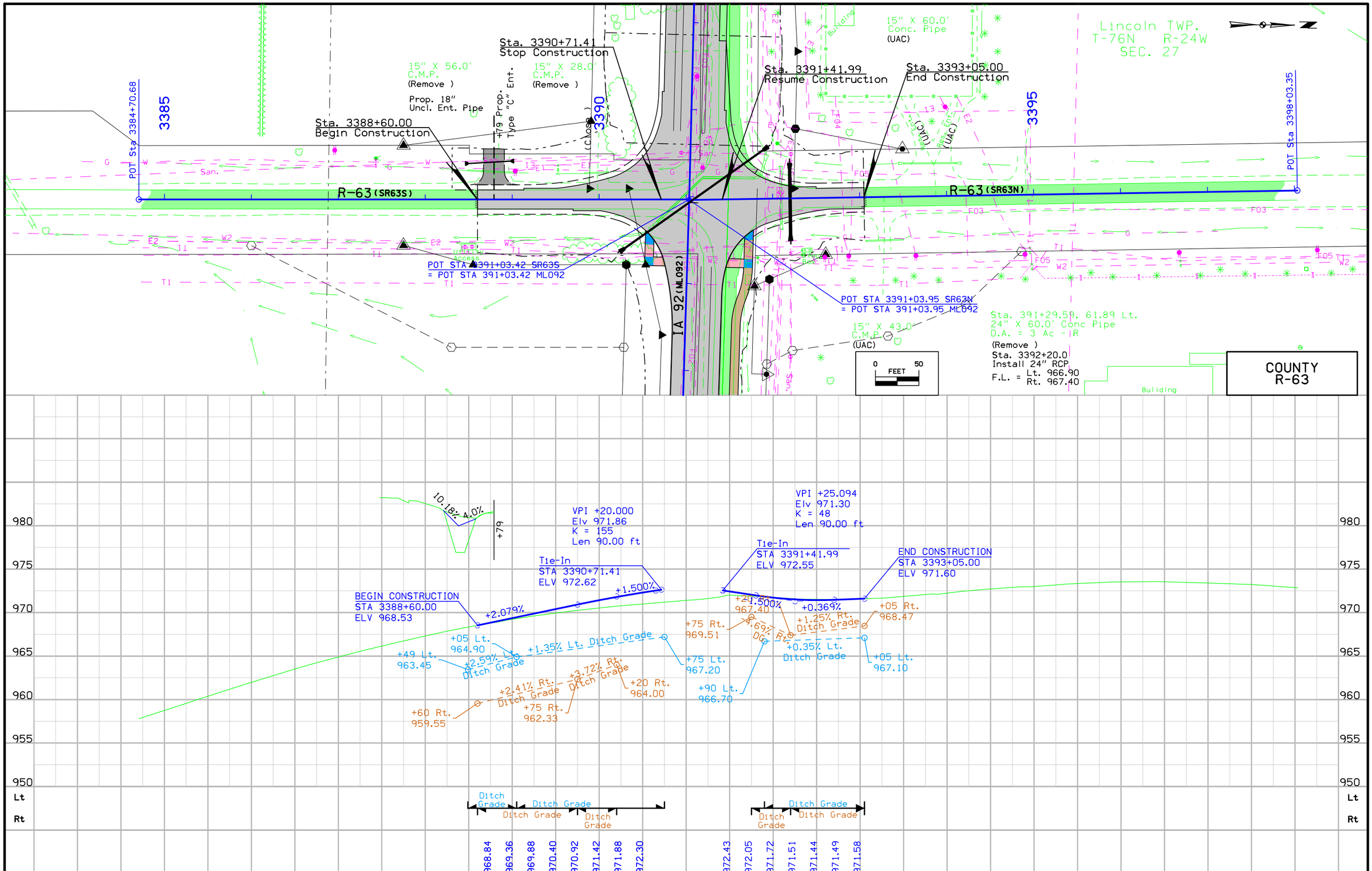

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER E.4

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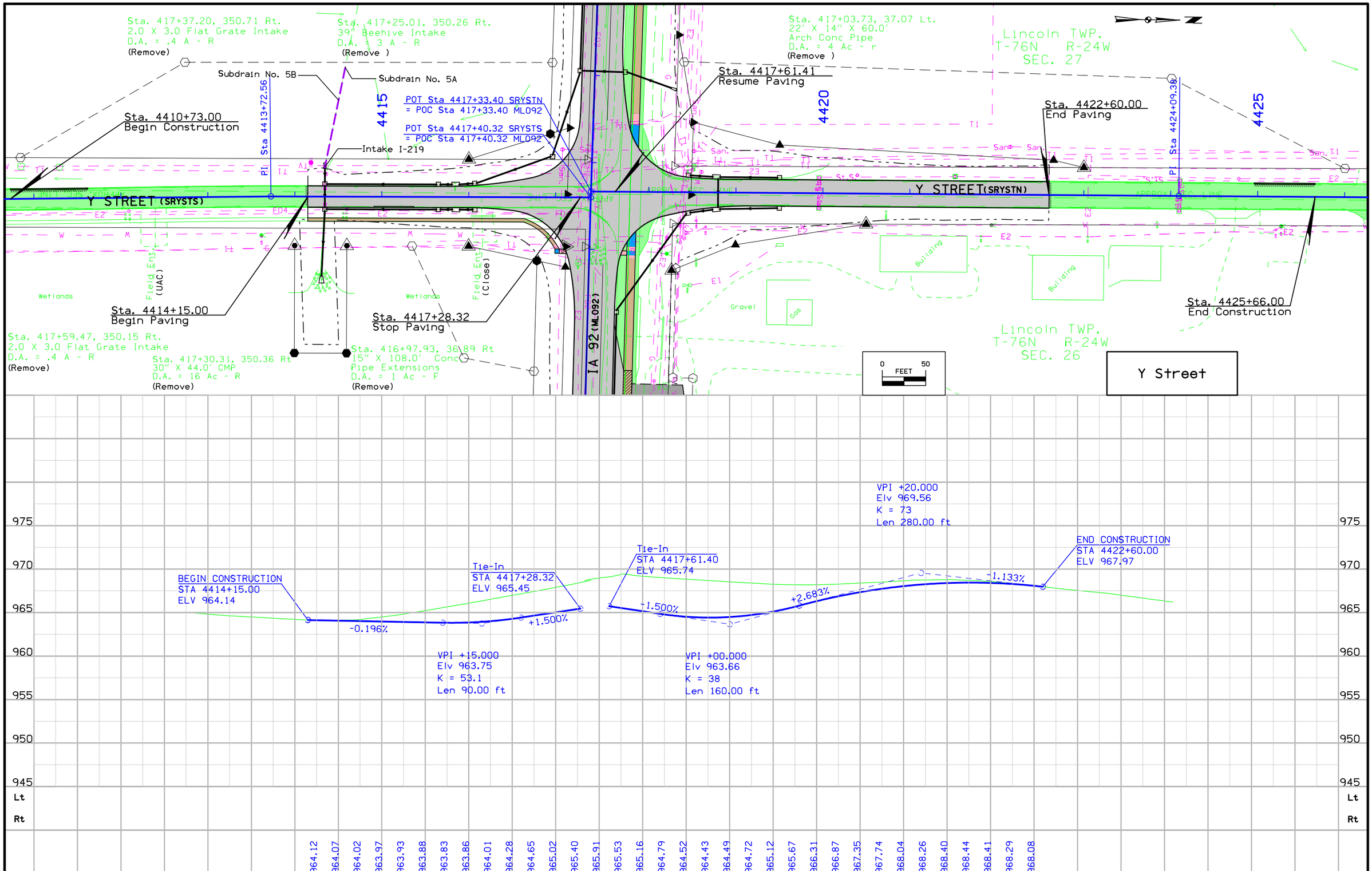
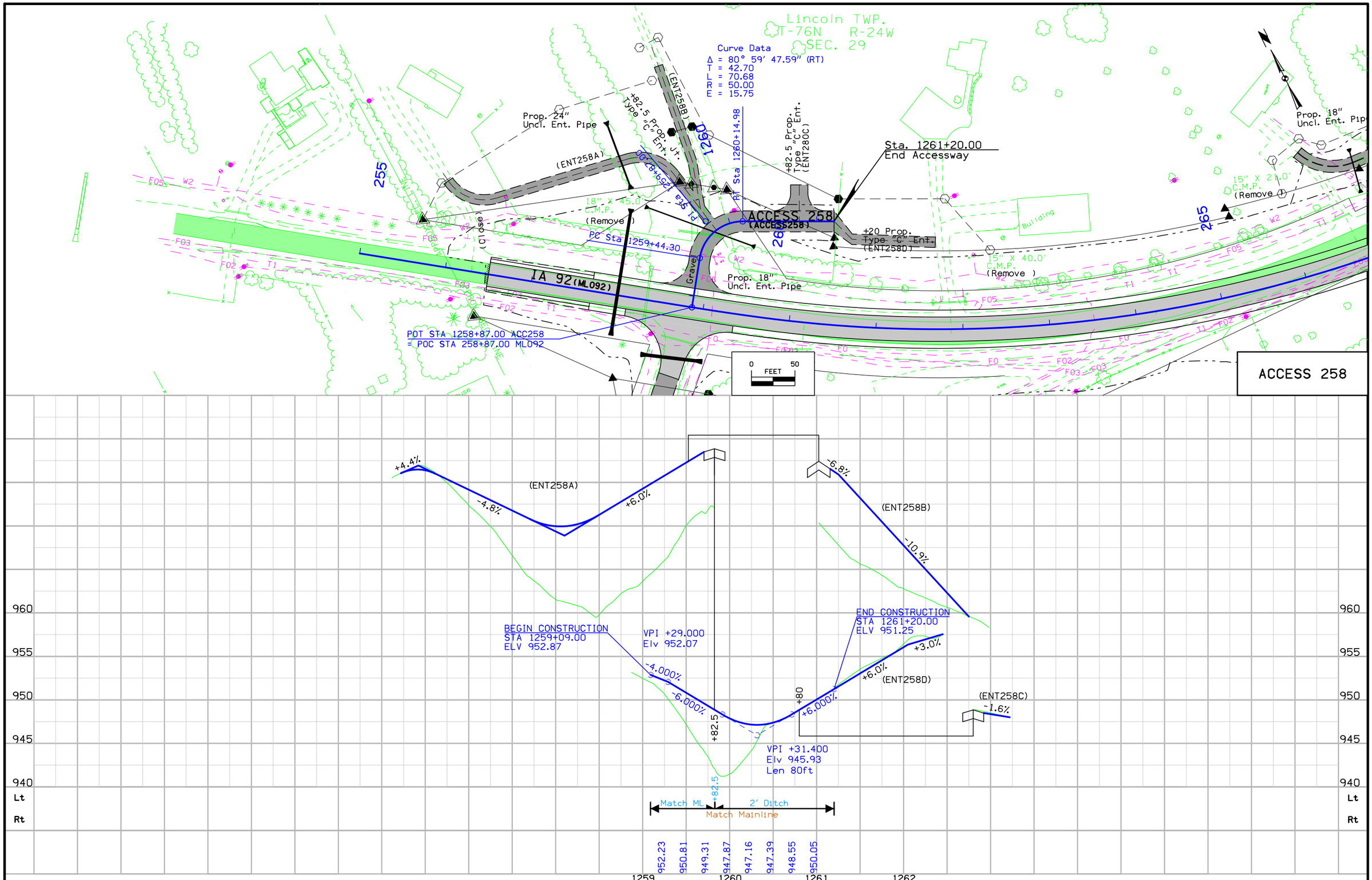


FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER E.5

9:04:51 AM 6/24/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051E01.sht



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER E.6

9:04:54 AM 6/24/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051E01.sht

Lincoln TWP.
T-76N R-24W
SEC. 28

355 360 365 350

IA 92 (ML092)

POT STA 100+00.00 ENT359
= POT STA 359+18.00 ML092

Prop. 18" Uncl. Ent. Pipe

+40 Prop. "C" Ent. Type (ENT352)

(Close)

15" X 28.0' C.M.P. (Remove)

18" X 20.0' C.M.P. (Remove)

15" X 87.0' C.M.P. (Remove)

15" X 56.0' C.M.P. (Remove)

15" X 18.0' C.M.P. (Remove)

18" X 46.0' C.M.P. (Remove)

PT Sta 99+43.00

24'

10'

Transition Width

98

PC Sta 98+64.48

PI Sta 99+14.46

Sta. 96+49.50
Begin Entrance

+49.50

+67.0

(Refer to Typical ENT359 for additional details)

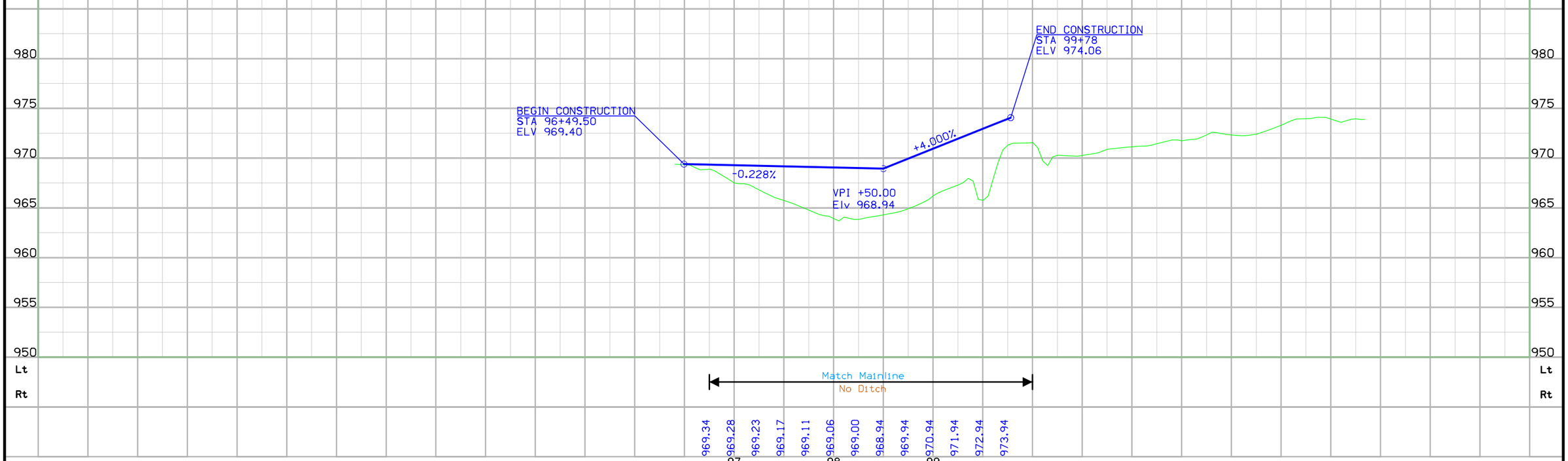
Sta. 98+08.0
Install 36" RCP Ent. Pipe
Skew = 10° Rt. Ahd.
F.L. = Lt. 964.50
Rt. 963.30

Sta. 99+30.0
Install 18" RCP Ent. Pipe
Skew = 15° Rt. Ahd.
F.L. = Lt. 965.15
Rt. 966.00

Curve Data
Δ = 89° 59' 11.30" (LT)
T = 49.99
L = 78.53
R = 50.00
E = 20.70

0 FEET 50

ENTRANCE 359



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER E.7

9:04:57 AM 6/24/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051E01.sht

Curve Data
Δ = 19° 44' 59.72" (RT)
T = 88.78
L = 175.80
R = 510.00
E = 7.67
e = -2.0%

Lincoln TWP.
T-76N R-24W
SEC. 29

Curve Data
Δ = 19° 44' 59.72" (LT)
T = 88.78
L = 175.80
R = 510.00
E = 7.67
e = -2.0%

Curve Data
Δ = 20° 10' 50.98" (RT)
T = 90.76
L = 179.63
R = 510.00
E = 8.01
e = -2.0%

Curve Data
Δ = 19° 37' 05.90" (LT)
T = 88.18
L = 174.63
R = 510.00
E = 7.57
e = -2.0%

PC STA 11277+89.54 DETR57
= POT STA 1277+35.33 SR57S

PI Sta 11278+78.32

15" X 48.0' C.M.P.
(REMOVE)

15" X 28.0' C.M.P.
(REMOVE)

IA 92 (ML092)

R-57 (SR57S)

R-57 (SR57N)

DETOUR R-57 (DETR57)

PT Sta 11281+41.13

PC Sta 11286+86.13

PC Sta 11288+60.76

PI Sta 11289+51.51

Sta. 11290+40.39
End Construction

Sta. 11277+89.54
Begin Construction

PC Sta 11279+65.33

PI Sta 11280+54.11

18" X 57.0' C.M.P.
(REMOVE)

Sta. 11281+25.00
Install 18" Uncl Pipe
F.L. = Lt. 960.49
Rt. 956.79

Sta. 11283+98.25
Tie-in ES

POT STA 11284+33.25 DETR57
= POT STA 284+33.25 ML092

Sta. 11284+92.87
Tie-in ES

15" X 37.0' Conc. Pipe
(REMOVE)

Sta. 11287+15.00
Install 18" Uncl Pipe
F.L. = Lt. 961.44
Rt. 958.00

PI Sta 11287+74.31

15" X 36.0' C.M.P.
(REMOVE)

Subdrain No. 4A

PT STA 11290+40.39 DETR57
= POT STA 1389+67.34 SR57N

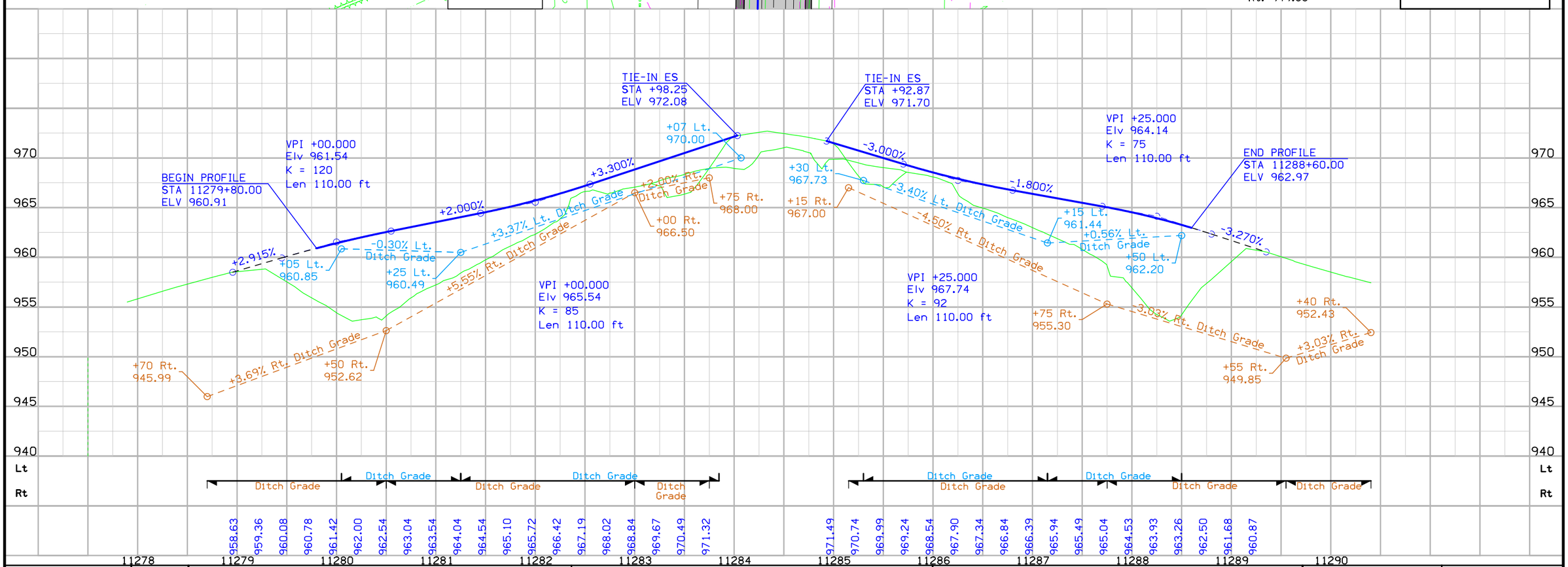
Sta. 283+94.88, 499.59 Lt.
24" X 69.0' Conc Pipe
D.A. = 4 Ac - R

Temporary Extension Rt
With 24" Uncl Pipe
F.L. = Lt. 949.52
Rt. 949.88

Sta. 283+86, 712.79 Lt.
2' X 2' X 71.0' RCB
D.A. = 16 Ac - R
(U.A.C.)

DETOUR R-57

0 50
FEET



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER F.1

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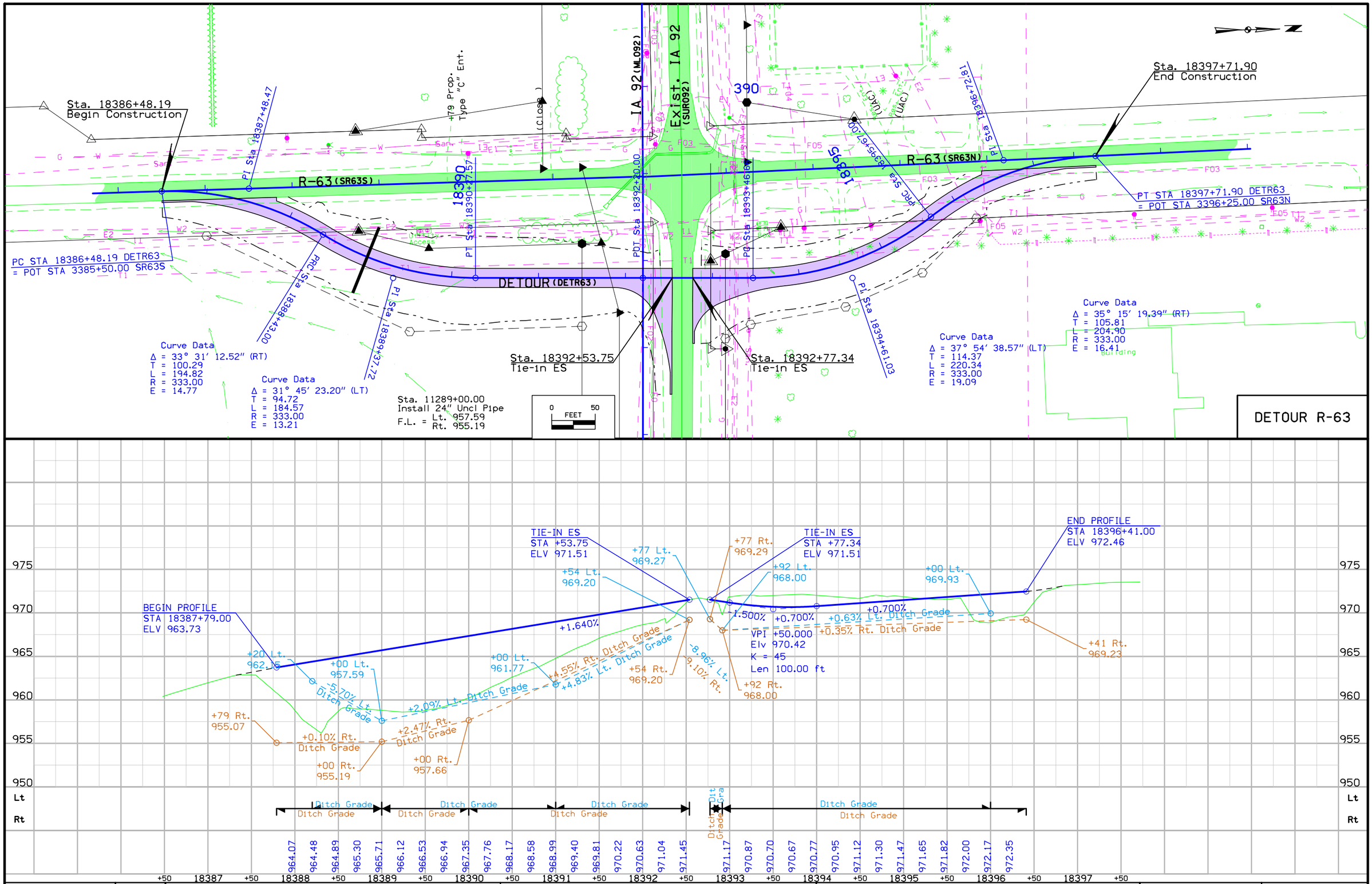

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER F.2

2:16:42 PM 6/29/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051F01.sht

Curve Data
Δ = 31° 43′ 00.45″ (LT)
T = 94.60
L = 184.34
R = 333.00
E = 13.18

Curve Data
Δ = 32° 29′ 52.74″ (RT)
T = 97.05
L = 188.88
R = 333.00
E = 13.86

Sta. 1413+60.00
Install 30″ Uncl Pipe
F.L. = Lt. 960.00
Rt. 959.00

Subdrain No. 5A

Sta. 14417+13.53
End Construction

PC STA 14409+58.78 DETYSTA
= POT STA 4410+41.69 SRYSTS

POT STA 416+40.28 ML092
= POT STA 14416+80.29 DETYSTA

Curve Data
Δ = 31° 17′ 50.18″ (RT)
T = 93.28
L = 181.90
R = 333.00
E = 12.82

Sta. 14409+91.69
Begin Construction

PC Sta 14409+58.78
PI Sta 14410+53.37
PRC Sta 14411+43.11
PI Sta 14412+40.17
PT Sta 14413+31.66
POT Sta 14416+80.29
PC Sta 14422+25.99

'Y' ST (SRYSTS)
'Y' ST (SRYSTN)
(ML092)
(Close)
Wetlands
Gravel
Gas
Building
San.

Detour Y ST SW
(YSTA)

VPI +08.780
Elv 962.65

VPI +47.000
Elv 963.41

VPI +75.000
Elv 965.97
K = 35.3
Len 130.00 ft

VPI +60.000
Elv 962.85
K = 38.0
Len 140.00 ft

BEGIN PROFILE
STA 14410+78.05
ELV 962.97

END CONSTRUCTION
STA 14417+13.53
ELV 969.92

962.16

+2.767%
+2.000%
+2.000%
-1.686%
+2.000%

+91 Lt.
961.80

+80 Rt.
963.90

0.76% Rt. Ditch Grade
0.49% Lt. Ditch Grade

+80 Rt.
963.14

2.30% Rt. Ditch Grade

+60 Lt.
960.00

+60 Rt.
959.00

+2.18% Lt. Ditch Grade
+2.47% Rt. Ditch Grade

+90 Lt.
967.18

+90 Rt.
967.16

+14 Rt.
969.86

+14 Lt.
970.04

Ditch Grade

Lt
Rt

962.40 962.97 963.47 963.97 964.47 964.94 965.24 965.37 965.32 965.09 964.71 964.28 963.88 963.60 963.49 963.55 963.77 964.15 964.65 965.15 965.65 966.15 966.65 967.15 967.65 968.15 968.65 969.15 969.65

14410 14411 14412 14413 14414 14415 14416 14417 14418 14419 14420 14421 14422 14423

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER F.3

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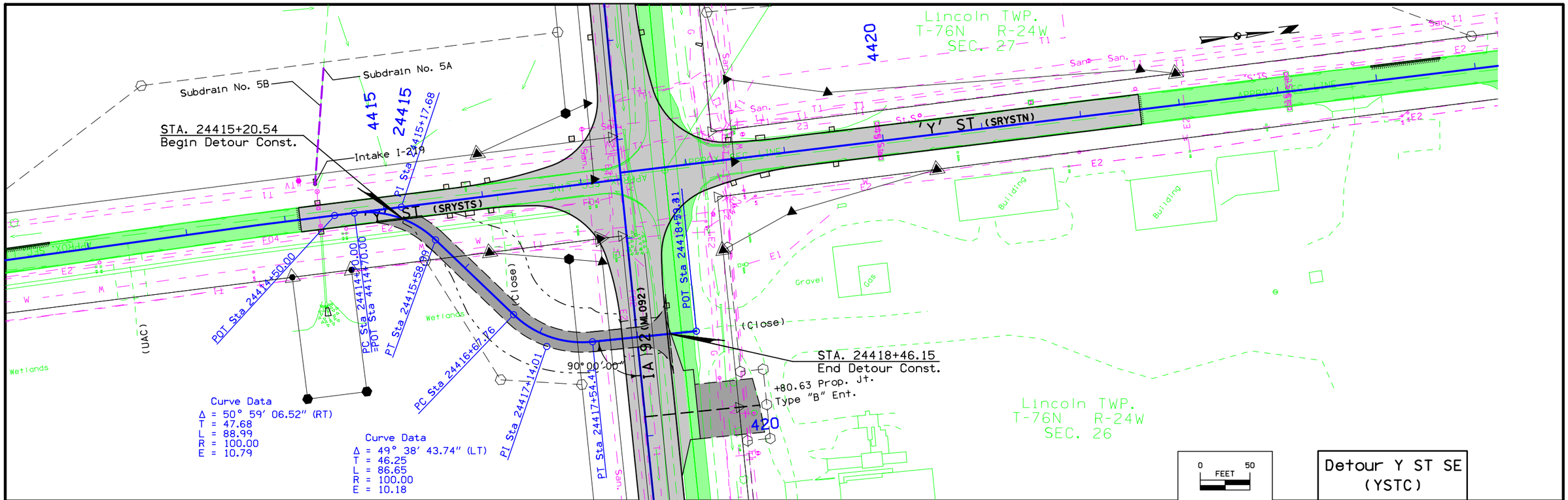

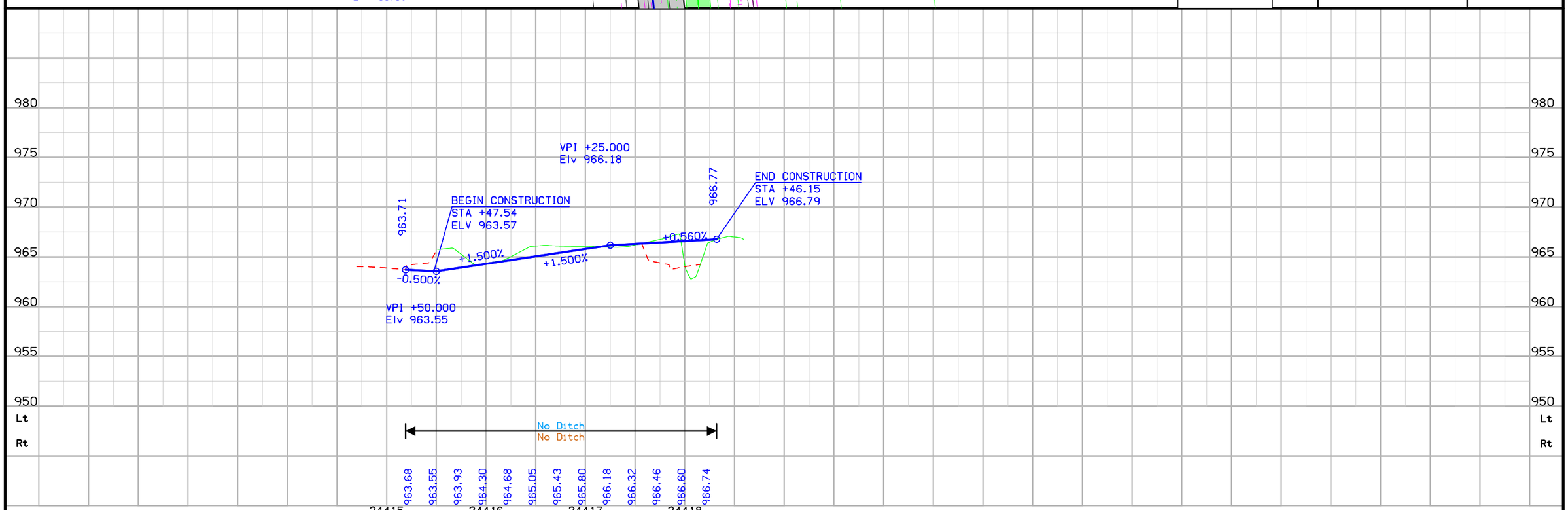

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER F.4

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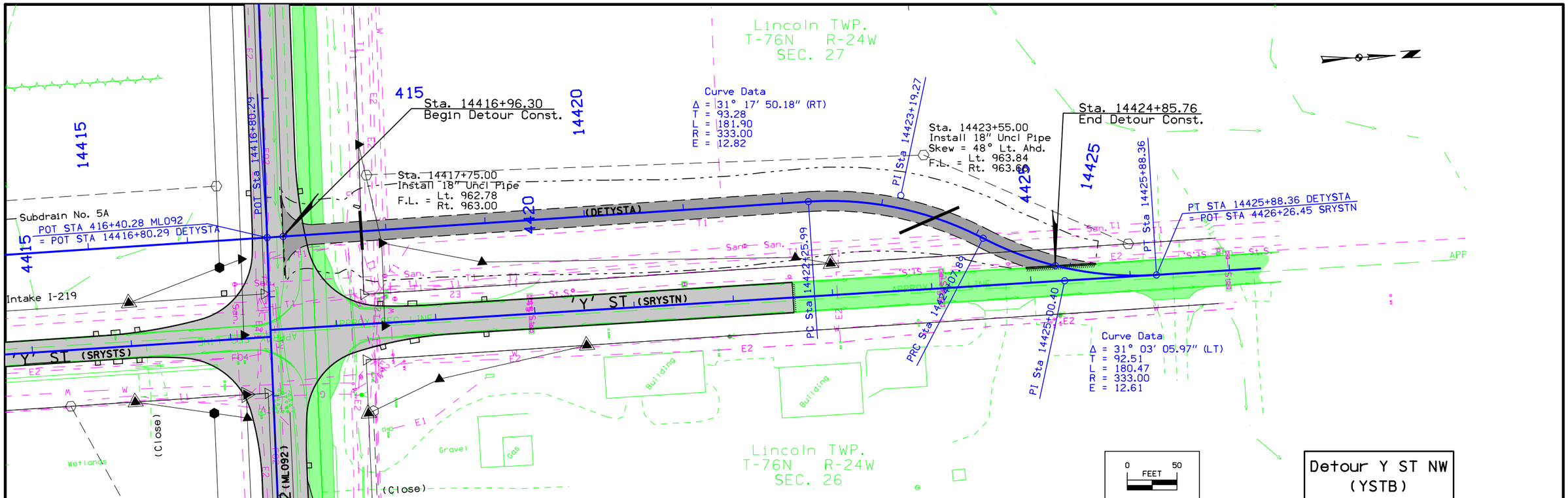

FILE NO.	ENGLISH	DESIGN TEAM	J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER	NHSX-092-5(51)--3H-91	SHEET NUMBER	F.5

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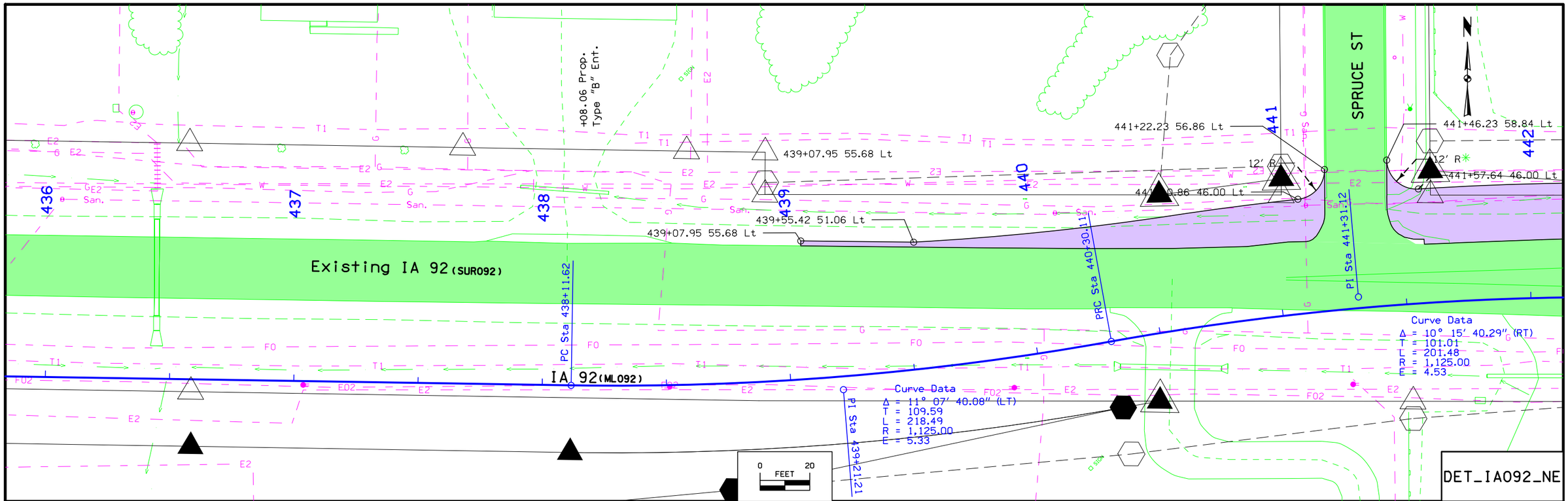

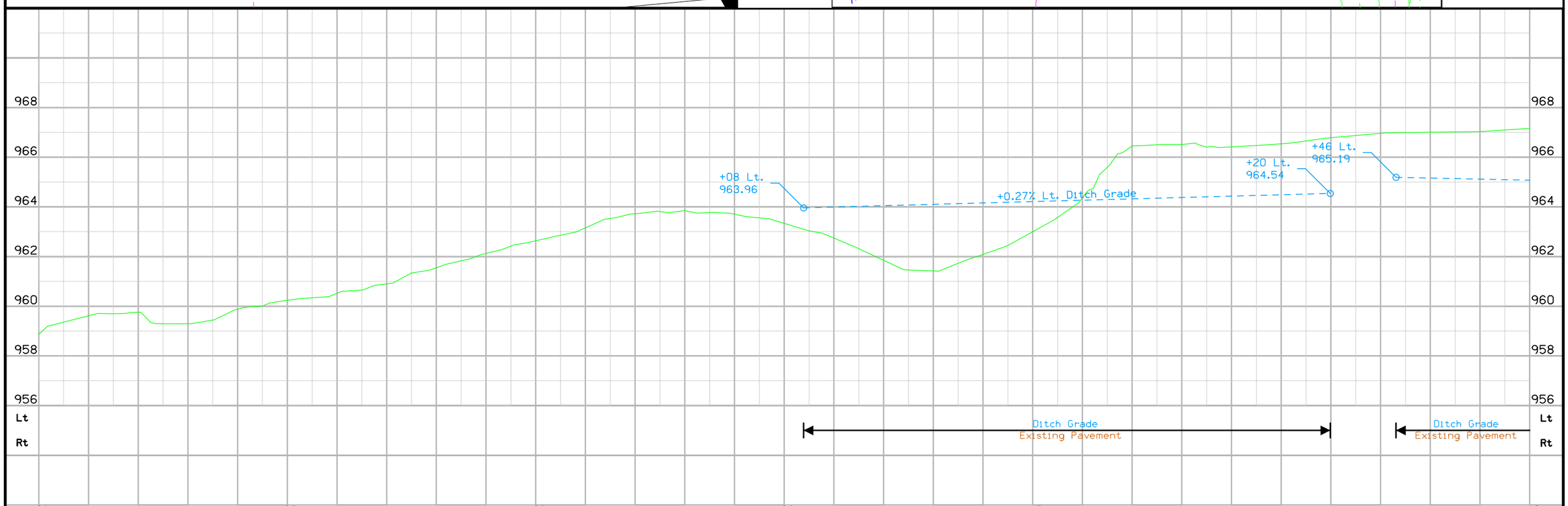

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER F.6

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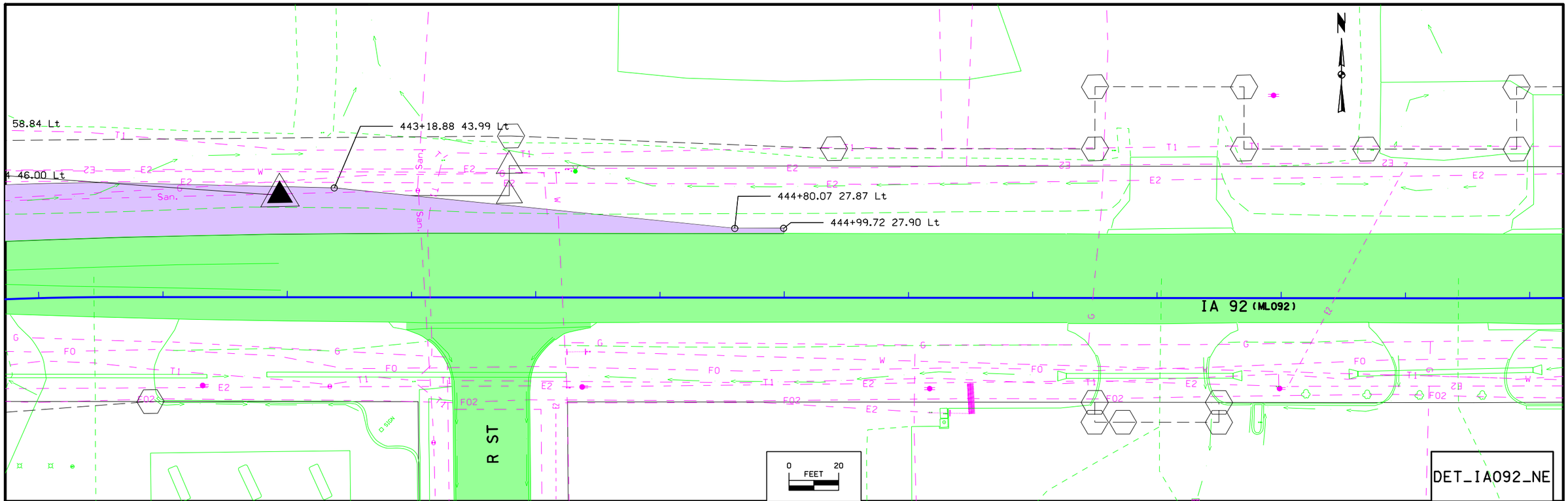

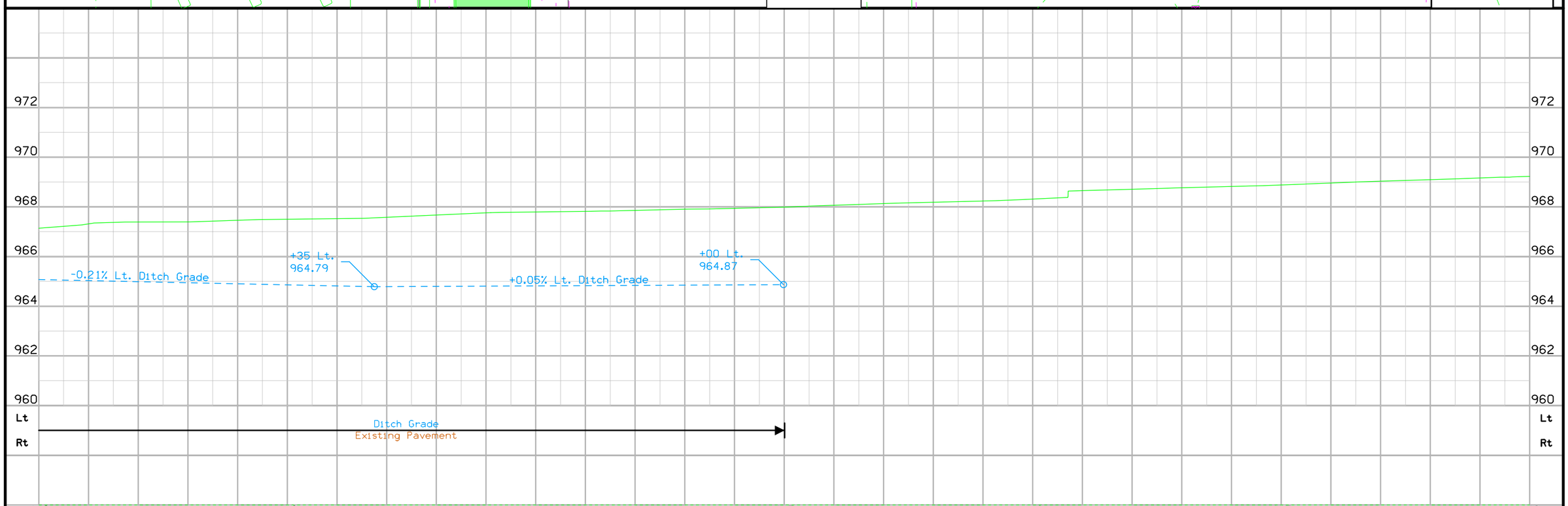

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER F.7

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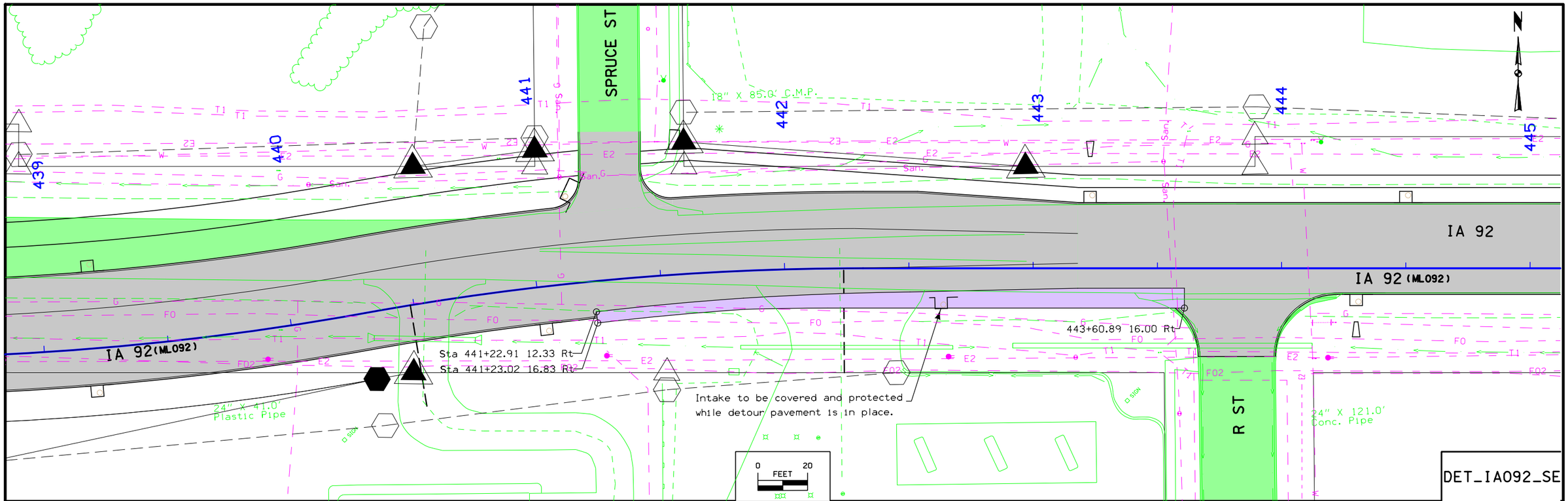

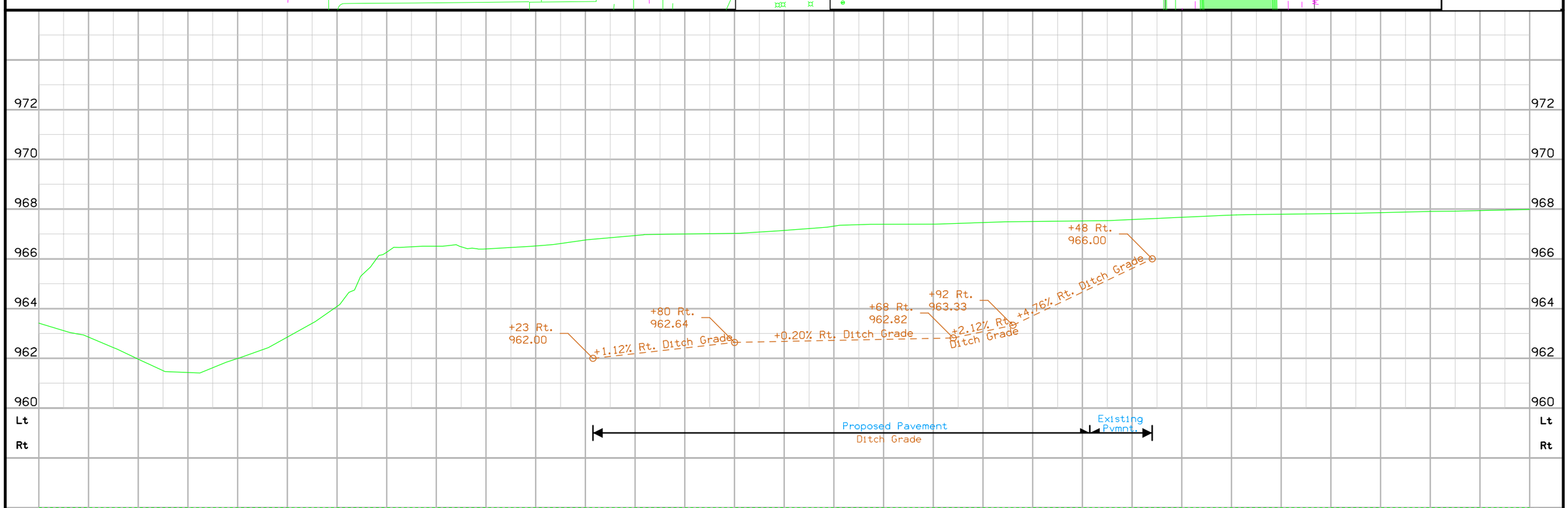

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER F.8

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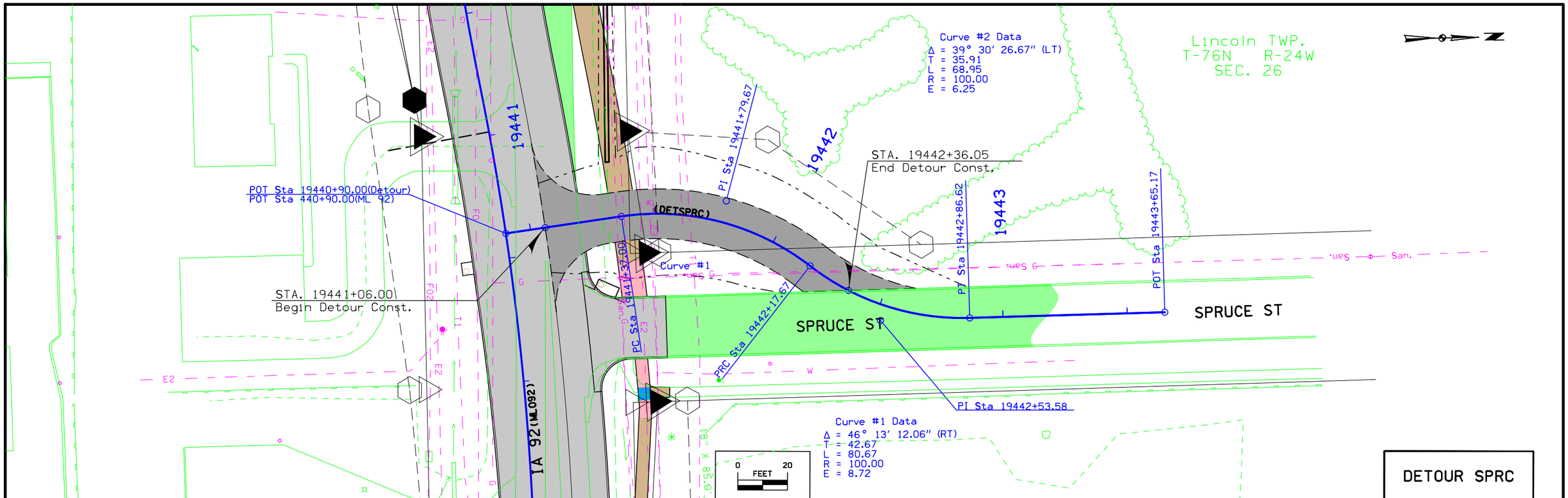
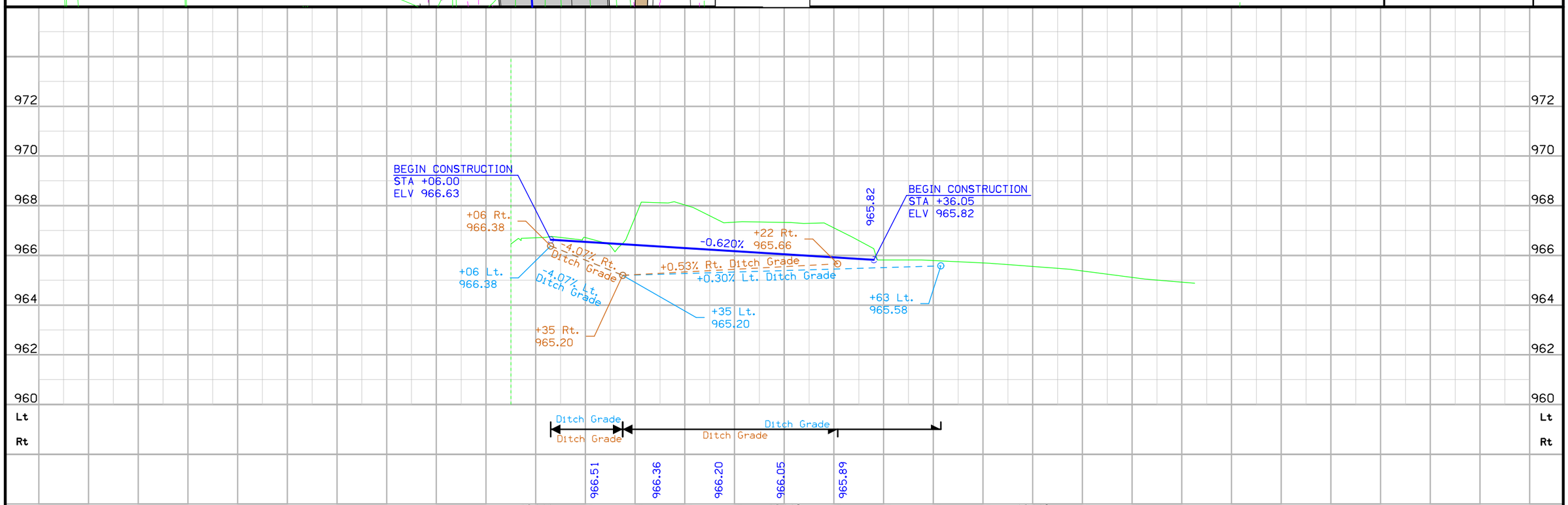




FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER F.9

2:17:10 PM 6/29/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051F01.sht

Survey Information

Warren County
STP-092-5(46)—2C-91
IA 92 From Just W. of Co. Rd. R-57
To S. Kenwood Blvd. in Indianola
04-91-092-010-01
Sap-0482.2

General Information

Measurement units for this survey are US survey feet. This survey is for improvements on IA 2 in Warren County. This field survey was to obtain roadway and drainage features and break lines. The entire digital terrain model and topography in the corridor will be completed by supplemental aerial photography..

Vertical Control
This survey control is relative to NAVD88 Datum in accordance with 3rd. order vertical accuracy. NAVD88 height was transferred to the project at CP # 25 & CP # 35 using averaging redundant IARTN observations applying Geoid 2009. Iowa RTN reference stations are relative vertically to highly accurate National Geodetic Survey (NGS) Reference Stations that are used by NGS for reporting heights relative to NAVD88 datum. A 3-wire level loop was run from CP # 25 through the project benchmarks and ended at CP # 35. The loop error was allowable and the error was distributed proportionately among the project marks

Vertical equations are as follows:

Datum Benchmarks
CP # 25 this survey, elevation 958.76=
G025 Project # STP-092-5(46)--2C-91, elevation 958.86

CP # 35 this survey, elevation 967.18=
G035 Project # STP-092-5(46)--2C-91, elevation 967.14

Horizontal Control

The GPS Network along this project was collected by IDOT Preliminary Survey Crews. Information about that network can be found in the 0482gpspoints.rep file included with this survey in NAD83(1996) Datum.. Iowa State Plane Coordinates were transformed to project coordinates using the following information.

General Information for GPS Project : STP-092-5(46)--2C-91 SAP 482
State Plane Coordinate Zone 1402 (Iowa South Lambert)

Average Project Latitude = 41 21 46.06621
Resulting Radius = 6363322.382 (Meters)
Mean Project Elevation = 279.990 (Meters)
Sea Level Factor = 0.999956001
Average Project Scale Factor = 0.999953270
Combined Factor (Grid) = 0.999909273
1 / Grid = 1.000090735
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

Alignment Information

The horizontal alignment for this survey is a retrace of As-built Plans No. P-569 Survey stationing was equated to the plans at PI Sta. 263+46.7 and carried back and ahead with no equation throughout the survey.

Equations are as follows:

PI Sta. 263+46.7 This Survey
= PI Sta. 263+46.7 As-built Plans Project No. P-569

PI Sta. 283+70.97 This Survey
= PI Sta. 283+72.3 As-built Plans Project No. P-569

PI Sta. 310+25.39 This Survey
= PI Sta. 310+27.4 As-built Plans Project No. P-569

PI Sta. 336+71.87 This Survey
= PI Sta. 336+75.5 As-built Plans Project No. P-569

PI Sta. 343+73.27 This Survey
= PI Sta. 343+76.9 As-built Plans Project No. P-569

PI Sta. 351+45.19 This Survey
= PI Sta. 351+50.8 As-built Plans Project No. P-569

PI Sta. 365+06.91 This Survey
= PI Sta. 365+11.5 As-built Plans Project No. P-569

PI Sta. 391+01.81 This Survey
= PI Sta. 391+06.4 As-built Plans Project No. P-569

PI Sta. 417+36.67 This Survey
= PI Sta. 417+43.4 As-built Plans Project No. P-569

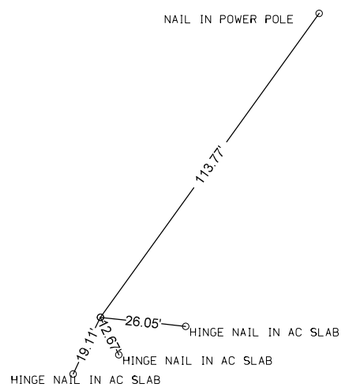
PI Sta. 438+87.96 This Survey
= PI Sta. 438+94.7 As-built Plans Project No. P-569

PI Sta. 451+20.2 This Survey
= PI Sta. 451+26.0 As-built Plans Project No. P-569

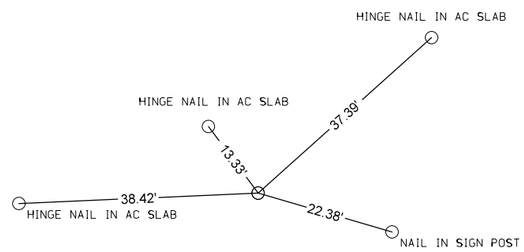
VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Description
659	494848.786	1597094.294	932.179	246+17.65	45.909	SET\RR SPK E SIDE 1ST POWER POLE
660	494140.746	1598099.141	950.571	258+46.84	34.474	SET\RR SPK E SIDE POWER POLE
661	493843.985	1598916.852	962.955	267+16.92	26.062	SET\RR SPK N SIDE POWER POLE
662	493790.182	1599914.401	969.535	277+15.27	62.083	SET\RR SPK N SIDE POWER POLE
663	493809.495	1600544.970	971.893	283+45.39	31.540	SET\RR SPK N SIDE POWER POLE
664	493801.002	1601735.334	967.621	295+35.44	31.666	SET\RR SPK N SIDE POWER POLE
665	493793.570	1602616.804	980.958	304+16.94	33.113	SET\RR SPK N SIDE POWER POLE
666	493774.151	1603186.184	970.300	309+86.44	48.666	CONC MONUMENT
667	493761.377	1604526.042	975.070	323+26.48	49.186	CONC MONUMENT
668	493764.357	1605810.055	968.332	336+10.41	34.374	SET\RR SPK S SIDE POWER POLE
669	493952.361	1606901.909	974.072	347+14.74	48.102	SET\RR SPK W SIDE POWER POLE
670	494182.094	1608008.803	966.556	358+97.50	39.449	SET\RR SPK N SIDE POWER POLE
671	494163.385	1609230.603	974.025	371+19.20	53.216	SET\RR SPK S SIDE POWER POLE
672	494181.064	1610588.817	975.829	384+77.37	32.550	CUT X ON R.O.W. RAIL
673	494255.767	1611520.232	974.200	394+07.47	-51.566	CUT X NW BOLT 1ST FIRE HYDRANT
674	494225.721	1612685.096	976.154	405+72.72	-52.100	CUT X ON NW BOLT FIRE HYDRANT
675	494186.822	1613914.713	967.557	418+03.27	-44.989	CUT X ON NW BOLT FIRE HYDRANT
676	494060.801	1615399.101	965.440	432+89.77	53.111	CUT X ON NE BOLT FIRE HYDRANT
677	494169.002	1616259.880	969.058	441+49.41	-67.303	CUT X ON SW BOLT FIRE HYDRANT
678	494142.697	1617266.587	971.521	451+58.64	-31.568	CUT X ON S BOLT FIRE HYDRANT
679	494179.247	1618305.076	967.642	461+96.05	46.333	CUT X ON SE BOLT FIRE HYDRANT
680	494489.398	1619450.029	968.177	Off Chain	Off Chain	NE BOLT FIRE HYDRANT

CP STA OFF CHAIN
CP No. 10, Fd. Rebar
N=496175.910, E=1561565.170



CP STA OFF CHAIN
CP No. 12, Fd. Feno Monument
N=497203.940, E=1565343.760



CP STA OFF CHAIN
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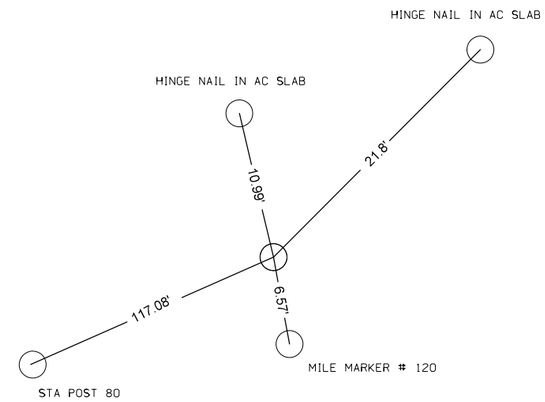

CP STA OFF CHAIN
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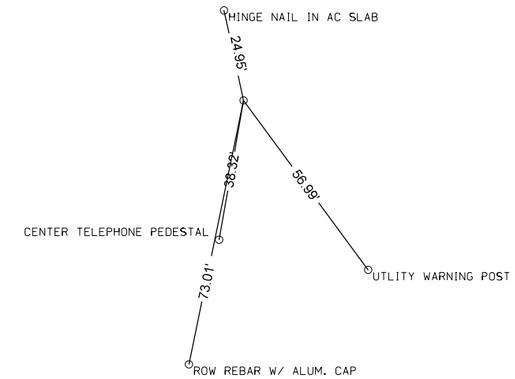

CP STA 3+91.63, 180.71 Rt.
CP No. 15, Fd. Rebar
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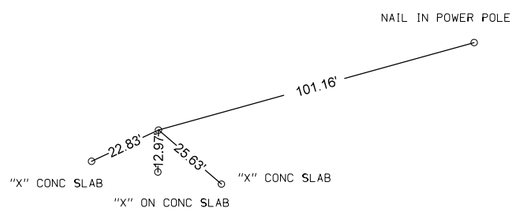

CP STA 23+47.79, 21.90 Lt.
CP No. 16, Fd. Rebar
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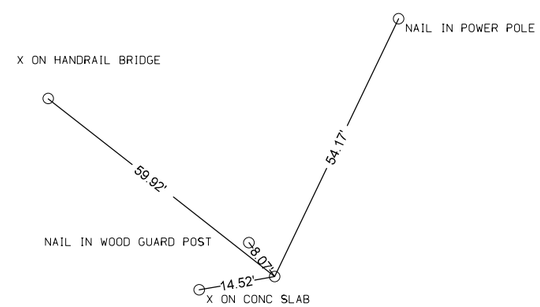

CP STA 36+16.39, 19.13 Rt.
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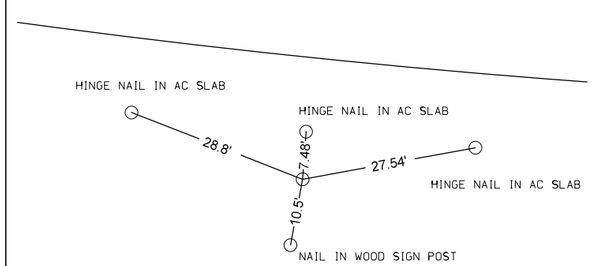

CP STA 68+34.41, 21.89 Rt.
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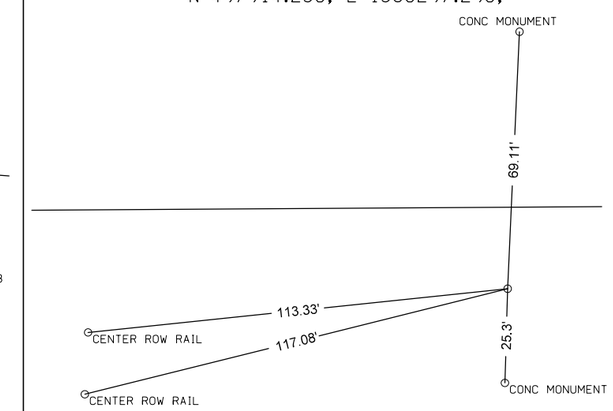

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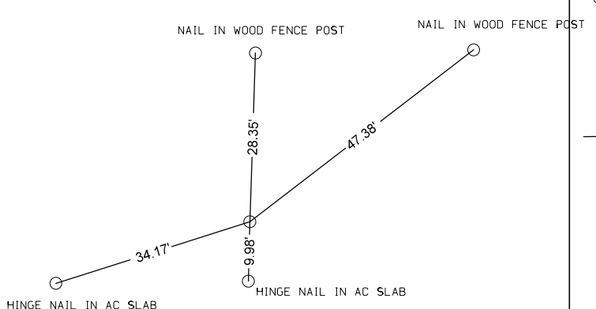

CP STA 139+97.21, 22.08 Lt.
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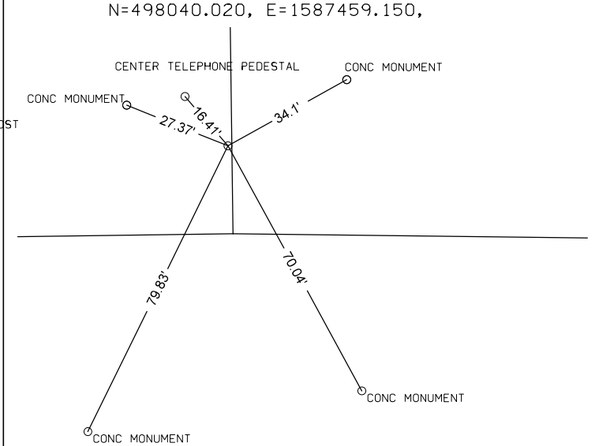

CP STA 183+66.82, 19.52 Rt.
CP No. 21, Fd. Rebar
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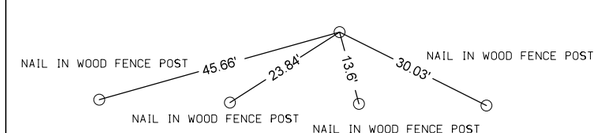

CP STA 192+66.29, 69.52 Lt.
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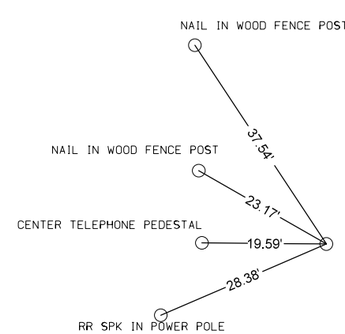

CP STA 202+26.65, 23.77 Lt.
CP No. 23, Fd. Rebar
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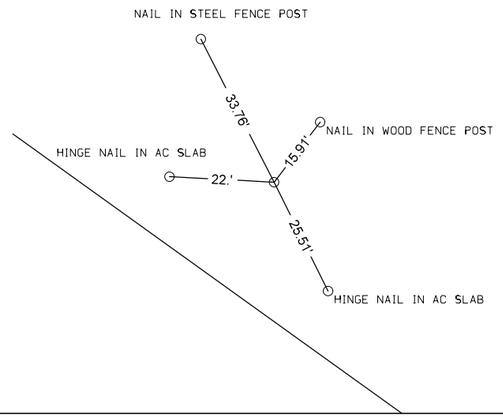

CP STA 212+27.42, 25.52 Lt.
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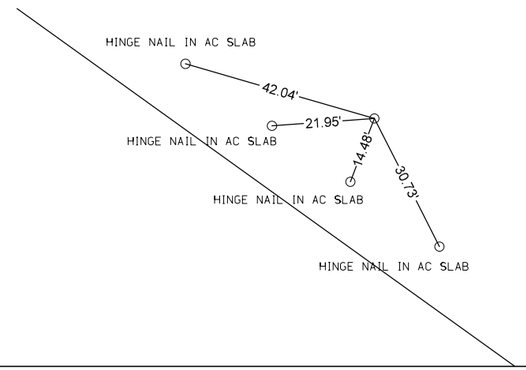

CP STA 246+74.28, 15.78 Lt.
CP No. 324, Fd. Iron Pin
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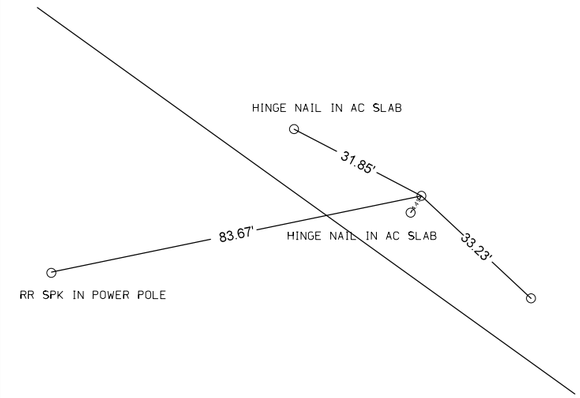

CP STA 257+09.95, 23.63 Rt.
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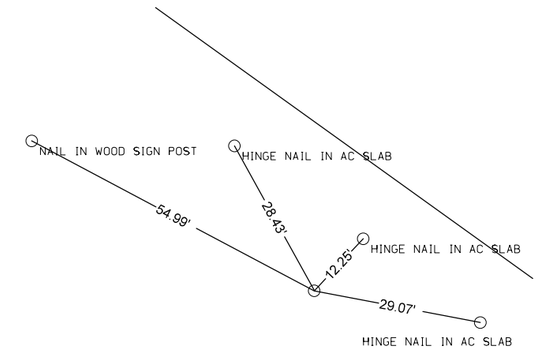

CP STA 263+35.7, 54.56 Rt.
CP No. 25, Fd. Rebar
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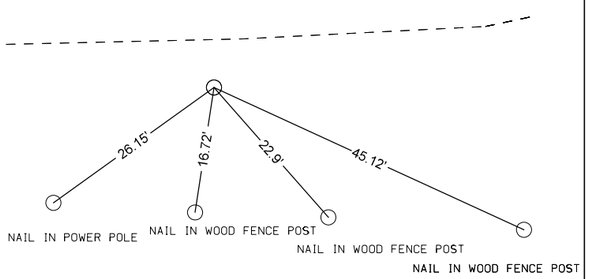

CP STA 275+00.55, 17.59 Rt.
CP No. 26, Fd. Rebar
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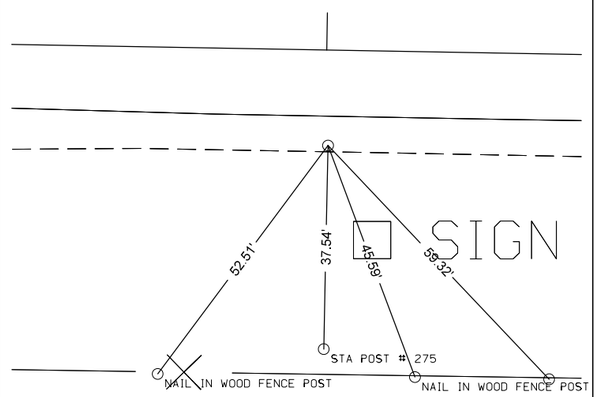

CP STA 283+29.75, 47.72 Lt.
CP No. 326, Fd. Iron Pin
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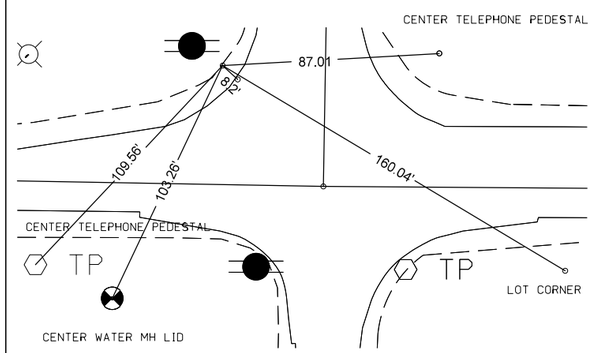

CP STA 293+73.67, 19.02 Rt.
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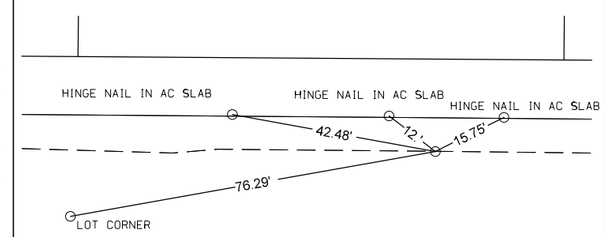

CP STA 302+85.88, 26.47 Lt.
CP No. 27, Fd. Rebar
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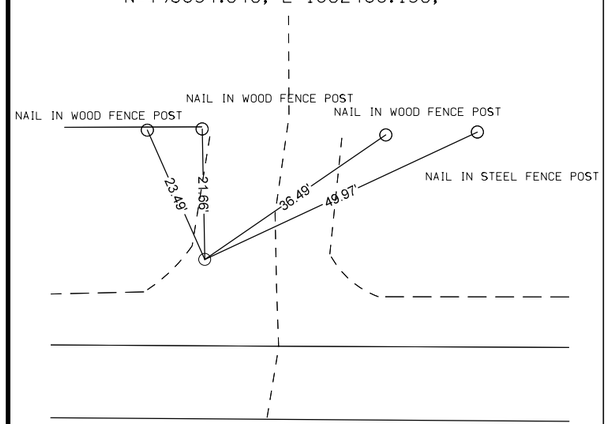

CP STA 310+51.04, 27.19 Rt.
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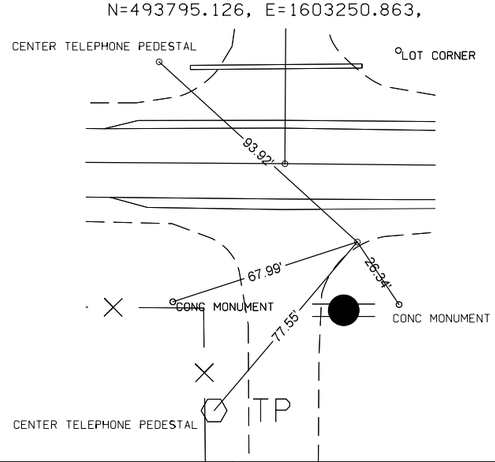

CP STA 323+51.93, 27.54 Lt.
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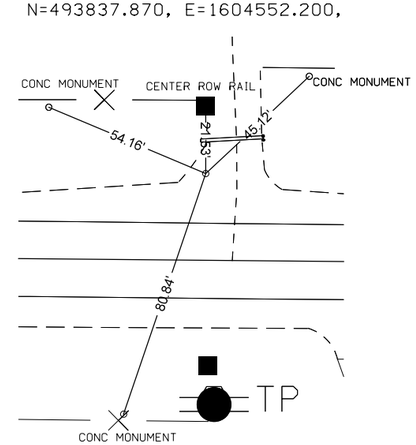

CP STA 331+33.48, 20.40 Lt.
CP No. 329, Fd. Iron Pin
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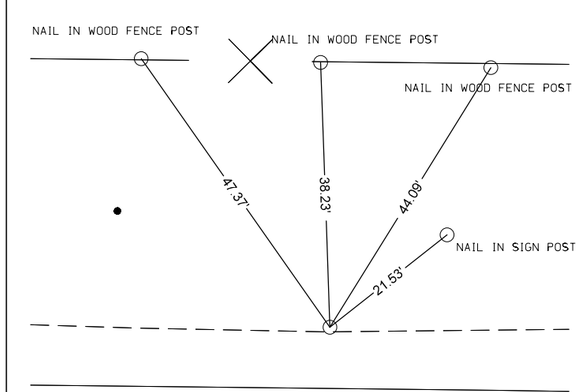

ENGLISH	IOWA DOT	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER G.3

CP STA 342+98.08, 21.90 Rt.
CP No. 29, Fd. Rebar
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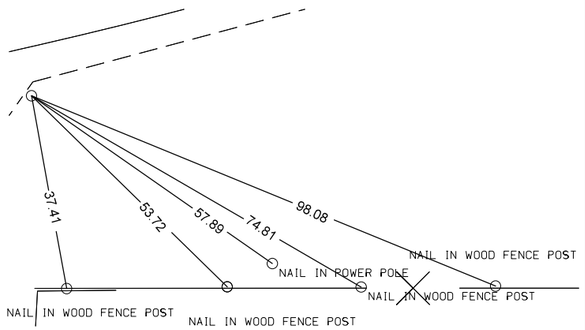

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CP No. 30, Fd. Rebar
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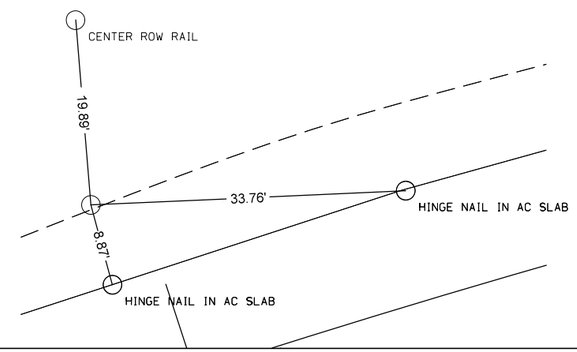

CP STA 359+87.72, 18.85 Lt.
CP No. 330, Fd. Iron Pin
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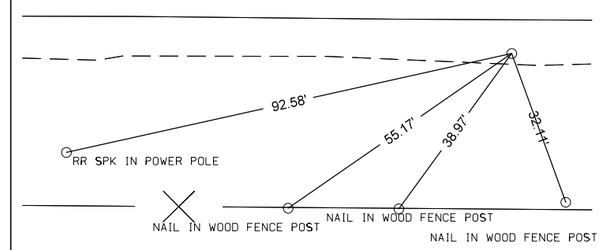

CP STA 368+07.83, 46.84 Lt.
CP No. 31, Fd. Rebar
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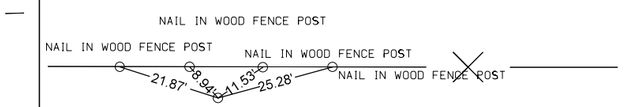

CP STA 377+81.08, 17.74 Lt.
CP No. 331, Fd. Iron Pin
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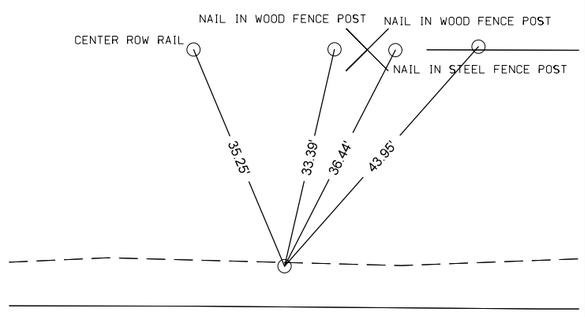

CP STA 386+82.38, 22.31 Rt.
CP No. 32, Fd. Rebar
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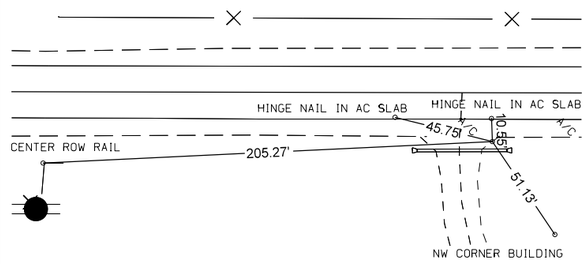

CP STA 391+45.71, 33.75 Lt.
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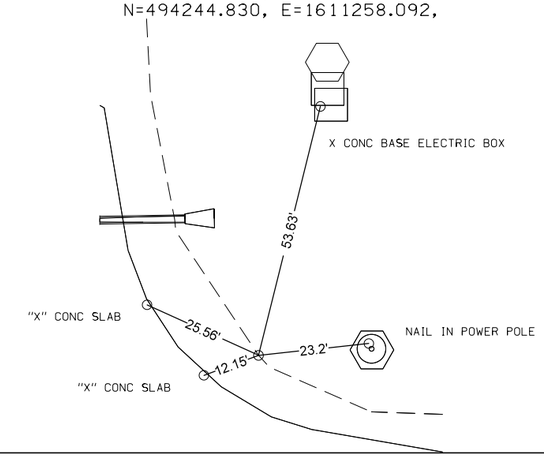

CP STA 401+75.95, 36.08 Rt.
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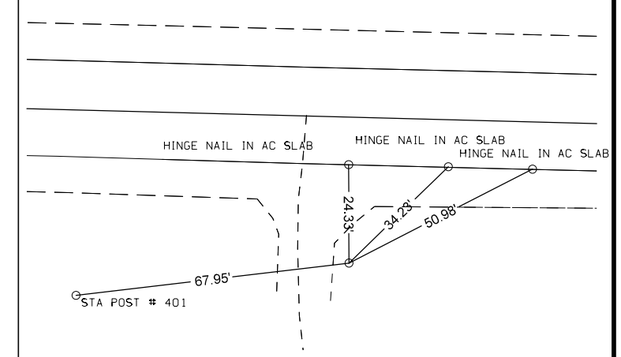

CP STA 408+86.04, 20.70 Lt.
CP No. 333, Fd. Iron Pin
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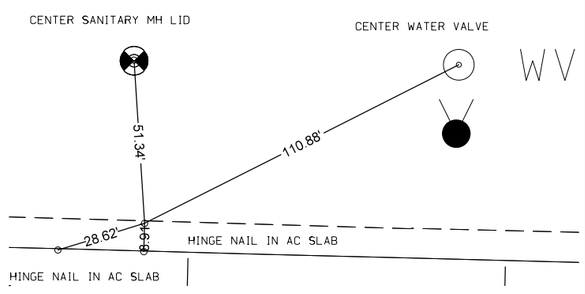

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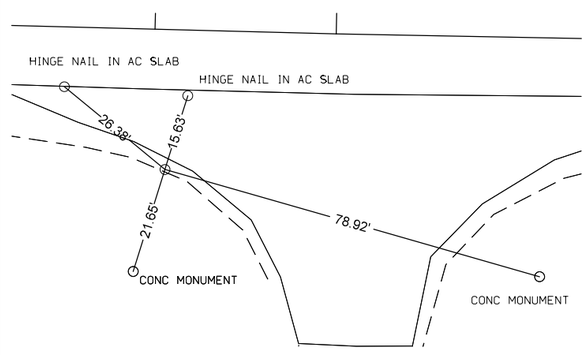

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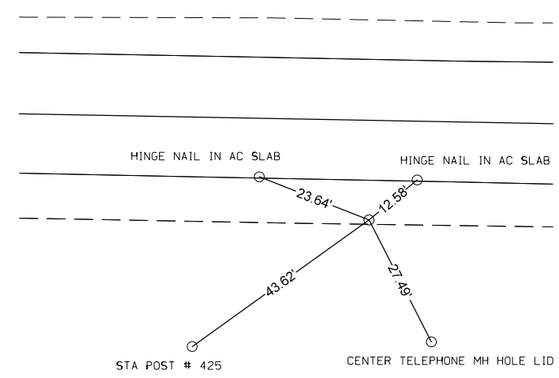

CP STA 433+23.93, 28.04 Rt.
CP No. 34, Fd. Rebar
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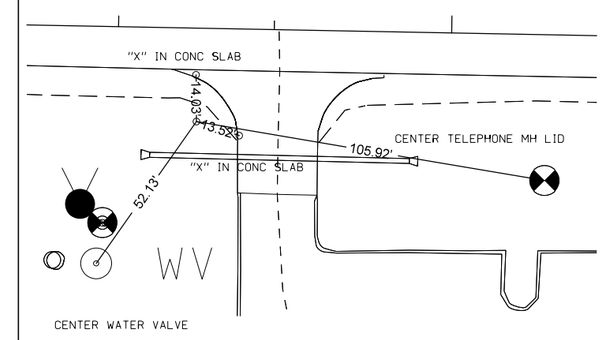

CP STA 441+70.77, 24.95, 24.95 Rt.
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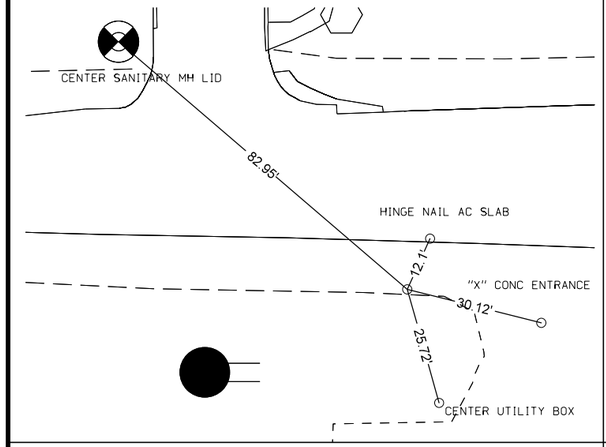

CP STA 449+71.11, 35.09 Rt.
CP No. 35, Fd. Feno Monument
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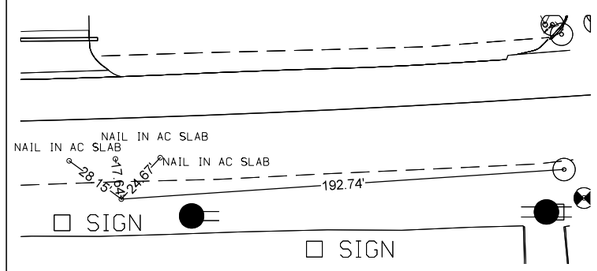

CP STA 455+71.13, 24.86 Rt.
CP No. 337, Fd. Iron Pin
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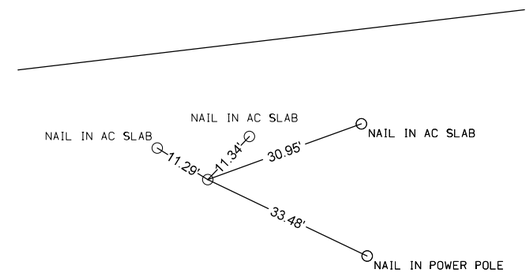

CP STA 462+35.77, 23.50 Lt.
CP No. 338, Fd. Iron Pin
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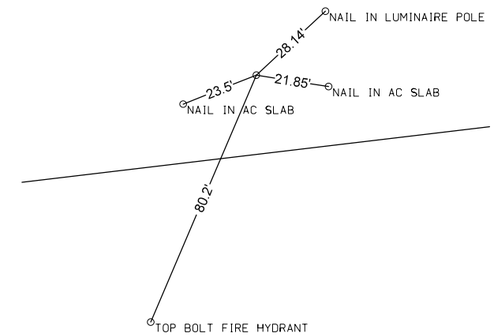
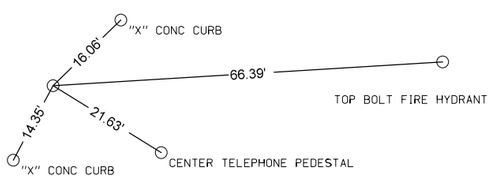


CP STA Off Chain
CP No. 339, Fd. Iron Pin



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)
20001	ML092	255+00.00	494,371.15	1,597,837.61															
20006	ML092				258+45.63	494,169.44	1,598,118.28	260+05.63	494,078.36	1,598,249.80	264+10.92	493,839.55	1,598,577.33	267+85.11	493,838.66	1,598,982.67	269+45.11	493,834.41	1,599,142.60
20015	ML092				337+72.34	493,772.36	1,605,969.55	339+32.34	493,773.69	1,606,129.52	342+33.59	493,768.17	1,606,430.78	345+19.31	493,909.54	1,606,696.86	346+79.31	493,980.80	1,606,840.09
20022	ML092				347+85.31	494,029.67	1,606,934.15	349+45.31	494,100.94	1,607,077.39	352+55.89	494,246.61	1,607,351.75	355+49.82	494,237.44	1,607,662.25	357+09.82	494,236.94	1,607,822.23
20028	ML092							390+67.33	494,167.94	1,611,179.03	391+01.53	494,167.24	1,611,213.23	391+35.73	494,166.34	1,611,247.42			
20032	ML092							416+90.59	494,099.28	1,613,801.39	417+35.31	494,098.11	1,613,846.10	417+80.03	494,097.27	1,613,890.81			
20036	ML092							438+11.62	494,059.08	1,615,922.04	439+21.21	494,057.02	1,616,031.61	440+30.11	494,076.15	1,616,139.52			
20038	ML092							440+30.11	494,076.15	1,616,139.52	441+31.12	494,093.78	1,616,238.98	442+31.59	494,093.40	1,616,339.99			
20043	ML092							447+70.70	494,091.42	1,616,879.10	451+22.49	494,090.13	1,617,230.88	454+73.40	494,131.67	1,617,580.21			
20046	ML092	466+80.72	494,274.21	1,618,779.08															
31000	SRKENNEDY	1256+05.14	493,946.86	1,597,951.77															
31002	SRKENNEDY	1258+87.00	494,145.34	1,598,151.90															
30000	SR57S	1273+87.78	492,836.02	1,600,580.14															
30003	SR57S	1283+73.24	493,821.43	1,600,570.67															
30010	SR57N	1383+68.17	493,821.48	1,600,565.60															
30013	SR57N	1394+41.91	494,895.22	1,600,565.83															
40000	SR90TH	2303+28.16	493,097.25	1,603,227.88															
40002	SR90TH	2310+28.21	493,797.30	1,603,225.53															
40004	SR90TH	2317+28.21	494,497.30	1,603,223.17															
50000	SR63S	3384+70.68	493,534.41	1,611,217.98															
50001	SR63S	3391+03.42	494,167.15	1,611,215.11															
50010	SR63N	3391+03.95	494,167.14	1,611,215.64															
50011	SR63N	3398+03.35	494,866.40	1,611,201.59															
60011	SRYSTS	4412+74.33	493,632.11	1,613,854.33															
60012	SRYSTS	4413+22.77	493,680.54	1,613,853.53															
60013	SRYSTS	4413+72.56	493,730.32	1,613,852.79															
60015	SRYSTS	4417+40.32	494,098.08	1,613,851.11															
60000	SRYSTN	4417+33.40	494,098.23	1,613,844.19															
60001	SRYSTN	4424+09.38	494,774.21	1,613,843.99															

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)
90000	ENT258	98+68.14	494,052.48	1,598,058.28															
90001		100+00.00	494,145.34	1,598,151.90															
90002								100+71.65	494,203.67	1,598,193.51	101+46.98	494,265.00	1,598,237.26	102+17.98	494,340.28	1,598,239.84			
90004		103+14.58	494,436.82	1,598,243.15															
90005	ENT259	100+00.00	494,381.81	1,597,968.42															
90005								101+20.00	494,358.92	1,598,086.21	101+76.66	494,348.11	1,598,141.83	102+30.43	494,309.73	1,598,183.52			
90007								104+30.43	494,174.26	1,598,330.65	104+62.64	494,152.44	1,598,354.35	104+94.30	494,139.17	1,598,383.70			
90009		105+70.41	494,107.81	1,598,453.04															
90014	ENT269	95+33.10	494,037.37	1,598,836.03															
90015								95+80.40	493,993.49	1,598,853.66	96+24.58	493,952.49	1,598,870.14	96+59.22	493,949.72	1,598,914.24			
90017		100+00.00	493,928.40	1,599,254.34															
90010	ENT270	97+80.00	493,613.42	1,599,251.48															
90011		100+00.00	493,833.41	1,599,253.48															
90011								101+06.87	493,940.27	1,599,254.45	101+71.34	494,004.74	1,599,255.04	102+31.60	494,056.73	1,599,293.16			
90013		102+59.60	494,079.31	1,599,309.72															
90025	ENT275	100+00.00	493,893.24	1,599,844.05															
90026		100+69.23	493,931.57	1,599,786.40															
90020	ENT276	100+00.00	493,828.04	1,599,843.46															
90021								100+70.21	493,898.25	1,599,844.10	100+74.35	493,902.39	1,599,844.13	100+78.48	493,906.52	1,599,843.89			
90023		101+40.15	493,968.08	1,599,840.20															
90030	ENT291	98+59.16	493,673.99	1,601,388.99															
90031								99+59.01	493,773.16	1,601,377.36	99+68.08	493,782.16	1,601,376.30	99+77.11	493,791.22	1,601,376.61			
90032		100+00.00	493,814.10	1,601,377.39															
90033		101+20.04	493,934.07	1,601,381.48															
90040	ENT297	97+18.87	493,529.41	1,601,891.83															
90041								97+48.87	493,559.41	1,601,892.10	97+70.37	493,580.92	1,601,892.30	97+91.72	493,601.89	1,601,897.06			
90042								98+11.72	493,621.39	1,601,901.49	98+34.91	493,644.01	1,601,906.62	98+57.89	493,667.20	1,601,906.45			
90043		100+00.00	493,809.30	1,601,905.37															
90044		101+20.00	493,929.31	1,601,905.46															
90047	ENT298	100+00.00	493,704.35	1,601,906.17															
90049		100+62.11	493,688.74	1,601,966.28															
90050	ENT305	98+80.00	493,681.83	1,602,727.25															
90051		100+00.00	493,801.82	1,602,728.34															
90066	ENT322	98+93.56	493,663.11	1,604,456.15															
90067		100+00.00	493,710.24	1,604,551.58															
90060	ENT323	96+84.92	493,484.75	1,604,605.53															
90061								97+64.92	493,564.74	1,604,606.26	97+98.08	493,597.90	1,604,606.56	98+28.46	493,623.33	1,604,585.28			
90063								98+48.46	493,638.66	1,604,572.44	98+81.62	493,664.09	1,604,551.16	99+12.00	493,697.25	1,604,551.46			
90064		100+00.00	493,785.24	1,604,552.26															
90065		102+00.00	493,985.23	1,604,554.08															
90070	ENT331	98+00.00	493,578.34	1,605,310.41															
90071		100+00.00	493,778.33	1,605,312.23															
90080	ENT341	94+00.70	493,209.61	1,606,415.14															
90081								95+27.63	493,336.37	1,606,421.62	95+73.99	493,382.68	1,606,423.99	96+19.31	493,426.75	1,606,409.60			
90083								99+40.16	493,731.74	1,606,310.00	99+49.84	493,740.94	1,606,306.99	99+59.47	493,750.50	1,606,305.50			
90084		100+00.00	493,790.55	1,606,299.26															
90085								100+61.11	493,850.92	1,606,289.84	100+71.04	493,860.74	1,606,288.31	100+80.93	493,870.67	1,606,288.41			
90087		101+10.51	493,900.25	1,606,288.72															
90090	ENT352	98+95.18	494,091.62	1,607,356.71															
90091		100+00.00	494,196.43	1,607,355.69															
90092								100+47.55	494,243.97	1,607,355.23	100+79.97	494,276.40	1,607,354.91	101+05.08	494,289.91	1,607,384.39			
90093		101+62.97	494,314.04	1,607,437.01															
90100	ENT359	96+73.79	494,137.73	1,607,780.69															
90101								98+71.48	494,133.71	1,607,978.33	99+21.46	494,132.70	1,608,028.31	99+50.00	494,182.68	1,608,029.34			
90102		100+00.00	494,232.66	1,608,030.37															
90103								100+90.00	494,322.64	1,608,032.22	101+80.00	494,412.62	1,608,034.07	102+31.37	494,410.77	1,608,124.05			
90105		103+43.37	494,408.47	1,608,236.02															

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)
90115	ENT364	96+63.00	494,026.91	1,608,308.20															
90116		100+00.00	494,019.98	1,608,645.13															
90110	ENT365	97+80.00	493,999.99	1,608,644.72															
90111		100+00.00	494,219.94	1,608,649.24															
90111								100+49.55	494,269.48	1,608,650.25	100+76.37	494,296.30	1,608,650.81	101+02.33	494,320.80	1,608,639.89			
90113		102+56.34	494,461.47	1,608,577.18															
90120	ENT367	98+79.96	494,079.19	1,609,657.56															
90121		100+00.00	494,199.23	1,609,657.02															
90122		101+00.04	494,299.27	1,609,656.08															
31201	ENT1257 (KENNEDY)	100+00.00	494,020.70	1,598,026.23															
31203								101+39.30	493,927.84	1,598,130.06	101+82.50	493,899.04	1,598,162.26	102+22.23	493,897.37	1,598,205.43			
31204		102+80.29	493,895.13	1,598,263.44															
30201	ENT1281 (R-53)	99+19.94	493,642.43	1,600,492.39															
30202		100+00.00	493,640.20	1,600,572.41															
30203		100+80.02	493,638.97	1,600,652.43															
40201	ENT2307 (90TH)	100+00.00	493,549.09	1,603,226.36															
40202		101+00.00	493,549.43	1,603,326.36															
40205	ENT2313 (90TH)	100+00.00	494,077.09	1,603,224.59															
40206		101+00.00	494,077.43	1,603,324.58															

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	
20006		35° 10′ 54.09″ LT	2° 59′ 45.09″	-160.00′	TS	53.35′	159.96′	2.79′	106.68′	53.35′	29° 11′ 23.92″ LT	398.39′	779.48′	1,530.00′	51.02′	
20015		27° 58′ 21.68″ LT	2° 59′ 45.09″	-160.00′	TS	53.35′	159.96′	2.79′	106.68′	53.35′	21° 58′ 51.50″ LT	297.14′	586.97′	1,530.00′	28.59′	
20022		28° 37′ 45.84″ RT	2° 59′ 45.09″	160.00′	TS	53.35′	159.96′	2.79′	106.68′	53.35′	22° 38′ 15.66″ RT	306.25′	604.51′	1,530.00′	30.35′	
20028											0° 19′ 35.74″ RT	34.20′	68.40′	12,000.00′	0.05′	
20032											0° 25′ 37.45″ LT	44.72′	89.45′	12,000.00′	0.08′	
20036											11° 07′ 40.08″ LT	109.59′	218.49′	1,125.00′	5.33′	
20038											10° 15′ 40.29″ RT	101.01′	201.48′	1,125.00′	4.53′	
20043											6° 59′ 27.10″ LT	351.79′	702.70′	5,759.23′	10.73′	
10001		19° 44′ 59.72″ RT	11° 14′ 04.08″	510.00′		88.78′	175.80′	7.67′								

ALIGNMENT COORDINATES

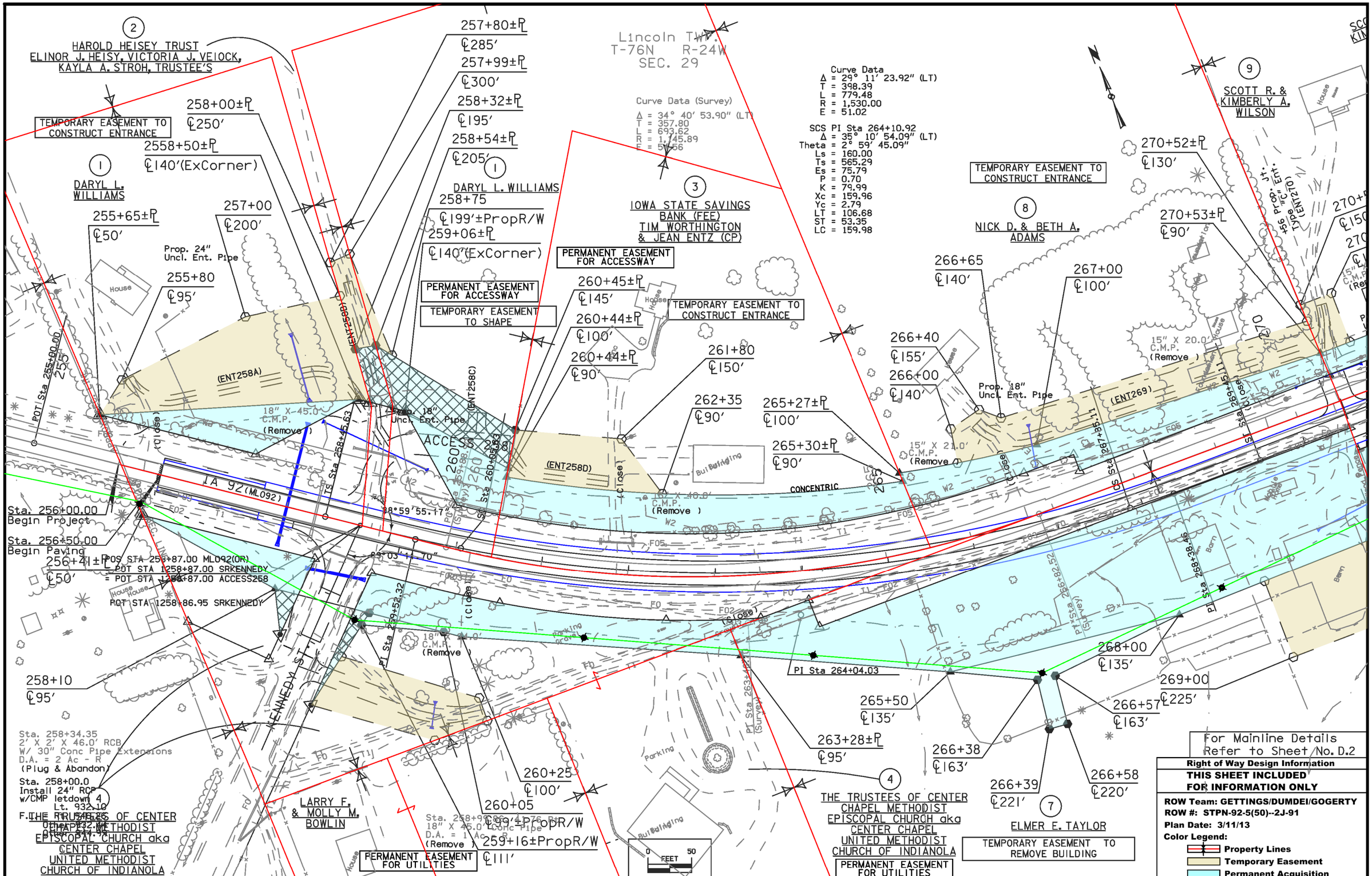
101-16
10-20-09

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)
SR57N_RET_1																			
30015								0+00.00	494,059.22	1,600,576.65									
30016					0+00.00	494,059.22	1,600,576.65	0+64.51	493,994.71	1,600,576.64	1+28.53	493,931.67	1,600,590.34						
30017					1+28.53	493,931.67	1,600,590.34	1+74.21	493,887.03	1,600,600.04	2+10.58	493,875.17	1,600,644.15						
30018					2+10.58	493,875.17	1,600,644.15	2+36.09	493,868.54	1,600,668.77	2+61.32	493,868.31	1,600,694.28						
SR57N_RET_2																			
30026					0+00.00	493,860.45	1,600,459.51	0+82.18	493,859.70	1,600,541.69	1+33.20	493,941.47	1,600,549.88						
30025								1+80.88	493,988.91	1,600,554.64									
SR57N_RET_3																			
30035								0+00.00	493,790.59	1,600,443.07									
30036					0+00.00	493,790.59	1,600,443.07	0+25.50	493,790.36	1,600,468.58	0+50.73	493,783.74	1,600,493.20						
30037					0+50.73	493,783.74	1,600,493.20	0+95.90	493,772.00	1,600,536.83	1+32.05	493,727.96	1,600,546.85						
30038					1+32.05	493,727.96	1,600,546.85	1+96.56	493,665.05	1,600,561.17	2+60.58	493,600.54	1,600,561.79						
SR57N_RET_4																			
30045								0+00.00	493,670.76	1,600,583.12									
30046					0+45.99	493,716.56	1,600,587.25	1+28.98	493,799.21	1,600,594.72	1+80.07	493,798.46	1,600,677.71						

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														
IA 92	20006	1530	6.0	160	53	PV-301	257+92.63	258+45.63	258+98.63	260+05.63			260+05.63			259+52.30	259+52.30		
							269+98.11	269+45.11	268+92.11	267+85.11			267+85.11			268+38.44	268+38.44		
IA 92	20015	1530	6.0	160	53	PV-301	337+19.34	337+72.34	338+25.34	339+32.34			339+32.34			338+79.01	338+79.01		
							347+32.31	346+79.31	346+26.31	345+19.31			345+19.31			345+72.64	345+72.64		
IA 92	20022	1530	6.0	160	53	PV-301	347+32.31	347+85.31	348+38.31	349+45.31			349+45.31			348+91.98	348+91.98		
							357+62.82	357+09.82	356+56.82	355+49.82			355+49.82			356+03.15	356+03.15		



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.1

8:17:21 AM 6/30/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\PDF's\Grading Sheets\91092050H1.sht

Lincoln TWP.
T-76N R-24W
SEC. 29

9 SCOTT R. & KIMBERLY A. WILSON

9 SCOTT R. & KIMBERLY A. WILSON

7 TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

10 KENNETH W. & DOROTHY D. RICHARDSON

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

ROBERT & CAROLYN WAGNER 11

12 MARK & JOYCE WOOSLEY

6

5

13 ELDON WOLTZ TRUST
PETER C. WOLTZ (TRUSTEE)
GRACE WOLTZ FENWICK (TRUSTEE)

PERMANENT EASEMENT FOR UTILITIES

TEMPORARY EASEMENT TO REMOVE BUILDINGS

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

+56 Prop. Jt. Type "C" Ent. (ENT270)

+46 Prop. Jt. Type "C" Ent. (ENT275)

+46 Prop. Jt. Type "C" Ent. (ENT276)

+38 Prop. Jt. Type "C" Ent. (ENT270)

270+52±℄ 0'

+53±℄

270+52±℄ ℄150'

270+90 ℄150'

273+46±℄ ℄90'

275+70 ℄95'

276+47±℄ ℄145'

276+47±℄ ℄130'

276+10 ℄145'

276+65 ℄145'

278+60 ℄145'

280+19±℄ ℄120'

283+72±℄ ℄105'

281+00 ℄105'

273+00 ℄90'

273+30 ℄92'±PropR/W

276+40 ℄110'

272+52 ℄98'±PropR/W

270+52±℄ ℄130'

281+50 ℄103'±PropR/W

281+90 ℄170'

283+76±℄ ℄100'

270+50±℄ ℄225'

271+00 ℄225'

270+30 ℄225'

Sta. 277+57.37
2' X 2' X 53.0' RCB
W/ 30" Conc. Pipe Extension
D.A. = 4 Ac - R
(Plug & Abandon)

Sta. 277+75.0
Install 24" RCP
F.L. = Lt. 956.16
Rt. 965.80

POT STA 283+68.17 ML092
= PI STA 1383+68.17 SR57N

POT STA 283+73.24 ML092
= PI STA 1283+73.24 SR57S

BI Sta 283+70.97(Survey)

IA 92 (ML092)

18" X 24.0' C.M.P. (Remove)

15" X 30.0' C.M.P. (Remove)

18" X 62.0' C.M.P. (Remove)

18" X 35.0' C.M.P. (Remove)

15" X 36.0' C.M.P.

15" X 37.0' Conc. Pipe

15" X 28.0' C.M.P. (Remove)

15" X 48.0' C.M.P. (Remove)

18" X 57.0' C.M.P. (Remove)

Prop. 18" Uncl. Ent. Pipe

Prop. 18" Uncl. Ent. Pipe

Prop. 18" Uncl. Ent. Pipe

(Close)

0 FEET 50

For Mainline Details
Refer to Sheet No. D.4

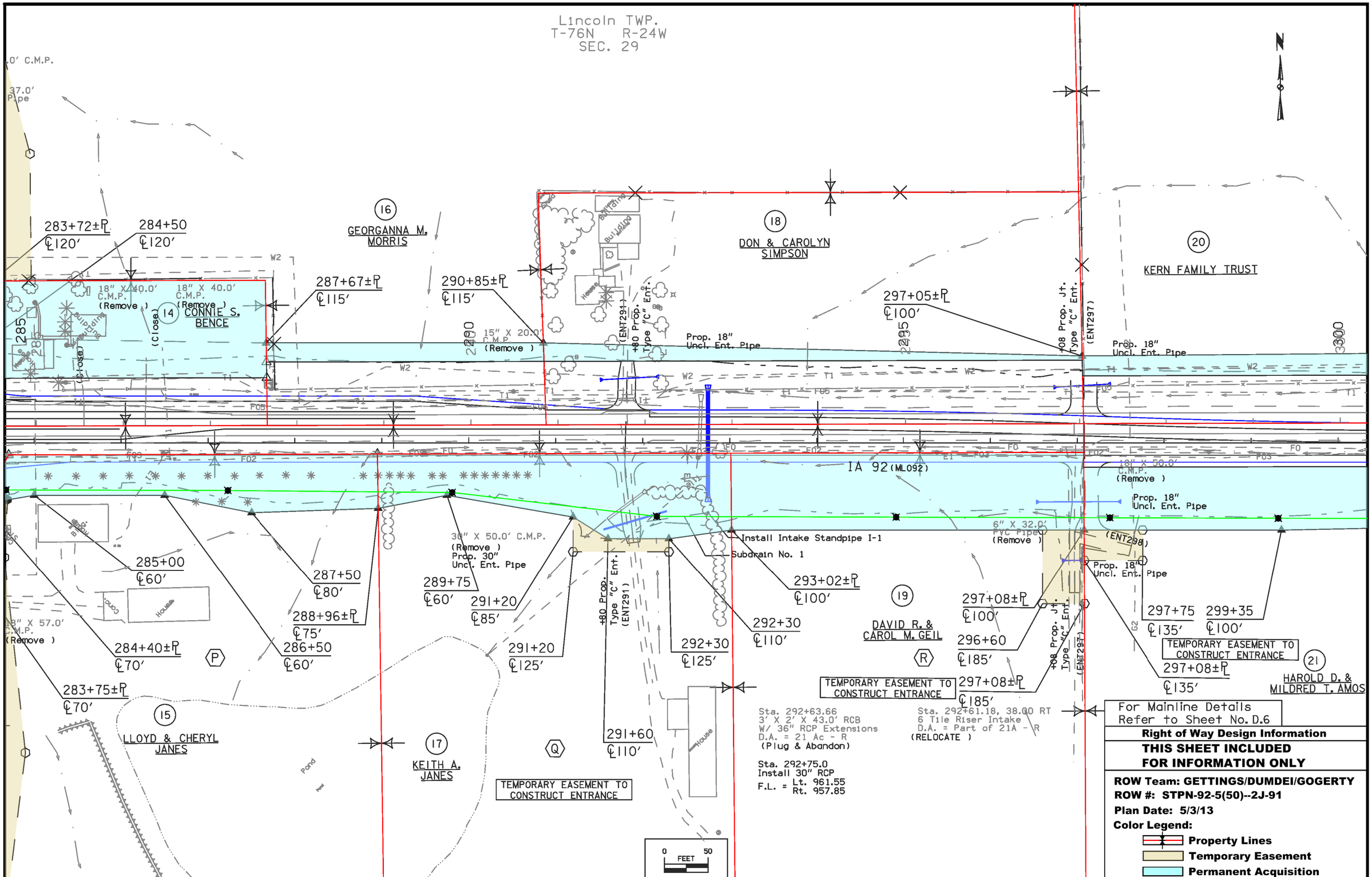
Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 4/2/13
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.2

8:17:57 AM 6/30/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\PDF's\Grading Sheets\91092050H1.sht



For Mainline Details Refer to Sheet No. D.6

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 5/3/13
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.3

8:18:33 AM 6/30/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\PDF's\Grading Sheets\91092050H1.sht

Lincoln TWP.
T-76N R-24W
SEC. 29

Lincoln TWP.
T-76N R-24W
SEC. 28

20
KERN FAMILY TRUST

23
DOROTHY F. ABBOTT & KIM A. SILVER

25
DWIGHT T. MC CORMICK

90TH AVE (SR90TH)

+08 Prop. "C" Ent. Type

4" VIT TILE
Exact Location
Unknown

308+85
℄110'

Subdrain No. 2

PI Sta 310+25.39
(Survey)

310+27±℄
℄110'

310+27±℄
℄90'

312+70±℄
℄90'

314
℄10

18" X 60.0'
C.M.P.
(Remove)

90°42'49.34"

IA 92 (ML092)

15" X 20.0'
C.M.P.
(Remove)

(Close)

Flag Pole
(Remove)

302+96
℄93'±PropR/W

304+17±℄
℄90'

304+17±℄
℄96'

+31 Prop. Type "C" Ent. (ENT305)

Prop. 18"
Uncl. Ent. Pipe

PERMANENT EASEMENT
FOR UTILITIES

(Tile Abandon)

Install Intake
Standpipe I-2

Subdrain No. 3

308+50
℄110'

310+30±℄
℄110'

305+20
℄90'

305+80
℄100'

22
RICHARD R. & JOYE G. COONS

21
HAROLD D. & MILDRED T. AMOS

POT STA 310+28.21 ML092 (OR)
POT STA 2310+28.21 SR90TH

Prop. 18"
Uncl. Ent. Pipe

312+51±℄
℄95'

311+71±PropR/W
℄95'

+00 Prop. Type "C" Ent (ENT315)

310+99±PropR/W
℄101'

310+29±℄
℄95'

24A
LEISA L. ELY

PERMANENT EASEMENT
FOR UTILITIES

24
SECOND RESTATED MARJORIE E. RODGERS TRUST

Sta. 307+42.49
3' X 2' X 46.0' RCB
W/ 36" RCP Extensions
D.A. = 16 Ac - R
(Plug & Abandon)

Sta. 307+75.0
Install 30" RCP
Skew = 20° Rt. Ahd.
F.L. = Lt. 968.21
Rt. 964.34

0 FEET 50

For Mainline Details
Refer to Sheet No. D.8

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 5/3/13
Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.4

8:19:10 AM 6/30/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\PDF's\Grading Sheets\91092050H1.sht

Lincoln TWP.
T-76N R-24W
SEC. 28

N

(25) DWIGHT T. MC CORMICK

(25) DWIGHT T. MC CORMICK

314+90
℄105'

315 320 325 330

+07.61 Prop. Type "C" Ent. (ENT323)

(Close)

W2 T1 F05 F0 F02 F03

IA 92 (ML092)

+00 Prop. Type "C" Ent. (ENT315)

315+00
℄95'

316+25
℄125'

319+00
℄120'

323+56±P
℄110'

+07.61 Prop. Type "C" Ent. (ENT323)

326+83±P
℄110'

329+00
℄130'

328+91
℄148'

329+12
℄148'

(27) IVAN W. ARCHER

(26) KEITH D. SVARE & CHRISTINE R. BERTSCH

(24) SECOND RESTATED MARJORIE E. RODGERS/ TRUST

RESTATED
RIE E.
S TRUST

0 FEET 50

PERMANENT EASEMENT FOR UTILITIES

For Mainline Details Refer to Sheet No. D.10

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 5/3/13
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.5

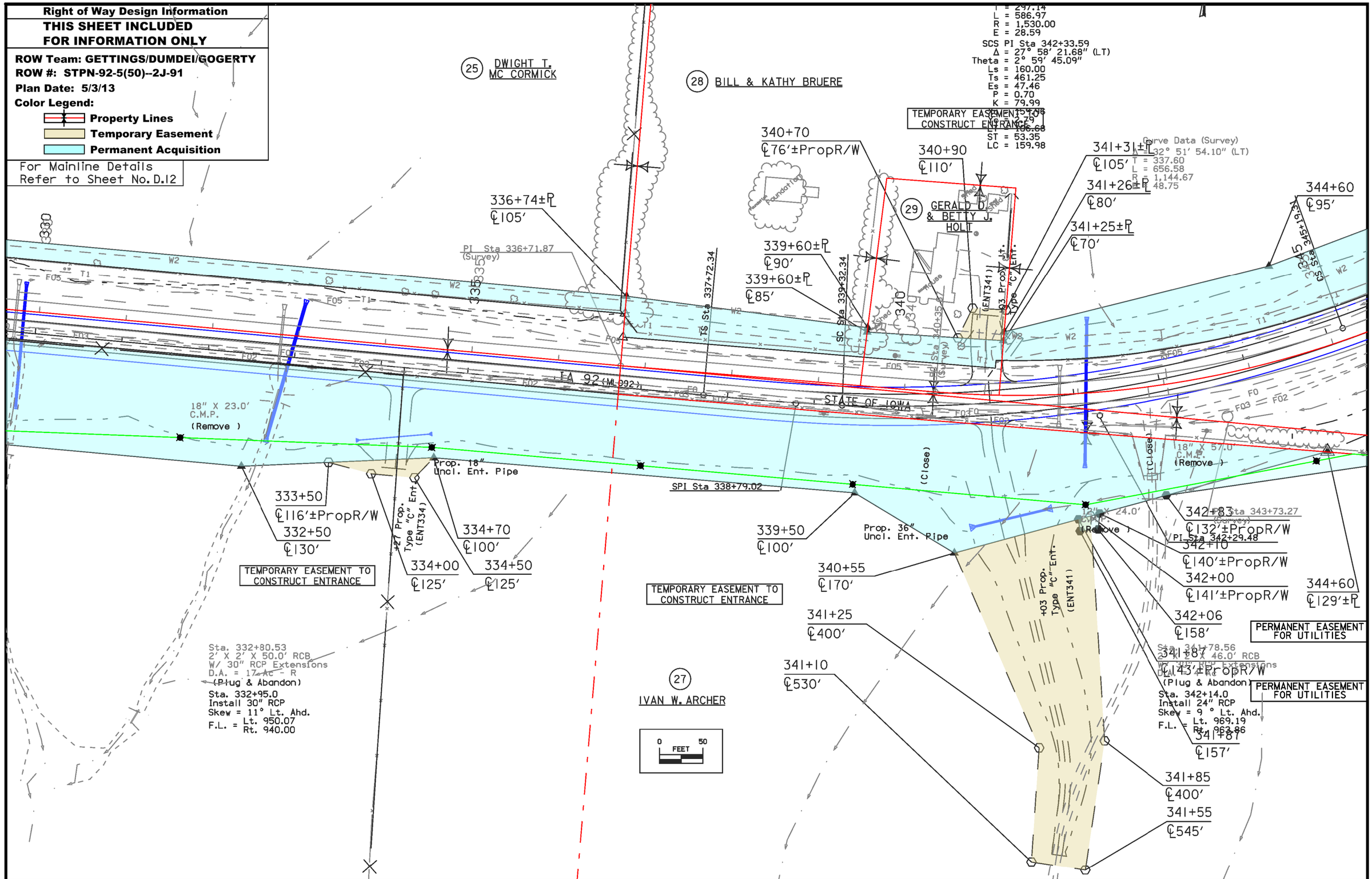
8:19:45 AM 6/30/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\PDF's\Grading Sheets\91092050H1.sht

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 5/3/13
Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

For Mainline Details Refer to Sheet No. D.12



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.6

8:20:21 AM 6/30/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\PDF's\Grading Sheets\91092050H1.sht

Lincoln TWP.
T-76N R-24W
SEC. 28

(28) BILL & KATHY BRUERE

(30) GREGORY A. & KELLI A. MC CORMICK

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

(33) MICHAEL D. & MARYLEE VANDERPOOL

(31) STEVEN E. & MARTHA A. WEST

(28B) ALICE MARGARET STEVENSON HEIRS
SHARON L. HAYDEN HEIRS &
NANCY JO STEVENSON

(28A) SHARON L. HAYDEN HEIRS &
NANCY JO STEVENSON

(27) IVAN W. ARCHER

(27A) IVAN W. ARCHER & REBBECCA SAGE

353+60
℄75'

351+90
℄77'±ExR/W

351+16±℘
℄101'(ExCorner)

353+35
℄110'

354+15
℄75'

360+30
℄100'

360+00
℄100'

355+89±℘
℄90'

359+30
℄110'

359+00
℄89'±PropR/W

344+60
℄95'

345+04±℘
℄125'

345+45
℄170'±PropR/W

350+50±℘
℄85'

351+85
℄85'

353+65
℄85'

355+07±℘
℄90'

356+61±℘
℄95'

356+40
℄135'

356+60±℘
℄135'

359+00
℄135'

359+65
℄95'±PropR/W

PI Sta 351+45.19 (Survey)

PI Sta 352+51.5

SPI Sta 345+72.68

Curve Data
Δ = 22° 38' 15.66" (RT)
T = 306.25
L = 604.51
R = 1,530.00
E = 30.35
SCS PI Sta 352+55.89
Δ = 28° 37' 45.84" (RT)
Theta = 2° 59' 45.09"
Ls = 160.00
Ts = 470.58
Es = 49.74
P = 0.70
K = 79.99
Xc = 159.96
Yc = 2.79
LT = 106.68
ST = 53.35
LC = 159.98

PERMANENT EASEMENT FOR UTILITIES

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

TEMPORARY EASEMENT FOR CONSTRUCTING ENTRANCE

INGRESS AND EGRESS EASEMENT

+40 Prop. Type "C" Ent. (ENT352)

+18 Prop. Type "C" Ent. (ENT359)

Prop. 18" Uncl. Ent. Pipe

15" X 18.0' C.M.P. (Remove)

15" X 56.0' C.M.P. (Remove)

Prop. 36" Uncl. Ent. Pipe

Prop. 18" RCP Ent. Pipe

Sta. 358+05.35
2' X 2' X 39.0' RCB
W/ 30" RCP Extensions
D.A. = 5 Ac - F
(Remove)

Sta. 358+05.0
Install 24" RCP
F.L. = Lt. 966.75
Rt. 964.88

0 50
FEET

For Mainline Details
Refer to Sheet No. D.14

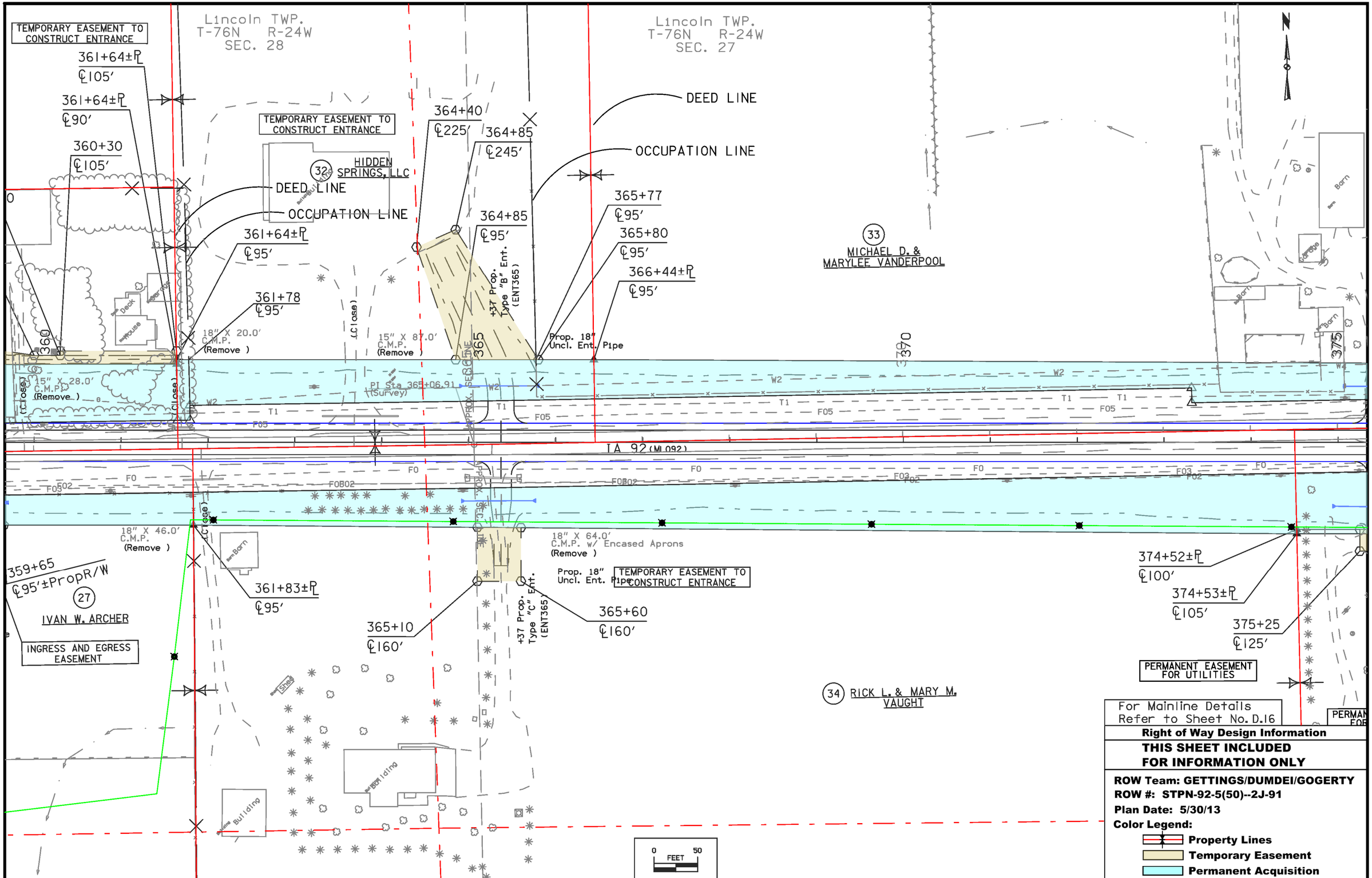
Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 3/11/13
Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.7

8:33:54 AM 6/30/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\PDF's\Grading Sheets\91092050H1.sht



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.8

8:21:28 AM 6/30/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\PDF's\Grading Sheets\91092050H1.sht

Lincoln TWP.
T-76N R-24W
SEC. 27

33
MICHAEL D. & MARYLEE VANDERPOOL

36
MAYNARD J.V. HAYDEN (LE)
LORI J. HAYDEN, CHRISTI L. HAYDEN AND STEVEN J. HAYDEN (REM)

38
CITY OF INDIANOLA & INDIANOLA MUNICIPAL UTILITIES

37 HIDDEN SPRING LLC

33A
MICHAEL D. & MARYLEE VANDERPOOL (FEE)
JUSTIN H. & ANN M. PETERSON (CP)

IA 92 (ML092)

377+64±℄ 95′
377+64±℄ 90′
381+75 ℄ 100′
384+45 ℄ 145′
385+00 ℄ 120′
387+27±℄ 151′
387+28±℄ 105′
389+30 ℄ 120′
376+50 ℄ 100′
375+70 ℄ 125′
377+04 ℄ 105′±PropR/W
377+70±℄ 129′
377+60 ℄ 129′
377+81 ℄ 129′
378+50 ℄ 110′
377+69±℄ 110′
380+35 ℄ 100′
386+50 ℄ 100′
388+20 ℄ 110′
388+50 ℄ 115′
390+94±℄ 115′

PERMANENT EASEMENT FOR UTILITIES
TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE
PERMANENT EASEMENT FOR UTILITIES
PERMANENT EASEMENT FOR UTILITIES
PERMANENT EASEMENT FOR UTILITIES

18″ X 32.0′ Conc. Pipe C.M.P. (Remove)
Prop. 18″ Uncl. Ent. Pipe
15″ X 37.0′ C.M.P. (Remove)
18″ X 32.0′ Conc. Pipe (Remove)
Prop. 18″ Uncl. Ent. Pipe
18″ X 56.0′ Conc. Pipe (Remove)
18″ X 41.0′ C.M.P. (Remove)
Side Road 15″ X 60.0′ Conc. Pipe (UAC)
15″ X 24.0′ C.M.P. (Remove)
15″ X 12.0′ C.M.P. (Remove)
+45 Prop. Type "C" Ent. (ENT375)
+95 Prop. Safety Ramp
(Close)

Sta. 379+69.09
2′ X 2′ X 42.0′ RCB
W/ 30″ RCP Extensions
D.A. = 4 Ac - R
(Remove)

Sta. 379+74.0
Install 24″ RCP
Skew = 6 ° Lt. Ahd.
F.L. = Lt. 967.25 Rt. 962.58

0 FEET 50

For Mainline Details Refer to Sheet No. D.18

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 4/26/13
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.9

8:22:03 AM 6/30/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\PDF's\Grading Sheets\91092050H1.sht

Lincoln TWP.
T-76N R-24W
SEC. 27

Curve Data
Δ = 89° 19' 35.74" (RT)
T = 94.20
L = 168.49
R = 112,000.00
E = 0.05

390+87±PL
℄120'

390+89±PL
℄78'

391+92±PrpR/W
℄95'

393+02±ExR/W
℄95'(ExCorner)

39 ST THOMAS AQUINAS CATHOLIC CHURCH

18" X 243.0' Conc. Pipe (UAC)

24" X 88.0' Conc. Pipe (UAC)

+16.98 Prop. Type "B" Ent.

15" X 48.0' Conc. Pipe (UAC)

24" X 80.0' Conc. Pipe (UAC)

15" X 30.0' Conc. Pipe (Remove)

Side Road 15" X 43.0' C.M.P. (UAC)

PI Sta 391+01.81 (Survey)

PI Sta 391+01.53

PC Sta 390+87.33

PT Sta 391+35.73

R-63 (SR63N)

R-63 (SR63S)

IA 92 (ML092)

392+60
℄27'

391+81±PropR/W
℄70'

394+75
℄70'

394+75
℄90'

395+25
℄90'

398+85
℄55'

15" X 18.0' Conc. Pipe (Remove)

(Close)

PERMANENT EASEMENT FOR STORM SEWER

Side Road 15" X 28.0' C.M.P. (Remove)

Side Road 15" X 56.0' C.M.P. (Remove)

Sta. 390+78.55
2' X 2' X 132.0' RCB
W/ 30" RCP Extensions
D.A. = 17 Ac - R
(Remove)

390+93±PL
℄70'

Sta. 391+07.0
Install 24" RCP
Skew = 37° Rt. Ahd.
F.L. = Lt. 966.73
Rt. 963.79

40 JAN MCCORD HALE & WILLIAM M. HALE AND ROBIN EYBERG, ET AL

Sta. 395+43.91
2' X 2' X 43.0' RCB
W/ 30" RCP Extensions
D.A. = 9 Ac - R
(Remove)

Sta. 391+29.59, 61.89 Lt.
24" X 60.0' Conc Pipe
D.A. = 3 Ac - R
(Remove)

0 FEET 50

For Mainline Details Refer to Sheet No. D.20

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Gettings/Dumdei/Gogerty
ROW #: STPN-92-5(50)--2J-91
Plan Date: 10/11/12
Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.10

8:22:38 AM 6/30/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\PDF's\Grading Sheets\91092050H1.sht

Lincoln TWP.
T-76N R-24W
SEC. 27

Sta. 417+03.73, 37.07 Lt.
22' X 14" X 60.0' Arch Conc Pipe
D.A. = 4 Ac - r
(Remove)

Curve Data
Δ = 0° 25' 37.45" (LT)
T = 44.72
L = 89.45
R = 12,000.00
E = 0.08

(40)
JAN MCCORD HALE & WILLIAM M. HALE
AND ROBIN R. EYBERG

417+34±PL
℄115'
416+50
℄115'
PI Sta 417+36.67
(Survey)
415+50
℄115'

15" X 24.0'
C.M.P.
(Remove)

+90.0' Prop.
Type "C" Ent.

4405
4400

IA 92 (ML092)

(41)
M & W FARM
SERVICE CO

TEMPORARY EASEMENT TO
SHAPE & CONSTRUCT ENTRANCE

419+4
℄123'

4118+19±PropR/W
℄100'
419+45
℄10'

15" X 48.0'
C.M.P.
(Remove)

+80.63 Prop.
Type "a" Ent.

4202

'Y' ST (SRYSTN)

PC Sta 416+90.59
PI Sta 417+35.31
PT Sta 417+80.03

416+69±PropR/W
℄49'
417+38±PL
℄27'
417+98±PL
℄27'
418+15±PropR/W
℄60'

'Y' ST (SRYBTS)

(40)
JAN MCCORD HALE & WILLIAM M. HALE
AND ROBIN R. EYBERG

Sta. 412+66.92, 247.41 RT
6 Tile Riser Intake
D.A. = 5A - R
(U.A.C.)

Sta. 414+54.06, 307.09 RT
6 Tile Riser Intake
D.A. = 2A - R
(U.A.C.)

Sta. 417+30.31, 350.36 Rt
30" X 44.0' CMP
D.A. = 16 Ac - R
(Remove)

0 FEET 50

For Mainline Details
Refer to Sheet No. D.22

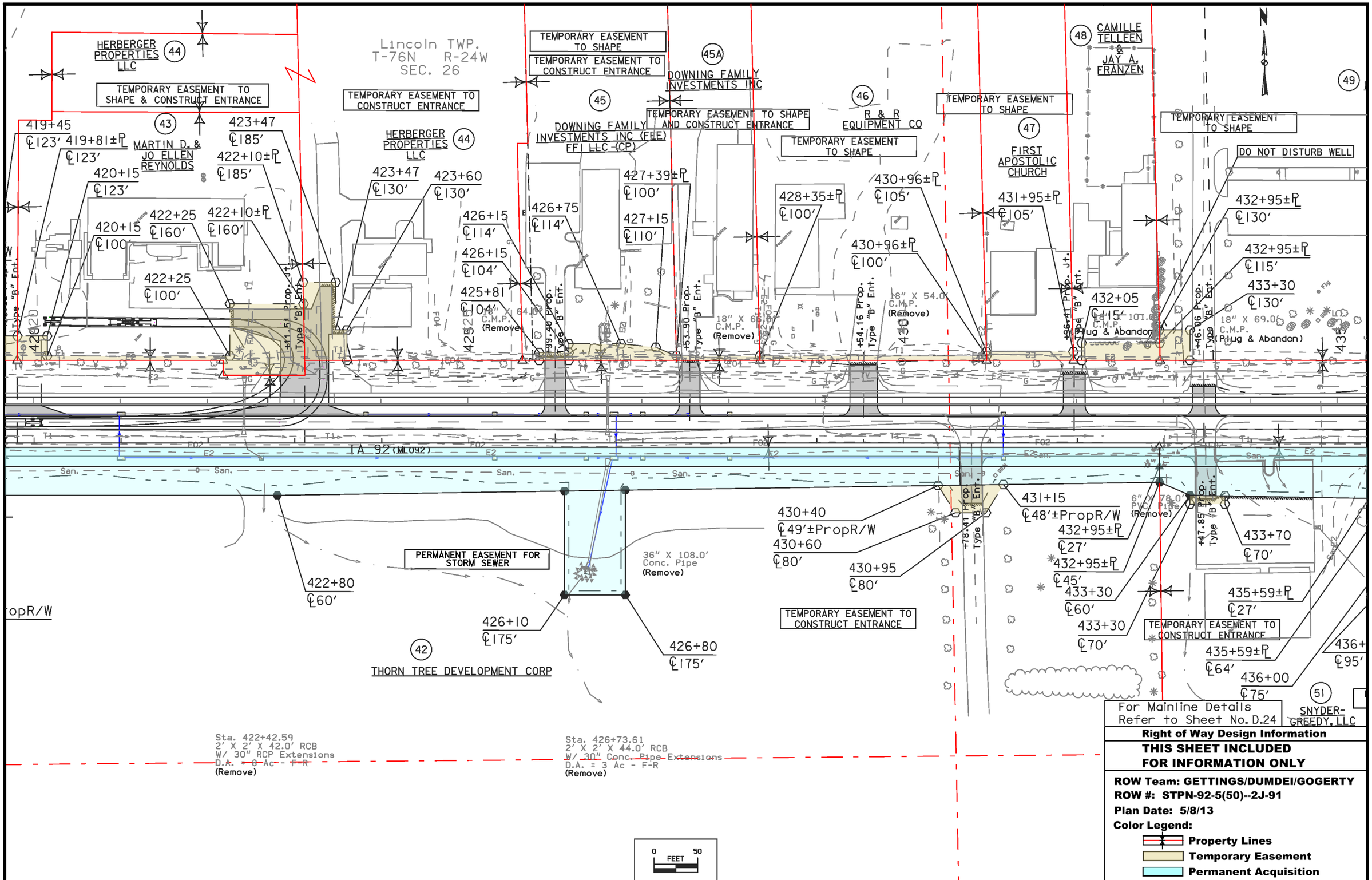
Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 5/3/13
Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.11

8:23:13 AM 6/30/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\PDF's\Grading Sheets\91092050H1.sht



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.12

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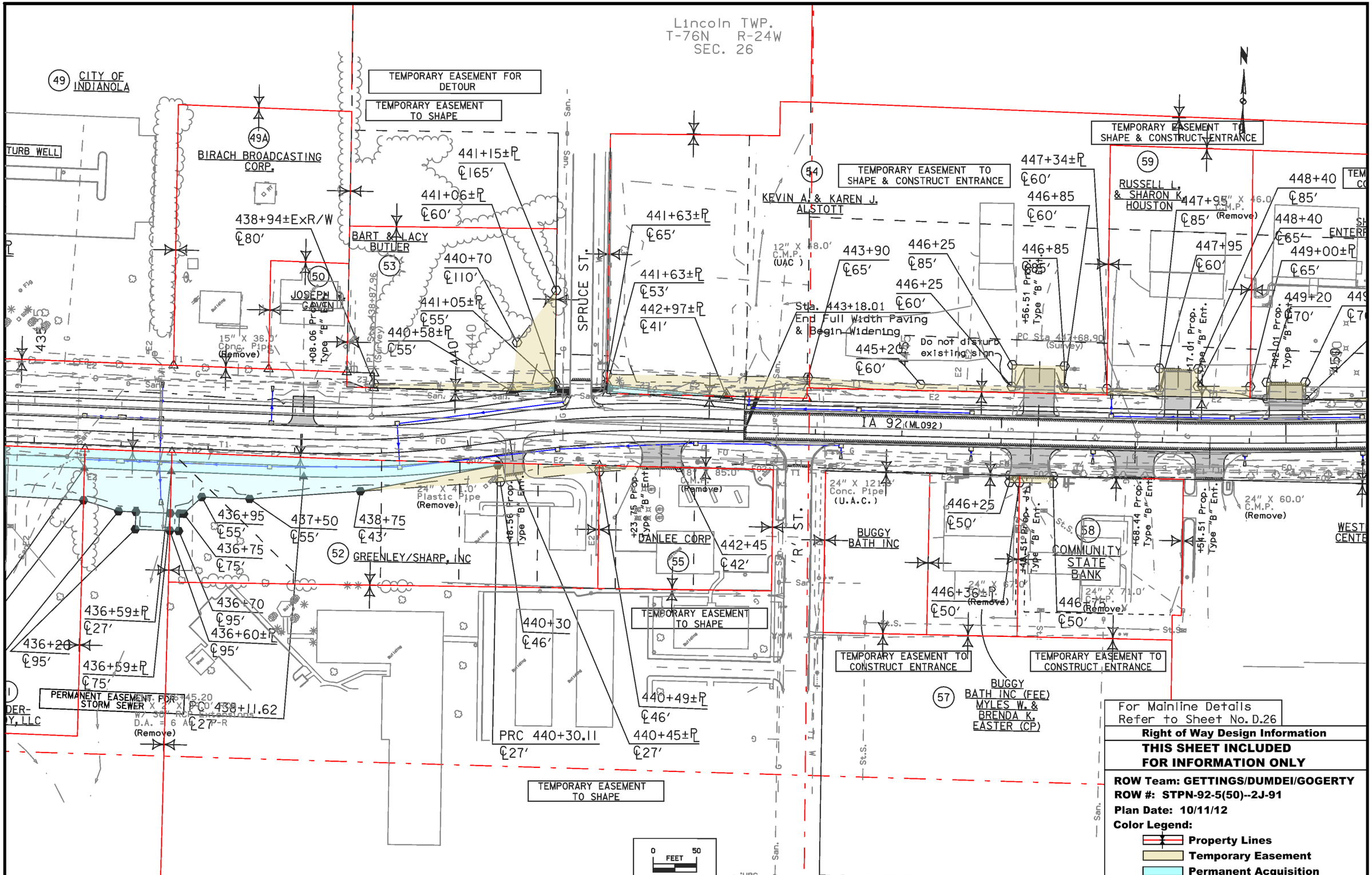

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.13

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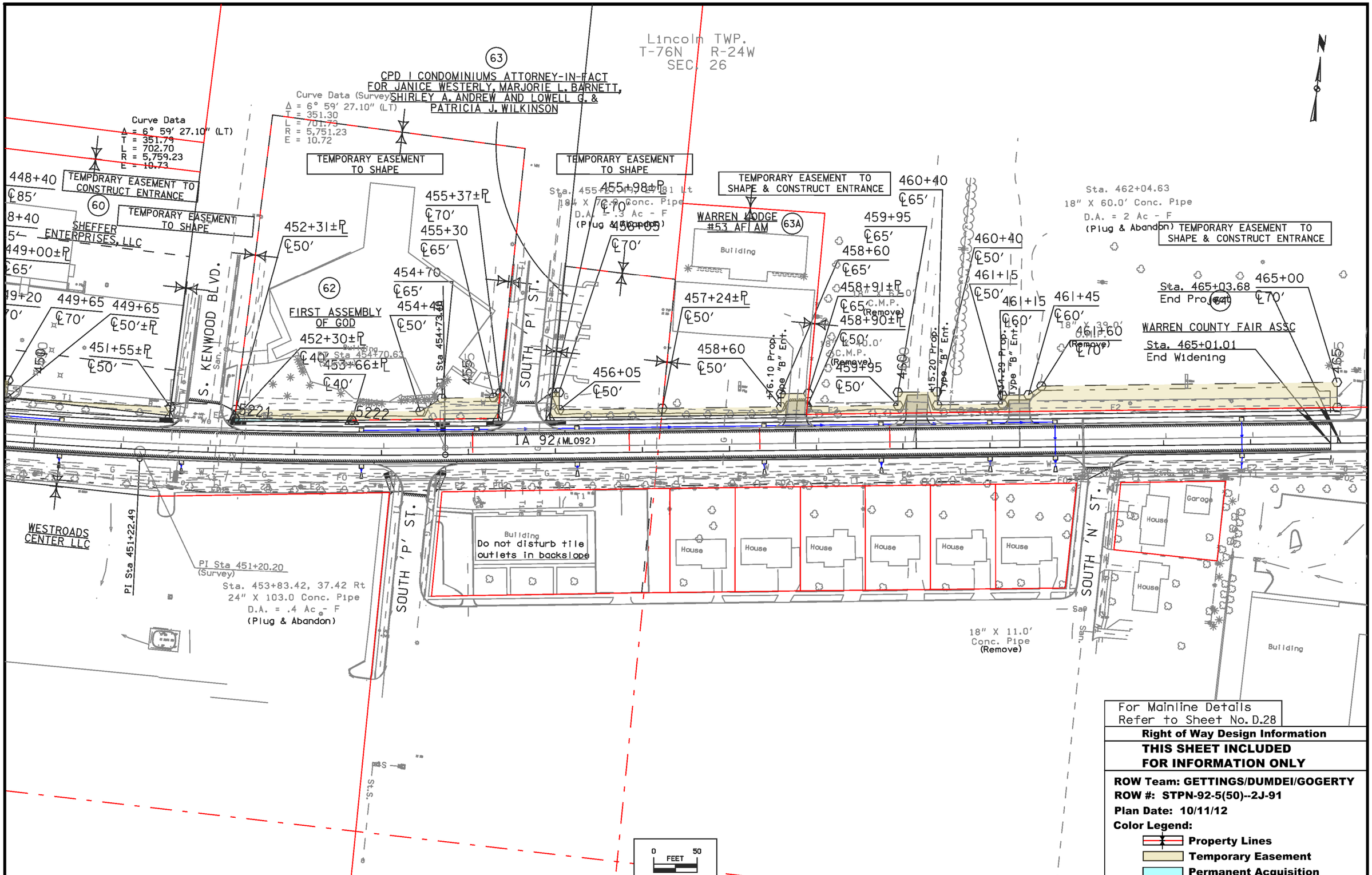

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.14

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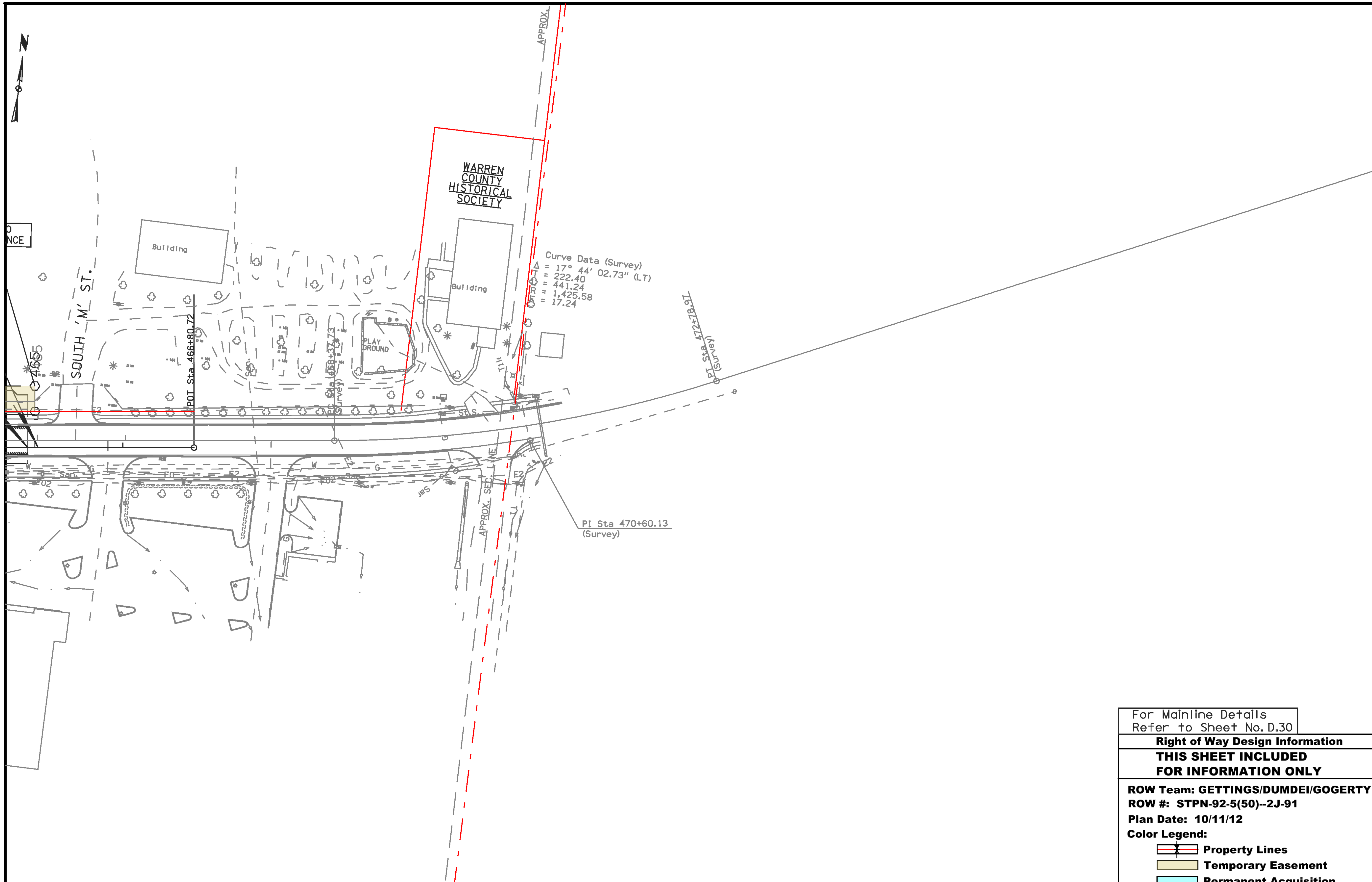


For Mainline Details
Refer to Sheet No. D.30

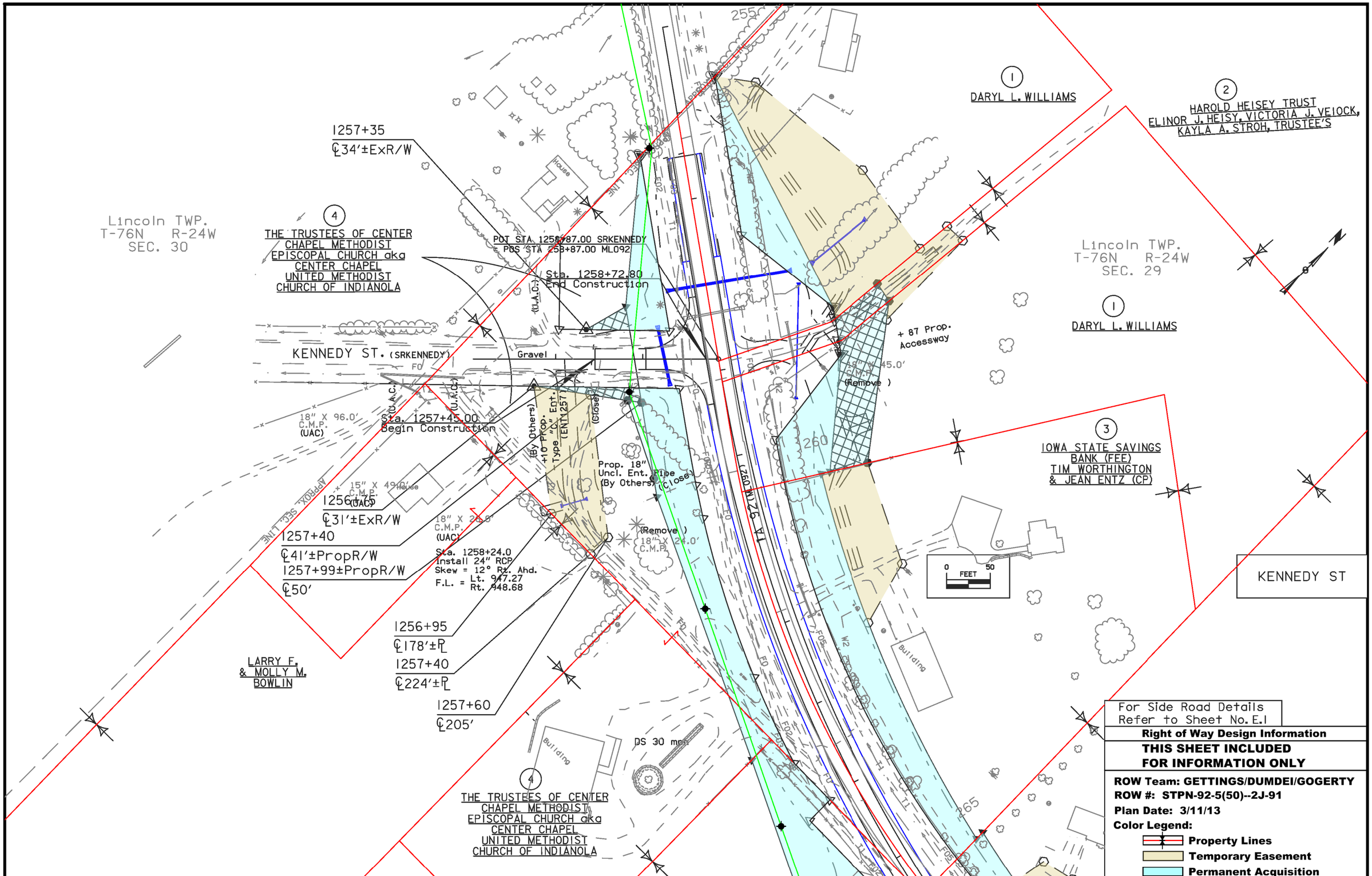
Right of Way Design Information

THIS SHEET INCLUDED
FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 10/11/12
Color Legend:
Property Lines
Temporary Easement
Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER H.15

8:25:27 AM 6/30/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\PDF's\Grading Sheets\91092050H1.sht



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER HE.1

8:26:00 AM 6/30/2014 mgogert pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\ROW\PDF's\Grading Sheets\91092050HE1.sht

13
ELDON WOLTZ TRUST
PETER C. WOLTZ (TRUSTEE)
GRACE WOLTZ FENWICK (TRUSTEE)

ACQUIRE ACCESS CONTROL ON
S.R. FROM 1282+61 TO 1385+30

1282+74±PropR/W
℄105′

1280+46±ExR/W
℄68′(Corner)

1282+00
℄70′

Curve Data
Δ = 19° 44′ 59.72″ (RT)
T = 88.78
L = 175.80
R = 510.00
E = 7.67
e = -2.0%

Curve Data
Δ = 19° 44′ 59.72″ (LT)
T = 88.78
L = 175.80
R = 510.00
E = 7.67
e = -2.0%

Sta. 1280+60.00
Begin Construction

PC STA 11277+89.54 DETR57
= POT STA 1277+35.33 SR57S

PI STA 1283+73.24 SR57S
= POT STA 283+73.24 ML092

15″ X 48.0′
C.M.P.
(REMOVE)

Prop. 18″
Uncl. Ent. Pipe

12
MARK &
JOYCE
WOOSLEY

1384+74±ProposedR/W
℄80′

PI STA 1283+68.17 SR57N
= POT STA 283+68.17 ML092

1385+20
℄60′

15″ X 48.0′
C.M.P.
(REMOVE)

Sta. 1386+06.00
End Construction

1386+20
℄60′

1386+50
℄50′±ExR/W

Curve Data
Δ = 20° 10′ 50.98″ (RT)
T = 90.76
L = 179.63
R = 510.00
E = 8.01
e = -2.0%

Curve Data
Δ = 19° 37′ 05.90″
T = 88.18
L = 174.63
R = 510.00
E = 7.57
e = -2.0%

ACQUIRE ACCESS CONTROL ON
S.R. FROM 1282+61 TO 1385+30

1277+80
℄77′±R

18″ X 57.0′
C.M.P.
(REMOVE)

Prop. 18″
Uncl. Ent. Pipe

Sta. 1283+41.23
POT STA 1283+33.23 ML092
= POT STA 284+33.25 ML092

15″ X 37.0′
Conc. Pipe
(REMOVE)

Prop. 18″
Uncl. Ent. Pipe

15″ X 36.0′
C.M.P.
(REMOVE)

Prop. 18″
Uncl. Ent. Pipe

Sta. 1384+16.17
Resume Construction

Subdrain No. 4B
PT STA 11290+40.39 DETR
= POT STA 1389+67.34 SR

Subdrain No. 4A

1390+00
℄53′±ExR/W

Sta. 283+86.712.79 Lt.
2′ X 2′ X 71.0′ RCB
D.A. = 16 Ac - R
(U.A.C.)

Sta. 283+94.88, 499.59 Lt.
24″ X 69.0′ Conc Pipe
D.A. = 4 Ac - R
Replace Apron Rt

15A
MICHAEL D. &
CONNIE R.
COX

1280+15
℄110′

1282+15
℄66′±R

1282+40
℄90′

1282+80
℄80′

1283+06±PropR/W
℄95′

0 FEET 50

14 CONNIE S.
BENCE

1385+54±R
℄60′

1386+20
℄54′±ExR/W

1387+00
℄130′

COUNTY
R-57

16
GEORGANNA M.
MORRIS

1385+53±R
℄130′

TEMPORARY EASEMENT FOR
DETOUR

15
LLOYD & CHERYL
JANES

TEMPORARY EASEMENT FOR
DETOUR

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 #: STPN-92-5(50)--2J-91
Plan Date: 10/11/12
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER HE.2

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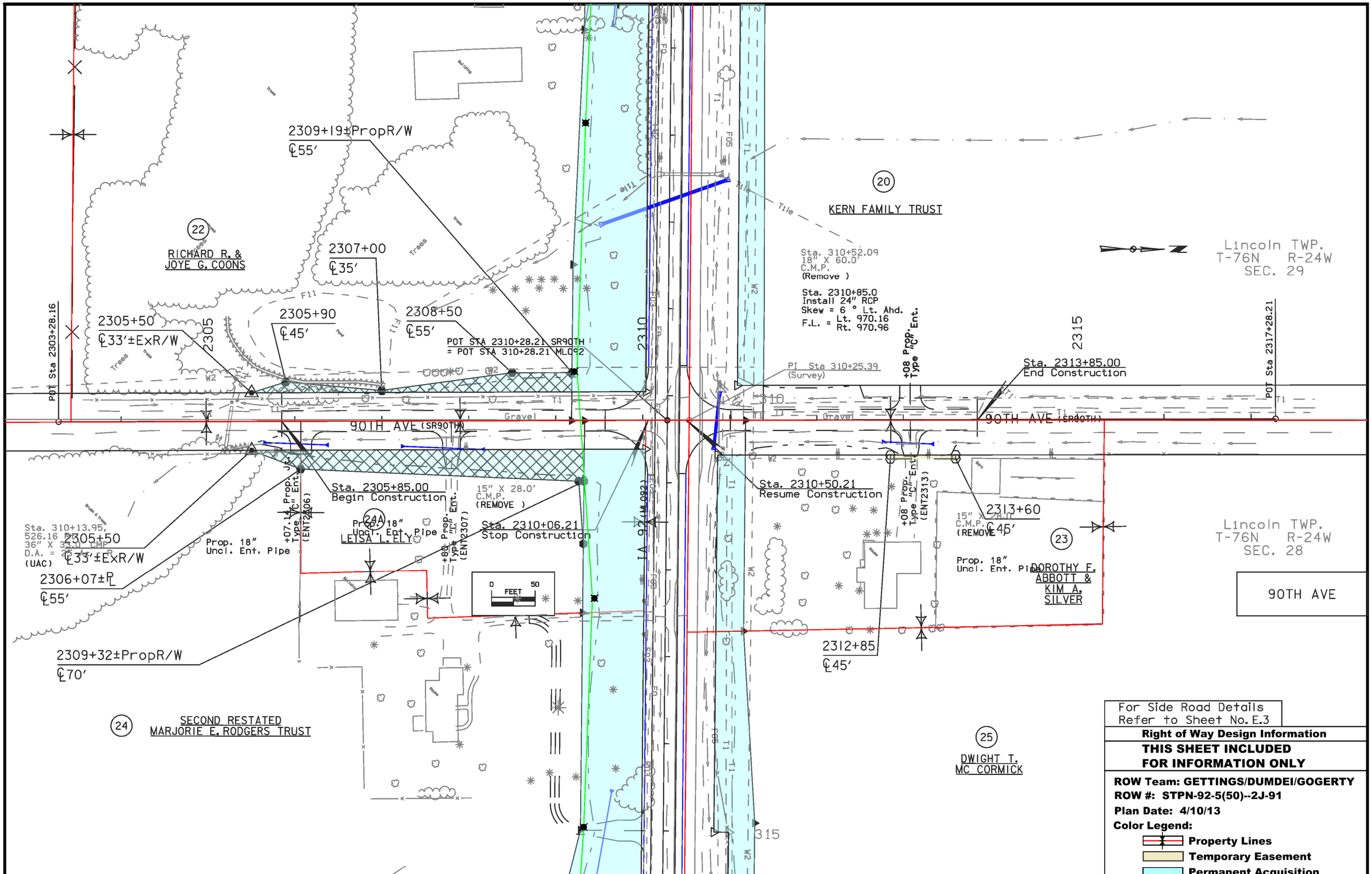

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER HE.3

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ACQUIRE ACCESS CONTROL ON
S.R. FROM 3389+42 TO 3392+82

37 HIDDEN SPRING LLC

3389+91±PropR/W
℄90′

Sta. 3390+71.41
Stop Construction

3387+75
℄62′±ExR/W

15″ X 56.0′
C.M.P.
(Remove)

15″ X 28.0′
C.M.P.
(Remove)

Prop. 18″
Uncl. Ent. Pipe

179 Prop.
Type "C" Ent.

Sta. 3388+60.00
Begin Construction

POT Sta 3384+70.68

3385

3390

R-63 (SR63S)

18390

POT STA 3391+03.42 SR63S
= POT STA 391+03.42 ML092

3386+00
℄53′±ExR/W

3387+75
℄53′±ExR/W

3388+55
℄75′

3388+30
℄170′

3390+53±PropR/W
℄75′

3390+28±PropR/W
℄170′

TEMPORARY EASEMENT FOR
DETOUR

40
JAN MCCORD HALE & WILLIAM M. HALE
AND ROBIN EYBERG, ET AL

IA 92 (ML092)

38
CITY OF
INDIANOLA &
INDIANOLA MUNICIPAL
UTILITIES

3392+27±PropR/W
℄80′

15″ X 60.0′
Conc.
(UAC)

3393+50
℄55′±ExR/W

Sta. 3391+41.99
Resume Construction

Sta. 3393+05.00
End Construction

3390

3395

Lincoln TWP.
T-76N R-24W

ACQUIRE ACCESS CONTROL ON
S.R. FROM 3389+42 TO 3392+82

POT Sta 3398+03.35

R-63 (SR63N)

POT STA 3391+03.95 SR63N
= POT STA 391+03.95 ML092

15″ X 43.0′
C.M.P.
(UAC)

3394+85
℄65′±ExR/W

3394+20
Sta. 3392+20.0
Install 24″ UAC
Lt. 966.90
Rt. 967.40

3392+60
℄65′±ExR/W

3393+30
℄160′

3391+77±ExR/W
℄100′

3392+20
℄175′

3391+90±PropR/W
℄190′

39 ST THOMAS AQUINAS
CATHOLIC CHURCH

TEMPORARY EASEMENT FOR
DETOUR

COUNTY
R-63

0 50
FEET

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

Right of Way Design Information

**THIS SHEET INCLUDED
FOR INFORMATION ONLY**

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 10/11/12
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER HE.4

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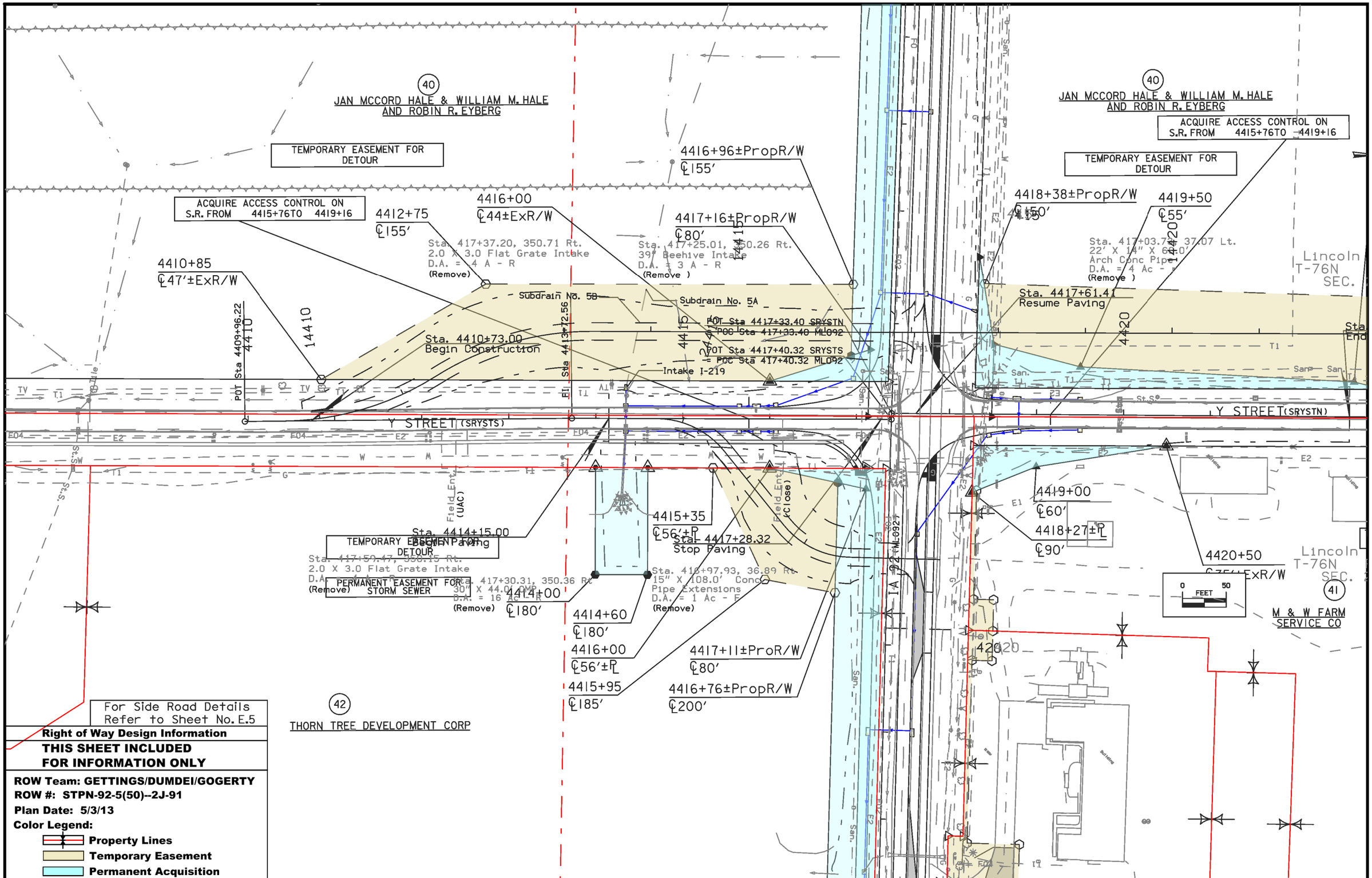

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 5/3/13
Color Legend:

- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER HE.5

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40
MCCORD HALE & WILLIAM M. HALE
AND ROBIN R. EYBERG

40
JAN MCCORD HALE & WILLIAM M. HALE
AND ROBIN R. EYBERG

4416+96±PropR/W
℄155′

4412+75
℄155′

4416+00
℄44±ExR/W

4417+16±PropR/W
℄80′

4418+38±PropR/W
℄150′

4419+50
℄55′

4422+65
℄40′

4423+00
℄32′±ExR/W

4424+00
℄135′

4426+00
℄33′±ExR/W

Sta. 417+37.20, 350.71 Rt.
2.0 X 3.0 Flat Grate Intake
D.A. = 4 A - R
(Remove)

Sta. 417+25.01, 350.26 Rt.
39" Beehive Intake
D.A. = 3 A - R
(Remove)

Sta. 417+03.7[illegible] 37.07 Lt.
22′ X 14" X 60.0′
Arch Conc Pipe
D.A. = 4 Ac - r
(Remove)

Lincoln TWP.
T-76N R-24W
SEC. 27

Subdrain No. 5B

Subdrain No. 5A

Sta. 4417+61.41
Resume Paving

Sta. 4410+73.00
Begin Construction

POT Sta 4417+33.40 SRYSTN
POC Sta 417+33.40 ML092

POT Sta 4417+40.32 SRYSTS
= POC Sta 417+40.32 ML092

Intake I-219

Sta. 4422+60.00
End Paving

Y STREET (SRYSTS)

Y STREET (SRYSTN)

Field Ent. (UAC)

Field Ent. (Close)

4415+35
℄56′±P

Sta. 4417+28.32
Stop Paving

Sta. 4414+15.00
Begin Paving

4419+00
℄60′

4418+27±P
℄90′

Sta. 4425+66.00
End Construction

4420+50
℄35′±ExR/W

Lincoln TWP.
T-76N R-24W
SEC. 26

41

M & W FARM
SERVICE CO

Y Street

0 FEET 50

59.47, 350.15 Rt.
Flat Grate Intake
A - R

Sta. 417+30.31, 350.36 Rt.
30" X 44.0′ CMP
D.A. = 16 Ac - R
(Remove)

4414+00
℄180′

Sta. 418+97.93, 36.89 Rt.
15" X 108.0′ Conc
Pipe Extensions
D.A. = 1 Ac - F
(Remove)

4414+60
℄180′

4416+00
℄56′±P

4415+95
℄185′

4417+11±ProR/W
℄80′

4416+76±PropR/W
℄200′

IA 22 ML092

DEVELOPMENT CORP

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

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 5/3/13
Color Legend:
- **Property Lines**
- **Temporary Easement**
- **Permanent Acquisition**

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER HE.6

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108-23A
08-01-08

TRAFFIC CONTROL PLAN

IA 92
Traffic on IA 92 will be maintained one lane in each direction at all times except as follows:
IA 92 will be closed from the BOP to R-63 during Stage 2. Thru traffic will be detoured north in Martensdale on IA 28, east on IA 5, and south on US 65/US 69.

Access to all entrances will be maintained at all times.

R-57
Traffic will be maintained in both directions at all times.

90th Avenue (North of IA 92)
Road will be closed to thru traffic during closure of IA 92 from BOP to R-63. Local traffic will access 90th St. via local roads Illinois St. and Indiana/Inwood Streets.

90th Ave. (South of IA 92)
Road will be closed to thru traffic during closure of IA 92 from BOP to R-63. Local traffic will access 90th St. from R-57 via Kirkwood St.

R-63
Traffic will be maintained in both directions at all times.

Y St. (North of IA 92)
Traffic will be maintained in both directions at all times.

Y St. (South of IA 92)
Traffic will be maintained in both directions at all times.

South Spruce St.
Traffic will be maintained in both directions at all times.

R St.
Street will be closed during construction of the R Street intersection with IA 92. R Street will not be closed at the same time as South P Street on the south side of IA 92.

South Kenwood Blvd.
Street will be closed during construction of the South Kenwood Blvd. intersection with IA 92. South Kenwood Blvd will not be closed at the same time as South P St. on the north side of IA 92.

South P St. (North of IA 92)
Street will be closed during construction of the South P St. intersection with IA 92. South P St. north of IA 92 will not be closed at the same time as South Kenwood Blvd.

South P St. (South of IA 92)
Street will be closed during construction of the South P St. intersection with IA 92. South P St. south of IA 92 will not be closed at the same time as R St. or South N St. on the south side of IA 92.

South N St.
Street will be closed during construction of the N St. intersection with IA 92. R St. will not be closed at the same time as South P St. on the south side of IA 92.

113-2
04-16-13

PEDESTRIAN PATH CLOSURES

Refer to TC-601.

*Assumes 6 foot wide barricade.
Closures may need to be removed and re-established.

Location	Side	Type III Barricades* No.	Remarks
Sta 4410+73; East side of Y St., South of IA 92	Rt	1	Closed for Stages 1 and 2
Station 441+60; East side of Spruce St.	Lt	1	Closed for Stages 1 thru 4
Station 454+10; West side of South P St., South of IA 92	Rt	1	Closed for Stage 4
Station 454+65; East side of South P St., South of IA 92	Rt	1	Closed for Stage 4
Station 451+60; West side of S. Kenwood Blvd, North of IA 92	Lt	1	Closed for Stage 4
Station 452+30; East side of S. Kenwood Blvd, North of IA 92	Lt	1	Closed for Stage 4
Station 455+40; West side of South P Street, North of IA 92	Lt	1	Closed for Stage 4
Station 455+95; East side of South P Street, North of IA 92	Lt	1	Closed for Stage 4
Sta 465+85	Lt	1	Closed for Stages 1 thru 4

111-01
04-17-12

COORDINATED OPERATIONS

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

Project	Type of Work
NHSX-092-5(55)--3H-91	Lighting
NHSX-092-5(54)--3H-91	Traffic Signs

STAGING NOTES

Stage 1
- Traffic Control
  - IA 92
    - Maintain traffic on existing IA 92 from beginning of project to end of project
  - Sideroads
    - Maintain traffic on all existing sideroads

- Construction
  - IA 92
    - Construct temporary pavement on north side of IA 92 at the Spruce Street intersection
  - Sideroads
    - Construct the SW temporary granular detour for Y Street south of IA 92
    - Place granular surface on Kirkwood Street between R-57 and 90th Street

Stage 2A
- Traffic Control
  - IA 92
    - Detour IA 92 thru traffic as shown on sheets J.5-J.12
    - Maintain IA 92 local traffic on existing pavement from BOP to R-57
    - Close IA 92 local traffic from R-57 to 90th Street
    - Maintain IA 92 local traffic on existing pavement from 90th Street to EOP
  - Sideroads
    - Maintain traffic on R-57
    - Access to 90th Street south of IA 92 shall be maintained from R-57 via Kirkwood Street
    - Access to 90th Street north of IA 92 shall utilize local roads Illinois Street and Indiana/Inwood Streets
    - Maintain traffic on R-63
    - Maintain traffic on Y Street north of IA 92
    - Close Y Street south of IA 92 and use the SW temporary granular detour for Y Street south of IA 92

- Construction
  - IA 92
    - Grade and Pave IA 92 from R-57 (Sta 284+00) east 150'
  - Sideroads
    - Construct the NE and SE temporary paved detours for R-57 north and south of IA 92
    - Construct the NE and SE temporary paved detours for R-63 north and south of IA 92

Stage 2B
- Traffic Control
  - IA 92
    - Continue to detour thru traffic for IA 92 as shown on sheets J.5-J.12
    - Close IA 92 from BOP east to just east of R-63 (Sta 391+80)
      - Traffic on R-57 shall be allowed to cross the new IA 92 pavement at the temporary detour pavement
      - Maintain local entrance access only
    - Maintain local traffic on existing pavement of IA 92 as one-lane in each direction between R-63 and EOP while utilizing temporary pavement at Spruce Street
  - Sideroads
    - Maintain traffic on R-57 via detour pavement
    - Close 90th Street
    - Maintain traffic on R-63 via detour pavement
    - Maintain traffic on Y Street north of IA 92
    - Maintain traffic on SW temporary granular detour pavement for Y Street south of IA 92

- Construction
  - IA 92
    - Grade and Pave IA 92 from BOP to just east of the R-57 intersection (Sta 284+00)
    - Grade and Pave IA 92 from just east of R-57 (Sta 285+50) to just east of R-63 intersection (Sta 391+80)
    - Grade and Pave new EB and center turn lanes of IA 92 from just east of R-63 (Sta 393+30) to just west of SW temporary granular detour for Y Street (Sta 416+15)
    - Grade and Pave new EB and center turn lanes of IA 92 from just east of SW temporary granular detour for Y Street (Sta 416+64) to just west of R Street (Sta 443+18)
    - Place temporary pavement with curb on south side of new IA 92 pavement from Sta 441+15.20 to the SW return of R Street. Place steel cover over storm sewer well at Sta. 442+63 (Right) prior to placing temporary pavement
  - Sideroads
    - Construct Access 258
    - Grade and Pave south and north legs of R-57
    - Grade and Pave south and north legs of R-63
    - Grade and Pave south leg of Y St.
    - Construct as much as possible of the NW temporary granular detour for Y Street north of existing IA 92.

Stage 2C
- Traffic Control
  - IA 92
    - Continue to detour thru traffic for IA 92 as shown on sheets J.5-J.12
    - Maintain IA 92 local traffic from BOP to R-57
    - Maintain closure of IA 92 from just east of R-57 (Sta 285+50) to just east of R-63 (Sta 391+80); maintain local access only
    - Maintain local traffic on existing pavement of IA 92 as two-lane, two-way traffic between R-63 and EOP while utilizing temporary pavement at Spruce St.
  - Sideroads
    - Place traffic on R-57
    - Maintain closure of 90th Street
    - Maintain traffic on R-63 by utilizing the NE and SE temporary paved detours
    - Maintain traffic on Y Street north of IA 92

108-26A
08-01-08

STAGING NOTES

    - Maintain traffic on the SW temporary granular detour for Y Street south of IA 92

- Construction
  - IA 92
    - Finish Grading and Paving from just east of R-57 (Sta 285+50) to just east of R-63 (Sta 391+80)
  - Sideroads
    - Remove the NE and SE temporary detours of R-57
    - Construct temporary granular detour in the southeast quadrant of the IA 92/Y St. intersection; Place granular surfacing across the top of new IA 92 pavement as part of detour due to the grade difference

Stage 2D
- Traffic Control
  - IA 92
    - Continue to detour thru traffic for IA 92 as shown on sheets J.5-J.12
    - Maintain IA 92 local traffic from BOP to R-63
    - Close IA 92 from just east of R-63 (Sta 391+80) to Y Street
    - Maintain local traffic on existing pavement of IA 92 between Y Street and EOP while utilizing temporary pavement at Spruce Street
  - Sideroads
    - Open R-57 to normal traffic
    - Open 90th Street to normal traffic
    - Place traffic on R-63
    - Place traffic on the SE temporary granular detour for Y Street south of IA 92

- Construction
  - IA 92
    - Grade and Pave the gapped areas of the EB and left turn lane of IA 92 between R-63 and Y Street
  - Sideroads
    - Remove the NE and SE temporary paved detours of R-63
    - Construct the remainder of the NW temporary granular detour of Y Street to tie into the new IA 92 pavement

Stage 3A
- Traffic Control
  - IA 92
    - Open IA 92 to thru traffic
      - Maintain normal operation from from BOP to R-63
      - Place traffic on the new EB and left turn lane of IA 92 from R-63 to just east of Spruce Street (Sta 443+18) to maintain traffic as one lane in each direction
  - Sideroads
    - Place traffic on the NW temporary granular detour for Y Street north of IA 92
    - Open traffic on Y Street south of IA 92
    - Maintain traffic on all other sideroads

- Construction
  - IA 92
    - Remove temporary pavement on the north side of IA 92 from just west to just east of Spruce Street (Sta 445+00)
  - Sideroads
    - Remove the SE temporary granular detour for Y Street south of IA 92
    - Construct the NW temporary granular detour for Spruce Street north of IA 92

Stage 3B
- Traffic Control
  - IA 92
    - Same as Stage 3A
  - Sideroads
    - Maintain traffic on NW temporary granular detour for Y Street north of IA 92
    - Place Spruce Street traffic on the NW temporary granular detour for Spruce Street
    - Maintain traffic on all other sideroads

- Construction
  - IA 92
    - Construct WB lane with curb on the north side of IA 92 from just west of Spruce Street (Sta 441+10) to Sta 443+18
  - Sideroads
    - Construct Spruce Street intersection

Stage 3C
- Traffic Control
  - IA 92
    - Same as Stage 3B
  - Sideroads
    - Maintain traffic on NW temporary granular detour for Y Street north of IA 92
    - Open Spruce Street at intersection of IA 92
    - Maintain traffic on all other sideroads

- Construction
  - IA 92
    - Grade and Pave WB lane of IA 92 from just east of R-63 (Sta 391+80) to just west of Spruce Street (441+10); gap construction for the NW temporary granular detour for Y Street
  - Sideroads
    - Grade and Pave the north leg of Y Street
    - Remove the NW temporary granular detour for Spruce Street north of IA 92

STAGING NOTES

Stage 3D
- Traffic Control
  - IA 92
    - Same as Stage 3C
  - Sideroads
    - Maintain traffic on all sideroads

- Construction
  - IA 92
    - Grade and Pave the gapped area of the WB lane of IA 92 just west of Y Street after removal of the NW temporary granular detour
  - Sideroads
    - Remove the NW temporary granular detour for Y Street north of IA 92

Stage 4A
- Traffic Control
  - IA 92
    - Maintain thru traffic on IA 92; shift traffic north from 800' west of Spruce Street to EOP; use existing left turn lane (center lane) for EB traffic
  - Sideroads
    - Close R St., South P St., and South N St. south of IA 92
      - NOTE: Closure of R St. and South P St. south of IA 92 shall not occur simultanously
    - Maintain traffic on all other sideroads

- Construction
  - IA 92
    - Remove temporary pavement on the south side of IA 92 from Spruce Street to the SW return at R Street
    - Construct the curb and gutter on the south side of IA 92 from Spruce Street to EOP
    - Mill and Resurface EB lane of IA 92
  - Sideroads
    - Construct intersections of R Street, South P Street, and South N Street south of IA 92

Stage 4B
- Traffic Control
  - IA 92
    - Maintain thru traffic on IA 92; close existing left turn lane (center lane)
  - Sideroads
    - Maintain traffic on all sideroads

- Construction
  - IA 92
    - Mill and resurface left turn lane (center lane) of IA 92
  - Sideroads
    - None

Stage 4C
- Traffic Control
  - IA 92
    - Maintain thru traffic on IA 92; shift traffic south from 800' west of Spruce Street to EOP; use existing left turn lane (center lane) for WB traffic
  - Sideroads
    - Close South Kenwood Blvd and South P Street north of IA 92
      - NOTE: Closure of South Kenwood Blvd and South P Street north of IA 92 shall not occur simultanously
    - Maintain traffic on all other sideroads

- Construction
  - IA 92
    - Remove temporary pavement on the north side of IA 92 from Sta 443+18 to Sta 445+00
    - Construct the curb and gutter on the north side of IA 92 from Sta 443+18 to EOP
    - Mill and Resurface WB lane of IA 92
  - Sideroads
    - Construct intersections of South Kenwood Blvd and South P St. north of IA 92

Stage 4D
- Traffic Control
  - Open IA 92 and sideroads to full operation

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 Shoulder
Proposed Granular Subbase	Temporary Shoulder
Proposed Special Backfill	Existing Shoulder Strengthening
Temporary Barrier Rail	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)	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	Crash Cushion
Drum	Traffic Signal
Temporary Lane Separator	Flagger
Tubular Marker	Temporary Floodlighting
Channelizer Marker	Traffic Sign
Concrete Barrier Marker	Type III Barricade
Delineator	Type A Warning Light
Temporary Barrier Rail	Direction of Traffic
Pavement Removal	Safety Closure

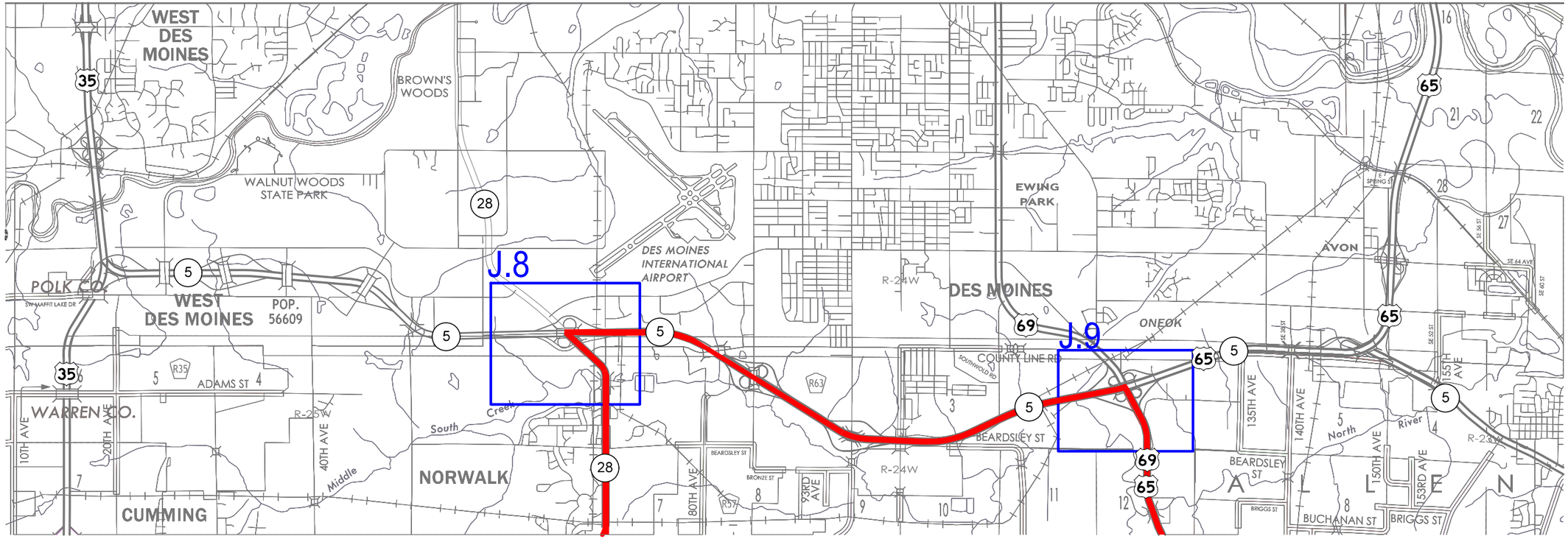
NOTE: Device spacing according to Standard Road Plans unless specifically dimensioned.

TRAFFIC CONTROL AND STAGING LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES J)

RESERVED FOR
DETOUR SIGN DETAILS SHEET
Zach's Signature

POLK COUNTY



WARREN COUNTY

SIGN/DEVICE	SIGN NO.	COLOR	SIZE InchxInch
92	M1-4	BLACK ON WHITE	24X24
EAST	M3-2	BLACK ON WHITE	24X12
WEST	M3-4	BLACK ON WHITE	24X12
DETOUR	M4-8	BLACK ON ORANGE	24X12
END DETOUR	M4-8a	BLACK ON ORANGE	24X18
	M6-3	BLACK ON WHITE	21X15
	M5-1R	BLACK ON WHITE	21X15

SIGN/DEVICE	SIGN NO.	COLOR	SIZE InchxInch
	M5-1L	BLACK ON WHITE	21X15
	M5-2	BLACK ON WHITE	21X15
	M6-1R	BLACK ON WHITE	21X15
	M6-1L	BLACK ON WHITE	21X15
ROAD CLOSED 2 MILES AHEAD LOCAL TRAFFIC ONLY	R11-3a	BLACK ON WHITE	60X30
ROAD CLOSED	R11-2	BLACK ON WHITE	48X30
ROAD CLOSED TO THRU TRAFFIC	R11-4	BLACK ON WHITE	60X30

N

Project

Proposed Detour

LOCATION MAP SCALE

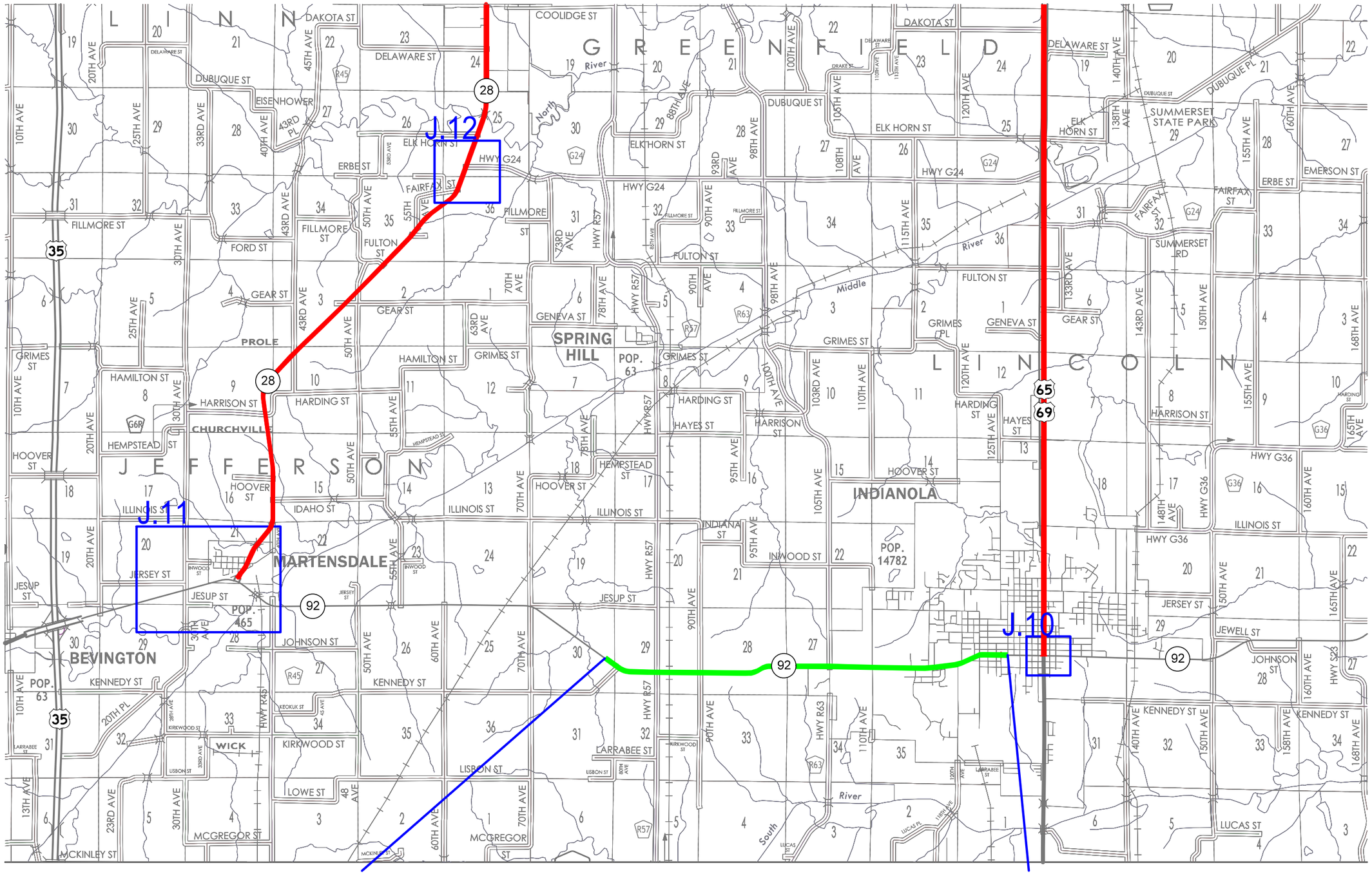
0 1 2 3

Miles

SIGN/DEVICE	SIGN NO.	COLOR	SIZE InchxInch
ROAD CLOSED AHEAD	W20-3	BLACK ON ORANGE	48X48
ROAD CLOSED 500 FT	W20-3	BLACK ON ORANGE	48X48
	TYPE III		

DETOUR LAYOUT DETAILS
(Sheet 1 of 8)

WARREN COUNTY



Project

Proposed Detour

LOCATION MAP SCALE

0 1 2 3

Miles

DETOUR LAYOUT DETAILS
(Sheet 2 of 8)

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.7

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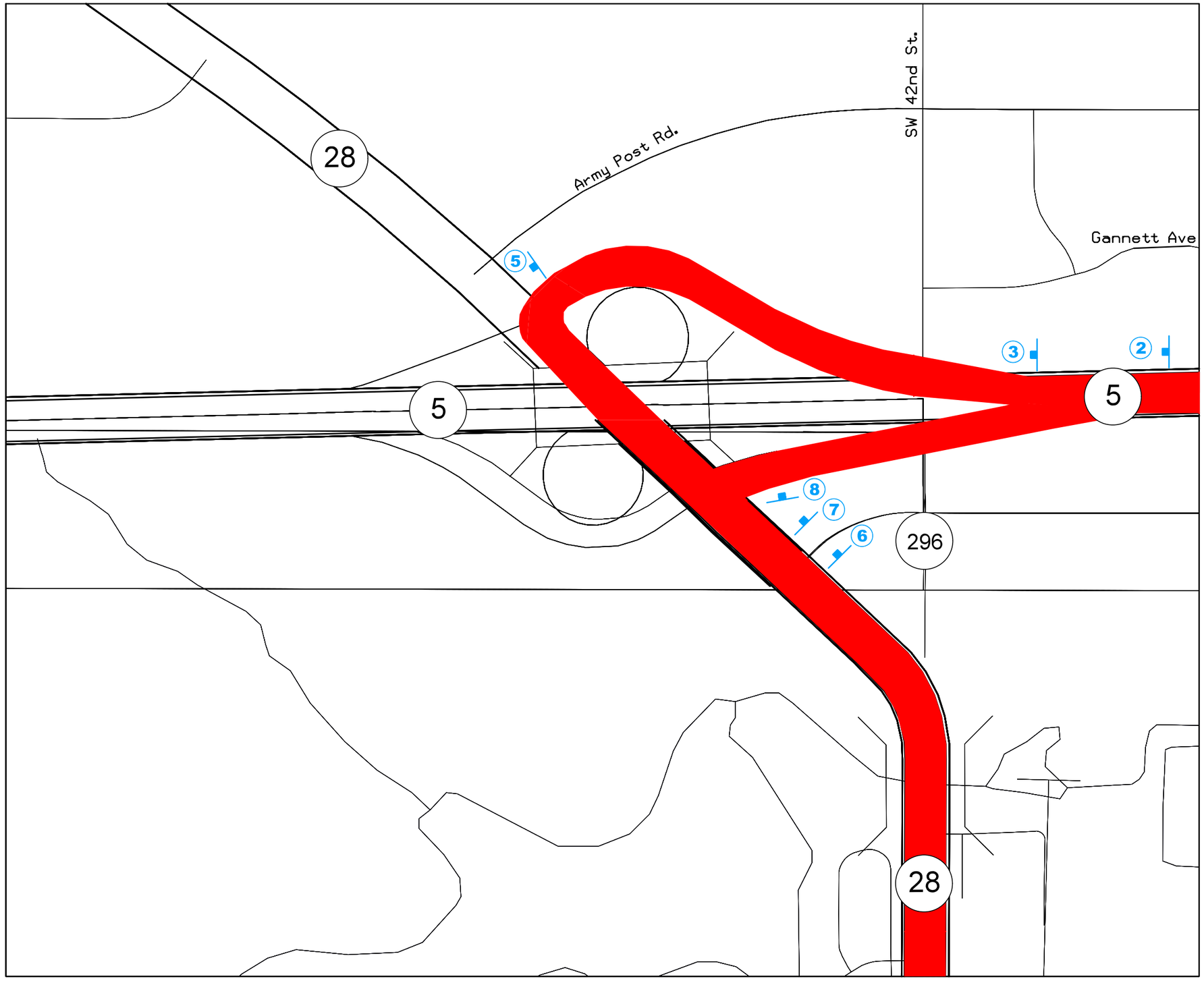

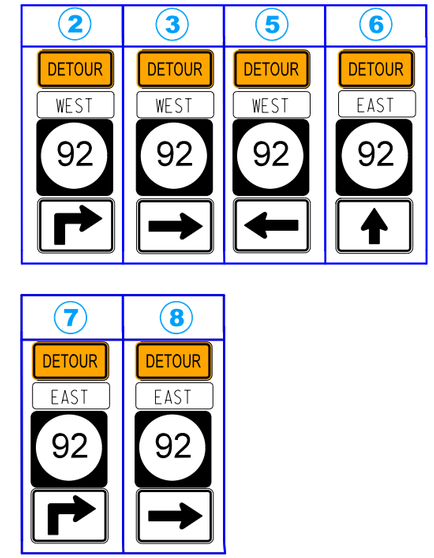

NOT TO SCALE

LEGEND

Sign

Detour Route

N

DETOUR LAYOUT DETAILS
(Sheet 3 of 8)

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.8

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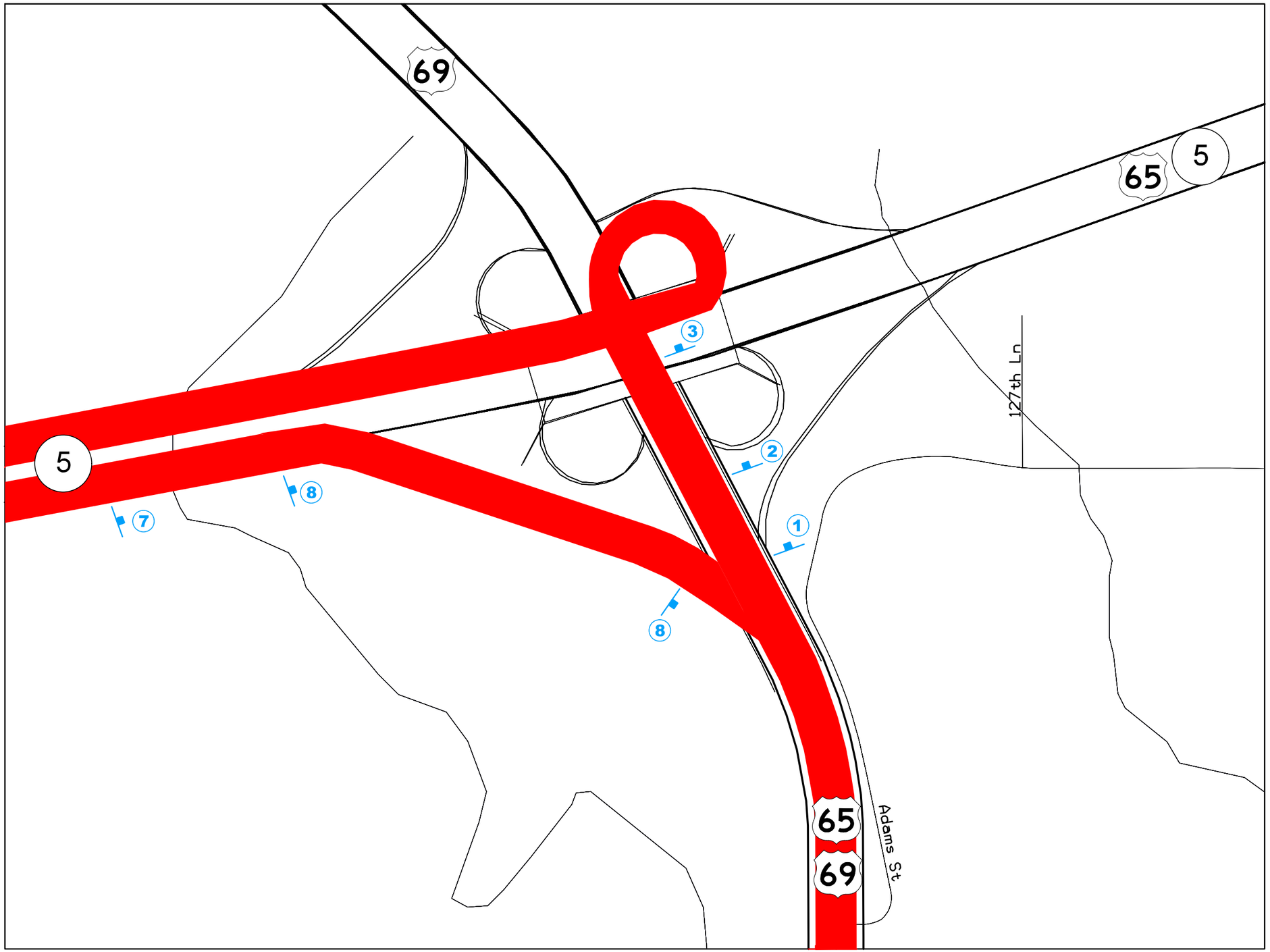

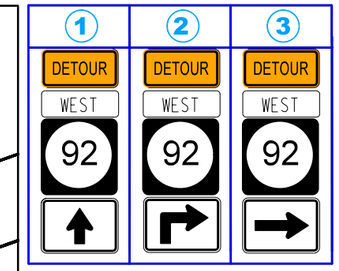

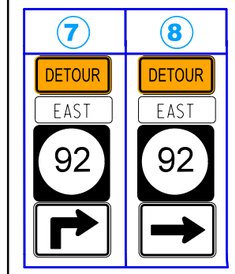

NOT TO SCALE

LEGEND

Sign

Detour Route

N

DETOUR LAYOUT DETAILS
(Sheet 4 of 8)

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.9

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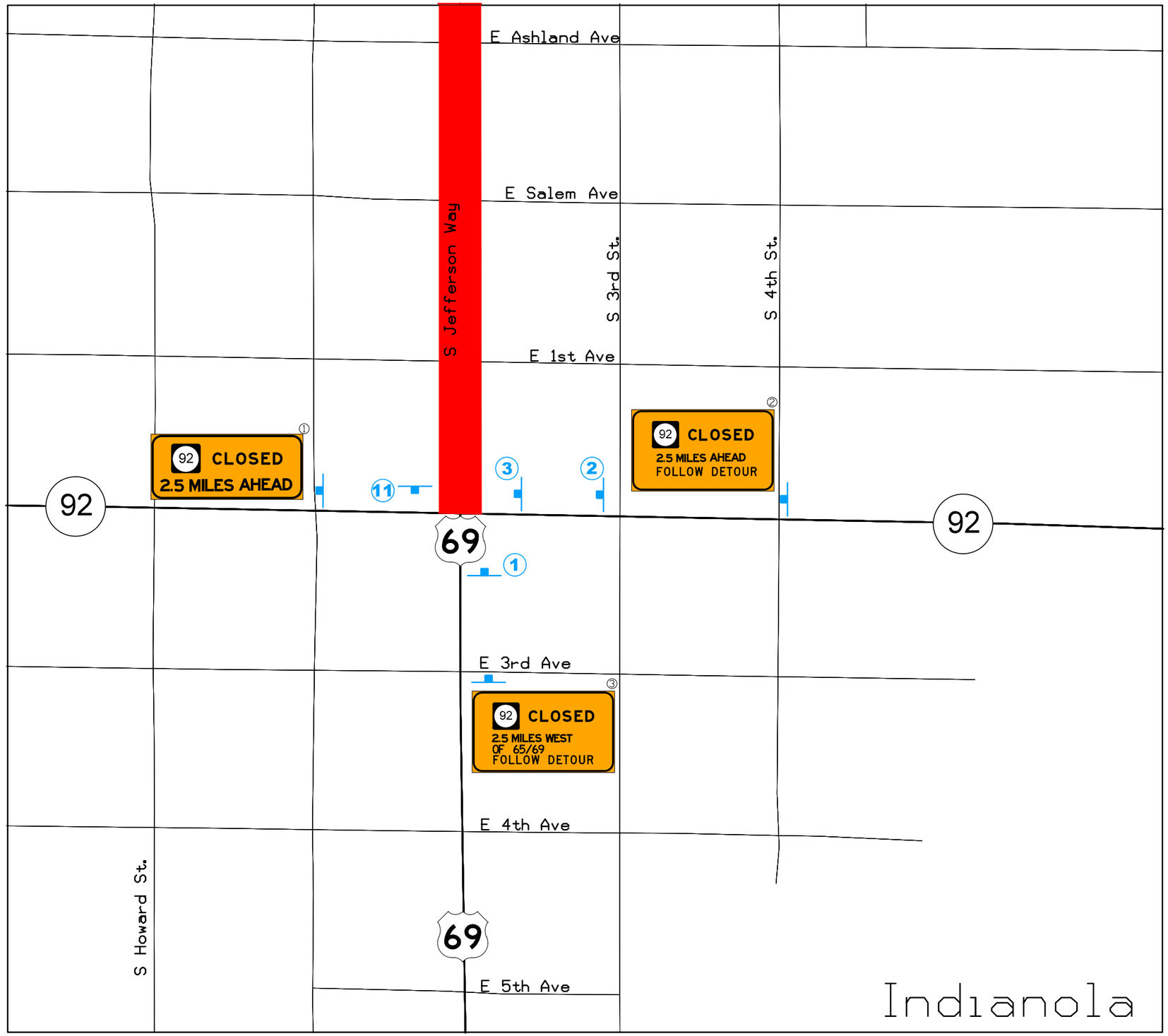

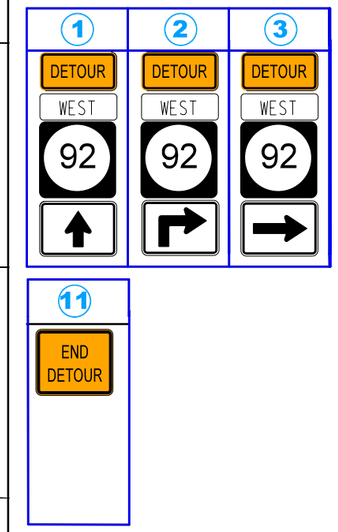

① See Detour Guide Sign #1 on Sheet J.8 for signing details.

② See Detour Guide Sign #2 on Sheet J.8 for signing details.

③ See Detour Guide Sign #3 on Sheet J.8 for signing details.

NOT TO SCALE

LEGEND

Sign

Detour Route

N

DETOUR LAYOUT DETAILS
(Sheet 5 of 8)

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.10

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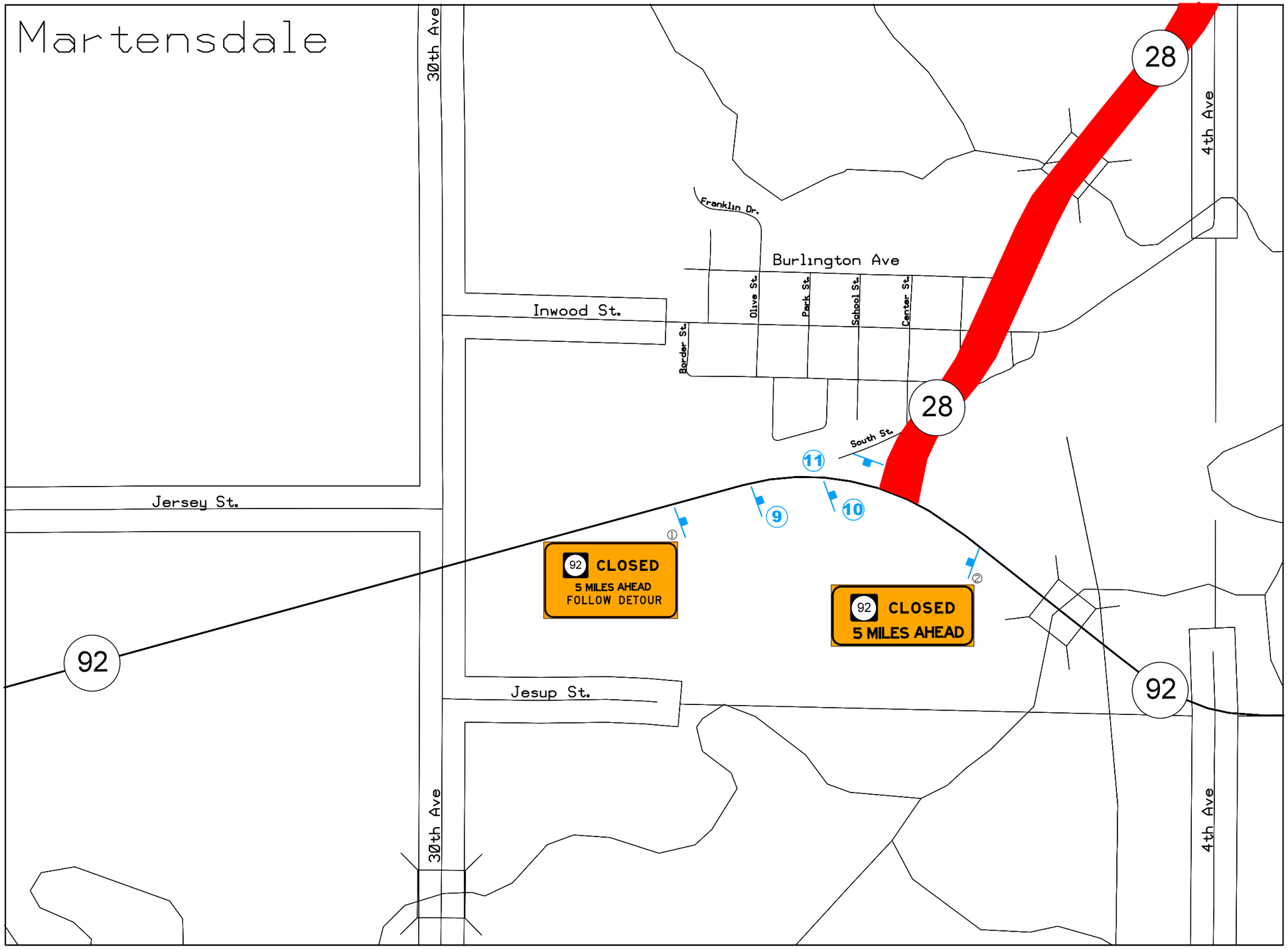

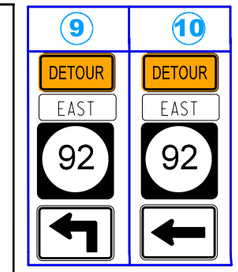

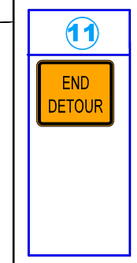

①See Detour Guide Sign #4 on Sheet J.8 for signing details.

②See Detour Guide Sign #5 on Sheet J.8 for signing details.

NOT TO SCALE

LEGEND

Sign

Detour Route

N

DETOUR LAYOUT DETAILS
(Sheet 6 of 8)

FILE NO.	ENGLISH	DESIGN TEAM Jla\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.11

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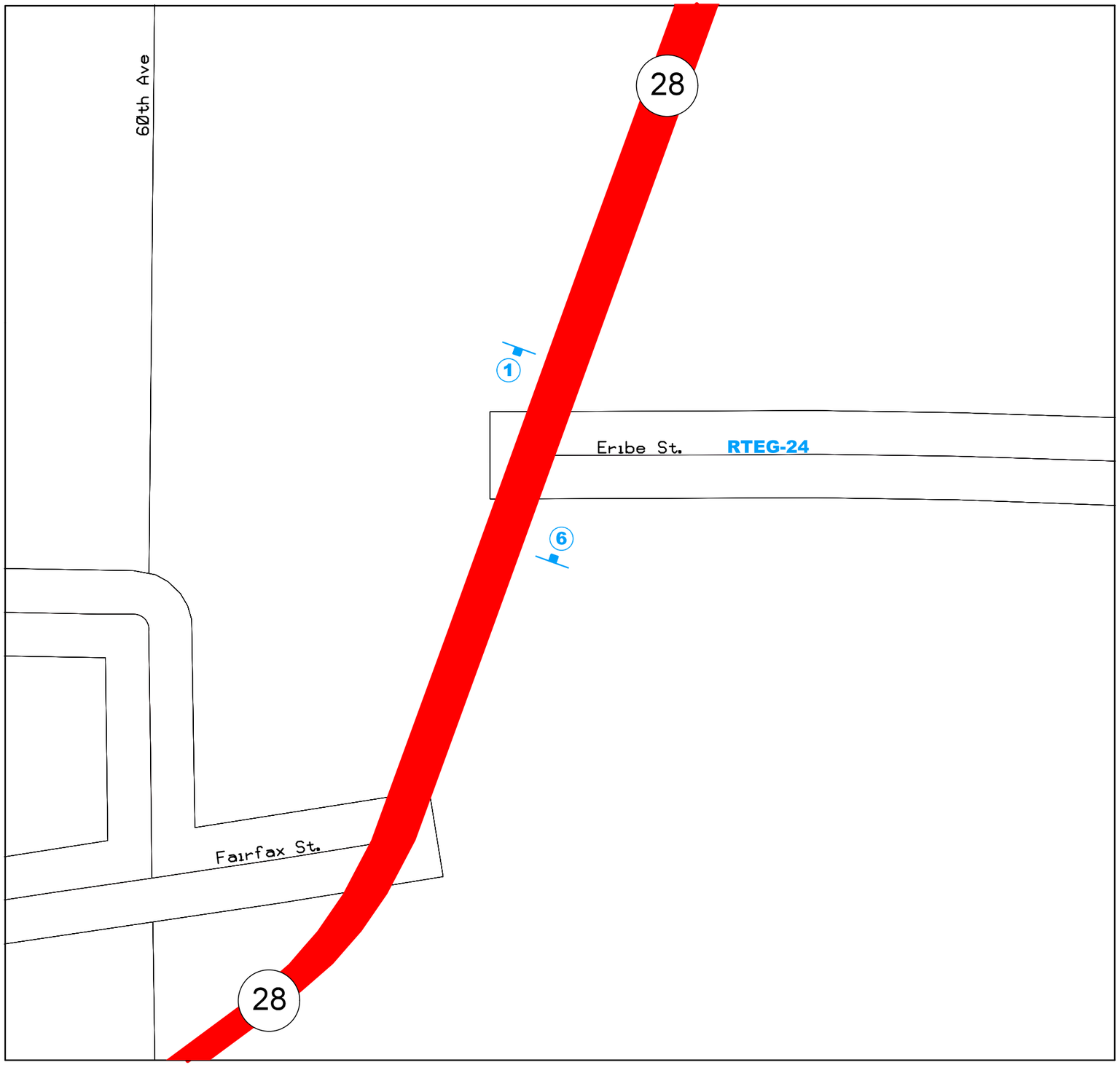

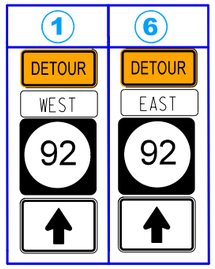

NOT TO SCALE

LEGEND

Sign

Detour Route

N

DETOUR LAYOUT DETAILS
(Sheet 7 of 8)

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.12

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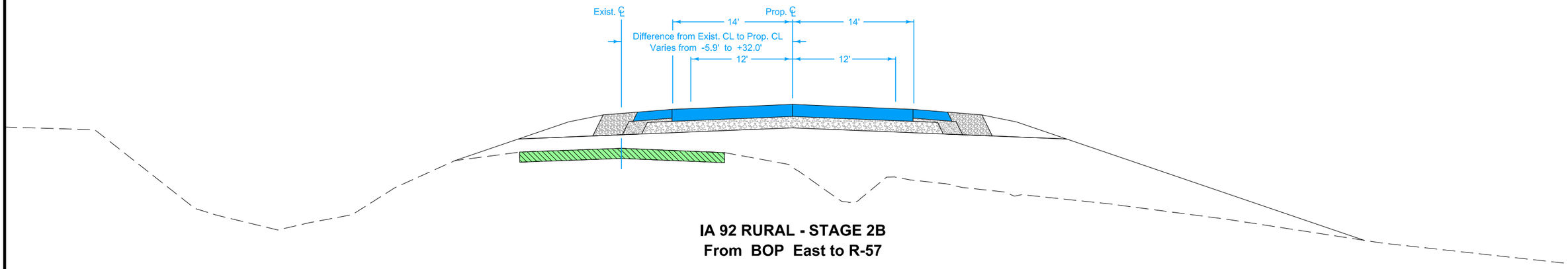
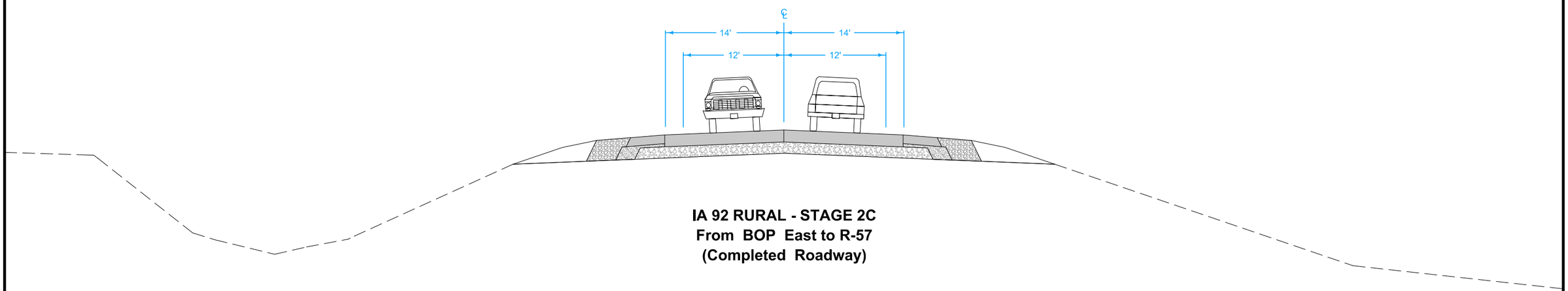


IA 92 RURAL - STAGE 2B
From BOP East to R-57

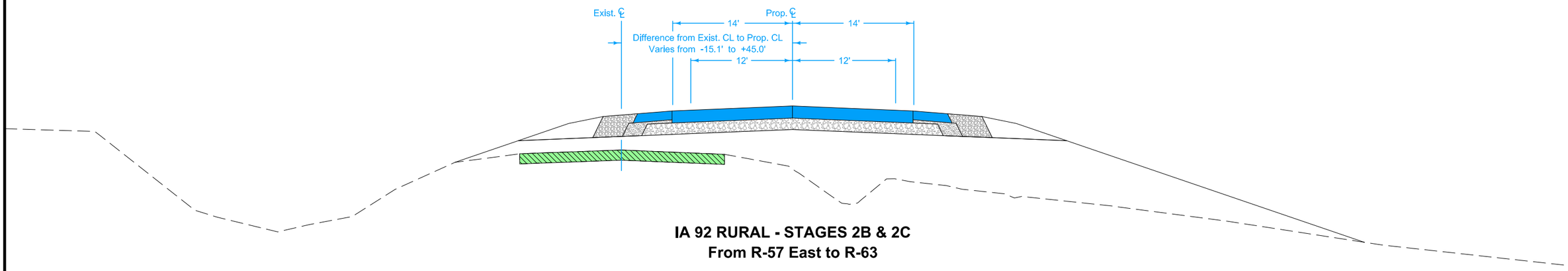


IA 92 RURAL - STAGE 2C
From BOP East to R-57
(Completed Roadway)

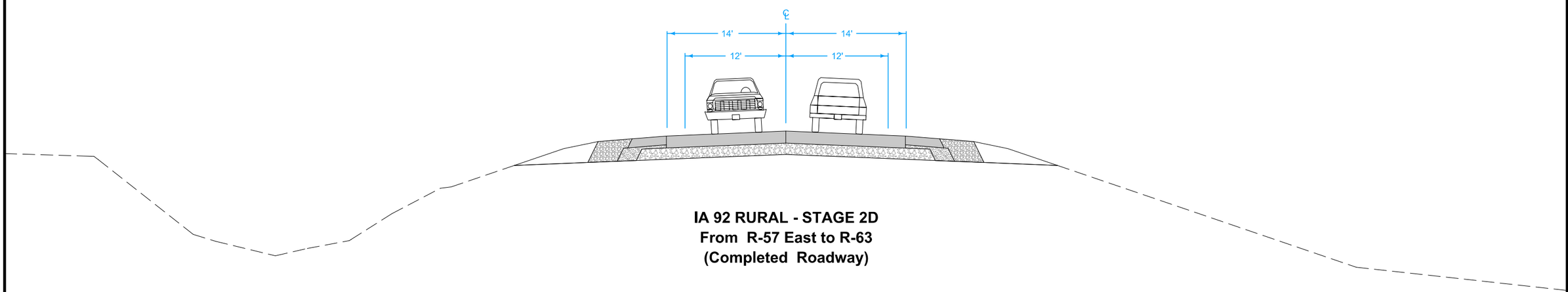
STAGING TYPICAL

IA 92 RURAL
B.O.P. TO R-57

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.13



IA 92 RURAL - STAGES 2B & 2C
From R-57 East to R-63



IA 92 RURAL - STAGE 2D
From R-57 East to R-63
(Completed Roadway)

STAGING TYPICAL

IA 92 RURAL
R-57 TO R-63

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.14

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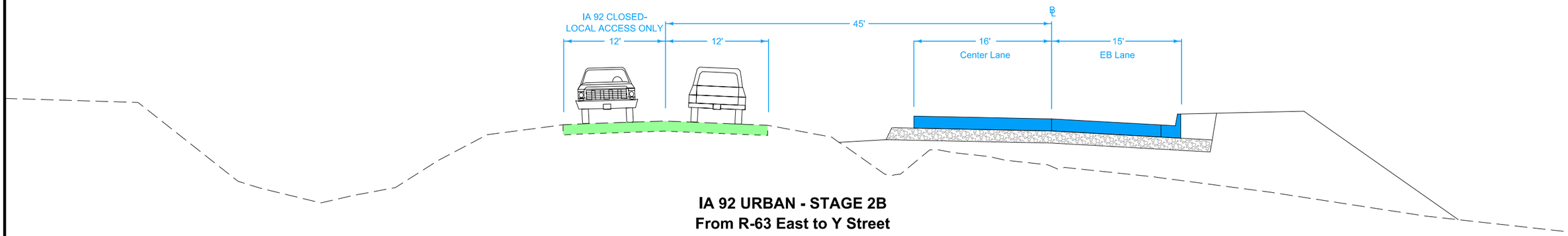
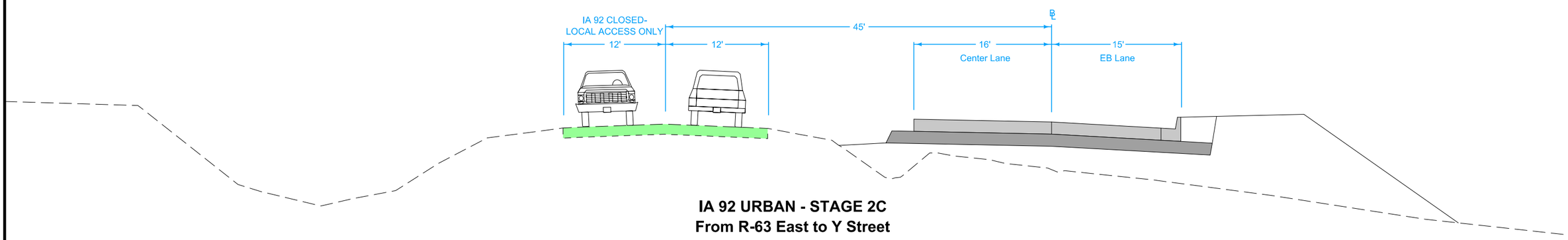
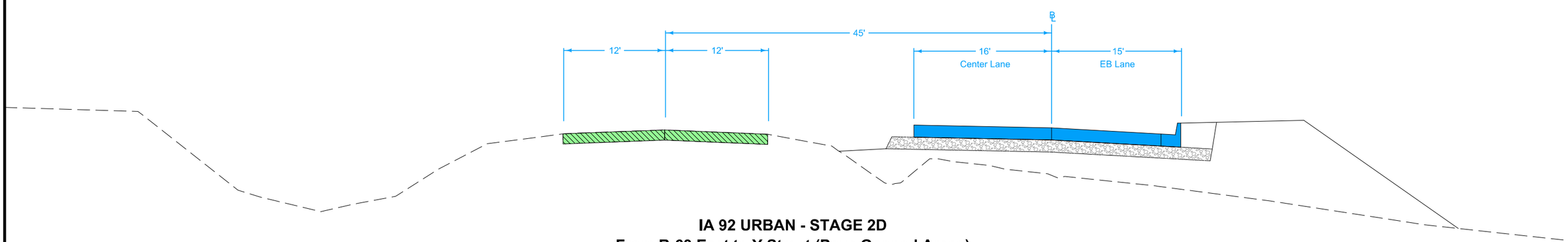


IA 92 URBAN - STAGE 2B
From R-63 East to Y Street



IA 92 URBAN - STAGE 2C
From R-63 East to Y Street



IA 92 URBAN - STAGE 2D
From R-63 East to Y Street (Pave Gapped Areas)

STAGING TYPICAL

IA 92 URBAN
R-63 TO Y STREET

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.15

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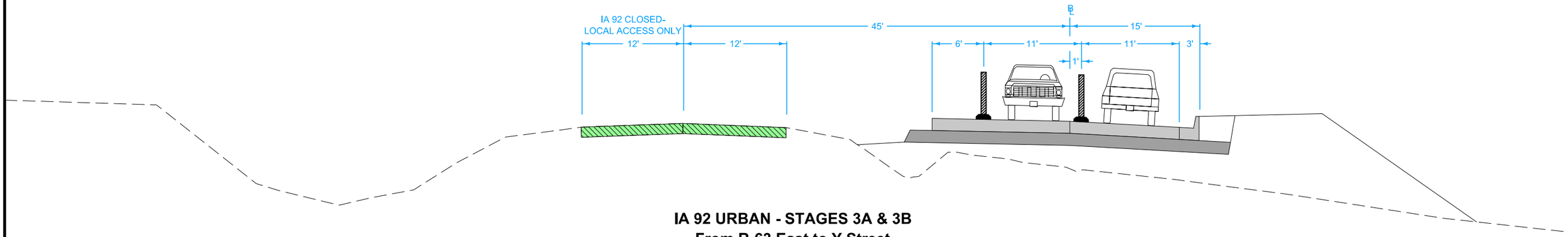
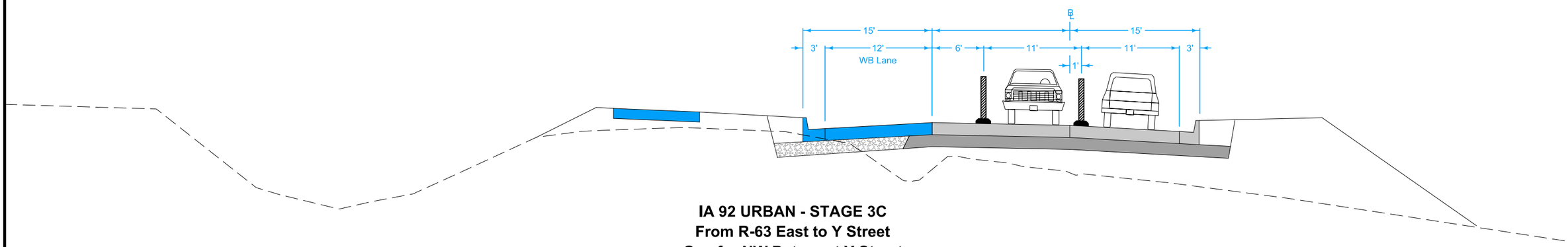
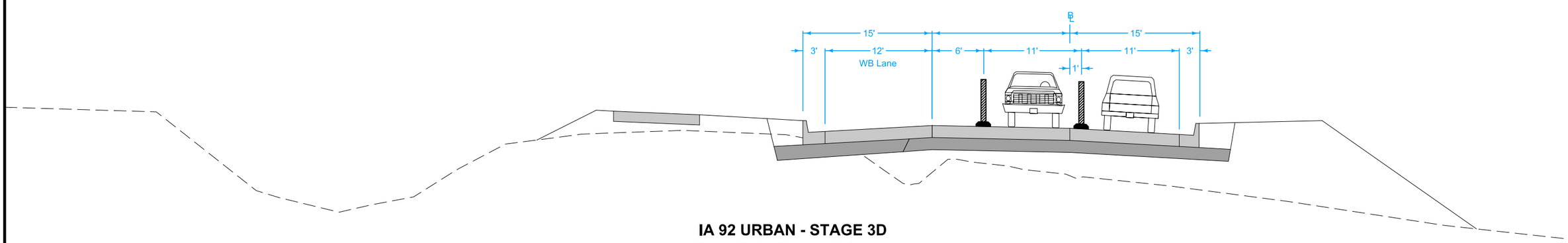


IA 92 URBAN - STAGES 3A & 3B
From R-63 East to Y Street



IA 92 URBAN - STAGE 3C
From R-63 East to Y Street
Gap for NW Detour at Y Street



IA 92 URBAN - STAGE 3D
From R-63 East to Y Street
Pave Gapped Area after NW Detour Removal
(Completed Roadway)

STAGING TYPICAL

IA 92 URBAN
R-63 TO Y STREET

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.16

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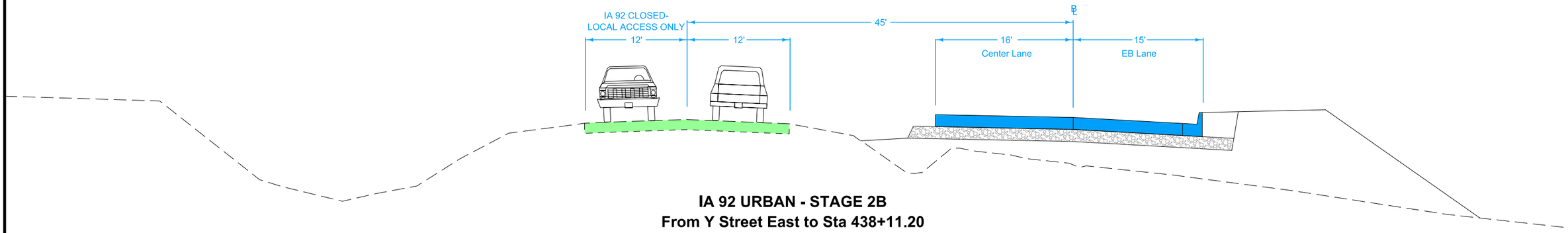
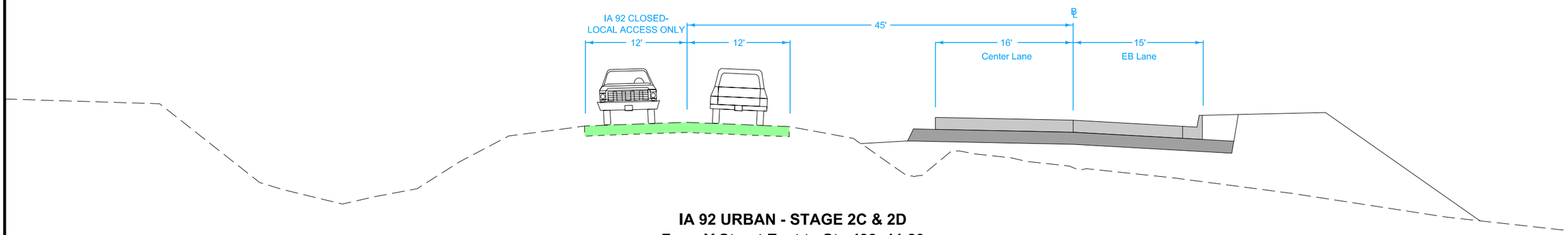
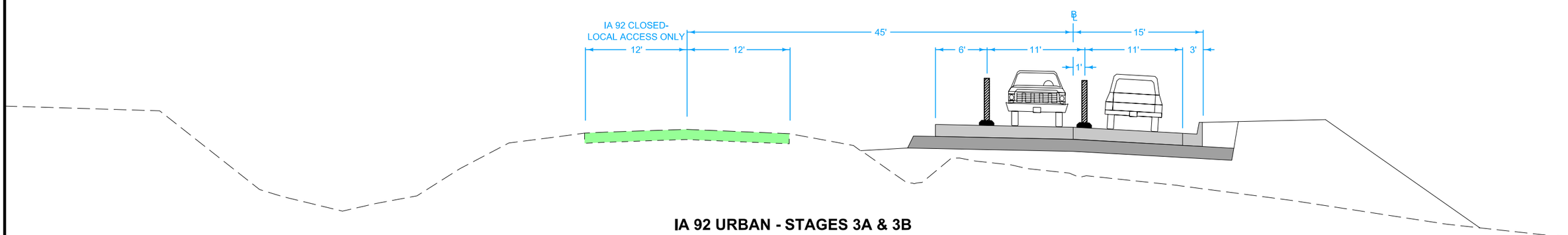


IA 92 URBAN - STAGE 2B
From Y Street East to Sta 438+11.20



IA 92 URBAN - STAGE 2C & 2D
From Y Street East to Sta 438+11.20

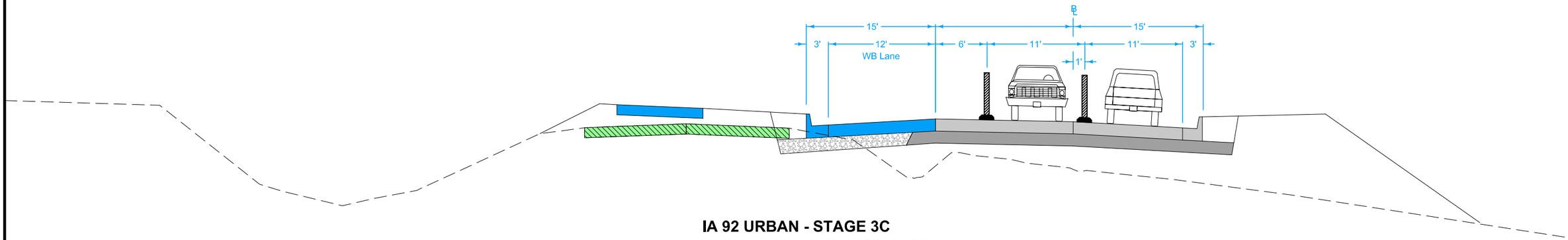


IA 92 URBAN - STAGES 3A & 3B
From Y Street East to Sta 438+11.20

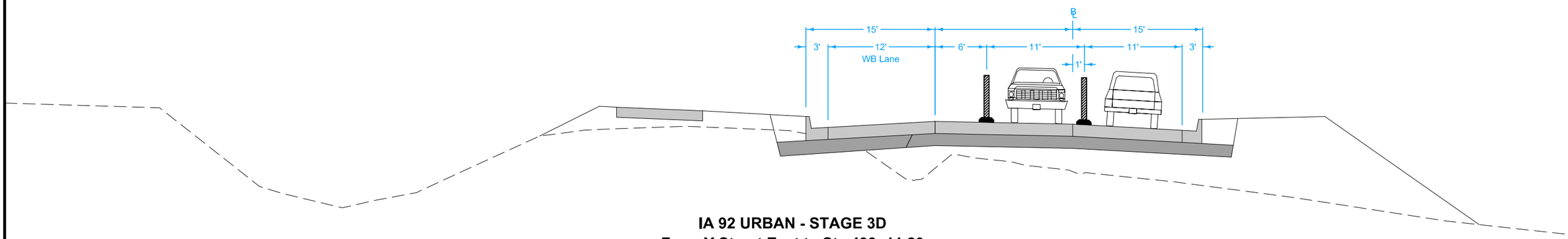
STAGING TYPICAL

IA 92 URBAN
Y ST TO STA 438+11.20

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.17



IA 92 URBAN - STAGE 3C
From Y Street East to Sta 438+11.20

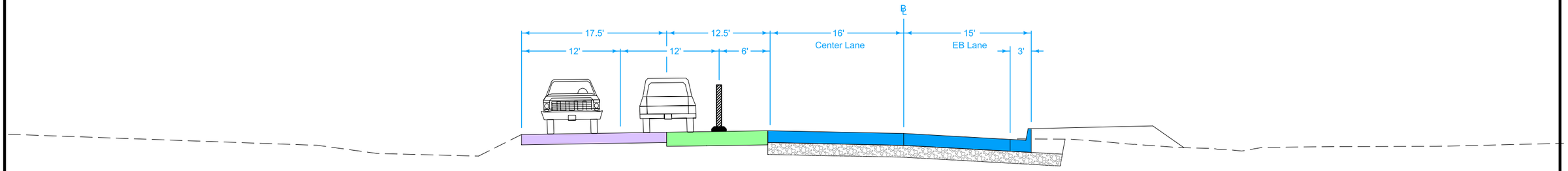


IA 92 URBAN - STAGE 3D
From Y Street East to Sta 438+11.20
(Completed Paving - Keep Traffic off WB Lane)

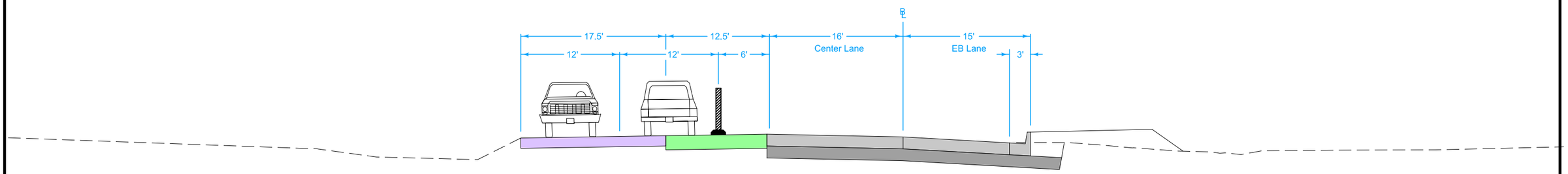
STAGING TYPICAL

IA 92 URBAN
Y ST TO STA 438+11.20

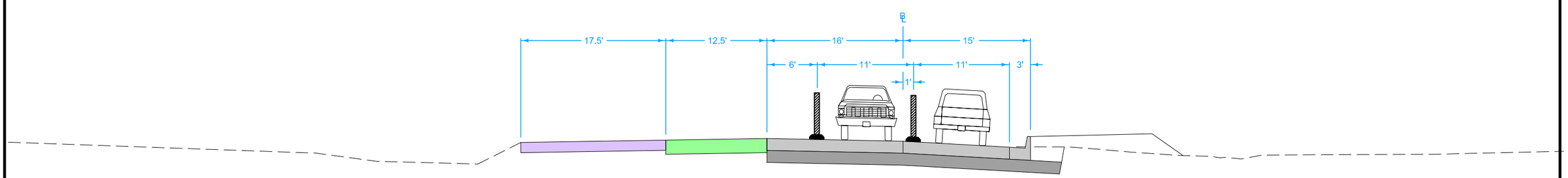
FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.18



IA 92 URBAN - STAGE 2B
STA 441+15.50



IA 92 URBAN - STAGES 2C & 2D
STA 441+15.50

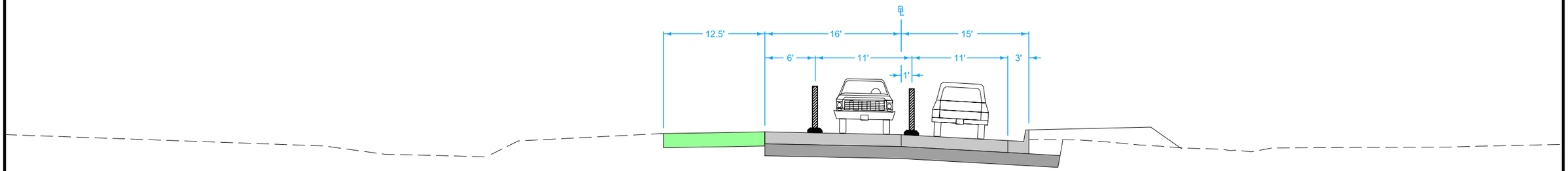


IA 92 URBAN - STAGE 3A
STA 441+15.50

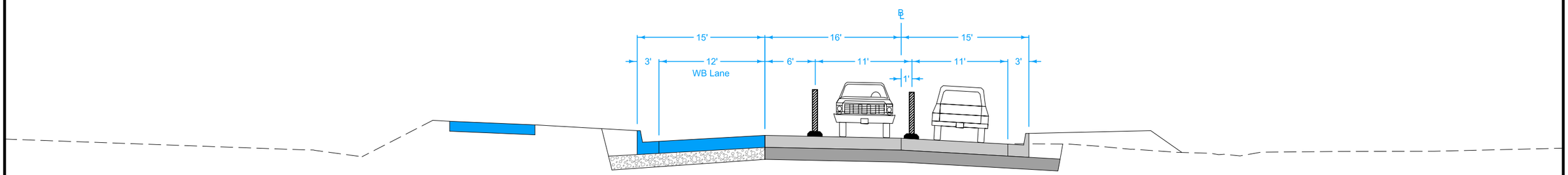
STAGING TYPICAL

IA 92 URBAN
STA 441+15.50

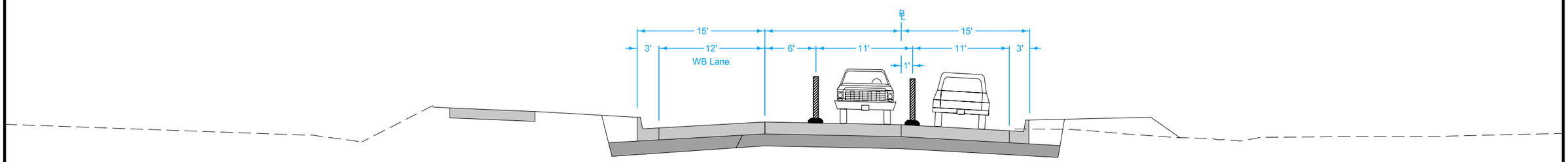
FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.19



IA 92 URBAN - STAGE 3B
STA 441+15.50



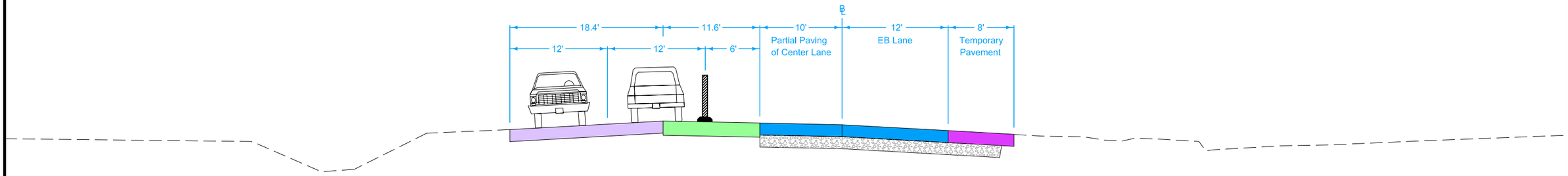
IA 92 URBAN - STAGE 3C
STA 441+15.50



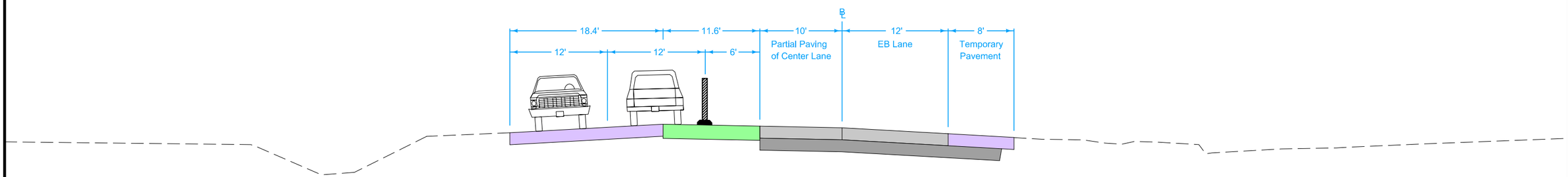
IA 92 URBAN - STAGE 3D
STA 441+15.50
(Completed Paving - Keep Traffic off WB Lane)

STAGING TYPICAL
IA 92 URBAN
STA 441+15.50

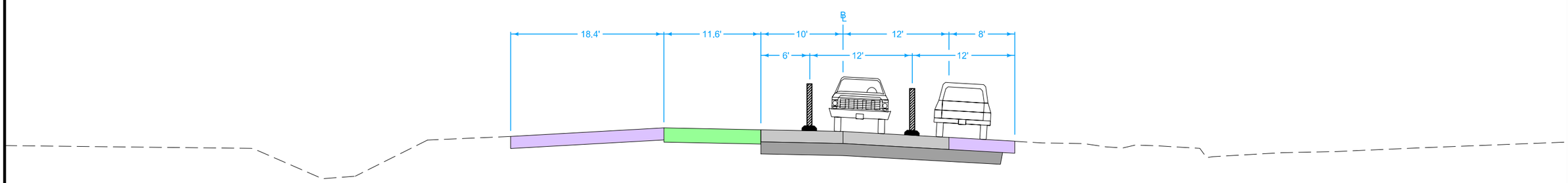
FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.20



IA 92 URBAN - STAGE 2B
STA 443+18.00



IA 92 URBAN - STAGES 2C & 2D
STA 443+18.00



IA 92 URBAN - STAGE 3A
STA 443+18.00

STAGING TYPICAL

IA 92 URBAN
STA 443+18.00

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.21

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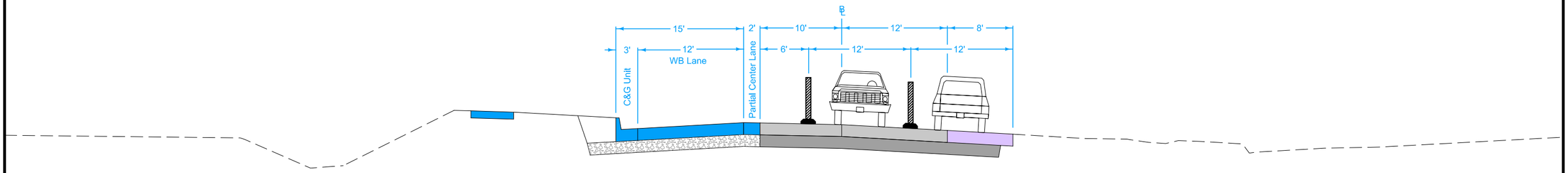
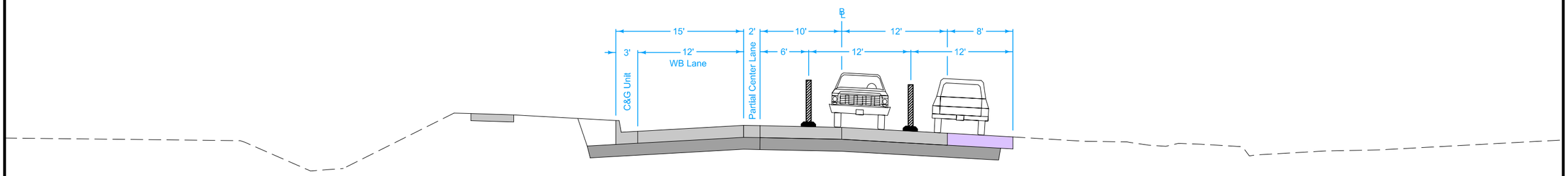
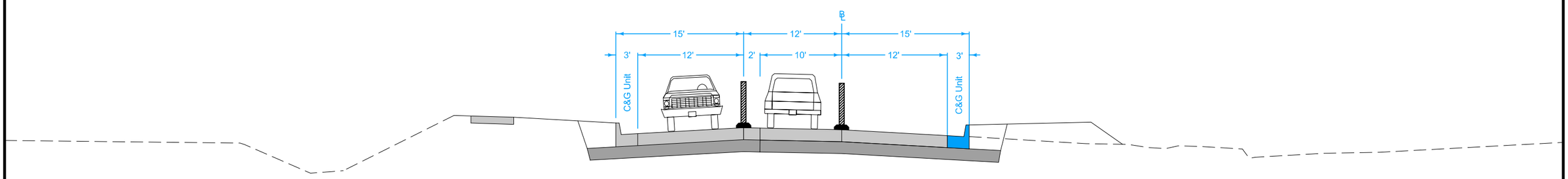


IA 92 URBAN - STAGE 3B
STA 443+18.00



IA 92 URBAN - STAGES 3C & 3D
STA 443+18.00



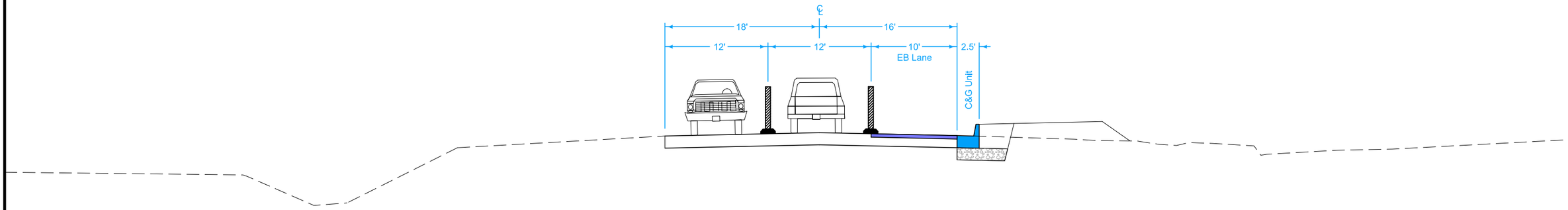
IA 92 URBAN - STAGE 4A
STA 443+18.00

STAGING TYPICAL

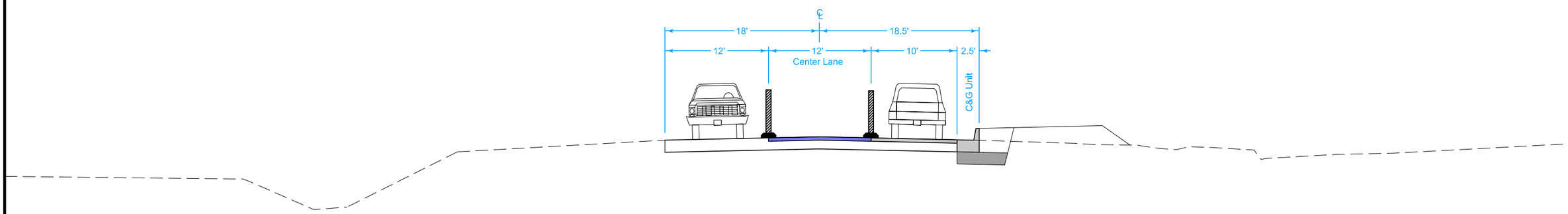
IA 92 URBAN
STA 443+18.00

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.22

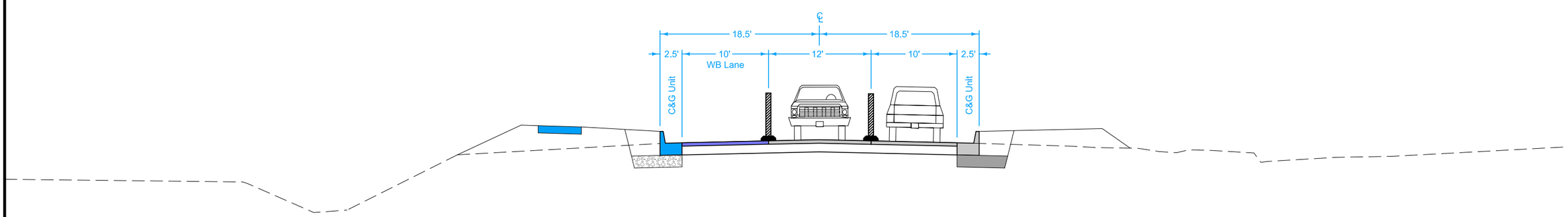
3:43:31 PM 6/26/2014 dmaach pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051J13_23.sht



IA 92 URBAN - STAGE 4A
FROM STA 443+18 TO STA 464+92



IA 92 URBAN - STAGE 4B
FROM STA 443+18 TO STA 464+92



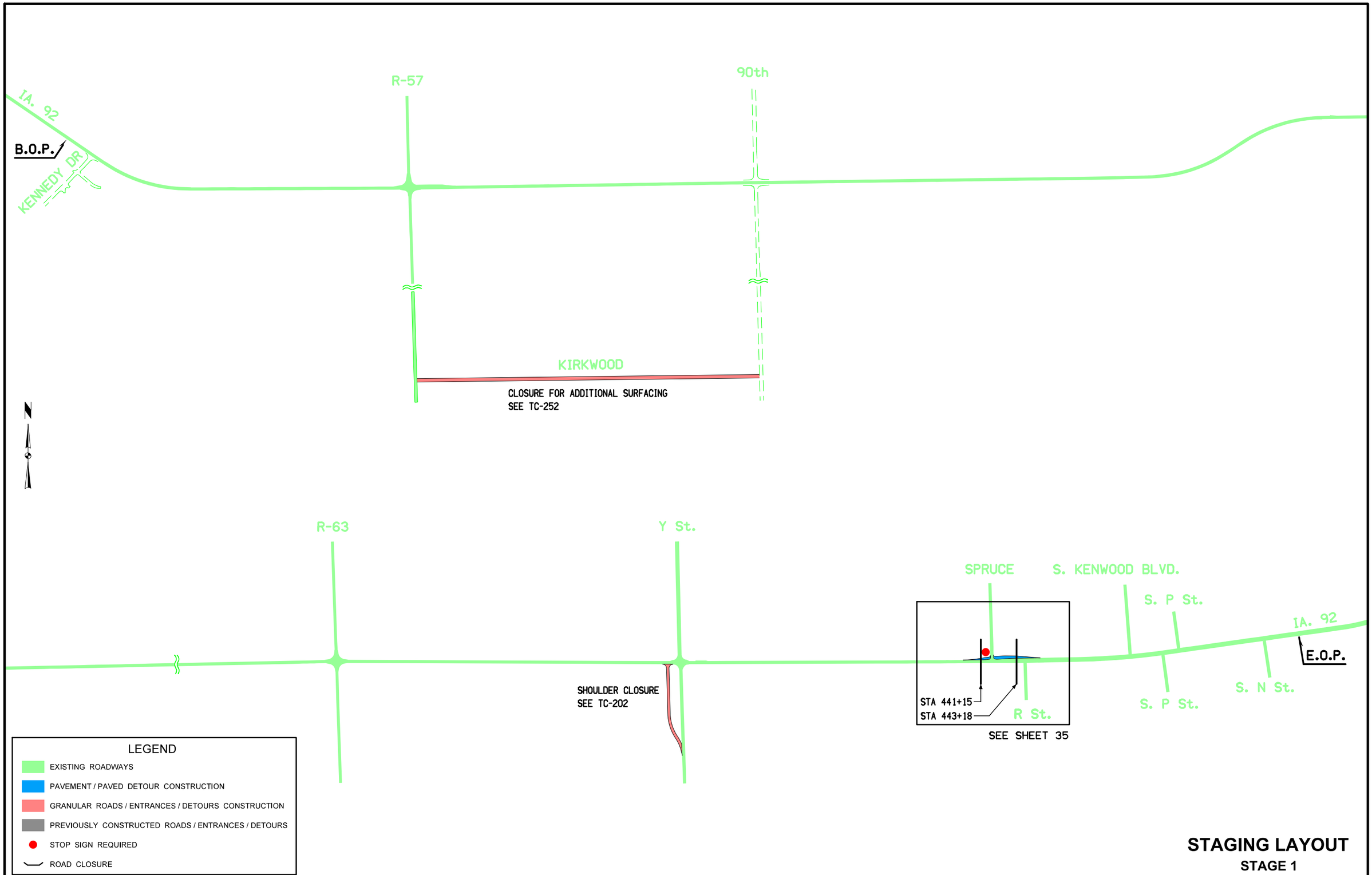
IA 92 URBAN - STAGE 4C
FROM STA 443+18 TO STA 464+92

STAGING TYPICAL

IA 92 URBAN
STA 443+18.00 TO E.O.P.

