PCC PAVEMENT-GRADE & REPLACE
LETTING DATE 3/21/2023
WASHINGTON Co. NHSX-092-9(57)--3H-92
WASHINGTON/LOUISA

REVISIONS

TOTAL
652
PROJECT IDENTIFICATION NUMBER
85-92-092-010
PROJECT NUMBER
NHSX-092-9(57)--3H-92
R.O.W. PROJECT NUMBER
NHSN-092-9(160)--2R-92
NHSN-092-9(161)--2R-58

IOWA DOT

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

WASHINGTON/LOUISA COUNTY

PCC PAVEMENT-GRADE & REPLACE

E of US 218 to 2nd Street in Columbus Junction

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

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

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

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CS Sheets	**Soils Tabulations**
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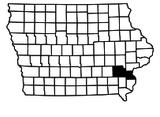

DESIGN DATA RURAL

2019 AADT	3500	V.P.D.
2039 AADT	3900	V.P.D.
2039 DHV	410	V.P.H.
TRUCKS	24	%
Total Design ESALs	8,307,400	

INDEX OF SEALS

SHEET NO.	NAME	TYPE	BID QUANTITY SHEETS
A.1, RC.1	Ryan R. Miller	Primary Signature Block	C.1-C.6 & RC.1-RC.4
CD.1	Jim D. Ellis	Hydraulic Design	
CS.1	Thomas C. Kettler Jr.	Geotechnical Design	

ROADWAY DESIGN

LICENSED PROFESSIONAL ENGINEER
Ryan R. Miller
18421
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.

Ryan R. Miller 10-04-2022
Signature Date

Ryan R. Miller
Printed or Typed Name

My license renewal date is December 31, 2022

Pages or sheets covered by this seal: A.1-2, B.1-11, C.1-21, D.1-21, E.1-12, G.1-6, H.1-31, HE.1-3, J.1-8, L.1-32, M.1-5, RC.1-20, RR.1-63, S.1-3, T.1A-28B, U.1-4, W.1-263, X.1-1002, Y.1-116

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER A.1

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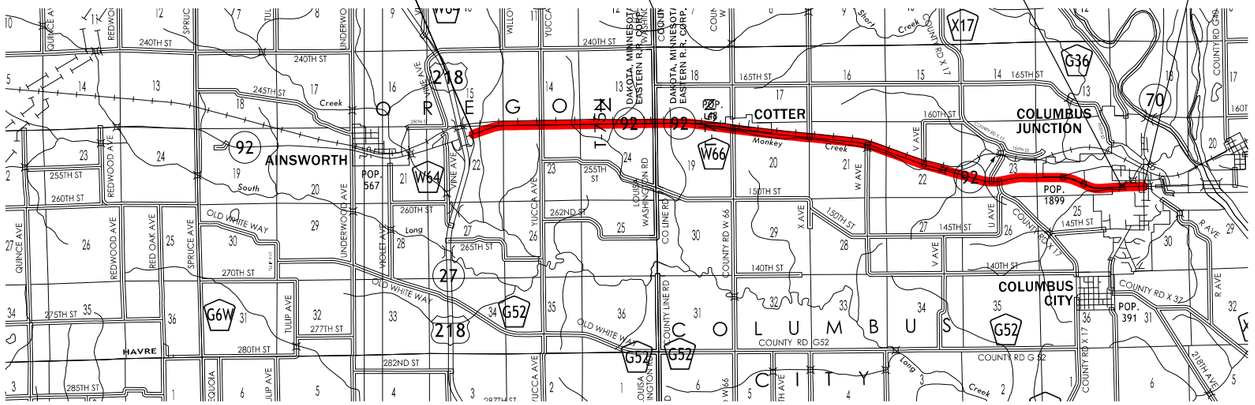
Washington/Louisa
County Line Road

STA. 1894+00.00
Bridge
FHWA 34101
Maint. No. 5851.0S092
Design No. 482

STA. 1908+69.18
END PROJECT

STA. 1460+19.65
BEGIN PROJECT







LOCATION MAP SCALE
0 1 2 3
Miles

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER A.2

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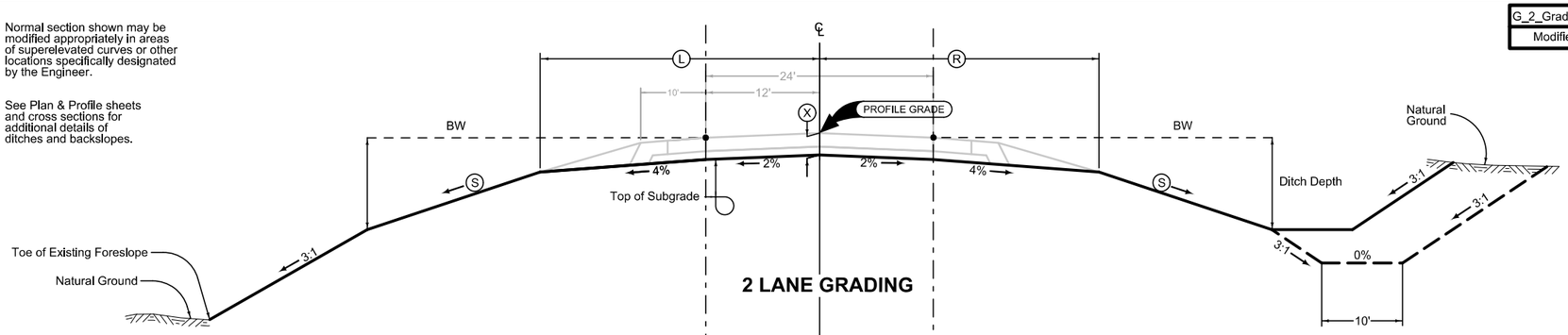
LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(S)	BW Feet
IA 92	1460+19.65	1791+01.28	35.8	35.8	21.5	6:1	30
IA 92	1814+52.68	1886+20.00	35.8	35.8	21.5	6:1	30
IA 92	1886+20.00	1892+53.00		35.8	21.5	6:1	30

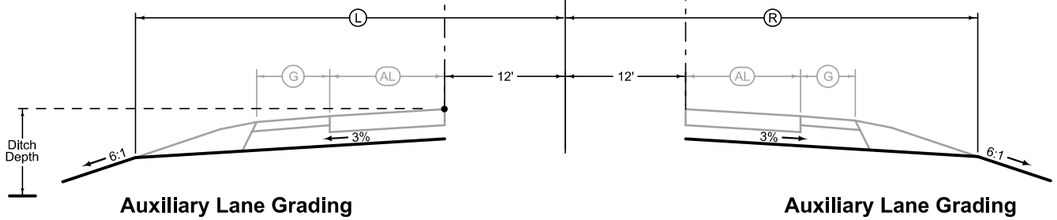
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

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

G_2_Grade_BR
Modified



2 LANE GRADING



Auxiliary Lane Grading

LOCATION			(L) Feet
ROAD IDENTIFICATION	STATION TO STATION		
IA 92 at Hilltop	1852+80.72	1854+29.48	41.8
	1854+29.48	1855+48.48	41.8 - 35.7

Auxiliary Lane Grading

LOCATION			(R) Feet
ROAD IDENTIFICATION	STATION TO STATION		
IA 92 at W66	1613+84.33	1615+08.14	35.8 - 43.8
	1615+08.14	1616+83.08	43.8

IA 92

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER B.1

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Full Depth PCC Combination Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2, L-2 or KT-2
Transverse joints: C at 17' spacing

2_C_FullPCC_ 04-20-21			
STATION TO STATION		(P) Feet	(G) Feet
1460+19.65	1791+01.28	6	4
1814+52.68	1851+35.14	6	4

Full Depth PCC Shoulder

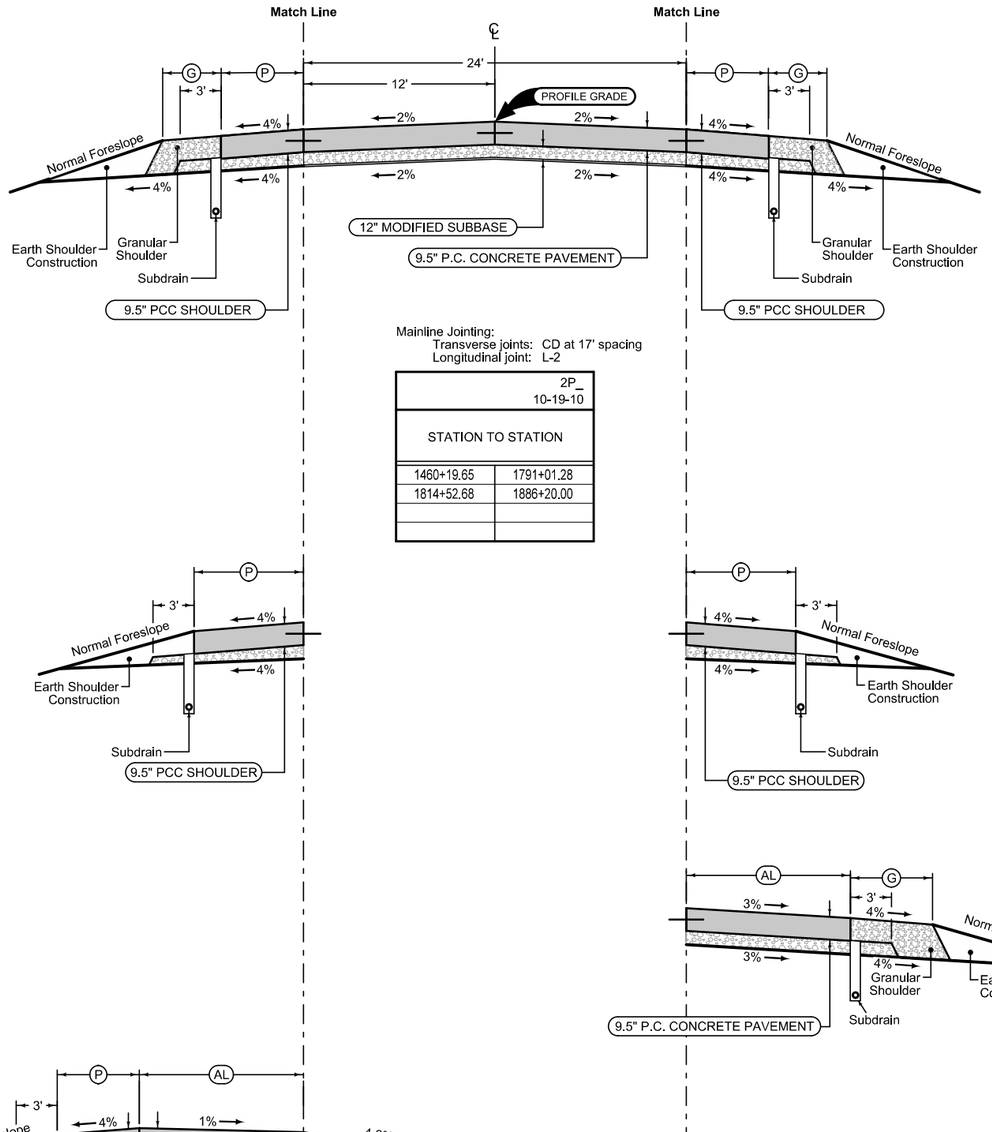
Shoulder Jointing:
Longitudinal joint: BT-2, L-2 or KT-2
Transverse joints: C at 17' spacing

2_P_FullPCC_ 04-20-21		
STATION TO STATION		(P) Feet
1855+48.48	1886+20.00	10

Auxiliary Lane
Full Depth Shoulder

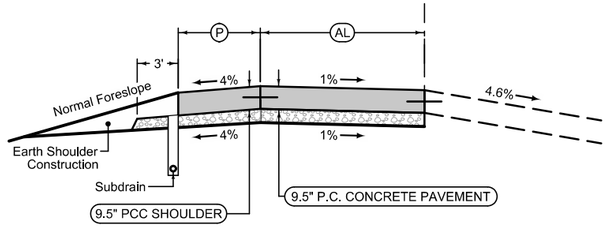
Shoulder Jointing:
Longitudinal joint: L-2 or KT-2
Transverse joints: C at 17' spacing

2_AL_Shldr_FullPCC_ 10-19-10
(P) Feet
4
4



Mainline Jointing:
Transverse joints: CD at 17' spacing
Longitudinal joint: L-2

2P_ 10-19-10	
STATION TO STATION	
1460+19.65	1791+01.28
1814+52.68	1886+20.00



(at Hilltop Road)

Auxiliary Lane

Longitudinal joint: L-2 or KT-2
Transverse joint: Match Mainline

2_AuxLane_PCC_ 10-18-16		
STATION TO STATION		(AL) Feet
1852+80.72	1854+29.48	12
1854+29.48	1855+48.48	12-0

(at Co. Road W-66)

Full Depth PCC Combination Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2, L-2 or KT-2
Transverse joints: C at 17' spacing

2_C_FullPCC_ 04-20-21			
STATION TO STATION		(P) Feet	(G) Feet
1460+19.65	1613+84.33	6	4
1618+33.38	1791+01.28	6	4
1814+52.68	1852+58.85	6	4

Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2, L-2 or KT-2
Transverse joints: C at 17' spacing

2_P_FullPCC_ 04-20-21		
STATION TO STATION		(P) Feet
1852+58.85	1886+20.00	10

Auxiliary Lane

Longitudinal joint: L-2 or KT-2
Transverse joint: Match Mainline

2_AuxLane_PCC_ 10-18-16		
STATION TO STATION		(AL) Feet
1613+84.33	1615+08.14	0-12
1615+08.14	1616+83.08	12

Auxiliary Lane
Granular Shoulder

2_AL_Shldr_G_ 10-19-10
(G) Feet
6
6

See Tab 100-24 or 100-25 for pavement quantities.
See Tab 112-9 for shoulder quantities.

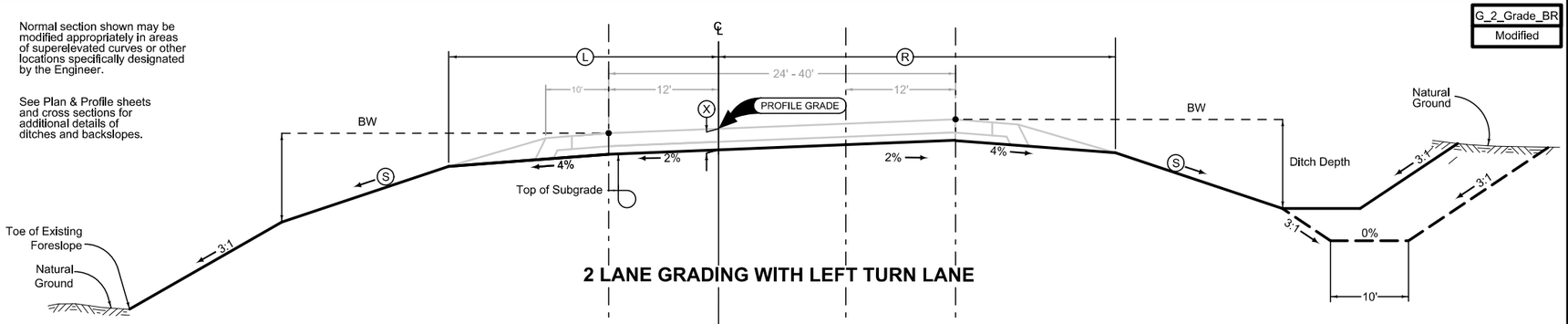
IA 92

LOCATION			DIMENSIONS				
ROAD IDENTIFICATION	STATION TO STATION		(L) Feet	(R) Feet	(X) Inches	(S)	BW Feet
IA 92	1791+01.28	1798+21.28	35.8	35.8 - 51.8	21.5	6:1	30
	1798+21.28	1809+03.14	35.8	51.8	21.5	6:1	30
	1809+03.14	1814+52.68	35.8	51.8 - 35.8	21.5	6:1	30

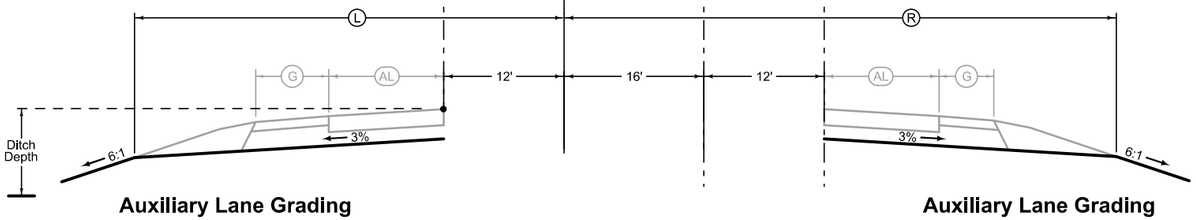
Normal section shown may be modified appropriately in areas of superelevated curves or other locations specifically designated by the Engineer.

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

G_2_Grade_BR
Modified



2 LANE GRADING WITH LEFT TURN LANE



Auxiliary Lane Grading

LOCATION			(L) Feet
ROAD IDENTIFICATION	STATION TO STATION		
IA 92 at X-17 North	1802+91.85	1805+38.02	43.8
	1805+38.02	1806+75	43.8 - 35.8

Auxiliary Lane Grading

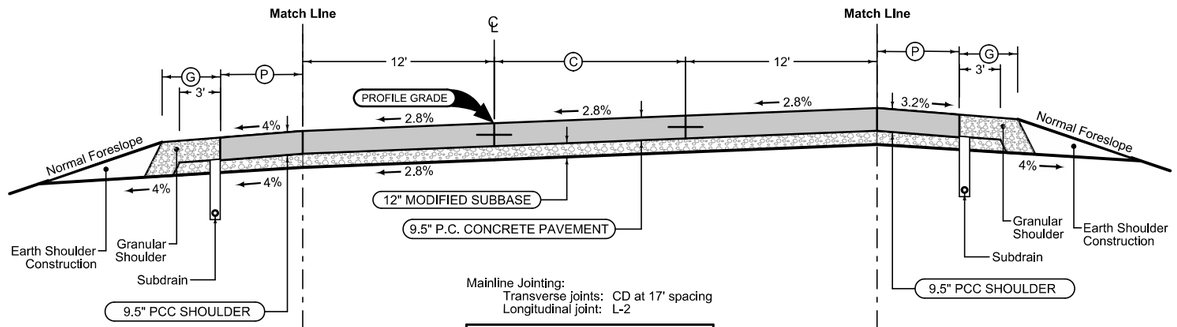
LOCATION			(R) Feet
ROAD IDENTIFICATION	STATION TO STATION		
IA 92 at X-17 South	1799+94.48	1801+73.52	51.8 - 59.8
	1801+73.52	1806+50.70	59.8

IA 92 @ Co. Road X-17

Full Depth PCC Combination Shoulder

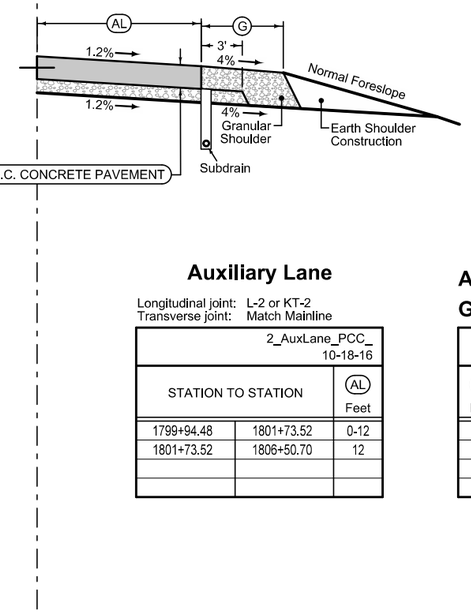
Shoulder Jointing:
Longitudinal joint: BT-2, L-2 or KT-2
Transverse joints: C at 17' spacing

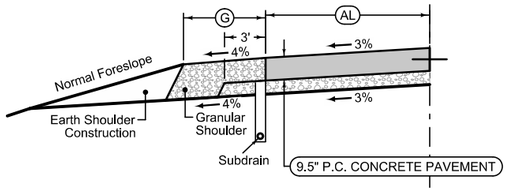
2_C_FullPCC_ 04-20-21			
BEGIN STATION	END STATION	(P) Feet	(G) Feet
1791+01.28	1800+91.19	6	4
1806+75	1814+52.68	6	4



Mainline Jointing:
Transverse joints: CD at 17' spacing
Longitudinal joint: L-2

2P_TWLTL_ 10-19-10		
STATION TO STATION		(C) Feet
1791+01.28	1798+21.28	0-16
1798+21.28	1809+03.14	16
1809+03.14	1814+52.68	16-0





Auxiliary Lane
Granular Shoulder

2_AL_Shldr_G_ 10-19-10
(G) Feet
6
6

Auxiliary Lane

Longitudinal joint: L-2 or KT-2
Transverse joint: Match Mainline

2_AuxLane_PCC_ 10-18-16		
STATION TO STATION		(AL) Feet
1802+91.85	1805+38.02	12
1805+38.02	1806+75	12-0

Full Depth PCC Combination Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2, L-2 or KT-2
Transverse joints: C at 17' spacing

2_C_FullPCC_ 04-20-21			
BEGIN STATION	END STATION	(P) Feet	(G) Feet
1791+01.28	1799+94.48	6	4
1808+20.24	1814+52.68	6	4

Auxiliary Lane

Longitudinal joint: L-2 or KT-2
Transverse joint: Match Mainline

2_AuxLane_PCC_ 10-18-16		
STATION TO STATION		(AL) Feet
1799+94.48	1801+73.52	0-12
1801+73.52	1806+50.70	12

Auxiliary Lane
Granular Shoulder

2_AL_Shldr_G_ 10-19-10
(G) Feet
6
6

See Tab 100-24 or 100-25 for pavement quantities.
See Tab 112-9 for shoulder quantities.

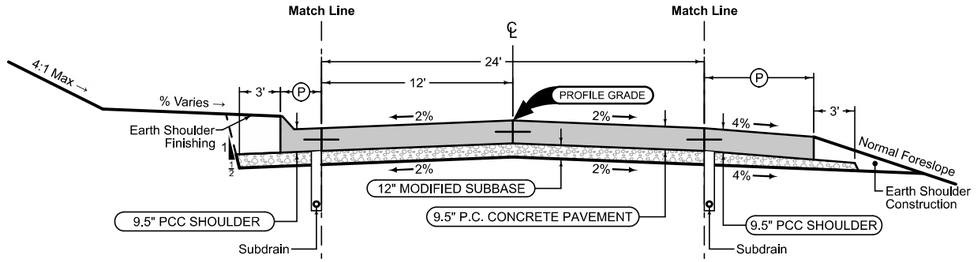
IA 92 @ Co. Road X-17

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 17' spacing

			2_Curb_ 10-17-17
STATION TO STATION		(P) Feet	Curb Type See PV-102 and BR-203
1886+20.00	1892+53	8.5	6" Std.
1895+46.81	1895+90	8.5	4" Slp.
1895+90	1896+40	8.5-3.5	4" Slp.



Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: BT-2, L-2 or KT-2
Transverse joints: C at 17' spacing

		2_P_FullPCC_ 04-20-21
STATION TO STATION		(P) Feet
1886+20.00	1892+53	10

Mainline Jointing:
Transverse joints: CD at 17' spacing
Longitudinal joint: L-2

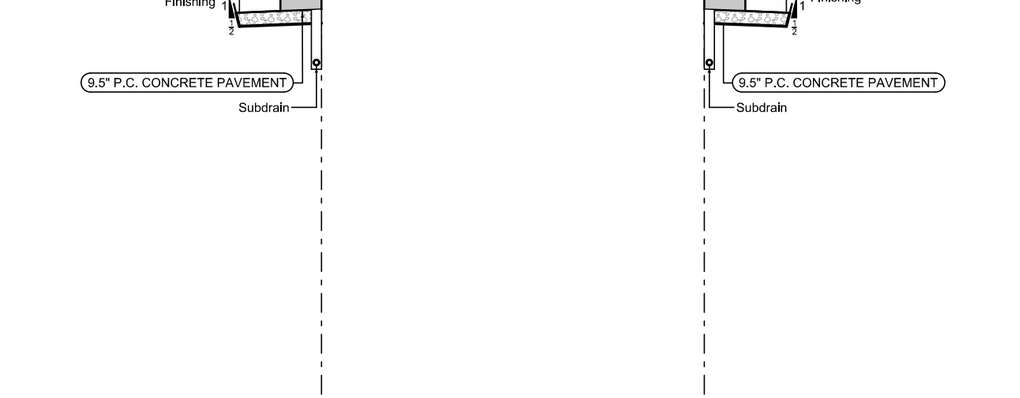
	2P_ 10-19-10
STATION TO STATION	
1886+20.00	1908+69.18

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 17' spacing

			2_Curb_ 10-17-17
STATION TO STATION		(P) Feet	Curb Type See PV-102 and BR-203
1896+40	1908+69.18	3.5	6" Std.



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 17' spacing

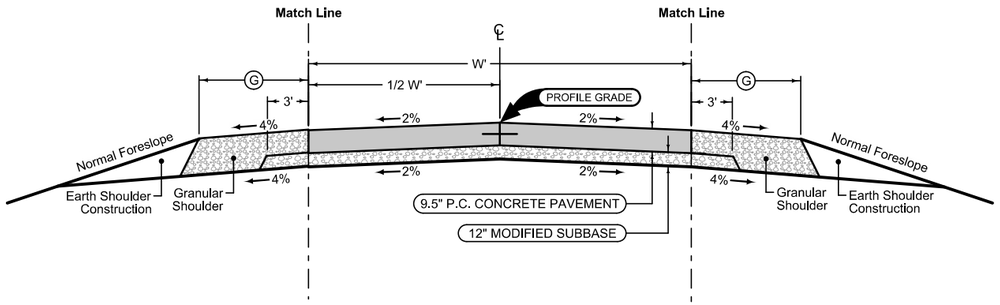
			2_Curb_ 10-17-17
STATION TO STATION		(P) Feet	Curb Type See PV-102 and BR-203
1895+46.81	1895+90	8.5	4" Slp.
1895+90	1896+40	8.5-3.5	4" Slp.
1896+40	1908+69.18	3.5	6" Std.

See Tab 100-24 or 100-25 for pavement quantities.
See Tab 112-9 for shoulder quantities.

IA 92

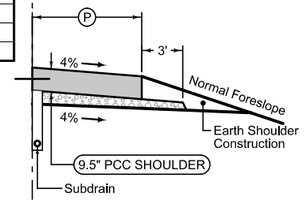
Granular Shoulder

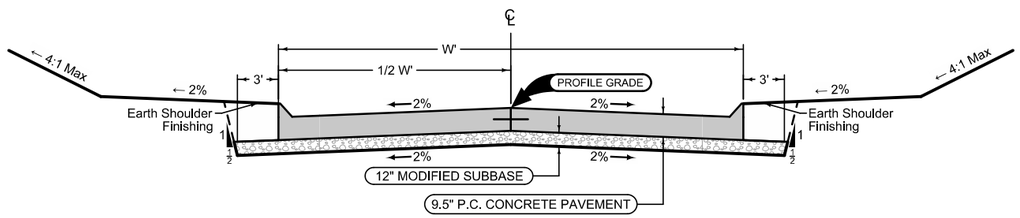
2_G_SR_ 04-21-20			
ROAD IDENTIFICATION	STATION TO STATION		(G) Feet
W66 (south)	6+65.42	7+39.40	7
W66 (north)	7+63.64	8+22.86	4
X17 (south)	6+06.91	7+13.44	10
X17 (north)	1+95.97	3+04.69	6
Hilltop	2+27.67	2+85.25	10
Western Access	0+21.26	3+90.00	0



Mainline Jointing:
Transverse joints: CD at 17' spacing
Longitudinal joint: L-2

2P_ 04-21-20			
ROAD IDENTIFICATION	STATION TO STATION		W
W66 (south)	6+65.42	7+39.40	22'
W66 (north)	7+63.64	8+22.86	22'
X17 (south)	6+06.91	7+13.44	22'
X17 (north)	1+95.97	3+04.69	22'
Hilltop	2+27.67	3+87.89	22'
Western Access	0+21.26	3+90.00	24'





Mainline Jointing:
Transverse joints: CD at 17' spacing
Longitudinal joint: L-2

2P_ 04-21-20				
ROAD IDENTIFICATION	STATION TO STATION		W	Curb Type See PV-102
Western Ave.	7+10.63	7+75.71	23'	6" Std.
3rd St (south)	4+88.84	5+39.17	22.4'	6" Std.
3rd St (north)	0+15.00	0+37.88	25'	6" Std.

Granular Shoulder

2_G_SR_ 04-21-20			
ROAD IDENTIFICATION	STATION TO STATION		(G) Feet
W66 (south)	6+65.42	7+39.40	9
W66 (north)	7+63.64	8+22.86	4
X17 (south)	6+06.91	7+13.44	10
X17 (north)	1+95.97	3+04.69	6
Western Access	0+21.26	3+90.00	0

Full Depth PCC Shoulder

Shoulder Jointing:
Longitudinal joint: L-2 or KT-2
Transverse joints: C at 17' spacing

2_P_FullPCC_ 10-19-10			
ROAD IDENTIFICATION	STATION TO STATION		(P) Feet
Hilltop	2+27.67	3+87.89	4

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

See Tab 112-9 for shoulder quantities.

Paved Sideroads

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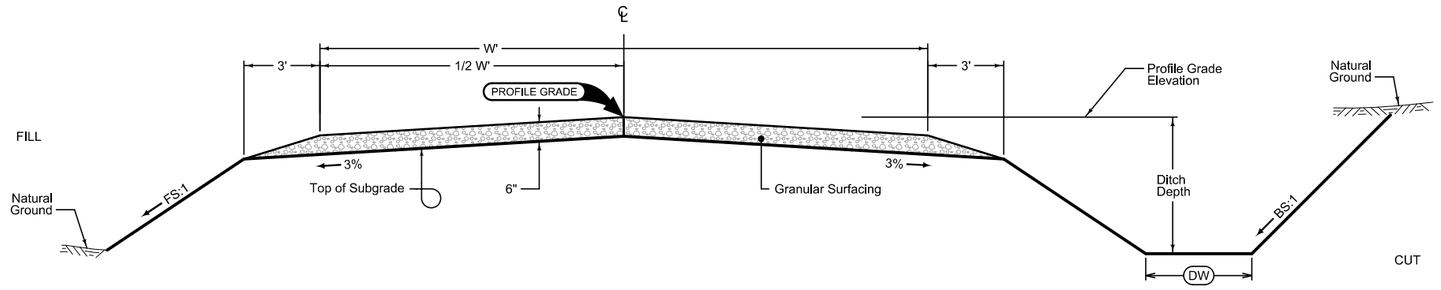
LOCATION			DIMENSIONS				QUANTITIES
ROAD IDENTIFICATION	STATION TO STATION		FS	BS	(DW) Feet	W	Granular Surfacing Tons
Yucca (South)	83+70.00	84+21.61	**	**	**	28'	88.1
Yucca (North)	84+65.62	85+38.00	**	**	**	24'	98.4
Co. Line Rd. (South)	62+54.50	63+07.20	**	**	**	24'	82.0
Co. Line Rd. (North)	63+51.23	64+04.00	**	**	**	28'	89.4
W Ave.	10+68.98	11+58.54	**			24'	118.4
V Ave	4+77.65	5+22.90	**			23'	62.6
		TOTAL					538.9
** See Cross Sections							



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.

GRADING AND GRANULAR SURFACING

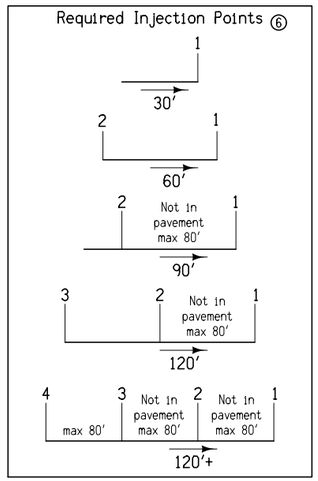
G_2_GradeGran
Modified

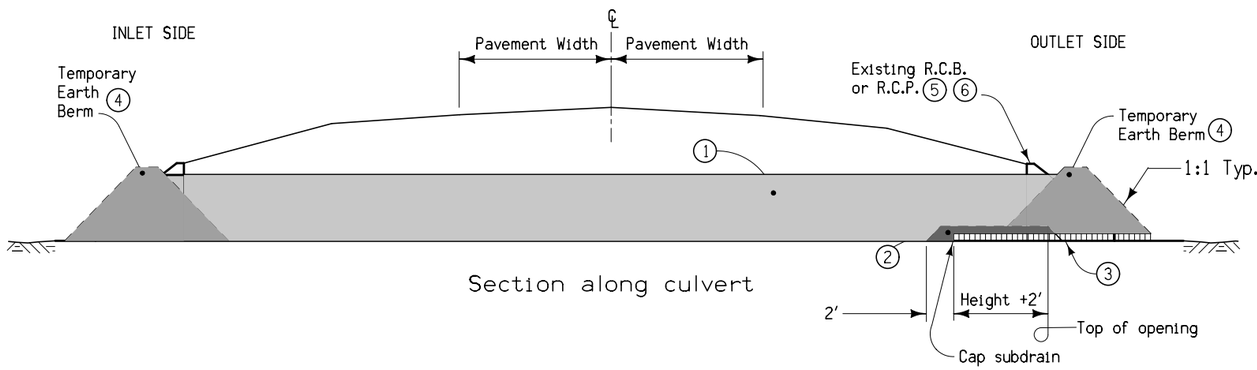
DESIGNER INFO

See Tab 112-9 for shoulder quantities.

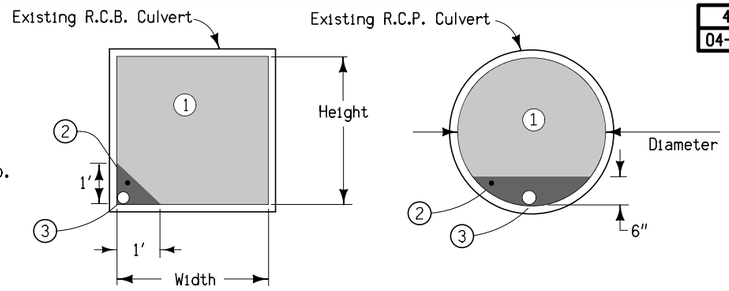
Granular Sideroads

4315
04-15-08





Section along culvert

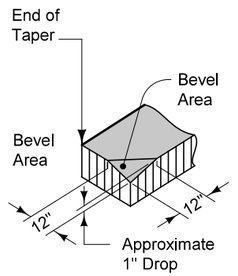


Section thru culvert

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.

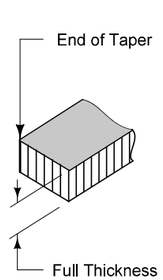
DETAILS OF CULVERT ABANDONMENT WITH FLOWABLE MORTAR
(Rectangular structures less than 8′ in either height or width. Circular structures less than 10′ Dia.)

7101
10-19-10



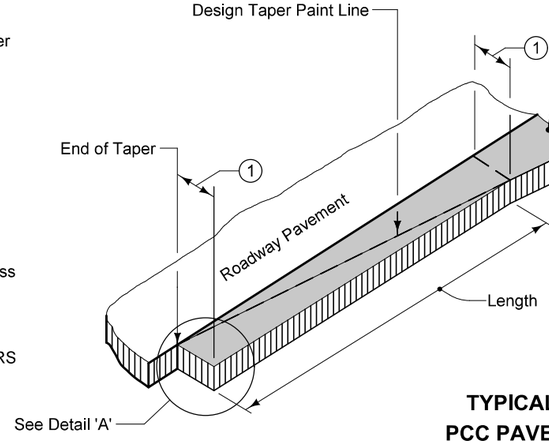
DETAIL 'A'

FOR
GRANULAR SHOULDERS



DETAIL 'A'

FOR
PAVED SHOULDERS

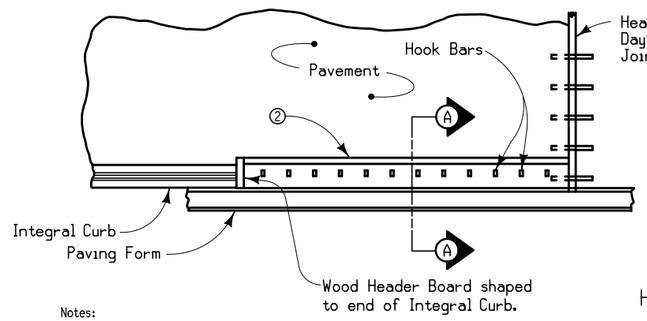


Note:
Taper pavement to be paid for at the contract unit price for P.C. concrete pavement. Full header is included for payment.

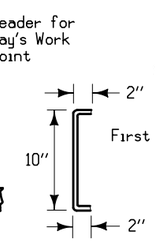
TYPICAL DETAILS OF PCC PAVEMENT HEADER

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

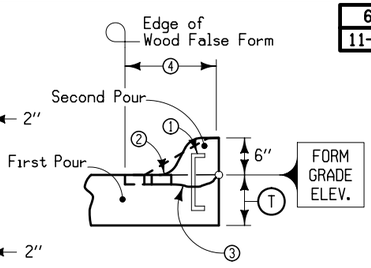
6115
11-10-92



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



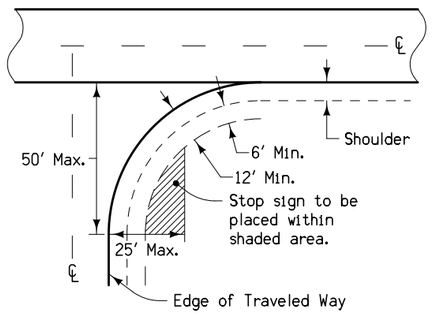
NO. 3
HOOK BAR



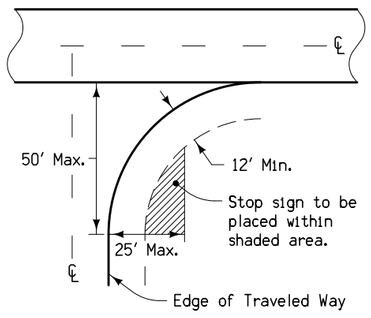
SECTION A-A

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

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

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER B.8

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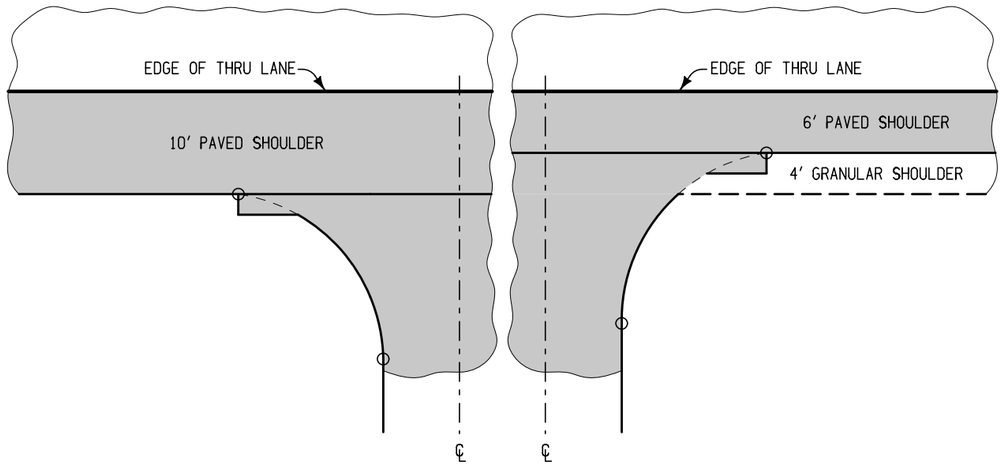
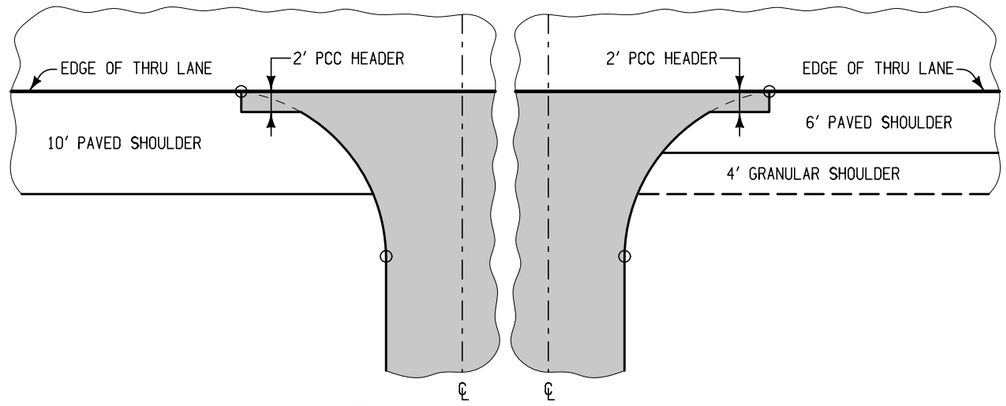
PAVED

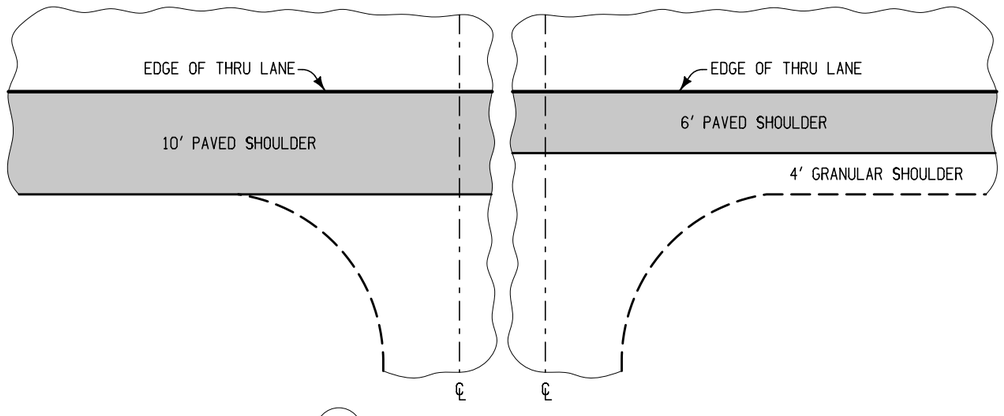


1 PAVED ENTRANCE

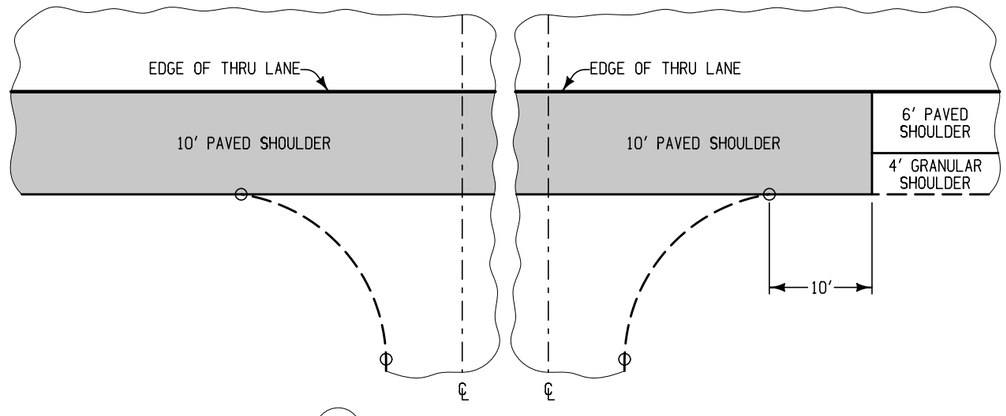


2 PAVED SIDEROAD

GRANULAR



3 GRANULAR ENTRANCE



4 GRANULAR SIDEROAD

RETURN TYPICALS

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER B.9

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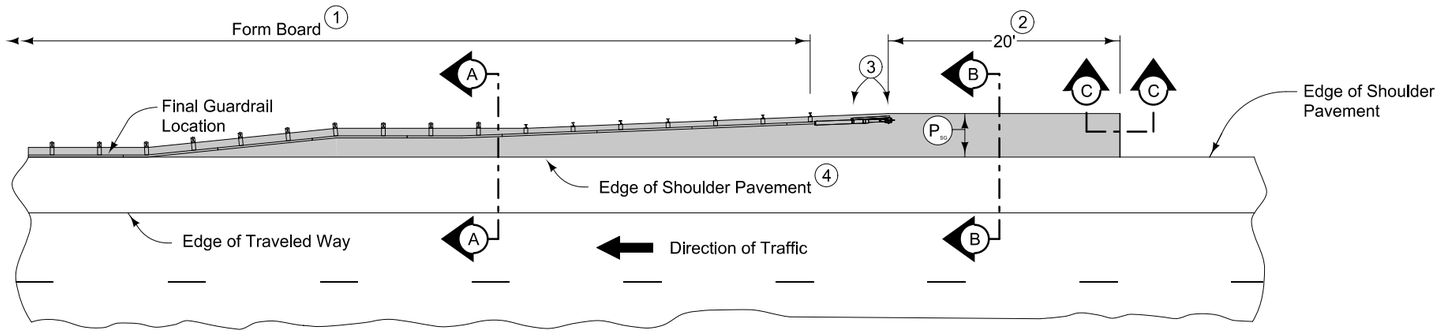
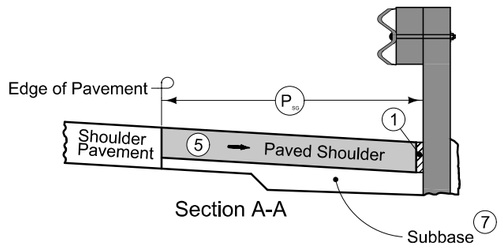
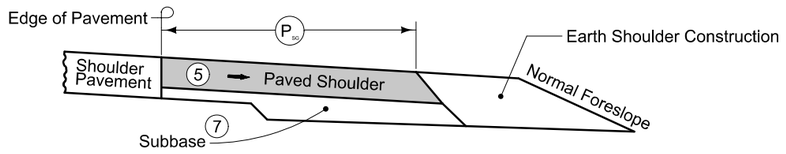
DESIGNER INFO | 7158 | 04-19-22



PLAN VIEW

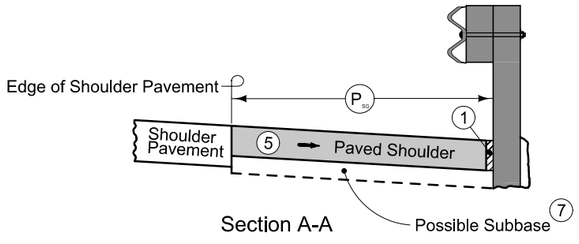


Section A-A

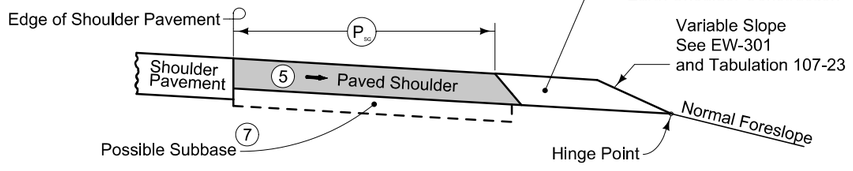


Section B-B

NEW CONSTRUCTION 6



Section A-A



Section B-B

EXISTING SHOULDER

6" PCC Shoulder at guardrail:

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

Refer to Tabulation 112-9 for shoulder quantities.

(1) PCC option only: When guardrail posts are installed prior to construction of PCC paved shoulder, fasten form board to the face of guardrail posts for the length shown.

(2) Continue paved shoulder 20 feet beyond the center of the first post.

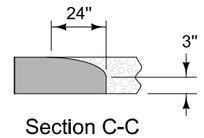
(3) Shoulder may be notched for first 2 posts or post sleeves may be installed through pavement. Do not drive posts through pavement.

(4) 'KT' (per PV-101) joint for PCC shoulder.

(5) Match shoulder slope.

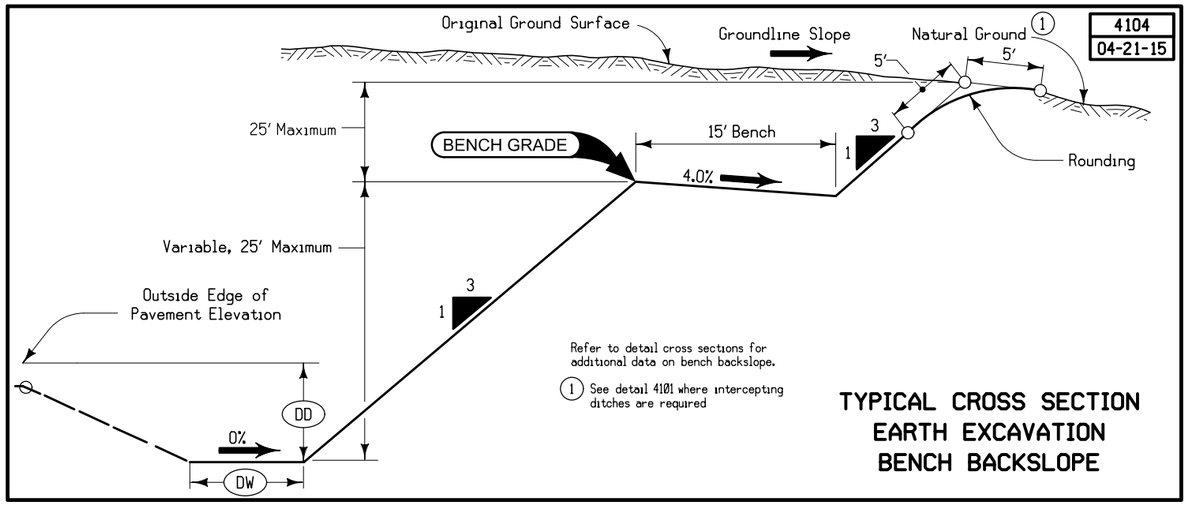
(6) The Contractor has the option to pave the paved shoulder at guardrail and the full width paved shoulder as one operation.

(7) Refer to other details in the plan.



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

PAVED SHOULDER AT GUARDRAIL
(ADJACENT TO FULL WIDTH PAVED SHOULDER)



FILE NO.	ENGLISH	DESIGN TEAM Jla \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER B.11

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ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Division 1	
1	2101-0850001	CLEARING AND GRUBBING	ACRE	88.9	Includes areas within construction needs line.
2	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	342,649	Refer to Tab. 107-28 in the T sheets. Also refer to Tabs. 107-31 and 103-5 in the CS sheets for locations of plowing & shaping and settlement plates.
3	2102-2710090	EXCAVATION, CLASS 10, WASTE	CY	47,225	Refer to T sheets.
4	2102-2712015	EXCAVATION, CLASS 12, BOULDERS OR ROCK FRAGMENTS	CY	300	Refer to Tab. 103-7 in the CS sheets. Dispose of excess material according to Article 1106.07 of the current specifications.
5	2102-4560000	LOCATING TILE LINES	STA	897	Estimated at twice the project length. Includes field verification of 12"x132' Clay and Plastic Pipe at the northwest corner of IA 92 and Yucca Ave.
6	2104-2710020	EXCAVATION, CLASS 10, CHANNEL	CY	221.2	Refer to Tab. 104-4 in the C sheets for locations and details. All waste must be removed from the project site.
7	2105-8425015	TOPSOIL, STRIP, SALVAGE AND SPREAD	CY	170,455	Refer to Tab. 103-10 in the CS sheets and Tab. 107-28 in the T sheets. An estimated 750 cy of excess topsoil not shown in T sheets to be placed as fill behind curb. All excess topsoil to be used for earth shoulder construction, behind curb fill, or spread on foreslopes.
8	2107-0425020	COMPACTING BACKFILL ADJACENT TO BRIDGES, CULVERTS OR STRUCTURES	CY	103	Refer to Tab. 104-4 in the C sheets for locations and details.
9	2107-0875100	COMPACTION WITH MOISTURE CONTROL	CY	263,572	Refer to Tab. 103-6 in the CS sheets for locations and details. Cubic yards shown on the contract documents as determined by the template fill volume. Shrinkage is not included in the moisture control quantity.
10	2115-0100000	MODIFIED SUBBASE	CY	74,426.3	Refer to Typicals on B sheets and Tabs. 100-24 and 112-9 in the C sheets for locations and details.
11	2121-7425010	GRANULAR SHOULDERS, TYPE A	TON	28,608.8	Refer to Typicals on B sheets and Tab. 112-9 in the C sheets for locations and details.
12	2122-5190006	PAVED SHOULDER, P.C. CONCRETE, 6 IN.	SY	23.4	
13	2122-5190095	PAVED SHOULDER, P.C. CONCRETE, 9.5 IN.	SY	60,039.2	Refer to Typicals on B sheets and Tab. 112-9 in the C sheets for locations and details. Includes 195 linear feet of 4" sloped curb and 542 linear feet of 6" standard curb.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Division 1	
14	2123-7450000	SHOULDER CONSTRUCTION, EARTH	STA	859	Refer to Typicals on B sheets and Tab. 112-9 in the C sheets for locations and details. Requires a minimum of 4 inches of topsoil. Place according to Article 2105.03,B of the Standard Specification. Approximately 16,833 cy of topsoil is available on site.
15	2123-7450020	SHOULDER FINISHING, EARTH	STA	32.2	Item is for locations behind curb. Refer to Typicals on B sheets and Tab. 112-9 in the C sheets for locations and details.
16	2213-7100400	RELOCATION OF MAIL BOXES	EACH	26	Refer to Tab. RLM in the C sheets for locations and details. The Contractor is responsible for coordinating the relocation schedule with property owners and the US Post Office. Price bid includes installation of temporary mailboxes until the permanent mailboxes can be reinstalled. METHOD OF MEASUREMENT: The quantity for Relocation of Mail Boxes will be measured by counting the number of mailboxes removed and reinstalled. BASIS OF PAYMENT: The Contractor will be paid the contract unit price per each mailbox removed and reinstalled.
17	2214-5145150	PAVEMENT SCARIFICATION	SY	311.1	Refer to Tab. 102-16 in the C sheets for locations and details.
18	2301-0690203	BRIDGE APPROACH, BR-203	SY	789.9	Refer to Tab. 112-6 in the C sheets for locations and details.
19	2301-1003095	STANDARD OR SLIP-FORM PORTLAND CEMENT CONCRETE PAVEMENT, QM- C, CLASS 3 DURABILITY, 9.5 IN.	SY	129,175	Refer to Typicals on B Sheets and Tab. 100-24 in the C sheets for locations and details.
20	2301-7000110	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR PCC PAVEMENT THICKNESS (BY SCHEDULE)	EACH	151,135	
21	2303-1033503	HOT MIX ASPHALT STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, FRICTION L-3	TON	44.1	Item is for placing HMA runout to provide a smooth driving surface prior to placing traffic back on IA 92 for winter of 2023-2024. Refer to Tabs. 100-25 and 102-16 in the C sheets for locations and details.
22	2303-1258283	ASPHALT BINDER, PG 58-28S, STANDARD TRAFFIC	TON	2.65	Item is for placing HMA runout to provide a smooth driving surface prior to placing traffic back on IA 92 for winter of 2023-2024. Refer to Tabs. 100-25 and 102-16 in the C sheets for locations and details. Quantity is calculated based on 6% of the surface course.
23	2312-8260051	GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	TON	538.9	Refer to Typicals on B Sheets for details. Calculated at 6" thickness.
24	2315-8275025	SURFACING, DRIVEWAY, CLASS A CRUSHED STONE	TON	2,778.2	Refer to Tab. 102-3 in the C sheets for locations and details. Calculated at 6" thickness. Includes an additional 900 tons to maintain temporary access during construction.
25	2317-7000110	PAYMENT ADJUSTMENT INCENTIVE/DISINCENTIVE FOR PCC PAVEMENT SMOOTHNESS (BY SCHEDULE)	EACH	96,882	
26	2401-6745650	REMOVAL OF EXISTING STRUCTURES	LS	1	Refer to Tab. 110-2 in the C sheets for locations and details.
27	2402-0425040	FLOODED BACKFILL	CY	5,496.1	Refer to Tab. 104-4 in the C sheets and Tab. 104-3 in the CD sheets for locations and details.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Division 1	
28	2402-0875150	COMPACTION WITH MOISTURE CONTROL (STRUCTURES)	CY	4,567.5	Refer to Tab. 104-4 in the C sheets for locations and details.
29	2402-2720100	EXCAVATION, CLASS 20, FOR ROADWAY PIPE CULVERT	CY	16,812	Refer to Tab. 104-3 in the CD sheets for locations and details.
30	2402-3825025	GRANULAR MATERIAL FOR BLANKET	CY	14,867.6	Refer to Tab. 104-5C in the CS sheets for locations and details.
31	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	28	Refer to Tab. 104-3 in CD sheets and Tab. 104-5B in the M sheets for locations and details.
32	2416-0100030	APRONS, CONCRETE, 30 IN. DIA.	EACH	2	Refer to Tab. 104-3 in the CD sheets for locations and details.
33	2416-0100036	APRONS, CONCRETE, 36 IN. DIA.	EACH	8	
34	2416-0100042	APRONS, CONCRETE, 42 IN. DIA.	EACH	6	
35	2416-0100048	APRONS, CONCRETE, 48 IN. DIA.	EACH	9	
36	2416-0100054	APRONS, CONCRETE, 54 IN. DIA.	EACH	5	
37	2416-0100066	APRONS, CONCRETE, 66 IN. DIA.	EACH	4	
38	2416-0100078	APRONS, CONCRETE, 78 IN. DIA.	EACH	2	
39	2416-0102242	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 42 IN.	EACH	2	
40	2416-0102254	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 54 IN.	EACH	2	
41	2416-0102260	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 60 IN.	EACH	2	
42	2416-0102284	APRON, LOW CLEARANCE CONCRETE, EQUIVALENT DIAMETER 84 IN.	EACH	2	
43	2416-1180024	CULVERT, CONCRETE ROADWAY PIPE, 24 IN. DIA.	LF	1,176	
44	2416-1180030	CULVERT, CONCRETE ROADWAY PIPE, 30 IN. DIA.	LF	94	
45	2416-1180036	CULVERT, CONCRETE ROADWAY PIPE, 36 IN. DIA.	LF	274	
46	2416-1180042	CULVERT, CONCRETE ROADWAY PIPE, 42 IN. DIA.	LF	290	
47	2416-1180048	CULVERT, CONCRETE ROADWAY PIPE, 48 IN. DIA.	LF	412	
48	2416-1180054	CULVERT, CONCRETE ROADWAY PIPE, 54 IN. DIA.	LF	278	
49	2416-1180066	CULVERT, CONCRETE ROADWAY PIPE, 66 IN. DIA.	LF	190	
50	2416-1180078	CULVERT, CONCRETE ROADWAY PIPE, 78 IN. DIA.	LF	82	

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Division 1	
51	2416-1200242	CULVERT, LOW CLEARANCE CONCRETE ROADWAY PIPE, EQUIVALENT DIAMETER 42 IN.	LF	82	
52	2416-1200254	CULVERT, LOW CLEARANCE CONCRETE ROADWAY PIPE, EQUIVALENT DIAMETER 54 IN.	LF	76	
53	2416-1200260	CULVERT, LOW CLEARANCE CONCRETE ROADWAY PIPE, EQUIVALENT DIAMETER 60 IN.	LF	116	
54	2416-1200284	CULVERT, LOW CLEARANCE CONCRETE ROADWAY PIPE, EQUIVALENT DIAMETER 84 IN.	LF	82	
55	2416-1262024	CULVERT, CONCRETE PIPE, 2000D, TRENCHLESS, 24 IN. DIA.	LF	86	
56	2416-1262036	CULVERT, CONCRETE PIPE, 2000D, TRENCHLESS, 36 IN. DIA.	LF	134	
57	2416-1262042	CULVERT, CONCRETE PIPE, 2000D, TRENCHLESS, 42 IN. DIA.	LF	218	
58	2416-1262054	CULVERT, CONCRETE PIPE, 2000D, TRENCHLESS, 54 IN. DIA.	LF	230	
59	2417-0225024	APRONS, METAL, 24 IN. DIA.	EACH	4	
60	2417-0225036	APRONS, METAL, 36 IN. DIA.	EACH	1	
61	2417-1060024	CULVERT, CORRUGATED METAL ROADWAY PIPE, 24 IN. DIA.	LF	230	
62	2417-1060036	CULVERT, CORRUGATED METAL ROADWAY PIPE, 36 IN. DIA.	LF	56	
63	2422-0360018	APRONS, UNCLASSIFIED, 18 IN. DIA.	EACH	8	Refer to Tab. 102-3 in the C sheets for locations and details.
64	2422-0360024	APRONS, UNCLASSIFIED, 24 IN. DIA.	EACH	44	
65	2422-1722018	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 18 IN. DIA.	LF	128	
66	2422-1722024	CULVERT, UNCLASSIFIED ENTRANCE PIPE, 24 IN. DIA.	LF	1,351	
67	2435-0250900	INTAKE, SW-509	EACH	2	Refer to M sheets for locations and details.
68	2435-0254500	INTAKE, SW-545	EACH	6	
69	2435-0600010	MANHOLE ADJUSTMENT, MINOR	EACH	2	Refer to Tab. 104-10 in the C sheets for locations and details.
70	2502-2308100	TRENCH DRAIN	LF	887.2	Refer to Tab. 104-5C in the CS sheets for locations and details.
71	2502-8212034	SUBDRAIN, LONGITUDINAL, (SHOULDER) 4 IN. DIA.	LF	102,031	Refer to Tab. 104-9 in the CS sheets for locations and details.
72	2502-8212106	SUBDRAIN, PLASTIC PIPE, 6 IN.	LF	403	Refer to Tab. 104-5C in the CS sheets for locations and details.
73	2502-8221303	SUBDRAIN OUTLET, DR-303	EACH	16	Refer to Tab. 104-9 in the CS sheets for locations and details.
74	2502-8221306	SUBDRAIN OUTLET, DR-306	EACH	423	Refer to Tabs. 104-9 and 104-5C in the CS sheets for locations and details.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Division 1	
75	2503-0114224	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 24 IN.	LF	394	Refer to M sheets for locations and details.
76	2503-0200036	REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN.	LF	178	Refer to Tab. 110-14 in the C sheets for locations and details.
77	2503-0200136	REMOVE STORM SEWER PIPE GREATER THAN 36 IN.	LF	104	
78	2503-0500402	BRIDGE END DRAIN, DR-402	EACH	1	Refer to Tab. 104-8A in the C sheets for locations and details.
79	2505-4008120	REMOVAL OF STEEL BEAM GUARDRAIL	LF	2,311	Refer to Tab. 110-7A in the C sheets for locations and details.
80	2505-4008300	STEEL BEAM GUARDRAIL	LF	75	Refer to Tab. 108-8A in the C sheets for locations and details.
81	2505-4008410	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-201	EACH	3	
82	2505-4008420	STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION, BA-221	EACH	1	
83	2505-4021010	STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	EACH	4	
84	2505-4021720	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-205	EACH	3	
85	2505-4021722	STEEL BEAM GUARDRAIL TANGENT END TERMINAL, BA-225	EACH	1	
86	2506-4984000	FLOWABLE MORTAR	CY	580.3	Refer to Typical 4315 on B sheets, Tab. 110-9 in the C sheets, and Tab. 104-3 in the CD sheets for locations and details. Silt inside existing culverts need not be removed prior to placing flowable mortar.
87	2510-6745850	REMOVAL OF PAVEMENT	SY	145,767.6	Refer to Tabs. 110-1 and 102-5 in the C sheets for locations and details. Includes 320.2 linear feet of full-depth saw cut.
88	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES	EACH	4	Refer to Tab. 110-15 in the C sheets for locations and details.
89	2511-6745900	REMOVAL OF SIDEWALK	SY	112.9	Refer to Tab. 110-5 in the C sheets for locations and details. Includes 30.7 linear feet of full-depth saw cut.
90	2511-7526006	SIDEWALK, P.C. CONCRETE, 6 IN.	SY	102.4	Refer to Tab. 113-1A in the C sheets for locations and details.
91	2511-7528101	DETECTABLE WARNINGS	SF	20	
92	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN.	SY	2,121.8	Refer to Tab. 102-3 in the C sheets for locations and details.
93	2515-6745600	REMOVAL OF PAVED DRIVEWAY	SY	1,609.7	Refer to Tab. 110-8 in the C sheets for locations and details. Requires 403.9 linear foot of full-depth saw cut.
94	2519-3300600	FENCE, SAFETY	LF	1,656.8	Refer to Tab. 100-7 in the C sheets for locations and details. Contact Jacob Woodcock at 515-239-1035 from the Location and Environment Bureau at the Iowa DOT two weeks prior to placement of the safety fencing. Fence shall be placed prior to construction. Item also includes maintenance of safety fence during construction.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Division 1	
95	2519-4200190	REMOVAL OF FENCE,	LF	1,656.8	Refer to Tab. 100-8 in the C sheets for locations and details. Fencing material shall become the property of the Contractor.
96	2520-3350010	FIELD LABORATORY	EACH	1	
97	2520-3350015	FIELD OFFICE	EACH	1	
98	2526-8285000	CONSTRUCTION SURVEY	LS	1	
99	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	6,705.91	Refer to Tab. 108-22 in the C sheets for locations and details.
100	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	12	Refer to Tab. 108-29 in the C sheets for locations and details.
101	2528-2518000	SAFETY CLOSURE	EACH	38	Refer to Tab. 108-13A in the C sheets for locations and details.
102	2528-8445110	TRAFFIC CONTROL	LS	1	Refer to Traffic Control Plan and detour signing layouts on J Sheets. Item also includes furnishing, erecting, maintaining, and removing all detour signs as per J sheets.
103	2528-8445113	FLAGGERS	EACH	0	See Proposal.
104	2528-9290050	PORTABLE DYNAMIC MESSAGE SIGN (PDMS)	CDAY	0	See Proposal. Refer to J sheets for locations and details.
105	2529-5070110	PATCHES, FULL-DEPTH FINISH, BY AREA	SY	65.5	Refer to Tab. 102-6C in the C sheets for locations and details.
106	2529-5070120	PATCHES, FULL-DEPTH FINISH, BY COUNT	EACH	7	
107	2533-4980005	MOBILIZATION	LS	1	
108	2548-0000200	MILLED SHOULDER RUMBLE STRIPS, PCC SURFACE	STA	426	Refer to Tab. 112-10 in the C sheets for locations and details.
109	2548-0000320	MILLED CENTERLINE RUMBLE STRIPS, PCC SURFACE	STA	858.34	
110	2595-0005125	RAILROAD PROTECTIVE LIABILITY INSURANCE FOR DAKOTA, MINNESOTA, AND EASTERN RAILROAD CORP.	LS	1	
111	2601-2700020	TRANSITION MAT	SF	400	Refer to U sheets and Tab. 100-9 in the C sheets for locations and details.

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10-18-11

STANDARD ROAD PLANS

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

Number	Date	Title
BA-200	04-20-21	Steel Beam Guardrail Components
BA-201	04-19-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-3)
BA-202	10-20-15	Steel Beam Guardrail Bolted End Anchor
BA-205	10-19-21	Steel Beam Guardrail Tangent End Terminal (MASH TL-3)
BA-221	04-19-22	Steel Beam Guardrail Barrier Transition Section (MASH TL-2)
BA-225	10-19-21	Steel Beam Guardrail Tangent End Terminal (MASH TL-2)
BA-250	04-20-21	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-3)
BA-260	04-20-21	Steel Beam Guardrail Installation at Concrete Barrier or Bridge End Post (MASH TL-2)
BR-203	10-19-21	Double Reinforced 12" Approach
BR-211	10-19-21	Bridge Approach (Abutting PCC or Composite Pavement)
DR-101	04-18-17	Pipe Culvert (Bedding and Backfill)
DR-103	04-21-15	Pipe Culvert (Installation Details)
DR-104	04-19-16	Depth of Cover Tables for Concrete and Corrugated Pipe
DR-111	04-17-18	Box Culvert (Backfill)
DR-121	10-17-17	Connected Pipe Joints
DR-122	10-18-16	Construction of Type "C" Concrete Adaptors for Pipe Culvert Connections
DR-201	04-21-20	Concrete Aprons
DR-202	04-21-20	Low Clearance Concrete Pipe Aprons
DR-203	04-21-20	Metal Pipe Aprons and Beveled Ends
DR-205	04-21-20	Concrete Apron with End Wall
DR-206	04-21-20	Low Clearance Concrete Pipe Apron With End Wall
DR-213	04-21-20	Pipe Apron Guard
DR-303	10-17-17	Subdrains (Longitudinal)
DR-306	10-16-18	Precast Concrete Headwall for Subdrain Outlets
DR-402	04-19-22	Rock Flume for Bridge End Drain
DR-601	04-18-17	Reinforced Concrete Pipe Culvert
DR-641	04-21-20	Concrete/Corrugated Pipe Culvert Letdown Structure with Metal Apron
EW-101	10-17-17	Embankment and Rebuilding Embankments
EW-102	10-20-15	Allowable Placement of Unsuitable Soil in Embankments
EW-110	10-20-15	Ditch Blocks and Dikes
EW-212	10-20-15	Settlement Plate
EW-301	04-20-21	Guardrail Grading
EW-501	10-20-15	Rural Entrance
EW-502	04-18-17	Safety Ramp
EW-503	10-20-15	Side Road Grading
MI-210	10-20-15	PCC Driveways and Alleys
MI-220	10-20-15	Detectable Warnings and Pedestrian Ramp
PM-110	04-21-20	Line Types
PM-111	04-21-20	Symbols and Legends
PM-120	10-21-14	Stop Lines and Islands
PM-210	10-19-21	Separation in Two-Lane Roadway
PM-420	10-15-19	Two-Lane Roadway with no Turn Lanes (One-Way Stop Condition)
PM-520	10-15-19	Two-Lane Roadway with no Turn Lanes (Two-Way Stop Condition)
PM-521	10-15-19	Two-Lane Roadway with Right Turn Lanes
PM-522	04-16-19	Two-Lane Roadway with Left Turn Lanes
PR-103	04-21-20	Full Depth PCC Patch with Dowels
PR-202	10-21-14	Notches for Resurfacing (with or without Runout)
PV-12	10-20-20	Milled Shoulder Rumble Strips
PV-13	10-17-17	Milled Centerline Rumble Strips
PV-101	04-19-22	Joints
PV-102	04-21-20	PCC Curb Details
PV-301	04-21-20	Superelevation Details Two Lane Roadway
SI-172	04-19-16	Delineators
SI-173	04-19-16	Object Markers
SI-211	10-18-16	Object Marker and Delineator Placement with Guardrail
SW-101	04-17-18	Trench Bedding and Backfill Zones
SW-102	04-20-21	Rigid Gravity Pipe Trench Bedding
SW-509	04-21-20	Double Open-Throat Curb Intake, Small Box
SW-545	04-19-22	Single Open-Throat Curb Intake with Extended Opening
SW-602	04-21-20	Castings for Storm Sewer Manholes
TC-1	10-15-19	Work Not Affecting Traffic (Two-Lane or Multi-Lane)
TC-202	10-19-21	Work Within 15 ft of Traveled Way
TC-212	04-21-20	Spot Location Lane Closure with Flaggers
TC-252	04-21-20	Routes Closed to Traffic
TC-601	10-15-19	Pedestrian Detour

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10-18-11

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100-25	HMA PAVEMENT	C.12
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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.

EXISTING PAVEMENT

No.	Location					Year	Type	Project Number	Surface		Base		Subbase		Removal		Coarse Aggregate			Reinforcement	Remarks
	County	Route	Dir. of Travel	Begin Ref. Loc. Sign	End Ref. Loc. Sign				Type	Depth IN	Type	Depth IN	Type	Depth IN	Type	Depth IN	Source	Type	Durability Class	Type	
1	Washington	IA 92	1	241.95	244.72	2004		STPN-92-9(112)--2J-92	AAC	2	AAC	2			MIL	1	Columbus JCT	C. LST.			
2	Washington	IA 92	1	241.95	244.72	2004	W	STPN-92-9(112)--2J-92	AAC	2	AAC	2	BAC	7			Columbus JCT	C. LST.			
3	Washington	IA 92	1	241.95	244.72	1985		FN-92-9(44)--21-92	AAC	1.5	AAC	1.5			MIL	1.5	Columbus JCT	C. LST.			
4	Washington	IA 92	1	241.95	244.72	1929		P-602AC	PC7	7							Muscatine	Gravel	3		
5	Louisa	IA 92	1	244.72	250.92	2004		STPN-92-9(112)--2J-92	AAC	2	AAC	2			MIL	1	Columbus JCT	C. LST.			
6	Louisa	IA 92	1	244.72	250.92	2004	W	STPN-92-9(112)--2J-92	AAC	1.5	AAC	2	BAC	3.5			Columbus JCT	C. LST.			
7	Louisa	IA 92	1	244.72	250.92	1985		FN-92-9(40)--21-58	AAC	1.5	TBB	1.5					Columbus JCT	C. LST.			
8	Louisa	IA 92	1	244.72	250.92	1936		FA-250ABC	PC7	7							Muscatine	Gravel	3		
9	Louisa	IA 92	1	250.92	251.5	2004		STPN-92-9(112)--2J-92	AAC						MIL	1.5	Columbus JCT	C. LST.			
10	Louisa	IA 92	1	250.92	251.5	1985		NA	BAC												
11	Louisa	IA 92	1	250.92	251.5	1936		NA	PCC												

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
Stage 1						
1816+00.00	1893+40.64	Both	Composite	24219.2	28.2	ML092. Includes Entrance Fillets
1894+59.40	1908+69.18	Both	Composite	4922.8	31.1	ML092
2+31.14	3+87.89	Both		604.6	21.4	Hilltop Rd
7+14.11	7+75.71	Both		228.2	18.9	Western Ave
0+18.86	3+90.00	Both		1187.7	24.0	Western Access
4+88.84	5+38.95	Both		164.1	22.4	3rd St. S
0+13.67	0+37.88	Both		88.8	24.9	3rd St. N
Stage 2						
1763+50.00	1816+00.00	Both	Composite	16726.3	28.4	ML092. Includes Entrance Fillets
1+83.96	3+04.69	Both		1266.7	21.9	X17 N
6+07.14	6+82.98	Both		462.2	26.7	X17 S
Stage 3						
1460+19.65	1763+50.00	Both	Composite	94895.9	28.8	ML 092. Includes Entrance Fillets
84+57.33	84+64.97	Both		53.1		Yucca N. Fillet
84+21.87	84+28.81	Both		51.2		Yucca S. Fillet
63+43.58	63+51.42	Both		**70.8**		**County Line Road N. Fillet**
63+07.73	63+15.00	Both		65.3		County Line Road S. Fillet
7+71.43	8+22.86	Both		191.9	21.5	W66 N
6+65.41	7+42.42	Both		428.7	22.0	W66 S
11+93.85	12+02.08	Both		64.7		W Ave. Fillet
4+69.72	4+77.57	Both		75.2		V Ave. Fillet
			Totals:	**145767.6**	**320.2**	

REMOVAL OF EXISTING STRUCTURES

Location	Description	Remarks
1462+87.00	2' x 2' x 49.5' RCB	30" RCP extensions on inlet and outlet ends
1516+78.04	2' x 2' x 40.6' RCB	30" RCP extensions on inlet and outlet ends
1522+77.00	2' x 2' x 63.8 RCB	30" RCP extensions on inlet and outlet ends
1548+38.00	2' x 2' x 39.5' RCB	30" RCP extensions on inlet and outlet ends
1569+84.00	2' x 2' x 54.8' RCB	30" RCP extensions on inlet and outlet ends
1574+62.00	4' x 3' x 58' RCB	48" RCP extensions on inlet and outlet ends
1597+69.35	3' x 3' x 48' RCB	42" RCP extensions on inlet and outlet ends
1612+69.00	5' x 4' x 43.6' RCB	60" RCP extensions on inlet and outlet ends
1623+11.00	6' x 5' x 42.8' RCB	72" RCP extensions on inlet and outlet ends
1632+55.00	3' x 3' x 36.6' RCB	42" RCP extensions on inlet and outlet ends
1644+58.00	2' x 2' x 46.8' RCB	30" RCP extensions on inlet and outlet ends
1654+09.00	3' x 3' x 49' RCB	42" RCP extensions on inlet and outlet ends
1661+94.00	3' x 2' x 51.8' RCB	36" RCP extensions on inlet and outlet ends
1674+96.00	4' x 3' x 50.6' RCB	48" RCP extension on outlet end
1682+46.00	4' x 3' x 49.1' RCB	48" RCP extensions on inlet and outlet ends
1690+09.00	5' x 5' x 40.5' RCB	66" RCP extensions on inlet and outlet ends
1700+94.69	3' x 2' x 40.2' RCB	36" RCP extensions on inlet and outlet ends
1706+49.56	3' x 3' x 43.2' RCB	42" RCP extensions on inlet and outlet ends
1717+14.00	6' x 5' x 52.4' RCB	72" RCP extensions on inlet and outlet ends
1732+29.00	6' x 6' x 54.1' RCB	84" RCP extensions on inlet and outlet ends
1752+45.00	3' x 2' x 35.1' RCB	36" RCP extensions on inlet and outlet ends
1770+14.00	2' x 2' x 71.5' RCB	30" RCP extensions on inlet and outlet ends
1794+50.26	2' x 2' x 99.4 RCB	
1809+28.00	18" x 70.5 cast iron pipe	5.5' apron on S end
1826+70.00	2' x 2' x 50.4' RCB	30" RCP extensions on inlet and outlet ends
1831+35.00	2' x 2' x 51.8' RCB	30" RCP extensions on inlet and outlet ends
1880+05.00	3' x 3' x 42.4' RCB	42" RCP extensions on inlet and outlet ends

110-08
04-17-18

REMOVAL OF CONCRETE DRIVES

* Not a Bid Item

Location		Area	Saw Cut*	Remarks
Station	Side	SY	LF	
1580+08.00	Lt	91.8	31.4	
1581+48.00	Lt	111.2	39.3	
1583+08.00	Lt	69.0	24.2	
1810+32.00	Rt	205.4	37.0	
1816+85.00	Rt	414.7	45.0	
1844+40.00	Rt	78.0	18.2	
1850+37.00	Lt	125.0	27.1	
1851+62.00	Lt	96.5	58.0	Drive at Hilltop Road
1856+60.00	Lt	151.2	25.0	
1880+40.00	Lt	139.2	13.3	
1904+72.00	Lt	127.6	85.4	
1907+63.00	Lt	20.1	15.0	
Totals:		**1609.7**	**403.9**	

110-5
10-20-15

SIDEWALK REMOVAL

* Not a bid item

Begin Station	End Station	Area	Saw Cut*	Remarks
		SY	LF	
1903+22.37	1905+05.87	79.5		
1905+53.82	1905+82.42	12.4		
1906+13.58	1906+26.42	5.9	8.0	
1907+48.00	1907+83.65	15.1	22.7	
	Total:	**112.9**	**30.7**	

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		Fill Material*	Remarks
			≤ 36 inch diameter	> 36 inch diameter	Flowable Mortar or CLSM	
			LF	LF	CY	
1887+65; 32' LT	Storm Sewer	Removal	70			
1888+55	Storm Sewer	Removal	8	104		
1895+67	Storm Sewer	Removal	50			
1900+28	Storm Sewer	Removal	50			
		TOTALS	178	104		

110-9
10-18-11

CULVERT ABANDONMENT

Refer to Details 4315 and 4316

* Not a bid item

Location Station	Description	Fill Material		4" Perforated Subdrain*	Remarks
		Flowable Mortar	Granular Backfill*		
		CY	TON	LF	
1791+45.14	5' x 5' x 158.2' RCB	231.6	1.0	20.0	60" x 117' RCP extension on outlet end
1866+46.86	3' x 3' x 164.1' RCB	83.3	1.0	16.0	42" x 80.4' RCP extension on inlet and outlet end
1870+28.21	3' x 2' x 57.2' RCB	35.9	1.0	16.0	36" RCP extension on inlet and outlet end
2+99.00	18" x 48' RCP	3.1	1.0	10.0	Entrance off Hilltop Road
	Totals:	**353.9**	**4.0**	**62.0**	

110-15
04-16-13

REMOVAL OF INTAKES AND UTILITY ACCESSES

No.	Location/Description	Type	Remarks
1	1895+67; 18' RT	Intakes	
2	1895+67; 18' LT	Intakes	
3	1900+28; 18' RT	Intakes	
4	1900+28; 18' LT	Intakes	

104-10
08-01-08

ADJUSTMENT OF FIXTURES

No.	Location Station	Type of Fixture	Adjustment
1	1887+30; -38	Water Valve	
2	1887+76; -25	Sanitary Sewer	Manhole Adjustment, Minor
3	1891+77; -27	Sanitary Sewer	Manhole Adjustment, Minor

108-13A
10-18-22

SAFETY CLOSURES

Refer to Section 2528 of the Standard Specifications

Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	
Site 1 & 2			
1816+00.00	1		ML092 Stage 1 and 2
1908+69.18	1		ML092 Stage 1
3+90.00	3		Hilltop Rd. Stage 1
7+80.00	1		Western Ave. Stage 1
3+90.00	2		Western Access Stage 1
4+85.00	1		3rd St. S Stage 1
+40.00	1		3rd St. N Stage 1
1763+50.00	1		ML092 Stage 2 and 3
3+05.00	1		X17 N Stage 2
6+05.00	3		X17 S Stage 2
1909+15.00	2		2nd St.
	1		Eastern Access Rd.
Site 3			
	1		IA 92 @ IA 218/27 Int.
1460+19.65	1		ML092 Stage 3
83+70.00	1		Yucca Ave. S Stage 3
85+40.00	1		Yucca Ave. N Stage 3
62+50.00	1		Co. Line Rd. S Stage 3
64+05.00	1		Co. Line Rd. N Stage 3
6+65.00	1		W66 S Stage 3
8+25.00	1		W66 N Stage 3
10+35.00	2		W Ave. Stage 3
5+25.00	1		V Ave. Stage 3
	1		Louisa Co. Rd. X17
1505+61.86		1	RCB
1506+38.55		1	RCB
1535+09.29		1	RCB
1537+14.10		1	RCB
1777+29.20		1	RCB
1779+18.58		1	RCB
1892+52.99		1	Bridge
1895+46.81		1	Bridge
Subtotal:	30	8	
Total	**38**		

110-7A
04-17-12

REMOVAL OF STEEL BEAM GUARDRAIL

(1) Lane(s) to which the installation is adjacent.
(2) Includes length of End Terminals and End Anchors.

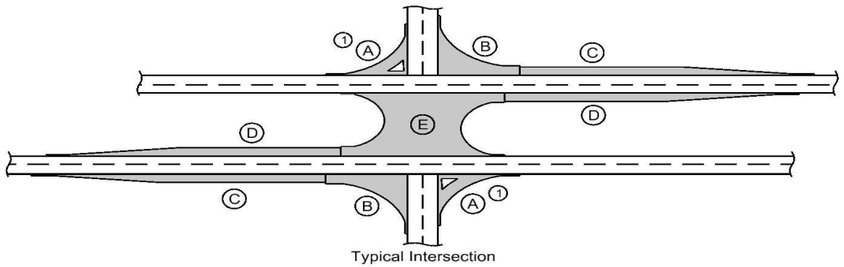
No.	(1) Direction of Traffic	Location: Station to Station		Side	Removal of Guardrail (2)
					LF
1	EB	1775+89.00	1780+04.00	Rt	415.0
2	WB	1776+34.00	1780+38.00	Lt	404.0
3	WB	1788+62.00	1792+28.00	Lt	366.0
4	EB	1788+63.00	1794+61.00	Rt	598.0
5	EB	1865+58.00	1867+98.00	Rt	240.0
6	EB	1891+94.00	1893+12.00	Rt	118.0
7	WB	1892+96.00	1893+52.00	Lt	56.0
8	EB	1894+49.00	1895+04.00	Rt	55.0
9	WB	1894+85.00	1895+44.00	Lt	59.0
			Total:		**2311.0**

RLM-1
Special

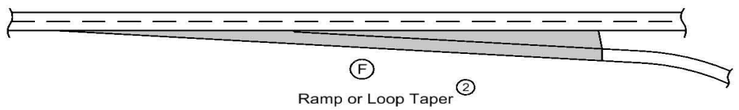
RELOCATION OF MAILBOXES

Location: Station	Side	Count	Remarks
IA 92			
1516+40.00	Lt.	1	
1519+20.00	Lt.	1	
1525+39.50	Lt.	1	
1543+19.00	Lt.	1	
1580+87.50	Lt.	1	
1598+20.00	Lt.	1	
1696+32.50	Rt.	1	
1768+81.00	Rt.	1	
1780+58.50	Rt.	1	
1784+54.50	Lt.	1	
1807+12.50	Lt.	1	
1812+33.50	Lt.	1	
1816+64.00	Lt.	1	
1820+15.00	Lt.	1	
1835+00.00	Lt.	1	
1841+94.00	Lt.	1	
1844+52.50	Lt.	1	
1846+92.00	Lt.	1	
1848+49.00	Lt.	1	
1849+92.00	Lt.	1	
1853+21.00	Lt.	1	
1856+29.50	Lt.	1	
1864+95.00	Lt.	1	
1873+08.00	Lt.	1	
1880+67.50	Lt.	1	
1887+34.50	Lt.	1	
Total		**26**	

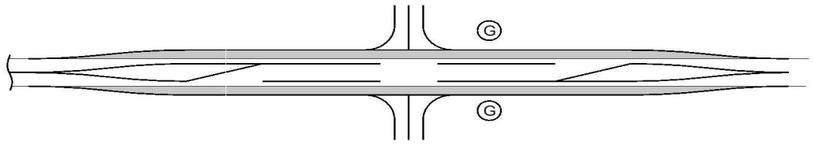
PCC PAVEMENT



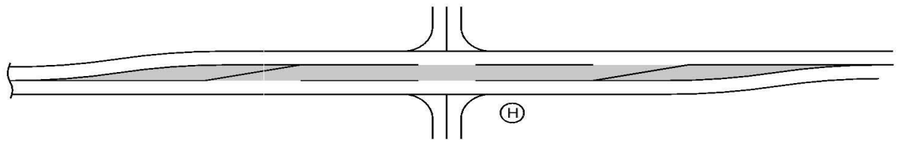
Typical Intersection



Ramp or Loop Taper (2)



Channelized Intersection
Widen Existing Roadway



Channelized Intersection
Reconstructed Roadway

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

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

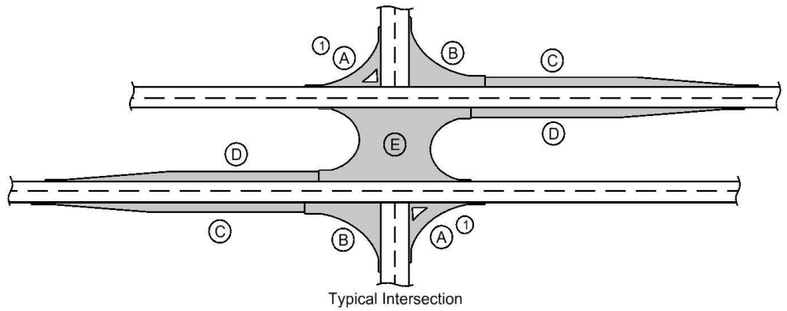
(3) Quantity includes Pavement Header.

Location				Mainline			Area (3)								Total Area By Pavement Thickness		Special Backfill	Modified Subbase	Granular Subbase	Remarks
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	A (1)	B	C	D	E	F (2)	G	H	SY					
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	9 IN	9½ IN	TONS	CY	SY	
ML092	Both	1816+00.00	1892+52.99	24.0	7653.0	20408.0			276.4							20684.4		6894.8		Stage 1
	Both	1895+46.81	1896+40.00	24.0	93.2	248.5										248.5		82.8		Stage 1
	Both	1896+40.00	1908+69.18	31.0	1229.2	4233.8										4233.8		1411.3		Stage 1
	Both	1763+50.00	1816+00.00	24.0	5250.0	14000.0			1229.0					3055.3		18284.3		6094.8		Stage 2
	Both	1460+19.65	1763+50.00	24.0	30330.4	80880.9			336.4							81217.3		27072.4		Stage 3
W66N	Both	7+69.67	8+22.86	22.0	53.2	130.0		146.5								276.5		106.0		Stage 3
W66S	Both	6+45.41	7+27.27	22.0	81.9	200.1		295.7								495.8		186.5		Stage 3
X17N	Both	1+95.97	3+04.73	22.0	108.8	265.9		530.4								796.3		293.6		Stage 2
X17S	Both	6+06.91	7+13.44	22.0	106.5	260.4		381.9								642.3		241.7		Stage 2
Hilltop Rd.	Both	2+27.67	3+87.89	22.0	160.2	391.6		289.7								681.3		268.7		Stage 1
Western Ave.	Both	7+10.63	7+75.67	23.0	65.0	166.2		65.6								231.8		94.1		Stage 1
Western Access	Both	+21.26	3+90.00	24.0	368.7	1007.5		79.9								1087.4		458.1		Stage 1
3rd St. S	Both	4+88.84	5+39.17	22.5	50.3	134.6		55.0								189.6		76.3		Stage 1
3rd St. N	Both	+15.50	+37.88	25.0	22.4	71.9		33.7								105.6		41.0		Stage 1
								1878.4	**1841.8**					**3055.3**						
													Subtotal:		**Stage 1**	**27462.5**		**9327.0**		
															Stage 2	**19722.9**		**6630.1**		
															Stage 3	**81989.7**		**27364.9**		
															Total:	**129175.0**		**43322.0**		

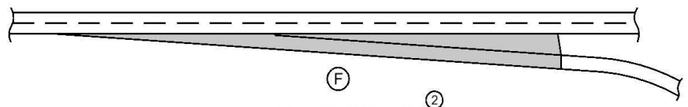
PROPOSED POSTED SPEED LIMIT

Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	
IA 92	1460+19.65	1887+15.00			X	
IA 92	1887+15.00	1902+65.00		X		
IA 92	1902+65.00	1908+69.18	X			

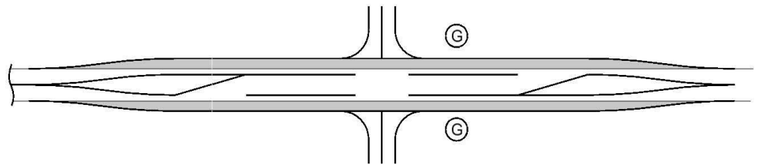
HMA PAVEMENT



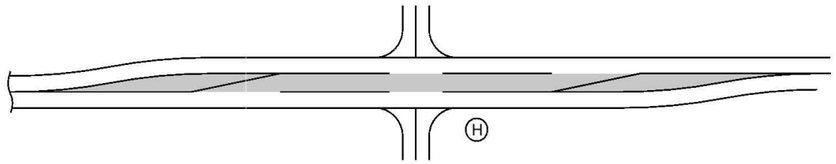
Typical Intersection



Ramp or Loop Taper (2)



Channelized Intersection
Widen Existing Roadway



Channelized Intersection
Reconstructed Roadway

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

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

(3) Quantity includes Pavement Header.

Calculations assume a surface course unit weight (lbs/cf) of 147, an intermediate course unit weight (lbs/cf) of 0, a base course unit weight (lbs/cf) of 0, and a special backfill unit weight (lbs/cf) of 140.

Location				Mainline			Area (3)								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 (2)	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	Both	1762+50.00	1763+50.00	36.0	100.0	400.0									44.100						2.646						(1)	
												TOTAL:			44.100						2.646							

(1) Refer to Tab. 102-16 for Pavement Scafification quantity

102-16
10-21-14

NOTCHES AND RUNOUTS FOR RESURFACING

Refer to PR-201 and PR-202.

(1) Bid item. Applies only to Types 'N1' and 'N3' on PR-202. Refer to 100-25 for remaining values.

Location Station	Type of Notch or Runout	S	I	DI	L	M	Pavement Scarification (1)	Remarks
		IN	IN	IN	FT	IN	SY	
1762+50.00	Type 'N1'	2.0			100.0	2.0	311.1	End of Year 1 Construction Tie in

SHOULDERS

(1) Lane(s) to which the shoulder is adjacent.
(2) See Typ. 7156, 7157, or 7158.
(3) Bid Item.
(4) Applies only for Paved Shoulders constructed on project with existing granular shoulders.
(5) Bid Item. Typ. 7156, 7157, or 7158.
(6) Does not include shrink.
(7) Earth Shoulder Construction.
(8) Earth Shoulder Finishing.

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

Location					Quantities																			
Road Identification	(1) Direction Of Traffic	Station to Station		Side	(P) Width	(P_{SG}) Width	(G) Width	(L) Length	Class 13 (4) Excavation	Hot Mix Asphalt		Binder	Paved Shoulder	6" Paved Shoulder at Guardrail	Reinforced Paved Shoulder	Special Backfill				Modified Subbase	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks
																HMA Alternate		PCC Alternate					(7) (8)			
					FT	FT (2)	FT	FT	CY (3)	TON	TON/STA	TONS	SY (3)	SY (5)	SY (3)	TON (3)	TON/STA	TON (3)	TON/STA	CY (3)	TON (3)	TON/STA	STA (3)	STA (3)	PCC CY (6)	
Stage 1																									
ML092	EB	1816+00.00	1852+58.85	Rt	6.0		4.0	3658.9					2439.2							1287.4	1342.1	36.7	36.6	1413.0	
	EB	1852+58.85	1892+52.96	Rt	10.0			3994.1					4437.9							1997.1			39.9	1327.9	
	EB	1891+65.70	1891+88.25	Rt		3.4		22.5						8.5											
	EB	1891+88.25	1892+35.64	Rt		3.4 to 1.4		47.4						12.6											
	EB	1892+35.64	1892+43.51	Rt		1.4		7.9						1.2											
	EB	1892+43.51	1892+53.00	Rt		1.4 to 0.5		9.5						1.0											
	EB	1895+46.81	1895+90.00	Rt	8.5			43.2					40.8							18.8			0.4		Curb
	EB	1895+90.00	1896+40.00	Rt	8.5 to 3.5			50.0					33.3							17.1			0.5		Curb
	WB	1816+00.00	1851+35.14	Lt	6.0		4.0	3535.1					2356.8							1243.8	1296.7	36.7	35.4	1466.1	
	WB	1852+81.05	1854+82.96	Lt	4.0			201.9					89.7							56.1			2.0	65.5	
	WB	1854+82.96	1855+48.48	Lt	4 to 10			65.5					51.0							25.5			0.7	21.2	
	WB	1855+48.48	1866+67.93	Lt	10.0			1112.0					1235.6							556.0			11.1	351.4	
	WB	1867+13.24	1886+20.00	Lt	10.0			1899.3					2110.3							949.7			19.0	277.7	
	WB	1886+20.00	1892+53.00	Lt	8.5			633.0					597.8							275.5				5.4	Curb
	WB	1895+46.81	1895+90.00	Lt	8.5			43.2					40.8							18.8				0.4	Curb
	WB	1895+90.00	1896+40.00	Lt	8.5 to 3.5			50.0					33.3							17.1				0.5	Curb
Hilltop Rd.	NB	2+27.32	3+87.89	Rt	4.0			160.6					71.4										1.6	14.3	(1)
	SB	2+27.32	2+85.25	Lt			10.0	57.9													88.4	152.7	0.6	5.2	(1)
Stage 2																									
ML092	EB	1763+50.00	1799+94.48	Rt	6.0		4.0	3644.5					2429.7							1282.3	1336.8	36.7	36.4	1413.4	
	EB	1799+94.48	1800+64.14	Rt			4.0	69.7												9.0	25.6	36.7	0.7	26.8	
	EB	1800+64.14	1800+94.46	Rt			4 to 6	30.3												3.9			0.3	11.7	
	EB	1800+94.46	1806+50.70	Rt			6.0	556.2												72.1			5.6	211.9	
	EB	1808+20.24	1816+00.00	Rt	6.0		4.0	779.8					519.8							274.4	286.0	36.7	7.8	319.2	
	WB	1763+50.00	1800+91.28	Lt	6.0		4.0	3741.3					2494.2							1316.4	1372.3	36.7	37.4	1450.9	
	WB	1802+91.85	1806+11.24	Lt			6.0	319.4												41.4			3.2	121.7	
	WB	1806+11.24	1806+33.70	Lt			6 to 4	22.5												2.9			0.2	8.6	
	WB	1806+33.70	1806+75.00	Lt			4.0	41.3												5.4	15.1	36.7	0.4	15.7	
	WB	1806+75.00	1816+00.00	Lt	6.0		4.0	925.0					616.7							325.5	339.3	36.7	9.3	358.7	
X17N	NB	1+95.97	3+04.69	Rt			7.5	108.7													117.2	107.8	1.1	9.7	(1)
	SB	1+95.97	3+04.69	Lt			4.7	108.7													63.1	58.0	1.1	9.7	(1)
X17S	NB	6+06.91	7+13.44	Rt			10.4	106.5													151.4	142.1	1.1	9.5	(1)
	SB	6+06.91	7+13.44	Lt			15.6	106.5													196.5	184.5	1.1	9.5	(1)
Stage 3																									
ML092	EB	1460+19.65	1483+68.79	Rt	6.0		4.0	2349.1					1566.1							826.5	861.7	36.7	23.5	907.2	
	EB	1483+68.79	1485+16.80	Rt	10.0			148.0					164.5							74.0			1.5	57.2	
	EB	1485+16.80	1562+60.15	Rt	6.0		4.0	7743.4					5162.2							2724.5	2840.3	36.7	77.4	2990.5	
	EB	1562+60.15	1564+04.26	Rt	10.0			144.1					160.1							72.1			1.4	55.7	
	EB	1564+04.26	1613+84.33	Rt	6.0		4.0	4980.1					3320.0							1752.2	1826.7	36.7	49.8	1923.3	
	EB	1613+84.33	1614+25.40	Rt			4.0	41.1												5.3	15.1	36.7	0.4	15.8	
	EB	1614+25.40	1614+46.38	Rt			4 to 6	21.0												2.7			0.2	8.0	
	EB	1614+46.38	1616+83.15	Rt			6.0	236.8												30.7			2.4	90.2	
	EB	1618+33.38	1711+25.28	Rt	6.0		4.0	9291.9					6194.6							3269.4	3408.3	36.7	92.9	3603.5	
	EB	1711+25.28	1712+73.16	Rt	10.0			147.9					164.3							73.9			1.5	53.6	
	EB	1712+73.16	1763+50.00	Rt	6.0		4.0	5076.8					3384.6							1786.3	1862.2	36.7	50.8	1968.9	
	WB	1460+19.65	1483+72.41	Lt	6.0		4.0	2352.8					1568.5							827.8	863.0	36.7	23.5	912.2	
	WB	1483+72.41	1485+16.42	Lt	10.0			144.0					160.0							72.0			1.4	30.3	
	WB	1485+16.42	1562+52.23	Lt	6.0		4.0	7735.8					5157.2							2721.9	2837.5	36.7	77.4	3000.0	
	WB	1562+52.23	1564+00.34	Lt	10.0			148.1					164.6							74.1			1.5	57.4	
	WB	1564+00.34	1616+80.99	Lt	6.0		4.0	5280.6					3520.4							1858.0	1937.0	36.7	52.8	2047.9	
	WB	1618+04.36	1752+69.59	Lt	6.0		4.0	13465.2					8976.8							4737.8	4939.1	36.7	134.7	5860.1	
	WB	1752+69.59	1753+97.09	Lt	10.0			127.5					141.7							63.8			1.3	49.4	
	WB	1753+97.09	1763+50.00	Lt	6.0		4.0	952.9					635.3							335.3	349.5	36.7	9.5	369.5	

SHOULDERS

(1) Lane(s) to which the shoulder is adjacent.
(2) See Typ. 7156, 7157, or 7158.
(3) Bid Item.
(4) Applies only for Paved Shoulders constructed on project with existing granular shoulders.
(5) Bid Item. Typ. 7156, 7157, or 7158.
(6) Does not include shrink.

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

Location					Quantities																	
Road Identification	Direction Of Traffic (1)	Station to Station		Side	P Width	P_{SG} Width	G Width	L Length	Class 13 Excavation (4)	Hot Mix Asphalt		Binder	Paved Shoulder	6" Paved Shoulder at Guardrail	Reinforced Paved Shoulder	Special Backfill				Modified Subbase	Granular Shoulder		Earth Shoulder Construction Alternates			Remarks
																HMA Alternate		PCC Alternate					STA (7) (3)	STA (8) (3)	PCC (6)	
					FT	F (2)	FT	FT	CY (3)	TON	TON/STA	TONS	SY (3)	SY (5)	SY (3)	TON (3)	TON/STA	TON (3)	TON/STA	CY (3)	TON (3)	TON/STA				
W66 S	NB	6+65.41	7+39.40	Rt			9.5	74.0													96.0	129.8	0.7		6.6	(1)
	SB	6+65.41	7+39.40	Lt			7.1	74.0													67.2	90.8	0.7		6.6	(1)
W66 N	NB	7+63.64	8+22.86	Rt			3.0	59.2													30.0	50.6	0.6		5.3	(1)
	SB	7+63.64	8+22.86	Lt			3.5	59.2													44.5	75.2	0.6		5.3	(1)
												Subtotal:	Stage 1	13537.9	23.4					6462.8	2727.2	226.0	146.9	7.2	4942.3	
													Stage 2	6060.3	0.0					3333.2	3903.3	712.4	105.6	0.0	3977.0	
													Stage 3	40440.9	0.0					21308.3	21978.3	749.9	606.5	0.0	24024.5	
													Total:	60039.2	23.4					31104.3	28608.8	1688.3	859.0	7.2	32943.8	

(1) Modified Subbase Quantity included in the PCC Pavement Tab. 100-24.

FULL-DEPTH PATCHES

Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105, and PR-140.

Location				Dimension			PCC Patches				HMA Patches	Composite HMA	Subbase Patches	Subbase Patch w/ 'EF' Joint	Patch Subdrain	'CD' Joints	'CT' Joints	'EF' Joints	Anchor Lugs Removal	Remarks
Count	Station	Reference Location Sign	Lane	Length	Width	Patch Thickness	With Dowels	Without Dowels	C R C	Ramp with Dowels										
							PR-103	PR-102	PR-104	PR-105			PR-140	PR-101	PR-101 or PR-140			PR-101		
			L, R, or B	FT	FT	IN	SY	SY	SY	SY	SY	TON	SY	SY	No.	No.	No.	No.	No.	
	Stage 1, 2, Co. Rd. G52, West of X17, South of Ia. 92																			
1	3.743 mi west		WB	6.0	11.0	9.0	7.3													East of cemetary
	W66, north of G52, 4.534 mi. West of X17																			
	UAC Co Rd W66																			
	Stage 3, Co. Rd. G36, east of US 218. North of Ia 92																			
1	3757+26.00	East of W64 and W. of Willow Rd.	EB	6.0	11.0	9.0	7.3													Edge diamond cracking
	G36, East of Washington / Louisa Co. line Road																			
1	3944+95		EB	15.0	11.0	9.0	18.3													Cracked 4 directions, patch
1	X17, 1.65 mi.		NB	6.0	11.0	9.0	7.3													North of Bridge
1	X17, 1.654 mi		NB	6.0	11.0	9.0	7.3													South of Bridge
1	X17, 1.654 mi		SB	6.0	11.0	9.0	7.3													South of Bridge
1	X17, 4.1323 m		NB	6.0	11.0	9.0	7.3													South of Bridge
7				Finish Patch		Subtotal	62.3													
						5% Contingency	3.1													
						TOTAL	65.5													

FENCING

* Bid Item

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

Location				Side	Chain Link				Deer				Field				Channel Crossing		Remarks
From		To			Fence		Gate				Gate				Gate				
Station	Offset	Station	Offset		Length*	Type	No.*	Type	Fence Length*	Brace Panels*	No.*	Type	Fence Length*	Brace Panels*	No.*	Type	Length*	Type	
					LF		EACH		LF	EACH	EACH		LF	EACH	EACH		LF		
1459+10.17	73.3	1460+10.66	50.1	LT									178.0						Safety Fence
1460+10.66	50.1	1462+73.53	50.9	LT									262.9						Safety Fence
1462+99.31	50.9	1463+24.36	51.0	LT									25.1						Safety Fence
1463+24.36	51.0	1463+89.00	79.6	LT									70.7						Safety Fence
1482+18.16	170.4	1481+37.65	76.0	LT									124.0						Safety Fence
1481+37.65	76.0	1483+16.38	39.1	LT									182.5						Safety Fence
1483+16.38	39.1	1483+48.05	39.7	LT									31.7						Safety Fence
1483+48.05	39.7	1483+91.29	68.2	LT									51.8						Safety Fence
1483+91.29	68.2	1484+18.03	105.4	LT									45.8						Safety Fence
1484+18.03	105.4	1484+32.10	112.7	LT									15.8						Safety Fence
1484+32.10	112.7	1484+32.83	162.1	LT									49.4						Safety Fence
1557+80.67	77.1	1558+70.23	75.2	LT									90.3						Safety Fence
1158+70.23	75.2	1560+49.99	53.3	LT									182.3						Safety Fence
1560+49.99	53.3	1560+82.91	33.5	LT									38.6						Safety Fence
1560+82.91	33.5	1561+42.26	29.8	LT									59.7						Safety Fence
1561+42.26	29.8	1562+67.03	76.4	LT									133.2						Safety Fence
1562+67.03	76.4	1563+07.39	76.9	LT									40.4						Safety Fence
1563+07.39	76.9	1563+07.93	151.6	LT									74.7						Safety Fence
												Total:	**1656.8**						

REMOVAL OF FENCE

Removal of Field Fence is incidental to Clearing and Grubbing.

Location				Type	Length	Remarks
From		To				
Station	Offset	Station	Offset		LF	
1459+10.17	73.3	1460+10.66	50.131	Saftey Fence	178.0	
1460+10.66	50.131	1462+73.53	50.852	Saftey Fence	262.9	
1462+99.31	50.922	1463+24.36	50.991	Saftey Fence	25.1	
1463+24.36	50.991	1463+89.00	79.626	Saftey Fence	70.7	
1482+18.16	170.385	1481+37.65	76.038	Saftey Fence	124.0	
1481+37.65	76.038	1483+16.38	39.144	Saftey Fence	182.5	
1483+16.38	39.144	1483+48.05	39.712	Saftey Fence	31.7	
1483+48.05	39.712	1483+91.29	68.231	Saftey Fence	51.8	
1483+91.29	68.231	1484+18.03	105.383	Saftey Fence	45.8	
1484+18.03	105.383	1484+32.10	112.676	Saftey Fence	15.8	
1484+32.10	112.676	1484+32.83	162.068	Saftey Fence	49.4	
1557+80.67	77.068	1158+70.23	75.195	Saftey Fence	90.3	
1158+70.23	75.195	1560+49.99	53.345	Saftey Fence	182.3	
1560+49.99	53.345	1560+82.91	33.531	Saftey Fence	38.6	
1560+82.91	33.531	1561+42.26	29.782	Saftey Fence	59.7	
1561+42.26	29.782	1562+67.03	76.355	Saftey Fence	133.2	
1562+67.03	76.355	1563+07.39	76.864	Saftey Fence	40.4	
1563+07.39	76.864	1563+07.93	151.604	Saftey Fence	74.7	
				Total:	**1656.8**	

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of unclassified pipe calculated is based on using CMP
(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	
ML																		
1465+07.50	Rt	C				20.0		15.0	2.6	24.0	56.0	29.0	33.0	2			35.510	
1511+00.00	Rt	C				20.0		15.0	3.7	24.0	108.0	30.0	84.0	2			50.531	
1516+58.00	Lt	C				20.0		15.0									35.466	
1519+85.00	Lt	C				20.0		15.0									36.960	
1519+85.00	Rt	C				26.0		15.0									65.260	
1524+09.00	Lt	C				26.0		15.0	3.2	24.0	72.0	45.0	33.0	2			77.153	
1525+25.00	Lt	C				20.0		15.0									32.040	
1525+25.00	Rt	C				20.0		15.0									49.384	
1543+08.00	Lt	C				20.0		15.0	2.3	24.0	58.0	34.0	30.0	2			37.129	
1543+08.00	Rt	C				20.0		15.0	3.4	24.0	74.0	33.0	47.0	2			55.180	
1580+05.00	Lt	C				24.0		20.0	1.1	24.0	44.0	26.0	24.0	2		138.5		
1581+48.00	Lt	B				30.0		20.0	1.0	24.0	66.0	41.0	31.0	2		170.8		
1583+08.50	Lt	B				24.0		20.0	2.0	24.0	60.0	40.0	26.0	2		156.1		
1584+76.00	Rt																	CLOSE
1587+00.00	Rt	C				20.0		15.0									25.086	
1591+32.00	Rt	C				20.0		15.0	2.0	24.0	48.0	30.0	26.0	2			37.787	
1597+88.00	Lt	C				20.0		15.0									30.118	
1645+00.00	Rt	C				20.0		15.0									58.501	
1686+53.00	Lt	C				30.0		15.0									32.782	
1696+40.00	Rt	C				20.0		15.0									24.172	
1746+57.00	Rt	C				20.0		15.0									30.137	
1753+44.00	Rt	Safety Ramp				36.0											NA	
1768+45.00	Rt	C				20.0		15.0									58.587	
1780+40.00	Rt	C				20.0		15.0	9.0	24.0	74.0	33.0	47.0	2			58.421	
1784+19.00	Lt	C				20.0		15.0									154.751	
1793+19.30	Lt	C				22.0		15.0									89.390	
1805+32.00	Rt																	CLOSE
1807+25.00	Lt	C				20.0		15.0									29.109	
1810+32.00	Rt	B				32.0		30.0								201.7		
1812+20.80	Lt	C				20.0		15.0									29.089	
1812+20.80	Rt	C				20.0		15.0	2.0	24.0	46.0	26.0	26.0				31.895	
1816+77.00	Lt	C				20.0		15.0									30.172	
1816+85.50	Rt	B				45.0		45.0	2.6	24.0	78.0	45.0	39.0	2		368.7		
1820+25.90	Lt	C				20.0		15.0	1.4	18.0	24.0	15.0	15.0	2			31.981	
1820+50.70	Rt	C				25.0		15.0	2.4	24.0	58.0	34.0	30.0	2			46.613	
1822+38.00	Lt	Jt. C				20.0		15.0									28.548	
1832+00.00	Lt	C				20.0		15.0									27.206	
1835+13.40	Lt	C				20.0		15.0	2.3	24.0	52.0	24.0	34.0	2			36.066	
1840+50.00	Rt	C				20.0		15.0									27.234	
1841+61.40	Lt	C				20.0		15.0	1.0	24.0	36.0	24.0	18.0	2			27.090	
1844+40.60	Lt	C				20.0		15.0									34.428	
1844+40.60	Rt	C				20.0		15.0	2.8	24.0	62.0	30.0	38.0	2		121.4		
1846+35.00	Rt																	CLOSE
1846+73.60	Lt	C				20.0		15.0									26.175	
1848+46.20	Rt	Jt. C				20.0		15.0	1.0	18.0	32.0	19.0	19.0	2			27.652	
1850+06.30	Rt	C				20.0		15.0	1.0	18.0	38.0	22.0	22.0	2			29.574	
1850+37.20	Lt	B				24.0		20.0	1.1	18.0	34.0	20.0	20.0	2		111.5		
1852+08.40	Rt	Jt. C				35.0		15.0									47.768	
1856+60.00	Lt	B				25.0		15.0	1.0	24.0	52.0	25.0	33.0	2		123.2		
1856+60.00	Rt	C				20.0		15.0	1.2	24.0	46.0	29.0	21.0	2			30.804	
1865+17.00	Rt	C				20.0		15.0	2.4	24.0	66.0	42.0	30.0	2			54.884	
1873+35.00	Lt	C				20.0		15.0	4.5	24.0	83.0	36.0	53.0	2			48.491	
1880+40.00	Lt	C				20.0		10.0								123.8		
1887+51.00	Lt	Jt. B	2	56.0		45.0										56.3	18.088	
1890+05.90	Lt	Jt. B	2	56.0		45.0										56.2	18.113	
1902+92.00	Lt	C	2	40.0		30.0										35.0	10.565	
1904+35.00	Lt	C	2	34.0		24.0										29.0	5.100	
1904+46.70	Rt	C	2	30.0		20.0										25.0	4.713	
1904+98.00	Lt	B	2	52.0		42.0										72.8		
1907+63.70	Lt	Alley	2	30.0		20.0										25.0		

ACCESS POINTS AND SAFETY RAMPS

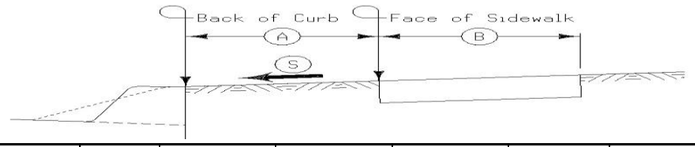
Refer to Cross-Sections

Length of unclassified pipe calculated is based on using CMP
(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	PR (1)(2)	SR (2)	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	
Side Roads																		
Yucca Ave.																		
82+81.35	Lt	C				20.0		15.0	1.2	24.0	38.0	21.0	23.0	2			34.965	
W Ave.																		
10+69.00	Lt	C				20.0		15.0	2.2	24.0	32.0	17.0	21.0	2			34.124	
Hilltop																		
2+99.00	Lt	B				30.0										217.1		
Western Ac.																		
0+71	Lt	C				37.0										89.7		
3+17.00	Lt	C				16.0			3.8	24.0	42.0	24.0	24.0	2			33.425	
X-17 (N)																		
2+69.00																		CLOSE
		TOTALS:								**Size**	**Length**			**Aprons**				
										18.0	**128.0**			**8**		**2121.8**	**1878.217**	
										24.0	**1351.0**			**44**				

SIDEWALKS

See MI-220 and S Sheets



Road Identification	Station to Station		Side	A	B	S	4" PCC Sidewalk	6" PCC Sidewalk	8" PCC Sidewalk	10" PCC Sidewalk	Detectable Warnings	Remarks
				FT	FT	%	SY	SY	SY	SY	SF	
IA 92	1902+77.28	1903+07.28	Lt.	9.00	5.00	2.00%		16.7				
IA 92	1904+23.22	1905+18.90	Lt.	9.00	5.00	2.00%		53.2				
IA 92	1905+74.58	1905+79.58	Lt.	Varies	5.00	2.00%		2.8				
IA 92	1905+79.58	1905+86.50	Lt.	Varies	5.00	2.00%		3.8			10	
IA 92	1906+15.28	1906+21.42	Lt.	Varies	5.00	2.00%		3.4			10	
IA 92	1906+21.42	1906+26.42	Lt.	Varies	5.00	2.00%		2.8				
IA 92	1907+48.00	1907+83.65	Lt.	9.00	5.00	2.00%		19.8				
						Total:		**102.4**			**20**	

112-6
04-18-17

BRIDGE APPROACH SECTION

Refer to the Series.

* Not a bid item

Location				Approach Pavement					Standard Road Plans BR Series			Subdrain					* Modified Subbase	* Polymer Grid	* Special Backfill	Remarks
Bridge Station	End	Skew Ahead Degrees LEFT	Skew Ahead Degrees RIGHT	(T) Thickness	Pay Length	Non-Reinf. Pavement Area	Single-Reinf. Pavement Area	Double-Reinf. Pavement Area	Approach	Fixed or Movable Abutment	Abutting Pavement	* Perforated Subdrain 4"	* Subdrain Outlet		* Porous Backfill	* Class 'A' Crushed Stone Backfill				
													STA	Side						
				Inches	FT	SY	SY	SY				LF			CY	CY	TON	SY	TON	
1894+00.00	West	45		12.0	86.0	141.4	93.9	166.1	BR-203	Movable	BR-211	54.0	1892+62.99	Rt	1.5	0.2	410.700	455.1		
	East	45		12.0	85.3	136.1	91.1	161.3	BR-203	Movable	BR-211	59.0	1895+36.80	Rt	1.7	0.3	385.400	436.4		
				Subtotal:		**277.5**	**185.0**	**327.4**												
				Total:		**789.9**									**3.2**	**0.5**	**796.100**	**891.5**		

107-23
10-18-11

GRADING FOR GUARDRAIL INSTALLATIONS

(1) Lane(s) to which the installation is adjacent. Refer to EW-301

Location				Foreslope at Guardrail	Dimensions (Feet)									Earthwork		Remarks
No.	(1) Direction of Traffic	Station	Side		(X1)	(Y1)	(X2)	(Y2)	(X3)	(Y3)	(X4)	(Y4)	(Z)	Excavation Class 10	Embankment In Place	
														CY	CY	
1	EB	1893+11.57	O	6:1	50.8	5.0	67.3	5.1	123.4	8.0			50.0	(1)		
2	WB	1893+51.52	O	10:1	24.9	5.0	70.5	6.2					43.0	(1)		
3	EB	1894+48.17	O	4:1	42.4	5.0	98.6	6.8					47.0	(1)		
4	WB	1894+87.80	O	10:1	42.4	5.0	98.6	7.8					50.0	(1)		

(1) Included in T Sheets

108-8A
10-16-18

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Possible Standards: BA-200, BA-201, BA-202, BA-205, BA-206, BA-210, BA-211, BA-221, BA-225, BA-250, BA-260, LS-625, LS-626, LS-630, LS-635, SI-172, SI-173 and SI-211.

(1) Lane(s) to which the obstacle is adjacent.
(2) Not a bid item. Incidental to guardrail installation.

Location					Layout Lengths BA-250, BA-260, LS-630, or LS-635				Long-Span System		Delineators and Object Markers (2)					Bid Items												Remarks
		(1) Side										Delineator SI-172	Object Marker SI-173			Bolted End Anchor		Post Adapter	Steel Beam Guardrail	BA-250 or LS-630					BA-260 or LS-635		
No.	Direction of Traffic	O = Outside M = Median	Station	Offset	(VT1)	(VF)	(VT2)	(ET)	BA-211		SI-211	Type 1	Type 2	Type 3						Barrier Transition Section	End Terminal				Barrier Transition Section	End Terminal	
																					Tangent	Flared	Tangent	Flared		Tangent	
				FT	LF	LF	LF	LF	STATION	TYPE	TYPE	White	OM2-2	OM3-L	OM3-R	TYPE	EACH	EACH	LF	BA-201	BA-205	BA-206	LS-625	LS-626	BA-221	BA-225	
												EACH	EACH	EACH	EACH	BA-202		BA-210	BA-200	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
1	EB	O	1893+11.57	8.5	53.125	25.00		47.7			3				1	C	1		37.5	1	1						SW Corner
2	WB	O	1893+51.52	8.1	37.500			35.2			3			1		C	1		12.5						1	1	NW Corner
3	EB	O	1894+48.17	10.9	53.125			47.7			3			1		C	1		12.5	1	1						SE Corner
4	WB	O	1894+87.80	8.1	53.125			47.7			3				1	C	1		12.5	1	1						NE Corner
												Totals:	**0**	**2**	**2**		**4**		**75.0**	**3**	**3**				**1**	**1**	

104-4
10-17-17

ROADWAY ITEMS FOR DRAINAGE STRUCTURES INSTALLED BY CULVERT CONTRACTOR

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

Location	Design Number	Size	Kind	By Road Contractor: Dike Rt. / Lt.	Dike Location Station	Dike Top. Elev.	Dike Type	Compacting Backfill Adjacent CY	Compaction w/Moisture Control CY	Compaction w/Moisture and Density CY	Floodable* Backfill (A) CY	Porous* Backfill (B) CY	Flooded Backfill (1) (A+B) CY	Excavation Type	Excavation Quantity CY	Revetment Type	Revetment Quantity TONS	Engineering Fabric SY	Remarks
1505+99.53	0223	12' x 7'x 99'	RCB					24.0	392.3		45.7	3.2	48.9	Class 10, Channel	80.0	Class E	(1)	(1)	
1536+13.35	0123	8' x 9' x 194'	RCB					41.7	1965.0		53.3	5.9	59.2	Class 10, Channel	69.2	Class E	(1)	(1)	
1778+20.38	0223	8' x 9' x 198'	RCB					37.3	2210.2		47.1	6.0	53.1	Class 10, Channel	72.0	Class E	(1)	(1)	
1791+45.14	0123	8' x 6' x 198'	Drop Inlet																
						Totals:		**103.0**	**4567.5**		**146.1**	**15.1**	**161.3**		**221.2**				

(1) Refer to R Sheets.

112-10
10-20-20

MILLED RUMBLE STRIPS

See PV-12 and PV-13

* Calculated at 18" width for Shoulder.

Location: Road Identification	Station to Station		Shoulder Pavement Type	Rumble Strip Type (Centerline, Rt or Lt Shoulder)	(L) IN	Installation Length PCC STA	Installation Length HMA STA	Fog Seal* (Milled Rumble Strip) Shoulder GAL	Effective Shoulder Width PCC Paved FT	Effective Shoulder Width HMA Paved FT	Effective Shoulder Width Granular\ Earth FT	Remarks
IA 92	1460+19.65	1886+20.00	PCC	Centerline		426.00						
IA 92	1460+19.65	1852+15.70	PCC	Left Shoulder	12.00	391.96			6.0		4.0	
	1852+15.70	1886+20.00	PCC	Left Shoulder	12.00	34.04			10.0			
IA 92	1460+19.65	1852+15.70	PCC	Right Shoulder	12.00	391.96			6.0		4.0	
IA 92	1852+15.70	1892+52.99	PCC	Right Shoulder	12.00	40.37			10.0			
				Totals		**PCC**						
				PCC Shoulders		**858.34**						
				PCC Centerlines		**426.00**						

100-09
04-17-18

TRANSITION MAT

Refer to U Sheets

Location Station	Side	Length LF	Width LF	Area SF	Remarks
1892+50	LT	20	20	400	

104-8A
04-19-22

SCOUR PROTECTION OR ROCK FLUME FOR BRIDGE END DRAIN

Refer to Standard Road Plan DR-401 and DR-402

Location: Bridge Station	Bridge Corner	Distance DI-1 or DI-2 FT	Bid Items: Bridge End Drain TYPE	Scour Protection (DR-401): Special Ditch Control, Wood Excelsior Mat EC-101 SQ	Turf Reinforced Mat (TRM), Type 2 EC-104 SQ	Transition Mat EC-105 SF	Rock Flume (DR-402): Macadam Stone Base TONS	Engineering Fabric SY	Erosion Stone TONS	Remarks
	SW	46.9	DR-402				1.500	32.5	41.000	

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.

DCY4: Double Centerline (Yellow) @ 2.00
ELY4: Edge Line Left (Yellow) @ 1.00
ELW4: Edge Line Right (White) @ 1.00
BCY4: Broken Centerline (Yellow) @ 0.25
SLW4: Solid Lane Line (White) @ 1.00
NPY4: No Passing Zone Line (Yellow) @ 1.25
CHY8: Channelizing Line (Yellow) @ 2.00
SLW2: Stop Line (White) @ 6.00

Location								Length by Line Type (Unfactored)														Remarks
Road ID	Station to Station		Dir. of Travel	Marking Type	Side L	Side C	Side R	DCY4 STA	ELW4 STA	SLW4 STA	CHY8 STA	SLW2 STA	ELY4 STA	BCY4* STA	NPY4** STA							
	Begin to X-17																					
IA 92	1460+19.65	1463+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		5.61						2.80							
	1463+00.00	1475+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		24.00					12.00								
	1475+00.00	1483+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		16.00						8.00							
	1483+00.00	1487+00.00	BOTH	Waterborne/Solvent Paint	X	X	X	4.00	8.00													
	1487+00.00	1494+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		14.00						7.00							
	1494+00.00	1507+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		26.00					13.00								
	1507+00.00	1517+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		20.00						10.00							
	1517+00.00	1547+00.00	BOTH	Waterborne/Solvent Paint	X	X	X	30.00	60.00													
	1547+00.00	1570+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		46.00						23.00							
	1570+00.00	1576+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		12.00					6.00								
	1576+00.00	1585+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		18.00						9.00							
	1585+00.00	1589+00.00	BOTH	Waterborne/Solvent Paint	X	X	X	4.00	8.00													
	1589+00.00	1595+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		12.00						6.00							
	1595+00.00	1615+08.14	BOTH	Waterborne/Solvent Paint	X	X	X		40.16					20.08								
	1615+08.14	1617+42.11	BOTH	Waterborne/Solvent Paint	X	X	X		4.68	2.34				2.34								W-66 Rt Turn Ln
	1617+42.11	1737+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		239.16					119.58								
	1737+00.00	1745+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		16.00						8.00							
	1745+00.00	1748+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		6.00					3.00								
	1748+00.00	1756+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		16.00						8.00							
	1756+00.00	1765+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		18.00					9.00								
	1765+00.00	1774+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		18.00						9.00							
	1774+00.00	1791+01.55	BOTH	Waterborne/Solvent Paint	X	X	X	17.02	34.03													
	X-17 Intersection (1)																					
IA 92	1791+01.55	1852+52.68	BOTH	Waterborne/Solvent Paint	X		X		123.02													
	1791+01.55	1801+67.44	EB	Waterborne/Solvent Paint		X					26.59											EB Turn Ln to X-17 North
	1799+41.25	1801+67.44	EB	Waterborne/Solvent Paint		X				2.26												EB Turn Ln to X-17 North
	1802+03.59	1804+24.82	EB	Waterborne/Solvent Paint		X					6.86											EB Turn Ln to Entrance
	1804+24.82	1806+96.72	EB	Waterborne/Solvent Paint		X		2.72							2.72							EB Turn Ln to Entrance
	1801+73.60	1806+96.72	EB	Waterborne/Solvent Paint			X			5.23												EB Turn Ln to X-17 South
	1802+03.59	1805+38.02	WB	Waterborne/Solvent Paint			X			3.34												WB Turn Ln to X-17 North
	1807+75.40	1814+52.68	WB	Waterborne/Solvent Paint		X					16.20											WB Turn Ln to X-17 South
	1807+75.40	1809+28.08	WB	Waterborne/Solvent Paint		X				1.53												WB Turn Ln to X-17 South
	X-17 Intersection to Bridge																					
IA 92	1814+52.68	1838+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		46.95					23.47								
	1838+00.00	1846+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		16.00						8.00							
	1846+00.00	1874+00.00	BOTH	Waterborne/Solvent Paint	X	X	X	28.00	56.00													
	1874+00.00	1883+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		18.00						9.00							
	1883+00.00	1893+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		20.00					10.00								
	1852+40.14	1854+29.48	WB	Waterborne/Solvent Paint		X				1.89												WB Turn Ln to Hilltop Rd
	Bridge to End																					
IA 92	1893+00.00	1903+00.00	BOTH	Waterborne/Solvent Paint	X	X	X		20.00						10.00							
	1903+00.00	1908+69.18	BOTH	Waterborne/Solvent Paint	X	X	X	5.69	11.38													
	Sideroads																					
W-66	1617+19.52	1617+51.52	SB	Waterborne/Solvent Paint			X					0.32										
	+00.00	+48.64	SB	Waterborne/Solvent Paint		X		0.49														
	1617+51.52	1617+90.52	NB	Waterborne/Solvent Paint			X					0.39										
	+93.07	1+56.99	NB	Waterborne/Solvent Paint		X		0.64														
X-17	1801+38.95	1801+83.95	SB	Waterborne/Solvent Paint			X					0.45										
	1+83.96	3+04.73	SB	Waterborne/Solvent Paint		X		1.21														
	1807+41.49	1807+77.49	NB	Waterborne/Solvent Paint			X					0.36										
	6+06.91	7+03.43	NB	Waterborne/Solvent Paint		X		0.97														
Hilltop Rd	1851+79.67	1852+15.67	SB	Waterborne/Solvent Paint			X					0.36										
	2+37.67	3+87.89	SB	Waterborne/Solvent Paint		X		1.50														
Western Ave	1866+74.46	1866+98.46	SB	Waterborne/Solvent Paint			X					0.24										
	7+20.77	7+75.70	SB	Waterborne/Solvent Paint		X		0.55														
Western Access Rd	1891+81.26	1891+93.26	SB	Waterborne/Solvent Paint			X					0.12										
	3+90.00	+31.90	SB	Waterborne/Solvent Paint		X		3.58														
	Detour																					
Detour Route			BOTH	Waterborne/Solvent Paint	X	X	X	543.30	1086.60													Stage 1 and Stage 2
Detour Route			BOTH	Waterborne/Solvent Paint	X	X	X	756.10	1512.20													Stage 3
				Factored Total: Waterborne/Solvent Paint				2799.51	3571.79	16.60	99.30	13.44		54.62	150.65							
				Bid Quantity: Painted Pavement Markings, Waterborne or Solvent-Based							6705.91				(1) Refer to U Sheets for Additional Information							

PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Road Identification	Location		STAW	RTAW	LTAW	CSRW	CSLW	CSTW	CRLW	FERW	LLRW	RLRW	RRCW	BLSW	WCSW	WPSB	SCLW	XNGW	STPW	AHDW	ONLW	BIKW	LANW	XITW	Groove Cuts	Remarks
	Station	Side															SCHOOL	XING	STOP	AHEAD	ONLY	BIKE	LANE	EXIT		
IA 92	1615+83.15	R		1																						EB Rt Turn Ln to W-66 South
	1616+58.15	R		1																						EB Rt Turn Ln to W-66 South
IA 92	1800+67.72	C			1																					EB Lt Turn Ln to X-17 North
	1801+42.51	C			1																					EB Lt Turn Ln to X-17 North
	1803+16.90	L		1																						WB Lt Turn Ln to X-17 North
	1803+92.26	L		1																						WB Lt Turn Ln to X-17 North
IA 92	1805+51.19	R		1																						EB Rt Turn Ln to X-17 South
	1806+25.82	R		1																						EB Rt Turn Ln to X-17 South
IA 92	1808+00.40	C			1																					WB Lt Turn Ln to X-17 South
	1808+75.40	C			1																					WB Lt Turn Ln to X-17 South
IA 92	1853+06.05	L		1																						WB Rt Turn Ln to Hilltop Rd
	1853+81.05	L		1																						WB Rt Turn Ln to Hilltop Rd
			TOTALS:	8	4																					

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

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

Drainage Area	Location	Type	Size (1)	Pipe Classification	Kind Of Pipe (2)	Total Length New Const.	Length of total that is trenchless	Bedding Class	Design Cover (H)	Camber* (DR-102)	Apron No.		Apron Guard* (DR-213)	Elbow* (DR-141)	Diaphragm* (DR-501)	Tee Section* (DR-142)	"D" Section* (DR-141)	Reducer*	Type 'C' Connections* (DR-122)		Connected Pipe Joint* (DR-121)	DR-205 Inlet Apron Top	Flow Line Elevations				Dimensions Lin. Ft. Total		Dimensions Lin. Ft. Extensions		Skew Ahead Degrees		Dike Rt.	Dike Location Station	Dike Top Elevation	Dike Type	Class 20	Flowable Mortar	Floodable* Backfill (A)	Porous* Backfill (B)	Flooded Backfill (3) (A+B)	Remarks
ACRE			IN			LF			FT	FT	IN	OUT	No.	No.	No.	No.	No.	No.	Type	No.	Type		Lt.	Rt.	Other	Other	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.				CY	CY	CY	CY	CY	
4	1462+87.00	DR-601	24	2000	RCP	92		B	5.4		1	1									Type 3		731.64	734.49			56.0	48.2									328.8		105.7	8.2	113.9	
4	1516+78.04	DR-601	24	2000	RCP	90		B	4.0		1	1									Type 3	723.0	722.18	718.47			45.7	56.46									155.9		72.5	8.0	80.5	
6	1522+77.00	DR-601	24	2000	RCP	134	86	B	11.4		1	1									Type 3		717.46	709.94			62.0	83.9															(1)
4	1548+38.00	DR-601	24	2000	RCP	96		B	5.3		1	1									Type 3		727.01	732.71			62.24	45.85									262.7		115.9	8.5	124.4	
11	1569+84.00	DR-601	30	2000	RCP	94		B	5.2		1	1									Type 3		719.34	716.70			49.34	56.90									250.3		119.1	9.1	128.2	
77	1574+62.00	DR-601	73x45	2000	RCP	116		B	8.4		1	1									Type 3		713.20	705.34			54.38	77.38									840.8		318.9	15.7	334.6	
56	1597+69.35	DR-601	54	2000	RCP	100		B	4.7		1	1									Type 3		716.21	710.41			50.59	65.24				23					625.5		207.1	13.0	220.1	
105.0	1612+69.00	DR-601	66	2000	RCP	82		B	3.1		1	1									Type 3		694.25	693.35			48.34	49.64									517.8	21.1	131.9	12.1	144.0	
175	1623+11.00	DR-601	78	2000	RCP	82		B	3.2		1	1									Type 3		687.42	686.20			49.71	50.77									595.1	25.6	179.5	13.8	193.3	
54	1632+55.00	DR-601	65x40	2000	RCP	76		B	2.6		1	1									Type 3		687.99	687.00			45.75	46.24									289.5	14.8	67.9	10.0	77.9	
15	1644+58.00	DR-601	36	2000	RCP	80		B	3.5		1	1									Type 3	684.8	683.51	682.47			47.44	48.54									239.8	13.6	69.9	8.7	78.6	
38	1654+09.00	DR-601	48	2000	RCP	88		B	5.4		1	1									Type 3		675.61	672.76			45.72	58.23									430.2		192.6	10.9	203.5	
18	1661+94.00	DR-601	36	2000	RCP	114		B	6.9		1	1									Type 3		670.43	658.87			48.92	80.55									578.6		197.6	12.0	209.6	
250	1674+96.00	DR-601	102x62	2000	RCP	82		B	3.4		1	1									Type 3		658.79	658.37			49.11	49.83									534.4	90.4	128.8	14.1	142.9	
22	1682+46.00	DR-601	42	2000	RCP	100		B	6.3		1	1									Type 3		655.81	651.42			50.27	65.64									580.7		215.9	11.4	227.3	
48	1690+09.00	DR-601	48	2000	RCP	88		B	4.7		1	1									Type 3		653.95	648.20			46.03	57.80									529.6		179.4	10.6	190.0	
22	1700+94.69	DR-601	42	2000	RCP	118		B	4.5		1	1									Type 3	654.3	652.58	645.72			52.73	81.08			37						511.3		176.5	13.3	189.8	
46	1706+49.56	DR-601	48	2000	RCP	106		B	5.9		1	1									Type 3	652.1	650.12	642.96			50.48	71.28			9						463.6		246.2	12.8	259.0	
67	1717+14.00	DR-601	54	2000	RCP	104		B	7.4		1	1									Type 3		640.62	637.45			55.56	64.39									699.4		289.3	13.5	302.8	
106	1732+29.00	DR-601	66	2000	RCP	108		B	7.2		1	1									Type 3		631.82	628.07			57.53	66.40									920.6		349.8	15.5	365.3	
18	1752+45.00	DR-601	36	2000	RCP	80		B	3.3		1	1									Type 3	635.4	634.15	632.97			47.41	48.57									289.0	13.2	65.8	8.6	74.4	
2	1770+14.00	DR-601	24	2000	RCP	108		B	6.7		1	1									Type 3		616.70	624.85			71.63	48.34									816.5		147.9	9.6	157.5	
70	1791+45.14	DR-601	54	4500	RCP	304	230	B	35.2			1									Type 3		618.77	619.00			160.60	150.40				24										(2)
	1792+14.92	DR-601	48	2000	RCP	44		B			1										Type 3			621.22	621.00			44.0														(3)
	1792+12.15	DR-601	36	2000	CMP	56		B			1													621.02	620.00			56.0														(4)
6.0	1794+50.26	DR-641	24	2000	RCP	134		B	10.0		1								C-3	1	Type 3		657.36	654.20			80.90	59.2			36											(5)
	1794+50.26	DR-641	24	2000	CMP	96		B	7.3			1											654.20	632.50	654.10	633.30		163.2														
	1809+28.00	DR-641	24	2000	RCP	88		B	5.9		1								C-3	1	Type 3		687.30	691.40			93.93	63.35									203.1		170.7	8.1	178.8	(6)
	1809+28.00	DR-641	24	2000	CMP	54		B	3.4			1											674.30	687.30	674.60	687.20															
2	1826+70.00	DR-601	24	2000	RCP	106		B	6.0		1	1									Type 3		680.05	671.55			46.82	71.11									388.1		144.0	9.4	153.4	
4	1831+35.00	DR-601	24	2000	RCP	94		B	4.7		1	1									Type 3		675.44	669.67			45.72	60.37									271.9		84.5	8.4	92.9	
	1859+75.00	DR-641	24	2000	RCP	76		B	3.8		1								C-3	1	Type 3	671.9	668.70	671.10			36.8	45.3									266.3		103.5	6.9	110.4	(7)
	1859+75.00	DR-641	24	2000	CMP	34		B	3.8			1											659.24	668.69	668.64	659.65	80.7														
6.4	1864+87.00	DR-641	24	2000	RCP	94		B	0.0		1								C-3	1	Type 3	645.1	636.70	644.29			53.3	46.36									557.6		154.1	7.9	162.0	(8)
	1864+87.00	DR-641	24	2000	CMP	46		B	5.7			1											623.70	636.70	624.00	636.70	108.6														
27	1866+46.86	DR-601	42	2000	RCP	290	218	B	15.2		1	1									Type 3		630.93	615.19			154.75	150.84				49					2619.4		347.6	31.6	379.2	(9)
17	1870+28.21	DR-601	36	2000	RCP	134	134	B	11.7		1	1									Type 3		615.89	607.17			62.2	87.55				14					1291.2		223.0	14.0	237.0	(10)
36	1880+05.00	DR-601	48	2000	RCP	86		B	4.7		1	1									Type 3	591.8	589.81	588.13			48.34	53.64									579.1		160.1	10.6	170.7	
	1885+82.00	DR-601	52x32	2000	RCP	82		B	3.6		1	1									Type 3	589.0	587.69	586.11			47.30	50.68				17					345.6	13.8	63.3	9.4	72.7	
	County Line Road:																																										
	62+74.17	DR-601	24	2000	RCP	46		B	1.7		1	1	2								Type 3		731.16	729.44			25.33	32.92									114.7	12.9	58.5	4.8	63.3	
	63+84.26	DR-601	24	2000	RCP	52		B	1.3		1	1	2								Type 3		731.40	729.44			28.75	35.49									94.7	9.6	37.9	4.4	42.3	
	Yucca Ave.:																																									
	83+90.05	DR-601	24	2000	RCP	52		B	1.5		1	1	2								Type 3		733.13	731.38			27.15	37.07									105.0	11.4	44.0	4.9	48.9	
																																					Totals:		16812	226.4	4991.2	343.6	5334.8	

(1) Trenchless Construction
(2) Trenchless Construction from ditch to outlet.
(3) Place 48" RCP at +207.10 RT from pipe Inlet to drop inlet at +129.14 RT
(4) Place 36" CMP at +160.59 RT from pipe Inlet to drop inlet at +130.99 RT
(5) Trenchless Construction; DR-641; A=134 B=62 C=2 D=140.12 E=34 L=3.5
(6) DR-641; A=96 B=36 C=2 D=14.12 E=10 L=3.5
(7) DR-641; A=76 B=24 C=2 D=82.12 E=10 L=3.4
(8) DR-641; A=94 B=36 C=2 D=40.12 E=10 L=3.5
(9) Trenchless Construction
(10) Trenchless Construction

HYDRAULIC DESIGN

LICENSED PROFESSIONAL ENGINEER
Jim D. Ellis
15557
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.

Jim D. Ellis — 9/30/2022
Signature — Date

Jim D. Ellis
Printed or Typed Name

My license renewal date is December 31, 20 22

Pages or sheets covered by this seal: CD.1 - CD.2

DRAINAGE STRUCTURE BY ROAD CONTRACTOR

Length of unclassified pipe calculated is based on using Reinforced Concrete Pipe.

* Not a bid item

(1) Diameter or equivalent diameter

(2) UNCL = Unclassified Pipe CMP = Corrugated Metal Pipe RCP = Reinforced Concrete Pipe LCP = Arch or Elliptical Low Clearance Pipe SARC = Steel Arch Pipe

(3) Backfill according to DR-101

Drainage Area	Location	Type	Size (1)	Pipe Classification	Kind Of Pipe (2)	Total Length New Const.	Length of total that is trenchless	Bedding Class	Design Cover (H)	Camber* (DR-102)	Apron No.		Apron Guard* (DR-213)	Elbow* (DR-141)	Diaphragm* (DR-501)	Tee Section* (DR-142)	"D" Section* (DR-141)	Reducer*	Type 'C' Connections* (DR-122)		Connected Pipe Joint* (DR-121)	DR-205 Inlet Apron Top	Flow Line Elevations				Dimensions Lin. Ft.				Skew Ahead Degrees		Dike				Class 20	Flowable Mortar	Floodable* Backfill	Porous* Backfill	Flooded Backfill (3)	Remarks
																											Total		Extensions				Rt. /									
ACRE			IN			LF			FT	FT	IN	OUT	No.	No.	No.	No.	No.	No.	Type	No.	Type		Lt.	Rt.	Other	Other	Lt.	Rt.	Lt.	Rt.	Lt.	Rt.	Lt.	Location Station	Top Elevation	Type	CY	CY	(A)	(B)	(A+B)	
	BID ITEMS			APRON, CONC, 24"								24																													
				APRON, CONC, 30"								2																															
				APRON, CONC, 36"								8																															
				APRON, CONC, 42"								6																															
				APRON, CONC, 48"								9																															
				APRON, CONC, 54"								5																															
				APRON, CONC, 66"								4																															
				APRON, CONC, 78"								2																															
				APRON, LOW CLEARANCE CONC, 52"X32" (42")								2																															
				APRON, LOW CLEARANCE CONC, 65"X40" (54")								2																															
				APRON, LOW CLEARANCE CONC, 73"X45" (60")								2																															
				APRON, LOW CLEARANCE CONC, 102"X62" (84")								2																															
				CULV, CONC RDWY PIPE, 24"								1176																															
				CULV, CONC RDWY PIPE, 30"								94																															
				CULV, CONC RDWY PIPE, 36"								274																															
				CULV, CONC RDWY PIPE, 42"								290																															
				CULV, CONC RDWY PIPE, 48"								412																															
				CULV, CONC RDWY PIPE, 54"								278																															
				CULV, CONC RDWY PIPE, 66"								190																															
				CULV, CONC RDWY PIPE, 78"								82																															
				CULV, LOW CLEARANCE CONC, 52"X32" (42")								82																															
				CULV, LOW CLEARANCE CONC, 65"X40" (54")								76																															
				CULV, LOW CLEARANCE CONC, 73"X45" (60")								116																															
				CULV, LOW CLEARANCE CONC, 102"X62" (84")								82																															
				CULV, CONC PIPE, 2000D, TRENCHLESS, 24"								86																															
				CULV, CONC PIPE, 2000D, TRENCHLESS, 36"								134																															
				CULV, CONC PIPE, 2000D, TRENCHLESS, 42"								218																															
				CULV, CONC PIPE, 2000D, TRENCHLESS, 54"								230																															
				APRON, METAL, 24"								4																															
				APRON, METAL, 36"								1																															
				CULV, CMP RDWY, 24"								230																															
				CULV, CMP RDWY, 36"								56																															

103-5
10-15-13

SETTLEMENT PLATES

Refer to Standard Road Plan EW-212

No.	Location		Remarks
	Station	Offset	
SP-1	1536+15.00	25 LT	ML092
SP-2	1536+82.00	20 RT	ML092
SP-3	1535+88.00	55 RT	ML092
SP-4	1791+75.00	90 RT	ML092

103-6
10-17-17

EMBANKMENT WITH MOISTURE CONTROL

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

103-10
04-18-17

TOPSOIL STRIPPING AND PLACEMENT

Location				Topsoil Stripping Thickness	Topsoil Placement Thickness	Remarks
Road Identification	Dir. of Traffic	Begin Station	End Station	IN	IN	
ML092	EB/WB	1460+20.00	1893+39.00	12.0	13.0	Project West Limit to Bridge
ML092	EB/WB	1894+61.00	1908+69.00	12.0	13.0	Bridge to Project East Limit

104-5C
Modified

LIST OF SUBDRAIN WORK

Possible Standards: DR-121, DR-201, DR-203, DR-301, DR-302, DR-303, DR-305 and DR-306. Possible Detail: 500-10.

* Not a bid item

Location			Pipe			Embankment		Outlets				Connected Pipe Joints*		Trench Drain	Granular Material	Porous Backfill*	Class "A" Crushed Stone*	Remarks
No.	Station to Station		Type of Installation	Concrete, C.M.P., or Plastic	Dia.	Length	Class 10 Waste	Class 10 Fill	500-10	DR-305		DR-306	DR-121			Blanket			
			DR-301, DR-302, DR-303		IN	LF	No.	No.	No.	Type	No.	No.	Type	No.	LF	CY	CY	CY	
ML092																			
1	1506+25.00	1514+50.00														2159.3			1 ft of granular material for working blanket 1
2	1520+50.00	1525+50.00														1591.3			1 ft of granular material for working blanket 2
3	1533+00.00	1534+25.00					681	496								185.2			
4	1534+25.00	1538+50.00					995	801								1628.3			1 ft of granular material for working blanket 3
5	1618+00.00	1632+50.00														1922.7			1 ft of granular material for working blanket 4
6	1653+25.00	1662+75.00														1089.3			1 ft of granular material for working blanket 5
7	1682+00.00	1711+75.00														3496.3			1 ft of granular material for working blanket 6
8	1713+00.00	1729+75.00														1925.0			1 ft of granular material for working blanket 7
9	1790+50.00	1791+00.00	DR-301, Type 1	Plastic	6.0	50						2			110.0	42.3	3.4	0.2	1 ft Granular Blanket for Embankment Fill Drainage, Outlets every 50 ft
10	1791+00.00	1791+50.00	DR-301, Type 1	Plastic	6.0	50						2			110.0	66.3	3.4	0.2	1 ft Granular Blanket for Embankment Fill Drainage, Outlets every 50 ft
11	1791+50.00	1791+83.63	DR-301, Type 1	Plastic	6.0	34						2			93.6	37.1	2.9	0.2	1 ft Granular Blanket for Embankment Fill Drainage, Outlets every 50 ft
12	1791+99.63	1792+25.00	DR-301, Type 1	Plastic	6.0	25						2			85.4	26.9	2.6	0.2	1 ft Granular Blanket for Embankment Fill Drainage, Outlets every 50 ft
13	1808+50.00	1809+00.00	DR-301, Type 1	Plastic	6.0	50	333	231				2			110.0	154.3	3.4	0.2	1 ft Granular Blanket for Embankment Drainage, Outlets every 50 ft
14	1809+00.00	1809+22.32	DR-301, Type 1	Plastic	6.0	22	141	101				2			82.3	82.3	2.5	0.2	1 ft Granular Blanket for Embankment Drainage, Outlets every 50 ft
15	1809+34.08	1809+50.00	DR-301, Type 1	Plastic	6.0	16	211	151				2			75.9	120.9	2.3	0.2	1 ft Granular Blanket for Embankment Drainage, Outlets every 50 ft
16	1809+50.00	1810+00.00	DR-301, Type 1	Plastic	6.0	50	231	162				2			110.0	205.4	3.4	0.2	1 ft Granular Blanket for Embankment Drainage, Outlets every 50 ft
17	1810+00.00	1810+50.00	DR-301, Type 1	Plastic	6.0	50	93	52				2			110.0	109.4	3.4	0.2	1 ft Granular Blanket for Embankment Drainage, Outlets every 50 ft
18	1791+64.00	1791+64.00		Plastic	6.0	56						1						0.2	Extend existing 6" Perforated Drain Pipe through proposed fill
19	1791+76.00	1792+17.00														25.4	8.5		1 ft of granular material for working blanket under pipe culvert + 4 inches of porous backfill under pipe culvert
				Totals		403	2685	1994				19			887.2	14867.6	35.8	2.0	

107-31
04-19-11

PLOWING AND SHAPING

Refer to Standard Road Plan EW-101

Station to Station		D	Remarks
		FT	
1506+25.00	1510+50.00	5.0	
1516+00.00	1517+25.00	3.0	
1520+75.00	1524+75.00	5.0	
1592+00.00	1596+50.00	5.0	
1702+00.00	1710+50.00	4.0	
1715+00.00	1716+50.00	5.0	
1808+25.00	1810+50.00	5.0	

103-7
08-01-08

SHRINKAGE DATA

Material	%	Remarks
Topsoil Salvage	40%	Entire Project
Remaining Project Cut	30%	Entire Project
Boulder Estimate		300 c.y.

LICENSED PROFESSIONAL ENGINEER
Thomas C. Kettler, Jr
22285
IOWA

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

Signature — Date: 9-30-2022

Thomas C. Kettler Jr.
Printed or Typed Name

My license renewal date is December 31, 2022

Pages or sheets covered by this seal: CS.1 - CS.7, Q.1 - Q.27

FILE NO.	ENGLISH	DESIGN TEAM Olsson	Washington-Louisa COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER CS.1

9/29/2022 4:29:31 PM dschroeder F:\2020\3001-3500\020-3111\40-Design\Reports\FOPS\SA#3 Washington-Louisa Co\S3 Event\IowaDOT CADD FIles\OpenRoads\IowaDOTStandards\RoadDesign\SeedFiles\SpreadSheets\ExcelTabulations.xlsm

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

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

Location					Longitudinal Subdrain (DR-303)							Subdrain Outlet				
Line No.	Road or Lane Identification	Station to Station		Side	Depth D	Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306		Porous* Backfill	Class "A"* Crushed Stone	Remarks
						Size	Length	Size	Length	Standard Road Plan and Type	Size	Length	Station	Standard Road Plan and Type			
					IN	IN	FT	IN	FT		IN	FT			CY	CY	
1	ML092	1460+20.00	1464+00.00	RT	42.0	4.0	440.0						1460+20.00	DR-306	40.7	0.2	
													1464+00.00	DR-306		0.2	
2	ML092	1464+00.00	1469+00.00	RT	42.0	4.0	560.0						1464+00.00	DR-306	51.9	0.2	
													1469+00.00	DR-306		0.2	
3	ML092	1469+00.00	1474+00.00	RT	42.0	4.0	560.0						1469+00.00	DR-306	51.9	0.2	
													1474+00.00	DR-306		0.2	
4	ML092	1474+00.00	1478+50.00	RT	42.0	4.0	510.0						1474+00.00	DR-306	47.2	0.2	
													1478+50.00	DR-306		0.2	
5	ML092	1478+50.00	1483+00.00	RT	42.0	4.0	510.0						1478+50.00	DR-306	47.2	0.2	
													1483+00.00	DR-306		0.2	
6	ML092	1483+00.00	1486+00.00	RT	42.0	4.0	360.0						1483+00.00	DR-306	33.3	0.2	
													1486+00.00	DR-306		0.2	
7	ML092	1486+00.00	1491+00.00	RT	42.0	4.0	560.0						1486+00.00	DR-306	51.9	0.2	
													1491+00.00	DR-306		0.2	
8	ML092	1491+00.00	1496+00.00	RT	42.0	4.0	560.0						1491+00.00	DR-306	51.9	0.2	
													1496+00.00	DR-306		0.2	
9	ML092	1496+00.00	1500+00.00	RT	42.0	4.0	460.0						1496+00.00	DR-306	42.6	0.2	
													1500+00.00	DR-306		0.2	
10	ML092	1500+00.00	1503+90.00	RT	42.0	4.0	450.0						1500+00.00	DR-306	41.7	0.2	
													1503+90.00	DR-306		0.2	
11	ML092	1503+90.00	1507+00.00	RT	42.0	4.0	370.0						1503+90.00	DR-306	34.3	0.2	
													1507+00.00	DR-306		0.2	
12	ML092	1507+00.00	1510+00.00	RT	42.0	4.0	360.0						1507+00.00	DR-306	33.3	0.2	
													1510+00.00	DR-306		0.2	
13	ML092	1510+00.00	1514+50.00	RT	42.0	4.0	510.0						1510+00.00	DR-306	47.2	0.2	
													1514+50.00	DR-306		0.2	
14	ML092	1514+50.00	1519+00.00	RT	42.0	4.0	510.0						1514+50.00	DR-306	47.2	0.2	
													1519+00.00	DR-306		0.2	
15	ML092	1519+00.00	1523+50.00	RT	42.0	4.0	510.0						1519+00.00	DR-306	47.2	0.2	
													1523+50.00	DR-306		0.2	
16	ML092	1523+50.00	1528+00.00	RT	42.0	4.0	510.0						1523+50.00	DR-306	47.2	0.2	
													1528+00.00	DR-306		0.2	
17	ML092	1528+00.00	1531+00.00	RT	42.0	4.0	360.0						1528+00.00	DR-306	33.3	0.2	
													1531+00.00	DR-306		0.2	
18	ML092	1531+00.00	1534+00.00	RT	42.0	4.0	360.0						1531+00.00	DR-306	33.3	0.2	
													1534+00.00	DR-306		0.2	
19	ML092	1534+00.00	1536+75.00	RT	42.0	4.0	335.0						1534+00.00	DR-306	31.0	0.2	
													1536+75.00	DR-306		0.2	
20	ML092	1536+75.00	1540+00.00	RT	42.0	4.0	385.0						1536+75.00	DR-306	35.6	0.2	
													1540+00.00	DR-306		0.2	
21	ML092	1540+00.00	1545+00.00	RT	42.0	4.0	560.0						1540+00.00	DR-306	51.9	0.2	
													1545+00.00	DR-306		0.2	
22	ML092	1545+00.00	1550+00.00	RT	42.0	4.0	560.0						1545+00.00	DR-306	51.9	0.2	
													1550+00.00	DR-306		0.2	
23	ML092	1550+00.00	1555+00.00	RT	42.0	4.0	560.0						1550+00.00	DR-306	51.9	0.2	
													1555+00.00	DR-306		0.2	
24	ML092	1555+00.00	1560+00.00	RT	42.0	4.0	560.0						1555+00.00	DR-306	51.9	0.2	
													1560+00.00	DR-306		0.2	
25	ML092	1560+00.00	1565+00.00	RT	42.0	4.0	560.0						1560+00.00	DR-306	51.9	0.2	
													1565+00.00	DR-306		0.2	
26	ML092	1565+00.00	1569+00.00	RT	42.0	4.0	460.0						1565+00.00	DR-306	42.6	0.2	
													1569+00.00	DR-306		0.2	
27	ML092	1569+00.00	1572+00.00	RT	42.0	4.0	360.0						1569+00.00	DR-306	33.3	0.2	
													1572+00.00	DR-306		0.2	
28	ML092	1572+00.00	1574+70.00	RT	42.0	4.0	330.0						1572+00.00	DR-306	30.6	0.2	
													1574+70.00	DR-306		0.2	
29	ML092	1574+70.00	1576+50.00	RT	42.0	4.0	240.0						1574+70.00	DR-306	22.2	0.2	
													1576+50.00	DR-306		0.2	
30	ML092	1576+50.00	1579+50.00	RT	42.0	4.0	360.0						1576+50.00	DR-306	33.3	0.2	
													1579+50.00	DR-306		0.2	
31	ML092	1579+50.00	1584+00.00	RT	42.0	4.0	510.0						1579+50.00	DR-306	47.2	0.2	
													1584+00.00	DR-306		0.2	
32	ML092	1584+00.00	1589+00.00	RT	42.0	4.0	560.0						1584+00.00	DR-306	51.9	0.2	
													1589+00.00	DR-306		0.2	
33	ML092	1589+00.00	1594+00.00	RT	42.0	4.0	560.0						1589+00.00	DR-306	51.9	0.2	
													1594+00.00	DR-306		0.2	
34	ML092	1594+00.00	1599+00.00	RT	42.0	4.0	560.0						1594+00.00	DR-306	51.9	0.2	
													1599+00.00	DR-306		0.2	
35	ML092	1599+00.00	1604+00.00	RT	42.0	4.0	560.0						1599+00.00	DR-306	51.9	0.2	
													1604+00.00	DR-306		0.2	
36	ML092	1604+00.00	1609+00.00	RT	42.0	4.0	560.0						1604+00.00	DR-306	51.9	0.2	
													1609+00.00	DR-306		0.2	
37	ML092	1609+00.00	1614+00.00	RT	42.0	4.0	560.0						1609+00.00	DR-306	51.9	0.2	
													1614+00.00	DR-306		0.2	
38	ML092	1614+00.00	1619+00.00	RT	42.0	4.0	560.0						1614+00.00	DR-306	51.9	0.2	
													1619+00.00	DR-306		0.2	
39	ML092	1619+00.00	1624+00.00	RT	42.0	4.0	560.0						1619+00.00	DR-306	51.9	0.2	
													1624+00.00	DR-306		0.2	

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

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

Location						Longitudinal Subdrain (DR-303)							Subdrain Outlet				
Line No.	Road or Lane Identification	Station to Station		Side	Depth D	Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306		Porous* Backfill	Class "A"* Crushed Stone	Remarks
						Size	Length	Size	Length	Standard Road Plan and Type	Size	Length	Station	Standard Road Plan and Type			
					IN	IN	FT	IN	FT		IN	FT			CY	CY	
40	ML092	1624+00.00	1629+00.00	RT	42.0	4.0	560.0						1624+00.00	DR-306	51.9	0.2	
													1629+00.00	DR-306		0.2	
41	ML092	1629+00.00	1634+00.00	RT	42.0	4.0	560.0						1629+00.00	DR-306	51.9	0.2	
													1634+00.00	DR-306		0.2	
42	ML092	1634+00.00	1639+00.00	RT	42.0	4.0	560.0						1634+00.00	DR-306	51.9	0.2	
													1639+00.00	DR-306		0.2	
43	ML092	1639+00.00	1644+00.00	RT	42.0	4.0	560.0						1639+00.00	DR-306	51.9	0.2	
													1644+00.00	DR-306		0.2	
44	ML092	1644+00.00	1649+00.00	RT	42.0	4.0	560.0						1644+00.00	DR-306	51.9	0.2	
													1649+00.00	DR-306		0.2	
45	ML092	1649+00.00	1653+00.00	RT	42.0	4.0	460.0						1649+00.00	DR-306	42.6	0.2	
													1653+00.00	DR-306		0.2	
46	ML092	1653+00.00	1658+00.00	RT	42.0	4.0	560.0						1653+00.00	DR-306	51.9	0.2	
													1658+00.00	DR-306		0.2	
47	ML092	1658+00.00	1663+00.00	RT	42.0	4.0	560.0						1658+00.00	DR-306	51.9	0.2	
													1663+00.00	DR-306		0.2	
48	ML092	1663+00.00	1668+00.00	RT	42.0	4.0	560.0						1663+00.00	DR-306	51.9	0.2	
													1668+00.00	DR-306		0.2	
49	ML092	1668+00.00	1673+00.00	RT	42.0	4.0	560.0						1668+00.00	DR-306	51.9	0.2	
													1673+00.00	DR-306		0.2	
50	ML092	1673+00.00	1678+00.00	RT	42.0	4.0	560.0						1673+00.00	DR-306	51.9	0.2	
													1678+00.00	DR-306		0.2	
51	ML092	1678+00.00	1683+00.00	RT	42.0	4.0	560.0						1678+00.00	DR-306	51.9	0.2	
													1683+00.00	DR-306		0.2	
52	ML092	1683+00.00	1688+00.00	RT	42.0	4.0	560.0						1683+00.00	DR-306	51.9	0.2	
													1688+00.00	DR-306		0.2	
53	ML092	1688+00.00	1693+00.00	RT	42.0	4.0	560.0						1688+00.00	DR-306	51.9	0.2	
													1693+00.00	DR-306		0.2	
54	ML092	1693+00.00	1698+00.00	RT	42.0	4.0	560.0						1693+00.00	DR-306	51.9	0.2	
													1698+00.00	DR-306		0.2	
55	ML092	1698+00.00	1703+00.00	RT	42.0	4.0	560.0						1698+00.00	DR-306	51.9	0.2	
													1703+00.00	DR-306		0.2	
56	ML092	1703+00.00	1708+00.00	RT	42.0	4.0	560.0						1703+00.00	DR-306	51.9	0.2	
													1708+00.00	DR-306		0.2	
57	ML092	1708+00.00	1713+00.00	RT	42.0	4.0	560.0						1708+00.00	DR-306	51.9	0.2	
													1713+00.00	DR-306		0.2	
58	ML092	1713+00.00	1718+00.00	RT	42.0	4.0	560.0						1713+00.00	DR-306	51.9	0.2	
													1718+00.00	DR-306		0.2	
59	ML092	1718+00.00	1723+00.00	RT	42.0	4.0	560.0						1718+00.00	DR-306	51.9	0.2	
													1723+00.00	DR-306		0.2	
60	ML092	1723+00.00	1728+00.00	RT	42.0	4.0	560.0						1723+00.00	DR-306	51.9	0.2	
													1728+00.00	DR-306		0.2	
61	ML092	1728+00.00	1732+00.00	RT	42.0	4.0	460.0						1728+00.00	DR-306	42.6	0.2	
													1732+00.00	DR-306		0.2	
62	ML092	1732+00.00	1735+96.00	RT	42.0	4.0	456.0						1732+00.00	DR-306	42.2	0.2	
													1735+96.00	DR-306		0.2	
63	ML092	1735+96.00	1740+00.00	RT	42.0	4.0	464.0						1735+96.00	DR-306	43.0	0.2	
													1740+00.00	DR-306		0.2	
64	ML092	1740+00.00	1745+00.00	RT	42.0	4.0	560.0						1740+00.00	DR-306	51.9	0.2	
													1745+00.00	DR-306		0.2	
65	ML092	1745+00.00	1750+00.00	RT	42.0	4.0	560.0						1745+00.00	DR-306	51.9	0.2	
													1750+00.00	DR-306		0.2	
66	ML092	1750+00.00	1755+00.00	RT	42.0	4.0	560.0						1750+00.00	DR-306	51.9	0.2	
													1755+00.00	DR-306		0.2	
67	ML092	1755+00.00	1760+00.00	RT	42.0	4.0	560.0						1755+00.00	DR-306	51.9	0.2	
													1760+00.00	DR-306		0.2	
68	ML092	1760+00.00	1764+00.00	RT	42.0	4.0	460.0						1760+00.00	DR-306	42.6	0.2	
													1764+00.00	DR-306		0.2	
69	ML092	1764+00.00	1767+63.00	RT	42.0	4.0	423.0						1764+00.00	DR-306	39.2	0.2	
													1767+63.00	DR-306		0.2	
70	ML092	1767+63.00	1771+50.00	RT	42.0	4.0	447.0						1767+63.00	DR-306	41.4	0.2	
													1771+50.00	DR-306		0.2	
71	ML092	1771+50.00	1776+50.00	RT	42.0	4.0	560.0						1771+50.00	DR-306	51.9	0.2	
													1776+50.00	DR-306		0.2	
72	ML092	1776+50.00	1779+50.00	RT	42.0	4.0	360.0						1776+50.00	DR-306	33.3	0.2	
													1779+50.00	DR-306		0.2	
73	ML092	1779+50.00	1782+00.00	RT	42.0	4.0	310.0						1779+50.00	DR-306	28.7	0.2	
													1782+00.00	DR-306		0.2	
74	ML092	1782+00.00	1786+00.00	RT	42.0	4.0	460.0						1782+00.00	DR-306	42.6	0.2	
													1786+00.00	DR-306		0.2	
75	ML092	1786+00.00	1789+50.00	RT	42.0	4.0	410.0						1786+00.00	DR-306	38.0	0.2	
													1789+50.00	DR-306		0.2	
76	ML092	1789+50.00	1792+50.00	RT	42.0	4.0	360.0						1789+50.00	DR-306	33.3	0.2	
													1792+50.00	DR-306		0.2	
77	ML092	1792+50.00	1796+00.00	RT	42.0	4.0	410.0						1792+50.00	DR-306	38.0	0.2	
													1796+00.00	DR-306		0.2	
78	ML092	1796+00.00	1799+50.00	RT	42.0	4.0	410.0						1796+00.00	DR-306	38.0	0.2	
													1799+50.00	DR-306		0.2	

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

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

Location						Longitudinal Subdrain (DR-303)							Subdrain Outlet				
Line No.	Road or Lane Identification	Station to Station		Side	Depth (D)	Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306		Porous* Backfill	Class "A"* Crushed Stone	Remarks
						Size	Length	Size	Length	Standard Road Plan and Type	Size	Length	Station	Standard Road Plan and Type			
					IN	IN	FT	IN	FT		IN	FT			CY	CY	
79	ML092	1799+50.00	1804+50.00	RT	42.0	4.0	560.0						1799+50.00	DR-306	51.9	0.2	
													1804+50.00	DR-306		0.2	
80	ML092	1804+50.00	1809+50.00	RT	42.0	4.0	560.0						1804+50.00	DR-306	51.9	0.2	
													1809+50.00	DR-306		0.2	
81	ML092	1809+50.00	1814+50.00	RT	42.0	4.0	560.0						1809+50.00	DR-306	51.9	0.2	
													1814+50.00	DR-306		0.2	
82	ML092	1814+50.00	1819+50.00	RT	42.0	4.0	560.0						1814+50.00	DR-306	51.9	0.2	
													1819+50.00	DR-306		0.2	
83	ML092	1819+50.00	1824+50.00	RT	42.0	4.0	560.0						1819+50.00	DR-306	51.9	0.2	
													1824+50.00	DR-306		0.2	
84	ML092	1824+50.00	1829+50.00	RT	42.0	4.0	560.0						1824+50.00	DR-306	51.9	0.2	
													1829+50.00	DR-306		0.2	
85	ML092	1829+50.00	1834+00.00	RT	42.0	4.0	510.0						1829+50.00	DR-306	47.2	0.2	
													1834+00.00	DR-306		0.2	
86	ML092	1834+00.00	1836+20.00	RT	42.0	4.0	280.0						1834+00.00	DR-306	25.9	0.2	
													1836+20.00	DR-306		0.2	
87	ML092	1836+20.00	1839+00.00	RT	42.0	4.0	340.0						1836+20.00	DR-306	31.5	0.2	
													1839+00.00	DR-306		0.2	
88	ML092	1839+00.00	1844+00.00	RT	42.0	4.0	560.0						1839+00.00	DR-306	51.9	0.2	
													1844+00.00	DR-306		0.2	
89	ML092	1844+00.00	1849+00.00	RT	42.0	4.0	560.0						1844+00.00	DR-306	51.9	0.2	
													1849+00.00	DR-306		0.2	
90	ML092	1849+00.00	1854+00.00	RT	42.0	4.0	560.0						1849+00.00	DR-306	51.9	0.2	
													1854+00.00	DR-306		0.2	
91	ML092	1854+00.00	1859+00.00	RT	42.0	4.0	560.0						1854+00.00	DR-306	51.9	0.2	
													1859+00.00	DR-306		0.2	
92	ML092	1859+00.00	1864+00.00	RT	42.0	4.0	560.0						1859+00.00	DR-306	51.9	0.2	
													1864+00.00	DR-306		0.2	
93	ML092	1864+00.00	1869+00.00	RT	42.0	4.0	560.0						1864+00.00	DR-306	51.9	0.2	
													1869+00.00	DR-306		0.2	
94	ML092	1869+00.00	1874+00.00	RT	42.0	4.0	560.0						1869+00.00	DR-306	51.9	0.2	
													1874+00.00	DR-306		0.2	
95	ML092	1874+00.00	1879+00.00	RT	42.0	4.0	560.0						1874+00.00	DR-306	51.9	0.2	
													1879+00.00	DR-306		0.2	
96	ML092	1879+00.00	1883+00.00	RT	42.0	4.0	460.0						1879+00.00	DR-306	42.6	0.2	
													1883+00.00	DR-306		0.2	
97	ML092	1883+00.00	1887+00.00	RT	42.0	4.0	460.0						1883+00.00	DR-306	42.6	0.2	
													1887+00.00	DR-306		0.2	
98	ML092	1887+00.00	1889+49.50	RT	42.0	4.0	309.5						1887+00.00	DR-306	28.7	0.2	
													1889+49.50	DR-306		0.2	
99	ML092	1889+69.50	1893+17.00	RT	42.0	4.0	407.5						1889+69.50	DR-306	37.7	0.2	
													1893+17.00	DR-306		0.2	
100	ML092	1894+41.00	1896+51.50	RT	42.0	4.0	270.5						1894+41.00	DR-306	25.0	0.2	
													1896+51.50	DR-303			Sta. 1896+51.5 into Intake No. 4
101	ML092	1896+51.50	1899+25.00	RT	42.0	4.0	333.5						1896+51.50	DR-303	30.9		Sta. 1896+51.5 into Intake No. 4
													1899+25.00	DR-303			Sta. 1899+25 into Intake No. 6
102	ML092	1899+25.00	1901+75.00	RT	42.0	4.0	310.0						1899+25.00	DR-303	28.7		Sta. 1899+25 into Intake No. 6
													1901+75.00	DR-303			Sta. 1901+75 into Intake No. 8
103	ML092	1901+75.00	1906+00.00	RT	42.0	4.0	485.0						1901+75.00	DR-303	44.9		Sta. 1901+75 into Intake No. 8
													1906+00.00	DR-306		0.2	
104	ML092	1906+00.00	1908+69.00	RT	42.0	4.0	329.0						1906+00.00	DR-306	30.5	0.2	
													1908+69.00	DR-306		0.2	
105	ML092	1460+20.00	1464+00.00	RT	42.0	4.0	440.0						1460+20.00	DR-306	40.7	0.2	
													1464+00.00	DR-306		0.2	
106	ML092	1464+00.00	1469+00.00	LT	42.0	4.0	560.0						1464+00.00	DR-306	51.9	0.2	
													1469+00.00	DR-306		0.2	
107	ML092	1469+00.00	1474+00.00	LT	42.0	4.0	560.0						1469+00.00	DR-306	51.9	0.2	
													1474+00.00	DR-306		0.2	
108	ML092	1474+00.00	1478+50.00	LT	42.0	4.0	510.0						1474+00.00	DR-306	47.2	0.2	
													1478+50.00	DR-306		0.2	
109	ML092	1478+50.00	1483+00.00	LT	42.0	4.0	510.0						1478+50.00	DR-306	47.2	0.2	
													1483+00.00	DR-306		0.2	
110	ML092	1483+00.00	1486+00.00	LT	42.0	4.0	360.0						1483+00.00	DR-306	33.3	0.2	
													1486+00.00	DR-306		0.2	
111	ML092	1486+00.00	1491+00.00	LT	42.0	4.0	560.0						1486+00.00	DR-306	51.9	0.2	
													1491+00.00	DR-306		0.2	
112	ML092	1491+00.00	1496+00.00	LT	42.0	4.0	560.0						1491+00.00	DR-306	51.9	0.2	
													1496+00.00	DR-306		0.2	
113	ML092	1496+00.00	1500+00.00	LT	42.0	4.0	460.0						1496+00.00	DR-306	42.6	0.2	
													1500+00.00	DR-306		0.2	
114	ML092	1500+00.00	1503+90.00	LT	42.0	4.0	450.0						1500+00.00	DR-306	41.7	0.2	
													1503+90.00	DR-306		0.2	
115	ML092	1503+90.00	1507+00.00	LT	42.0	4.0	370.0						1503+90.00	DR-306	34.3	0.2	
													1507+00.00	DR-306		0.2	
116	ML092	1507+00.00	1510+00.00	LT	42.0	4.0	360.0						1507+00.00	DR-306	33.3	0.2	
													1510+00.00	DR-306		0.2	
117	ML092	1510+00.00	1514+50.00	LT	42.0	4.0	510.0						1510+00.00	DR-306	47.2	0.2	
													1514+50.00	DR-306		0.2	

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

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

Location						Longitudinal Subdrain (DR-303)							Subdrain Outlet				
Line No.	Road or Lane Identification	Station to Station		Side	Depth D	Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306		Porous* Backfill	Class "A"* Crushed Stone	Remarks
						Size	Length	Size	Length	Standard Road Plan and Type	Size	Length	Station	Standard Road Plan and Type			
					IN	IN	FT	IN	FT		IN	FT			CY	CY	
118	ML092	1514+50.00	1519+00.00	LT	42.0	4.0	510.0						1514+50.00	DR-306	47.2	0.2	
													1519+00.00	DR-306		0.2	
119	ML092	1519+00.00	1523+50.00	LT	42.0	4.0	510.0						1519+00.00	DR-306	47.2	0.2	
													1523+50.00	DR-306		0.2	
120	ML092	1523+50.00	1528+00.00	LT	42.0	4.0	510.0						1523+50.00	DR-306	47.2	0.2	
													1528+00.00	DR-306		0.2	
121	ML092	1528+00.00	1531+00.00	LT	42.0	4.0	360.0						1528+00.00	DR-306	33.3	0.2	
													1531+00.00	DR-306		0.2	
122	ML092	1531+00.00	1534+00.00	LT	42.0	4.0	360.0						1531+00.00	DR-306	33.3	0.2	
													1534+00.00	DR-306		0.2	
123	ML092	1534+00.00	1536+75.00	LT	42.0	4.0	335.0						1534+00.00	DR-306	31.0	0.2	
													1536+75.00	DR-306		0.2	
124	ML092	1536+75.00	1540+00.00	LT	42.0	4.0	385.0						1536+75.00	DR-306	35.6	0.2	
													1540+00.00	DR-306		0.2	
125	ML092	1540+00.00	1545+00.00	LT	42.0	4.0	560.0						1540+00.00	DR-306	51.9	0.2	
													1545+00.00	DR-306		0.2	
126	ML092	1545+00.00	1550+00.00	LT	42.0	4.0	560.0						1545+00.00	DR-306	51.9	0.2	
													1550+00.00	DR-306		0.2	
127	ML092	1550+00.00	1555+00.00	LT	42.0	4.0	560.0						1550+00.00	DR-306	51.9	0.2	
													1555+00.00	DR-306		0.2	
128	ML092	1555+00.00	1560+00.00	LT	42.0	4.0	560.0						1555+00.00	DR-306	51.9	0.2	
													1560+00.00	DR-306		0.2	
129	ML092	1560+00.00	1565+00.00	LT	42.0	4.0	560.0						1560+00.00	DR-306	51.9	0.2	
													1565+00.00	DR-306		0.2	
130	ML092	1565+00.00	1569+00.00	LT	42.0	4.0	460.0						1565+00.00	DR-306	42.6	0.2	
													1569+00.00	DR-306		0.2	
131	ML092	1569+00.00	1572+00.00	LT	42.0	4.0	360.0						1569+00.00	DR-306	33.3	0.2	
													1572+00.00	DR-306		0.2	
132	ML092	1572+00.00	1574+70.00	LT	42.0	4.0	330.0						1572+00.00	DR-306	30.6	0.2	
													1574+70.00	DR-306		0.2	
133	ML092	1574+70.00	1576+50.00	LT	42.0	4.0	240.0						1574+70.00	DR-306	22.2	0.2	
													1576+50.00	DR-306		0.2	
134	ML092	1576+50.00	1579+50.00	LT	42.0	4.0	360.0						1576+50.00	DR-306	33.3	0.2	
													1579+50.00	DR-306		0.2	
135	ML092	1579+50.00	1584+00.00	LT	42.0	4.0	510.0						1579+50.00	DR-306	47.2	0.2	
													1584+00.00	DR-306		0.2	
136	ML092	1584+00.00	1589+00.00	LT	42.0	4.0	560.0						1584+00.00	DR-306	51.9	0.2	
													1589+00.00	DR-306		0.2	
137	ML092	1589+00.00	1594+00.00	LT	42.0	4.0	560.0						1589+00.00	DR-306	51.9	0.2	
													1594+00.00	DR-306		0.2	
138	ML092	1594+00.00	1599+00.00	LT	42.0	4.0	560.0						1594+00.00	DR-306	51.9	0.2	
													1599+00.00	DR-306		0.2	
139	ML092	1599+00.00	1604+00.00	LT	42.0	4.0	560.0						1599+00.00	DR-306	51.9	0.2	
													1604+00.00	DR-306		0.2	
140	ML092	1604+00.00	1609+00.00	LT	42.0	4.0	560.0						1604+00.00	DR-306	51.9	0.2	
													1609+00.00	DR-306		0.2	
141	ML092	1609+00.00	1614+00.00	LT	42.0	4.0	560.0						1609+00.00	DR-306	51.9	0.2	
													1614+00.00	DR-306		0.2	
142	ML092	1614+00.00	1619+00.00	LT	42.0	4.0	560.0						1614+00.00	DR-306	51.9	0.2	
													1619+00.00	DR-306		0.2	
143	ML092	1619+00.00	1624+00.00	LT	42.0	4.0	560.0						1619+00.00	DR-306	51.9	0.2	
													1624+00.00	DR-306		0.2	
144	ML092	1624+00.00	1629+00.00	LT	42.0	4.0	560.0						1624+00.00	DR-306	51.9	0.2	
													1629+00.00	DR-306		0.2	
145	ML092	1629+00.00	1634+00.00	LT	42.0	4.0	560.0						1629+00.00	DR-306	51.9	0.2	
													1634+00.00	DR-306		0.2	
146	ML092	1634+00.00	1639+00.00	LT	42.0	4.0	560.0						1634+00.00	DR-306	51.9	0.2	
													1639+00.00	DR-306		0.2	
147	ML092	1639+00.00	1644+00.00	LT	42.0	4.0	560.0						1639+00.00	DR-306	51.9	0.2	
													1644+00.00	DR-306		0.2	
148	ML092	1644+00.00	1649+00.00	LT	42.0	4.0	560.0						1644+00.00	DR-306	51.9	0.2	
													1649+00.00	DR-306		0.2	
149	ML092	1649+00.00	1653+00.00	LT	42.0	4.0	460.0						1649+00.00	DR-306	42.6	0.2	
													1653+00.00	DR-306		0.2	
150	ML092	1653+00.00	1658+00.00	LT	42.0	4.0	560.0						1653+00.00	DR-306	51.9	0.2	
													1658+00.00	DR-306		0.2	
151	ML092	1658+00.00	1663+00.00	LT	42.0	4.0	560.0						1658+00.00	DR-306	51.9	0.2	
													1663+00.00	DR-306		0.2	
152	ML092	1663+00.00	1668+00.00	LT	42.0	4.0	560.0						1663+00.00	DR-306	51.9	0.2	
													1668+00.00	DR-306		0.2	
153	ML092	1668+00.00	1673+00.00	LT	42.0	4.0	560.0						1668+00.00	DR-306	51.9	0.2	
													1673+00.00	DR-306		0.2	
154	ML092	1673+00.00	1678+00.00	LT	42.0	4.0	560.0						1673+00.00	DR-306	51.9	0.2	
													1678+00.00	DR-306		0.2	
155	ML092	1678+00.00	1683+00.00	LT	42.0	4.0	560.0						1678+00.00	DR-306	51.9	0.2	
													1683+00.00	DR-306		0.2	
156	ML092	1683+00.00	1688+00.00	LT	42.0	4.0	560.0						1683+00.00	DR-306	51.9	0.2	
													1688+00.00	DR-306		0.2	

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

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

Location						Longitudinal Subdrain (DR-303)							Subdrain Outlet				
					Depth	Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306		Porous* Backfill	Class "A"* Crushed Stone	
Line No.	Road or Lane Identification	Station to Station		Side	(D)	Size	Length	Size	Length	Standard Road Plan and Type	Size	Length	Station	Standard Road Plan and Type			Remarks
					IN	IN	FT	IN	FT		IN	FT			CY	CY	
157	ML092	1688+00.00	1693+00.00	LT	42.0	4.0	560.0						1688+00.00	DR-306	51.9	0.2	
													1693+00.00	DR-306		0.2	
158	ML092	1693+00.00	1698+00.00	LT	42.0	4.0	560.0						1693+00.00	DR-306	51.9	0.2	
													1698+00.00	DR-306		0.2	
159	ML092	1698+00.00	1703+00.00	LT	42.0	4.0	560.0						1698+00.00	DR-306	51.9	0.2	
													1703+00.00	DR-306		0.2	
160	ML092	1703+00.00	1708+00.00	LT	42.0	4.0	560.0						1703+00.00	DR-306	51.9	0.2	
													1708+00.00	DR-306		0.2	
161	ML092	1708+00.00	1713+00.00	LT	42.0	4.0	560.0						1708+00.00	DR-306	51.9	0.2	
													1713+00.00	DR-306		0.2	
162	ML092	1713+00.00	1718+00.00	LT	42.0	4.0	560.0						1713+00.00	DR-306	51.9	0.2	
													1718+00.00	DR-306		0.2	
163	ML092	1718+00.00	1723+00.00	LT	42.0	4.0	560.0						1718+00.00	DR-306	51.9	0.2	
													1723+00.00	DR-306		0.2	
164	ML092	1723+00.00	1728+00.00	LT	42.0	4.0	560.0						1723+00.00	DR-306	51.9	0.2	
													1728+00.00	DR-306		0.2	
165	ML092	1728+00.00	1732+00.00	LT	42.0	4.0	460.0						1728+00.00	DR-306	42.6	0.2	
													1732+00.00	DR-306		0.2	
166	ML092	1732+00.00	1735+96.00	LT	42.0	4.0	456.0						1732+00.00	DR-306	42.2	0.2	
													1735+96.00	DR-306		0.2	
167	ML092	1735+96.00	1740+00.00	LT	42.0	4.0	464.0						1735+96.00	DR-306	43.0	0.2	
													1740+00.00	DR-306		0.2	
168	ML092	1740+00.00	1745+00.00	LT	42.0	4.0	560.0						1740+00.00	DR-306	51.9	0.2	
													1745+00.00	DR-306		0.2	
169	ML092	1745+00.00	1750+00.00	LT	42.0	4.0	560.0						1745+00.00	DR-306	51.9	0.2	
													1750+00.00	DR-306		0.2	
170	ML092	1750+00.00	1755+00.00	LT	42.0	4.0	560.0						1750+00.00	DR-306	51.9	0.2	
													1755+00.00	DR-306		0.2	
171	ML092	1755+00.00	1760+00.00	LT	42.0	4.0	560.0						1755+00.00	DR-306	51.9	0.2	
													1760+00.00	DR-306		0.2	
172	ML092	1760+00.00	1764+00.00	LT	42.0	4.0	460.0						1760+00.00	DR-306	42.6	0.2	
													1764+00.00	DR-306		0.2	
173	ML092	1764+00.00	1767+63.00	LT	42.0	4.0	423.0						1764+00.00	DR-306	39.2	0.2	
													1767+63.00	DR-306		0.2	
174	ML092	1767+63.00	1771+50.00	LT	42.0	4.0	447.0						1767+63.00	DR-306	41.4	0.2	
													1771+50.00	DR-306		0.2	
175	ML092	1771+50.00	1776+50.00	LT	42.0	4.0	560.0						1771+50.00	DR-306	51.9	0.2	
													1776+50.00	DR-306		0.2	
176	ML092	1776+50.00	1779+50.00	LT	42.0	4.0	360.0						1776+50.00	DR-306	33.3	0.2	
													1779+50.00	DR-306		0.2	
177	ML092	1779+50.00	1782+00.00	LT	42.0	4.0	310.0						1779+50.00	DR-306	28.7	0.2	
													1782+00.00	DR-306		0.2	
178	ML092	1782+00.00	1786+00.00	LT	42.0	4.0	460.0						1782+00.00	DR-306	42.6	0.2	
													1786+00.00	DR-306		0.2	
179	ML092	1786+00.00	1789+50.00	LT	42.0	4.0	410.0						1786+00.00	DR-306	38.0	0.2	
													1789+50.00	DR-306		0.2	
180	ML092	1789+50.00	1792+50.00	LT	42.0	4.0	360.0						1789+50.00	DR-306	33.3	0.2	
													1792+50.00	DR-306		0.2	
181	ML092	1792+50.00	1796+00.00	LT	42.0	4.0	410.0						1792+50.00	DR-306	38.0	0.2	
													1796+00.00	DR-306		0.2	
182	ML092	1796+00.00	1799+50.00	LT	42.0	4.0	410.0						1796+00.00	DR-306	38.0	0.2	
													1799+50.00	DR-306		0.2	
183	ML092	1799+50.00	1804+50.00	LT	42.0	4.0	560.0						1799+50.00	DR-306	51.9	0.2	
													1804+50.00	DR-306		0.2	
184	ML092	1804+50.00	1809+50.00	LT	42.0	4.0	560.0						1804+50.00	DR-306	51.9	0.2	
													1809+50.00	DR-306		0.2	
185	ML092	1809+50.00	1814+50.00	LT	42.0	4.0	560.0						1809+50.00	DR-306	51.9	0.2	
													1814+50.00	DR-306		0.2	
186	ML092	1814+50.00	1819+50.00	LT	42.0	4.0	560.0						1814+50.00	DR-306	51.9	0.2	
													1819+50.00	DR-306		0.2	
187	ML092	1819+50.00	1824+50.00	LT	42.0	4.0	560.0						1819+50.00	DR-306	51.9	0.2	
													1824+50.00	DR-306		0.2	
188	ML092	1824+50.00	1829+50.00	LT	42.0	4.0	560.0						1824+50.00	DR-306	51.9	0.2	
													1829+50.00	DR-306		0.2	
189	ML092	1829+50.00	1834+00.00	LT	42.0	4.0	510.0						1829+50.00	DR-306	47.2	0.2	
													1834+00.00	DR-306		0.2	
190	ML092	1834+00.00	1836+20.00	LT	42.0	4.0	280.0						1834+00.00	DR-306	25.9	0.2	
													1836+20.00	DR-306		0.2	
191	ML092	1836+20.00	1839+00.00	LT	42.0	4.0	340.0						1836+20.00	DR-306	31.5	0.2	
													1839+00.00	DR-306		0.2	
192	ML092	1839+00.00	1844+00.00	LT	42.0	4.0	560.0						1839+00.00	DR-306	51.9	0.2	
													1844+00.00	DR-306		0.2	
193	ML092	1844+00.00	1849+00.00	LT	42.0	4.0	560.0						1844+00.00	DR-306	51.9	0.2	
													1849+00.00	DR-306		0.2	
194	ML092	1849+00.00	1854+00.00	LT	42.0	4.0	560.0						1849+00.00	DR-306	51.9	0.2	
													1854+00.00	DR-306		0.2	
195	ML092	1854+00.00	1859+00.00	LT	42.0	4.0	560.0						1854+00.00	DR-306	51.9	0.2	
													1859+00.00	DR-306		0.2	

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

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

Location						Longitudinal Subdrain (DR-303)							Subdrain Outlet		Porous* Backfill	Class "A"* Crushed Stone	Remarks
Line No.	Road or Lane Identification	Station to Station		Side	Depth (D)	Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306				
						Size	Length	Size	Length	Standard Road Plan and Type	Size	Length	Station	Standard Road Plan and Type			
					IN	IN	FT	IN	FT		IN	FT			CY	CY	
196	ML092	1859+00.00	1864+00.00	LT	42.0	4.0	560.0						1859+00.00	DR-306	51.9	0.2	
													1864+00.00	DR-306		0.2	
197	ML092	1864+00.00	1869+00.00	LT	42.0	4.0	560.0						1864+00.00	DR-306	51.9	0.2	
													1869+00.00	DR-306		0.2	
198	ML092	1869+00.00	1874+00.00	LT	42.0	4.0	560.0						1869+00.00	DR-306	51.9	0.2	
													1874+00.00	DR-306		0.2	
199	ML092	1874+00.00	1879+00.00	LT	42.0	4.0	560.0						1874+00.00	DR-306	51.9	0.2	
													1879+00.00	DR-306		0.2	
200	ML092	1879+00.00	1883+00.00	LT	42.0	4.0	460.0						1879+00.00	DR-306	42.6	0.2	
													1883+00.00	DR-306		0.2	
201	ML092	1883+00.00	1887+00.00	LT	42.0	4.0	460.0						1883+00.00	DR-306	42.6	0.2	
													1887+00.00	DR-306		0.2	
202	ML092	1887+00.00	1888+19.00	LT	42.0	4.0	179.0						1887+00.00	DR-306	16.6	0.2	
													1888+19.00	DR-303			Sta. 1888+19 into Intake No. 1
203	ML092	1888+19.00	1889+59.50	LT	42.0	4.0	200.5						1888+19.00	DR-303	18.6		Sta. 1888+19 into Intake No. 1
													1889+59.50	DR-303			Sta. 1889+59.5 into Intake No. 2
204	ML092	1889+59.50	1893+59.00	LT	42.0	4.0	459.5						1889+59.50	DR-303	42.5		Sta. 1889+59.5 into Intake No. 2
													1893+59.00	DR-306		0.2	
205	ML092	1894+82.00	1896+51.50	LT	42.0	4.0	229.5						1894+82.00	DR-306	21.3	0.2	
													1896+51.50	DR-303			Sta. 1896+51.5 to Intake No. 3
206	ML092	1896+51.50	1899+25.00	LT	42.0	4.0	333.5						1896+51.50	DR-303	30.9		Sta. 1896+51.5 to Intake No. 3
													1899+25.00	DR-303			Sta. 1899+25 into Intake No. 5
207	ML092	1899+25.00	1901+75.00	LT	42.0	4.0	310.0						1899+25.00	DR-303	28.7		Sta. 1899+25 into Intake No. 5
													1901+75.00	DR-303			Sta. 1901+75 into Intake No. 7
208	ML092	1901+75.00	1903+50.00	LT	42.0	4.0	235.0						1901+75.00	DR-303	21.8		Sta. 1901+75 into Intake No. 7
													1903+50.00	DR-306		0.2	
209	ML092	1903+50.00	1906+50.00	LT	42.0	4.0	360.0						1903+50.00	DR-306	33.3	0.2	
													1906+50.00	DR-306		0.2	
210	ML092	1906+50.00	1908+69.00	LT	42.0	4.0	279.0						1906+50.00	DR-306	25.8	0.2	
													1908+69.00	DR-306		0.2	
Totals							102031.0		0.0					DR-303 = 16	9452.3	80.8	
														DR-306 = 404			

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

NOTE: ALL LONGITUDINAL SUBDRAINS MAY BE ADJUSTED BOTH VERTICALLY AND HORIZONTALLY IN THE FIELD AS NECESSARY.

SURVEY SYMBOLS

- PPA Power Pole Co. 1
- TPD Telephone Pedestal
- PR Electic Riser Pole
- EB Electrical Box
- LUM Luminaire
- PLG Location of General Photo
- FHD Fire Hydrants
- WV Water Valve
- IN Storm Sewer Intake
- MH Utility Access (Manhole)
- MIS Miscellaneous
- GDL Guard Rail Steel
- INB Storm Sewer Beehive Intake
- TILE – TIL Tile Line
- BM Bench Mark
- RET Retaining Walls
- WEL Well
- DU Centerline Draw or Stream (Up)
- BNK Stream Bank
- D Centerline Draw or Stream (Down)
- RIP Rip-Rap
- RR Centerline of Railroad Tracks
- ENT Centerline BL of Entrance
- T1 – TL1D Telephone Line Co. 1 - Quality D
- G – GL1D Gas Line Co. 1 - Quality D
- E1 – EL1D Electric Line Co. 1 - Quality D
- FO – FO1D Fiber Optic Co. 1 - Quality D
- W – WL1D Water Line Co. 1 - Quality D
- TV – TV1D TV Cable Co. 1 - Quality D
- FO2 – FO2D Fiber Optic Co. 2 - Quality D
- FO2(B)– FO2B Fiber Optic Co. 2 - Quality B
- TV2 – TV2D TV Cable Co. 2 - Quality D
- SAN. – SA1D Sanitary Sewer Co. 1- Quality D
- ST S – ST1D Storm Sewer Co. 1 - Quality D
- G2 – GL2D Gas Line Co. 2 - Quality D
- T3 – TL3D Telephone Line Co. 3 - Quality D

UTILITY LEGEND

Alliant Energy
G – Mary Montgomery
E1 – 200 1st Street Southeast
G2 – Cedar Rapids, IA 52401
(319) 786-8196
rerow@alliantenergy.com

Windstream
T1 – Bryan Bogan
FO – 4001 N. Rodney Parham Road
FO2 – Little Rock, AK 72212
FO2(B)– (501) 748-6919
T3 – bryan.bogan@windstream.com

Eastern Iowa Light & Power
EB Dennis Hill
600 East Fifth Street
Wilton, IA 52778
(563) 732-2211
dhill@easterniowa.com

TV – Mediacom
TV2 – Fred Rhomberg
6300 Council Steet NE
Cedar Rapids, IA 52402
(845) 248-7626
frhomberrg@mediacomcc.com

W – City of Columbus Junction
SAN. – Jeff Vonahme
ST S – 232 2nd Street
Columbus Junction, IA 52738
(319) 212-1249
cjmaint@windstream.net

ITC Midwest
Chad Levi
123 5th Street SE
Cedar Rapids, IA 52401
(319) 899-9969
clevi@itctransco.com

PLAN VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

PROFILE VIEW COLOR LEGEND OF PLAN AND PROFILE SHEETS

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

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

RIGHT-OF-WAY LEGEND

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

PLAN AND PROFILE LEGEND AND SYMBOL INFORMATION SHEET

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

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER D.1

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Oregon TWP.
T-75N R-6W
SEC. 14

Oregon TWP.
T-75N R-6W
SEC. 23

Sta. 1457+44.3
Skew 0°
24" X 116' RCP
with 6.13 aprons
D.A. = 4 Ac - R
(UAC)

POT Sta 1459+44.31

BEGIN PAVING
STA. 1460+19.65

Restricted Area
Do Not Disturb

IA 92

15" x 40'
C.M.P.
(REMOVE)

Prop. 24"
Uncl. Ent. Pipe

Sta. 1462+86.8
Skew 0°
2' x 2' x 49.5' RBC
30" x 18.37' RCP S end
30" x 21.37' RCP N end
Each end has 6.13 apron
D.A. = 4 Ac - R
(REMOVE)

Sta. 1462+87.00
Install 24"x92' RCP

±07 Prop. Type "C" Ent. W=20'

0 100 FEET

48" CIP
Under RR
(UAC)

Yucca Ave.

12" x 132'
Clay & Plastic
Pipe

Gate

15" x 30'
C.M.P.

Sta. 83+90.05
Install 24"x52' RCP

N

IA 92

Sta. +07.5
Prop. Type "C" Ent.

4% 1.8%

BEGIN PAVING
STA. 1460+19.65

740.00

+0.502%
+0.695%
-0.660%
+0.65% DGR
-0.65% DGR
-1.06% DGR
+1.70% DGR
+2.31% DGL
+0.50% Lt. Ditch Grade
-0.80% Lt. Ditch Grade
-0.60% DGL
-2.33% DGL
-3.299%

+20 Rt. 737.29
+83 Rt. 734.50
+88 Rt. 734.50
+50 Rt. 737.26
+15 Rt. 741.18
+30 Rt. 742.58
+35 Rt. 741.25
+25 Rt. 728.79

+20 Lt. 737.46
+90 Lt. 738.20
+45 Lt. 737.20
+00 Lt. 735.75
+50 Lt. 733.74
+25 Lt. 737.78
+25 Lt. 741.28
+64 Lt. 736.16
+00 Lt. 734.74
+50 Lt. 735.08

VPI +25.000
Elv 747.88
Len 420.00 ft
K = 309

VPI +00.000
Elv 739.46
Len 820.00 ft
K = 310

VPI +75.000
Elv 741.28
Len 200.00 ft
K = 1035

Lt	DGL	FS T1e		DITCH GRADE LEFT		FS T1e	DGL	Yucca	DGL
Rt	DITCH GRADE RIGHT		5' Ent.	5' DITCH	DITCH GRADE RIGHT	5' DITCH		Yucca	5'

740.03 740.15 740.28 740.40 740.53 740.65 740.78 740.91 741.04 741.18 741.33 741.48 741.64 741.80 741.97 742.15 742.32 742.50 742.67 742.84 743.02 743.19 743.36 743.54 743.71 743.89 744.06 744.23 744.41 744.58 744.75 744.93 745.10 745.27 745.45 745.62 745.80 745.97 746.14 746.32 746.49 746.64 746.78 746.90 746.99 747.06 747.12 747.15 747.17 747.16 747.14 747.09 747.02 746.94 746.83 746.70 746.56 746.39 746.23 746.06 745.90 745.73 745.57 745.40 745.24 745.07 744.91 744.74 744.58 744.41 744.25 744.08 743.92 743.75 743.59 743.42 743.26 743.09 742.93 742.76 742.60 742.43 742.27 742.10 741.92 741.71 741.49 741.25 740.98 740.70 740.40 740.07 739.73 739.36 738.98 738.57 738.15 737.70 737.24 736.76 736.25 735.72 735.18 734.61 734.03 733.42 732.80 732.15

FILE NO.	ENGLISH	DESIGN TEAM	Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	D.2

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Oregon TWP.
T-75N R-6W
SEC. 14

Oregon TWP.
T-75N R-6W
SEC. 23

IA 92

Curve Data
Δ = 2° 04′ 57.23″ (RT)
T = 172.67
L = 345.30
R = 9,500.00
E = 1.57

Curve Data
Δ = 2° 04′ 57.23″ (LT)
T = 172.67
L = 345.30
R = 9,500.00
E = 1.57

6′ x 9′ Acrh RCB under RR (U.A.C)

PC Sta 1499+96.00
PI Sta 1501+68.67
PT Sta 1503+41.31
PC Sta 1510+96.69
PI Sta 1512+69.36
PT Sta 1514+42.00

18″ x 22′ C.M.P. (REMOVE) (CLOSE)

12″ x 20′ C.M.P. (REMOVE)

Prop. 24″ Uncl. Ent. Pipe

+58 Prop. Type "C" Ent. W=20′

+00 Prop. Type "C" Ent. W=20′

House

Sta. 1505+83
Skew 0°
12′ X 6′ X 79.50′ RCB
D.A. = 850 Ac - R
(REMOVE)

Sta. 1505+99.53
Install 12′x7′x99′ RCB
Skew = 17° Rt. Ahd.

0 100 FEET

IA 92

VPI +75.000
Elv 713.89
Len 400.00 ft
K = 176

+00 Lt. 726.91
+50 Rt. 720.00
+00 Rt. 717.72
+75 Lt. 708.79
-3.91% DGR
-1.52% DGR
-4.83% DGL
-3.299%
-1.039%
-1.00% DGL

VPI +25.000
Elv 700.90
Len 600.00 ft
K = 158

+00 Rt. 699.04
-1.44% DGR
+50 Rt. 694.00
+60 Lt. 694.94
+65 Lt. 691.02
+95 Lt. 691.02
+20 Rt. 690.11
+30 Rt. 690.11
+75 Rt. 692.76
-5.56%
-3.73%
0%
+5.91%
+4.04% DGL
+1.30% DGR

VPI +75.000
Elv 727.00
Len 350.00 ft
K = 139

+25 Lt. 712.22
+00 Lt. 707.39
+00 Lt. 718.00
+00 Rt. 720.05
+50 Rt. 695.04
+2.747%
+3.86% DGL
+3.30% DGL
+1.58% DGL
+3.85% DGR
-1.00%
-4%
-11%
-3.3%

Sta. +00
Prop. Type "C" Ent.

Lt DITCH GRADE RIGHT 5′ DITCH DITCH GRADE LEFT DITCH GRADE RIGHT DGL DITCH GRADE LEFT Ent. DITCH GRADE RIGHT DGL
Rt

FILE NO.	ENGLISH	DESIGN TEAM	Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	D.3

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Oregon TWP.
T-75N R-6W
SEC. 14

Oregon TWP.
T-75N R-6W
SEC. 23

1515 1520 1525 1530 1535 1540 1545

Prop. 24" Uncl. Ent. Pipe

+58 Prop. Type "C" Ent. W=20'

+85 Prop. Type "C" Ent. W=26'

+09 Prop. Type "C" Ent. W=26'

+25 Prop. Type "C" Ent. W=20'

+08 Prop. Type "C" Ent. W=20'

IA 92

18" x 60' C.M.P. (REMOVE)

Sta. 1536+13.35
Install 8'x9'x194' RCB
Skew = 30° Lt. Ahd.

Sta. 1536+55.9
Skew 0°
8' X 8' X 60.40' RCB
D.A. = 700 Ac - R
(REMOVE)

(CLOSE)

18" x 45' C.M.P. (REMOVE)

18" x 34' Plastic (REMOVE)

Prop. 24" Uncl. Ent. Pipe

Prop. 24" Uncl. Ent. Pipe

Old Pd Sta 1545+62.01

Sta. 1516+73.9
Skew 0°
2' x 2' x 40.6' RCB
30" x 18.37' RCP S end
30" x 18.37' RCP N end
Each end has 6.13' apron
D.A. = 4 Ac - R
(REMOVE)

Sta. 1516+78.04
Install 24"x90' RCP
Skew = 13° Lt. Ahd.

Sta. 1522+76.1
Skew 0°
2' x 2' x 63.8' RCB
30" x 31.87' RCP S. end
30" x 28.37' RCP N. end
Each end has 6.13' apron
D.A. = 6 Ac - R
(REMOVE)

Sta. 1522+77.00
Install 24"x134' RCP
(86' Trenchless Construction)

0 100 FEET

IA 92

+00 Lt. 723.00
+00 Lt. 722.73
+45 Lt. 724.16
+25 Lt. 723.42
+70 Lt. 717.46
+85 Lt. 717.46
+50 Lt. 720.39
+55 Lt. 723.00
+75 Lt. 723.25
+55 Lt. 724.15
+25 Lt. 722.53
+25 Lt. 715.76
+75 Rt. 717.06
+60 Rt. 722.55
+50 Rt. 711.00
+90 Rt. 709.94
+70 Rt. 709.94
+00 Rt. 711.30
+50 Rt. 718.57
+30 Rt. 723.04
+65 Rt. 718.40
+75 Rt. 691.50
+50 Rt. 692.50
+65 Rt. 700.53
+75 Rt. 691.50
+15 Rt. 686.55
+35 Rt. 686.55
+95 Lt. 687.26
+00 Lt. 698.32
+15 Lt. 687.26
+00 Rt. 716.34
+50 Lt. 710.99
+65 Lt. 717.66
+50 Lt. 719.40
+25 Lt. 720.15

+0.234%
+0.27% DGL
+0.47% DGL
-0.92% DGL
-2.43% DGL
+4.50%
+2.49%
+1.25%
+1.13%
-0.60% DGL
-2.26% DGL
-2.436%
-5.00% DGL
+1.33%
+12.38%
0%
+3.10% DGL
+2.05% DGL
+1% DGL
+2.817%
-1.00% DGR
+0.20% DGR
+2.48% DGR
-4.35% DGR
-1.94%
+1.77%
+5.50% DGR
-1.32% DGR
-5.70% DGR
-4.30% DGR
-12.38%
+4.33% DGR
+5.07% DGL

VPI +00.000
Elv 707.50
Len 680.00 ft
K = 129

VPI +75.000
Elv 730.04
Len 350.00 ft
K = 131

+0.12% -4% +6%
Sta. +58.0
Prop. Type "C" Ent.

+4.26% +8% -4% +4% +5% -2.9%
Sta. +85.0 Lt./Rt.
Prop. Type "C" Ent.

-0.3% -4%
Sta. +09.0
Prop. Type "C" Ent.

+1.96% -4% -4% -1%
Sta. +25.0 Lt./Rt.
Prop. Type "C" Ent.

-1.44% -4% -4% +8.5% +4.92%
Sta. +08.0 Lt./Rt.
Prop. Type "C" Ent.

Lt: DGL | Ent. | DITCH GRADE LEFT | Ent. | DITCH GRADE LEFT | Ent. DGL Ent. | DITCH GRADE LEFT | UAC | DITCH GRADE LEFT | Ent. DGL
Rt: DITCH GRADE RIGHT | Ent. | DITCH GRADE RIGHT | Ent. | DITCH GRADE RIGHT | 5' | Ent. 5' DITCH

726.56 726.82 727.03 727.20 727.33 727.41 727.47 727.53 727.58 727.64 727.70 727.76 727.82 727.88 727.93 727.99 728.05 728.11 728.17 728.23 728.28 728.34 728.40 728.46 728.52 728.58 728.64 728.69 728.75 728.81 728.87 728.93 728.99 729.04 729.10 729.16 729.22 729.28 729.34 729.39 729.45 729.51 729.57 729.63 729.66 729.65 729.59 729.48 729.32 729.12 728.87 728.57 728.22 727.83 727.39 726.90 726.36 725.77 725.16 724.55 723.95 723.34 722.73 722.12 721.51 720.90 720.29 719.68 719.07 718.46 717.85 717.25 716.64 716.03 715.43 714.87 714.36 713.90 713.49 713.13 712.82 712.55 712.33 712.16 712.04 711.97 711.94 711.97 712.04 712.16 712.33 712.54 712.81 713.12 713.48 713.89 714.35 714.85 715.41 716.01 716.66 717.36 718.06 718.77 719.47 720.18 720.88 721.58 722.29 722.99 723.70 724.40 725.11 725.81 726.51 727.22 727.92 728.63 729.33 730.03

1520 1525 1530 1535 1540 1545

FILE NO.	ENGLISH	DESIGN TEAM	Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	D.4

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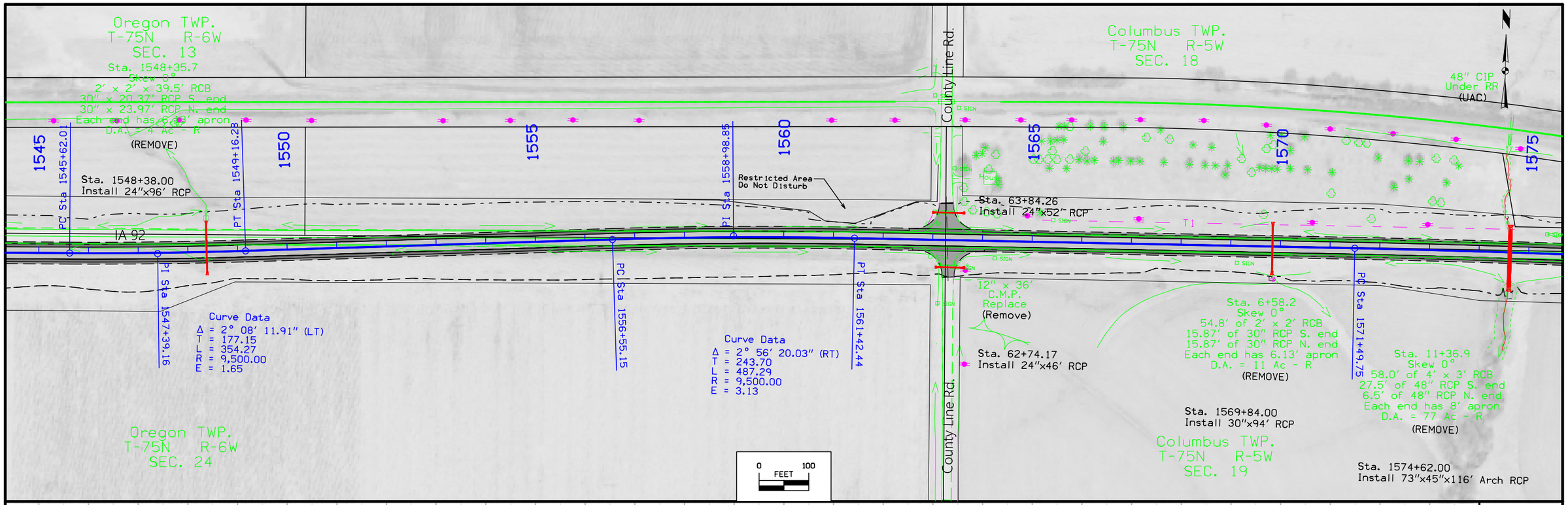

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER D.5

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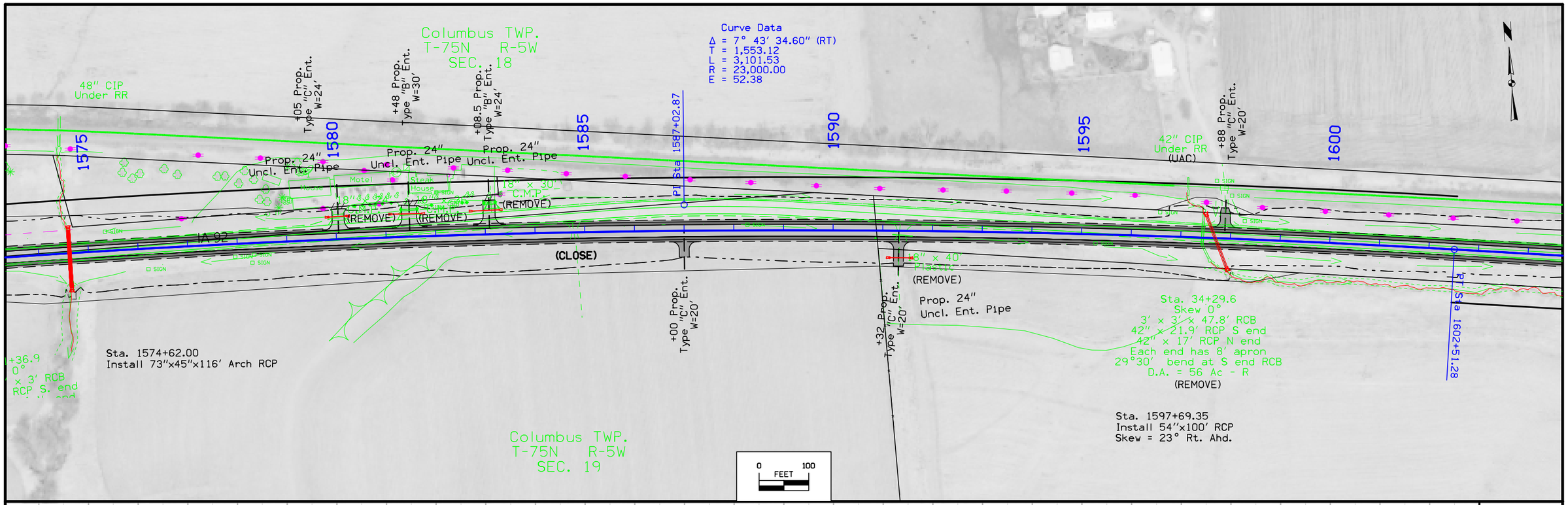

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER D.6

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Columbus TWP.
T-75N R-5W
SEC. 18

Curve Data
Δ = 0° 28′ 36.60″ (LT)
T = 299.60
L = 599.21
R = 72,000.00
E = 0.62

W-66

Columbus TWP.
T-75N R-5W
SEC. 20

Sta. 49+47.9
Skew 0°
5′ x 4′ x 43.6′ RCB
60″ x 16.5′ RCP S end
60″ x 16.5′ RCP N end
Each end has 8′ apron
D.A. = 105 Ac - R
(REMOVE)

60″ RCP
Under RR
(UAC)

Sta. 1612+69.00
Install 66″x82′ RCP

PC Sta 1614+47.35

PT Sta 1620+46.56

Twin 48″ CMP
Under RR
(UAC)

42″ CMP
Under RR
(UAC)

1605 1610 1615 1620 1625 1630

IA 92

Sta. 54+42.6
Skew 0°
6′ X 6′ X 57′ RCB
D.A. = 224 Ac - R
(UAC)

Sta. 1617+46.96

W-66

Barn

0 100
FEET

Sta. 59+89.4
Skew 0°
6′ x 5′ x 42.8′ RCB
72″ x 17.75′ RCP S end
72″ x 16.75′ RCP N end
Each end has 8.25′ apron
D.A. = 175 Ac - R
(REMOVE)

Sta. 1623+11.00
Install 78″x82′ RCP

Sta. 69+33.4
Skew 0°
3′ x 3′ x 36.6′ RCB
42″ x 18.5′ RCP S
42″ x 18.5′ RCP N end
Each end has 8′ apron
D.A. = 54 Ac - R
(REMOVE)

Sta. 1632+55.00
Install 65″x40″x76′ Arch RCP

Columbus TWP.
T-75N R-5W

Columbus TWP.
T-75N R-5W
SEC. 19

IA 92

VPI +00.000
Elv 703.80
Len 600.00 ft
K = 371

VPI +00.00
Elv 702.45
Len 300.00 ft
K = 256

VPI +30.000
Elv 698.10
Len 300.00 ft
K = 305

+00 Lt. 705.15
+50 Lt. 699.50
+25 Rt. 700.84
+50 Lt. 698.48
+00 Rt. 698.73
+00 Lt. 696.38
+62 Lt. 694.25
+60 Rt. 693.31
+76 Lt. 694.25
+25 Lt. 696.73
+85 Rt. 693.31
+85 Lt. 697.45
+70 Lt. 697.72
+75 Lt. 696.50
+00 Lt. 688.87
+25 Lt. 689.20
+50 Rt. 687.73
+04 Lt. 687.42
+00 Rt. 686.20
+15 Lt. 688.78
+12 Lt. 687.42
+40 Lt. 689.43
+45 Rt. 684.82
+00 Lt. 691.90
+80 Rt. 685.18
+60 Lt. 687.99
+65 Rt. 689.29
+45 Rt. 689.31
+50 Lt. 687.99
+25 Lt. 690.78
+50 Rt. 687.00
+60 Rt. 687.00

-1.763% -2.26% DGL -0.51% DGL -2.81% -1.40% DGL -2.08% DGR -0.150% 3.43% 0% 5.06% +0.45% DGL +0.15% DGL -1.319% -1.62% DGL -0.44% -36.27% 3.06% +42.34% +0.20% DGL -0.40% DGR +1.54% DGL -0.340% +0.15% DGR +0.00% -2.23% DGL -46.20% 0% +0.63% +45.80%

720 710 700 690 680 670 660 650

3.7′ DITCH DGR | FS Tie | DITCH GRADE LEFT DITCH GRADE RIGHT | UAC DITCH | W-66 W-66 | UAC DITCH | DITCH GRADE LEFT DITCH GRADE RIGHT | 3.7′ DITCH UAC DITCH DGL DGR

712.17 711.73 711.29 710.85 710.41 709.97 709.53 709.09 708.65 708.24 707.84 707.46 707.09 706.74 706.41 706.10 705.80 705.52 705.26 705.01 704.78 704.56 704.37 704.19 704.02 703.88 703.75 703.63 703.54 703.46 703.39 703.35 703.31 703.27 703.24 703.20 703.16 703.12 703.09 703.05 703.01 702.97 702.94 702.90 702.86 702.82 702.79 702.75 702.71 702.67 702.63 702.55 702.45 702.33 702.18 702.01 701.82 701.60 701.35 701.08 700.79 700.47 700.14 699.82 699.52 699.23 698.97 698.73 698.51 698.30 698.12 697.96 697.82 697.70 697.60 697.52 697.43 697.35 697.26 697.18 697.09 697.01 696.92 696.84 696.75 696.67 696.58 696.50 696.41 696.33 696.24 696.16 696.07 695.99 695.90 695.82 695.73 695.65 695.56 695.48 695.39 695.31 695.22 695.14 695.05 694.97 694.88 694.80 694.71 694.63 694.54 694.46 694.37 694.29 694.20 694.12 694.03 693.95 693.86 693.78

1605 1610 1615 1620 1625 1630

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER D.7

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Curve Data
Δ = 1° 29' 42.58" (LT)
T = 521.94
L = 1,043.82
R = 40,000.00
E = 3.41

Columbus TWP.
T-75N R-5W
SEC. 20

1635 1640 1645 1650 1655 1660

RC Sta 1639+23.46

PT Sta 1649+67.28

IA 92

36" RCP Under RR (UAC)

30" CMP Under RR (UAC)

40" RCP Under RR (UAC)

36" CMP Under RR (UAC)

48" CMP Under RR (UAC)

+00 Prop. Type "C" Ent. w=20'

Sta. 81+53.1
Skew 4° (RA)
2' x 2' x 46.8' RCB
30" x 23.87' RCP S end
30" x 14.37' RCP N end
Each end has 6.13' apron
D.A. = 15 Ac - R
(REMOVE)

Sta. 1644+58.00
Install 36"x80' RCP

Sta. 90+07.3
Skew 0°
3' x 3' x 49' RCB
42" x 21' RCP S end
42" x 6' RCP N end
Each end has 8' apron
D.A. = 38 Ac - R
(REMOVE)

Sta. 1654+09.00
Install 48"x88' RCP

Sta. 98+72.4
Skew 0°
3' x 2' x 51.8' RCB
36" x 17.67' flume S end
36" x 38' RCP S end
36" x 12.7' RCP N end
8' apron N end
D.A. = 18 Ac - R
(REMOVE)

Sta. 1661+94.00
Install 36"x114' RCP

0 100 FEET

Columbus TWP.
T-75N R-5W
SEC. 20

IA 92

-4% -12% -3.7%

Sta. +00.0
Prop. Type "C" Ent.

VPI +50.000
Elv 687.14
Len 2000.00 ft
K = 2547

+50 Lt. 683.51
+58 Lt. 683.51
+75 Lt. 685.15
+75 Lt. 685.97
+00 Lt. 684.64
+00 Lt. 689.50
+54 Rt. 682.50
+64 Rt. 682.50
+50 Rt. 682.95
+25 Rt. 674.00
+00 Rt. 669.97
+20 Lt. 678.60
+75 Lt. 679.49
+01 Lt. 672.32
+87 Lt. 671.77
+40 Lt. 673.16
+50 Lt. 674.09
+90 Lt. 670.43
+96 Lt. 670.43
+05 Rt. 658.66
+70 Rt. 659.34

0.00%
+0.63%
-45.80%
-0.50% DGL
-0.340%
-2.19%
+2.1%
0%
-0.59%
-3.25% DGR
-1.47% DGR
-1.125%
+0.58% DGL
-44.70%
+2.17%
+37.76%
-1.94%

DITCH GRADE LEFT
DGR Ent.
UAC DITCH
3.7' DITCH
DITCH GRADE RIGHT
DGL
3.7' DITCH
UAC DITCH
DGL
DGR

710 700 690 680 670 660 650

694.03 693.95 693.86 693.78 693.69 693.61 693.52 693.44 693.35 693.27 693.18 693.10 693.01 692.93 692.84 692.76 692.67 692.59 692.50 692.42 692.33 692.25 692.16 692.08 691.99 691.91 691.82 691.74 691.65 691.57 691.48 691.40 691.31 691.22 691.14 691.05 690.97 690.88 690.80 690.71 690.63 690.54 690.46 690.37 690.28 690.18 690.09 689.99 689.89 689.79 689.68 689.57 689.46 689.35 689.23 689.11 688.99 688.87 688.74 688.62 688.49 688.35 688.22 688.08 687.94 687.80 687.65 687.50 687.35 687.20 687.05 686.89 686.73 686.57 686.40 686.24 686.07 685.89 685.72 685.54 685.36 685.18 685.00 684.81 684.62 684.43 684.23 684.04 683.84 683.64 683.43 683.23 683.02 682.81 682.59 682.38 682.16 681.94 681.71 681.49 681.26 681.03 680.79 680.56 680.32 680.08 679.83 679.59 679.34 679.09 678.84 678.58 678.32 678.06 677.80 677.53 677.27 677.00 676.72 676.45

1635 1640 1645 1650 1655 1660

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER D.8

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Columbus TWP.
T-75N R-5W
SEC. 20

1665 1670 1675 1680 1685 1690

24" Steel Pipe Under RR (UAC)

RXR Xing (CLOSED)

42" x 30' R.C.P. (REMOVED BY OTHERS)

60" RCP Under RR (UAC)

48" CMP Under RR (UAC)

+53 Prop. Type "C" Ent. W=30'

36" x 50' Plastic (UAC)

36" x 64' Plastic (UAC)

66" CMP Under RR (UAC)

IA 92

24" x 73' R.C.P. (REMOVE)

Sta. 111+74.0
Skew 0°
4' x 3' x 50.6' RCB
48" x 24' RCP S end
8' apron S end
No pipe N end 8' apron
D.A. = 250 Ac - R
(REMOVE)

Sta. 1674+96.00
Install 102"x62"x82' Arch RCP

Sta. 119+24.8
Skew 0°
4' x 3' x 49.1' RCB
48" x 22' RCP S end
48" x 6.5' RCP N end
Each end has 8' aprons
D.A. = 22 Ac - R
(REMOVE)

Sta. 1682+46.00
Install 42"x100' RCP

Sta. 126+87.0
Skew 0°
5' x 5' x 40.5' RCB
66" x 18.25' RCP S end
66" x 17.25' RCP N end
Each end has 8.25' apron
D.A. = 48 Ac - R
(REMOVE)

Sta. 1690+09.00
Install 48"x88' RCP

0 100 FEET

IA 92

VPI +50.000
Elv 671.39
Len 300.00 ft
K = 438

-1.125%

-1.27% DGL

+80 Lt. 665.66

+50 Lt. 663.50

+05 Rt. 654.84

+34 Rt. 654.78

-0.21%

-1.67%

+70 Rt. 654.18

-0.440%

Sta. +53.0
Prop. Type "C" Ent.

+45 Lt. 655.90

+10 Rt. 651.47

FLL

-0.30% DGR

+50 Lt. 655.90

+15 Rt. 651.16

+20 Lt. 658.39

-0.68% DGL

+85 Lt. 657.94

VPI +70.000
Elv 660.29
Len 300.00 ft
K = 951

+00 Lt. 655.60

-32.82% Lt.

0%

FLR

+34.37%

+0.20%

+15 Lt. 654.99

+05 Lt. 653.96

+12 Lt. 653.96

+00 Rt. 648.20

+10 Rt. 648.20

690 680 670 660 650 640 630

Lt
3.7% DITCH | UAC DITCH | DGL/SR | UAC DITCH | UAC DITCH | DGL | UAC DITCH | Ent. DGL | UAC DITCH | DGL
Rt
UAC DITCH | DGR | UAC DITCH | DGR | UAC DITCH | DGR | UAC DITCH

676.17 675.89 675.61 675.33 675.05 674.77 674.48 674.20 673.92 673.64 673.36 673.08 672.80 672.54 672.30 672.07 671.85 671.65 671.46 671.28 671.12 670.98 670.85 670.73 670.62 670.51 670.40 670.29 670.18 670.07 669.96 669.85 669.74 669.63 669.52 669.41 669.30 669.19 669.08 668.97 668.86 668.75 668.64 668.53 668.42 668.31 668.20 668.09 667.98 667.87 667.76 667.65 667.54 667.43 667.32 667.21 667.10 666.99 666.88 666.77 666.66 666.55 666.44 666.32 666.21 666.10 665.99 665.88 665.77 665.66 665.55 665.44 665.33 665.22 665.11 665.00 664.89 664.78 664.67 664.56 664.45 664.34 664.23 664.12 664.01 663.90 663.79 663.68 663.57 663.46 663.35 663.24 663.13 663.02 662.91 662.80 662.69 662.58 662.47 662.36 662.25 662.14 662.03 661.92 661.81 661.70 661.59 661.48 661.37 661.26 661.15 661.04 660.93 660.82 660.73 660.63 660.55 660.47 660.40 660.33

1665 1670 1675 1680 1685 1690

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER D.9

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Columbus TWP.
T-75N R-5W
SEC. 21

Curve Data
Δ = 14° 17′ 20.37″ (RT)
T = 1,153.18
L = 2,294.39
R = 9,200.00
E = 71.99

1695 1700 1705 1710 1715 1720

48″ CIP
Under RR
(UAC)

36″ CMP
Under RR
(UAC)

2′ x 2.5′ RCB
Under RR
(UAC)

PI Sta 1709+22.89

Sta. 153+98.9
Skew 0°
6′ x 5′ x 52.4′ RCB
72″ x 22.25′ RCP S end
72″ x 12.75′ RCP N end
Each end has 8.25′ apron
D.A. = 67 Ac - R
REMOVE

4.2′ x 4.8′ RCB
Under RR
(UAC)

Sta. 1717+14.00
Install 54″x104′ RCP

IA 92

PC Sta 1697+69.72

PT Sta 1720+64.10

+40 Prop.
Type "C" Ent.
W=20′

House

Sta. 138+25.5
Skew 0°
3′ x 2′ x 40.2′ RCB
36″ x 23.7′ RCP S end
36″ x 14′RCP N end
Each end has 8′ apron
24° bend at S end 3′ x 2′ RCB
D.A. = 22 Ac - R
(REMOVE)

1700+94.69
Install 42″x118′ RCP
Skew = 37° Lt. Ahd.

Columbus TWP.
T-75N R-5W
SEC. 21

Sta. 143+44.7
Skew 0°
43.2′ of 3′ x 3′ RCB
15.6′ of 42″ RCP S end
16.5′ of 42″ RCP N end
Each end has 8′ apron
25° bend at S end 3′ x 3′ RCB
D.A. = 46 Ac - R
(REMOVE)

Sta. 1706+49.56
Install 48″x106′ RCP
Skew = 09° Lt. Ahd.

18″ x 30′
C.M.P.
(REMOVE)

10+69 Prop.
Type "C" Ent.
W=20′

Prop. 24″
Uncl. Ent. Pipe

18″ x 30′
C.M.P.
(UAC)

18″ x 20′
C.M.P.
(UAC)

Sta. 149+16.15
Skew 0°
Twin 12′ X 12′ X 40′ RCB
D.A. = 1261 Ac - R
(UAC)

W Ave

0 100
FEET

IA 92

-4% -7.75% -4.25%

Sta. +40.0
Prop. Type "C" Ent.

VPI +70.000
Elv 660.29
Len 300.00 ft
K = 951

VPI +60.000
Elv 658.18
Len 300.00 ft
K = 436

VPI +50.000
Elv 648.51
Len 300.00 ft
K = 787

+30 Lt. 656.03
+40 Lt. 654.33
+47 Lt. 654.33
+20 Lt. 655.16
+60 Lt. 652.11
+67 Lt. 652.11
+50 Lt. 654.32
+00 Rt. 643.19
+05 Lt. 640.63
+20 Lt. 640.63
+40 Rt. 645.72
+10 Rt. 648.63
+75 Rt. 650.90
+28 Rt. 642.96
+45 Rt. 642.96
+24 Rt. 636.95

+0.20% DGL
-0.28% DGL
-0.125%
+1.14%
0%
-0.69% DGL
+1.21% DGL
0%
-0.812%
+4.16% DGR
+0.86% DGR
FLR
FLL
-5.03% DGR

680 670 660 650 640 630 620

Lt / Rt

UAC DITCH | Ent. | UAC DITCH | DITCH GRADE LEFT | DITCH GRADE RIGHT | UAC DITCH | DGR | 3.7′ DITCH | Ent. | UAC DGL | DGR | UAC DITCH | 3.7′ DITCH

660.55 660.47 660.40 660.33 660.27 660.22 660.17 660.13 660.10 660.07 660.03 660.00 659.97 659.94 659.91 659.88 659.85 659.82 659.78 659.75 659.72 659.69 659.66 659.63 659.60 659.57 659.53 659.50 659.47 659.44 659.41 659.38 659.35 659.32 659.28 659.25 659.22 659.19 659.16 659.13 659.10 659.06 659.03 659.00 658.97 658.94 658.91 658.88 658.85 658.81 658.78 658.75 658.72 658.69 658.66 658.63 658.60 658.56 658.53 658.50 658.47 658.44 658.41 658.38 658.34 658.30 658.23 658.16 658.07 657.96 657.85 657.71 657.57 657.40 657.23 657.04 656.84 656.63 656.43 656.23 656.02 655.82 655.62 655.41 655.21 655.01 654.81 654.60 654.40 654.20 653.99 653.79 653.59 653.38 653.18 652.98 652.77 652.57 652.37 652.17 651.96 651.76 651.56 651.35 651.15 650.95 650.74 650.54 650.34 650.13 649.93 649.73 649.53 649.34 649.15 648.98 648.81 648.65 648.50 648.36

1695 1700 1705 1710 1715 1720

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
		J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA	NHSX-092-9(57)--3H-92	D.10

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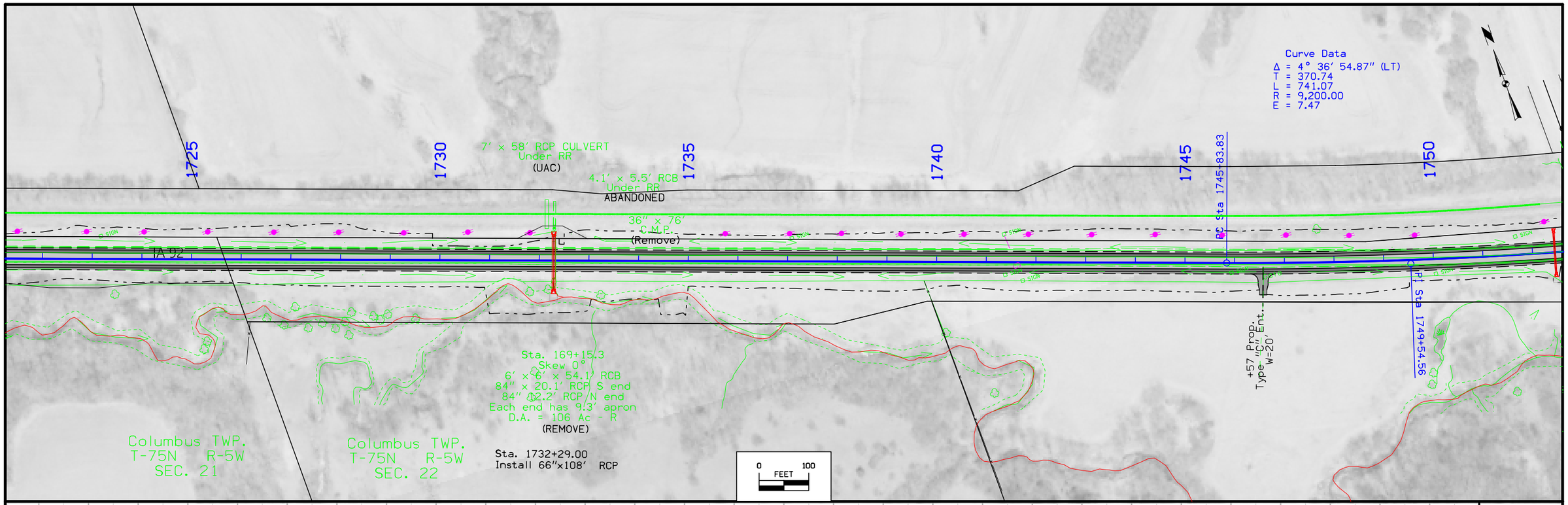

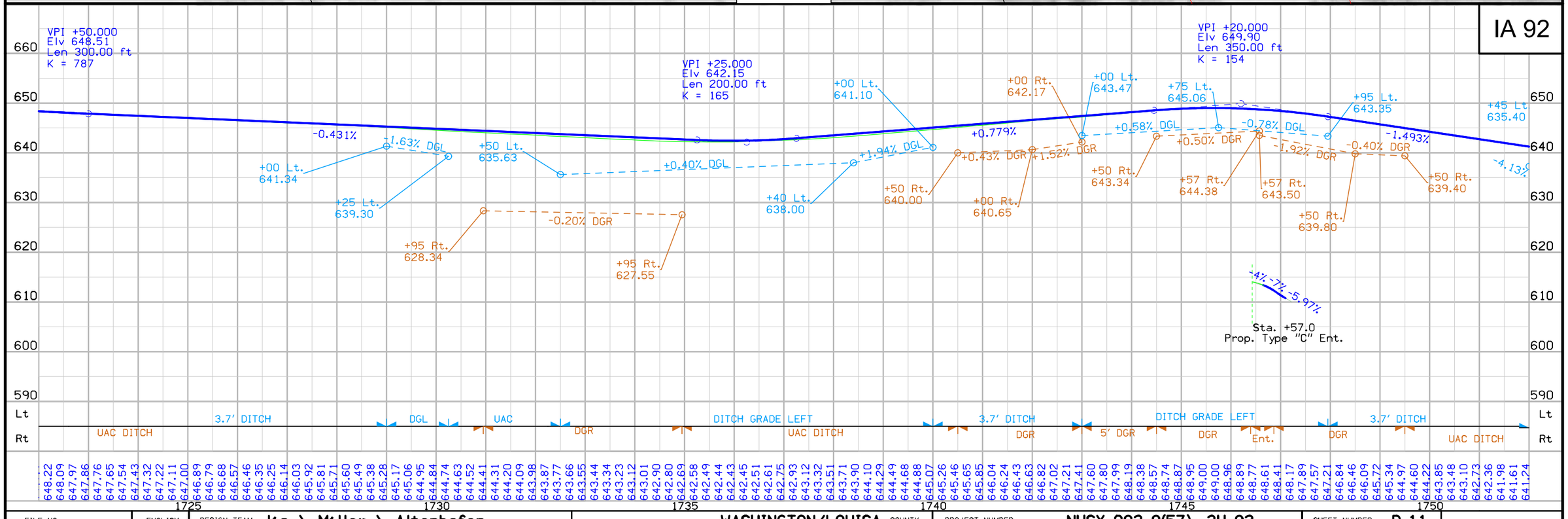

FILE NO.	ENGLISH	DESIGN TEAM	J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	D.11

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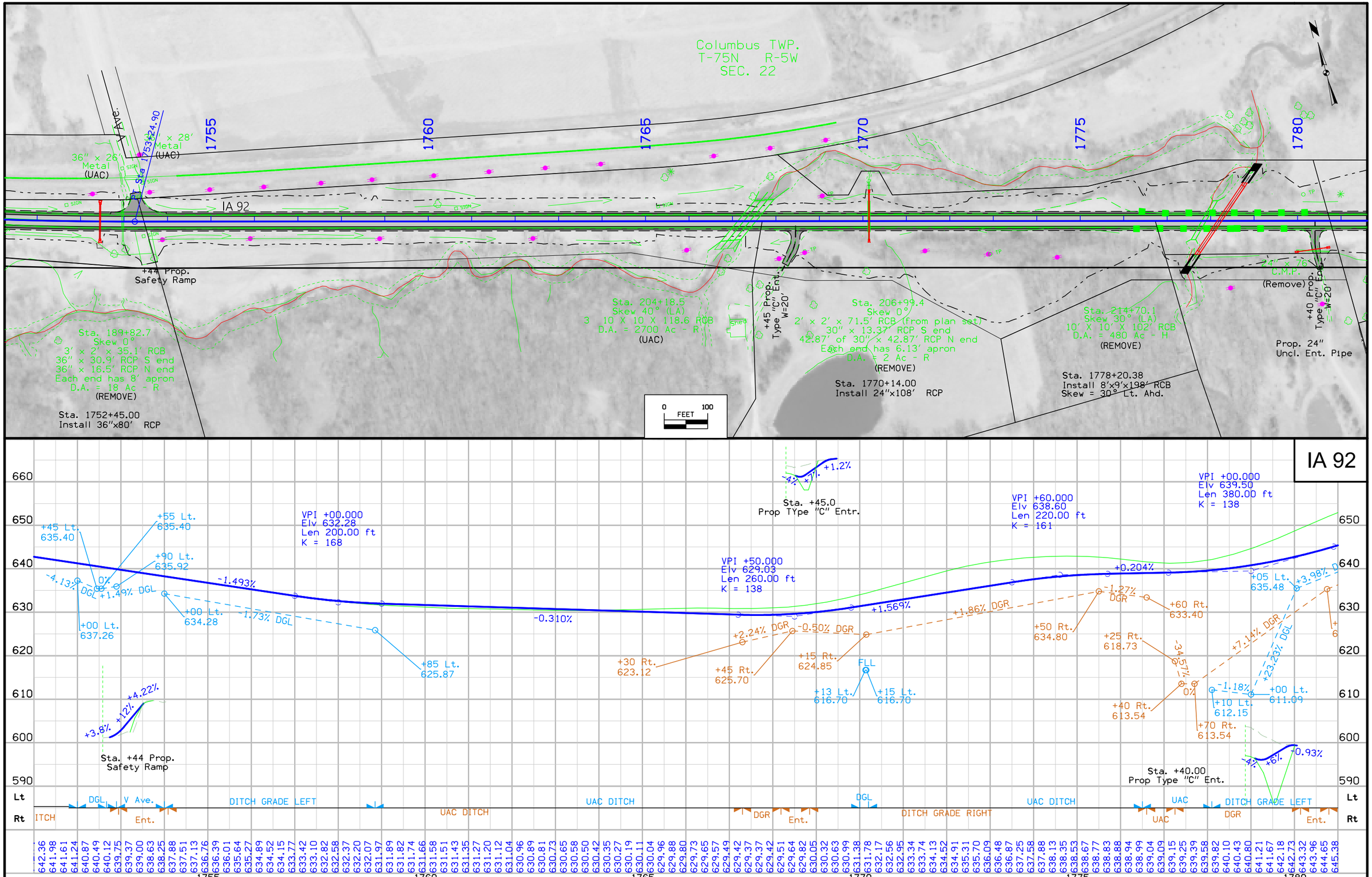

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER D.12

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Sta. 228+09.2
Skew 37° (RA)
158.2' of 5' x 5' X X 158.2' RCB S end
72' from end of RCB 9° bend in 60" CMP (invert elev 615.86)
44.4' from bend end of 60" CMP
D.A. = 70 Ac - H
(PLUG & ABANDON)

Sta. 1791+45.14
Install 54"x304' RCP
Skew = 24° Rt. Ahd.
(230' Trenchless Construction)

Columbus TWP.
T-25N R-2W
SEC. 22

Curve Data
Δ = 26° 29' 27.90" (LT)
T = 1,341.70
L = 2,635.43
R = 5,700.00
E = 155.78
e = 2.8%

Sta. 246+23.8
Skew 0°
18" x 76.5' Cast Iron Pipe
5.5' apron S end
D.A. = 6.4 Ac - R
(REMOVE)

Sta. 1809+28.00
Install 24"x88' RCP
Install 24"x54' CMP

+19 Prop. Type "C" Ent. W=20'

+19.3 Prop. Type "C" Ent. W=22'

+20.8 Prop. Type "C" Ent.

+25 Prop. Type "C" Ent. W=20'

+32 Prop. Type "B" Ent. W=32'

PC Sta 1788+17.24

P1 Sta 1901+58.95

15" x 40' R.C.P.

24" x 48' C.M.P. (Remove)

18" x 30' C.M.P. (UAC)

18" x 27' C.M.P. (REMOVE) (CLOSE)

18" x 43' R.C.P. (REMOVE)

18" x 30' C.M.P. (REMOVE)

18" x 66' C.M.P. (UAC)

18" x 56' C.M.P. (REMOVE)

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

Sta. 231+64.1
Skew 30° (LA)
2' X 2' X 99.4' RCB
D.A. = 6 Ac - H
(REMOVE)

0 FEET 100

IA 92

VPI +00.000
Elv 660.05
Len 600.00 ft
K = 136

VPI +50.00
Elv 655.67
Len 380.00 ft
K = 156

VPI +00.000
Elv 699.25
Len 800.00 ft
K = 153

Sta. +19.00
Prop. Type "C" Ent.

Sta. +19.30
Prop. Type "C" Ent.

Sta. +25.00
Prop. Type "C" Ent.

Sta. +32.00
Prop. Type "B" Ent.

DITCH GRADE LEFT
DITCH GRADE RIGHT
Prop Ent.
DGL
FS Tie
DGR
Ent.
5'

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
		Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA	NHSX-092-9(57)--3H-92	D.13

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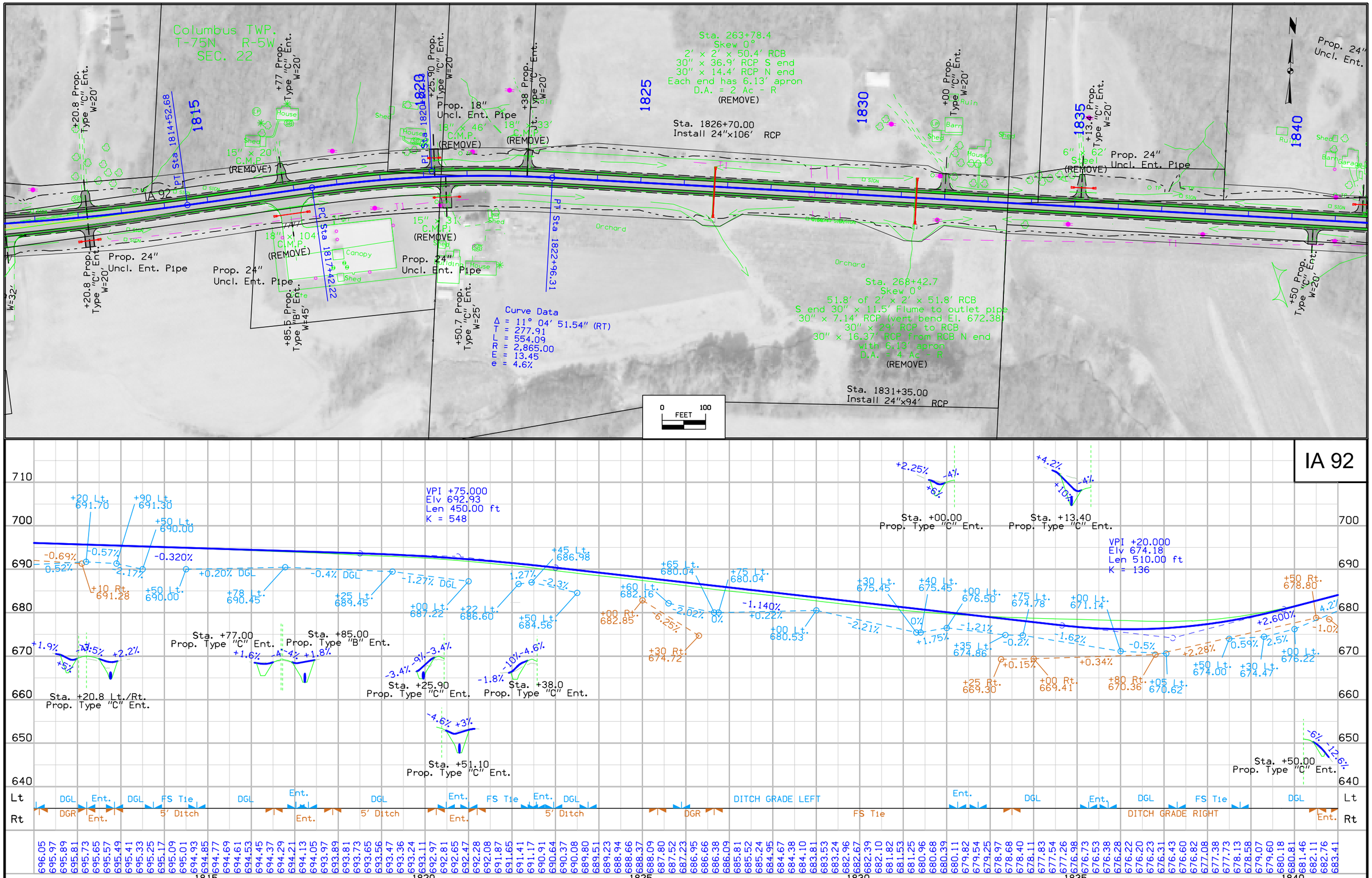

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER D.14

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Prop. 24"
Uncl. Ent. Pipe

+61 Prop. Type "C" Ent. W=20'

+40.6 Prop. Type "C" Ent. W=20'

+73.60 Prop. Type "C" Ent. W=20'

+37.2 Prop. Type "B" Ent. W=24'

Hilltop Road

Do Not Disturb

Prop. 18"
Uncl. Ent. Pipe

18" x 46' C.M.P. (REMOVE)

18" x 34' C.M.P. (REMOVE)

+60 Prop. Type "B" Ent. W=25'

Prop. 24"
Uncl. Ent. Pipe

Columbus TWP.
T-75N R-5W
SEC. 23

Sta. 1864+87.00
Install 24"x94' RCP
Install 24"x46' CMP

Western Ave.

18" x 28' C.M.P. (REMOVE)

(CLOSE)

+50 Prop. Type "C" Ent. W=20'

+40.6 Prop. Type "C" Ent. W=20'

+46 Prop. Jt. Type "C" Ent. W=20'

PC Sta 1846+32.96

+06.3 Prop. Type "C" Ent. W=20'

+08.4 Prop. Jt. Type "C" Ent. W=35'

Prop. 18"
Uncl. Ent. Pipe

Prop. 18"
Uncl. Ent. Pipe

+60 Prop. Type "C" Ent. W=20'

Prop. 24"
Uncl. Ent. Pipe

Sta. 296+64.5
Skew 0°
24" X 86.9' RCP
Each end has 6.16' apron
D.A. = 6.4 Ac - R
(REMOVE)

Sta. 1859+75.00
Install 24"x76' RCP
Install 24"x34' CMP

PT Sta 1860+76.96

24" x 52' C.M.P. (REMOVE)

+17 Prop. Type "C" Ent. W=20'

Prop. 24"
Uncl. Ent. Pipe

Curve Data
Δ = 23° 17' 55.54" (RT)
T = 590.67
L = 1,165.02
R = 2,865.00
E = 60.26
e = 4.6%

Sta. 303+71.8
Skew 49° (RA)
3 X 3 X 164.1 RCB
with 3.5 x 80.4 RCP with 8' apron
D.A. = 27 Ac - H
(PLUG & ABANDON)

Sta. 307+46.7
Skew 14° (RA)
South end 36" x 12' RCP Flume
36" x 6.5' RCP to vert bend
36" x 51.5' RCP to RCB
3' x 2' x 57.2' RCB
36" x 18.5' RCP North end
with 8' apron
D.A. = 17 Ac - H
(PLUG & ABANDON)

Sta. 1866+46.86
Install 42"x290' RCP
Skew = 49° Rt. Ahd.
(218' Trenchless Construction)

Sta. 1870+28.21
Install 36"x134' RCP
Skew = 14° Rt. Ahd.
(134' Trenchless Construction)

0 100 FEET

IA 92

VPI +75.000
Elv 693.81
Len 350.00 ft
K = 159

VPI +00.000
Elv 698.31
Len 600.00 ft
K = 100

VPI +00.000
Elv 637.83
Len 380.00 ft
K = 617

VPI +80.000
Elv 649.47
Len 260.00 ft
K = 135

Sta. +61.40
Prop. Type "C" Ent.

Sta. +73.60
Prop. Type "C" Ent.

Sta. +06.30
Prop. Type "C" Ent.

Sta. +37.20
Prop. Type "C" Ent.

(+50 Ent.
Previous page)

Sta. +40.60
Prop. Type "C" Ent.

Sta. +40.60
Prop. Type "C" Ent.

Sta. +46.20
Prop. Type "C" Ent.

Sta. +08.40
Jt. Prop. Type "C" Ent.

Sta. +60.00
Prop. Type "B" Ent.

Sta. +60.00
Prop. Type "C" Ent.

Sta. +17.00
Prop. Type "C" Ent.

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER D.15

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Curve Data
Δ = 27° 07′ 35.79″ (LT)
T = 346.19
L = 679.40
R = 1,435.00
E = 41.17
e = 6.0%

Columbus TWP.
T-75N R-5W
SEC. 24

1870 1875 1880 1885 1890 1895 1900

PC Sta 1871+47.12
PT Sta 1878+26.52
PT Sta 1897+66.92
PC Sta 1894+47.16

+35 Prop. Type "C" Ent. W=20′
+40 Prop. Type "C" Ent. W=20′
+51 Prop. Type "B" Jct. Ent. W=45′
+05 Prop. Type "B" Jct. Ent. W=45′

Prop. 24″ Unct. Ent. Pipe

18″ x 40′ C.M.P. (REMOVE)
18″ x 38′ C.M.P. (REMOVE)
18″ x 26′ C.M.P. (???)
13″ x 20′ C.M.P. (???)
24″ x 59′ RCP
18″ x 100′ Plastic (???)

Shed
Garage
Building
Building
Pool
(Western Access Road)

Curve Data
Δ = 3° 11′ 07.48″
T = 319.76
L = 639.35
R = 11,500.00
E = 4.44

RCP Flume
vert bend
to RCB
RCB
rth end

Sta. 317+14.4
Skew 0°
3′ x 3′ x 42.4′ RCB
42″ x 16.5′ RCP S and N ends
Each end has 8′ aprons
D.A. = 36 Ac - H
(REMOVE)

Sta. 1880+05.00
Install 48″x86′ RCP

Sta. 1885+82.00
Install 52″x32″x82′ Arch RCP
Skew = 17° Rt. Ahd.

Sta. 317+14.4
Skew 53 deg (RA)
24″ X 23.5′ HDPE and 42″ X 95.5′ RCP
Outlet end has 8′ apron
D.A. = (from plan) 30 Ac. - H
(Remove 42″ RCP Pipe)

Sta. 336+80.6
Skew 0°
5.5′ X 8′ arch X 132.60′ RCB
D.A. = 102 Ac - H
(UAC)

0 100 FEET

IA 92

Sta. +35.0
Prop. Type "C" Ent.

Sta. +40.00
Prop. Type "C" Ent.

Sta. +51.00
Prop. Type "B" Ent.

Sta. +06.00
Prop. Type "B" Ent.

VPI +50.000
Elv 601.68
Len 500.00 ft
K = 147

VPI +10.000
Elv 590.04
Len 400.00 ft
K = 174

VPI +75.000
Elv 601.01
Len 625.00 ft
K = 112

640 630 620 610 600 590 580 570

+55 Rt. 624.78
+70 Lt. 622.37
+15 Lt. 615.37
+00 Lt. 610.87
+50 Lt. 602.68
+50 Rt. 613.30
+00 Rt. 611.50
+62 Rt. 605.00
+50 Rt. 603.70
+15 Rt. 599.50
+00 Rt. 594.00
+50 Lt. 594.20
+85 Lt. 593.21
+05 Lt. 592.15
+19 Lt. 593.15
+75 Lt. 593.00
+50 Rt. 591.00
+00 Rt. 588.14
+10 Rt. 588.14
+65 Lt. 589.00
+70 Lt. 589.00
+00 Lt. 591.80
+25 Rt. 590.40
+00 Rt. 586.00
+34 Lt. 591.50
+50 Lt. 590.44
+95 Lt. 589.07
+62 Lt. 589.05
+15 Lt. 589.05
+40 Lt. 589.00
+50 Rt. 583.05

+12.35% +7% -6%
+4.4% +7% -4%
+6.6% +4.8%
+6.6% +5.5%
-4.253%
-11.78%
-5%
-5.46%
-6.47%
-0.42%
-1.47%
-5.30%
-0.26%
+0.84%
-0.856%
+0.82%
-5.67%
-0.45%
-6.46%
-3.04%
-0.2%
0.2%
+1.434%
+7.00%

DGL DGR Ent. DGL FS Tie 5′ DGR DGL Ent. DGL FS Tie Ent. Ent. DGR DGL West. Access Rd.

629.32 628.26 627.20 626.13 625.07 624.01 622.94 621.88 620.82 619.76 618.69 617.63 616.57 615.50 614.44 613.38 612.31 611.27 610.27 609.31 608.40 607.53 606.70 605.91 605.17 604.46 603.80 603.19 602.61 602.08 601.59 601.14 600.74 600.37 600.05 599.78 599.54 599.33 599.11 598.90 598.68 598.47 598.26 598.04 597.83 597.61 597.40 597.19 596.97 596.76 596.54 596.33 596.12 595.90 595.69 595.47 595.26 595.05 594.83 594.62 594.40 594.19 593.98 593.76 593.55 593.34 593.12 592.91 592.69 592.48 592.27 592.05 591.84 591.63 591.46 591.32 591.21 591.15 591.11 591.12 591.16 591.23 591.35 591.49 591.68 591.90 592.15 592.44 592.77 593.12 593.48 593.84 594.20 594.56 594.92 595.27 595.63 595.99 596.35 596.72 597.13 597.60 598.12 598.71 599.34 600.03 600.78 601.59 602.45 603.36 604.33 605.36 606.44 607.58 608.77 610.02 611.33 612.69 614.10 615.57

1875 1880 1885 1890 1895 1900

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER D.16

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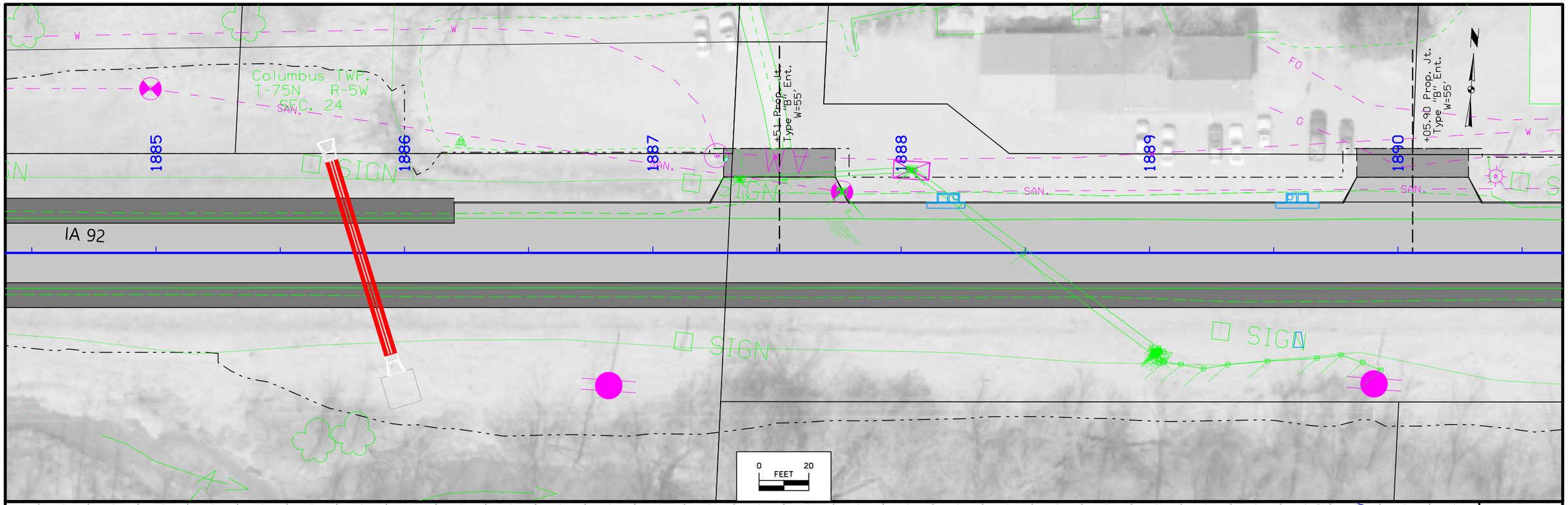

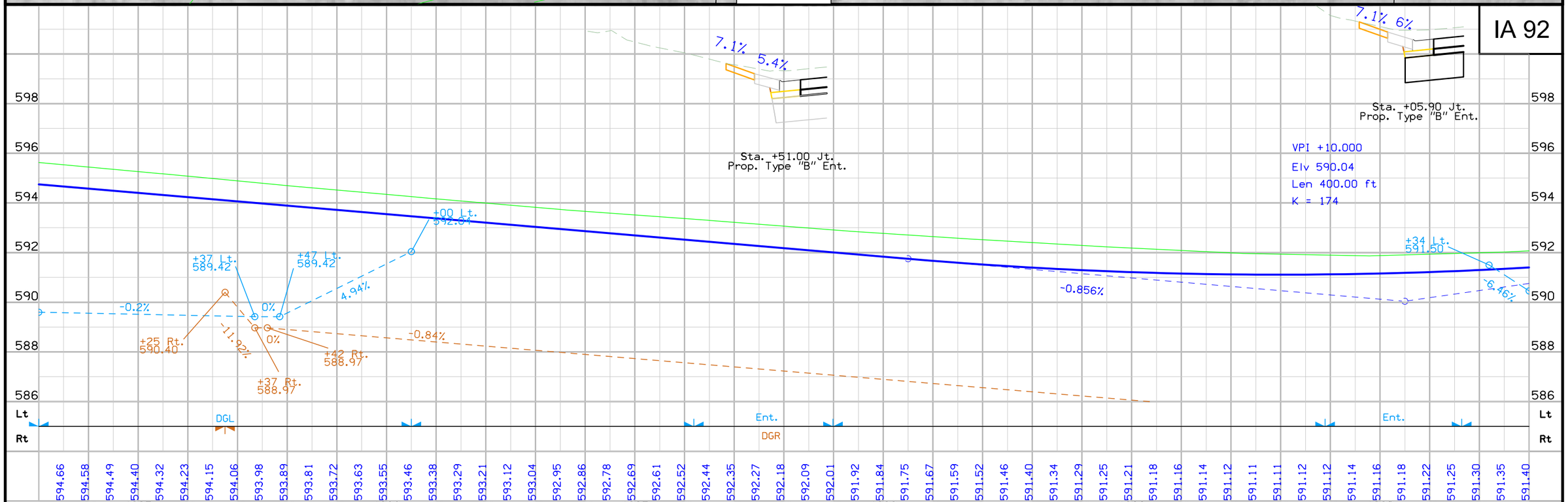

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
		J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA	NHSX-092-9(57)--3H-92	D.17

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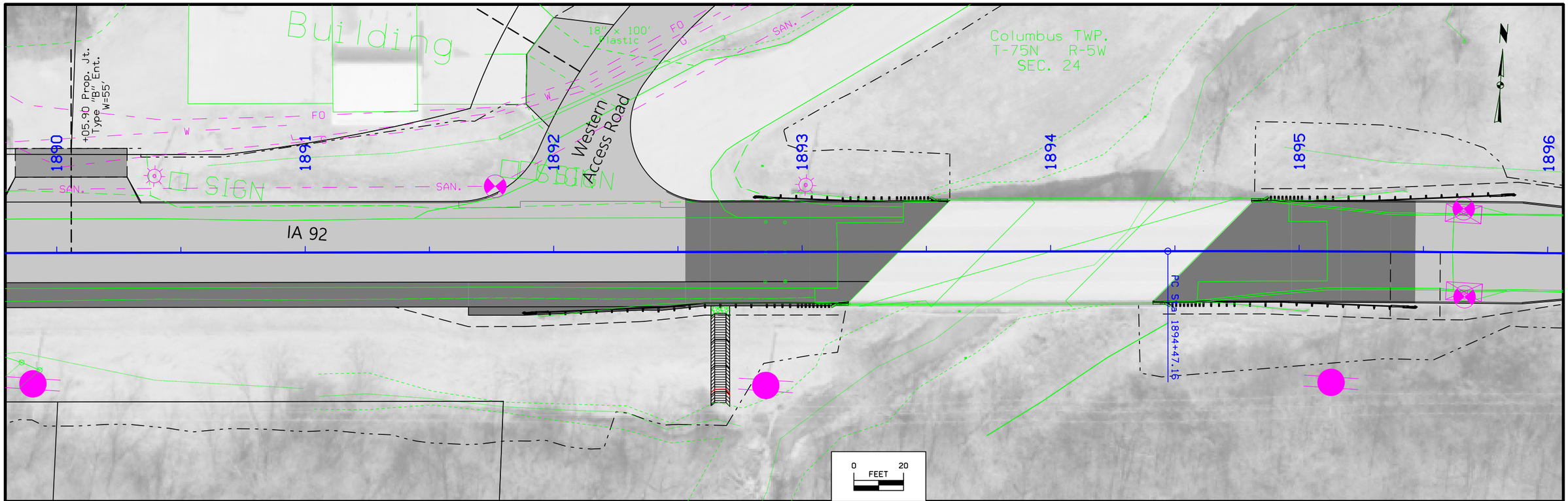

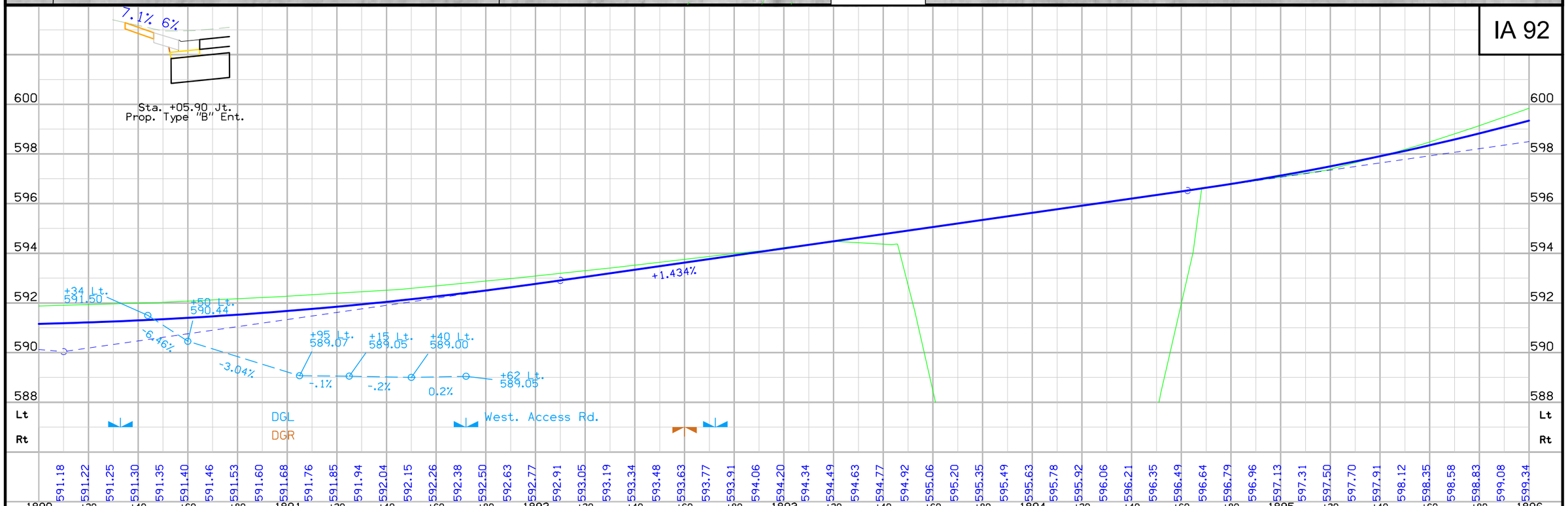

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		Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA	NHSX-092-9(57)--3H-92	D.18

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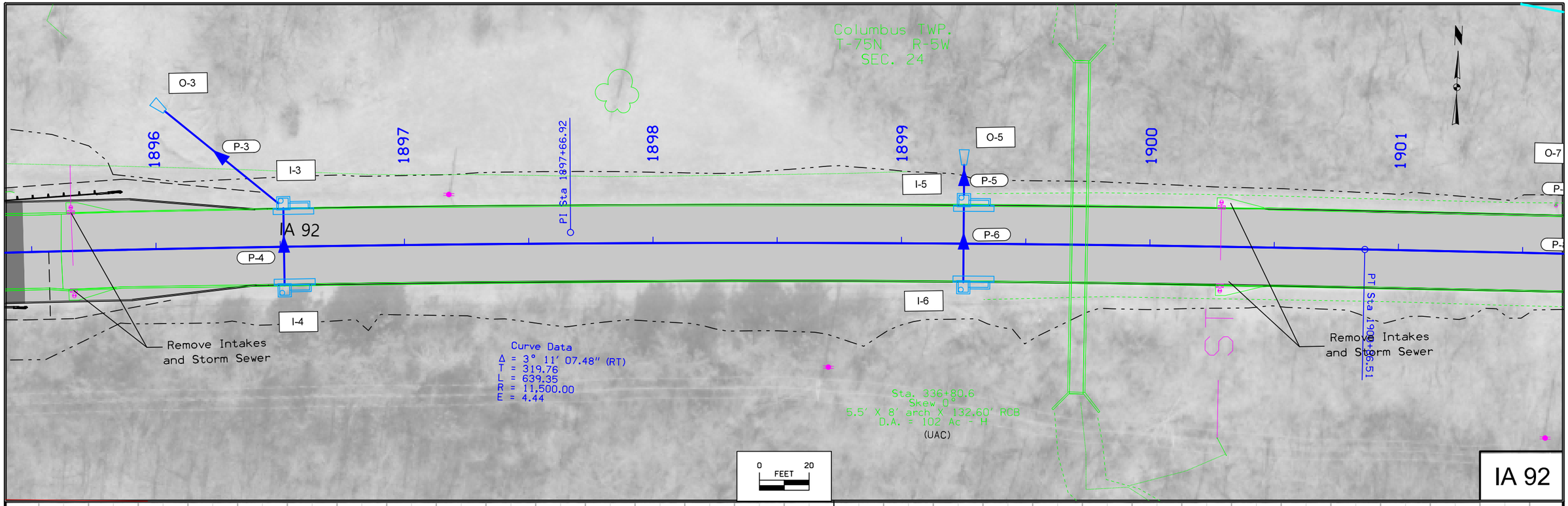

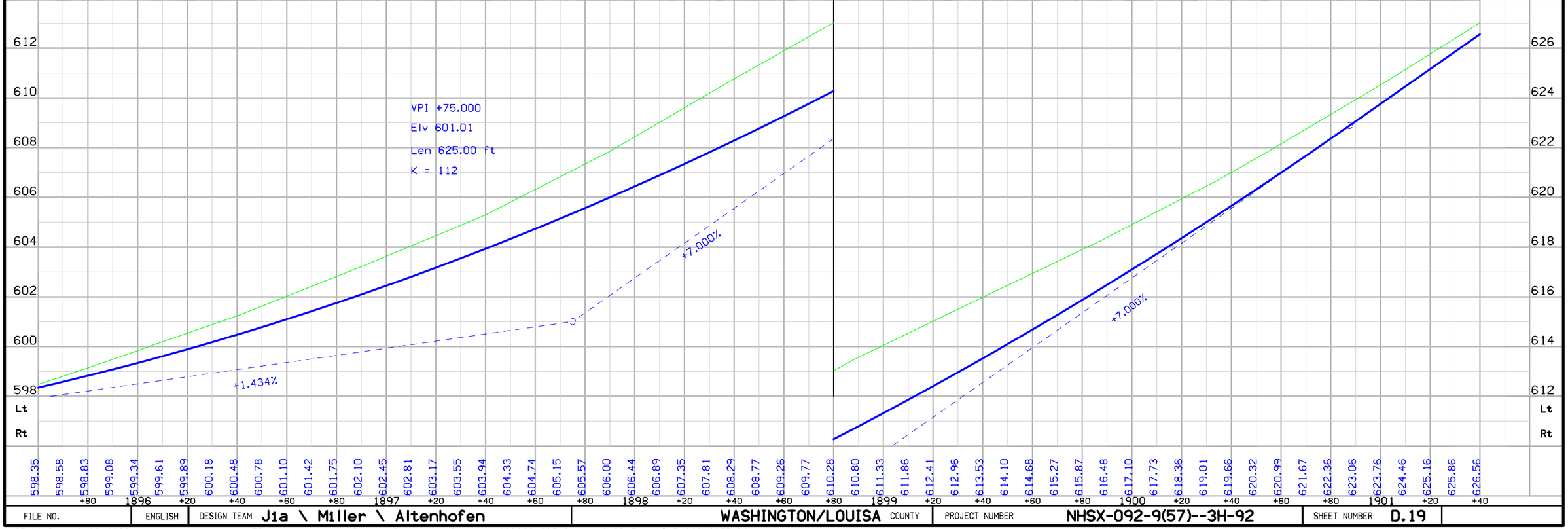

FILE NO.	ENGLISH	DESIGN TEAM	Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	D.19

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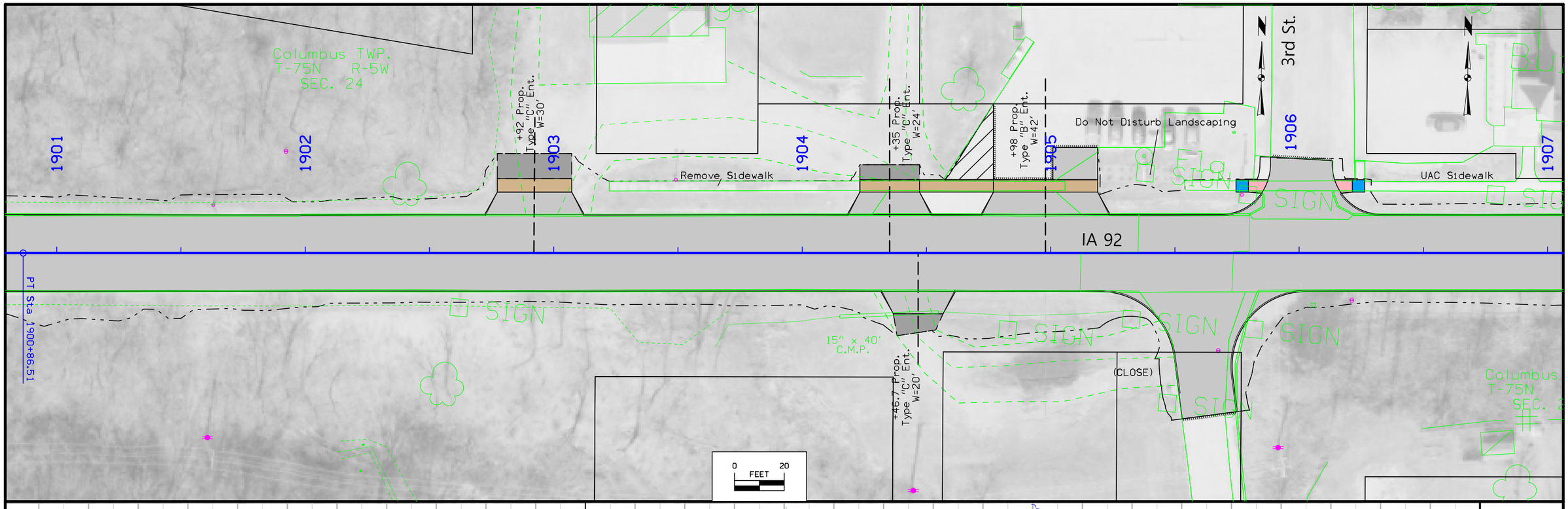

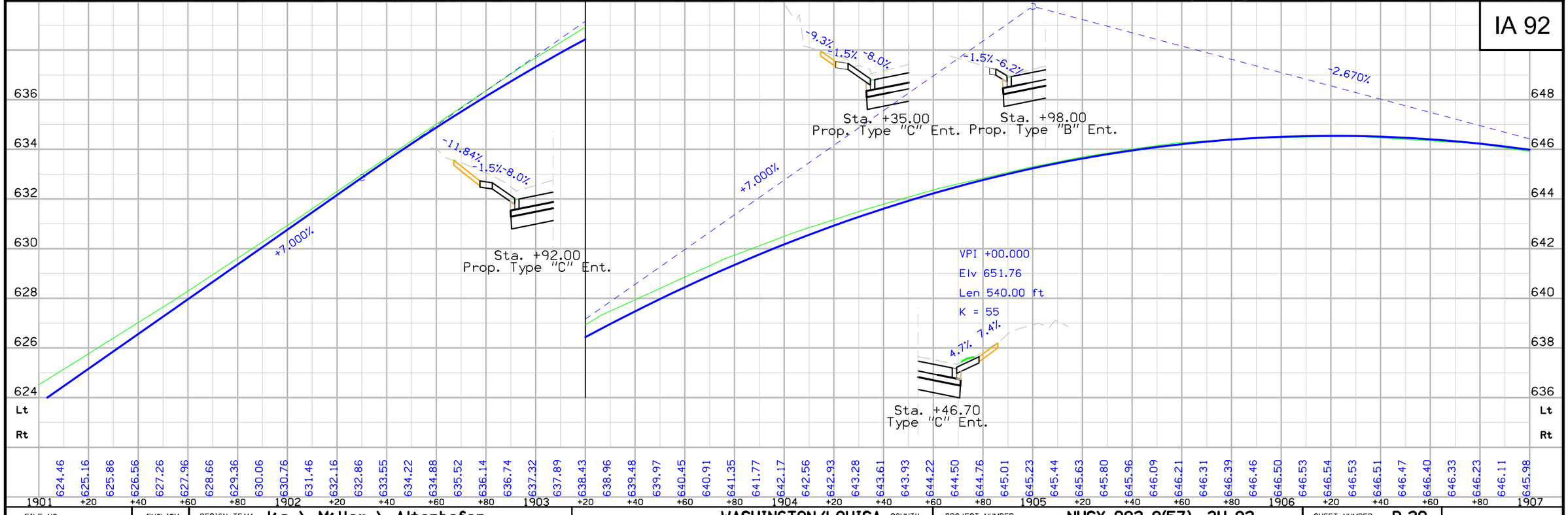

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER D.20

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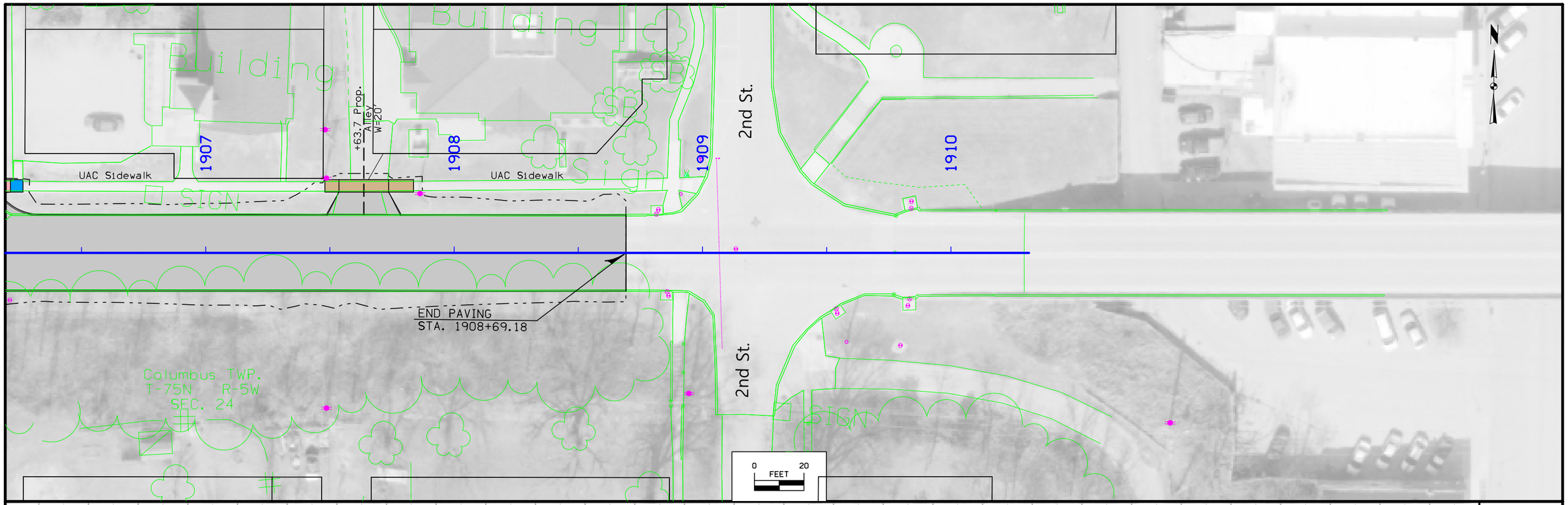

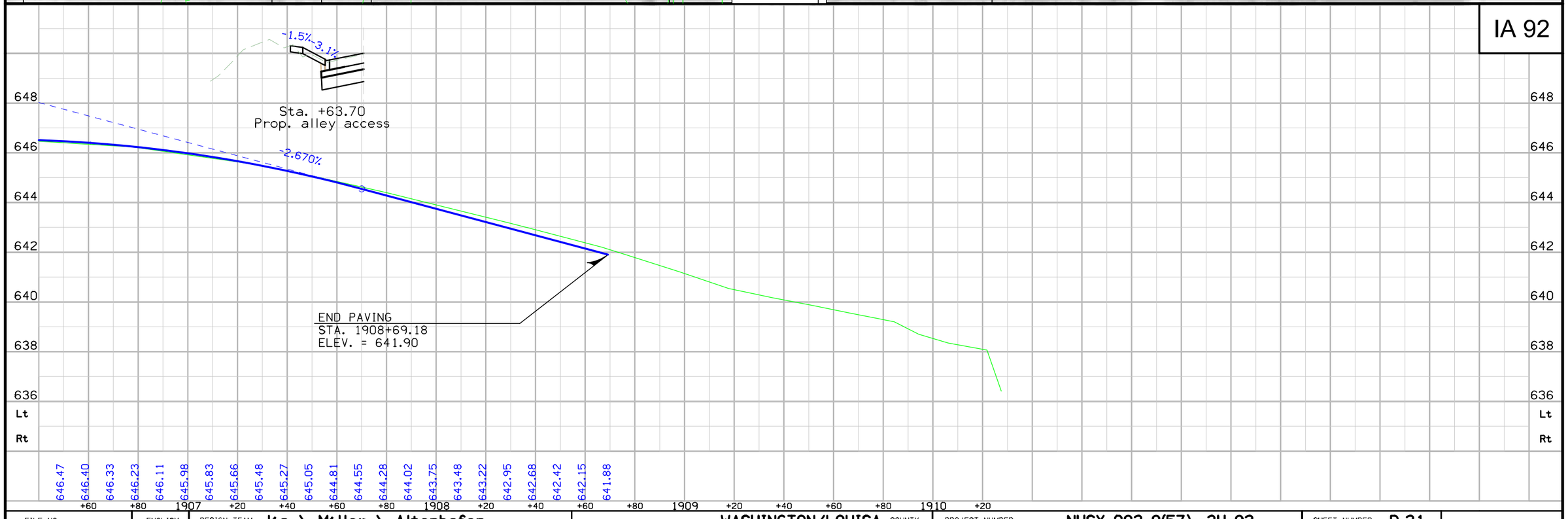

FILE NO.	ENGLISH	DESIGN TEAM	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	SHEET NUMBER
		Jia \ Miller \ Altenhofen		NHSX-092-9(57)--3H-92	D.21

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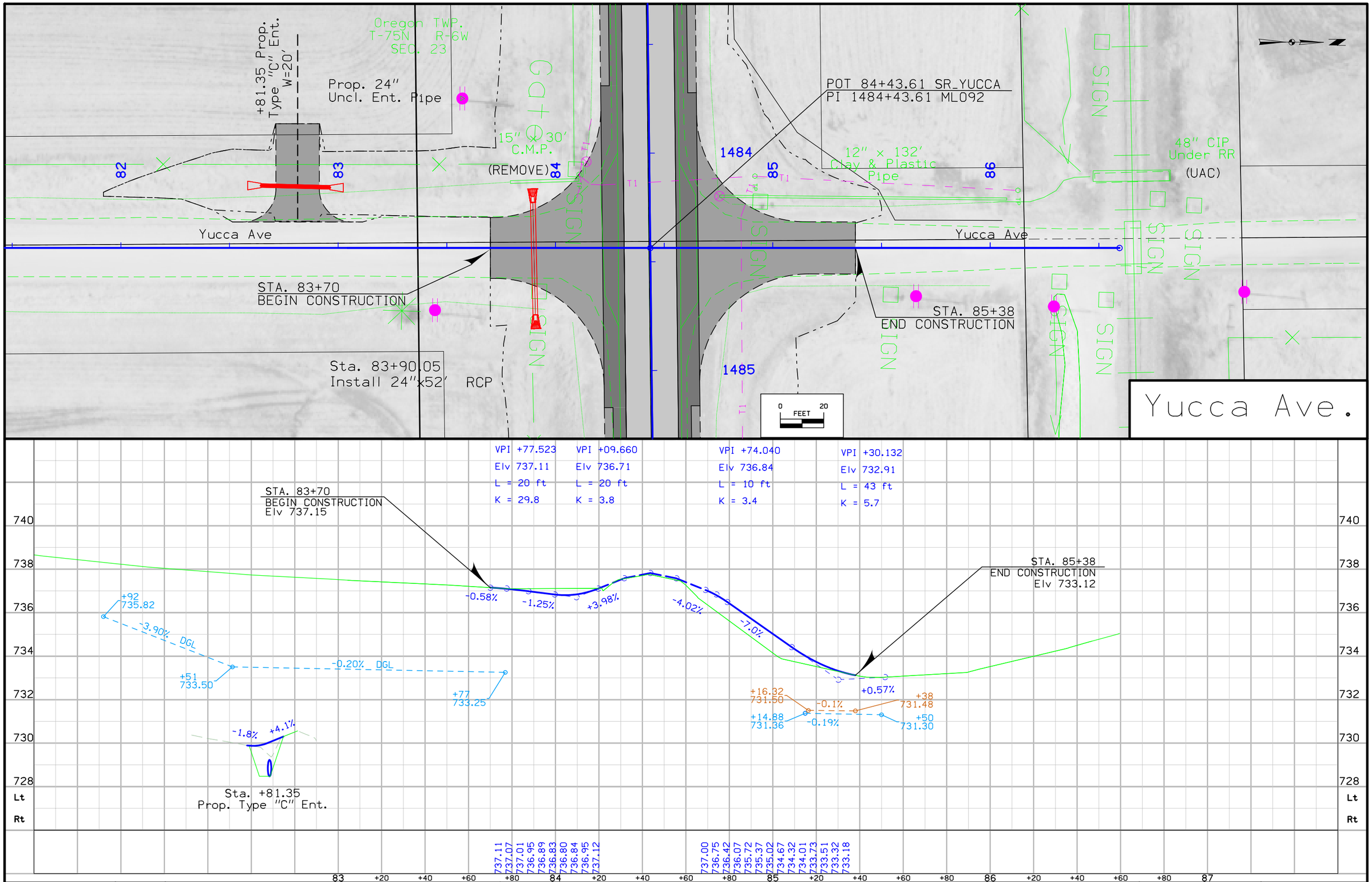

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER E.1

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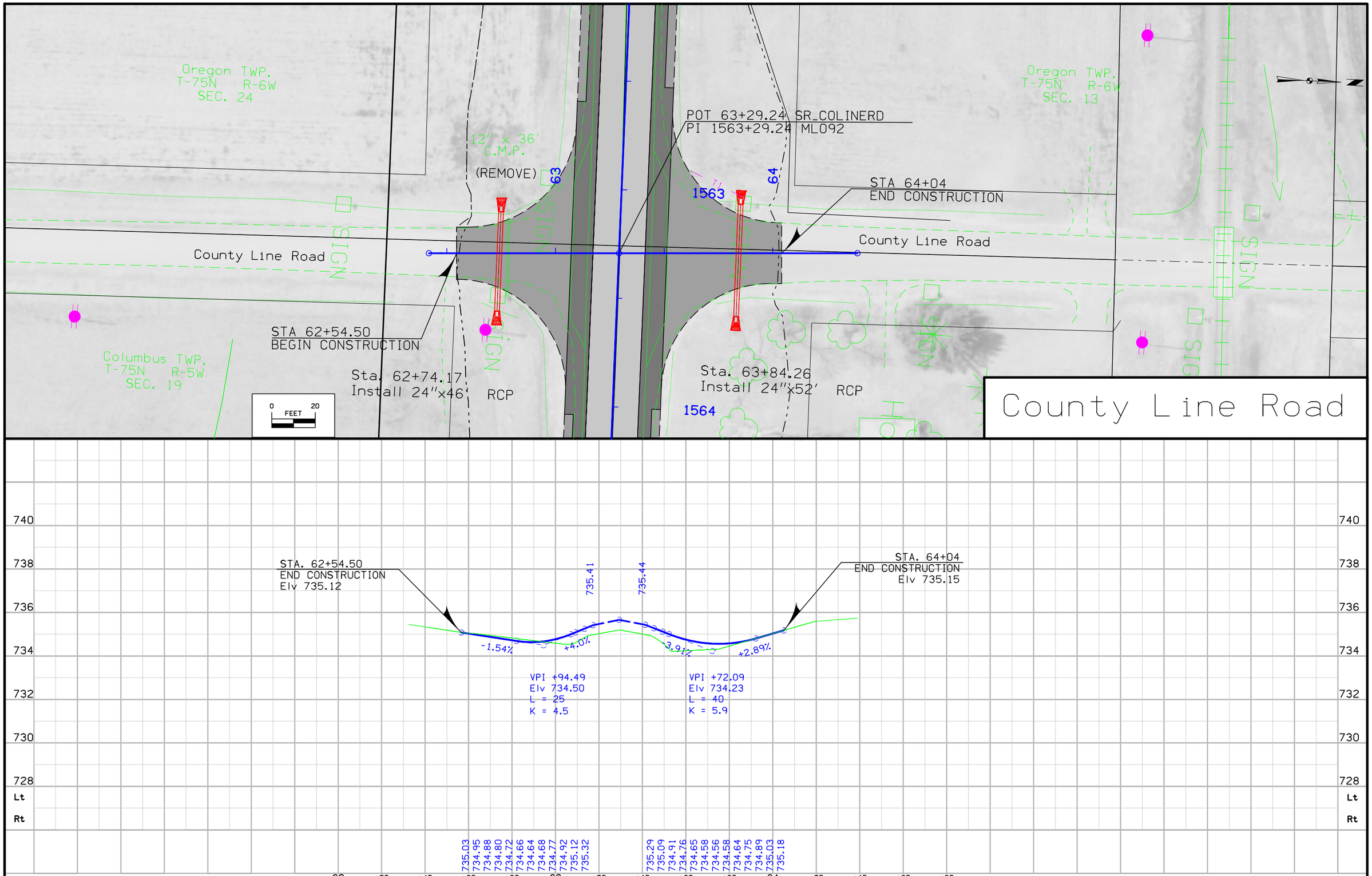

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Columbus TWP.
T-75N R-5W
SEC. 19

POT 7+51.52 SR_W66
PI 1617+51.52 ML092

STA 8+22.86
END CONSTRUCTION

W66

STA 6+65.42
BEGIN CONSTRUCTION

W66

Sta. 54+42.6
Skew 0°
6' X 6' X 57' RCB
D.A. = 224 Ac - R
(UAC)

UAC Rails
Do Not Disturb Tracks

1617

1618

Columbus TWP.
T-75N R-5W
SEC. 20

0 FEET 20

Co. Rd. W66

STA. 6+65.42
BEGIN CONSTRUCTION
Elv 701.23

VPI +10.44
Elv 700.90
Len = 35
K = 7.35

VPI +93.46
Elv 700.93
Len = 35
K = 2.38

STA. 8+22.86
END CONSTRUCTION
Elv 704.11

-0.72%
+4.04%
-3.89%
+10.79%

710
708
706
704
702
700
698
Lt
Rt

701.20 701.16 701.12 701.09 701.05 701.02 701.01 701.04 701.10 701.20 701.33 701.50 701.69
701.65 701.49 701.43 701.48 701.63 701.89 702.25 702.72 703.26 703.80

6 +20 +40 +60 +80 7 +20 +40 +60 +80 8 +20 +40 +60 +80 9

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER E.3

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Columbus TWP.
T-75N R-5W
SEC. 21

18" x 20'
C.M.P.
(UAC)

18" x 30'
C.M.P.
(UAC)

+69 Prop.
Type "C" Ent.
W=20'

Prop. 24"
Uncl. Ent. Pipe

9

10

11

W Ave

STA. 10+68.98
BEGIN CONSTRUCTION

Sta. 149+16.15
Skew 0°
Twin 12' X 12' X 40' RCB
D.A. = 1261 Ac - R
(UAC)

18" x 30'
C.M.P.
(UAC)

1711

1712

POT 11+81.51 SR_WAVE
PI 1711+81.51 ML092

STA. 11+58.54
END CONSTRUCTION

SIGN

0 FEET 20

W Ave.

+3.75%

Sta. +69.00
Prop. Type "C" Ent.