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.23

3:43:31 PM 6/26/2014 dmaach pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051J13_23.sht

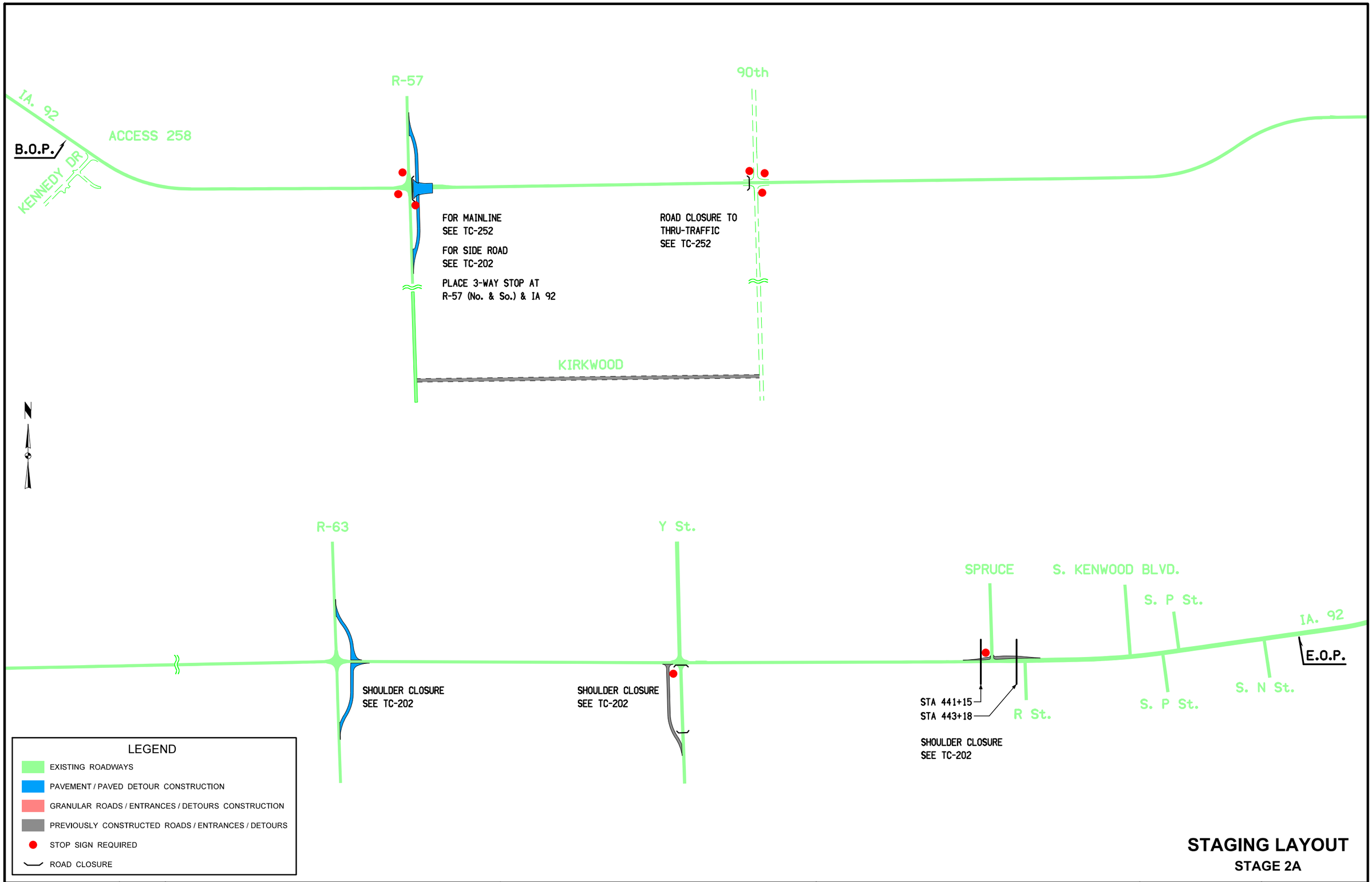


STAGING LAYOUT

STAGE 1

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.24

4:34:33 PM 6/26/2014 dmaach pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051J24_34.sht

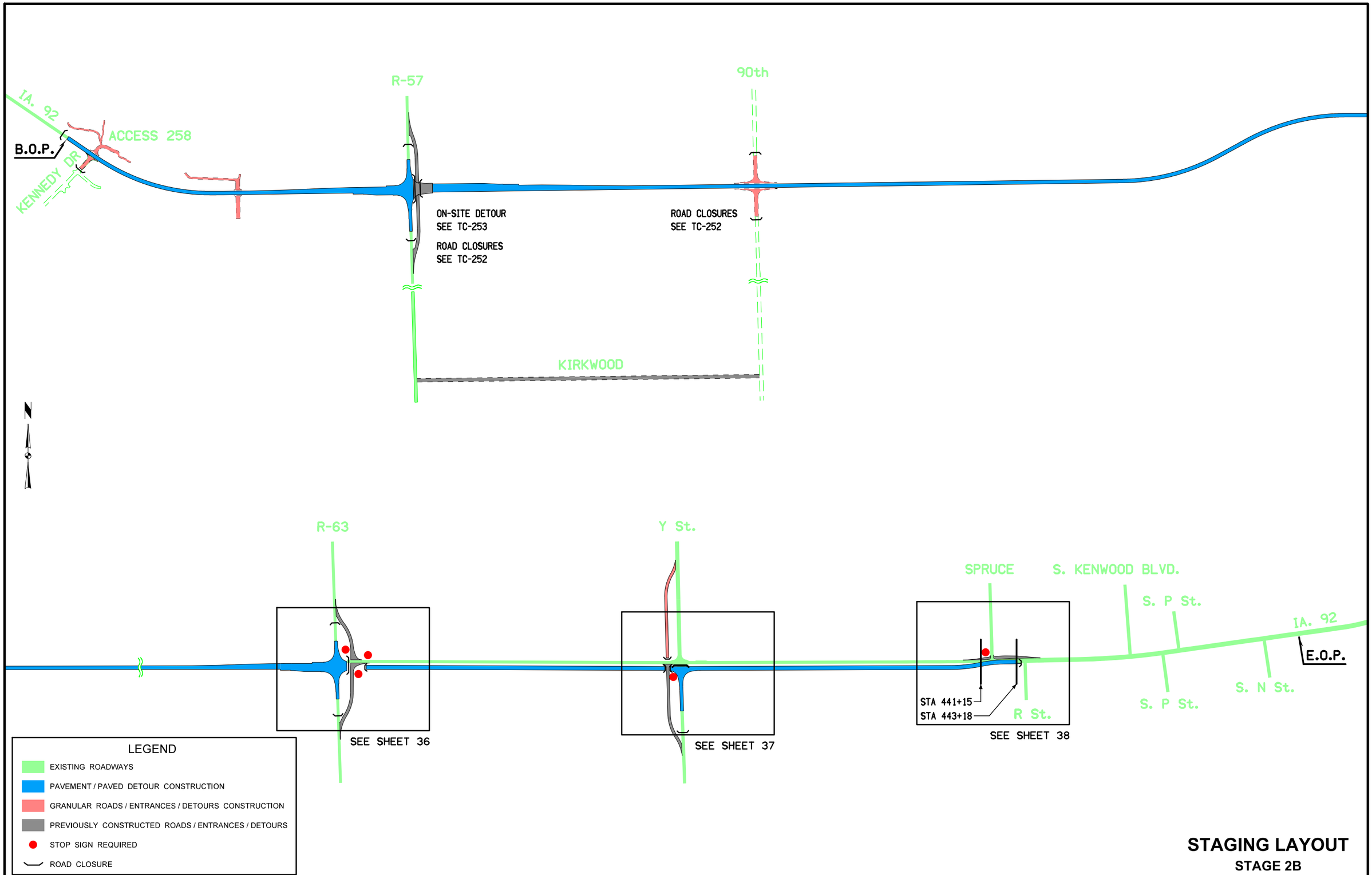


STAGING LAYOUT

STAGE 2A

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.25

4:34:33 PM 6/26/2014 dmaach pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051J24_34.sht

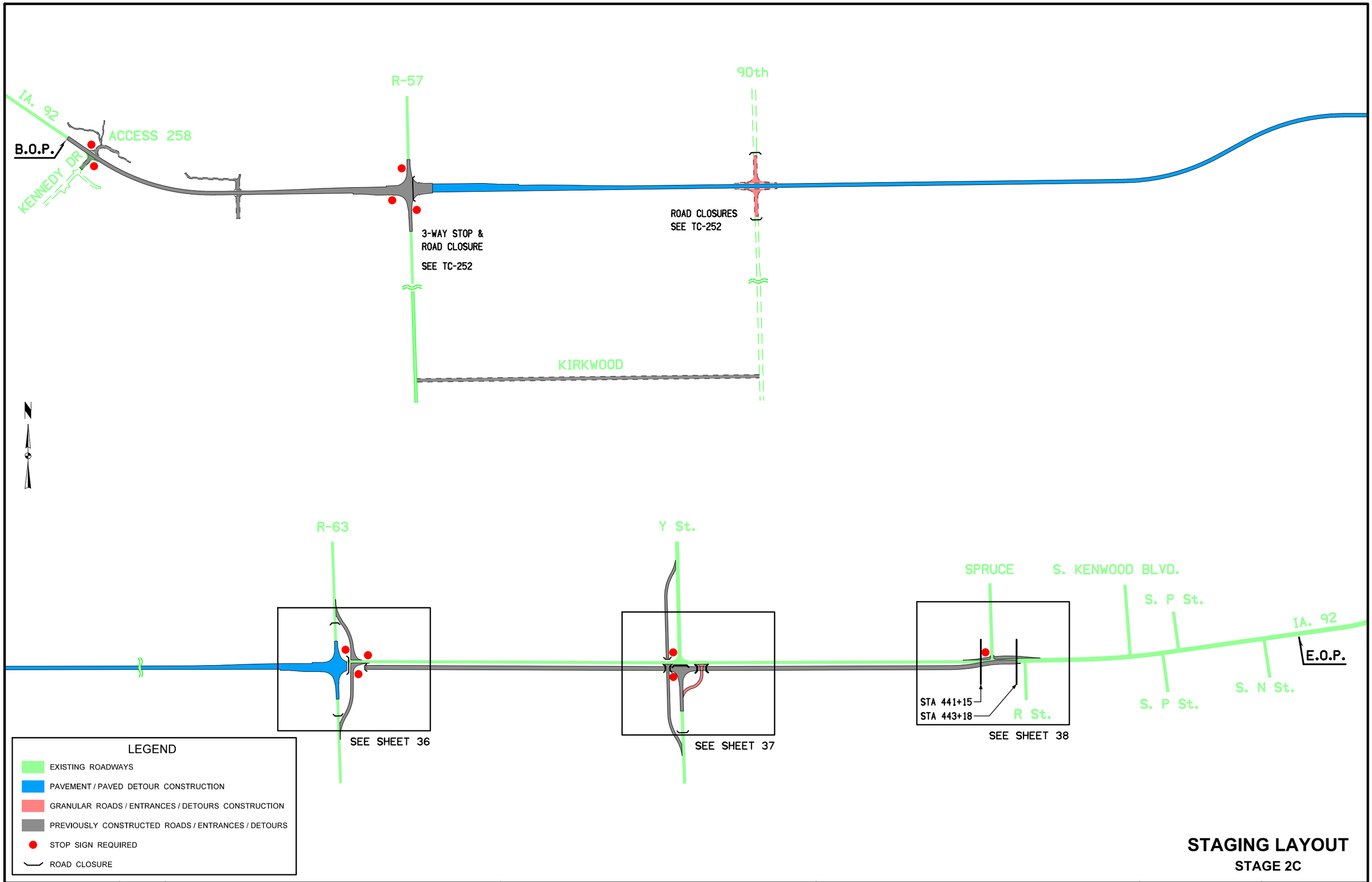


STAGING LAYOUT

STAGE 2B

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.26

4:34:34 PM 6/26/2014 dmaach pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051J24_34.sht

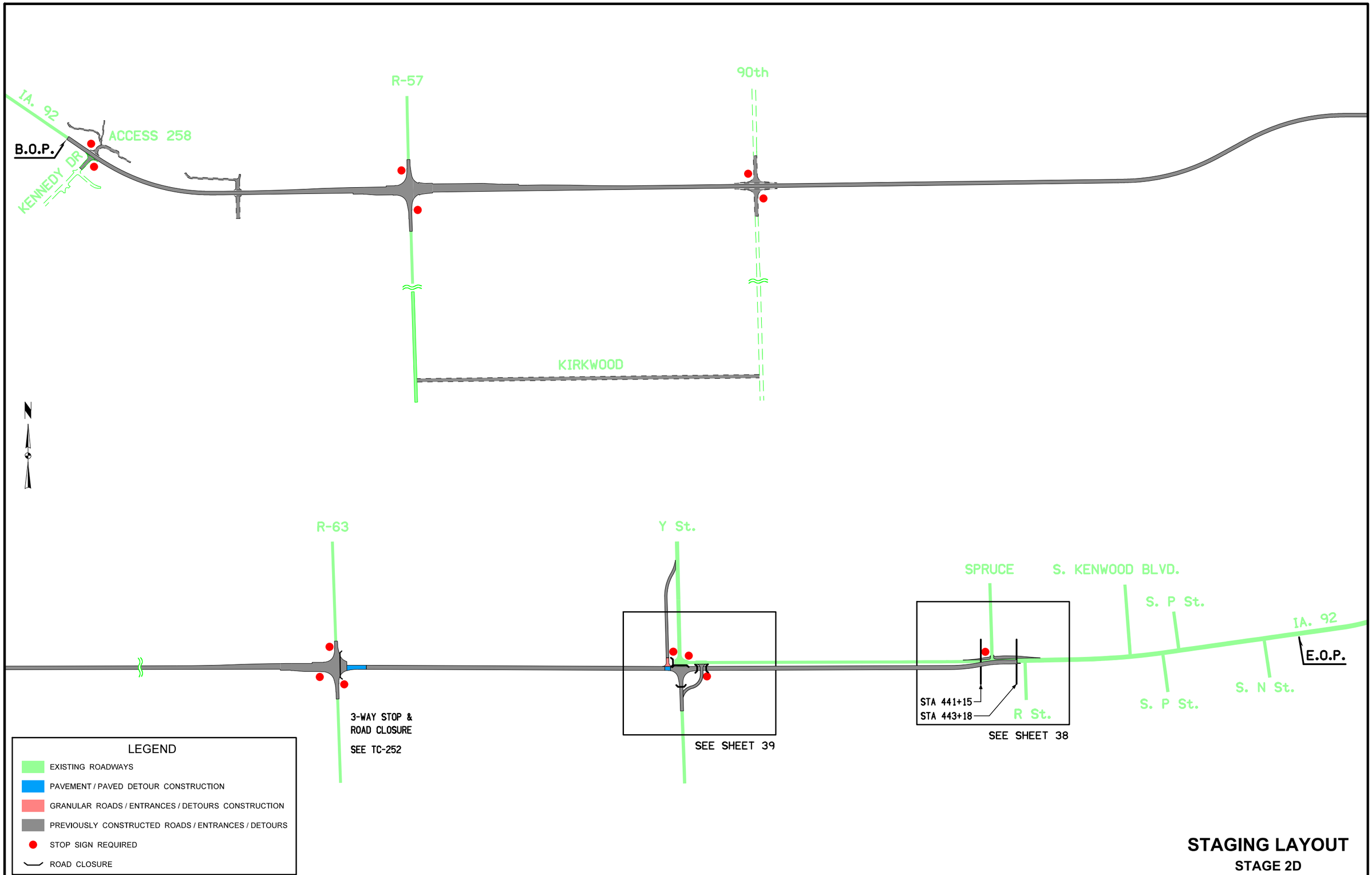


STAGING LAYOUT

STAGE 2C

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.27

4:34:35 PM 6/26/2014 dmaach pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051J24_34.sht



STAGING LAYOUT

STAGE 2D

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.28

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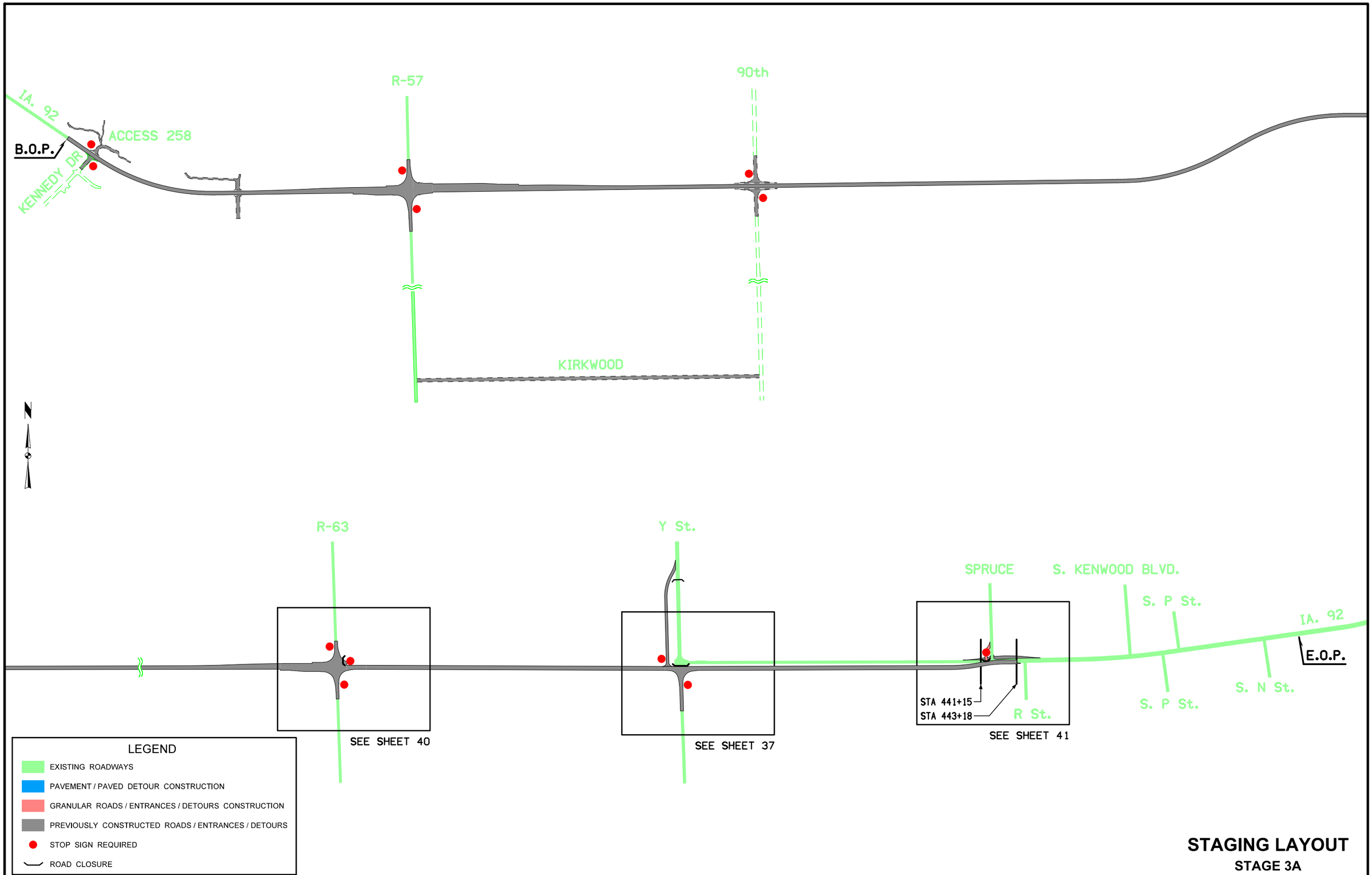
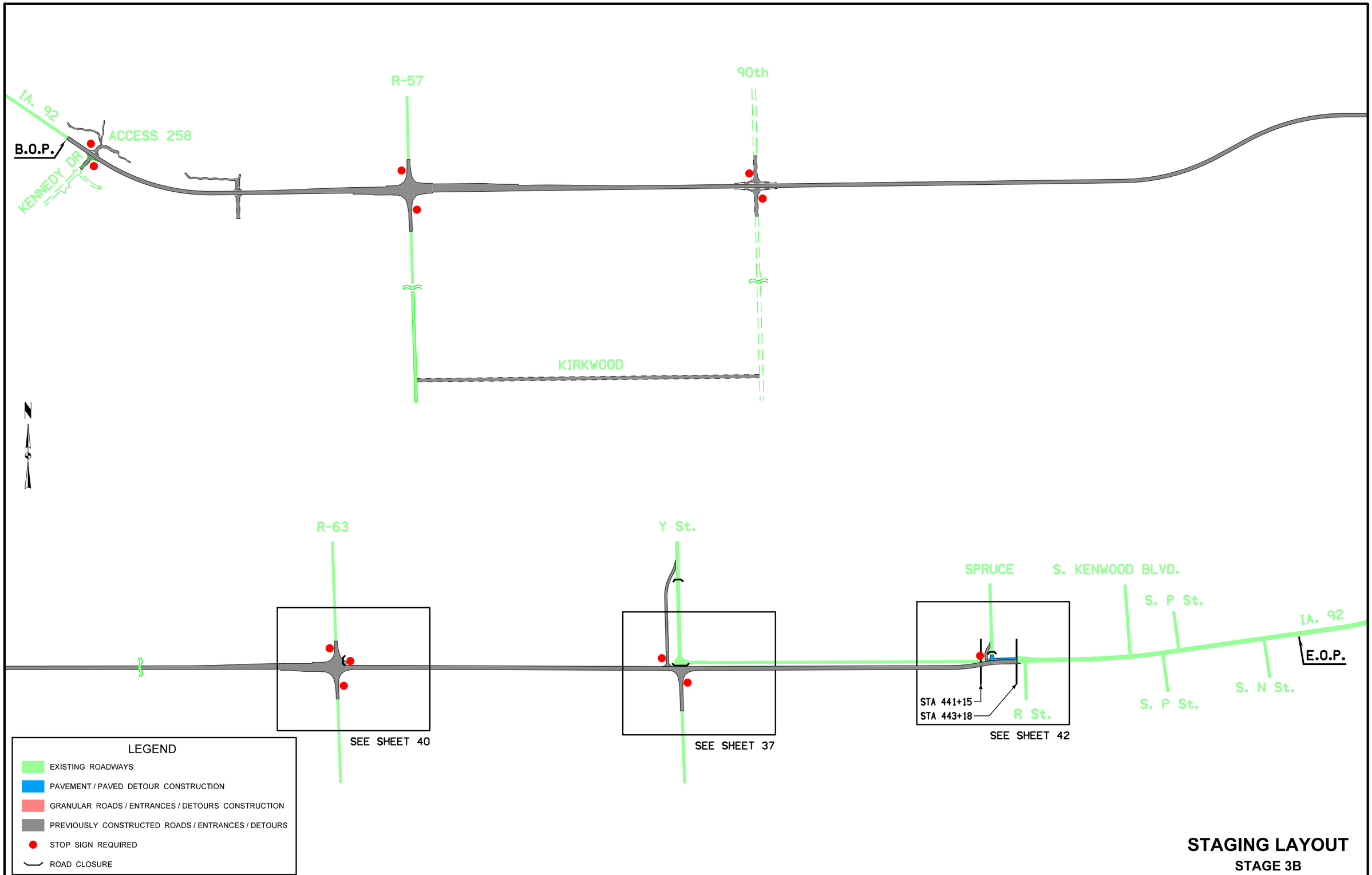


STAGING LAYOUT

STAGE 3A

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.29

4:34:36 PM 6/26/2014 dmaach pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051J24_34.sht

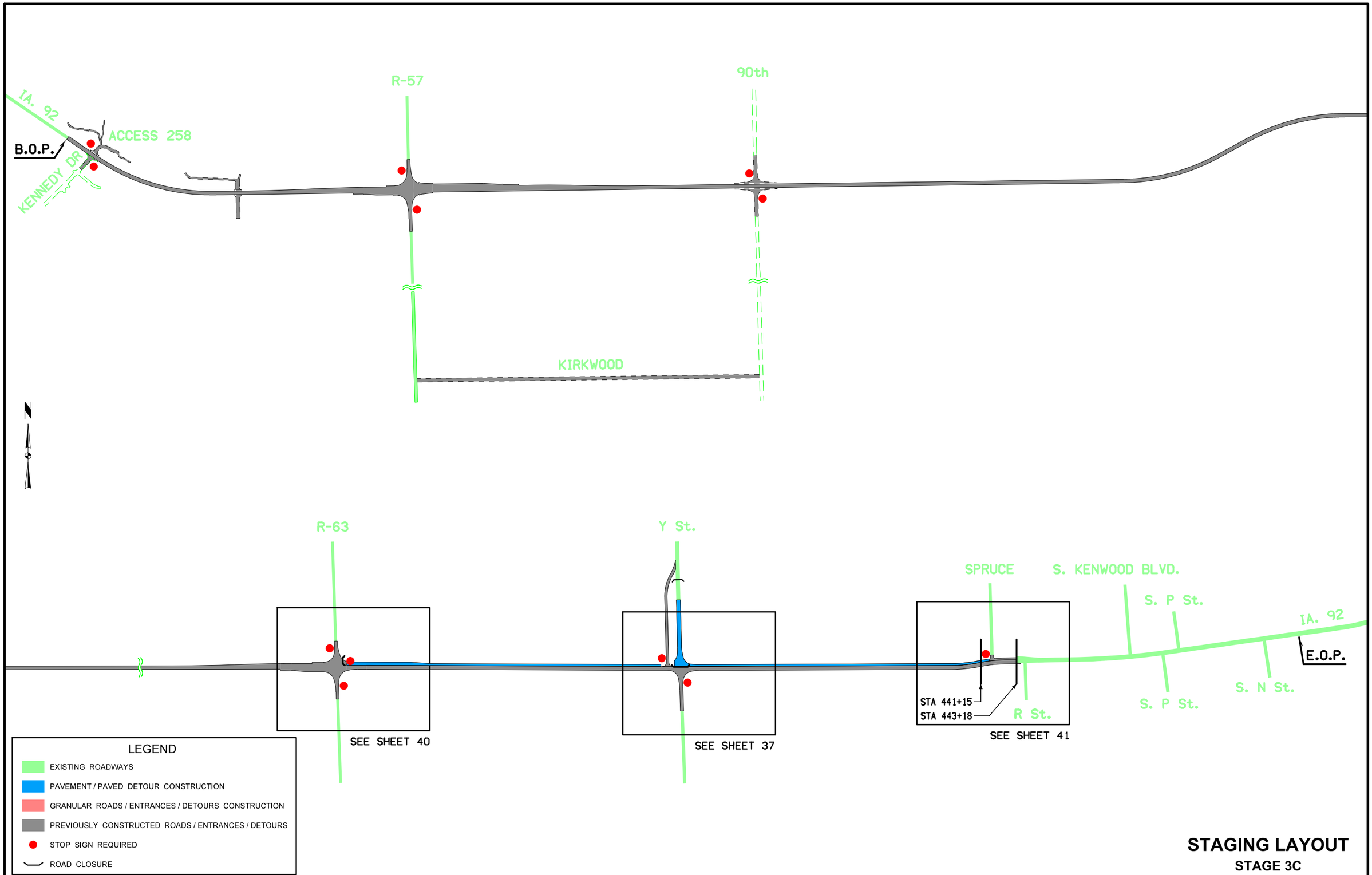


STAGING LAYOUT

STAGE 3B

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.30

4:34:37 PM 6/26/2014 dmaach pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051J24_34.sht



STAGING LAYOUT

STAGE 3C

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.31

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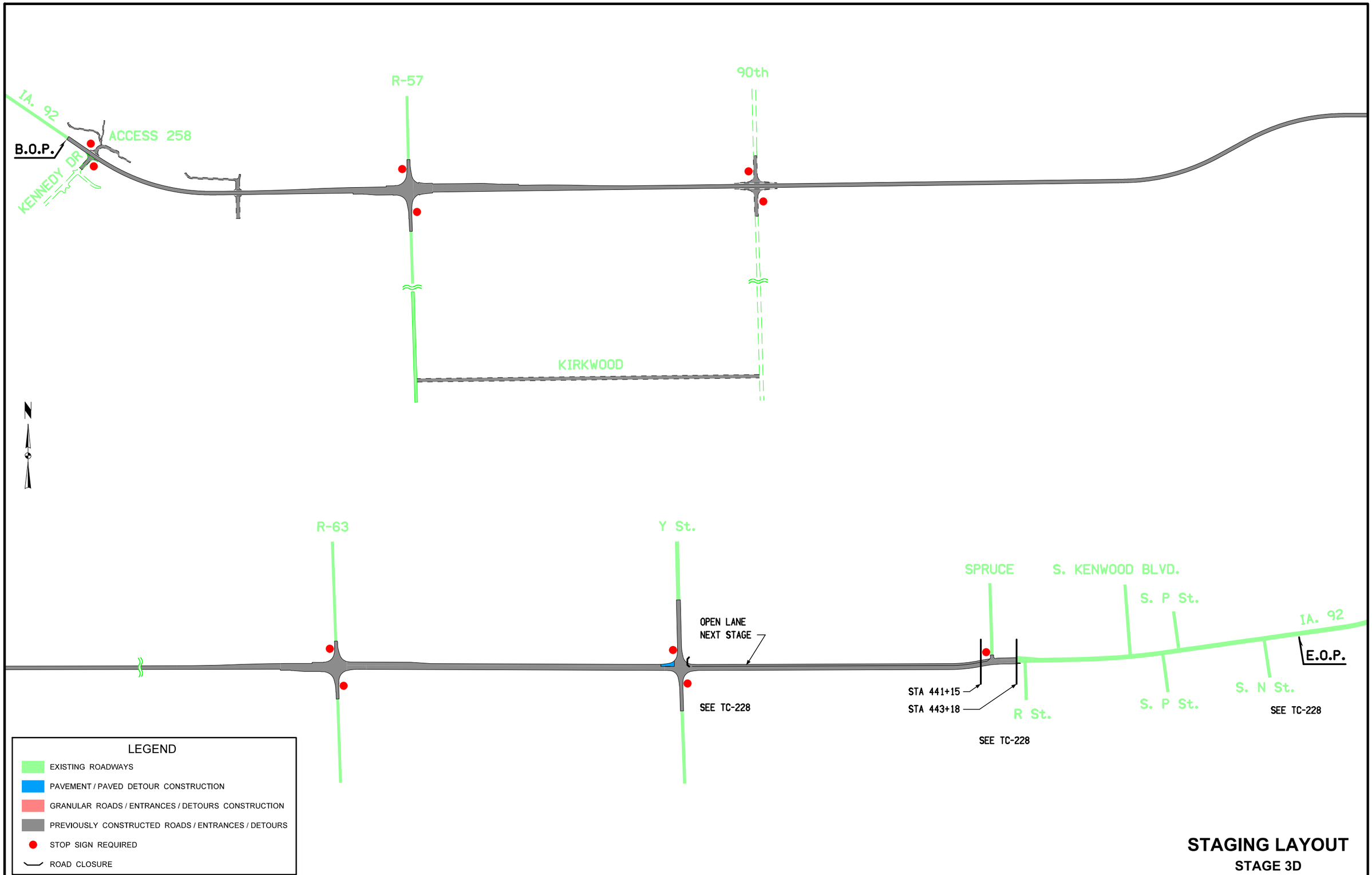
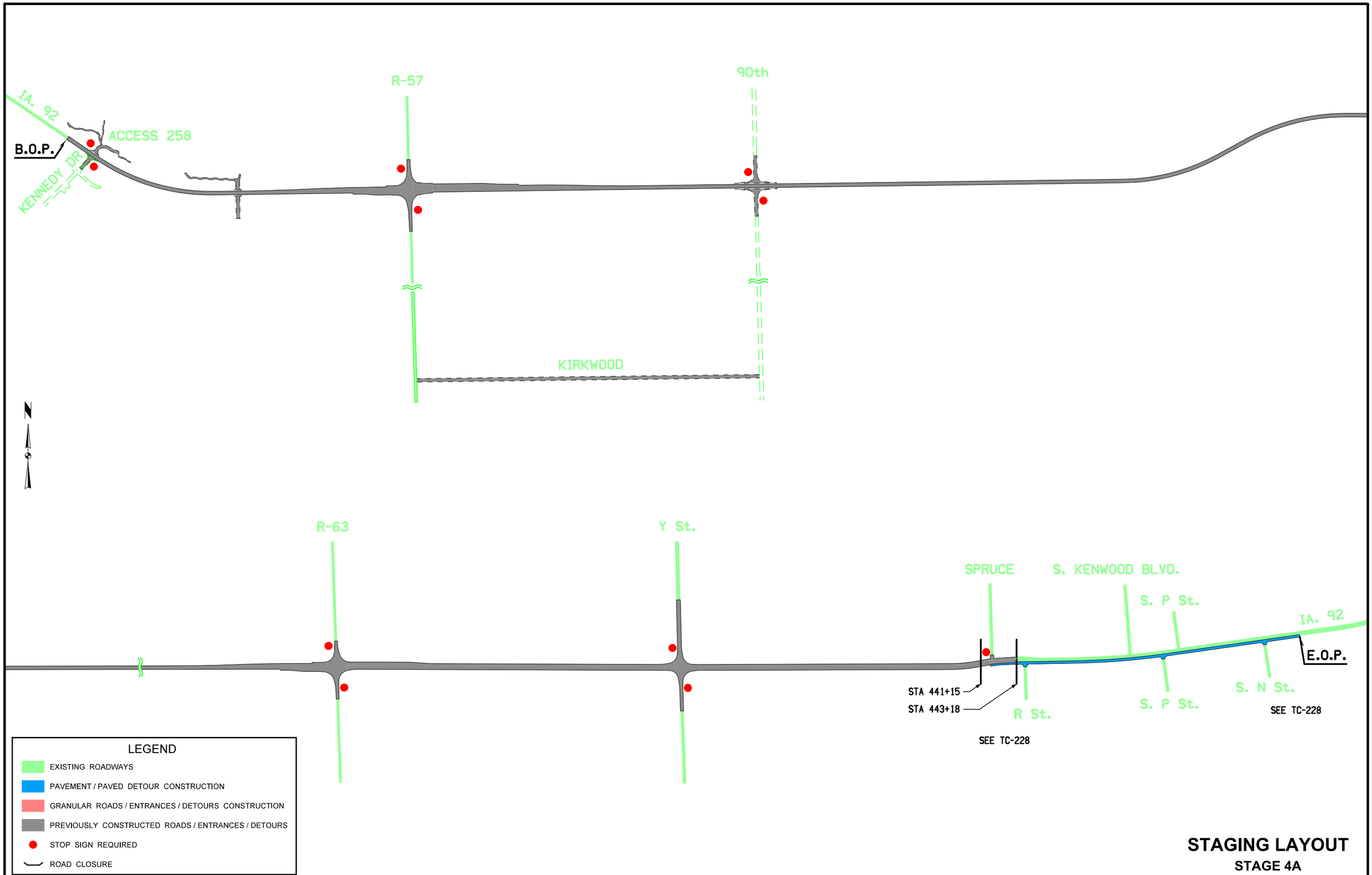


STAGING LAYOUT

STAGE 3D

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.32

4:34:39 PM 6/26/2014 dmaach pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051J24_34.sht

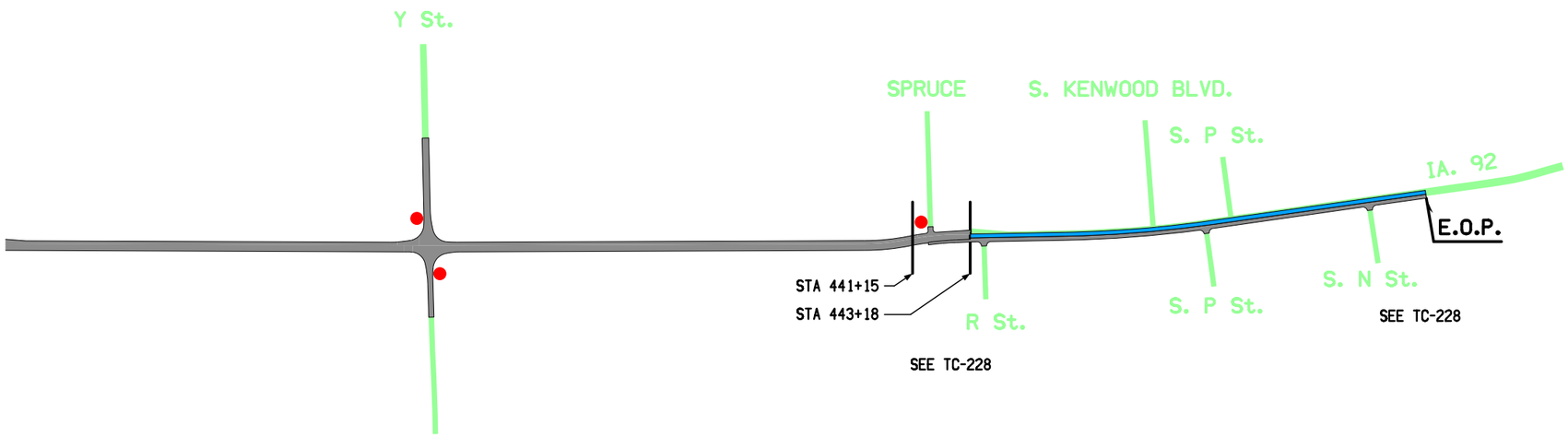


STAGING LAYOUT

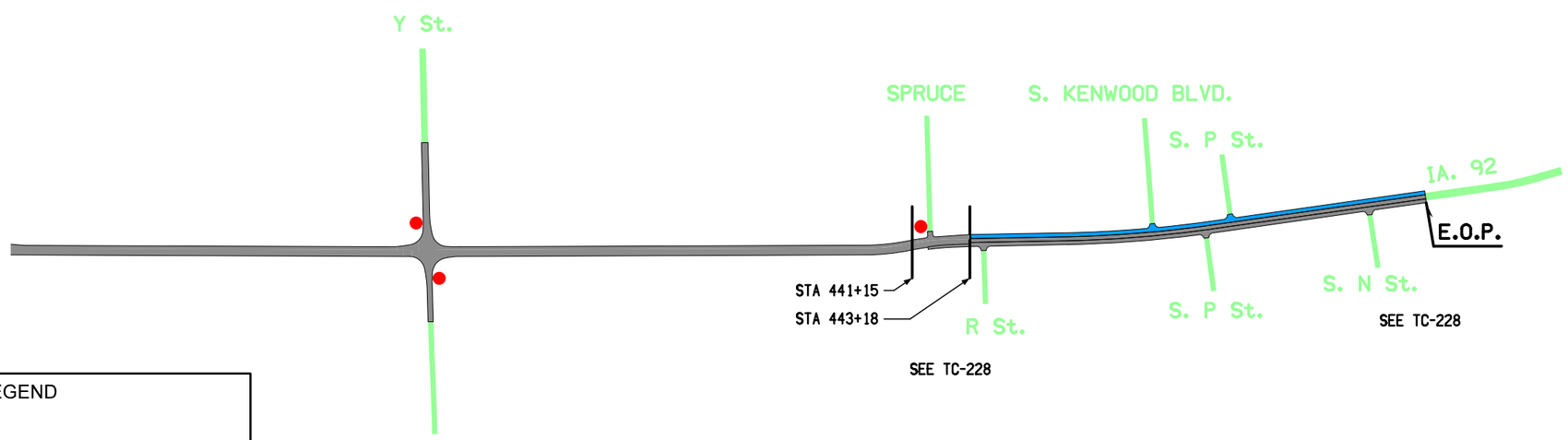
STAGE 4A

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.33

4:34:39 PM 6/26/2014 dmaach pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051J24_34.sht



STAGE 4B



STAGE 4C

LEGEND

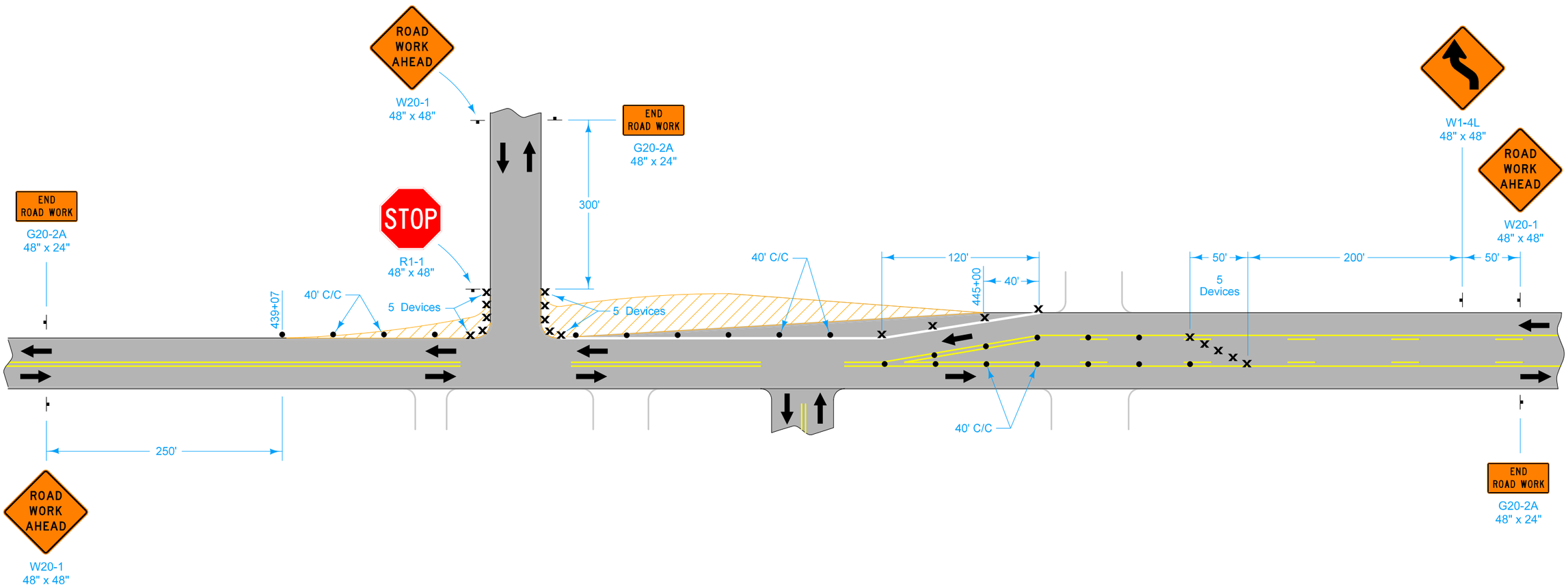
- EXISTING ROADWAYS
- PAVEMENT / PAVED DETOUR CONSTRUCTION
- GRANULAR ROADS / ENTRANCES / DETOURS CONSTRUCTION
- PREVIOUSLY CONSTRUCTED ROADS / ENTRANCES / DETOURS
- STOP SIGN REQUIRED
- ROAD CLOSURE

STAGING LAYOUT

STAGES 4B & 4C

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.34

THREE-LANE TO TWO-LANE



LEGEND

- Traffic Sign
- 42' Channelizer
- Drum
- Possible Work Area
- Direction of Traffic

Contract Items:
Pavement Marking Items
Pavement Markings Removed
Traffic Control

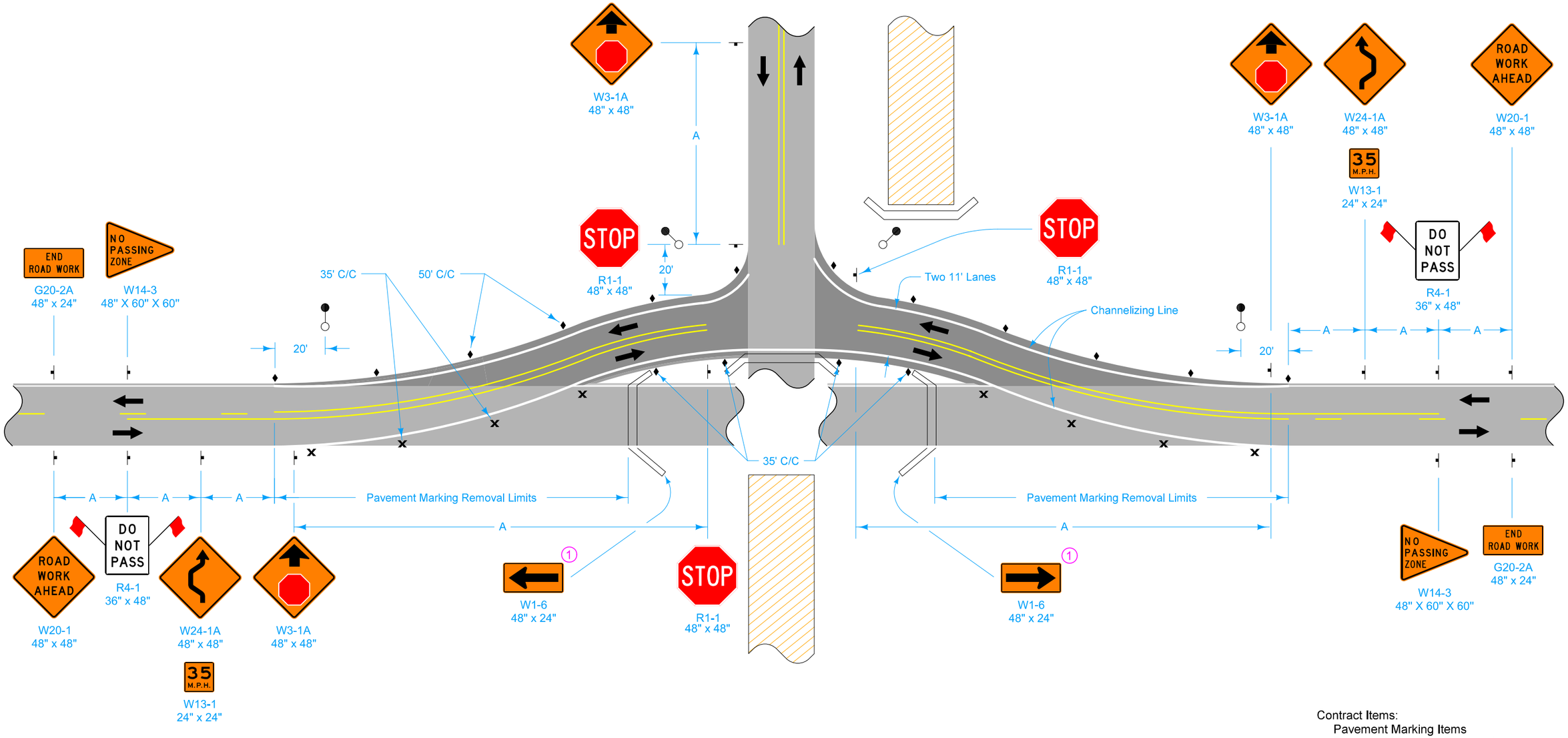
Tabulations:
108-22

LANE CLOSURE AT
THREE-LANE TO TWO-LANE TRANSITION

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.35

8:54:38 AM 7/1/2014 dmaach pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051J35_42.sht

TWO-LANE DETOUR WITH INTERSECTION



Contract Items:
- Pavement Marking Items
- Pavement Markings Removed
- Safety Closures
- Temporary Floodlighting
- Temporary Delineators
- Traffic Control

Tabulations:
- 108-13A
- 108-22
- 108-27

LEGEND

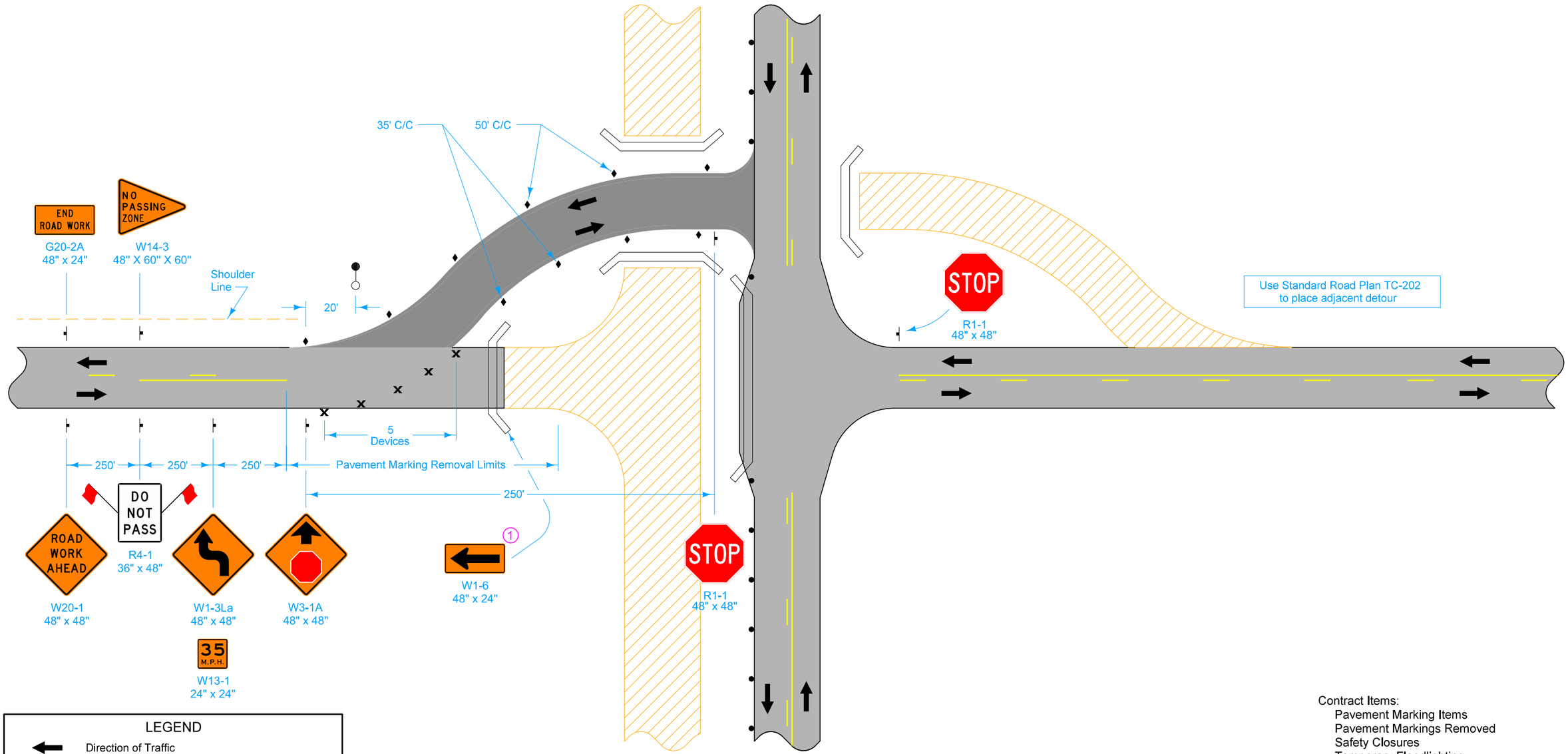
- Direction of Traffic
- Drum
- Single White Delineators (mount back to back)
- Road Closure
- Temporary Floodlighting
- Traffic Sign
- Possible Work Area

SPEED LIMIT (mph)	A
35 or less	250'
40 - 45	350'
50 or greater	500'

(1) Add below ROAD CLOSED (R11-2) sign already included in Safety Closure.

UTILIZING PAVED ON-SITE DETOUR WITH 3-WAY STOP

TWO-LANE GRAVEL DETOUR INTERSECTION



LEGEND

- Direction of Traffic
- Drum
- Single White Delineators (mount back to back)
- 42" Channelizer
- Road Closure
- Temporary Floodlighting
- Traffic Sign
- Possible Work Area

Contract Items:
- Pavement Marking Items
- Pavement Markings Removed
- Safety Closures
- Temporary Floodlighting
- Temporary Delineators
- Traffic Control

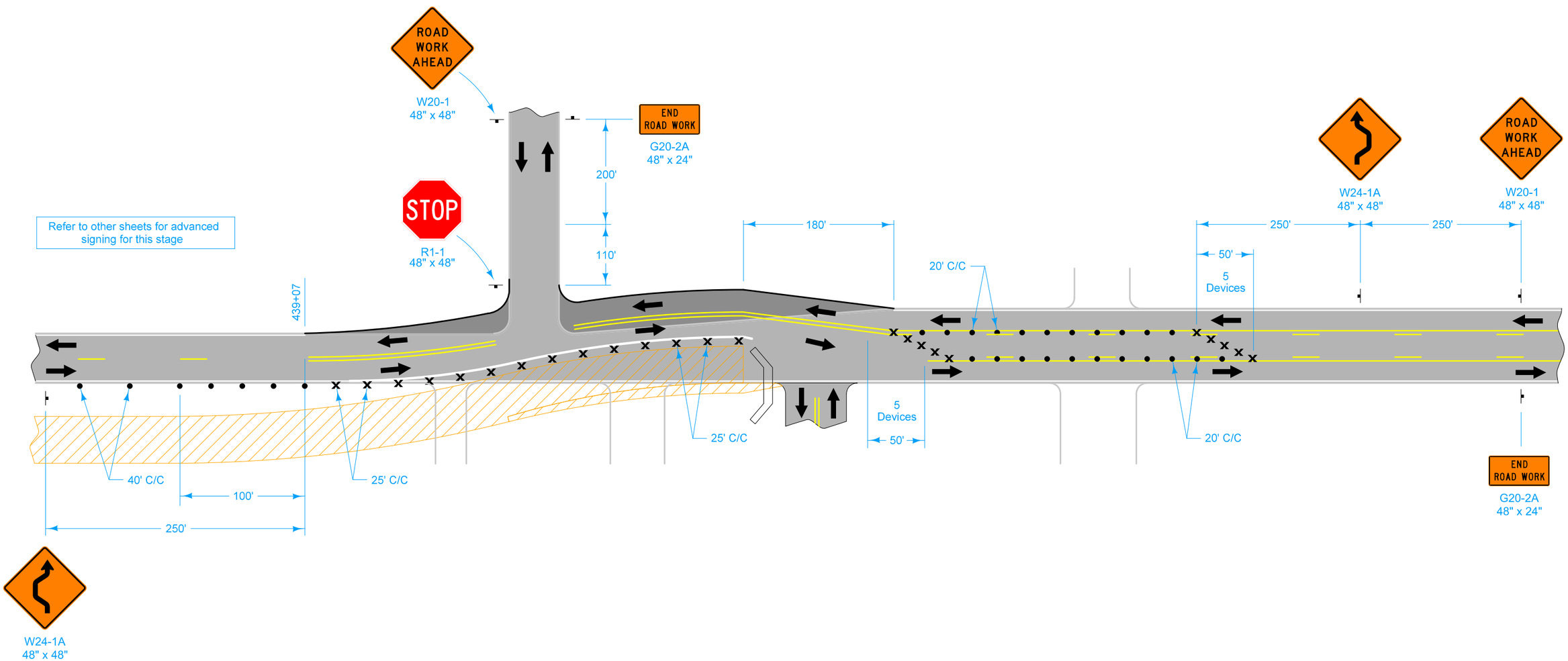
Tabulations:
- 108-13A
- 108-22
- 108-27

(1) Add below ROAD CLOSED (R11-2) sign already included in Safety Closure.

UTILIZING GRAVEL ON-SITE DETOUR WITH STOP AT THRU-WAY

FILE NO.	ENGLISH	DESIGN TEAM Jla\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.37

TWO-LANE TO THREE-LANE TEMPORARY PAVEMENT



LEGEND

- Direction of Traffic
- Traffic Sign
- 42' Channelizer
- Drum
- Road Closure
- Possible Work Area

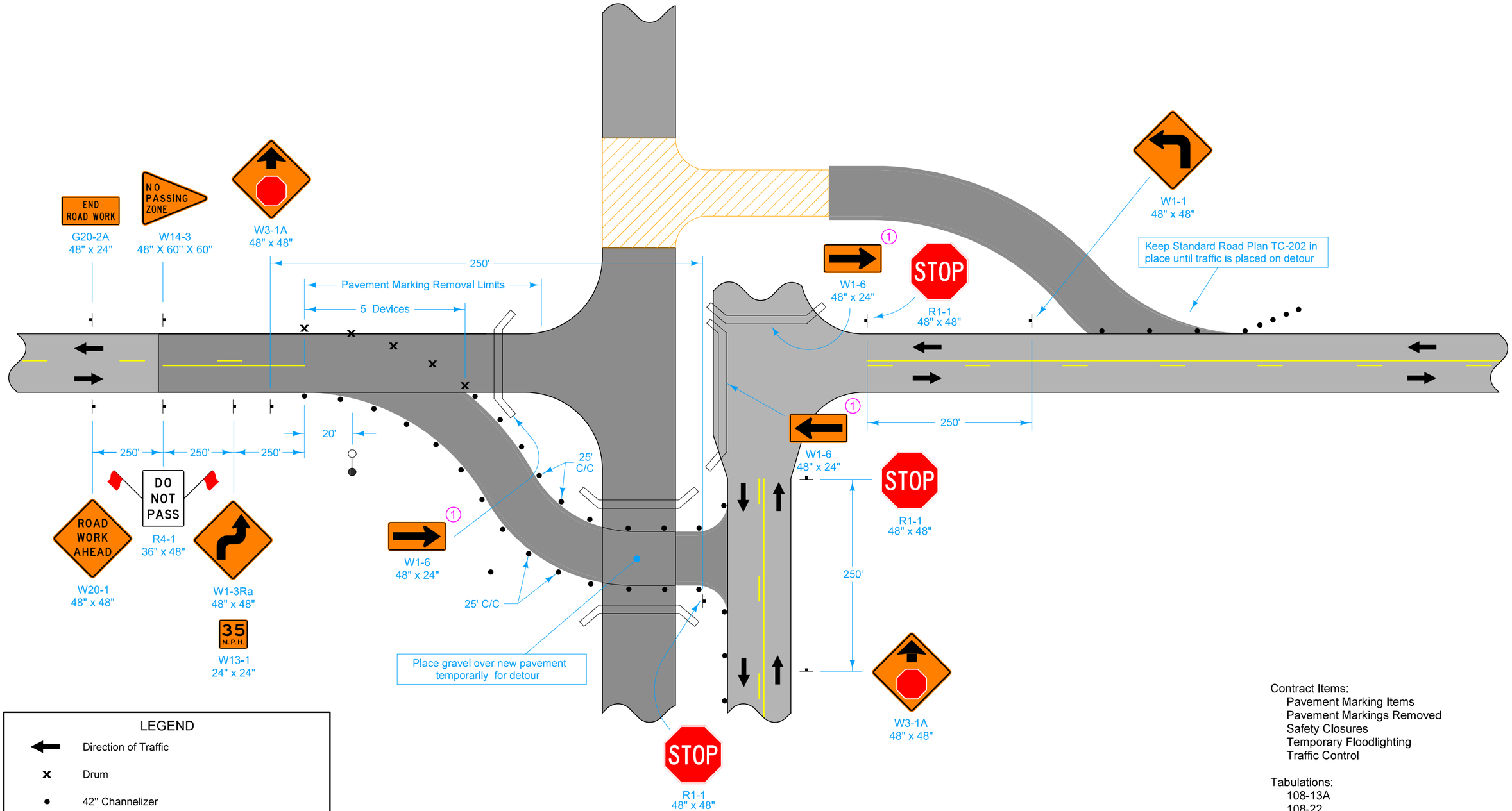
Contract Items:
- Pavement Marking Items
- Pavement Markings Removed
- Safety Closures
- Traffic Control

Tabulations:
- 108-13A
- 108-22

UTILIZING TEMPORARY PAVEMENT FOR TWO-LANE TO THREE-LANE TRANSITION

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.38

TWO-LANE GRAVEL DETOUR CONSTRUCTION



LEGEND

- Direction of Traffic
- Drum
- 42" Channelizer
- Road Closure
- Temporary Floodlighting
- Traffic Sign
- Possible Work Area

(1) Add below ROAD CLOSED (R11-2) sign already included in Safety Closure.

Contract Items:
- Pavement Marking Items
- Pavement Markings Removed
- Safety Closures
- Temporary Floodlighting
- Traffic Control

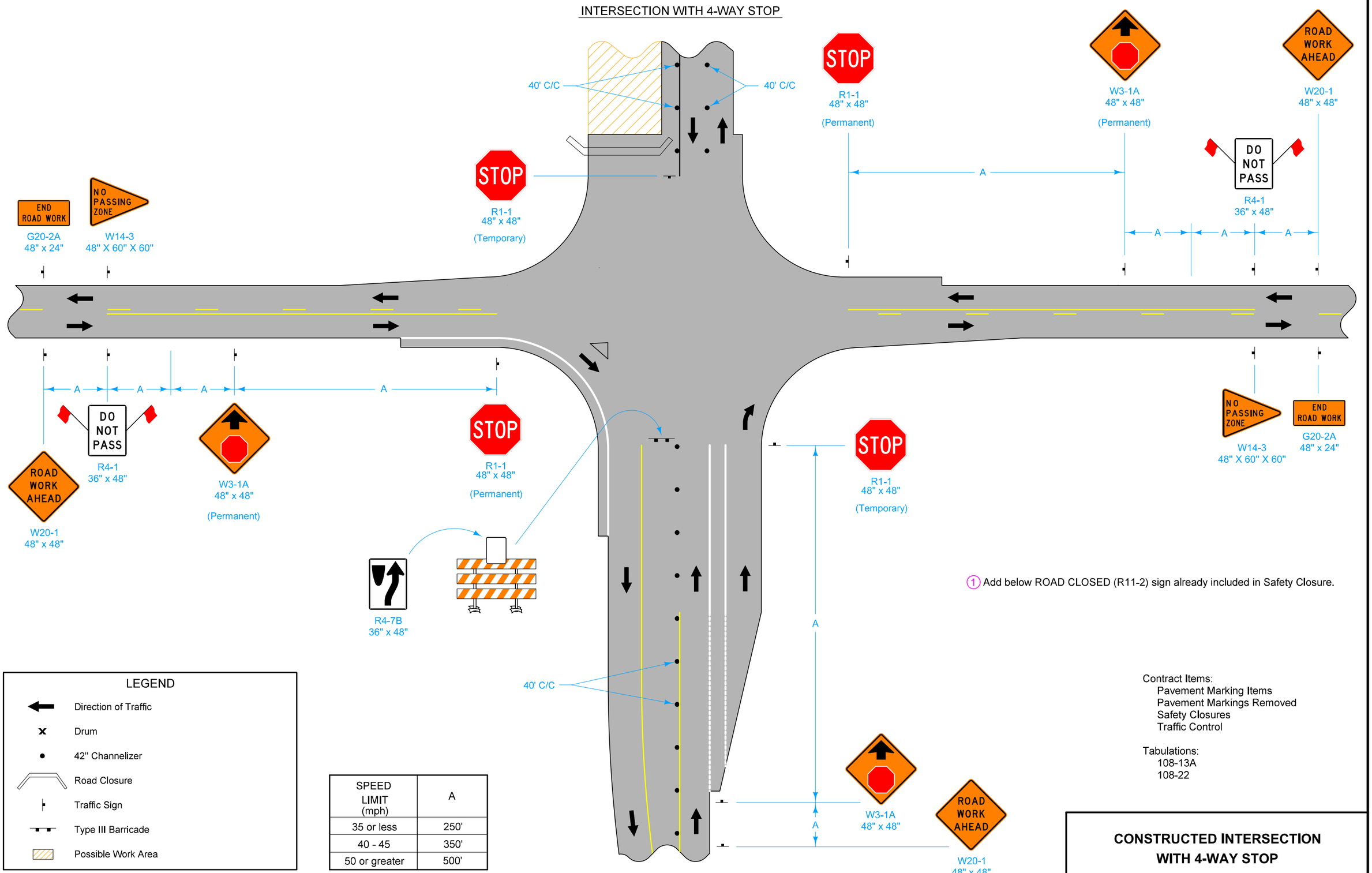
Tabulations:
- 108-13A
- 108-22
- 108-27

UTILIZING GRAVEL ON-SITE DETOUR WITH STOP AT THRU-WAY

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.39

8:54:42 AM 7/1/2014 dmaach pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051J35_42.sht

INTERSECTION WITH 4-WAY STOP



1 Add below ROAD CLOSED (R11-2) sign already included in Safety Closure.

LEGEND

- Direction of Traffic
- Drum
- 42" Channelizer
- Road Closure
- Traffic Sign
- Type III Barricade
- Possible Work Area

SPEED LIMIT (mph)	A
35 or less	250'
40 - 45	350'
50 or greater	500'

Contract Items:
- Pavement Marking Items
- Pavement Markings Removed
- Safety Closures
- Traffic Control

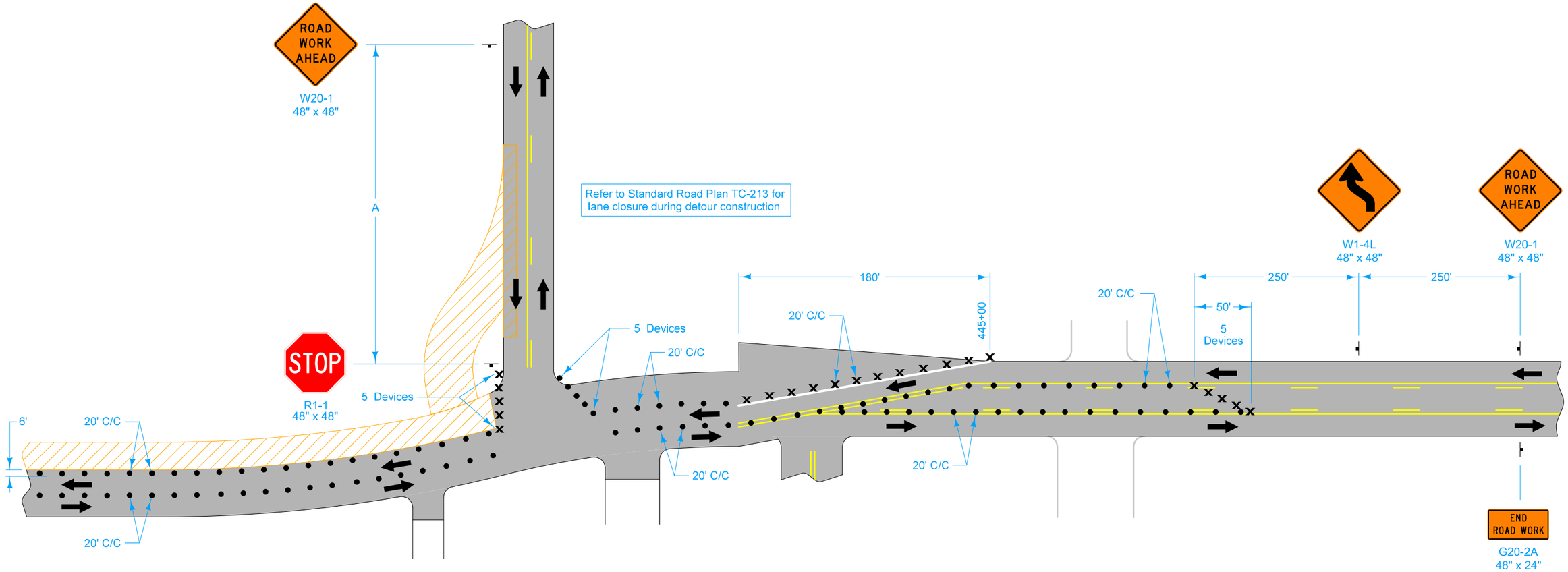
Tabulations:
- 108-13A
- 108-22

CONSTRUCTED INTERSECTION WITH 4-WAY STOP

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.40

8:54:42 AM 7/1/2014 dmaach pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051J35_42.sht

WB LANE COMPLETION



LEGEND

- Direction of Traffic
- Traffic Sign
- 42' Channelizer
- Drum
- Road Closure
- Possible Work Area

Contract Items:
Pavement Marking Items
Pavement Markings Removed
Traffic Control

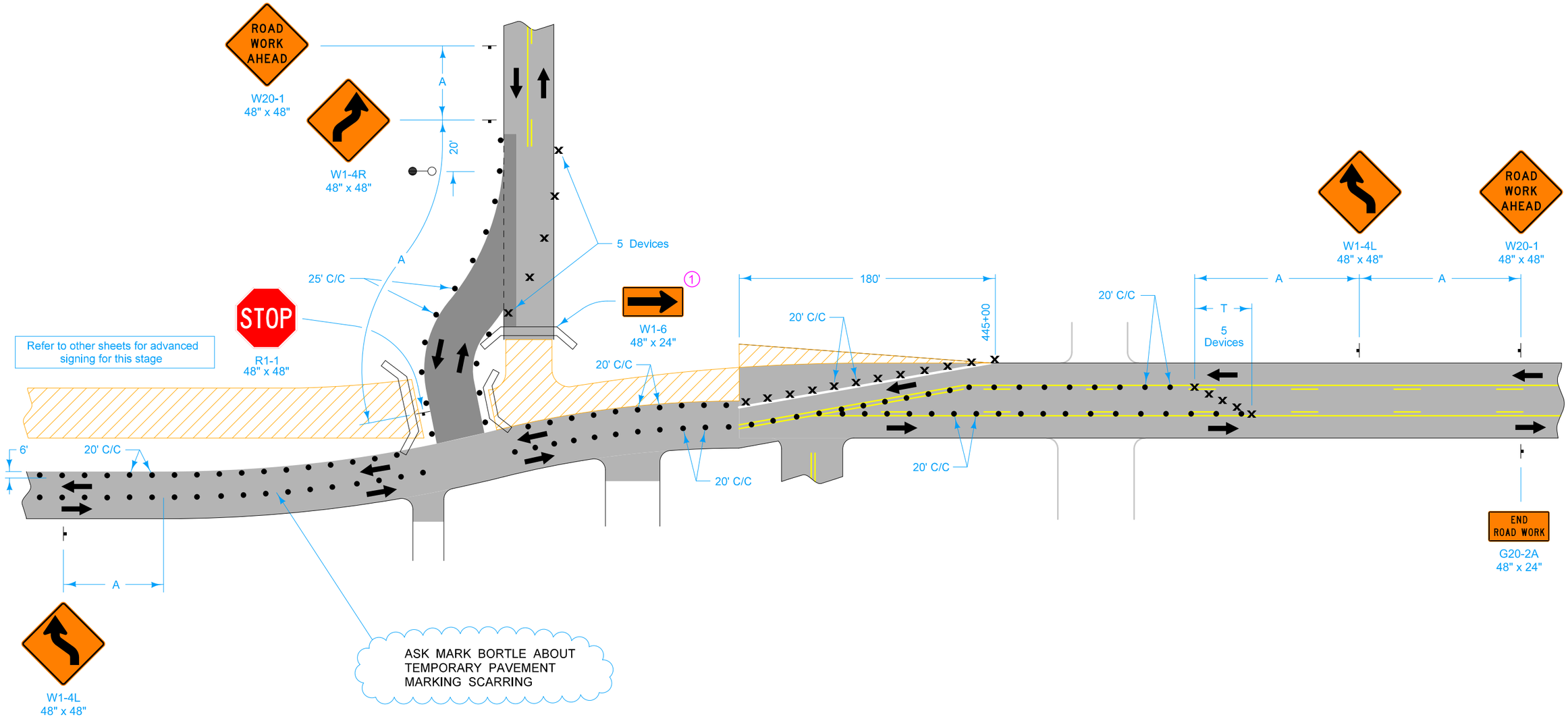
Tabulations:
108-22

CONSTRUCT REMAINDER OF WB-LANE BETWEEN SIDE STREETS

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER J.41

8:54:43 AM 7/1/2014 dmaach pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051J35_42.sht

TWO-LANE TO THREE-LANE PAVEMENT WITH DETOUR



LEGEND

- Direction of Traffic
- Traffic Sign
- 42' Channelizer
- Drum
- Temporary Floodlighting
- Road Closure
- Possible Work Area

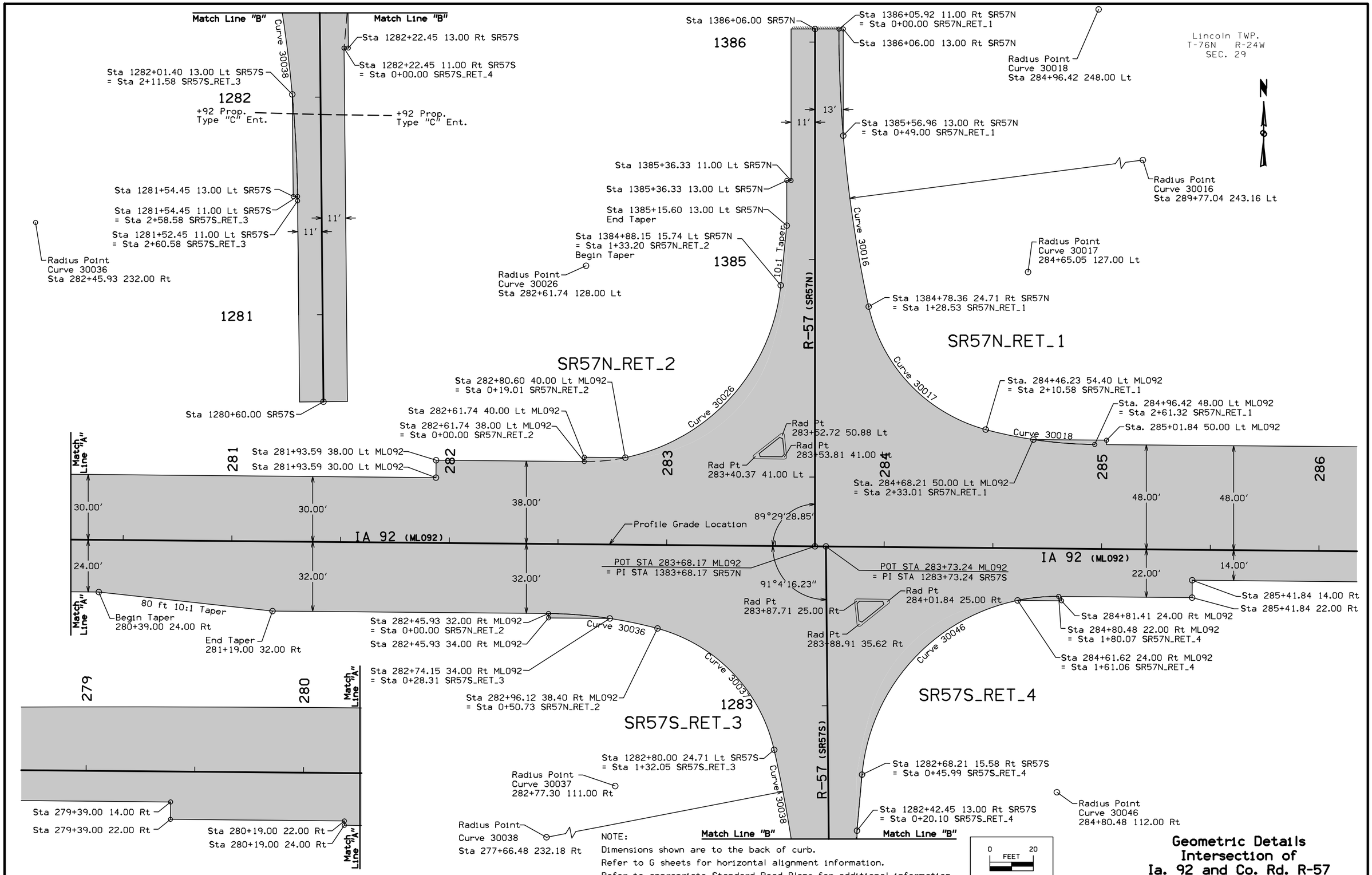
SPEED LIMIT (mph)	A	T
35 or less	250'	50'
40 - 45	350'	100'
50 or greater	500'	100'

1 Add below ROAD CLOSED (R11-2) sign already included in Safety Closure.

Contract Items:
- Pavement Marking Items
- Pavement Markings Removed
- Safety Closures
- Temporary Floodlighting
- Traffic Control

Tabulations:
- 108-13A
- 108-22
- 108-27

UTILIZING GRAVEL ON-LINE DETOUR FOR SIDE STREET PAVING CONNECTION



NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information.

Geometric Details
Intersection of
Ia. 92 and Co. Rd. R-57

FILE NO.	ENGLISH	DESIGN TEAM Jla\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.1

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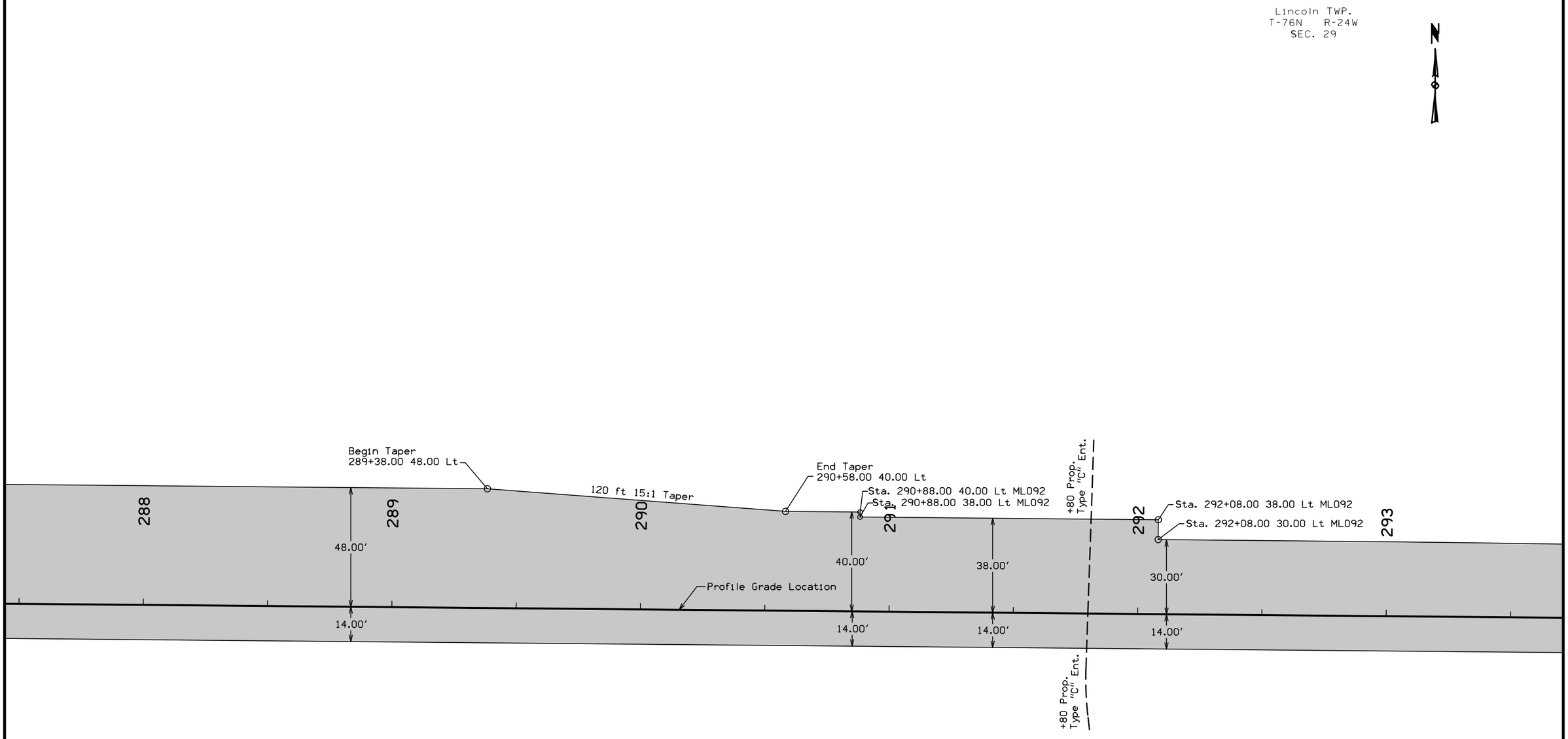

NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information,

0 FEET 20

Geometric Details
Ia. 92

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.2

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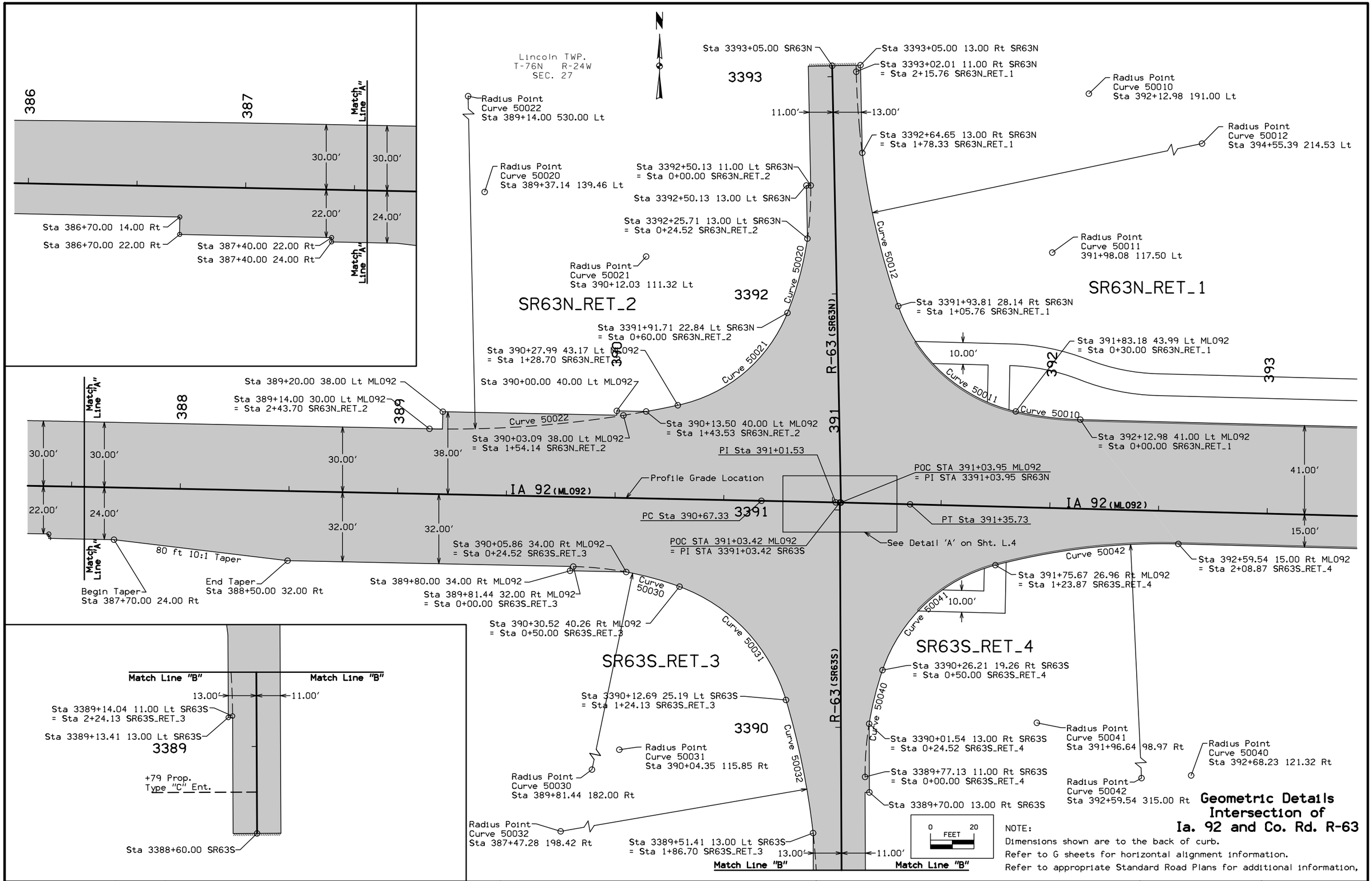

NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information.

Geometric Details
Intersection of
Ia. 92 and Co. Rd. R-63

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.3

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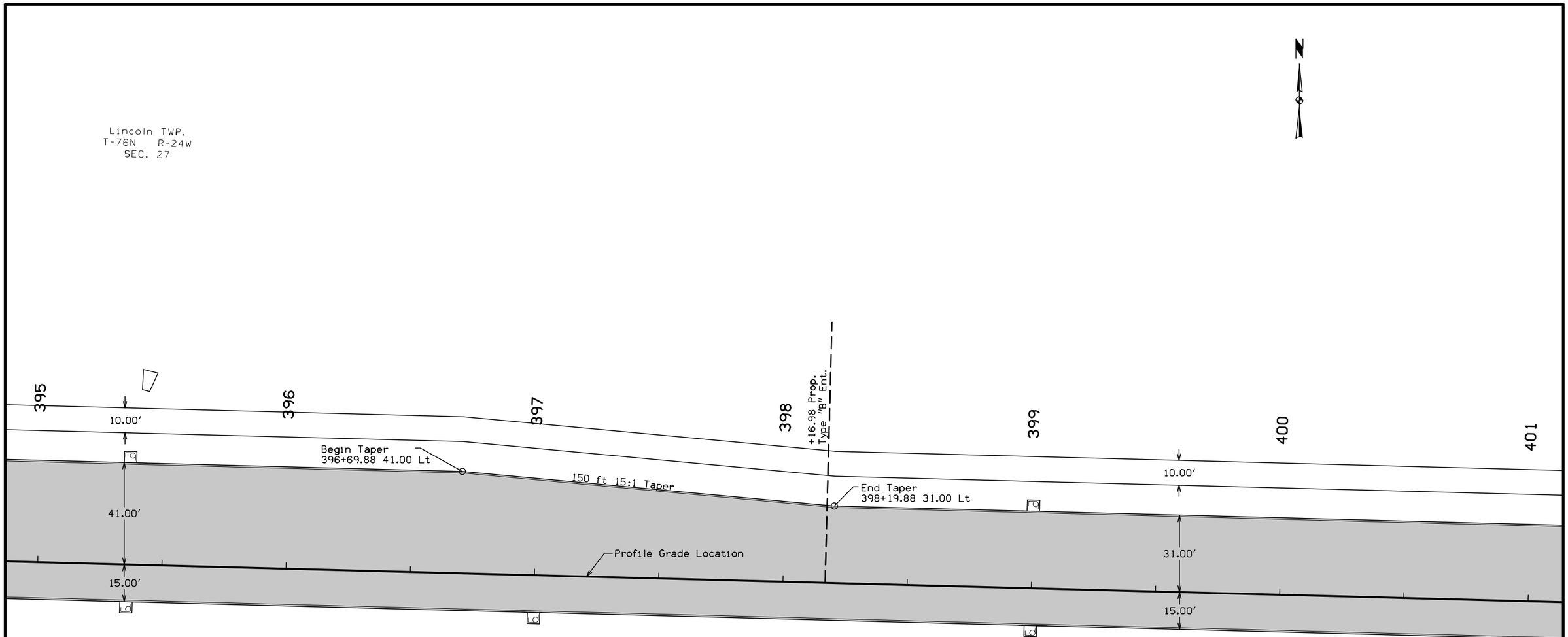

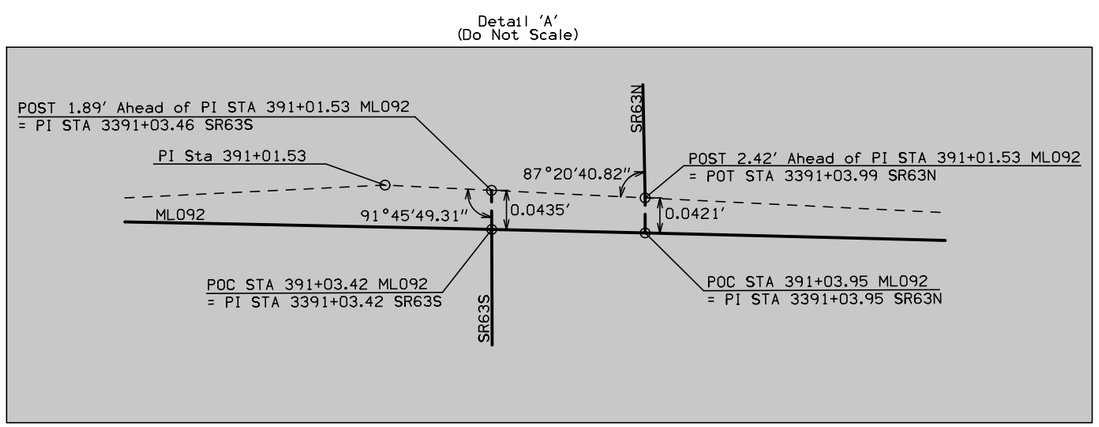

NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information,

0 FEET 20

Geometric Details
Ia. 92

FILE NO.	ENGLISH	DESIGN TEAM **J1a\Holst\Bennett**	**WARREN** COUNTY	PROJECT NUMBER **NHSX-092-5(51)--3H-91**	SHEET NUMBER **L.4**

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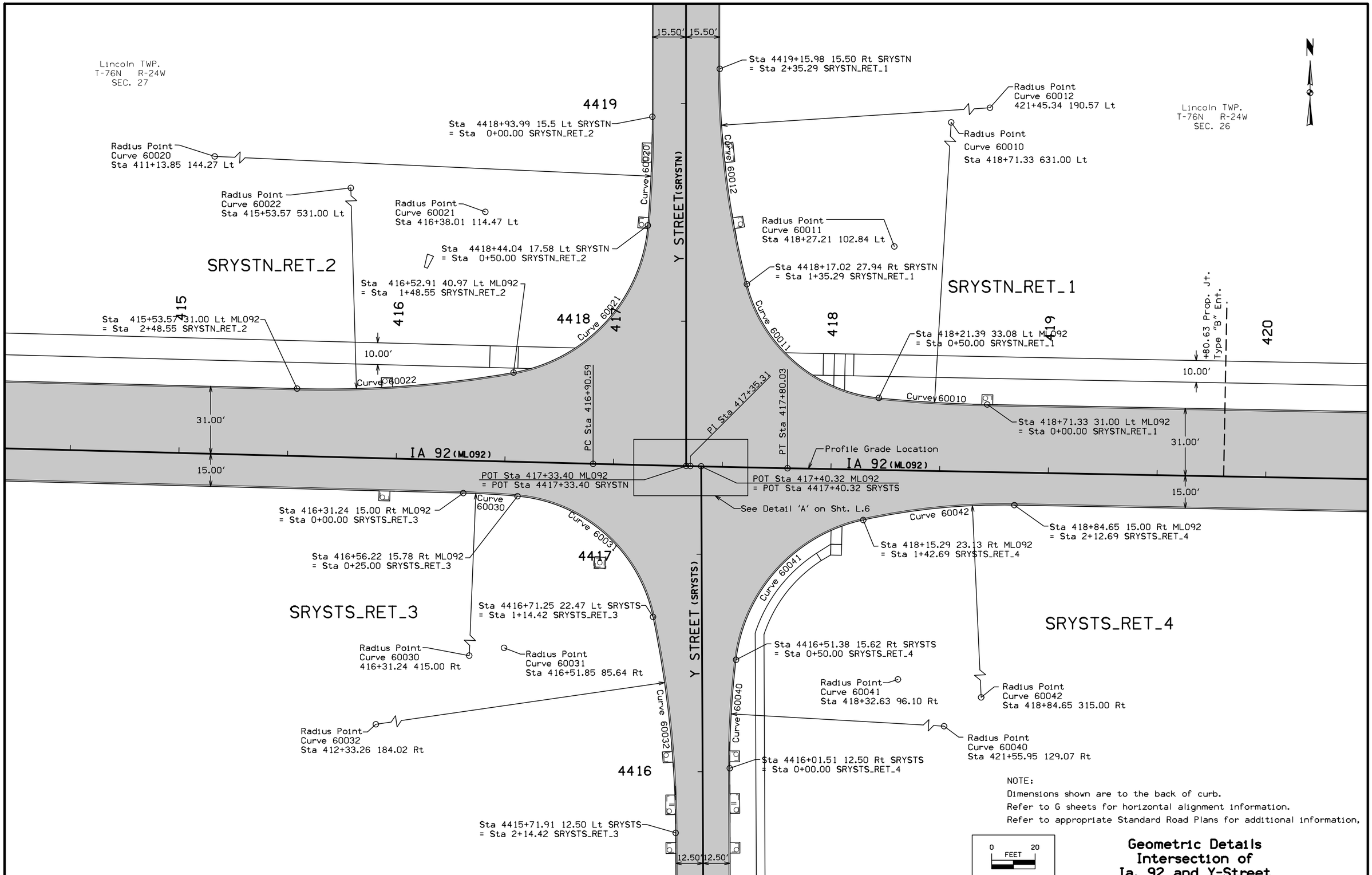
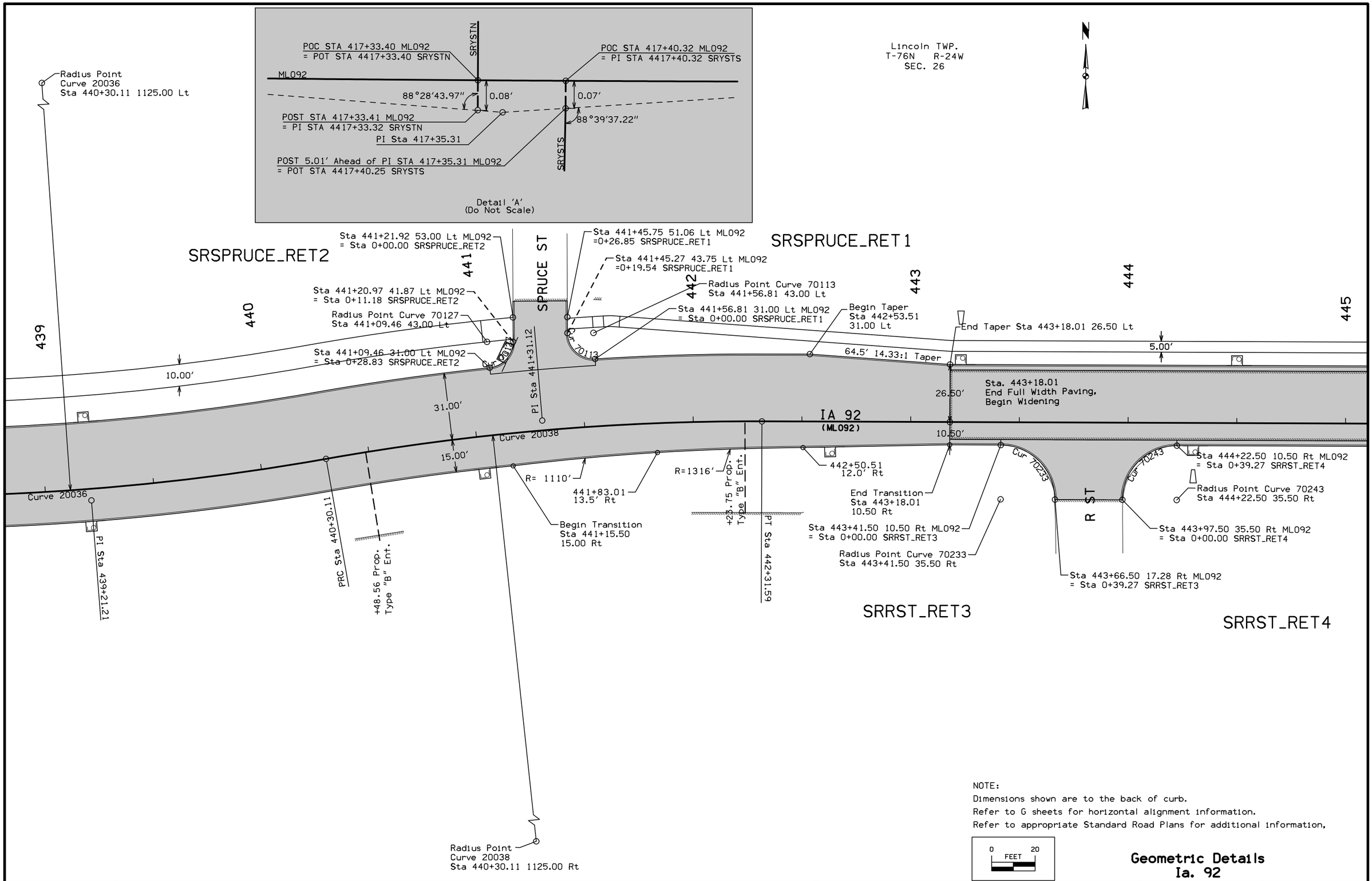


NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information.

Geometric Details
Intersection of
Ia. 92 and Y-Street

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.5



NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information.

Geometric Details
Ia. 92

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.6

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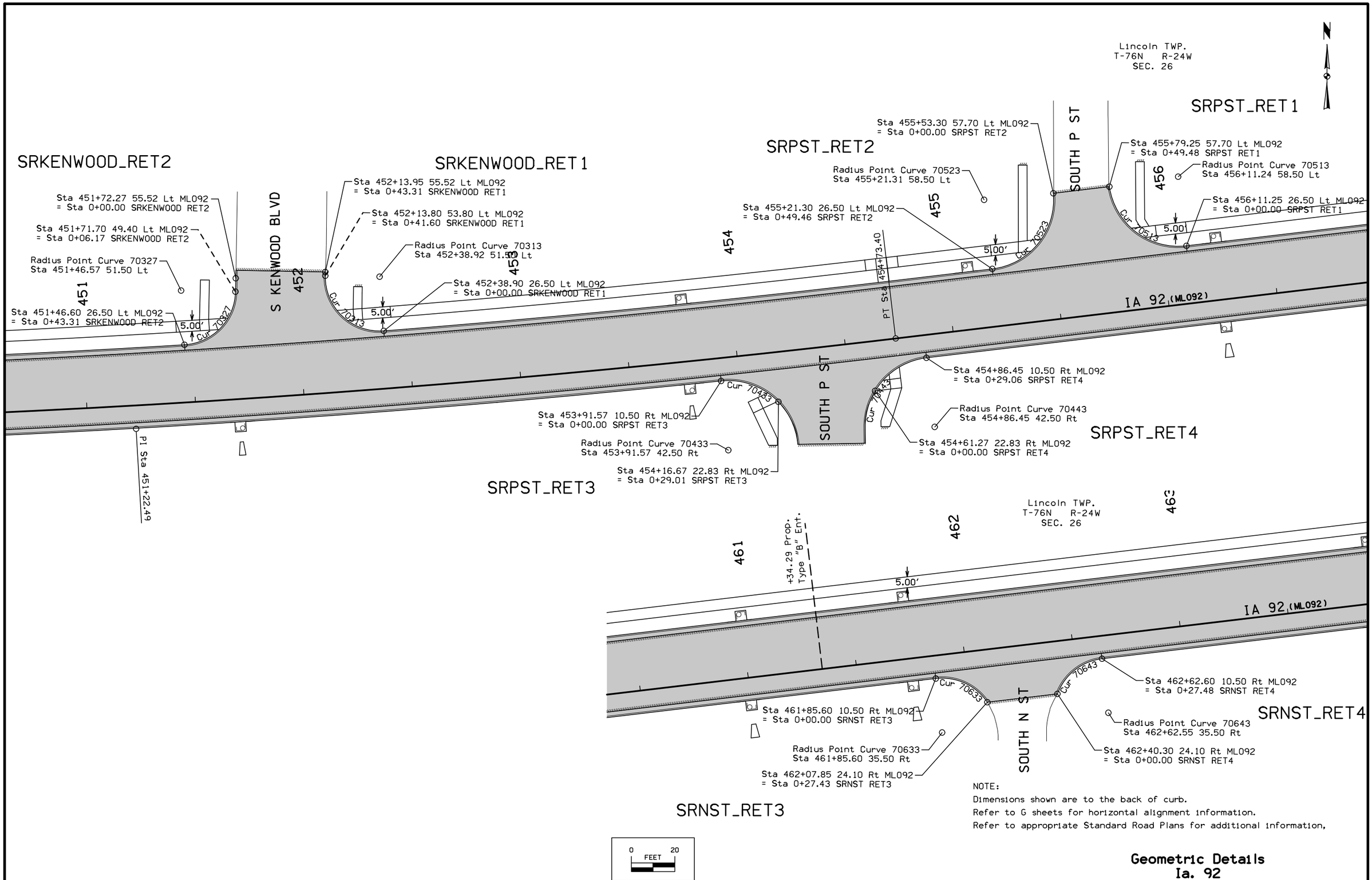

NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information.

Geometric Details
Ia. 92

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.7

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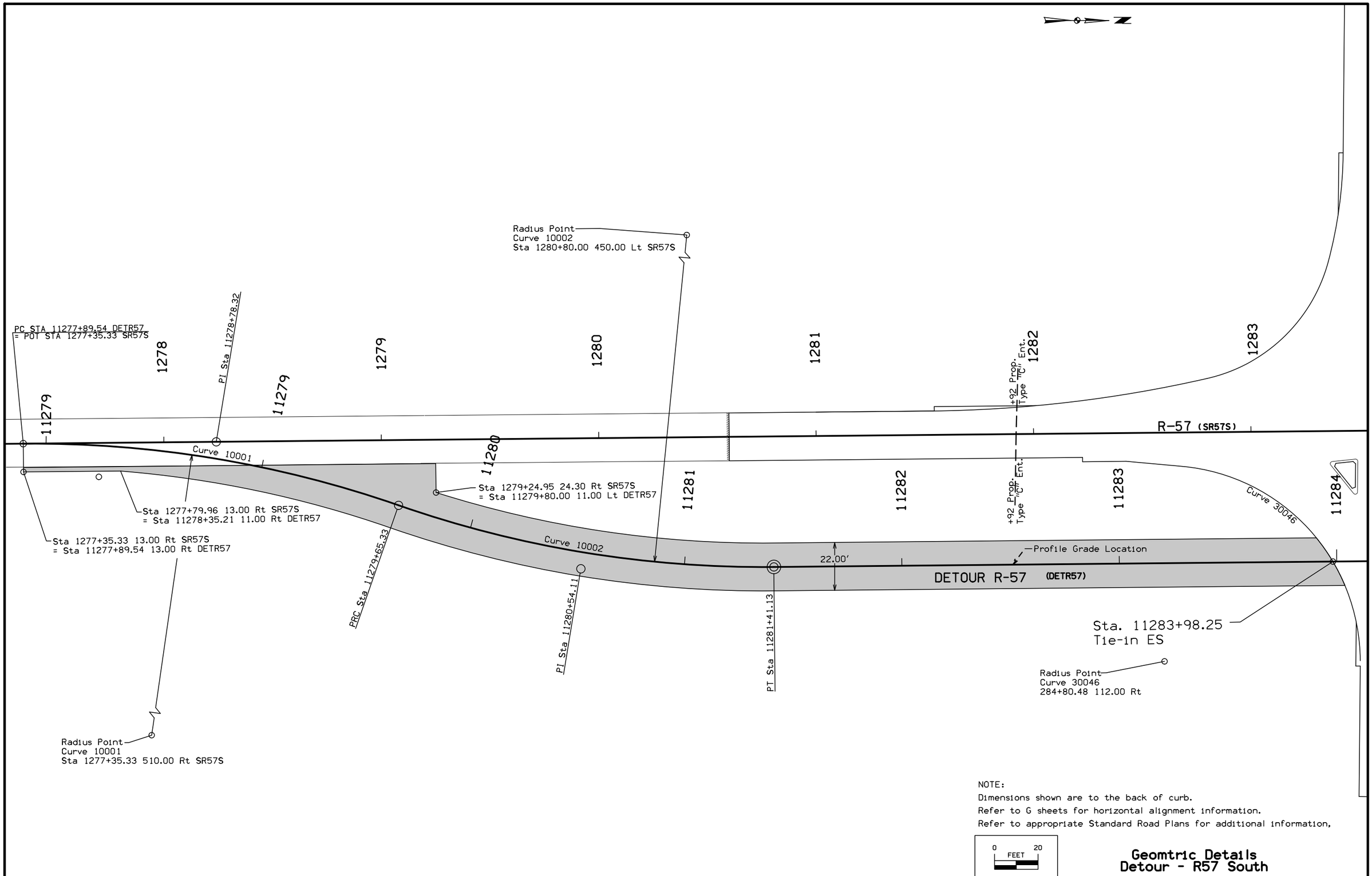

NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information,

Geomtric Details
Detour - R57 South

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.8

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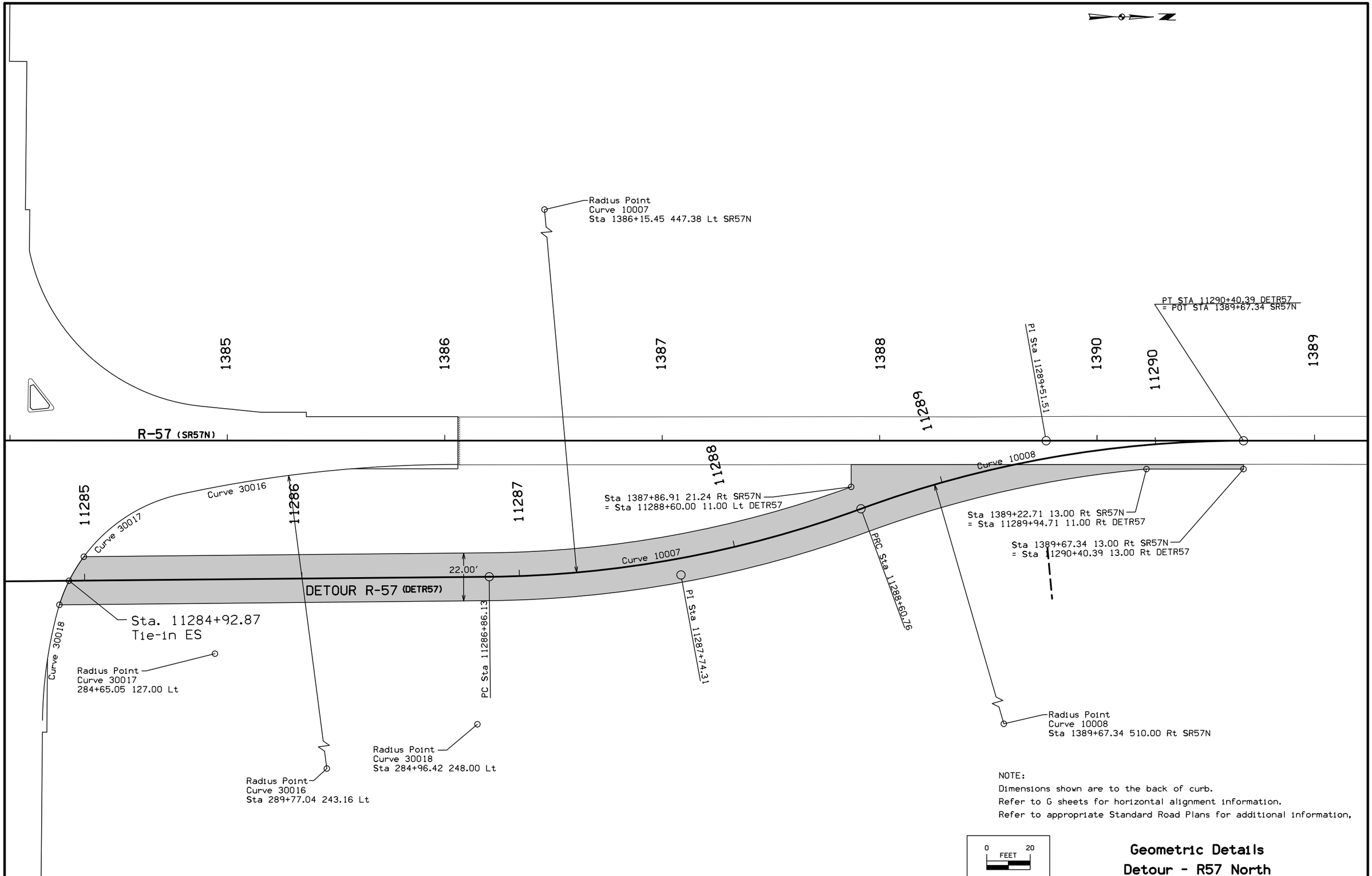

NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information.

Geometric Details
Detour - R57 North

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.9

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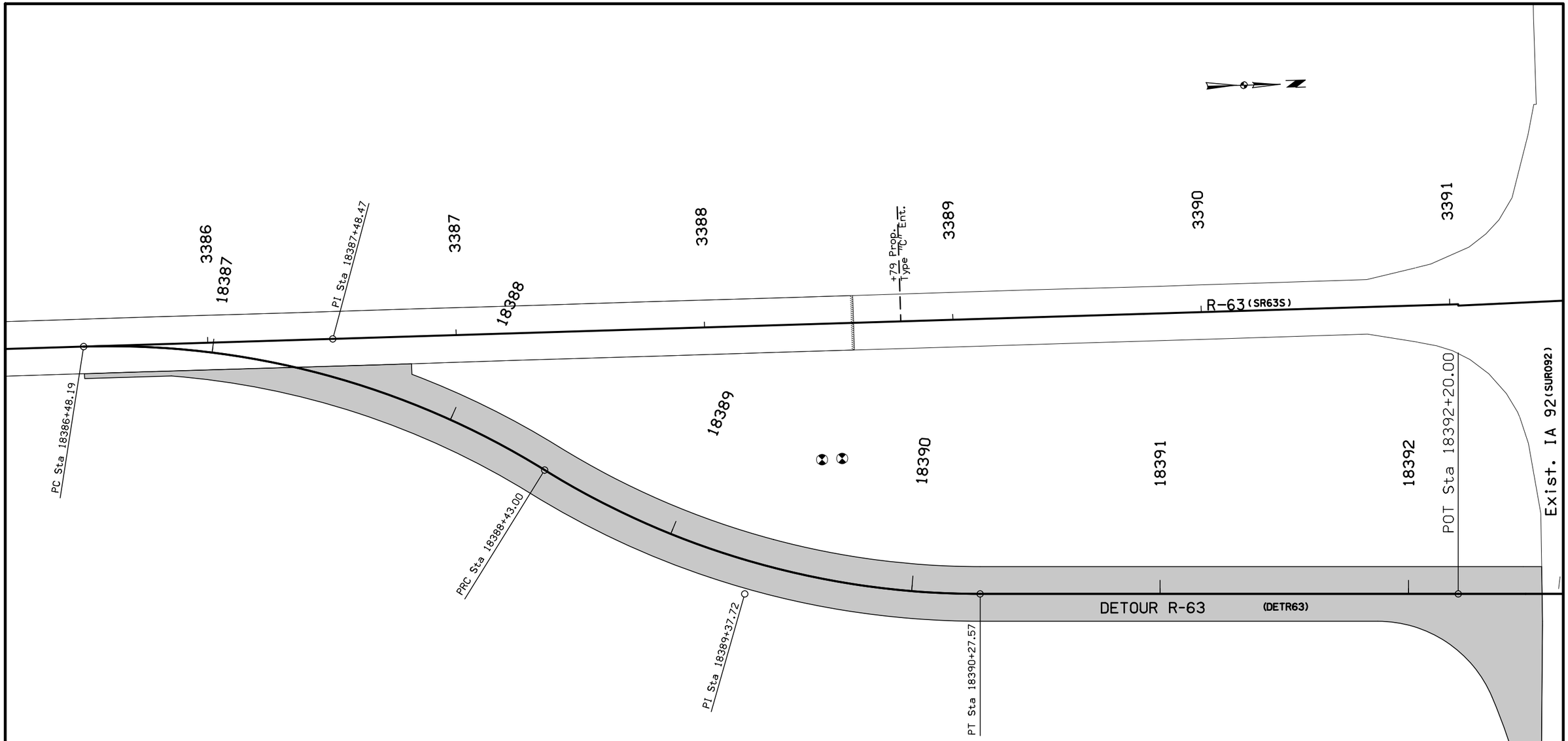

NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information,

0 FEET 20

Geometric Details
Detour - R63 South

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.10

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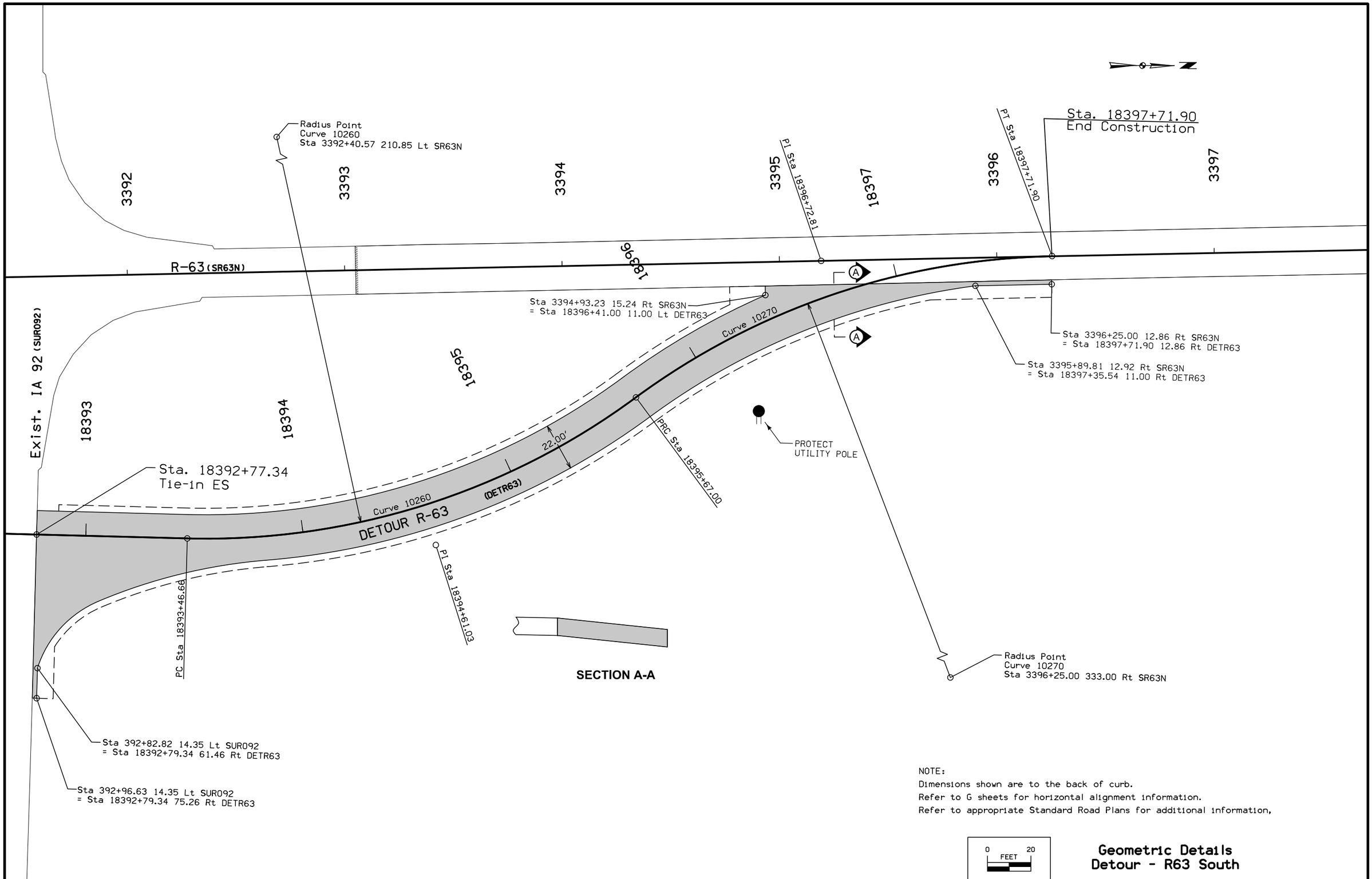

NOTE:
Dimensions shown are to the back of curb.
Refer to G sheets for horizontal alignment information.
Refer to appropriate Standard Road Plans for additional information,

0 FEET 20

Geometric Details
Detour - R63 South

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.11

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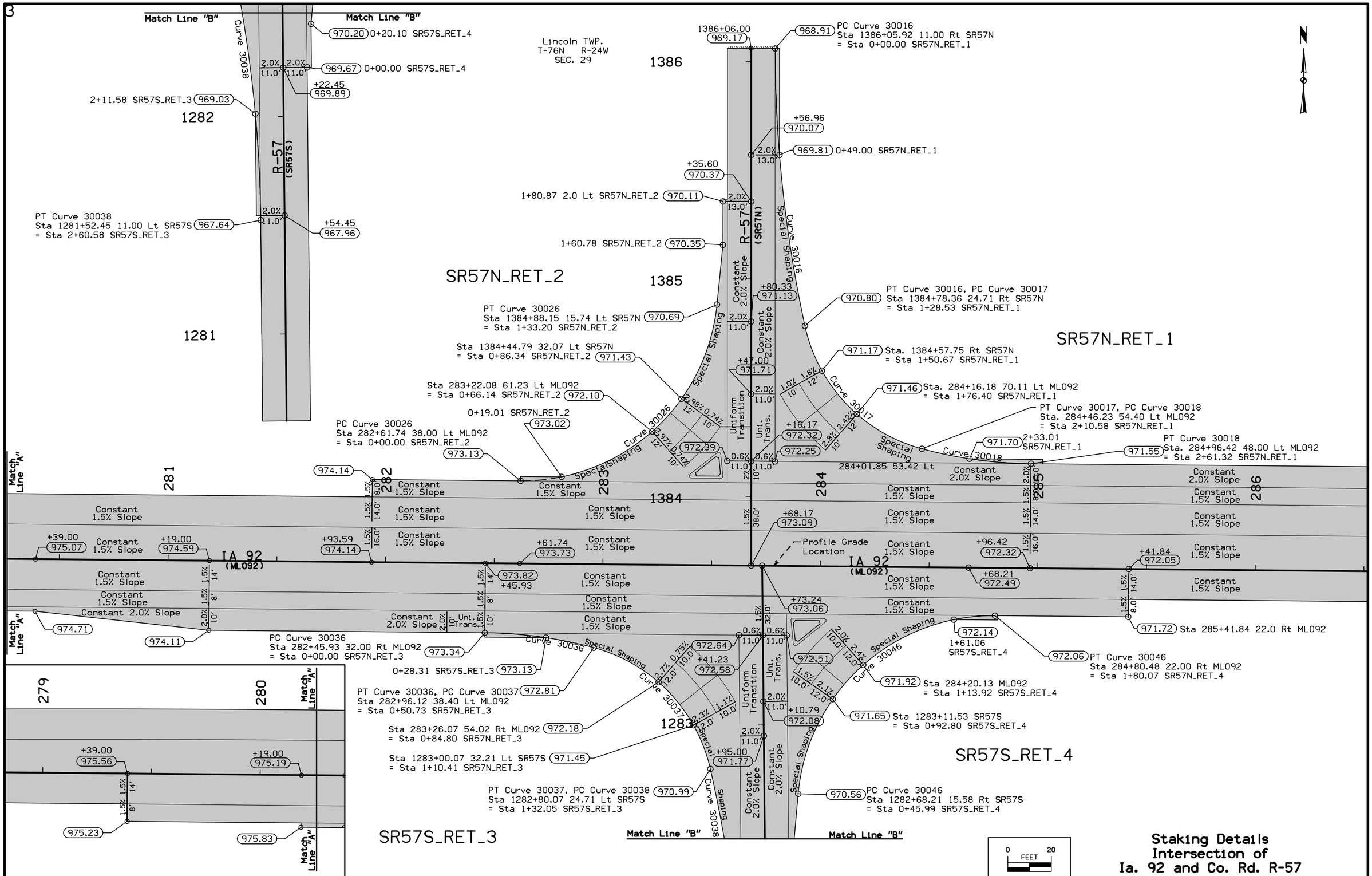

Staking Details
Intersection of
Ia. 92 and Co. Rd. R-57

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.12

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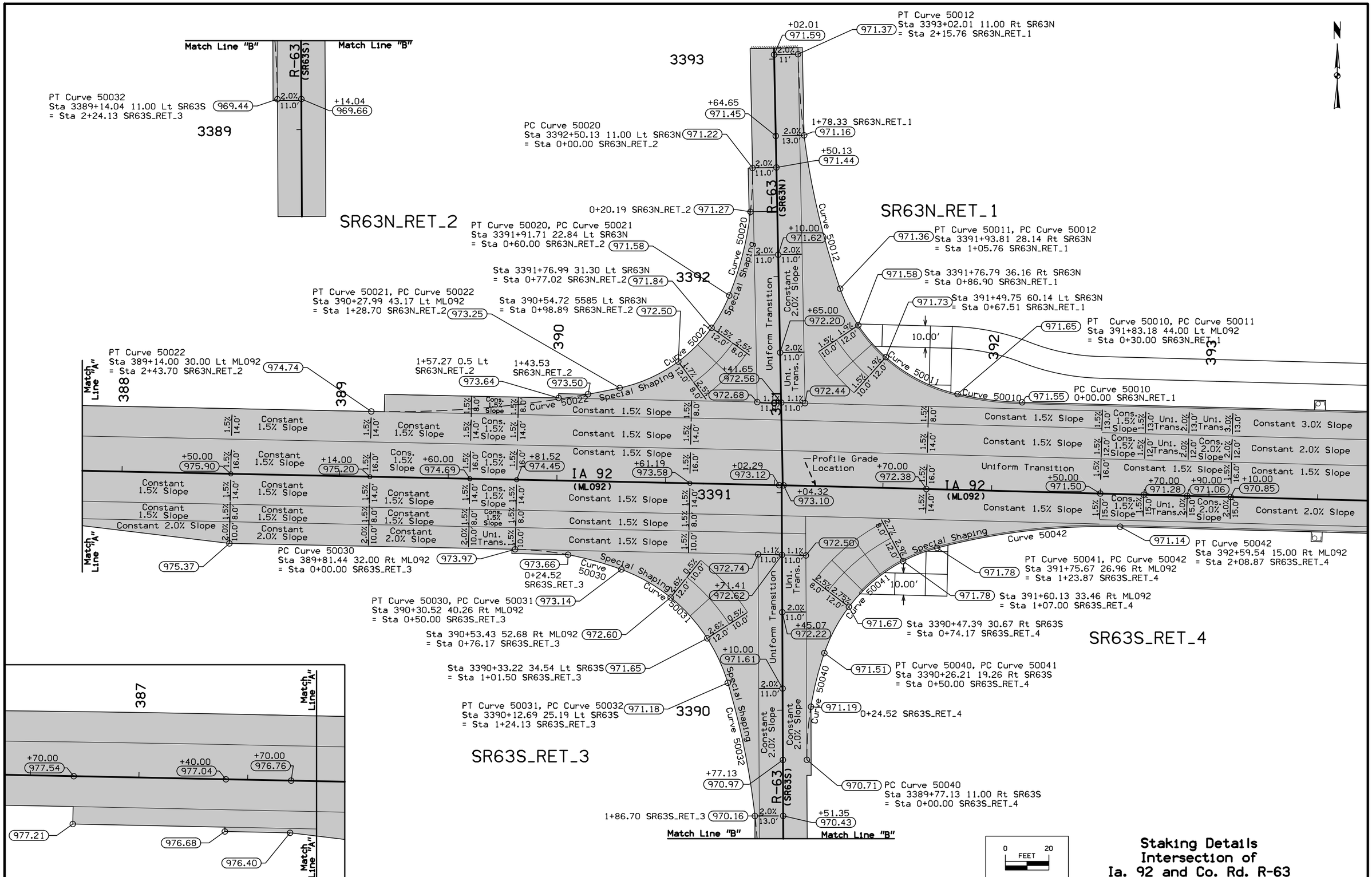

Staking Details
Intersection of
Ia. 92 and Co. Rd. R-63

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.13

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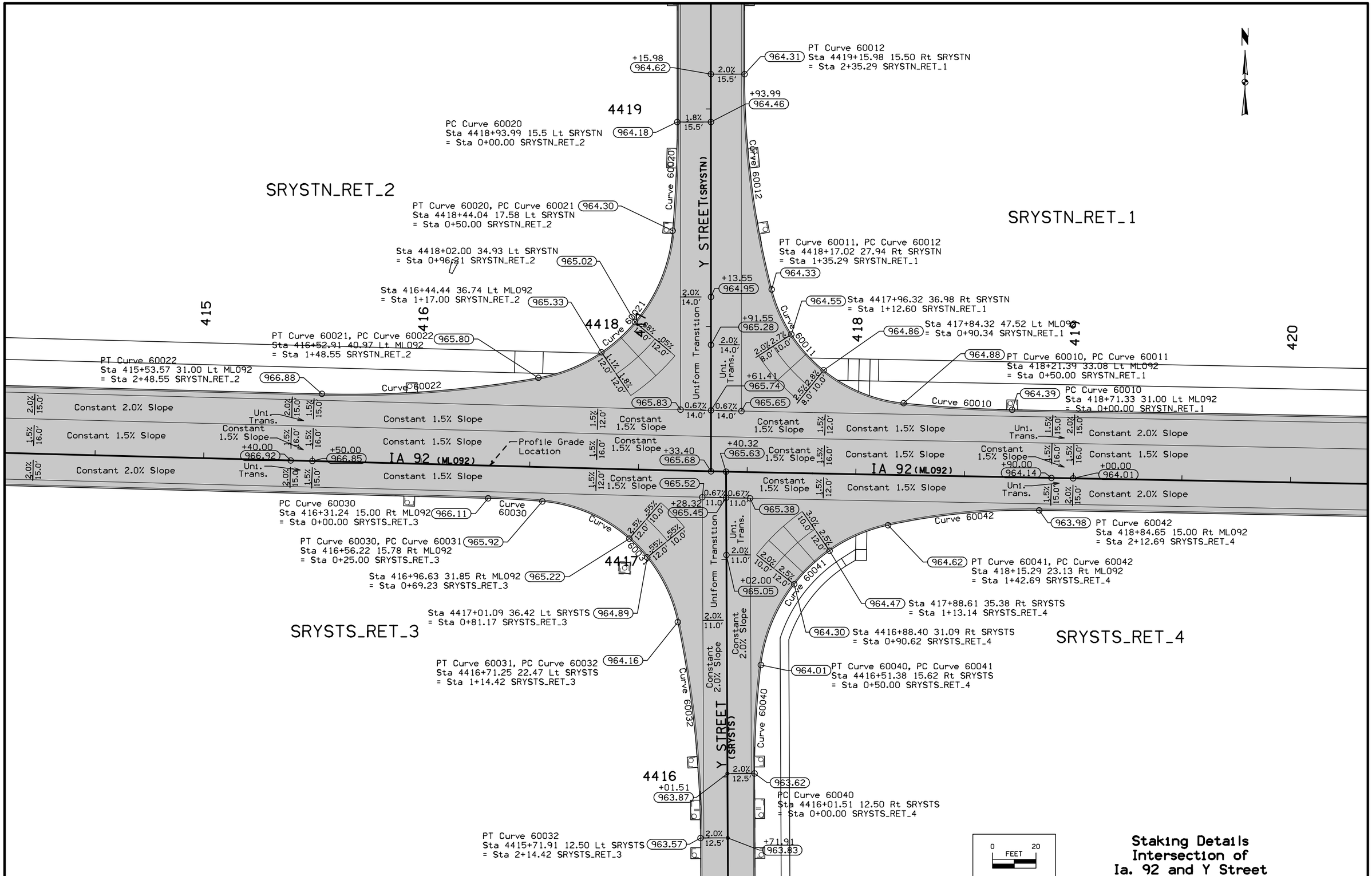

Staking Details
Intersection of
Ia. 92 and Y Street

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.14

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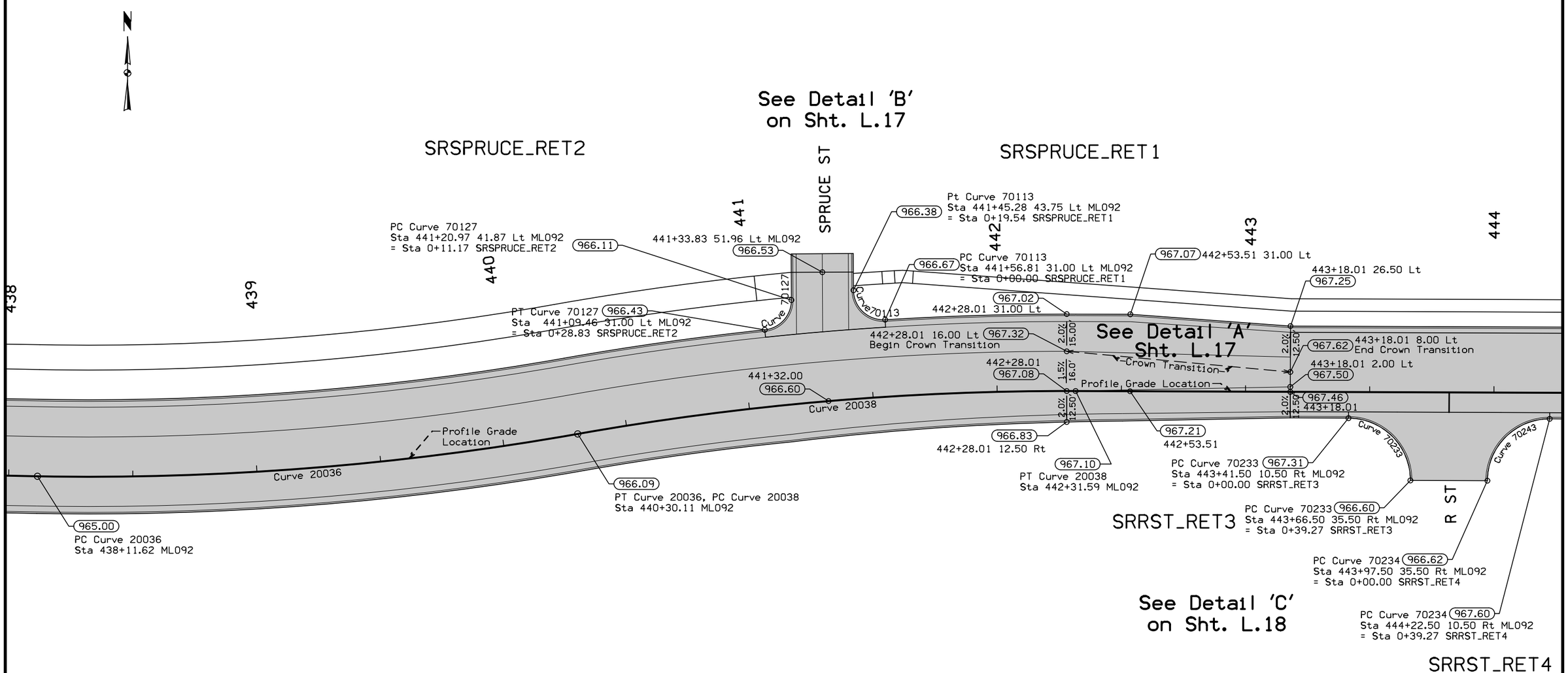
Lincoln TWP.
T-76N R-24W
SEC. 26



Staking Details
Intersection of
Ia. 92 and Spruce
and R Streets

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.15

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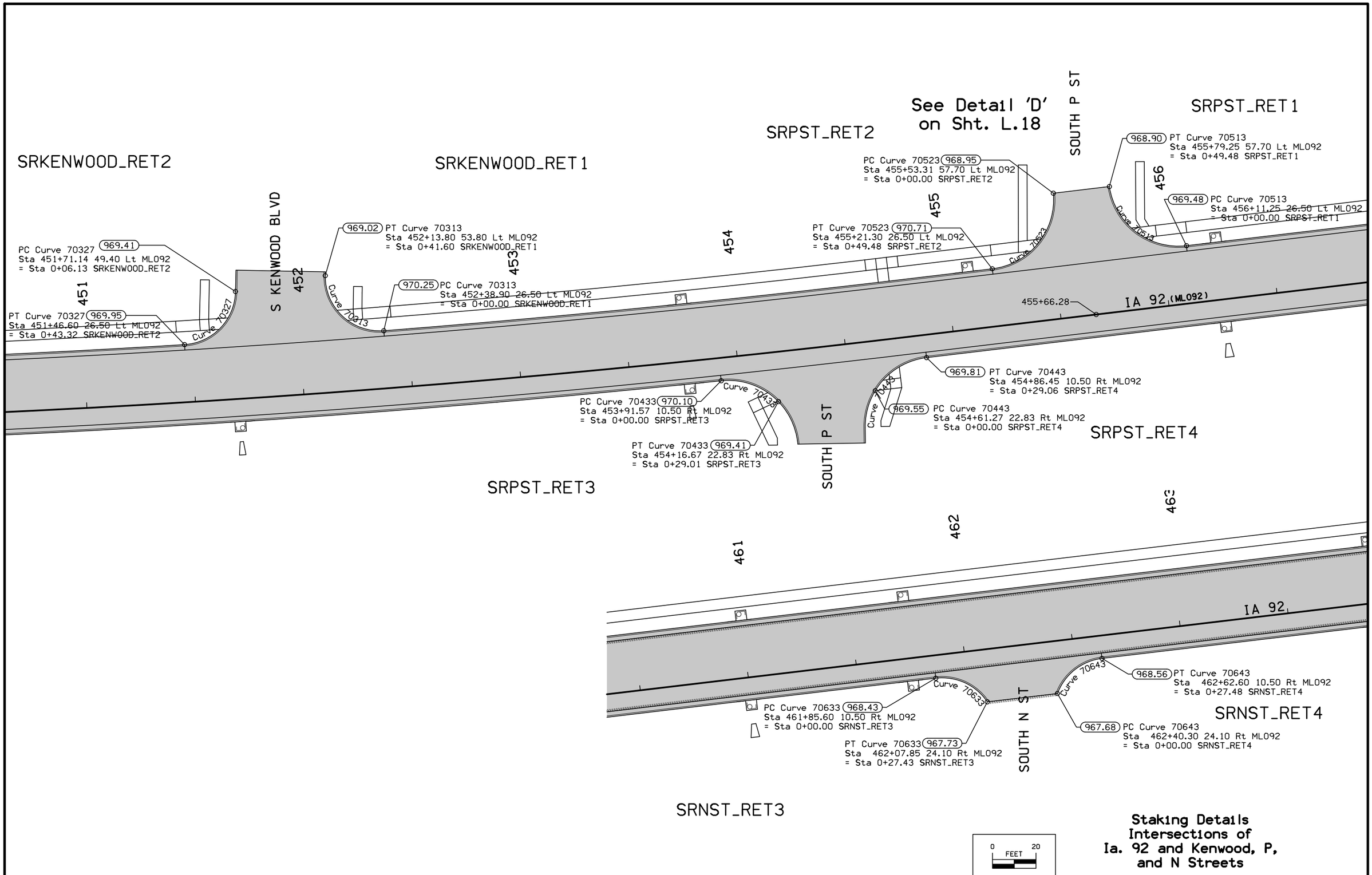

Staking Details Intersections of Ia. 92 and Kenwood, P, and N Streets

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.16

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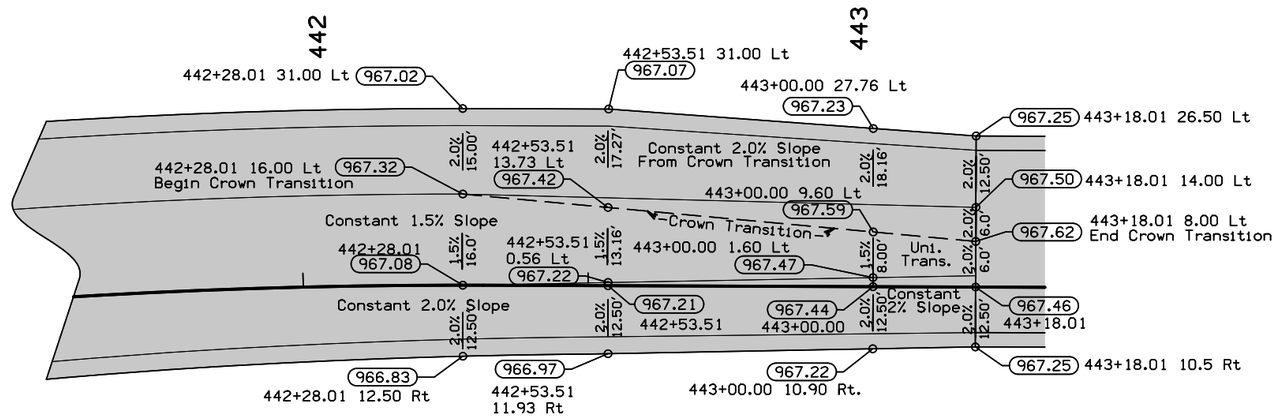
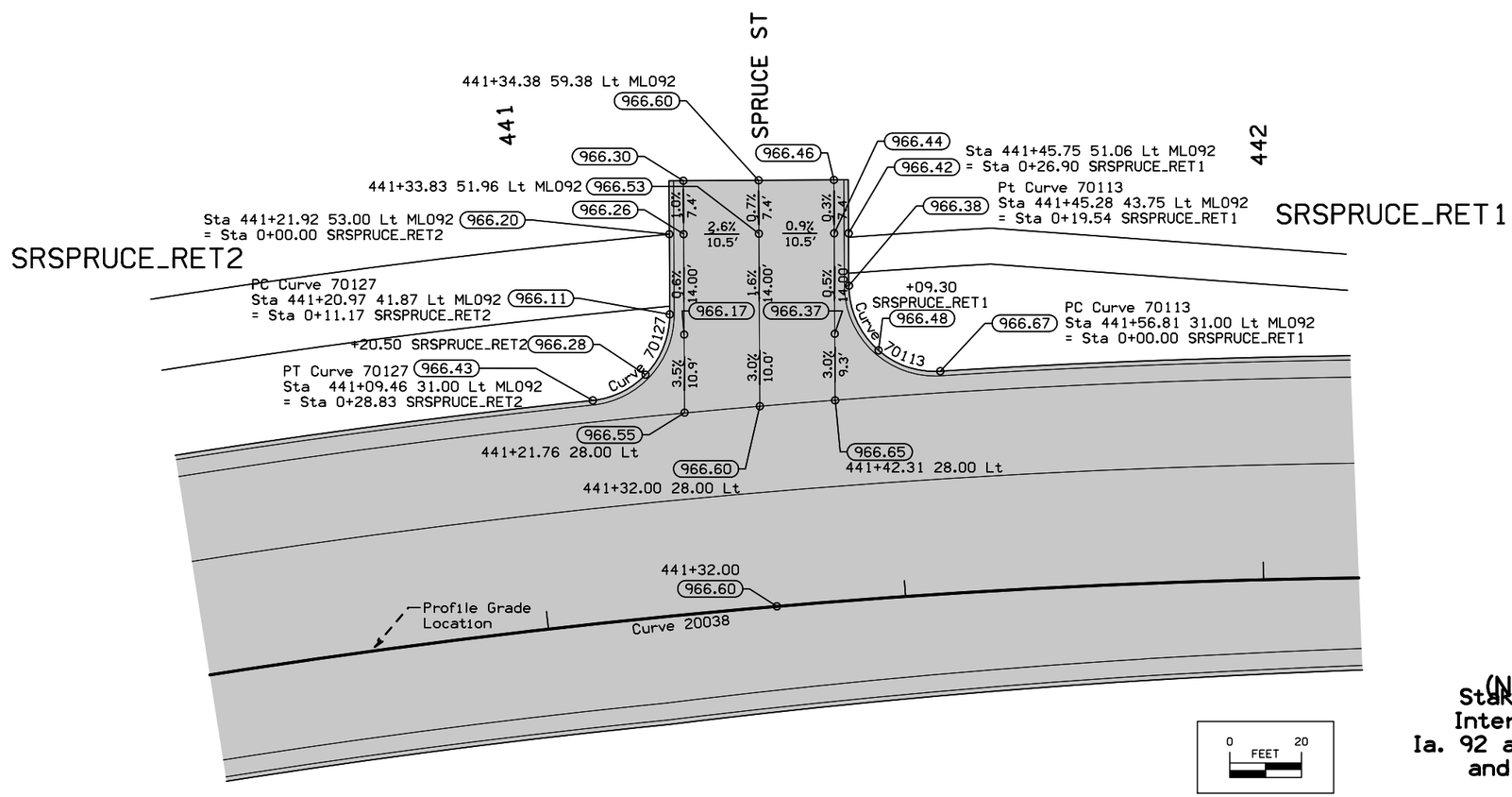


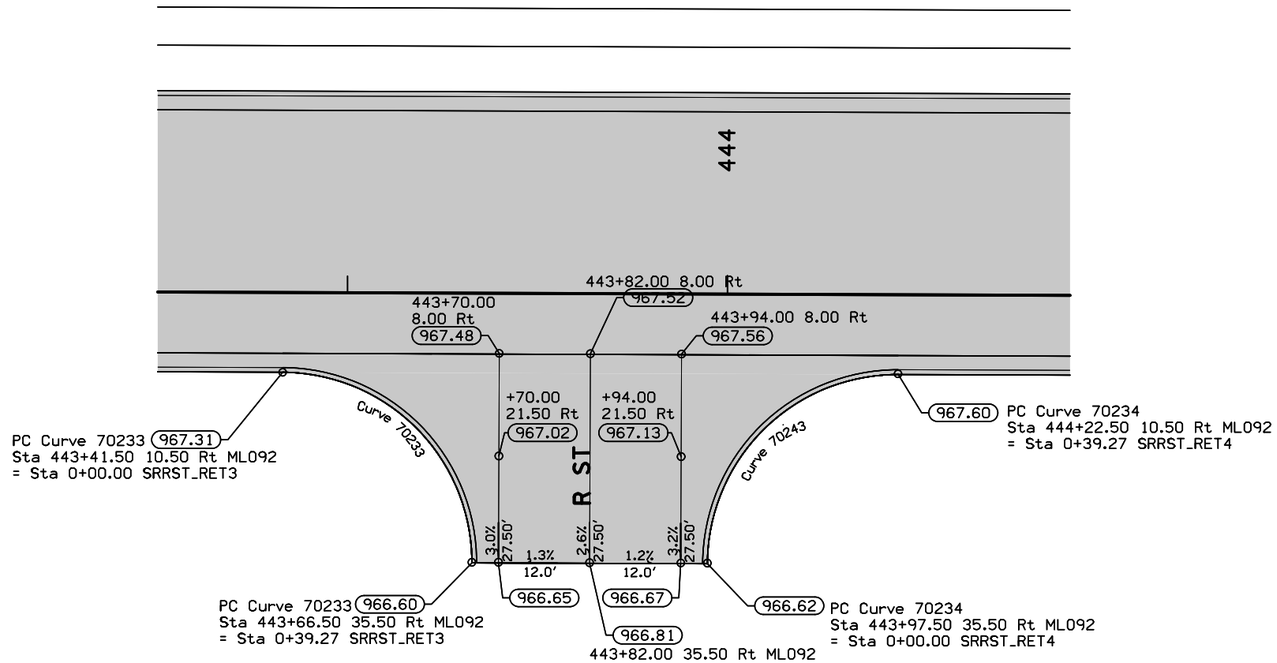
Detail 'A'
End Full Width Paving-Begin Widening
(Not To Scale)



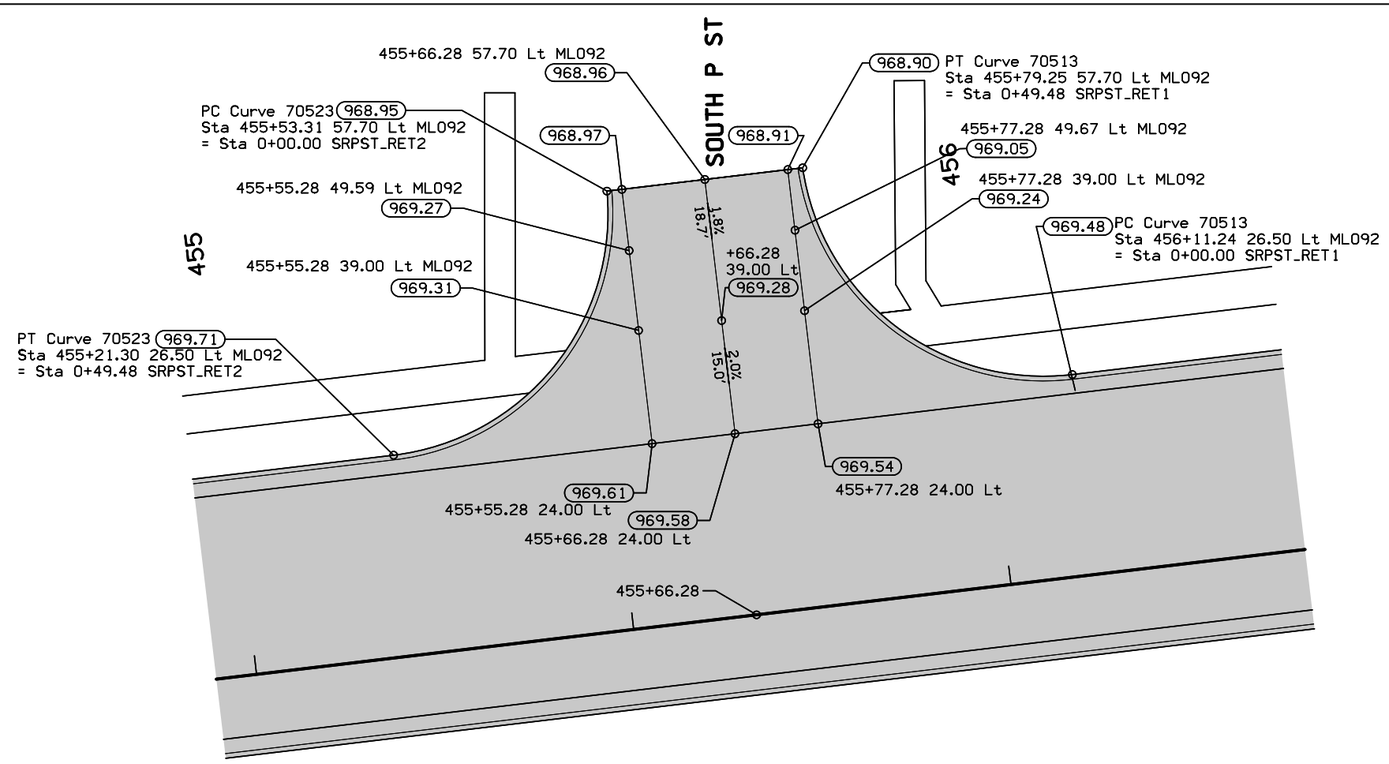
Detail 'B'
Spruce St.
(Not To Scale)

Staking Details
Intersections of
Ia. 92 and Kenwood, P,
and N Streets

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.17



Detail 'C'
R Street
(Not To Scale)



Detail 'D'
South P St.
(Not To Scale)

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.18

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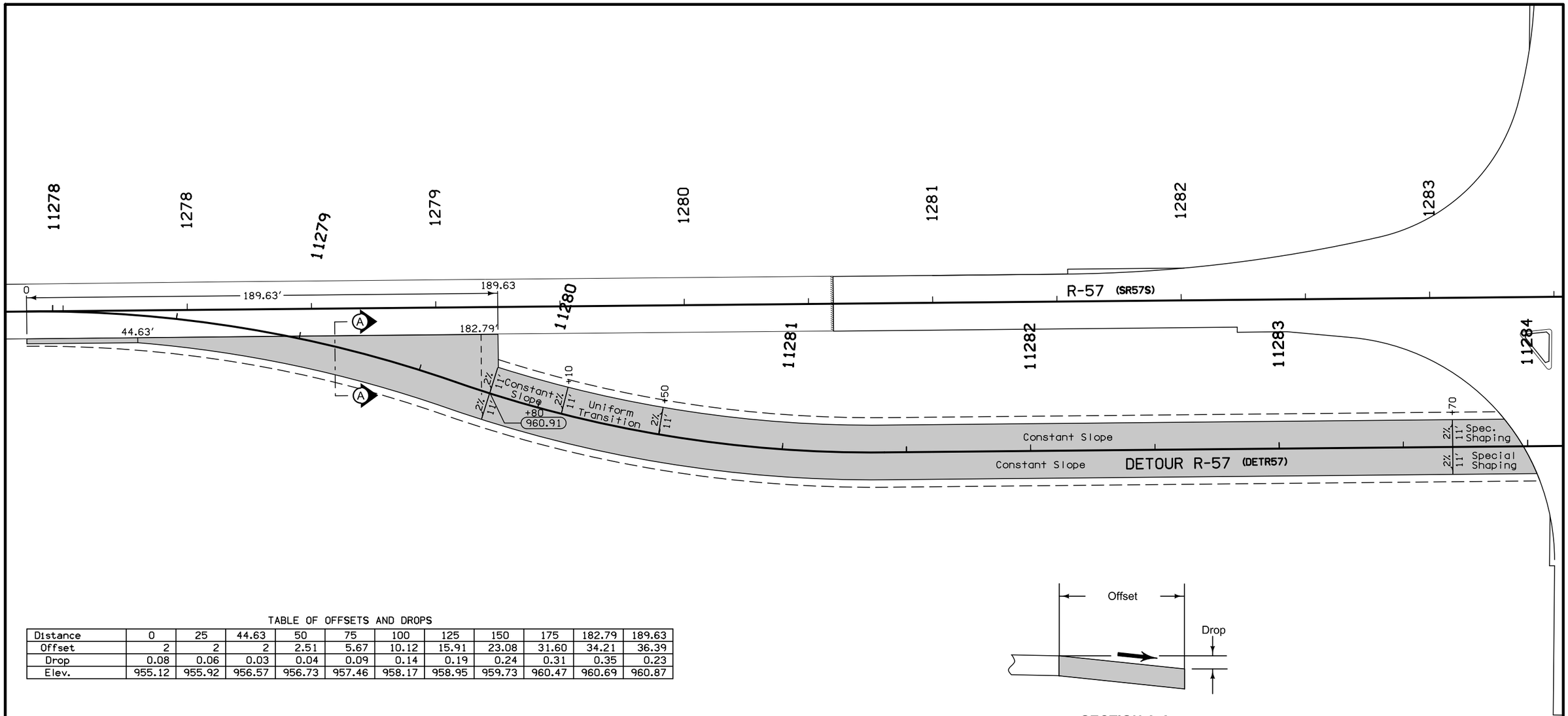

TABLE OF OFFSETS AND DROPS

Distance	0	25	44.63	50	75	100	125	150	175	182.79	189.63
Offset	2	2	2	2.51	5.67	10.12	15.91	23.08	31.60	34.21	36.39
Drop	0.08	0.06	0.03	0.04	0.09	0.14	0.19	0.24	0.31	0.35	0.23
Elev.	955.12	955.92	956.57	956.73	957.46	958.17	958.95	959.73	960.47	960.69	960.87

SECTION A-A

0 FEET 20

Staking Details
Detour R-57
South

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.19

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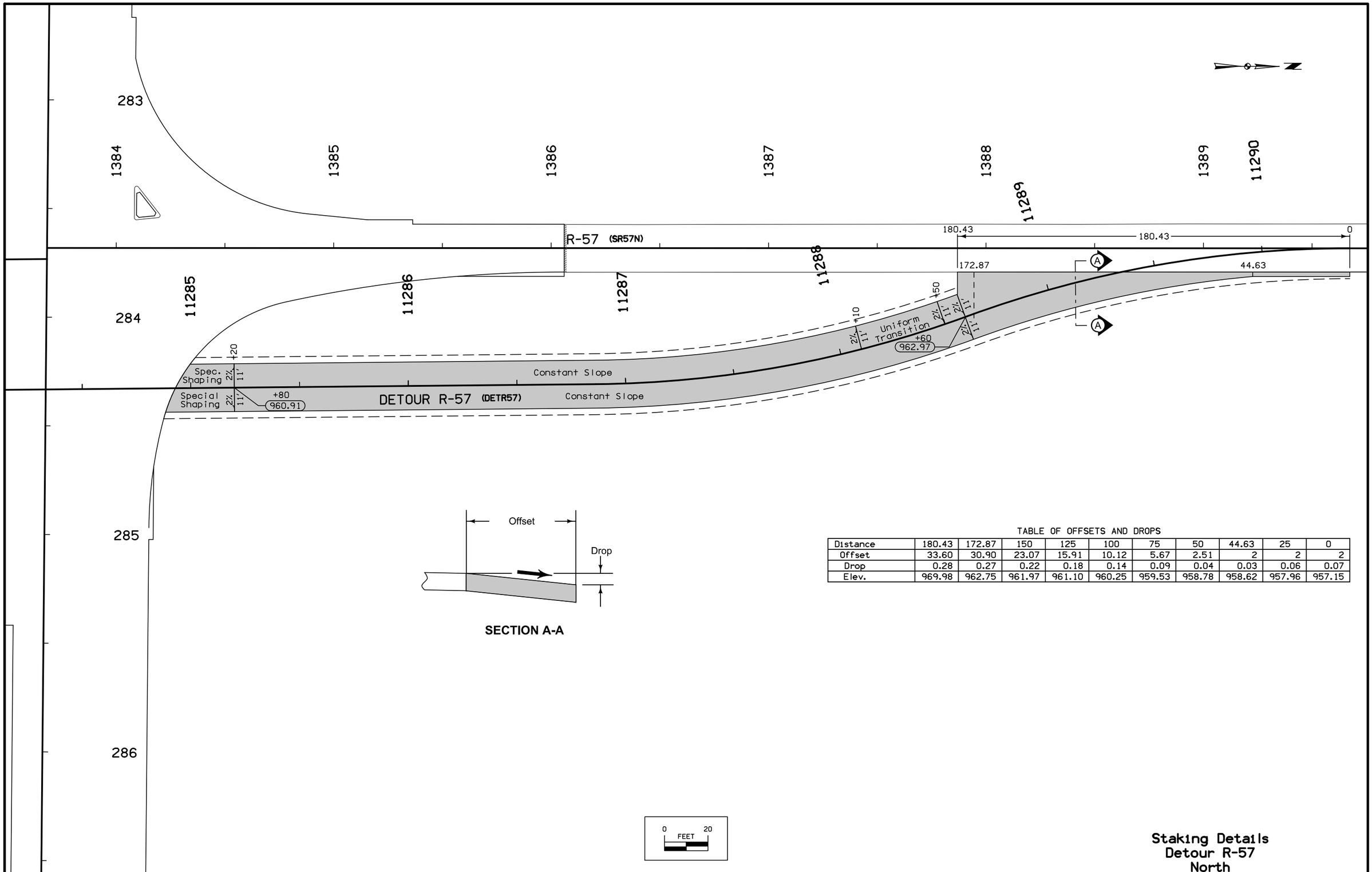

TABLE OF OFFSETS AND DROPS

Distance	180.43	172.87	150	125	100	75	50	44.63	25	0
Offset	33.60	30.90	23.07	15.91	10.12	5.67	2.51	2	2	2
Drop	0.28	0.27	0.22	0.18	0.14	0.09	0.04	0.03	0.06	0.07
Elev.	969.98	962.75	961.97	961.10	960.25	959.53	958.78	958.62	957.96	957.15

Staking Details
Detour R-57
North

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.20

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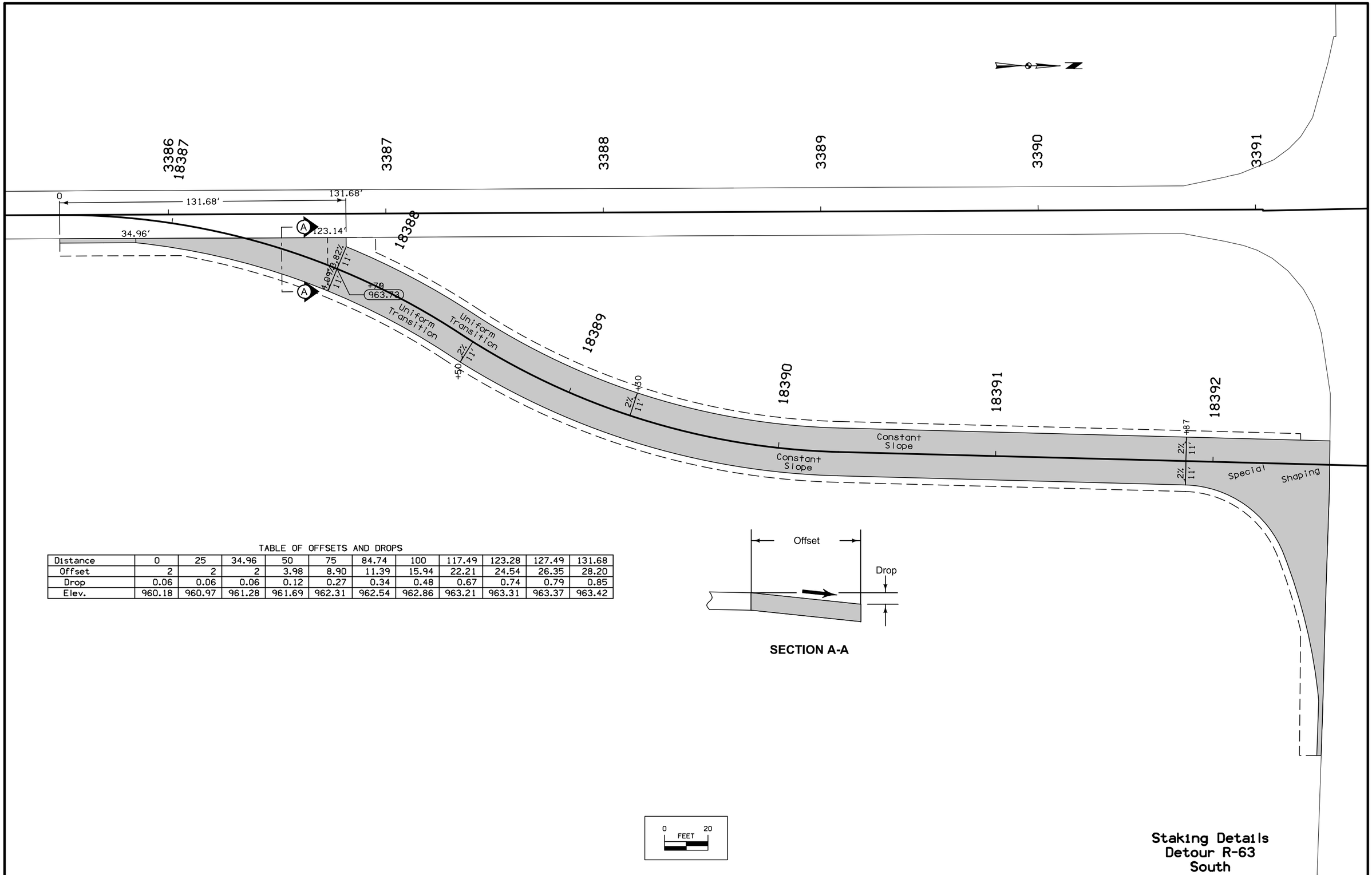

TABLE OF OFFSETS AND DROPS

Distance	0	25	34.96	50	75	84.74	100	117.49	123.28	127.49	131.68
Offset	2	2	2	3.98	8.90	11.39	15.94	22.21	24.54	26.35	28.20
Drop	0.06	0.06	0.06	0.12	0.27	0.34	0.48	0.67	0.74	0.79	0.85
Elev.	960.18	960.97	961.28	961.69	962.31	962.54	962.86	963.21	963.31	963.37	963.42

Staking Details
Detour R-63
South

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.21

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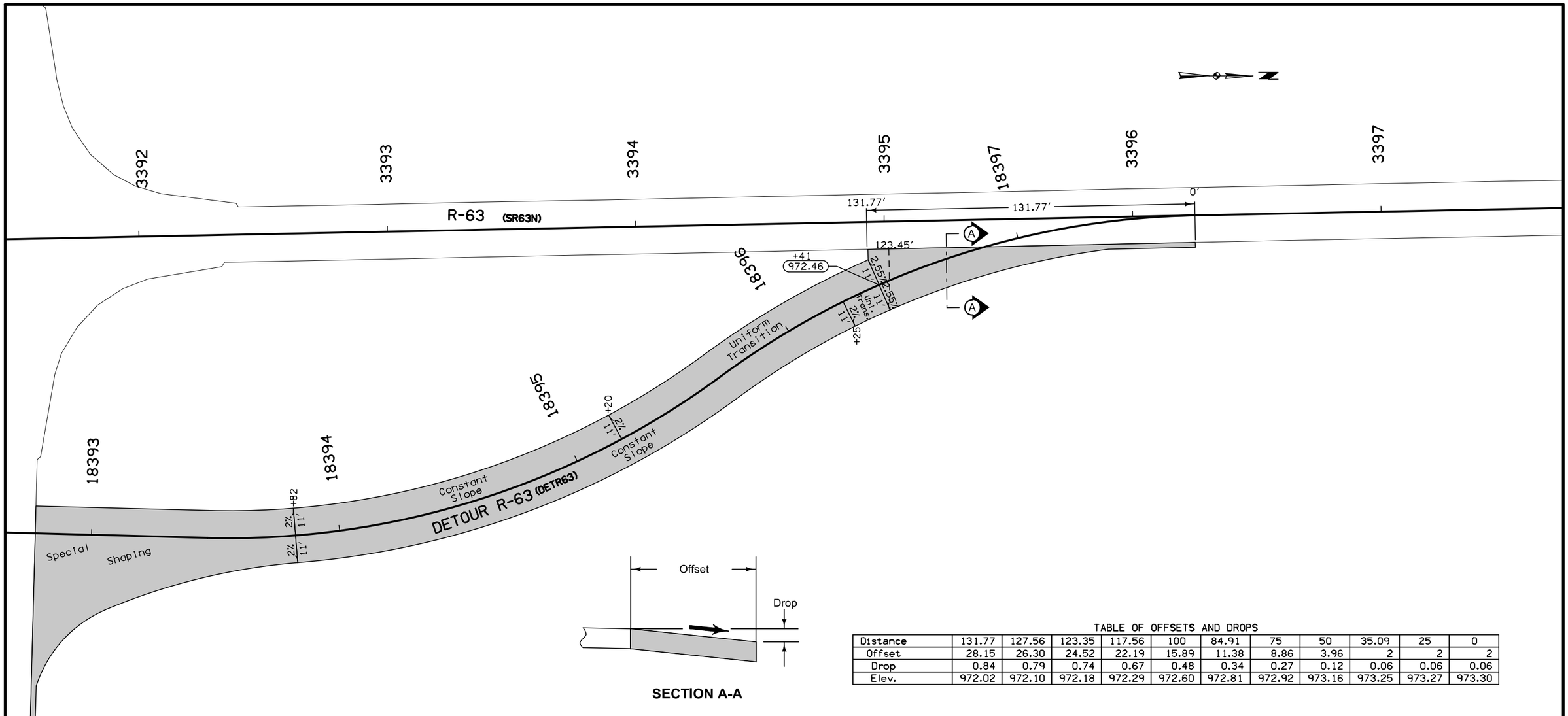

SECTION A-A

TABLE OF OFFSETS AND DROPS

Distance	131.77	127.56	123.35	117.56	100	84.91	75	50	35.09	25	0
Offset	28.15	26.30	24.52	22.19	15.89	11.38	8.86	3.96	2	2	2
Drop	0.84	0.79	0.74	0.67	0.48	0.34	0.27	0.12	0.06	0.06	0.06
Elev.	972.02	972.10	972.18	972.29	972.60	972.81	972.92	973.16	973.25	973.27	973.30

0 20
FEET

Staking Details
Detour R-63
North

FILE NO.	ENGLISH	DESIGN TEAM Jla\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.22

10:14:56 AM 6/24/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051L01.sht

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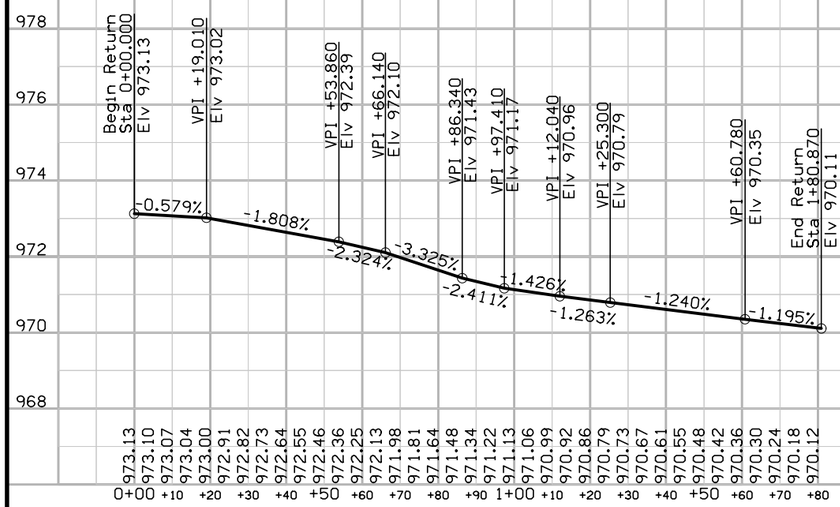

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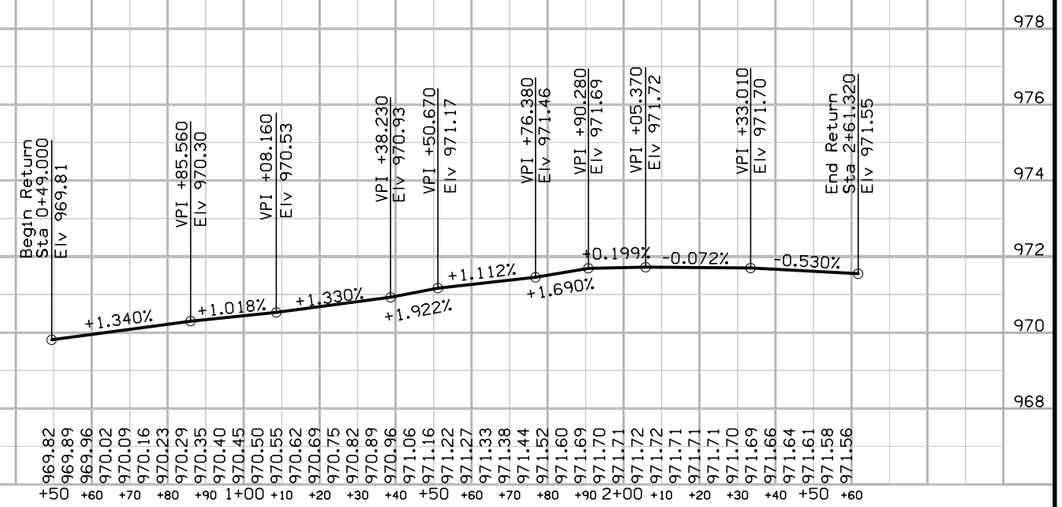

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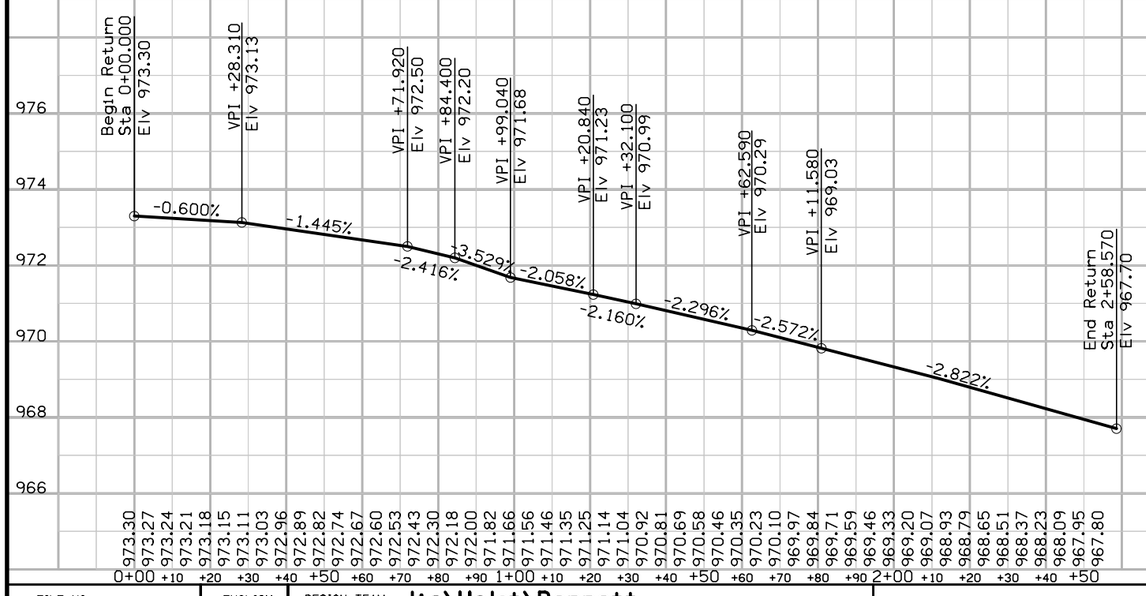

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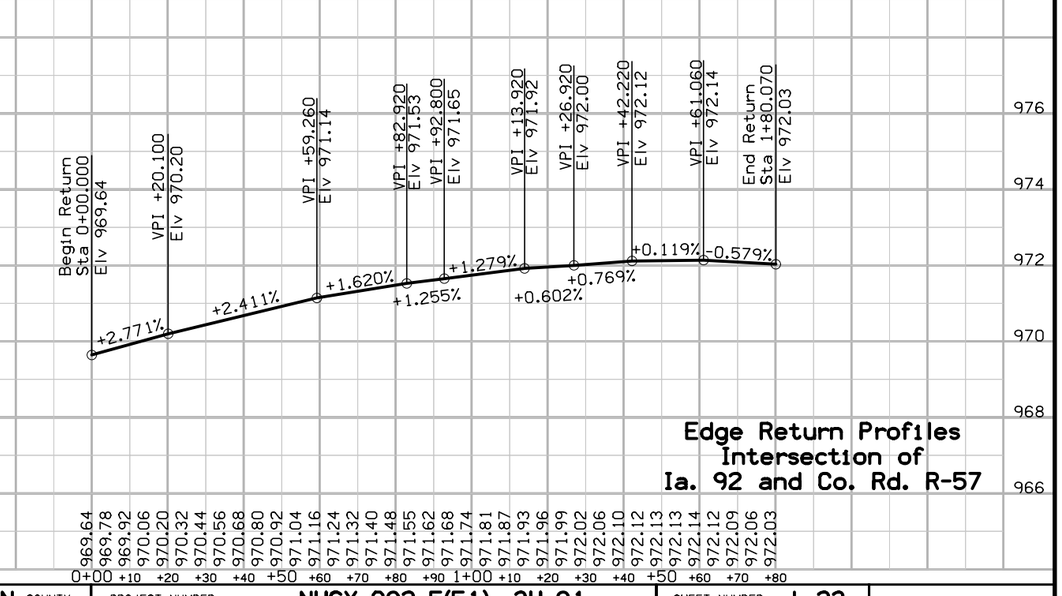
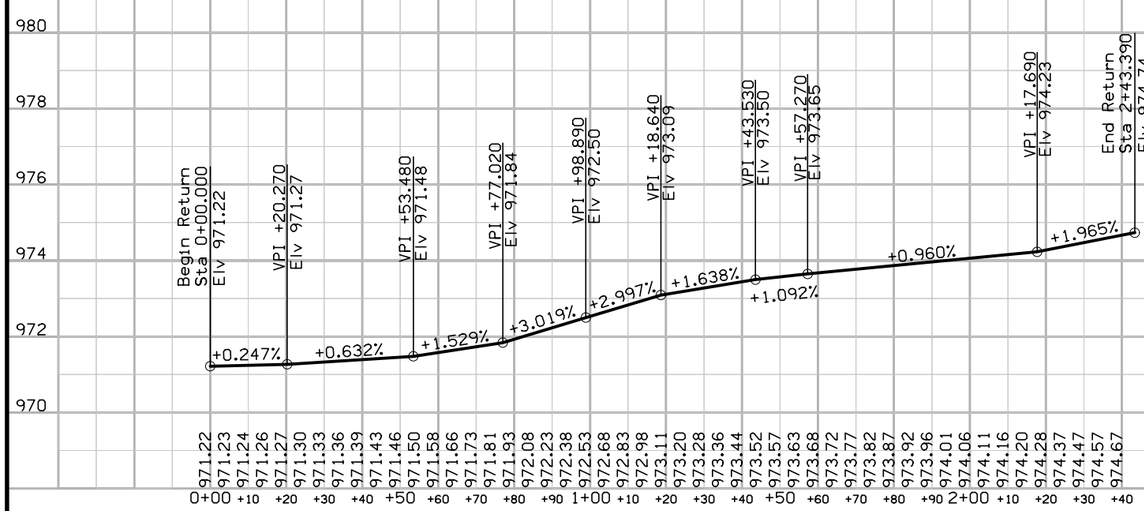


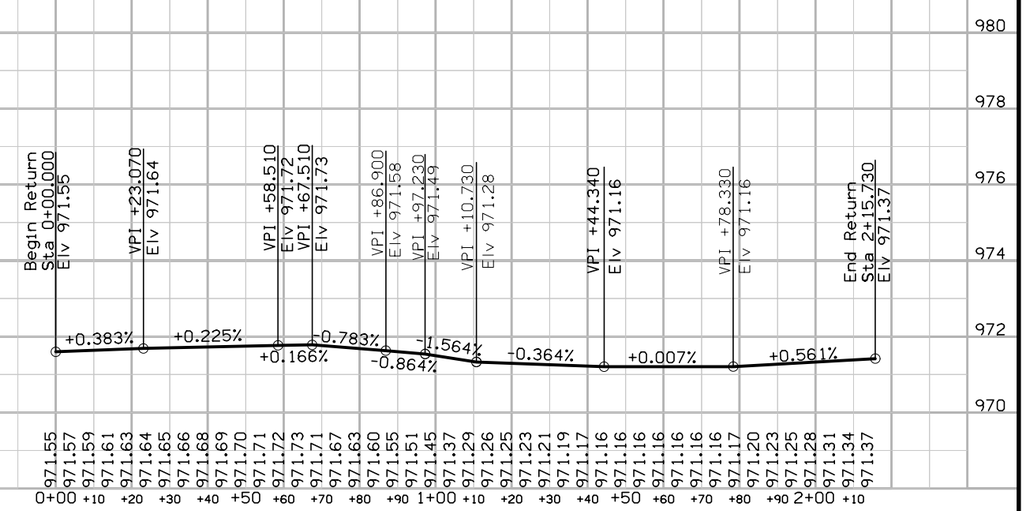
Edge Return Profiles
Intersection of
Ia. 92 and Co. Rd. R-57

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.23

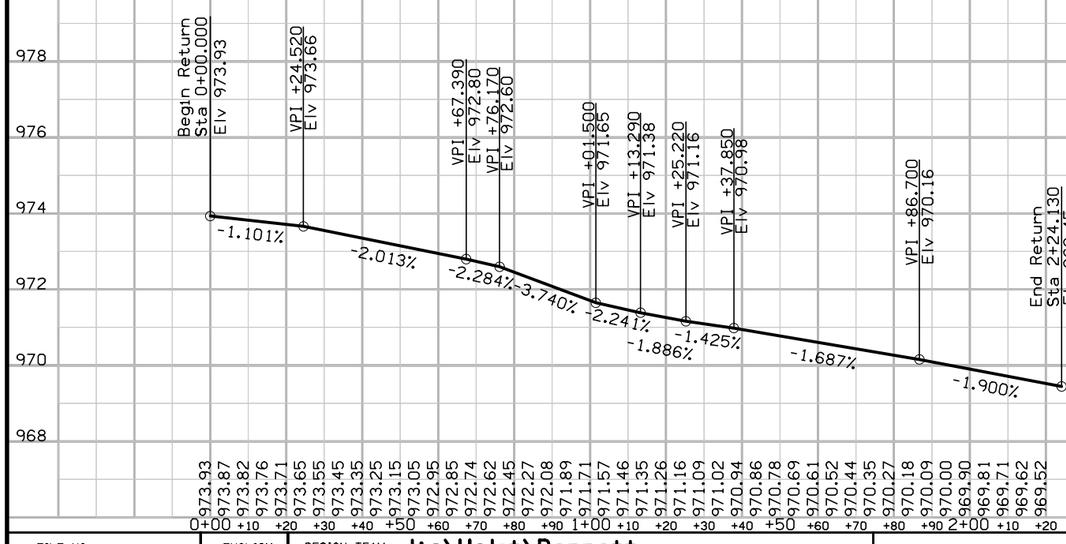
SR63N_RET_2



SR63N_RET_1



SR63S_RET_3



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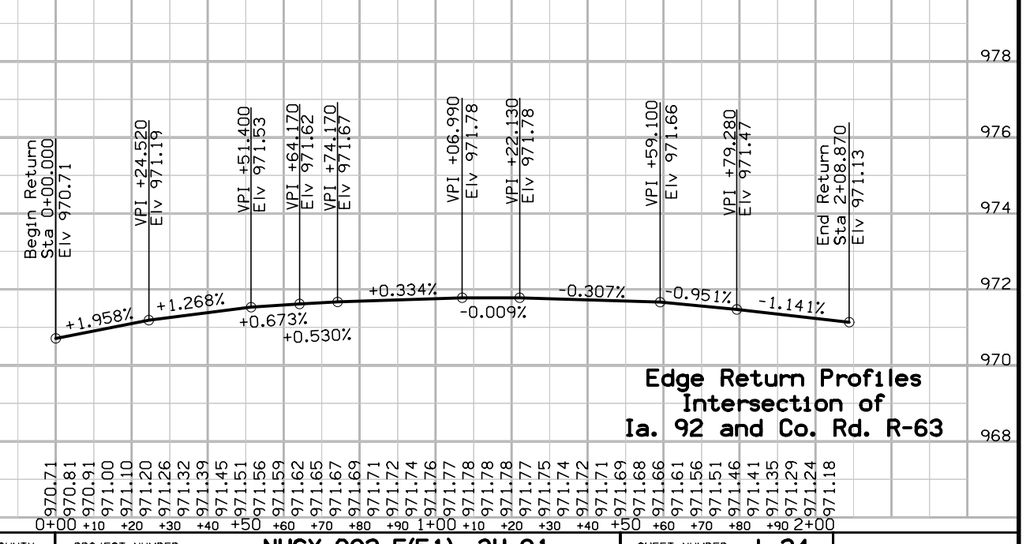
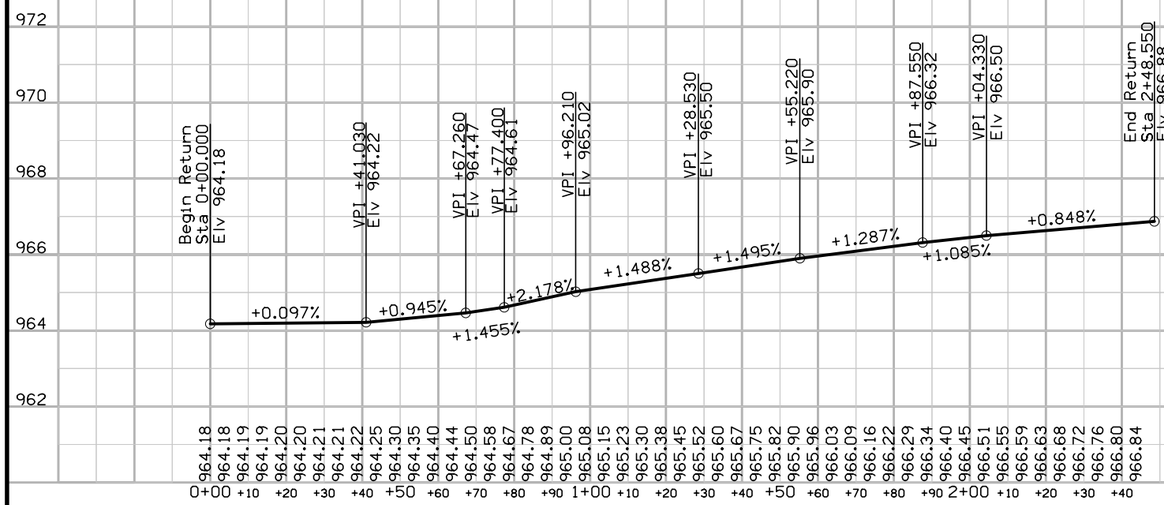


Edge Return Profiles
Intersection of
Ia. 92 and Co. Rd. R-63

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.24

10:15:00 AM 6/24/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051L01.sht

SRYSTN_RET 2



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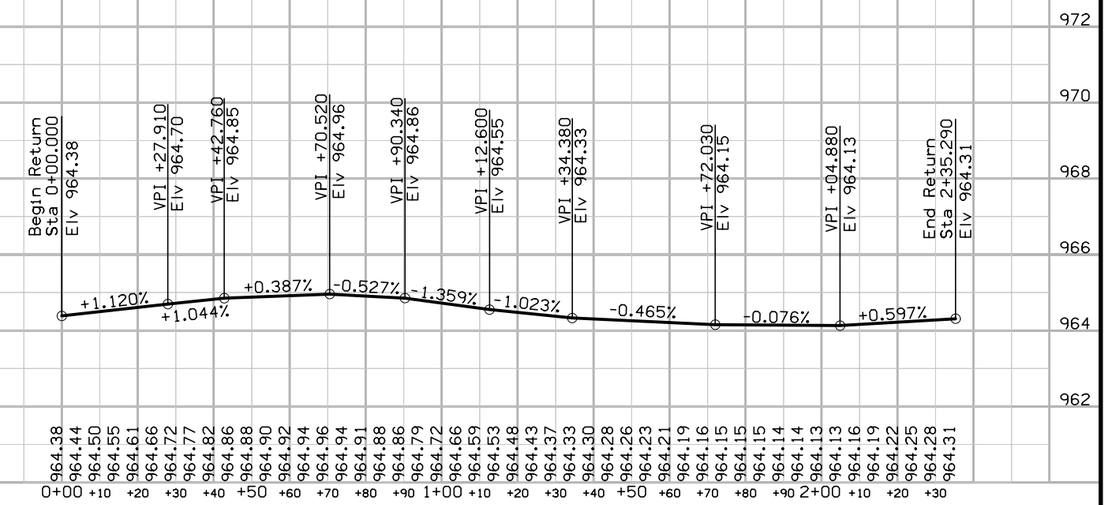

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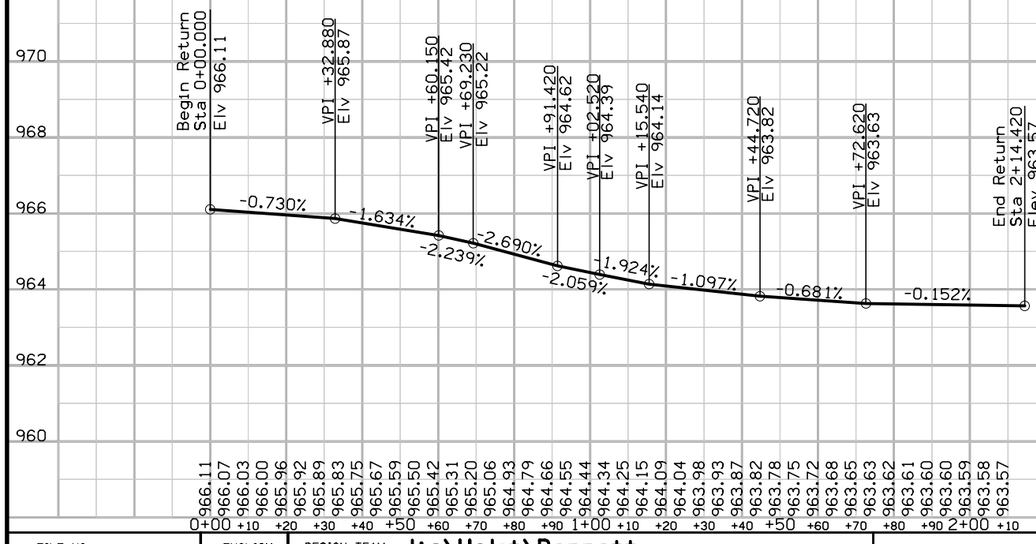

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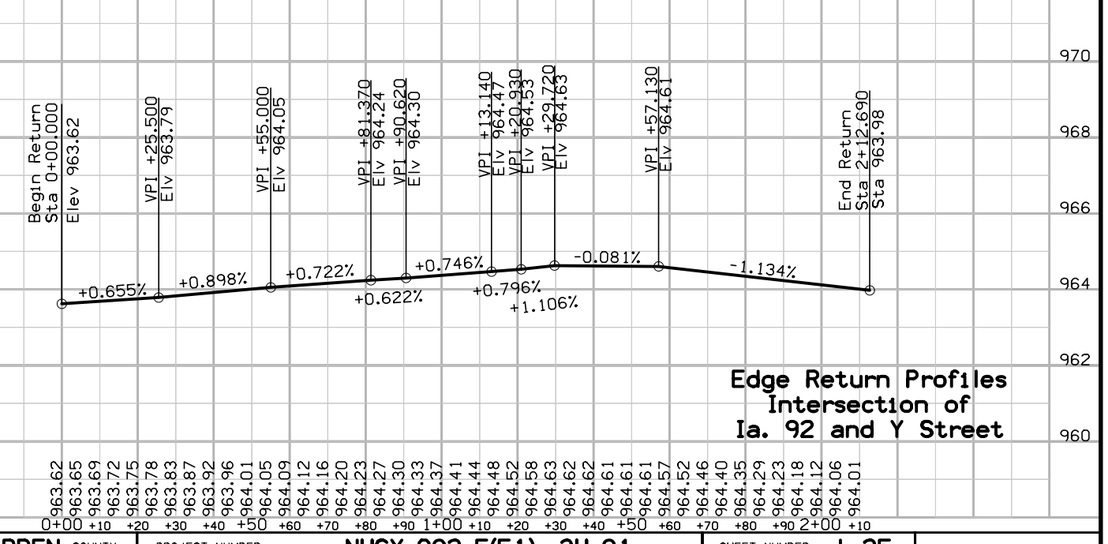
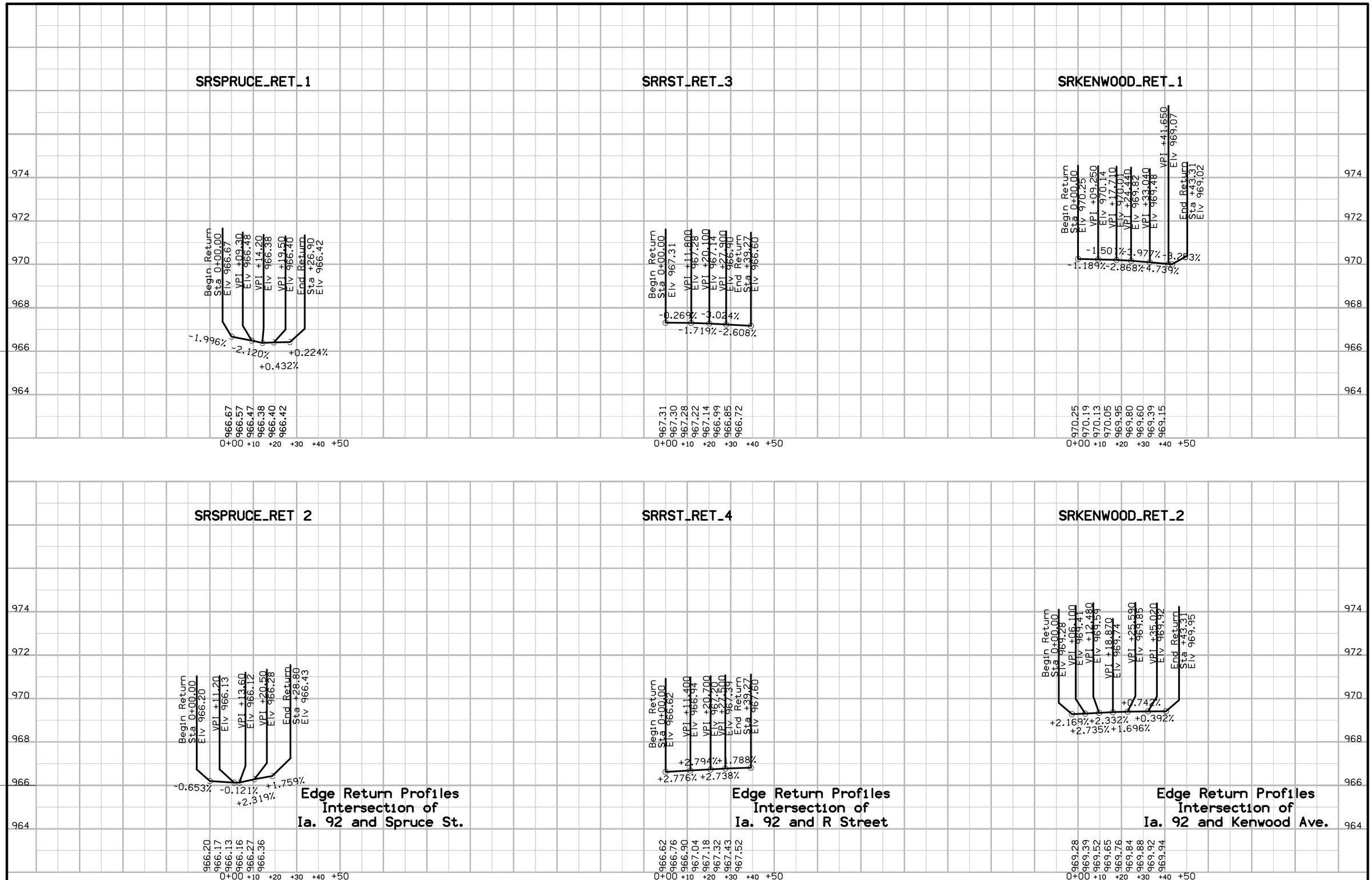


Edge Return Profiles
Intersection of
Ia. 92 and Y Street

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.25

10:15:02 AM 6/24/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051L01.sht



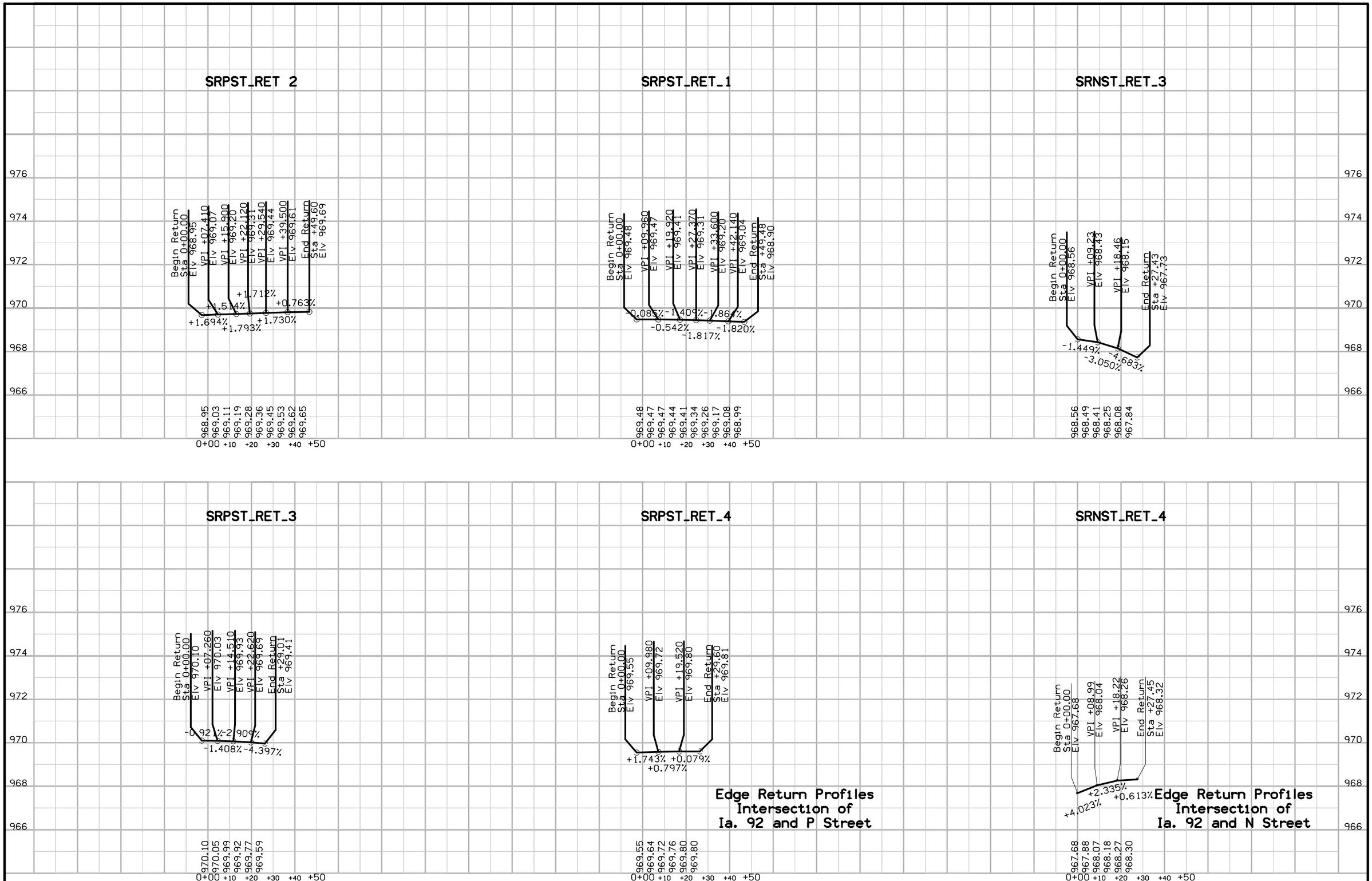
Edge Return Profiles
Intersection of
Ia. 92 and Spruce St.

Edge Return Profiles
Intersection of
Ia. 92 and R Street

Edge Return Profiles
Intersection of
Ia. 92 and Kenwood Ave.

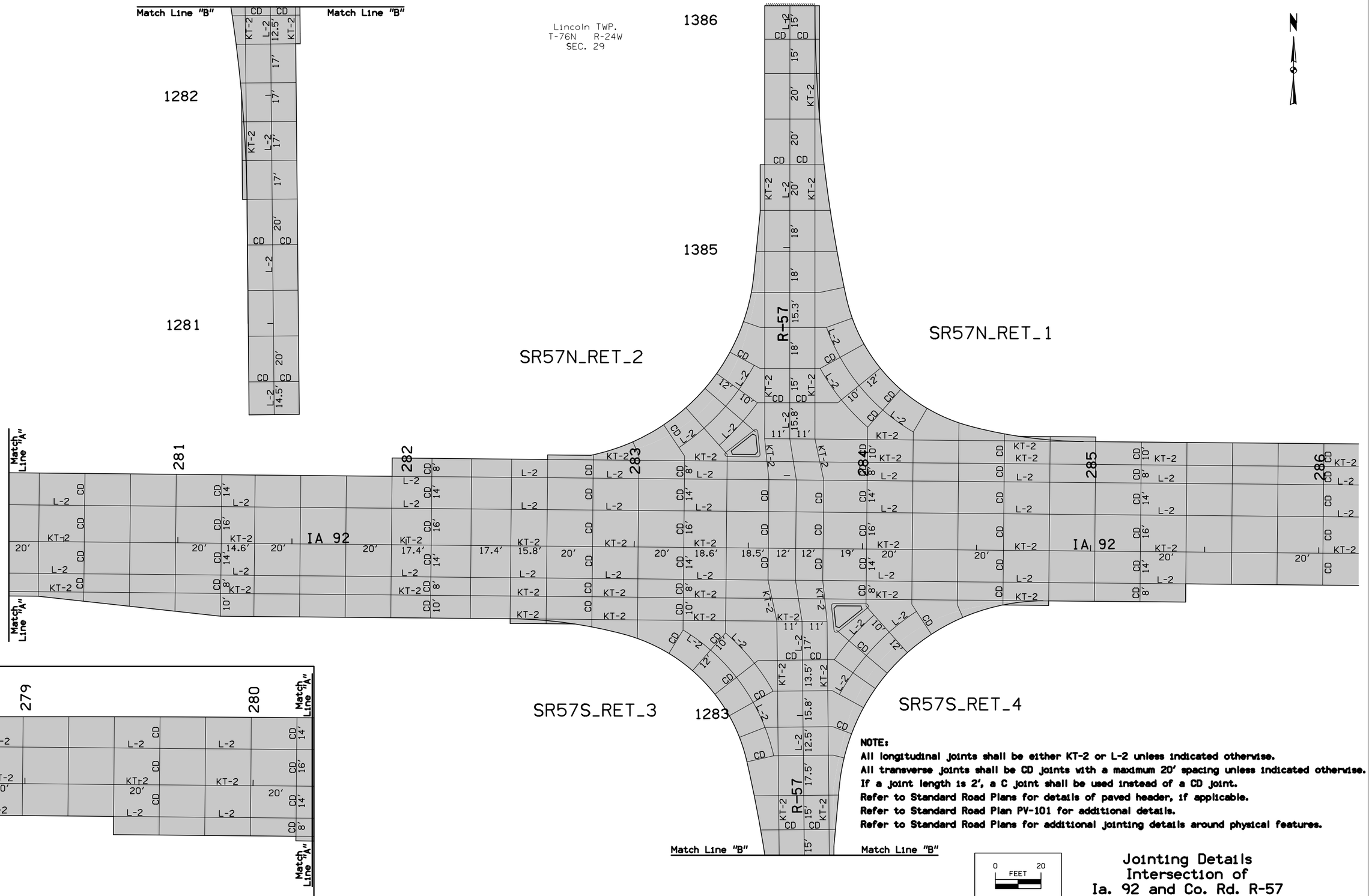
FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.26

10:15:03 AM 6/24/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051L01.sht



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.27

10:15:05 AM 6/24/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051L01.sht

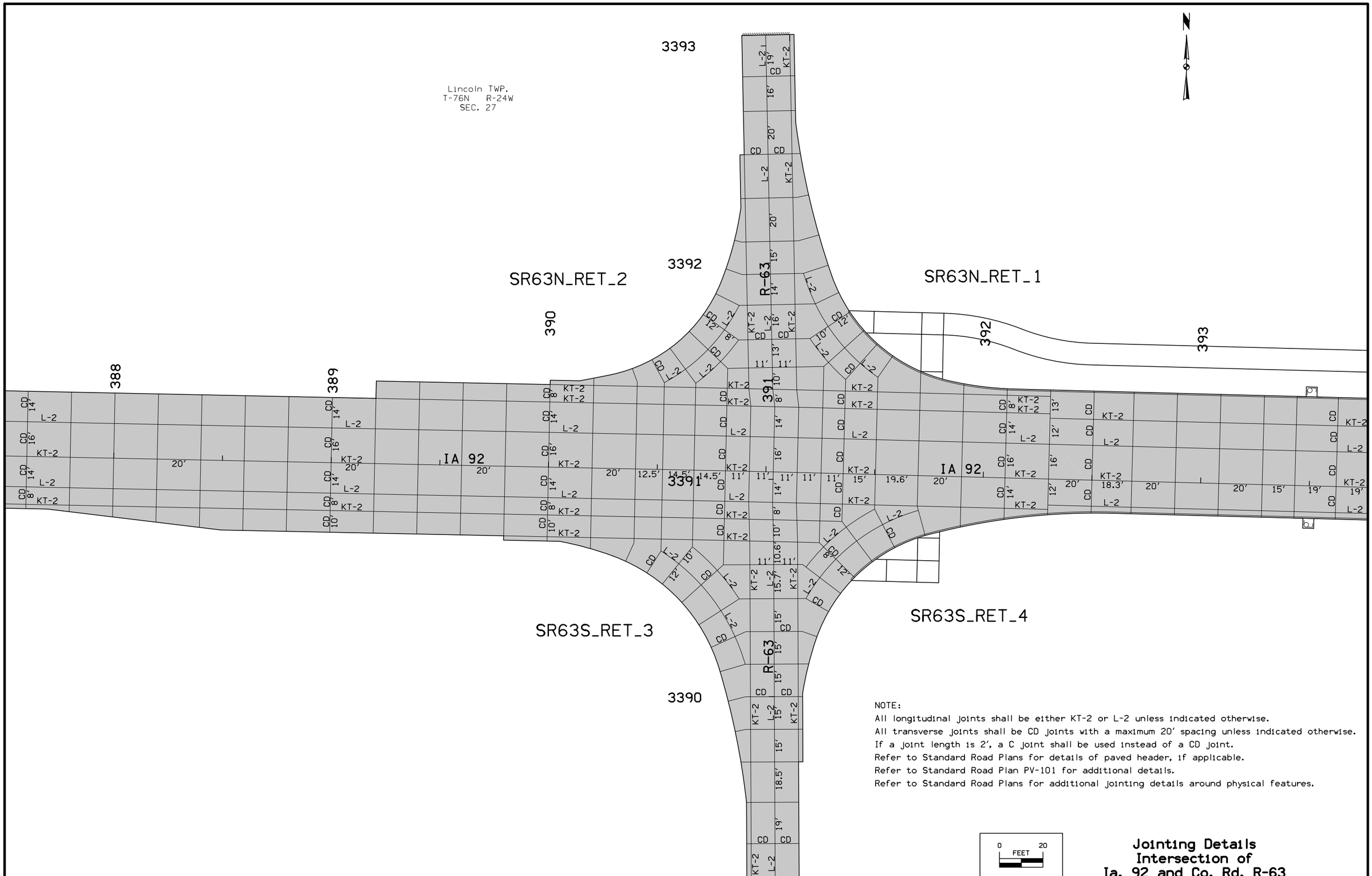


NOTE:

All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.
All transverse joints shall be CD joints with a maximum 20' spacing unless indicated otherwise.
If a joint length is 2', a C joint shall be used instead of a CD joint.
Refer to Standard Road Plans for details of paved header, if applicable.
Refer to Standard Road Plan PV-101 for additional details.
Refer to Standard Road Plans for additional jointing details around physical features.

Jointing Details Intersection of Ia. 92 and Co. Rd. R-57

FILE NO.	ENGLISH	DESIGN TEAM Jla\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.28

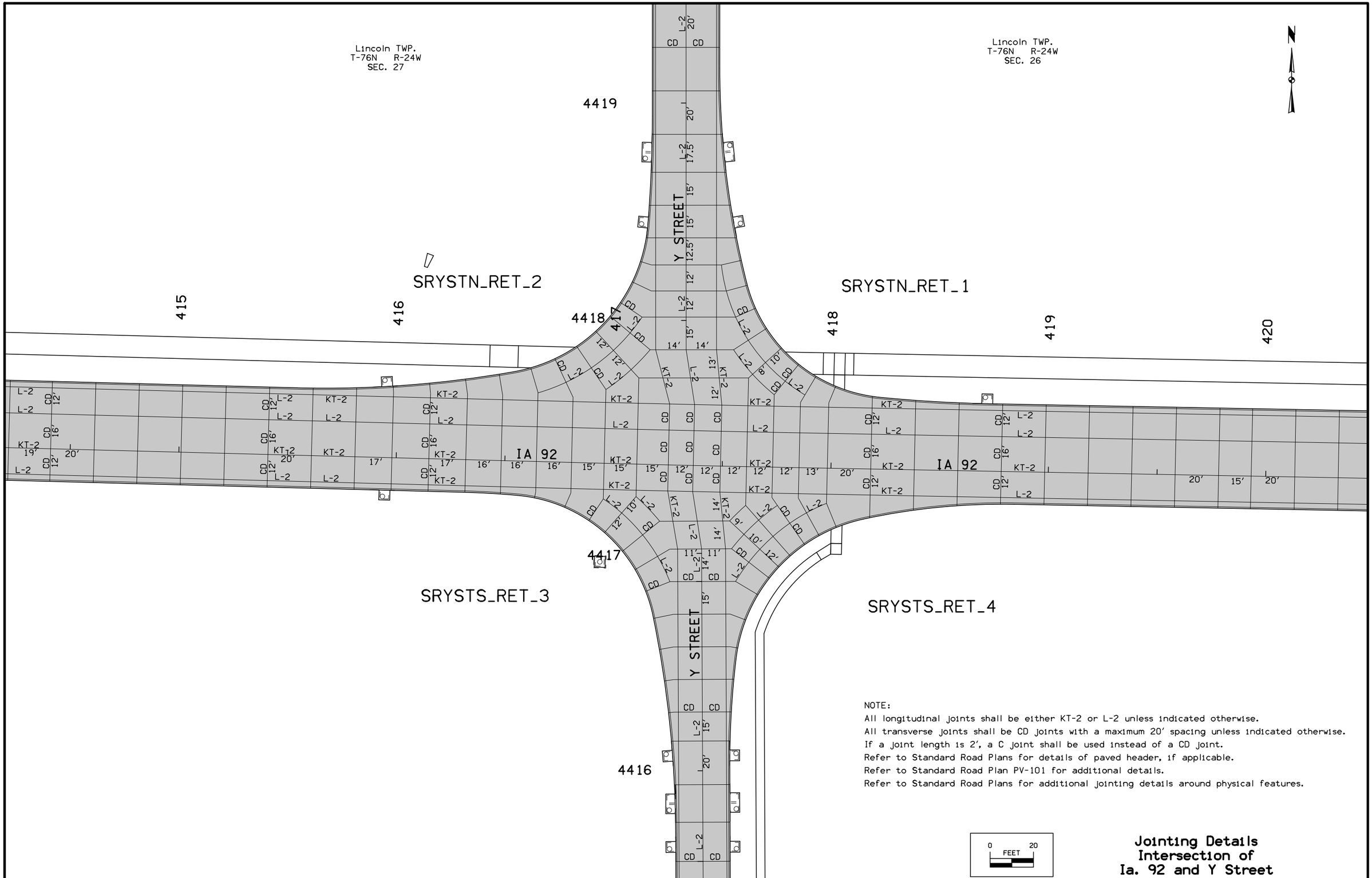


NOTE:
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.
All transverse joints shall be CD joints with a maximum 20′ spacing unless indicated otherwise.
If a joint length is 2′, a C joint shall be used instead of a CD joint.
Refer to Standard Road Plans for details of paved header, if applicable.
Refer to Standard Road Plan PV-101 for additional details.
Refer to Standard Road Plans for additional jointing details around physical features.

Jointing Details
Intersection of
Ia. 92 and Co. Rd. R-63

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.29

10:15:12 AM 6/24/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051L01.sht



NOTE:
All longitudinal joints shall be either KT-2 or L-2 unless indicated otherwise.
All transverse joints shall be CD joints with a maximum 20′ spacing unless indicated otherwise.
If a joint length is 2′, a C joint shall be used instead of a CD joint.
Refer to Standard Road Plans for details of paved header, if applicable.
Refer to Standard Road Plan PV-101 for additional details.
Refer to Standard Road Plans for additional jointing details around physical features.

Jointing Details
Intersection of
Ia. 92 and Y Street

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER L.30

10:15:20 AM 6/24/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051L01.sht

(1) Diameter or equivalent diameter
* Bid Item
** For SW-545

STORM SEWER

INTAKES AND UTILITY ACCESSES

No.	Location Station and Offset	*Type or Standard Road Plan	Form Grade Elev.	Bottom Well Elev.	Extension Length** FT	Notes
I-100	399+00.00, -31	SW-508	973.51	968.68		
I-101	399+00.00, 15	SW-508	973.27	967.69		
I-102	397+00.00, 15	SW-508	971.99	966.21		
I-103	393+50.00, -41	SW-508	970.18	966.18		
I-104	393+50.00, 15	SW-508	970.27	966.13		
I-105	394+30.00, -41	SW-508	970.19	965.86		
I-106	393+89.83, -41	SW-510	970.09	966.09		
I-107	393+89.83, 15	SW-510	970.18	964.88		
I-108	394+30.00, 15	SW-508	970.28	964.64		
I-109	395+43.48, -78	RF-3 (30")	968.02			30" Apron Guard, RF-26
I-110	395+36.30, -41	SW-508	970.85	965.05		
I-111	395+35.95, 15	SW-508	970.94	964.13		
O-112	395+03.45, 60.58	RF-3 (30")	964.42			
I-200	404+50.00, -31	SW-508	973.83	969.03		
I-201	404+50.00, 15	SW-508	973.59	968.47		
I-202	407+39.00, -31	SW-508	971.98	967.18		
I-203	407+39.00, 15	SW-508	971.74	966.57		
I-204	409+55.00, -31	SW-508	970.60	965.80		
I-205	409+55.00, 15	SW-508	970.36	965.19		
I-206	411+70.00, -31	SW-508	969.22	964.42		
I-207	411+70.00, 15	SW-508	968.98	963.81		
I-208	413+85.00, -31	SW-508	967.85	962.85		
I-209	413+85.00, 15	SW-508	967.60	962.35		
I-210A	416+13.3, -93.9	RF-3 (18")	962.78			(1)
I-210	415+95.00, -32.7	SW-508	966.52	961.72		
I-211	415+95.00, 15	SW-508	966.26	961.21		
I-212	416+94.85, 45.35	SW-402 (4' x 4')	965.61	960.61		
I-213	4416+07.00, 12.5	SW-508	963.64	959.64		
I-214	4415+85.31, 12.5	SW-510	963.58	959.13		
I-215	4415+65.00, 12.5	SW-508	963.60	958.65		
I-216	4416+06.96, -13.8	SW-508	963.62	959.62		
I-217	4415+84.85, -12.5	SW-510	963.58	959.58		
I-218	4415+65.00, -12.5	SW-508	963.57	959.50		
I-219	4414+34.50, -34	SW-512	969.25	958.17		(2) (3); Type 5 Casting
I-219A	4414+64.60, -41.3	RF-3 (18")	958.71			(1) (5)
I-220	4414+34.50, -12.5	SW-508	963.85	957.75		
I-221	4414+34.50, 12.5	SW-508	963.85	957.30		
O-222	4414+30.60, 97.4	RF-3 (24")	957.48			
I-230	4419+50.00, 15.5	SW-508	964.81	960.81		
I-231	4418+77.37, 17.5	SW-510	964.25	959.64		
I-232	4418+45.00, 22	SW-508	964.15	959.14		
I-233	4418+45.06, -17.5	SW-508	964.30	960.30		
I-234	4419+50.00, -15.5	SW-508	964.81	960.81		
I-235	4418+77.37, -15.75	SW-510	964.19	959.89		
I-299	418+71.33, -31	SW-508	964.07	957.78		
I-300	421+00.00, -31	SW-510	961.47	955.81		
I-301	421+00.00, 15	SW-510	961.23	955.05		
I-302	423+82.00, -31	SW-508	959.32	955.32		
I-303	422+61.70, 15	SW-508	959.68	951.97		
I-304	425+30.00, -31	SW-508	958.58	954.56		
I-305	425+30.00, 15	SW-508	958.34	950.35		
I-306	426+35.00, -31	SW-508	958.06	953.50		
I-307	426+35.00, 15	SW-508	957.82	949.54		
I-308	431+15.00, -31	SW-508	963.01	958.00		
I-309	431+15.00, 15	SW-508	962.80	954.00		
I-310	428+00.00, -31	SW-508	959.01	955.00		
I-311	428+00.00, 15	SW-508	958.77	951.15		
I-312	427+00.00, -31	SW-508	958.07	953.78		
I-313	427+00.00, 15	SW-508	957.82	950.37		
I-314	426+61.15, -31	SW-510	958.00	953.00		
I-315	426+61.15, 15	SW-510	957.76	949.02		
O-316	426+57.60, 34.7	SW-211	949.20			

PIPES

Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 3 ft length is added to each side of the Design Length to account for estimated length to center of structures.

Line Number	Intake/ Utility Access No. From	To	Class 'D'	(1) Pipe Size IN	Bid* Length FT	Design Length FT	Slope %	Flow Lines Inlet Elev.	Outlet Elev.	Other Elev.	Pipe Profile Sheet No.	Notes
P-100	I-100	I-101	2000	18	52	46.00	1.50	969.18	968.49		M.19	
P-101	I-101	I-102	2000	18	202	196.00	0.60	968.19	967.01		M.19	
P-102	I-102	I-111	2000	18	167	160.05	0.60	966.71	965.75		M.19	
P-103	I-103	I-106	2000	18	40	33.83	1.18	967.50	967.10		M.19	
P-104	I-104	I-107	2000	18	40	33.83	2.51	966.68	965.78		M.19	
P-105	I-105	I-110	2000	18	109	102.30	0.50	966.36	965.85		M.19	
P-106	I-106	I-105	2000	18	41	34.17	0.56	966.85	966.66		M.19	
P-107	I-107	I-108	2000	18	41	34.17	0.41	965.38	965.24		M.19	
P-108	I-108	I-111	2000	18	108	101.95	0.40	965.14	964.73		M.19	
P-109	I-109	I-110	2000	30	29	25.77	6.83	967.61	965.85		M.19	
P-110	I-110	I-111	2000	30	62	56.00	0.75	965.55	965.13		M.19	
P-111	I-111	O-112	2000	30	50	46.63	0.41	964.63	964.44		M.19	Requires 7 RF-14 Joints; (4)
P-200	I-200	I-201	2000	18	52	46.00	1.00	969.53	969.07		M.20	
P-201	I-201	I-203	2000	18	291	285.00	0.56	968.97	967.37		M.20	(6)
P-202	I-202	I-203	2000	18	52	46.00	1.00	967.68	967.22		M.22	
P-203	I-203	I-205	2000	21	218	212.00	0.44	967.07	966.14		M.20	
P-204	I-204	I-205	2000	18	52	46.00	1.00	966.30	965.84		M.22	
P-205	I-205	I-207	2000	21	217	211.00	0.51	965.69	964.61		M.20	
P-206	I-206	I-207	2000	18	52	46.00	1.00	964.92	964.46		M.22	
P-207	I-207	I-209	2000	21	217	211.00	0.55	964.31	963.15		M.20	
P-208	I-208	I-209	2000	18	52	46.00	0.76	963.35	963.00		M.22	
P-209	I-209	I-211	2000	21	212	206.00	0.47	962.85	961.89		M.21	
P-210A	I-210A	I-210	2000	18	57	54.00	0.50	962.75	962.48		M.22	(1)
P-210	I-210	I-211	2000	18	54	47.70	0.75	962.22	961.86		M.22	
P-211	I-211	I-212	2000	24	106	99.97	0.50	961.71	961.21		M.21	
P-212	I-212	I-216	2000	24	97	90.91	0.51	961.11	960.65		M.21	
P-213	I-213	I-214	2000	18	22	15.69	1.34	960.14	959.93		M.21	
P-214	I-214	I-215	2000	18	21	14.31	1.26	959.63	959.45		M.21	
P-215	I-215	I-221	2000	18	133	126.50	0.99	959.15	957.90		M.21	
P-216	I-216	I-217	2000	24	23	16.02	0.50	960.55	960.47		M.21	
P-217	I-217	I-218	2000	24	20	13.85	0.51	960.37	960.30		M.21	
P-218	I-218	I-220	2000	24	133	126.50	1.30	960.00	958.35		M.21	
P-219	I-219	I-220	2000	18	23	16.25	0.74	958.67	958.55		M.21	
P-220	I-220	I-221	2000	24	31	25.00	0.60	958.25	958.10		M.21	
P-221	I-221	O-222	2000	24	78	75.00	0.40	957.80	957.50		M.21	Requires 10 RF-14 Joints; (4)
P-230	I-230	I-231	2000	18	73	66.47	2.06	961.81	960.44		M.23	
P-231	I-231	I-232	2000	18	33	26.51	0.75	960.14	959.94		M.23	
P-232	I-232	I-299	2000	18	144	137.62	0.77	959.64	958.58		M.23	
P-233	I-233	I-235	2000	18	33	26.23	1.49	961.15	960.76		M.23	
P-234	I-234	I-235	2000	18	73	66.58	1.05	961.31	960.61		M.23	
P-235	I-235	I-231	2000	18	39	32.98	0.76	960.39	960.14		M.23	
P-299	I-299	I-300	2000	18	229	222.67	0.72	958.28	956.67		M.23	(6)
P-300	I-300	I-301	2000	18	52	46.00	1.00	956.31	955.85		M.23	
P-301	I-301	I-303	2000	18	162	155.70	0.50	955.55	954.77		M.23	
P-302	I-302	I-304	2000	18	150	144.00	1.01	956.82	955.36		M.25	
P-303	I-303	I-305	2000	18	271	264.30	0.50	952.47	951.15		M.24	
P-304	I-304	I-306	2000	18	107	101.00	0.75	955.06	954.30		M.25	
P-305	I-305	I-307	2000	24	107	101.00	0.50	950.85	950.34		M.24	
P-306	I-306	I-314	2000	18	27	20.15	1.00	954.00	953.80		M.24	
P-307	I-307	I-315	2000	24	27	20.15	0.50	950.04	949.94		M.24	
P-308	I-308	I-309	2000	18	52	46.00	1.09	958.50	958.00		M.25	
P-309	I-309	I-311	2000	18	317	311.00	0.82	954.50	951.95		M.25	44' of Trenchless
P-310	I-310	I-312	2000	18	102	96.00	0.96	955.50	954.58		M.25	
P-311	I-311	I-313	2000	18	102	96.00	0.50	951.65	951.17		M.25	
P-312	I-312	I-314	2000	18	39	32.85	1.46	954.28	953.80		M.25	
P-313	I-313	I-315	2000	18	39	32.85	0.50	950.87	950.71		M.25	
P-314	I-314	I-315	2000	18	52	46.00	1.00	953.50	953.04		M.25	
P-315	I-315	O-316	2000	36	19	16.00	3.50	949.52	949.20		M.24	Requires 3 RF-14 Joints; (4)

(1) Diameter or equivalent diameter
* Bid Item
** For SW-545

STORM SEWER

INTAKES AND UTILITY ACCESSES

No.	Location Station and Offset	*Type or Standard Road Plan	Form Grade Elev.	Bottom Well Elev.	Extension Length** FT	Notes
I-400	435+57.00, -31	SW-508	964.13	960.13		
I-401	435+57.00, 15	SW-508	963.89	959.89		
I-402	436+00.00, -31	SW-510	964.07	960.07		
I-403	436+00.00, 15	SW-510	963.83	959.83		
I-404	436+45.20, -75	RF-3 (30")	960.73			30" Apron Guard, RF-26
I-405	436+45.00, -31	SW-508	964.14	958.10		
I-407	442+62.95, 11.72	SW-508	967.01	961.25		
I-408	441+19.00, -36.15	SW-510	966.12	961.32		
I-409	441+02.00, 15	SW-508	966.15	960.18		
I-410	439+20.00, -31	SW-508	965.73	960.18		
I-411	439+20.00, 15	SW-508	965.24	958.98		
I-412	437+72.04, 15	SW-508	964.50	957.59		
I-413	436+45.00, 15	SW-508	963.90	956.17		
I-501	444+30.00, 10.5	SW-508	967.67	962.37		
I-501A	444+30.00, 27.6	RF-3 (24")	963.43			24" Apron Guard, RF-26
O-414	436+48.67, 65.67	RF-3 (18")	956.42			
I-415	437+72.00, -31	SW-508	964.74	960.74		
O-416	437+72.00, -75.3	RF-3 (15")	961.50			
I-610	445+80.00, 10.5	SW-508	968.22	964.22		
O-610	445+80.00, 26.5	RF-3 (15")	964.45			
I-615	447+20.00, 10.5	SW-508	968.69	964.69		
O-615	447+20.00, 26.5	RF-3 (15")	965.30			
I-620	448+95.00, 10.5	SW-508	969.22	965.22		
O-620	448+95.00, 25.0	RF-3 (15")	966.72			
I-625	450+30.00, 10.5	SW-508	969.62	965.62		
O-625	450+30.00, 26.5	RF-3 (15")	967.12			
I-630	451+70.00, 10.5	SW-508	970.04	966.04		
O-630	451+70.00, 25.0	RF-3 (15")	967.54			
I-635	453+77.00, 10.5	SW-508	970.14	966.14		
O-635	453+77.00, 26.5	RF-3 (15")	966.15			
I-640	456+25.00, 10.5	SW-510	969.48	965.48		
O-640	456+25.00, 26.5	RF-3 (15")	965.82			
I-645	458+40.00, 10.5	SW-508	969.35	965.35		
O-645	458+40.00, 27.5	RF-3 (15")	965.61			
I-650	459+75.00, 10.5	SW-508	968.95	964.95		
O-650	459+75.00, 27.5	RF-3 (15")	965.22			
I-655	461+00.00, 10.5	SW-508	968.57	964.57		
O-655	461+00.00, 27.5	RF-3 (15")	964.35			
I-701	445+80.00, -26.5	SW-508	968.22	964.22		
I-702	444+50.00, -26.5	SW-508	967.76	963.76		
I-703	443+23.00, -26.5	SW-508	967.31	963.31		
O-703	443+23.00, -51.0	RF-3 (15")	964.80			
I-713	450+30.00, -26.5	SW-508	969.62	965.62		
I-714	448+80.00, -26.5	SW-508	969.17	965.17		
I-715	447+40.00, -26.5	SW-508	968.75	964.75		
O-715	447+40.00, -54.5	RF-3 (15")	965.30			

PIPES

Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 3 ft length is added to each side of the Design Length to account for estimated length to center of structures.

Line Number	Intake/ Utility Access No. From	Intake/ Utility Access No. To	Class 'D'	Pipe Size (1) IN	Bid* Length FT	Design Length FT	Slope %	Flow Lines Inlet Elev.	Flow Lines Outlet Elev.	Flow Lines Other Elev.	Pipe Profile Sheet No.	Notes
P-400	I-400	I-402	2000	18	49	43.00	0.60	961.13	960.87		M.26	
P-401	I-401	I-403	2000	18	43	37.00	0.95	960.98	960.63		M.26	
P-402	I-402	I-405	2000	18	45	39.00	1.62	960.57	959.94		M.26	
P-403	I-403	I-413	2000	18	45	39.00	0.95	960.33	959.96		M.26	
P-404	I-404	I-405	2000	30	37	33.92	4.66	960.45	958.90		M.26	
P-405	I-405	I-413	2000	30	52	46.00	2.00	958.60	957.68		M.26	
P-407	I-407	I-409	2000	24	162	155.11	0.50	961.75	960.98		M.27	(6)
P-408	I-408	I-410	2000	18	198	191.92	0.44	961.82	960.98		M.26	
P-409	I-409	I-411	2000	24	185	178.52	0.50	960.68	959.78		M.27	
P-410	I-410	I-411	2000	18	52	46.00	1.00	960.68	960.22		M.26	
P-411	I-411	I-412	2000	24	152	145.53	0.75	959.48	958.39		M.27	
P-412	I-412	I-413	2000	21	130	123.04	0.54	958.09	957.42		M.27	
P-413	I-413	O-414	2000	30	44	40.67	0.53	956.67	956.45		M.27	Requires 6 RF-14 Joints; (4)
P-501	I-501	I-407	2000	24	167	163.01	0.50	962.87	962.05		M.27	56' of Trenchless
P-501A	I-501A	I-501	2000	24	13	7.00	2.00	963.31	963.17		M.27	
P-415	I-415	O-416	2000	15	38	34.30	1.00	961.90	961.56		M.26	Requires 5 RF-14 Joints; (4)
P-610	I-610	O-610	2000	15	9	6.00	2.25	964.72	964.59		M.28	Requires 2 RF-14 Joints; (4)
P-615	I-615	O-615	2000	15	9	6.00	1.00	965.42	965.36		M.28	Requires 2 RF-14 Joints; (4)
P-620	I-620	O-620	2000	15	8	4.50	1.00	966.83	966.78		M.28	Requires 1 RF-14 Joints; (4)
P-625	I-625	O-625	2000	15	8	4.50	1.00	967.23	967.18		M.29	Requires 1 RF-14 Joints; (4)
P-630	I-630	O-630	2000	15	8	4.50	1.00	967.65	967.60		M.29	Requires 1 RF-14 Joints; (4)
P-635	I-635	O-635	2000	15	9	6.00	4.08	966.64	966.40		M.29	Requires 2 RF-14 Joints; (4)
P-640	I-640	O-640	2000	15	9	6.00	1.33	965.98	965.90		M.29	Requires 2 RF-14 Joints; (4)
P-645	I-645	O-645	2000	15	10	7.00	1.85	965.85	965.72		M.29	Requires 2 RF-14 Joints; (4)
P-650	I-650	O-650	2000	15	10	7.00	1.77	965.45	965.33		M.29	Requires 2 RF-14 Joints; (4)
P-655	I-655	O-655	2000	15	10	7.00	5.54	965.07	964.68		M.29	Requires 2 RF-14 Joints; (4)
P-701	I-701	I-702	2000	15	132	126.00	0.30	965.72	965.34		M.28	
P-702	I-702	I-703	2000	15	129	123.00	0.30	965.24	964.92		M.28	
P-703	I-703	O-703	2000	15	18	14.50	0.10	964.82	964.81		M.28	Requires 3 RF-14 Joints; (4)
P-713	I-713	I-714	2000	15	152	146.00	0.40	966.70	966.12		M.28	
P-714	I-714	I-715	2000	15	142	136.00	0.40	966.02	965.50		M.28	48' of Trenchless
P-715	I-715	O-715	2000	15	21	18.00	0.40	965.40	965.32		M.28	Requires 3 RF-14 Joints; (4)

STORM SEWER

(1) Diameter or equivalent diameter
* Bid Item
** For SW-545

INTAKES AND UTILITY ACCESSES

No.	Location Station and Offset	*Type or Standard Road Plan	Form Grade Elev.	Bottom Well Elev.	Extension Length** FT	Notes
I-753	453+77.00, -26.5	SW-508	970.14	966.14		
I-754	455+10.00, -26.5	SW-508	969.74	965.74		
I-755	456+25.00, -26.5	SW-510	969.48	965.48		
I-756	458+40.00, -26.5	SW-508	969.35	965.05		
I-757	459+75.00, -26.5	SW-508	968.95	964.53		
I-758	461+00.00, -26.5	SW-508	968.57	964.18		
I-759	461+75.00, -26.5	SW-510	968.42	963.94		
I-760	461+75.00, 10.5	SW-510	968.42	963.53		
O-760	461+75.00, 28.5	RF-3 (21")	964.00			
I-768	464+95.00, -26.5	SW-508	966.75	962.75		
I-769	463+90.00, -26.5	SW-508	967.97	962.59		
I-770	463+90.00, 10.5	SW-508	967.97	962.26		
E-770	463+89.00, 30.5	SW-211				
I-775	464+95.00, 10.5	SW-508	966.75	962.75		

Notes:
(1) For temporary drainage of Detour. Remove when Detour is removed.
(2) Construct after removal of I-219A
(3) Connect with Subdrain No. 5B; Refer to Tab 104-5T in C-sheets
(4) Number of connected joints based on 8' pipe segments
(5) Connect to P-219
(6) At proposed entrance location, use backfill materail complying with Article 2552.02, C of the Standard Specifications. Place and compact backfill according to Article 2552.03, E, 3, of the Standard Specifications.

Totals:

Item	Qty
RF-3 (15")	13
RF-3 (18")	3
RF-3 (21")	1
RF-3 (24")	2
RF-3 (30")	3
SW-211	2
SW-402 (4' x 4')	1
SW-508	79
SW-510	17
SW-512	1

PIPES

Design Length, Slope, and Flowlines are calculated from inside wall to inside wall along CL of pipe. An additional 3 ft length is added to each side of the Design Length to account for estimated length to center of structures.

Line Number	Intake/ Utility Access No. From	Intake/ Utility Access No. To	Class 'D'	Pipe Size (1) IN	Bid* Length FT	Design Length FT	Slope %	Flow Lines Inlet Elev.	Flow Lines Outlet Elev.	Flow Lines Other Elev.	Pipe Profile Sheet No.	Notes
P-753	I-753	I-754	2000	15	135	129.00	0.60	967.64	966.87		M.30	
P-754	I-754	I-755	2000	15	117	111.00	0.30	966.77	966.43		M.30	72' of Trenchless
P-755	I-755	I-756	2000	15	217	211.00	0.30	966.33	965.70		M.30	
P-756	I-756	I-757	2000	15	137	131.00	0.20	965.60	965.34		M.30	40' of Trenchless
P-757	I-757	I-758	2000	18	127	121.00	0.20	965.09	964.85		M.30	
P-758	I-758	I-759	2000	18	77	71.00	0.30	964.75	964.56		M.30	
P-759	I-759	I-760	2000	18	43	37.00	0.50	964.46	964.28		M.30	37' of Trenchless
P-760	I-760	O-760	2000	21	11	8.00	0.20	964.03	964.01		M.30	Requires 2 RF-14 Joints; (4)
P-768	I-768	I-769	2000	15	107	101.00	0.60	964.00	963.39		M.29	
P-769	I-769	I-770	2000	18	43	37.00	1.00	963.09	963.06		M.29	37' of Trenchless
P-770	I-770	E-770	2000	18	17	14.00	2.60	962.76	962.40		M.29	
P-775	I-775	I-770	2000	15	107	101.00	0.60	963.91	963.31		M.29	

Trenched Totals:

Size	Qty
15	1382
18	4378
21	1005
24	1245
30	274
36	19

Trenchless Totals:

Size	Qty
15	160
18	118
24	56

SURVEY SYMBOLS

- TDC Tree Deciduous
- PPA Power Pole Co. 1
- FWD Wood Fence
- LUM Luminaire
- TEV Evergeen Tree
- LP L.P. Tank
- D Centerline Draw or Stream (Down)
- RET Retaining Walls
- SI Sign
- SHR Shrub
- SI Sign
- EW Edge of Water
- DIK Centerline of Dike or Dam
- FLG Flag Poles
- WM Wind Mill
- FCL Chain Link and Security Fence
- HDG Hedge Row
- TV Satelite TV Dish
- RT Radio Tower
- INB Storm Sewer Beehive Intake
- WV Water Valve
- FHD Fire Hydrants
- WEL Well
- MH Utility Access (Manhole)
- LUM Luminaire
- MIS Miscellaneous
- TPD Telephone Pedestal
- EB Electrical Box
- UB Utility Box
- PR Electic Riser Pole
- FW Wire Fence
- GP Guard Post (Less Than 4 Posts)
- IN Storm Sewer Intake
- TLN Treeline
- TVP TV Pedestal
- SEP Septic Tank
- OUT Tile Outlet
- TIL Tile Line
- UST Underground Tank
- GV Gas Valve
- DU Centerline Draw or Stream (Up)
- BNK Stream Bank
- BL Topo Breakline
- RIP Rip-Rap

- St.S. STA Storm Sewer Line Co. 1
- FO3 FOC Underground Fiber Optic Co. 3
- FO5 FOE Underground Fiber Optic Co. 5
- FO2 FOB Underground Fiber Optic Co. 2
- San. SAA Sanitary Sewer Line Co. 1
- T1 TLA Underground Telephone Line Co. 1
- E1 ELA Underground Electric Line Co. 1
- G GLA Underground Gas Line Co. 1
  - TVA Underground TV Cable Co. 1
- W WLA Underground Water Line Co. 1
- FO FOA Underground Fiber Optic Co. 1
- E2 ELB Underground Electric Line Co. 2
- San.2 SAB Sanitary Sewer Line Co. 2
  - GLB Underground Gas Line Co. 2
- FO4 FOD Underground Fiber Optic Co. 4
  - WLB Underground Water Line Co. 2

UTILITY LEGEND

- FO FOA Paetac Iowa Communications Network
- FO2 FOB Lightcore (Digital Teleport)
- FO3 FOC Iowa Network Service
- FO4 FOD Indianola Municipal Utilities
- FO5 FOE MCI
- T1 TLA Qwest
- E1 ELA Mid-American
- E2 ELB Indianola Municipal Utilities
  - TVA Mediacom
- W WLA Indianola Municipal Utilities
  - WLB Warren Rural Water
- San. SAA City of Indianola
- San.2 SAB Private
- G GLA Mid-American
  - GLB Kinder Morgan
- St.S. STA City of Indianola
  - PPA Mid-American

PLAN VIEW COLOR LEGEND OF STORM SEWER 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
Brown, Light	(236)	Grading Shading
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading
Green, Light	(225)	Existing Pavement Shading

PROFILE VIEW COLOR LEGEND OF STORM SEWER SHEETS

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

PLAN VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

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

PROFILE VIEW LINE STYLE LEGEND OF STORM SEWER SHEETS

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

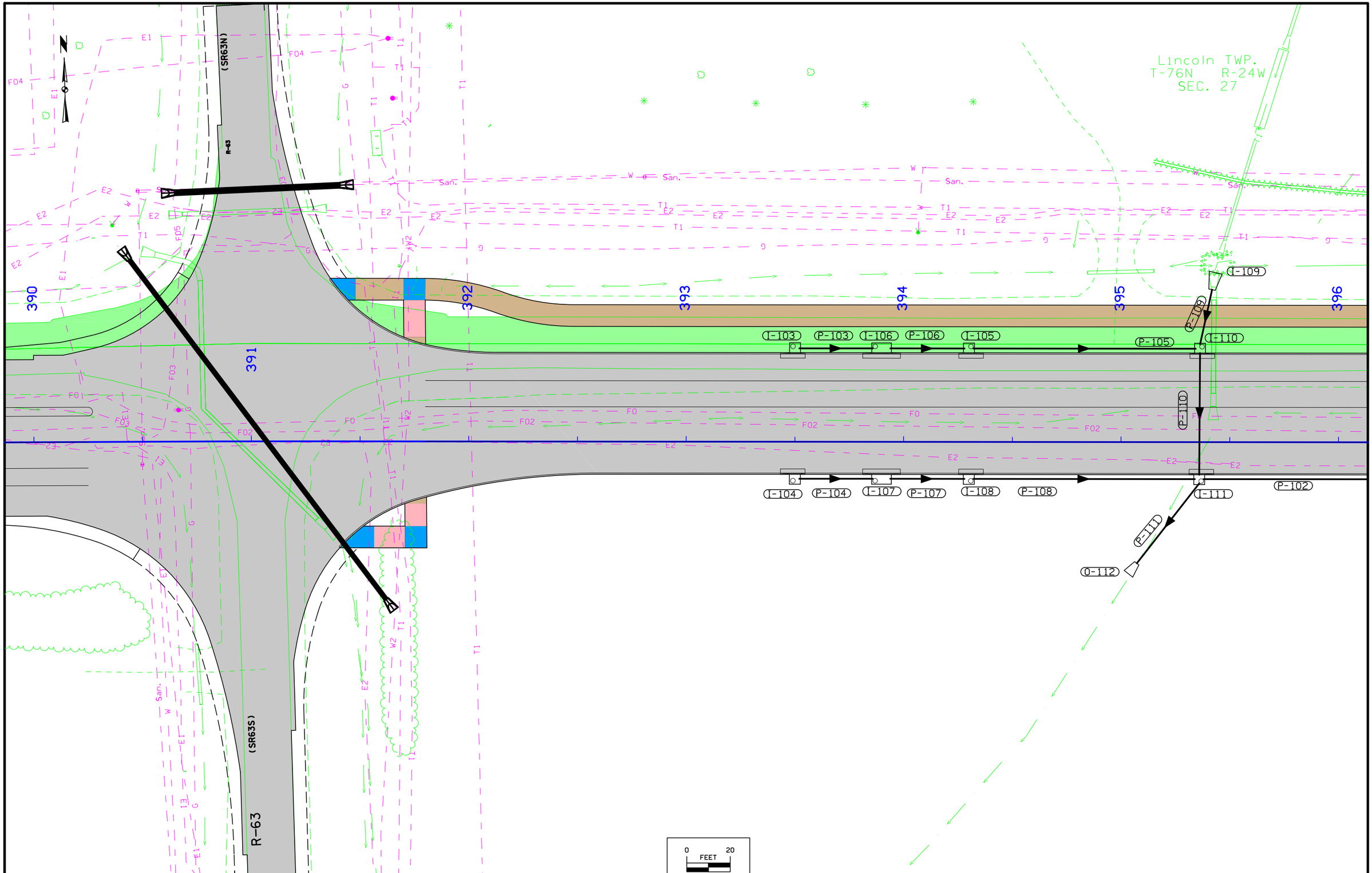
- Reference Point
- Survey Line
- Station
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Clearing & Grubbing Area
- Pavement Removal

RIGHT-OF-WAY LEGEND

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

STORM SEWER LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES M)



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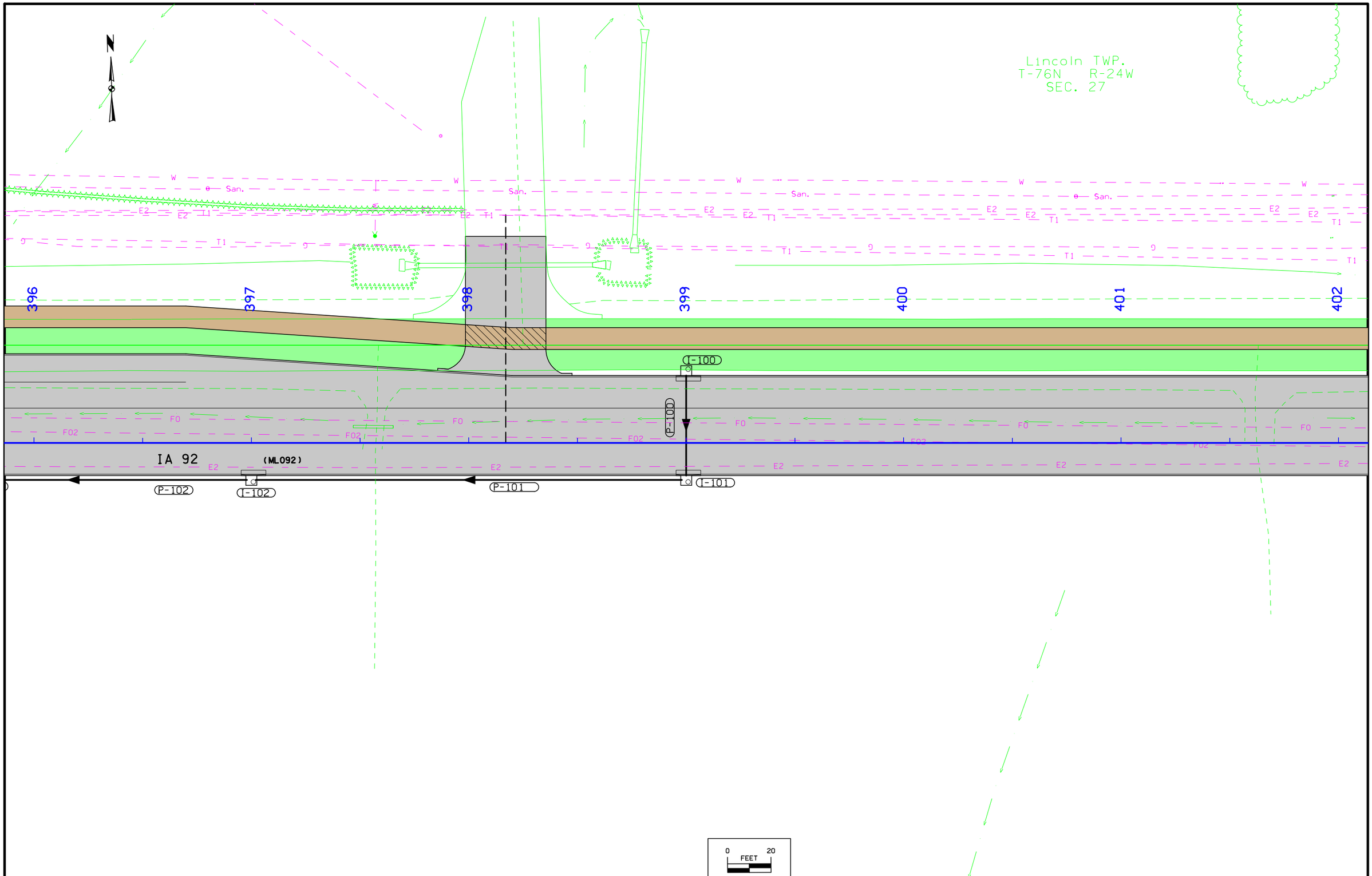

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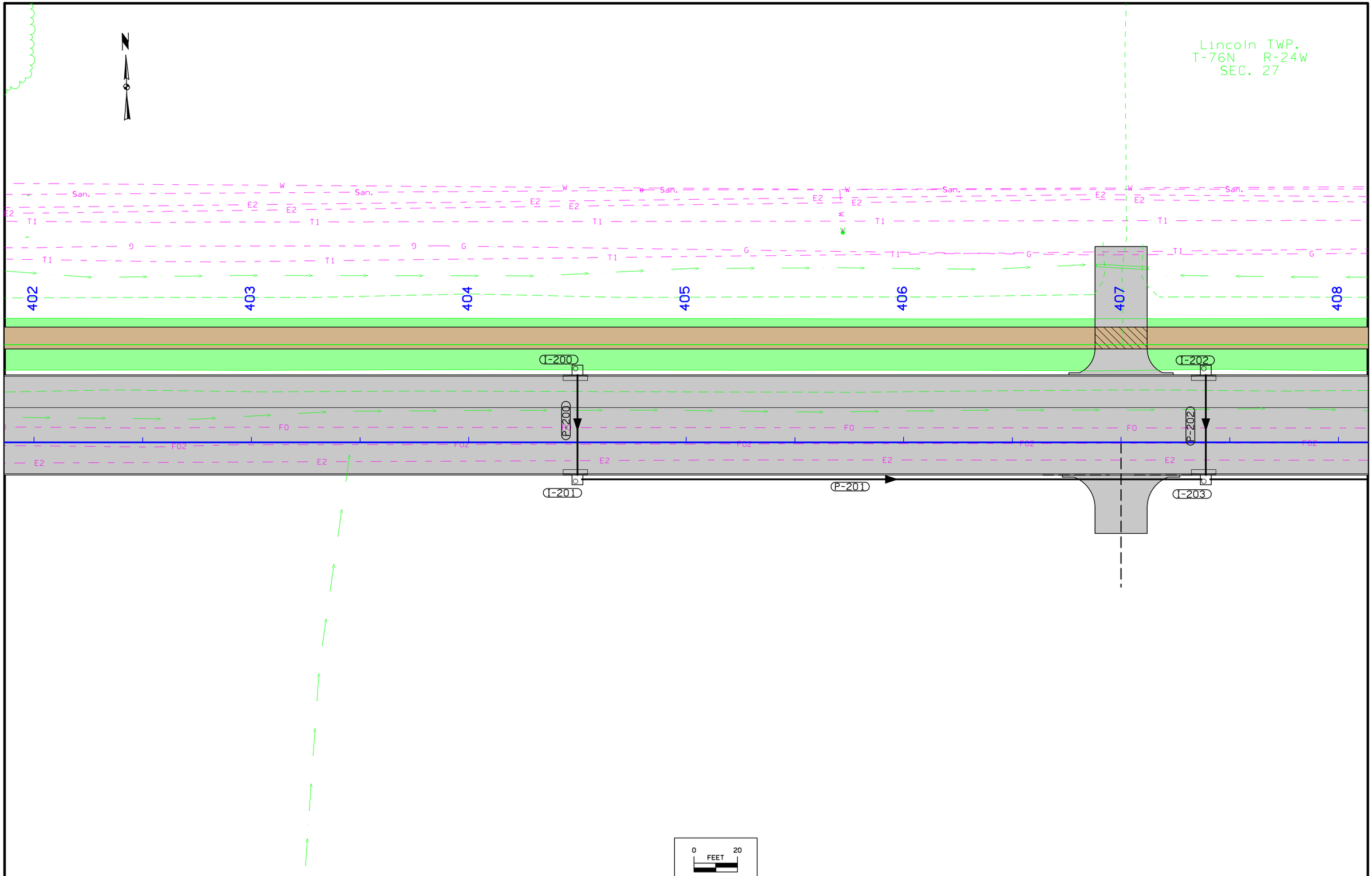

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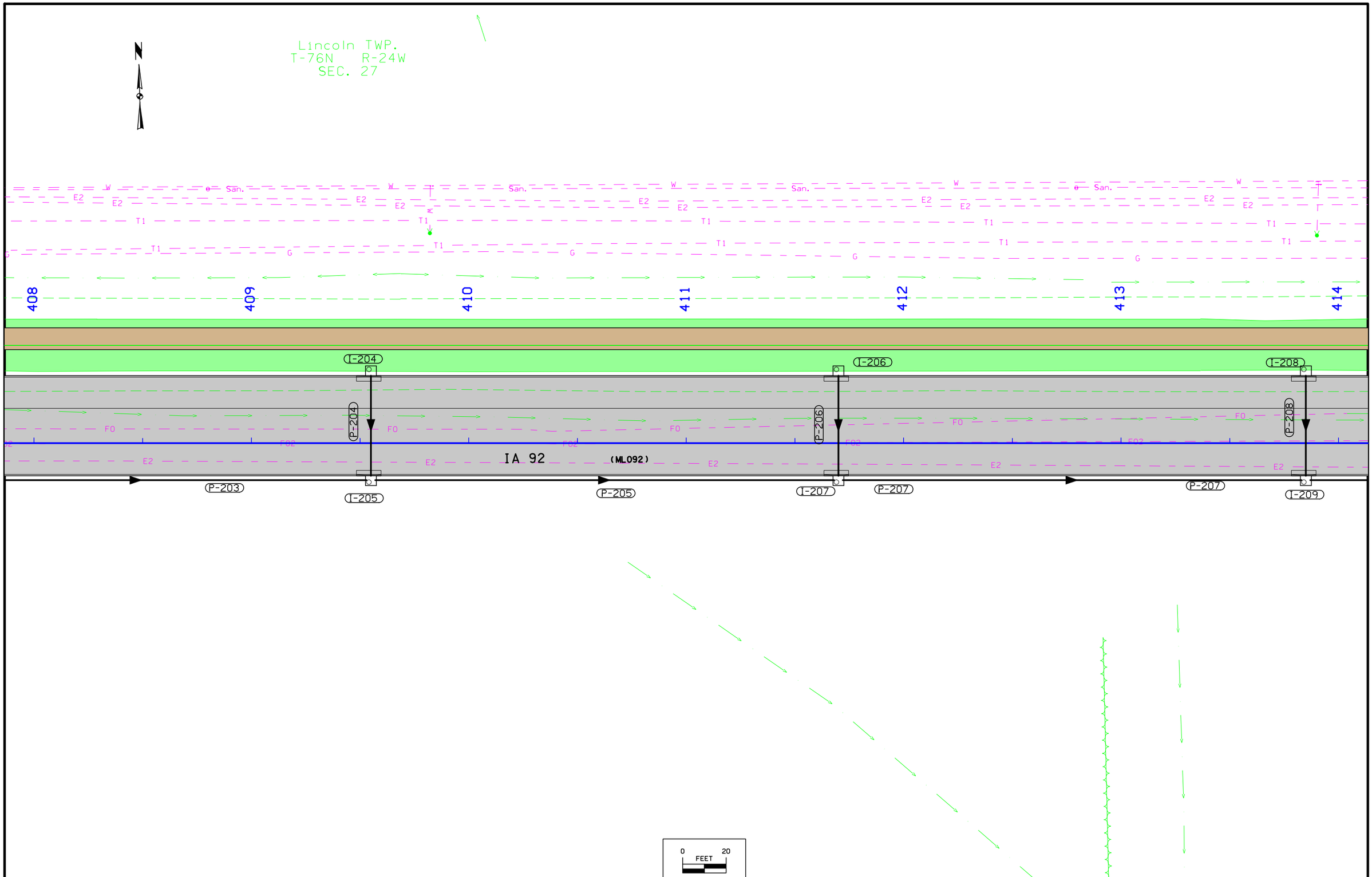

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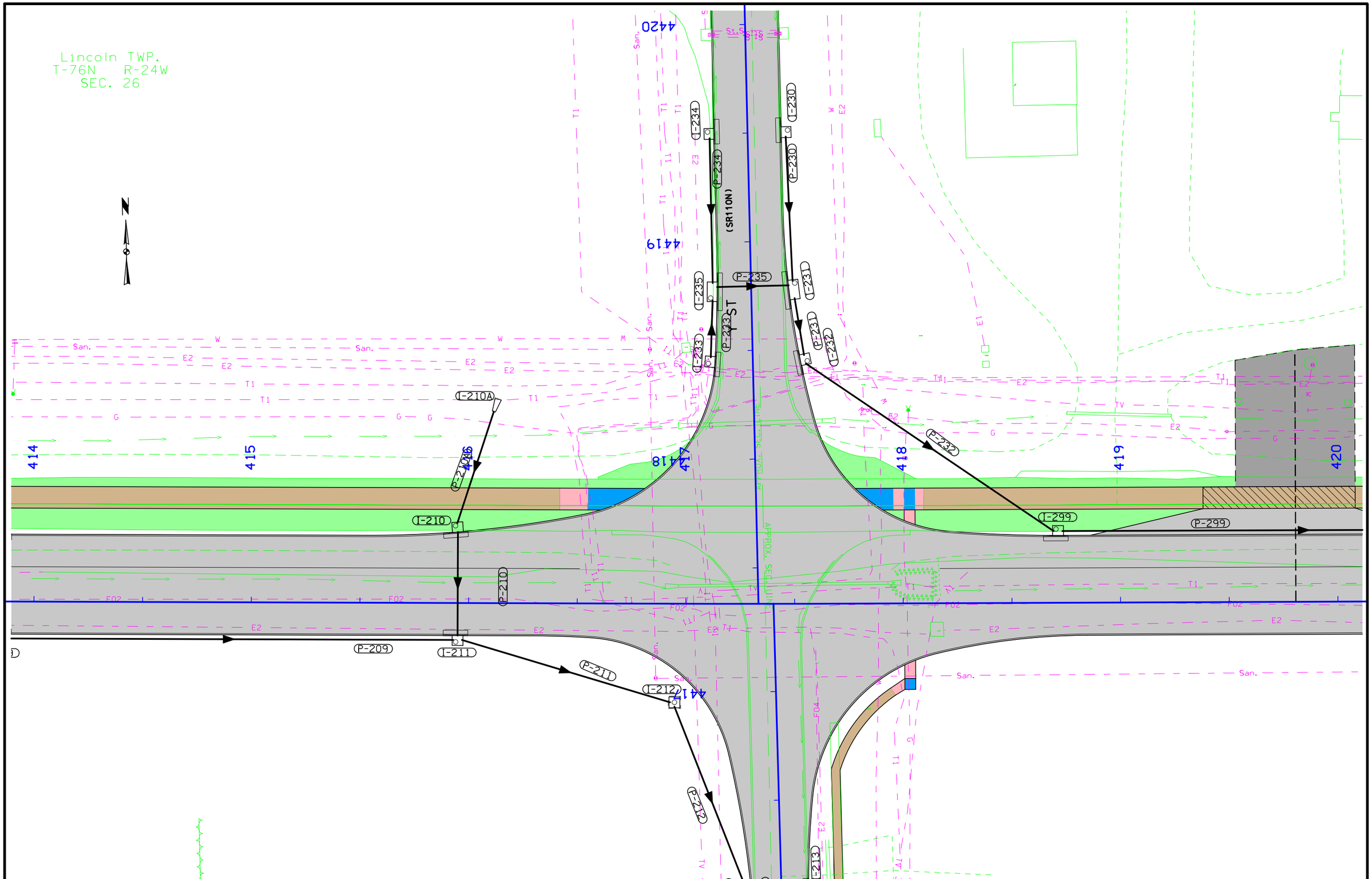

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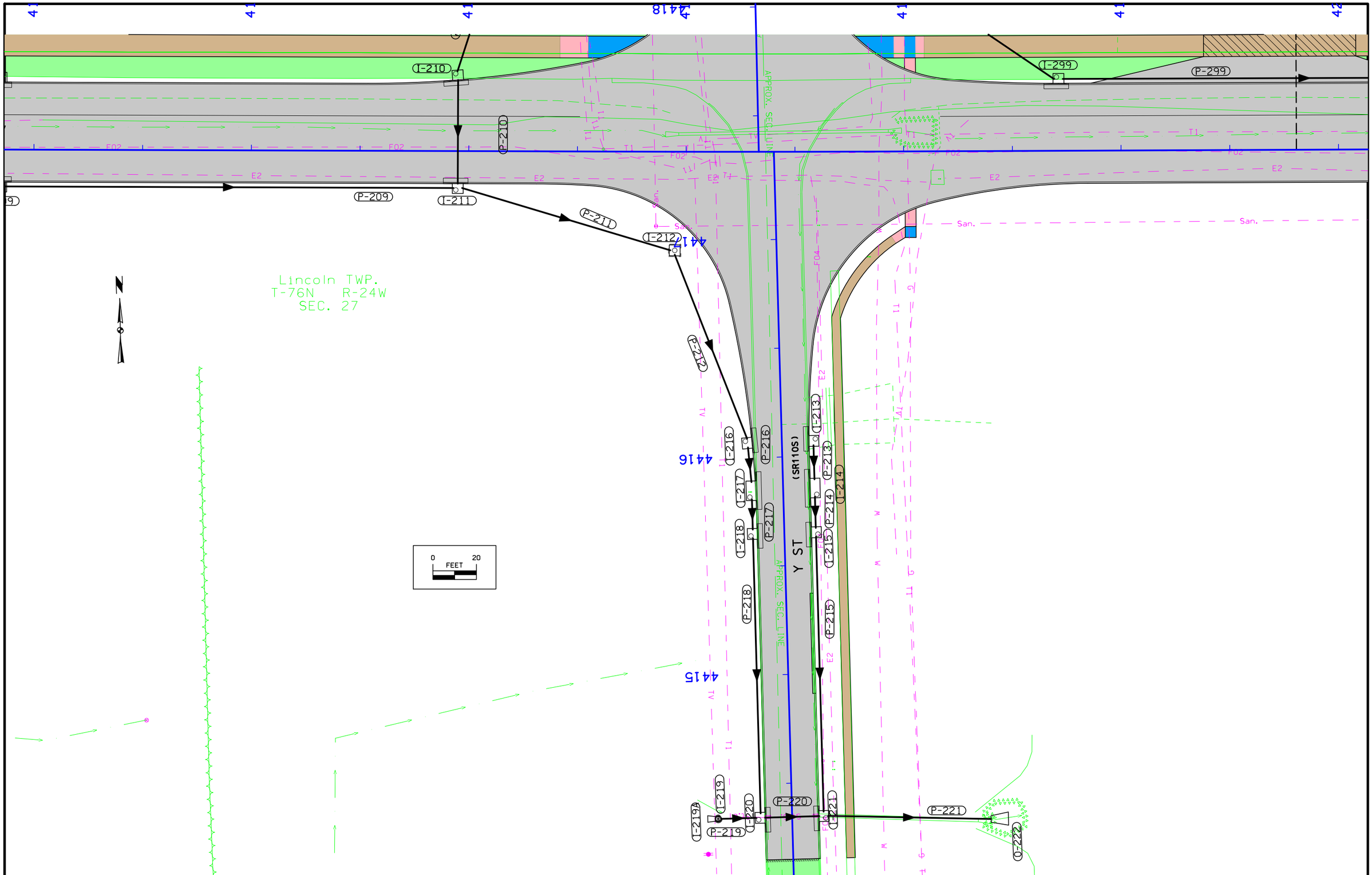

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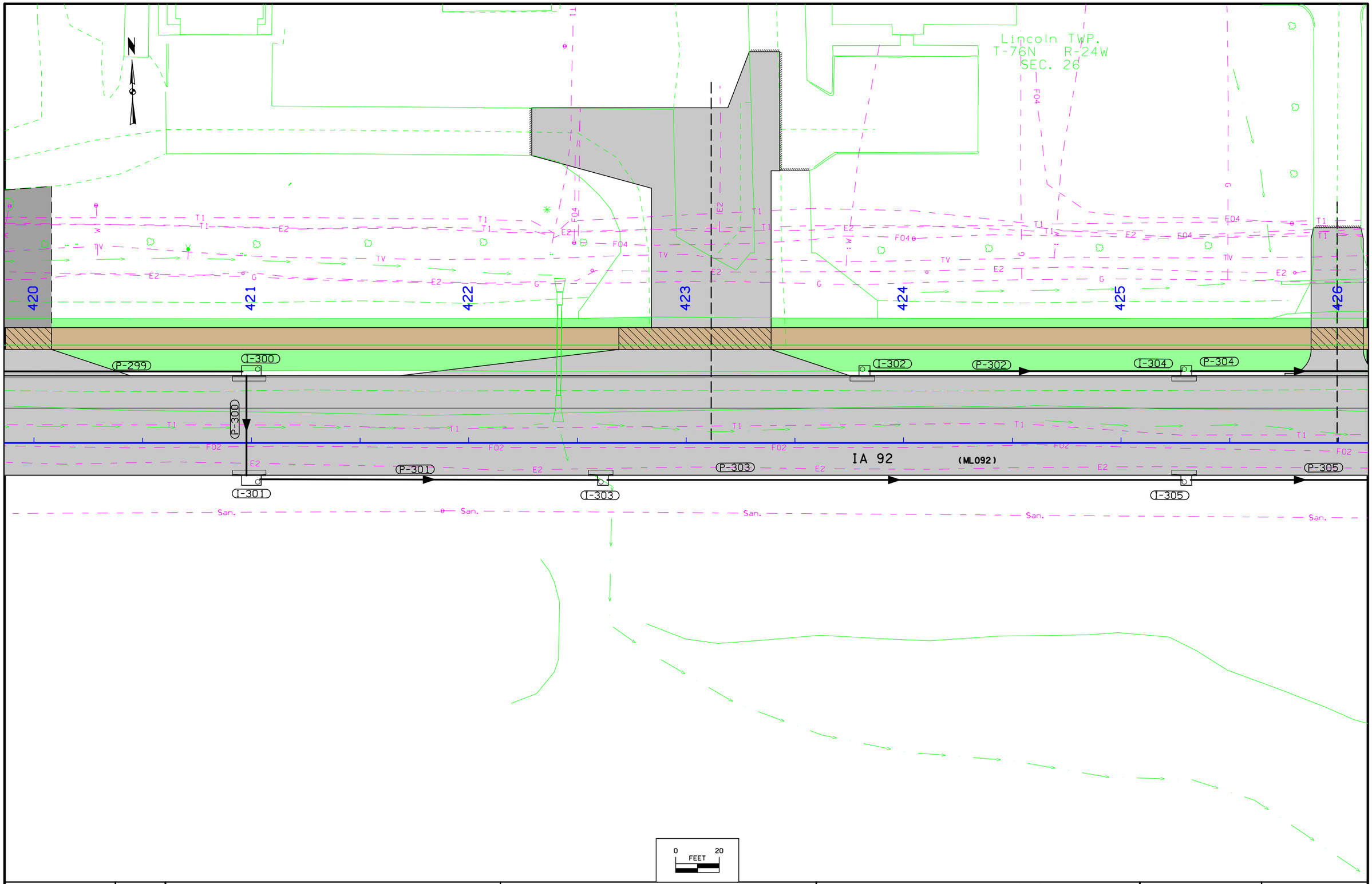

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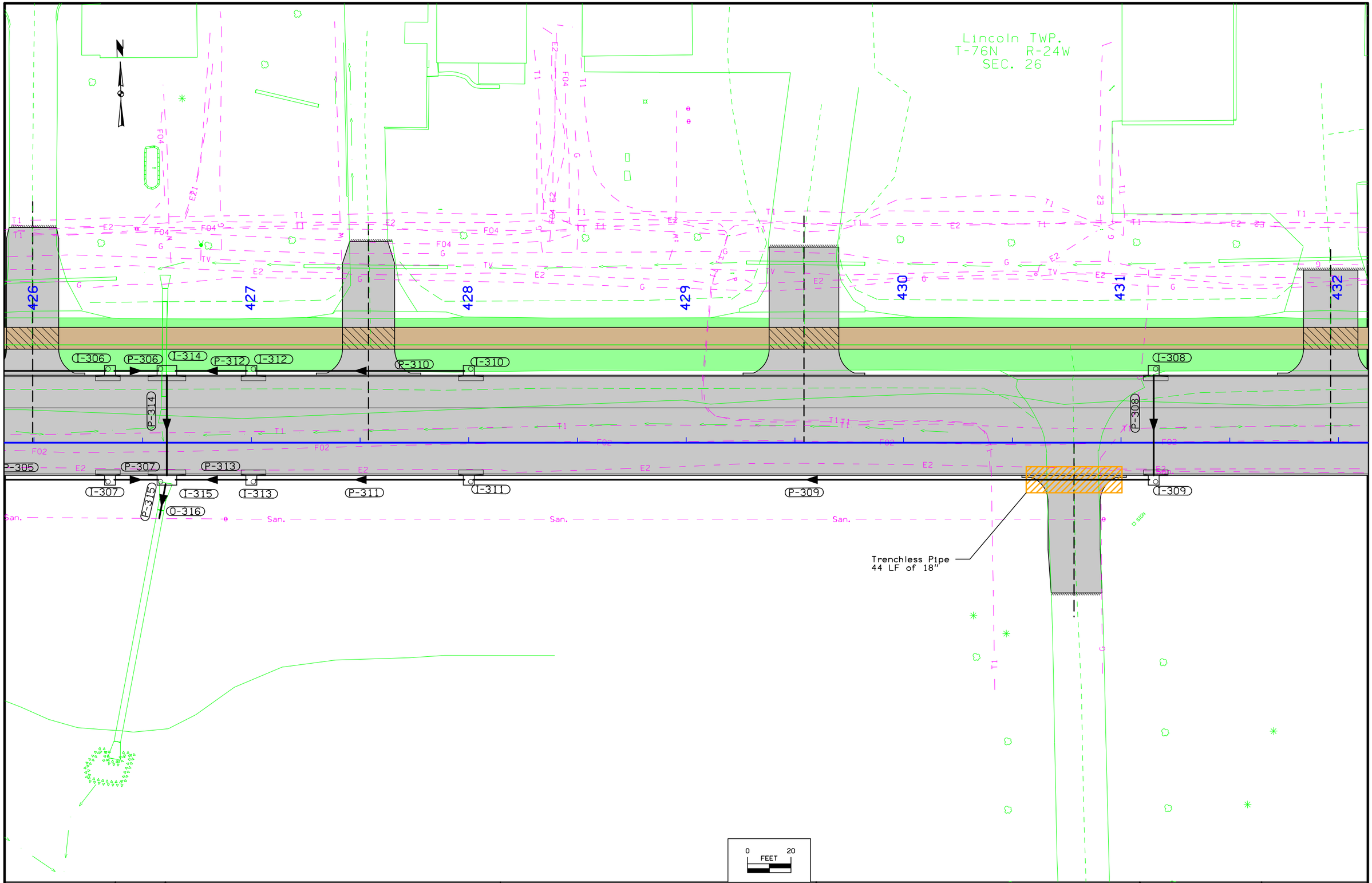

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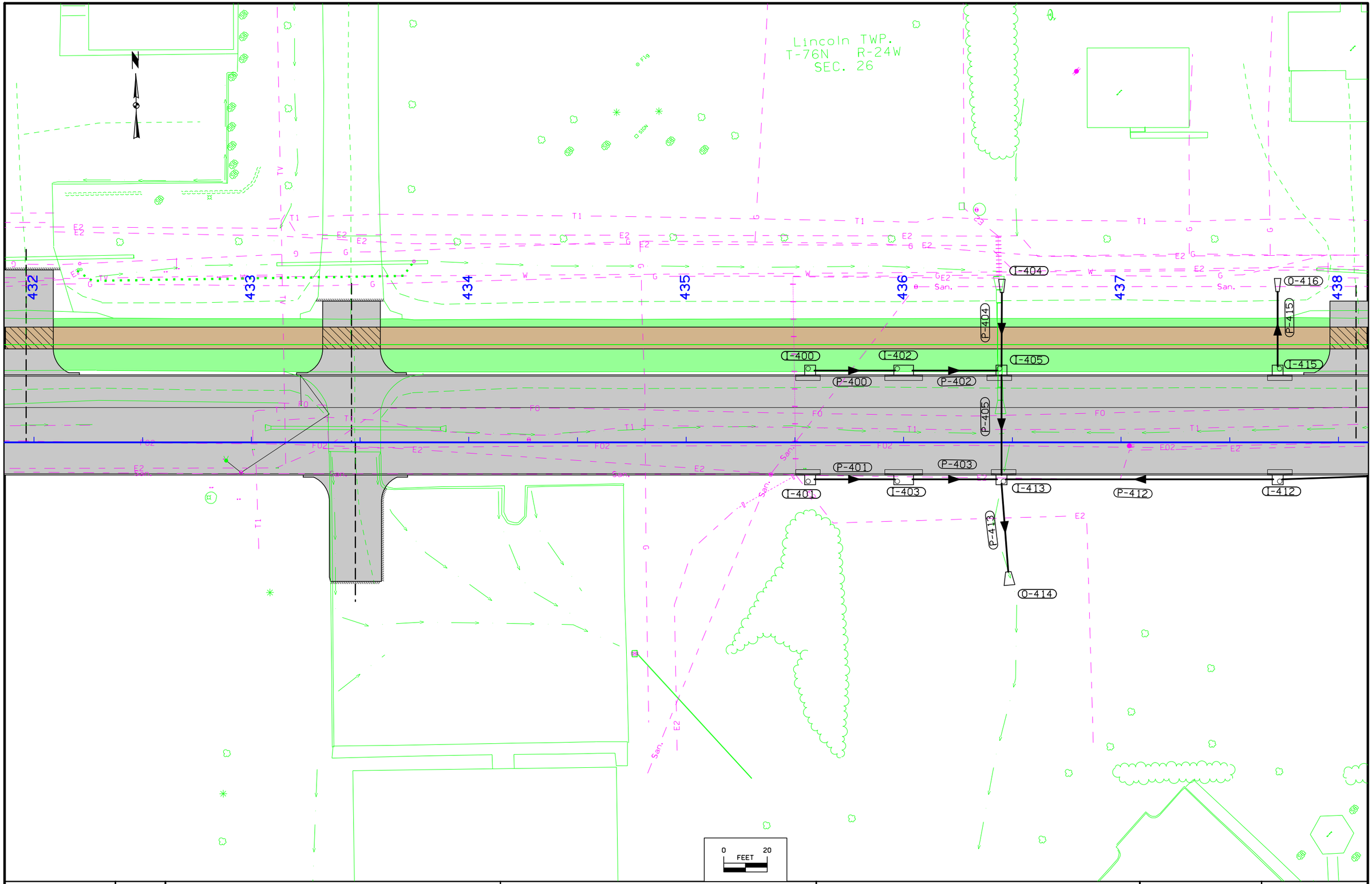

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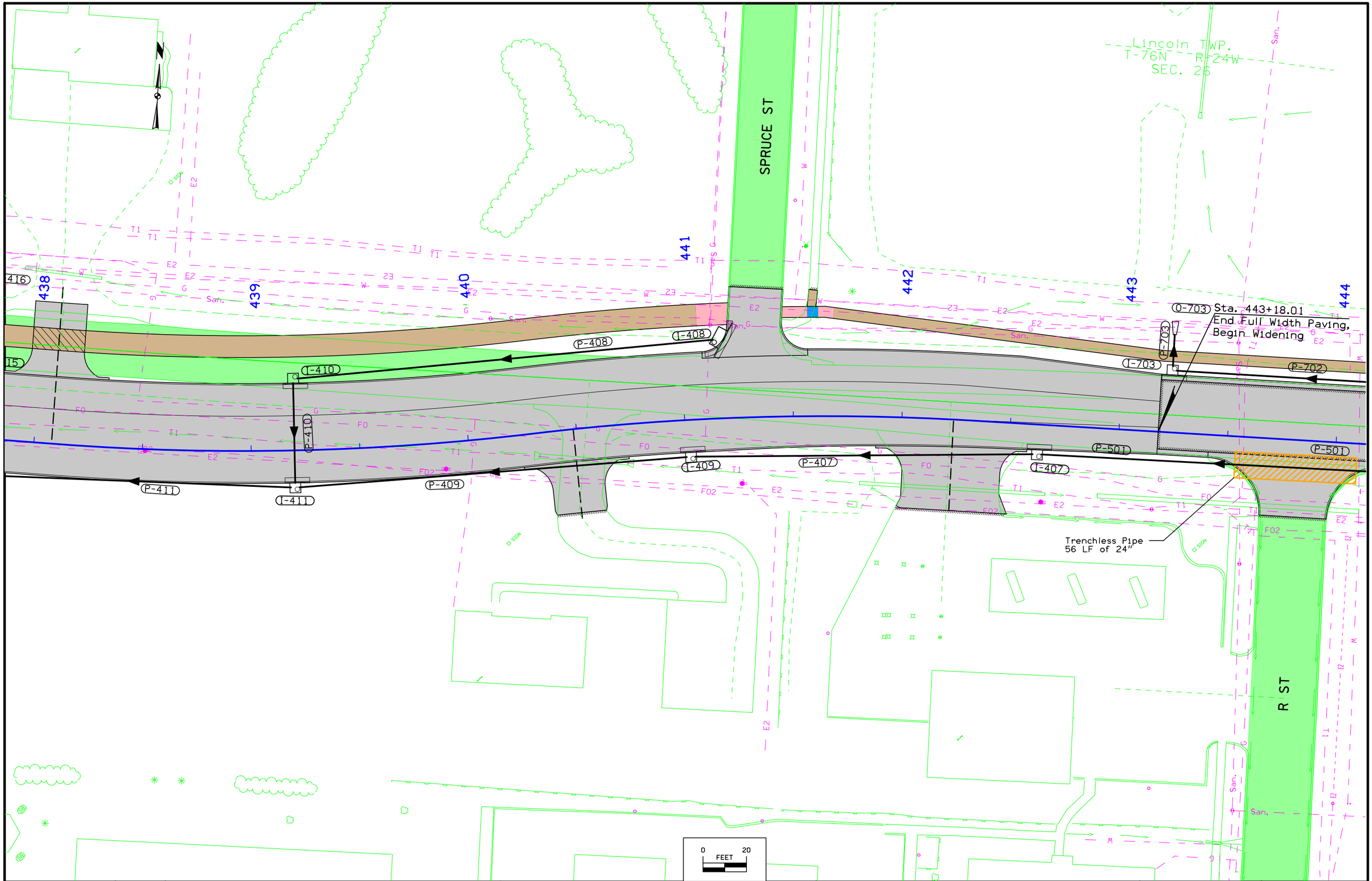

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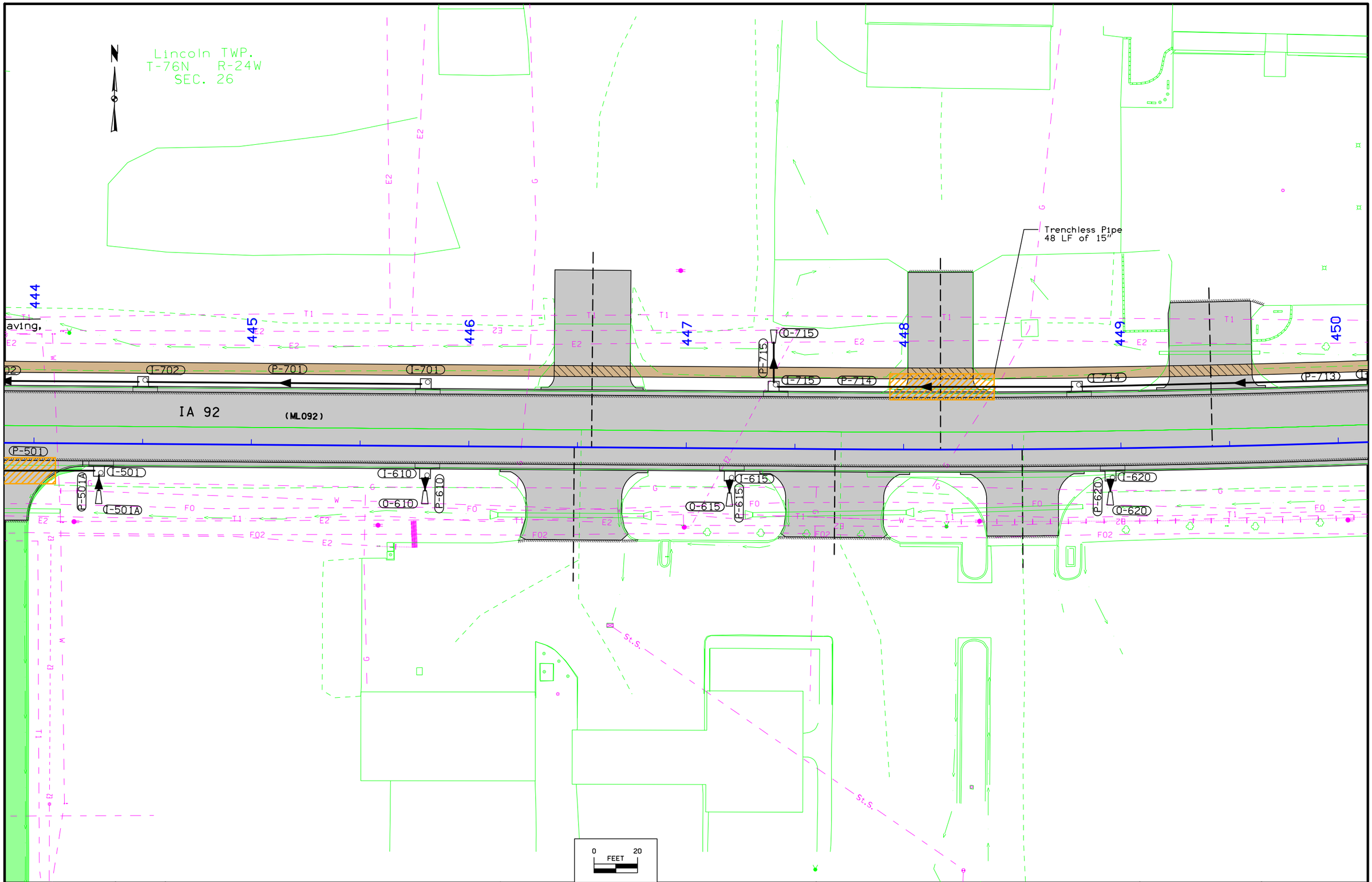

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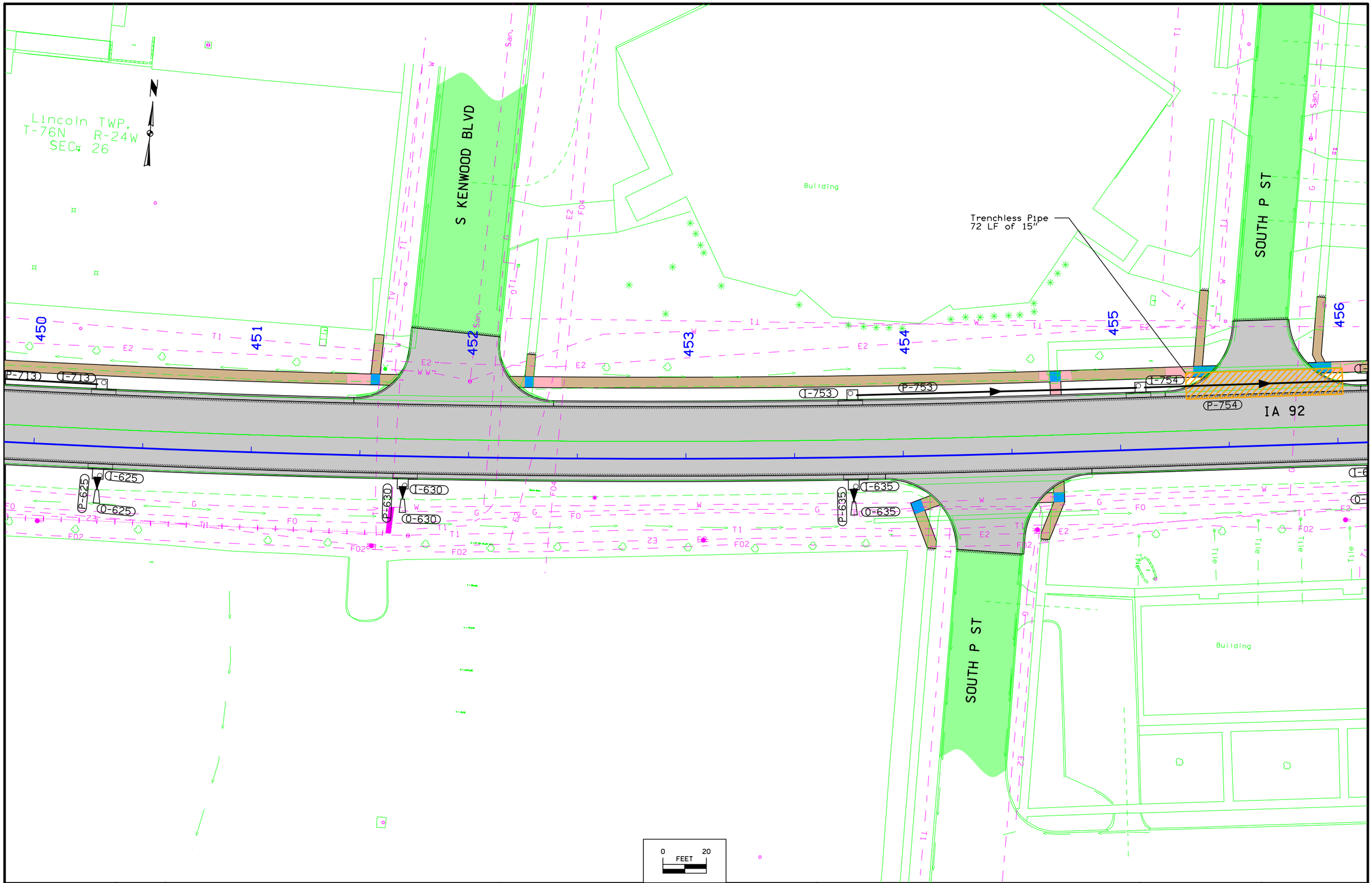

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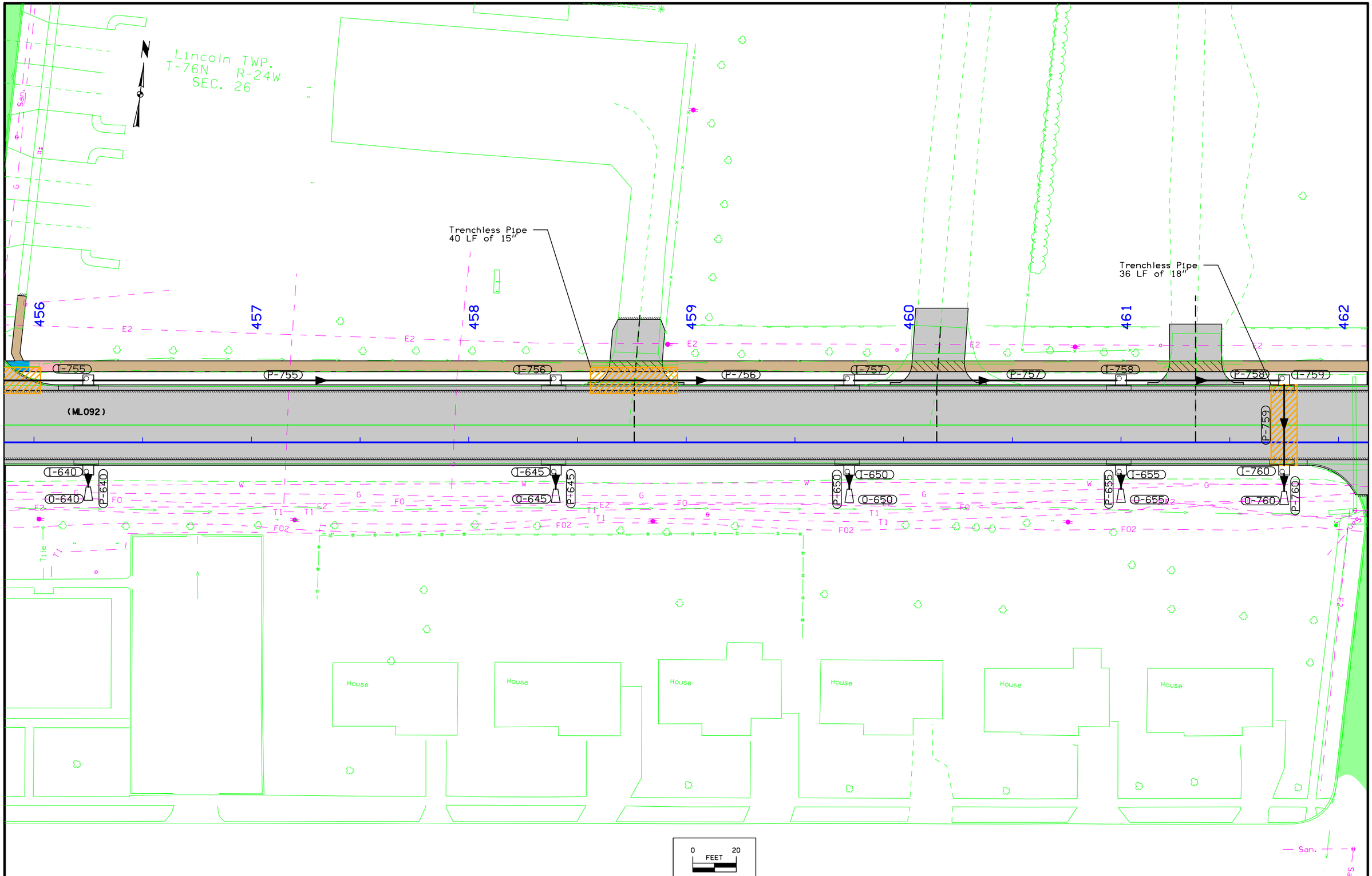

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3:20:08 PM 7/11/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051M04.sht

Lincoln TWP.
T-76N R-24W
SEC. 26

Trenchless Pipe
36 LF of 18"