VPI +83.39
Elv 652.62
L = 25
K = 9.3

STA. 10+68.98
BEGIN CONSTRUCTION
Elv 652.42

STA. 11+58.54
END CONSTRUCTION
Elv 655.68

+4.078%

+1.382%

660
658
656
654
652
650
Lt
Rt

652.61 653.29 654.11 654.92 655.74 656.35 655.94

9 +20 +40 +60 +80 10 +20 +40 +60 +80 11 +20 +40 +60 +80 12 +20 +40 +60 +80 13

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER E.4

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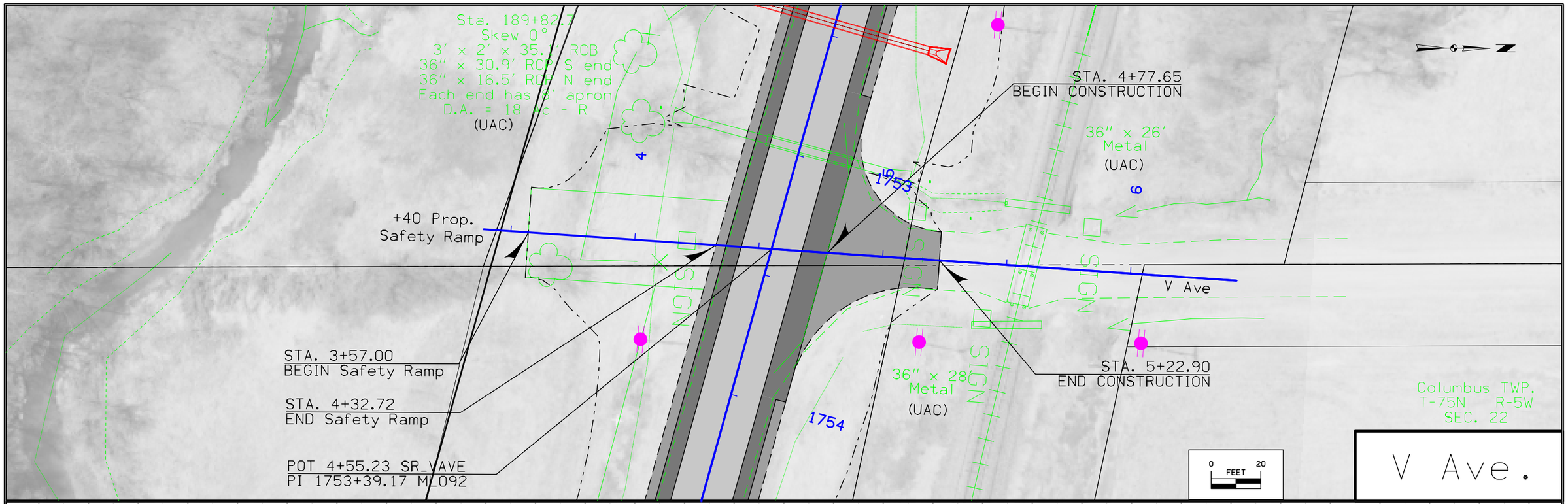
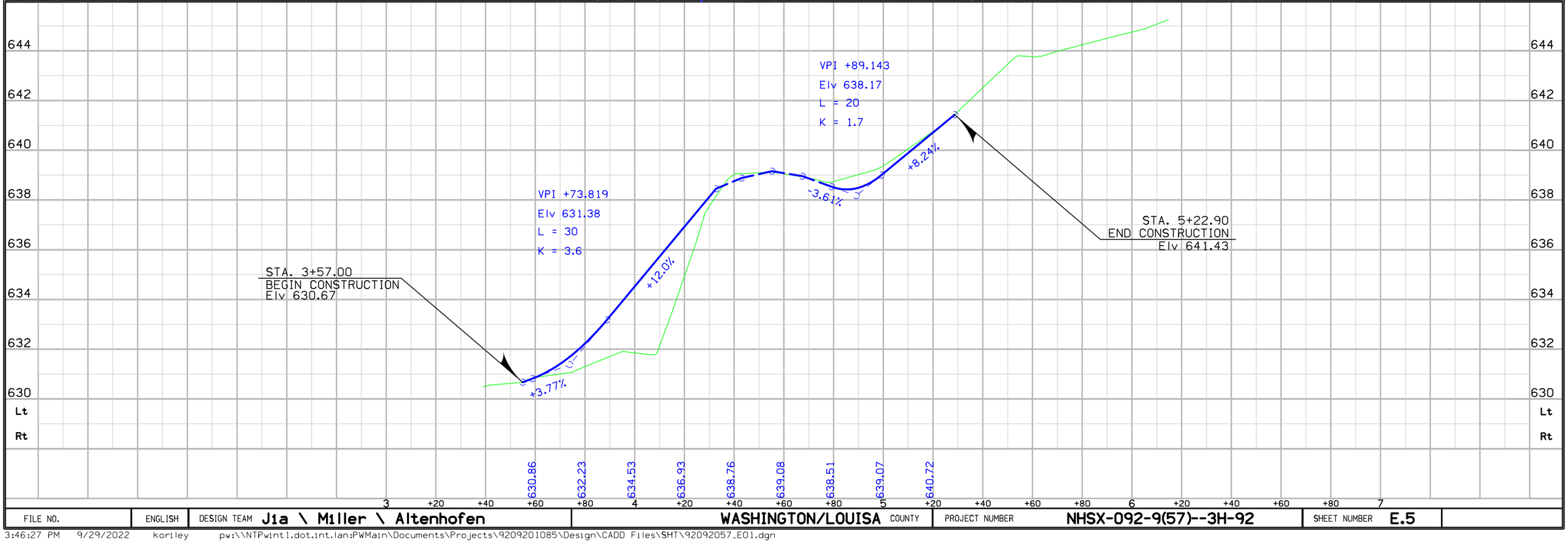
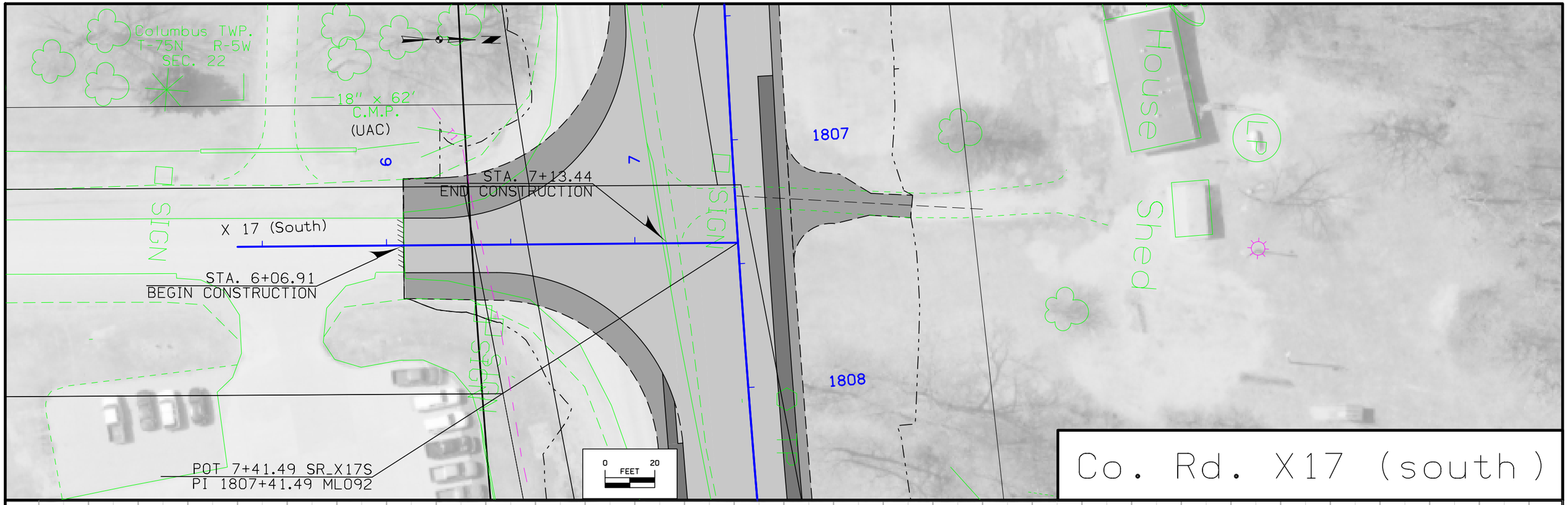
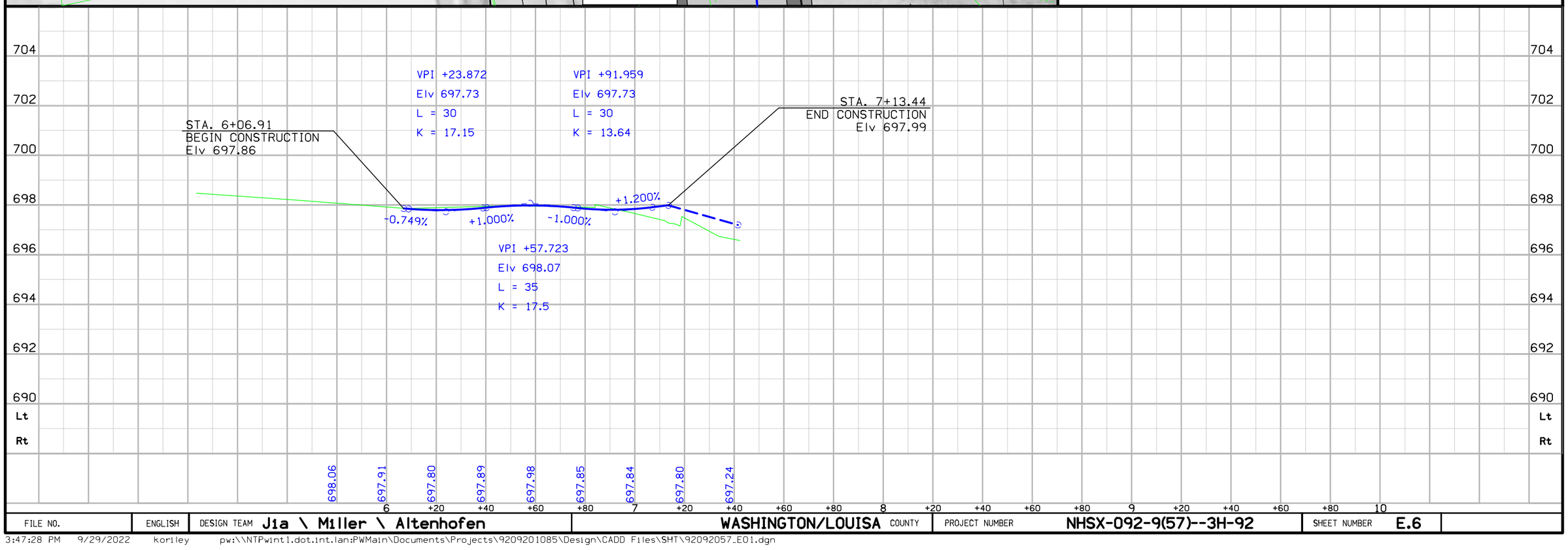




FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER E.5





FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER E.6

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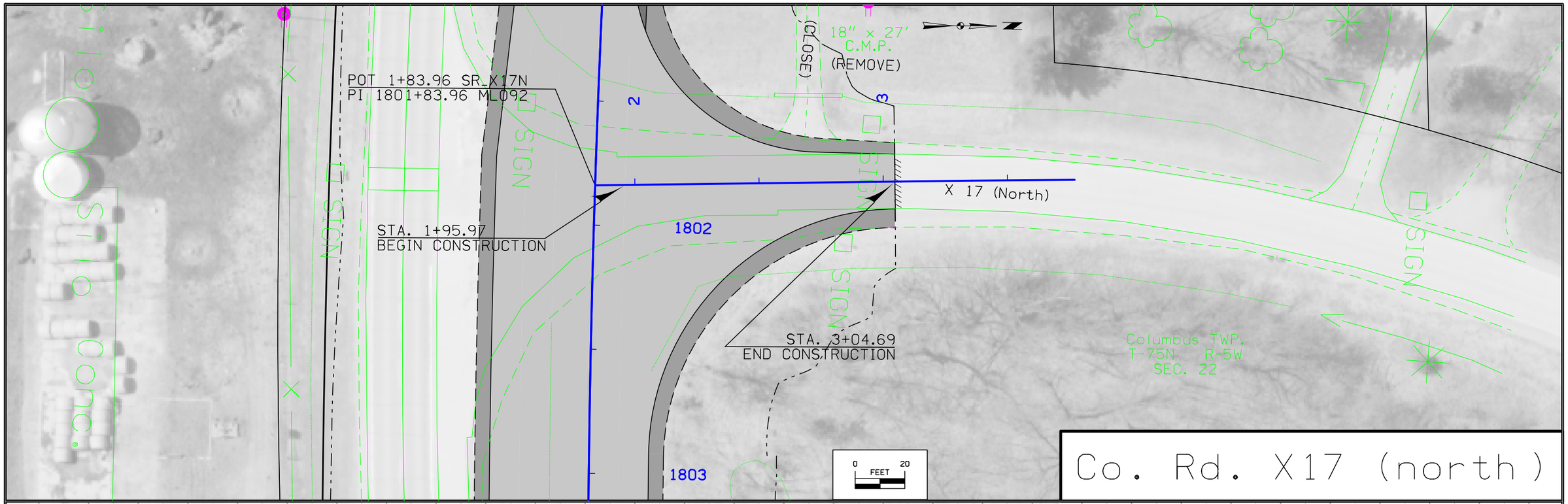

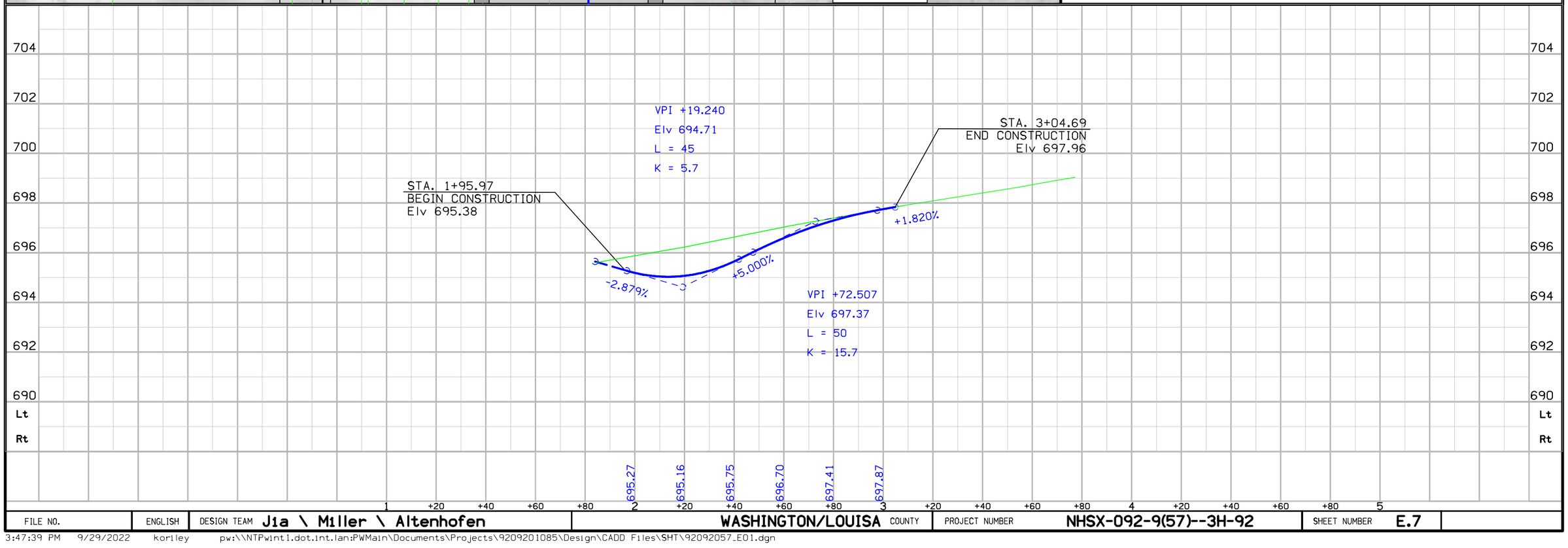

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER E.7

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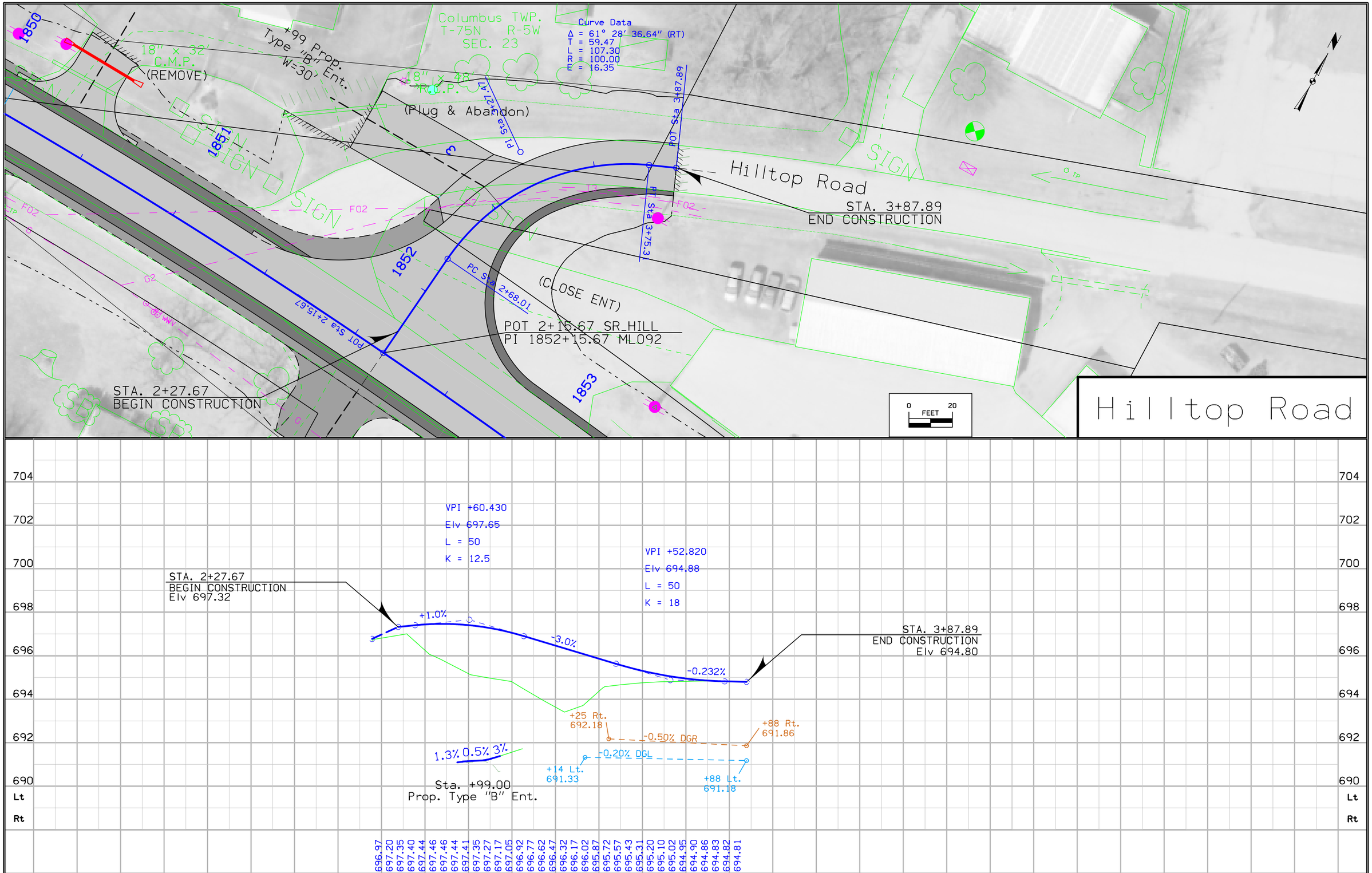

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER E.8

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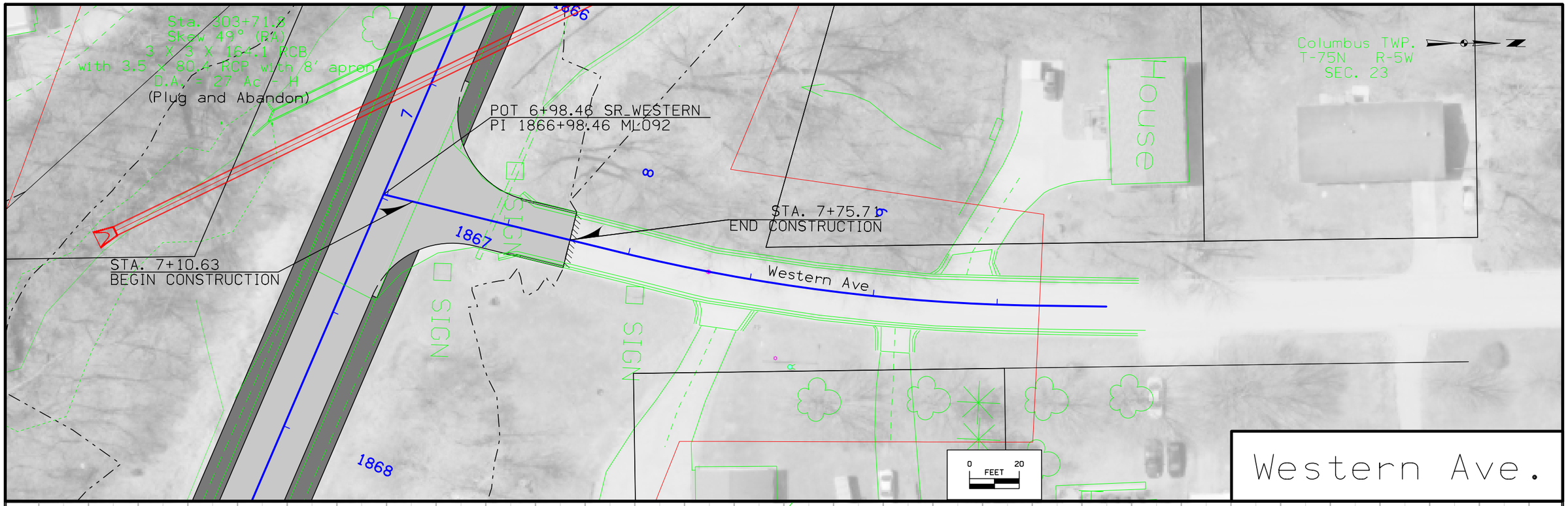

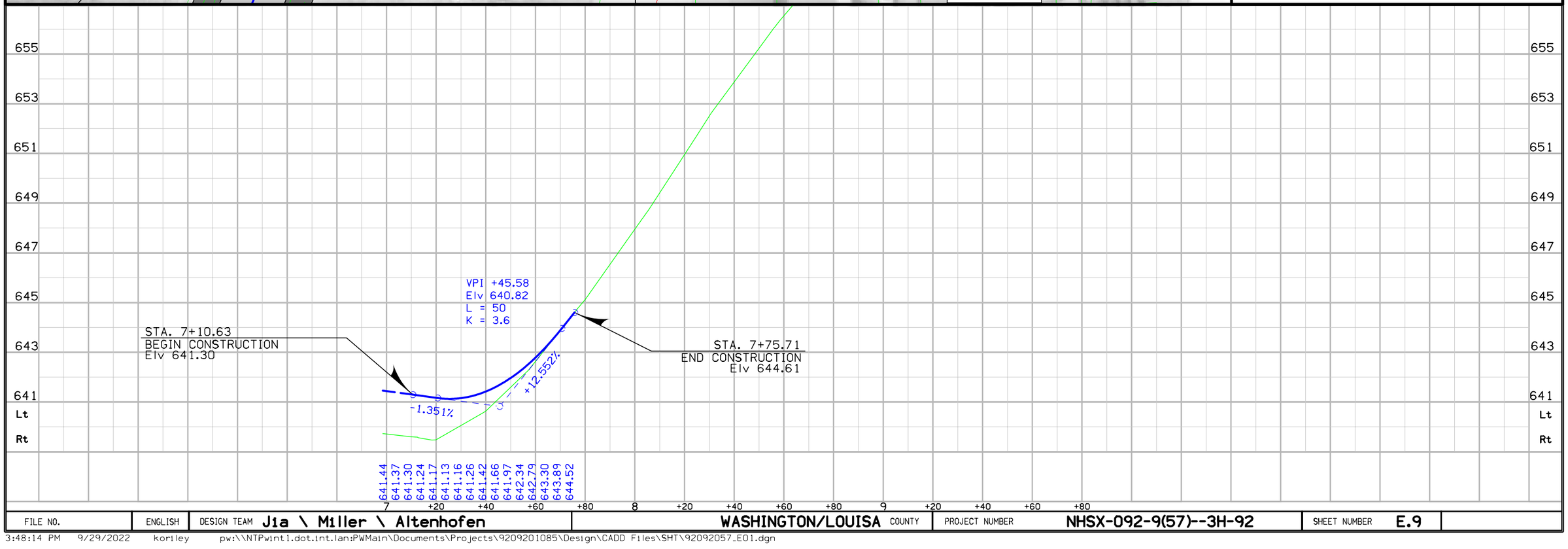

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER E.9

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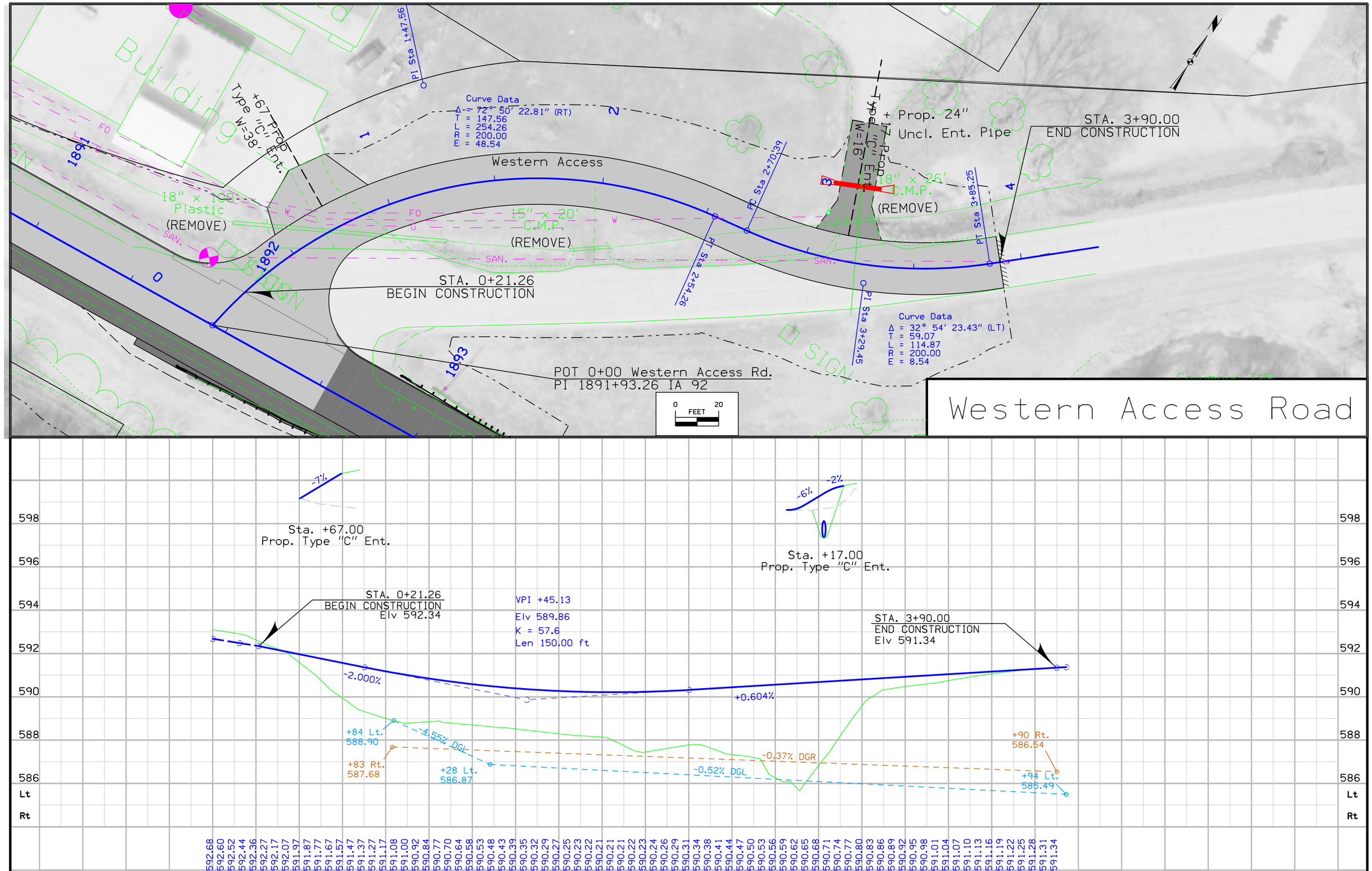

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER E.10

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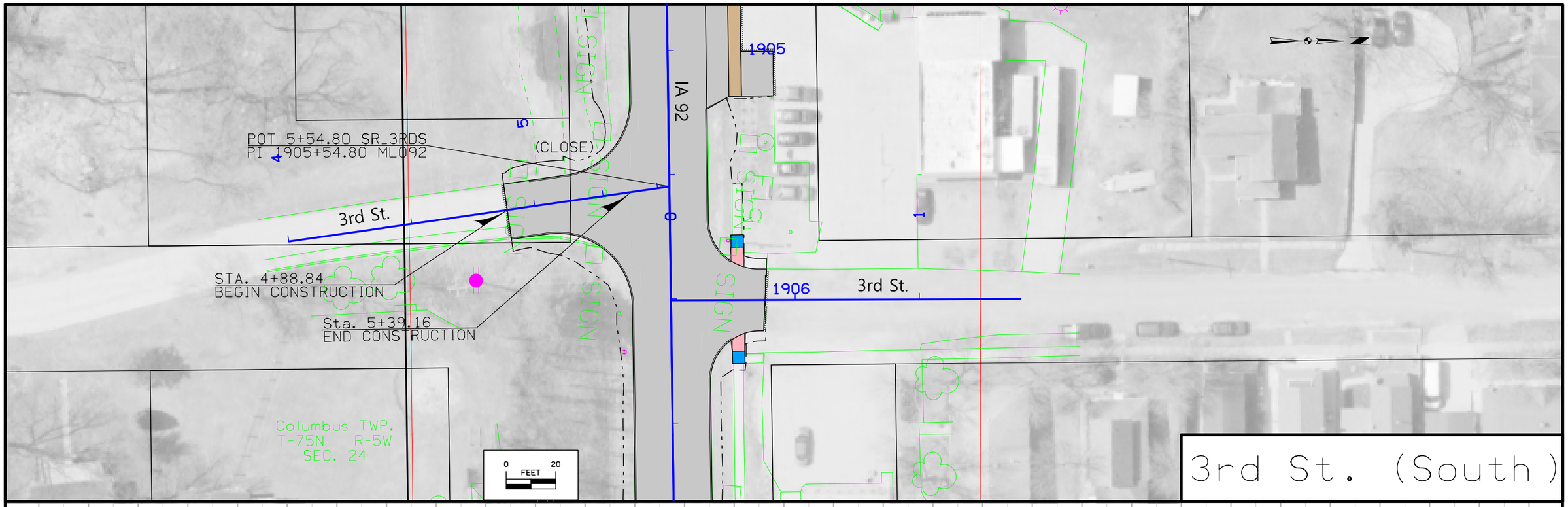

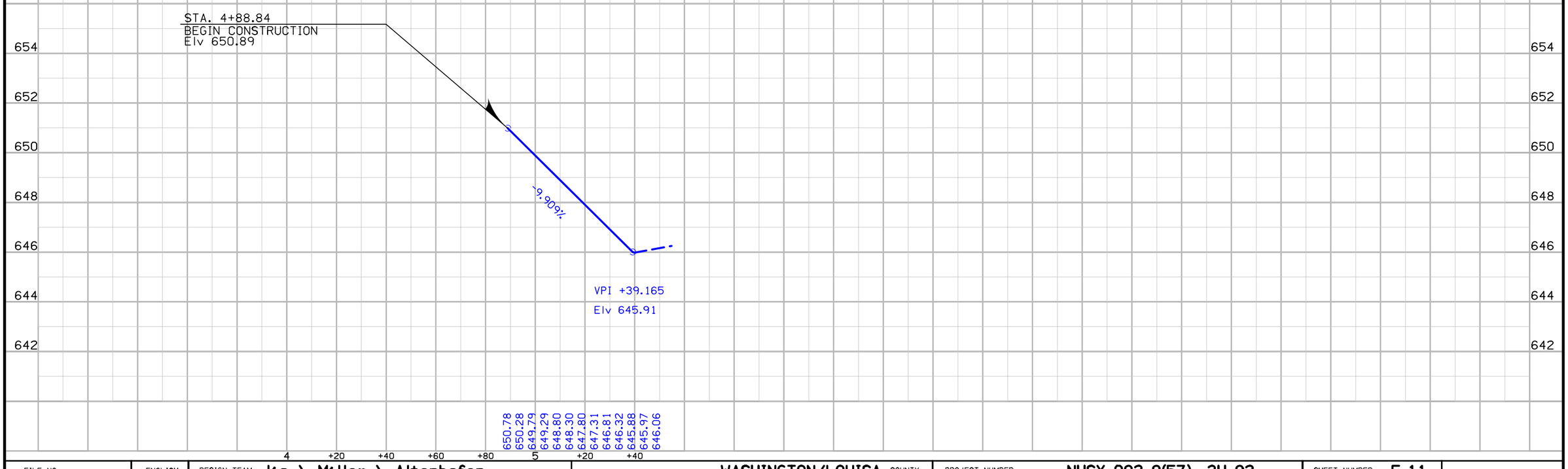

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER E.11

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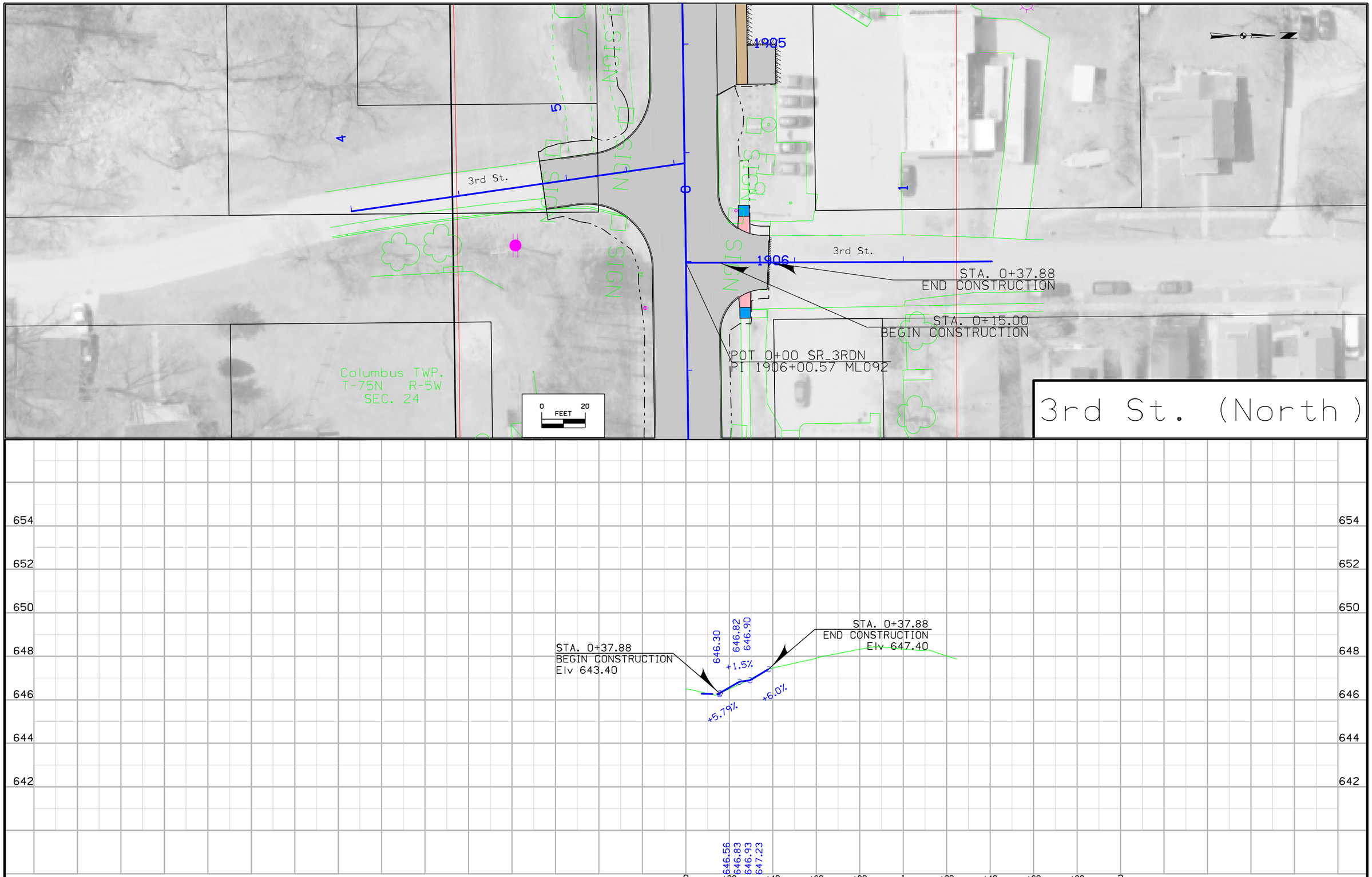

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER E.12

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Survey Information

General Information

Measurement units for this survey are US survey feet. This survey is for a partial DTM survey for Highway 92 between U.S. 218 and Columbus Junction.

Vertical Control

(IARTN)
Vertical datum for this survey is NAVD88 (Computed using Geoid12A). The Ellipsoidal Height was computed using Louisa County monuments 10 and 11 and Washington County monuments 201 (NGS Harn Designation B 8), 137, 138, and 142. Elevations were established for benchmarks and control points were benchmark circuits ran from County Monuments 10, 11, 138, and 142.
Horizontal Control

The project coordinate system for this survey is Iowa State Plane South Zone (U.S. Survey Feet). The horizontal datum was computed using Louisa County monuments 10 and 11 and Washington County monuments 201 (NGS Harn Designation B 8), 137, 138, and 142. All control point coordinates were scaled to ground around Louisa County point 11 using a grid to ground factor of 1.000079

Alignment Information

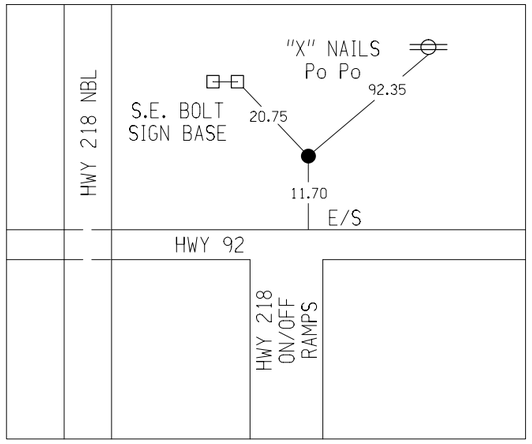
The horizontal alignment for this survey was established using As-built Plans Washington County - IaDOT Project Number NHS-218-3(20)—19-92 and As-built Plans Louisa County Primary Road No. 2 from the Washington County line East to Columbus Junction (F.A. Project No. 250)

VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Feature	Description
BM1	476744.050	2181331.772	707.470	1434+48.86	45.577	BM	NORTHEAST BOLT LIGHT BASE AT THE SOUTHEAST CORNER HIGHWAY 92 AND U.S. HIGHWAY 218 NORTH BOUND RAMP
BM2	476901.936	2181943.164	690.200	1440+78.37	95.067	BM	CUT X TOP SOUTHEAST CORNER REINFORCED CONCRETE BOX UNDER HIGHWAY 92 - APPROXIMATELY 1280 FEET EAST
BM3	477282.011	2183087.281	744.590	1452+95.45	85.577	BM	60D SPIKE IN POWER POLE AT SOUTHWEST CORNER HIGHWAY 92 AND YUCCA AVENUE
BM4	477351.449	2184258.177	743.910	1464+86.92	85.145	BM	60D SPIKE IN POWER POLE SOUTH SIDE HIGHWAY 92 - WEST SIDE LANE TO FARM BUILDINGS APPROXIMATELY 200
BM5	477365.030	2185203.798	745.980	1474+32.68	85.527	BM	60D SPIKE IN POWER POLE SOUTH SIDE HIGHWAY 92 - 5TH POWER POLE WEST (APPROXIMATELY 1020 FEET) OF Y
BM6	477378.882	2186144.928	738.690	1483+73.92	85.274	BM	60D SPIKE IN POWER POLE AT SOUTHWEST CORNER HIGHWAY 92 AND YUCCA AVENUE
BM7	477524.821	2186969.563	712.270	1492+00.63	-47.913	BM	60D SPIKE IN NORTH SIDE 6IN X 6IN POST MARKING PEDISTAL NORTH SIDE HIGHWAY 92 APPROXIMATELY 800 FEE
BM8	477538.223	2188358.838	701.040	1505+89.94	-39.736	BM	CUT X NORTHEAST CORNER REINFORCED CONCRETE BOX UNDER HIGHWAY 92 APPROXIMATELY 2170 FEET EAST OF YUC
BM9	477485.754	2189690.883	732.250	1519+21.10	31.236	BM	PK NAIL END WOOD FENCE POST SOUTH SIDE HIGHWAY 92 AT HOUSE NUMBER 3320
BM10	477499.156	2191421.007	696.690	1536+51.25	39.954	BM	CUT X SOUTHWEST CORNER REINFORCED CONCRETE BOX UNDER HIGHWAY 92 APPROXIMATELY 2690 FEET WEST OF COU
BM11	477528.772	2192982.062	741.090	1552+12.41	32.892	BM	T OF RIGHT-OF-WAY RAIL SOUTH SIDE HIGHWAY 92 APPROXIMATELY 1300 FEET WEST OF COUNTY LINE ROAD

Point	North	East	Elevation	Station	Offset	Feature	Description
BM12	477531.571	2194138.513	734.750	0+45.08	49.598	BM	CENTER BALL RIGHT-OF-WAY RAIL AT SOUTHEAST CORNER HIGHWAY 92 AND COUNTY LINE ROAD
BM13	477619.361	2195230.612	718.010	11+37.24	-37.484	BM	CUT X TOP NORTH END REINFORCED CONCRETE BOX UNDER HIGHWAY 92 APPROXIMATELY 1100 FEET EAST OF COUNT
BM14	477632.033	2196102.155	738.380	20+08.79	-49.590	BM	60D SPIKE IN POWER POLE WITH LIGHT NORTH SIDE HIGHWAY 92 AT EAST ENTRANCE TO STEAK HOUSE
BM15	477487.043	2196849.750	736.130	27+65.52	49.718	BM	CENTER BALL RIGHT-OF-WAY RAIL SOUTH SIDE HIGHWAY 92 AT FIELD ENTRANCE APPROXIMATELY 2700 FEET EAST
BM16	477507.892	2197519.576	721.180	34+26.56	-60.439	BM	RAILROAD SPIKE IN TELEPHONE POLE NORTH SIDE HIGHWAY 92 AT ENTRANCE TO HOUSE NUMBER 28346
BM17	477406.196	2198271.387	714.750	41+85.22	-60.104	BM	60D SPIKE IN TELEPHONE POLE NORTH SIDE HIGHWAY 92 APPROXIMATELY 1200 FEET WEST OF COUNTY LINE ROAD
BM18	477087.189	2199526.811	697.230	54+71.58	89.142	BM	CUT X TOP SOUTHEAST CORNER REINFORCED CONCRETE BOX UNDER COUNTY ROAD W66 APPROXIMATELY 95 FEET SOUT
BM19	476944.582	2200848.559	688.830	68+00.46	64.545	BM	CENTER BALL RIGHT-OF-WAY RAIL SOUTH SIDE HIGHWAY 92 APPROXIMATELY 1300 FEET EAST OF COUNTY ROAD W6
BM20	476787.074	2202170.518	684.510	81+30.37	65.276	BM	PK NAIL IN WOODCORNER POST SOUTH SIDE HIGHWAY 92 APPROXIMATELY 2700 FEET EAST OF COUNTY ROAD W66
BM21	476790.698	2203207.217	682.790	91+61.33	-43.955	BM	60D SPIKE IN TELEPHONE POLE NORTH SIDE HIGHWAY 92APPROXIMATELY 1500 FEET WEST OF X AVENUE
BM22	476725.659	2203915.171	676.360	98+72.24	-49.632	BM	X CUT TOP 48IN CAST IRON PIPE UNDER RAILROAD NORTH SIDE HIGHWAY 92 APPROXIMATELY 920 FEET WEST OF X
BM23	476620.811	2204819.744	668.850	107+82.76	-35.247	BM	X CUT TOP WEST END REINFORCED CONCRETE PIPE UNDER X AVENUE BETWEEN HIGHWAY 92 AND RAILROAD
BM24	476481.504	2206346.989	665.490	123+16.29	-48.267	BM	SOUTHWEST BOLT RAILROAD RADIO TOWER BASE BETWEEN HIGHWAY 92 AND RAILROAD APPROXIMATELY 1500 FEET EA
BM25	476373.306	2207406.591	658.650	133+81.40	-45.809	BM	60D SPIKE IN TELEPHONE POLE NORTH SIDE HIGHWAY 92 AT HOUSE NUMBER 26545
BM26	476322.351	2207847.067	657.500	138+24.76	-38.839	BM	X CUT TOP NORTH END REINFORCED CONCRETE PIPE UNDER HIGHWAY 92 APPROXIMATELY 1050 FEET WEST OF W AVE
BM27	475871.065	2208873.916	650.370	149+36.33	214.792	BM	BRASS PLUG TOP CENTER HEADWALL OF REINFORCED CONCRETE BOX EAST SIDE W AVENUE APPROXIMATELY 220 FEET
BM28	475774.773	2209928.018	650.960	159+74.40	-42.888	BM	60D SPIKE IN TELEPHONE POLE NORTH SIDE HIGHWAY 92 APPROXIMATELY 1000 FEET EAST OF W AVENUE
BM29	475171.658	2211588.559	647.170	177+41.08	-44.210	BM	60D SPIKE IN TELEPHONE POLE NORTH SIDE HIGHWAY 92 APPROXIMATELY 1200 FEET WEST OF V AVENUE
BM30	474768.801	2212823.015	639.060	190+44.86	-66.452	BM	60D SPIKE IN TELEPHONE POLE AT NORTHEAST CORNER HIGHWAY 92 AND V AVENUE
BM31	474308.005	2214082.007	625.830	203+80.97	44.042	BM	FOUND X CUT TOP CENTER SOUTH HEADWALL TRIPLE REINFORCED CONCRETE BOX SOUTH SIDE HIGHWAY 92 APPROXIM
BM32	474049.643	2215114.409	641.470	214+44.92	19.426	BM	60D SPIKE IN GUARD RAIL POST CENTER OF REINFORCED CONCRETE BOX SOUTH SIDE HIGHWAY 92 APPROXIMATELY
BM33	473690.540	2216421.213	654.320	228+00.17	19.189	BM	60D SPIKE IN GUARD RAIL POST CENTER OF REINFORCED CONCRETE BOX SOUTH SIDE HIGHWAY 92 APPROXIMATELY
BM34	473460.615	2217419.556	698.440	238+17.84	50.880	BM	60D SPIKE IN POWER POLE SOUTH SIDE HIGHWAY 92 AT COUNTY ROAD X17 NORTH
BM35	473521.852	2218172.969	696.950	245+63.33	54.653	BM	60D SPIKE IN POWER POLE SOUTHEAST CORNER HIGHWAY 92 AND COUNTY ROAD X17 SOUTH INFRONT OF CAR DEALER
BM36	473728.487	2219329.586	693.690	257+44.73	60.178	BM	CENTER BALL RIGHT-OF-WAY RAIL SOUTH SIDE HIGHWAY 92 AT NORTHEAST CORNER FAST STOP FUEL AT HOUSE NUM
BM37	473752.147	2220474.081	673.760	268+95.05	48.844	BM	RAILROAD SPIKE IN POWER POLE SOUTH SIDE HIGHWAY 92 ACROSS FROM ABANDONED HOUSE NUMBER 24074 APPROXI
BM38	473752.682	2221683.724	693.950	281+04.70	49.068	BM	60D SPIKE IN POWER POLE SOUTH SIDE HIGHWAY 92 APPROXIMATELY 750 FEET WEST OF HILLTOP ROAD
BM39	473826.289	2222625.024	697.200	290+40.11	-52.097	BM	60D SPIKE IN POWER POLE NORTHEAST CORNER HIGHWAY 92 AND HILLTOP ROAD AT FORD DEALER
BM40	473340.667	2223751.959	652.660	302+62.56	52.785	BM	60D SPIKE IN POWER POLE SOUTH SIDE HIGHWAY 92 EAST SIDE PURDY HILL ROAD
BM41	473009.025	2224589.488	602.060	311+53.09	58.440	BM	60D SPIKE IN POWER POLE SOUTH SIDE HIGHWAY 92 APPROXIMATELY 70 FEET EAST OF ENTRANCE TO HOUSE NUMBE
BM42	473004.242	2225217.030	594.110	317+68.00	52.804	BM	RAILROAD SPIKE IN POWER POLE SOUTH SIDE HIGHWAY 92 AT ENTRANCE TO HOUSE NUMBER 23236 IN COLUMBUS JU
BM43	473120.819	2226472.319	596.990	330+28.29	21.070	BM	X CUT TOP OF CONCRETE BARRIER WALL AT THE SOUTHWEST CORNER BRIDGE APPROXIMATELY 100 FEET EAST OF WE
BM44	473196.156	2227313.622	630.450	338+72.12	-19.458	BM	60D SPIKE IN POWER POLE WITH LIGHT NORTH SIDE HIGHWAY 92 APPROXIMATELY 400 FEET WEST OF THIRD STREE
BM45	473216.496	2228044.314	643.600	346+03.00	-31.151	BM	TOP CENTER BOLT HYDRANT AT THE NORTHWEST CORNER HIGHWAY 92 AND SECOND STREET IN COLUMBUS JUNCTION
BM46	473203.788	2228168.761	640.810	347+27.29	-16.971	BM	CUT X TOP CONCRETE BARRIER RAIL AT NORTHWEST CORNER HIGHWAY 92 BRIDGE APPROXIMATELY 115 FEET EAST O

C.P. STA. 1433+31.62, LT. 23.74 W-IA92
CP921, SET IRON PIN
N=476771.48, E=2181198.36



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CP924, SET IRON PIN
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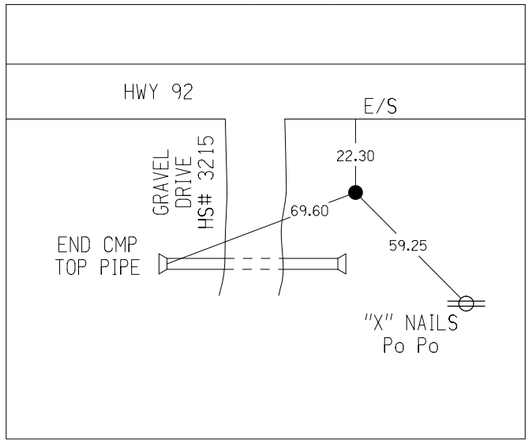

C.P. STA. 1464+94.64, RT. 29.39 W-IA92
CP926, SET IRON PIN
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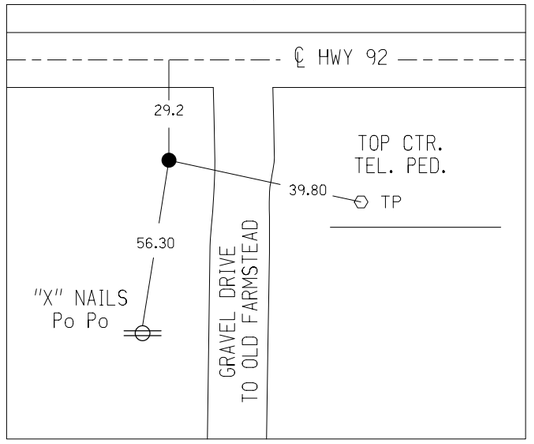

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CP928, SET IRON PIN
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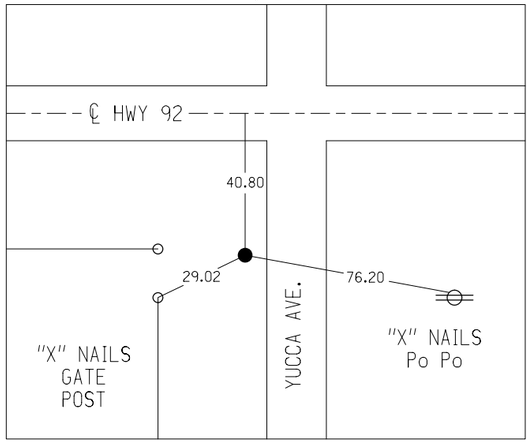
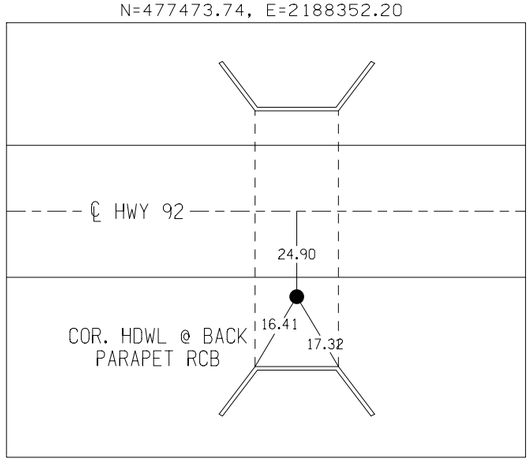
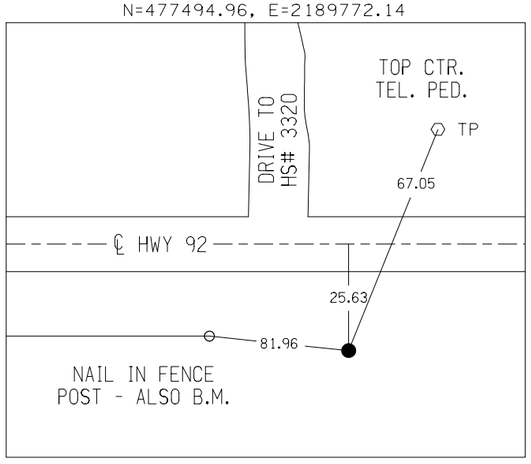


C.P. STA. 1505+82.30, RT. 24.64 W-IA92
CP9211, SET IRON PIN
N=477473.74, E=2188352.20



C.P. STA. 1520+02.47, RT. 23.07 W-IA92
CP9213, SET IRON PIN
N=477494.96, E=2189772.14



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CP9216, SET IRON PIN
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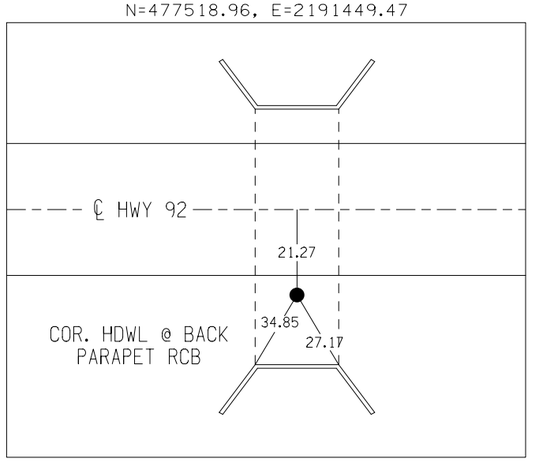

C.P. STA. 1548+42.22, LT. 22.04 W-IA92
CP9219, SET IRON PIN
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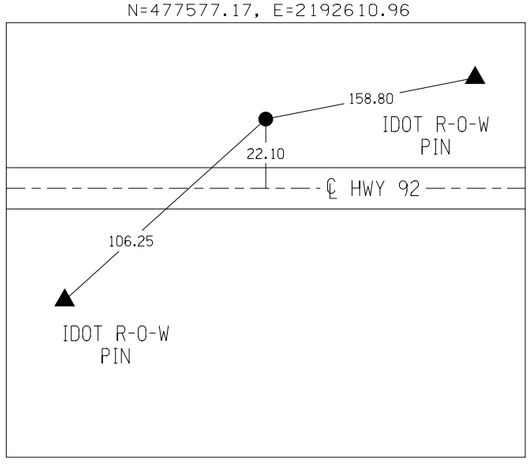
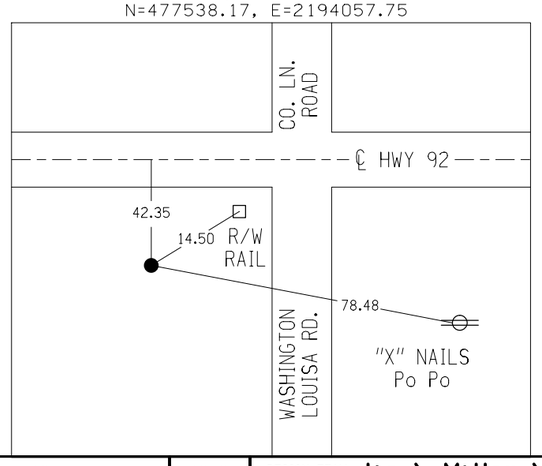


C.P. STA. 1562+88.10, RT. 42.34 W-IA92
CP9221, SET IRON PIN
N=477538.17, E=2194057.75



C.P. STA. 16+55.80, LT. 20.18 L-IA92
CP9224, SET IRON PIN
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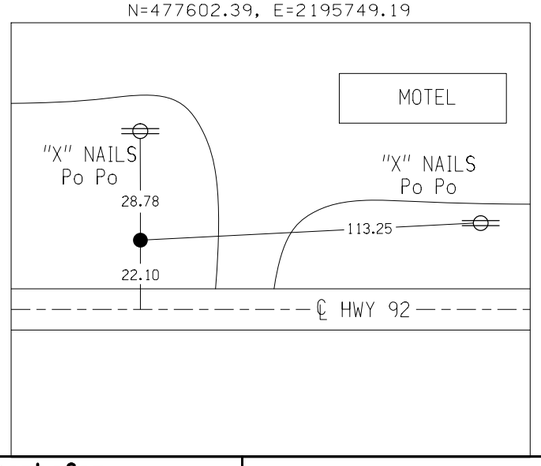

C.P. STA. 28+30.41, RT. 26.78 L-IA92
CP9226, SET IRON PIN
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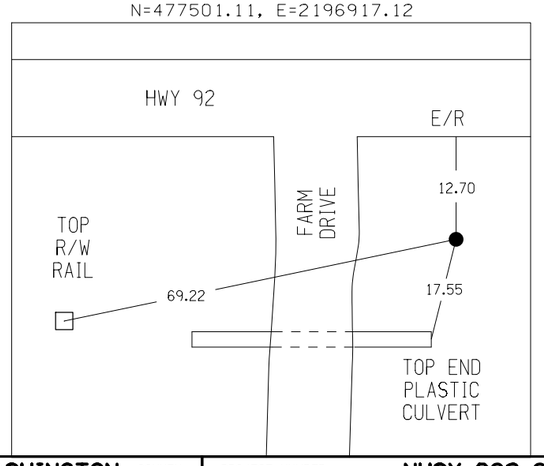

C.P. STA. 41+77.87, RT. 34.03 L-IA92
CP9228, SET IRON PIN
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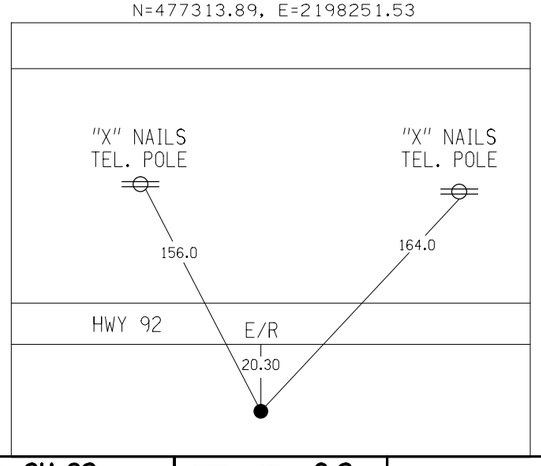

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER G.2

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C.P. STA. 53+79.34, LT. 24.99 L-IA92
CP9230, SET IRON PIN
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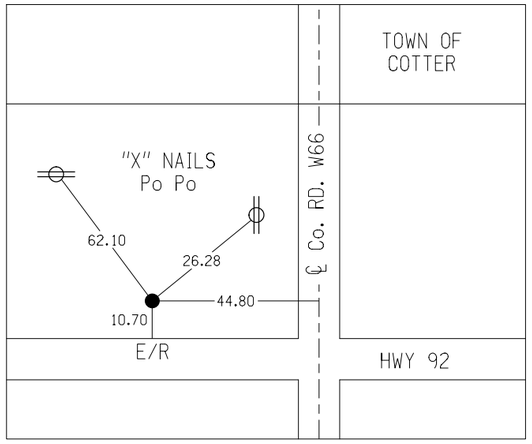

C.P. STA. 69+46.89, RT. 26.24 L-IA92
CP9232, SET IRON PIN
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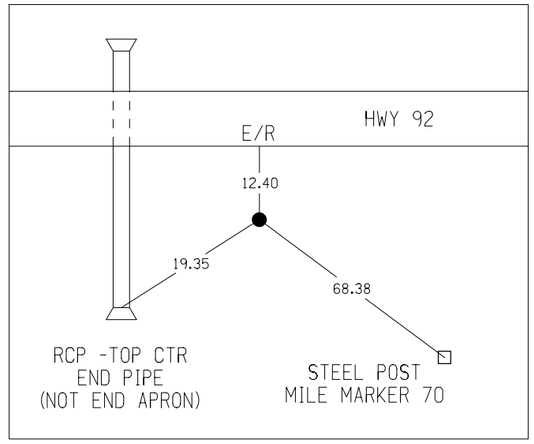

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CP9234, SET IRON PIN
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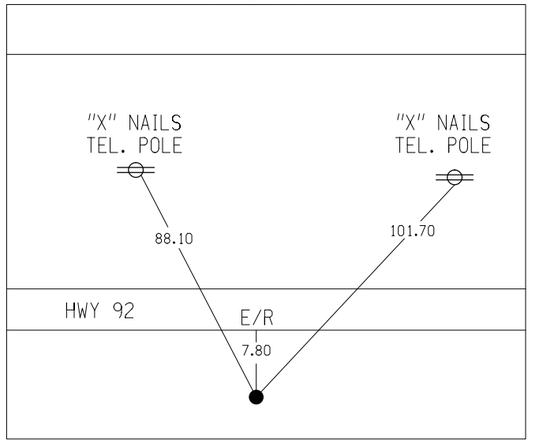

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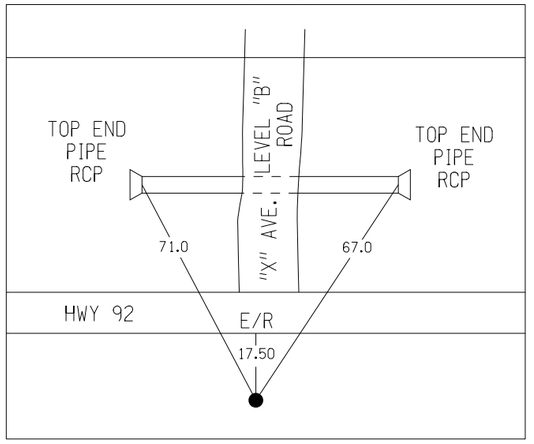
CP9236, SET IRON PIN
N=476551.92, E=2204836.52



C.P. STA. 123+09.94, LT. 19.85 L-IA92
CP9239, SET IRON PIN
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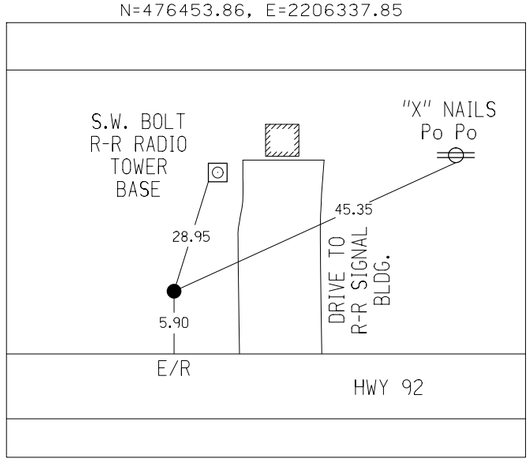

C.P. STA. 133+31.12, RT. 25.13 L-IA92
CP9241, SET IRON PIN
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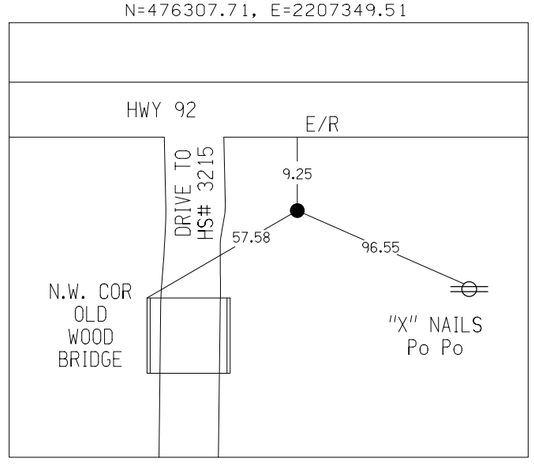

C.P. STA. 148+51.98, RT. 37.08 L-IA92
CP9244, SET IRON PIN
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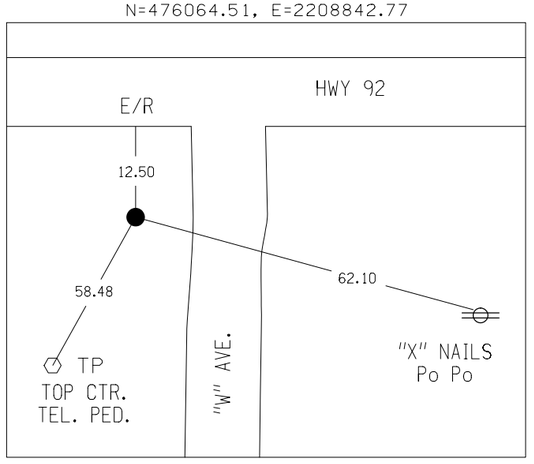
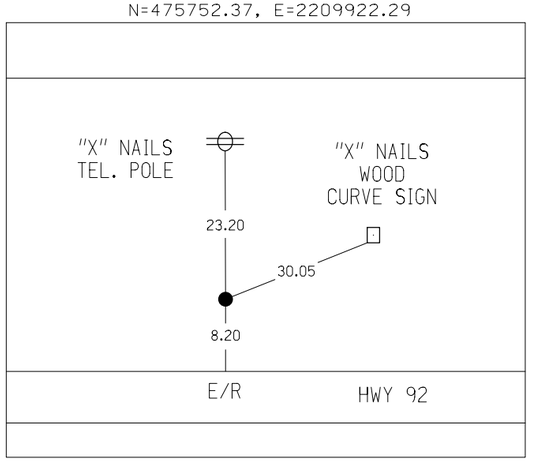
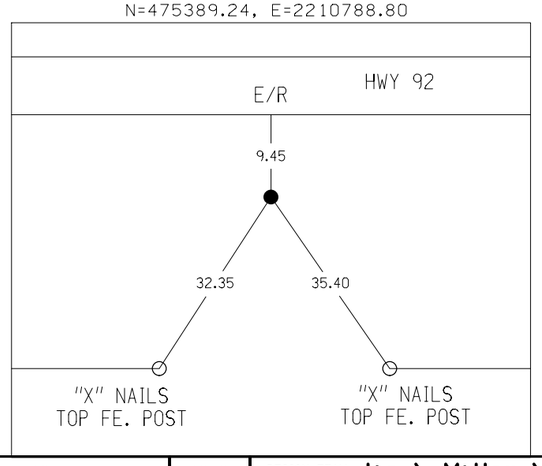


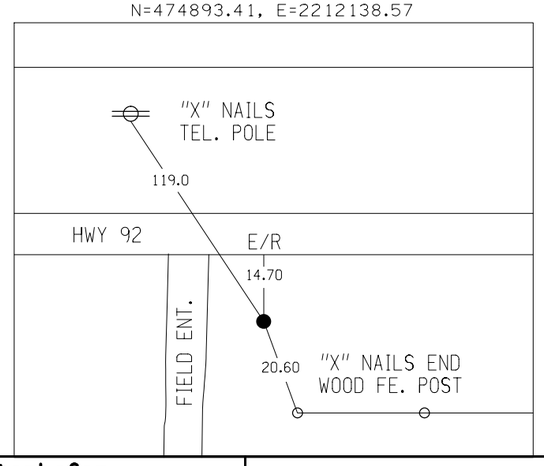
C.P. STA. 159+76.68, LT. 19.88 L-IA92
CP9246, SET IRON PIN
N=475752.37, E=2209922.29



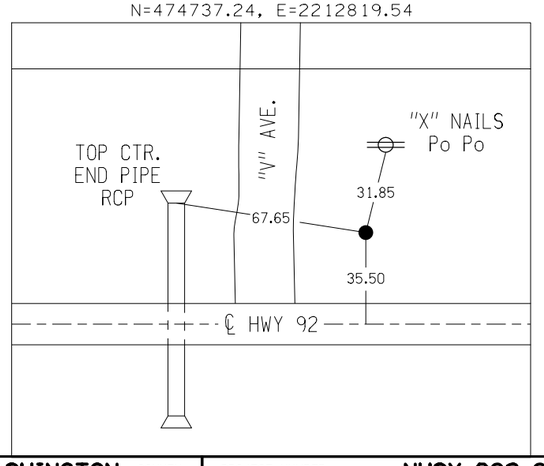
C.P. STA. 169+15.14, RT. 24.92 L-IA92
CP9247, SET IRON PIN
N=475389.24, E=2210788.80



C.P. STA. 183+53.09, RT. 29.1 L-IA92
CP9249, SET IRON PIN
N=474893.41, E=2212138.57



C.P. STA. 190+49.88, LT. 35.1 L-IA92
CP9250, SET IRON PIN
N=474737.24, E=2212819.54



C.P. STA. 203+82.65, RT. 22.78 L-IA92
CP9251, SET IRON PIN
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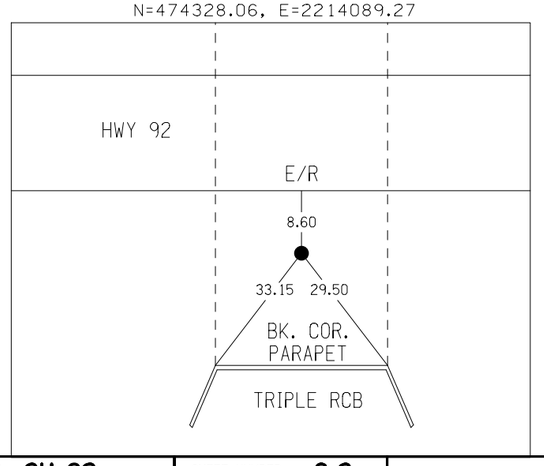

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER G.3

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C.P. STA. 217+04.48, RT. 28.24 L-IA92
CP9254, SET IRON PIN
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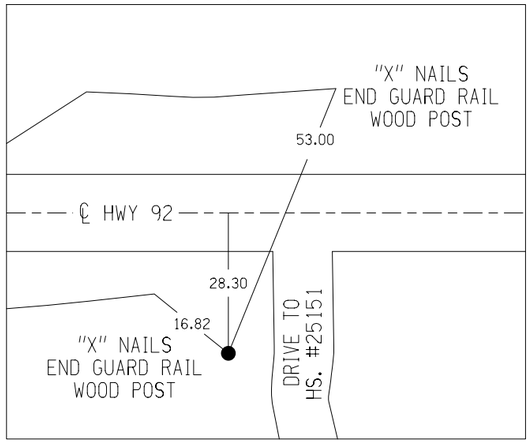

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CP9256, SET IRON PIN
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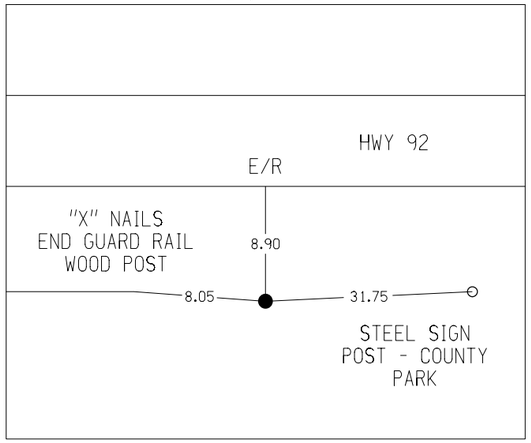

C.P. STA. 238+58.18, LT. 34.16 L-IA92
CP9257, SET PK NAIL
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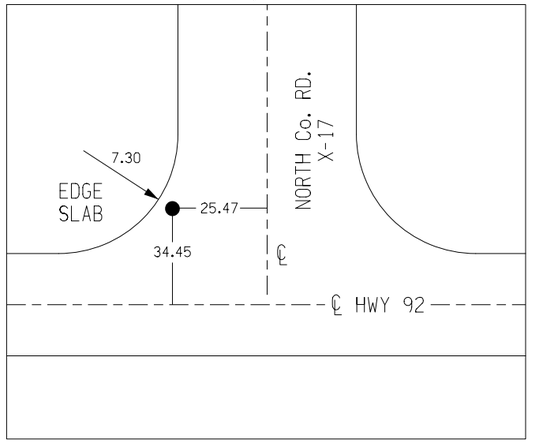

C.P. STA. 243+88.64, RT. 38.23 L-IA92
CP9258, SET IRON PIN
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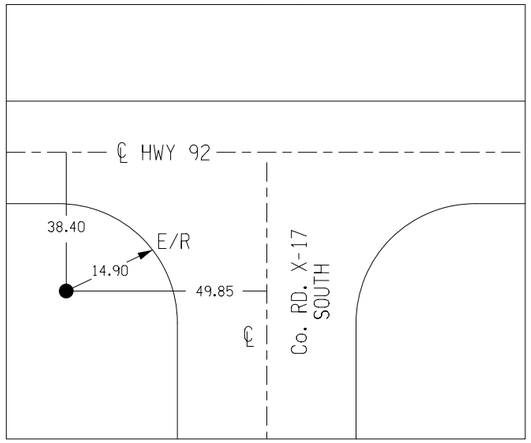

C.P. STA. 257+85.46, RT. 29.05 L-IA92
CP9260, SET IRON PIN
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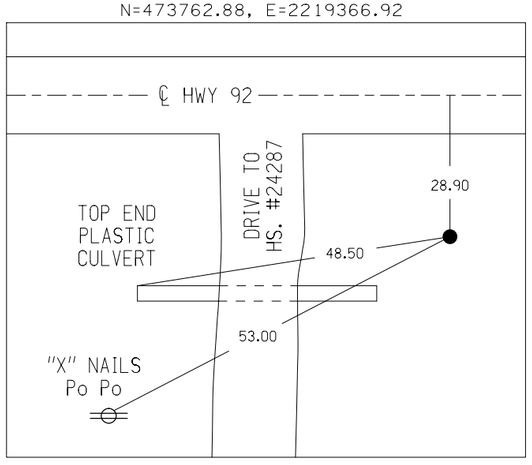

C.P. STA. 268+44.47, RT. 21.95 L-IA92
CP9262, SET IRON PIN
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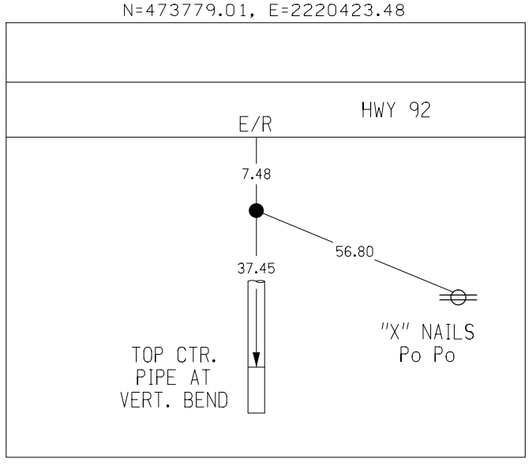
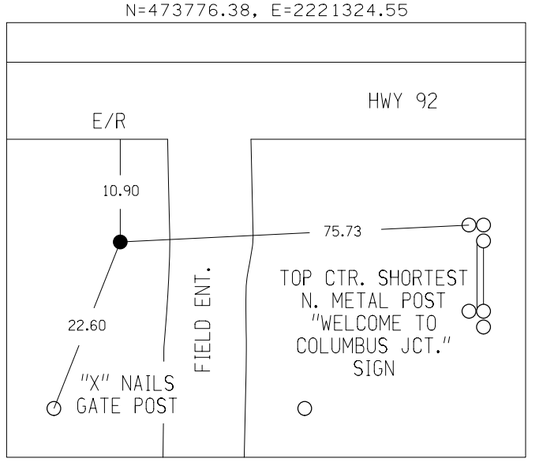


C.P. STA. 277+45.54, RT. 25.15 L-IA92
CP9263, SET IRON PIN
N=473776.38, E=2221324.55



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CP9265, SET PK NAIL
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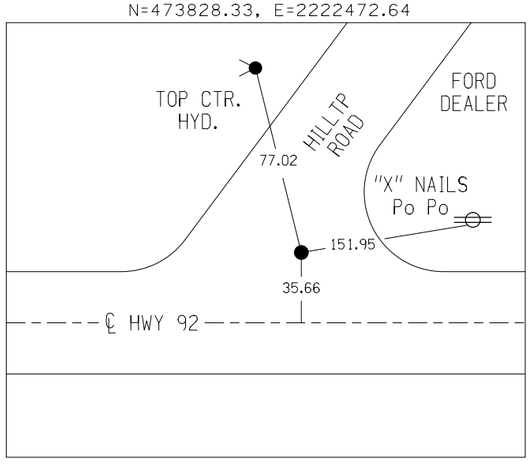

C.P. STA. 303+85.25, LT. 26.87 L-IA92
CP9268, SET PK NAIL
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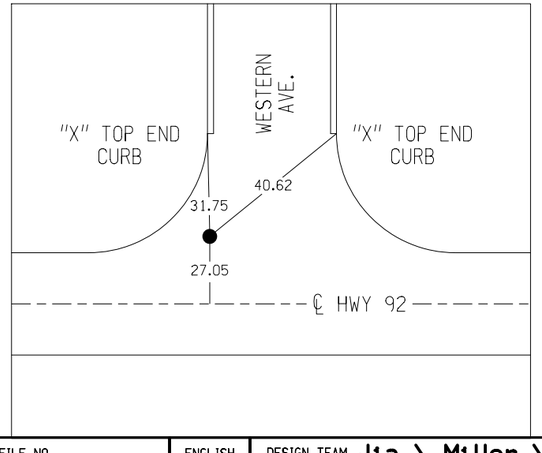
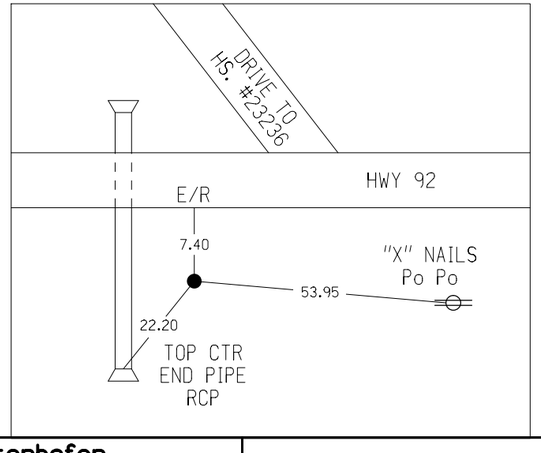


C.P. STA. 317+23.78, RT. 21.41 L-IA92
CP9270, SET IRON PIN
N=473032.59, E=2225170.80



C.P. STA. 329+93.22, LT. 34.48 L-IA92
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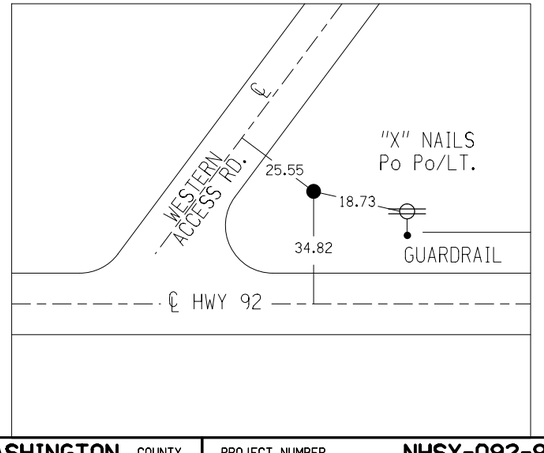

C.P. STA. 342+55.33, RT. 23.06 L-IA92
CP9274, SET IRON PIN
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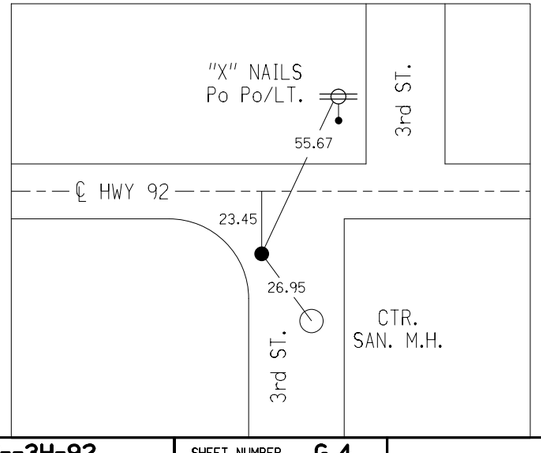

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER G.4

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C.P. STA. 346+75.42, LT. 24.84 L-IA92
CP9275, SET IRON PIN
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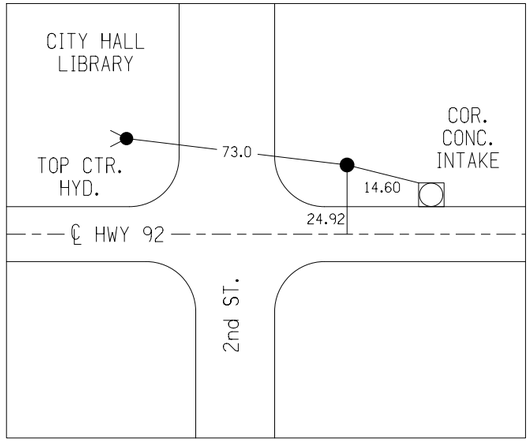


FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER G.5

8:55:49 AM 8/8/2022 jsnyde2 pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_G01.dgn

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	178817.24	5700	2.8	75	53	PV-301	1787+11.74	1787+64.74	1788+17.74	1788+39.74				1788+17.24					
							1815+58.18	1815+05.18	1814+52.18	1814+30.18				1814+52.68					
	181742.22	2865	4.6	123	53	PV-301	1816+03.12	1816+56.12	1817+09.12	1817+79.12			1817+42.22			1817+63.08	1817+63.08		
							1824+35.41	1823+82.41	1823+29.41	1822+59.41			1822+96.31			1822+75.45	1822+75.45		
	184932.66	2865	4.6	123	53	PV-301	1847+93.56	1848+46.56	1848+99.56	1849+69.56			1849+32.66			1849+53.52	1849+53.52		
							1862+36.79	1861+83.79	1861+30.79	1860+60.79			1860+97.69			1860+76.83	1860+76.83		
	187147.12	1435	6.0	160	53	PV-301	1869+82.12	1870+35.12	1870+88.12	1871+95.12			1871+47.12			1871+41.79	1871+41.79		
							1879+91.52	1879+38.52	1878+85.52	1877+78.52			1878+26.52			1878+31.85	1878+31.85		

Oregon TWP.
T-75N R-6W
SEC. 14

SW 1/4 SW 1/4
T-75N R-6W
SEC. 14

(1)
D & L KAUFMAN INC.

CHICHAGO & EASTERN IOWA RAILROAD CORP.
DM&E RR

1460

1465

1470

Restricted Area
Do Not Disturb

BEGIN PAVING
STA. 1460+19.65

(1)
D & L KAUFMAN INC.

B-8-W LS

IA 92

SIGN

(REMOVE)

Prop. 24"
Uncl. Ent. Pipe

+07 Prop. Type "C" Ent. W=20'

Sta. 1462+86.8
Skew 0°
2' x 2' x 49.5' RBC
30" x 18.37' RCP S end
30" x 21.37' RCP N end
Each end has 6.13 apron
D.A. = 4 Ac - R

REMOVE
Install 24"x92' RCP
F.L. = Lt. 731.82
Rt. 734.33

(2)
JOE L. KAUFMAN INC.

(2)
JOE L. KAUFMAN INC.

NW 1/4 NW 1/4
T-75N R-6W
SEC. 22

Oregon TWP.
T-75N R-6W
SEC. 23

N

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 10-6-2020

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.1

3:27:50 PM 1/20/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

Oregon TWP.
T-75N R-6W
SEC. 14

SE 1/4 SW 1/4
T-75N R-6W
SEC. 14

SW 1/4 SE 1/4
T-75N R-6W
SEC. 14

(1)
D & L KAUFMAN INC.

(1)
D & L KAUFMAN INC.

Yucca Ave.

N

48" CIP
Under RR
(UAC)

CHICAGO & EASTERN IOWA RAILROAD CORP.
DM&E RR

1480

1475

PERMANENT EASEMENT
FOR DRAINAGE

1481+92
℄170'

1482+18
℄170'

1480+08
℄79'±EX.R/W

1484+08±R
98'

12" x 132'
Clay & Plastic
Pipe

1476+75
℄80'±EX.R/W

(1)
D & L KAUFMAN INC.

1479+65
℄84'

1481+15
℄79'±EX.R/W

1481+42
℄79'±EX.R/W

1483+95
℄79'±EX.R/W

SIGN
SIGN
SIGN
SIGN
SIGN
SIGN
SIGN
SIGN

IA 92

IA 92

Gate

15" x 30'
C.M.P.

82+81 Prop.
Type "C" Ent.
W=20'

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

(2)
JOE L. KAUFMAN INC.

(4)
DALE E. ROBERTS FARMS, INC.

NE 1/4 NW 1/4
T-75N R-6W
SEC. 23

Yucca Ave.

Oregon TWP.
T-75N R-6W
SEC. 23

NE 1/4 NE 1/4
T-75N R-6W
SEC. 23

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 10-6-2020

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.2

3:35:41 PM 1/20/2021 CHUGHES pw:\\ntPwIntl.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

Oregon TWP.
T-75N R-6W
SEC. 14

SW 1/4 SE 1/4
T-75N R-6W
SEC. 14

SE 1/4 SE 1/4
T-75N R-6W
SEC. 14

N

(1)

D & L KAUFMAN INC.

CHICHAGO & EASTERN IOWA RAILROAD CORP.
DM&E RR

1490

1495

1500

TP

TP

IA 92

IA 92

SIGN

(4)

DALE E. ROBERTS FARMS INC.

Oregon TWP.
T-75N R-6W
SEC. 23

NE 1/4 NE 1/4
T-75N R-6W
SEC. 23

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes

ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58

Plan Date: 10-6-2020

Color Legend:

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

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.3

4:02:07 PM 1/20/2021 CHUGHES pw:\\ntPwIntl.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

Oregon TWP.
T-75N R-6W
SEC. 14

SE 1/4 SE 1/4
T-75N R-6W
SEC. 14

Oregon TWP.
T-75N R-6W
SEC. 13

SW 1/4 SW 1/4
T-75N R-6W
SEC. 13

① D & L KAFMAN, INC

⑤ HILLTOP ACRES INC.

(U.A.C)

CHICHAGO & EASTERN IOWA RAILROAD CORP.
DM&E RR

TEMPORARY EASEMENT TO SHAPE

1505

1510

1515

+58 Prop. Ent. Type "C" W=20'

③ DAVID F. OWENS

JASON R. KNOX &
KATIE B. MILLS

1517+0p±℄ 107'

1516+74 ℄107'

1516+51.21 ℄96'±EX.R/W Cor.

Shed

House

TP

SIGN

(CLOSE)

(REMOVE)

IA 92

1505+48 ℄92'±EX.R/W

1506+16 ℄113'

1509+02 ℄88'±EX.R/W

④ DALE E. ROBERTS FARMS INC.

Sta. 1505+83
Skew 0°
12' X 6' X 79.50' RCB
D.A. = 850 Ac - R

REMOVE
Install 12'x7'x93' RCB
Skew = 8° Rt. Ahd.
F.L. = Lt. 689.80
Rt. 689.96

12" x 20' C.M.P.
(REMOVE)
Prop. 24" Uncle. Ent. Pipe

+00 Prop. Ent. Type "C" W=20'

⑤ HILLTOP ACRES INC.

Sta. 1516+73.9
Skew 0°
2' x 2' x 40.6' RCB
30" x 18.37' RCP S end
30" x 18.37' RCP N end
Each end has 6.13' apron
D.A. = 4 Ac - R

REMOVE
Install 24"x92.5' RCP
Skew = 13° Lt. Ahd.
F.L. = Lt. 721.94
Rt. 718.63

Oregon TWP.
T-75N R-6W
SEC. 23

Oregon TWP.
T-75N R-6W
SEC. 24

NW 1/4 NW 1/4
T-75N R-6W
SEC. 24

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

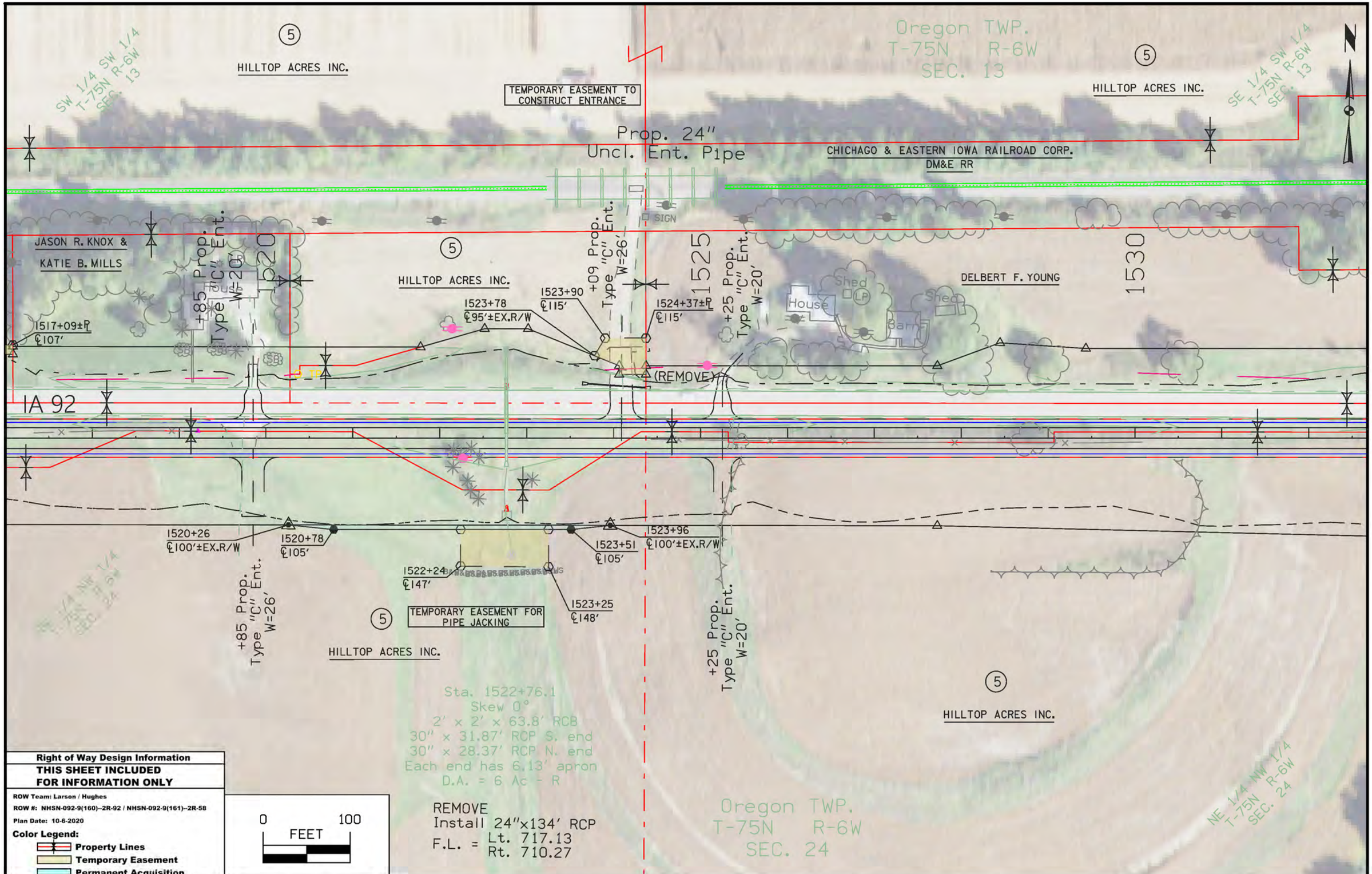
ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 3-21-2021

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.4

7:18:05 AM 3/21/2022 CHUGHES pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht



Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 10-6-2020

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.5

4:10:23 PM 1/20/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

SE 1/4 SW 1/4 T-75N R-6W SEC. 13

5

HILLTOP ACRES INC.

REMOVE
Install 8'x9'x230' RCB
Skew = 30° Lt. Ahd.
F.L. = Lt. 686.24
Rt. 685.57

CHICAGO & EASTERN IOWA RAILROAD CORP.
DM&E RR

Oregon TWP.
T-75N R-6W
SEC. 13

SW 1/4 SE 1/4 T-75N R-6W SEC. 13

SIGN
SIGN

1535

1540

1545

+08 Prop. Type "C" Ent. W=20'

Prop. 24" Uncl. Ent. Pipe

4

DALE E. ROBERTS FARMS, INC.

DELBERT F. YOUNG

18" x 34' Plastic (REMOVE)

O TP

IA 92

(CLOSE)

1534+68
℄116'±EX.R/W

1535+23
℄143'

1536+37
℄115'±EX.R/W

18" x 45' C.M.P. (REMOVE)

5

HILLTOP ACRES INC.

NE 1/4 NW 1/4 T-75N R-6W SEC. 24

+08 Prop. Type "C" Ent. W=20'

Prop. 24" Uncl. Ent. Pipe

5

HILLTOP ACRES INC.

Oregon TWP.
T-75N R-6W
SEC. 24

NW 1/4 NE 1/4 T-75N R-6W SEC. 24

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 10-6-2020

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.6

4:17:53 PM 1/20/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

REMOVE
Install 24"x96' RCP
F.L. = Lt. 727.34
Rt. 732.39

SW 1/4 SE 1/4 T-75N R-6W SEC. 13

Oregon TWP.
T-75N R-6W
SEC. 13

SE 1/4 SE 1/4 T-75N R-6W SEC. 13

N

(1)
D & L KAUFMAN

CHICHAGO & EASTERN IOWA RAILROAD CORP.
DM&E RR

Sta. 1548+35.7
Skew 0°
2' x 2' x 39.5' RCB
30" x 20.37' RCP S. end
30" x 23.97' RCP N. end
Each end has 6.13' apron
D.A. = 4 Ac ± R

1550

1555

1560

(4)
DALE E. ROBERTS FARMS, INC.

Restricted Area
Do Not Disturb

IA 92

1550+25
℄66'±EX.R/W

1550+81
℄72'

1551+77
℄72'±EX.R/W

NW 1/4 NE 1/4 T-75N R-6W SEC. 24

(5)
HILLTOP ACRES INC.

Oregon TWP.
T-75N R-6W
SEC. 24

NE 1/4 NE 1/4 T-75N R-6W SEC. 24

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

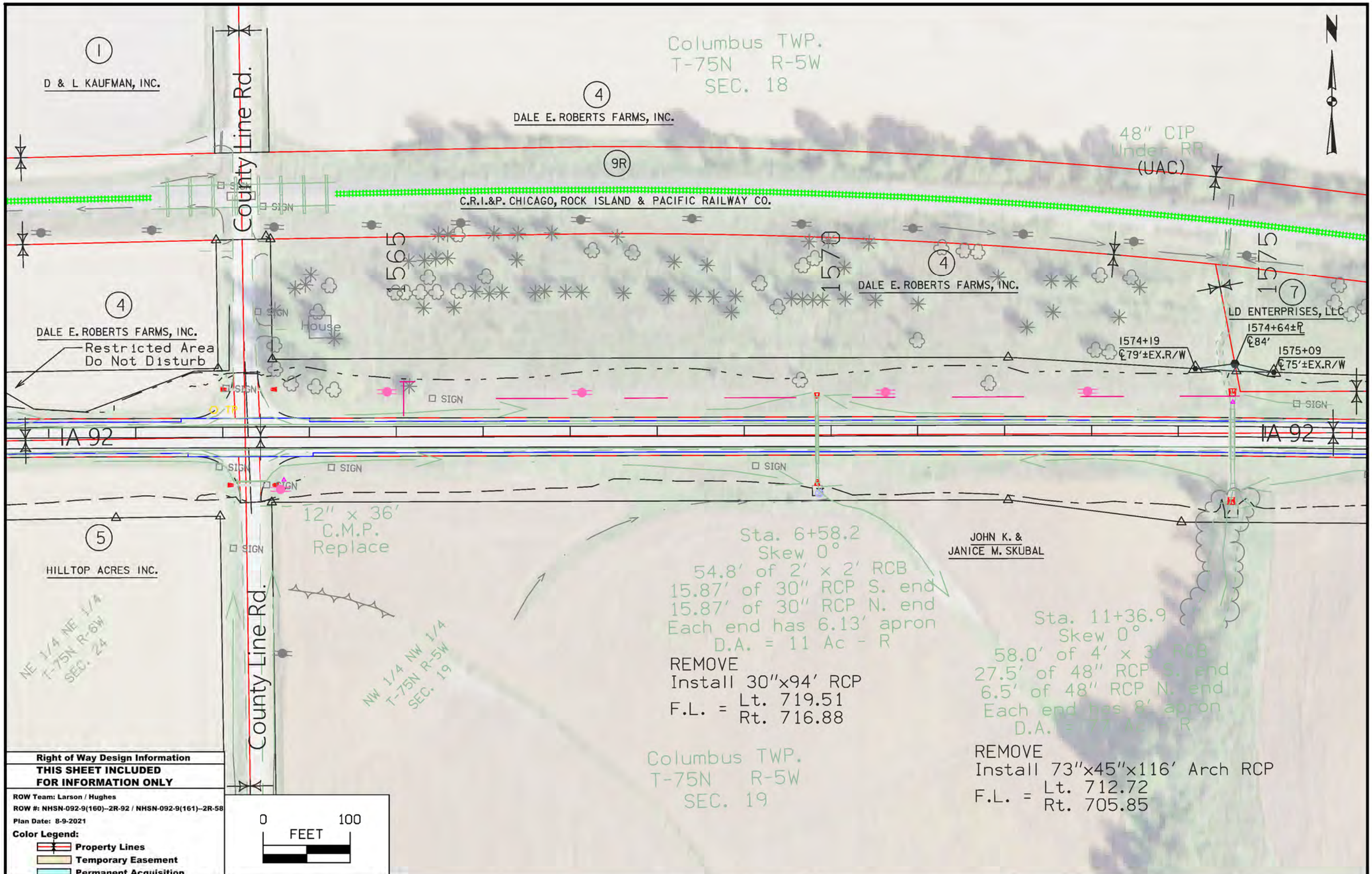
ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 10-6-2020

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.7

4:35:54 PM 1/20/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht



Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes

ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58

Plan Date: 8-9-2021

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.8

7:32:08 PM 8/9/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

Columbus TWP
T-75N R-5W
SEC. 18

SW 1/4 SW 1/4
T-75N R-5W
SEC. 18

SE 1/4 SW 1/4
T-75N R-5W
SEC. 18

+05 Prop.
Type "C" Ent.
W=24'

+48 Prop.
Type "B" Ent.
W=30'

+08.5 Prop.
Type "B" Ent.
W=24'

TEMPORARY EASEMENT
TO CONSTRUCT ENTRACE

Prop. 24"
Uncl. Ent. Pipe

Prop. 24"
Uncl. Ent. Pipe

Prop. 24"
Uncl. Ent. Pipe

1580

1585

1590

1579+80
℄71'

1580+32
℄71'

(4)
DALE E. ROBERTS FARMS, INC.

(9R)
C.R.I.&P. CHICAGO, ROCK ISLAND & PACIFIC RAILWAY CO.

(7)
LD ENTERPRISES, LLC

House
Garage
House

IA 92

(REMOVE)
(REMOVE)
(REMOVE)

(CLOSE)

1591+11
℄72'±EX.R/W
1591+11
82'

+00 Prop.
Type "C" Ent.
W=20'

JOHN K. & JANICE M. SKUBAL

SW 1/4 NW 1/4
T-75N R-5W
SEC. 19

NE 1/4 NW 1/4
T-75N R-5W
SEC. 19

Columbus TWP
T-75N R-5W
SEC. 19

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 6-1-2021

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.9

7:55:52 AM 6/1/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

Columbus TWP
T-75N R-5W
SEC. 18

SW 1/4 SE 1/4
T-75N R-5W
SEC. 18

SE 1/4 SE 1/4
T-75N R-5W
SEC. 18

N

1595

1600

1605

+88 Prop.
Type "C" Ent.
W=20'

42" CIP
Under RR
(UAC)

9R

C.R.I.&P. CHICAGO, ROCK ISLAND & PACIFIC RAILWAY CO.

1597+68.85
81'±EX.R/W Cor.

SIGN

SIGN

SIGN

SIGN

IA 92

IA 92

10" x 40'
Plastic
(REMOVE)

1597+21
℄85'±EX.R/W

1597+73
℄91'

1598+44.19
℄85'±EX.R/W Cor.

1591+11
℄82'

1591+52
℄82'

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

+32 Prop.
Type "C" Ent.
W=20'

Prop. 24"
Uncl. Ent. Pipe

Sta. 34+29.6
Skew 0°
3' x 3' x 47.8' RCB
42" x 21.9' RCP S end
42" x 17' RCP N end
Each end has 8' apron
29°30' bend at S end RCB
D.A. = 56 Ac - R

REMOVE
Install
Skew = ° . Ahd.
F.L. = Lt. / Rt.

6

ROBERT G. & LORI S. DAVIS

NW 1/4 NE 1/4
T-75N R-5W
SEC. 19

NE 1/4 NE 1/4
T-75N R-5W
SEC. 19

Columbus TWP.
T-75N R-5W
SEC. 19

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 10-6-2020

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.10

5:19:47 PM 1/20/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

Columbus TWP
T-75N R-5W
SEC. 18

SE 1/4 SE 1/4
T-75N R-5W
SEC. 18

99-AA

Sta. 49+47.9
Skew 0°
5' x 4' x 43.6' RCB
60" x 16.5' RCP S end
60" x 16.5' RCP N end
Each end has 8' apron
D.A. = 105 Ac - R

1605 1610 1615 1620

60" RCP
Under RR
(UAC)

9R

C.R.I.&P. CHICAGO, ROCK ISLAND & PACIFIC RAILWAY CO.

IA 92

SIGN

6

ROBERT G. & LORI S. DAVIS

NE 1/4 NE 1/4
T-75N R-5W
SEC. 19

Sta. 54+42.6
Skew 0°
6' X 6' X 57' RCB
D.A. = 224 Ac - R
(UAC)

8

MILDRED D. BEAN

NW 1/4 NW 1/4
T-75N R-5W
SEC. 20

Barn
House
Barn
Garage

Columbus TWP.
T-75N R-5W
SEC. 19

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 10-6-2020

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.11

5:29:31 PM 1/20/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

Columbus TWP.
T-75N R-5W
SEC. 20

NW 1/4 NW 1/4
T-75N R-5W
SEC. 20

NE 1/4 NW 1/4
T-75N R-5W
SEC. 20

N

1620

1625

1630

Twin 48" CMP
Under RR
(UAC)

9R

C.R.I.&P. CHICAGO, ROCK ISLAND & PACIFIC RAILWAY CO.

42" CMP
Under RR
(UAC)

SIGN

IA 92

IA 92

1631+23.22
℄72'±EX.R/W

Gate

Sta. 59+89.4
Skew 0°
6' x 5' x 42.8' RCB
72" x 17.75' RCP S end
72" x 16.75' RCP N end
Each end has 8.25' apron
D.A. = 175 Ac - R

8

MILDRED D. BEAN

Sta. 69+33.4
Skew 0°
3' x 3' x 36.6' RCB
42" x 18.5' RCP S
42" x 18.5' N end
Each end has 8' apron
D.A. = 54 Ac - R

Barn

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 8-9-2021

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.12

7:23:14 PM 8/9/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

NE 1/4 NW 1/4
T-75N R-5W
SEC. 20

Columbus TWP.
T-75N R-5W
SEC. 20

NW 1/4 NE1/4
T-75N R-5W
SEC. 20

1635

1640

1645

9R

C.R.I.&P. CHICAGO, ROCK ISLAND & PACIFIC RAILWAY CO.

36" RCP Under RR

30" CMP Under RR

(UAC)

(UAC)

1644+28.98
℄66'±EX.R/W

1644+78.86
℄66'±EX.R/W

1646+52
℄55'±EX.R/W

1645+34
℄57'±EX.R/W

IA 92

IA 92

IA 92

1644+53±EX.R/W
℄74'

1645+43
℄88'±EX.R/W

1644+59.24
℄128'±℄

1645+14
℄128'

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

8

MILDRED D. BEAN

Sta. 81+53.1
Skew 4° (RA)
2' x 2' x 46.8' RCB
30" x 23.87' RCP S end
30" x 14.37' RCP N end
Each end has a 13' apron
D.A. = 15 Ac ± R

+00 Prop.
Type "C" Ent.
W=20'

10

GREGORY J. & TERI K. DOWNES

Columbus TWP.
T-75N R-5W
SEC. 20

NW 1/4 NE1/4
T-75N R-5W
SEC. 20

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 8-9-2021

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.13

7:16:00 PM 8/9/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

Columbus TWP.
T-75N R-5W
SEC. 20

NW 1/4 NE1/4
T-75N R-5W
SEC. 20

NE 1/4 NE 1/4
T-75N R-5W
SEC. 20

N

1650

1655

1660

40" RCP
Under RR
(UAC)

36" CMP
Under RR
(UAC)

48" CMP
Under RR
(UAC)

9R

C.R.I.&P. CHICAGO, ROCK ISLAND & PACIFIC RAILWAY CO.

1649+25
℄68'

1654+23
℄68'

1657+81
℄71'

1660+87
℄71'

1653+70
℄90'±EX.R/W

1654+13
℄95'

1655+85
℄95'

1655+91
℄89'±EX.R/W

1661+62
℄98'±EX.R/W

1661+65
℄126'

1662+10
℄129'

1662+13
℄98'±EX.R/W

10

GREGORY J. & TERI K. DOWNES

NW 1/4 NE1/4
T-75N R-5W
SEC. 20

Sta. 90+07.3
Skew 0°
3' x 3' x 49' RCB
42" x 21' RCP S end
42" x 6' RCP N end
Each end has 8' apron
D.A. = 38 Ac - R

11

CALDWELL & WILLIAMS FAMILY FARMS, LLLP

TEMPORARY EASEMENT
TO SHAPE

Columbus TWP.
T-75N R-5W
SEC. 20

Sta. 98+72.4
Skew 0°
3' x 2' x 51.8' RCB
36" x 17.67' flume S end
36" x 38' RCP S end
36" x 12.5' RCP N end
8' apron N end
D.A. = 18 Ac - R

NE 1/4 NE1/4
T-75N R-5W
SEC. 20

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson /Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 8-9-2021

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.14

7:08:25 PM 8/9/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

NE 1/4 NE 1/4
T-75N R-5W
SEC. 20

Columbus TWP.
T-75N R-5W
SEC. 20

Columbus TWP
T-75N R-5W
SEC. 21

NW 1/4 NW 1/4
T-75N R-5W
SEC. 21

N

1665

1670

1675

R.R. Xing (CLOSED)

24" Steel Pipe
Under RR
(UAC)

42" x 30'
R.C.P.
(REMOVED BY OTHERS)

60" RCP
Under RR
(UAC)

9R

C.R.I.&P. CHICAGO, ROCK ISLAND & PACIFIC RAILWAY CO.

1664+98
℄63'

1666+64
℄45'±EX.R/W

SIGN

IA 92

24" x 73'
R.C.P.
(REMOVE)

11

CALDWELL & WILLIAMS FAMILY FARMS, LLLP

Sta. 111+74.0
Skew 0°
4' x 3' x 50.6' RCB
48" x 24' RCP S end
8' apron S end
No pipe N end 8' apron
D.A. = 250 AC - R

SW 1/4 NW 1/4
T-75N R-5W
SEC. 21

SE 1/4 NE1/4
T-75N R-5W
SEC. 20

Columbus TWP
T-75N R-5W
SEC. 20

Columbus TWP
T-75N R-5W
SEC. 21

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 8-9-2021

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.15

6:54:56 PM 8/9/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

NW 1/4 NW 1/4
T-75N R-5W
SEC. 21

Columbus TWP.
T-75N R-5W
SEC. 21

NE 1/4 NW 1/4
T-75N R-5W
SEC. 21

N

1680

1685

1690

+53 Prop.
Type "C" Ent.
W=30'

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

48" CMP
Under RR
(UAC)

36" x 50'
Plastic
(UAC)

36" x 64'
Plastic
(UAC)

66" CMP
Under RR
(UAC)

9R

C.R.I.&P. CHICAGO, ROCK ISLAND & PACIFIC RAILWAY CO.

1686+10
℄60'

1686+94
℄60'

1690+23.86
℄72'±EX.R/W Cor.

IA 92

IA 92

SIGN

SIGN

1689+95
℄95'

1690+14
℄95'

TEMPORARY EASEMENT
TO SHAPE

Sta. 119+24.8
Skew 0°
4' x 3' x 49.1' RCB
48" x 22' RCP S end
48" x 6.5' RCP N end
Each end has 8' aprons
D.A. = 22 Ac - R

Sta. 123+87.0
Skew 0°
5' x 5' x 40.5' RCB
66" x 18.25' RCP S end
66" x 17.25' RCP N end
Each end has 8.25' apron
D.A. = 48 Ac - R

11

CALDWELL & WILLIAMS FAMILY FARMS, LLLP

12

MARVIN HARDY JR. & JENNIFER WALKER

Columbus TWP.
T-75N R-5W
SEC. 21

SW 1/4 NW 1/4
T-75N R-5W
SEC. 21

SE 1/4 NW 1/4
T-75N R-5W
SEC. 21

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 8-9-2021

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.16

6:40:51 PM 8/9/2021 CHUGHES pw:\\ntPwIntl.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

NE 1/4 NW 1/4 T-75N R-5W SEC. 21

Columbus TWP. T-75N R-5W SEC. 21

NW 1/4 NE 1/4 T-75N R-5W SEC. 21

TEMPORARY EASEMENT TO SHAPE

1695

1700

1705

48" CIP Under RR (UAC)

36" CMP Under RR (UAC)

9R

C.R.I.&P. CHICAGO, ROCK ISLAND & PACIFIC RAILWAY CO.

2 - 2' x 2.5' RCB Under RR (UAC)

1695+21 ℄75'

1695+44 ℄75'

1701+21.23 ℄78'±EX.R/W Cor.

1701+91±EX.R/W ℄66'

1703+79 ℄63'±EX.R/W

1705+59 ℄68'±EX.R/W

1706+13.48 ℄71'±EX.R/W

1706+80.52 ℄97'±EX.R/W Cor.

1707+31 ℄70'±EX.R/W

IA 92

SIGN

1700+11 ℄85'±EX.R/W

1700+34 ℄105'

1701+03 ℄89'

1703+50 ℄72'±EX.R/W

1704+90 ℄67'±EX.R/W

1706+17 ℄81'±Prop.R/W

1706+12 ℄71'

1706+21 ℄88'

1706+17 ℄109'

1706+43 ℄92'

1706+56 ℄88'±Prop.R/W

1706+56 ℄119'

1707+20 ℄67'

1708+98 ℄66'

12

MARVIN HARDY JR. & JENNIFER WALKER

LP

+40 Prop. Type "C" Ent. W=20'

House

TEMPORARY EASEMENT TO SHAPE

Sta. 138+25.6
Skew 0°
3' x 2' x 40.2' RCB
36" x 23.7' RCP S end
36" x 14' RCP N end
Each end has 8' apron
25° bend at S end 3' x 2' RCB
D.A. = 22 Ac - R

Sta. 143+44.7
Skew 0°
43.2' of 3' x 3' RCB
15.6' of 42" RCP S end
16.5' of 42" RCP N end
Each end has 8' apron
25° bend at S end 3' x 3' RCB
D.A. = 46 Ac - R

SE 1/4 NW 1/4 T-75N R-5W SEC. 21

SW 1/4 NE 1/4 T-75N R-5W SEC. 21

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 8-9-2021

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100 FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.17

6:34:18 PM 8/9/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

NW 1/4 NE 1/4 T-75N R-5W SEC. 21

NE 1/4 NE 1/4 T-75N R-5W SEC. 21

SE 1/4 NE 1/4 T-75N R-5W SEC. 21

Sta. 1711+98.0
Skew 0°
6' x 5' x 72.4' RCB
72" x 22.25' RCP S end
72" x 12.75' RCP N end
Each end has 8.25' apron
D.A. = 67 Ac. - R

1710

1715

1720

TEMPORARY EASEMENT TO SHAPE

(9R)

C.R.I.&P. CHICAGO, ROCK ISLAND & PACIFIC RAILWAY CO.

1711+63.24
℄70'±EX.R/W Cor.

1712+28
℄87'

1713+92
℄87'

1716+13
℄56±EX.R/W

1715+69
℄58'±EX.R/W

1716+94.78
℄76'±EX.R/W Cor.

1717+05
℄90'

(UAC)

1717+29
℄90'

1717+34.48
℄75'±EX.R/W Cor.

1720+00
℄45'±EX.R/W

1720+43
℄63'

1723+62
℄78'

IA 92

IA 92

SIGN

1712+50.01
℄45'±EX.R/W

1717+43
℄69'

1709+99
℄62'±EX.R/W

1708+98
℄66'

1717+25
℄104'

18" x 30' C.M.P. (REMOVE)

(UAC)

(13)

WILLIAM EDWARD SKUBAL SR.
& CYNTHIA LOU SKUBAL

4.2' x 4.8' RCB
Under RR

Sta. 1497+16.15
Skew 0°
Two 12' X 12' X 40' RCB
D.A. = 1261 Ac. - R

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

10+69 Prop.
Type "C" Ent.
W=20'
Prop. 24"
Uncl. Ent. Pipe

18" x 20' C.M.P. (UAC)

(12)

MARVIN JR. &
JENNIFER WALKER HARDY

W Ave

Columbus TWP.
T-75N R-5W
SEC. 21

SE 1/4 NE 1/4 T-75N R-5W SEC. 21

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes

ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58

Plan Date: 8-23-2021

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.18

3:44:44 PM 8/23/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

1725

1730

9R

1735

ABANDONED

(UAC)

1723+62
℄78'

1728+05
℄78'

C.R.I.&P. CHICAGO, ROCK ISLAND & PACIFIC RAILWAY CO.

1731+56.36
℄44'±EX.R/W Cor.

1732+46.73
℄70'±EX.R/W Cor.

1738+66
℄65'

IA 92

IA 92

1725+87.72
57'±℄

KDN CATTLE, LLC

13

WILLIAM EDWARD SKUBAL SR.
& CYNTHIA LOU SKUBAL

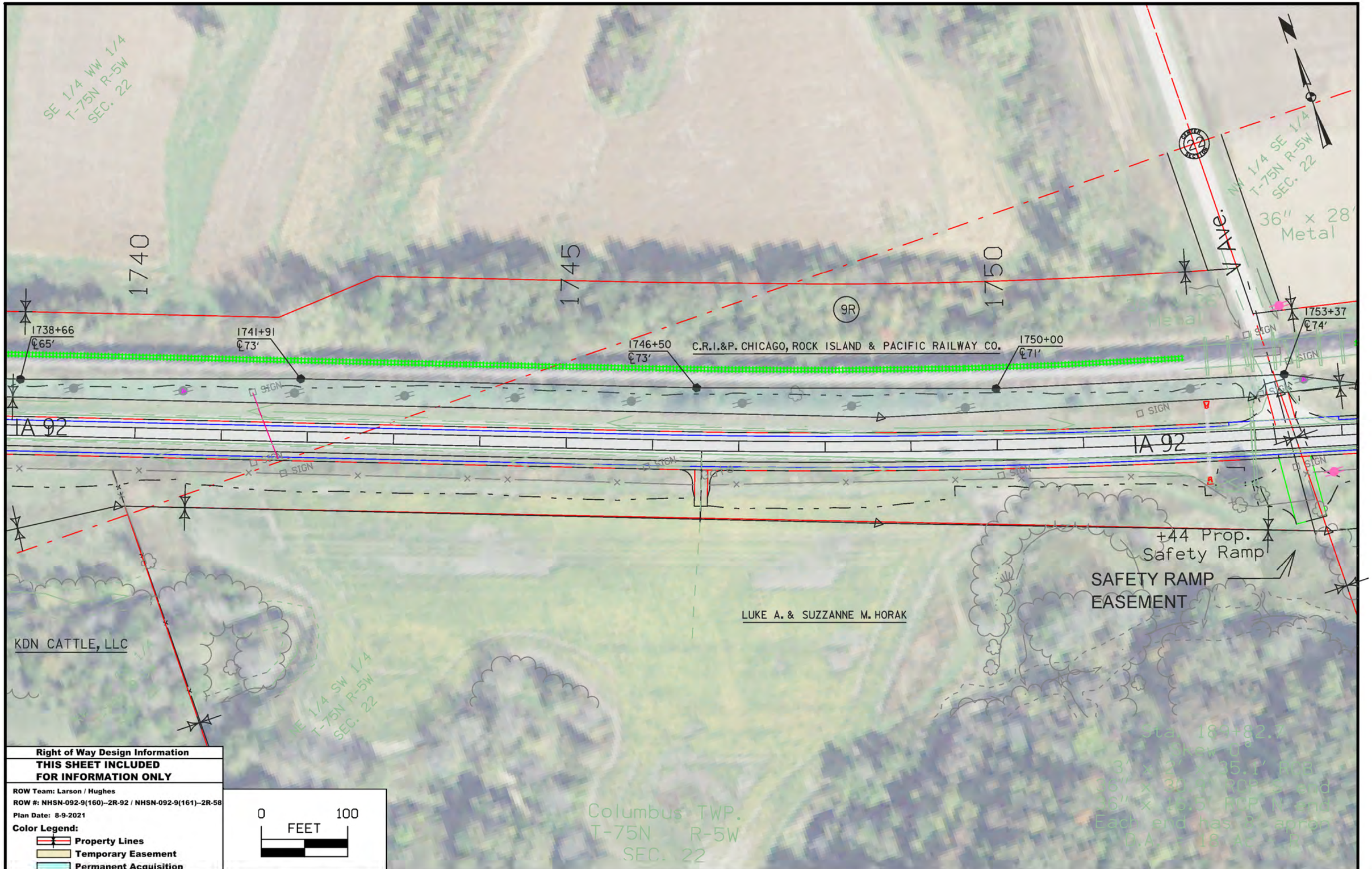
Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 8-9-2021
Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM	Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	H.19

6:13:08 PM 8/9/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht



Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes

ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58

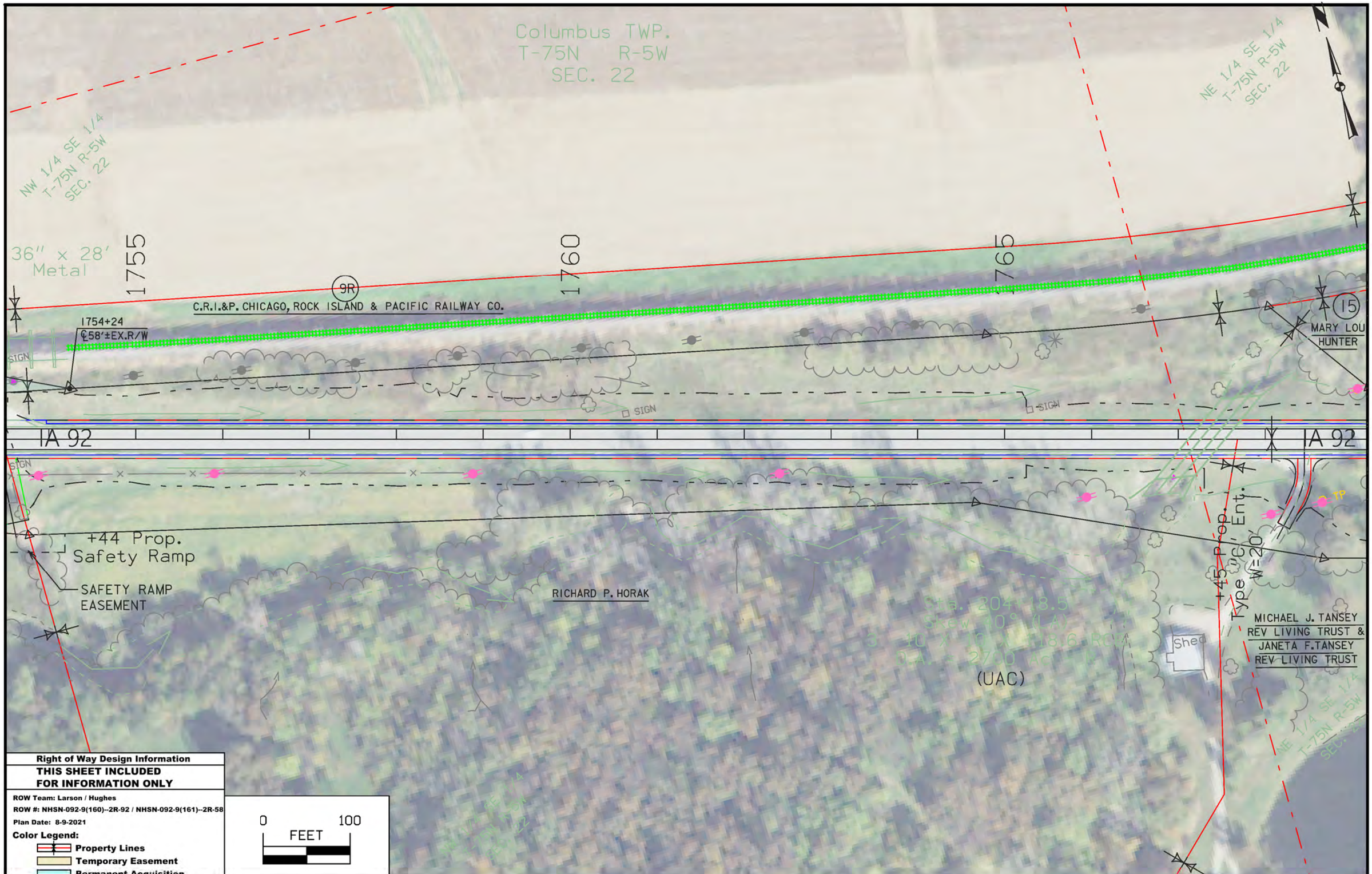
Plan Date: 8-9-2021

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.20

6:04:59 PM 8/9/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht



Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes

ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58

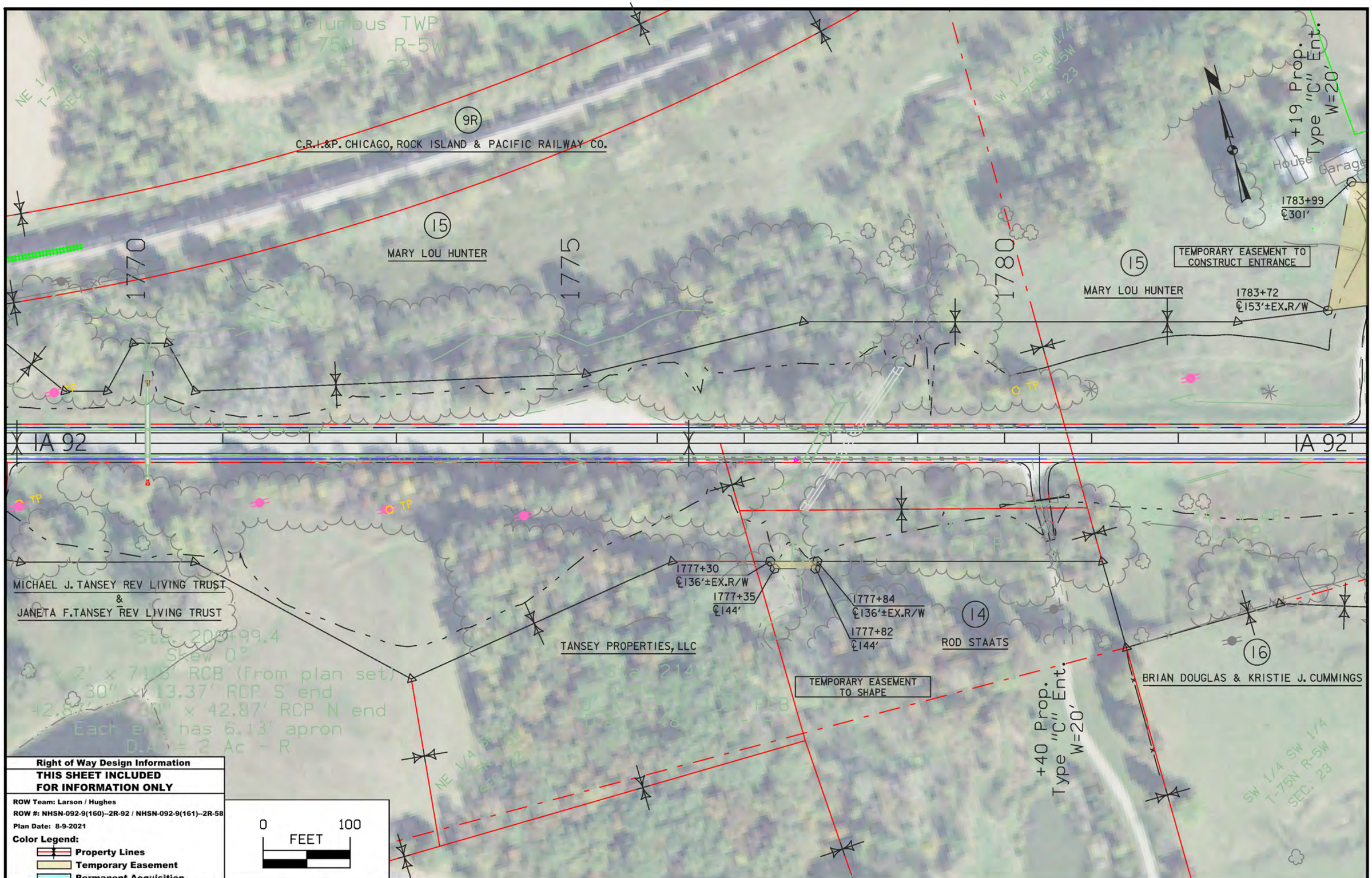
Plan Date: 8-9-2021

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.21

5:57:09 PM 8/9/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht



Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes

ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58

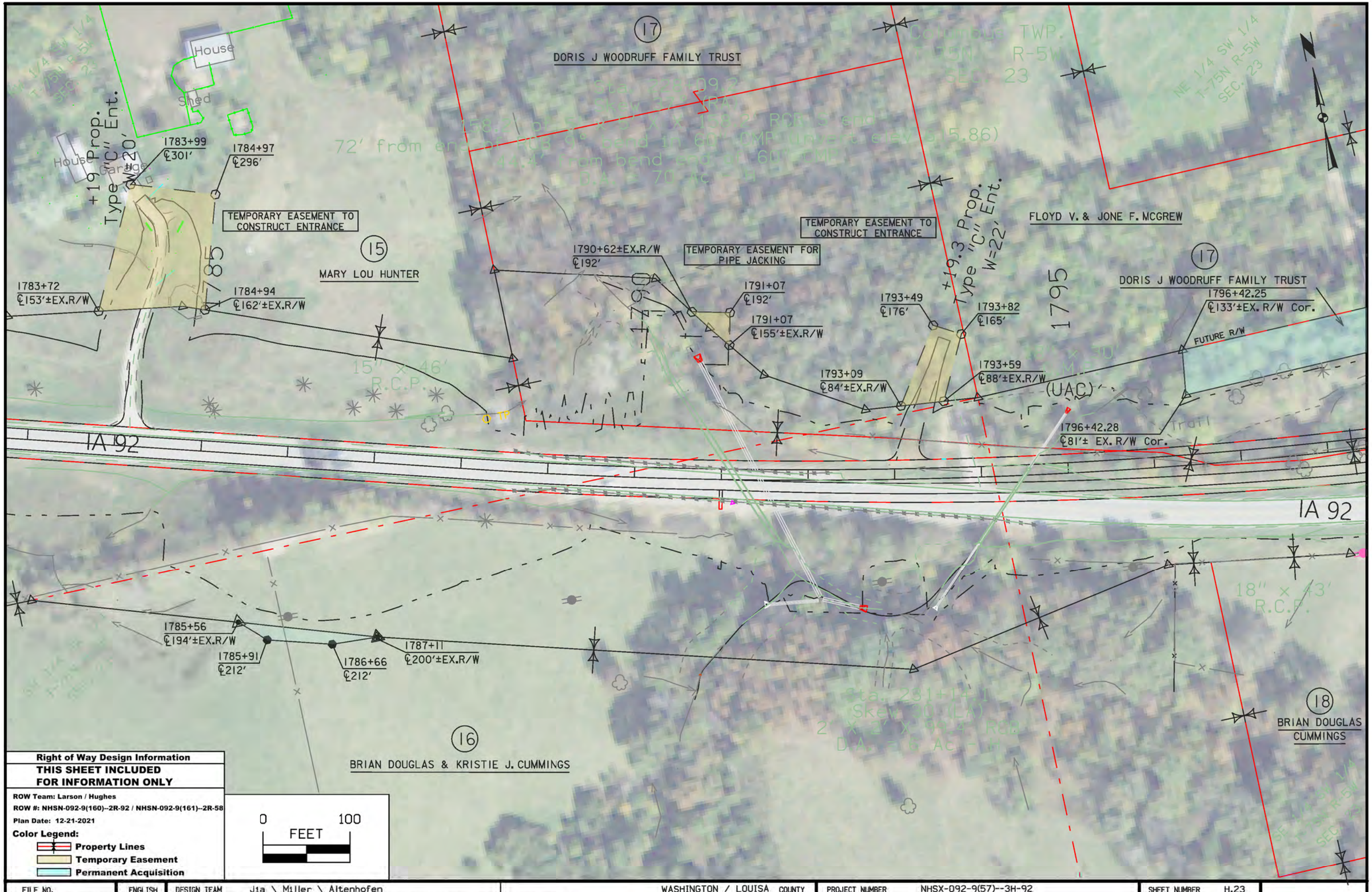
Plan Date: 8-9-2021

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.22

5:50:26 PM 8/9/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht



Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes

ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58

Plan Date: 12-21-2021

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.23

8:55:39 AM 2/7/2022 CHUGHES pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

FLOYD V. & JONE F. MCGREW

1800+91.68
℄181'±EX. R/W Cor.

1800

FUTURE R/W

FUTURE R/W

(17)

DORIS J WOODRUFF FAMILY TRUST

1800+95.41
℄131'± EX. R/W Cor.

(CLOSE)

X-17

SIGN

SIGN

SIGN

1805

(19)

RYAN R. MILLER &
CAHLEEN S. STINEMAN

+25 Prop.
Type "C" Ent.
W=20'

TEMPORARY EASEMENT TO SHAPE

1809+63
℄161'

1809+29
℄154'

1809+22
℄109'

1809+05
℄100'±EX.R/W

1810

(21)

BRIAN D. MASONHOLDER

1809+88±℄
℄112'

1810+07
℄98'±EX.R/W

+20.8 Prop.
Type "C" Ent.
W=20'

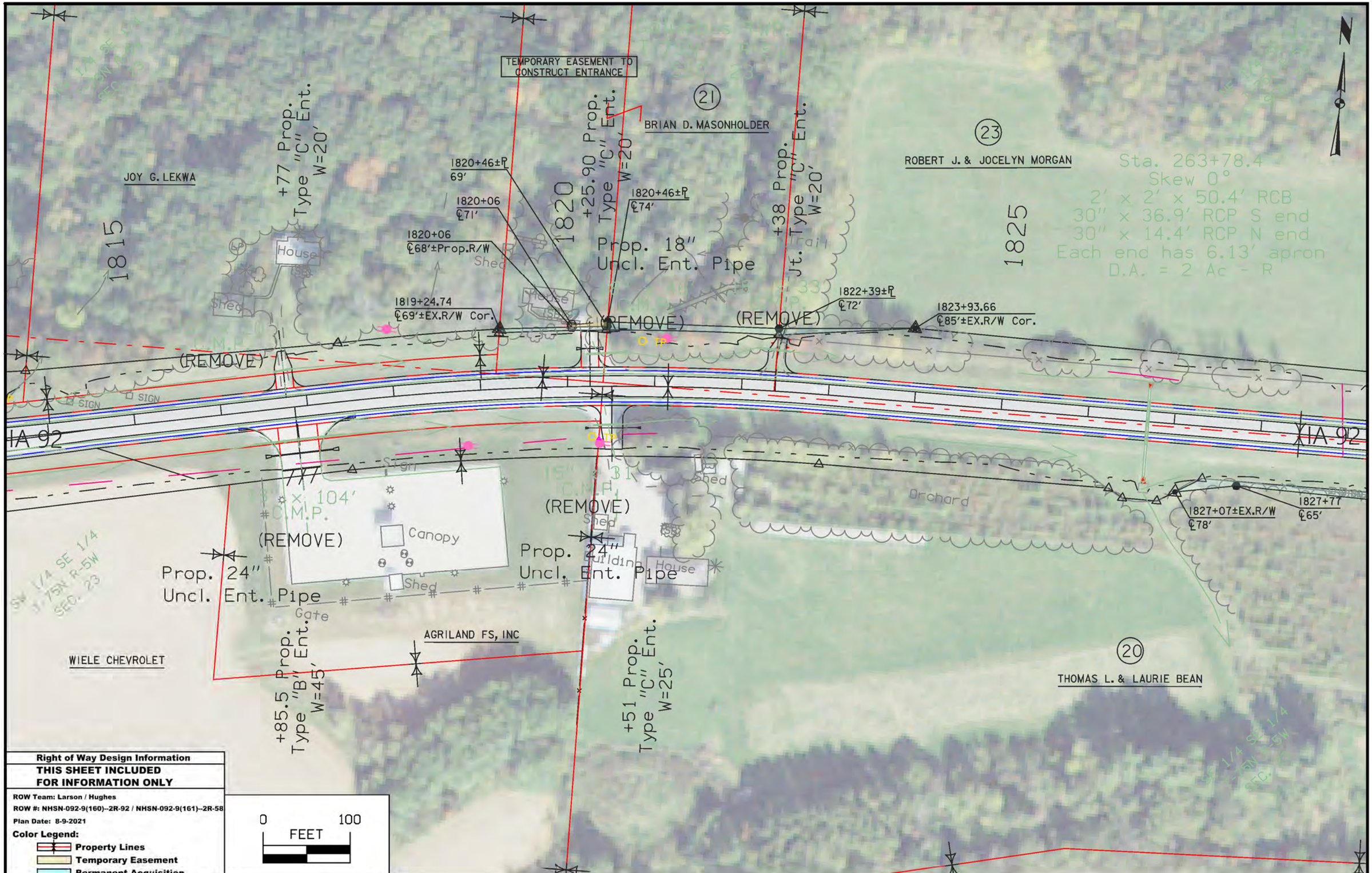
IA 92

IA 92

SIGN

SIGN

SIGN



Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 8-9-2021

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.25

2:35:09 PM 8/9/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

+00 Prop. Type "C" Ent. W=20'

(23) ROBERT J. & JOCELYN MORGAN

1830

1832+13 ℄70'

1832+13 ℄65'±Prop. R/W

1831+95 ℄70'

1831+81 ℄65'±EX.R/W

1833+45±R ℄65'

1833+65 ℄64'±EX.R/W

1835

+13.4 Prop. Type "C" Ent. W=20'

GUY PAUL & LORA M. MORGAN

Prop. 24" Uncl. Ent. Pipe

(REMOVE)

(25) BOBBI JO GARRETT

1840

+61 Prop. Type "C" Ent. W=20'

1840+75 ℄62'±EX.R/W

1842+57 ℄66'±EX.R/W

Prop. 24" Uncl. Ent. Pipe

IA 92

IA 92 (REMOVE)

SIGN

1830+23±EX.R/W ℄70'

(20) THOMAS L. & LAURIE BEAN

ARNOLD THOMAS SRP & IRMA JEAN MRAZEK

1842+82.81 ℄70'±R

1843+5±Lot line ℄75'

+50 Prop. Type "C" Ent. W=20'

(REMOVE) Prop. 24" Uncl. Ent. Pipe

(22) DARREL THOMAS & MARY TERRI BELL TRUST
CP:SALVADOR JR & ARACELI ZAMARRIPA

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 8-8-2021

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100 FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.26

2:56:50 PM 8/9/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

CSL IOWA SYSTEM, LLC

(27)
JONATHAN R. HOBACK

(25)
BOBBI JO GARRETT

(29)
KYLE P KLING

(33)
LARRY K. & LAURA A. MINCER

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

Hilltop Road

1845

1850

1855

+40.6 Prop. Type "C" Ent. W=20'

+74 Prop. Type "C" Ent. W=20'

+37.2 Prop. Type "B" Ent. W=24'

+60 Prop. Type "B" Ent. W=25'

1849+23.51
℄65'±EX.R/W Cor.

1848+60
℄72'

1848+35
℄63'±EX.R/W

Prop. 18" Uncl. Ent. Pipe
(REMOVE)

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

Prop. 24" Uncl. Ent. Pipe
18" x 40' C.M.P.
(REMOVE)

1853+58
℄60'±EX.R/W

1854+27
℄64'

1855+15±P
℄62'

1856+39
℄68'

1856+39
℄59'±Prop.R/W

1856+81
℄68'

1856+81
℄60'±Prop.R/W

1855+91
℄61'

1855+93
℄59'

IA 92

1850+26±P
℄62'

1851+55
℄55'±EX.R/W

1853+53
℄60'±EX,R/W

1853+85±P
℄64'

1855+43±P
℄65'

1856+22
℄60'±EX.R/W

1856+39
℄62'±Prop.R/W

1856+43
℄71'

1857+04±EX.R/W
℄67'

1856+81
℄65'±Prop.R/W

1856+81
℄71'

1848+46±P
62'

1847+65
℄67'±EX.R/W

1847+33
℄73'

1846+78
℄73'

1845+63±P
℄73'

1846+57.40
℄70'±EX.R/W Cor.

1843+53±Lot line
℄75'

+46 Prop. Jt. Type "C" Ent. W=20'

+06.3 Prop. Type "C" Ent. W=20'

+08.4 Prop. Jt. Type "C" Ent. W=30'

+60 Prop. Type "C" Ent. W=20'

+40.6 Prop. Type "C" Ent. W=20

Prop. 24" Uncl. Ent. Pipe

Prop. 18" Uncl. Ent. Pipe

Prop. 18" Uncl. Ent. Pipe

(REMOVE)

(REMOVE)

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

(24)
DAVID D. & PAMELA J. NAUERTH

(22)
DARREL THOMAS & MARY TERRI BELL TRUST
CP:SALVADOR JR & ARACELI ZAMARRIPA

ARNOLD THOMAS SRP & IRMA JEAN MRAZEK

(26)
MICHAEL P. & SHARI SCHLEEF

(28)
ANDREW J. CARPENTER

(30)
NICHOLAS J. MOSIER

(34)
JAY T. & SUSAN E. SCHWEITZER

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 9-28-2022

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100 FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.27

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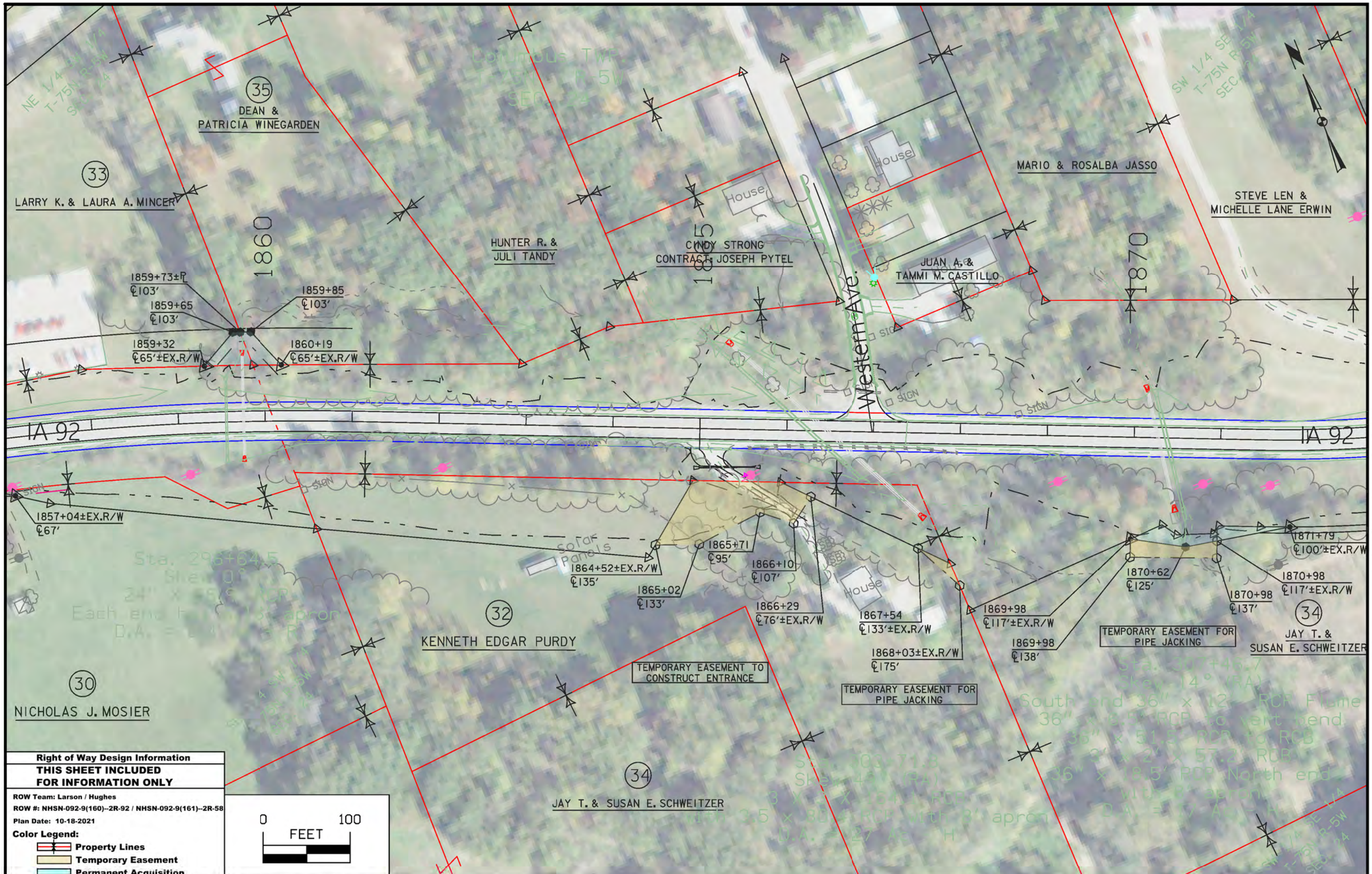

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes

ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58

Plan Date: 10-18-2021

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.28

10:51:55 AM 10/18/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

MARIO & ROSALBA JASSO

STEVE LEN & MICHELLE LANE ERWIN

1870

+35 Prop. Type "C" Ent. W=20'

1875

Prop. 24" Uncl. Ent. Pipe

18" x 40' C.M.P. (REMOVE)

IA 92

1870+98 ℄117'±Prop.R/W

1871+79 ℄100'±EX.R/W

(37) MICHAEL G. & JERA L. WINTERS

TEMPORARY EASEMENT TO CONSTRUCT ENTRANCE

(34) JAY T. & SUSAN E. SCHWEITZER

COLONIAL HIEGHTS, LLC

1880

+40 Prop. Type "C" Ent. W=20'

1880+16 ℄88'

1880+36 ℄88'

1880+50 ℄80'±EX.R/W

(REMOVE)

VICTORY CHRISTIAN CENTER OF COLOMBUS JUNCTION, IOWA, INC

1885

(29A) KYLE P. KLING

SIGN

Columbus TWP. T-75N R-5W SEC. 24

Sta. 317+14.4 Skew 0° 3' x 3' x 42.4' RCB 42" x 16.5' RCP S and N ends Each end has 8' apron D.A. = 36 Ac ±

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes

ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58

Plan Date: 9-8-2021

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100 FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.29

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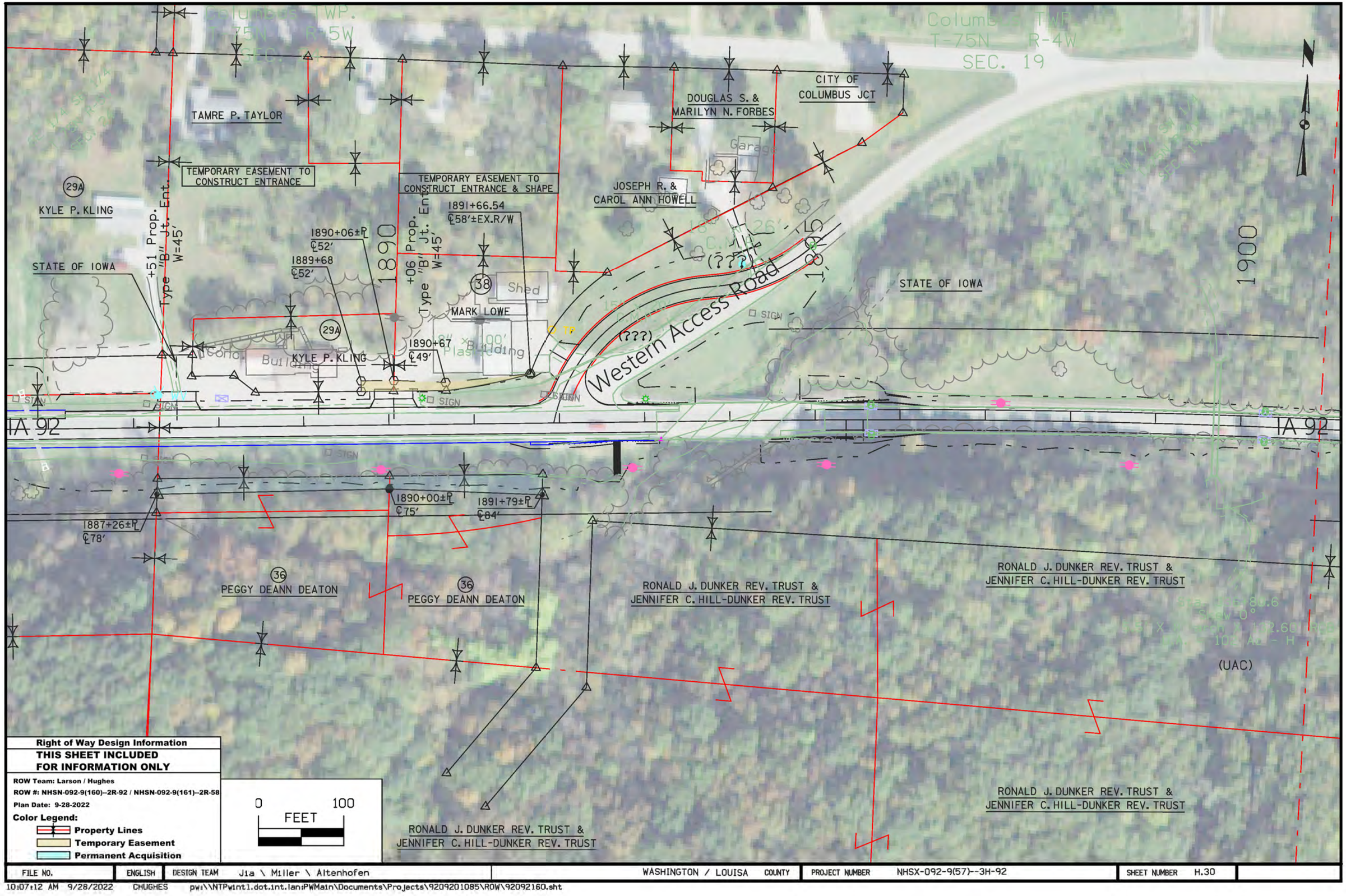

FILE NO.	ENGLISH	DESIGN TEAM	Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	H.30

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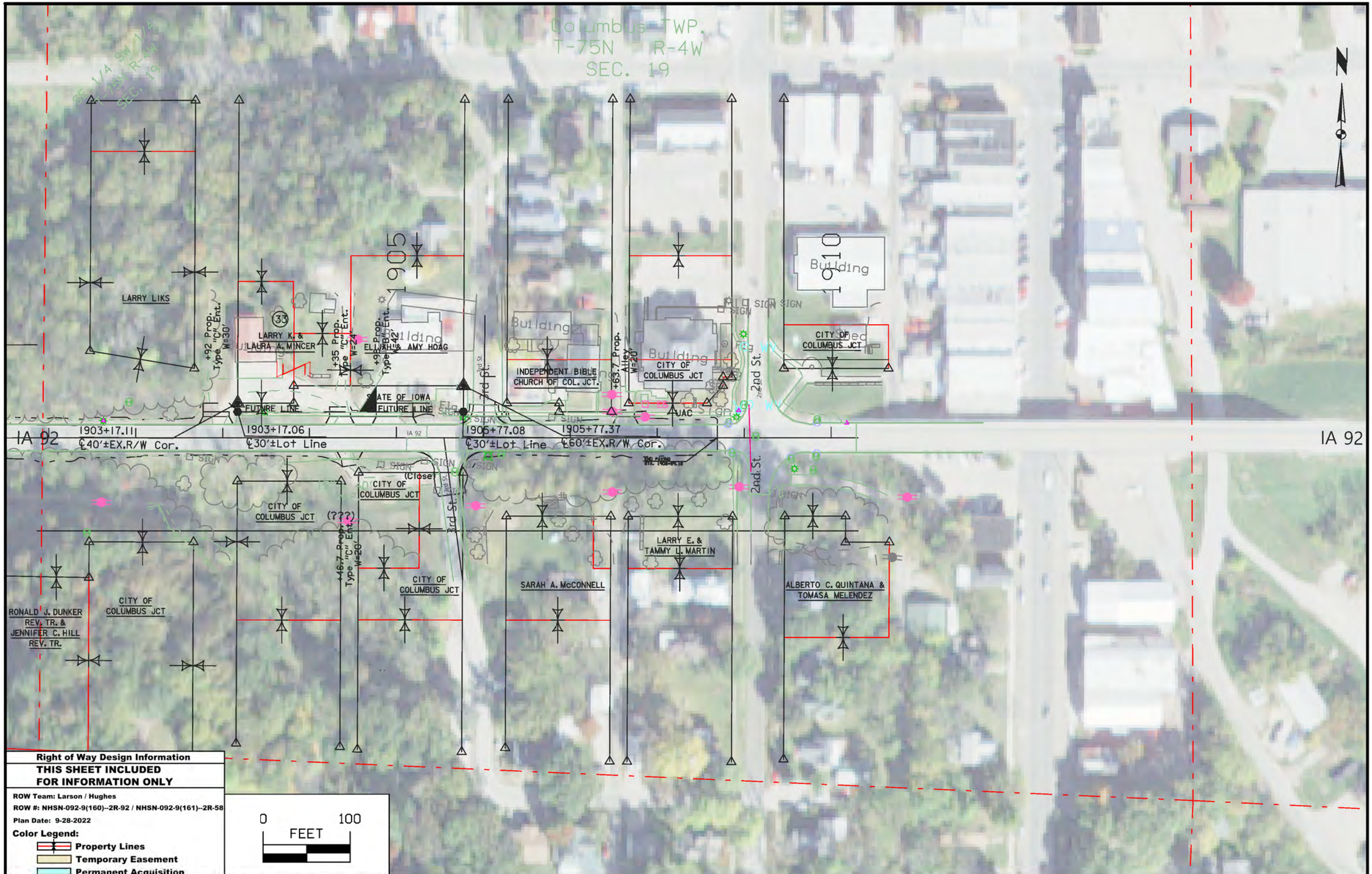

Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes

ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58

Plan Date: 9-28-2022

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER H.31

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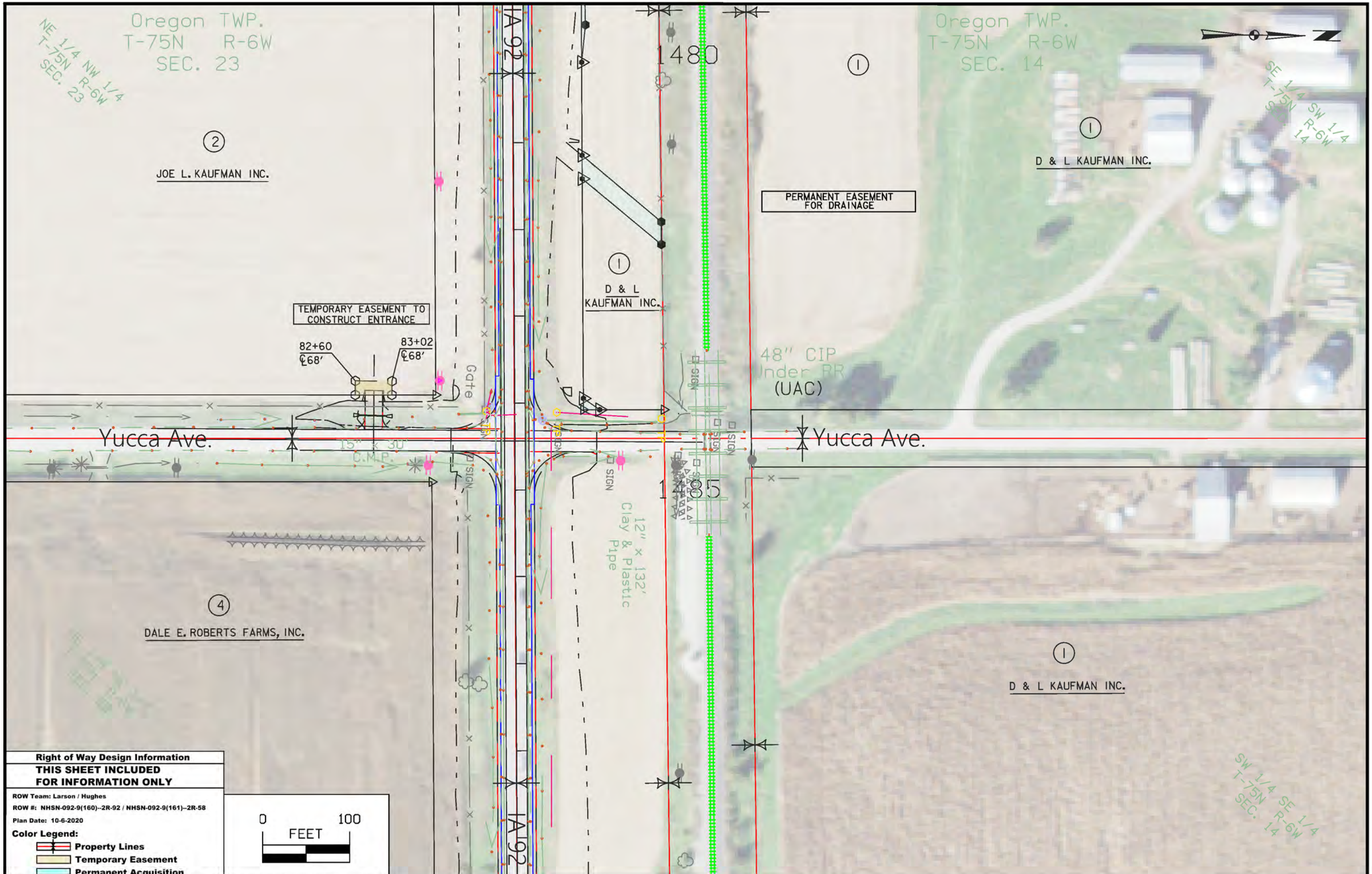


Right of Way Design Information

THIS SHEET INCLUDED FOR INFORMATION ONLY

ROW Team: Larson / Hughes

ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58

Plan Date: 10-6-2020

Color Legend:

- Property Lines
- Temporary Easement
- Permanent Acquisition

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER HE.1

4:12:25 PM 10/7/2020 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

SW 1/4 NE 1/4
T-75N R-5W
SEC. 21

NW 1/4 NE 1/4
T-75N R-5W
SEC. 21

IA 92

3' x 2.5' RCB
Under RR

10+69 Prop.
Type "C" Ent.
W=20'

TEMPORARY EASEMENT TO
CONSTRUCT ENTRANCE

12

MARVIN HARDY JR. &
JENNIFER WALKER

Prop. 24"
Uncl. Ent. Pipe

18" x 30'
C.M.P.
(REMOVE)

18" x 20'
C.M.P.

10+38
℄71'

10+87
℄71'

(UAC)

W Ave.

1710

9R

C.R.I.&P. CHICAGO, ROCK ISLAND & PACIFIC RAILWAY CO.

Columbus TWP.
T-75N R-5W
SEC. 21

(UAC)

13

GERALDINE IDLE

Sta. 139+15.15
Skew 0°
Twin 12' X 12' X 40' RCB
D.A. = 1261 Ac

Sta. 153+98.7
Skew 0°
6' x 5' x 52.4' RCB
72" x 22.25' RCP S end
72" x 12.75' RCP N end
Each end has 8.25' apron
D.A. = 67 Ac - R

(???)

12' x 4.8' RCB
Under RR

(UAC)

13

GERALDINE IDLE

1715

1764

NE 1/4 NE 1/4
T-75N R-5W
SEC. 21

Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY

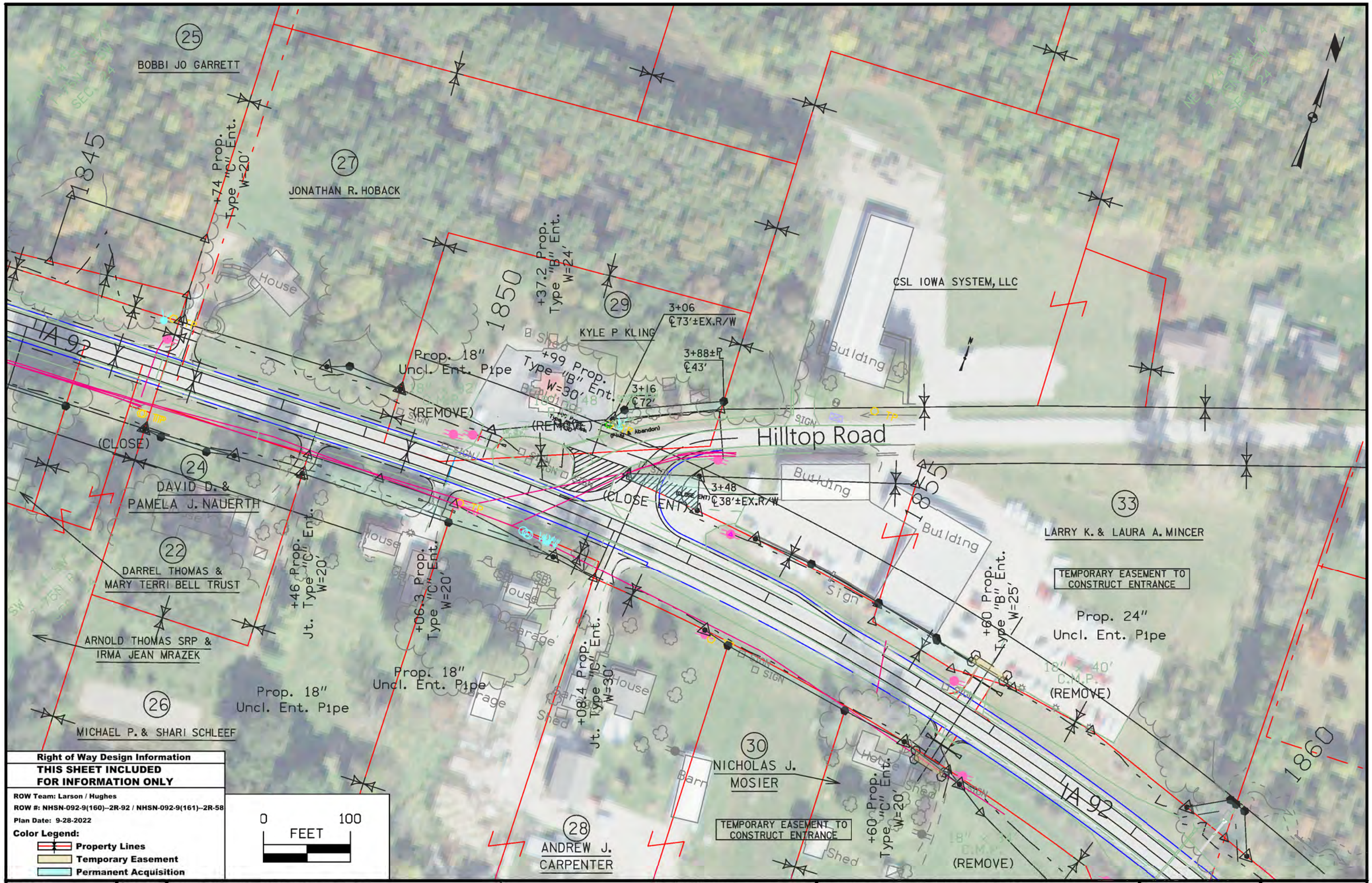
ROW Team: Larson / Hughes
ROW #: NHSN-092-9(160)--2R-92 / NHSN-092-9(161)--2R-58
Plan Date: 5-26-2021

Color Legend:
- Property Lines
- Temporary Easement
- Permanent Acquisition

0 100
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER HE.2

10:39:19 AM 5/26/2021 CHUGHES pw:\\ntPwInt1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON / LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER HE.3

8:01:35 AM 9/28/2022 CHUGHES pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\ROW\92092160.sht

108-23A
08-01-08

TRAFFIC CONTROL PLAN

Project is to be constructed in two years.

IA 92 will be closed during construction. Through traffic on IA 92 will be maintained via detours. Refer to sheets J.2 to J.8 for the proposed detours. Detour signing will be provided, installed, maintained and removed by the Contractor. All detour signs shall be installed prior to use of the detour.

The maximum height of the detour signs shall be the the dimension of the detour route sign added to the minimum height per SI-101. Detour signs shall be installed to the right of existing route marker signs as shown on location of said plans when possible. The proposed detour signing may be modified to meet field conditions and prevent obstructions. The Contractor shall cover all existing signs which conflict with detour signs.

All sideroads will be closed during construction. Local access shall be maintained at all times. Hilltop Road and Western Access Road shall not be closed at the same time.

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-092-9(108)--3H-58	RCB Culvert New-Single Box
NHSX-092-9(150)--3H-92	Traffic Signs
NHSN-092-9(110)--2R-92	Erosion Control

108-26A
08-01-08

STAGING NOTES

Year 1
 Stage 1: Sta. 1816+00 - End of Project
 Traffic:
   - IA 92 traffic to follow detour route for Stages 1 and 2.
   -Hilltop Road and Western Access Road shall not be closed at the same time.
 Construction:
   -Construct IA 92 from approximately Sta. 1816+00 to end of project.

 Stage 2: Sta. 1763+50 - Sta. 1816+00
 Traffic:
   -IA 92 traffic to remain on detour route for Stages 1 and 2.
 Construction:
   -Construct IA 92 from approximately Sta. 1763+50 to Sta. 1816+00.
   -Construct HMA runout from Sta. 1762+50 to Sta. 1763+50.

Winter
 Traffic:
   -IA 92 and all sideroads shall be opened up and traffic returned to normal.
   -All hard-surfaced roads shall be hard-surfaced during this Winter stage.

Year 2
 Stage 3: Beginning of Project - Sta. 1763+50
 Traffic:
   -IA 92 traffic to follow detour route for Stage 3.
 Construction:
   -Construct IA 92 from beginning of project to Sta. 1763+50.

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
1906+24.00	Lt	1	
1906+92.00	Lt	1	Church
1907+31.00	Lt	1	Church
1908+85.00	Lt	1	

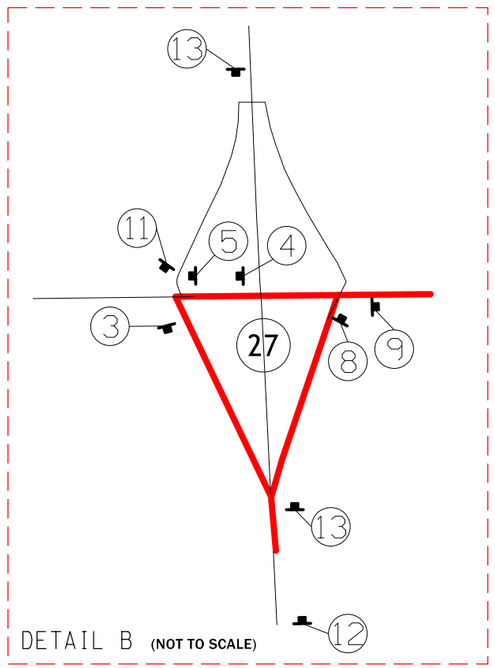
108-25
10-21-14

511 TRAVEL RESTRICTIONS

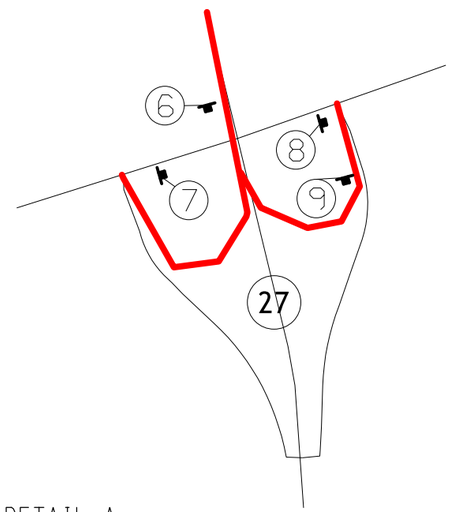
Route	Direction	County	Location Description	Feature Crossed	Object Type	Maint. Bridge No., Structure ID, or FHWA No.	Type of Restriction	Existing Measurement	Construction Measurement	Construction Measurement as Signed	Projected As Built Measurement	Remarks
IA 92	Both	Washington/Louisa	E of US 218 to 2nd Street in Columbus Junction	No travel Restrictions								

WASHINGTON COUNTY

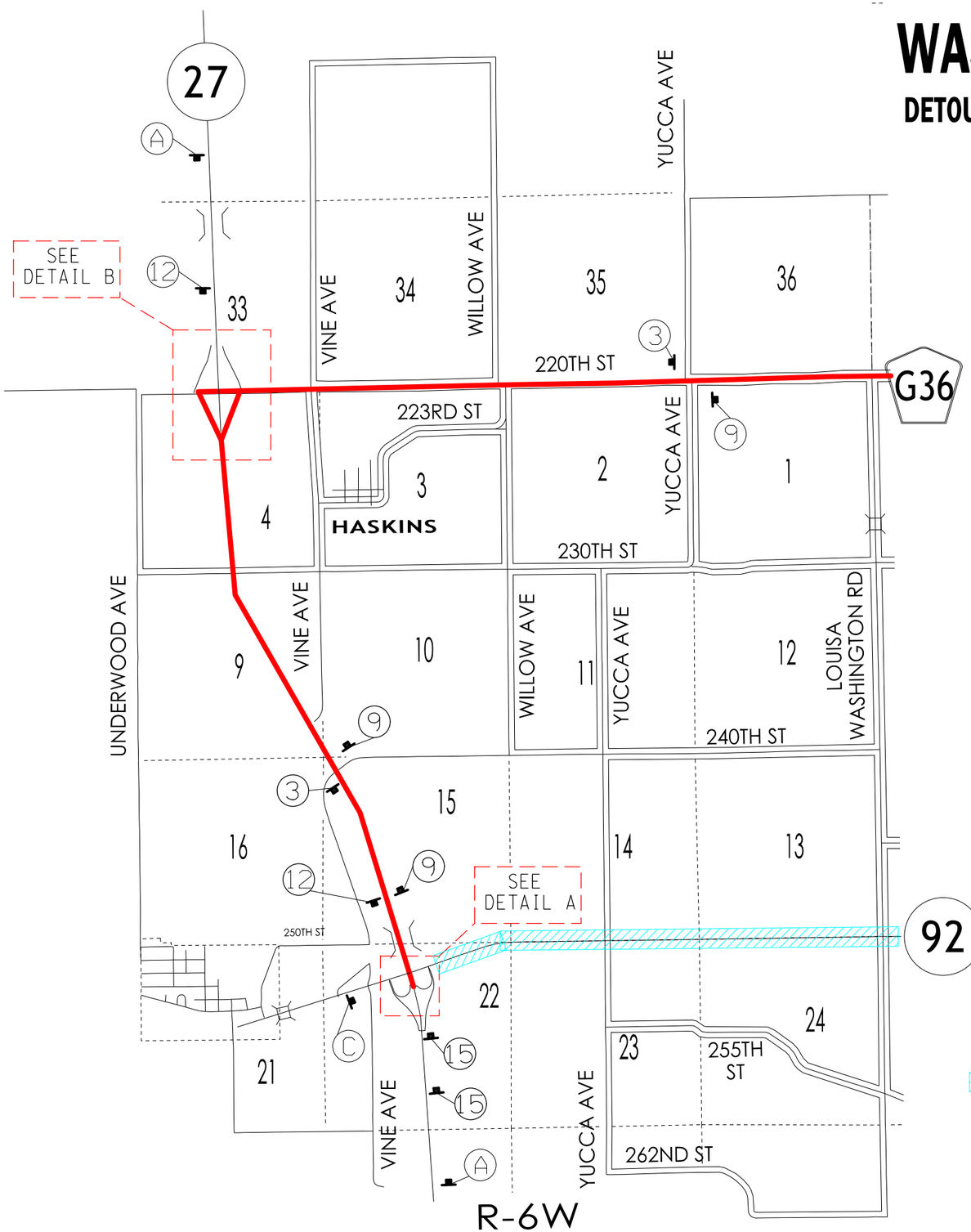
DETOUR ROUTE FOR STAGE 3



DETAIL B (NOT TO SCALE)



DETAIL A (NOT TO SCALE)



Place 2 PDMS signs for 7 days prior to closure then remove.
Example 1st Phase- Bridge Removal Phase 2-- Date Closing

PROJECT LOCATION

= STAGE 3

FILE NO.	ENGLISH	DESIGN TEAM	Jia/Miller/Altenhofen	Washington/Louisa	COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	J.2

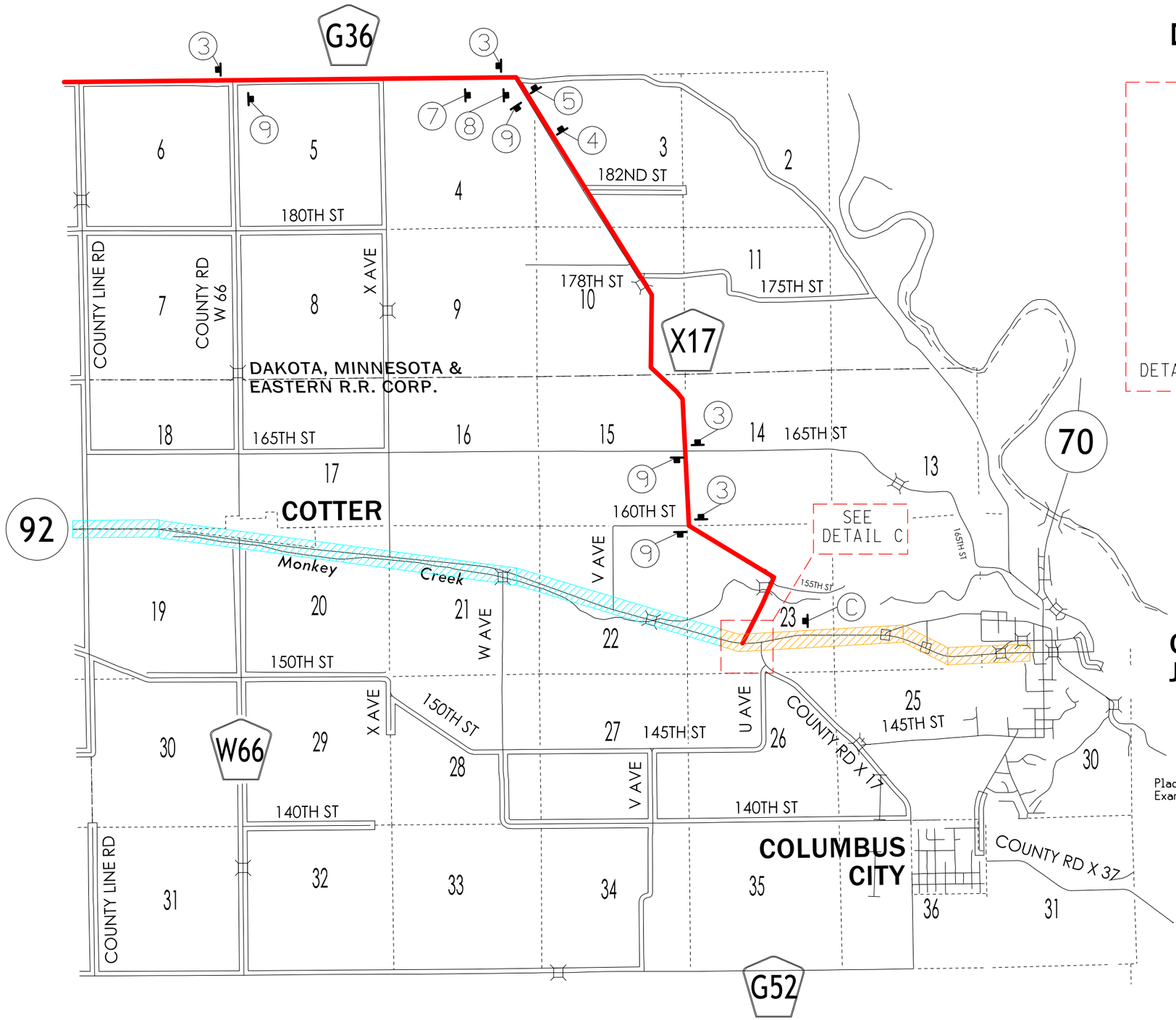
3:04:14 PM 9/26/2022 rfiedle W:\Highway\District5\Maintenance\Operations\Detours\IA 92 (57)\NHSX-092-9(57)--3H-92.dgn

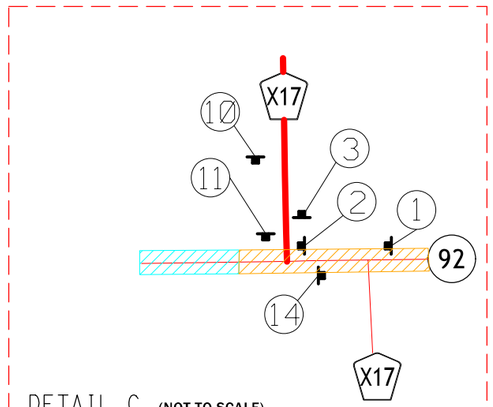
LOUISA COUNTY

DETOUR ROUTE FOR STAGE 3

MATCH LINE

T-75N





DETAIL C (NOT TO SCALE)

COLUMBUS JUNCTION

Place 2 PDMS signs for 7 days prior to closure then remove.
Example 1st Phase- Bridge Removal Phase 2-- Date Closing

PROJECT LOCATION

= STAGE 1 and 2

= STAGE 3

FILE NO.	ENGLISH	DESIGN TEAM	Jia/Miller/Altenhofen	Washington/Louisa	COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	J.3

3:04:15 PM 9/26/2022 rfiedle W:\Highway\District5\Maintenance\Operations\Detours\IA 92 (57)\NHSX-092-9(57)--3H-92.dgn

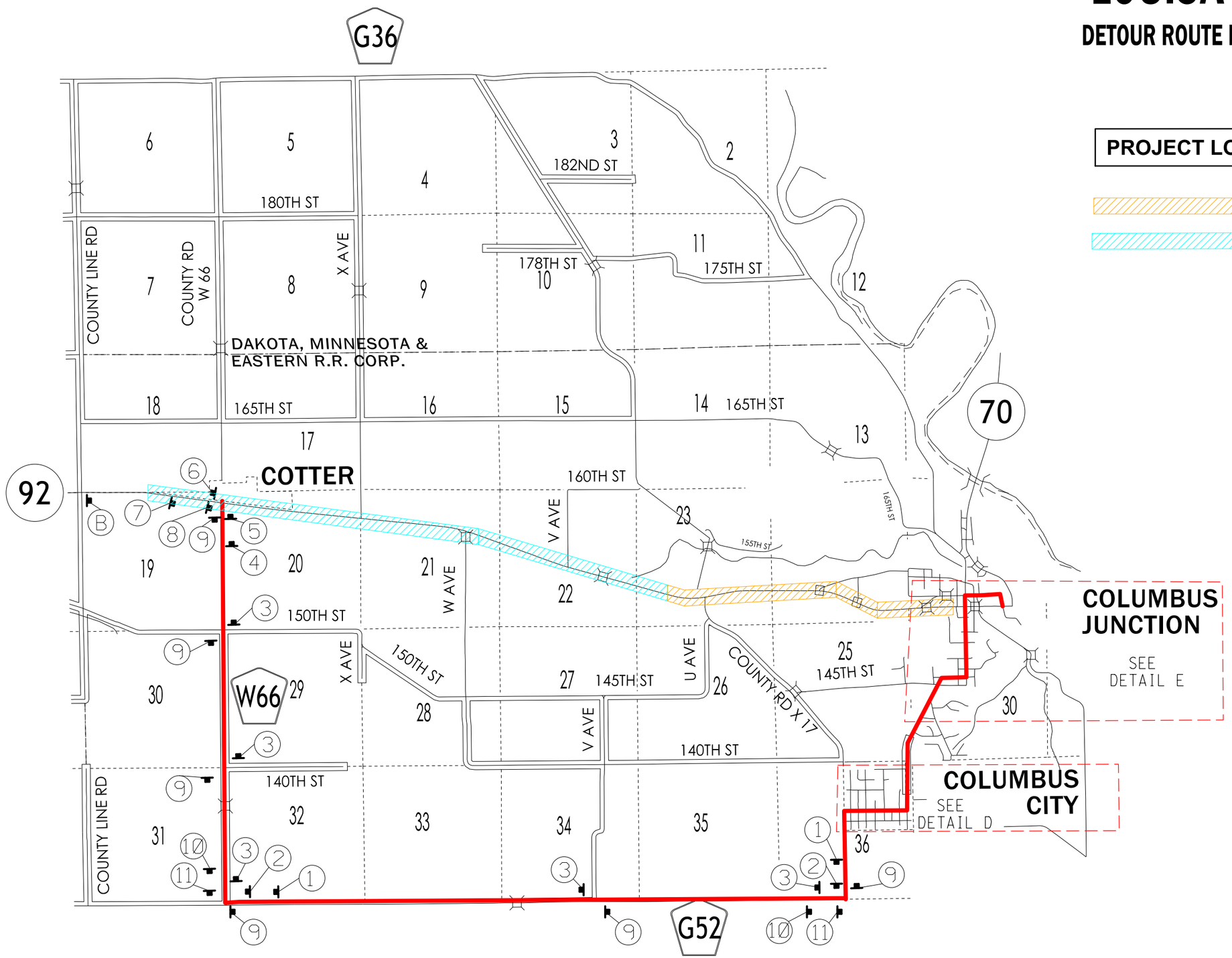
LOUISA COUNTY

DETOUR ROUTE FOR STAGE 1 and 2

PROJECT LOCATION

= STAGE 1 and 2

= STAGE 3



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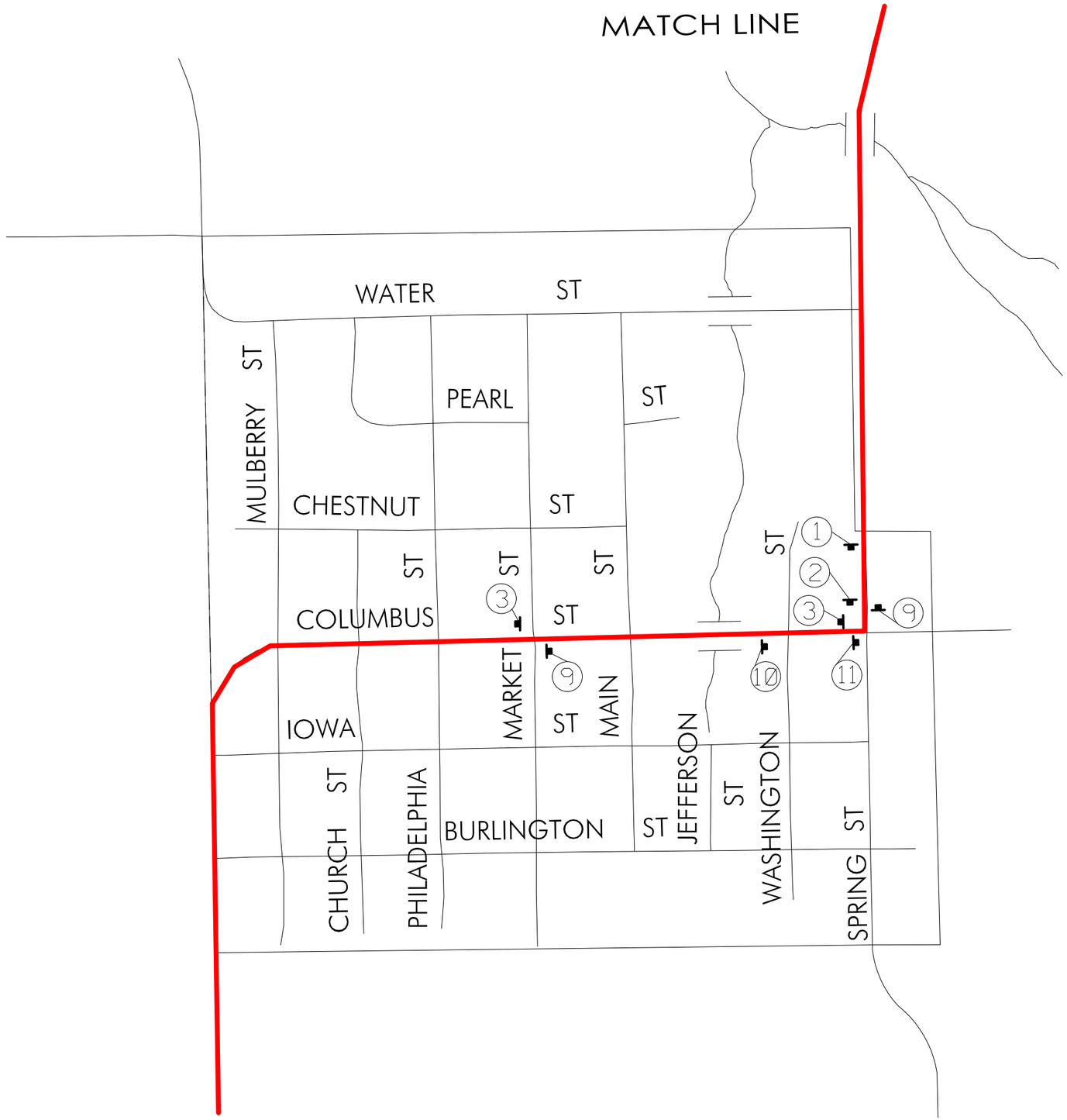
3:04:16 PM 9/26/2022 rfiedle W:\Highway\District5\Maintenance\Operations\Detours\IA 92 (57)\NHSX-092-9(57)--3H-92.dgn

COLUMBUS CITY

DETOUR ROUTE FOR STAGE 1 and 2

DETAIL D (NOT TO SCALE)



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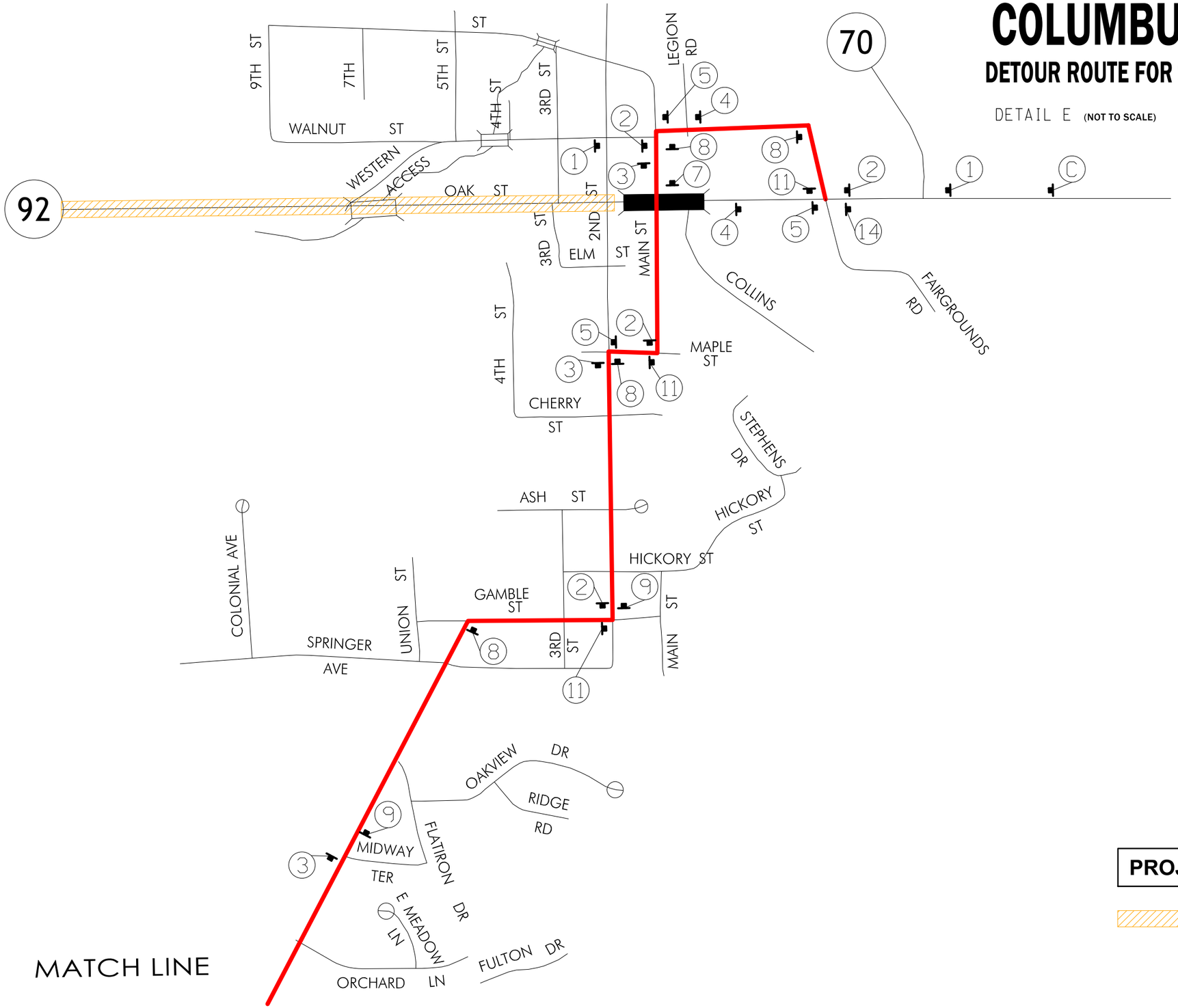
3:04:17 PM 9/26/2022 rfiedle W:\Highway\District5\Maintenance\Operations\Detours\IA 92 (57)\NHSX-092-9(57)--3H-92.dgn

COLUMBUS JUNCTION

DETOUR ROUTE FOR STAGE 1 and 2

DETAIL E (NOT TO SCALE)



PROJECT LOCATION

= STAGE 1 and 2

FILE NO.	ENGLISH	DESIGN TEAM	J1a/Miller/Altenhofen	Washington/Louisa	COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	J.6

3:04:17 PM 9/26/2022 rfiedle W:\Highway\District5\Maintenance\Operations\Detours\IA 92 (57)\NHSX-092-9(57)--3H-92.dgn

1



QTY. 6

2



QTY. 8

3



QTY. 18

4



QTY. 5

5



QTY. 6

6



QTY. 2

7



QTY. 4

8



QTY. 8

9

QTY. 18

10



QTY. 4

11



QTY. 8

12



QTY. 3

13



QTY. 2

14



QTY. 2

15

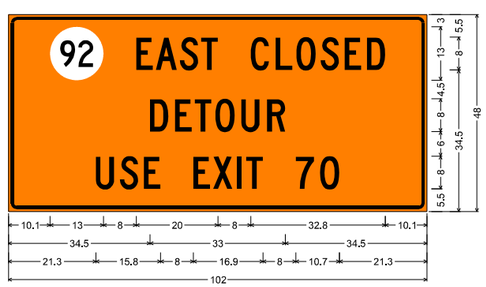


QTY. 2

SIGN INVENTORY FOR DETOUR

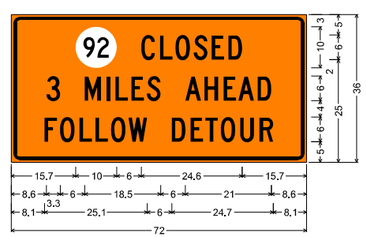
	I.D. number	Size	Quantity
DETOUR	M4-8	24" x 12"	97
END	M4-8B	24" x 12"	4
EAST	M3-2	24" x 12"	52
WEST	M3-4	24" x 12"	45
	M6-1	21" x 15"	30
	M5--1B	21" x 15"	9
	M5-1	21" x 15"	10
	M6-3	21" x 15"	2
	M6-2	21" x 15"	2
	M5-2R	21" x 15"	3
92	M1-6	24" x 24"	97

A



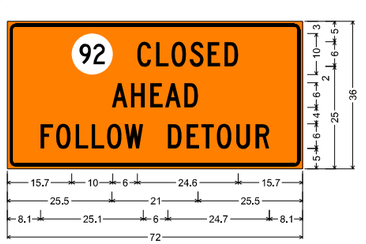
2.0" Radius, 0.8" Border, 0.6" Indent, Black on, Orange;
State Highway 92 M1-5; "EAST CLOSED", C 2K; "DETOUR", C 2K;
"USE EXIT 70", C 2K;

B



2.0" Radius, 0.8" Border, 0.6" Indent, Black on, Orange;
State Highway 92 M1-5; "CLOSED", C 2K;
"3 MILES AHEAD", C 2K; "FOLLOW DETOUR", C 2K;

C



2.0" Radius, 0.8" Border, 0.6" Indent, Black on, Orange;
State Highway 92 M1-5; "CLOSED", C 2K;
"AHEAD", C 2K; "FOLLOW DETOUR", C 2K;

FILE NO.	ENGLISH	DESIGN TEAM	J1a/Miller/Altenhofen	Washington/Louisa	COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	J.7

3:04:18 PM 9/26/2022 rfiedle W:\Highway\District5\Maintenance\Operations\Detours\IA 92 (57)\NHSX-092-9(57)--3H-92.dgn

STANDARD ROAD PLAN TC-252

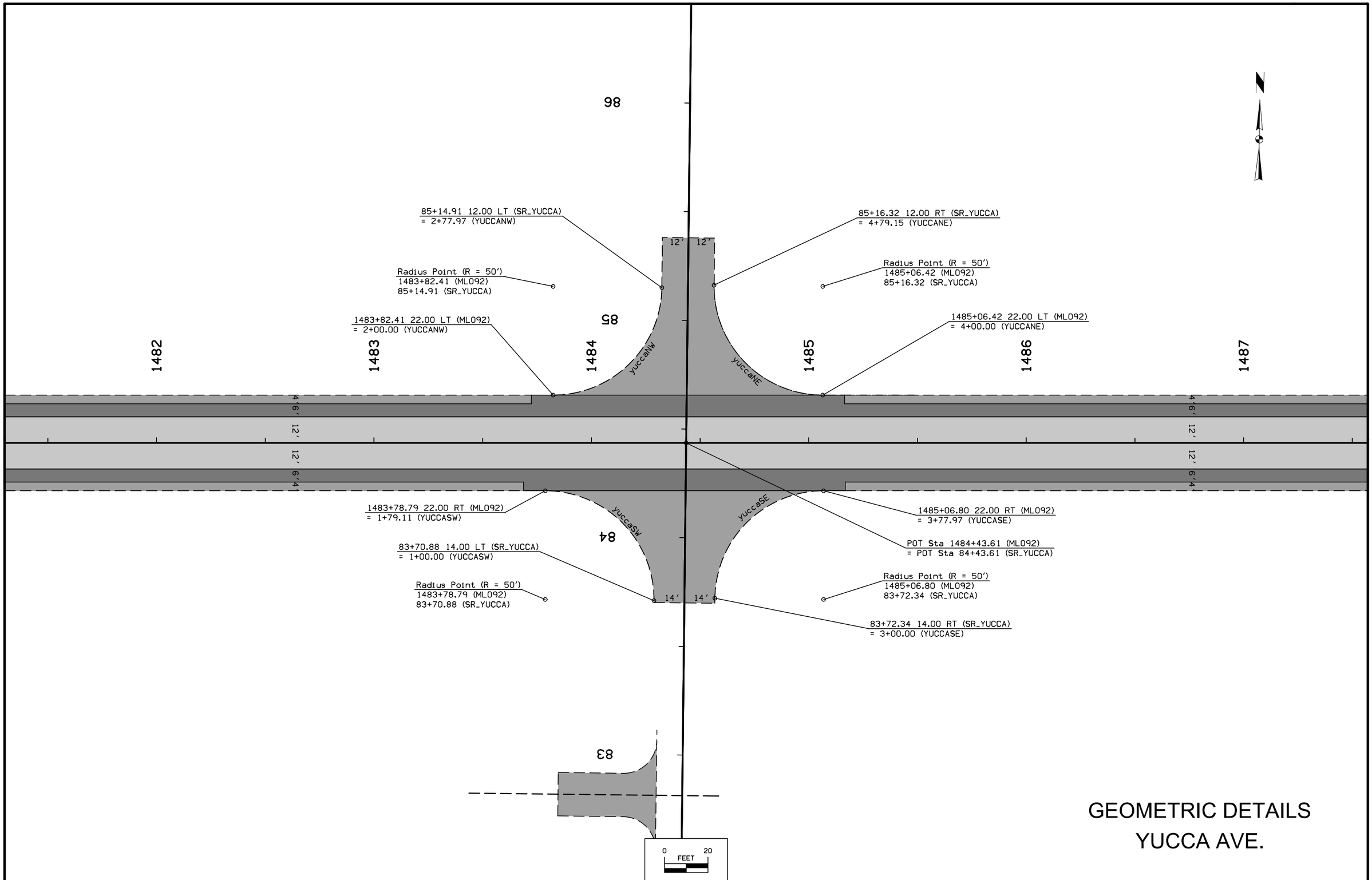
STAGE 1 & 2	STAGE 3
LOUISA CO. RD. X17-SB SITUATION 2	IA 92 @ 218/27 INTERCHANGE SITUATION 1
HILLTOP RD. SITUATION 2	YUCCA AVE. SITUATION 2
WESTERN AVE. SITUATION 2	WASHINGTON/LOUISA CO. RD. SITUATION 2
WESTERN ACCESS RD. SITUATION 2	LOUISA CO. RD. W66 SITUATION 2
3RD ST. SITUATION 2	W AVE. SITUATION 2
2ND ST. SITUATION 2	V AVE. SITUATION 2
EASTERN ACCESS RD. SITUATION 1	LOUISA CO. RD. X17-NB SITUATION 1

3-PDMS LOCATIONS
STAGE 1 & 2

EAST OF JCT. IA. 70/92 FACING WB IA. 92 TRAFFIC
WEST OF JCT. IA. 92/CO.LINE RD. FACING EB IA. 92 TRAFFIC
NORTH OF JCT. IA 70/92 FACING SB IA. 70 TRAFFIC

5-PDMS LOCATIONS
STAGE 3

EAST OF JCT. IA. 70/92 FACING WB IA. 92 TRAFFIC
NORTH OF JCT. IA. 70/92 FACING SB IA. 70 TRAFFIC
NORTH OF IA. 218/27 AND G36 INTERCHANGE FACING SB TRAFFIC
WEST OF IA. 218/27 AND IA. 92 INTERCHANGE FACING EB TRAFFIC
SOUTH OF IA. 218/27 AND IA. 92 INTERCHANGE FACING NB TRAFFIC



GEOMETRIC DETAILS
YUCCA AVE.

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.1

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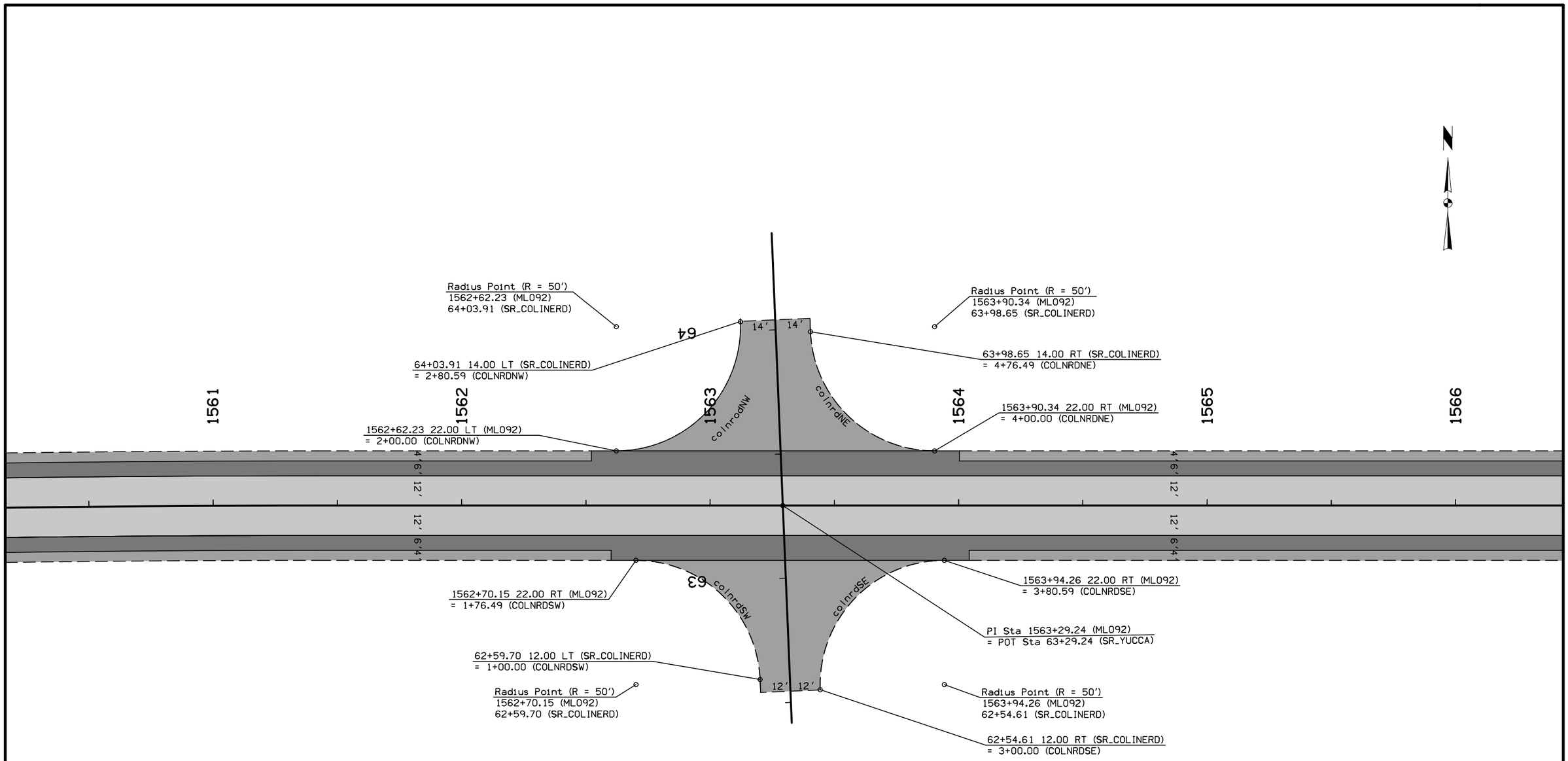

GEOMETRIC DETAILS
COUNTY LINE ROAD

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.2

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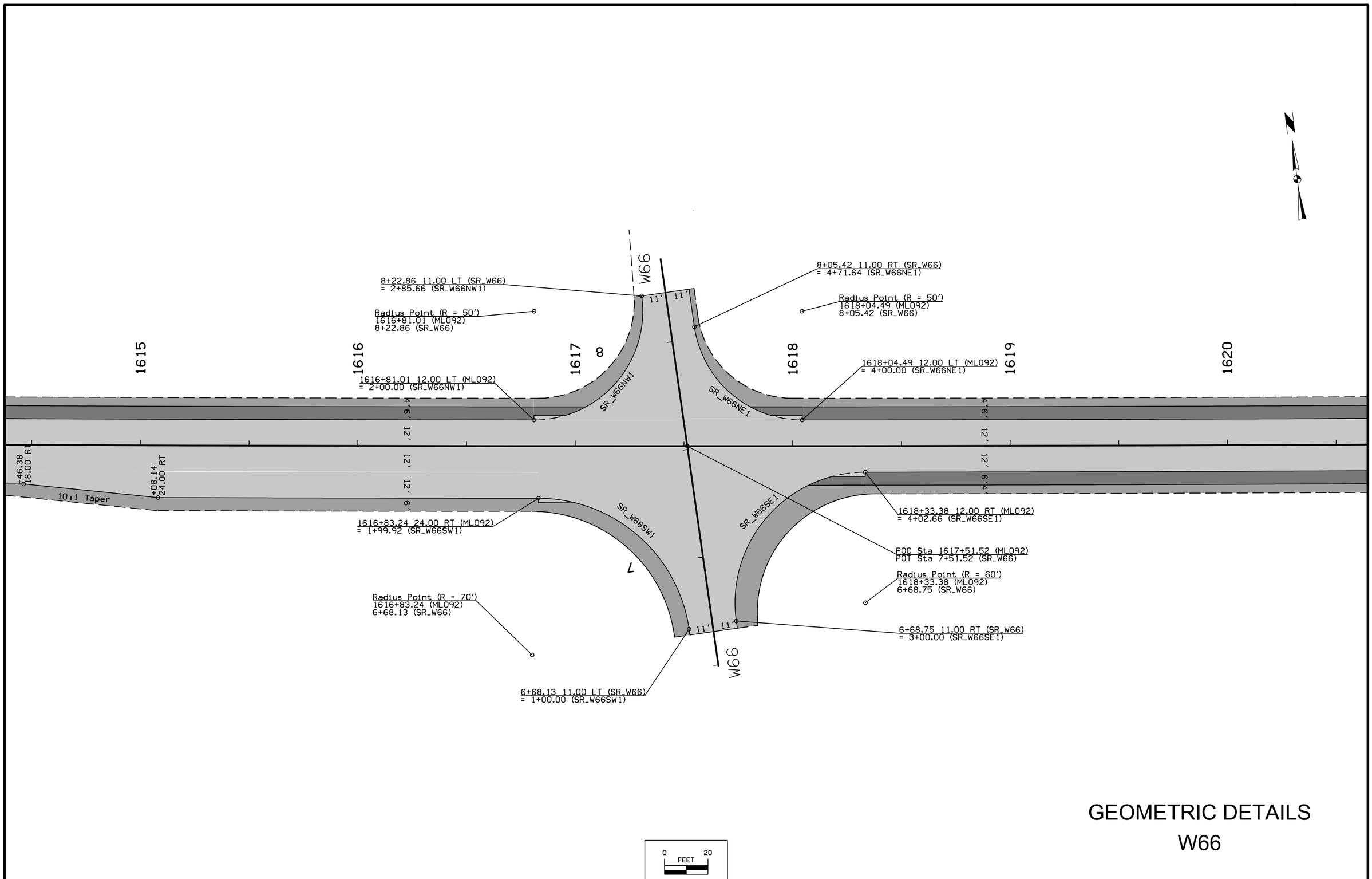

GEOMETRIC DETAILS
W66

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.3

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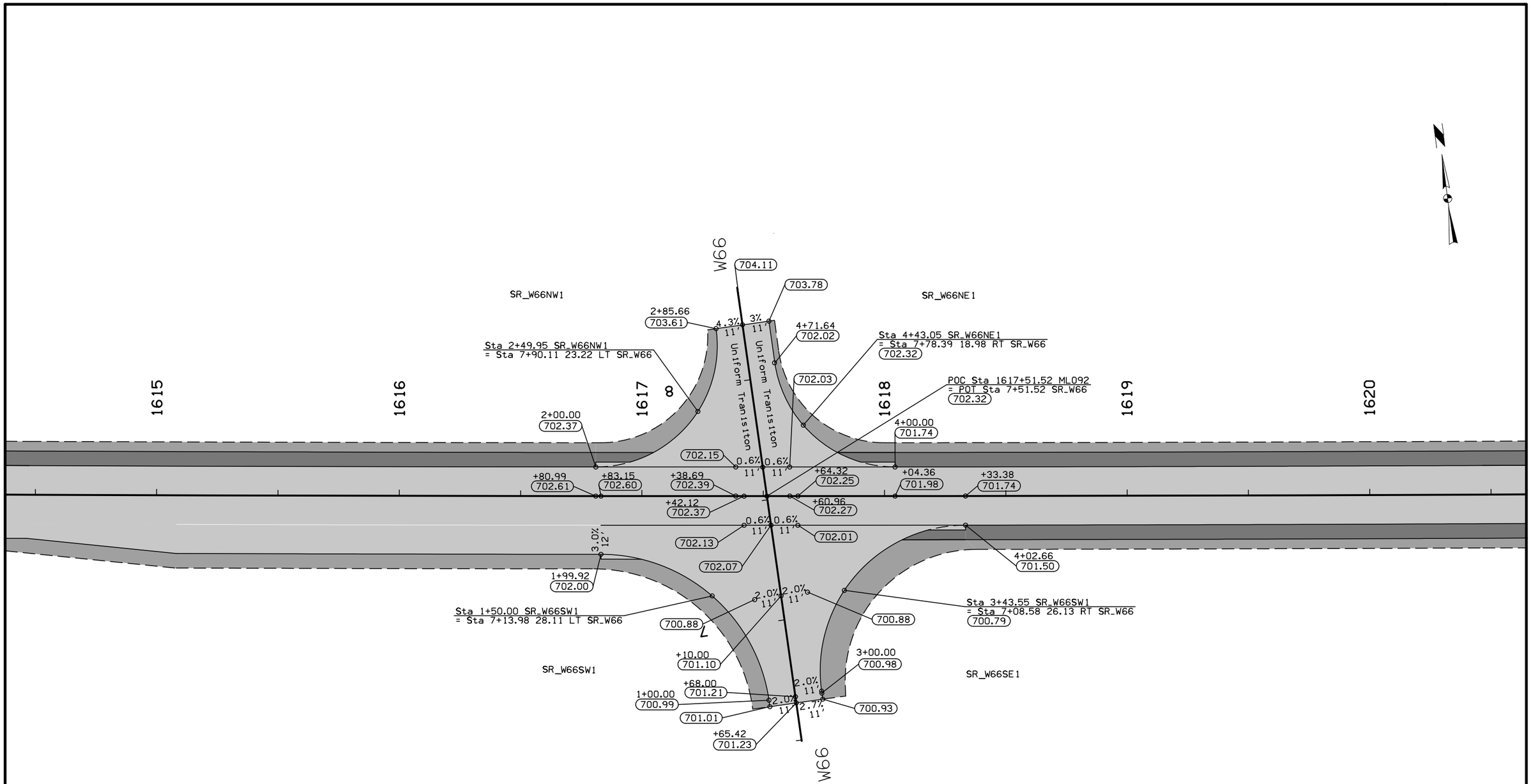

STAKING DETAILS
W66

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.4

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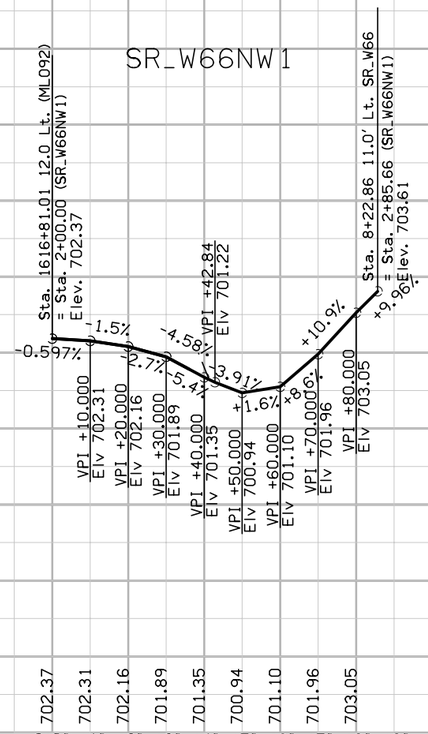

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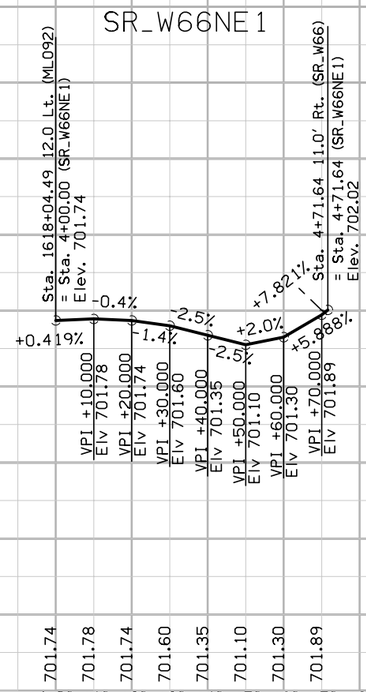

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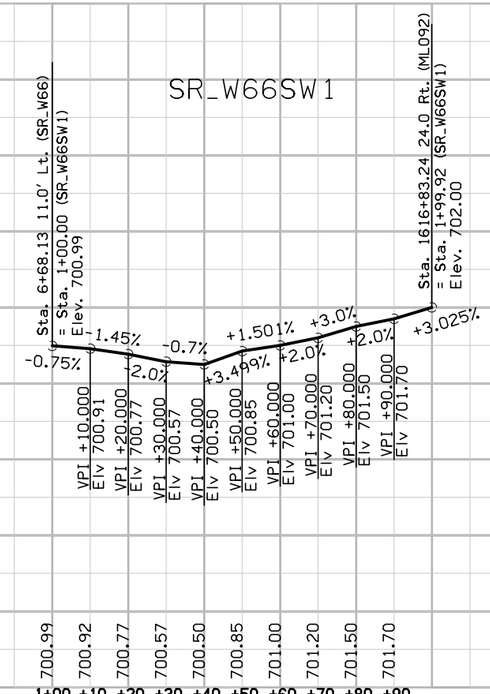

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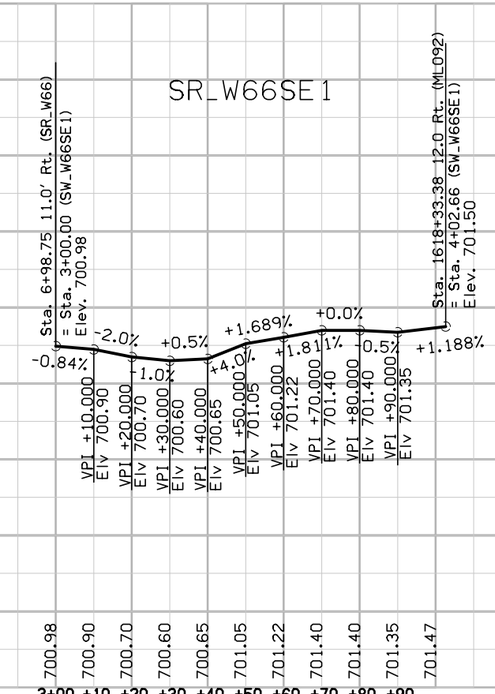

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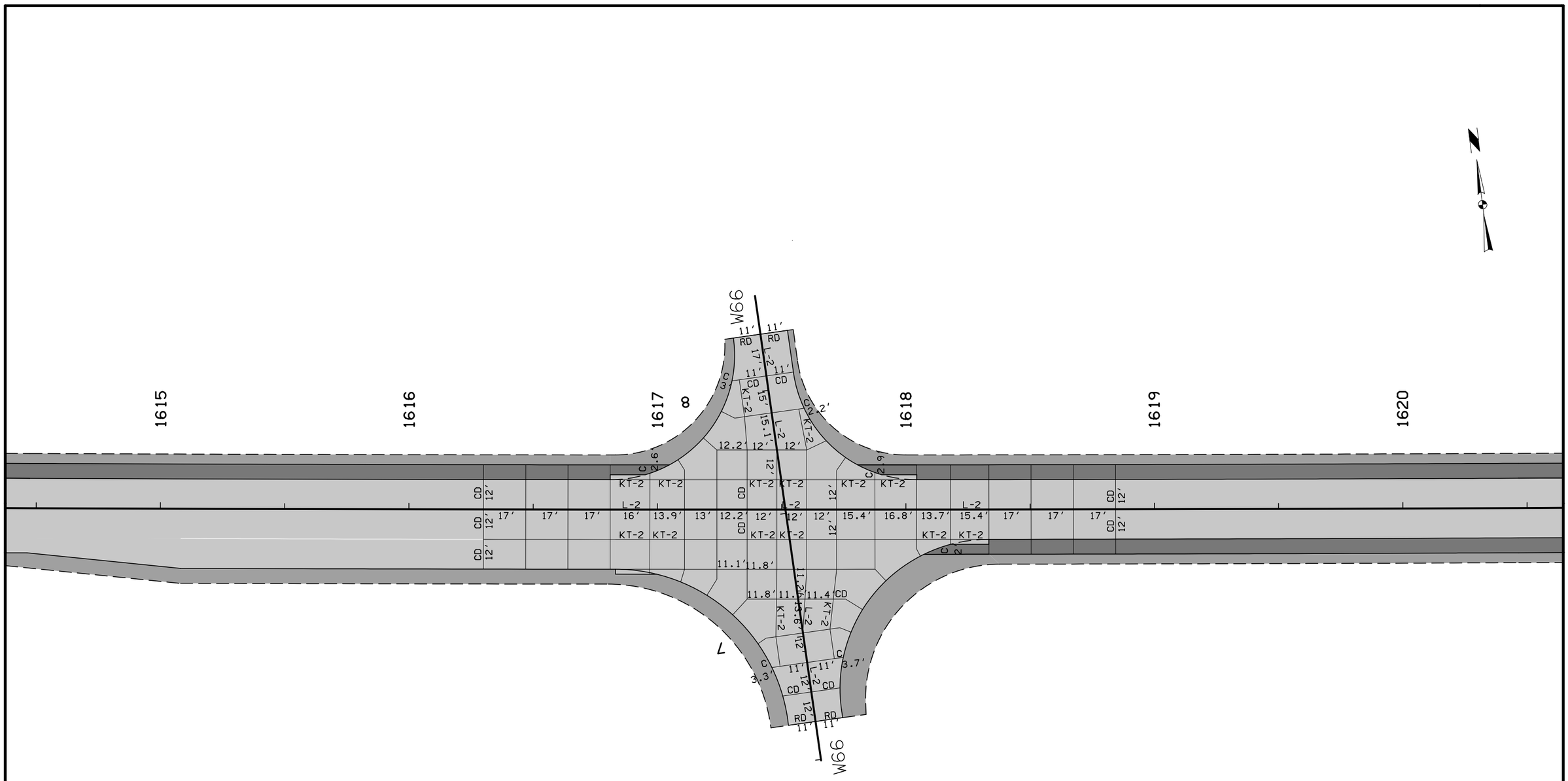
FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.5



JOINTING DETAILS

W66

0 20 FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.6

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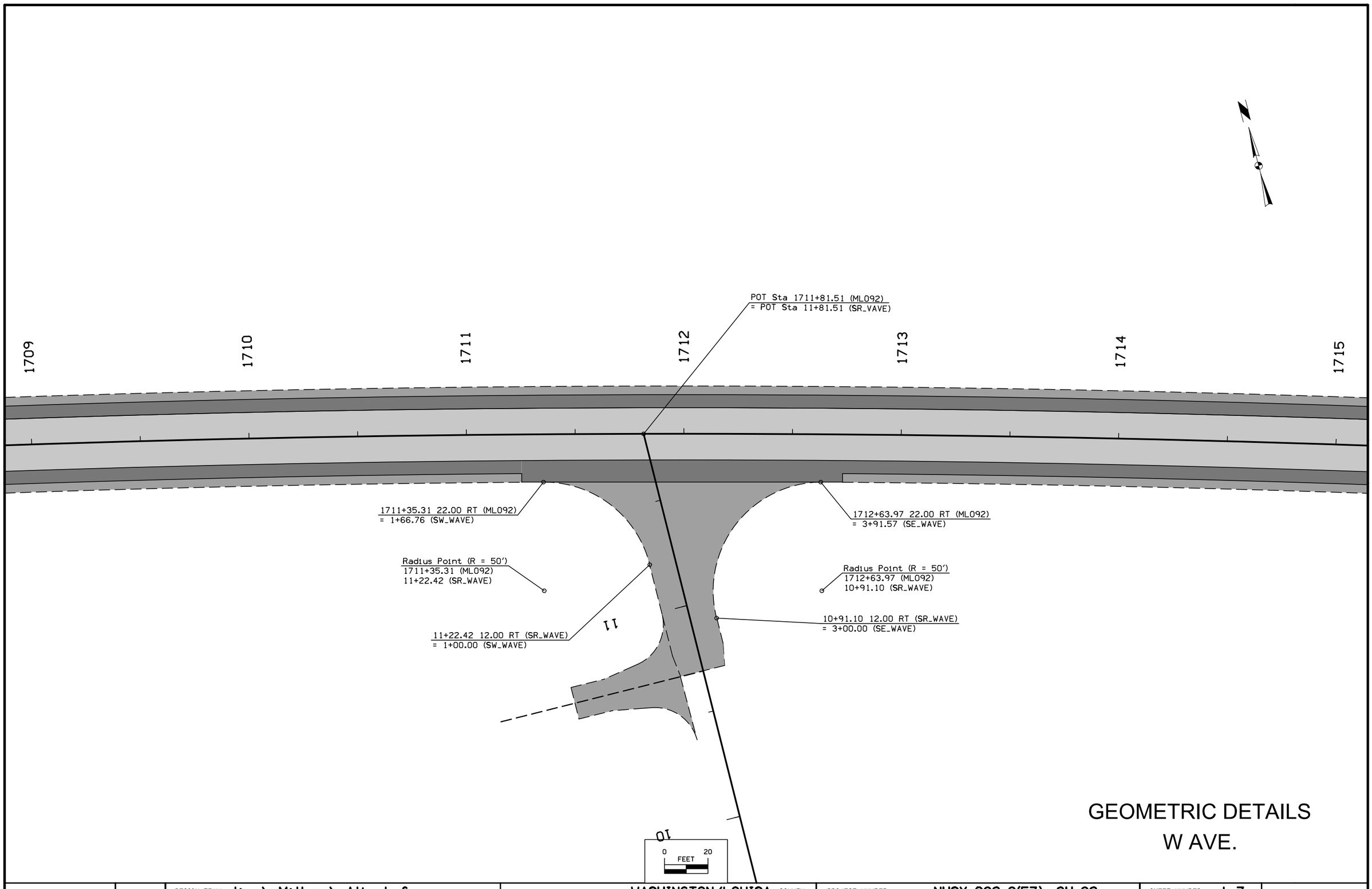

GEOMETRIC DETAILS
W AVE.

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.7

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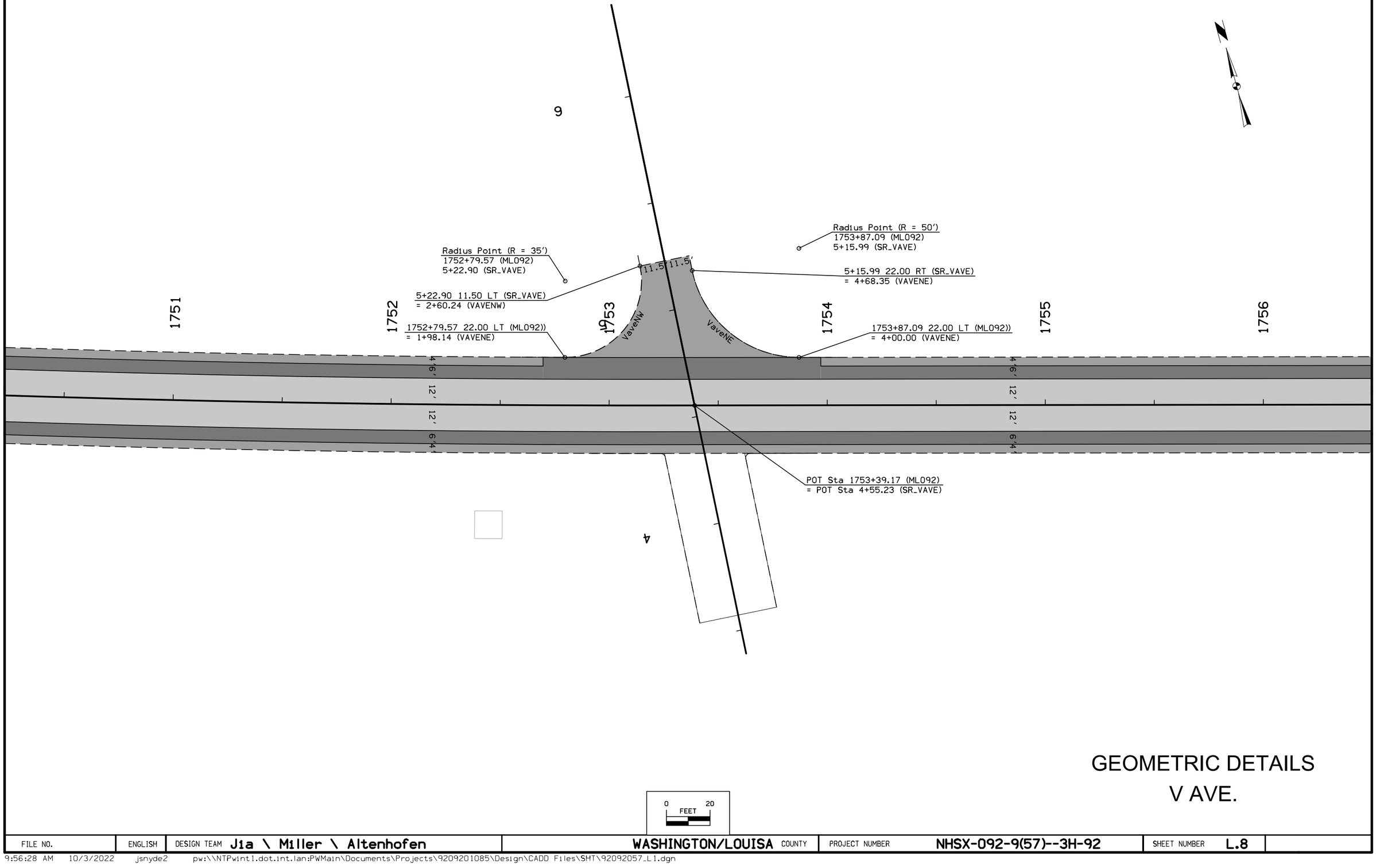

GEOMETRIC DETAILS
V AVE.

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.8

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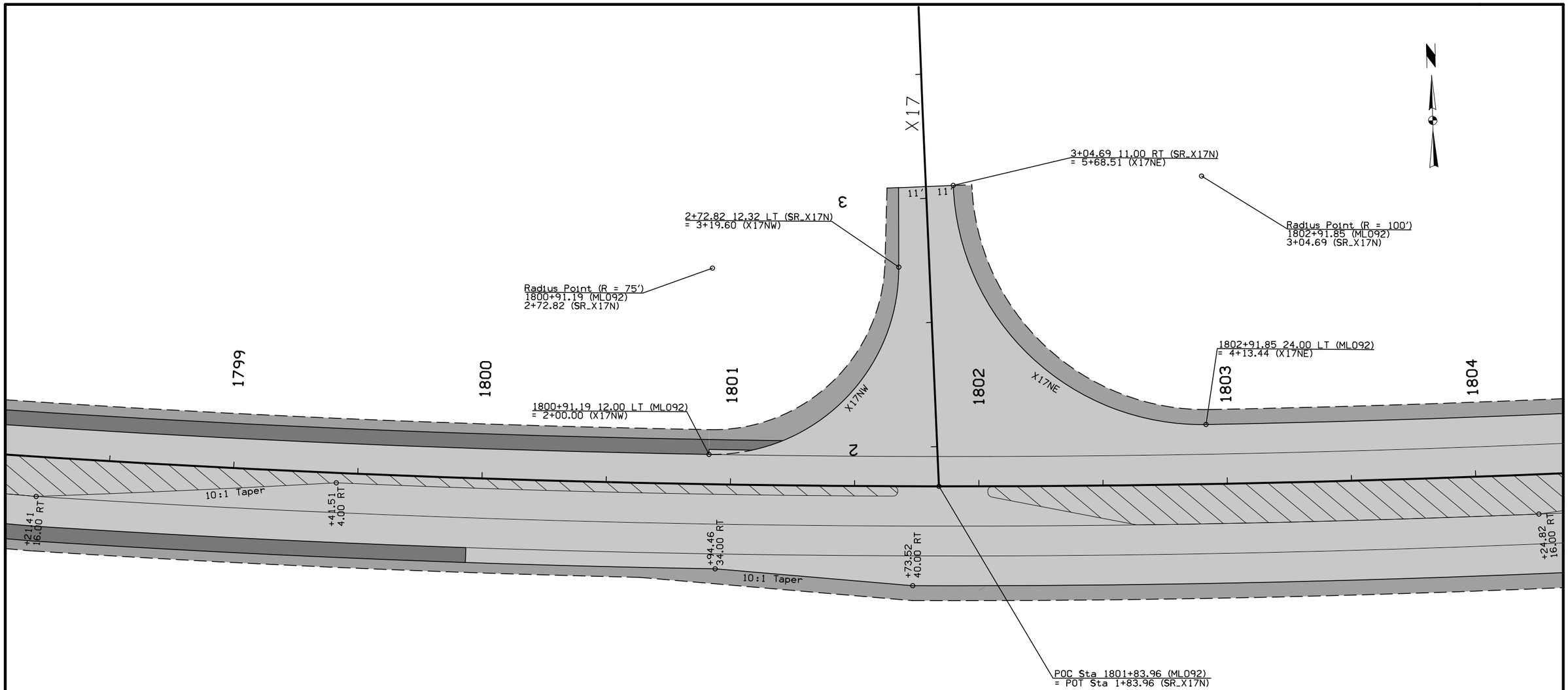

GEOMETRIC DETAILS
X-17 (NORTH)

0 20 FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.9

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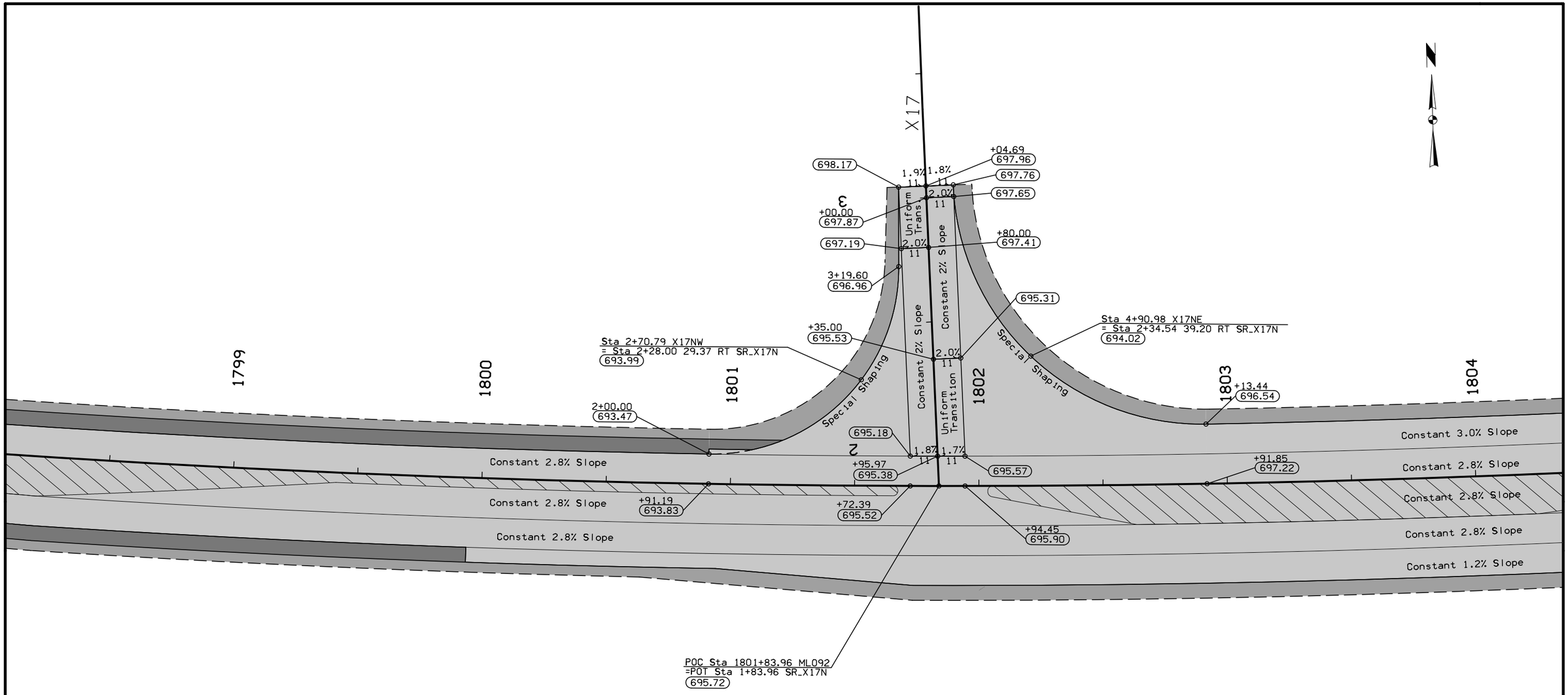

STAKING DETAILS
X-17 (NORTH)

0 20
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.10

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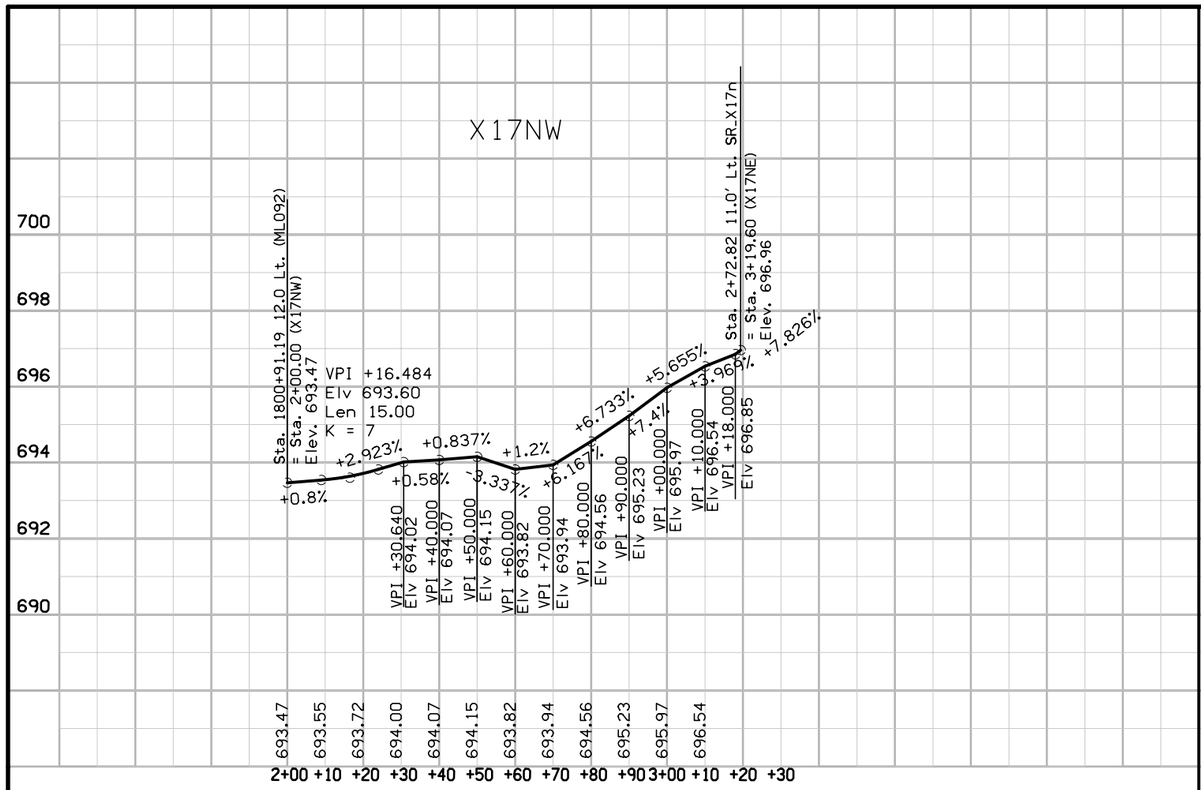
X17NW



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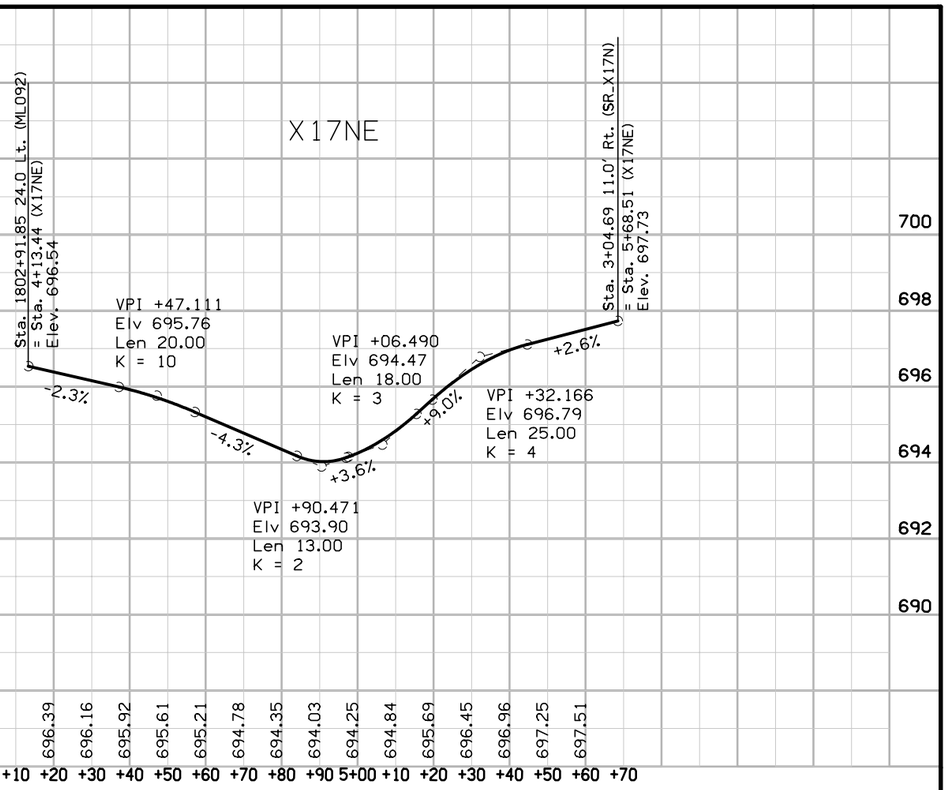

X-17 (North)

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.11

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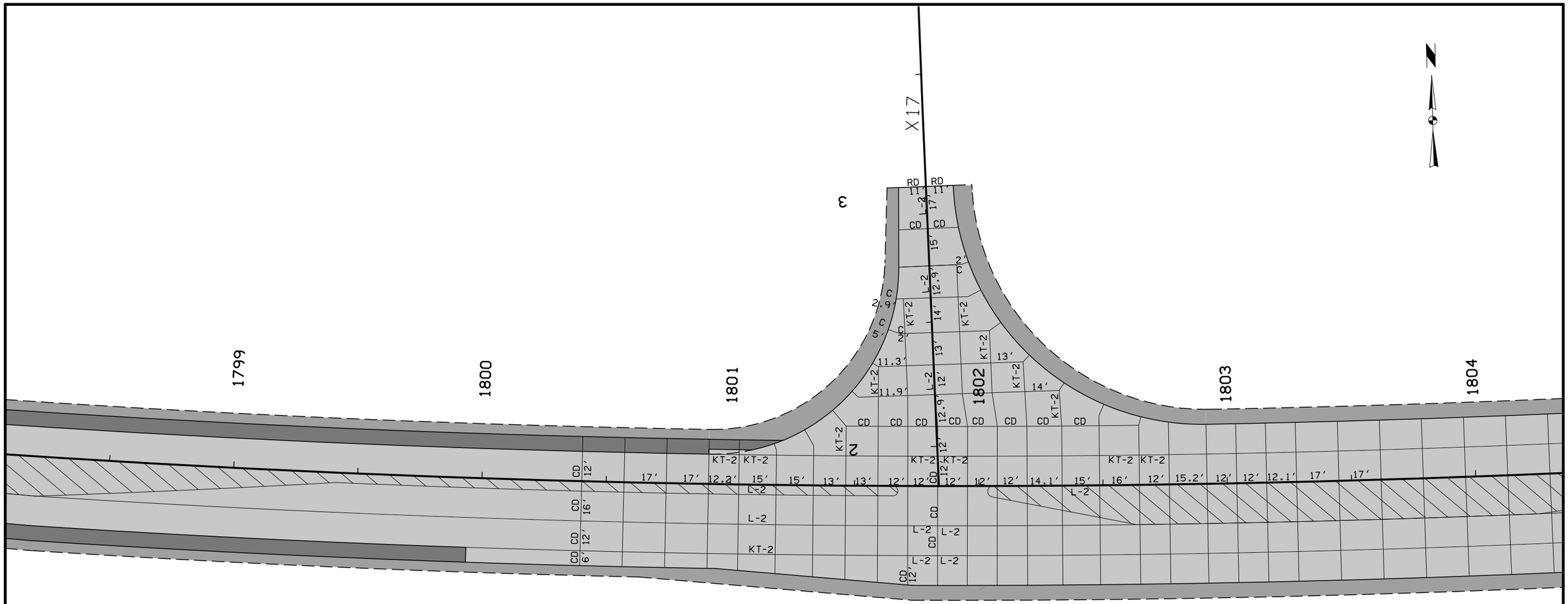

JOINTING DETAILS
X-17 (NORTH)

0 FEET 20

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.12

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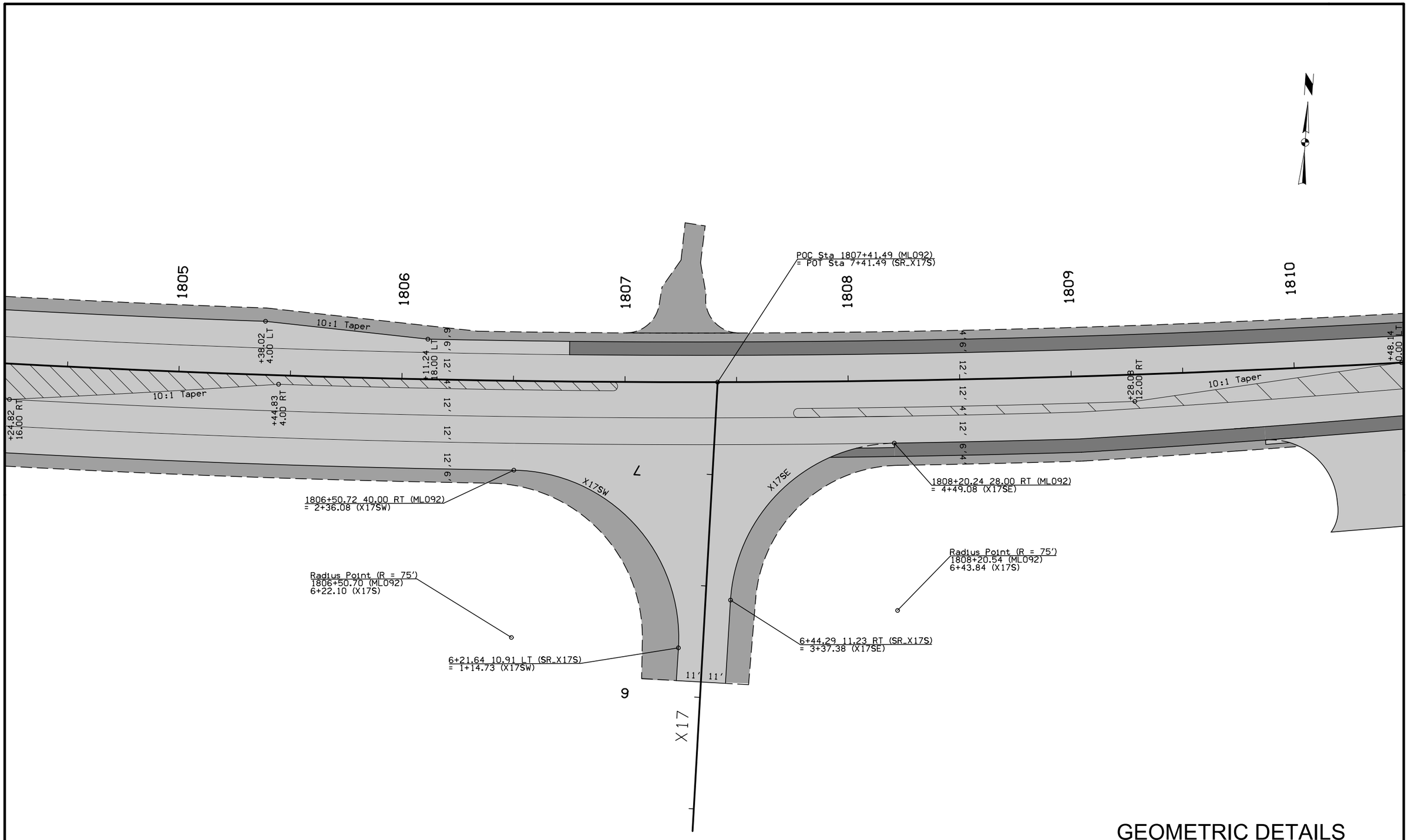

GEOMETRIC DETAILS
X-17 (SOUTH)

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.13

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1805 1806 1807 1808 1809 1810

POC Sta 1807+41.49 (ML092)
= POT Sta 7+41.49 (SR_X17S)
997.20

+50.70
997.49

+28.92
997.24

+53.33
997.16

+20.24
996.95

Constant 2.8% Slope
Constant 2.8% Slope
Constant 2.8% Slope

+13.45
697.99

698.02

0.3%

0.3%

697.95

11'

11'

Uniform Trans.

Uniform Trans.

7

Special Shaping

2+36.08
698.12

4+49.08
697.73

Special Shaping

2.0%

2.0%

11'

11'

697.60

Sta 3+84.69 X17SW
= Sta 6+88.44 25.93 RT SR_X17S
697.08

697.60

Sta 1+75.42 X17SW
= Sta 6+76.06 33.82 LT SR_X17S
696.47

+85.00
697.82

Constant 2% Slope

Constant 2% Slope

3+37.38
697.71

1+14.73
697.71

+20.00
697.80

697.58

2.0%

2.0%

11'

11'

697.58

0.9%

1.9%

11'

11'

9

697.77

697.65

+07.06
697.86

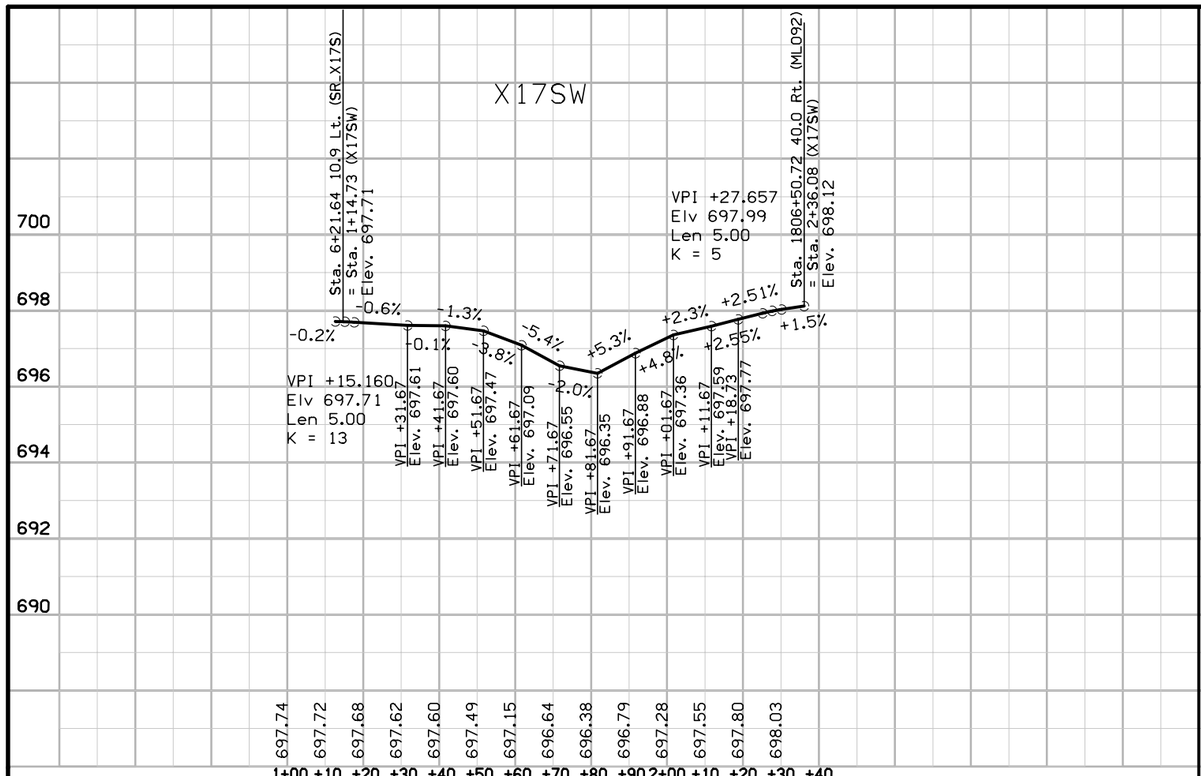
X17

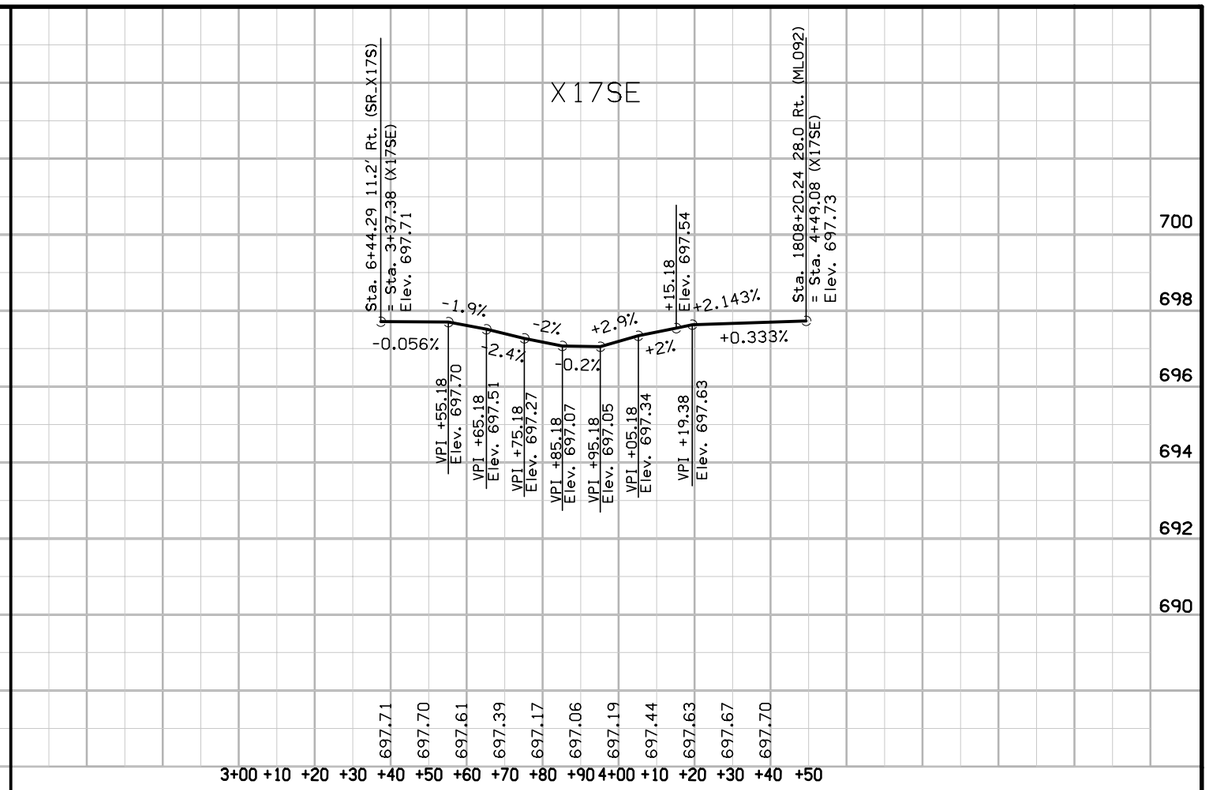
0 20
FEET

STAKING DETAILS
X-17 (SOUTH)

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.14

9:57:28 AM 10/3/2022 jsnyde2 pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_L1.dgn

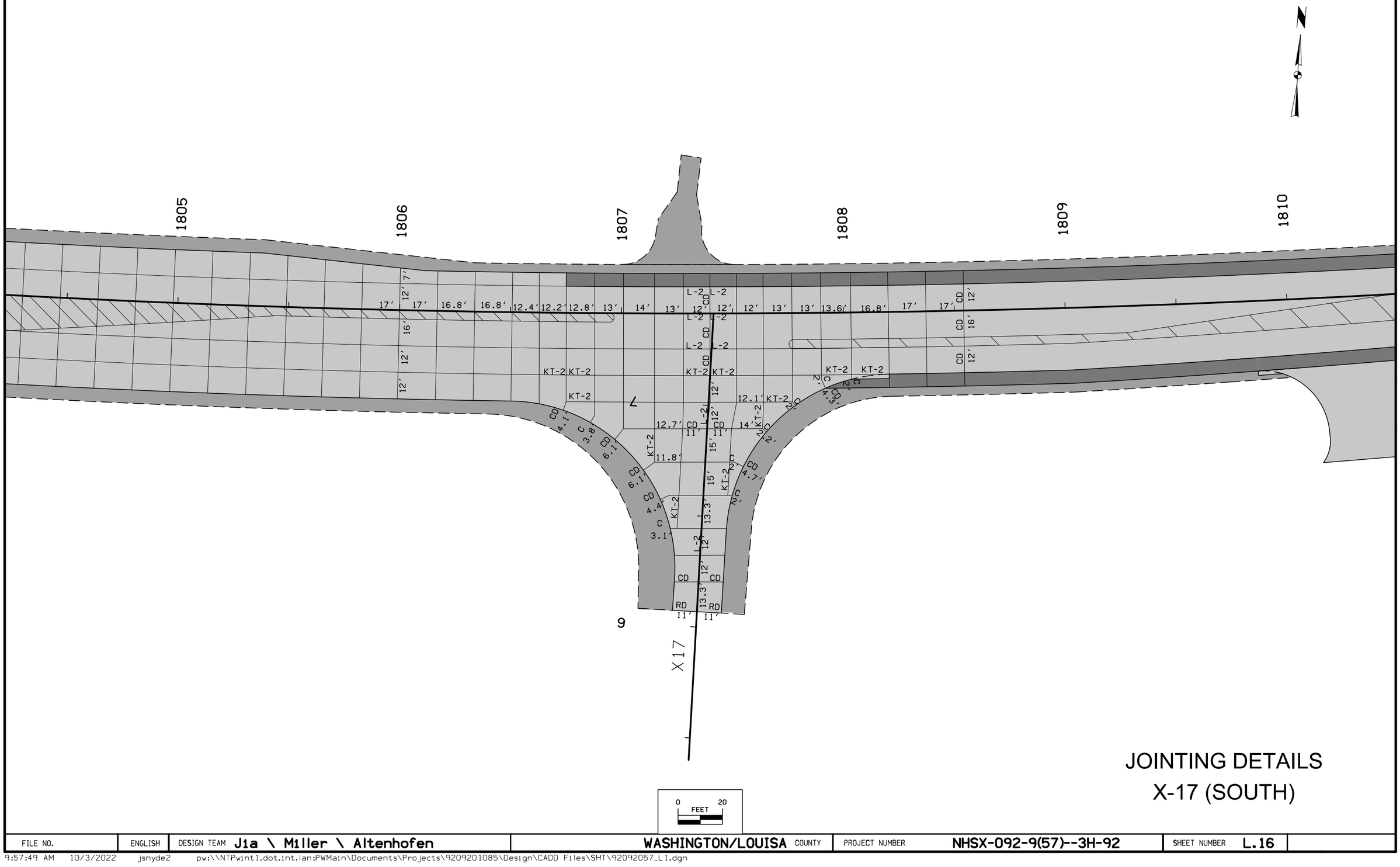




X-17 (South)

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.15

9:57:38 AM 10/3/2022 jsnyde2 pw:\\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_L1.dgn



JOINTING DETAILS
X-17 (SOUTH)

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.16

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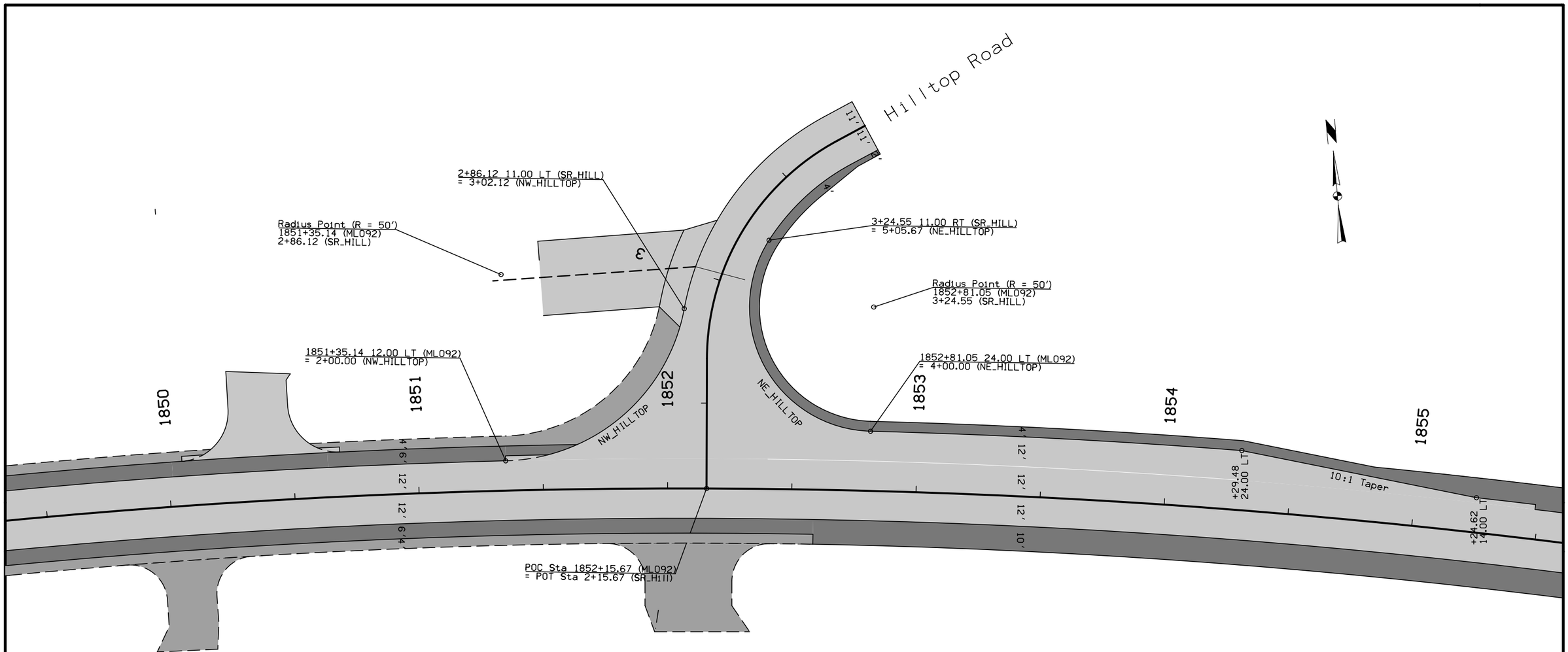

GEOMETRIC DETAILS
HILLTOP ROAD

0 20 FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.17

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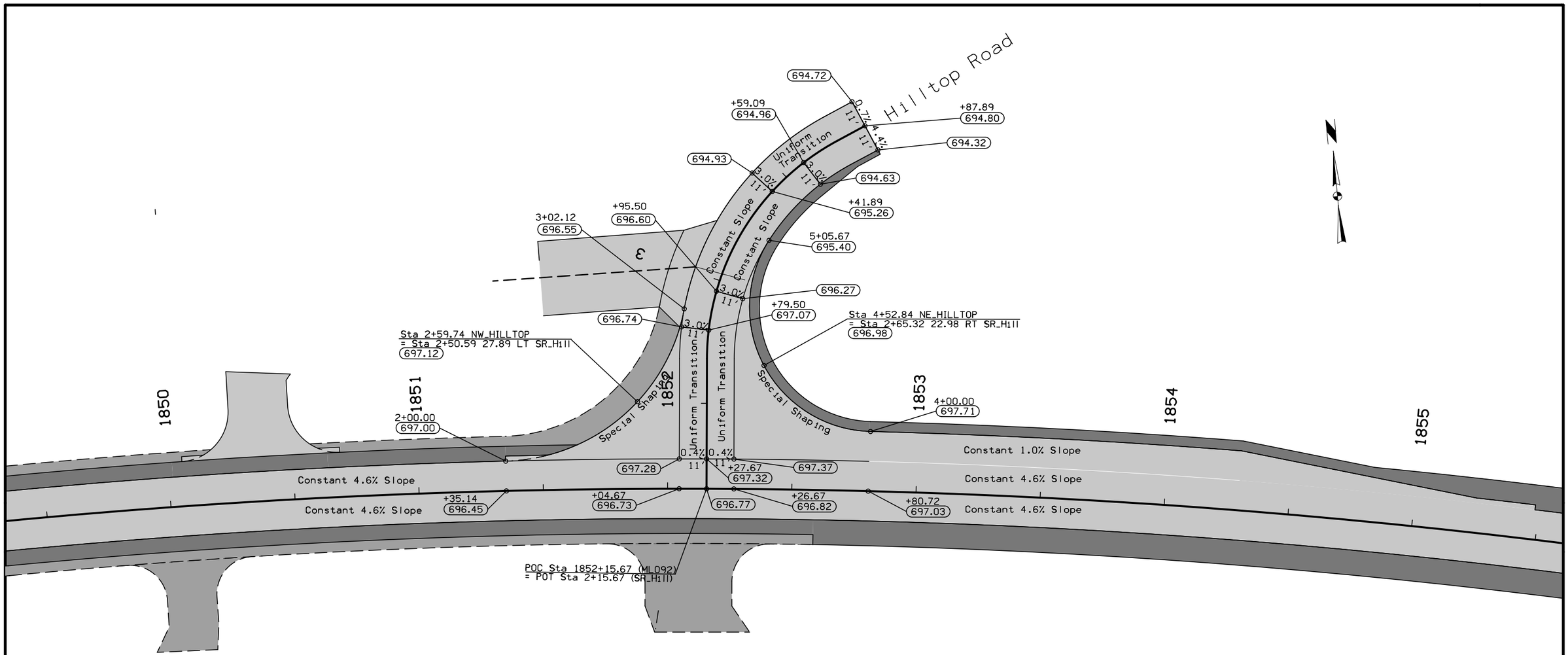

STAKING DETAILS
HILLTOP ROAD

0 20 FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.18

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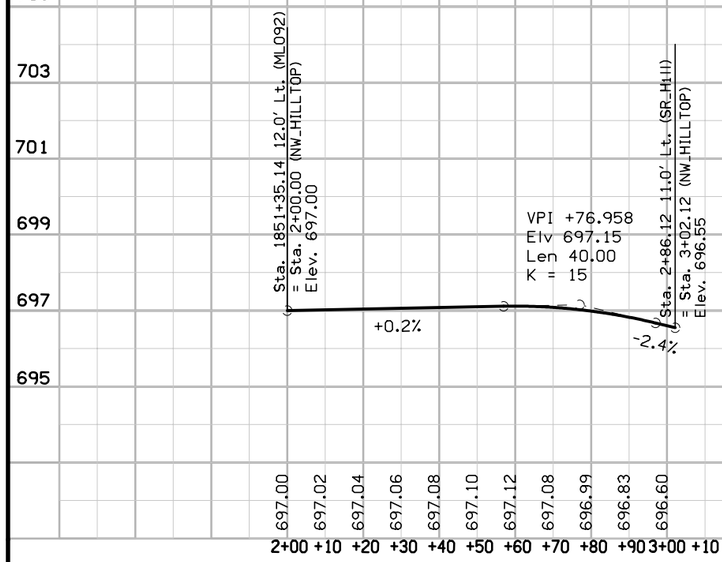

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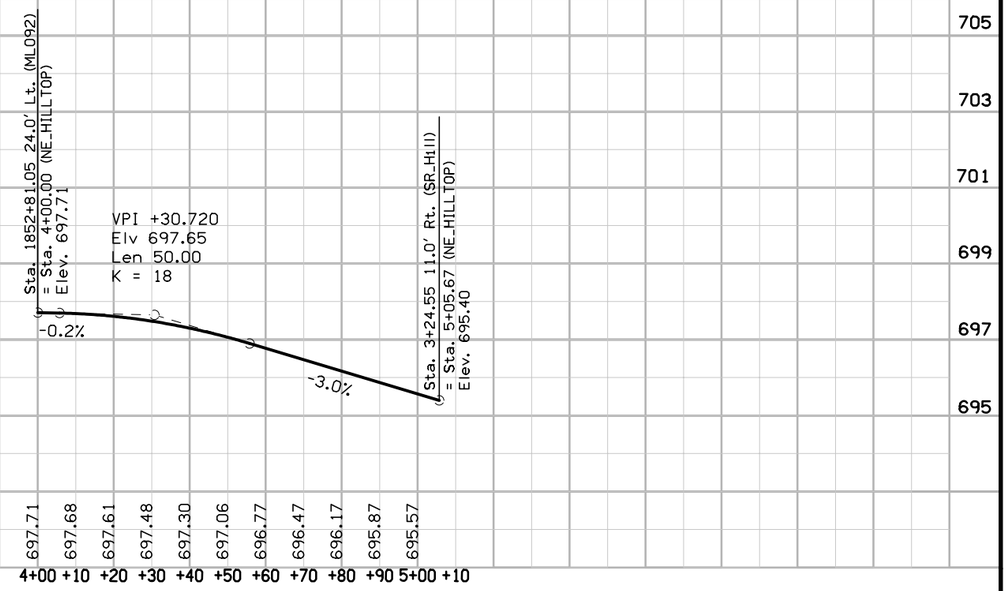

HILLTOP ROAD

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.19

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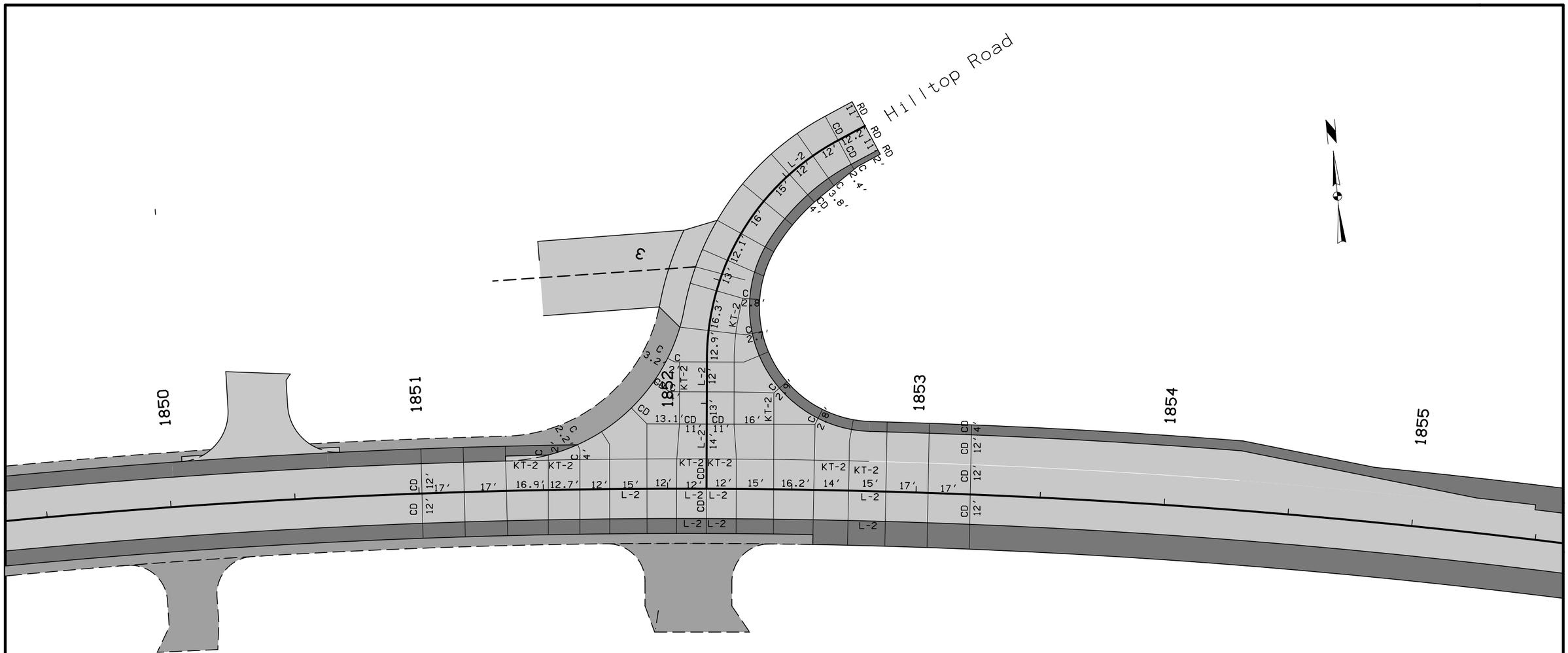

JOINTING DETAILS
HILLTOP ROAD

0 20
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.20

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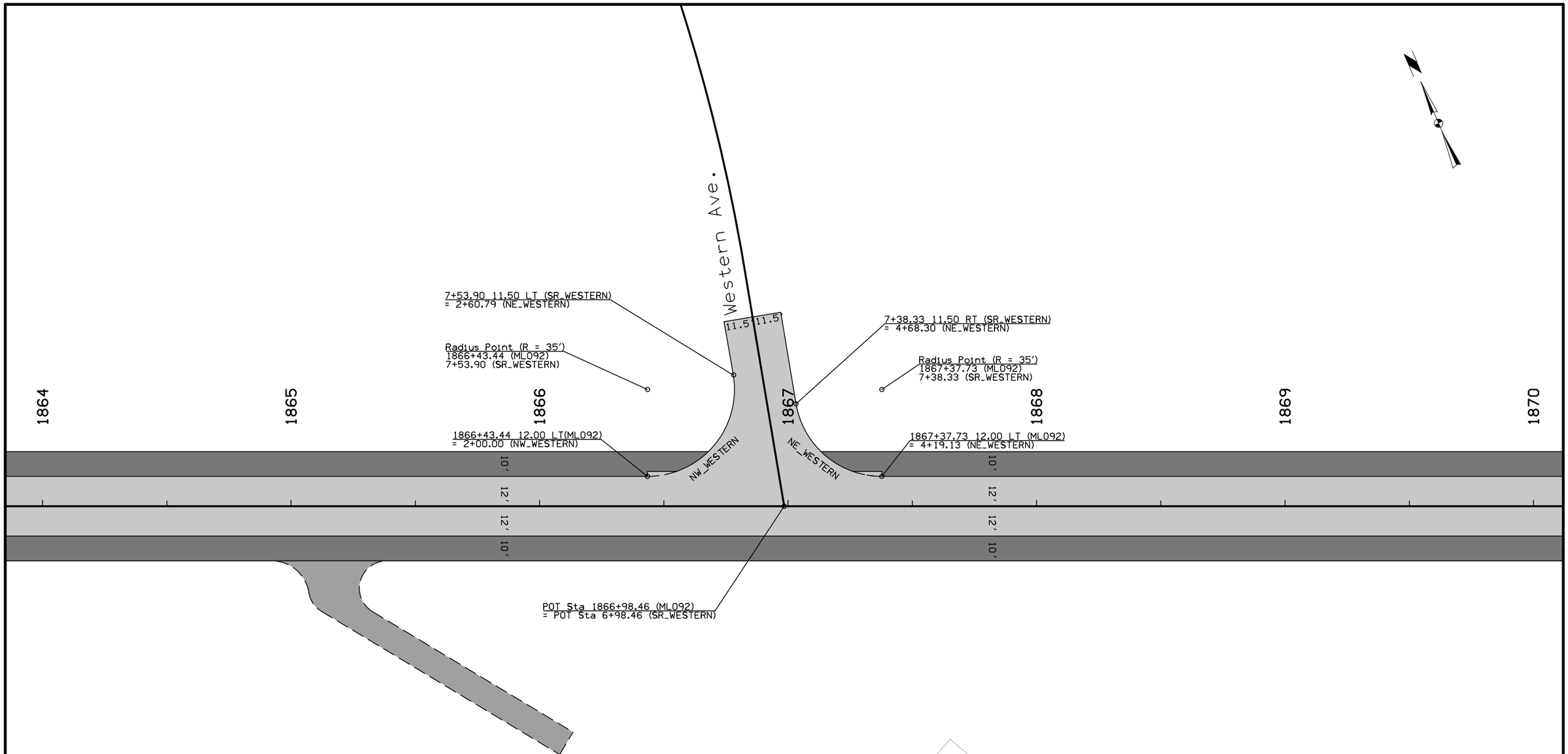

GEOMETRIC DETAILS
WESTERN AVE.

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.21

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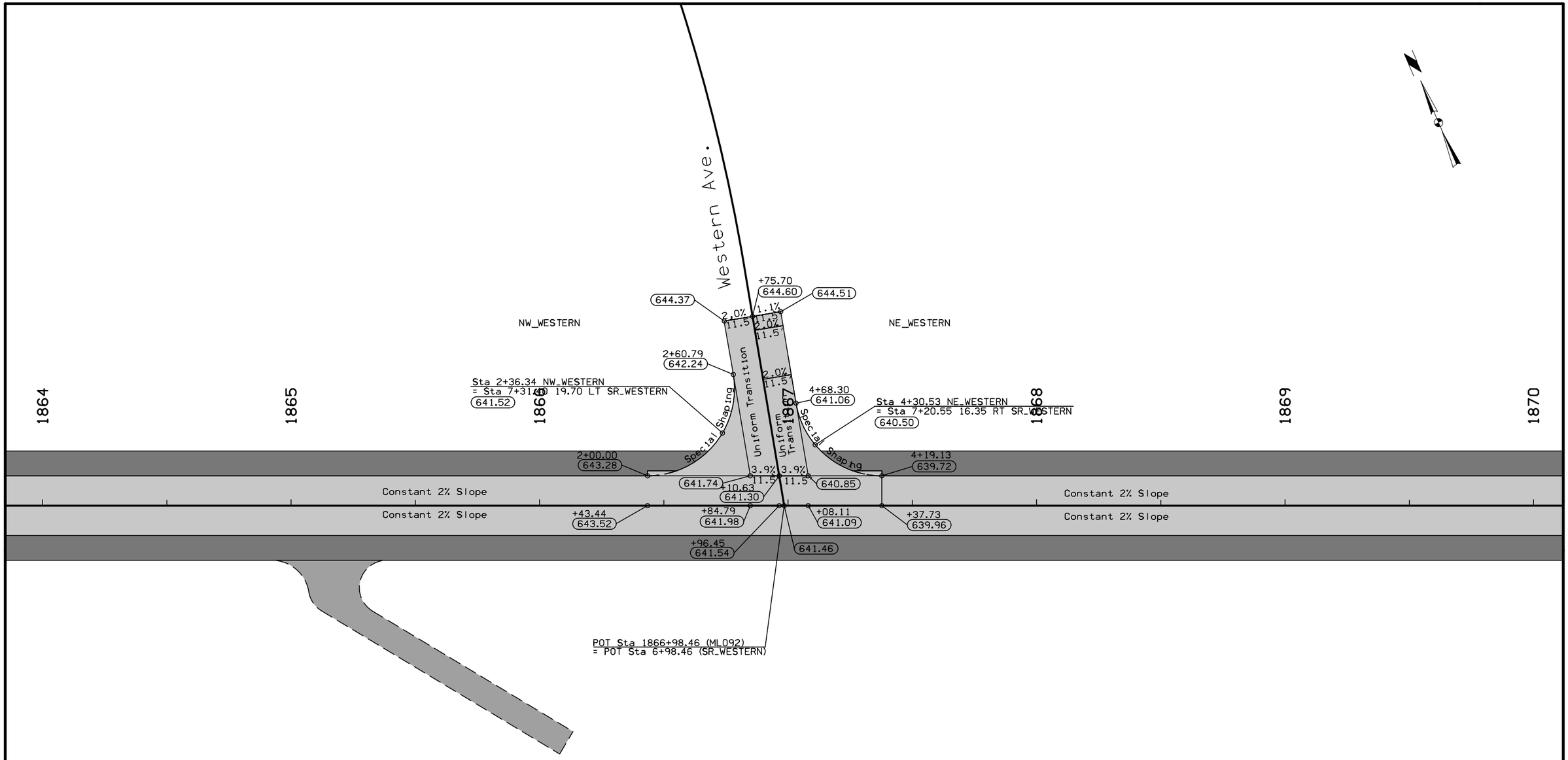

STAKING DETAILS
WESTERN AVE.

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.22

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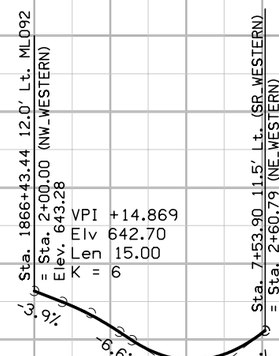
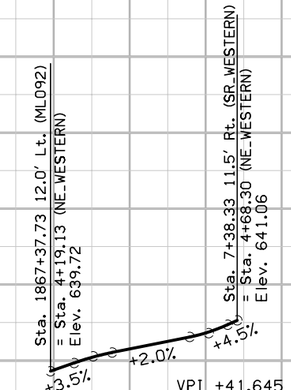


NE_WESTERN



WESTERN AVE

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.23

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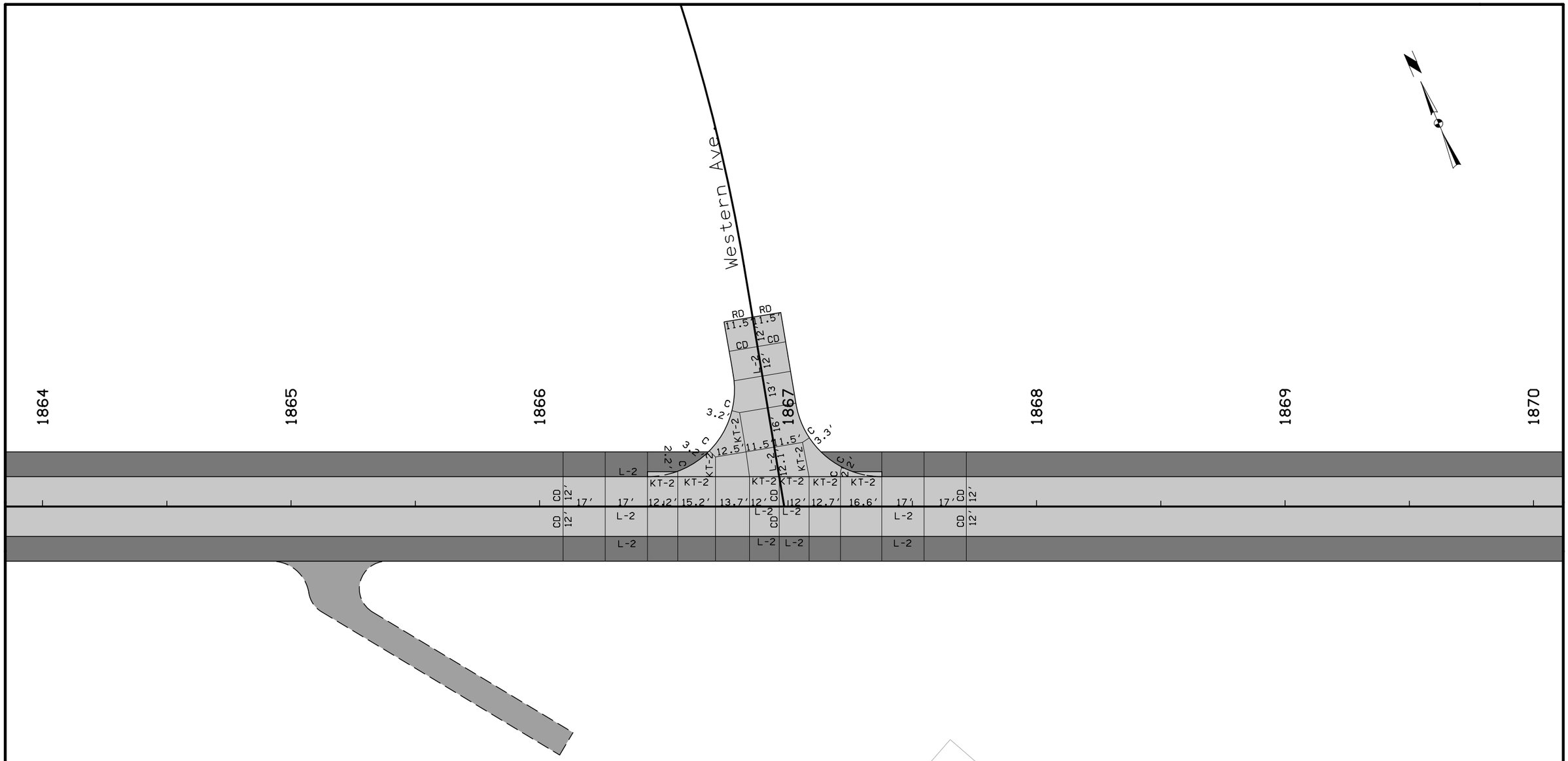

JOINTING DETAILS
WESTERN AVE.

0 20
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.24

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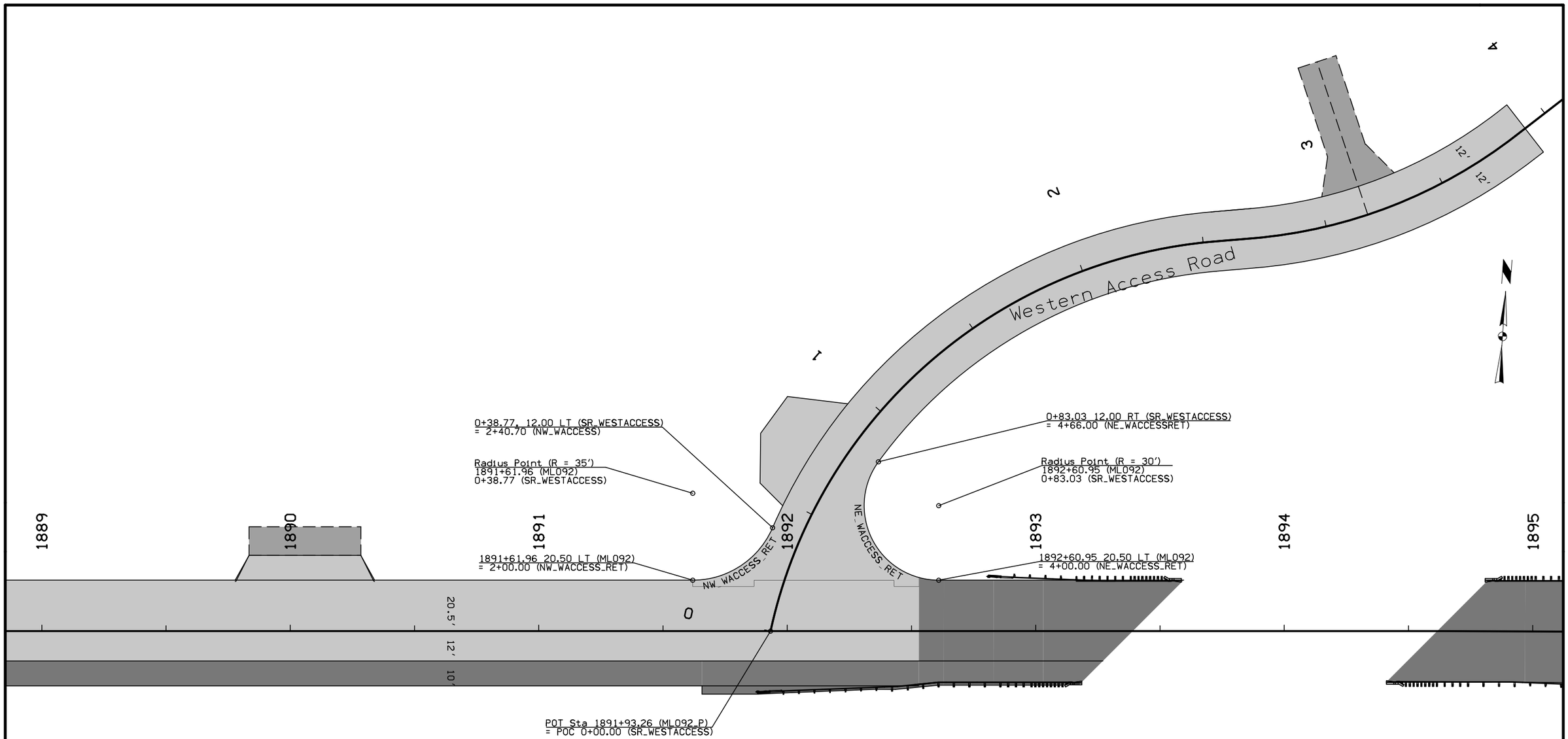

GEOMETRIC DETAILS
WESTERN ACCESS ROAD

0 20
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.25

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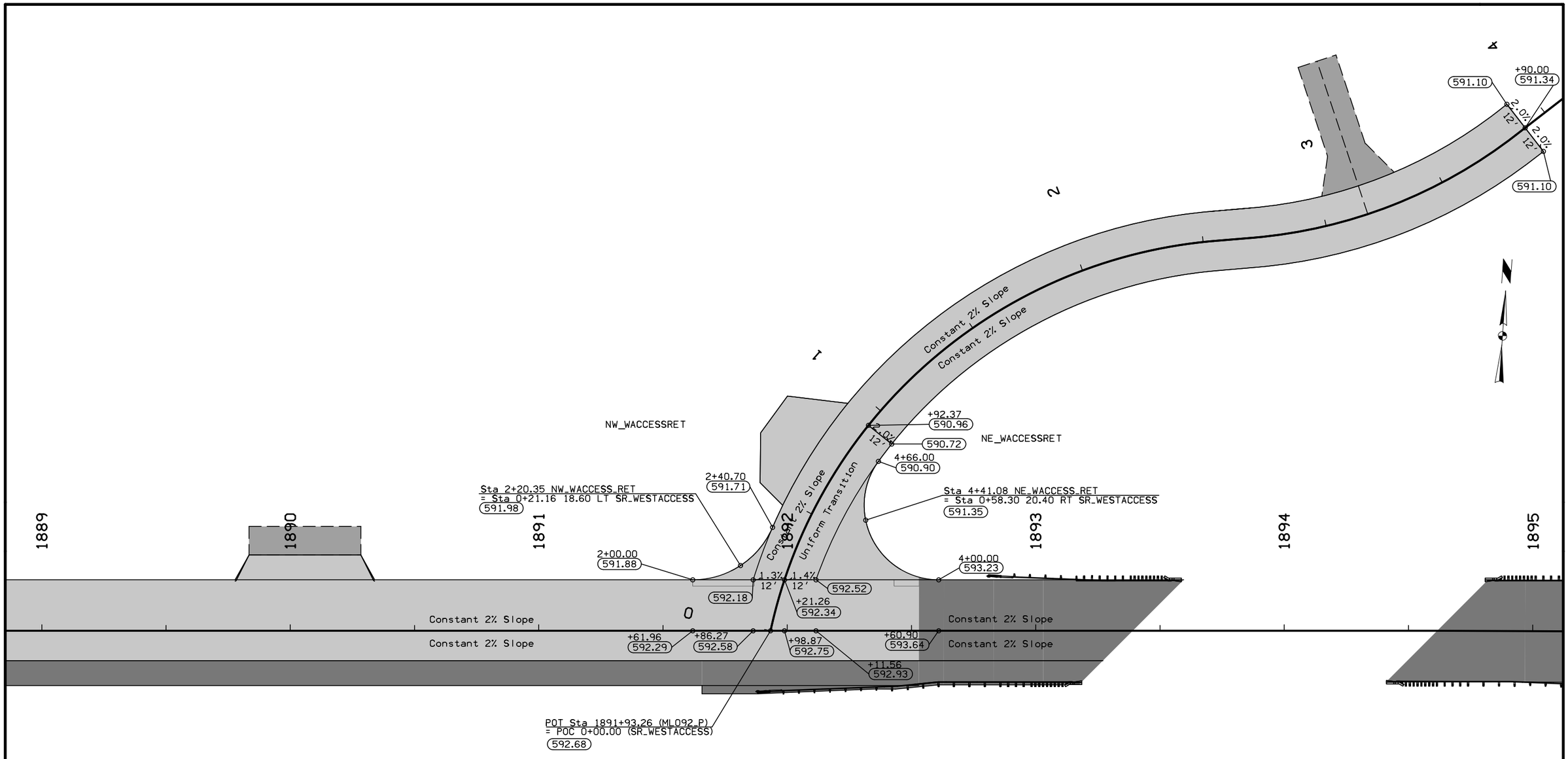

STAKING DETAILS
WESTERN ACCESS ROAD

0 20
FEET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.26

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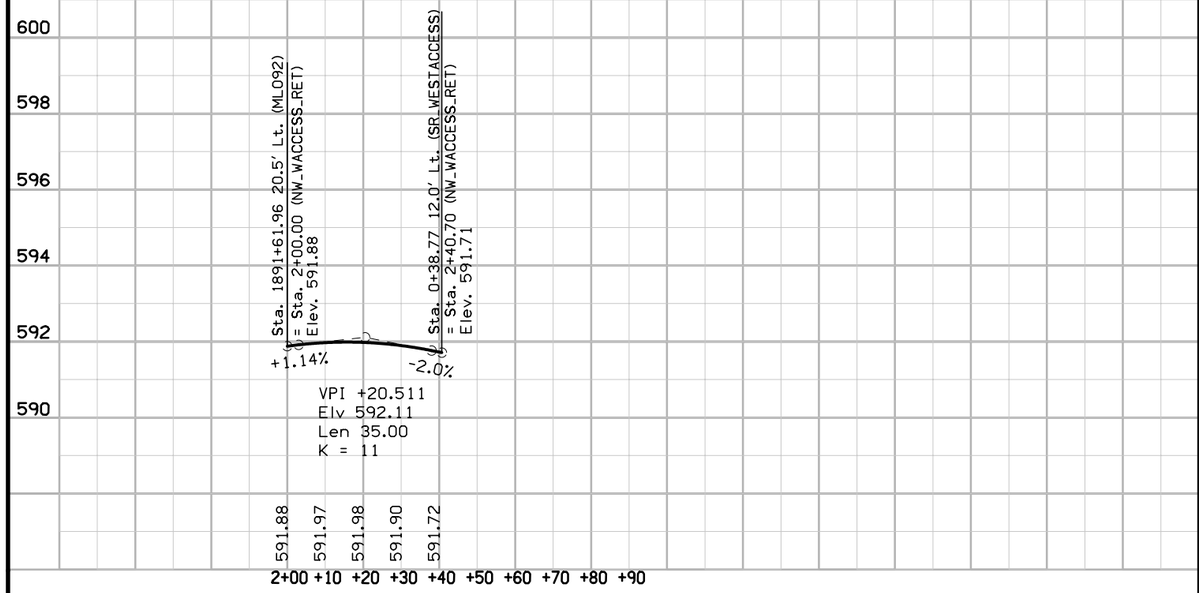

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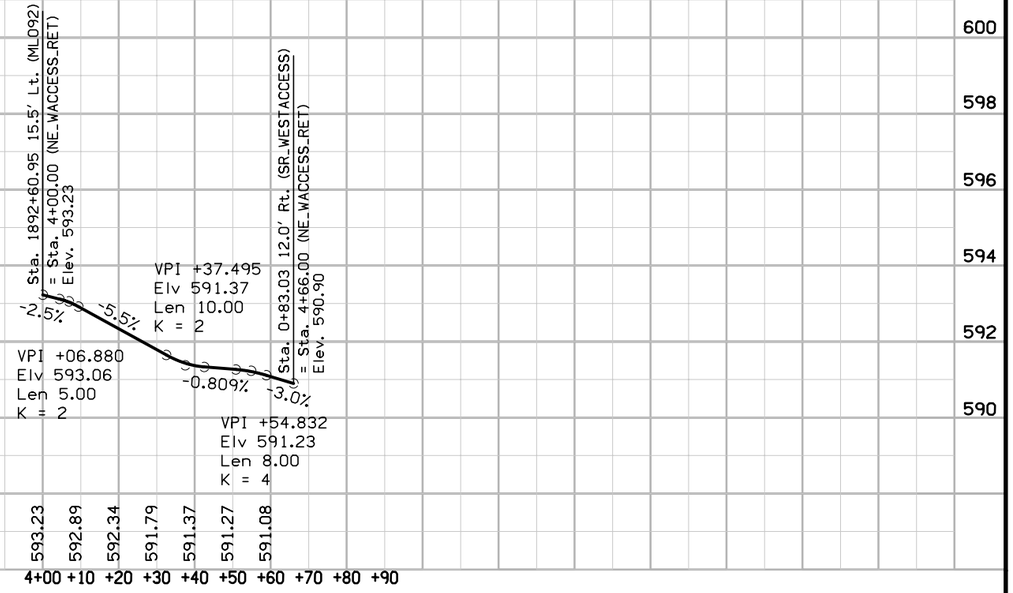

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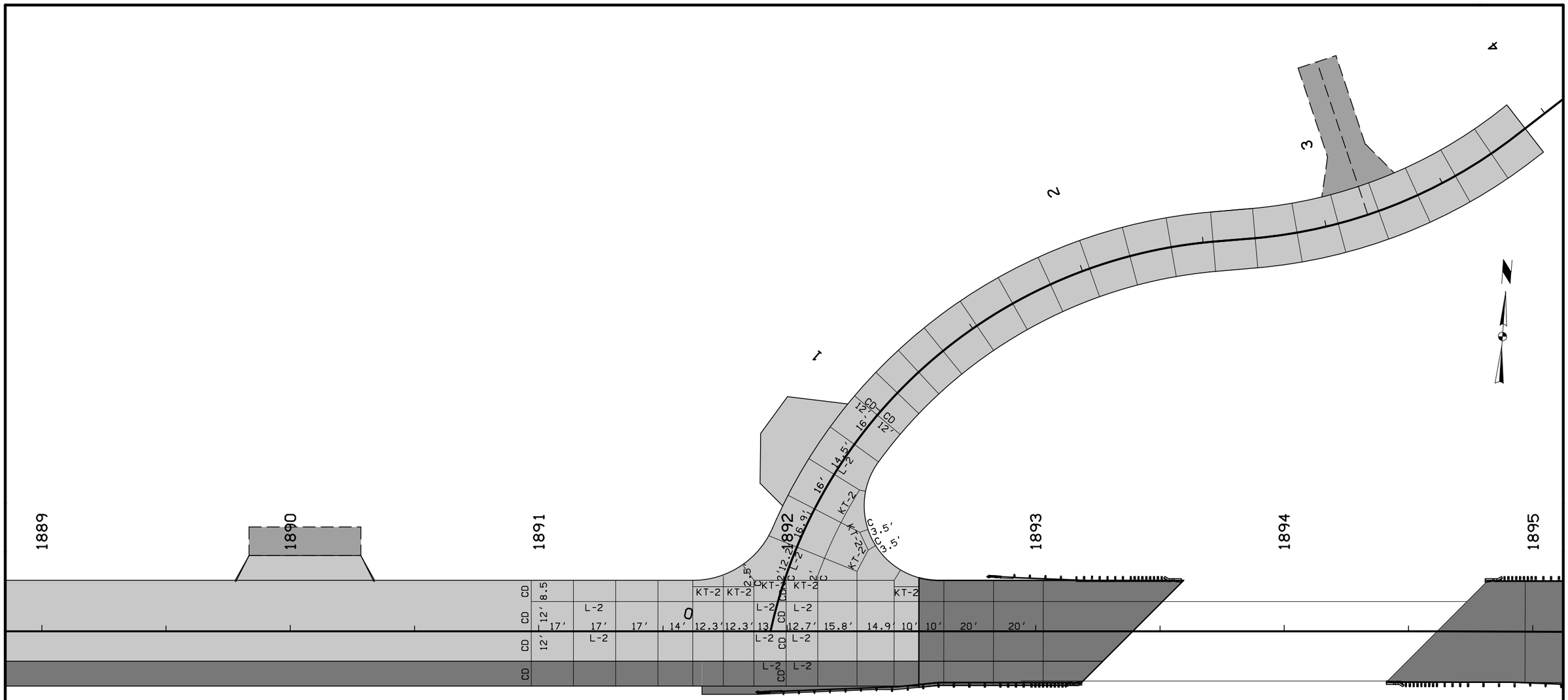

JOINTING DETAILS
WESTERN ACCESS ROAD

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.28

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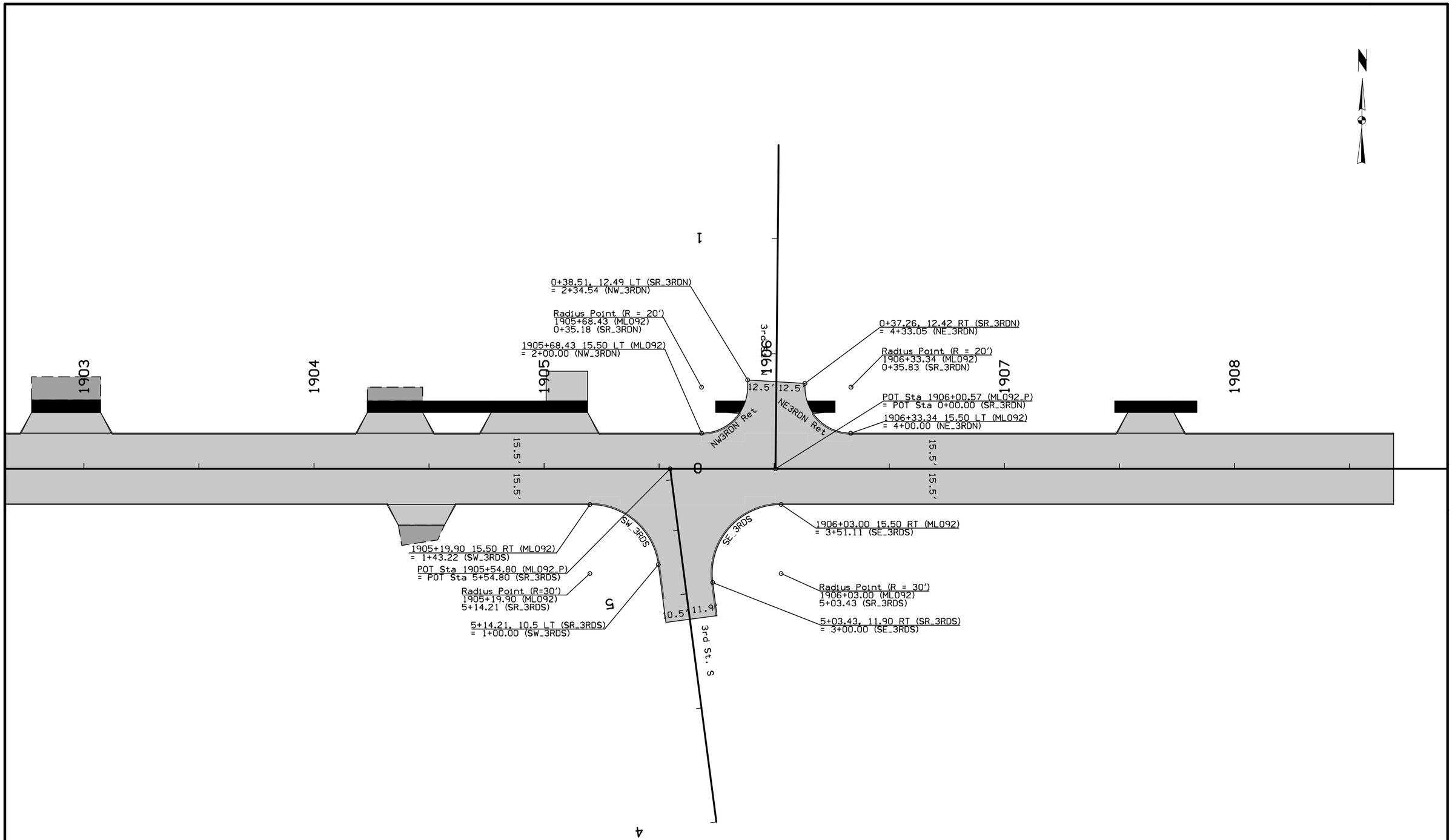

GEOMETRIC DETAILS
3RD STREET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.29

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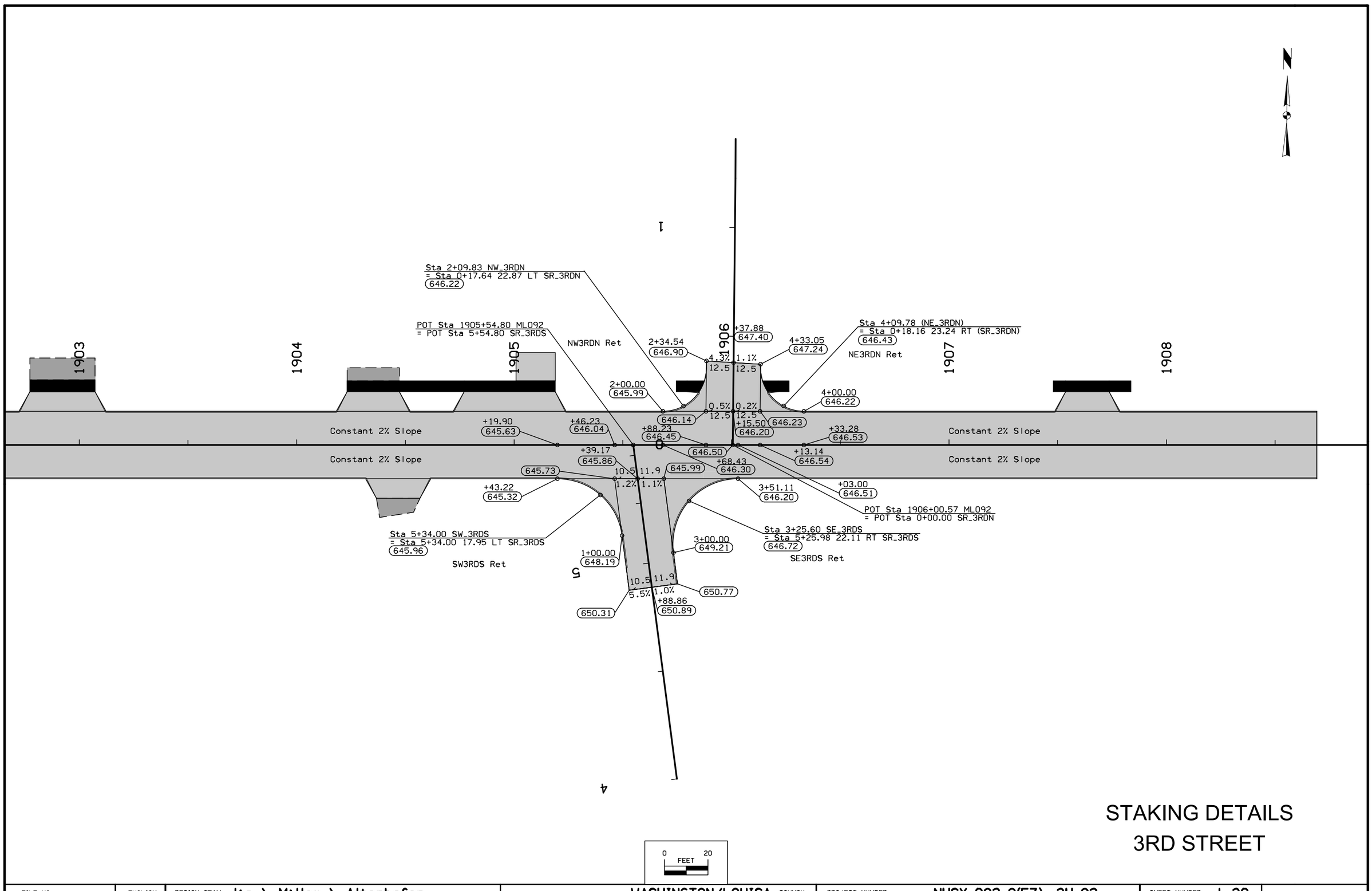

STAKING DETAILS
3RD STREET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.30

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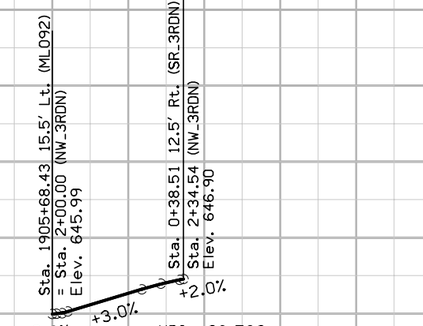

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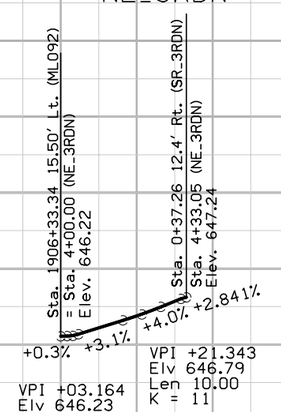

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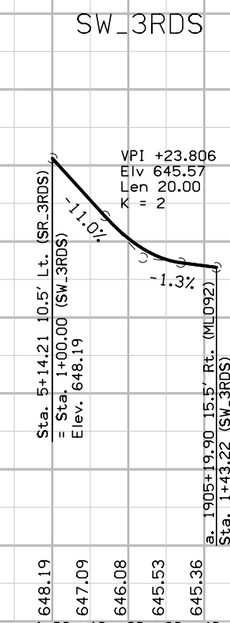

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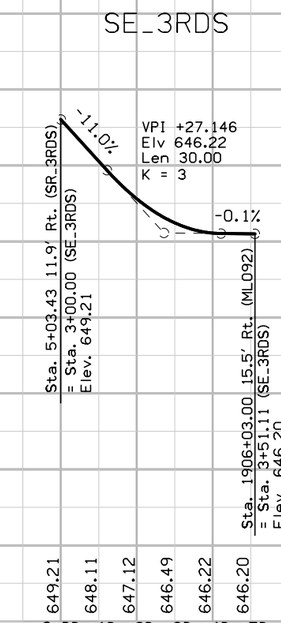

3RD STREET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.31

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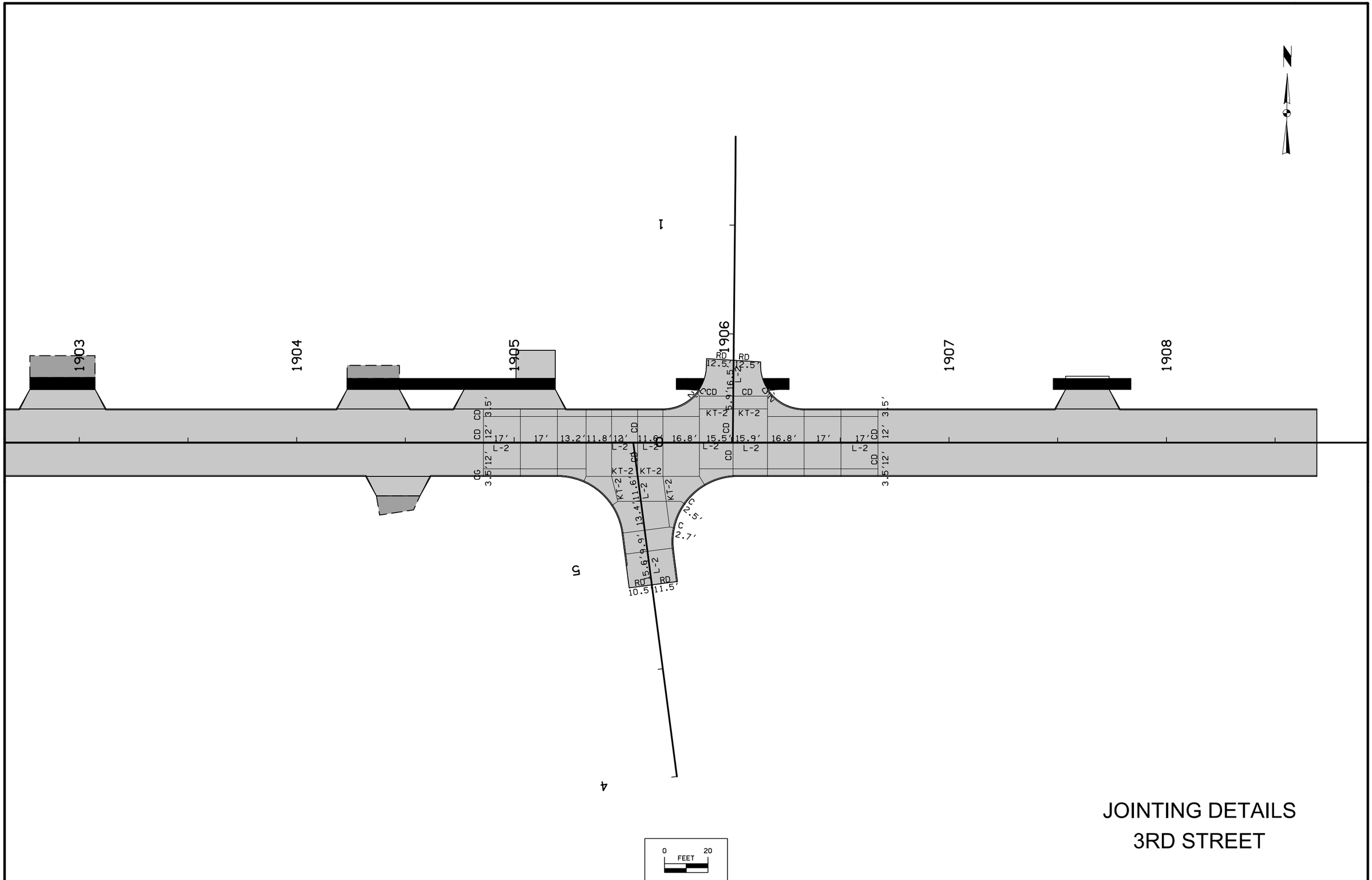

JOINTING DETAILS
3RD STREET

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER L.32

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(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-1	1888+19.00, -20.5	SW-509	591.27	586.5		
I-2	1889+59.50, -20.5	SW-509	590.7	585.1		
I-3	1896+51.50, -15.5	SW-545 (12')	600.52	594.9		
I-4	1896+51.50, 15.5	SW-545 (12')	600.52	595.5		
I-5	1899+25.00, -15.5	SW-545 (12')	612.38	606.77		
I-6	1899+25.00, 15.5	SW-545 (12')	612.38	607.38		
I-7	1901+75.00, -15.5	SW-545 (12')	628.7	623.09		
I-8	1901+75.00, 15.5	SW-545 (12')	628.7	623.7		
O-2	1889+60.00, 38	DR-201 (24")	587			
O-3	1896+00.00, -59.35	DR-201 (24")	596			
O-5	1899+25.00, -37.8	DR-201 (24")	609.1			
O-7	1901+75.00, -36	DR-201 (24")	625.4			
		DR-201 (24")	4			
		SW-509	2			
		SW-545 (12')	6			

PIPES

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

Line Number	Intake/ Utility Access No. From	To	Class 'D'	(1) Pipe Size IN	Bid* Length FT	Design Length FT	Slope %	Connected Pipe Joint (DR-121) Type	Flow Lines: Inlet Elevation	Outlet Elevation	Other Elevation	Pipe Profile Sheet No.	Notes
P-1	I-1	I-2	2000	24	137	132.5	0.83		587	585.9		M.3	
P-2	I-2	O-2	2000	24	57	52.4	1.1	3	585.6	585		M.3	
P-3	I-3	O-3	2000	24	63	58.8	2.4	3	595.4	594		M.4	
P-4	I-4	I-3	2000	24	35	31.0	0.97		596	595.7		M.4	
P-5	I-5	O-5	2000	24	17	12.2	1.4	3	607.27	607.1		M.4	
P-6	I-6	I-5	2000	24	35	31.0	1		607.88	607.57		M.4	
P-7	I-7	O-7	2000	24	15	10.4	1.83	3	623.59	623.4		M.5	
P-8	I-8	I-7	2000	24	35	31.0	1		624.2	623.89		M.5	
			TRENCHED 2000D, 24"		394								

SURVEY SYMBOLS

- PPA Power Pole Co. 1
- TPD Telephone Pedestal
- PR Electic Riser Pole
- EB Electrical Box
- LUM Luminaire
- PLG Location of General Photo
- FHD Fire Hydrants
- WV Water Valve
- IN Storm Sewer Intake
- MH Utility Access (Manhole)
- MIS Miscellaneous
- GDL Guard Rail Steel
- INB Storm Sewer Beehive Intake
- TIL Tile Line
- BM Bench Mark
- RET Retaining Walls
- WEL Well
- DU Centerline Draw or Stream (Up)
- BNK Stream Bank
- D Centerline Draw or Stream (Down)
- RIP Rip-Rap
- RR Centerline of Railroad Tracks
- ENT Centerline BL of Entrance
- T1 – TL1D Telephone Line Co. 1 - Quality D
- G – GL1D Gas Line Co. 1 - Quality D
- E1 – EL1D Electric Line Co. 1 - Quality D
- FO – FO1D Fiber Optic Co. 1 - Quality D
- W – WL1D Water Line Co. 1 - Quality D
- TV – TV1D TV Cable Co. 1 - Quality D
- FO2 – FO2D Fiber Optic Co. 2 - Quality D
- FO2(B) – FO2B Fiber Optic Co. 2 - Quality B
- TV2 – TV2D TV Cable Co. 2 - Quality D
- SAN. – SA1D Sanitary Sewer Co. 1- Quality D
- ST S – ST1D Storm Sewer Co. 1 - Quality D
- G2 – GL2D Gas Line Co. 2 - Quality D
- T3 – TL3D Telephone Line Co. 3 - Quality D

UTILITY LEGEND

Alliant Energy
G – Mary Montgomery
E1 – 200 1st Street Southeast
G2 – Cedar Rapids, IA 52401
(319) 786-8196
rerow@alliantenergy.com

Windstream
T1 – Bryan Bogan
FO – 4001 N. Rodney Parham Road
FO2 – Little Rock, AK 72212
FO2(B) – (501) 748-6919
T3 – bryan.bogan@windstream.com

Eastern Iowa Light & Power
EB
Dennis Hill
600 East Fifth Street
Wilton, IA 52778
(563) 732-2211
dhill@easterniowa.com

TV – Mediacom
TV2 – Fred Rhomberg
6300 Council Steet NE
Cedar Rapids, IA 52402
(845) 248-7626
frhomberrg@mediacomcc.com

W – City of Columbus Junction
SAN. – Jeff Vonahme
ST S – 232 2nd Street
Columbus Junction, IA 52738
(319) 212-1249
cjmaint@windstream.net

ITC Midwest
Chad Levi
123 5th Street SE
Cedar Rapids, IA 52401
(319) 899-9969
clevi@itctransco.com

PLAN VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Topographic Features and Labels
Magenta	(5)	Existing Utilities
Blue, Dark	(1)	Proposed Storm Sewer Pipes, Alignment, Stationing, and Tic Marks
Blue, Light	(230)	Proposed Storm Sewer Intakes or Structures
SHADING	**Design Color No.**	
Lavender	(9)	Temporary Pavement Shading
Gray, Light	(48)	Proposed Pavement Shading
Gray, Med	(80)	Proposed Granular Shading
Tan	(8)	Proposed Sidewalk Shading

PROFILE VIEW COLOR LEGEND OF STORM SEWER SHEETS

LINEWORK	Design Color No.	
Green	(2)	Existing Ground Line Profile
Magenta	(5)	Existing Utilities Information
Blue, Dark	(1)	Proposed Pipe
Blue, Light	(230)	Proposed Intakes or Structures

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 (at Pipe Centerline)
- Proposed Ground (at Pipe Centerline)
- Previously Constructed Pipe or Structure
- Proposed Pipe
- Proposed Structure

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

RIGHT-OF-WAY LEGEND

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

STORM SEWER LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES M)

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER M.2

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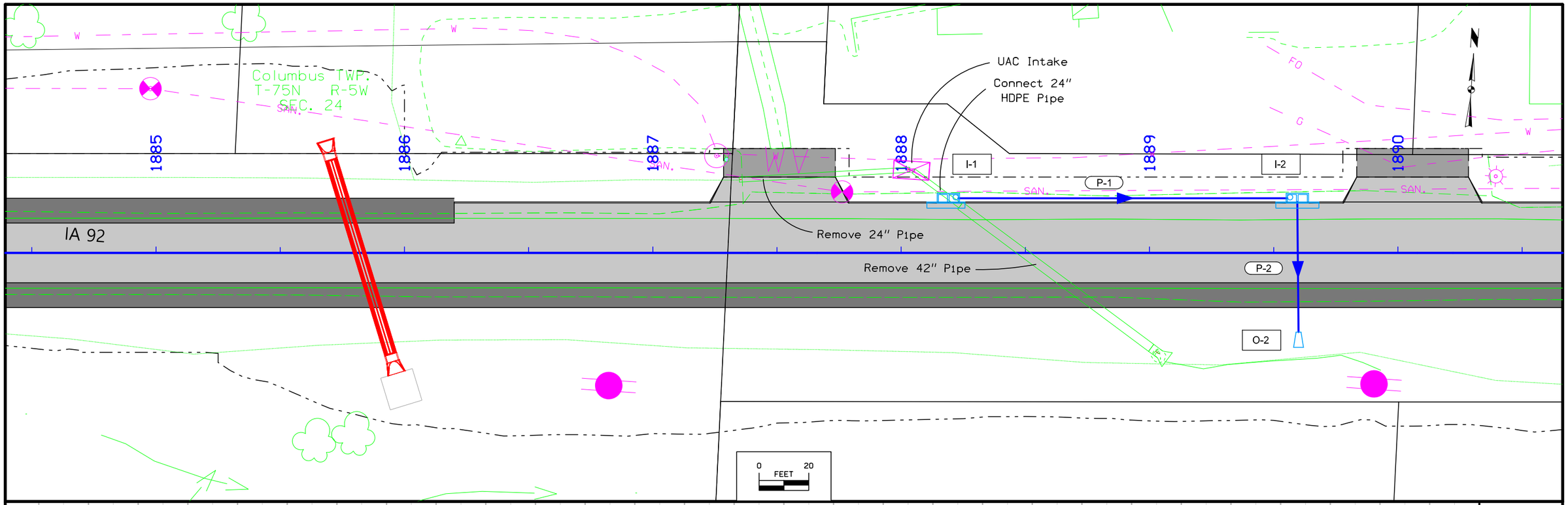

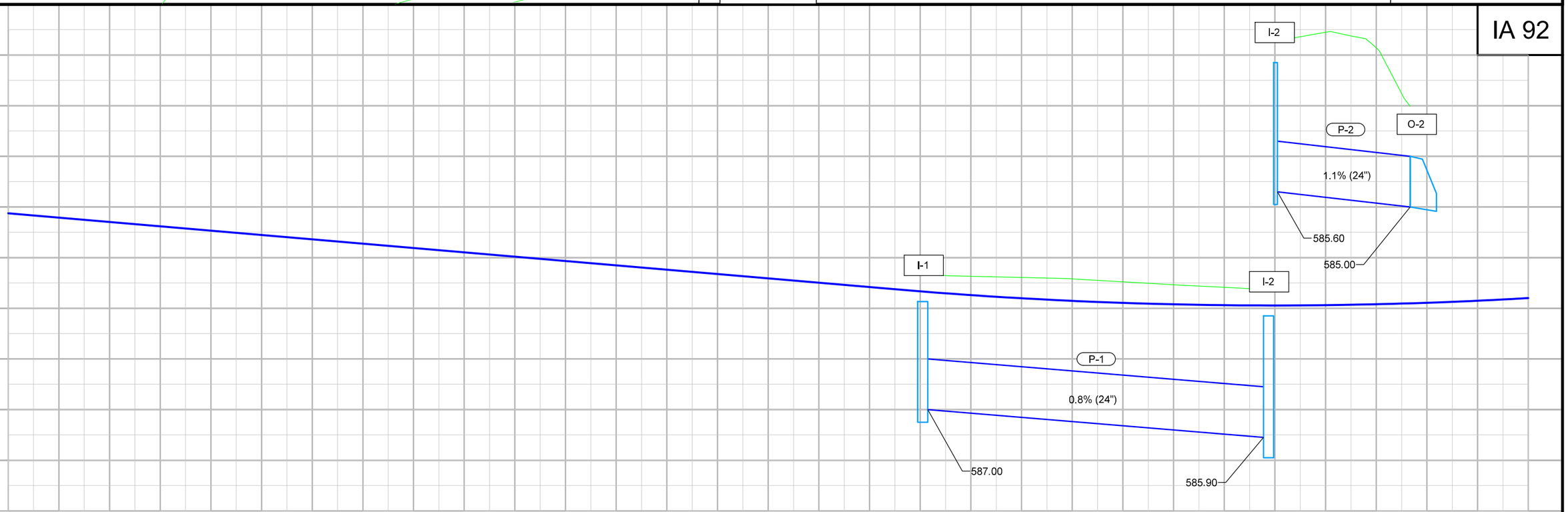

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Columbus TWP.
T-75N R-5W
SEC. 24

1896 1897 1898 1899 1900 1901

O-3 P-3 I-3 I-4 O-5 P-5 I-5 I-6 P-6 P-4

IA 92

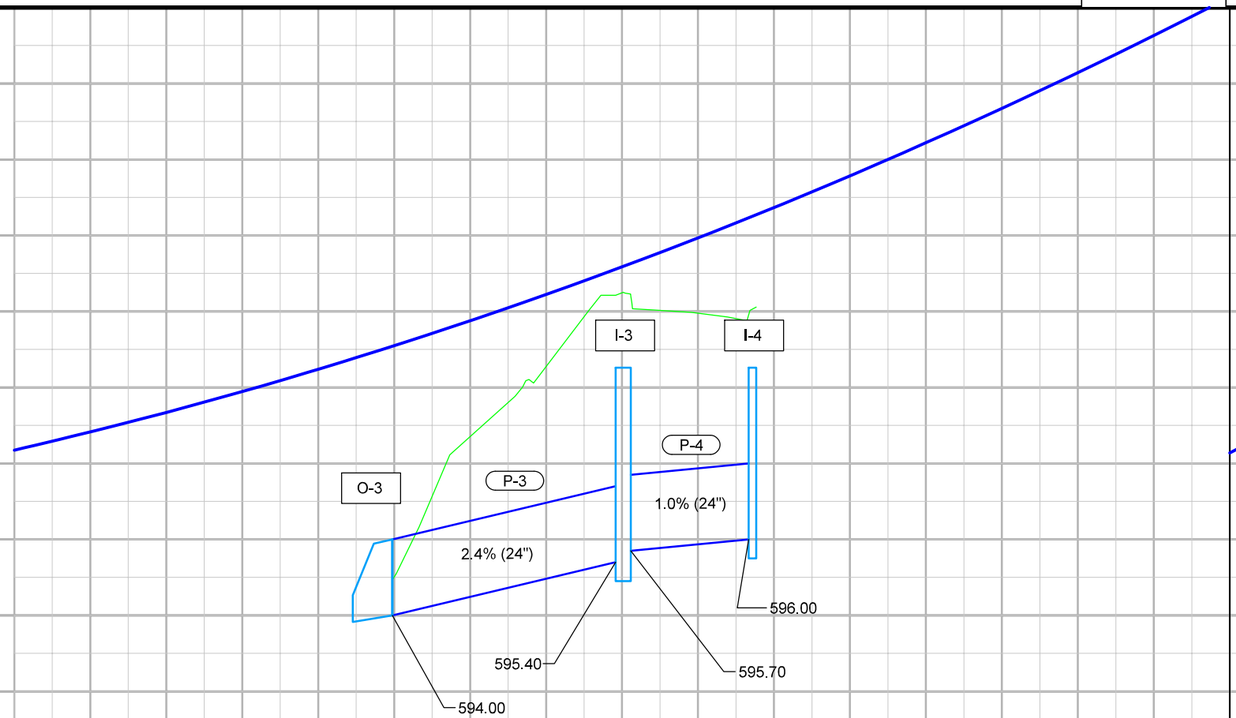
Remove Intakes and Storm Sewer

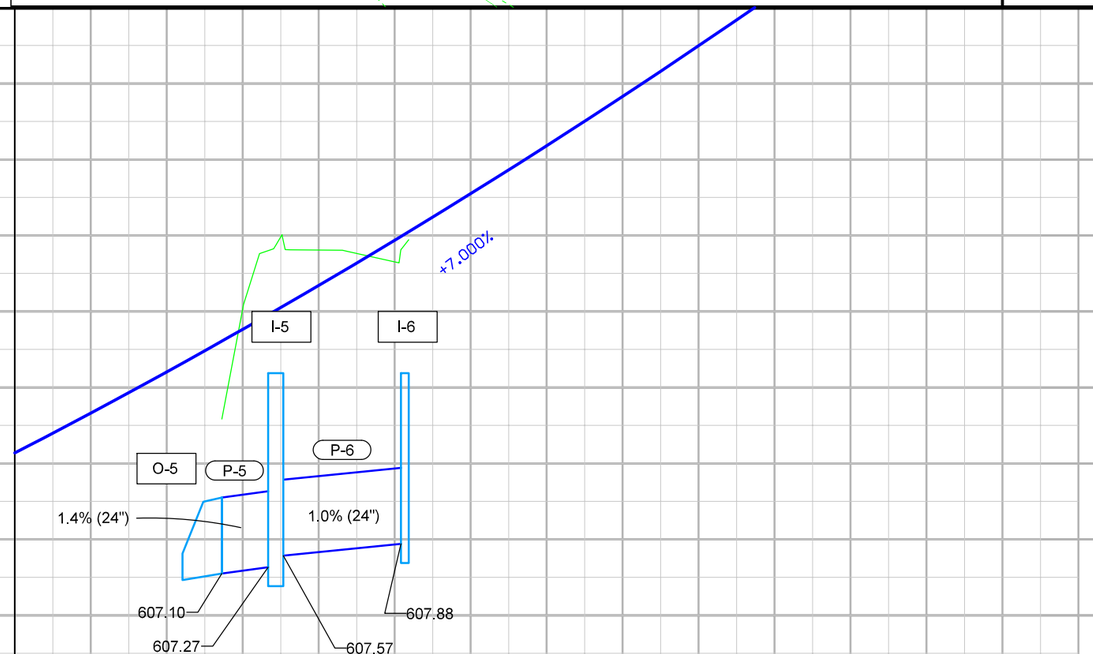
Remove Intakes and Storm Sewer

Sta. 336+80.6
Skew 0°
5.5' X 8' arch X 132.60' RCB
D.A. = 102 Ac - H
(UAC)

0 20
FEET

IA 92





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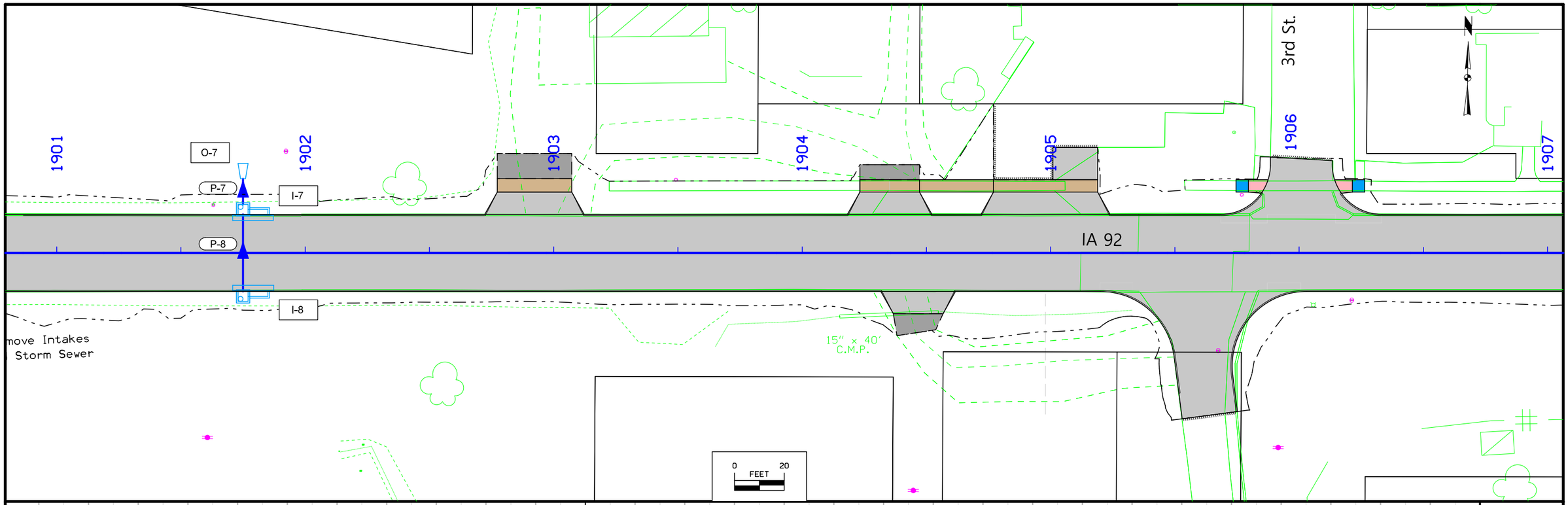

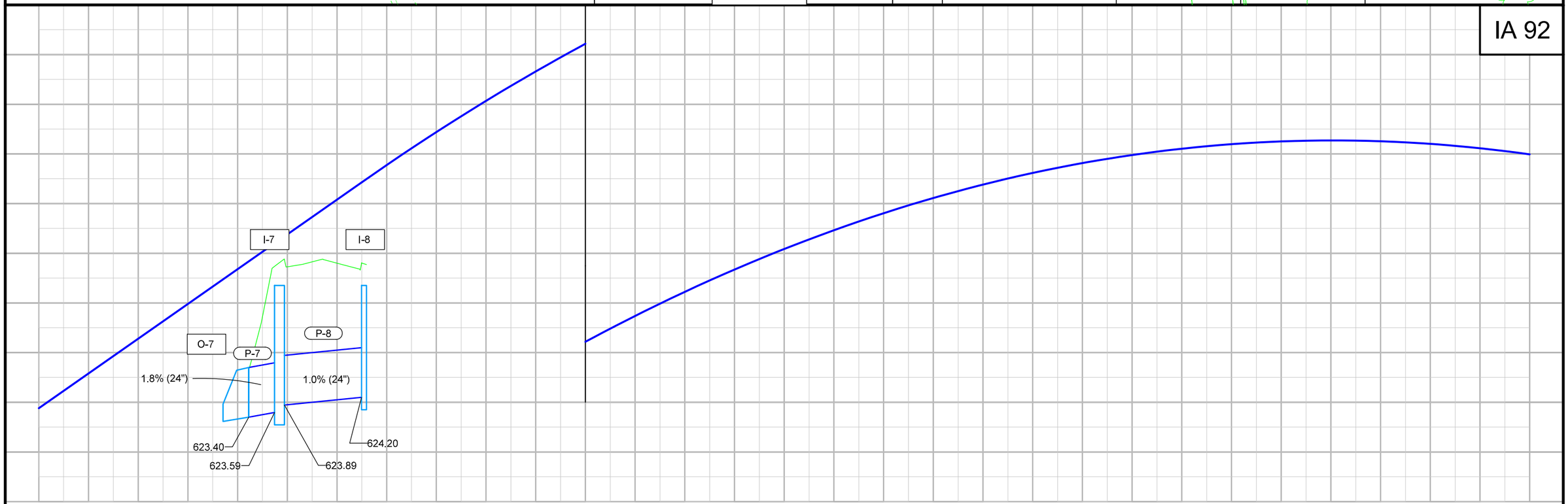

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SURVEY SYMBOLS

- TPD Telephone Pedestal
- PPA Power Pole Co. 1
- PR Electic Riser Pole
- TIL Tile Line
- OUT Tile Outlet
- EB Electrical Box
- MM Mile Marker Post
- BB Billboard
- FHD Fire Hydrants
- WV Water Valve
- GDL Guard Rail Steel
- MH Utility Access (Manhole)
- RET Retaining Walls
- INB Storm Sewer Beehive Intake
- SI Sign
- FWD Wood Fence
- FW Wire Fence
- FCL Chain Link and Security Fence
- ENT Centerline BL of Entrance
- DU Centerline Draw or Stream (Up)
- EW Edge of Water
- RIP Rip-Rap
- TLA Underground Telephone Line Co. 1
- FOA Underground Fiber Optic Co. 1
- WLA Underground Water Line Co. 1
- SAA Sanitary Sewer Line Co. 1

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)	Topsoil
Green, Med	(227)	Slope Dressing Only
Orange	(6)	Loam
Brown, Dark	(238)	Class 10
Brown, Med	(237)	Sand
Red	(3)	Unsuitable A
Pink, Dark	(13)	Unsuitable B
Pink	(11)	Unsuitable C
Red	(3)	Shale
Red	(3)	Waste
Gray, Light	(48)	Broken and Weathered Rock
Gray, Med	(80)	Rock
Gray, V.Dark	(128)	Boulders

PATTERN AND SYMBOL LEGEND OF SOILS SHEETS

Date(s) Drilled Consultant

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

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

RIGHT-OF-WAY LEGEND

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

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

SOILS LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES Q)

FILE NO.	ENGLISH	DESIGN TEAM OLSSON	WASHINGTON - LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Q.1

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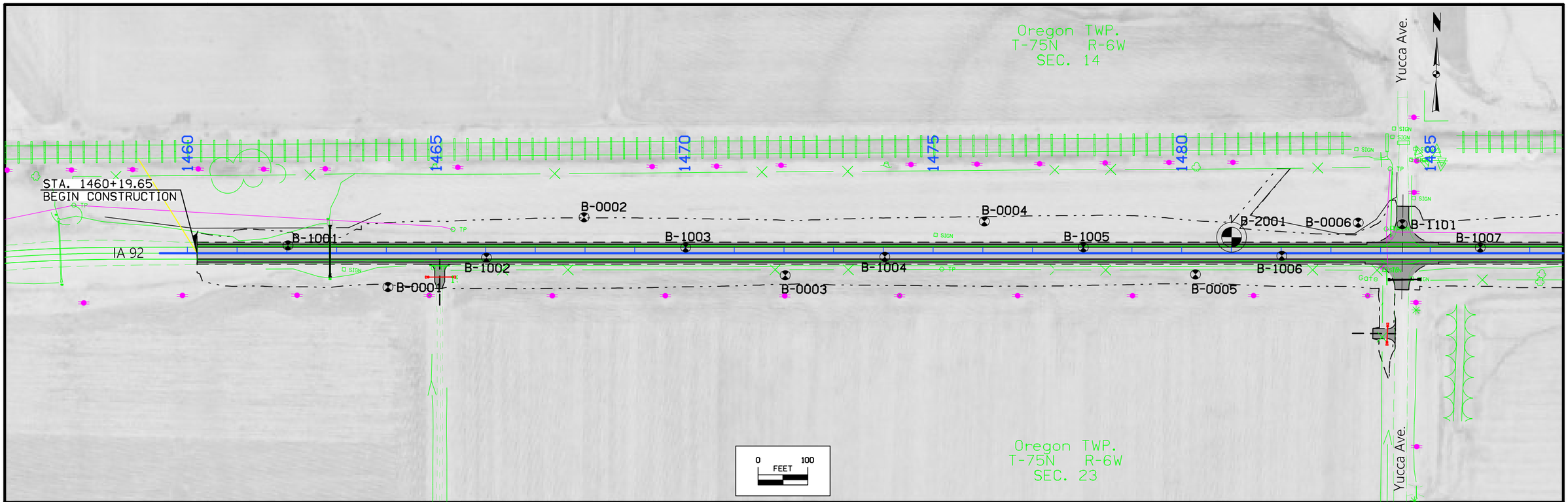

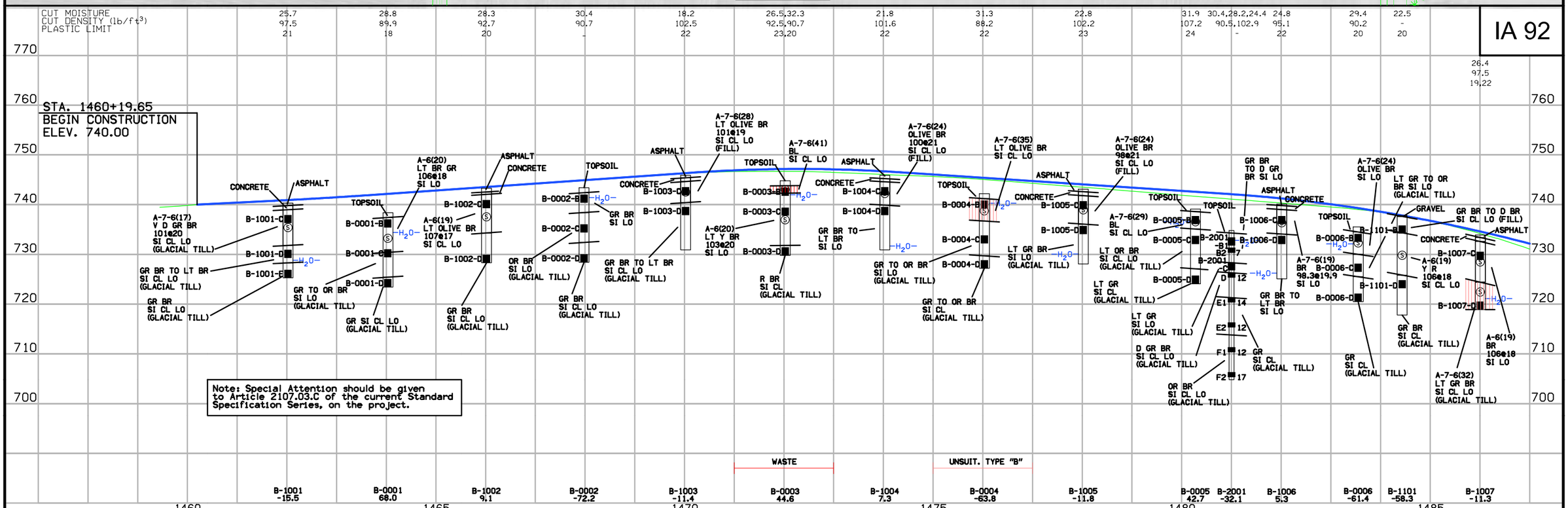

FILE NO.	ENGLISH	DESIGN TEAM OLSSON	WASHINGTON - LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Q.2

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Oregon TWP.
T-75N R-6W
SEC. 14

Oregon TWP.
T-75N R-6W
SEC. 23

1490 1495 1500 1505 1510 1515

B-0007 B-1007 IA 92 B-1008 B-0008 B-1009 B-0009 B-1010 B-2002 B-0010 B-1011 B-0011 B-2061 B-1012 B-2060 B-2003 B-2004 B-0012 B-1013 B-0013 B-0014

18" x 22" C.M.P.