Sta. 465+03.68
End Project

Sta. 465+01.01
End Widening

462
463
464
465
466

SOUTH M ST

SOUTH N ST

POT Sta 466+80.72

I-769
P-768
I-768
P-769
I-770
P-775
I-775
P-770
Ex-770

Garage
House
House

0 20
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER M.18

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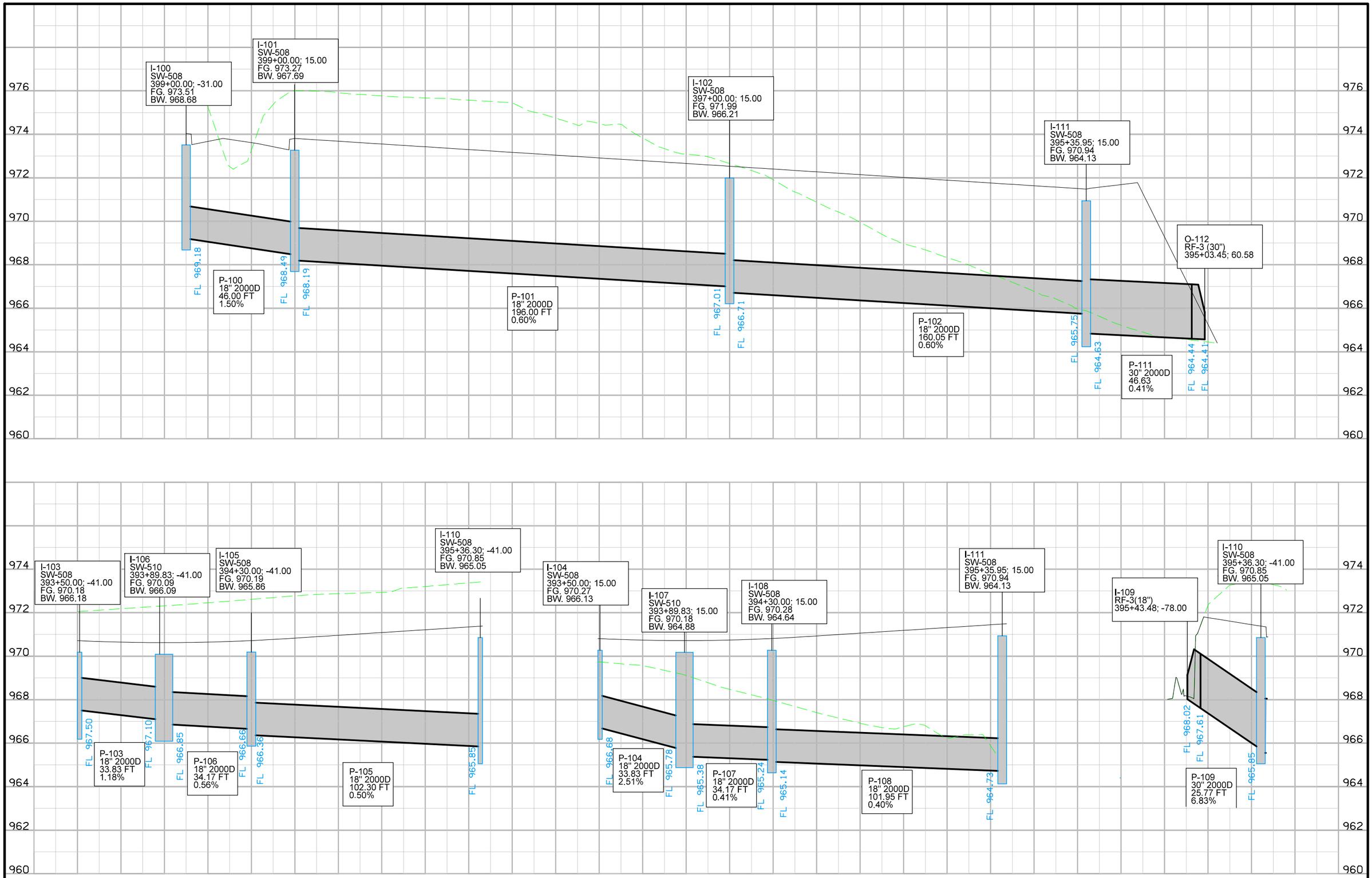

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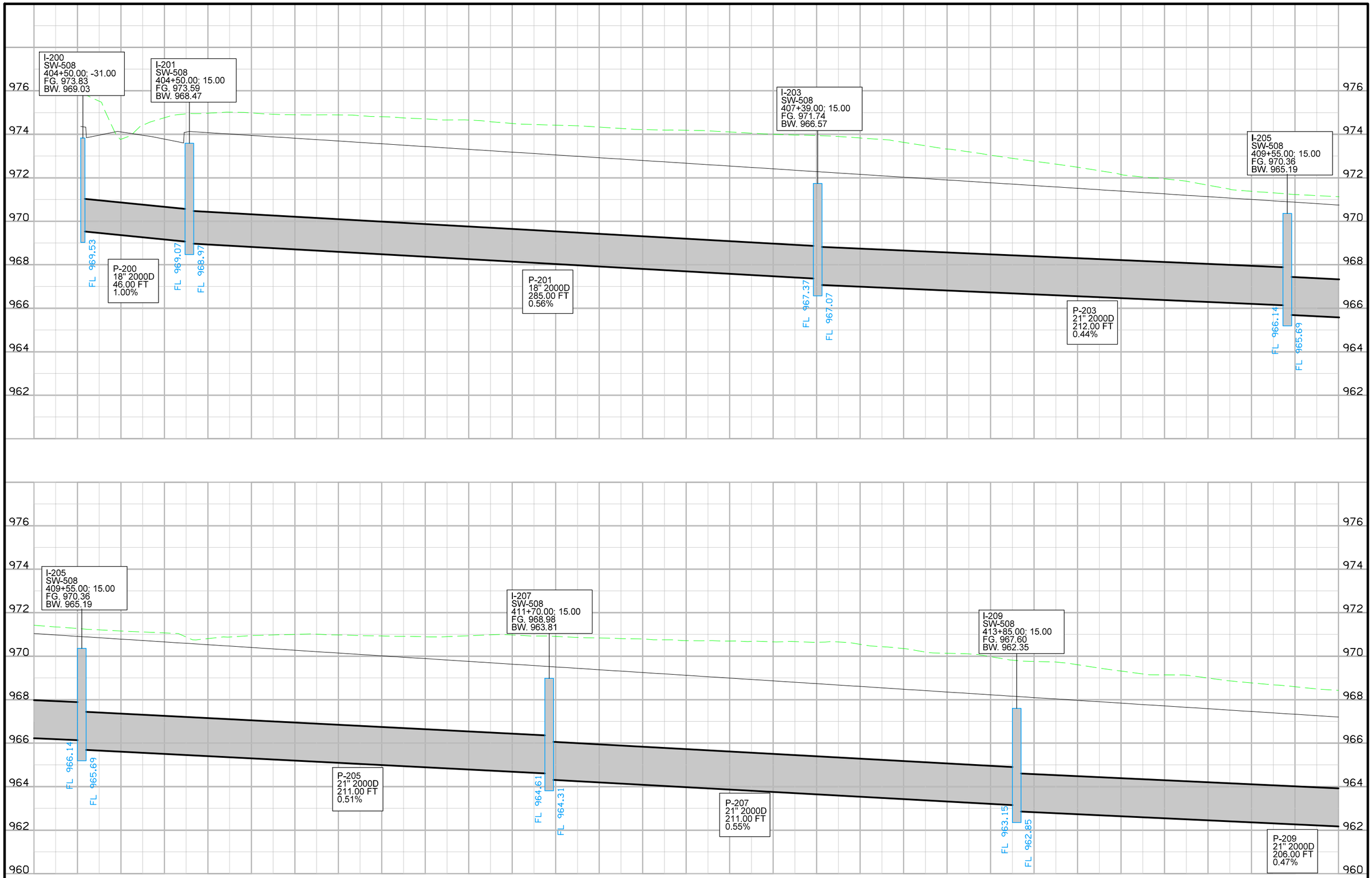

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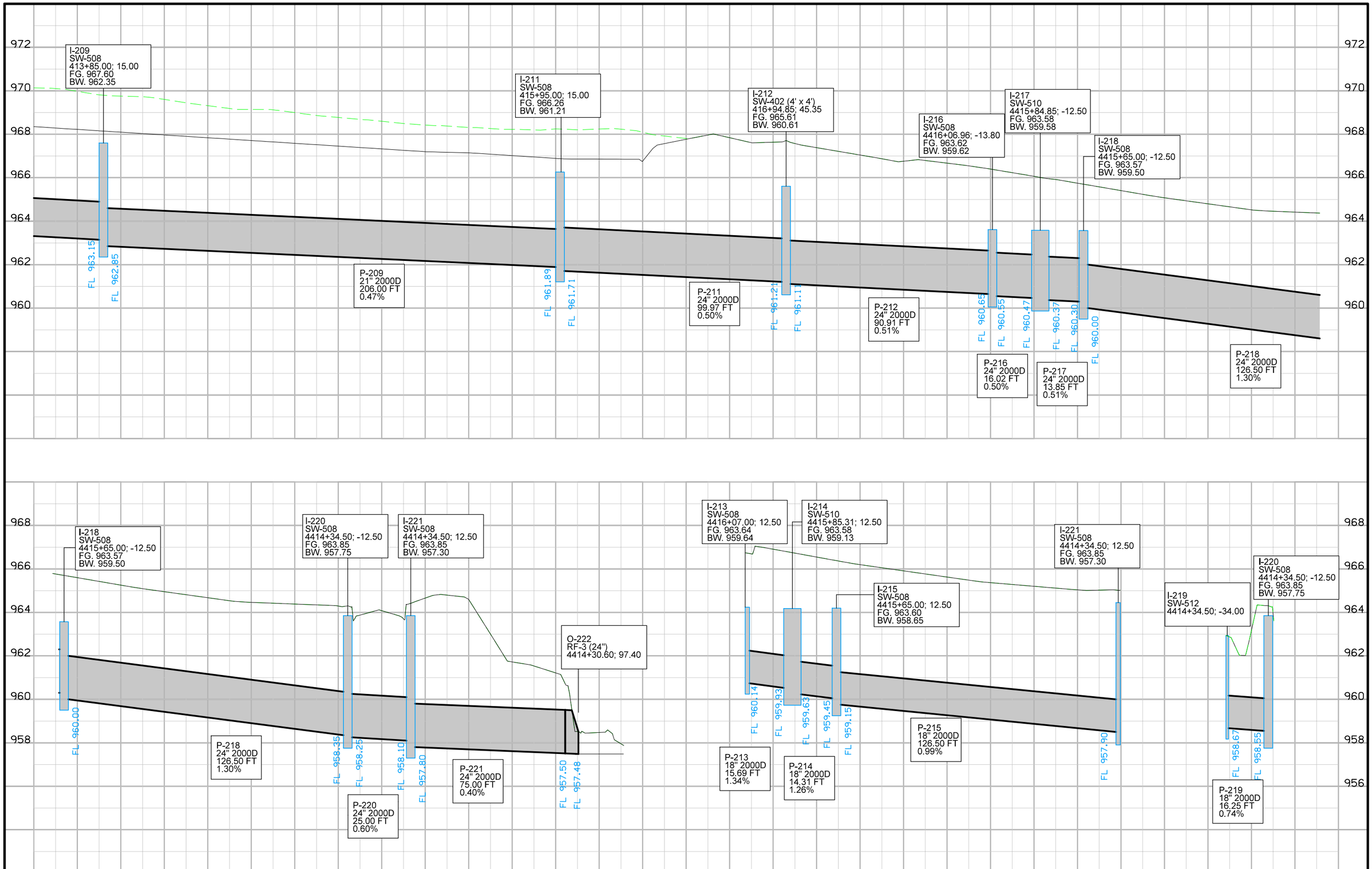

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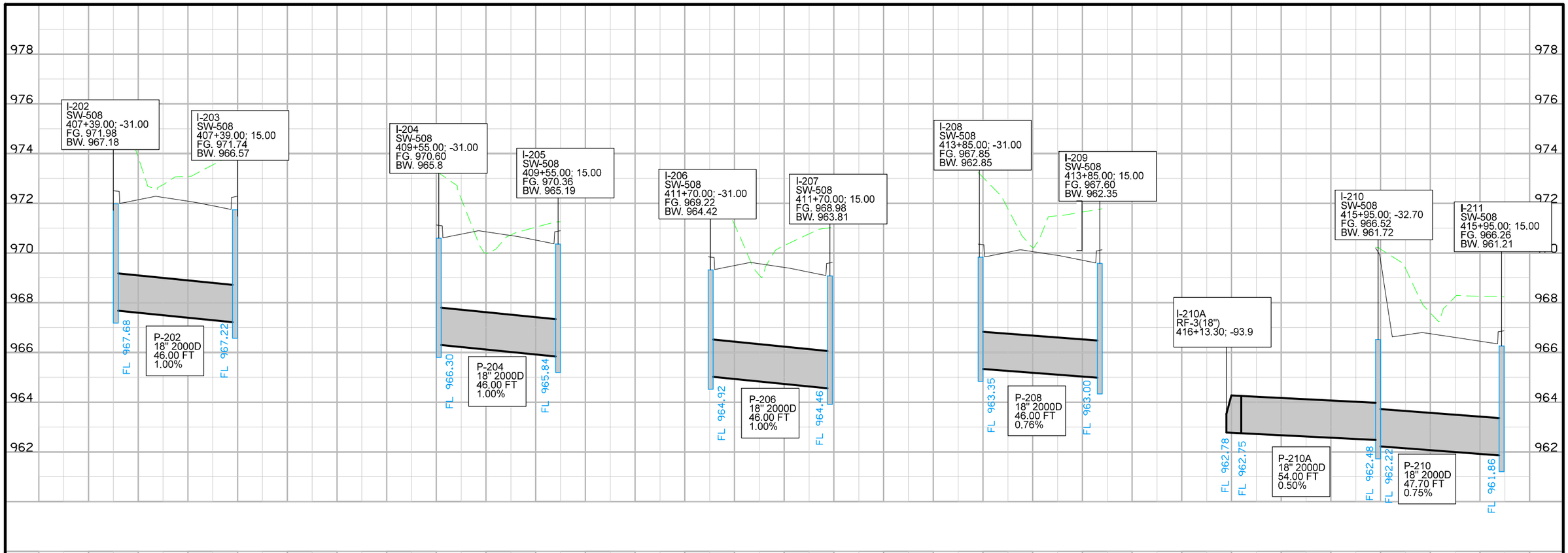

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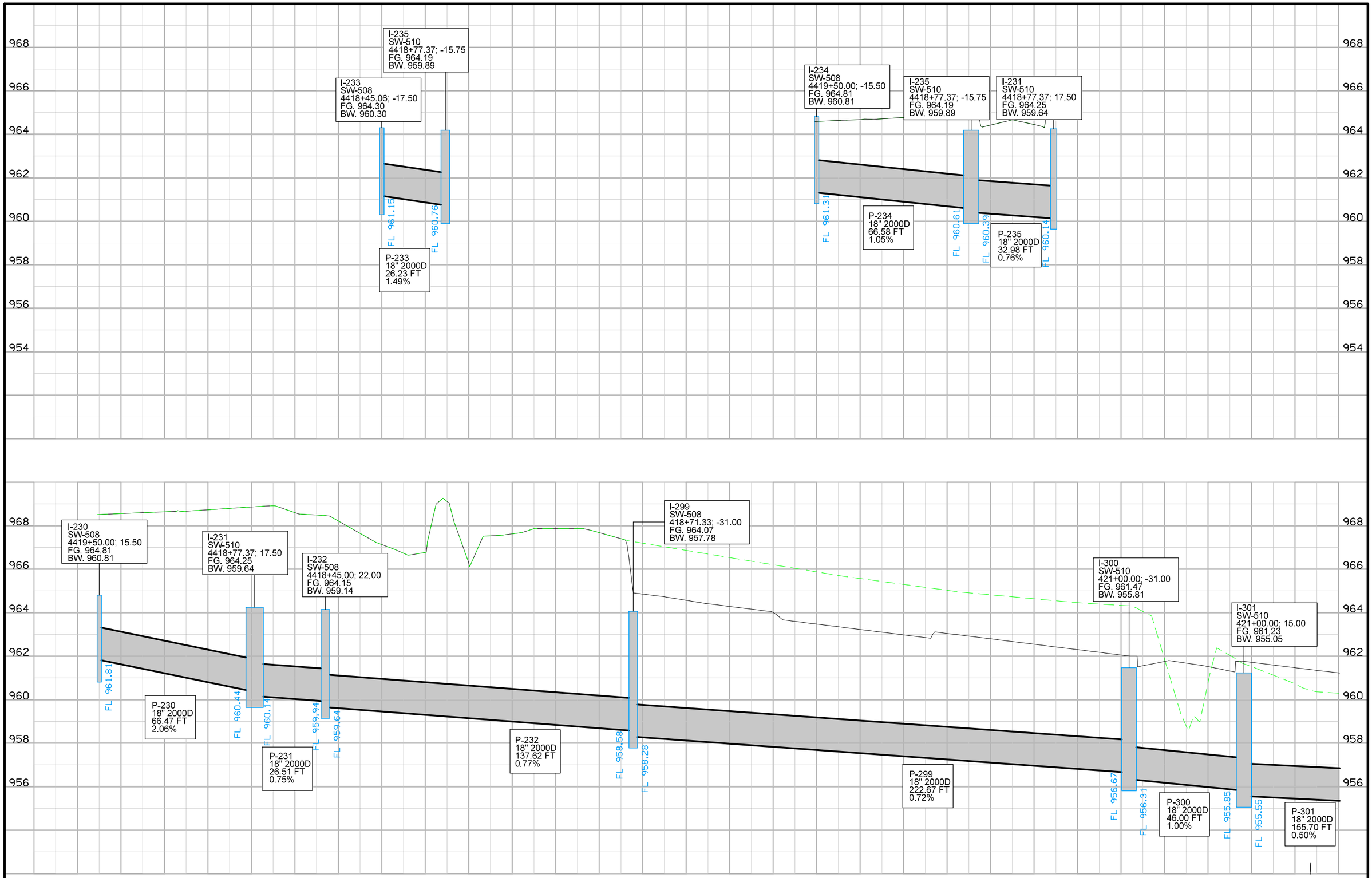

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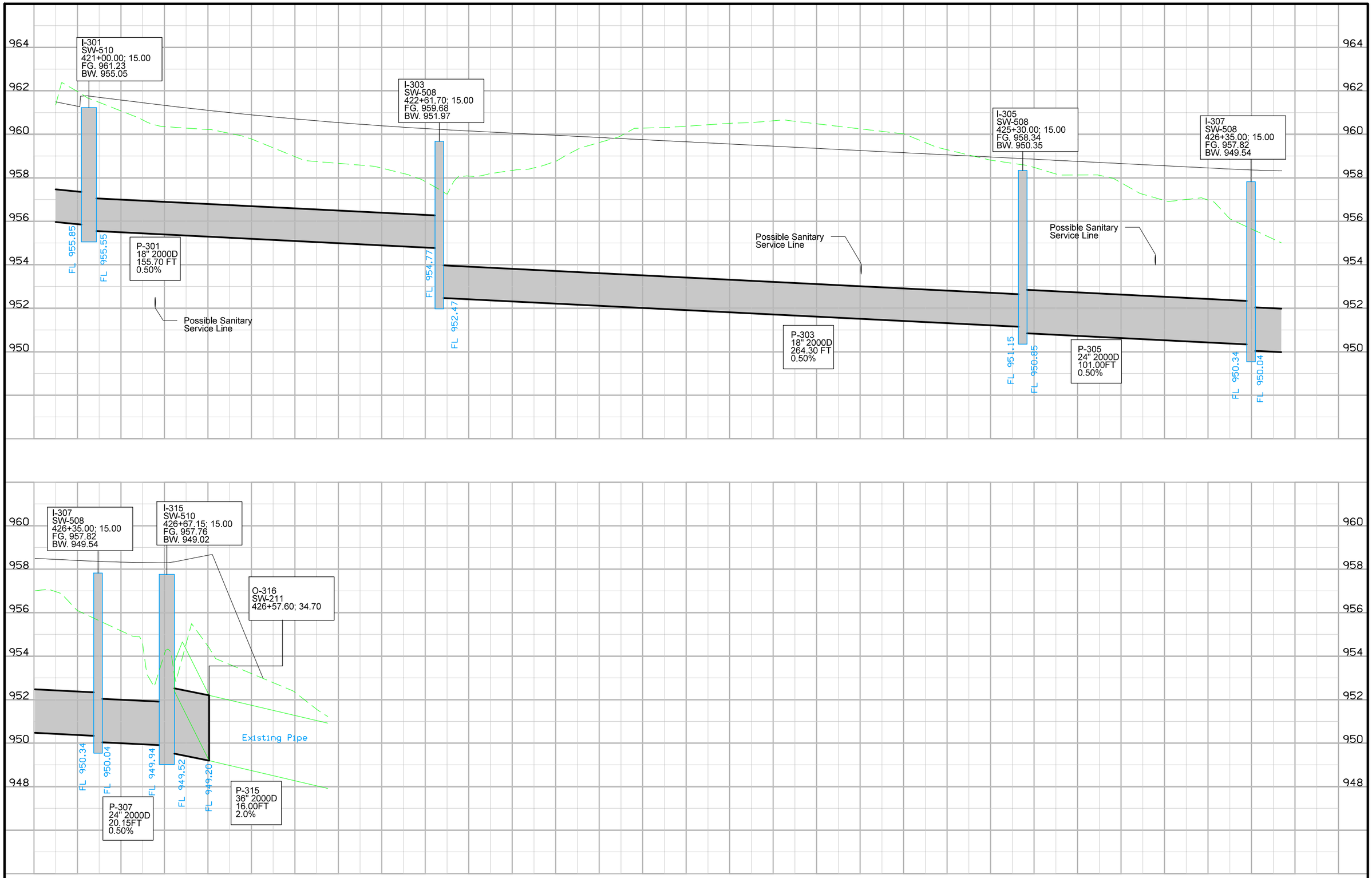

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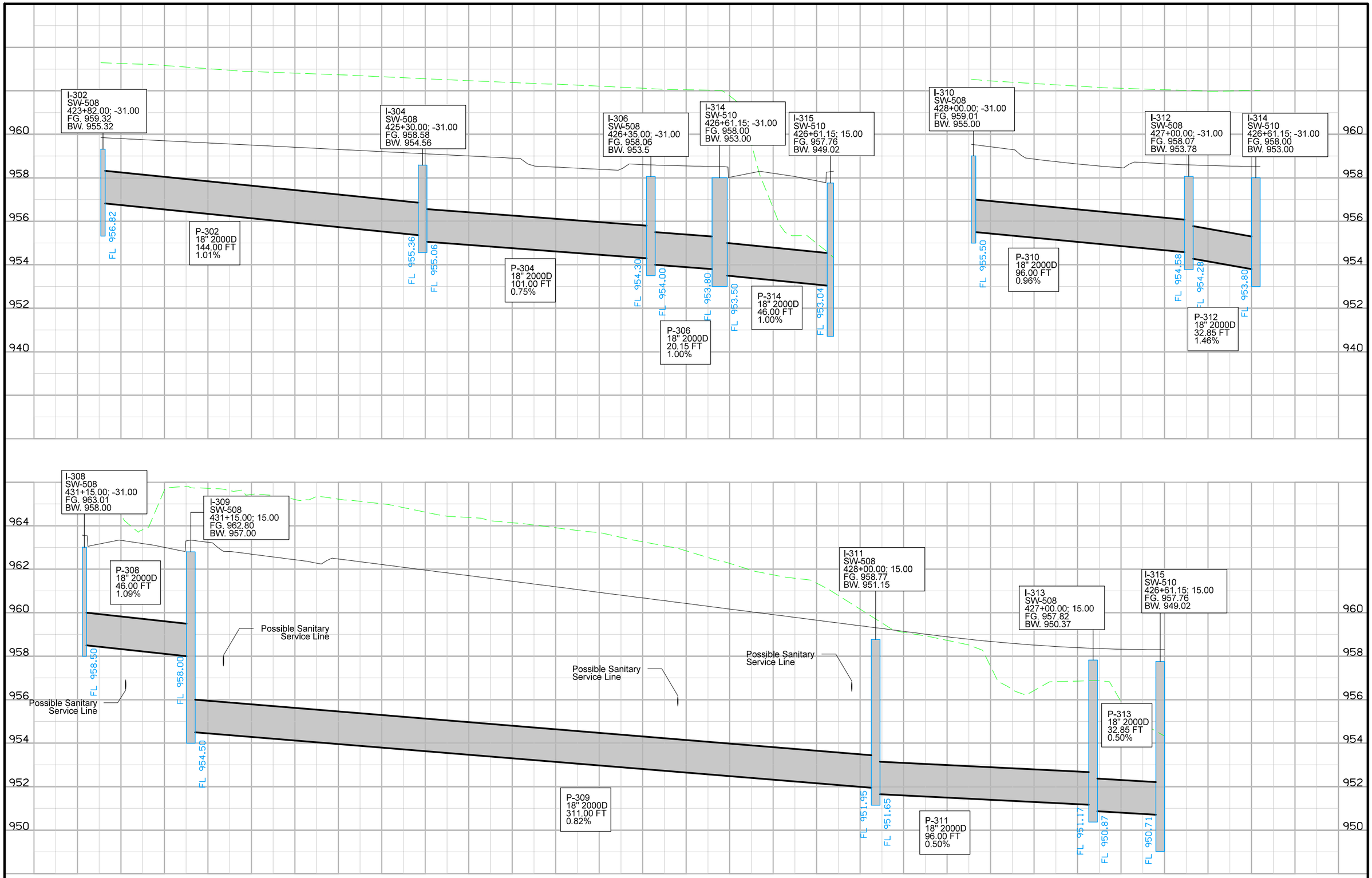

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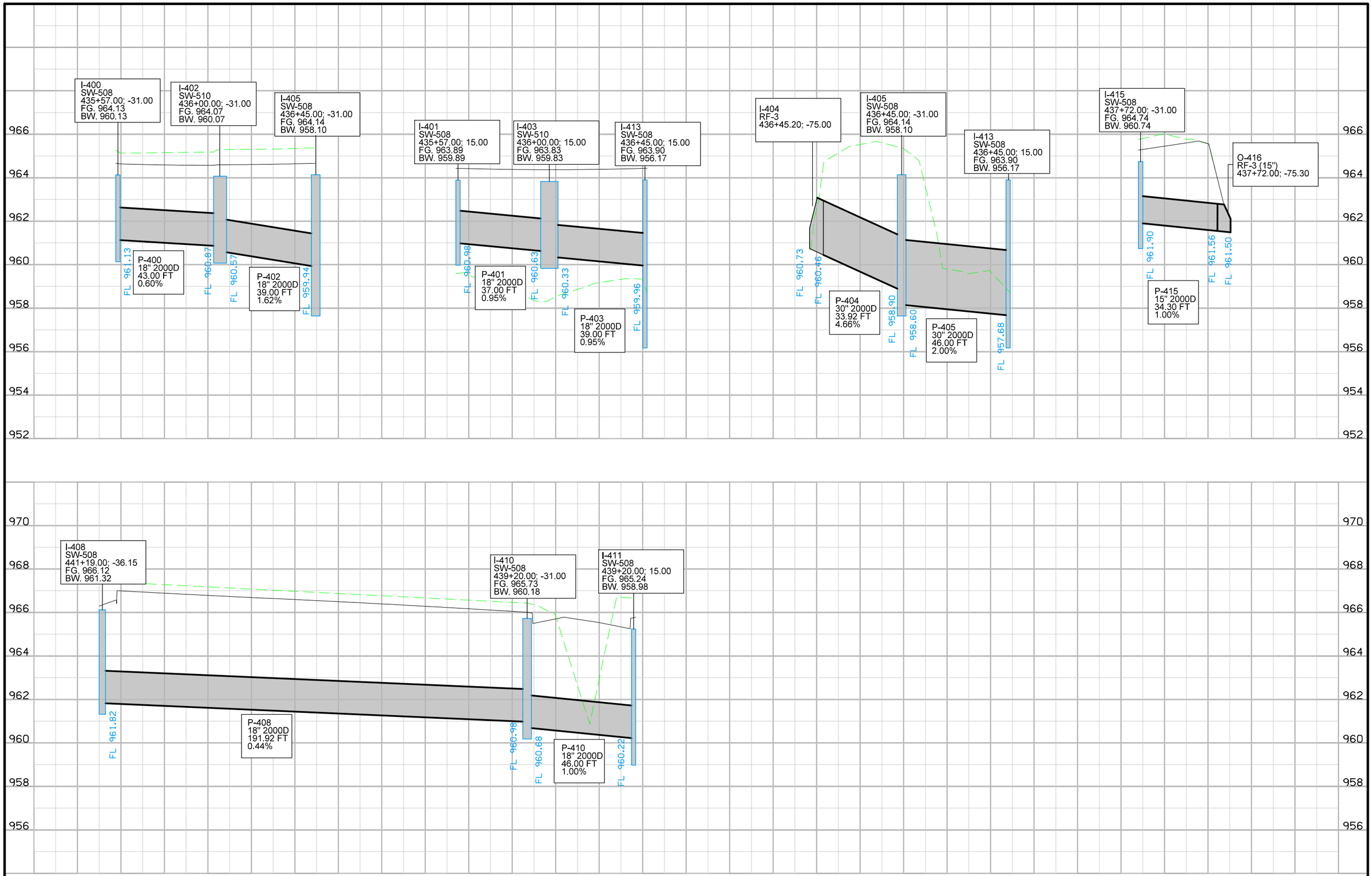

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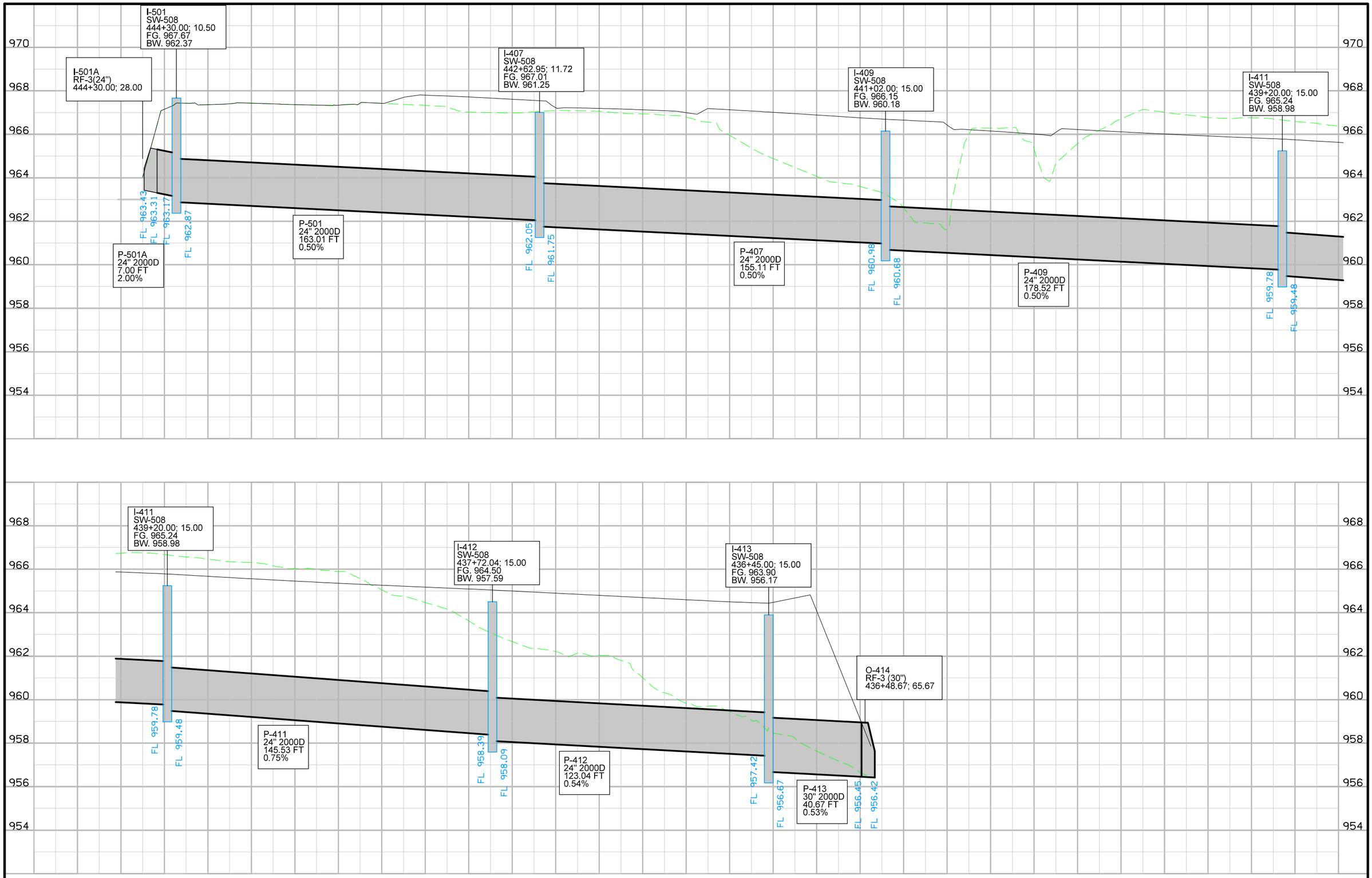

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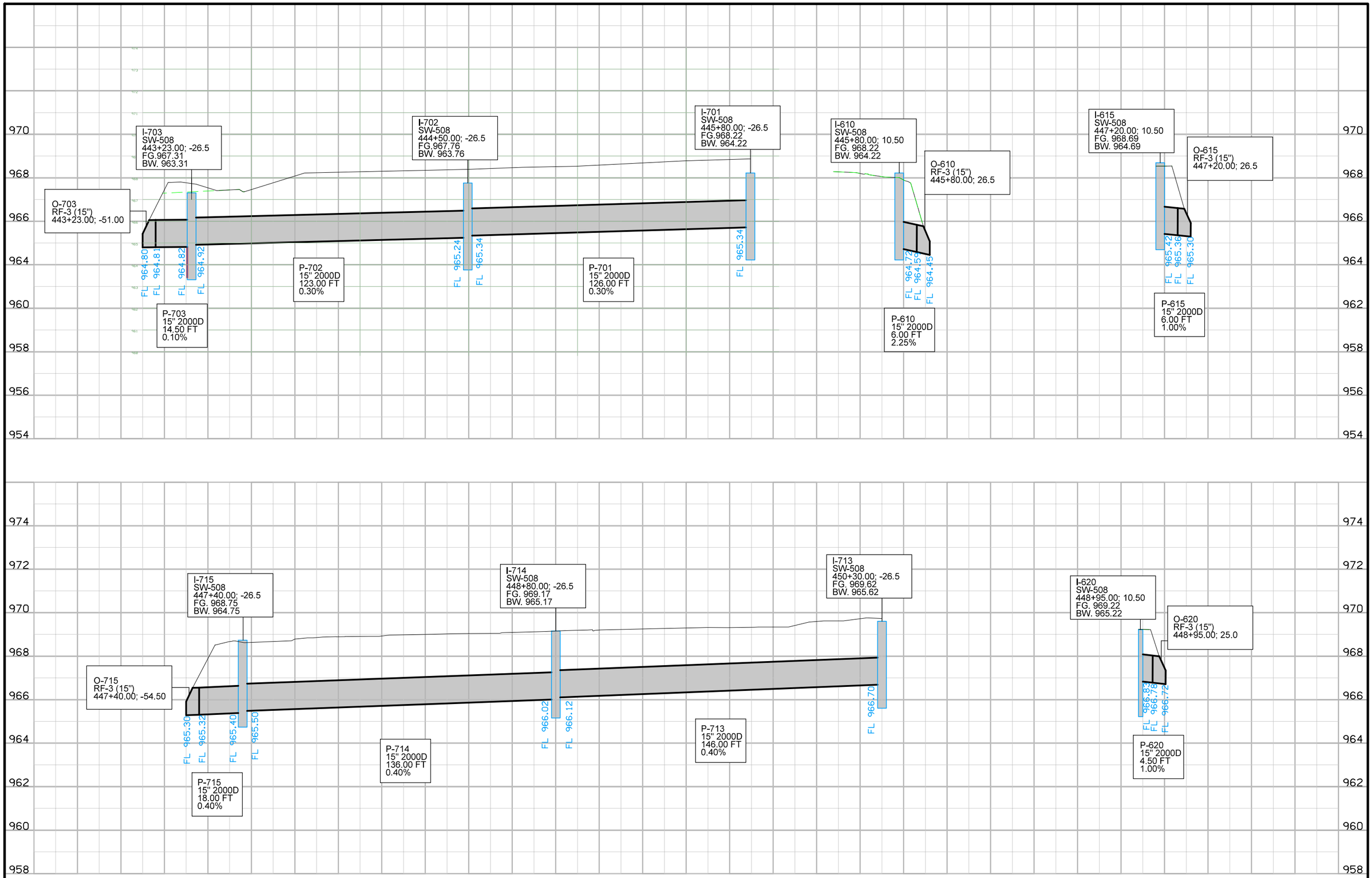

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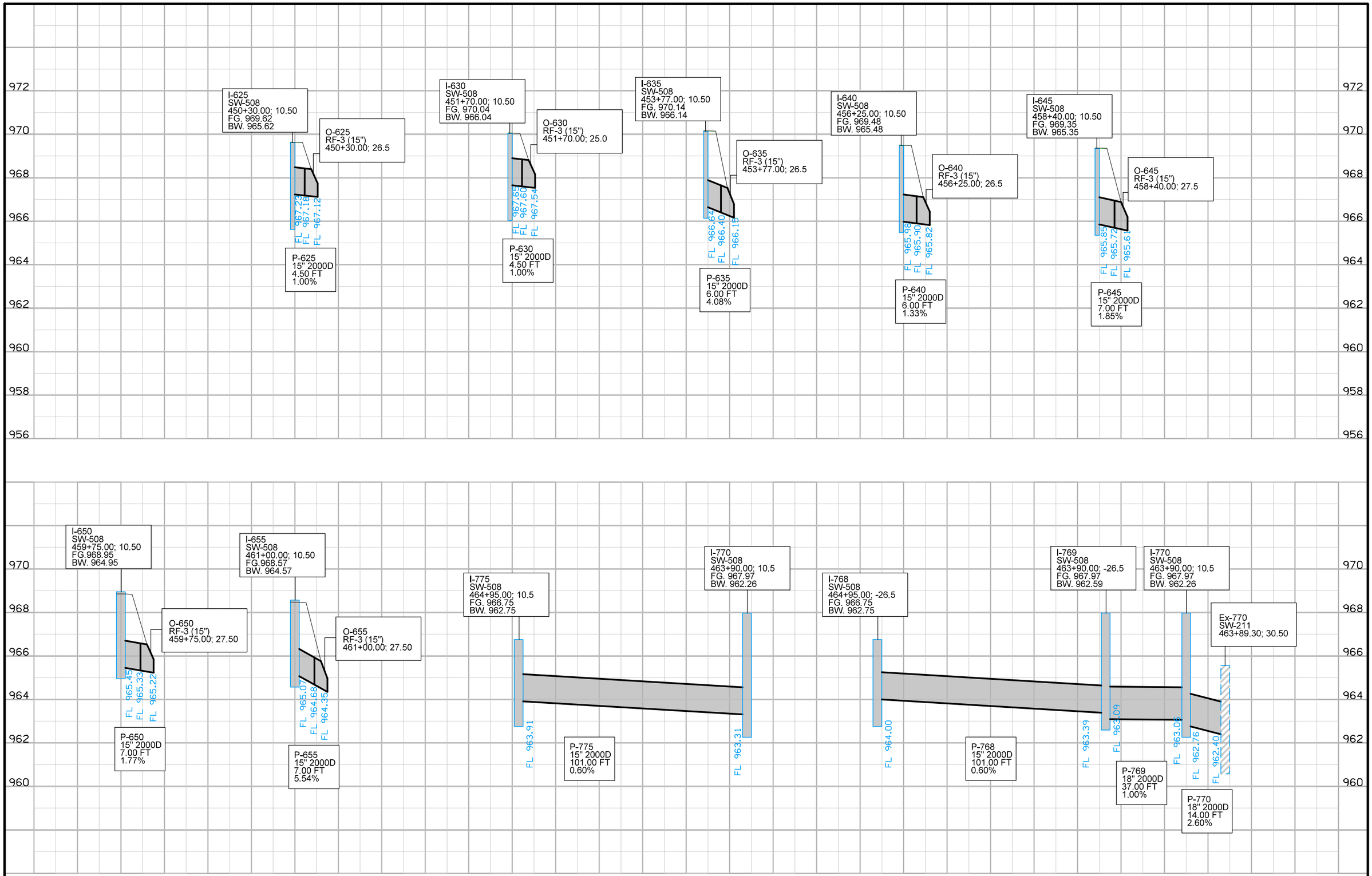

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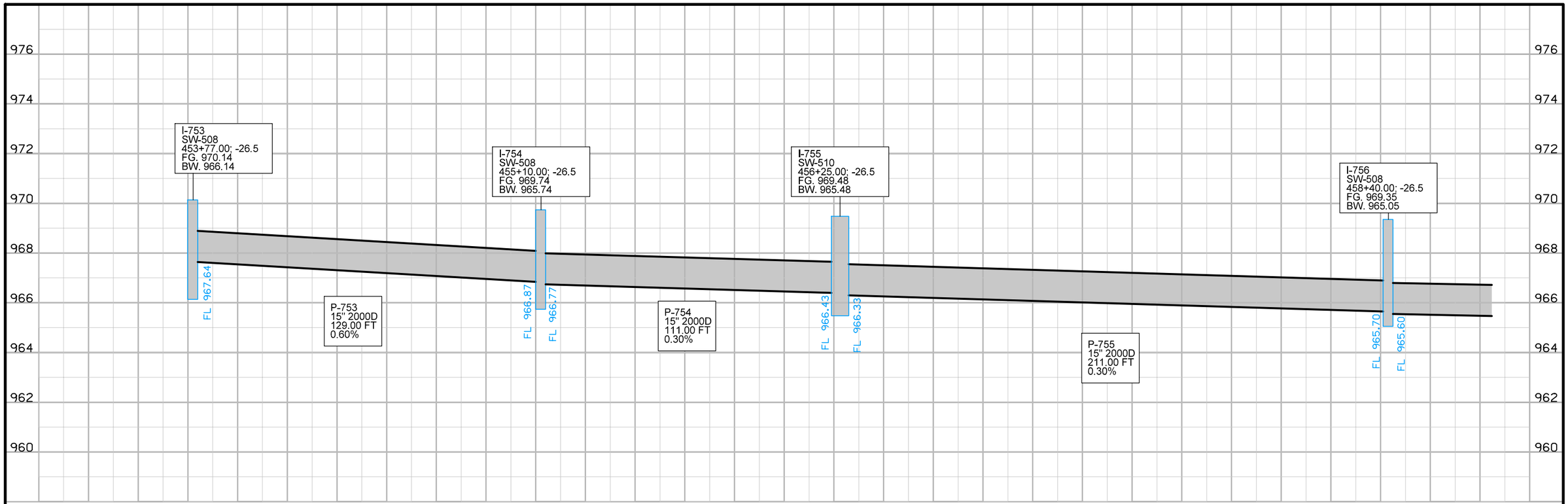

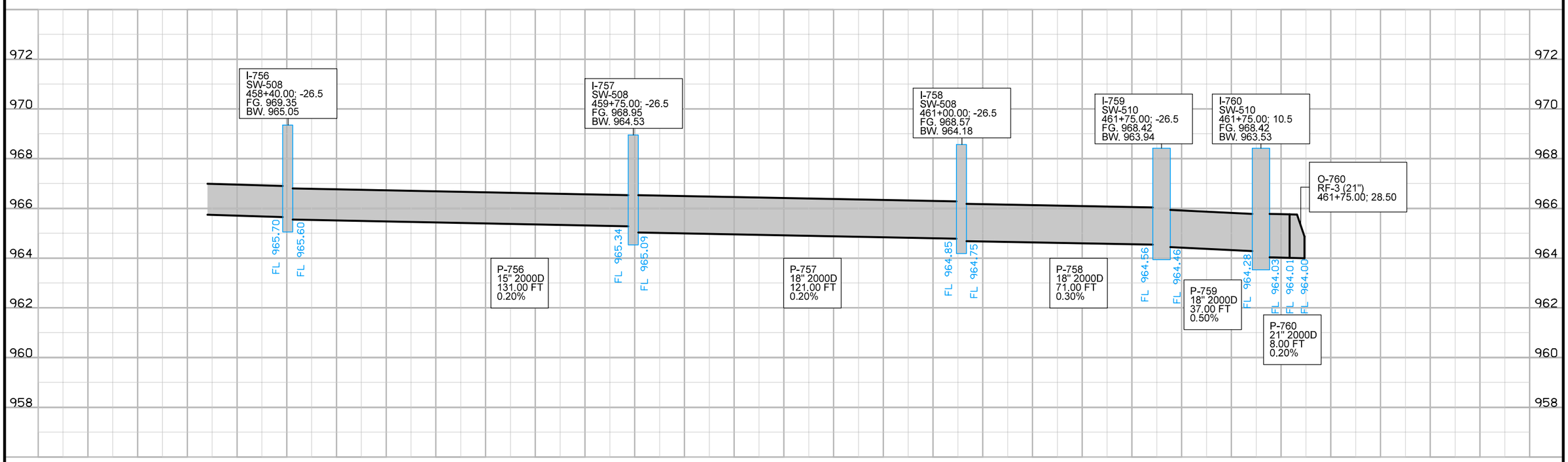

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SURVEY SYMBOLS

UTILITY LEGEND

PLAN VIEW COLOR LEGEND OF SOILS SHEETS

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

PROFILE VIEW COLOR LEGEND OF SOILS SHEETS

LINEWORK	Design Color No.	
Blue	(1)	Proposed Alignment, Stationing, and Alignment Annotation
Green	(2)	Existing Ground Line Profile
Green, Med	(227)	Class 10 Topsoil
Green, M.Light	(226)	Unsuitable A Topsoil
Green, Light	(225)	Unsuitable B Topsoil
Green, V.Light	(224)	Unsuitable C Topsoil
Orange	(6)	Loam
Brown, Dark	(238)	Class 10
Brown, Med	(237)	Sand
Red	(3)	Unsuitable A
Pink, Dark	(13)	Unsuitable B
Pink	(11)	Unsuitable C
Red	(3)	Shale
Red	(3)	Waste
Gray, Light	(48)	Broken and Weathered Rock
Gray, Med	(80)	Rock
Gray, V.Dark	(128)	Boulders

PATTERN AND SYMBOL LEGEND OF SOILS SHEETS

Soils Book No._____

Date(s) Drilled_____

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

Reference Point

Station

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

RIGHT-OF-WAY LEGEND

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

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

SOILS LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES Q & R)

Lincoln TWP.
T-76N R-24W
SEC. 29

Special attention should be given to Section 2107.03.C, Standard Specification Series of 2012, on this project.

255
260
265
270

T-0001
T-0002
T-0003
T-0004
T-0006
T-0007
T-0008
T-0009
T-0010
T-0012
T-0013

Sta. 256+50.00
Begin Project

House
Building
Building
House

0 50
FEET

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.2

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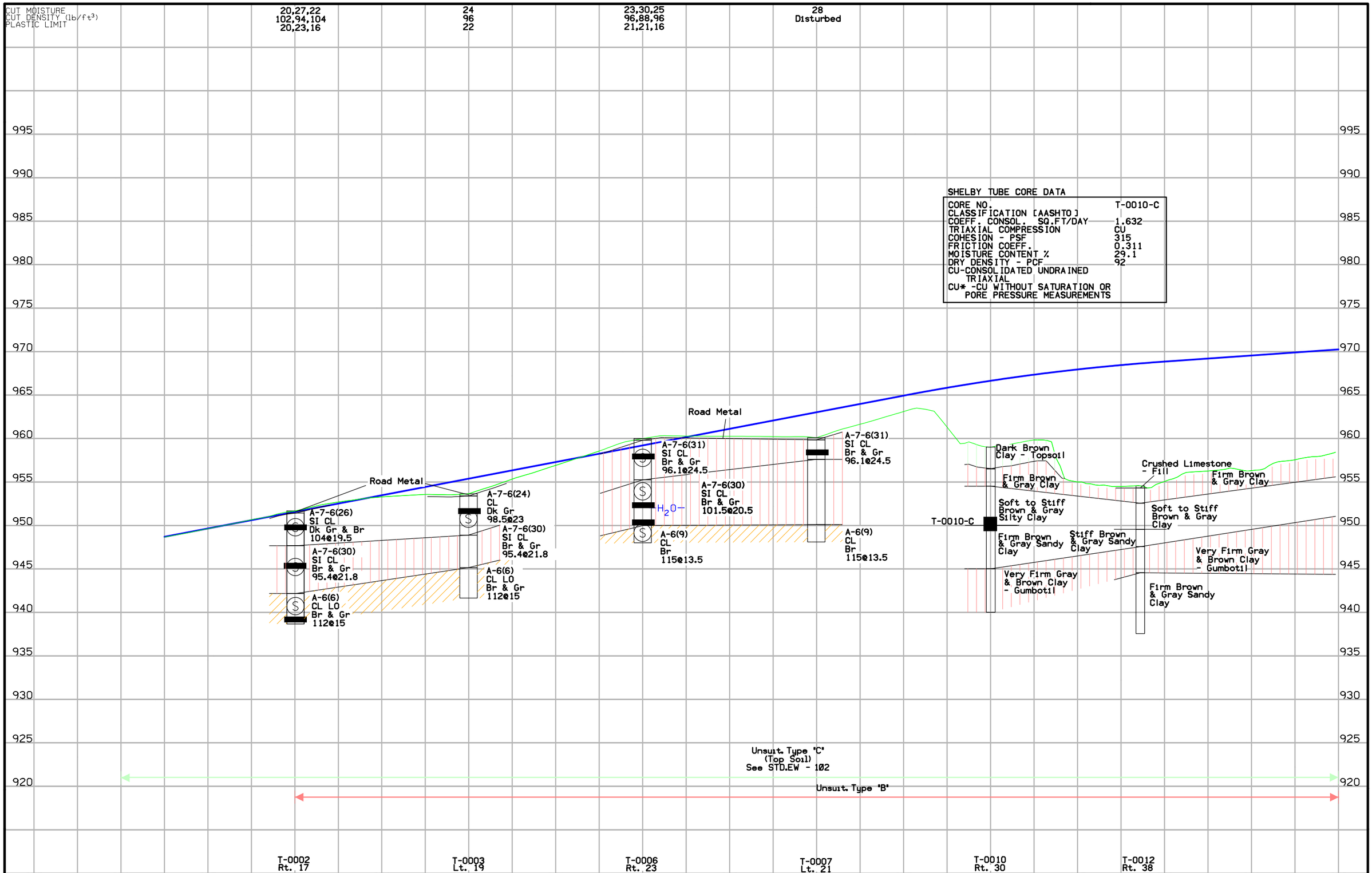

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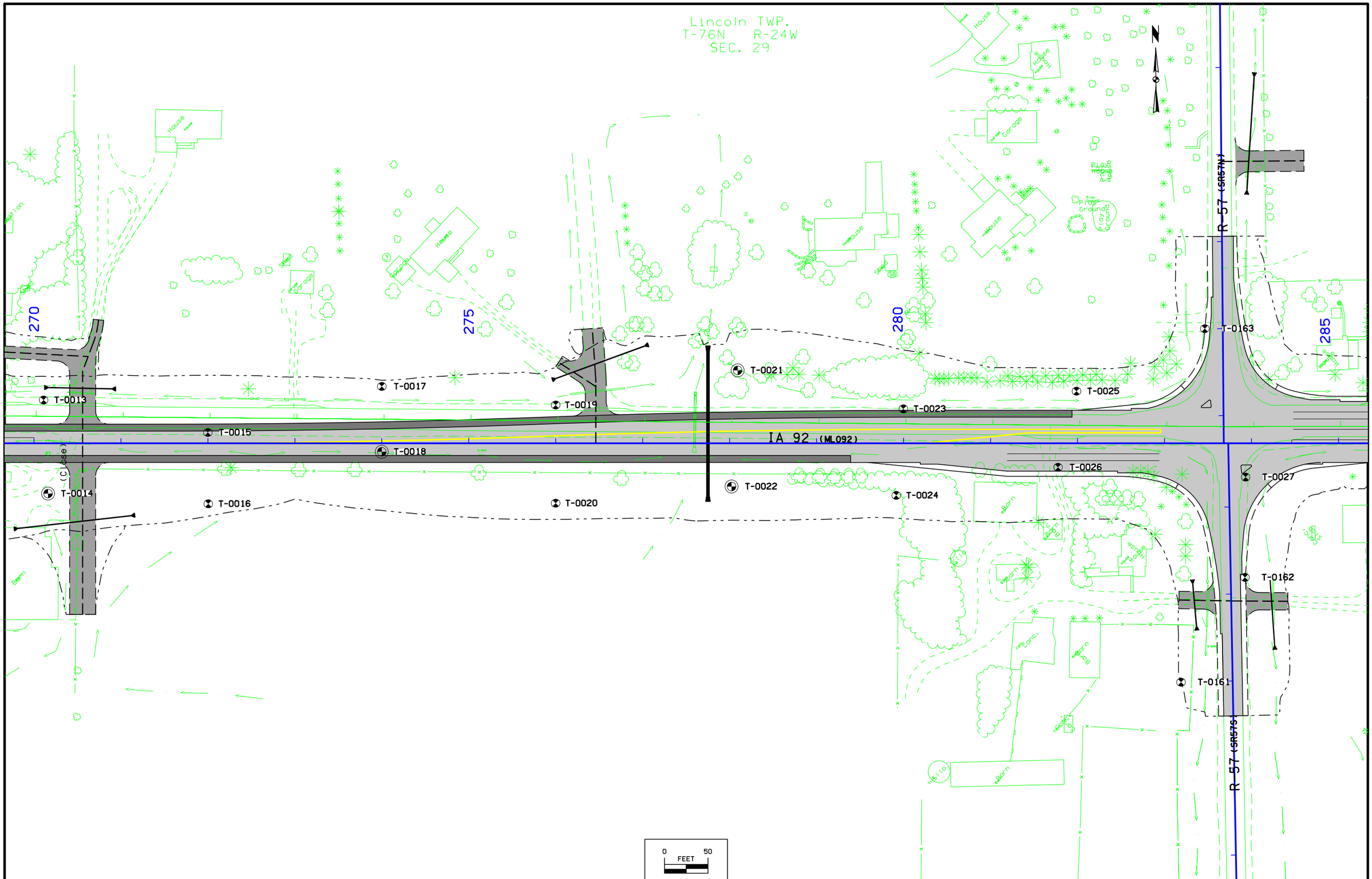

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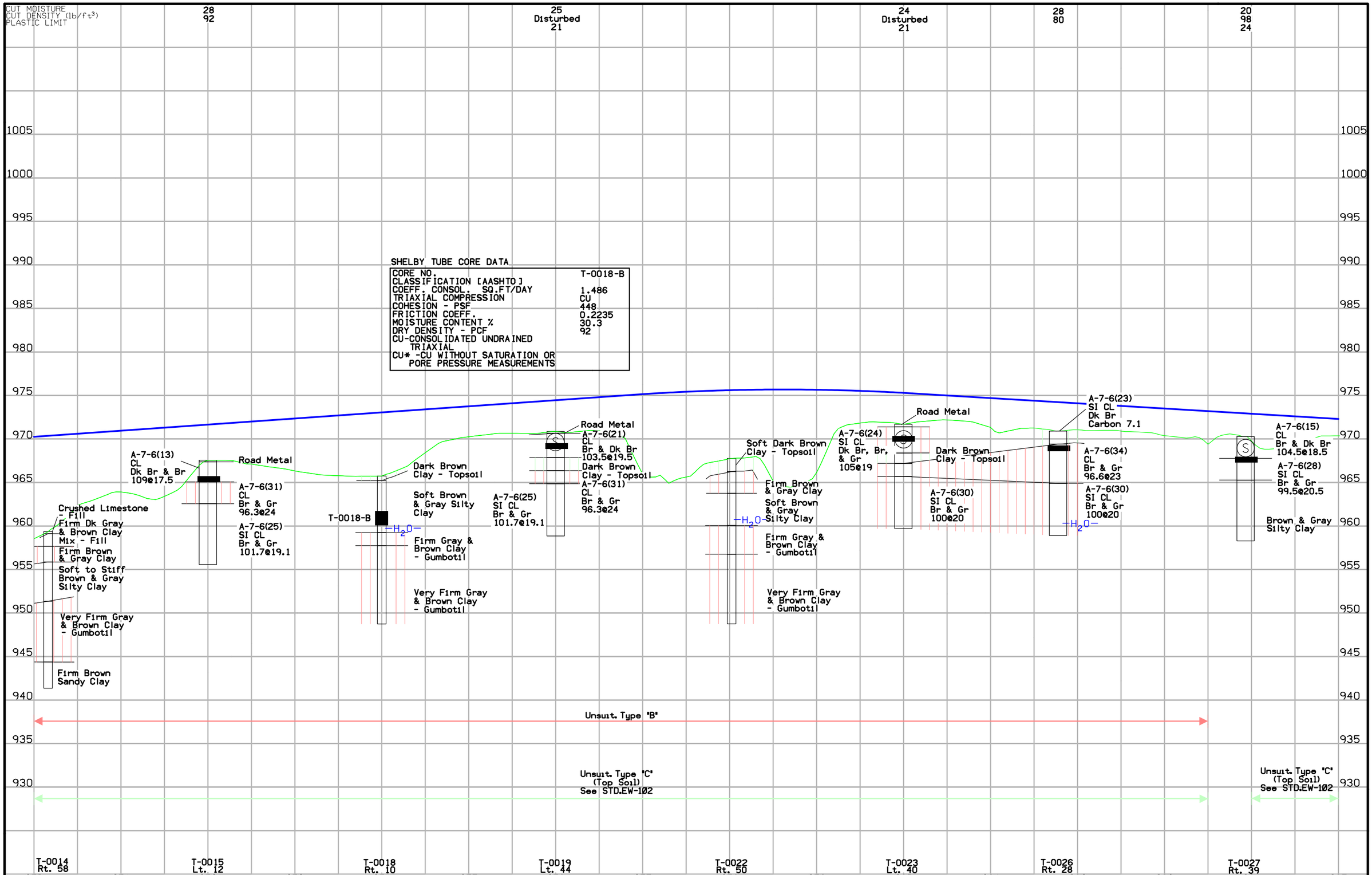

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.5

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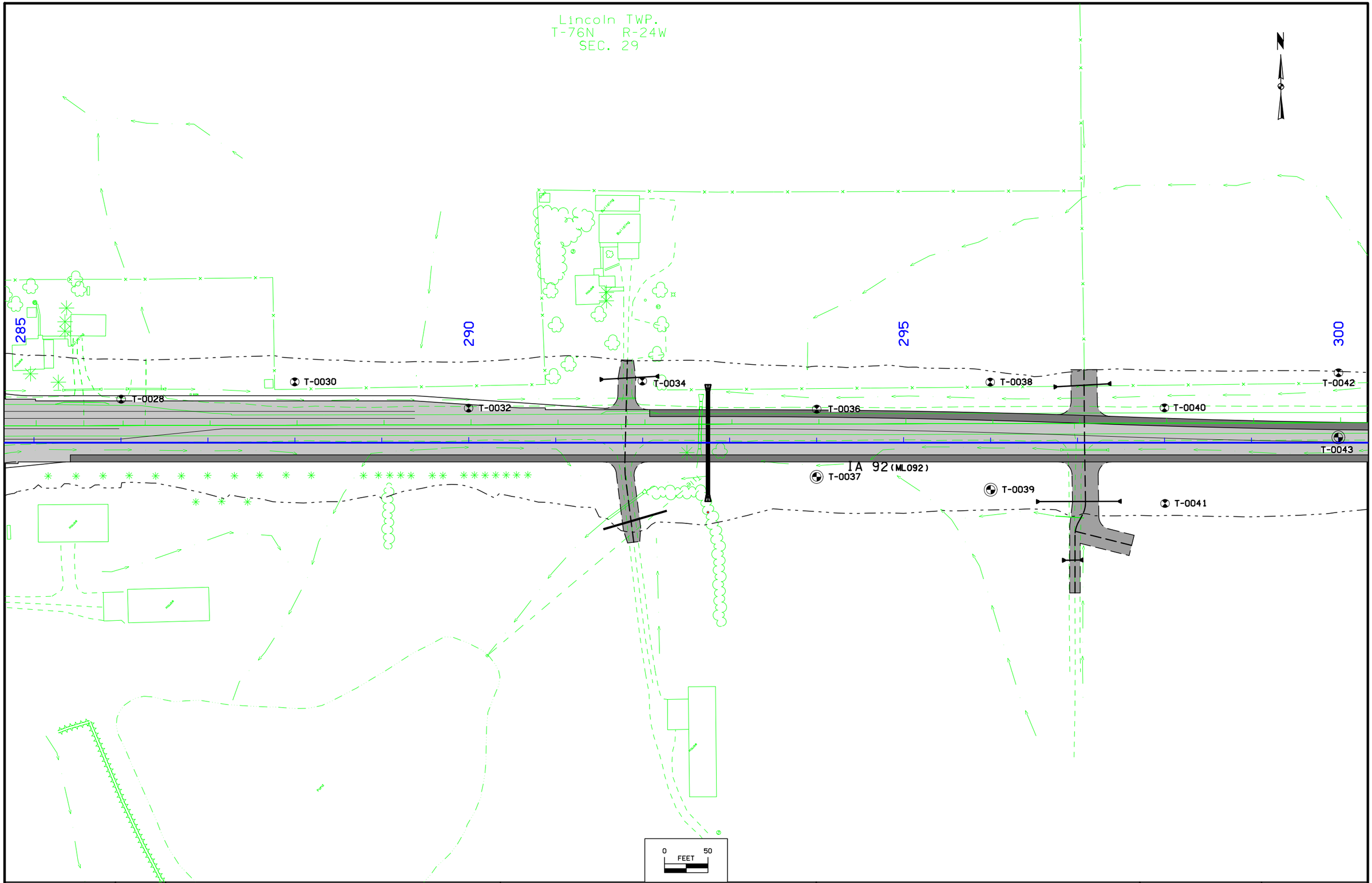

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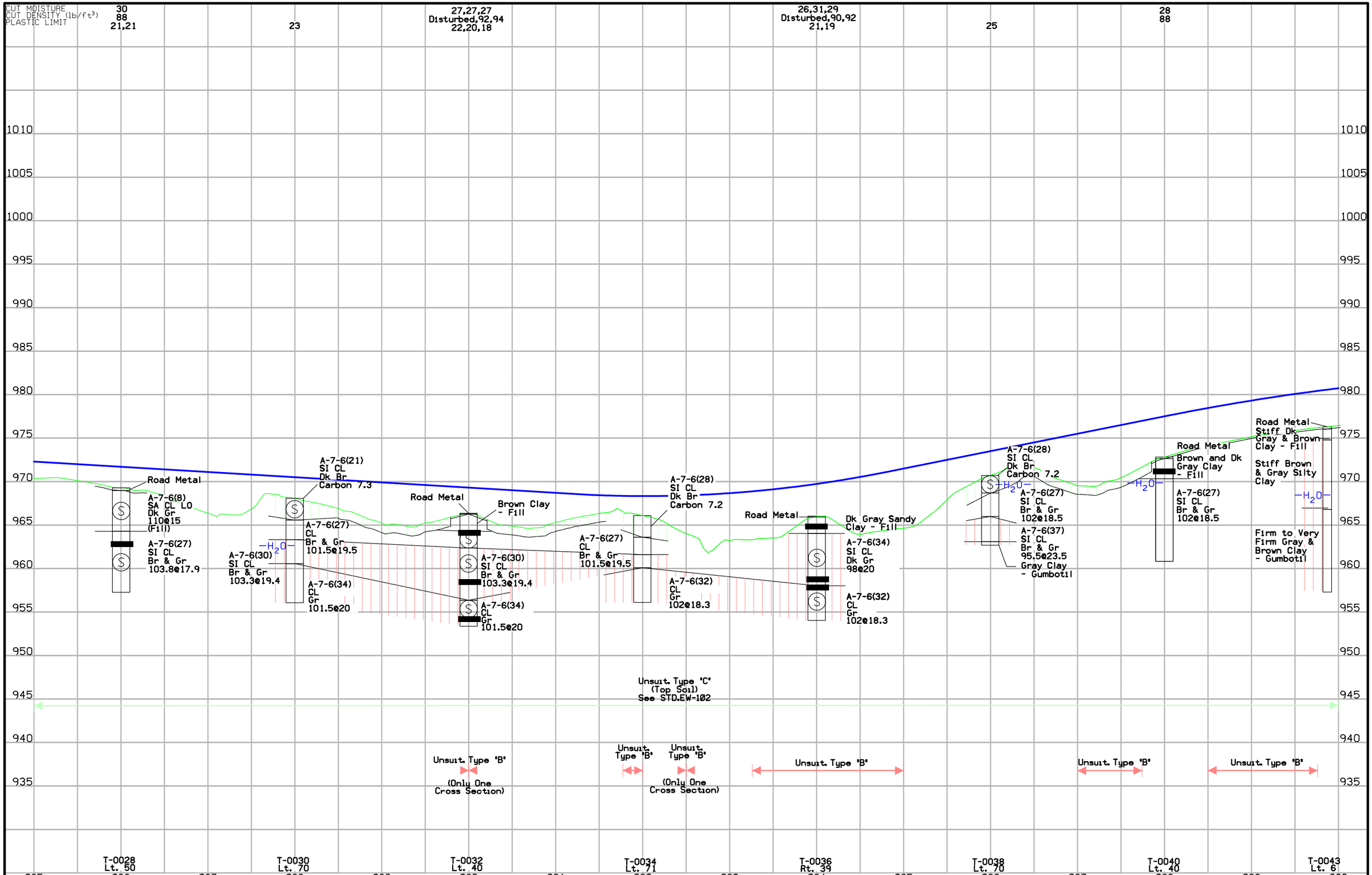

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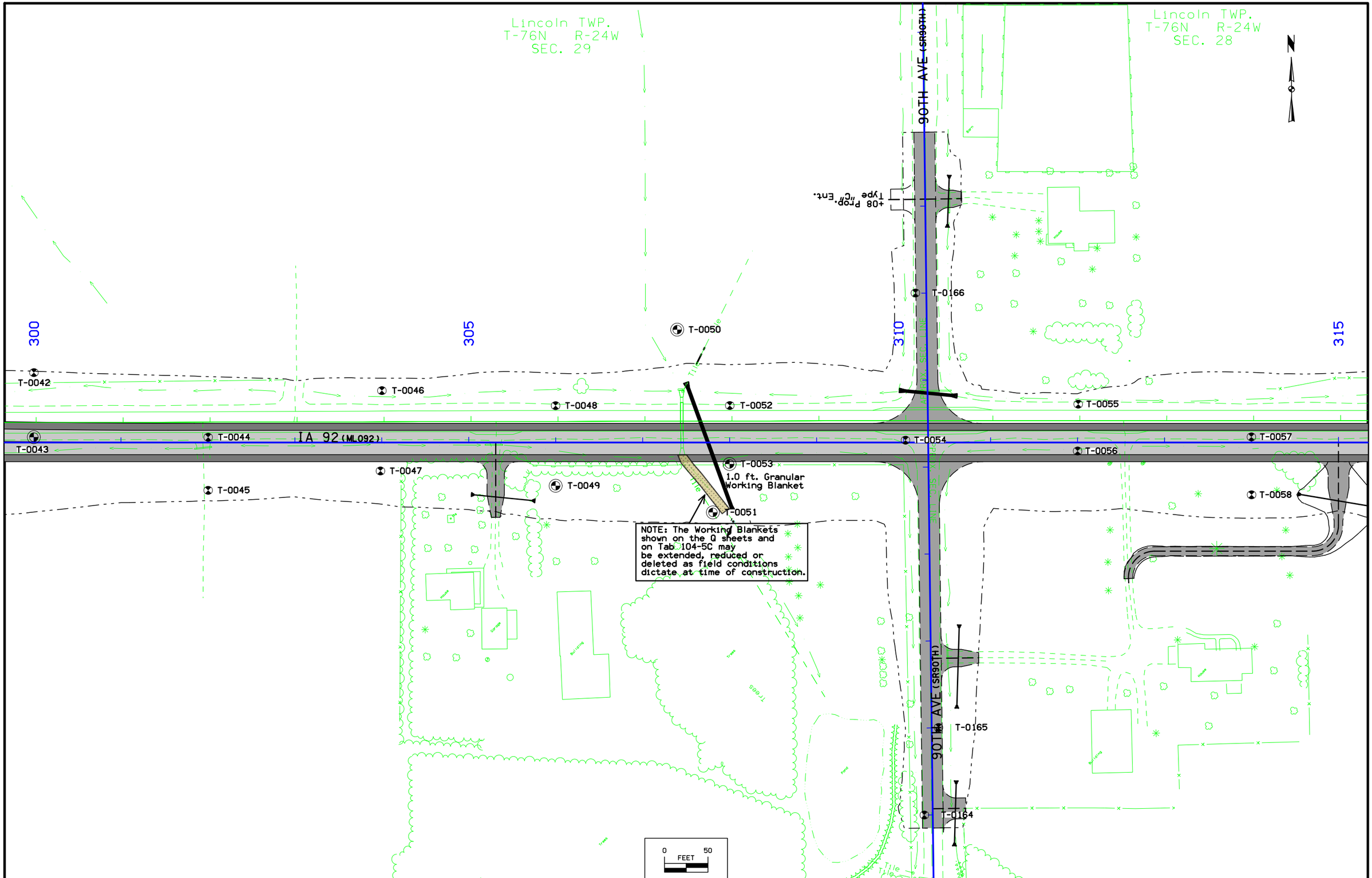

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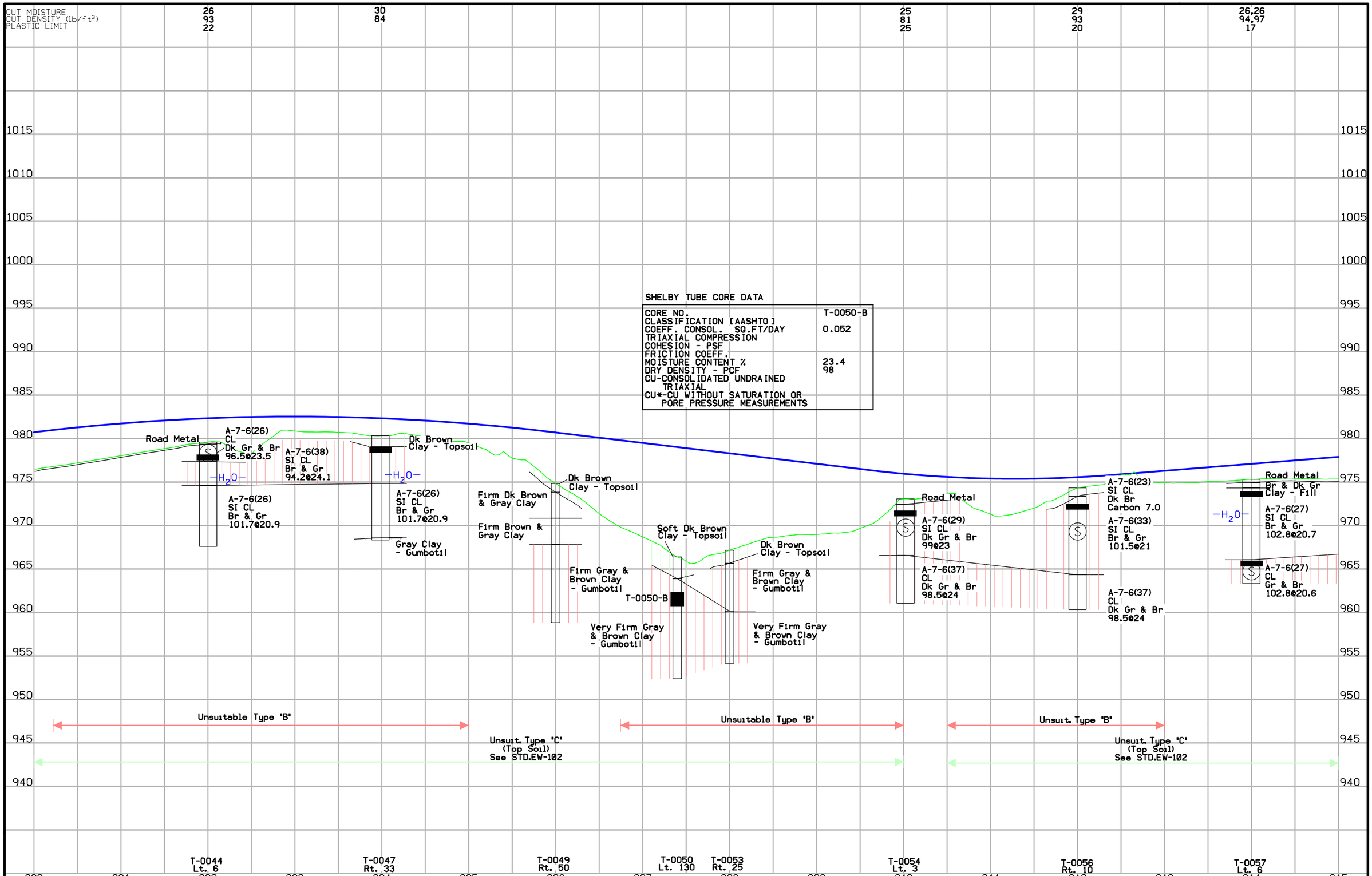

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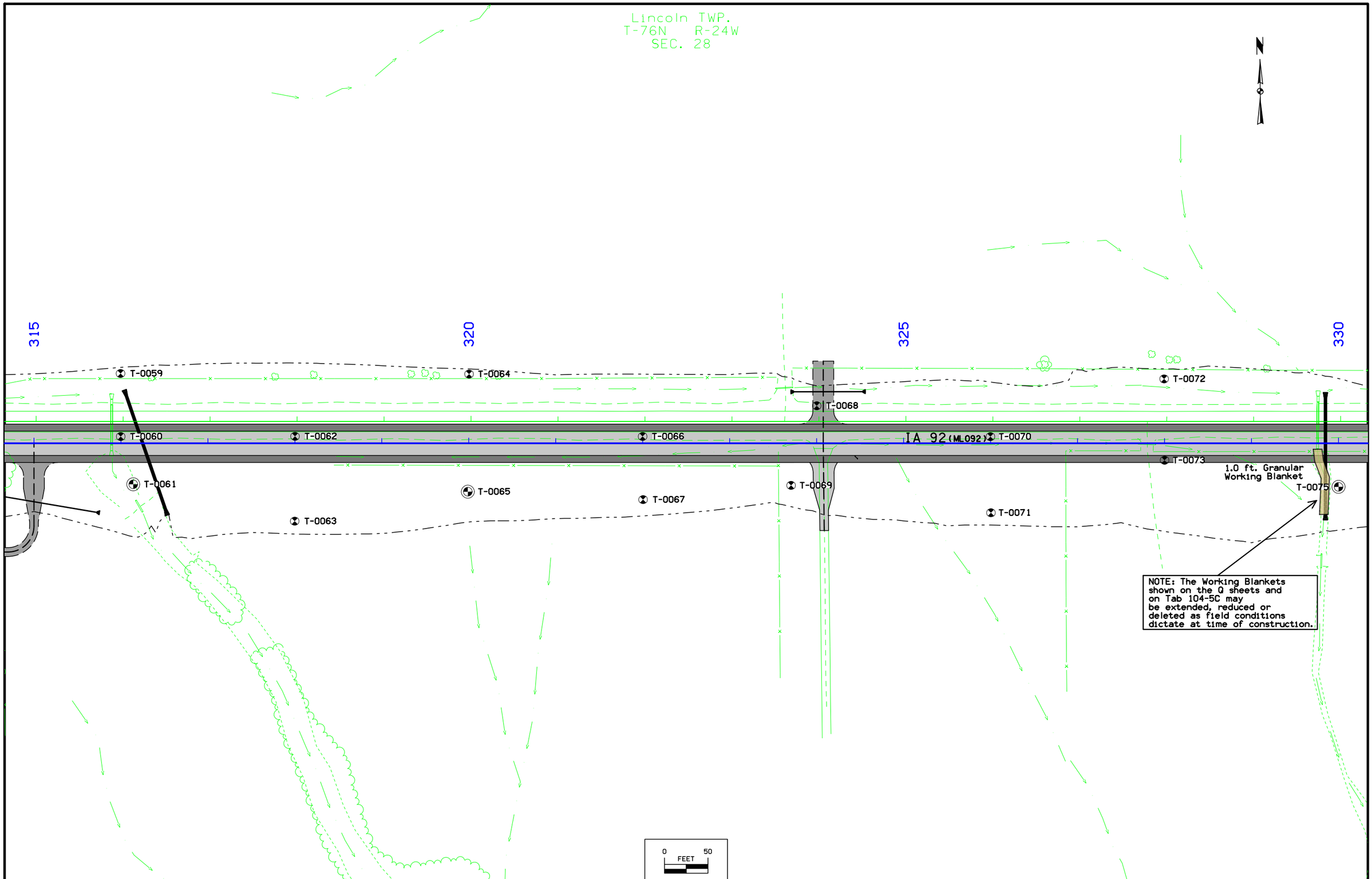

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.10

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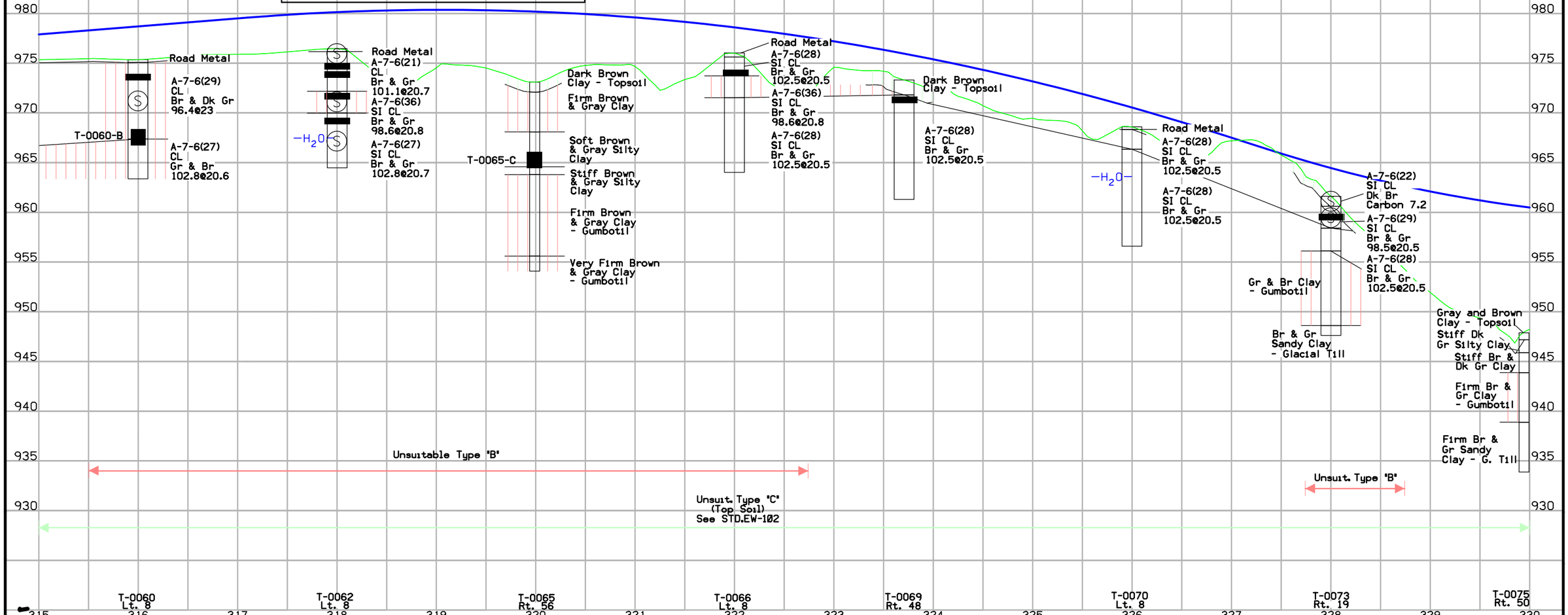
	T-0060	T-0062	T-0065	T-0066	T-0069	T-0070	T-0073	T-0075
CUT MOISTURE	26	27,26,27,30		21	27		24	
CUT DENSITY (lb/ft³)	92	83,91,87,90		100	91		97	
PLASTIC LIMIT	23	23,21,21					24,23	

SHELBY TUBE CORE DATA

CORE NO	T-0060-B	T-0065-C
CLASSIFICATION [AASHTO]		
COEFF. CONSOL. SQ.FT/DAY	0.249	0.946
TRIAXIAL COMPRESSION		
COHESION - PSF		
FRICTION COEFF.		
MOISTURE CONTENT %	15.8	25.1
DRY DENSITY - PCF	104	94

CU-CONSOLIDATED UNDRAINED TRIAXIAL
CU*-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS



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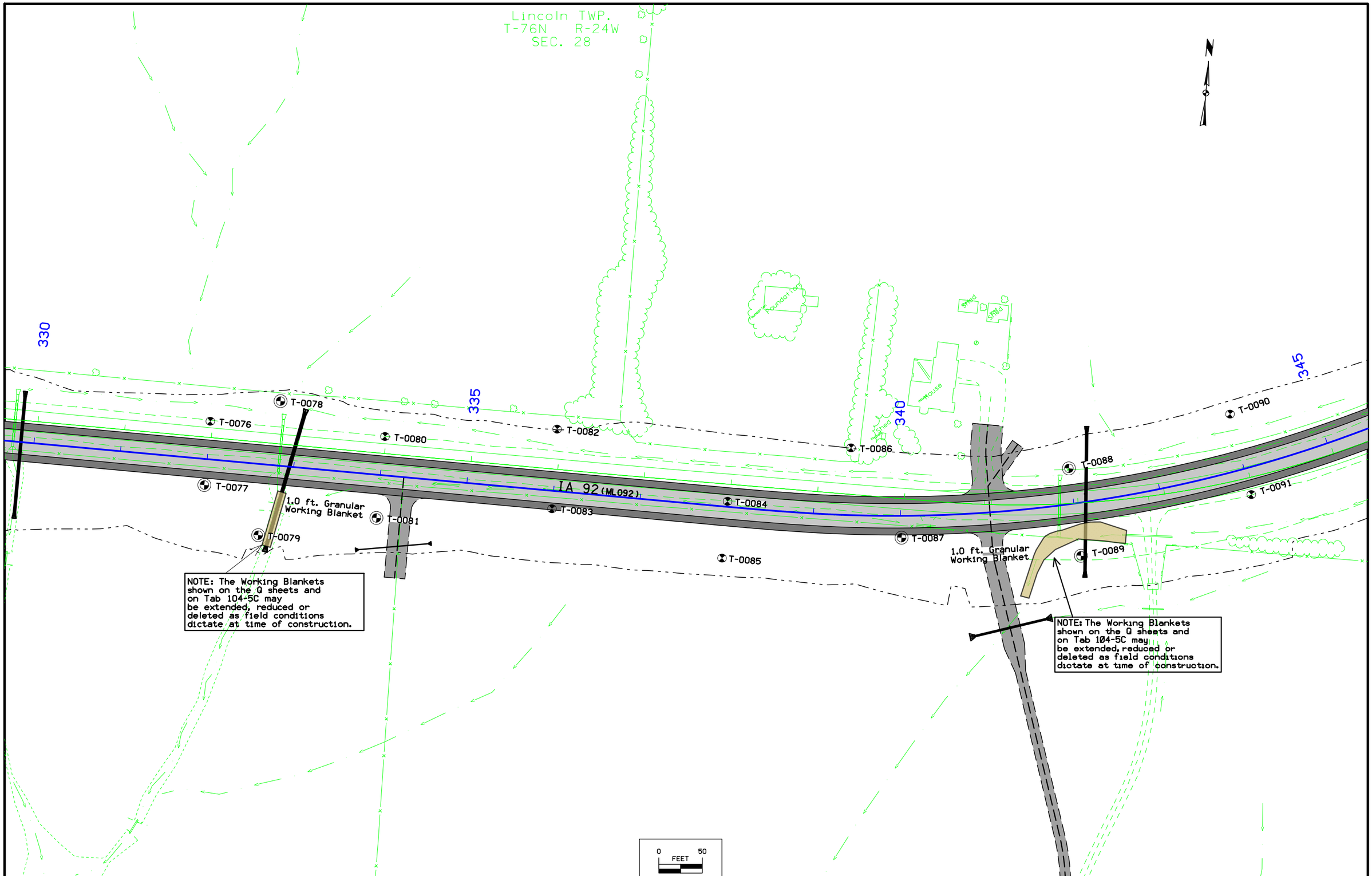

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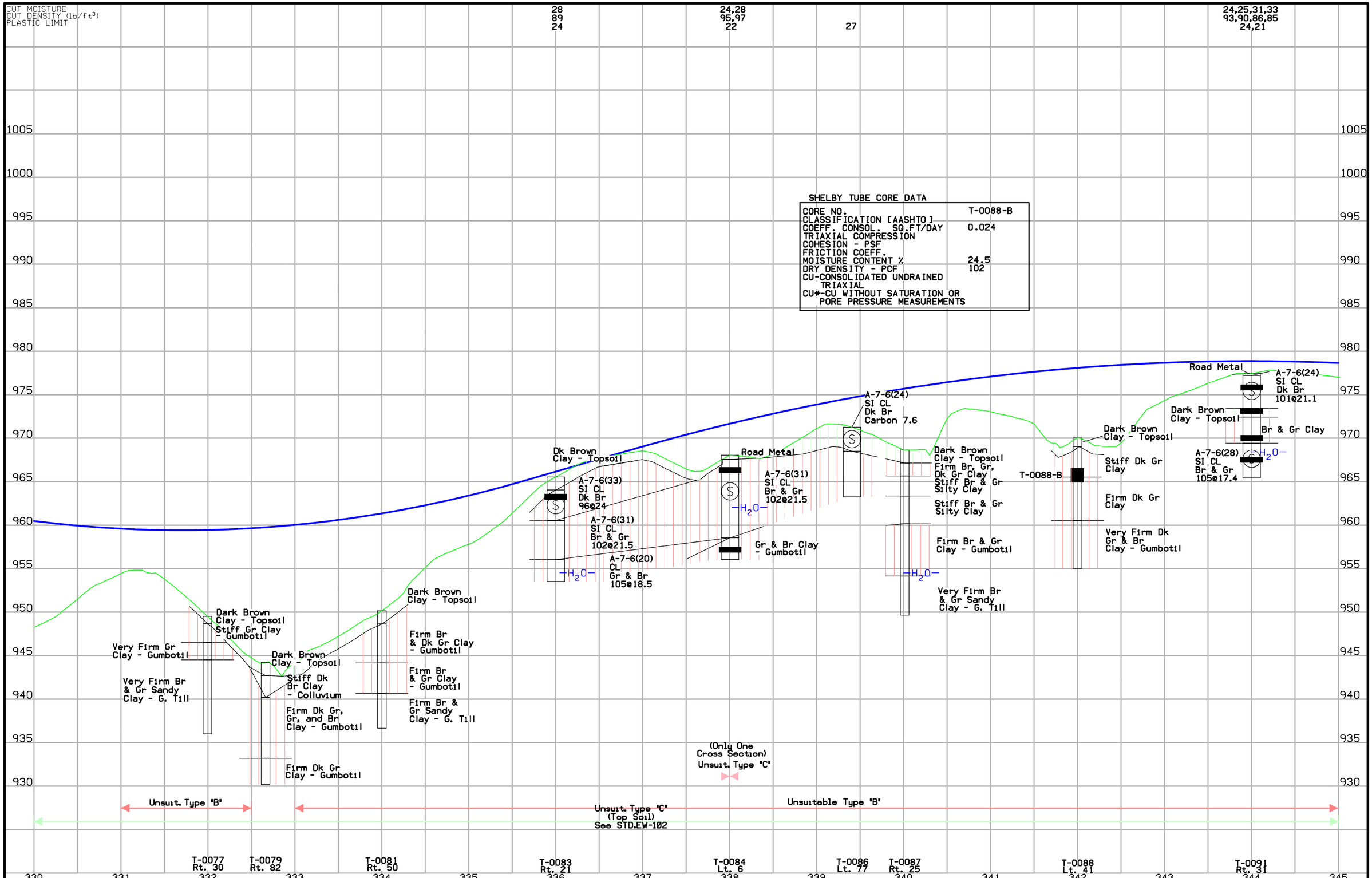

SHELBY TUBE CORE DATA

CORE NO.	T-0088-B
CLASSIFICATION [AASHTO]	
COEFF. CONSOL. SQ.FT/DAY	0.024
TRIAXIAL COMPRESSION	
COHESION - PSF	
FRICTION COEFF.	
MOISTURE CONTENT %	24.5
DRY DENSITY - PCF	102
CU-CONSOLIDATED UNDRAINED TRIAXIAL	
CU*-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS	

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.13

Lincoln TWP.
T-76N R-24W
SEC. 28

PI Sta 351+45.19
(Survey)

PC Sta 348+38.66
(Survey)

PT Sta 356+26.26
(Survey)

PT Sta 354+67.33
(Survey)

345
350
355
360

IA 92 (ML092)

T-0092
T-0093
T-0094
T-0095
T-0096
T-0097
T-0098
T-0099
T-0101
T-0102
T-0104
T-0105
T-0106
T-0107

Curve Data
Δ = 33° 09' 29.88" (RT)
T = 341.30
L = 663.44
R = 1,146.39
E = 49.73

0 FEET 50

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.14

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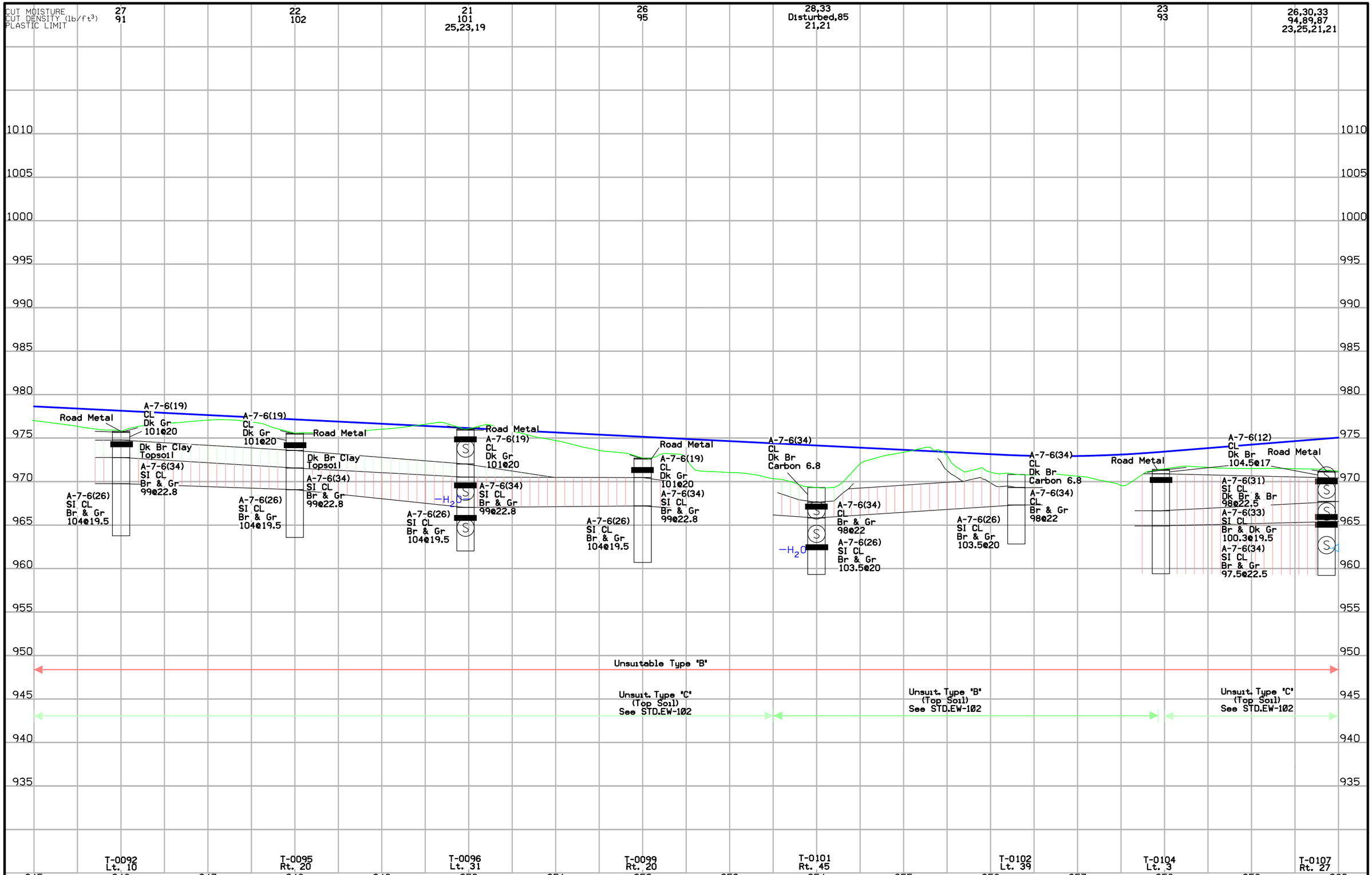

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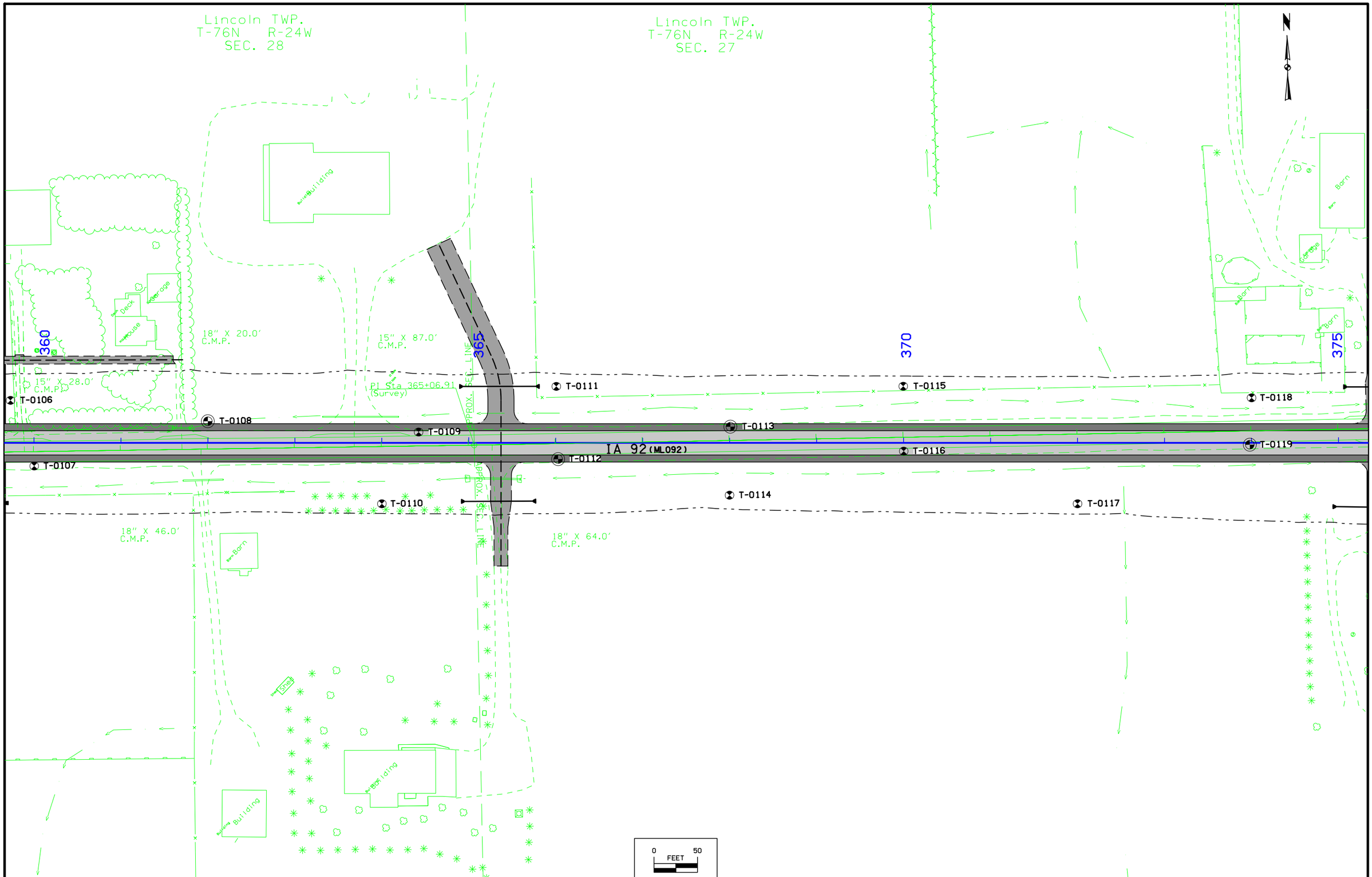

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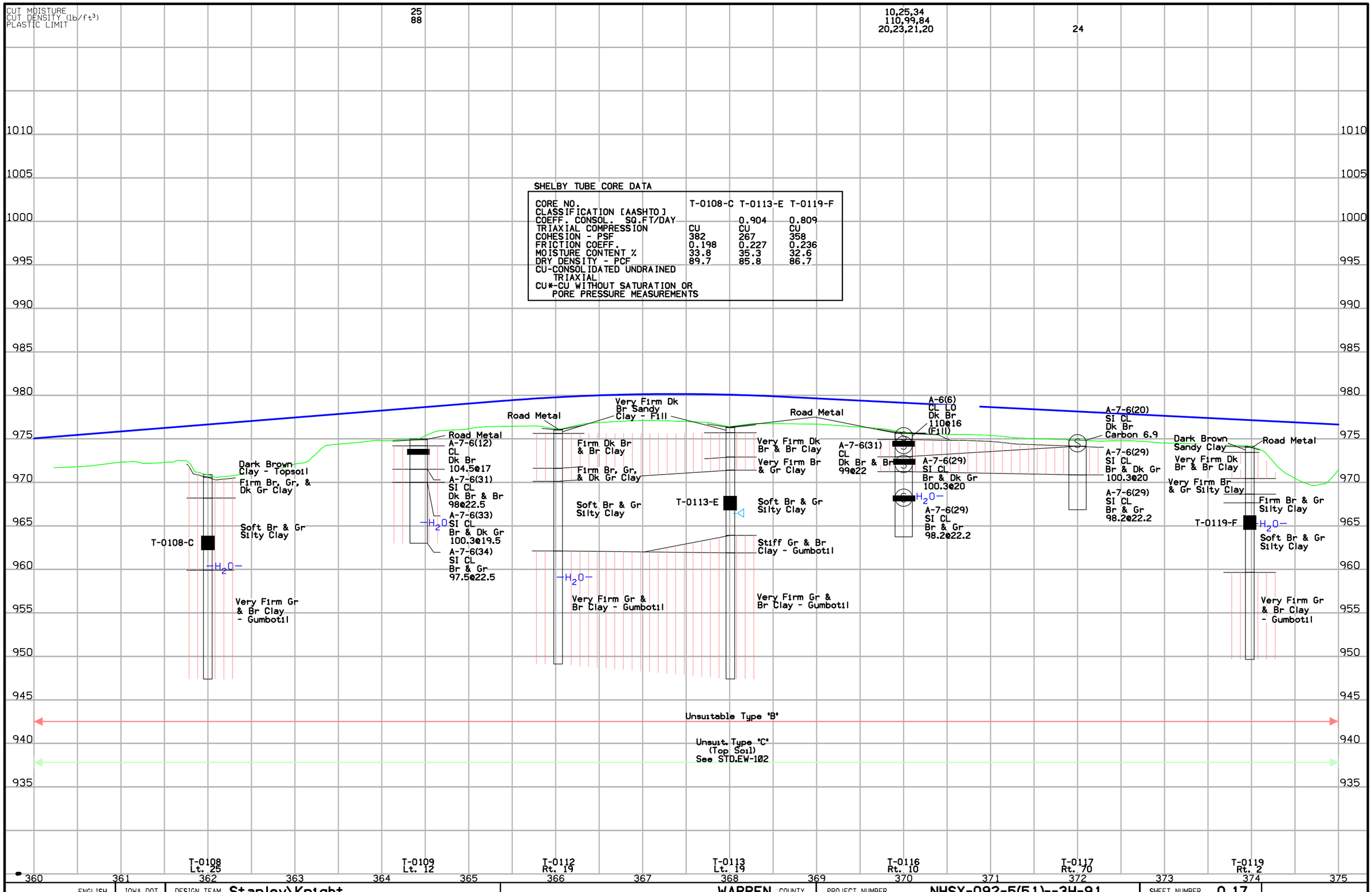

SHELBY TUBE CORE DATA

CORE NO.	T-0108-C	T-0113-E	T-0119-F
CLASSIFICATION [AASHTO]			
COEFF. CONSOL. SQ.FT/DAY		0.904	0.809
TRIAXIAL COMPRESSION	CU	CU	CU
COHESION - PSF	382	267	358
FRICTION COEFF.	0.198	0.227	0.236
MOISTURE CONTENT %	33.8	35.3	32.6
DRY DENSITY - PCF	89.7	85.8	86.7

CU-CONSOLIDATED UNDRAINED TRIAXIAL
CU*-CU WITHOUT SATURATION OR PORE PRESSURE MEASUREMENTS

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.17

11:30:18 AM aknight pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Soils\910920510.sht

Lincoln TWP.
T-76N R-24W
SEC. 27

375
380
385
390

T-0120
T-0121
T-0122
T-0123
T-0124
T-0125
T-0126
T-0127
T-0128
T-0129
T-0130
T-0131

IA 92 (ML092)

1.0 ft. Granular
Working Blanket

NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.

0 50
FEET

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.18

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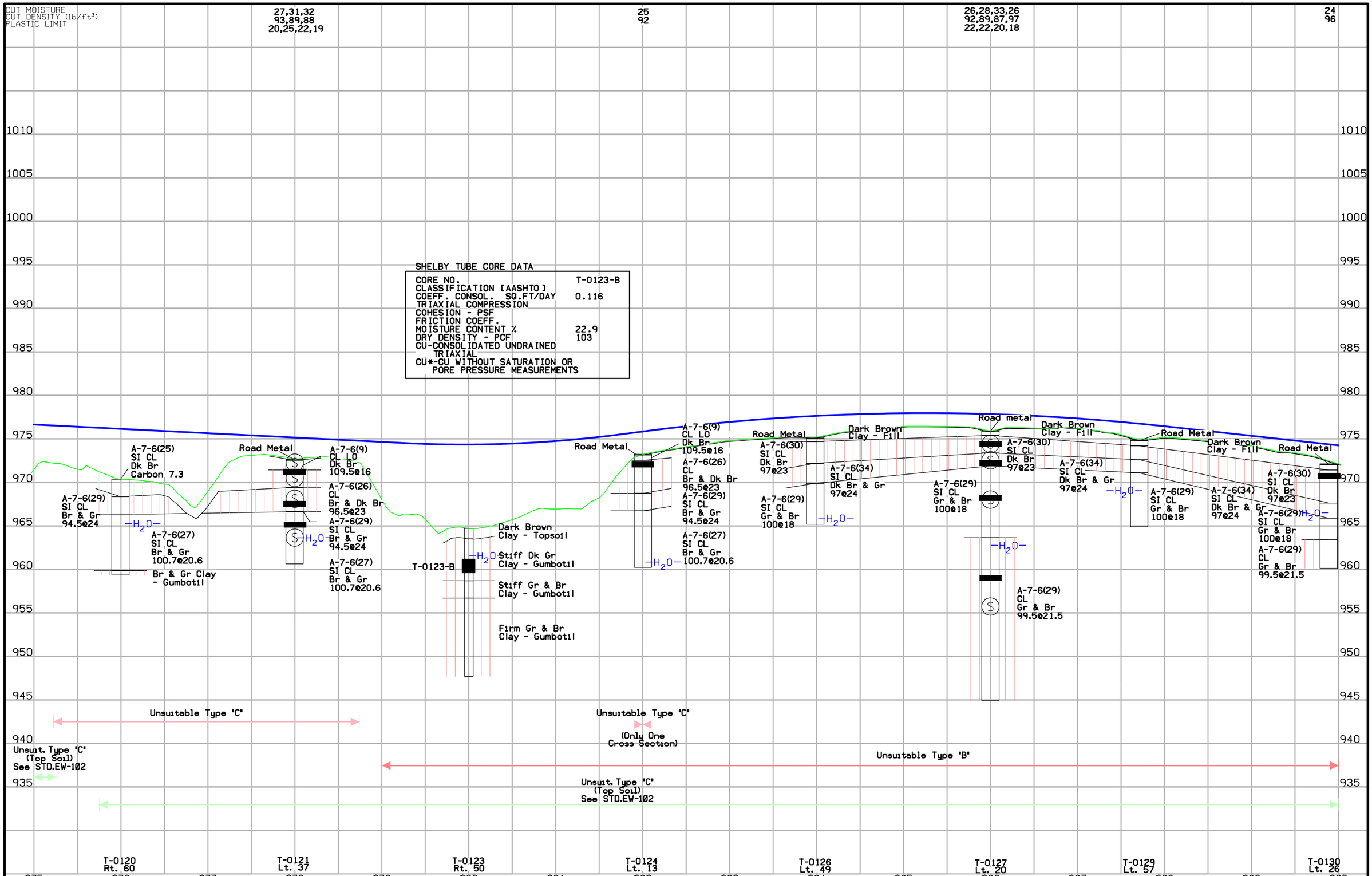

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Lincoln TWP.
T-76N R-24W
SEC. 27

R-63 (SR63N)

390

395

400

405

T-0134

T-0137

T-0139

T-0133

T-0132

IA 92 (ML092)

T-0135

T-0136

T-0138

1.0 ft. Granular
Working Blanket

NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.

R-63 (SR63S)

0 FEET 50

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.20

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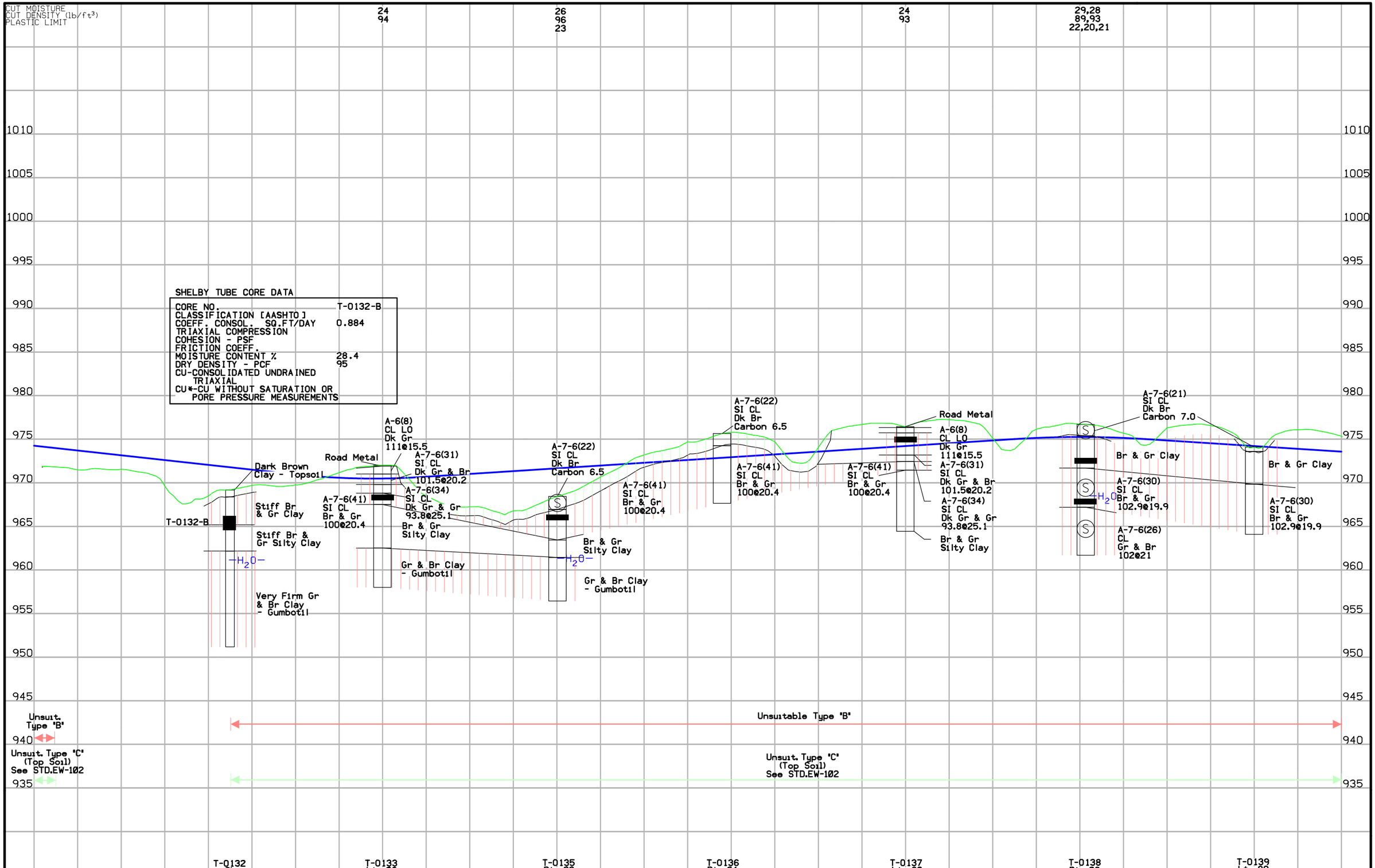

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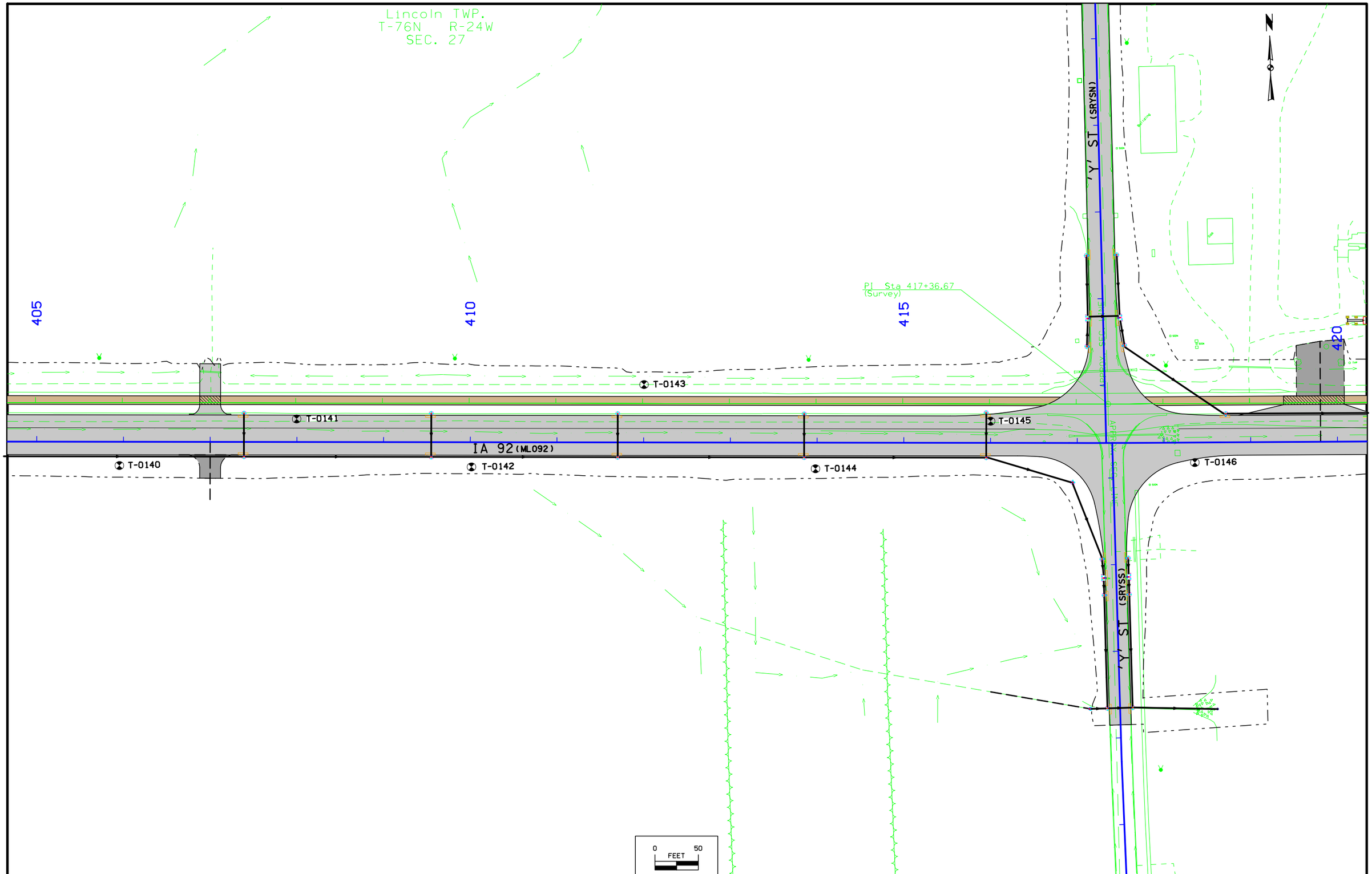

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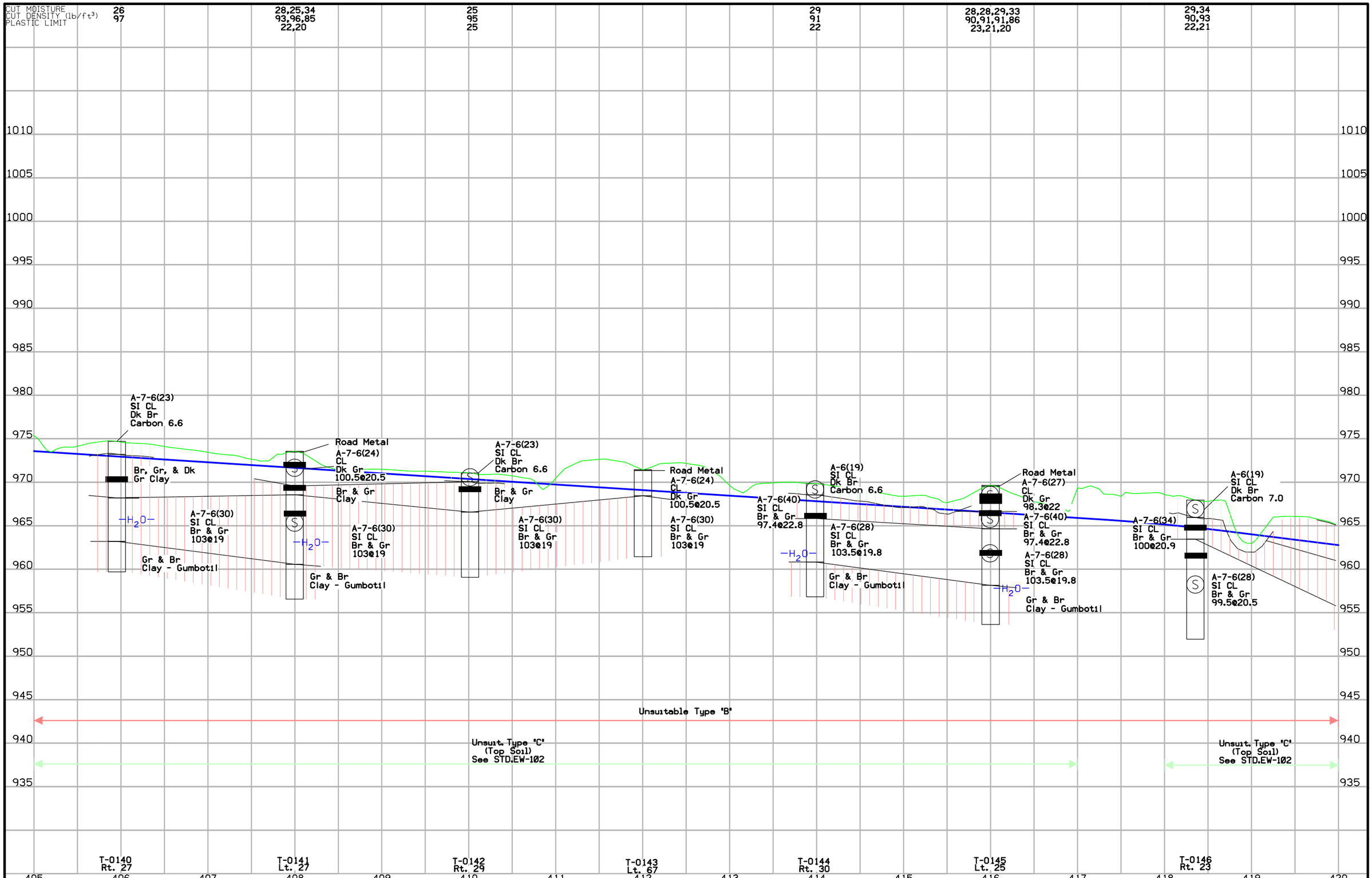

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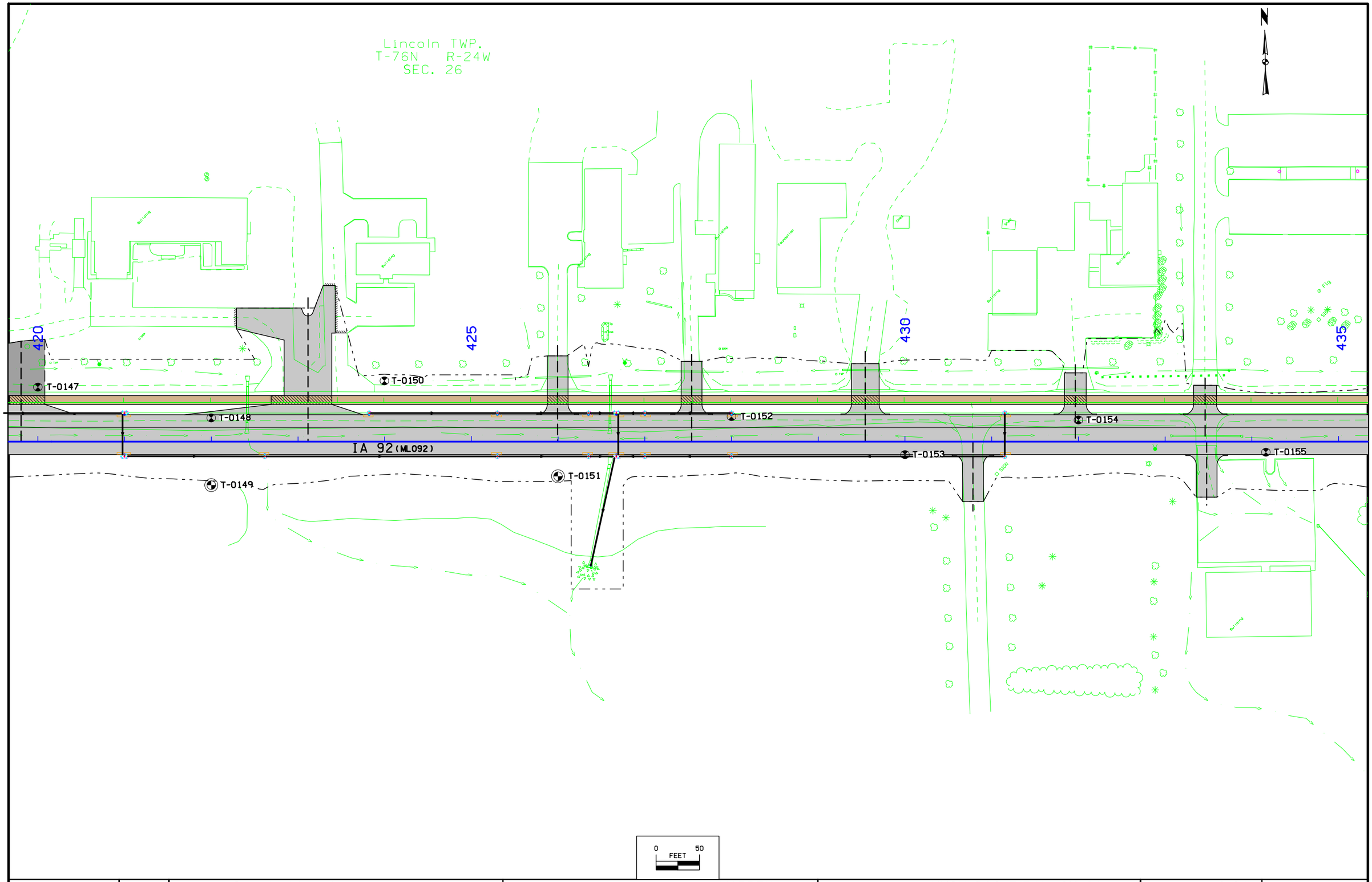

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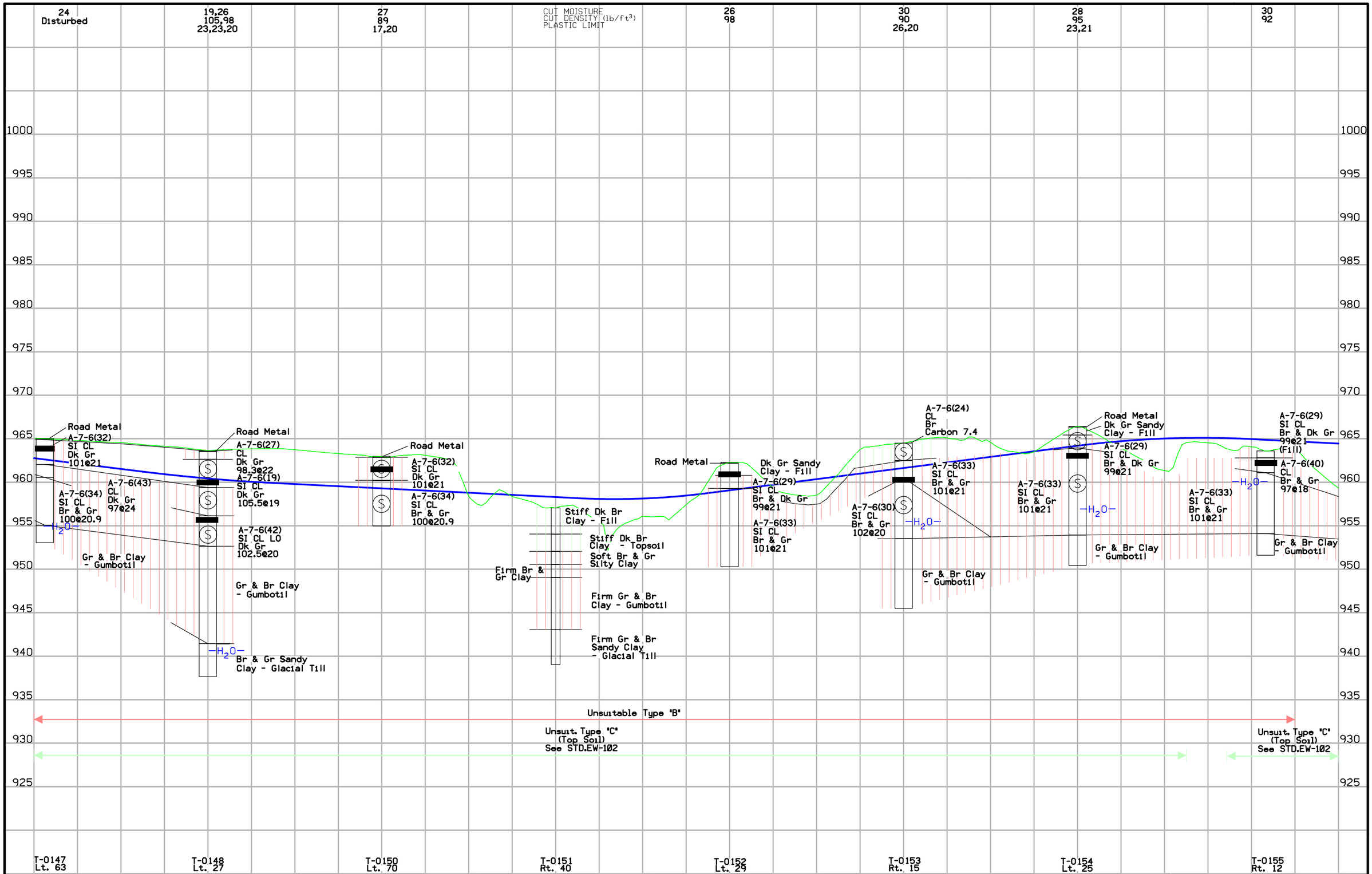

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Lincoln TWP.
T-76N R-24W
SEC. 26

No soil borings performed through widening area.

Sta. 443+18.01
End Full Width Paving
& Begin Widening

PC Sta. 447+68.90
(Survey)

PI Sta. 438+87.96
(Survey)

SPRUCE ST.

'R' ST.

IA 92 (ML092)

435 440 445 450

T-0156 T-0157 T-0158 T-0159 T-0160

1.0 ft. Granular
Working Blanket

NOTE: The Working Blankets shown on the Q sheets and on Tab 104-5C may be extended, reduced or deleted as field conditions dictate at time of construction.

0 50
FEET

ENGLISH	IOWA DOT	DESIGN TEAM Stanley\Knight	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER Q.26

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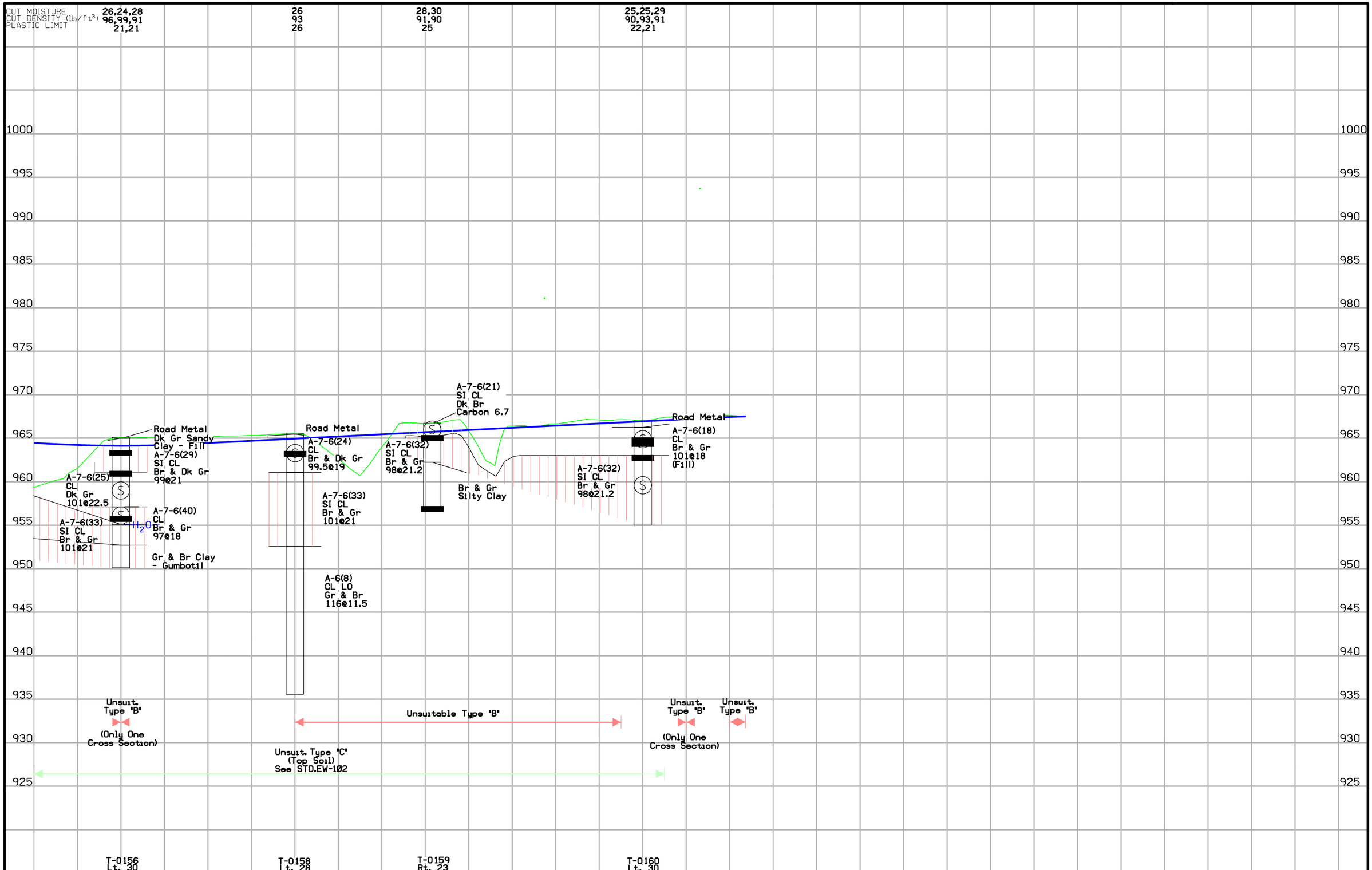

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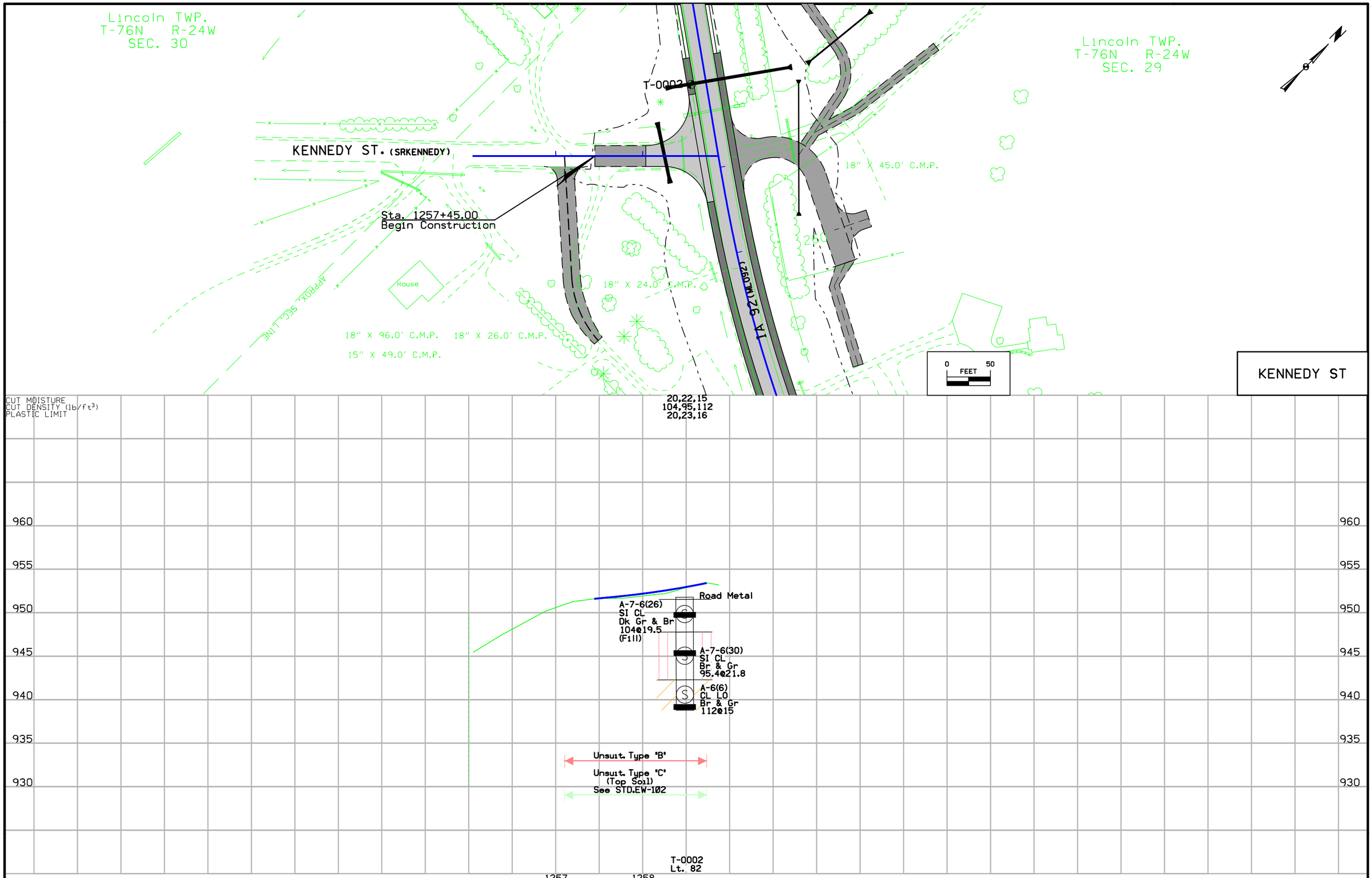

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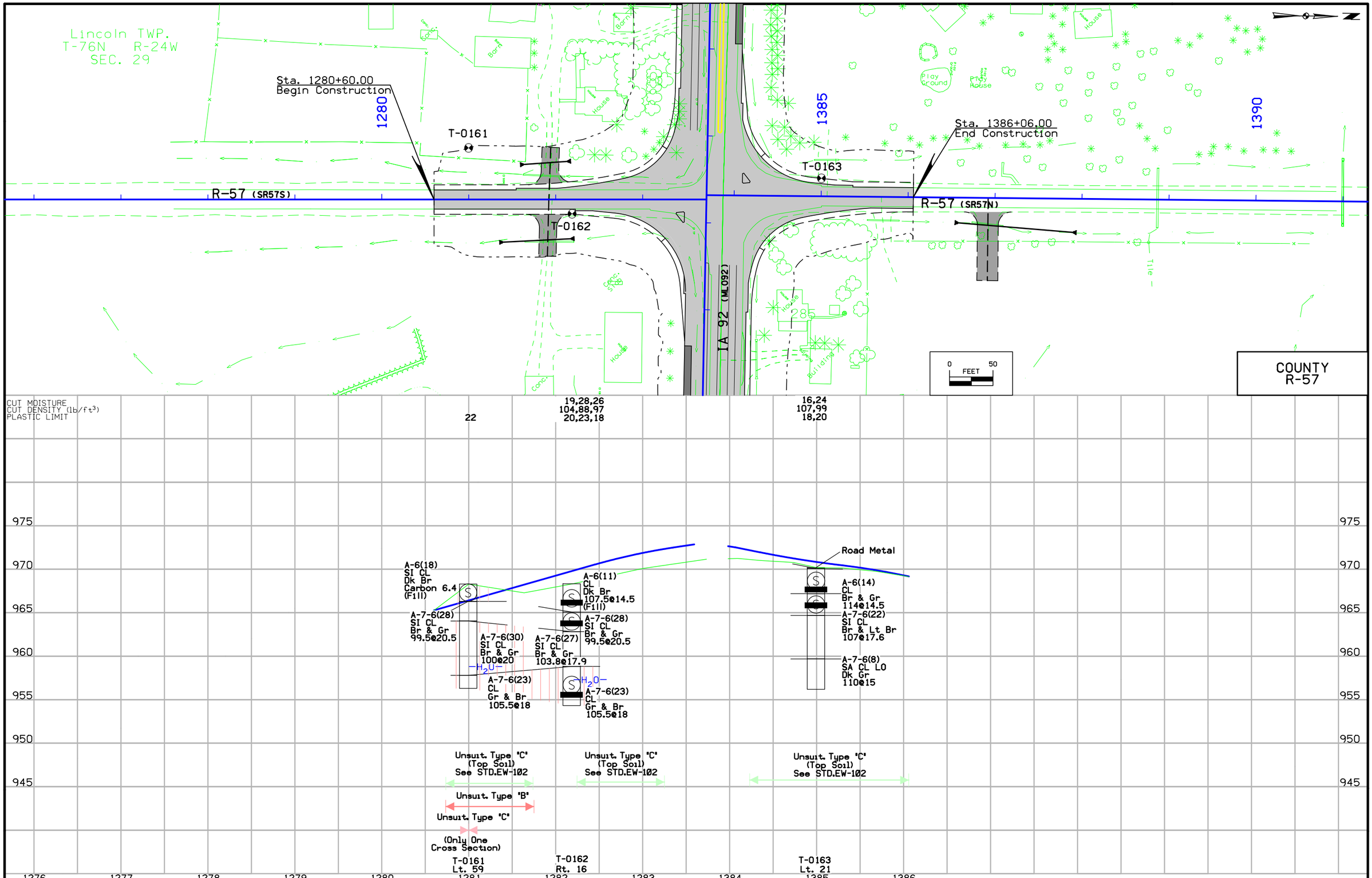

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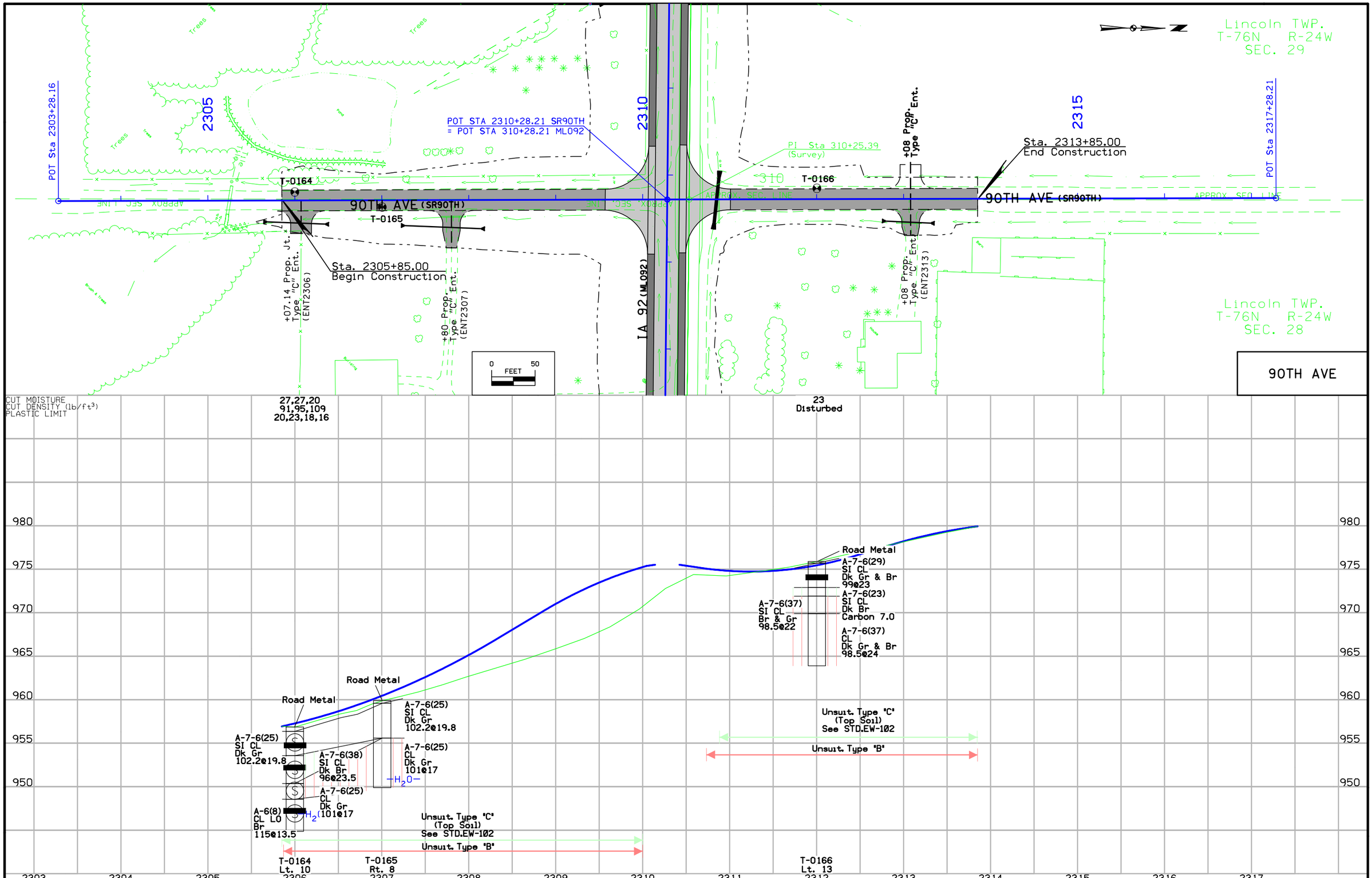

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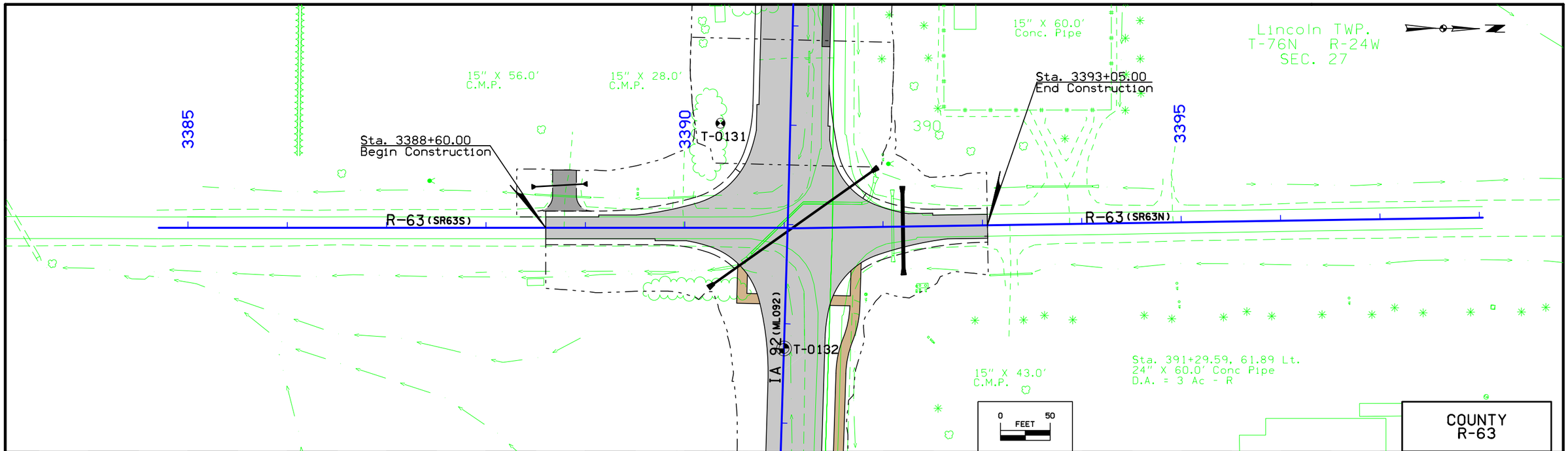
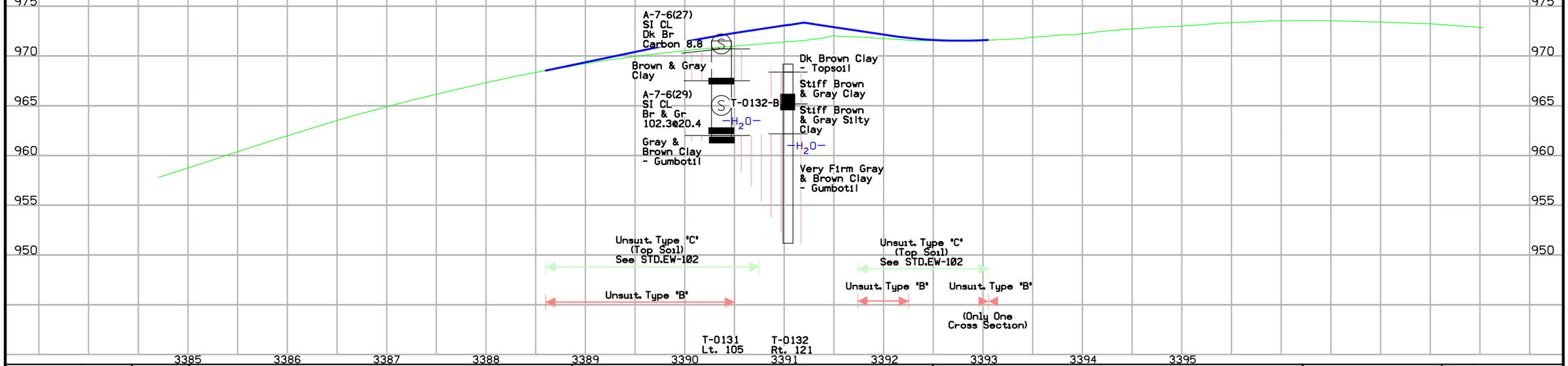


CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT

26,28,27
95,95,96
29,20

SHELBY TUBE CORE DATA

CORE NO.	T-0132-B
CLASSIFICATION [AASHTO]	
COEFF. CONSOL. SQ. FT /DAY	0.884
TRIAXIAL COMPRESSION	
COHESION - PSF	
FRICTION COEFF.	
MOISTURE CONTENT %	28.4
DRY DENSITY - PCF	95
UU-UNCONSOLIDATED & UNDRAINED	
CU-CONSOLIDATED & UNDRAINED	



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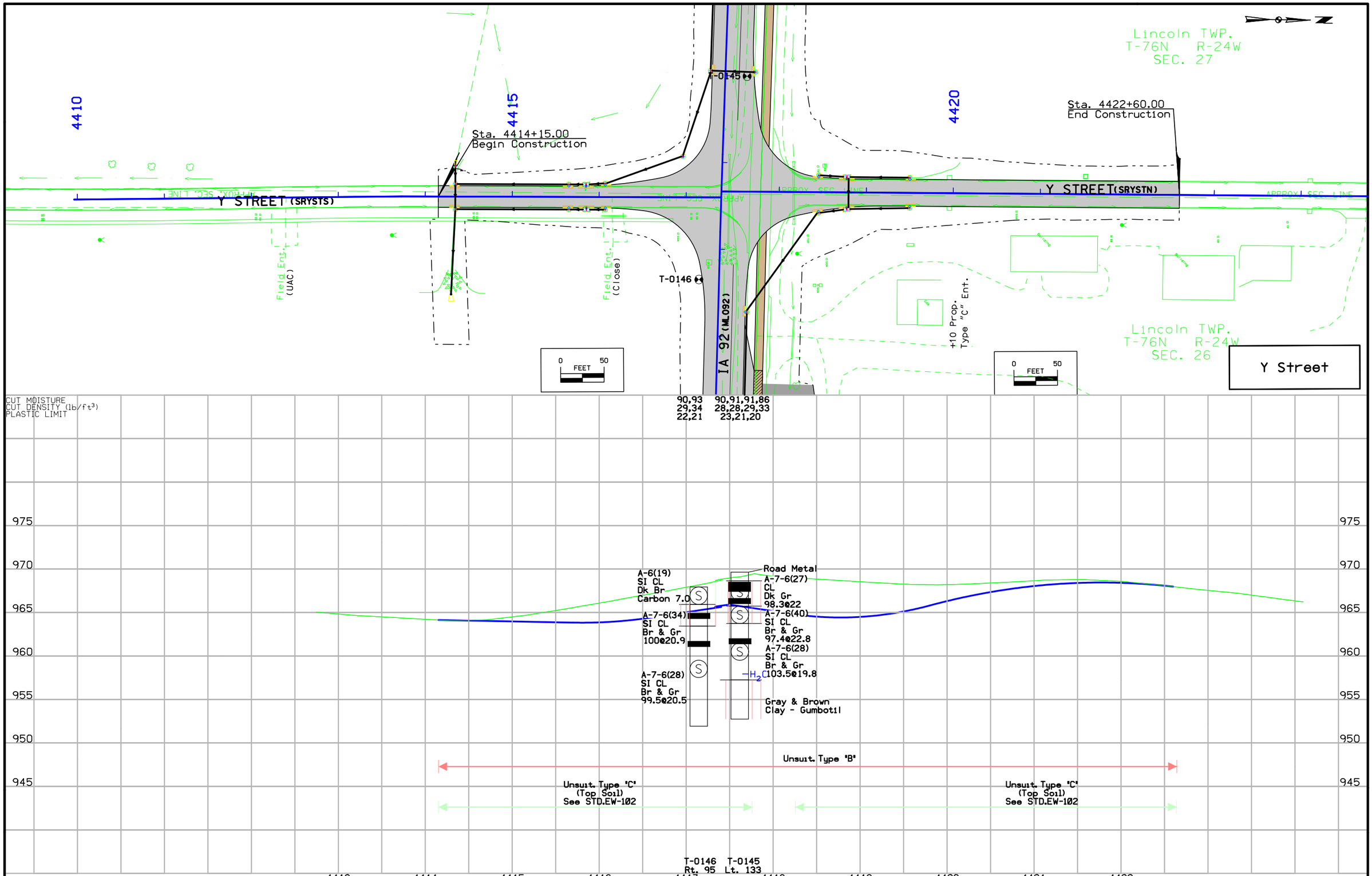

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SURVEY SYMBOLS

- TDC Tree Deciduous
- PPA Power Pole Co. 1
- FWD Wood Fence
- LUM Luminaire
- TEV Evergeen Tree
- LP L.P. Tank
- D Centerline Draw or Stream (Down)
- RET Retaining Walls
- SI Sign
- SHR Shrub
- SI Sign
- EW Edge of Water
- DIK Centerline of Dike or Dam
- FLG Flag Poles
- WM Wind Mill
- FCL Chain Link and Security Fence
- HDG Hedge Row
- TV Satelite TV Dish
- RT Radio Tower
- INB Storm Sewer Beehive Intake
- WV Water Valve
- FHD Fire Hydrants
- WEL Well
- MH Utility Access (Manhole)
- LUM Luminaire
- MIS Miscellaneous
- TPD Telephone Pedestal
- EB Electrical Box
- UB Utility Box
- PR Electic Riser Pole
- FW Wire Fence
- GP Guard Post (Less Than 4 Posts)
- IN Storm Sewer Intake
- TLN Treeline
- TVP TV Pedestal
- SEP Septic Tank
- OUT Tile Outlet
- TIL Tile Line
- UST Underground Tank
- GV Gas Valve
- DU Centerline Draw or Stream (Up)
- BNK Stream Bank
- BL Topo Breakline
- RIP Rip-Rap

- St.S. STA Storm Sewer Line Co. 1
- F03 FOC Underground Fiber Optic Co. 3
- F05 FOE Underground Fiber Optic Co. 5
- F02 FOB Underground Fiber Optic Co. 2
- San. SAA Sanitary Sewer Line Co. 1
- T1 TLA Underground Telephone Line Co. 1
- E1 ELA Underground Electric Line Co. 1
- G GLA Underground Gas Line Co. 1
- TVA Underground TV Cable Co. 1
- W WLA Underground Water Line Co. 1
- F0 FOA Underground Fiber Optic Co. 1
- E2 ELB Underground Electric Line Co. 2
- San.2 SAB Sanitary Sewer Line Co. 2
- GLB Underground Gas Line Co. 2
- F04 FOD Underground Fiber Optic Co. 4
- WLB Underground Water Line Co. 2

UTILITY LEGEND

- F0 FOA Paetac Iowa Communications Network
- F02 FOB Lightcore (Digital Teleport)
- F03 FOC Iowa Network Service
- F04 FOD Indianola Municipal Utilities
- F05 FOE MCI
- T1 TLA Qwest
- E1 ELA Mid-American
- E2 ELB Indianola Municipal Utilities
- TVA Mediacom
- W WLA Indianola Municipal Utilities
- WLB Warren Rural Water
- San. SAA City of Indianola
- San.2 SAB Private
- G GLA Mid-American
- GLB Kinder Morgan
- St.S. STA City of Indianola
- PPA Mid-American

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.**	
Tan	(8)	Proposed Sidewalk Shading
Blue, Light	(230)	Proposed Sidewalk Landing Shading
Pink	(11)	Proposed Sidewalk Ramp Shading
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
Brown, Light	(236)	Grading Shading

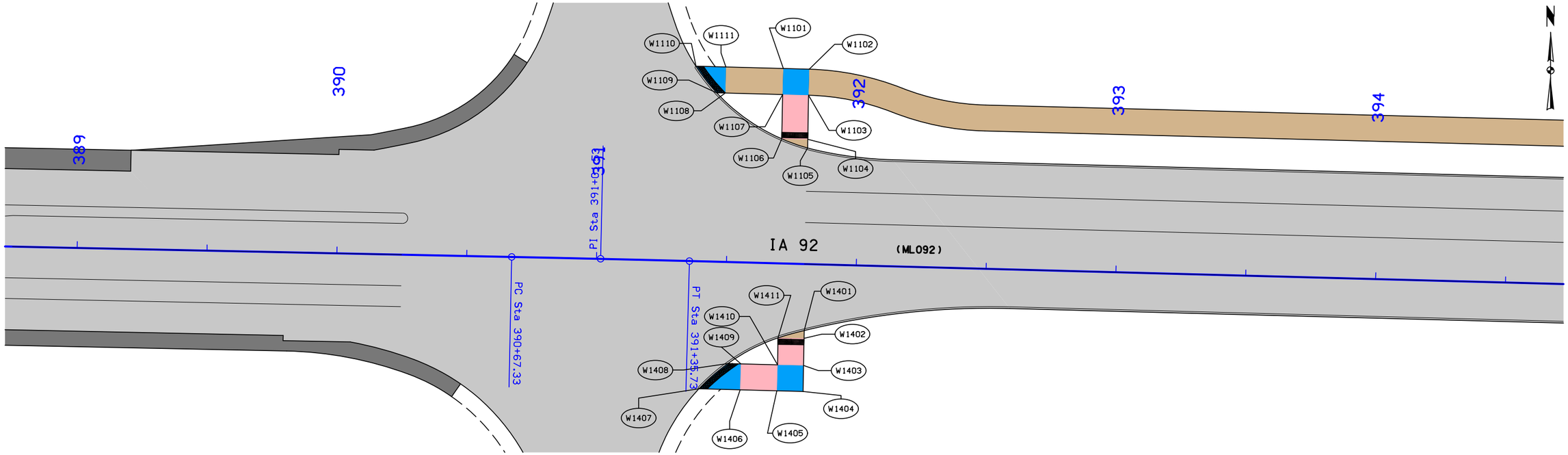
- Reference Point
- Station
- Survey Line
- Section Corner
- Ground Line Intercept
- Saw Cut
- Guardrail
- Clearing & Grubbing Area
- Pavement Removal

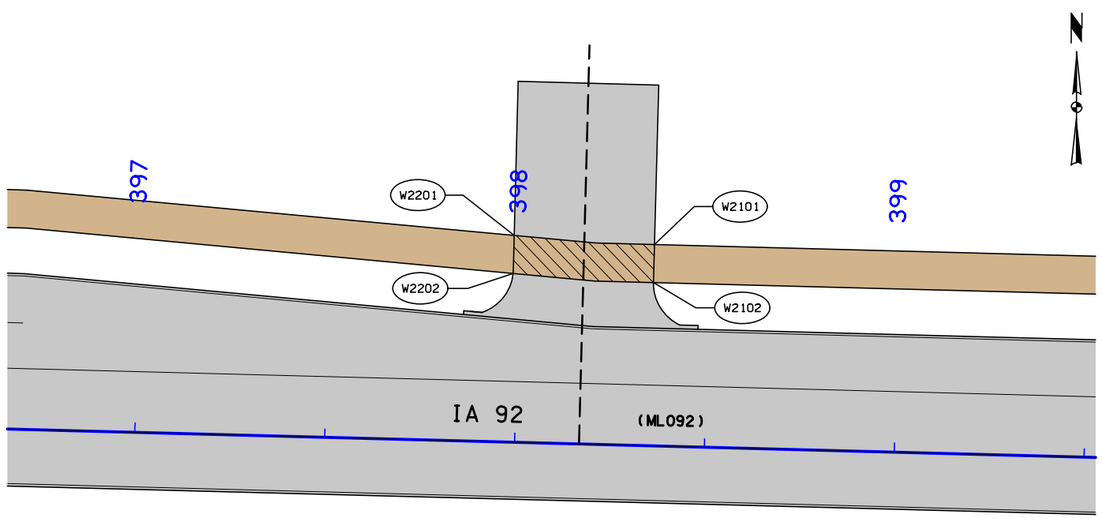
RIGHT-OF-WAY LEGEND

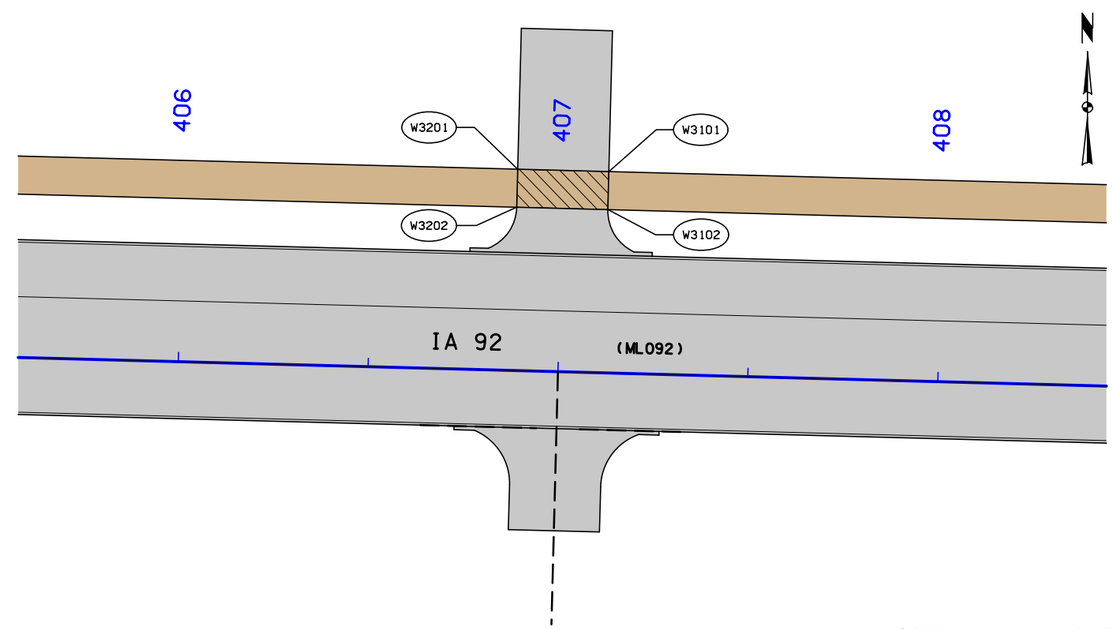
- Proposed Right-of-Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Borrow
- Easement (Temporary)
- Easement
- Excess
- A/C Access Control

SIDEWALK LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES S)







0 FEET 20

SIDEWALK LAYOUT
(Sheet 1 of 5)

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER S.2

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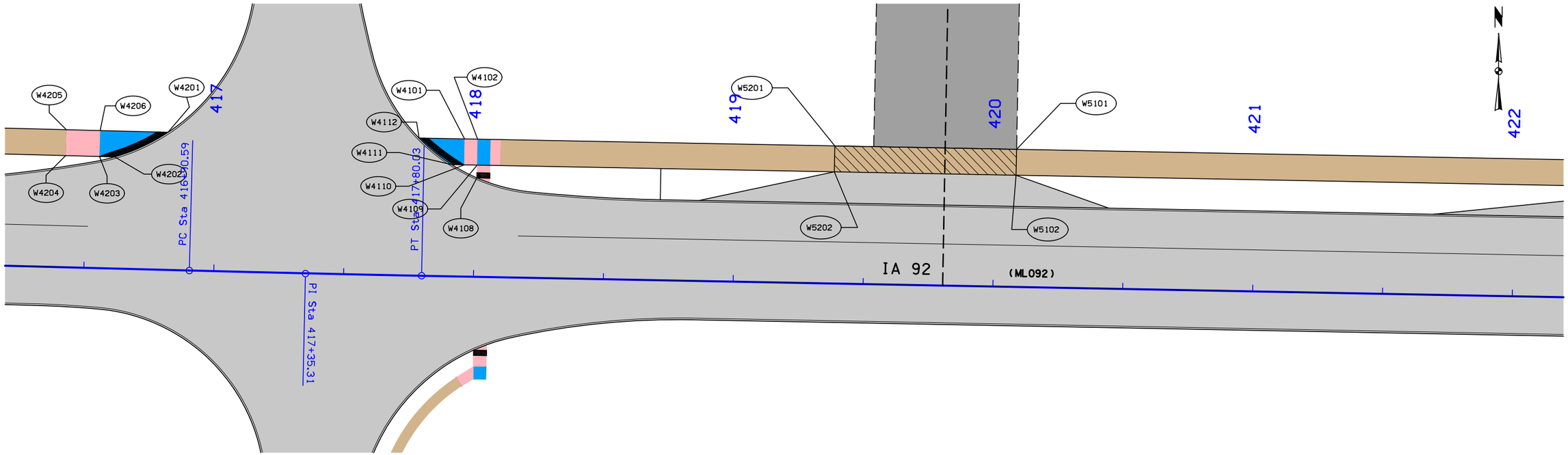

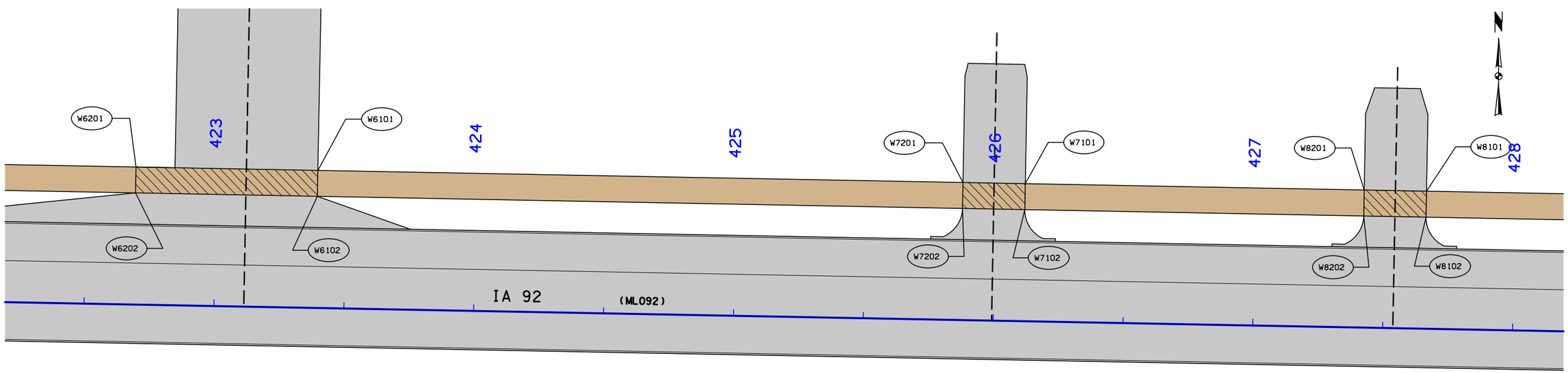

0 20
FEET

SIDEWALK LAYOUT
(Sheet 2 of 5)

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER S.3

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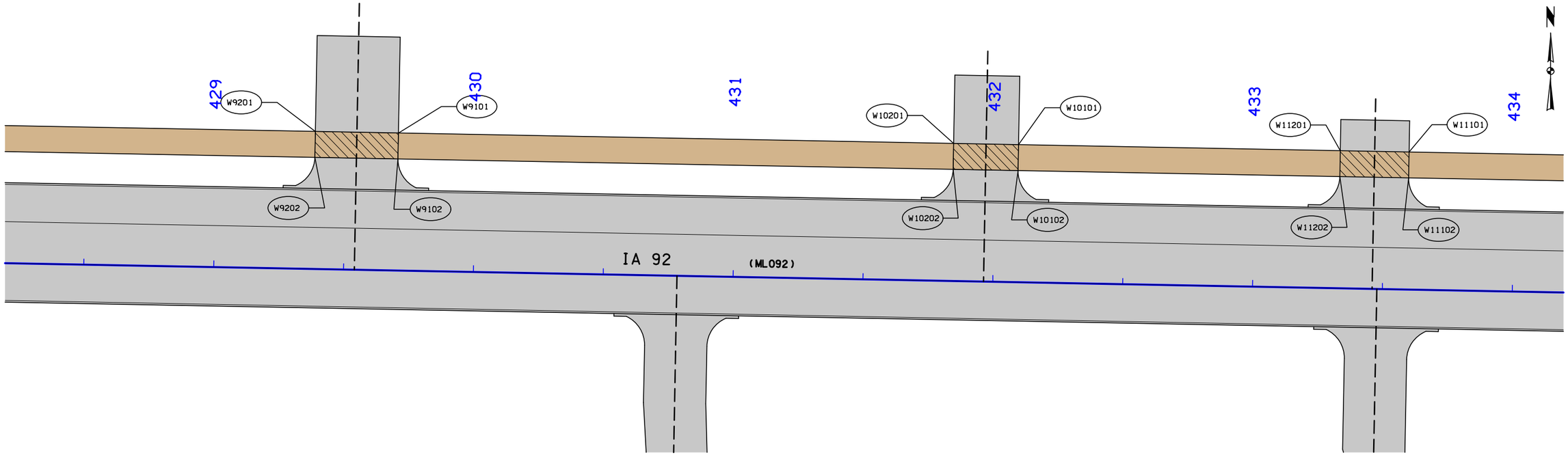

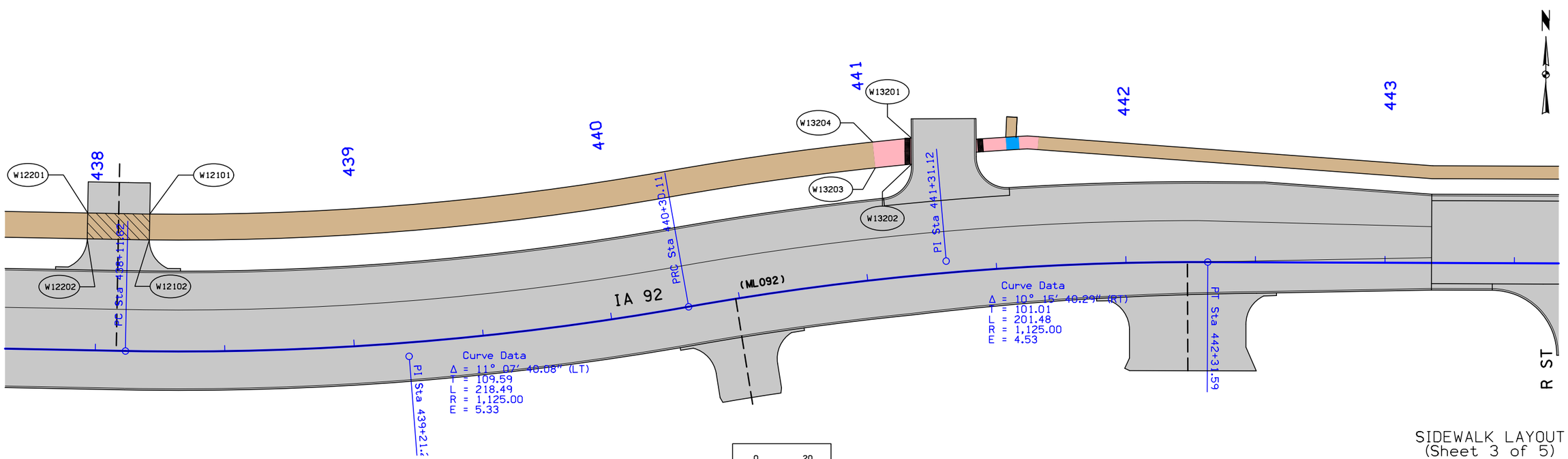

SIDEWALK LAYOUT
(Sheet 3 of 5)

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER S.4

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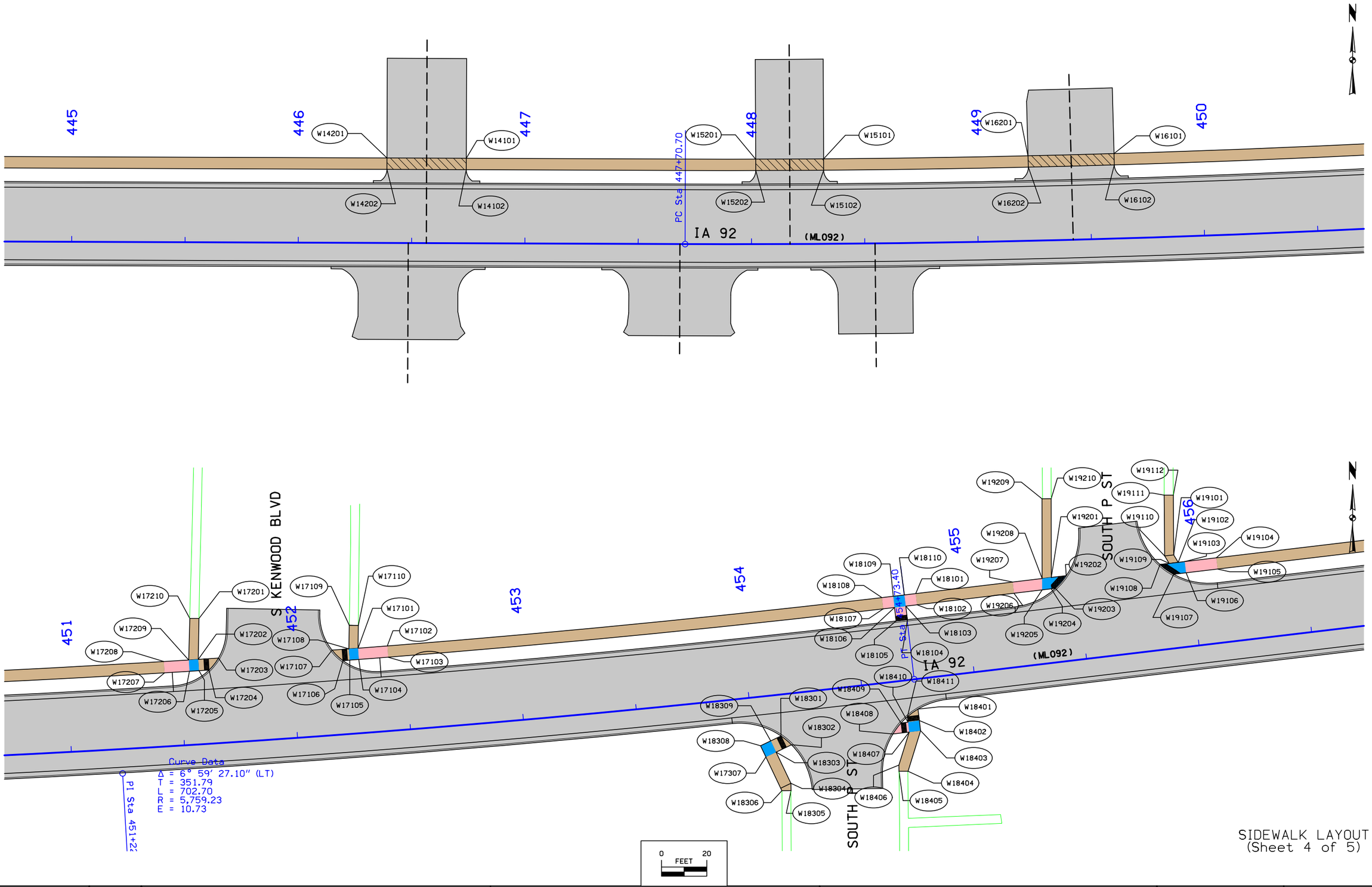

SIDEWALK LAYOUT
(Sheet 4 of 5)

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER S.5

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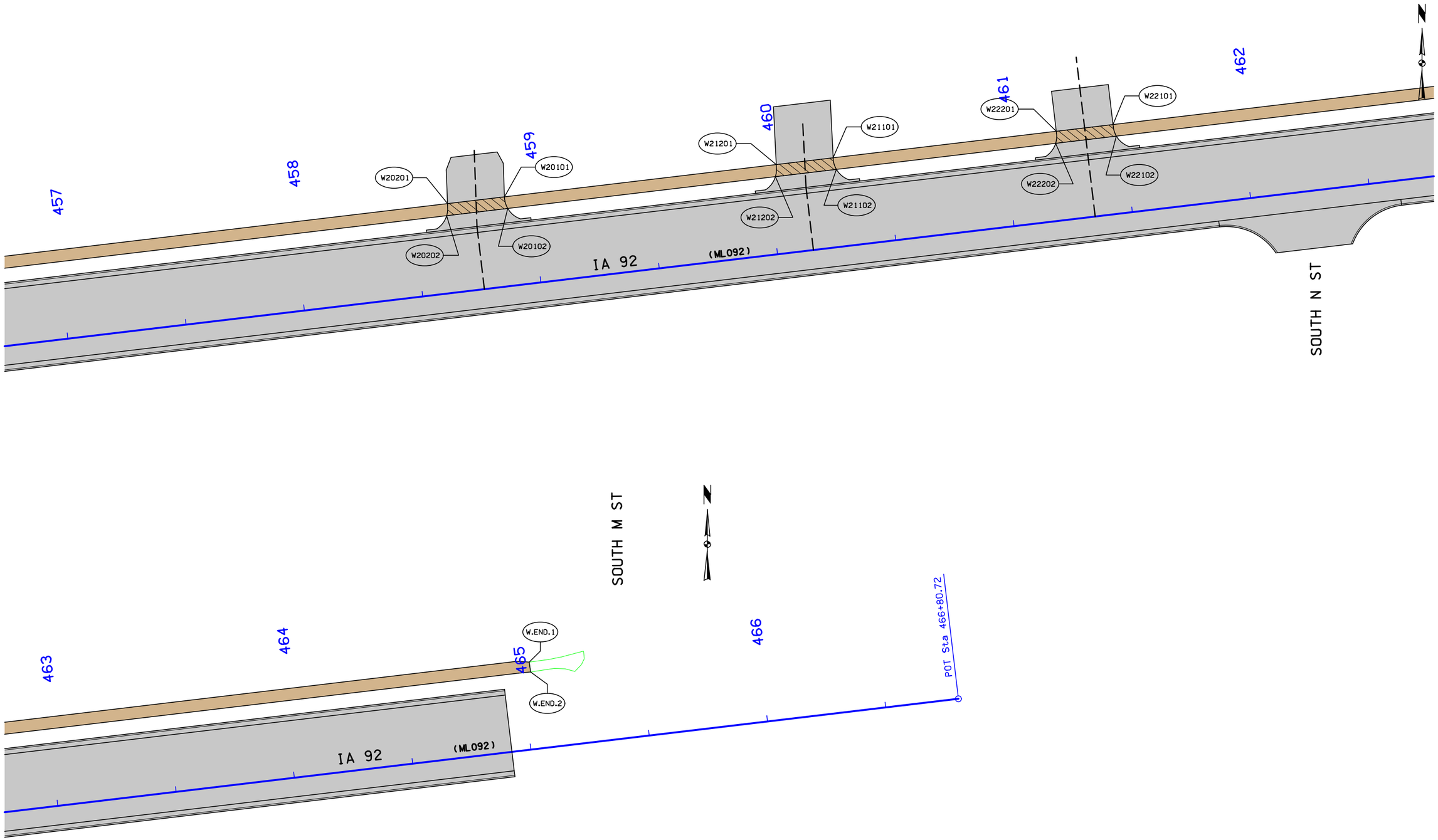

SIDEWALK LAYOUT
(Sheet 5 of 5)

FILE NO.	ENGLISH	DESIGN TEAM Jla\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER S.6

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SIDEWALK COMPLIANCE

See S Sheets

* Does not include curb
(1) Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

Point to Point		Sidewalk Designation	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? (1)	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
											Point	Station	Offset	Elevation
W1101	W1102	Landing/Turning Space	10.00	-0.03	-0.3%	0.1% to 2.0%					W1101			972.42
W1102	W1103	Landing/Turning Space	10.00	-0.15	-1.5%	0.1% to 2.0%					W1102			972.39
W1103	W1107	Landing/Turning Space	10.00	0.03	0.3%	0.1% to 2.0%					W1103			972.24
W1107	W1101	Landing/Turning Space	10.00	0.15	1.5%	0.1% to 2.0%					W1104			971.65
W1110	W1111	Landing/Turning Space	13.00	0.17	1.3%	0.1% to 2.0%					W1105	391+80.08	44.69	971.60
W1111	W1108	Landing/Turning Space	10.00	-0.08	-0.8%	0.1% to 2.0%					W1106	918+70.06	47.93	971.59
W1108	W1109	Landing/Turning Space	5.03	-0.07	-1.4%	0.1% to 2.0%					W1107			972.27
W1111	W1101	Sidewalk Running Slope	20.65	0.72	3.5%	0.5% to 5.0%					W1108			971.62
W1108	W1107	Sidewalk Running Slope	20.39	0.65	3.2%	0.5% to 5.0%					W1109			971.55
W1106	W1107	Sidewalk Running Slope	17.08	0.68	4.0%	0.5% to 5.0%					W1110			971.53
W1105	W1104	Sidewalk Running Slope	3.31	0.05	1.4%	0.5% to 5.0%					W1111			971.70
W1104	W1103	Sidewalk Running Slope	17.00	0.59	3.5%	0.5% to 5.0%								
W1106	W1104	Sidewalk Cross Slope	10.00	0.06	0.6%	0.5% to 2.0%								
W1110	W1109	Crosswalk Cross Slope - Yield Condition	12.95	0.02	0.1%	0.0% to 2.0%								
W1410	W1403	Landing/Turning Space	10.00	-0.10	-1.0%	0.1% to 2.0%					W1401	391+80.61	25.57	970.96
W1403	W1404	Landing/Turning Space	10.00	0.15	1.5%	0.1% to 2.0%					W1402			971.00
W1404	W1405	Landing/Turning Space	10.00	0.10	1.0%	0.1% to 2.0%					W1403			971.25
W1405	W1410	Landing/Turning Space	10.00	-0.15	-1.5%	0.1% to 2.0%					W1404			971.40
W1408	W1409	Landing/Turning Space	5.00	0.07	1.4%	0.1% to 2.0%					W1405			971.50
W1409	W1406	Landing/Turning Space	10.00	0.12	1.2%	0.1% to 2.0%					W1406			971.10
W1406	W1407	Landing/Turning Space	15.89	-0.22	-1.4%	0.1% to 2.0%					W1407			970.88
W1409	W1410	Sidewalk Running Slope	12.84	0.37	2.9%	0.5% to 5.0%					W1408			970.91
W1406	W1405	Sidewalk Running Slope	12.84	0.40	3.1%	0.5% to 5.0%					W1409			970.98
W1411	W1410	Sidewalk Running Slope	10.37	0.41	3.9%	0.5% to 5.0%					W1410			971.35
W1401	W1402	Sidewalk Running Slope	2.98	0.04	1.3%	0.5% to 5.0%					W1411	391+70.63	28.63	970.94
W1402	W1403	Sidewalk Running Slope	10.45	0.25	2.4%	0.5% to 5.0%								
W1411	W1402	Sidewalk Cross Slope	10.00	0.06	0.6%	0.5% to 2.0%								
W2201	W2202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W2101			973.93
W2101	W2102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W2102			973.78
W2201	W2101	Sidewalk Running Slope	37.05	0.26	0.7%	0.5% to 5.0%					W2201			973.66
W2202	W2102	Sidewalk Running Slope	37.08	0.26	0.7%	0.5% to 5.0%					W2202			973.51
W3201	W3202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W3101			972.98
W3101	W3102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W3102			972.83
W3201	W3101	Sidewalk Running Slope	24.00	-0.15	-0.6%	0.5% to 5.0%					W3201			973.14
W3202	W3102	Sidewalk Running Slope	24.00	-0.15	-0.6%	0.5% to 5.0%					W3202			972.99
W4206	W4201	Landing/Turning Space	29.13	-0.45	-1.5%	0.1% to 2.0%					W4201	416+80.98	53.00	965.38
W4203	W4202	Landing/Turning Space	5.90	-0.08	-1.4%	0.1% to 2.0%					W4202	416+60.74	43.00	965.73
W4206	W4203	Landing/Turning Space	10.00	-0.02	-0.2%	0.1% to 2.0%					W4203			965.81
W4205	W4206	Ramp Running Slope	5.00	-0.22	-4.4%	0.5% to 8.3%					W4204			965.90
W4204	W4203	Ramp Running Slope	5.00	-0.09	-1.8%	0.5% to 8.3%					W4205			966.05
W4205	W4204	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W4206			965.83
W4106	W4101	Landing/Turning Space	19.54	0.23	1.2%	0.1% to 2.0%					W4101			964.95
W4101	W4104	Landing/Turning Space	10.00	-0.04	-0.4%	0.1% to 2.0%					W4102			965.20
W4104	W4105	Landing/Turning Space	6.71	-0.02	-0.3%	0.1% to 2.0%					W4103			965.05
W4101	W4102	Ramp Running Slope	5.00	0.25	5.0%	0.5% to 8.3%					W4104			964.91
W4104	W4103	Ramp Running Slope	5.00	0.14	2.8%	0.5% to 8.3%					W4105	417+90.89	53.00	964.89
W4102	W4103	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W4106	417+78.05	43.00	964.72
W5101	W5102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W5101	420+08.13	53.00	963.44
W5201	W5202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W5102	420+08.13	43.00	963.29
W5102	W5202	Sidewalk Running Slope	70.00	0.87	1.2%	0.5% to 5.0%					W5202	419+38.13	43.00	964.16
W5201	W5101	Sidewalk Running Slope	70.00	-0.87	-1.2%	0.5% to 5.0%					W5201	419+38.13	54.00	964.31
W6101	W6102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W6101	423+39.01	53.00	960.42
W6201	W6202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W6102	423+39.01	43.00	960.27
W6102	W6202	Sidewalk Running Slope	70.00	0.30	0.4%	0.5% to 5.0%					W6202	422+69.01	43.00	960.57
W6201	W6101	Sidewalk Running Slope	70.00	-0.30	-0.4%	0.5% to 5.0%					W6201	422+69.01	53.00	960.72
W7101	W7102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W7101	426+11.40	53.00	959.00
W7201	W7202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W7102	426+11.40	43.00	958.85
W7102	W7202	Sidewalk Running Slope	24.00	0.12	0.5%	0.5% to 5.0%					W7202	425+87.40	43.00	958.97
W7201	W7101	Sidewalk Running Slope	24.00	-0.12	-0.5%	0.5% to 5.0%					W7201	425+87.40	53.00	959.12
W8101	W8102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W8101	427+65.90	53.00	959.41
W8201	W8202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W8102	427+65.90	43.00	959.26
W8102	W8202	Sidewalk Running Slope	24.00	-0.25	-1.0%	0.5% to 5.0%					W8202	427+41.90	43.00	959.01
W8201	W8101	Sidewalk Running Slope	24.00	0.25	1.0%	0.5% to 5.0%					W8201	427+41.90	53.00	959.16
W9101	W9102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W9101	429+70.16	53.00	962.02
W9201	W9202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W9102	429+70.16	43.00	961.87
W9102	W9202	Sidewalk Running Slope	32.00	-0.41	-1.3%	0.5% to 5.0%					W9202	429+38.16	43.00	961.46
W9201	W9101	Sidewalk Running Slope	32.00	0.41	1.3%	0.5% to 5.0%					W9201	429+38.16	53.00	961.61

SIDEWALK COMPLIANCE

See S Sheets

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(1) Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

Point to Point		Sidewalk Designation	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? (1)	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
											Point	Station	Offset	Elevation
W10101	W10102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W10101	432+08.91	53.00	965.07
W10201	W10202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W10102	432+08.91	43.00	964.92
W10102	W10202	Sidewalk Running Slope	25.00	-0.32	-1.3%	0.5% to 5.0%					W10202	431+83.91	43.00	964.61
W10201	W10101	Sidewalk Running Slope	25.00	0.32	1.3%	0.5% to 5.0%					W10201	431+83.91	53.00	964.76
W11101	W11102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W11101	433+59.31	53.00	965.86
W11201	W11202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W11102	433+59.31	43.00	965.71
W11102	W11202	Sidewalk Running Slope	26.50	0.01	0.0%	0.5% to 5.0%					W11202	433+32.81	43.00	965.72
W11201	W11101	Sidewalk Running Slope	26.50	-0.01	0.0%	0.5% to 5.0%					W11201	433+32.81	53.00	965.87
W12101	W12102	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W12101	438+20.43	53.00	965.81
W12201	W12202	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W12102	438+20.43	43.00	965.66
W12102	W12202	Sidewalk Running Slope	24.00	-0.12	-0.5%	0.5% to 5.0%					W12202	437+96.06	43.00	965.54
W12201	W12101	Sidewalk Running Slope	24.00	0.12	0.5%	0.5% to 5.0%					W12201	437+96.06	53.00	965.69
W13104	W13103	Crosswalk Cross Slope - Yield Condition	5.00	-0.01	-0.3%	0.0% to 2.0%					W13101			967.48
W13101	W13102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W13102			967.40
W13104	W13101	Ramp Running Slope	16.00	1.06	6.6%	0.5% to 8.3%					W13103			966.41
W13103	W13102	Ramp Running Slope	16.29	1.00	6.1%	0.5% to 8.3%					W13104			966.42
W13204	W13203	Sidewalk Cross Slope	10.00	-0.15	-1.5%	0.5% to 2.0%					W13201			966.20
W13201	W13202	Crosswalk Cross Slope - Yield Condition	10.04	-0.06	-0.6%	0.0% to 2.0%					W13202			966.14
W13204	W13201	Ramp Running Slope	15.50	-1.05	-6.7%	0.5% to 8.3%					W13203			967.10
W13203	W13202	Ramp Running Slope	14.50	-0.96	-6.6%	0.5% to 8.3%					W13204			967.25
						0								
W14101	W14102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W14101	446+74.01	37.50	969.22
W14201	W14202	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W14102	446+74.01	32.50	969.14
W14102	W14202	Sidewalk Running Slope	35.00	-0.11	-0.3%	0.5% to 5.0%					W14202	446+39.01	32.50	969.03
W14201	W14101	Sidewalk Running Slope	35.00	0.11	0.3%	0.5% to 5.0%					W14201	446+39.01	37.50	969.11
W15101	W15102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W15101	448+32.10	37.50	969.76
W15201	W15202	Sidewalk Cross Slope	5.00	-0.07	-1.5%	0.5% to 2.0%					W15102	448+32.10	32.50	969.68
W15102	W15202	Sidewalk Running Slope	30.00	-0.06	-0.2%	0.5% to 5.0%					W15202	448+01.92	32.50	969.62
W15201	W15101	Sidewalk Running Slope	30.00	0.06	0.2%	0.5% to 5.0%					W15201	448+01.92	37.50	969.70
W16101	W16102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W16101	449+61.13	37.50	970.15
W16201	W16202	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W16102	449+61.13	32.50	970.08
W16102	W16202	Sidewalk Running Slope	38.00	-0.12	-0.3%	0.5% to 5.0%					W16202	449+22.89	32.50	969.96
W16201	W16101	Sidewalk Running Slope	38.00	0.12	0.3%	0.5% to 5.0%					W16201	449+22.89	37.50	970.03
W17108	W17101	Landing/Turning Space	4.00	0.06	1.5%	0.1% to 2.0%					W17101			970.06
W17101	W17104	Landing/Turning Space	5.00	0.05	1.0%	0.1% to 2.0%					W17102			970.98
W17105	W17104	Landing/Turning Space	4.00	0.06	1.5%	0.1% to 2.0%					W17103			970.91
W17108	W17105	Landing/Turning Space	5.00	0.05	1.0%	0.1% to 2.0%					W17104			970.11
W17107	W17108	Sidewalk Running Slope	7.47	0.29	3.9%	0.5% to 5.0%					W17105			970.05
W17106	W17105	Sidewalk Running Slope	2.99	0.04	1.3%	0.5% to 5.0%					W17106			970.01
W17107	W17106	Crosswalk Cross Slope - Yield Condition	6.71	0.30	4.5%	0.0% to 5.5%				Not inside scope of project to fix (ROW limits)	W17107			969.71
W17101	W17102	Ramp Running Slope	13.00	0.92	7.1%	0.5% to 8.3%					W17108			970.00
W17104	W17103	Ramp Running Slope	13.00	0.80	6.1%	0.5% to 8.3%					W17109			970.06
W17102	W17103	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W17110			970.00
W17108	W17109	Sidewalk Running Slope	10.04	0.06	0.6%	0.5% to 5.0%								
W17101	W17110	Sidewalk Running Slope	10.04	-0.06	-0.6%	0.5% to 5.0%								
W17109	W17110	Match Existing Cross Slope	3.98	-0.06	-1.6%	Match Existing								
W17209	W17202	Landing/Turning Space	4.21	-0.06	-1.5%	0.1% to 2.0%					W17201			970.16
W17206	W17205	Landing/Turning Space	4.21	-0.06	-1.5%	0.1% to 2.0%					W17202			969.97
W17209	W17206	Landing/Turning Space	5.00	-0.02	-0.4%	0.1% to 2.0%					W17203			969.61
W17202	W17205	Landing/Turning Space	5.00	-0.02	-0.4%	0.1% to 2.0%					W17204			969.84
W17202	W17203	Sidewalk Running Slope	8.93	-0.36	-4.0%	0.5% to 5.0%					W17205			969.95
W17205	W17204	Sidewalk Running Slope	4.46	-0.11	-2.5%	0.5% to 5.0%					W17206			970.02
W17204	W17203	Crosswalk Cross Slope - Yield Condition	6.71	-0.23	-3.4%	0.0% to 4.4%				Not inside scope of project to fix	W17207			970.69
W17208	W17209	Ramp Running Slope	11.00	-0.73	-6.7%	0.5% to 8.3%					W17208			970.77
W17207	W17206	Ramp Running Slope	11.00	-0.68	-6.2%	0.5% to 8.3%					W17209			970.04
W17208	W17207	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W17210			970.20
W17201	W17202	Sidewalk Running Slope	18.07	-0.19	-1.1%	0.5% to 5.0%								
W17210	W17209	Sidewalk Running Slope	18.34	-0.16	-0.9%	0.5% to 5.0%								
W17210	W17201	Match Existing Cross Slope	5.00	-0.04	-0.7%	Match Existing								
W18308	W18309	Landing/Turning Space	5.00	0.07	1.4%	0.1% to 2.0%					W18301			969.66
W18307	W18303	Landing/Turning Space	5.00	0.07	1.4%	0.1% to 2.0%					W18302			969.37
W18308	W18307	Landing/Turning Space	5.50	-0.08	-1.5%	0.1% to 2.0%					W18303			969.61
W18309	W18303	Landing/Turning Space	5.50	-0.08	-1.5%	0.1% to 2.0%					W18304			969.39
W18309	W18301	Sidewalk Running Slope	5.03	-0.03	-0.6%	0.5% to 5.0%					W18305			969.37
W18303	W18302	Sidewalk Running Slope	7.55	-0.24	-3.2%	0.5% to 5.0%					W18306			969.34
W18301	W18302	Crosswalk Cross Slope - Yield Condition	6.05	-0.29	-4.8%	0.0% to 5.8%				Not inside scope of project to fix	W18307			969.54

SIDEWALK COMPLIANCE

See S Sheets

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Point to Point		Sidewalk Designation	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? (1)	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
											Point	Station	Offset	Elevation
W18307	W18306	Sidewalk Running Slope	16.47	-0.20	-1.2%	0.5% to 5.0%					W18308			969.62
W18303	W18304	Sidewalk Running Slope	15.23	-0.22	-1.4%	0.5% to 5.0%					W18309			969.69
W18304	W18305	Sidewalk Running Slope	3.40	-0.02	-0.7%	0.5% to 5.0%								
W18306	W18305	Match Existing Cross Slope	4.00	0.03	0.6%	Match Existing								
W18410	W18407	Landing/Turning Space	4.42	0.03	0.7%	0.1% to 2.0%					W18401			969.71
W18402	W18403	Landing/Turning Space	4.42	0.05	1.1%	0.1% to 2.0%					W18402			969.62
W18410	W18402	Landing/Turning Space	5.08	0.02	0.4%	0.1% to 2.0%					W18403			969.67
W18407	W18403	Landing/Turning Space	5.08	0.04	0.8%	0.1% to 2.0%					W18404			969.06
W18408	W18409	Crosswalk Cross Slope - Yield Condition	5.98	0.24	4.0%	0.0% to 5%				Not inside scope of project to fix	W18405			968.97
W18409	W18410	Ramp Running Slope	3.12	0.20	6.3%	0.5% to 8.3%					W18406			969.03
W18408	W18407	Ramp Running Slope	7.22	0.47	6.5%	0.5% to 8.3%					W18407			969.63
W18411	W18401	Crosswalk Cross Slope - No Yield Condition	5.77	0.15	2.6%	0.0% to 5.0%					W18408			969.16
W18411	W18410	Sidewalk Running Slope	2.40	0.04	1.7%	0.5% to 5.0%					W18409			969.40
W18401	W18402	Sidewalk Running Slope	5.12	-0.09	-1.8%	0.5% to 5.0%					W18410			969.60
W18407	W18406	Sidewalk Running Slope	15.26	-0.60	-3.9%	0.5% to 5.0%					W18411			969.56
W18403	W18404	Sidewalk Running Slope	18.70	-0.61	-3.2%	0.5% to 5.0%								
W18406	W18405	Sidewalk Running Slope	2.75	-0.06	-2.4%	0.5% to 5.0%								
W18405	W18404	Match Existing Cross Slope	4.00	0.10	2.5%	Match Existing								
W18109	W18110	Landing/Turning Space	5.00	-0.01	-0.2%	0.1% to 2.0%					W18101			970.79
W18106	W18103	Landing/Turning Space	5.00	-0.01	-0.2%	0.1% to 2.0%					W18102			970.71
W18109	W18106	Landing/Turning Space	5.00	-0.06	-1.3%	0.1% to 2.0%					W18103			970.45
W18110	W18103	Landing/Turning Space	5.00	-0.06	-1.3%	0.1% to 2.0%					W18104			970.13
W18106	W18105	Ramp Running Slope	6.00	-0.32	-5.4%	0.5% to 8.3%					W18105			970.14
W18103	W18104	Ramp Running Slope	6.00	-0.32	-5.4%	0.5% to 8.3%					W18106			970.46
W18104	W18104	Crosswalk Cross Slope - No Yield Condition	5.00	0.00	0.0%	0.0% to 5.0%					W18107			970.73
W18108	W18109	Ramp Running Slope	5.00	-0.28	-5.7%	0.5% to 8.3%					W18108			970.81
W18107	W18106	Ramp Running Slope	5.00	-0.27	-5.5%	0.5% to 8.3%					W18109			970.53
W18108	W18107	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W18110			970.52
W18110	W18101	Ramp Running Slope	5.00	0.27	5.4%	0.5% to 8.3%								
W18103	W18102	Ramp Running Slope	5.00	0.26	5.2%	0.5% to 8.3%								
W18101	W18102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%								
W19108	W19109	Landing/Turning Space	4.11	0.02	0.5%	0.1% to 2.0%					W19101			969.51
W19109	W19102	Landing/Turning Space	4.01	0.02	0.5%	0.1% to 2.0%					W19102			969.60
W19102	W19103	Landing/Turning Space	2.88	0.01	0.3%	0.1% to 2.0%					W19103			969.61
W19107	W19106	Landing/Turning Space	5.50	-0.08	-1.5%	0.1% to 2.0%					W19104			970.51
W19103	W19106	Landing/Turning Space	5.00	0.01	0.2%	0.1% to 2.0%					W19105			970.43
W19108	W19107	Crosswalk Cross Slope - Yield Condition	7.43	0.14	1.9%	0.0% to 2.0%					W19106			969.62
W19103	W19104	Ramp Running Slope	14.00	0.89	6.4%	0.5% to 8.3%					W19107	+19.92		969.70
W19106	W19105	Ramp Running Slope	14.00	0.81	5.8%	0.5% to 8.3%					W19108	+27.58		969.56
W19104	W19105	Sidewalk Cross Slope	5.00	-0.08	-1.6%	0.5% to 2.0%	Yes				W19109			969.58
W19111	W19110	Sidewalk Running Slope	26.82	-0.04	-0.2%	0.5% to 5.0%					W19110			969.45
W19112	W19101	Sidewalk Running Slope	26.38	0.02	0.1%	0.5% to 5.0%					W19111			969.49
W19110	W19109	Sidewalk Running Slope	3.86	0.13	3.4%	0.5% to 5.0%					W19112			969.49
W19101	W19102	Sidewalk Running Slope	3.85	0.09	2.3%	0.5% to 5.0%								
W19111	W19112	Match Existing Cross Slope	4.00	0.00	0.0%	Match Existing								
W19110	W19101	Sidewalk Cross Slope	4.03	0.06	1.5%	0.5% to 2.0%								
W19208	W19201	Landing/Turning Space	4.03	-0.06	-1.5%	0.1% to 2.0%					W19201			969.76
W19205	W19204	Landing/Turning Space	4.04	-0.04	-1.0%	0.1% to 2.0%					W19202	+22.12		969.65
W19208	W19205	Landing/Turning Space	5.04	-0.01	-0.2%	0.1% to 2.0%					W19203	+29.54		969.80
W19201	W19204	Landing/Turning Space	5.04	0.01	0.2%	0.1% to 2.0%					W19204			969.77
W19201	W19202	Sidewalk Running Slope	6.68	-0.11	-1.6%	0.5% to 5.0%					W19205			969.81
W19204	W19203	Sidewalk Running Slope	1.80	0.03	1.7%	0.5% to 5.0%					W19206			970.63
W19202	W19203	Crosswalk Cross Slope - Yield Condition	7.40	0.15	2.0%	0.0% to 2.0%					W19207			970.70
W19207	W19208	Ramp Running Slope	13.09	-0.88	-6.7%	0.5% to 8.3%					W19208			969.82
W19206	W19205	Ramp Running Slope	12.50	-0.82	-6.5%	0.5% to 8.3%					W19209			969.03
W19207	W19206	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W19210			969.01
W19209	W19208	Sidewalk Running Slope	35.21	0.79	2.2%	0.5% to 5.0%								
W19210	W19201	Sidewalk Running Slope	34.74	0.75	2.1%	0.5% to 5.0%								
W19209	W19210	Match Existing Cross Slope	4.00	-0.02	-0.5%	Match Existing								
W.END.1	W.END.2	Match Existing Cross Slope	4.21	0.02	0.5%	Match Existing					W.END.1			967.59
											W.END.2			967.61
W20101	W20102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W20101	458+89.04	37.50	969.84
W20201	W20202	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W20102	458+89.83	32.50	969.77
W20102	W20202	Sidewalk Running Slope	25.82	0.11	0.4%	0.5% to 5.0%					W20202	458+65.01	32.50	969.88
W20201	W20101	Sidewalk Running Slope	24.08	-0.11	-0.5%	0.5% to 5.0%					W20201	458+64.96	37.50	969.95
W21101	W21102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%					W21101	460+27.99	37.50	969.60
W21201	W21202	Sidewalk Cross Slope	5.00	-0.07	-1.5%	0.5% to 2.0%					W21102	460+28.77	32.50	969.53
W21102	W21202	Sidewalk Running Slope	35.77	0.04	0.1%	0.5% to 5.0%					W21202	460+03.00	32.50	969.57
W21201	W21101	Sidewalk Running Slope	24.06	-0.04	-0.1%	0.5% to 5.0%					W21201	460+03.93	37.50	969.64

SIDEWALK COMPLIANCE

See S Sheets

* Does not include curb
(1) Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

Point to Point		Sidewalk Designation	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? (1)	Measured Slope	Initials	Remarks		FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
												Point	Station	Offset	Elevation
W22101	W22102	Sidewalk Cross Slope	5.00	-0.08	-1.5%	0.5% to 2.0%						W22101	461+46.29	37.50	969.42
W22201	W22202	Sidewalk Cross Slope	5.00	-0.07	-1.5%	0.5% to 2.0%						W22102	461+47.12	32.50	969.34
W22102	W22202	Sidewalk Running Slope	25.60	0.05	0.2%	0.5% to 5.0%						W22202	461+21.45	32.50	969.39
W22201	W22101	Sidewalk Running Slope	24.00	-0.05	-0.2%	0.5% to 5.0%						W22201	461+22.29	37.50	969.47

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
256+00.00	36		15			21	21						
256+25.00	96		34			62	62						
256+50.00	151		49			102	102						
256+75.00	164		58			106	106	1	1	1			
257+00.00	132		53			79	79	16	21	21			
257+25.00	116		51			65	65	65	85	85			
257+50.00	124		54			70	70	137	178	178			
257+75.00	100		47			53	53	129	168	168			
257+92.00	55		24	11		20	31	68	88	88			
258+00.00	131		46	41		44	85	247	321	321			
258+25.00	31		10	6		15	21	94	122	122			
258+34.00	68		21	19		28	47	121	157	157			
258+50.00	203		55	18		130	148	65	85	85			
258+75.00	142		37	34		71	105						
258+87.00	140		38	62		40	102						
259+00.00	171		49	67		55	122	48	62	62			
259+25.00	153		46	68		39	107	100	130	130			
259+50.00	226		68	102		56	158	84	109	109			
259+75.00	297		72	165		60	225	41	53	53			
260+00.00	362		84	235		43	278	12	16	16			
260+25.00	374		99	234		41	275	2	3	3			
260+50.00	346		98	208		40	248						
260+75.00	344		96	208		40	248						
261+00.00	371		97	235		39	274						
261+25.00	367		96	234		37	271	1	1	1			
261+50.00	354		98	219		37	256	1	1	1			
261+75.00	356		102	234		20	254						
262+00.00	373		98	269		6	275						
262+25.00	401		92	290		19	309	1	1	1			
262+50.00	393		90	285		18	303	2	3	3			
262+75.00	366		88	270		8	278	4	5	5			
263+00.00	352		89	256		7	263	5	7	7			
263+25.00	342		87	247		8	255	9	12	12			
263+50.00	321		83	231		7	238	14	18	18			
263+75.00	275		80	190		5	195	18	23	23			
264+00.00	222		65	154		3	157	38	49	49			
264+25.00	185		46	138		1	139	83	108	108			
264+50.00	164		39	124		1	125	138	179	179			
264+75.00	148		37	111			111	202	263	263			
265+00.00	135		35	99		1	100	260	338	338			
265+25.00	155		46	108		1	109	296	385	385			
265+50.00	168		56	112			112	327	425	425			
265+75.00	152		64	88			88	358	465	465			
266+00.00	147		63	84			84	396	515	515			
266+25.00	145		53	92			92	433	563	563			
266+50.00	133		55	78			78	506	658	658			
266+75.00	113		52	60		1	61	606	788	788			
267+00.00	99		48	49		2	51	688	894	894			
267+25.00	90		46	41		3	44	734	954	954			
267+50.00	91		36	47		8	55	755	982	982			
267+75.00	112		38	66		8	74	749	974	974			
268+00.00	149		53	89		7	96	725	943	943			
268+25.00	157		54	94		9	103	721	937	937			
268+50.00	143		54	82		7	89	718	933	933			
268+75.00	116		50	59		7	66	715	930	930			
269+00.00	89		45	33		11	44	691	898	898			
269+25.00	89		45	26		18	44	639	831	831			
269+50.00	103		46	37		20	57	592	770	770			
269+75.00	98		44	40		14	54	542	705	705			
270+00.00	94		38	28		28	56	454	590	590			
270+25.00	129		33	58		38	96	354	460	460			
270+50.00	40		7	21		12	33	76	99	99			
270+56.00	115		32	57		26	83	258	335	335			
270+75.00	122		52	64		6	70	352	458	458			
271+00.00	124		50	68		6	74	340	442	442			
271+25.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
271+25.00	135		52	77		6	83	318	413	413			
271+50.00	147		54	88		5	93	289	376	376			
271+75.00	154		46	103		5	108	260	338	338			
272+00.00	157		48	104		5	109	233	303	303			
272+25.00	164		59	99		6	105	214	278	278			
272+50.00	164		61	96		7	103	205	267	267			
272+75.00	151		59	86		6	92	201	261	261			
273+00.00	157		59	92		6	98	196	255	255			
273+25.00	180		63	112		5	117	191	248	248			
273+50.00	194		65	126		3	129	188	244	244			
273+75.00	200		71	127		2	129	186	242	242			
274+00.00	209		73	126		10	136	186	242	242			
274+25.00	230		72	143		15	158	187	243	243			
274+50.00	251		76	169		6	175	191	248	248			
274+75.00	261		77	182		2	184	199	259	259			
275+00.00	261		77	183		1	184	210	273	273			
275+25.00	249		75	174			174	226	294	294			
275+50.00	224		71	153			153	243	316	316			
275+75.00	192		73	118		1	119	268	348	348			
276+00.00	217		77	134		6	140	292	380	380			
276+25.00	244		67	152		25	177	265	345	345			
276+46.00	52		14	30		8	38	54	70	70			
276+50.00	242		71	137		34	171	392	510	510			
276+75.00	138		55	76		7	83	530	689	689			
277+00.00	102		46	51		5	56	649	844	844			
277+25.00	76		39	34		3	37	730	949	949			
277+50.00	30		15	14		1	15	324	421	421			
277+60.00	42		19	22		1	23	495	644	644			
277+75.00	71		39	32			32	811	1054	1054			
278+00.00	94		50	44			44	784	1019	1019			
278+25.00	117		50	67			67	722	939	939			
278+50.00	144		55	88		1	89	647	841	841			
278+75.00	177		62	115			115	563	732	732			
279+00.00	200		67	133			133	481	625	625			
279+25.00	219		66	143		10	153	413	537	537			
279+50.00	228		64	145		19	164	348	452	452			
279+75.00	225		76	135		14	149	272	354	354			
280+00.00	222		79	133		10	143	195	254	254			
280+25.00	216		68	135		13	148	155	202	202			
280+50.00	195		63	117		15	132	146	190	190			
280+75.00	164		57	93		14	107	130	169	169			
281+00.00	146		54	82		10	92	112	146	146			
281+25.00	141		53	78		10	88	100	130	130			
281+50.00	126		58	56		12	68	97	126	126			
281+75.00	110		56	38		16	54	100	130	130			
282+00.00	109		47	46		16	62	98	127	127			
282+25.00	70		32	30		8	38	68	88	88			
282+50.00	14		9	4		1	5	46	60	60			
282+75.00								51	66	66			
283+00.00								54	70	70			
283+25.00								56	73	73			
283+50.00								36	47	47			
283+75.00								30	39	39			
284+00.00								43	56	56			
284+25.00								42	55	55			
284+50.00								41	53	53			
284+75.00	48		19			29	29	55	72	72			
285+00.00	89		37			52	52	77	100	100			
285+25.00	75		35			40	40	76	99	99			
285+50.00	64		33			31	31	68	88	88			
285+75.00	64		33			31	31	71	92	92			
286+00.00	59		32			27	27	71	92	92			
286+25.00	54		29			25	25	77	100	100			
286+50.00	60		29			31	31	100	130	130			
286+75.00	68		30			38	38	131	170	170			
287+00.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
287+00.00	76		31			45	45	173	225	225			
287+25.00	81		31			50	50	217	282	282			
287+50.00	93		36			57	57	247	321	321			
287+75.00	89		41			48	48	279	363	363			
288+00.00	65		35			30	30	310	403	403			
288+25.00	50		27			23	23	316	411	411			
288+50.00	42		24			18	18	305	397	397			
288+75.00	36		23			13	13	277	360	360			
289+00.00	35		23			12	12	231	300	300			
289+25.00	40		25			15	15	186	242	242			
289+50.00	52		28			24	24	151	196	196			
289+75.00	72		33			39	39	128	166	166			
290+00.00	103		37			66	66	136	177	177			
290+25.00	139		39			100	100	175	228	228			
290+50.00	169		40			129	129	228	296	296			
290+75.00	182		42			140	140	281	365	365			
291+00.00	178		43			135	135	318	413	413			
291+25.00	175		47			128	128	289	376	376			
291+50.00	256		72	17		167	184	179	233	233			
291+75.00	68		18	8		42	50	22	29	29			
291+80.00	241		71	36		134	170	133	173	173			
292+00.00	204		69	23		112	135	289	376	376			
292+25.00	145		55	2		88	90	356	463	463			
292+50.00	95		36	1		58	59	239	311	311			
292+66.00	54		20			34	34	132	172	172			
292+75.00	29		11			18	18	69	90	90			
292+80.00	104		42			62	62	279	363	363			
293+00.00	106		48	13		45	58	350	455	455			
293+25.00	78		41	23		14	37	344	447	447			
293+50.00	67		38	18		11	29	336	437	437			
293+75.00	71		41	17		13	30	330	429	429			
294+00.00	74		41	15		18	33	332	432	432			
294+25.00	73		39	13		21	34	335	436	436			
294+50.00	79		40	17		22	39	335	436	436			
294+75.00	81		41	20		20	40	336	437	437			
295+00.00	74		39	9		26	35	330	429	429			
295+25.00	77		39	1		37	38	314	408	408			
295+50.00	87		40	1		46	47	294	382	382			
295+75.00	87		53			34	34	274	356	356			
296+00.00	80		50			30	30	268	348	348			
296+25.00	65		34			31	31	274	356	356			
296+50.00	64		34			30	30	282	367	367			
296+75.00	112		29	20		63	83	244	317	317			
297+00.00	48		10	11		27	38	67	87	87			
297+08.00	102		32	14		56	70	145	189	189			
297+25.00	150		54	14		82	96	226	294	294			
297+50.00	142		52	11		79	90	250	325	325			
297+75.00	130		56	4		70	74	264	343	343			
298+00.00	123		55	1		67	68	273	355	355			
298+25.00	129		49	8		72	80	277	360	360			
298+50.00	136		50	16		70	86	277	360	360			
298+75.00	145		52	13		80	93	272	354	354			
299+00.00	155		54	14		87	101	260	338	338			
299+25.00	162		56	20		86	106	248	322	322			
299+50.00	162		56	11		95	106	235	306	306			
299+75.00	150		58			92	92	220	286	286			
300+00.00	129		55	2		72	74	205	267	267			
300+25.00	107		46	4		57	61	192	250	250			
300+50.00	87		43	2		42	44	183	238	238			
300+75.00	76		42	16		18	34	174	226	226			
301+00.00	78		43	32		3	35	162	211	211			
301+25.00	85		46	35		4	39	143	186	186			
301+50.00	93		50	39		4	43	111	144	144			
301+75.00	102		68	29		5	34	73	95	95			
302+00.00	115		72	35		8	43	52	68	68			
302+25.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
302+25.00	124		62	55		7	62	46	60	60			
302+50.00	127		64	55		8	63	41	53	53			
302+75.00	139		63	64		12	76	42	55	55			
303+00.00	137		63	62		12	74	43	56	56			
303+25.00	130		66	55		9	64	42	55	55			
303+50.00	136		66	62		8	70	47	61	61			
303+75.00	157		63	66		28	94	78	101	101			
304+00.00	168		65	78		25	103	88	114	114			
304+25.00	151		63	86		2	88	78	101	101			
304+50.00	148		59	88		1	89	94	122	122			
304+75.00	159		59	100			100	112	146	146			
305+00.00	157		58	53		46	99	139	181	181			
305+25.00	36		14			22	22	40	52	52			
305+31.00	118		43			75	75	141	183	183			
305+50.00	163		57			106	106	228	296	296			
305+75.00	149		53			96	96	304	395	395			
306+00.00	116		46			70	70	386	502	502			
306+25.00	97		42			55	55	458	595	595			
306+50.00	86		40	20		26	46	527	685	685			
306+75.00	79		40	39			39	583	758	758			
307+00.00	79		40	39			39	624	811	811			
307+25.00	64		32	32			32	548	712	712			
307+45.00	16		8	8			8	144	187	187			
307+50.00	33		15	18			18	281	365	365			
307+60.00	52		23	28		1	29	415	540	540			
307+75.00	86		37	49			49	667	867	867			
308+00.00	100		40	60			60	600	780	780			
308+25.00	135		48	87			87	510	663	663			
308+50.00	167		53	113		1	114	435	566	566			
308+75.00	183		55	126		2	128	388	504	504			
309+00.00	182		55	123		4	127	352	458	458			
309+25.00	164		55	104		5	109	323	420	420			
309+50.00	96		38	55		3	58	295	384	384			
309+75.00	43		21	20		2	22	272	354	354			
310+00.00	76		10	28		38	66	182	237	237			
310+25.00	73		9	25		39	64	132	172	172			
310+50.00	42		18	11		13	24	133	173	173			
310+75.00	94		30	25		39	64	82	107	107			
311+00.00	177		51	65		61	126	44	57	57			
311+25.00	248		63	121		64	185	21	27	27			
311+50.00	314		71	179		64	243	9	12	12			
311+75.00	367		75	227		65	292	2	3	3			
312+00.00	413		82	260		71	331						
312+25.00	418		88	248		82	330						
312+50.00	447		96	253		98	351						
312+75.00	532		103	301		128	429						
313+00.00	581		104	162		315	477						
313+25.00	604		104			500	500	3	4	4			
313+50.00	594		105			489	489	7	9	9			
313+75.00	545		125			420	420	13	17	17			
314+00.00	482		122			360	360	21	27	27			
314+25.00	400		95			305	305	35	46	46			
314+50.00	299		83			216	216	54	70	70			
314+75.00	203		67			136	136	91	118	118			
315+00.00	152		59			93	93	152	198	198			
315+25.00	148		58	41		49	90	228	296	296			
315+50.00	189		59	88		42	130	369	480	480			
315+75.00	108		33	52		23	75	280	364	364			
315+89.00	72		29	40		3	43	238	309	309			
316+00.00	156		64	85		7	92	517	672	672			
316+25.00	131		47	75		9	84	474	616	616			
316+50.00	154		53	94		7	101	455	592	592			
316+75.00	187		66	116		5	121	431	560	560			
317+00.00	188		66	117		5	122	393	511	511			
317+25.00	195		68	122		5	127	349	454	454			
317+50.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
317+50.00	212		72	136		4	140	308	400	400			
317+75.00	242		77	156		9	165	280	364	364			
318+00.00	269		81	172		16	188	260	338	338			
318+25.00	283		82	181		20	201	246	320	320			
318+50.00	293		83	186		24	210	233	303	303			
318+75.00	294		84	180		30	210	226	294	294			
319+00.00	279		81	138		60	198	223	290	290			
319+25.00	249		76	117		56	173	222	289	289			
319+50.00	213		71	120		22	142	228	296	296			
319+75.00	180		72	95		13	108	231	300	300			
320+00.00	169		72	89		8	97	220	286	286			
320+25.00	178		70	97		11	108	200	260	260			
320+50.00	183		70	100		13	113	185	241	241			
320+75.00	181		68	102		11	113	172	224	224			
321+00.00	191		69	108		14	122	157	204	204			
321+25.00	207		72	108		27	135	143	186	186			
321+50.00	211		73	102		36	138	132	172	172			
321+75.00	215		80	95		40	135	125	163	163			
322+00.00	218		80	101		37	138	116	151	151			
322+25.00	218		75	117		26	143	108	140	140			
322+50.00	215		75	112		28	140	100	130	130			
322+75.00	208		73	51		84	135	91	118	118			
323+00.00	205		71			134	134	75	98	98			
323+25.00	214		75			139	139	49	64	64			
323+50.00	189		39			150	150	31	40	40			
323+75.00	124		9			115	115	26	34	34			
324+00.00	26		3			23	23	5	7	7			
324+07.61	62		7			55	55	15	20	20			
324+25.00	108		35			73	73	48	62	62			
324+50.00	112		49			63	63	74	96	96			
324+75.00	110		48			62	62	92	120	120			
325+00.00	117		51			66	66	100	130	130			
325+25.00	144		57			87	87	95	124	124			
325+50.00	170		60			110	110	79	103	103			
325+75.00	191		59			132	132	51	66	66			
326+00.00	228		69			159	159	25	33	33			
326+25.00	281		90			191	191	14	18	18			
326+50.00	348		103			245	245	10	13	13			
326+75.00	412		113			299	299	6	8	8			
327+00.00	447		120			327	327	4	5	5			
327+25.00	443		119			324	324	5	7	7			
327+50.00	437		116	28		293	321	3	4	4			
327+75.00	416		108	67		241	308	12	16	16			
328+00.00	364		94	81		189	270	61	79	79			
328+25.00	332		86	90		156	246	139	181	181			
328+50.00	303		83	65		155	220	230	299	299			
328+75.00	259		77	17		165	182	327	425	425			
329+00.00	206		69			137	137	411	534	534			
329+25.00	165		60			105	105	461	599	599			
329+50.00	60		22			38	38	192	250	250			
329+60.00	71		30			41	41	315	410	410			
329+75.00	4		2			2	2	23	30	30			
329+76.00	52		25			27	27	305	397	397			
329+90.00	38		17			21	21	201	261	261			
330+00.00	87		40			47	47	441	573	573			
330+25.00	89		41			48	48	337	438	438			
330+50.00	111		46			65	65	235	306	306			
330+75.00	125		51	33		41	74	174	226	226			
331+00.00	73		31	38		4	42	89	116	116			
331+15.00	51		22	28		1	29	59	77	77			
331+25.00	142		55	85		2	87	181	235	235			
331+50.00	138		51	86		1	87	269	350	350			
331+75.00	116		43	70		3	73	407	529	529			
332+00.00	82		37	42		3	45	574	746	746			
332+25.00	54		34	20			20	751	976	976			
332+50.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
332+50.00	25		15	5		5	10	525	683	683			
332+65.00	14		7			7	7	380	494	494			
332+75.00	12		6			6	6	329	428	428			
332+83.00	33		19	8		6	14	658	855	855			
333+00.00	53		34	18		1	19	813	1057	1057			
333+25.00	39		30	9			9	723	940	940			
333+50.00	34		28	6			6	651	846	846			
333+75.00	36		28	8			8	579	753	753			
334+00.00	45		31	14			14	500	650	650			
334+25.00	68		38	30			30	403	524	524			
334+50.00	81		41	40			40	322	419	419			
334+75.00	76		39	37			37	275	358	358			
335+00.00	88		42	46			46	231	300	300			
335+25.00	123		51	72			72	173	225	225			
335+50.00	166		62	103		1	104	121	157	157			
335+75.00	221		95	125		1	126	94	122	122			
336+00.00	270		107	162		1	163	84	109	109			
336+25.00	310		97	212		1	213	78	101	101			
336+50.00	353		103	248		2	250	75	98	98			
336+75.00	392		107	282		3	285	73	95	95			
337+00.00	402		107	291		4	295	71	92	92			
337+25.00	387		106	276		5	281	69	90	90			
337+50.00	361		104	253		4	257	67	87	87			
337+75.00	323		105	169	45	4	218	64	83	83			
338+00.00	286		97	139	45	5	189	64	83	83			
338+25.00	256		80	170		6	176	64	83	83			
338+50.00	231		70	155		6	161	72	94	94			
338+75.00	212		65	140		7	147	90	117	117			
339+00.00	184		61	117		6	123	115	150	150			
339+25.00	144		66	74		4	78	156	203	203			
339+50.00	107		60	45		2	47	218	283	283			
339+75.00	91		50	41			41	287	373	373			
340+00.00	87		47	39		1	40	356	463	463			
340+25.00	82		41	41			41	423	550	550			
340+50.00	72		39	33			33	482	627	627			
340+75.00	60		28	25		7	32	525	683	683			
341+00.00	7		2	3		2	5	65	85	85			
341+03.00	43		21	15		7	22	489	636	636			
341+25.00	46		31	15			15	591	768	768			
341+50.00	46		30	16			16	601	781	781			
341+75.00	15		10	5			5	190	247	247			
341+83.00	33		23	10			10	382	497	497			
342+00.00	59		36	22		1	23	503	654	654			
342+25.00	117		46	71			71	436	567	567			
342+50.00	229		35	111		83	194	314	408	408			
342+75.00	255		37	136		82	218	248	322	322			
343+00.00	209		56	153			153	291	378	378			
343+25.00	213		56	136		21	157	307	399	399			
343+50.00	219		58	110		51	161	262	341	341			
343+75.00	203		55	90		58	148	213	277	277			
344+00.00	175		60	76		39	115	166	216	216			
344+25.00	157		63	76		18	94	122	159	159			
344+50.00	163		62	91		10	101	87	113	113			
344+75.00	177		71	91		15	106	63	82	82			
345+00.00	189		78	78		33	111	48	62	62			
345+25.00	193		79	71		43	114	38	49	49			
345+50.00	187		75	78		34	112	30	39	39			
345+75.00	181		67	77		37	114	25	33	33			
346+00.00	183		67	73		43	116	25	33	33			
346+25.00	193		74	91		28	119	24	31	31			
346+50.00	196		75	95		26	121	22	29	29			
346+75.00	191		74	84		33	117	23	30	30			
347+00.00	187		73	88		26	114	26	34	34			
347+25.00	191		71	94		26	120	30	39	39			
347+50.00	189		68	91		30	121	32	42	42			
347+75.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
347+75.00	179		59	83		37	120	31	40	40			
348+00.00	170		55	80		35	115	32	42	42			
348+25.00	159		57	75		27	102	37	48	48			
348+50.00	147		55	65		27	92	42	55	55			
348+75.00	136		54	56		26	82	41	53	53			
349+00.00	122		52	49		21	70	38	49	49			
349+25.00	108		48	42		18	60	36	47	47			
349+50.00	99		45	37		17	54	36	47	47			
349+75.00	99		40	40		19	59	33	43	43			
350+00.00	108		42	47		19	66	27	35	35			
350+25.00	119		50	50		19	69	22	29	29			
350+50.00	115		54	42		19	61	17	22	22			
350+75.00	125		40	39		46	85	10	13	13			
351+00.00	145		41	53		51	104	8	10	10			
351+25.00	150		57	67		26	93	9	12	12			
351+50.00	151		55	68		28	96	9	12	12			
351+75.00	147		59	57		31	88	7	9	9			
352+00.00	167		58	66		43	109	6	8	8			
352+25.00	113		21	45		47	92	4	5	5			
352+40.00	69		15	27		27	54	3	4	4			
352+50.00	150		55	60		35	95	7	9	9			
352+75.00	161		62	63		36	99	4	5	5			
353+00.00	184		52	73		59	132						
353+25.00	176	31	18	68		59	127	1	1	1			
353+50.00	159	59		61		39	100	11	14	14			
353+75.00	163	58		64		41	105	21	27	27			
354+00.00	169	58		66		45	111	23	30	30			
354+25.00	171	57		65		49	114	24	31	31			
354+50.00	173	57		65		51	116	26	34	34			
354+75.00	188	60		71		57	128	27	35	35			
355+00.00	213	65		89		59	148	25	33	33			
355+25.00	226	65		96		65	161	25	33	33			
355+50.00	235	66		97		72	169	22	29	29			
355+75.00	238	69		99		70	169	19	25	25			
356+00.00	234	74		85		75	160	13	17	17			
356+25.00	240	74		87		79	166	8	10	10			
356+50.00	256	52		108		96	204	4	5	5			
356+75.00	230	53		105		72	177	8	10	10			
357+00.00	170	63		83		24	107	20	26	26			
357+25.00	131	52		70		9	79	33	43	43			
357+50.00	111	49		60		2	62	53	69	69			
357+75.00	61	28		32		1	33	45	59	59			
357+90.00	38	9	8	20		1	21	36	47	47			
358+00.00	17		7	9		1	10	21	27	27			
358+05.00	35		16	19			19	45	59	59			
358+15.00	38		18	19		1	20	45	59	59			
358+25.00	93		45	48			48	130	169	169			
358+50.00	92		45	47			47	154	200	200			
358+75.00	100		46	54			54	171	222	222			
359+00.00	81		35	46			46	130	169	169			
359+18.00	33		14	19			19	52	68	68			
359+25.00	121		50	71			71	190	247	247			
359+50.00	134		56	78			78	196	255	255			
359+75.00	146		58	88			88	194	252	252			
360+00.00	151		55	95		1	96	199	259	259			
360+25.00	156		56	100			100	211	274	274			
360+50.00	164		57	106		1	107	216	281	281			
360+75.00	177		60	117			117	219	285	285			
361+00.00	183		61	122			122	219	285	285			
361+25.00	180		61	119			119	214	278	278			
361+50.00	185		43	123		19	142	184	239	239			
361+75.00	179		43	116		20	136	166	216	216			
362+00.00	150		57	93			93	201	261	261			
362+25.00	129		52	77			77	234	304	304			
362+50.00	124		51	73			73	237	308	308			
362+75.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
362+75.00	122		51	71			71	234	304	304			
363+00.00	128		52	75		1	76	226	294	294			
363+25.00	163		58	94		11	105	197	256	256			
363+50.00	198		43	113		42	155	172	224	224			
363+75.00	189		45	112		32	144	170	221	221			
364+00.00	161		61	99		1	100	196	255	255			
364+25.00	144		55	89			89	227	295	295			
364+50.00	135		53	82			82	230	299	299			
364+75.00	131		52	79			79	215	280	280			
365+00.00	151		39	93		19	112	184	239	239			
365+25.00	81		12	51		18	69	80	104	104			
365+37.00	85		22	54		9	63	91	118	118			
365+50.00	159		58	101			101	202	263	263			
365+75.00	164		63	98		3	101	228	296	296			
366+00.00	158		61	93		4	97	233	303	303			
366+25.00	149		55	94			94	233	303	303			
366+50.00	147		55	92			92	234	304	304			
366+75.00	155		54	86		15	101	248	322	322			
367+00.00	144		52	77		15	92	246	320	320			
367+25.00	117		49	68			68	229	298	298			
367+50.00	112		48	64			64	231	300	300			
367+75.00	120		52	68			68	234	304	304			
368+00.00	129		53	76			76	237	308	308			
368+25.00	135		52	83			83	238	309	309			
368+50.00	136		52	84			84	238	309	309			
368+75.00	136		52	84			84	240	312	312			
369+00.00	134		52	82			82	242	315	315			
369+25.00	132		51	81			81	242	315	315			
369+50.00	131		51	80			80	242	315	315			
369+75.00	129		62	67			67	242	315	315			
370+00.00	129		62	67			67	242	315	315			
370+25.00	126		50	76			76	240	312	312			
370+50.00	124		49	75			75	238	309	309			
370+75.00	121		49	72			72	238	309	309			
371+00.00	118		48	70			70	237	308	308			
371+25.00	115		47	68			68	235	306	306			
371+50.00	113		47	66			66	233	303	303			
371+75.00	113		43	70			70	232	302	302			
372+00.00	113		43	70			70	232	302	302			
372+25.00	104		44	60			60	228	296	296			
372+50.00	112		46	66			66	218	283	283			
372+75.00	132		50	81		1	82	209	272	272			
373+00.00	149		54	90		5	95	203	264	264			
373+25.00	166		59	99		8	107	198	257	257			
373+50.00	186		64	112		10	122	194	252	252			
373+75.00	206		72	119		15	134	191	248	248			
374+00.00	218		74	136		8	144	184	239	239			
374+25.00	226		70	156			156	173	225	225			
374+50.00	228		70	157		1	158	160	208	208			
374+75.00	230		71	158		1	159	155	202	202			
375+00.00	239		72	80	74	13	167	150	195	195			
375+25.00	198		29		117	52	169	95	124	124			
375+45.00	50				30	20	50	19	25	25			
375+50.00	236		34		140	62	202	131	170	170			
375+75.00	211		70		120	21	141	176	229	229			
376+00.00	190		67		116	7	123	195	254	254			
376+25.00	170		59		111		111	212	276	276			
376+50.00	164		39		103	22	125	221	287	287			
376+75.00	139		34		83	22	105	236	307	307			
377+00.00	110		46		64		64	254	330	330			
377+25.00	127		49		74	4	78	250	325	325			
377+50.00	169		57		106	6	112	232	302	302			
377+75.00	195		59		127	9	136	211	274	274			
378+00.00	202		60		127	15	142	193	251	251			
378+25.00	203		63		128	12	140	190	247	247			
378+50.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
378+50.00	179		58		107	14	121	205	267	267			
378+75.00	136		52	27	44	13	84	234	304	304			
379+00.00	103		48	46		9	55	274	356	356			
379+25.00	84		43	31		10	41	317	412	412			
379+50.00	15		7	5		3	8	69	90	90			
379+55.00	38		17	14		7	21	189	246	246			
379+68.00	22		11	8		3	11	101	131	131			
379+75.00	18		9	6		3	9	69	90	90			
379+80.00	66		35	21		10	31	265	345	345			
380+00.00	75		42	22		11	33	327	425	425			
380+25.00	79		44	24		11	35	326	424	424			
380+50.00	85		46	28		11	39	311	404	404			
380+75.00	94		48	36		10	46	290	377	377			
381+00.00	105		50	46		9	55	263	342	342			
381+25.00	116		51	55		10	65	237	308	308			
381+50.00	128		53	67		8	75	213	277	277			
381+75.00	73		28	41		4	45	104	135	135			
381+88.00	71		26	41	1	3	45	94	122	122			
382+00.00	153		55	90	2	6	98	191	248	248			
382+25.00	160		57	96		7	103	181	235	235			
382+50.00	172		60	106		6	112	172	224	224			
382+75.00	177		61	109		7	116	165	215	215			
383+00.00	177		62	110		5	115	158	205	205			
383+25.00	177		62	108		7	115	154	200	200			
383+50.00	171		61	101		9	110	148	192	192			
383+75.00	162		59	90		13	103	141	183	183			
384+00.00	172		61	96		15	111	131	170	170			
384+25.00	206		68	122		16	138	116	151	151			
384+50.00	263		78	164		21	185	75	98	98			
384+75.00	297		83	187		27	214	47	61	61			
385+00.00	294		82	185		27	212	51	66	66			
385+25.00	286		81	183		22	205	48	62	62			
385+50.00	268		78	161		29	190	53	69	69			
385+75.00	261		79	147		35	182	57	74	74			
386+00.00	265		80	163		22	185	49	64	64			
386+25.00	265		76	171		18	189	36	47	47			
386+50.00	259		74	162		23	185	35	46	46			
386+75.00	262		75	155		32	187	33	43	43			
387+00.00	285		77	168		40	208	28	36	36			
387+25.00	280		76	173		31	204	20	26	26			
387+50.00	293		76	189		28	217	11	14	14			
387+75.00	248		51	159		38	197	9	12	12			
387+93.00	101		18	63		20	83	3	4	4			
388+00.00	373		76	235		62	297	9	12	12			
388+25.00	394		63	249		82	331	7	9	9			
388+50.00	415		88	263		64	327	3	4	4			
388+75.00	432		131	280		21	301	6	8	8			
389+00.00	362		116	230		16	246	22	29	29			
389+25.00	281		104	167		10	177	37	48	48			
389+50.00	262		91	147		24	171	48	62	62			
389+75.00	125		39	67		19	86	69	90	90			
390+00.00													
Stage 1B													
390+25.00	2					2	2	135	176	176			
390+50.00	1					1	1	115	150	150			
390+75.00								55	72	72			
391+00.00	2					2	2	4	5	5			
391+07.00	6					6	6	3	4	4			
391+25.00	4					4	4	35	46	46			
391+50.00	4					4	4	67	87	87			
391+75.00								60	78	78			
392+00.00								35	46	46			
392+25.00								12	16	16			
392+50.00	6		6					18	23	23			
392+75.00	19		19					28	36	36			
393+00.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
393+00.00	34		32	2			2	20	26	26			
393+25.00	45		37	8			8	16	21	21			
393+50.00	45		37	8			8	19	25	25			
393+75.00	32		30	2			2	32	42	42			
394+00.00	14		13			1	1	57	74	74			
394+25.00	3		3					100	130	130			
394+50.00	2		2					147	191	191			
394+75.00	2		2					176	229	229			
395+00.00	1		1					206	268	268			
395+25.00								154	200	200			
395+39.78								27	35	35			
395+42.38								63	82	82			
395+50.00	2		2					176	229	229			
395+75.00	1		1					139	181	181			
396+00.00	1		1					102	133	133			
396+25.00	4		4					61	79	79			
396+50.00	16		14	2			2	26	34	34			
396+75.00	42		32	10			10	14	18	18			
397+00.00	68		44	24			24	13	17	17			
397+25.00	113		53	60			60	8	10	10			
397+50.00	135		56	79			79	3	4	4			
397+75.00	134		55	79			79	3	4	4			
398+00.00	102		39	63			63	2	3	3			
398+16.98	50		18	32			32	1	1	1			
398+25.00	158		58	100			100	3	4	4			
398+50.00	160		60	100			100	3	4	4			
398+75.00	160		61	99			99	3	4	4			
399+00.00	158		62	96			96	3	4	4			
399+25.00	152		61	90		1	91	3	4	4			
399+50.00	143		61	82			82	3	4	4			
399+75.00	135		59	75		1	76	3	4	4			
400+00.00	127		58	68		1	69	3	4	4			
400+25.00	119		57	62			62	3	4	4			
400+50.00	113		55	58			58	3	4	4			
400+75.00	110		54	56			56	3	4	4			
401+00.00	110		54	56			56	3	4	4			
401+25.00	118		56	62			62	3	4	4			
401+50.00	132		58	74			74	3	4	4			
401+75.00	128		65	62		1	63	3	4	4			
402+00.00	112		65	47			47	3	4	4			
402+25.00	103		56	47			47	3	4	4			
402+50.00	99		55	44			44	3	4	4			
402+75.00	98		55	43			43	3	4	4			
403+00.00	98		54	43		1	44	3	4	4			
403+25.00	100		55	45			45	3	4	4			
403+50.00	104		55	48		1	49	3	4	4			
403+75.00	107		56	51			51	3	4	4			
404+00.00	110		56	54			54	3	4	4			
404+25.00	115		57	58			58	3	4	4			
404+50.00	120		57	63			63	3	4	4			
404+75.00	126		57	68		1	69	3	4	4			
405+00.00	131		58	73			73	3	4	4			
405+25.00	133		58	75			75	3	4	4			
405+50.00	135		58	76		1	77	3	4	4			
405+75.00	137		64	73			73	3	4	4			
406+00.00	140		64	76			76	3	4	4			
406+25.00	142		59	83			83	3	4	4			
406+50.00	145		59	86			86	3	4	4			
406+75.00	147		59	88			88	2	3	3			
407+00.00	150		59	91			91	2	3	3			
407+25.00	156		60	96			96	3	4	4			
407+50.00	156		60	96			96	3	4	4			
407+75.00	149		59	87		3	90	3	4	4			
408+00.00	139		58	78		3	81	3	4	4			
408+25.00	129		58	70		1	71	3	4	4			
408+50.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
408+50.00	119		57	60		2	62	3	4	4			
408+75.00	109		56	51		2	53	3	4	4			
409+00.00	99		55	42		2	44	3	4	4			
409+25.00	90		53	34		3	37	3	4	4			
409+50.00	87		52	32		3	35	3	4	4			
409+75.00	89		53	33		3	36	3	4	4			
410+00.00	93		53	37		3	40	3	4	4			
410+25.00	99		54	42		3	45	3	4	4			
410+50.00	104		54	49		1	50	3	4	4			
410+75.00	109		55	54			54	3	4	4			
411+00.00	117		56	60		1	61	3	4	4			
411+25.00	126		57	68		1	69	3	4	4			
411+50.00	135		58	76		1	77	3	4	4			
411+75.00	142		58	82		2	84	3	4	4			
412+00.00	148		58	86		4	90	3	4	4			
412+25.00	154		58	93		3	96	3	4	4			
412+50.00	163		59	101		3	104	3	4	4			
412+75.00	172		61	109		2	111	3	4	4			
413+00.00	174		61	110		3	113	3	4	4			
413+25.00	170		61	106		3	109	3	4	4			
413+50.00	167		60	103		4	107	3	4	4			
413+75.00	165		62	99		4	103	3	4	4			
414+00.00	162		62	92		8	100	3	4	4			
414+25.00	157		59	91		7	98	3	4	4			
414+50.00	154		59	90		5	95	3	4	4			
414+75.00	151		59	87		5	92	3	4	4			
415+00.00	149		58	87		4	91	3	4	4			
415+25.00	148		58	88		2	90	3	4	4			
415+50.00	148		57	88		3	91	3	4	4			
415+75.00	152		56	90		6	96	3	4	4			
416+00.00	164		57	101		6	107	3	4	4			
416+25.00	145		45	96		4	100	1	1	1			
416+50.00	117		31	79		7	86						
416+75.00	140		30	104		6	110						
417+00.00	153		14	128		11	139						
417+25.00	133			116		17	133						
417+50.00	145			118		27	145						
417+75.00	144		15	108		21	129						
418+00.00	113		31	66		16	82						
418+25.00	98		33	40		25	65						
418+50.00	90		33	39		18	57						
418+75.00	127		46	68		13	81	1	1	1			
419+00.00	165		58	99		8	107	3	4	4			
419+25.00	155		56	96		3	99	3	4	4			
419+50.00	140		52	84		4	88	3	4	4			
419+75.00	29		6	9		14	23	1	1	1			
419+80.63	93		18	26		49	75	4	5	5			
420+00.00	105		46	58		1	59	6	8	8			
420+25.00	91		44	45		2	47	7	9	9			
420+50.00	79		42	35		2	37	9	12	12			
420+75.00	63		35	27		1	28	10	13	13			
421+00.00	48		28	17		3	20	15	20	20			
421+25.00	41		27	10		4	14	21	27	27			
421+50.00	41		28	8		5	13	23	30	30			
421+75.00	36		25	4		7	11	29	38	38			
422+00.00	31		21	4		6	10	37	48	48			
422+25.00	19		7	1		11	12	29	38	38			
422+41.02	10		3	1		6	7	20	26	26			
422+50.00	32		18	3		11	14	54	70	70			
422+75.00	40		27			13	13	42	55	55			
423+00.00	22		15			7	7	15	20	20			
423+11.51	31		19	4		8	12	13	17	17			
423+25.00	79		41	31		7	38	11	14	14			
423+50.00	101		47	47		7	54	4	5	5			
423+75.00	117		52	59		6	65	3	4	4			
424+00.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
424+00.00	135		54	80		1	81	3	4	4			
424+25.00	156		54	102			102	3	4	4			
424+50.00	138		51	86		1	87	3	4	4			
424+75.00	94		46	48			48	4	5	5			
425+00.00	75		39	36			36	10	13	13			
425+25.00	62		35	27			27	16	21	21			
425+50.00	49		31	15		3	18	18	23	23			
425+75.00	34		25	5		4	9	22	29	29			
425+99.41	1		1					1	1	1			
426+00.00	22		17			5	5	29	38	38			
426+25.00	21		13	2		6	8	59	77	77			
426+50.00	8		5	2		1	3	49	64	64			
426+59.60	13		8	2		3	5	68	88	88			
426+75.00	25		17	3		5	8	34	44	44			
427+00.00	24		17	2		5	7	16	21	21			
427+25.00	32		24	6		2	8	11	14	14			
427+50.00	7		5	2			2	1	1	1			
427+53.91	46		29	13		4	17	4	5	5			
427+75.00	68		39	28		1	29	5	7	7			
428+00.00	94		45	48		1	49	5	7	7			
428+25.00	118		49	68		1	69	4	5	5			
428+50.00	132		51	81			81	4	5	5			
428+75.00	149		53	96			96	3	4	4			
429+00.00	162		56	106			106	3	4	4			
429+25.00	168		58	110			110	3	4	4			
429+50.00	29		10	19			19						
429+54.16	141		49	92			92	2	3	3			
429+75.00	171		71	99		1	100	3	4	4			
430+00.00	179		73	105		1	106	3	4	4			
430+25.00	202		64	136		2	138	3	4	4			
430+50.00	234		32	150		52	202	2	3	3			
430+75.00	34			22		12	34						
430+78.41	187		18	131		38	169	1	1	1			
431+00.00	181		50	126		5	131	2	3	3			
431+25.00	163		60	102		1	103	3	4	4			
431+50.00	140		57	82		1	83	3	4	4			
431+75.00	103		45	58			58	2	3	3			
431+96.41	16		7	8		1	9						
432+00.00	94		47	46		1	47	5	7	7			
432+25.00	73		41	30		2	32	8	10	10			
432+50.00	43		28	15			15	15	20	20			
432+75.00	22		17	5			5	21	27	27			
433+00.00	38		28	10			10	17	22	22			
433+25.00	40		16	11		13	24	20	26	26			
433+46.06	3			1		2	3	3	4	4			
433+47.86	4			1		3	4	3	4	4			
433+50.00	36		13	7		16	23	52	68	68			
433+75.00	21		19	1		1	2	90	117	117			
434+00.00	13		7	6			6	115	150	150			
434+25.00	10		4	5		1	6	121	157	157			
434+50.00	7		6			1	1	129	168	168			
434+75.00	3		3					114	148	148			
435+00.00	1		1					113	147	147			
435+25.00	1		1					164	213	213			
435+50.00	1		1					223	290	290			
435+75.00	1		1					275	358	358			
436+00.00	1		1					278	361	361			
436+25.00	1		1					211	274	274			
436+44.70								59	77	77			
436+50.00	1		1					250	325	325			
436+75.00	2		2					159	207	207			
437+00.00	1		1					89	116	116			
437+25.00	1		1					90	117	117			
437+50.00	5		5					82	107	107			
437+75.00	16		13	3			3	58	75	75			
438+00.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
438+00.00	8		5	3			3	14	18	18			
438+08.06	20		12	8			8	24	31	31			
438+25.00	46		25	21			21	27	35	35			
438+50.00	60		32	28			28	26	34	34			
438+75.00	64		35	29			29	25	33	33			
439+00.00	67		36	29		2	31	24	31	31			
439+25.00	66		38	23		5	28	24	31	31			
439+50.00	62		35	22		5	27	24	31	31			
439+75.00	63		30	27		6	33	26	34	34			
440+00.00	57		24	26		7	33	30	39	39			
440+25.00	54		8	24		22	46	26	34	34			
440+48.56	4			2		2	4	1	1	1			
440+50.00	55		4	15		36	51	44	57	57			
440+75.00	44		7			37	37	70	91	91			
441+00.00	46		5	6		35	41	65	85	85			
441+25.00	49		3	6		40	46	55	72	72			
441+50.00	50		2	6		42	48	56	73	73			
441+75.00	46		1	6		39	45	31	40	40			
442+00.00	43					43	43	10	13	13			
442+25.00	43			1		42	43	9	12	12			
442+50.00	41			1		40	41	20	26	26			
442+75.00	40		1	1		38	39	22	29	29			
443+00.00	28		1	6		21	27	4	5	5			
443+18.00													
Stage 2B													
391+75.00	9					9	9	1	1	1			
392+00.00	17					17	17	9	12	12			
392+25.00	28		1	6		21	27	14	18	18			
392+50.00	37		3	17		17	34	9	12	12			
392+75.00	49		3	28		18	46	4	5	5			
393+00.00	65		2	41		22	63	3	4	4			
393+25.00	79		2	53		24	77	3	4	4			
393+50.00	90		3	61		26	87	3	4	4			
393+75.00	99		5	66		28	94	3	4	4			
394+00.00	104		6	73		25	98	3	4	4			
394+25.00	106		6	76		24	100	3	4	4			
394+50.00	121		18	76		27	103	3	4	4			
394+75.00	160		30	98		32	130	3	4	4			
395+00.00	161		32	93		36	129	3	4	4			
395+25.00	71		11	39		21	60	2	3	3			
395+39.78	11		1	6		4	10						
395+42.38	32		2	18		12	30	1	1	1			
395+50.00	107		7	60		40	100	3	4	4			
395+75.00	109		8	64		37	101	3	4	4			
396+00.00	113		8	73		32	105	3	4	4			
396+25.00	117		7	82		28	110	3	4	4			
396+50.00	120		7	85		28	113	3	4	4			
396+75.00	120		7	86		27	113	3	4	4			
397+00.00	118		6	86		26	112	3	4	4			
397+25.00	115		5	84		26	110	3	4	4			
397+50.00	115		7	84		24	108	3	4	4			
397+75.00	124		17	84		23	107	2	3	3			
398+00.00	87		16	56		15	71	1	1	1			
398+16.98	41		8	25		8	33	1	1	1			
398+25.00	126		25	82		19	101	2	3	3			
398+50.00	117		15	80		22	102	2	3	3			
398+75.00	108		6	75		27	102	3	4	4			
399+00.00	109		6	74		29	103	2	3	3			
399+25.00	110		6	73		31	104	3	4	4			
399+50.00	110		5	69		36	105	2	3	3			
399+75.00	111		5	71		35	106	3	4	4			
400+00.00	109		6	76		27	103	3	4	4			
400+25.00	106		5	76		25	101	2	3	3			
400+50.00	102		5	73		24	97	3	4	4			
400+75.00	98		5	68		25	93	2	3	3			
401+00.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
401+00.00	91		4	62		25	87	3	4	4			
401+25.00	85		3	56		26	82	3	4	4			
401+50.00	80		2	52		26	78	3	4	4			
401+75.00	77		2	45		30	75	3	4	4			
402+00.00	75		2	43		30	73	3	4	4			
402+25.00	75		3	48		24	72	15	20	20			
402+50.00	76		4	50		22	72	26	34	34			
402+75.00	77		4	52		21	73	22	29	29			
403+00.00	79		4	54		21	75	17	22	22			
403+25.00	81		4	53		24	77	13	17	17			
403+50.00	83		5	49		29	78	10	13	13			
403+75.00	85		5	53		27	80	9	12	12			
404+00.00	88		5	56		27	83	9	12	12			
404+25.00	90		6	54		30	84	8	10	10			
404+50.00	91		6	57		28	85	8	10	10			
404+75.00	93		6	62		25	87	7	9	9			
405+00.00	94		6	60		28	88	7	9	9			
405+25.00	94		5	58		31	89	8	10	10			
405+50.00	94		5	62		27	89	8	10	10			
405+75.00	96		6	67		23	90	7	9	9			
406+00.00	99		6	71		22	93	6	8	8			
406+25.00	101		6	71		24	95	5	7	7			
406+50.00	102		6	73		23	96	4	5	5			
406+75.00	98		8	67		23	90	3	4	4			
407+00.00	100		9	69		22	91	3	4	4			
407+25.00	106		6	75		25	100	5	7	7			
407+50.00	106		7	74		25	99	5	7	7			
407+75.00	105		7	38		60	98	5	7	7			
408+00.00	104		6	10		88	98	4	5	5			
408+25.00	103		6	17		80	97	4	5	5			
408+50.00	104		7	14		83	97	5	7	7			
408+75.00	109		7	13		89	102	7	9	9			
409+00.00	113		7	11		95	106	8	10	10			
409+25.00	114		8	10		96	106	8	10	10			
409+50.00	115		9	8		98	106	8	10	10			
409+75.00	115		8	11		96	107	6	8	8			
410+00.00	118		8	13		97	110	5	7	7			
410+25.00	121		8	12		101	113	4	5	5			
410+50.00	123		9	21		93	114	3	4	4			
410+75.00	125		9	25		91	116	3	4	4			
411+00.00	127		9	48		70	118	3	4	4			
411+25.00	129		9	46		74	120	3	4	4			
411+50.00	132		10	25		97	122	3	4	4			
411+75.00	134		11	24		99	123	3	4	4			
412+00.00	136		11	17		108	125	2	3	3			
412+25.00	138		12	23		103	126	3	4	4			
412+50.00	141		13	25		103	128	2	3	3			
412+75.00	146		15	25		106	131	3	4	4			
413+00.00	150		16	28		106	134	3	4	4			
413+25.00	150		17	28		105	133	3	4	4			
413+50.00	150		18	26		106	132	2	3	3			
413+75.00	155		21	45		89	134	3	4	4			
414+00.00	163		22	50		91	141	2	3	3			
414+25.00	169		20	48		101	149	3	4	4			
414+50.00	173		20	52		101	153	2	3	3			
414+75.00	176		22	54		100	154	3	4	4			
415+00.00	178		22	62		94	156	3	4	4			
415+25.00	206		22	75		109	184	3	4	4			
415+75.00	27			13		14	27						
416+00.00	27			14		13	27						
416+25.00	27			17		10	27						
416+50.00	28			19		9	28						
416+75.00	28			21		7	28						
417+00.00	27			23		4	27						
417+25.00	25			22		3	25						
417+50.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
417+50.00	27			22		5	27						
417+75.00	27			22		5	27						
418+00.00	27			16		11	27						
418+25.00	27			8		19	27						
418+50.00	63			19		44	63	1	1	1			
418+75.00	124			69		55	124	2	3	3			
419+00.00	140		9	69		62	131	2	3	3			
419+25.00	242		28	36		178	214	28	36	36			
419+75.00	24		2	2		20	22	6	8	8			
419+80.63	83		8	37		38	75	21	27	27			
420+00.00	104		8	47		49	96	18	23	23			
420+25.00	100		4	12		84	96	11	14	14			
420+50.00	103		4	13		86	99	11	14	14			
420+75.00	113		6	16		91	107	10	13	13			
421+00.00	123		8	11		104	115	9	12	12			
421+25.00	130		8	11		111	122	8	10	10			
421+50.00	134		8	15		111	126	8	10	10			
421+75.00	130		9	20		101	121	10	13	13			
422+00.00	129		9	22		98	120	14	18	18			
422+25.00	91		3	5		83	88	8	10	10			
422+41.02	48			6		42	48	2	3	3			
422+50.00	113			21		92	113	2	3	3			
422+75.00	182			6		176	182	2	3	3			
423+00.00	114		10	12		92	104	1	1	1			
423+11.51	145		12	16		117	133	1	1	1			
423+25.00	214			45		169	214	2	3	3			
423+50.00	309		5	231		73	304	4	5	5			
424+00.00	173		8	141		24	165	3	4	4			
424+25.00	171		11	129		31	160	2	3	3			
424+50.00	170		11	131		28	159	3	4	4			
424+75.00	169		11	123		35	158	3	4	4			
425+00.00	167		10	116		41	157	3	4	4			
425+25.00	159		5	102		52	154	3	4	4			
425+50.00	325		1	108		216	324	4	5	5			
425+99.41	4					4	4						
426+00.00	161		2	19		140	159	2	3	3			
426+25.00	159		6	32		121	153	19	25	25			
426+50.00	66		4	8		54	62	16	21	21			
426+59.60	104		6	10		88	98	26	34	34			
426+75.00	167		10	13		144	157	35	46	46			
427+00.00	322		11	59		252	311	34	44	44			
427+50.00	24			4		20	24						
427+53.91	283		10	97		176	273	15	20	20			
428+00.00	149		10	59		80	139	15	20	20			
428+25.00	146		11	22		113	135	17	22	22			
428+50.00	144		11	36		97	133	17	22	22			
428+75.00	144		11	36		97	133	13	17	17			
429+00.00	276		14	99		163	262	12	16	16			
429+50.00	22			12		10	22						
429+54.16	103		2	42		59	101	2	3	3			
429+75.00	129		6	37		86	123	9	12	12			
430+00.00	144		10	51		83	134	18	23	23			
430+25.00	145		11	60		74	134	18	23	23			
430+50.00	140		10	57		73	130	18	23	23			
430+75.00	19		1	8		10	18	2	3	3			
430+78.41	118		9	54		55	109	17	22	22			
431+00.00	140		13	59		68	127	21	27	27			
431+25.00	142		16	51		75	126	12	16	16			
431+50.00	145		10	61		74	135	3	4	4			
431+75.00	104		1	44		59	103	2	3	3			
431+96.41	14			6		8	14						
432+00.00	111		18	36		57	93	2	3	3			
432+25.00	106		21	8		77	85	22	29	29			
432+50.00	76		8	3		65	68	55	72	72			
432+75.00	64		6	1		57	58	67	87	87			
433+00.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
433+00.00	70		3	11		56	67	35	46	46			
433+25.00	47			18		29	47	2	3	3			
433+46.06	2			2			2						
433+47.86	3			2		1	3						
433+50.00	32		1	17		14	31	3	4	4			
433+75.00	31		3	6		22	28	4	5	5			
434+00.00	28		4			24	24	3	4	4			
434+25.00	27		4			23	23	3	4	4			
434+50.00	27		3			24	24	2	3	3			
434+75.00	28		3			25	25	3	4	4			
435+00.00	31		4			27	27	3	4	4			
435+25.00	35		4			31	31	3	4	4			
435+50.00	39		4			35	35	3	4	4			
435+75.00	42		4	9		29	38	3	4	4			
436+00.00	44		5	9		30	39	3	4	4			
436+25.00	35		4			31	31	2	3	3			
436+44.70	9		1			8	8	1	1	1			
436+50.00	43		4			39	39	3	4	4			
436+75.00	40		4			36	36	3	4	4			
437+00.00	38		5			33	33	3	4	4			
437+25.00	36		5			31	31	3	4	4			
437+50.00	35		5			30	30	3	4	4			
437+75.00	36		4			32	32	2	3	3			
438+00.00	12		1			11	11	1	1	1			
438+08.06	26		3			23	23	3	4	4			
438+25.00	39		5	4		30	34	14	18	18			
438+50.00	37		5	4		28	32	17	22	22			
438+75.00	36		3	1		32	33	15	20	20			
439+00.00	34		1			33	33	18	23	23			
439+25.00	32		1	5		26	31	20	26	26			
439+50.00	29			15		14	29	20	26	26			
439+75.00	32		4	20		8	28	21	27	27			
440+00.00	36		8	20		8	28	22	29	29			
440+25.00	29		3	14		12	26	21	27	27			
440+48.56	2			1		1	2	1	1	1			
440+50.00	26			6		20	26	24	31	31			
440+75.00	25			2		23	25	25	33	33			
441+00.00	17			3		14	17	14	18	18			
441+25.00	11			2		9	11	1	1	1			
441+50.00	19			3		16	19	6	8	8			
441+75.00	28		8	2		18	20	10	13	13			
442+00.00	28		8			20	20	5	7	7			
442+23.76	1					1	1						
442+25.00	30		2			28	28	3	4	4			
442+50.00	29		2			27	27	3	4	4			
442+75.00	27		1			26	26	3	4	4			
443+00.00	18		1	8		9	17	2	3	3			
443+18.00													
Widening													
443+23.01	2					2	2	1	1	1			
443+25.00	18		2			16	16	6	8	8			
443+50.00	14		2			12	12	6	8	8			
443+75.00	13		1			12	12	11	14	14			
444+00.00	16		1			15	15	20	26	26			
444+25.00	19		1			18	18	27	35	35			
444+50.00	19		1			18	18	32	42	42			
444+75.00	18		1			17	17	36	47	47			
445+00.00	18		1			17	17	32	42	42			
445+25.00	18		1			17	17	27	35	35			
445+50.00	18		1			17	17	28	36	36			
445+75.00	18		1			17	17	29	38	38			
446+00.00	18		1			17	17	32	42	42			
446+25.00	16					16	16	34	44	44			
446+48.51	1					1	1	2	3	3			
446+50.00	4					4	4	10	13	13			
446+56.51													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
446+56.51	11					11	11	23	30	30			
446+75.00	15					15	15	45	59	59			
447+00.00	18		1			17	17	70	91	91			
447+25.00	17		1			16	16	64	83	83			
447+50.00	12		1			11	11	39	51	51			
447+68.44	4					4	4	13	17	17			
447+75.00	15		1			14	14	34	44	44			
448+00.00	11					11	11	20	26	26			
448+17.01	6					6	6	10	13	13			
448+25.00	19					19	19	34	44	44			
448+50.00	3					3	3	8	10	10			
448+54.51	13		1			12	12	39	51	51			
448+75.00	15		1			14	14	42	55	55			
449+00.00	16					16	16	32	42	42			
449+25.00	11					11	11	19	25	25			
449+42.01	5					5	5	9	12	12			
449+50.00	17					17	17	26	34	34			
449+75.00	18		1			17	17	24	31	31			
450+00.00	18		1			17	17	21	27	27			
450+25.00	19		1			18	18	18	23	23			
450+50.00	20		2			18	18	15	20	20			
450+75.00	21		4			17	17	12	16	16			
451+00.00	22		4			18	18	10	13	13			
451+25.00	17		2			15	15	6	8	8			
451+50.00	11					11	11	3	4	4			
451+75.00	11					11	11	3	4	4			
452+00.00	11					11	11	3	4	4			
452+25.00	15					15	15	6	8	8			
452+50.00	19		1			18	18	9	12	12			
452+75.00	18		1			17	17	10	13	13			
453+00.00	18		1			17	17	11	14	14			
453+25.00	18		1			17	17	12	16	16			
453+50.00	18		1			17	17	13	17	17			
453+75.00	14					14	14	12	16	16			
454+00.00	11					11	11	11	14	14			
454+25.00	11		1			10	10	12	16	16			
454+50.00	11		1			10	10	11	14	14			
454+75.00	15		1			14	14	13	17	17			
455+00.00	15					15	15	10	13	13			
455+25.00	11					11	11	3	4	4			
455+50.00	11					11	11	3	4	4			
455+75.00	11					11	11	3	4	4			
456+00.00	15					15	15	10	13	13			
456+25.00	18		1			17	17	18	23	23			
456+50.00	18		1			17	17	18	23	23			
456+75.00	19		1			18	18	17	22	22			
457+00.00	19		1			18	18	16	21	21			
457+25.00	19		1			18	18	15	20	20			
457+50.00	19		1			18	18	14	18	18			
457+75.00	19		1			18	18	14	18	18			
458+00.00	18		1			17	17	15	20	20			
458+25.00	18		1			17	17	15	20	20			
458+50.00	17					17	17	16	21	21			
458+75.00	1					1	1	1	1	1			
458+76.10	17					17	17	14	18	18			
459+00.00	19		1			18	18	12	16	16			
459+25.00	19		1			18	18	14	18	18			
459+50.00	19		1			18	18	15	20	20			
459+75.00	17		1			16	16	14	18	18			
460+00.00	10					10	10	9	12	12			
460+15.20	7					7	7	7	9	9			
460+25.00	18		1			17	17	15	20	20			
460+50.00	19		1			18	18	12	16	16			
460+75.00	19		1			18	18	15	20	20			
461+00.00	19		1			18	18	12	16	16			
461+25.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
461+25.00	7					7	7	3	4	4			
461+34.29	12					12	12	5	7	7			
461+50.00	21		3			18	18	16	21	21			
461+75.00	20		5			15	15	25	33	33			
462+00.00	17		5			12	12	23	30	30			
462+25.00	16		5			11	11	20	26	26			
462+50.00	19		5			14	14	19	25	25			
462+75.00	22		4			18	18	19	25	25			
463+00.00	22		3			19	19	21	27	27			
463+25.00	22		4			18	18	23	30	30			
463+50.00	23		5			18	18	22	29	29			
463+75.00	23		5			18	18	20	26	26			
464+00.00	23		5			18	18	20	26	26			
464+25.00	24		5			19	19	18	23	23			
464+50.00	25		7			18	18	14	18	18			
464+75.00	19		5			14	14	6	8	8			
464+92.00													
Kennedy													
1257+10.00	7					7	7						
1257+25.00	25					25	25						
1257+45.00	10					10	10						
1257+50.00	56					56	56	2	3	3			
1257+75.00	55					55	55	4	5	5			
1258+00.00	43					43	43	11	14	14			
1258+25.00													
1258+25.10	4					4	4	4	5	5			
1258+27.00	27					27	27	62	81	81			
1258+50.00													
R57													
1280+60.00	53					53	53						
1280+75.00	126					126	126	5	7	7			
1281+00.00	151					151	151	13	17	17			
1281+25.00	157					157	157	12	16	16			
1281+50.00	150					150	150	3	4	4			
1281+75.00	107					107	107						
1281+92.00	50					50	50						
1282+00.00	99					99	99	3	4	4			
1282+25.00	28					28	28	8	10	10			
1282+50.00								14	18	18			
1282+75.00								18	23	23			
1283+00.00								23	30	30			
1283+25.00								31	40	40			
1283+50.00													
1384+25.00	86					86	86	42	55	55			
1384+50.00	151					151	151	21	27	27			
1384+75.00	155					155	155	8	10	10			
1385+00.00	47					47	47	2	3	3			
1385+07.00	106					106	106	6	8	8			
1385+25.00	25					25	25	2	3	3			
1385+30.00	92					92	92	12	16	16			
1385+50.00	102					102	102	16	21	21			
1385+72.00	15					15	15	2	3	3			
1385+75.00	95					95	95	19	25	25			
1386+00.00	16					16	16	6	8	8			
1386+06.00													
90th St													
2305+85.00	21					21	21	4	5	5			
2306+00.00	13					13	13	2	3	3			
2306+07.14	41					41	41	7	9	9			
2306+25.00	71					71	71	12	16	16			
2306+50.00	81					81	81	15	20	20			
2306+75.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
2306+75.00	91					91	91	19	25	25			
2307+00.00	99					99	99	27	35	35			
2307+25.00	112					112	112	39	51	51			
2307+50.00	132					132	132	50	65	65			
2307+75.00	31					31	31	11	14	14			
2307+80.00	125					125	125	59	77	77			
2308+00.00	148					148	148	105	137	137			
2308+25.00	155					155	155	138	179	179			
2308+50.00	166					166	166	171	222	222			
2308+75.00	167					167	167	205	267	267			
2309+00.00	160					160	160	236	307	307			
2309+25.00	173					173	173	263	342	342			
2309+50.00	96					96	96	196	255	255			
2309+75.00								105	137	137			
2310+00.00								168	218	218			
2310+75.00	9					9	9	8	10	10			
2310+85.00	3					3	3	2	3	3			
2310+88.00	13					13	13	5	7	7			
2311+00.00	69					69	69	4	5	5			
2311+25.00	78					78	78						
2311+50.00	71					71	71						
2311+75.00	73					73	73						
2312+00.00	72					72	72						
2312+25.00	60					60	60						
2312+50.00	44					44	44						
2312+75.00	62					62	62						
2313+00.00	27					27	27						
2313+08.00	7					7	7						
2313+10.00	35					35	35	1	1	1			
2313+25.00	29					29	29	2	3	3			
2313+50.00	17					17	17	2	3	3			
2313+75.00	4					4	4	1	1	1			
2313+85.00													
R63													
3388+60.00	91					91	91	13	17	17			
3388+75.00	26					26	26	4	5	5			
3388+79.00	121					121	121	24	31	31			
3389+00.00	105					105	105	40	52	52			
3389+25.00	94					94	94	52	68	68			
3389+50.00	86					86	86	63	82	82			
3389+75.00	74					74	74	72	94	94			
3390+00.00	52					52	52	124	161	161			
3390+25.00	21					21	21	296	385	385			
3390+50.00	5					5	5	273	355	355			
3390+75.00													
3391+31.95	58					58	58	11	14	14			
3391+50.00	143					143	143	11	14	14			
3391+75.00	116					116	116	27	35	35			
3392+00.00	87					87	87	25	33	33			
3392+20.00	20					20	20	5	7	7			
3392+25.00	78					78	78	16	21	21			
3392+50.00	64					64	64	7	9	9			
3392+75.00	70					70	70	3	4	4			
3393+00.00	16					16	16						
3393+05.00													
Y St													
4414+15.00	14					14	14	4	5	5			
4414+25.00	35					35	35	9	12	12			
4414+50.00	42					42	42	5	7	7			
4414+75.00	56					56	56	5	7	7			
4415+00.00	75					75	75	5	7	7			
4415+25.00	99					99	99	5	7	7			
4415+50.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
4415+50.00	126					126	126	5	7	7			
4415+75.00	154					154	154	5	7	7			
4416+00.00	181					181	181	5	7	7			
4416+25.00	219					219	219	5	7	7			
4416+50.00	291					291	291	5	7	7			
4416+75.00	518					518	518	8	10	10			
4417+00.00	864					864	864	28	36	36			
4417+25.00	13					13	13	1	1	1			
4417+25.32													
4417+64.40	429					429	429	18	23	23			
4417+75.00	980					980	980	42	55	55			
4418+00.00	659					659	659	84	109	109			
4418+25.00	478					478	478	56	73	73			
4418+50.00	467					467	467	4	5	5			
4418+75.00	402					402	402	4	5	5			
4419+00.00	334					334	334	5	7	7			
4419+25.00	290					290	290	5	7	7			
4419+50.00	244					244	244	5	7	7			
4419+75.00	192					192	192	5	7	7			
4420+00.00	150					150	150	5	7	7			
4420+25.00	123					123	123	5	7	7			
4420+50.00	100					100	100	5	7	7			
4420+75.00	84					84	84	5	7	7			
4421+00.00	73					73	73	5	7	7			
4421+25.00	66					66	66	5	7	7			
4421+50.00	60					60	60	5	7	7			
4421+75.00	55					55	55	5	7	7			
4422+00.00	52					52	52	5	7	7			
4422+25.00	50					50	50	5	7	7			
4422+50.00	20					20	20	2	3	3			
4422+60.00													
R57 Detour													
11277+89.54	11					11	11						
11278+00.00	25					25	25						
11278+25.00	19					19	19						
11278+50.00	30					30	30	2	3	3			
11278+75.00	53					53	53	19	25	25			
11279+00.00	67					67	67	55	72	72			
11279+25.00	41					41	41	49	64	64			
11279+38.27	37					37	37	57	74	74			
11279+50.00	73					73	73	162	211	211			
11279+75.00	59					59	59	207	269	269			
11280+00.00	47					47	47	229	298	298			
11280+25.00	43					43	43	232	302	302			
11280+50.00	44					44	44	225	293	293			
11280+75.00	46					46	46	211	274	274			
11281+00.00	52					52	52	188	244	244			
11281+25.00	67					67	67	160	208	208			
11281+50.00	82					82	82	130	169	169			
11281+75.00	90					90	90	106	138	138			
11282+00.00	106					106	106	79	103	103			
11282+25.00	134					134	134	31	40	40			
11282+50.00	126					126	126	6	8	8			
11282+75.00	95					95	95	27	35	35			
11283+00.00	77					77	77	46	60	60			
11283+25.00	55					55	55	48	62	62			
11283+50.00	51					51	51	44	57	57			
11283+75.00	59					59	59	52	68	68			
11284+00.00	30					30	30	33	43	43			
11284+25.00								3	4	4			
11284+50.00								2	3	3			
11284+75.00	41					41	41	9	12	12			
11285+00.00	73					73	73	9	12	12			
11285+25.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
11285+25.00	98					98	98	1	1	1			
11285+50.00	147					147	147	1	1	1			
11285+75.00	169					169	169						
11286+00.00	151					151	151	4	5	5			
11286+25.00	116					116	116	22	29	29			
11286+50.00	111					111	111	42	55	55			
11286+75.00	118					118	118	56	73	73			
11287+00.00	71					71	71	44	57	57			
11287+15.00	45					45	45	36	47	47			
11287+25.00	101					101	101	111	144	144			
11287+50.00	80					80	80	163	212	212			
11287+75.00	54					54	54	239	311	311			
11288+00.00	38					38	38	285	371	371			
11288+25.00	36					36	36	273	355	355			
11288+50.00	43					43	43	225	293	293			
11288+75.00	36					36	36	117	152	152			
11288+91.65	20					20	20	49	64	64			
11289+00.00	62					62	62	114	148	148			
11289+25.00	74					74	74	77	100	100			
11289+50.00	34					34	34	25	33	33			
11289+60.00	45					45	45	26	34	34			
11289+75.00	59					59	59	14	18	18			
11290+00.00	42					42	42	1	1	1			
11290+25.00	15					15	15						
11290+40.39													
R63 Detour													
18388+00.00	29					29	29	171	222	222			
18388+25.00	19					19	19	217	282	282			
18388+50.00	7					7	7	236	307	307			
18388+75.00	17					17	17	244	317	317			
18389+00.00	30					30	30	258	335	335			
18389+25.00	26					26	26	274	356	356			
18389+50.00	30					30	30	272	354	354			
18389+75.00	50					50	50	247	321	321			
18390+00.00	73					73	73	208	270	270			
18390+25.00	81					81	81	167	217	217			
18390+50.00	81					81	81	135	176	176			
18390+75.00	88					88	88	104	135	135			
18391+00.00	95					95	95	70	91	91			
18391+25.00	92					92	92	40	52	52			
18391+50.00	82					82	82	22	29	29			
18391+75.00	67					67	67	11	14	14			
18392+00.00	51					51	51	4	5	5			
18392+25.00	131					131	131	1	1	1			
18392+50.00	110					110	110						
18392+75.00	154					154	154						
18393+00.00	297					297	297						
18393+25.00	262					262	262						
18393+50.00	231					231	231						
18393+75.00	218					218	218						
18394+00.00	204					204	204						
18394+25.00	186					186	186						
18394+50.00	177					177	177						
18394+75.00	164					164	164						
18395+00.00	144					144	144						
18395+25.00	119					119	119	1	1	1			
18395+50.00	85					85	85	12	16	16			
18395+75.00	53					53	53	27	35	35			
18396+00.00	31					31	31	29	38	38			
18396+25.00													
Y St Detour A													
14410+00.00	21					21	21						
14410+25.00	46					46	46						
14410+50.00													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
14410+50.00	77					77	77						
14410+75.00	111					111	111						
14411+00.00	145					145	145						
14411+25.00	178					178	178						
14411+50.00	208					208	208						
14411+75.00	244					244	244						
14412+00.00	287					287	287						
14412+25.00	316					316	316						
14412+50.00	315					315	315						
14412+75.00	282					282	282						
14413+00.00	233					233	233						
14413+25.00	192					192	192						
14413+50.00	153					153	153						
14413+75.00	106					106	106	2	3	3			
14414+00.00	69					69	69	11	14	14			
14414+25.00	49					49	49	20	26	26			
14414+50.00	40					40	40	24	31	31			
14414+75.00	34					34	34	29	38	38			
14415+00.00	28					28	28	36	47	47			
14415+25.00	22					22	22	43	56	56			
14415+50.00	18					18	18	45	59	59			
14415+75.00	15					15	15	42	55	55			
14416+00.00	18					18	18	31	40	40			
14416+25.00	30					30	30	18	23	23			
14416+50.00	34					34	34	12	16	16			
14416+75.00	19					19	19	18	23	23			
14417+00.00	2					2	2	7	9	9			
14417+13.53													
Y St Detour B													
14416+96.30	22					22	22						
14417+00.00	196					196	196						
14417+25.00	237					237	237						
14417+50.00	316					316	316						
14417+75.00	412					412	412						
14418+00.00	451					451	451						
14418+25.00	458					458	458						
14418+50.00	442					442	442						
14418+75.00	418					418	418						
14419+00.00	388					388	388						
14419+25.00	367					367	367						
14419+50.00	354					354	354						
14419+75.00	340					340	340						
14420+00.00	323					323	323						
14420+25.00	300					300	300						
14420+50.00	273					273	273						
14420+75.00	254					254	254						
14421+00.00	245					245	245						
14421+25.00	240					240	240						
14421+50.00	242					242	242						
14421+75.00	253					253	253						
14422+00.00	267					267	267						
14422+25.00	270					270	270						
14422+50.00	268					268	268						
14422+75.00	267					267	267						
14423+00.00	266					266	266						
14423+25.00	260					260	260						
14423+50.00	240					240	240						
14423+75.00	211					211	211						
14424+00.00	169					169	169						
14424+25.00	121					121	121						
14424+50.00	74					74	74						
14424+75.00	35					35	35						
14425+00.00	16					16	16						
14425+25.00													
14425+25.51													

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

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

STATION	TOTAL CUT	TOPSOIL TYPE B SAVED -C	TOPSOIL TYPE C SAVED -C	UNSUIT TYPE B CUT	UNSUIT TYPE C CUT	CLASS 10 SUITABLE CUT	ADJUSTED CLASS 10 TOTAL	TOTAL FILL	CLASS 10 SUITABLE + 30% SHRINK	TOTAL FILL WITH SHRINK		APPROX. FILL VOLUME BELOW 3 FT	APPROX. FILL VOLUME BELOW 5 FT
14425+25.51													
Y St Detour C													
24415+20.63	1					1	1						
24415+25.00	17					17	17						
24415+47.54	3					3	3						
24415+50.00	72					72	72						
24415+75.00	145					145	145						
24416+00.00	185					185	185						
24416+25.00	192					192	192						
24416+50.00	191					191	191						
24416+75.00	172					172	172						
24417+00.00	143					143	143						
24417+25.00	116					116	116						
24417+50.00	70					70	70	3	4	4			
24417+75.00	19					19	19	33	43	43			
24418+00.00								60	78	78			
24418+25.00								25	33	33			
24418+46.15													
ML Detour NE													
439+25.00	18					18	18						
439+50.00	21					21	21						
439+75.00	28					28	28						
440+00.00	35					35	35						
440+25.00	44					44	44						
440+48.56	3					3	3						
440+50.00	60					60	60						
440+75.00	68					68	68						
441+00.00	122					122	122						
441+50.00	44					44	44						
441+75.00	29					29	29						
442+00.00	17					17	17	2	3	3			
442+23.76	1					1	1						
442+25.00	13					13	13	6	8	8			
442+50.00	12					12	12	8	10	10			
442+75.00	12					12	12	7	9	9			
443+00.00	9					9	9	3	4	4			
443+18.00	3					3	3	1	1	1			
443+23.01	1					1	1						
443+25.00	12					12	12	3	4	4			
443+50.00	11					11	11	4	5	5			
443+75.00	11					11	11	5	7	7			
444+00.00	10					10	10	4	5	5			
444+25.00	11					11	11	1	1	1			
444+50.00	15					15	15						
444+75.00													
Spruce Detour													
19441+25.00	56					56	56						
19441+50.00	80					80	80						
19441+75.00	60					60	60						
19442+00.00	46					46	46						
19442+25.00													

Lincoln TWP.
T-76N R-24W
SEC. 29

Fence removed on previous project.
Sta 266+70.0 Lt - Sta 268+55.0 Lt
Sta 269+72.0 Lt - Sta 270+40.0 Lt
245.0 LF

Clearing & Grubbing completed
on previous project.
0.37 acre

Concrete Block
Retaing Walls
(Remove)

18" X 45.0'
C.M.P.
(Remove)

15" X 40.0'
C.M.P.
(Remove)

15" X 20.0'
C.M.P.
(Remove)

15" X 21.0'
C.M.P.
(Remove)

18" X 24.0'
C.M.P.
(Remove)

Sta. 256+00.00
Begin Project

Sta. 256+50.00
Begin Paving

Sta. 258+34.35
2' X 2' X 46.0' RCB
W/ 30" Conc Pipe Extensions
D.A. = 2 Ac - R
(Plug & Abandon)

Sta. 258+99.86, 41.76 Rt
18" X 45.0' Conc Pipe
D.A. = 1 Ac - R
(Remove)

255 260 265 270

House Building Barn Parking Gravel Foundation Cistern Maple Hole

0 FEET 50

Pavement Removal (General)	
Paved Entrance Removal	
Detour Pavement Removal	
Sidewalk Removal	

NOTE:

Removal Detail Sheets are for general removal details only.

Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

Removal Details Sheet 1 of 18

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.1

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Lincoln TWP.
T-76N R-24W
SEC. 29

15" X 30.0'
C.M.P.
(Remove)

18" X 24.0'
C.M.P.
(Remove)

18" X 62.0'
C.M.P.
(Remove)

15" X 28.0'
C.M.P.
(Remove)

Seal Well
Sta 282+55, 71' Lt

15" X 36.0' C.M.P.

15" X 37.0'
Conc. Pipe

IA 92 (ML092)

R 57 (SR57N)

18" X 35.0'
C.M.P.
(Remove)

Seal Well
Sta 270+16, 12' Rt

Clearing & Grubbing completed
on previous project.
0.53 acre

Fence removed on previous project.
Sta 278+64.0 Rt - Sta 279+25 Rt
62.0 LF

15" X 48.0'
C.M.P.
(Remove)

18" X 57.0
C.M.P.
(Remove)

Sta. 277+57.37
2' X 2' X 53.0' RCB
W/ 30" Conc. Pipe Extension
D.A. = 4 Ac - R
(Plug & Abandon)

R 57 (SR57S)

House
Garage
Shed
Barn
Silo
Conc.
Play House
Play Ground

270
275
280
285

Pavement Removal (General)	NOTE:
Paved Entrance Removal	Removal Detail Sheets are for general removal details only.
Detour Pavement Removal	Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.
Sidewalk Removal	

0 FEET 50

Removal Details Sheet 2 of 18

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.2

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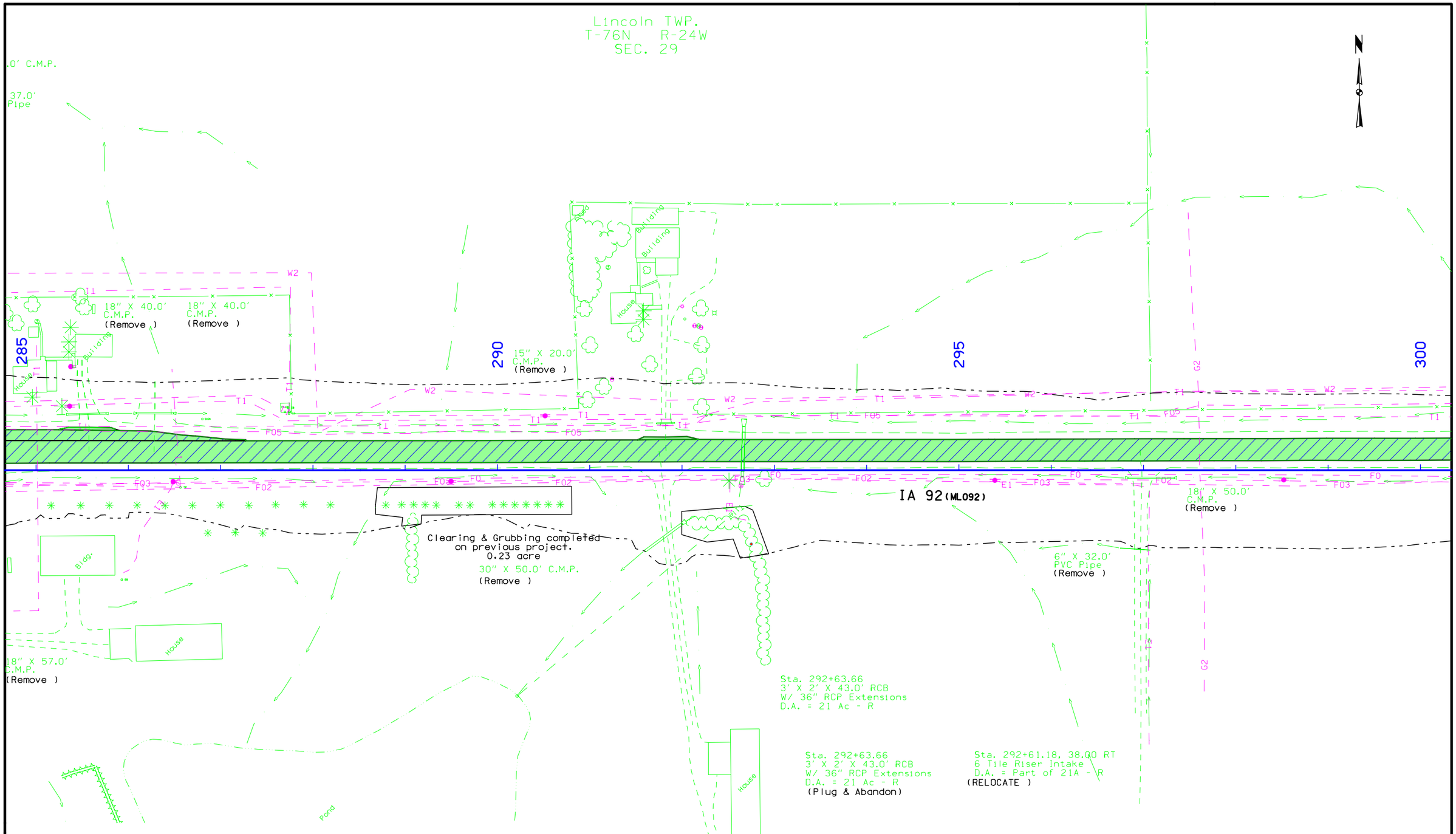

Pavement Removal (General)	NOTE:
Paved Entrance Removal	Removal Detail Sheets are for general removal details only.
Detour Pavement Removal	Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.
Sidewalk Removal	

Removal Details
Sheet
3 of 18

FILE NO.	ENGLISH	DESIGN TEAM **J1a\Holst\Bennett**	**WARREN** COUNTY	PROJECT NUMBER	**NHSX-092-5(51)--3H-91**	SHEET NUMBER **U.3**

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Lincoln TWP.
T-76N R-24W
SEC. 29

Lincoln TWP.
T-76N R-24W
SEC. 28

N

300

305

310

315

4" VIT TILE
Exact Location
Unknown

Tile

Steel Retaining Wall
(Remove)

Barn

House

18" X 60.0'
C.M.P.
(Remove)

APPROX. SEC. LINE

IA 92 (ML092)

15" X 20.0'
C.M.P.
(Remove)

Wire Fence

15" X 20.0'
C.M.P.
(Remove)

Tile
(Abandon)

Clearing & Grubbing completed
on previous project.
0.42 acre

Fence removed on previous project.
Sta 305+47.0 Rt - Sta 307+28.0 Rt
185.0 LF

Remove Flagpole
& Footing

House

Garage

Building

Trees

Sta. 307+42.49
3' X 2' X 46.0' RCB
W/ 36" RCP Extensions
D.A. = 16 Ac - R
(Plug & Abandon)

Pond

Tile

90TH AVE (SR90TH)

END PROJECT

Prop. 18"
Uncl. Ent. Pipe

House

Building

Pavement Removal (General)	NOTE:
Paved Entrance Removal	Removal Detail Sheets are for general removal details only.
Detour Pavement Removal	Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.
Sidewalk Removal	

0 50
FEET

Removal Details Sheet 4 of 18

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.4

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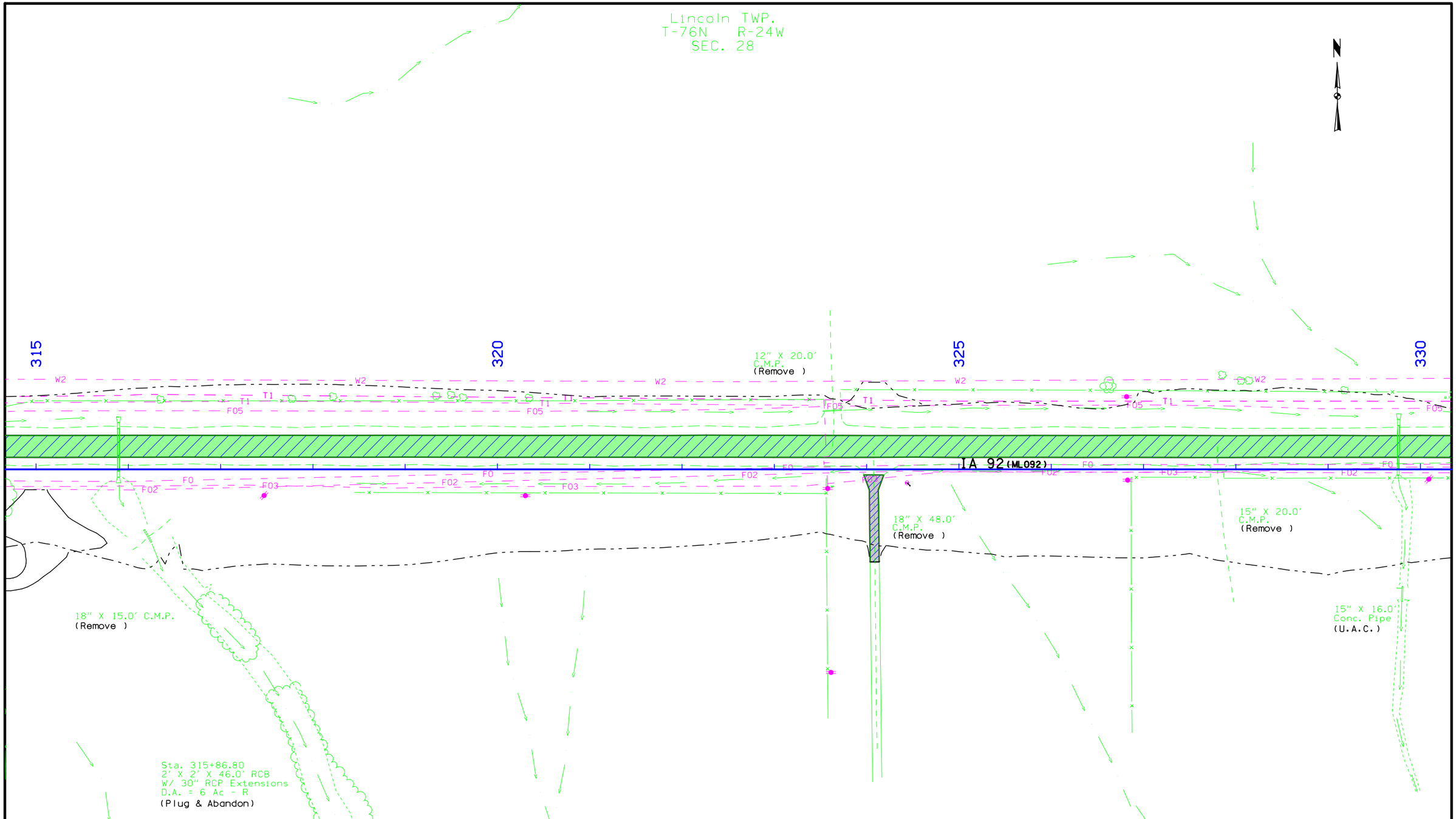

Pavement Removal (General)
Paved Entrance Removal
Detour Pavement Removal
Sidewalk Removal

NOTE:

Removal Detail Sheets are for general removal details only.

Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

Removal Details Sheet 5 of 18

FILE NO.	ENGLISH	DESIGN TEAM Jla\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.5

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Lincoln TWP.
T-76N R-24W
SEC. 28

N

330

335

340

345

W2

T1

F05

F03

F02

F01

F0

IA 92 (ML092)

Foundation

Shed

House

18" X 23.0'
C.M.P.
(Remove)

18" X 57.0'
C.M.P.
(Remove)

Steel Grate
Cattle Guard
(Remove)

12" X 24.0'
C.M.P.
(Remove)

Sta. 332+80.53
2' X 2' X 50.0' RCB
W/ 30" RCP Extensions
D.A. = 17 Ac - R
(Plug & Abandon)

Sta. 341+78.56
2' X 2' X 46.0' RCB
W/ 30" RCP Extensions
D.A. = 4 Ac - F
(Plug & Abandon)

Pavement Removal (General)
Paved Entrance Removal
Detour Pavement Removal
Sidewalk Removal

NOTE:

Removal Detail Sheets are for general removal details only.

Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

0 FEET 50

Removal Details Sheet 6 of 18

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.6

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Lincoln TWP.
T-76N R-24W
SEC. 28

345
350
355
360

IA 92 (ML092)

15" X 18.0'
C.M.P.
(Remove)

Clearing & Grubbing completed
on previous project.
0.24 acre

Fence removed on previous project.
Sta 352+34.0 Rt - Sta 355+10.0 Rt
291.0 LF

15" X 56.0'
C.M.P.
(Remove)

15"
C.M.P.
(Remove

Prop. 18"
RCP Ent. Pipe

Sta. 358+05.35
2' X 2' X 39.0' RCB
W/ 30" RCP Extensions
D.A. = 5 Ac - F
(Remove)

Barn
Conc.
Foundation
Silo
Shed
House
Garage
Wood Fence

Pavement Removal (General)	NOTE:
Paved Entrance Removal	Removal Detail Sheets are for general removal details only.
Detour Pavement Removal	Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.
Sidewalk Removal	

0 FEET 50

Removal Details Sheet 7 of 18

FILE NO.	ENGLISH	DESIGN TEAM Jla\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.7

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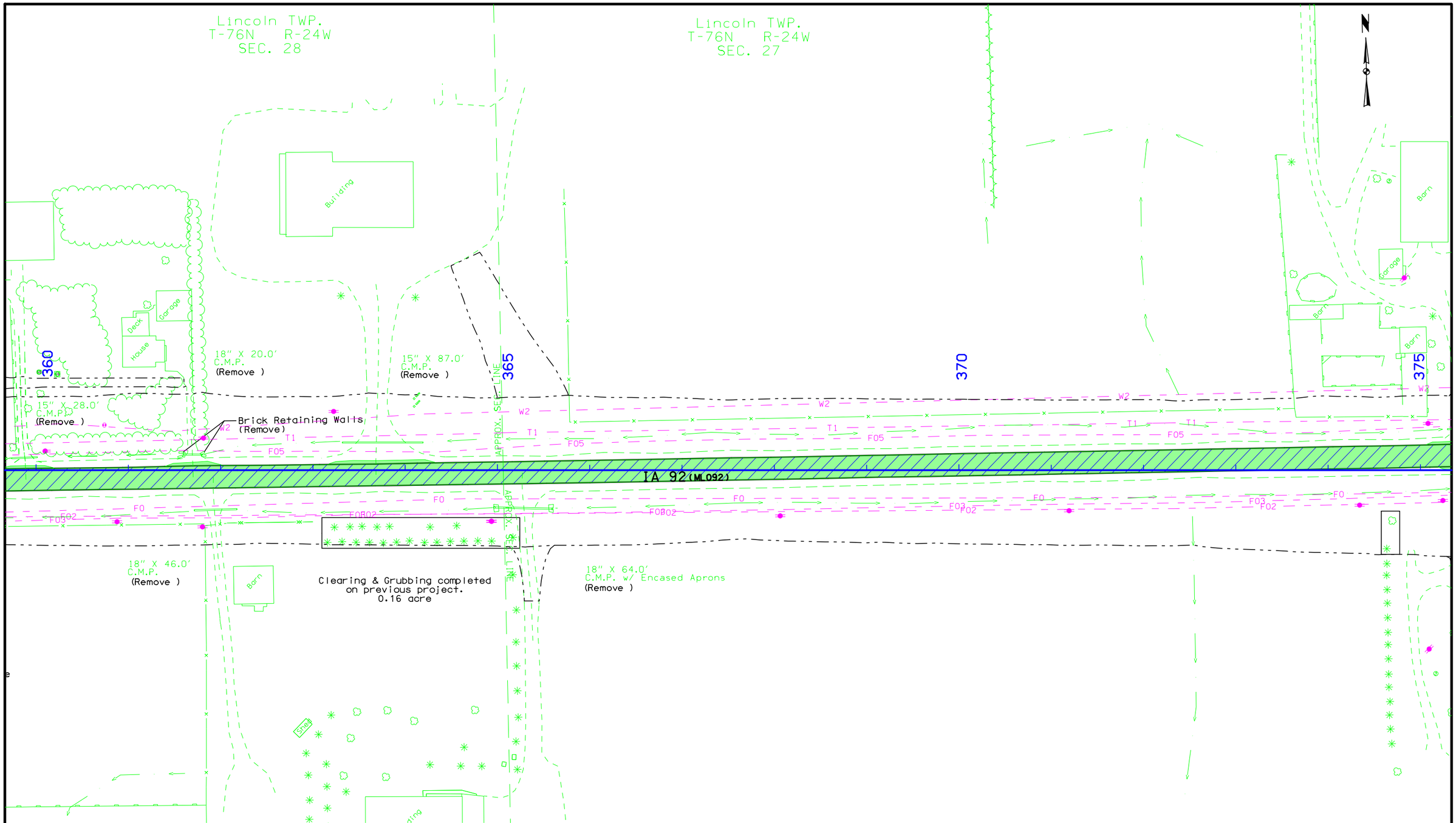

Pavement Removal (General)
Paved Entrance Removal
Detour Pavement Removal
Sidewalk Removal

NOTE:

Removal Detail Sheets are for general removal details only.

Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

0 FEET 50

Removal Details Sheet 8 of 18

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.8

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Lincoln TWP.
T-76N R-24W
SEC. 27

N

375
380
385
390

IA 92 (ML092)

Barn
Barn
Garage
Barn
House
Barn

18" X 32.0'
Conc. Pipe/C.M.P.
(Remove)

15" X 37.0'
C.M.P.
(Remove)

Side Road
15" X 60.0'
Conc. Pipe
(UAC)

Building

18" X 56.0'
Conc. Pipe
(Remove)

Clearing & Grubbing completed
on previous project.
0.03 acre

18" X 41.0'
C.M.P.
(Remove)

Barn
House

18" X 32.0'
Conc. Pipe
(Remove)

House

Barn

15" X 24.0'
C.M.P.
(Remove)

15" X 12.0'
C.M.P.
(Remove)

Sta. 379+69.09
2' X 2' X 42.0' RCB
W/ 30" RCP Extensions
D.A. = 4 Ac - R
(Remove)

Pavement Removal (General)	NOTE:
Paved Entrance Removal	Removal Detail Sheets are for general removal details only.
Detour Pavement Removal	Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.
Sidewalk Removal	

0 FEET 50

Removal Details Sheet 9 of 18

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.9

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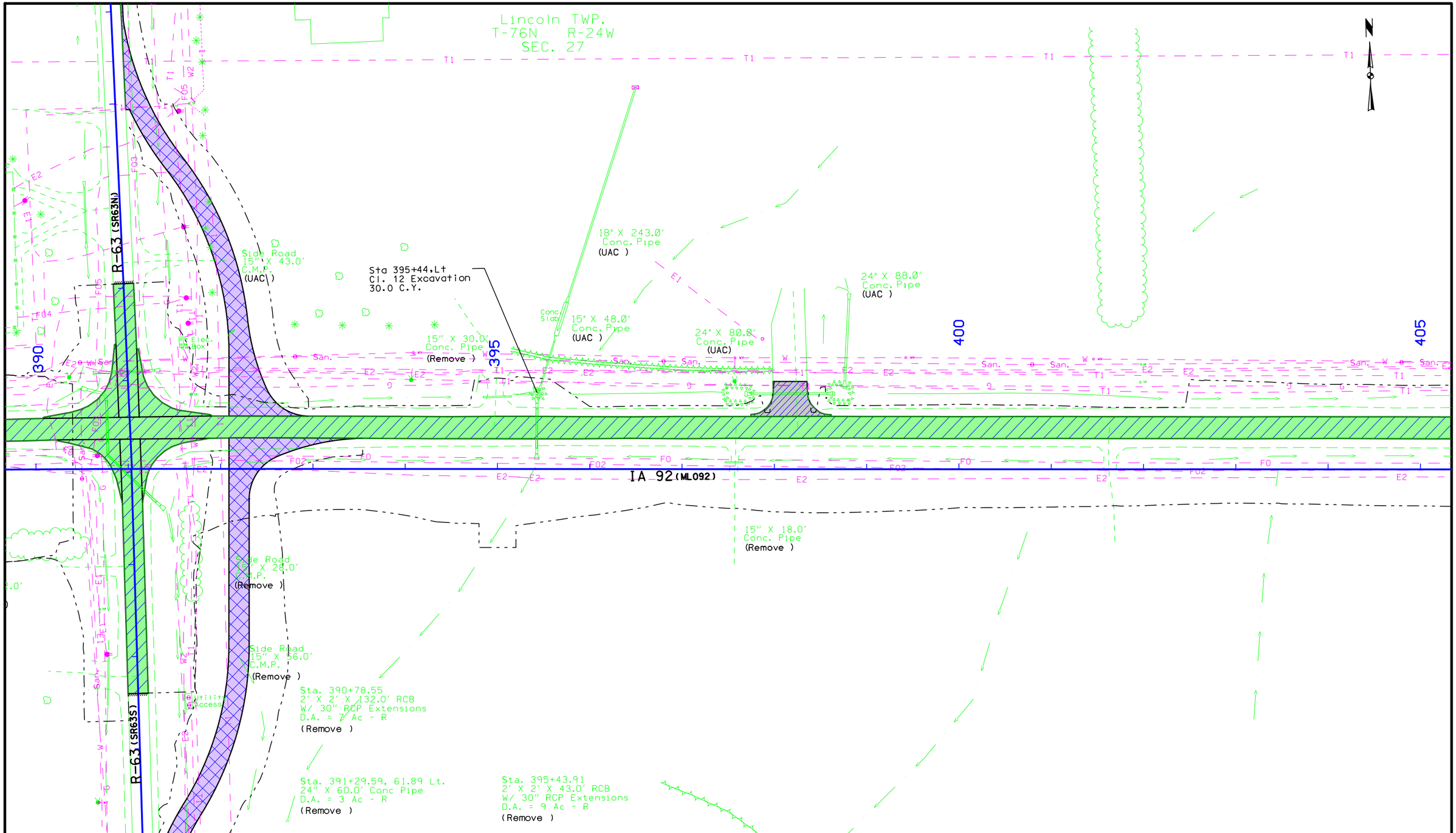

Pavement Removal (General)
Paved Entrance Removal
Detour Pavement Removal
Sidewalk Removal

NOTE:

Removal Detail Sheets are for general removal details only.

Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

Removal Details Sheet 10 of 18

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.10

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Lincoln TWP.
T-76N R-24W
SEC. 27

PLUG & ABANDON
Storm Sewer
Sta. 4422+60 to 4424+08.3

Sta. 417+03.73, 37.07 Lt.
22' X 14" X 60.0' Arch Conc Pipe
D.A. = 4 Ac - r
(Remove)

REMOVE
Storm Sewer & Intakes
Sta. 4419+96 to 4422+60

15" X 24.0'
C.M.P.
(Remove)

15" X 48.0'
C.M.P.
(Remove)

405 410 415 420

IA 92 (ML092)

'Y' ST (SRYSTN)

Building

Gas

Gravel

Sta 418+08, Rt
Cl. 12 Excavation
30.0 C.Y.

Sta. 416+97.93, 36.89 Rt
15" X 108.0' Conc.
Pipe Extensions
D.A. = 1 Ac - F
(Remove)

Sta. 417+25.01, 350.26 Rt.
39" Beehive Intake
D.A. = 3 A - R
(Remove)

Sta. 417+37.20, 350.71 Rt.
2.0 X 3.0 Flat Grate Intake
D.A. = .4 A - R
(Remove)

Sta. 417+59.47, 350.15 Rt.
2.0 X 3.0 Flat Grate Intake
D.A. = .4 A - R
(Remove)

4" Tile

Sta. 412+66.92, 247.41 RT
6 Tile Riser Intake
D.A. = 5A - R
(U.A.C.)

REMOVE
Storm Sewer Pipe
Sta. 4414+35

Sta 418+44, Rt
Cl. 12 Excavation
30.0 C.Y.

Sta. 414+54.06, 307.09 RT
6 Tile Riser Intake
D.A. = 2A - R
(U.A.C.)

Sta. 417+30.31, 350.36 Rt
30" X 44.0' CMP
D.A. = 16 Ac - R
(Remove)

0 50
FEET

Pavement Removal (General)
Paved Entrance Removal
Detour Pavement Removal
Sidewalk Removal

NOTE:

Removal Detail Sheets are for general removal details only.

Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

Removal Details Sheet 11 of 18

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.11

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Lincoln TWP.
T-76N R-24W
SEC. 26

N

Parking Conc.
Building
Gravel
Conc.
Shed
Foundation
Conc. DSlabs

420
425
430
435

18" X 64.0'
C.M.P.
(Remove)

18" X 66.0'
C.M.P.
(Remove)

18" X 54.0'
C.M.P.
(Remove)

18" X 101.0'
C.M.P.
(Plug & Abandon)

18" X 69.0'
C.M.P.
(Plug & Abandon)

DO NOT DISTURB
BUSHES & WELL

IA 92 (ML092)

San.
E2
F02
T1
G

6" X 78.0'
PVC. Pipe
(Remove)

36" X 108.0'
Conc. Pipe
(Remove)

Sta 426+35, Rt
Cl. 12 Excavation
45.0 C.Y.

Wetlands

5 Rt.
Intake

Sta. 422+42.59
2' X 2' X 42.0' RCB
W/ 30" RCP Extensions
D.A. = 8 Ac - F-R
(Remove)

Sta. 426+73.61
2' X 2' X 44.0' RCB
W/ 30" Conc. Pipe Extensions
D.A. = 3 Ac - F-R
(Remove)

Pavement Removal (General)	NOTE:
Paved Entrance Removal	Removal Detail Sheets are for general removal details only.
Detour Pavement Removal	Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.
Sidewalk Removal	

0 FEET 50

Removal Details Sheet
12 of 18

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.12

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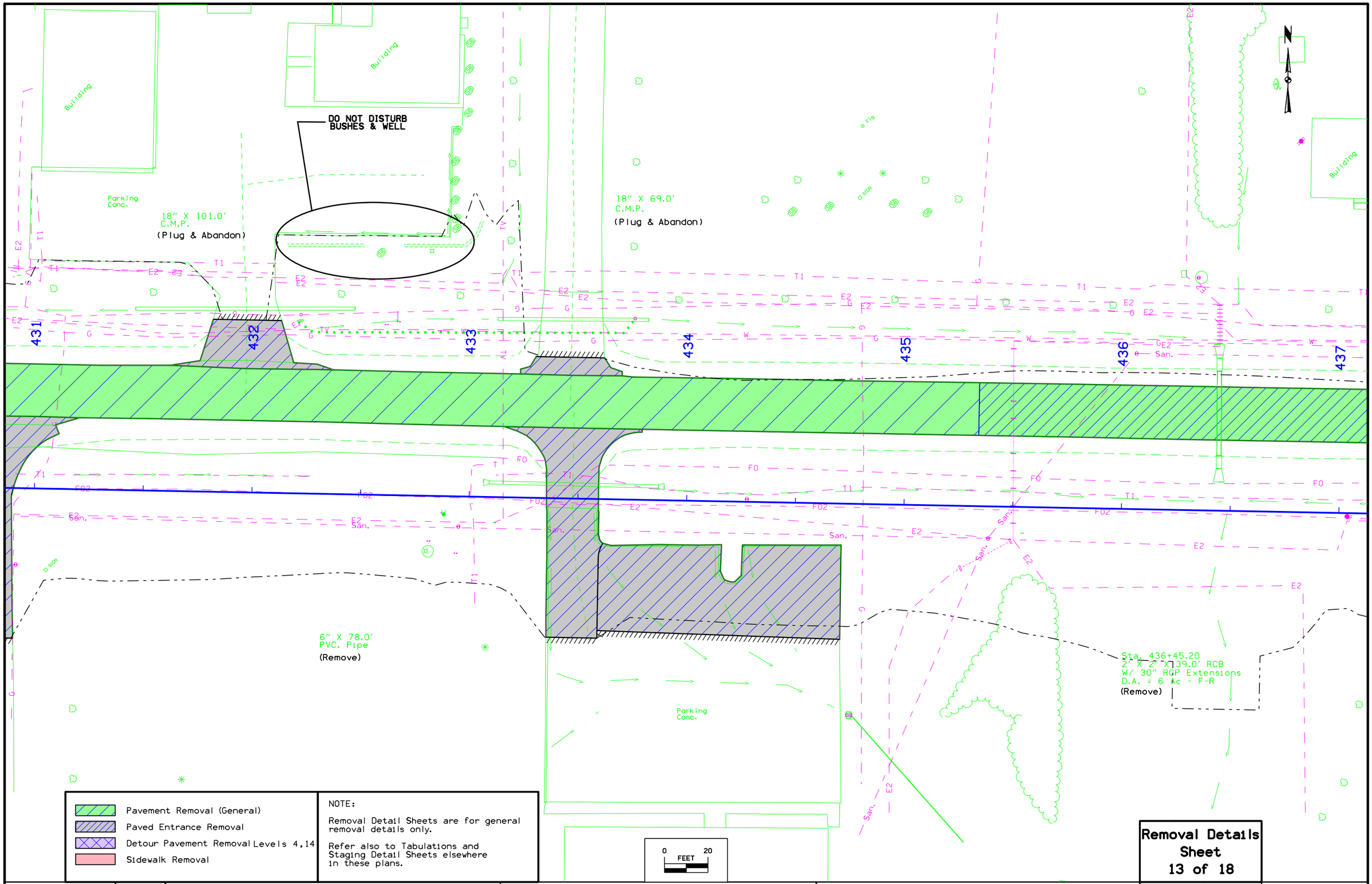
Building
Building
Building
Building
DO NOT DISTURB
BUSHES & WELL
Parking
Conc.
18" X 101.0'
C.M.P.
(Plug & Abandon)
18" X 69.0'
C.M.P.
(Plug & Abandon)
431
432
433
434
435
436
437
6" X 78.0'
PVC. Pipe
(Remove)
Parking
Conc.
Sta. 436+45.20
2' X 2' X 39.0' RCB
W/ 30" RGP Extensions
D.A. = 6 Ac - F-R
(Remove)
0 FEET 20
Pavement Removal (General)
Paved Entrance Removal
Detour Pavement Removal Levels 4,14
Sidewalk Removal
NOTE:
Removal Detail Sheets are for general removal details only.
Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.
Removal Details
Sheet
13 of 18
FILE NO.
ENGLISH
DESIGN TEAM J1a\Holst\Bennett
WARREN COUNTY
PROJECT NUMBER NHSX-092-5(51)--3H-91
SHEET NUMBER U.13
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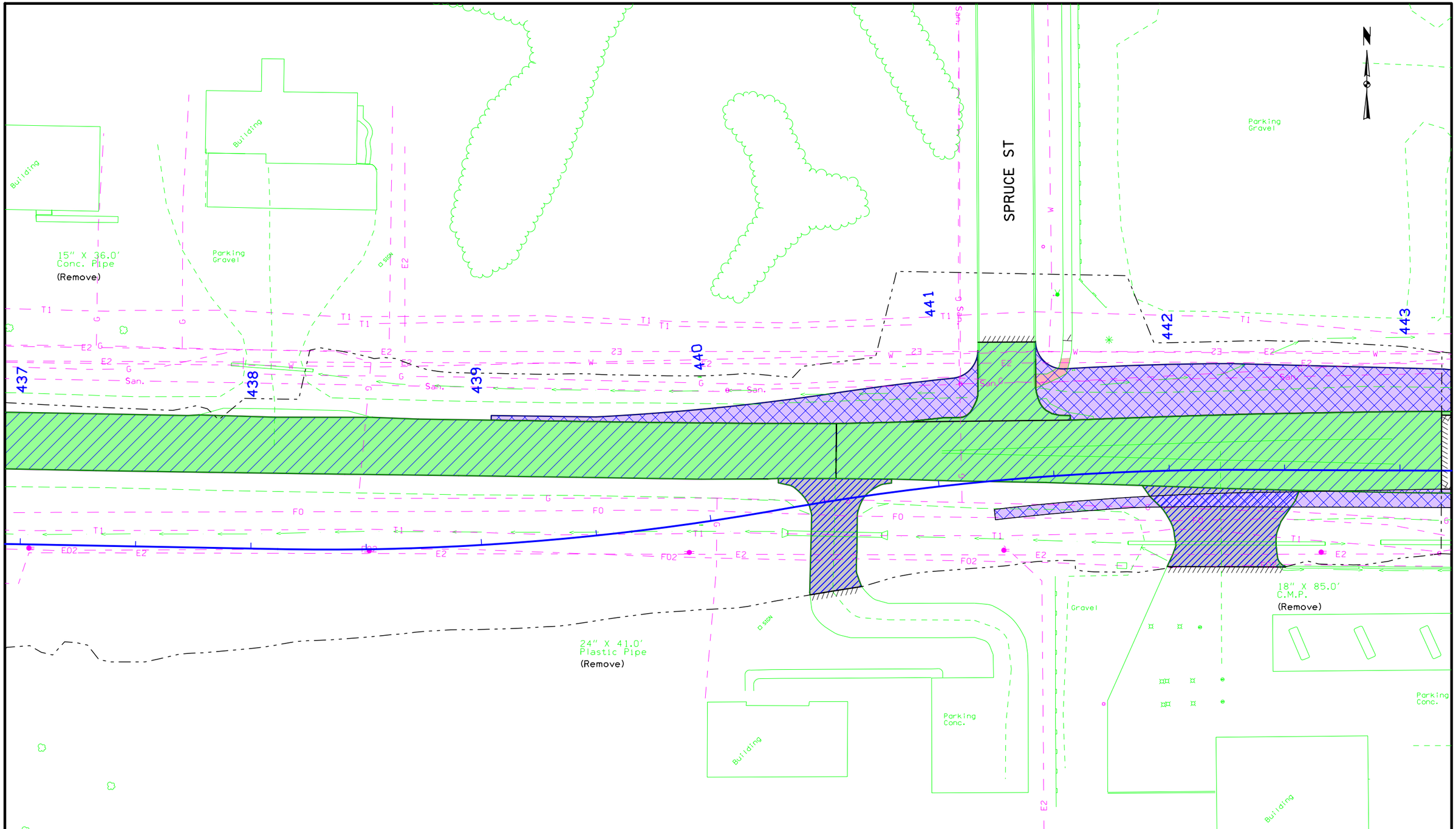

Pavement Removal (General)	NOTE:
Paved Entrance Removal	Removal Detail Sheets are for general removal details only.
Detour Pavement Removal Levels 4,14	Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.
Sidewalk Removal	

0 FEET 20

Removal Details Sheet 14 of 18

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.14

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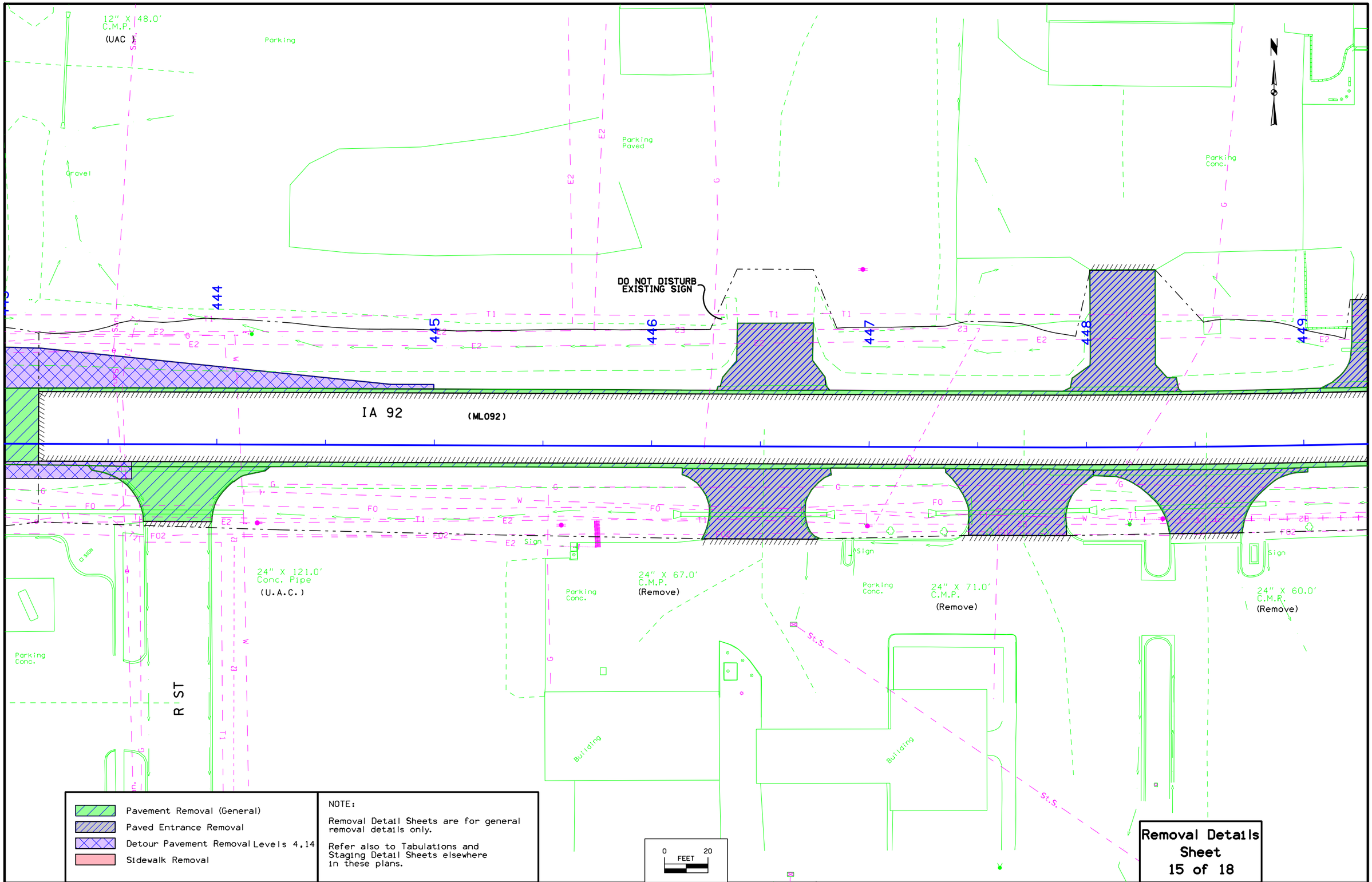

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.15

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S KENWOOD BLVD

Parking Conc.

Building

18" X 46.0'
C.M.P.
(Remove)

450 451 452 453 454 455

IA 92 (ML092)

Sta. 453+83.42, 37.42 Rt
24" X 103.0 Conc. Pipe
D.A. = .4 Ac - F
(Plug & Abandon)

Parking Conc.

Parking Conc.

SOUTH P ST

Pavement Removal (General)	NOTE:
Paved Entrance Removal	Removal Detail Sheets are for general removal details only.
Detour Pavement Removal Levels 4,14	Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.
Sidewalk Removal	

0 20
FEET

Removal Details Sheet 16 of 18

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.16

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SOUTH P ST

Sta. 455+27.49, 27.81 Lt
18" X 72.0 Conc. Pipe
D.A. = .3 Ac - F
(Plug & Abandon)

DO NOT DISTURB TREES

18" X 40.0'
C.M.P.
(Remove)

DO NOT DISTURB TREES

18" X 67.0'
C.M.P.
(Remove)

DO NOT DISTURB TREES

456 457 458 459 460 461

Parking Conc.

Sign

Wood Fence

IA 92 IA (ML092) (ML092)

Building

Parking Conc.

DO NOT DISTURB TILE OUTLETS IN BACKSLOPES

House House House House House House

18" X 11.0'
Conc. Pipe
(Remove)

Pavement Removal (General)
Paved Entrance Removal
Detour Pavement Removal Levels 4,14
Sidewalk Removal

NOTE:

Removal Detail Sheets are for general removal details only.

Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

0 20
FEET

Removal Details Sheet
17 of 18

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.17

1:17:50 PM 6/24/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051U01_Removals.sht

Sta. 462+04.63
18" X 60.0' Conc. Pipe
D.A. = 2 Ac - F
(Plug & Abandon)

18" X 39.0'
C.M.P.
(Remove)

Sta. 465+03.68
End Project

Sta. 465+01.01
End Widening

SOUTH M ST

SOUTH N ST

462 463 464 465 466

Wood Fence

Gravel

Garage

House

House

Parking
Conc.

Parking
Conc.

San.

St.S.

WLK.

0 20
FEET

Pavement Removal (General)	
Paved Entrance Removal	
Detour Pavement Removal Levels 4,14	
Sidewalk Removal	

NOTE:

Removal Detail Sheets are for general removal details only.

Refer also to Tabulations and Staging Detail Sheets elsewhere in these plans.

Removal Details Sheet 18 of 18

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.18

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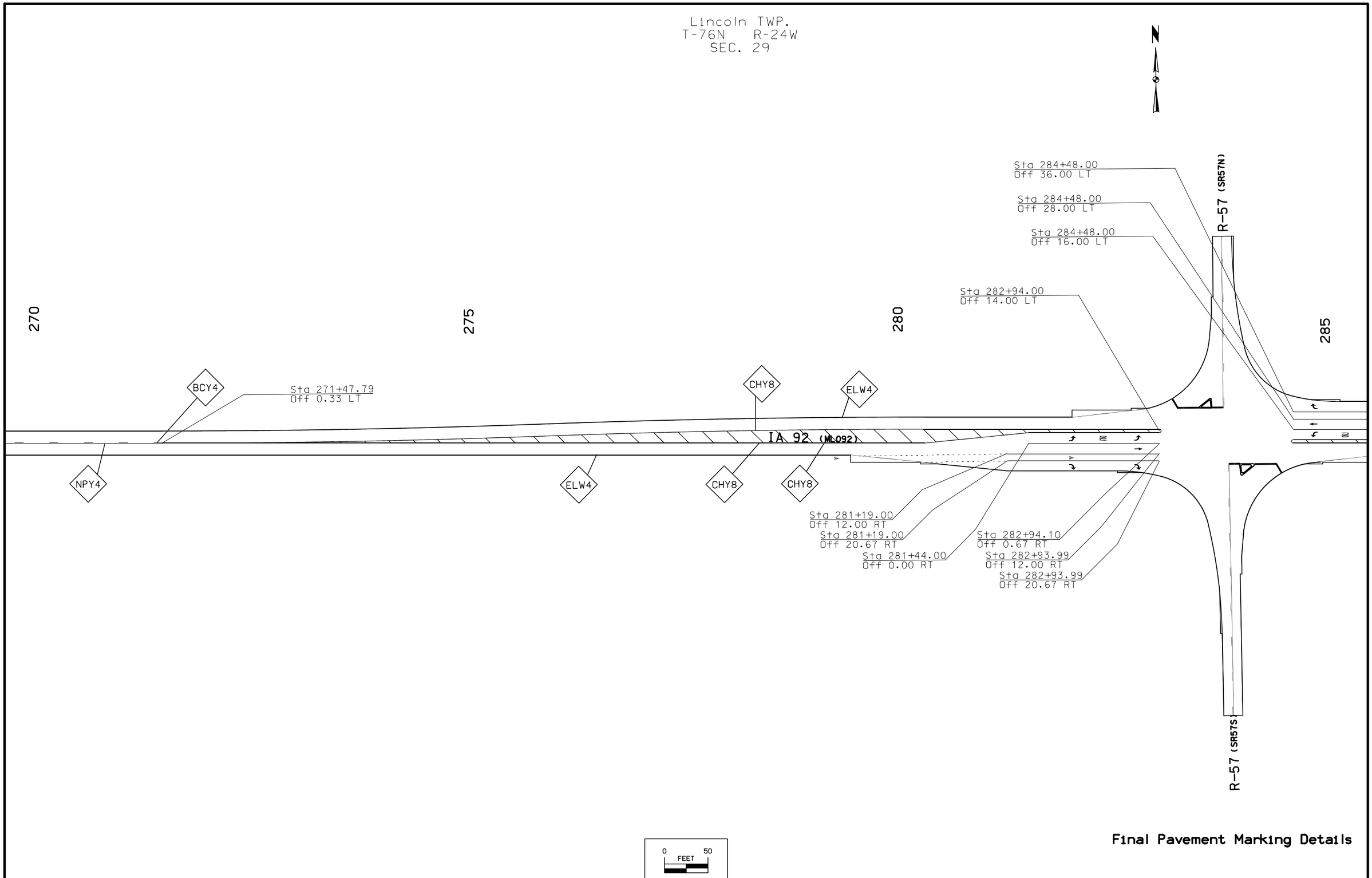

Final Pavement Marking Details

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.19

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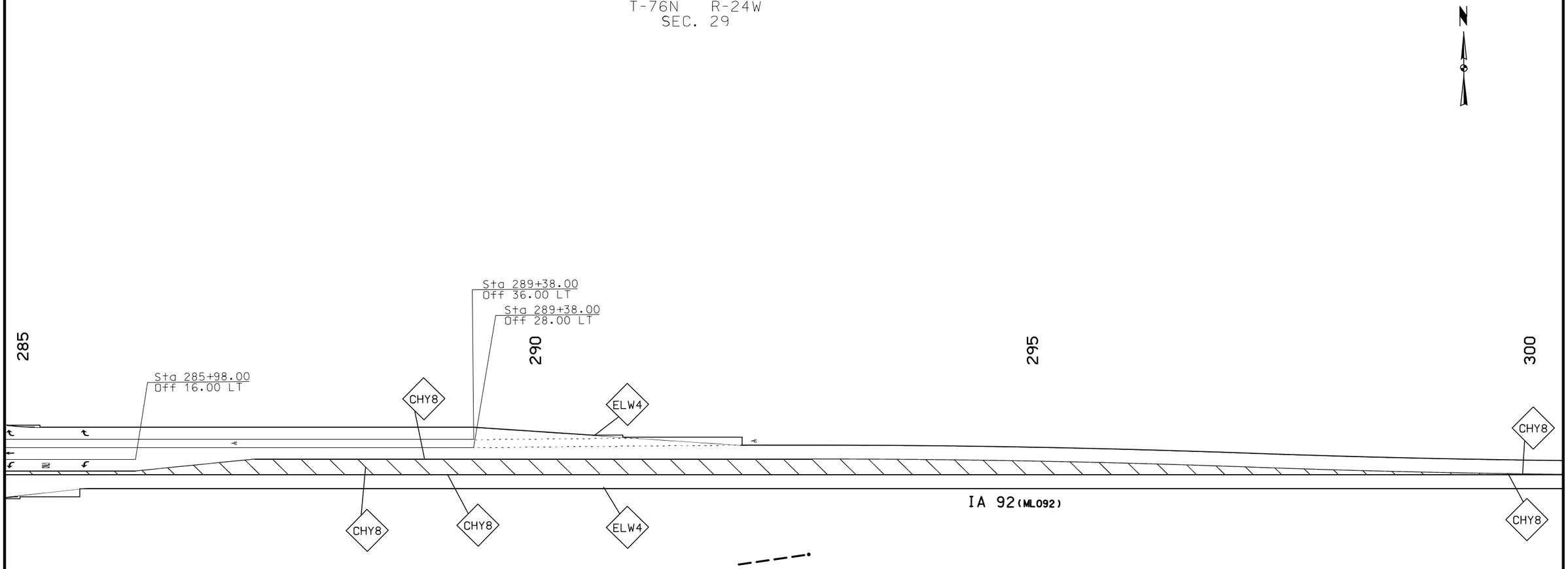
Lincoln TWP.
T-76N R-24W
SEC. 29



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Final Pavement Marking Details

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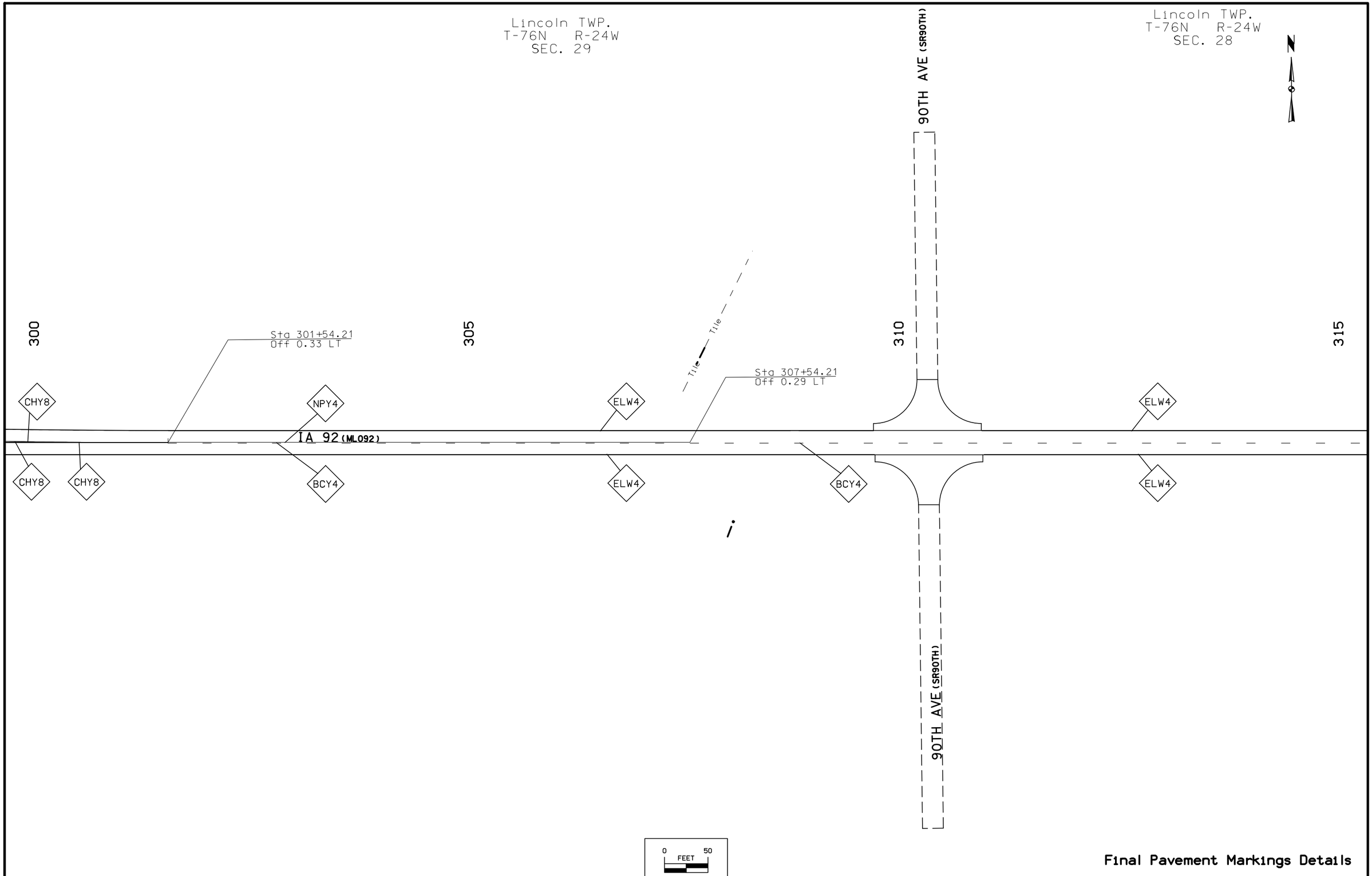

Final Pavement Markings Details

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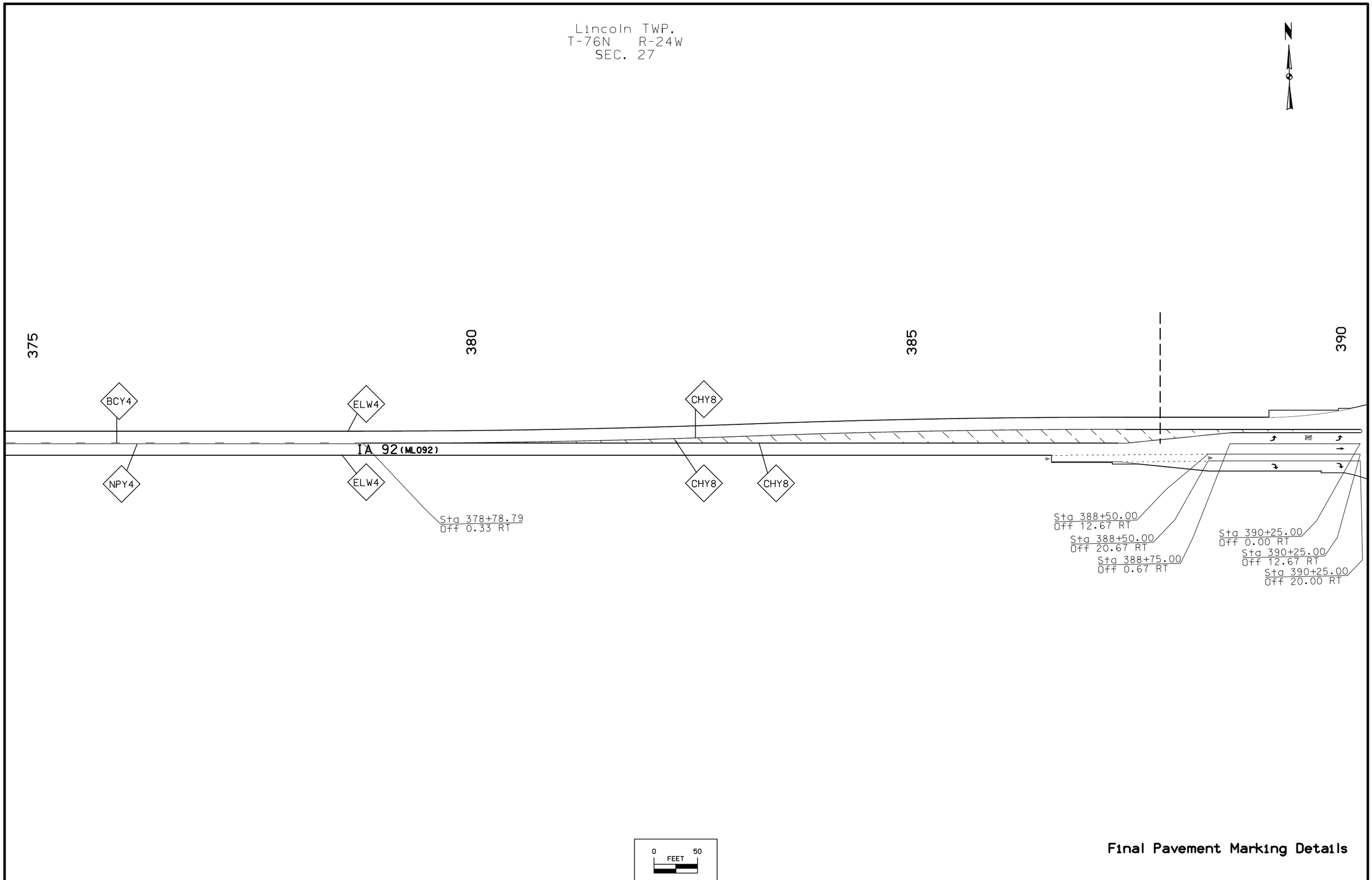

Final Pavement Marking Details

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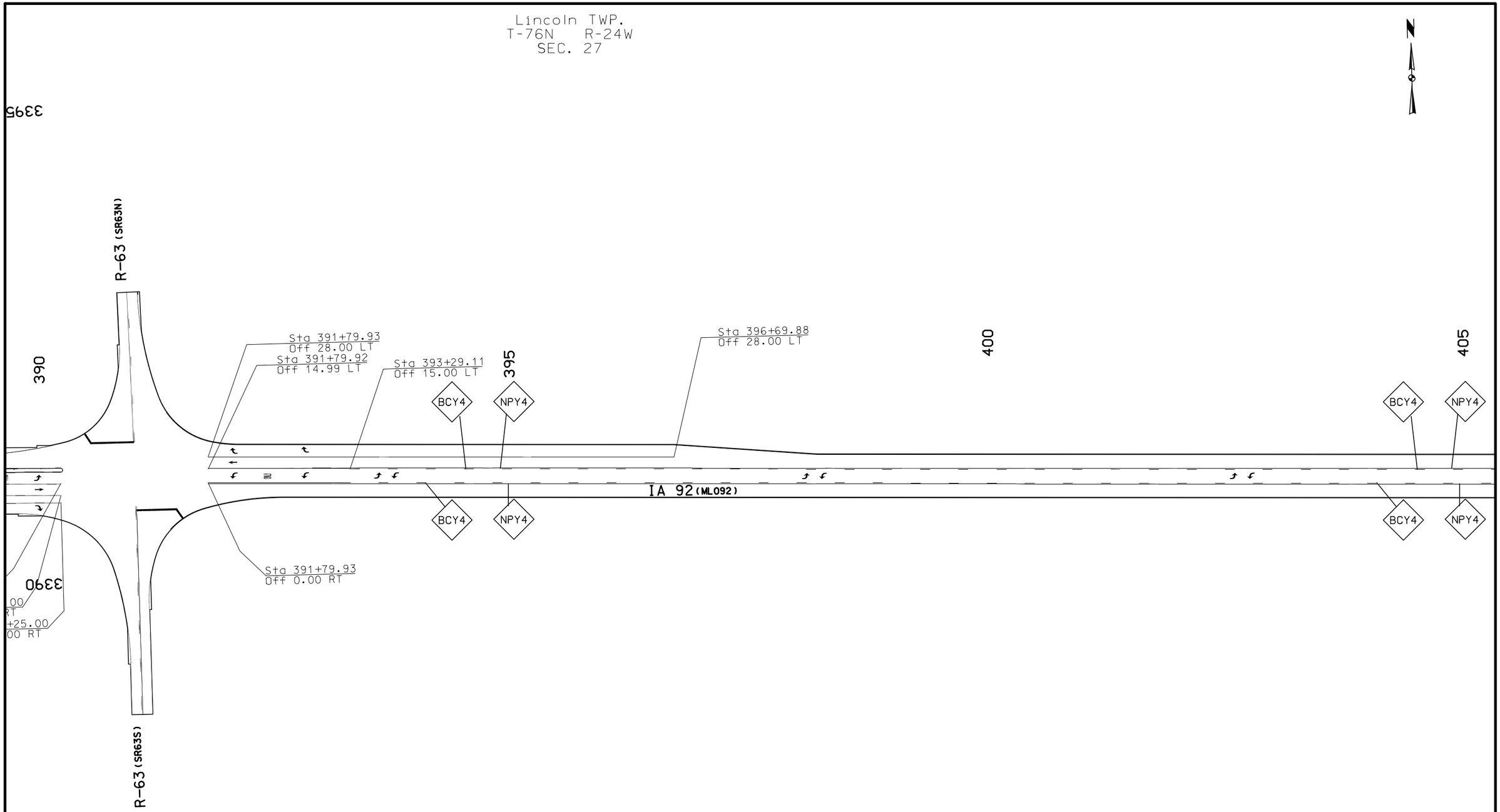
T-76N R-24W
SEC. 27



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Final Pavement Marking Details

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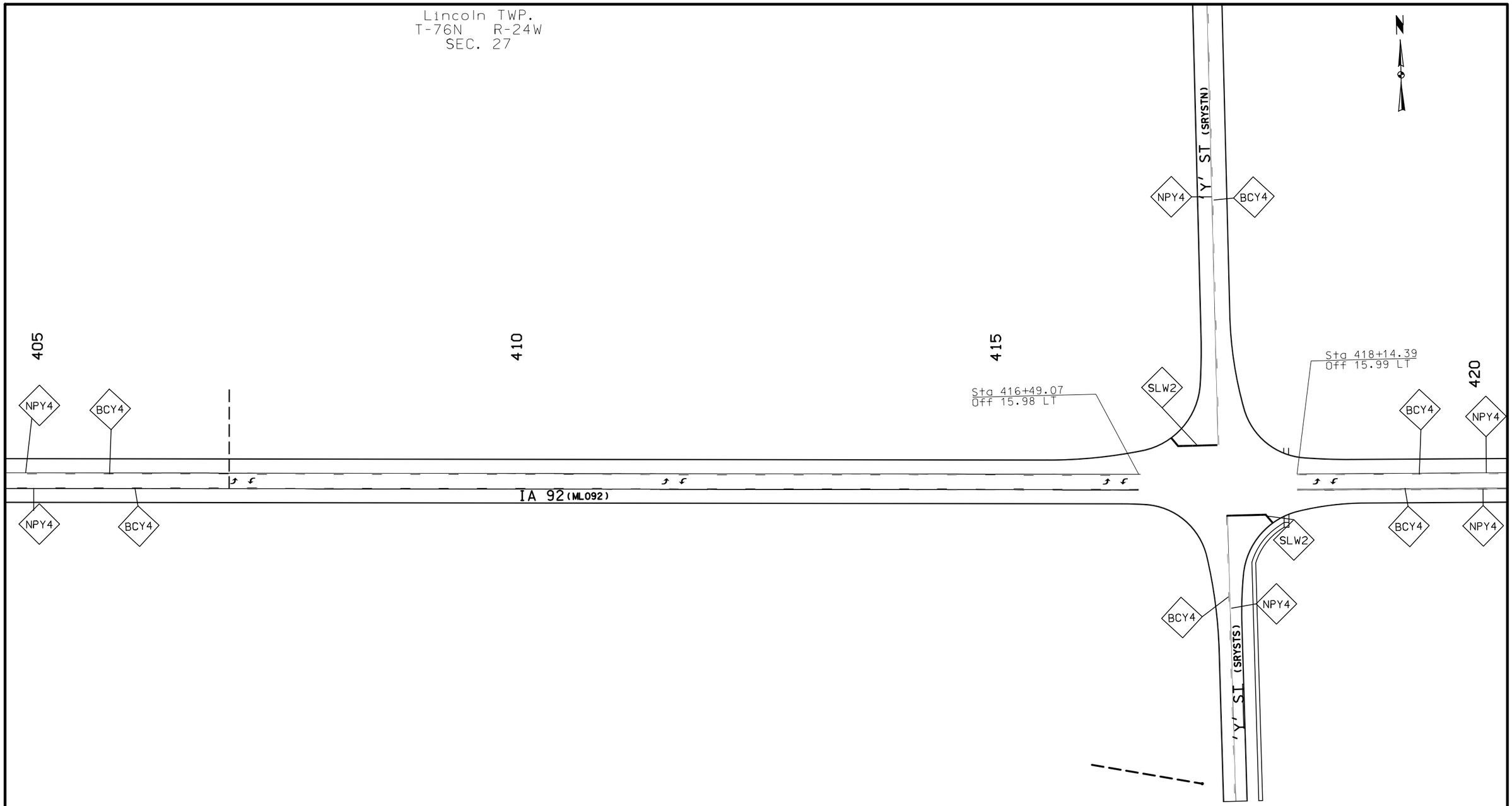

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Final Pavement Markings Details

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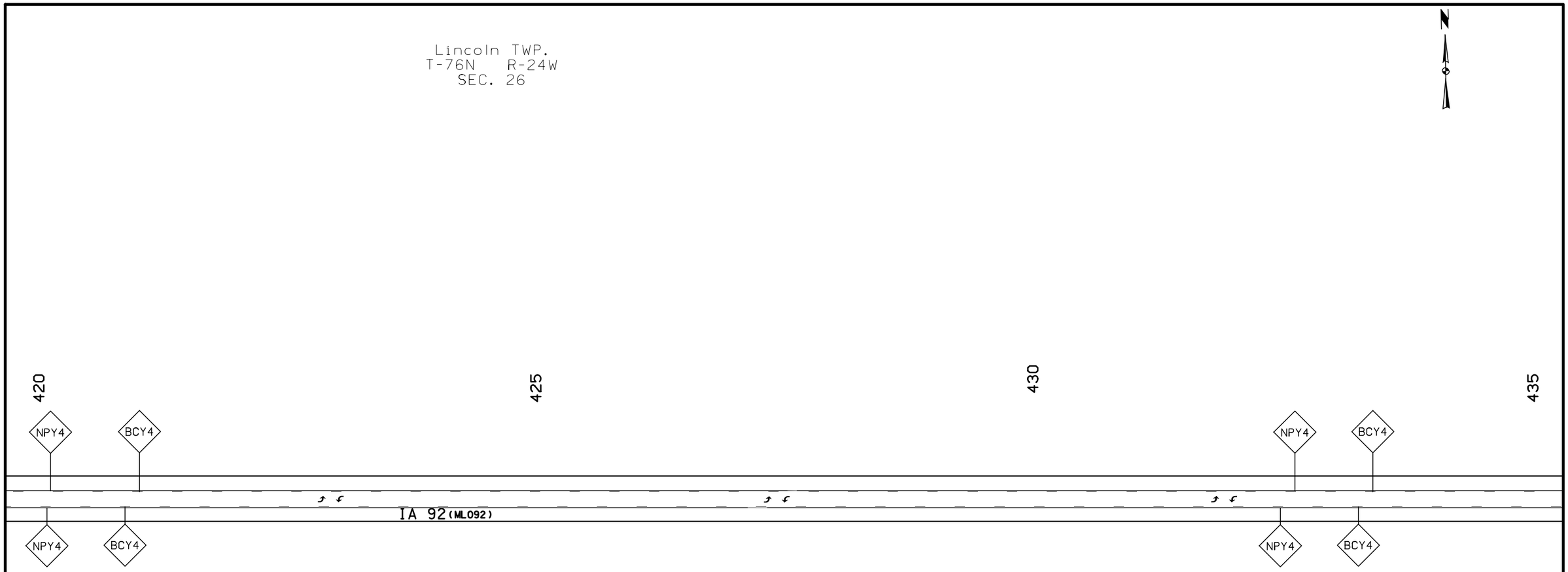

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Final Pavement Markings Details

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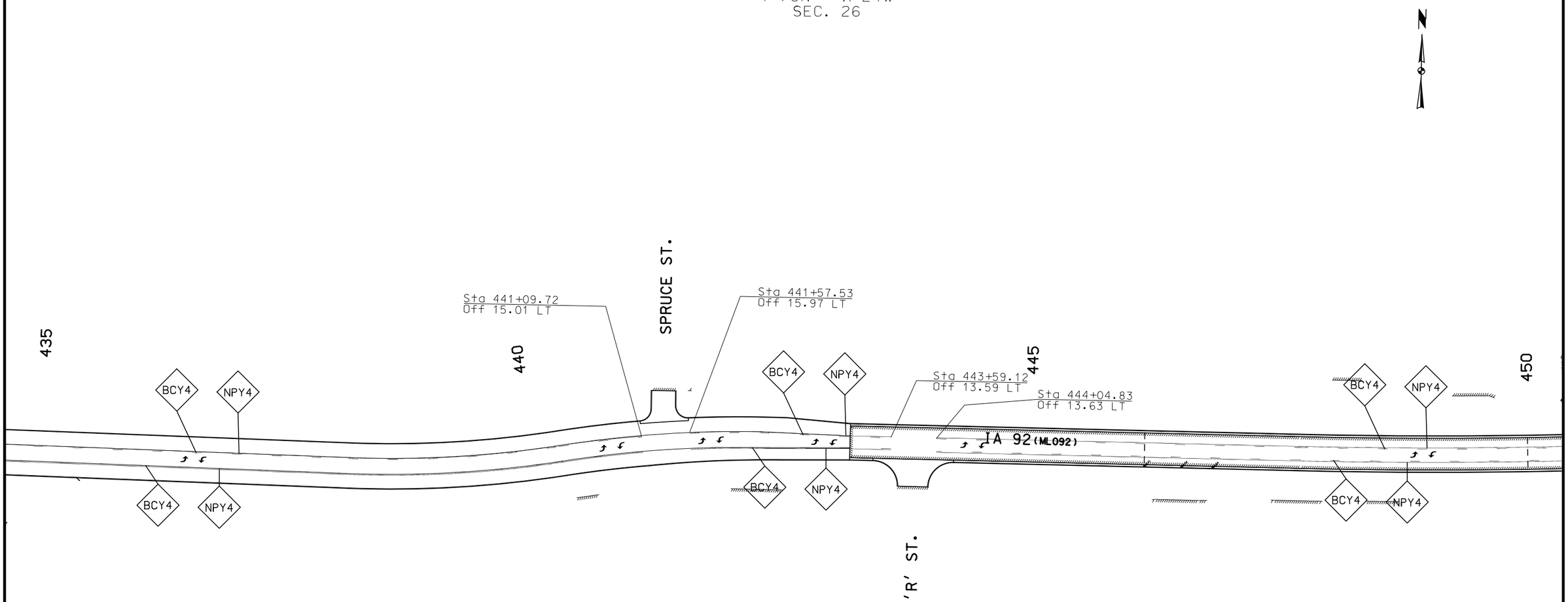
Lincoln TWP.
T-76N R-24W
SEC. 26



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Final Pavement Markings Details

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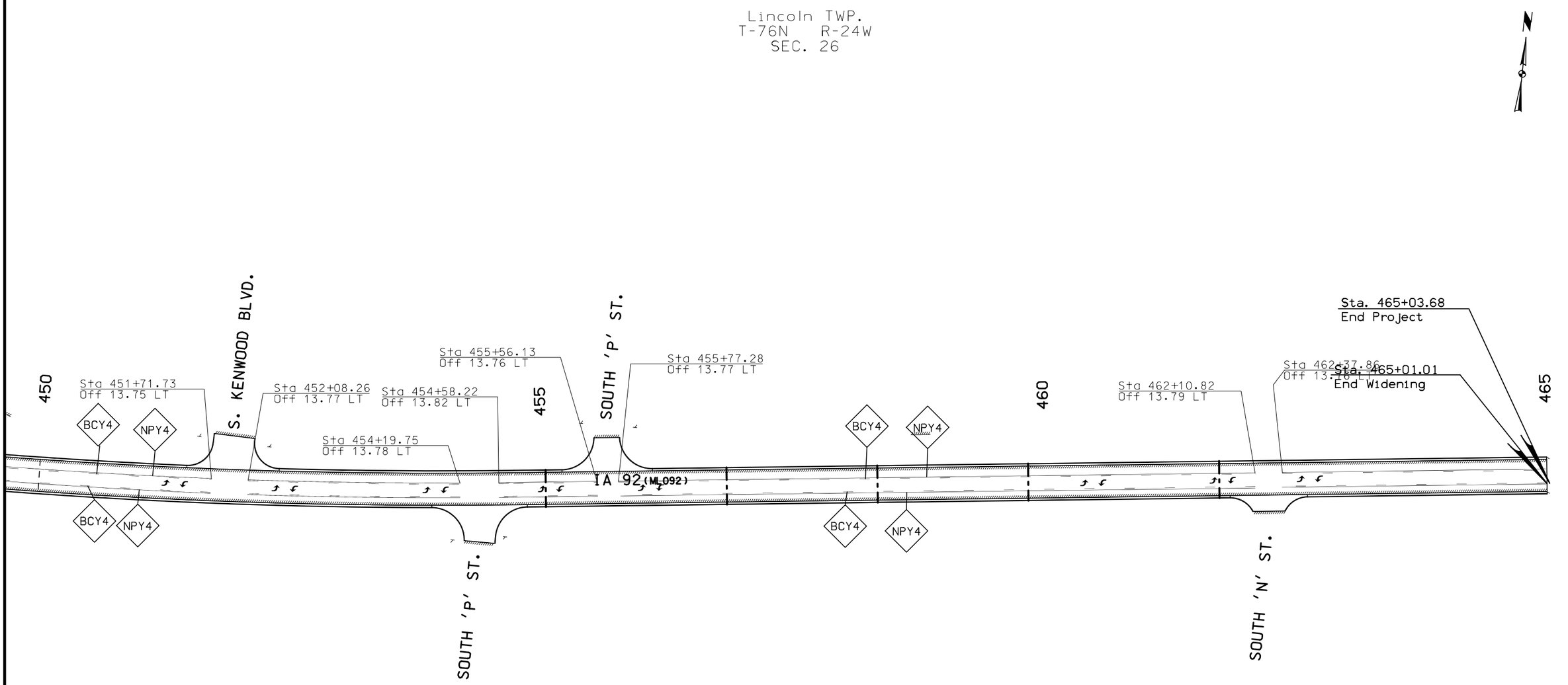

Final Pavement Markings Details

0 50
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.27

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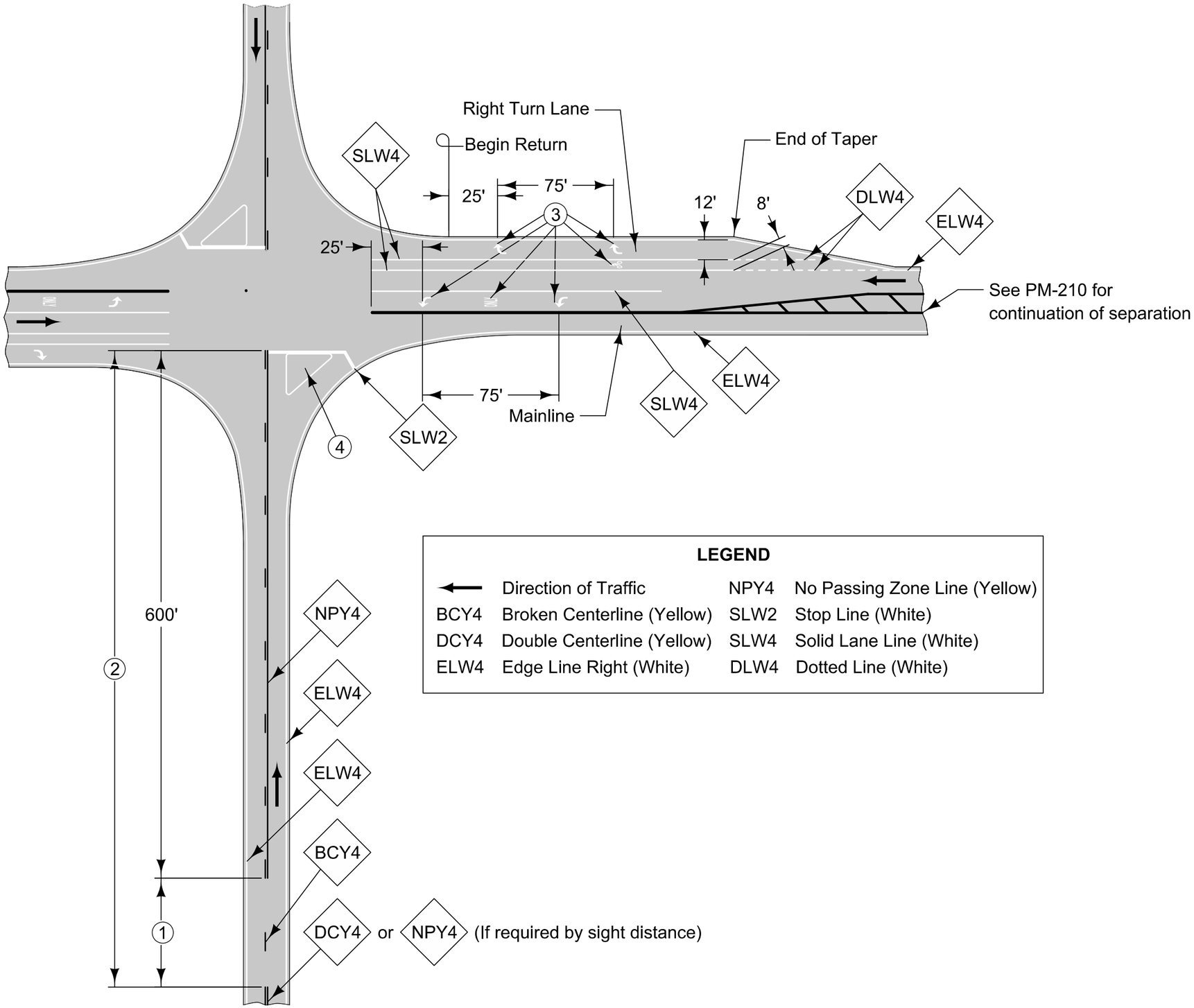


LEGEND

←	Direction of Traffic	NPY4	No Passing Zone Line (Yellow)
BCY4	Broken Centerline (Yellow)	SLW2	Stop Line (White)
DCY4	Double Centerline (Yellow)	SLW4	Solid Lane Line (White)
ELW4	Edge Line Right (White)	DLW4	Dotted Line (White)

Terminate all mainline centerline markings at the edge of the thru lanes of the side road.

Start Solid Lane Line for Right Turn Lane at end of taper.

For line information, see PM-110.

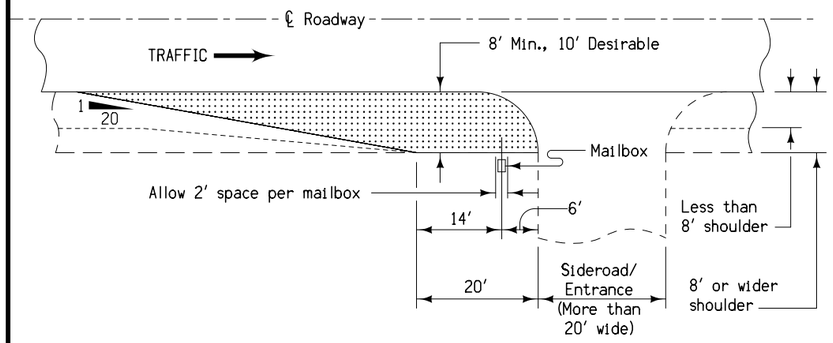
For symbol and legend information, see PM-111.

1. If less than 400 feet, join Yellow Lines.
2. If less than 1000 feet, extend Yellow Line to Stop Line.
3. Symbol and Legend (when listed in 108-29).
4. For Island information, see PM-120.

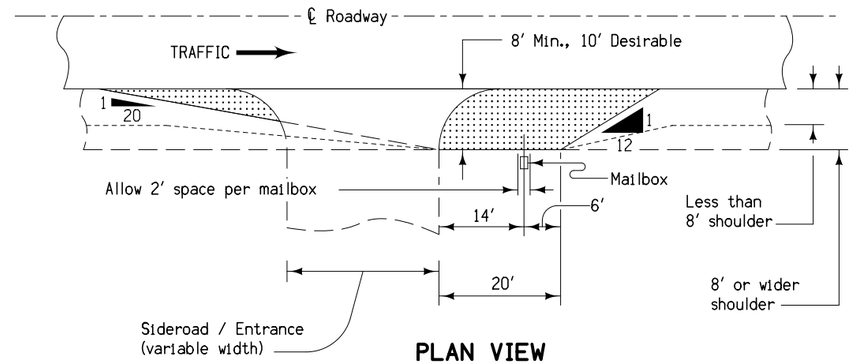
Possible Contract Items:
- Pavement Marking Line Items
- Pavement Marking Symbol and Legend Items

Possible Tabulations:
- 108-22
- 108-29

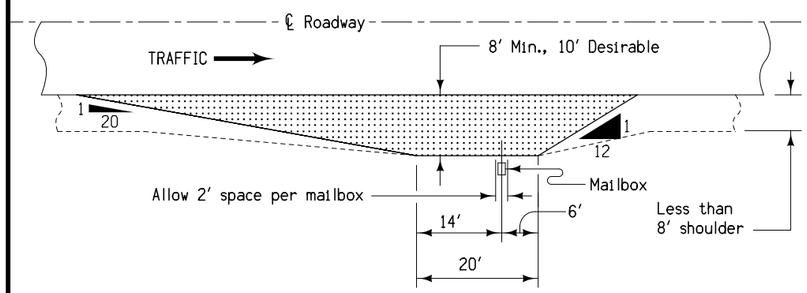
FINAL PAVEMENT MARKINGS FOR TURN LANES



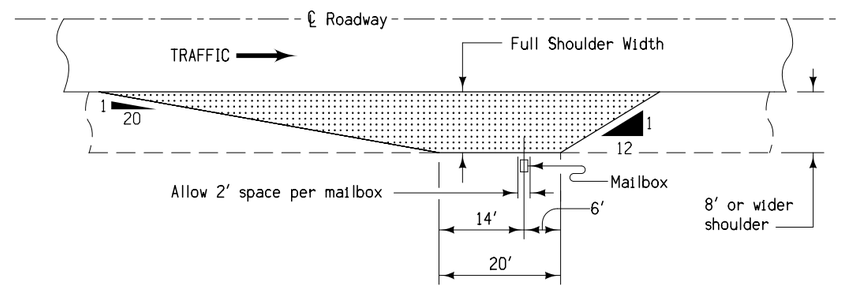
PLAN VIEW
Approach Side of Entrance



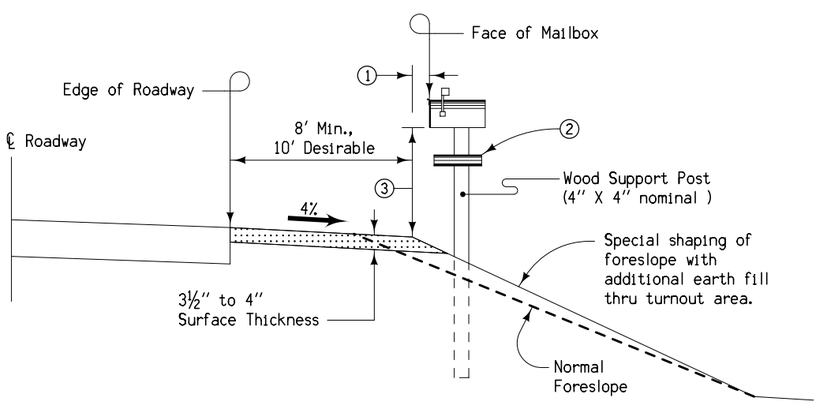
PLAN VIEW
Trailing Side of Entrance



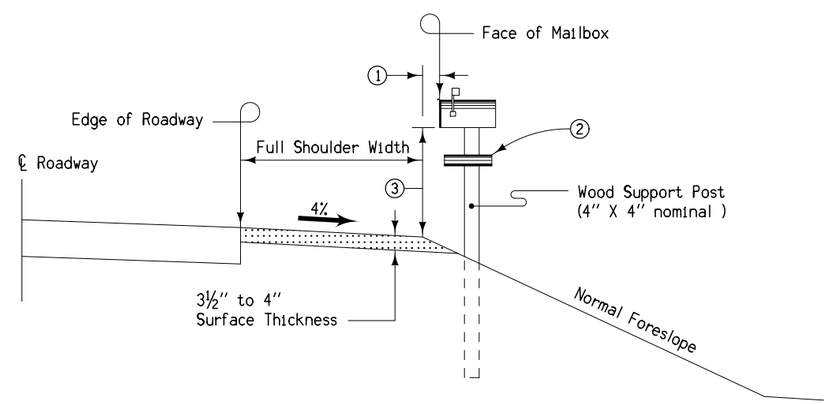
PLAN VIEW
Shoulder Width Less than 8′



PLAN VIEW
Shoulder Width 8′ or More



TYPICAL SECTION
Shoulder Width Less than 8′



TYPICAL SECTION
Shoulder Width 8′ or More

GENERAL NOTES:

Refer to "Policies and Procedures Manual", Policy 610.09, Mailboxes and Newspaper Receptacles on Primary Roads.

Mailbox turnouts shall be full shoulder width with a minimum width of 8 feet. On shoulders less than 8 feet, build fillet to obtain a minimum width of 8 feet.

For multiple mailbox installations in one turnout, the taper dimensions will remain the same. The dimensions from centerline of mailbox located at either end will remain the same and 2 feet will be allowed for each mailbox in the installation.

When the mailbox owner's driveway is on the right hand side of the road, as the mail carrier travels, the box would preferably be placed near the driveway as shown on this sheet. With these types of placement, the driveway will serve as part of the mailbox turnout.

Requests, by the property owner, for the location of mailbox turnouts other than at driveways shall be approved by the Engineer in charge of construction and the U.S. Postal Authorities.

Mailbox(s) shall be installed with the face (door) no closer to the roadway than the shoulder line. Support post shall be in the foreslope with the inside edge at least one (1) foot outward from the shoulder line.

SURFACING QUANTITY

Surfacing of mailbox turnouts is based on a 5 inch design depth (loose volume) which will, under normal conditions, compact to 3.5″ to 4″ actual depth. A width of 8 feet will require approximately 18.3 cubic yards and 10 foot width will require approximately 27.8 cubic yards of surfacing. Quantities are given for a single mailbox installation 276 to 340 feet in length. Where multiple installations or installations at driveways are encountered, quantities will vary as directed by the Engineer.

Payment for construction of mailbox turnouts will be as specified elsewhere in the contract documents.

1. 8″ to 12″ preferred, 0″ minimum.
2. Metal tube / box for delivery of local advertisements, newspapers etc.
3. Mounting height per U.S. Postal Regulations (42″to 48″ above mail stop surface).

Project Development Division

DETAIL SHEET **560–2**

REVISION: Place in CADD	REVISION NO.	REVISION DATE
	1	03-28-95

DETAILS OF MAILBOX TURNOUTS (GRANULAR SURFACED)

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER U.29

LEGEND OF CROSS SECTION SHEETS (ROAD)

- Existing Ground Line
- Proposed Template
- Proposed Topsoil Placement
- Additional Topsoil Removal
- Subrade Treatment
- Granular Shoulder
- Pavement
- Existing Pipe\RCB
- Proposed Pipe\RCB
- Proposed Dike
- All Elements Associated with Proposed Entrances

LEGEND OF CROSS SECTION SHEETS (SOILS)

TS	Topsoil (Class 10)
TS A	Topsoil (Type A Disposal)
TS B	Topsoil (Type B Disposal)
TS C	Topsoil (Type C Disposal)
CL 10	Class 10 Materials
SEL LO	Select Loams And Clay-Loams
SEL SA	Select Sand
UNS A	Unsuitable Type A Disposal
UNS B	Unsuitable Type B Disposal
UNS C	Unsuitable Type C Disposal
SHALE	Shale
WASTE	Waste
B&W LS	Broken and Weathered Rock
ROCK	Solid Rock
BLDRS	Boulders

Note: All layer lines and descriptions identify layers above the line.

Note: Vertical or near vertical lines connecting soil layers at edges of cross sections are only for the purpose of calculating template quantities and do not depict soil stratification.

CROSS SECTION LEGEND AND SYMBOL INFORMATION SHEET

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

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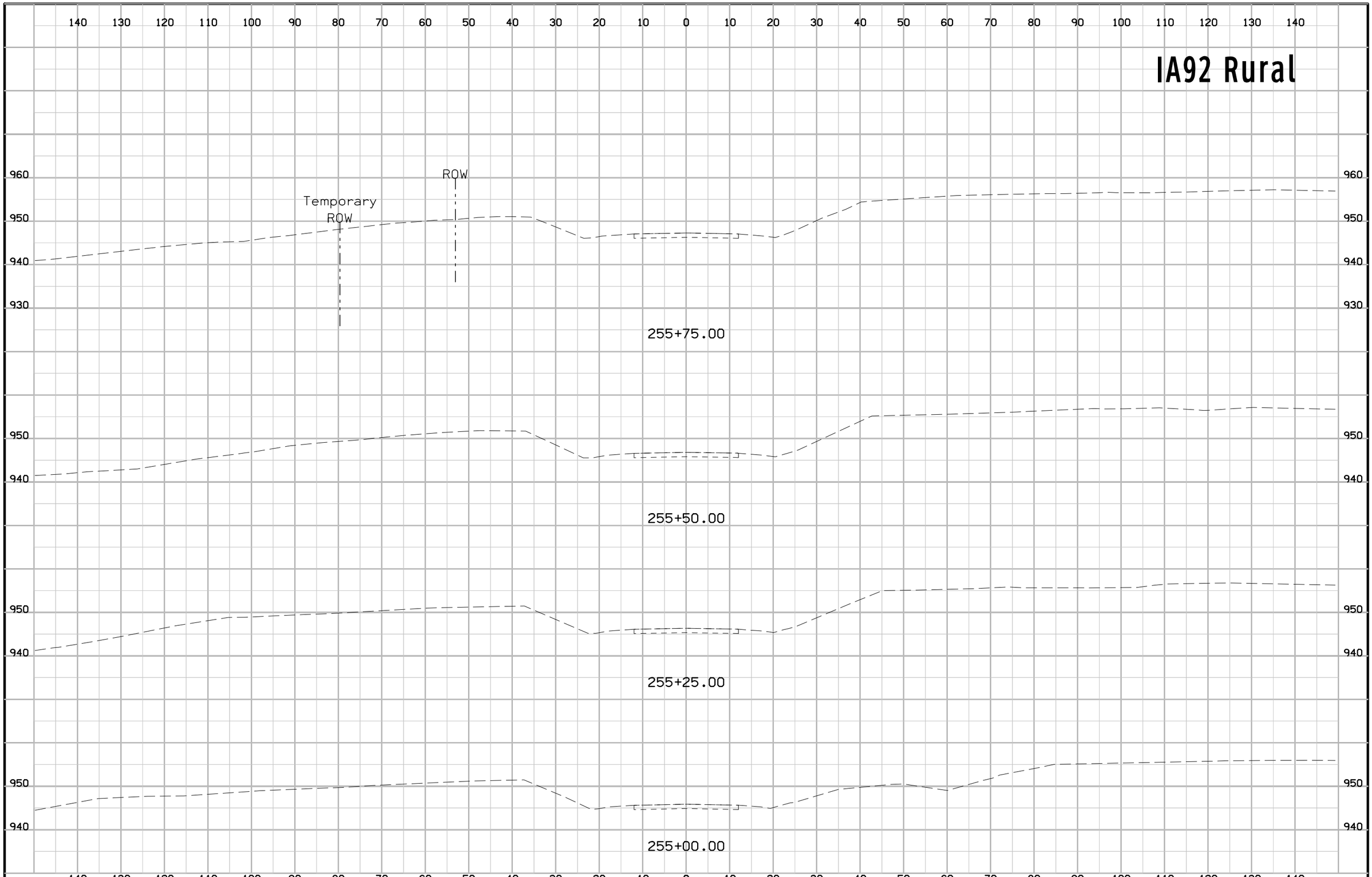

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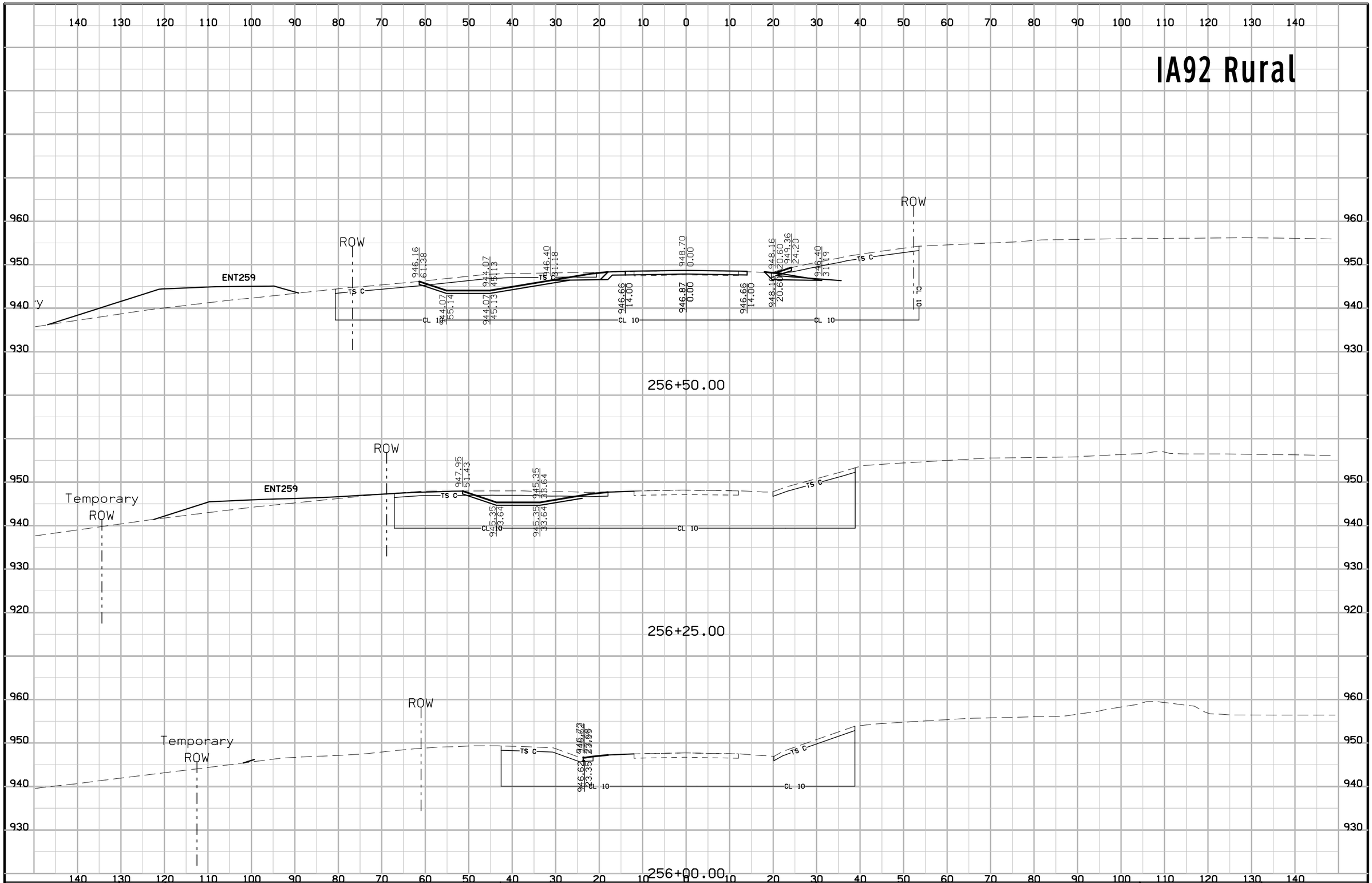

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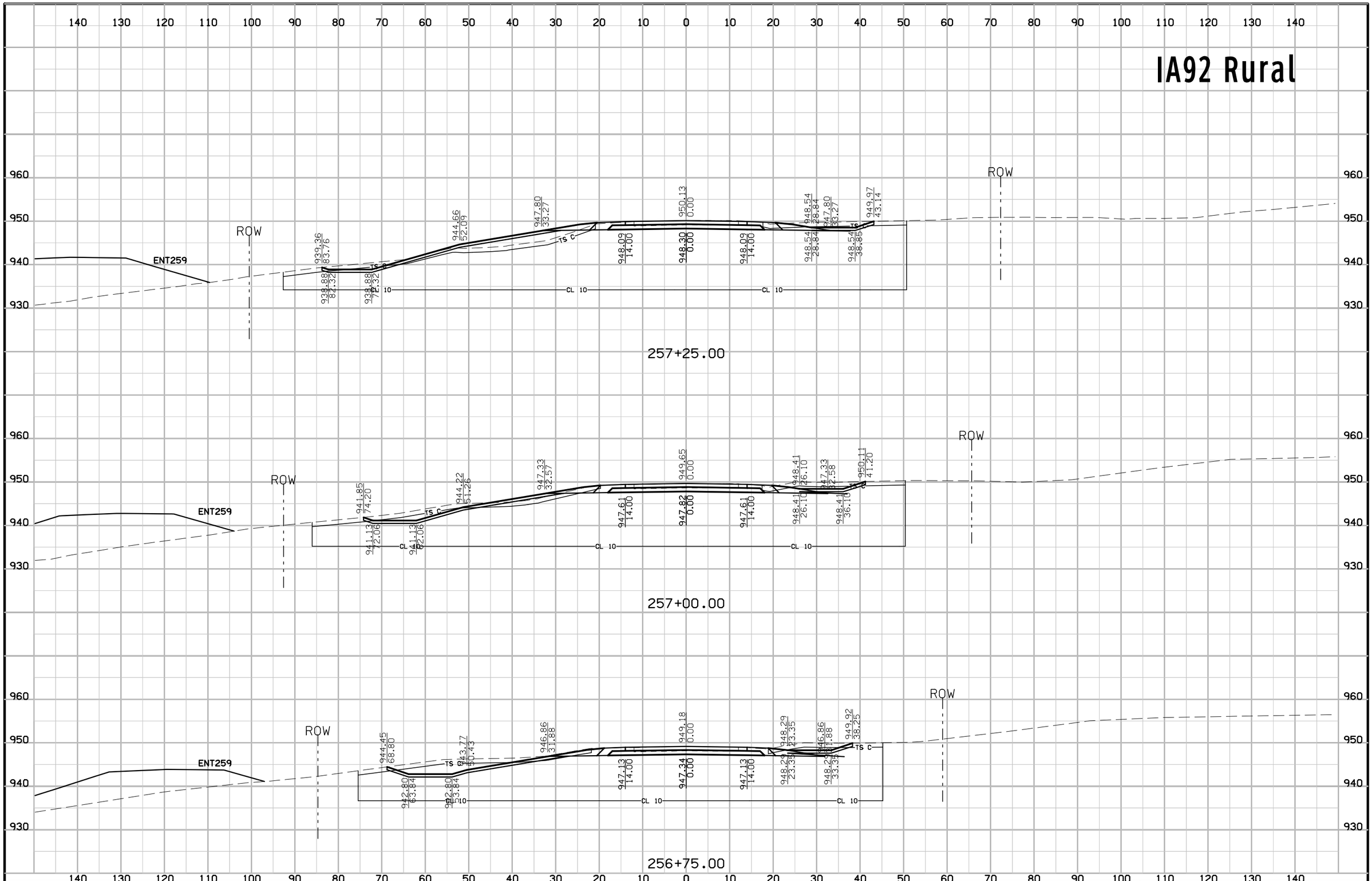

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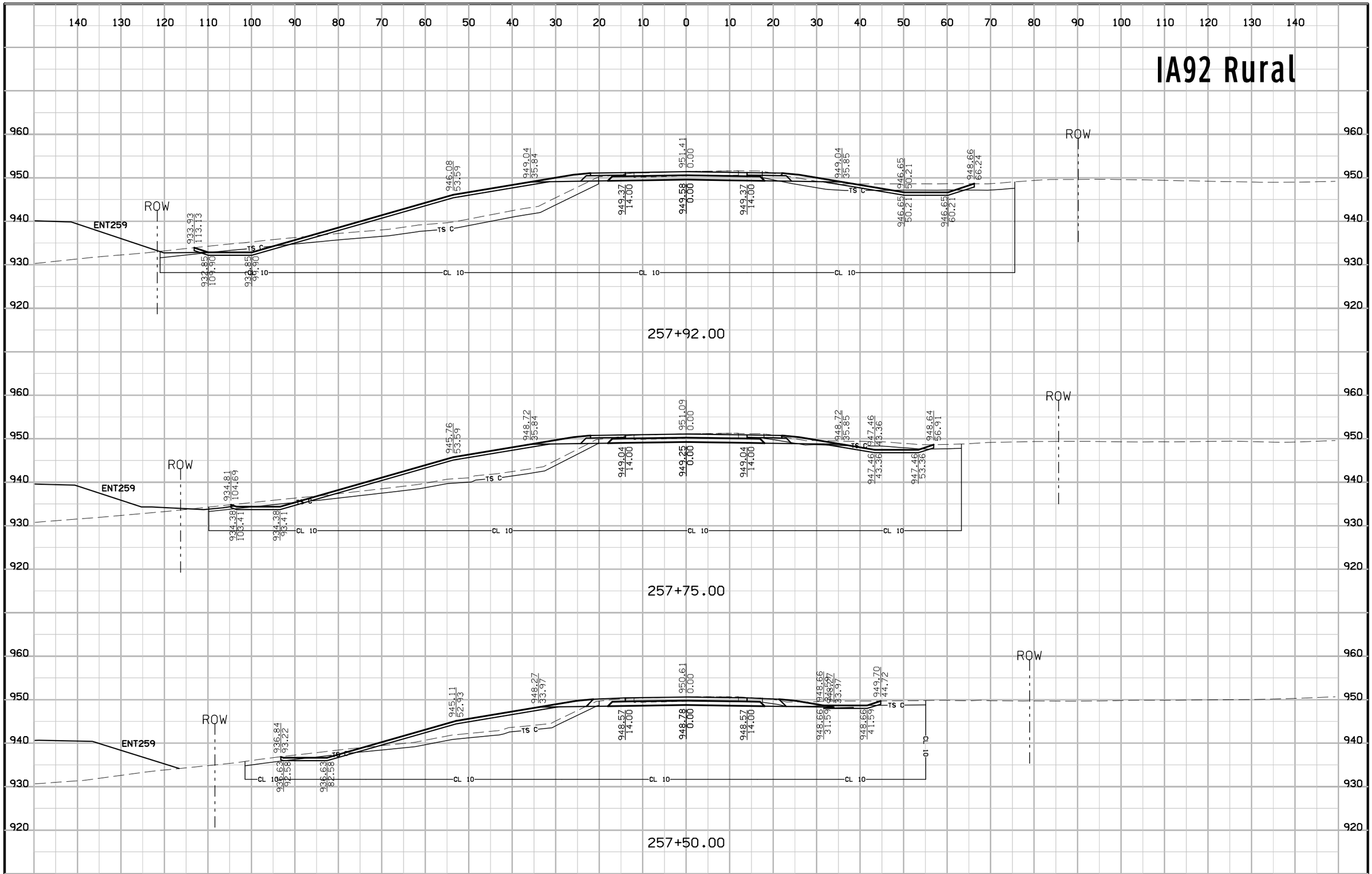

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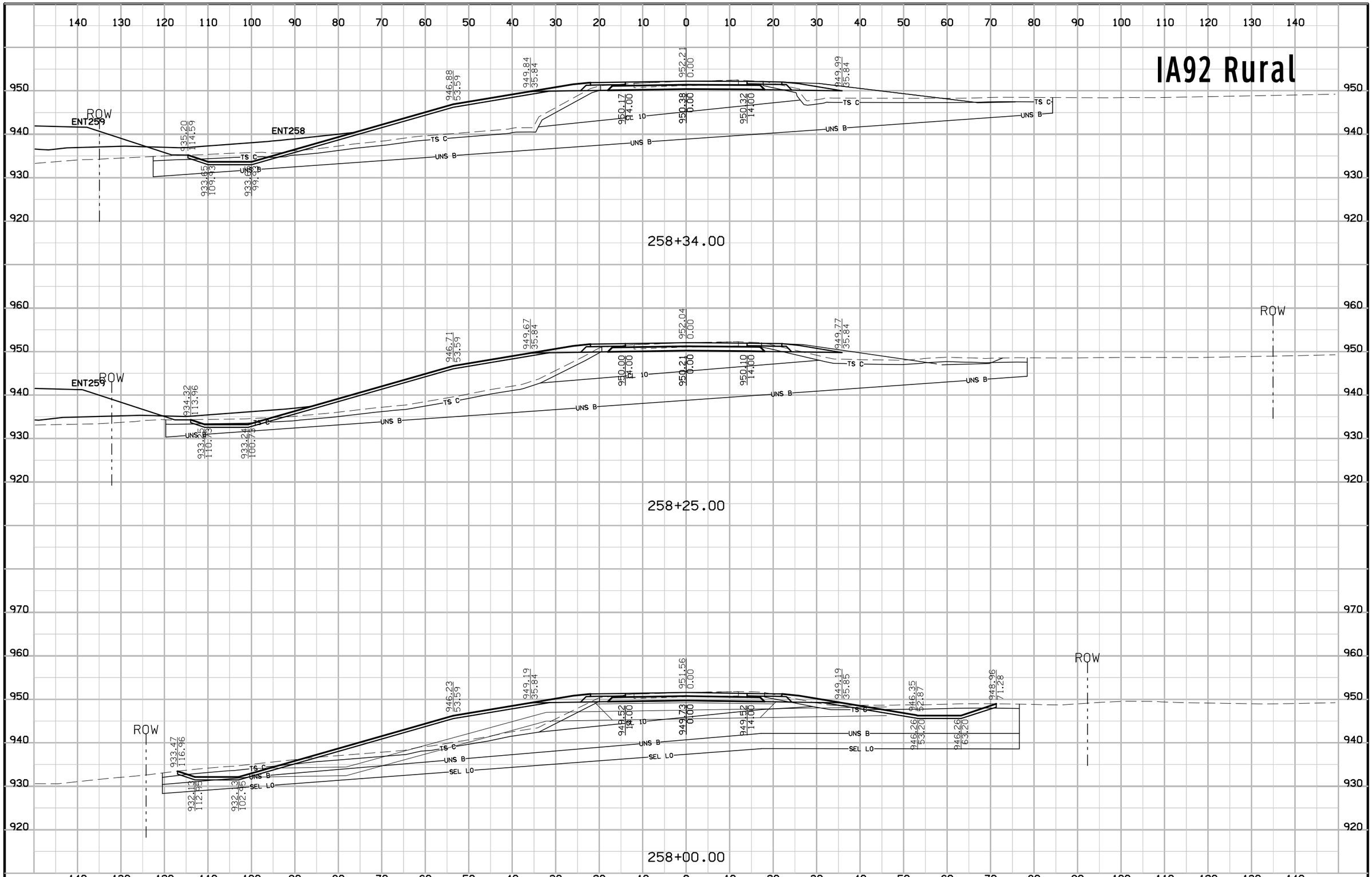

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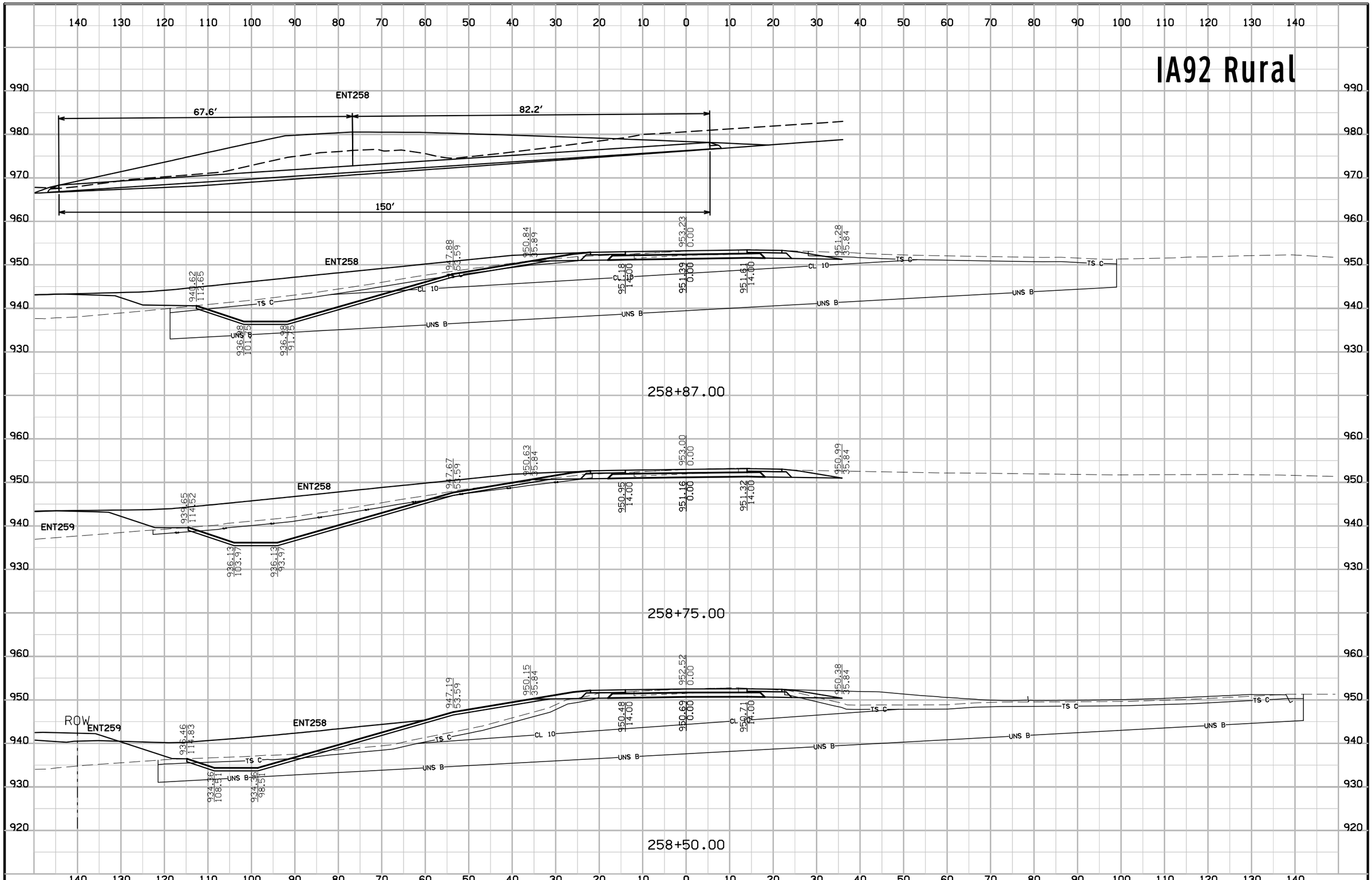

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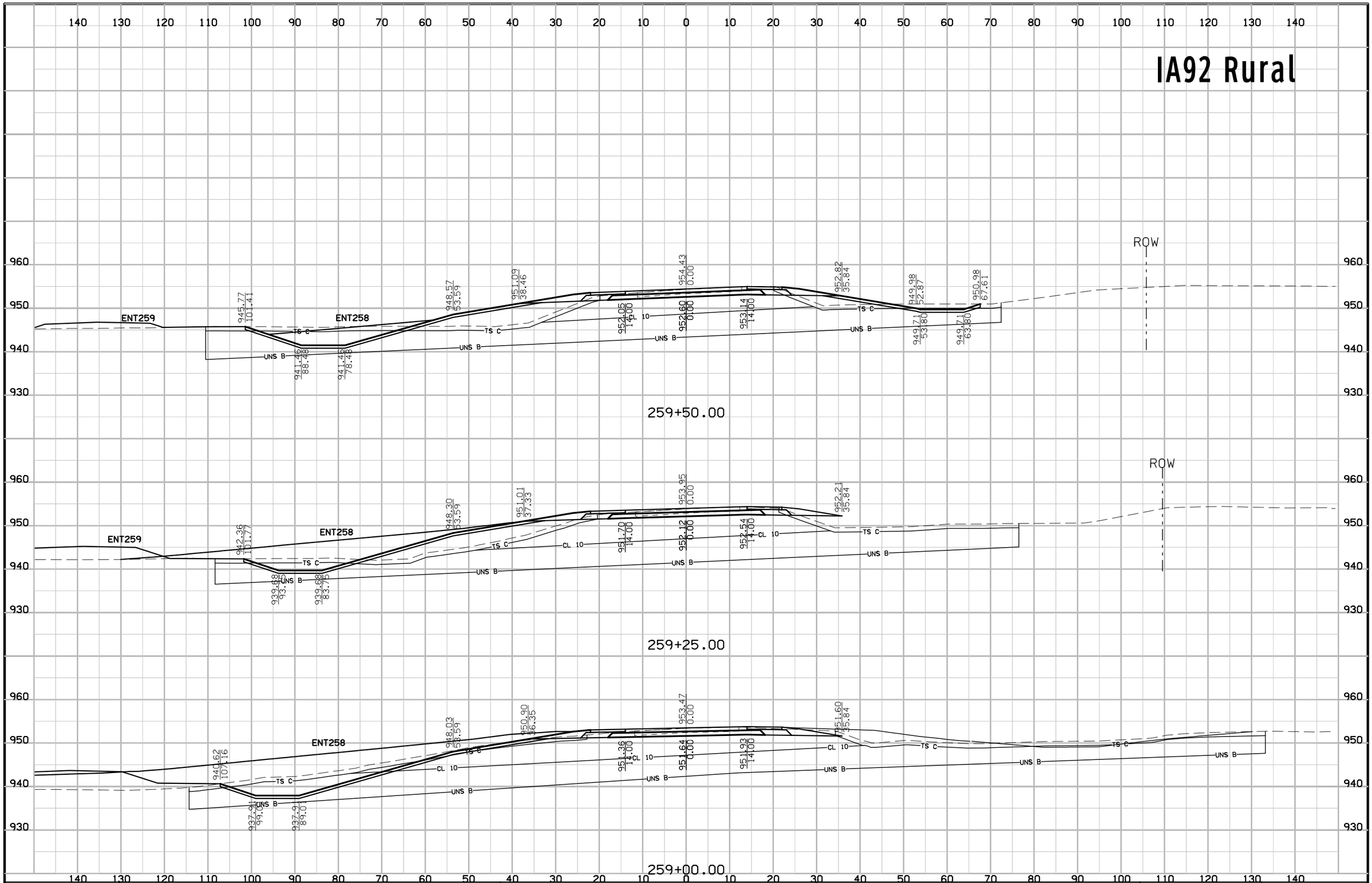

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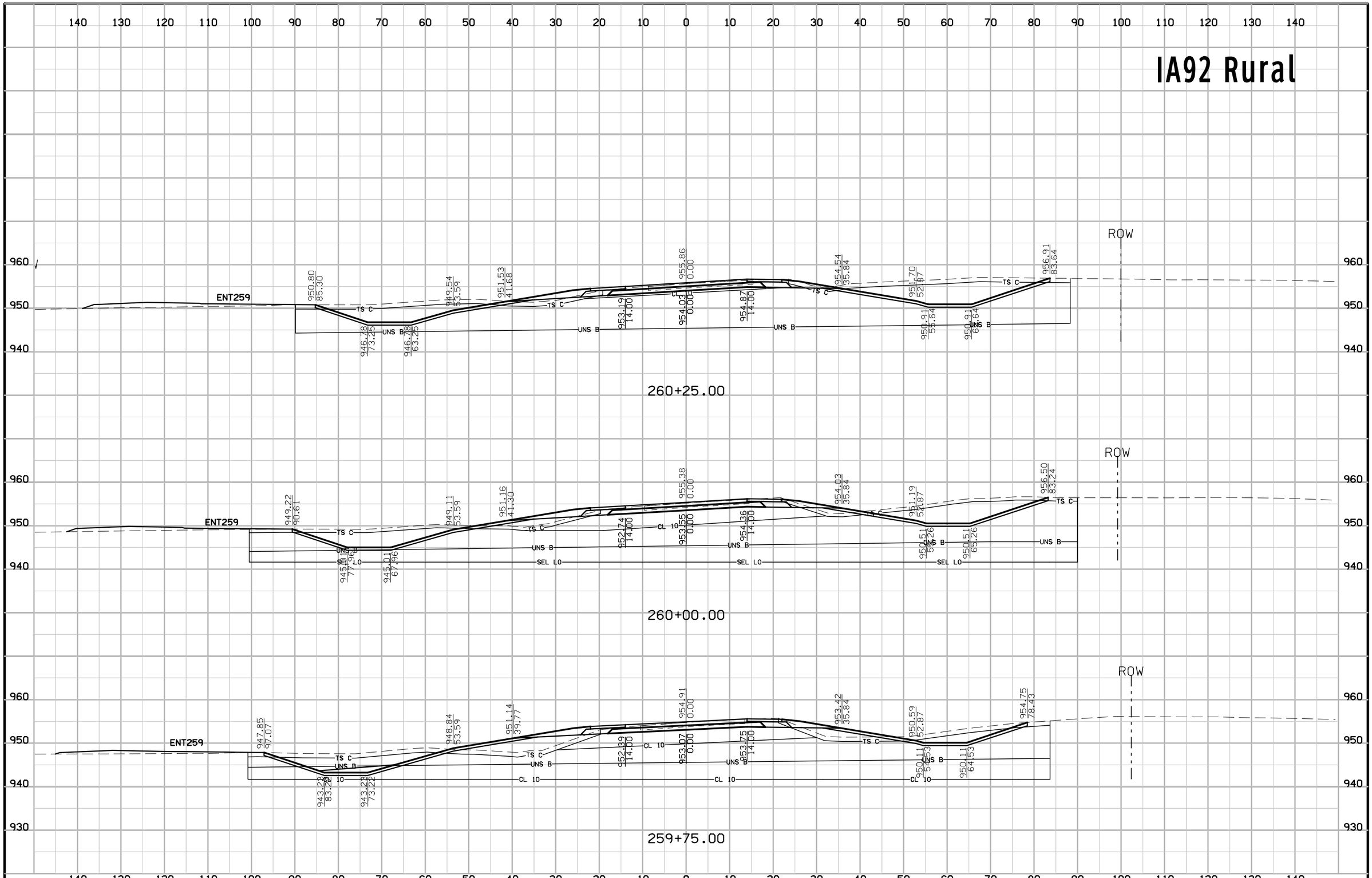

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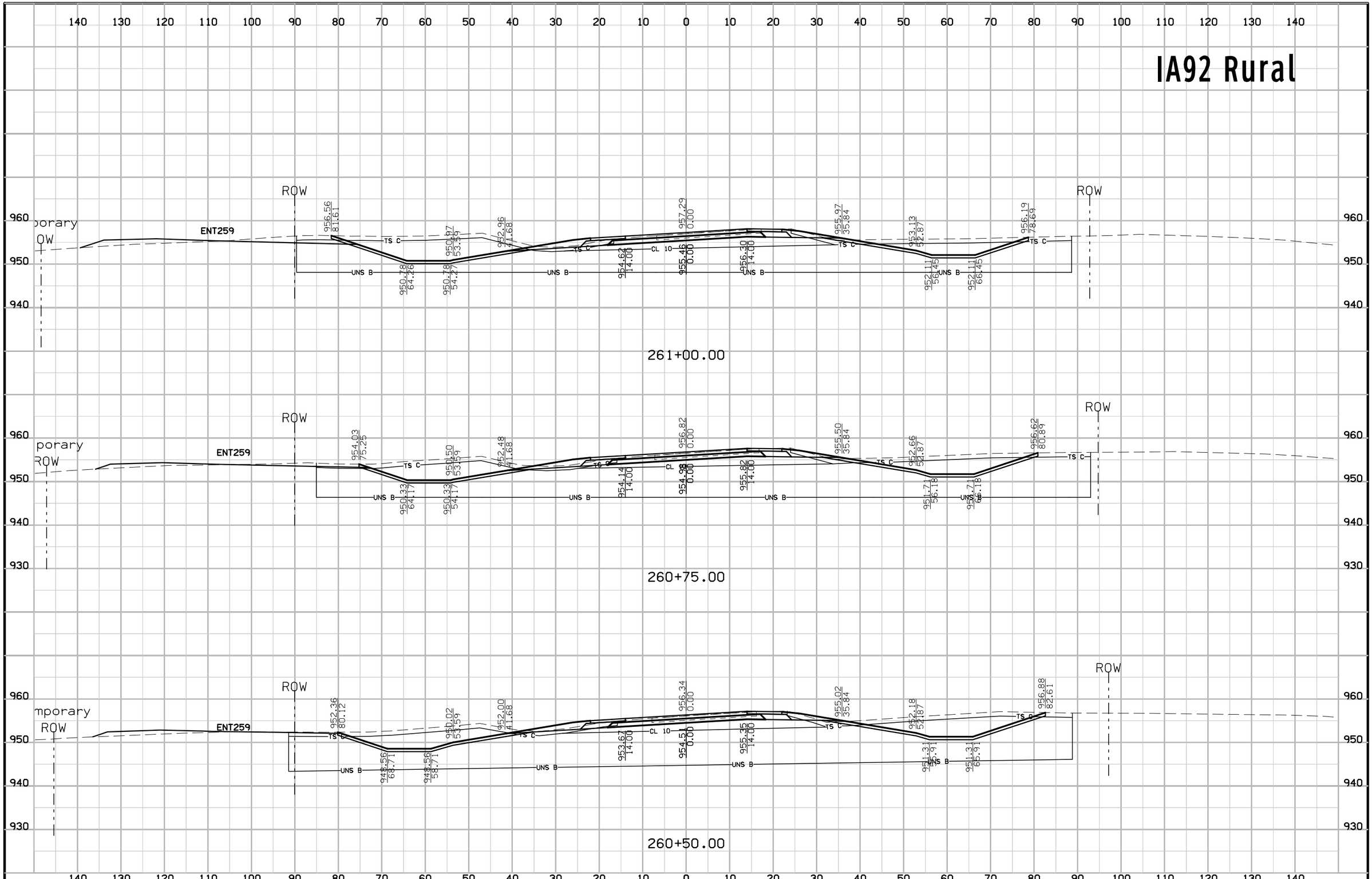

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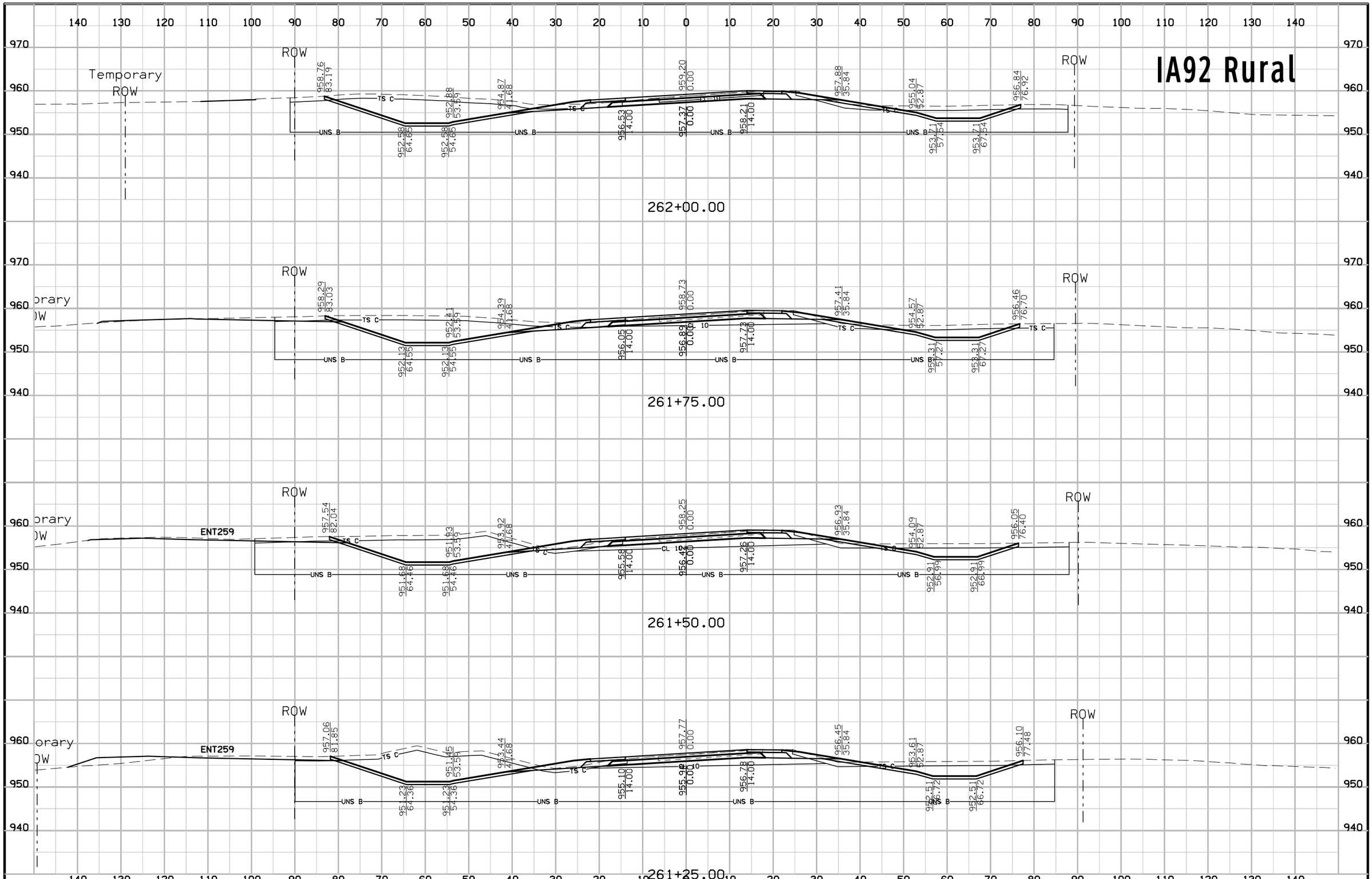

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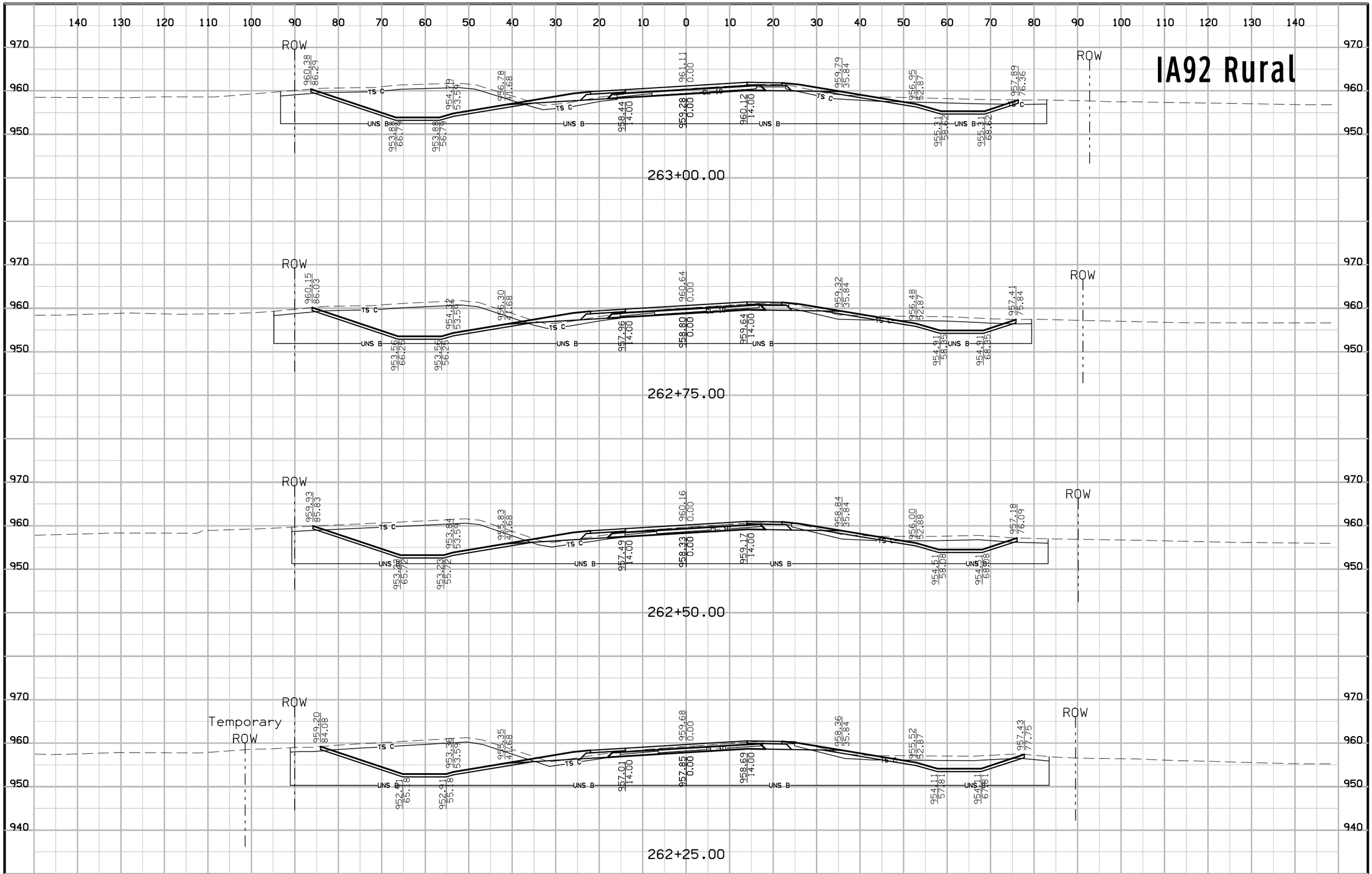
IA92 Rural



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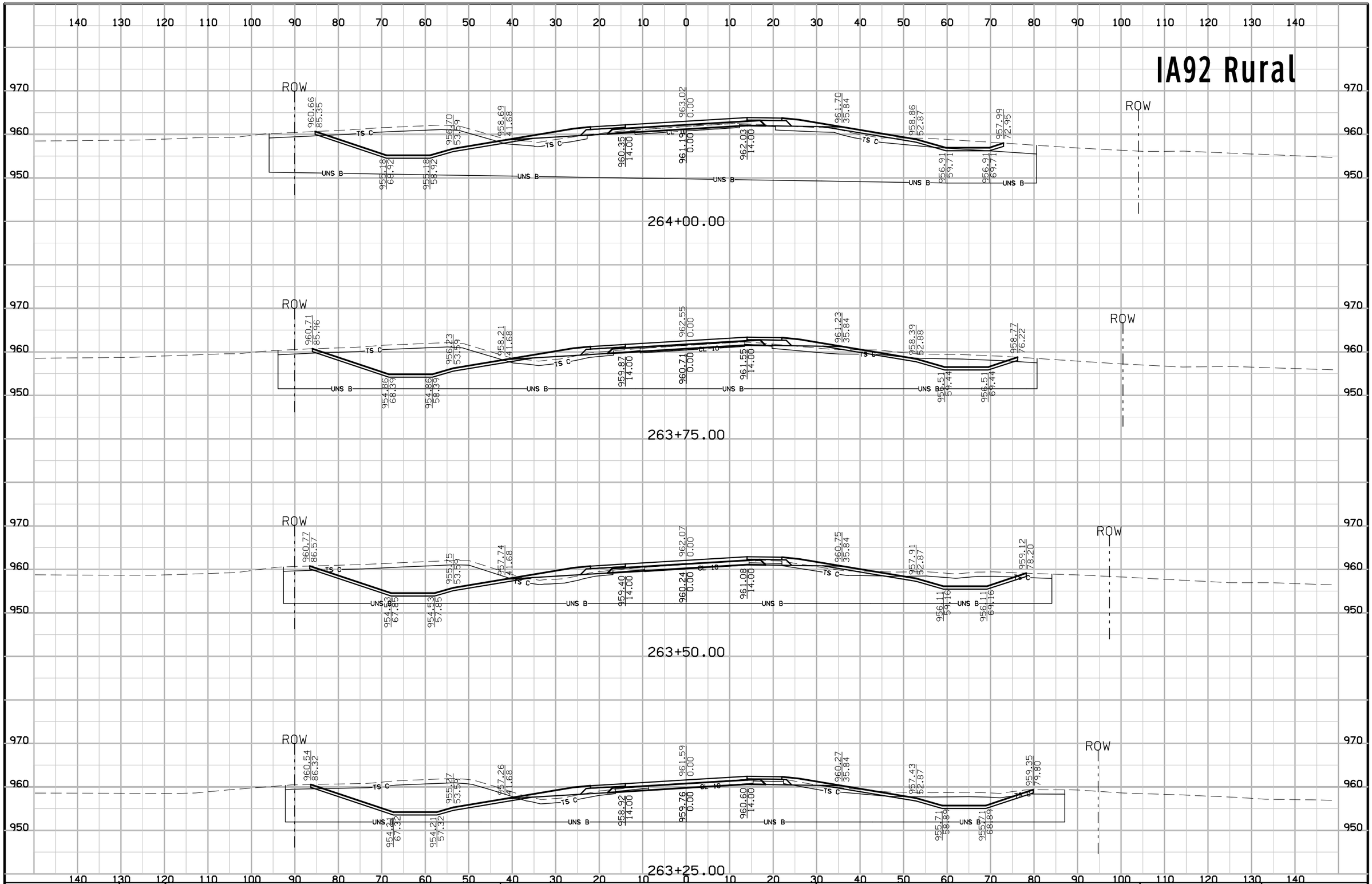

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.13

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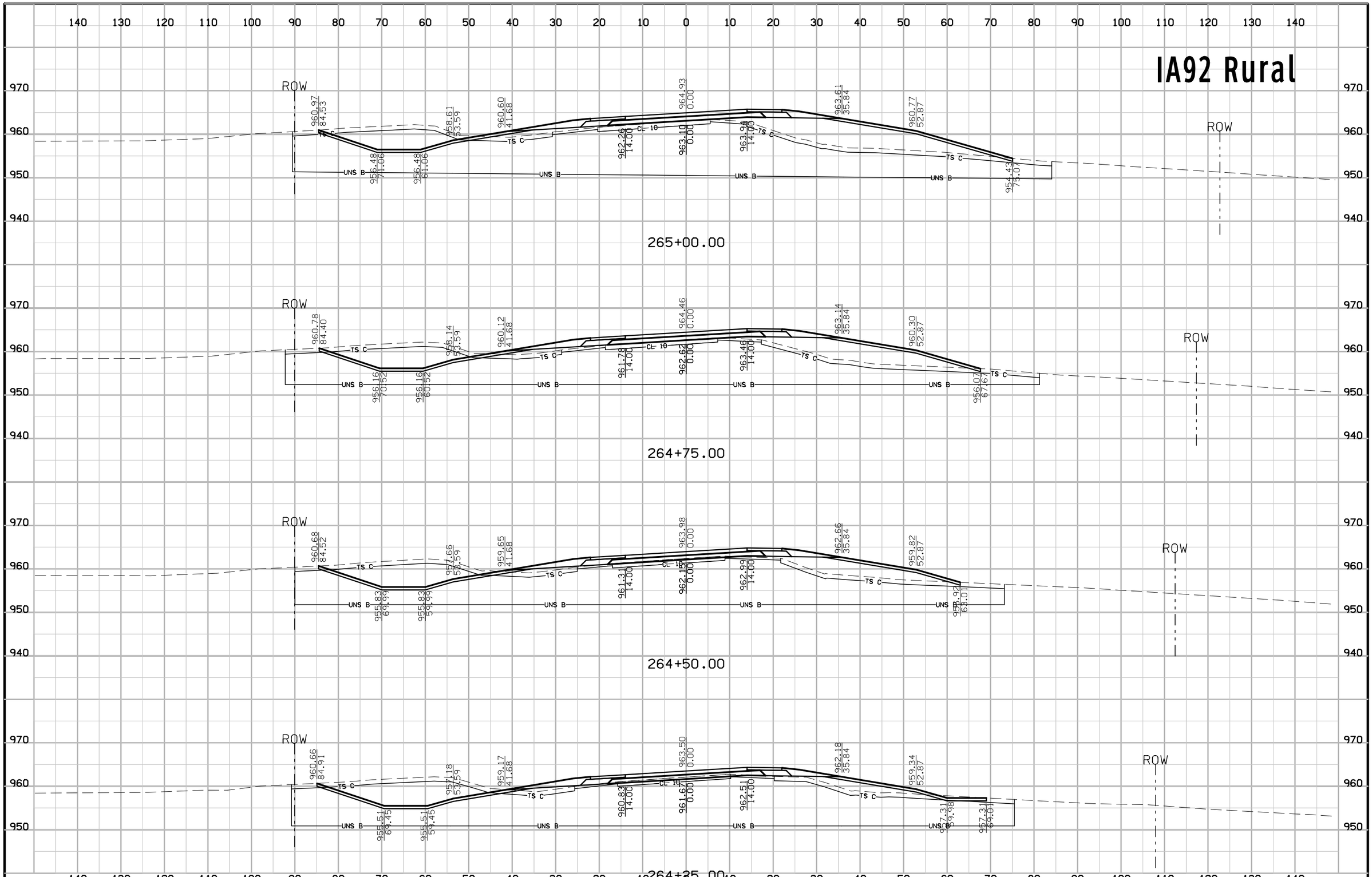
IA92 Rural



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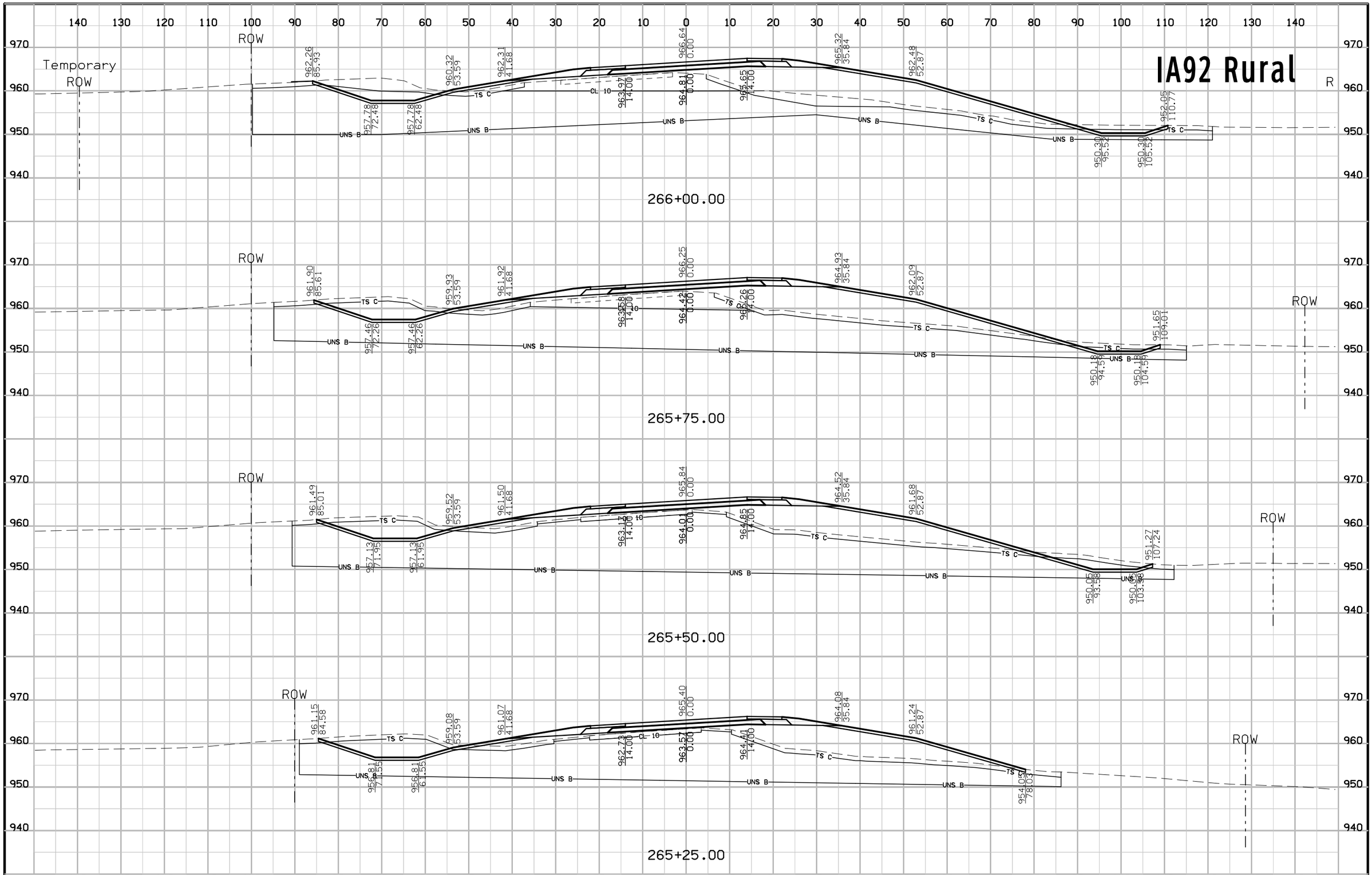

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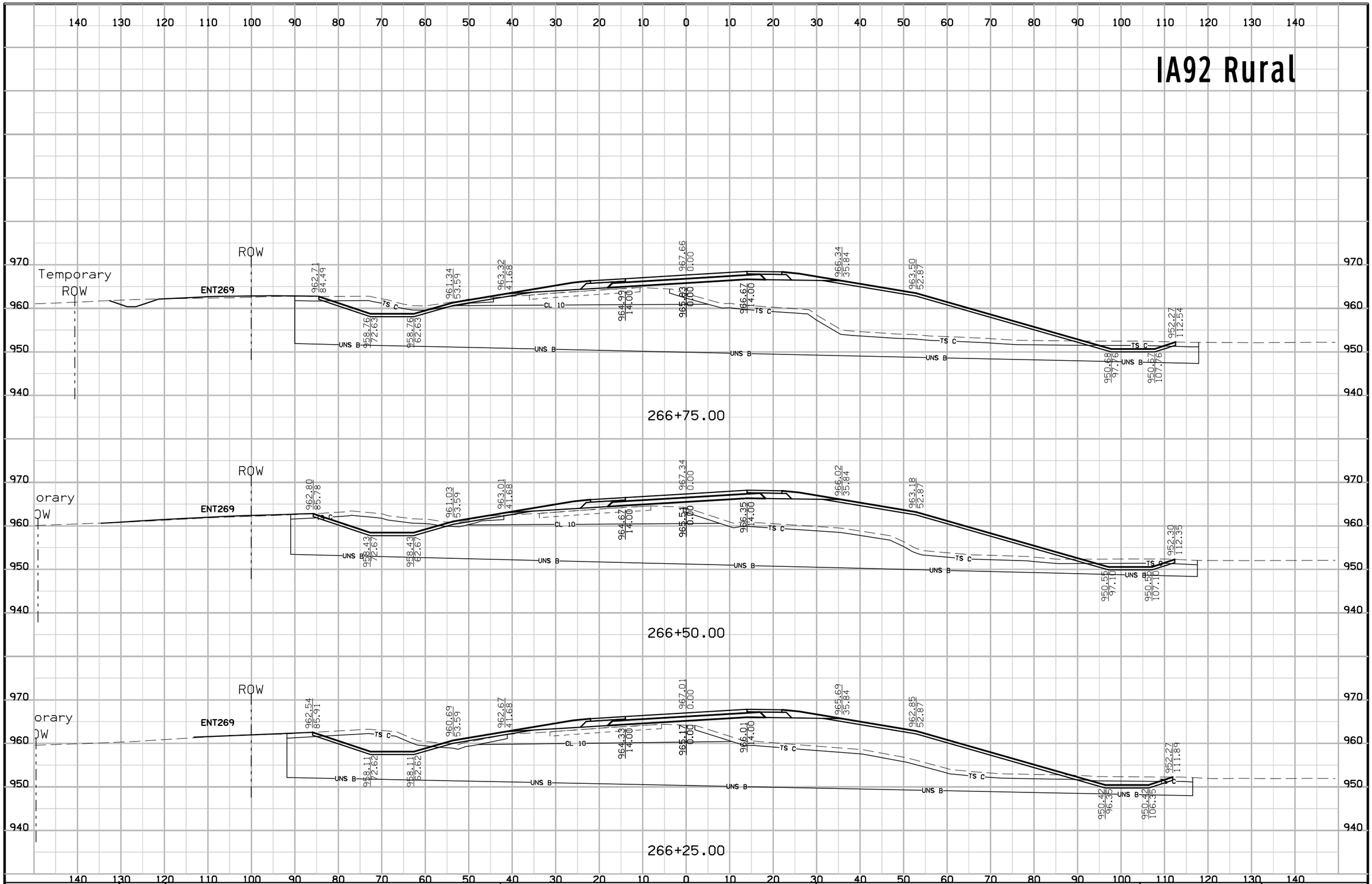

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.16

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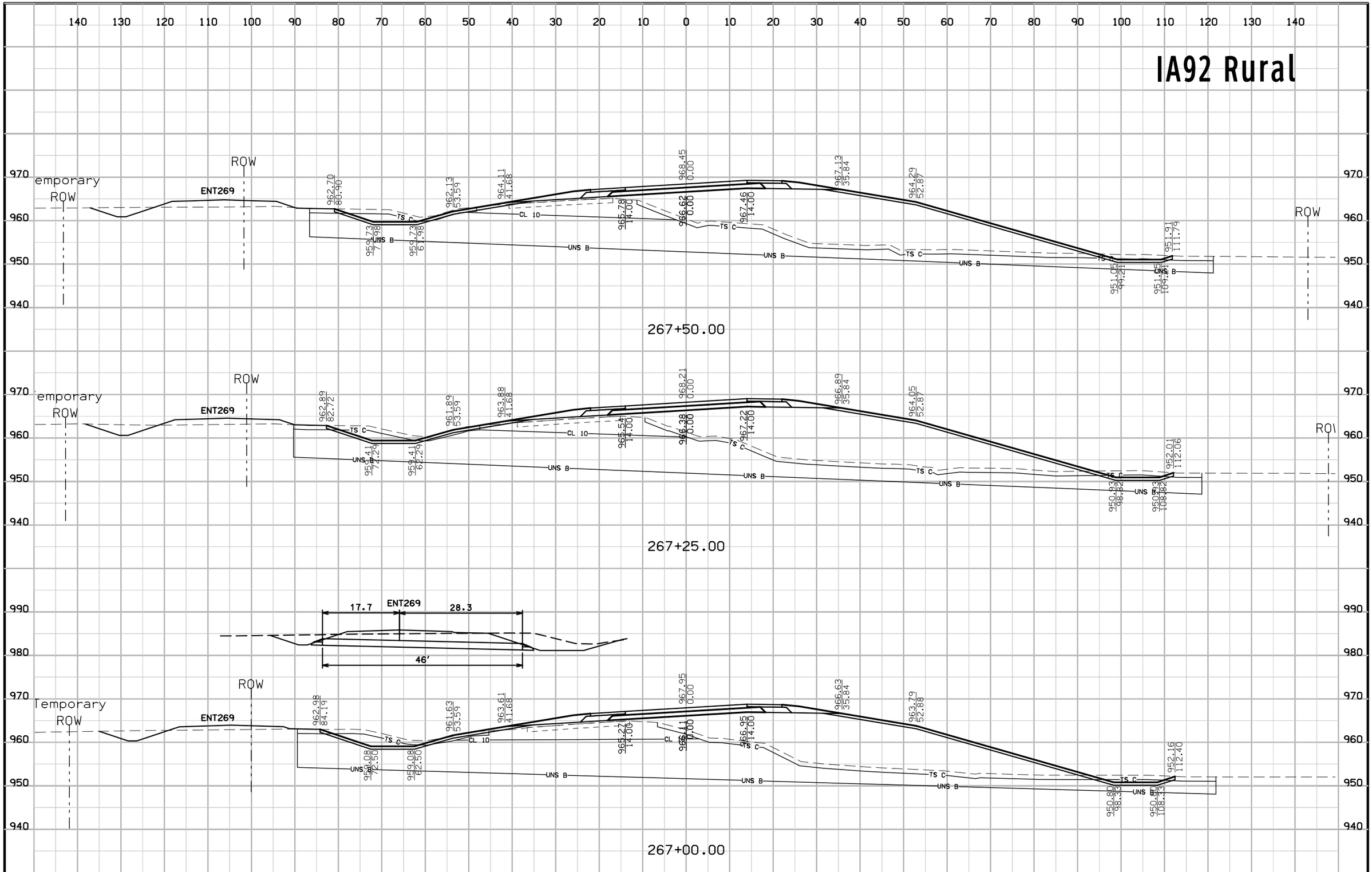
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.17

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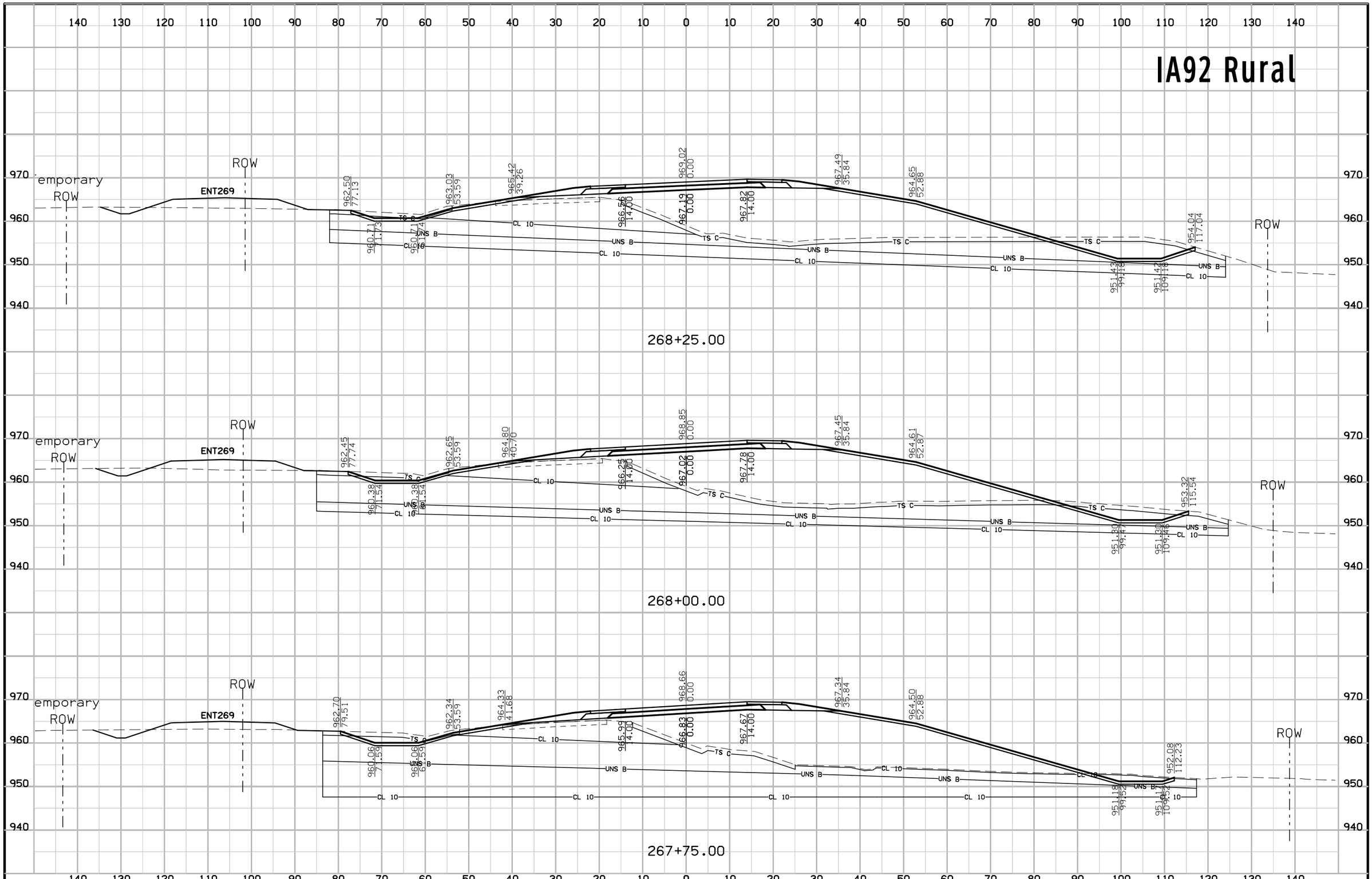
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.18

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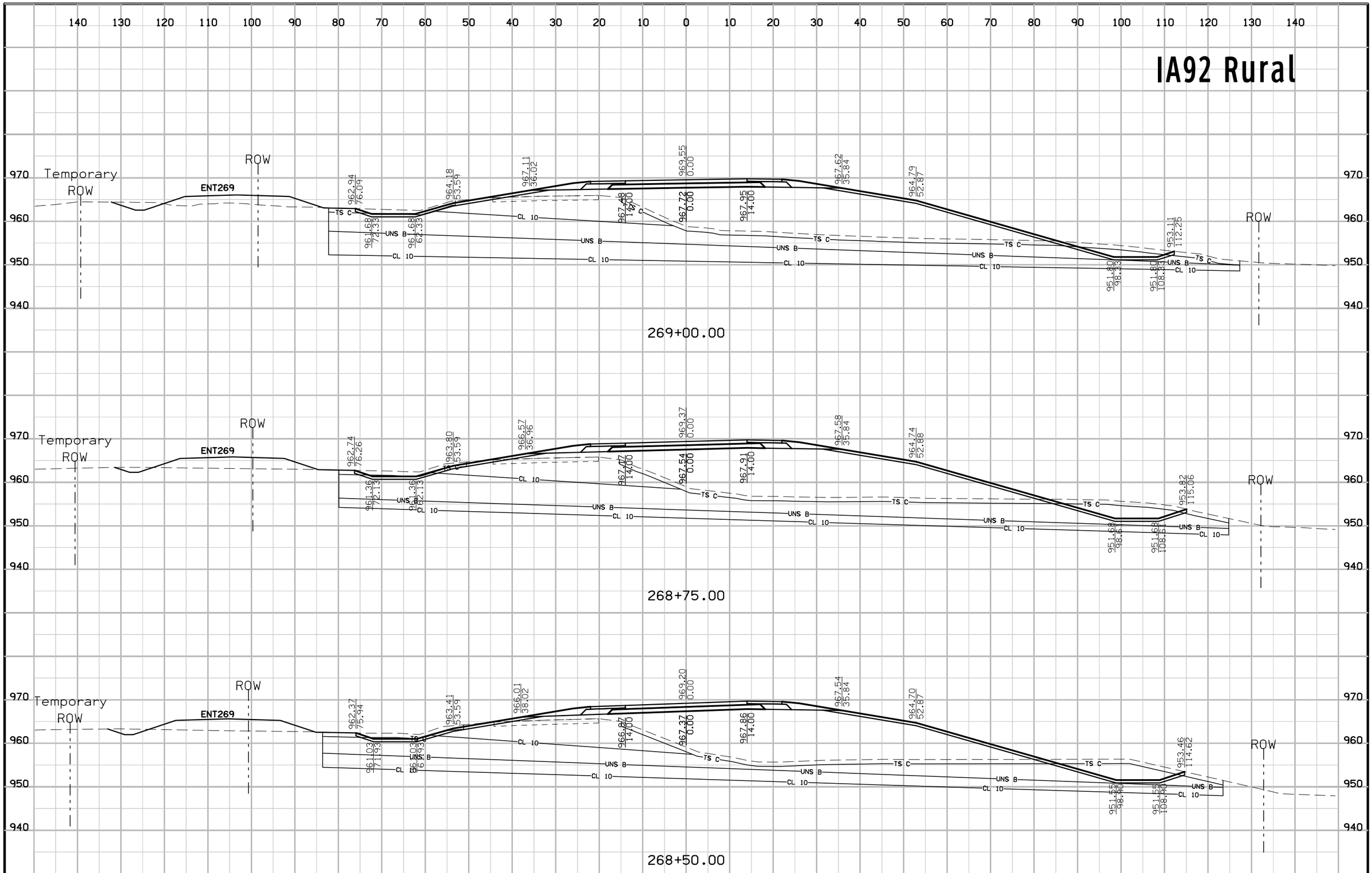
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.19

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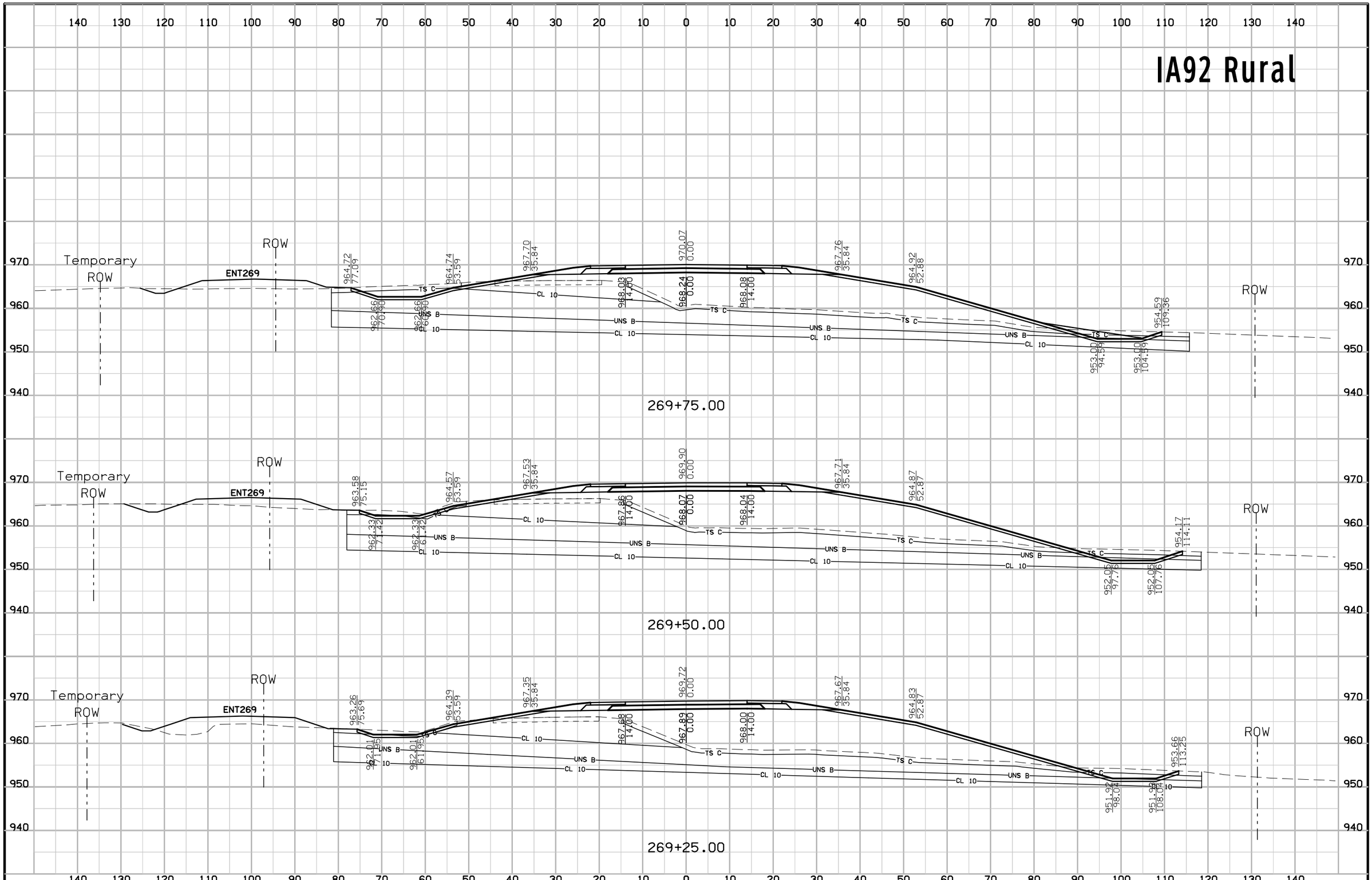
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.20

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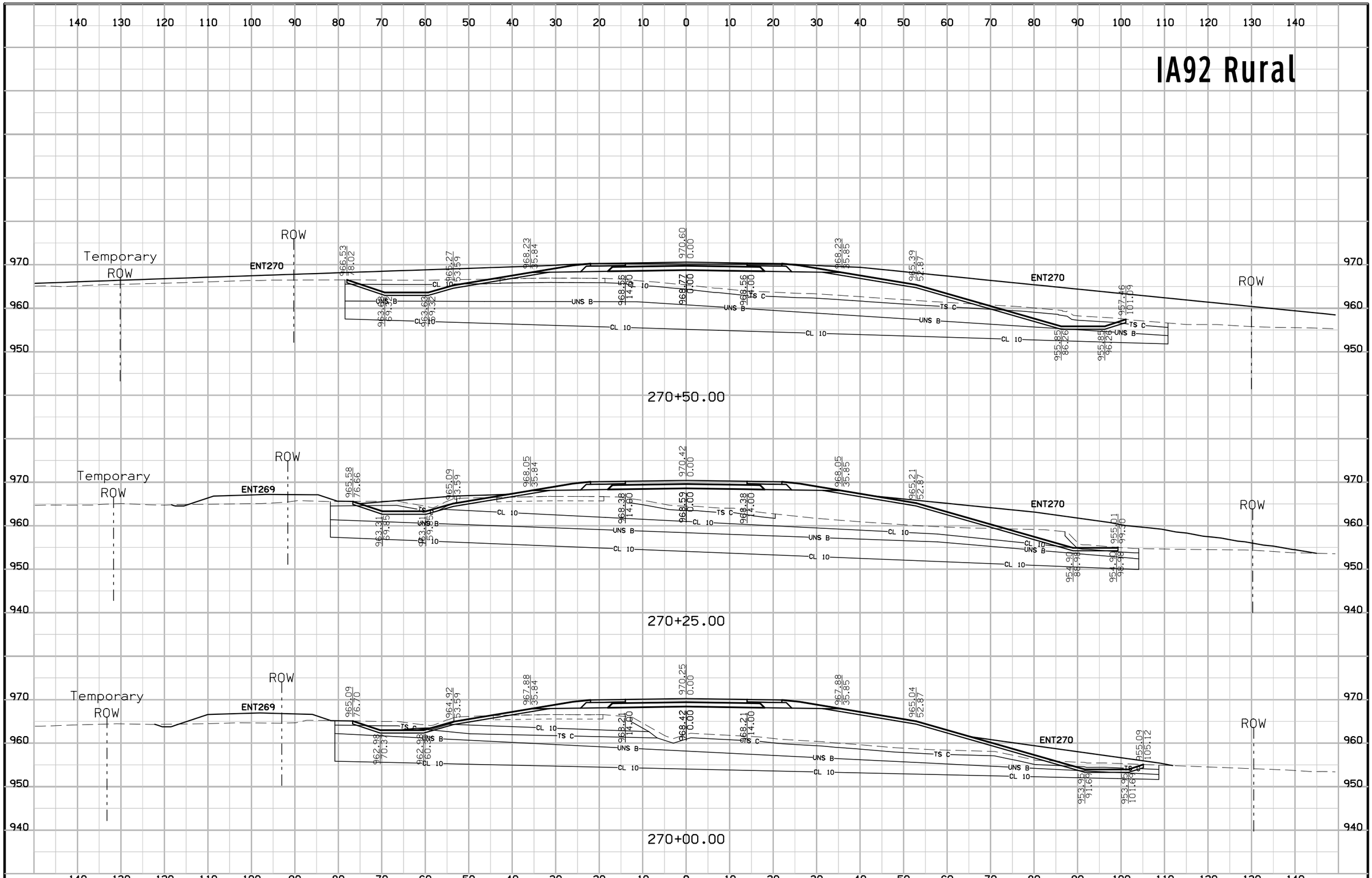

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.21

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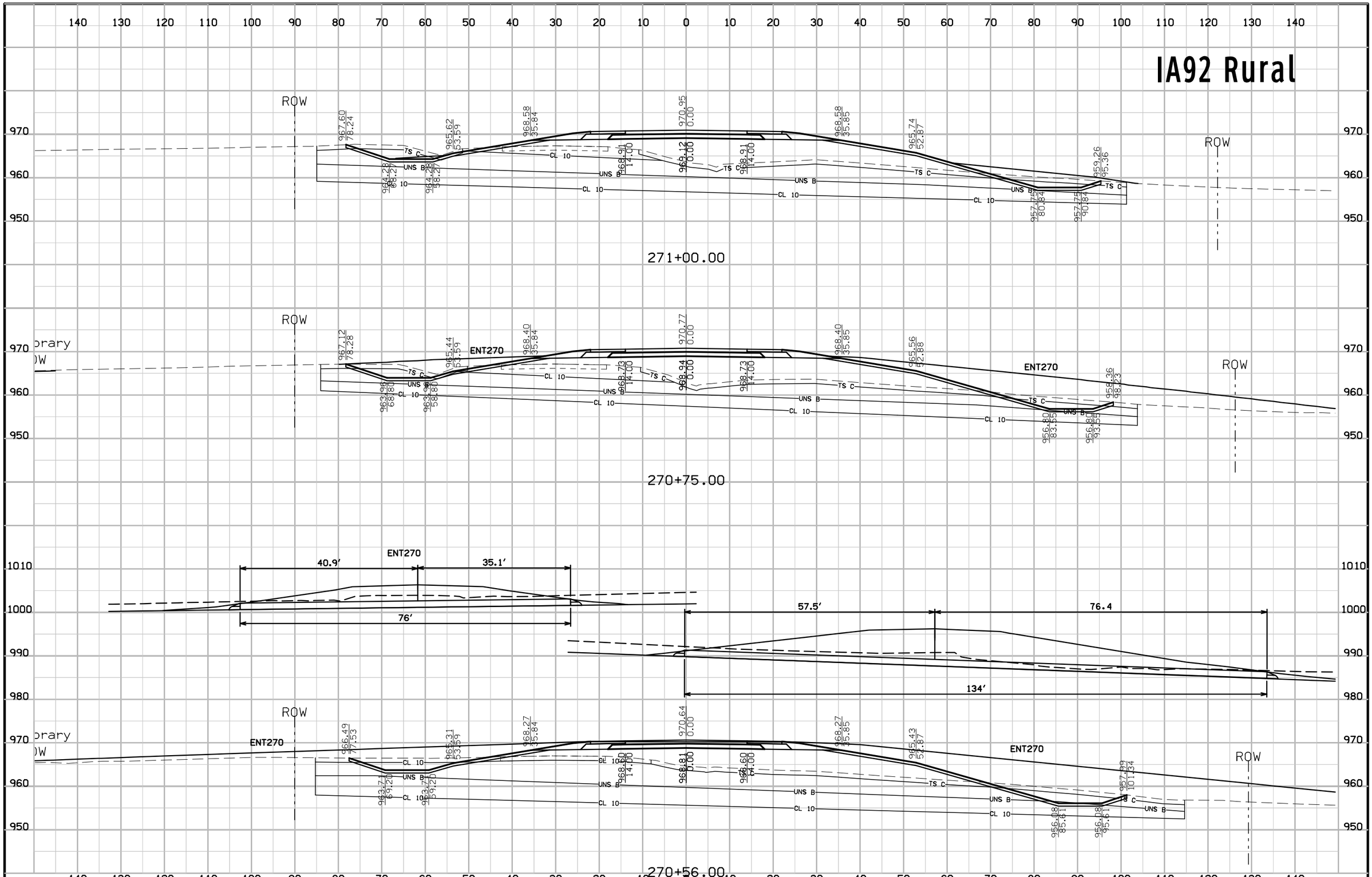

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.22

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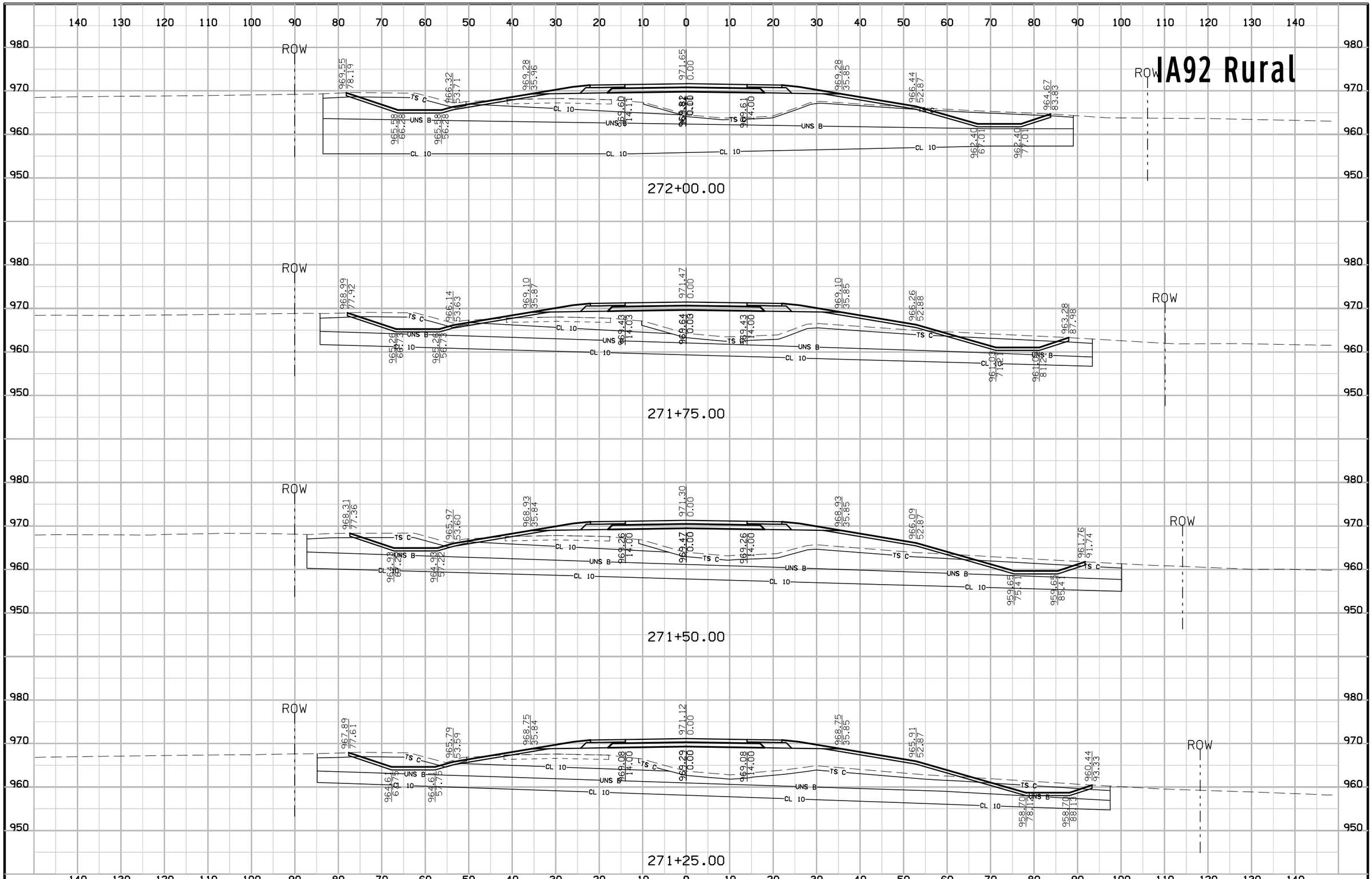

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.23

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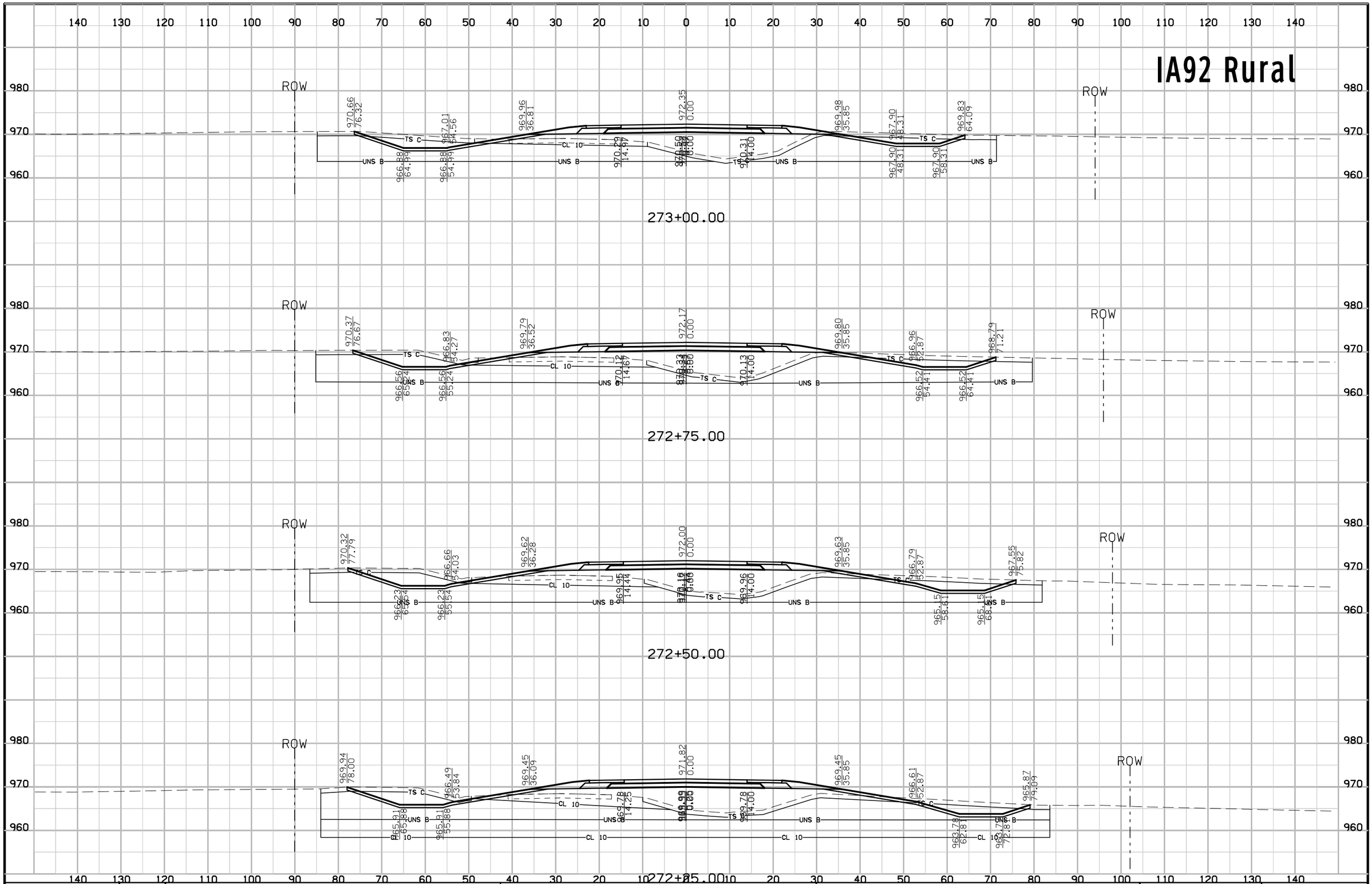

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.24

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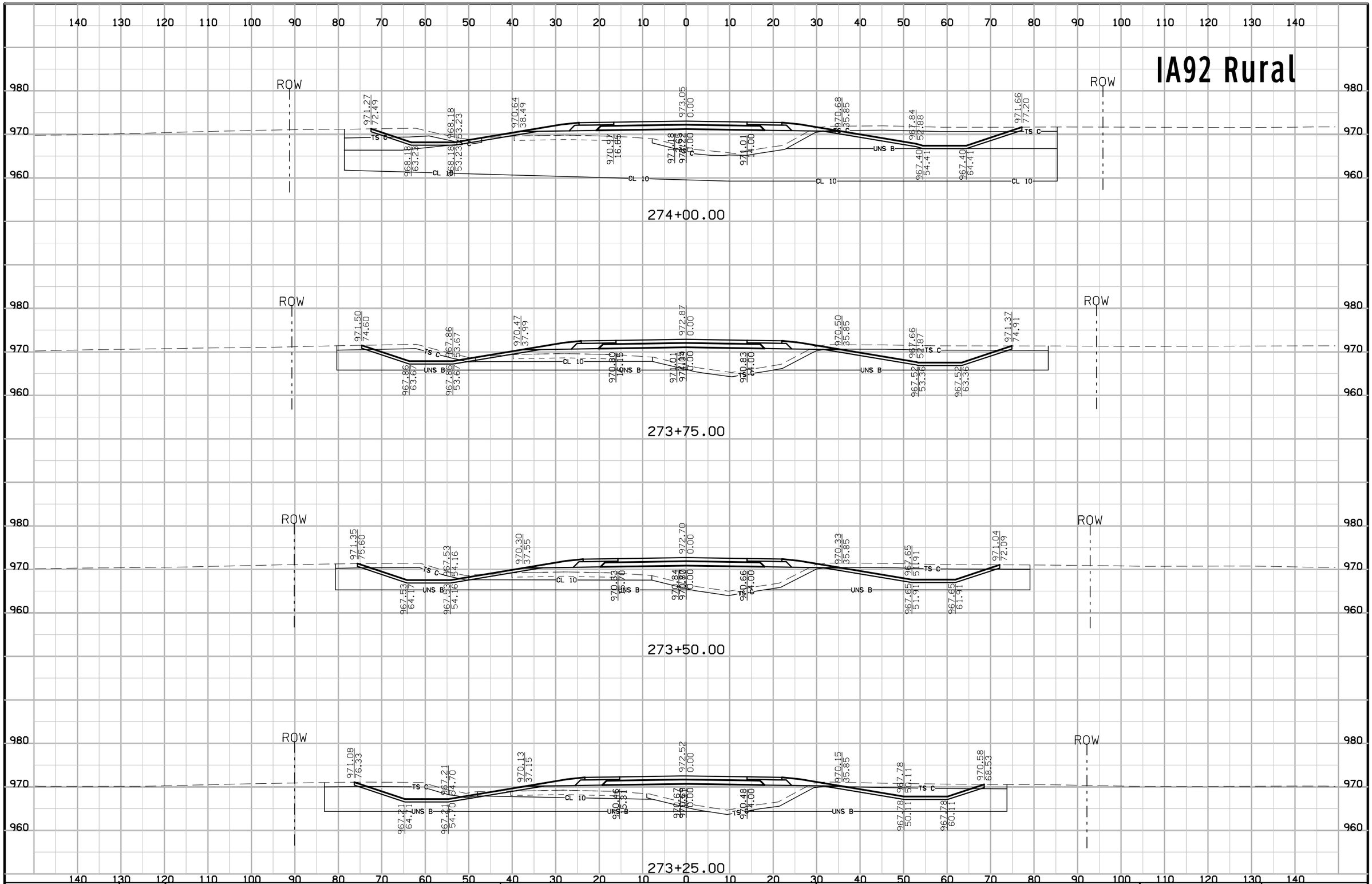
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.25

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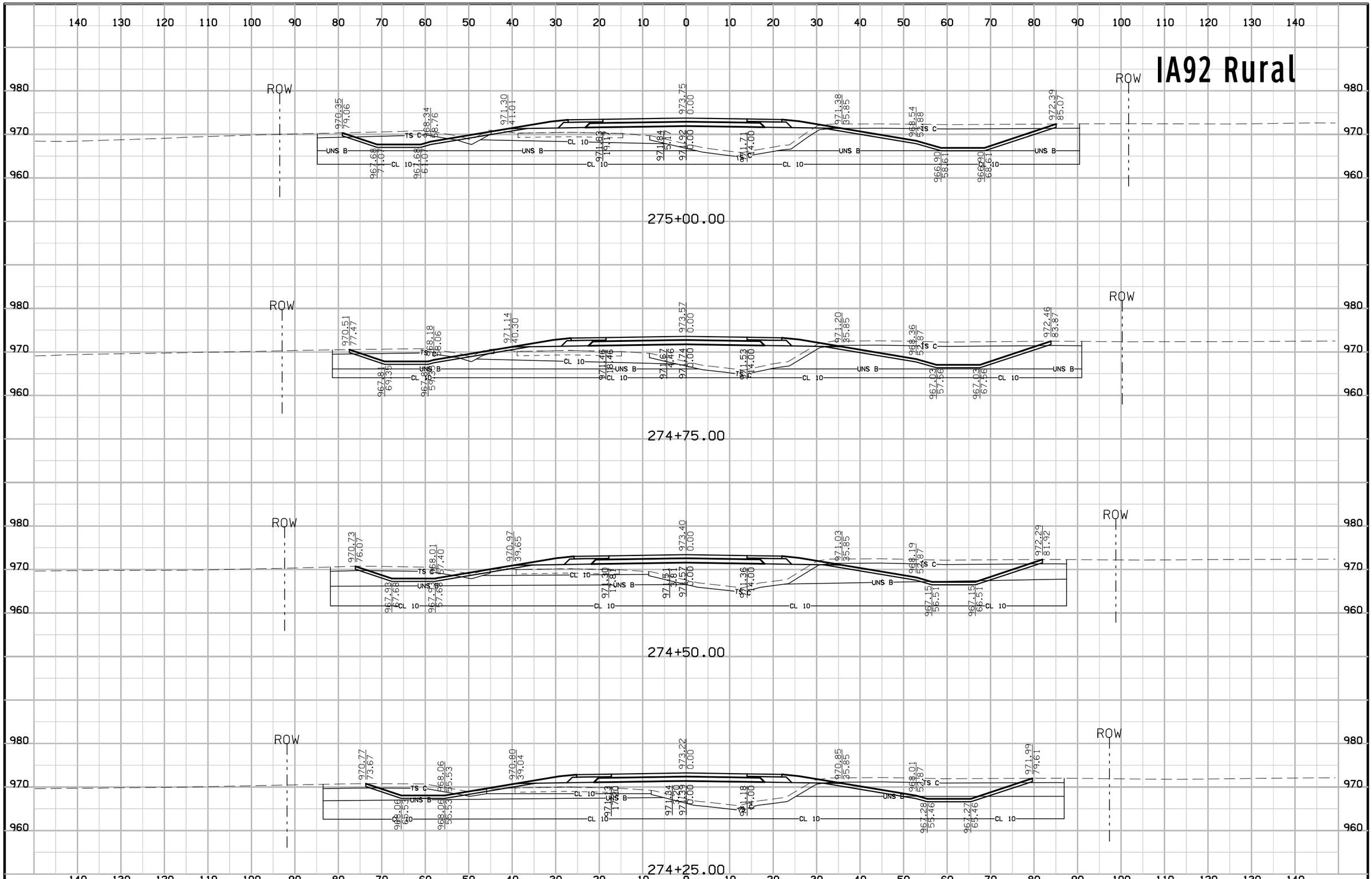

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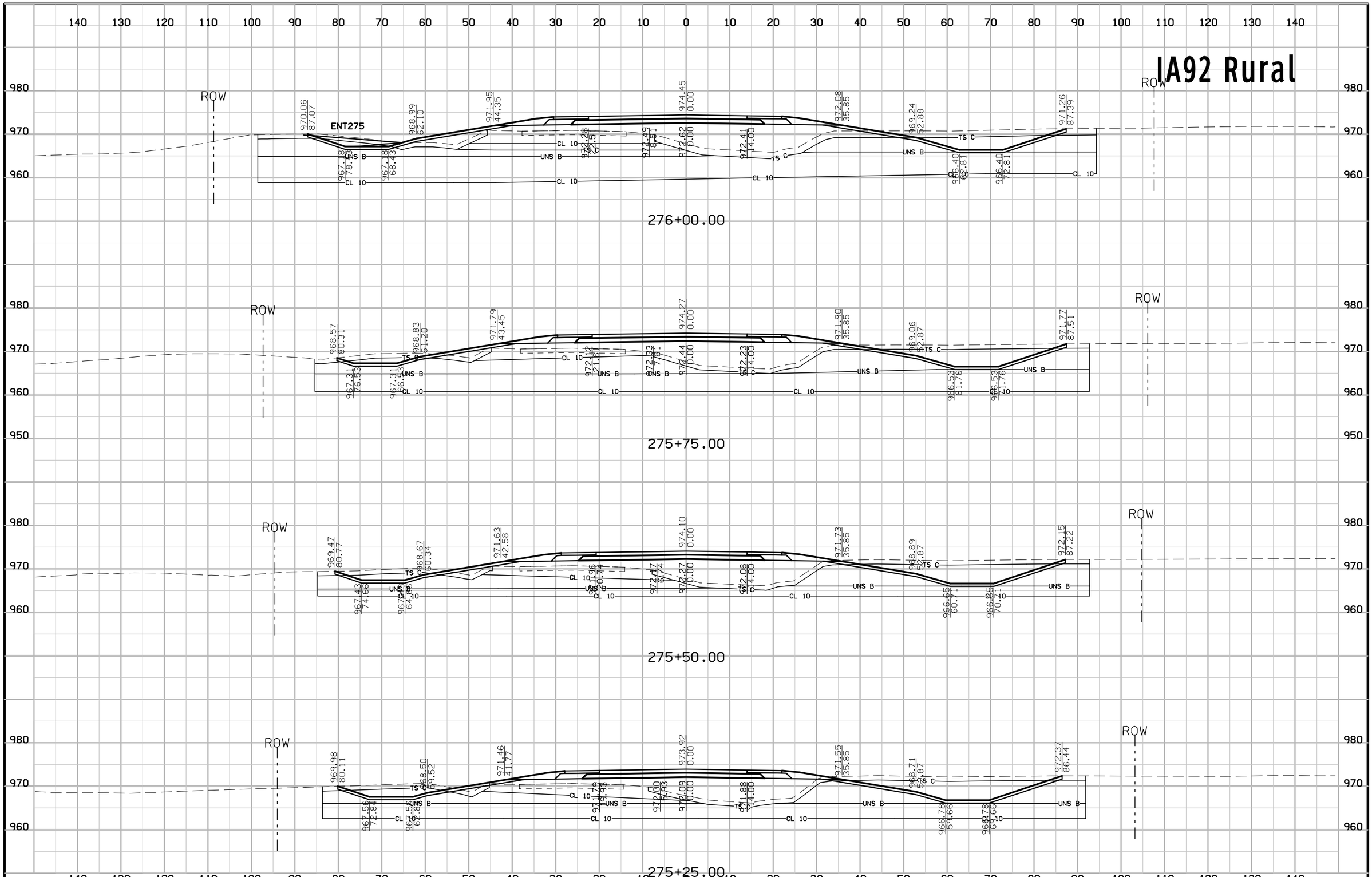
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.27

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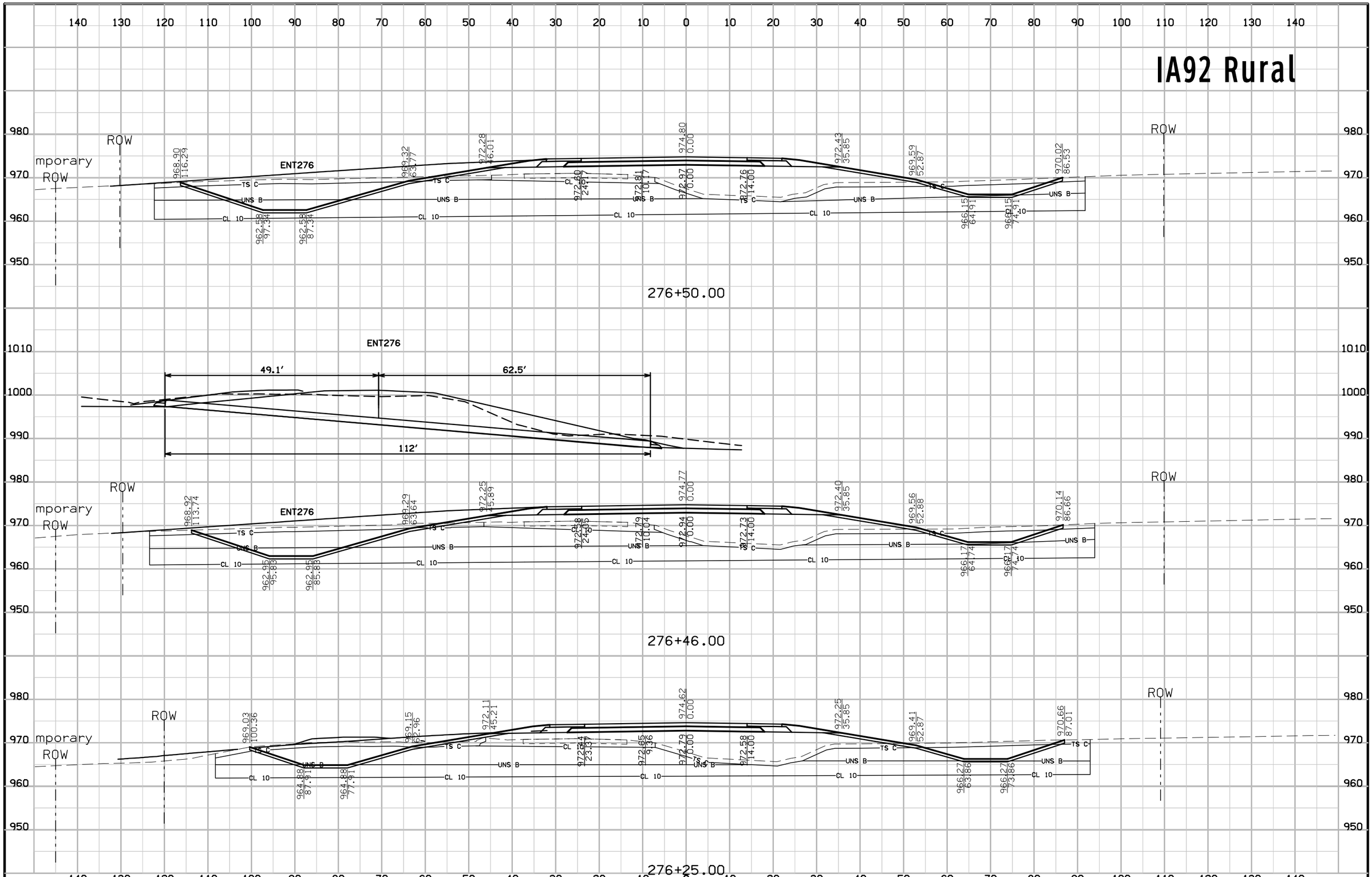
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.28

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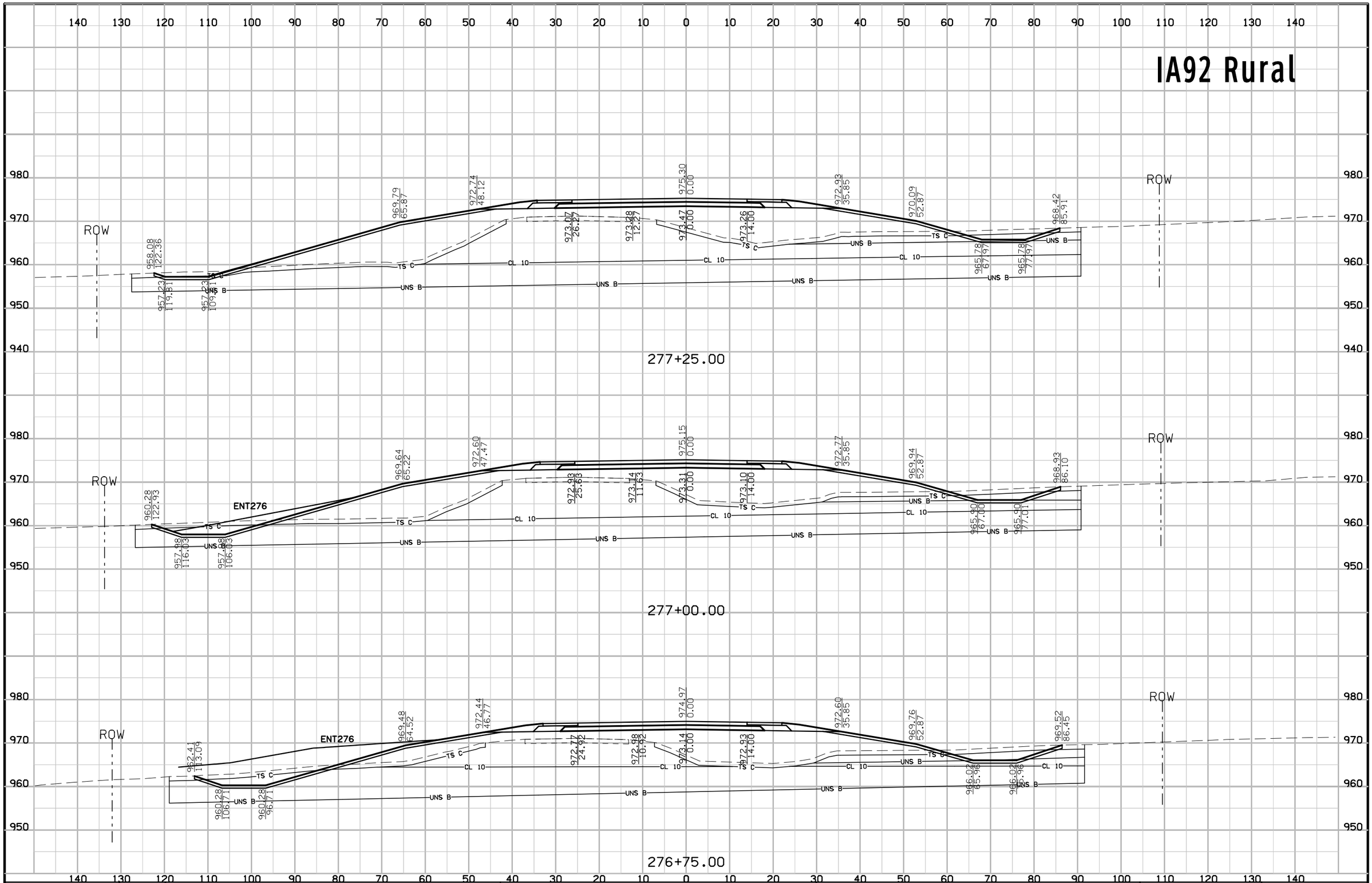
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.29

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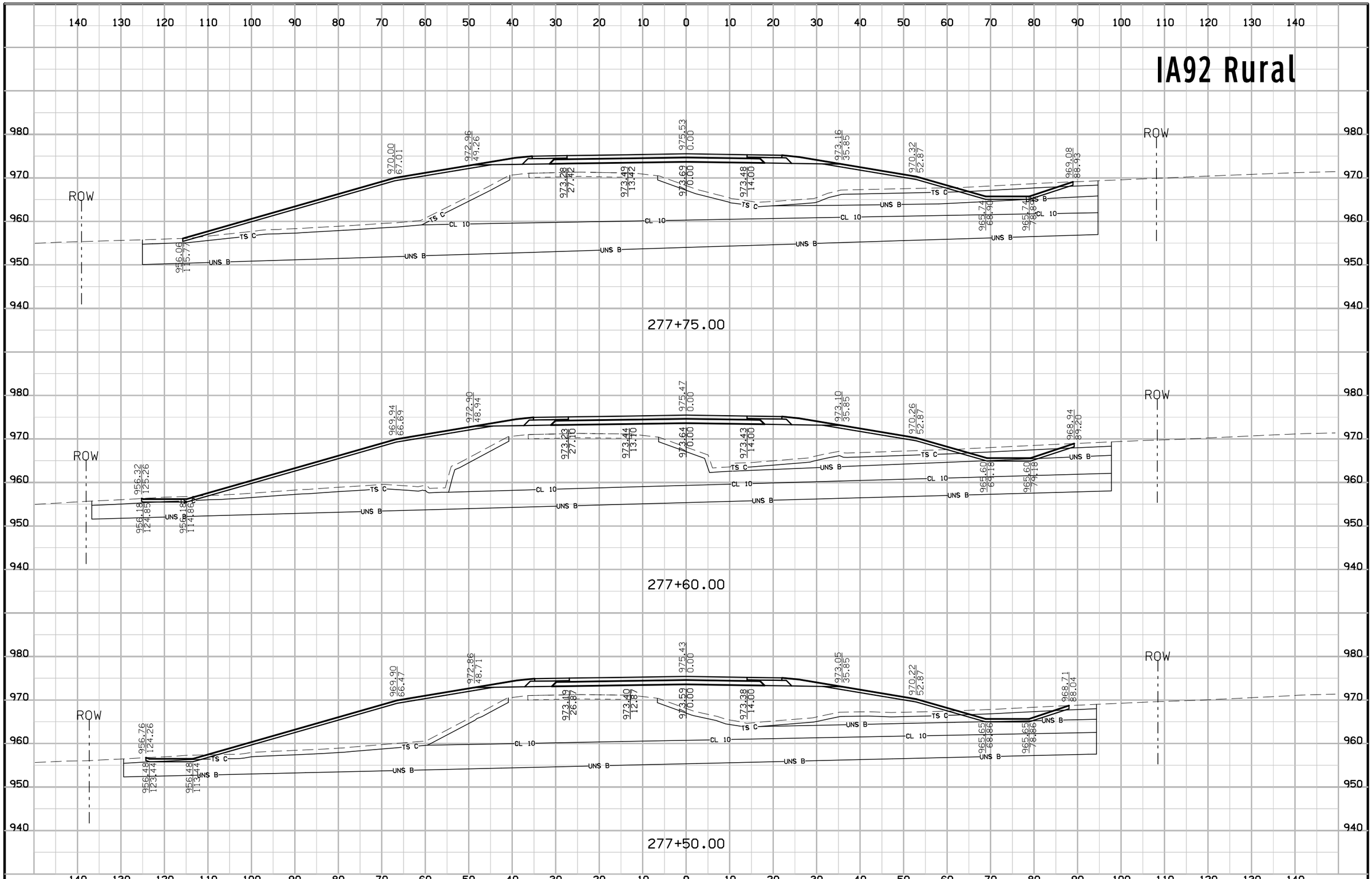

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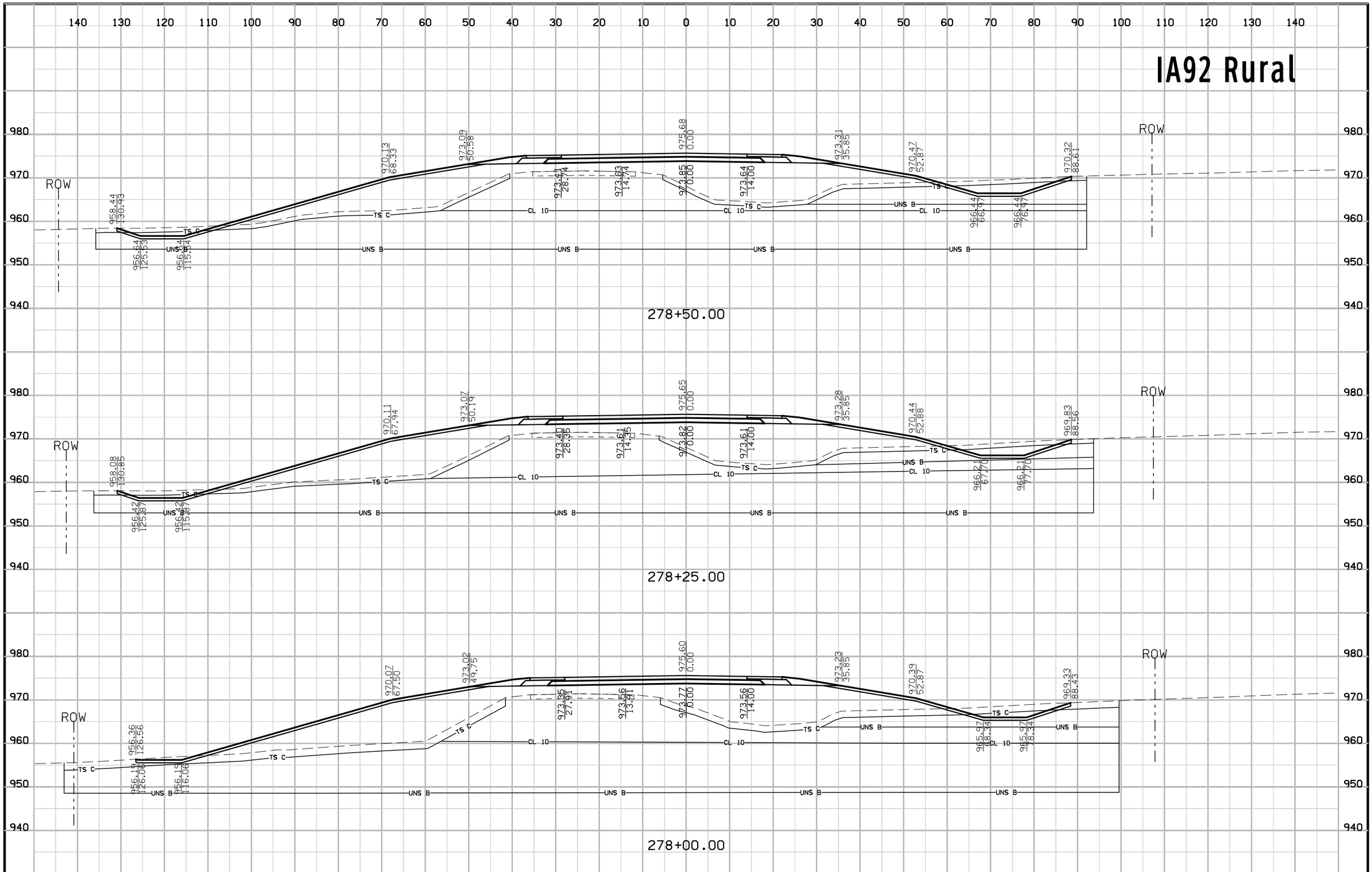
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.31

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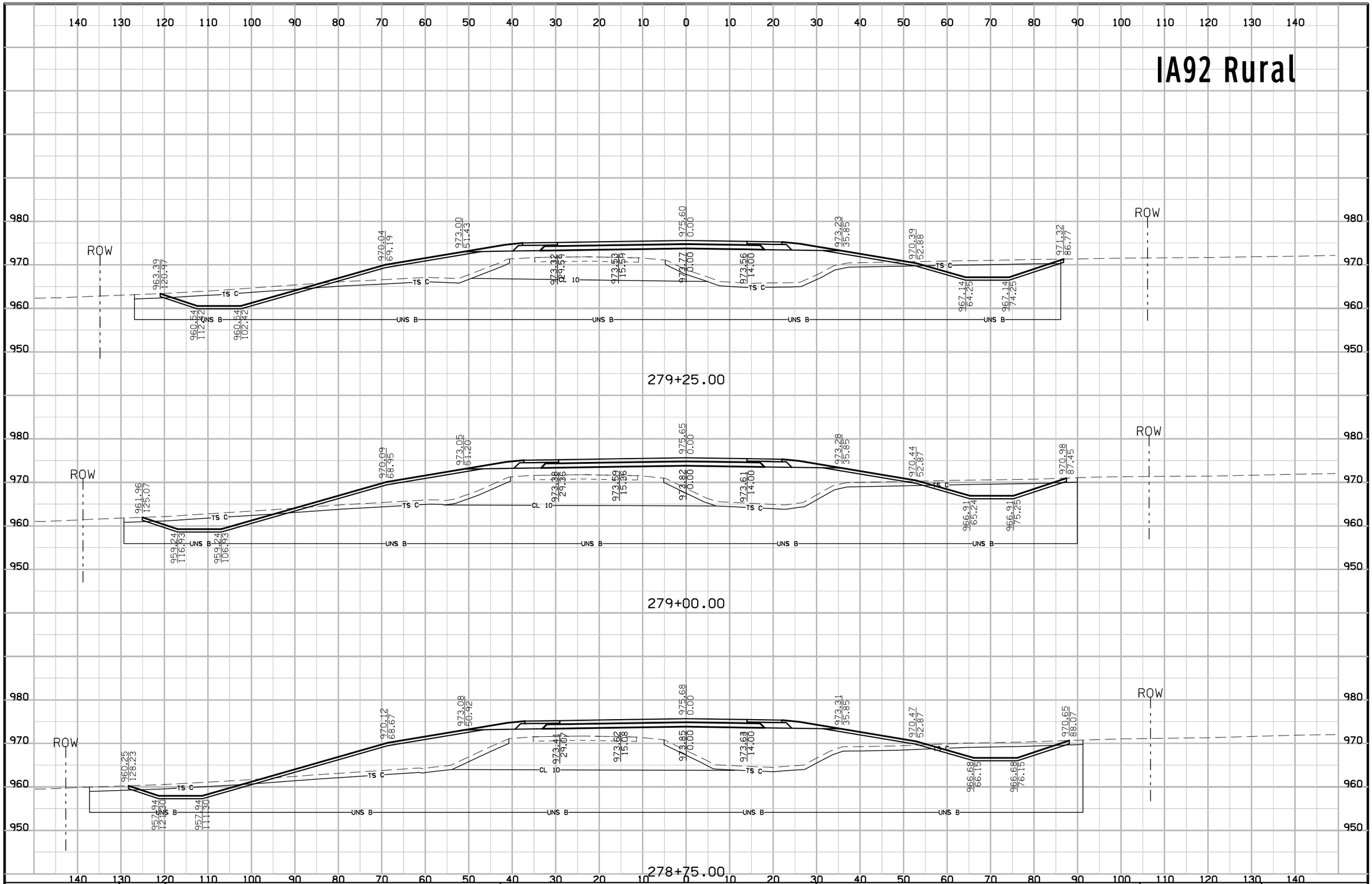
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.32

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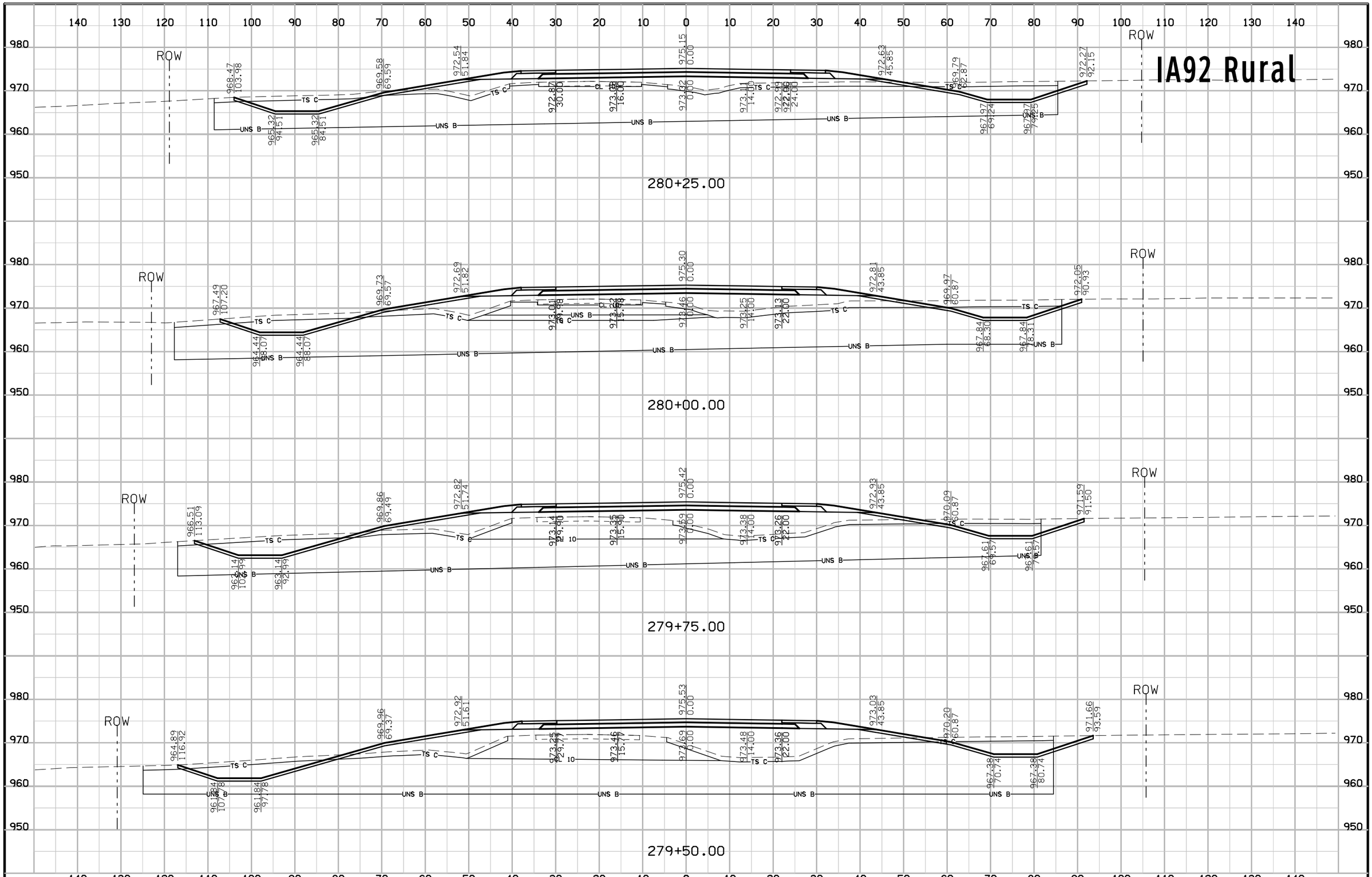

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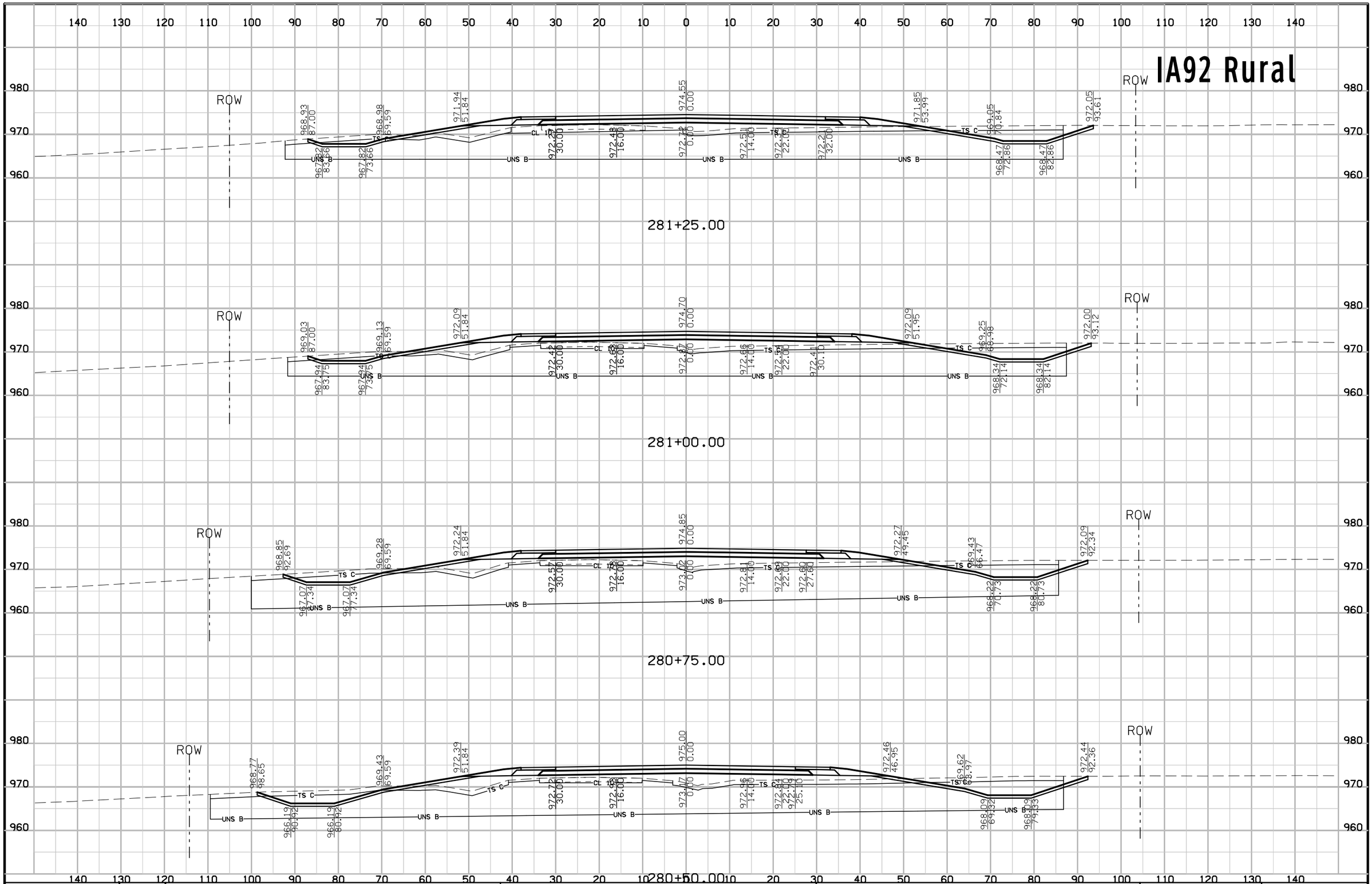

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.34

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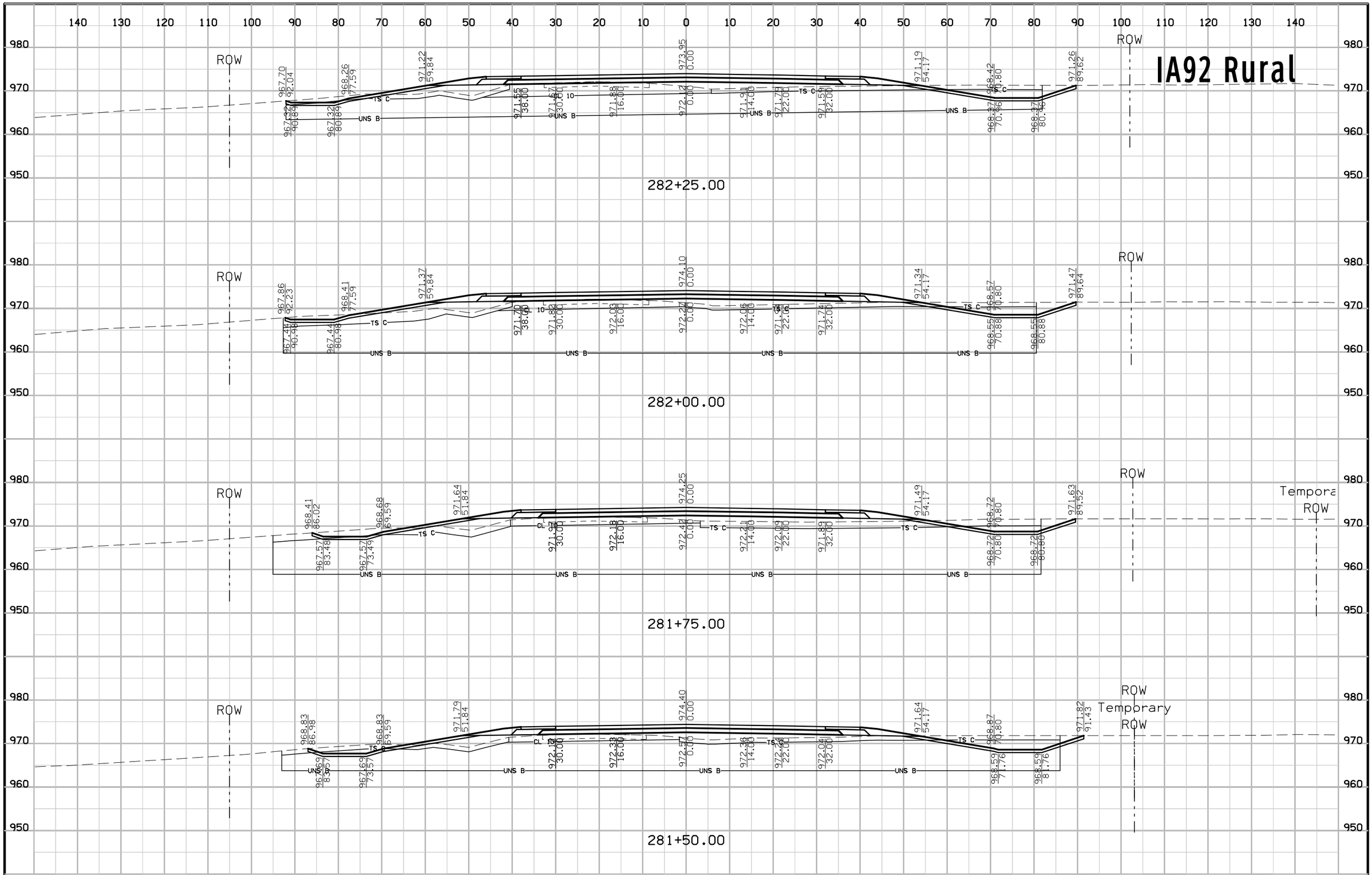

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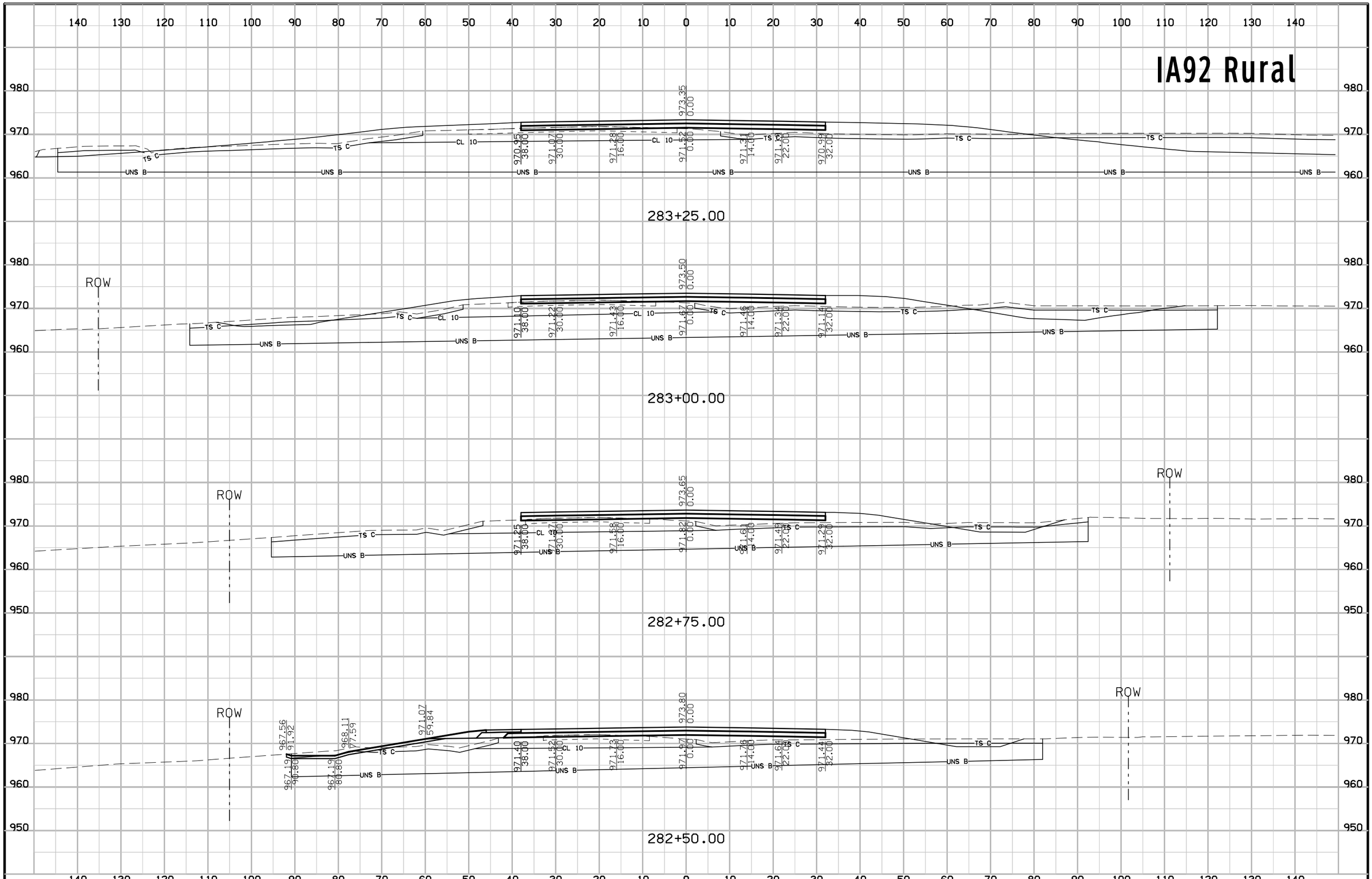
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.36

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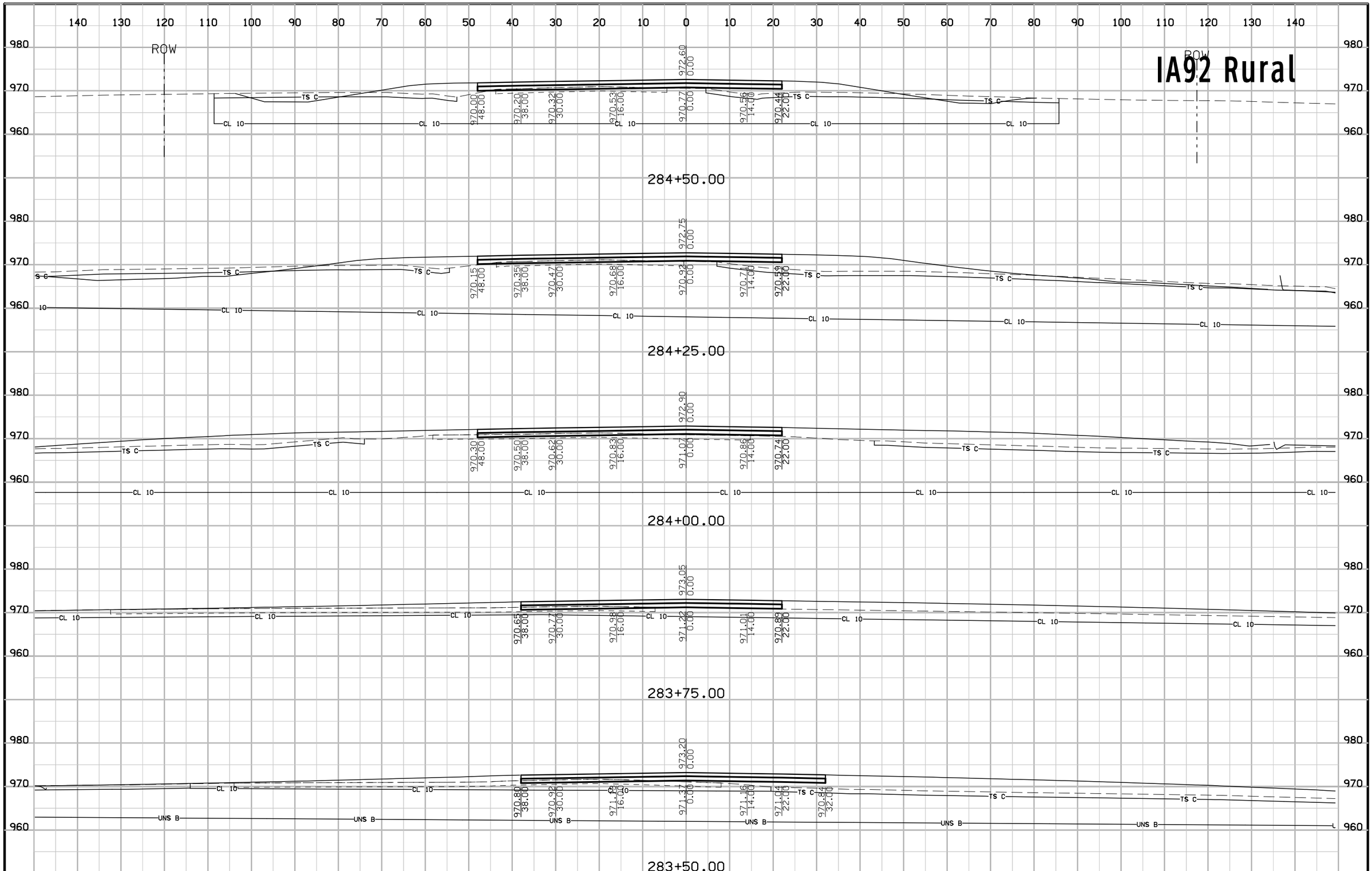

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.37

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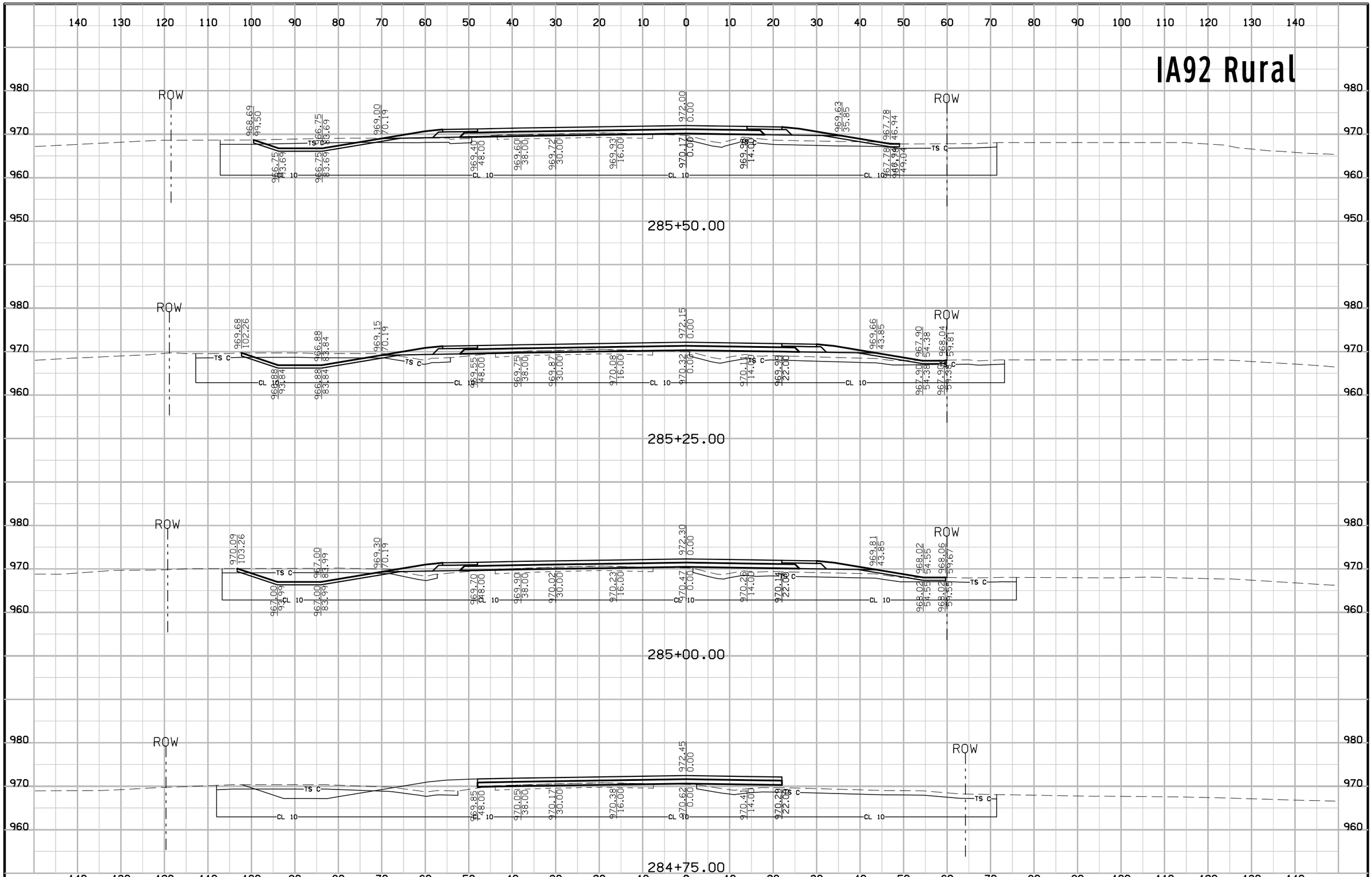

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.38

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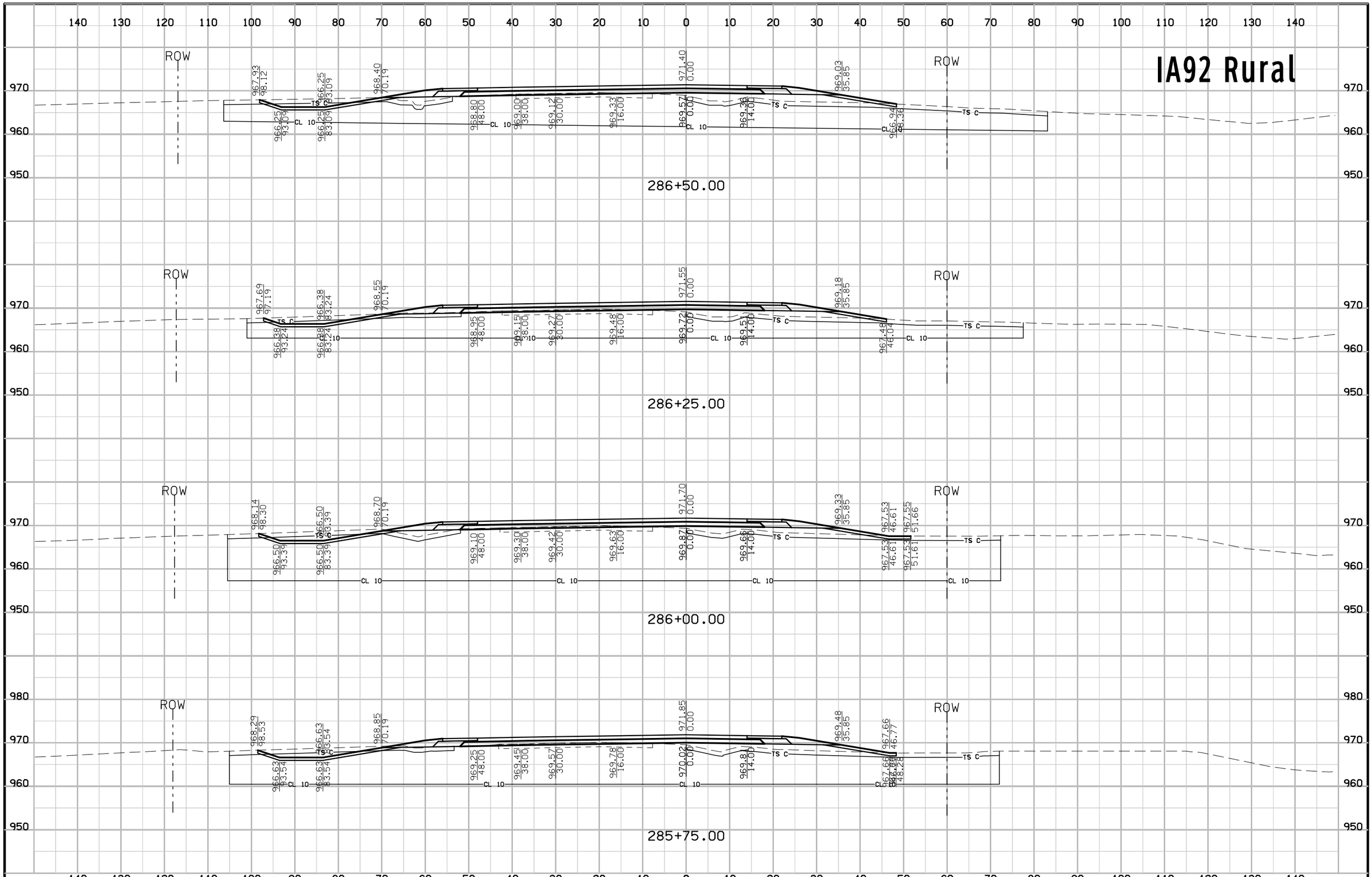

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.39

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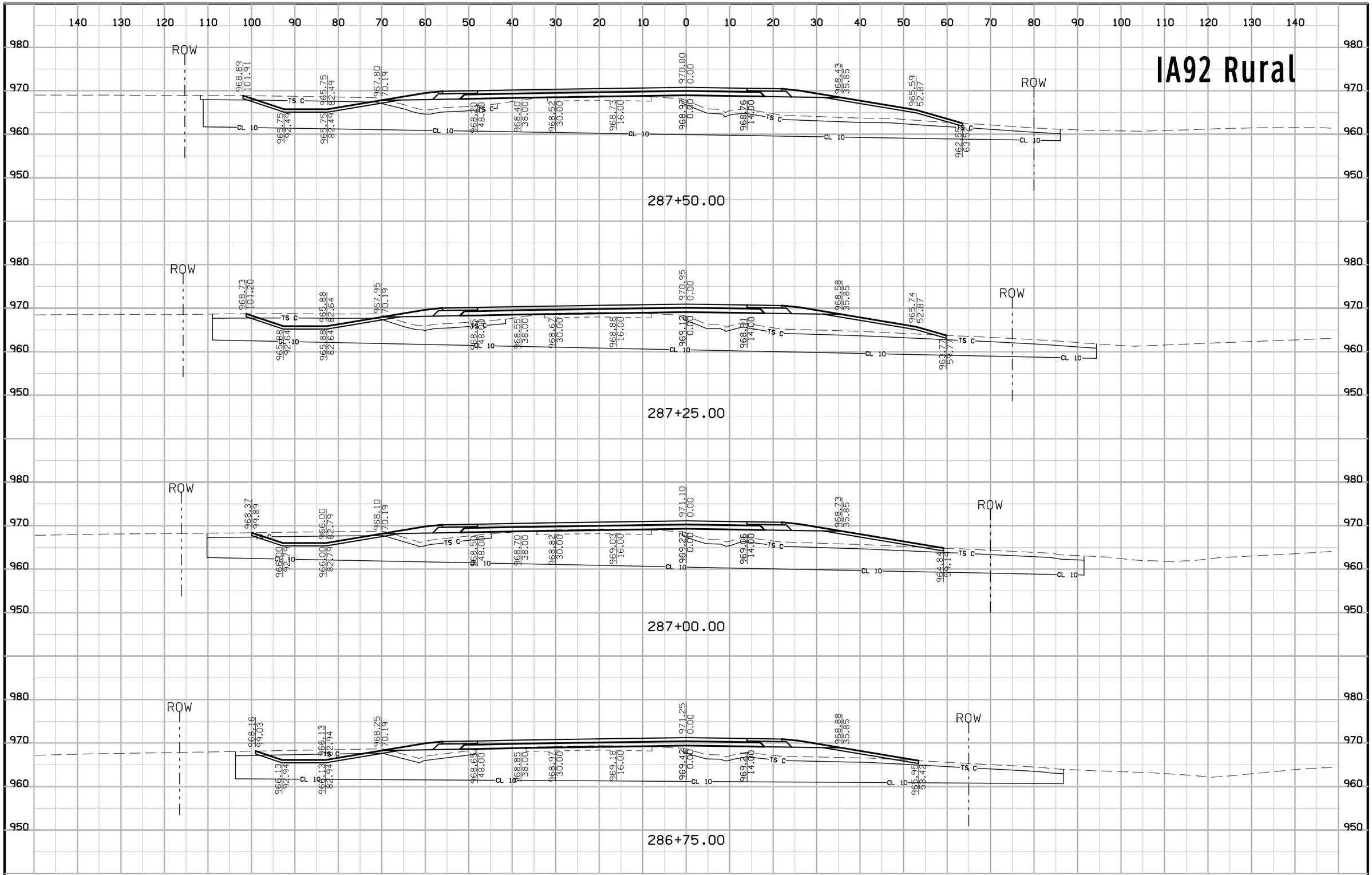

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.40

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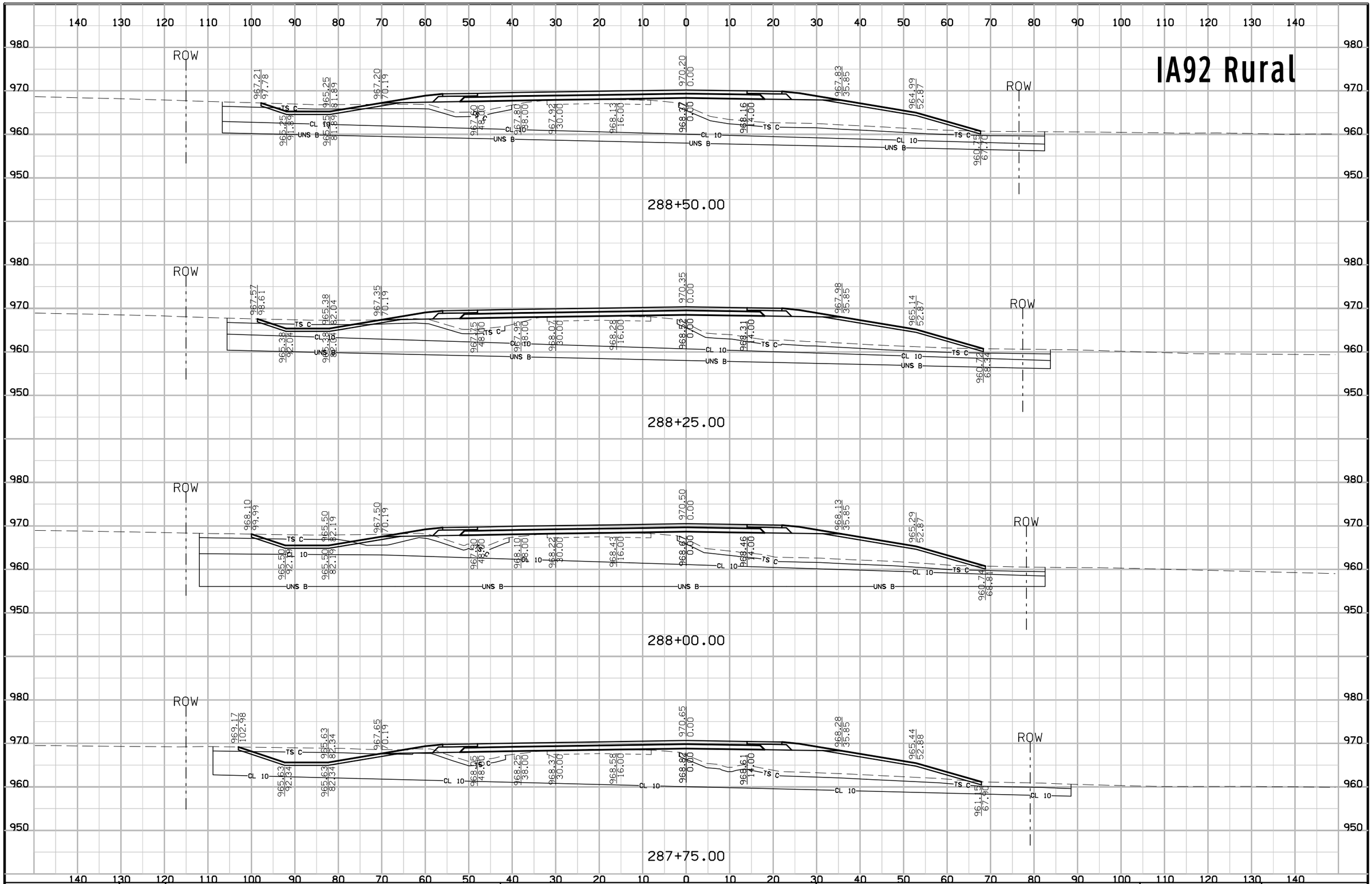

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.41

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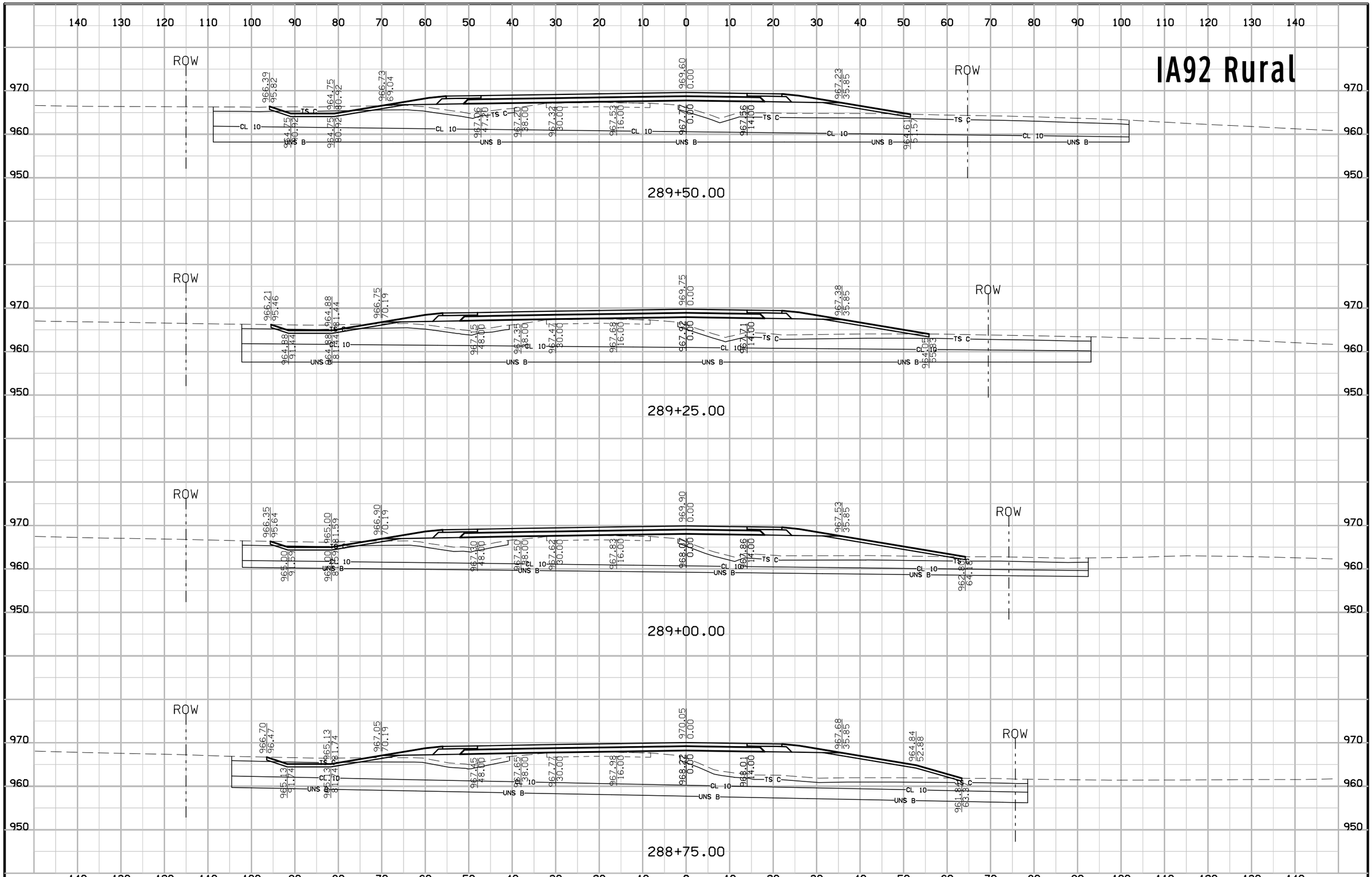

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.42

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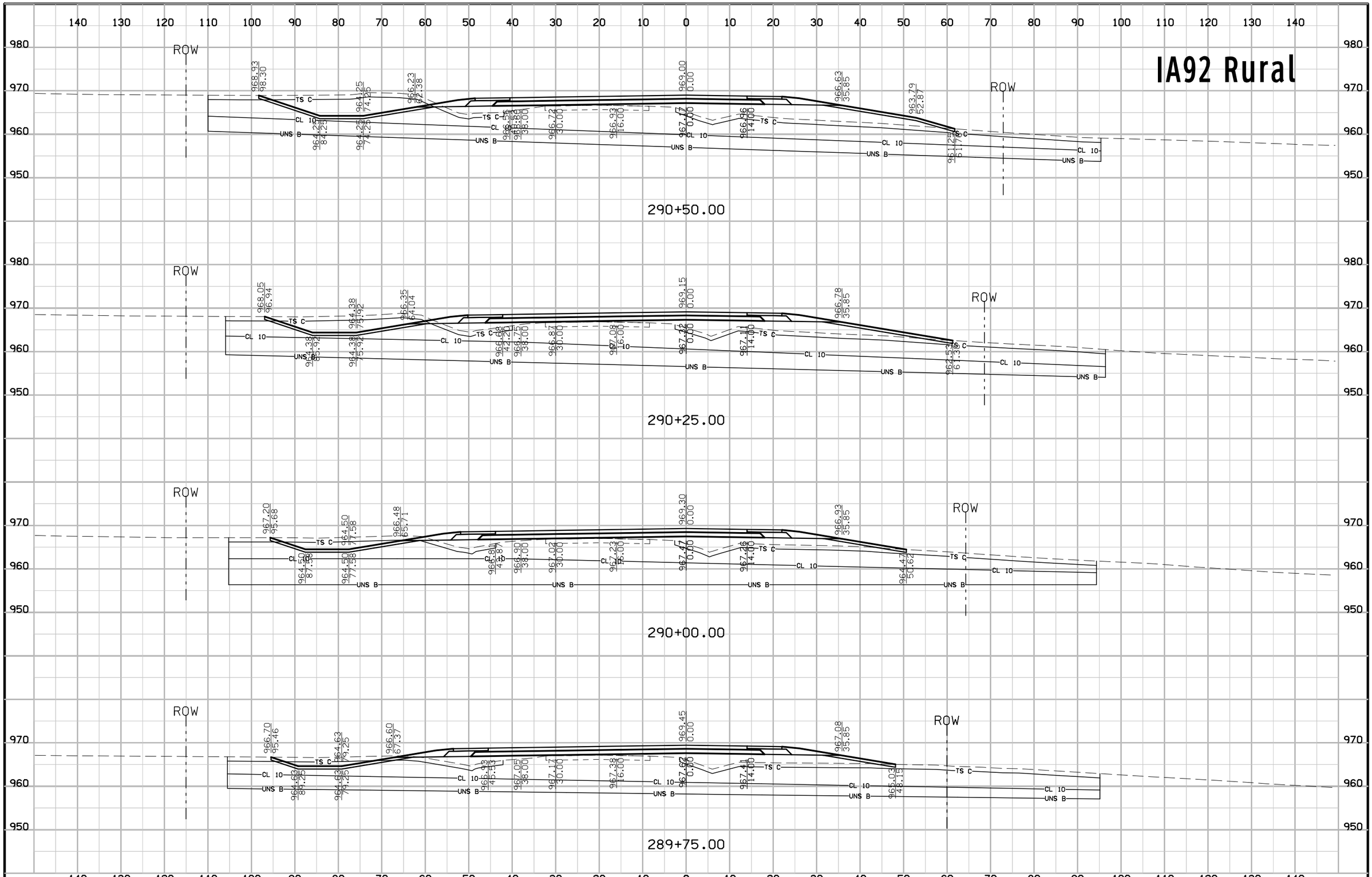

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.43

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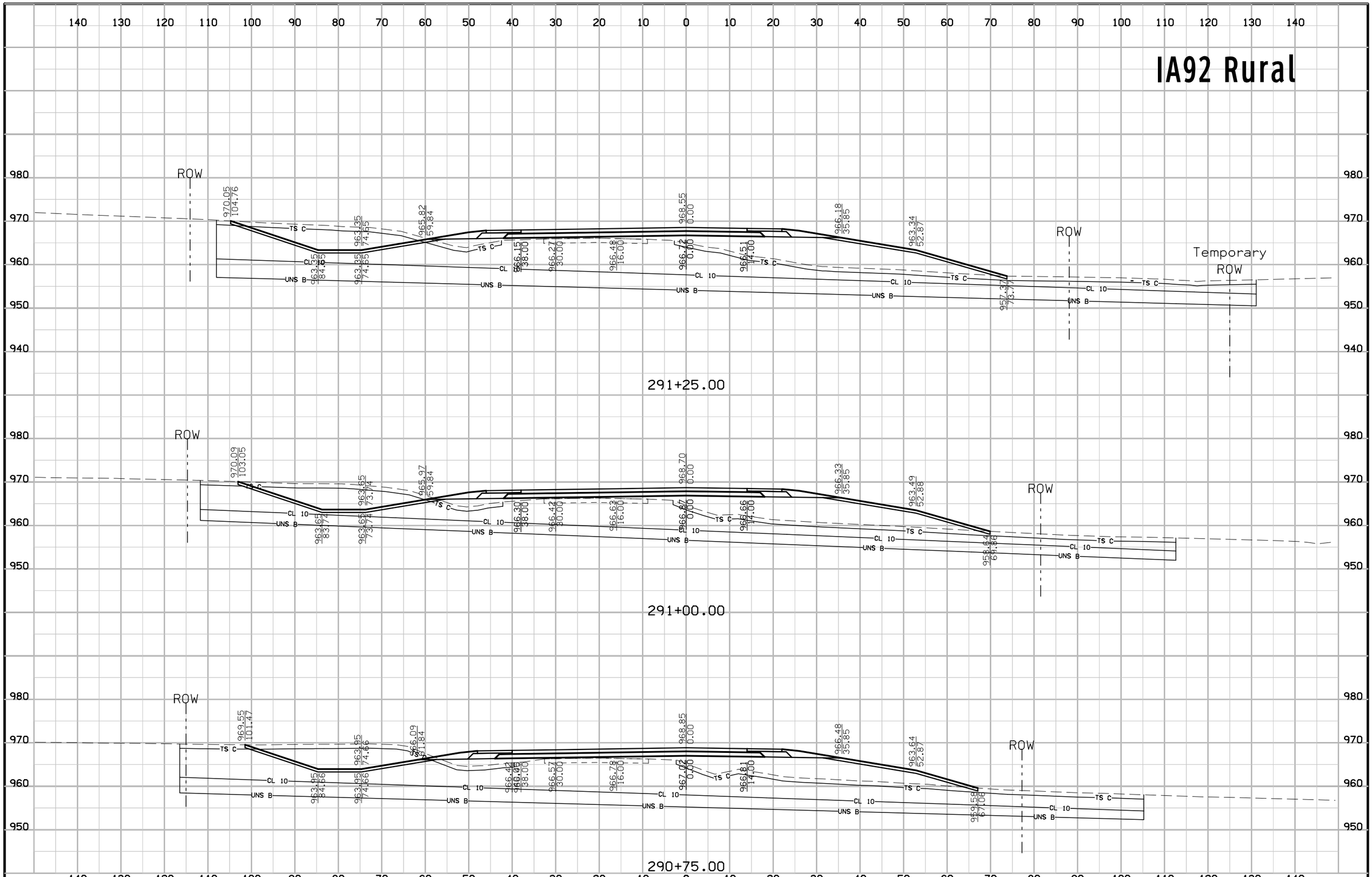

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.44

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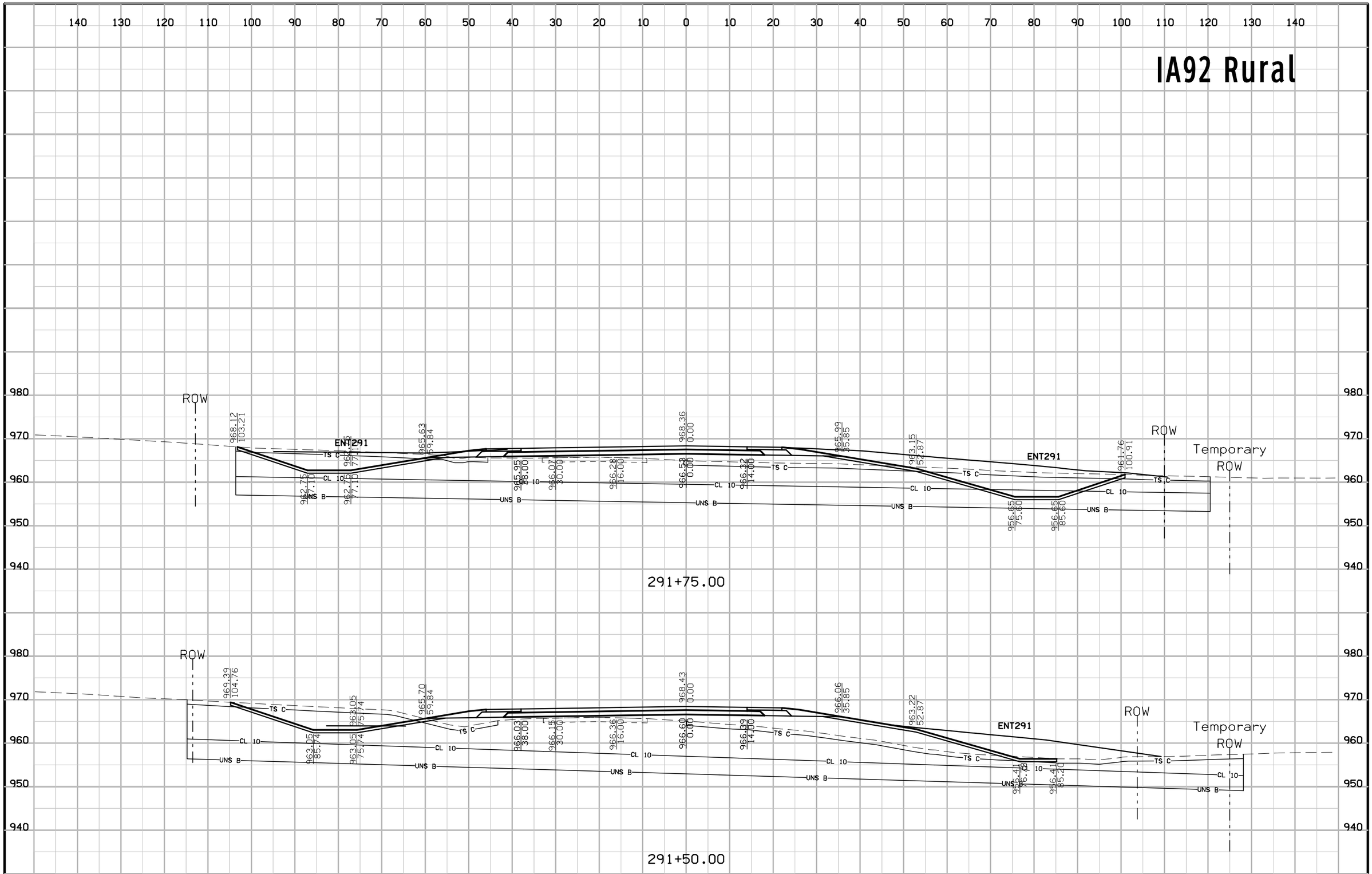

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.45

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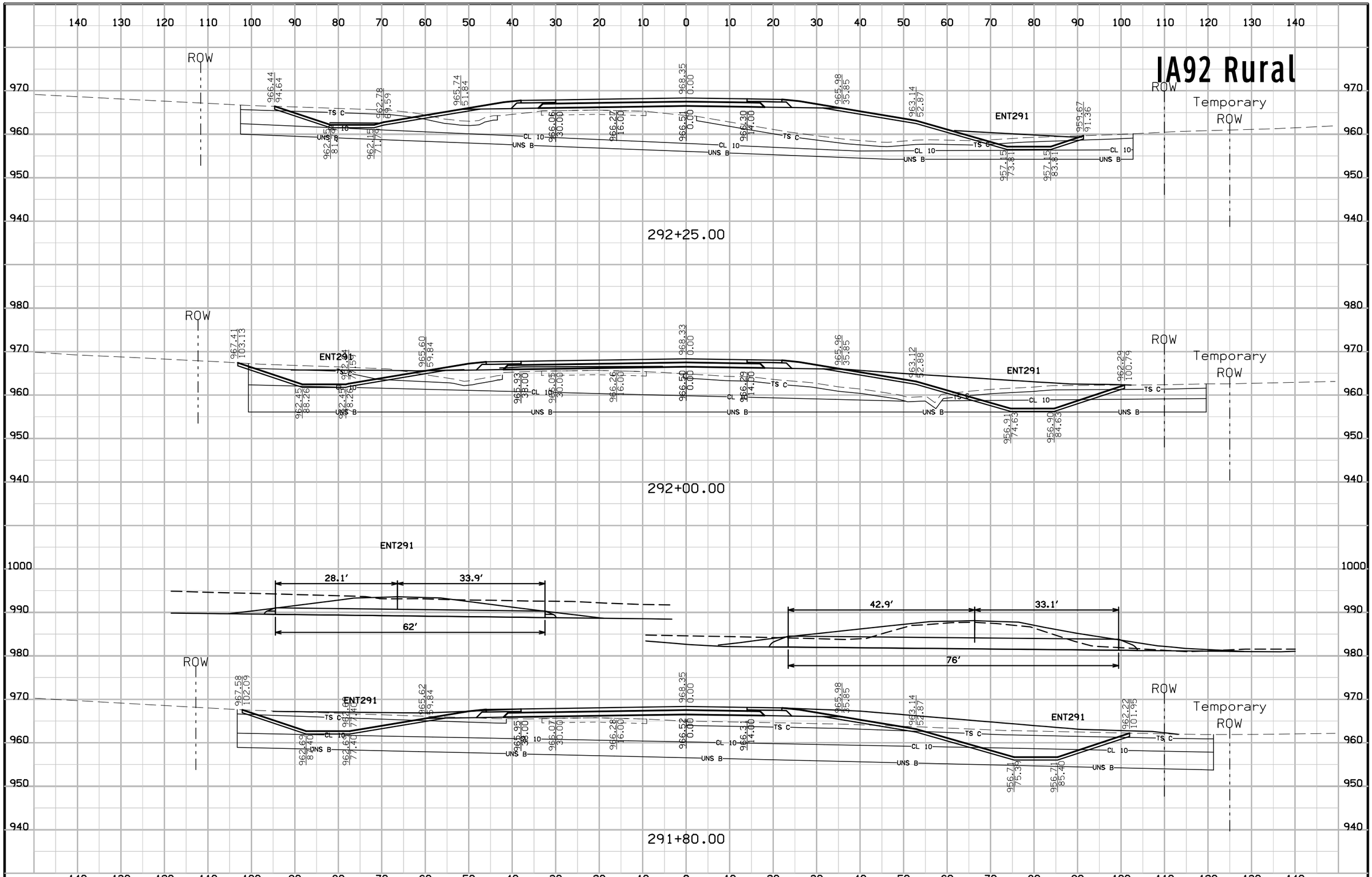
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.46

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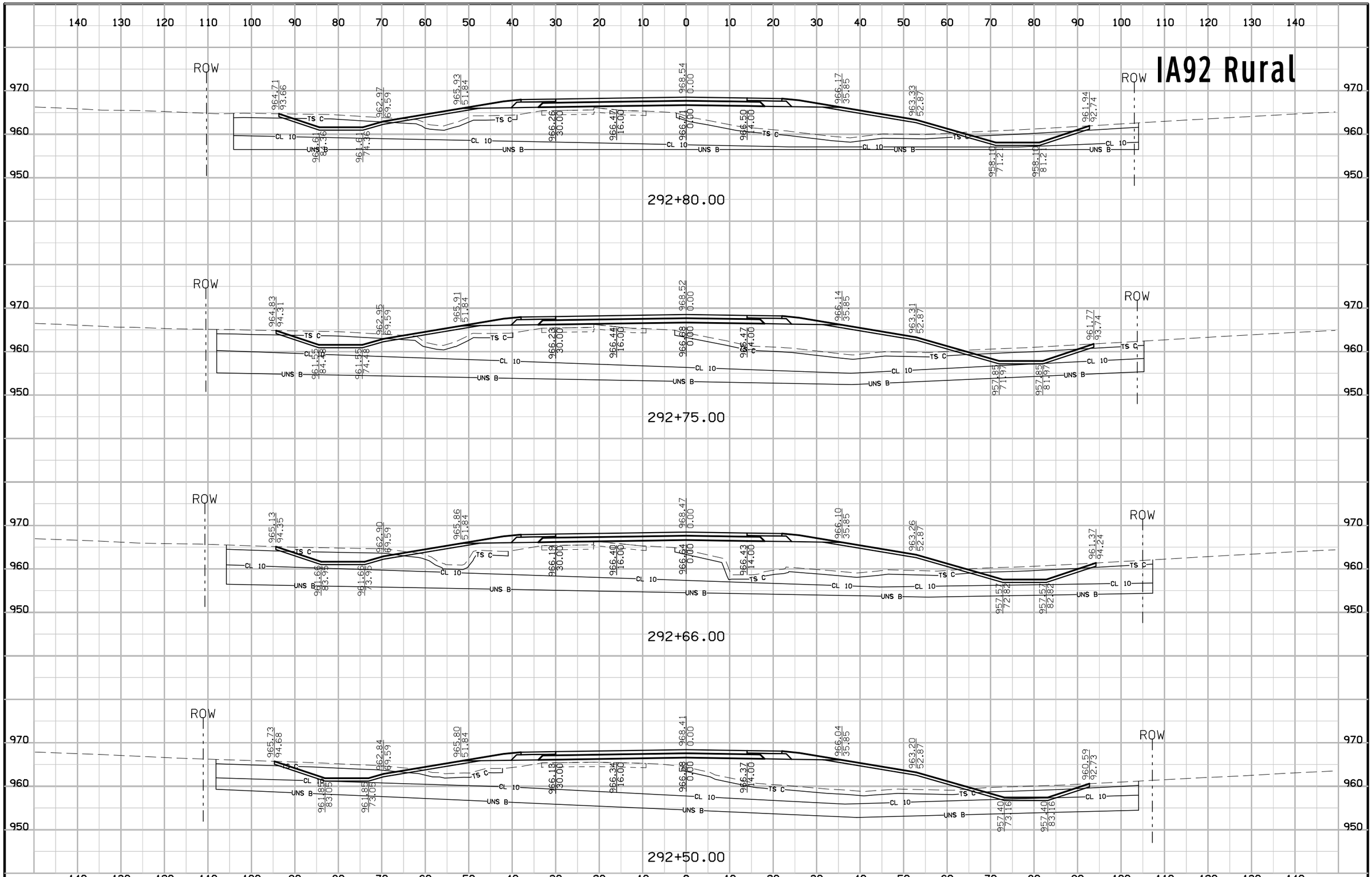
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.47