House

0 100 FEET

WORKING BLANKET NO. 1
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.

CUT MOISTURE	22.7	26.4	25.5	25.5	23.7	28.2,28.1,23.9	23.7,22.6	26.1	31.6	26.5	31.4,27.9	27.8,26.2,29.8,33.6,22.3	30.1,17.6	
CUT DENSITY (lb/ft³)	101.6	94.8	95.5	99.3	98.4	94.8,102.7	98.3,104.5	93.9	79.2	95.3	86.6,94.7	89.3,95.3,108.8	91.5,115.2	
PLASTIC LIMIT	28.1,22.1													18.7
	91.2,105.1													106.0
	B-0007	B-1008	B-0008	B-1009	B-0009	B-1010	B-2002	B-0010	B-1011	B-0011	B-1012	B-0012	B-2004	B-0013	B-1013
	-75.3	11.1	72.9	-11.6	-58.8	5.5	-47.9	74.9	-14.1	-62.9	2.0	77.4	15.1	87.0	-3.4

740 730 720 710 700 690 680 670

TOPSOIL; A-7-6(29) OLIVE BR 99@21 SI CL LO; B-0007-B; B-0007-C; B-0007-D; GR SI CL LO (GLACIAL TILL); A-7-6(31) GR BR 105@19 SI CL; GR BR TO LT BR SI CL (GLACIAL TILL); ASPHALT; CONCRETE; B-1008-C; B-1008-E; D GR TO D BR SI LO; OR BR SI CL LO (GLACIAL TILL); A-7-6(28) BL 100@20 SI LO; TOPSOIL; B-0008-B; B-0008-C; B-0008-D; B-0008-E; LT OR BR SI CL LO (GLACIAL TILL); A-6(19) LT Y BR SI LO; A-6(7) Y BR 116@14 LO (GLACIAL TILL); ASPHALT; CONCRETE; B-1009-C; B-1009-E; GR BR SI CL LO (GLACIAL TILL); A-6(18) BL 100@20 SI LO; D GR SI LO; LT GR BR SI LO (GLACIAL TILL); V D GR SI CL LO; TOPSOIL; B-0009-B; B-0009-C; B-0009-D; LT OR BR SI CL LO (GLACIAL TILL); ASPHALT; CONCRETE; B-1010-C; B-1010-E; A-6(8) OLIVE BR 108@15 SI LO; GR BR SANDY LO; GR BR TO LT BR SI CL LO (GLACIAL TILL); A-6(18) BL 101@19 SI LO; V D GR BR SI CL LO; B-2002-B; B-2002-C; B-2002-D; D GR SI LO; GR SANDY CL; GR SANDY CL (GLACIAL TILL); LT OR BR SI CL LO (GLACIAL TILL); OR BR SI LO (GLACIAL TILL); GR BR SANDY CL LO (GLACIAL TILL); TOPSOIL; B-0010-B; B-0010-C; B-0010-D; B-0010-E; A-7-6(24) BL 101@20 SI CL LO; GR BR SI LO; D GR TO OR BR SI LO (GLACIAL TILL); BL GR SI LO (GLACIAL TILL); OR BR SI CL LO (GLACIAL TILL); GR BR SI CL LO (GLACIAL TILL); ASPHALT; CONCRETE; B-1011-C; B-1011-E; A-7-6(34) BL 93@25 SI LO; GR BR SI CL LO (GLACIAL TILL); TOPSOIL; B-0011-B; B-0011-C; B-0011-D; OR BR TO LT GR SI CL LO (GLACIAL TILL); V D BR SI CL LO; V D BR SI LO; B-1012-C; B-1012-E; D GR BR SI LO; D GR SI CL LO (GLACIAL TILL); LT GR BR TO LT BR SI LO; ASPHALT; CONCRETE; A-7-6(33) BL SI CL LO; TOPSOIL; B-0012-B; B-0012-C; B-0012-D; B-0012-E; D GR SI LO; LT BL GR SI LO (GLACIAL TILL); LT OR BR SANDY LO (GLACIAL TILL); GR SANDY LO (GLACIAL TILL); TOPSOIL; B-2004-B1 R Y SI LO; B-2004-B3; B-2004-C1; OR BR SANDY CL (GLACIAL TILL); BL GR SI CL (GLACIAL TILL); TOPSOIL; B-0013-B; B-0013-C; B-0013-D; B-0013-E; OR BR SI CL LO (GLACIAL TILL); GR TO OR BR SI CL LO (GLACIAL TILL); LT OR BR SI CL LO (GLACIAL TILL); TOPSOIL; BR SI LO; A-7-6(23) Y BR SI CL LO; B-1013-B; B-1013-C; A-7-6(30) BR SI CL LO (GLACIAL TILL); R BR SI CL LO (GLACIAL TILL)

UNSUIT. TYPE "B"

UNSUIT. TYPE "B"

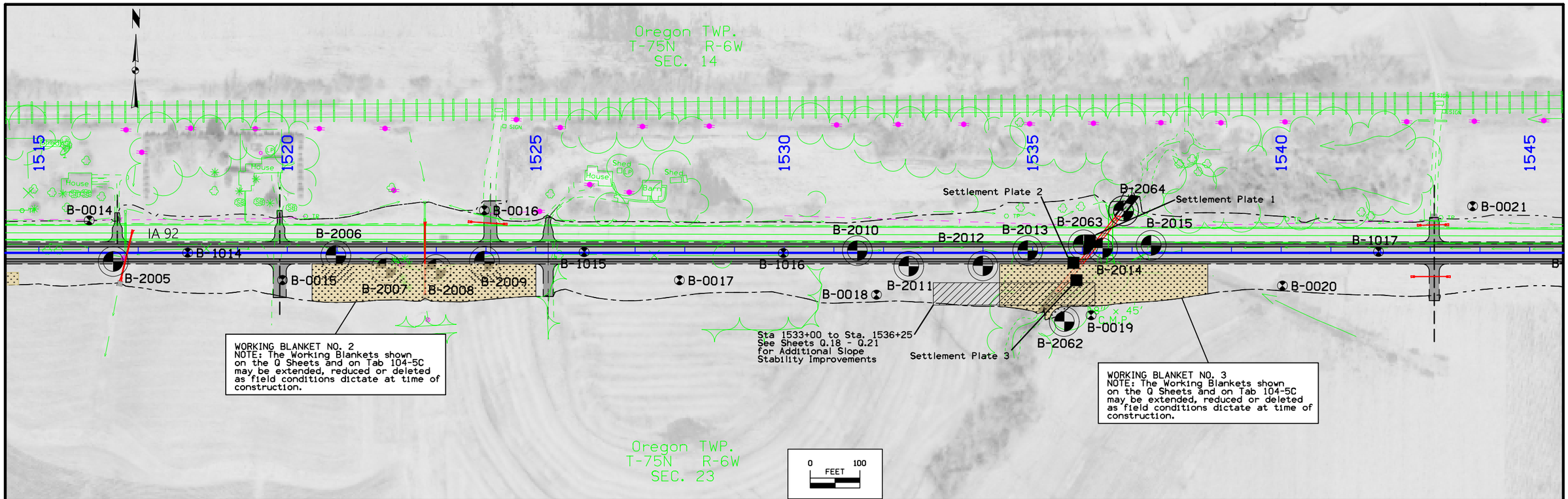
SHELBY TUBE CORE DATA

CORE NO.	B-2004-B3
DEPTH IN FEET	6.0'-8.0'
CLASSIFICATION (AASHTO)	-
COEFF.CONSOL. (SQ.FT /DAY)	-
TRIAXIAL COMPRESSION	UU
COHESION - PSF	700
FRICTION COEFF.	0
MOISTURE CONTENT %	29.8
DRY DENSITY - PCF	93.5
CU-CONSOLIDATED UNDRAINED	
UU-UNCONSOLIDATED UNDRAINED	
UC-UNCONFINED COMPRESSION (c=1/2 Qu)	

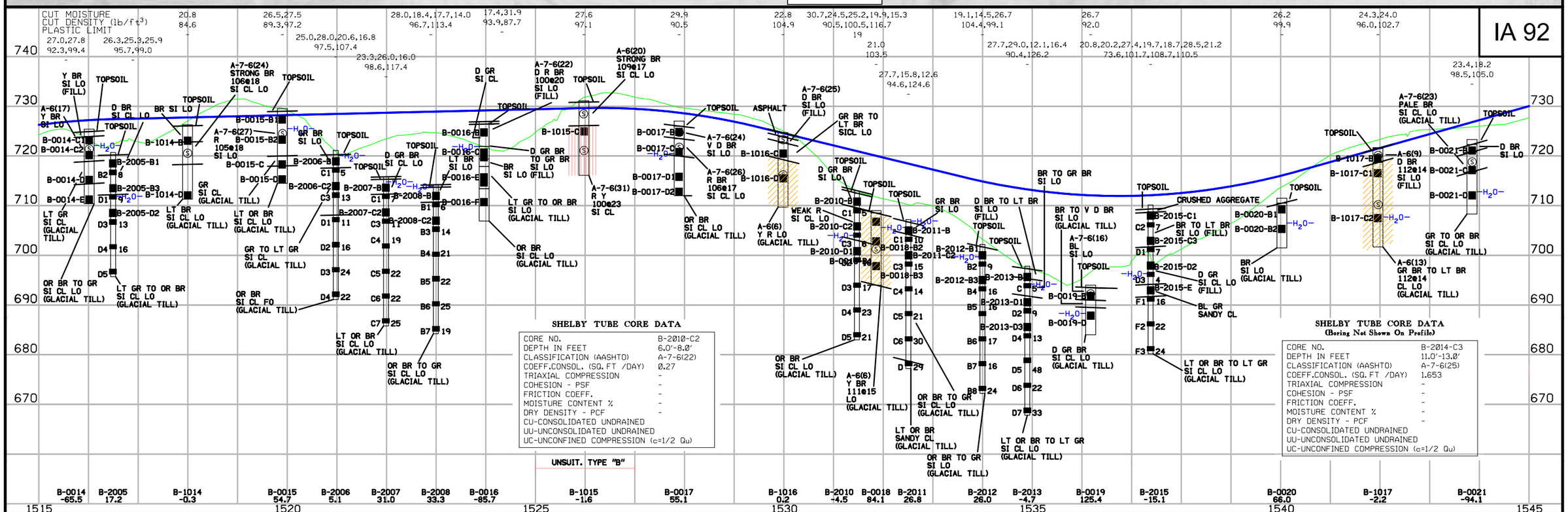
IA 92

FILE NO.	ENGLISH	DESIGN TEAM OLSSON	WASHINGTON - LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Q.3

9:33:26 AM 8/19/2022 jvesely pw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\9209201085\Soils\CADD Files\SHT\92092057_Q.sht



IA 92



SHELBY TUBE CORE DATA

CORE NO.	B-2010-C2
DEPTH IN FEET	6.0'-8.0'
CLASSIFICATION (AASHTO)	A-7-6(22)
COEFF.CONSOL. (SQ.FT /DAY)	0.27
TRIAXIAL COMPRESSION	-
COHESION - PSF	-
FRICTION COEFF.	-
MOISTURE CONTENT %	-
DRY DENSITY - PCF	-
CU-CONSOLIDATED UNDRAINED	
UU-UNCONSOLIDATED UNDRAINED	
UC-UNCONFINED COMPRESSION (c=1/2 Qu)	

SHELBY TUBE CORE DATA
(Boring Not Shown On Profile)

CORE NO.	B-2014-C3
DEPTH IN FEET	11.0'-13.0'
CLASSIFICATION (AASHTO)	A-7-6(25)
COEFF.CONSOL. (SQ.FT /DAY)	1.653
TRIAXIAL COMPRESSION	-
COHESION - PSF	-
FRICTION COEFF.	-
MOISTURE CONTENT %	-
DRY DENSITY - PCF	-
CU-CONSOLIDATED UNDRAINED	
UU-UNCONSOLIDATED UNDRAINED	
UC-UNCONFINED COMPRESSION (c=1/2 Qu)	

FILE NO.	ENGLISH	DESIGN TEAM OLSSON	WASHINGTON - LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Q.4

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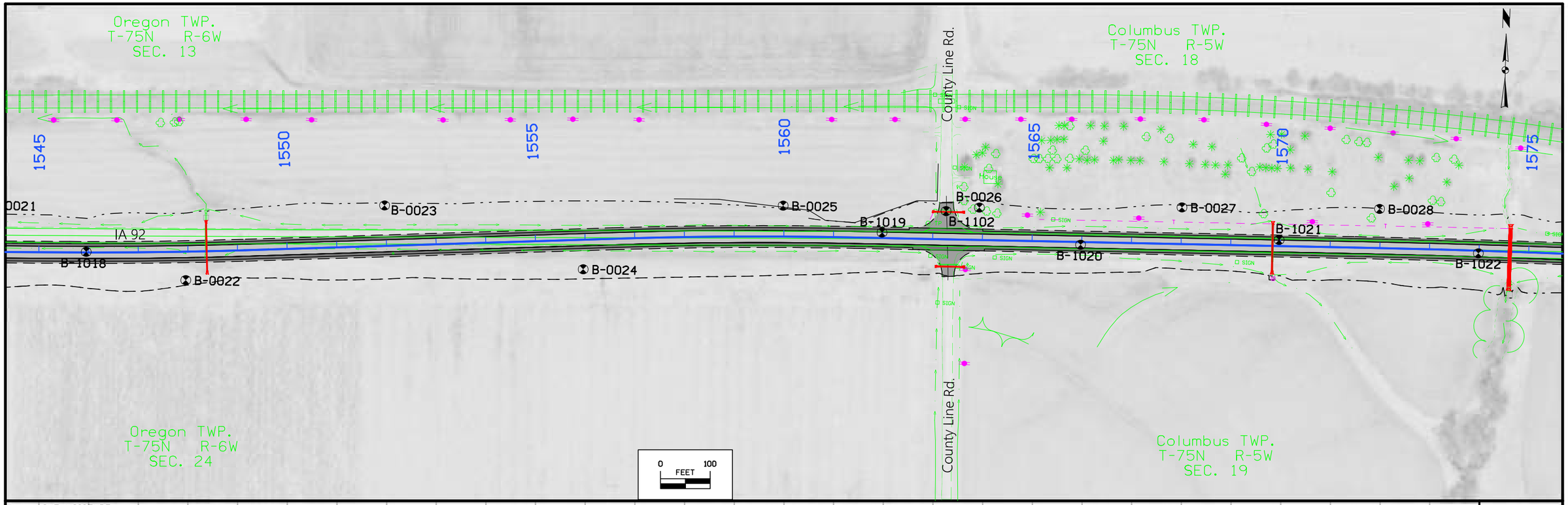

IA 92

FILE NO.	ENGLISH	DESIGN TEAM OLSSON	WASHINGTON - LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Q.5

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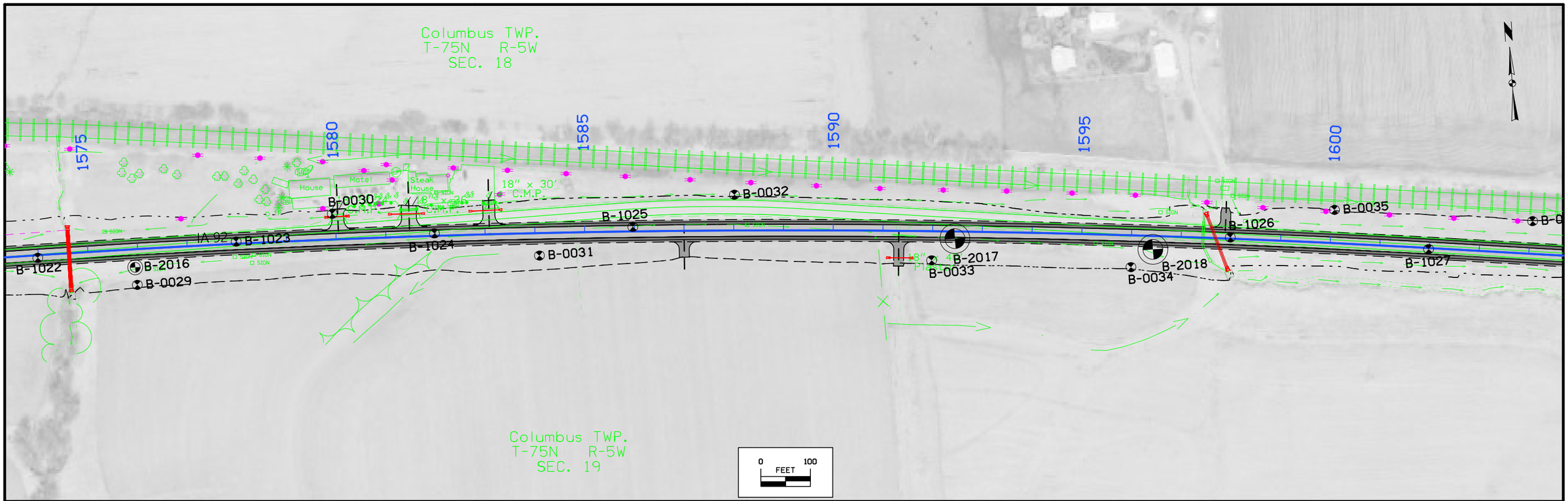

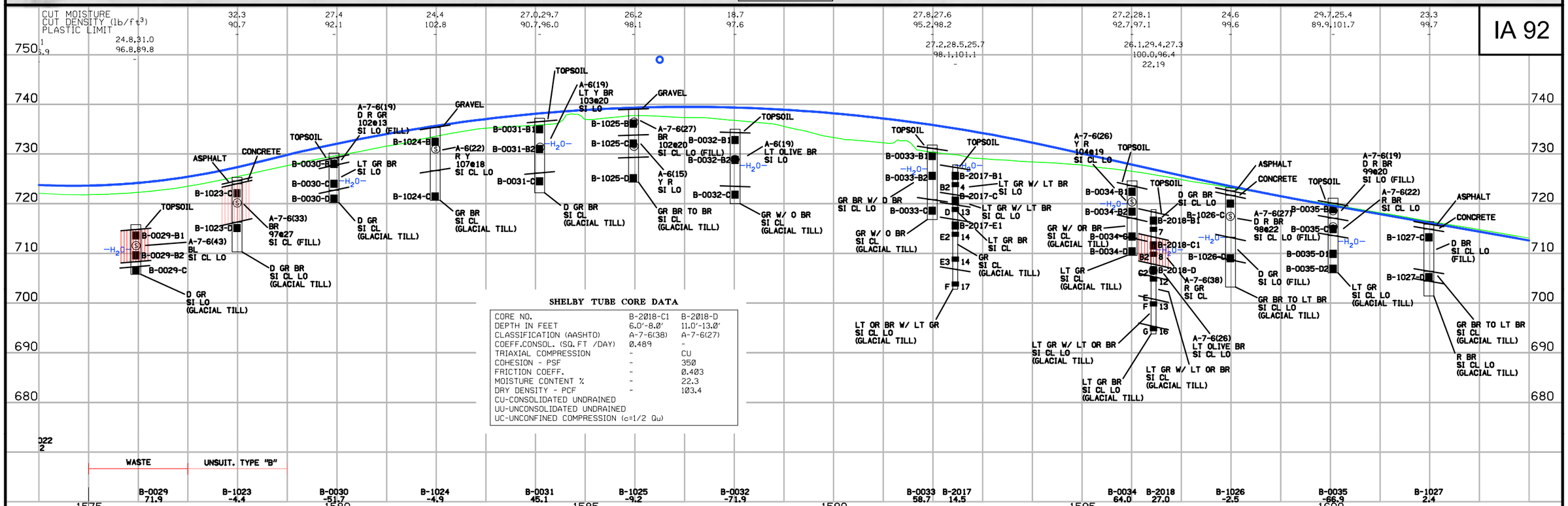

SHELBY TUBE CORE DATA

CORE NO.	B-2018-C1	B-2018-D
DEPTH IN FEET	6.0'-8.0'	11.0'-13.0'
CLASSIFICATION (AASHTO)	A-7-6(38)	A-7-6(27)
COEFF.CONSOL. (SQ.FT /DAY)	0.489	-
TRIAXIAL COMPRESSION	-	CU
COHESION - PSF	-	350
FRICTION COEFF.	-	0.403
MOISTURE CONTENT %	-	22.3
DRY DENSITY - PCF	-	103.4

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

FILE NO.	ENGLISH	DESIGN TEAM OLSSON	WASHINGTON - LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Q.6

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Columbus TWP.
T-75N R-5W
SEC. 18

Columbus TWP.
T-75N R-5W
SEC. 20

Columbus TWP.
T-75N R-5W
SEC. 19

Columbus TWP.
T-75N R-5W
SEC. 20

W-66

1605 1610 1615 1620 1625 1630

B-0036 B-1028 B-1030 B-1031 B-0039 B-1032 B-0041 B-1034 B-1035
B-0037 B-1029 B-0038 B-1103 B-2019 B-0040 B-1033 B-2020 B-0042

IA 92

WORKING BLANKET NO. 4
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.

0 100
FEET

Barn
House
Barn
Barn
Garage
Shed

IA 92

| | | |

Columbus TWP.
T-75N R-5W
SEC. 20

1635 1640 1645 1650 1655 1660

IA 92

B-0043 B-1036 B-1037 B-1038 B-0044 B-1039 B-1040 B-0046 B-1041 B-0047 B-1042
B-1035 B-2021 B-2022 B-2023 B-0045 B-2024 B-2025

WORKING BLANKET NO. 5
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.

0 100 FEET

Columbus TWP.
T-75N R-5W
SEC. 20

IA 92

	B-1035	B-0043	B-1036	B-2021	B-1037	B-1038	B-2023	B-0044	B-1039	B-0045	B-1040	B-2024	B-0046	B-1041	B-0047	B-1042
CUT MOISTURE	25.8	30.4	28.8,25.8,24.9,18.9	26.0		28.5	18.3	14.0			25.1,32.4	30.9	25.6	25.5,22.0		
CUT DENSITY (lb/ft³)	96.6	91.1	94.5,100.4	83.5		90.3	109.8	96.4			97.0,89.2	88.8	95.4	95.4,105.2		
PLASTIC LIMIT	21.1		22			28.1,34.9,29.4,30.1,27.5					28.4,30.2,30.8,30.2,26.9				20.4,32.7	
	105.5					97.6,91.2,100.9					93.5,91.5,98.5				103.7,88.3	
						19					21					

Sta. +00.0
Prop. Type "C" Ent.

710 700 690 680 670 660 650

B-1035-C: ASPHALT; CONCRETE; A-7-6(21) R BR 100@20 SI CL LO (FILL)
B-1035-D: GR BR TO LT BR SI LO
B-0043-B: TOPSOIL; D GR BR SI LO
B-0043-C: LT GR BR SI LO
B-1036-B: ASPHALT; A-7-6(22) D R BR 103@18 SI CL LO (FILL)
B-1036-C: LT BR SI LO
B-2021-B1: TOPSOIL; A-7-6(44) LT R BR SI CL LO
B-2021-B2: 10
B-2021-B3: C 17
D1 16
D2 13
D3 14
LT R BR SI LO
D R BR TO OR BR SANDY LO
WASTE
B-1037-C: CONCRETE; ASPHALT; A-7-6(20) D GR 99@19 SI CL LO (FILL)
B-1037-D: GR BR TO LT BR SI LO
B-1038-C: ASPHALT; CONCRETE; A-6(14) D R BR 102@19 SI LO (FILL)
B-1038-D: LT BR TO GR BR SI LO
B-2023-B1: TOPSOIL; 6
B2 6
C1 5
C2 5
B-2023-D: D GR SI LO
E 5
A-6(20) STRONG BR SI LO
F1 11
F2 12
F3 12
BL GR SI LO
D GR SI LO
GR TO R BR LO SAND
B-0044-B: TOPSOIL; A-6(18) LT OLIVE BR 106@18 SI CL LO (GLACIAL TILL)
B-0044-C: GR W/ BR SI CL LO (GLACIAL TILL)
B-0044-D: D GR SI CL LO
D GR W/ OR BR SI CL (GLACIAL TILL)
B-1039-C: ASPHALT; CONCRETE; A-7-6(22) Y R 105@17 SI CL LO
B-0045-B1: TOPSOIL; A-6(19) Y R 102@20 SI CL LO
B-0045-B2
B-0045-C: LT BL GR SI LO (GLACIAL TILL)
B-1040-C: ASPHALT; CONCRETE; A-6(18) V D GR 98@18 SI LO (FILL)
B-1040-D: V D GR BR SI LO
B-2024-B1: TOPSOIL
B2 3
B-2024-C: D1 4
D2 14
D3 14
E1 5
E2 5
F1 31
F2 29
F3 39
A-6(13) BL SI LO
D R BR SI LO
BL GR TO D GR SI LO
D BR LO SAND
LT TO D GR SI CL (GLACIAL TILL)
B-0046-B: TOPSOIL; A-7-6(22) D Y BR SI CL LO
B-0046-C: LT GR W/ OR BR SI LO
B-1041-C: CONCRETE; ASPHALT
B-1041-D: LT GR BR SI LO
A-7-6(26) R BR 102@20 SI CL LO (FILL)
B-0047-B1: TOPSOIL; A-6(19) D BR SI CL LO
B-0047-B2
B-0047-D: LT GR BR SI LO
LT BR SAND
RD BR TO GR LO SA
B-1042-C: CONCRETE; ASPHALT; A-7-6(20) D GR 100@19 SI LO (FILL)
B-1042-D: A-7-6(21) D R BR SI LO
B-1042-E: LT GR SI CL
B-1042-G: GR BR TO D BR SI CL (GLACIAL TILL)

SHELBY TUBE CORE DATA

CORE NO.	B-2021-B1	B-2023-C1	B-2024-B1	B-2024-C
DEPTH IN FEET	1.0'-3.0'	6.0'-8.0'	1.0'-3.0'	6.0'-8.0'
CLASSIFICATION (AASHTO)	A-7-6(44)	A-6(20)	A-6(13)	-
COEFF.CONSOL. (SQ.FT /DAY)	-	6.835	-	-
TRIAXIAL COMPRESSION	-	CU	-	UU
COHESION - PSF	-	520	-	800
FRICTION COEFF.	-	0.249	-	0
MOISTURE CONTENT %	-	29.4	-	30.8
DRY DENSITY - PCF	-	91.2	-	91.6

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

1635 1640 1645 1650 1655 1660

FILE NO.	ENGLISH	DESIGN TEAM OLSSON	WASHINGTON - LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Q.8

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Columbus TWP.
T-75N R-5W
SEC. 20

1665 1670 1675 1680 1685 1690

RxR Xing (CLOSED)

B-1042 IA 92 B-1043 B-1044 B-0048 B-1045 B-1046 B-0049 B-1047 B-0050 B-1048 B-0051 B-1049 B-0052 B-

B-2026 B-2027 B-2028 B-2029 B-2030 B-2031

Columbus TWP.
T-75N R-5W
SEC. 20

0 100
FEET

IA 92

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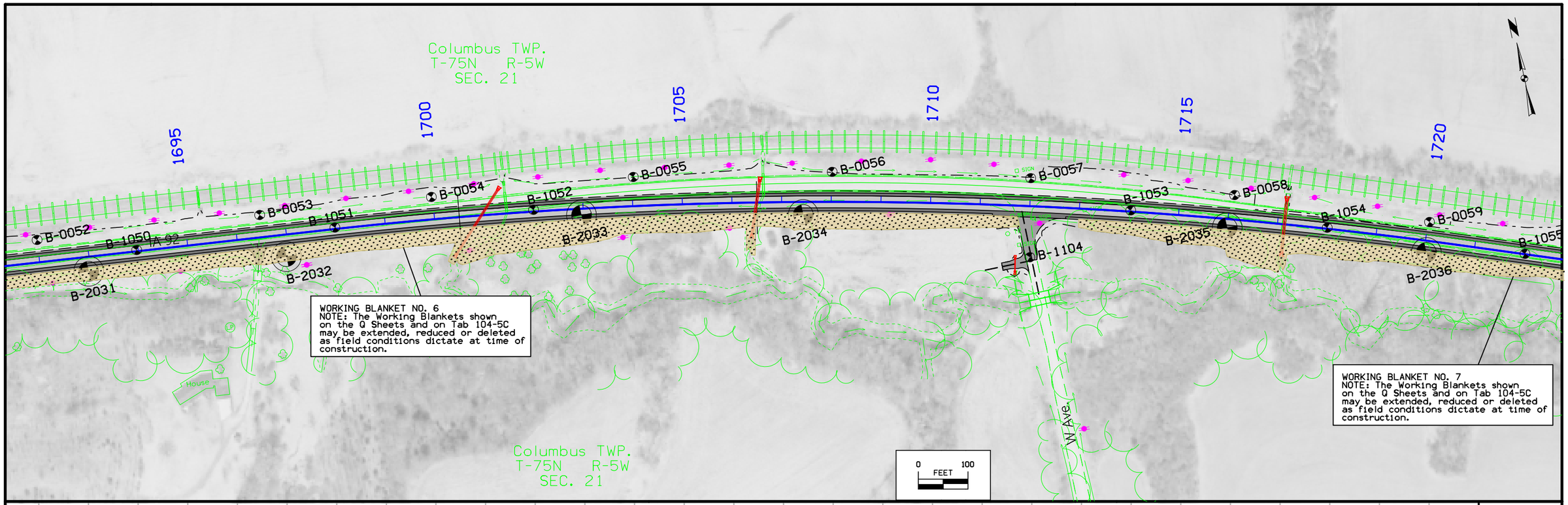


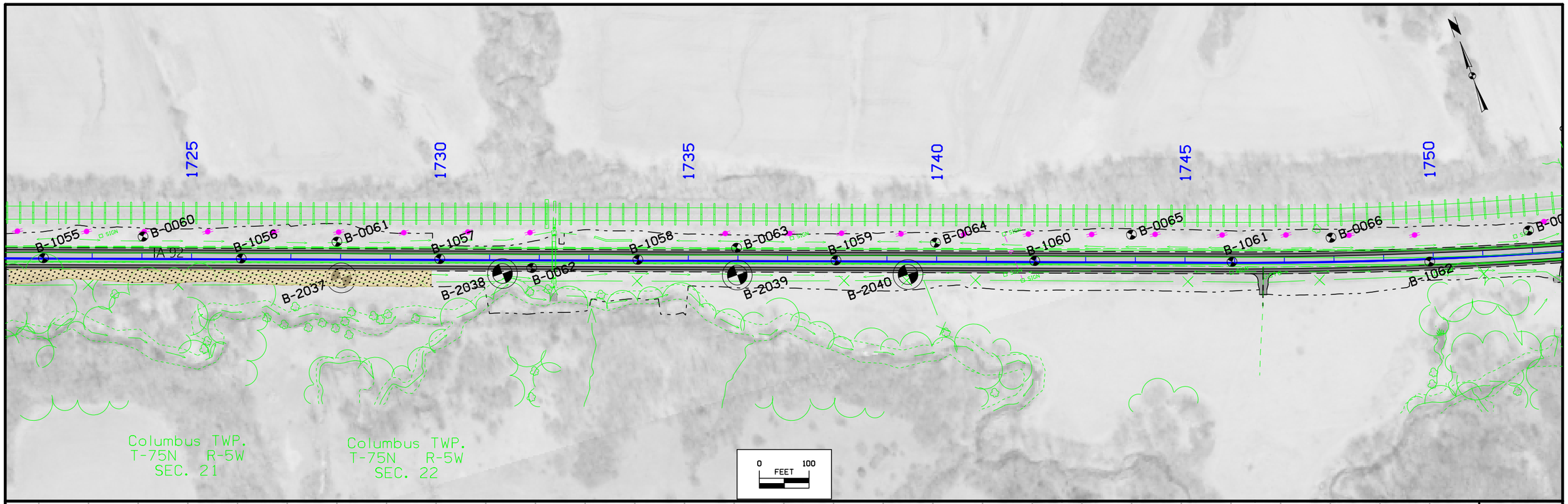
CUT MOISTURE	24.0,25.2,17.4,21.8,11.2	30.9,21.9	24.1,29.6,1.6,19.1,28.1	24.7,24.8,23.1,20.8,30.1		21.5	26.0	27.4	18.8	25.2
CUT DENSITY (lb/ft³)	99.5	90.1,106.2	101.3,94.2	96.1,103.7,91.0		99.8	96.4	97.4	105.6	94.8
PLASTIC LIMIT	-	-	18	17		-	-	-	-	-
	27.8	20.0,38.0	21.7	21.7	22.6,28.1					
	96.9	117.8,85.6	101.7	103.5	85.3,96.5					
	-	-	-	-	-					
	29.9,43.4,23.7,25.2,20.7									
	90.2,98.4,108.2									
	12									
	31.1									
	88.6									
	-									

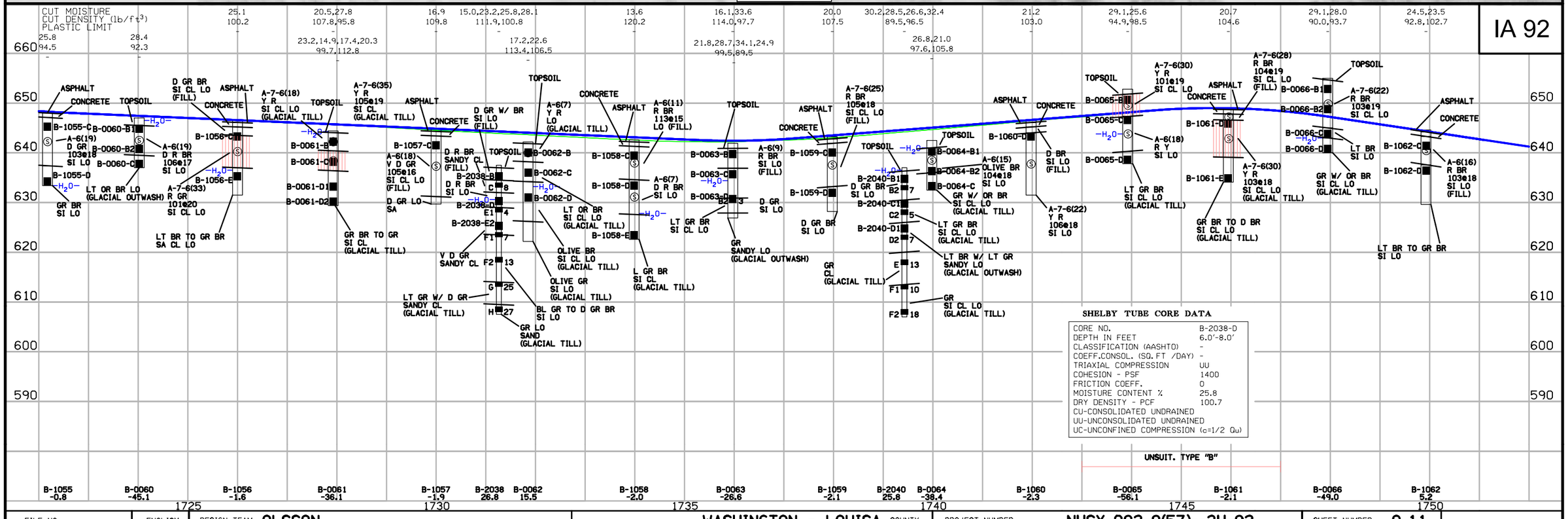
SHELBY TUBE CORE DATA
(B-2035-E Not Shown On Profile)

CORE NO.	B-2031-B1	B-2031-E1	B-2033-B3	B-2034-C3	B-2035-E
DEPTH IN FEET	1.0'-3.0'	11.0'-13.0'	6.0'-8.0'	11.0'-13.0'	11.0'-13.0'
CLASSIFICATION (AASHTO)	-	A-6(9)	A-6(14)	A-7-6(28)	A-6(23)
COEFF.CONSOL. (SQ.FT /DAY)	-	0.322	-	1.482	0.648
TRIAXIAL COMPRESSION	UU	-	CU	-	-
COHESION - PSF	700	-	460	-	-
FRICTION COEFF.	0	-	0.205	-	-
MOISTURE CONTENT %	29.9	-	29.9	-	-
DRY DENSITY - PCF	90.2	-	95.6	-	-

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

FILE NO.	ENGLISH	DESIGN TEAM	OLSSON	WASHINGTON - LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	Q.10





SHELBY TUBE CORE DATA

CORE NO.	B-2038-D
DEPTH IN FEET	6.0'-8.0'
CLASSIFICATION (AASHTO)	-
COEFF.CONSOL. (SQ.FT /DAY)	-
TRIAXIAL COMPRESSION	UU
COHESION - PSF	1400
FRICTION COEFF.	0
MOISTURE CONTENT %	25.8
DRY DENSITY - PCF	100.7

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

UNSUIT. TYPE "B"

FILE NO.	ENGLISH	DESIGN TEAM OLSSON	WASHINGTON - LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Q.11

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Columbus TWP.
T-75N R-5W
SEC. 22

V Ave.

1755 1760 1765 1770 1775 1780

B-0067 B-1105 B-1063 IA 92 B-0068 B-1064 B-1065 B-1067 B-1068 B-0072 B-2052 B-1069 B-2066 B-0073
B-2041 B-1066 B-0069 B-0070 B-0071 B-2053 B-2065

0 100 FEET

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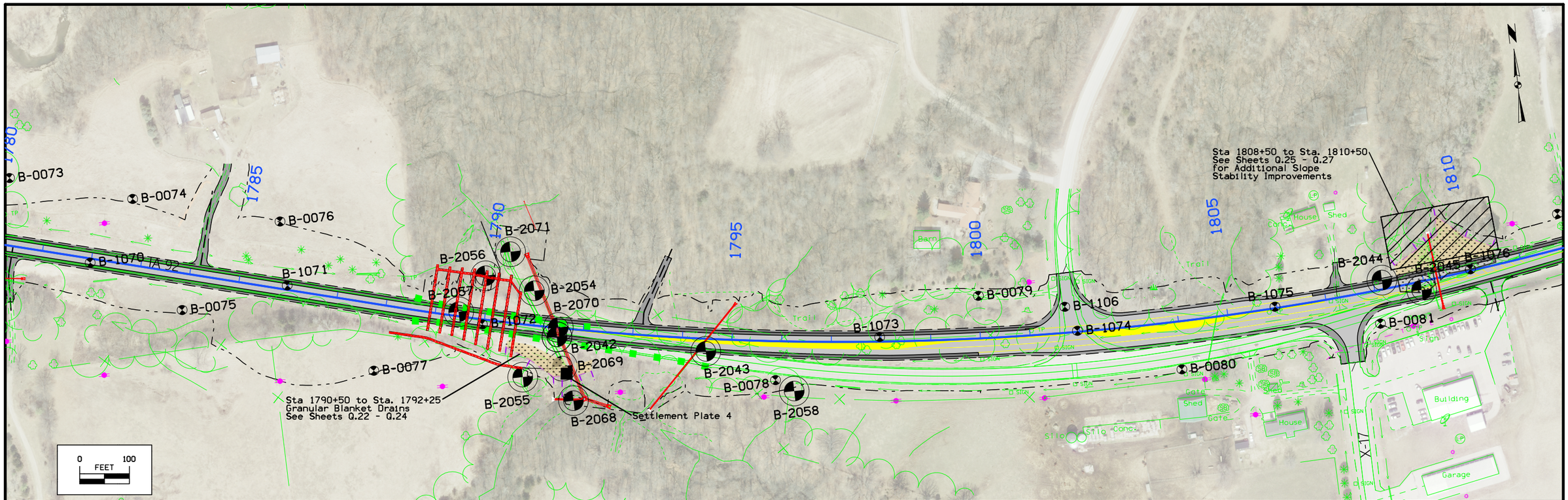
B-0073
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B-0076
B-1070
B-0075
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B-2070
B-1072
B-2042
B-2069
B-2055
B-2068
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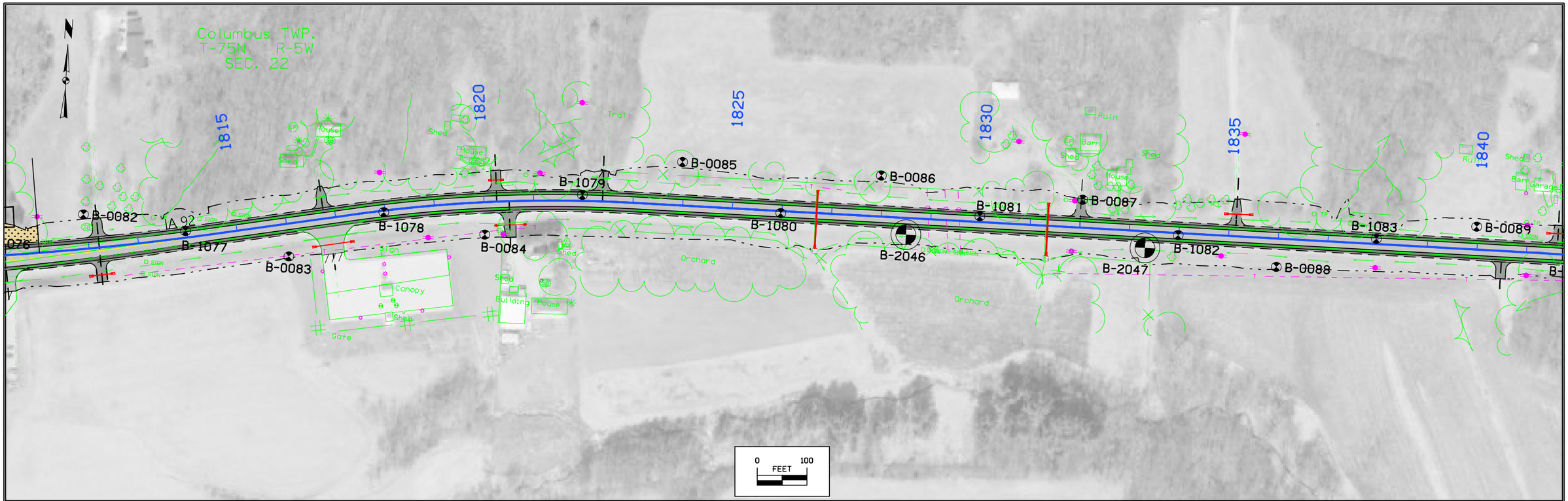
B-0078
B-2058
B-0079
B-1073
B-1106
B-1074
B-1075
B-0080
B-2044
B-2045
B-1076
B-0081
1780
1785
1790
1795
1800
1805
1810
Sta 1790+50 to Sta. 1792+25
Granular Blanket Drains
See Sheets Q.22 - Q.24
Settlement Plate 4
Sta 1808+50 to Sta. 1810+50
See Sheets Q.25 - Q.27
For Additional Slope
Stability Improvements
0
100
FEET
House
Shed
Barn
Trail
Gate
Silo
Conc.
Building
Garage
X-17

IA 92

| | | |


Columbus TWP.
T-75N R-5W
SEC. 22
1815
1820
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B-1078
B-0084
B-1079
B-0085
B-0086
B-2046
B-1080
B-1081
B-0087
B-2047
B-1082
B-1083
B-0088
B-0089
076
A 92
Trail
Ruin
Barn
Shed
House
Garage
Sign
Canopy
Building
Gate
Orchard
D SIGN
0
100
FEET

IA 92
CUT MOISTURE
CUT DENSITY (lb/ft³)
PLASTIC LIMIT
710
700
690
680
670
660
650
640
TOPSOIL
ASPHALT
CONCRETE
GRAVEL
B-0082-B1
B-0082-B2
B-0082-C
A-7-6(35) LT OLIVE BR SI CL LO
BR SI LO
A-7-6(21) Y R 106@18 SI CL LO
B-1077-B
B-1077-C
A-4(0) Y R 122@10 SA LO (FILL)
GR W/ OR BR SI CL LO (GLACIAL TILL)
B-0083-B
B-0083-C
B-0083-D
A-7-6(27) R BR 100@22 SI CL LO
GR BR SI LO
A-6(21) Y R 104@18 SI CL LO
B-1078-C
A-6(14) Y R CL LO (GLACIAL TILL)
B-0084-B
B-0084-C
LT GR BR SI LO
A-4(0) R BR 119@11 SA LO (FILL)
B-1079-B
B-1079-C
A-6(16) Y R SI LO
B-0085-B1
B-0085-B2
B-0085-C
B-0085-D
OR BR W/ GR SI CL LO (GLACIAL TILL)
A-7-6(27) Y R 14@19 SI CL LO
A-6(14) R BR 104@16 SI LO
B-1080-C
B-1080-D
GR BR SI CL LO (GLACIAL TILL)
LT BR SI LO
B-0086-B
B-0086-C
B-2046-B
B-2046-C1
B-2046-C2
LT GR BR SI LO
OR BR SI CL (GLACIAL TILL)
B-1081-B
B-1081-C
A-6(11) Y R SI LO
A-6(17) R BR 106@16 SI LO (FILL)
A-6(18) LT OLIVE BR SI LO
B-0087-B1
B-0087-B2
B-0087-C
D OR BR W/ GR SI LO (GLACIAL TILL)
LT BR W/ LT GR SI LO (GLACIAL TILL)
LT R BR W/ LT GR SI LO (GLACIAL TILL)
LT BR W/ LT GR SI CL (GLACIAL TILL)
LT BR W/ LT GR SI CL LO (GLACIAL TILL)
B-2047-C
B-2047-D1
B-2047-D2
B-2047-E
B-2047-F
B-2047-G1
B-2047-G2
D BR SI LO (FILL)
B-1082-C
B-1082-D
BR GR SI CL LO (GLACIAL TILL)
GR BR SI CL LO
A-7-6(30) R BR 105@18 SI CL LO (FILL)
B-0088-B1
B-0088-B2
LT GR BR SI CL LO
B-1083-B
A-4(8) Y R 108@16 SI LO
A-7-6(22) Y R SI LO
GR W/ LT OR BR SI LO
B-0089-B
B-0089-C
B-0089-D
OR BR SI CL LO (GLACIAL TILL)
UNSUIT. TYPE "B"
B-0082 -69.2
B-1077 -13.6
B-0083 65.4
B-1078 3.1
B-0084 65.1
B-1079 -12.2
B-0085 -87.3
B-1080 4.1
B-0086 -82.3
B-2046 33.6
B-1081 -11.7
B-0087 -56.3
B-2047 33.6
B-1082 4.1
B-0088 57.0
B-1083 -10.6
B-0089 -46.0
1815
1820
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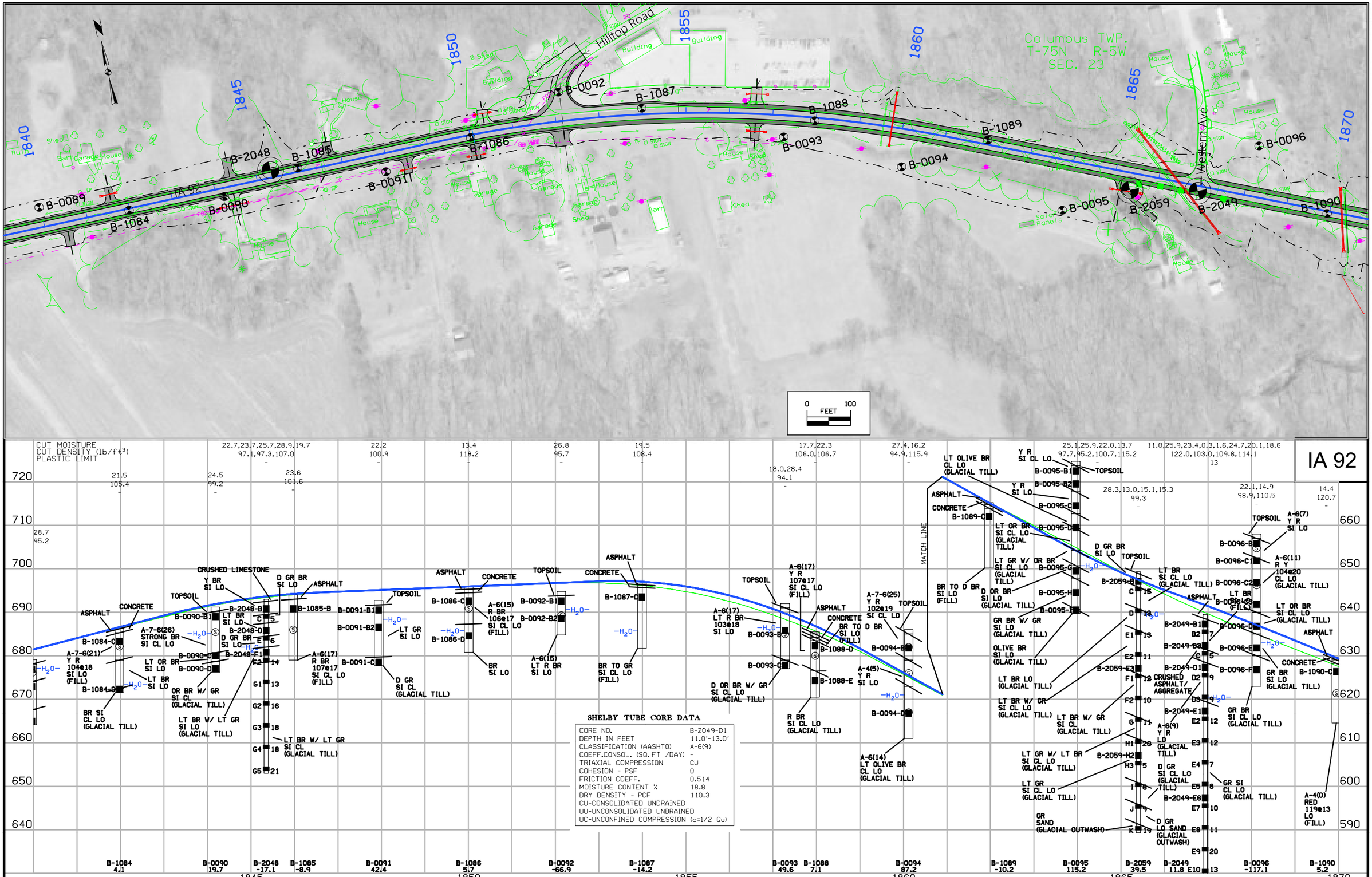

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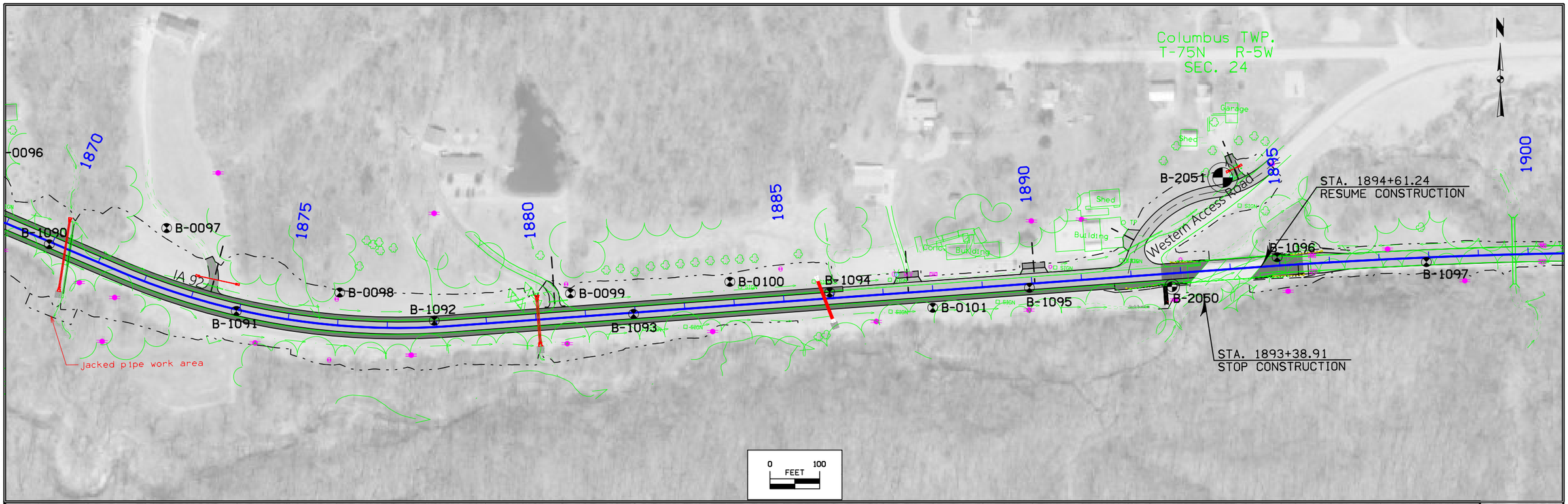

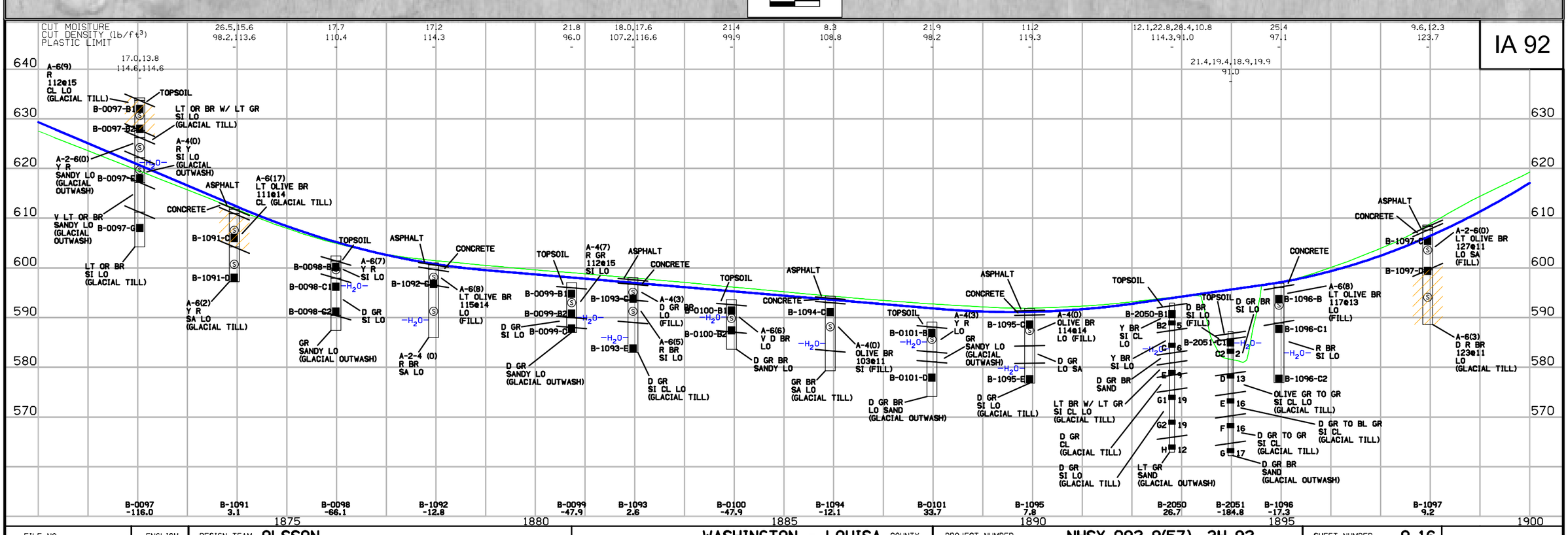

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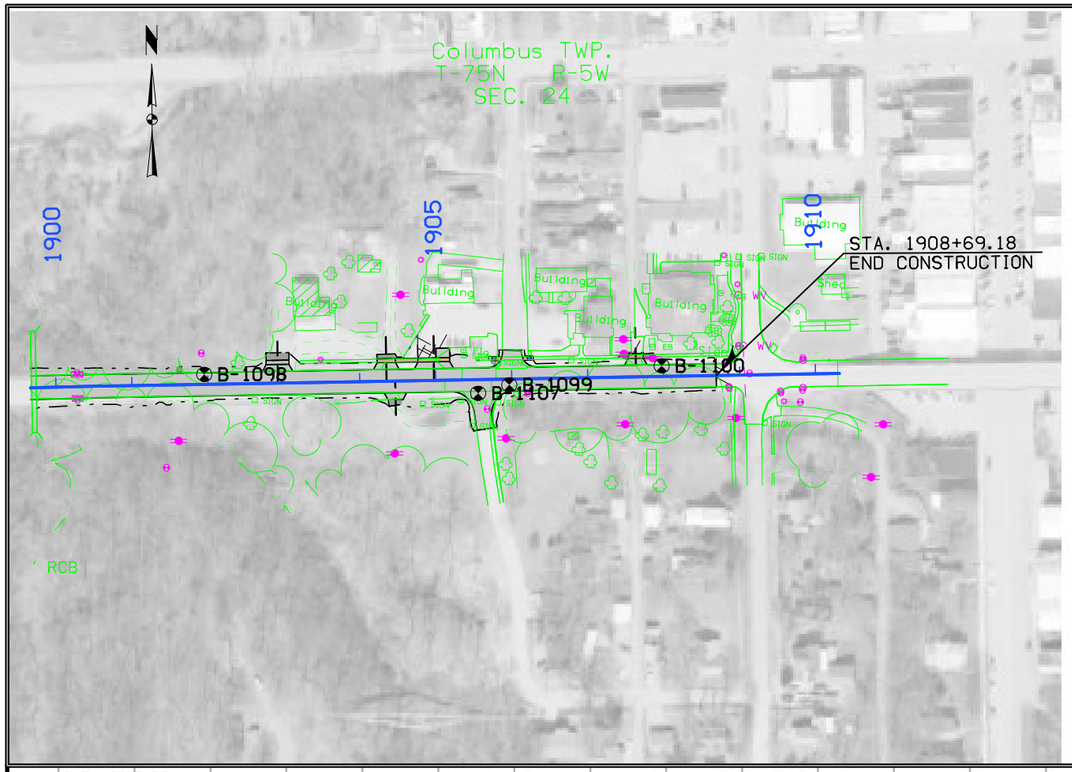

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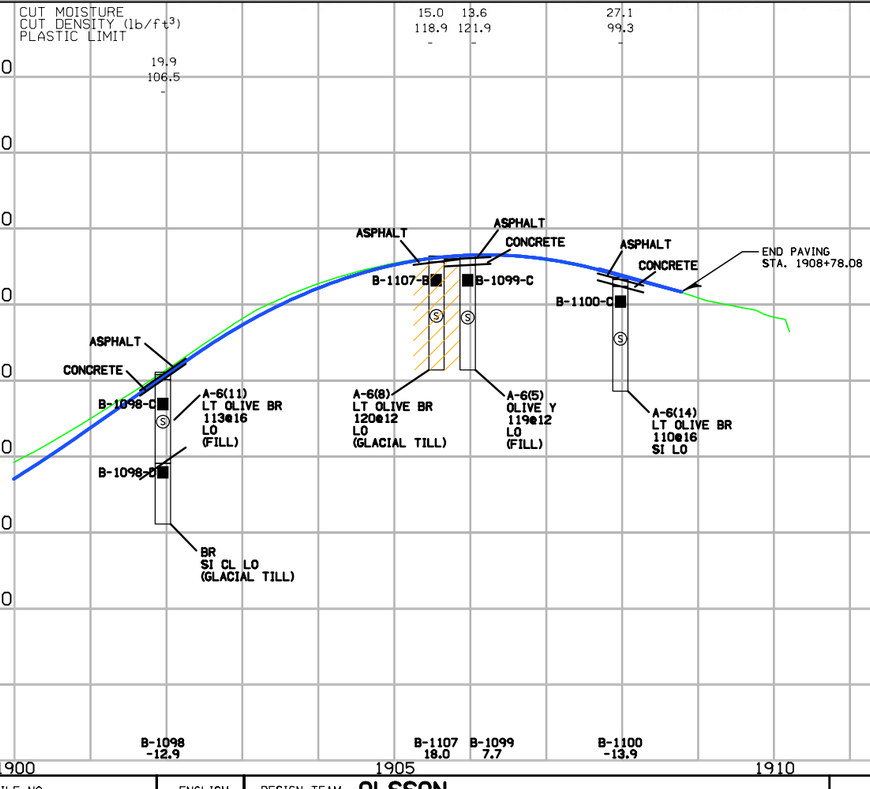
IA 92



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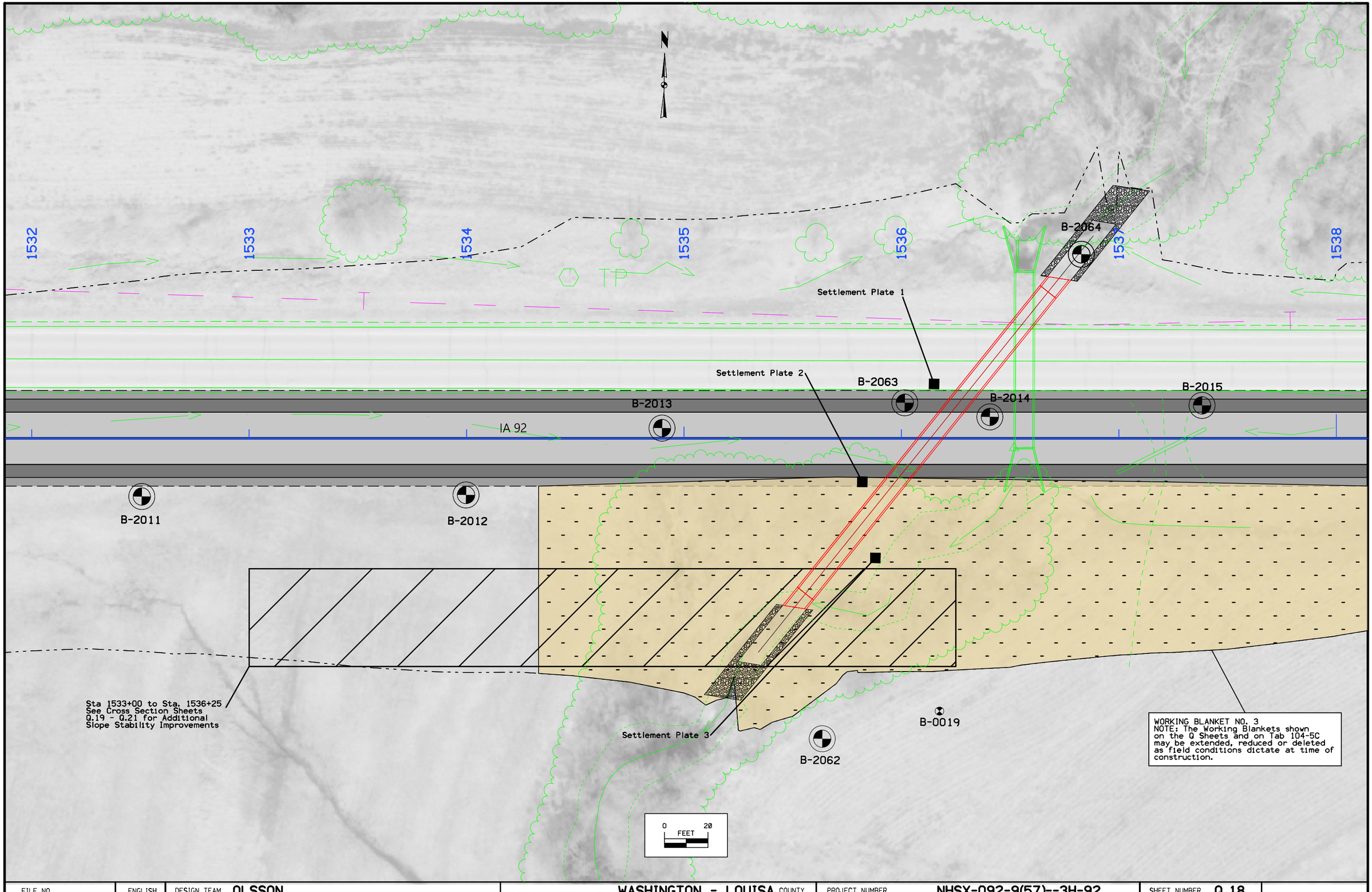

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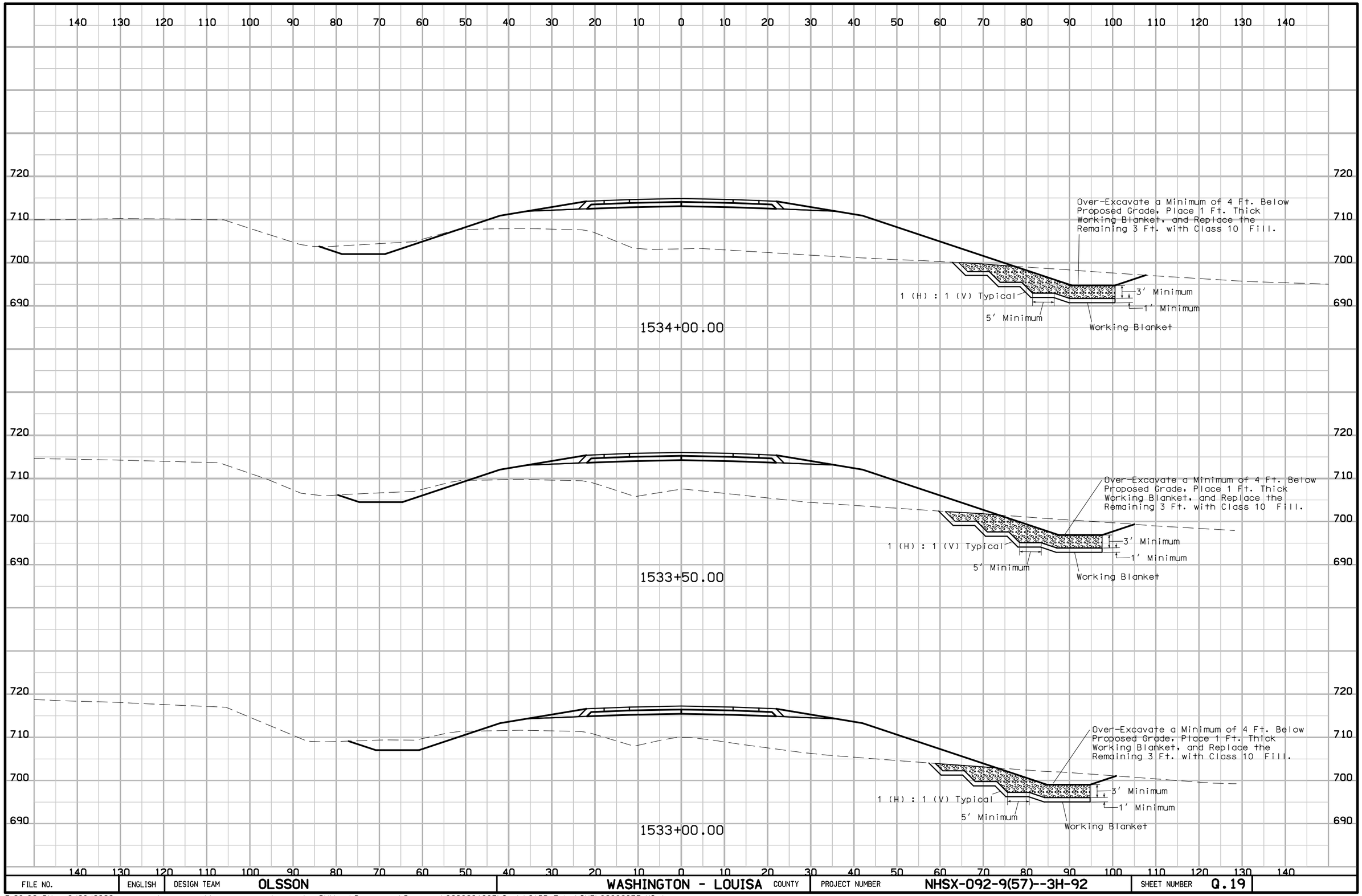

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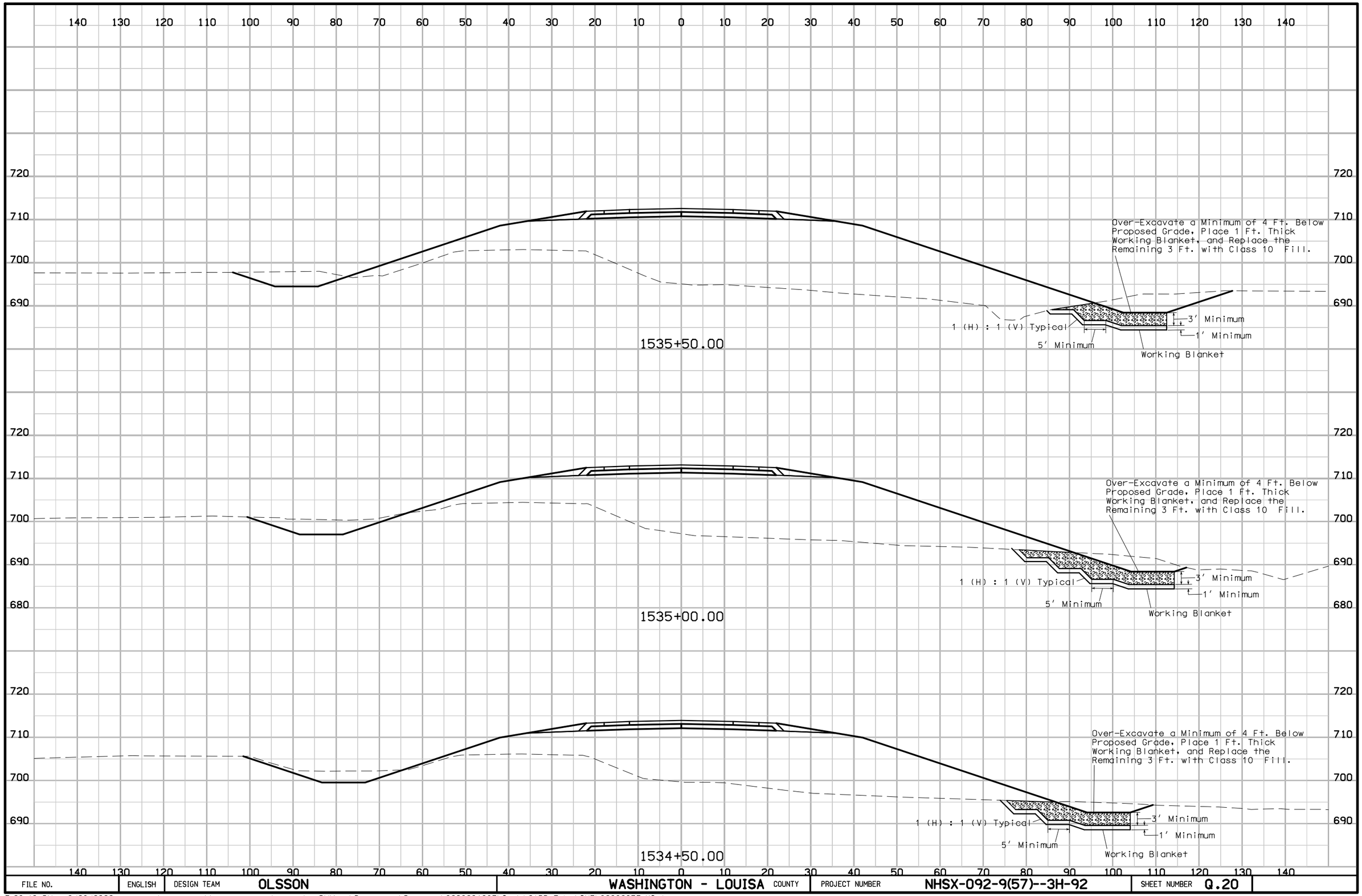

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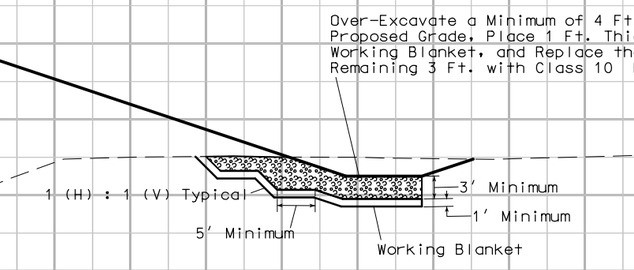
140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

740
730
720
710
700
690

710
700
690

1536+50.00



710
700
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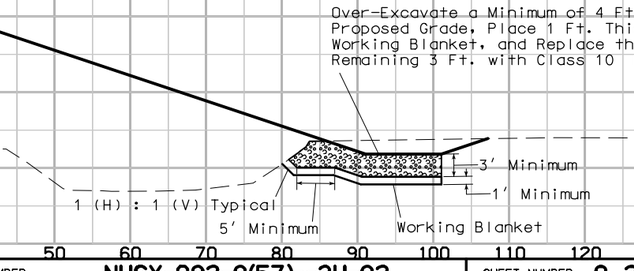
1536+00.00



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B-2071

Existing 6" Perforated Drain Pipe To Remain

Existing Drain Tile To Remain

B-2056

1789

1790

B-2054

1791

1792

1793

1794

1795

B-2057

B-1072

B-2070

IA 92

B-2042

B-2043

Settlement Plate 4
Sta. 1791+75 RT 90
Detail See Standard RL-6

B-2069

Existing Drain Tile To Remain

Sta 1790+50 to Sta. 1792+25 Granular Blanket Drains
See Cross Sections Q.23 & Q.24

Proposed 6" Perforated Pipe

B-2055

Existing 6" Perforated Drain Pipe To Remain

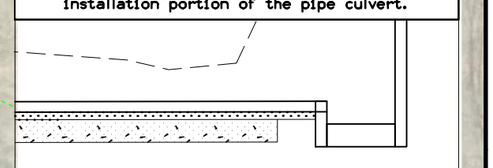
Extend 6" Perforated Pipe at 5% Slope
Typical Outlet DR-306

B-2068

Install a 1-foot-thick Working Blanket consisting of Granular Material for Blanket directly under the 74'-0" open-cut installation portion of the pipe culvert, extending the length of the culvert barrel from where it meets the jacked portion of the culvert to within 2 feet of the drop inlet structure. Extend the Working Blanket laterally a minimum width of 2 feet beyond the interior edges of the pipe culvert, similar to Standard Road Plan DR-101, Trench Installation where H<4 feet. Place a minimum of 4 inches of Porous Backfill Bedding on top of the Working Blanket, separated by a layer of Engineering Fabric to limit migration of the Porous Backfill Bedding. The Working Blanket may be deleted if determined to be unnecessary at the time of construction. If the Working Blanket is deleted, the minimum 4 inches of Porous Backfill Bedding is still used

0 20
FEET

Typical showing placement of min. 4" of porous backfill and 12" of granular material for use as a "Working Blanket" under the open cut installation portion of the pipe culvert.



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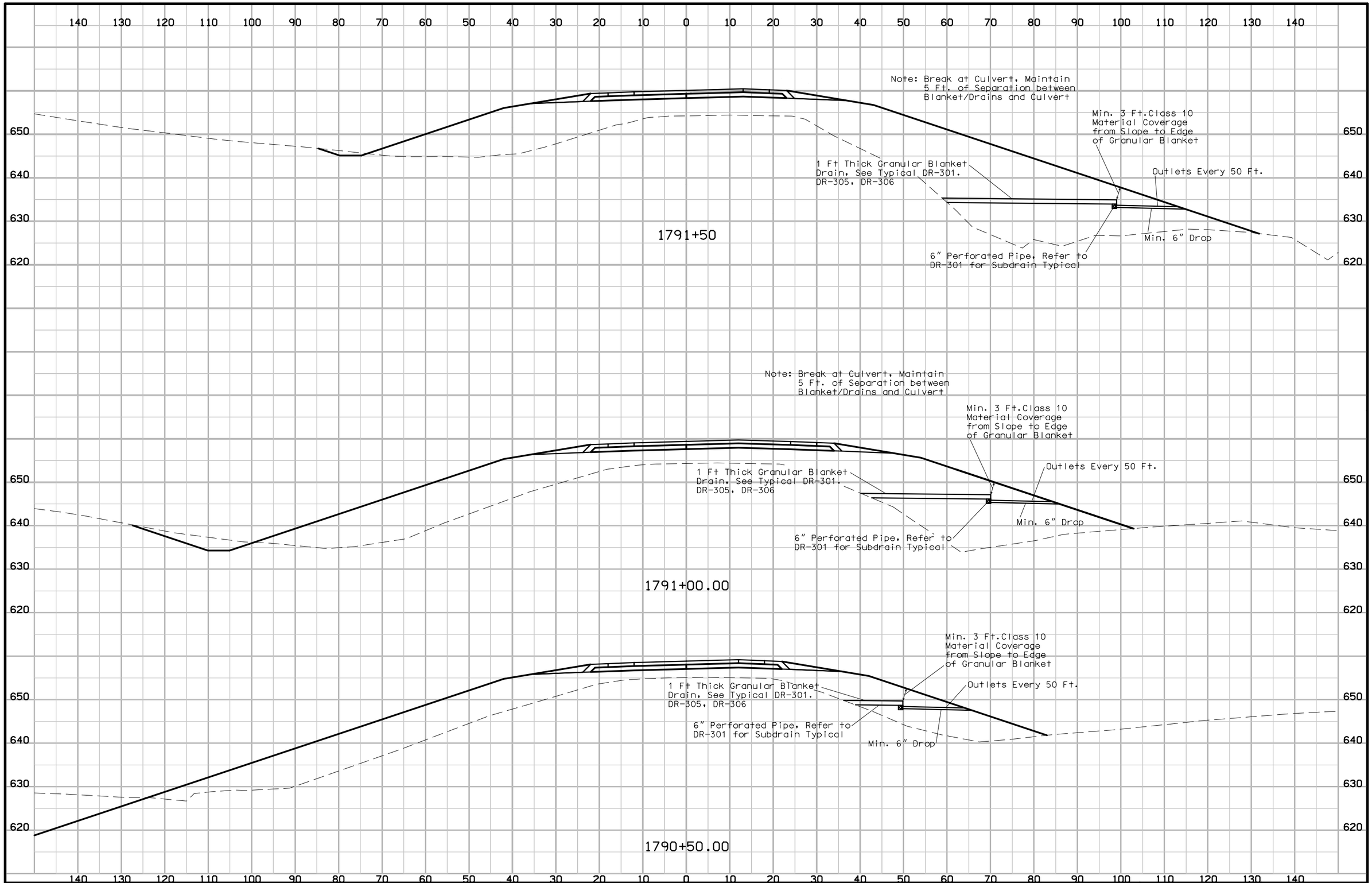

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140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

670
660
650
640
630
620

1792+50

1792+00

Note: Break at Culvert, Maintain
5 Ft. of Separation between
Blanket/Drains and Culvert

Min. 3 Ft.Class 10
Material Coverage
from Slope to Edge
of Granular Blanket

1 Ft Thick Granular Blanket
Drain. See Typical DR-301.
DR-305, DR-306

Outlets Every 50 Ft.

6" Perforated Pipe, Refer to
DR-301 for Subdrain Typical

Min. 6" Drop

610

FILE NO.	ENGLISH	DESIGN TEAM	OLSSON	WASHINGTON - LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	Q.24

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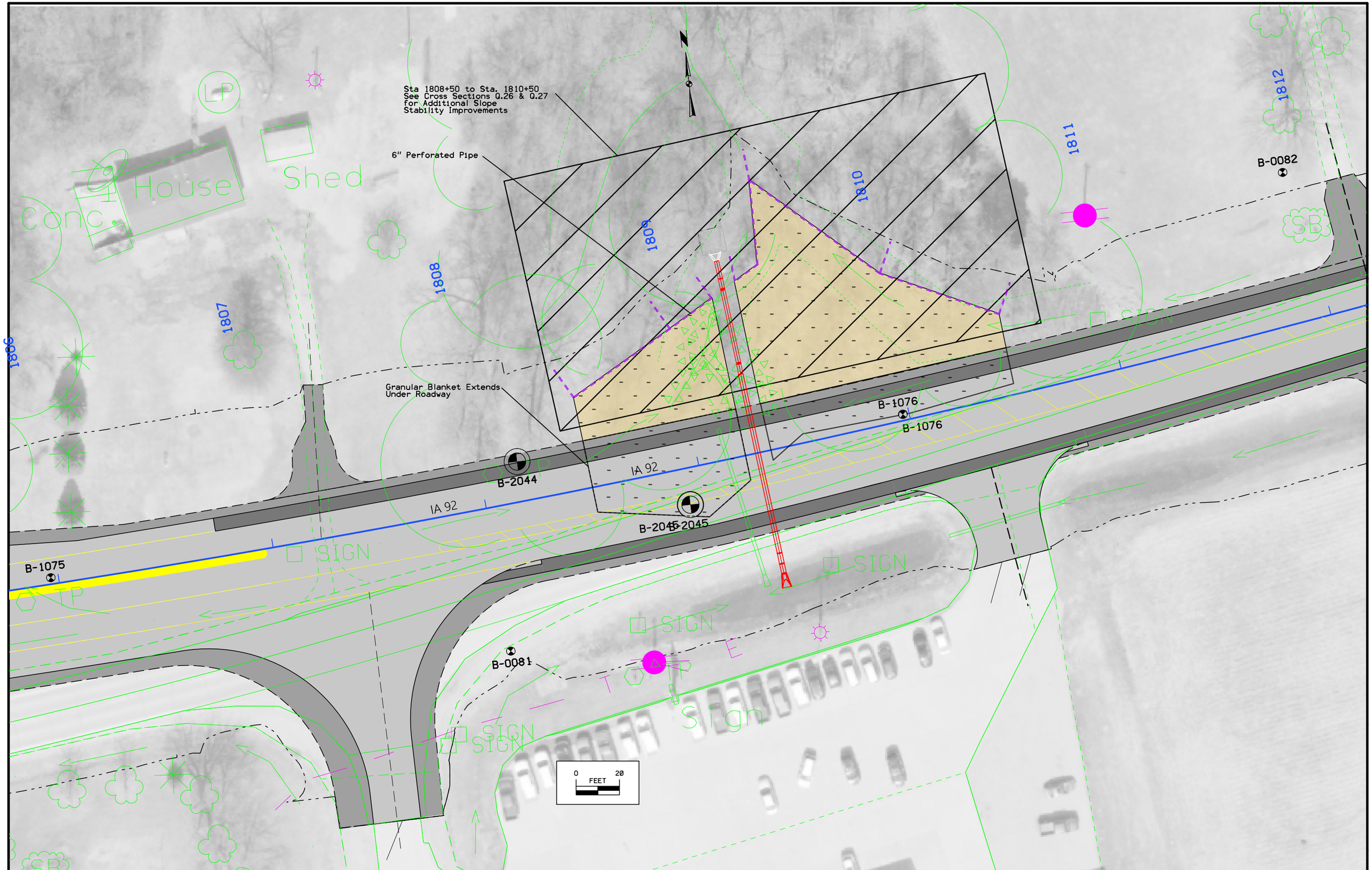

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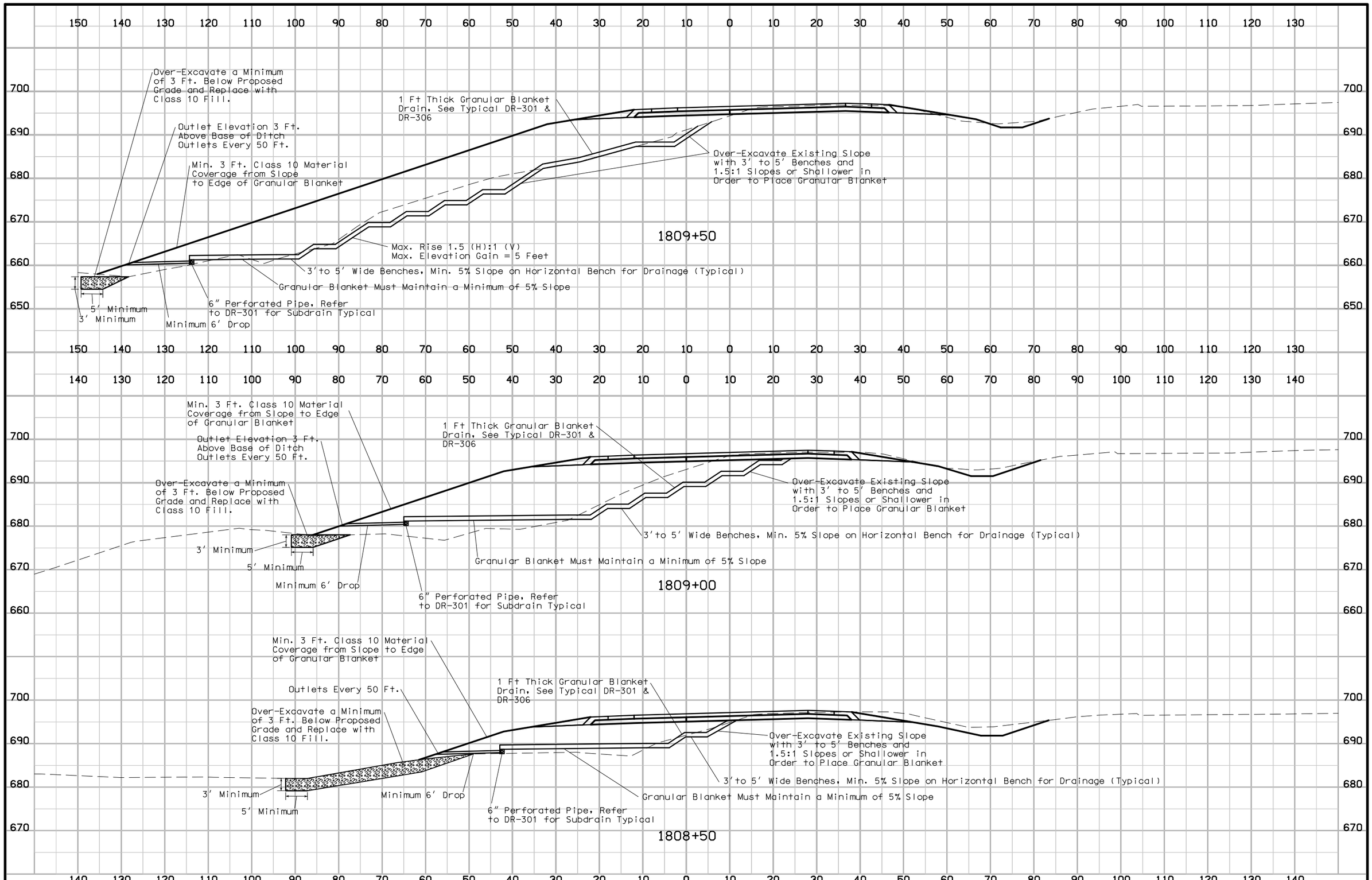

FILE NO.	ENGLISH	DESIGN TEAM	OLSSON	WASHINGTON - LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	Q.26

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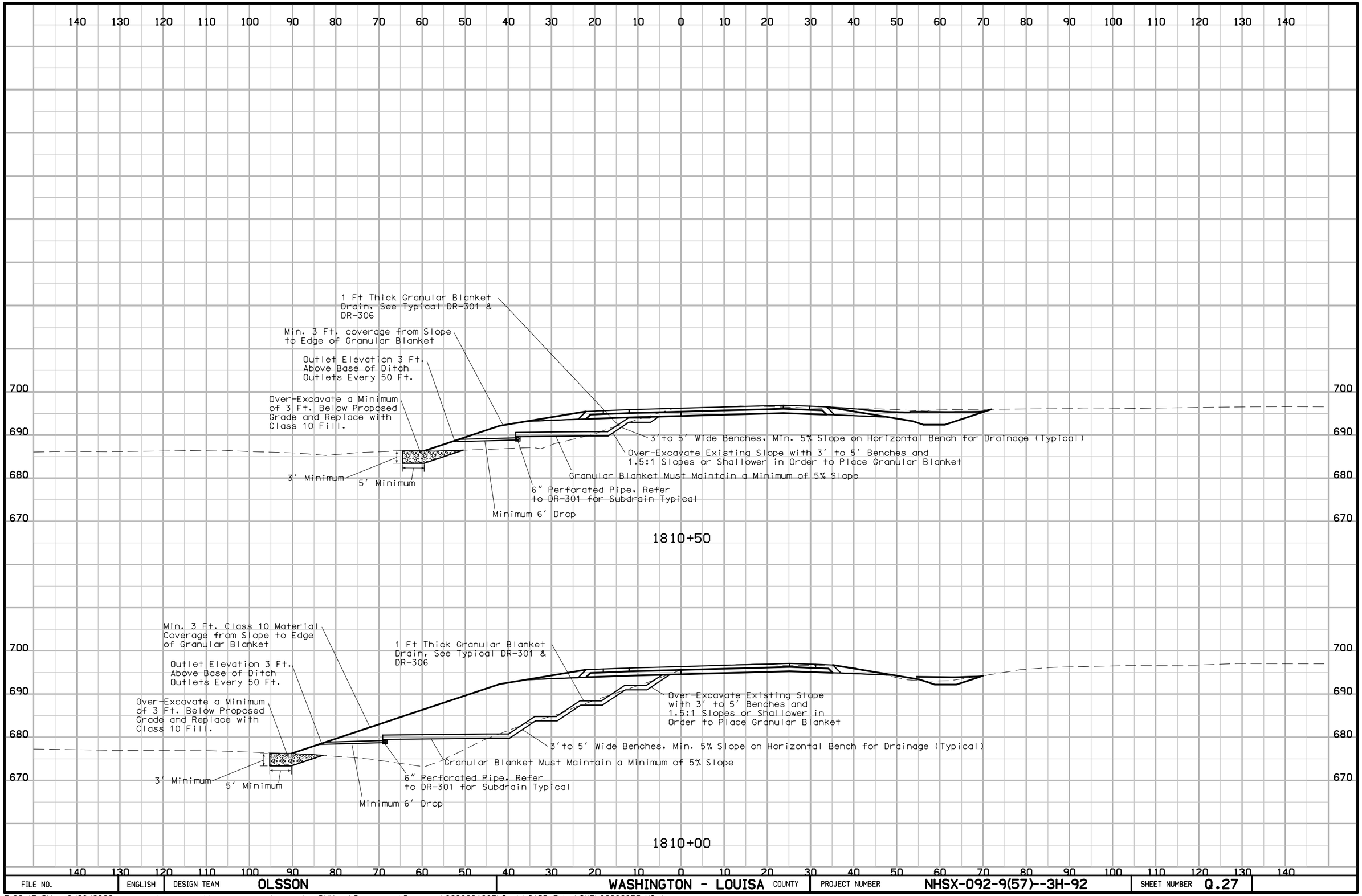

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ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Roaside : Roadside Items

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roaside	
1	2418-0000010	TEMPORARY STREAM DIVERSION	EACH	3	Refer to Standard Road Plan EW-402.
2	2507-3250005	ENGINEERING FABRIC	SY	2,295	Refer to Tab. 100-23 for locations. Refer to Standard Road Plan EC-301. Use material specified for embankment erosion control according to Article 4196.01,B,3 of the Standard Specifications. Material will be measured in sq. yds. of actual area covered. Refer to details. The tabulation includes estimated locations for placement of "Engineering Fabric" to address erosion at culvert outlets. The bid quantity includes an additional 30% for other locations as needed. Verify the additional locations with the Engineer prior to placement.
3	2507-6800061	REVETMENT, CLASS E	TON	2,027.5	Refer to Tab. 100-23 for locations. Refer to Standard Road Plan EC-301. The tabulation includes estimated locations for placement of "Revetment, Class E" to address erosion to be encountered at culvert outlets. The bid quantity includes an additional 30% for other locations as needed. Verify the additional locations with the Engineer prior to placement. Estimated at 1.4 ton/cu yd. Class E revetment shall meet requirements of Article 4130 of the Standard Specifications.
4	2601-2634100	MULCHING	ACRE	261	Perform mulching according to Article 2601.03,E,2 of the Standard Specifications. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes. Item is included for areas requiring reshaping and seedbed preparation except where slope protection has been applied. Use mulch that is 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.
5	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	123	Seed and fertilize all areas 8 foot adjacent to the shoulder mainline, medians, and side according to Article 2601.03, C, 3, of the Standard Specifications. Use ground driven equipment. Extra Rural seed has been included for use as a long-term stabilizing crop if necessary.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roaside	
6	2601-2636044	SEEDING AND FERTILIZING (URBAN)	ACRE	7.8	For all areas designated by the Engineer. Prepare seedbed, fertilize, and seed according to Article 2601.03, C, 4, of the Standard Specifications. Use ground driven equipment.
7	2601-2640350	SPECIAL DITCH CONTROL, WOOD EXCELSIOR MAT	SQ	507	Refer to Tab. 100-22 for locations. Refer to Standard Road Plan EC-101. Prepare seedbed according to Article 2601.03, B, 4 of the Standard Specifications. Install Wood Excelsior Mat according to Article 2601.03, H, 2, of the Standard Specifications. Seed according to Article 2601.03, H, 2, of the Standard Specifications.
8	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	130	Item is included for disturbed areas. Seed and fertilize all disturbed areas according to Article 2601.03, C, 1, of the Standard Specifications. If permanent seeding cannot be placed due to the restrictive planting dates, stabilizing crop will need to be placed on all disturbed areas as temporary erosion control. Preparation and seeding shall be performed in accordance with Section 2601. Stabilizing crop will not be used when the application dates in Section 2601 allows permanent seeding. If stabilizing crop must be used, place immediately following completions of finished grading. Reseeding of these areas will be required at contractors expense if damage occurs due to contractors negligence during the contract period. It is not necessary to place stabilizing crop in locations that have be covered by Wood Excelsior Mat.
9	2601-2642120	STABILIZING CROP - SEEDING AND FERTILIZING (URBAN)	ACRE	7.8	Item is included for disturbed areas as directed by the Engineer. Seed and fertilize all urban disturbed areas according to Article 2601.03, C, 2, of the Standard Specifications.
10	2601-2643110	WATERING FOR SOD, SPECIAL DITCH CONTROL, OR SLOPE PROTECTION	MGAL	110.8	Estimate for watering Special Ditch Control, Slope Protection Areas, Turf Reinforcement Mat, or Transition Mat is based on a total of four waterings at a rate of 50 gallons per square, per watering.
11	2601-2643300	MOBILIZATION FOR WATERING	EACH	3	
12	2601-2643411	TURF REINFORCEMENT MAT, TYPE 1	SQ	47	Refer to Tab. 100-22 for locations. Refer to Standard Road Plan EC-104.
13	2602-0000020	SILT FENCE	LF	30,940	Refer to Tab. 100-17 for locations. Refer to Standard Road Plan EC-201. 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.

Item no.	Item Code	Item	Unit	Quantities Estimated Roaside	Estimate Reference Notes
14	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	18,607	Refer to Tab 100-18 for locations Refer to Standard Road Plan EC-201. 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.
15	2602-0000050	SILT BASINS	EACH	50	Refer to Tab. 100-14 for locations 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 150% additional quantity for field adjustment and maintenance.
16	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	49,547	This item is included for silt fence and silt fence for ditch check removal required for staging reasons, removal to allow for replacement (replacement to be paid separately), or for areas that have achieved 70% permanent growth.This item is included for silt fence and silt fence for ditch check removal. Remove silt fence and posts after mulching or vegetation is established and approved by the engineer.
17	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	4,955	This item is included for clean-out and repair of the silt fence and silt fence for ditch checks during the project.
18	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE, EC-303	LF	5,000	Refer to Standard Road Plan EC-303.
19	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	50,990	Refer to Tab. 100-19 for locations. Refer to Standard Road Plan EC-204. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 12 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid itemincludes 25% additional quantity for field adjustments and replacements.

Item no.	Item Code	Item	Unit	Quantities	Estimate Reference Notes
				Estimated	
				Roaside	
20	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	1,070	Refer to Tab. 100-19 for locations. Refer to Standard Road Plan EC-204. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 20 in. dia." 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.
21	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	59,480	
22	2602-0000362	DITCH CHECK SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	7,420	
23	2602-0000400	TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY	EACH	6	
24	2602-0000410	MAINTENANCE OF TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY	EACH	6	
25	2602-0000420	REMOVAL OF TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY	EACH	6	
26	2602-0000500	OPEN-THROAT CURB INTAKE SEDIMENT FILTER, EC-602	LF	8	
27	2602-0000510	MAINTENANCE OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	EACH	2	
28	2602-0000520	REMOVAL OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	EACH	2	
29	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1	
30	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1	

111-25
10-18-11

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100-14	SILT BASINS	RC.10
100-17	TABULATION OF SILT FENCES	RC.5
100-18	SILT FENCES FOR DITCH CHECKS	RC.6 - RC.10
100-19	PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES	RC.12 - RC.17
100-22	ROLLED EROSION CONTROL	RC.11
100-23	ROCK EROSION CONTROL	RC.11 - RC.12
100-34	STORMWATER DRAINAGE BASIN AND STORAGE	RC.17 - RC.18
100-36	OPEN-THROAT CURB INTAKE SEDIMENT FILTER	RC.5
105-4	STANDARD ROAD PLANS	RC.5
110-12	POLLUTION PREVENTION PLAN	RC.19 - RC.20
111-25	INDEX OF TABULATIONS	RC.5
232-3B	EROSION CONTROL (URBAN SEEDING)	RC.5
281-1	SECTION 404 PERMIT AND CONDITIONS	RC.5
281-3	STORM WATER BEST MANAGEMENT PRACTICES	RC.5

105-4
10-18-11

STANDARD ROAD PLANS

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

Number	Date	Title
EC-101	04-19-16	Wood Excelsior Mat for Ditch Protection
EC-104	04-17-18	Turf Reinforced Mat (TRM)
EC-201	04-20-21	Silt Fence
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-301	10-18-16	Rock Erosion Control (REC)
EC-303	10-19-21	Stabilized Construction Entrance
EC-502	04-21-15	Seeding in Rural Areas
EC-602	04-21-20	Open-Throat Curb Intake Sediment Filter
EW-402	04-18-17	Temporary Stream Diversion

281-1
10-18-16

SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S. Army Corps of Engineers Nationwide #23, Permit No. 2200-1300. A copy of this permit is available from the Iowa DOT website (http://www.envpermits.iowadot.gov/). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

281-3
10-17-17

STORM WATER BEST MANAGEMENT PRACTICES

When the following best management practices are used, they are intended to account for disturbed areas where storage volume cannot be provided: Silt Basins, Silt Fences, Silt Fence For Ditch Checks, Perimeter and Slope Sediment Control Devices, Perimeter and Slope Sediment Control Devices for Ditch Checks, Rock Erosion Control, Turf Reinforcement Mat, Special Ditch Control and Seeding.

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
1489+21.00	1491+21.00	Lt	200.0	
1491+32.00	1493+32.00	Lt	200.0	
1501+84.00	1503+84.00	Lt	200.0	
1503+74.00	1505+74.00	Lt	200.0	
1506+00.00	1508+00.00	Lt	200.0	
1517+00.00	1519+00.00	Lt	200.0	
1518+90.00	1519+73.00	Lt	84.0	
1519+98.00	1520+87.00	Lt	70.0	
1520+77.00	1522+77.00	Lt	200.0	
1520+77.00	1523+92.00	Lt	98.0	
1524+96.00	1525+11.00	Lt	68.0	
1525+42.00	1527+42.00	Lt	200.0	
1527+32.00	1528+51.00	Lt	100.0	
1532+41.00	1534+41.00	Lt	200.0	
1534+41.00	1536+41.00	Lt	200.0	
1536+37.00	1538+37.00	Lt	200.0	
1538+27.00	1539+81.00	Lt	157.0	
1546+37.00	1548+37.00	Lt	200.0	
1548+38.00	1550+38.00	Lt	200.0	
1550+28.00	1552+28.00	Lt	200.0	
1552+18.00	1554+18.00	Lt	200.0	
1554+08.00	1556+08.00	Lt	200.0	
1555+98.00	1557+98.00	Lt	200.0	
1557+88.00	1559+37.00	Lt	151.0	
1565+95.00	1567+95.00	Lt	200.0	
1567+85.00	1569+85.00	Lt	200.0	
1569+83.00	1571+83.00	Lt	200.0	
1572+64.00	1574+64.00	Lt	200.0	
1574+63.00	1576+63.00	Lt	200.0	
1583+66.00	1585+66.00	Lt	200.0	
1585+56.00	1587+56.00	Lt	200.0	
1587+46.00	1589+46.00	Lt	200.0	
1589+36.00	1591+36.00	Lt	200.0	
1608+79.00	1610+79.00	Lt	200.0	
1610+69.00	1612+69.00	Lt	200.0	
1612+68.00	1614+68.00	Lt	200.0	
1614+58.00	1616+58.00	Lt	200.0	
1617+70.00	1619+30.00	Lt	162.0	
1619+20.00	1621+20.00	Lt	200.0	
1621+10.00	1623+10.00	Lt	200.0	
1623+10.00	1625+10.00	Lt	200.0	
1625+00.00	1627+00.00	Lt	200.0	
1626+90.00	1627+98.00	Lt	90.0	
1627+98.00	1629+98.00	Lt	200.0	
1629+88.00	1631+88.00	Lt	200.0	
1631+78.00	1632+54.00	Lt	76.0	
1632+54.00	1634+54.00	Lt	200.0	
1634+44.00	1635+00.00	Lt	57.0	
1635+00.00	1637+00.00	Lt	200.0	
1636+90.00	1638+90.00	Lt	200.0	

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
1638+80.00	1640+80.00	Lt	200.0	
1640+70.00	1642+70.00	Lt	200.0	
1642+60.00	1644+59.00	Lt	193.0	
1644+59.00	1646+00.00	Lt	154.0	
1646+00.00	1648+00.00	Lt	200.0	
1647+90.00	1649+90.00	Lt	200.0	
1649+80.00	1651+80.00	Lt	200.0	
1651+70.00	1653+70.00	Lt	200.0	
1654+09.00	1655+69.00	Lt	163.0	
1690+09.00	1692+09.00	Lt	200.0	
1691+99.00	1693+99.00	Lt	200.0	
1695+32.00	1697+32.00	Lt	200.0	
1697+22.00	1699+22.00	Lt	200.0	
1699+12.00	1701+12.00	Lt	200.0	
1701+17.00	1702+25.00	Lt	111.0	
1702+25.00	1704+25.00	Lt	200.0	
1704+15.00	1706+15.00	Lt	200.0	
1706+05.00	1706+56.00	Lt	51.0	
1706+54.00	1708+54.00	Lt	200.0	
1711+68.00	1713+68.00	Lt	200.0	
1713+58.00	1714+63.00	Lt	105.0	
1725+68.00	1727+68.00	Lt	200.0	
1727+58.00	1728+57.00	Lt	100.0	
1776+57.00	1778+57.00	Lt	200.0	
1778+43.00	1779+98.00	Lt	154.0	
1780+52.00	1782+49.00	Lt	200.0	
1782+06.00	1704+03.00	Lt	200.0	
1784+34.00	1786+34.00	Lt	200.0	
1786+24.00	1787+94.00	Lt	174.0	
1788+65.00	1790+13.00	Lt	148.0	
1793+39.00	1794+40.00	Lt	107.0	
1797+55.00	1798+70.00	Lt	116.0	
1798+60.00	1800+60.00	Lt	200.0	
1867+22.00	1868+83.00	Lt	166.0	
1870+73.00	1872+73.00	Lt	200.0	
1502+23.00	1504+23.00	Rt	200.0	
1504+13.00	1506+13.00	Rt	200.0	
1506+13.00	1508+13.00	Rt	200.0	
1508+03.00	1510+03.00	Rt	200.0	
1509+93.00	1510+86.00	Rt	108.0	
1511+11.00	1512+52.00	Rt	144.0	
1520+80.00	1522+80.00	Rt	200.0	
1522+75.00	1524+75.00	Rt	200.0	
1530+25.00	1531+98.00	Rt	178.0	
1531+88.00	1533+88.00	Rt	200.0	
1533+78.00	1535+78.00	Rt	200.0	
1535+80.00	1537+80.00	Rt	200.0	
1537+70.00	1539+70.00	Rt	200.0	
1553+53.00	1555+53.00	Rt	200.0	
1555+43.00	1557+43.00	Rt	200.0	
1557+33.00	1559+33.00	Rt	200.0	

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
1559+23.00	1561+23.00	Rt	200.0	
1562+51.00	1564+51.00	Rt	200.0	
1564+61.00	1568+61.00	Rt	200.0	
1610+70.00	1612+70.00	Rt	200.0	
1623+09.00	1625+09.00	Rt	200.0	
1624+99.00	1626+99.00	Rt	200.0	
1626+89.00	1628+89.00	Rt	200.0	
1652+12.00	1654+12.00	Rt	200.0	
1654+07.00	1656+07.00	Rt	200.0	
1659+97.00	1661+97.00	Rt	200.0	
1661+92.00	1663+92.00	Rt	200.0	
1700+60.00	1702+60.00	Rt	200.0	
1702+50.00	1704+60.00	Rt	200.0	
1704+40.00	1706+40.00	Rt	200.0	
1715+16.00	1717+16.00	Rt	200.0	
1717+14.00	1719+15.00	Rt	200.0	
1730+35.00	1732+35.00	Rt	200.0	
1732+25.00	1734+25.00	Rt	200.0	
1768+68.00	1770+18.00	Rt	149.0	
1770+13.00	1772+13.00	Rt	200.0	
1772+03.00	1774+03.00	Rt	200.0	
1773+93.00	1775+52.00	Rt	163.0	
1775+52.00	1776+50.00	Rt	100.0	
1776+85.00	1777+84.00	Rt	100.0	
1777+81.00	1779+81.00	Rt	200.0	
1779+71.00	1780+23.00	Rt	53.0	
1784+60.00	1786+60.00	Rt	200.0	
1785+51.00	1787+51.00	Rt	200.0	
1790+61.00	1792+61.00	Rt	200.0	
1792+51.00	1794+51.00	Rt	200.0	
1858+38.00	1860+58.00	Rt	200.0	
1860+48.00	1862+48.00	Rt	200.0	
1862+38.00	1864+38.00	Rt	200.0	
1864+28.00	1865+23.00	Rt	102.0	
1867+13.00	1869+13.00	Rt	200.0	
1870+40.00	1872+40.00	Rt	200.0	
	Silt Fence Tab Totals:		24752.0	
	Silt Fence Bid Totals:		30940.0	125% of Tab Total
	Silt Fence Maintenance Totals:		3094.0	10% of Bid Total
	Silt Fence Removal Totals:		30940.0	100% of Bid Total

100-11
04-18-17

EROSION CONTROL FOR INTAKE OR MANHOLE WELL

Possible Detail: 570-5

Location Station	Side	Cover Assembly			Remarks
		Installation	Maintenance	Removal	
		EACH	EACH	EACH	
1888+19.00	Lt	1	1	1	
1889+60.00	Lt	1	1	1	
1896+52.00	Lt	1	1	1	
1896+52.00	Rt	1	1	1	
1899+25.00	Lt	1	1	1	
1899+25.00	Rt	1	1	1	
Total:		6	6	6	

100-36
10-16-18

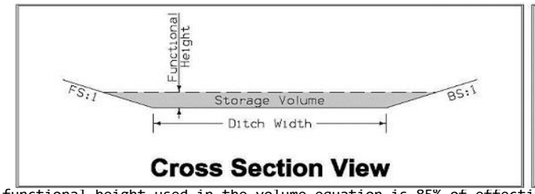
OPEN-THROAT CURB INTAKE SEDIMENT FILTER

Possible Standard: EC-602

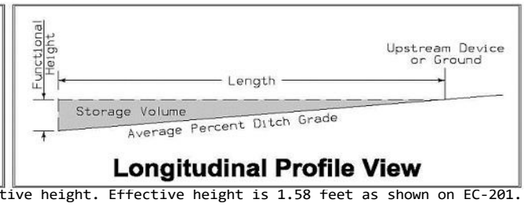
Location Station	Side	Installation	Maintenance	Removal	Remarks
		LF	EACH	EACH	
1901+75.00	Lt	4.0	1	1	
1901+75.00	Rt	4.0	1	1	
Total:		8.0	2	2	

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



Cross Section View



Longitudinal Profile View

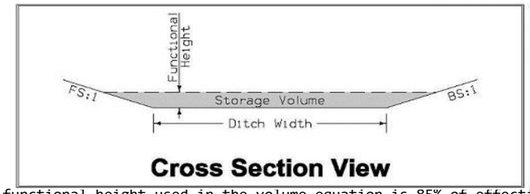
* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: $[0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]$

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg.% Slope Ditch Grade	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
2	1	1460+31.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
2	1	1461+31.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
2	1	1462+31.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
2	1	1463+06.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.8%	723.4	
2	1	1463+81.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.8%	723.4	
2	1	1464+56.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.8%	723.4	
2	1	1466+11.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
2	1	1467+66.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
2	1	1469+21.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
2	1	1470+76.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
2	1	1472+31.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
3	1	1485+10.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1485+55.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1486+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1486+45.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1486+90.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1487+35.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1487+80.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1488+25.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1488+70.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1489+15.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1489+60.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1490+05.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1490+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1490+95.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1491+40.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1491+85.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
3	1	1493+40.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1494+95.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1496+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1498+05.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1499+60.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1501+15.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1502+70.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1504+25.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1508+56.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1508+96.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1509+36.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1509+76.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1510+16.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1510+56.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1510+96.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1511+36.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1511+76.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1512+16.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1512+56.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1512+96.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1513+71.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
3	1	1514+46.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
3	1	1515+21.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
3	1	1515+96.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
3	1	1473+86.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
3	1	1475+41.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
3	1	1476+96.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
3	1	1478+51.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
3	1	1480+06.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
3	1	1481+61.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
3	1	1483+16.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
3	1	1485+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1485+40.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1485+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1486+20.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1486+60.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1487+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1487+40.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1487+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	

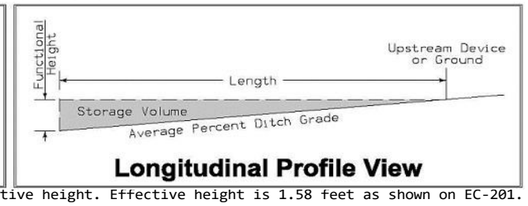
100-18
10-16-18

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



Cross Section View



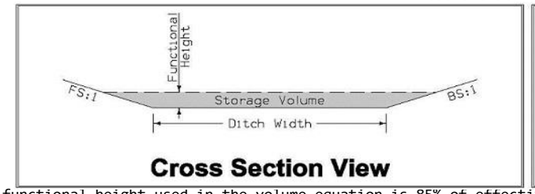
Longitudinal Profile View

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

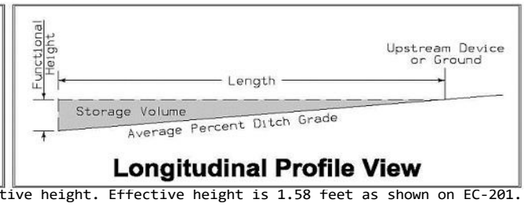
Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg.% Slope Ditch Grade	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
3	1	1487+40.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1487+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1488+20.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1488+60.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1489+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1489+40.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1489+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1490+20.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1490+60.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1491+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1491+40.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1491+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1492+20.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
3	1	1493+75.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1495+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1496+85.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1498+40.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1499+95.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1501+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1503+05.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1504+60.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
3	1	1508+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.8%	385.8	
3	1	1508+90.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.8%	385.8	
3	1	1509+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.8%	385.8	
3	1	1509+70.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.8%	385.8	
3	1	1510+10.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.8%	385.8	
3	1	1511+60.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.8%	385.8	
3	1	1512+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.8%	385.8	
3	1	1512+40.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.8%	385.8	
3	1	1512+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.8%	385.8	
3	1	1513+20.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.8%	385.8	
3	1	1513+60.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.8%	385.8	
3	1	1513+90.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.8%	385.8	
3	1	1514+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.8%	385.8	
3	1	1514+75.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.0%	723.4	
4	1	1515+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.0%	723.4	
4	1	1516+25.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.0%	723.4	
4	1	1517+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.0%	723.4	
4	1	1517+75.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.0%	723.4	
4	1	1518+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.0%	723.4	
4	1	1519+25.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.0%	723.4	
5	1	1520+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.4%	578.8	
5	1	1521+10.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.4%	578.8	
5	1	1521+70.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.4%	578.8	
5	1	1522+30.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.4%	578.8	
5	1	1522+90.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.5%	337.6	
5	1	1523+25.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.5%	337.6	
5	1	1523+60.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.5%	337.6	
5	1	1524+60.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.5%	337.6	
5	1	1524+95.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.5%	337.6	
5	1	1519+55.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.4%	337.6	
5	1	1520+25.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	4.4%	337.6	
5	1	1520+60.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	4.4%	337.6	
5	1	1520+95.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	4.4%	337.6	
5	1	1521+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	4.4%	337.6	
5	1	1521+65.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	4.4%	337.6	
5	1	1522+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	4.4%	337.6	
5	1	1522+35.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	4.4%	337.6	
5	1	1523+17.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.5%	289.4	
5	1	1523+47.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.5%	289.4	
5	1	1523+77.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.5%	289.4	
5	1	1524+07.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.5%	289.4	
5	1	1524+35.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.5%	289.4	
5	1	1524+65.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.5%	289.4	
5	1	1524+95.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.5%	289.4	

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



Cross Section View



Longitudinal Profile View

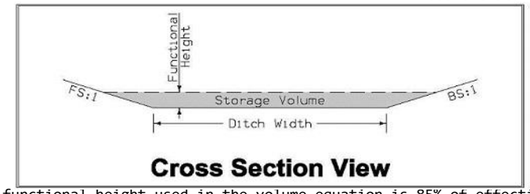
* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: $[0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]$

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg.% Slope Ditch Grade	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
6	1	1529+75.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
6	1	1530+35.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
6	1	1530+95.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
6	1	1540+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.8%	482.3	
6	1	1540+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.8%	482.3	
6	1	1541+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.8%	482.3	
6	1	1541+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.8%	482.3	
6	1	1542+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.8%	482.3	
6	1	1542+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.8%	482.3	
6	1	1543+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.6%	337.6	
6	1	1543+85.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.6%	337.6	
6	1	1544+20.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.6%	337.6	
6	1	1544+55.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.6%	337.6	
6	1	1544+90.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.6%	337.6	
6	1	1545+25.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.6%	337.6	
6	1	1545+60.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.6%	337.6	
6	1	1526+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.3%	964.6	
6	1	1527+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.3%	964.6	
6	1	1528+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.3%	964.6	
6	1	1529+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.3%	964.6	
6	1	1530+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.3%	964.6	
6	1	1543+50.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
6	1	1543+85.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
6	1	1544+20.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
6	1	1544+55.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
6	1	1544+90.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
6	1	1545+40.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	2.8%	314.4	
6	1	1545+90.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	2.8%	314.4	
6	1	1546+40.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	2.8%	314.4	
6	1	1546+90.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	2.8%	314.4	
6	1	1547+40.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	2.8%	314.4	
6	1	1547+90.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	2.8%	314.4	
6	1	1548+40.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	2.8%	314.4	
6	1	1552+05.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.6%	3038.5	
7	1	1546+22.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.6%	337.6	
7	1	1546+72.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1547+22.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1547+72.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1548+22.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1548+72.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1549+22.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1549+72.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1550+22.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1550+72.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1551+22.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1551+72.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1552+22.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1552+72.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1553+22.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1553+72.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1554+22.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1554+72.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1555+22.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1555+72.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1556+22.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
7	1	1557+77.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.7%	1495.1	
7	1	1559+32.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.7%	1495.1	
8	1	1555+20.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.6%	3038.5	
8	1	1558+35.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.6%	3038.5	
8	1	1561+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.6%	3038.5	
8	1	1564+00.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.7%	471.6	
8	1	1564+75.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.7%	471.6	
8	1	1565+50.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.7%	471.6	
8	1	1566+25.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.7%	723.4	
8	1	1567+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.7%	723.4	
8	1	1570+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.3%	964.6	

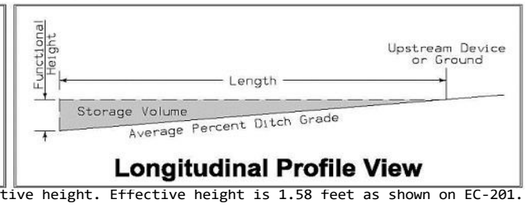
100-18
10-16-18

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



Cross Section View



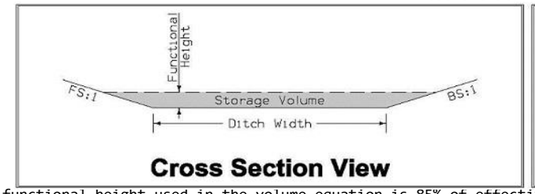
Longitudinal Profile View

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

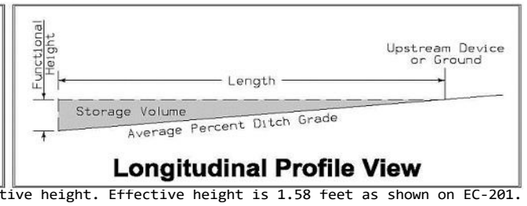
Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg.% Slope Ditch Grade	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
8	1	1567+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.7%	723.4	
8	1	1570+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.3%	964.6	
8	1	1571+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.3%	964.6	
8	1	1562+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	5.0%	337.6	
8	1	1562+35.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	5.0%	337.6	
8	1	1562+70.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	5.0%	337.6	
8	1	1564+00.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	2.7%	314.4	
8	1	1564+50.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	2.7%	314.4	
8	1	1565+00.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	2.7%	314.4	
8	1	1565+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
8	1	1566+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
8	1	1566+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
8	1	1567+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
8	1	1567+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
8	1	1568+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
8	1	1568+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
8	1	1569+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
8	1	1569+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
8	1	1570+10.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.5%	3038.5	
9	1	1572+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
9	1	1572+95.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
9	1	1573+40.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
9	1	1573+85.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
9	1	1575+65.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
9	1	1576+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.8%	337.6	
9	1	1576+35.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.8%	337.6	
9	1	1576+70.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.8%	337.6	
9	1	1577+05.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.8%	337.6	
9	1	1577+40.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.8%	337.6	
9	1	1577+75.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.8%	337.6	
9	1	1578+10.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.8%	337.6	
9	1	1578+45.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.8%	337.6	
9	1	1578+80.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.8%	337.6	
9	1	1579+15.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.8%	337.6	
9	1	1579+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.8%	337.6	
9	1	1572+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.3%	964.6	
9	1	1572+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.3%	289.4	
9	1	1573+10.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.3%	289.4	
9	1	1573+40.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.3%	289.4	
9	1	1573+70.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.3%	289.4	
9	1	1575+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
9	1	1576+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
9	1	1576+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
9	1	1577+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
9	1	1577+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
9	1	1578+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
9	1	1578+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
9	1	1579+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
9	1	1579+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
9	1	1580+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
9	1	1580+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
9	1	1581+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
9	1	1582+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
9	1	1583+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
9	1	1584+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
9	1	1585+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
9	1	1586+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
10	1	1590+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
10	1	1591+25.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
10	1	1592+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
10	1	1592+75.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
10	1	1598+30.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.8%	406.2	
10	1	1599+05.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.8%	406.2	
10	1	1599+80.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.8%	406.2	
10	1	1600+55.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.8%	406.2	
10	1	1601+30.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.8%	406.2	

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



Cross Section View



Longitudinal Profile View

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

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg.% Slope Ditch Grade	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
10	1	1601+30.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.8%	406.2	
10	1	1602+05.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.8%	406.2	
10	1	1602+80.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.8%	406.2	
10	1	1603+55.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.8%	406.2	
10	1	1604+30.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.8%	406.2	
10	1	1604+90.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	2.3%	324.9	
10	1	1605+50.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	2.3%	324.9	
10	1	1606+10.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	2.3%	324.9	
10	1	1606+70.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	2.3%	324.9	
10	1	1607+30.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	2.3%	324.9	
10	1	1607+90.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	2.3%	324.9	
10	1	1629+00.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	0.3%	1705.9	
10	1	1587+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.4%	964.6	
10	1	1588+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.4%	964.6	
10	1	1589+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.4%	964.6	
10	1	1590+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.4%	964.6	
10	1	1591+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
10	1	1592+40.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
10	1	1593+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
10	1	1593+60.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
10	1	1594+20.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
10	1	1594+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
10	1	1595+40.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
10	1	1596+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
10	1	1596+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.3%	289.4	
10	1	1596+60.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.3%	289.4	
10	1	1596+90.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.3%	289.4	
10	1	1597+20.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	5.3%	289.4	
10	1	1610+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.0%	723.4	
10	1	1610+75.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.0%	723.4	
10	1	1611+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.0%	723.4	
11	1	1651+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
11	1	1651+45.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
11	1	1651+90.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
11	1	1652+35.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
11	1	1652+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
11	1	1653+25.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
11	1	1653+70.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
11	1	1654+40.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
11	1	1654+85.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
11	1	1655+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
11	1	1655+75.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.3%	434.1	
12	1	1702+05.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.9%	1495.1	
12	1	1703+60.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.9%	1495.1	
13	1	1720+60.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	0.4%	1705.9	
13	1	1723+75.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	0.4%	1705.9	
13	1	1726+90.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	0.4%	1705.9	
13	1	1733+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
13	1	1733+75.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
13	1	1734+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
13	1	1735+25.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
13	1	1736+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
13	1	1736+75.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
13	1	1737+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
13	1	1738+25.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
13	1	1739+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
13	1	1739+75.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
13	1	1740+50.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.9%	406.2	
13	1	1741+25.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.9%	406.2	
13	1	1742+00.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.9%	406.2	
13	1	1742+75.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.9%	406.2	
13	1	1743+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
13	1	1744+25.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
13	1	1745+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
13	1	1741+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.5%	964.6	

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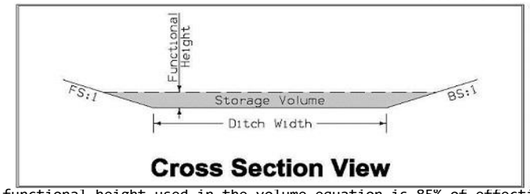
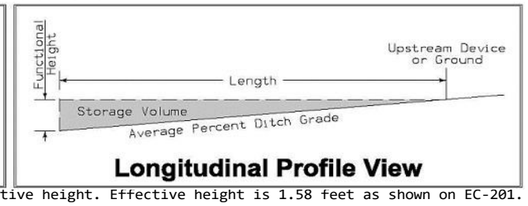
SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



Cross Section View



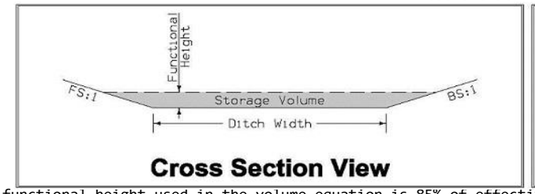
Longitudinal Profile View

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

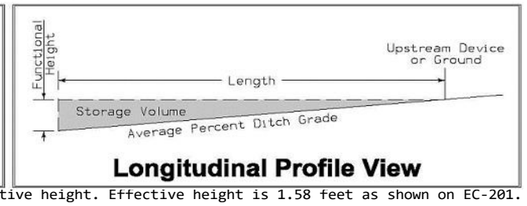
Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg.% Slope Ditch Grade	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
13	1	1742+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.5%	964.6	
13	1	1743+00.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.5%	628.8	
13	1	1744+00.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.5%	628.8	
13	1	1745+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.5%	964.6	
13	1	1746+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.5%	964.6	
14	1	1746+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
14	1	1747+25.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
14	1	1748+00.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	1.9%	406.2	
14	1	1748+30.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	4.1%	189.5	
14	1	1748+65.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	4.1%	189.5	
14	1	1749+00.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	4.1%	189.5	
14	1	1749+35.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	4.1%	189.5	
14	1	1749+70.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	4.1%	189.5	
14	1	1750+05.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	4.1%	189.5	
14	1	1750+40.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	4.1%	189.5	
14	1	1750+75.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	4.1%	189.5	
14	1	1751+10.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	4.1%	189.5	
14	1	1751+45.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	4.1%	189.5	
14	1	1751+80.00	Lt	16.7	1.7	16.7	3.0	3.5	3.7	4.1%	189.5	
14	1	1752+15.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.1%	337.6	
14	1	1752+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.1%	337.6	
14	1	1754+10.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.7%	723.4	
14	1	1754+85.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.7%	723.4	
14	1	1755+60.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.7%	723.4	
14	1	1756+35.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.7%	723.4	
14	1	1757+10.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.7%	723.4	
14	1	1757+85.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.7%	723.4	
14	1	1747+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
14	1	1747+75.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
14	1	1748+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
14	1	1749+25.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
15	1	1780+05.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.0%	385.8	
15	1	1780+45.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.0%	385.8	
15	1	1780+85.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.0%	385.8	
15	1	1781+25.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.0%	385.8	
15	1	1781+65.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.0%	385.8	
15	1	1782+05.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.0%	385.8	
15	1	1782+45.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.0%	385.8	
15	1	1782+85.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.0%	385.8	
15	1	1783+25.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.0%	385.8	
15	1	1783+65.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.0%	385.8	
15	1	1769+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
15	1	1769+75.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
15	1	1770+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
15	1	1771+25.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
15	1	1772+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
15	1	1772+75.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
15	1	1773+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
15	1	1774+25.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
15	1	1775+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.9%	723.4	
16	1	1781+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
16	1	1781+40.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
16	1	1781+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
16	1	1782+20.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
16	1	1782+60.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
16	1	1783+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
16	1	1783+40.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
16	1	1783+80.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
16	1	1784+20.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
16	1	1784+60.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
16	1	1785+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
16	1	1786+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
17	1	1785+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
17	1	1786+55.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



Cross Section View



Longitudinal Profile View

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

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg.% Slope	Volume*	
				LF	LF	LF	FS:1	BS:1	FT	Ditch Grade	CF	
17	1	1788+10.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
17	1	1793+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
17	1	1794+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
17	1	1794+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
17	1	1795+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.7%	482.3	
17	1	1795+80.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1796+15.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1796+50.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1796+85.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1797+20.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1797+55.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1797+90.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1798+25.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1798+60.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1798+95.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1799+30.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1799+65.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1800+00.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1800+35.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1800+70.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1801+05.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	4.9%	220.1	
17	1	1787+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
17	1	1788+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
17	1	1795+95.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1796+35.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1796+75.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1797+15.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1797+55.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1797+95.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1798+35.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1798+75.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1799+15.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1799+55.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1799+95.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1800+35.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1800+75.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1801+15.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1801+55.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1801+95.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1802+35.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.7%	385.8	
17	1	1803+90.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
17	1	1805+45.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
18	1	1803+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.5%	3038.5	
18	1	1806+15.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.5%	3038.5	
19	1	1807+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.9%	337.6	
19	1	1807+85.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.9%	337.6	
19	1	1808+20.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.9%	337.6	
19	1	1810+45.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.7%	1495.1	
19	1	1811+95.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.7%	1495.1	
19	1	1808+30.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
19	1	1809+85.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.0%	1495.1	
20	1	1810+80.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.1%	628.8	
20	1	1811+80.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.1%	628.8	
20	1	1812+80.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.1%	628.8	
20	1	1813+80.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.1%	628.8	
20	1	1814+80.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.1%	628.8	
20	1	1815+80.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.1%	628.8	
20	1	1817+80.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.1%	628.8	
20	1	1818+80.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.1%	628.8	
20	1	1819+80.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.1%	628.8	
20	1	1821+00.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.1%	628.8	
20	1	1822+00.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.1%	628.8	
20	1	1823+00.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.1%	628.8	
20	1	1824+00.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.1%	628.8	
20	1	1825+00.00	Rt	18.0	1.8	18.0	3.0	3.5	5.0	1.1%	628.8	

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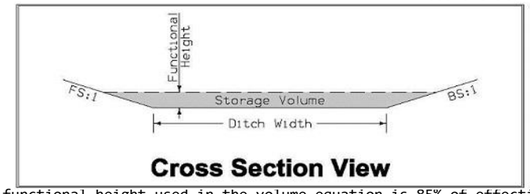
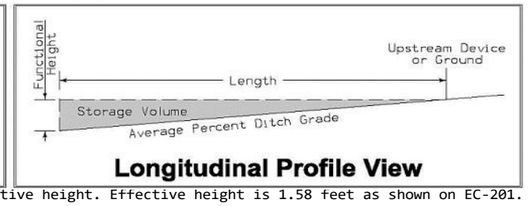
SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



Cross Section View



Longitudinal Profile View

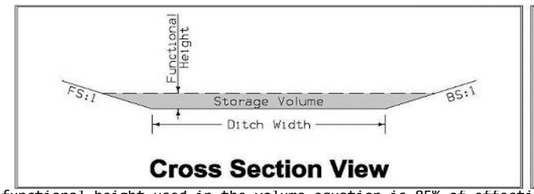
* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: [0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg.% Slope	Volume*	
				LF	LF	LF	FS:1	BS:1	FT	Ditch Grade	CF	
20	1	1823+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
20	1	1823+60.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
20	1	1824+20.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
20	1	1824+80.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
20	1	1825+40.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
20	1	1826+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
20	1	1826+60.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
20	1	1827+60.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
20	1	1828+60.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
21	1	1812+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.2%	3038.5	
21	1	1815+65.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.2%	3038.5	
22	1	1817+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.2%	964.6	
22	1	1818+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.2%	964.6	
22	1	1819+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.2%	964.6	
22	1	1820+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.2%	964.6	
23	1	1820+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.3%	3038.5	
24	1	1829+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
24	1	1830+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.1%	964.6	
24	1	1833+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.3%	3038.5	
24	1	1836+65.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.3%	3038.5	
24	1	1837+25.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
24	1	1837+85.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
24	1	1838+45.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
24	1	1839+05.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
24	1	1839+65.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.3%	578.8	
25	1	1833+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
25	1	1833+75.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
25	1	1834+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
25	1	1835+65.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
25	1	1836+40.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
25	1	1837+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
25	1	1838+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
25	1	1838+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
25	1	1839+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
25	1	1839+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
25	1	1840+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
25	1	1840+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
25	1	1841+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
25	1	1841+90.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.0%	723.4	
25	1	1842+65.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.0%	723.4	
25	1	1843+40.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.0%	723.4	
25	1	1844+15.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	2.0%	723.4	
26	1	1841+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
26	1	1841+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
26	1	1842+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
26	1	1842+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
26	1	1843+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
26	1	1843+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
26	1	1844+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
26	1	1845+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
26	1	1845+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
26	1	1846+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	2.6%	482.3	
26	1	1849+15.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.4%	3038.5	
26	1	1849+75.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.7%	723.4	
26	1	1850+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.7%	723.4	
26	1	1851+25.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.7%	723.4	
27	1	1845+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.7%	1495.1	
27	1	1846+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.2%	337.6	
27	1	1846+35.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.2%	337.6	
28	1	1847+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.4%	3038.5	

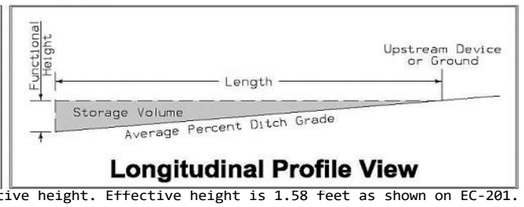
100-18
10-16-18

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



Cross Section View



Longitudinal Profile View

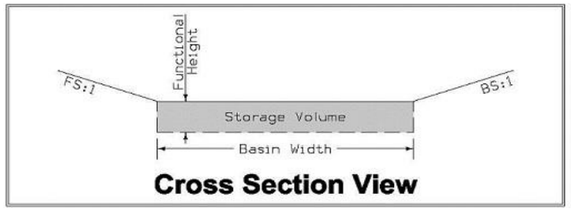
* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: [0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg.% Slope Ditch Grade	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	
28	1	1850+15.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.4%	3038.5	
31	1	1853+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
31	1	1853+75.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
31	1	1854+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
31	1	1855+25.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
31	1	1856+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	1.6%	723.4	
31	1	1857+20.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
31	1	1857+60.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
31	1	1858+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
31	1	1858+40.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
31	1	1858+80.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.9%	385.8	
31	1	1853+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.4%	964.6	
31	1	1854+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.4%	964.6	
31	1	1855+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.4%	964.6	
31	1	1856+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.4%	964.6	
31	1	1857+45.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.6%	385.8	
31	1	1864+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	3.2%	434.1	
32	1	1867+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.9%	1495.1	
32	1	1867+85.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.2%	337.6	
32	1	1868+20.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.2%	337.6	
32	1	1868+55.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.2%	337.6	
32	1	1868+90.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	4.2%	337.6	
33	1	1874+50.00	Lt	18.0	1.8	18.0	3.0	3.5	5.0	0.4%	1980.9	
33	1	1877+65.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.4%	3038.5	
33	1	1871+70.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	4.6%	337.6	
33	1	1872+05.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	4.6%	337.6	
33	1	1872+40.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	4.6%	337.6	
33	1	1872+75.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	4.6%	337.6	
33	1	1873+10.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	4.6%	337.6	
33	1	1876+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.5%	964.6	
33	1	1877+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.5%	964.6	
33	1	1878+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.5%	964.6	
33	1	1879+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.5%	964.6	
33	1	1880+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.5%	964.6	
33	1	1881+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.5%	964.6	
33	1	1882+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.5%	964.6	
33	1	1883+00.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	1.5%	964.6	
34	1	1881+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.4%	3038.5	
34	1	1884+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
34	1	1885+55.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	0.8%	1495.1	
34	1	1890+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
34	1	1891+00.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
34	1	1891+50.00	Lt	23.0	2.3	23.0	3.0	3.5	10.0	3.0%	482.3	
34	1	1886+50.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.5%	3038.5	
34	1	1889+65.00	Rt	23.0	2.3	23.0	3.0	3.5	10.0	0.5%	3038.5	
		SFDC Tab Totals:		12404.5	1241.5	12404.5						
		SFDC Bid Totals:		18606.8			150% of Tab Total					
		SFDC Maintenance Totals:			1860.7		10% of Bid Total					
		SFDC Removal Totals:				18606.8	100% of Bid Total					

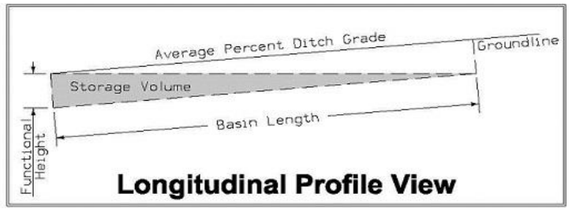
100-14
10-17-17

SILT BASINS

Possible Standard: EW-403



Cross Section View



Longitudinal Profile View

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

Basin No.	Location		Bid Items		Stormwater Storage Volume Summary					Remarks
	Station	Side	Installation	Removal	Basin Width	Basin Length	Height	Avg. % Slope	Volume*	
			EACH	EACH	FT	FT	FT		CF	
3	1505+28.00	Lt	1		10.0	50.0	2.85	3.7%	962.5	
3	1505+80.00	Rt	1		10.0	50.0	2.85	5.6%	725.0	
3	1506+30.00	Lt	1		10.0	50.0	2.85	4.0%	925.0	
3	1506+72.00	Rt	1		10.0	50.0	2.85	5.9%	712.5	
6	1534+85.00	Rt	1		10.0	50.0	2.85	4.3%	887.5	
6	1535+70.00	Rt	1		10.0	50.0	2.85	1.3%	1262.5	
6	1536+00.00	Lt	1		10.0	50.0	2.85	5.0%	800.0	
6	1538+29.00	Lt	1		10.0	50.0	2.85	5.1%	787.5	
9	1574+15.00	Lt	1		10.0	50.0	2.85	3.3%	1012.5	
9	1575+03.00	Lt	1		10.0	50.0	2.85	4.6%	850.0	
9	1574+17.00	Rt	1		10.0	50.0	2.85	5.4%	750.0	
9	1575+15.00	Rt	1		10.0	50.0	2.85	2.3%	1137.5	
10	1612+37.00	Rt	1		10.0	50.0	2.85	2.1%	1162.5	
10	1622+75.00	Rt	1		10.0	50.0	2.85	3.1%	1037.5	
10	1626+75.00	Rt	1		10.0	50.0	2.85	0.4%	1375.0	
11	1674+50.00	Rt	1		10.0	50.0	2.85	0.2%	1400.0	
12	1700+80.00	RT	1		10.0	50.0	2.85	4.2%	900.0	
13	1716+79.00	Rt	1		10.0	50.0	2.85	5.0%	800.0	
	1732+68.00	Lt	1		10.0	50.0	2.85		1425.0	
17	1794+41.00	Rt	1		10.0	50.0	2.85	8.8%	712.5	
	Silt Basin Tab Totals:		20							
	Silt Basin Bid Totals:		50		250% of Tab Totals (Grading, Paving)					

FILE NO.	ENGLISH	DESIGN TEAM		COUNTY	PROJECT NUMBER	SHEET NUMBER
32042		Jia\Pohlen\McDonald	Washington/Louisa		NHSX-092-9(57)--3H-92	RC.10

ROLLED EROSION CONTROL

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

Location				L	W	Turf Reinforcement Mat (TRM) (EC-104)				Slope Protection (EC-103)	Special Ditch Control (EC-101)	Remarks
Road Identification	Begin Station	End Station	Side			Type 1	Type 2	Type 3	Type 4			
				FT	FT	Squares	Squares	Squares	Squares	Squares	Squares	
IA 92	1530+33.00	1534+52.00	Rt	421	16						67	
IA 92	1531+32.00	1535+64.00	Lt	433	16						69	
IA 92	1535+95.00	1540+57.00	Rt	465	16						74	
IA 92	1538+56.00	1539+76.00	Lt	124	16						20	
IA 92	1579+69.00	1579+79.00	Lt	10	10	1						
IA 92	1580+96.00	1581+06.00	Lt	10	10	1						
IA 92	1582+59.00	1582+69.00	Lt	10	10	1						
IA 92	1608+42.00	1612+53.00	Lt	407	7	28						
IA 92	1609+12.00	1612+51.00	Lt	334	5	16						
IA 92	1612+82.00	1613+73.00	Lt	90	16						14	
IA 92	1631+00.00	1632+33.00	Lt	132	16						21	
IA 92	1643+23.00	1644+44.00	Lt	120	16						19	
IA 92	1644+70.00	1645+55.00	Lt	86	16						14	
IA 92	1868+93.00	1870+00.00	Lt	105	16						17	
IA 92	1767+21.00	1768+26.00	Rt	106	16						17	
IA 92	1825+10.00	1826+38.00	Rt	127	16						20	
IA 92	1857+41.00	1864+32.00	Rt	685	16						110	
IA 92	1869+48.00	1870+35.00	Rt	94	16						15	
IA 92	1870+92.00	1872+83.00	Lt	188	16						30	
	Rolled Erosion Control Tab Totals:					47					507	

ROCK EROSION CONTROL

Refer to EC-301 and Detail 570-8

Location				L	W	Rock Erosion Control (REC)					Material Bid Quantities			Remarks
Road Identification	Begin Station	End Station	Side			Type 1	Type 2	Type 3	Type 4	Type 5	Eng. Fabric	Class E Revetment	Erosion Stone	
			Lt./Rt.	FT	FT	Rock Ditch Check	Rock Ditch	Rock Flume	Rock Splash Basin	Rock Slope Protection	SY	TON	TON	
IA 92	1462+52.00	1462+62.00	Lt	10	10				X		11.1	10.5		
IA 92	1505+65.00	1505+95.00	Lt	20.5	26				X		59.0	55.3		
IA 92	1506+05.00	1506+39.00	Rt	20.5	26				X		59.0	55.3		
IA 92	1516+56.00	1615+73.00	Rt	10.5	10.5				X		12.2	11.6		
IA 92	1522+73.00	1233+84.00	Rt	10.5	10.5				X		12.2	11.6		
IA 92	1535+15.00	1536+60.00	Rt	17	27.5				X		51.9	48.5		
IA 92	1536+59.00	1537+14.00	Lt	17	27.5				X		51.9	48.5		
IA 92	1548+32.00	1548+43.00	Lt	10.5	10.5				X		12.2	11.6		
IA 92	1569+78.00	1569+88.00	Rt	11.5	11.5				X		14.7	13.9		
IA 92	1574+54.00	1574+69.00	Rt	15	15				X		25.0	23.6		
IA 92	1597+84.00	1597+99.00	Rt	14.5	14.5				X		23.4	22.1		
IA 92	1612+62.00	1612+77.00	Rt	15	15				X		25.0	23.6		
IA 92	1623+02.00	1623+16.00	Rt	16	16				X		28.4	26.9		
IA 92	1632+47.00	1632+61.00	Rt	13.5	13.5				X		20.2	19.1		
IA 92	1644+50.00	1644+63.00	Rt	12.5	12.5				X		17.4	16.4		
IA 92	1654+00.00	1654+14.00	Rt	14	14				X		21.6	20.6		
IA 92	1661+87.00	1660+00.00	Rt	12.5	12.5				X		17.4	16.4		
IA 92	1674+85.00	1675+05.00	Rt	19.5	19.5				X		42.2	40.0		
IA 92	1682+39.00	1682+53.00	Rt	13.5	13.5				X		20.2	19.1		
IA 92	1690+02.00	1690+16.00	Rt	14	14				X		21.8	20.6		
IA 92	1700+18.00	1700+32.00	Rt	13.5	13.5				X		20.2	19.1		
IA 92	1706+25.00	1706+39.00	Rt	14	14				X		21.8	20.6		
IA 92	1717+07.00	1717+22.00	Rt	14.5	14.5				X		23.4	22.1		
IA 92	1732+23.00	1732+38.00	Rt	15	15				X		25.0	23.6		
IA 92	1752+37.00	1752+50.00	Rt	12.5	12.5				X		17.4	16.4		
IA 92	1770+09.00	1770+20.00	Lt	10.5	10.5				X		12.2	11.6		
IA 92	1777+29.00	1777+78.00	Rt	18	27.5				X		55.0	51.3		
IA 92	1778+69.00	1779+21.00	Lt	18	27.5				X		55.0	51.3		
IA 92	1770+70.00	1779+90.00	Rt	225	10	X					250.0	131.3		
IA 92	1779+08.00	1780+03.00	Lt	105	10	X					116.7	110.3		
IA 92	1790+63.00	1790+78.00	Lt	14.5	14.5				X		23.4	22.1		
IA 92	1790+91.00	1792+58.00	Lt	192	10	X					213.3	201.6		
IA 92	1793+31.00	1793+43.00	Rt	11.5	11.5				X		14.7	13.9		
IA 92	1809+21.00	1809+33.00	Lt	11.5	11.5				X		14.7	13.9		
IA 92	1826+65.00	1826+76.00	Rt	10.5	10.5				X		12.2	11.6		
IA 92	1831+30.00	1831+41.00	Rt	10.5	10.5				X		12.2	11.6		
IA 92	1859+69.00	1859+80.00	Lt	10.5	10.5				X		12.2	12.2		
IA 92	1866+19.00	1867+21.00	Rt	104	10	X					115.6	109.2		
IA 92	1867+55.00	1867+68.00	Rt	13.5	13.5				X		20.2	19.1		
IA 92	1870+37.00	1870+50.00	Rt	12.5	12.5				X		17.4	16.4		
IA 92	1870+62.00	1871+26.00	Rt	70	10	X					77.8	73.5		
IA 92	1879+98.00	1880+12.00	Rt	14	14				X		21.8	20.6		
IA 92	1885+85.00	1885+99.00	Rt	13.5	13.5				X		20.2	19.1		
	1889+55.00	1889+65.00	Rt	10	10				X		11.5	10.5		

100-23
04-17-18

ROCK EROSION CONTROL

Refer to EC-301 and Detail 570-8

Location						Rock Erosion Control (REC)					Material Bid Quantities			
Road Identification	Begin Station	End Station	Side	L	W	Type 1 Rock Ditch Check	Type 2 Rock Ditch	Type 3 Rock Flume	Type 4 Rock Splash Basin	Type 5 Rock Slope Protection	Eng. Fabric	Class E Revetment	Erosion Stone	Remarks
			Lt./Rt.	FT	FT						SY	TON	TON	
	1890+95.00	1891+05.00	Lt	10	10				X		11.5	10.5		
	1899+20.00	1899+30.00	Lt	10	10				X		11.5	10.5		
	1901+70.00	1901+80.00	Lt	10	10				X		11.5	10.5		
								Rock Erosion Control Tab Totals:			1765.2	1559.6		
								Engineering Fabric Bid Totals:			2294.8			130% of Tab Total
								Class E Revetment Bid Totals:				2027.5		130% of Tab Total

100-19
10-19-21

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

Possible Standards: EC-204

Location			Perimeter and Slope Length of Installation			Ditch Check Length of Installation		Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	LF	LF	
1461+00.00		Lt				23.0		
1461+46.00		Lt				23.0		
1461+92.00		Lt				23.0		
1463+55.00		Lt				23.0		
1464+01.00		Lt				23.0		
1464+47.00		Lt				23.0		
1464+93.00		Lt				23.0		
1465+39.00		Lt				23.0		
1465+85.00		Lt				23.0		
1466+31.00		Lt				23.0		
1466+77.00		Lt				23.0		
1467+23.00		Lt				23.0		
1467+69.00		Lt				23.0		
1468+15.00		Lt				23.0		
1468+61.00		Lt				23.0		
1469+07.00		Lt				23.0		
1469+53.00		Lt				23.0		
1469+99.00		Lt				23.0		
1470+45.00		Lt				23.0		
1470+91.00		Lt				23.0		
1471+37.00		Lt				23.0		
1471+83.00		Lt				23.0		
1472+75.00		Lt				23.0		
1473+67.00		Lt				23.0		
1474+59.00		Lt				23.0		
1475+51.00		Lt				23.0		
1476+43.00		Lt				23.0		
1477+35.00		Lt				23.0		
1478+27.00		Lt				23.0		
1479+19.00		Lt				23.0		
1480+11.00		Lt				23.0		
1531+50.00		Lt				23.0		
1531+68.00		Lt				23.0		
1531+86.00		Lt				23.0		
1532+04.00		Lt				23.0		
1532+22.00		Lt				23.0		
1532+40.00		Lt				23.0		
1532+58.00		Lt				23.0		
1532+76.00		Lt				23.0		
1532+94.00		Lt				23.0		
1533+12.00		Lt				23.0		
1533+30.00		Lt				23.0		
1533+48.00		Lt				23.0		
1533+66.00		Lt				23.0		
1533+84.00		Lt				23.0		
1534+02.00		Lt				23.0		
1534+20.00		Lt				23.0		
1534+38.00		Lt				23.0		
1534+56.00		Lt				23.0		
1534+74.00		Lt				23.0		
1534+92.00		Lt				23.0		
1535+10.00		Lt				23.0		
1535+28.00		Lt				23.0		
1535+46.00		Lt				23.0		
1535+64.00		Lt				23.0		
1538+63.00		Lt				23.0		
1538+81.00		Lt				23.0		
1538+99.00		Lt				23.0		

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

Possible Standards: EC-204

Location			Perimeter and Slope			Ditch Check		Remarks
			Length of Installation			Length of Installation		
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	LF	LF	
1539+17.00		Lt				23.0		
1539+35.00		Lt				23.0		
1539+53.00		Lt				23.0		
1539+71.00		Lt				23.0		
1612+82.00		Lt				23.0		
1613+00.00		Lt				23.0		
1613+18.00		Lt				23.0		
1613+36.00		Lt				23.0		
1613+54.00		Lt				23.0		
1614+00.00		Lt				23.0		
1614+46.00		Lt				23.0		
1614+92.00		Lt				23.0		
1615+38.00		Lt				23.0		
1615+84.00		Lt				23.0		
1616+30.00		Lt				23.0		
1616+76.00		Lt				23.0		
1618+50.00		Lt				23.0		
1619+42.00		Lt				23.0		
1620+34.00		Lt				23.0		
1621+26.00		Lt				23.0		
1622+18.00		Lt				23.0		
1624+02.00		Lt				23.0		
1624+94.00		Lt				23.0		
1625+86.00		Lt				23.0		
1626+78.00		Lt				23.0		
1627+70.00		Lt				23.0		
1633+15.00		Lt				23.0		
1634+07.00		Lt				23.0		
1634+99.00		Lt				23.0		
1635+91.00		Lt				23.0		
1636+83.00		Lt				23.0		
1637+75.00		Lt				23.0		
1638+67.00		Lt				23.0		
1639+59.00		Lt				23.0		
1640+51.00		Lt				23.0		
1641+43.00		Lt				16.7		
1642+35.00		Lt				16.7		
1643+27.00		Lt				16.7		
1644+19.00		Lt				16.7		
1645+11.00		Lt				16.7		
1646+03.00		Lt				16.7		
1646+95.00		Lt				16.7		
1647+87.00		Lt				16.7		
1648+79.00		Lt				16.7		
1649+71.00		Lt				16.7		
1650+63.00		Lt				16.7		
1651+55.00		Lt				16.7		
1652+47.00		Lt				16.7		
1653+39.00		Lt				16.7		
1654+31.00		Lt				23.0		
1655+23.00		Lt				23.0		
1656+15.00		Lt				23.0		
1657+07.00		Lt				16.7		
1657+99.00		Lt				16.7		
1658+91.00		Lt				16.7		
1659+83.00		Lt				16.7		
1660+75.00		Lt				16.7		
1661+67.00		Lt				16.7		
1662+59.00		Lt				16.7		
1663+51.00		Lt				16.7		
1664+43.00		Lt				16.7		
1665+35.00		Lt				16.7		
1692+00.00		Lt				23.0		
1692+92.00		Lt				23.0		
1693+84.00		Lt				23.0		
1694+76.00		Lt				23.0		
1695+68.00		Lt				23.0		
1696+60.00		Lt				23.0		
1697+52.00		Lt				23.0		
1698+44.00		Lt				23.0		
1699+36.00		Lt				23.0		
1700+28.00		Lt				23.0		
1701+20.00		Lt				23.0		
1702+12.00		Lt				23.0		
1703+04.00		Lt				23.0		
1703+96.00		Lt				23.0		
1704+88.00		Lt				23.0		
1705+80.00		Lt				23.0		
1706+72.00		Lt				23.0		
1707+64.00		Lt				23.0		
1708+56.00		Lt				16.7		

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

Possible Standards: EC-204

Location			Perimeter and Slope			Ditch Check		Remarks
			Length of Installation			Length of Installation		
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	LF	LF	
1709+48.00		Lt				16.7		
1710+40.00		Lt				16.7		
1711+32.00		Lt				16.7		
1712+24.00		Lt				16.7		
1713+16.00		Lt				16.7		
1714+08.00		Lt				16.7		
1715+00.00		Lt				16.7		
1825+28.00		Rt				18.0		
1825+43.00		Rt				18.0		
1825+58.00		Rt				18.0		
1825+73.00		Rt				18.0		
1825+88.00		Rt				18.0		
1826+03.00		Rt				18.0		
1826+18.00		Rt				18.0		
1826+33.00		Rt				18.0		
1869+12.00		Lt				23.0		
1869+21.00		Lt				23.0		
1869+30.00		Lt				23.0		
1869+39.00		Lt				23.0		
1869+48.00		Lt				23.0		
1869+57.00		Lt				23.0		
1869+66.00		Lt				23.0		
1869+75.00		Lt				23.0		
1869+84.00		Lt				23.0		
1869+93.00		Lt				23.0		
1870+02.00		Lt				23.0		
1870+00.00		Lt				23.0		
1870+18.00		Lt				23.0		
1870+36.00		Lt				23.0		
1870+54.00		Lt				23.0		
1870+72.00		Lt				23.0		
1870+90.00		Lt				23.0		
1871+08.00		Lt				23.0		
1871+26.00		Lt				23.0		
1871+44.00		Lt				23.0		
1871+62.00		Lt				23.0		
1871+80.00		Lt				23.0		
1530+63.00		Rt				23.0		
1530+78.00		Rt				23.0		
1530+93.00		Rt				23.0		
1531+08.00		Rt				23.0		
1531+23.00		Rt				23.0		
1531+38.00		Rt				23.0		
1531+53.00		Rt				23.0		
1531+68.00		Rt				23.0		
1531+83.00		Rt				23.0		
1531+98.00		Rt				23.0		
1532+13.00		Rt				23.0		
1532+28.00		Rt				23.0		
1532+43.00		Rt				23.0		
1532+58.00		Rt				23.0		
1532+73.00		Rt				23.0		
1532+88.00		Rt				23.0		
1533+03.00		Rt				23.0		
1533+18.00		Rt				23.0		
1533+33.00		Rt				23.0		
1533+48.00		Rt				23.0		
1533+63.00		Rt				23.0		
1533+78.00		Rt				23.0		
1533+93.00		Rt				23.0		
1534+08.00		Rt				23.0		
1534+23.00		Rt				23.0		
1534+38.00		Rt				23.0		
1534+53.00		Rt				23.0		
1535+98.00		Rt				23.0		
1536+21.00		Rt				23.0		
1536+44.00		Rt				23.0		
1536+67.00		Rt				23.0		
1536+90.00		Rt				23.0		
1537+13.00		Rt				23.0		
1537+36.00		Rt				23.0		
1537+59.00		Rt				23.0		
1537+82.00		Rt				23.0		
1538+05.00		Rt				23.0		
1538+28.00		Rt				23.0		
1538+51.00		Rt				23.0		
1538+74.00		Rt				23.0		
1538+97.00		Rt				23.0		
1539+20.00		Rt				23.0		
1539+43.00		Rt				23.0		
1539+66.00		Rt				23.0		

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

Possible Standards: EC-204

Location			Perimeter and Slope			Ditch Check		Remarks
			Length of Installation			Length of Installation		
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	LF	LF	
1539+89.00		Rt				23.0		
1540+12.00		Rt				23.0		
1540+35.00		Rt				23.0		
1540+58.00		Rt				23.0		
1857+48.00		Rt				18.0		
1857+63.00		Rt				18.0		
1857+78.00		Rt				18.0		
1857+93.00		Rt				18.0		
1858+08.00		Rt				18.0		
1858+23.00		Rt				18.0		
1858+38.00		Rt				18.0		
1858+53.00		Rt				18.0		
1858+68.00		Rt				18.0		
1858+83.00		Rt				18.0		
1858+98.00		Rt				18.0		
1859+13.00		Rt				18.0		
1859+28.00		Rt				18.0		
1859+43.00		Rt				18.0		
1859+58.00		Rt				18.0		
1859+88.00		Rt				18.0		
1860+03.00		Rt				18.0		
1860+18.00		Rt				18.0		
1860+33.00		Rt				18.0		
1860+48.00		Rt				18.0		
1860+63.00		Rt				18.0		
1860+78.00		Rt				18.0		
1860+93.00		Rt				18.0		
1861+08.00		Rt				18.0		
1861+23.00		Rt				18.0		
1861+38.00		Rt				18.0		
1861+53.00		Rt				18.0		
1861+68.00		Rt				18.0		
1861+83.00		Rt				18.0		
1861+98.00		Rt				18.0		
1862+13.00		Rt				18.0		
1862+28.00		Rt				18.0		
1862+43.00		Rt				18.0		
1862+58.00		Rt				18.0		
1862+73.00		Rt				18.0		
1862+88.00		Rt				18.0		
1863+03.00		Rt				18.0		
1863+18.00		Rt				18.0		
1863+33.00		Rt				18.0		
1863+48.00		Rt				18.0		
1863+63.00		Rt				18.0		
1863+78.00		Rt				18.0		
1863+93.00		Rt				18.0		
1864+08.00		Rt				18.0		
1869+52.00		Rt				23.0		
1869+61.00		Rt				23.0		
1869+70.00		Rt				23.0		
1869+79.00		Rt				23.0		
1869+88.00		Rt				23.0		
1869+97.00		Rt				23.0		
1870+06.00		Rt				23.0		
1870+15.00		Rt				23.0		
1870+24.00		Rt				23.0		
1870+33.00		Rt				23.0		
1462+87.00		Rt		47				Inlet Protection
1465+43.00		Rt		47				Inlet Protection
1484+13.00		Rt		47				Inlet Protection
83+90.00		Lt		47				Inlet Protection (Yucca Ave.)
1505+83.00		Lt			81.0			Inlet Protection
1511+38.00		Rt		47				Inlet Protection
1516+90.00		Lt		47				Inlet Protection
1522+76.00		Lt		47				Inlet Protection
1524+41.00		Lt		47				Inlet Protection
1543+40.00		Rt		47				Inlet Protection
1543+40.00		Lt		47				Inlet Protection
1548+35.00		Rt		47				Inlet Protection
1563+00.00		Rt		47				Inlet Protection
1563+00.00		Lt		47				Inlet Protection
1569+83.00		Lt		47				Inlet Protection
1574+52.00		Lt			69.0			Inlet Protection
1580+28.00		Lt		47				Inlet Protection
1581+83.00		Lt		47				Inlet Protection
1583+37.00		Lt		47				Inlet Protection
1591+08.00		Rt		47				Inlet Protection
1597+50.00		Lt			46.0			Inlet Protection
1612+69.00		Lt			59.0			Inlet Protection
1623+11.00		Lt			71.0			Inlet Protection

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

Possible Standards: EC-204

Location			Perimeter and Slope			Ditch Check		Remarks
			Length of Installation			Length of Installation		
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	LF	LF	
1632+55.00		Lt			59.0			Inlet Protection
1644+58.00		Lt		47				Inlet Protection
1654+09.00		Lt		47				Inlet Protection
1661+94.00		Lt		47				Inlet Protection
1674+93.00		Lt		92				Inlet Protection
1682+46.00		Lt		47				Inlet Protection
1690+09.00		Lt			46.0			Inlet Protection
1701+33.00		Lt			43.0			Inlet Protection
1706+57.00		Lt			47.0			Inlet Protection
1711+74.00		Rt		47				Inlet Protection
1717+15.00		Lt			57.0			Inlet Protection
1732+29.00		Lt			54.0			Inlet Protection
1752+45.00		Lt		47				Inlet Protection
1770+14.00		Rt		47				Inlet Protection
1780+77.00		Rt		47				Inlet Protection
1791+45.00		Rt			36.0			Inlet Protection
1792+54.00		Rt			37.0			Inlet Protection
1795+11.00		Lt		47				Inlet Protection
1809+28.00		Rt		47				Inlet Protection
1811+97.00		Rt		47				Inlet Protection
1816+47.00		Rt		47				Inlet Protection
1820+10.00		Lt		31				Inlet Protection
1820+17.00		Rt		31				Inlet Protection
1826+69.00		Lt		47				Inlet Protection
1831+35.00		Lt		47				Inlet Protection
1834+89.00		Lt		47				Inlet Protection
1841+81.00		Lt		47				Inlet Protection
1844+11.00		Rt		47				Inlet Protection
1848+65.00		Rt		31				Inlet Protection
1850+30.00		Rt		31				Inlet Protection
1850+59.00		Lt		31				Inlet Protection
1856+40.00		Lt		47				Inlet Protection
1856+40.00		Rt		47				Inlet Protection
1859+76.00		Rt		47				Inlet Protection
1864+87.00		Lt		47				Inlet Protection
1865+00.00		Rt		47				Inlet Protection
1865+31.00		Lt		60				Inlet Protection
1870+16.00		Lt		47				Inlet Protection
1872+93.00		Lt		47				Inlet Protection
1880+06.00		Lt		60				Inlet Protection
1885+70.00		Lt		60				Inlet Protection
1888+19.00		Lt			25.0			Inlet Protection (See Tab 100-11 also)
1889+60.00		Lt			25.0			Inlet Protection (See Tab 100-11 also)
1896+52.00		Lt			25.0			Inlet Protection (See Tab 100-11 also)
1896+52.00		Rt			25.0			Inlet Protection (See Tab 100-11 also)
1899+25.00		Lt			25.0			Inlet Protection (See Tab 100-11 also)
1899+25.00		Rt			25.0			Inlet Protection (See Tab 100-11 also)
2+93.00		Lt		47				Inlet Protection (Western Access Rd.)
1493+28.00	1501+83.00	Lt		853				Slope Protection
1493+28.00	1502+68.00	Lt		939				Slope Protection
1591+20.00	1597+67.00	Lt		647				Slope Protection
1598+17.00	1609+00.00	Lt		1082				Slope Protection
1655+50.00	1686+26.00	Lt		3073				Slope Protection
1686+83.00	1690+28.00	Lt		346				Slope Protection
1693+93.00	1695+37.00	Lt		144				Slope Protection
1708+38.00	1711+84.00	Lt		348				Slope Protection
1714+50.00	1725+91.00	Lt		1143				Slope Protection
1728+50.00	1752+85.00	Lt		2431				Slope Protection
1753+84.00	1777+00.00	Lt		2315				Slope Protection
1779+50.00	1781+00.00	Lt		151				Slope Protection
1787+50.00	1789+00.00	Lt		155				Slope Protection
1790+00.00	1792+91.00	Lt		290				Slope Protection
1794+00.00	1798+00.00	Lt		398				Slope Protection
1802+92.00	1807+10.00	Lt		415				Slope Protection
1807+50.00	1812+00.00	Lt		450				Slope Protection
1812+50.00	1816+50.00	Lt		405				Slope Protection
1817+00.00	1820+05.00	Lt		307				Slope Protection
1820+50.00	1822+16.00	Lt		167				Slope Protection
1822+61.00	1831+78.00	Lt		917				Slope Protection
1832+26.00	1834+90.00	Lt		265				Slope Protection
1835+38.00	1841+38.00	Lt		600				Slope Protection
1841+85.00	1844+16.00	Lt		233				Slope Protection
1844+65.00	1846+50.00	Lt		185				Slope Protection
1847+00.00	1850+14.00	Lt		316				Slope Protection
1850+58.00	1851+95.00	Lt		163				Slope Protection
1852+79.00	1856+32.00	Lt		357				Slope Protection
1856+87.00	1866+66.00	Lt		982				Slope Protection
1869+00.00	1871+00.00	Lt		200				Slope Protection
1875+00.00	1880+19.00	Lt		514				Slope Protection
1880+60.00	1887+23.00	Lt		663				Slope Protection
1887+79.00	1889+77.00	Lt		197				Slope Protection

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

Possible Standards: EC-204

Location			Perimeter and Slope			Ditch Check		Remarks
			Length of Installation			Length of Installation		
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	LF	LF	
1890+35.00	1891+77.00	Lt		143				Slope Protection
1895+94.00	1902+72.00	Lt		679				Slope Protection
1903+12.00	1904+17.00	Lt		105				Slope Protection
1904+53.00	1904+72.00	Lt		19				Slope Protection
1905+25.00	1905+70.00	Lt		45				Slope Protection
1906+33.00	1907+48.00	Lt		115				Slope Protection
1907+79.00	1908+69.00	Lt		90				Slope Protection
1598+00.00	1611+00.00	Rt		1301				Slope Protection
1656+00.00	1660+00.00	Rt		403				Slope Protection
1664+00.00	1696+18.00	Rt		3219				Slope Protection
1696+66.00	1700+84.00	Rt		417				Slope Protection
1706+39.00	1711+40.00	Rt		502				Slope Protection
1712+64.00	1715+37.00	Rt		276				Slope Protection
1719+00.00	1730+50.00	Rt		1156				Slope Protection
1731+00.00	1733+00.00	Rt		202				Slope Protection
1734+00.00	1746+32.00	Rt		1232				Slope Protection
1746+82.00	1753+25.00	Rt		647				Slope Protection
1753+65.00	1766+88.00	Rt		1326				Slope Protection
1826+72.00	1831+31.00	Rt		459				Slope Protection
1856+85.00	1864+96.00	Rt		807				Slope Protection
1865+38.00	1867+20.00	Rt		182				Slope Protection
1869+00.00	1870+50.00	Rt		155				Slope Protection
1872+25.00	1892+61.00	Rt		2047				Slope Protection
1896+00.00	1904+31.00	Rt		830				Slope Protection
1904+61.00	1905+23.00	Rt		61				Slope Protection
1906+00.00	1908+68.00	Rt		268				Slope Protection
	PSSCD Tab Totals:			40785	855.0	5932.4		
	12 inch PSSCD Bid Totals:			50981.25				125% of Tab Total
	12 inch PSSCD Ditch Checks Bid Totals:					7415.5		125% of Tab Total
	20 inch PSSCD Bid Totals:				1068.8			125% of Tab Total
	PSSCD Removal Totals:			50981.25	1068.8	7415.5		100% of Bid Total

STORMWATER DRAINAGE BASIN AND STORAGE

Refer to EC Standards and 570s Details.

Drainage Basin Location						Summary of Stormwater Storage						Remarks
Basin No.	Station to Station		Side	Discharge Point		Total Disturbed Area	Disturbed Area with Storage Provided	Disturbed Area without Storage Provided	Best Management Practice	Total Storage Volume Provided	Total Storage Volume Required	Storage Volume Met?	
				Station	Side	Acres	Acres	Acres		CF	CF	Yes/No	
1	1460+20.00	1460+88.00	Lt	1460+20.00	West	0.0	0.0	0.0			36.0	No	
2	1460+20.00	1472+35.00	Lt/Rt	1462+88.00	North	3.4	3.4	0.0	Silt Fence for Ditch Check (EC-201)	12539.7	12240.0	Yes	
3	1472+20.00	1519+44.00	Lt/Rt	1506+19.00	South	15.0	15.0	0.0	Silt Fence for Ditch Check (EC-201)	61926.9	54000.0	Yes	
									Silt Basin (EW-403)	3325.0			
									TOTAL	65251.9			
4	1515+00.00	1519+44.00	Rt	1516+65.00	South	0.7	0.7	0.0	Silt Fence for Ditch Check (EC-201)	4340.7	2520.0	Yes	
5	1519+31.00	1525+61.00	Lt/Rt	1422+74.00	South	2.5	2.5	0.0	Silt Fence for Ditch Check (EC-201)	8729.6	9000.0	No	
6	1525+61.00	1552+44.00	Lt/Rt	1535+23.00	South	8.7	8.7	0.0	Silt Fence for Ditch Check (EC-201)	21725.2	31320.0	No	
									Silt Basin (EW-403)	3737.5			
									TOTAL	25462.7			
7	1546+00.00	1561+41.00	Lt/Rt	1548+36.00	North	2.6	2.6	0.0	Silt Fence for Ditch Check (EC-201)	12973.8	9360.0	Yes	
8	1552+44.00	1572+25.00	Lt/Rt	1569+81.00	South	4.9	4.9	0.0	Silt Fence for Ditch Check (EC-201)	23241.6	17640.0	Yes	
9	1572+00.00	1587+00.00	Lt/Rt	1574+61.00	South	4.6	4.6	0.0	Silt Fence for Ditch Check (EC-201)	18616.6	16560.0	Yes	
									Silt Basin (EW-403)	3750.0			
									TOTAL	22366.6			
10	1586+00.00	1635+00.00	Lt/Rt	1626+37.00	South	13.1	13.1	0.0	Silt Fence for Ditch Check (EC-201)	22020.9	47160.0	No	
									Silt Basin (EW-403)	1437.9			
									TOTAL	23458.8			
11	1632+71.00	1686+78.00	Lt/Rt	1682+46.00	South	12.7	12.7	0.0	Silt Fence for Ditch Check (EC-201)	4774.7	45720.0	No	
									Silt Basin (EW-403)	1400.0			
									TOTAL	6174.7			

STORMWATER DRAINAGE BASIN AND STORAGE

Refer to EC Standards and 570s Details.

Drainage Basin Location						Summary of Stormwater Storage							Remarks
Basin No.	Station to Station		Side	Discharge Point		Total Disturbed Area	Disturbed Area with Storage Provided	Disturbed Area without Storage Provided	Best Management Practice	Total Storage Volume Provided	Total Storage Volume Required	Storage Volume Met?	
				Station	Side	Acres	Acres	Acres		CF	CF	Yes/No	
12	1686+52.00	1703+85.00	Lt/Rt	1700+28.00	South	4.2	4.2	0.0	Silt Fence for Ditch Check (EC-201)	2990.2	15120.0	No	
									Silt Basin (EW-403)	900.0			
									TOTAL	3890.2			
13	1702+39.00	1746+54.00	Lt/Rt	1735+17.00	South	11.3	11.3	0.0	Silt Fence for Ditch Check (EC-201)	21263.1	40680.0	No	
									Silt Basin (EW-403)	2225.0			
									TOTAL	23488.1			
14	1745+58.00	1768+45.00	Lt/Rt	1767+55.00	North	5.5	5.5	0.0	Silt Fence for Ditch Check (EC-201)	11847.7	19800.0	No	
15	1767+35.00	1786+19.00	Lt/Rt	1779+00.00	North	4.3	4.3	0.0	Silt Fence for Ditch Check (EC-201)	10369.4	15480.0	No	
16	1775+48.00	1786+23.00	Rt	1777+26.00	South	3.4	3.4		Silt Fence for Ditch Check (EC-201)	5208.8	12240.0	No	
17	1784+18.00	1807+42.00	Lt/Rt	1790+62.00	North	9.5	9.5	0.0	Silt Fence for Ditch Check (EC-201)	21414.7	34200.0	No	
									Silt Basin (EW-403)	712.5			
									TOTAL	22127.2			
18	1801+81.00	1807+23.00	Lt	1805+00.00	North	0.9	0.9	0.0	Silt Fence for Ditch Check (EC-201)	6076.9	3240.0	Yes	
19	1807+23.00	1812+17.00	Lt/Rt	1809+27.00	North	1.4	1.4	0.0	Silt Fence for Ditch Check (EC-201)	6993.3	5040.0	Yes	
20	1810+30.00	1829+11.00	Lt/Rt	1826+69.00	South	4.0	4.0	0.0	Silt Fence for Ditch Check (EC-201)	14784.3	14400.0	Yes	
21	1812+17.00	1816+77.00	Lt	1813+51.00	North	0.6	0.6	0.0	Silt Fence for Ditch Check (EC-201)	6076.9	2160.0	Yes	
22	1816+77.00	1820+27.00	Lt	1818+00.00	North	0.5	0.5	0.0	Silt Fence for Ditch Check (EC-201)	3858.4	1800.0	Yes	
23	1820+27.00	1822+38.00		1821+27.00	North	0.3	0.3	0.0	Silt Fence for Ditch Check (EC-201)	3038.5	1080.0	Yes	
24	1829+95.00	1840+48.00	Lt/Rt	1831+31.00	South	2.0	2.0	0.0	Silt Fence for Ditch Check (EC-201)	10899.9	7200.0	Yes	
25	1832+00.00	1844+40.00		1837+44.00	North	1.8	1.8	0.0	Silt Fence for Ditch Check (EC-201)	10369.4	6480.0	Yes	
26	1840+48.00	1852+16.00	Rt	1842+10.00	South	1.6	1.6	0.0	Silt Fence for Ditch Check (EC-201)	10031.8	5760.0	Yes	
27	1844+40.00	1846+72.00	Lt	1845+33.00	North	0.4	0.4	0.0	Silt Fence for Ditch Check (EC-201)	2170.3	1440.0	Yes	
28	1846+72.00	1850+38.00	Lt	1848+56.00	North	0.4	0.4	0.0	Silt Fence for Ditch Check (EC-201)	6076.9	1440.0	Yes	
29	1850+38.00	1852+16.00	Lt	1852+55.00	North	0.4	0.4	0.0			1440.0	No	
30	1852+16.00	1852+59.00	Lt	1852+59.00	North	0.1	0.1	0.0			360.0	No	
31	1852+16.00	1868+39.00	Lt/Rt	1867+60.00	South	5.1	5.1	0.0	Silt Fence for Ditch Check (EC-201)	10224.7	18360.0	No	
32	1865+50.00	1871+45.00	Lt/Rt	1870+48.00	South	1.5	1.5	0.0	Silt Fence for Ditch Check (EC-201)	2845.5	5400.0	No	
33	1870+63.00	1884+48.00	Lt/Rt	1880+04.00	South	4.1	1.1	3.0	Silt Fence for Ditch Check (EC-201)	14424.1	3960.0	Yes	
34	1880+23.00	1895+17.00	Lt/Rt	1893+16.00	East	3.6	3.6	0.0	Silt Fence for Ditch Check (EC-201)	13552.5	12960.0	Yes	
35	1894+36.00	1908+68.00	Lt/Rt	1899+68.00	North	1.9	1.9	0.0			6840.0	No	

POLLUTION PREVENTION PLAN

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

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, 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 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. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.

B. Contractor:
1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. 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. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).
5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
8. Submits amended PPP site map according to Section 2602 of the Standard Specifications.

C. Subcontractors:
1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or perorming work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). 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. Implement good housekeeping practices according to Paragraph III, C, 2.

D. RCE/Project Engineer:
1. Is Project Storm Water Manager.
2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
7. Is familiar with the Project PPP and storm water site map.
8. On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.
9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
10. Is signature authority on Notice of Discontinuation.
11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
12. Makes information to determine permit compliance available to the DNR upon their request.

E. Inspector:
1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
2. Makes information to determine permit compliance available to the DNR upon their request.
3. Conducts joint required inspections of the site with the contractor/subcontractor.
4. Completes an inspection report after each inspection.
5. Is signature authority on storm water inspection reports.

II. PROJECT SITE DESCRIPTION

A. This Pollution Prevention Plan (PPP) is for the Pavement - Grade and Replace of Hwy 92 in Washington and Louisa County.

B. This PPP covers approximately 154.4 acres with an estimated 144.2 acres being disturbed. The portion of the PPP covered by this contract has 144.2 acres disturbed.

C. The PPP is located in an area of Otley – Ladoga soil association.
The estimated weighted average runoff coefficient number for this PPP after completion will be 0.38.

D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or CE sheets.

E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.

F. Runoff from this work will flow into North Fork Long Creek.

III. CONTROLS

A. The Contractor’s ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.

B. Preserve vegetation in areas not needed for construction.

C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site 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 of the Standard Specifications.

1. EROSION AND SEDIMENT CONTROLS

a. Stabilization Practices
1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
a) Permanently ceased on any portion of the site, or
b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C or R sheets.
5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.

b. Structural Practices
1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
2) Structural practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets, 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 or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or R sheets.

c. Storm Water Management
Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the storm water site map and Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.

2. OTHER CONTROLS
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.
a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state.
f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
g. Concrete Grooving/Grinding Slurry – Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.
j. Dewatering – Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.

3. APPROVED STATE OR LOCAL PLANS
During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

POLLUTION PREVENTION PLAN

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's inspector at least once every seven calendar days. Storm water site inspections will include:
   1. Date of the inspection.
   2. Summary of the scope of the inspection.
   3. Name and qualifications of the personnel making the inspection.
   5. Review of 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. Identification of corrective actions required to maintain or modify erosion and sediment control measures.

B. Include storm water site inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

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 headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

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

VIII. DEFINITIONS

A. Base PPP - Initial Pollution Prevention Plan.

B. Amended PPP - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.

C. Fieldbook Entries – This contains the inspector’s daily diary and bid item postings.

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

E. Signature Authority - Representative authorized to sign various storm water documents.

CERTIFICATION STATEMENT

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

Nathan Pohlen

Signature

Nathan J. Pohlen

Print Name

LINE STYLE LEGEND OF EROSION CONTROL SHEETS

- Silt Fence
- Perimeter and Slope Sediment Control Device (9")
- Perimeter and Slope Sediment Control Device (12")
- Perimeter and Slope Sediment Control Device (20")
- Open-Throat Curb Intake Sediment Filter
- Concentrated Flow
- Sheet Flow

CELL LEGEND OF EROSION CONTROL SHEETS

- Temporary Sediment Control basin
- Erosion Control for Circular Intake or Manhole Well
- Erosion Control for Rectangular Intake or Manhole Well
- Grate Intake Sediment Filter Bag
- Silt Basin
- Silt Fence Tail
- Stormwater Drainage Basin Discharge Point

PLAN VIEW COLOR LEGEND OF EROSION CONTROL 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
Black	(Ø)	Permanent Erosion Control Features
Blaze Orange	(222)	Temporary Erosion Control Features

SHADING	Design Color No.		Transparency
Citron	(234)	Mulching, All Types	50%
Light Brown	(238)	Special Ditch Control, Wood Excelsior Mat	Ø%

PATTERN LEGEND OF EROSION CONTROL SHEETS

- Seeding and Fertilizing
- Seeding and Fertilizing (Rural) (R)
- Seeding and Fertilizing (Urban) (U)
- Native Grass Seeding (N)
- Salt Tolerant Seeding (ST)
- Wetland Grass Seeding (WL)
- Wildflower Seeding (WF)
- Sodding (SOD)
- Turf Reinforcement Mat Type 1
- Turf Reinforcement Mat Type 2
- Turf Reinforcement Mat Type 3
- Turf Reinforcement Mat Type 4
- Slope Protection, Wood Excelsior Mat
- Transition Mat
- Rock Features, Permanent
- Rock Features, Temporary

EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES R)

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.1

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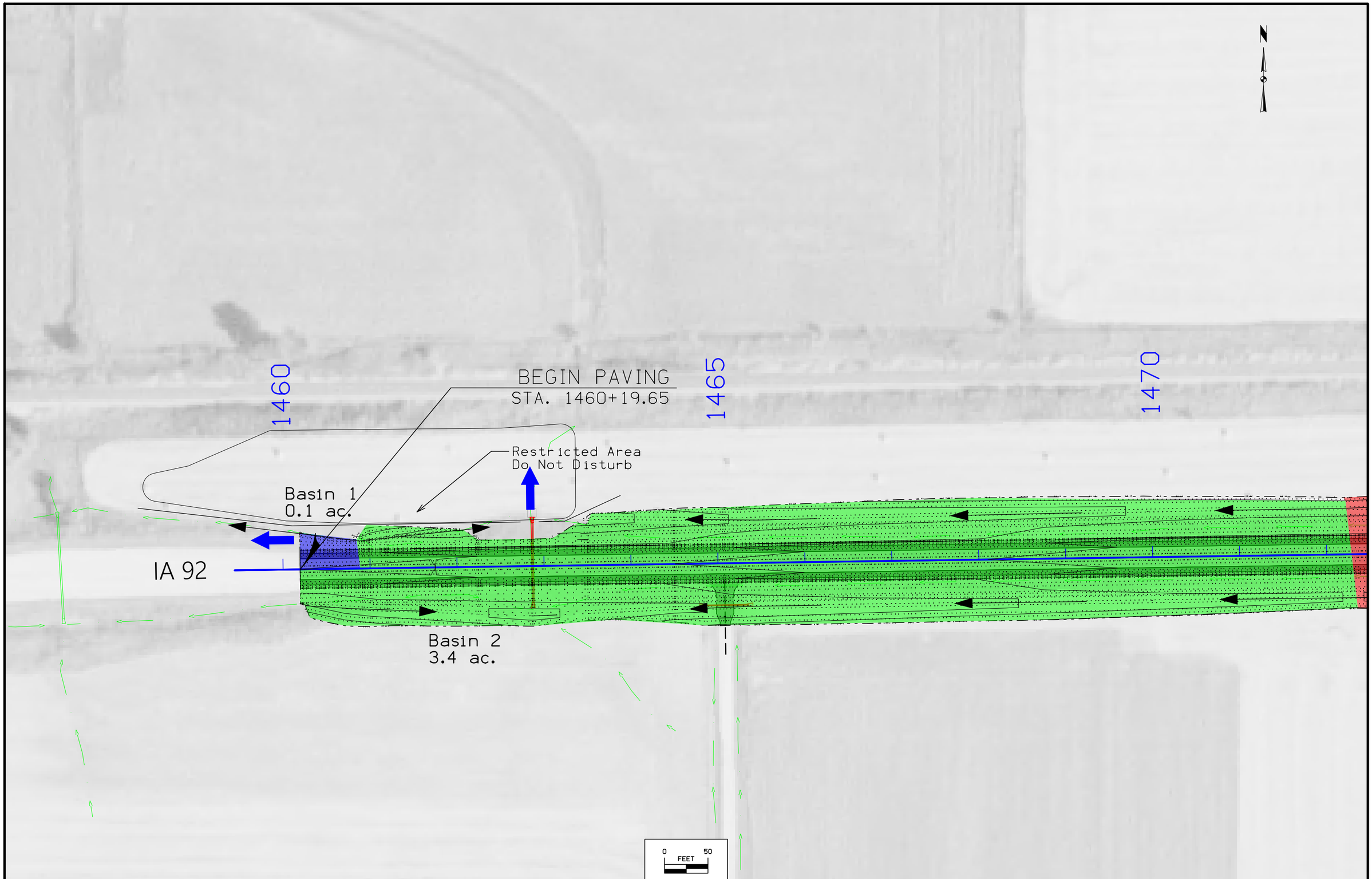
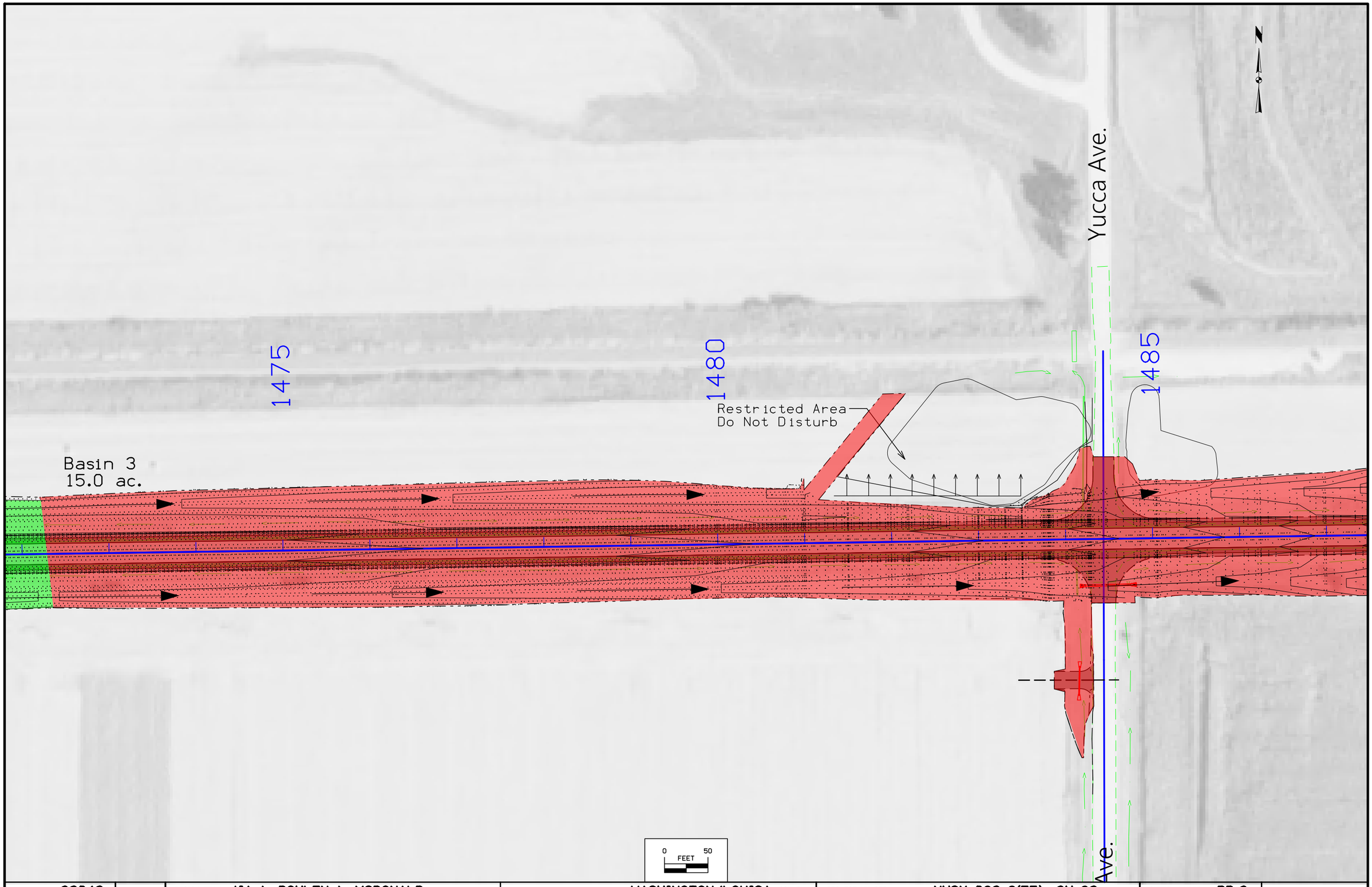


FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.2

12:15:03 PM 9/29/2022 bmcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Roadside\92092057_Basins_RR02.dgn



FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER RR.3	

12:15:09 PM 9/29/2022 bmcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Roadside\92092057_Basins_RR02.dgn



FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.4	

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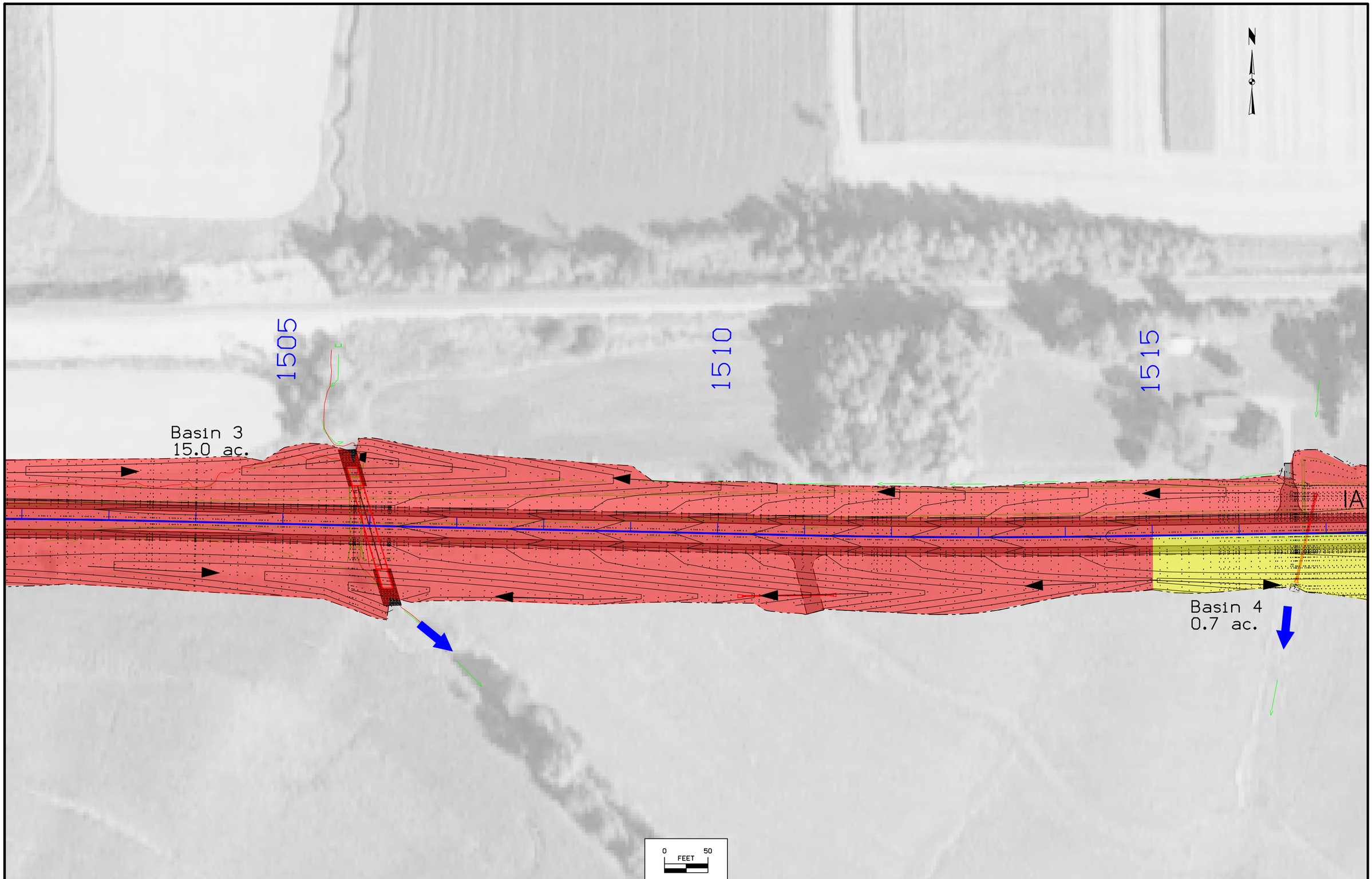
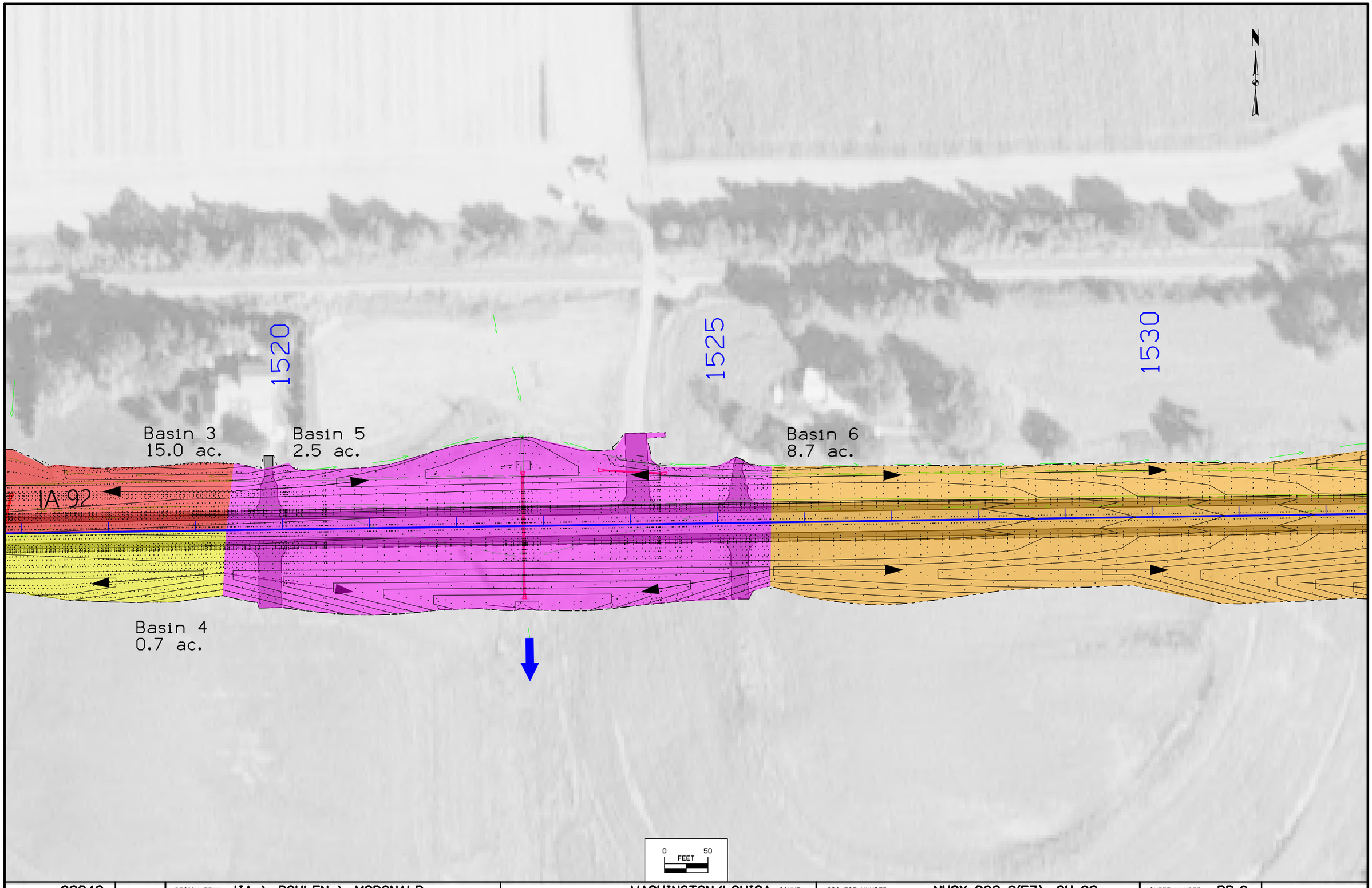


FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.5

12:15:22 PM 9/29/2022 bmcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Roadside\92092057_Basins_RR02.dgn



FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.6

12:15:27 PM 9/29/2022 bmcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Roadside\92092057_Basins_RR02.dgn

1535

1540

1545

Basin 6
8.7 ac.

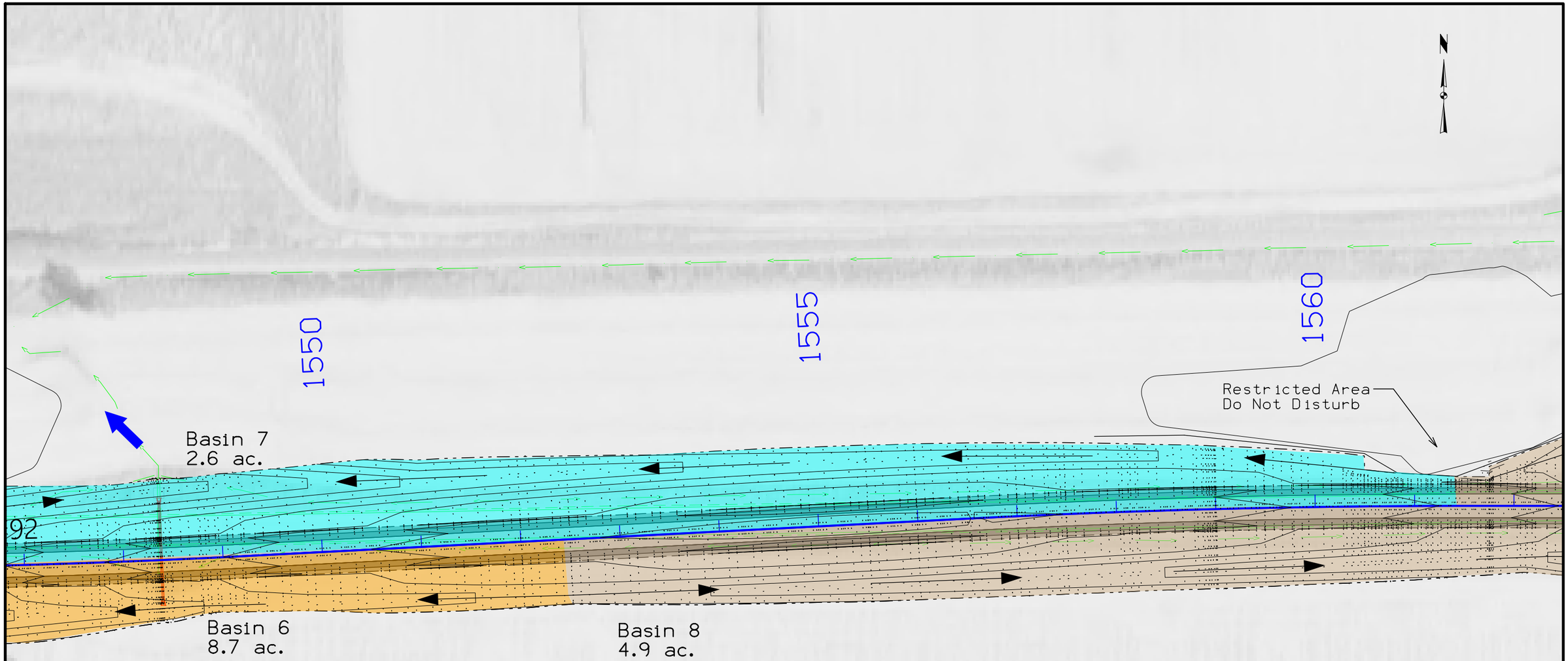
Basin 7
2.6 ac.

IA 92

0 FEET 50

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.7

12:15:32 PM 9/29/2022 bmcdona pw:\\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Roadside\92092057_Basins_RR02.dgn



FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.8

12:15:36 PM 9/29/2022 bmcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Roadside\92092057_Basins_RR02.dgn

County Line Rd.

1565

1570

1575

Basin 8
4.9 ac.

Basin 9
4.6 ac.

IA

County Line Rd.

0 FEET 50

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.9

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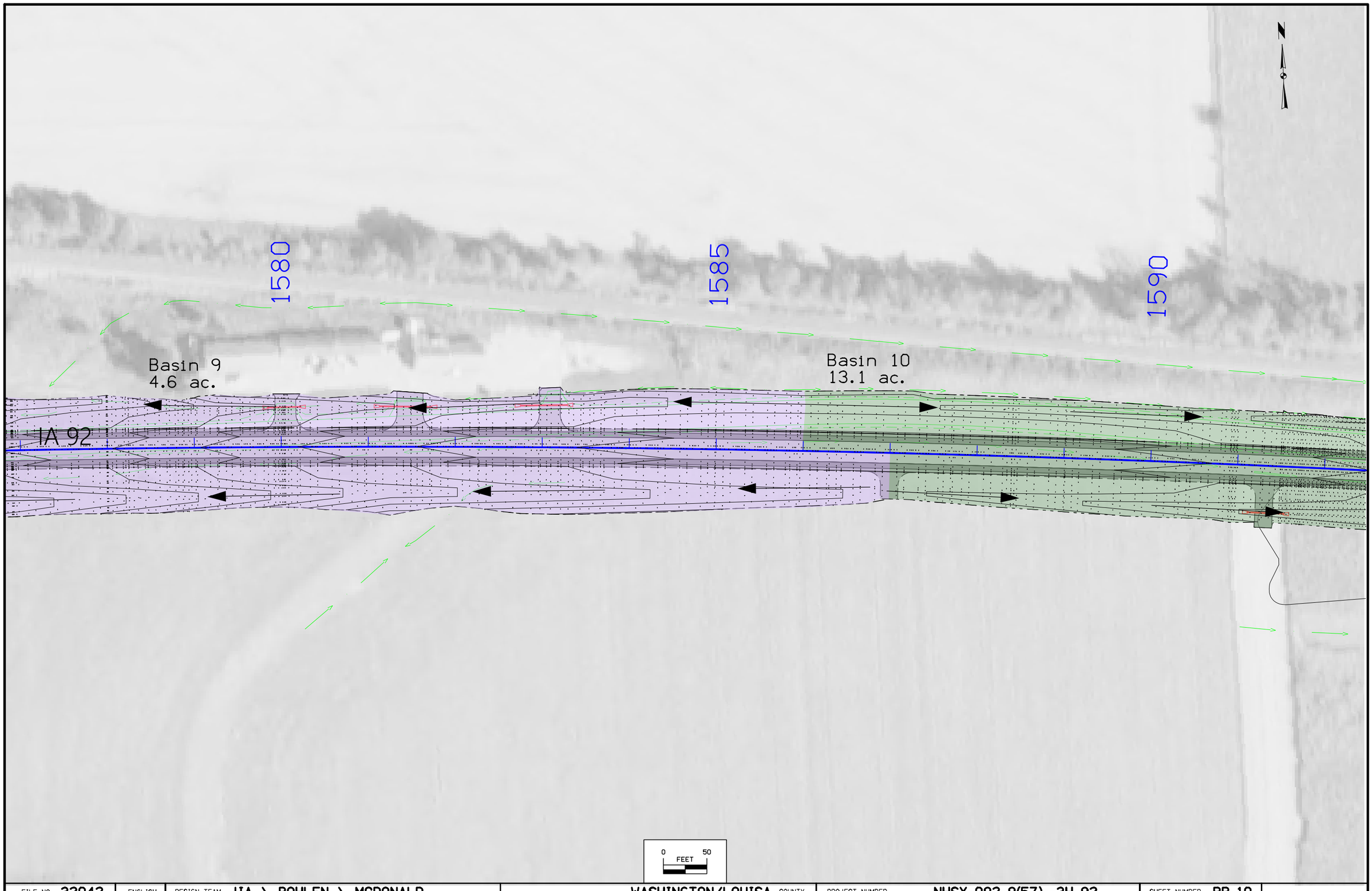

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1595

1600

1605

IA 92

Basin 10
13.1 ac.

0 50
FEET

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.11

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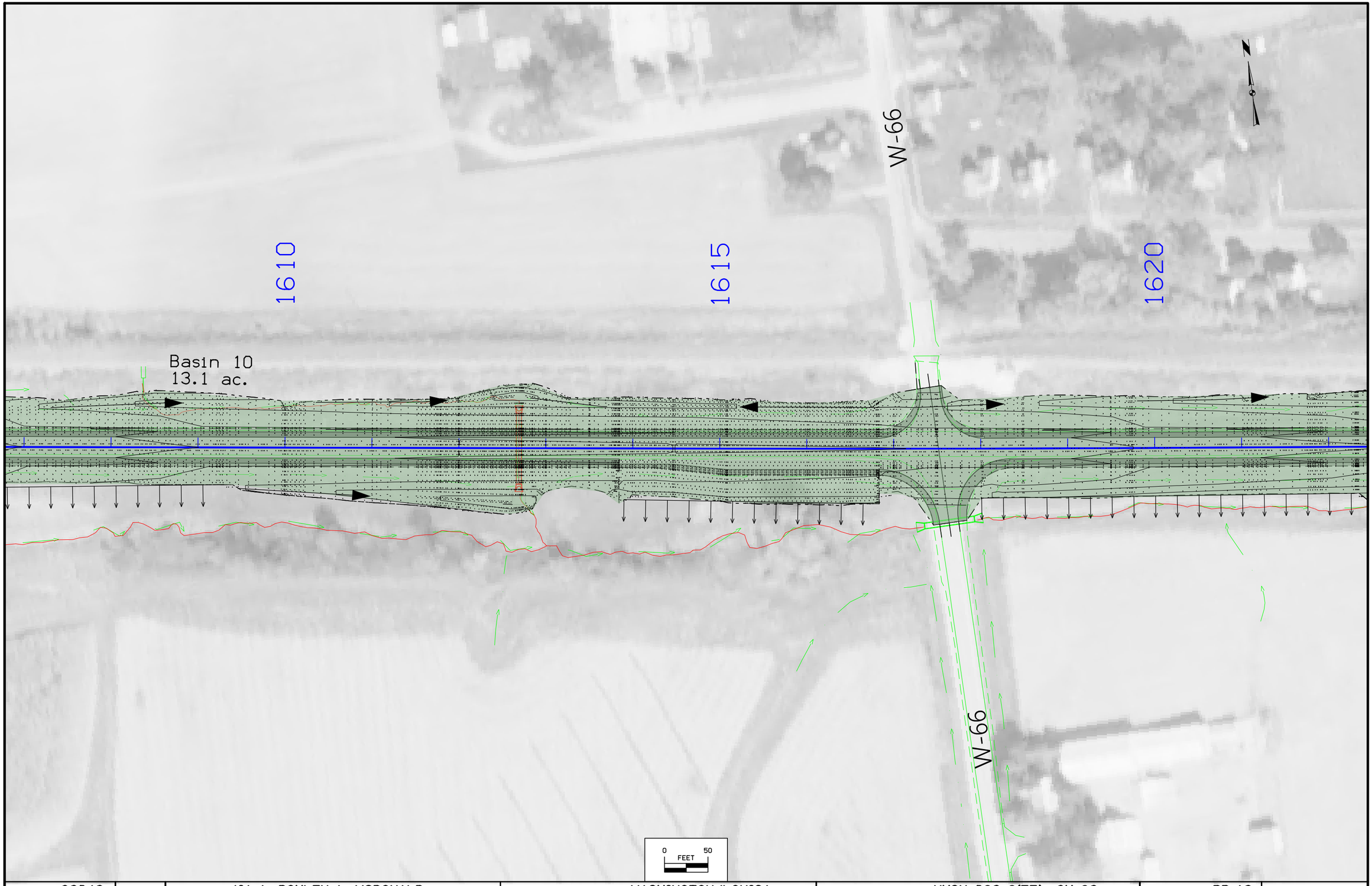

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1625

1630

1635

Basin 10
13.1 ac.

Basin 11
12.7 ac.

IA 92

0 50
FEET

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.13

12:16:01 PM 9/29/2022 bmcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Roadside\92092057_Basins_RR02.dgn

1640

1645

1650

Basin 11
12.7 ac.

0 50
FEET

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.14

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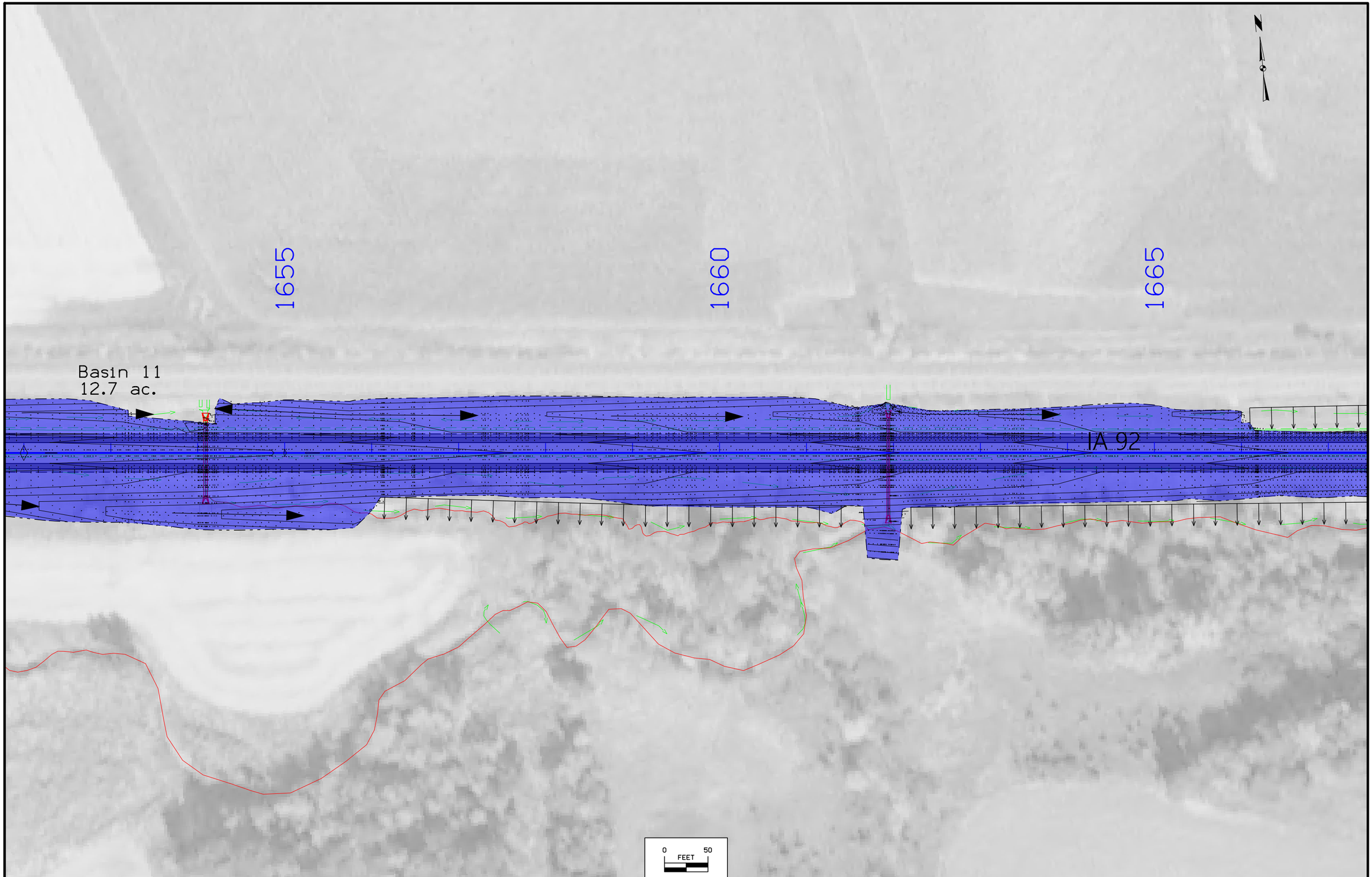

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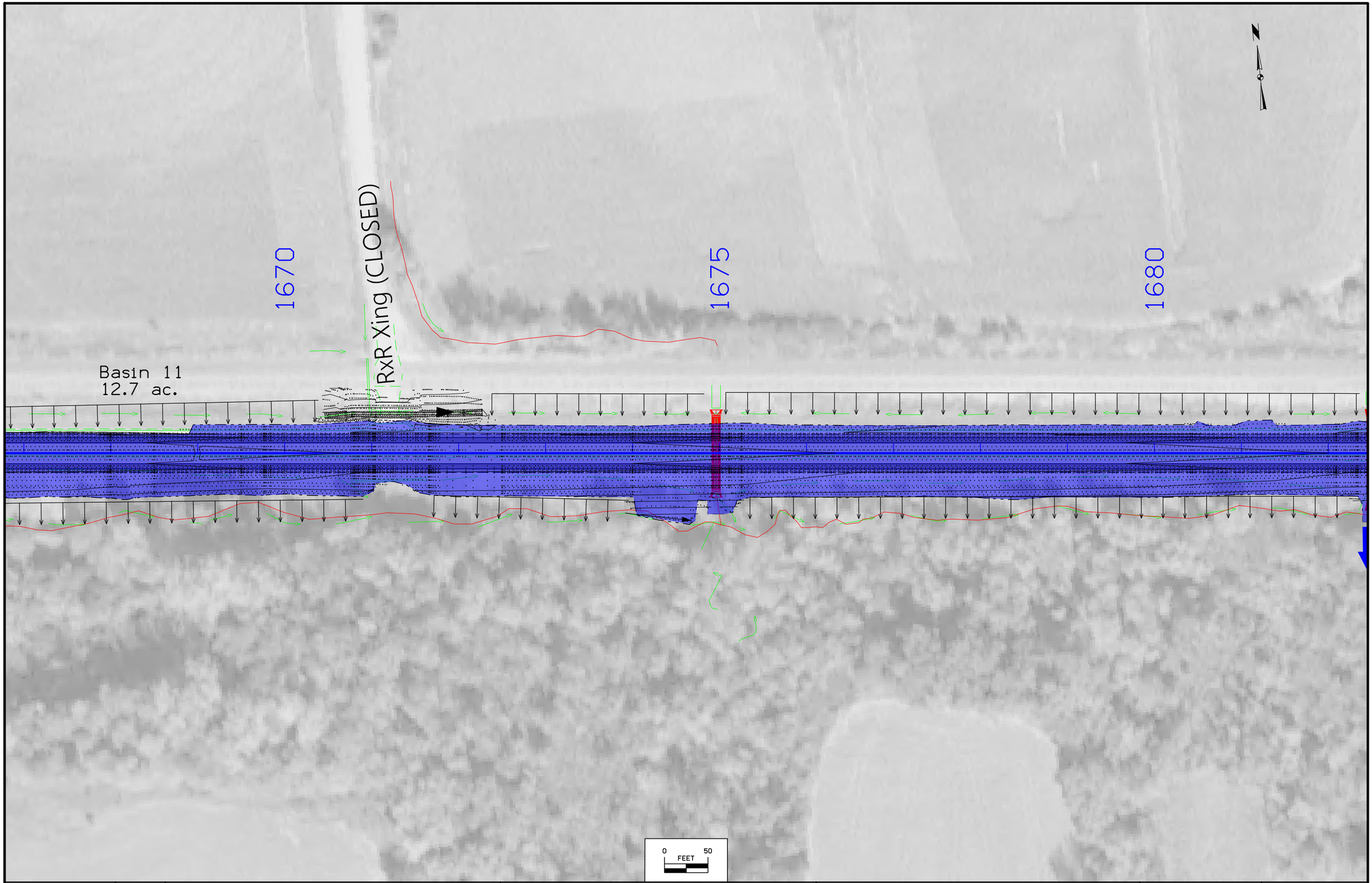

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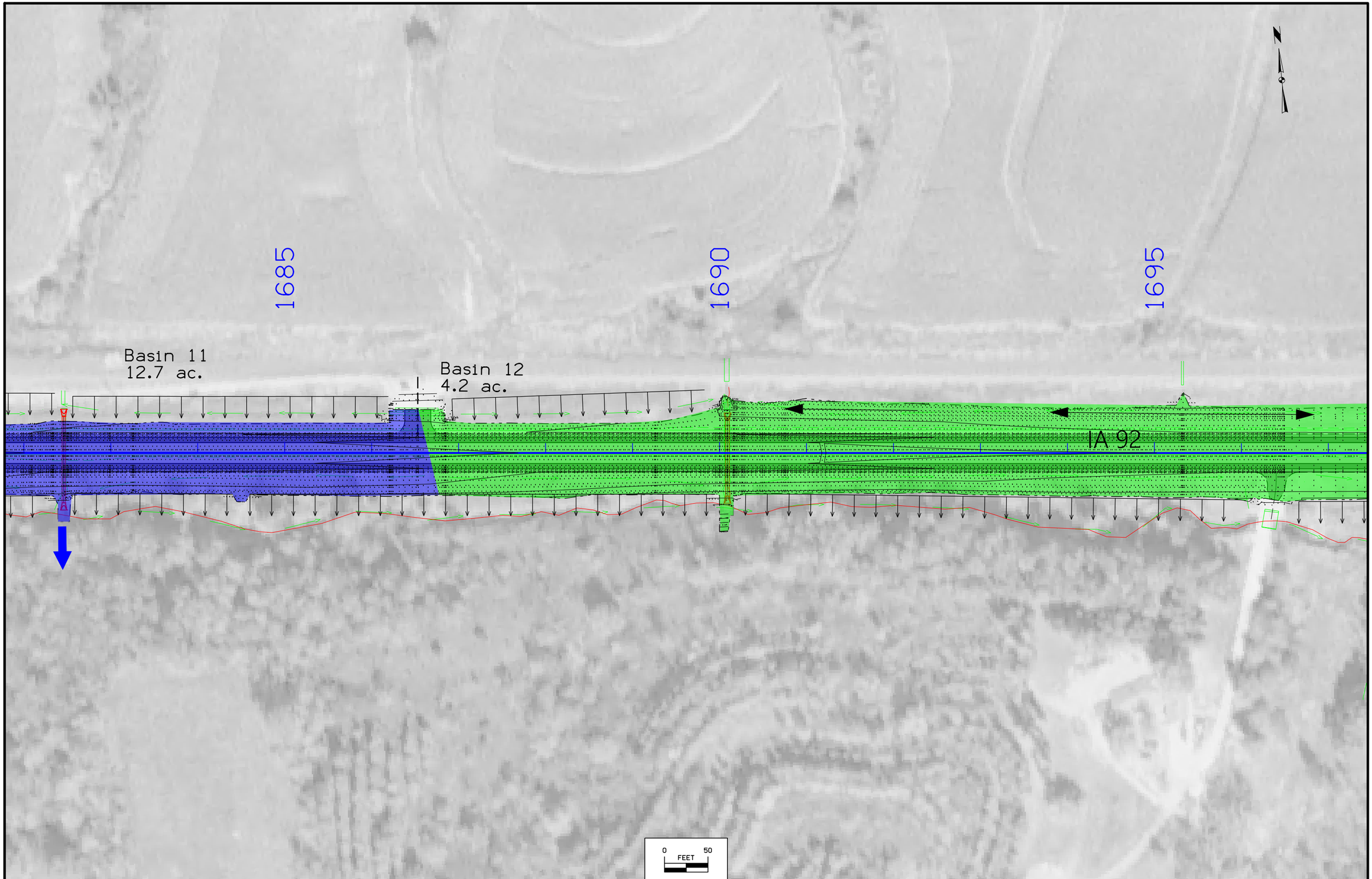

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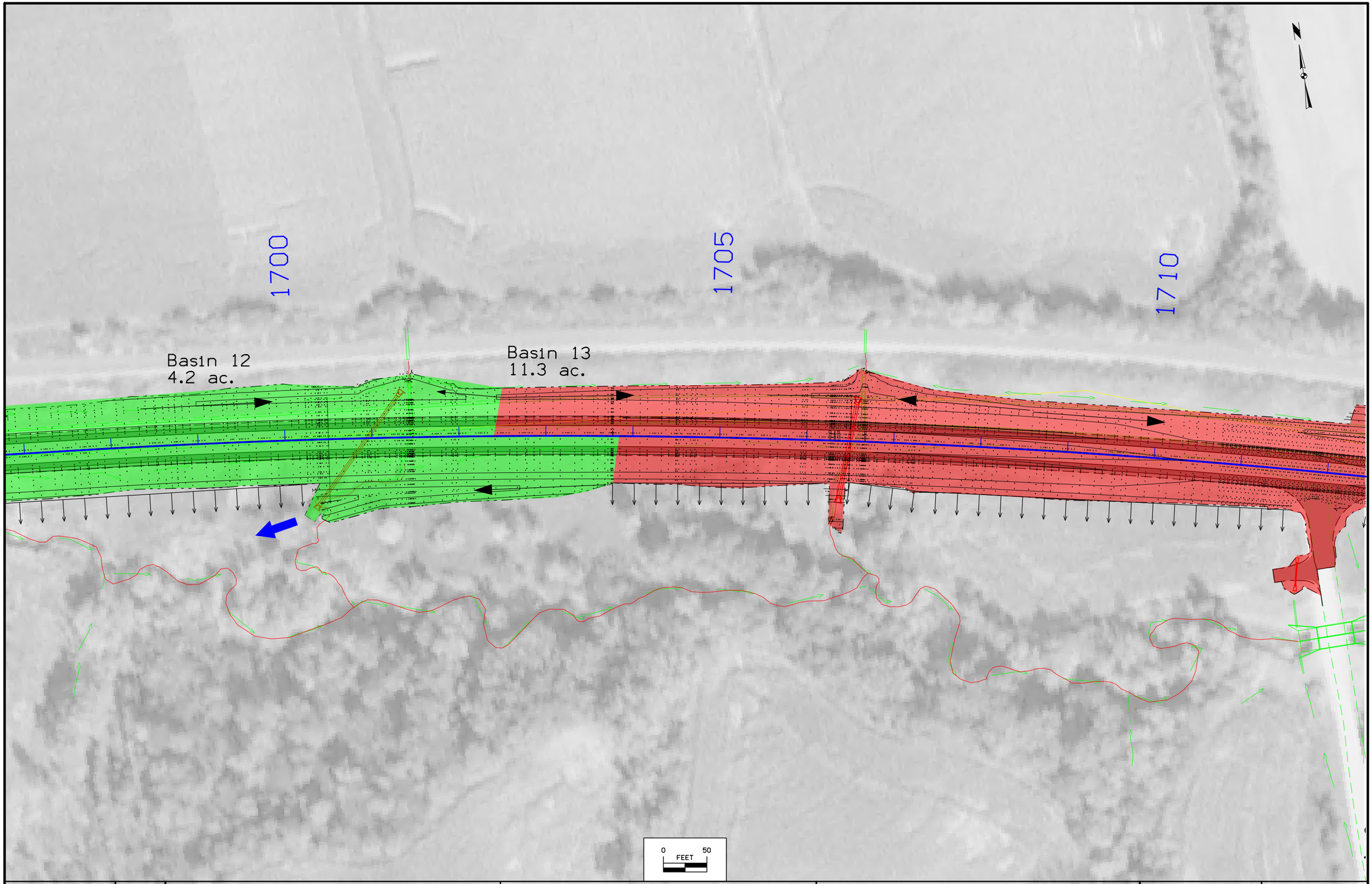

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1715

1720

1725

Basin 13
11.3 ac.

IA 92

W Ave.

0 50
FEET

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.19	

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1730

1735

1740

Basin 13
11.3 ac.

0 50
FEET

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.20

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FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.21

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FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.22

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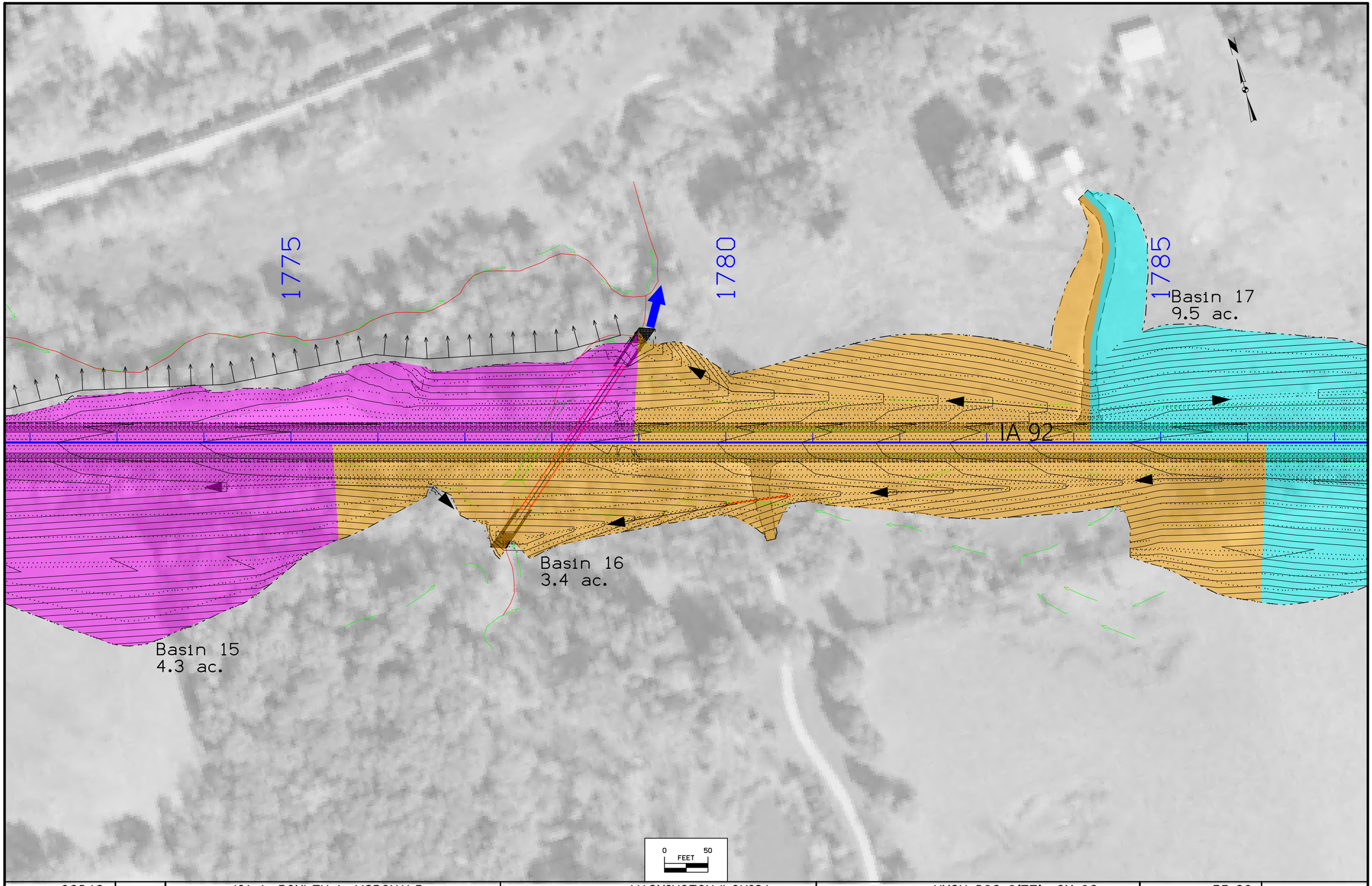

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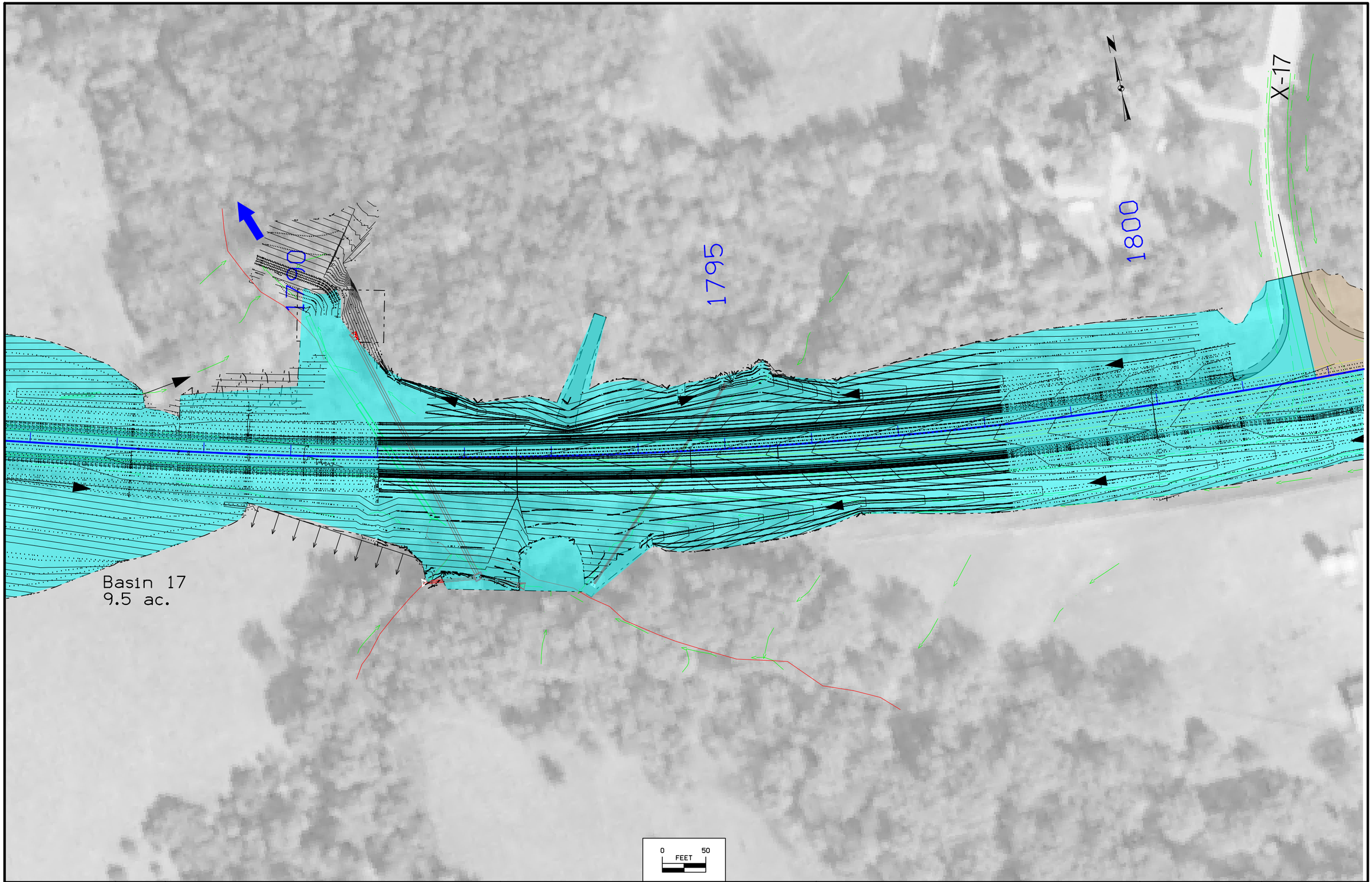

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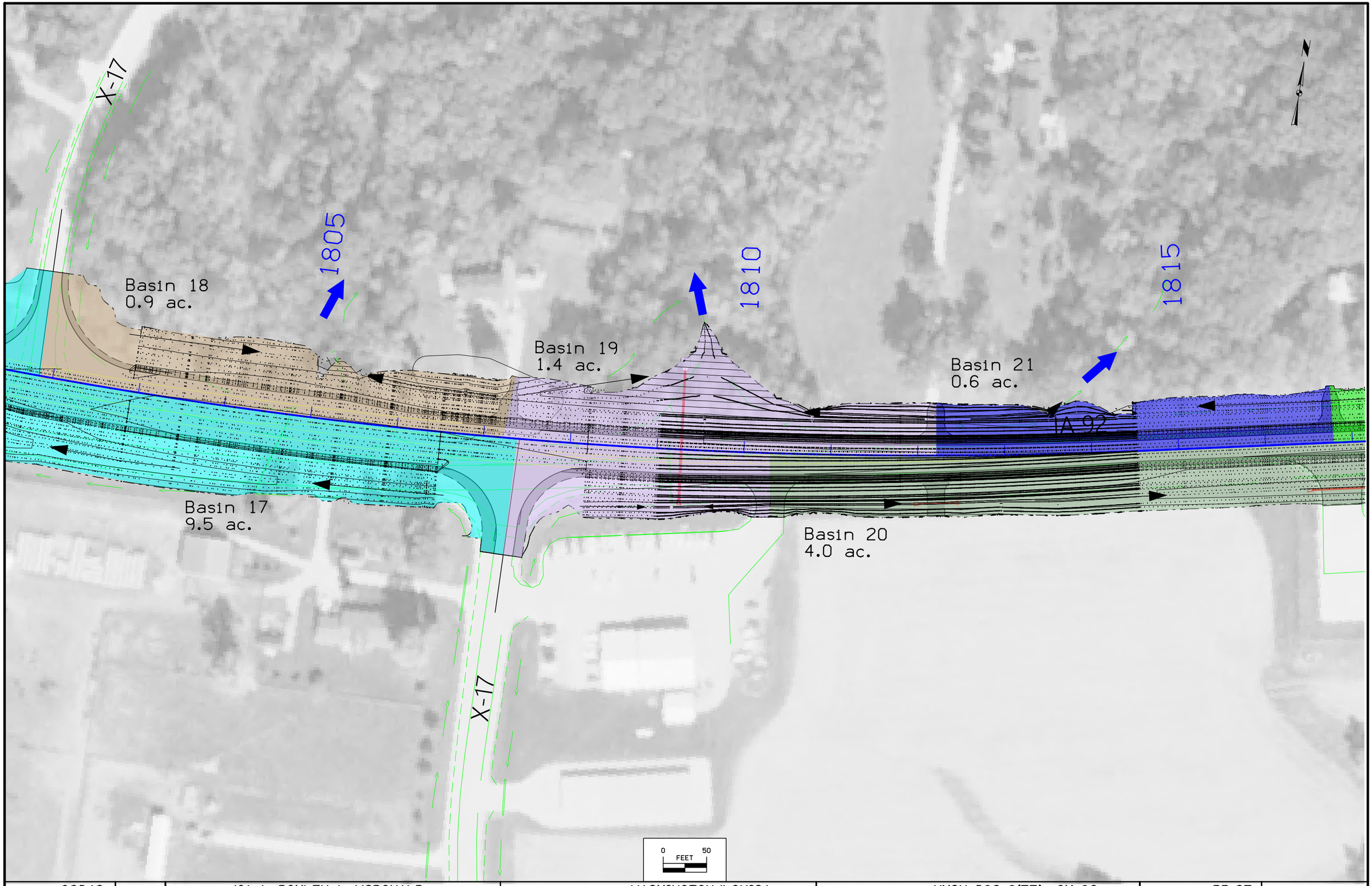

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1820

1825

1830

Basin 22
0.5 ac.

Basin 23
0.3 ac.

Basin 24
2.0 ac.

Basin 19
4.0 ac.

0 FEET 50

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.26

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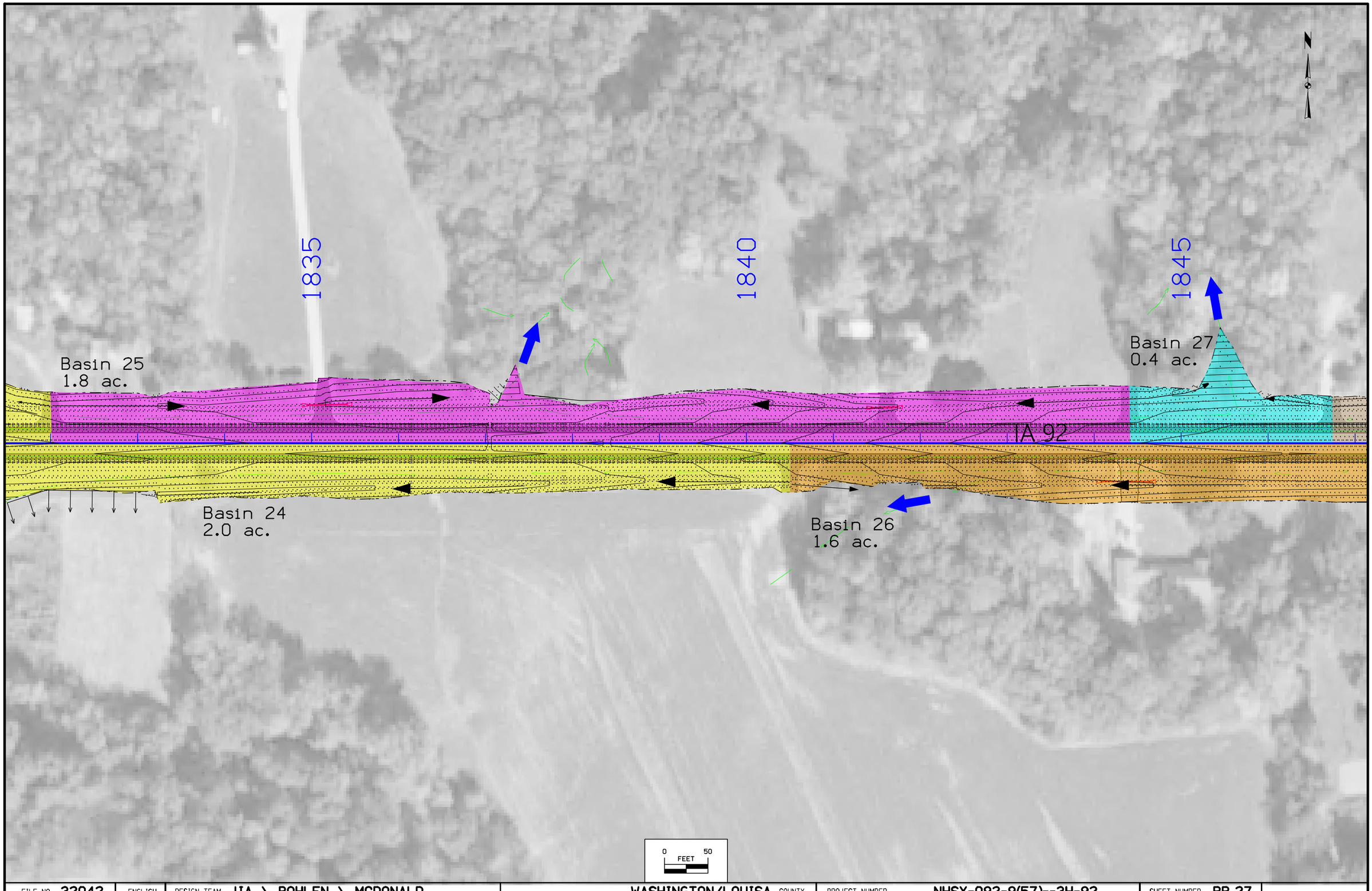

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.27

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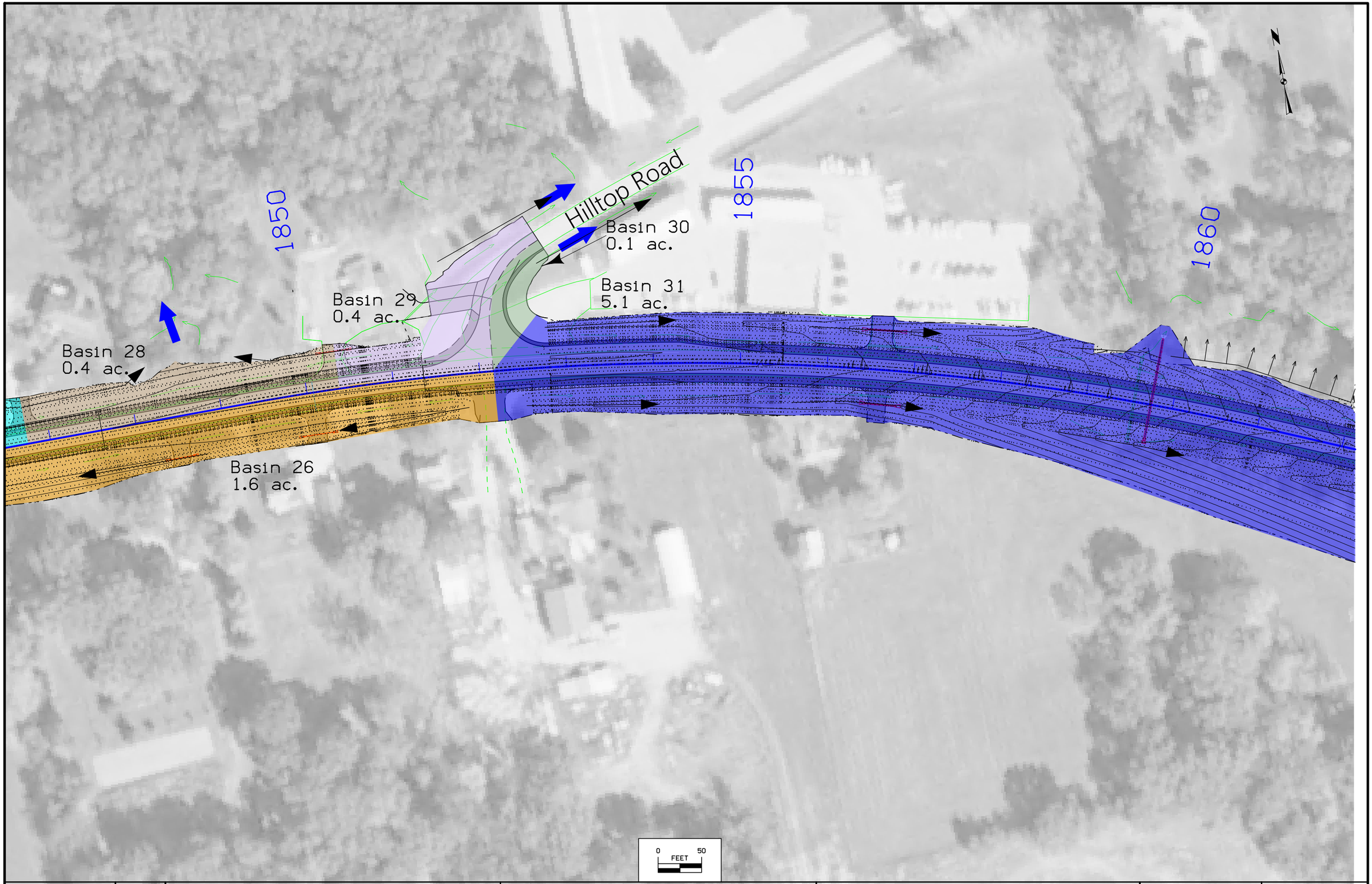

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.28

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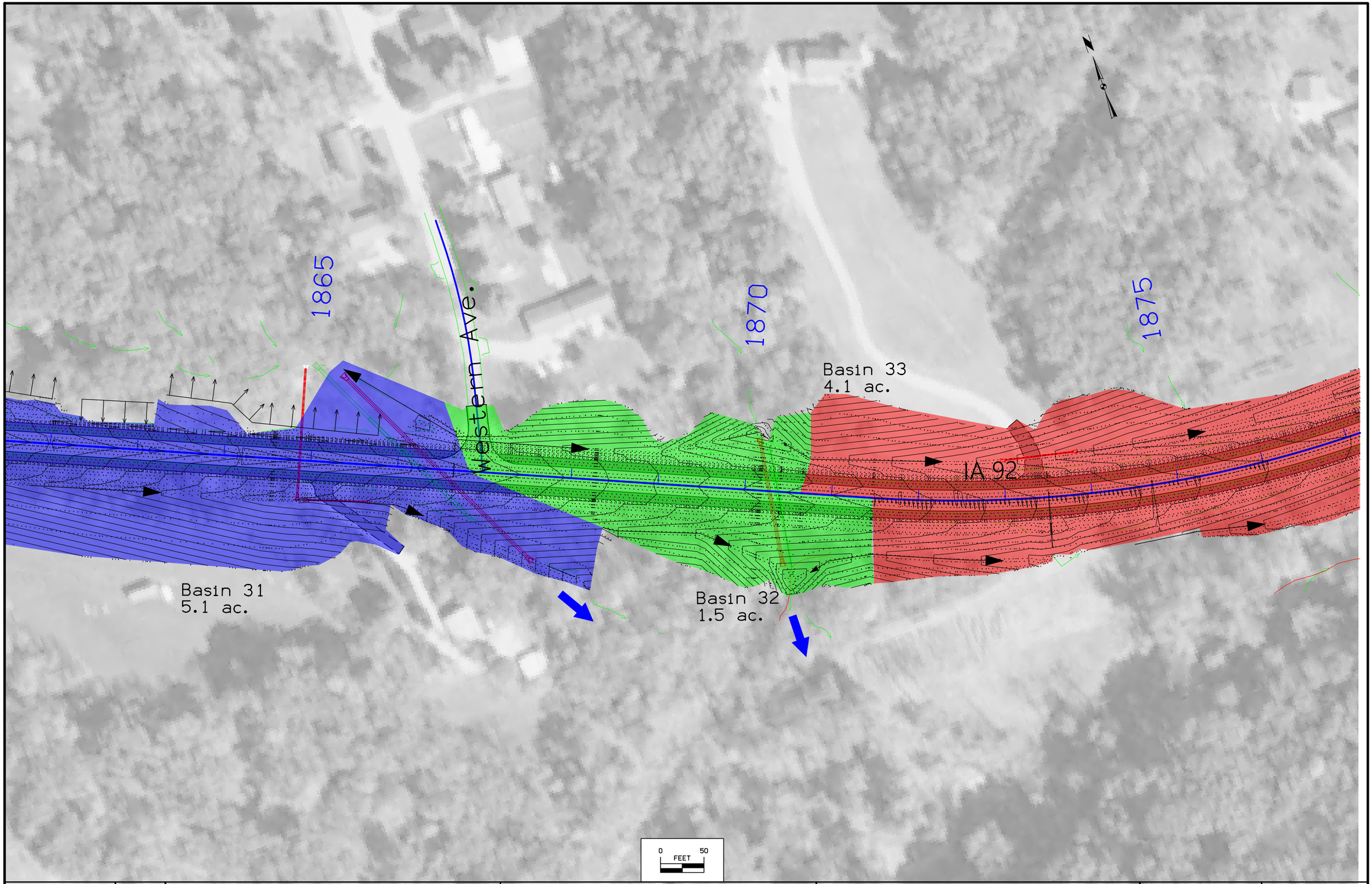

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1880

1885

1890

Basin 34
3.6 ac.

Basin 33
4.1 ac.

0 50
FEET

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.30

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Basin 34
3.6 ac.

Western Access Road

1895

1900

1905

Basin 35
1.9 ac.

END P
STA.

0 FEET 50

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER RR.31

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FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.32

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1460

1465

1470

BEGIN PAVING
STA. 1460+19.65

Restricted Area
Do Not Disturb

IA 92

0 50
FEET

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.33

11:54:50 AM 10/1/2022 bmcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Roadside\92092057_Siteplan_RR32.dgn



FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.34

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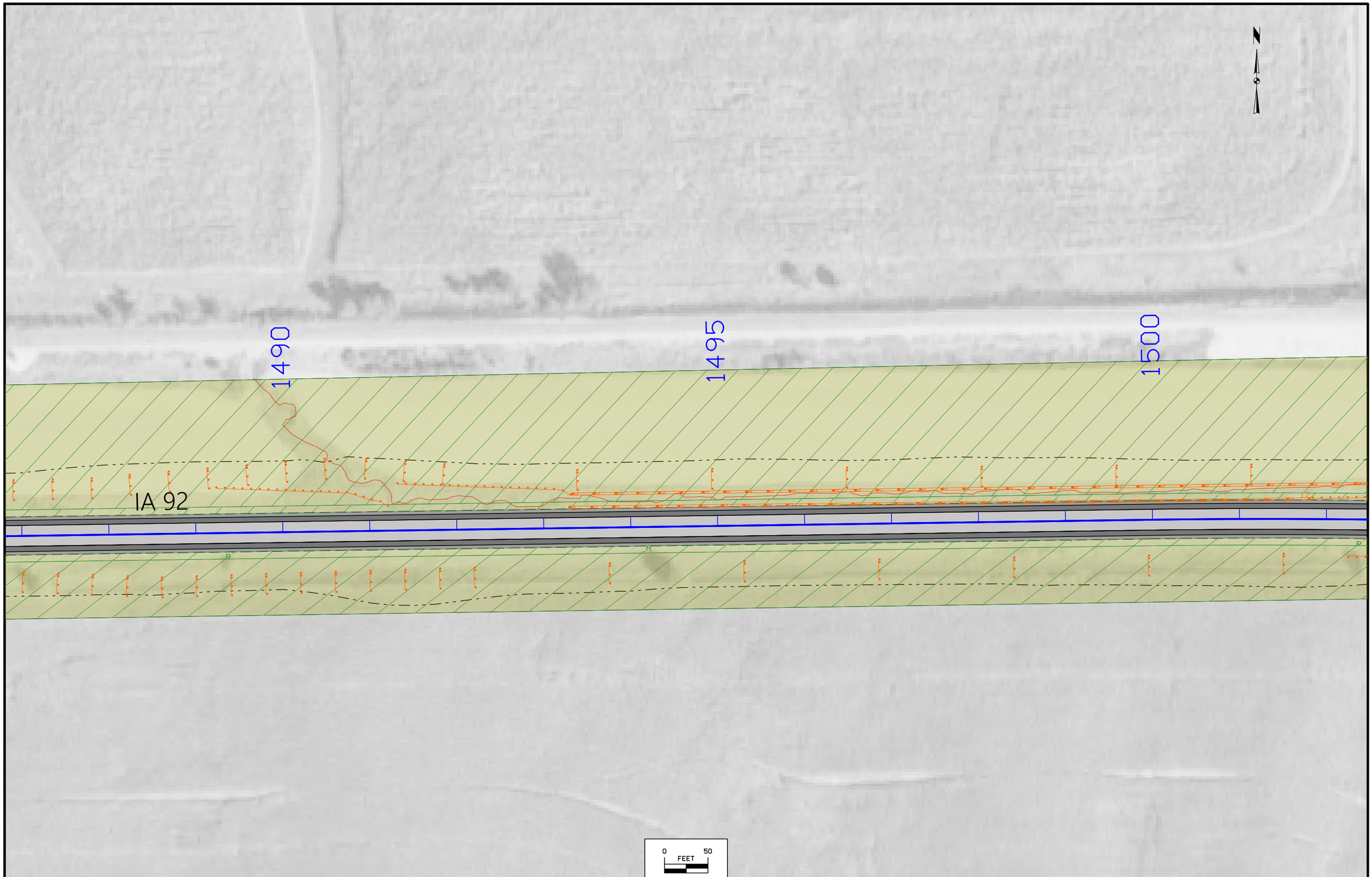

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1505

1510

1515

IA

0 FEET 50

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.36

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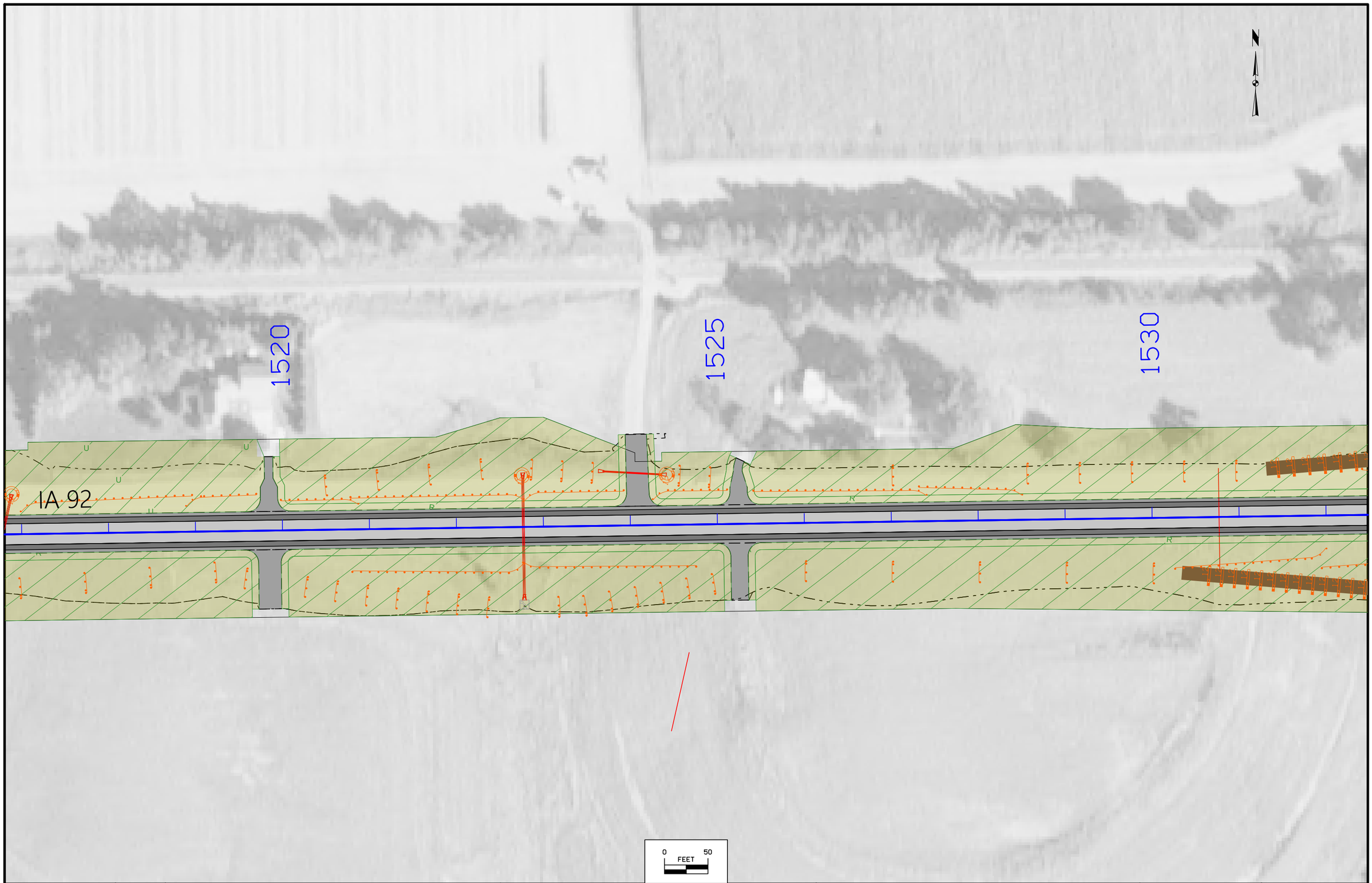

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1535

1540

1545

IA 92

0 50
FEET

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.38

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FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.39

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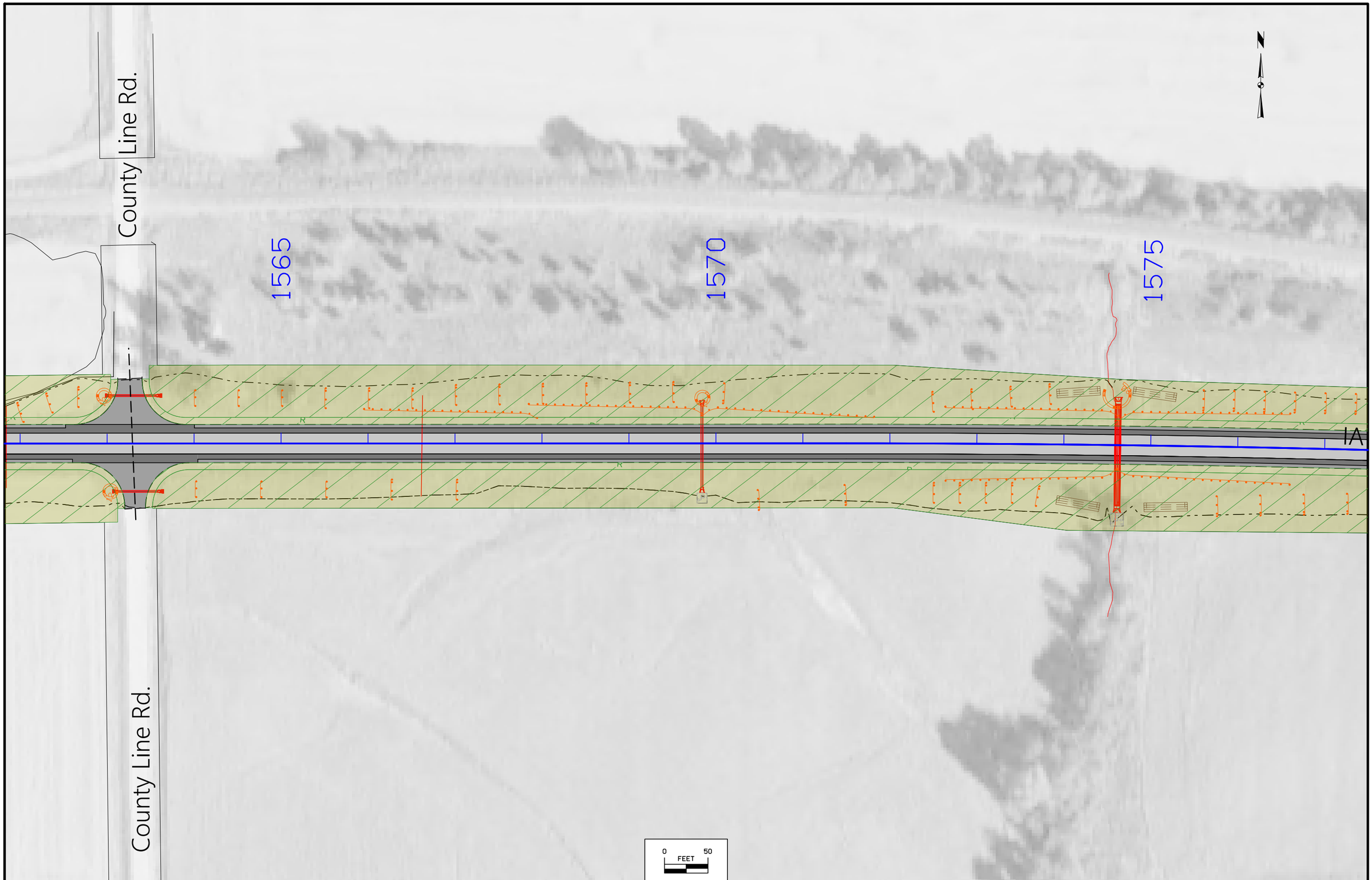

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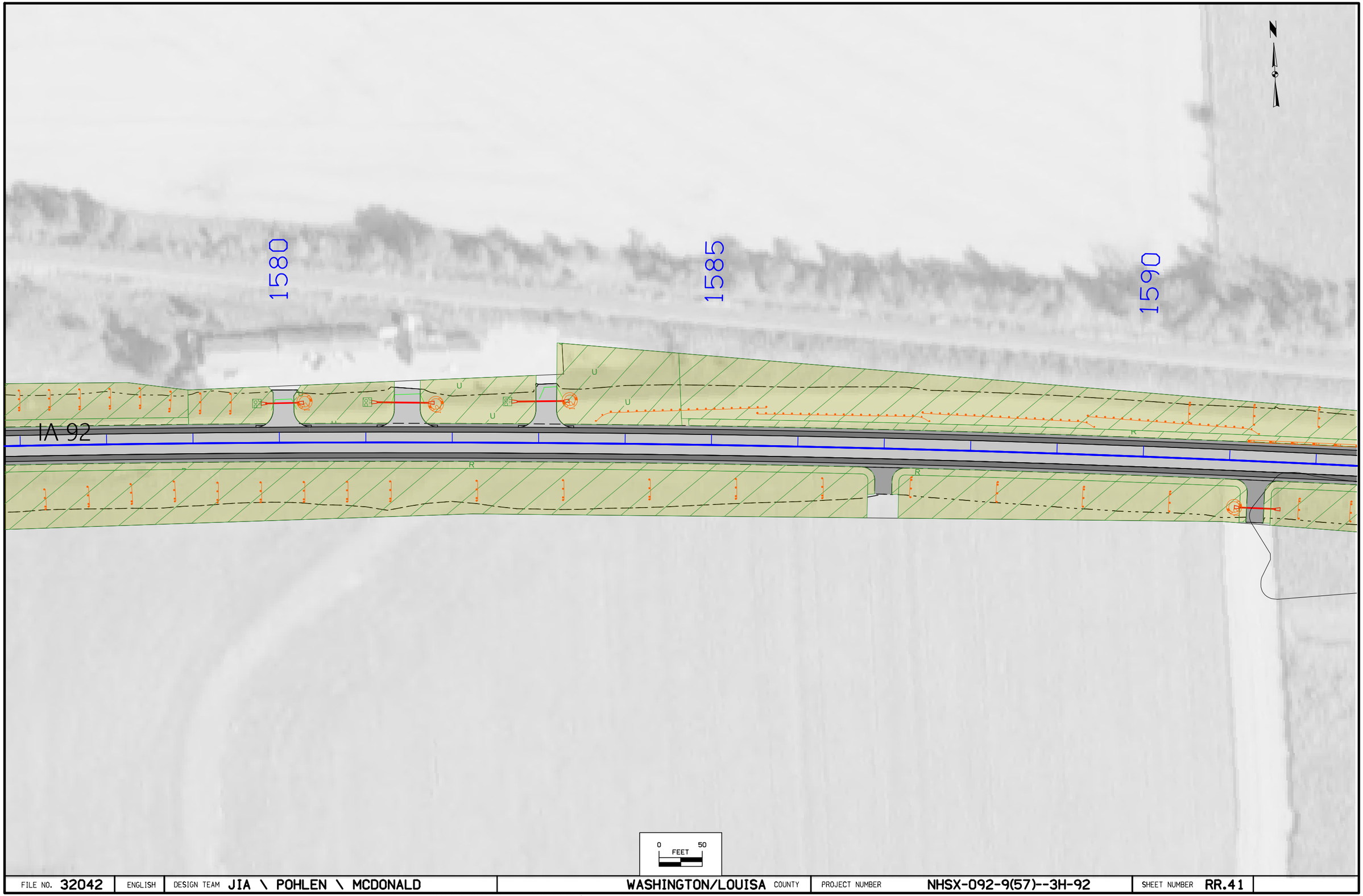

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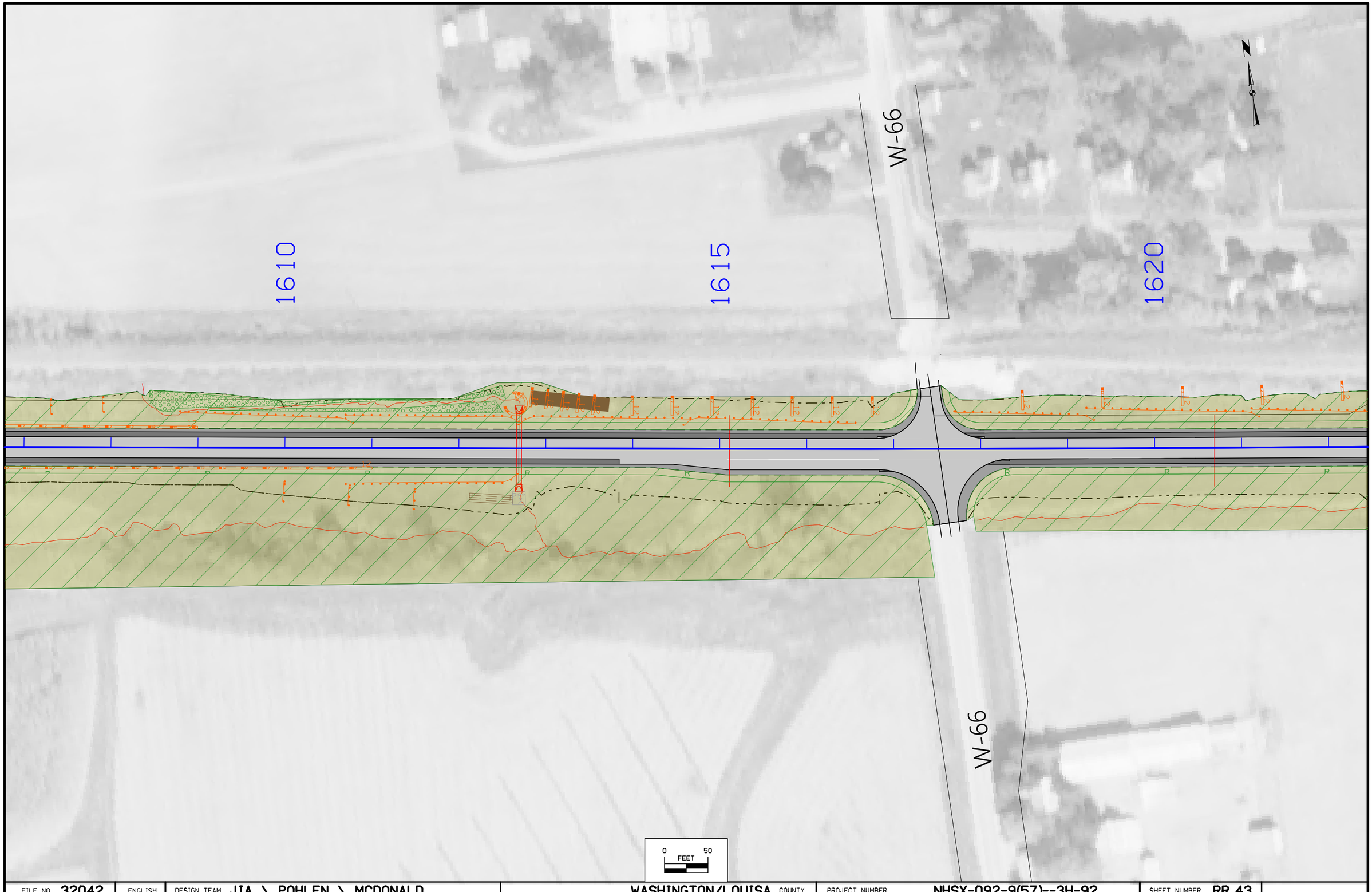
FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.42

11:55:41 AM 10/1/2022 bmcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Roadside\92092057_Siteplan_RR32.dgn



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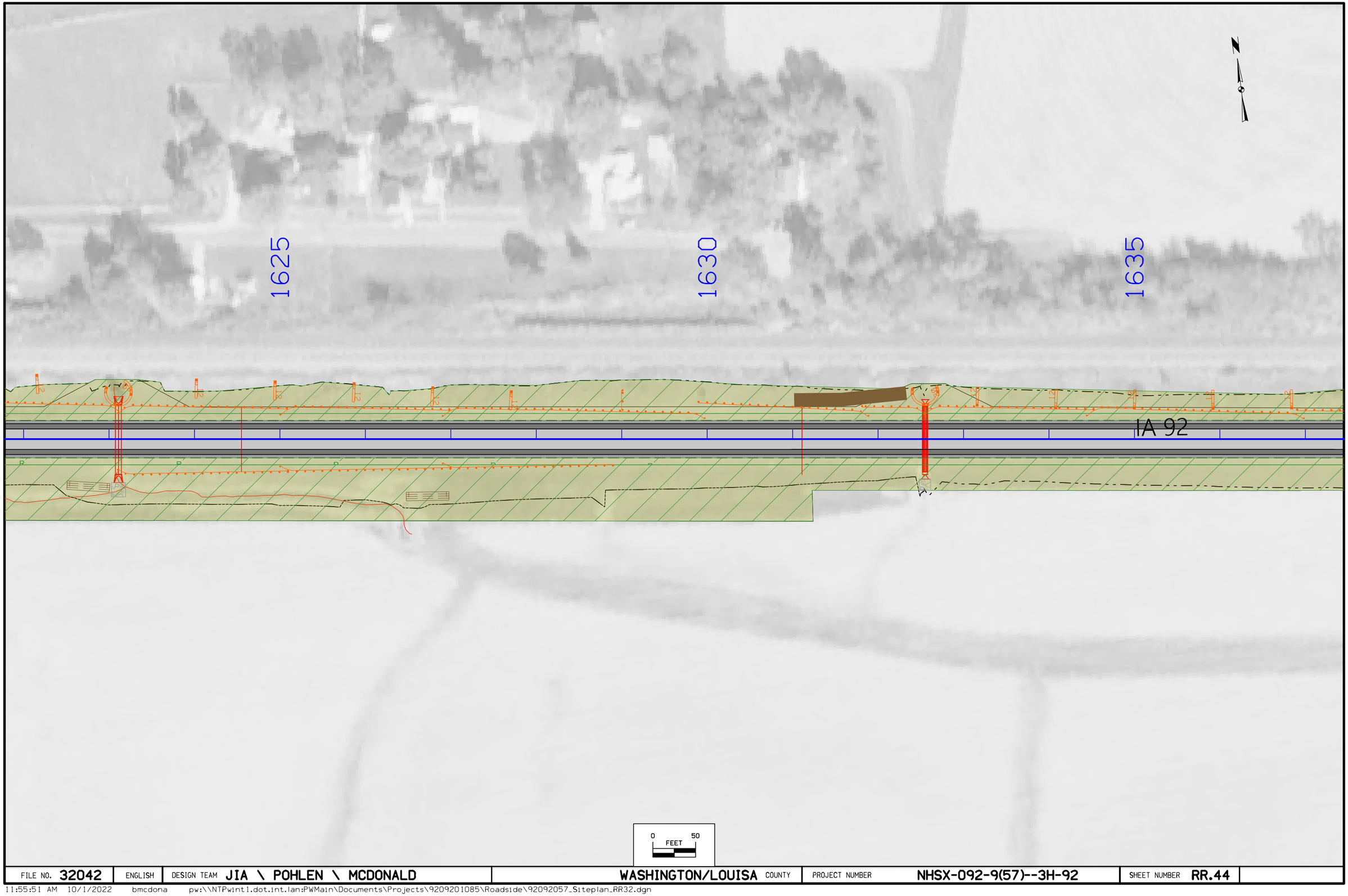

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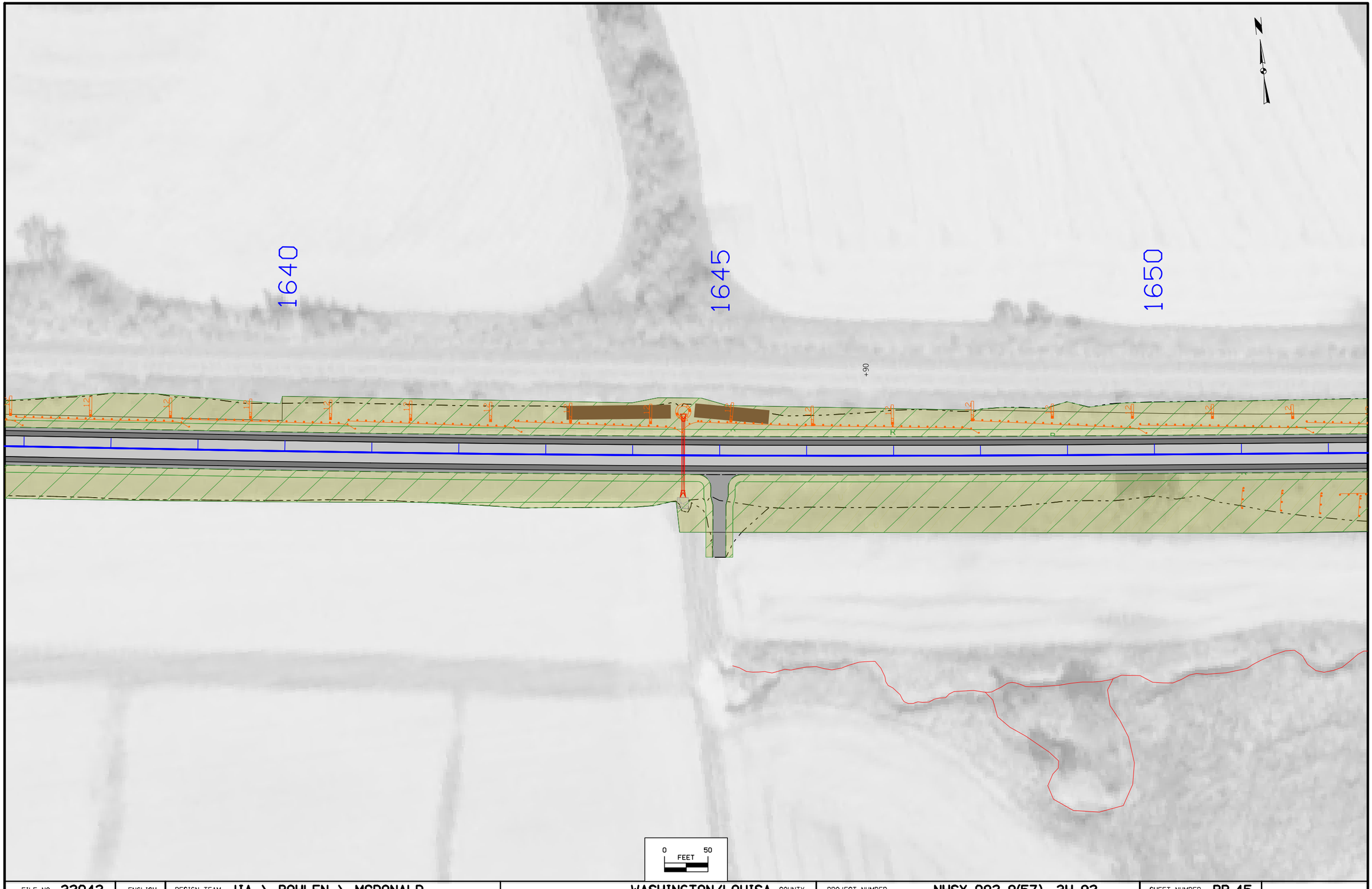

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11:55:56 AM 10/1/2022 bmcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Roadside\92092057_Siteplan_RR32.dgn



FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.46

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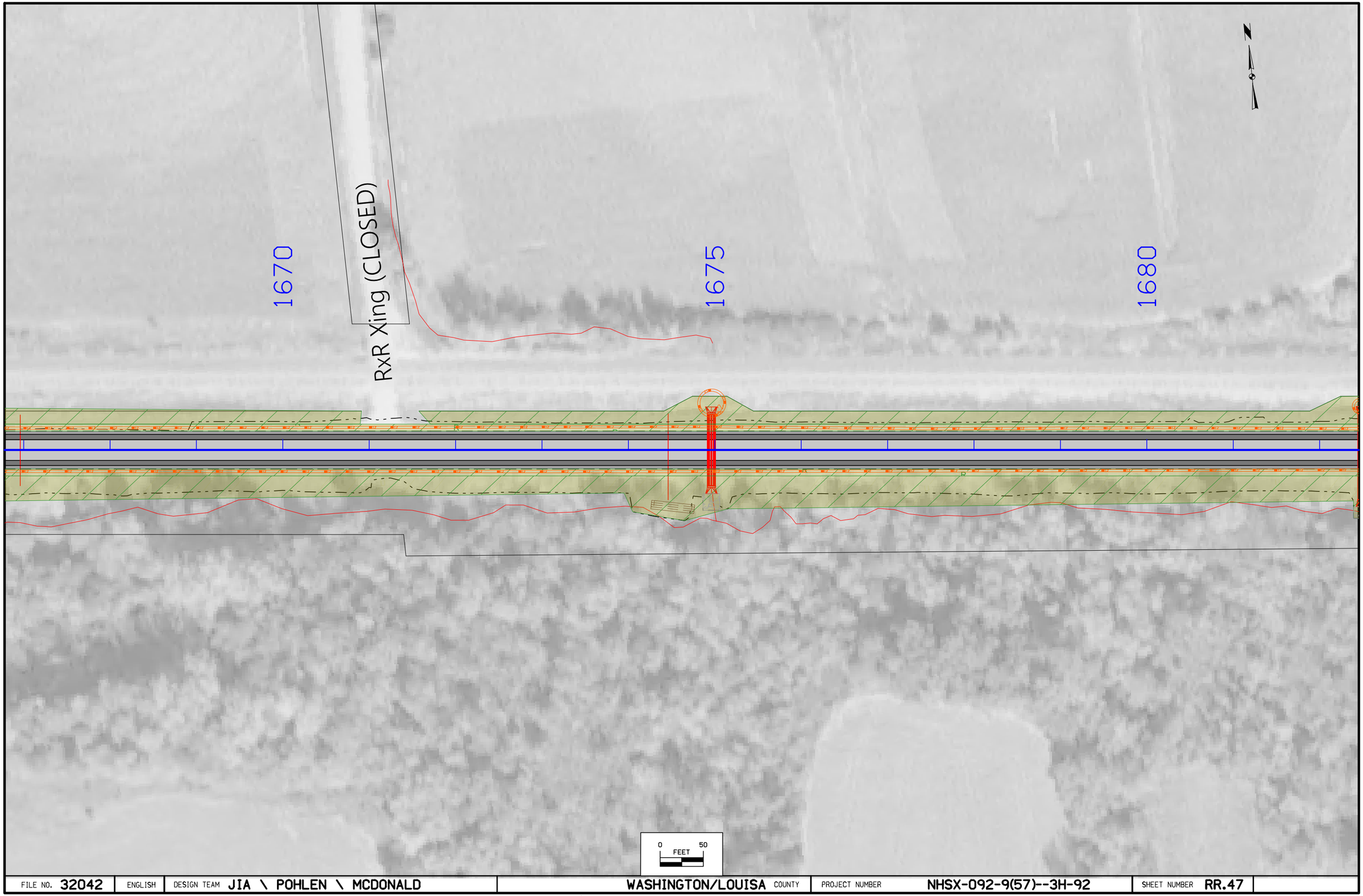

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FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER RR.48	

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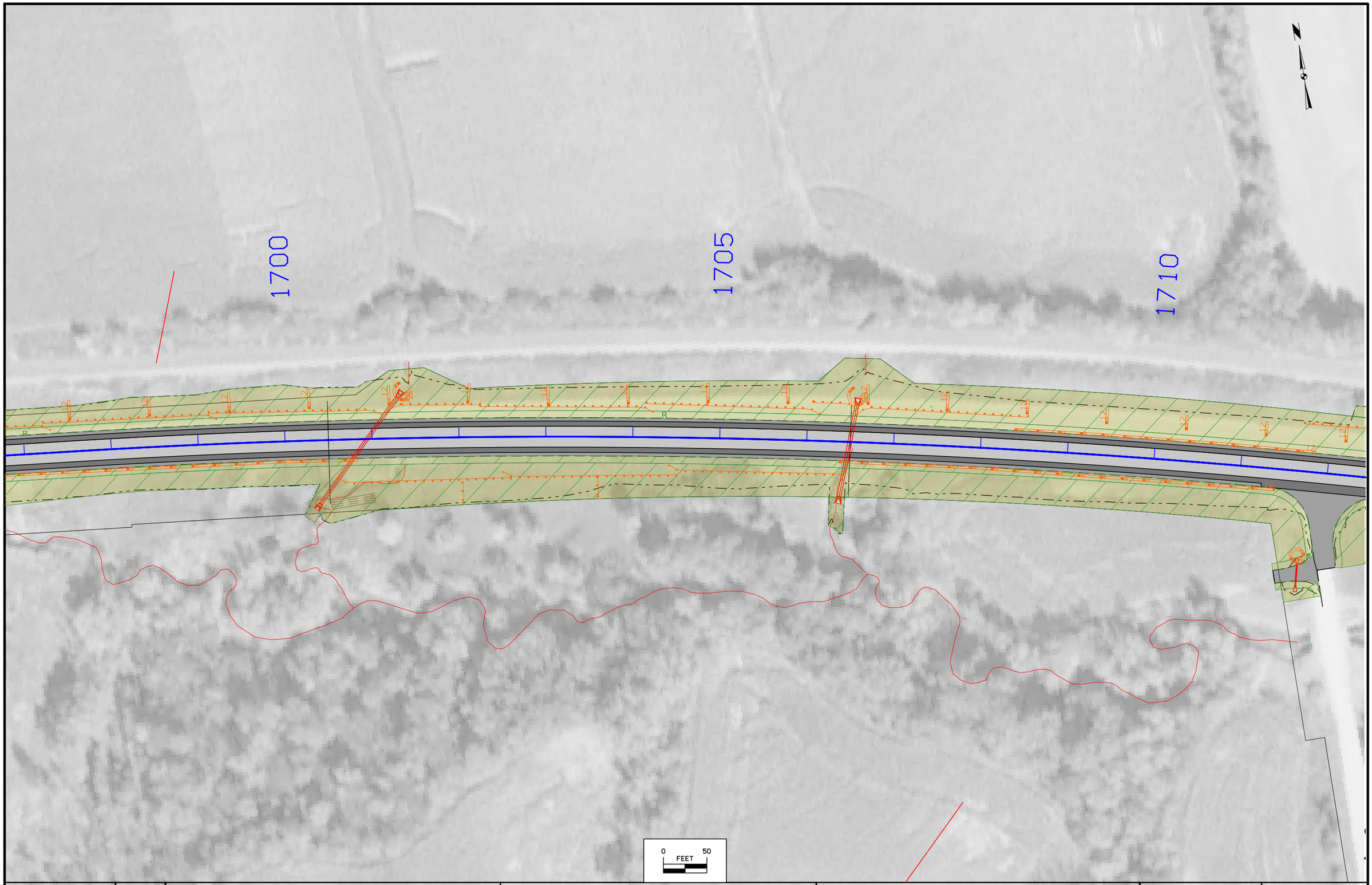

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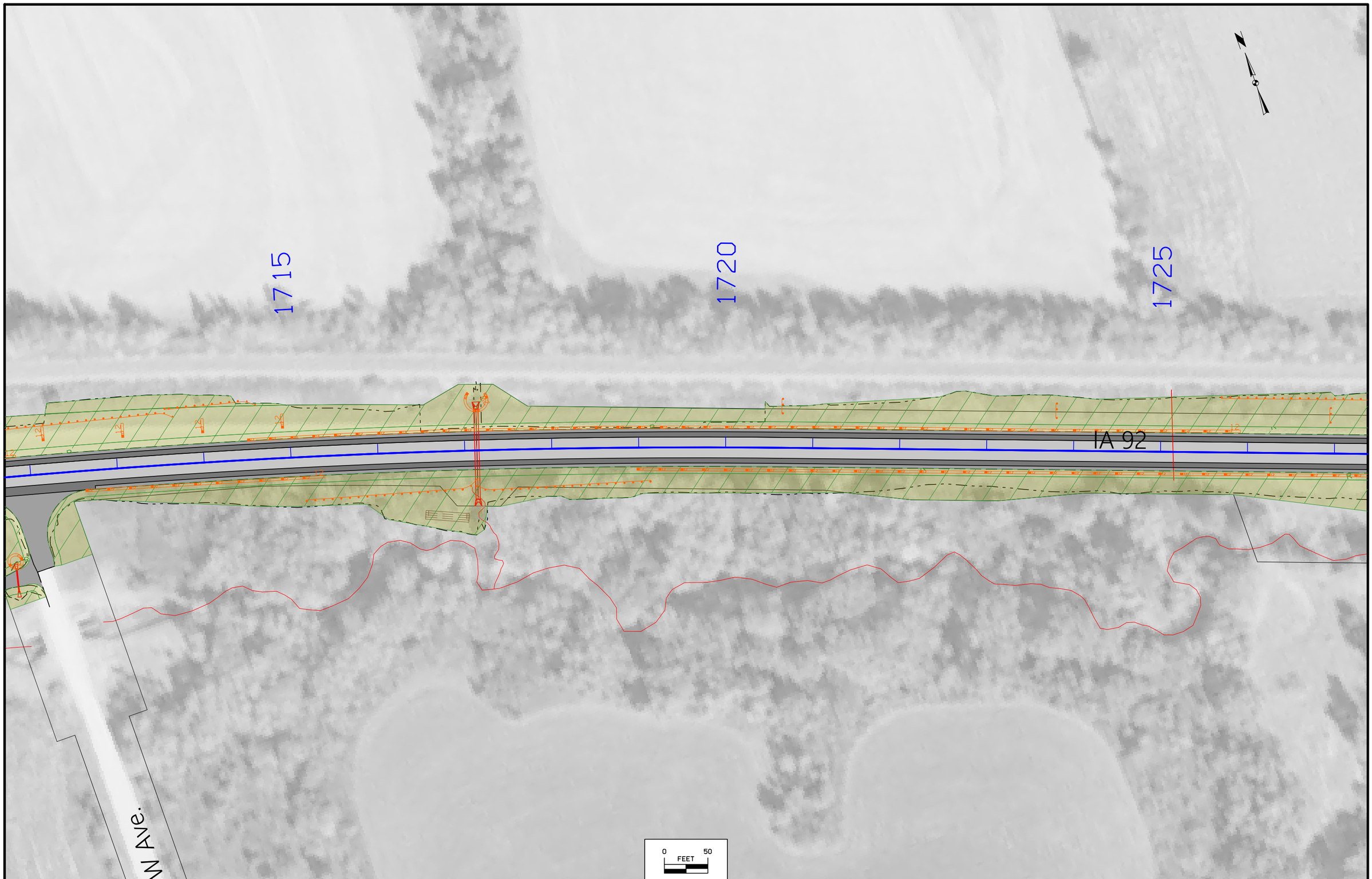

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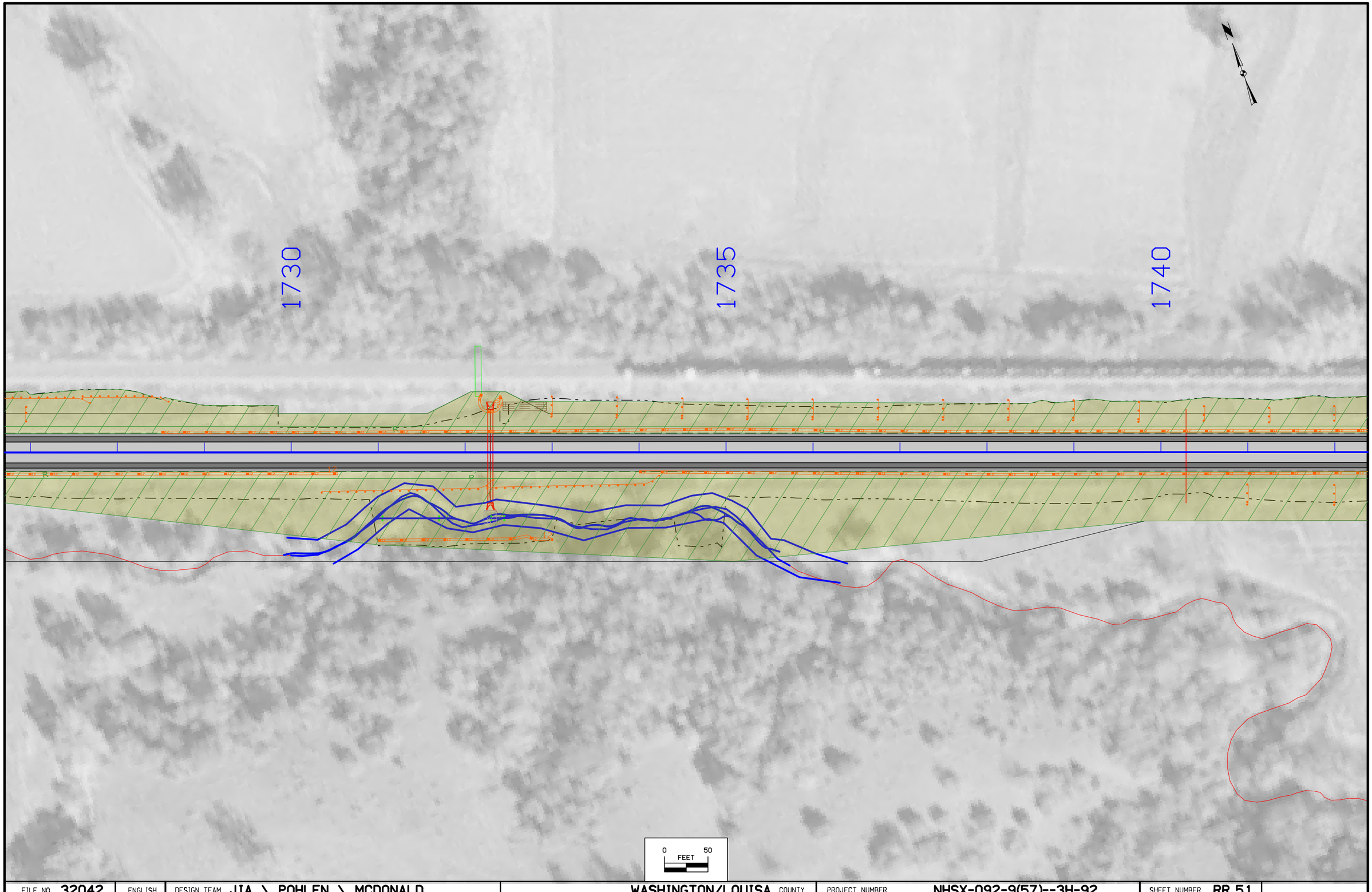

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V Ave.