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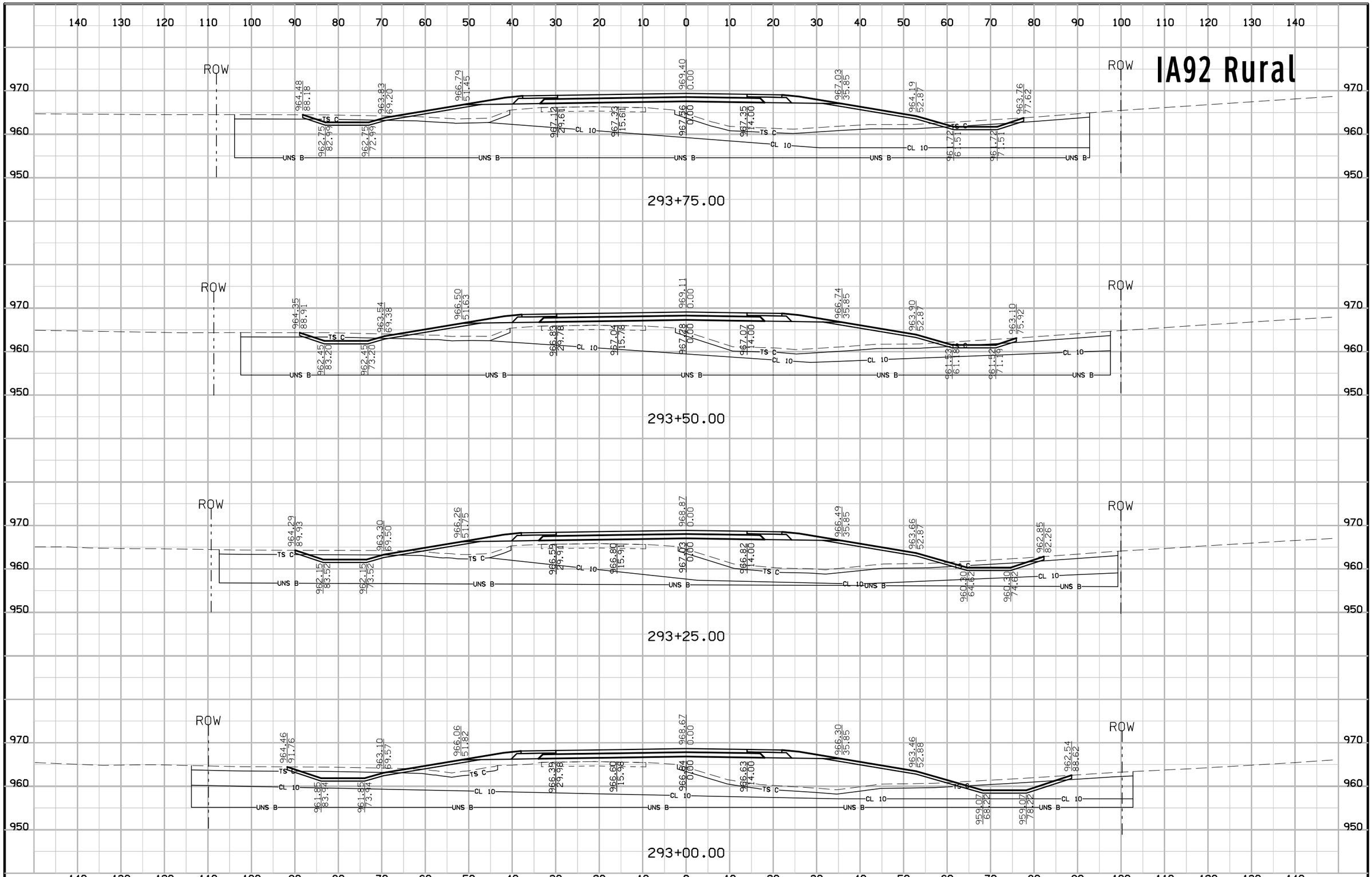
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.48

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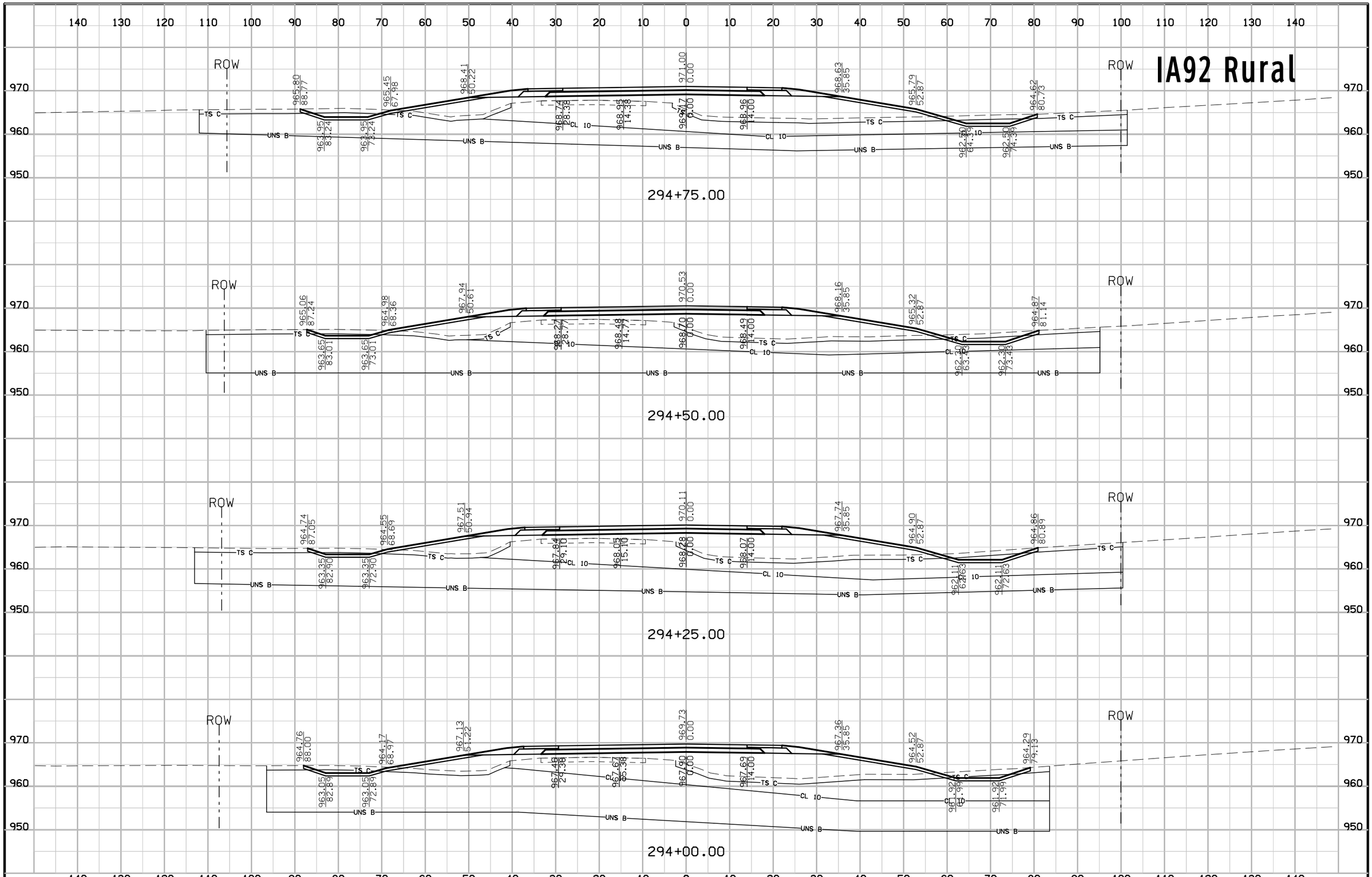
IA92 Rural



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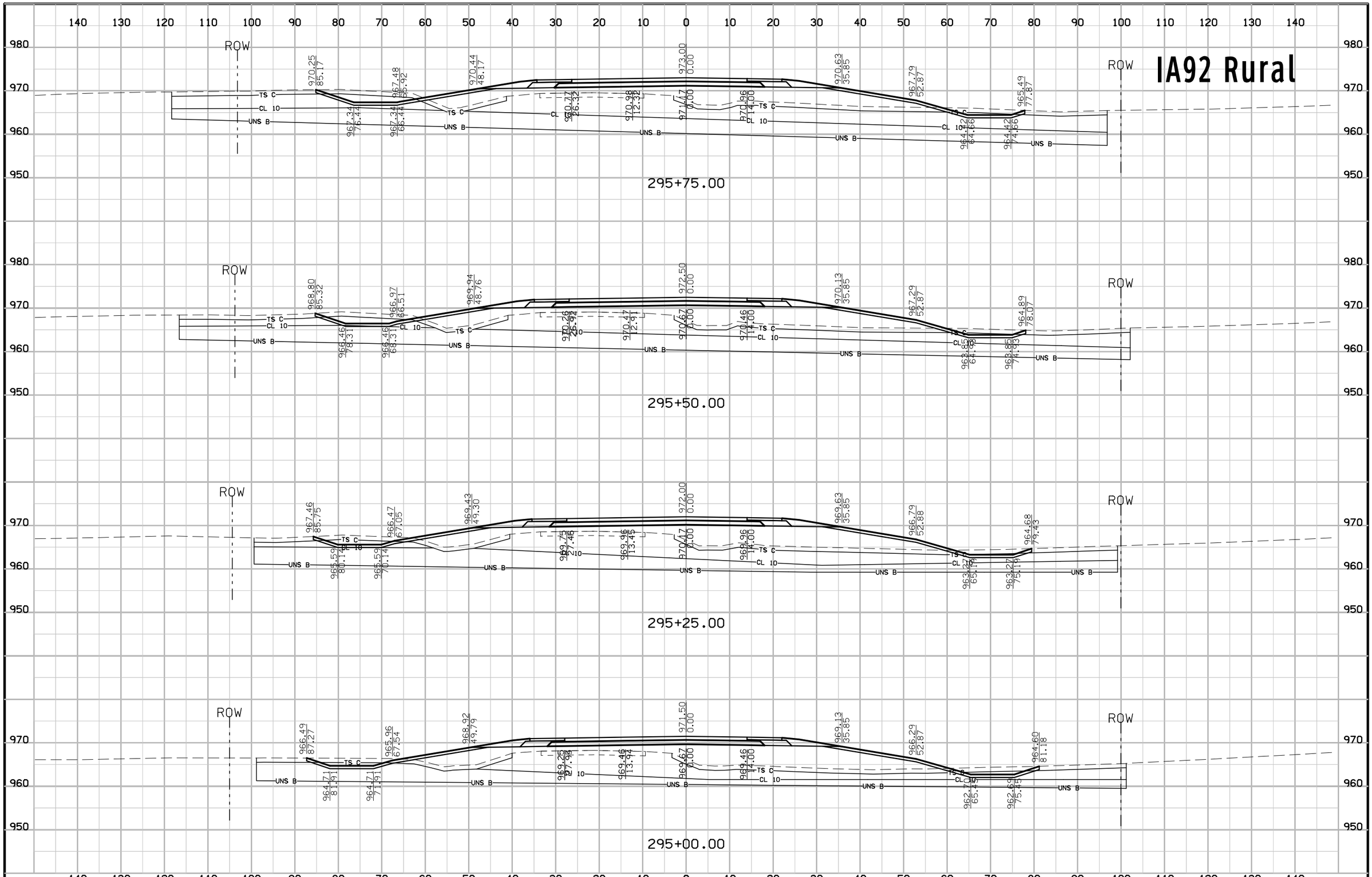
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.50

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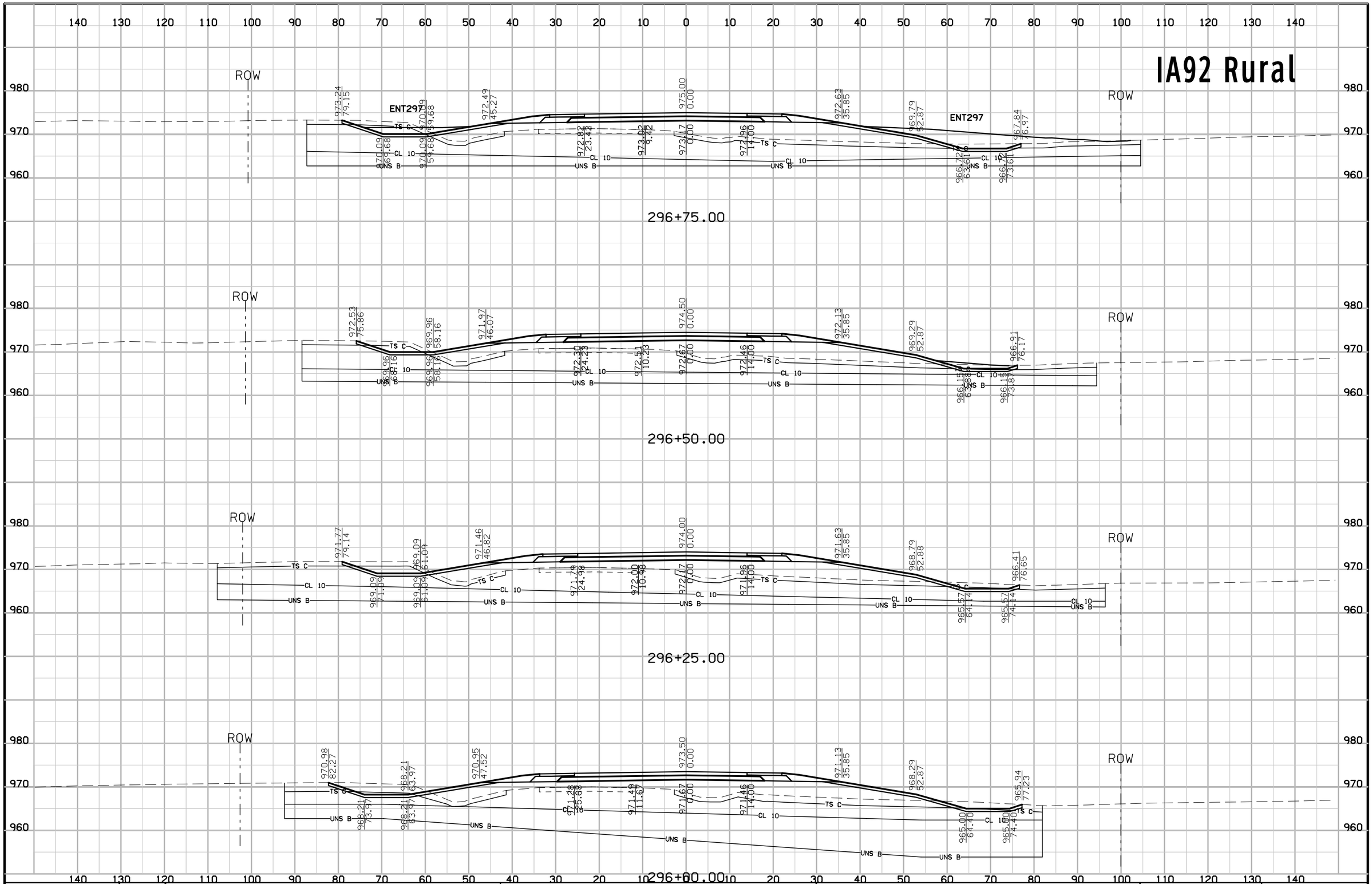
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.51

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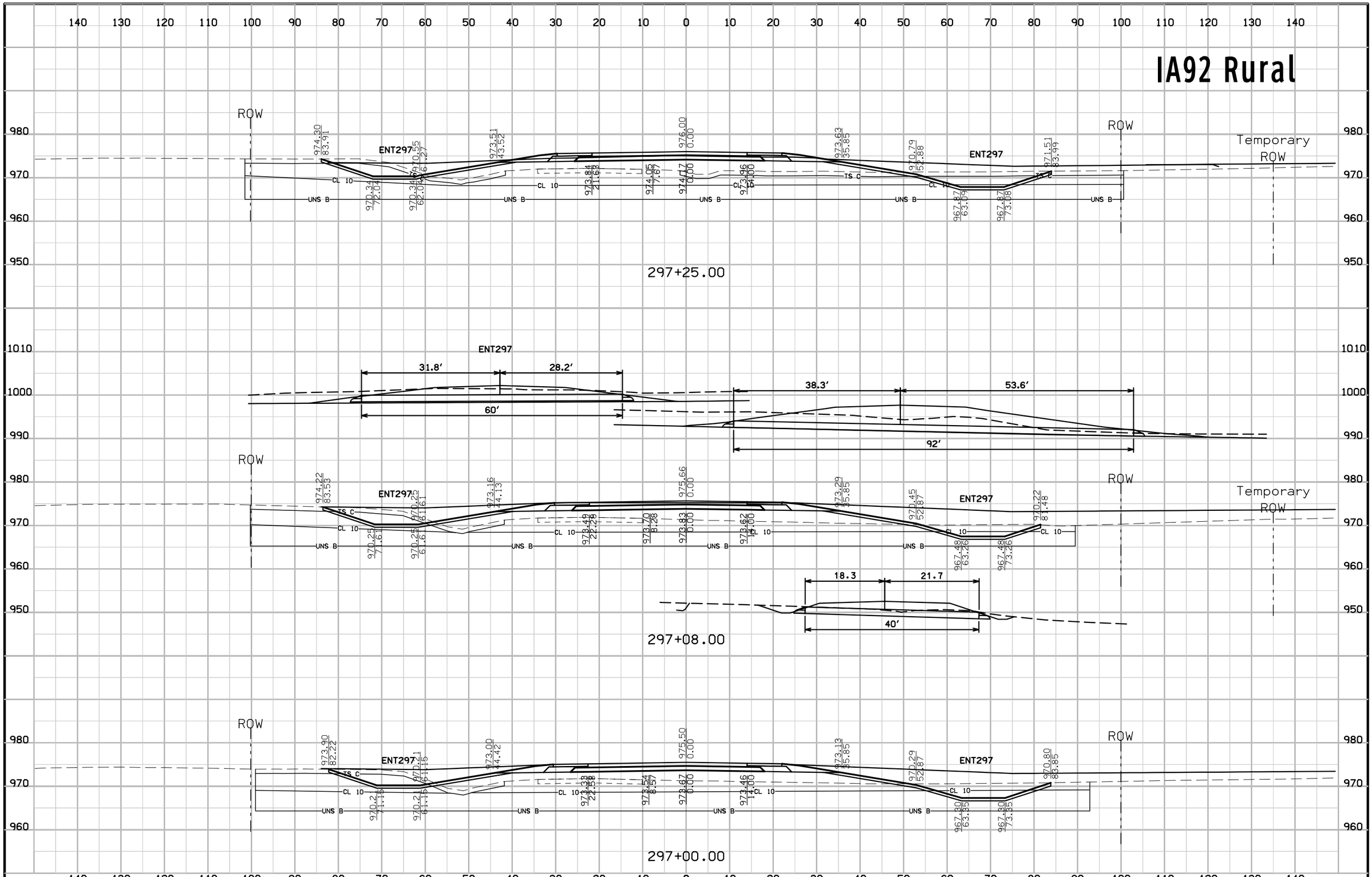
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.52

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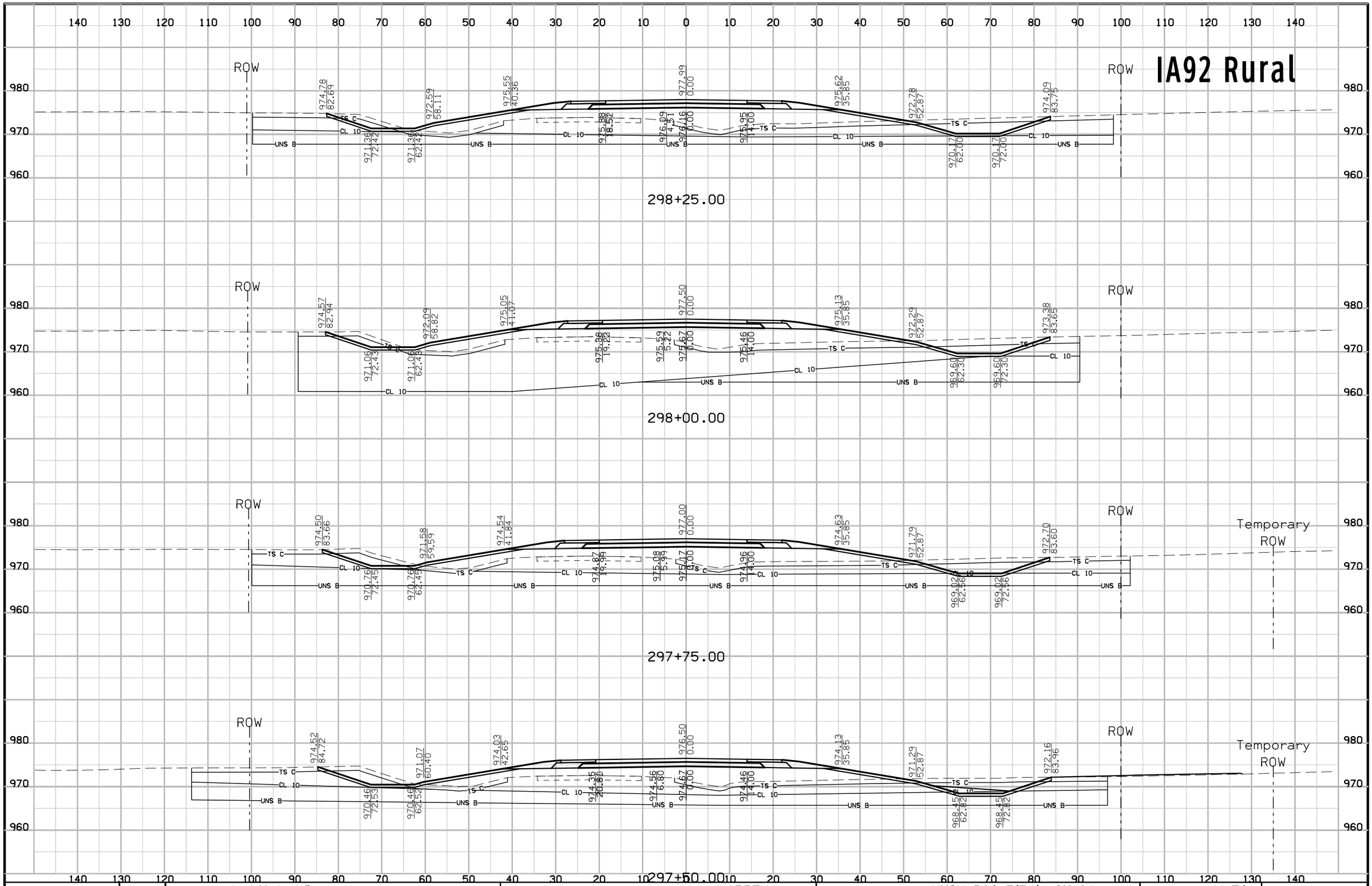
IA92 Rural



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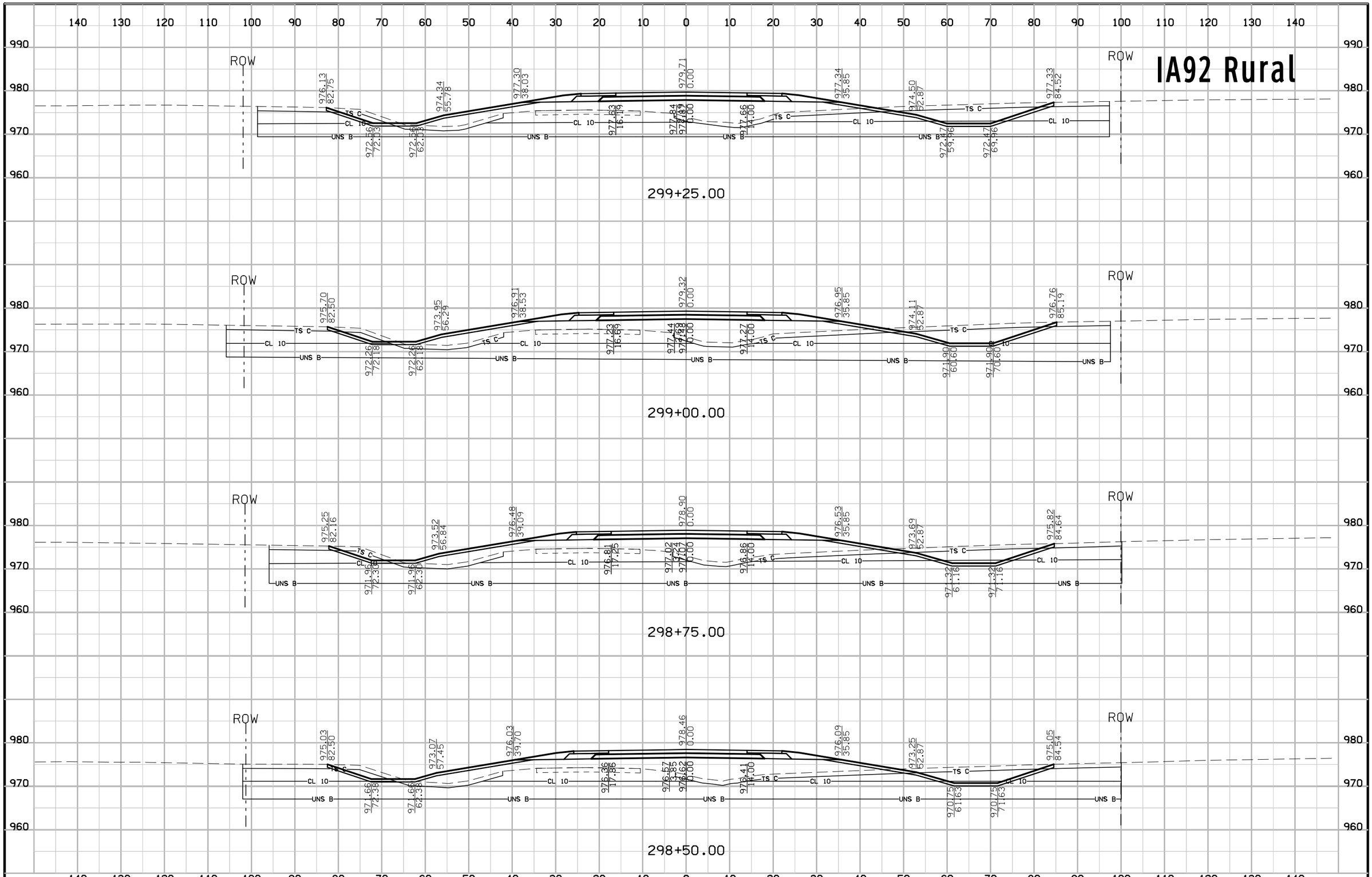
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.54

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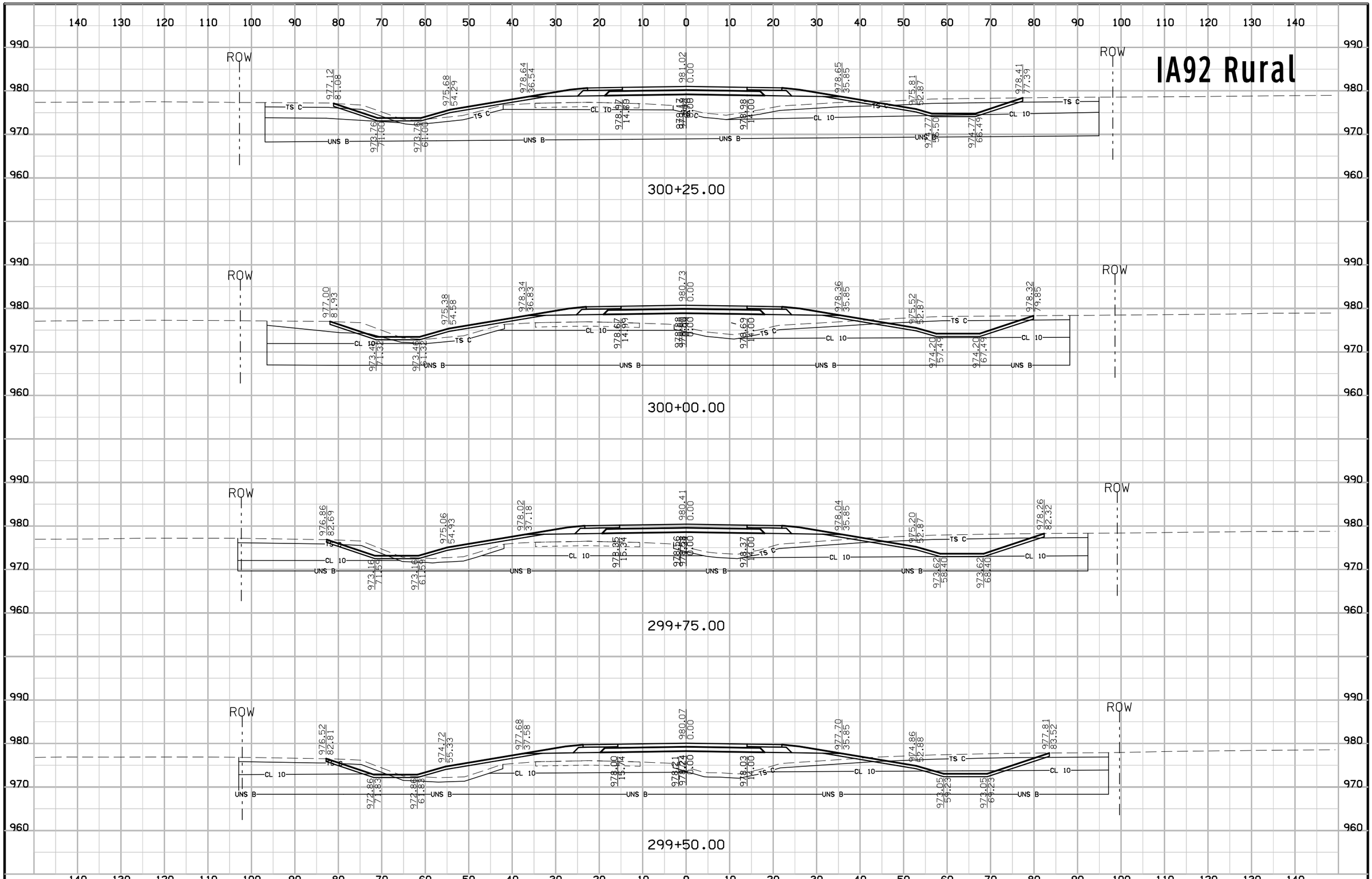
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.55

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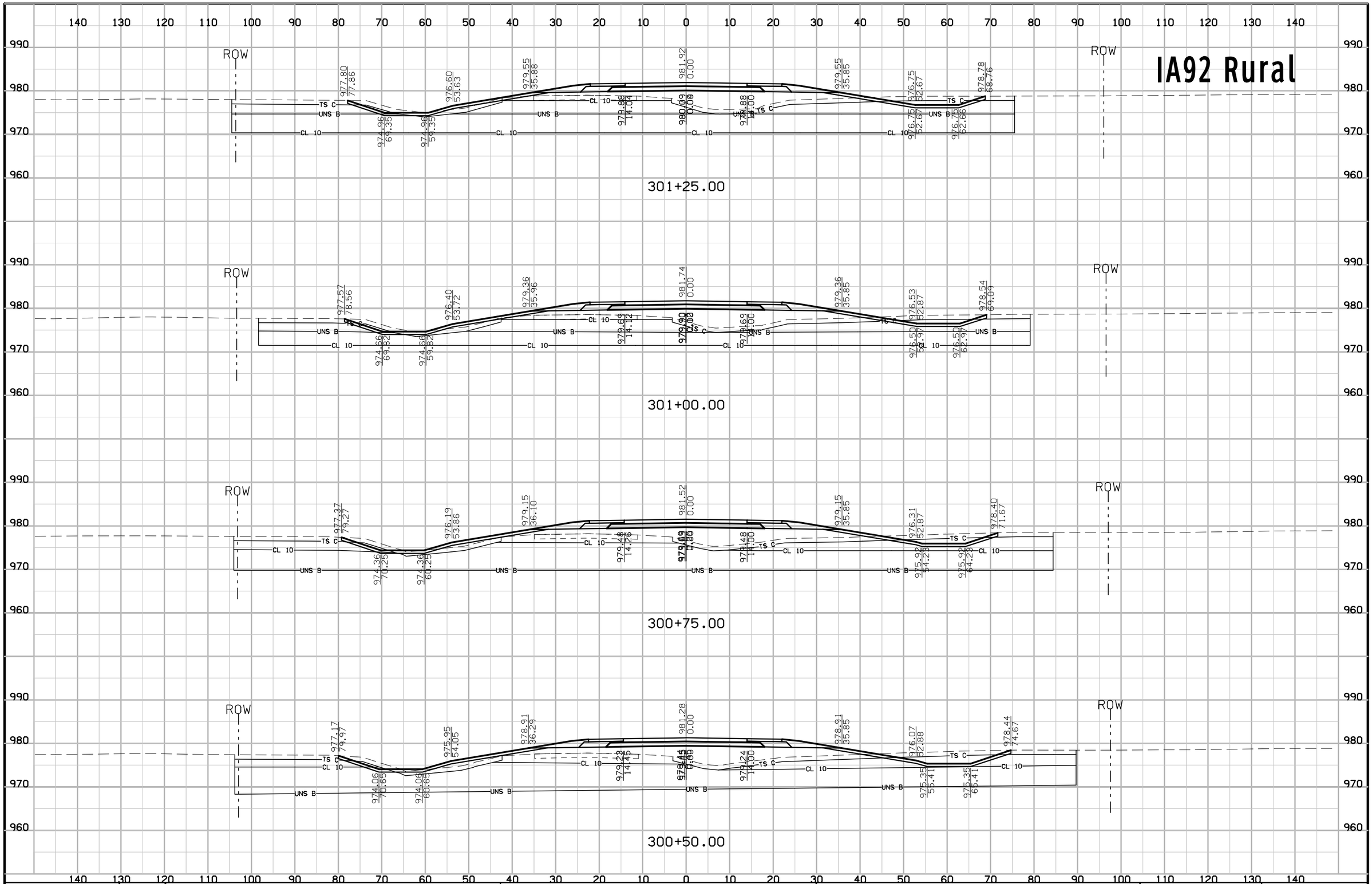
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.56

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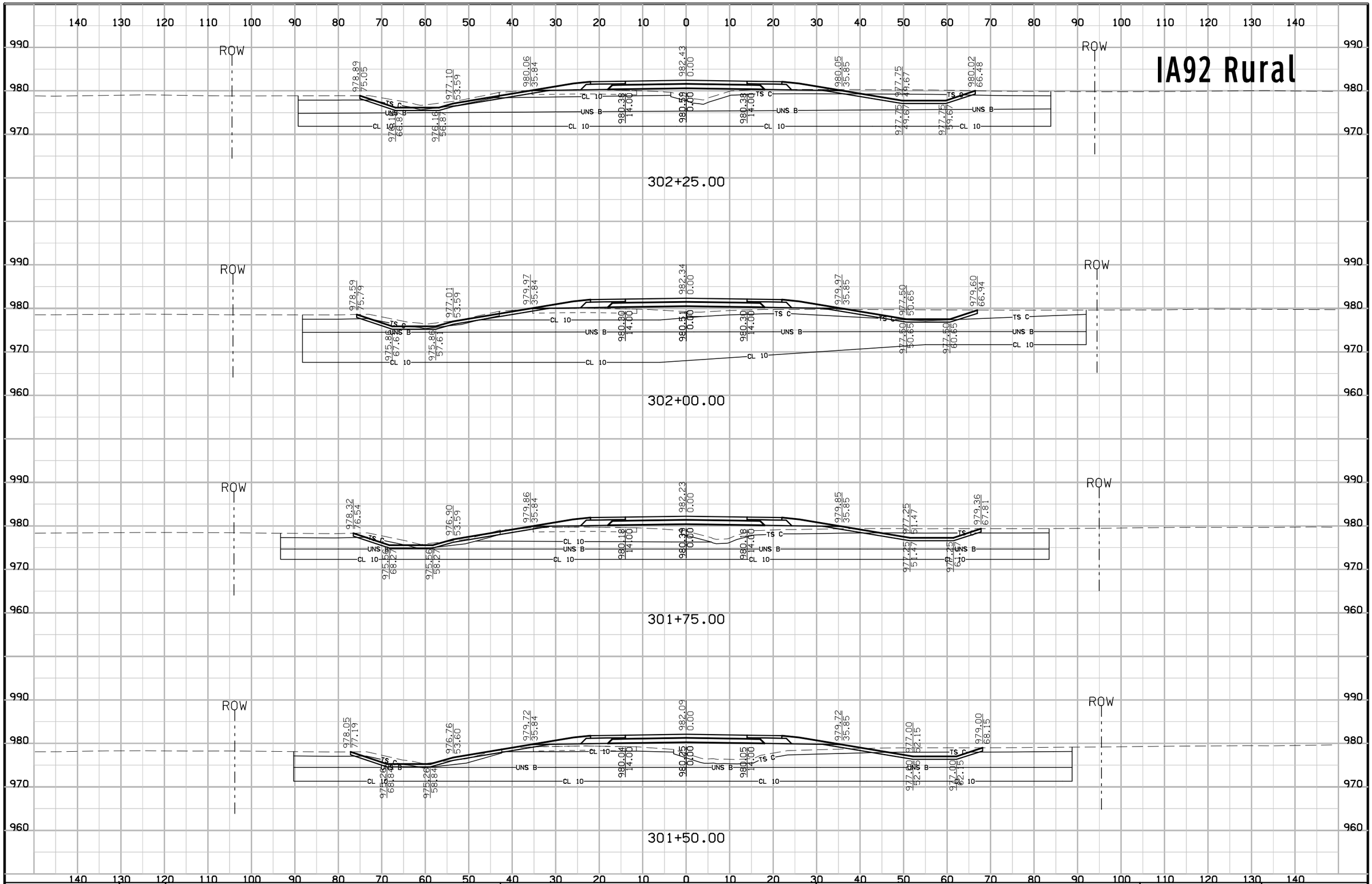
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.57

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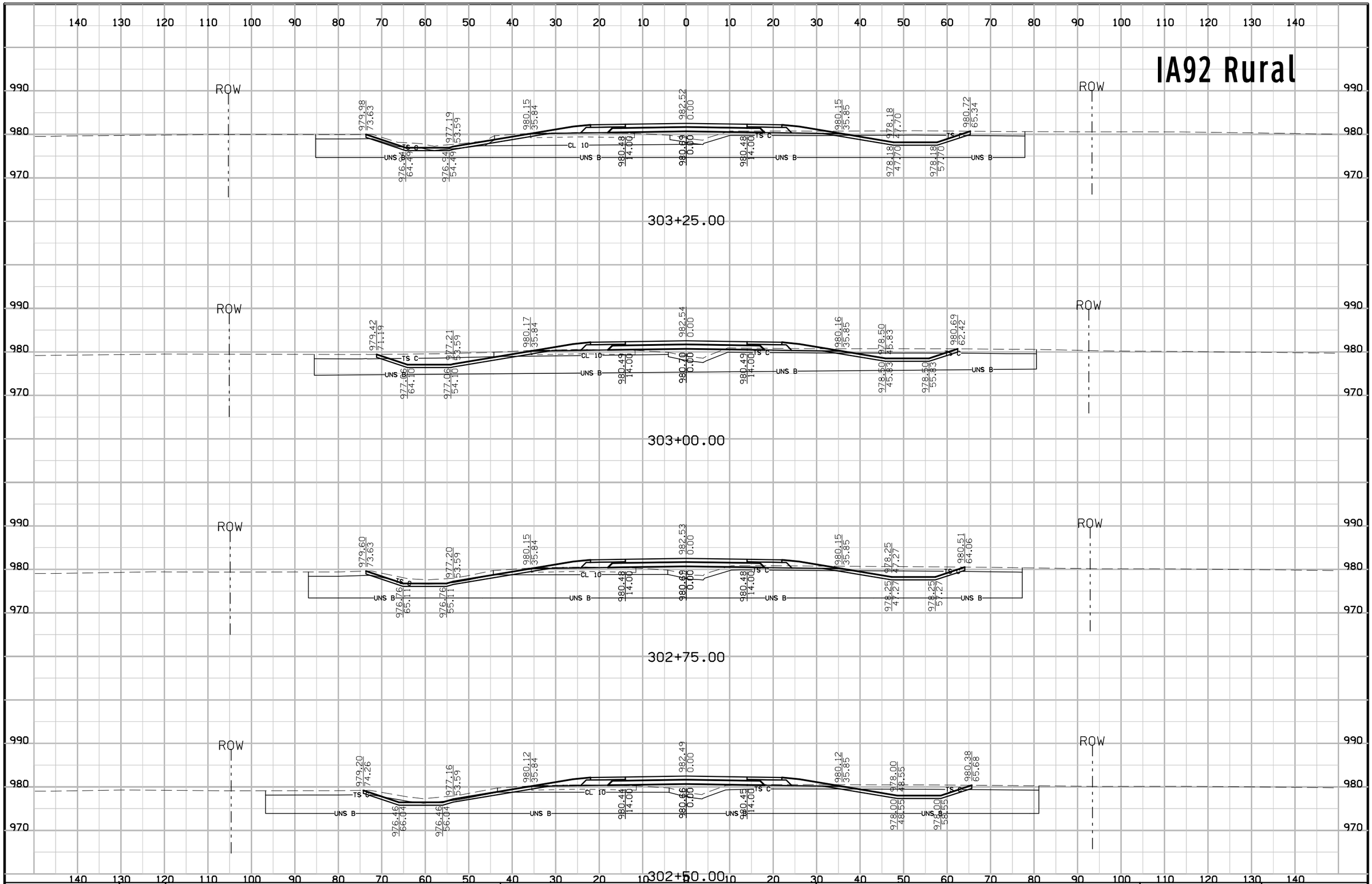
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.58

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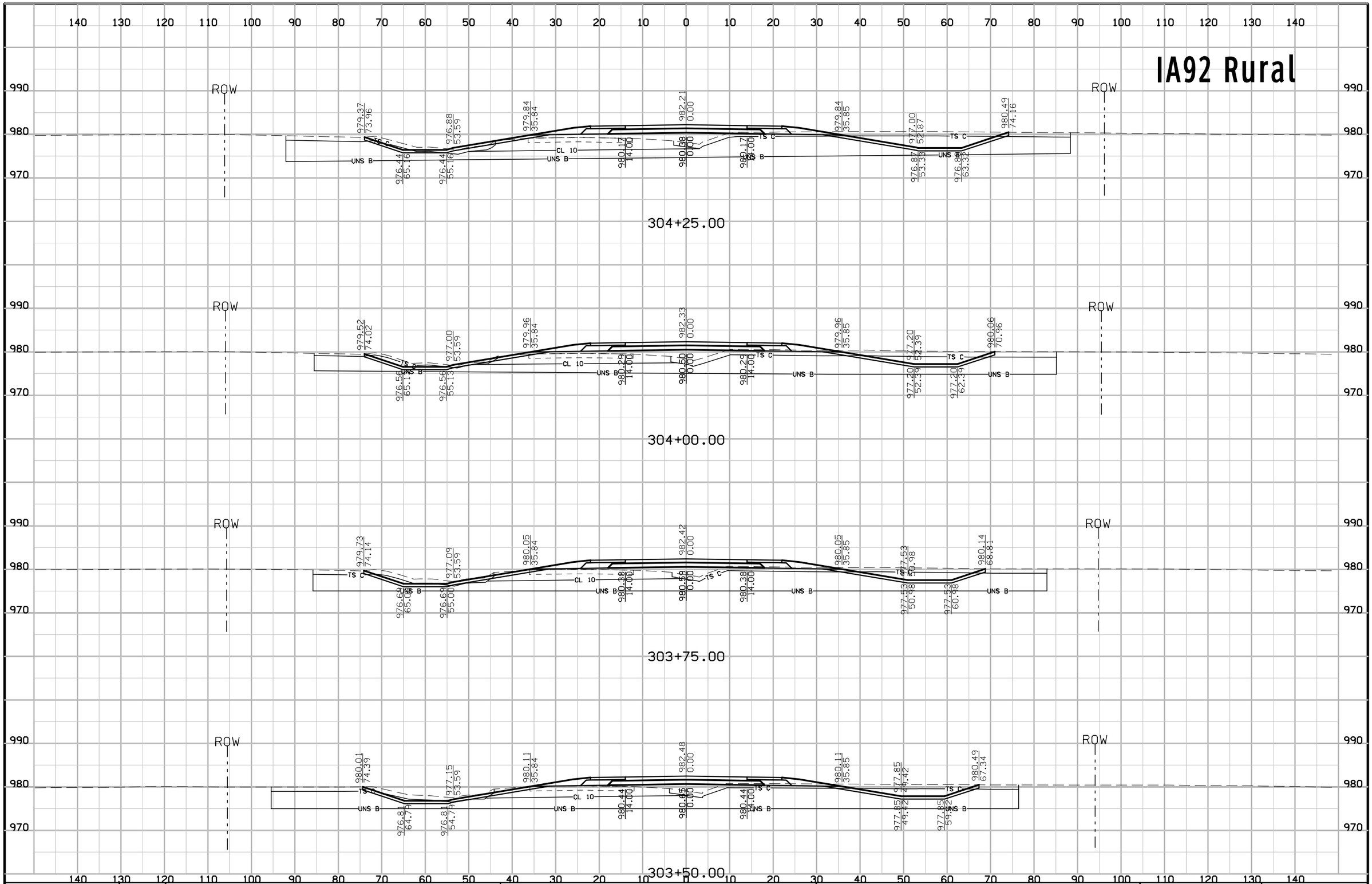
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.59

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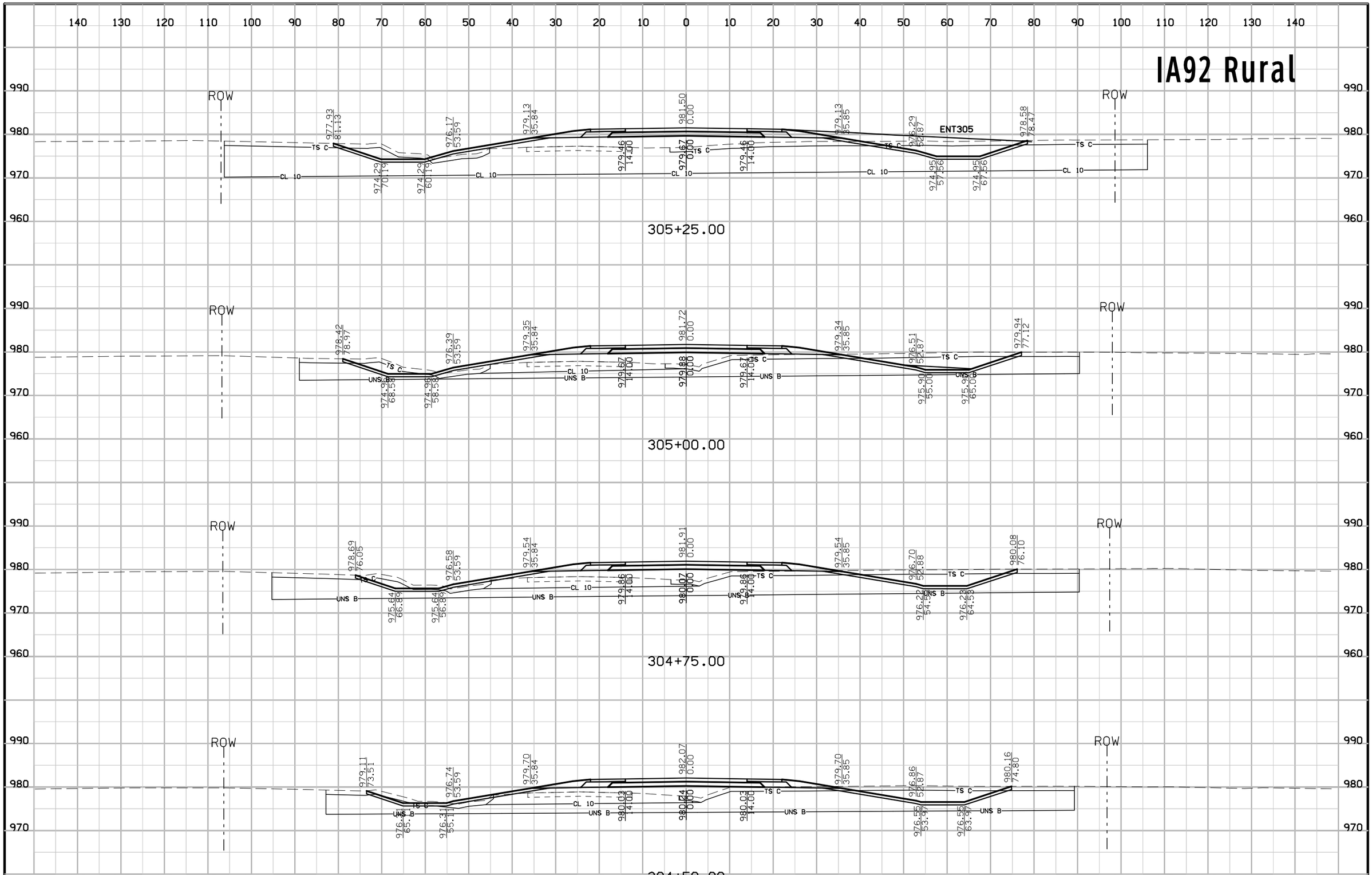
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.60

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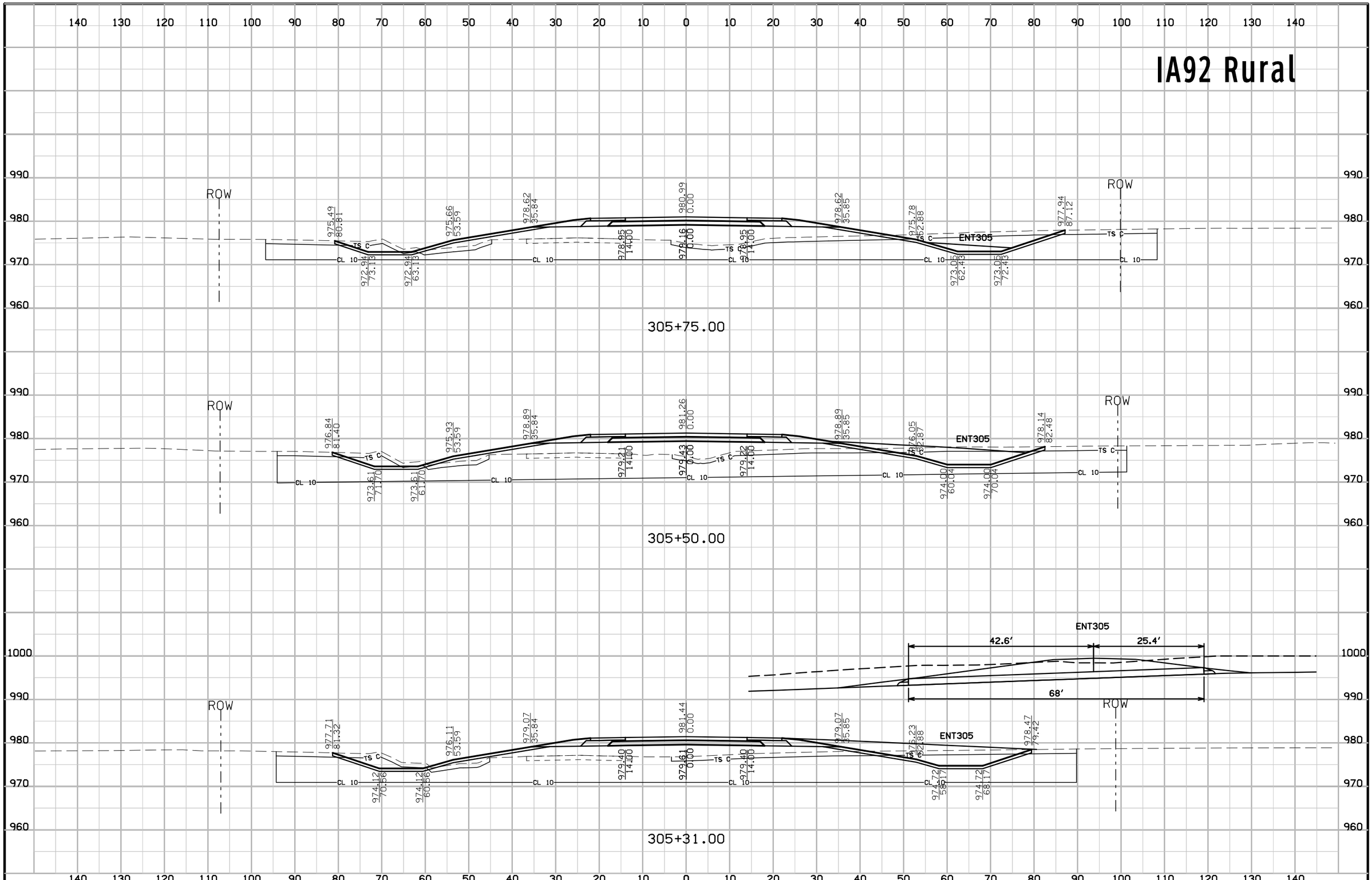
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.61

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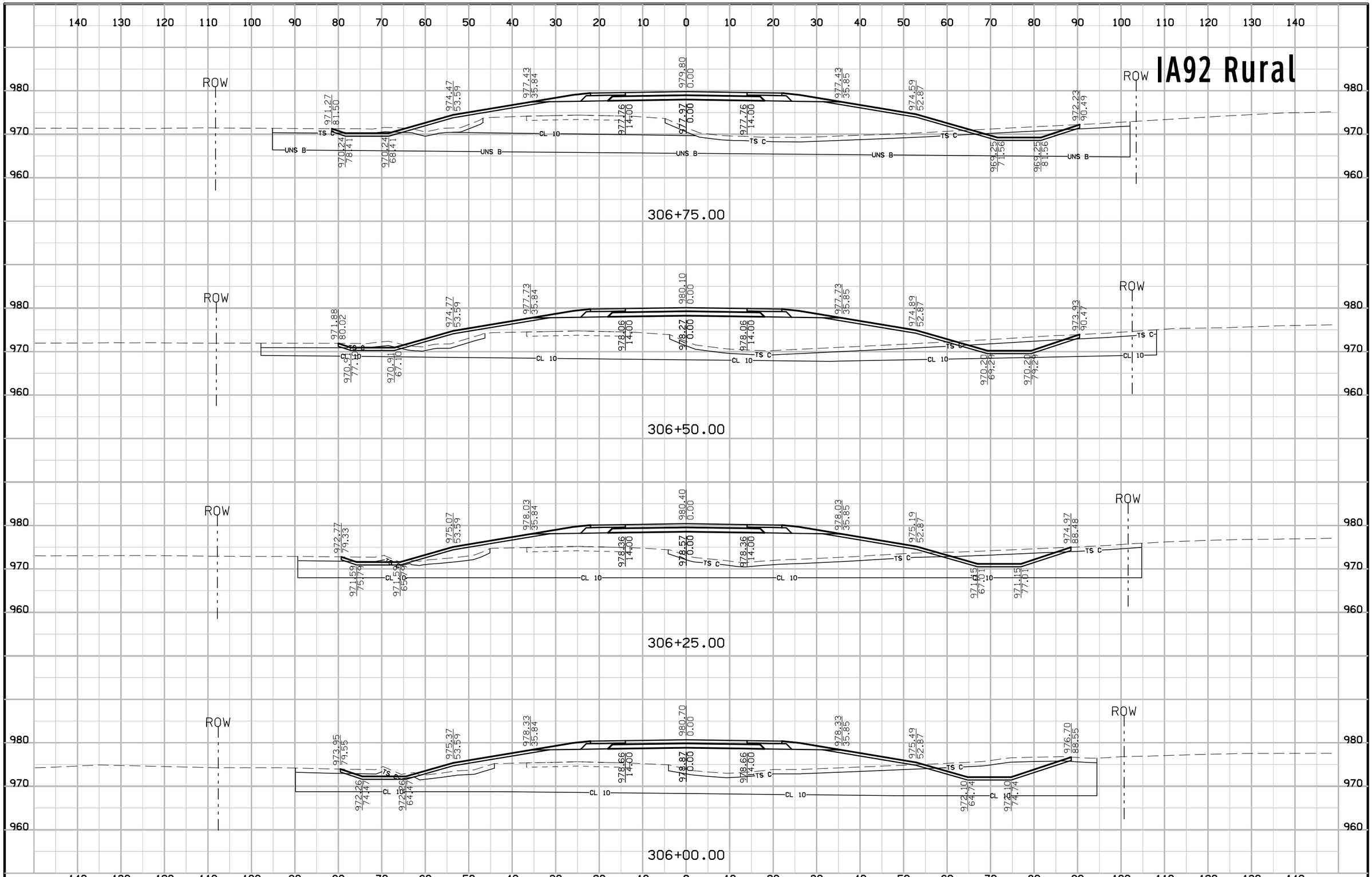
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.62

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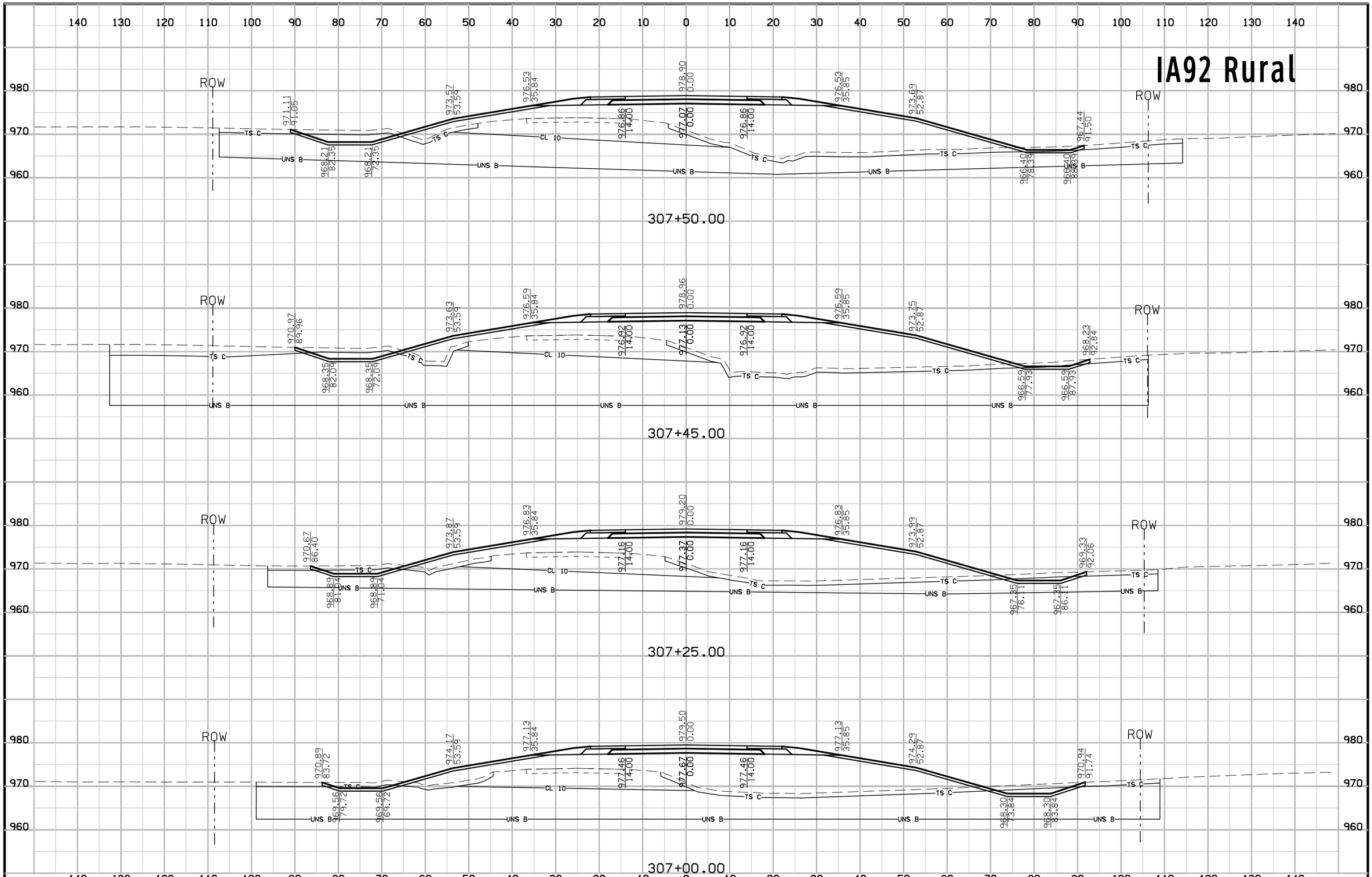
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.63

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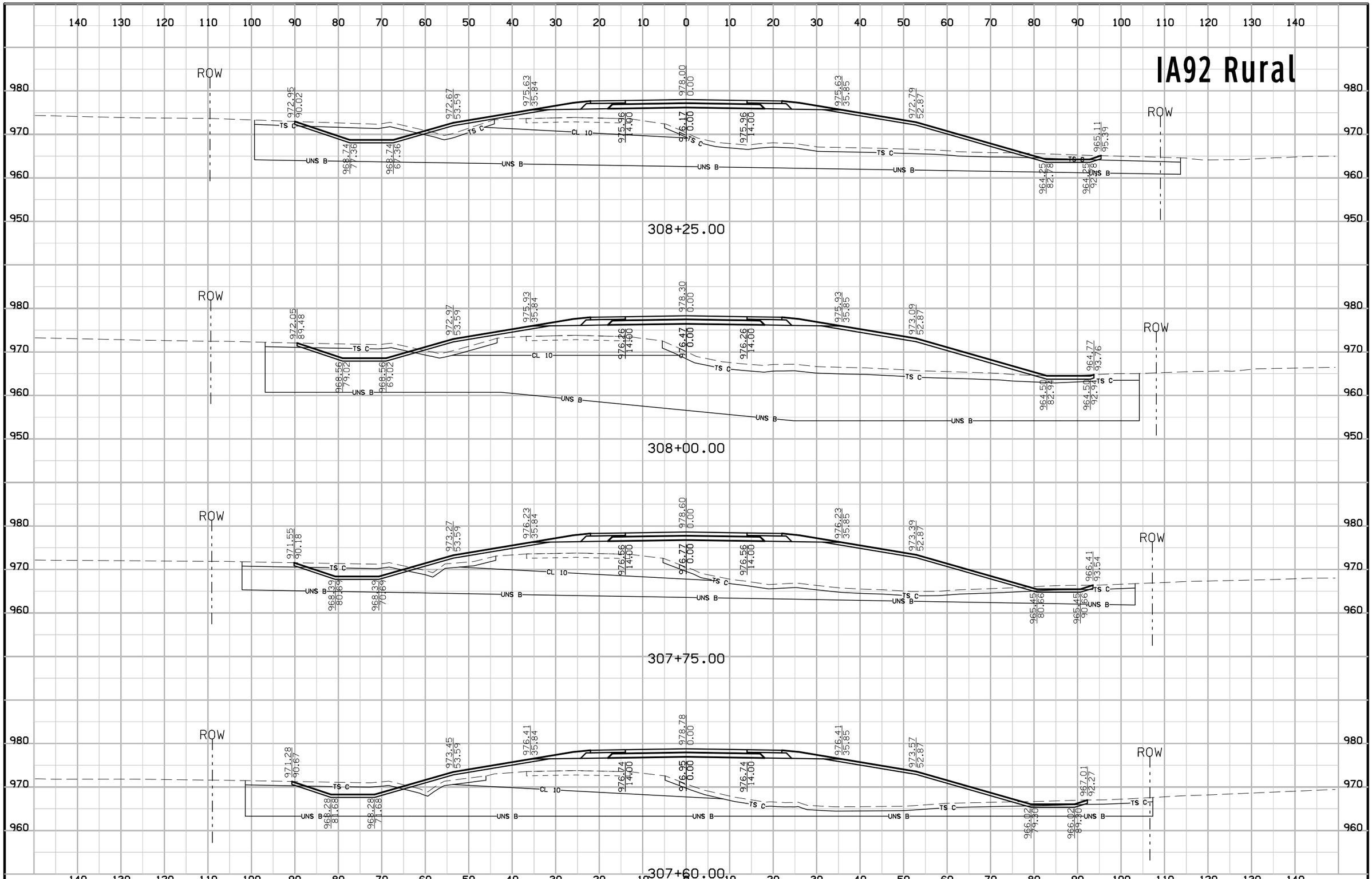

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.64

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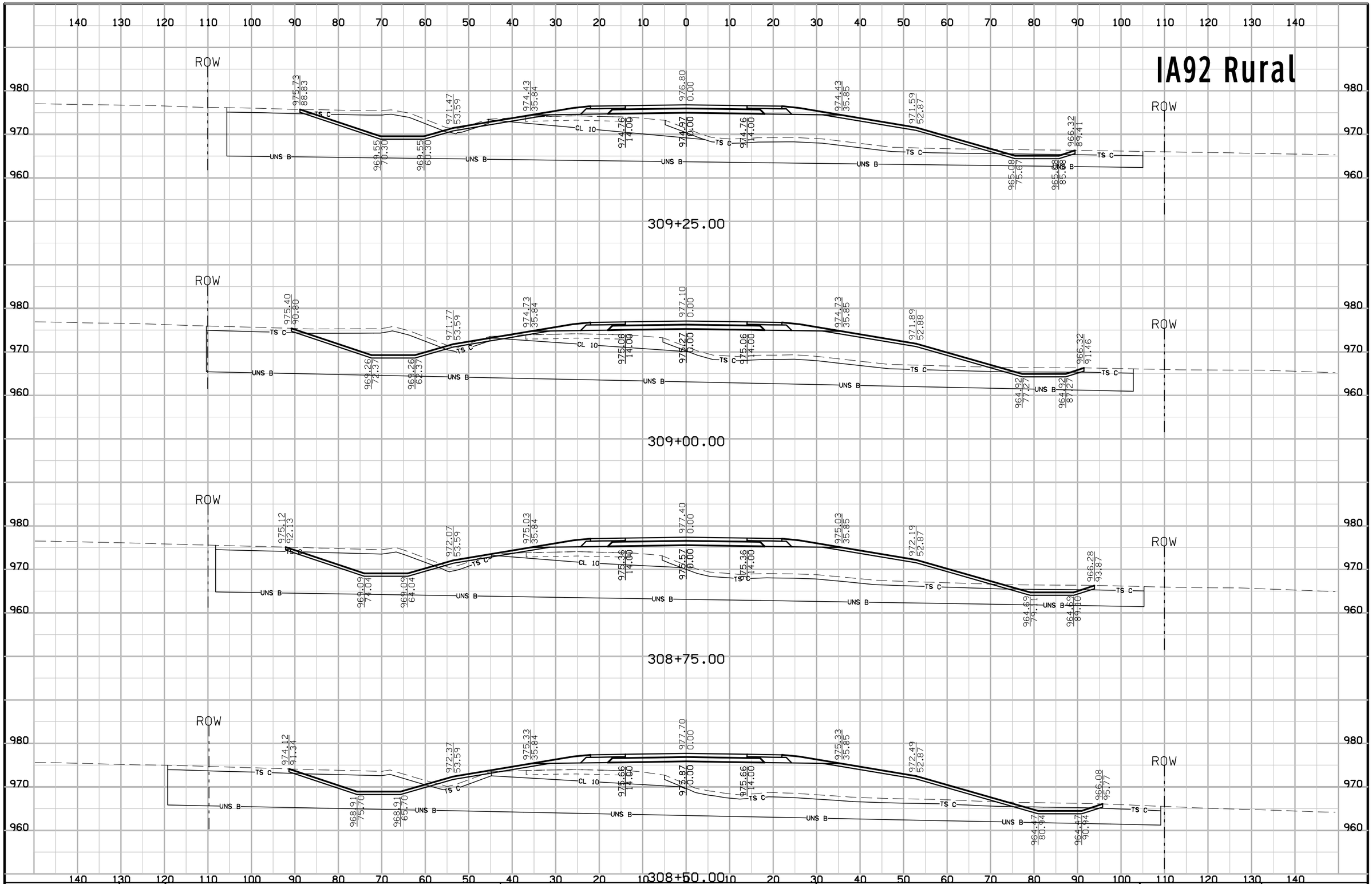
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.65

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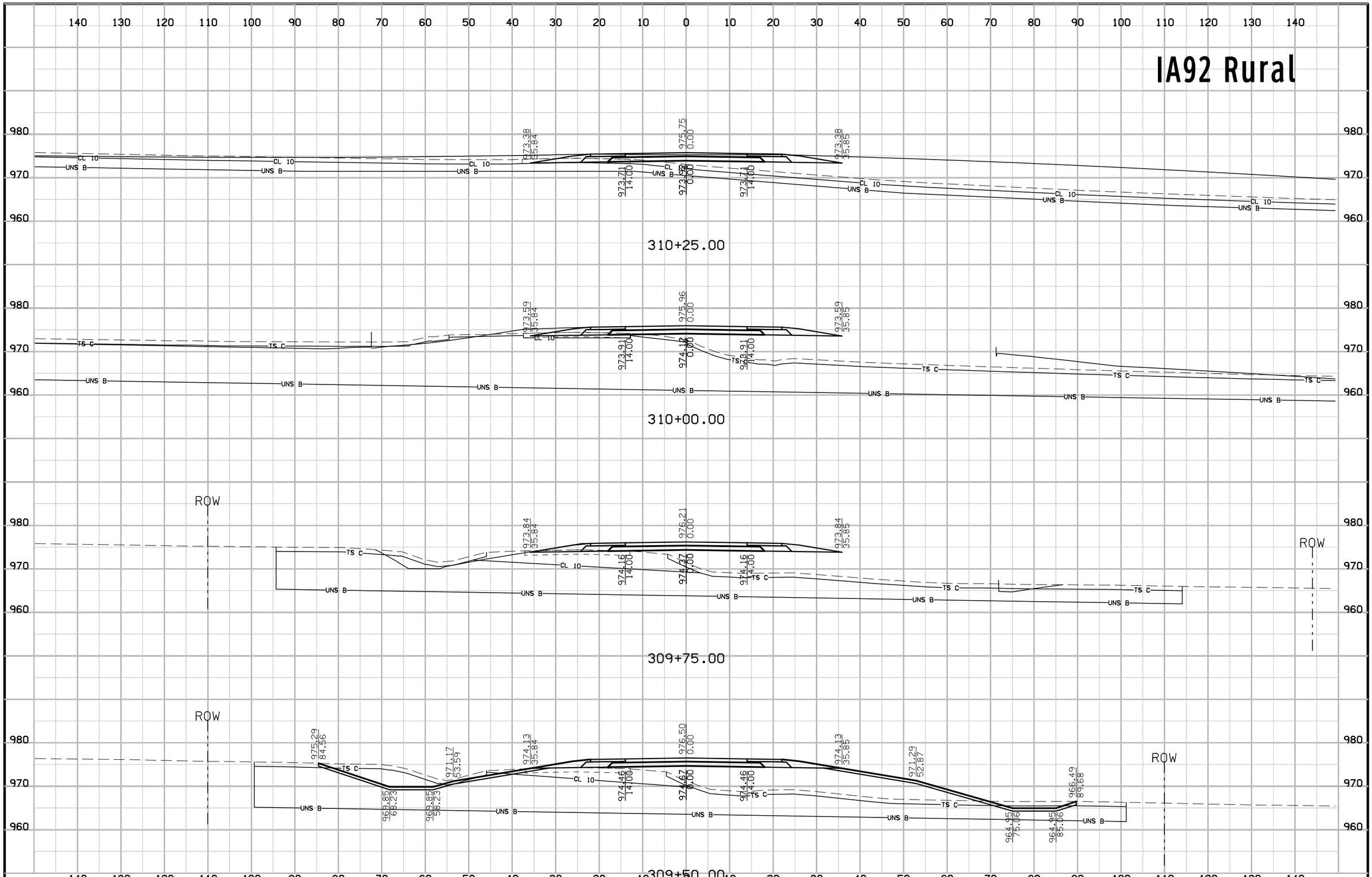
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.66

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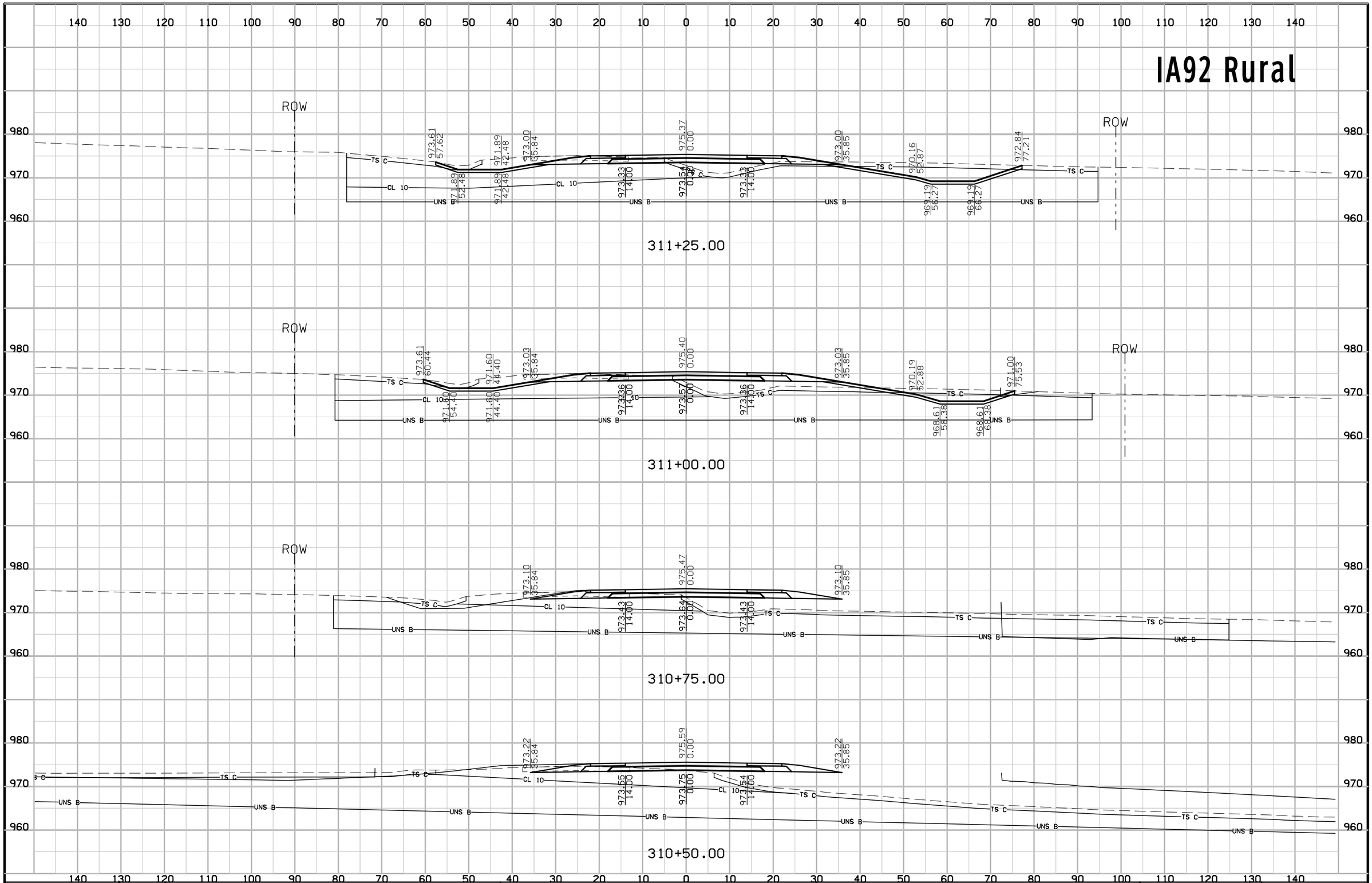
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.67

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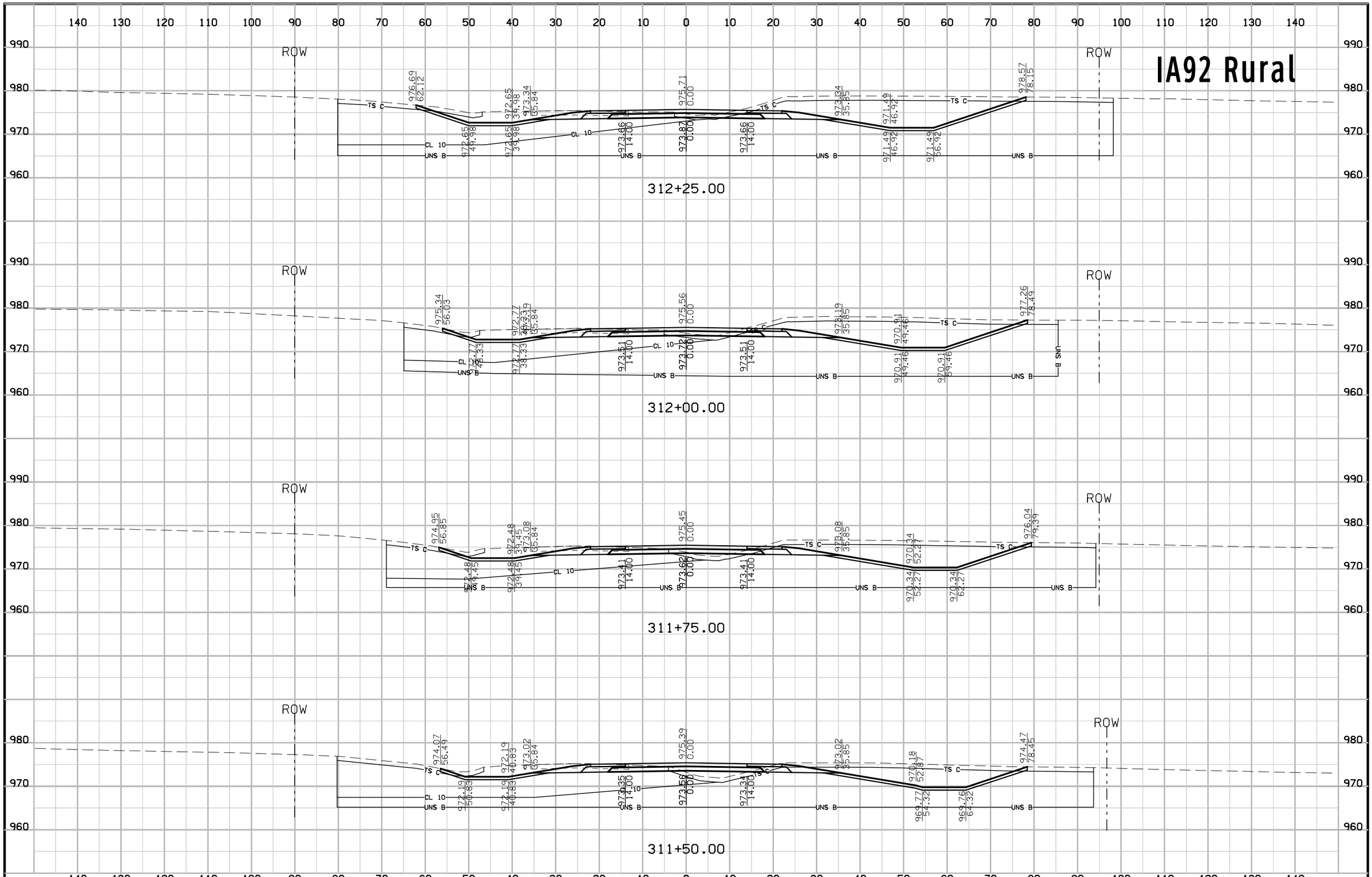
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.68

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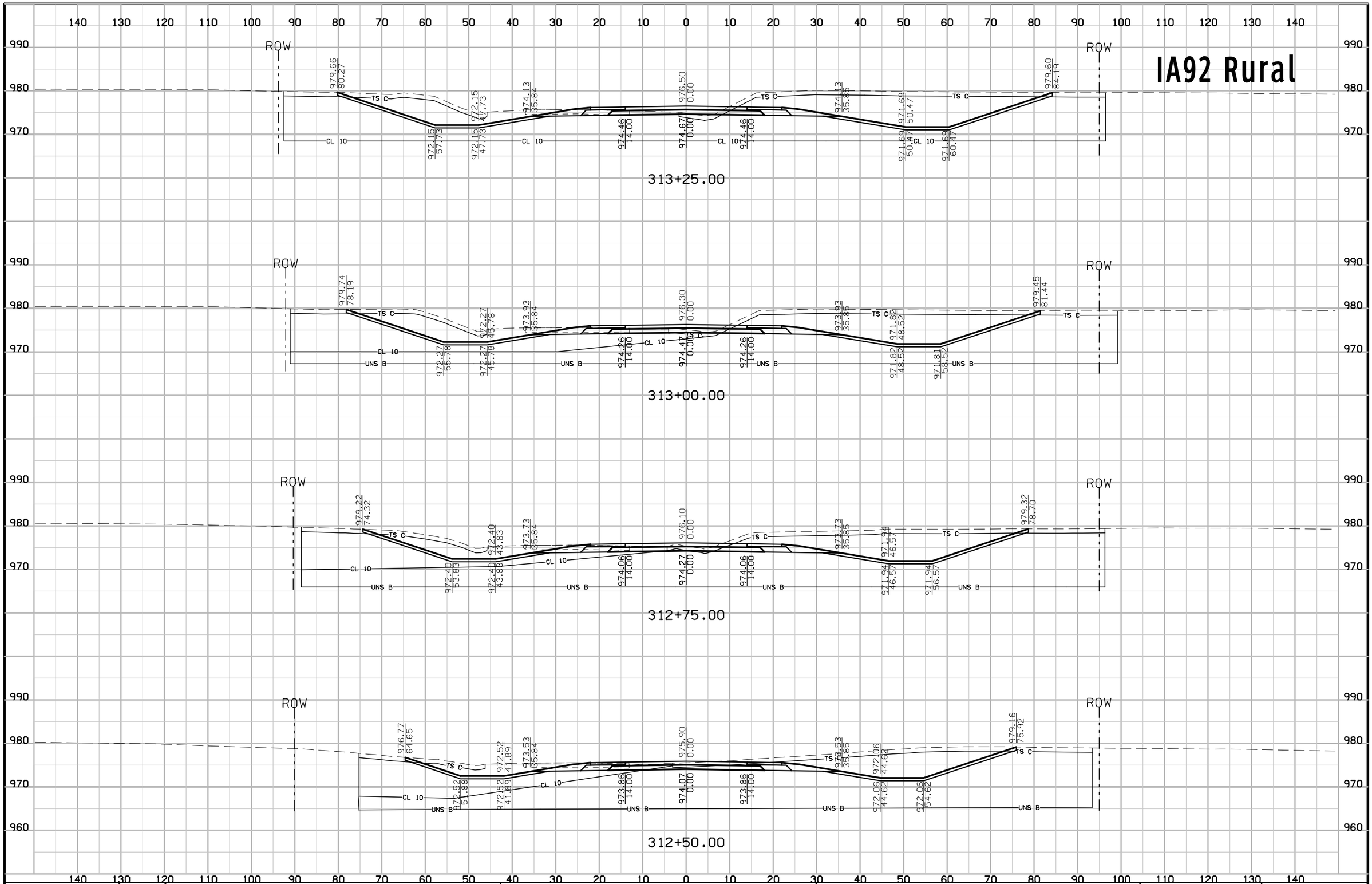
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.69

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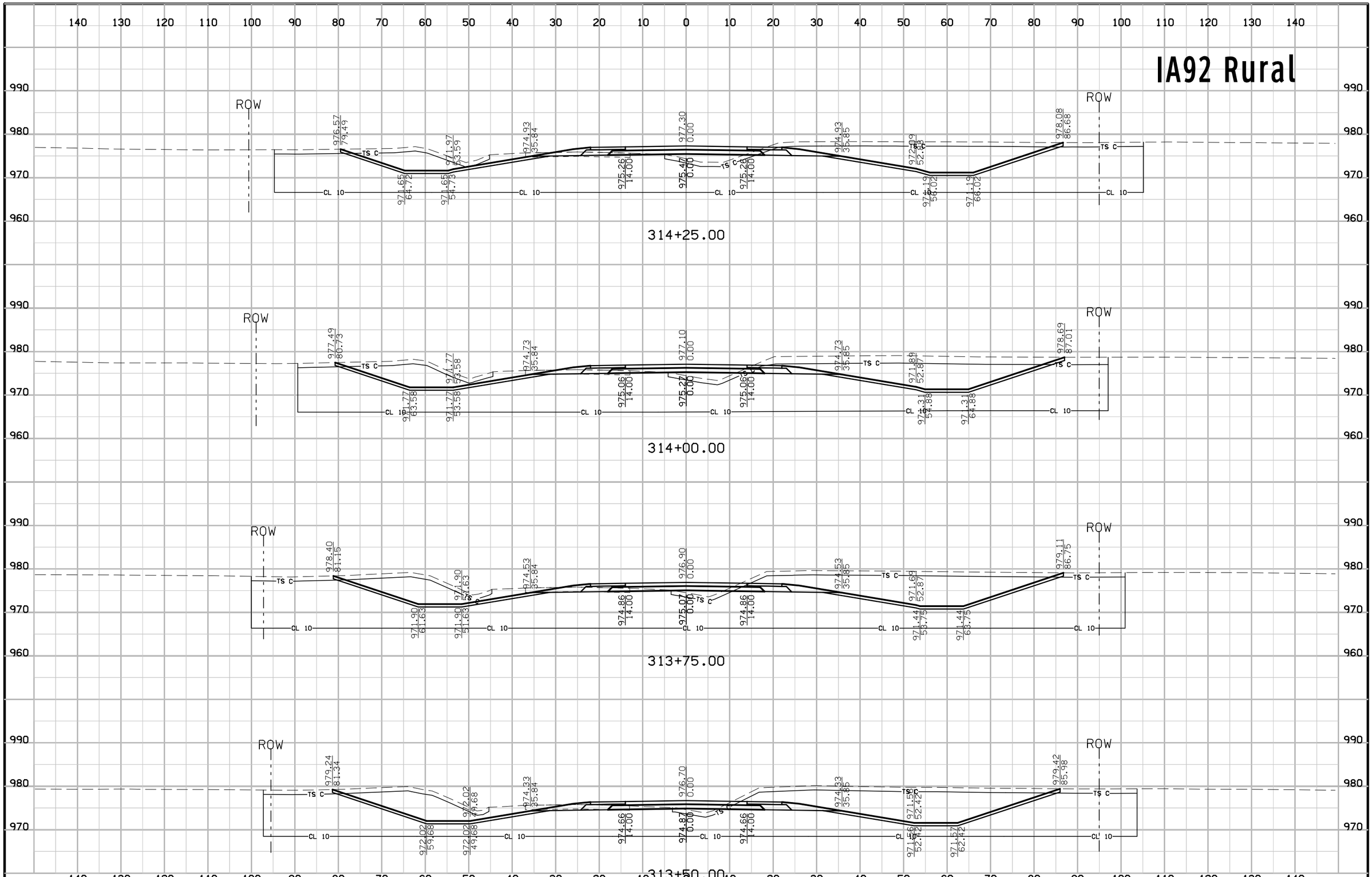
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.70

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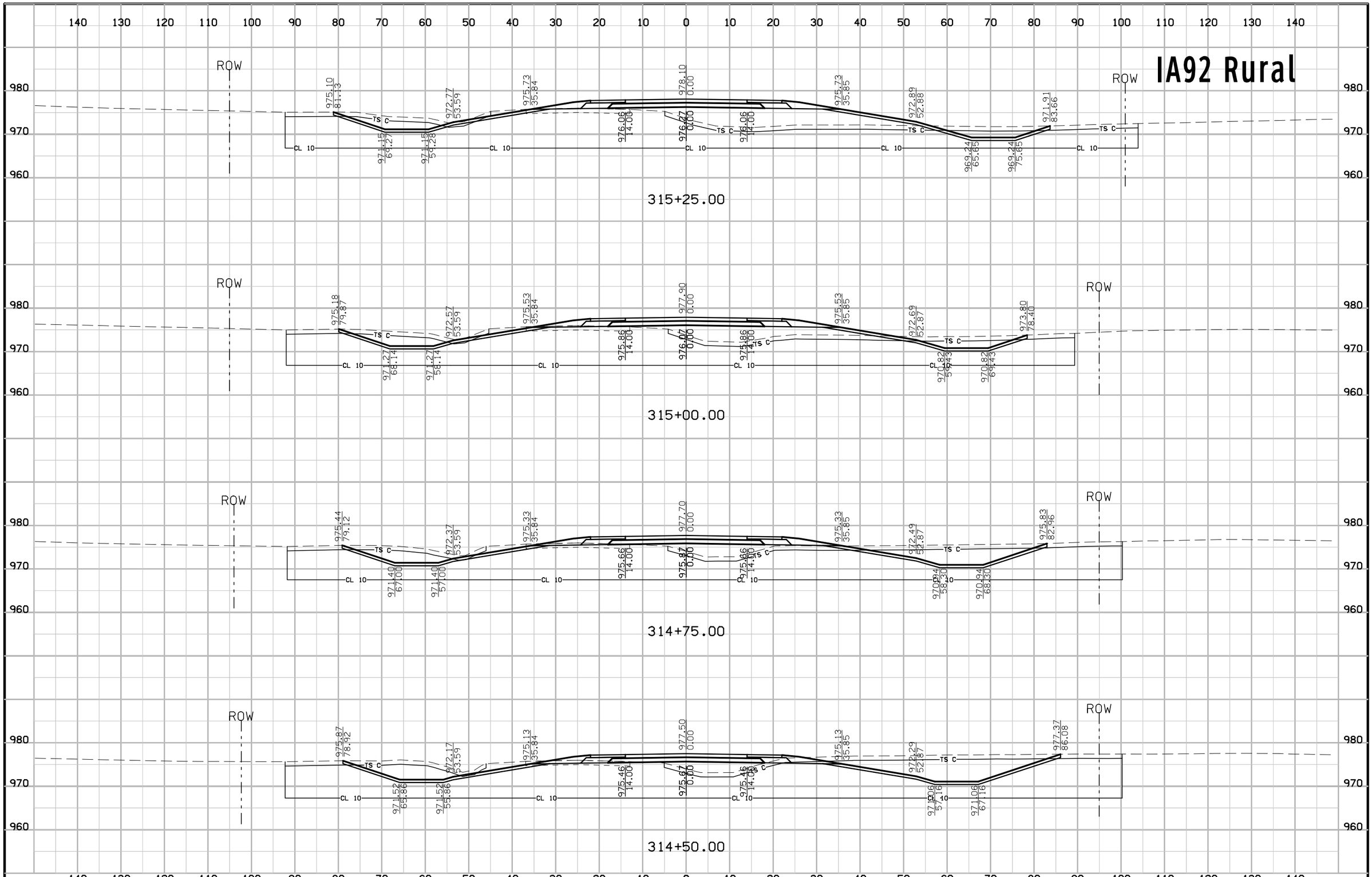
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.71

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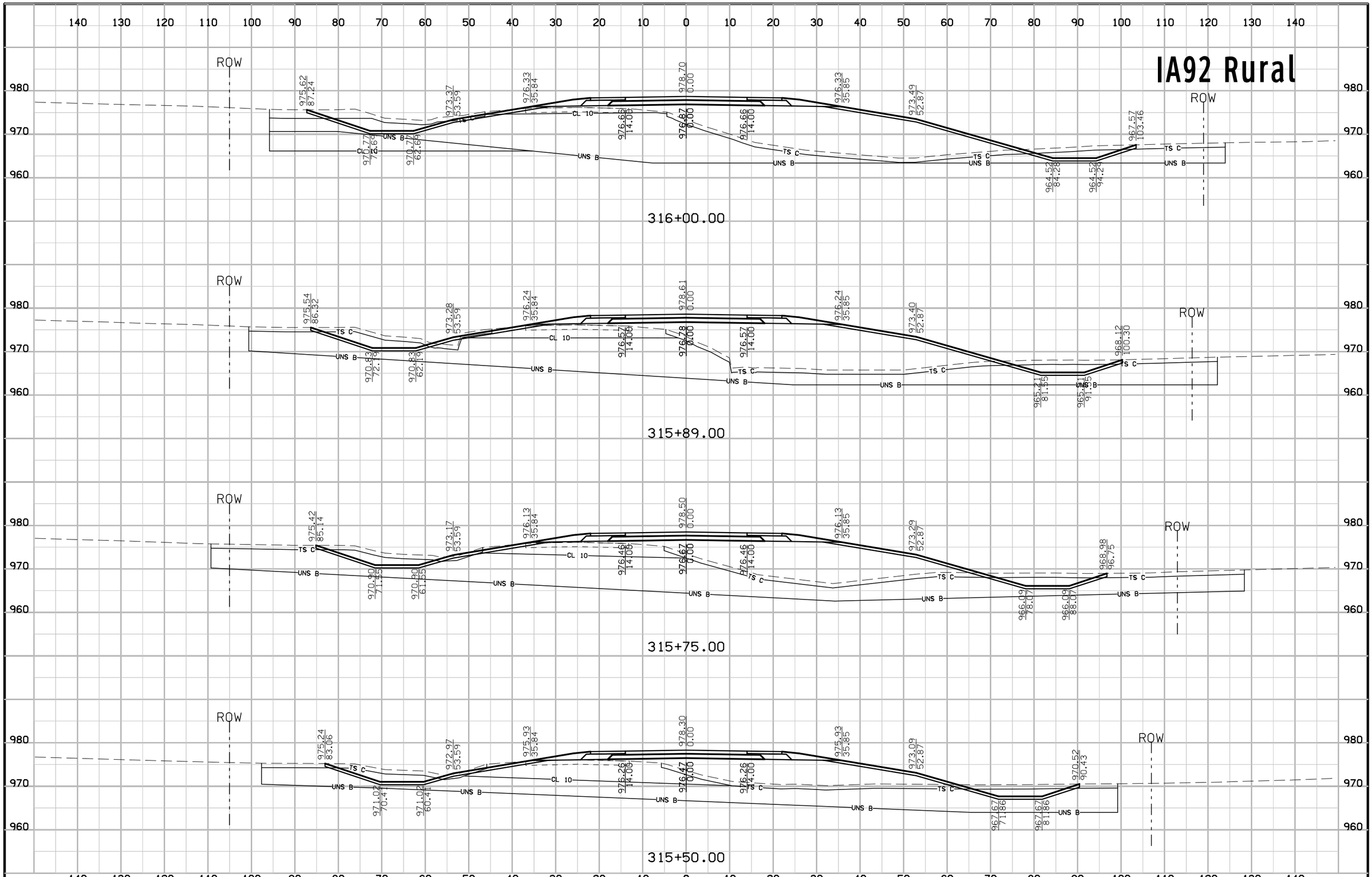
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.72

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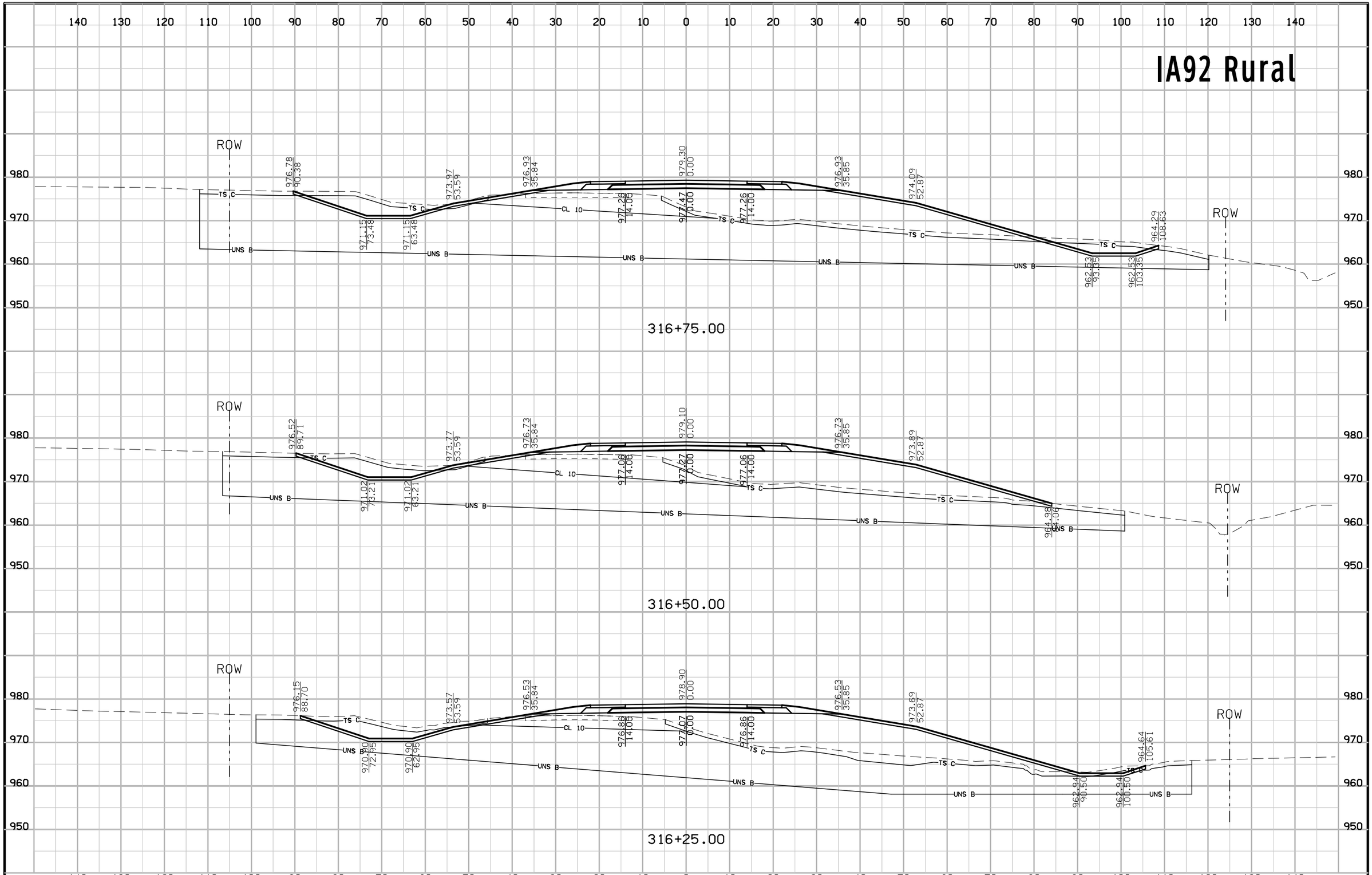
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.73

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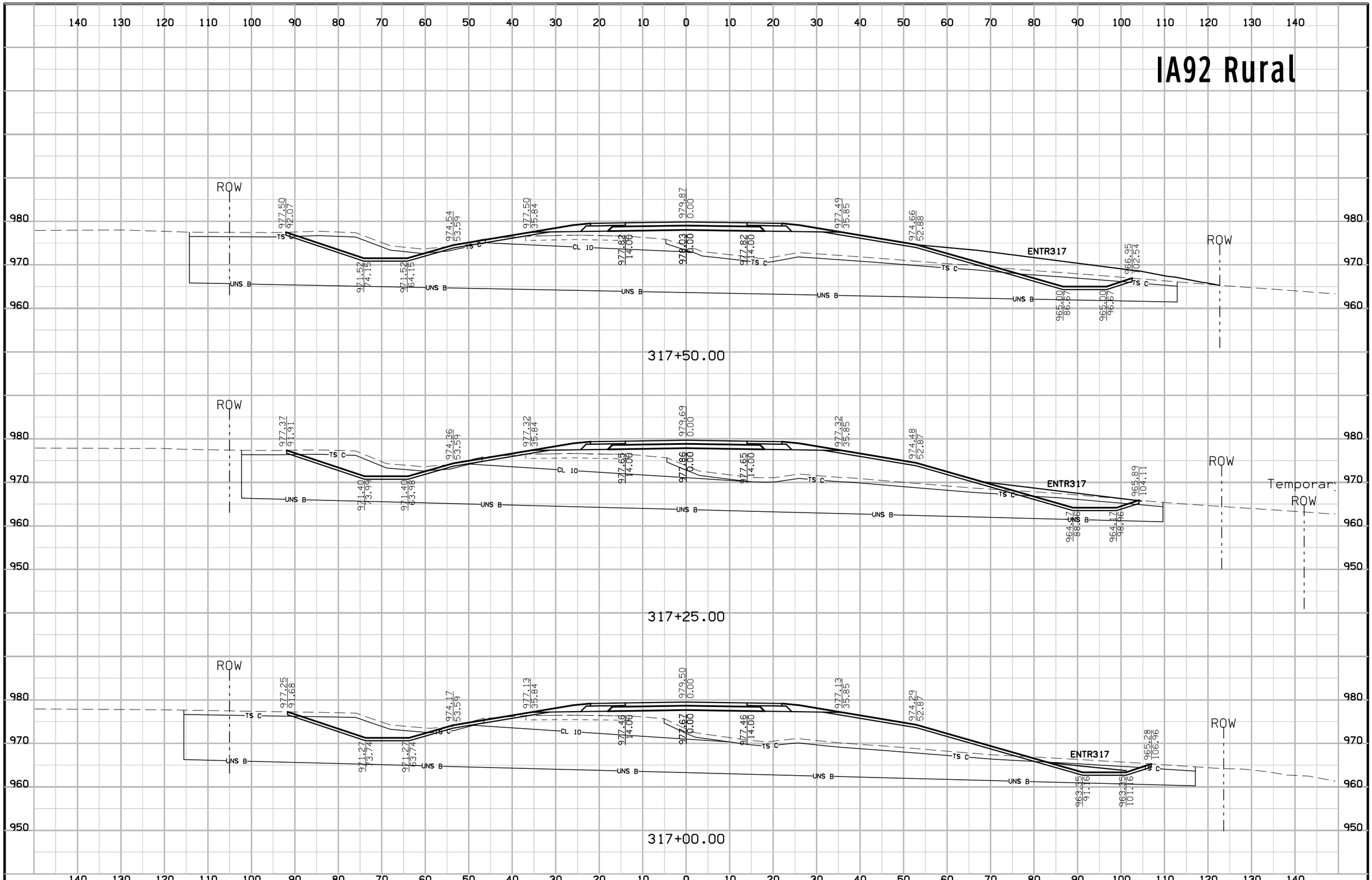
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.74

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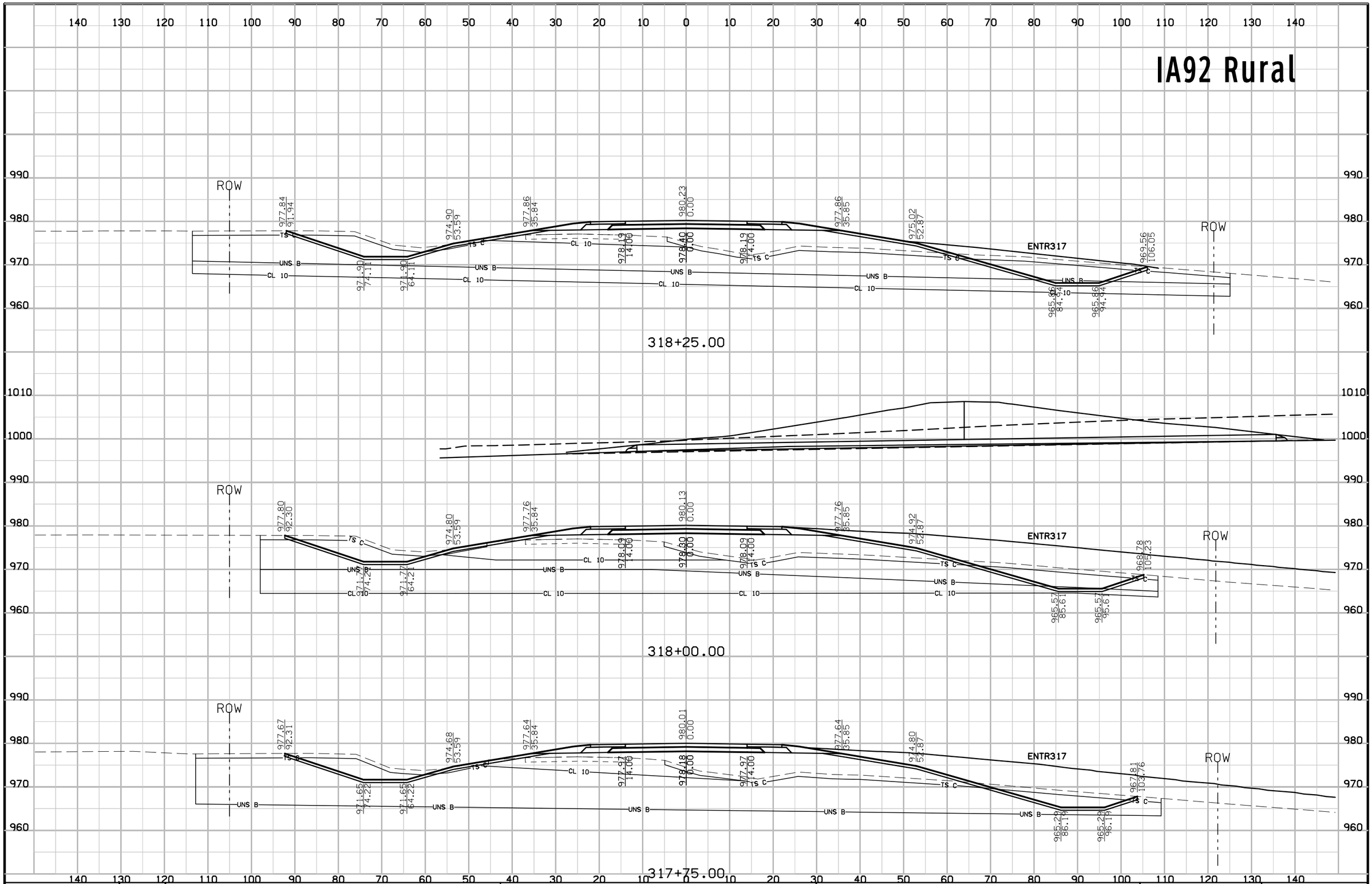
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.75

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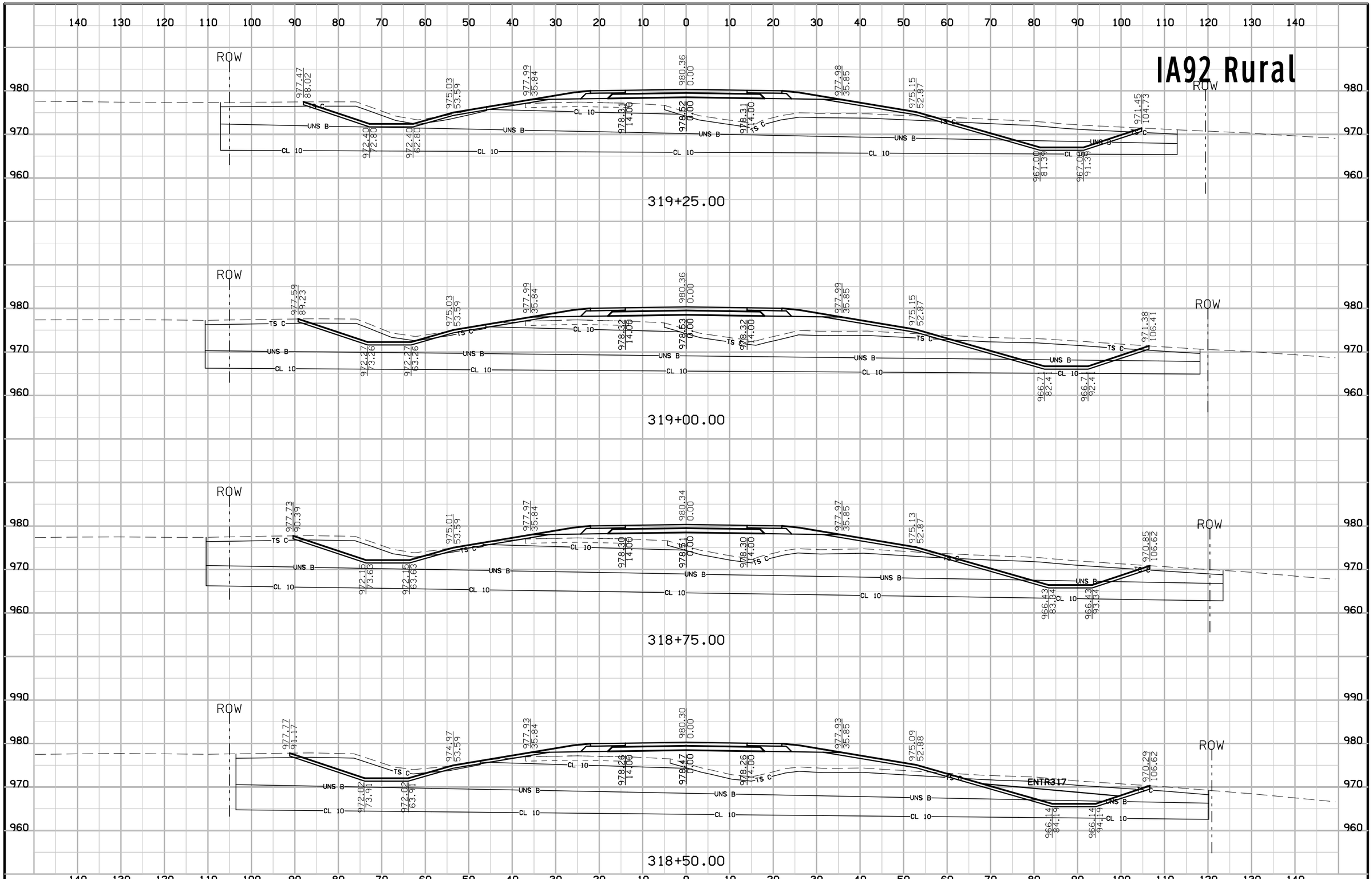
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.76

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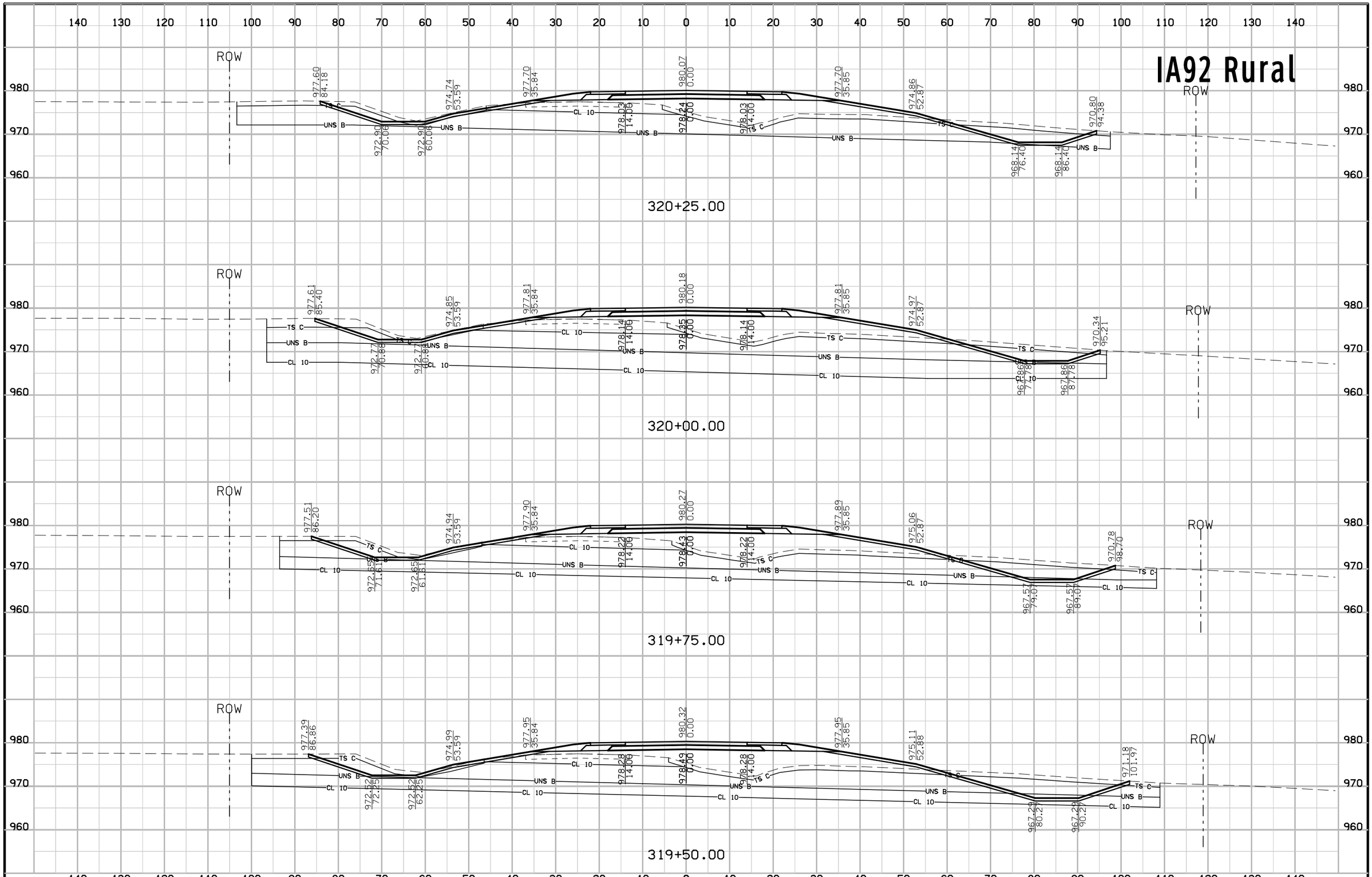
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.77

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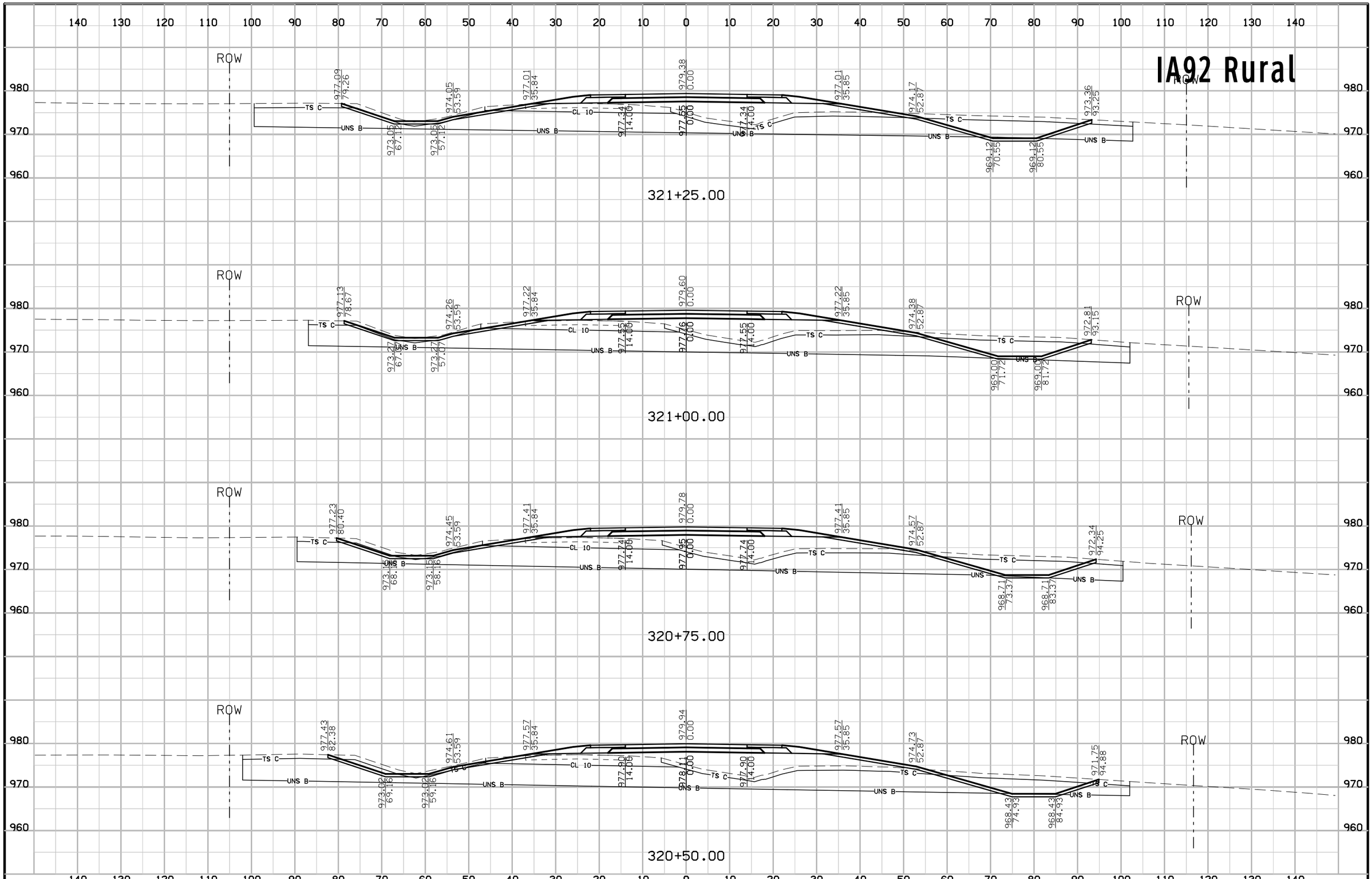
IA92 Rural



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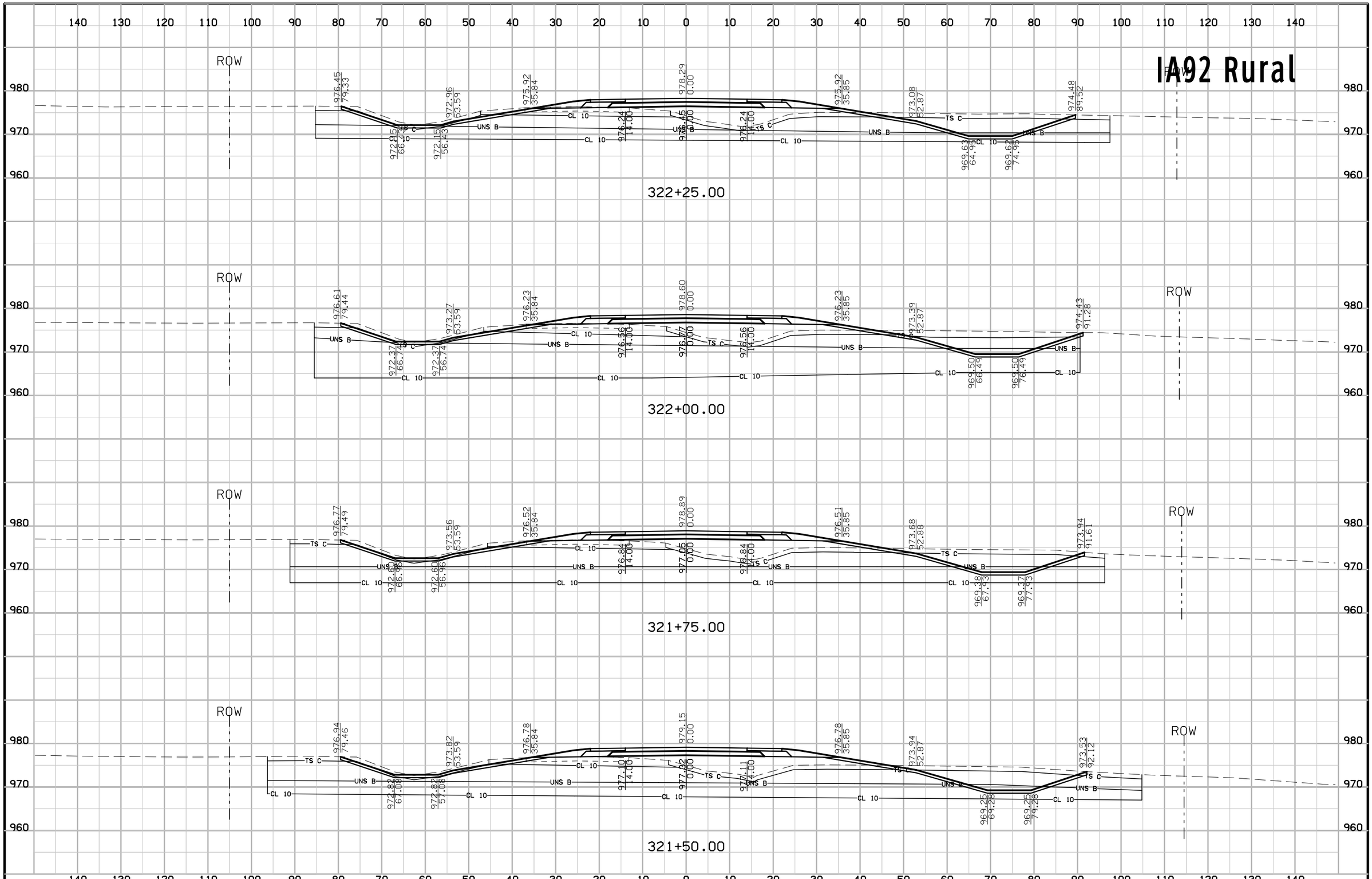
IA92 Rural



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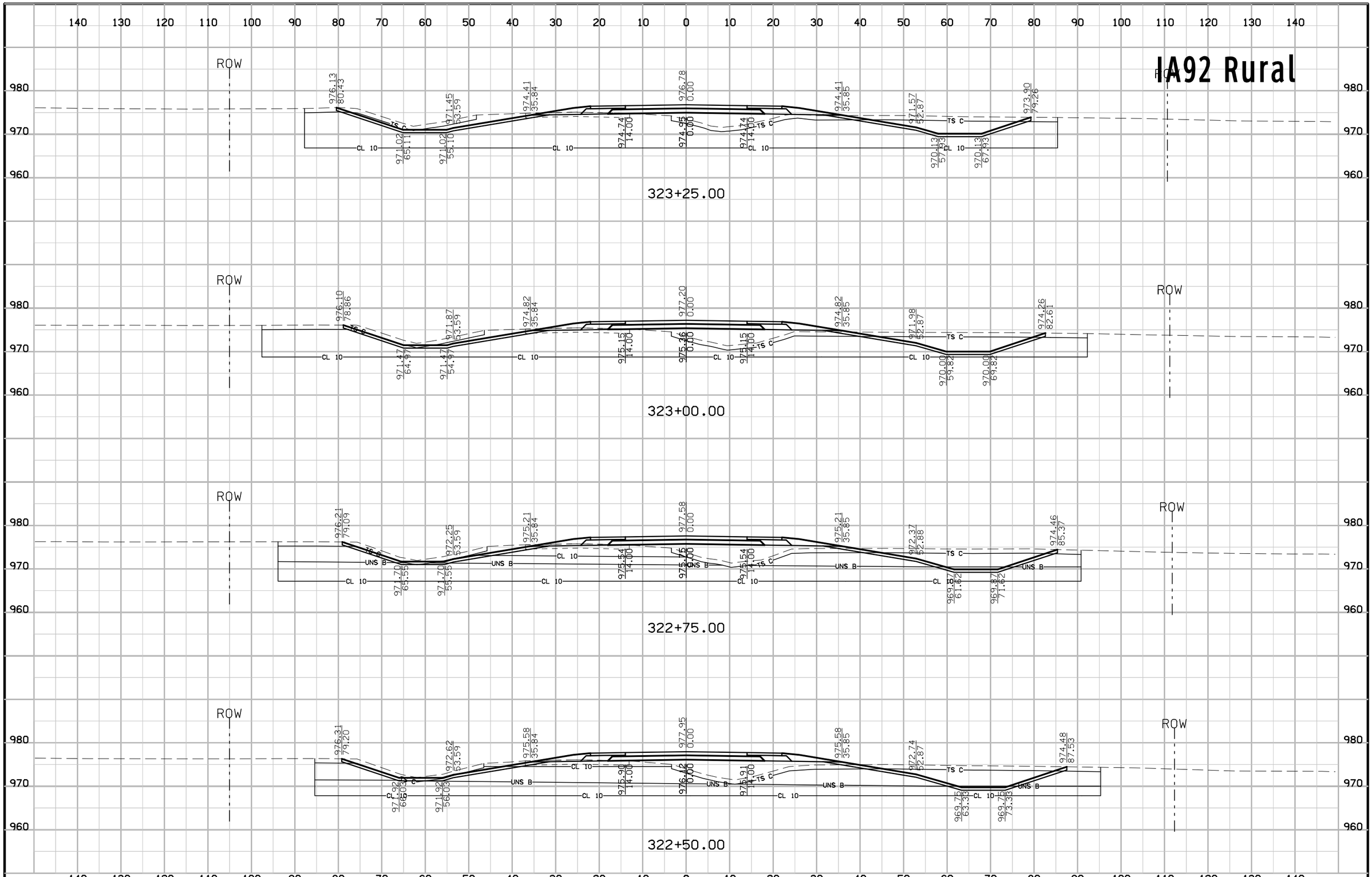
IA92 Rural



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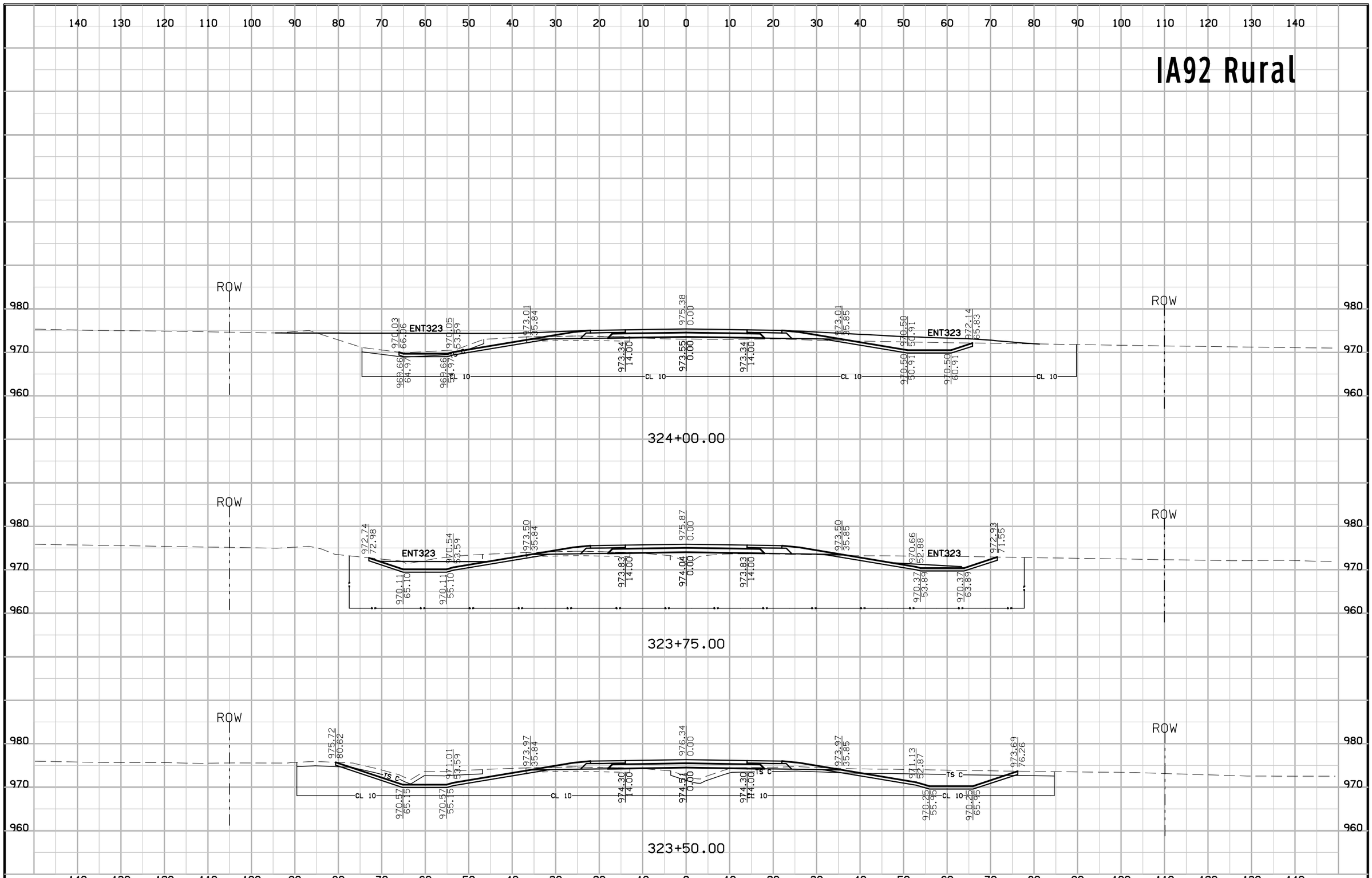
IA92 Rural



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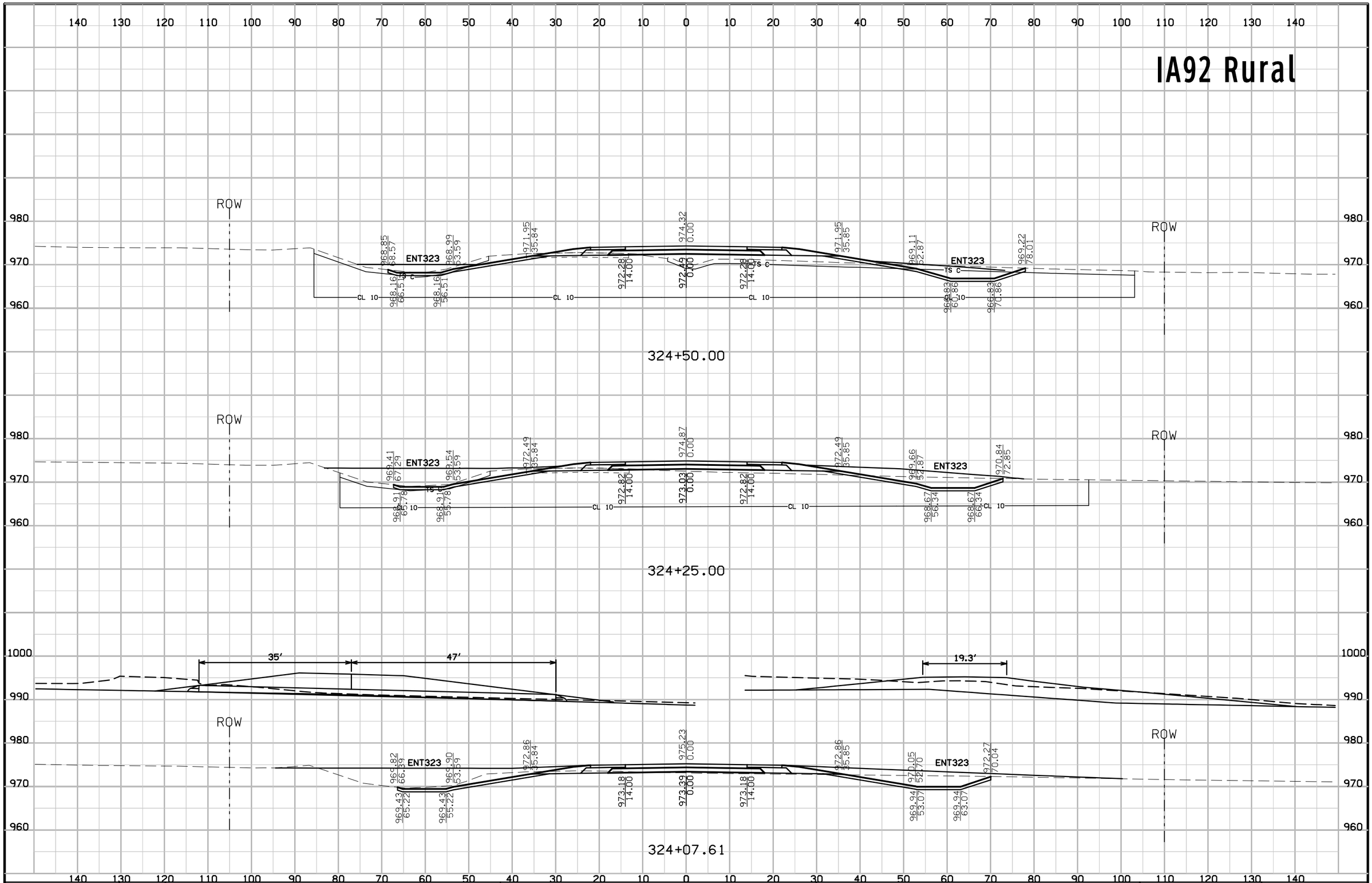
IA92 Rural



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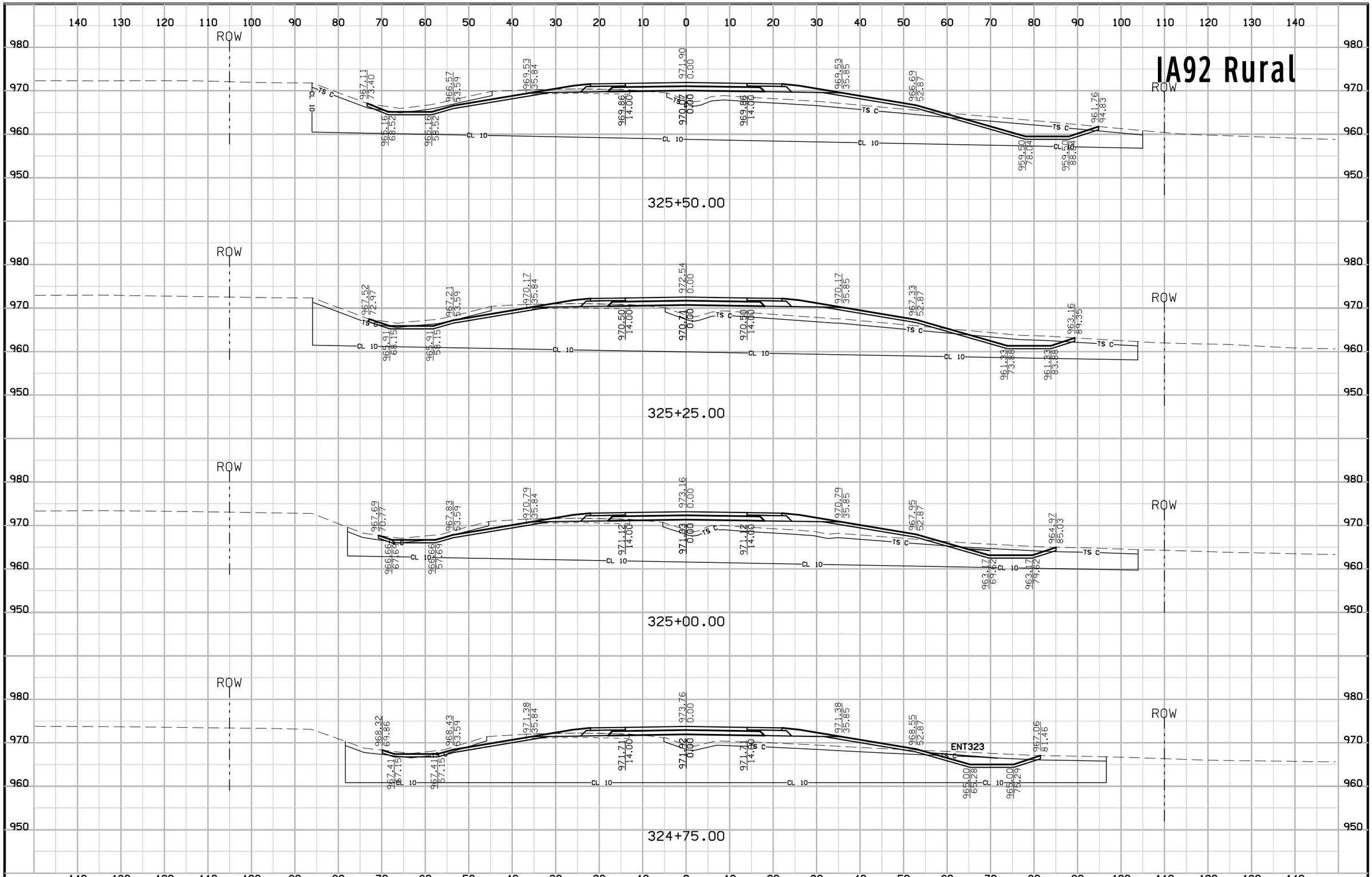

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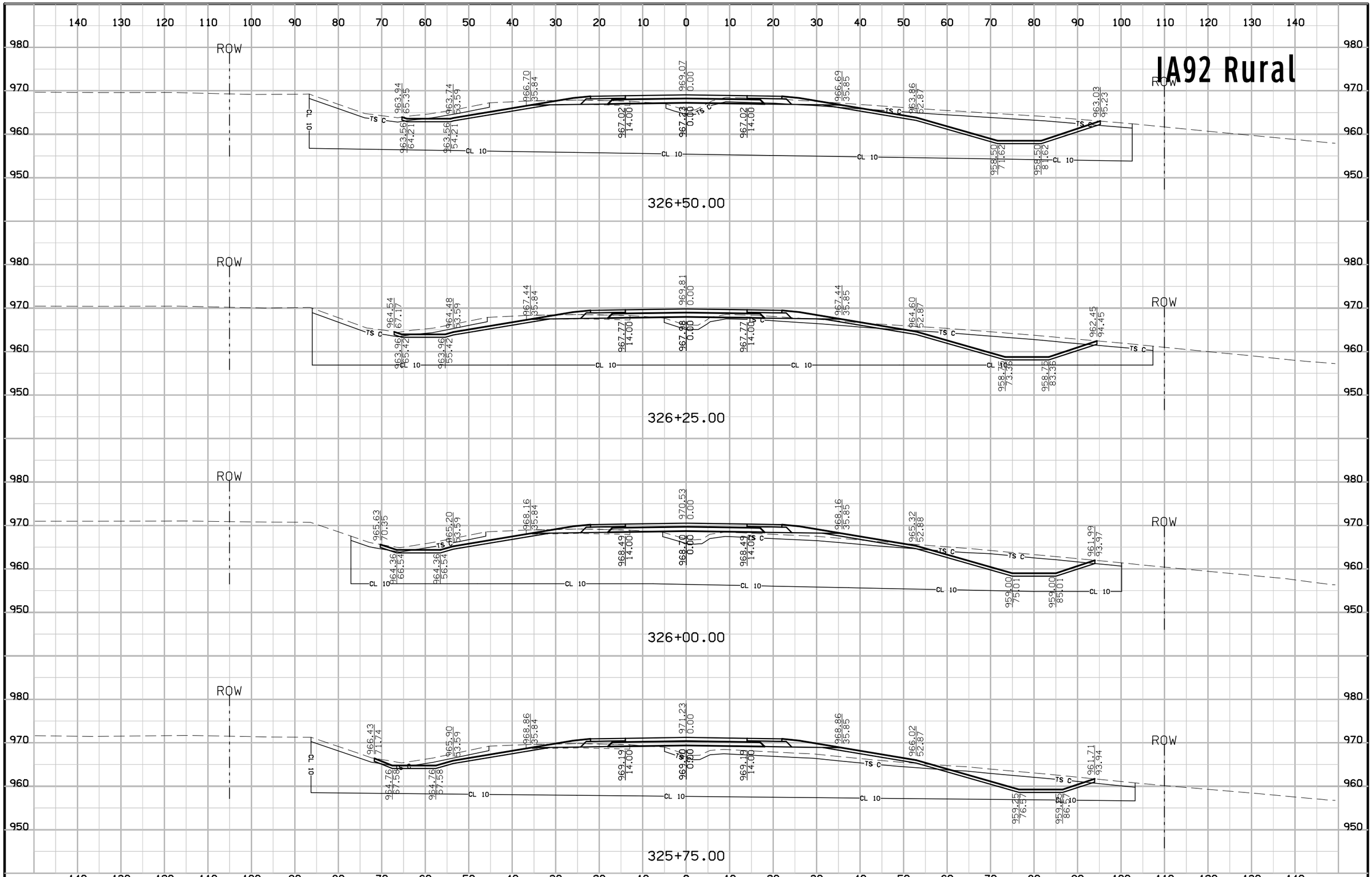

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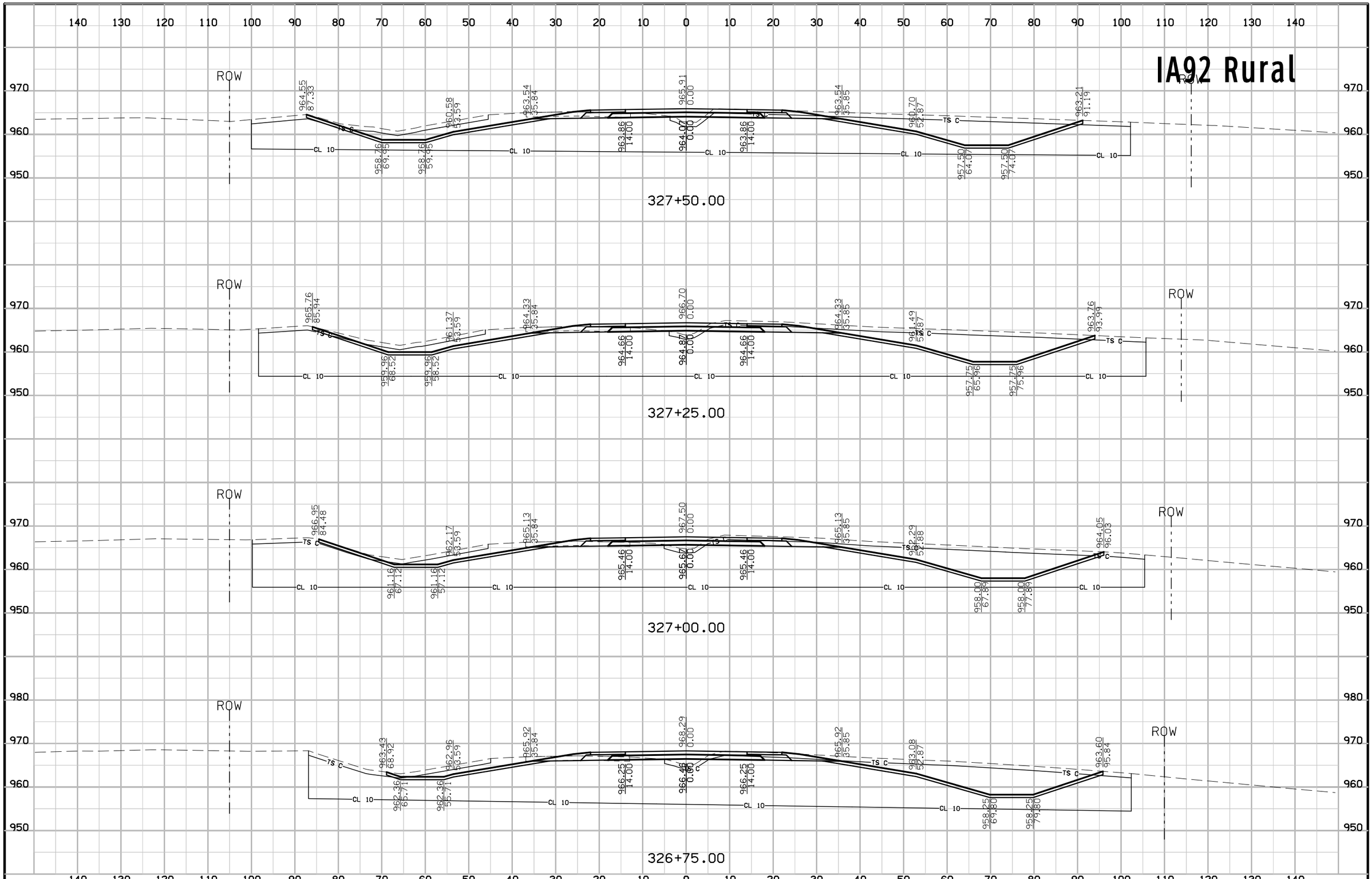
IA92 Rural



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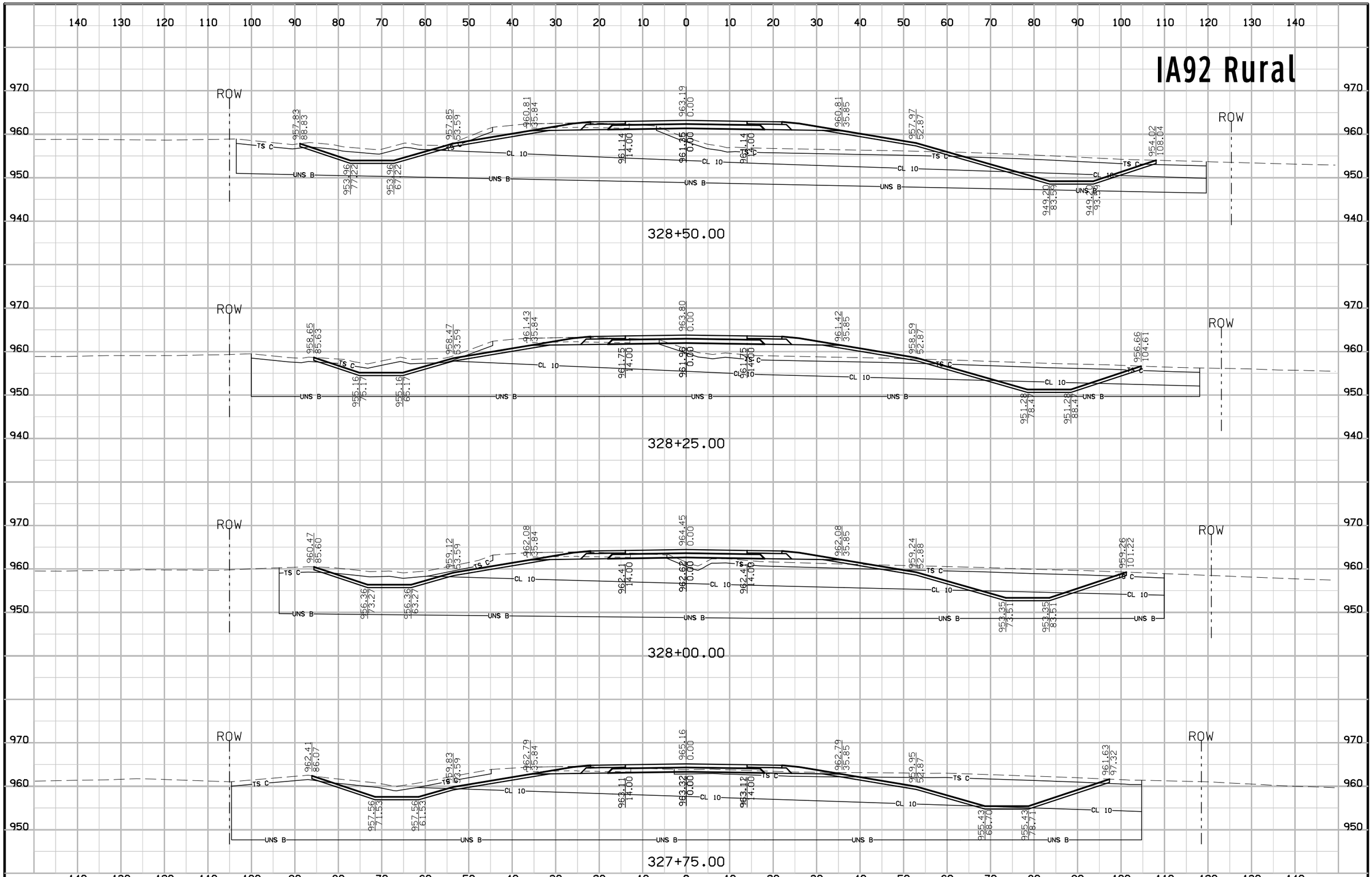
IA92 Rural



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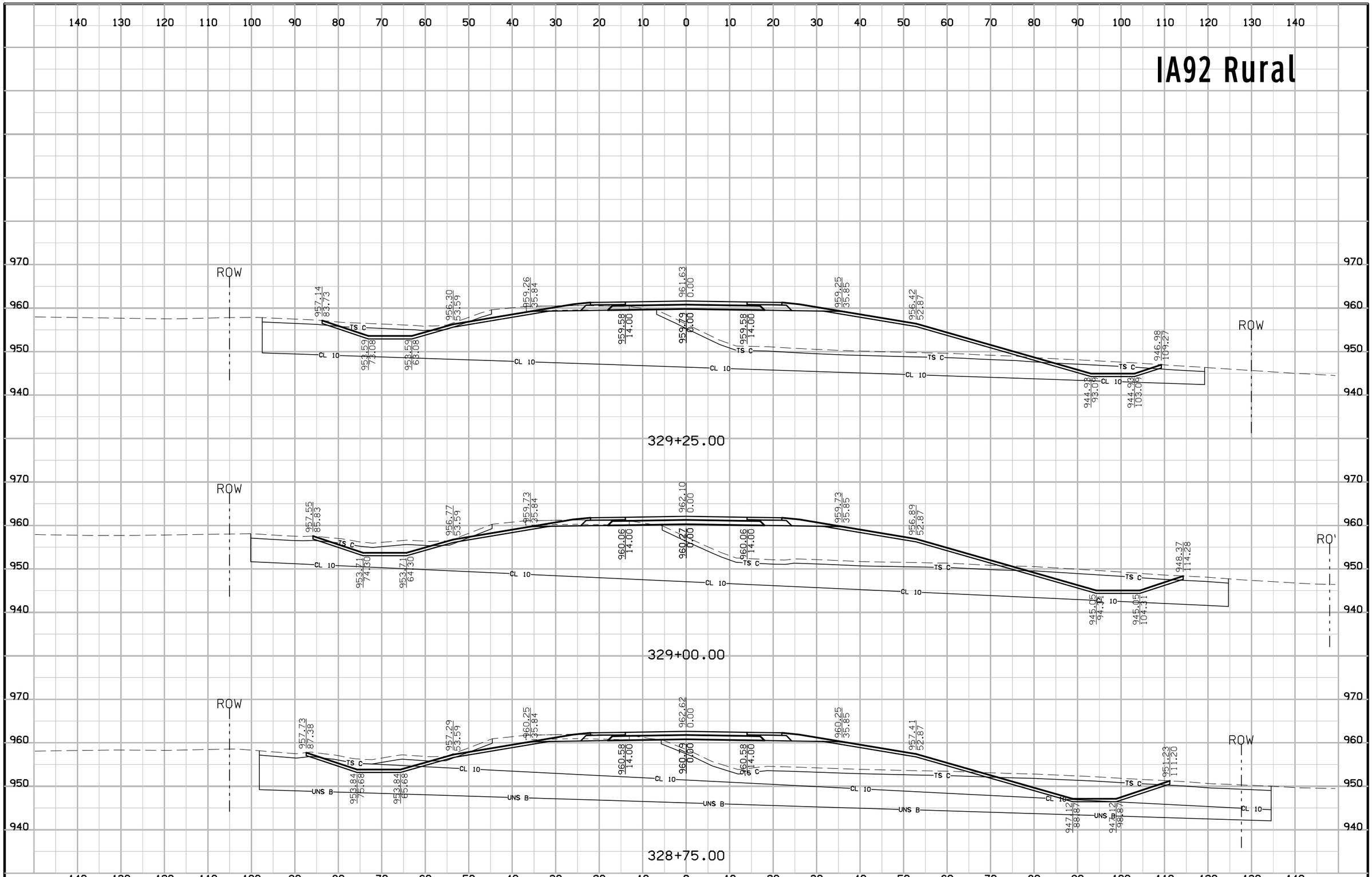
IA92 Rural



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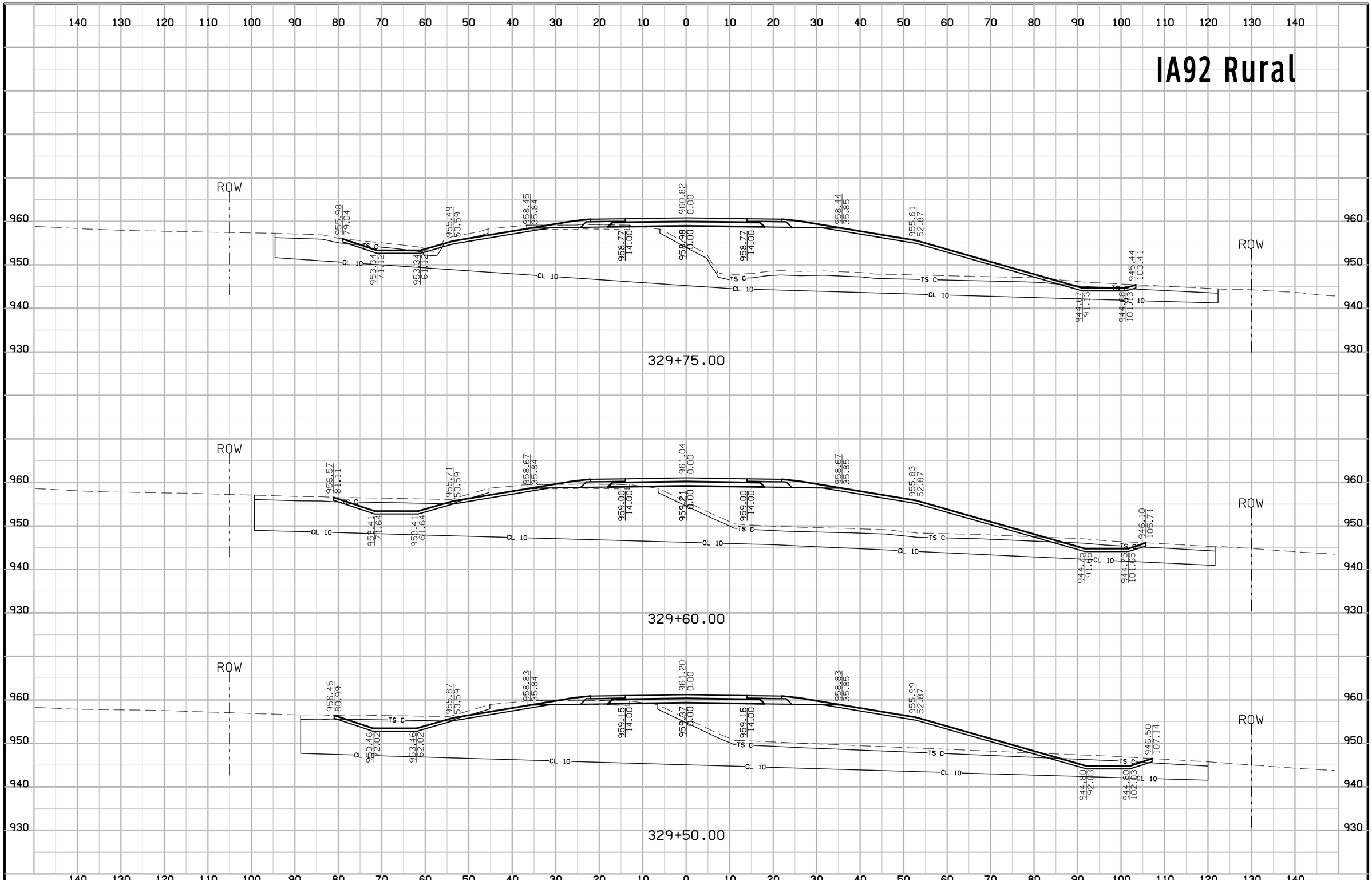
IA92 Rural



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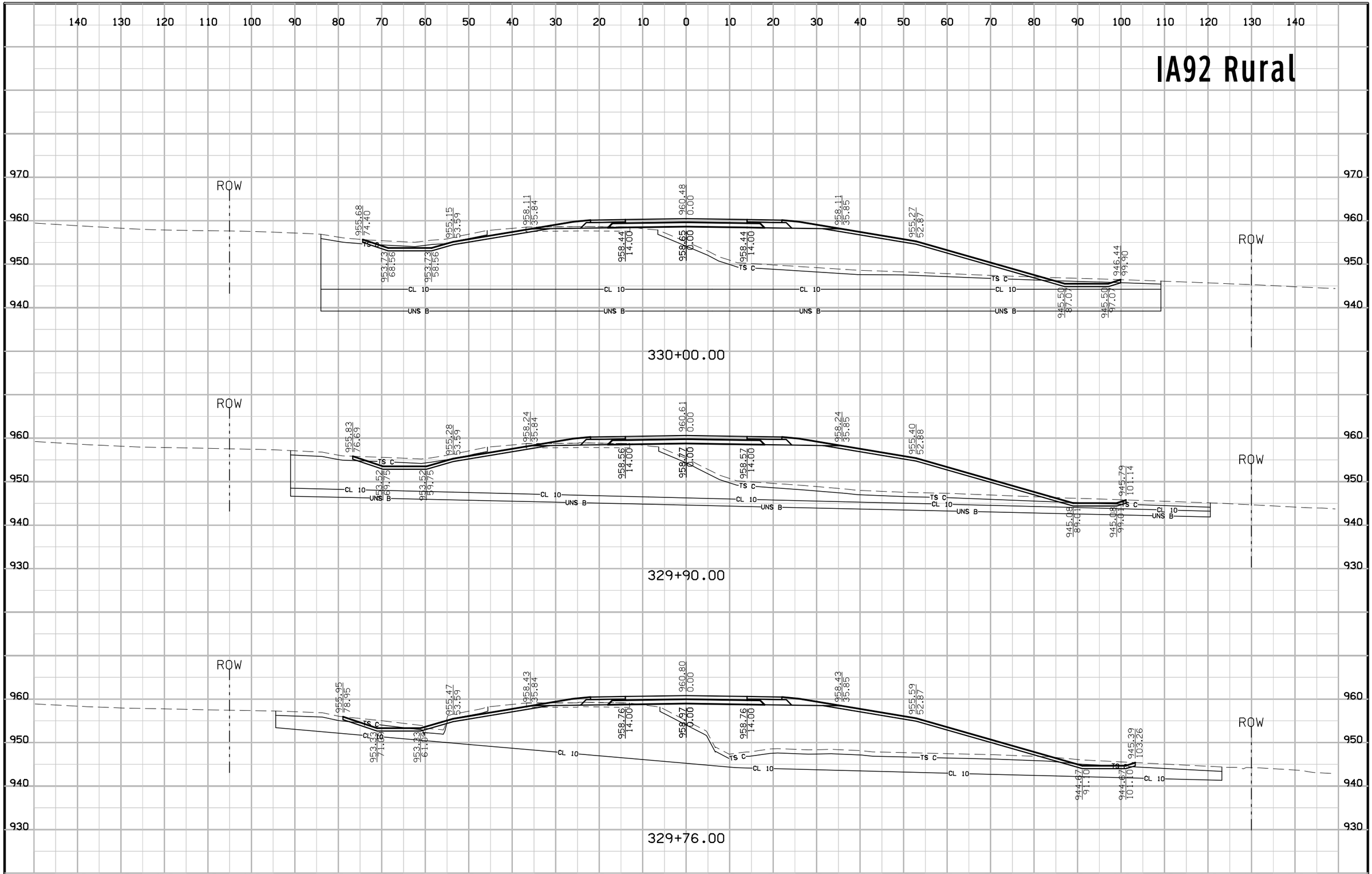
IA92 Rural



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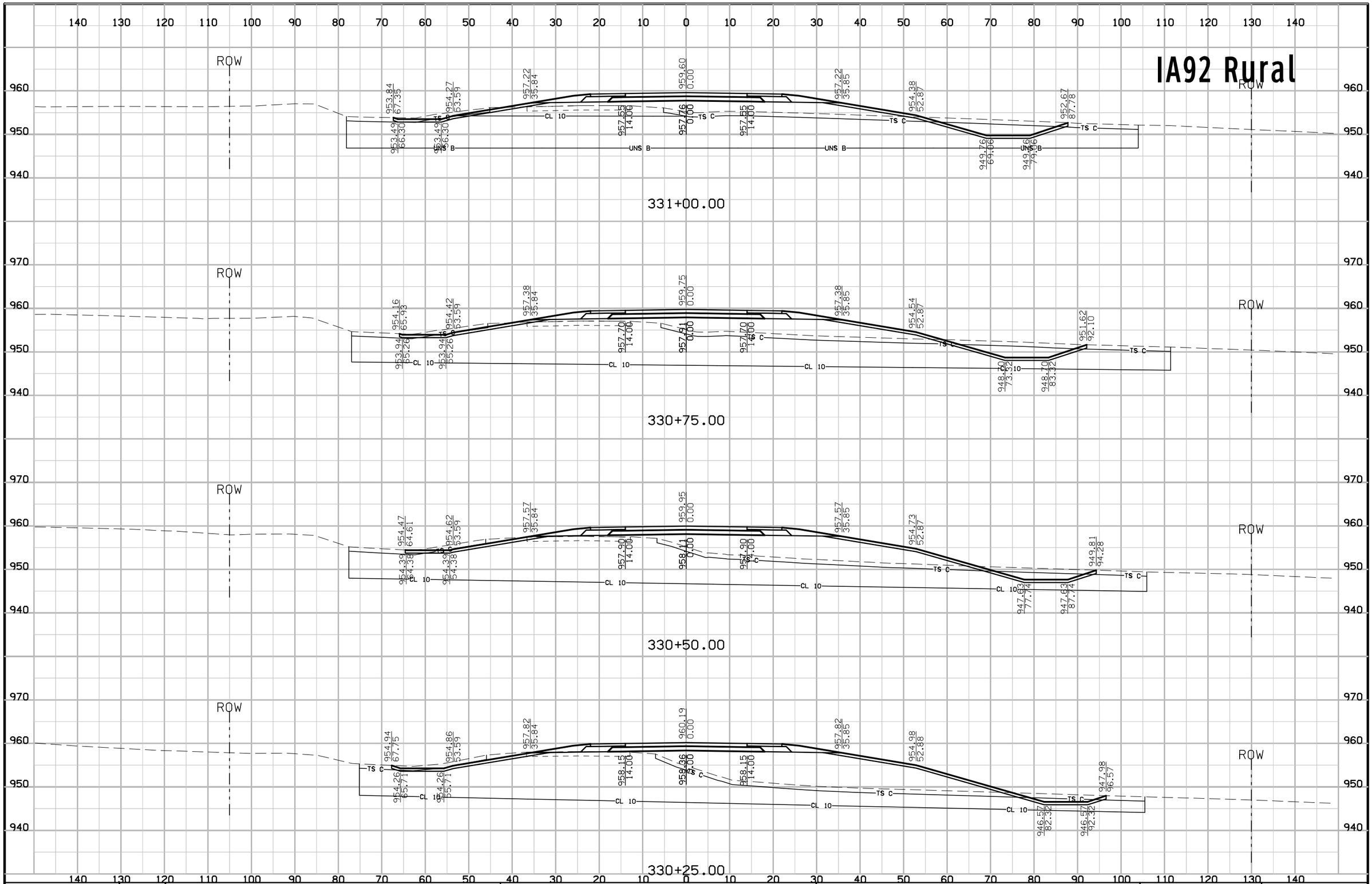
IA92 Rural



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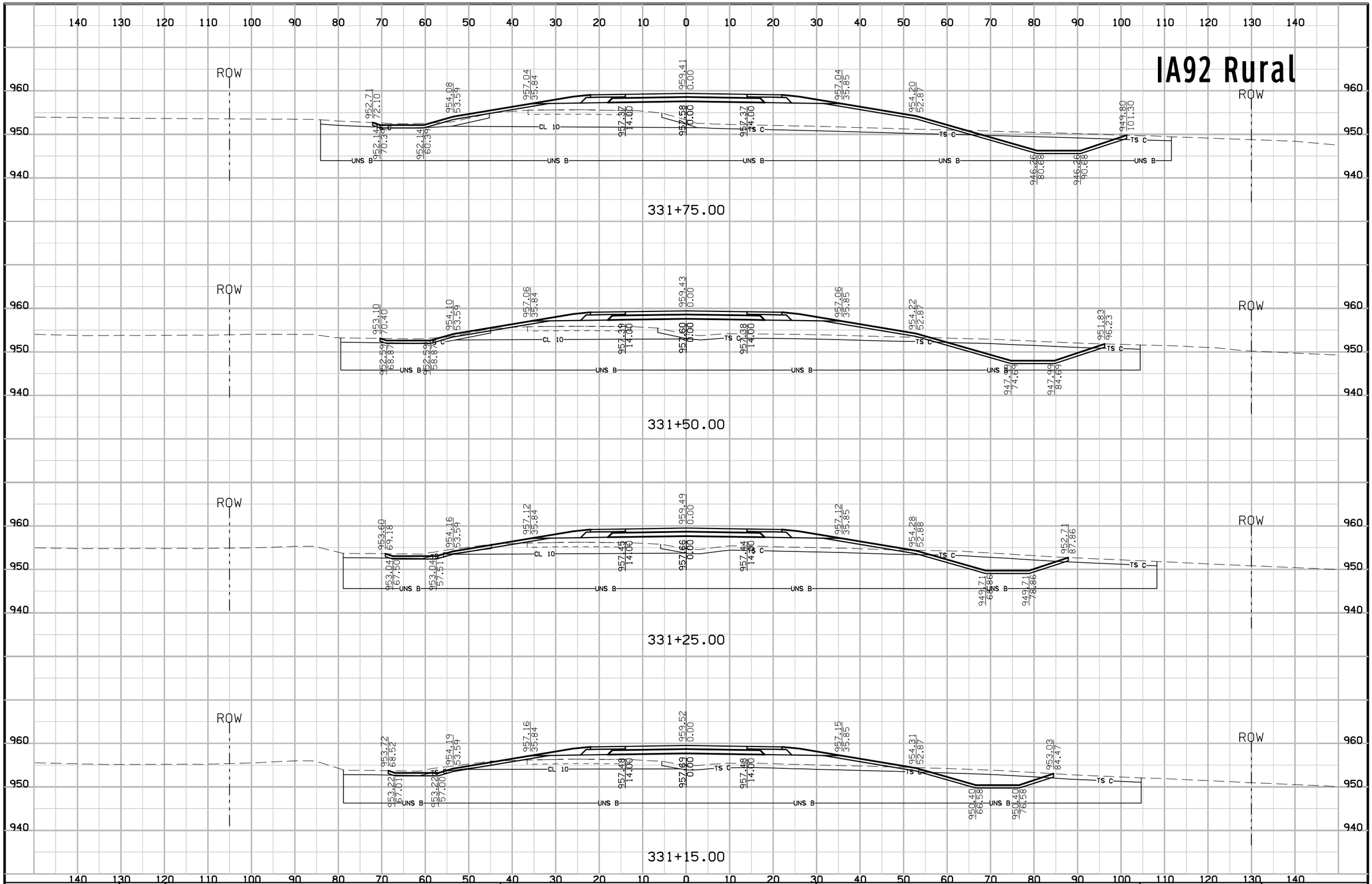
IA92 Rural



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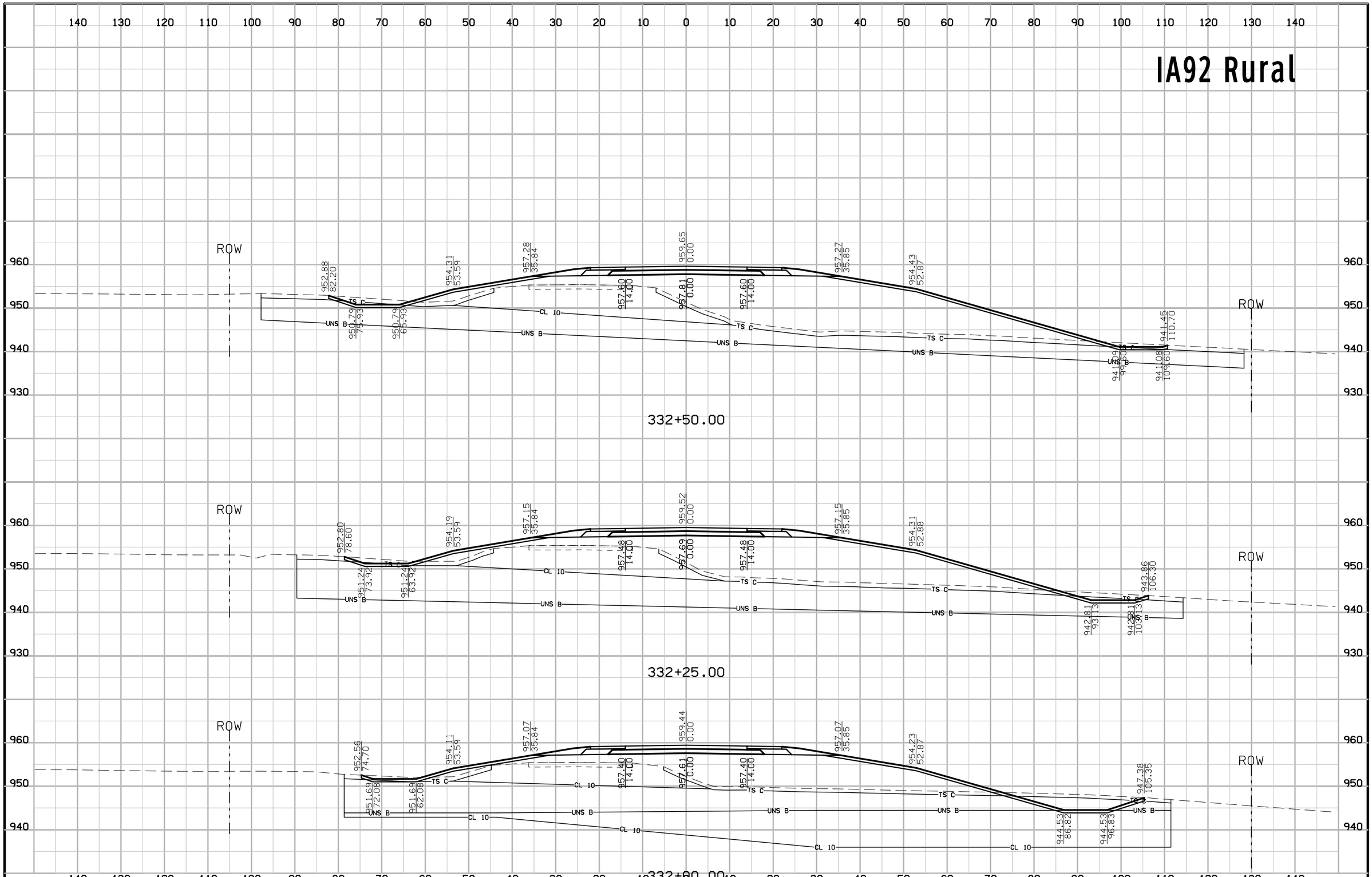
IA92 Rural



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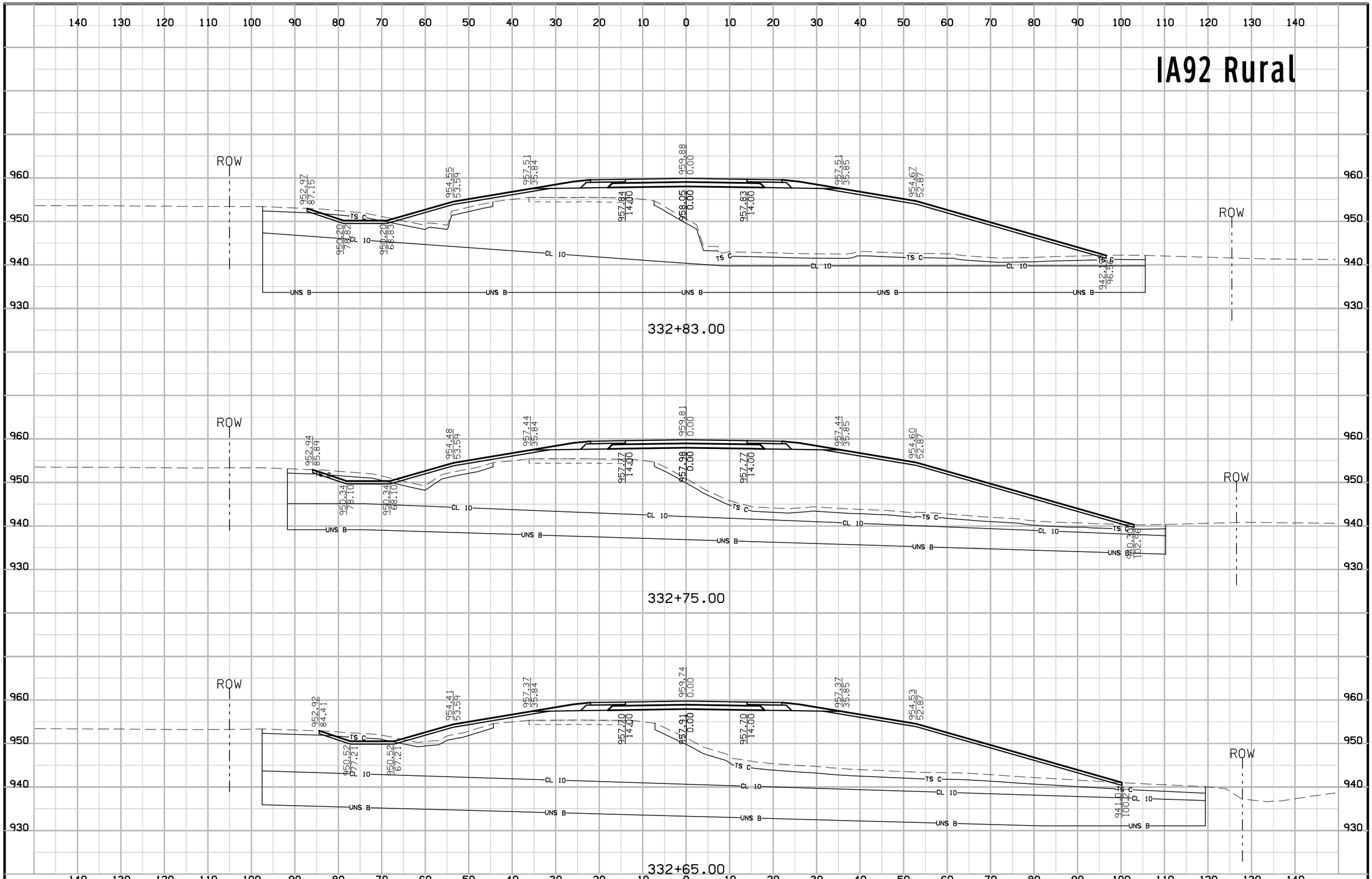
IA92 Rural



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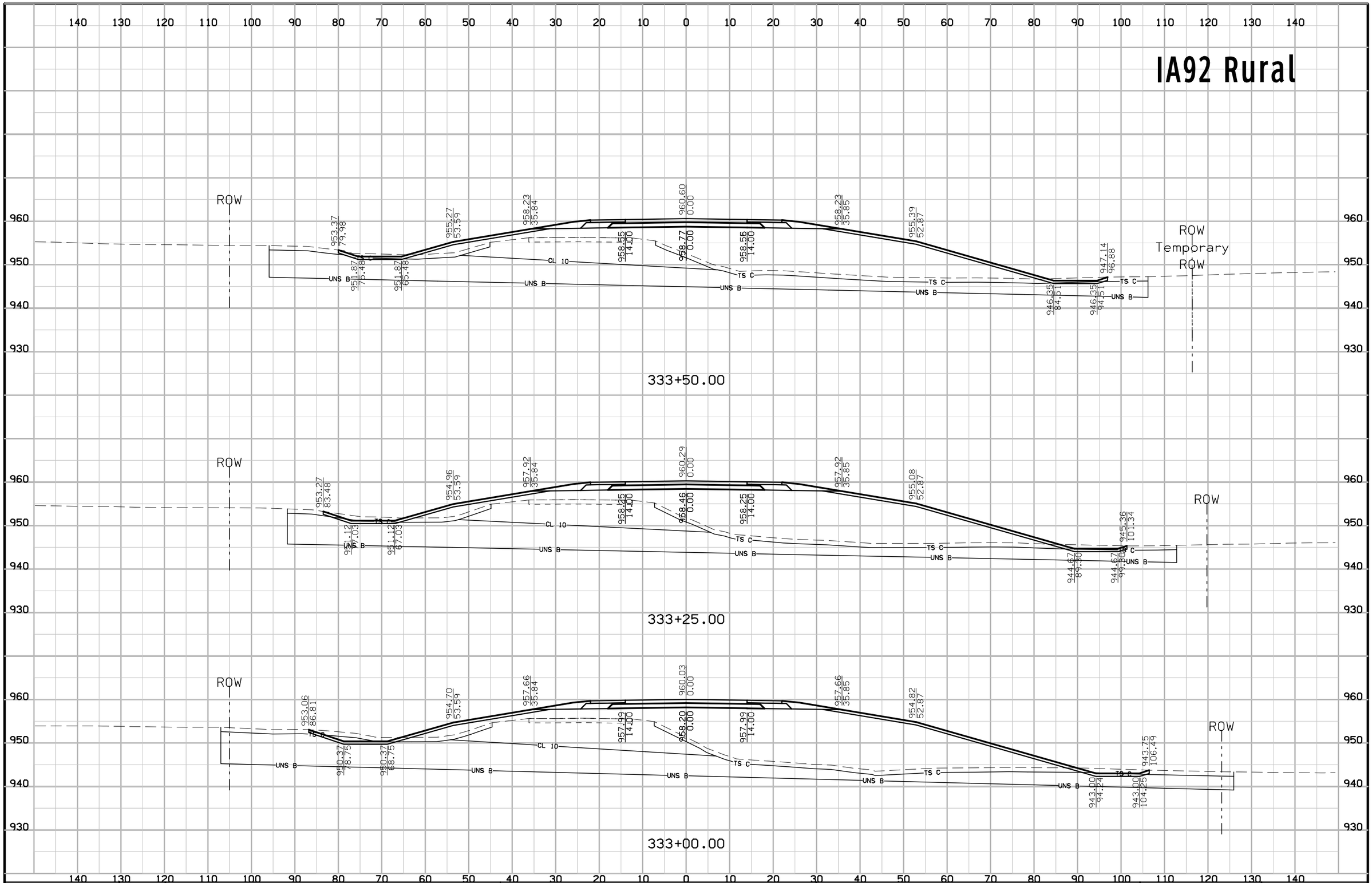
IA92 Rural



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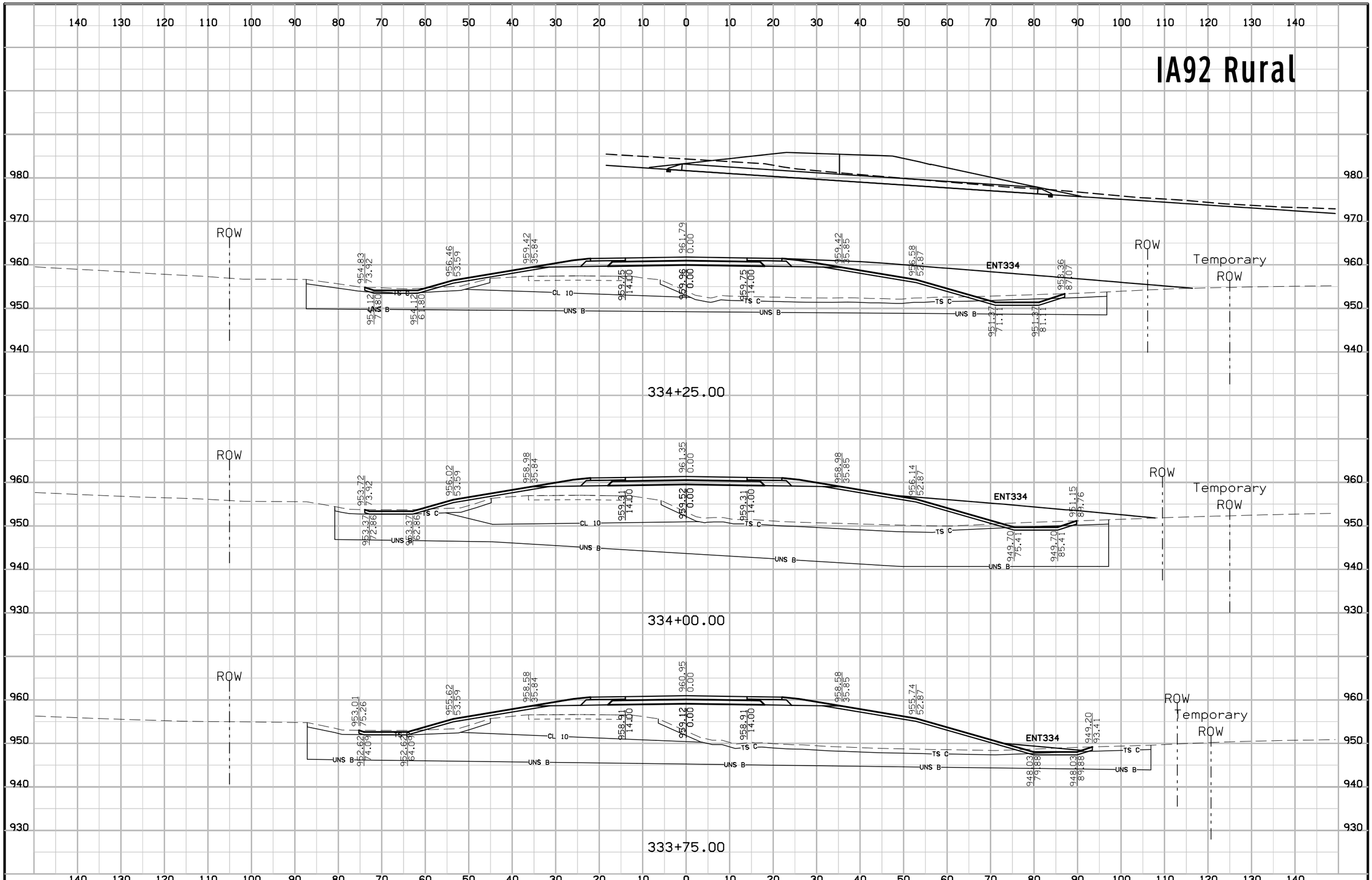

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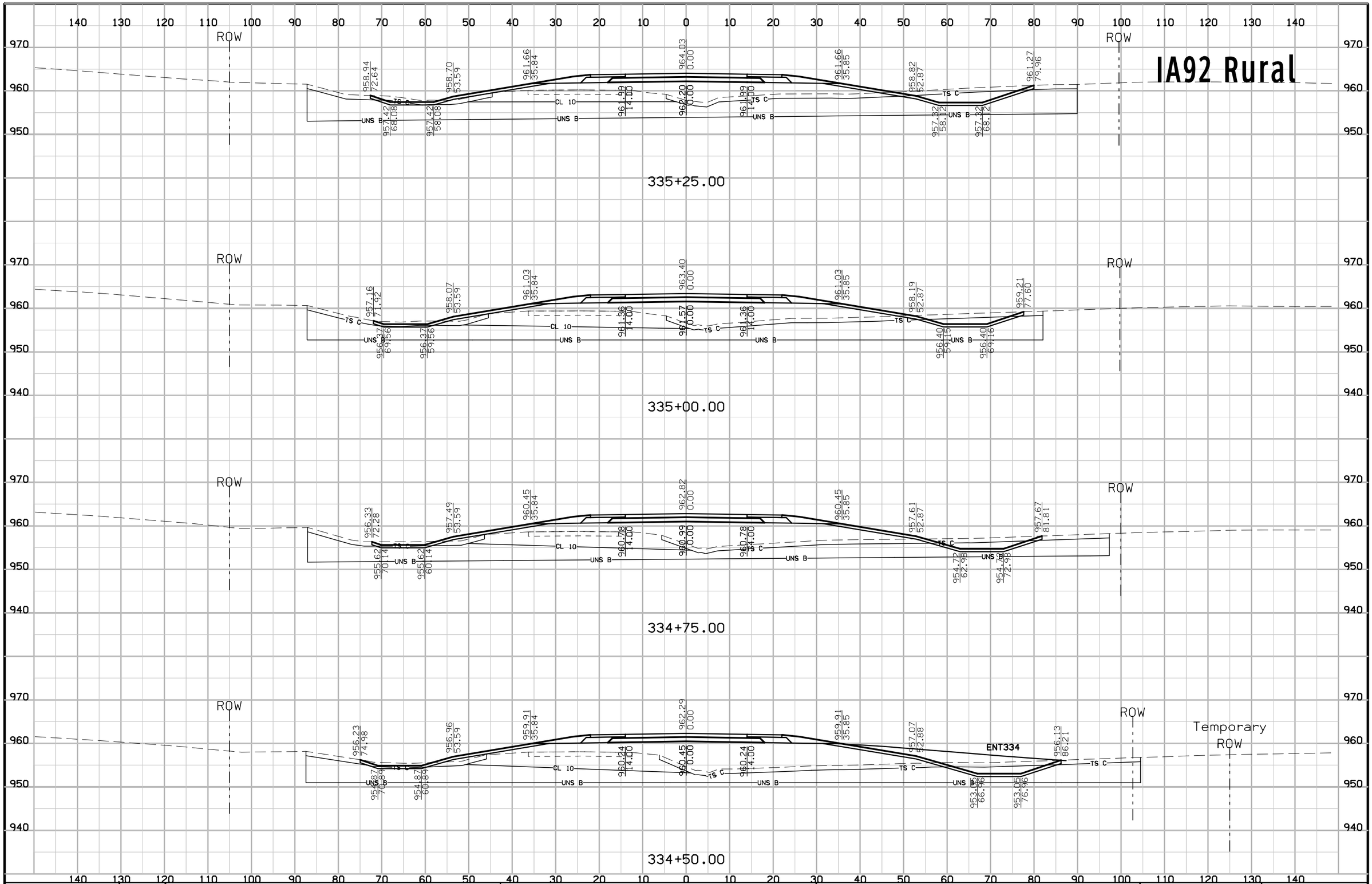
IA92 Rural



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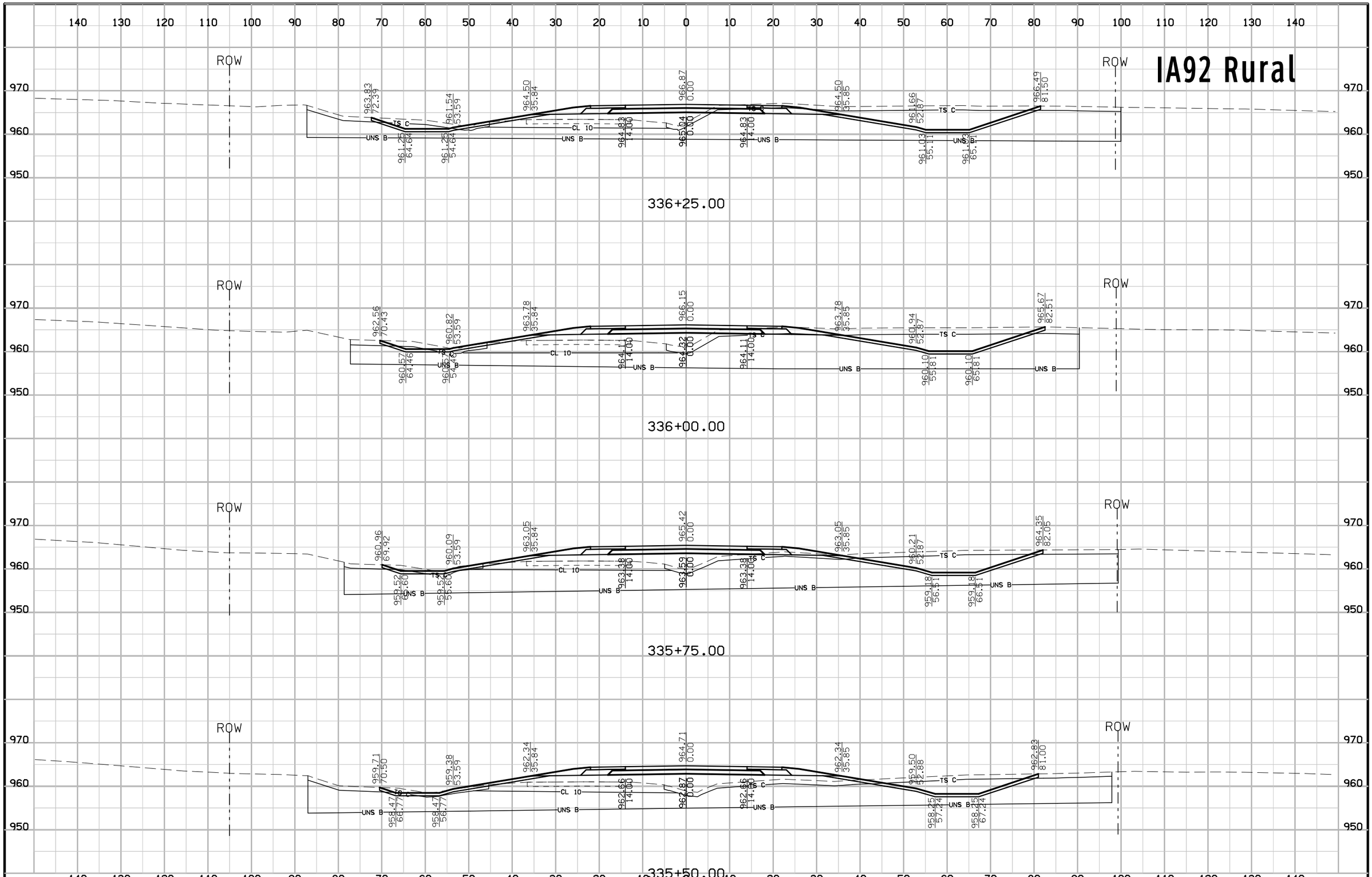
IA92 Rural



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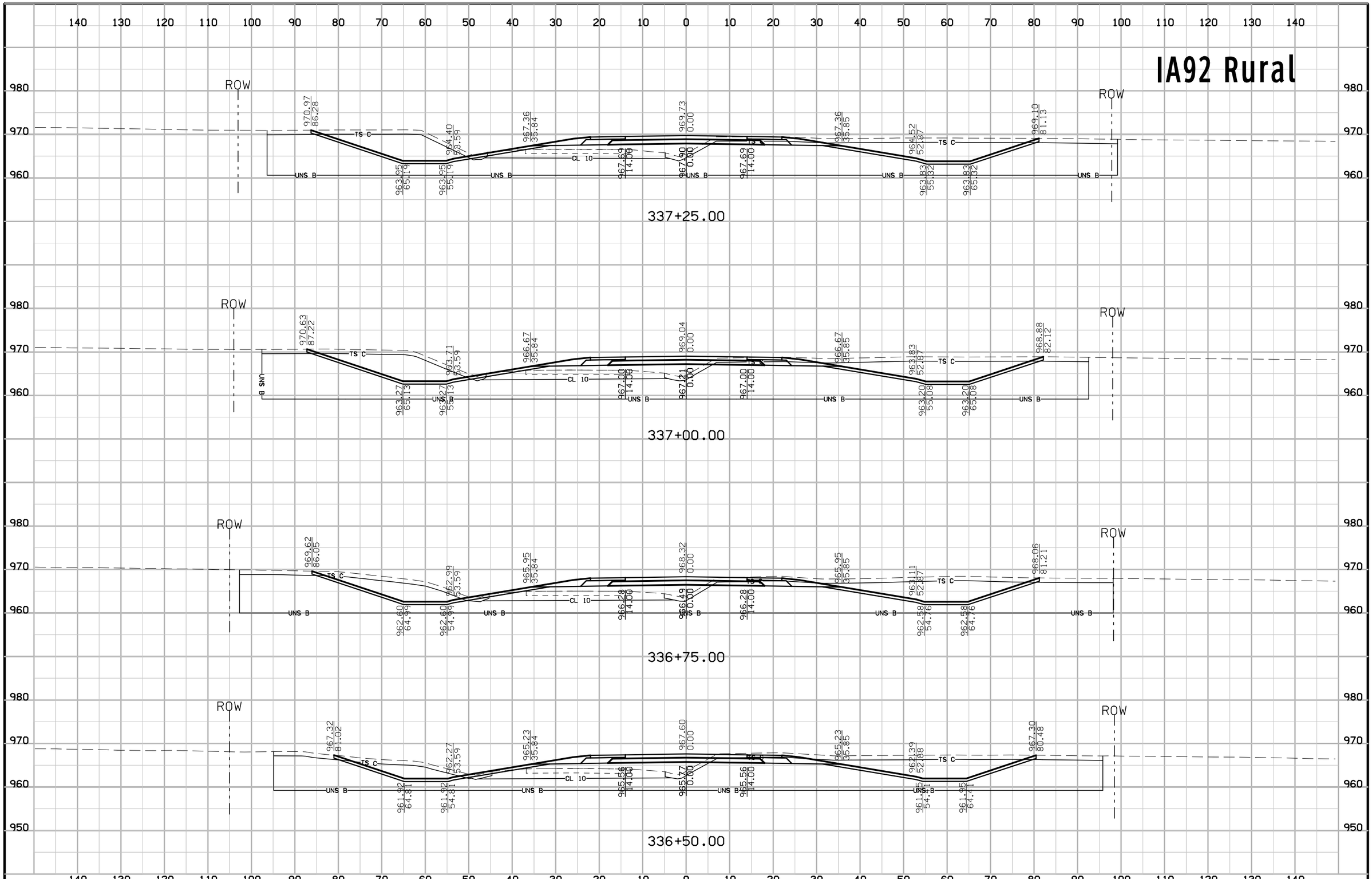

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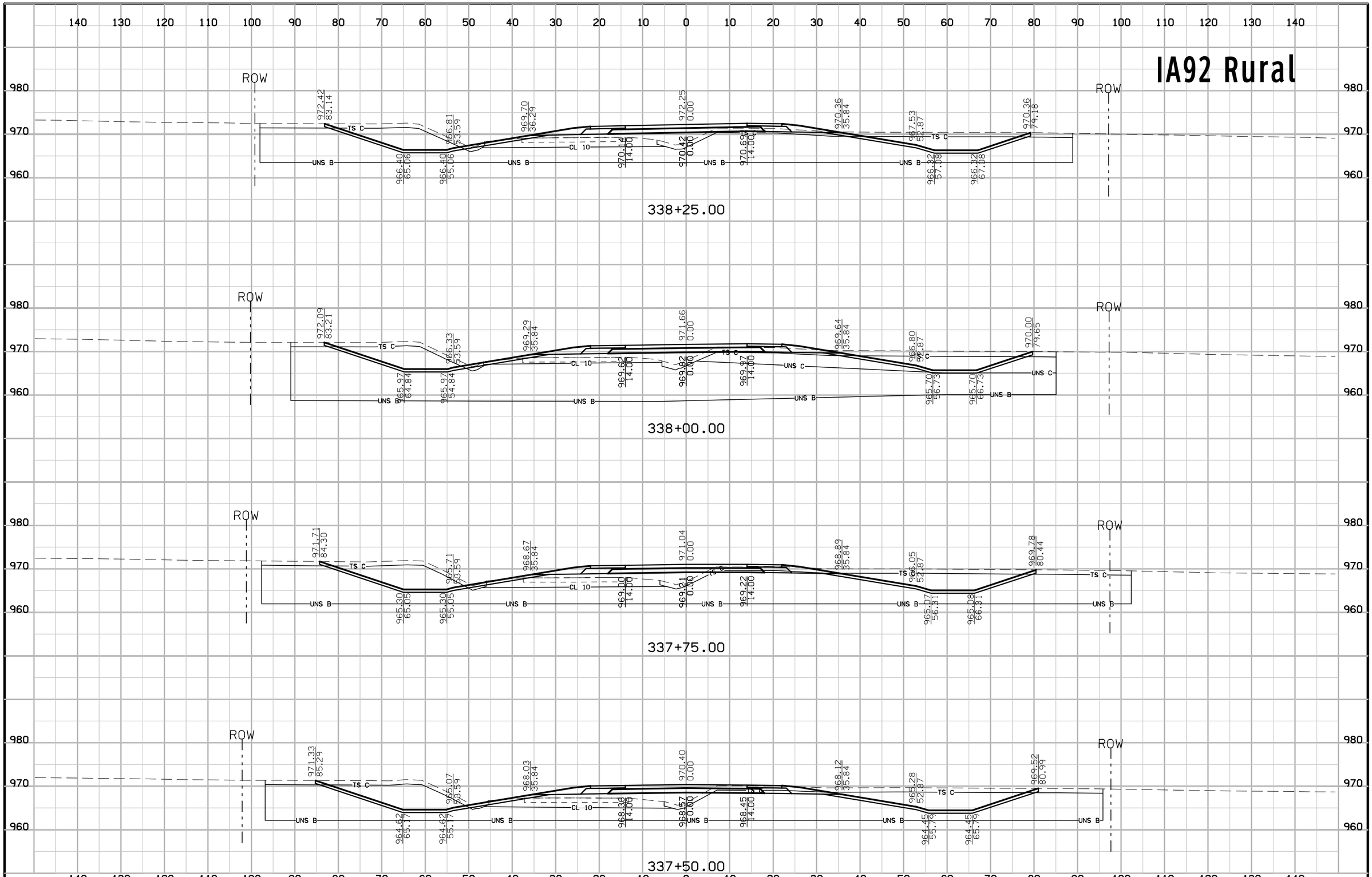
IA92 Rural



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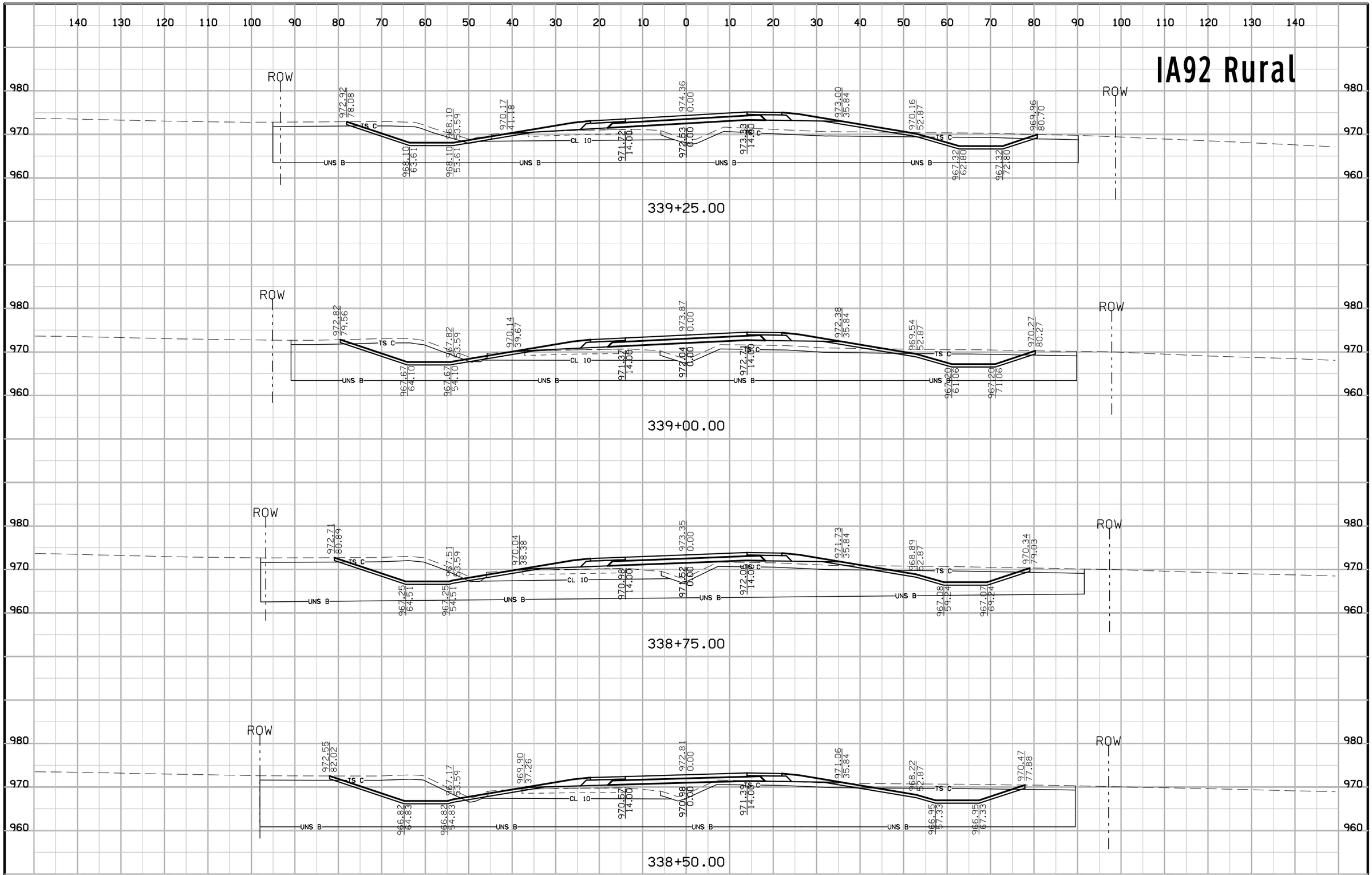
IA92 Rural



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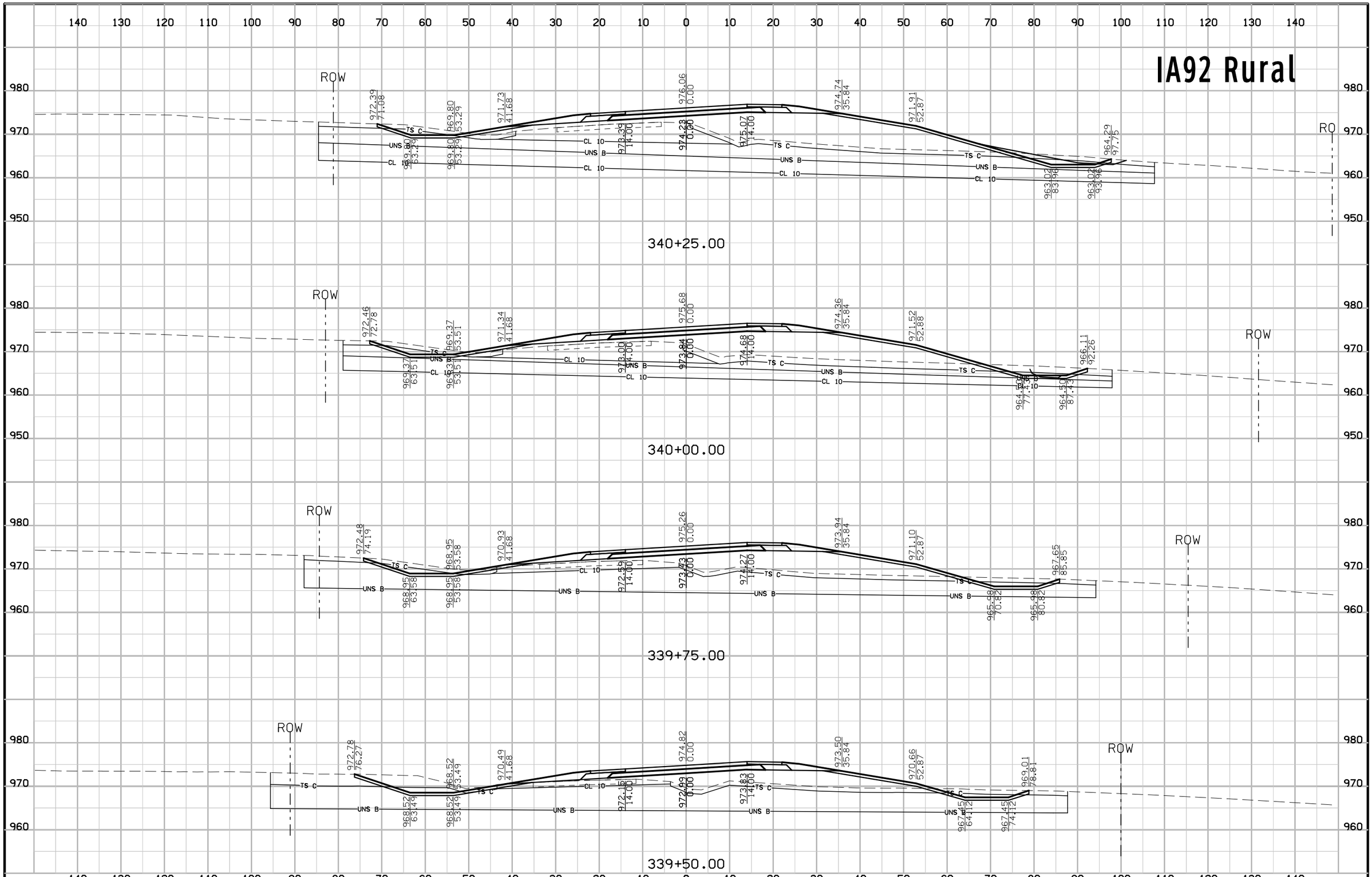
IA92 Rural



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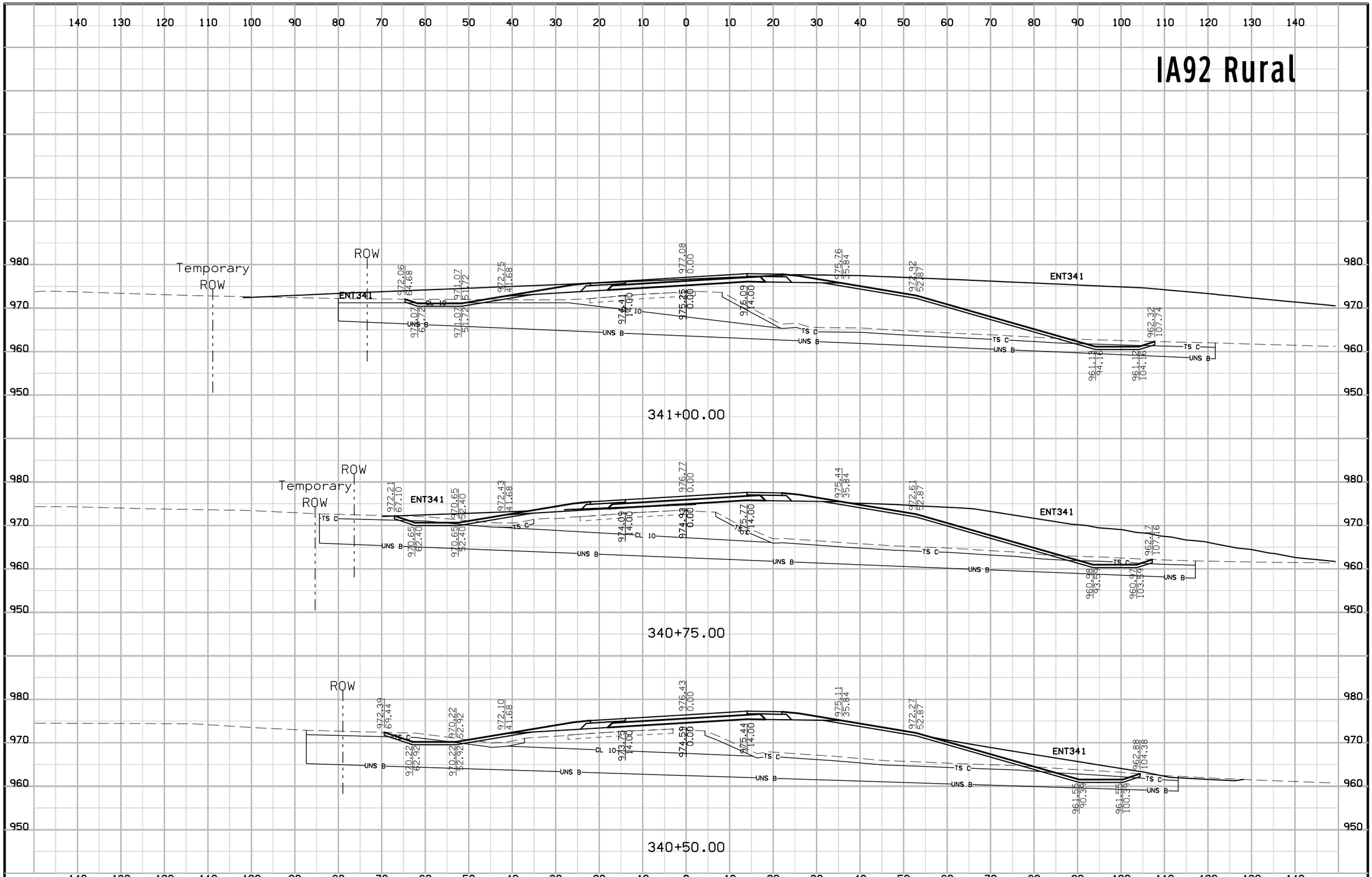
IA92 Rural



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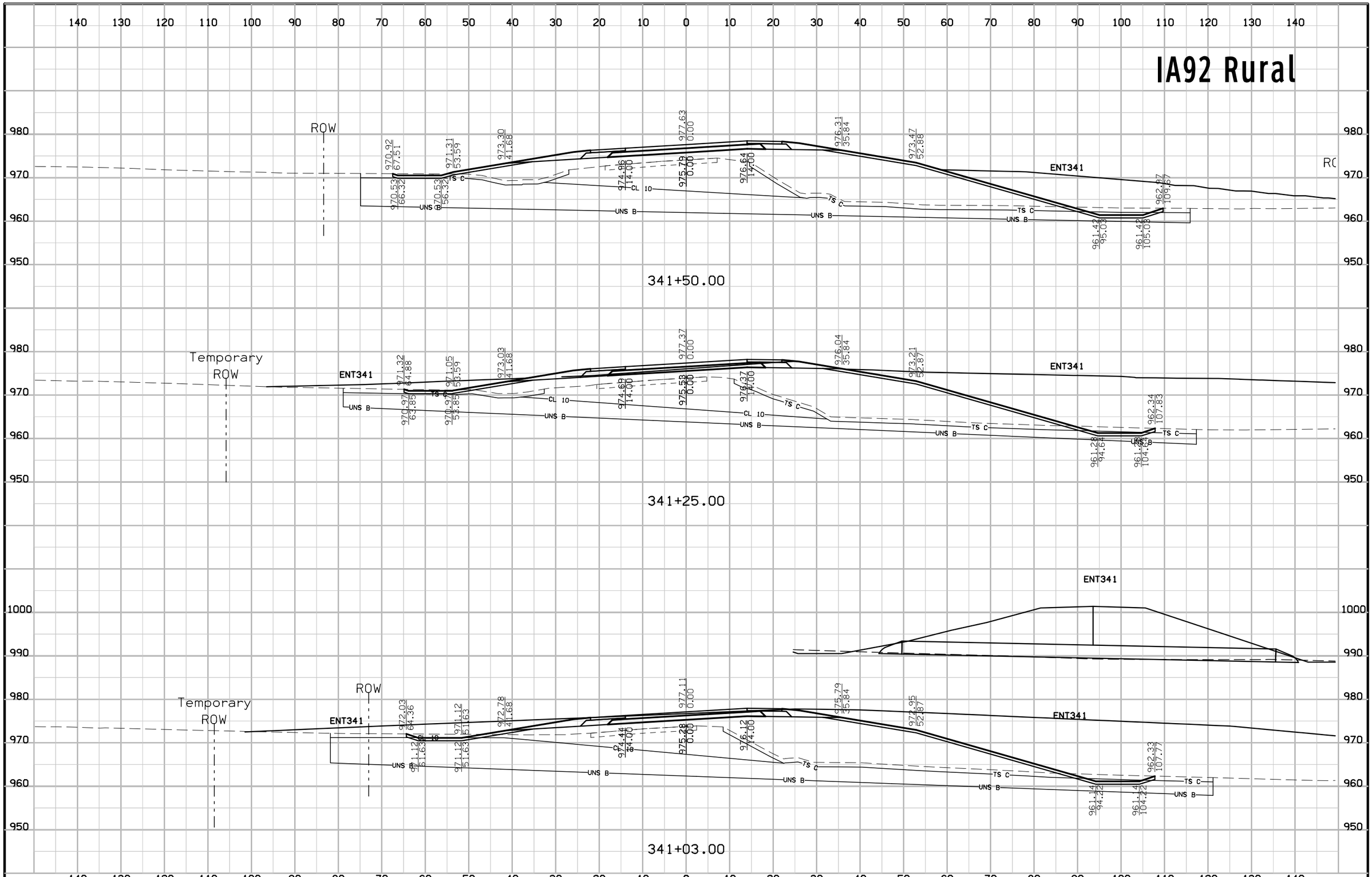
IA92 Rural



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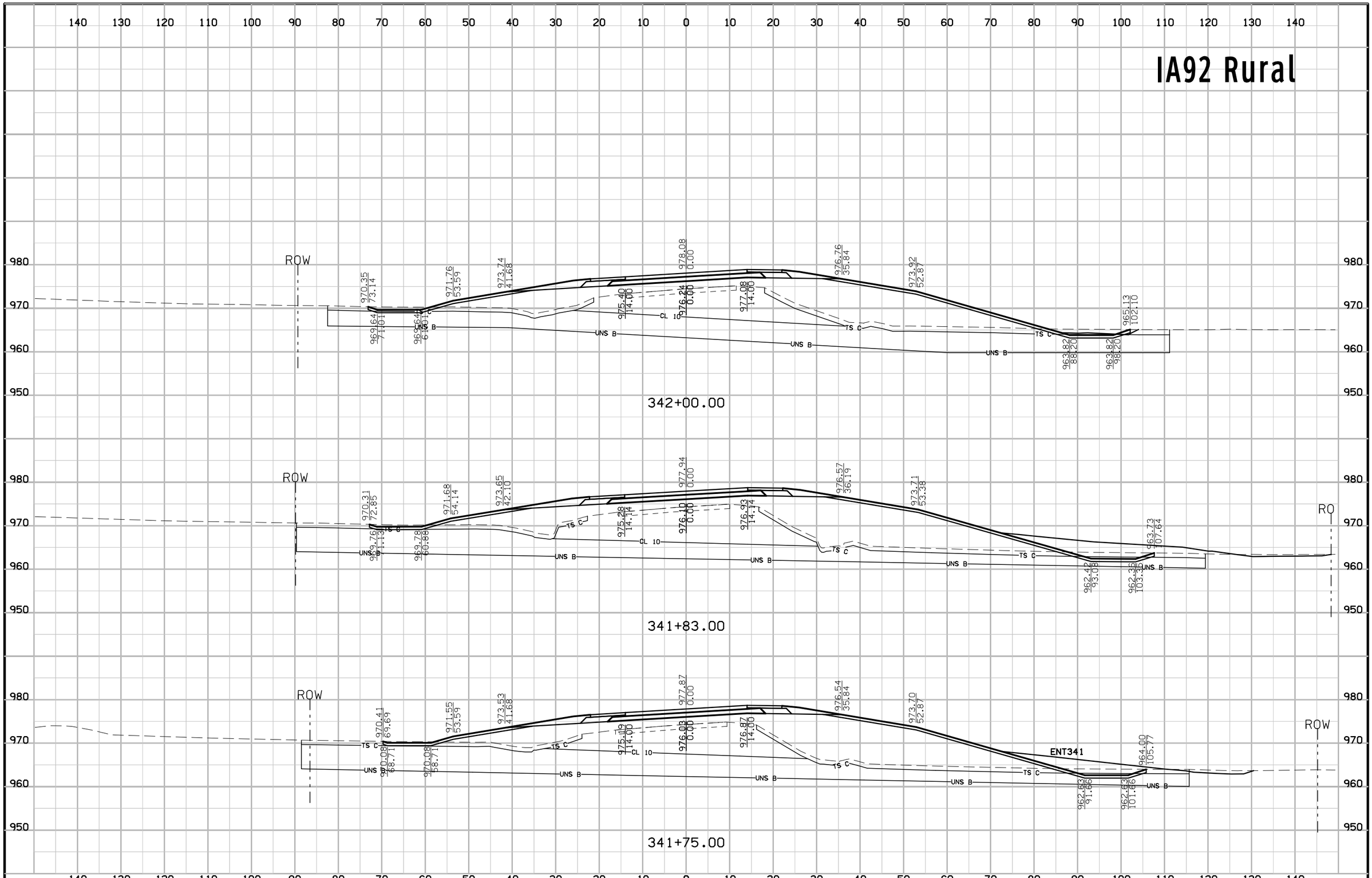
IA92 Rural



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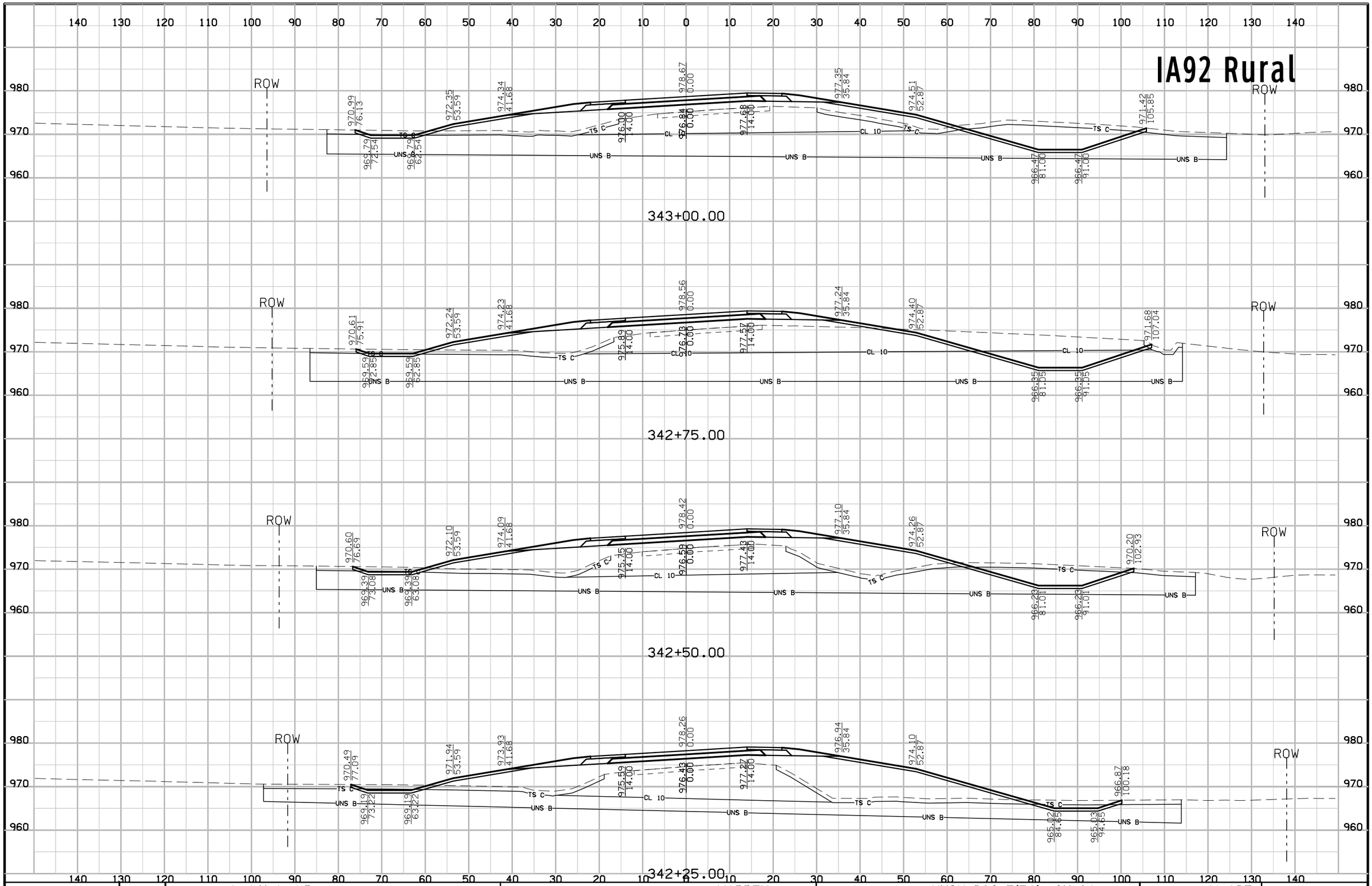
IA92 Rural



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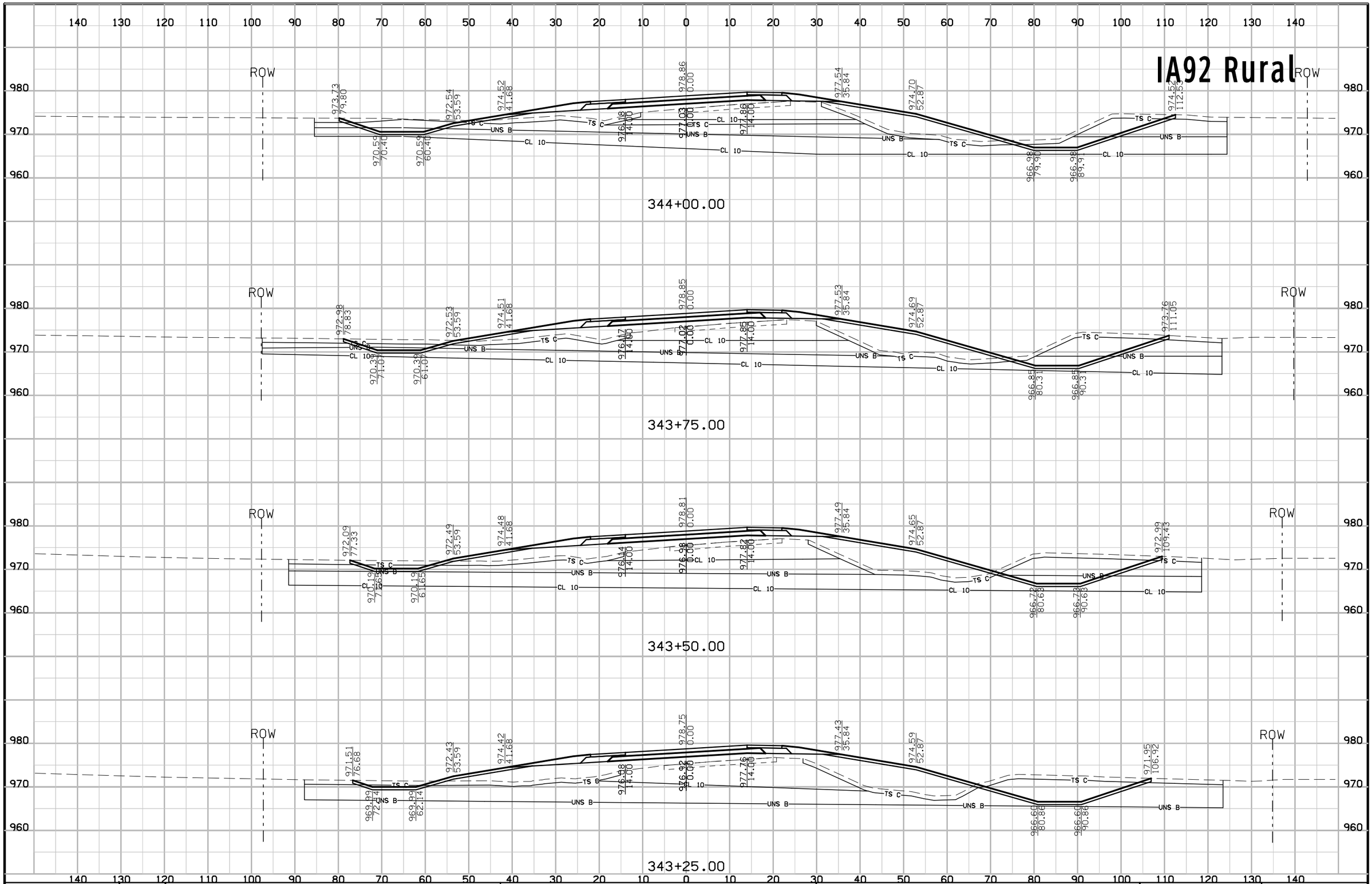
IA92 Rural



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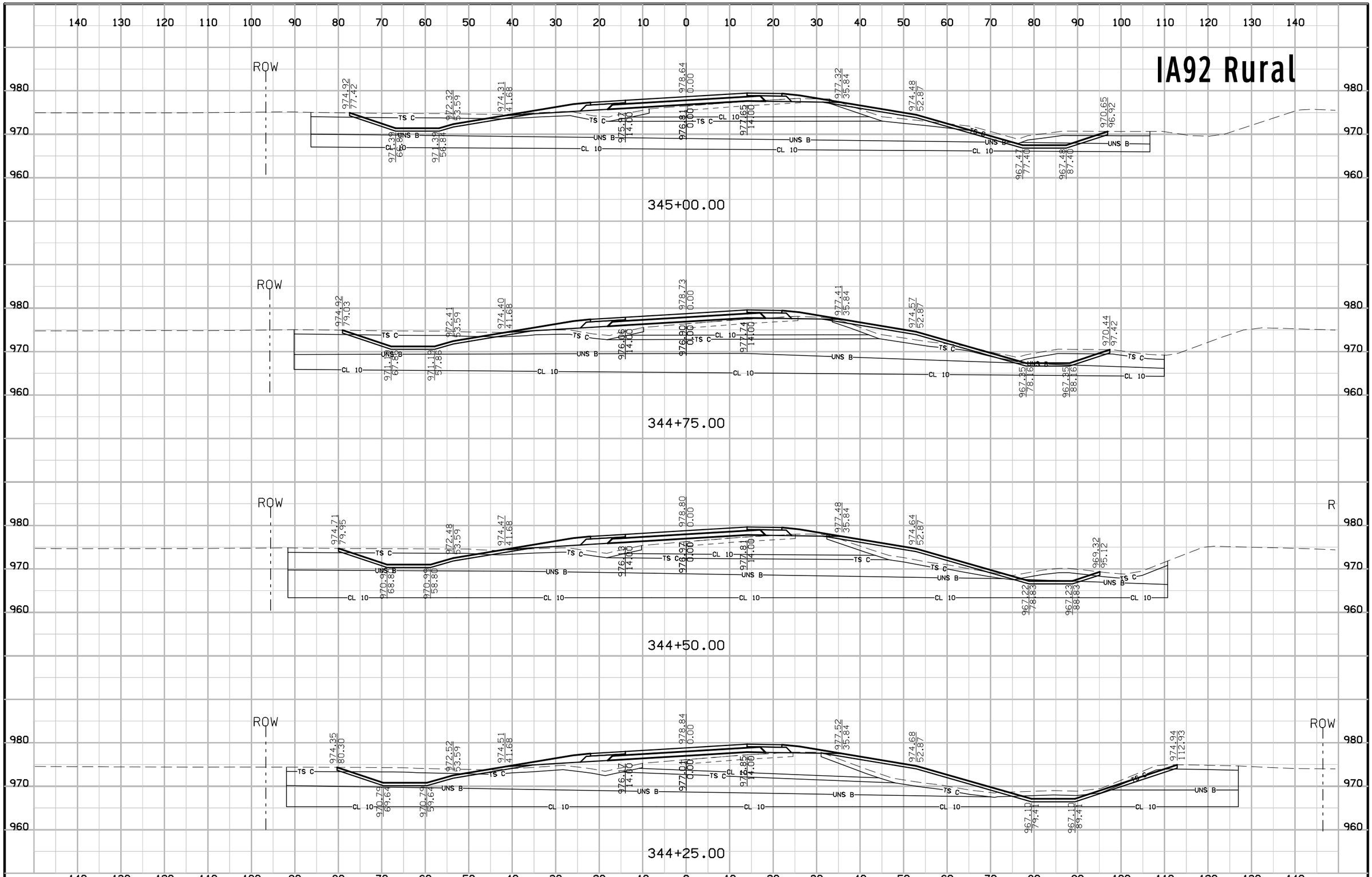
IA92 Rural



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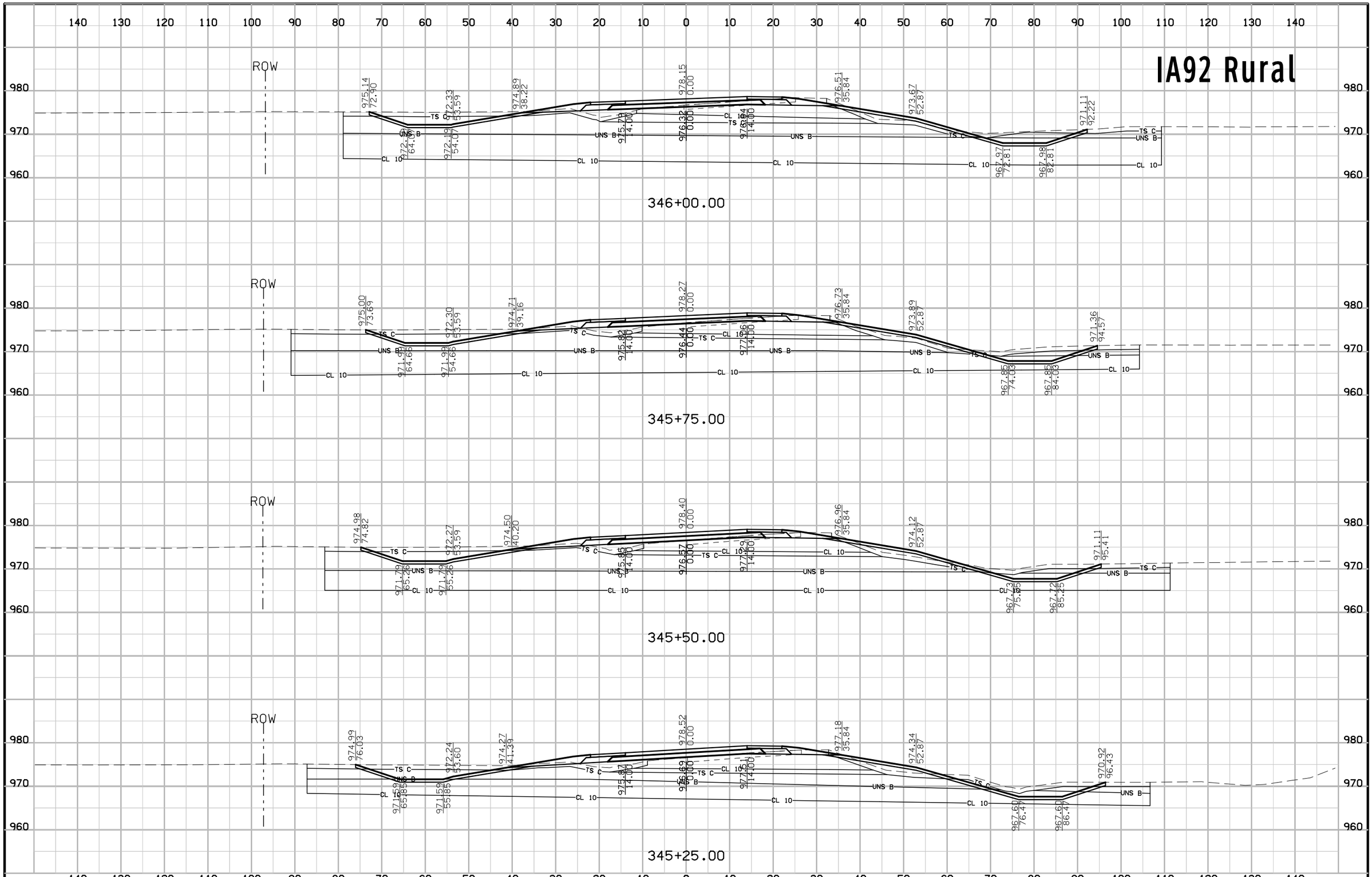
IA92 Rural



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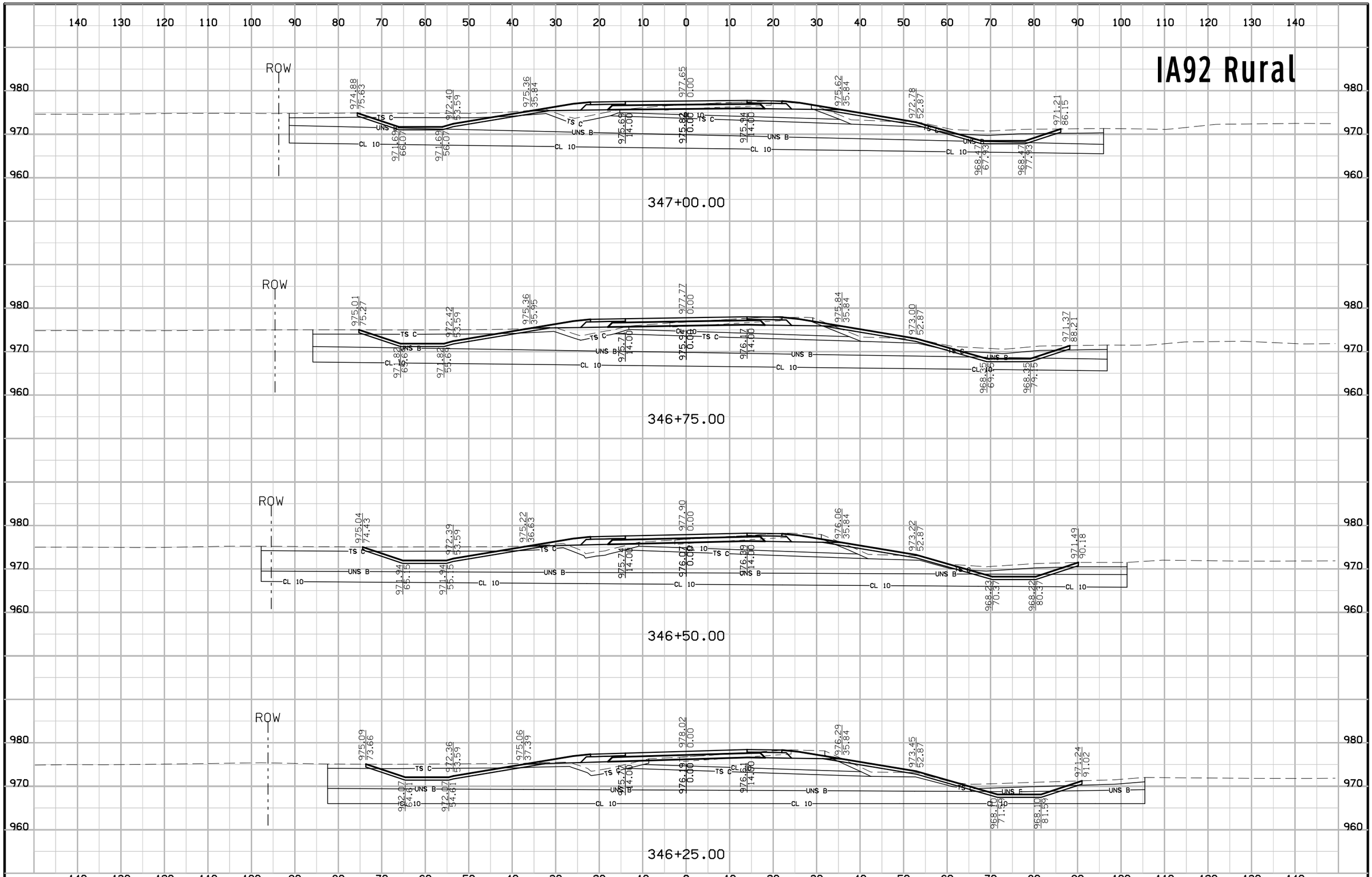
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.109

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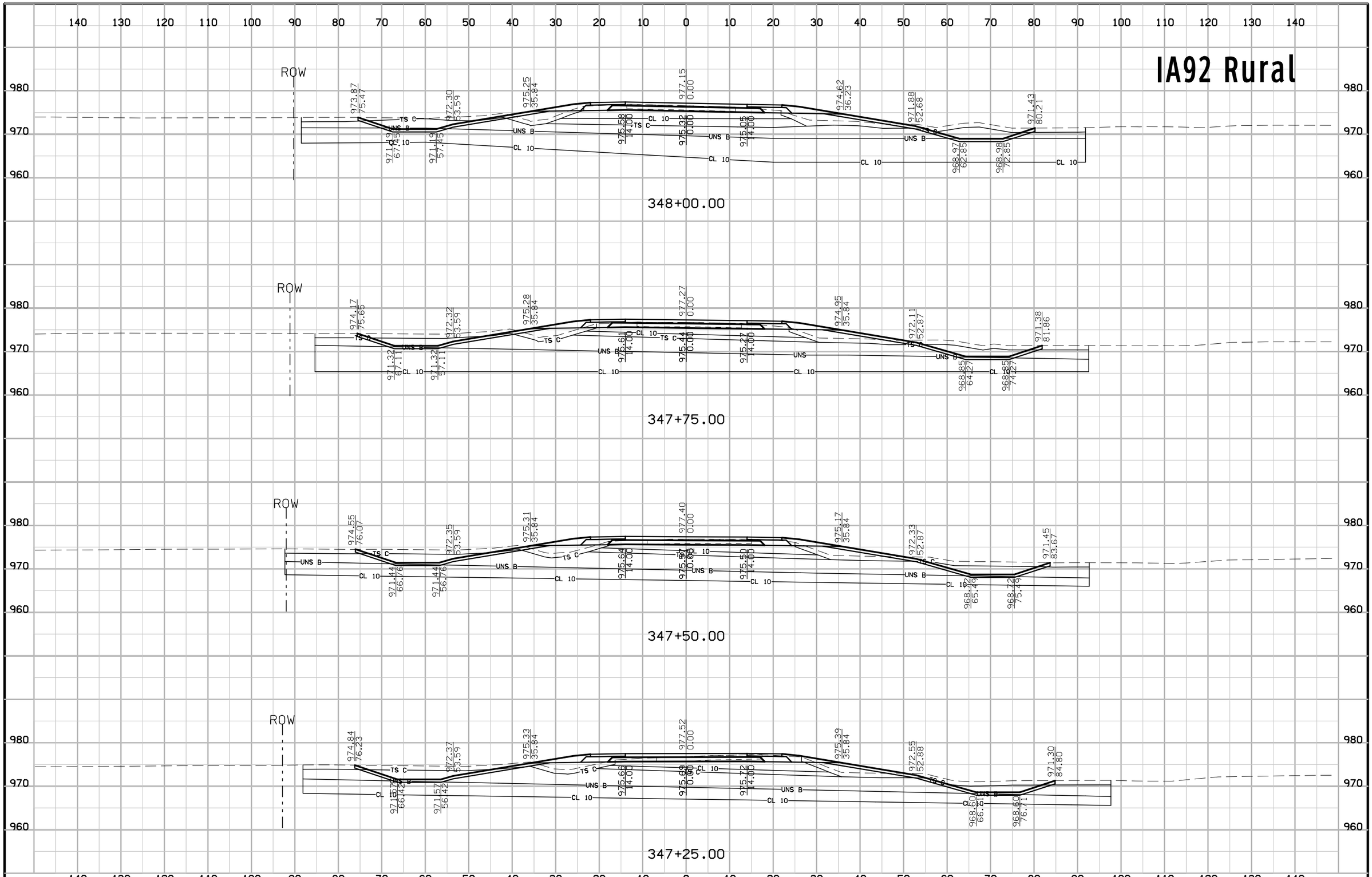
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.110

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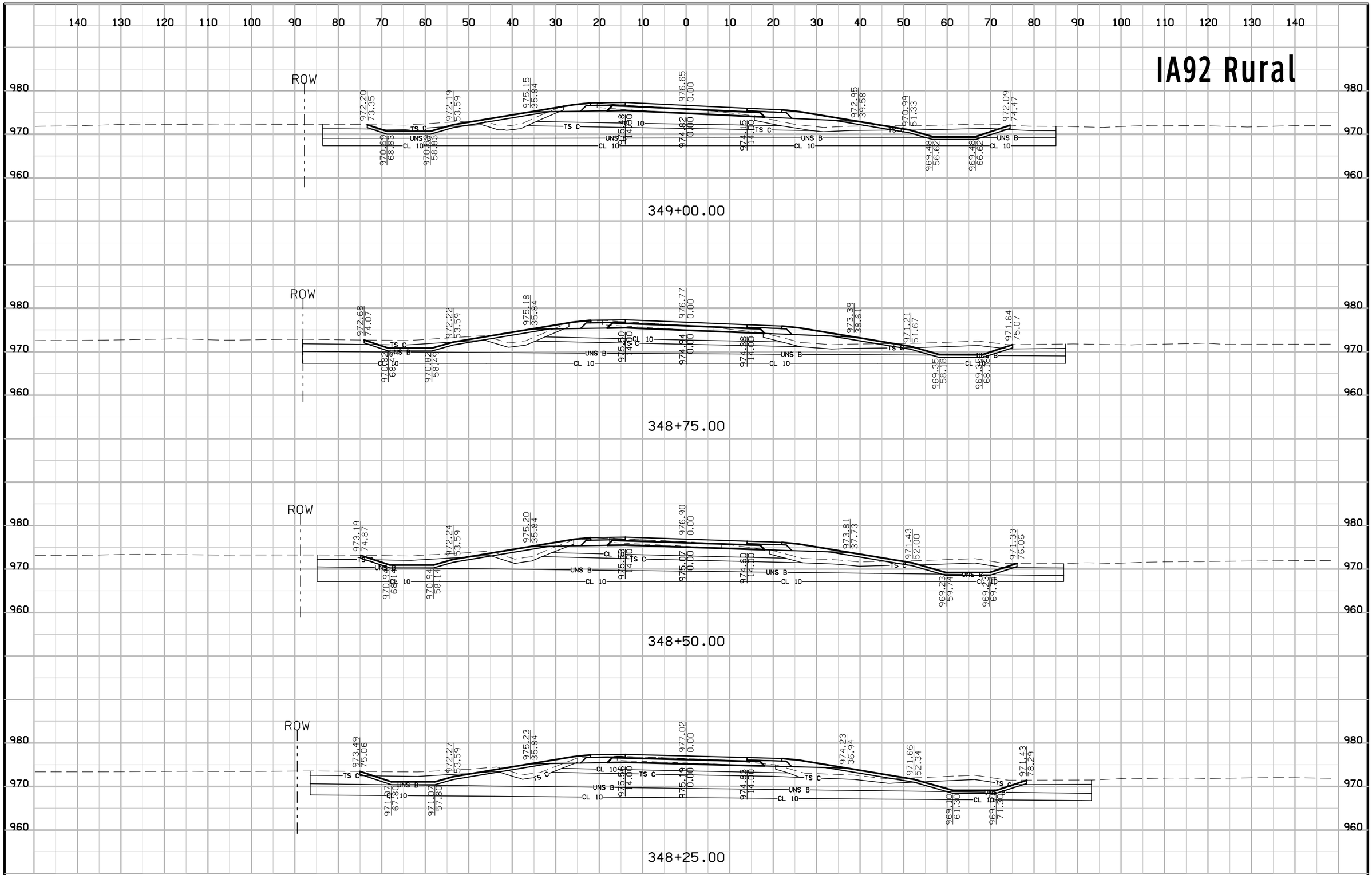
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.111

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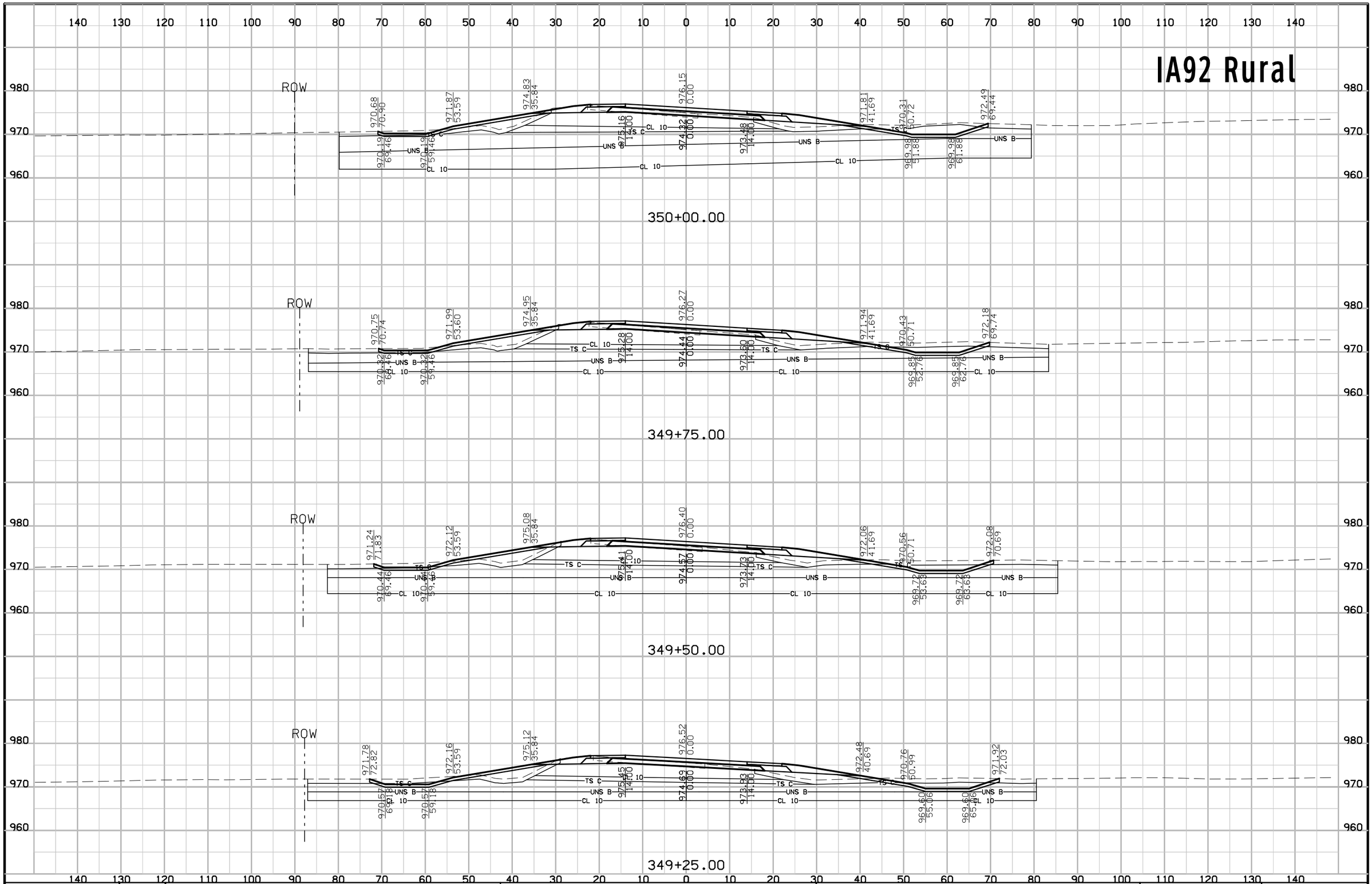
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.112

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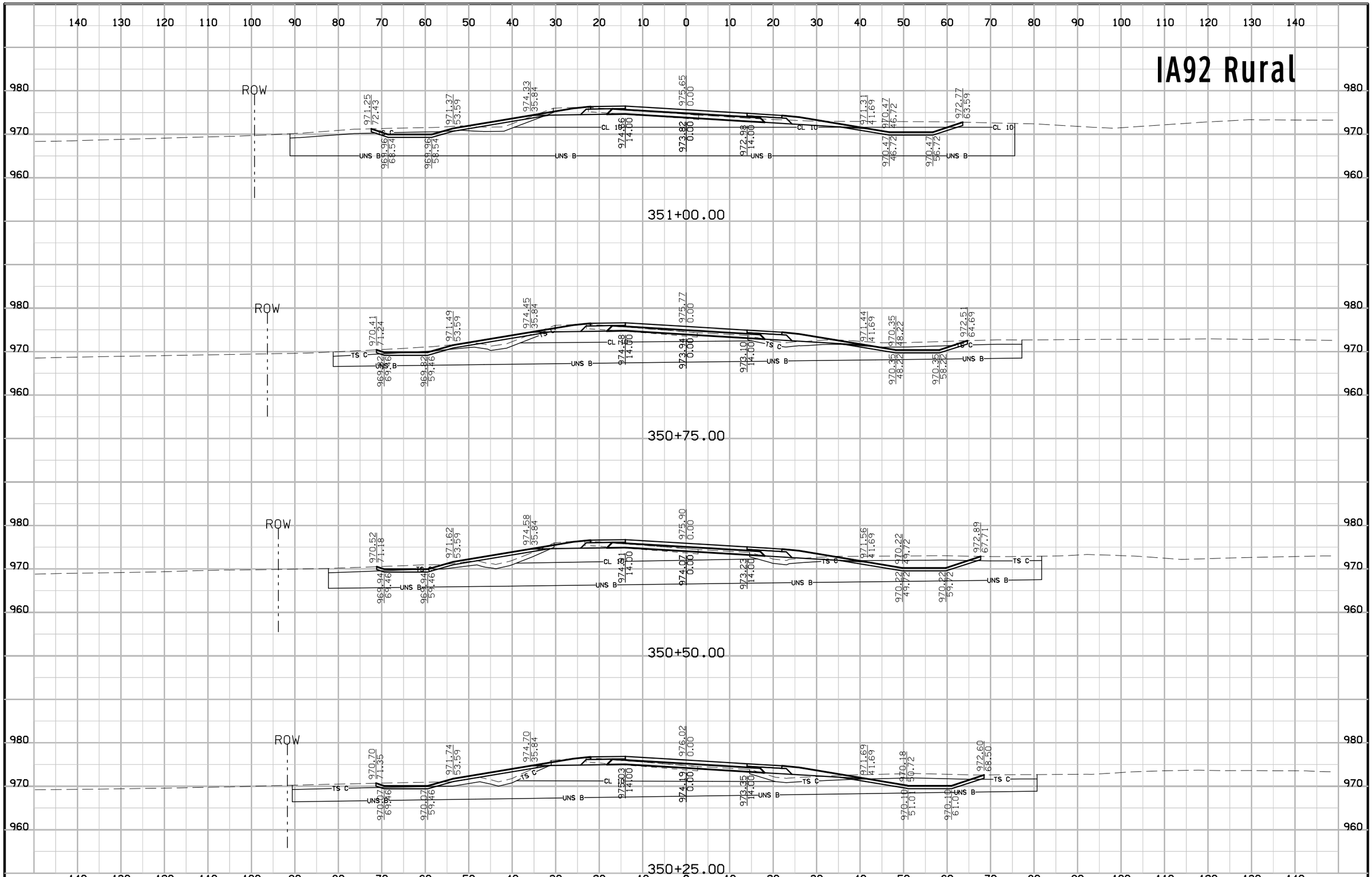
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.113

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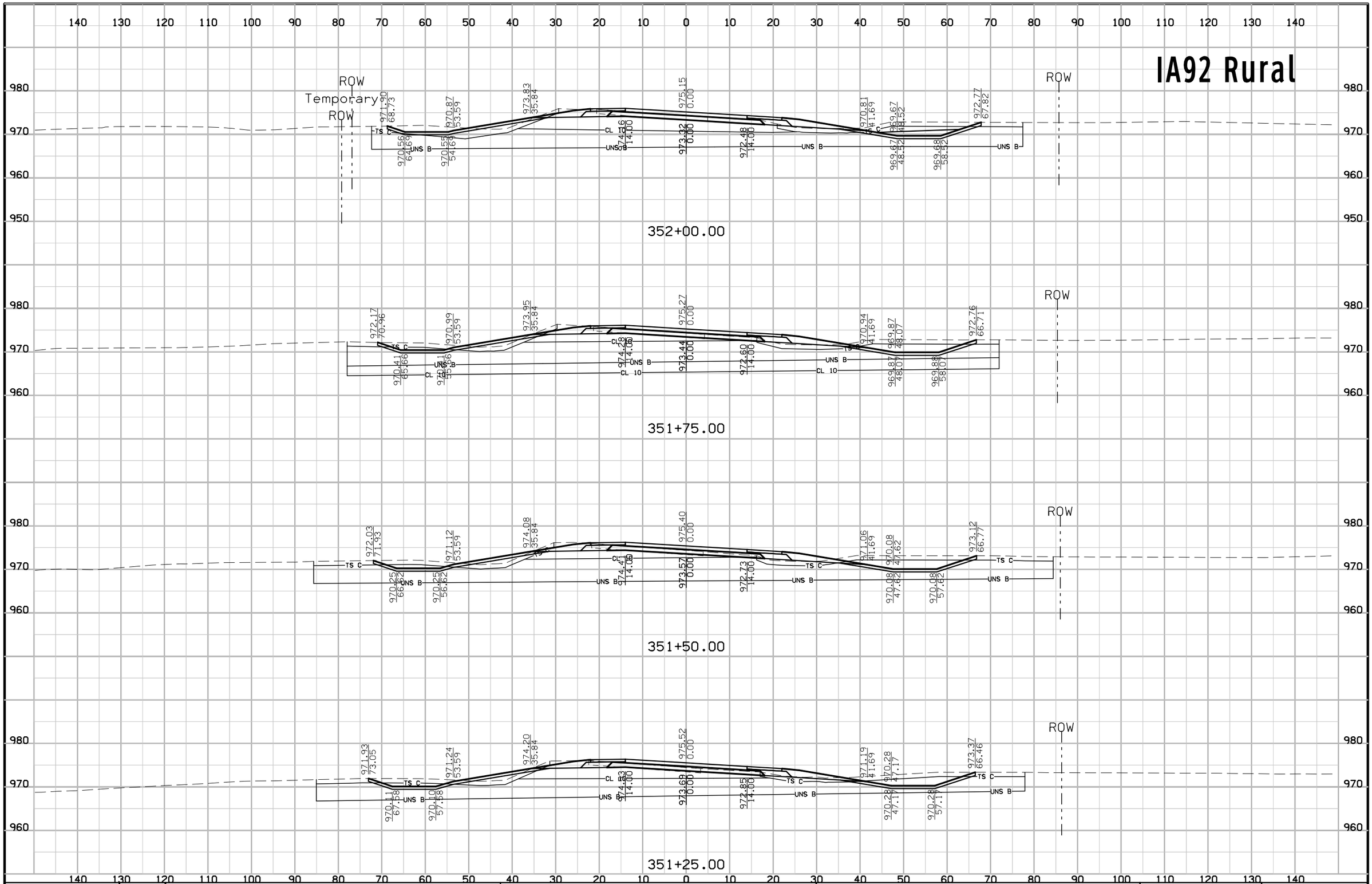
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.114

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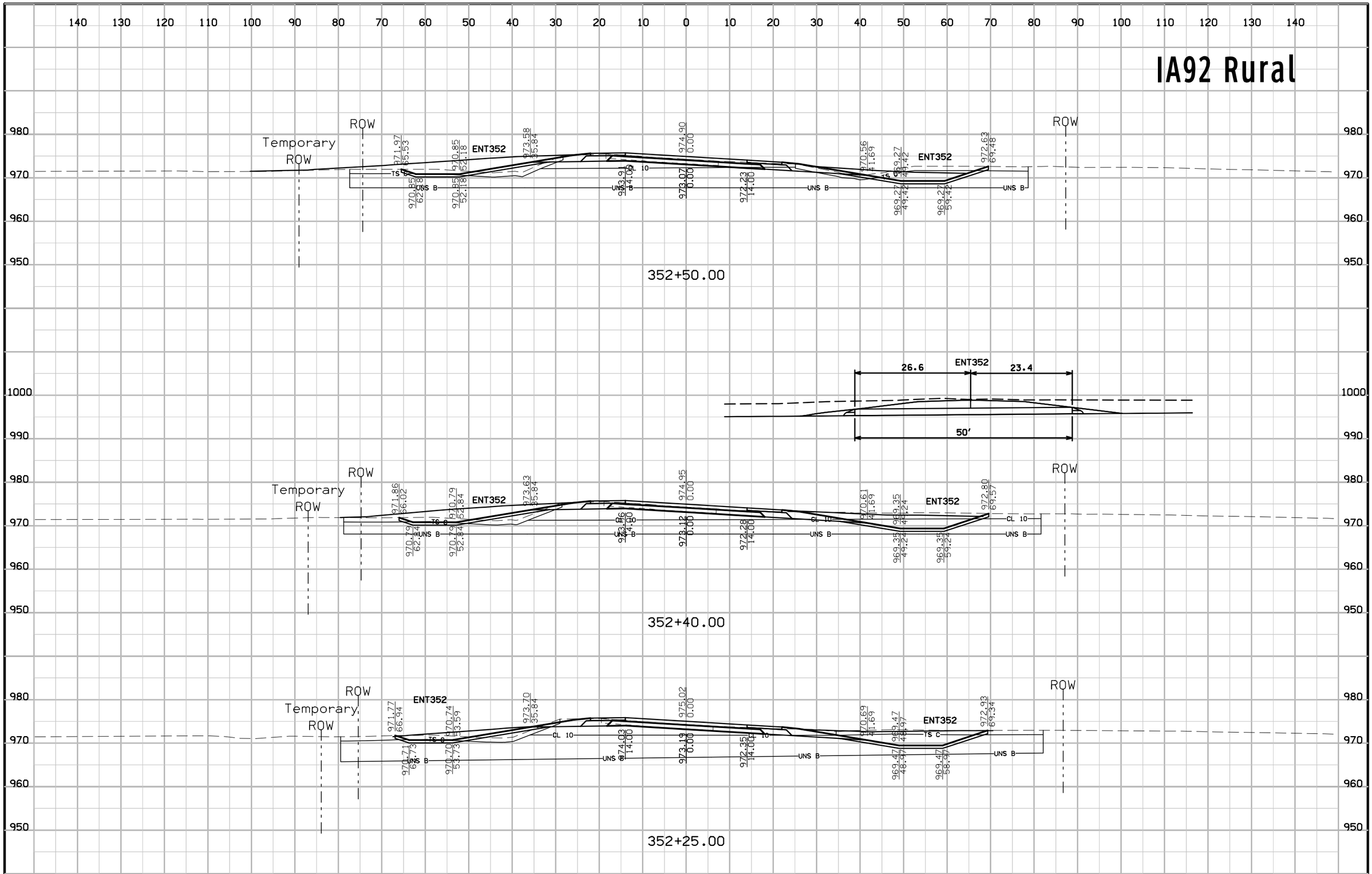
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.115

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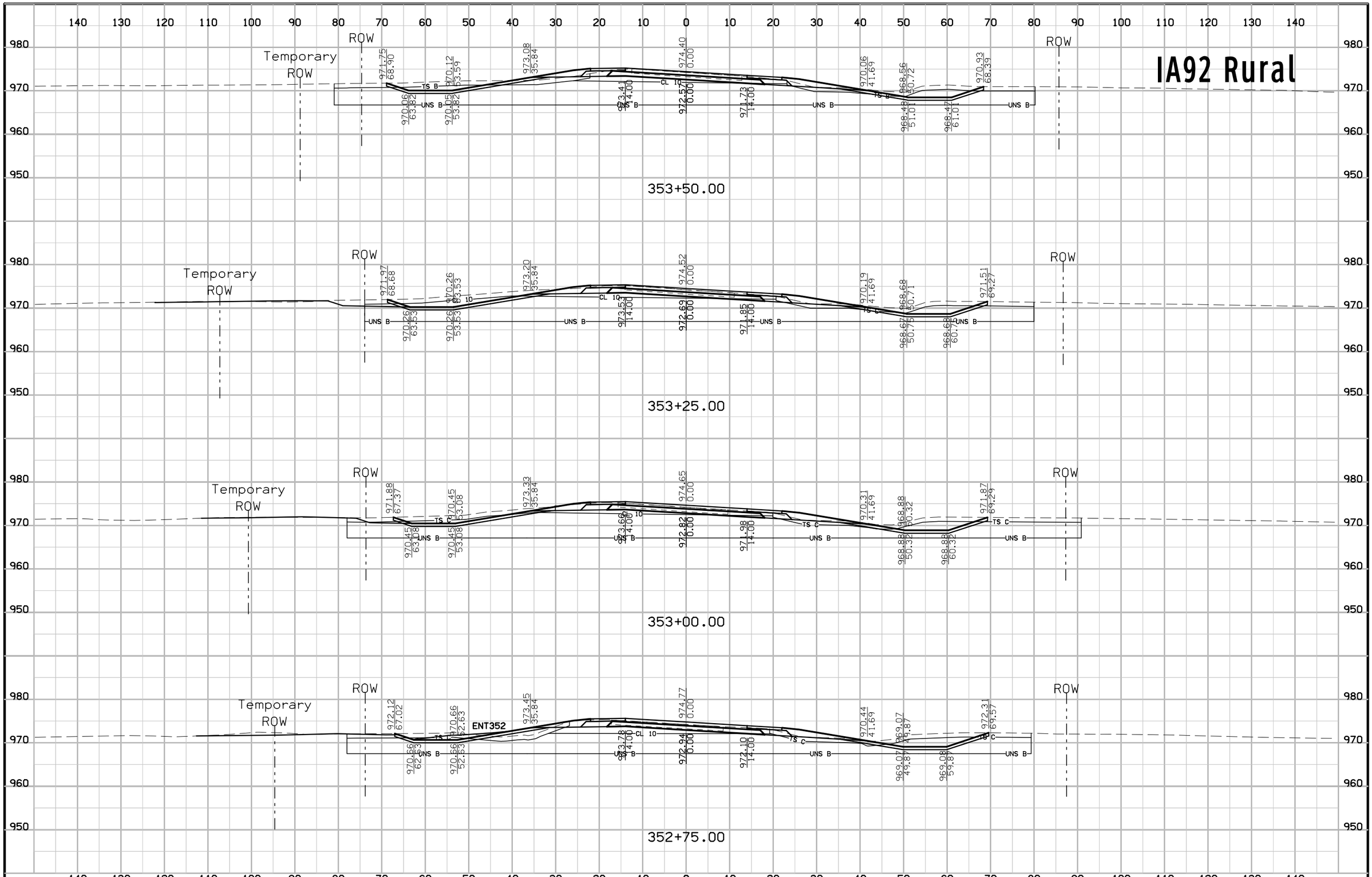
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.116

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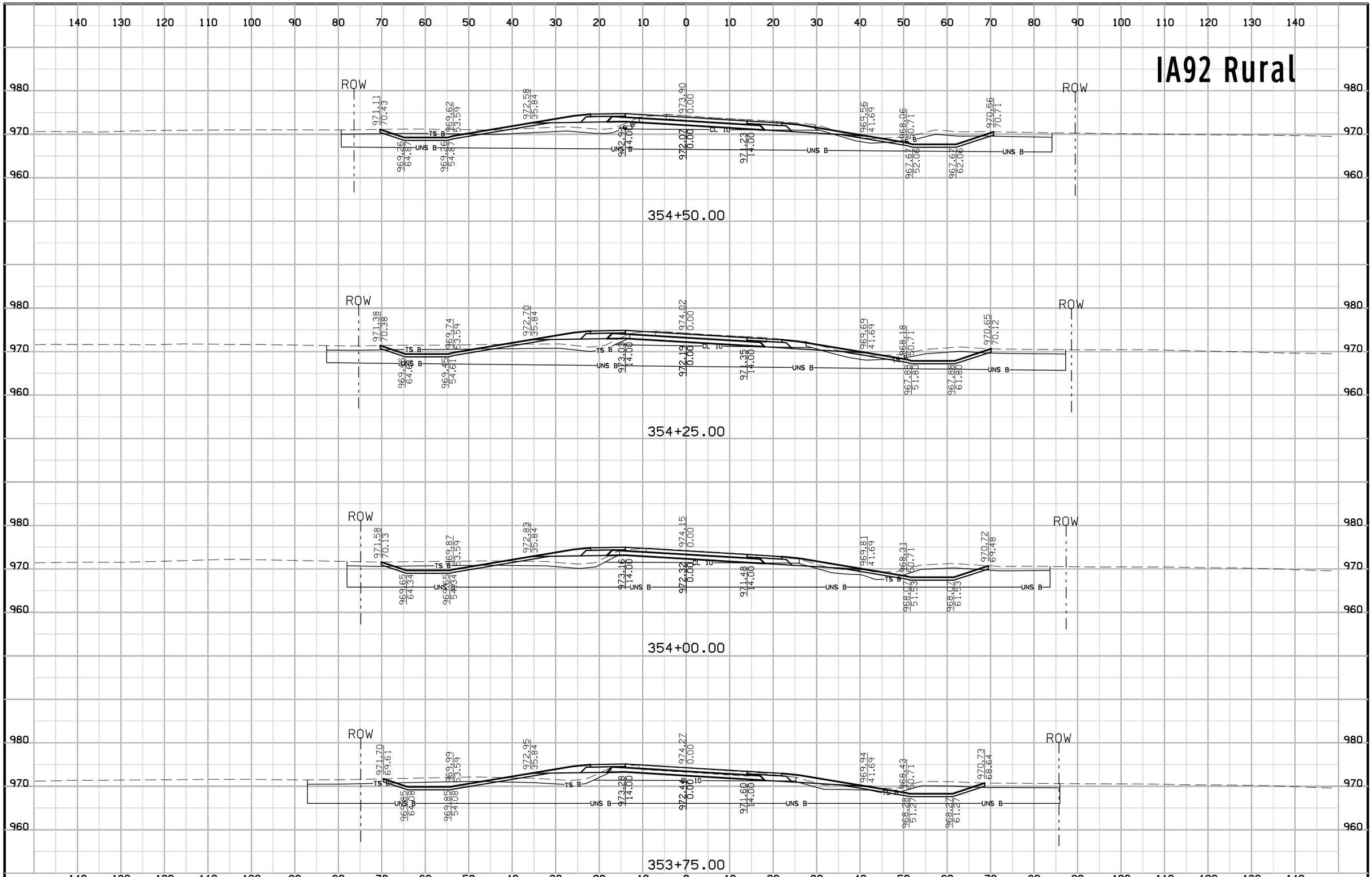
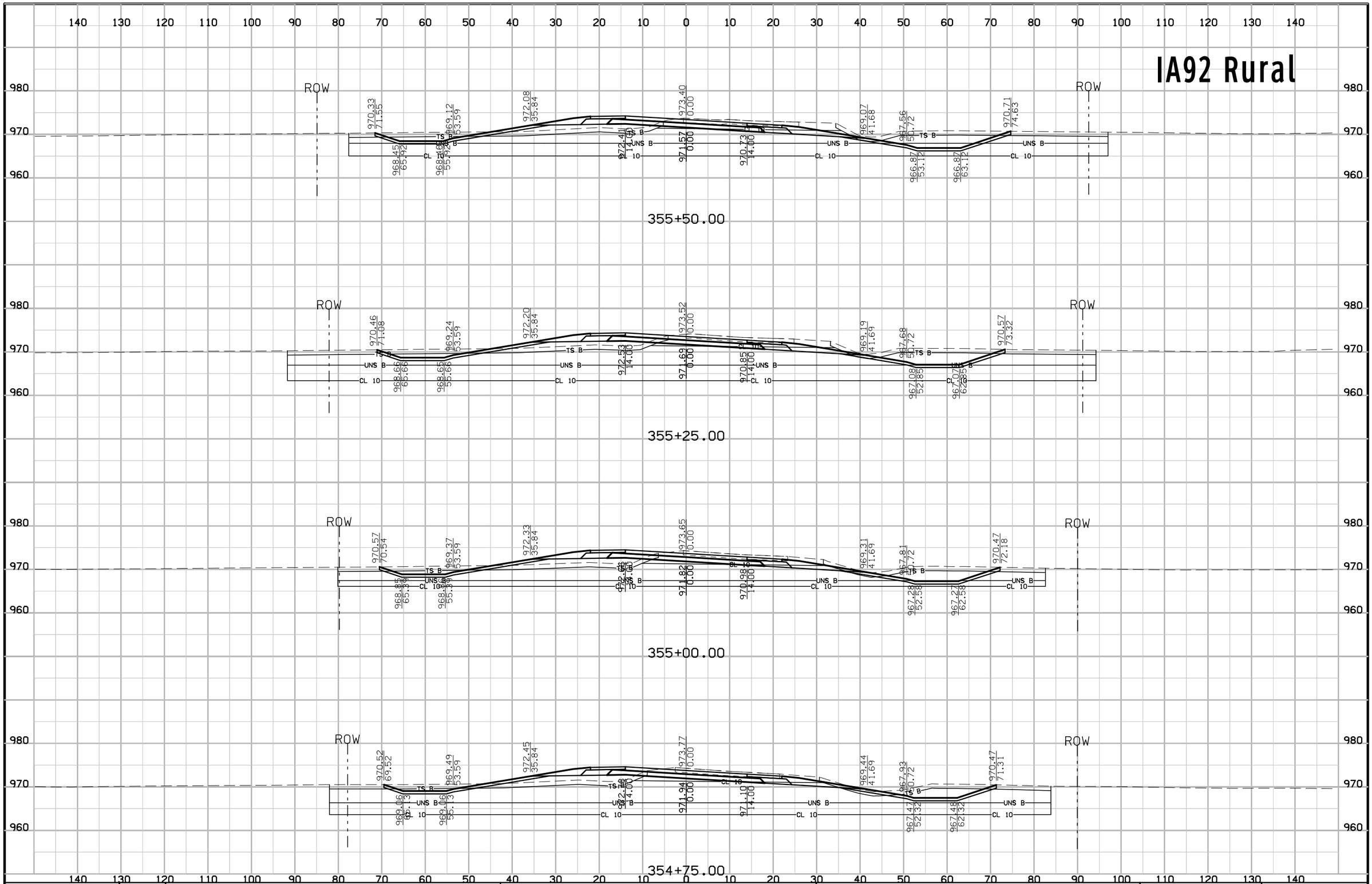
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.117