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SAFETY RAMP
EASEMENT

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FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.52	

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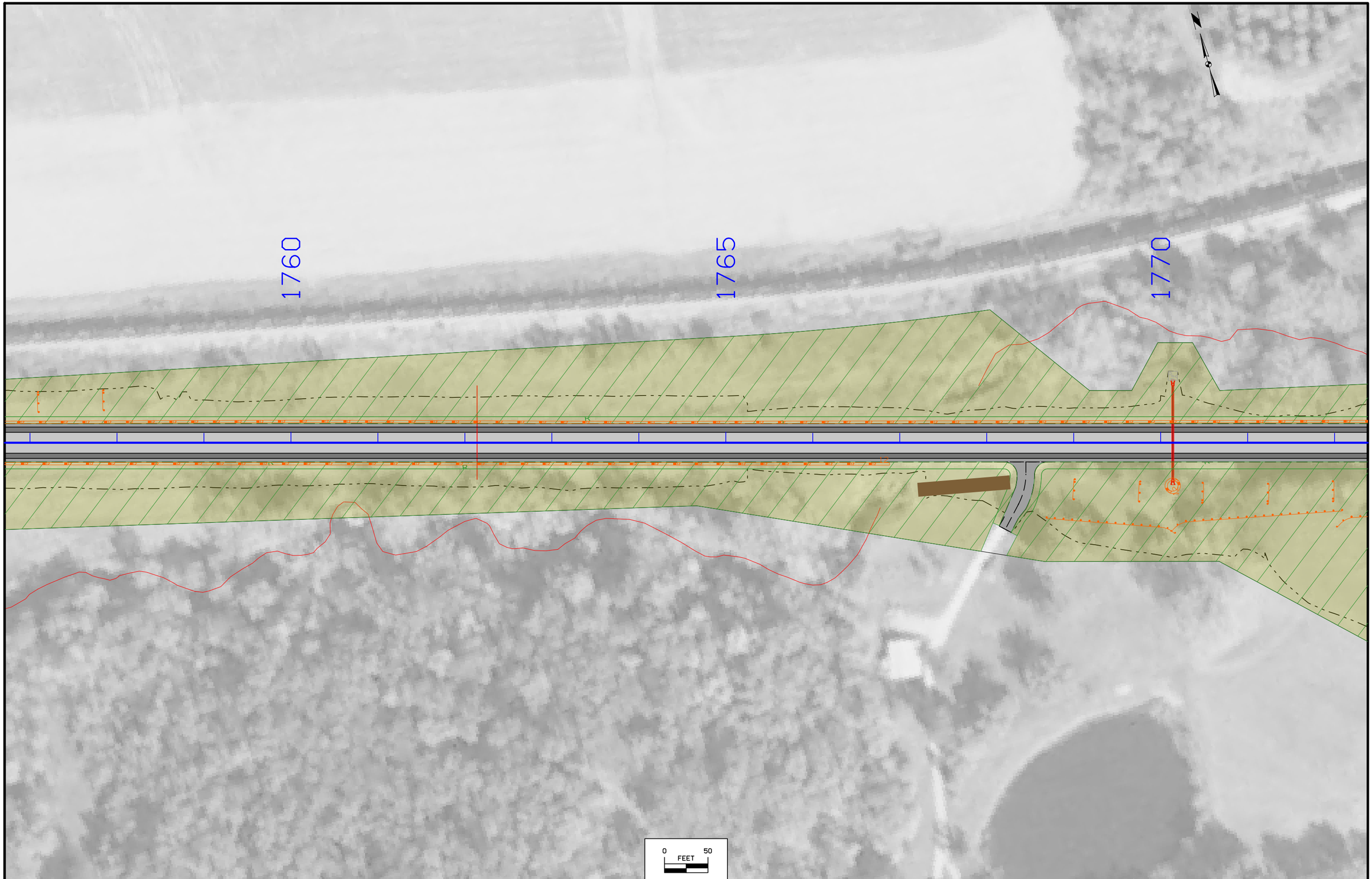

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.53

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FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.54

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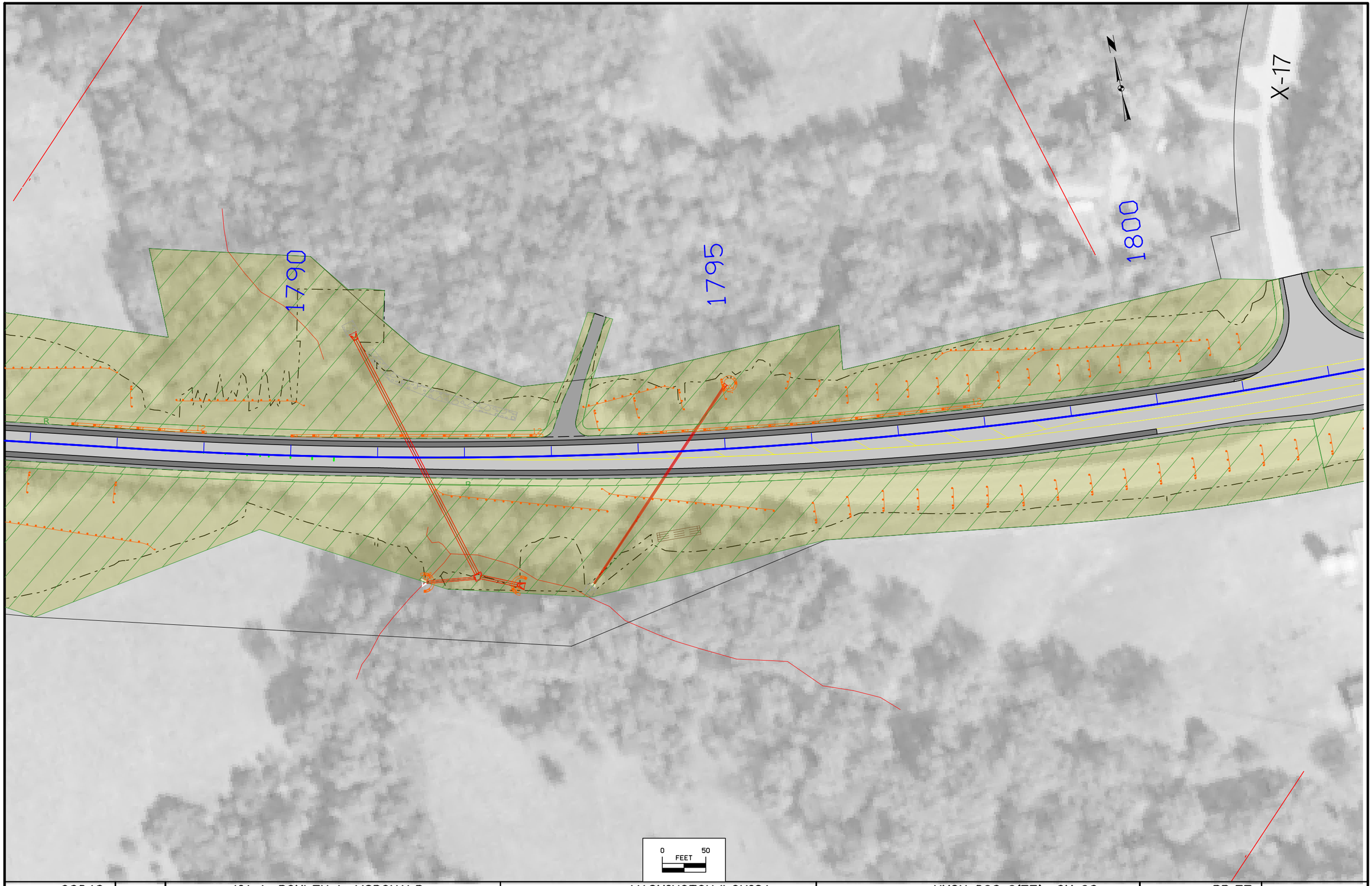

FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.55

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FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.56

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FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.57

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FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.58

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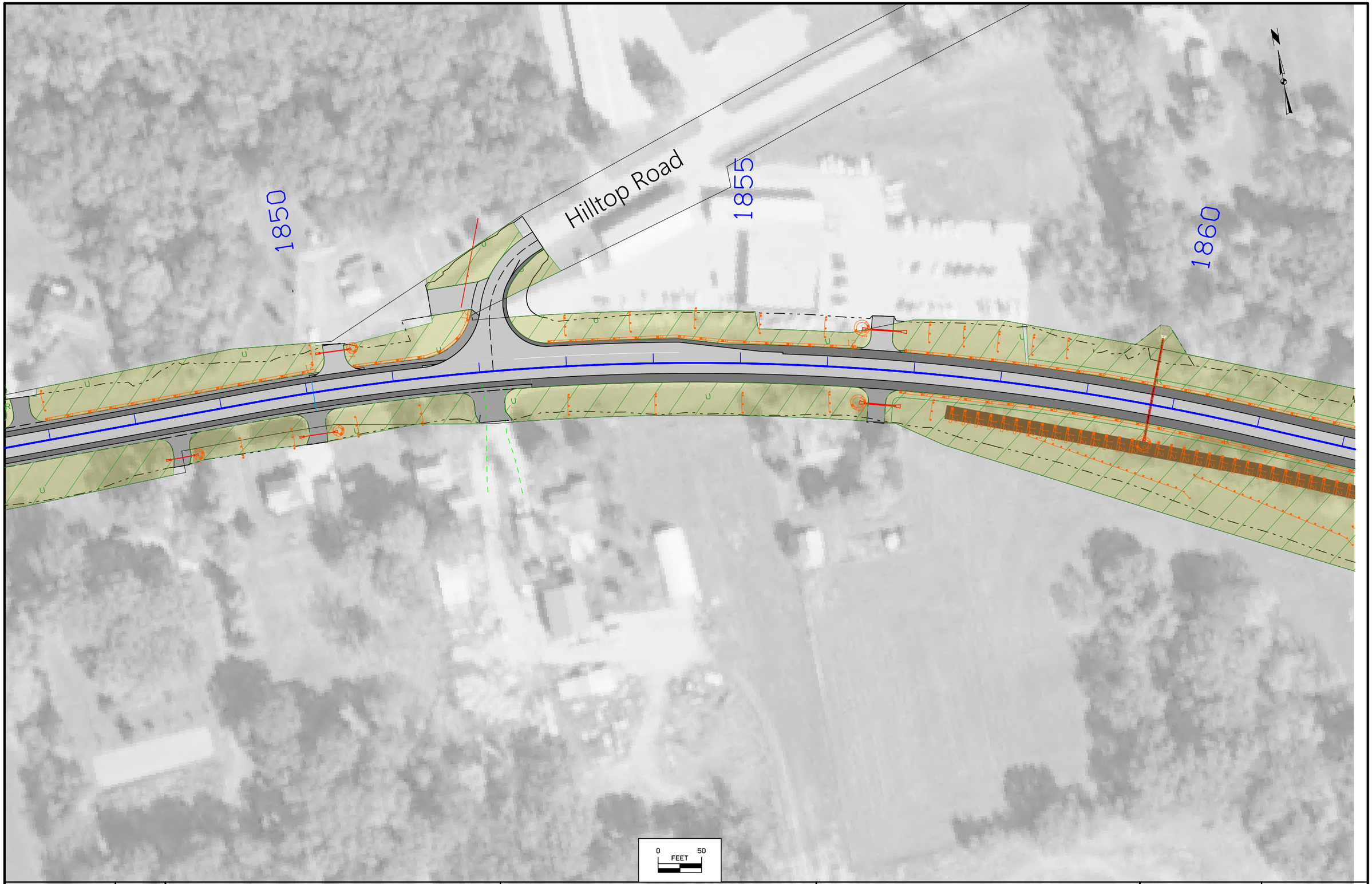

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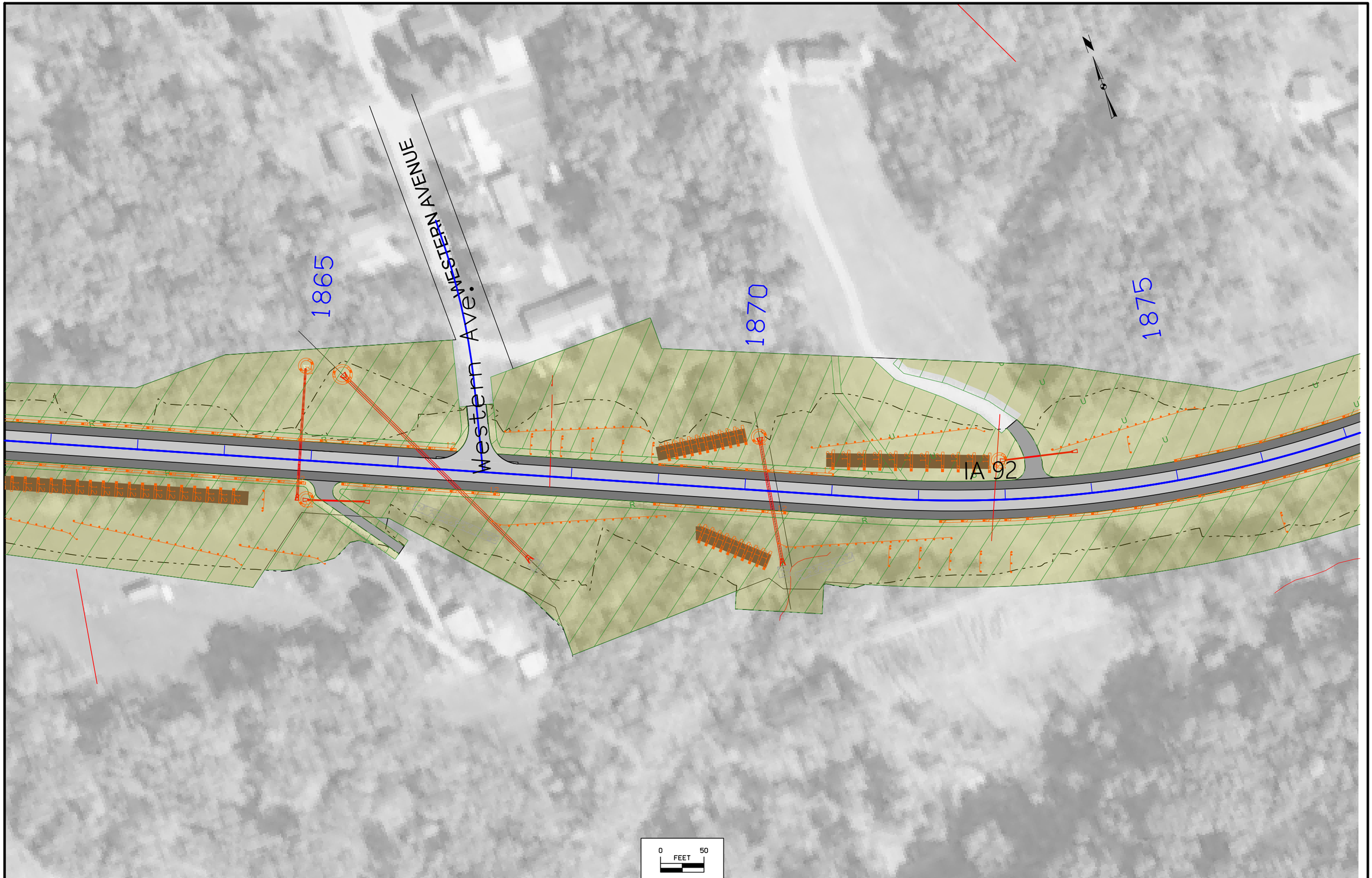

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FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.61

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FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.62	

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FILE NO. 32042	ENGLISH	DESIGN TEAM JIA \ POHLEN \ MCDONALD	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER RR.63

11:57:21 AM 10/1/2022 bmcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Roadside\92092057_Siteplan_RR32.dgn

SURVEY SYMBOLS

- PPA Power Pole Co. 1
- TPD Telephone Pedestal
- PR Electic Riser Pole
- EB Electrical Box
- LUM Luminaire
- PLG Location of General Photo
- FHD Fire Hydrants
- WV Water Valve
- IN Storm Sewer Intake
- MH Utility Access (Manhole)
- MIS Miscellaneous
- GDL Guard Rail Steel
- INB Storm Sewer Beehive Intake
- TILE – TIL Tile Line
- BM Bench Mark
- RET Retaining Walls
- WEL Well
- DU Centerline Draw or Stream (Up)
- BNK Stream Bank
- D Centerline Draw or Stream (Down)
- RIP Rip-Rap
- RR Centerline of Railroad Tracks
- ENT Centerline BL of Entrance
- T1 – TL1D Telephone Line Co. 1 - Quality D
- G – GL1D Gas Line Co. 1 - Quality D
- E1 – EL1D Electric Line Co. 1 - Quality D
- FO – FO1D Fiber Optic Co. 1 - Quality D
- W – WL1D Water Line Co. 1 - Quality D
- TV – TV1D TV Cable Co. 1 - Quality D
- FO2 – FO2D Fiber Optic Co. 2 - Quality D
- FO2(B)– FO2B Fiber Optic Co. 2 - Quality B
- TV2 – TV2D TV Cable Co. 2 - Quality D
- SAN. – SA1D Sanitary Sewer Co. 1- Quality D
- ST S – ST1D Storm Sewer Co. 1 - Quality D
- G2 – GL2D Gas Line Co. 2 - Quality D
- T3 – TL3D Telephone Line Co. 3 - Quality D

UTILITY LEGEND

Alliant Energy
G – Mary Montgomery
E1 – 200 1st Street Southeast
G2 – Cedar Rapids, IA 52401
(319) 786-8196
rerow@alliantenergy.com

Windstream
T1 – Bryan Bogan
FO – 4001 N. Rodney Parham Road
FO2 – Little Rock, AK 72212
FO2(B)– (501) 748-6919
T3 – bryan.bogan@windstream.com

Eastern Iowa Light & Power
EB Dennis Hill
600 East Fifth Street
Wilton, IA 52778
(563) 732-2211
dhill@easterniowa.com

TV – Mediacom
TV2 – Fred Rhomberg
6300 Council Steet NE
Cedar Rapids, IA 52402
(845) 248-7626
frhomberrg@mediacomcc.com

W – City of Columbus Junction
SAN. – Jeff Vonahme
ST S – 232 2nd Street
Columbus Junction, IA 52738
(319) 212-1249
cjmaint@windstream.net

ITC Midwest
Chad Levi
123 5th Street SE
Cedar Rapids, IA 52401
(319) 899-9969
clevi@itctransco.com

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
Magenta	(5)	Detectable Warning
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

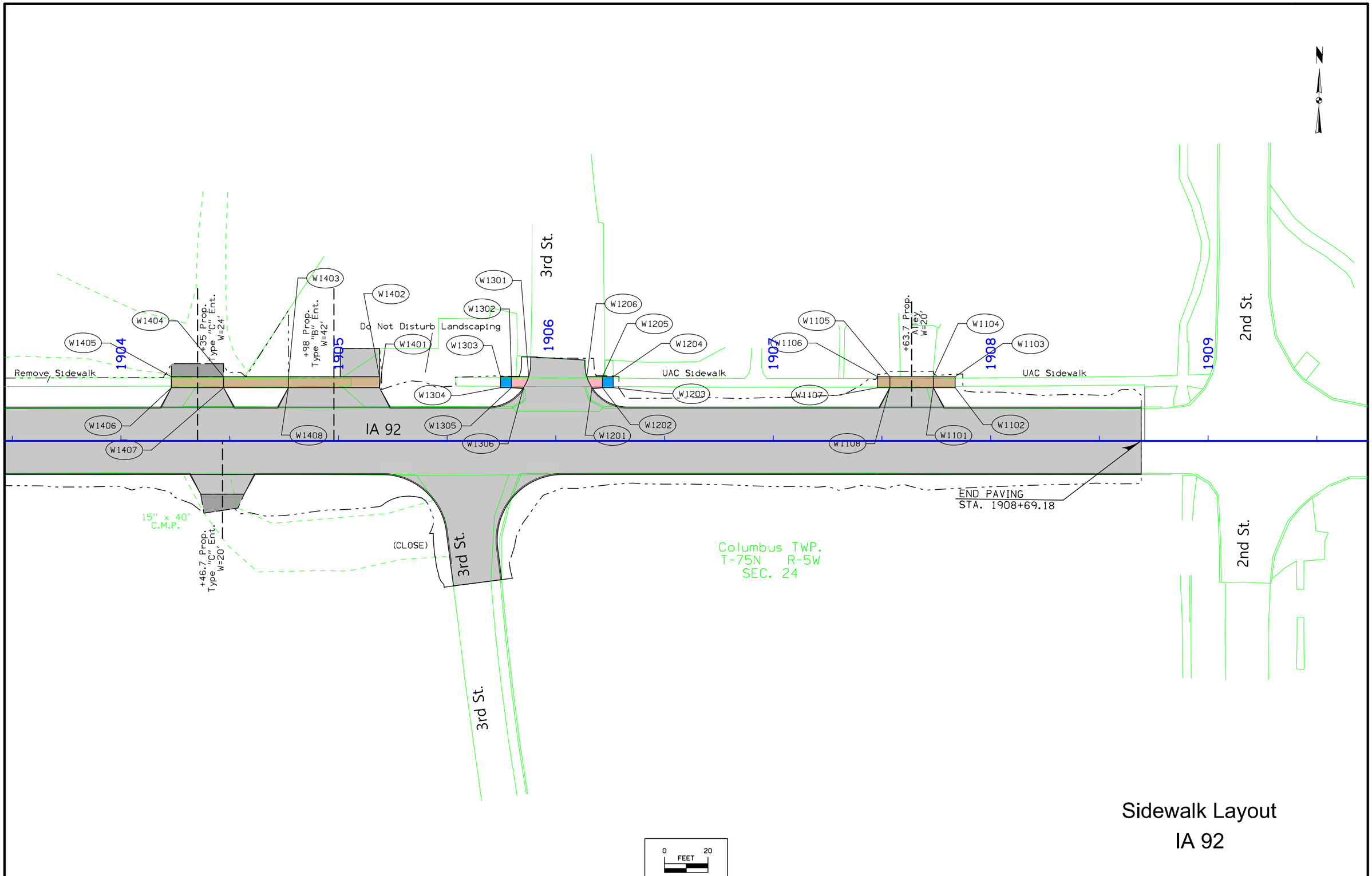
- Proposed Right-of-Way
- Existing and Proposed Right-of-Way
- Easement and Existing Right-of-Way
- Borrow
- Easement (Temporary)
- Easement
- Excess
- A/C Access Control

SIDEWALK LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES S)

FILE NO.	ENGLISH	DESIGN TEAM **Jia \ Miller \ Altenhofen**	**WASHINGTON/LOUISA** COUNTY	PROJECT NUMBER **NHSX-092-9(57)--3H-92**	SHEET NUMBER **S.1**

12:37:12 PM 9/28/2022 rmille3 pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_LGD.dgn



Sidewalk Layout
IA 92

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER S.02

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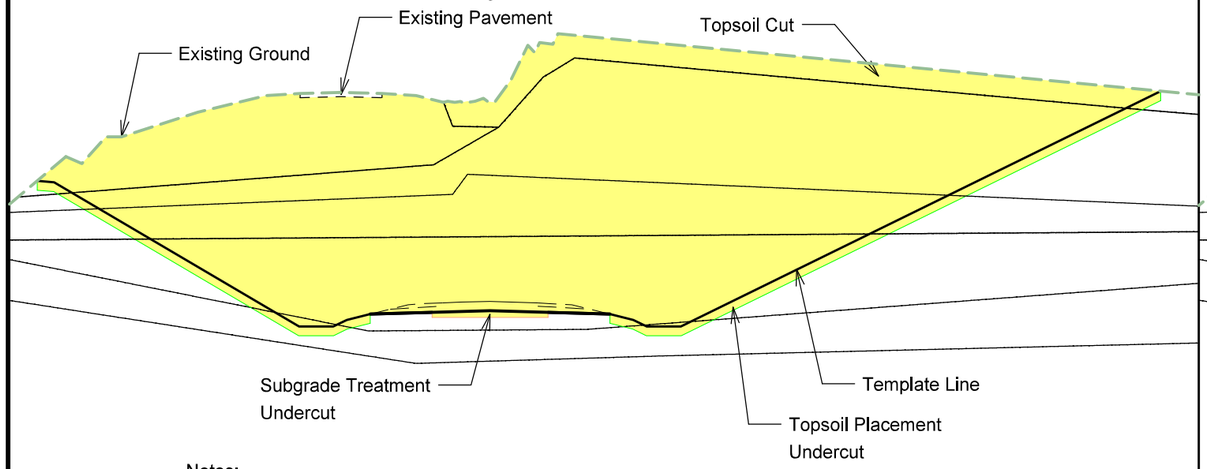
SIDEWALK COMPLIANCE

See S Sheets

* Does not include curb
(1) Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.
(2) Refer to tabulation 113-01 for bid quantities.

Point to Point		Sidewalk Designation	_" PCC Sidewalk (2)	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
				FT	FT	%	Pos. or Neg.		%						
											+63.7 Prop. Alley				
W1101	W1102	Sidewalk Running Slope	4	10.00	-0.10	-1.0%	0.5% to 5.0%					W1101	1907+73.65	24.50	644.52
W1102	W1103	Sidewalk Cross Slope	4	5.00	-0.04	-0.8%	0.5% to 2.0%					W1102	1907+83.65	24.50	644.42
W1103	W1104	Sidewalk Running Slope	4	10.00	0.21	2.1%	0.5% to 5.0%					W1103	1907+83.65	29.50	644.38
W1104	W1105	Sidewalk Running Slope	4	20.00	0.54	2.7%	0.5% to 5.0%					W1104	1907+73.65	29.50	644.59
W1105	W1106	Sidewalk Running Slope	4	5.65	0.15	2.7%	0.5% to 5.0%					W1105	1907+53.65	29.50	645.13
W1106	W1107	Sidewalk Cross Slope	4	5.00	-0.07	-1.5%	0.5% to 2.0%					W1106	1907+48.00	29.50	645.29
W1107	W1108	Sidewalk Running Slope	4	5.65	-0.15	-2.7%	0.5% to 5.0%					W1107	1907+48.00	24.50	645.21
W1101	W1104	Sidewalk Cross Slope	4	5.00	0.07	1.4%	0.5% to 2.0%					W1108	1907+53.65	24.50	645.06
W1108	W1105	Sidewalk Cross Slope	4	5.00	0.07	1.4%	0.5% to 2.0%								
											3rd St.				
W1201	W1206	Crosswalk Cross Slope - No Yield Condition	6	5.64	0.20	3.5%	0.0% to 5.0%					W1201	1906+16.70	24.50	646.75
W1201	W1202	Ramp Running Slope	6	4.73	0.10	2.1%	0.5% to 8.3%					W1202	1906+21.42	24.50	646.85
W1202	W1203	Landing/Turning Space	4	5.00	0.04	0.8%	0.1% to 2.0%					W1203	1906+26.42	24.50	646.89
W1203	W1204	Landing/Turning Space	4	5.00	0.09	1.8%	0.1% to 2.0%	Yes				W1204	1906+26.42	29.50	646.98
W1204	W1205	Landing/Turning Space	4	5.00	-0.11	-2.2%	0.1% to 3.2%					W1205	1906+21.42	29.50	646.87
W1205	W1206	Ramp Running Slope	6	7.16	0.08	1.1%	0.5% to 8.3%					W1206	1906+14.26	29.50	646.95
W1202	W1205	Landing/Turning Space	4	5.00	0.02	0.4%	0.1% to 2.0%								
												W1301	1905+87.51	29.50	646.69
											3rd St.	W1302	1905+79.58	29.50	646.69
W1301	W1306	Crosswalk Cross Slope - No Yield Condition	6	5.64	-0.17	-3.0%	0.0% to 5.0%					W1303	1905+74.58	29.50	646.70
W1301	W1302	Ramp Running Slope	6	7.93	0.00	0.0%	0.5% to 8.3%					W1304	1905+74.58	24.50	646.65
W1302	W1303	Landing/Turning Space	4	5.00	0.01	0.2%	0.1% to 2.0%					W1305	1905+79.58	24.50	646.63
W1303	W1304	Landing/Turning Space	4	5.00	-0.05	-1.0%	0.1% to 2.0%					W1306	1905+85.08	24.50	646.52
W1304	W1305	Landing/Turning Space	4	5.00	-0.02	-0.4%	0.1% to 2.0%								
W1305	W1306	Ramp Running Slope	6	5.49	-0.11	-2.0%	0.5% to 8.3%					W1401	1905+18.90	24.50	645.98
W1302	W1305	Landing/Turning Space	4	5.00	-0.06	-1.2%	0.1% to 2.0%					W1402	1905+18.90	29.55	646.05
											+35 and + 98 Prop. Ent.	W1403	1904+76.99	29.50	645.13
W1401	W1402	Sidewalk Cross Slope	4	5.00	0.07	1.4%	0.5% to 2.0%					W1404	1904+47.22	29.50	644.28
W1402	W1403	Sidewalk Running Slope	4	41.91	-0.92	-2.2%	0.5% to 5.0%					W1405	1904+23.22	29.50	643.49
W1403	W1404	Sidewalk Running Slope	4	29.77	-0.85	-2.9%	0.5% to 5.0%					W1406	1904+23.22	24.50	643.41
W1404	W1405	Sidewalk Running Slope	4	24.00	-0.79	-3.3%	0.5% to 5.0%					W1407	1904+47.22	24.50	644.21
W1405	W1406	Sidewalk Cross Slope	4	5.00	-0.08	-1.5%	0.5% to 2.0%					W1408	1904+76.99	24.50	645.06
W1406	W1407	Sidewalk Running Slope	4	24.00	0.80	3.3%	0.5% to 5.0%								
W1407	W1408	Sidewalk Running Slope	4	29.77	0.85	2.9%	0.5% to 5.0%								
W1403	W1408	Sidewalk Cross Slope	4	5.00	-0.07	-1.4%	0.5% to 2.0%								
W1404	W1407	Sidewalk Cross Slope	4	5.00	-0.07	-1.4%	0.5% to 2.0%								

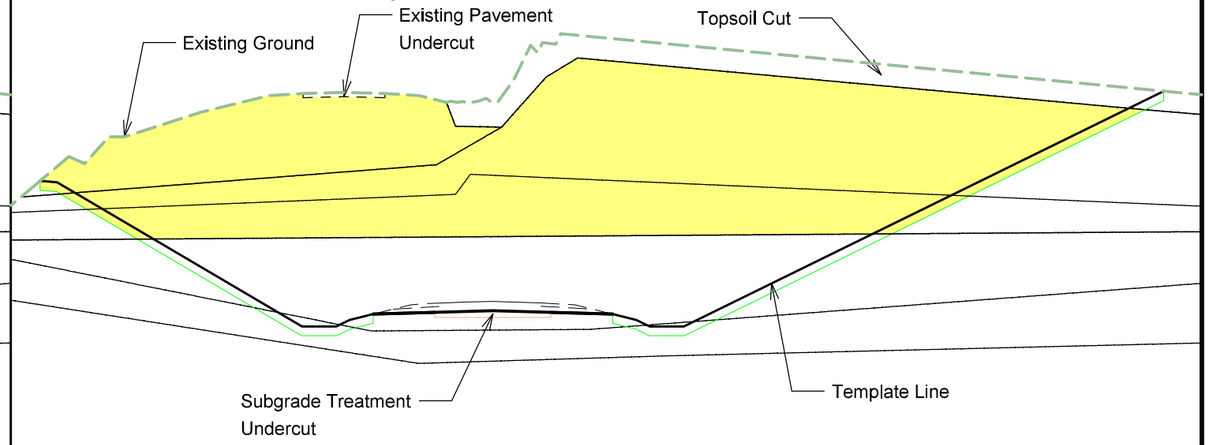
CUT SIDE Total Cut Unadjusted — RURAL



Notes:

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

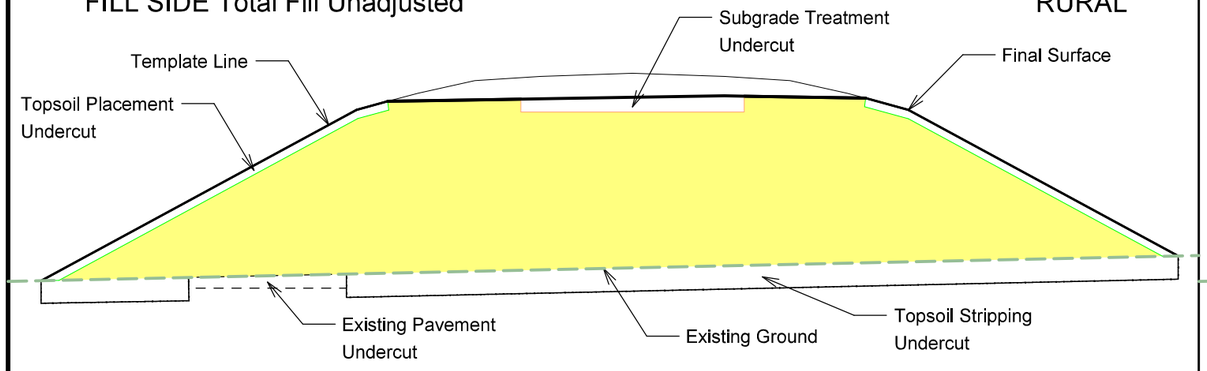
CUT SIDE Total Cut Adjusted



Notes:

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

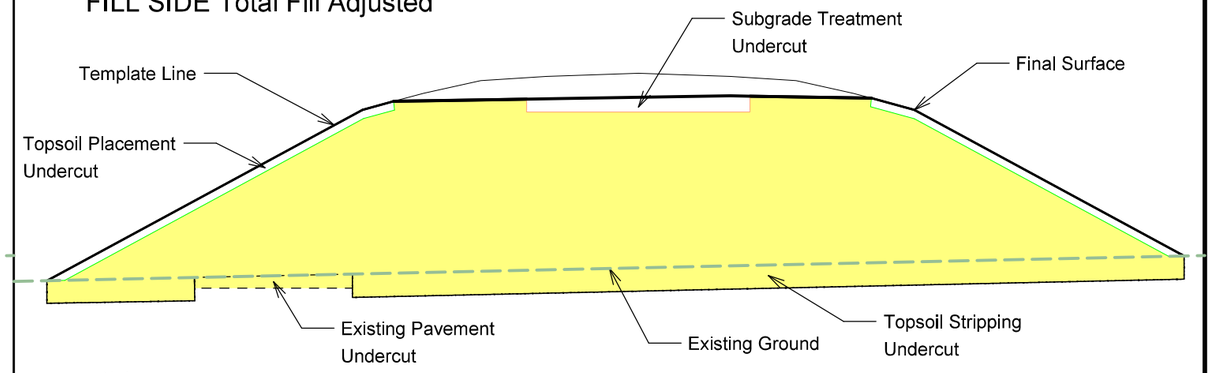
FILL SIDE Total Fill Unadjusted — RURAL



Notes:

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

FILL SIDE Total Fill Adjusted

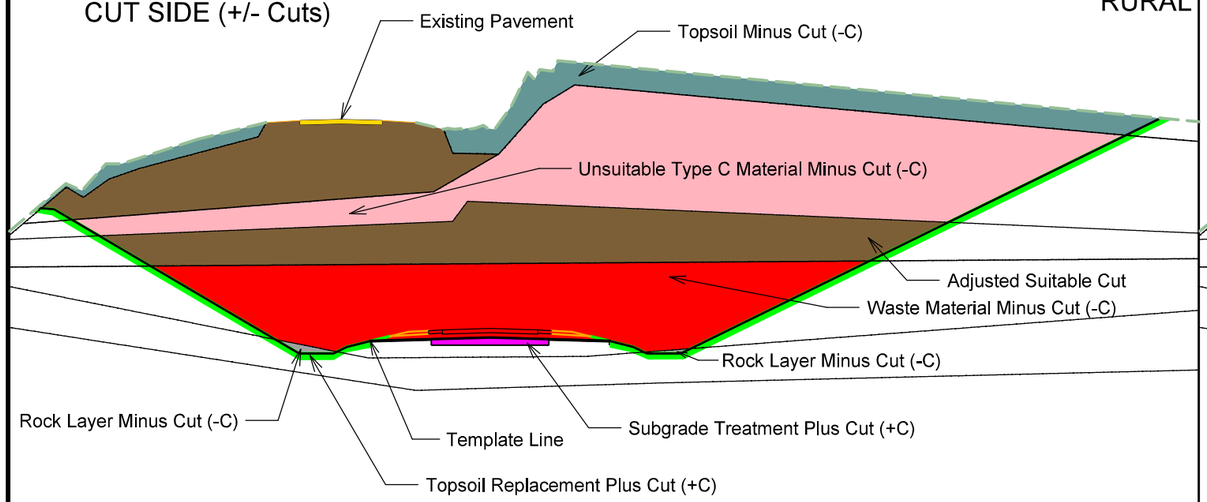


Notes:

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

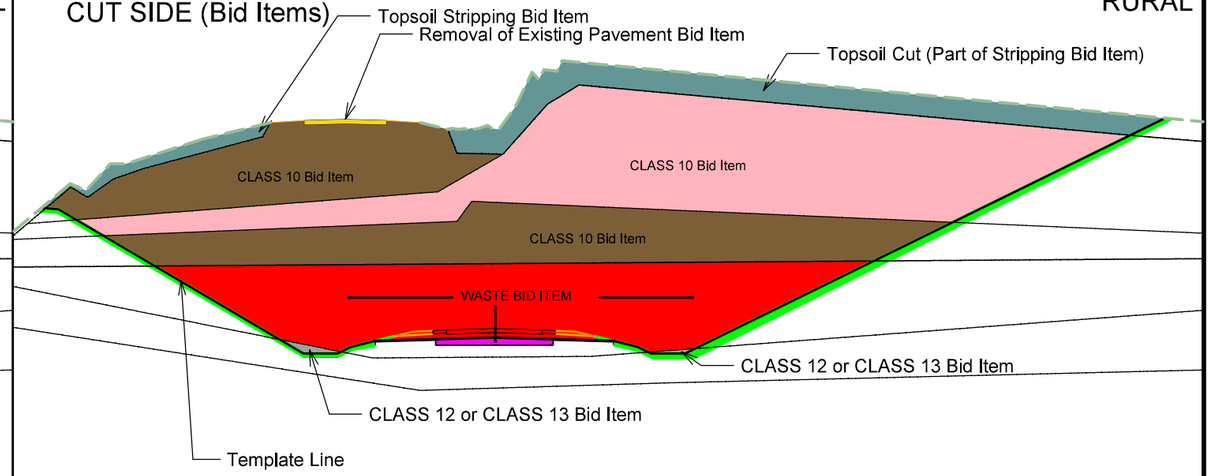
CUT SIDE (+/- Cuts)

RURAL



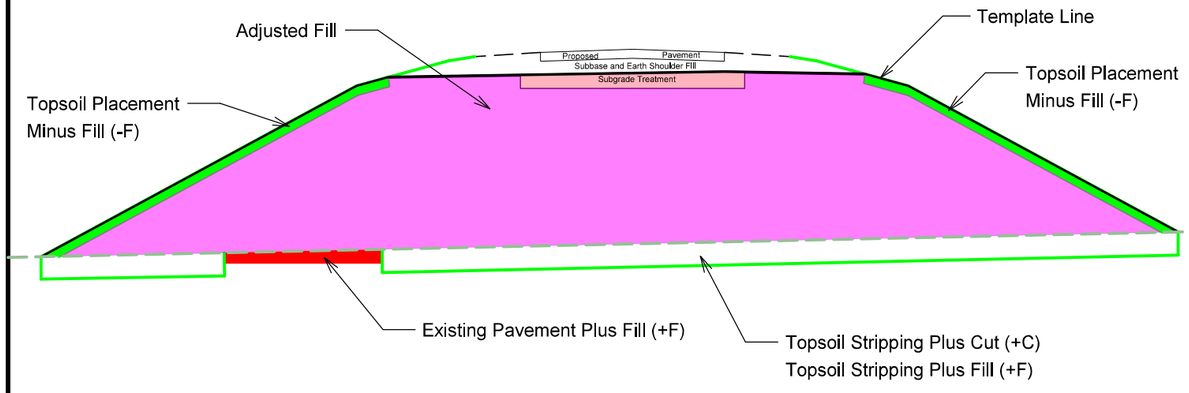
CUT SIDE (Bid Items)

RURAL



FILL SIDE (+/- Fills)

RURAL

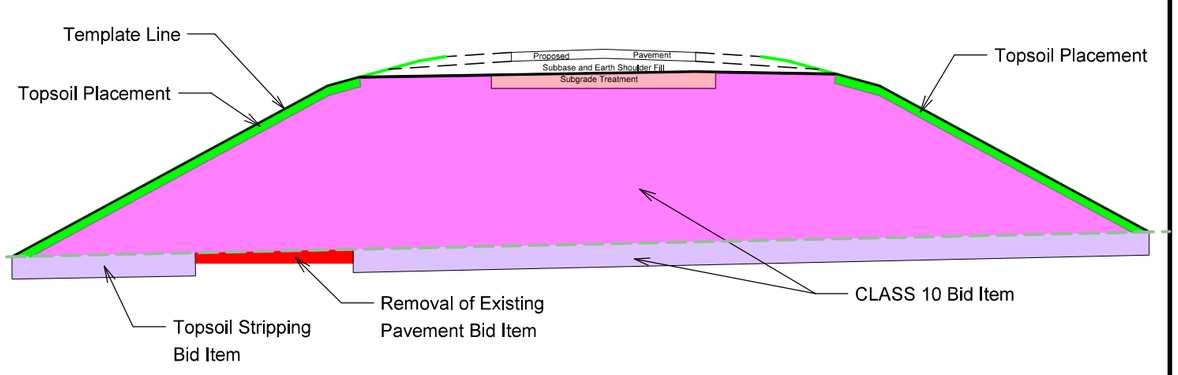


Notes:

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

FILL SIDE (Bid Items)

RURAL



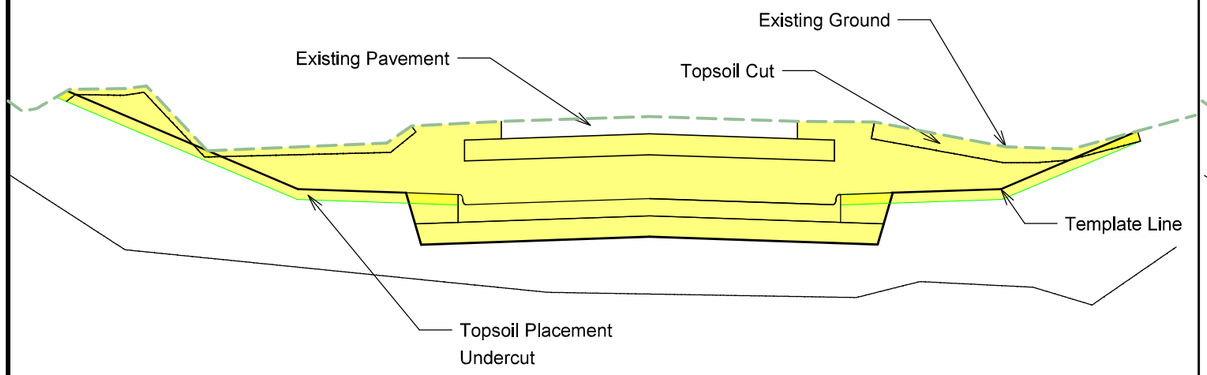
Notes:

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

FILE NO.	WASHINGTON Co.	DESIGN TEAM	J1a \ Miller \ Altenhofen	WASHINGTON COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	T.1B

2:47:59 PM 8/8/2022 rmille3 pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_LGD.dgn

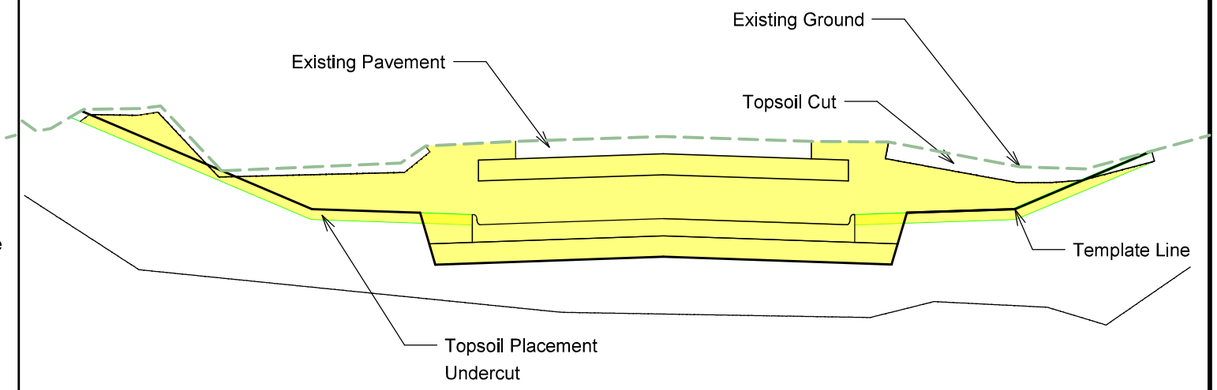
CUT SIDE Total Cut Unadjusted — URBAN



Notes:

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

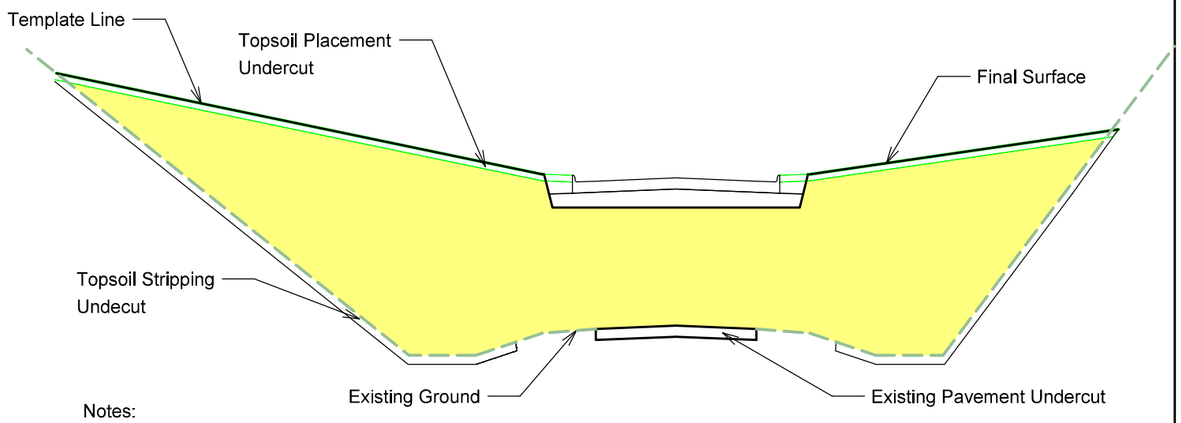
CUT SIDE Total Cut Adjusted — URBAN



Notes:

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

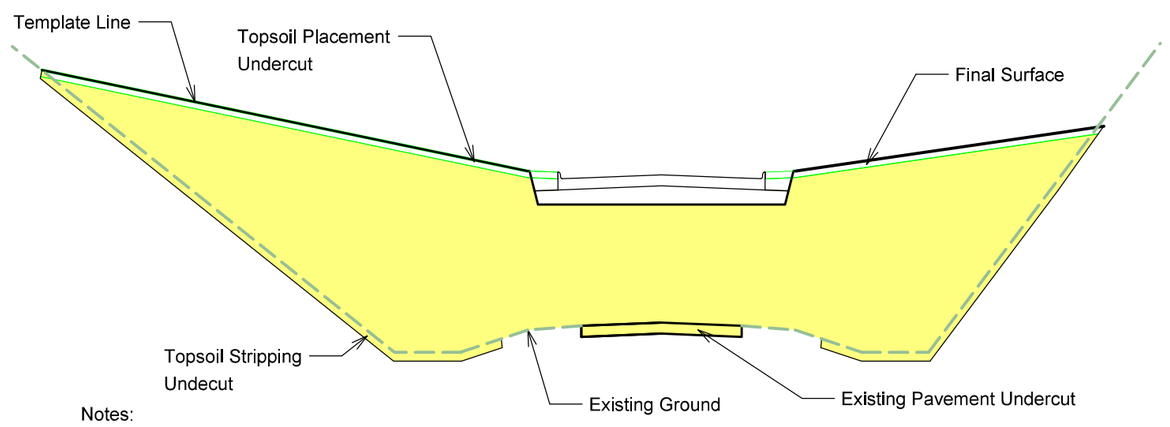
FILL SIDE Total Fill Unadjusted — URBAN



Notes:

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

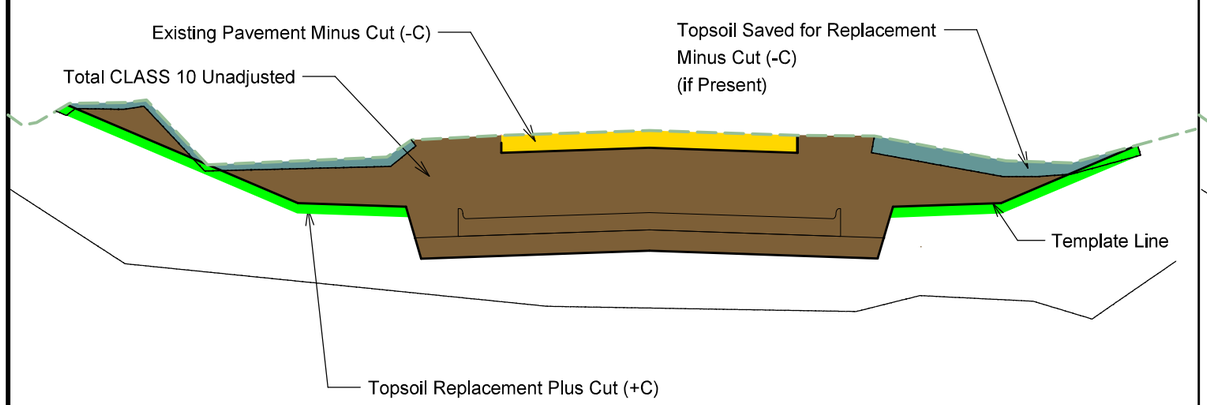
FILL SIDE Total Fill Adjusted — URBAN



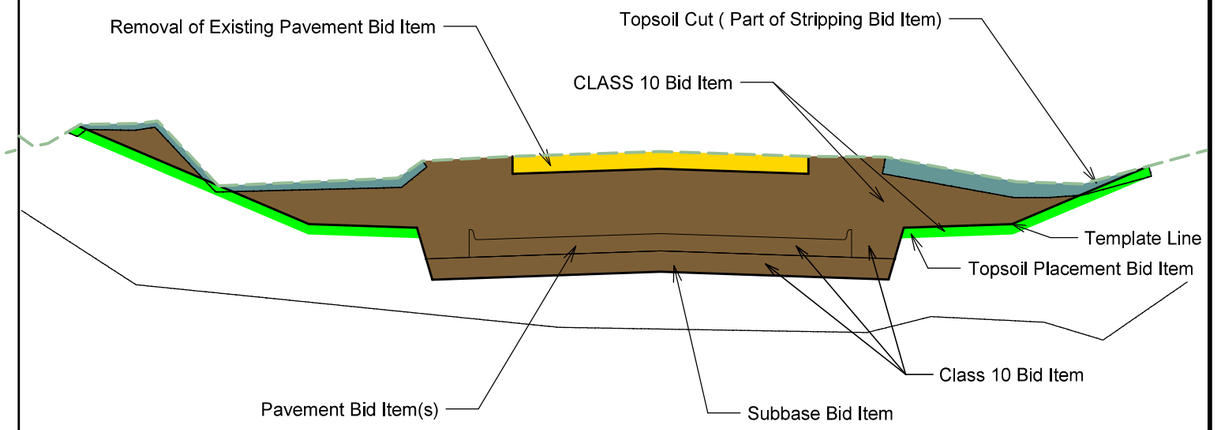
Notes:

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

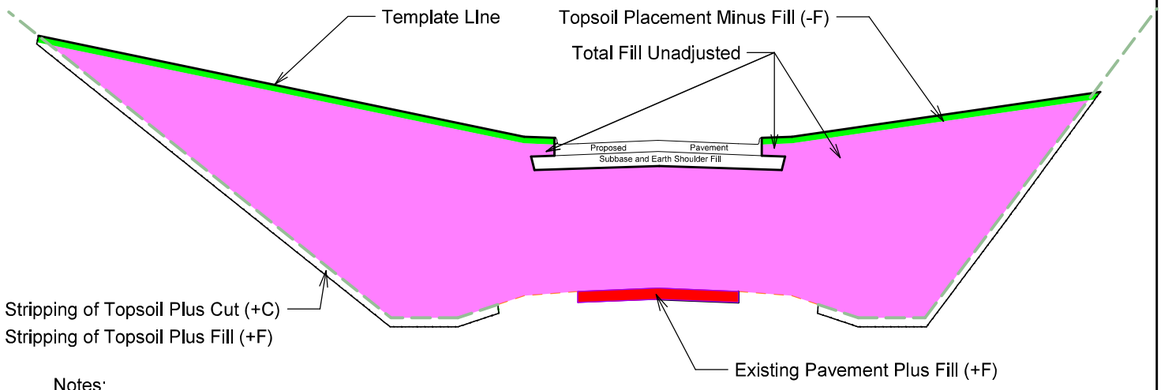
CUT SIDE (+/- Cuts) — URBAN



CUT SIDE (Bid Items) — URBAN



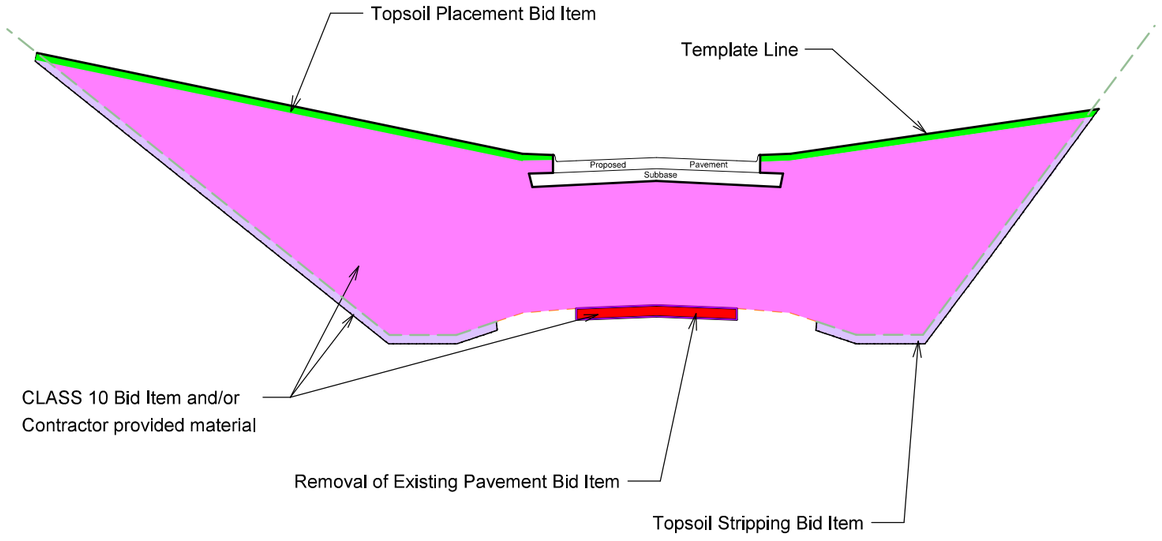
FILL SIDE (+/- Fills) — URBAN



Notes:

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

FILL SIDE (Bid Items) — URBAN



FILE NO. WASHINGTON Co.	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.1D

2:48:01 PM 8/8/2022 rmille3 pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_LGD.dgn

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
ML092																						
1460+19.65																						
1460+50.00	133	64	70	0	0	39	0	0		64												
1461+00.00	347	204	143	0	0	70	0	0		204												
1461+50.00	412	253	158	0	0	70	0	0		253												
1462+00.00	364	210	154	0	0	70	0	0		210												
1462+50.00	296	156	140	0	0	70	0	0		156												
1463+00.00	239	108	131	0	0	70	0	0		108												
1463+50.00	239	88	151	0	0	70	0	0		88												
1464+00.00	294	120	174	0	0	70	0	0		120												
1464+50.00	402	218	184	0	0	70	0	0		218												
1465+00.00	547	353	193	0	0	70	0	0		353												
1465+50.00	630	432	198	0	0	71	0	0		432												
1466+00.00	671	470	202	0	0	70	0	0		470												
1466+50.00	693	488	205	0	0	70	0	0		488												
1467+00.00	699	492	207	0	0	70	0	0		492												
1467+50.00	701	492	209	0	0	70	0	0		492												
1468+00.00	697	486	210	0	0	70	0	0		486												
1468+50.00	694	484	210	0	0	70	0	0		484												
1469+00.00	679	470	209	0	0	70	0	0		470												
1469+50.00	643	436	207	0	0	70	0	0		436												
1470+00.00	591	387	204	0	0	70	0	0		387												
1470+50.00	544	343	201	0	0	70	0	0		343												
1471+00.00	497	258	198	0	0	70	0	41		258												
1471+50.00	452	177	194	0	0	70	0	80		177												
1472+00.00	409	147	189	0	0	70	0	73		147												
1472+50.00	380	126	186	0	0	68	0	68		126												
1473+00.00	391	168	190	0	0	64	0	33		168												
1473+50.00	418	224	194	0	0	60	0	0		224												
1474+00.00	439	242	197	0	0	60	0	0		242												
1474+50.00	456	255	200	0	0	64	0	0		255												
1475+00.00	477	197	202	78	0	68	0	0		275												
1475+50.00	503	139	204	160	0	69	0	0		299												
1476+00.00	523	149	206	168	0	70	0	0		317												
1476+50.00	535	150	207	177	0	70	0	0		327												
1477+00.00	539	241	209	90	0	70	0	0		331												
1477+50.00	544	334	210	0	0	68	0	0		334												
1478+00.00	537	328	209	0	0	65	0	0		328												
1478+50.00	518	310	208	0	0	62	0	0		310												
1479+00.00	489	283	206	0	0	59	0	0		283												
1479+50.00	430	229	201	0	0	55	0	0		229												
1480+00.00	349	157	192	0	0	51	0	0		157												
1480+50.00	281	97	183	0	0	47	0	0		97												
1481+00.00	246	77	169	0	0	44	0	0		77												
1481+50.00	259	102	157	0	0	43	0	0		102												
1482+00.00	293	139	154	0	0	45	0	0		139												
1482+50.00	305	155	149	0	0	51	0	0		155												
1483+00.00	299	155	144	0	0	61	0	0		155												
1483+50.00	304	163	140	0	0	68	0	0		163												
1484+00.00	388	229	160	0	0	70	0	0		229												
1484+50.00	496	321	175	0	0	88	0	0		321												
1485+00.00	529	345	184	0	0	88	0	0		345												
1485+50.00	519	323	195	0	0	70	0	0		323												
1486+00.00	532	337	195	0	0	70	0	0		337												
1486+50.00	597	395	202	0	0	64	0	0		395												
1487+00.00	657	450	208	0	0	48	0	0		450												
1487+50.00	710	495	215	0	0	30	0	0		495												
1488+00.00	751	530	221	0	0	14	0	0		530												
1488+50.00	744	518	226	0	0	3	0	0		518												
1489+00.00	685	457	228	0	0	0	0	0		457												
1489+50.00	599	374	225	0	0	0	0	0		374												
1490+00.00	508	243	222	0	0	0	43	0		286												
1490+50.00	498	150	225	0	0	0	124	0		274												
1491+00.00	603	123	243	0	0	0	237	0		360												
1491+50.00	711	102	257	0	0	0	351	0		453												
1492+00.00	715	270	250	0	0	9	195	0		465												
1492+50.00	633	397	236	0	0	26	0	0		397												
1493+00.00	581	355	226	0	0	45	0	0		355												
1493+50.00	580	356	224	0	0	61	0	0		356												
Subtotals:	33,424	18,526	12,975	673	0	3,718	950	295	0	20,149												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.2A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
ML092																						
1460+19.65																						
1460+50.00	0	0	4			4	5	59	0	0	70	21	29	41								
1461+00.00	0	0	4			4	5	199	0	0	143	73	102	41								
1461+50.00	0	0	11			11	14	239	0	0	158	91	127	31								
1462+00.00	2	0	25			27	35	175	0	0	154	88	123	31								
1462+50.00	2	0	23			25	33	124	0	0	140	78	109	31								
1463+00.00	1	0	16			17	22	86	0	0	131	68	95	36								
1463+50.00	11	0	36			47	61	27	0	0	151	88	123	28								
1464+00.00	31	0	58			89	116	4	0	0	174	112	157	17								
1464+50.00	37	0	54			91	118	100	0	0	184	121	169	15								
1465+00.00	21	0	34			55	72	282	0	0	193	128	179	14								
1465+50.00	7	0	26		107	140	182	250	0	0	198	131	183	15								
1466+00.00	3	0	28			31	40	430	0	0	202	132	185	17								
1466+50.00	2	0	27			29	38	450	0	0	205	135	189	16								
1467+00.00	2	0	27			29	38	454	0	0	207	138	193	14								
1467+50.00	2	0	29			31	40	452	0	0	209	140	196	13								
1468+00.00	4	0	33			37	48	438	0	0	210	140	196	14								
1468+50.00	11	0	39			50	65	419	0	0	210	140	196	14								
1469+00.00	18	0	43			61	79	391	0	0	209	140	196	13								
1469+50.00	19	0	44			63	82	354	0	0	207	137	192	15								
1470+00.00	26	0	46			72	94	293	0	0	204	134	188	16								
1470+50.00	40	0	51			91	118	225	0	0	201	131	183	18								
1471+00.00	52	0	58			110	143	115	0	0	198	127	178	20								
1471+50.00	60	0	64			124	161	16	0	0	194	123	172	22								
1472+00.00	68	0	66			134	174	-27	0	0	189	118	165	24								
1472+50.00	80	0	69	2		151	196	-70	0	0	186	115	161	25								
1473+00.00	90	0	73	6		169	220	-52	0	0	190	118	165	25								
1473+50.00	91	0	72	10		173	225	-1	0	0	194	123	172	22								
1474+00.00	88	0	72	10		170	221	21	0	0	197	127	178	19								
1474+50.00	82	0	72	6		160	208	47	0	0	200	129	181	19								
1475+00.00	73	0	69	1		143	186	89	0	0	202	132	185	17								
1475+50.00	65	0	68			133	173	126	0	0	204	134	188	16								
1476+00.00	62	0	72			134	174	143	0	0	206	136	190	16								
1476+50.00	61	0	71			132	172	155	0	0	207	137	192	15								
1477+00.00	61	0	64			125	163	169	0	0	209	139	195	14								
1477+50.00	64	0	63	2		129	168	166	0	0	210	140	196	14								
1478+00.00	74	0	66	5		145	189	140	0	0	209	140	196	13								
1478+50.00	88	0	71	8		167	217	93	0	0	208	138	193	15								
1479+00.00	102	0	75	11		188	244	39	0	0	206	136	190	16								
1479+50.00	119	0	79	15		213	277	-48	0	0	201	130	182	19								
1480+00.00	143	0	86	19		248	322	-165	0	0	192	121	169	23								
1480+50.00	166	0	93	23		282	367	-270	0	0	183	112	157	26								
1481+00.00	173	0	97	26		296	385	-308	0	0	169	95	133	36								
1481+50.00	156	0	92	27		275	358	-256	0	0	157	81	113	44								
1482+00.00	134	0	81	25		240	312	-173	0	0	154	78	109	45								
1482+50.00	112	0	71	19		202	263	-108	0	0	149	76	106	43								
1483+00.00	83	0	63	9		155	202	-47	0	0	144	77	108	36								
1483+50.00	60	0	56	2		118	153	10	0	0	140	76	106	34								
1484+00.00	57	0	51			108	140	89	0	0	160	98	137	23								
1484+50.00	32	0	27			59	77	244	0	0	175	123	172	3								
1485+00.00	19	0	27			46	60	285	0	0	184	127	178	6								
1485+50.00	49	0	56			105	137	187	0	0	195	125	175	20								
1486+00.00	61	0	61			122	159	178	0	0	195	124	174	21								
1486+50.00	66	0	63	6		135	176	220	0	0	202	132	185	17								
1487+00.00	71	0	67	22		160	208	242	0	0	208	139	195	13								
1487+50.00	80	0	74	40		194	252	243	0	0	215	145	203	12								
1488+00.00	95	0	78	56		229	298	232	0	0	221	153	214	7								
1488+50.00	129	0	82	67		278	361	157	0	0	226	158	221	5								
1489+00.00	175	0	91	70		336	437	20	0	0	228	160	224	4								
1489+50.00	210	0	99	70		379	493	-119	0	0	225	157	220	5								
1490+00.00	241	0	105	70		416	541	-255	0	0	222	154	216	7								
1490+50.00	260	0	110	70		440	572	-298	0	0	225	157	220	5								
1491+00.00	258	0	118	70		446	580	-220	0	0	243	176	246	-4								
1491+50.00	243	0	116	70		429	558	-105	0	0	257	191	267	-10								
1492+00.00	199	0	103	61		363	472	-7	0	0	250	184	258	-8								
1492+50.00	149	0	93	44		286	372	25	0	0	236	169	237	-1								
1493+00.00	114	0	82	25		221	287	68	0	0	226	158	221	5								
1493+50.00	86	0	76	9		171	222	134	0	0	224	156	218	6								
Subtotals:	5,240	0	4,120	976	107	10,443	13,576	6,573	0	0	12,975	8,410	11,774	1,201								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
1493+50.00	579	356	223	0	0	69	0	0		356												
1494+00.00	559	339	220	0	0	70	0	0		339												
1494+50.00	547	329	218	0	0	70	0	0		329												
1495+00.00	553	334	219	0	0	70	0	0		334												
1495+50.00	546	329	217	0	0	69	0	0		329												
1496+00.00	531	317	214	0	0	69	0	0		317												
1496+50.00	529	316	213	0	0	69	0	0		316												
1497+00.00	546	331	215	0	0	67	0	0		331												
1497+50.00	559	341	217	0	0	64	0	0		341												
1498+00.00	559	341	218	0	0	61	0	0		341												
1498+50.00	567	348	219	0	0	58	0	0		348												
1499+00.00	574	356	219	0	0	56	0	0		356												
1499+50.00	605	201	217	187	0	29	0	0		388												
1500+00.00	653	43	216	395	0	35	0	0		438												
1500+50.00	673	50	216	407	0	69	0	0		457												
1501+00.00	651	61	218	372	0	70	0	0		433												
1501+50.00	644	65	218	360	0	70	0	0		425												
1502+00.00	660	59	215	386	0	70	0	0		445												
1502+50.00	703	47	215	441	0	70	0	0		488												
1503+00.00	750	55	221	474	0	70	0	0		529												
1503+50.00	750	57	228	465	0	70	0	0		522												
1504+00.00	709	46	236	427	0	70	0	0		473												
1504+50.00	714	39	251	423	0	77	0	0		462												
1505+00.00	789	28	270	490	0	77	0	0		518												
1505+50.00	939	48	301	589	0	68	0	0		637												
1506+00.00	876	44	303	529	0	60	0	0		573												
1506+50.00	855	18	271	565	0	44	0	0		583												
1507+00.00	685	195	258	232	0	27	0	0		427												
1507+50.00	632	379	253	0	0	15	0	0		379												
1508+00.00	562	312	250	0	0	11	0	0		312												
1508+50.00	466	222	244	0	0	12	0	0		222												
1509+00.00	394	173	221	0	0	16	0	0		173												
1509+50.00	368	164	204	0	0	21	0	0		164												
1510+00.00	395	189	205	0	0	27	0	0		189												
1510+50.00	377	171	206	0	0	34	0	0		171												
1511+00.00	485	179	209	97	0	40	0	0		276												
1511+50.00	614	180	215	220	0	46	0	0		400												
1512+00.00	787	251	218	317	0	51	0	0		568												
1512+50.00	911	287	218	406	0	54	0	0		693												
1513+00.00	775	346	210	219	0	58	0	0		565												
1513+50.00	510	306	196	8	0	64	0	0		314												
1514+00.00	397	210	186	0	0	68	0	0		210												
1514+50.00	430	247	183	0	0	69	0	0		247												
1515+00.00	497	310	186	0	0	69	0	0		310												
1515+50.00	492	305	187	0	0	69	0	0		305												
1516+00.00	510	328	182	0	0	70	0	0		328												
1516+50.00	619	405	214	0	0	69	0	0		405												
1517+00.00	668	427	241	0	0	69	0	0		427												
1517+50.00	801	568	233	0	0	69	0	0		568												
1518+00.00	1,103	868	235	0	0	69	0	0		868												
1518+50.00	1,405	1,168	237	0	0	69	0	0		1,168												
1519+00.00	1,448	1,210	238	0	0	69	0	0		1,210												
1519+50.00	1,449	1,206	244	0	0	69	0	0		1,206												
1520+00.00	1,351	1,099	251	0	0	69	0	0		1,099												
1520+50.00	1,142	886	257	0	0	69	0	0		886												
1521+00.00	1,177	908	269	0	0	70	0	0		908												
1521+50.00	1,196	910	287	0	0	69	0	0		910												
1522+00.00	1,309	1,005	304	0	0	69	0	0		1,005												
1522+50.00	1,318	1,008	310	0	0	69	0	0		1,008												
1523+00.00	1,129	831	298	0	0	69	0	0		831												
1523+50.00	932	654	279	0	0	69	0	0		654												
1524+00.00	789	536	252	0	0	69	0	0		536												
1524+50.00	812	553	232	28	0	69	0	0		581												
1525+00.00	672	421	218	33	0	69	0	0		454												
1525+50.00	831	511	214	106	0	65	0	0		617												
1526+00.00	1,303	749	231	323	0	60	0	0		1,072												
1526+50.00	1,492	1,029	241	222	0	56	0	0		1,251												
1527+00.00	1,309	1,070	239	0	0	54	0	0		1,070												
1527+50.00																						
Subtotals:	52,162	27,674	15,763	8,721	0	4,040	0	0	0	36,395												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.3A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25]+[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
1493+50.00	76	0	74	1		151	196	160	0	0	223	154	216	8								
1494+00.00	74	0	72			146	190	149	0	0	220	151	211	9								
1494+50.00	78	0	71			149	194	135	0	0	218	149	209	10								
1495+00.00	82	0	70			152	198	136	0	0	219	150	210	9								
1495+50.00	81	0	71			152	198	131	0	0	217	148	207	10								
1496+00.00	84	0	74			158	205	112	0	0	214	145	203	11								
1496+50.00	83	0	72	1		156	203	113	0	0	213	144	202	11								
1497+00.00	81	0	71	3		155	202	130	0	0	215	146	204	11								
1497+50.00	84	0	73	6		163	212	129	0	0	217	148	207	10								
1498+00.00	92	0	75	9		176	229	112	0	0	218	149	209	10								
1498+50.00	100	0	75	11		186	242	106	0	0	219	150	210	9								
1499+00.00	96	0	74	13		183	238	118	0	0	219	150	210	9								
1499+50.00	86	0	74	40		200	260	128	0	0	217	148	207	10								
1500+00.00	75	0	127	34		236	307	131	0	0	216	146	204	12								
1500+50.00	65	0	158			223	290	167	0	0	216	146	204	12								
1501+00.00	59	0	100			159	207	226	0	0	218	149	209	10								
1501+50.00	45	0	62			107	139	286	0	0	218	149	209	10								
1502+00.00	26	0	57			83	108	337	0	0	215	145	203	12								
1502+50.00	23	0	91			114	148	340	0	0	215	146	204	11								
1503+00.00	29	0	95			124	161	368	0	0	221	152	213	8								
1503+50.00	47	0	68			115	150	373	0	0	228	160	224	4								
1504+00.00	90	0	76			166	216	257	0	0	236	169	237	-1								
1504+50.00	139	0	116			255	332	131	0	0	251	185	259	-8								
1505+00.00	180	0	120			300	390	128	0	0	270	206	288	-18								
1505+50.00	264	0	102	2		368	478	159	0	0	301	239	335	-34								
1506+00.00	344	0	114	10		468	608	-35	0	0	303	241	337	-34								
1506+50.00	420	244	115	26		805	1,047	-464	0	0	271	207	290	-19								
1507+00.00	545	180	124	43		892	1,160	-733	0	0	258	193	270	-12								
1507+50.00	660	143	130	55		988	1,284	-905	0	0	253	187	262	-9								
1508+00.00	751	117	137	59		1,064	1,383	-1,071	0	0	250	184	258	-8								
1508+50.00	804	98	143	58		1,103	1,434	-1,212	0	0	244	178	249	-5								
1509+00.00	792	87	145	54		1,078	1,401	-1,228	0	0	221	152	213	8								
1509+50.00	715	79	144	49		987	1,283	-1,119	0	0	204	134	188	16								
1510+00.00	601	73	140	43		857	1,114	-925	0	0	205	136	190	15								
1510+50.00	407	0	133	36		576	749	-578	0	0	206	136	190	16								
1511+00.00	194	0	122	30	385	731	950	-674	0	0	209	140	196	13								
1511+50.00	71	0	82	24		177	230	170	0	0	215	146	204	11								
1512+00.00	24	0	37	19		80	104	464	0	0	218	149	209	10								
1512+50.00	17	0	26	16		59	77	616	0	0	218	149	209	10								
1513+00.00	15	0	27	11		53	69	496	0	0	210	140	196	14								
1513+50.00	65	0	75	6		146	190	124	0	0	196	126	176	20								
1514+00.00	126	0	121	2		249	324	-114	0	0	186	115	161	25								
1514+50.00	77	0	111			188	244	3	0	0	183	111	155	28								
1515+00.00	11	0	94			105	137	174	0	0	186	115	161	25								
1515+50.00	120	0	102			222	289	16	0	0	187	116	162	25								
1516+00.00	311	66	122			499	649	-321	0	0	182	110	154	28								
1516+50.00	366	87	129		93	675	878	-473	0	0	214	145	203	11								
1517+00.00	255	0	125			380	494	-67	0	0	241	174	244	-3								
1517+50.00	82	0	68			150	195	373	0	0	233	165	231	2								
1518+00.00	1	0	11			12	16	852	0	0	235	167	234	1								
1518+50.00	0	0				0	0	1,168	0	0	237	169	237	1								
1519+00.00	0	0				0	0	1,210	0	0	238	171	239	-2								
1519+50.00	0	0				0	0	1,206	0	0	244	176	246	-3								
1520+00.00	18	0	48		961	1,027	1,335	-236	0	0	251	185	259	-8								
1520+50.00	261	0	108			369	480	406	0	0	257	191	267	-10								
1521+00.00	655	139	133			927	1,205	-297	0	0	269	204	286	-17								
1521+50.00	879	176	154			1,209	1,572	-662	0	0	287	224	314	-27								
1522+00.00	955	204	166			1,325	1,723	-718	0	0	304	242	339	-35								
1522+50.00	971	207	173			1,351	1,756	-748	0	0	310	248	347	-37								
1523+00.00	962	185	175			1,322	1,719	-888	0	0	298	235	329	-31								
1523+50.00	907	147	165			1,219	1,585	-931	0	0	279	214	300	-21								
1524+00.00	737	109	150		268	1,264	1,643	-1,107	0	0	252	185	259	-7								
1524+50.00	460	115	171			746	970	-389	0	0	232	164	230	3								
1525+00.00	161	0	134		564	859	1,117	-663	0	0	218	149	209	10								
1525+50.00	25	0	49	4		78	101	516	0	0	214	144	202	12								
1526+00.00	29	0	31	9		69	90	982	0	0	231	163	228	3								
1526+50.00	34	0	31	13		78	101	1,150	0	0	241	174	244	-3								
1527+00.00	43	0	33	15		91	118	952	0	0	239	172	241	-2								
1527+50.00																						
Subtotals:	17,010	2,456	6,416	702	2,271	28,855	37,512	-1,117	0	0	15,763	11,150	15,610	154								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
1527+50.00	984	757	228	0	0	52	0	0		757												
1528+00.00	787	572	215	0	0	51	0	0		572												
1528+50.00	770	296	211	0	0	50	263	0		559												
1529+00.00	822	62	210	0	0	45	550	0		612												
1529+50.00	867	61	214	0	0	43	593	0		654												
1530+00.00	904	70	227	0	0	43	607	0		677												
1530+50.00	876	72	242	0	0	40	562	0		634												
1531+00.00	701	57	248	0	0	35	396	0		453												
1531+50.00	511	62	251	0	0	28	197	0		259												
1532+00.00	438	78	259	0	0	21	100	0		178												
1532+50.00	452	144	271	0	0	15	37	0		181												
1533+00.00	495	211	284	0	0	10	0	0		211												
1533+50.00	510	214	296	0	0	5	0	0		214												
1534+00.00	515	194	321	0	0	1	0	0		194												
1534+50.00	563	218	345	0	0	0	0	0		218												
1535+00.00	635	271	364	0	0	0	0	0		271												
1535+50.00	573	208	365	0	0	0	0	0		208												
1536+00.00	456	118	339	0	0	0	0	0		118												
1536+50.00	482	131	351	0	0	0	0	0		131												
1537+00.00	460	137	323	0	0	0	0	0		137												
1537+50.00	375	113	263	0	0	0	0	0		113												
1538+00.00	365	109	255	0	0	0	0	0		109												
1538+50.00	355	111	245	0	0	1	0	0		111												
1539+00.00	367	135	232	0	0	7	0	0		135												
1539+50.00	431	205	225	0	0	17	0	0		205												
1540+00.00	581	364	217	0	0	27	0	0		364												
1540+50.00	873	259	217	0	0	37	397	0		656												
1541+00.00	1,178	52	226	0	0	52	899	0		951												
1541+50.00	1,394	72	224	0	0	66	1,098	0		1,170												
1542+00.00	1,404	90	223	0	0	70	1,091	0		1,181												
1542+50.00	1,242	517	230	0	0	69	495	0		1,012												
1543+00.00	1,036	806	230	0	0	69	0	0		806												
1543+50.00	821	600	221	0	0	70	0	0		600												
1544+00.00	706	487	218	0	0	70	0	0		487												
1544+50.00	648	267	240	0	141	43	0	0		408												
1545+00.00	581	77	233	0	272	43	0	0		349												
1545+50.00	611	274	206	0	131	67	0	0		405												
1546+00.00	871	239	222	0	410	62	0	0		649												
1546+50.00	1,058	410	238	0	410	53	0	0		820												
1547+00.00	907	673	234	0	0	42	0	0		673												
1547+50.00	681	459	222	0	0	31	0	0		459												
1548+00.00	578	363	215	0	0	22	0	0		363												
1548+50.00	480	270	210	0	0	16	0	0		270												
1549+00.00	398	189	209	0	0	9	0	0		189												
1549+50.00	426	209	217	0	0	4	0	0		209												
1550+00.00	532	304	228	0	0	1	0	0		304												
1550+50.00	585	352	233	0	0	0	0	0		352												
1551+00.00	577	346	232	0	0	0	0	0		346												
1551+50.00	558	327	231	0	0	0	0	0		327												
1552+00.00	501	274	227	0	0	0	0	0		274												
1552+50.00	458	232	226	0	0	0	0	0		232												
1553+00.00	446	218	228	0	0	0	0	0		218												
1553+50.00	452	106	231	115	0	0	0	0		221												
1554+00.00	479	55	236	188	0	0	0	0		243												
1554+50.00	496	182	238	76	0	0	0	0		258												
1555+00.00	500	255	239	6	0	0	0	0		261												
1555+50.00	525	196	239	90	0	0	0	0		286												
1556+00.00	512	187	236	89	0	0	0	0		276												
1556+50.00	472	234	233	5	0	0	0	0		239												
1557+00.00	468	116	230	122	0	0	0	0		238												
1557+50.00	457	114	225	119	0	0	0	0		233												
1558+00.00	443	225	218	0	0	0	0	0		225												
1558+50.00	436	224	212	0	0	0	0	0		224												
1559+00.00	429	224	205	0	0	0	0	0		224												
1559+50.00	413	222	191	0	0	8	0	0		222												
1560+00.00	382	217	165	0	0	27	0	0		217												
1560+50.00	354	211	143	0	0	48	0	0		211												
1561+00.00	332	198	134	0	0	64	0	0		198												
1561+50.00																						
Subtotals:	41,975	16,302	16,216	810	1,364	1,534	7,285	0	0	25,761												

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25]+[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
1527+50.00	51	0	34	17		102	133	624	0	0	228	159	223	6								
1528+00.00	52	0	33	18		103	134	438	0	0	215	146	204	11								
1528+50.00	45	0	33	19		97	126	433	0	0	211	141	197	14								
1529+00.00	45	0	32	24		101	131	481	0	0	210	140	196	14								
1529+50.00	59	0	34	26		119	155	499	0	0	214	144	202	12								
1530+00.00	81	0	51	26		158	205	472	0	0	227	158	221	6								
1530+50.00	221	0	95	29		345	449	186	0	0	242	175	245	-3								
1531+00.00	507	0	134	34		675	878	-425	0	0	248	181	253	-6								
1531+50.00	796	0	156	41		993	1,291	-1,032	0	0	251	184	258	-7								
1532+00.00	1,012	0	172	48		1,232	1,602	-1,424	0	0	259	193	270	-11								
1532+50.00	1,078	0	176	54		1,308	1,700	-1,519	0	0	271	206	288	-17								
1533+00.00	1,133	0	175	59		1,367	1,777	-1,566	0	0	284	220	308	-24								
1533+50.00	1,364	0	178	64		1,606	2,088	-1,874	0	0	296	234	328	-32								
1534+00.00	1,809	0	197	68		2,074	2,696	-2,502	0	0	321	260	364	-43								
1534+50.00	2,233	0	218	69		2,520	3,276	-3,058	0	0	345	286	400	-55								
1535+00.00	2,643	0	245	69		2,957	3,844	-3,573	0	0	364	307	430	-66								
1535+50.00	2,982	0	249	69		3,300	4,290	-4,082	0	0	365	308	431	-66								
1536+00.00	2,866	0	236	70		3,172	4,124	-4,006	0	0	339	280	392	-53								
1536+50.00	2,400	0	234	70		2,704	3,515	-3,384	0	0	351	294	412	-61								
1537+00.00	1,939	0	219	69		2,227	2,895	-2,758	0	0	323	262	367	-44								
1537+50.00	1,598	0	200	69		1,867	2,427	-2,314	0	0	263	198	277	-14								
1538+00.00	1,301	0	183	69		1,553	2,019	-1,910	0	0	255	189	265	-10								
1538+50.00	1,002	0	160	68		1,230	1,599	-1,488	0	0	245	178	249	-4								
1539+00.00	654	0	137	62		853	1,109	-974	0	0	232	164	230	3								
1539+50.00	316	0	116	52		484	629	-424	0	0	225	157	220	5								
1540+00.00	111	0	71	42		224	291	73	0	0	217	147	206	11								
1540+50.00	41	0	35	32		108	140	516	0	0	217	148	207	10								
1541+00.00	10	0	30	17		57	74	877	0	0	226	157	220	6								
1541+50.00	1	0	97	4		102	133	1,037	0	0	224	156	218	6								
1542+00.00	0	0	85			85	111	1,071	0	0	223	155	217	6								
1542+50.00	0	0	3			3	4	1,008	0	0	230	163	228	2								
1543+00.00	2	0	12		435	449	584	222	0	0	230	163	228	2								
1543+50.00	5	0	22			27	35	565	0	0	221	153	214	7								
1544+00.00	16	0	47			63	82	405	0	0	218	149	209	10								
1544+50.00	30	0	77	26		133	173	235	0	0	240	145	203	37								
1545+00.00	25	0	69	26		120	156	193	0	0	233	137	192	41								
1545+50.00	12	0	37	2		51	66	339	0	0	206	136	190	16								
1546+00.00	7	0	22	8		37	48	601	0	0	222	154	216	7								
1546+50.00	12	0	23	17		52	68	752	0	0	238	171	239	-2								
1547+00.00	24	0	30	28		82	107	566	0	0	234	166	232	2								
1547+50.00	76	0	61	39		176	229	230	0	0	222	153	214	8								
1548+00.00	189	0	92	47		328	426	-63	0	0	215	146	204	11								
1548+50.00	256	0	98	53		407	529	-259	0	0	210	140	196	14								
1549+00.00	289	0	100	61		450	585	-396	0	0	209	140	196	13								
1549+50.00	328	0	106	66		500	650	-441	0	0	217	148	207	10								
1550+00.00	316	0	112	69		497	646	-342	0	0	228	160	224	4								
1550+50.00	298	0	108	70		476	619	-267	0	0	233	165	231	2								
1551+00.00	301	0	105	70		476	619	-273	0	0	232	164	230	3								
1551+50.00	308	0	103	70		481	625	-298	0	0	231	164	230	2								
1552+00.00	330	0	107	70		507	659	-385	0	0	227	159	223	5								
1552+50.00	354	0	114	69		537	698	-466	0	0	226	157	220	6								
1553+00.00	364	0	119	69		552	718	-500	0	0	228	159	223	6								
1553+50.00	371	0	121	69		561	729	-508	0	0	231	163	228	3								
1554+00.00	372	0	121	69		562	731	-488	0	0	236	168	235	1								
1554+50.00	377	0	121	69		567	737	-479	0	0	238	170	238	0								
1555+00.00	384	0	122	70		576	749	-488	0	0	239	171	239	-1								
1555+50.00	381	0	152	70		603	784	-498	0	0	239	171	239	-1								
1556+00.00	372	0	151	69		592	770	-494	0	0	236	169	237	-1								
1556+50.00	355	0	121	69		545	709	-470	0	0	233	165	231	2								
1557+00.00	339	0	123	69		531	690	-452	0	0	230	161	225	5								
1557+50.00	313	0	117	69		499	649	-416	0	0	225	156	218	7								
1558+00.00	268	0	108	69		445	579	-354	0	0	218	149	209	10								
1558+50.00	216	0	102	69		387	503	-279	0	0	212	142	199	13								
1559+00.00	161	0	95	69		325	423	-199	0	0	205	134	188	17								
1559+50.00	108	0	83	61		252	328	-106	0	0	191	123	172	19								
1560+00.00	65	0	68	42		175	228	-11	0	0	165	105	147	18								
1560+50.00	40	0	55	21		116	151	60	0	0	143	88	123	20								
1561+00.00	22	0	44	5		71	92	106	0	0	134	78	109	25								
1561+50.00																						
Subtotals:	36,036	0	7,286	3,177	435	46,934	61,014	-35,253	0	0	16,216	11,632	16,285	-68								

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.4B

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
1561+50.00	332	194	138	0	0	70	0	0		194												
1562+00.00	488	314	174	0	0	70	0	0		314												
1562+50.00	599	406	193	0	0	88	0	0		406												
1563+00.00	568	382	186	0	0	102	0	0		382												
1563+50.00	668	463	204	0	0	70	0	0		463												
1564+00.00	683	474	209	0	0	36	0	0		474												
1564+50.00	569	375	194	0	0	28	0	0		375												
1565+00.00	507	318	189	0	0	25	0	0		318												
1565+50.00	438	250	188	0	0	22	0	0		250												
1566+00.00	360	174	186	0	0	16	0	0		174												
1566+50.00	348	159	189	0	0	8	0	0		159												
1567+00.00	398	211	187	0	0	2	0	0		211												
1567+50.00	444	260	184	0	0	0	0	0		260												
1568+00.00	460	273	186	0	0	0	0	0		273												
1568+50.00	372	191	180	0	0	0	0	0		191												
1569+00.00	252	79	173	0	0	0	0	0		79												
1569+50.00	246	65	181	0	0	0	0	0		65												
1570+00.00	341	142	200	0	0	0	0	0		142												
1570+50.00	486	268	214	4	0	0	0	0		272												
1571+00.00	629	218	218	193	0	0	0	0		411												
1571+50.00	759	270	221	268	0	0	0	0		538												
1572+00.00	865	299	223	343	0	1	0	0		642												
1572+50.00	927	437	226	263	0	2	0	0		700												
1573+00.00	843	616	227	0	0	7	0	0		616												
1573+50.00	621	396	225	0	0	10	0	0		396												
1574+00.00	401	179	223	0	0	7	0	0		179												
1574+50.00	341	116	225	0	0	3	0	0		116												
1575+00.00	357	136	221	0	0	3	0	0		136												
1575+50.00	347	135	212	0	0	3	0	0		135												
1576+00.00	351	141	210	0	0	4	0	0		141												
1576+50.00	317	114	202	1	0	5	0	0		115												
1577+00.00	295	52	196	48	0	7	0	0		100												
1577+50.00	308	63	197	48	0	10	0	0		111												
1578+00.00	334	137	195	2	0	10	0	0		139												
1578+50.00	325	134	190	1	0	7	0	0		135												
1579+00.00	306	120	186	0	0	6	0	0		120												
1579+50.00	323	145	177	0	0	14	0	0		145												
1580+00.00	369	191	178	0	0	19	0	0		191												
1580+50.00	444	254	190	0	0	21	0	0		254												
1581+00.00	560	387	173	0	0	43	0	0		387												
1581+50.00	576	414	162	0	0	60	0	0		414												
1582+00.00	562	381	181	0	0	64	0	0		381												
1582+50.00	676	484	192	0	0	79	0	0		484												
1583+00.00	768	567	200	0	0	80	0	0		567												
1583+50.00	787	579	208	0	0	70	0	0		579												
1584+00.00	771	560	210	0	0	70	0	0		560												
1584+50.00	715	508	207	0	0	69	0	0		508												
1585+00.00	649	447	201	0	0	69	0	0		447												
1585+50.00	593	399	195	0	0	70	0	0		399												
1586+00.00	551	360	191	0	0	70	0	0		360												
1586+50.00	494	312	182	0	0	69	0	0		312												
1587+00.00	438	262	176	0	0	68	0	0		262												
1587+50.00	419	240	179	0	0	66	0	0		240												
1588+00.00	417	234	183	0	0	63	0	0		234												
1588+50.00	411	226	185	0	0	58	0	0		226												
1589+00.00	406	219	187	0	0	52	0	0		219												
1589+50.00	388	202	186	0	0	46	0	0		202												
1590+00.00	363	179	184	0	0	39	0	0		179												
1590+50.00	367	183	184	0	0	33	0	0		183												
1591+00.00	367	182	185	0	0	27	0	0		182												
1591+50.00	358	175	183	0	0	21	0	0		175												
1592+00.00	498	314	183	0	0	15	0	0		314												
1592+50.00	488	308	180	0	0	13	0	0		308												
1593+00.00	483	312	171	0	0	14	0	0		312												
1593+50.00	499	339	161	0	0	13	0	0		339												
1594+00.00	518	364	153	0	0	16	0	0		364												
1594+50.00	535	387	148	0	0	26	0	0		387												
1595+00.00	538	395	143	0	0	36	0	0		395												
1595+50.00																						
Subtotals:	33,216	19,070	12,970	1,171	0	2,095	0	0	0	20,241												

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
1561+50.00	11	0	36			47	61	133	0	0	138	79	111	27								
1562+00.00	3	0	23			26	34	280	0	0	174	109	153	21								
1562+50.00	0	0	8			8	10	396	0	0	193	138	193	0								
1563+00.00	0	0	1	6		7	9	373	0	0	186	145	203	-17								
1563+50.00	0	0	9	19		28	36	427	0	0	204	149	209	-5								
1564+00.00	0	0	23	33		56	73	401	0	0	209	139	195	14								
1564+50.00	1	0	32	41		74	96	279	0	0	194	123	172	22								
1565+00.00	3	0	41	44		88	114	204	0	0	189	118	165	24								
1565+50.00	12	0	62	47		121	157	93	0	0	188	116	162	26								
1566+00.00	39	0	81	53		173	225	-51	0	0	186	115	161	25								
1566+50.00	84	0	95	61		240	312	-153	0	0	189	118	165	24								
1567+00.00	129	0	105	67		301	391	-180	0	0	187	115	161	26								
1567+50.00	159	0	108	69		336	437	-177	0	0	184	111	155	29								
1568+00.00	175	0	110	69		354	460	-187	0	0	186	114	160	26								
1568+50.00	178	0	114	69		361	469	-278	0	0	180	107	150	30								
1569+00.00	143	0	125	69		337	438	-359	0	0	173	100	140	33								
1569+50.00	94	0	134	69		297	386	-321	0	0	181	109	153	28								
1570+00.00	98	0	126	69		293	381	-239	0	0	200	129	181	19								
1570+50.00	111	0	111	69		291	378	-106	0	0	214	144	202	12								
1571+00.00	78	0	92	69		239	311	100	0	0	218	149	209	10								
1571+50.00	43	0	73	69		185	241	298	0	0	221	152	213	8								
1572+00.00	23	0	65	68		156	203	439	0	0	223	154	216	8								
1572+50.00	13	0	62	67		142	185	515	0	0	226	158	221	5								
1573+00.00	20	0	68	62		150	195	421	0	0	227	158	221	6								
1573+50.00	54	0	90	59		203	264	132	0	0	225	157	220	5								
1574+00.00	110	0	131	62		303	394	-215	0	0	223	155	217	6								
1574+50.00	146	0	149	66		361	469	-353	0	0	225	157	220	5								
1575+00.00	178	0	137	66		381	495	-359	0	0	221	152	213	8								
1575+50.00	224	0	127	66		417	542	-407	0	0	212	142	199	13								
1576+00.00	248	0	123	65		436	567	-426	0	0	210	140	196	14								
1576+50.00	253	0	124	64		441	573	-458	0	0	202	131	183	19								
1577+00.00	238	0	124	62		424	551	-451	0	0	196	125	175	21								
1577+50.00	191	0	118	59		368	478	-367	0	0	197	126	176	21								
1578+00.00	158	0	105	59		322	419	-280	0	0	195	124	174	21								
1578+50.00	156	0	97	62		315	410	-275	0	0	190	118	165	25								
1579+00.00	148	0	93	64		305	397	-277	0	0	186	114	160	26								
1579+50.00	117	0	82	65		264	343	-198	0	0	177	113	158	19								
1580+00.00	69	0	72	60	109	310	403	-212	0	0	178	114	160	18								
1580+50.00	38	0	58	48		144	187	67	0	0	190	118	165	25								
1581+00.00	23	0	44	37		104	135	252	0	0	173	125	175	-2								
1581+50.00	11	0	37	20	84	152	198	216	0	0	162	114	160	3								
1582+00.00	3	0	28	6		37	48	333	0	0	181	109	153	28								
1582+50.00	1	0	21			22	29	455	0	0	192	129	181	11								
1583+00.00	1	0	20		83	104	135	432	0	0	200	138	193	7								
1583+50.00	2	0	23			25	33	547	0	0	208	138	193	15								
1584+00.00	3	0	25			28	36	524	0	0	210	140	196	14								
1584+50.00	3	0	32			35	46	463	0	0	207	137	192	15								
1585+00.00	14	0	46			60	78	369	0	0	201	130	182	19								
1585+50.00	29	0	59			88	114	285	0	0	195	124	174	21								
1586+00.00	39	0	80			119	155	205	0	0	191	120	168	23								
1586+50.00	52	0	104			156	203	109	0	0	182	110	154	28								
1587+00.00	71	0	119	1	9	200	260	2	0	0	176	103	144	32								
1587+50.00	98	0	125	3		226	294	-54	0	0	179	107	150	29								
1588+00.00	130	0	126	6		262	341	-107	0	0	183	111	155	28								
1588+50.00	155	0	124	11		290	377	-151	0	0	185	113	158	27								
1589+00.00	175	0	121	17		313	407	-188	0	0	187	115	161	26								
1589+50.00	194	0	116	23		333	433	-231	0	0	186	115	161	25								
1590+00.00	199	0	113	30		342	445	-266	0	0	184	112	157	27								
1590+50.00	201	0	107	36		344	447	-264	0	0	184	112	157	27								
1591+00.00	194	0	104	42		340	442	-260	0	0	185	113	158	27								
1591+50.00	233	0	100	48	51	432	562	-387	0	0	183	111	155	28								
1592+00.00	282	127	94	54		557	724	-410	0	0	183	110	154	29								
1592+50.00	284	131	89	56		560	728	-420	0	0	180	109	153	27								
1593+00.00	278	147	85	55		565	735	-423	0	0	171	103	144	27								
1593+50.00	270	170	81	56		577	750	-411	0	0	161	91	127	34								
1594+00.00	263	198	81	53		595	774	-410	0	0	153	80	112	41								
1594+50.00	248	229	82	43		602	783	-396	0	0	148	73	102	46								
1595+00.00	231	258	81	33		603	784	-389	0	0	143	69	97	46								
1595+50.00																						
Subtotals:	7,432	1,260	5,601	2,746	336	17,375	22,588	-2,347	0	0	12,970	8,296	11,614	1,356								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Cut

Station	[1] Total Cut Unadjusted Volume	[2] Total Class 10 Unadjusted Volume	[3] Topsoil Cut Volume	[4] Template Unsuitable Type B Volume	[5] Template Unsuitable Type C Volume	[6] Template Pavement Removal Volume	[7] Template Select Loam Volume	[8] Template Waste Volume	[9] Manually Calculated Cut Adjustments (+/- Cut)	[10] [2]+[4]+[5]+[7]+[9] Total Cut Adjusted	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
1595+50.00	537	399	138	0	0	47	0	0		399												
1596+00.00	581	438	143	0	0	57	0	0		438												
1596+50.00	317	139	178	0	0	63	0	0		139												
1597+00.00	421	208	213	0	0	67	0	0		208												
1597+50.00	416	206	210	0	0	69	0	0		206												
1598+00.00	291	120	171	0	0	69	0	0		120												
1598+50.00	282	130	152	0	0	69	0	0		130												
1599+00.00	365	201	163	0	0	69	0	0		201												
1599+50.00	377	217	161	0	0	69	0	0		217												
1600+00.00	349	192	157	0	0	69	0	0		192												
1600+50.00	334	172	161	0	0	69	0	0		172												
1601+00.00	329	165	163	0	0	69	0	0		165												
1601+50.00	322	160	162	0	0	69	0	0		160												
1602+00.00	334	166	169	0	0	69	0	0		166												
1602+50.00	357	184	174	0	0	69	0	0		184												
1603+00.00	365	196	169	0	0	70	0	0		196												
1603+50.00	365	204	162	0	0	70	0	0		204												
1604+00.00	380	218	162	0	0	70	0	0		218												
1604+50.00	375	225	151	0	0	70	0	0		225												
1605+00.00	346	203	144	0	0	70	0	0		203												
1605+50.00	317	169	148	0	0	70	0	0		169												
1606+00.00	290	149	141	0	0	70	0	0		149												
1606+50.00	267	124	134	0	0	70	0	9		124												
1607+00.00	238	95	129	0	0	70	0	14		95												
1607+50.00	237	96	129	0	0	70	0	12		96												
1608+00.00	279	127	141	0	0	69	0	11		127												
1608+50.00	306	91	147	65	0	69	0	4		156												
1609+00.00	276	33	147	96	0	70	0	0		129												
1609+50.00	222	30	142	49	0	70	0	0		79												
1610+00.00	231	29	146	56	0	70	0	0		85												
1610+50.00	264	65	162	37	0	70	0	0		102												
1611+00.00	275	104	171	0	0	70	0	0		104												
1611+50.00	296	117	180	0	0	70	0	0		117												
1612+00.00	389	184	205	0	0	70	0	0		184												
1612+50.00	369	171	197	0	0	69	0	0		171												
1613+00.00	219	64	155	0	0	70	0	0		64												
1613+50.00	179	32	147	0	0	69	0	0		32												
1614+00.00	190	33	157	0	0	67	0	0		33												
1614+50.00	183	23	160	0	0	65	0	0		23												
1615+00.00	178	14	164	0	0	62	0	0		14												
1615+50.00	173	8	165	0	0	56	0	0		8												
1616+00.00	177	11	166	0	0	51	0	0		11												
1616+50.00	196	37	159	0	0	49	0	0		37												
1617+00.00	363	186	177	0	0	41	0	0		186												
1617+50.00	355	185	169	0	0	46	0	0		185												
1618+00.00	193	44	149	0	0	53	0	0		44												
1618+50.00	192	28	165	0	0	51	0	0		28												
1619+00.00	187	21	165	0	0	58	0	0		21												
1619+50.00	179	18	161	0	0	64	0	0		18												
1620+00.00	173	15	158	0	0	67	0	0		15												
1620+50.00	168	11	157	0	0	67	0	0		11												
1621+00.00	168	8	159	0	0	67	0	0		8												
1621+50.00	167	7	160	0	0	67	0	0		7												
1622+00.00	201	26	175	0	0	66	0	0		26												
1622+50.00	253	56	197	0	0	64	0	0		56												
1623+00.00	270	62	209	0	0	60	0	0		62												
1623+50.00	246	43	202	0	0	57	0	0		43												
1624+00.00	230	37	193	0	0	58	0	0		37												
1624+50.00	247	46	201	0	0	60	0	0		46												
1625+00.00	264	52	212	0	0	62	0	0		52												
1625+50.00	261	55	206	0	0	65	0	0		55												
1626+00.00	288	89	199	0	0	67	0	0		89												
1626+50.00	332	128	204	0	0	68	0	0		128												
1627+00.00	350	147	203	0	0	69	0	0		147												
1627+50.00	361	165	196	0	0	70	0	0		165												
1628+00.00	417	220	197	0	0	70	0	0		220												
1628+50.00	468	275	193	0	0	70	0	0		275												
1629+00.00	488	303	185	0	0	70	0	0		303												
1629+50.00																						
Subtotals:	20,015	8,176	11,487	303	0	4,436	0	50	0	8,479												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.6A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
1595+50.00	219	289	79	22		609	792	-393	0	0	138	65	91	47								
1596+00.00	220	329	79	12		640	832	-394	0	0	143	69	97	46								
1596+50.00	200	0	81	6		287	373	-234	0	0	178	106	148	30								
1597+00.00	135	0	81	3		219	285	-77	0	0	213	143	200	13								
1597+50.00	108	0	77	1		186	242	-36	0	0	210	140	196	14								
1598+00.00	124	0	70		34	228	296	-176	0	0	171	98	137	34								
1598+50.00	132	0	68			200	260	-130	0	0	152	77	108	44								
1599+00.00	121	0	66			187	243	-42	0	0	163	89	125	38								
1599+50.00	103	0	60			163	212	5	0	0	161	87	122	39								
1600+00.00	102	0	61			163	212	-20	0	0	157	83	116	41								
1600+50.00	119	0	68			187	243	-71	0	0	161	86	120	41								
1601+00.00	133	0	70			203	264	-99	0	0	163	89	125	38								
1601+50.00	129	0	70			199	259	-99	0	0	162	88	123	39								
1602+00.00	104	0	66			170	221	-55	0	0	169	95	133	36								
1602+50.00	95	0	65			160	208	-24	0	0	174	101	141	33								
1603+00.00	99	0	65			164	213	-17	0	0	169	96	134	35								
1603+50.00	81	0	56			137	178	26	0	0	162	88	123	39								
1604+00.00	56	0	51			107	139	79	0	0	162	88	123	39								
1604+50.00	22	0	33			55	72	154	0	0	151	80	112	39								
1605+00.00	13	0	28			41	53	150	0	0	144	72	101	43								
1605+50.00	30	0	41			71	92	77	0	0	148	73	102	46								
1606+00.00	30	0	42			72	94	55	0	0	141	66	92	49								
1606+50.00	26	0	45			71	92	32	0	0	134	59	83	51								
1607+00.00	23	0	48			71	92	3	0	0	129	53	74	55								
1607+50.00	19	0	46			65	85	12	0	0	129	53	74	55								
1608+00.00	23	0	44	1		68	88	39	0	0	141	65	91	50								
1608+50.00	38	0	49	1		88	114	42	0	0	147	73	102	45								
1609+00.00	37	0	51			88	114	15	0	0	147	72	101	46								
1609+50.00	29	0	53			82	107	-28	0	0	142	66	92	50								
1610+00.00	30	0	52			82	107	-22	0	0	146	71	99	47								
1610+50.00	42	0	51			93	121	-19	0	0	162	89	125	37								
1611+00.00	50	0	63			113	147	-43	0	0	171	98	137	34								
1611+50.00	36	0	60			96	125	-8	0	0	180	108	151	29								
1612+00.00	12	0	47			59	77	107	0	0	205	135	189	16								
1612+50.00	6	0	45			51	66	105	0	0	197	126	176	21								
1613+00.00	22	0	57			79	103	-39	0	0	155	80	112	43								
1613+50.00	76	0	83			159	207	-175	0	0	147	72	101	46								
1614+00.00	139	0	106	2		247	321	-288	0	0	157	80	112	45								
1614+50.00	174	0	114	4		292	380	-357	0	0	160	76	106	54								
1615+00.00	201	0	122	7		330	429	-415	0	0	164	75	105	59								
1615+50.00	227	0	127	14		368	478	-470	0	0	165	76	106	59								
1616+00.00	261	0	127	19		407	529	-518	0	0	166	76	106	60								
1616+50.00	164	0	94	25		283	368	-331	0	0	159	81	113	46								
1617+00.00	24	0	34	28		86	112	74	0	0	177	104	146	31								
1617+50.00	11	0	24	33		68	88	97	0	0	169	104	146	23								
1618+00.00	124	0	79	32		235	306	-262	0	0	149	86	120	29								
1618+50.00	240	0	117	19		376	489	-461	0	0	165	91	127	38								
1619+00.00	253	0	120	12		385	501	-480	0	0	165	92	129	36								
1619+50.00	234	0	118	6		358	465	-447	0	0	161	87	122	39								
1620+00.00	220	0	117	3		340	442	-427	0	0	158	84	118	40								
1620+50.00	224	0	119	3		346	450	-439	0	0	157	83	116	41								
1621+00.00	232	0	123	3		358	465	-457	0	0	159	86	120	39								
1621+50.00	250	0	124	3		377	490	-483	0	0	160	87	122	38								
1622+00.00	226	0	123	4		353	459	-433	0	0	175	102	143	32								
1622+50.00	143	0	107	6		256	333	-277	0	0	197	126	176	21								
1623+00.00	112	0	102	10		224	291	-229	0	0	209	139	195	14								
1623+50.00	178	0	118	13		309	402	-359	0	0	202	132	185	17								
1624+00.00	239	0	126	12		377	490	-453	0	0	193	122	171	22								
1624+50.00	266	0	128	10		404	525	-479	0	0	201	131	183	18								
1625+00.00	292	0	135	8		435	566	-514	0	0	212	142	199	13								
1625+50.00	291	0	134	5		430	559	-504	0	0	206	136	190	16								
1626+00.00	286	0	123	3		412	536	-447	0	0	199	128	179	20								
1626+50.00	277	0	111	2		390	507	-379	0	0	204	134	188	16								
1627+00.00	259	0	98	1		358	465	-318	0	0	203	132	185	18								
1627+50.00	252	0	91			343	446	-281	0	0	196	125	175	21								
1628+00.00	246	0	86			332	432	-212	0	0	197	126	176	21								
1628+50.00	236	0	82			318	413	-138	0	0	193	122	171	22								
1629+00.00	217	0	80			297	386	-83	0	0	185	114	160	25								
1629+50.00																						
Subtotals:	9,342	618	5,480	333	34	15,807	20,549	-12,070	0	0	11,487	6,478	9,069	2,418								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
1629+50.00	475	294	181	0	0	70	0	0		294												
1630+00.00	415	242	173	0	0	70	0	0		242												
1630+50.00	388	223	165	0	0	69	0	0		223												
1631+00.00	337	182	155	0	0	69	0	0		182												
1631+50.00	254	108	146	0	0	69	0	0		108												
1632+00.00	291	132	159	0	0	70	0	0		132												
1632+50.00	318	152	166	0	0	70	0	0		152												
1633+00.00	266	114	152	0	0	70	0	0		114												
1633+50.00	256	110	146	0	0	69	0	0		110												
1634+00.00	258	110	147	0	0	69	0	0		110												
1634+50.00	244	99	145	0	0	70	0	0		99												
1635+00.00	233	90	143	0	0	70	0	0		90												
1635+50.00	238	92	146	0	0	70	0	0		92												
1636+00.00	240	91	149	0	0	70	0	0		91												
1636+50.00	242	92	151	0	0	70	0	0		92												
1637+00.00	266	109	156	0	0	70	0	0		109												
1637+50.00	314	148	166	0	0	70	0	0		148												
1638+00.00	348	175	173	0	0	70	0	0		175												
1638+50.00	326	154	170	0	0	70	0	2		154												
1639+00.00	267	103	160	0	0	70	0	4		103												
1639+50.00	234	77	155	0	0	70	0	3		77												
1640+00.00	233	76	155	0	0	70	0	3		76												
1640+50.00	231	76	154	0	0	70	0	1		76												
1641+00.00	225	70	154	0	0	70	0	0		70												
1641+50.00	215	60	156	0	0	70	0	0		60												
1642+00.00	210	49	160	0	0	70	0	0		49												
1642+50.00	207	43	164	0	0	69	0	0		43												
1643+00.00	202	39	163	0	0	69	0	0		39												
1643+50.00	210	49	161	0	0	68	0	0		49												
1644+00.00	244	85	159	0	0	68	0	0		85												
1644+50.00	237	85	152	0	0	67	0	0		85												
1645+00.00	195	46	149	0	0	66	0	0		46												
1645+50.00	175	29	147	0	0	66	0	0		29												
1646+00.00	180	34	146	0	0	66	0	0		34												
1646+50.00	199	47	152	0	0	66	0	0		47												
1647+00.00	210	54	155	0	0	66	0	0		54												
1647+50.00	214	58	156	0	0	66	0	0		58												
1648+00.00	216	60	156	0	0	66	0	0		60												
1648+50.00	219	61	158	0	0	66	0	0		61												
1649+00.00	217	60	157	0	0	65	0	0		60												
1649+50.00	217	65	151	0	0	64	0	0		65												
1650+00.00	230	80	149	0	0	63	0	0		80												
1650+50.00	278	117	160	0	0	61	0	0		117												
1651+00.00	382	202	180	0	0	61	0	0		202												
1651+50.00	476	281	195	0	0	60	0	0		281												
1652+00.00	499	294	205	0	0	59	0	0		294												
1652+50.00	406	204	203	0	0	57	0	0		204												
1653+00.00	310	125	185	0	0	54	0	0		125												
1653+50.00	331	155	175	0	0	52	0	0		155												
1654+00.00	387	190	197	0	0	53	0	0		190												
1654+50.00	422	202	220	0	0	55	0	0		202												
1655+00.00	450	227	223	0	0	57	0	0		227												
1655+50.00	379	175	204	0	0	60	0	0		175												
1656+00.00	296	123	172	0	0	61	0	0		123												
1656+50.00	313	154	158	0	0	63	0	0		154												
1657+00.00	358	199	159	0	0	65	0	0		199												
1657+50.00	404	242	162	0	0	67	0	0		242												
1658+00.00	415	250	165	0	0	68	0	0		250												
1658+50.00	402	231	171	0	0	69	0	0		231												
1659+00.00	386	210	177	0	0	69	0	0		210												
1659+50.00	380	201	179	0	0	69	0	0		201												
1660+00.00	361	180	182	0	0	68	0	0		180												
1660+50.00	314	133	181	0	0	67	0	0		133												
1661+00.00	240	72	169	0	0	66	0	0		72												
1661+50.00	385	170	215	0	0	64	0	0		170												
1662+00.00	379	168	211	0	0	64	0	0		168												
1662+50.00	186	35	150	0	0	62	0	0		35												
1663+00.00	182	32	150	0	0	59	0	0		32												
1663+50.00																						
Subtotals:	20,017	8,695	11,306	0	0	4,486	0	13	0	8,695												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.7A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
1629+50.00	199	0	77			276	359	-65	0	0	181	109	153	28								
1630+00.00	180	0	75			255	332	-90	0	0	173	100	140	33								
1630+50.00	147	0	70			217	282	-59	0	0	165	91	127	38								
1631+00.00	117	0	64			181	235	-53	0	0	155	81	113	42								
1631+50.00	82	0	61			143	186	-78	0	0	146	71	99	47								
1632+00.00	34	0	50			84	109	23	0	0	159	85	119	40								
1632+50.00	31	0	47			78	101	51	0	0	166	93	130	36								
1633+00.00	76	0	62			138	179	-65	0	0	152	78	109	43								
1633+50.00	110	0	71			181	235	-125	0	0	146	71	99	47								
1634+00.00	130	0	79			209	272	-162	0	0	147	72	101	46								
1634+50.00	145	0	83			228	296	-197	0	0	145	70	98	47								
1635+00.00	156	0	84			240	312	-222	0	0	143	68	95	48								
1635+50.00	166	0	85			251	326	-234	0	0	146	71	99	47								
1636+00.00	179	0	86			265	345	-254	0	0	149	74	104	45								
1636+50.00	196	0	86			282	367	-275	0	0	151	77	108	43								
1637+00.00	208	0	86			294	382	-273	0	0	156	82	115	41								
1637+50.00	211	0	81			292	380	-232	0	0	166	93	130	36								
1638+00.00	212	0	78			290	377	-202	0	0	173	101	141	32								
1638+50.00	210	0	80			290	377	-223	0	0	170	96	134	36								
1639+00.00	207	0	81			288	374	-271	0	0	160	86	120	40								
1639+50.00	212	0	82			294	382	-305	0	0	155	80	112	43								
1640+00.00	208	0	82			290	377	-301	0	0	155	81	113	42								
1640+50.00	201	0	81			282	367	-291	0	0	154	80	112	42								
1641+00.00	211	0	82			293	381	-311	0	0	154	80	112	42								
1641+50.00	236	0	85			321	417	-357	0	0	156	82	115	41								
1642+00.00	268	0	92			360	468	-419	0	0	160	86	120	40								
1642+50.00	295	0	97			392	510	-467	0	0	164	90	126	38								
1643+00.00	293	0	97			390	507	-468	0	0	163	89	125	38								
1643+50.00	247	0	91	1		339	441	-392	0	0	161	87	122	39								
1644+00.00	145	0	80	1		226	294	-209	0	0	159	84	118	41								
1644+50.00	107	0	74	2		183	238	-153	0	0	152	77	108	44								
1645+00.00	202	0	86	3		291	378	-332	0	0	149	75	105	44								
1645+50.00	279	0	98	3	212	592	770	-741	0	0	147	72	101	46								
1646+00.00	289	0	99	4		392	510	-476	0	0	146	71	99	47								
1646+50.00	286	0	99	4		389	506	-459	0	0	152	77	108	44								
1647+00.00	284	0	99	4		387	503	-449	0	0	155	81	113	42								
1647+50.00	278	0	99	4		381	495	-437	0	0	156	82	115	41								
1648+00.00	258	0	97	4		359	467	-407	0	0	156	82	115	41								
1648+50.00	198	0	91	4		293	381	-320	0	0	158	83	116	42								
1649+00.00	151	0	86	5		242	315	-255	0	0	157	83	116	41								
1649+50.00	132	0	81	6		219	285	-220	0	0	151	77	108	43								
1650+00.00	102	0	72	7		181	235	-155	0	0	149	74	104	45								
1650+50.00	82	0	64	9		155	202	-85	0	0	160	86	120	40								
1651+00.00	74	0	60	9		143	186	16	0	0	180	108	151	29								
1651+50.00	77	0	61	10		148	192	89	0	0	195	125	175	20								
1652+00.00	99	0	68	11		178	231	63	0	0	205	136	190	15								
1652+50.00	159	0	82	13		254	330	-126	0	0	203	132	185	18								
1653+00.00	197	0	90	16		303	394	-269	0	0	185	115	161	24								
1653+50.00	171	0	92	18		281	365	-210	0	0	175	108	151	24								
1654+00.00	163	0	102	17		282	367	-177	0	0	197	131	183	14								
1654+50.00	187	0	108	14		309	402	-200	0	0	220	157	220	0								
1655+00.00	217	0	105	12		334	434	-207	0	0	223	162	227	-4								
1655+50.00	224	0	94	10		328	426	-251	0	0	204	144	202	3								
1656+00.00	209	0	83	8		300	390	-267	0	0	172	110	154	18								
1656+50.00	194	0	80	6		280	364	-210	0	0	158	94	132	26								
1657+00.00	174	0	78	4		256	333	-134	0	0	159	95	133	26								
1657+50.00	159	0	78	2		239	311	-69	0	0	162	98	137	25								
1658+00.00	158	0	80	1		239	311	-61	0	0	165	98	137	28								
1658+50.00	235	0	87			322	419	-188	0	0	171	102	143	28								
1659+00.00	319	0	95			414	538	-328	0	0	177	105	147	30								
1659+50.00	353	0	98			451	586	-385	0	0	179	107	150	29								
1660+00.00	331	0	100	1		432	562	-382	0	0	182	110	154	28								
1660+50.00	260	0	99	2		361	469	-336	0	0	181	109	153	28								
1661+00.00	191	0	97	4		292	380	-308	0	0	169	95	133	36								
1661+50.00	161	0	113	6		280	364	-194	0	0	215	146	204	11								
1662+00.00	182	0	114	7		303	394	-226	0	0	211	142	199	12								
1662+50.00	213	0	98	9		320	416	-381	0	0	150	75	105	45								
1663+00.00	212	0	97	10		319	415	-383	0	0	150	75	105	45								
1663+50.00																						
Subtotals:	12,879	0	5,759	251	212	19,101	24,831	-16,136	0	0	11,306	6,407	8,970	2,336								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Cut

Station	[1] Total Cut Unadjusted Volume	[2] Total Class 10 Unadjusted Volume	[3] Topsoil Cut Volume	[4] Template Unsuitable Type B Volume	[5] Template Unsuitable Type C Volume	[6] Template Pavement Removal Volume	[7] Template Select Loam Volume	[8] Template Waste Volume	[9] Manually Calculated Cut Adjustments (+/- Cut)	[10] [2]+[4]+[5]+[7]+[9] Total Cut Adjusted	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
1663+50.00	184	33	151	0	0	59	0	0		33												
1664+00.00	201	46	155	0	0	59	0	0		46												
1664+50.00	202	48	155	0	0	59	0	0		48												
1665+00.00	179	31	148	0	0	59	0	0		31												
1665+50.00	137	11	126	0	0	57	0	0		11												
1666+00.00	101	2	99	0	0	59	0	0		2												
1666+50.00	93	3	89	0	0	61	0	0		3												
1667+00.00	93	4	90	0	0	62	0	0		4												
1667+50.00	95	4	91	0	0	62	0	0		4												
1668+00.00	95	5	90	0	0	64	0	0		5												
1668+50.00	103	10	93	0	0	66	0	0		10												
1669+00.00	111	14	97	0	0	68	0	0		14												
1669+50.00	112	16	96	0	0	68	0	0		16												
1670+00.00	116	18	98	0	0	68	0	0		18												
1670+50.00	113	21	92	0	0	76	0	0		21												
1671+00.00	116	26	90	0	0	77	0	0		26												
1671+50.00	127	28	99	0	0	70	0	0		28												
1672+00.00	128	28	100	0	0	70	0	0		28												
1672+50.00	127	30	98	0	0	70	0	0		30												
1673+00.00	129	32	98	0	0	70	0	0		32												
1673+50.00	132	34	98	0	0	70	0	0		34												
1674+00.00	239	111	128	0	0	70	0	0		111												
1674+50.00	257	116	141	0	0	69	0	0		116												
1675+00.00	162	46	116	0	0	70	0	0		46												
1675+50.00	149	46	103	0	0	70	0	0		46												
1676+00.00	149	48	101	0	0	70	0	0		48												
1676+50.00	148	49	99	0	0	70	0	0		49												
1677+00.00	147	50	98	0	0	70	0	0		50												
1677+50.00	150	51	100	0	0	69	0	0		51												
1678+00.00	155	52	104	0	0	70	0	0		52												
1678+50.00	155	53	102	0	0	70	0	0		53												
1679+00.00	156	55	100	0	0	70	0	0		55												
1679+50.00	159	58	101	0	0	70	0	0		58												
1680+00.00	166	61	105	0	0	70	0	0		61												
1680+50.00	168	39	104	0	26	70	0	0		65												
1681+00.00	164	14	98	0	52	70	0	0		66												
1681+50.00	164	15	96	0	53	70	0	0		68												
1682+00.00	175	18	103	0	54	70	0	0		72												
1682+50.00	177	39	103	0	27	70	0	8		66												
1683+00.00	173	59	98	0	0	70	0	16		59												
1683+50.00	173	62	97	0	0	70	0	15		62												
1684+00.00	200	64	105	0	0	70	0	30		64												
1684+50.00	204	74	107	0	0	70	0	23		74												
1685+00.00	186	85	101	0	0	70	0	0		85												
1685+50.00	189	87	102	0	0	70	0	0		87												
1686+00.00	398	259	139	0	0	70	0	0		259												
1686+50.00	400	261	139	0	0	70	0	0		261												
1687+00.00	195	92	103	0	0	70	0	0		92												
1687+50.00	196	92	104	0	0	70	0	0		92												
1688+00.00	194	92	102	0	0	70	0	0		92												
1688+50.00	194	94	100	0	0	70	0	0		94												
1689+00.00	207	103	104	0	0	70	0	0		103												
1689+50.00	411	245	166	0	0	69	0	0		245												
1690+00.00	481	300	182	0	0	70	0	0		300												
1690+50.00	345	201	144	0	0	70	0	0		201												
1691+00.00	321	176	145	0	0	70	0	0		176												
1691+50.00	306	168	139	0	0	70	0	0		168												
1692+00.00	300	164	137	0	0	70	0	0		164												
1692+50.00	297	161	136	0	0	70	0	0		161												
1693+00.00	295	160	135	0	0	70	0	0		160												
1693+50.00	293	158	135	0	0	70	0	0		158												
1694+00.00	289	154	135	0	0	70	0	0		154												
1694+50.00	303	164	139	0	0	70	0	0		164												
1695+00.00	318	177	141	0	0	70	0	0		177												
1695+50.00	309	167	142	0	0	70	0	0		167												
1696+00.00	338	191	147	0	0	72	0	0		191												
1696+50.00	323	178	146	0	0	72	0	0		178												
1697+00.00	268	126	142	0	0	70	0	0		126												
1697+50.00																						
Subtotals:	13,840	5,679	7,867	0	212	4,665	0	92	0	5,891												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.8A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
1663+50.00	181	0	95	10		286	372	-339	0	0	151	76	106	45								
1664+00.00	170	0	94	11		275	358	-312	0	0	155	80	112	43								
1664+50.00	171	0	92	11		274	356	-308	0	0	155	81	113	42								
1665+00.00	178	0	93	11		282	367	-336	0	0	148	73	102	46								
1665+50.00	178	0	94	13		285	371	-360	0	0	126	51	71	55								
1666+00.00	152	0	88	11		251	326	-324	0	0	99	31	43	56								
1666+50.00	129	0	81	9		219	285	-282	0	0	89	29	41	48								
1667+00.00	131	0	81	8		220	286	-282	0	0	90	30	42	48								
1667+50.00	153	0	83	8		244	317	-313	0	0	91	33	46	45								
1668+00.00	166	0	81	6		253	329	-324	0	0	90	35	49	41								
1668+50.00	165	0	80	4		249	324	-314	0	0	93	35	49	44								
1669+00.00	149	0	78	2		229	298	-284	0	0	97	34	48	49								
1669+50.00	139	0	77	2		218	283	-267	0	0	96	33	46	50								
1670+00.00	150	0	78	2		230	299	-281	0	0	98	33	46	52								
1670+50.00	84	0	65	2		151	196	-175	0	0	92	28	39	53								
1671+00.00	26	0	57	1		84	109	-83	0	0	90	20	28	62								
1671+50.00	127	0	71			198	257	-229	0	0	99	23	32	67								
1672+00.00	207	0	80			287	373	-345	0	0	100	28	39	61								
1672+50.00	211	0	78			289	376	-346	0	0	98	27	38	60								
1673+00.00	217	0	78			295	384	-352	0	0	98	27	38	60								
1673+50.00	202	0	77			279	363	-329	0	0	98	28	39	59								
1674+00.00	168	0	75			243	316	-205	0	0	128	58	81	47								
1674+50.00	165	0	80			245	319	-203	0	0	141	70	98	43								
1675+00.00	150	0	81			231	300	-254	0	0	116	41	57	59								
1675+50.00	143	0	73			216	281	-235	0	0	103	30	42	61								
1676+00.00	183	0	77			260	338	-290	0	0	101	30	42	59								
1676+50.00	198	0	77			275	358	-309	0	0	99	29	41	58								
1677+00.00	202	0	76			278	361	-311	0	0	98	28	39	59								
1677+50.00	207	0	77			284	369	-318	0	0	100	29	41	59								
1678+00.00	213	0	81			294	382	-330	0	0	104	32	45	59								
1678+50.00	205	0	79			284	369	-316	0	0	102	31	43	59								
1679+00.00	192	0	77			269	350	-295	0	0	100	28	39	61								
1679+50.00	192	0	77			269	350	-292	0	0	101	29	41	60								
1680+00.00	180	0	77			257	334	-273	0	0	105	31	43	62								
1680+50.00	154	0	73			227	295	-230	0	0	104	30	42	62								
1681+00.00	119	0	66			185	241	-175	0	0	98	31	43	55								
1681+50.00	72	0	60			132	172	-104	0	0	96	33	46	50								
1682+00.00	43	0	61			104	135	-63	0	0	103	38	53	50								
1682+50.00	47	0	61			108	140	-74	0	0	103	37	52	51								
1683+00.00	82	0	63			145	189	-130	0	0	98	32	45	53								
1683+50.00	140	0	69			209	272	-210	0	0	97	31	43	54								
1684+00.00	177	0	87			264	343	-279	0	0	105	38	53	52								
1684+50.00	200	0	89			289	376	-302	0	0	107	37	52	55								
1685+00.00	212	0	76			288	374	-289	0	0	101	27	38	63								
1685+50.00	210	0	76			286	372	-285	0	0	102	27	38	64								
1686+00.00	201	0	75			276	359	-100	0	0	139	65	91	48								
1686+50.00	194	0	74		30	298	387	-126	0	0	139	64	90	49								
1687+00.00	194	0	75			269	350	-258	0	0	103	27	38	65								
1687+50.00	183	0	76			259	337	-245	0	0	104	31	43	61								
1688+00.00	169	0	74			243	316	-224	0	0	102	33	46	56								
1688+50.00	162	0	72			234	304	-210	0	0	100	33	46	54								
1689+00.00	131	0	67			198	257	-154	0	0	104	33	46	58								
1689+50.00	91	0	67			158	205	40	0	0	166	101	141	25								
1690+00.00	73	0	66			139	181	119	0	0	182	121	169	13								
1690+50.00	99	0	62			161	209	-8	0	0	144	80	112	32								
1691+00.00	133	0	65			198	257	-81	0	0	145	81	113	32								
1691+50.00	136	0	65			201	261	-93	0	0	139	75	105	34								
1692+00.00	135	0	65			200	260	-96	0	0	137	71	99	38								
1692+50.00	141	0	67			208	270	-109	0	0	136	68	95	41								
1693+00.00	156	0	70			226	294	-134	0	0	135	65	91	44								
1693+50.00	168	0	72			240	312	-154	0	0	135	61	85	50								
1694+00.00	185	0	73			258	335	-181	0	0	135	60	84	51								
1694+50.00	201	0	75			276	359	-195	0	0	139	64	90	49								
1695+00.00	205	0	75			280	364	-187	0	0	141	66	92	49								
1695+50.00	215	0	78			293	381	-214	0	0	142	67	94	48								
1696+00.00	113	0	46			159	207	-16	0	0	147	74	104	43								
1696+50.00	106	0	45		25	176	229	-51	0	0	146	74	104	42								
1697+00.00	189	0	78			267	347	-221	0	0	142	67	94	48								
1697+50.00																						
Subtotals:	10,720	0	5,071	111	55	15,957	20,744	-14,853	0	0	7,867	3,143	4,400	3,467								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
1697+50.00	267	125	142	0	0	70	0	0		125												
1698+00.00	273	129	144	0	0	70	0	0		129												
1698+50.00	280	132	147	0	0	70	0	0		132												
1699+00.00	305	152	153	0	0	70	0	0		152												
1699+50.00	332	171	160	0	0	70	0	0		171												
1700+00.00	459	259	200	0	0	70	0	0		259												
1700+50.00	605	374	232	0	0	70	0	0		374												
1701+00.00	660	433	227	0	0	70	0	0		433												
1701+50.00	578	368	210	0	0	70	0	0		368												
1702+00.00	658	469	189	0	0	70	0	0		469												
1702+50.00	561	378	184	0	0	70	0	0		378												
1703+00.00	503	327	176	0	0	70	0	0		327												
1703+50.00	454	292	162	0	0	70	0	0		292												
1704+00.00	438	281	157	0	0	70	0	0		281												
1704+50.00	438	276	162	0	0	70	0	0		276												
1705+00.00	443	278	165	0	0	69	0	0		278												
1705+50.00	465	300	164	0	0	70	0	0		300												
1706+00.00	541	372	169	0	0	70	0	0		372												
1706+50.00	570	395	175	0	0	69	0	0		395												
1707+00.00	470	299	170	0	0	69	0	0		299												
1707+50.00	368	206	162	0	0	69	0	0		206												
1708+00.00	318	162	155	0	0	70	0	0		162												
1708+50.00	300	146	153	0	0	70	0	0		146												
1709+00.00	302	150	152	0	0	70	0	0		150												
1709+50.00	312	163	149	0	0	70	0	0		163												
1710+00.00	333	187	146	0	0	69	0	0		187												
1710+50.00	271	129	143	0	0	69	0	0		129												
1711+00.00	288	150	139	0	0	70	0	0		150												
1711+50.00	298	170	127	0	0	70	0	0		170												
1712+00.00	349	213	136	0	0	70	0	0		213												
1712+50.00	436	273	163	0	0	69	0	0		273												
1713+00.00	478	303	175	0	0	69	0	0		303												
1713+50.00	463	284	179	0	0	69	0	0		284												
1714+00.00	382	211	171	0	0	69	0	0		211												
1714+50.00	312	147	165	0	0	69	0	0		147												
1715+00.00	526	367	159	0	0	69	0	0		367												
1715+50.00	492	338	154	0	0	67	0	0		338												
1716+00.00	550	390	160	0	0	65	0	0		390												
1716+50.00	342	170	172	0	0	59	0	0		170												
1717+00.00	252	109	142	0	0	48	0	0		109												
1717+50.00	102	1	101	0	0	45	0	0		1												
1718+00.00	104	2	101	0	0	54	0	0		2												
1718+50.00	102	5	98	0	0	62	0	0		5												
1719+00.00	98	8	90	0	0	65	0	0		8												
1719+50.00	105	14	92	0	0	68	0	0		14												
1720+00.00	140	24	116	0	0	70	0	0		24												
1720+50.00	171	36	135	0	0	70	0	0		36												
1721+00.00	193	57	136	0	0	70	0	0		57												
1721+50.00	229	95	134	0	0	70	0	0		95												
1722+00.00	278	145	133	0	0	70	0	0		145												
1722+50.00	339	200	139	0	0	70	0	0		200												
1723+00.00	363	216	147	0	0	70	0	0		216												
1723+50.00	339	188	150	0	0	70	0	0		188												
1724+00.00	313	165	148	0	0	70	0	0		165												
1724+50.00	306	81	146	80	0	70	0	0		161												
1725+00.00	318	3	146	169	0	70	0	0		172												
1725+50.00	344	2	151	191	0	70	0	0		193												
1726+00.00	380	2	161	216	0	70	0	0		218												
1726+50.00	407	2	166	238	0	70	0	0		240												
1727+00.00	451	2	171	277	0	70	0	0		279												
1727+50.00	497	2	179	316	0	70	0	0		318												
1728+00.00	417	2	170	245	0	70	0	0		247												
1728+50.00	286	51	152	84	0	70	0	0		135												
1729+00.00	226	80	146	0	0	70	0	0		80												
1729+50.00	170	45	124	0	0	70	0	0		45												
1730+00.00	128	28	100	0	0	70	0	0		28												
1730+50.00	230	83	148	0	0	70	0	0		83												
1731+00.00	438	132	200	0	0	70	107	0		239												
1731+50.00																						
Subtotals:	24,146	11,749	10,470	1,816	0	4,651	107	0	0	13,672												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.9A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25]+[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
1697+50.00	155	0	74			229	298	-173	0	0	142	66	92	50								
1698+00.00	149	0	71			220	286	-157	0	0	144	69	97	47								
1698+50.00	177	0	75			252	328	-196	0	0	147	72	101	46								
1699+00.00	204	0	80			284	369	-217	0	0	153	78	109	44								
1699+50.00	217	0	82			299	389	-218	0	0	160	86	120	40								
1700+00.00	224	0	100			324	421	-162	0	0	200	130	182	18								
1700+50.00	222	0	104			326	424	-50	0	0	232	164	230	3								
1701+00.00	157	0	83			240	312	121	0	0	227	159	223	5								
1701+50.00	134	0	81			215	280	89	0	0	210	140	196	14								
1702+00.00	234	230	94			558	725	-256	0	0	189	117	164	25								
1702+50.00	315	182	102			599	779	-401	0	0	184	112	157	27								
1703+00.00	363	157	110			630	819	-492	0	0	176	103	144	32								
1703+50.00	411	134	117			662	861	-569	0	0	162	89	125	37								
1704+00.00	463	117	122			702	913	-632	0	0	157	83	116	41								
1704+50.00	511	103	128			742	965	-689	0	0	162	88	123	39								
1705+00.00	501	95	129			725	943	-665	0	0	165	92	129	36								
1705+50.00	407	101	125			633	823	-523	0	0	164	91	127	37								
1706+00.00	397	127	117			641	833	-461	0	0	169	96	134	35								
1706+50.00	376	135	117			628	816	-421	0	0	175	102	143	32								
1707+00.00	364	100	128			592	770	-471	0	0	170	97	136	34								
1707+50.00	465	64	135	1		665	865	-659	0	0	162	88	123	39								
1708+00.00	510	55	135			700	910	-748	0	0	155	81	113	42								
1708+50.00	507	55	136			698	907	-761	0	0	153	79	111	42								
1709+00.00	485	57	134			676	879	-729	0	0	152	78	109	43								
1709+50.00	438	63	130			631	820	-657	0	0	149	74	104	45								
1710+00.00	362	75	124			561	729	-542	0	0	146	71	99	47								
1710+50.00	270	0	116			386	502	-373	0	0	143	68	95	48								
1711+00.00	181	0	102			283	368	-218	0	0	139	65	91	48								
1711+50.00	72	0	79			151	196	-26	0	0	127	57	80	47								
1712+00.00	12	0	63			75	98	116	0	0	136	71	99	37								
1712+50.00	36	0	72			108	140	133	0	0	163	96	134	29								
1713+00.00	57	0	85			142	185	118	0	0	175	104	146	29								
1713+50.00	84	0	92			176	229	55	0	0	179	106	148	31								
1714+00.00	149	0	99			248	322	-111	0	0	171	98	137	34								
1714+50.00	251	0	109			360	468	-321	0	0	165	92	129	36								
1715+00.00	374	251	113			738	959	-592	0	0	159	85	119	40								
1715+50.00	427	256	112	3		798	1,037	-699	0	0	154	80	112	42								
1716+00.00	373	297	110	5		785	1,021	-631	0	0	160	89	125	35								
1716+50.00	324	0	109	11		444	577	-407	0	0	172	109	153	19								
1717+00.00	273	0	104	22		399	519	-410	0	0	142	79	111	31								
1717+50.00	242	0	95	24		361	469	-468	0	0	101	38	53	48								
1718+00.00	262	0	94	15		371	482	-480	0	0	101	41	57	44								
1718+50.00	251	0	90	7		348	452	-447	0	0	98	40	56	42								
1719+00.00	216	0	82	5		303	394	-386	0	0	90	34	48	42								
1719+50.00	195	0	78	2		275	358	-344	0	0	92	31	43	49								
1720+00.00	190	0	86			276	359	-335	0	0	116	45	63	53								
1720+50.00	187	0	88			275	358	-322	0	0	135	59	83	52								
1721+00.00	166	0	79			245	319	-262	0	0	136	60	84	52								
1721+50.00	126	0	68			194	252	-157	0	0	134	58	81	53								
1722+00.00	85	0	55			140	182	-37	0	0	133	57	80	53								
1722+50.00	62	0	49			111	144	56	0	0	139	63	88	51								
1723+00.00	73	0	55			128	166	50	0	0	147	72	101	46								
1723+50.00	97	0	63			160	208	-20	0	0	150	76	106	44								
1724+00.00	109	0	65			174	226	-61	0	0	148	73	102	46								
1724+50.00	105	0	64			169	220	-59	0	0	146	71	99	47								
1725+00.00	90	0	61			151	196	-24	0	0	146	71	99	47								
1725+50.00	89	0	62			151	196	-3	0	0	151	77	108	43								
1726+00.00	127	0	68			195	254	-36	0	0	161	88	123	38								
1726+50.00	174	0	73			247	321	-81	0	0	166	92	129	37								
1727+00.00	184	0	75			259	337	-58	0	0	171	99	139	32								
1727+50.00	193	0	77			270	351	-33	0	0	179	107	150	29								
1728+00.00	210	0	78			288	374	-127	0	0	170	97	136	34								
1728+50.00	224	0	81			305	397	-262	0	0	152	78	109	43								
1729+00.00	244	0	91			335	436	-356	0	0	146	71	99	47								
1729+50.00	255	0	91			346	450	-405	0	0	124	54	76	48								
1730+00.00	246	0	82			328	426	-398	0	0	100	36	50	50								
1730+50.00	250	0	103			353	459	-376	0	0	148	89	125	23								
1731+00.00	317	0	114			431	560	-321	0	0	200	142	199	1								
1731+50.00																						
Subtotals:	16,600	2,654	6,365	95	0	25,714	33,428	-19,756	0	0	10,470	5,623	7,872	2,598								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[6]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
1731+50.00	469	152	211	0	0	70	107	0		259												
1732+00.00	452	220	232	0	0	69	0	0		220												
1732+50.00	459	214	245	0	0	69	0	0		214												
1733+00.00	401	174	227	0	0	69	0	0		174												
1733+50.00	344	140	204	0	0	69	0	0		140												
1734+00.00	399	174	225	0	0	69	0	0		174												
1734+50.00	332	138	195	0	0	70	0	0		138												
1735+00.00	171	31	141	0	0	70	0	0		31												
1735+50.00	185	42	143	0	0	70	0	0		42												
1736+00.00	192	49	143	0	0	70	0	0		49												
1736+50.00	196	51	145	0	0	70	0	0		51												
1737+00.00	196	46	150	0	0	70	0	0		46												
1737+50.00	192	38	154	0	0	70	0	0		38												
1738+00.00	195	36	158	0	0	70	0	0		36												
1738+50.00	209	46	163	0	0	70	0	0		46												
1739+00.00	228	65	162	0	0	71	0	0		65												
1739+50.00	242	89	153	0	0	70	0	0		89												
1740+00.00	275	127	148	0	0	70	0	0		127												
1740+50.00	318	163	155	0	0	70	0	0		163												
1741+00.00	351	188	163	0	0	70	0	0		188												
1741+50.00	391	119	169	104	0	70	0	0		223												
1742+00.00	435	42	171	222	0	70	0	0		264												
1742+50.00	489	55	173	260	0	70	0	0		315												
1743+00.00	566	83	176	307	0	70	0	0		390												
1743+50.00	641	110	177	354	0	70	0	0		464												
1744+00.00	683	130	177	376	0	70	0	0		506												
1744+50.00	711	146	179	385	0	70	0	0		531												
1745+00.00	762	151	179	432	0	70	0	0		583												
1745+50.00	740	149	175	416	0	70	0	0		565												
1746+00.00	718	169	171	377	0	70	0	0		546												
1746+50.00	882	321	183	378	0	70	0	0		699												
1747+00.00	964	587	194	184	0	70	0	0		771												
1747+50.00	891	700	191	0	0	70	0	0		700												
1748+00.00	822	633	189	0	0	70	0	0		633												
1748+50.00	788	602	186	0	0	70	0	0		602												
1749+00.00	707	543	164	0	0	70	0	0		543												
1749+50.00	595	447	148	0	0	70	0	0		447												
1750+00.00	505	354	150	0	0	70	0	0		354												
1750+50.00	409	263	146	0	0	70	0	0		263												
1751+00.00	369	226	143	0	0	70	0	0		226												
1751+50.00	359	214	145	0	0	70	0	0		214												
1752+00.00	393	234	159	0	0	70	0	0		234												
1752+50.00	334	187	147	0	0	79	0	0		187												
1753+00.00	289	151	138	0	0	88	0	0		151												
1753+50.00	281	130	150	0	0	80	0	0		130												
1754+00.00	204	63	141	0	0	70	0	0		63												
1754+50.00	178	44	133	0	0	70	0	0		44												
1755+00.00	190	47	143	0	0	70	0	0		47												
1755+50.00	210	54	156	0	0	70	0	0		54												
1756+00.00	214	58	156	0	0	70	0	0		58												
1756+50.00	218	64	154	0	0	70	0	0		64												
1757+00.00	223	69	154	0	0	70	0	0		69												
1757+50.00	231	73	158	0	0	70	0	0		73												
1758+00.00	197	47	150	0	0	70	0	0		47												
1758+50.00	150	15	135	0	0	70	0	0		15												
1759+00.00	141	8	133	0	0	70	0	0		8												
1759+50.00	134	3	131	0	0	69	0	0		3												
1760+00.00	134	2	133	0	0	66	0	0		2												
1760+50.00	135	2	134	0	0	66	0	0		2												
1761+00.00	138	2	136	0	0	68	0	0		2												
1761+50.00	144	4	139	0	0	70	0	0		4												
1762+00.00	147	7	140	0	0	70	0	0		7												
1762+50.00	154	11	143	0	0	70	0	0		11												
1763+00.00	164	19	145	0	0	70	0	0		19												
1763+50.00	176	32	144	0	0	70	0	0		32												
1764+00.00	195	53	142	0	0	70	0	0		53												
1764+50.00	220	84	136	0	0	70	0	0		84												
1765+00.00	221	116	105	0	0	70	0	0		116												
1765+50.00																						
Subtotals:	24,648	9,806	10,938	3,795	0	4,782	107	0	0	13,708												

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
1731+50.00	246	0	95			341	443	-184	0	0	211	147	206	5								
1732+00.00	134	0	101			235	306	-86	0	0	232	169	237	-5								
1732+50.00	147	0	101	1		249	324	-110	0	0	245	188	263	-18								
1733+00.00	186	0	98	1		285	371	-197	0	0	227	166	232	-6								
1733+50.00	234	0	112	1		347	451	-311	0	0	204	140	196	8								
1734+00.00	260	0	129	1		390	507	-333	0	0	225	160	224	1								
1734+50.00	256	0	124			380	494	-356	0	0	195	126	176	19								
1735+00.00	212	0	106			318	413	-382	0	0	141	66	92	49								
1735+50.00	215	0	102			317	412	-370	0	0	143	68	95	48								
1736+00.00	229	0	99			328	426	-377	0	0	143	69	97	46								
1736+50.00	231	0	102			333	433	-382	0	0	145	70	98	47								
1737+00.00	262	0	108			370	481	-435	0	0	150	76	106	44								
1737+50.00	290	0	113			403	524	-486	0	0	154	80	112	42								
1738+00.00	312	0	116			428	556	-520	0	0	158	85	119	39								
1738+50.00	319	0	115			434	564	-518	0	0	163	90	126	37								
1739+00.00	286	0	101			387	503	-438	0	0	162	90	126	36								
1739+50.00	201	0	82			283	368	-279	0	0	153	79	111	42								
1740+00.00	125	0	71			196	255	-128	0	0	148	73	102	46								
1740+50.00	90	0	65			155	202	-39	0	0	155	81	113	42								
1741+00.00	71	0	58			129	168	20	0	0	163	90	126	37								
1741+50.00	67	0	54			121	157	66	0	0	169	96	134	35								
1742+00.00	49	0	51			100	130	134	0	0	171	99	139	32								
1742+50.00	21	0	42			63	82	233	0	0	173	101	141	32								
1743+00.00	6	0	31			37	48	342	0	0	176	104	146	30								
1743+50.00	5	0	53			58	75	389	0	0	177	105	147	30								
1744+00.00	4	0	49			53	69	437	0	0	177	105	147	30								
1744+50.00	1	0	18			19	25	506	0	0	179	107	150	29								
1745+00.00	0	0	42			42	55	528	0	0	179	106	148	31								
1745+50.00	0	0	39			39	51	514	0	0	175	102	143	32								
1746+00.00	0	0	5			5	7	540	0	0	171	98	137	34								
1746+50.00	0	0	40		72	112	146	553	0	0	183	111	155	28								
1747+00.00	0	0	40			40	52	719	0	0	194	123	172	22								
1747+50.00	0	0	1			1	1	699	0	0	191	120	168	23								
1748+00.00	0	0	9			9	12	621	0	0	189	118	165	24								
1748+50.00	3	0	23			26	34	568	0	0	186	116	162	24								
1749+00.00	11	0	31			42	55	488	0	0	164	96	134	30								
1749+50.00	20	0	36			56	73	374	0	0	148	81	113	35								
1750+00.00	27	0	40			67	87	267	0	0	150	85	119	31								
1750+50.00	29	0	39			68	88	175	0	0	146	82	115	31								
1751+00.00	33	0	39			72	94	132	0	0	143	78	109	34								
1751+50.00	26	0	40			66	86	128	0	0	145	78	109	36								
1752+00.00	9	0	38			47	61	173	0	0	159	90	126	33								
1752+50.00	2	0	27			29	38	149	0	0	147	76	106	41								
1753+00.00	25	0	38			63	82	69	0	0	138	72	101	37								
1753+50.00	61	0	62		179	302	393	-263	0	0	150	84	118	32								
1754+00.00	86	0	75			161	209	-146	0	0	141	65	91	50								
1754+50.00	119	0	85			204	265	-221	0	0	133	56	78	55								
1755+00.00	160	0	94			254	330	-283	0	0	143	68	95	48								
1755+50.00	192	0	101			293	381	-327	0	0	156	82	115	41								
1756+00.00	173	0	99			272	354	-296	0	0	156	82	115	41								
1756+50.00	141	0	96			237	308	-244	0	0	154	80	112	42								
1757+00.00	136	0	94			230	299	-230	0	0	154	80	112	42								
1757+50.00	156	0	96			252	328	-255	0	0	158	84	118	40								
1758+00.00	196	0	105			301	391	-344	0	0	150	76	106	44								
1758+50.00	198	0	109			307	399	-384	0	0	135	61	85	50								
1759+00.00	184	0	109			293	381	-373	0	0	133	62	87	46								
1759+50.00	179	0	108	1		288	374	-371	0	0	131	63	88	43								
1760+00.00	188	0	111	4		303	394	-392	0	0	133	67	94	39								
1760+50.00	208	0	113	4		325	423	-421	0	0	134	69	97	37								
1761+00.00	210	0	114	2		326	424	-422	0	0	136	70	98	38								
1761+50.00	208	0	116			324	421	-417	0	0	139	71	99	40								
1762+00.00	213	0	116			329	428	-421	0	0	140	70	98	42								
1762+50.00	210	0	115			325	423	-412	0	0	143	69	97	46								
1763+00.00	189	0	113			302	393	-374	0	0	145	70	98	47								
1763+50.00	163	0	108			271	352	-320	0	0	144	69	97	47								
1764+00.00	122	0	98			220	286	-233	0	0	142	66	92	50								
1764+50.00	52	0	75			127	165	-81	0	0	136	60	84	52								
1765+00.00	5	0	33			38	49	67	0	0	105	28	39	66								
1765+50.00																						
Subtotals:	8,393	0	5,168	15	251	13,827	17,975	-4,267	0	0	10,938	6,114	8,560	2,378								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
1765+50.00	230	145	85	0	0	70	0	0		145												
1766+00.00	263	172	91	0	0	70	0	0		172												
1766+50.00	271	182	89	0	0	70	0	0		182												
1767+00.00	325	219	105	0	0	70	0	0		219												
1767+50.00	476	343	133	0	0	70	0	0		343												
1768+00.00	671	516	154	0	0	70	0	0		516												
1768+50.00	1,316	1,118	198	0	0	70	0	0	20	1,138												
1769+00.00	2,114	1,875	239	0	0	70	0	0		1,875												
1769+50.00	2,330	2,061	268	0	0	70	0	0		2,061												
1770+00.00	2,087	1,809	278	0	0	70	0	0		1,809												
1770+50.00	2,144	1,889	254	0	0	69	0	0		1,889												
1771+00.00	3,586	3,305	281	0	0	70	0	0		3,305												
1771+50.00	5,477	5,127	350	0	0	70	0	0		5,127												
1772+00.00	6,752	3,362	413	0	0	70	2,977	0		6,339												
1772+50.00	7,884	1,164	461	0	0	70	6,259	0		7,423												
1773+00.00	8,517	1,500	473	0	0	70	6,543	0		8,043												
1773+50.00	8,199	1,493	456	0	0	70	6,250	0		7,743												
1774+00.00	7,105	1,185	419	0	0	70	5,501	0		6,686												
1774+50.00	5,483	724	363	0	0	70	4,396	0		5,120												
1775+00.00	3,912	248	315	0	0	70	3,350	0		3,598												
1775+50.00	2,701	10	295	0	0	70	2,395	0		2,405												
1776+00.00	1,444	0	231	0	0	70	1,213	0		1,213												
1776+50.00	649	0	220	0	0	70	428	0		428												
1777+00.00	558	22	295	0	0	70	241	0		263												
1777+50.00	643	46	332	0	0	70	265	0		311												
1778+00.00	756	57	346	0	0	70	353	0		410												
1778+50.00	810	39	353	0	0	70	418	0		457												
1779+00.00	1,143	295	340	0	0	70	507	0		802												
1779+50.00	1,502	676	289	0	0	70	537	0		1,213												
1780+00.00	2,248	979	277	0	0	70	992	0		1,971												
1780+50.00	2,692	919	284	0	0	70	1,490	0		2,409												
1781+00.00	2,595	681	280	0	0	70	1,634	0		2,315												
1781+50.00	2,892	685	311	0	0	70	1,897	0		2,582												
1782+00.00	3,138	629	332	0	0	70	2,177	0		2,806												
1782+50.00	3,301	550	335	0	0	70	2,415	0		2,965												
1783+00.00	3,131	451	322	0	0	70	2,358	0		2,809												
1783+50.00	2,674	198	292	0	0	70	2,184	0		2,382												
1784+00.00	2,557	4	504	0	0	35	2,273	0	3,502	5,779												
1784+50.00	3,608	4	374	0	0	35	3,230	0		3,234												
1785+00.00	5,457	10	482	0	0	70	4,964	0		4,974												
1785+50.00	6,602	58	512	0	0	70	6,031	0		6,089												
1786+00.00	6,702	286	520	0	0	70	5,896	0		6,182												
1786+50.00	5,926	2,632	510	0	0	69	2,785	0		5,417												
1787+00.00	4,510	4,041	469	0	0	69	0	0		4,041												
1787+50.00	3,274	2,877	397	0	0	70	0	0		2,877												
1788+00.00	2,326	2,023	303	0	0	70	0	0		2,023												
1788+50.00	1,397	1,122	275	0	0	70	0	0		1,122												
1789+00.00	622	347	275	0	0	65	0	0		347												
1789+50.00	280	18	262	0	0	31	0	0		18												
1790+00.00	302	0	302	0	0	0	0	0		0												
1790+50.00	397	45	353	0	0	0	0	0		45												
1791+00.00	415	52	362	0	0	0	0	0		52												
1791+50.00	363	22	341	0	0	0	0	0		22												
1792+00.00	393	52	342	0	0	0	0	0		52												
1792+50.00	417	122	295	0	0	0	0	0		122												
1793+00.00	577	283	294	0	0	0	0	0	89	372												
1793+50.00	674	356	319	0	0	0	0	0		356												
1794+00.00	658	382	276	0	0	1	0	0		382												
1794+50.00	824	534	290	0	0	10	0	0		534												
1795+00.00	888	565	323	0	0	24	0	0		565												
1795+50.00	782	483	298	0	0	35	0	0		483												
1796+00.00	813	560	254	0	0	44	0	0		560												
1796+50.00	1,161	906	255	0	0	51	0	0		906												
1797+00.00	1,644	1,366	279	0	0	57	0	0		1,366												
1797+50.00	2,060	1,759	301	0	0	63	0	0		1,759												
1798+00.00	2,398	2,083	315	0	0	68	0	0		2,083												
1798+50.00	2,592	2,270	322	0	0	70	0	0		2,270												
1799+00.00	2,647	2,320	327	0	0	70	0	0		2,320												
1799+50.00																						
Subtotals:	165,285	62,256	21,290	0	0	3,806	81,959	0	3,611	147,826												