8:55:44 AM 7/3/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W102.sht

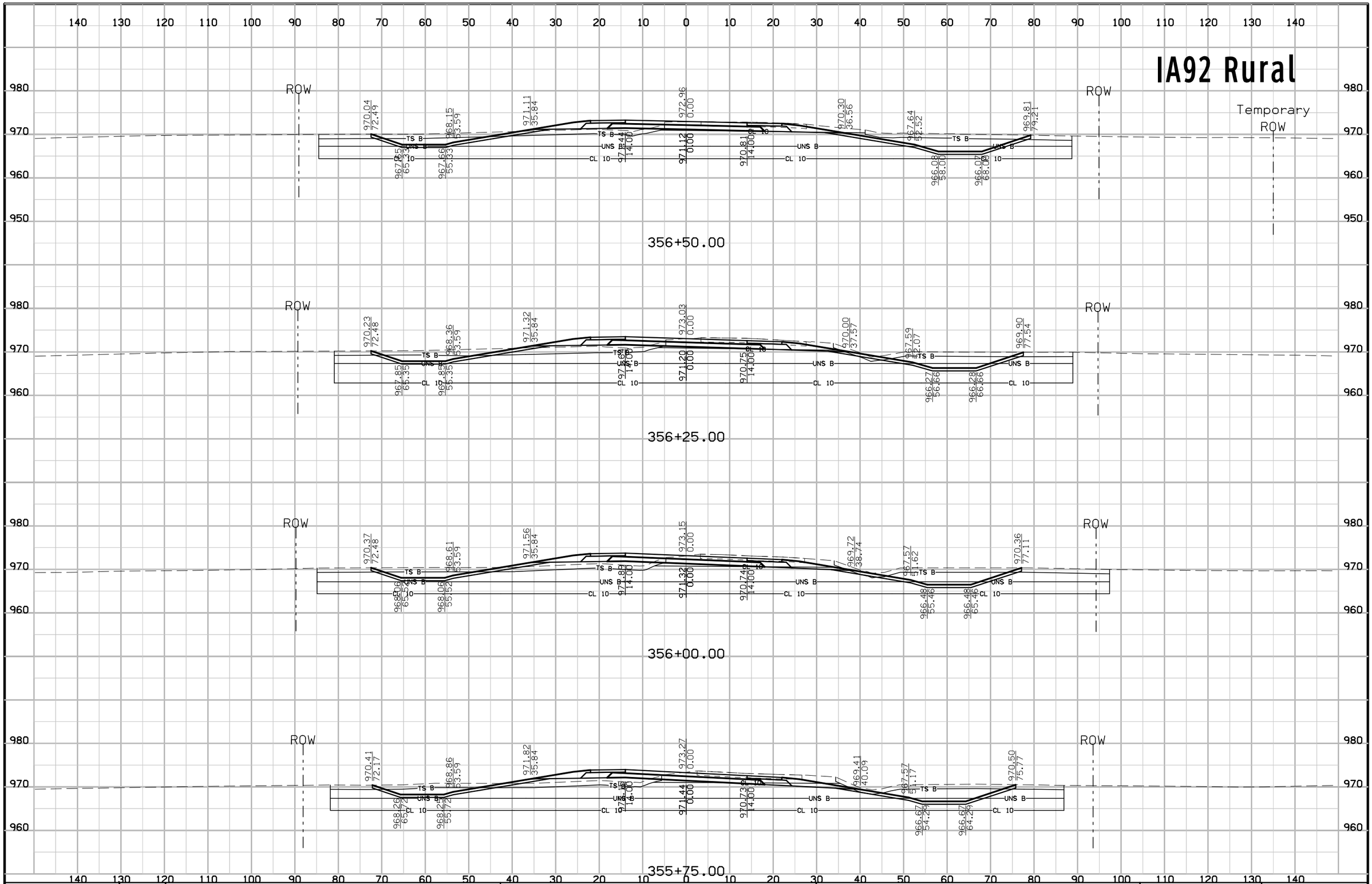
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.118

8:55:46 AM 7/3/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W102.sht

IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.119

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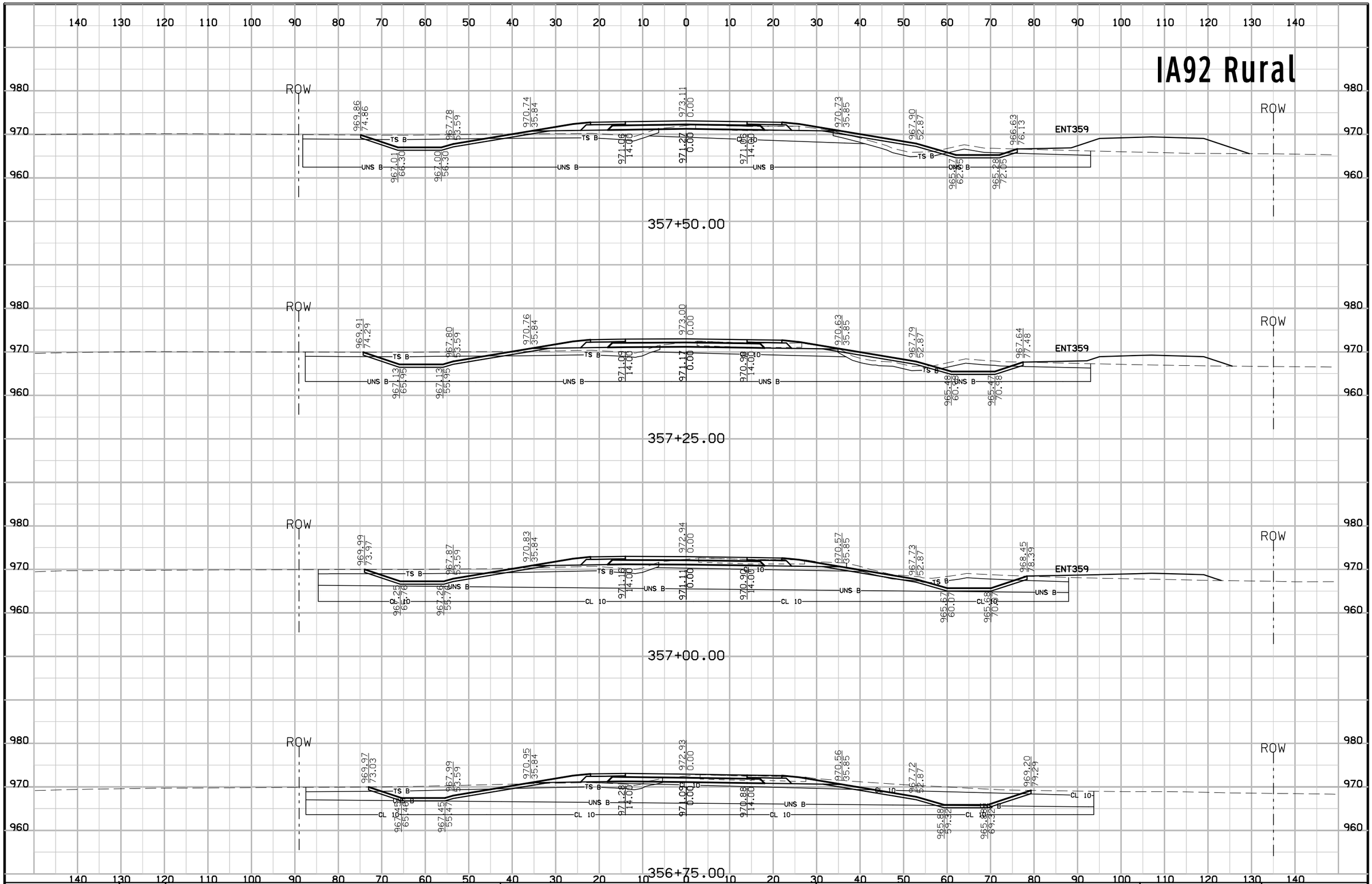
IA92 Rural



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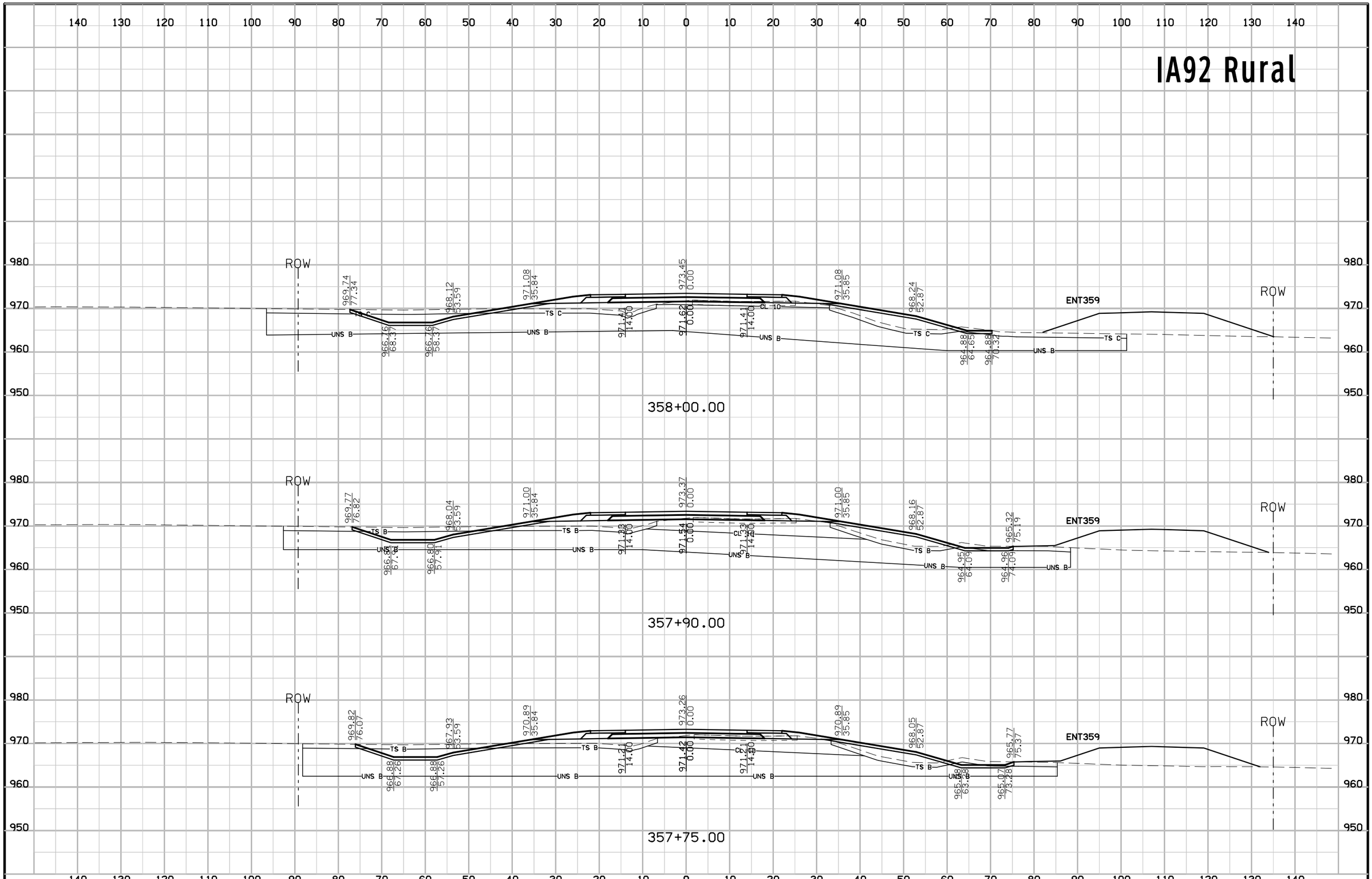
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.121

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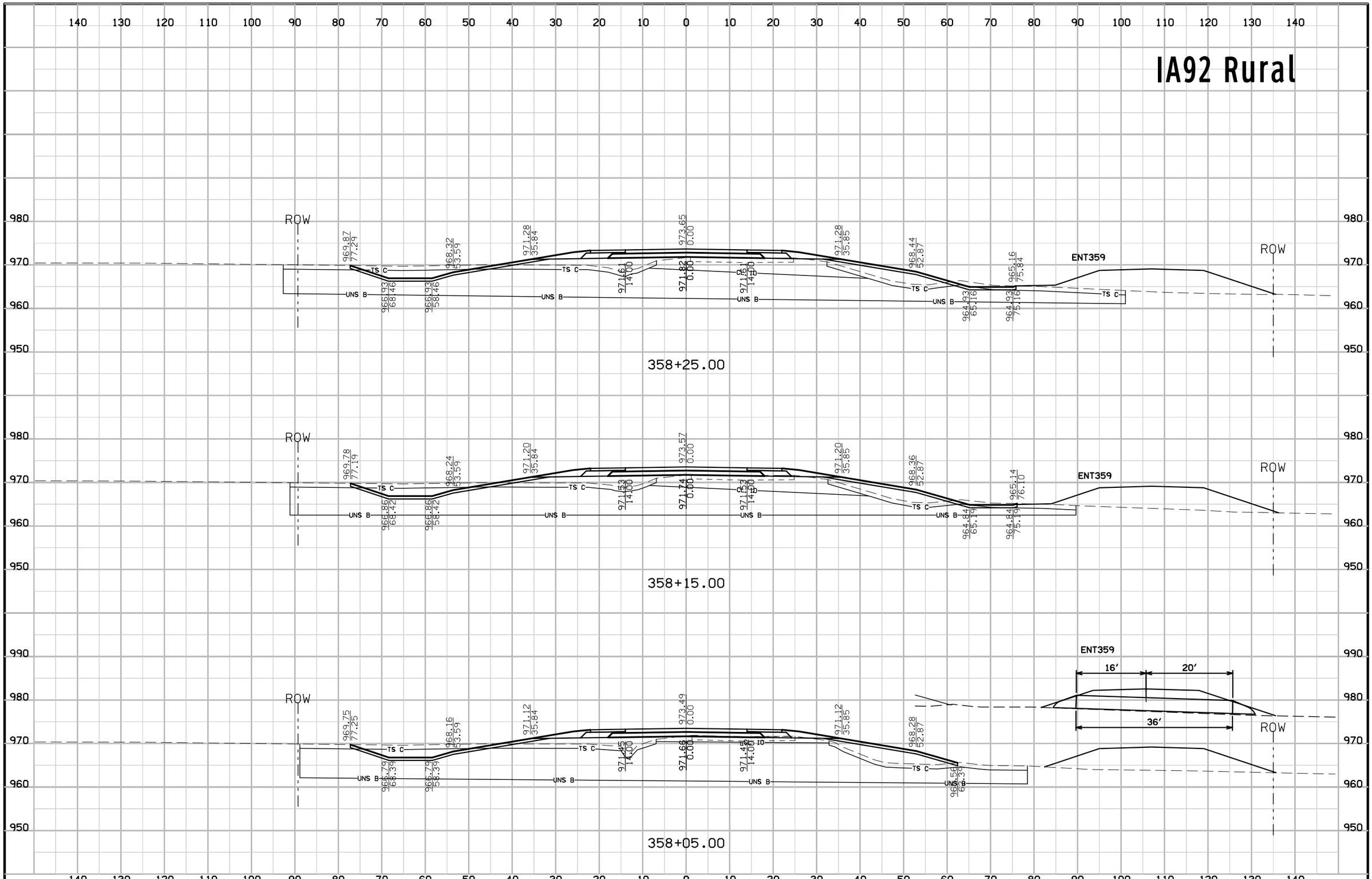
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.122

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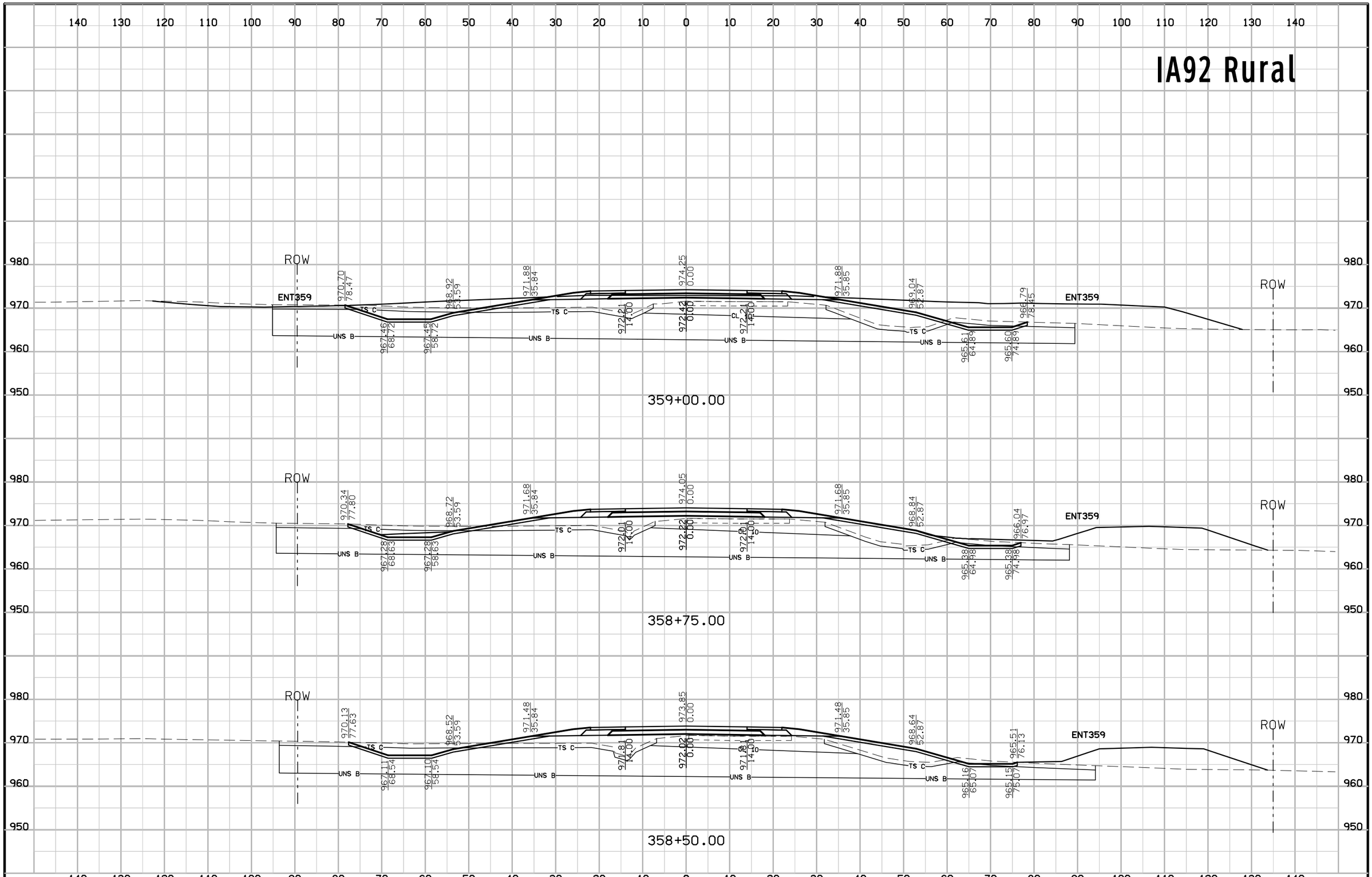
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.123

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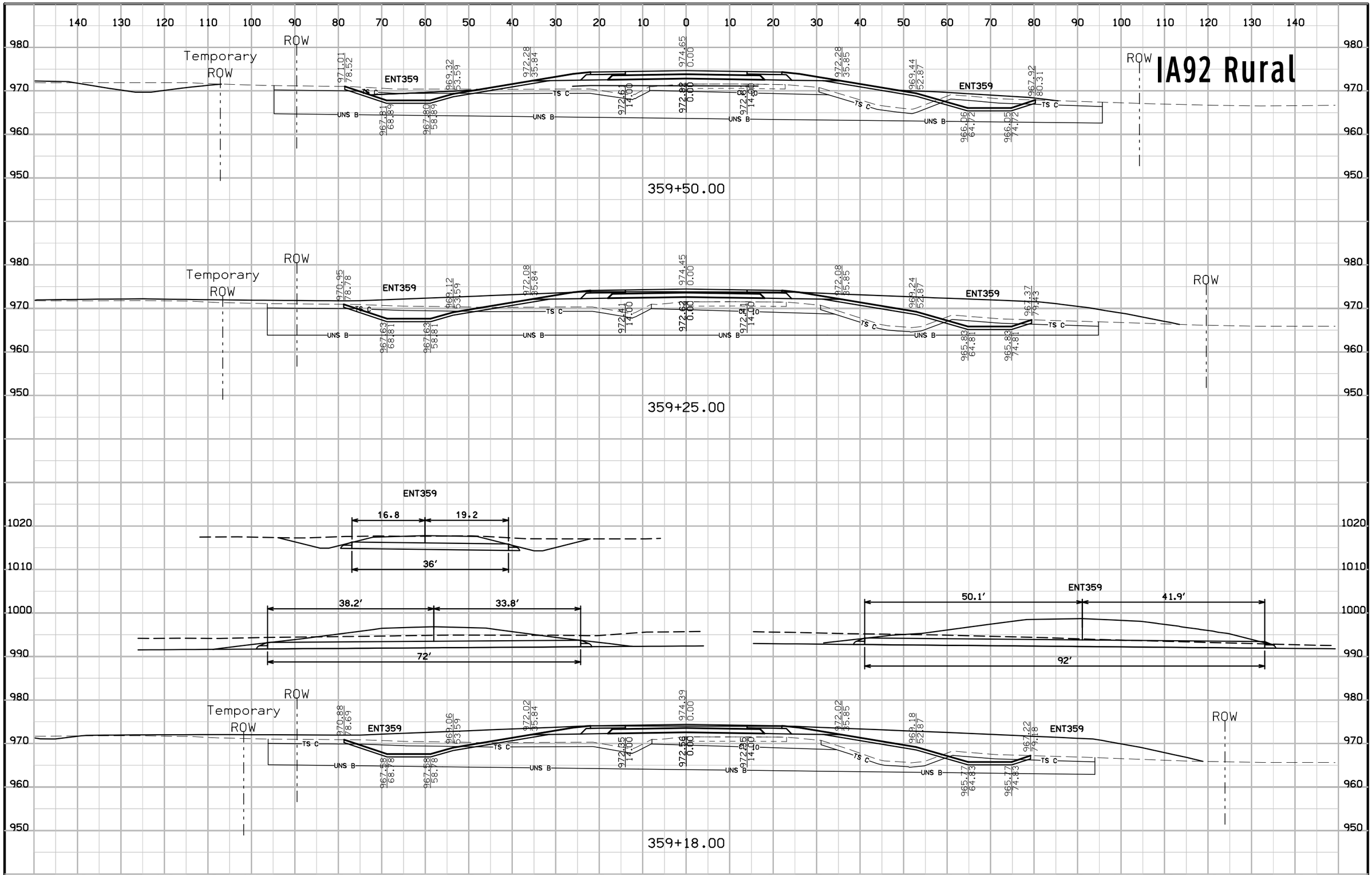
IA92 Rural



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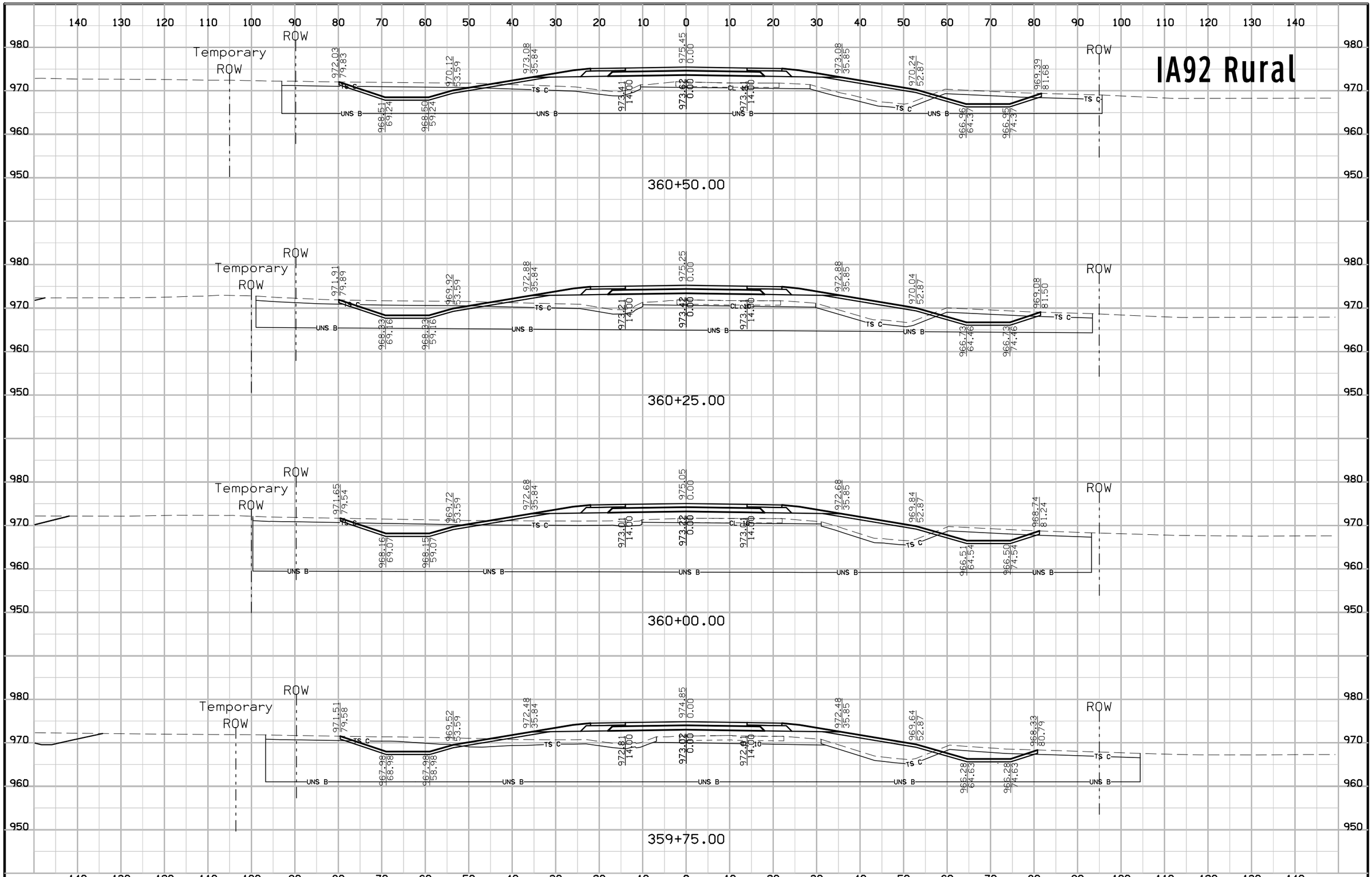
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.125

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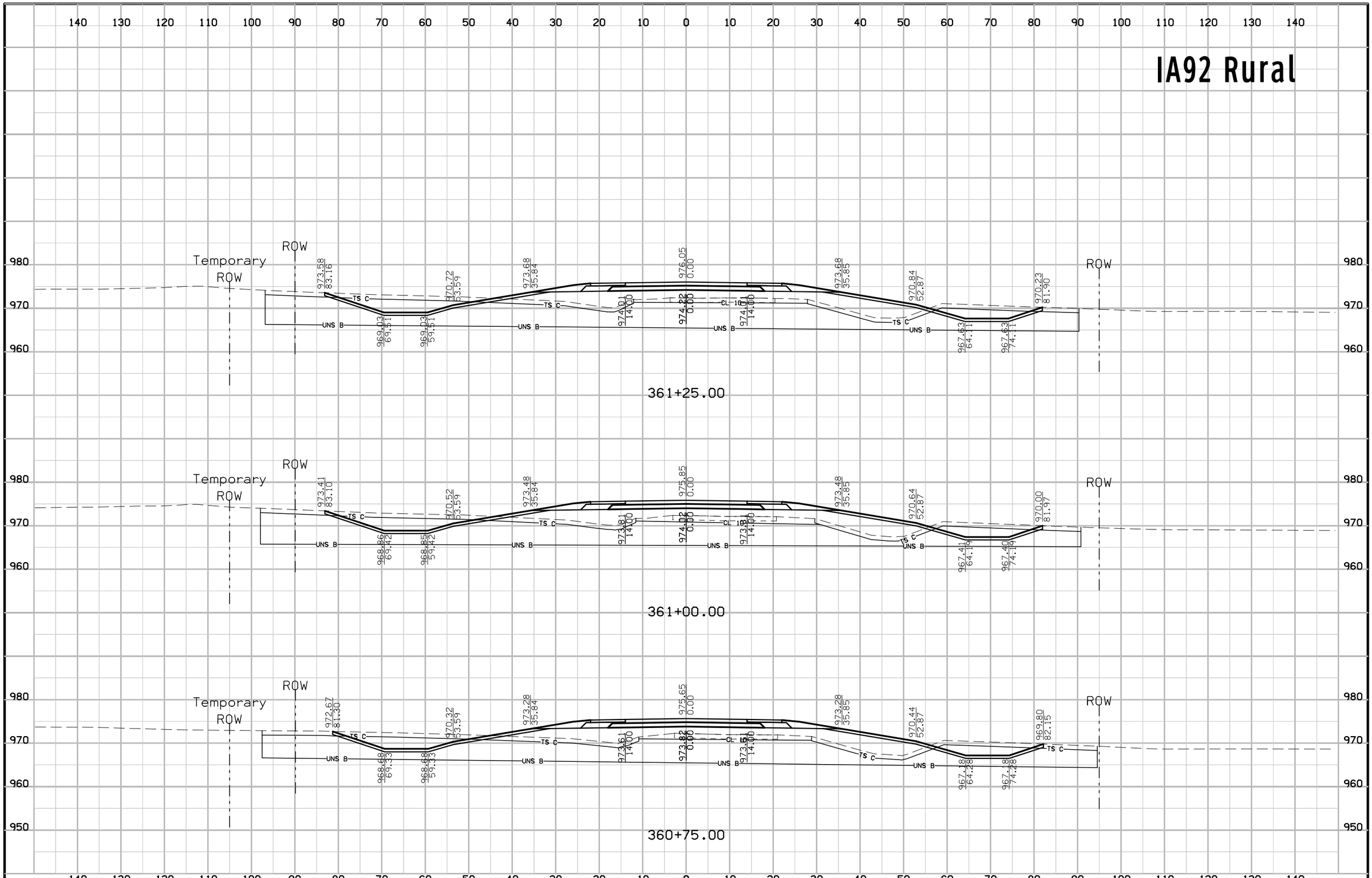
IA92 Rural



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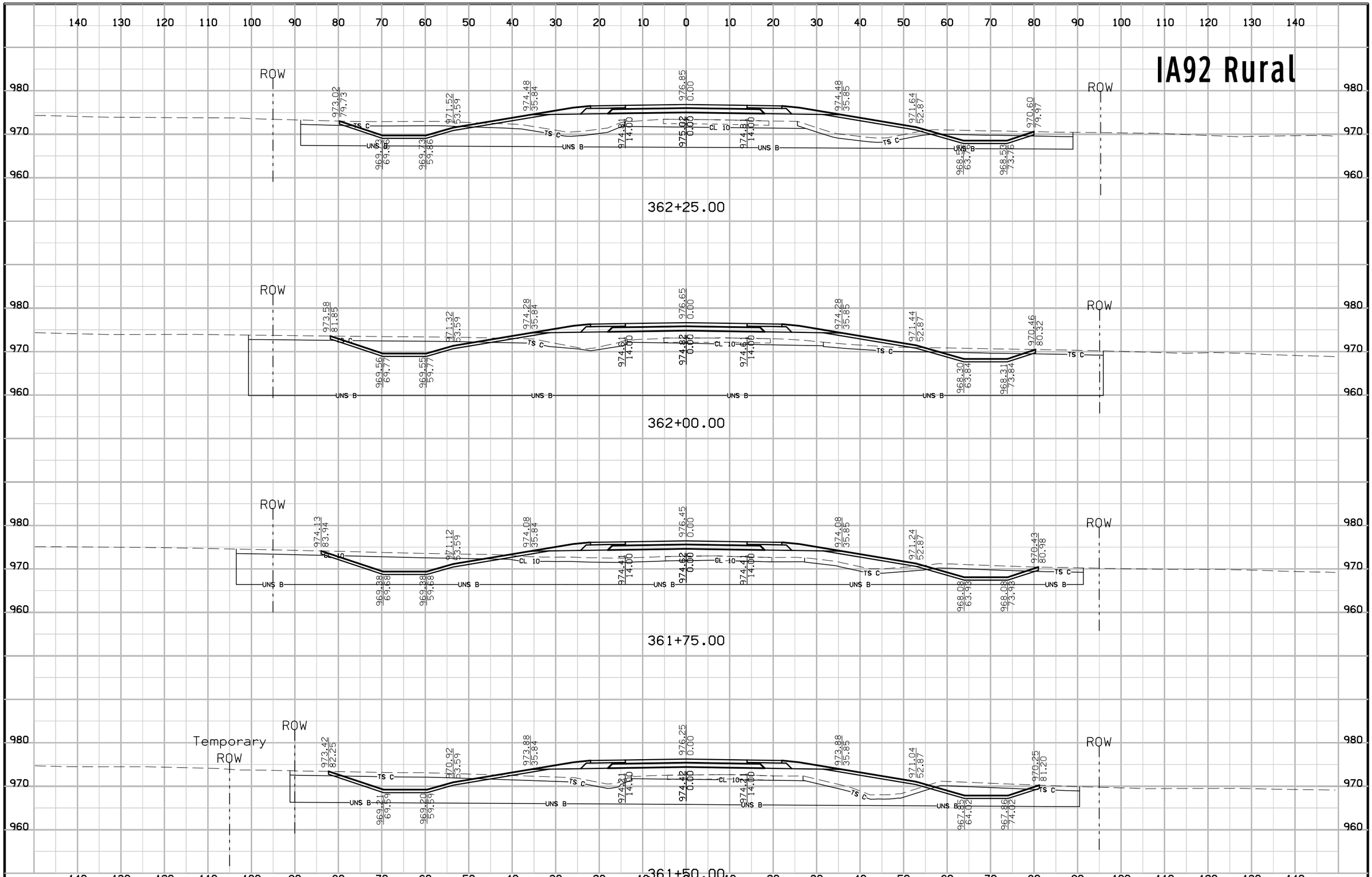
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.127

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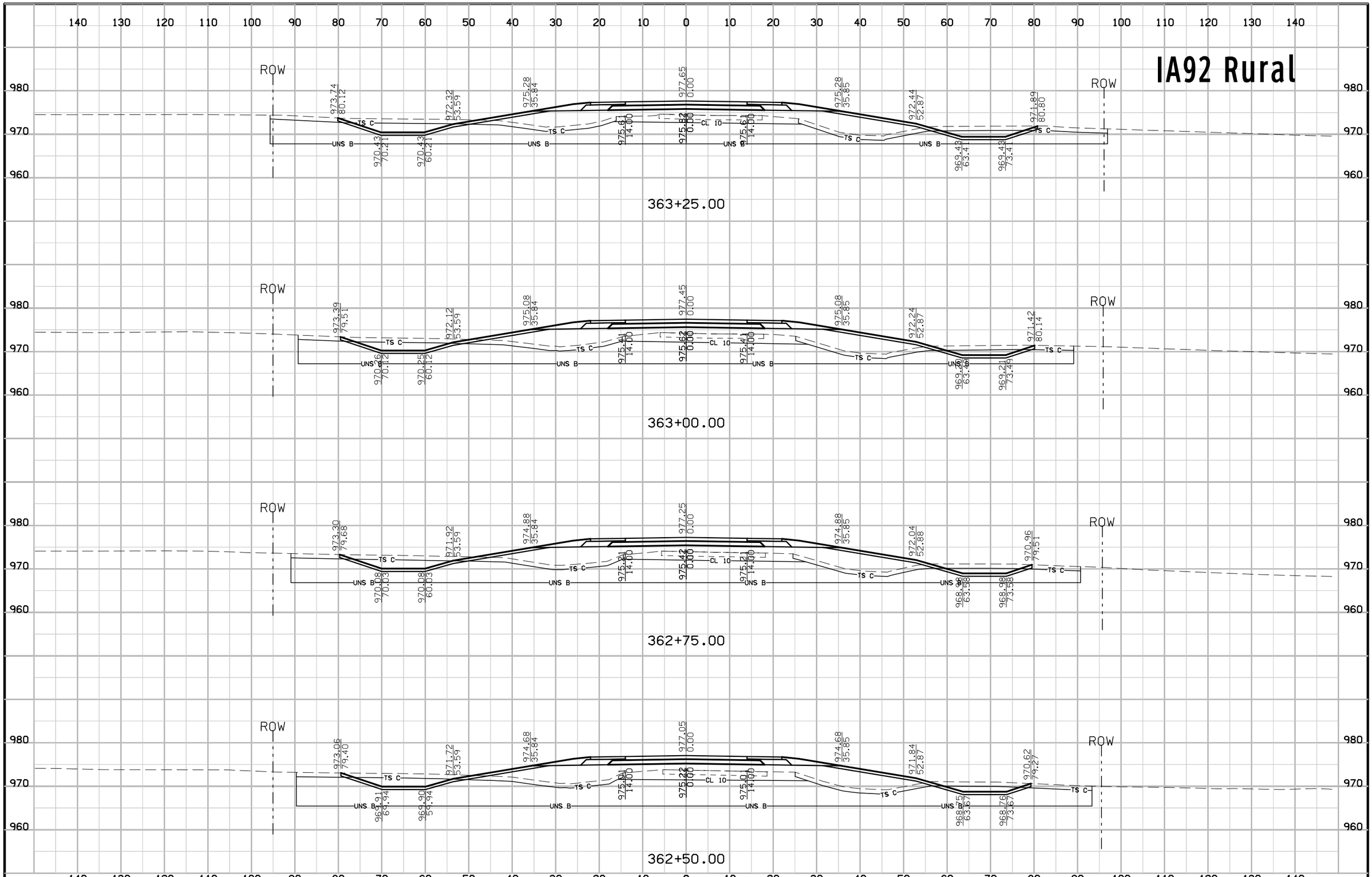
IA92 Rural



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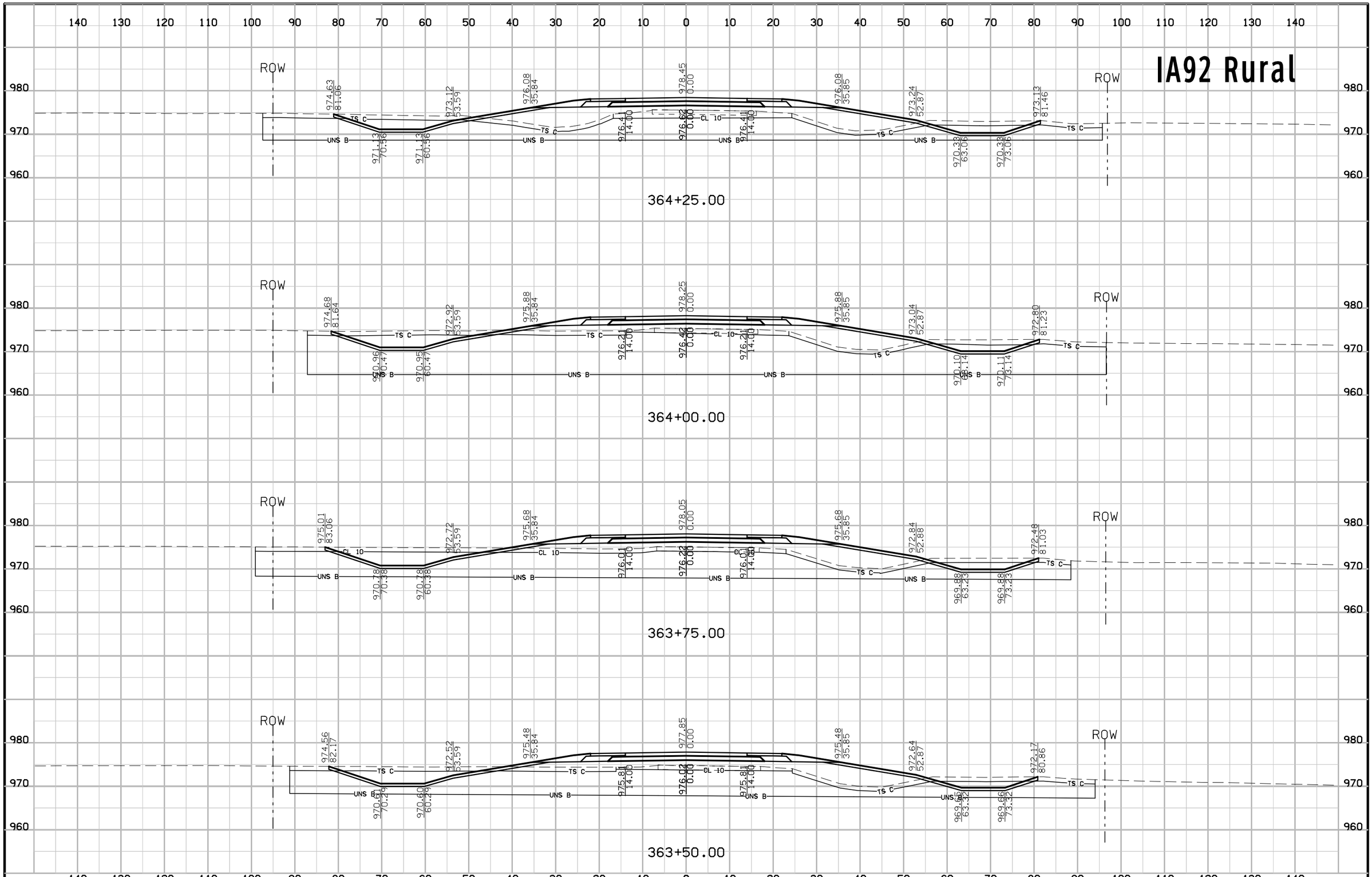
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.129

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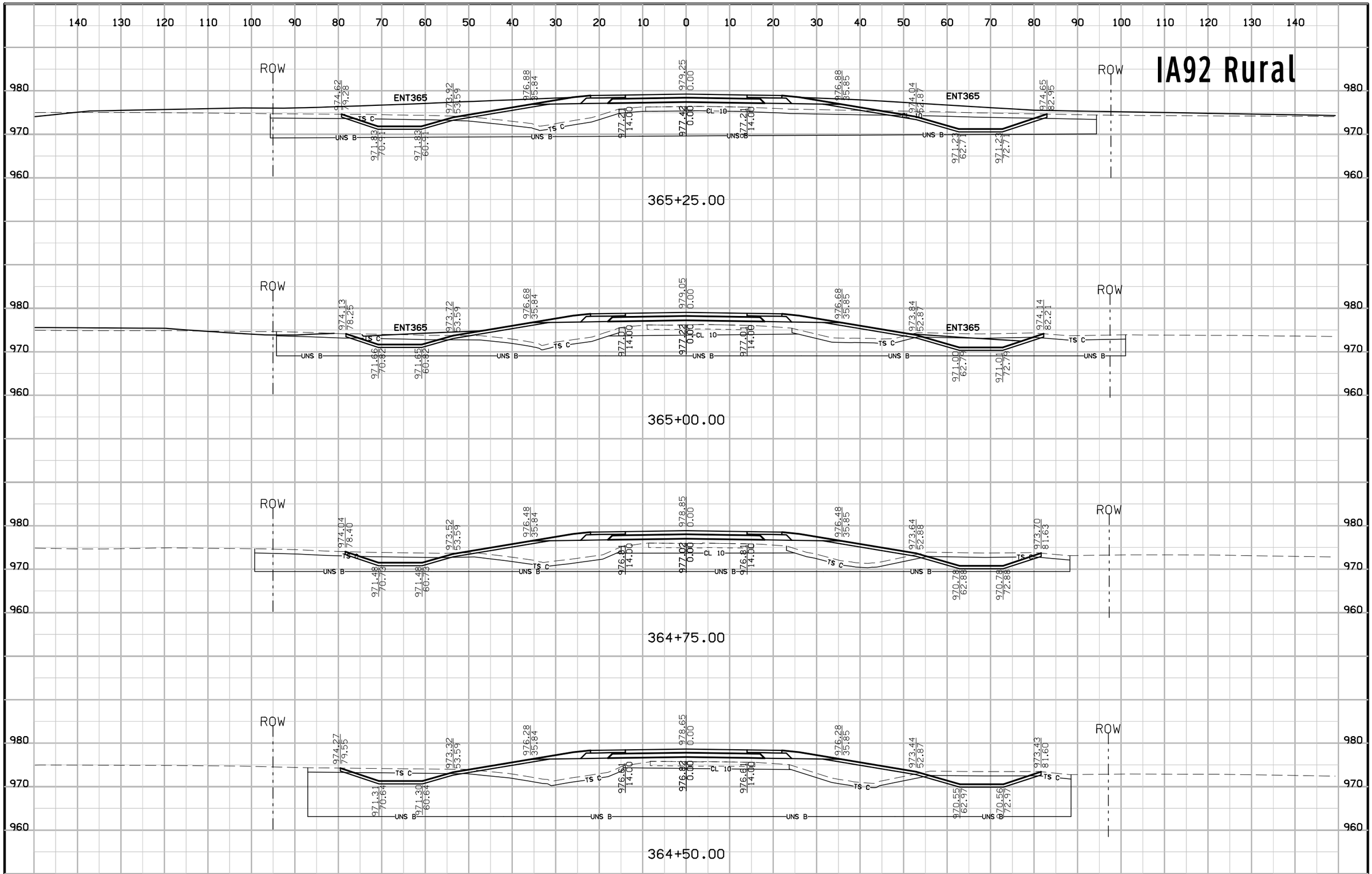
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.130

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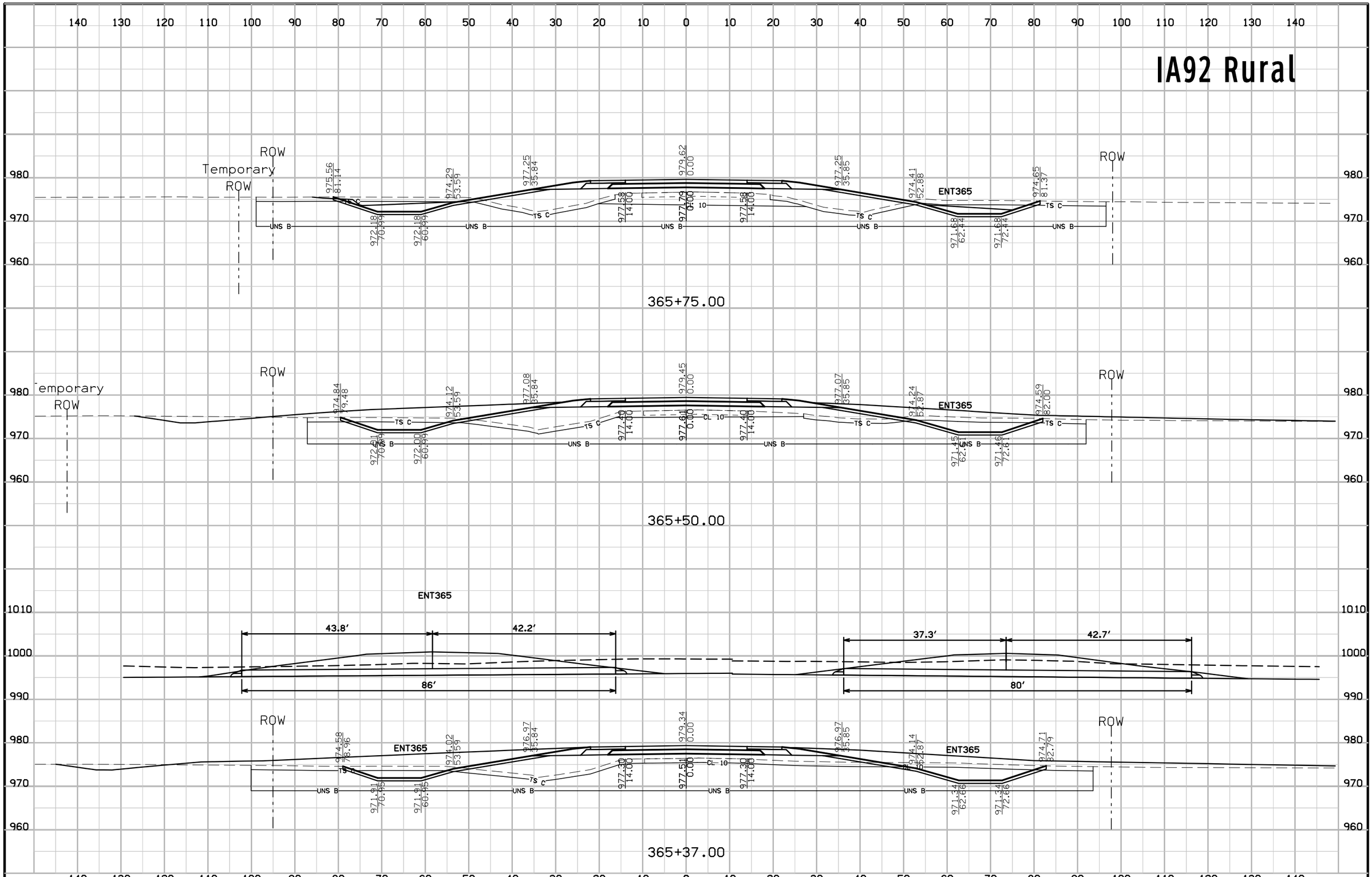
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.131

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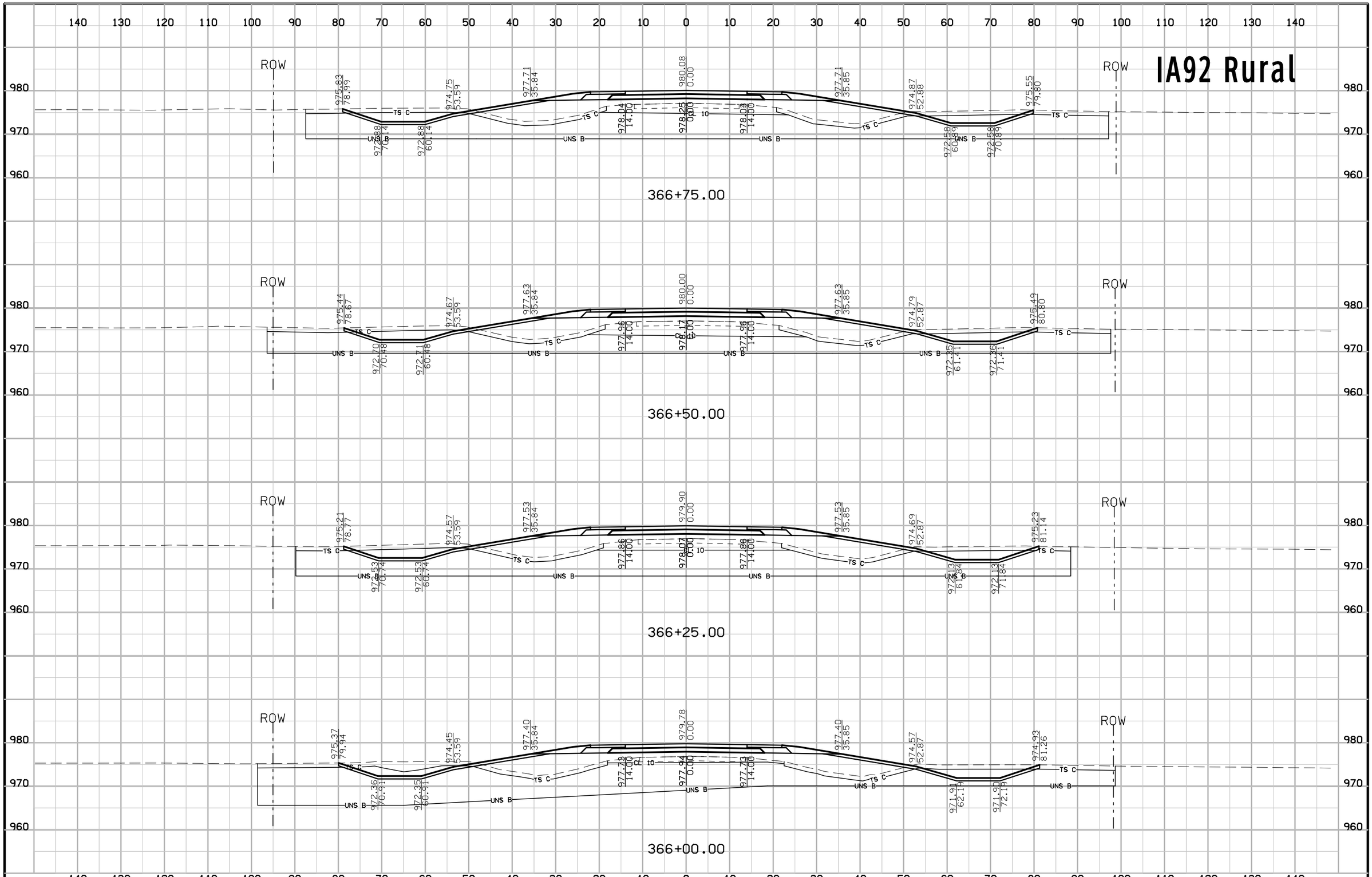
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.132

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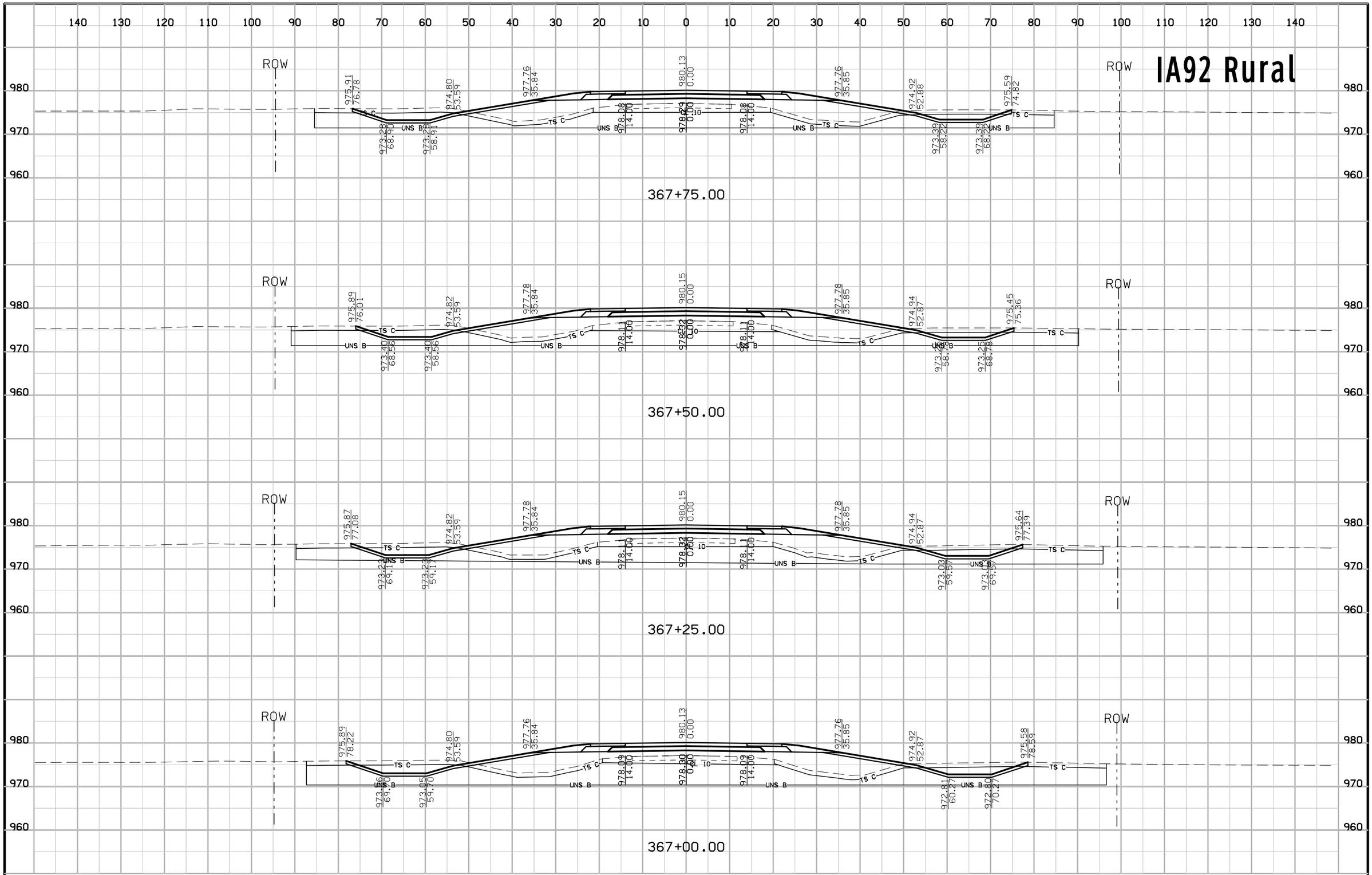
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.133

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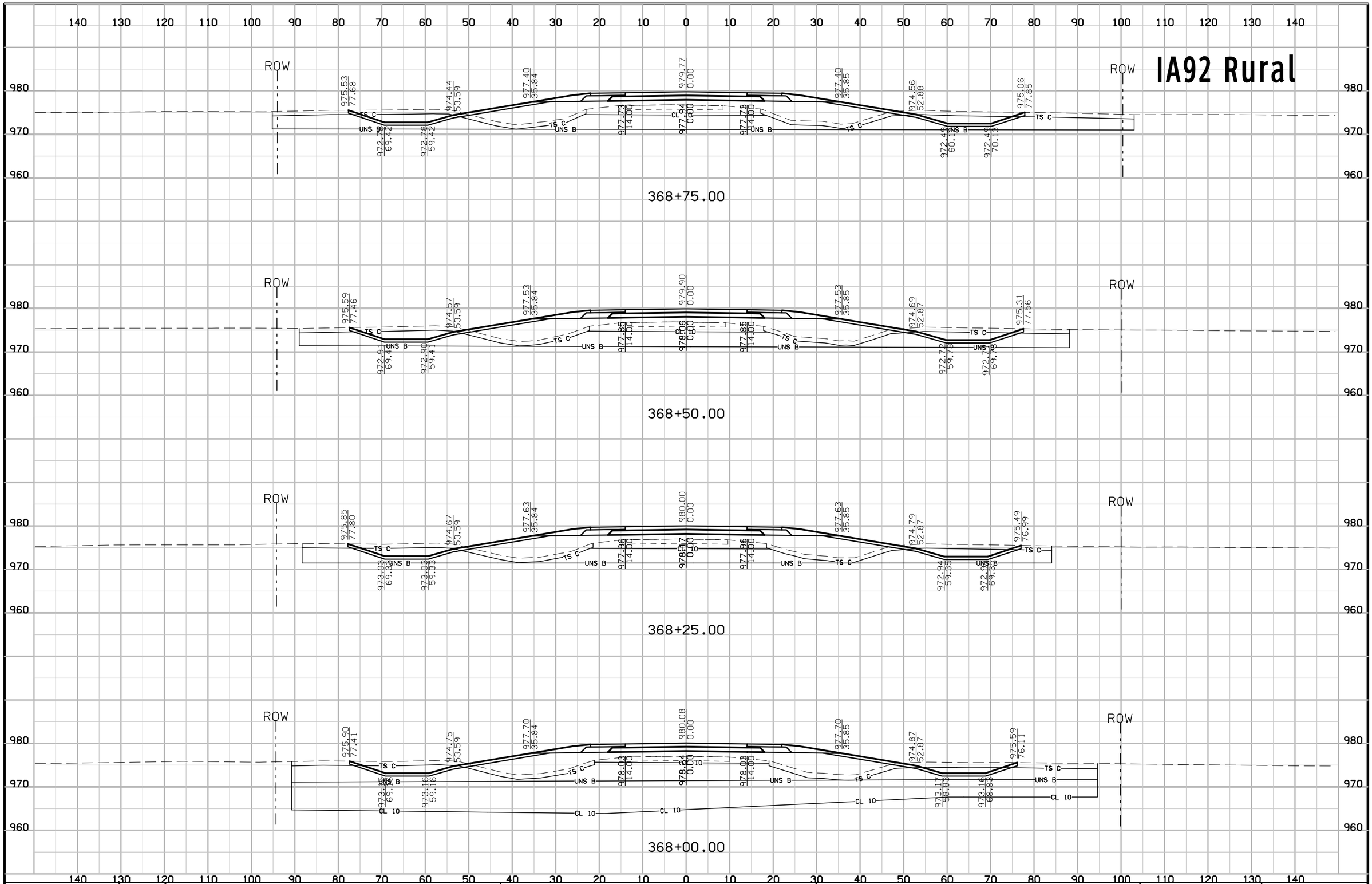
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.134

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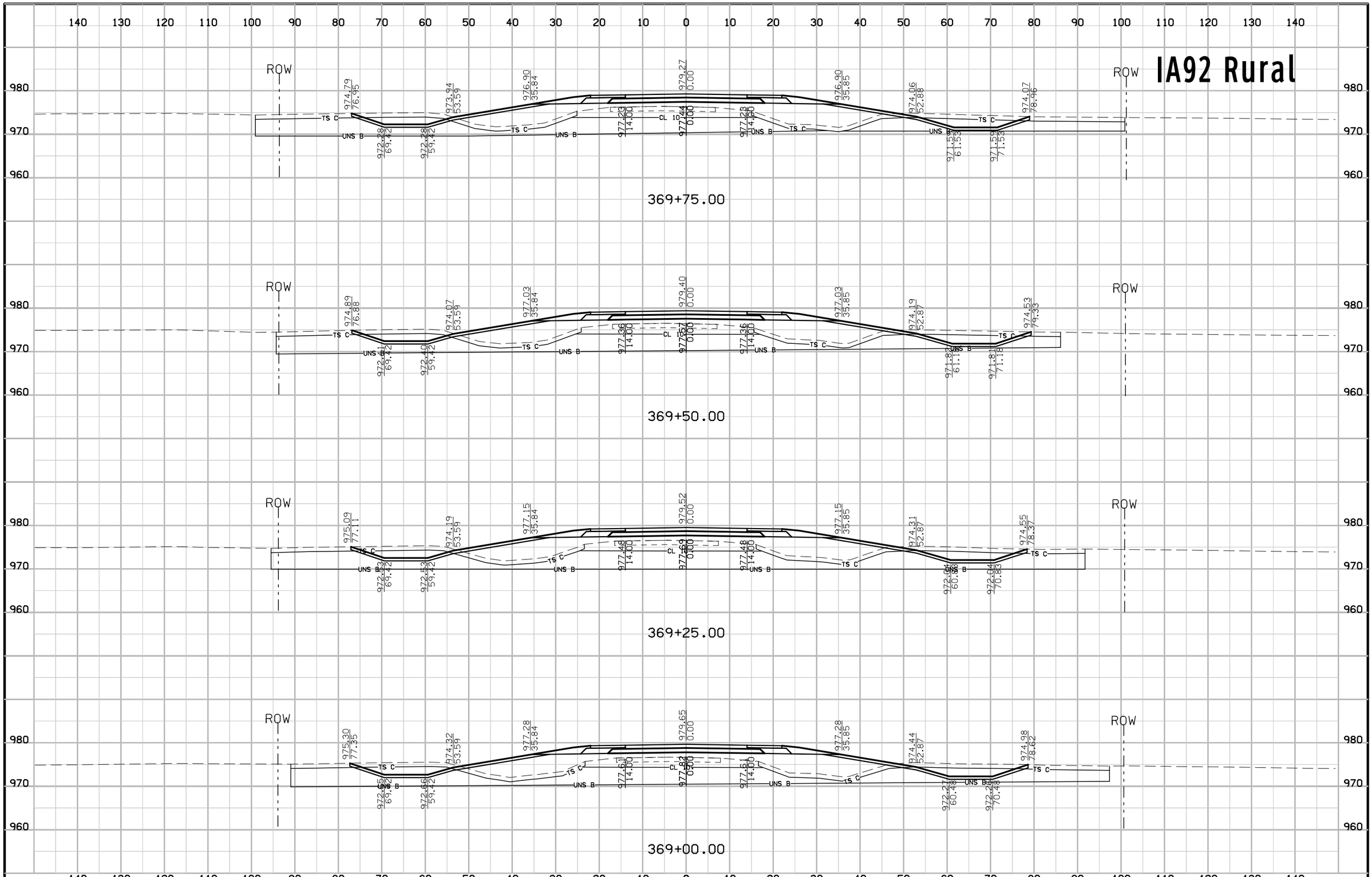
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.135

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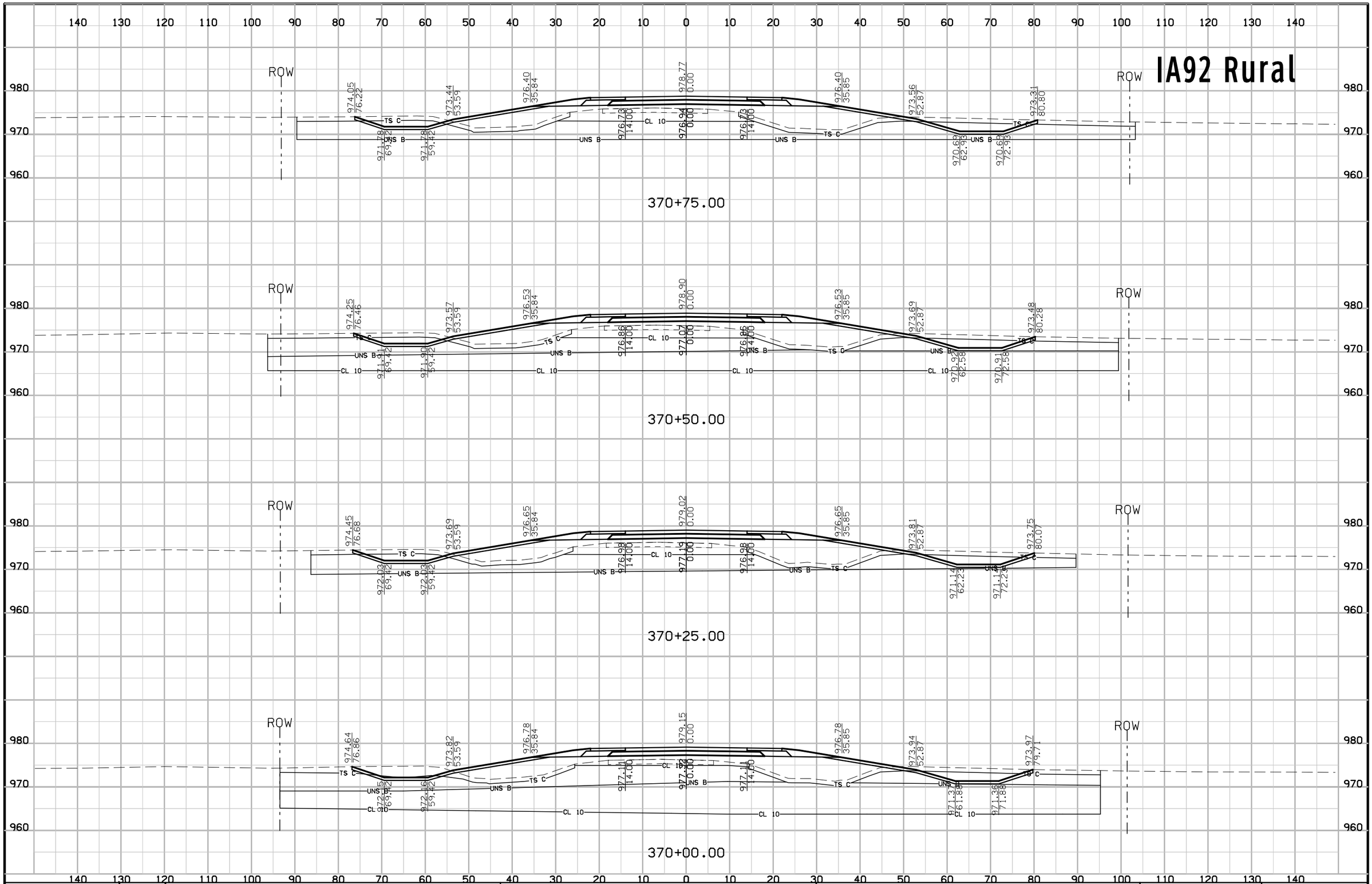
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.136

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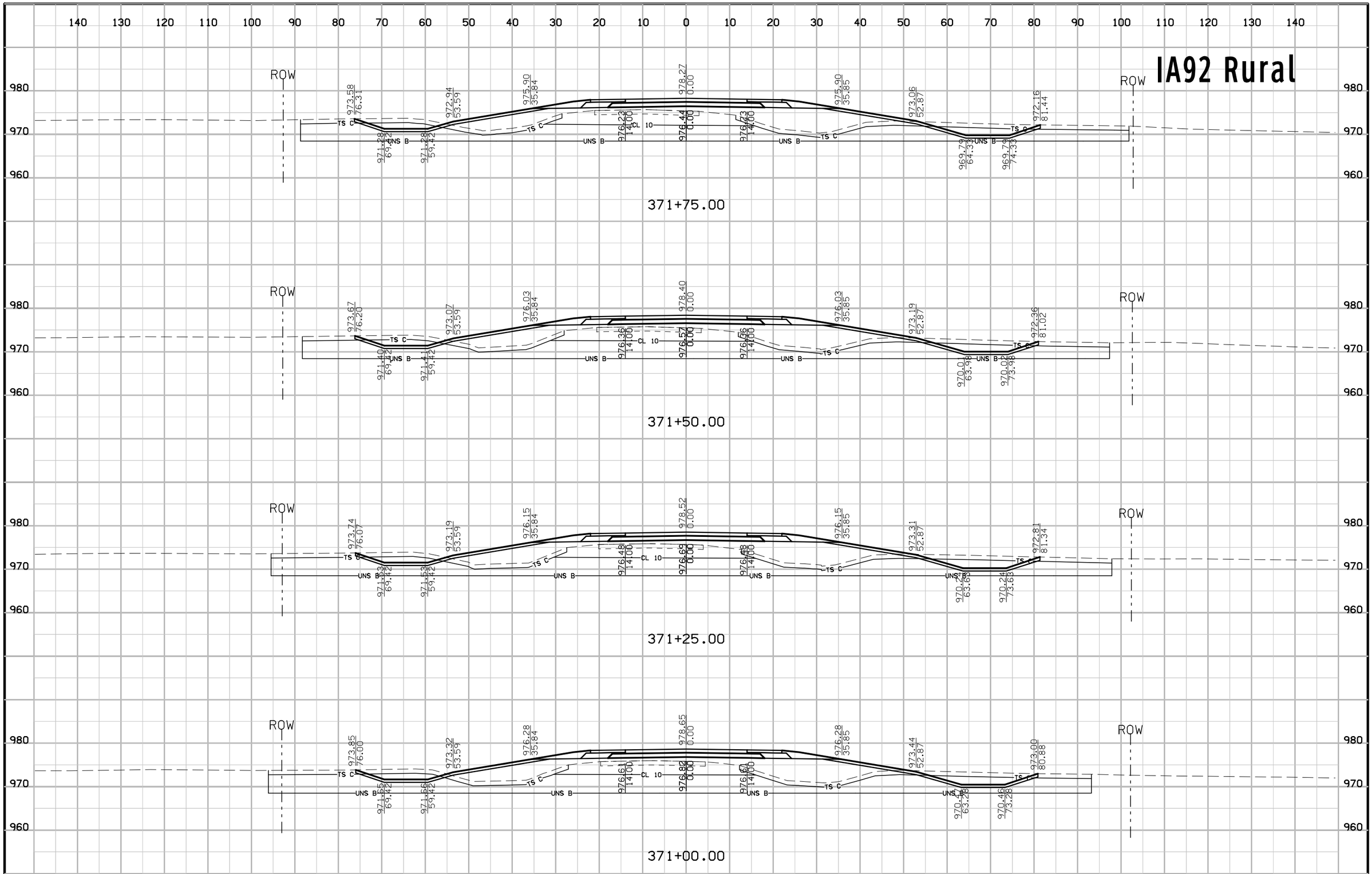
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.137

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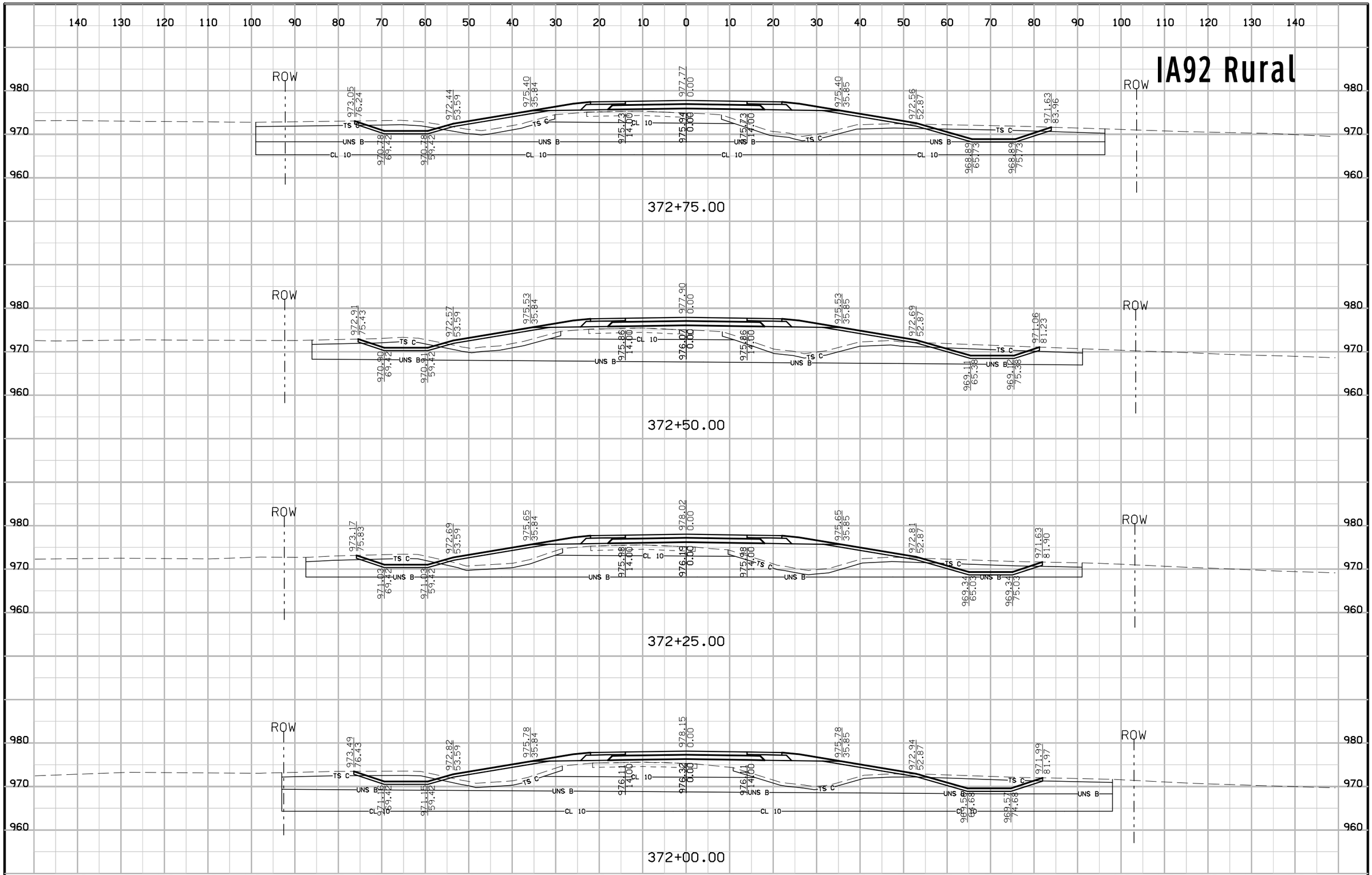
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.138

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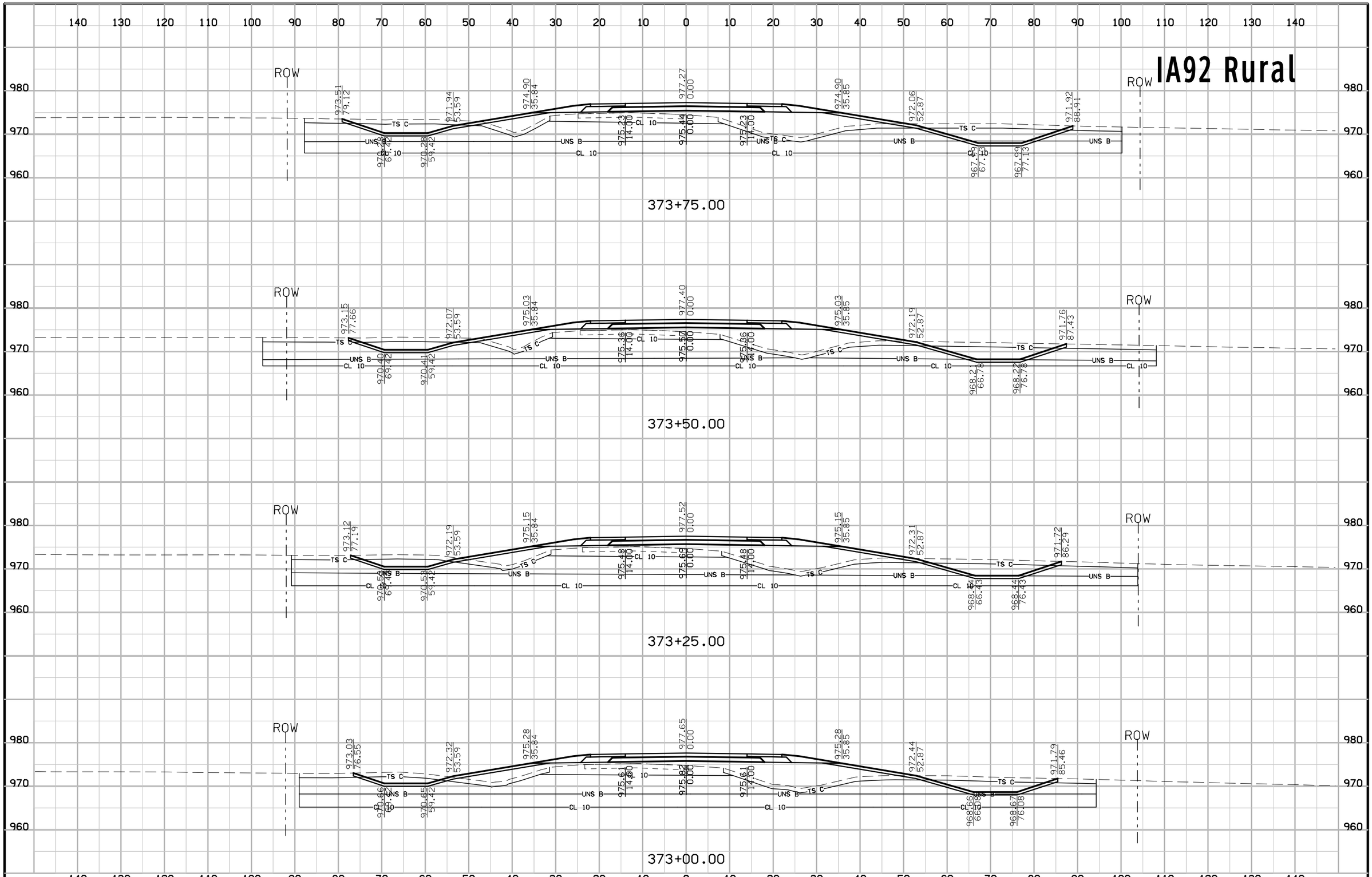
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.139

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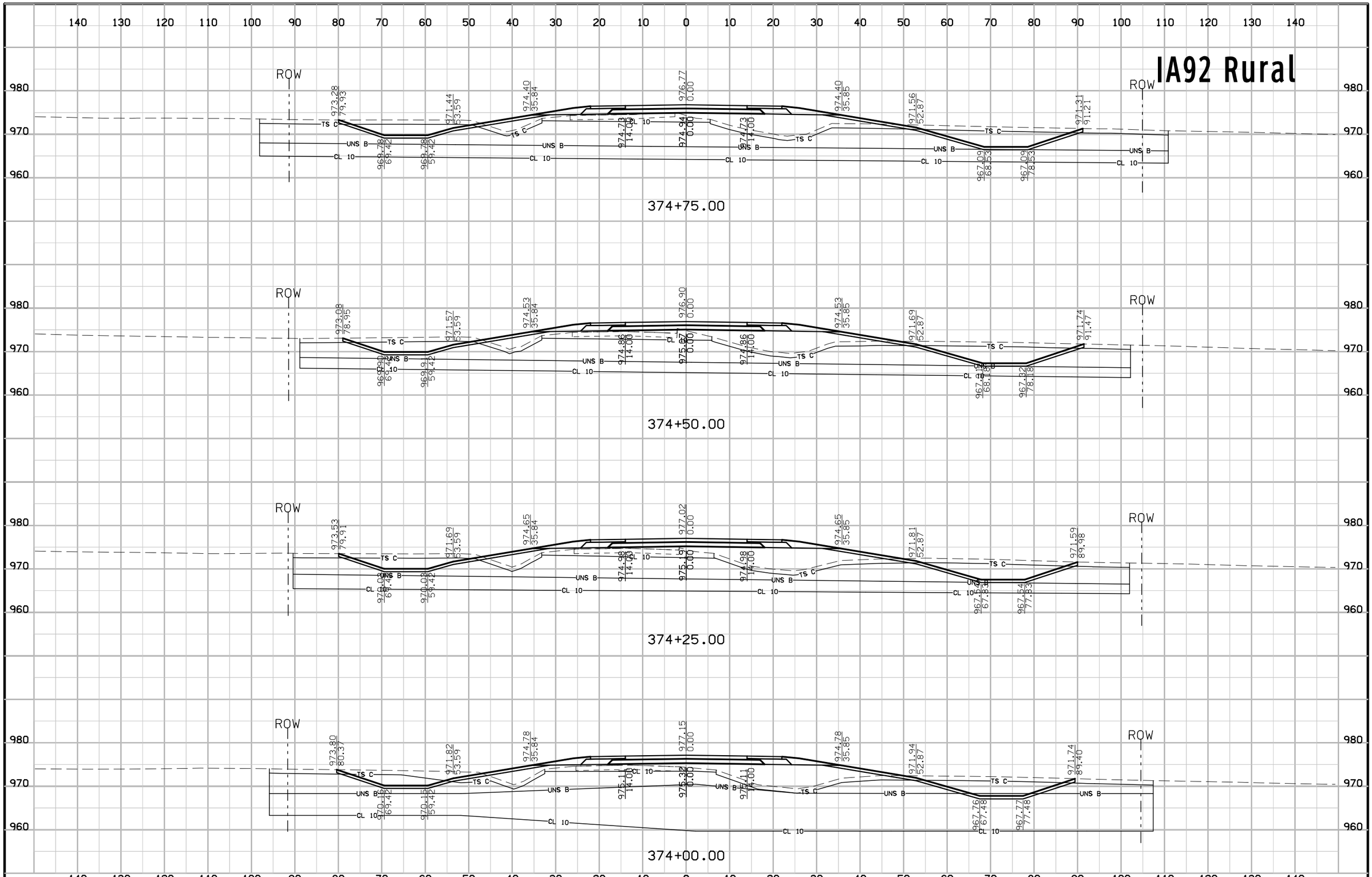
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.140

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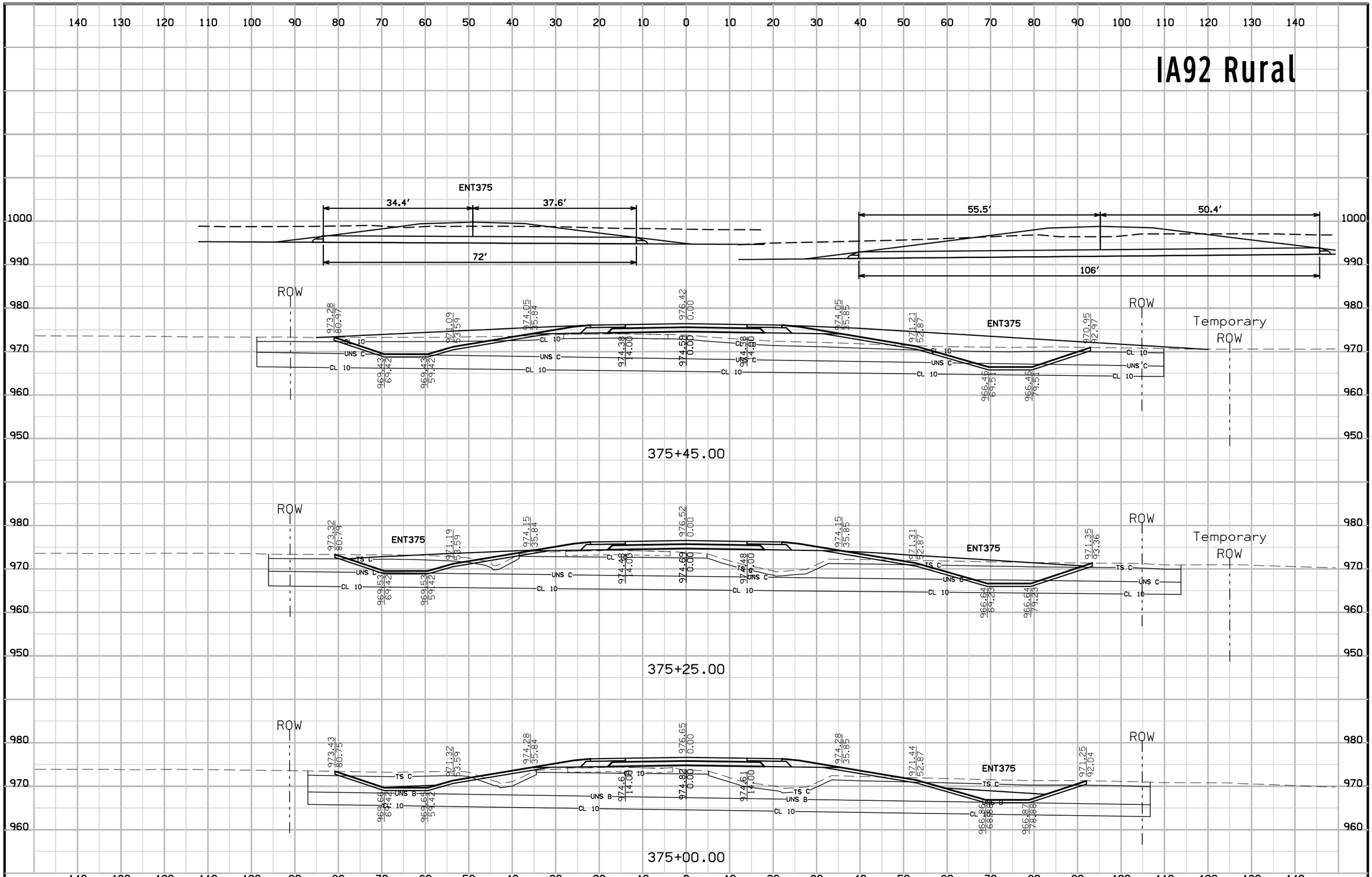
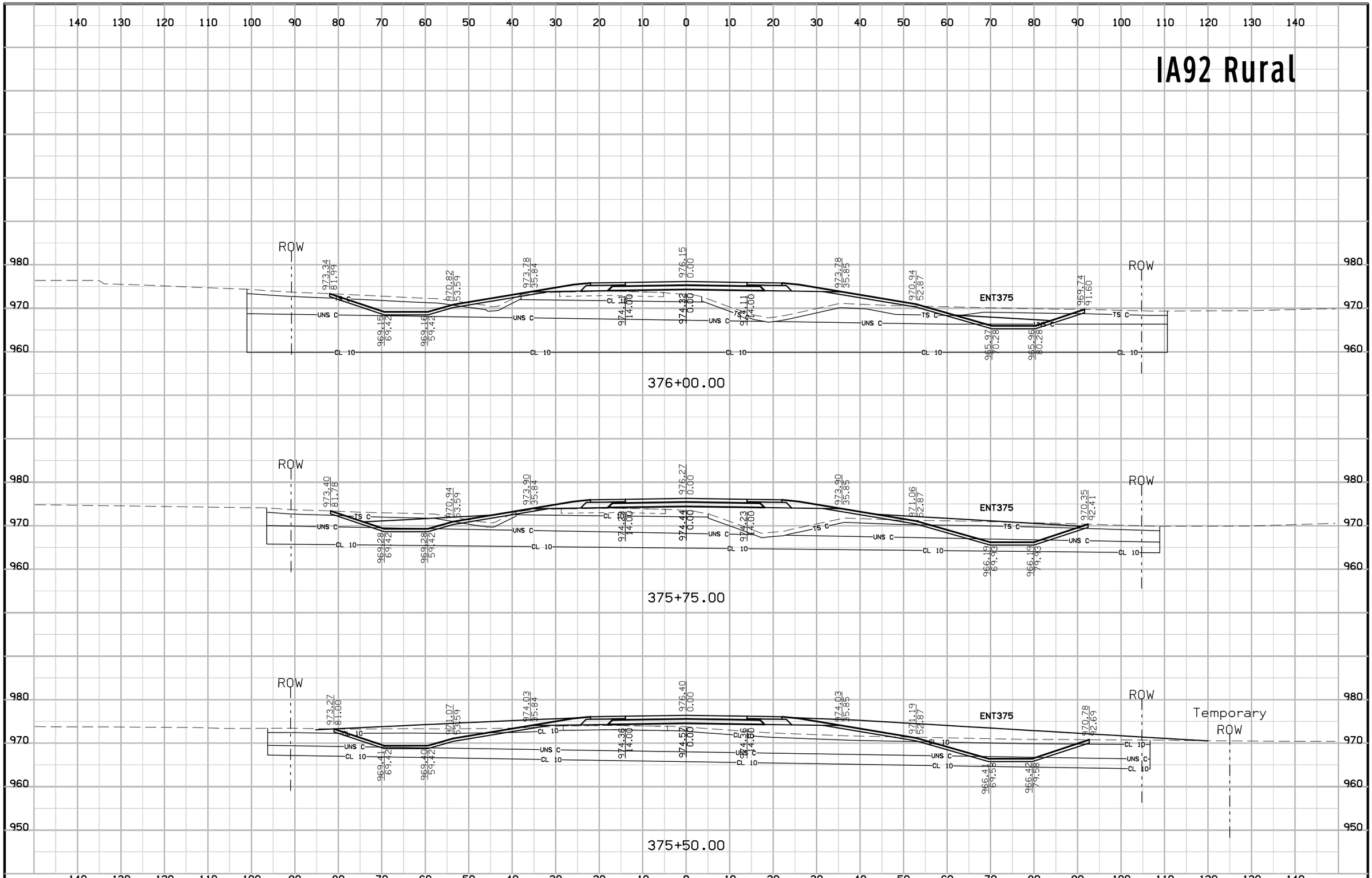
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.141

8:56:17 AM 7/3/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W102.sht

IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.142

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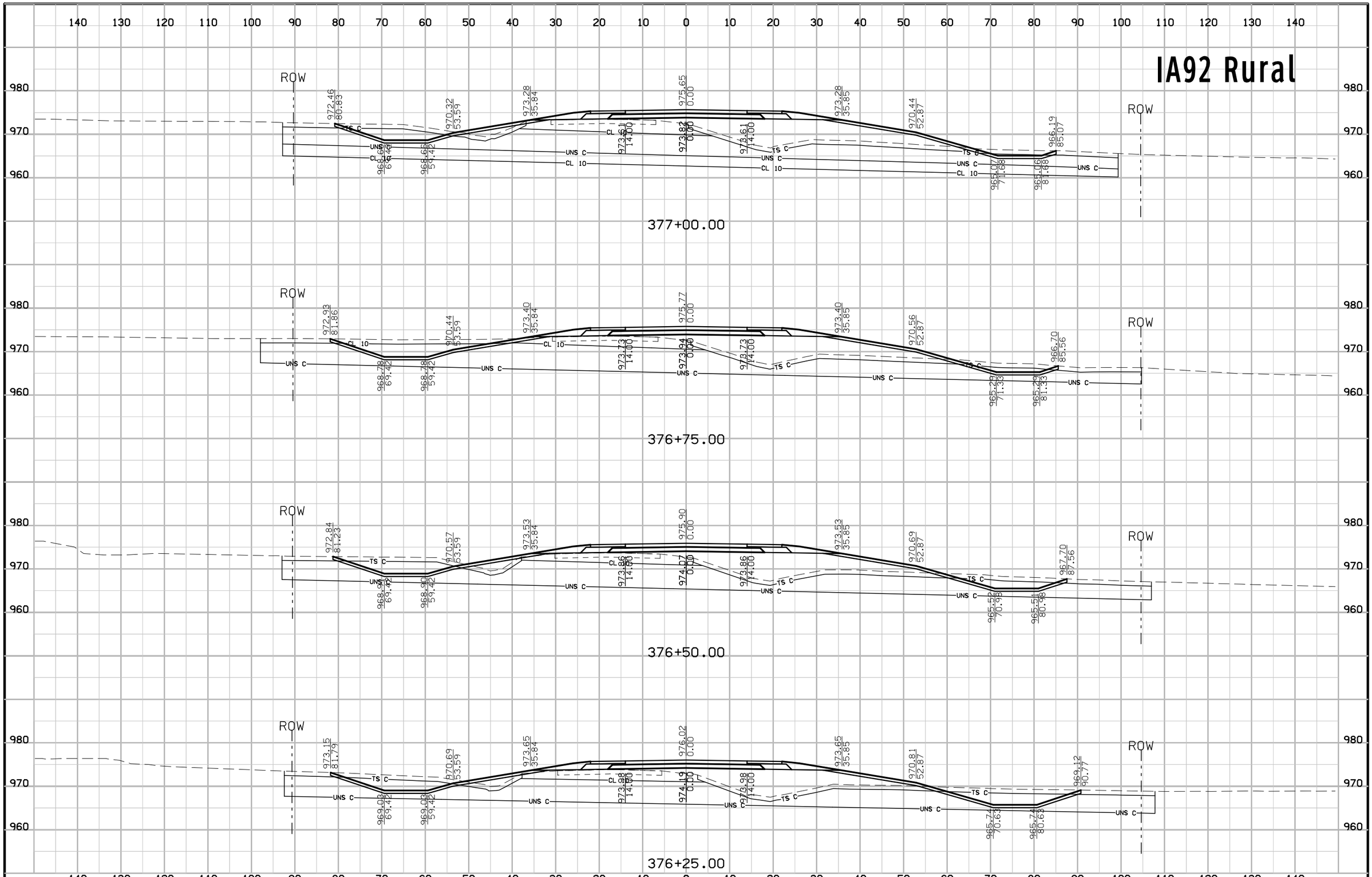
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.143

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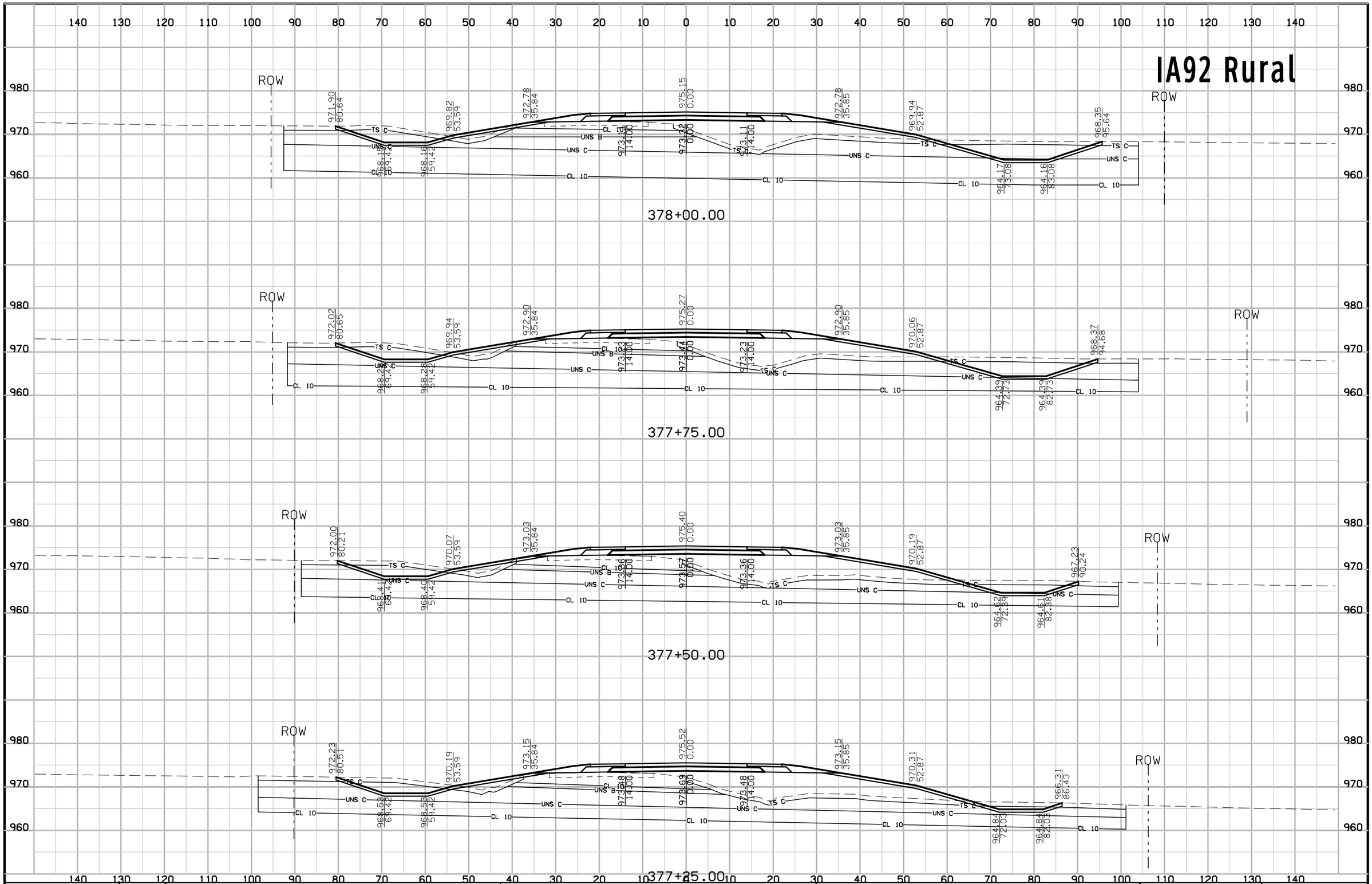
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.144

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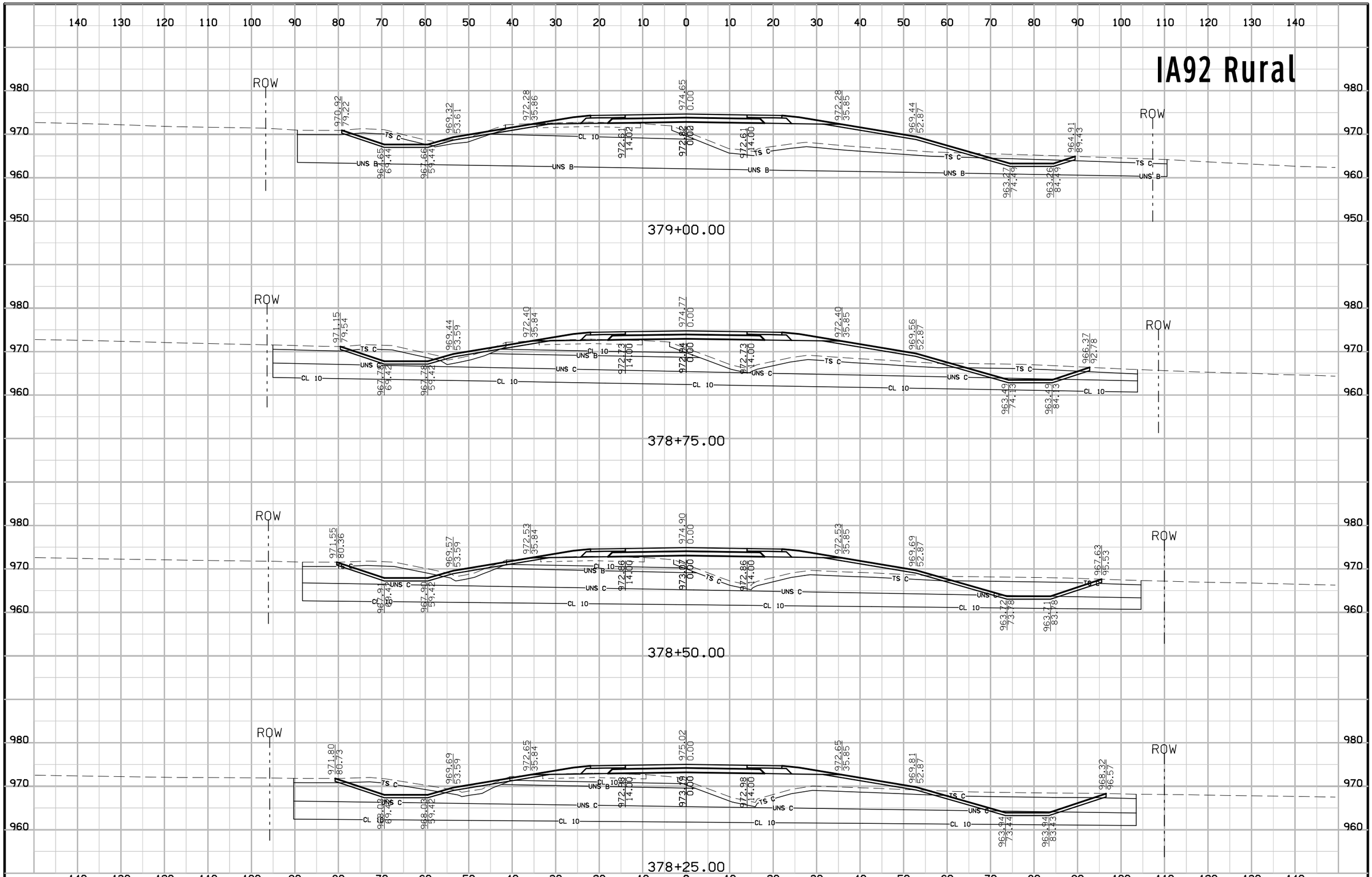
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.145

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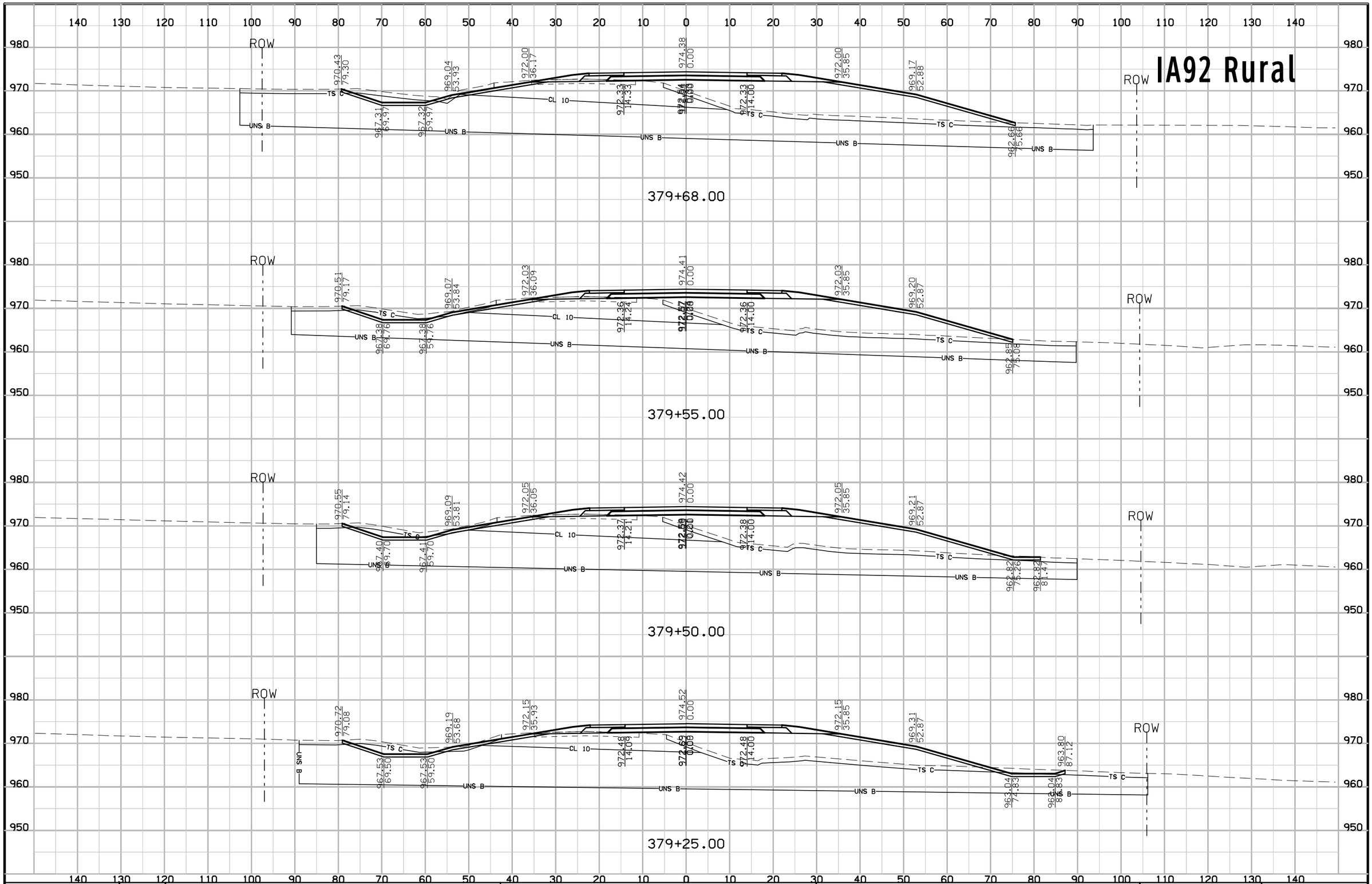
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.146

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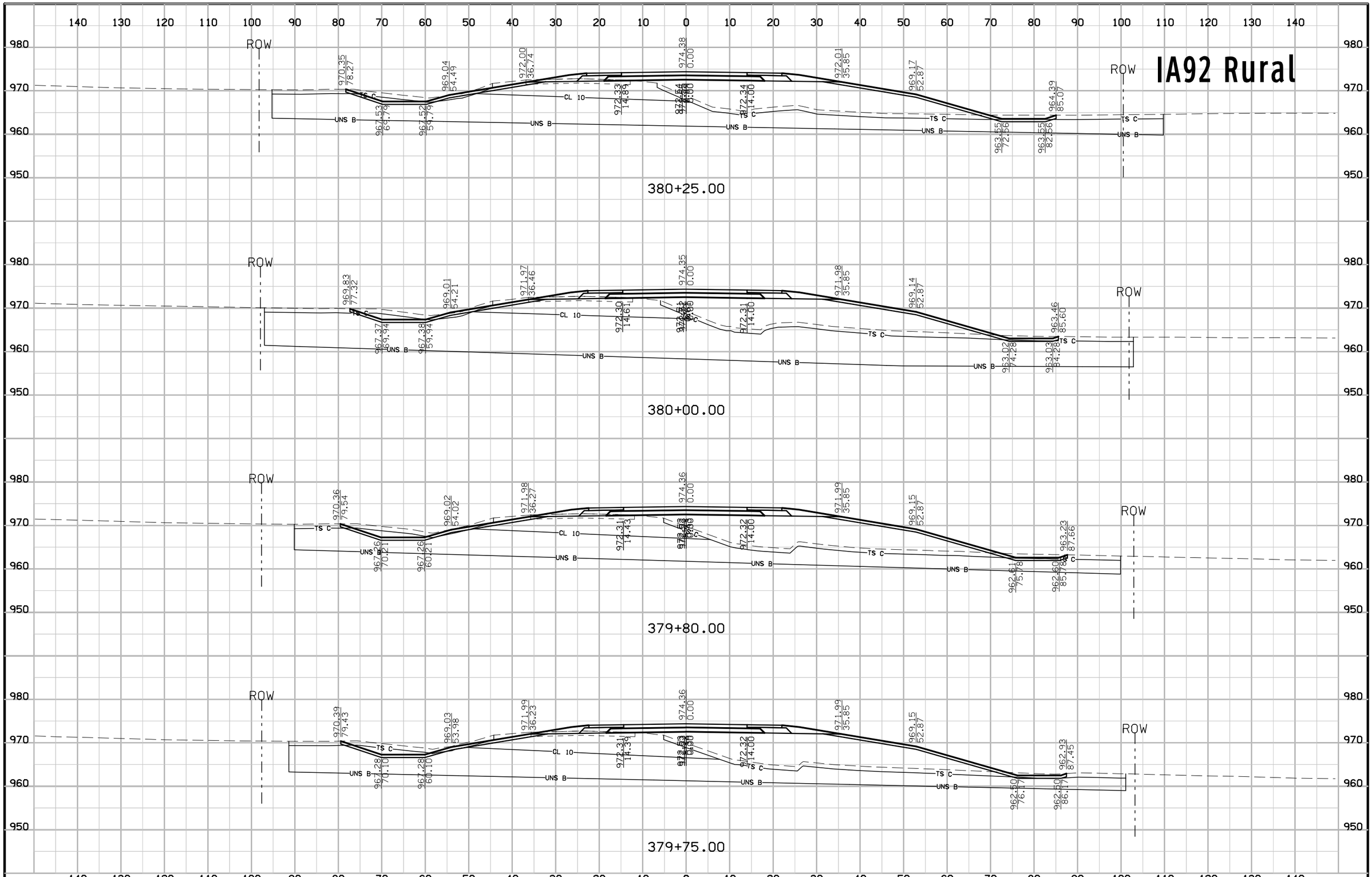
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.147

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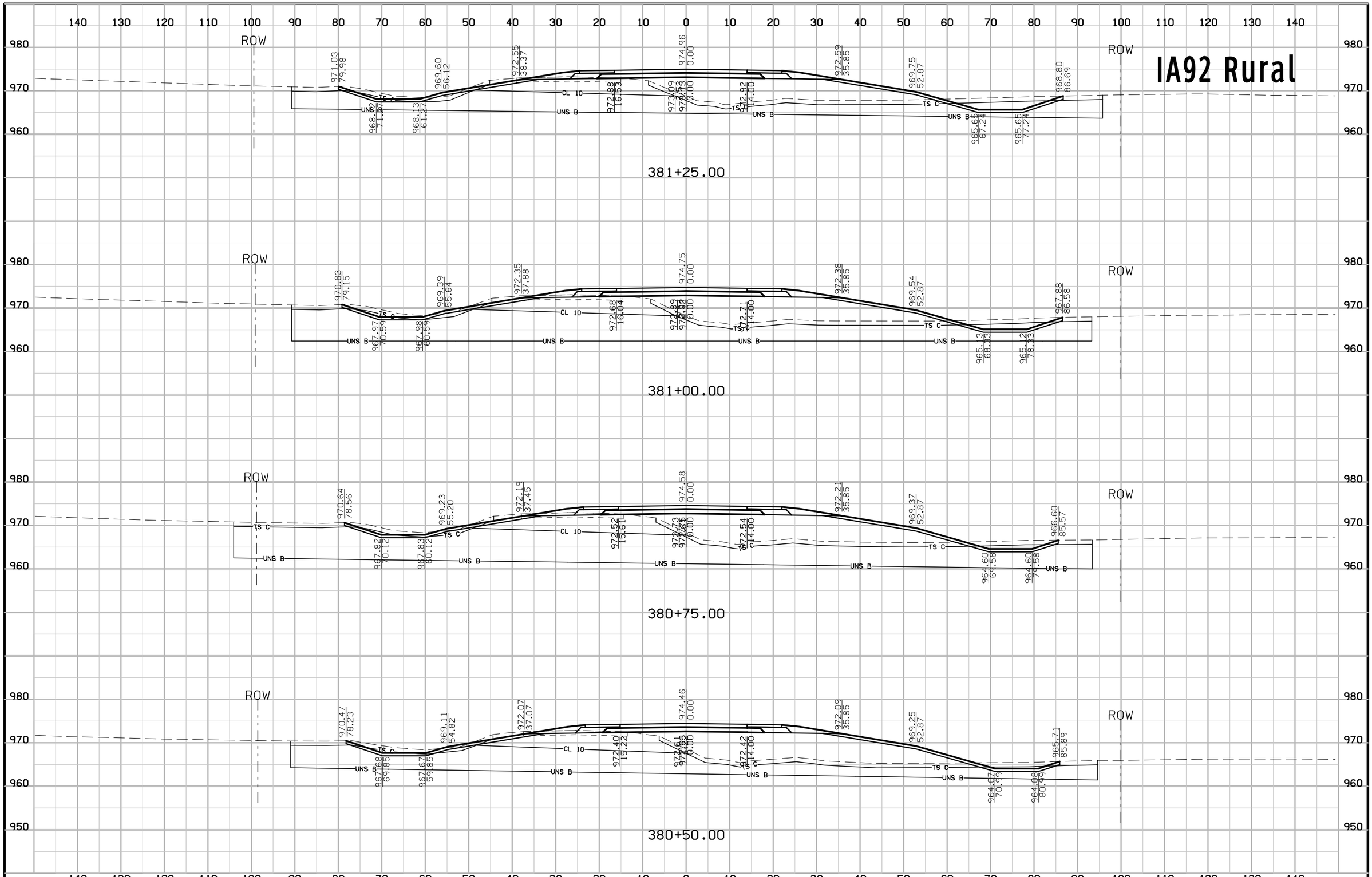
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.148

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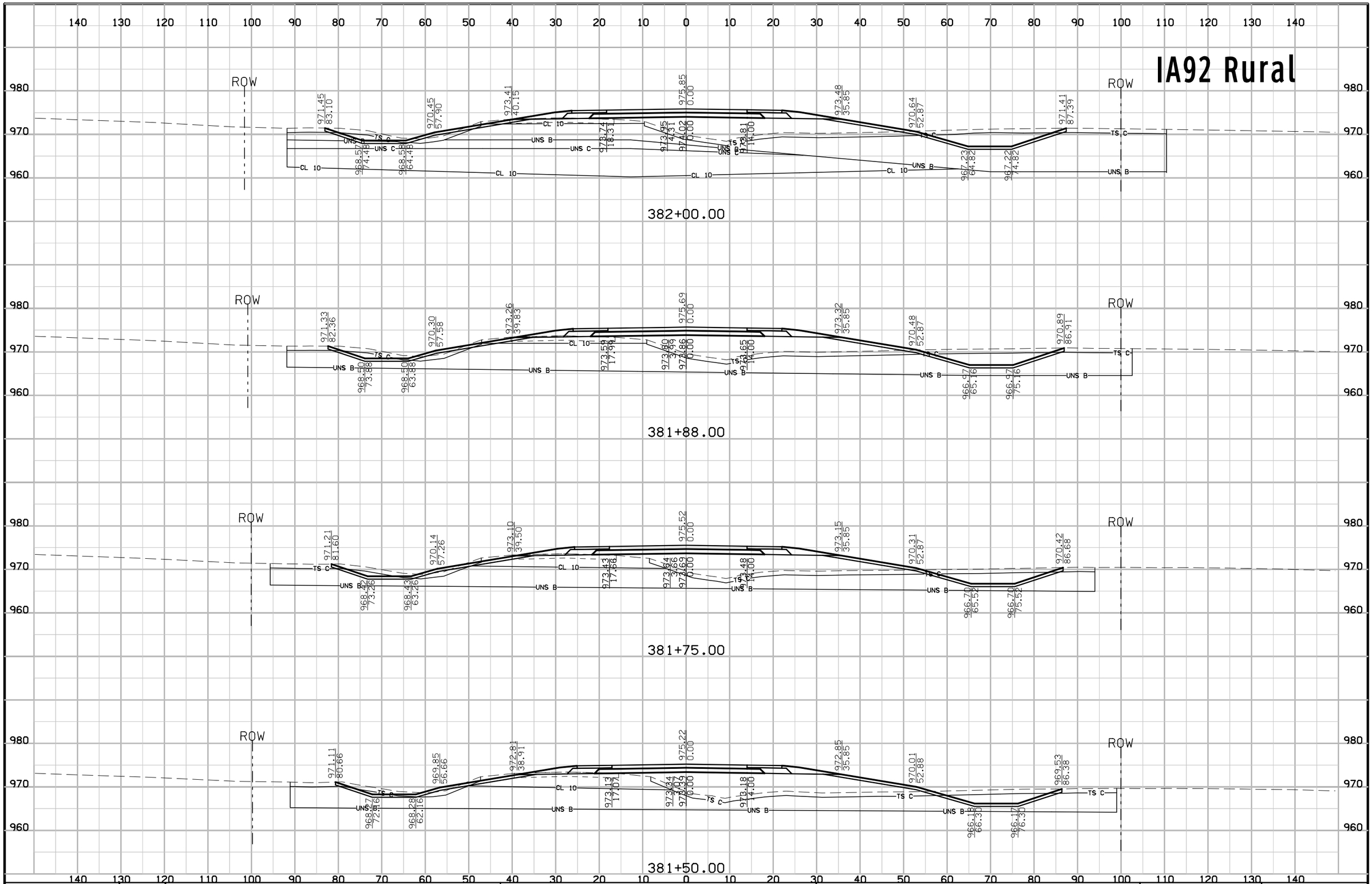
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.149

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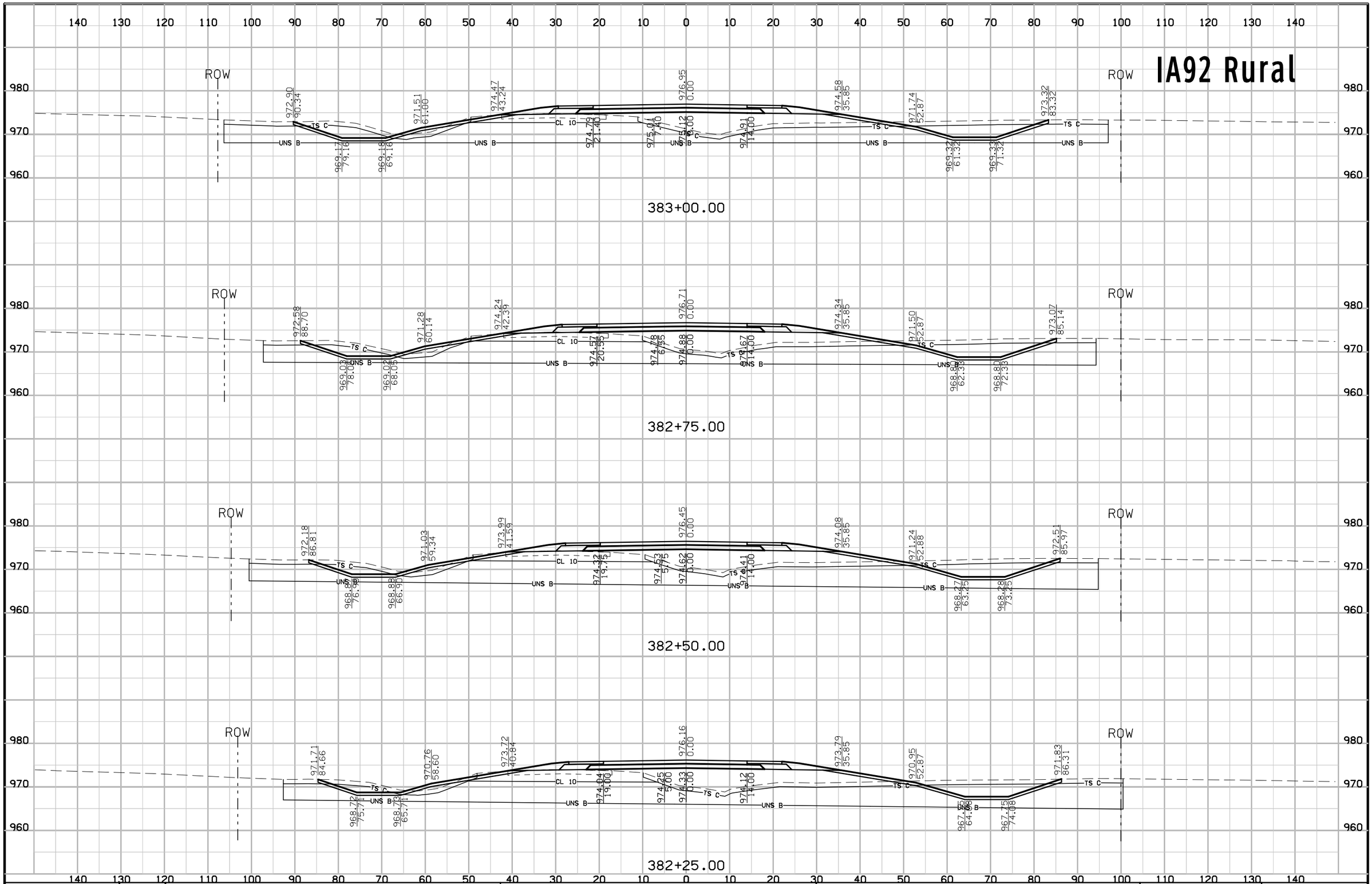
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.150

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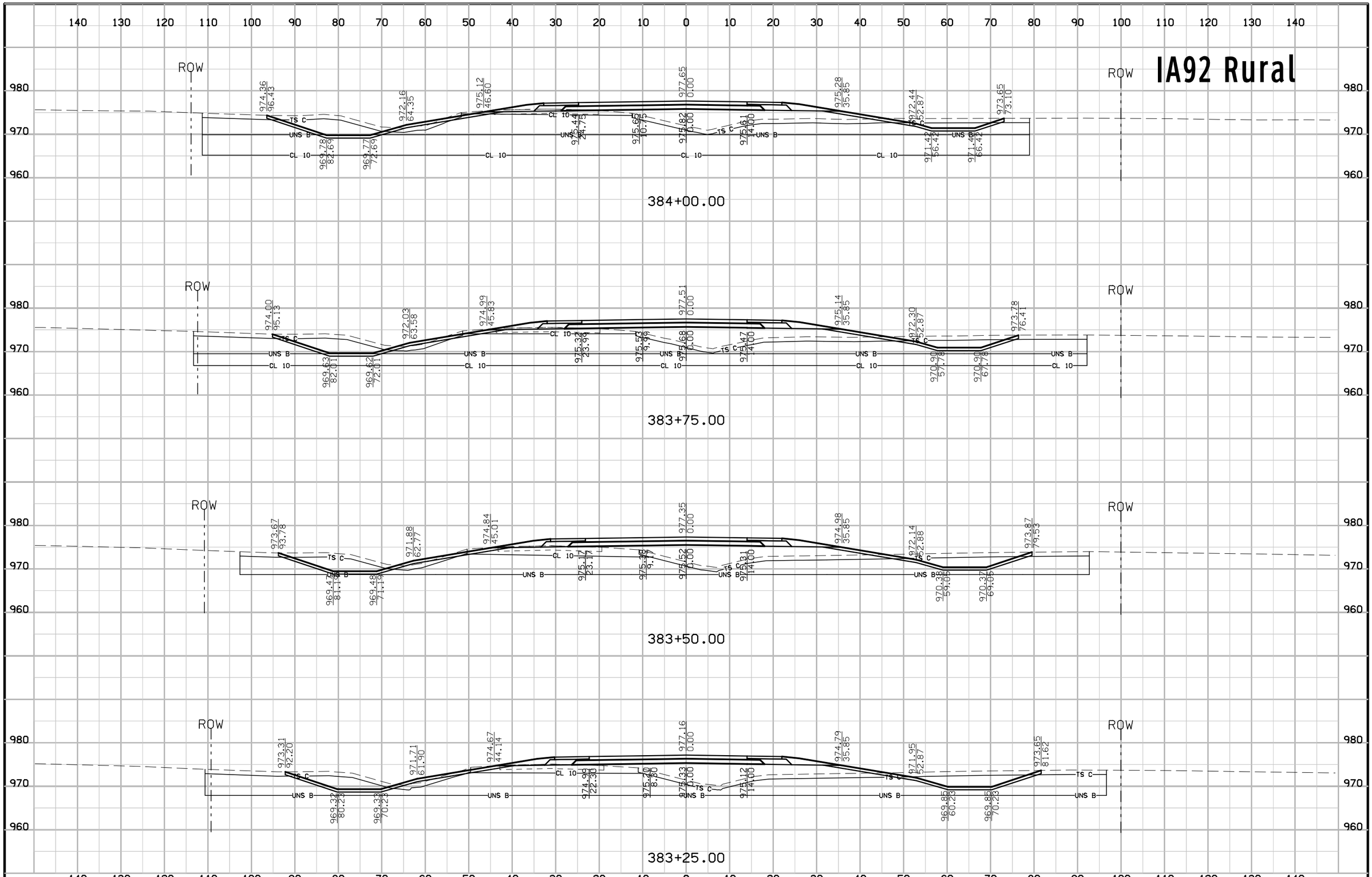
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.151

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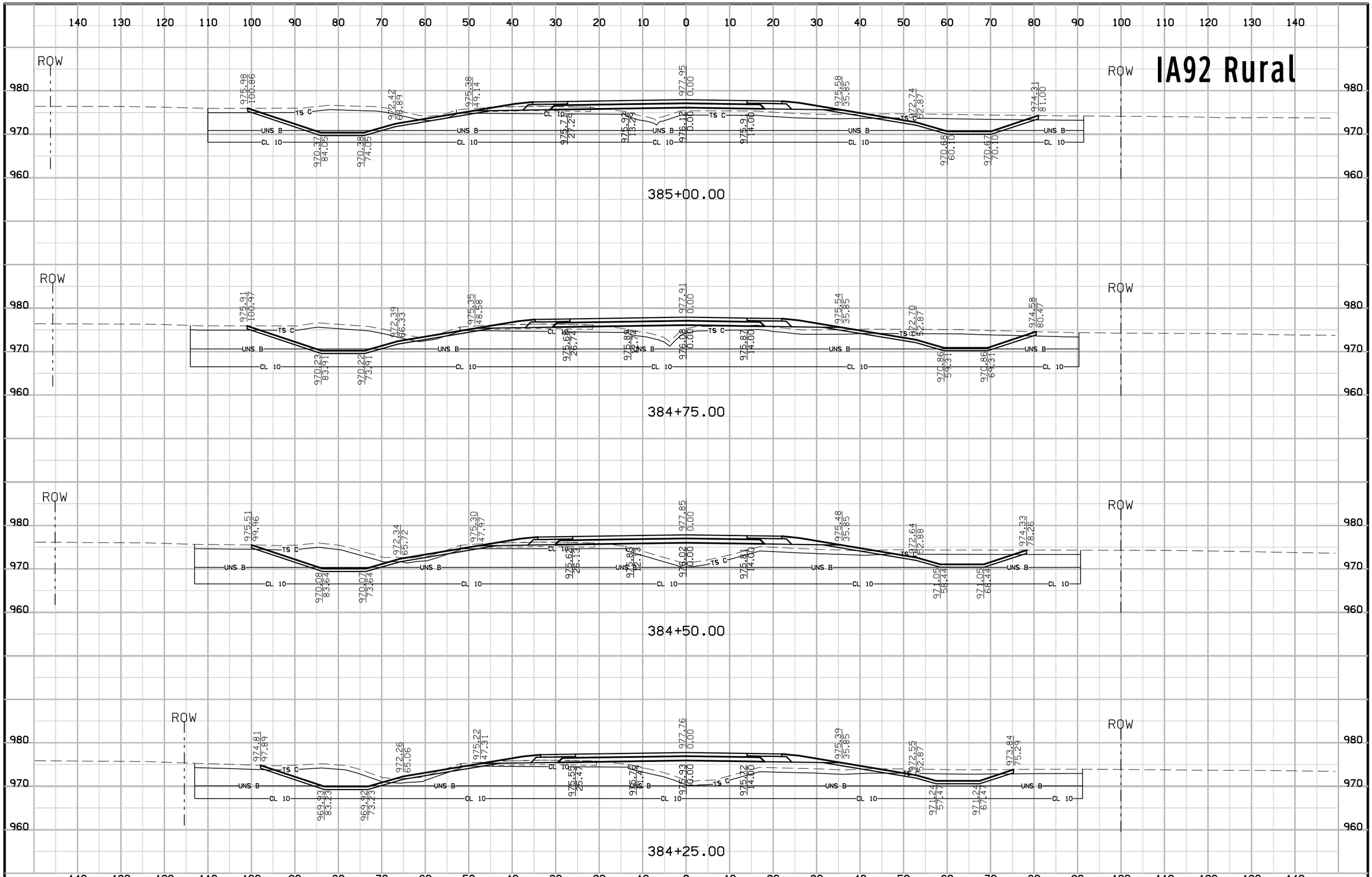
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.152

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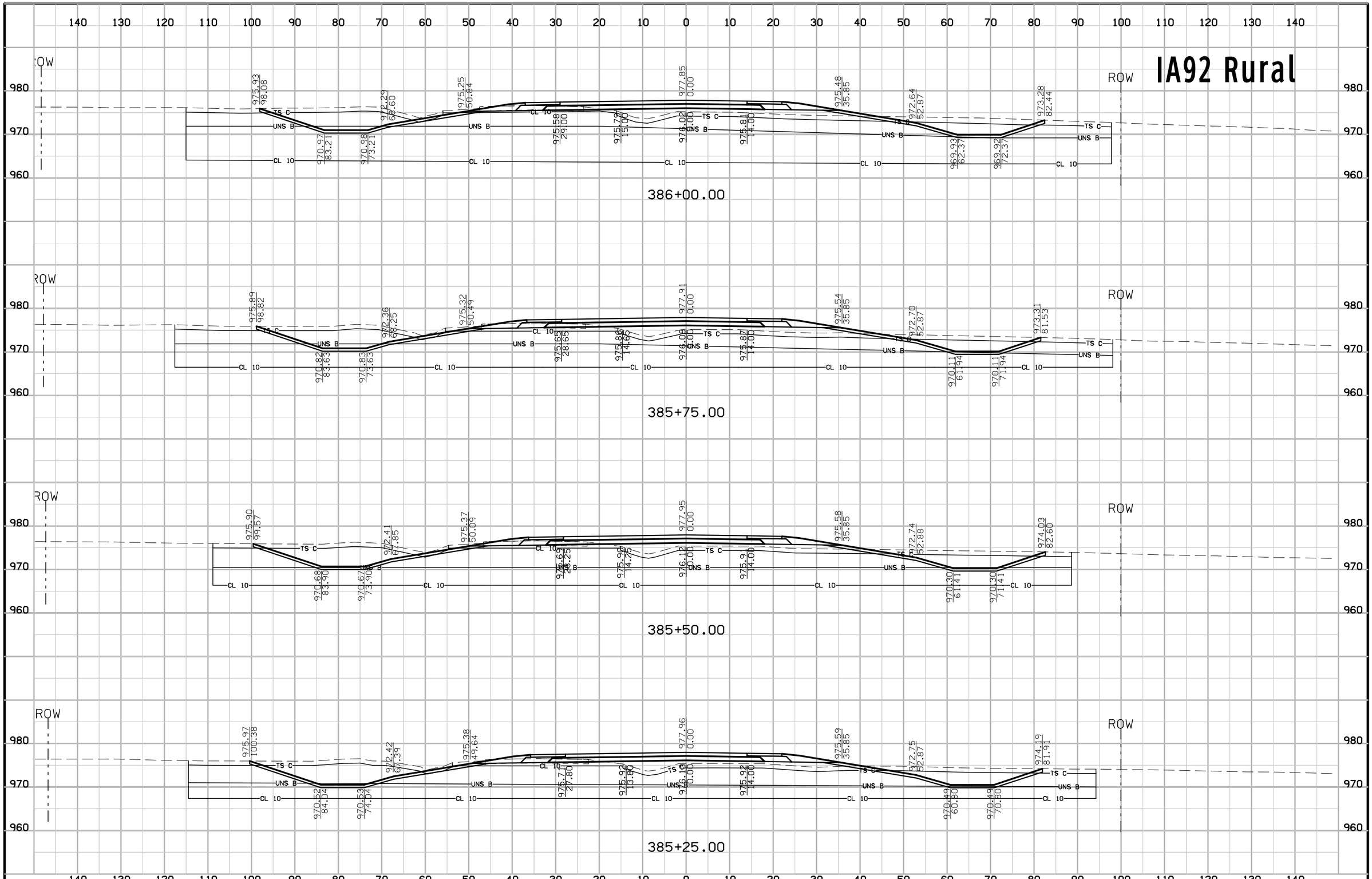
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.153

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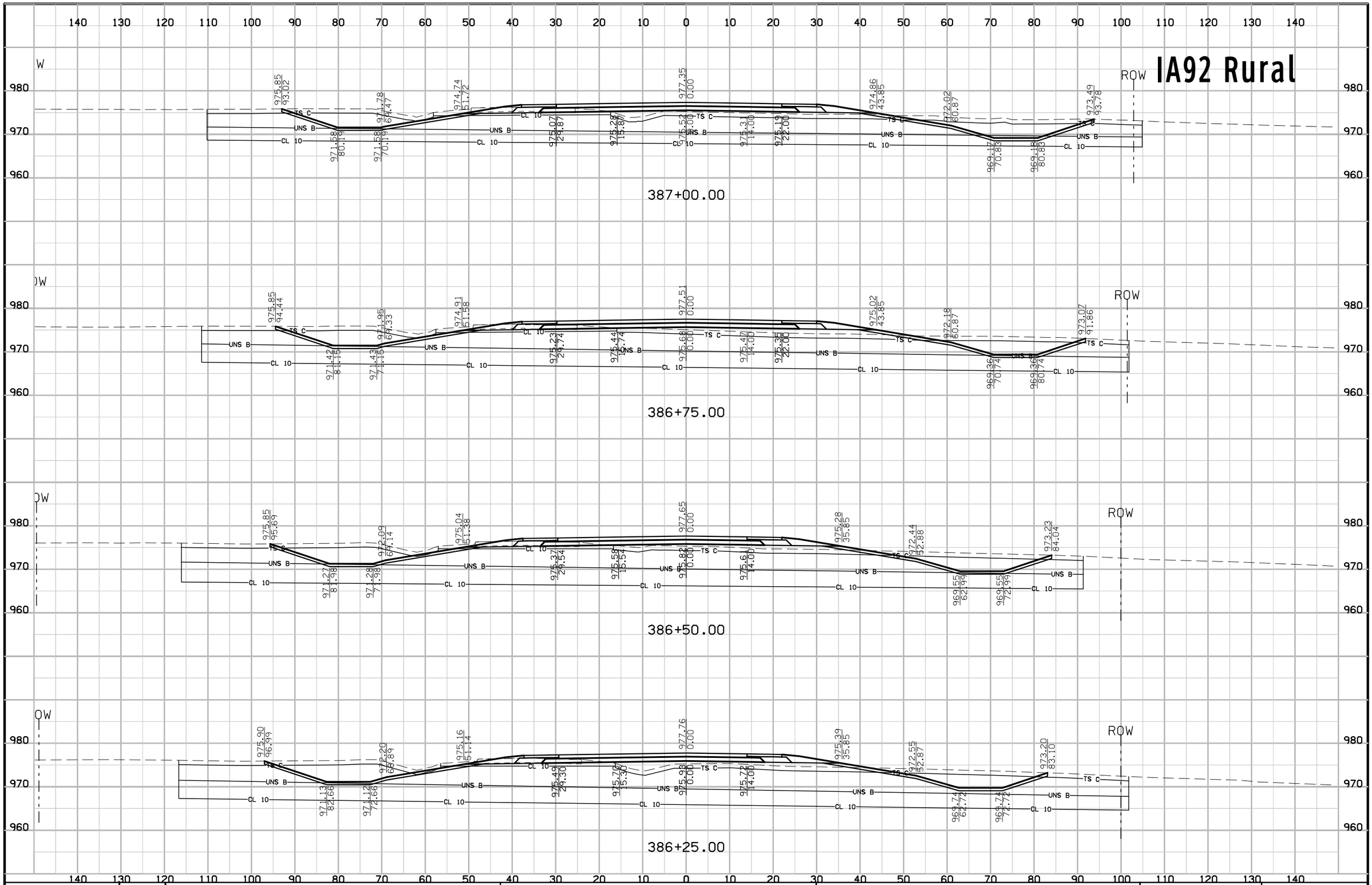
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.154

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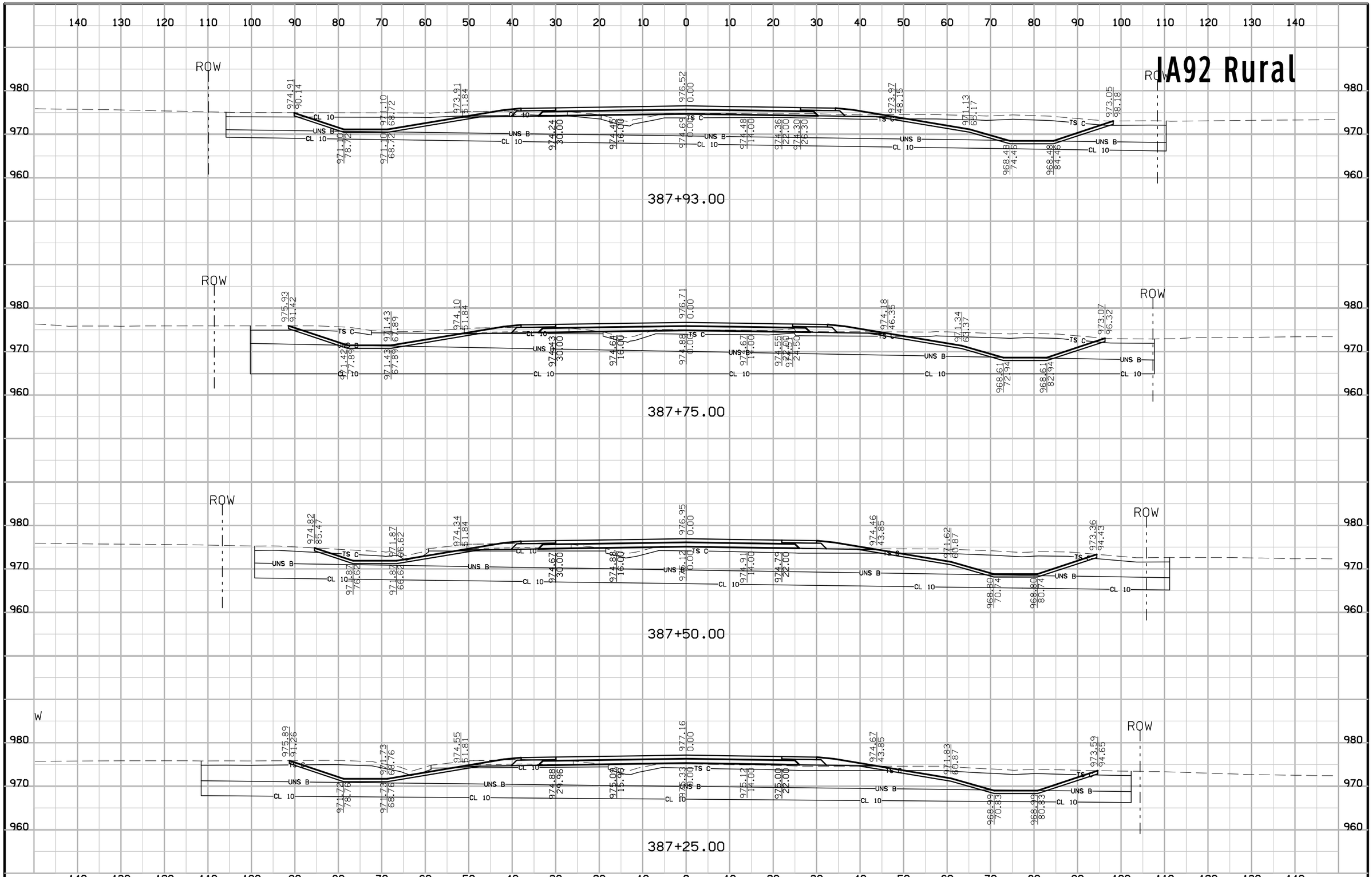
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.155

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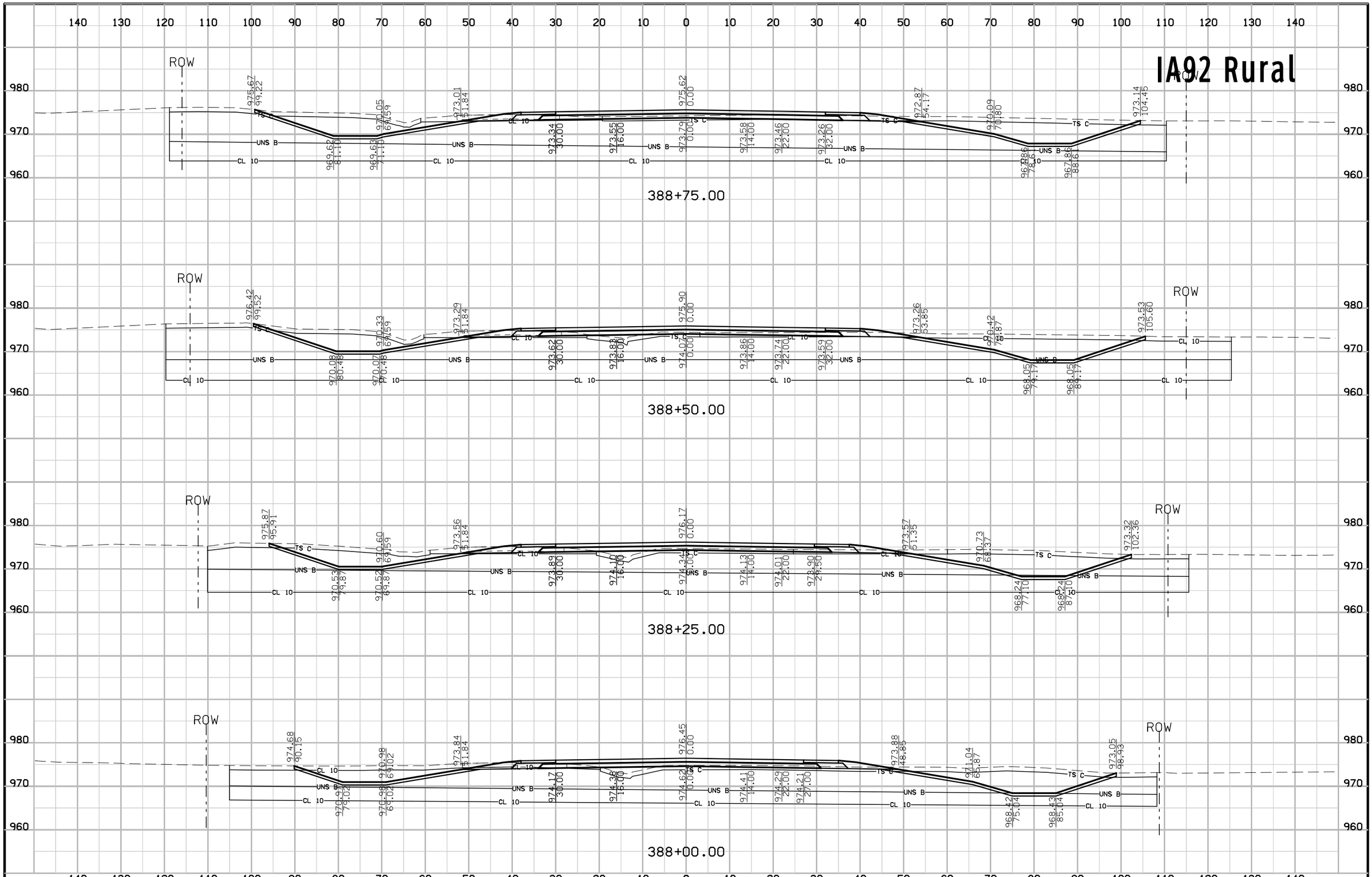
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.156

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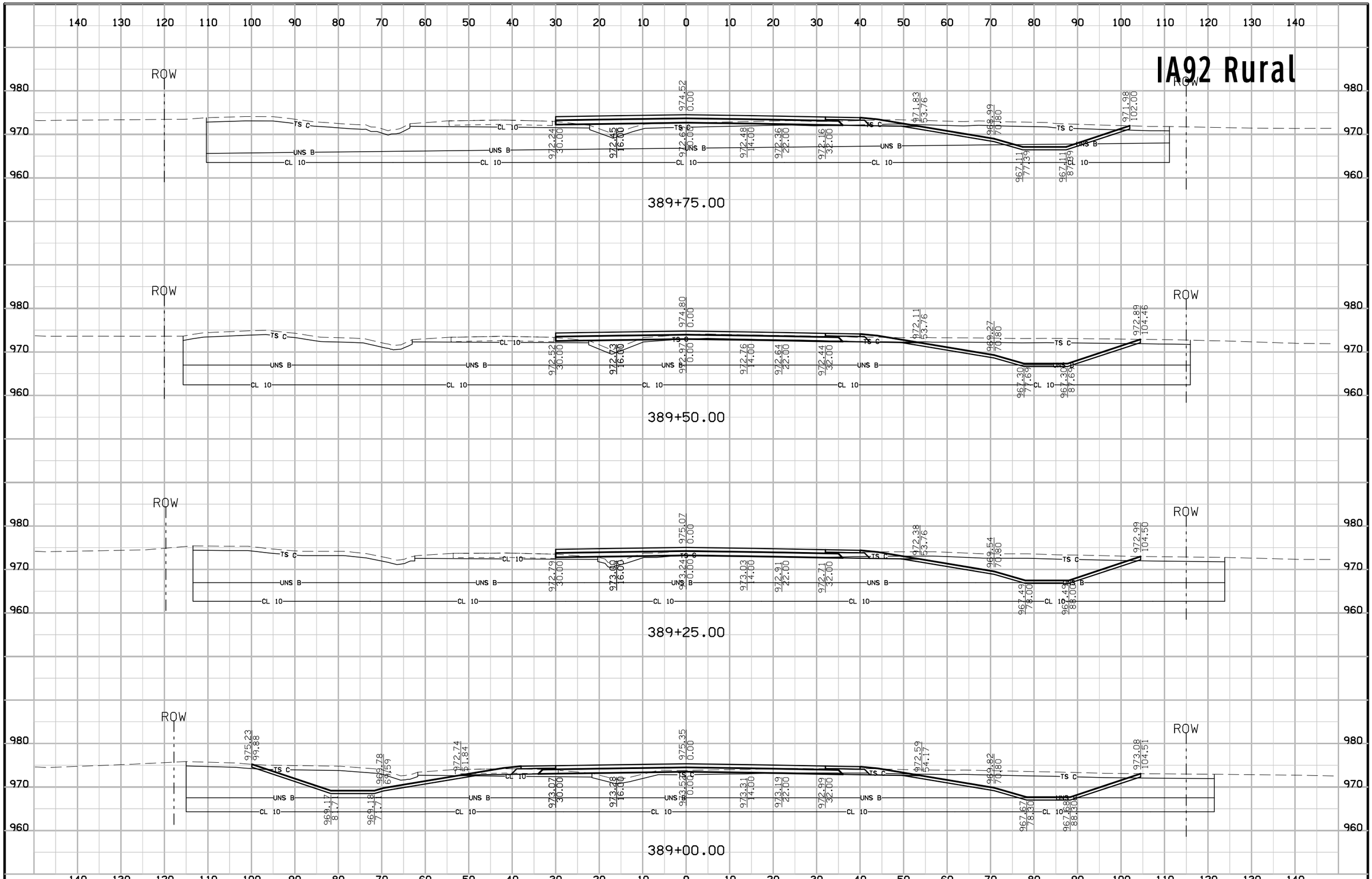
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.157

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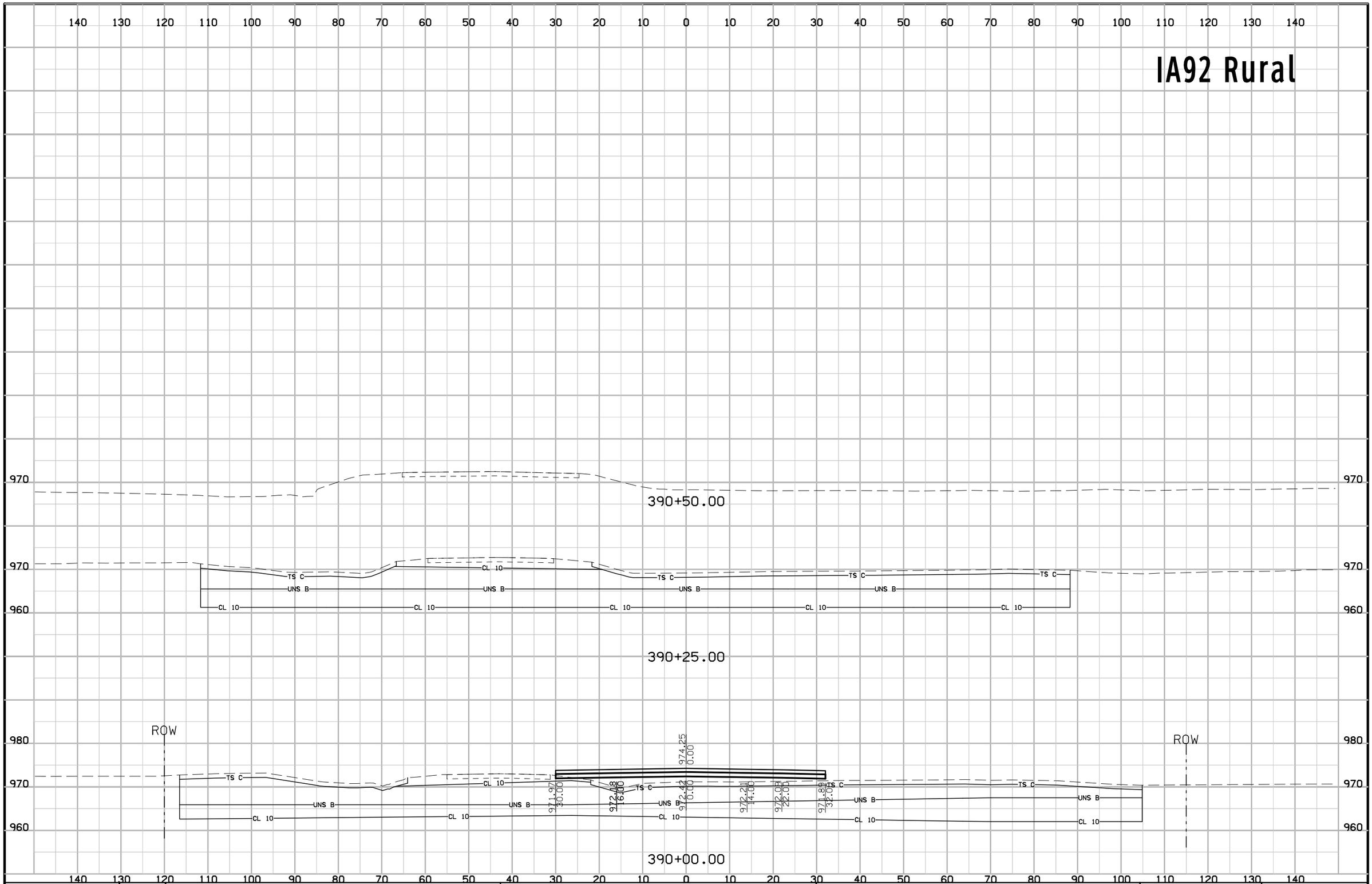
IA92 Rural



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.158

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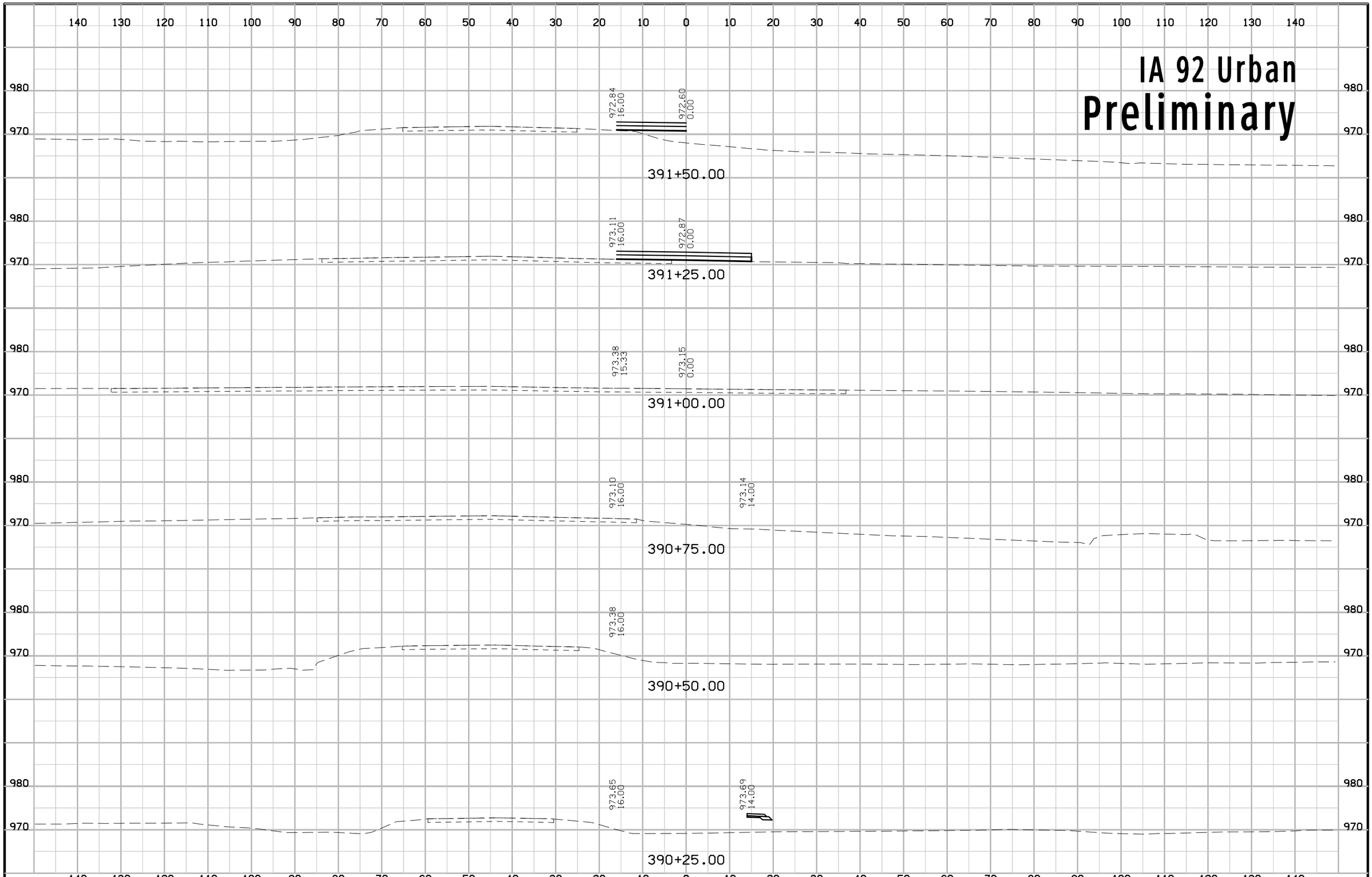

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.160

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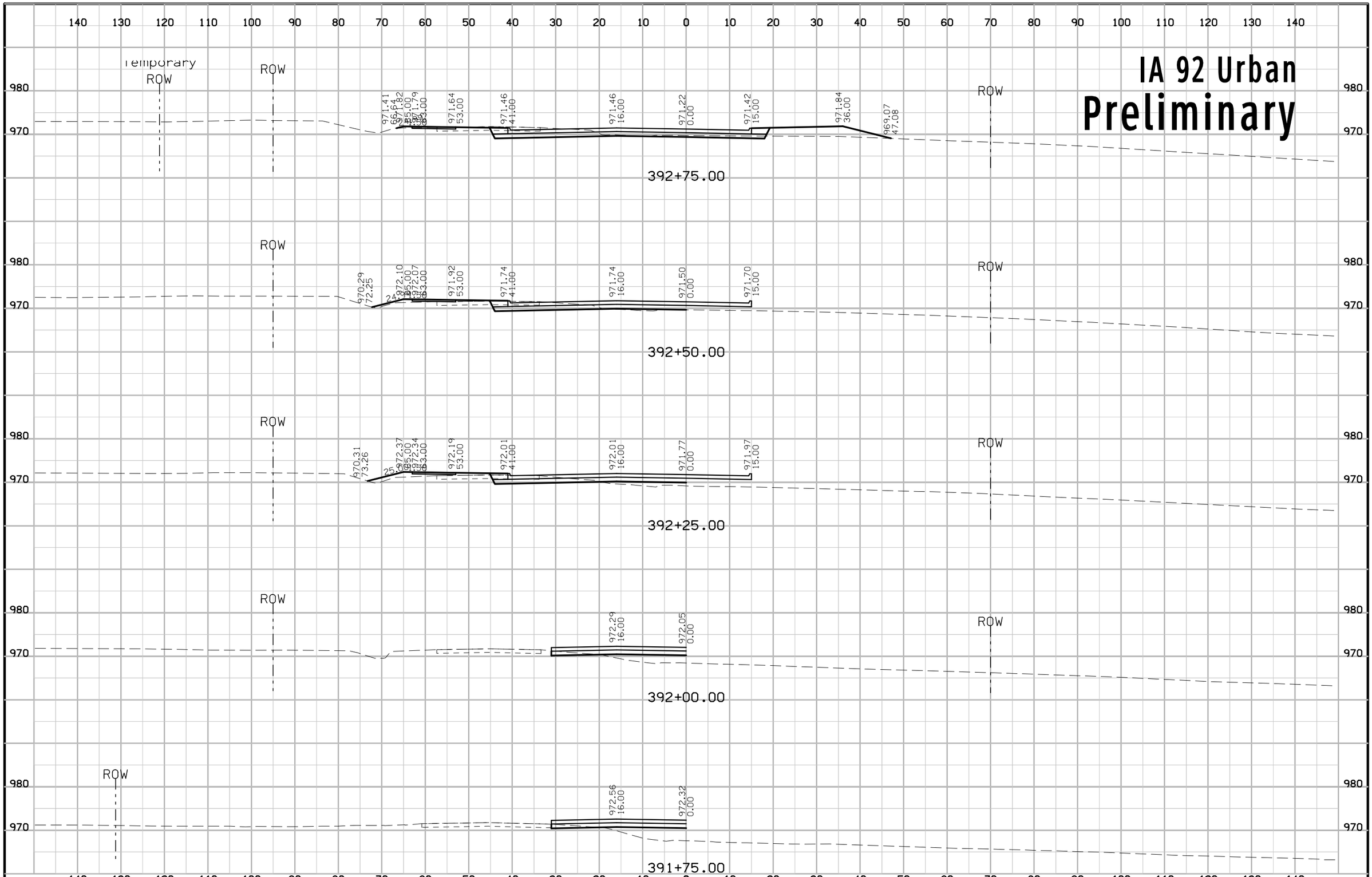
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.161

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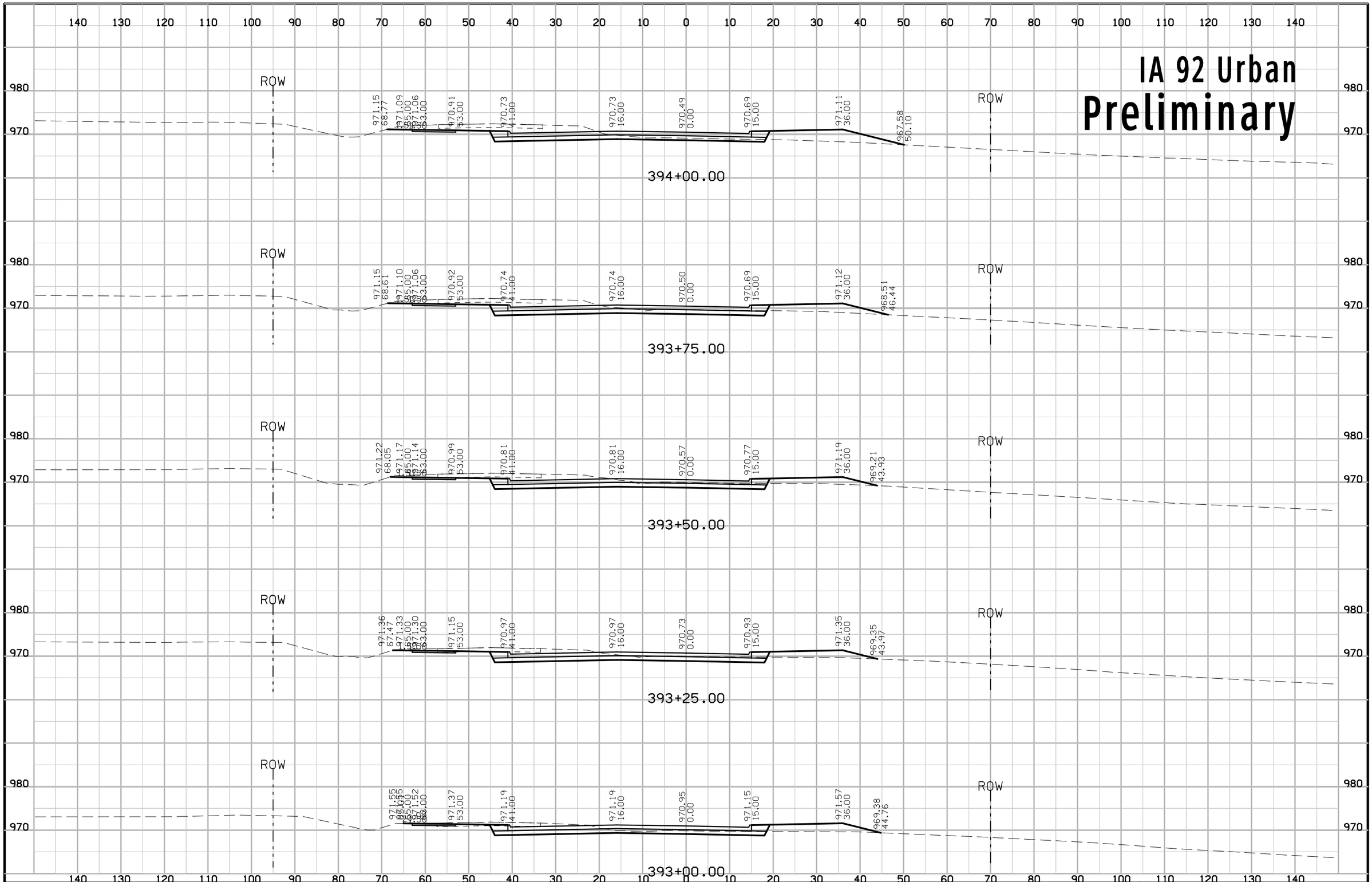
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.162

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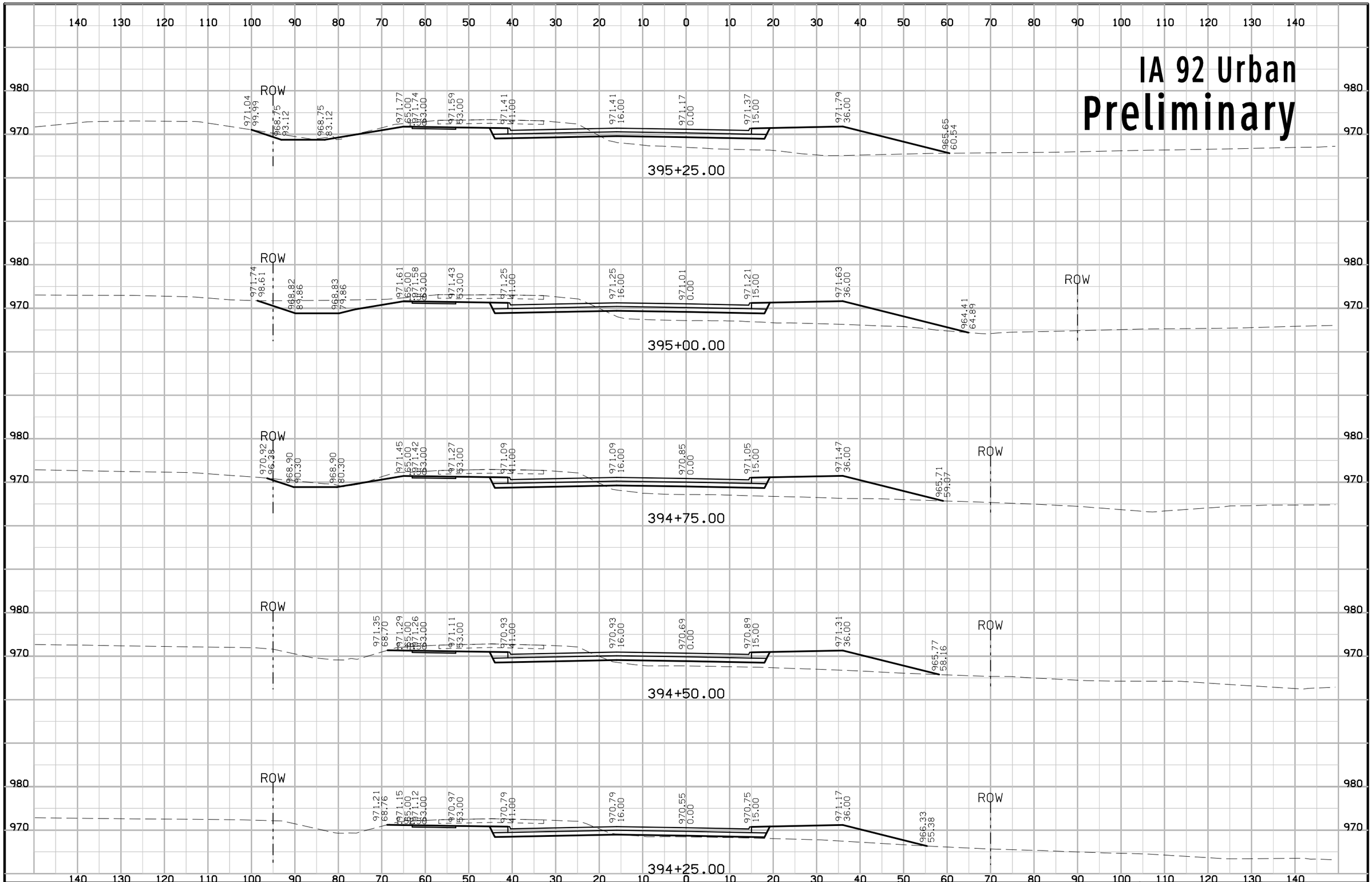
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.163

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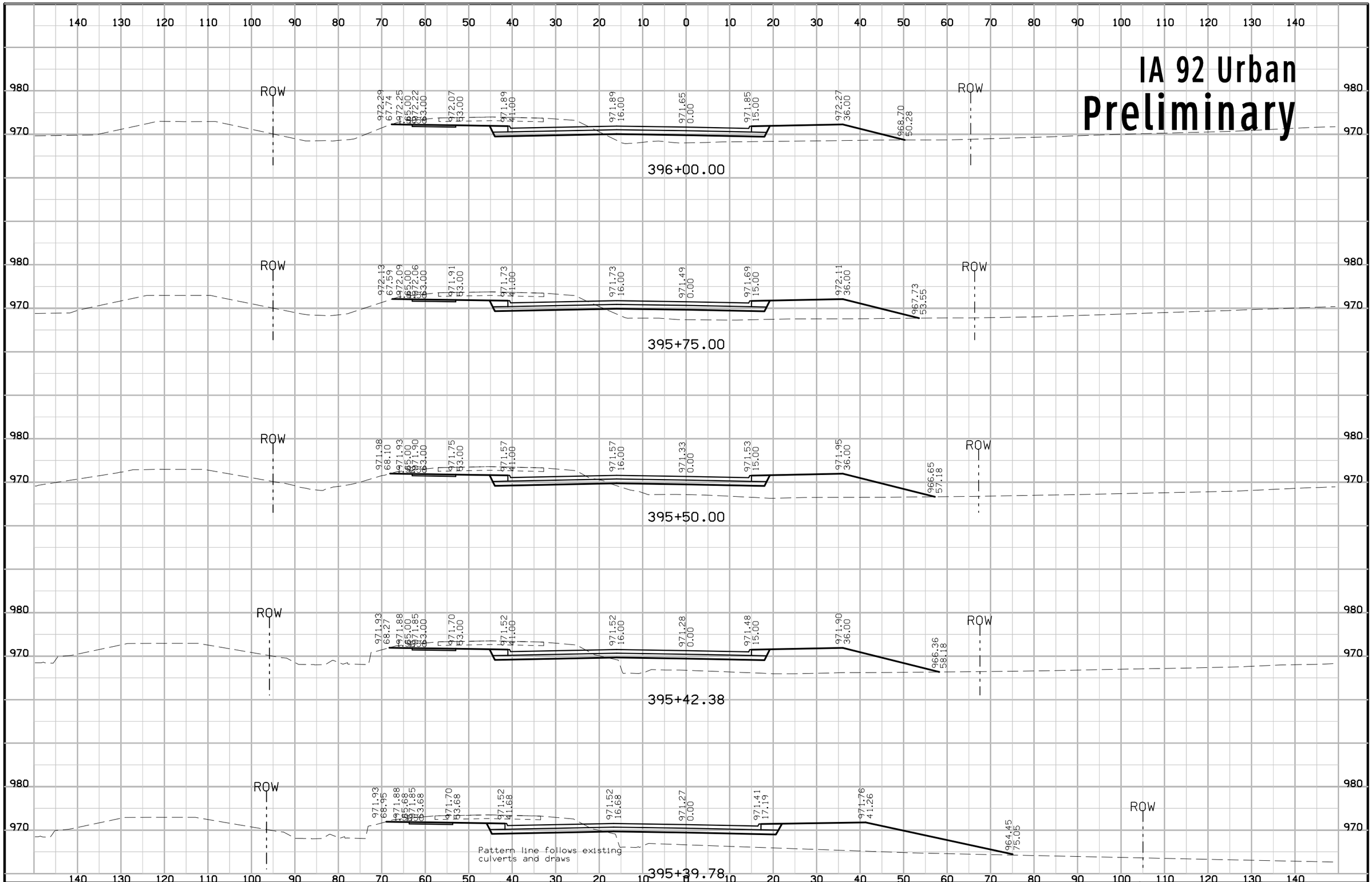
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.164

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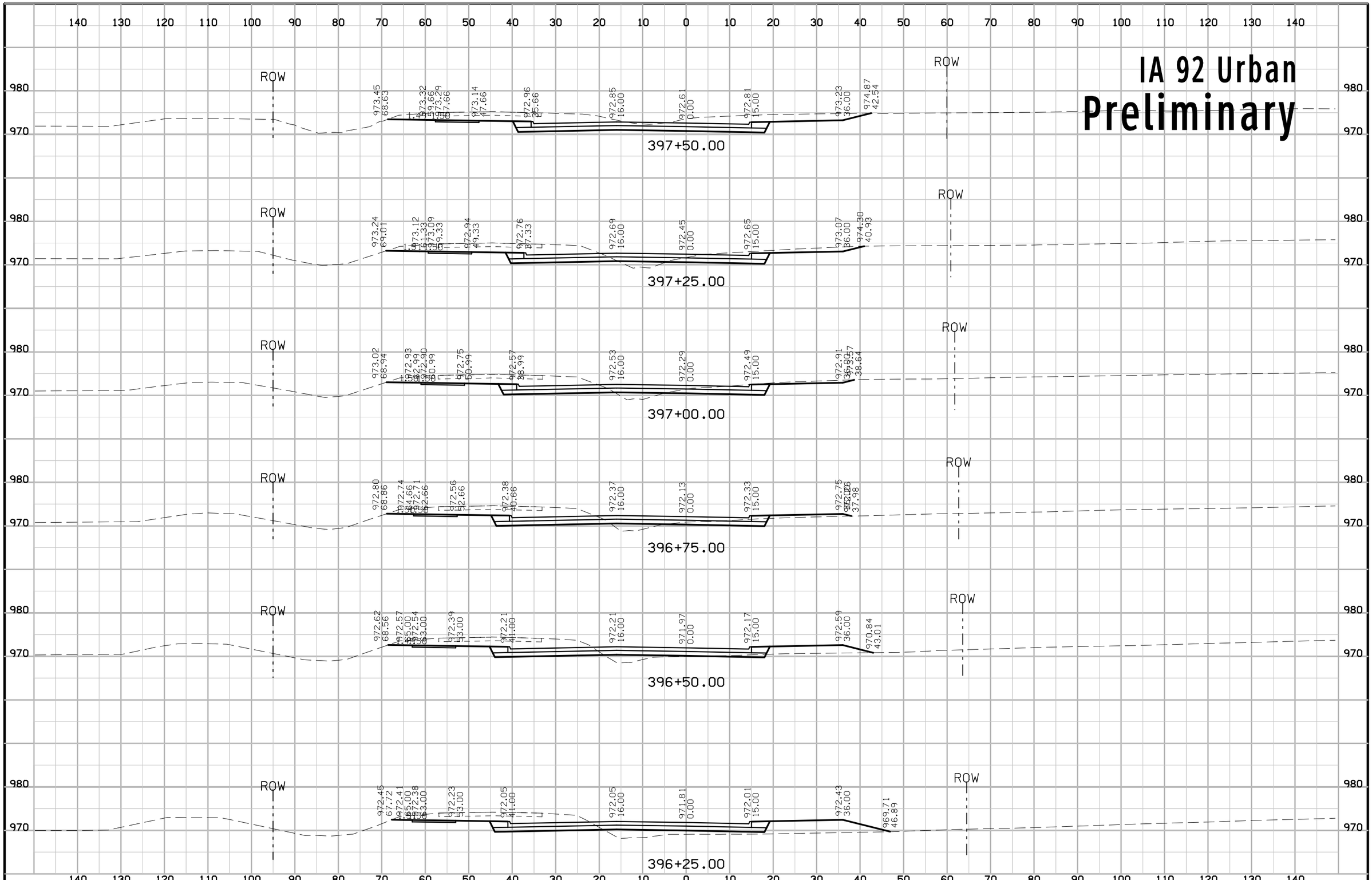
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.165

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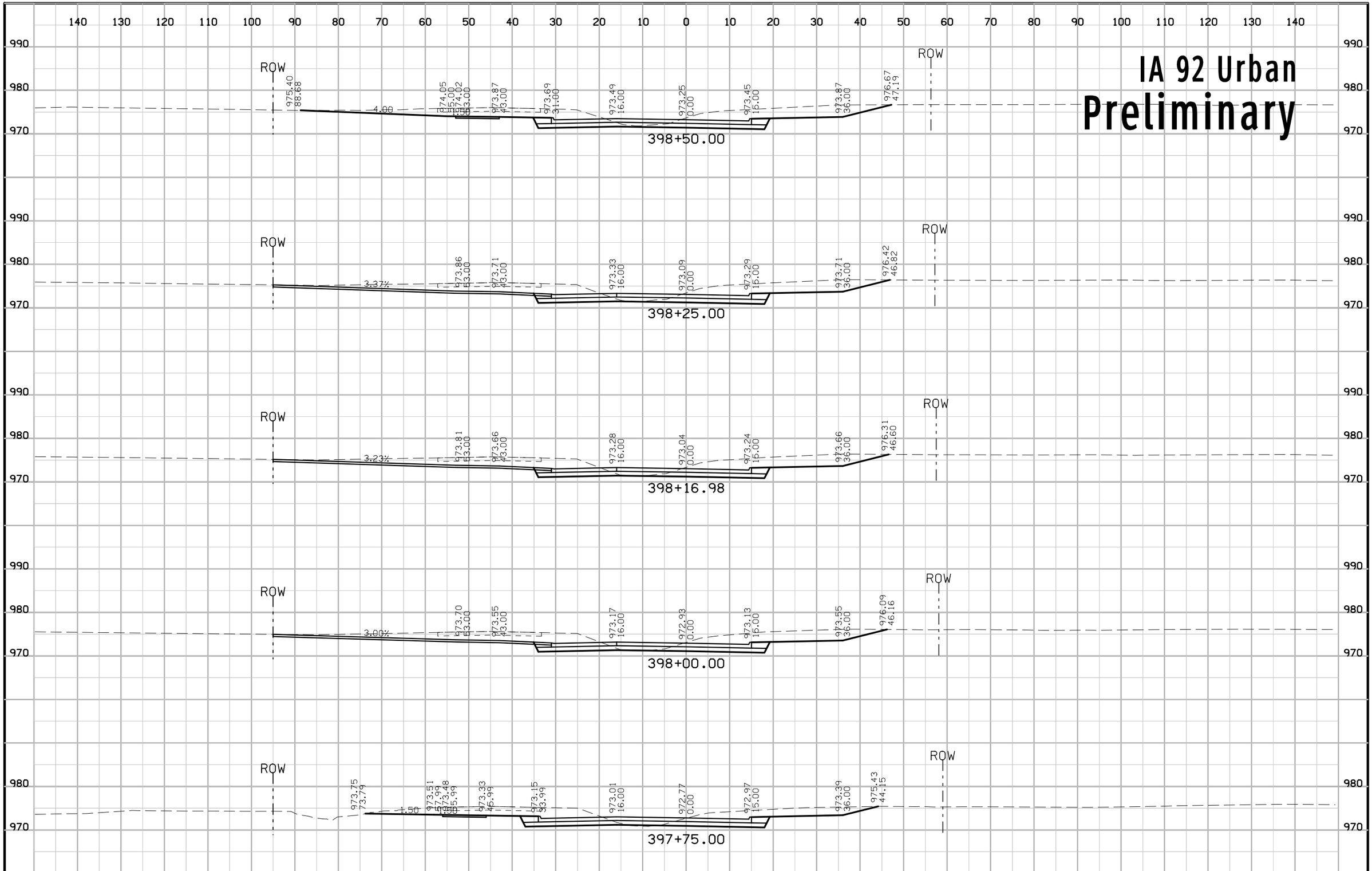

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.166

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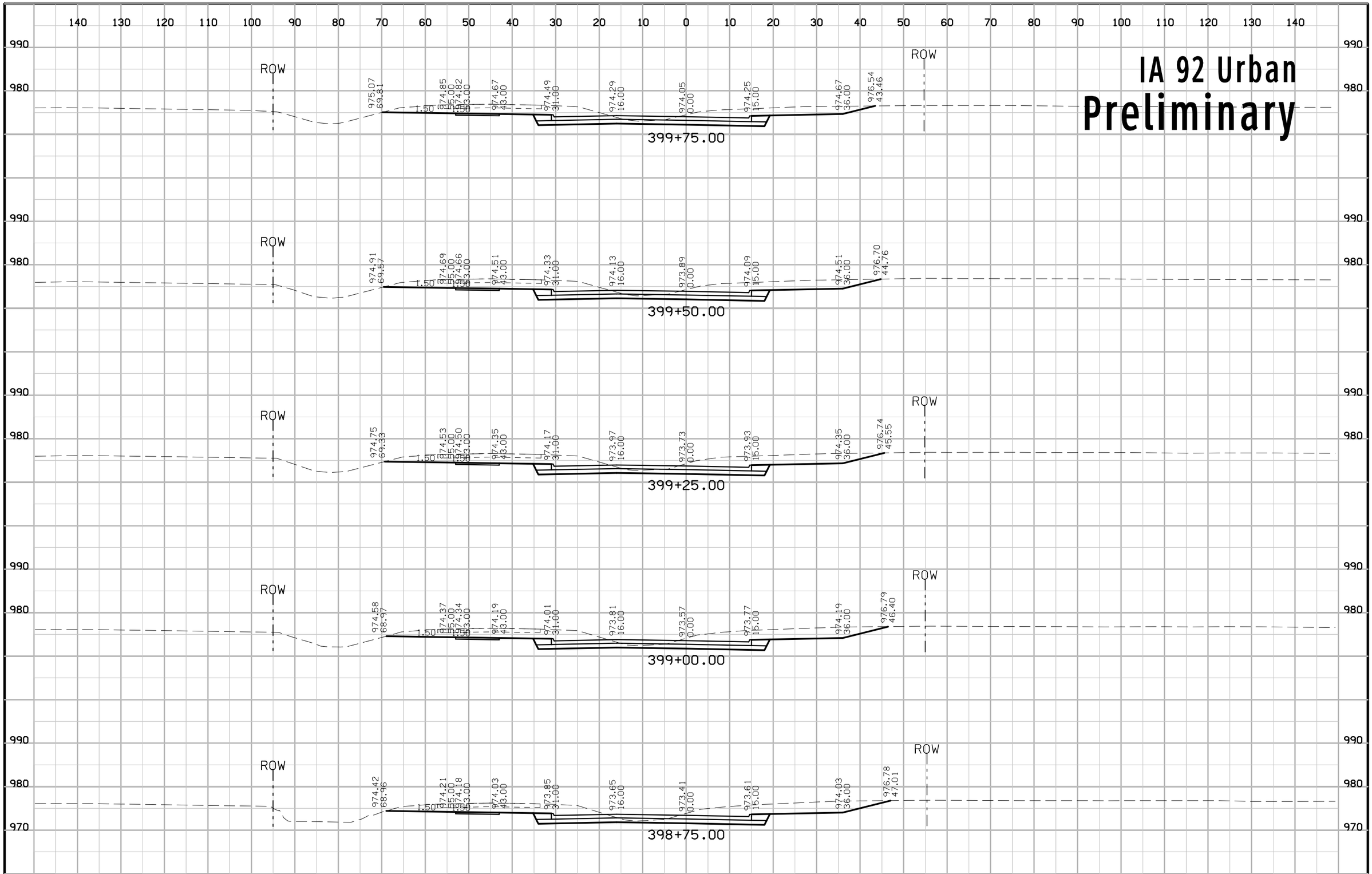
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.167

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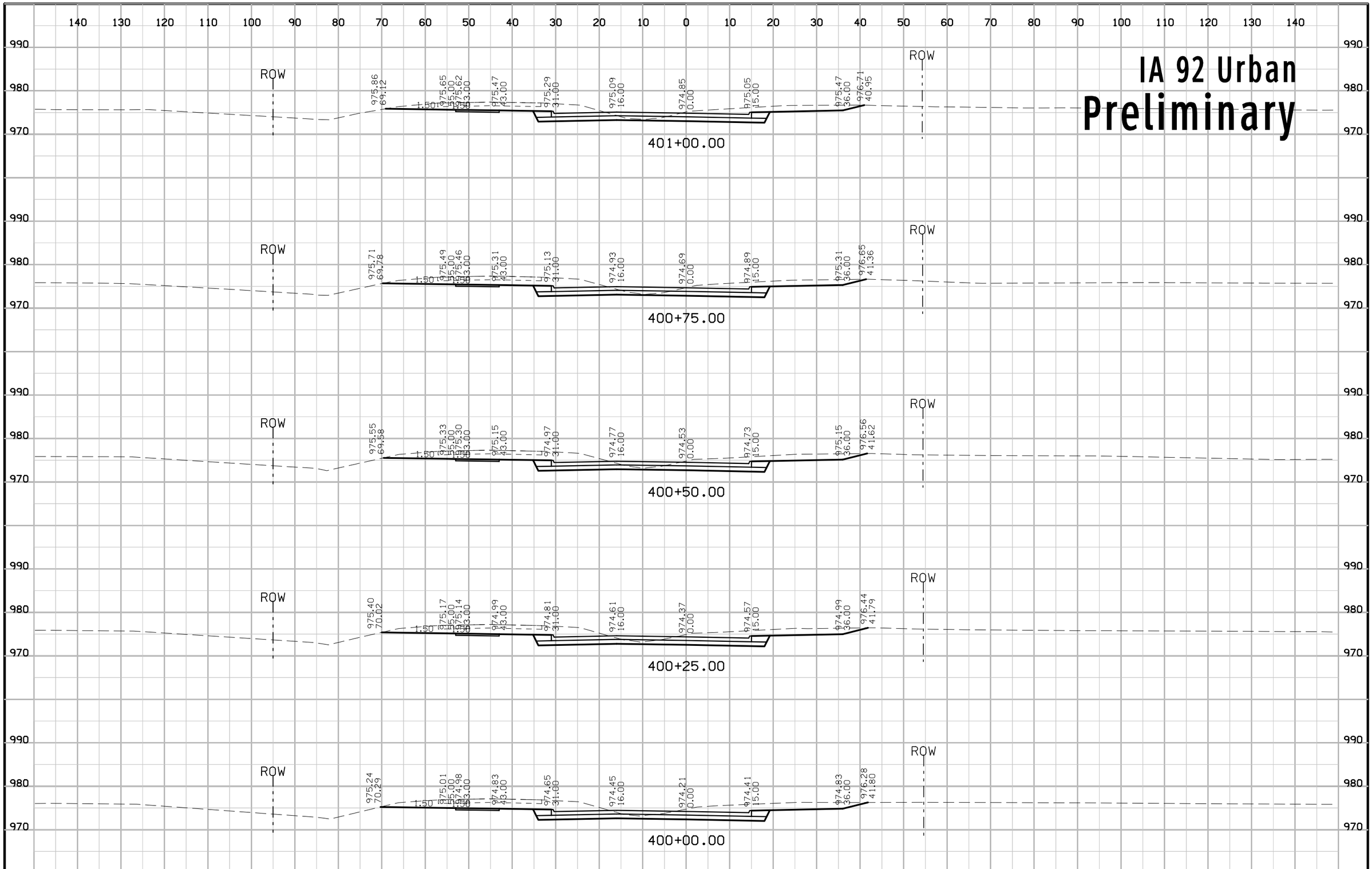
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.168

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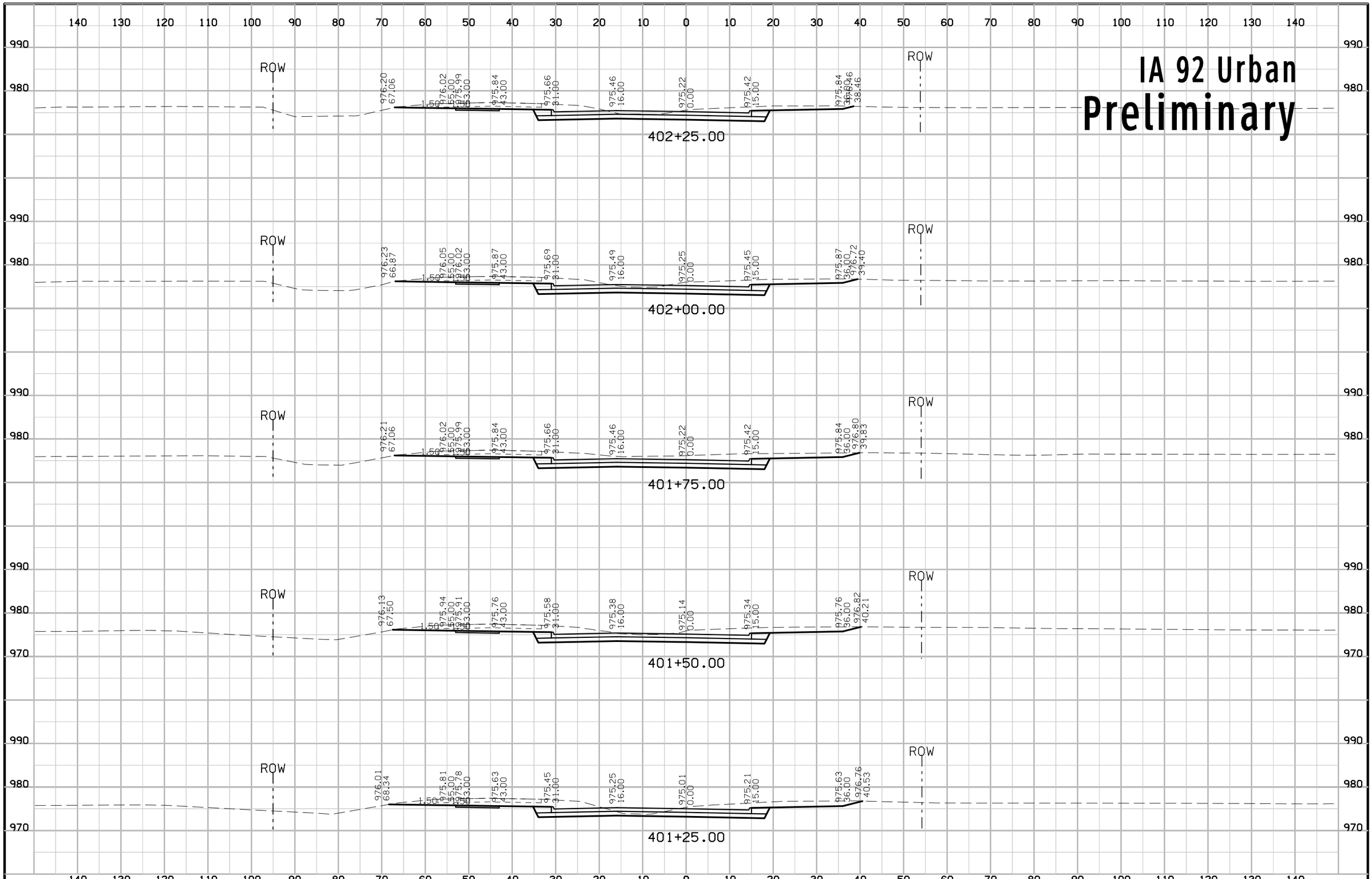
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.169

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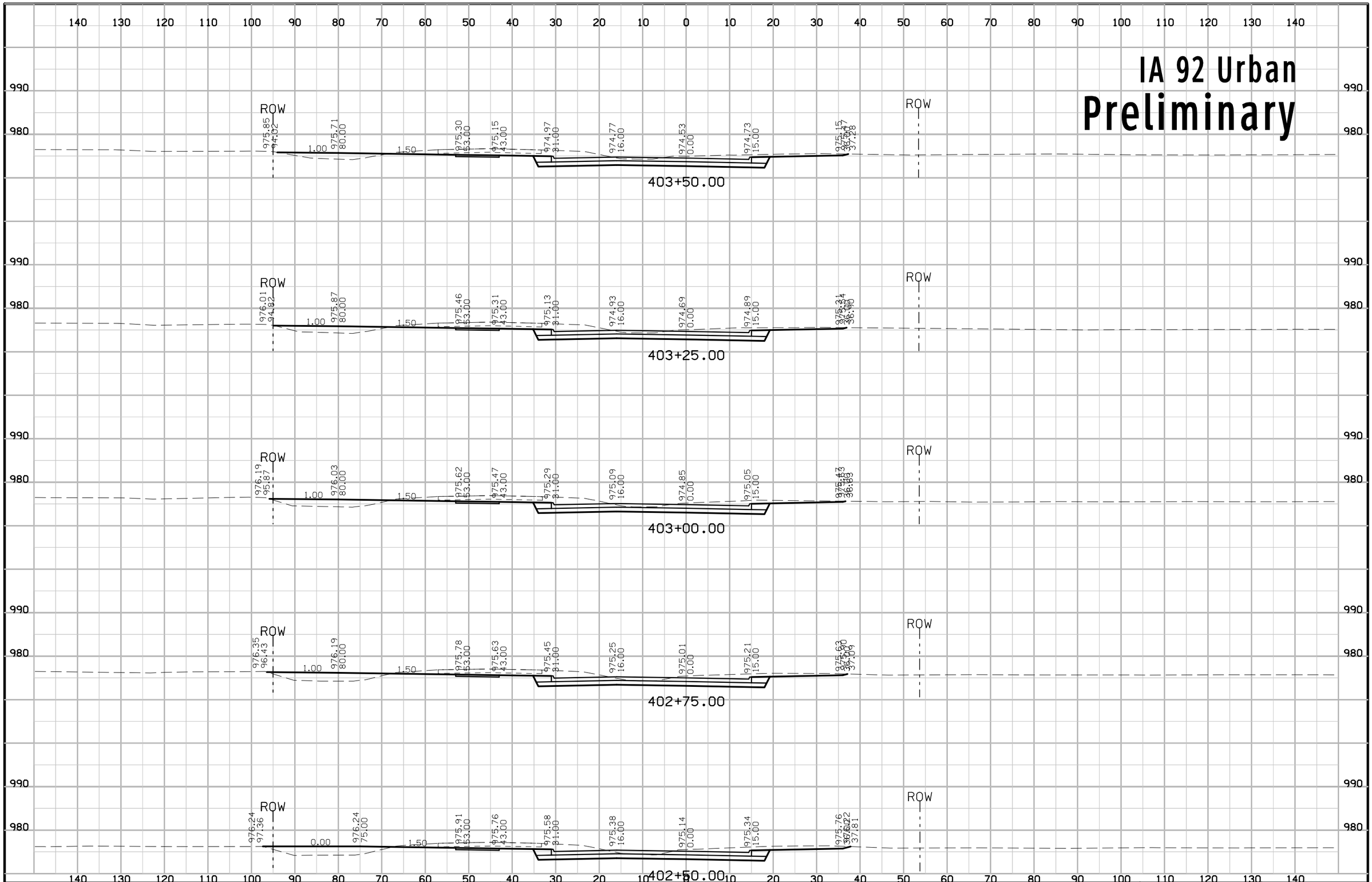
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.170

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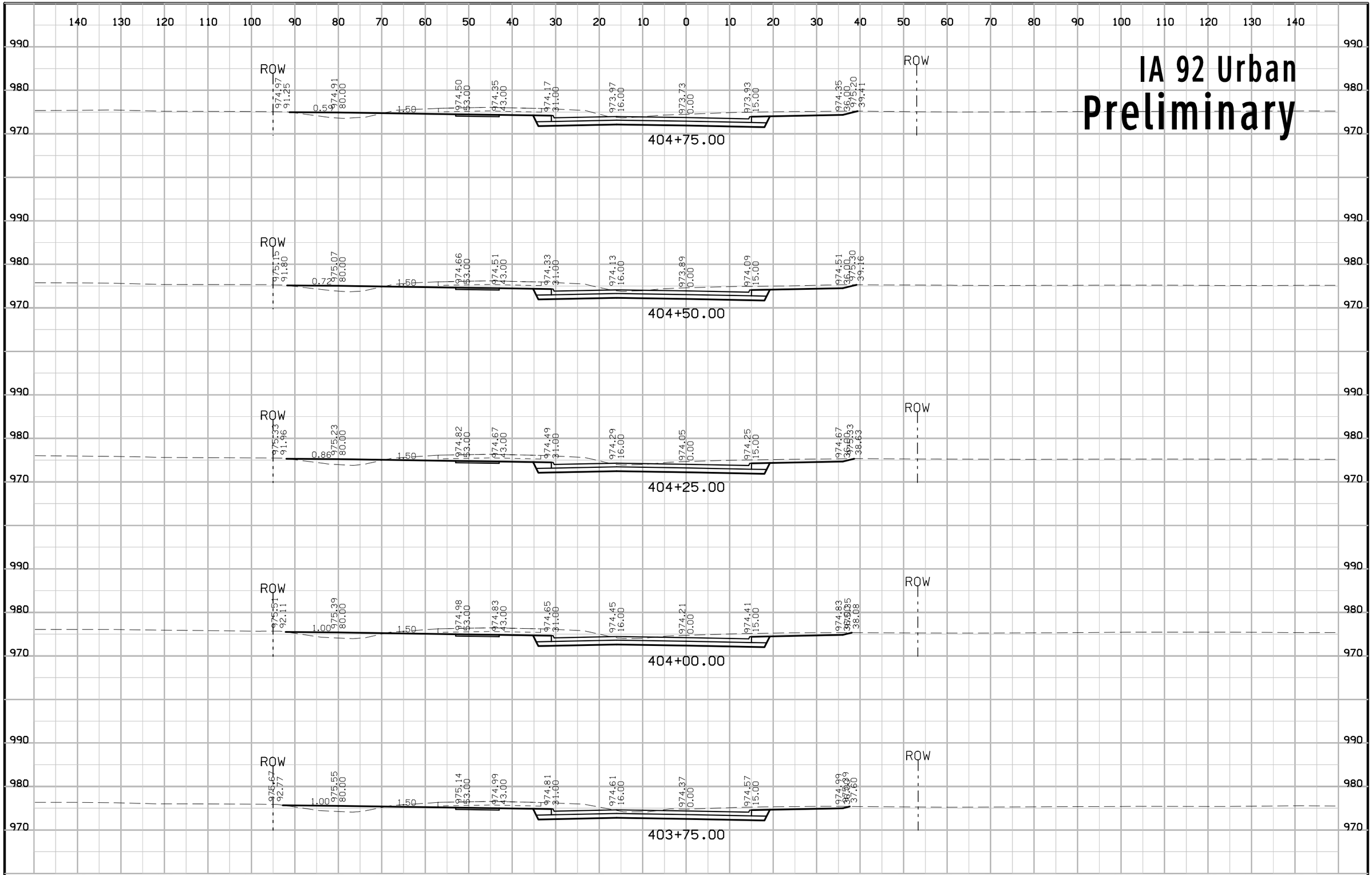
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.171

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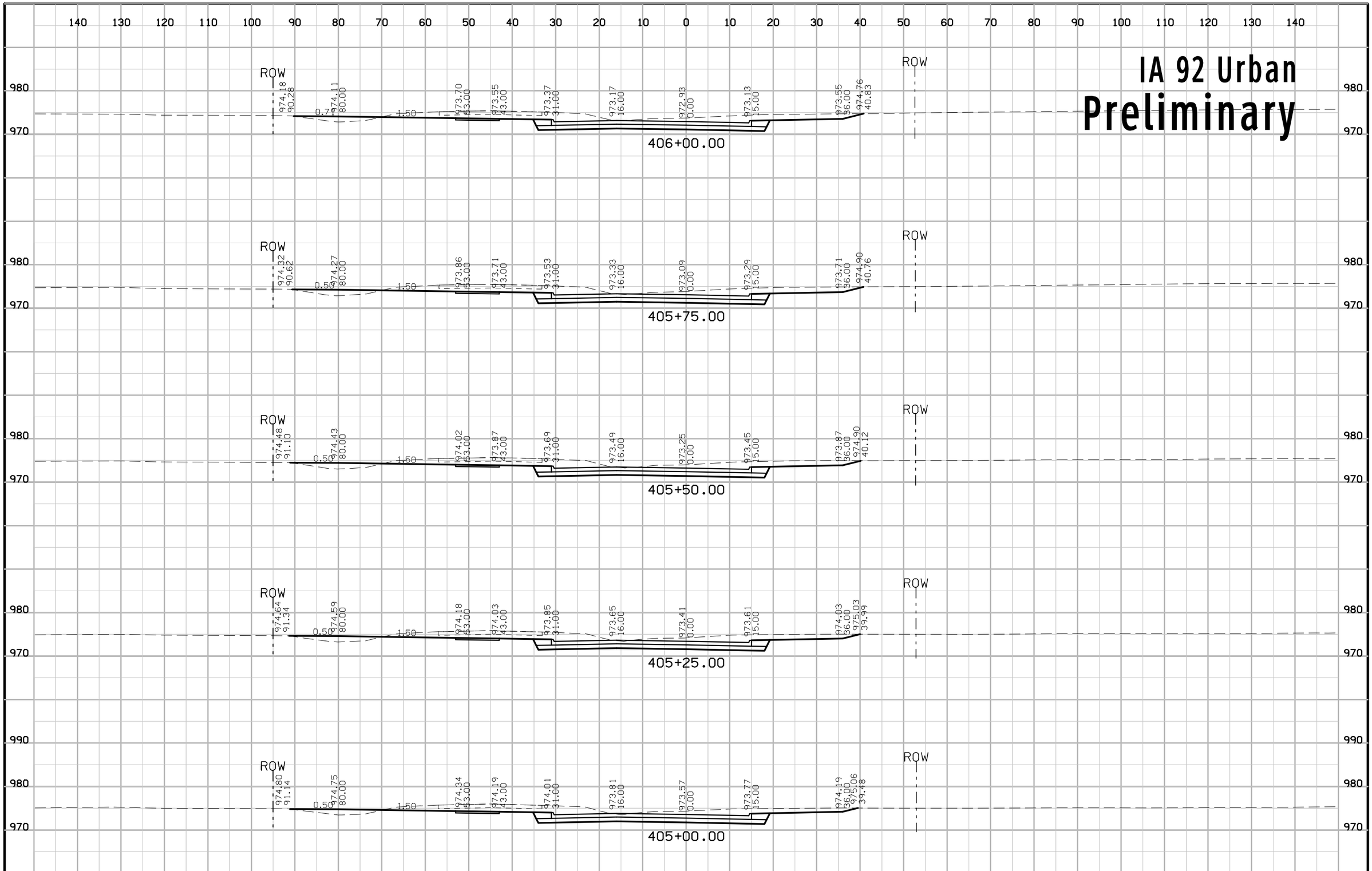
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.172

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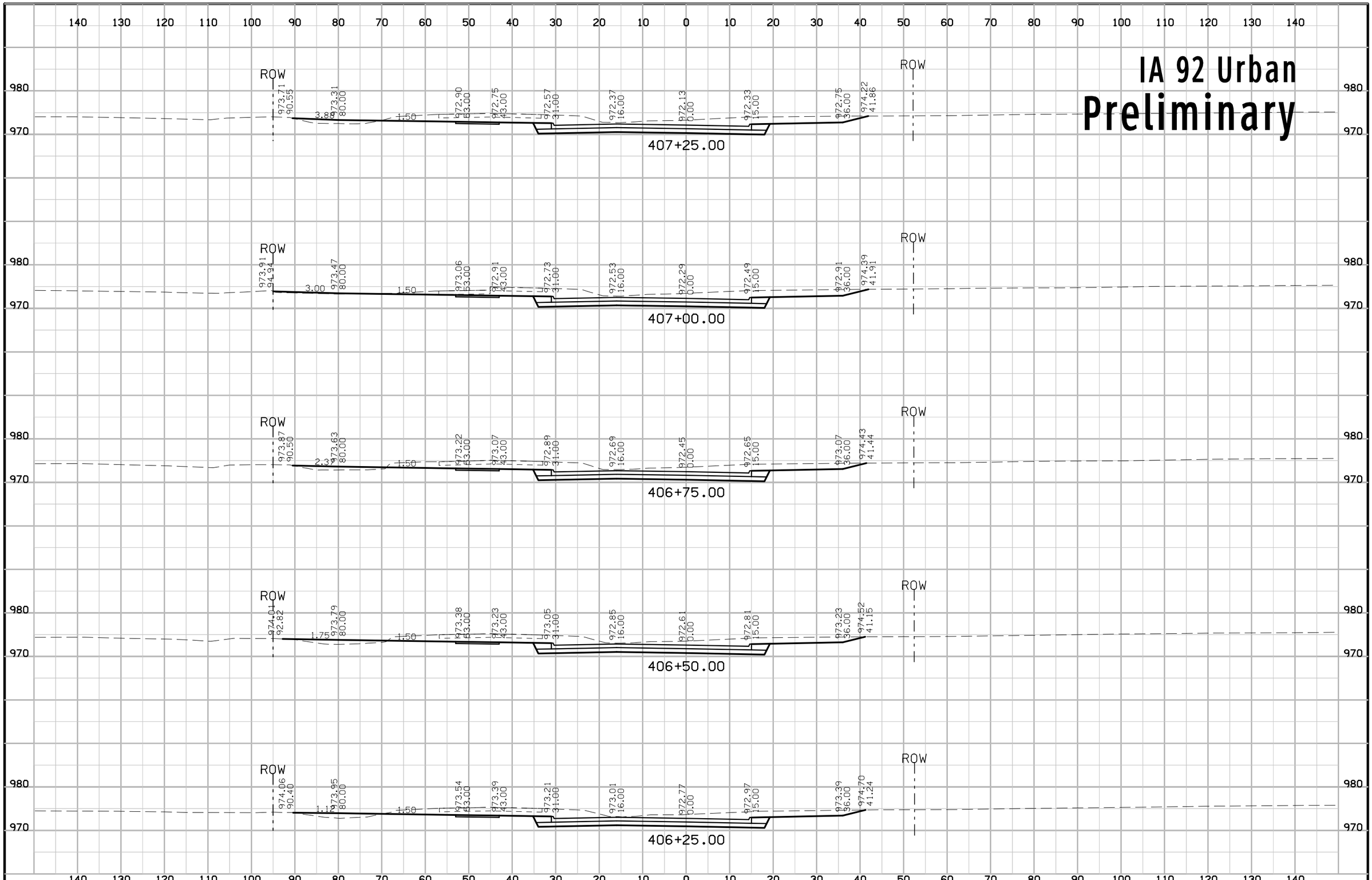
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.173

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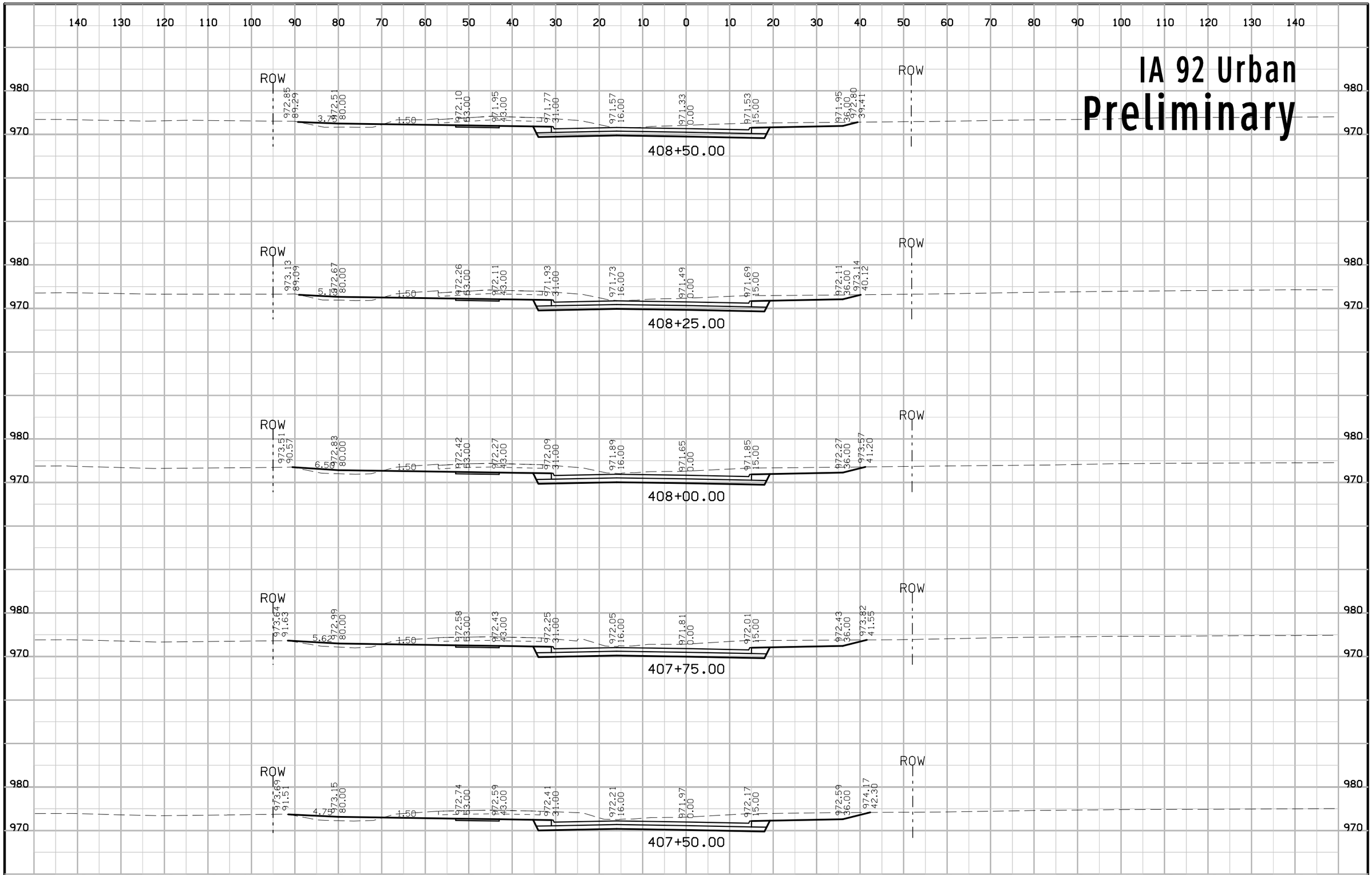
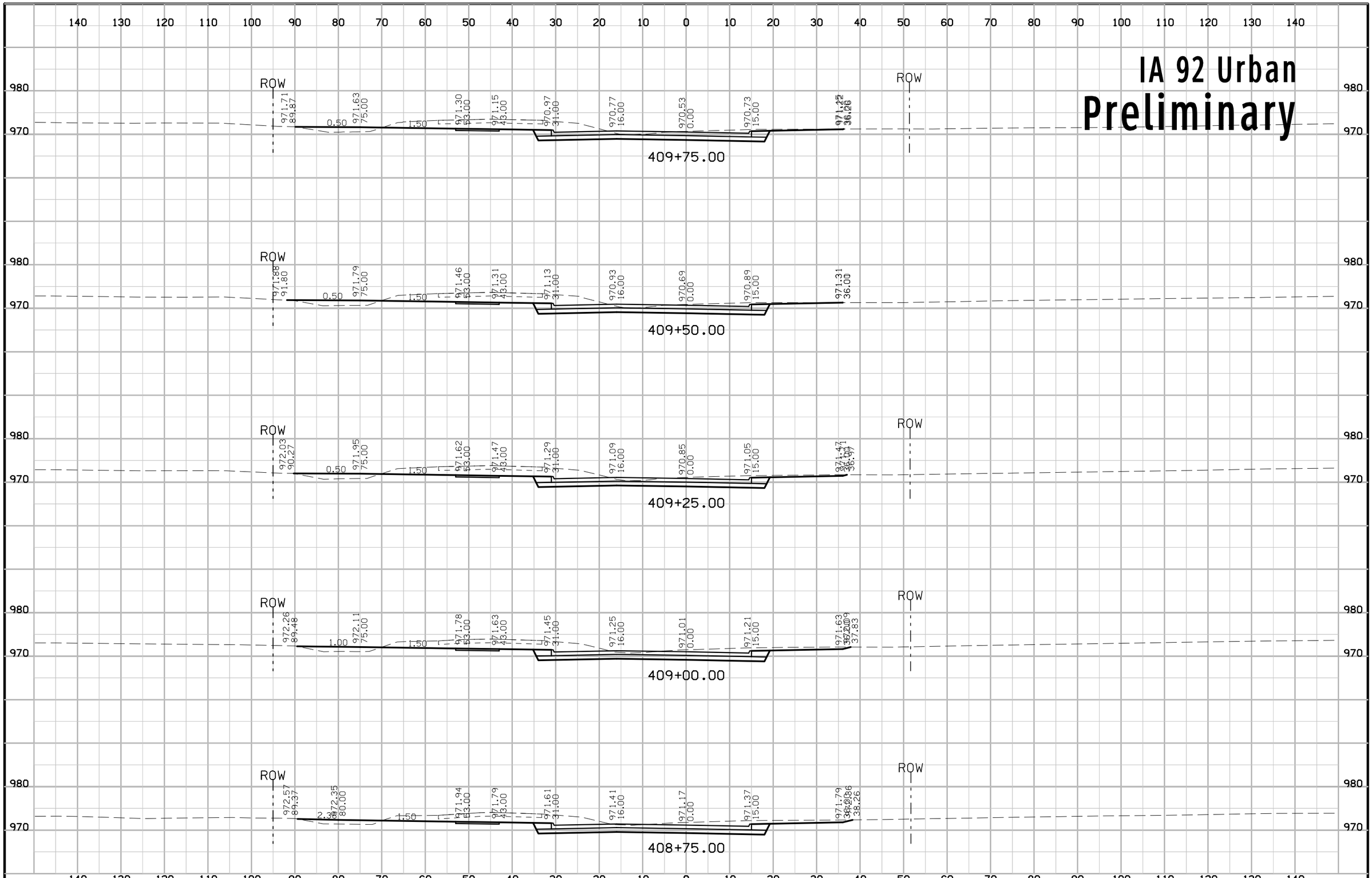
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.174

1:14:12 PM 6/23/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.175

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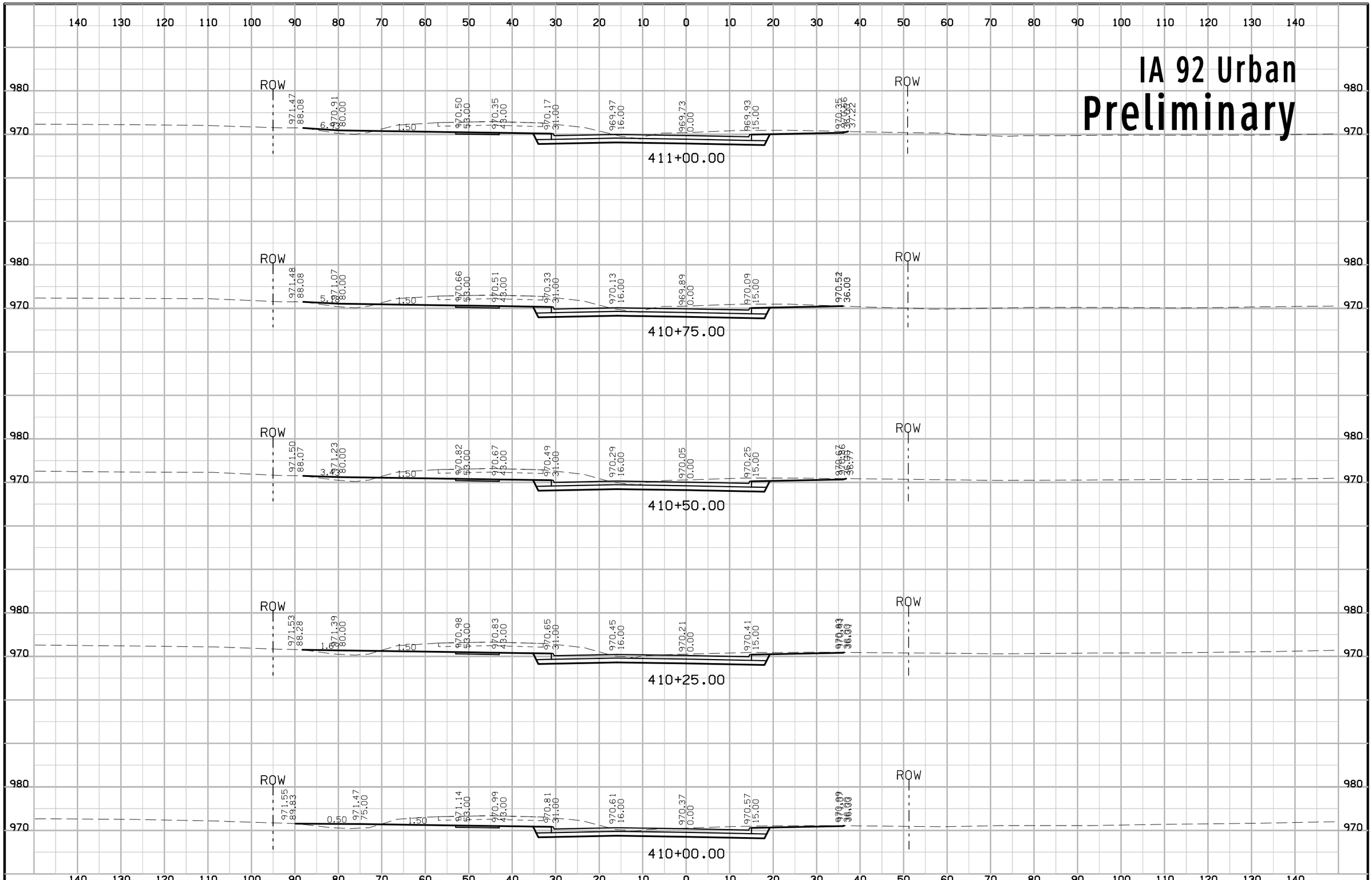
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.176

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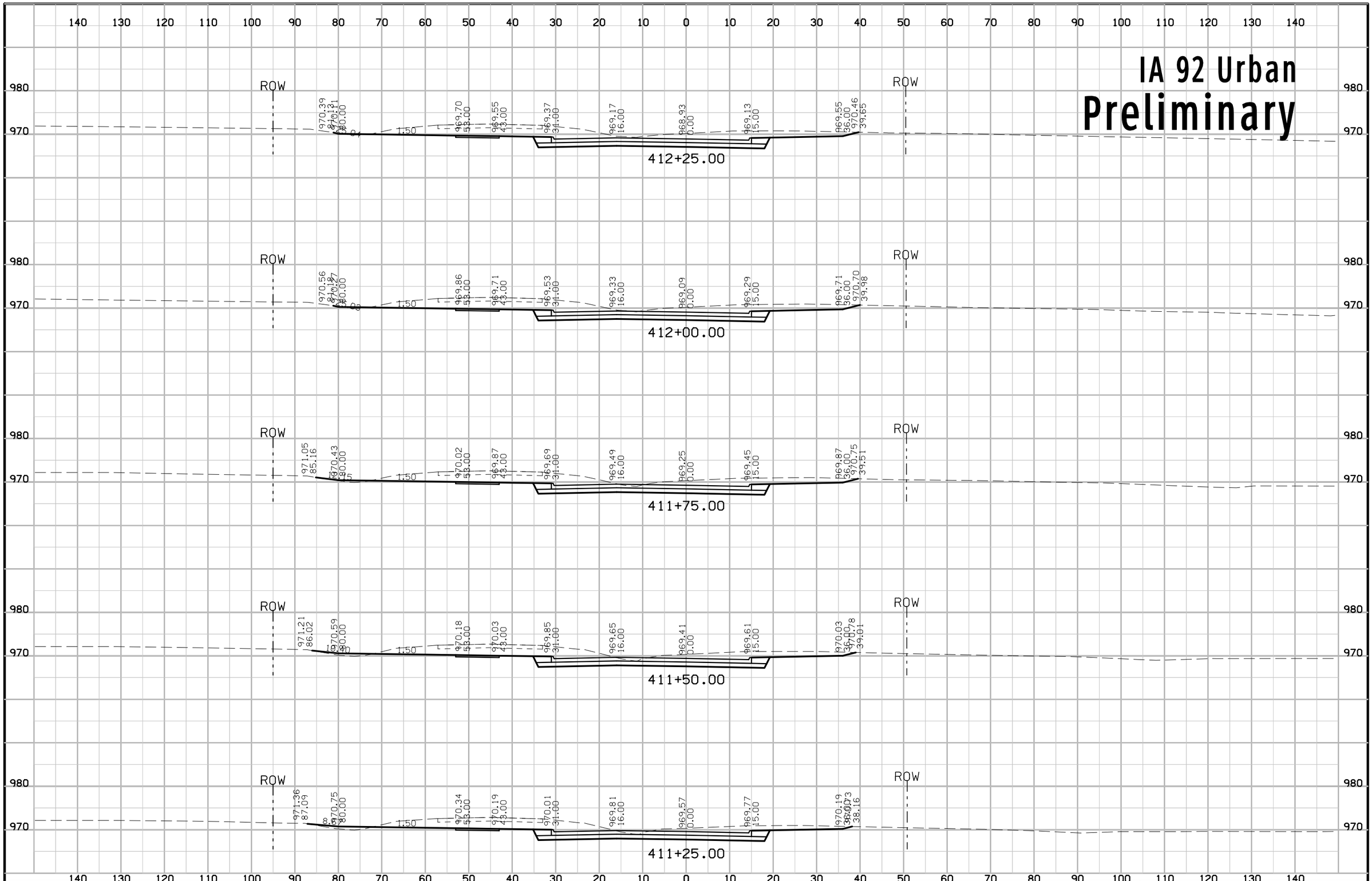
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.177

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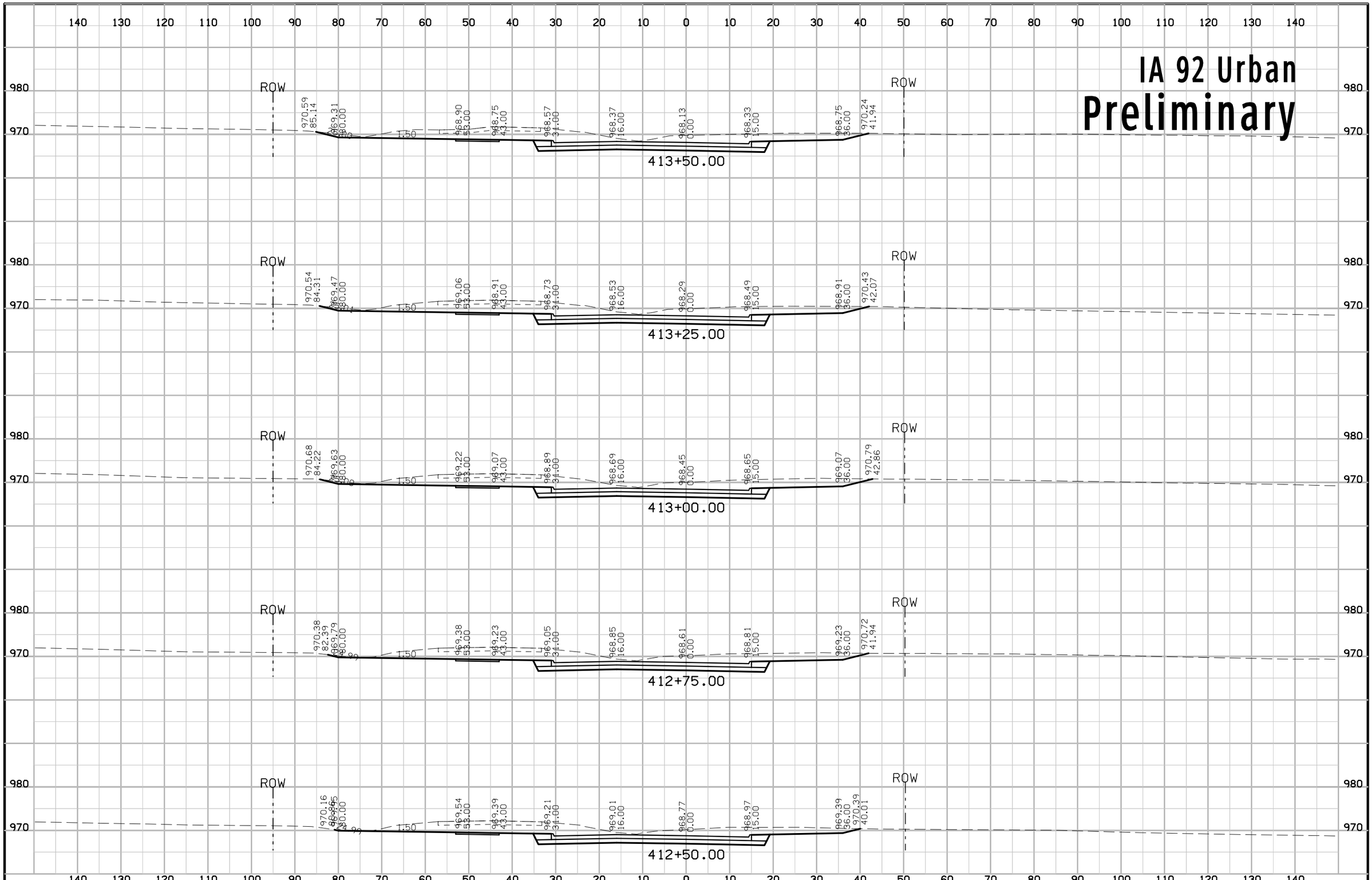
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.178

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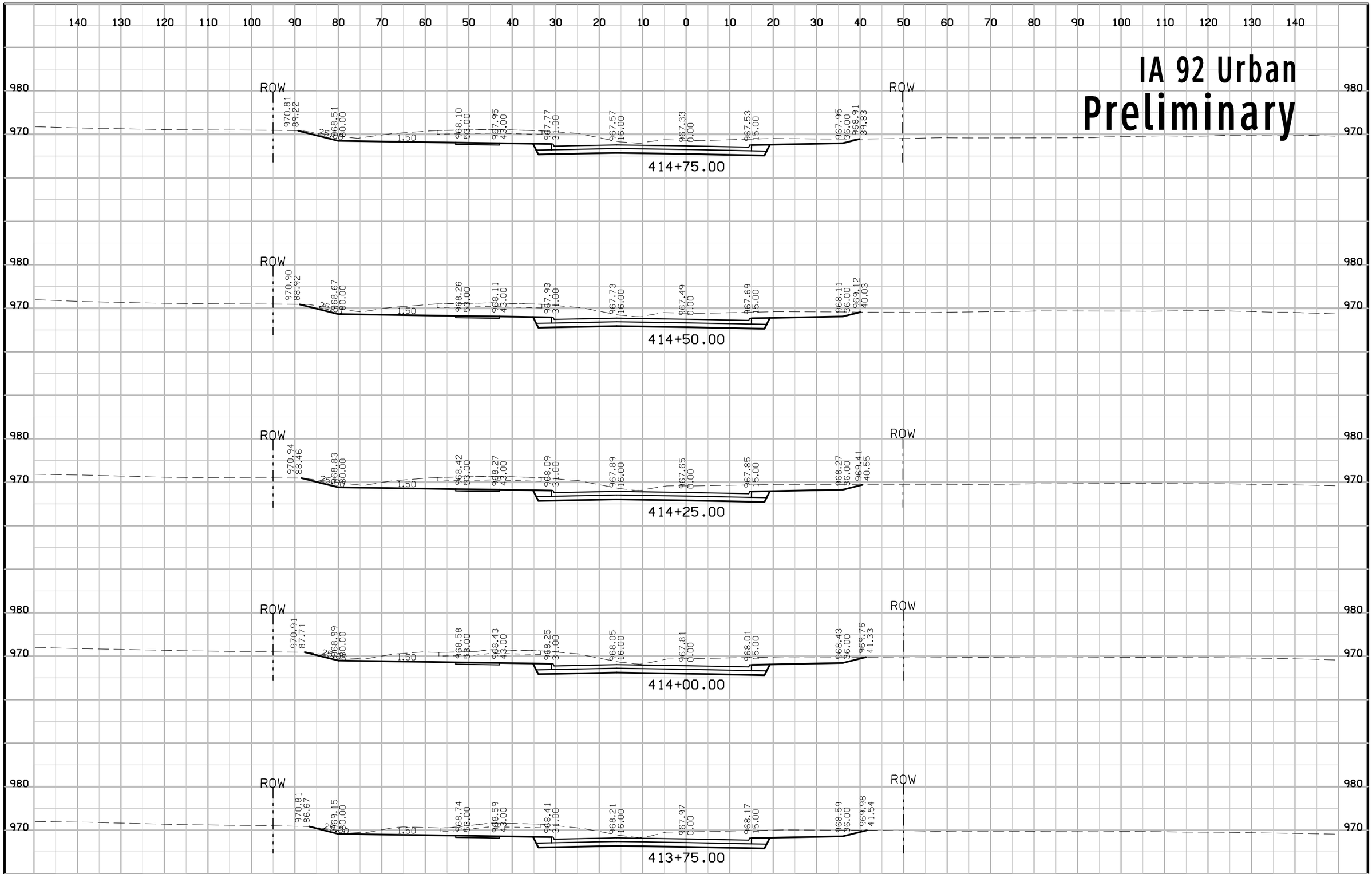
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.179

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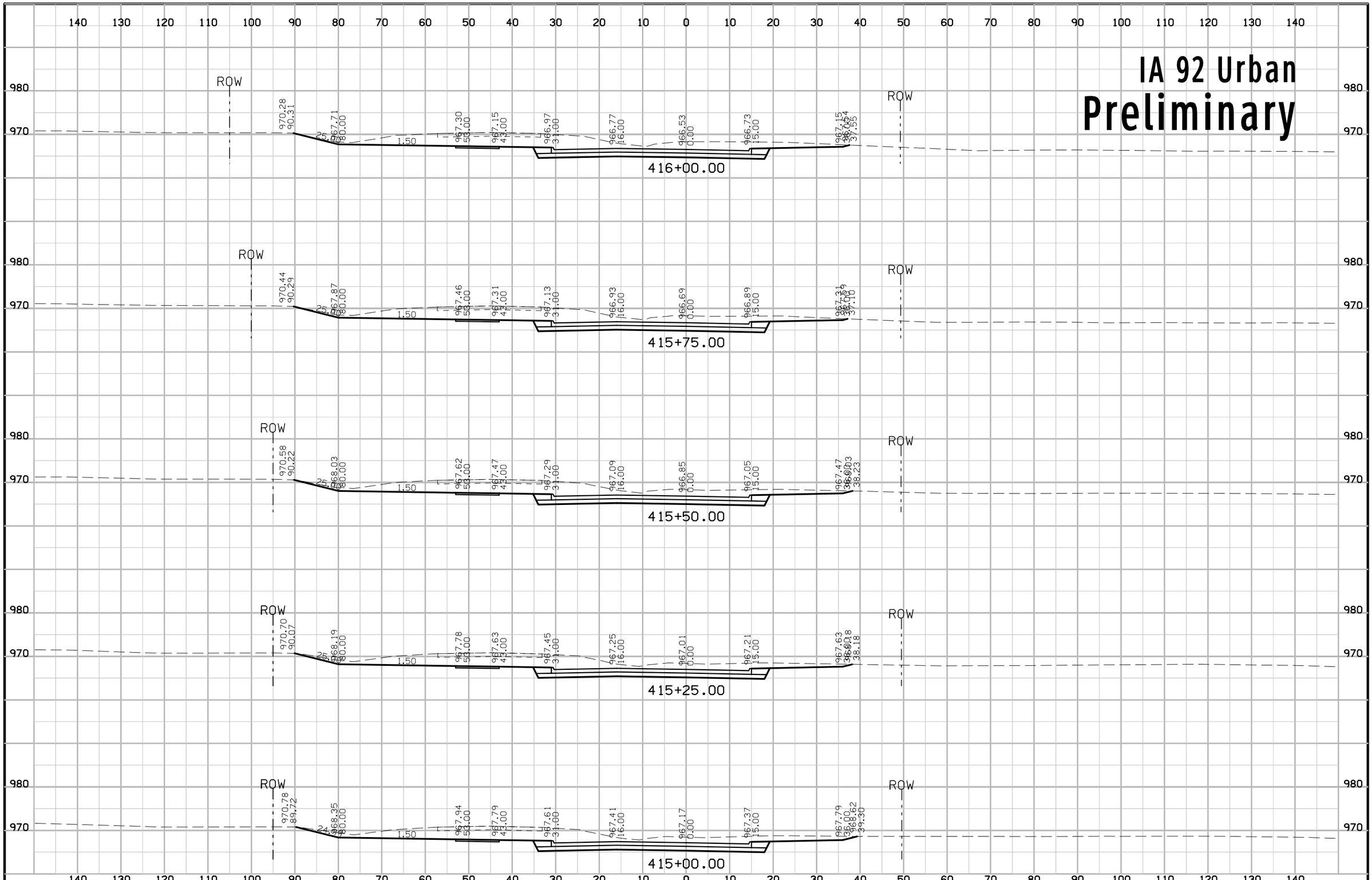
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.180

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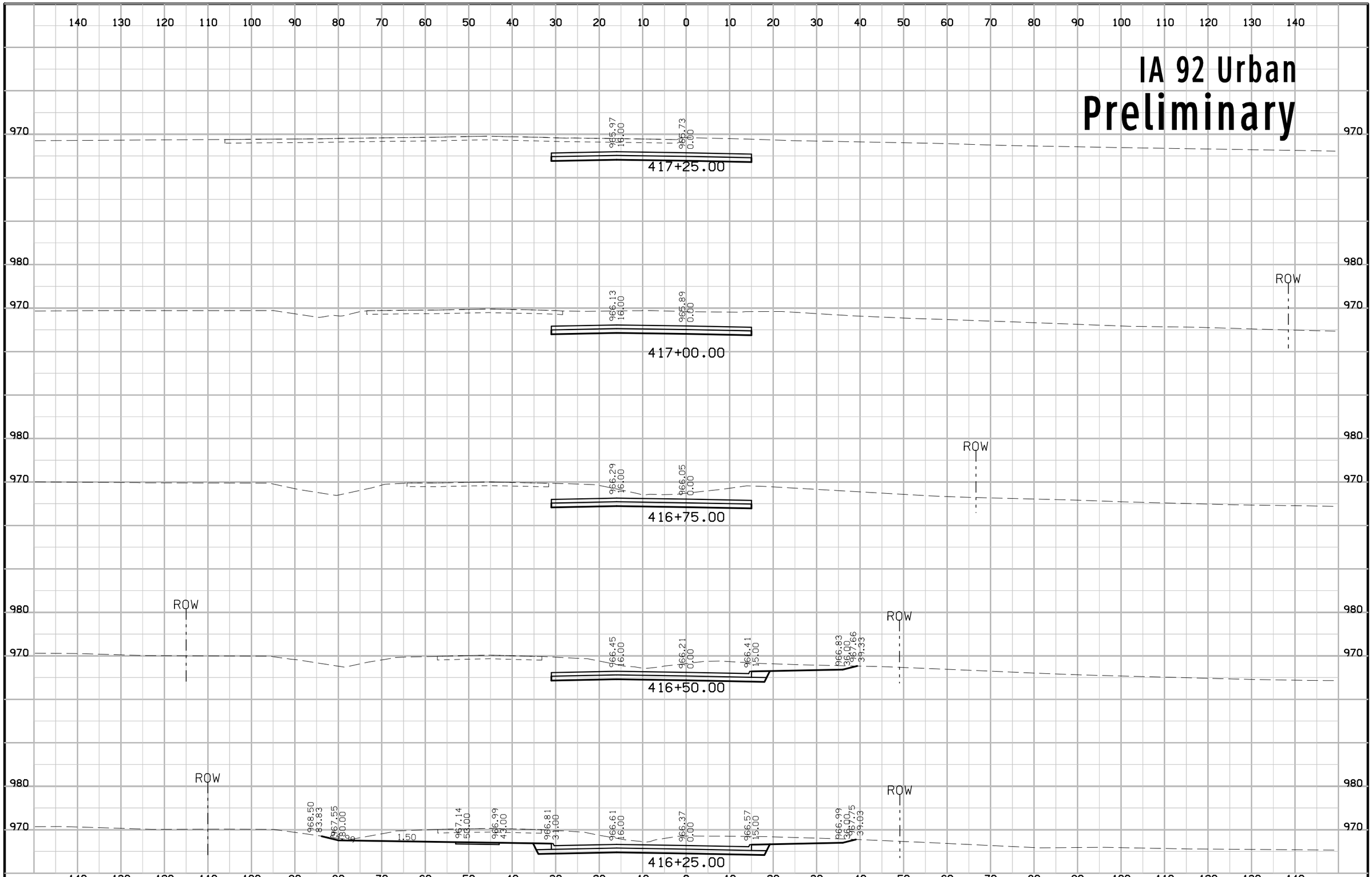
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.181

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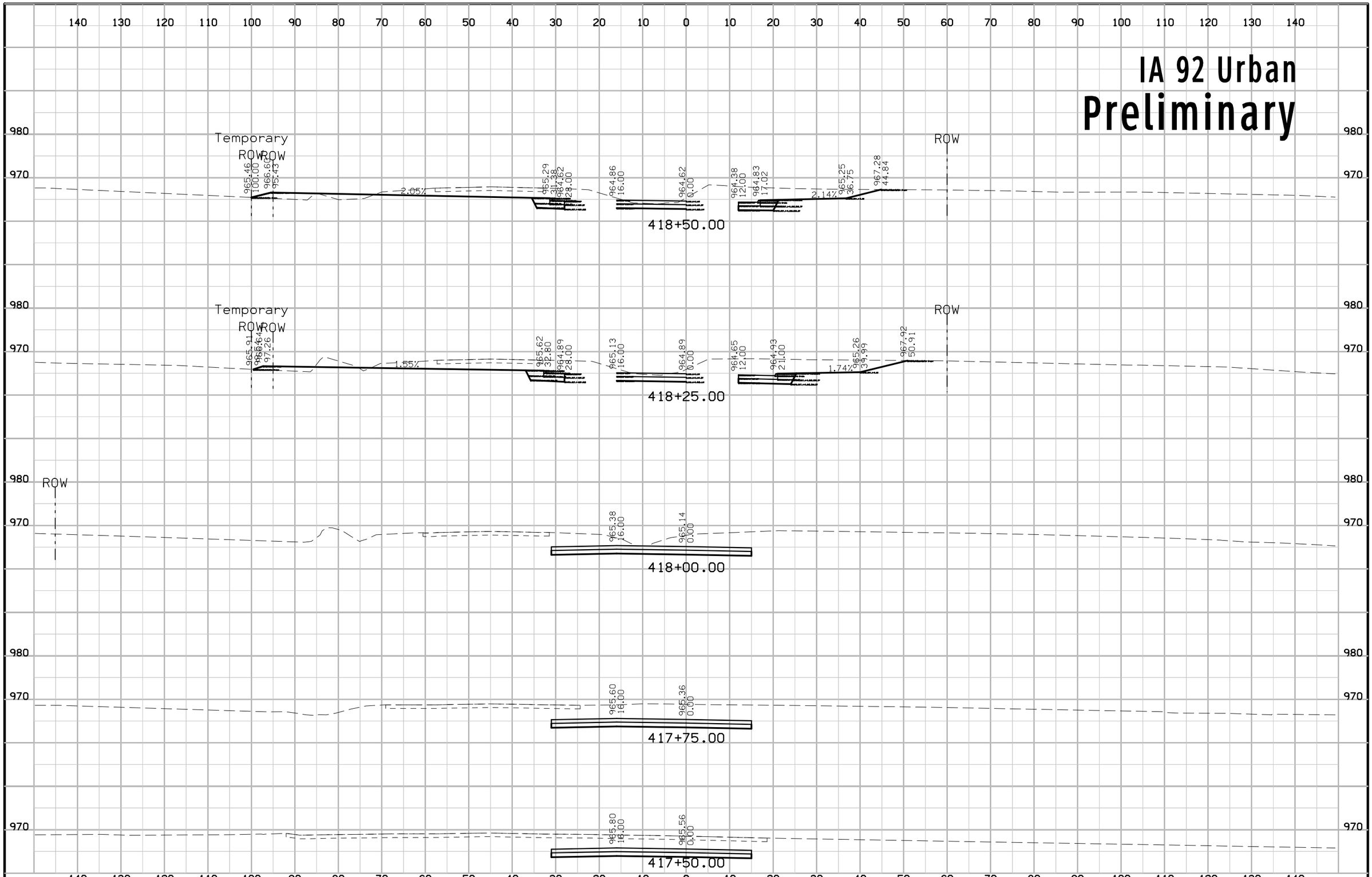
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.182

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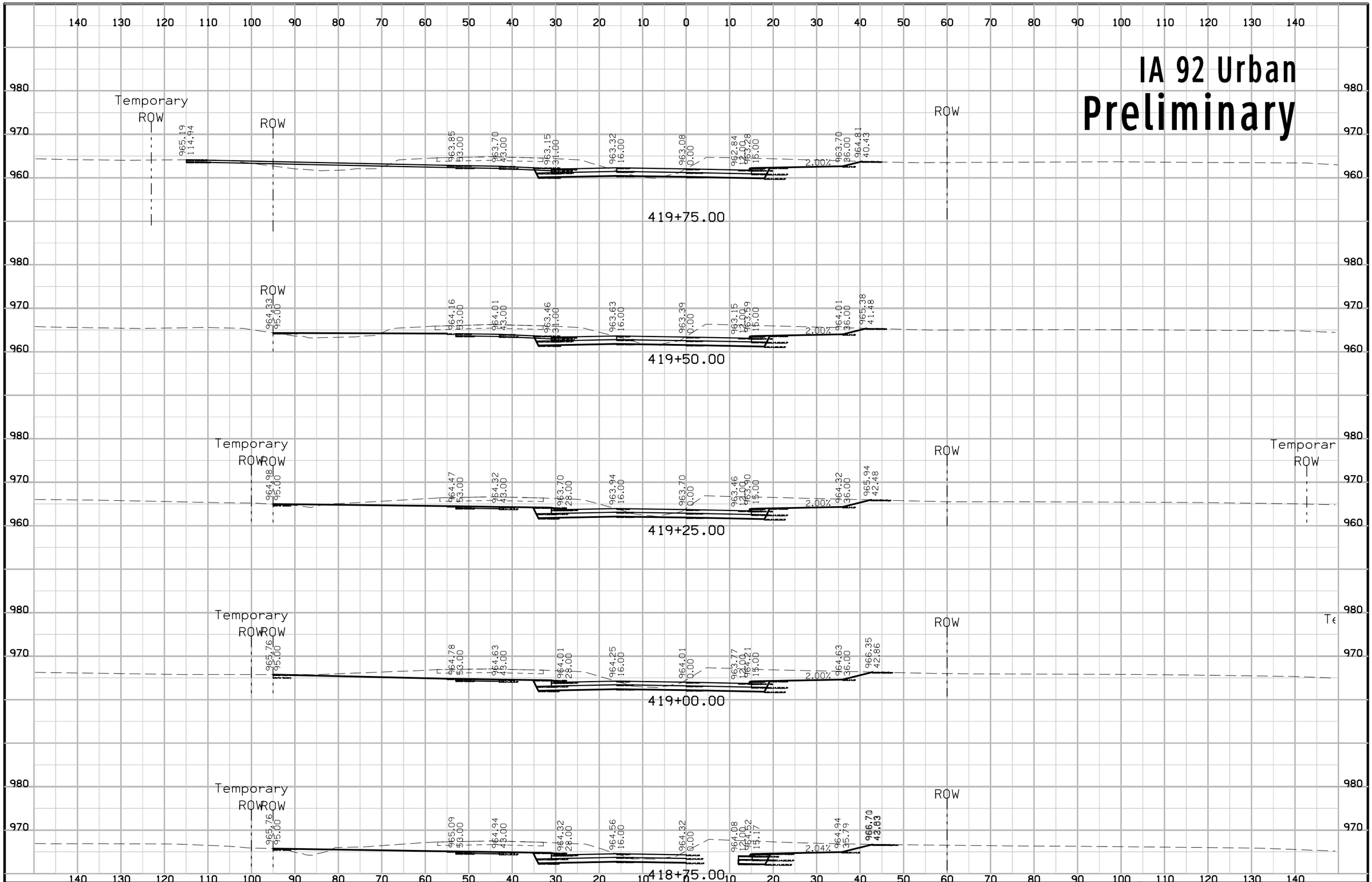
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.183

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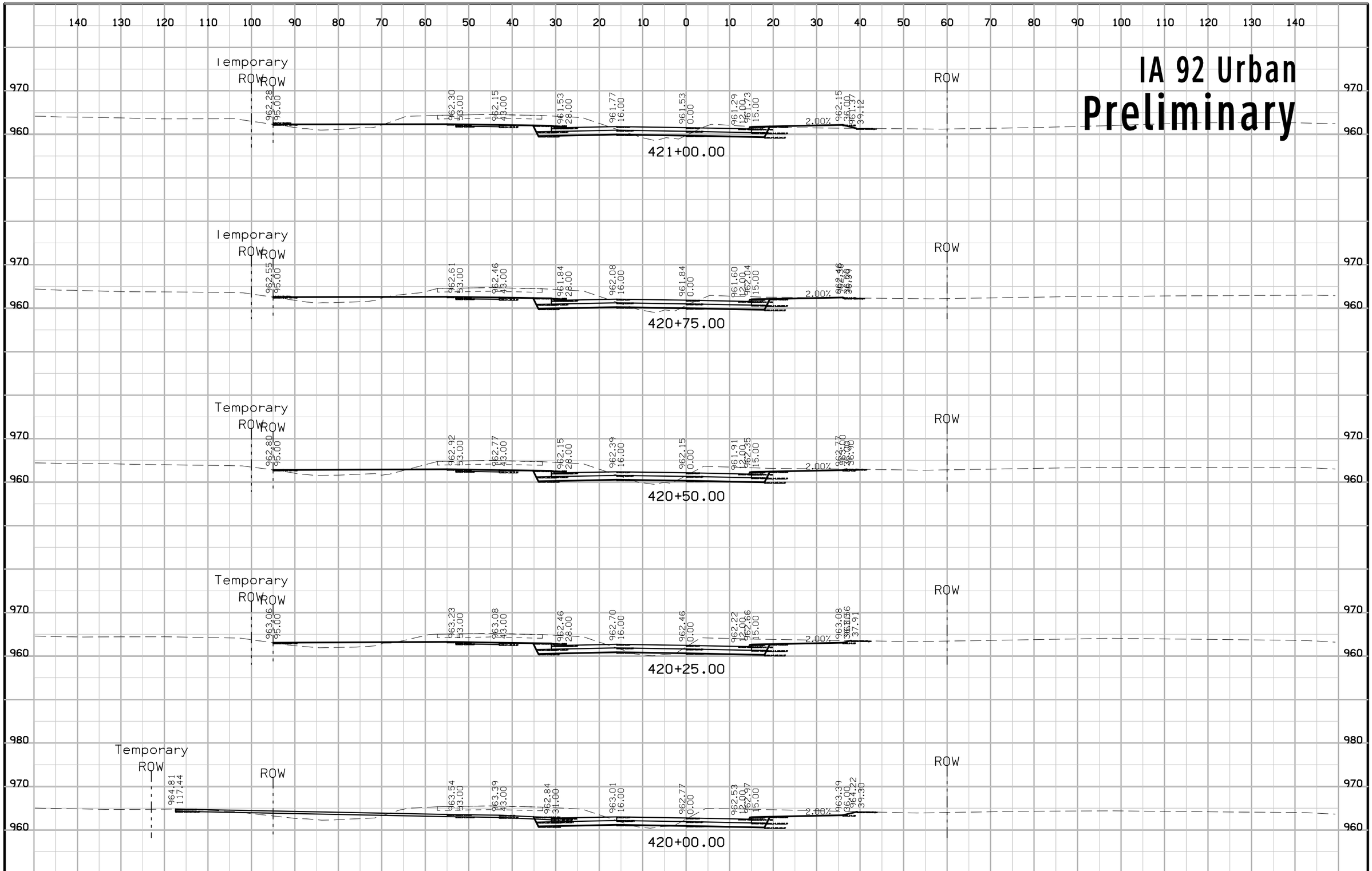
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.184

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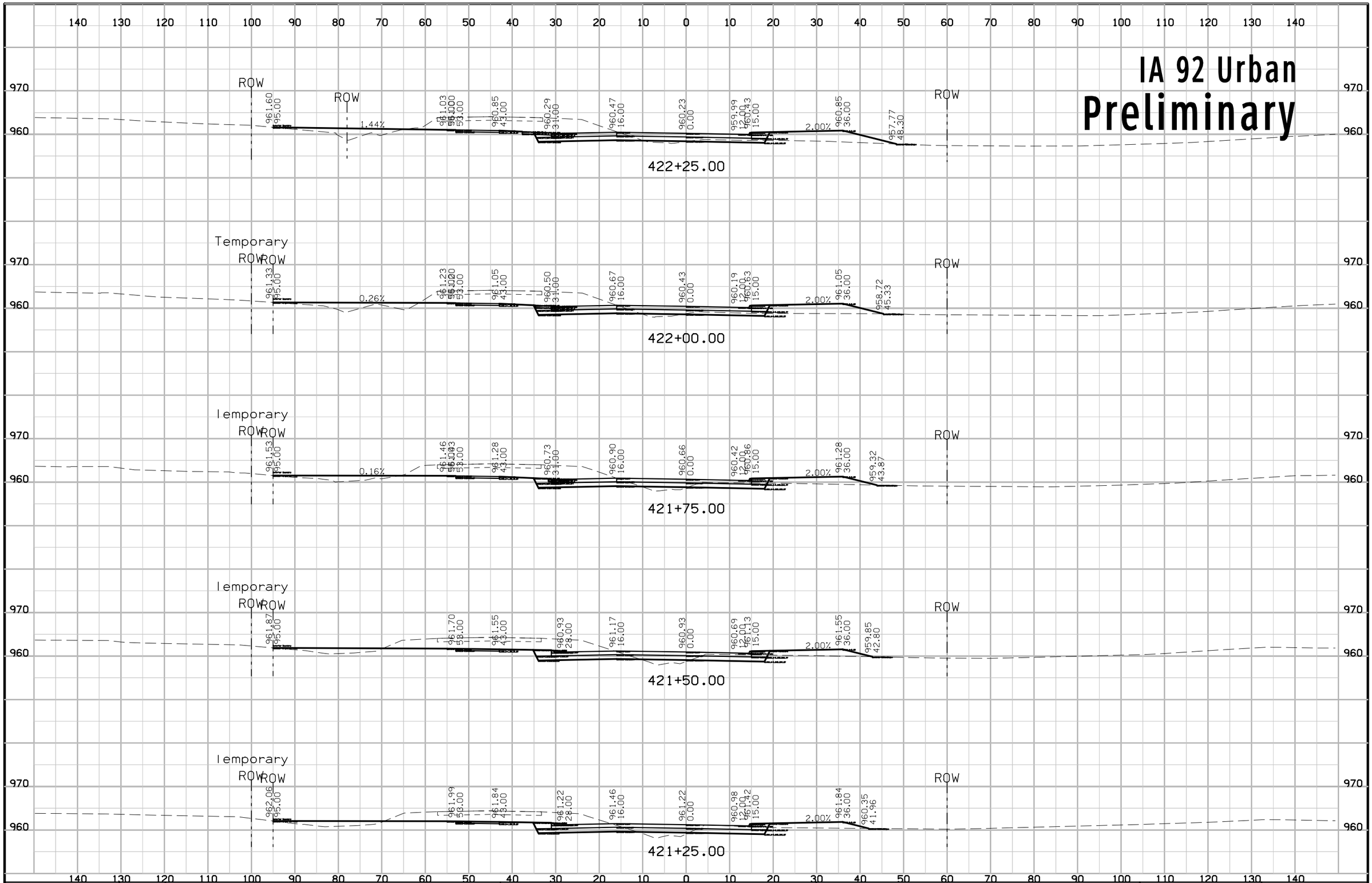
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.185

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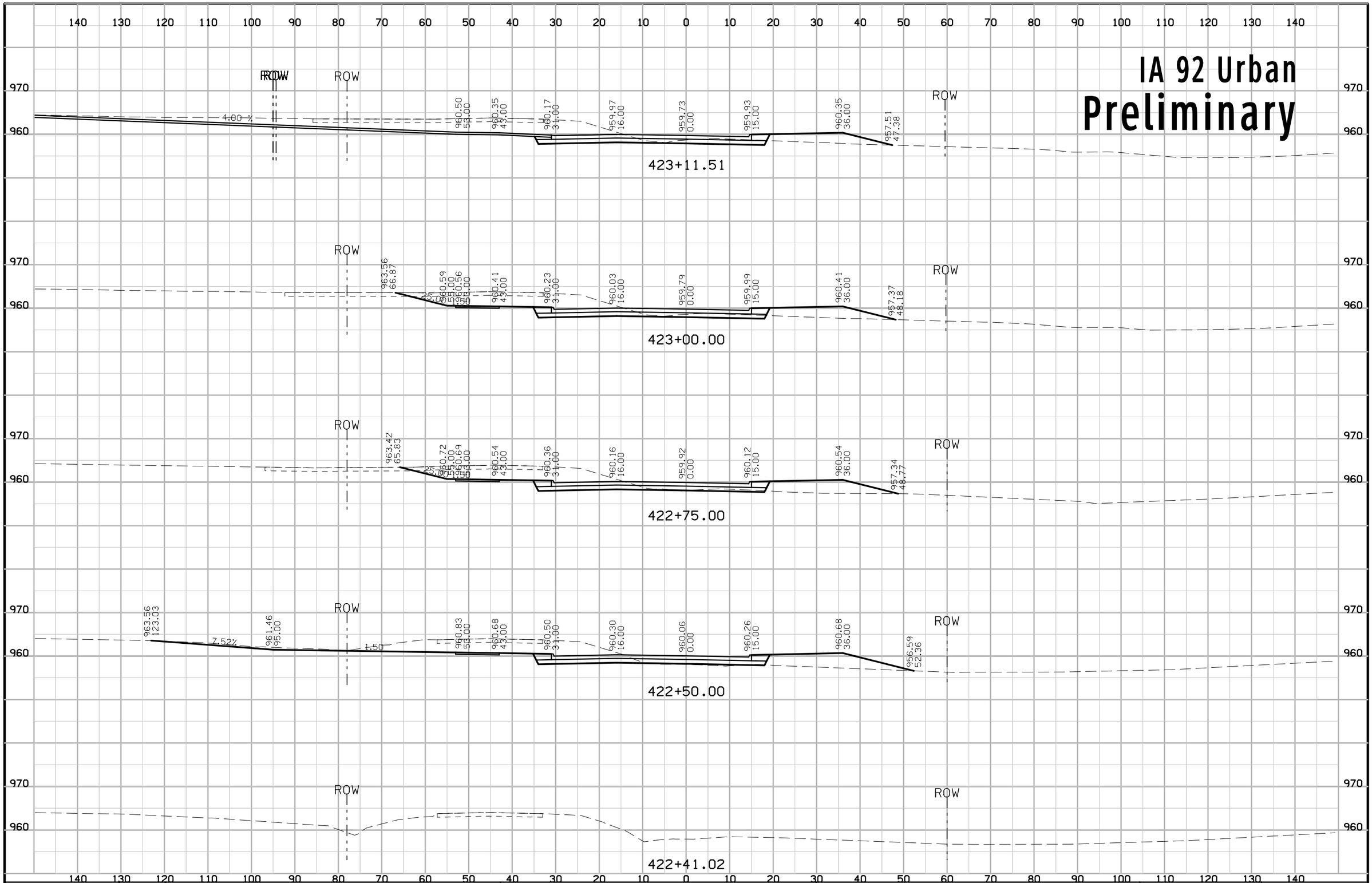
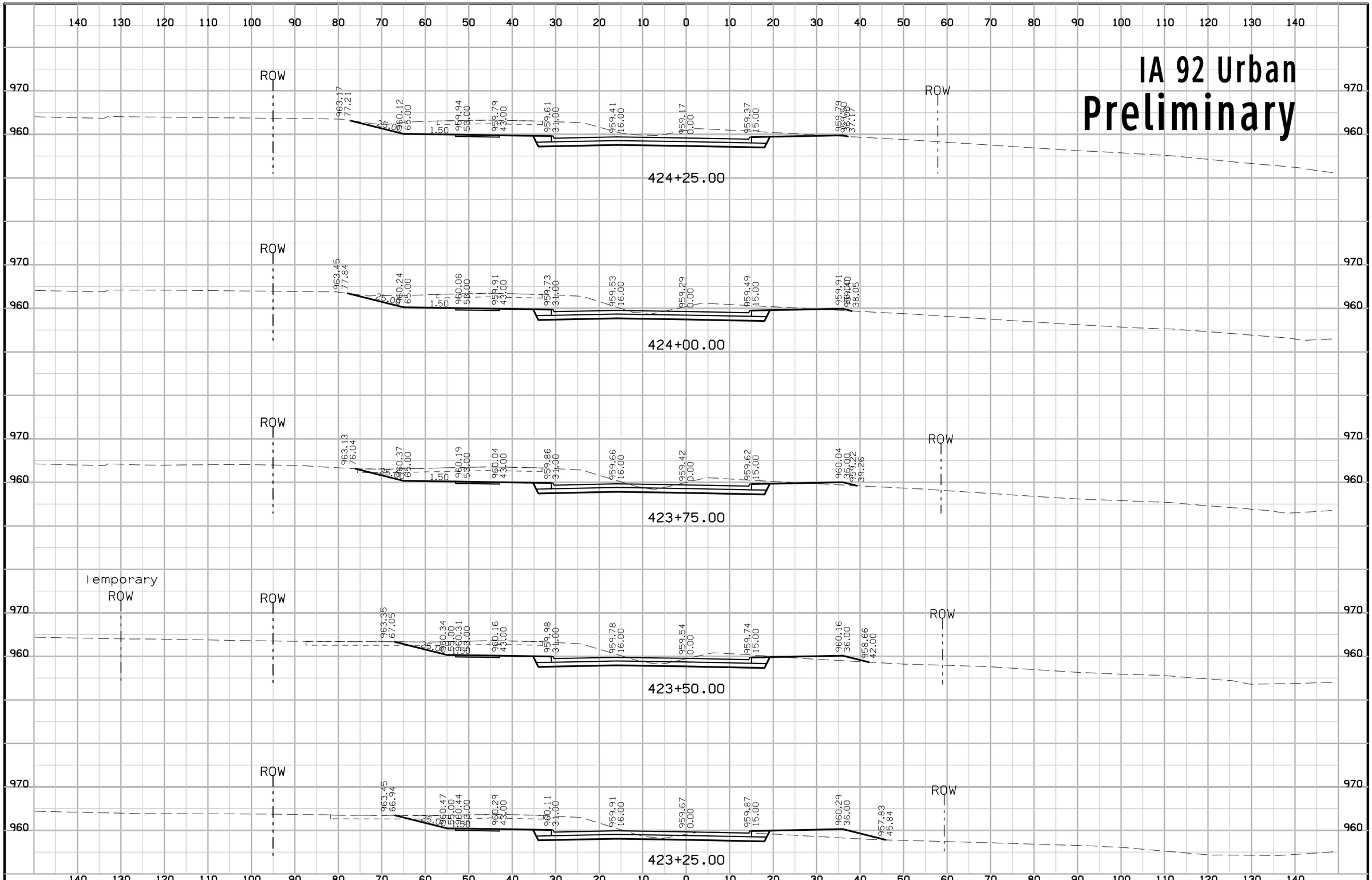
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.186

IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.187

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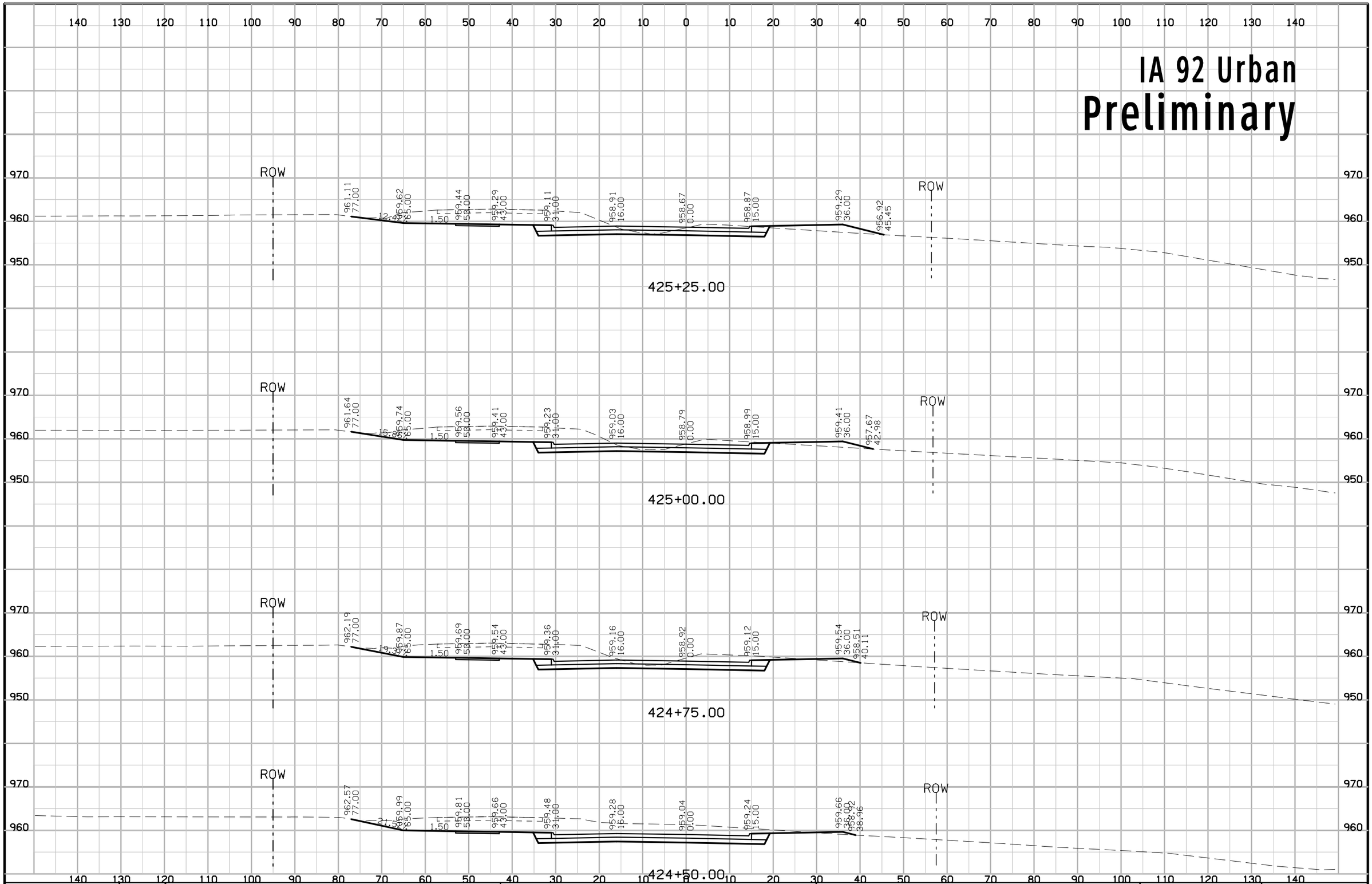
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.188

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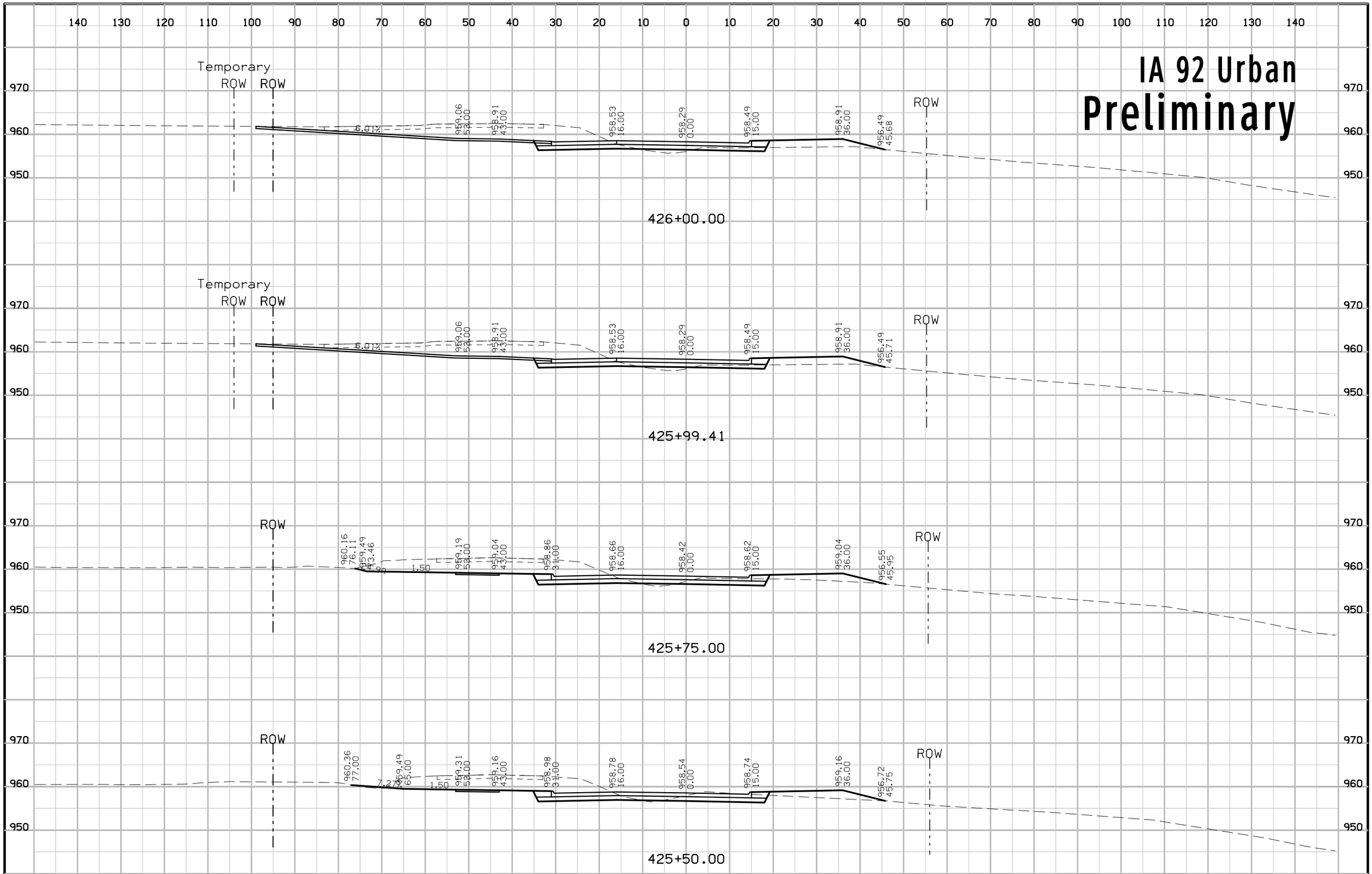
IA 92 Urban
Preliminary



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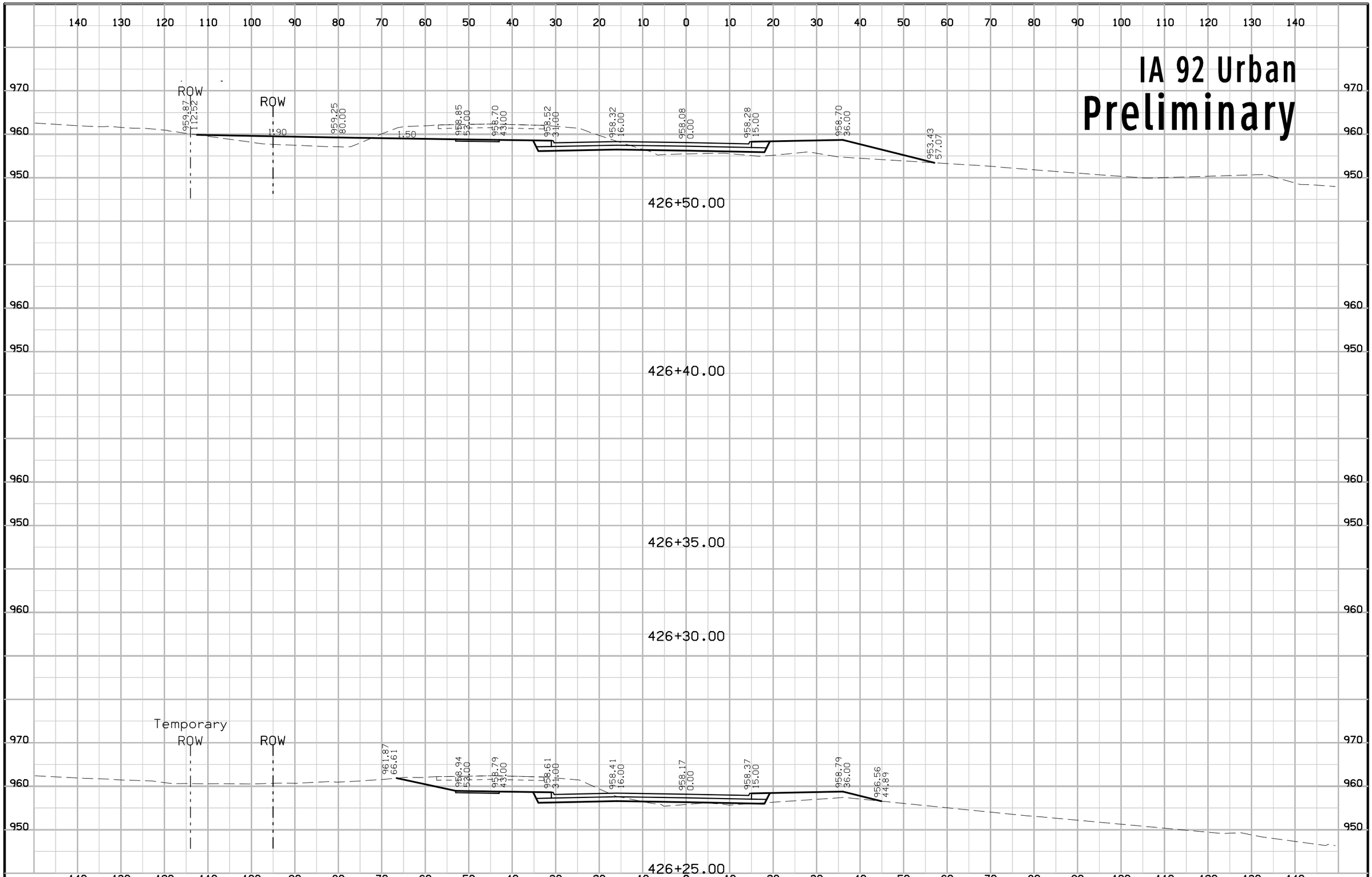

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.190

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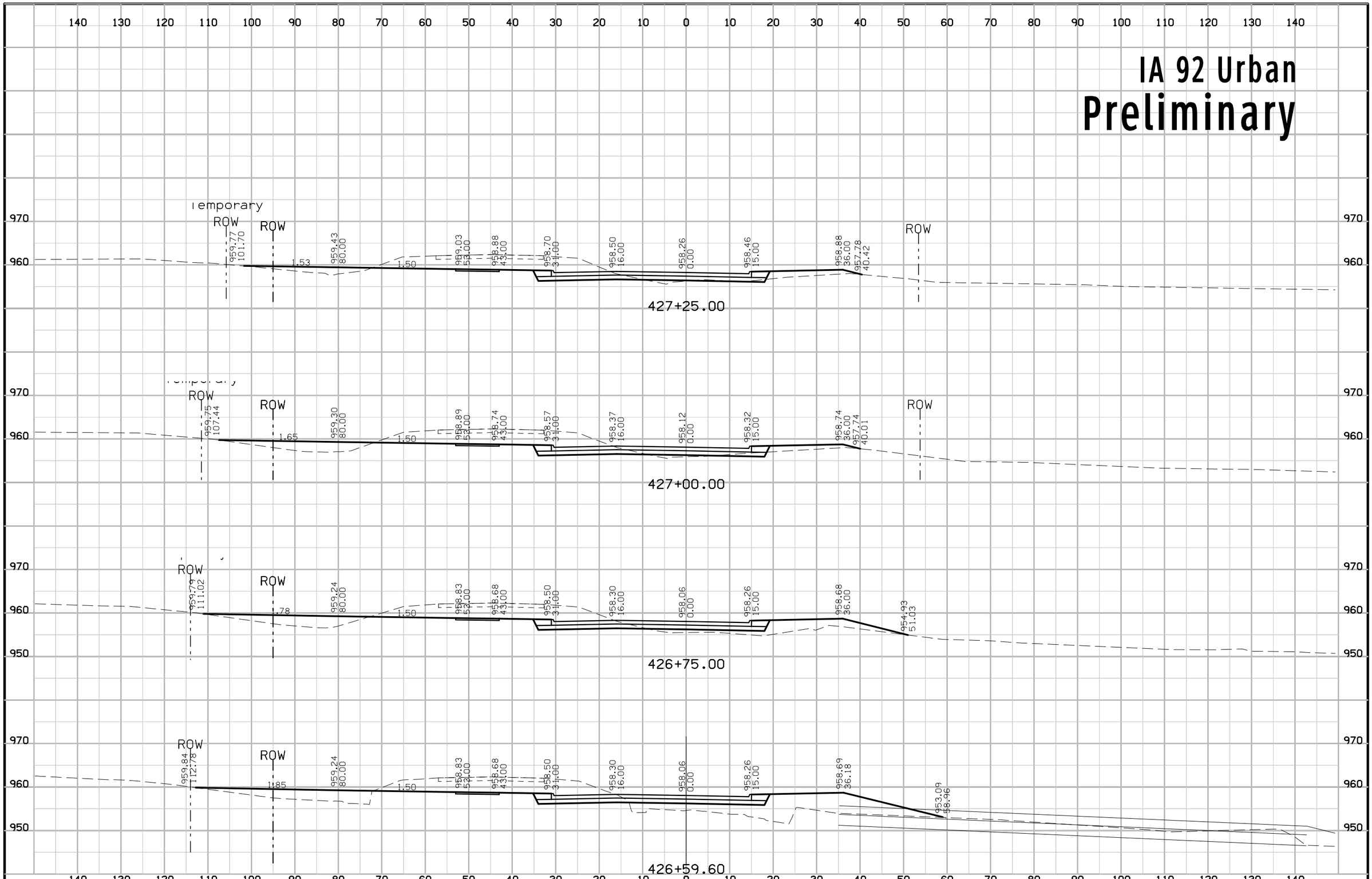
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.191

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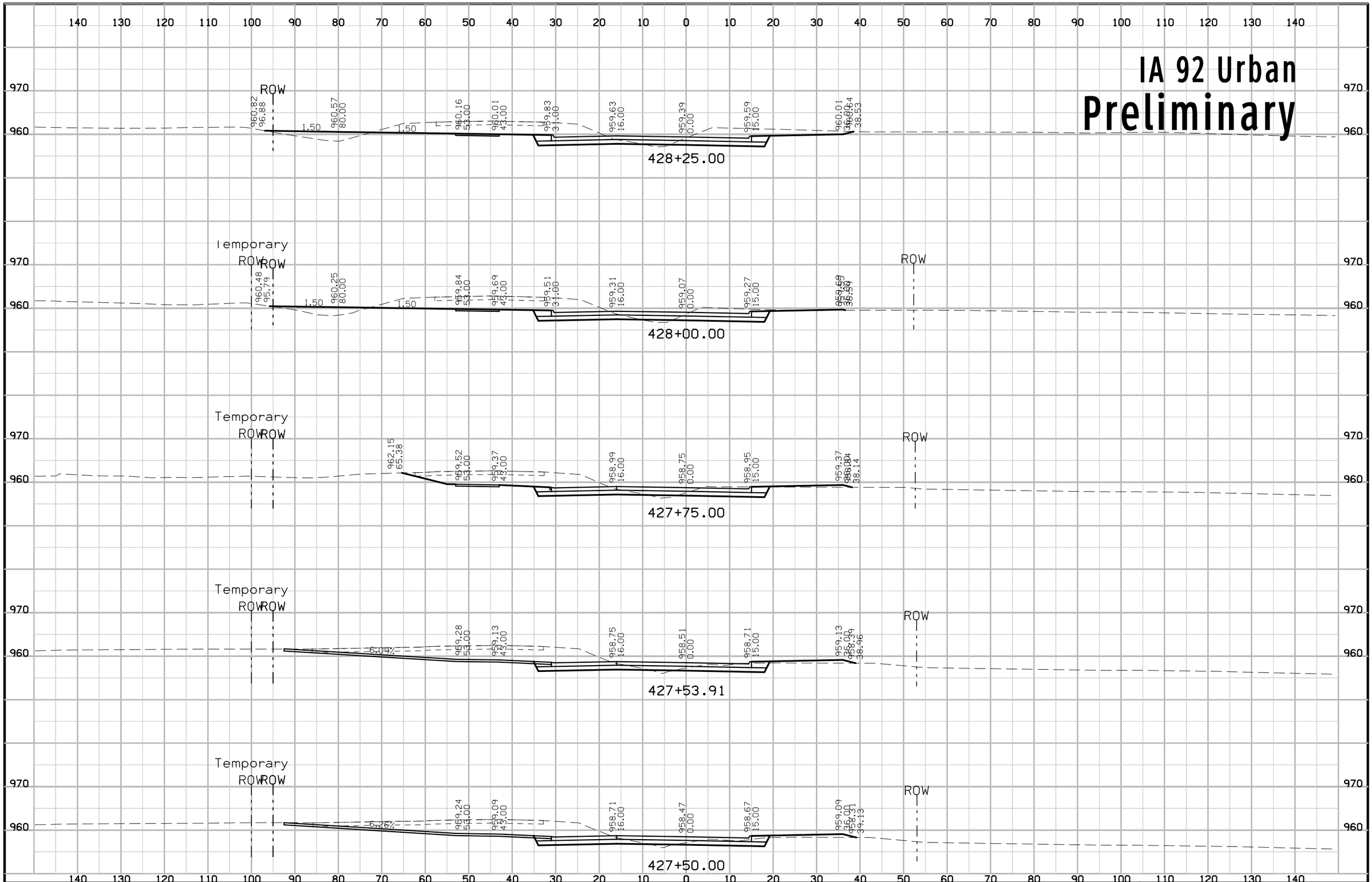
IA 92 Urban
Preliminary



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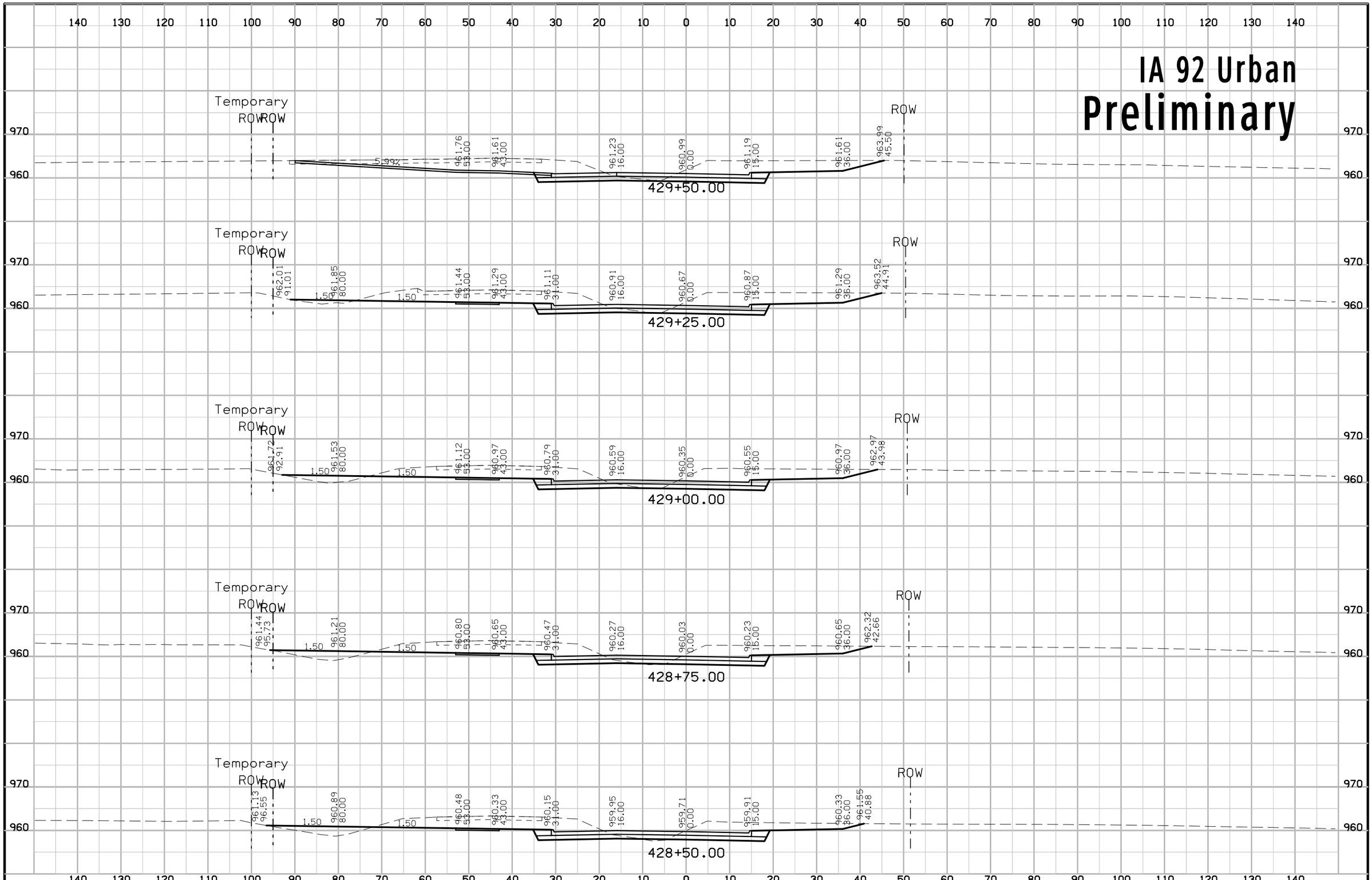
IA 92 Urban
Preliminary



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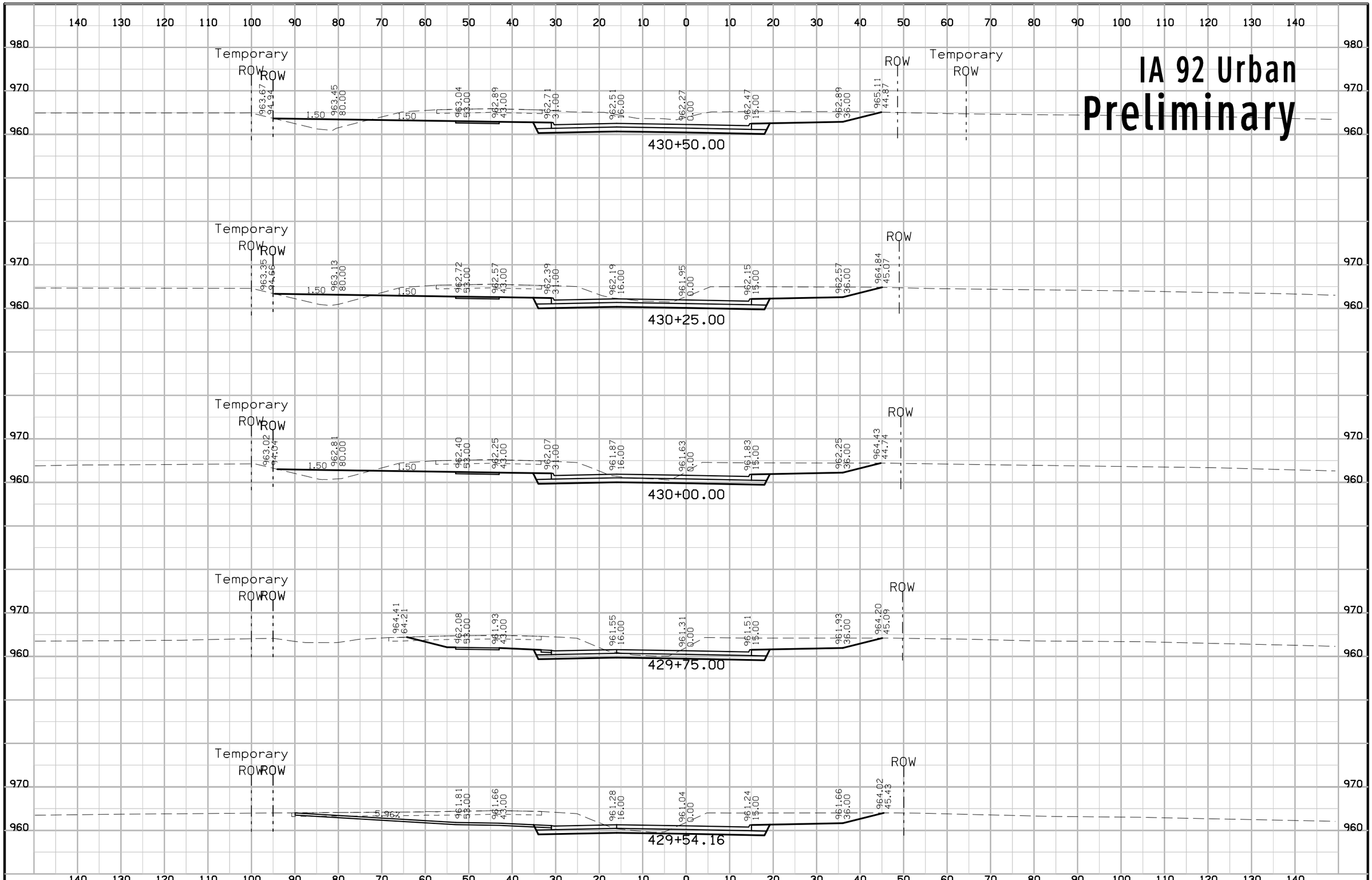
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.194

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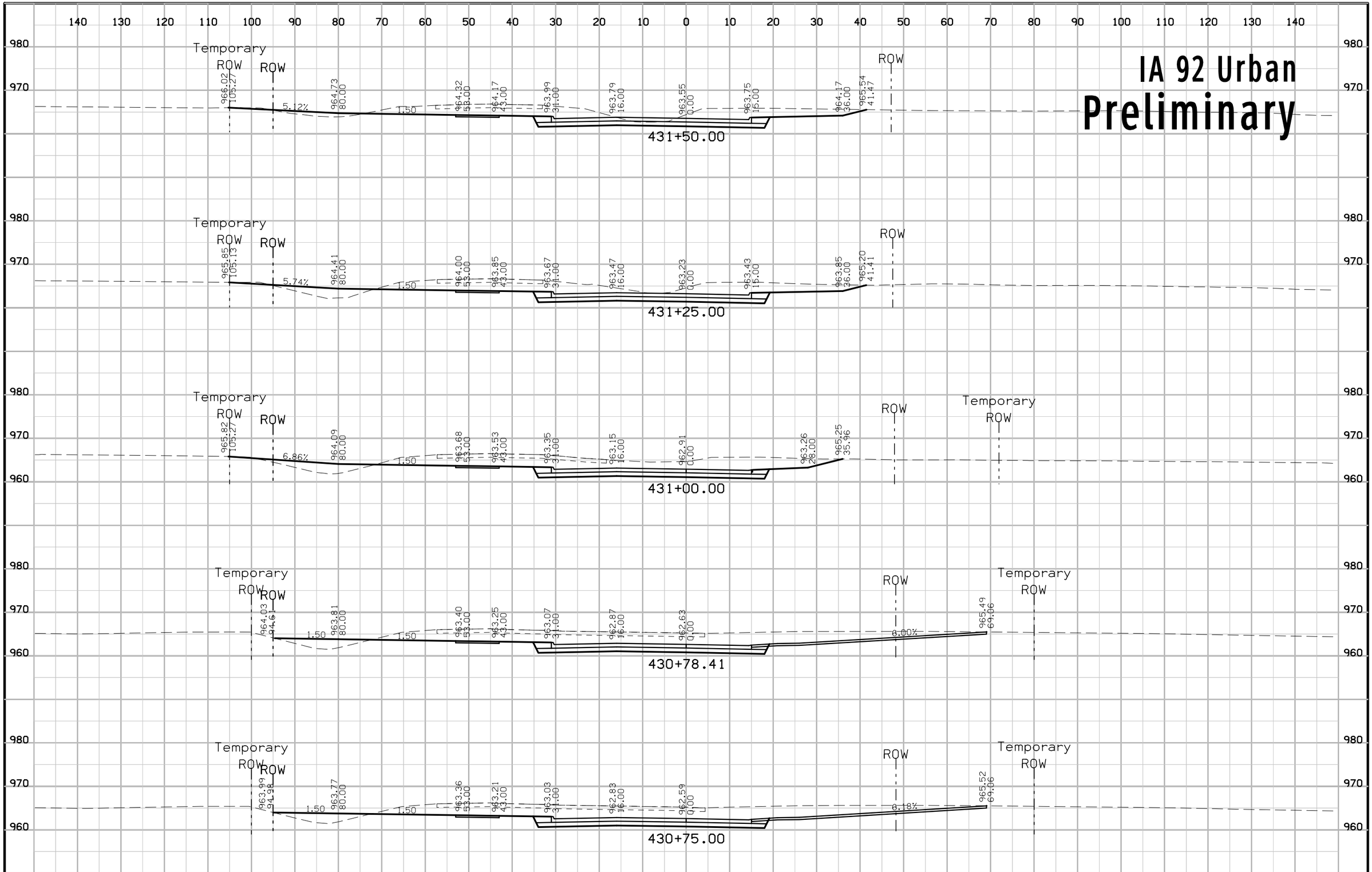
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.195

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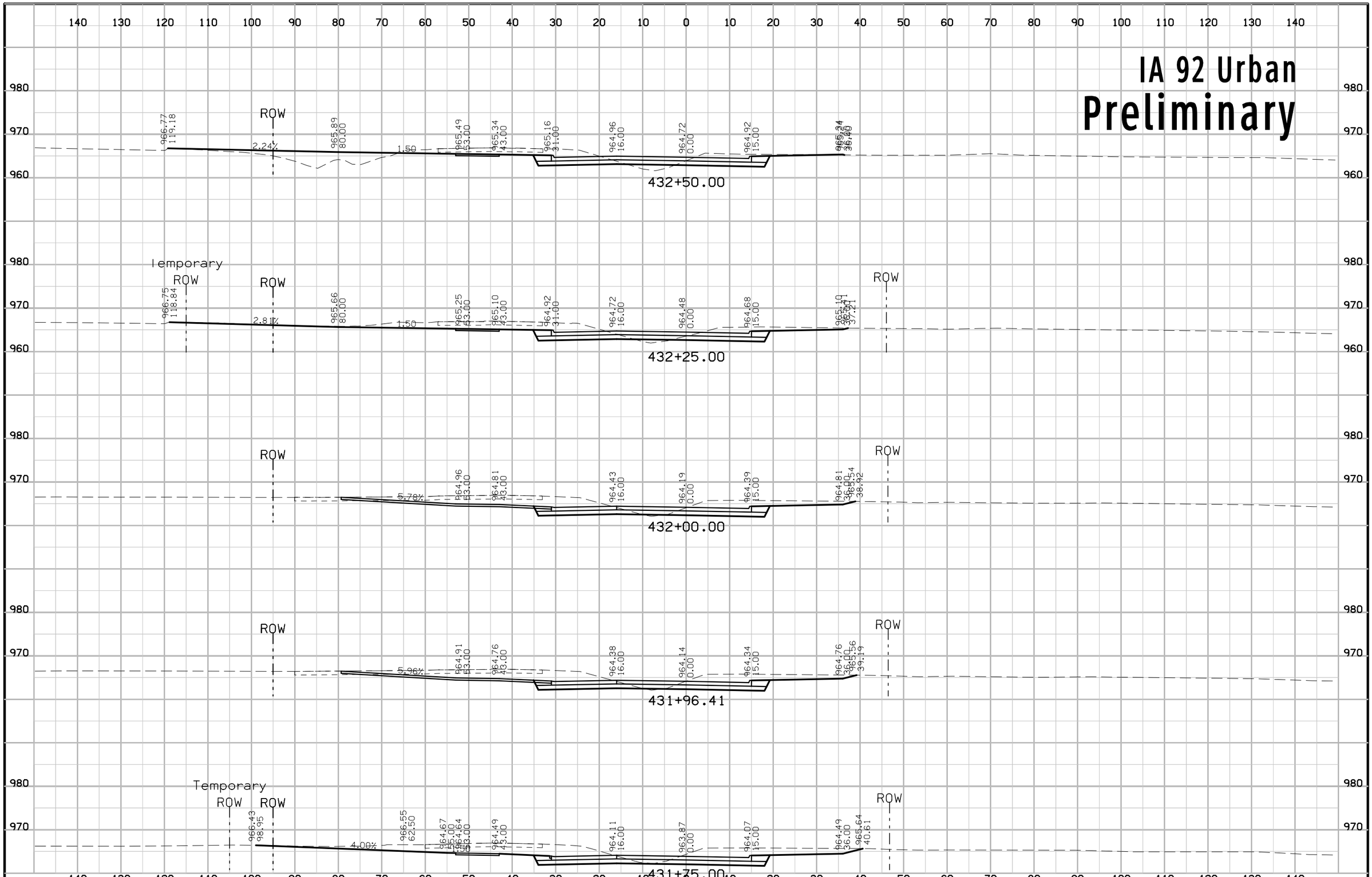
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.196

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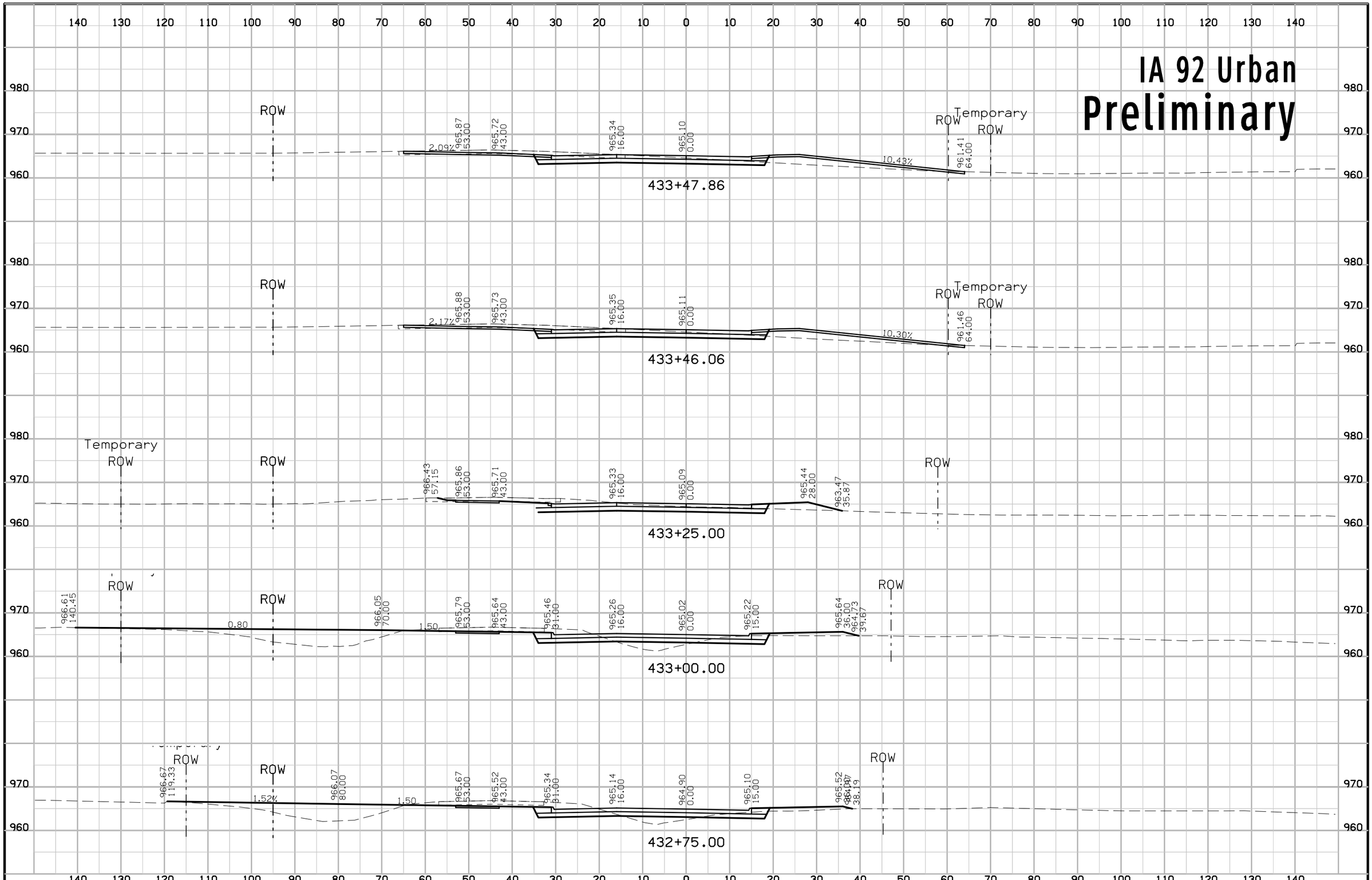
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.197

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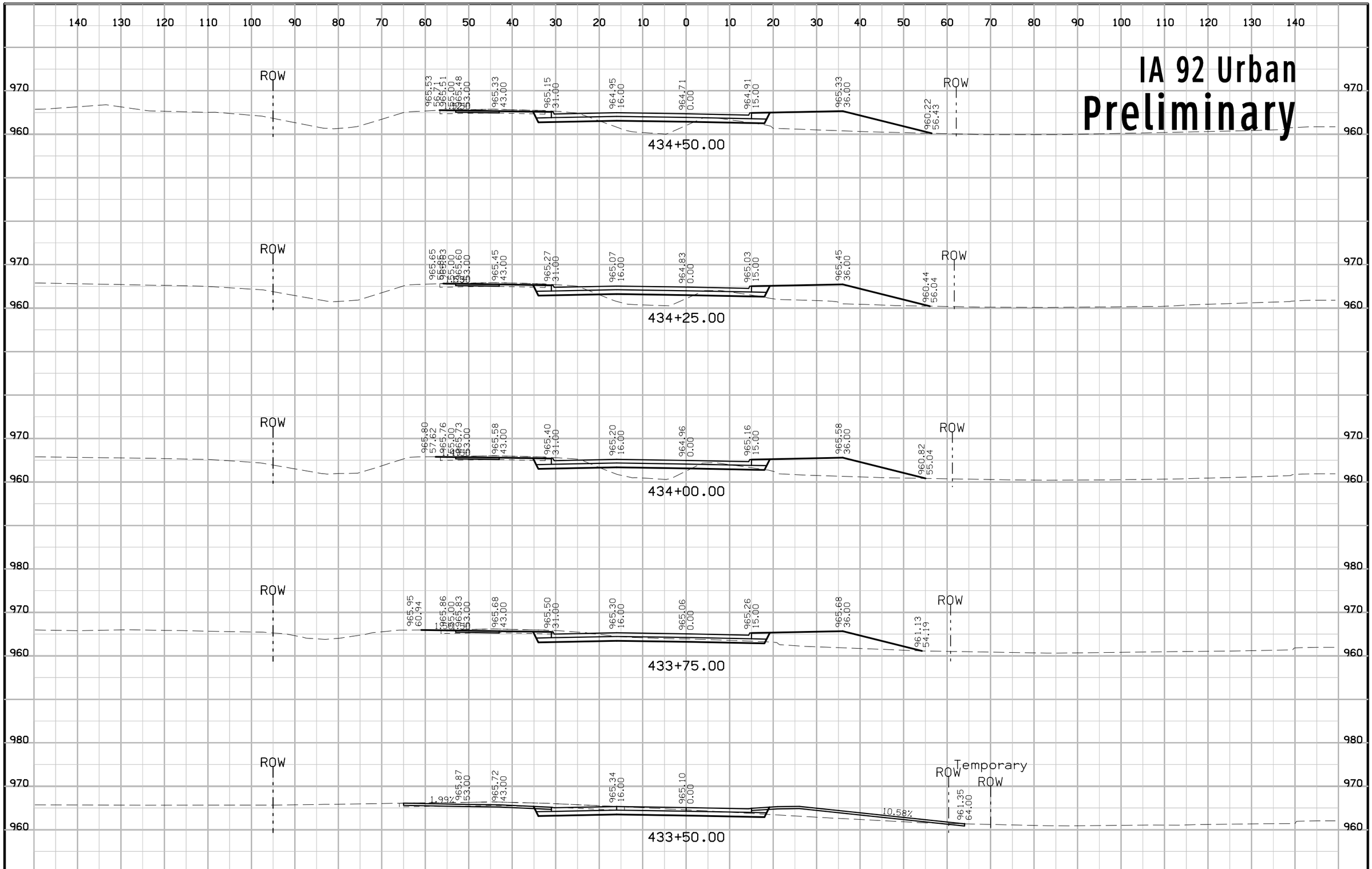
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.198

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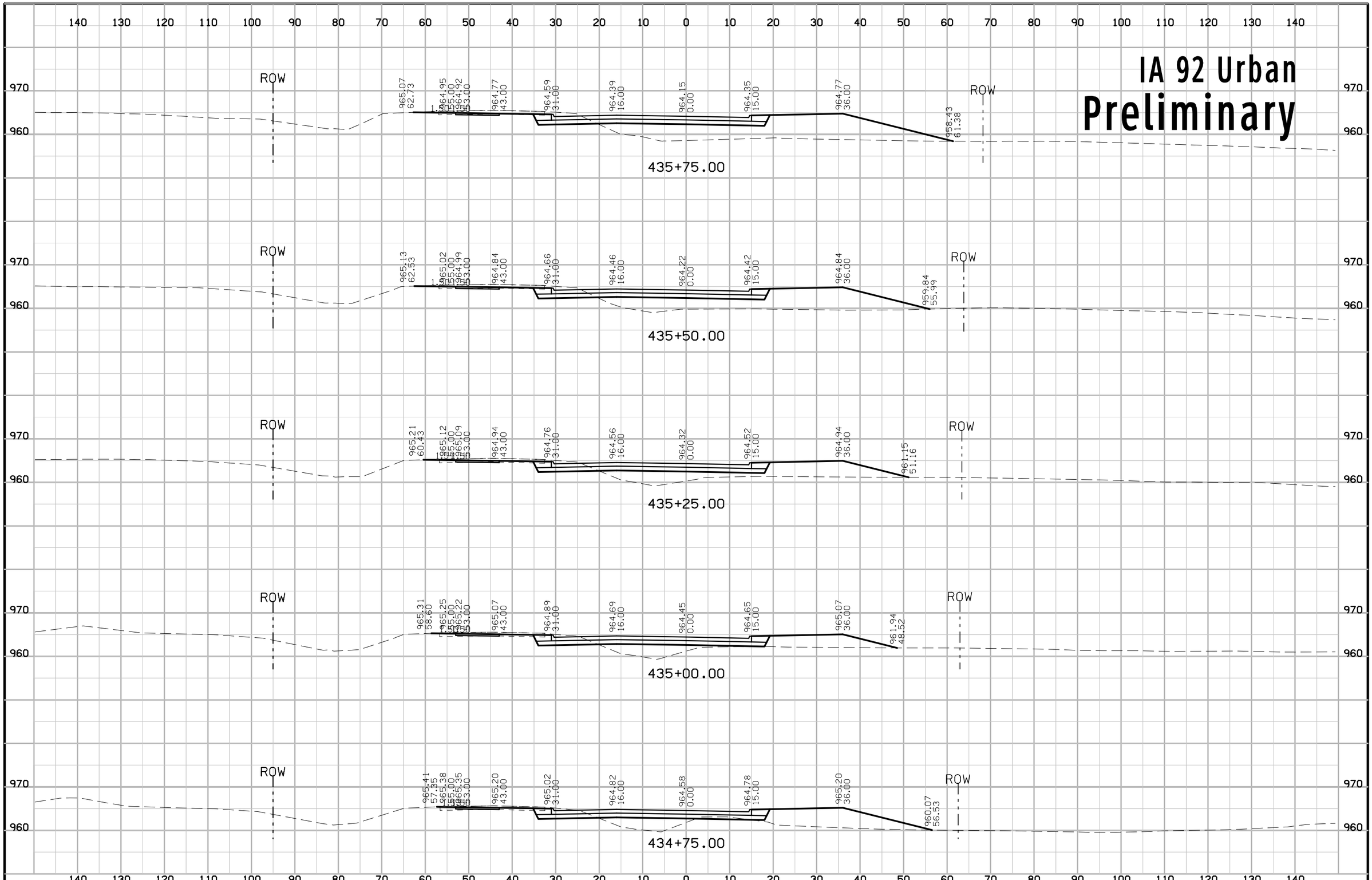
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.199

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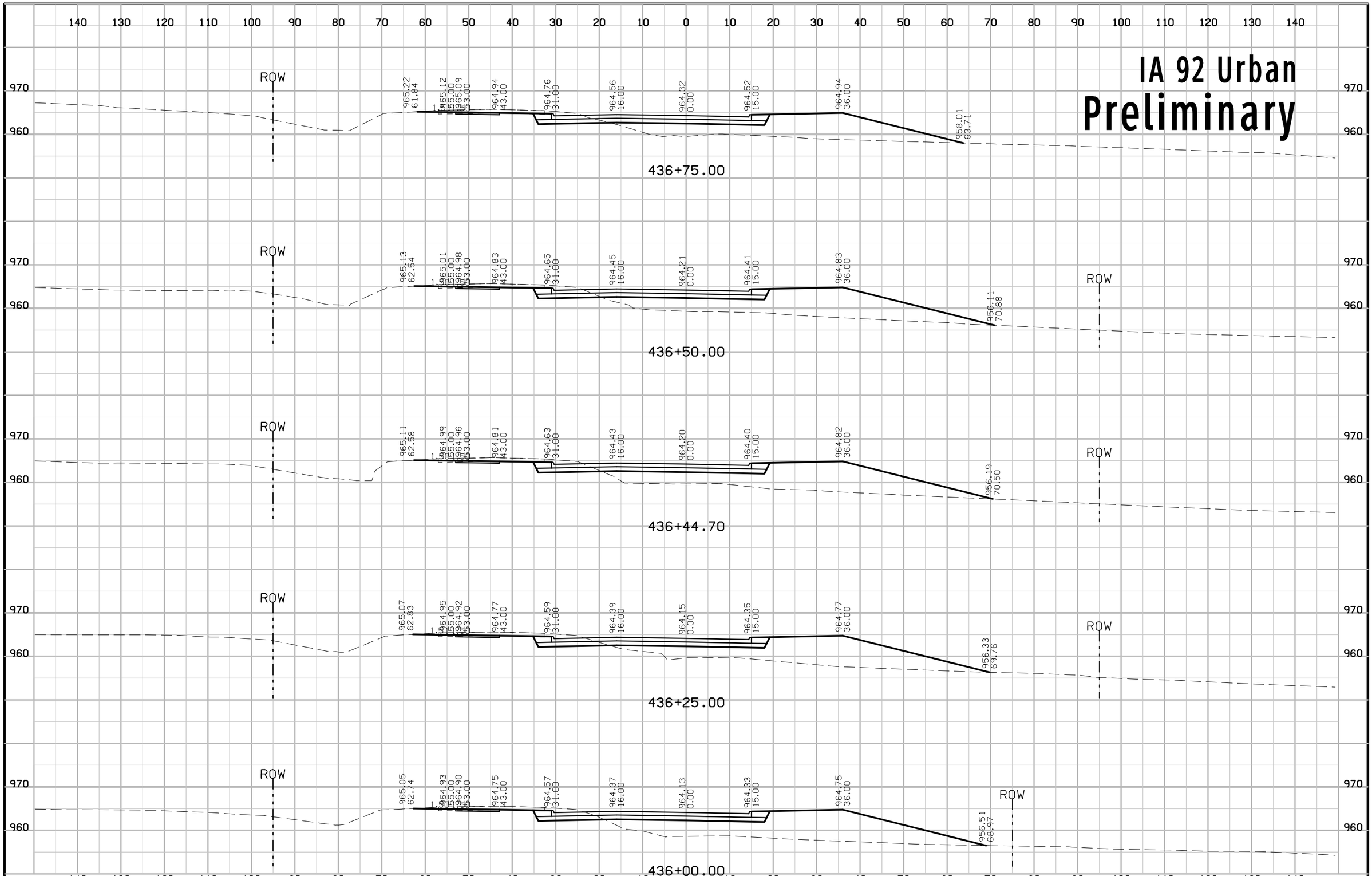
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.200

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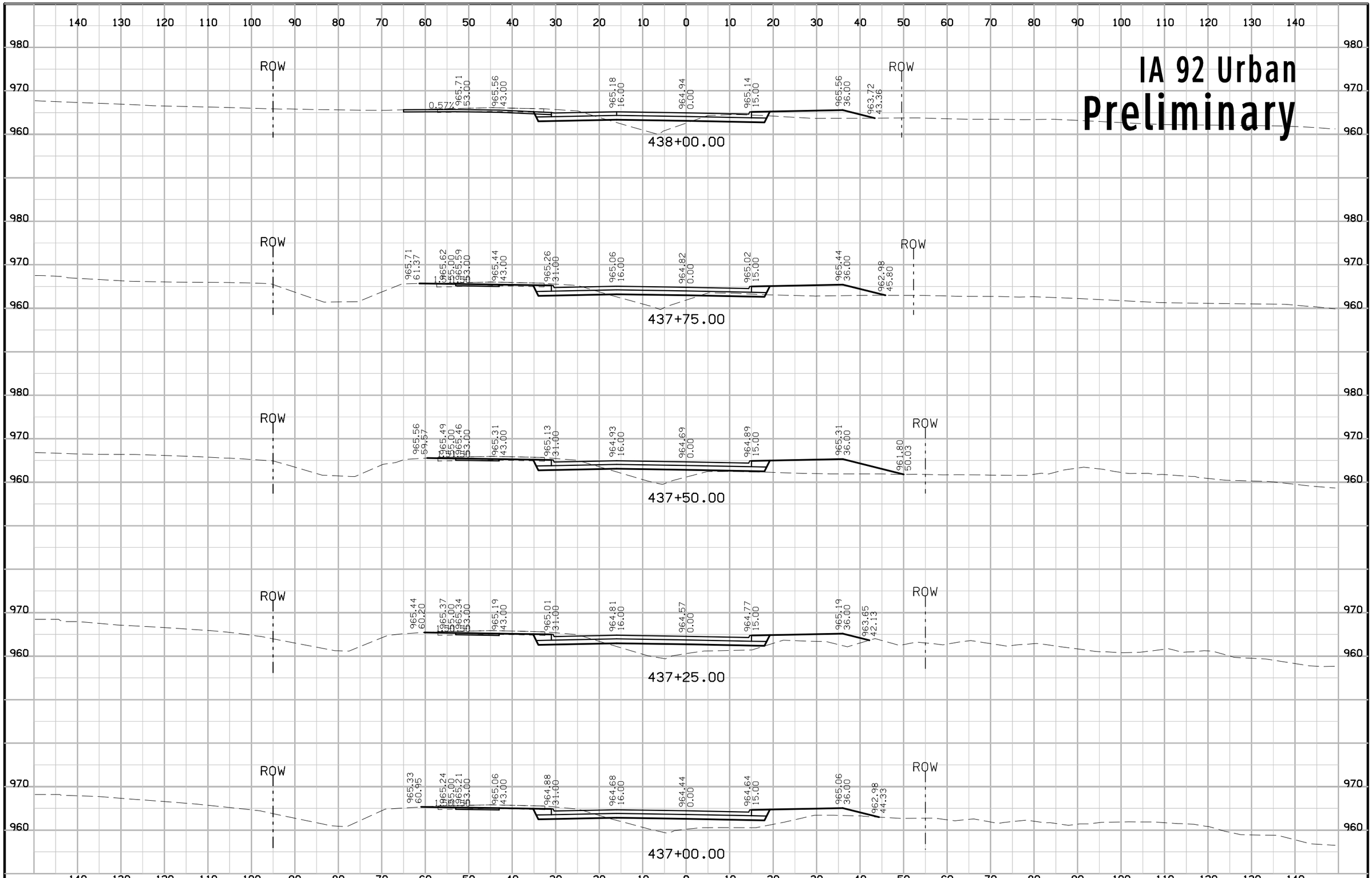

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.201

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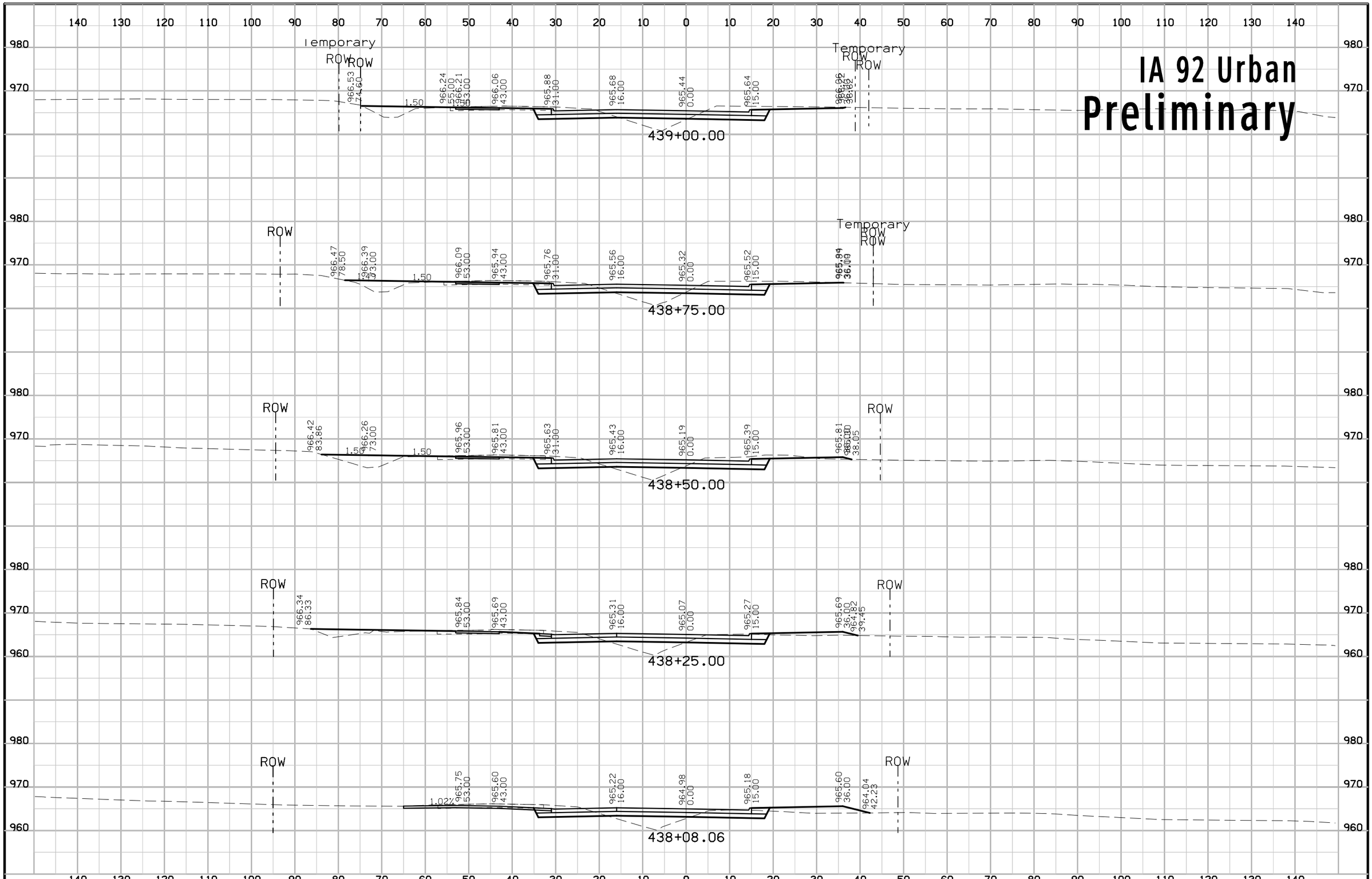
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.202

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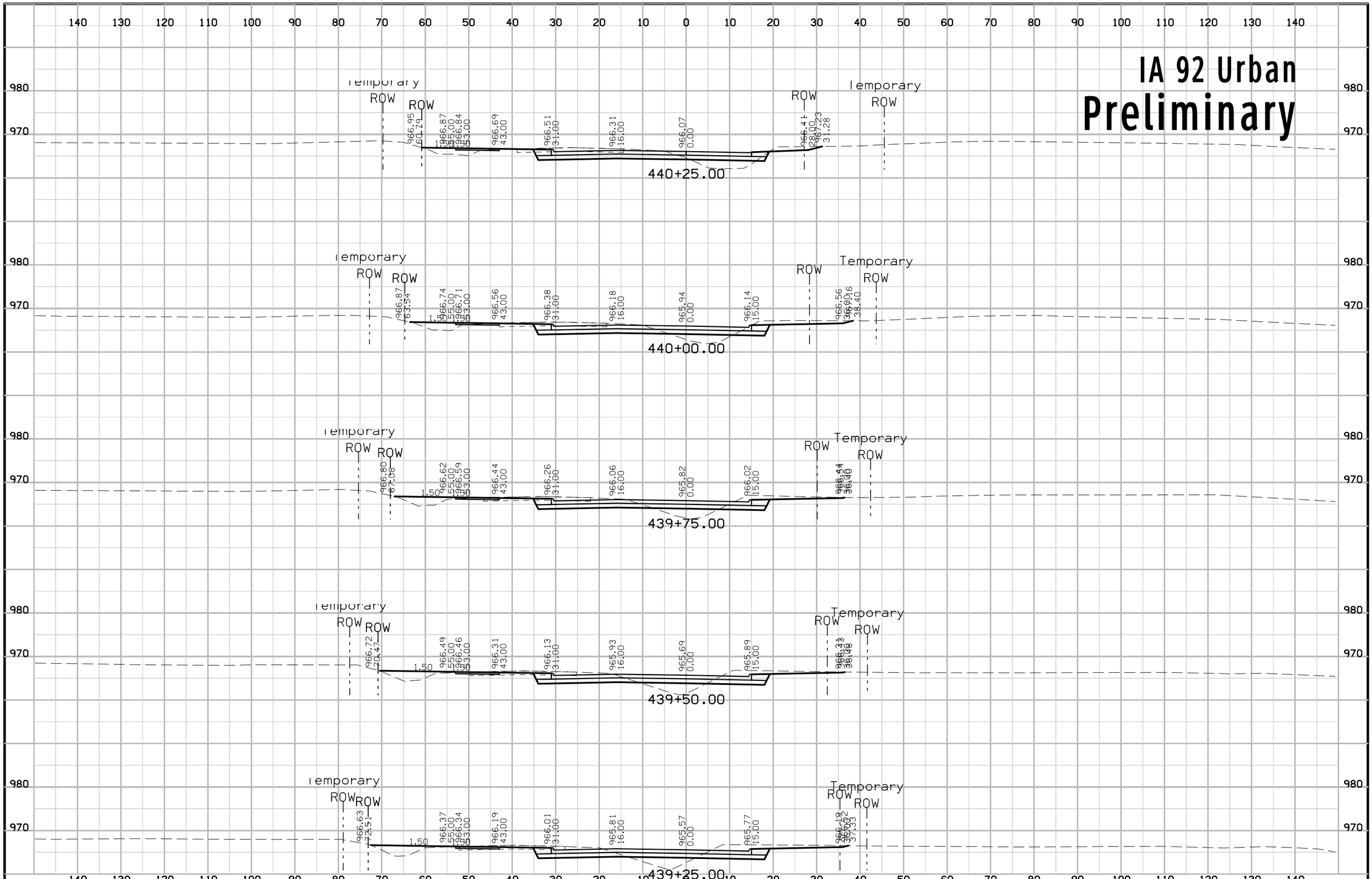
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.203

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IA 92 Urban
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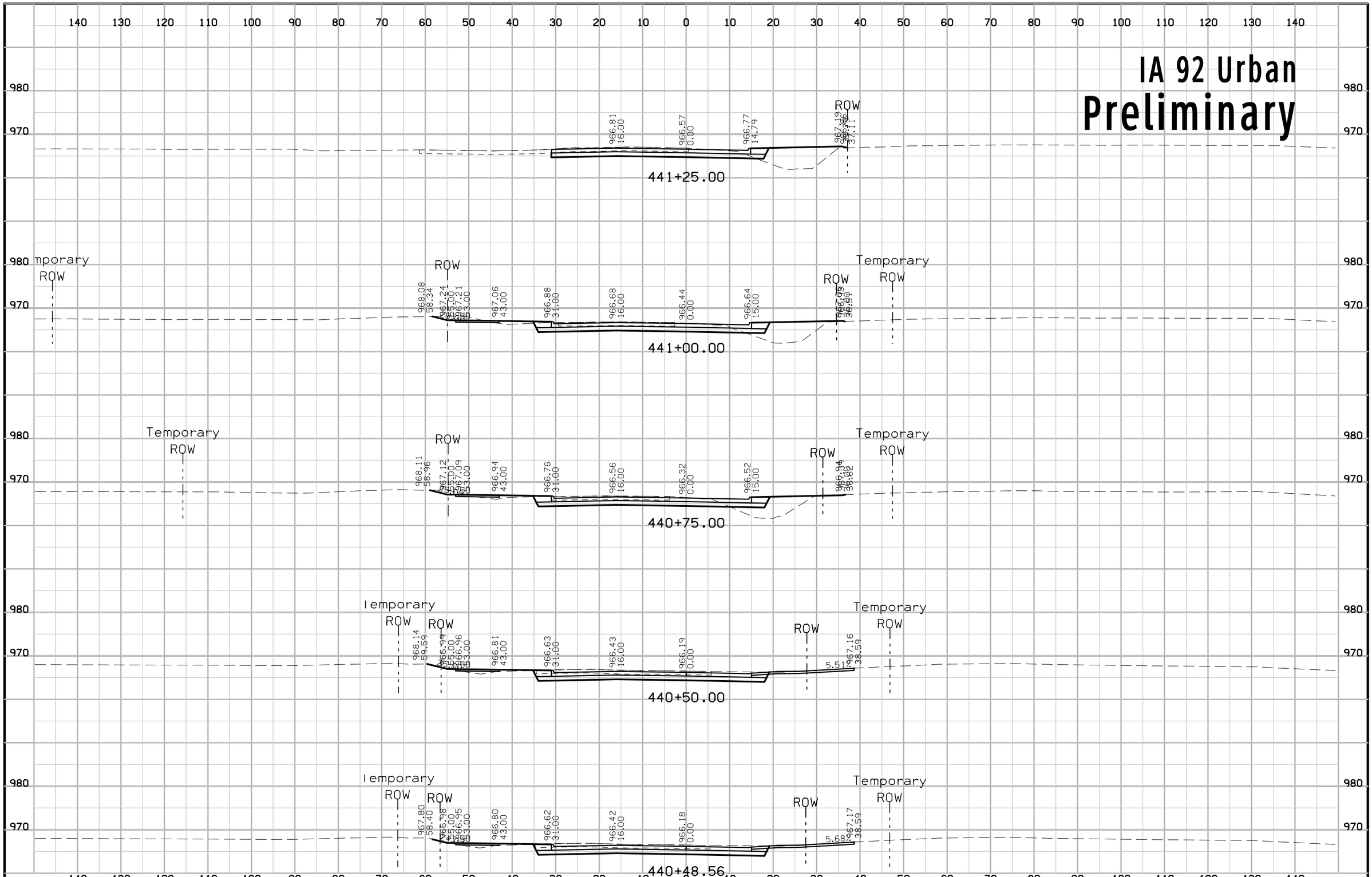

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.204

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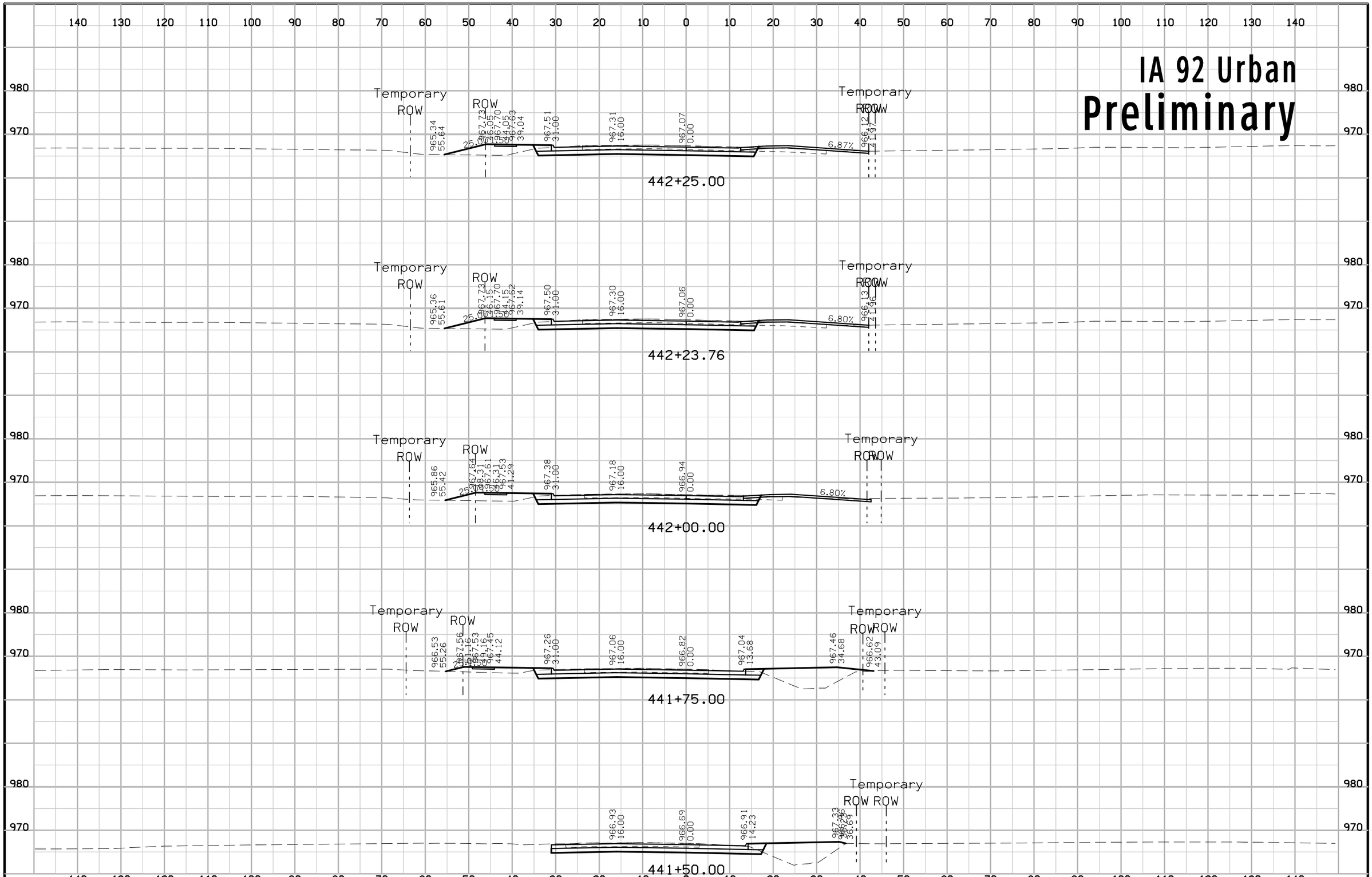
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.205

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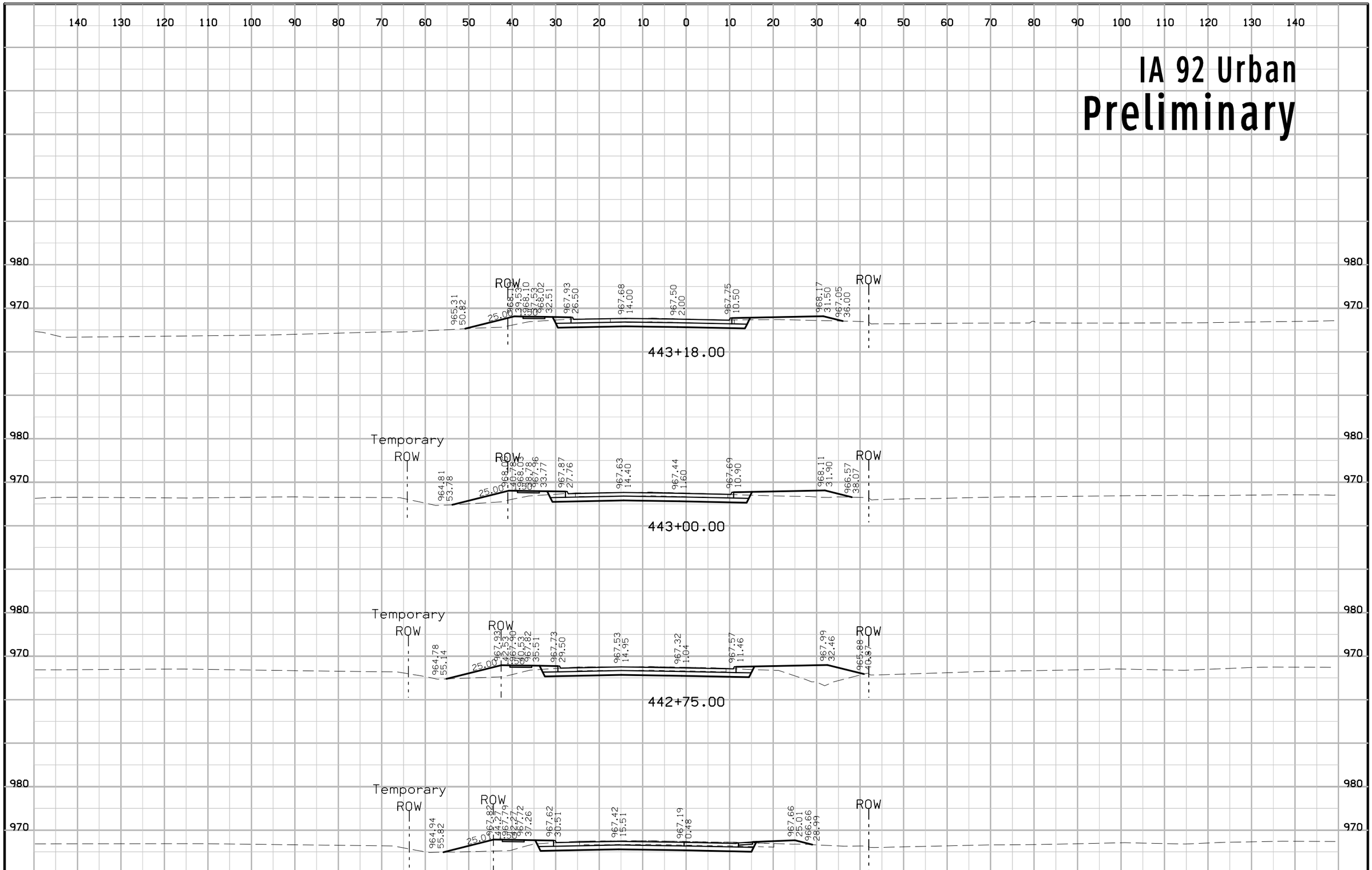
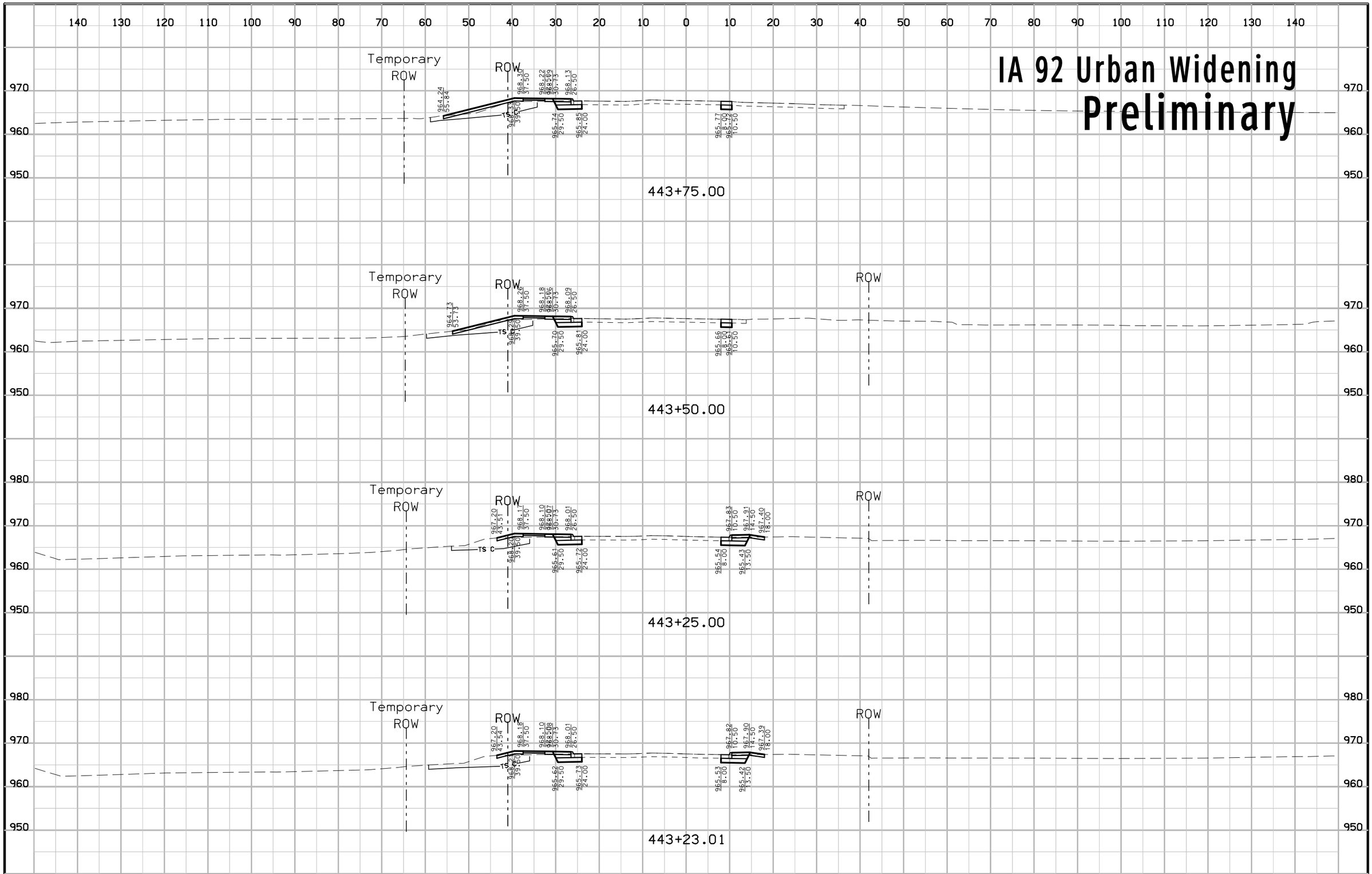
IA 92 Urban
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.206

1:14:52 PM 6/23/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W160.sht

IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.207

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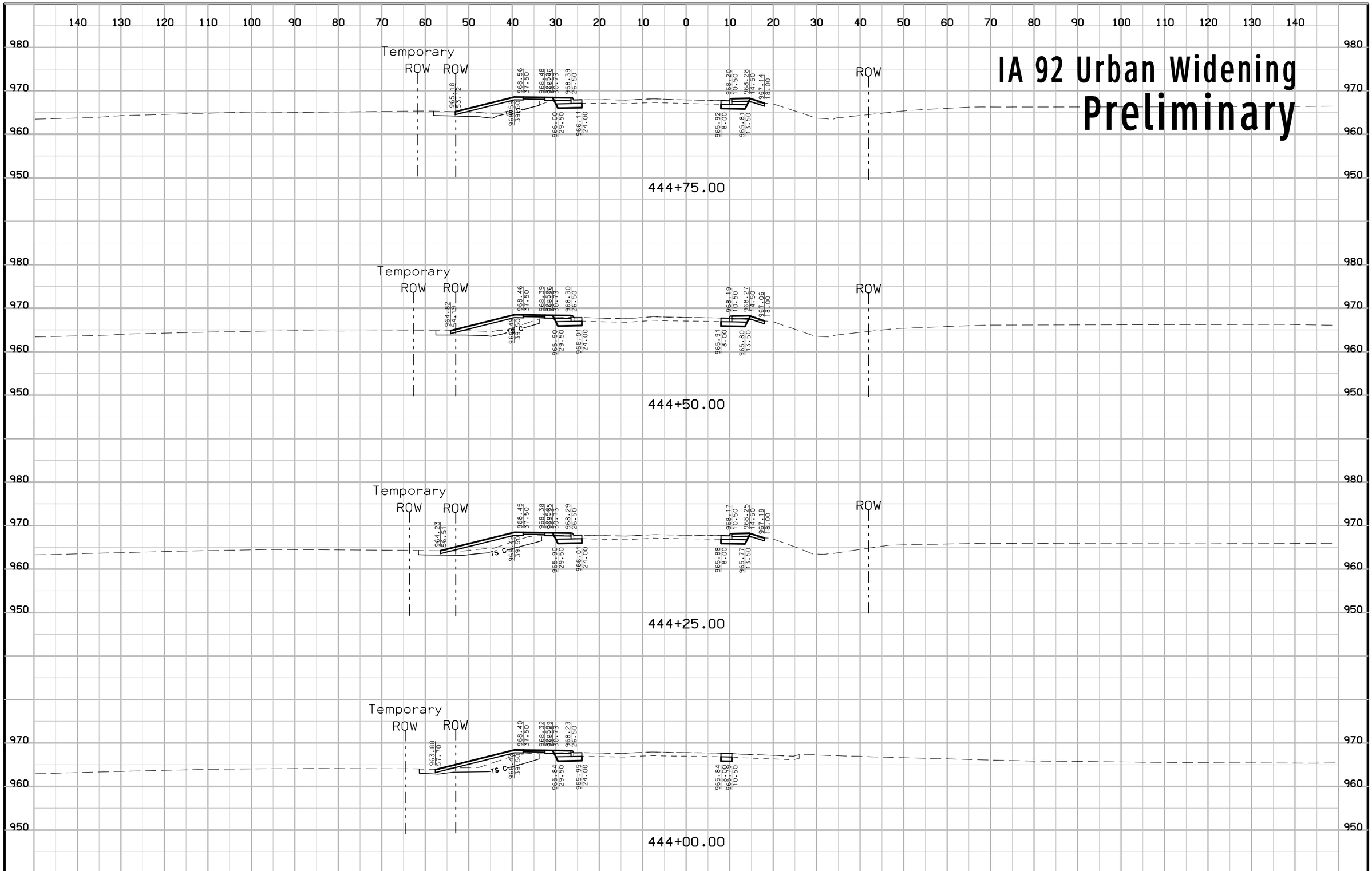
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.208

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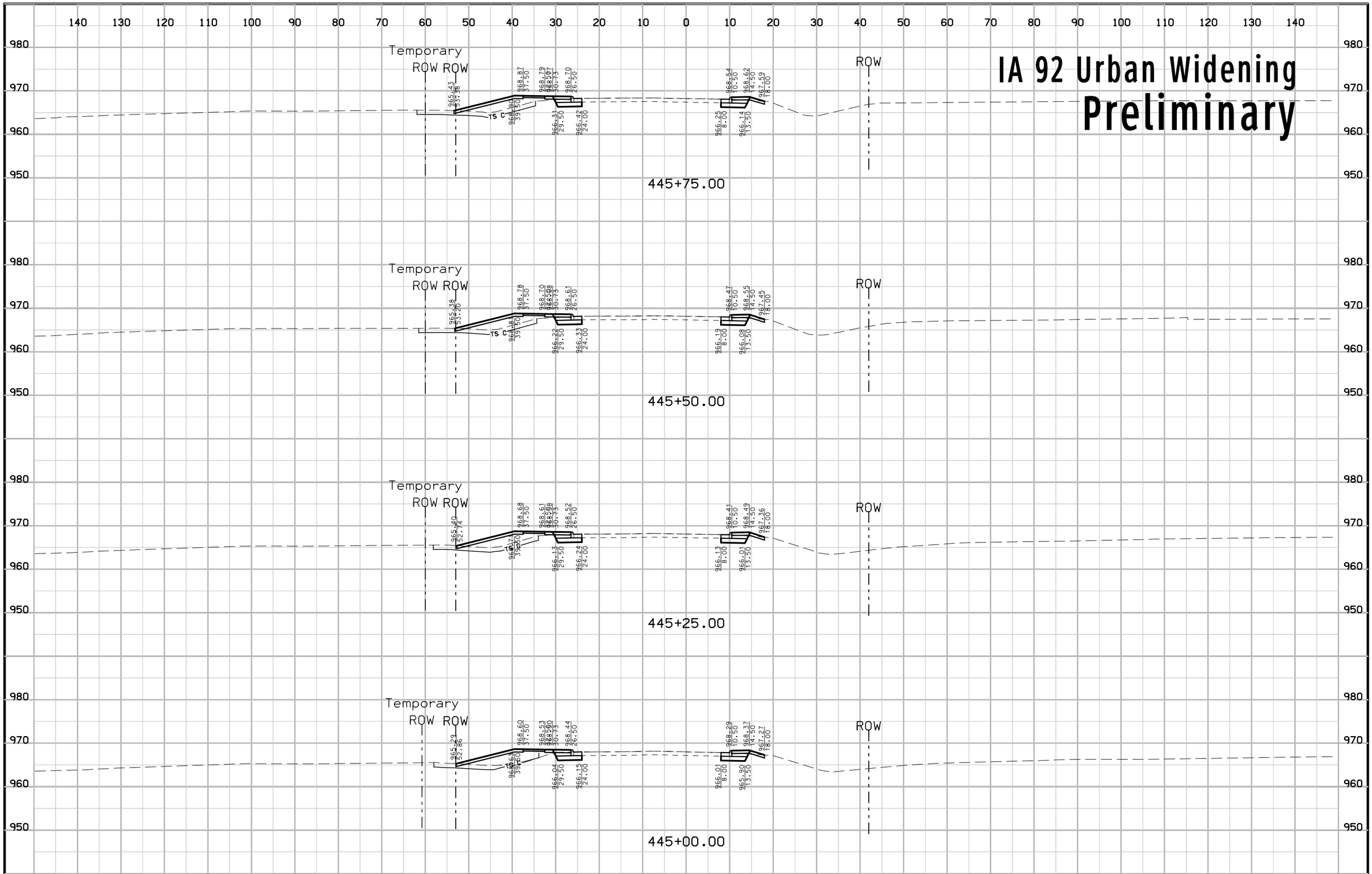
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.209

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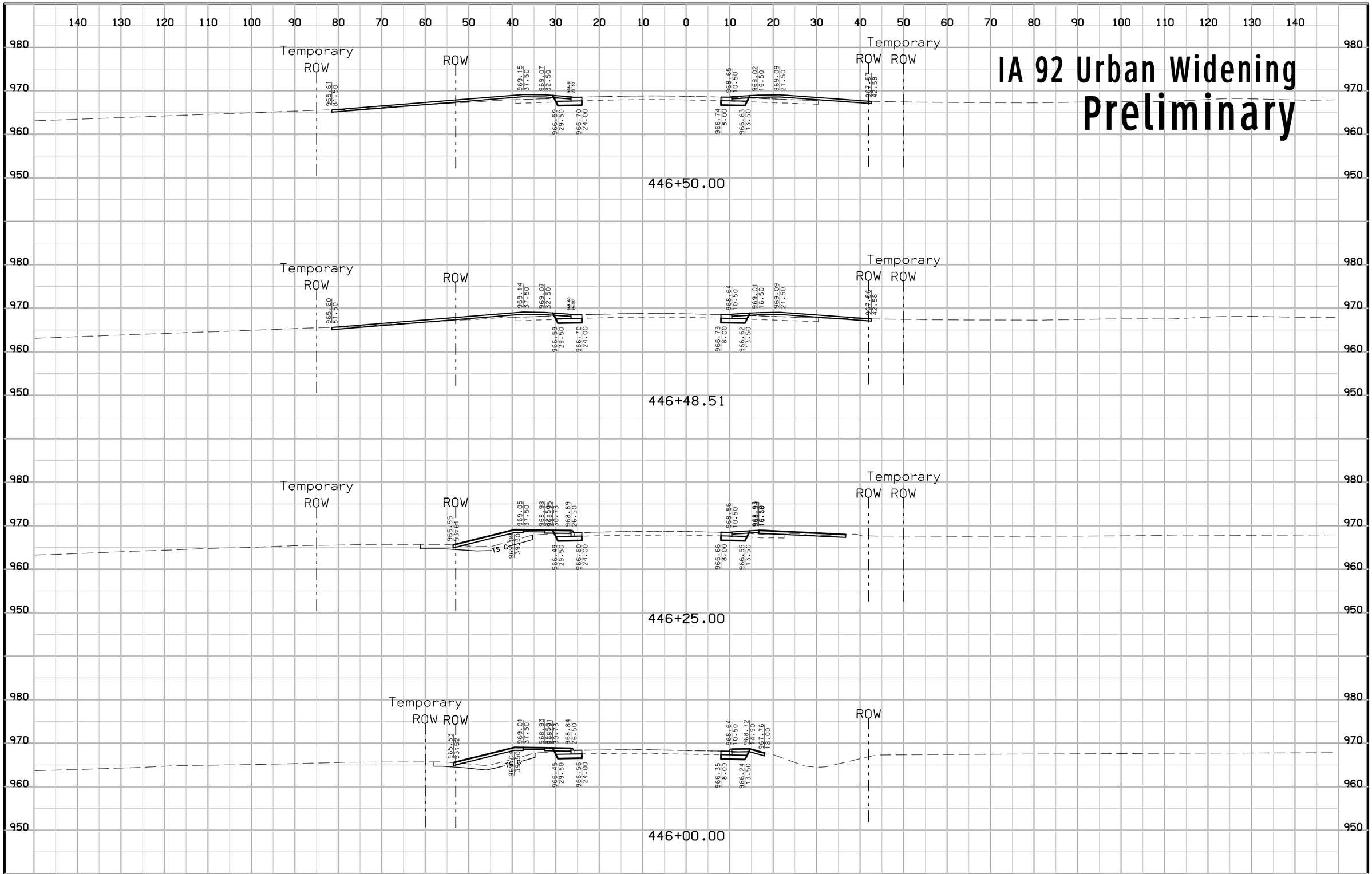
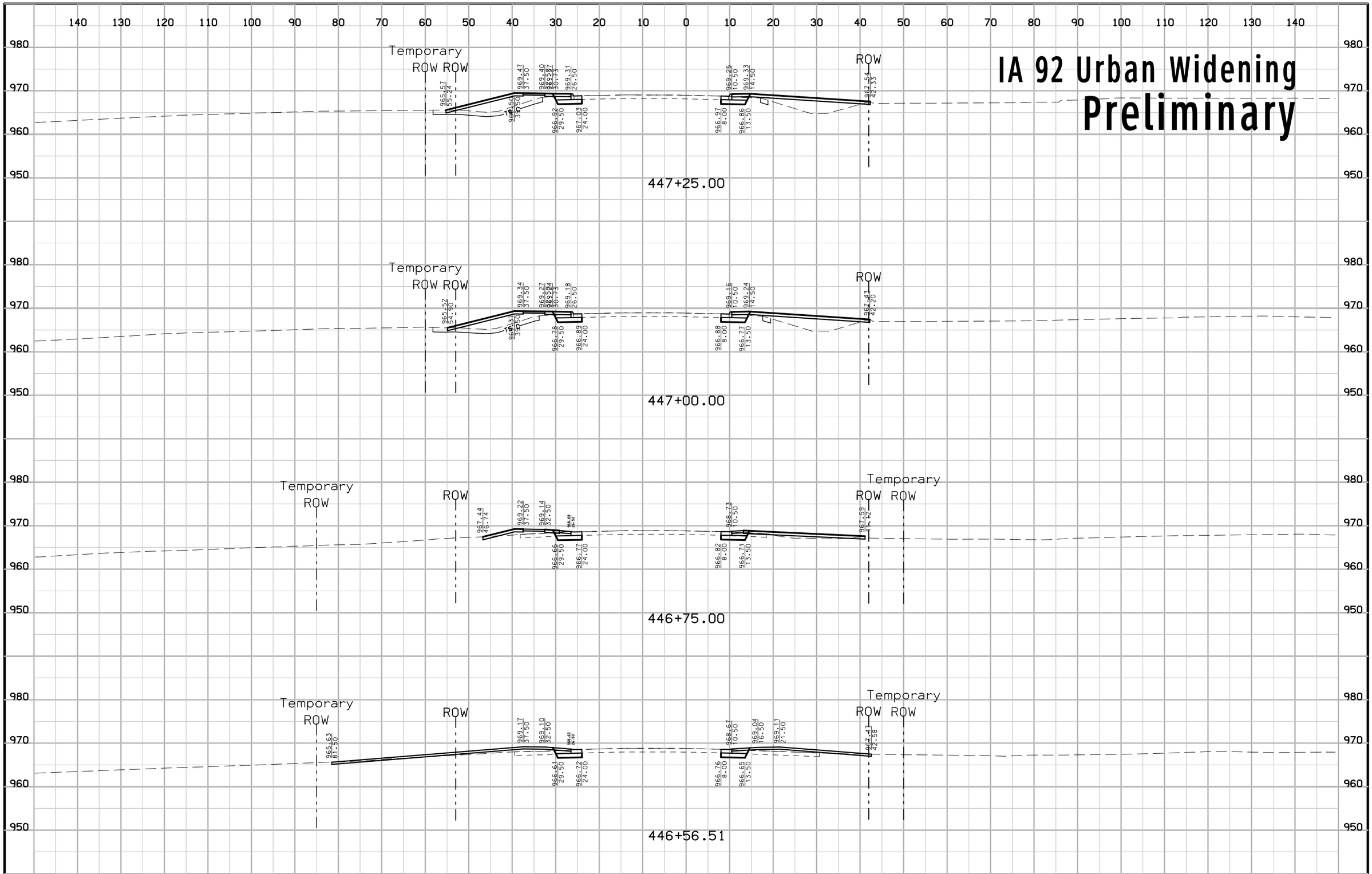
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.210

1:19:02 PM 6/23/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051W207.sht

IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.211

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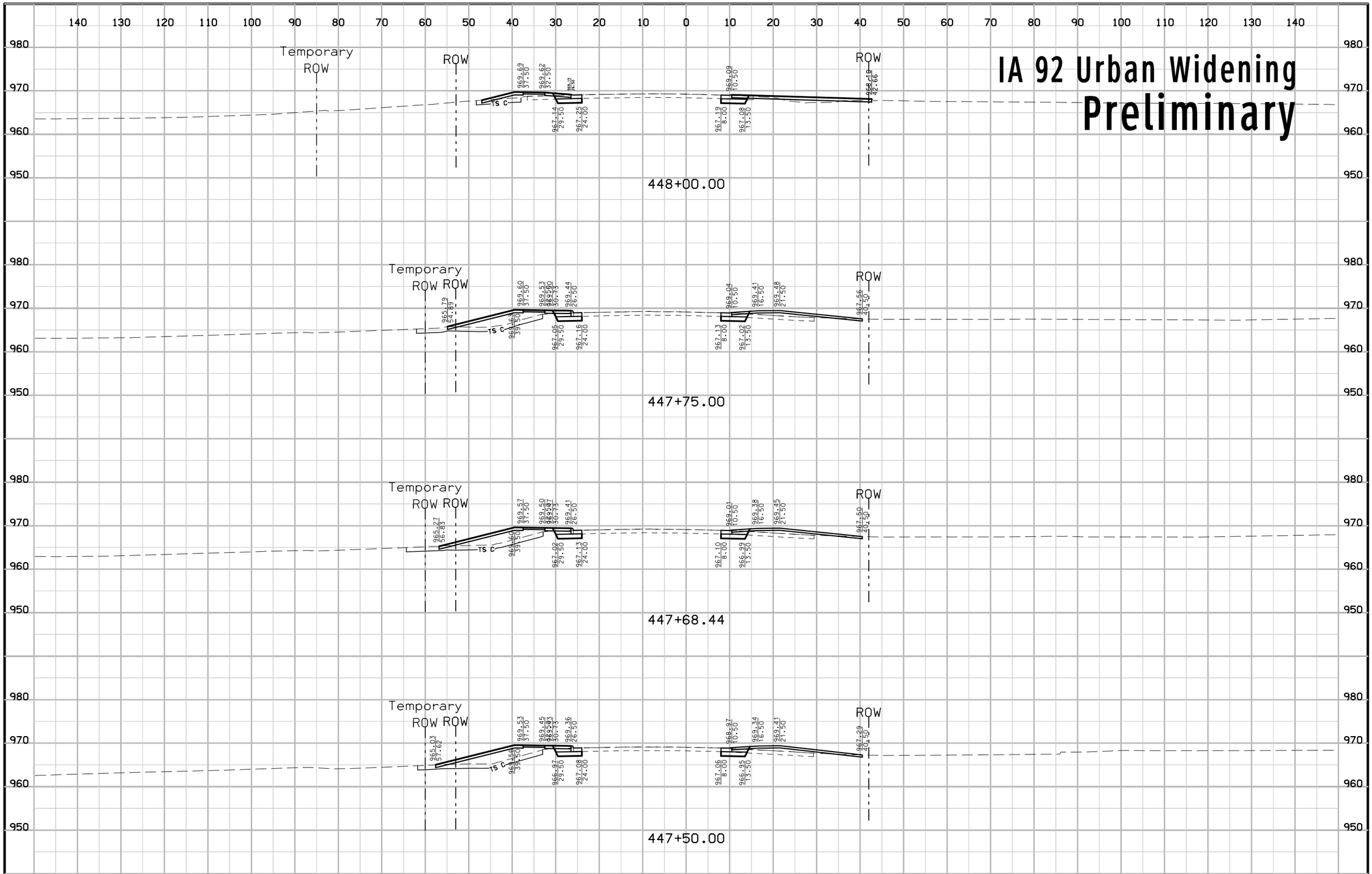
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.212

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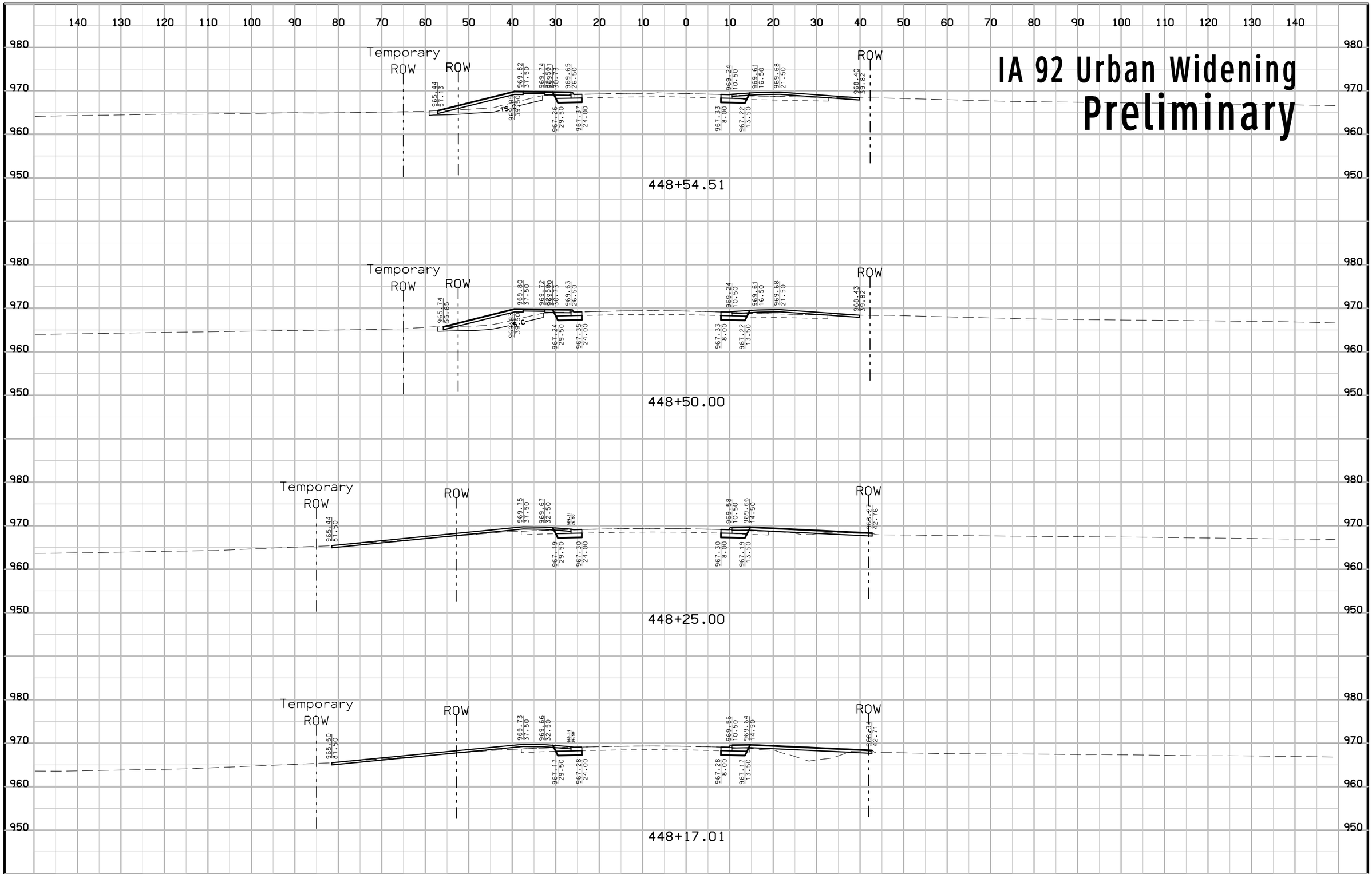
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.213

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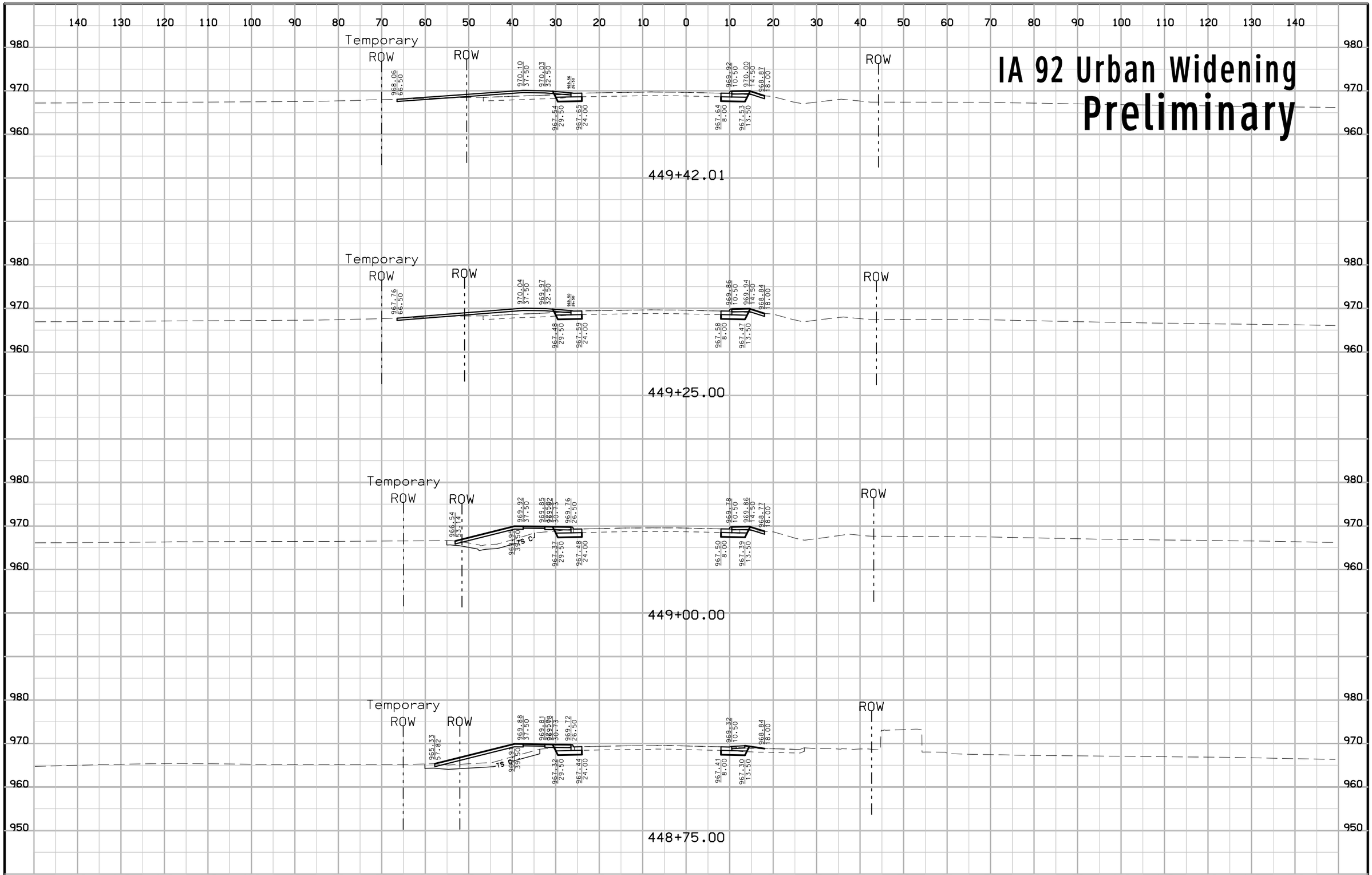
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.214

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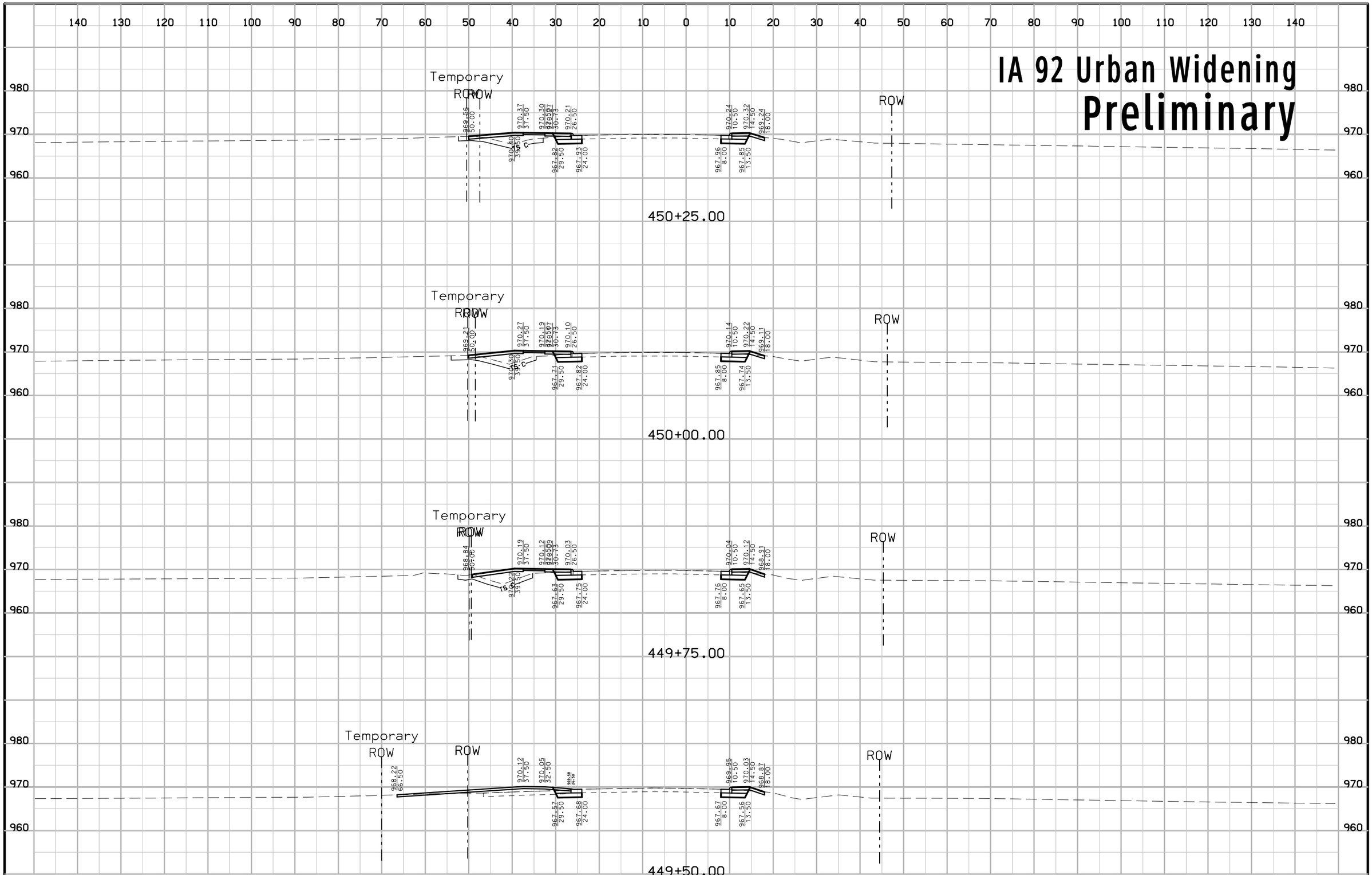
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.215

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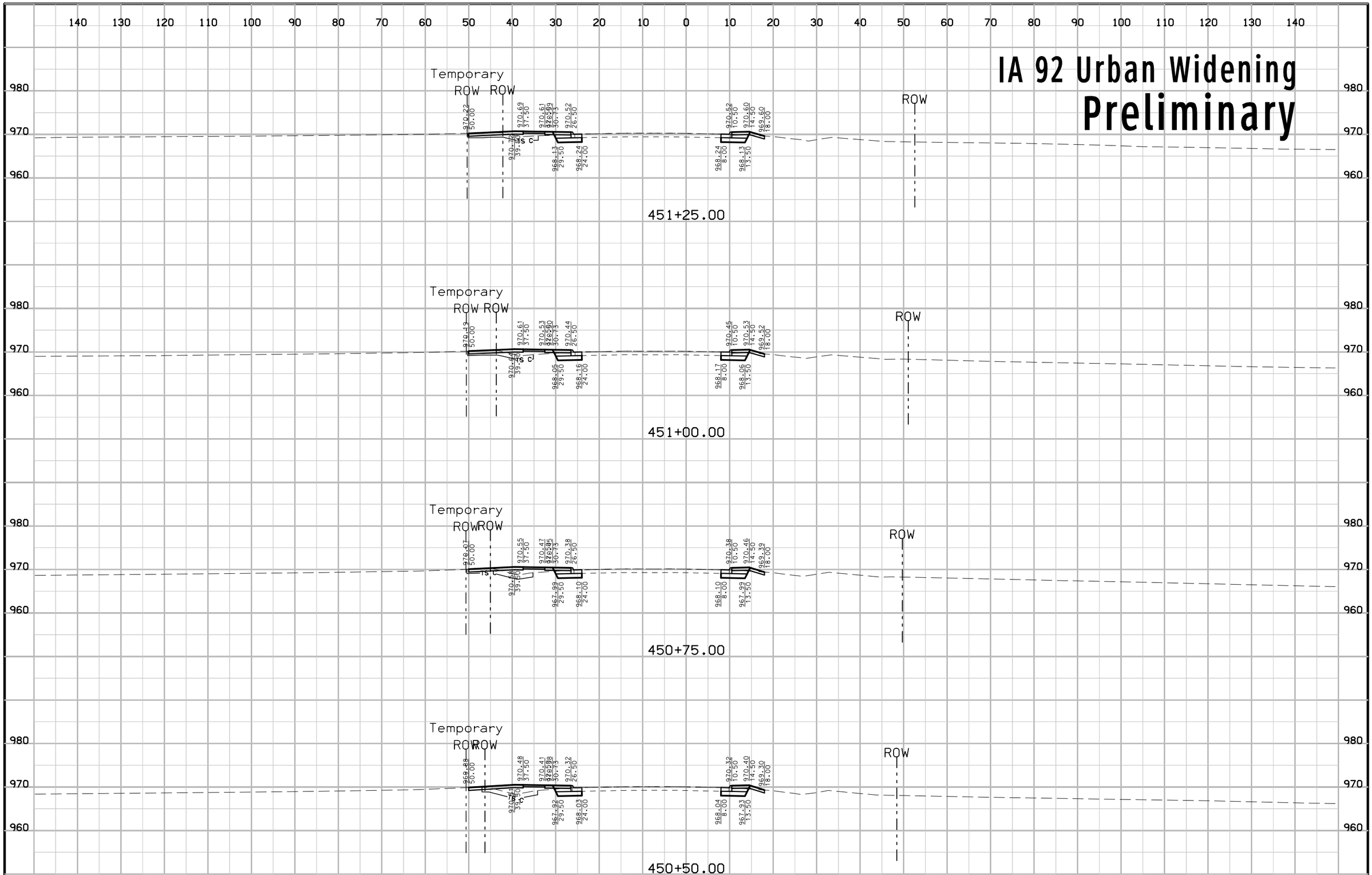
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.216

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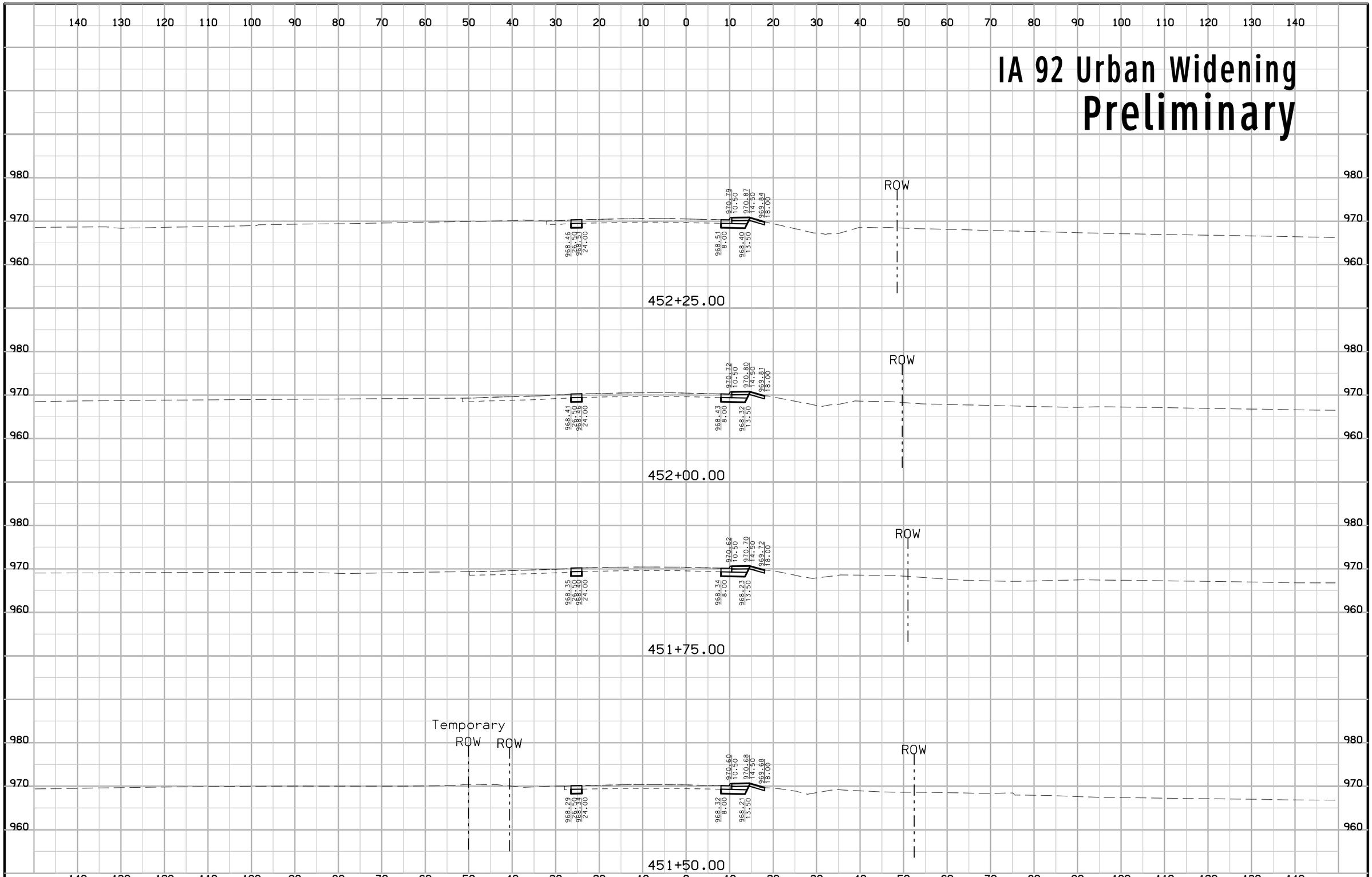
IA 92 Urban Widening
Preliminary



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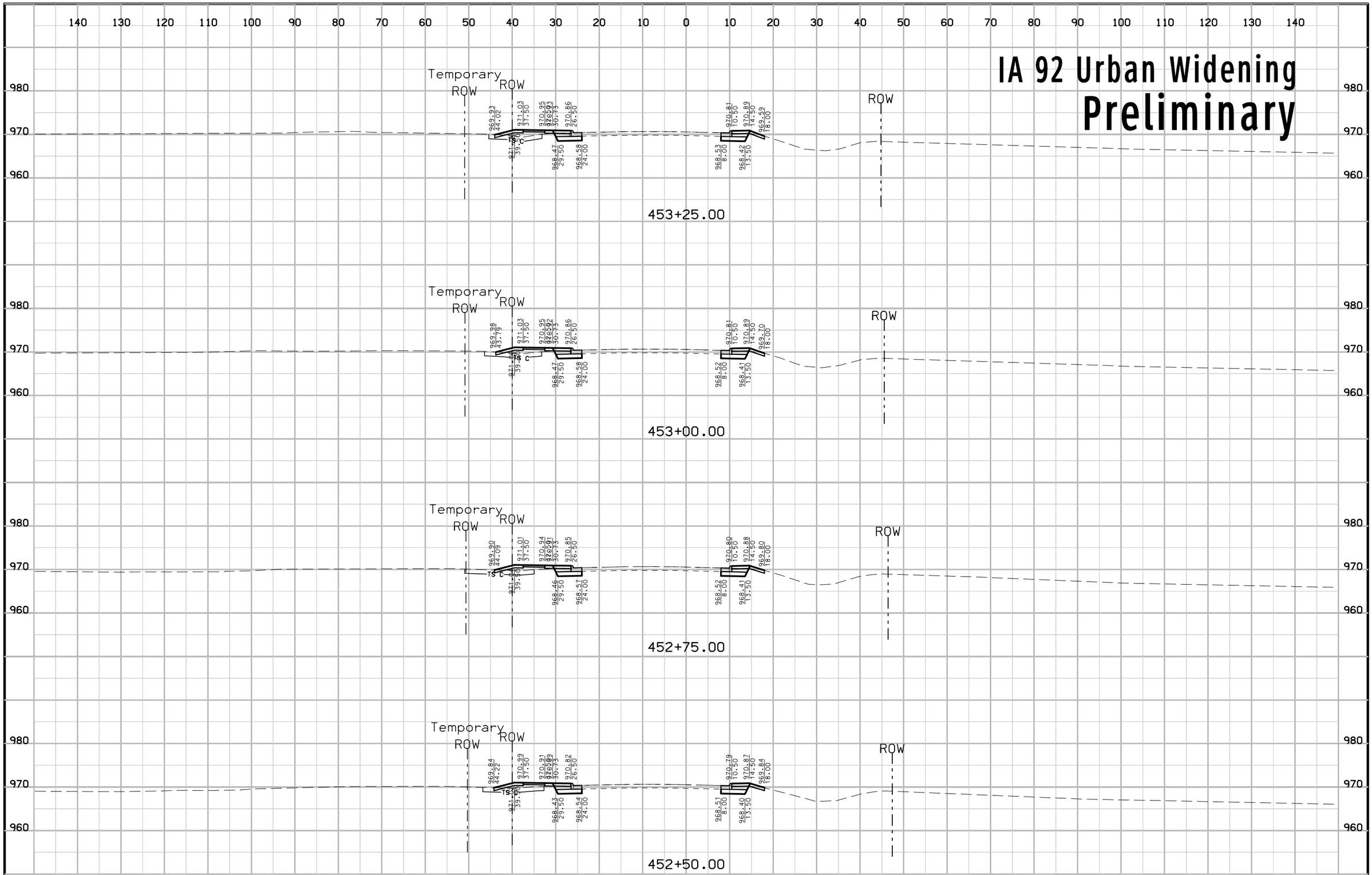
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.218

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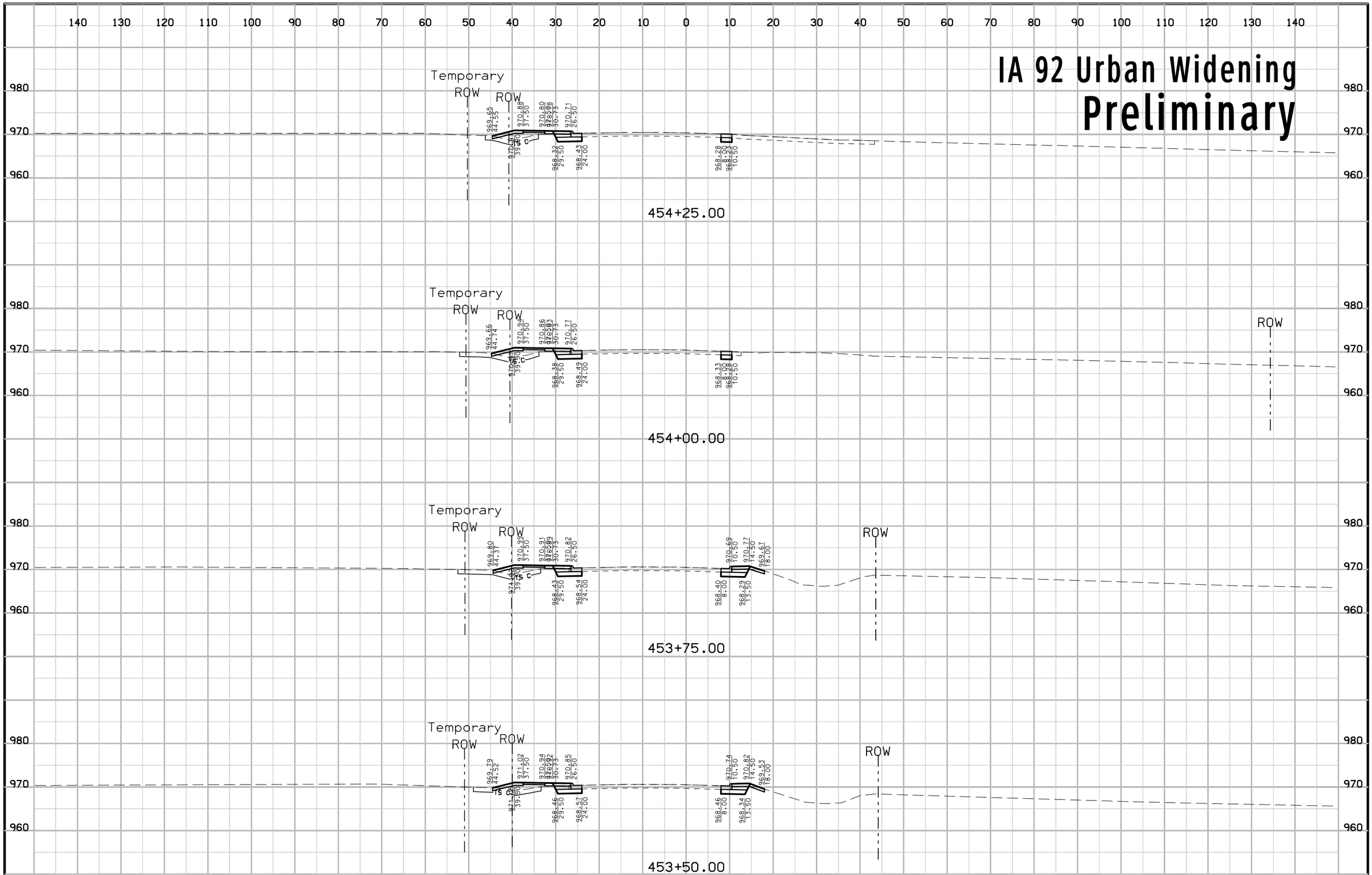
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.219

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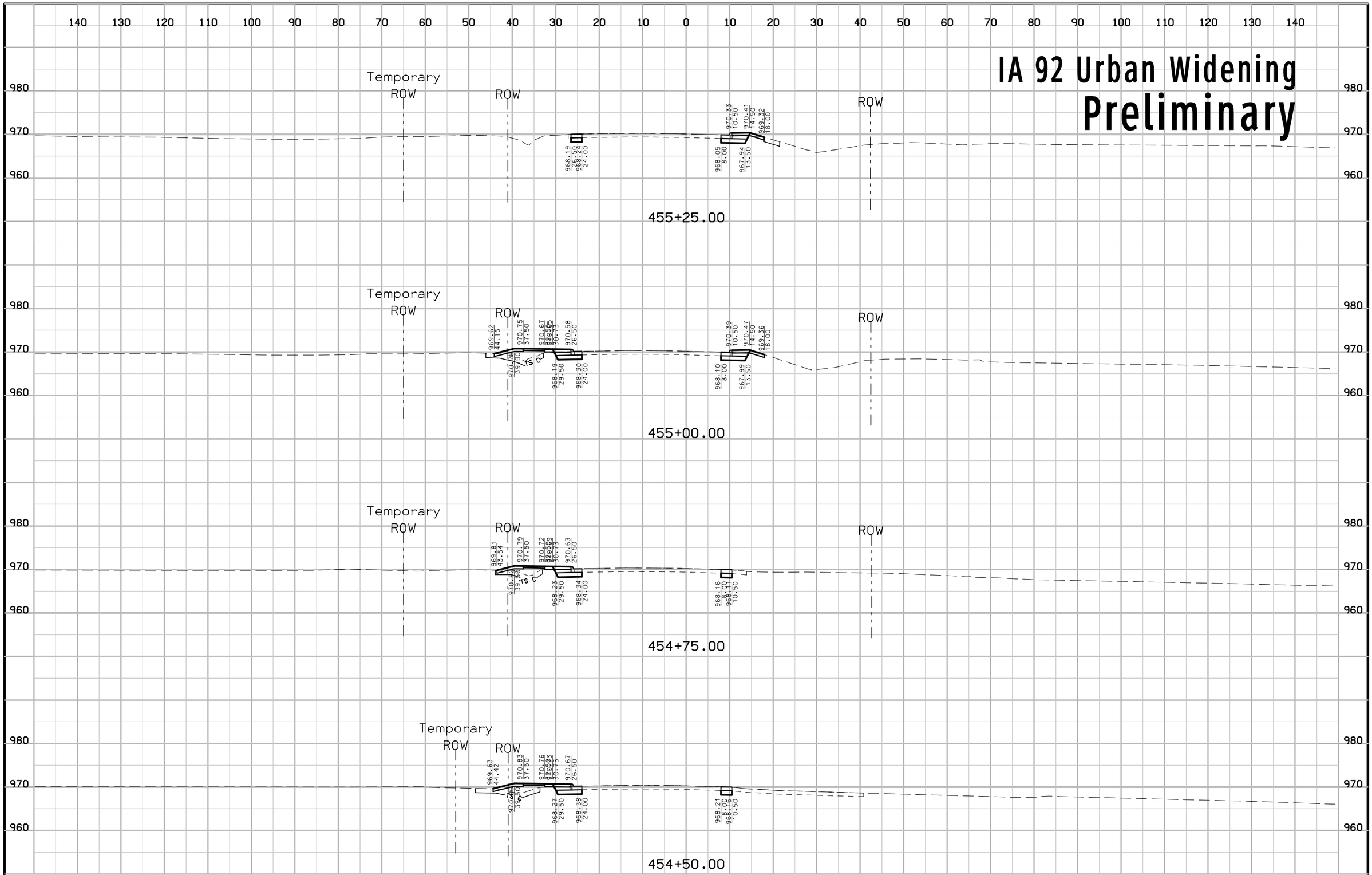
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.220

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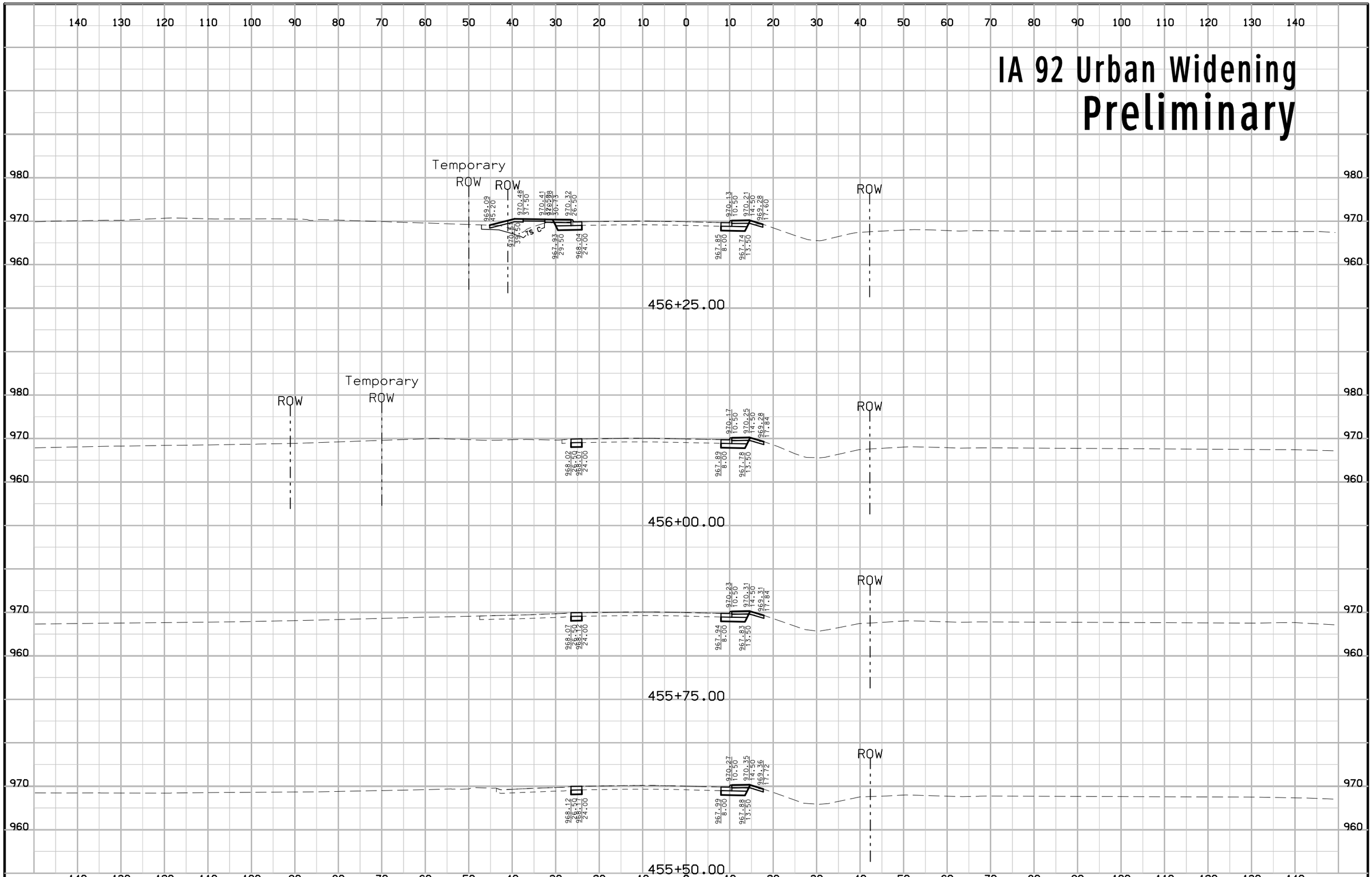
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.221

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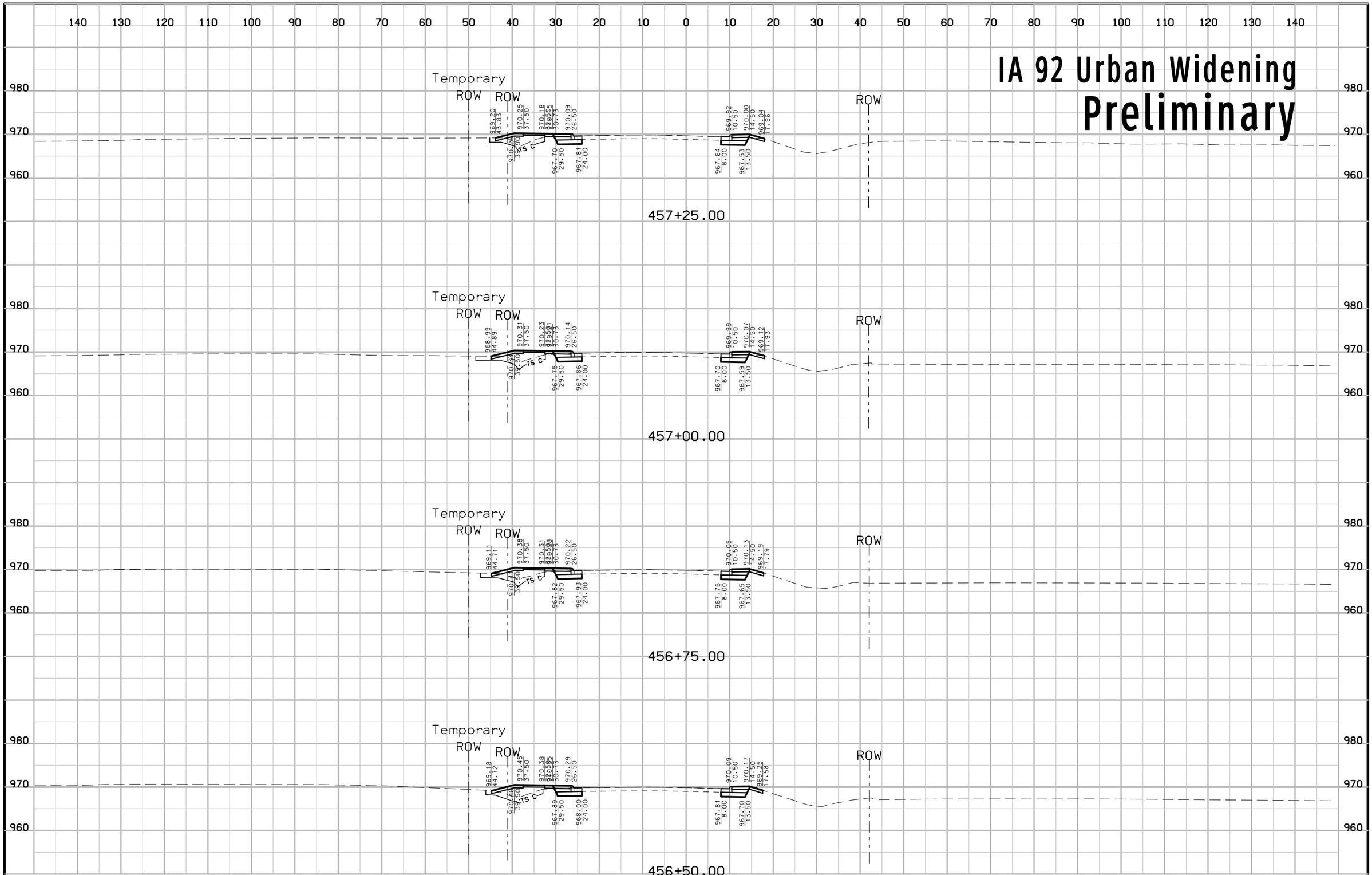
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.222

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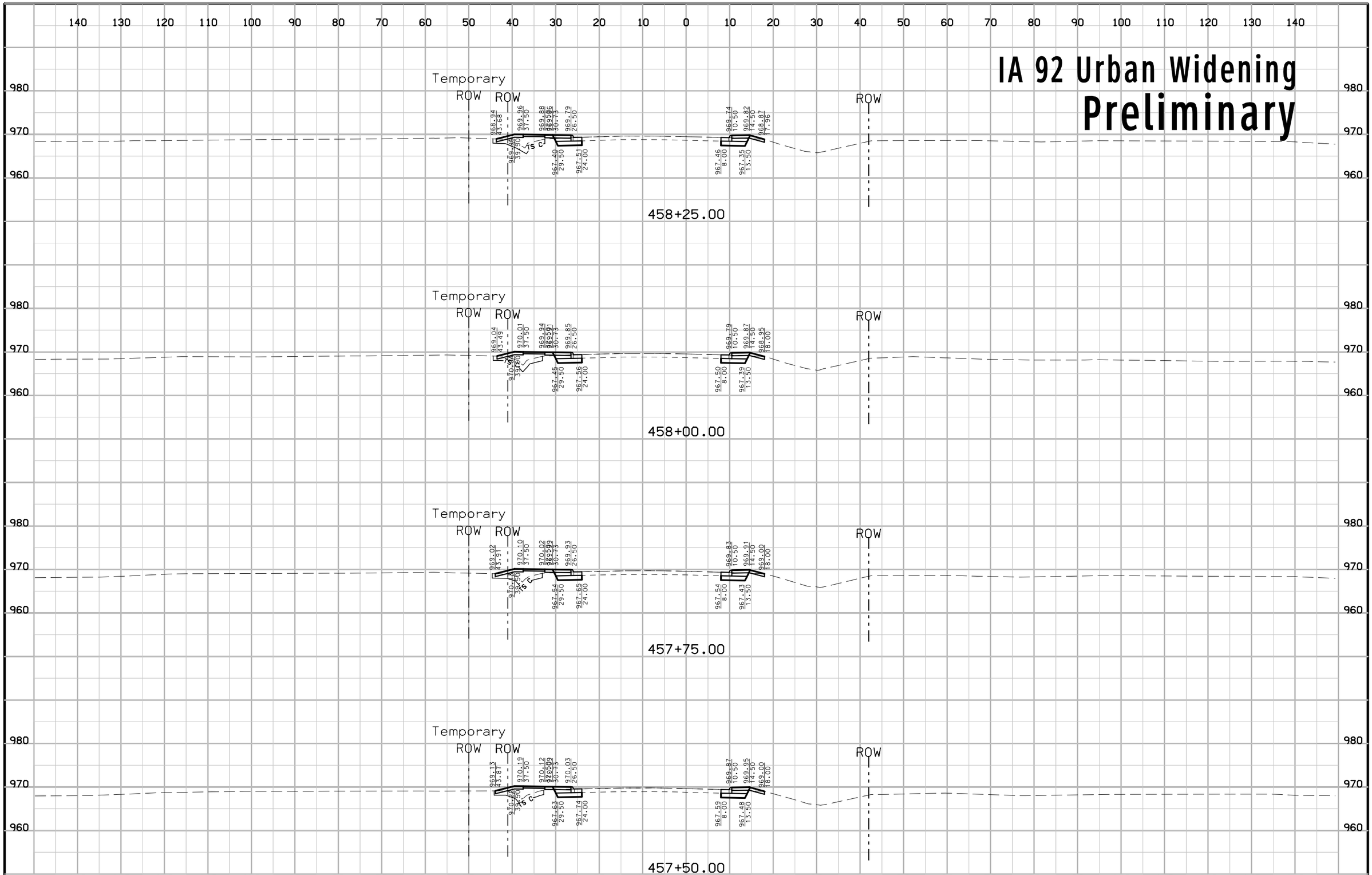
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.223

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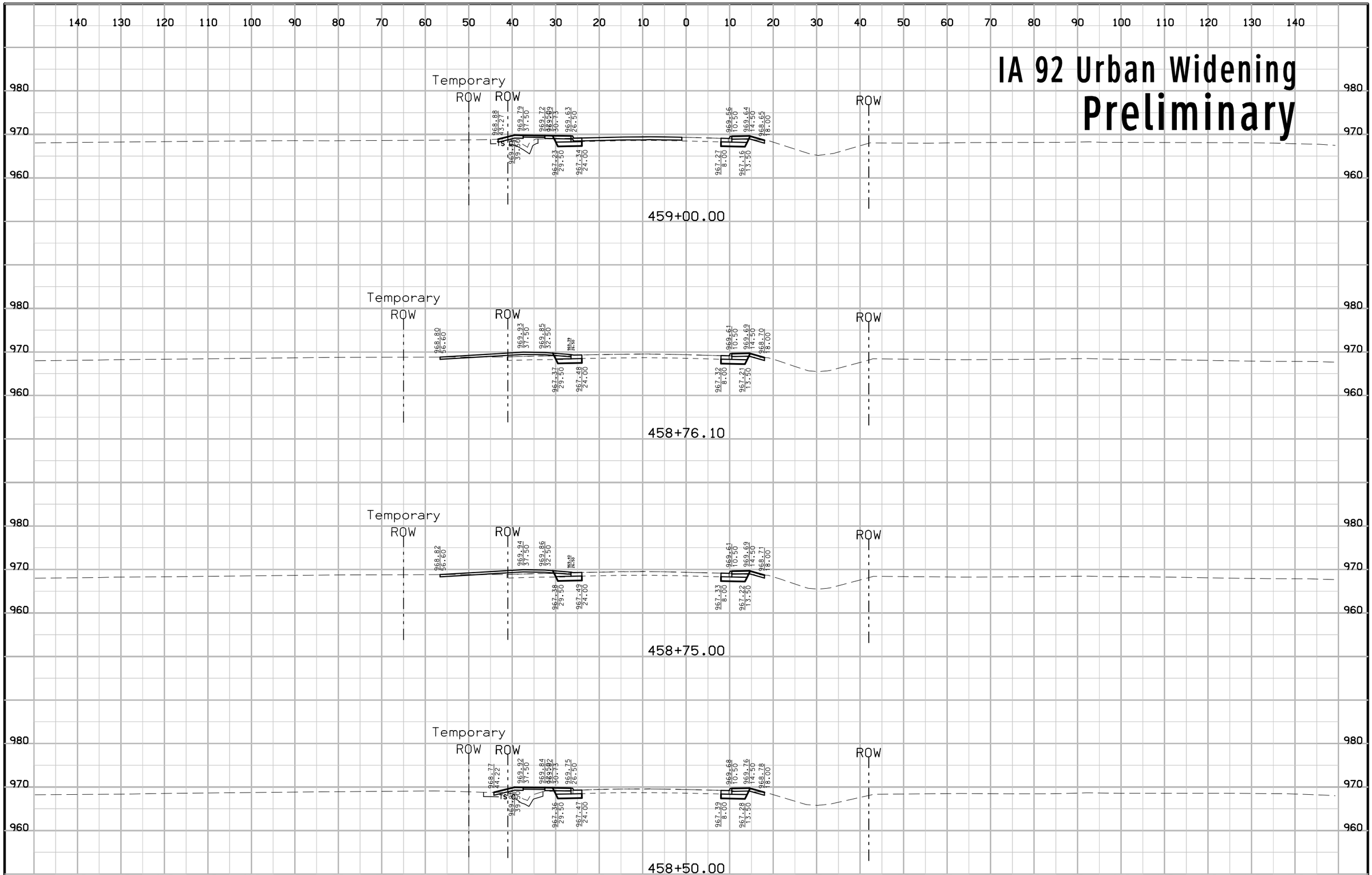
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.224

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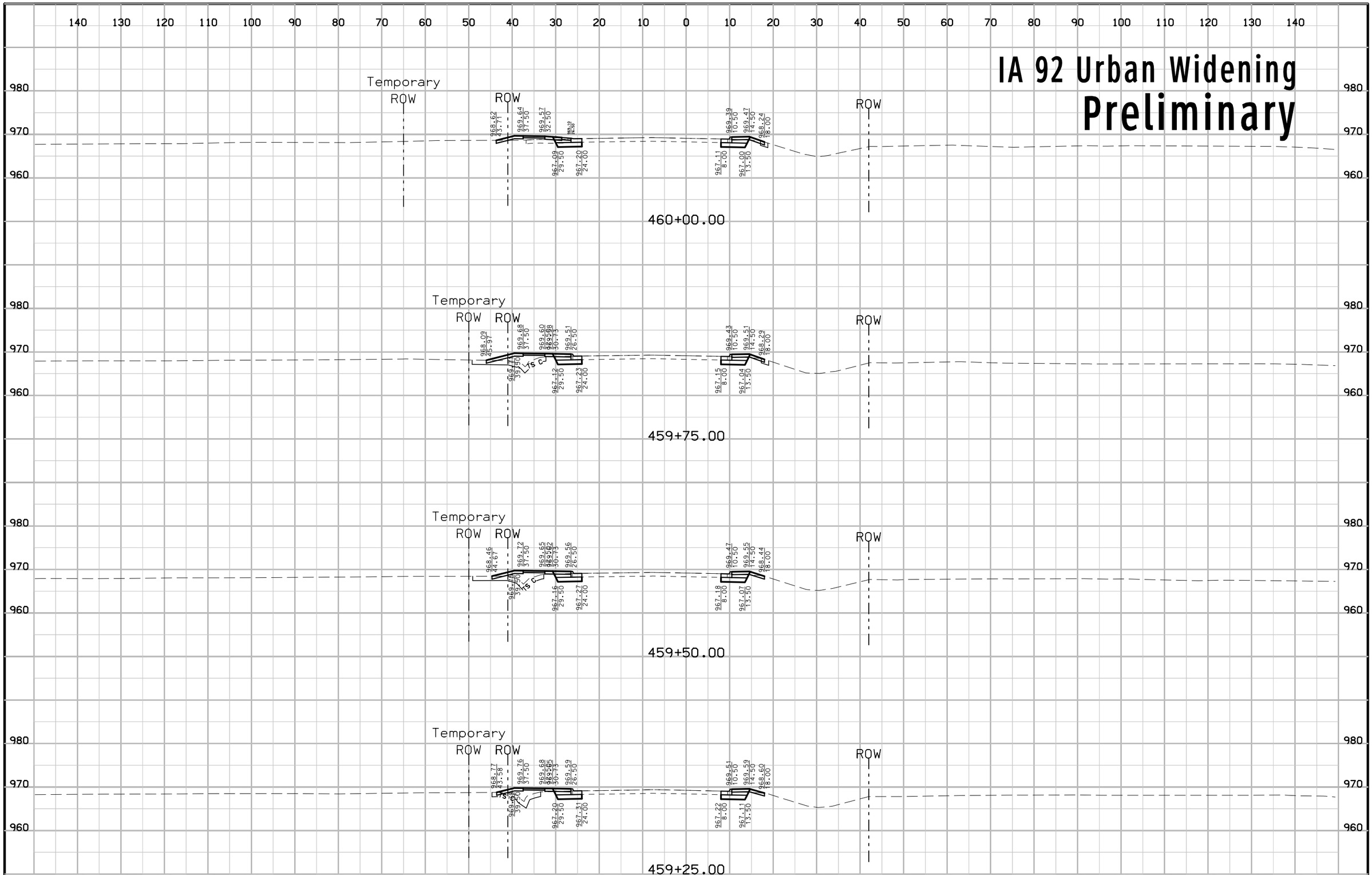
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.225

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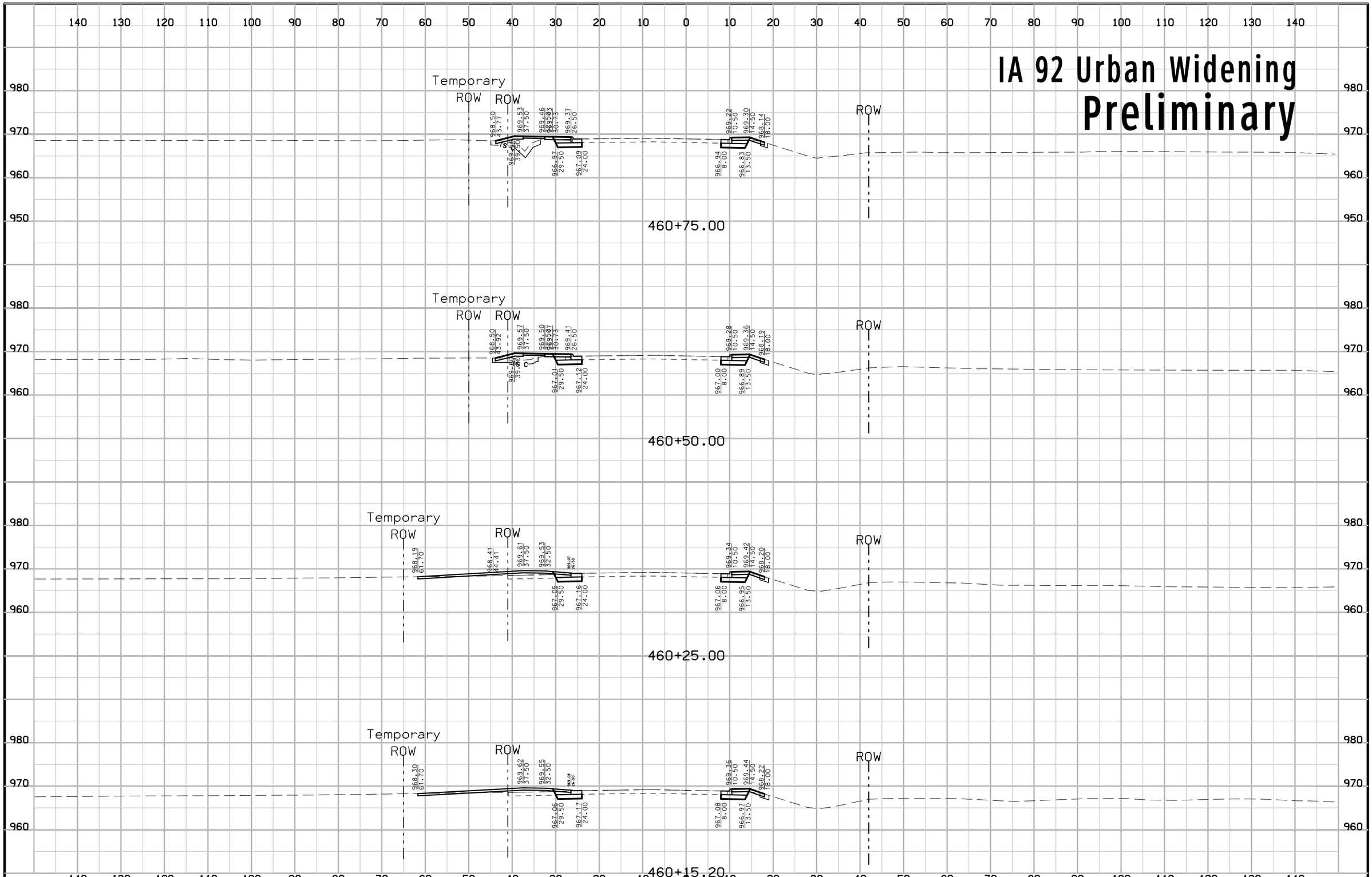
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.226

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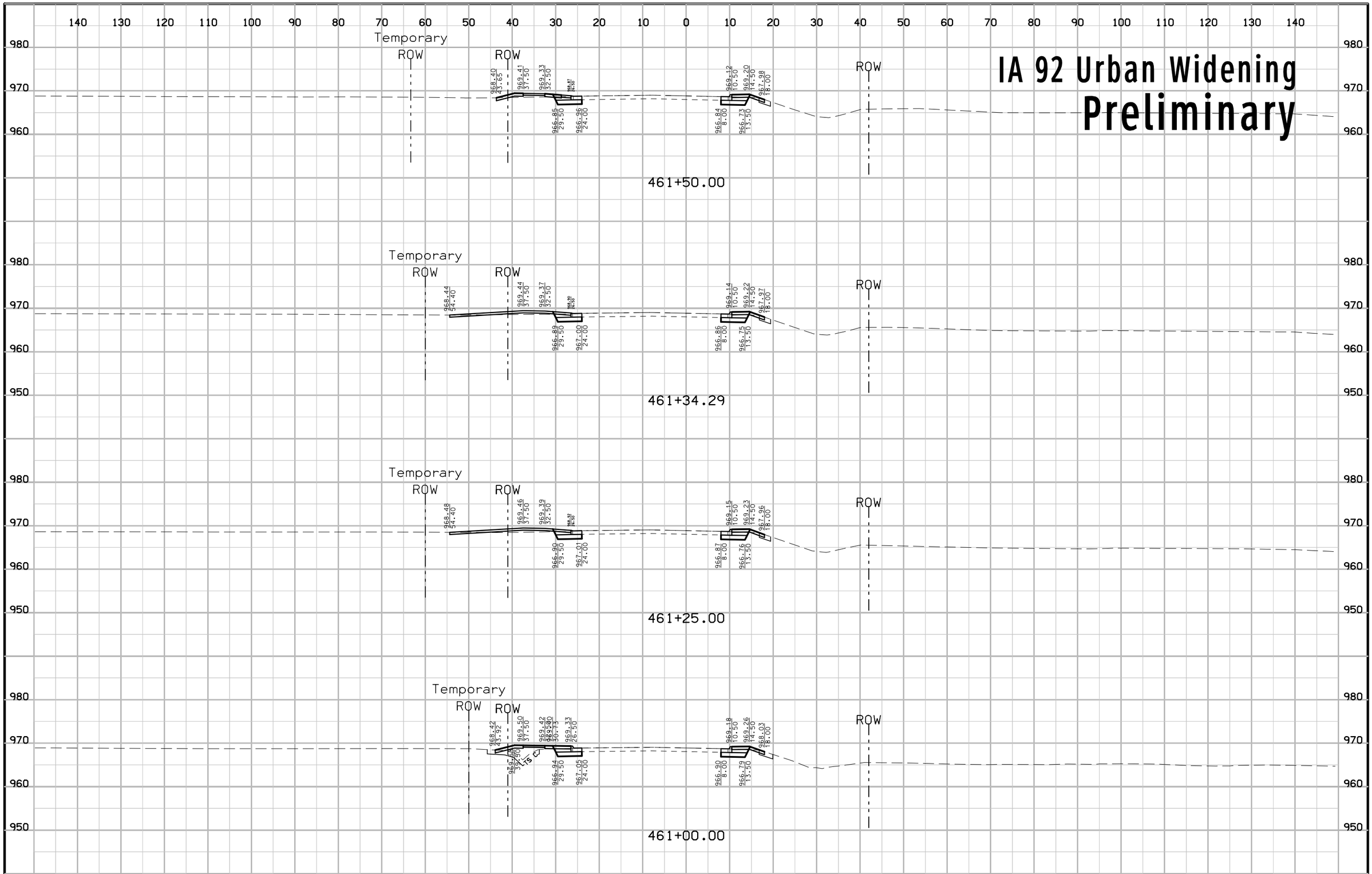
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.227

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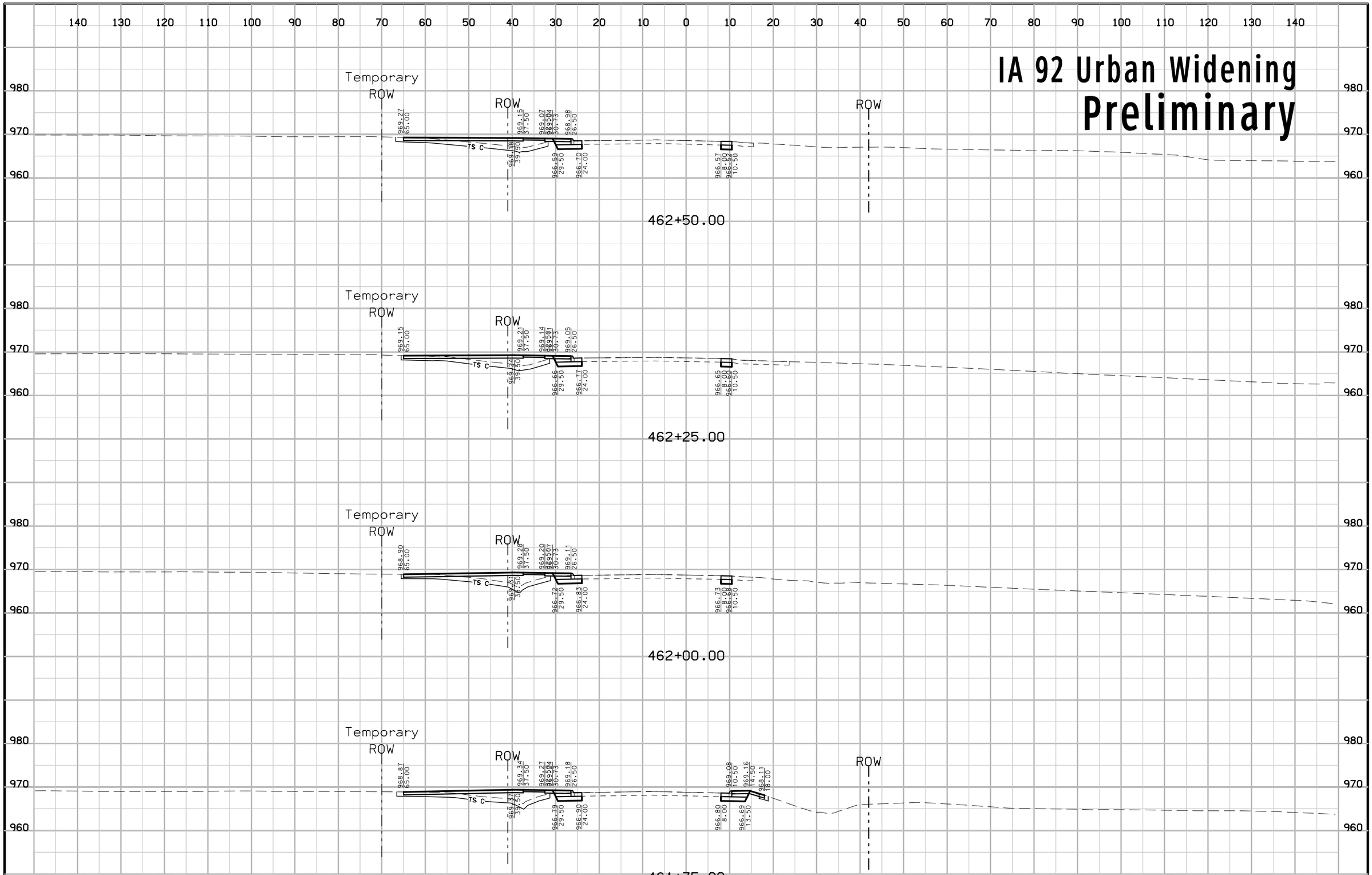
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.228

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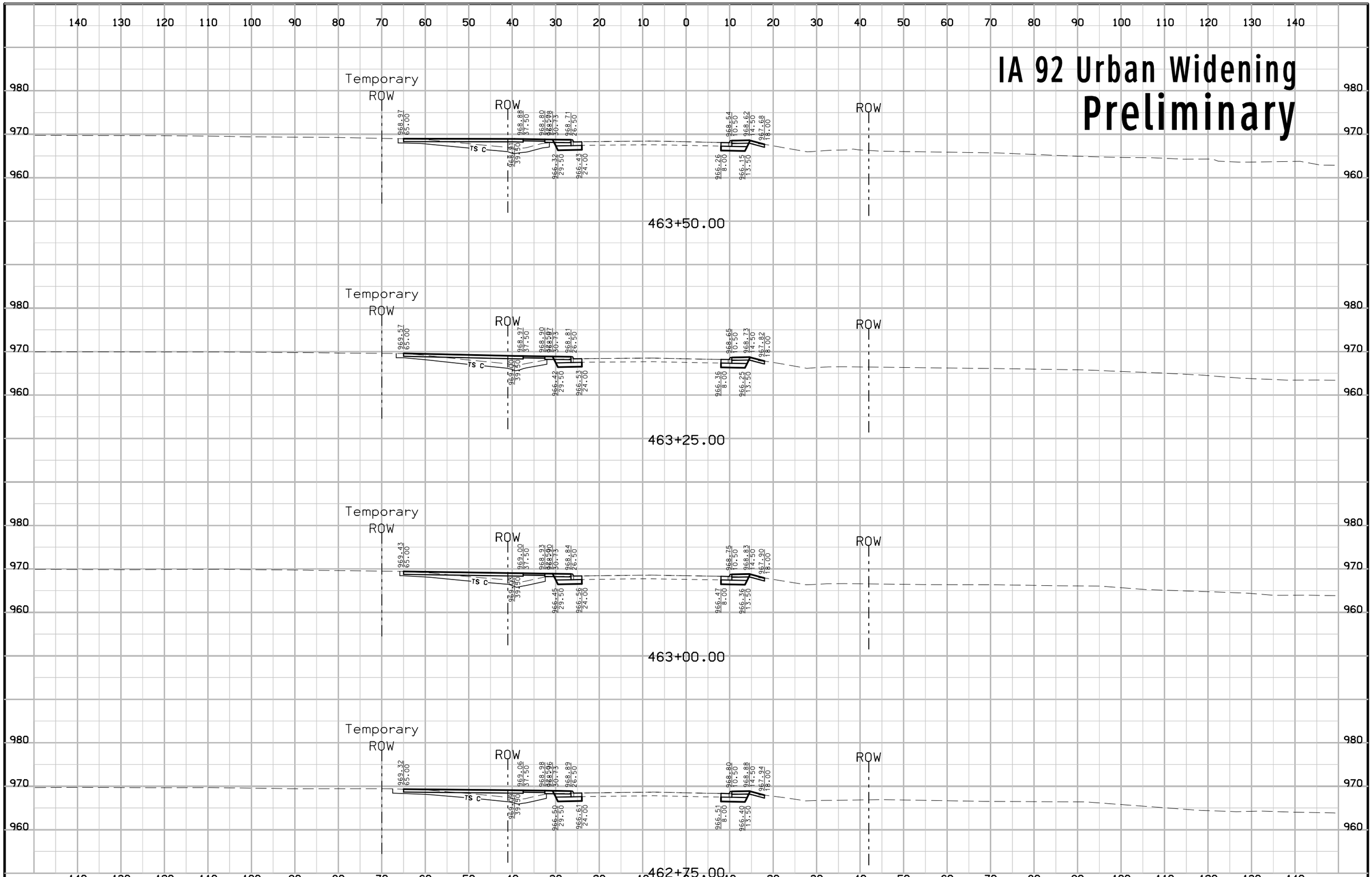
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.229

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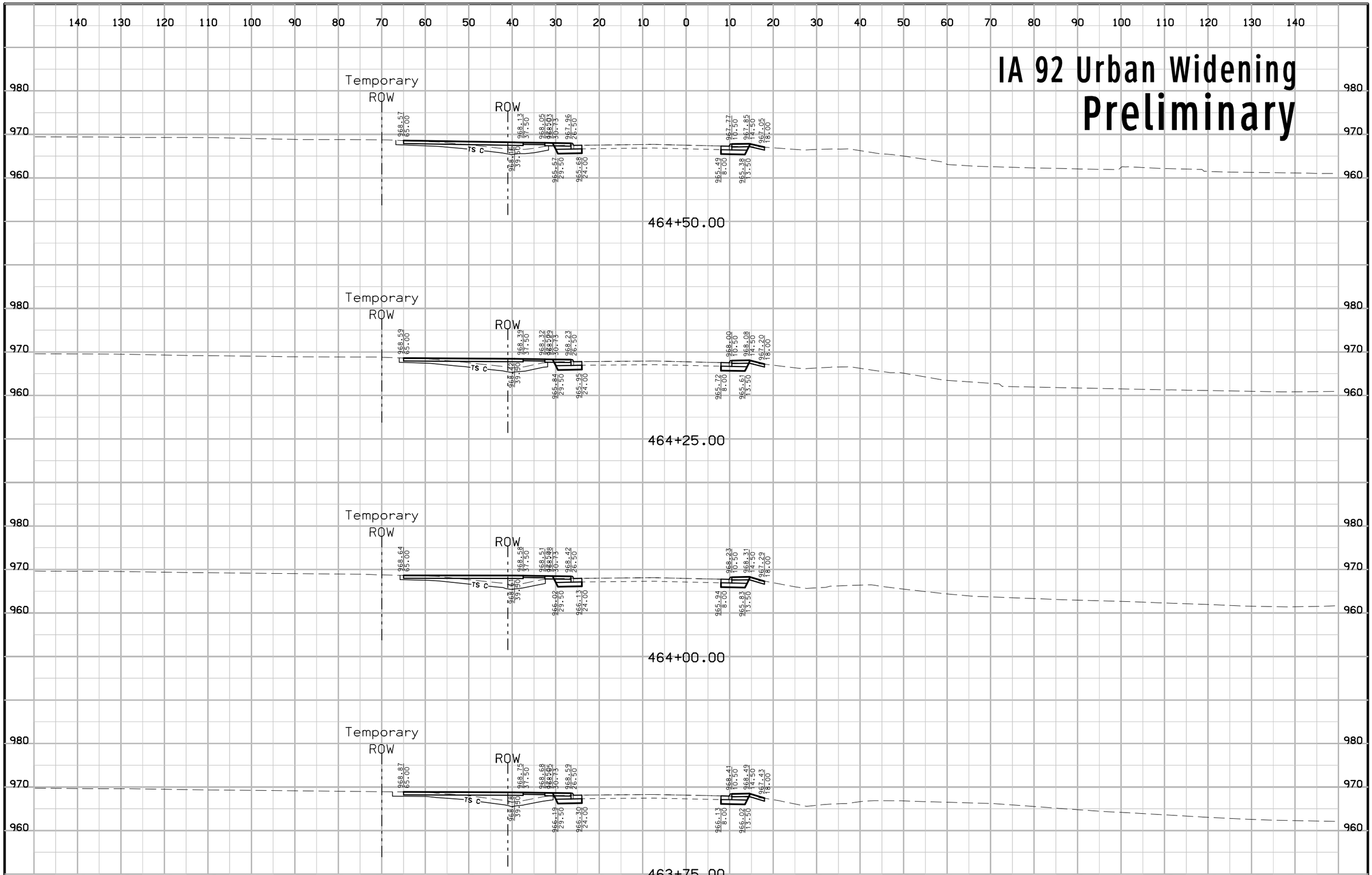
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.230

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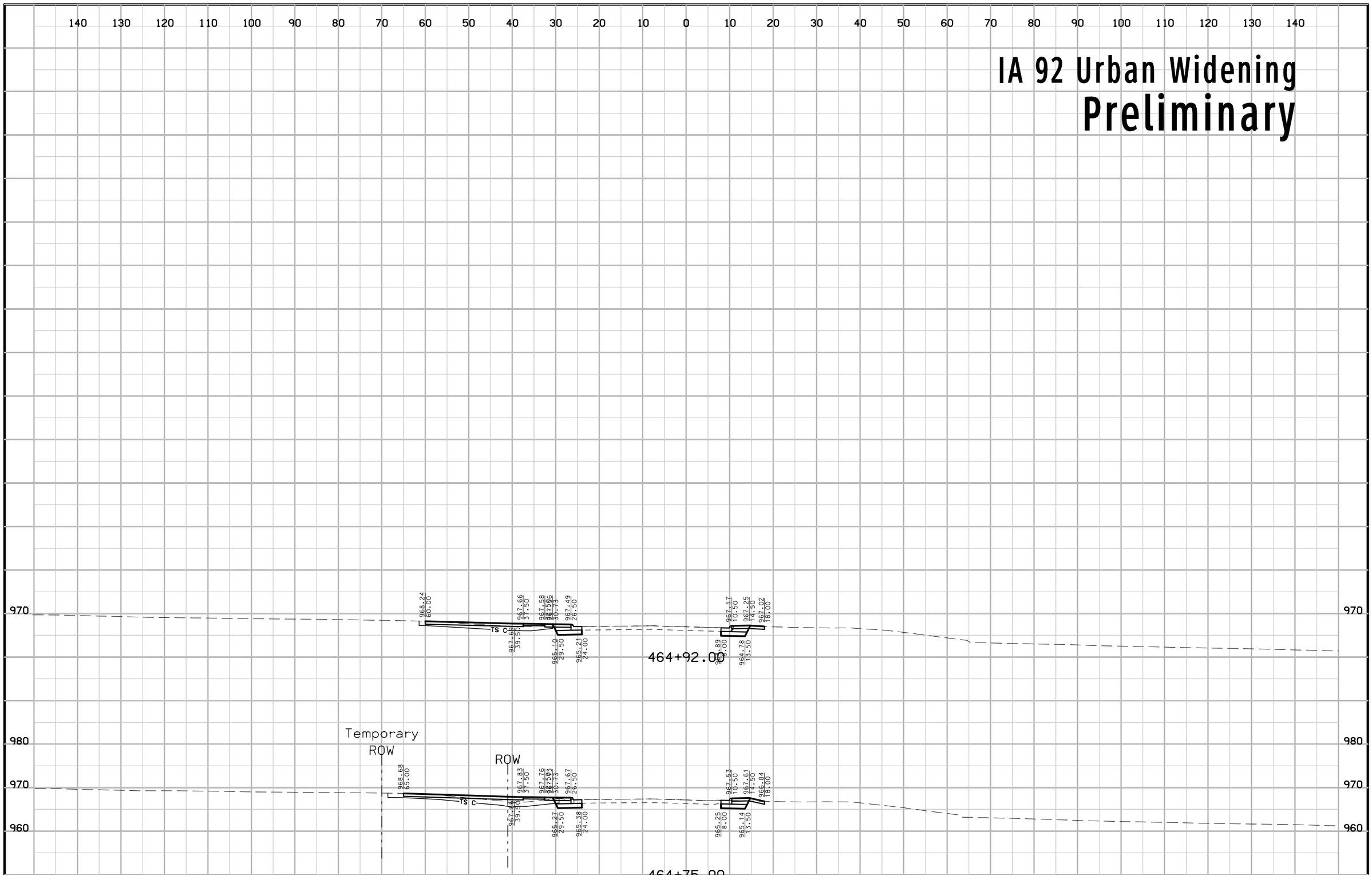
IA 92 Urban Widening
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER W.231

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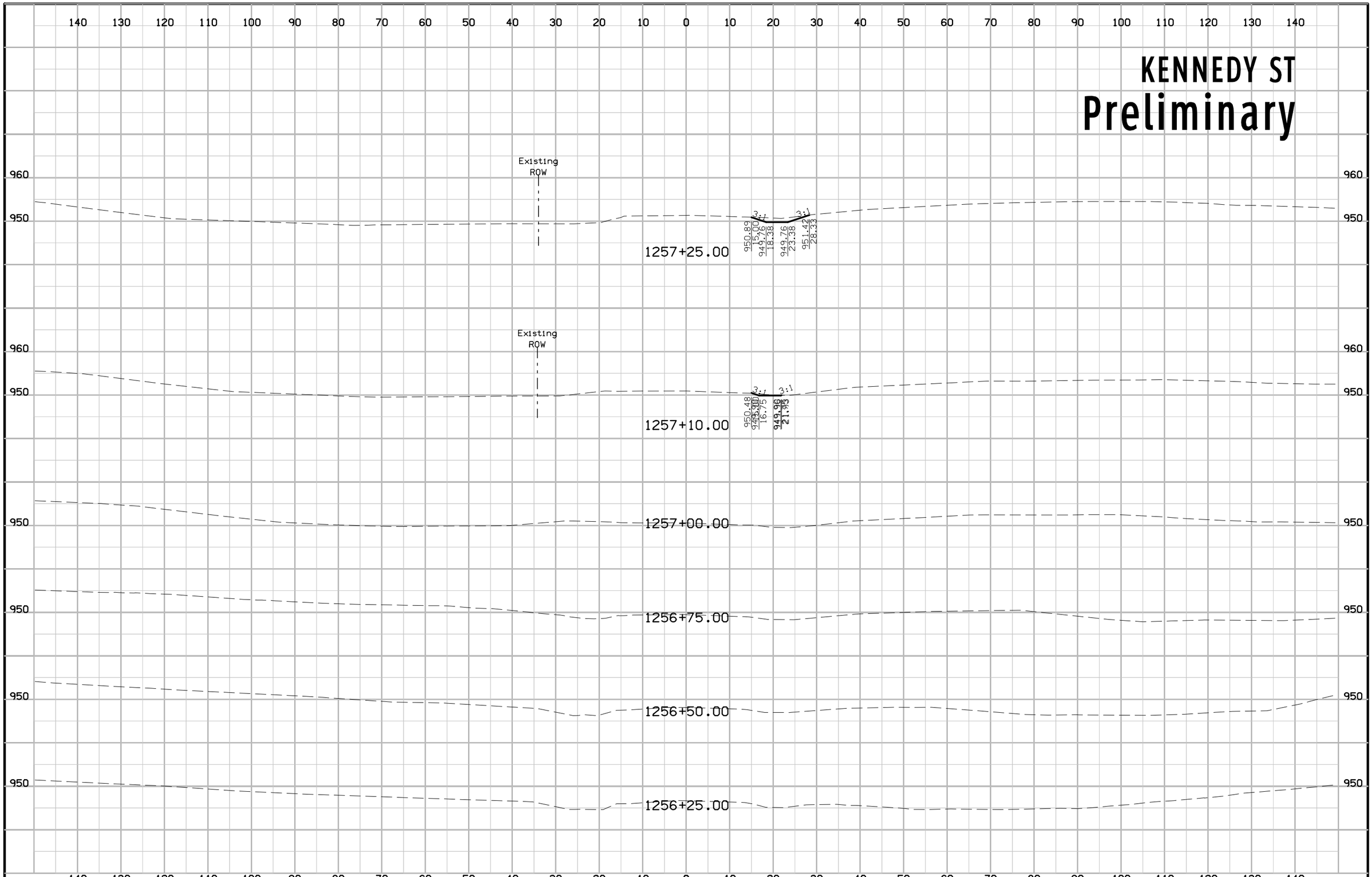
KENNEDY ST
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.1

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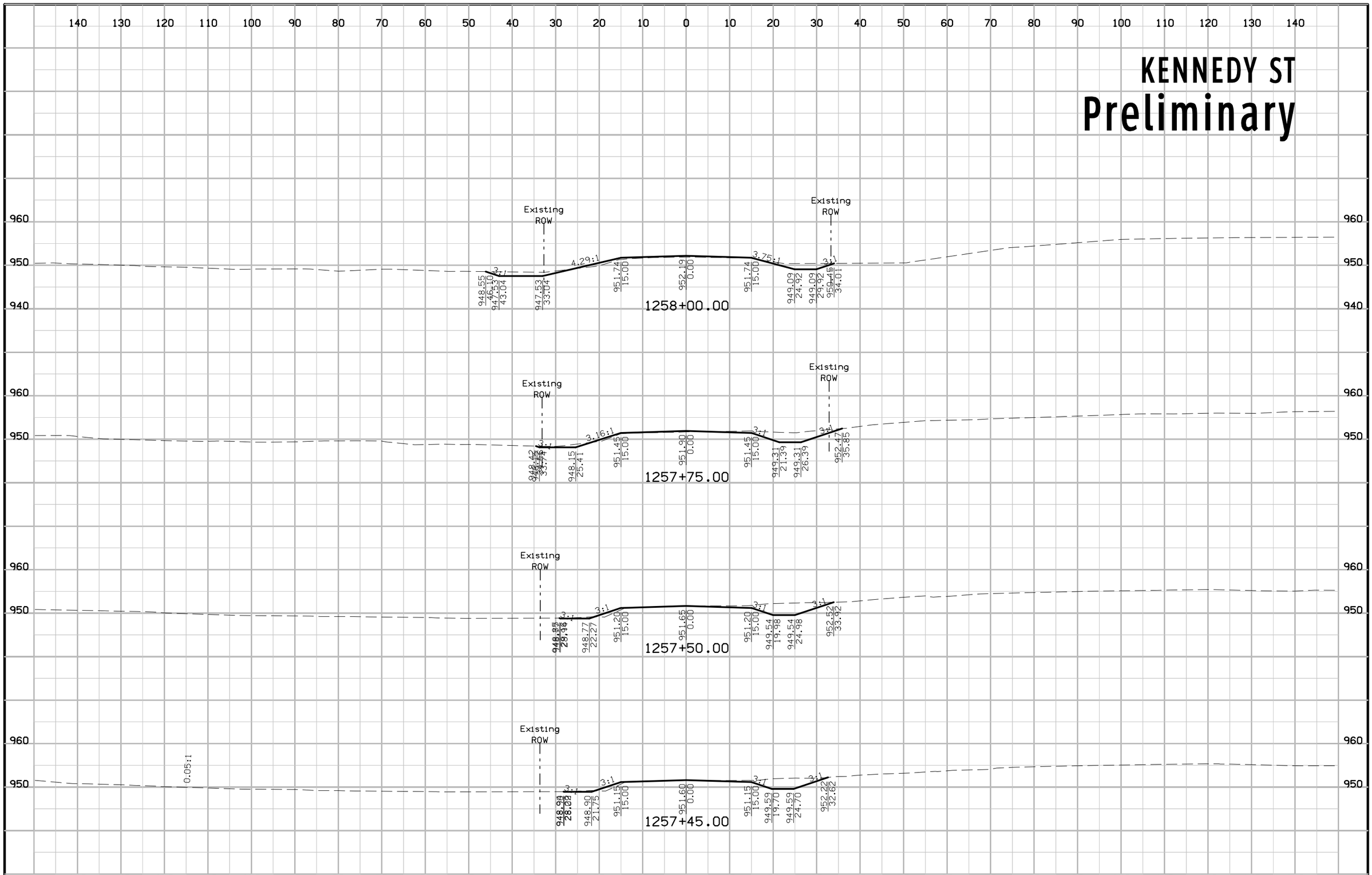
KENNEDY ST
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.2

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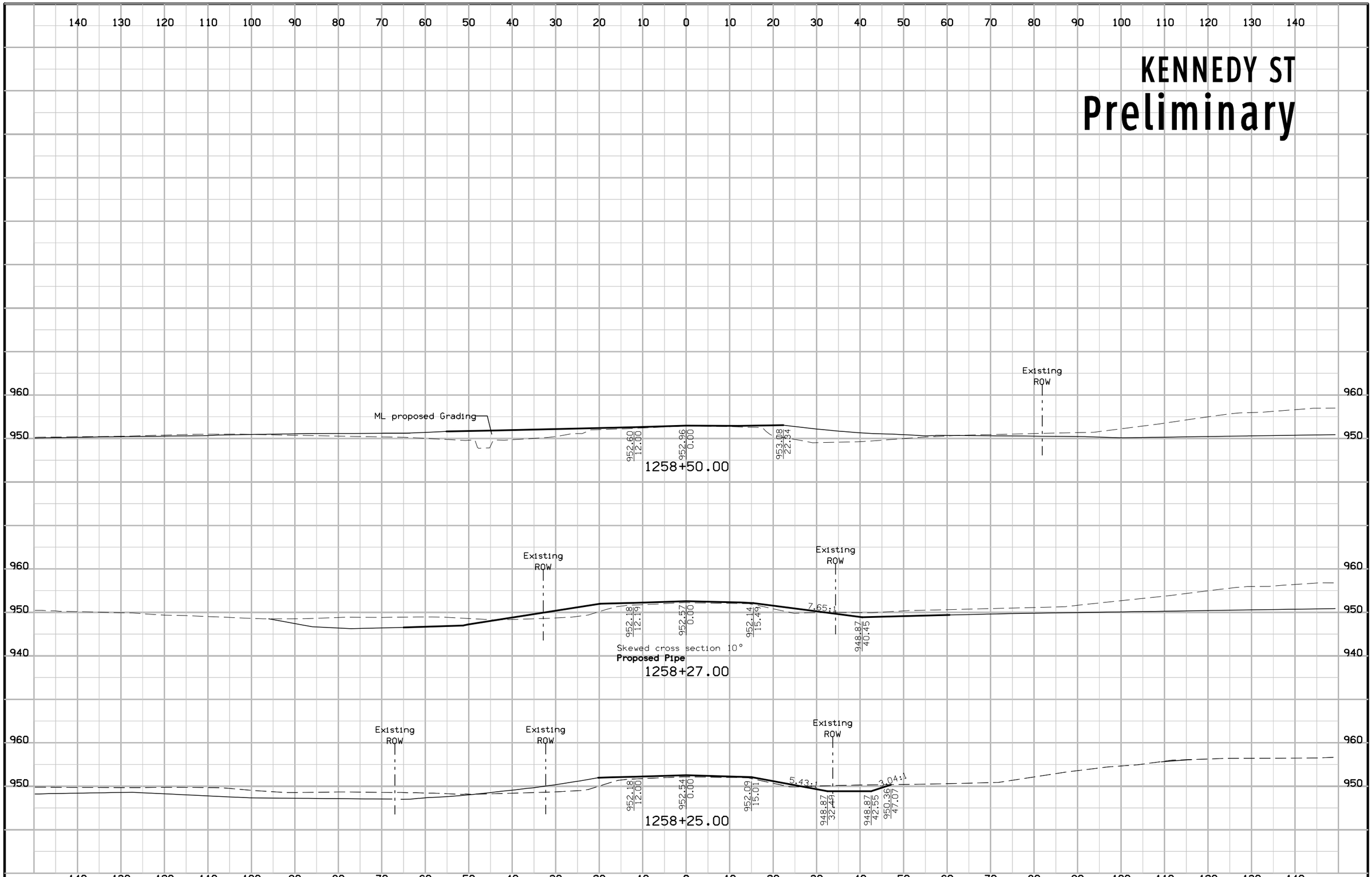
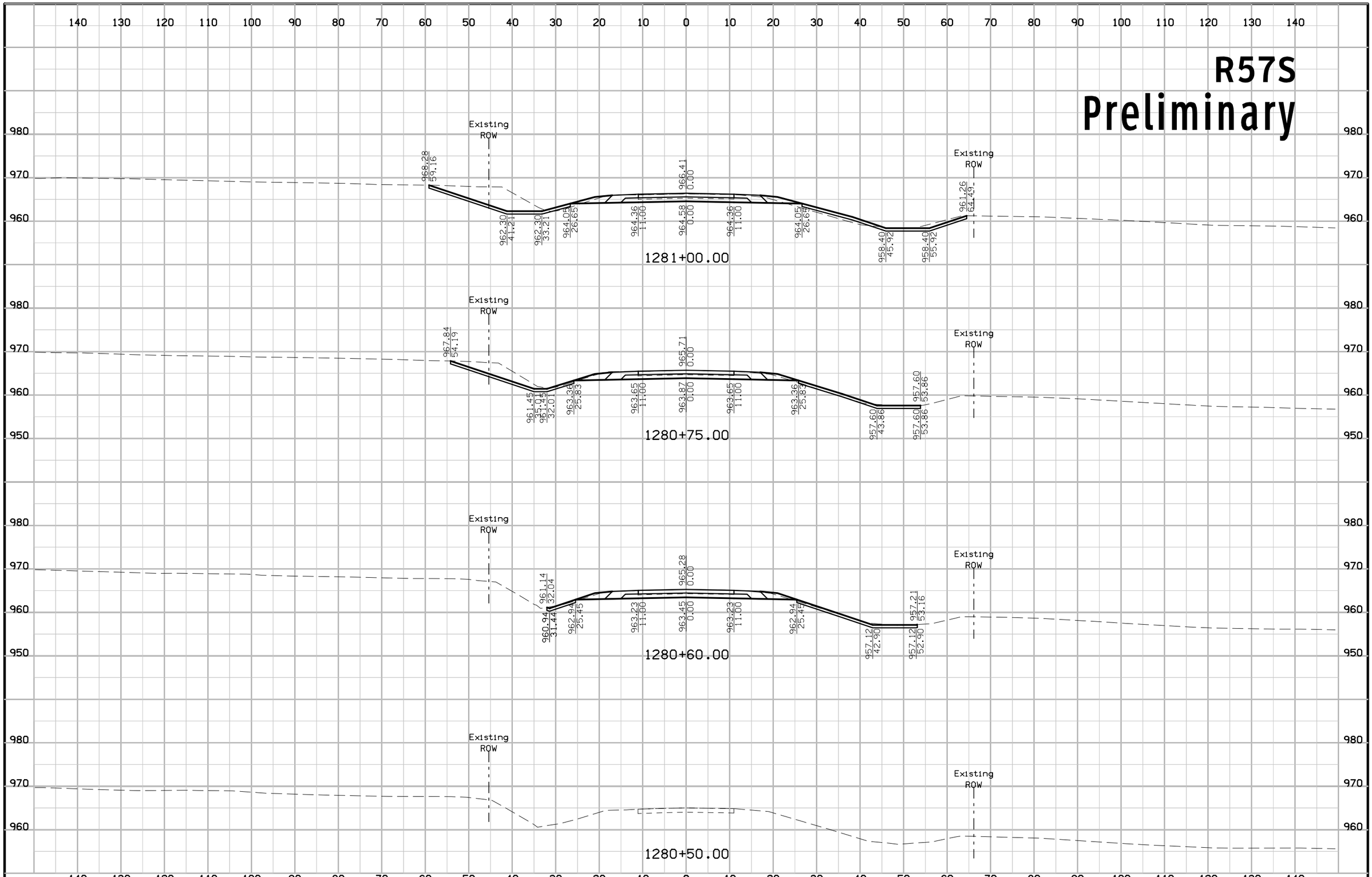
KENNEDY ST
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.3

1:22:49 PM 6/23/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X01_Kennedy.sht

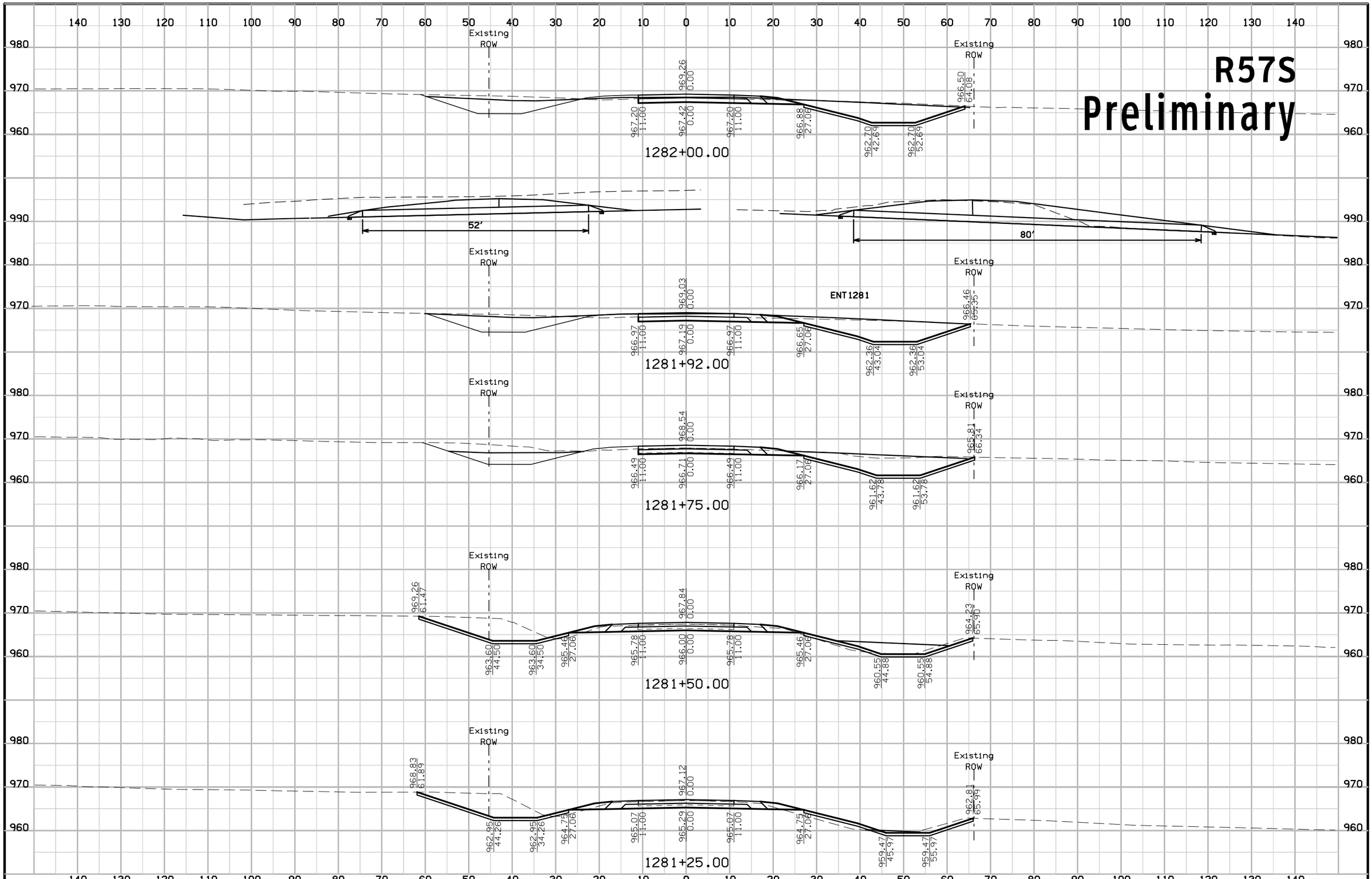
R57S
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.4

1:24:25 PM 6/23/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X02_R57S.sht

R57S
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.5

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R57S
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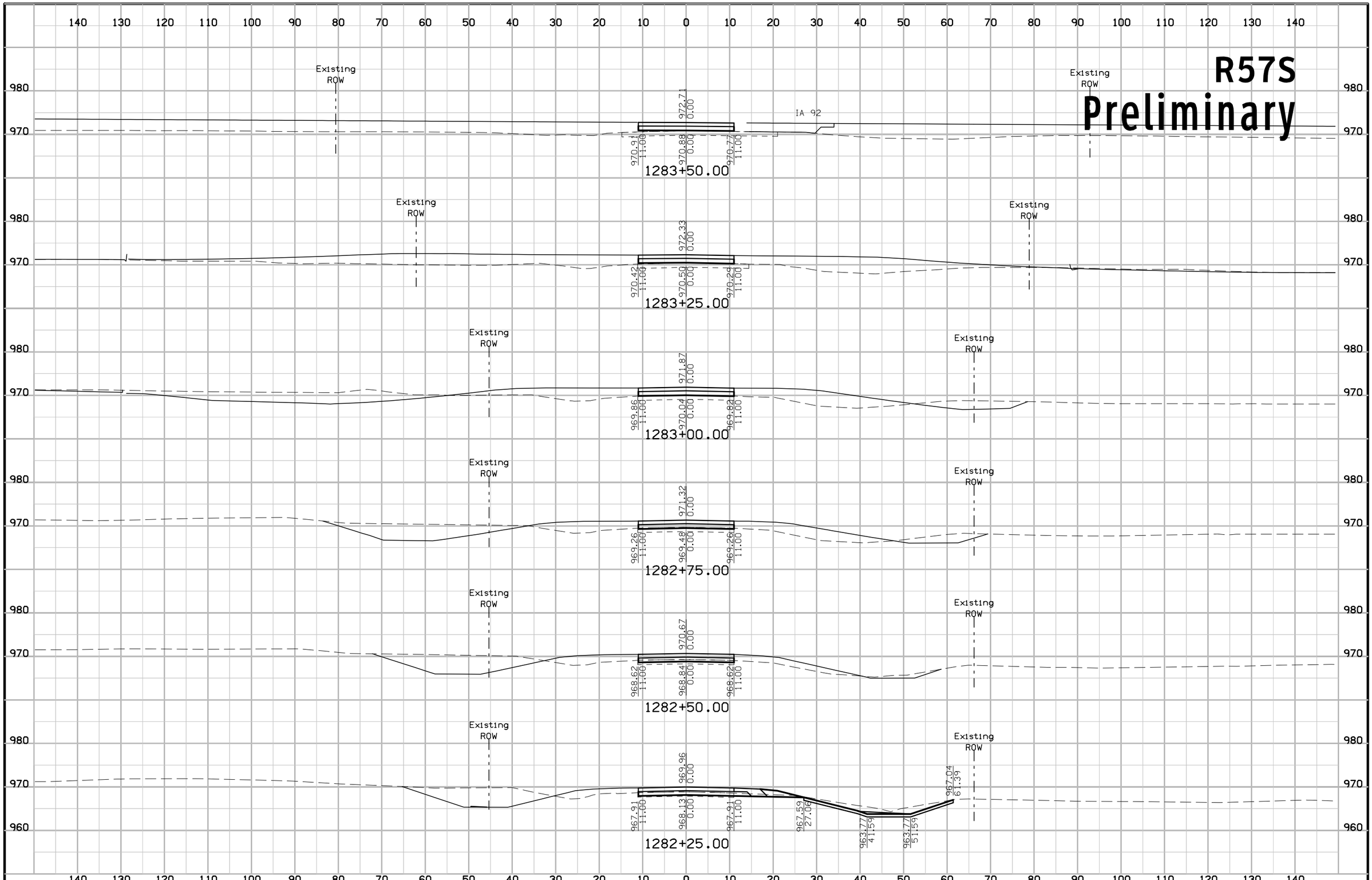

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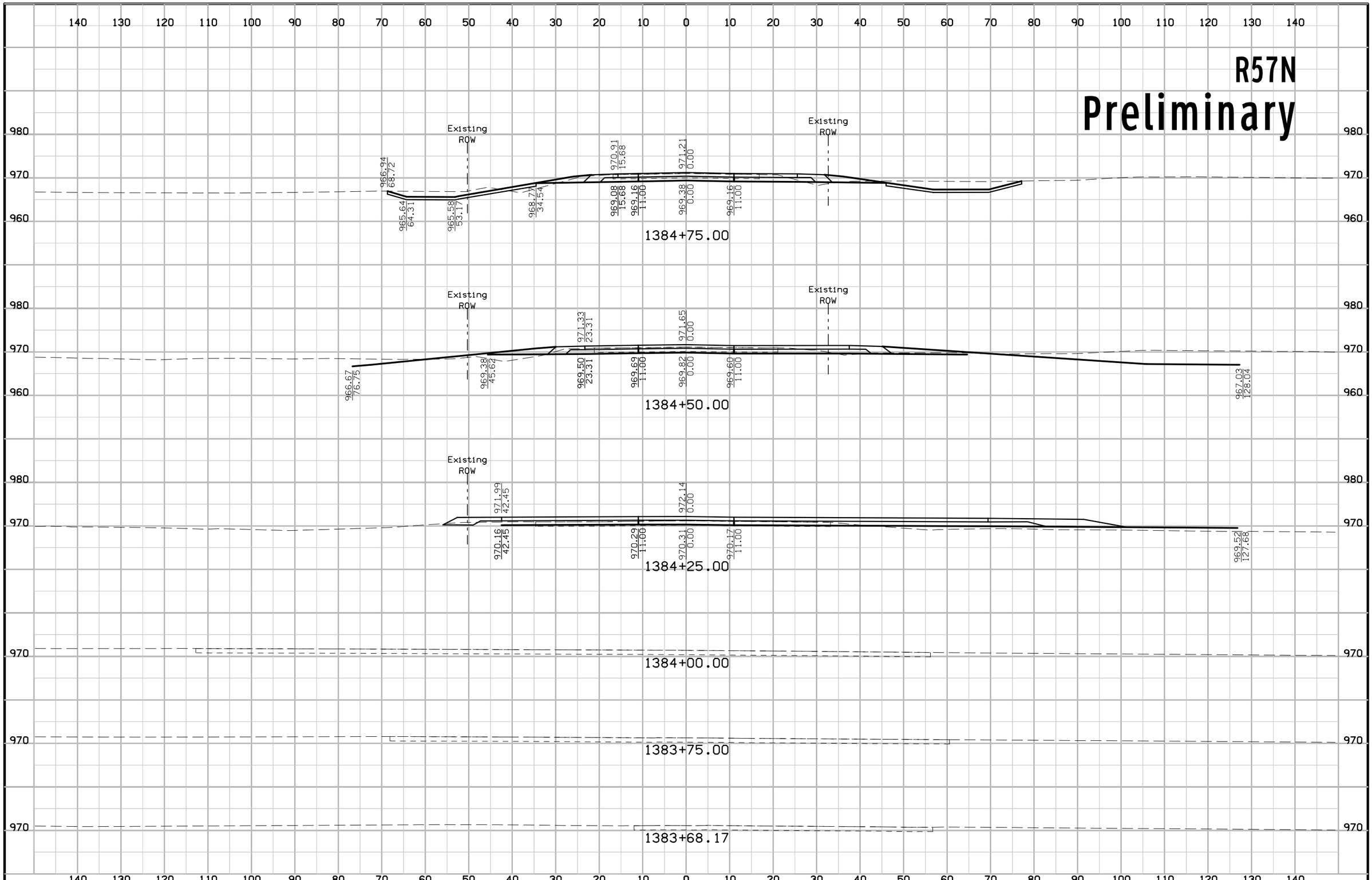
R57N

Preliminary



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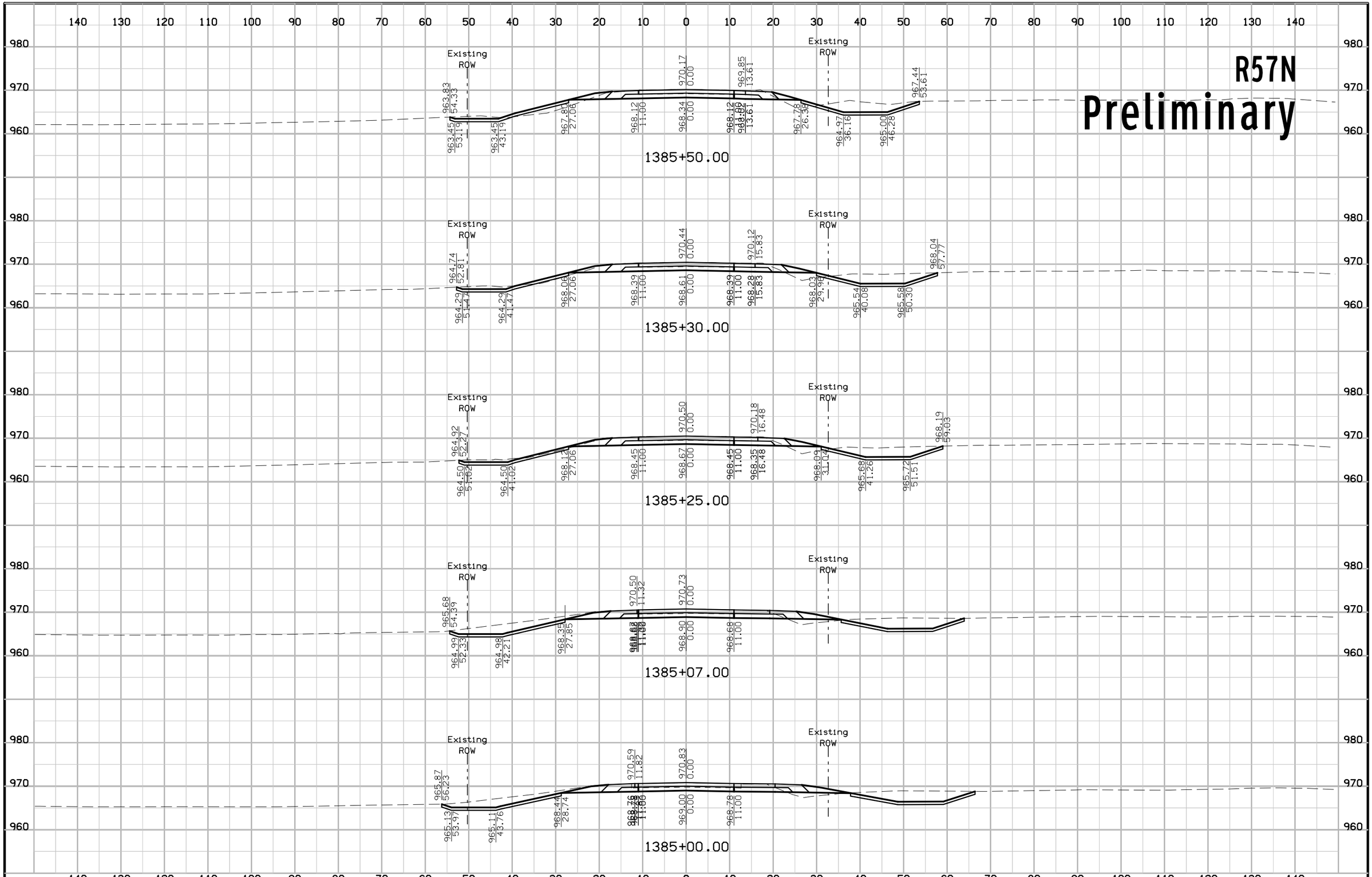
R57N

Preliminary



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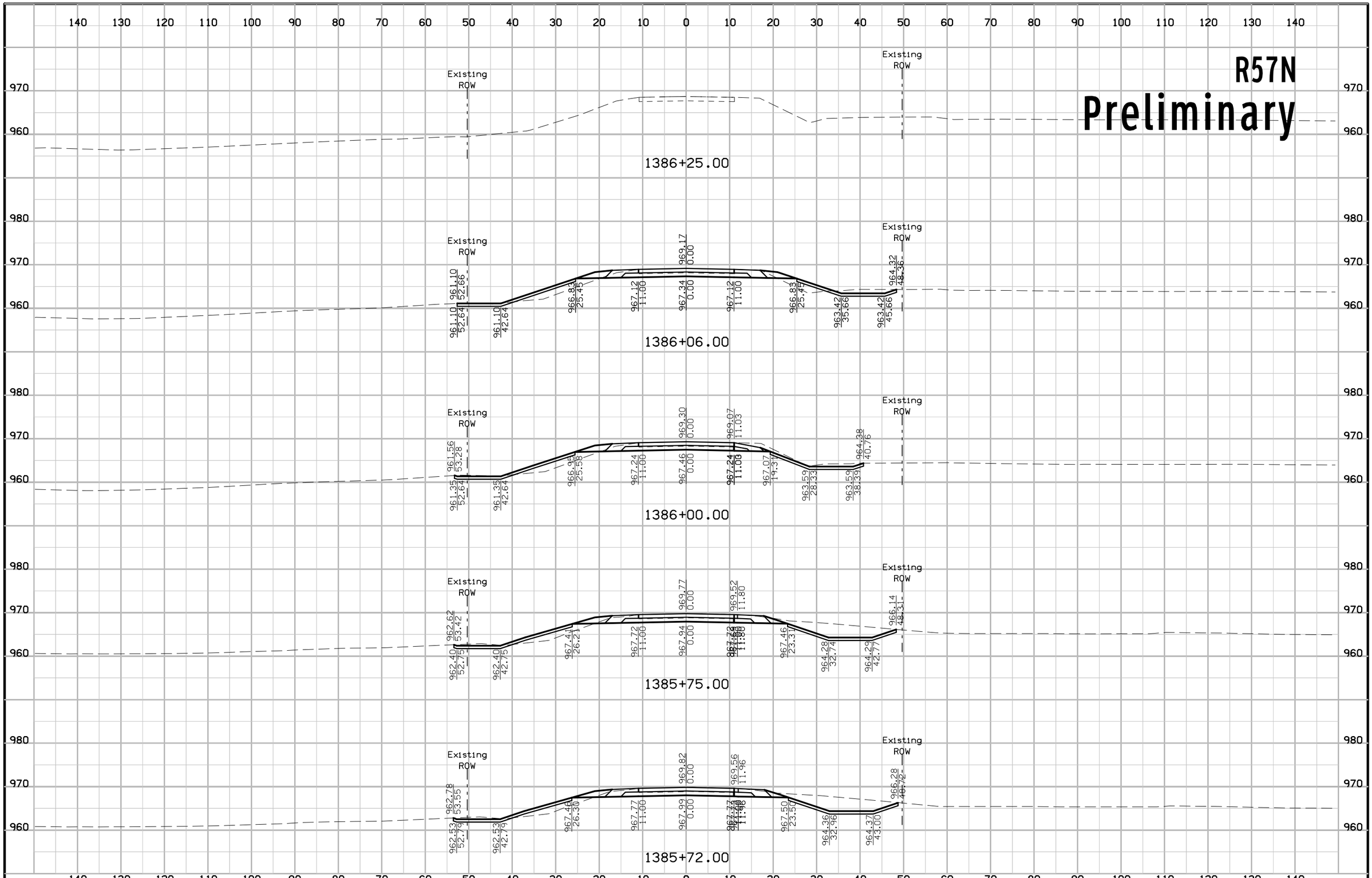

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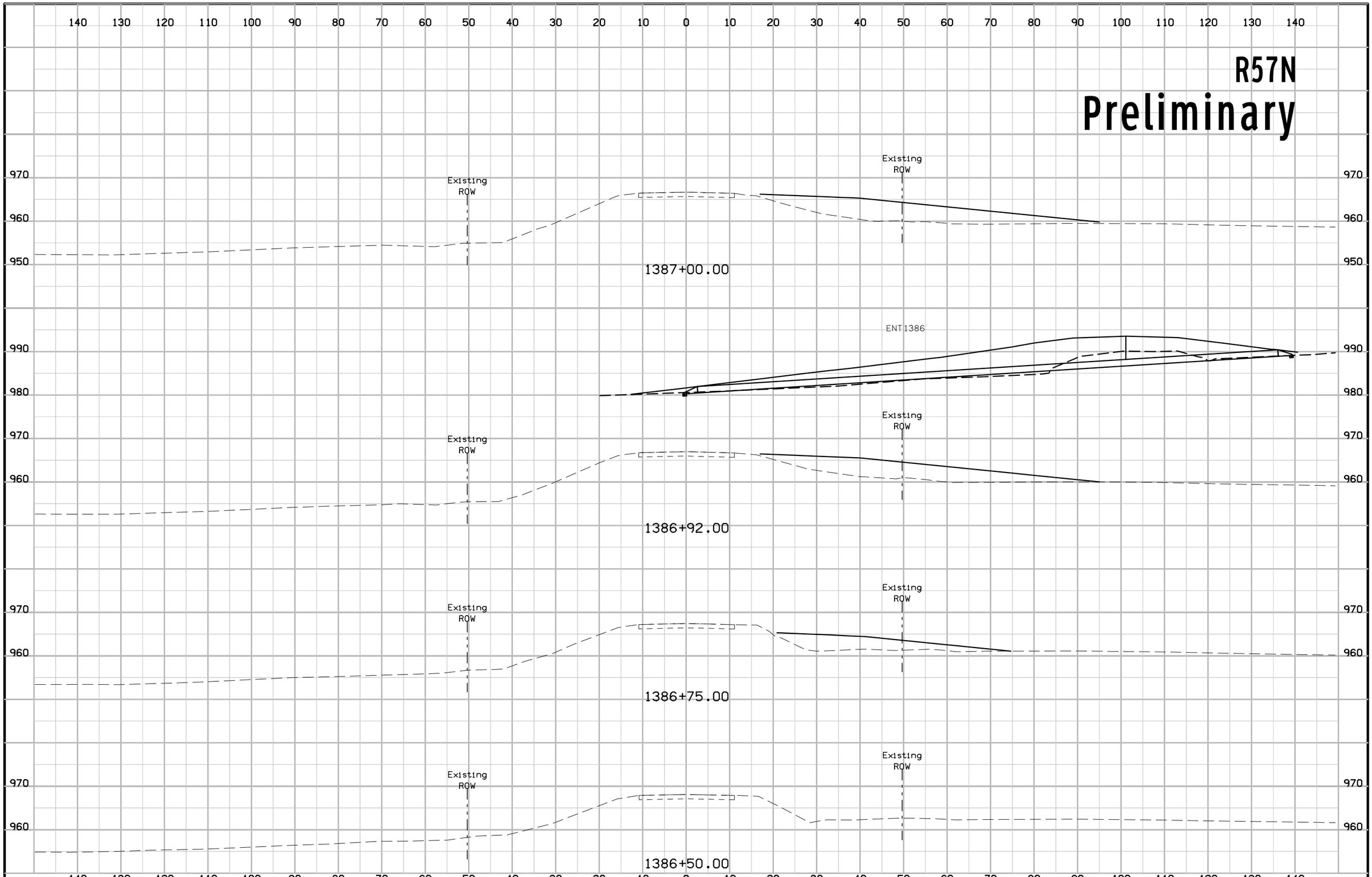
R57N
Preliminary



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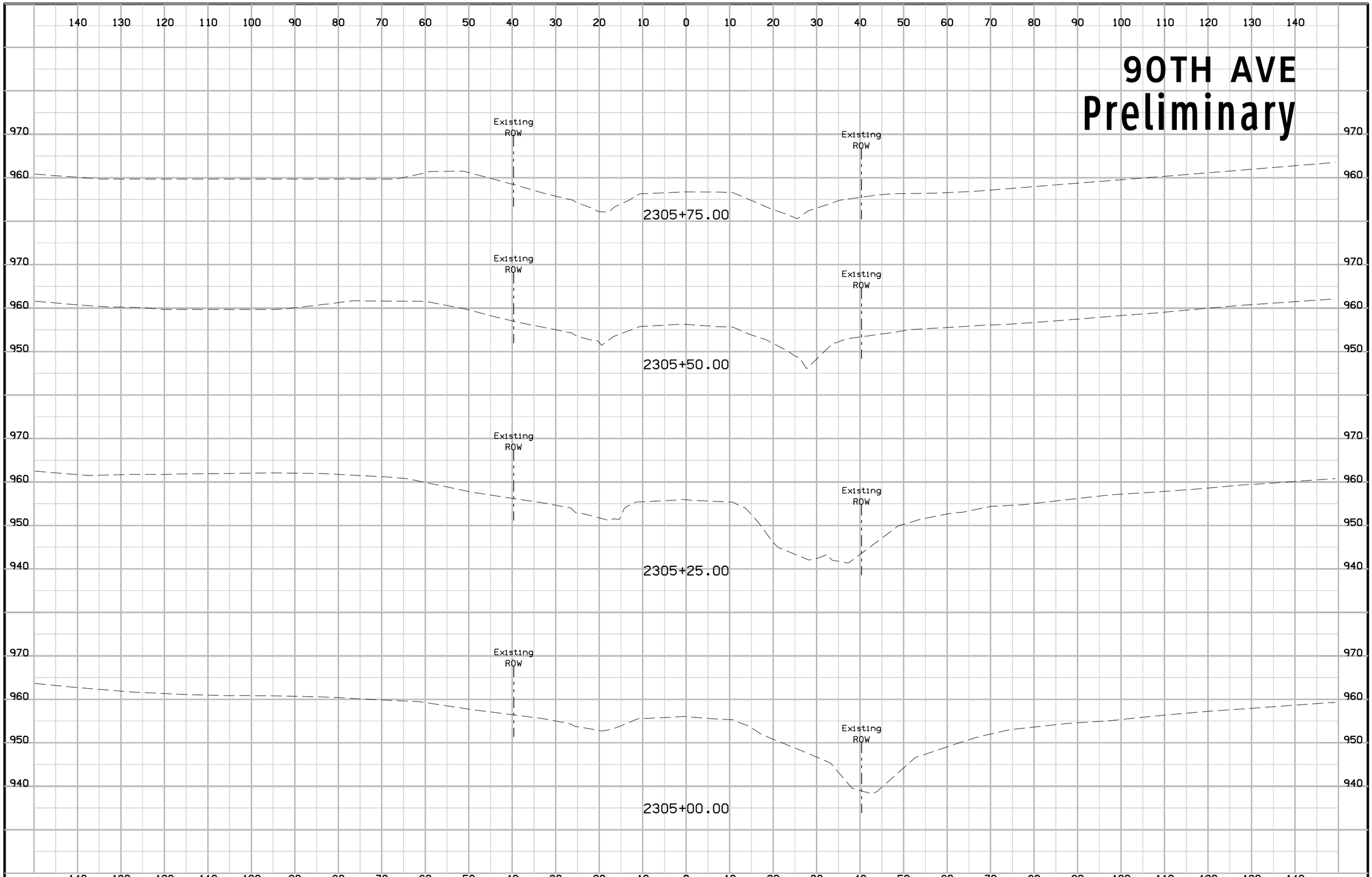
90TH AVE
Preliminary



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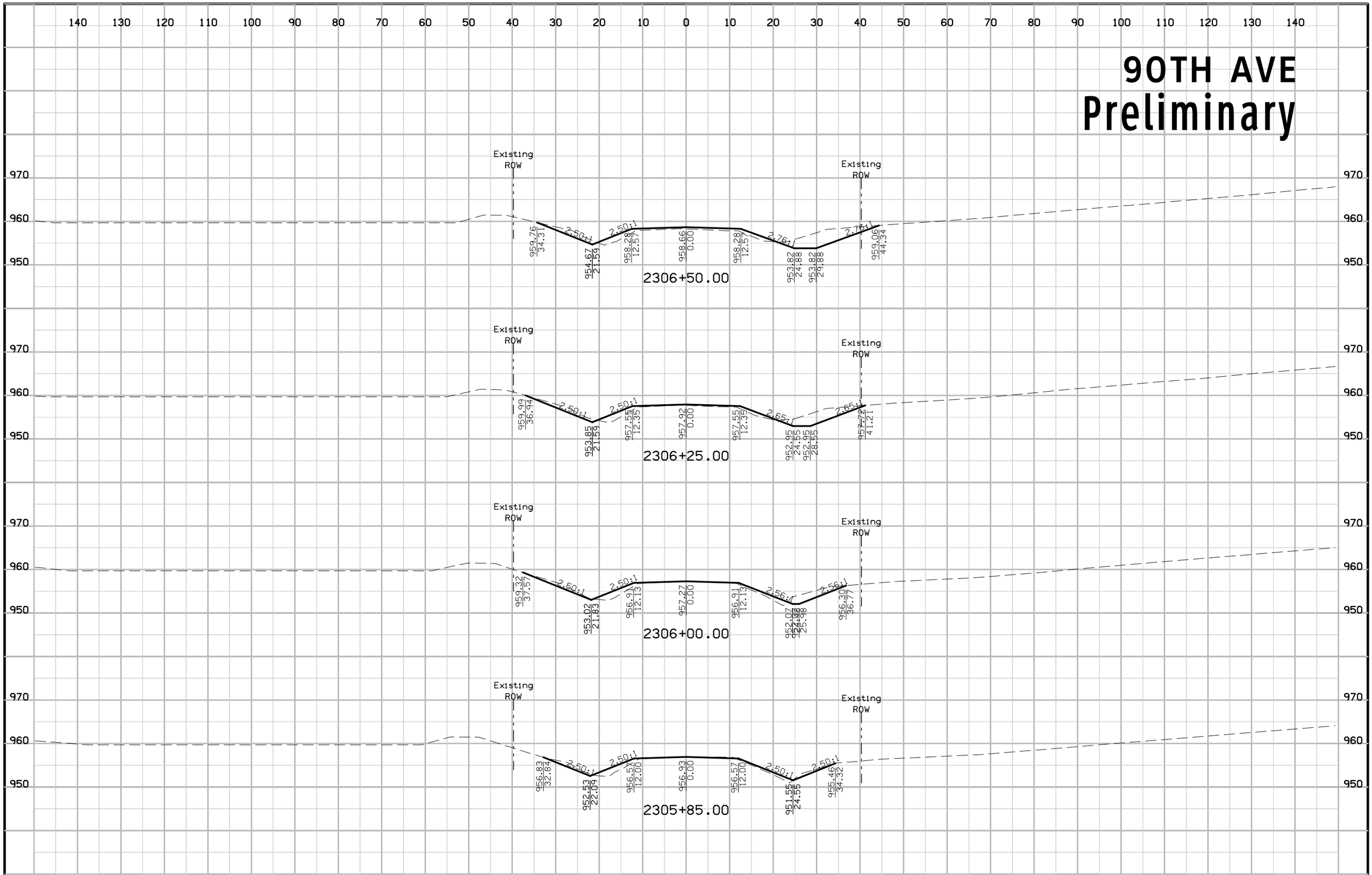

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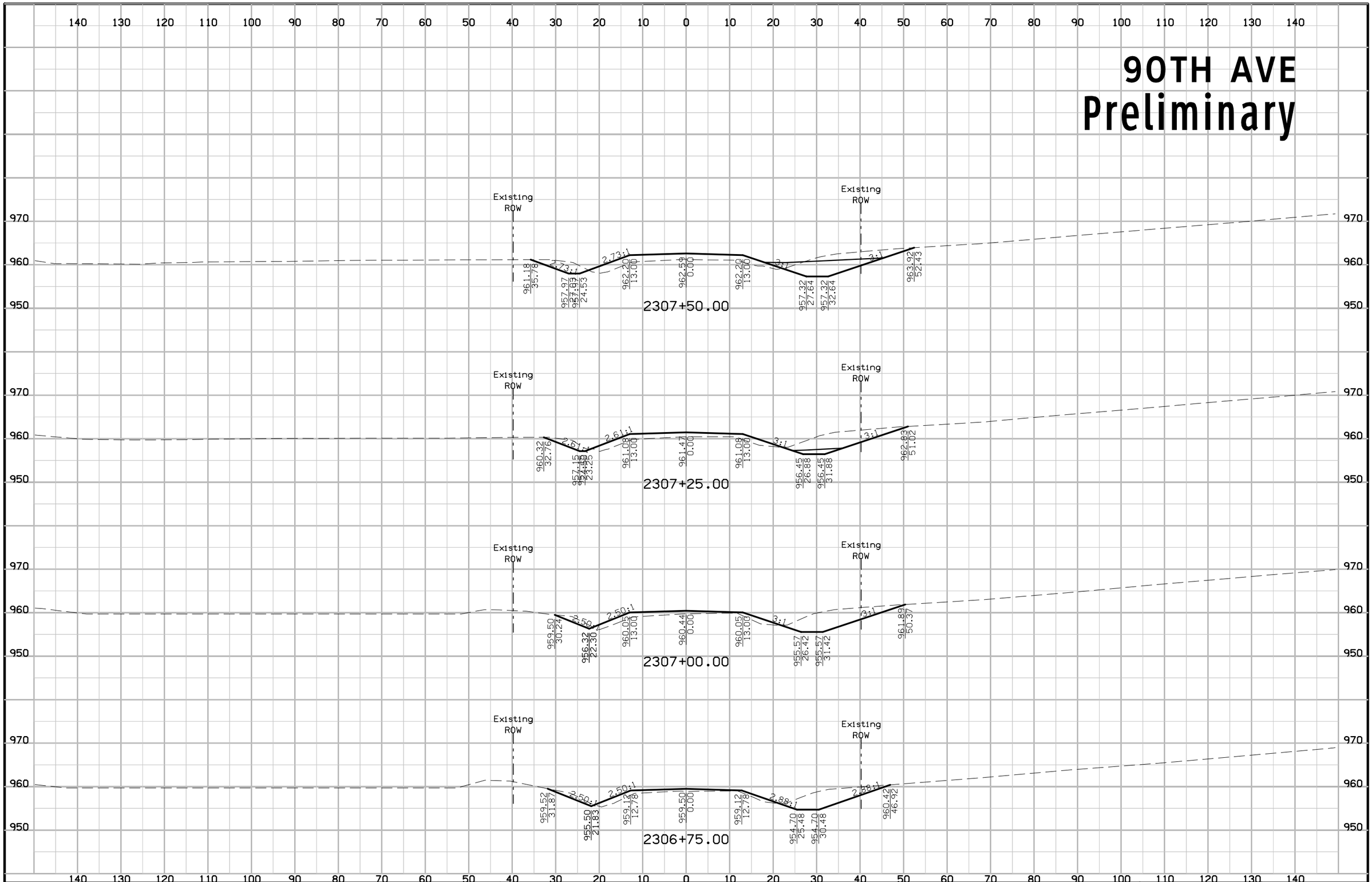
90TH AVE
Preliminary



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90TH AVE
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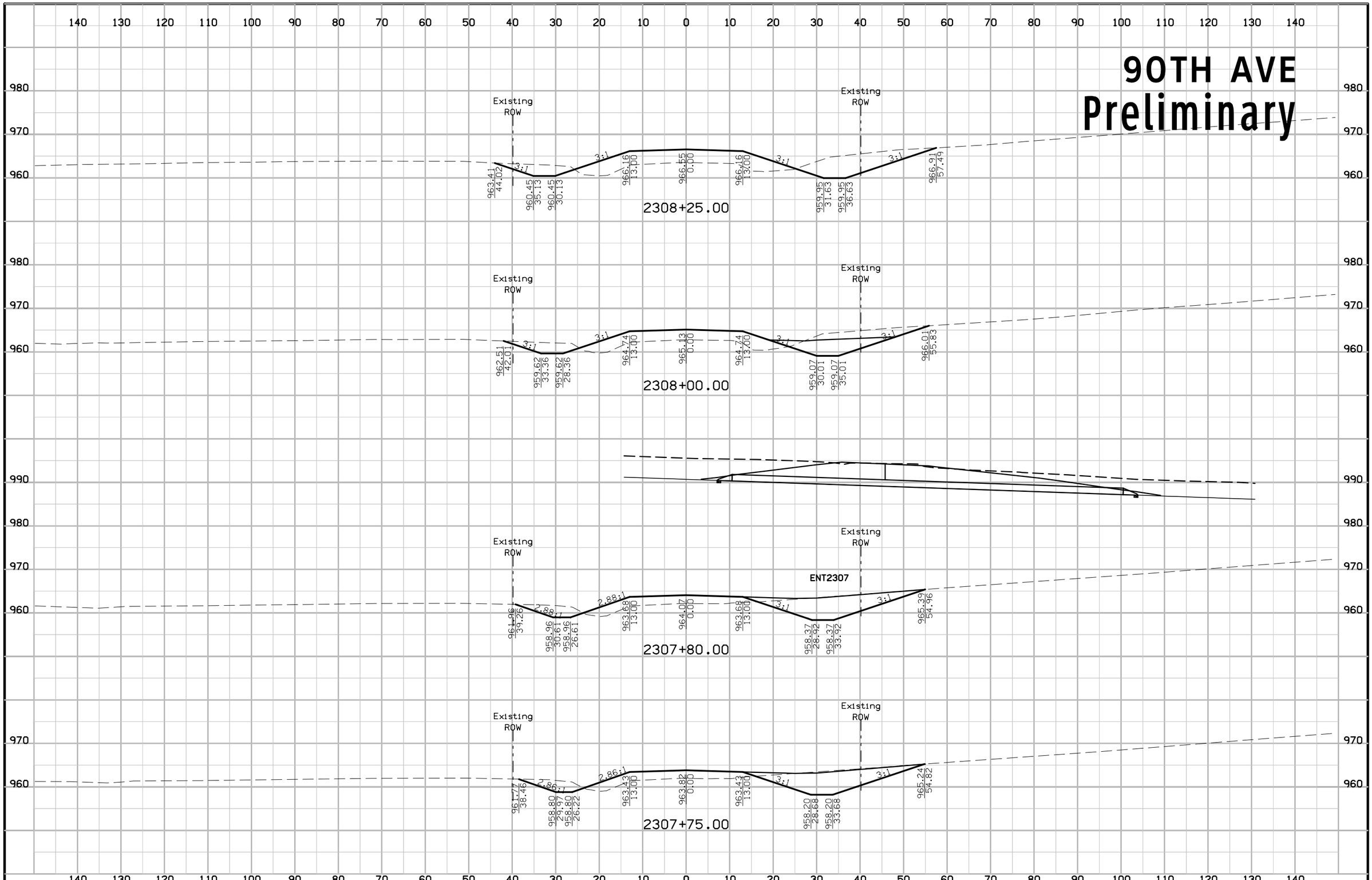

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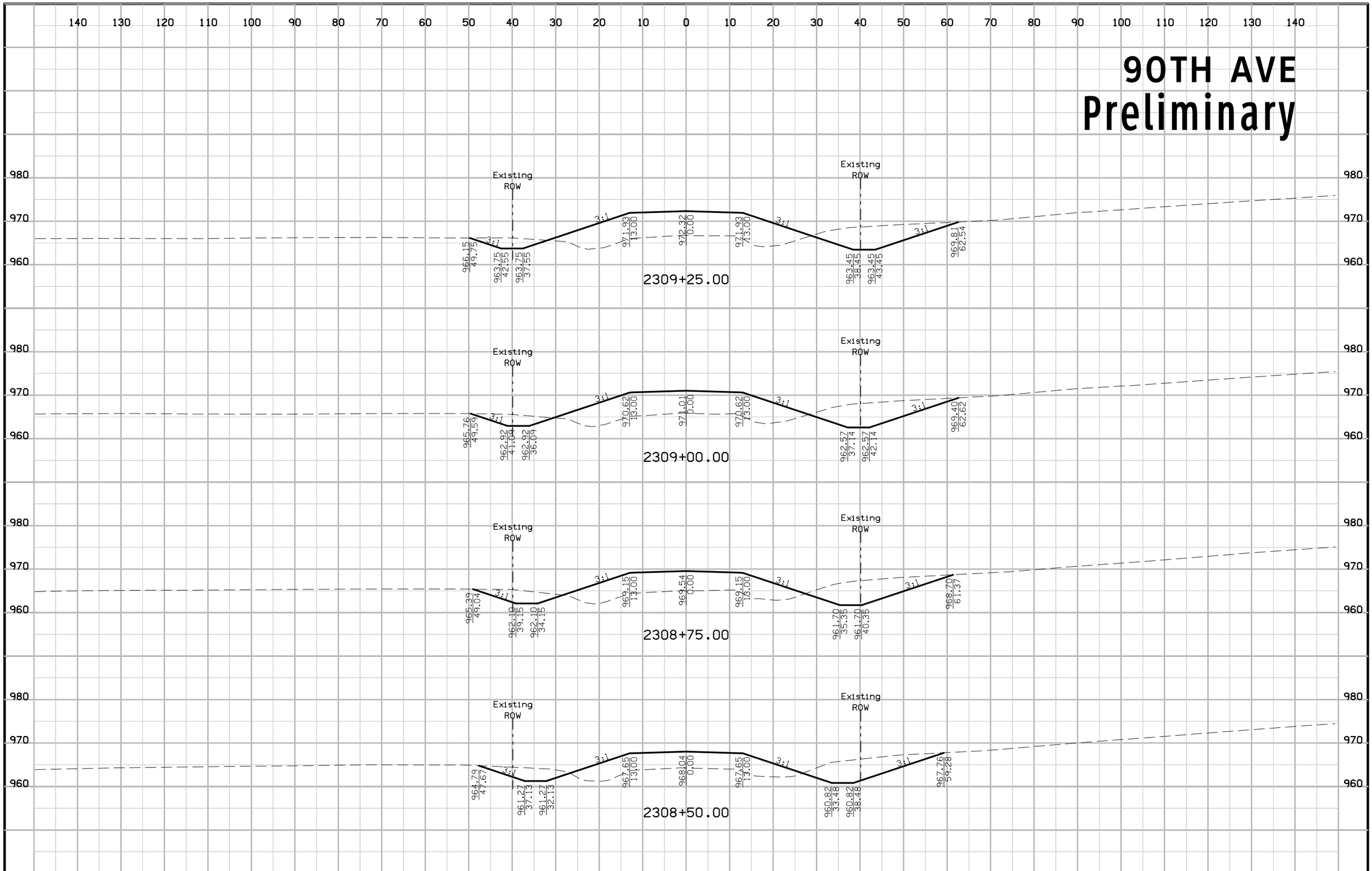
90TH AVE
Preliminary



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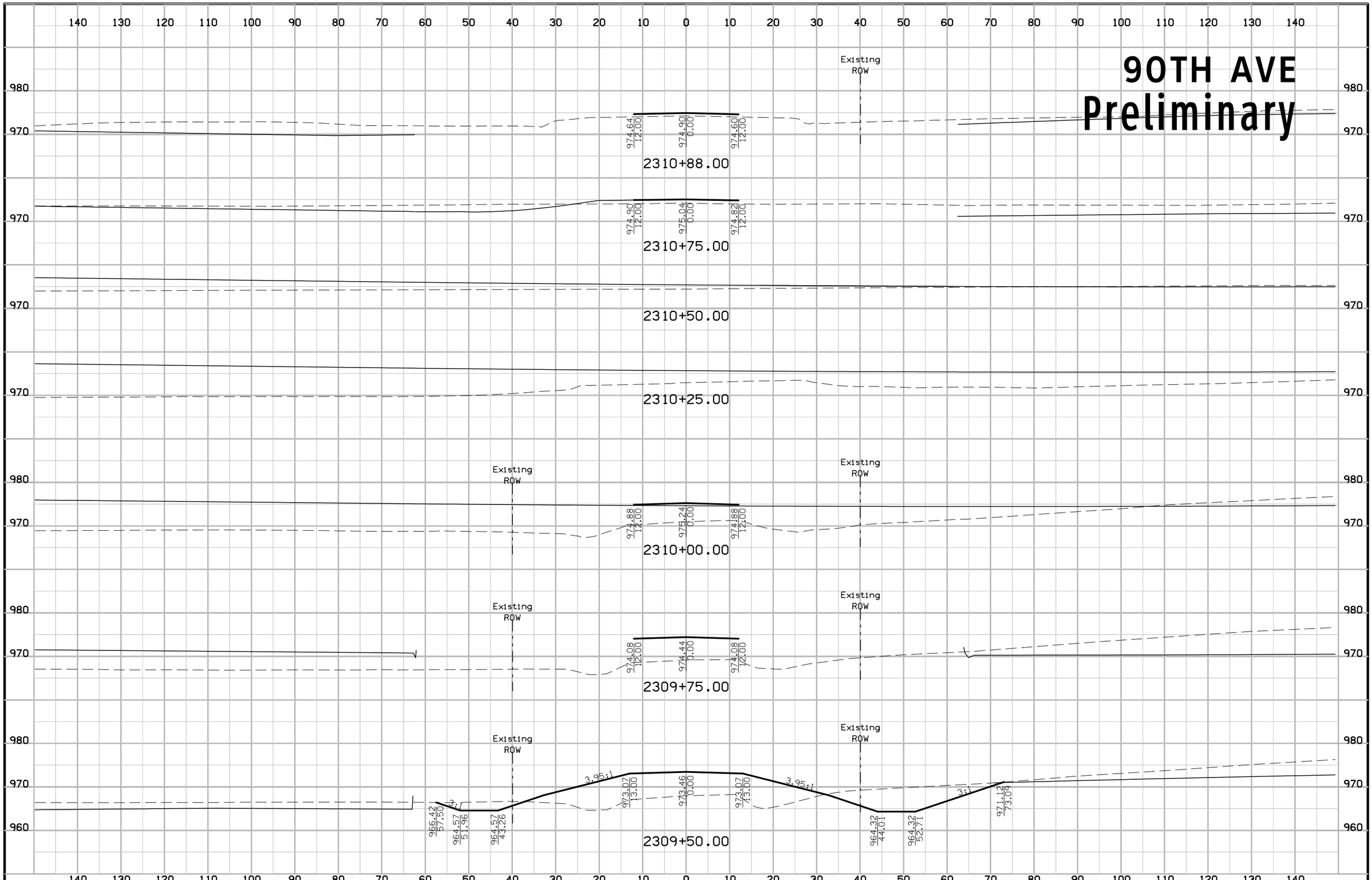
90TH AVE
Preliminary



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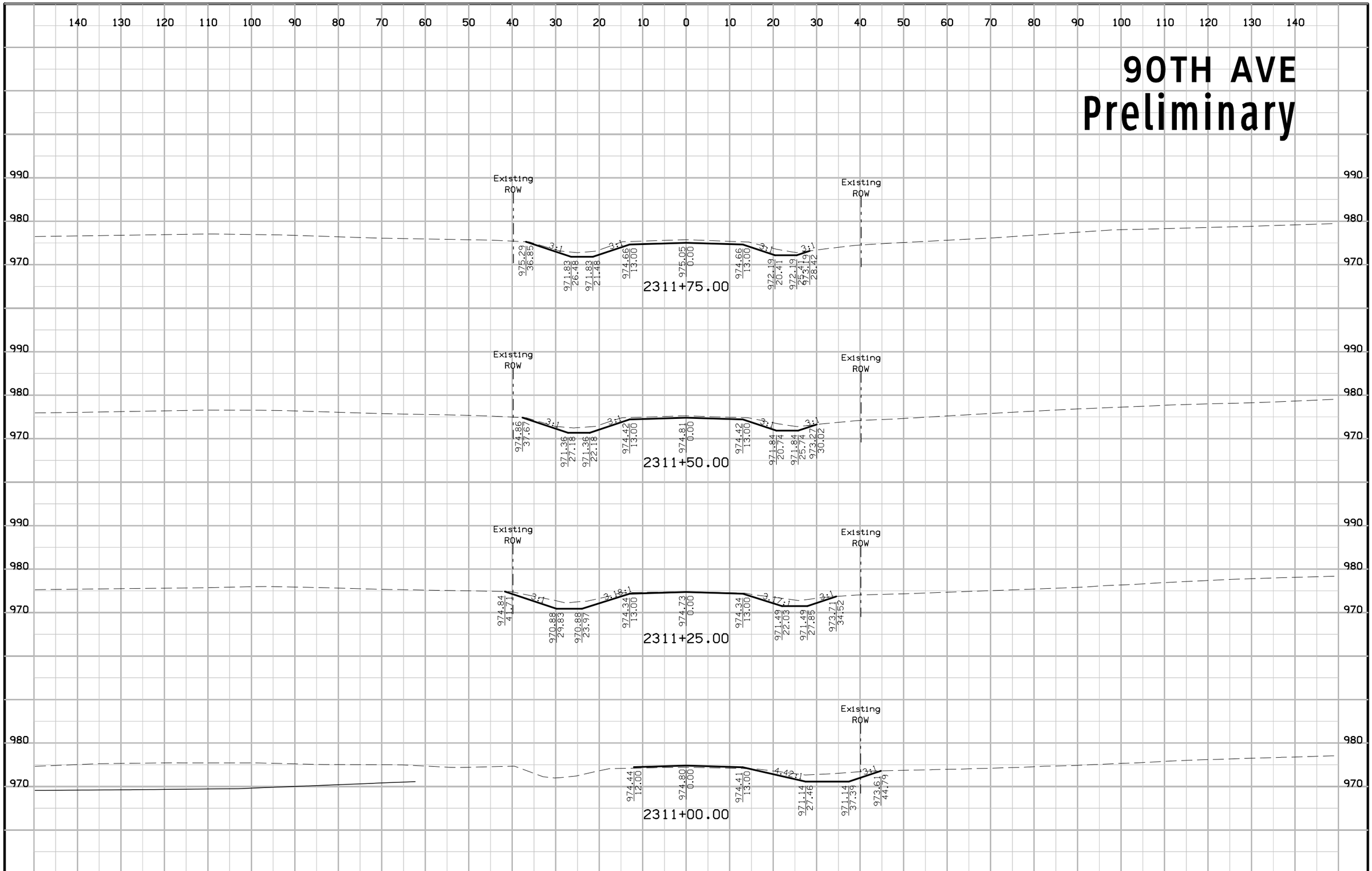
90TH AVE
Preliminary



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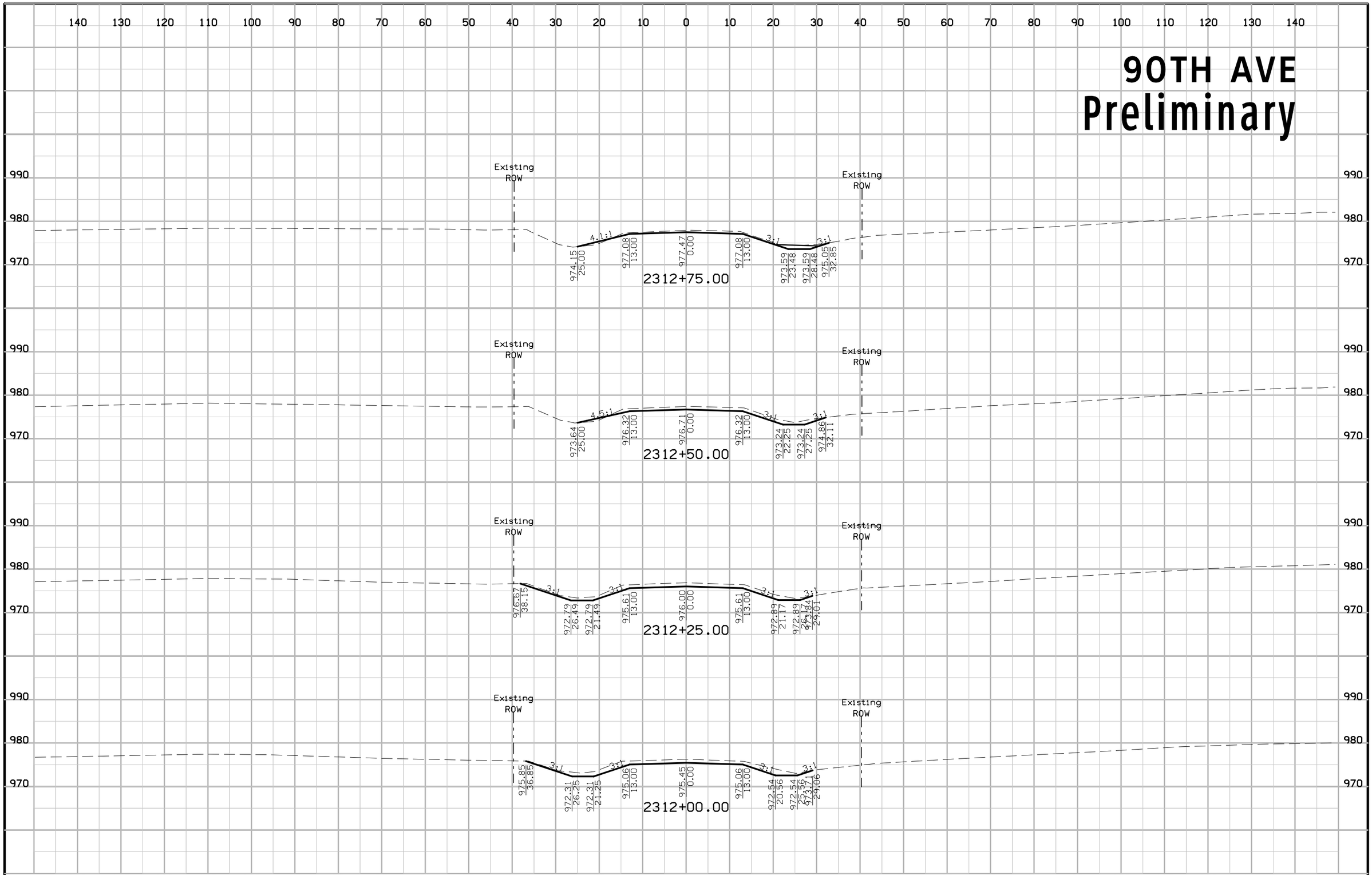
90TH AVE
Preliminary



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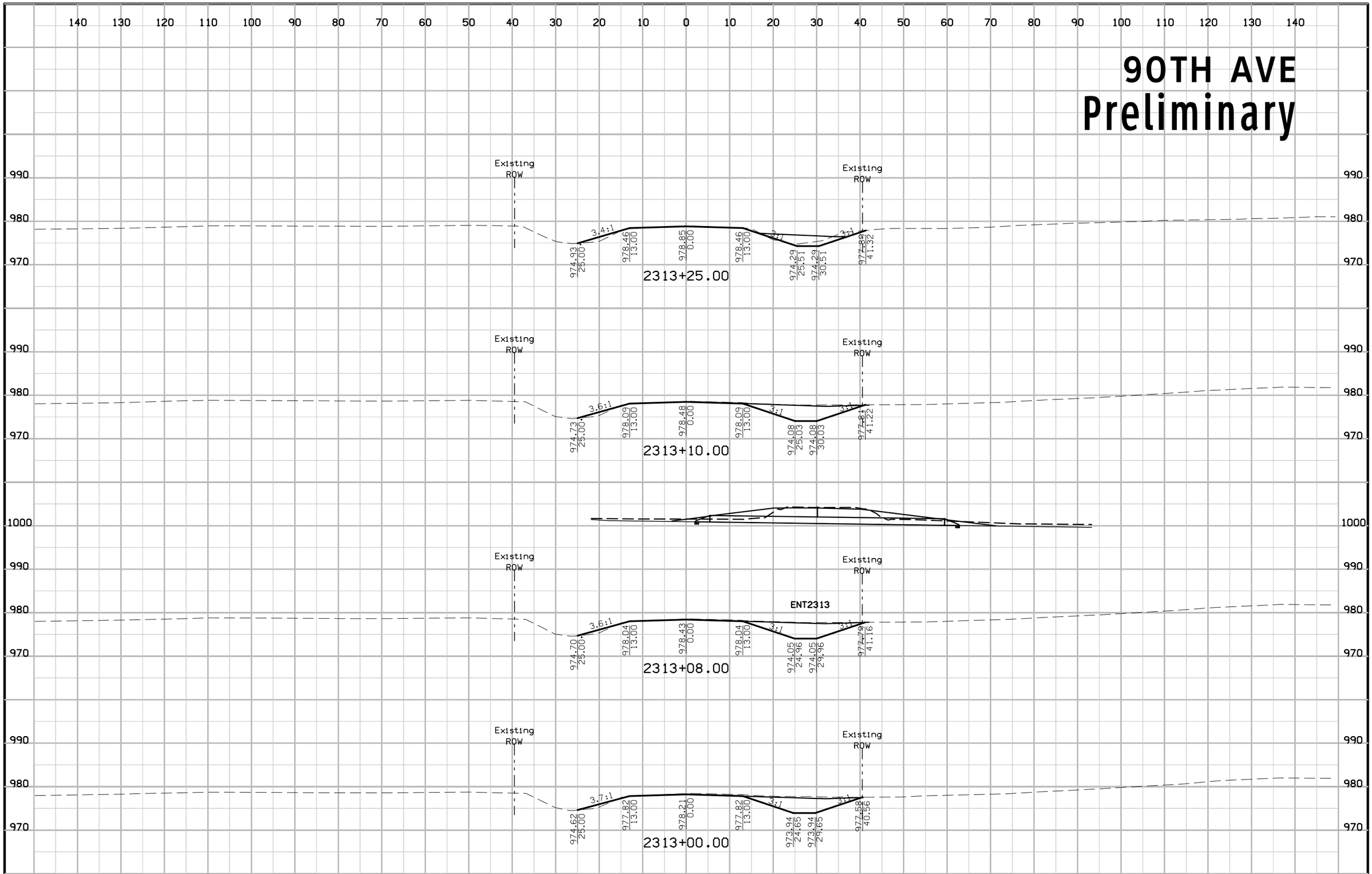
90TH AVE
Preliminary



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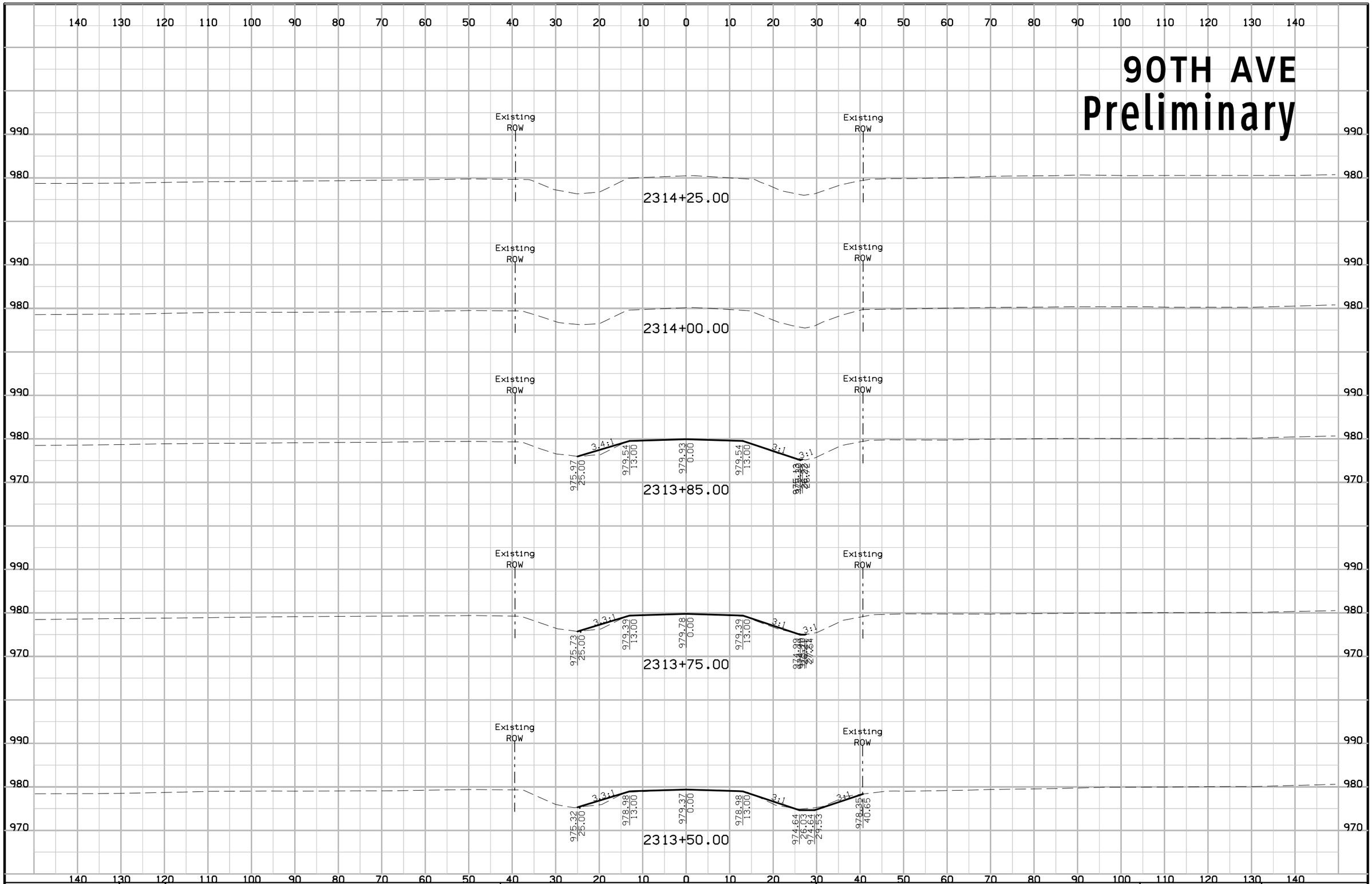
90TH AVE
Preliminary



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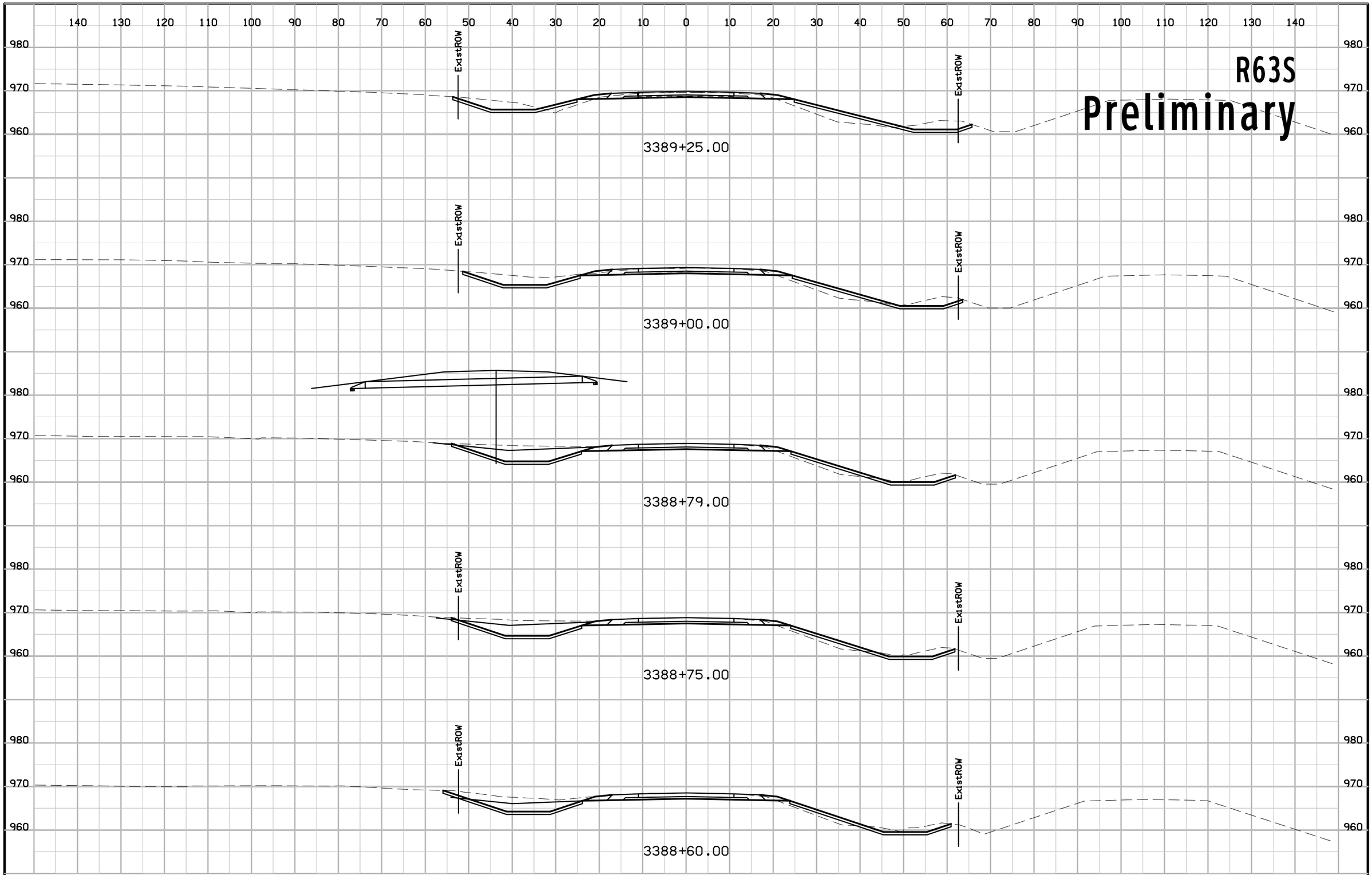

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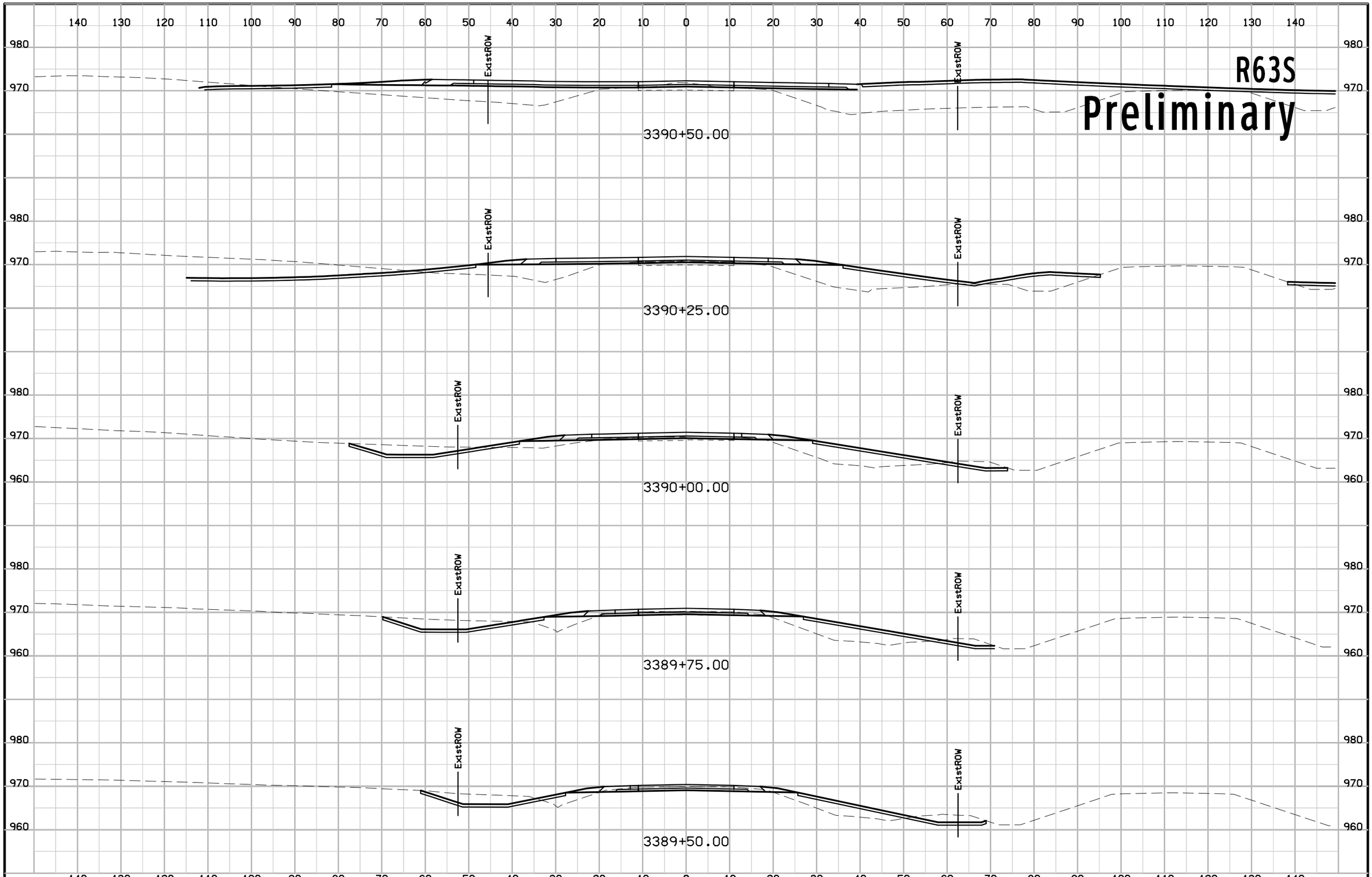

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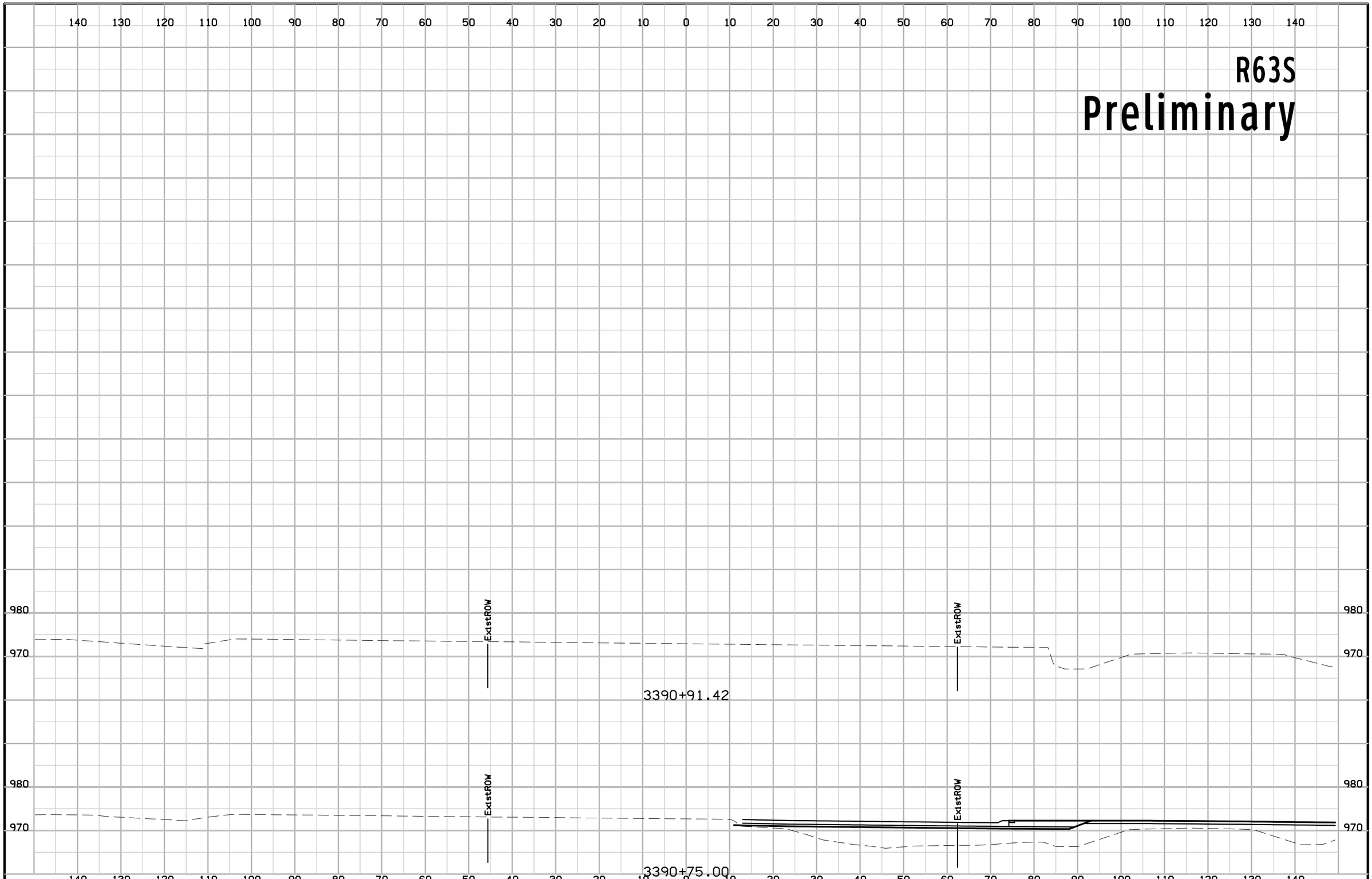

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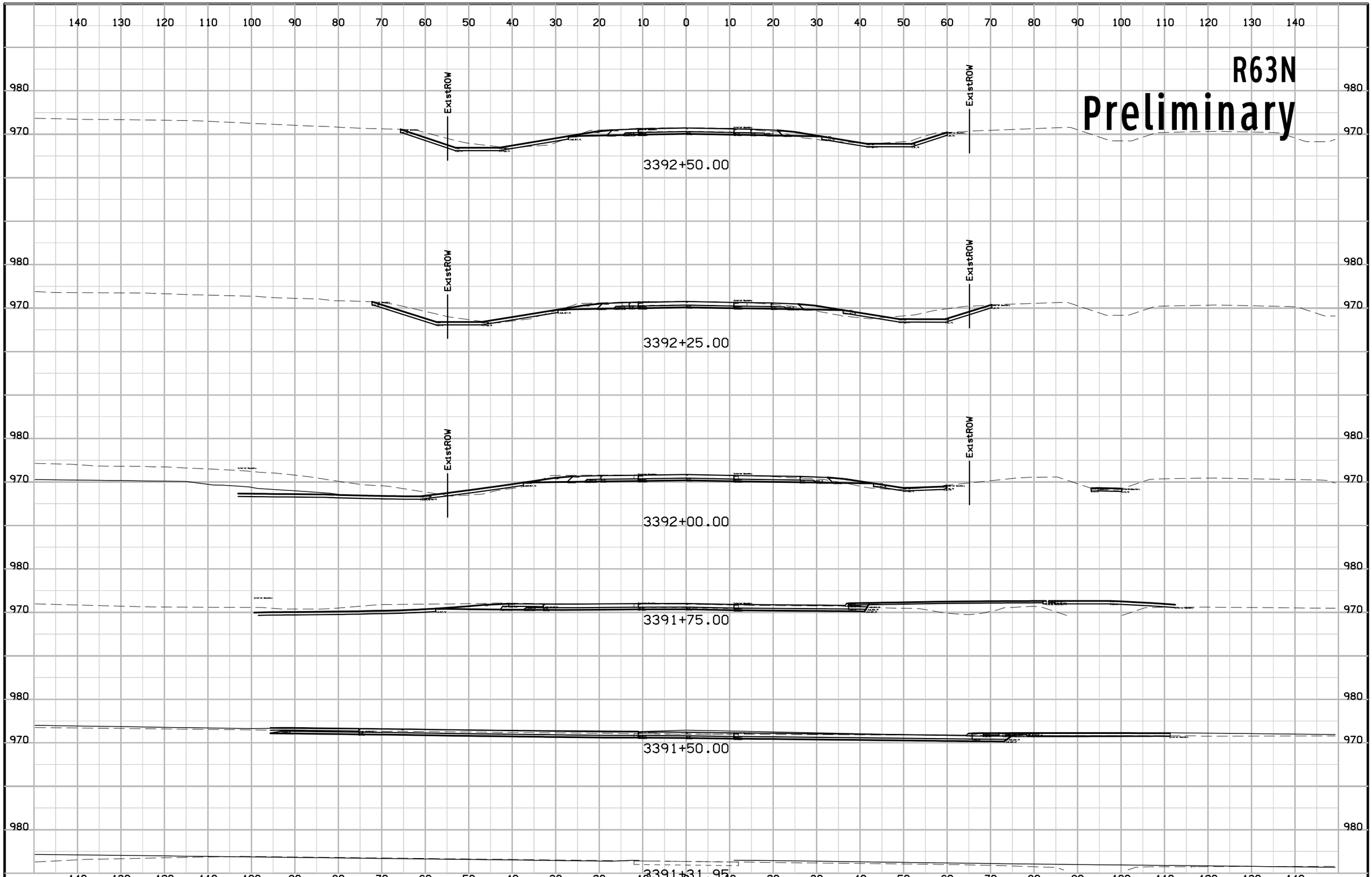

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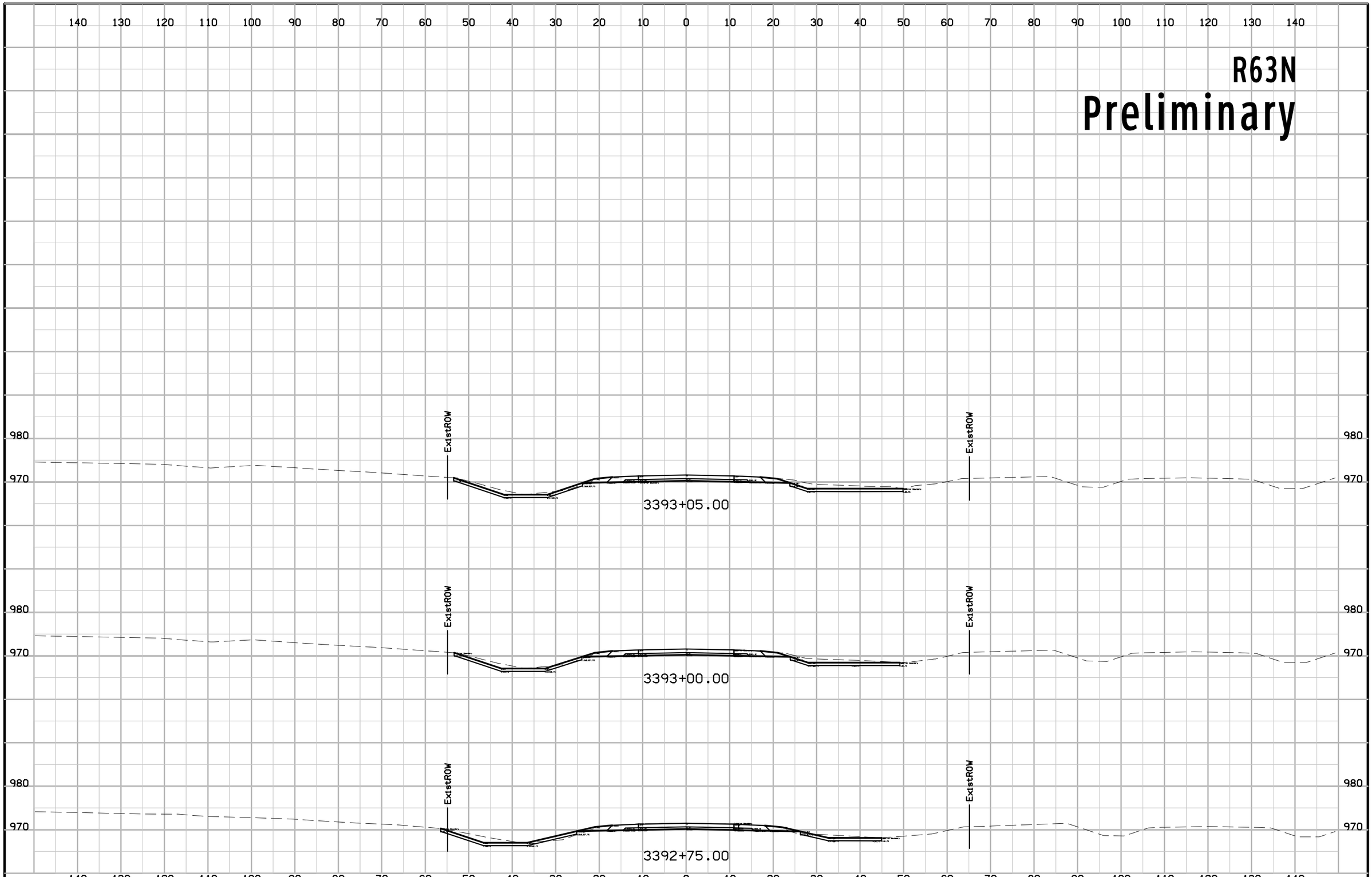
R63N
Preliminary



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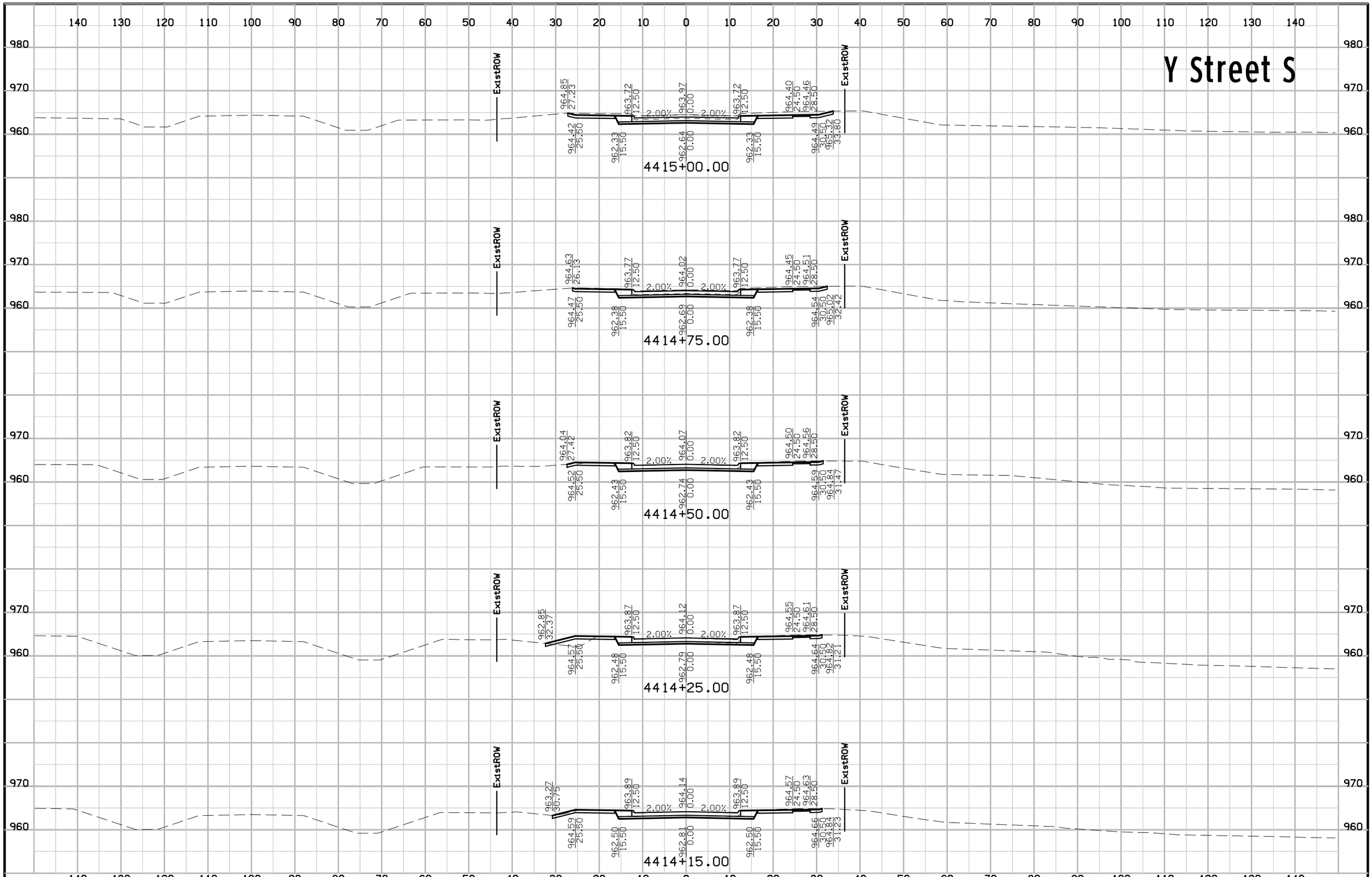
Y Street S



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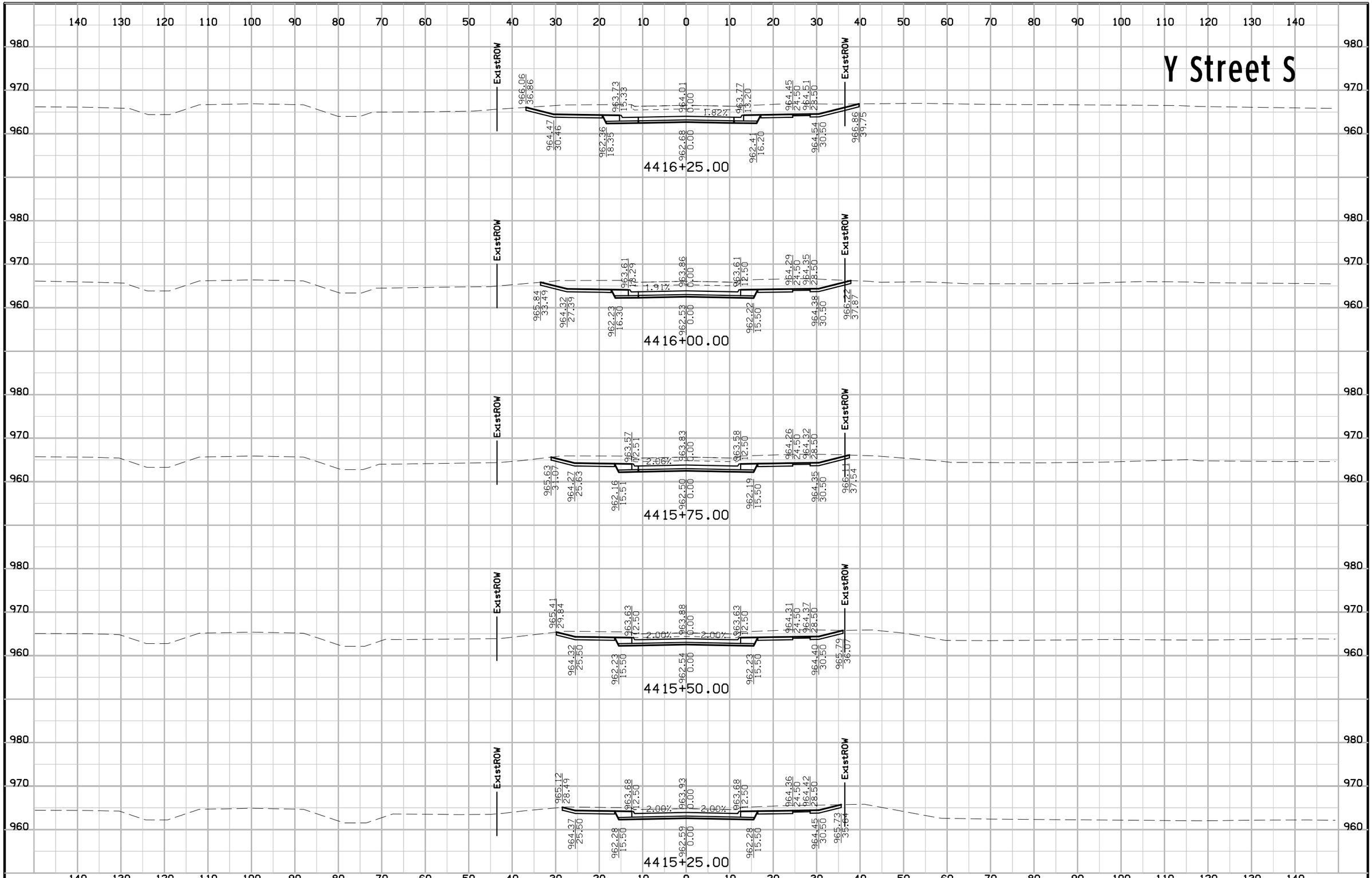
Y Street S



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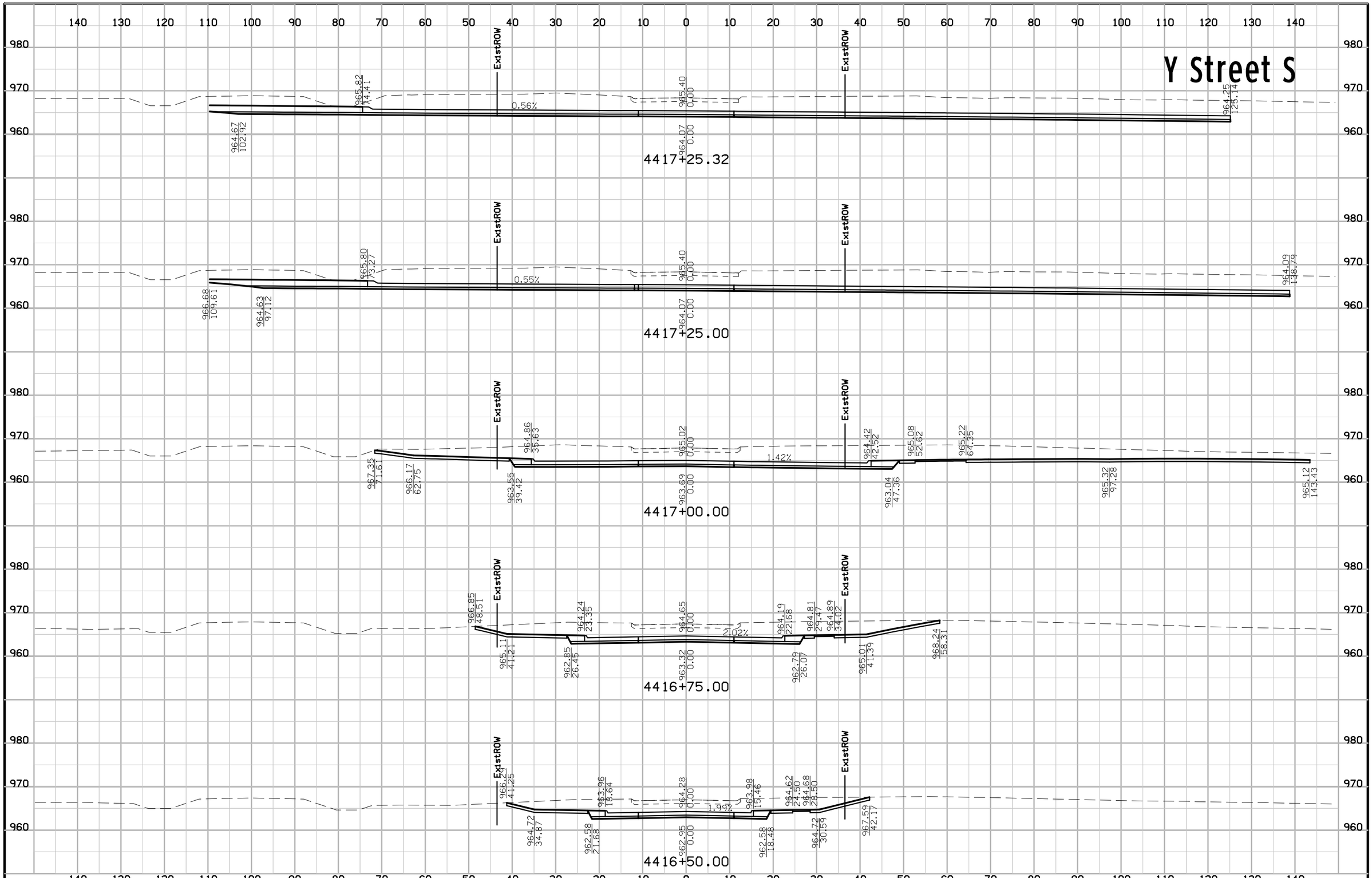

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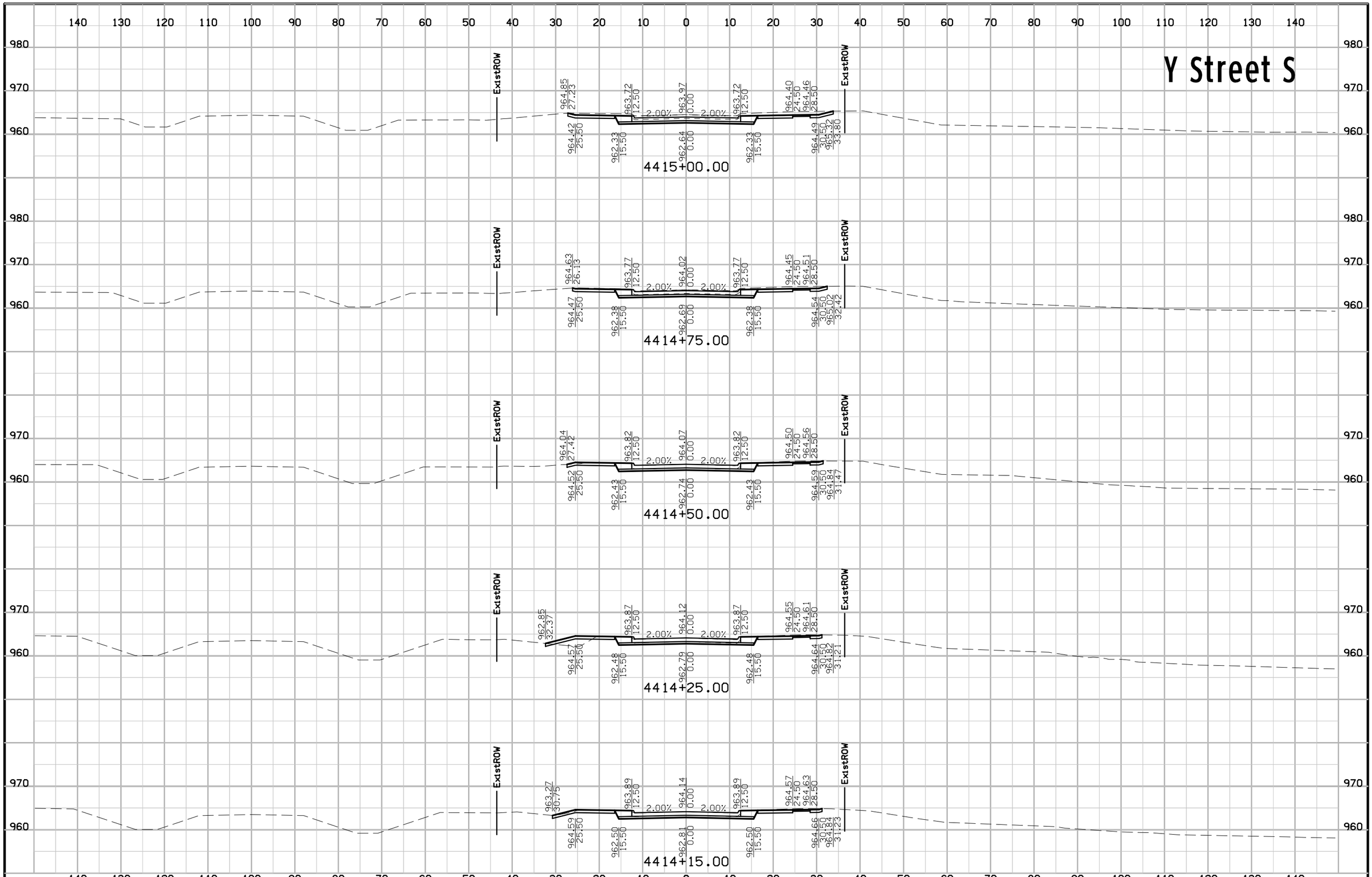
Y Street S



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.27

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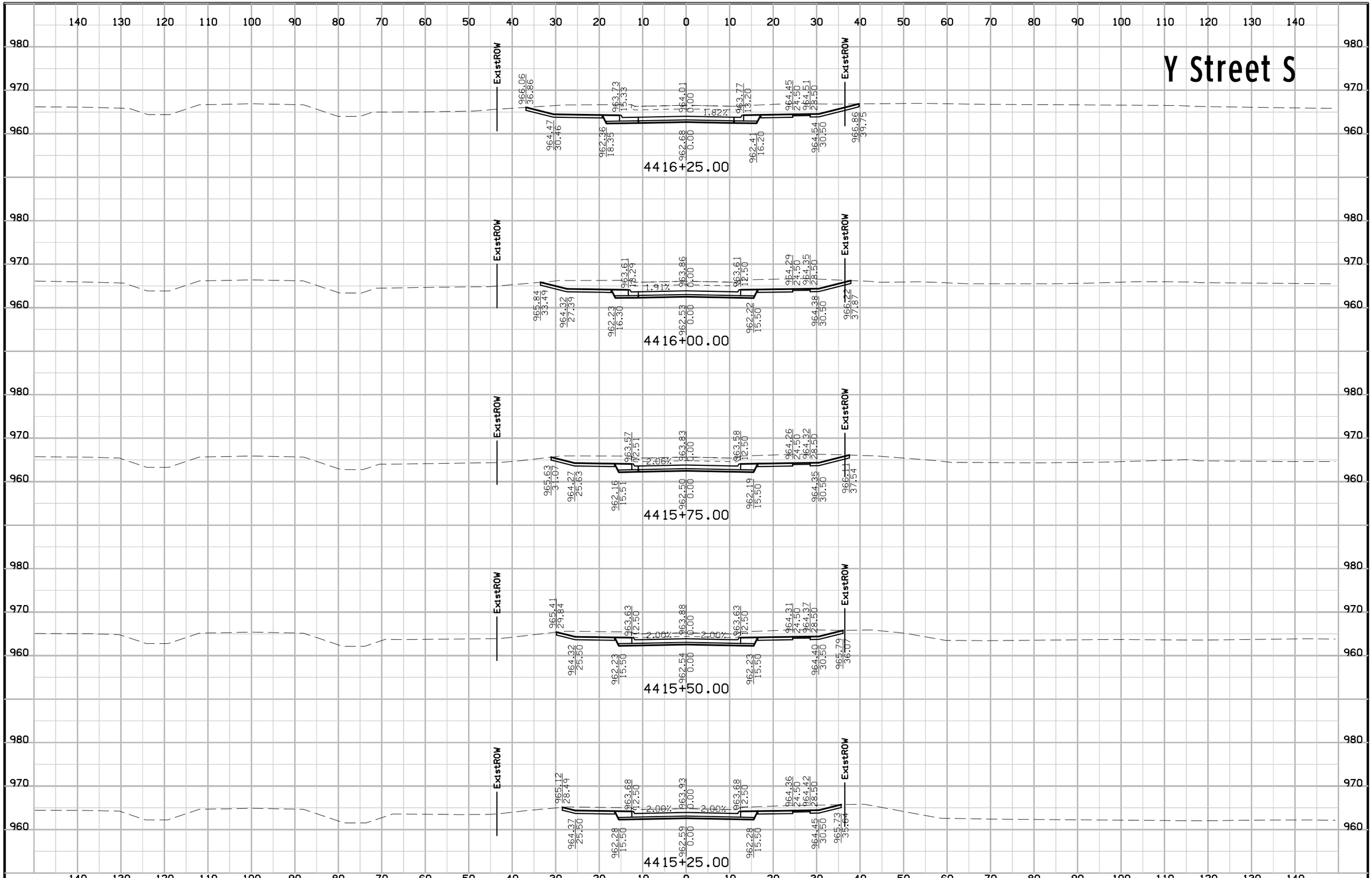
Y Street S



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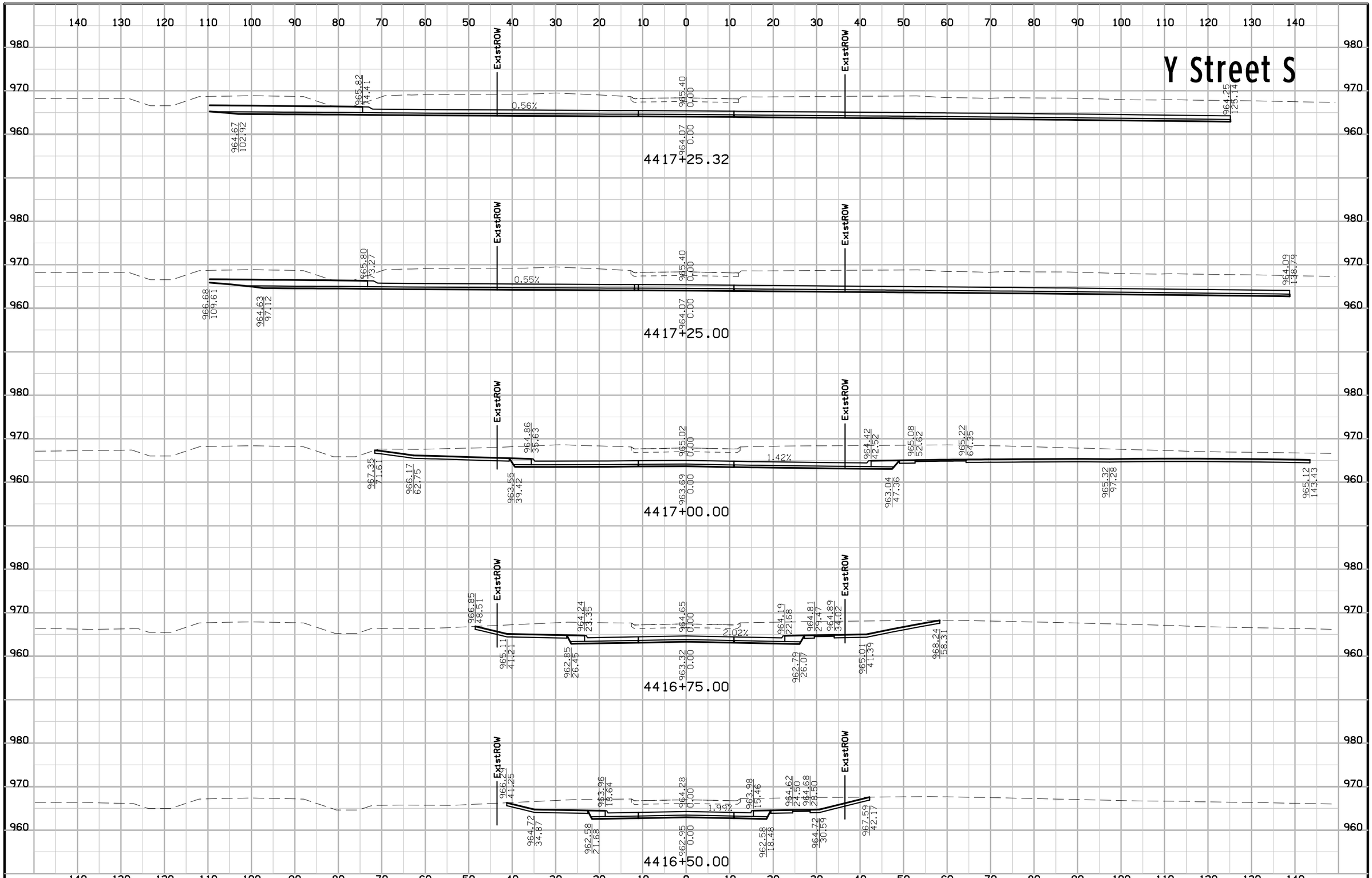

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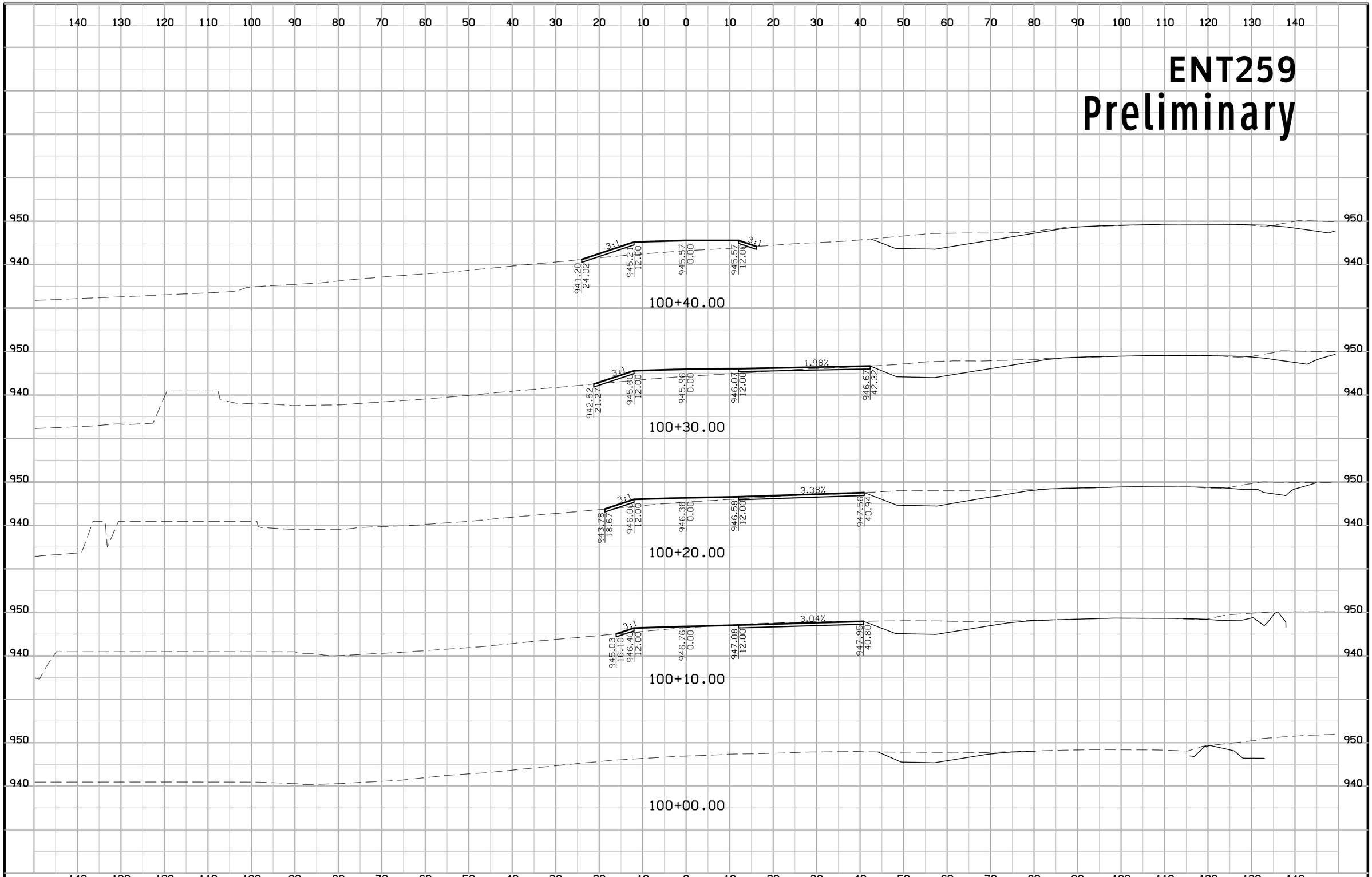
ENT259
Preliminary



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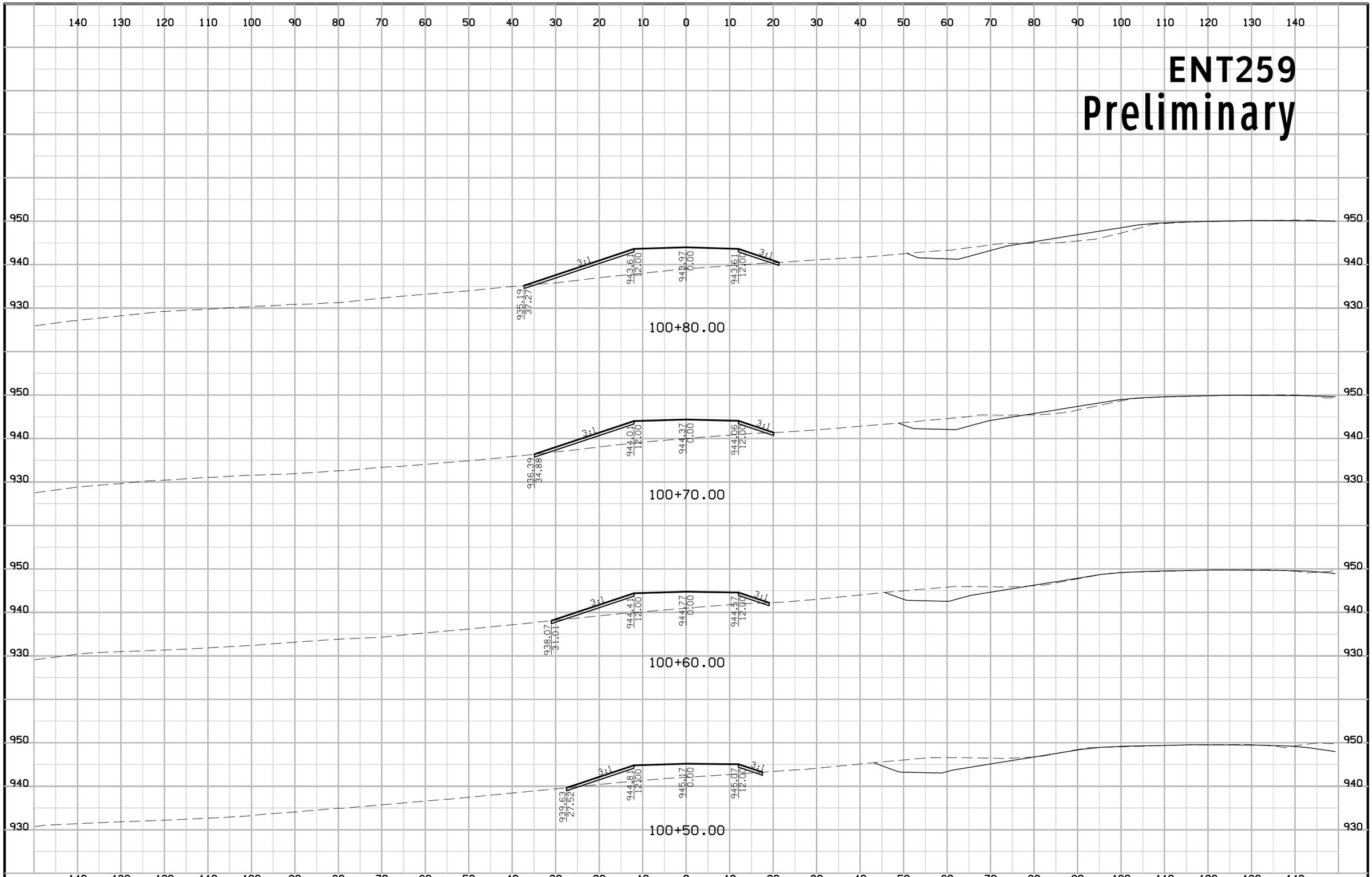
ENT259
Preliminary



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ENT259
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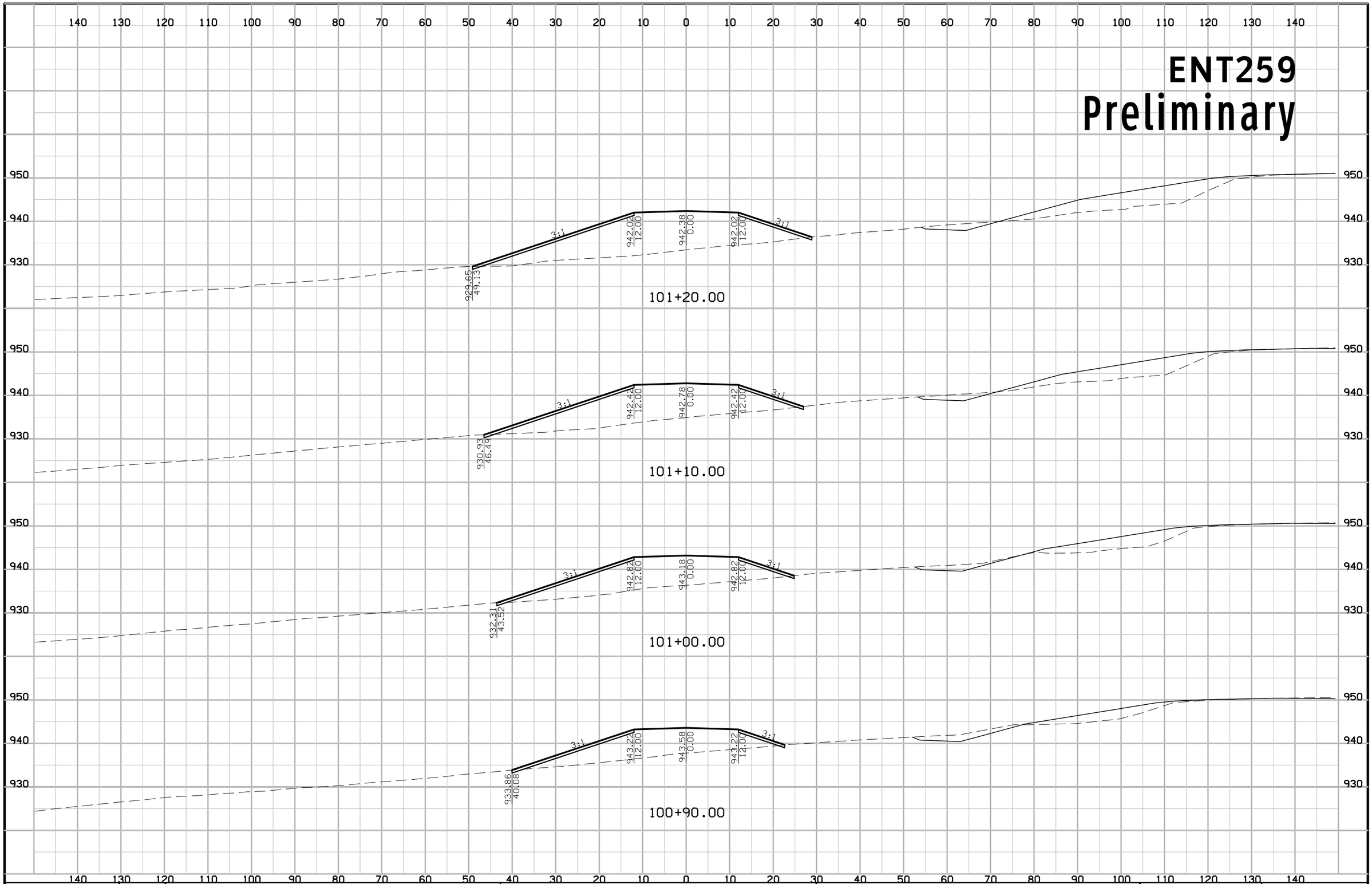

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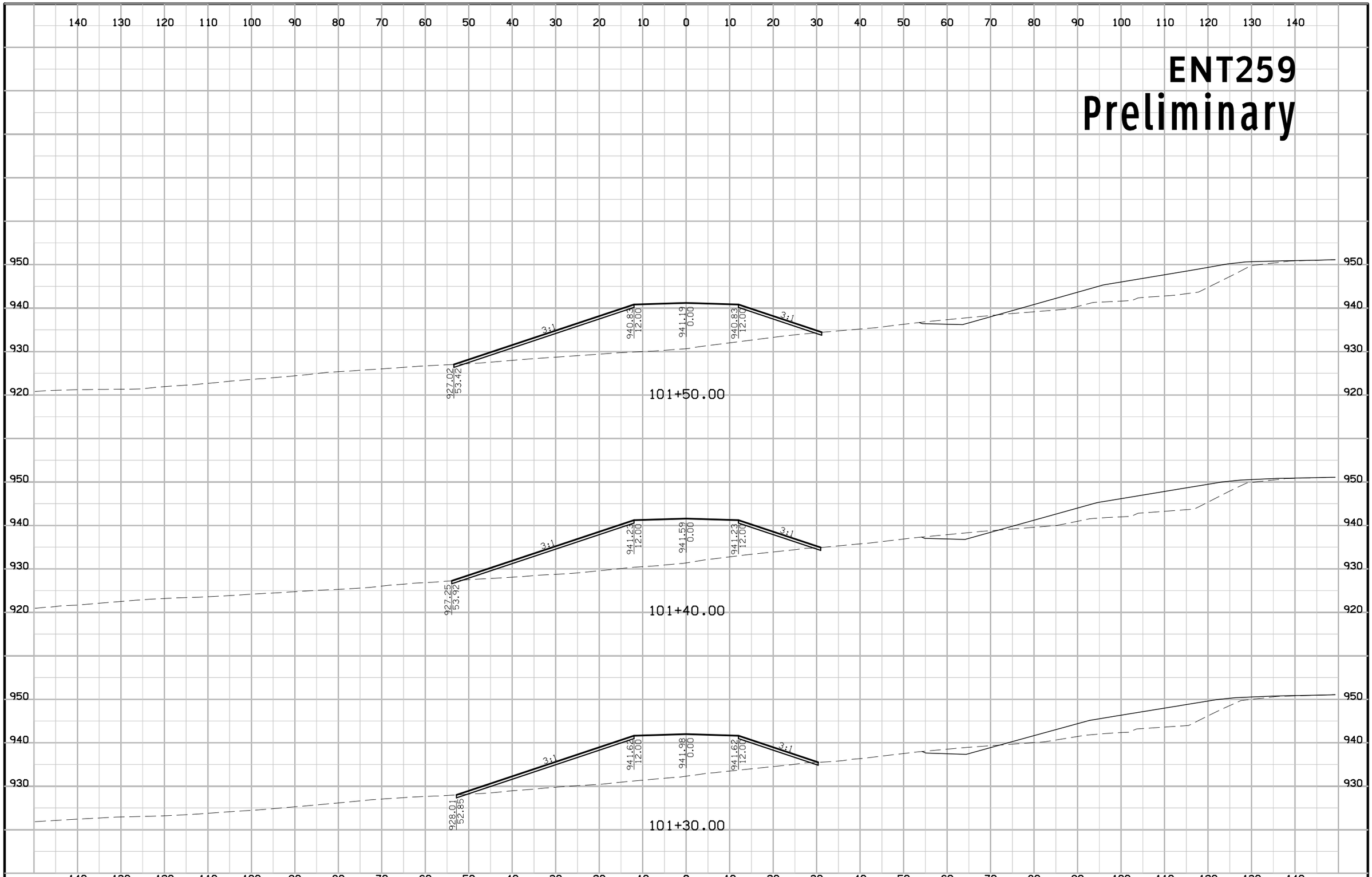
ENT259
Preliminary



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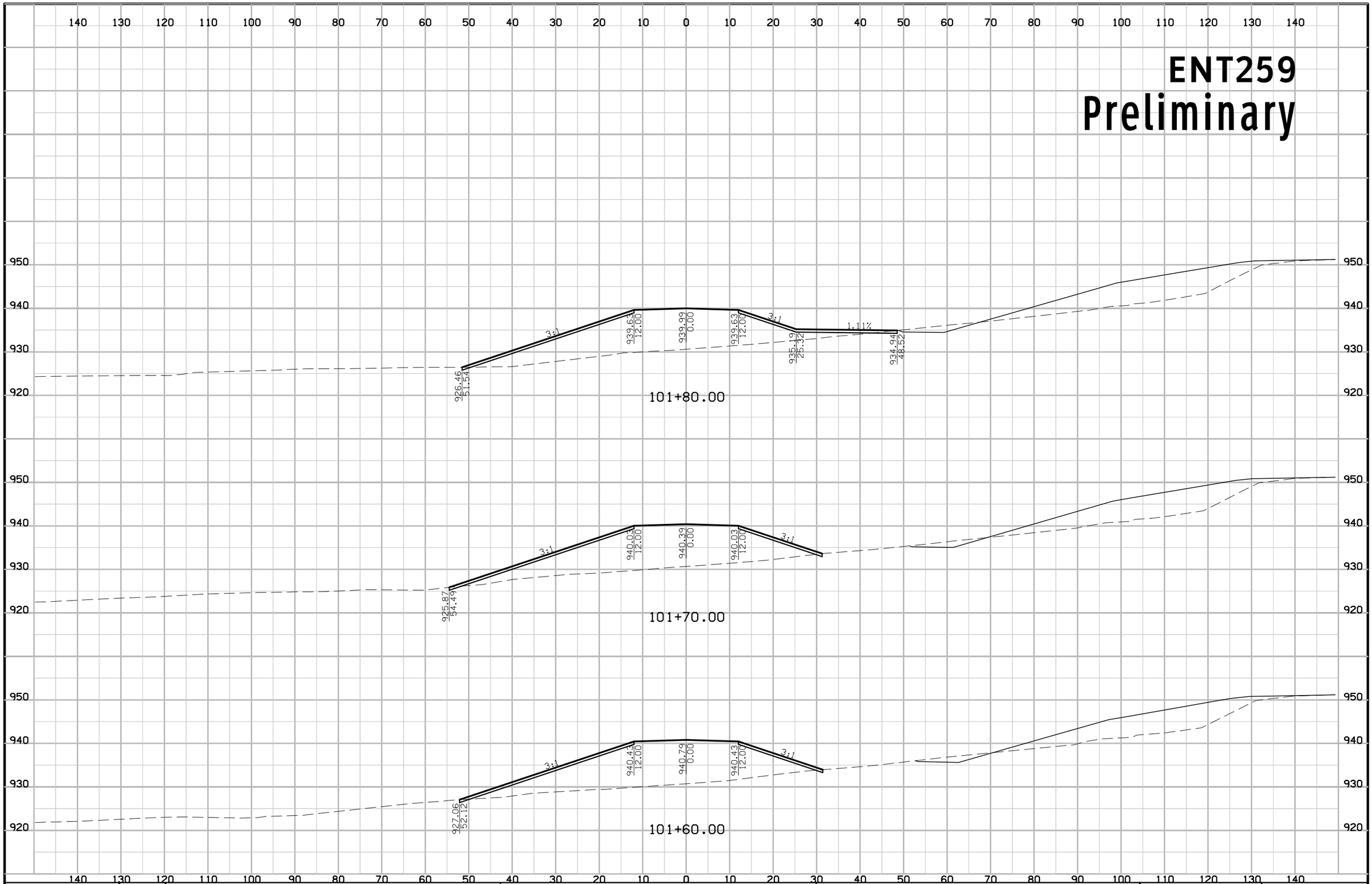
ENT259
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.52

1:59:50 PM 6/23/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X10_ENT259.sht

ENT259
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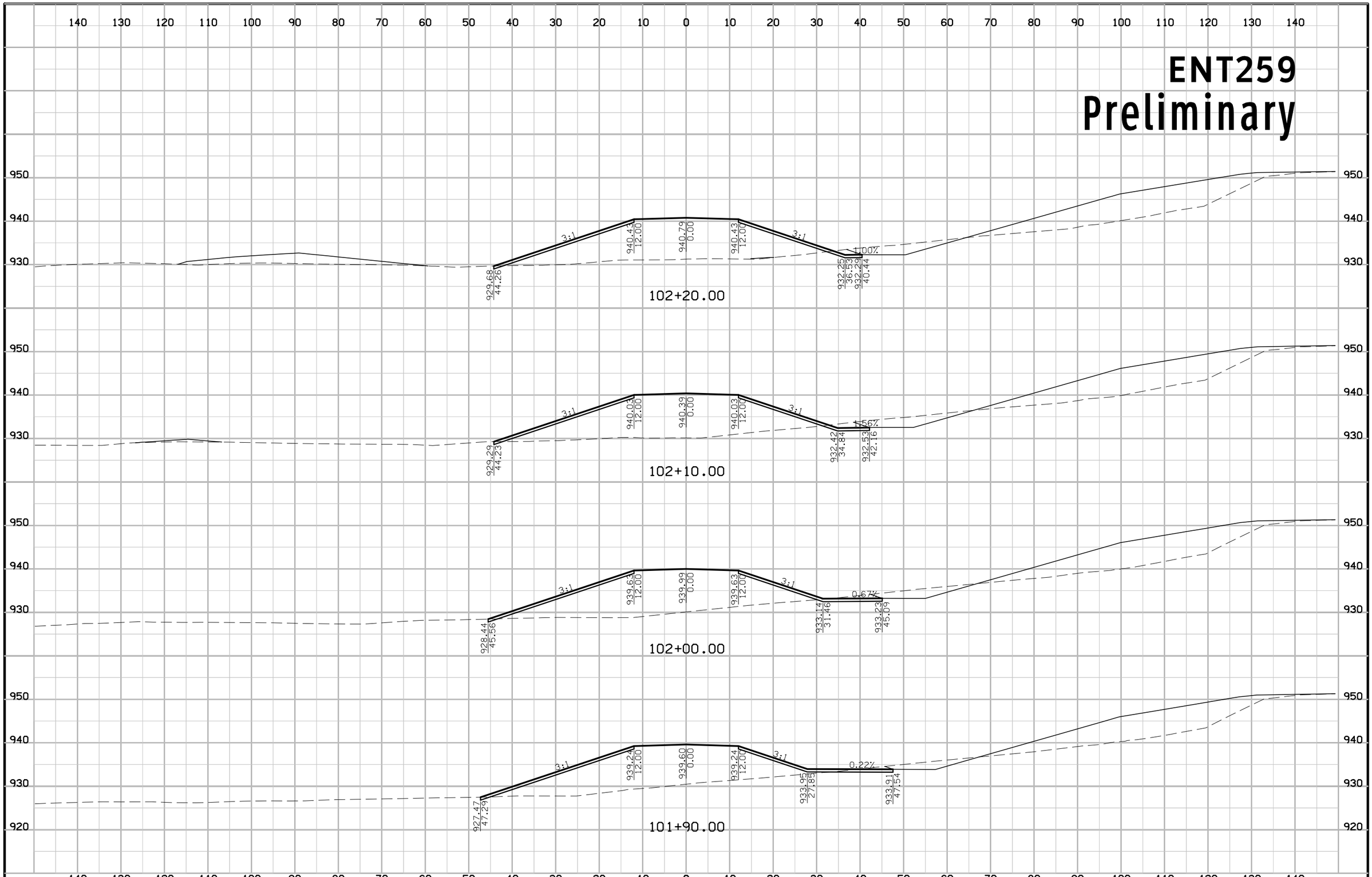

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.53

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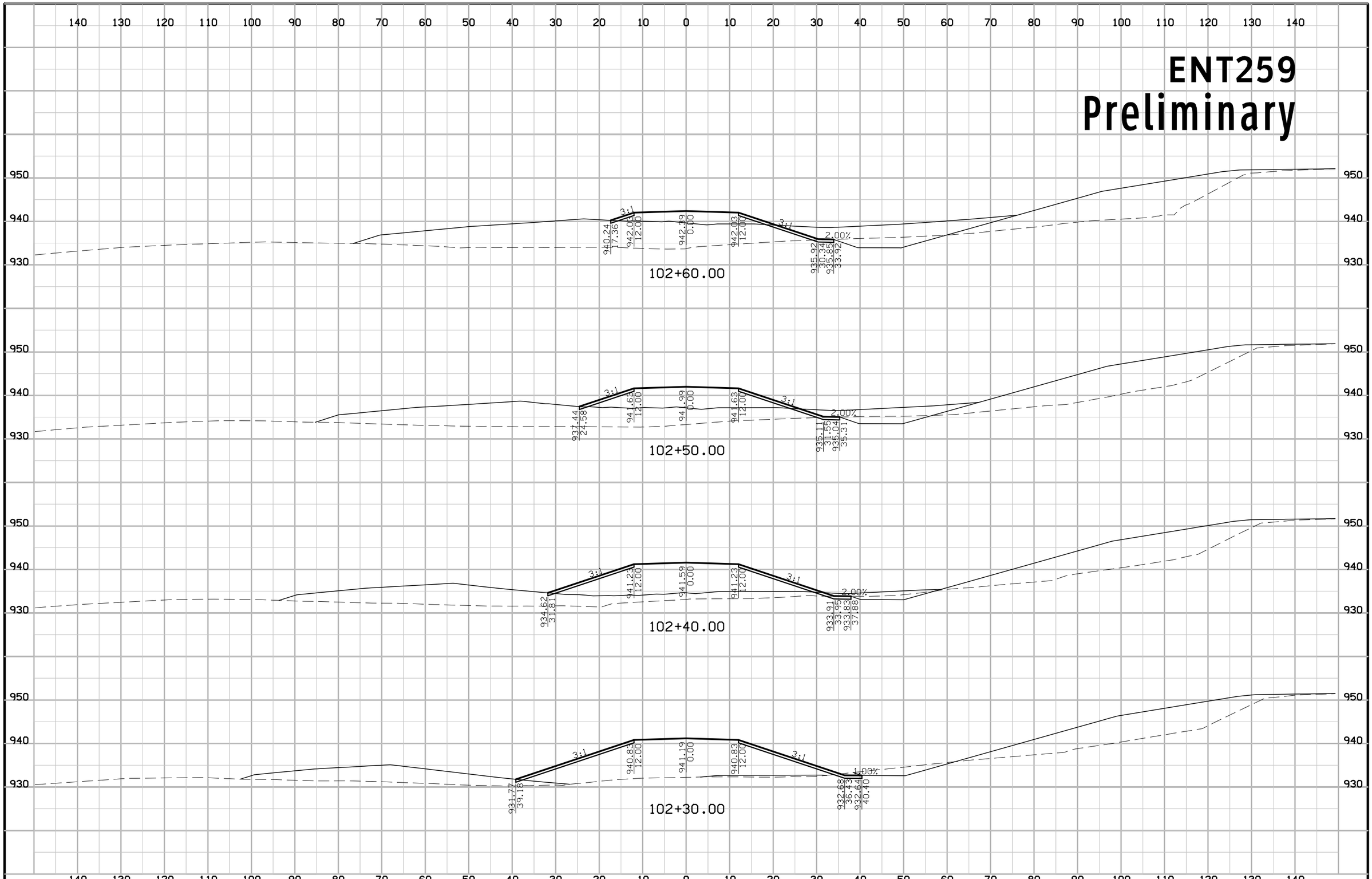

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.54

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ENT259
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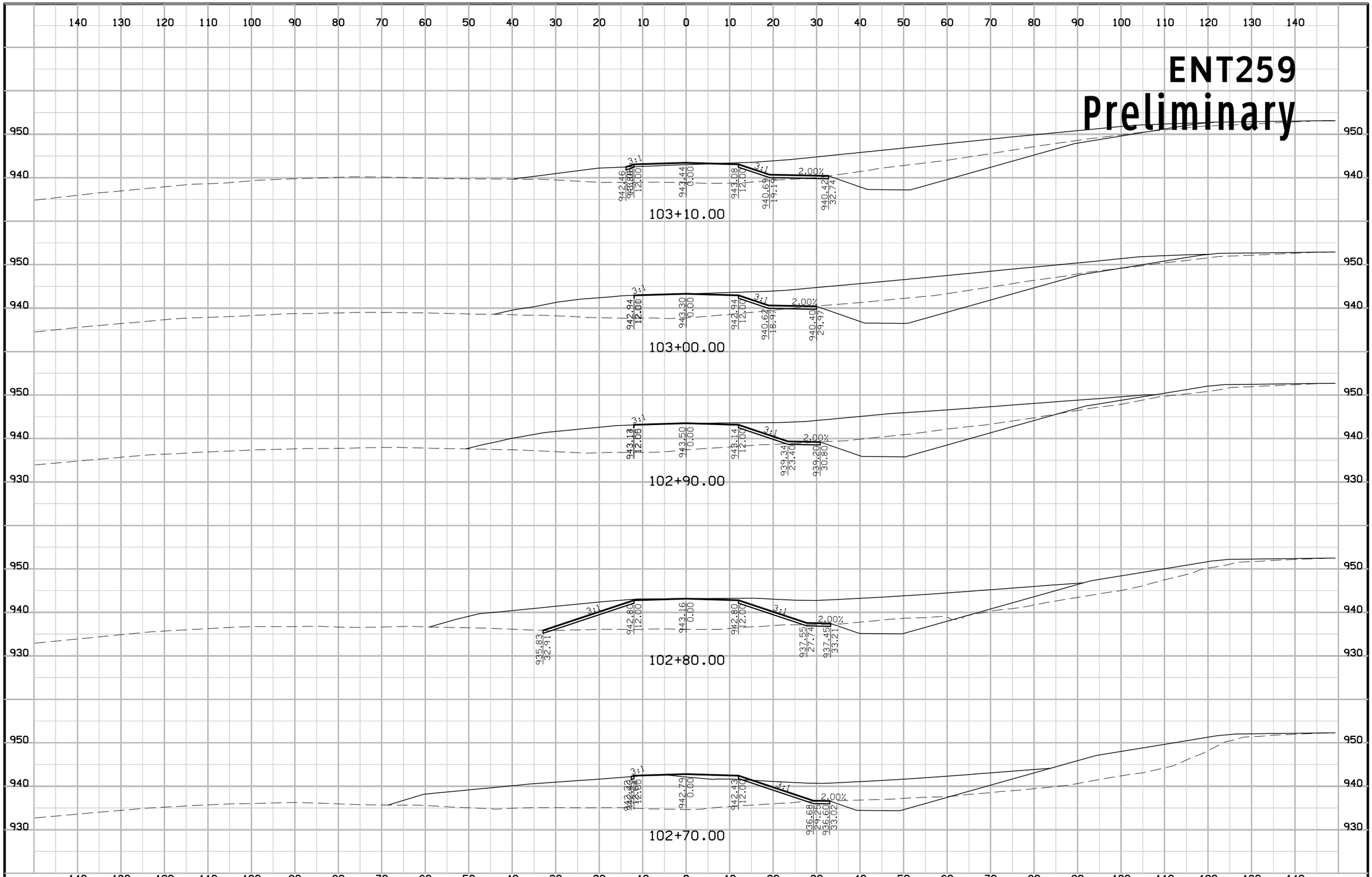

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.55

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ENT259
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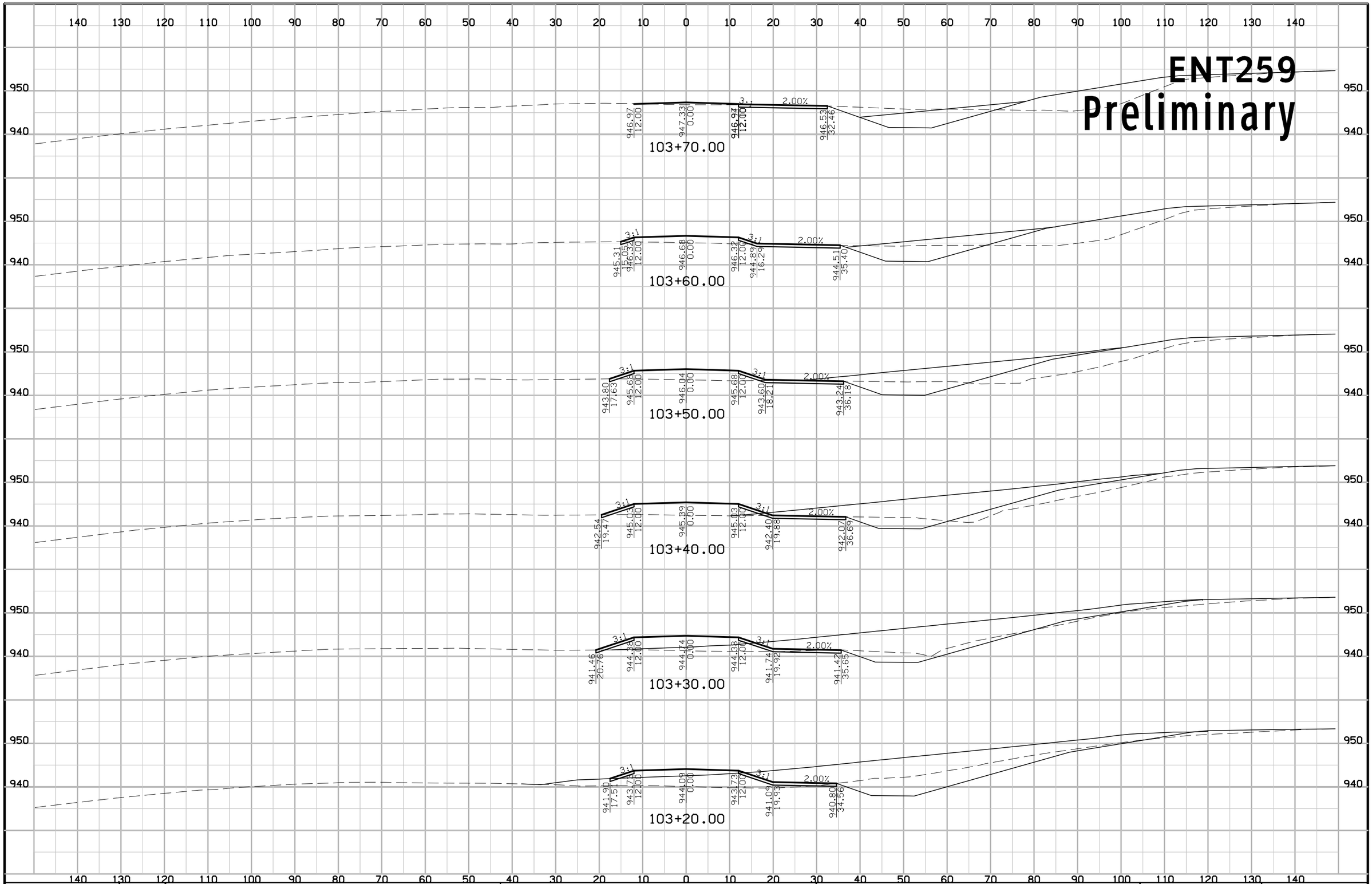

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ENT259
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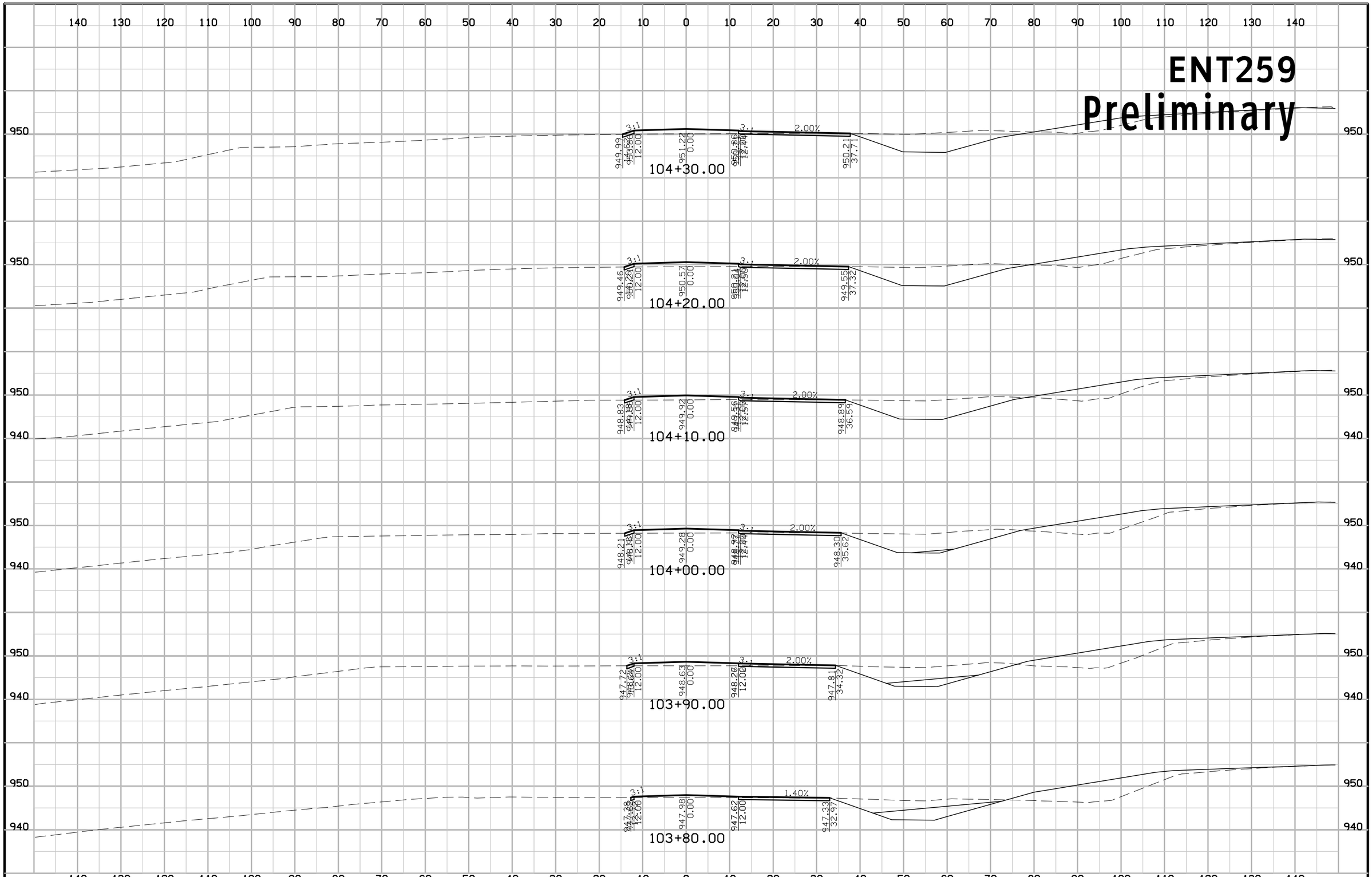

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.57

2:00:01 PM 6/23/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X10_ENT259.sht

ENT259
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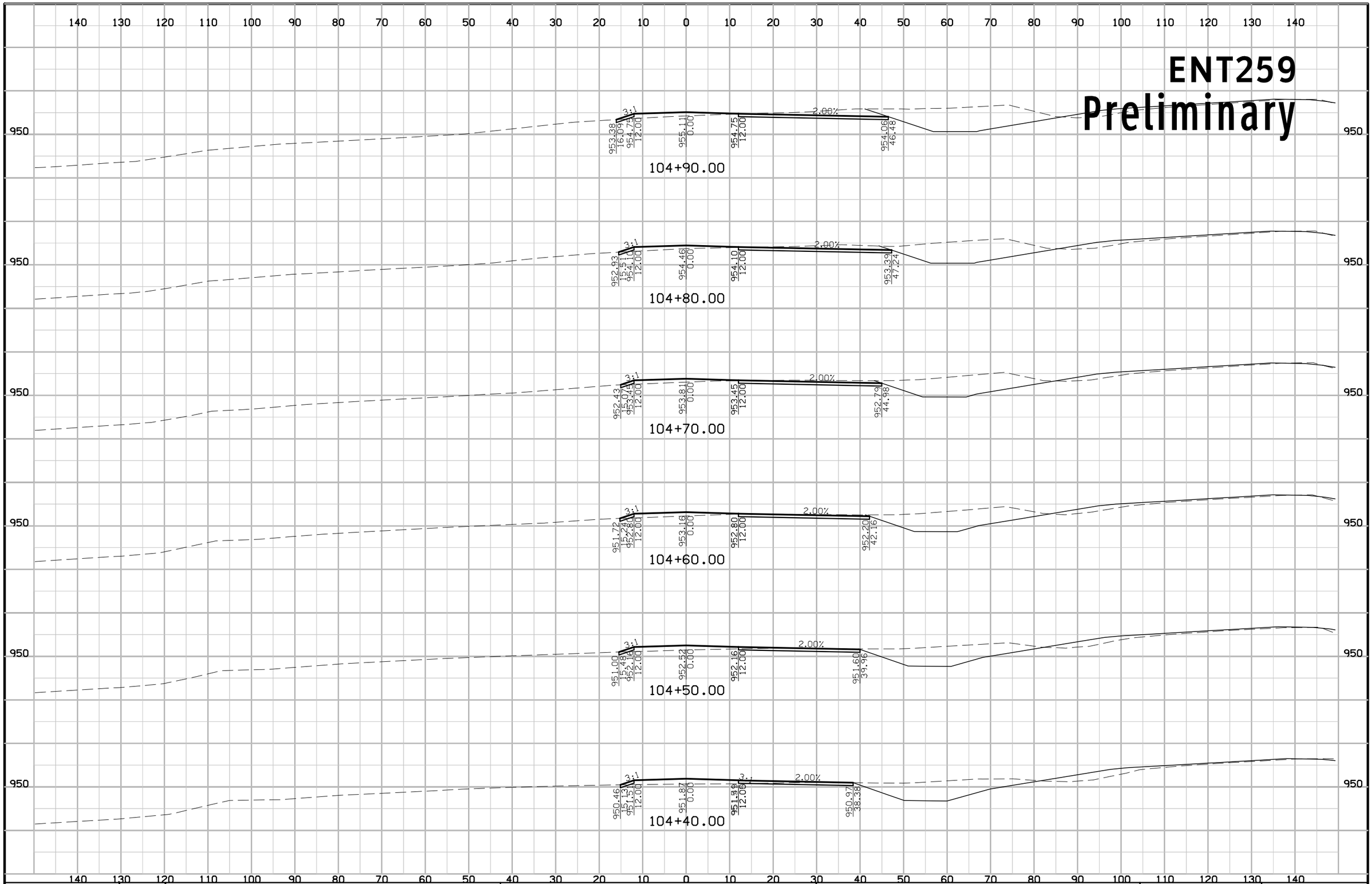

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.58

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ENT259
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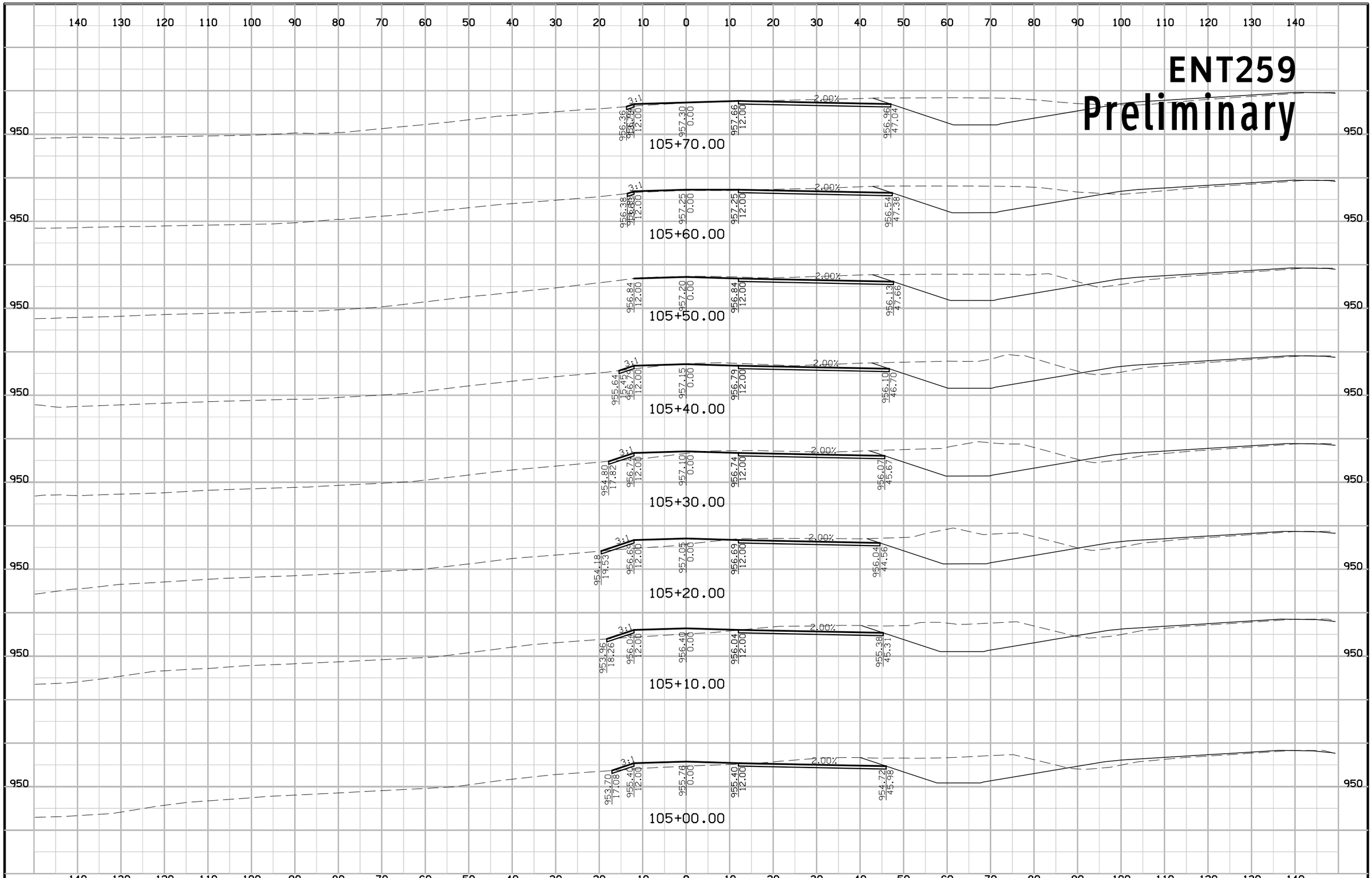

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.59

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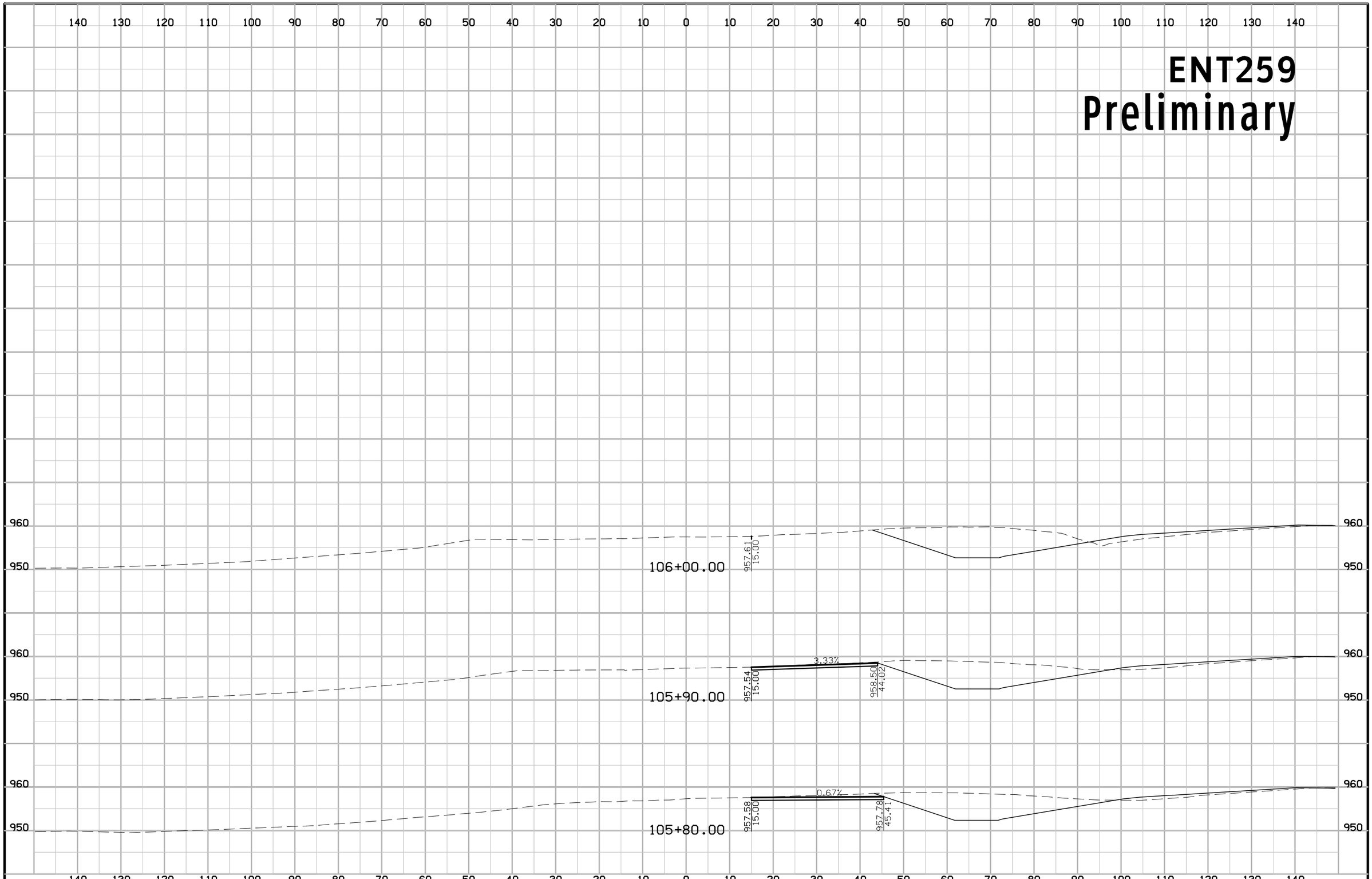

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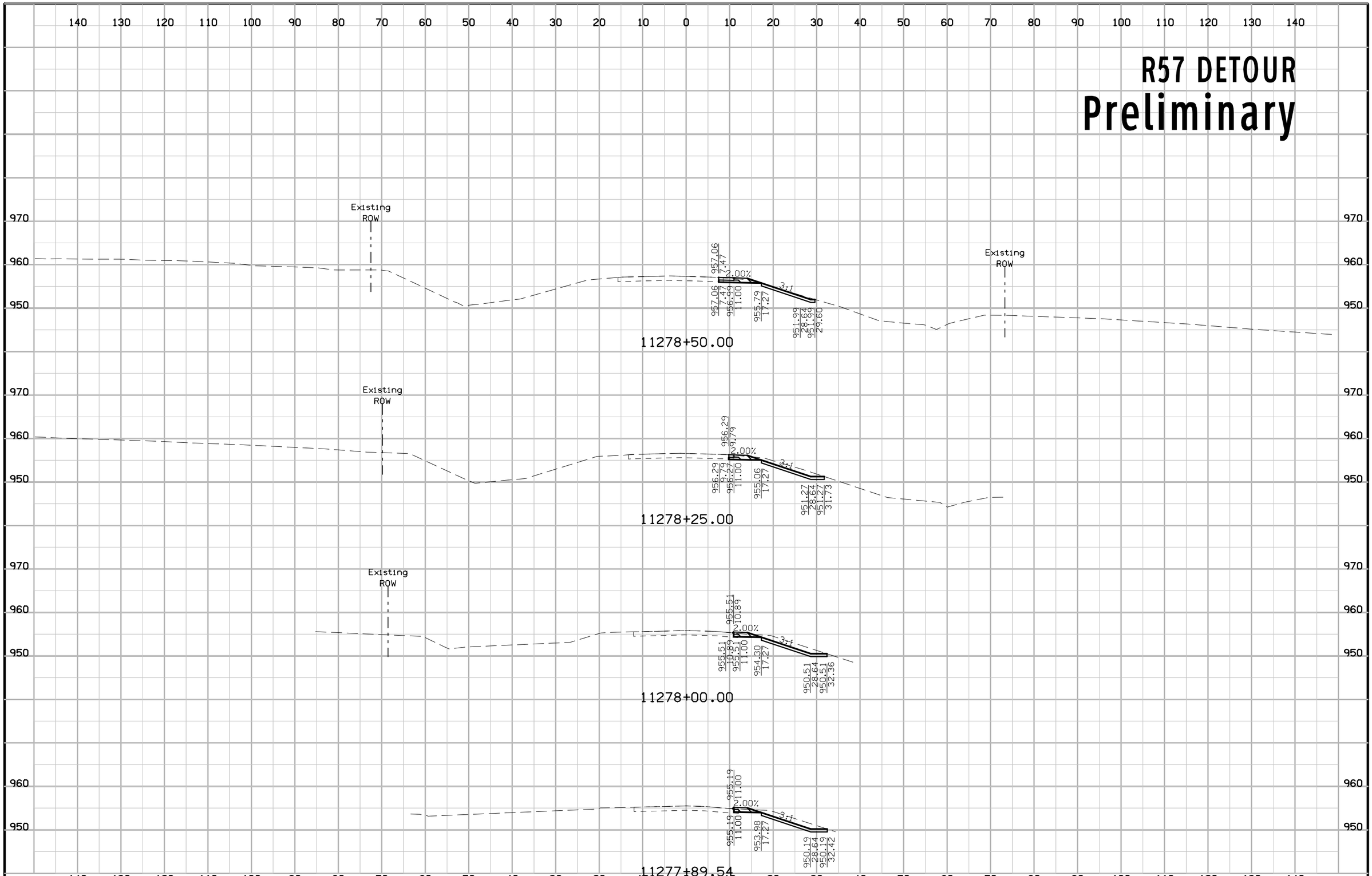
R57 DETOUR
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.35

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R57 DETOUR
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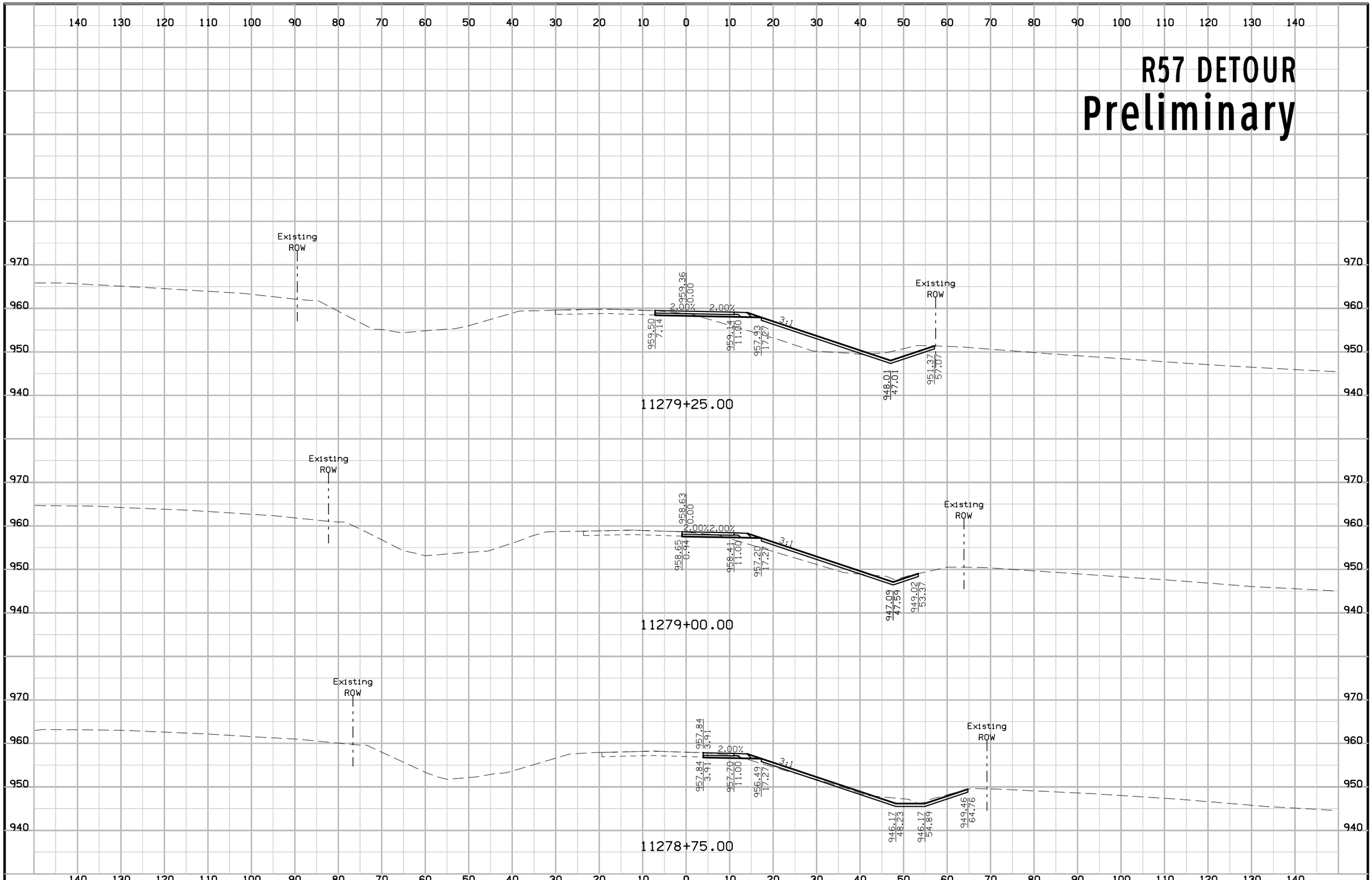

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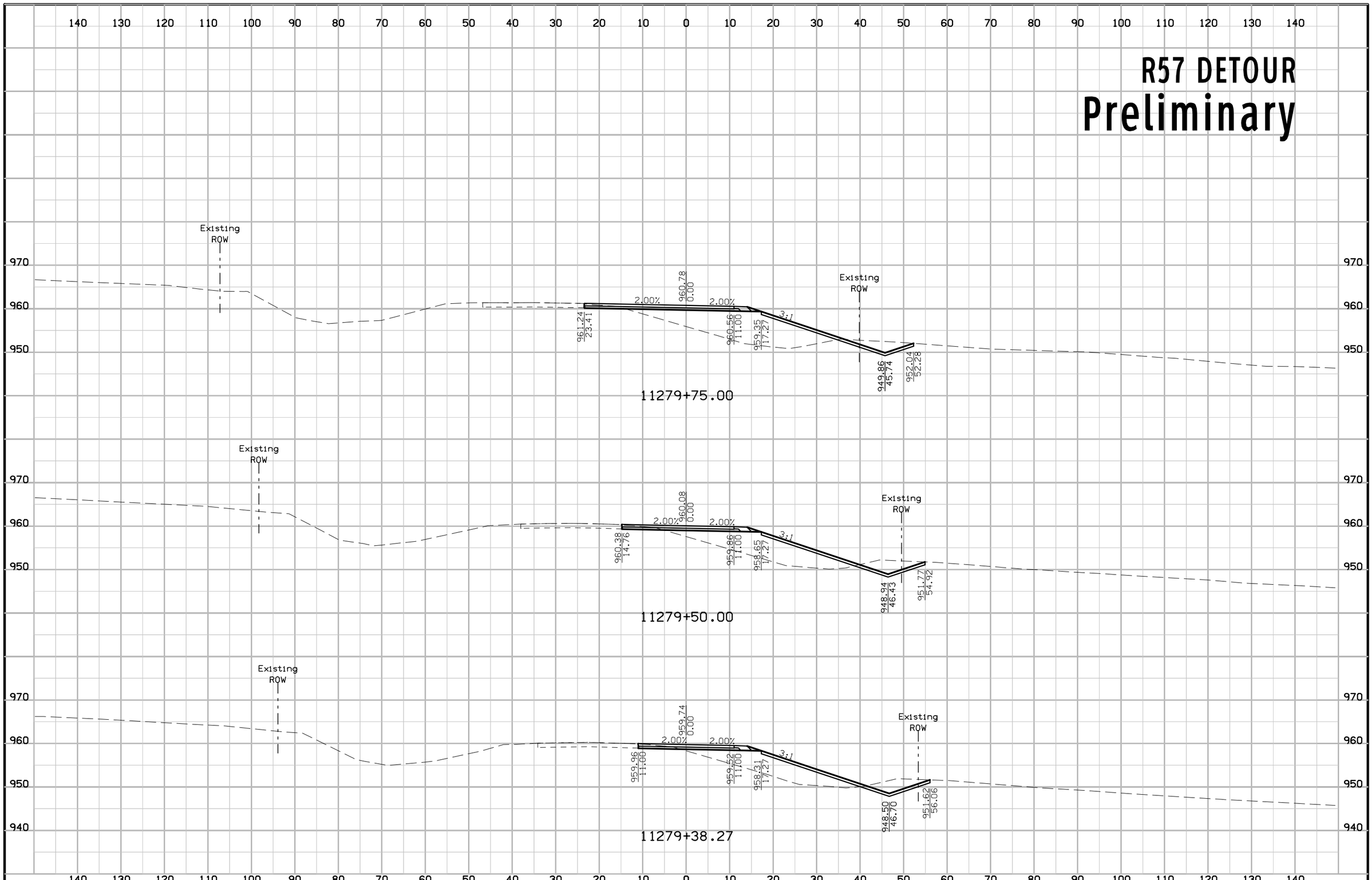

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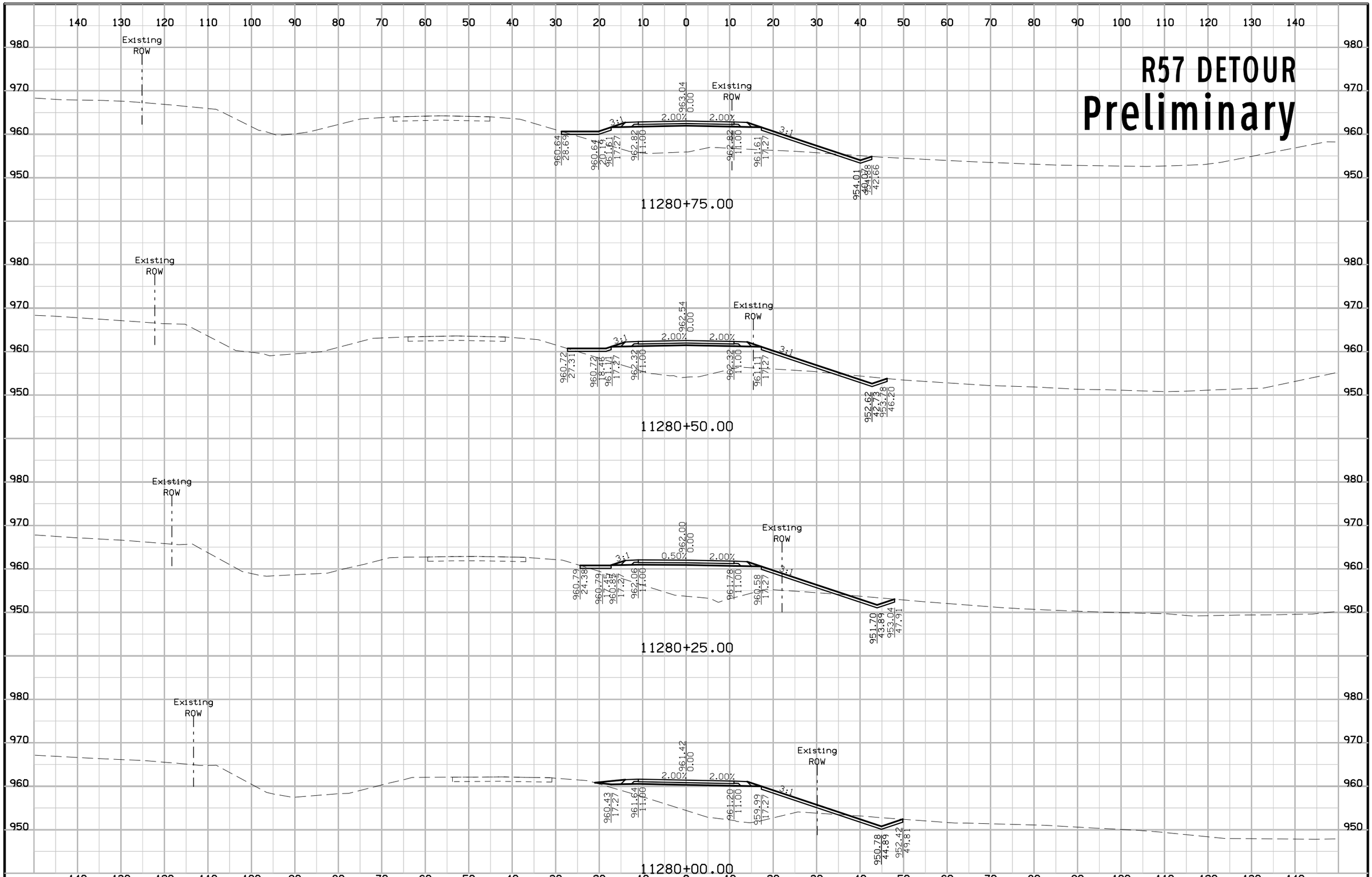

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.38

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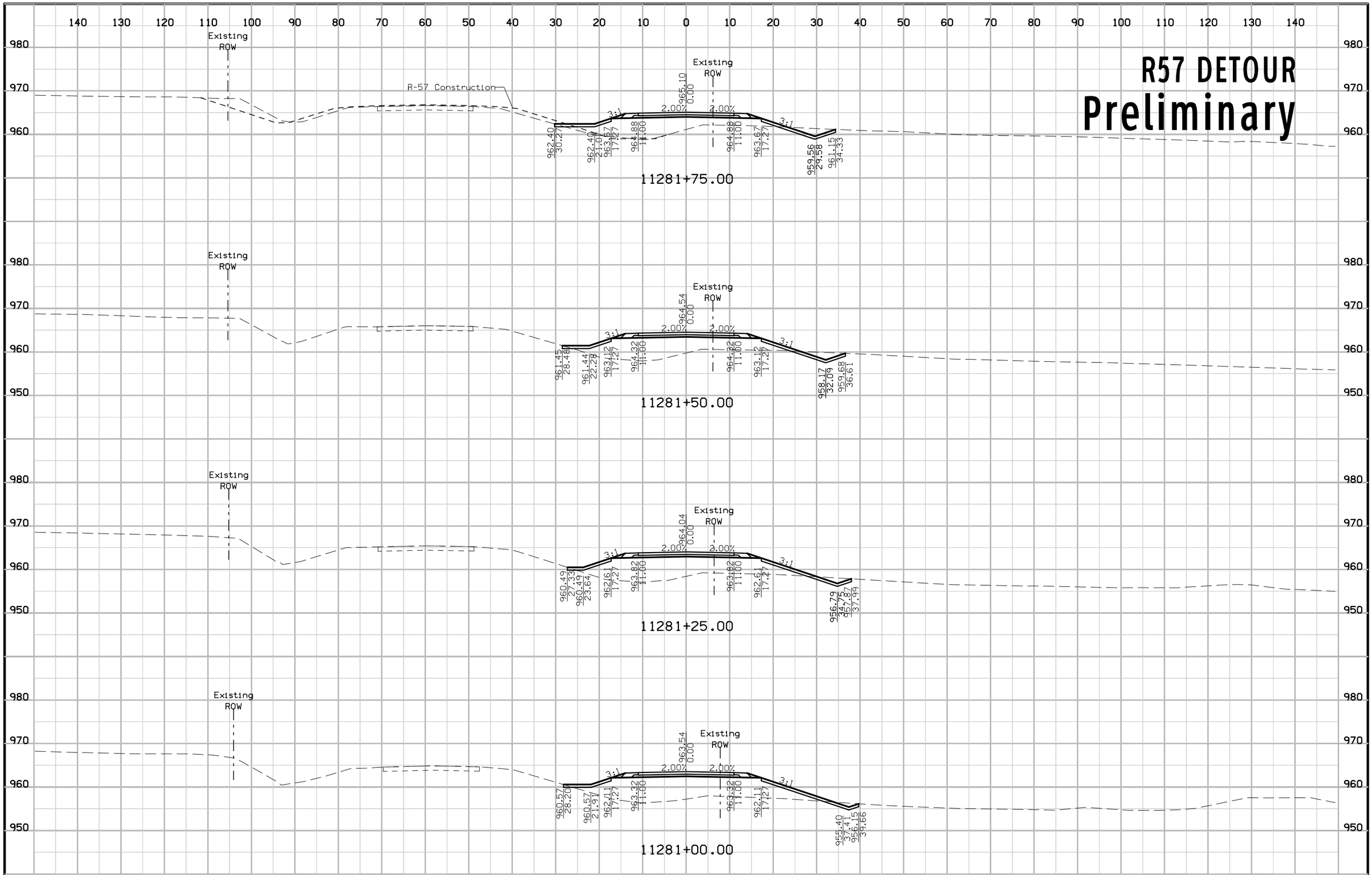

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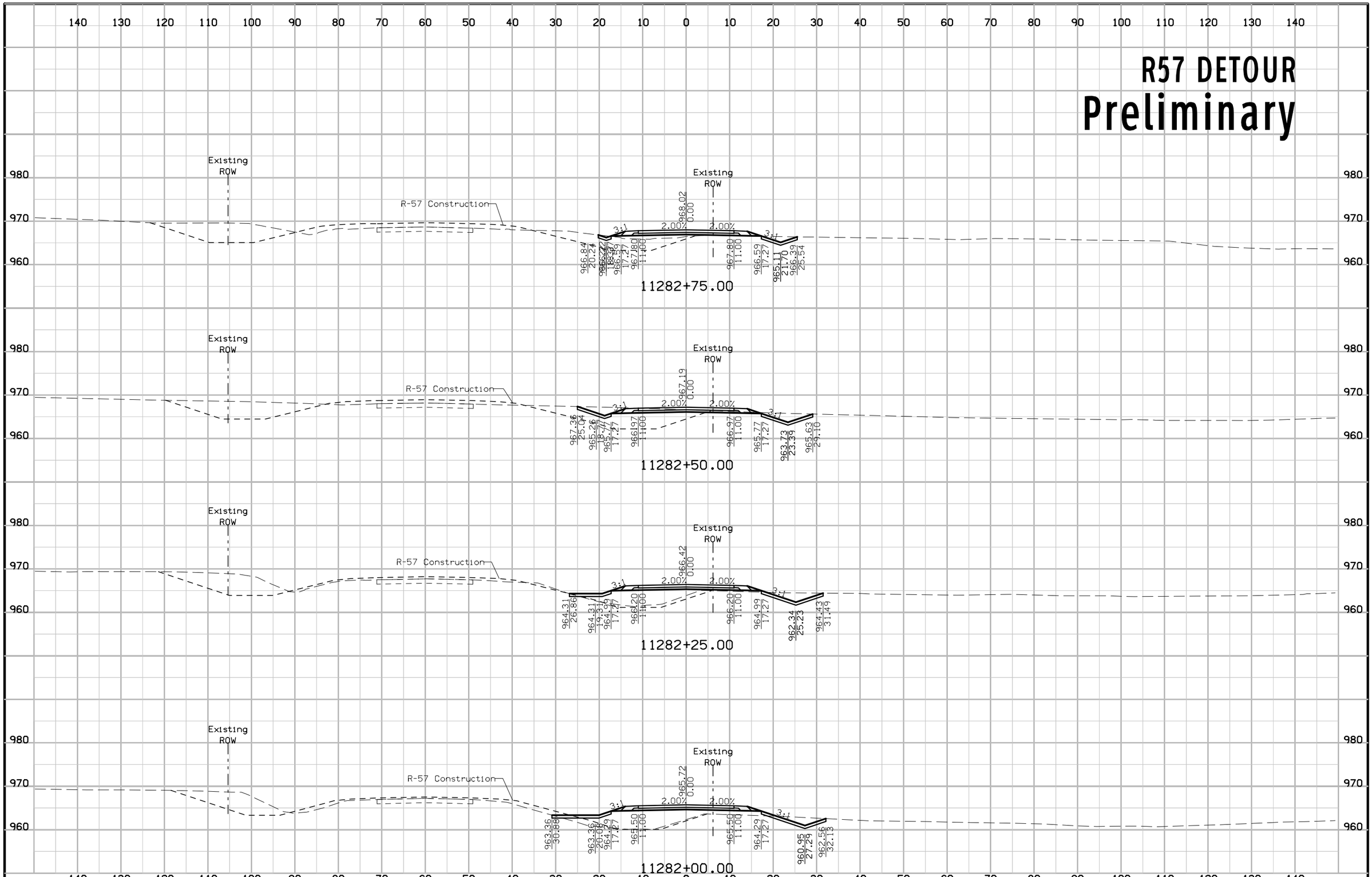

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.40

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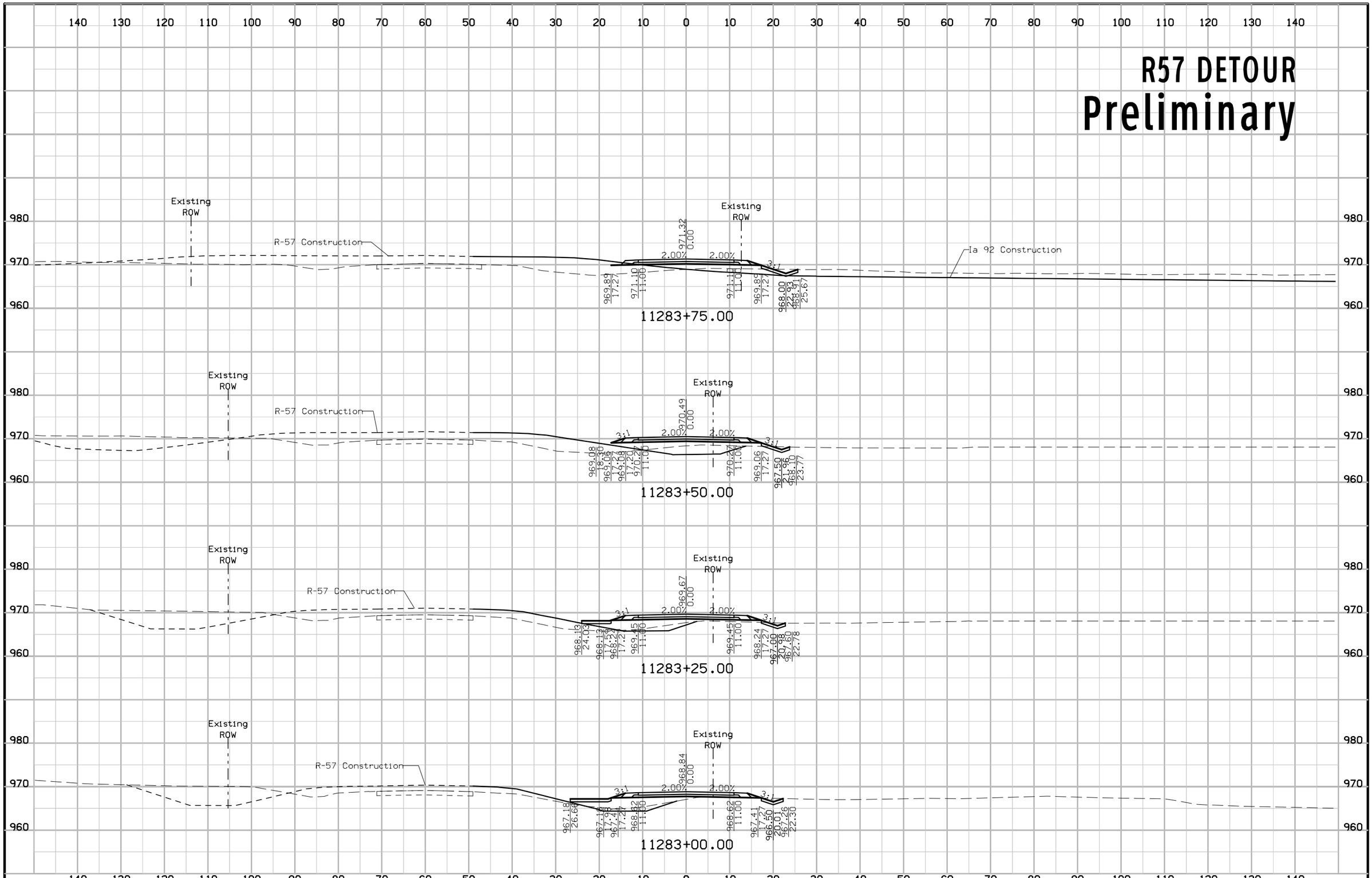

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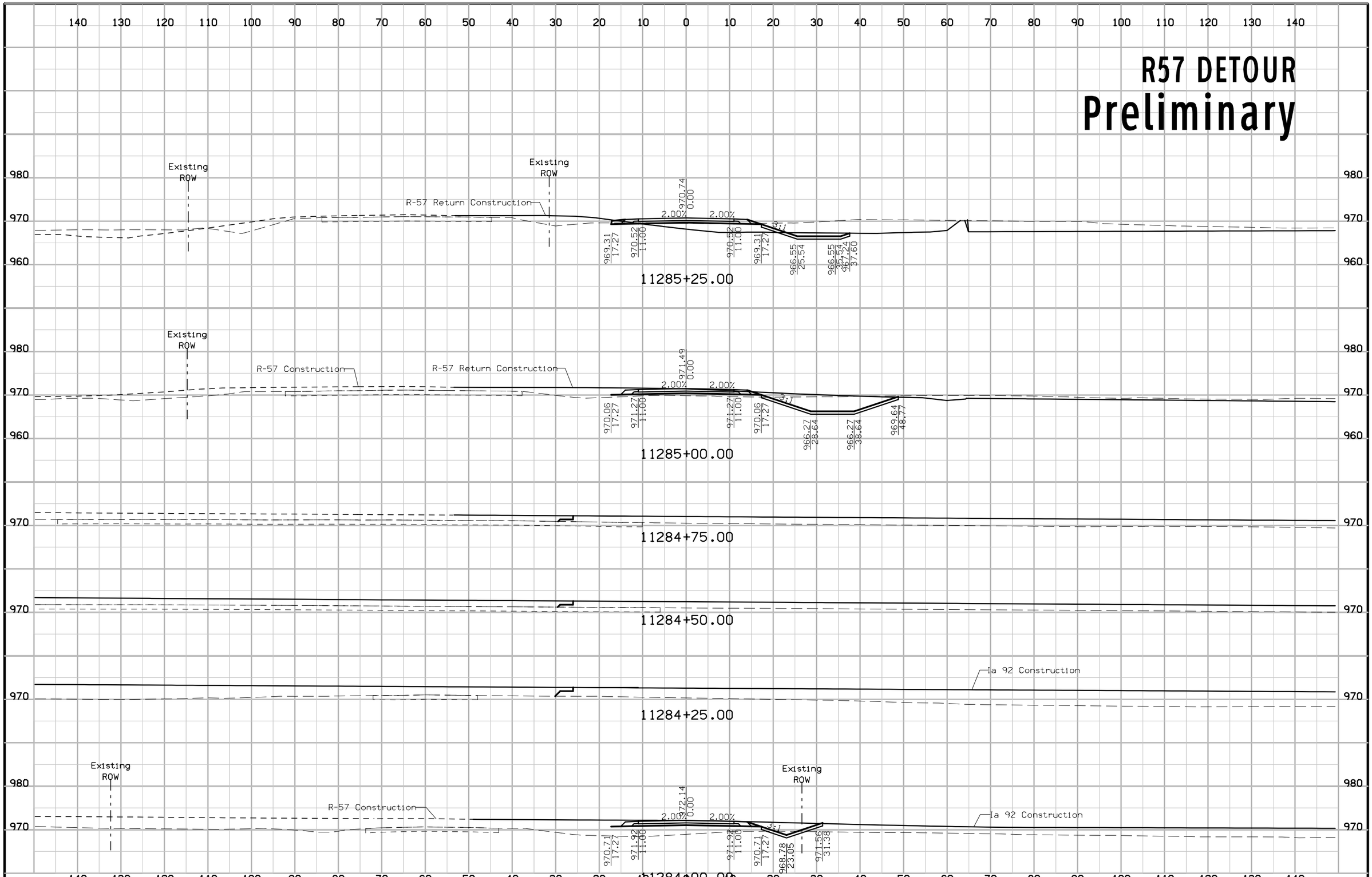

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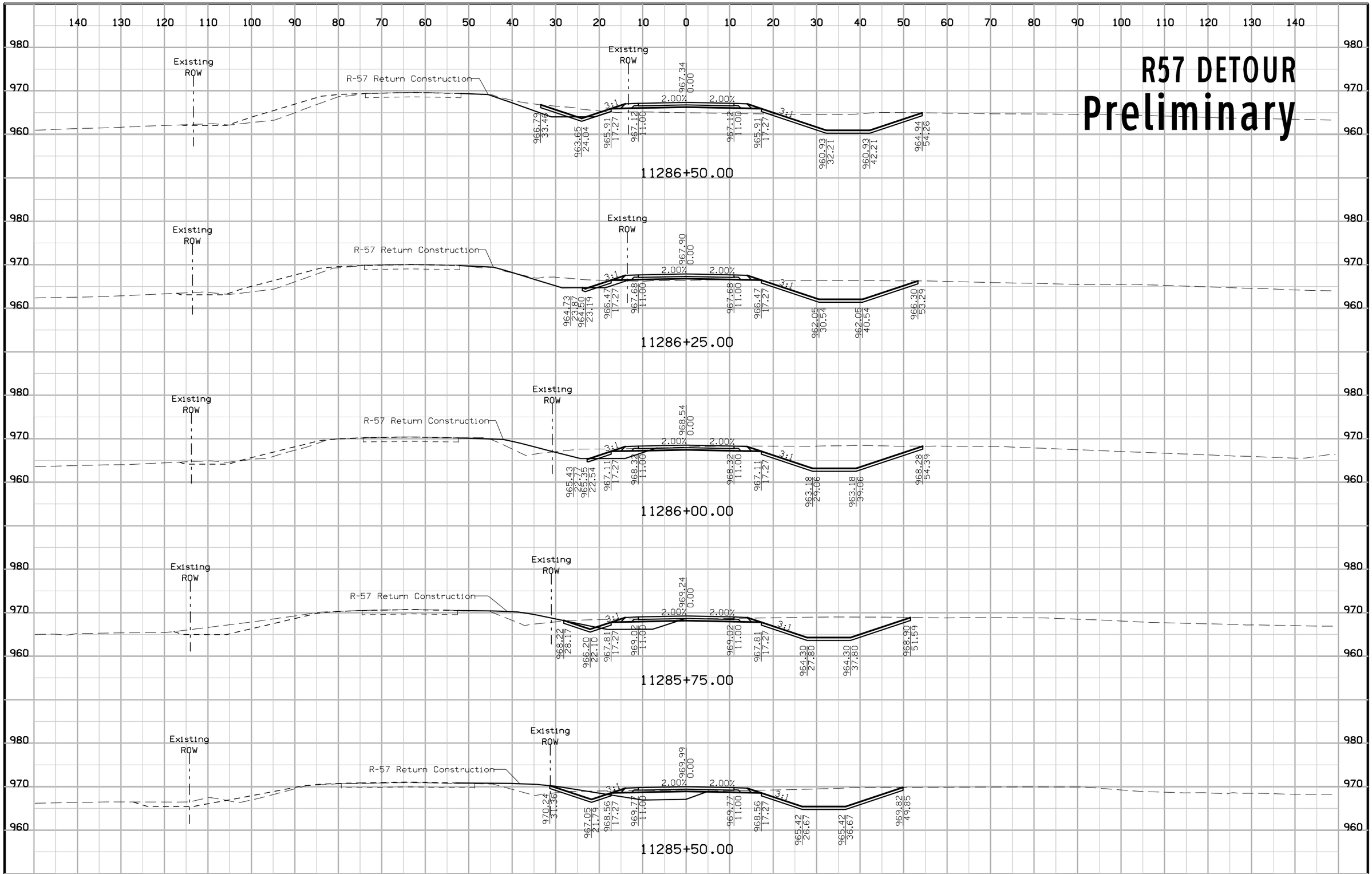

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.43

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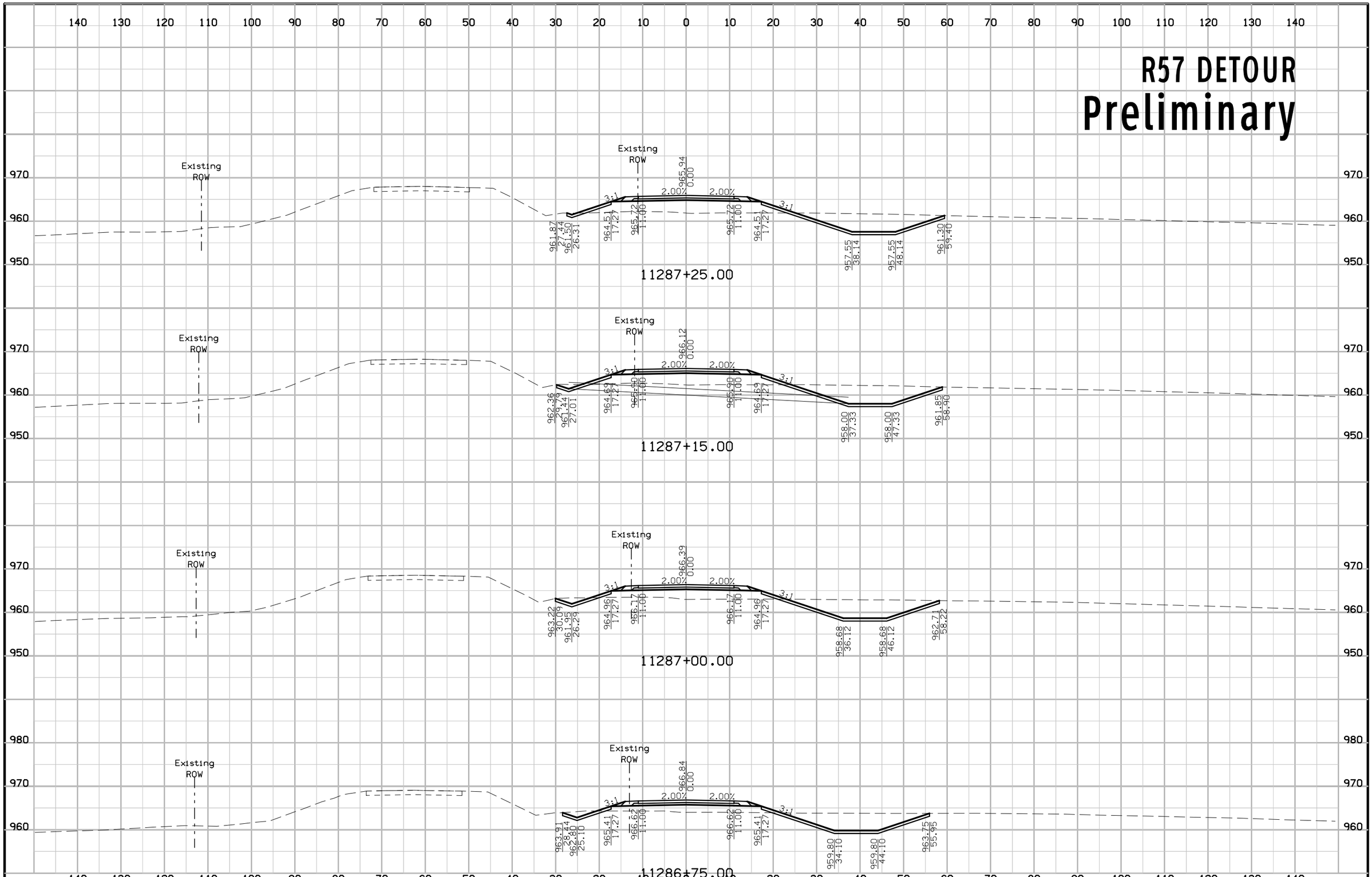

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R57 DETOUR
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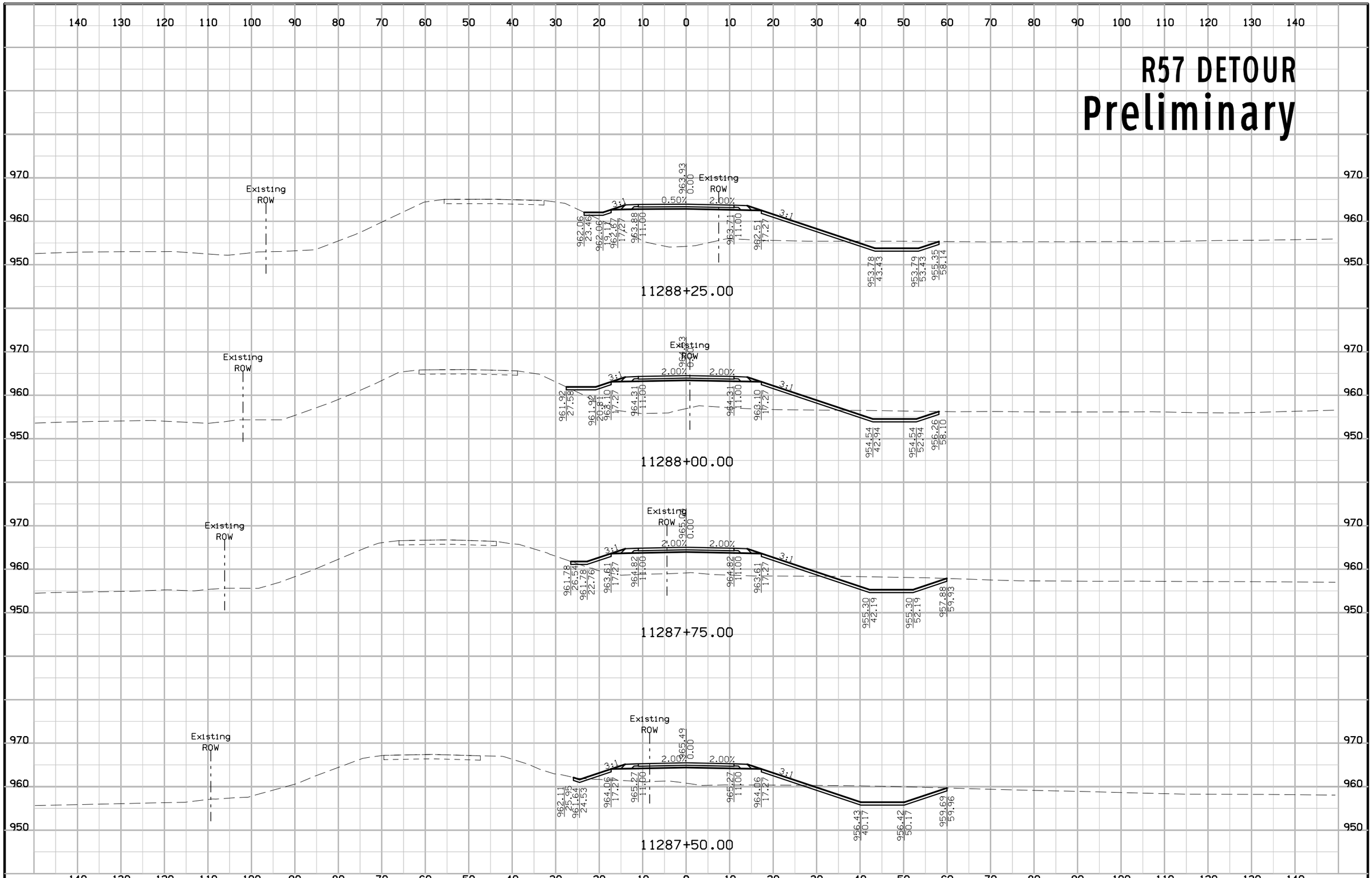

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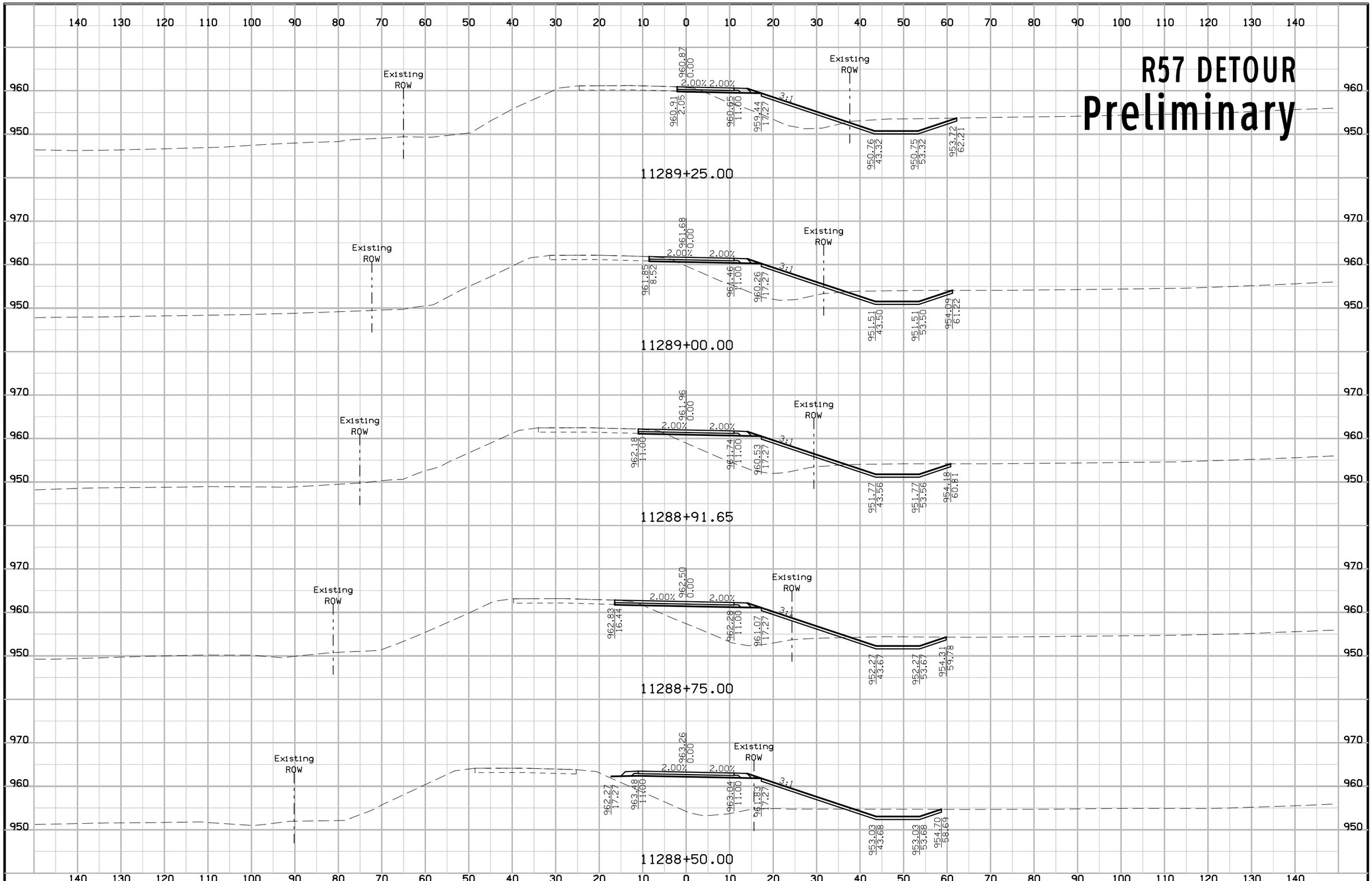

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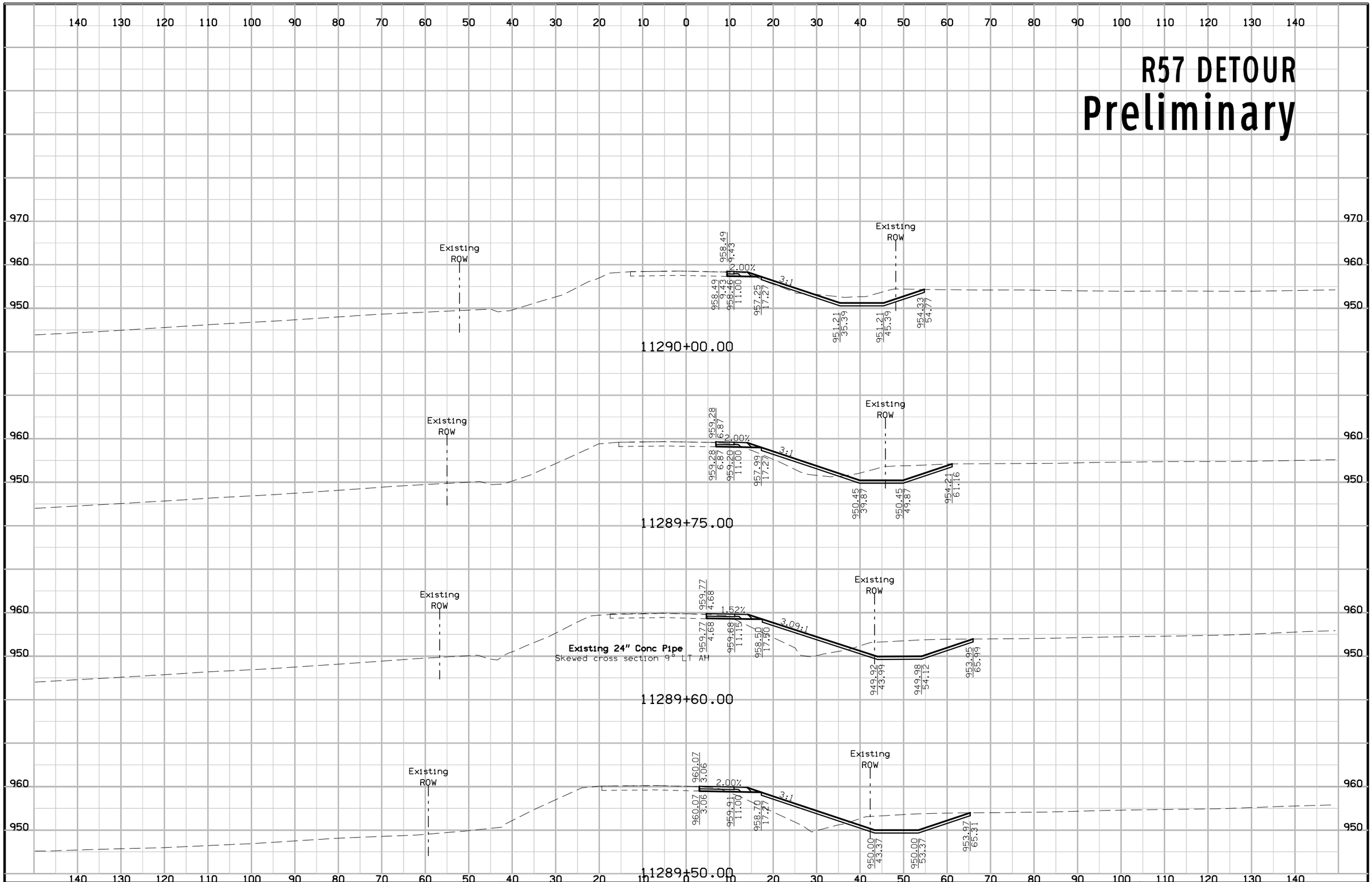

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.47

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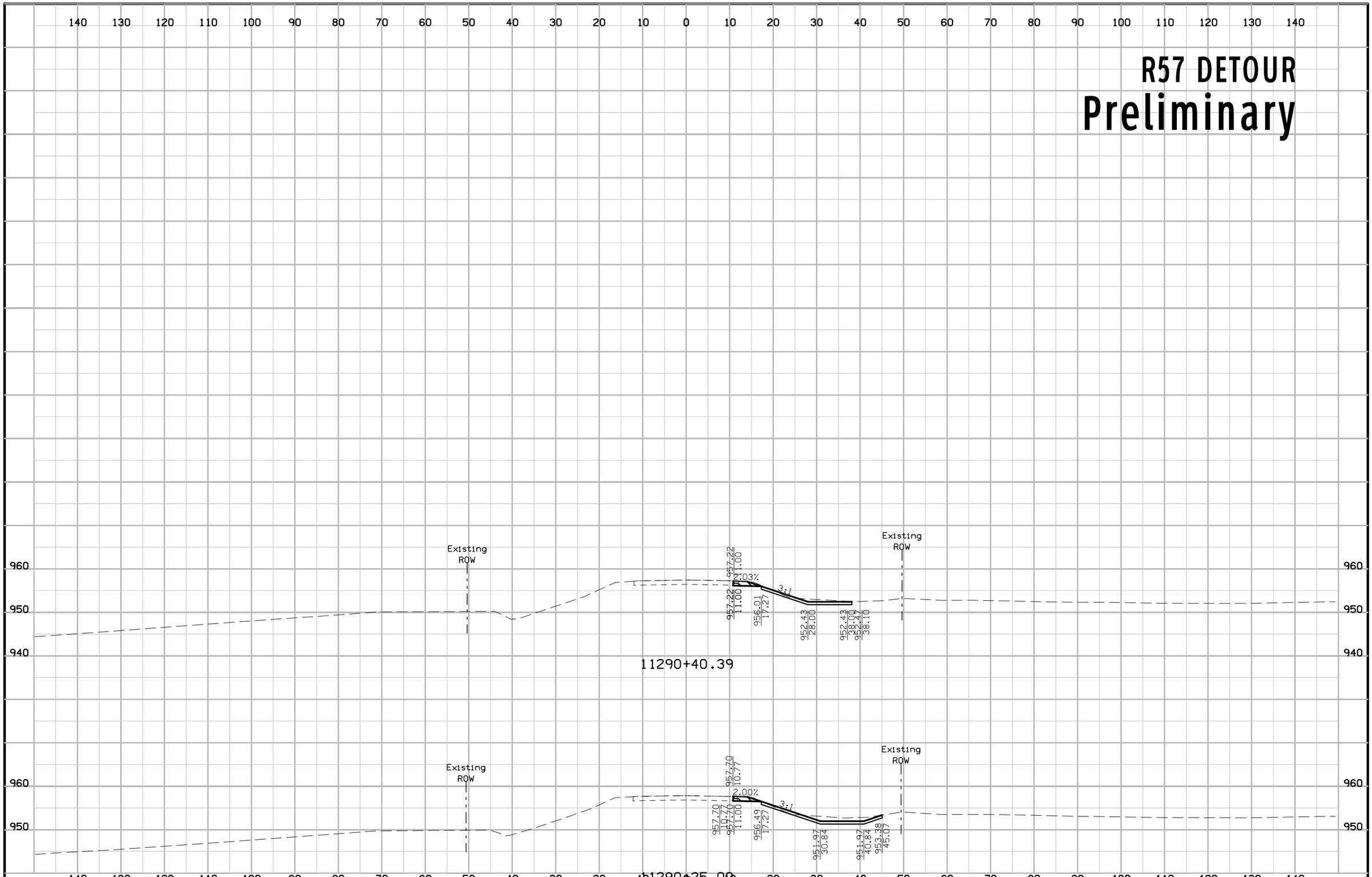
R57 DETOUR
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.48

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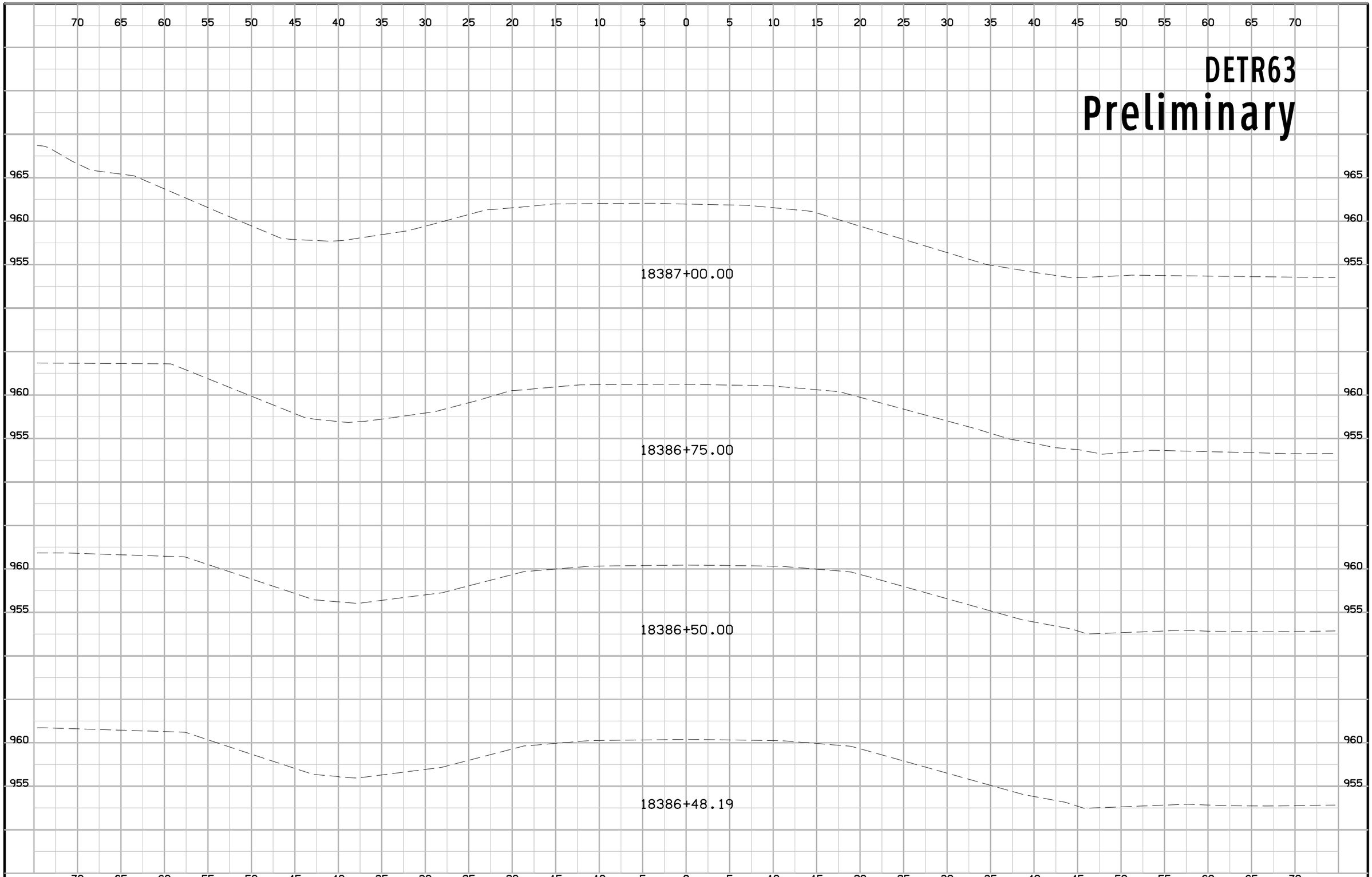

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.61

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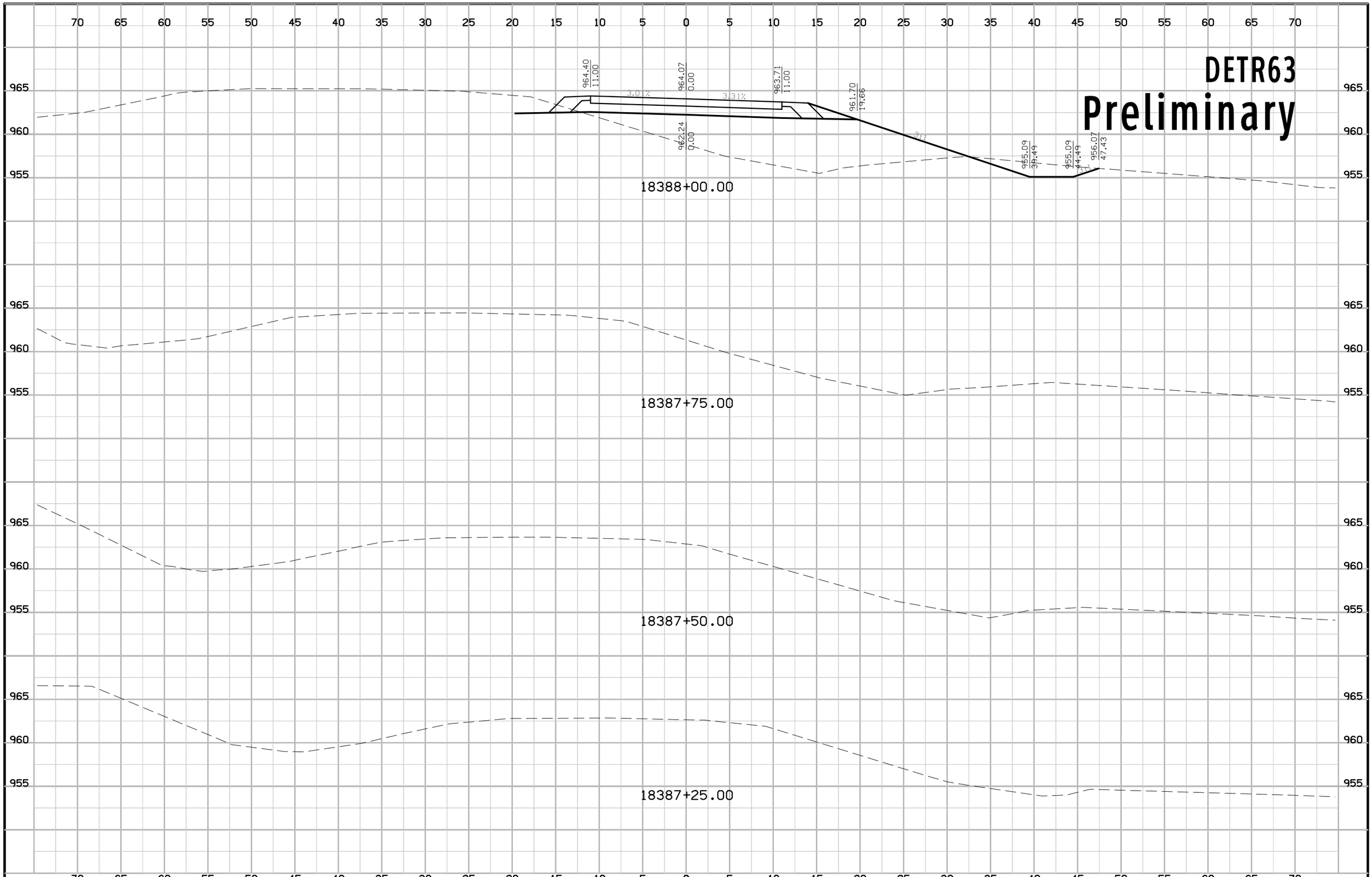

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DETR63

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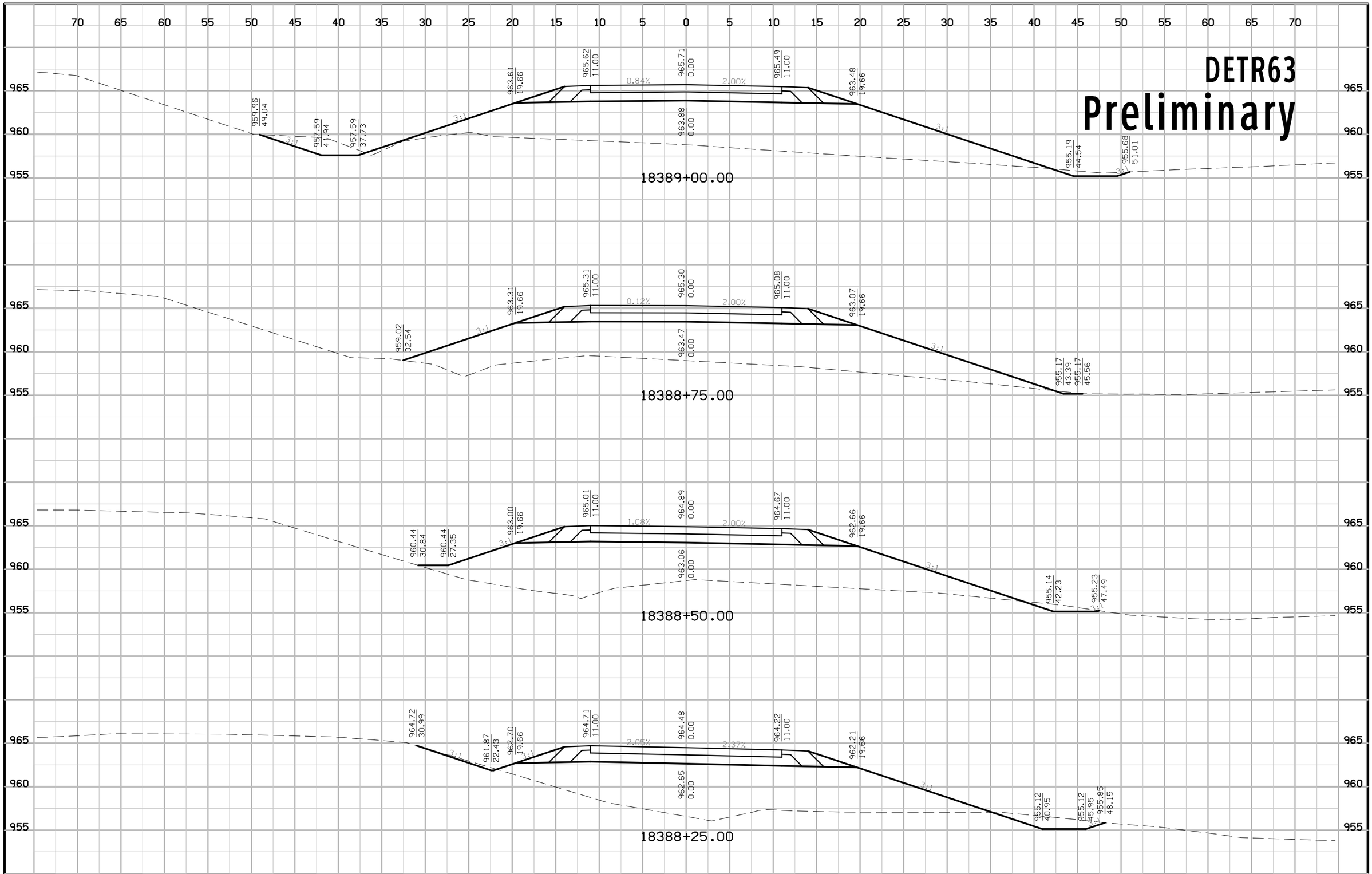

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.63

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DETR63
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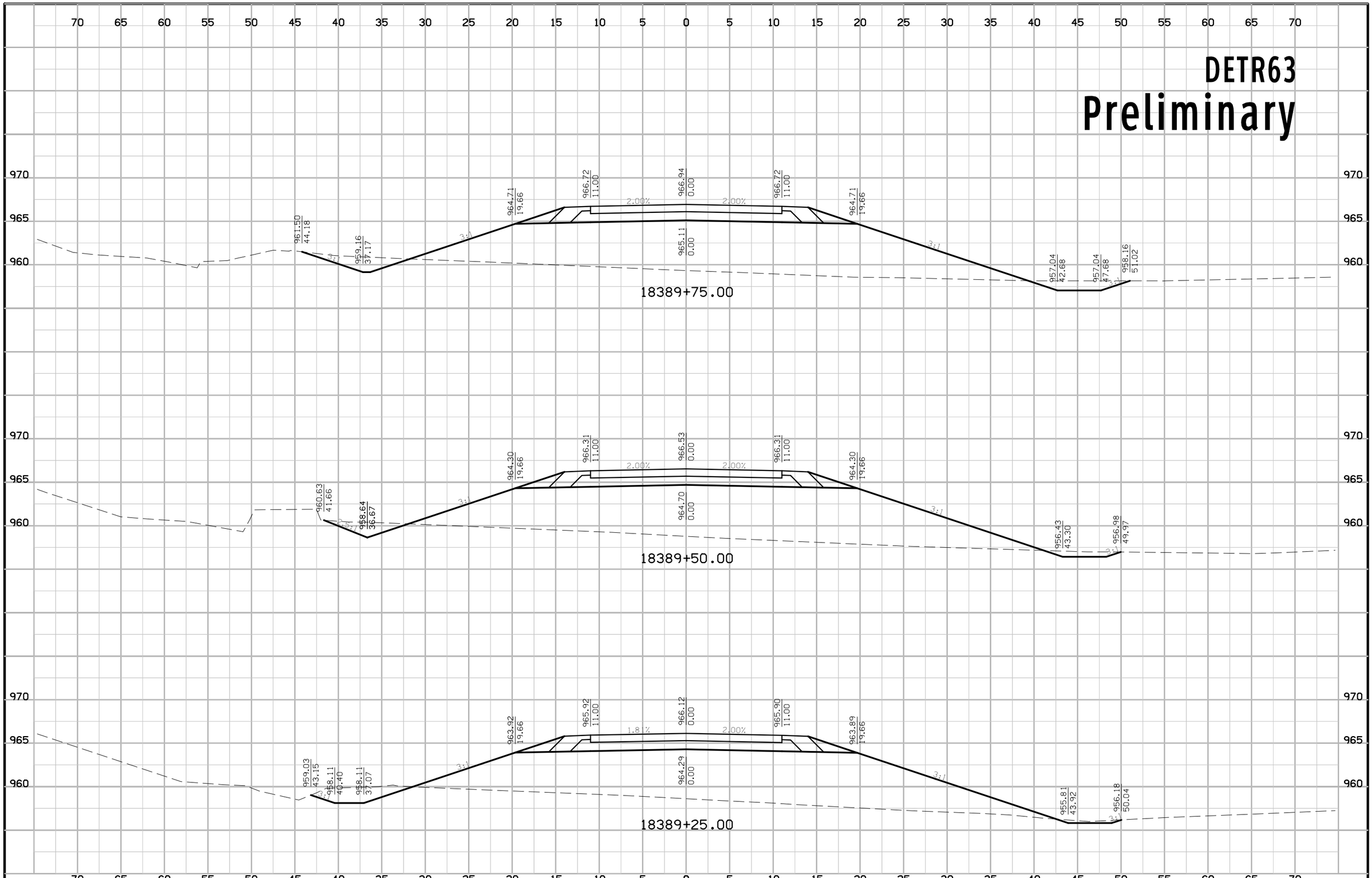

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.64

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DETR63
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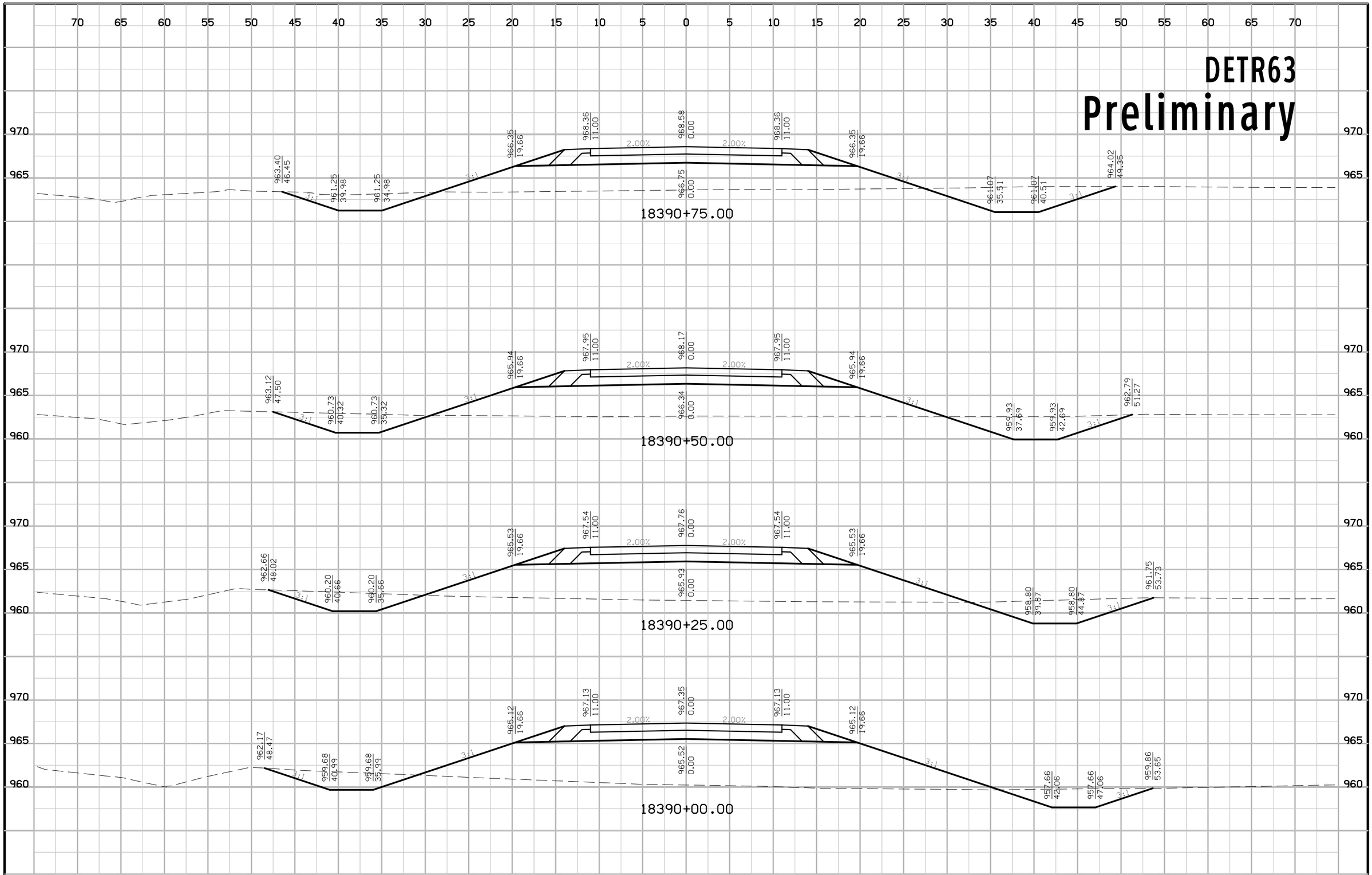

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.65

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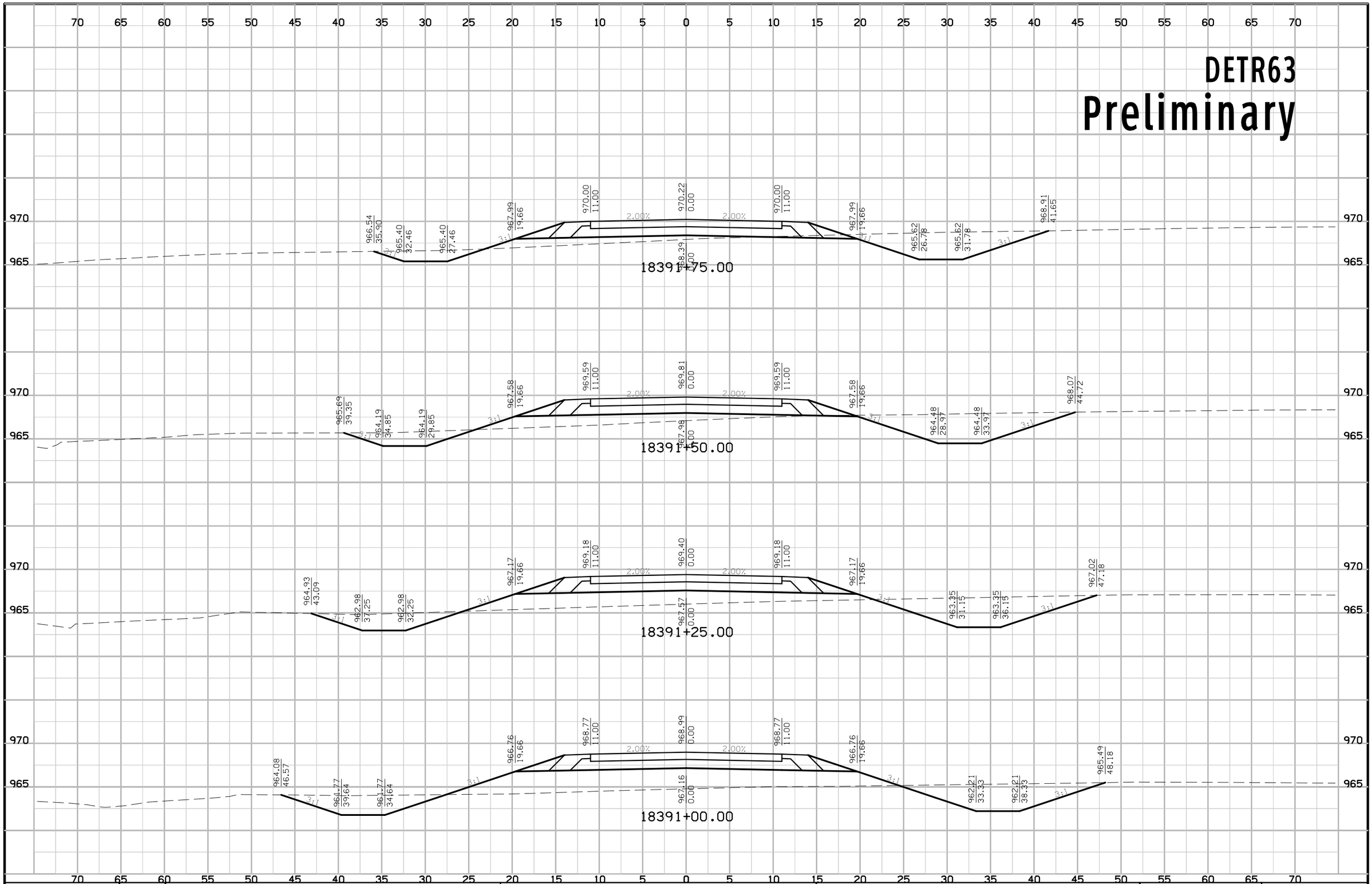
DETR63
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.66

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DETR63
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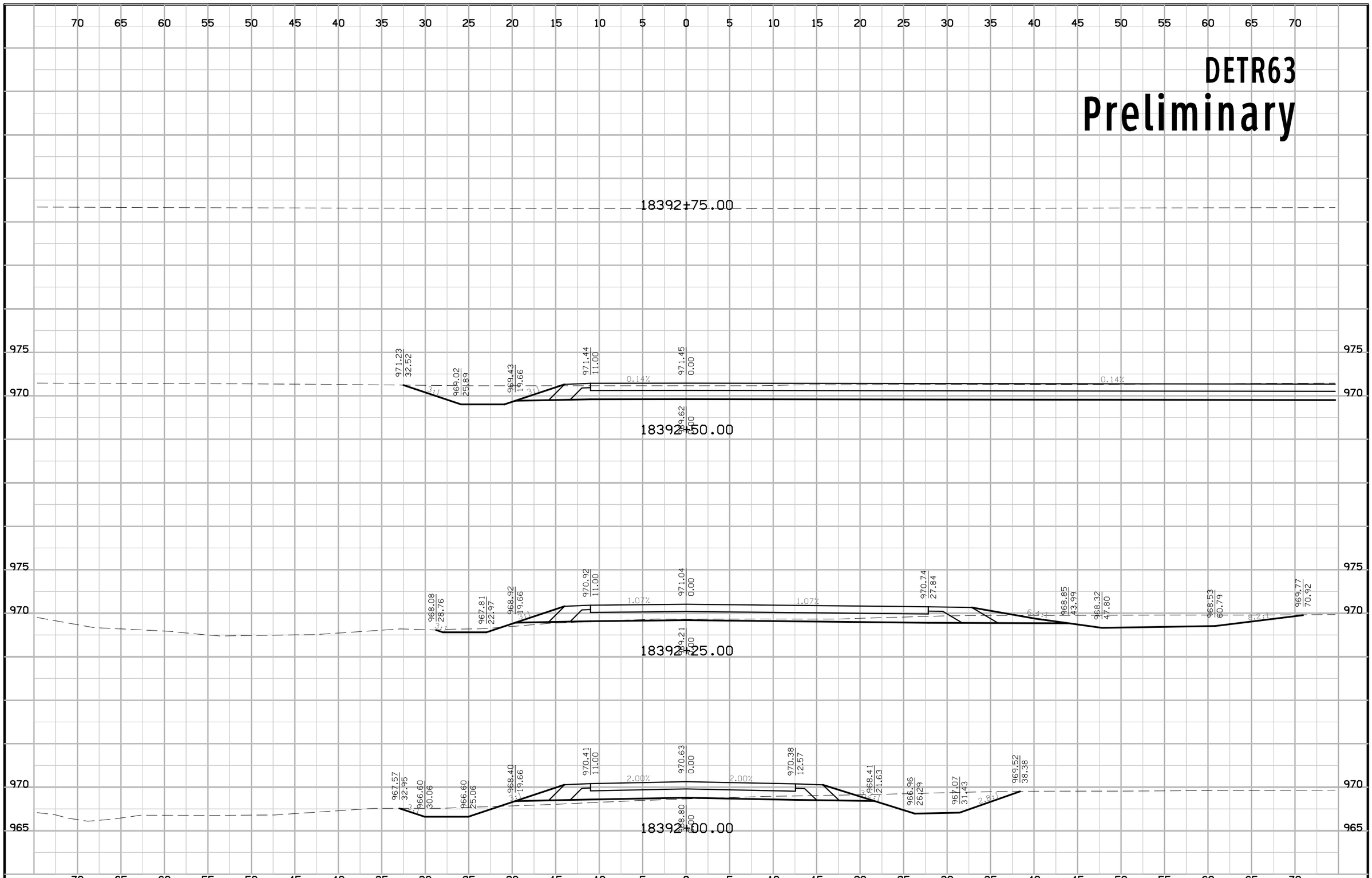

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DETR63
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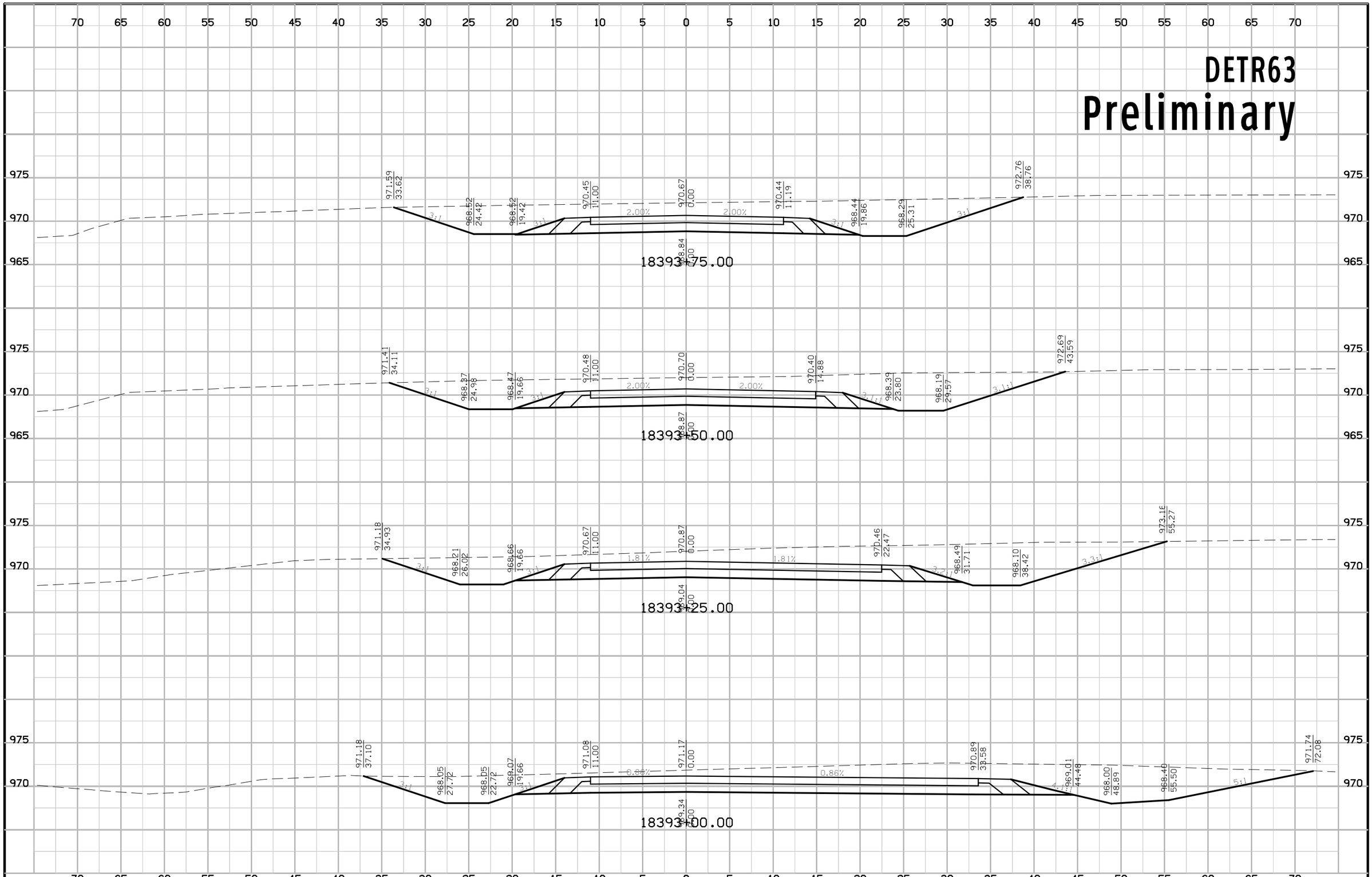

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.68

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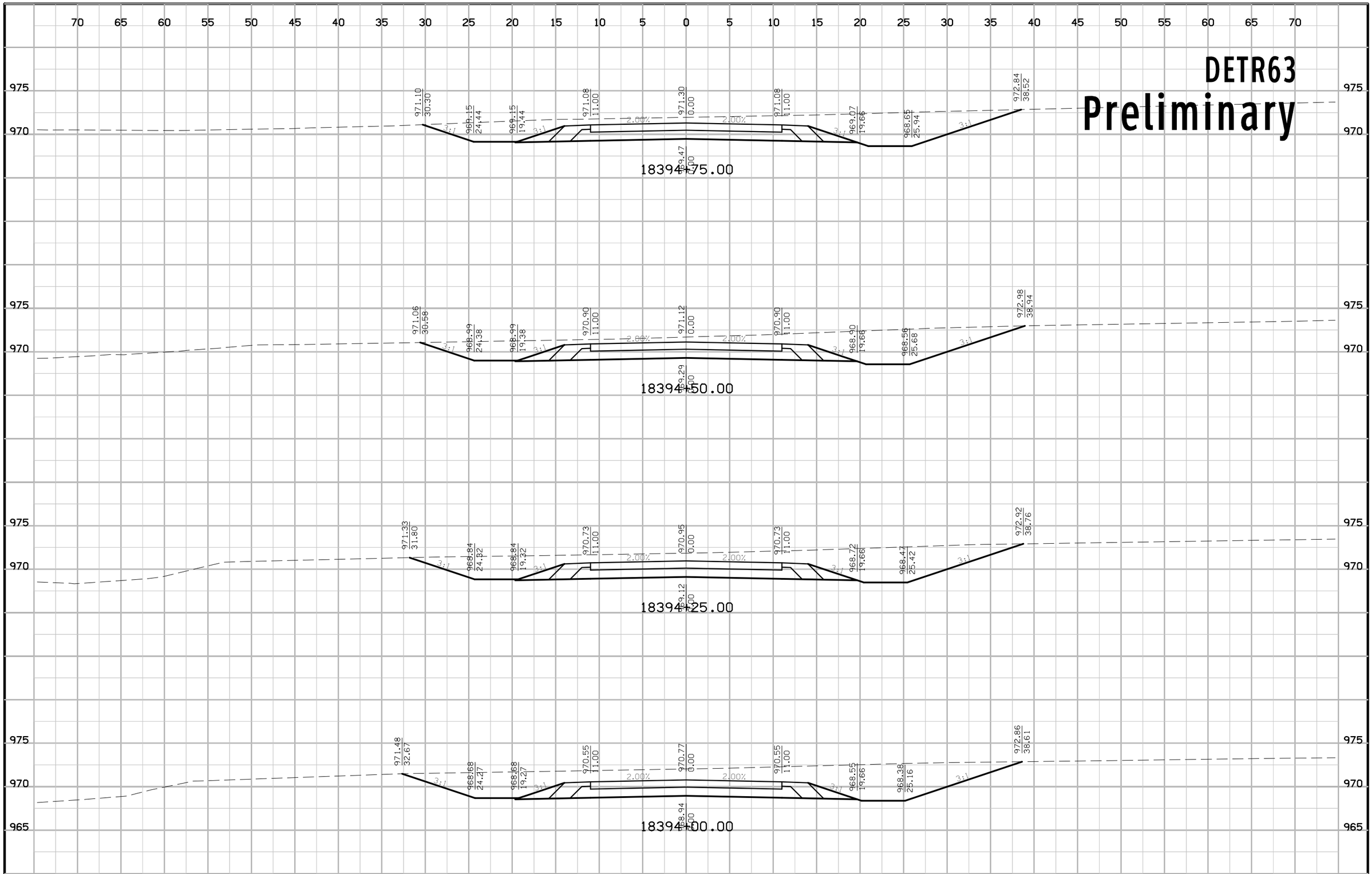
DETR63

Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.69

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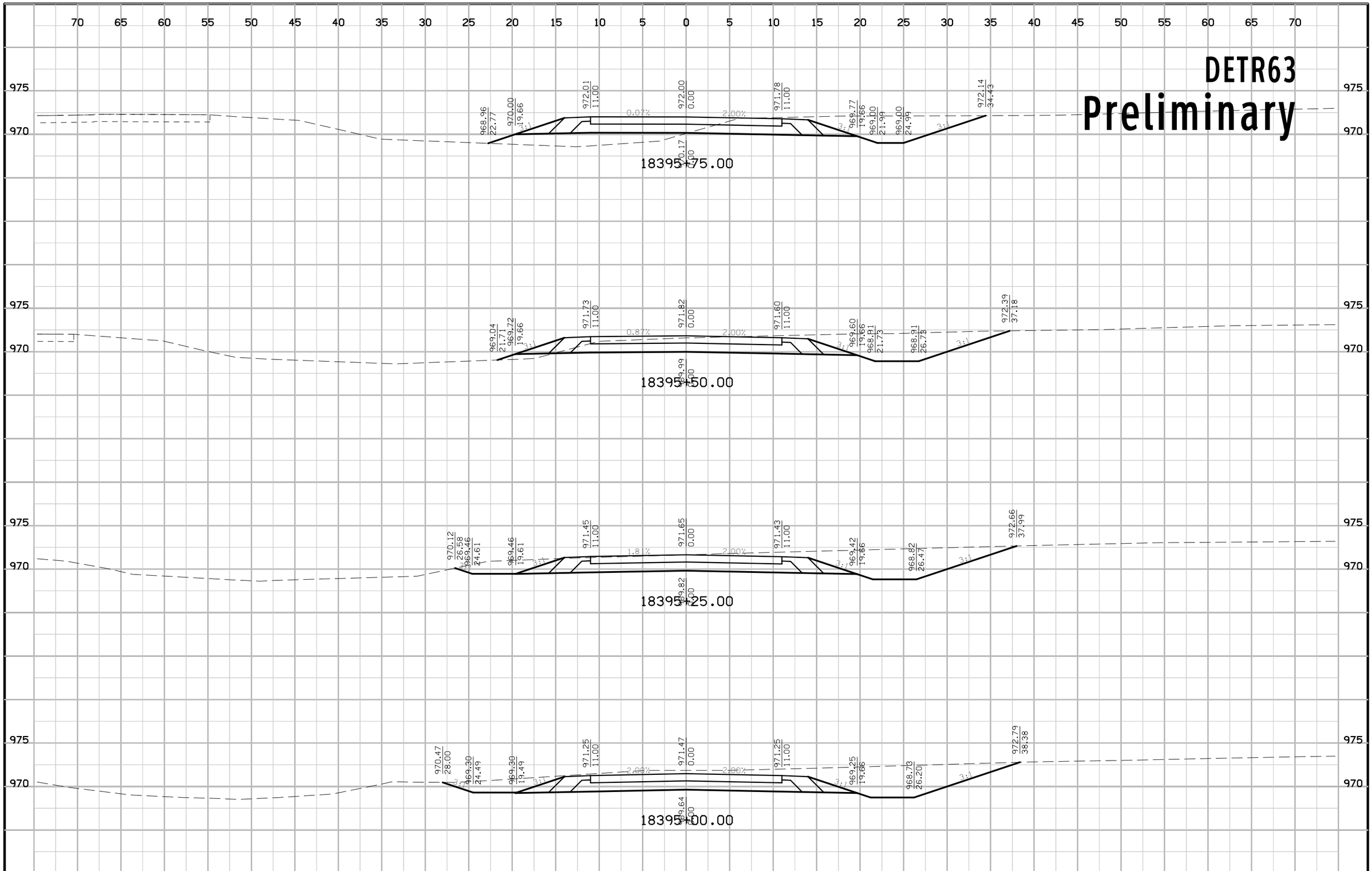

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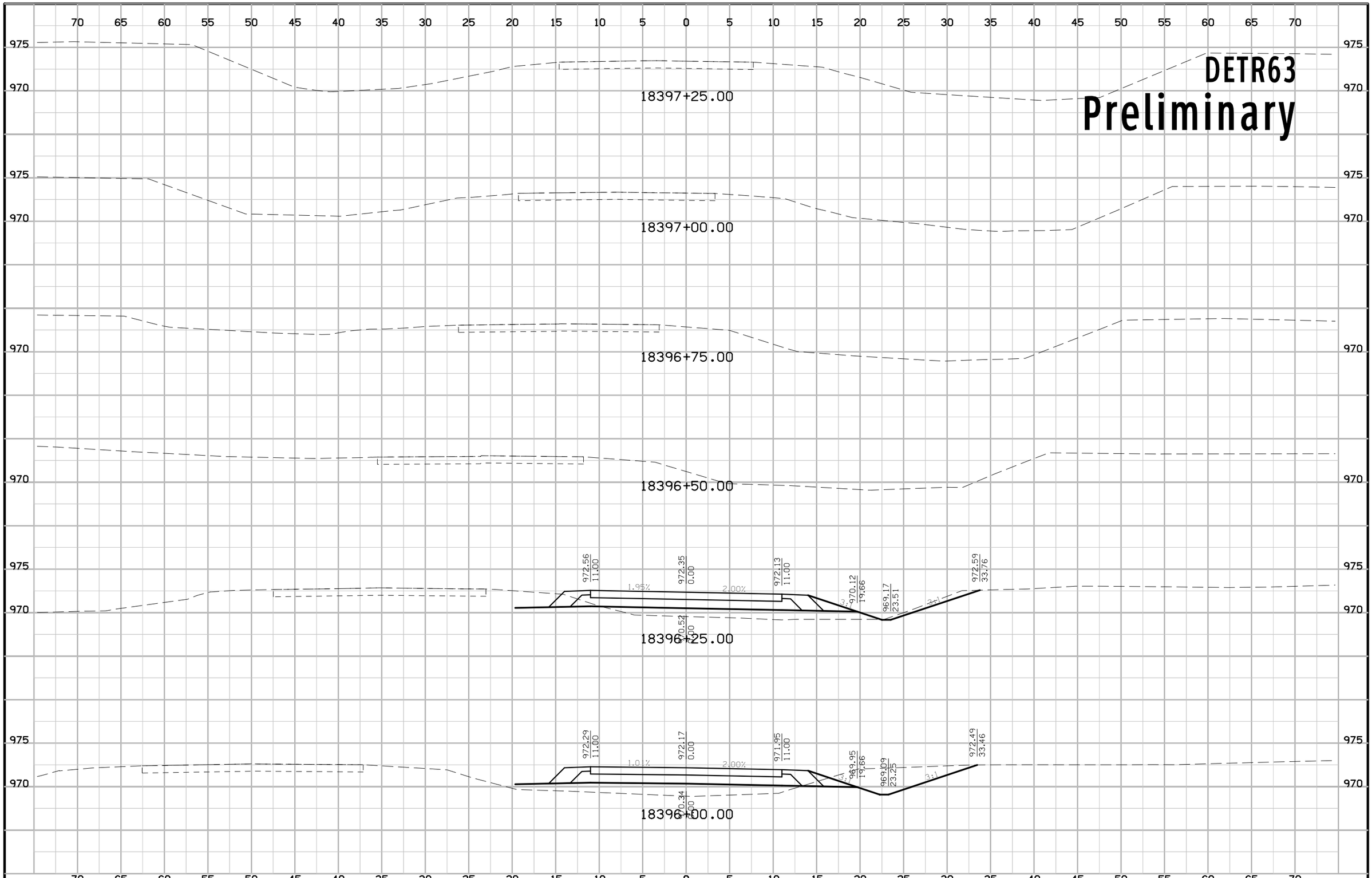

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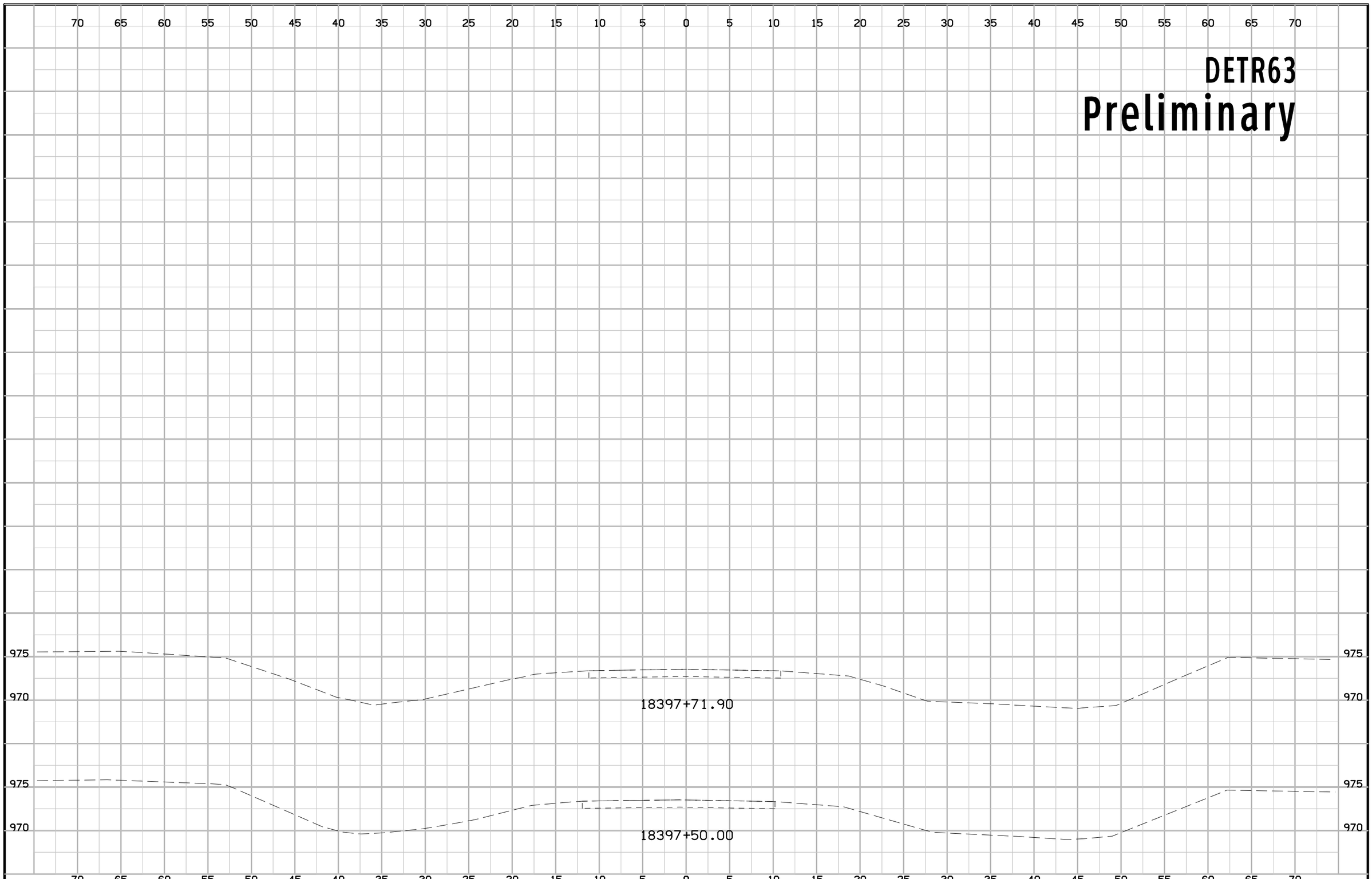
1:43:34 PM 6/23/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X11_DETR63.sht

DETR63
Preliminary



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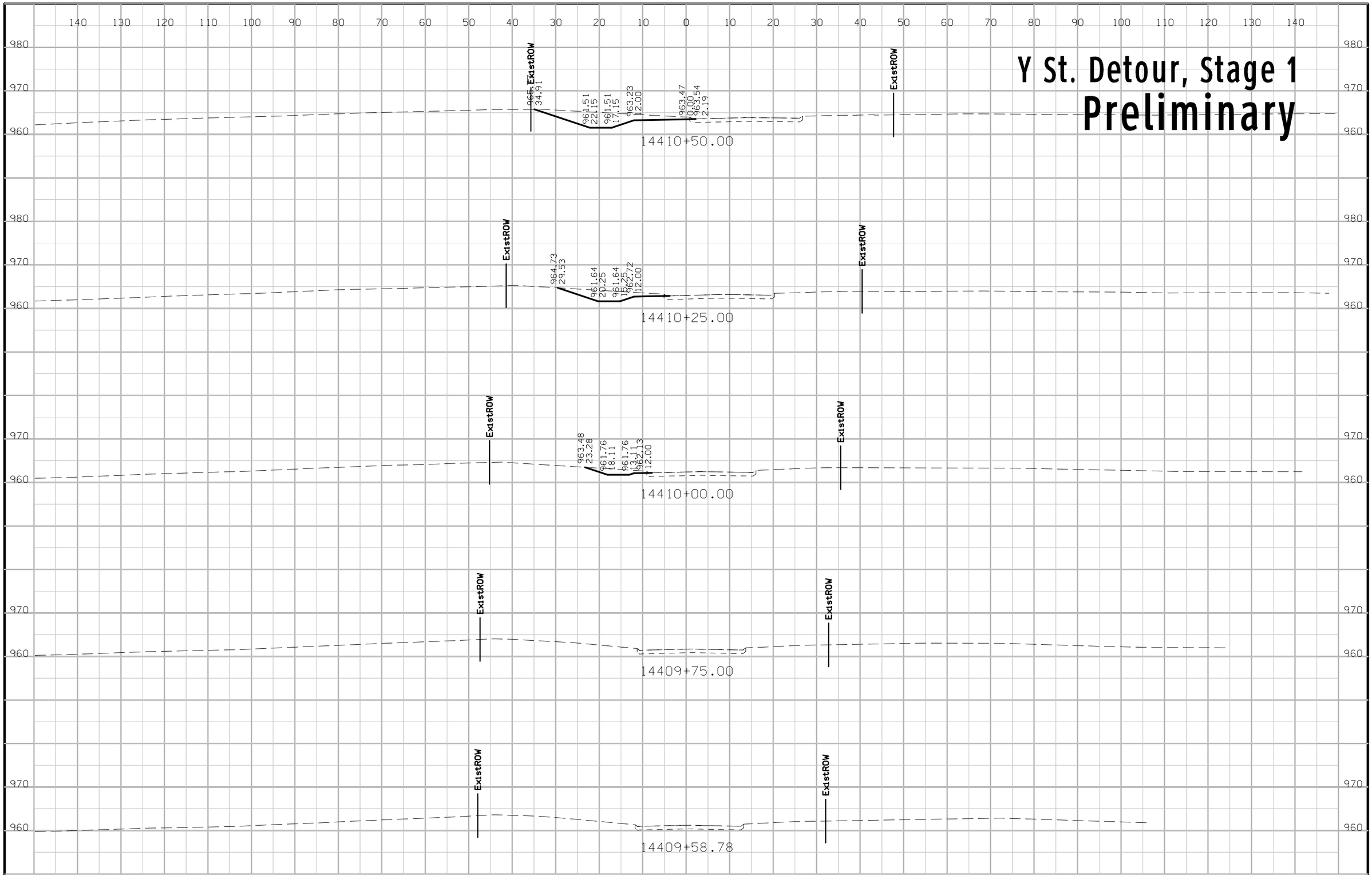
1:43:36 PM 6/23/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X11_DETR63.sht

Y St. Detour, Stage 1
Preliminary



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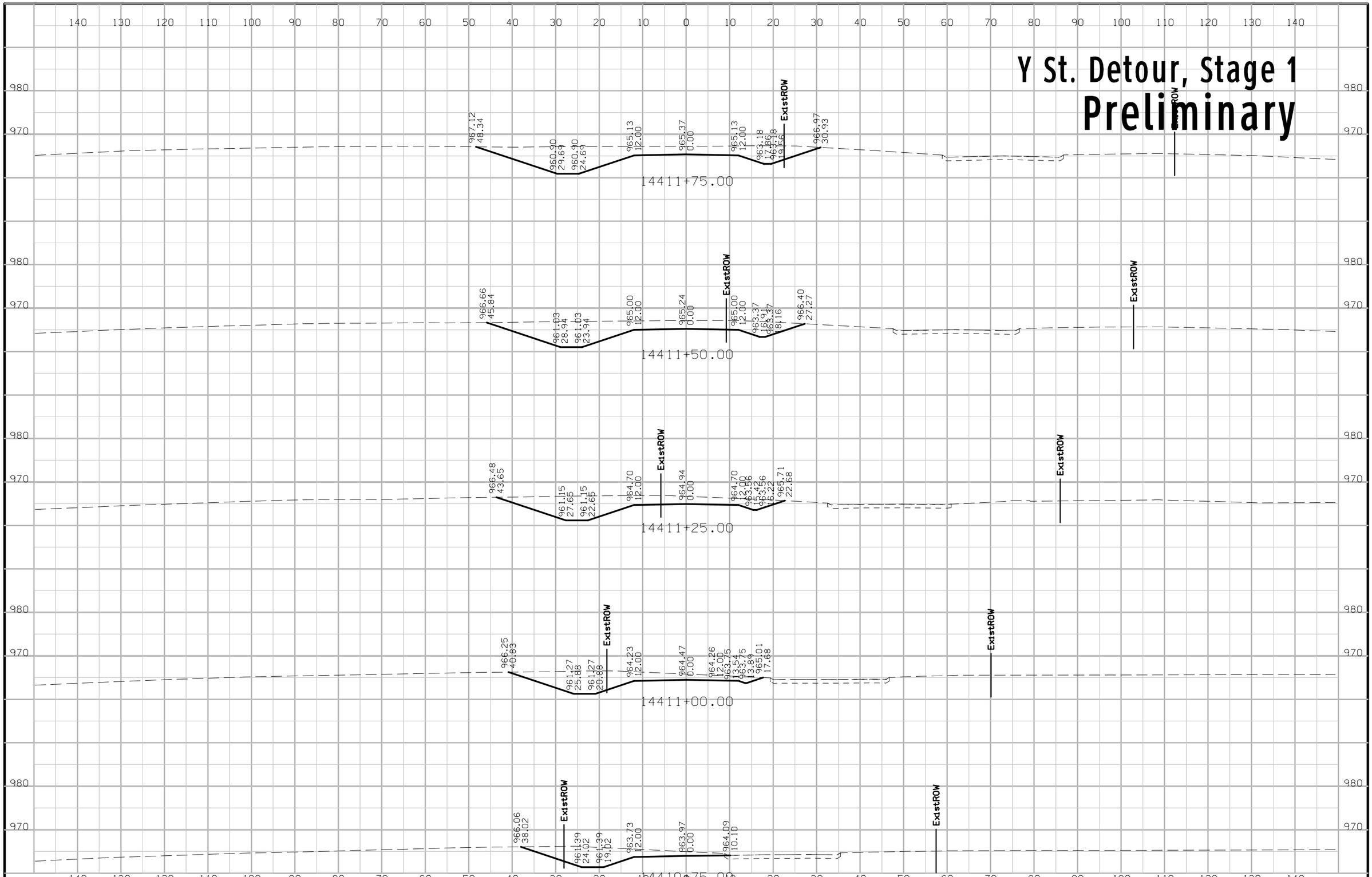
Y St. Detour, Stage 1

Preliminary



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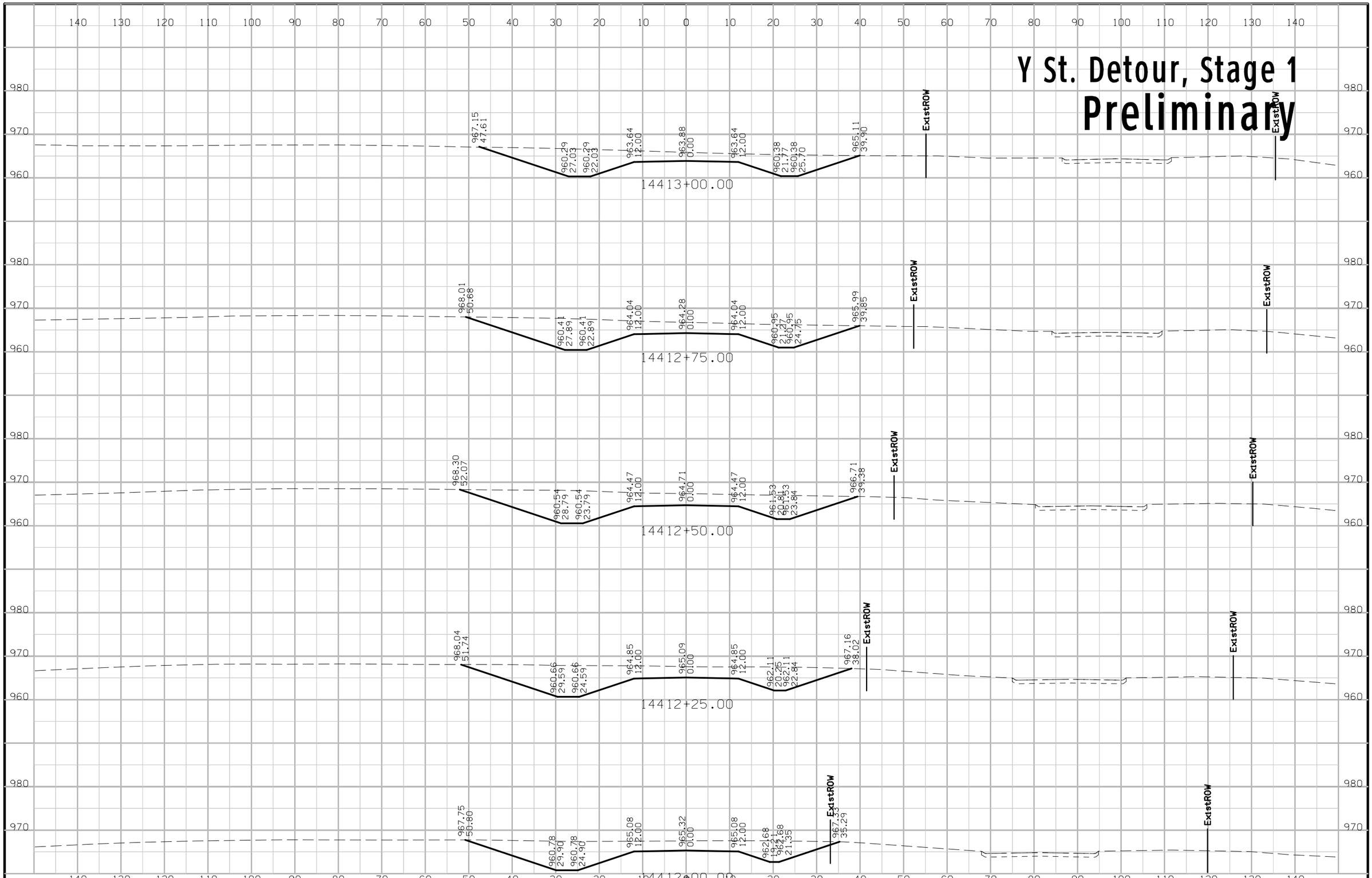
1:45:45 PM 6/23/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X12_DETYST_STG1.sht

Y St. Detour, Stage 1

Preliminary



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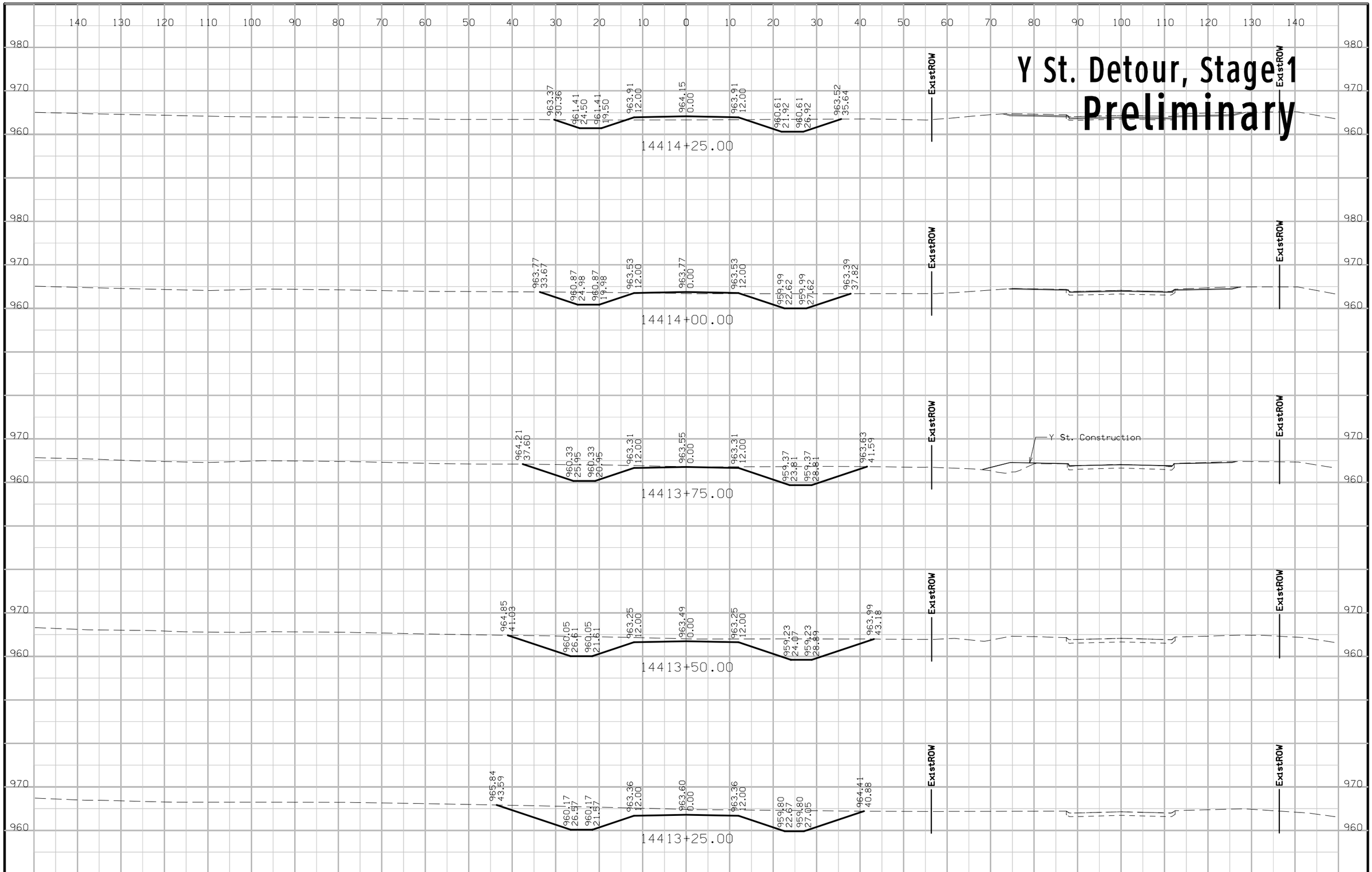
Y St. Detour, Stage 1

Preliminary



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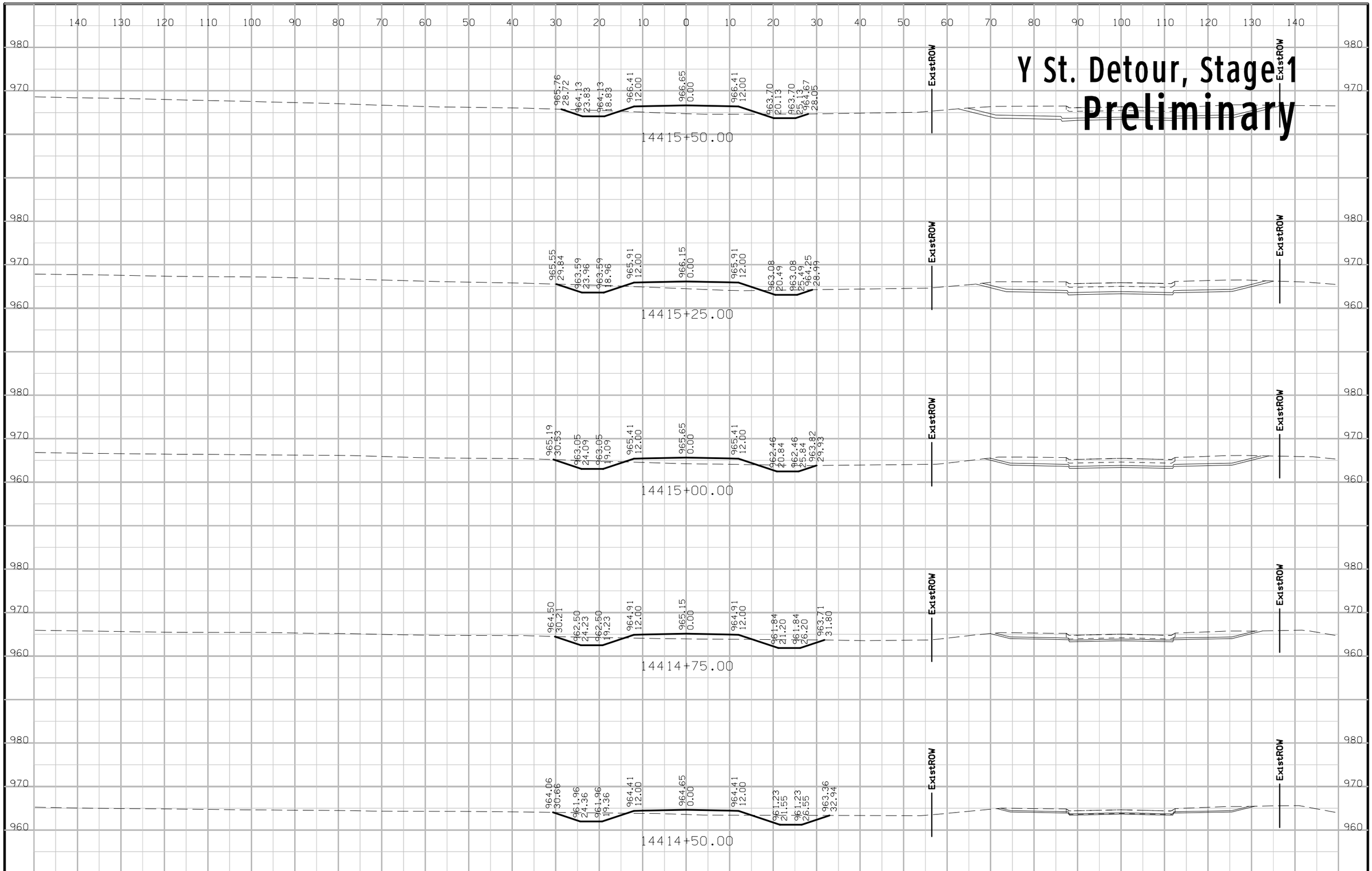
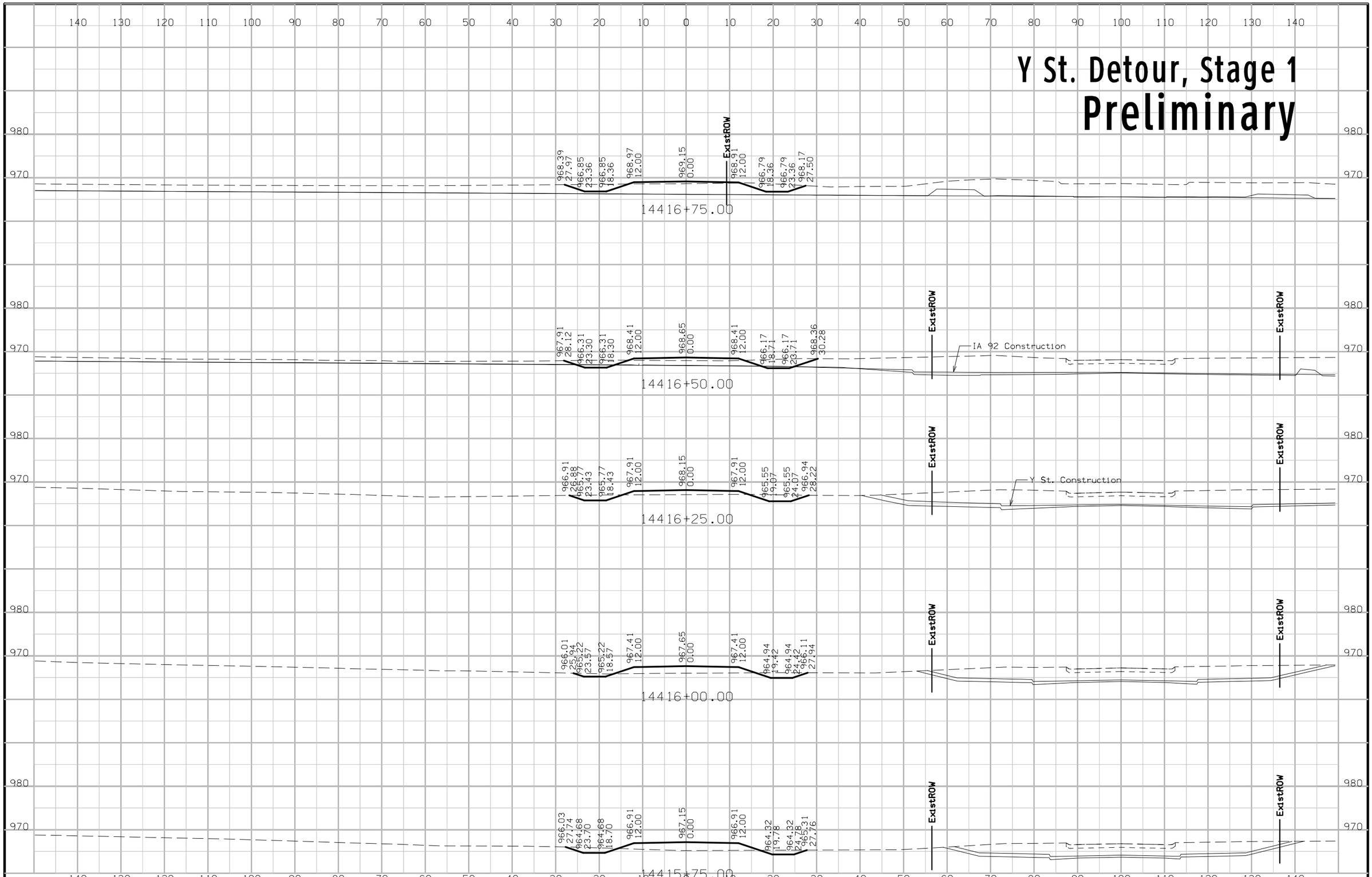
Y St. Detour, Stage 1
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.77

1:45:48 PM 6/23/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X12_DETYST_STG1.sht

Y St. Detour, Stage 1
Preliminary



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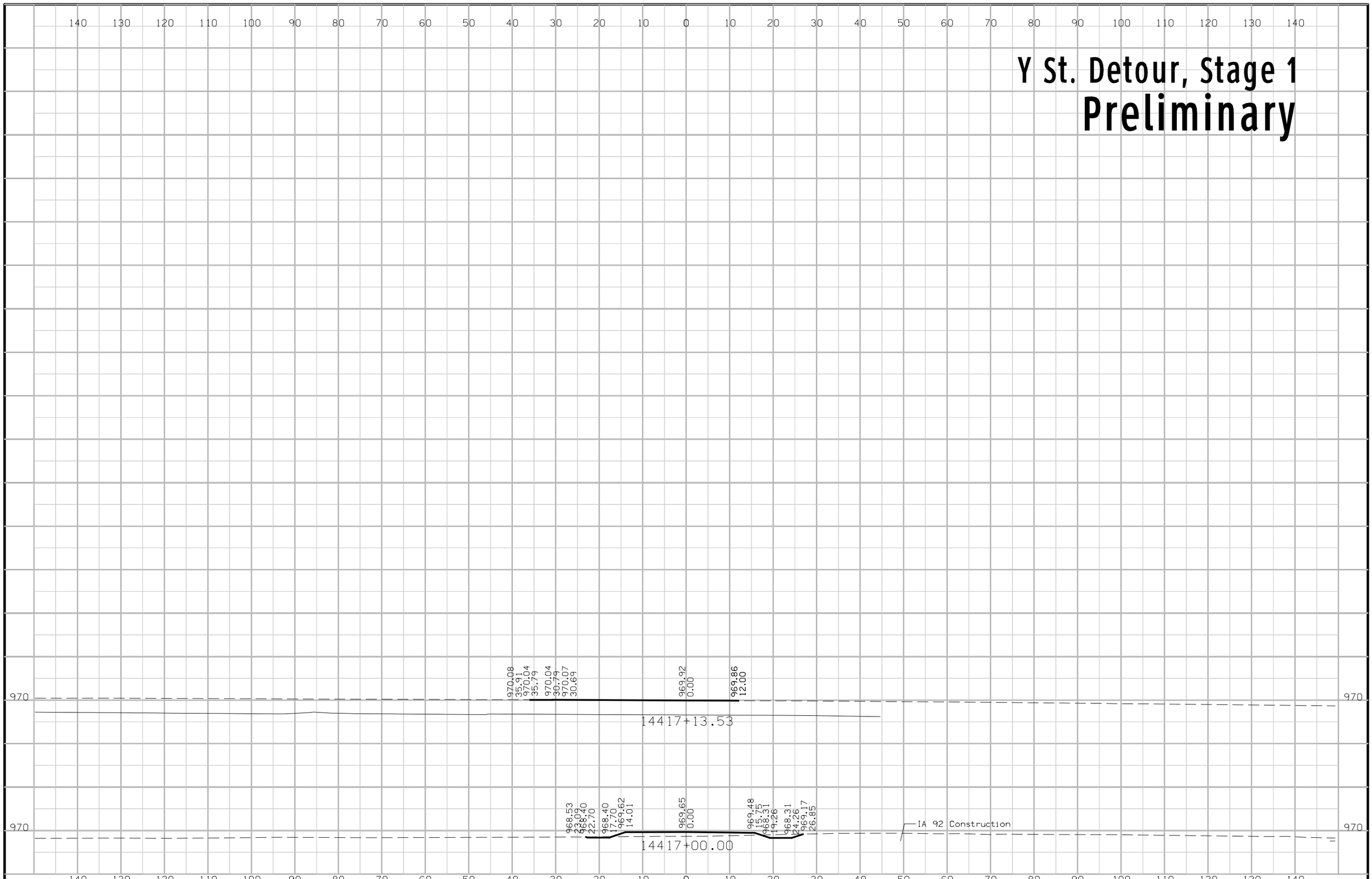
Y St. Detour, Stage 1
Preliminary



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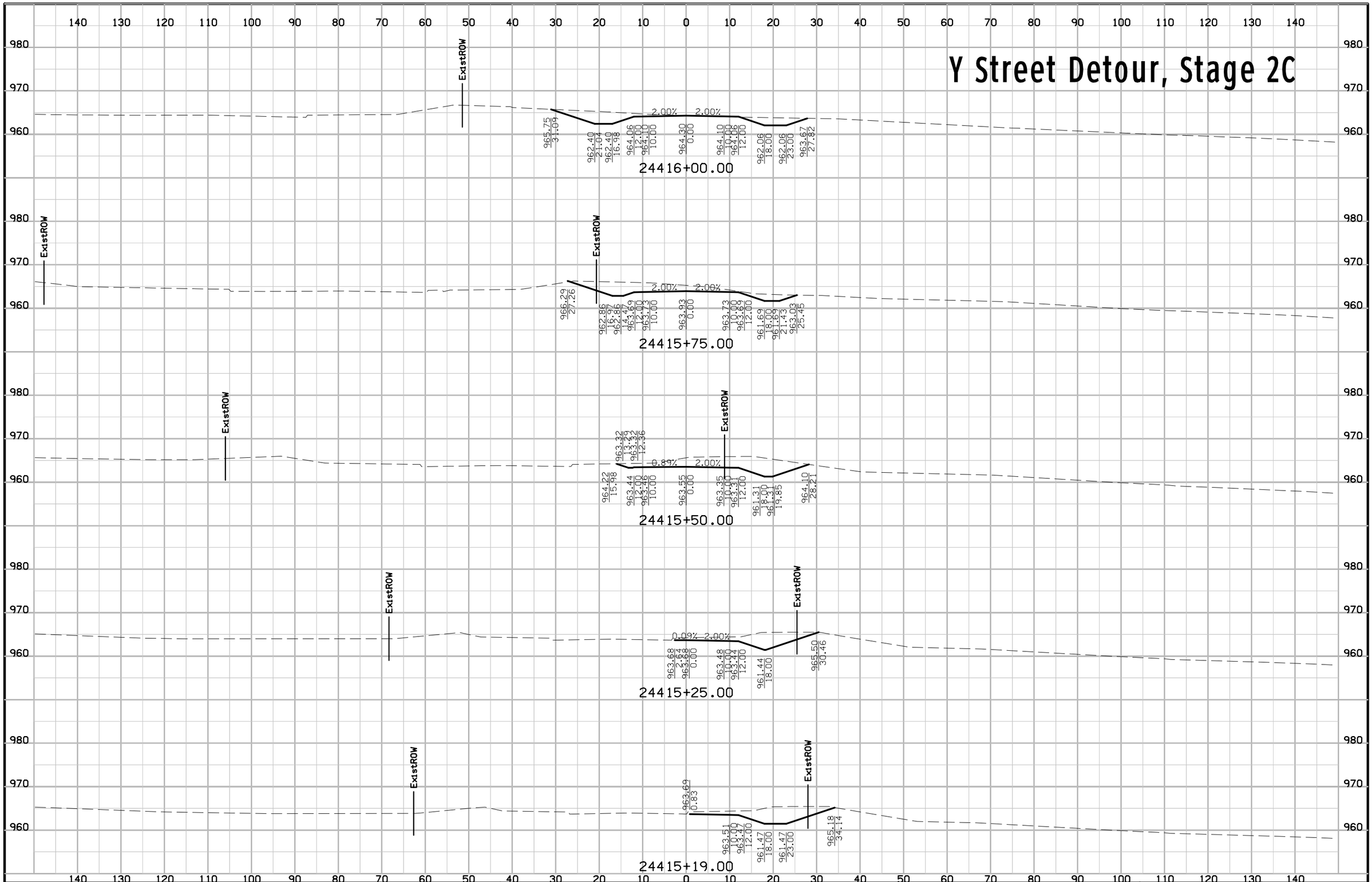
Y Street Detour, Stage 2C



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Y Street Detour, Stage 2C

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.81

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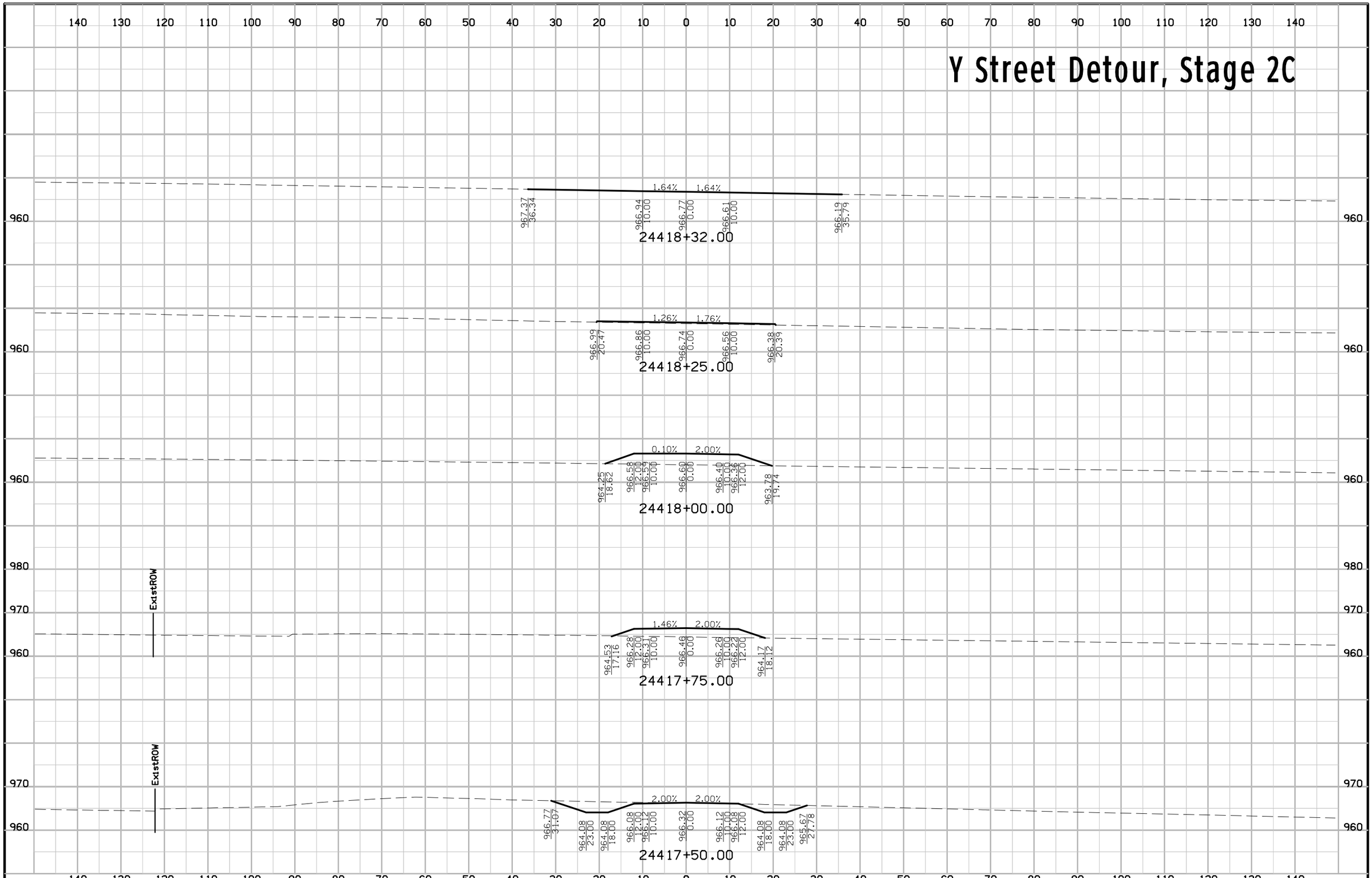
Y Street Detour, Stage 2C



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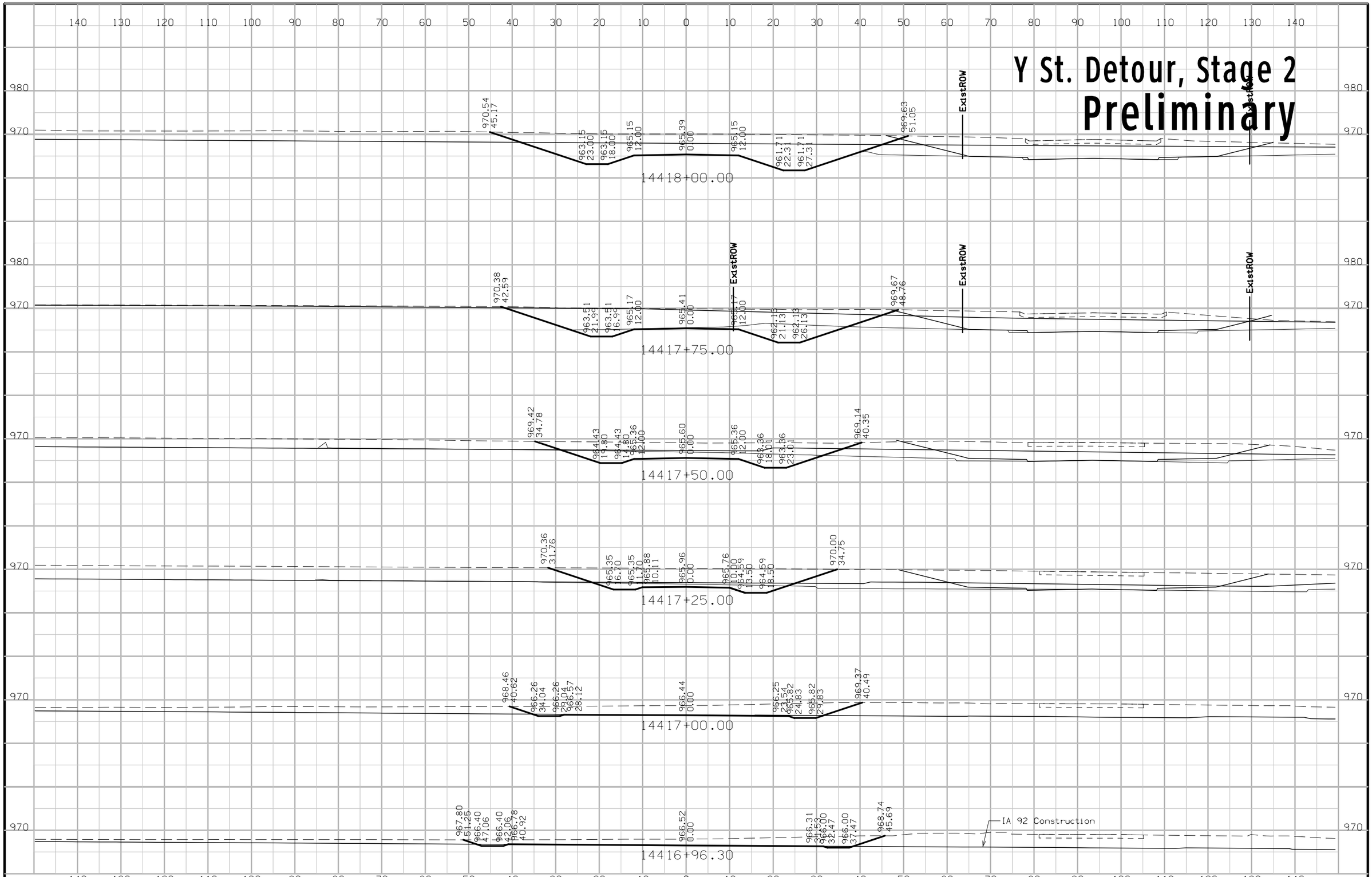
Y St. Detour, Stage 2

Preliminary



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Y St. Detour, Stage 2

Preliminary

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.85

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Y St. Detour, Stage 2

Preliminary

FILE NO.	ENGLISH	DESIGN TEAM J1a\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.86

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Y St. Detour, Stage 2

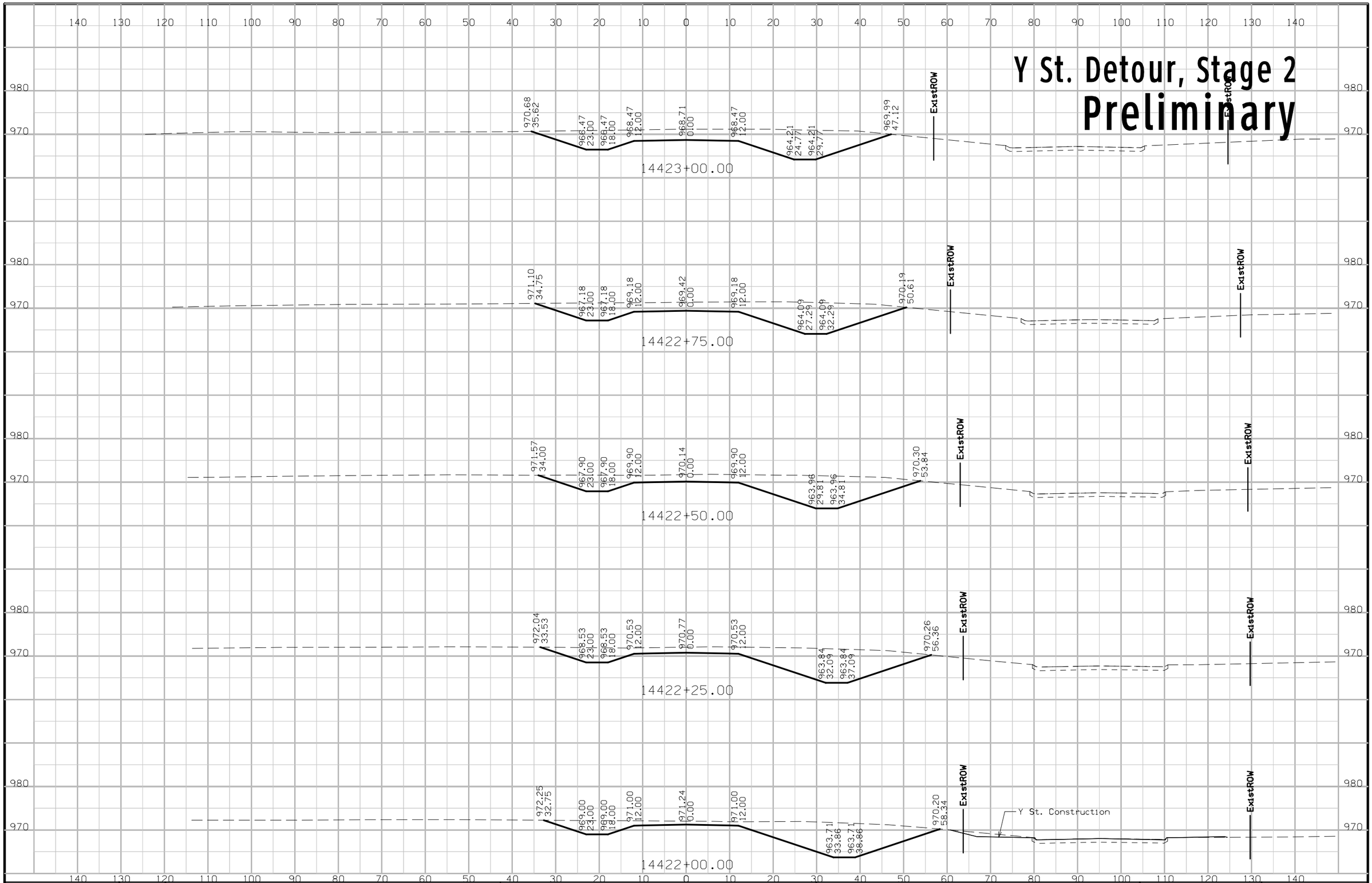
Preliminary

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.87

1:49:35 PM 6/23/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X14_DETYST_STG2.sht

Y St. Detour, Stage 2

Preliminary



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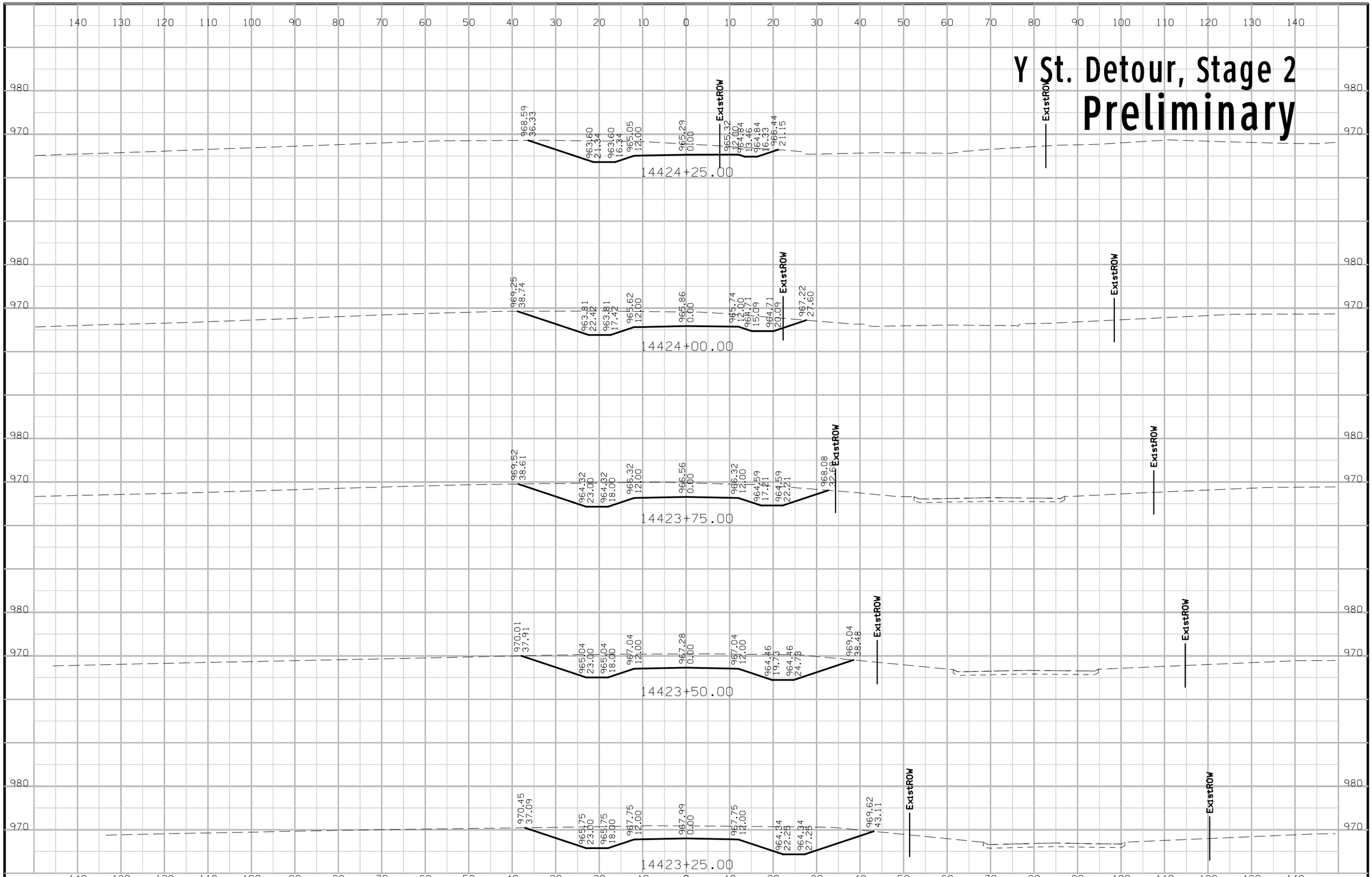
Y St. Detour, Stage 2

Preliminary



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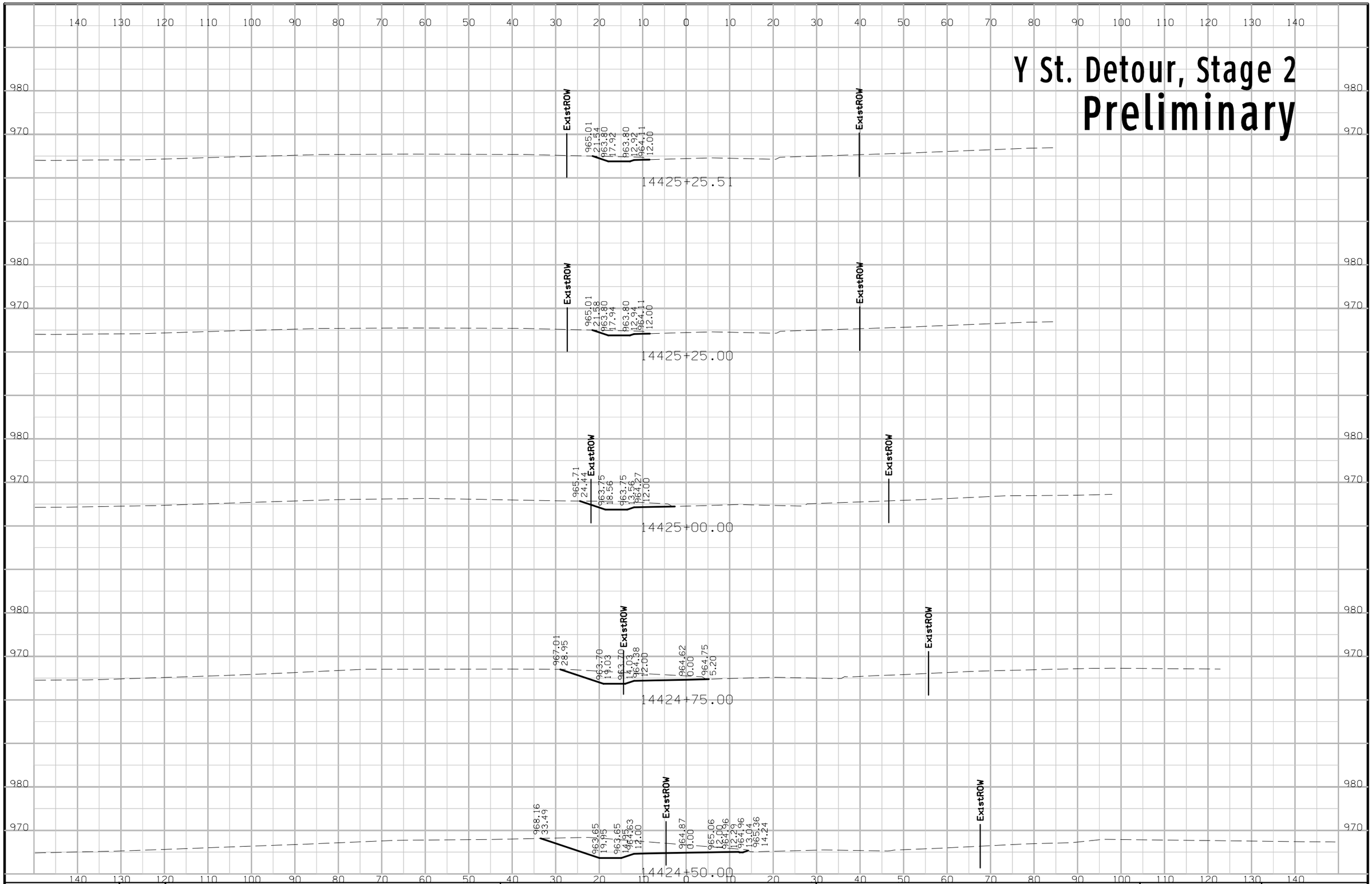
Y St. Detour, Stage 2
Preliminary



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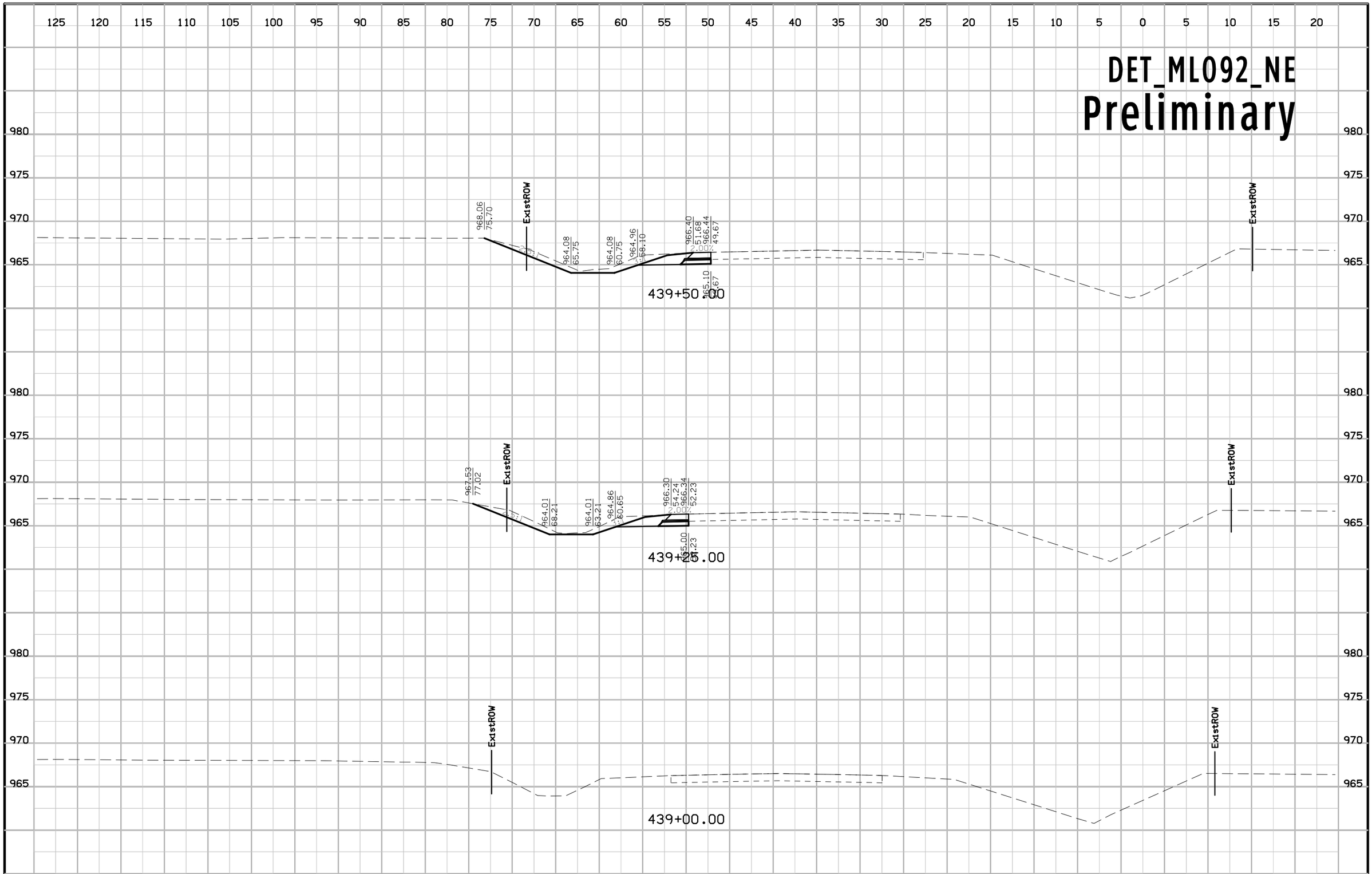
DET_ML092_NE
Preliminary



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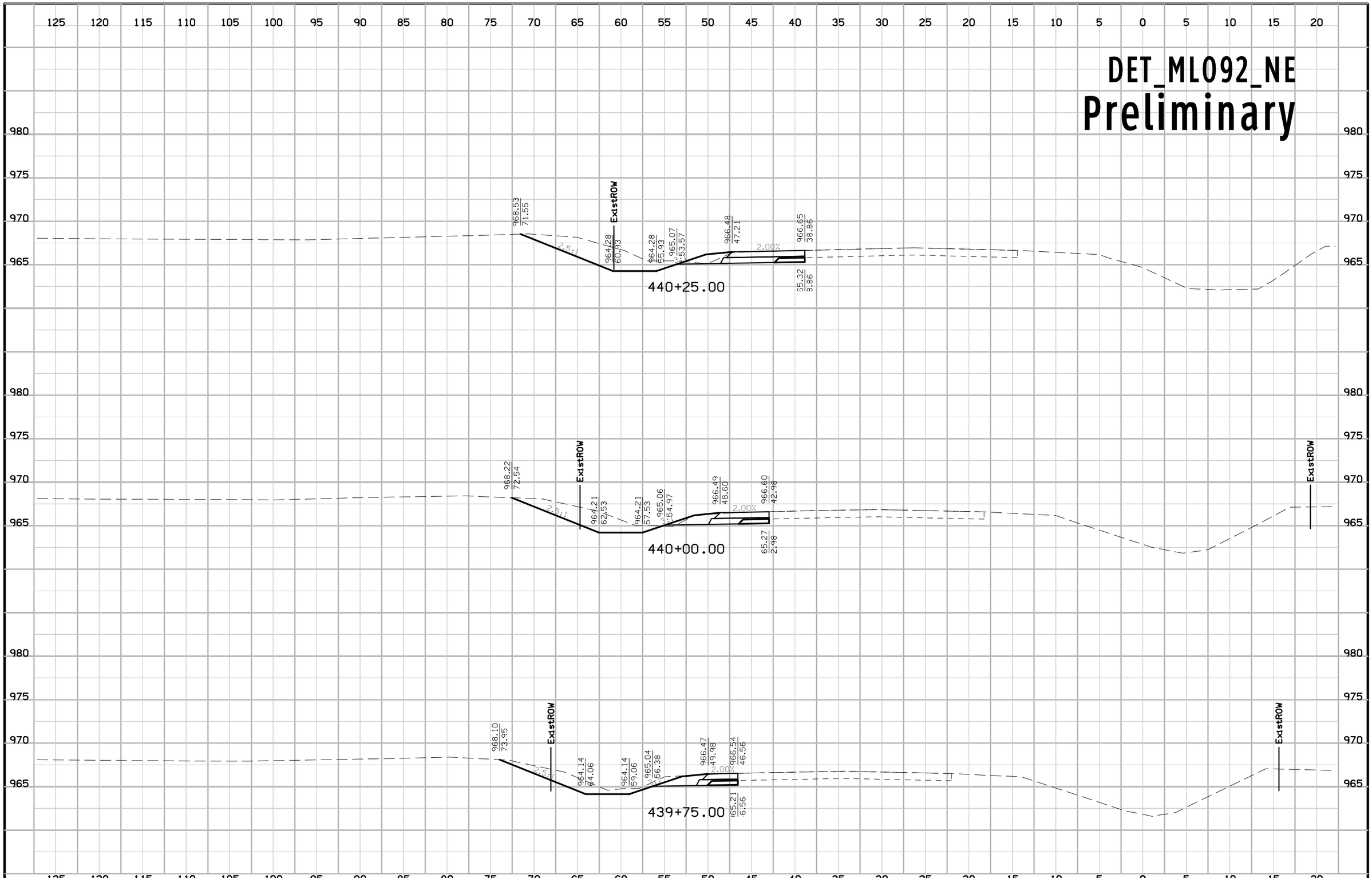

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DET_ML092_NE
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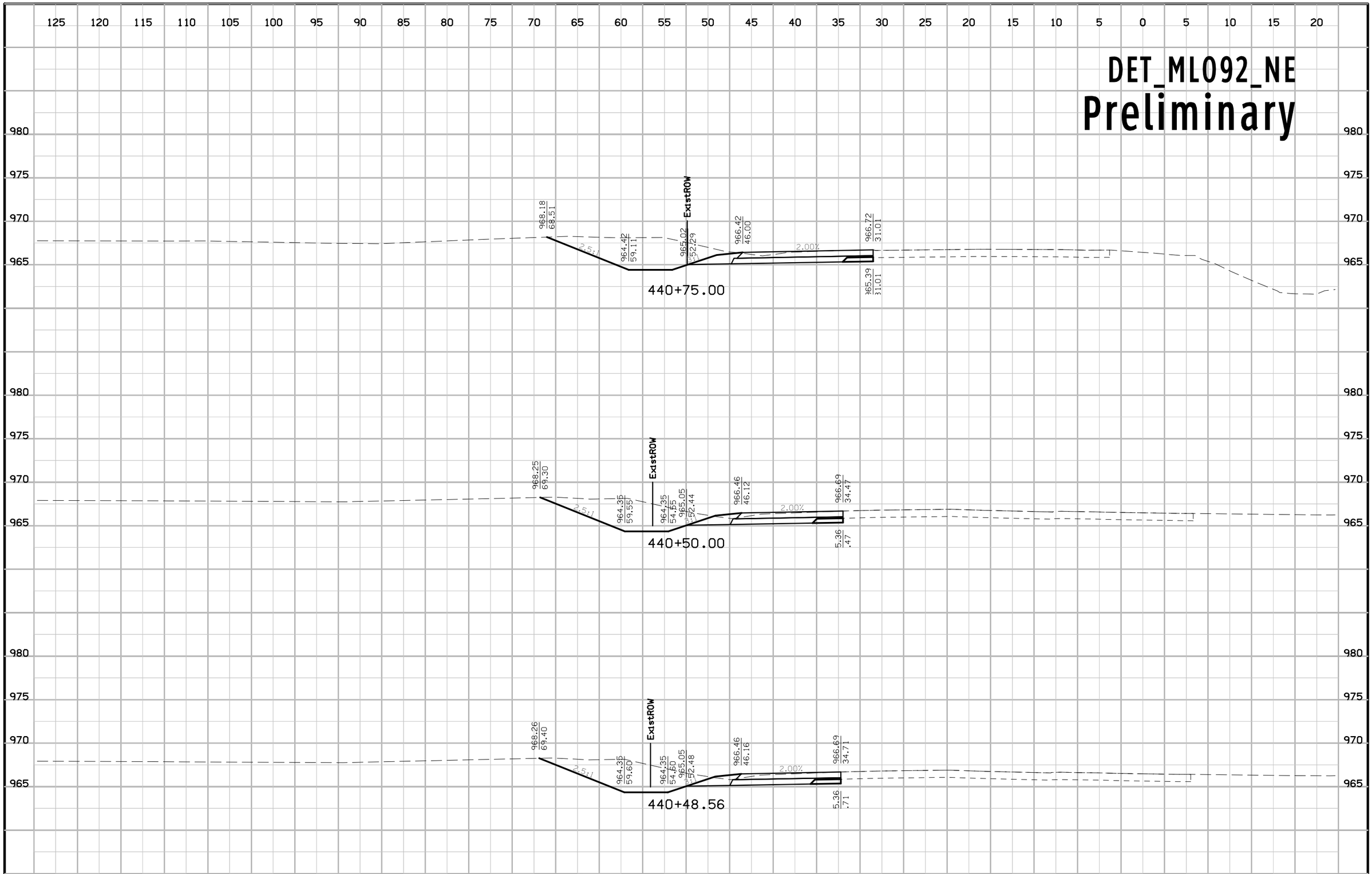

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DET_ML092_NE
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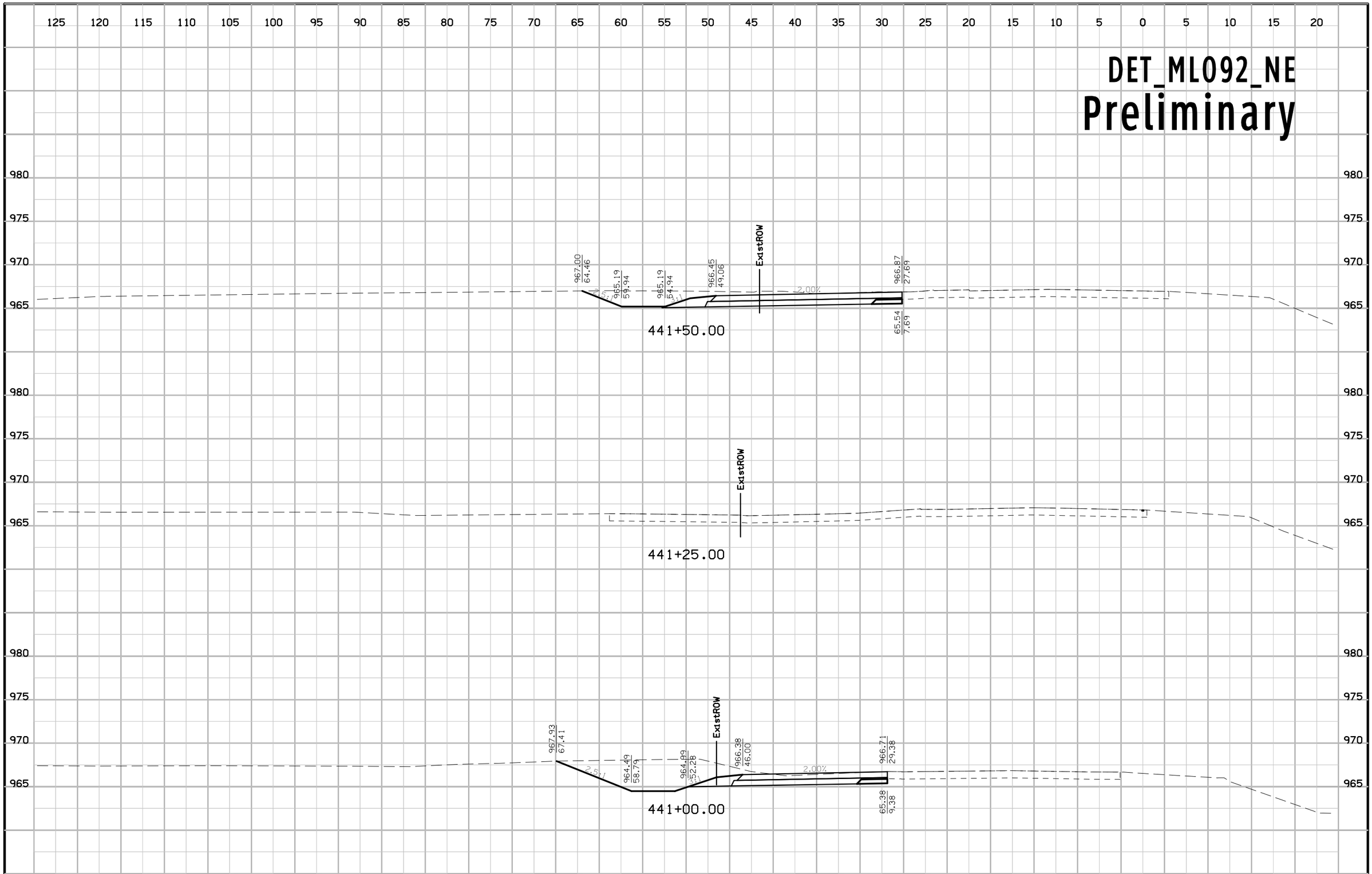

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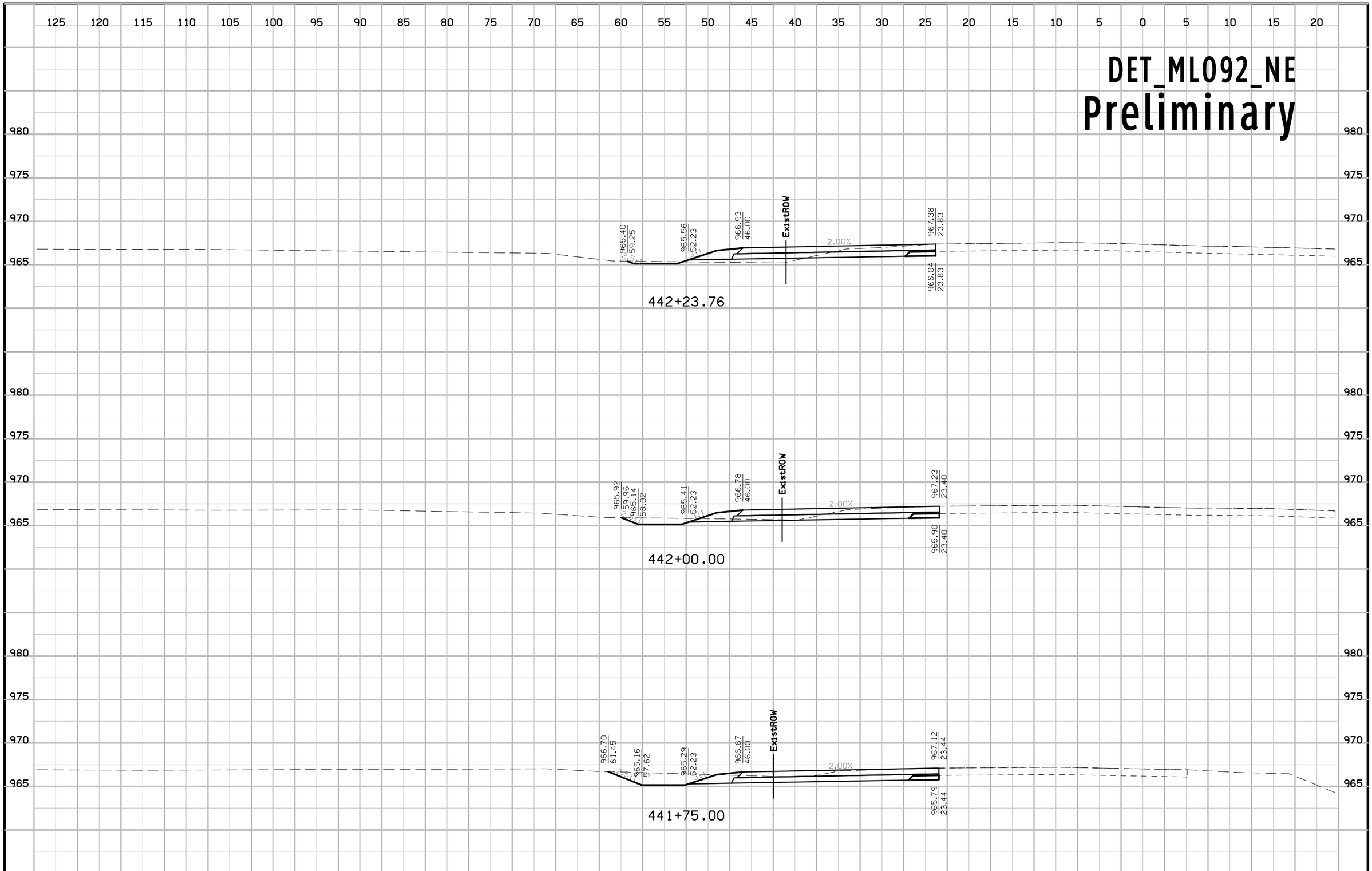

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DET_ML092_NE
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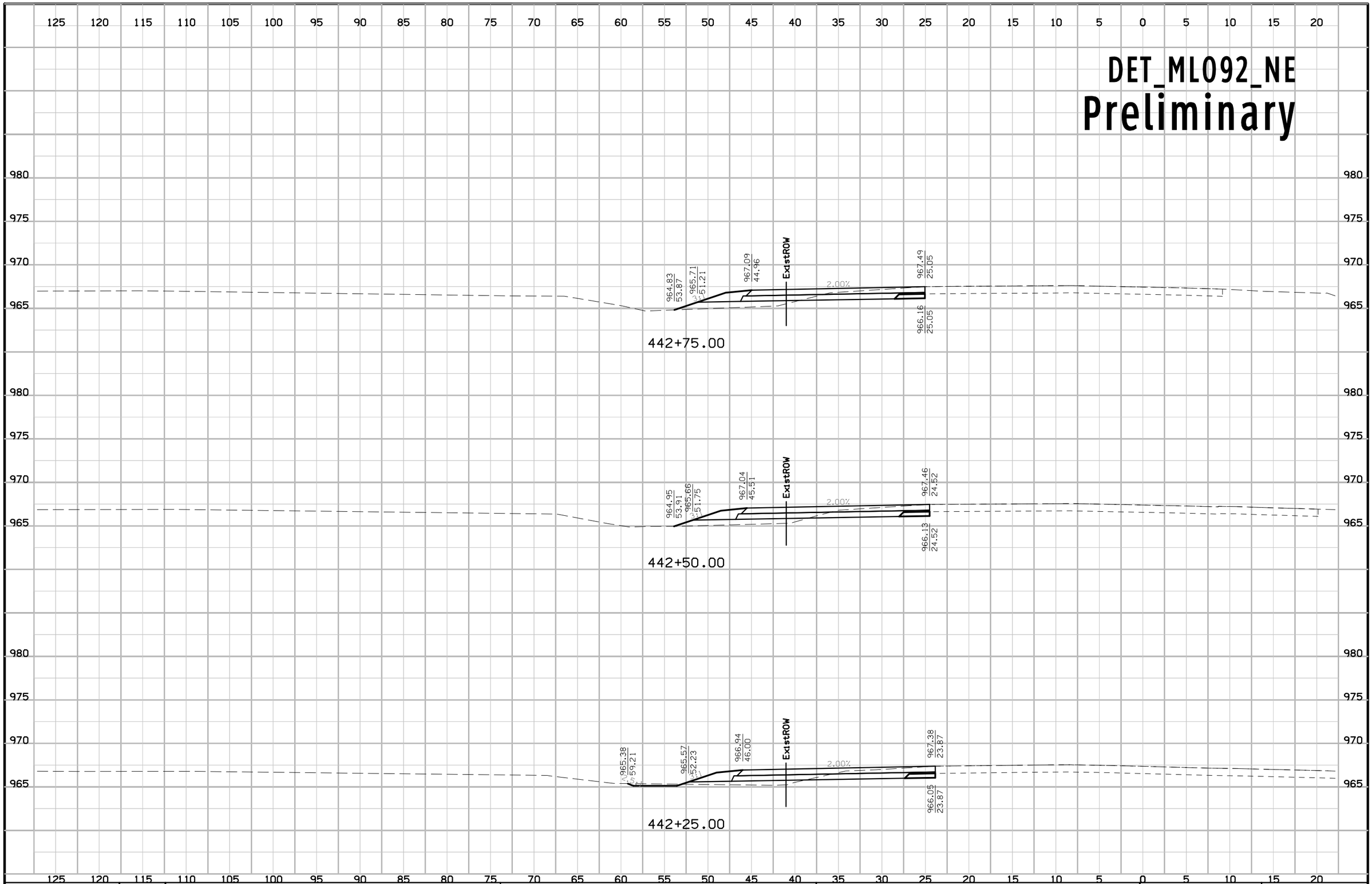

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.96

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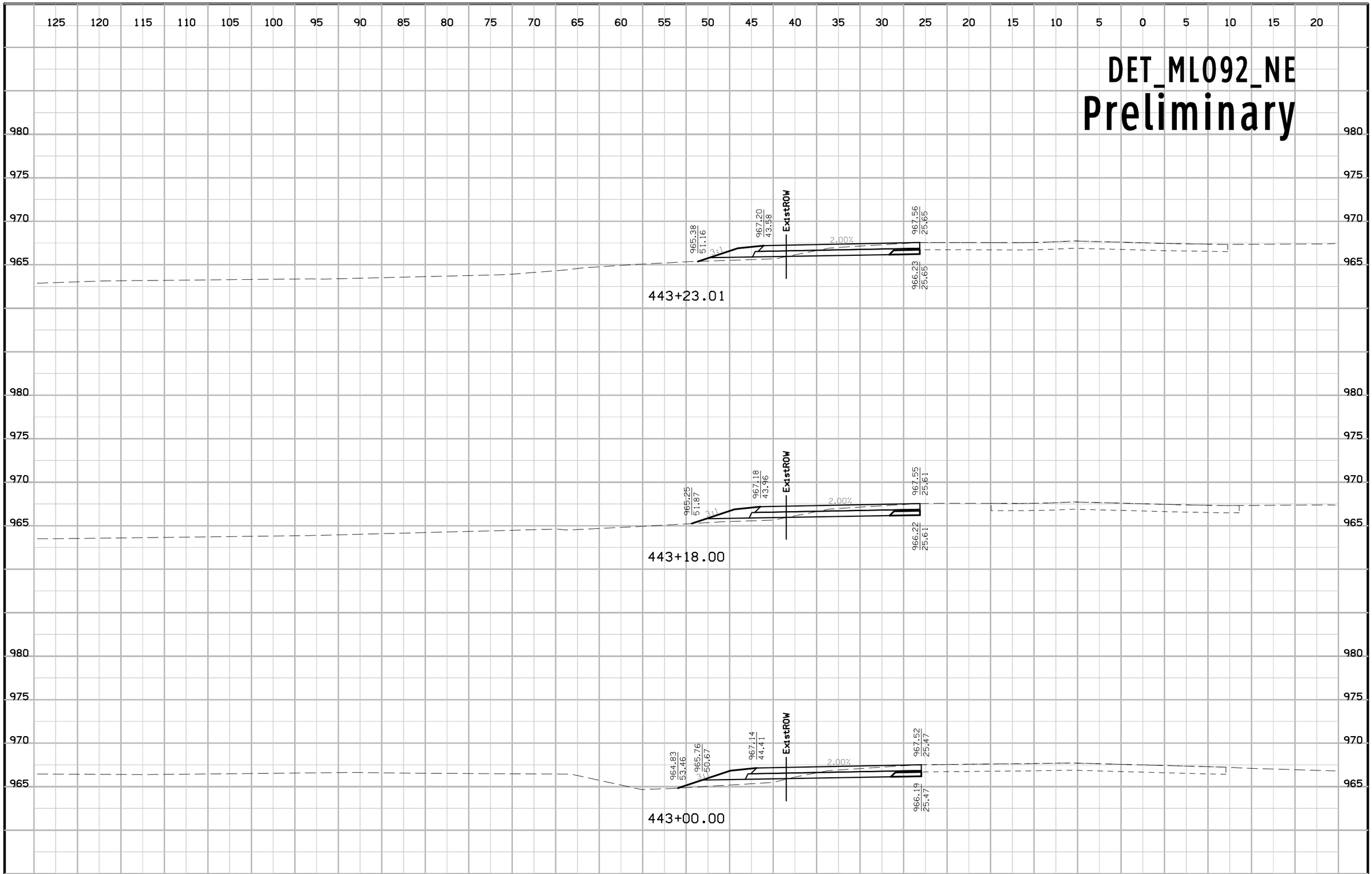
DET_ML092_NE
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.97

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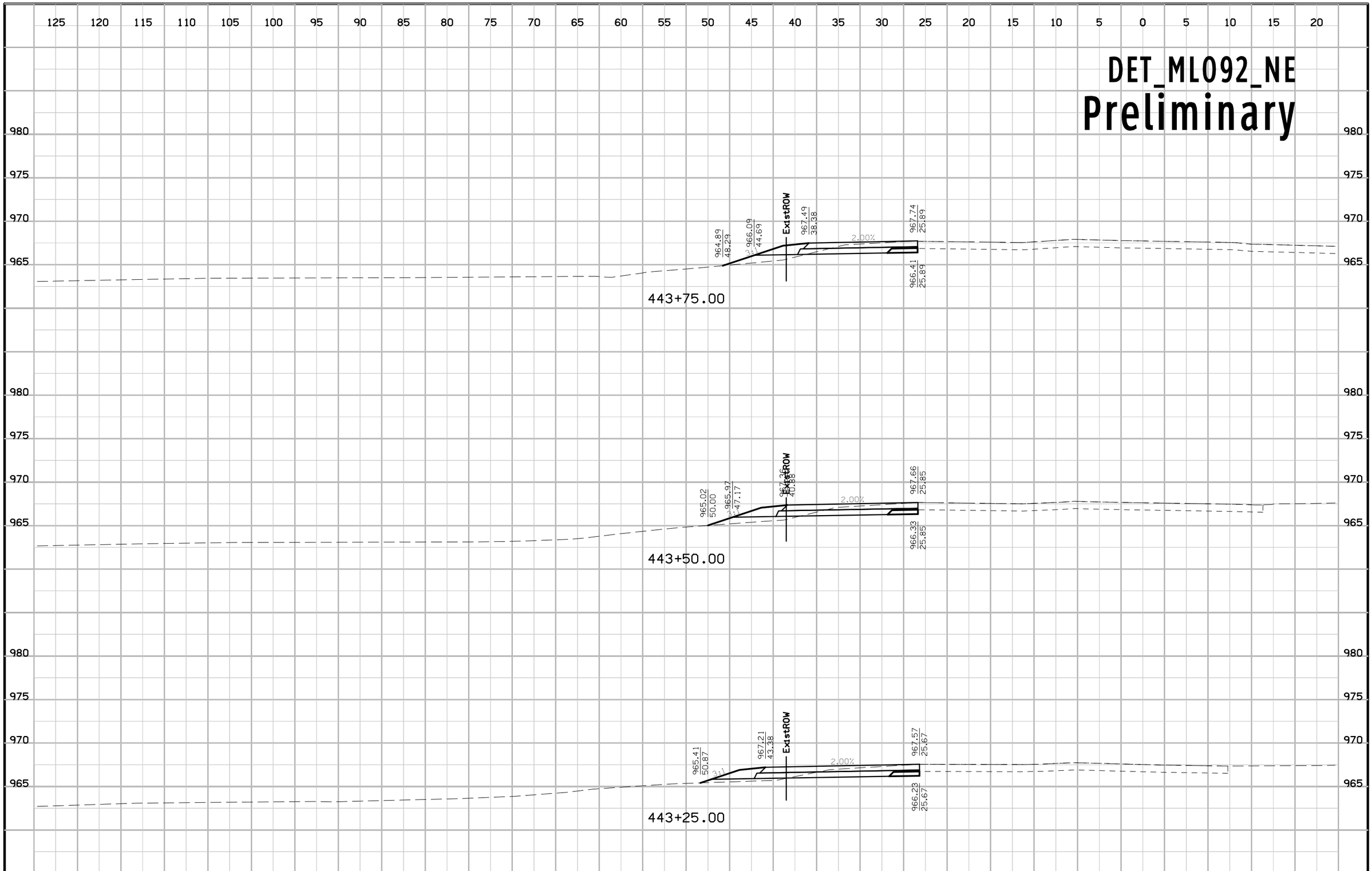
DET_ML092_NE
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.98

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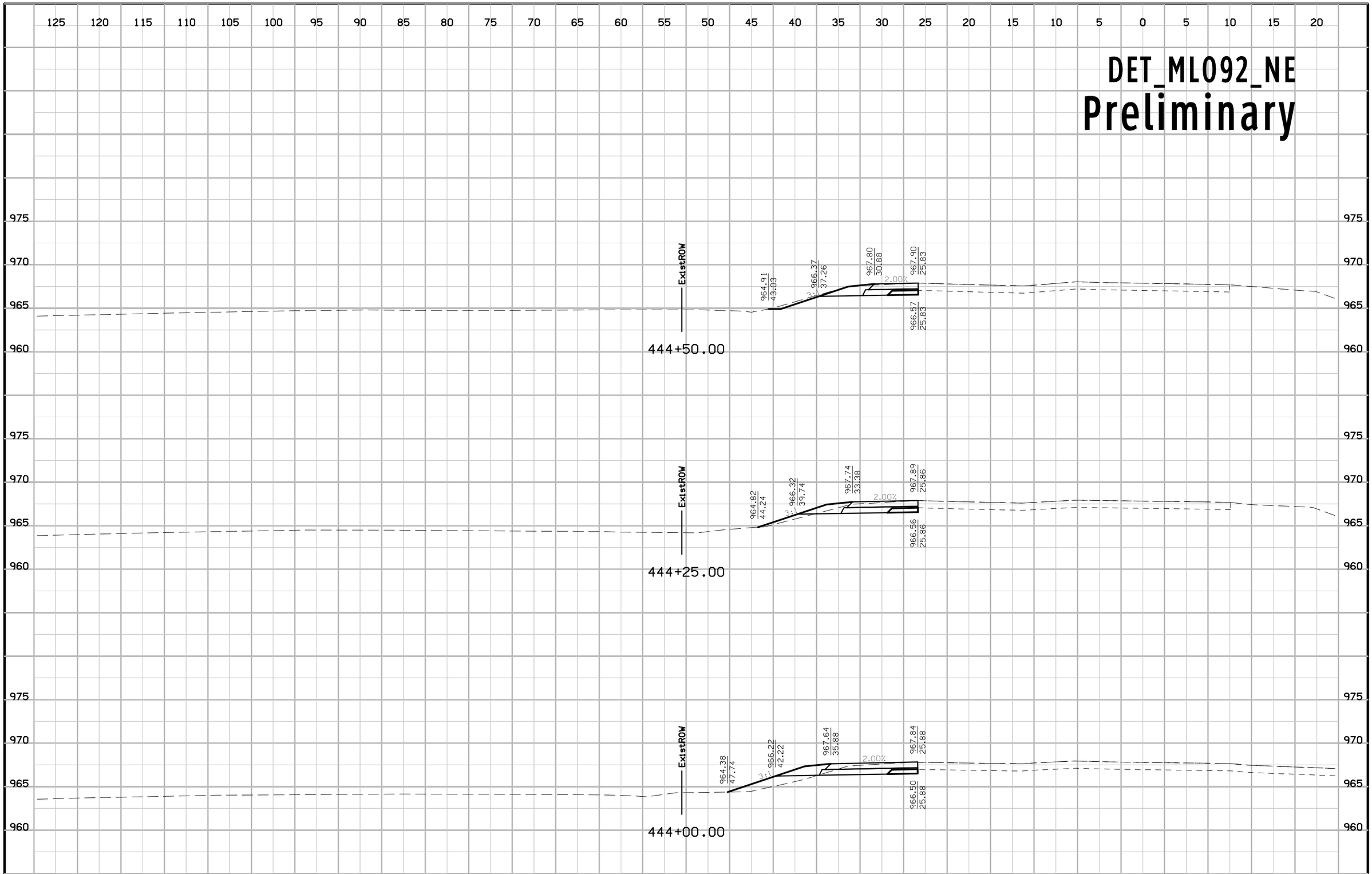
DET_ML092_NE
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.99

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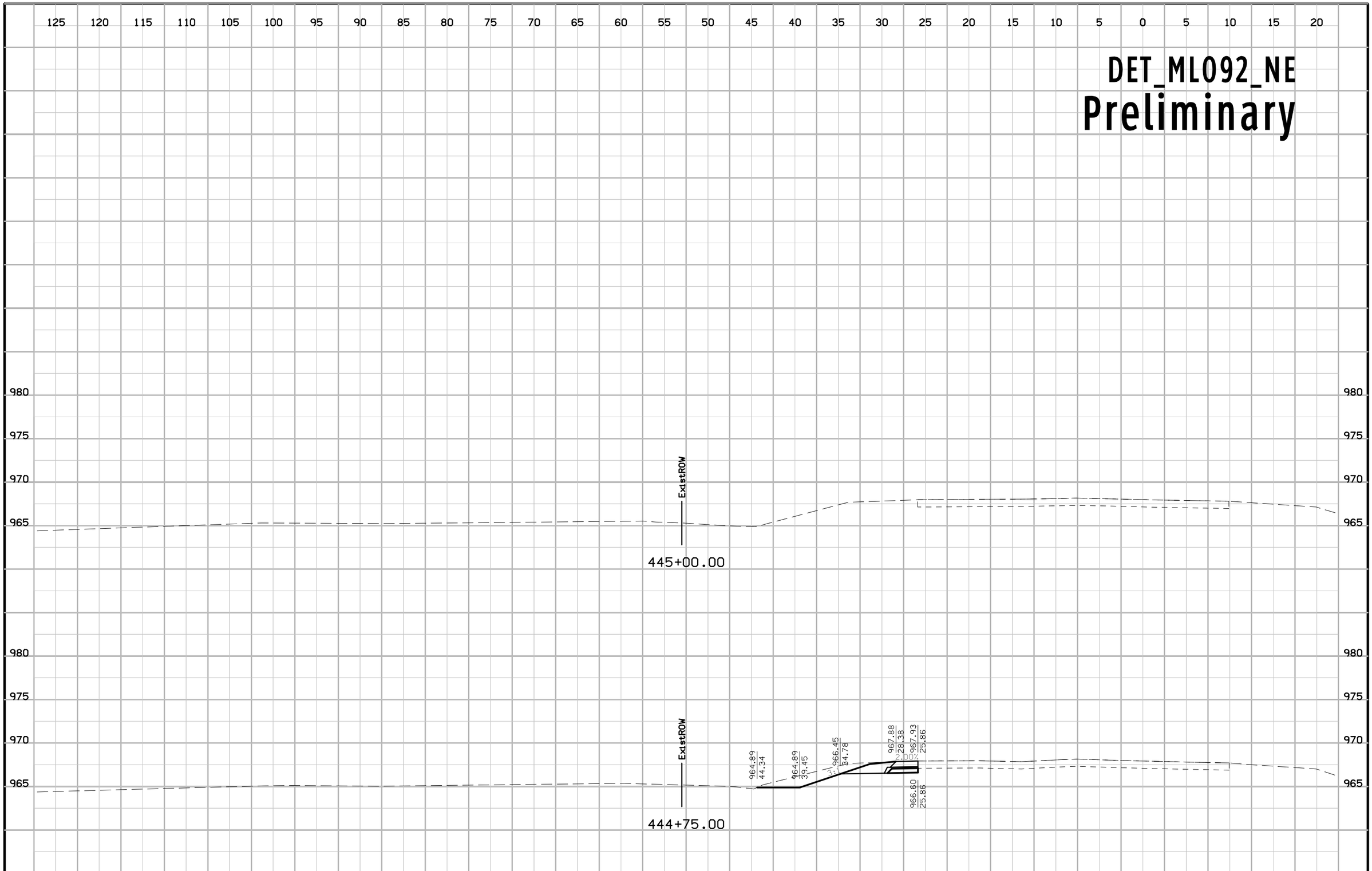
DET_ML092_NE
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.100

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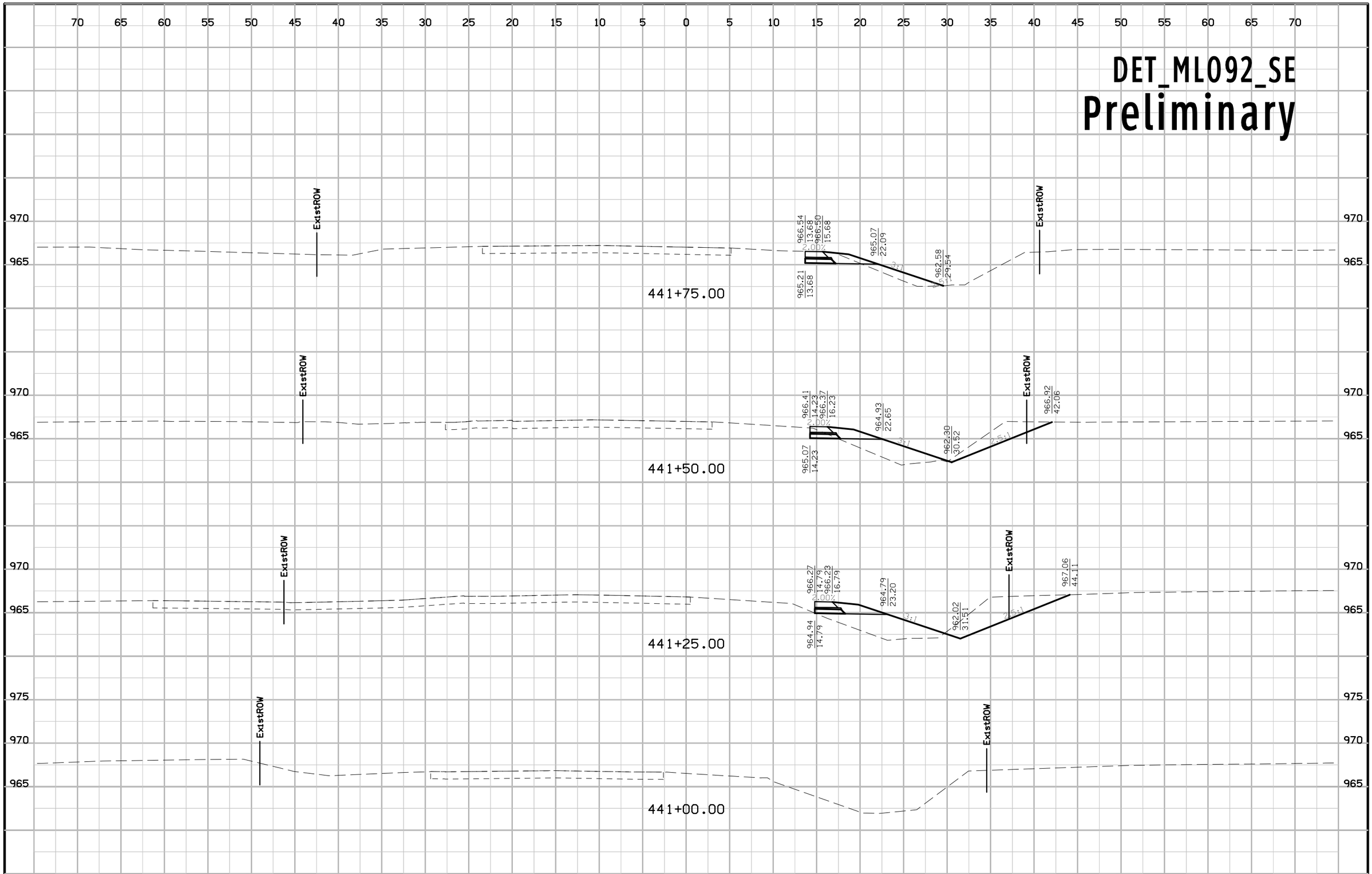
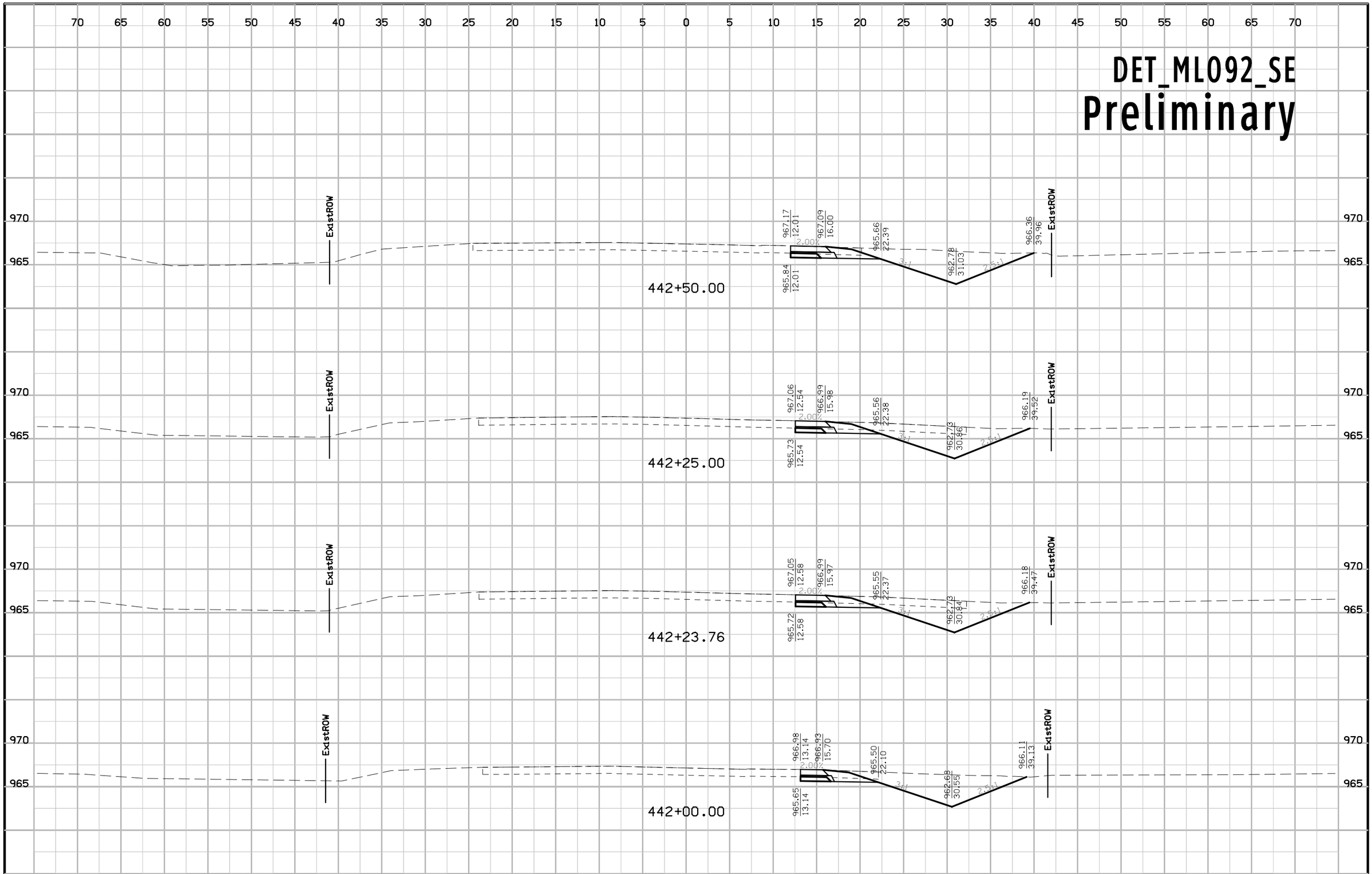
DET_ML092_SE
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.101

1:54:48 PM 6/23/2014 jholst pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9109201004\Design\91092051X16_DET_ML092_SE.sht

DET_ML092_SE
Preliminary



FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.102

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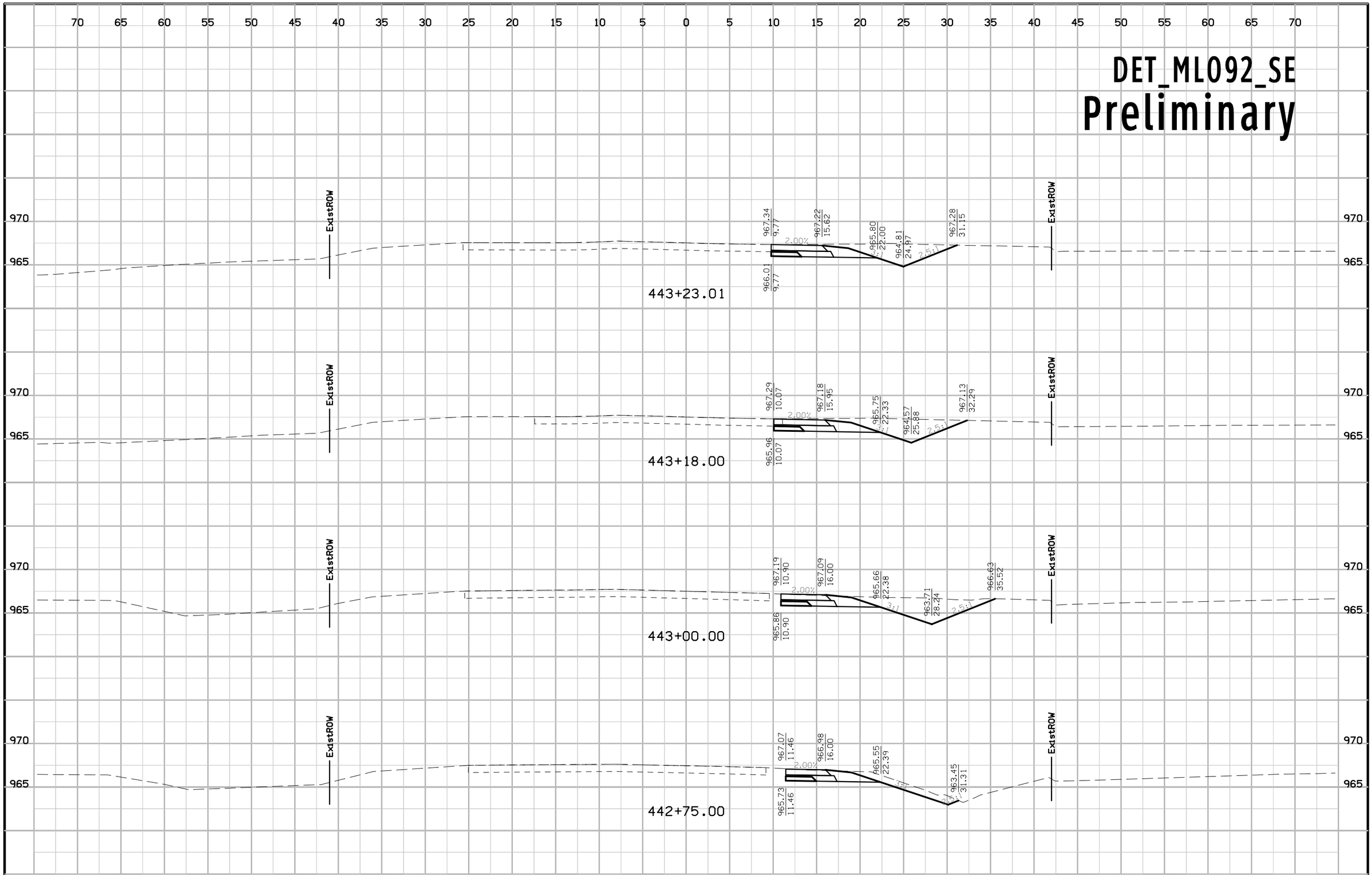
DET_ML092_SE
Preliminary



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DET_ML092_SE
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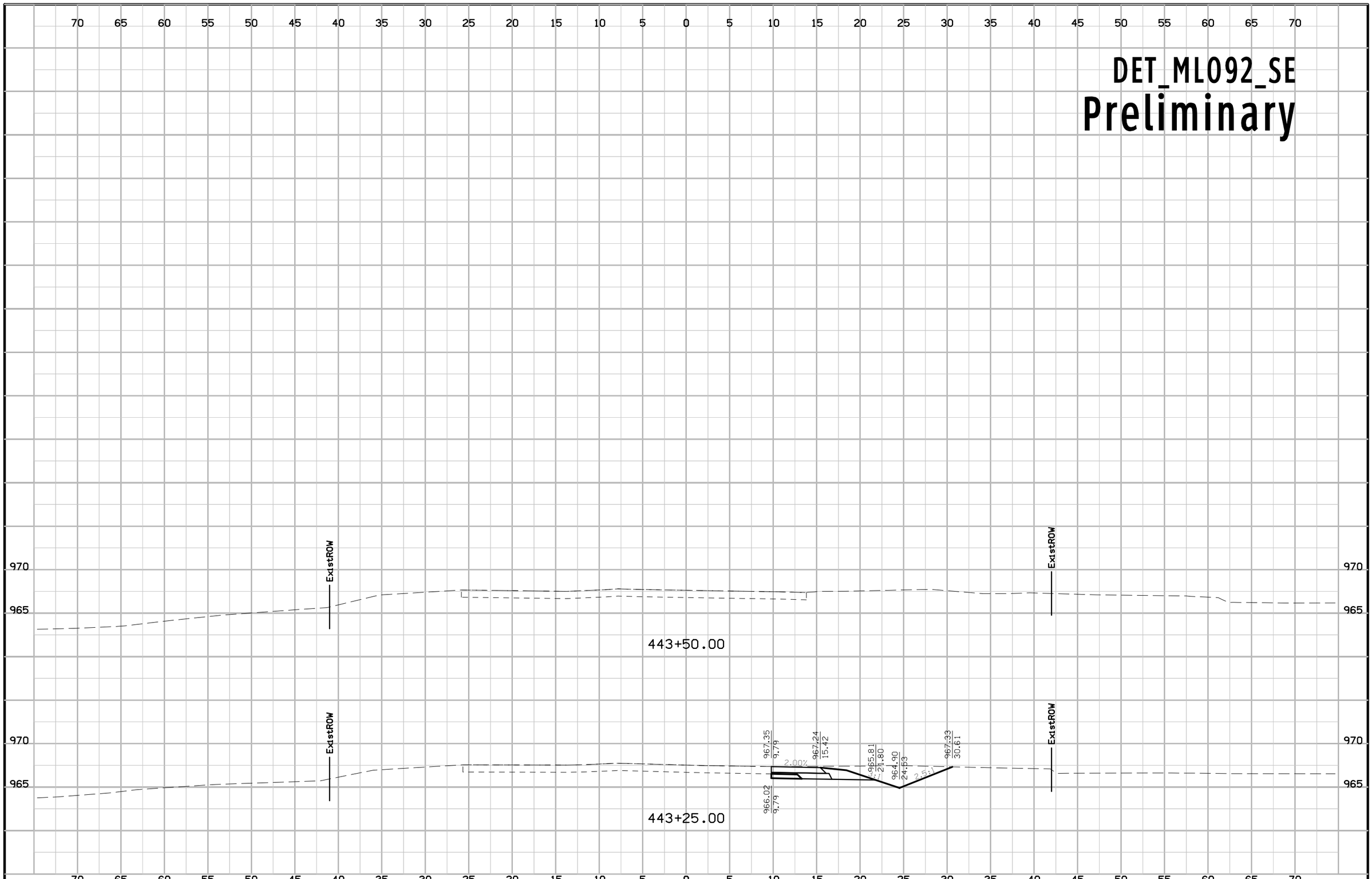

FILE NO.	ENGLISH	DESIGN TEAM Jia\Holst\Bennett	WARREN COUNTY	PROJECT NUMBER NHSX-092-5(51)--3H-91	SHEET NUMBER X.104

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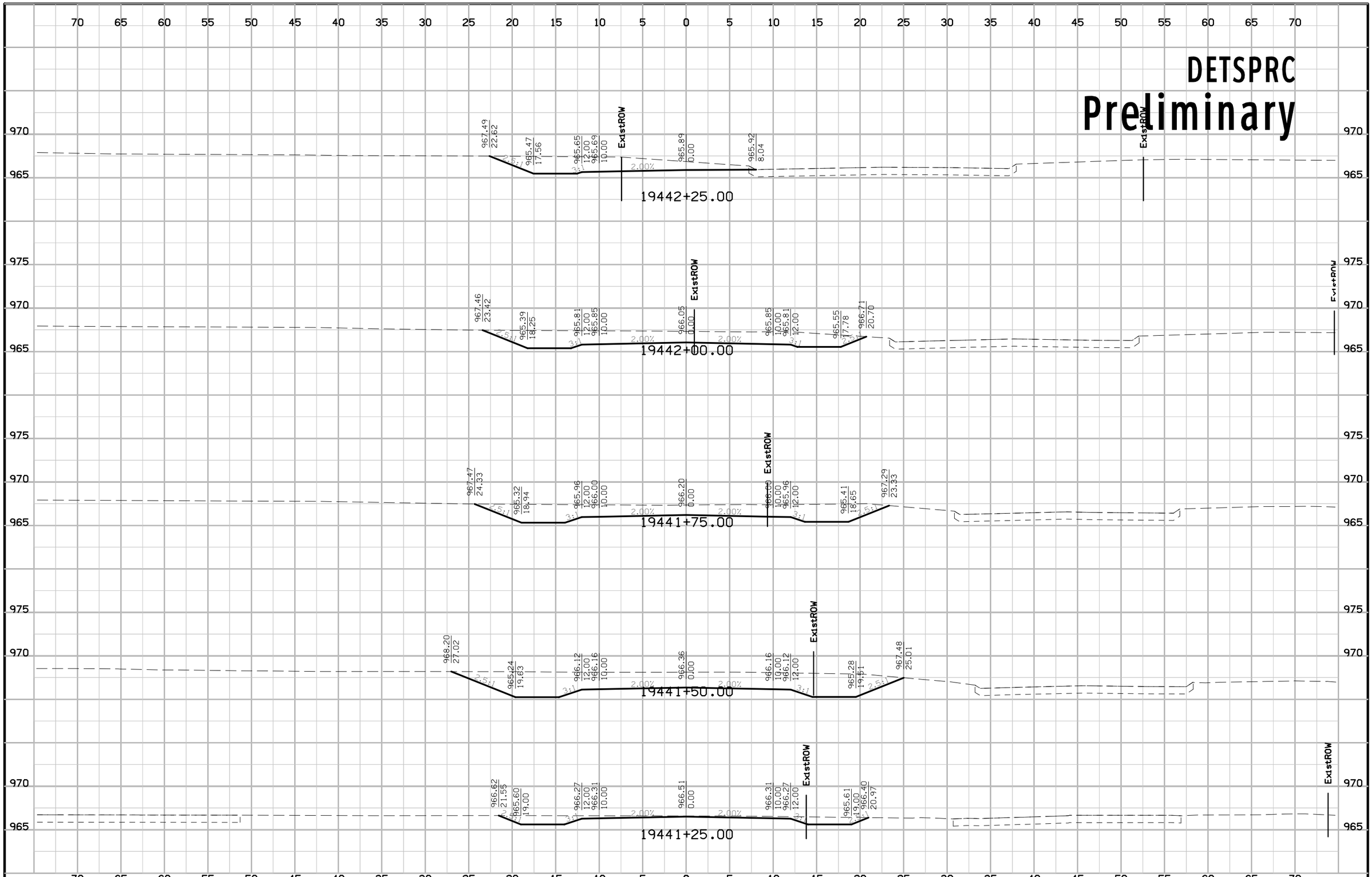
DETSPRC
Preliminary



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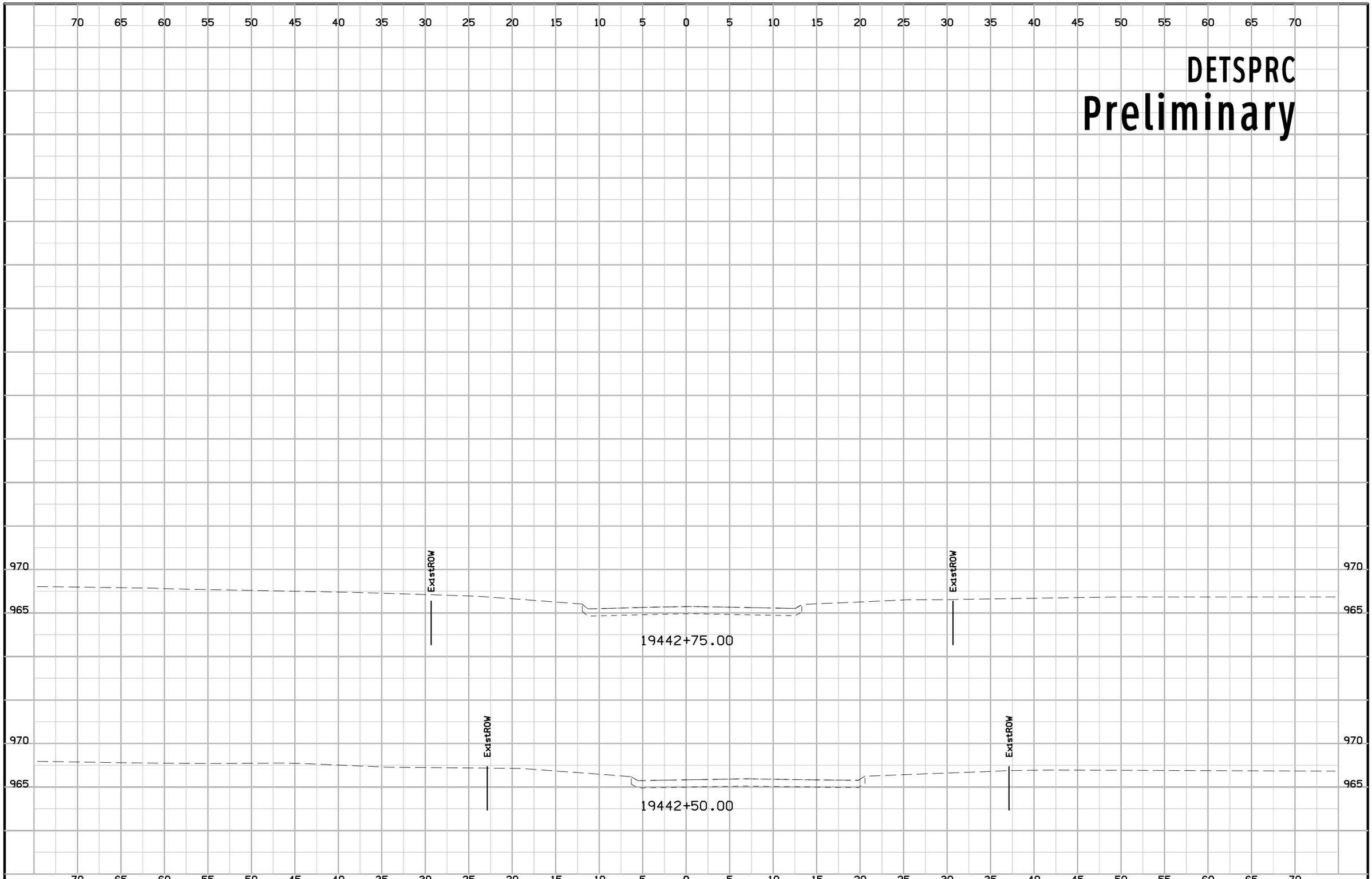
DETSPRC

Preliminary



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