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
1765+50.00	0	0	10			10	13	132	0	0	85	0	0	85								
1766+00.00	0	0	10			10	13	159	0	0	91	0	0	91								
1766+50.00	0	0	10			10	13	169	0	0	89	0	0	89								
1767+00.00	0	0	8			8	10	209	0	0	105	25	35	70								
1767+50.00	0	0	4			4	5	338	0	0	133	56	78	55								
1768+00.00	0	0	4			4	5	511	0	0	154	72	101	53								
1768+50.00	0	0	5		176	181	235	903	0	0	198	117	164	34								
1769+00.00	0	0	4			4	5	1,870	0	0	239	163	228	11								
1769+50.00	0	0	2			2	3	2,058	0	0	268	198	277	-9								
1770+00.00	0	0				0	0	1,809	0	0	278	214	300	-22								
1770+50.00	0	0	1			1	1	1,888	0	0	254	192	269	-15								
1771+00.00	0	0	1			1	1	3,304	0	0	281	222	311	-30								
1771+50.00	0	0				0	0	5,127	0	0	350	298	417	-67								
1772+00.00	0	0				0	0	6,339	0	0	413	365	511	-98								
1772+50.00	0	0				0	0	7,423	0	0	461	412	577	-116								
1773+00.00	0	0				0	0	8,043	0	0	473	421	589	-116								
1773+50.00	0	0				0	0	7,743	0	0	456	395	553	-97								
1774+00.00	0	0				0	0	6,686	0	0	419	350	490	-71								
1774+50.00	0	0				0	0	5,120	0	0	363	290	406	-43								
1775+00.00	0	0				0	0	3,598	0	0	315	233	326	-11								
1775+50.00	0	0				0	0	2,405	0	0	295	215	301	-6								
1776+00.00	0	0				0	0	1,213	0	0	231	159	223	9								
1776+50.00	207	0	111			318	413	15	0	0	220	151	211	9								
1777+00.00	818	0	240			1,058	1,375	-1,112	0	0	295	232	325	-30								
1777+50.00	1,126	0	248			1,374	1,786	-1,475	0	0	332	273	382	-50								
1778+00.00	930	0	239			1,169	1,520	-1,110	0	0	346	288	403	-57								
1778+50.00	719	0	227			946	1,230	-773	0	0	353	296	414	-61								
1779+00.00	332	0	151			483	628	174	0	0	340	281	393	-53								
1779+50.00	26	0	43			69	90	1,123	0	0	289	226	316	-27								
1780+00.00	0	0				0	0	1,971	0	0	277	213	298	-21								
1780+50.00	0	0			636	636	827	1,582	0	0	284	220	308	-24								
1781+00.00	0	0				0	0	2,315	0	0	280	216	302	-22								
1781+50.00	0	0				0	0	2,582	0	0	311	249	349	-38								
1782+00.00	0	0				0	0	2,806	0	0	332	272	381	-49								
1782+50.00	0	0	97			97	126	2,839	0	0	335	276	386	-51								
1783+00.00	0	0	97			97	126	2,683	0	0	322	265	371	-49								
1783+50.00	0	0				0	0	2,382	0	0	292	238	333	-41								
1784+00.00	0	0		34	13	47	61	5,718	0	0	504	522	731	-227								
1784+50.00	0	0		34		34	44	3,190	0	0	374	320	448	-74								
1785+00.00	0	0				0	0	4,974	0	0	482	435	609	-127								
1785+50.00	0	0	2			2	3	6,086	0	0	512	467	654	-142								
1786+00.00	0	0	2			2	3	6,179	0	0	520	476	666	-146								
1786+50.00	0	0				0	0	5,417	0	0	510	465	651	-141								
1787+00.00	0	0				0	0	4,041	0	0	469	421	589	-120								
1787+50.00	0	0				0	0	2,877	0	0	397	343	480	-83								
1788+00.00	0	0				0	0	2,023	0	0	303	241	337	-34								
1788+50.00	33	0	50			83	108	1,014	0	0	275	211	295	-20								
1789+00.00	197	0	145	6		348	452	-105	0	0	275	212	297	-22								
1789+50.00	593	0	228	41		862	1,121	-1,103	0	0	262	199	279	-17								
1790+00.00	1,330	0	296	71		1,697	2,206	-2,206	0	0	302	241	337	-35								
1790+50.00	2,222	0	321	70		2,613	3,397	-3,352	0	0	353	283	396	-43								
1791+00.00	2,881	0	319	70		3,270	4,251	-4,199	0	0	362	292	409	-47								
1791+50.00	2,951	0	311	70		3,332	4,332	-4,310	0	0	341	279	391	-50								
1792+00.00	2,065	0	301	70		2,436	3,167	-3,115	0	0	342	278	389	-47								
1792+50.00	1,091	0	236	70		1,397	1,816	-1,694	0	0	295	231	323	-28								
1793+00.00	1,090	0	206	70	93	1,459	1,897	-1,525	0	0	294	230	322	-28								
1793+50.00	1,054	0	211	70		1,335	1,736	-1,380	0	0	319	250	350	-31								
1794+00.00	1,038	0	159	69		1,266	1,646	-1,264	0	0	276	198	277	-1								
1794+50.00	1,344	0	157	60		1,561	2,029	-1,495	0	0	290	211	295	-5								
1795+00.00	965	0	185	46		1,196	1,555	-990	0	0	323	244	342	-19								
1795+50.00	420	0	160	35		615	800	-317	0	0	298	215	301	-3								
1796+00.00	234	0	92	26		352	458	102	0	0	254	165	231	23								
1796+50.00	173	0	61	19		253	329	577	0	0	255	163	228	27								
1797+00.00	158	0	57	13		228	296	1,070	0	0	279	188	263	16								
1797+50.00	181	0	66	7		254	330	1,429	0	0	301	210	294	7								
1798+00.00	204	0	75	2		281	365	1,718	0	0	315	223	312	3								
1798+50.00	170	0	75			245	319	1,952	0	0	322	230	322	0								
1799+00.00	144	0	72			216	281	2,039	0	0	327	235	329	-2								
1799+50.00																						
Subtotals:	24,696	0	5,299	953	918	31,866	41,426	106,400	0	0	21,290	16,771	23,479	-2,189								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																					
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
1799+50.00	2,633	2,303	330	0	0	70	0	0		2,303												
1800+00.00	2,516	2,190	326	0	0	70	0	0		2,190												
1800+50.00	1,545	1,303	242	0	0	70	0	0		1,303												
1801+00.00	602	440	162	0	0	70	0	0		440												
1801+50.00	517	358	159	0	0	70	0	0		358												
1802+00.00	507	349	158	0	0	70	0	0		349												
1802+50.00	608	399	209	0	0	85	0	0		399												
1803+00.00	696	441	255	0	0	100	0	0		441												
1803+50.00	710	454	257	0	0	101	0	0		454												
1804+00.00	729	472	257	0	0	99	0	0		472												
1804+50.00	652	406	245	0	0	89	0	0		406												
1805+00.00	489	266	223	0	0	76	0	0		266												
1805+50.00	551	327	223	0	0	70	0	0		327												
1806+00.00	734	499	235	0	0	71	0	0		499												
1806+50.00	656	447	208	0	0	36	0	0		447												
1807+00.00	472	289	184	0	0	0	0	0		289												
1807+50.00	319	142	177	0	0	5	0	0		142												
1808+00.00	277	84	193	0	0	40	0	0		84												
1808+50.00	797	560	237	0	0	69	0	0		560												
1809+00.00	871	564	306	0	0	70	0	0		564												
1809+50.00	900	602	299	0	0	70	0	0		602												
1810+00.00	921	703	218	0	0	70	0	0		703												
1810+50.00	313	100	182	31	0	69	0	0		131												
1811+00.00	350	64	181	105	0	69	0	0		169												
1811+50.00	443	91	189	163	0	69	0	0		254												
1812+00.00	482	137	188	157	0	69	0	0		294												
1812+50.00	455	202	184	69	0	69	0	0		271												
1813+00.00	370	195	175	0	0	69	0	0		195												
1813+50.00	336	160	176	0	0	69	0	0		160												
1814+00.00	361	182	179	0	0	69	0	0		182												
1814+50.00	399	218	181	0	0	70	0	0		218												
1815+00.00	417	232	185	0	0	70	0	0		232												
1815+50.00	400	218	182	0	0	70	0	0		218												
1816+00.00	429	246	183	0	0	70	0	0		246												
1816+50.00	476	288	188	0	0	69	0	0		288												
1817+00.00	465	270	195	0	0	69	0	0		270												
1817+50.00	449	254	195	0	0	68	0	0		254												
1818+00.00	448	258	190	0	0	67	0	0		258												
1818+50.00	466	274	192	0	0	66	0	0		274												
1819+00.00	452	259	193	0	0	66	0	0		259												
1819+50.00	436	246	191	0	0	66	0	0		246												
1820+00.00	530	335	195	0	0	67	0	0		335												
1820+50.00	478	295	182	0	0	65	0	0		295												
1821+00.00	352	185	168	0	0	63	0	0		185												
1821+50.00	361	190	171	0	0	62	0	0		190												
1822+00.00	397	214	183	0	0	60	0	0		214												
1822+50.00	459	260	199	0	0	56	0	0		260												
1823+00.00	539	325	213	0	0	52	0	0		325												
1823+50.00	565	350	215	0	0	53	0	0		350												
1824+00.00	512	303	209	0	0	56	0	0		303												
1824+50.00	424	224	200	0	0	58	0	0		224												
1825+00.00	371	173	198	0	0	57	0	0		173												
1825+50.00	329	127	203	0	0	56	0	0		127												
1826+00.00	276	70	206	0	0	53	0	0		70												
1826+50.00	261	57	204	0	0	52	0	0		57												
1827+00.00	271	81	190	0	0	52	0	0		81												
1827+50.00	285	108	177	0	0	54	0	0		108												
1828+00.00	277	102	174	0	0	54	0	0		102												
1828+50.00	220	60	160	0	0	53	0	0		60												
1829+00.00	214	54	160	0	0	52	0	0		54												
1829+50.00	273	96	176	0	0	51	0	0		96												
1830+00.00	299	109	190	0	0	52	0	0		109												
1830+50.00	305	102	202	0	0	54	0	0		102												
1831+00.00	303	105	198	0	0	60	0	0		105												
1831+50.00	297	127	170	0	0	69	0	0		127												
1832+00.00	301	150	151	0	0	71	0	0		150												
1832+50.00	308	151	157	0	0	69	0	0		151												
1833+00.00	341	147	169	26	0	69	0	0		173												
1833+50.00																						
Subtotals:	36,197	21,992	13,652	551	0	4,344	0	0	0	22,543												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.12A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
1799+50.00	123	0	67			190	247	2,056	0	0	330	238	333	-3								
1800+00.00	99	0	68			167	217	1,973	0	0	326	234	328	-2								
1800+50.00	104	0	74			178	231	1,072	0	0	242	165	231	11								
1801+00.00	55	0	83			138	179	261	0	0	162	96	134	28								
1801+50.00	0	0	55			55	72	287	0	0	159	87	122	37								
1802+00.00	0	0	57			57	74	275	0	0	158	84	118	40								
1802+50.00	96	0	131			227	295	104	0	0	209	119	167	42								
1803+00.00	203	0	163			366	476	-35	0	0	255	150	210	45								
1803+50.00	239	0	160			399	519	-65	0	0	257	152	213	44								
1804+00.00	284	0	157			441	573	-101	0	0	257	151	211	46								
1804+50.00	232	0	152			384	499	-93	0	0	245	130	182	63								
1805+00.00	148	0	155			303	394	-128	0	0	223	96	134	89								
1805+50.00	83	0	108			191	248	79	0	0	223	97	136	87								
1806+00.00	15	0	37			52	68	431	0	0	235	116	162	73								
1806+50.00	0	0	13	56		69	90	357	0	0	208	88	123	85								
1807+00.00	0	0	8	120	111	239	311	-22	0	0	184	66	92	92								
1807+50.00	91	0	63	100		254	330	-188	0	0	177	68	95	82								
1808+00.00	357	0	127	36		520	676	-592	0	0	193	90	126	67								
1808+50.00	874	475	154	1		1,504	1,955	-1,395	0	0	237	137	192	45								
1809+00.00	1,445	520	234			2,199	2,859	-2,295	0	0	306	213	298	8								
1809+50.00	1,389	560	233			2,182	2,837	-2,235	0	0	299	208	291	8								
1810+00.00	702	602	135			1,439	1,871	-1,168	0	0	218	123	172	46								
1810+50.00	150	0	62	1	47	260	338	-207	0	0	182	88	123	59								
1811+00.00	1	0	25	1		27	35	134	0	0	181	89	125	56								
1811+50.00	1	0	16	1		18	23	231	0	0	189	101	141	48								
1812+00.00	0	0	6	1	189	196	255	39	0	0	188	102	143	45								
1812+50.00	0	0	11	1		12	16	255	0	0	184	101	141	43								
1813+00.00	6	0	35	1		42	55	140	0	0	175	94	132	43								
1813+50.00	18	0	58	1		77	100	60	0	0	176	98	137	39								
1814+00.00	12	0	43	1		56	73	109	0	0	179	105	147	32								
1814+50.00	2	0	19			21	27	191	0	0	181	108	151	30								
1815+00.00	6	0	25			31	40	192	0	0	185	113	158	27								
1815+50.00	13	0	30			43	56	162	0	0	182	111	155	27								
1816+00.00	14	0	27			41	53	193	0	0	183	111	155	28								
1816+50.00	13	0	25			38	49	239	0	0	188	116	162	26								
1817+00.00	18	0	32		224	274	356	-86	0	0	195	124	174	21								
1817+50.00	25	0	38	1		64	83	171	0	0	195	124	174	21								
1818+00.00	26	0	37	3		66	86	172	0	0	190	119	167	23								
1818+50.00	26	0	34	4		64	83	191	0	0	192	121	169	23								
1819+00.00	21	0	35	4		60	78	181	0	0	193	122	171	22								
1819+50.00	13	0	32	4		49	64	182	0	0	191	120	168	23								
1820+00.00	5	0	15	3		23	30	305	0	0	195	124	174	21								
1820+50.00	18	0	22	5	287	332	432	-137	0	0	182	110	154	28								
1821+00.00	44	0	51	7		102	133	52	0	0	168	95	133	35								
1821+50.00	54	0	60	8		122	159	31	0	0	171	99	139	32								
1822+00.00	28	0	41	10		79	103	111	0	0	183	111	155	28								
1822+50.00	12	0	38	13	25	88	114	146	0	0	199	129	181	18								
1823+00.00	21	0	56	17		94	122	203	0	0	213	143	200	13								
1823+50.00	11	0	49	16		76	99	251	0	0	215	145	203	12								
1824+00.00	6	0	48	13		67	87	216	0	0	209	139	195	14								
1824+50.00	20	0	64	11		95	124	101	0	0	200	130	182	18								
1825+00.00	61	0	84	12		157	204	-31	0	0	198	127	178	20								
1825+50.00	90	0	98	13		201	261	-134	0	0	203	133	186	17								
1826+00.00	67	0	106	16		189	246	-176	0	0	206	135	189	17								
1826+50.00	57	0	116	17		190	247	-190	0	0	204	133	186	18								
1827+00.00	96	0	110	18		224	291	-210	0	0	190	119	167	23								
1827+50.00	110	0	87	16		213	277	-169	0	0	177	105	147	30								
1828+00.00	99	0	76	16		191	248	-146	0	0	174	102	143	31								
1828+50.00	99	0	75	16		190	247	-187	0	0	160	86	120	40								
1829+00.00	112	0	81	17		210	273	-219	0	0	160	86	120	40								
1829+50.00	126	0	91	18		235	306	-210	0	0	176	104	146	30								
1830+00.00	132	0	104	17		253	329	-220	0	0	190	119	167	23								
1830+50.00	97	0	108	15		220	286	-184	0	0	202	131	183	19								
1831+00.00	38	0	85	9		132	172	-67	0	0	198	127	178	20								
1831+50.00	26	0	60	2		88	114	13	0	0	170	98	137	33								
1832+00.00	54	0	55		41	150	195	-45	0	0	151	78	109	42								
1832+50.00	101	0	61			162	211	-60	0	0	157	83	116	41								
1833+00.00	118	0	61			179	233	-60	0	0	169	96	134	35								
1833+50.00																						
Subtotals:	8,606	2,157	4,926	642	924	17,255	22,432	112	0	0	13,652	8,062	11,287	2,365								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
1833+50.00	382	143	178	62	0	70	0	0		205												
1834+00.00	456	192	180	84	0	70	0	0		276												
1834+50.00	623	389	186	47	0	71	0	0		436												
1835+00.00	747	553	195	0	0	71	0	0		553												
1835+50.00	745	545	200	0	0	70	0	0		545												
1836+00.00	653	461	192	0	0	69	0	0		461												
1836+50.00	499	325	174	0	0	69	0	0		325												
1837+00.00	370	213	158	0	0	70	0	0		213												
1837+50.00	309	166	143	0	0	69	0	0		166												
1838+00.00	282	148	133	0	0	69	0	0		148												
1838+50.00	317	176	141	0	0	69	0	0		176												
1839+00.00	366	212	154	0	0	69	0	0		212												
1839+50.00	370	211	159	0	0	70	0	0		211												
1840+00.00	344	190	154	0	0	69	0	0		190												
1840+50.00	307	166	141	0	0	69	0	0		166												
1841+00.00	292	157	135	0	0	69	0	0		157												
1841+50.00	303	165	138	0	0	69	0	0		165												
1842+00.00	328	178	150	0	0	69	0	0		178												
1842+50.00	395	225	170	0	0	69	0	0		225												
1843+00.00	511	324	187	0	0	69	0	0		324												
1843+50.00	601	404	197	0	0	69	0	0		404												
1844+00.00	597	402	195	0	0	71	0	0		402												
1844+50.00	510	319	191	0	0	71	0	0		319												
1845+00.00	468	223	245	0	0	69	0	0		223												
1845+50.00	429	197	232	0	0	69	0	0		197												
1846+00.00	459	290	168	0	0	71	0	0		290												
1846+50.00	548	376	172	0	0	71	0	0		376												
1847+00.00	519	349	170	0	0	69	0	0		349												
1847+50.00	383	227	156	0	0	69	0	0		227												
1848+00.00	277	126	151	0	0	71	0	0		126												
1848+50.00	247	95	152	0	0	72	0	0		95												
1849+00.00	211	68	142	0	0	69	0	0		68												
1849+50.00	227	90	136	0	0	72	0	0		90												
1850+00.00	254	115	140	0	0	73	0	0		115												
1850+50.00	228	94	134	0	0	70	0	0		94												
1851+00.00	172	75	97	0	0	66	0	0		75												
1851+50.00	99	63	35	0	0	63	0	0		63												
1852+00.00	49	48	1	0	0	64	0	0		48												
1852+50.00	122	51	71	0	0	66	0	0		51												
1853+00.00	201	55	146	0	0	62	0	0		55												
1853+50.00	219	63	156	0	0	51	0	0		63												
1854+00.00	239	77	161	0	0	41	0	0		77												
1854+50.00	271	107	164	0	0	33	0	0		107												
1855+00.00	321	156	165	0	0	27	0	0		156												
1855+50.00	337	175	162	0	0	24	0	0		175												
1856+00.00	354	195	159	0	0	21	0	0		195												
1856+50.00	391	227	164	0	0	19	0	0		227												
1857+00.00	471	292	178	0	0	22	0	0		292												
1857+50.00	624	429	196	0	0	29	0	0		429												
1858+00.00	758	550	208	0	0	39	0	0		550												
1858+50.00	700	488	212	0	0	50	0	0		488												
1859+00.00	531	316	215	0	0	60	0	0		316												
1859+50.00	723	500	222	0	0	66	0	0		500												
1860+00.00	1,221	982	239	0	0	68	0	0		982												
1860+50.00	1,507	1,249	258	0	0	69	0	0		1,249												
1861+00.00	1,702	1,445	258	0	0	69	0	0		1,445												
1861+50.00	1,944	1,677	267	0	0	69	0	0		1,677												
1862+00.00	2,074	1,814	260	0	0	69	0	0		1,814												
1862+50.00	2,080	1,844	236	0	0	69	0	0		1,844												
1863+00.00	2,083	1,822	261	0	0	69	0	0		1,822												
1863+50.00	2,129	1,847	283	0	0	69	0	0		1,847												
1864+00.00	2,097	1,833	263	0	0	69	0	0		1,833												
1864+50.00	1,725	1,489	235	0	0	70	0	0		1,489												
1865+00.00	982	784	198	0	0	70	0	0	14	798												
1865+50.00	336	199	137	0	0	58	0	0		199												
1866+00.00	155	17	138	0	0	33	0	0		17												
1866+50.00	217	31	186	0	0	12	0	0		31												
1867+00.00	400	167	233	0	0	2	0	0		167												
1867+50.00																						
Subtotals:	41,791	29,581	12,013	193	0	4,113	0	0	14	29,788												

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
1833+50.00	98	0	54			152	198	8	0	0	178	105	147	31								
1834+00.00	70	0	45			115	150	127	0	0	180	108	151	29								
1834+50.00	39	0	35			74	96	340	0	0	186	115	161	25								
1835+00.00	18	0	26		92	136	177	376	0	0	195	125	175	20								
1835+50.00	10	0	20			30	39	506	0	0	200	130	182	18								
1836+00.00	10	0	25			35	46	416	0	0	192	121	169	23								
1836+50.00	9	0	33			42	55	270	0	0	174	102	143	31								
1837+00.00	21	0	53			74	96	117	0	0	158	84	118	40								
1837+50.00	26	0	59			85	111	56	0	0	143	68	95	48								
1838+00.00	11	0	39			50	65	83	0	0	133	56	78	55								
1838+50.00	4	0	27			31	40	136	0	0	141	65	91	50								
1839+00.00	1	0	25			26	34	178	0	0	154	80	112	42								
1839+50.00	0	0	22			22	29	182	0	0	159	85	119	40								
1840+00.00	0	0	10			10	13	177	0	0	154	80	112	42								
1840+50.00	5	0	15		11	31	40	126	0	0	141	66	92	49								
1841+00.00	16	0	33			49	64	93	0	0	135	59	83	52								
1841+50.00	24	0	38		48	110	143	22	0	0	138	62	87	51								
1842+00.00	21	0	38			59	77	101	0	0	150	75	105	45								
1842+50.00	9	0	31			40	52	173	0	0	170	96	134	36								
1843+00.00	1	0	22			23	30	294	0	0	187	115	161	26								
1843+50.00	0	0	15			15	20	385	0	0	197	125	175	22								
1844+00.00	0	0	10			10	13	389	0	0	195	125	175	20								
1844+50.00	13	0	32		171	216	281	38	0	0	191	121	169	22								
1845+00.00	275	0	129			404	525	-302	0	0	245	178	249	-4								
1845+50.00	291	0	127			418	543	-346	0	0	232	164	230	3								
1846+00.00	30	0	26			56	73	217	0	0	168	96	134	34								
1846+50.00	0	0				0	0	376	0	0	172	101	141	31								
1847+00.00	0	0	6		18	24	31	318	0	0	170	96	134	36								
1847+50.00	9	0	22			31	40	187	0	0	156	81	113	43								
1848+00.00	58	0	48			106	138	-12	0	0	151	78	109	42								
1848+50.00	95	0	71		15	181	235	-140	0	0	152	80	112	40								
1849+00.00	73	0	74			147	191	-123	0	0	142	67	94	48								
1849+50.00	39	0	51			90	117	-27	0	0	136	63	88	48								
1850+00.00	19	0	34			53	69	46	0	0	140	67	94	46								
1850+50.00	19	0	38		37	94	122	-28	0	0	134	58	81	53								
1851+00.00	12	0	21	5	16	54	70	5	0	0	97	39	55	42								
1851+50.00	0	0	1	17		18	23	40	0	0	35	15	21	14								
1852+00.00	0	0	1	17	10	28	36	12	0	0	1	0	0	1								
1852+50.00	0	0	22	5		27	35	16	0	0	71	27	38	33								
1853+00.00	4	0	51	7		62	81	-26	0	0	146	59	83	63								
1853+50.00	8	0	60	18		86	112	-49	0	0	156	70	98	58								
1854+00.00	6	0	62	28		96	125	-48	0	0	161	79	111	50								
1854+50.00	3	0	63	36		102	133	-26	0	0	164	87	122	42								
1855+00.00	2	0	59	42		103	134	22	0	0	165	92	129	36								
1855+50.00	3	0	56	45		104	135	40	0	0	162	88	123	39								
1856+00.00	2	0	38	48		88	114	81	0	0	159	85	119	40								
1856+50.00	6	0	39	51	185	281	365	-138	0	0	164	90	126	38								
1857+00.00	16	0	60	48		124	161	131	0	0	178	105	147	31								
1857+50.00	22	0	56	41		119	155	274	0	0	196	125	175	21								
1858+00.00	25	0	55	30		110	143	407	0	0	208	138	193	15								
1858+50.00	24	0	59	19		102	133	355	0	0	212	142	199	13								
1859+00.00	13	0	51	9		73	95	221	0	0	215	145	203	12								
1859+50.00	21	0	46	3		70	91	409	0	0	222	153	214	8								
1860+00.00	66	0	56	1		123	160	822	0	0	239	171	239	-1								
1860+50.00	92	0	64	1		157	204	1,045	0	0	258	192	269	-11								
1861+00.00	55	0	54			109	142	1,303	0	0	258	192	269	-11								
1861+50.00	17	0	47			64	83	1,594	0	0	267	211	295	-28								
1862+00.00	7	0	28			35	46	1,769	0	0	260	211	295	-35								
1862+50.00	0	0	4			4	5	1,839	0	0	236	185	259	-23								
1863+00.00	0	0	6			6	8	1,814	0	0	261	213	298	-37								
1863+50.00	0	0	6			6	8	1,839	0	0	283	236	330	-47								
1864+00.00	0	0	5			5	7	1,827	0	0	263	215	301	-38								
1864+50.00	0	0	3			3	4	1,485	0	0	235	184	258	-23								
1865+00.00	0	0	2		181	183	238	560	0	0	198	145	203	-5								
1865+50.00	44	0	36	11		91	118	81	0	0	137	79	111	26								
1866+00.00	283	0	93	36		412	536	-519	0	0	138	77	108	30								
1866+50.00	907	0	139	57		1,103	1,434	-1,403	0	0	186	125	175	11								
1867+00.00	1,213	0	171	67		1,451	1,886	-1,719	0	0	233	176	246	-13								
1867+50.00																						
Subtotals:	4,165	0	2,847	642	784	8,438	10,969	18,819	0	0	12,013	7,448	10,427	1,586								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
1867+50.00	831	531	300	0	0	0	0	0		531												
1868+00.00	1,150	873	277	0	0	0	0	0		873												
1868+50.00	1,036	832	203	0	0	0	0	0		832												
1869+00.00	1,211	982	229	0	0	0	0	0		982												
1869+50.00	1,614	1,328	286	0	0	3	0	0		1,328												
1870+00.00	1,332	1,018	315	0	0	7	0	0		1,018												
1870+50.00	1,689	683	343	0	0	14	663	0		1,346												
1871+00.00	2,457	744	344	0	0	20	1,369	0		2,113												
1871+50.00	2,107	552	315	0	0	27	1,240	0		1,792												
1872+00.00	1,428	204	282	0	0	34	941	0		1,145												
1872+50.00	1,035	56	261	0	0	44	718	0		774												
1873+00.00	814	22	250	0	0	52	542	0		564												
1873+50.00	969	145	261	0	0	59	564	0		709												
1874+00.00	1,367	368	277	0	0	64	723	0		1,091												
1874+50.00	1,098	459	250	0	0	67	390	0		849												
1875+00.00	602	375	226	0	0	68	0	0		375												
1875+50.00	520	292	229	0	0	69	0	0		292												
1876+00.00	533	302	231	0	0	69	0	0		302												
1876+50.00	569	334	235	0	0	69	0	0		334												
1877+00.00	632	400	232	0	0	69	0	0		400												
1877+50.00	658	432	227	0	0	69	0	0		432												
1878+00.00	563	346	217	0	0	69	0	0		346												
1878+50.00	530	318	212	0	0	69	0	0		318												
1879+00.00	645	423	222	0	0	69	0	0		423												
1879+50.00	547	369	178	0	0	69	0	0		369												
1880+00.00	604	433	172	0	0	69	0	0		433												
1880+50.00	795	572	223	0	0	69	0	0		572												
1881+00.00	705	483	221	0	0	69	0	0		483												
1881+50.00	608	401	207	0	0	69	0	0		401												
1882+00.00	522	328	193	0	0	69	0	0		328												
1882+50.00	470	289	182	0	0	69	0	0		289												
1883+00.00	430	257	173	0	0	69	0	0		257												
1883+50.00	390	236	154	0	0	69	0	0		236												
1884+00.00	397	252	145	0	0	69	0	0		252												
1884+50.00	457	303	155	0	0	69	0	0		303												
1885+00.00	536	362	174	0	0	69	0	0		362												
1885+50.00	511	341	170	0	0	69	0	0		341												
1886+00.00	458	303	155	0	0	69	0	0		303												
1886+50.00	465	306	159	0	0	69	0	0		306												
1887+00.00	432	303	129	0	0	69	0	0		303												
1887+50.00	411	295	115	0	0	69	0	0		295												
1888+00.00	412	283	129	0	0	68	0	0		283												
1888+50.00	418	290	129	0	0	68	0	0		290												
1889+00.00	404	274	130	0	0	68	0	0		274												
1889+50.00	369	254	116	0	0	69	0	0		254												
1890+00.00	347	220	127	0	0	69	0	0		220												
1890+50.00	327	169	158	0	0	68	0	0		169												
1891+00.00	328	156	172	0	0	71	0	0		156												
1891+50.00	300	152	148	0	0	81	0	0		152												
1892+00.00	247	139	109	0	0	83	0	0		139												
1892+50.00	116	65	51	0	0	40	0	0		65												
1893+00.00	0	0	0	0	0	0	0	0		0												
1893+50.00	0	0	0	0	0	0	0	0		0												
1894+00.00	0	0	0	0	0	0	0	0		0												
1894+50.00	64	32	31	0	0	45	0	0		32												
1895+00.00	138	87	51	0	0	83	0	0		87												
1895+50.00	157	120	37	0	0	77	0	0		120												
1896+00.00	165	135	30	0	0	77	0	0		135												
1896+50.00	178	152	26	0	0	78	0	0		152												
1897+00.00	207	180	27	0	0	78	0	0		180												
1897+50.00	248	219	29	0	0	77	0	0		219												
1898+00.00	305	270	35	0	0	77	0	0		270												
1898+50.00	335	298	37	0	0	77	0	0		298												
1899+00.00	372	322	50	0	0	77	0	0		322												
1899+50.00	335	285	50	0	0	78	0	0		285												
1900+00.00	228	195	33	0	0	78	0	0		195												
1900+50.00	182	153	29	0	0	78	0	0		153												
1901+00.00	147	120	27	0	0	77	0	0		120												
1901+50.00																						
Subtotals:	40,457	22,422	10,890	0	0	3,926	7,150	0	0	29,572												

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
1867+50.00	897	0	194	69		1,160	1,508	-977	0	0	300	248	347	-47								
1868+00.00	366	0	122	69		557	724	149	0	0	277	224	314	-37								
1868+50.00	25	0	47	69		141	183	649	0	0	203	143	200	3								
1869+00.00	23	0	58	69		150	195	787	0	0	229	171	239	-10								
1869+50.00	21	0	70	66		157	204	1,124	0	0	286	233	326	-40								
1870+00.00	13	0	68	62		143	186	832	0	0	315	264	370	-55								
1870+50.00	4	0	49	56		109	142	1,204	0	0	343	295	413	-70								
1871+00.00	2	0	94	50		146	190	1,923	0	0	344	297	416	-72								
1871+50.00	1	0	86	43		130	169	1,623	0	0	315	265	371	-56								
1872+00.00	1	0	31	35		67	87	1,058	0	0	282	230	322	-40								
1872+50.00	3	0	36	25		64	83	691	0	0	261	208	291	-30								
1873+00.00	57	0	62	17		136	177	387	0	0	250	193	270	-20								
1873+50.00	130	0	86	10	420	646	840	-131	0	0	261	206	288	-27								
1874+00.00	178	0	91	5		274	356	735	0	0	277	225	315	-38								
1874+50.00	200	0	87	2		289	376	473	0	0	250	194	272	-22								
1875+00.00	184	0	77	1		262	341	34	0	0	226	168	235	-9								
1875+50.00	159	0	80			239	311	-19	0	0	229	171	239	-10								
1876+00.00	156	0	82			238	309	-7	0	0	231	175	245	-14								
1876+50.00	141	0	78			219	285	49	0	0	235	178	249	-14								
1877+00.00	72	0	65			137	178	222	0	0	232	175	245	-13								
1877+50.00	41	0	58			99	129	303	0	0	227	170	238	-11								
1878+00.00	47	0	64			111	144	202	0	0	217	158	221	-4								
1878+50.00	36	0	58			94	122	196	0	0	212	153	214	-2								
1879+00.00	18	0	46			64	83	340	0	0	222	164	230	-8								
1879+50.00	15	0	11			26	34	335	0	0	178	138	193	-15								
1880+00.00	12	0				12	16	417	0	0	172	129	181	-9								
1880+50.00	11	0	25		106	142	185	387	0	0	223	156	218	5								
1881+00.00	23	0	34			57	74	409	0	0	221	152	213	8								
1881+50.00	21	0	34			55	72	330	0	0	207	136	190	17								
1882+00.00	18	0	34			52	68	260	0	0	193	122	171	22								
1882+50.00	15	0	34			49	64	225	0	0	182	110	154	28								
1883+00.00	11	0	33			44	57	200	0	0	173	100	140	33								
1883+50.00	6	0	27			33	43	193	0	0	154	80	112	42								
1884+00.00	6	0	24			30	39	213	0	0	145	70	98	47								
1884+50.00	4	0	18			22	29	274	0	0	155	81	113	42								
1885+00.00	1	0	13			14	18	344	0	0	174	101	141	33								
1885+50.00	2	0	16			18	23	318	0	0	170	108	151	19								
1886+00.00	6	0	27			33	43	260	0	0	155	102	143	12								
1886+50.00	11	0	35			46	60	246	0	0	159	105	147	12								
1887+00.00	6	0	18			24	31	272	0	0	129	85	119	10								
1887+50.00	0	0	3			3	4	291	0	0	115	69	97	18								
1888+00.00	0	0	1			1	1	282	0	0	129	72	101	28								
1888+50.00	0	0				0	0	290	0	0	129	72	101	28								
1889+00.00	0	0	1			1	1	273	0	0	130	74	104	26								
1889+50.00	0	0	2			2	3	251	0	0	116	71	99	17								
1890+00.00	4	0	15			19	25	195	0	0	127	83	116	11								
1890+50.00	20	0	45			65	85	85	0	0	158	104	146	12								
1891+00.00	44	0	71			115	150	7	0	0	172	122	171	1								
1891+50.00	33	0	53			86	112	40	0	0	148	108	151	-3								
1892+00.00	5	0	23			28	36	103	0	0	109	76	106	3								
1892+50.00	0	0	9			9	12	53	0	0	51	35	49	2								
1893+00.00	90	0				90	117	-117	0	0	0	0	0	0								
1893+50.00	0	0				0	0	0	0	0	0	0	0	0								
1894+00.00	0	0				0	0	0	0	0	0	0	0	0								
1894+50.00	13	0	15			28	36	-4	0	0	31	21	29	2								
1895+00.00	31	0	14			45	59	29	0	0	51	25	35	16								
1895+50.00	40	0	1			41	53	67	0	0	37	7	10	27								
1896+00.00	37	0	1			38	49	86	0	0	30	10	14	16								
1896+50.00	28	0				28	36	116	0	0	26	13	18	8								
1897+00.00	28	0	1			29	38	142	0	0	27	13	18	9								
1897+50.00	25	0				25	33	187	0	0	29	16	22	7								
1898+00.00	21	0				21	27	243	0	0	35	21	29	6								
1898+50.00	21	0				21	27	271	0	0	37	25	35	2								
1899+00.00	19	0				19	25	297	0	0	50	39	55	-5								
1899+50.00	16	0				16	21	264	0	0	50	40	56	-6								
1900+00.00	20	0				20	26	169	0	0	33	22	31	2								
1900+50.00	20	0				20	26	127	0	0	29	18	25	4								
1901+00.00	22	0	1			23	30	90	0	0	27	15	21	6								
1901+50.00																						
Subtotals:	3,390	0	2,428	648	526	6,992	9,090	20,365	0	0	10,890	7,854	10,996	-106								

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.14B

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																					
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
1901+50.00	114	90	23	0	0	77	0	0		90												
1902+00.00	99	79	20	0	0	77	0	0		79												
1902+50.00	119	106	13	0	0	77	0	0		106												
1903+00.00	129	113	16	0	0	77	0	0		113												
1903+50.00	113	57	26	0	0	77	30	0		87												
1904+00.00	112	18	37	0	0	76	56	0		74												
1904+50.00	105	21	39	0	0	76	45	0		66												
1905+00.00	79	16	26	0	0	79	37	0		53												
1905+50.00	70	18	11	0	0	55	41	0		59												
1906+00.00	62	31	8	0	0	53	23	0		54												
1906+50.00	49	33	16	0	0	77	0	0		33												
1907+00.00	55	32	24	0	0	78	0	0		32												
1907+50.00	60	34	27	0	0	78	0	0		34												
1908+00.00	57	37	20	0	0	77	0	0		37												
1908+50.00	21	14	7	0	0	29	0	0		14												
1908+69.18																						
ML092																						
Totals:	548,417	262,627	167,926	18,033	1,576	51,659	97,790	450	3,625	383,651												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.15A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
1901+50.00	25	0	1			26	34	56	0	0	23	10	14	9								
1902+00.00	21	0	1			22	29	50	0	0	20	7	10	10								
1902+50.00	18	0	1			19	25	81	0	0	13	3	4	9								
1903+00.00	18	0				18	23	90	0	0	16	7	10	6								
1903+50.00	21	0	1			22	29	58	0	0	26	13	18	8								
1904+00.00	18	0	2	1		21	27	47	0	0	37	24	34	3								
1904+50.00	14	0	9	1		24	31	35	0	0	39	30	42	-3								
1905+00.00	10	0	8			18	23	30	0	0	26	20	28	-2								
1905+50.00	4	0	1	20		25	33	27	0	0	11	7	10	1								
1906+00.00	8	0	1	21		30	39	15	0	0	8	1	1	7								
1906+50.00	17	0	1			18	23	10	0	0	16	3	4	12								
1907+00.00	16	0	1			17	22	10	0	0	24	11	15	9								
1907+50.00	15	0	1			16	21	13	0	0	27	14	20	7								
1908+00.00	17	0	1			18	23	14	0	0	20	7	10	10								
1908+50.00	6	0	1			7	9	5	0	0	7	1	1	6								
1908+69.18																						
ML092																						
Totals:	164,737	9,145	66,796	11,334	6,853	258,865	336,525	47,127	0	0	168,150	107,546	150,565	17,590								

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.15B

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
SR 3rdN																						
+20.00	13	13	0	0	0	13	0	0		13												
+30.00	5	5	0	0	0	8	0	0		5												
+38.14																						
SR 3rdN																						
Totals:	18	18	0	0	0	21	0	0	0	18												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.16A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
SR 3rdN																						
+20.00	0	0		1		1	1	12	0	0	0	0	0	0								
+30.00	0	0				0	0	5			0	0	0	0								
+38.14																						
SR 3rdN																						
Totals:	0	0	0	1	0	1	2	17	0	0	0	0	0	0								

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.16B

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
SR 3rds																						
4+88.98																						
4+90.00	1	1	0	0	0	1	0	0		1												
5+00.00	13	8	5	0	0	9	0	0		8												
5+10.00	12	7	5	0	0	9	0	0		7												
5+20.00	7	6	1	0	0	9	0	0		6												
5+30.00	10	9	1	0	0	12	0	0		9												
5+37.77	8	7	1	0	0	10	0	0		7												
SR 3rds																						
Totals:	51	38	13	0	0	50	0	0	0	38												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.17A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
SR 3rds																						
4+88.98																						
4+90.00	0	0				0	0	1	0	0	0	0	0	0								
5+00.00	4	0	5			9	12	-4	0	0	5	3	4	1								
5+10.00	3	0	5			8	10	-3	0	0	5	3	4	1								
5+20.00	1	0	1	1		3	4	2	0	0	1	1	1	0								
5+30.00	0	0	1	1		2	3	6	0	0	1	0	0	1								
5+37.77	0	0	1			1	1	6	0	0	1	0	0	1								
SR 3rds																						
Totals:	8	0	13	2	0	23	30	9	0	0	13	7	10	4								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
SR CountyLine																						
62+54.74	12	12	0	0	0	0	0	0		12												
62+75.00	23	23	0	0	0	0	0	0		23												
63+00.00	0	0	0	0	0	0	0	0		0												
Gap	0	0	0	0	0	0	0	0		0												
63+75.00	14	14	0	0	0	0	0	0		14												
64+00.00	0	0	0	0	0	0	0	0		0												
64+03.16																						
SR CountyLine																						
Totals:	49	49	0	0	0	0	0	0	0	49												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.18A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil												
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]									
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink									
SR CountyLine																							
62+54.74	64	0				64	83	-71	0	0	0	34	48	-48									
62+75.00	106	0				106	138	-115	0	0	0	54	76	-76									
63+00.00	0	0				0	0	0	0	0	0	0	0	0									
Gap	0	0				0	0	0	0	0	0	0	0	0									
63+75.00	107	0				107	139	-125	0	0	0	44	62	-62									
64+00.00	3	0				3	4	-4	0	0	0	1	1	-1									
64+03.16																							
SR CountyLine																							
Totals:	280	0	0	0	0	280	364	-315	0	0	0	133	187	-187									

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
SR Hilltop																						
2+27.70																						
2+50.00	71	32	39	0	0	24	0	0		32												
2+75.00	163	74	89	0	0	24	0	0		74												
3+00.00	193	107	86	0	0	20	0	0		107												
3+25.00	169	98	71	0	0	17	0	0		98												
3+50.00	114	63	51	0	0	12	0	0		63												
3+75.00	80	40	40	0	0	13	0	0		40												
3+87.89	18	9	9	0	0	8	0	0		9												
SR Hilltop																						
Totals:	808	423	385	0	0	118	0	0	0	423												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.19A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil												
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
SR Hilltop																						
2+27.70																						
2+50.00	35	0	39	27		101	131	-99	0	0	39	27	38	1								
2+75.00	68	0	89	13		170	221	-147	0	0	89	66	92	-4								
3+00.00	52	0	86	7		145	189	-82	0	0	86	78	109	-23								
3+25.00	32	0	71	6	20	129	168	-70	0	0	71	74	104	-33								
3+50.00	12	0	51	8		71	92	-29	0	0	51	52	73	-22								
3+75.00	1	0	40	7		48	62	-22	0	0	40	39	55	-15								
3+87.89	0	0	9	2		11	14	-5	0	0	9	9	13	-4								
SR Hilltop																						
Totals:	200	0	385	70	20	675	878	-455	0	0	385	345	483	-99								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
SR VAve																						
5+00.00	2	2	0	0	0	0	0	0		2												
5+10.00	1	1	0	0	0	0	0	0		1												
5+22.77																						
SR VAve																						
Totals:	3	3	0	0	0	0	0	0	0	3												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.20A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil												
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]									
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink									
SR VAve																							
5+00.00																							
5+10.00	35	0				35	46	-44	0	0	0	11	15	-15									
5+22.77	15	0				15	20	-19			0	5	7	-7									
SR VAve																							
Totals:	50	0	0	0	0	50	65	-62	0	0	0	16	23	-23									

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.20B

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
SR_W66																						
6+65.47	1	1	0	0	0	6	0	0		1												
6+75.00	3	3	0	0	0	8	0	0		3												
7+00.00	0	0	0	0	0	0	0	0		0												
Gap	0	0	0	0	0	0	0	0		0												
8+00.00	2	2	0	0	0	6	0	0		2												
8+23.42																						
SR_W66																						
Totals:	6	6	0	0	0	20	0	0	0	6												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.21A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil												
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	
						[23]+[24]+[25]+[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]									
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink									
SR_W66																							
6+65.47																							
6+75.00	0	0		3		3	4	-3	0	0	0	0	0	0									
7+00.00	102	0		5		107	139	-136	0	0	0	16	22	-22									
Gap	0	0				0	0	0	0	0	0	0	0	0									
8+00.00	0	0		9		9	12	-12	0	0	0	0	0	0									
8+23.42	39	0		3		42	55	-53	0	0	0	11	15	-15									
SR_W66																							
Totals:	141	0	0	20	0	161	210	-204	0	0	0	27	38	-38									

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
SR_WAve																						
10+50.00																						
10+75.00	0	0	0	0	0	0	0	0		0												
11+00.00	3	0	3	0	0	0	0	0		0												
11+25.00	15	1	14	0	0	0	0	0		1												
SR_WAve																						
Totals:	18	1	17	0	0	0	0	0	0	1												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.22A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil												
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	
						[23]+[24]+[25]+[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]									
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink									
SR WAve																							
10+50.00																							
10+75.00	1	0				1	1	-1	0	0	0	0	0	0									
11+00.00	5	0	1		48	54	70	-70	0	0	3	3	4	-1									
11+25.00	27	0	9			36	47	-46	0	0	14	11	15	-1									
SR WAve																							
Totals:	33	0	10	0	48	91	119	-118	0	0	17	14	20	-3									

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
SR_Western																						
7+50.00	16	5	10	0	0	4	0	0		5												
7+60.00	28	12	15	0	0	6	0	0		12												
7+70.00	9	4	5	0	0	3	0	0		4												
7+75.00																						
SR_Western																						
Totals:	53	21	30	0	0	13	0	0	0	21												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.23A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil												
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	
						[23]+[24]+[25]+[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]									
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink									
SR Western																							
7+50.00	0	0	2	3		5	7	-2	0	0	10	14	20	-10									
7+60.00	0	0	1			1	1	11	0	0	15	18	25	-10									
7+70.00	0	0	1			1	1	3	0	0	5	5	7	-2									
7+75.00																							
SR Western																							
Totals:	0	0	4	3	0	7	10	12	0	0	30	37	52	-22									

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.23B

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
SR_WesternAccess																						
+17.77																						
+25.00	13	6	7	0	0	8	0	0		6												
+50.00	50	12	38	0	0	28	0	0		12												
+75.00	26	3	23	0	0	19	0	0		3												
1+00.00	73	40	33	0	0	19	0	0		40												
1+25.00	146	76	70	0	0	24	0	0		76												
1+50.00	142	69	74	0	0	23	0	0		69												
1+75.00	139	63	76	0	0	23	0	0		63												
2+00.00	148	71	76	0	0	23	0	0		71												
2+25.00	151	77	74	0	0	24	0	0		77												
2+50.00	146	77	69	0	0	25	0	0		77												
2+75.00	142	80	62	0	0	26	0	0		80												
3+00.00	145	84	61	0	0	25	0	0		84												
3+25.00	161	94	67	0	0	24	0	0		94												
3+50.00	150	81	69	0	0	23	0	0		81												
3+75.00	100	41	59	0	0	23	0	0		41												
3+89.90	37	9	28	0	0	14	0	0		9												
SR_WesternAccess																						
Totals:	1,769	883	886	0	0	351	0	0	0	883												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.24A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25]+[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
Station	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
SR_WesternAccess																						
+17.77																						
+25.00	1	0	3	1		5	7	-1	0	0	7	4	6	1								
+50.00	2	0	20	1		23	30	-18	0	0	38	22	31	7								
+75.00	0	0	13	8		21	27	-24	0	0	23	30	42	-19								
1+00.00	9	0	18	6		33	43	-3	0	0	33	44	62	-29								
1+25.00	19	0	39			58	75	1	0	0	70	63	88	-18								
1+50.00	19	0	40			59	77	-8	0	0	74	67	94	-20								
1+75.00	20	0	39			59	77	-14	0	0	76	68	95	-19								
2+00.00	31	0	38			69	90	-19	0	0	76	69	97	-21								
2+25.00	41	0	40			81	105	-28	0	0	74	67	94	-20								
2+50.00	56	0	42			98	127	-50	0	0	69	63	88	-19								
2+75.00	67	0	37			104	135	-55	0	0	62	56	78	-16								
3+00.00	55	0	28			83	108	-24	0	0	61	54	76	-15								
3+25.00	24	0	18			42	55	39	0	0	67	60	84	-17								
3+50.00	7	0	13	1	62	83	108	-27	0	0	69	62	87	-18								
3+75.00	7	0	13			20	26	15	0	0	59	51	71	-12								
3+89.90	0	0	5			5	7	3	0	0	28	23	32	-4								
SR_WesternAccess																						
Totals:	358	0	406	17	62	843	1,096	-213	0	0	886	803	1,125	-239								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
SR_X17N																						
2+00.00	359	208	152	0	0	24	0	0		208												
2+25.00	553	393	160	0	0	22	0	0		393												
2+50.00	435	306	129	0	0	21	0	0		306												
2+75.00	149	79	70	0	0	18	0	0		79												
3+00.00																						
SR_X17N																						
Totals:	1,496	986	511	0	0	85	0	0	0	986												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.25A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil												
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]	
						[23]+[24]+[25]+[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]									
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink									
SR_X17N																							
2+00.00																							
2+25.00	92	0	89			181	235	-27	0	0	152	44	62	90									
2+50.00	14	0	47			61	79	314	0	0	160	114	160	1									
2+75.00	6	0	19			25	33	274	0	0	129	112	157	-28									
3+00.00	3	0	16	2		21	27	52	0	0	70	60	84	-14									
SR_X17N																							
Totals:	115	0	171	2	0	288	375	612	0	0	511	330	462	50									

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
SR_X17S																						
6+25.00	52	14	38	0	0	22	0	0		14												
6+50.00	182	101	81	0	0	27	0	0		101												
6+75.00	197	115	82	0	0	37	0	0		115												
7+00.00																						
SR_X17S																						
Totals:	431	230	201	0	0	86	0	0	0	230												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.26A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
SR_X17S																						
6+25.00																						
6+50.00	0	0	11	10		21	27	-13	0	0	38	23	32	6								
6+75.00	0	0	7	10		17	22	79	0	0	81	58	81	0								
7+00.00	0	0	7	8		15	20	96	0	0	82	59	83	-1								
SR_X17S																						
Totals:	0	0	25	28	0	53	69	162	0	0	201	140	196	5								

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																				
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
SR Yucca																						
82+00.00																						
82+25.00	20	13	7	0	0	0	0	0		13												
82+50.00	50	30	20	0	0	0	0	0		30												
82+75.00	69	42	26	0	0	0	0	0		42												
83+00.00	69	42	27	0	0	0	0	0		42												
83+25.00	71	44	27	0	0	0	0	0		44												
83+50.00	77	48	28	0	0	0	0	0		48												
83+75.00	103	61	42	0	0	0	0	0		61												
84+00.00	71	45	27	0	0	0	0	0		45												
Gap	0	0	0	0	0	0	0	0		0												
85+00.00	0	0	0	0	0	0	0	0		0												
85+25.00	110	71	39	0	0	0	0	0		71												
85+49.80	53	34	19	0	0	0	0	0		34												
SR Yucca																						
Totals:	693	430	262	0	0	0	0	0	0	430												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.27A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
SR_Yucca																						
82+00.00																						
82+25.00	0	0				0	0	13	0	0	7	11	15	-8								
82+50.00	0	0				0	0	30	0	0	20	22	31	-11								
82+75.00	0	0				0	0	42	0	0	26	29	41	-15								
83+00.00	0	0			57	57	74	-32	0	0	27	29	41	-14								
83+25.00	0	0				0	0	44	0	0	27	29	41	-14								
83+50.00	0	0				0	0	48	0	0	28	31	43	-15								
83+75.00	0	0	1			1	1	60	0	0	42	45	63	-21								
84+00.00	74	0				74	96	-51	0	0	27	61	85	-58								
Gap	0	0				0	0	0	0	0	0	0	0	0								
85+00.00	0	0				0	0	0	0	0	0	0	0	0								
85+25.00	16	0	3			19	25	46	0	0	39	52	73	-34								
85+49.80	0	0				0	0	34	0	0	19	24	34	-15								
SR_Yucca																						
Totals:	90	0	4	0	57	151	197	234	0	0	262	333	467	-205								

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.27B

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Cut																					
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]
										[2]+[4]+[5]+[7]+[9]												
	Total Cut Unadjusted Volume	Total Class 10 Unadjusted Volume	Topsoil Cut Volume	Template Unsuitable Type B Volume	Template Unsuitable Type C Volume	Template Pavement Removal Volume	Template Select Loam Volume	Template Waste Volume	Manually Calculated Cut Adjustments (+/- Cut)	Total Cut Adjusted												
Summary:																						
ML092	548,417	262,627	168,150	18,033	1,576	51,659	97,790	450	3,625	383,651												
SR_3rdN	18	18	0	0	0	21	0	0	0	18												
SR_3rds	51	38	13	0	0	50	0	0	0	38												
SR_CountyLine	49	49	0	0	0	0	0	0	0	49												
SR_Hilltop	808	423	385	0	0	118	0	0	0	423												
SR_VAve	3	3	0	0	0	0	0	0	0	3												
SR_W66	6	6	0	0	0	20	0	0	0	6												
SR_WAve	18	1	17	0	0	0	0	0	0	1												
SR_Western	53	21	30	0	0	13	0	0	0	21												
SR_WesternAccess	1,769	883	886	0	0	351	0	0	0	883												
SR_X17N	1,496	986	511	0	0	85	0	0	0	986												
SR_X17S	431	230	201	0	0	86	0	0	0	230												
SR_Yucca	693	430	262	0	0	0	0	0	0	430												
Over Excavation for Subdrain Work (See CS & Q Sheets)								2,685														
Project Totals:	553,812	265,715	170,455	18,033	1,576	52,403	97,790	3,135	3,625	386,739												

FILE NO.	ENGLISH	DESIGN TEAM Jia\Miller\Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER T.28A

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

TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28
04-21-15

Station	Fill								Checks (EW-102)		Topsoil											
	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	[32]	[33]	[34]	[35]	[36]	[37]	[38]	[39]	[40]	[41]	[42]	[43]	[44]
						[23]+[24]+[25] +[26]+[27]	[28]x1..3	[29]-[10]					[34]x1.4	[33]-[35]								
	Total Fill Unadjusted Volume	Plowing & Shaping Undercut (+ Fill)	Existing Topsoil Stripping Undercut (+ Fill)	Existing Pavement Undercut (+Fill)	Manually Calculated Fill Adjustments (+/- Fill)	Total Fill Adjusted	Total Fill Adjusted w/ Weighted Average 1.3 Shrink Factor	Total Cut Adjusted Minus Fill w/ Shrink	Approx. Fill Vol. Below 5' & Above 20' w/ Shrink	Approx. Fill Volume Below 3' w/ Shrink	Topsoil Stripping Undercut Volume	Topsoil Placement Undercut Volume	Topsoil Placement With 1.4 Shrink Factor	Topsoil Stripping Minus Topsoil Placement w/Shrink								
Summary:																						
ML092	164,827	9,145	66,796	11,334	6,853	258,955	336,642	47,010	0	0	168,150	107,546	150,565	17,590								
SR_3rdN	0	0	0	1	0	1	2	17	0	0	0	0	0	0								
SR_3rds	8	0	13	2	0	23	30	9	0	0	13	7	10	4								
SR_CountyLine	280	0	0	0	0	280	364	-315	0	0	0	133	187	-187								
SR_Hilltop	200	0	385	70	20	675	878	-455	0	0	385	345	483	-99								
SR_VAve	50	0	0	0	0	50	65	-62	0	0	0	16	23	-23								
SR_W66	141	0	0	20	0	161	210	-204	0	0	0	27	38	-38								
SR_WAve	33	0	10	0	48	91	119	-118	0	0	17	14	20	-3								
SR_Western	0	0	4	3	0	7	10	12	0	0	30	37	52	-22								
SR_WesternAccess	358	0	406	17	62	843	1,096	-213	0	0	886	803	1,125	-239								
SR_X17N	115	0	171	2	0	288	375	612	0	0	511	330	462	50								
SR_X17S	0	0	25	28	0	53	69	162	0	0	201	140	196	5								
SR_Yucca	90	0	4	0	57	151	197	234	0	0	262	333	467	-205								
Over Excavation for Subdrain Work (See CS & Q Sheets)						1,994	2,592	-2,592														
Project Totals:	166,102	9,145	67,814	11,477	7,040	263,572	342,649	44,090	0	0	170,455	109,731	153,628	16,833								

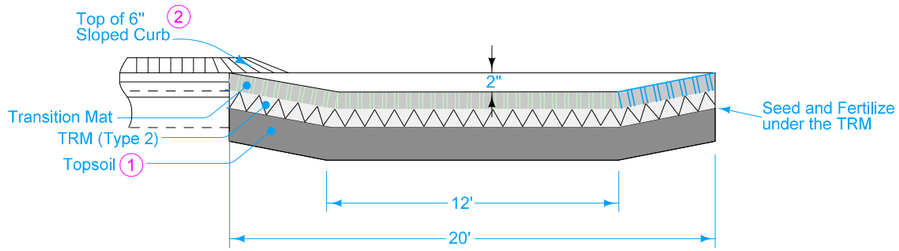
Bid Items

Excavation, Class 10, Roadway and Borrow:	342,649 cy = [29]
Excavation, Class 10, Waste:	47,225 cy [30] + [8]
Topsoil, Strip, Salvage and Spread:	170,455 cy [33]
Compaction with Moisture Control:	263,572

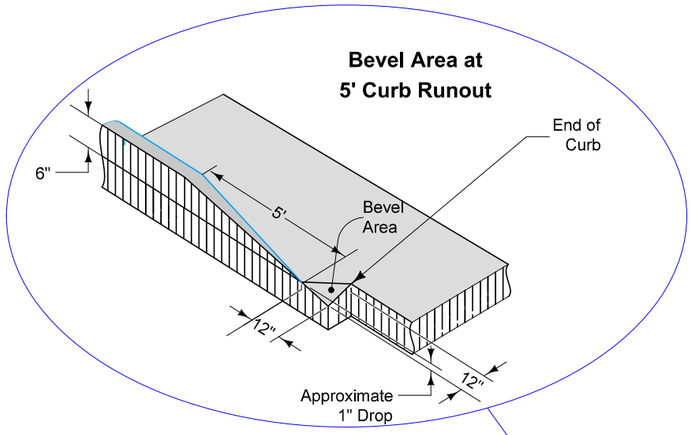
Refer to Standard Road Plan EC-104 for the placement of the TRM.

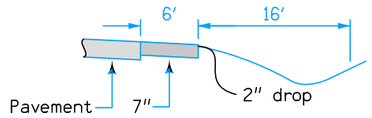
(1) Place at same thickness as surrounding area. Refer to T Sheets to determine topsoil thickness for the surrounding area.

(2) 6" Sloped Curb - Refer to PV-102 for details.

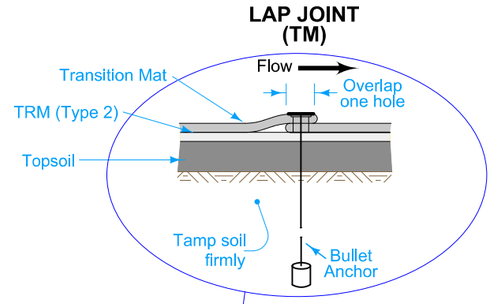


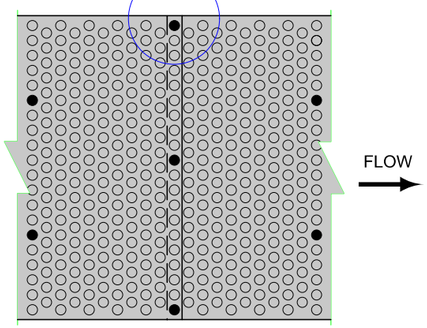
SECTION A-A



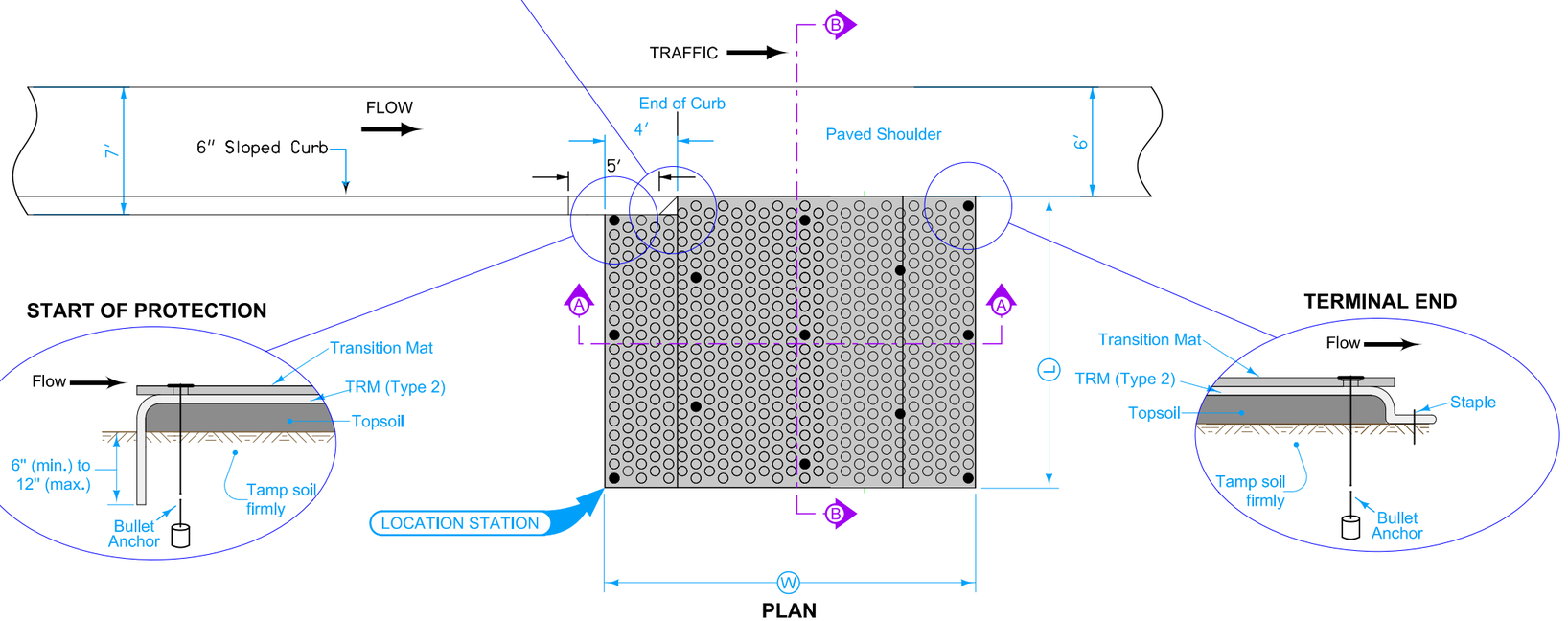


SECTION B-B





PLAN



PLAN

TRM (Type 2) TM

TRANSITION MAT (TM)

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER U.1

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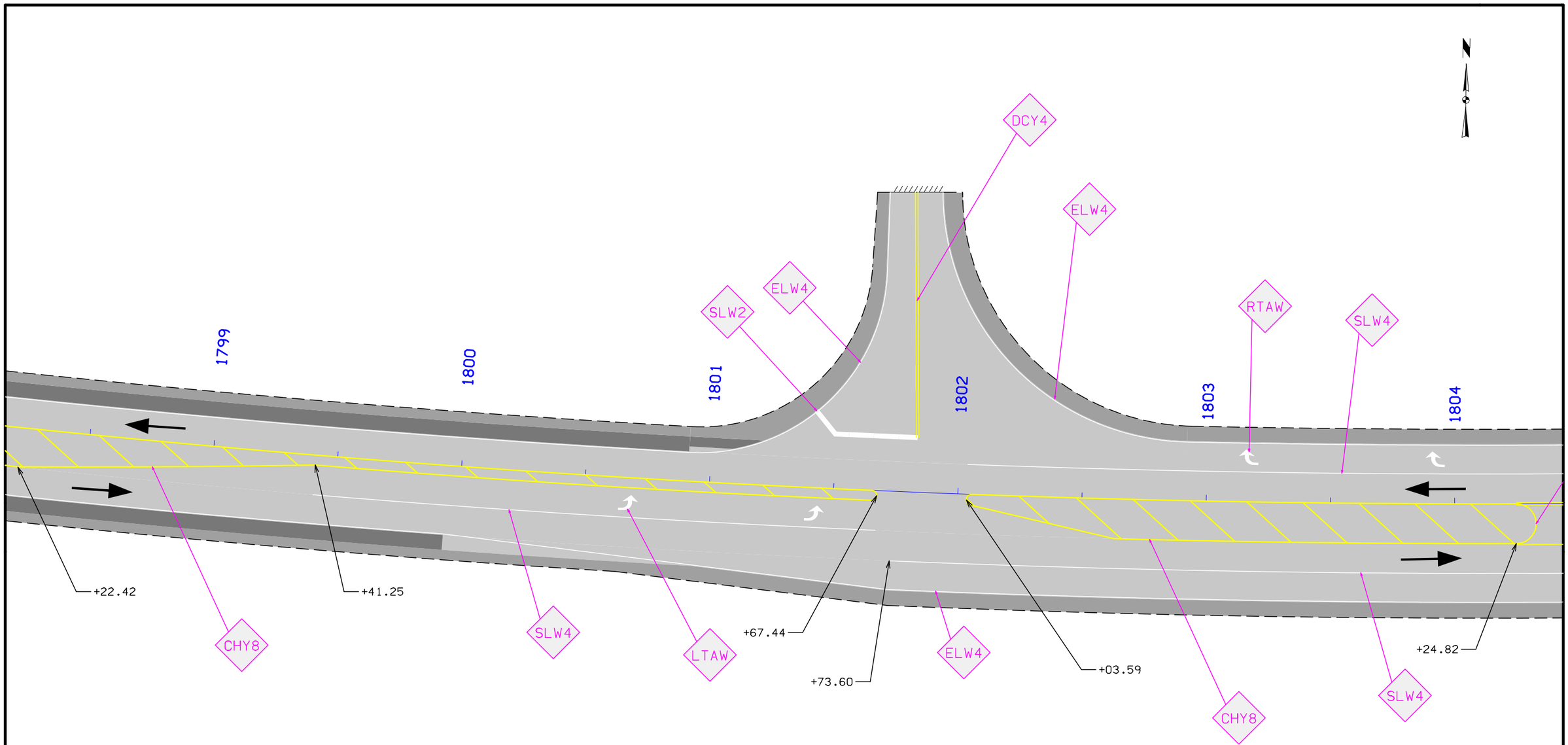

PAINT MARKINGS
CO. RD. X17

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER U.02

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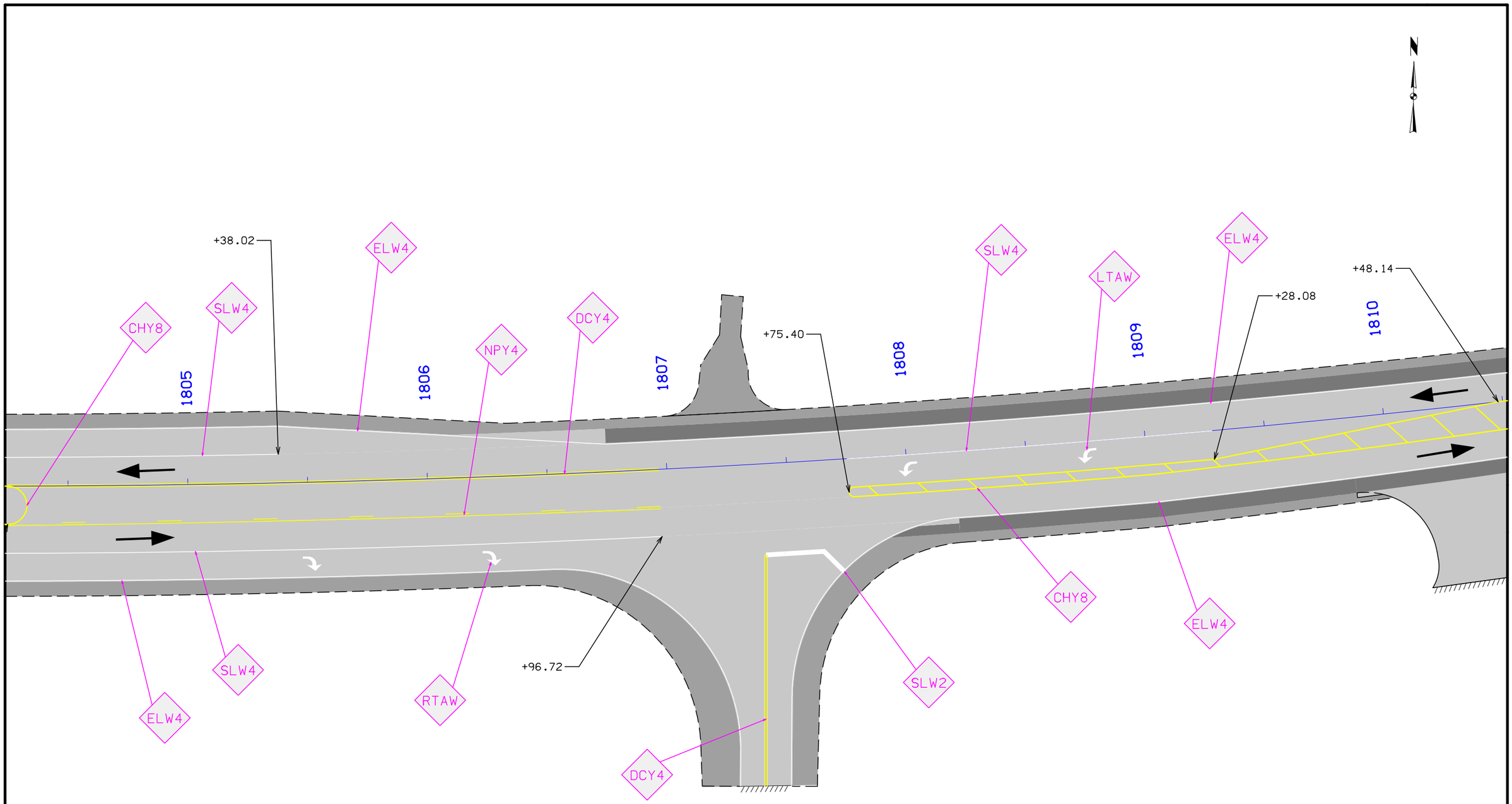

PAINT MARKINGS

CO. RD. X17

0 FEET 20

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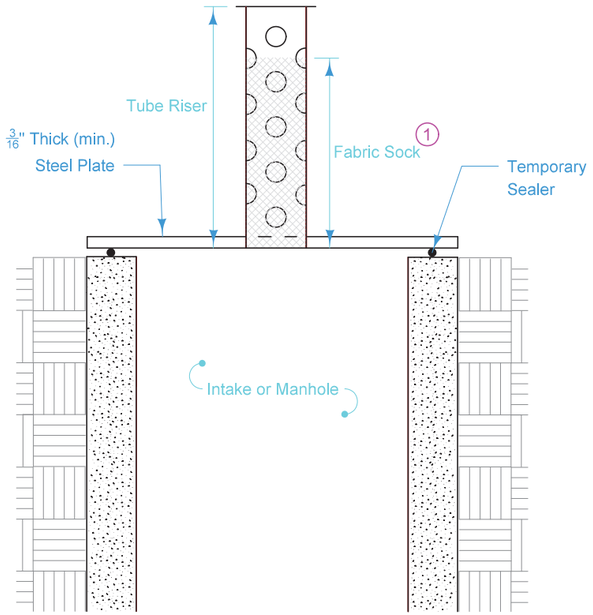
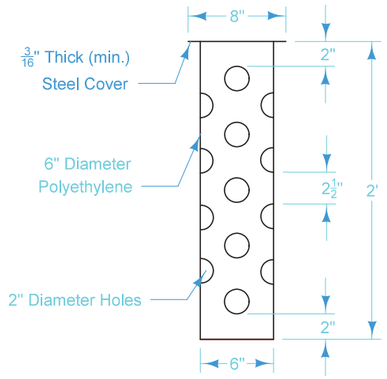
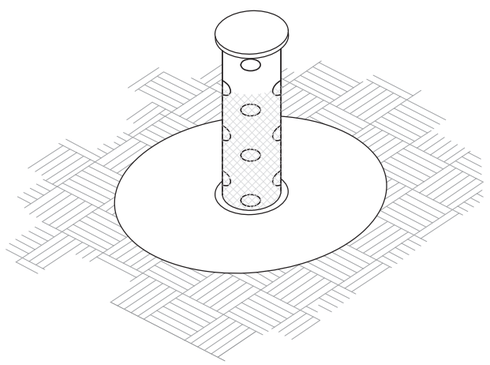


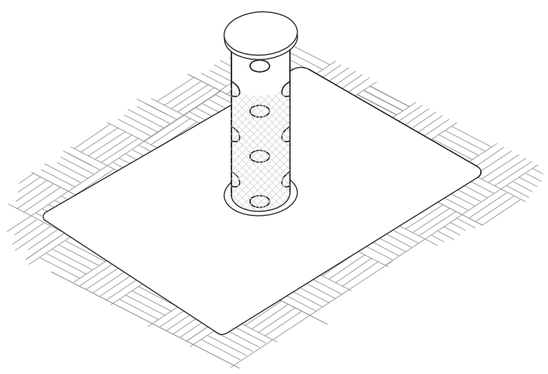
SECTION VIEW



TUBE RISER 2

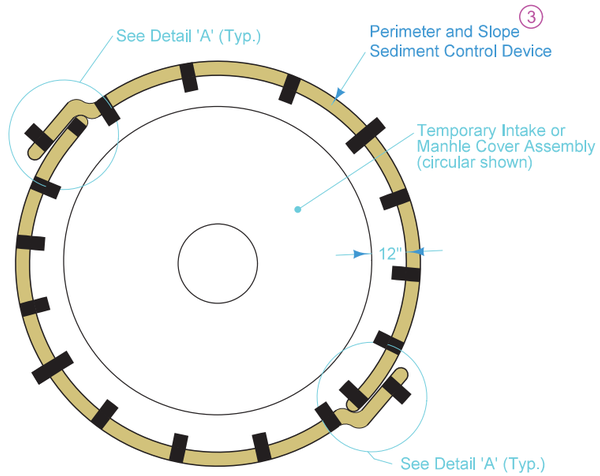


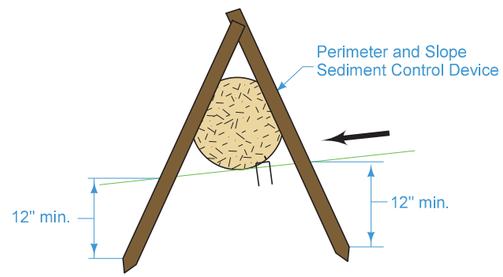
ISOMETRIC VIEW
(Circular)

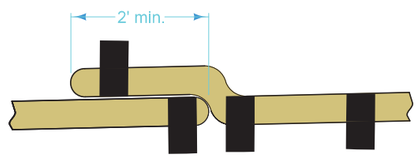


ISOMETRIC VIEW
(Rectangular)

TEMPORARY INTAKE OR MANHOLE COVER ASSEMBLY







DETAIL 'A' 4
(Overlap Joint)

PERIMETER AND SLOPE SEDIMENT CONTROL

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

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

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

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

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

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

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

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

Possible Tabulations:
- 100-11
- 100-19

IOWA DOT

REVISION
2 | 10-19-21

ROAD DESIGN DETAIL

570-5

SHEET 1 of 1

REVISIONS: Modified stake placement.

EROSION CONTROL FOR INTAKE OR MANHOLE WELL

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER U.4

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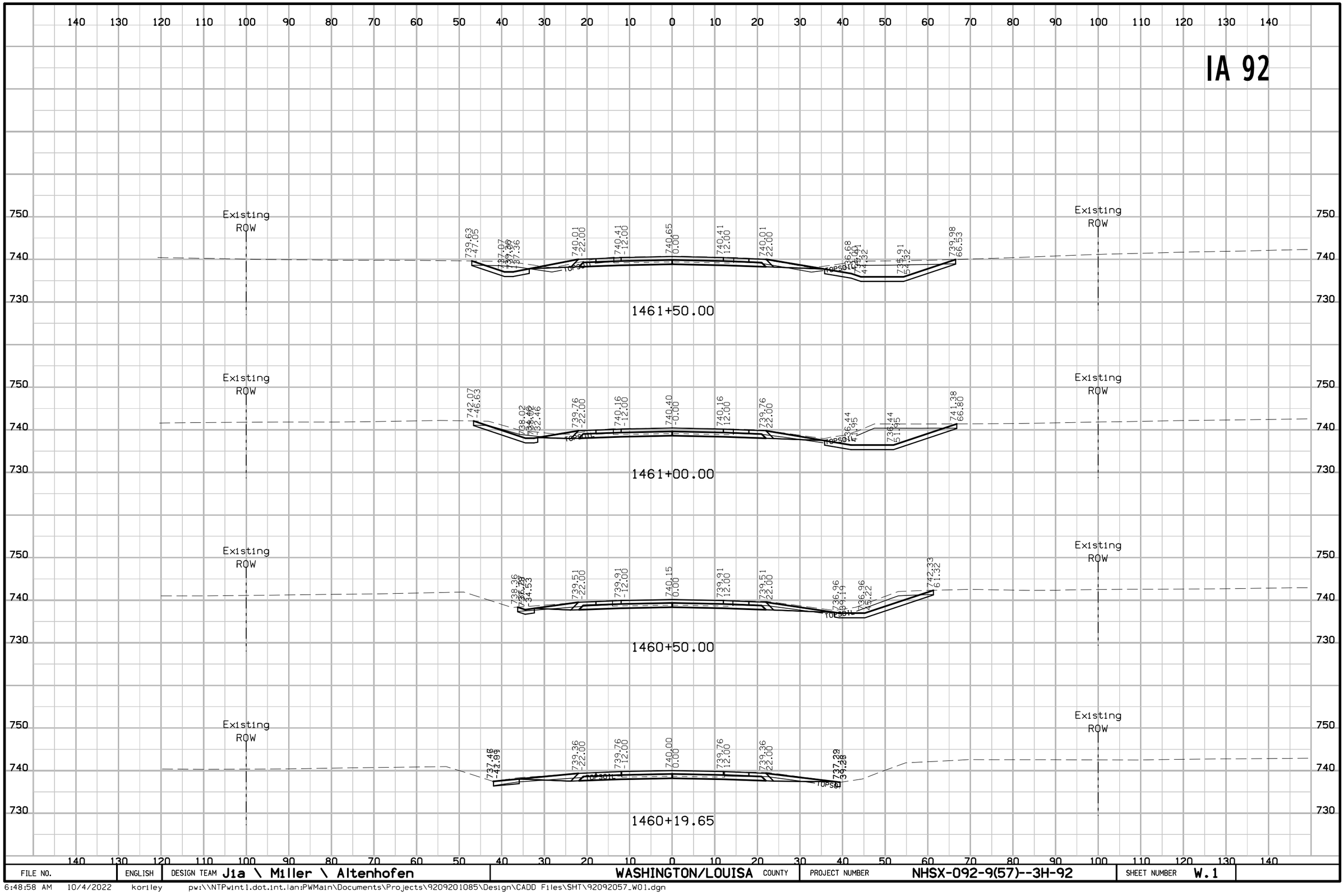

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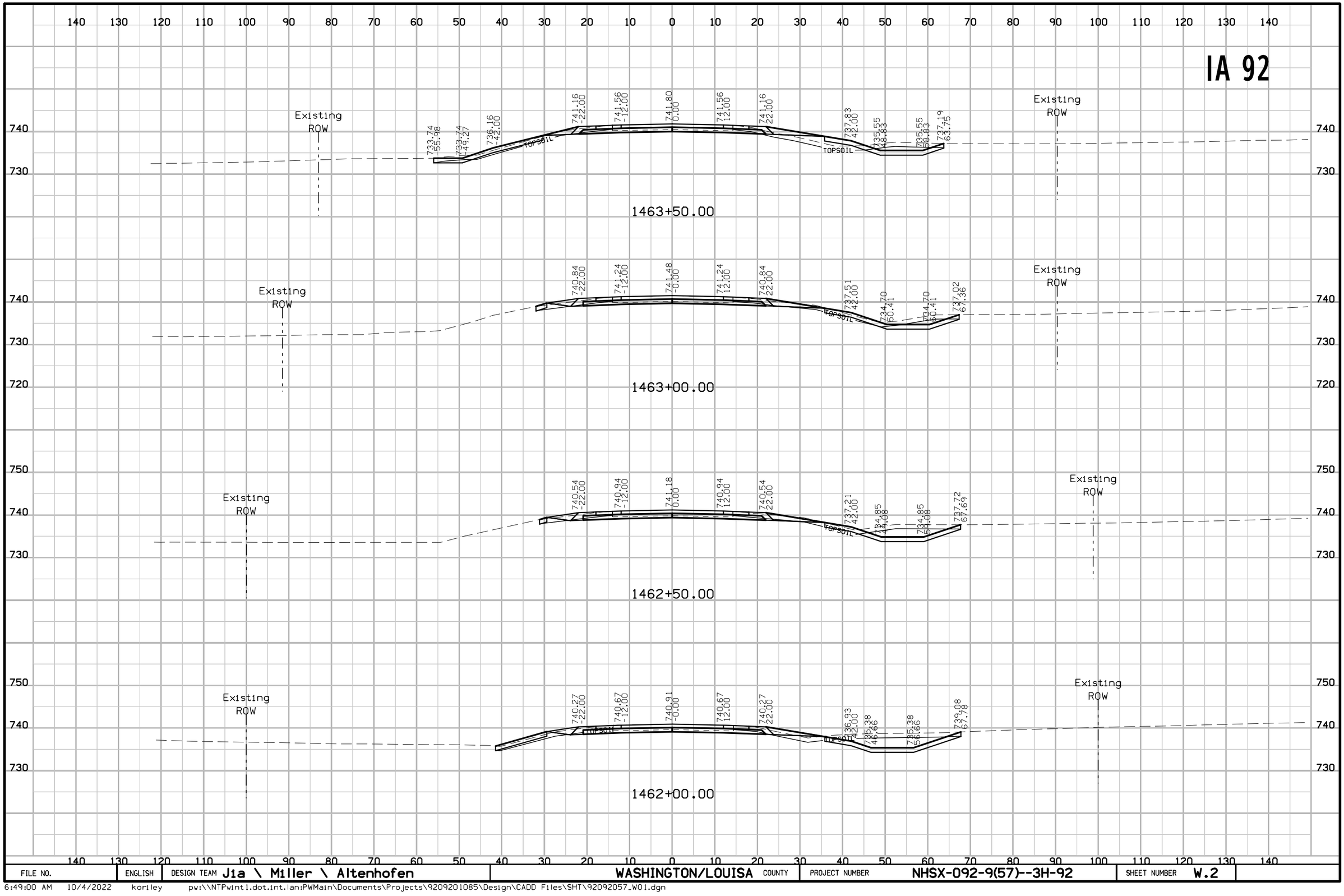

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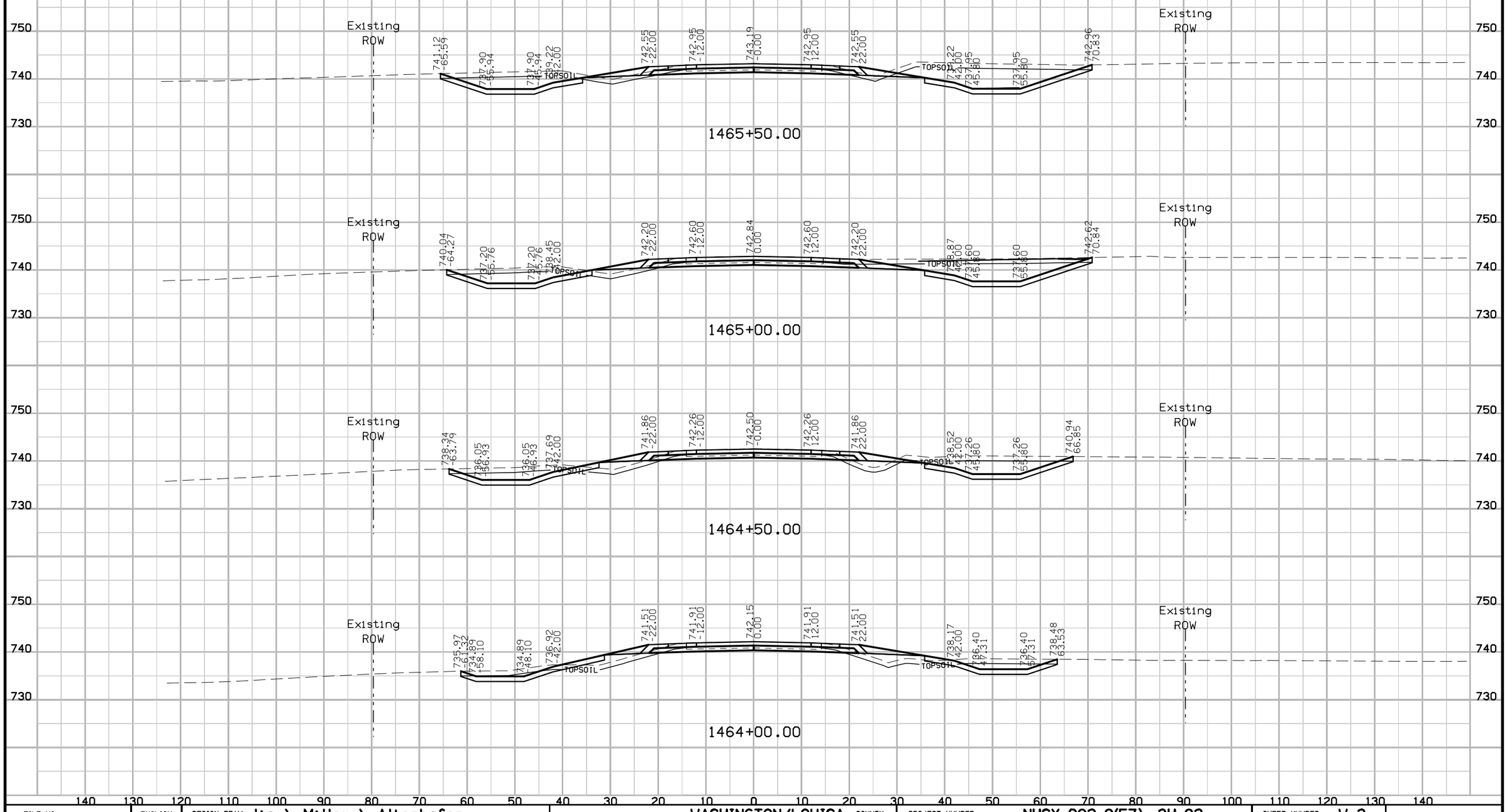

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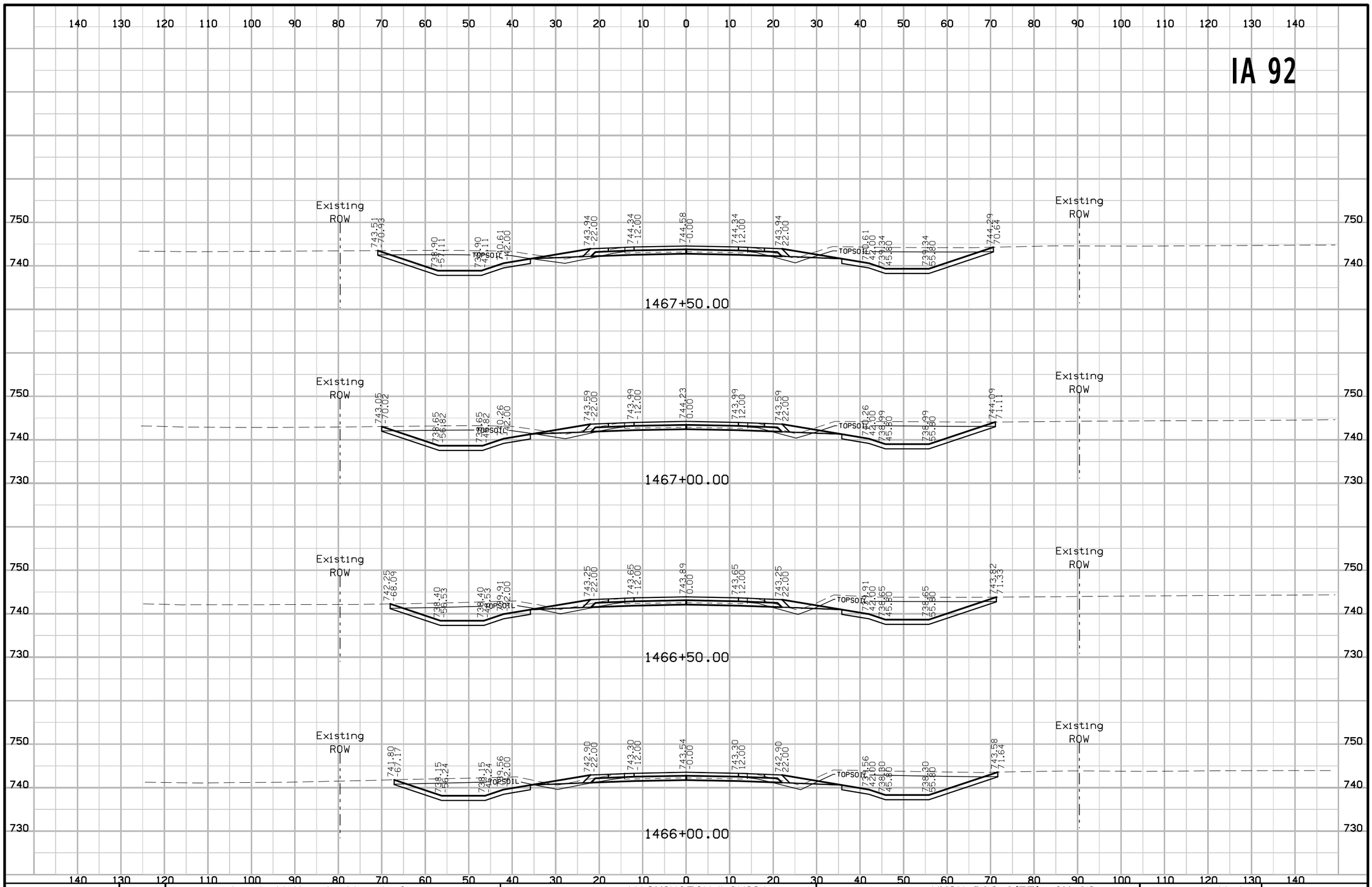

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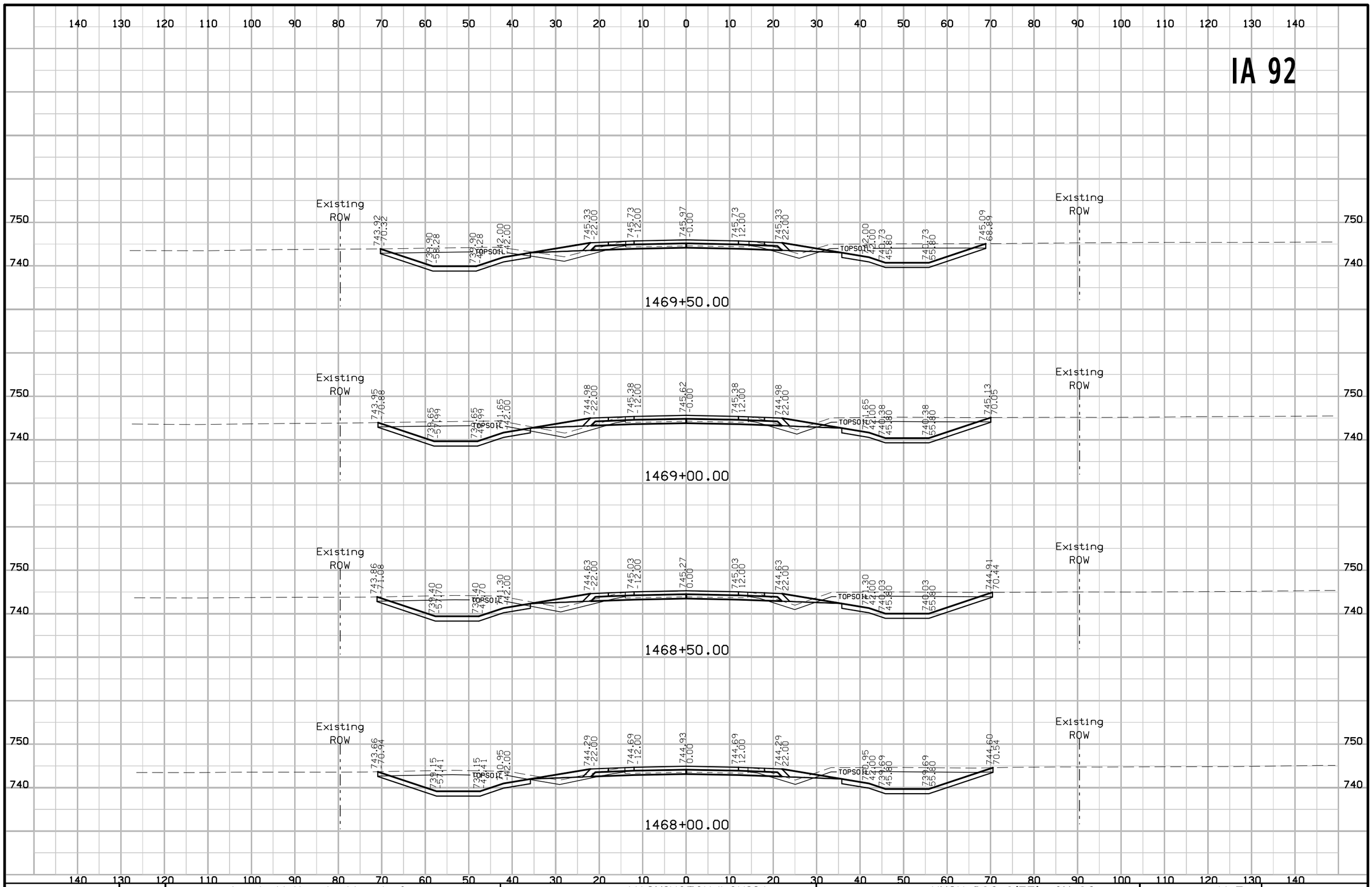

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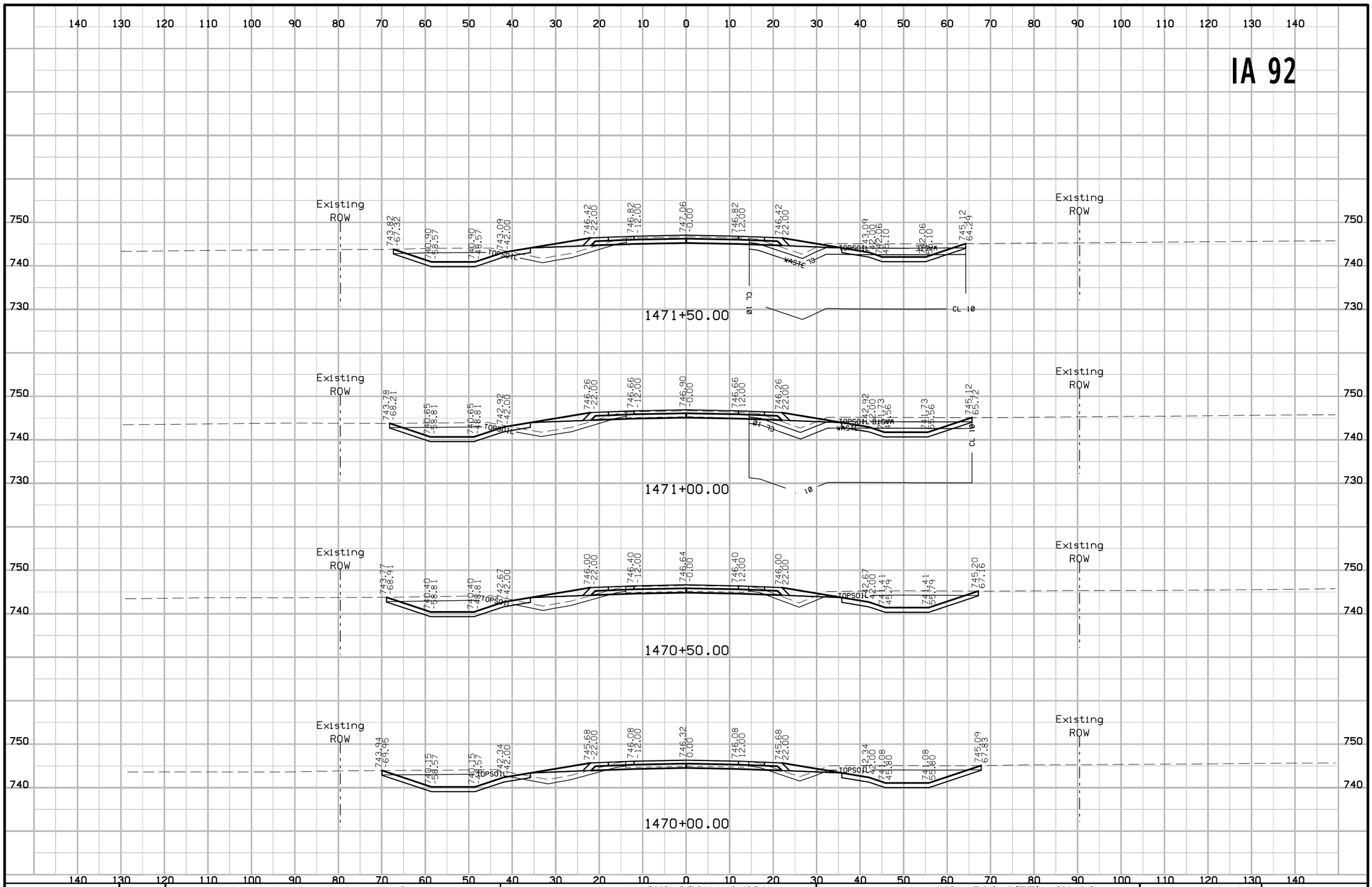

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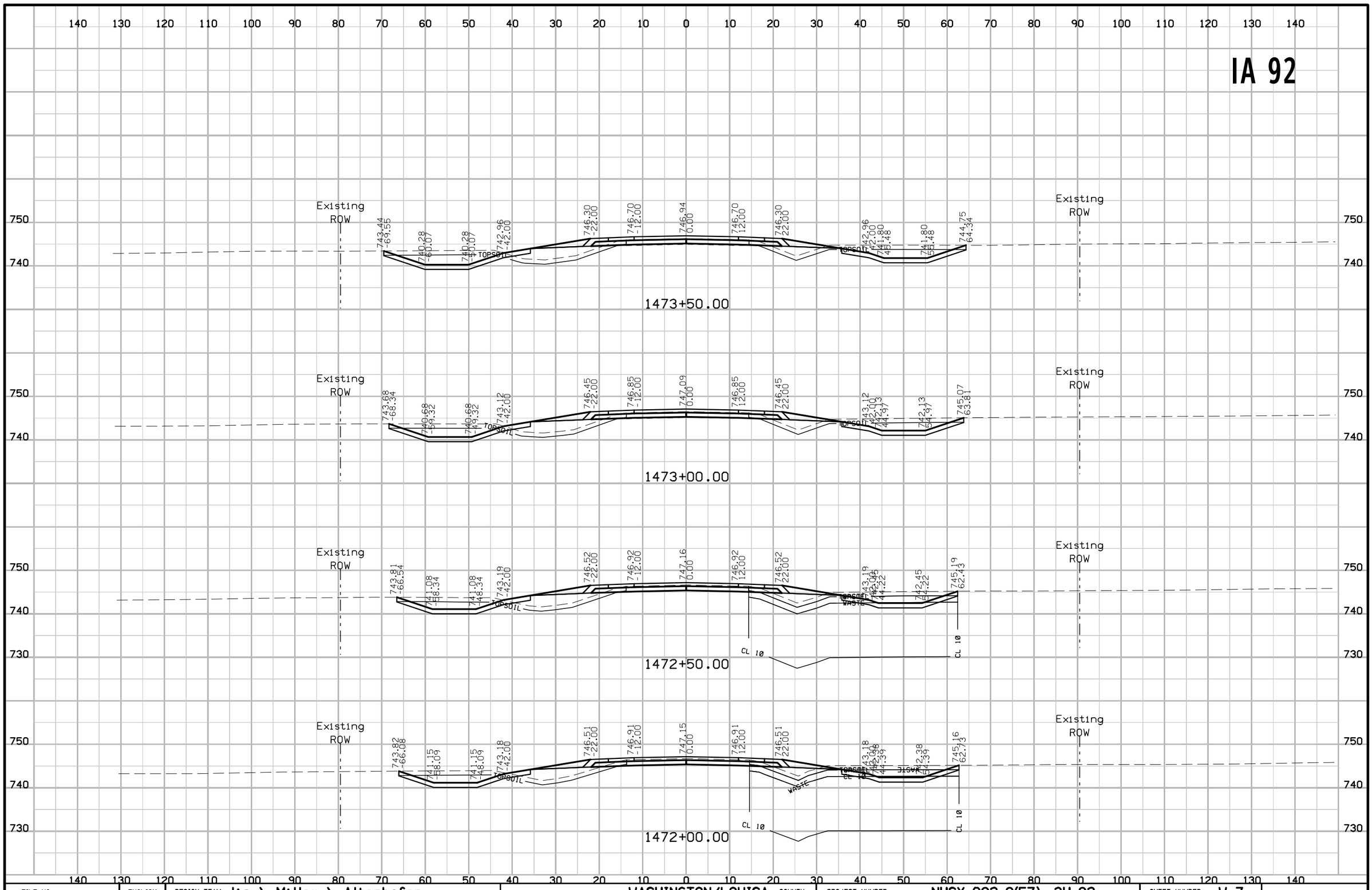

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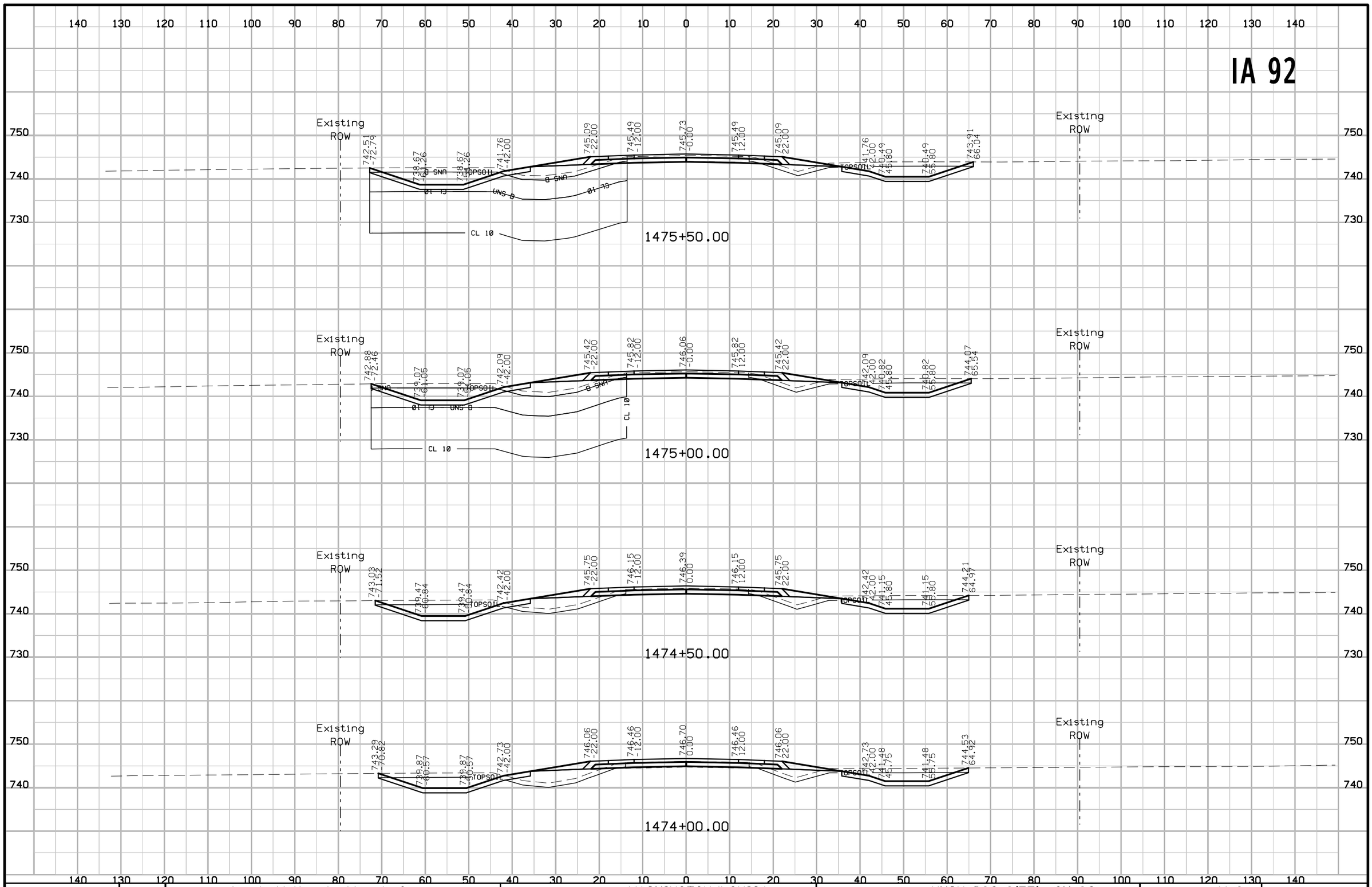

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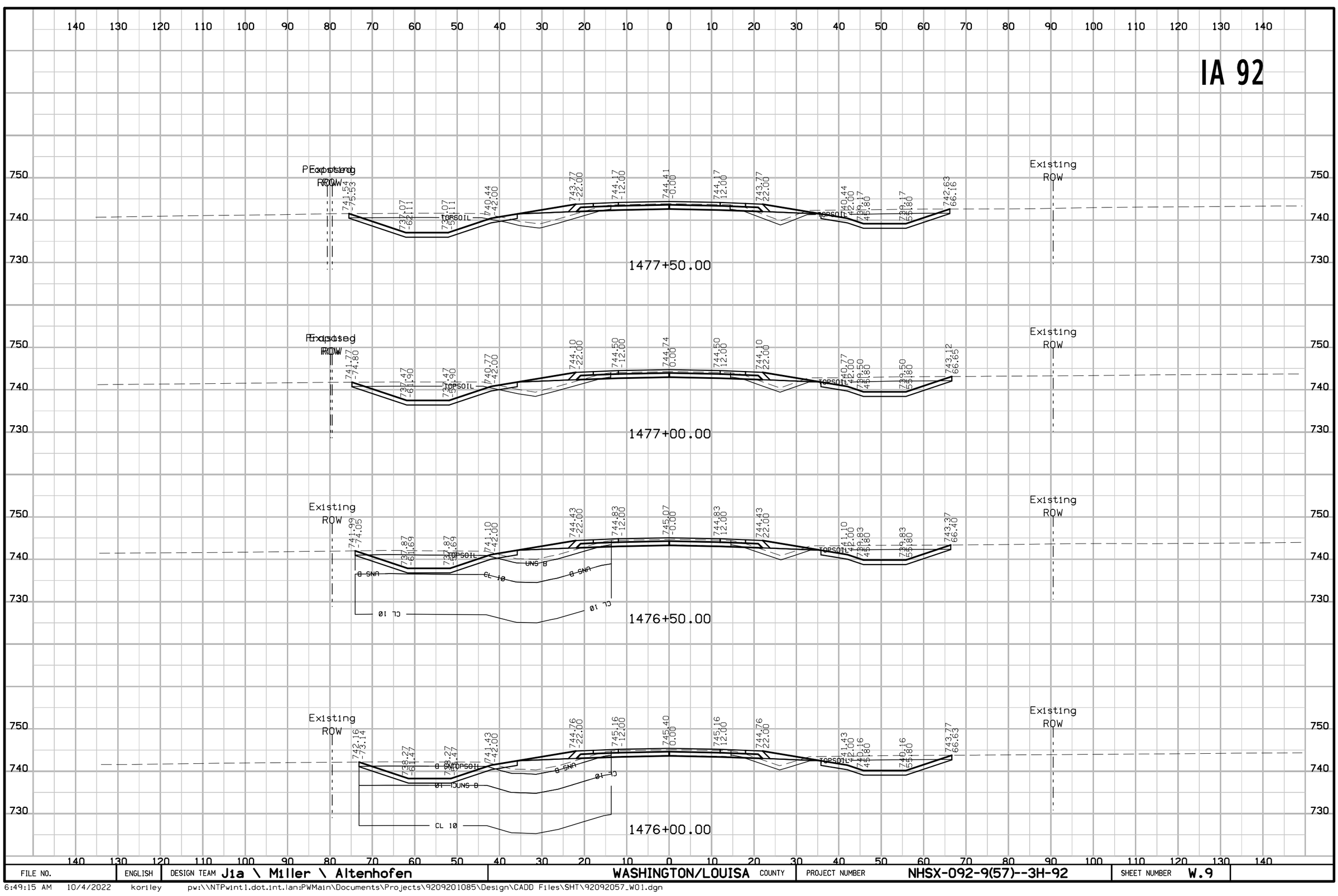

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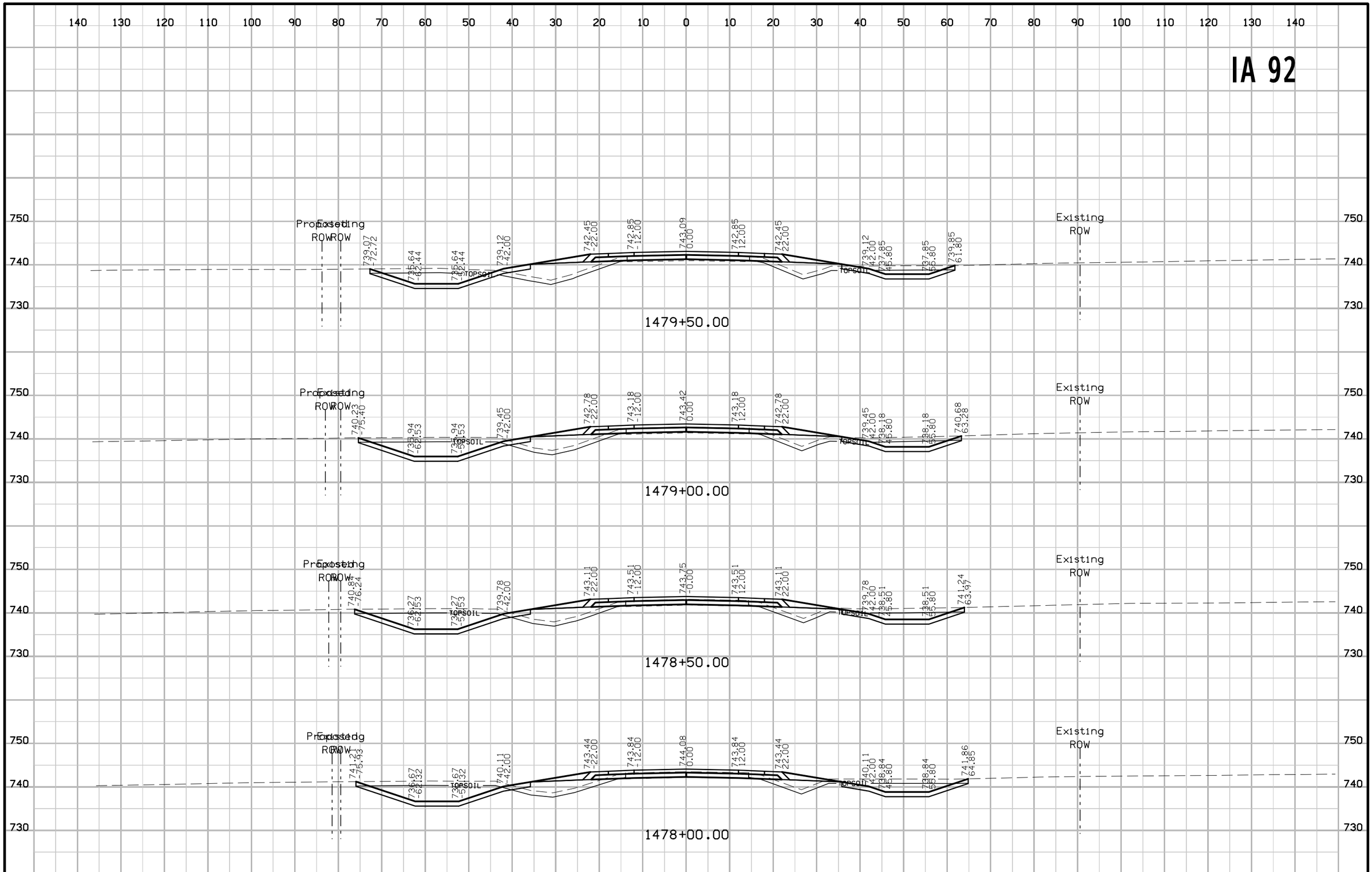

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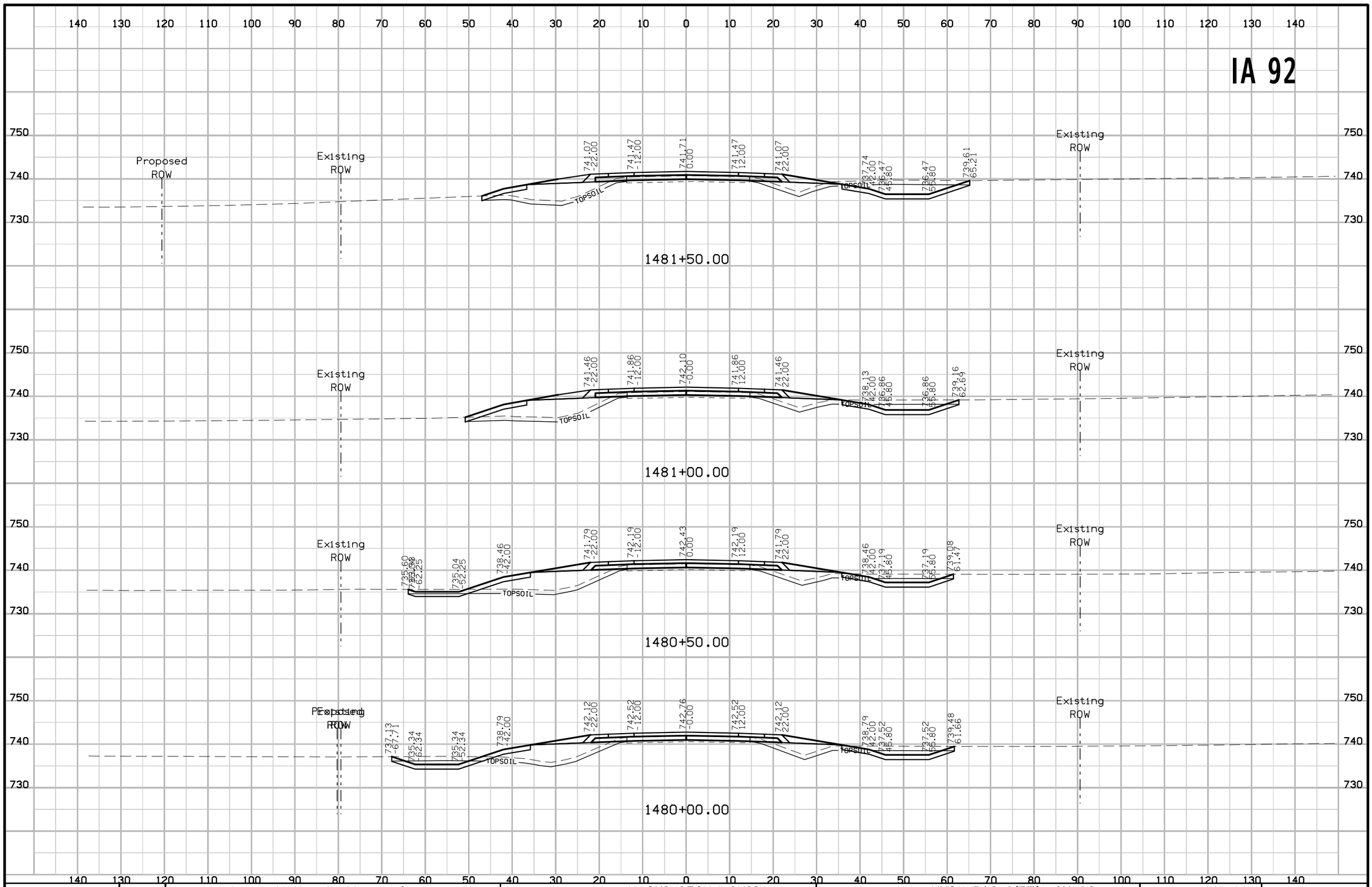

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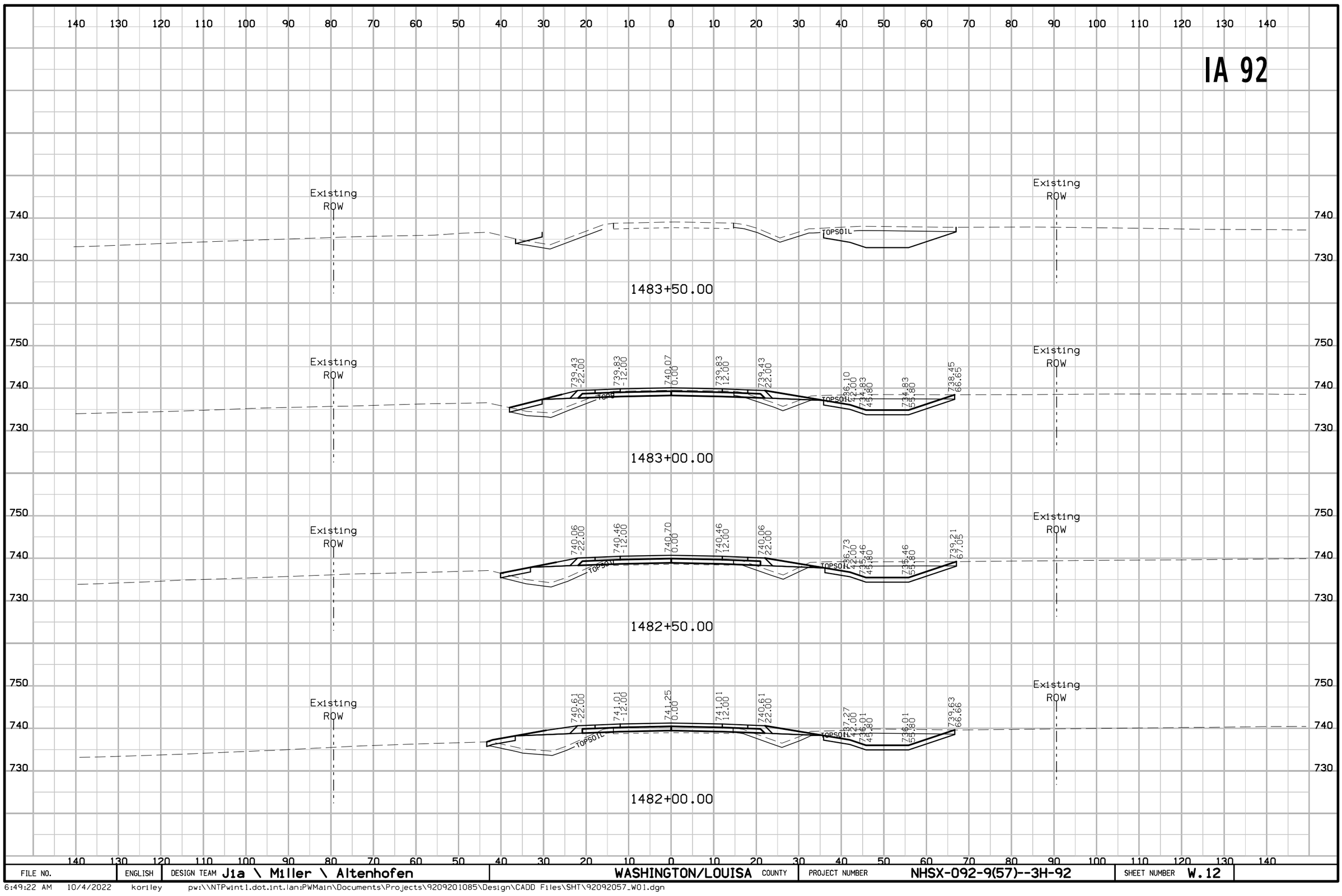
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.12

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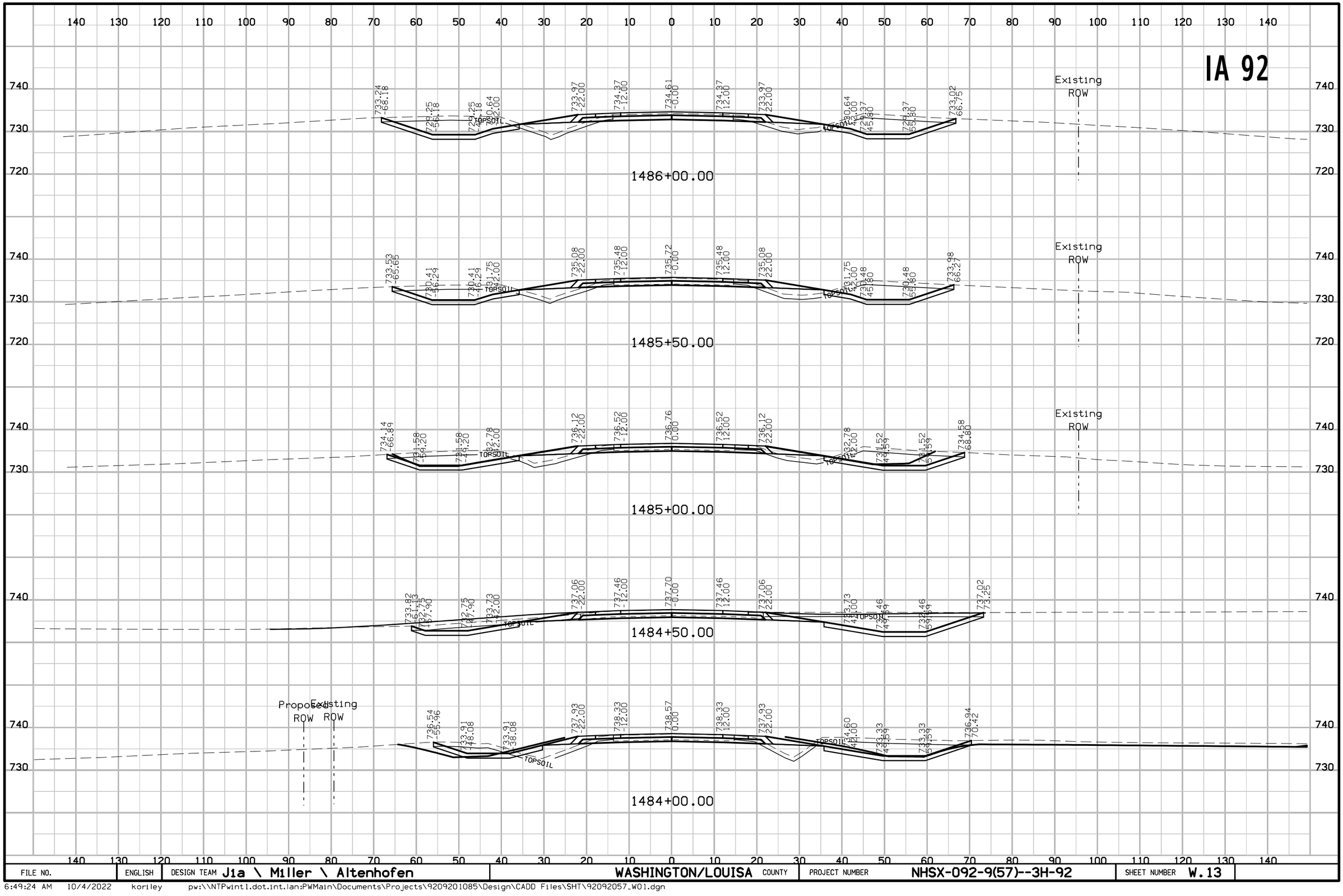

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.13

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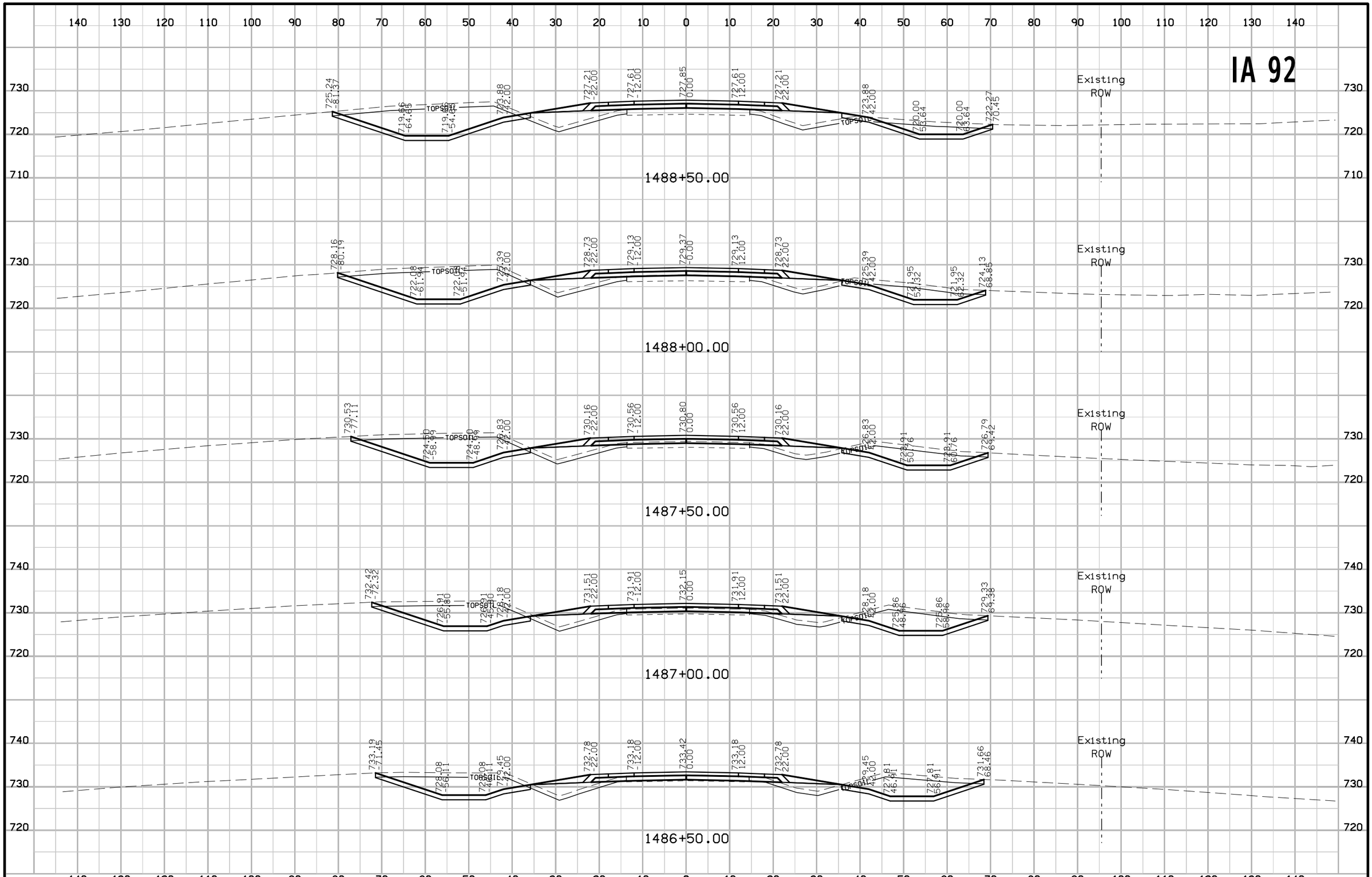

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.14

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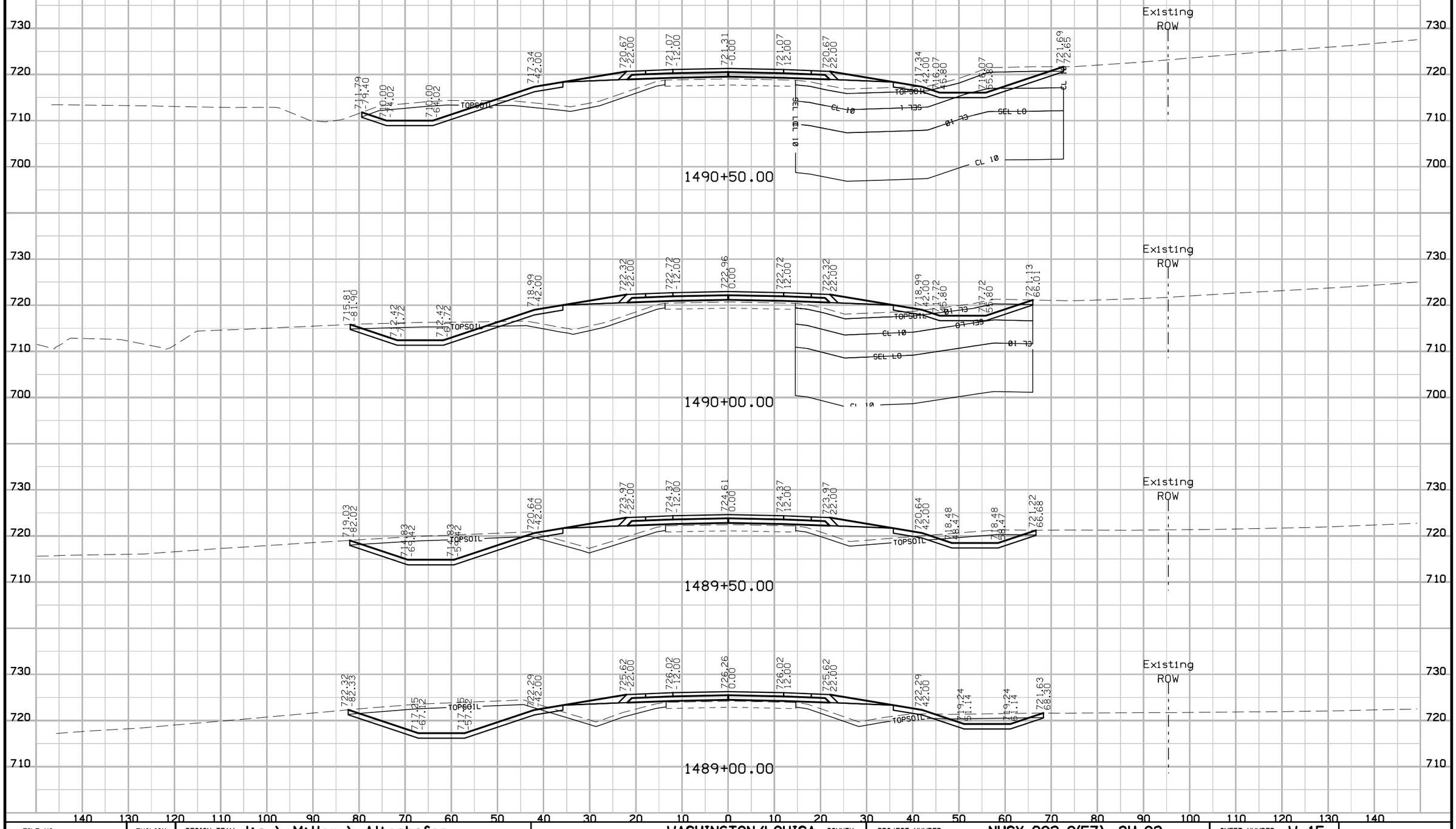

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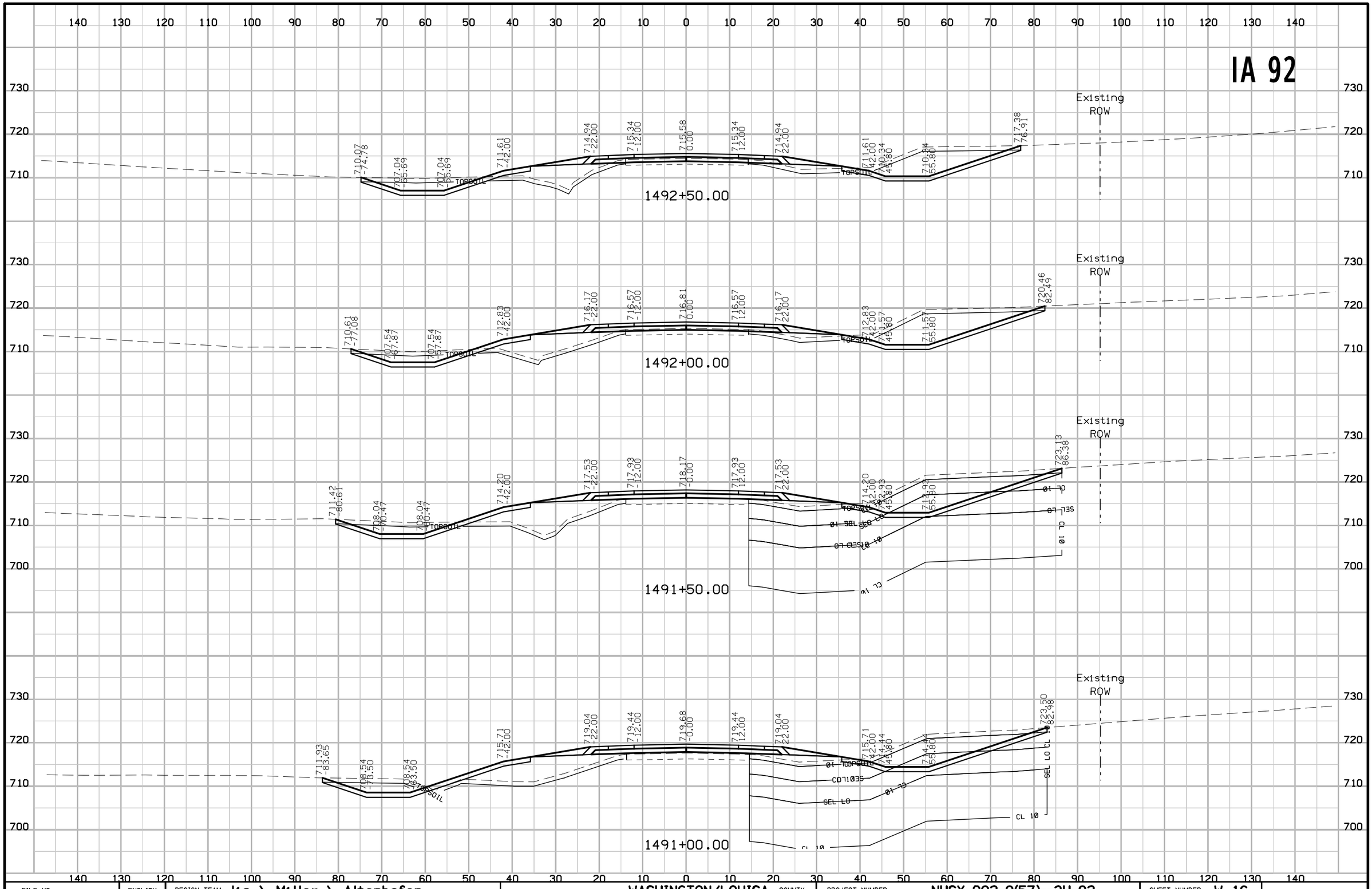

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.16

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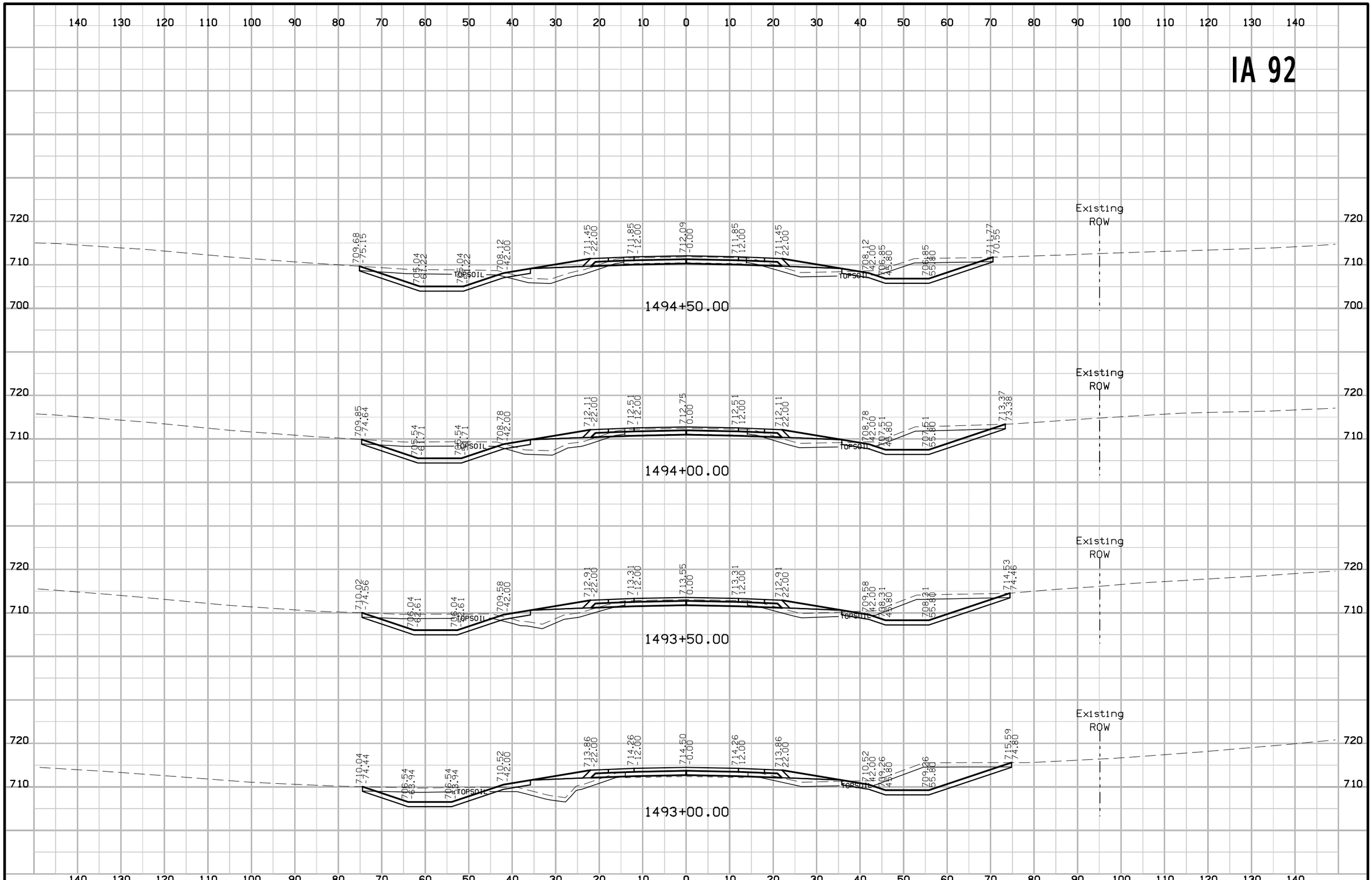

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.17

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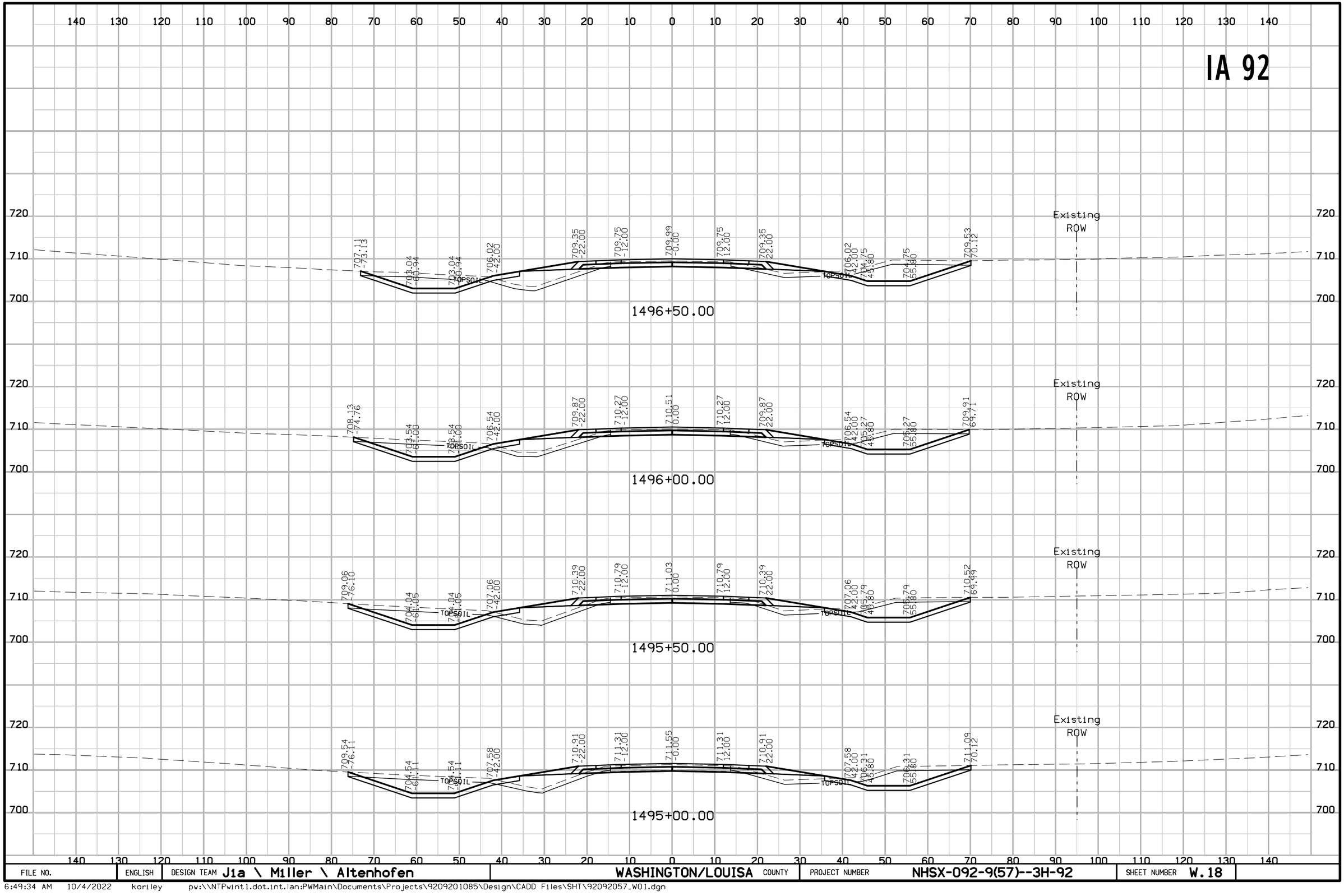

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.18

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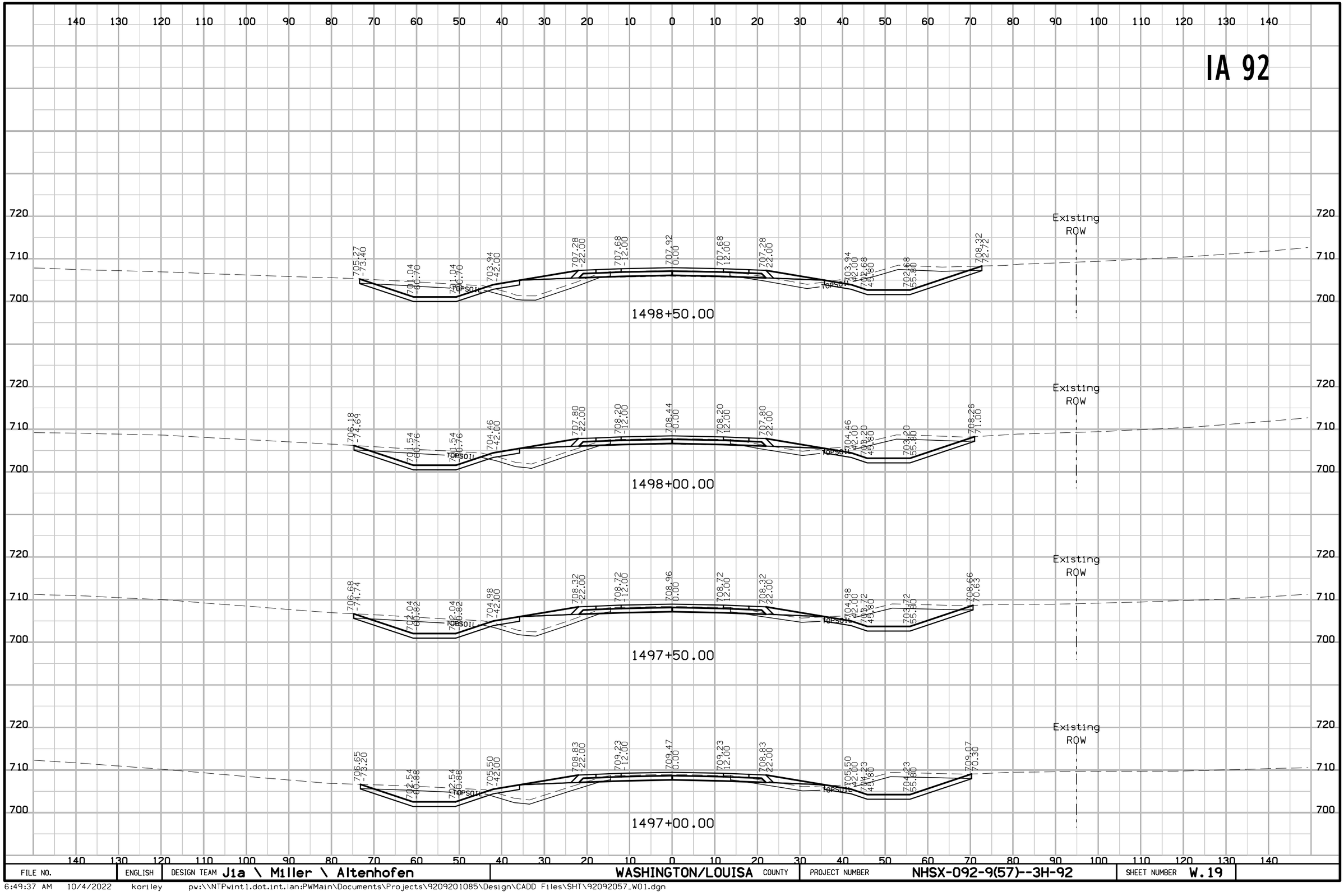

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.19

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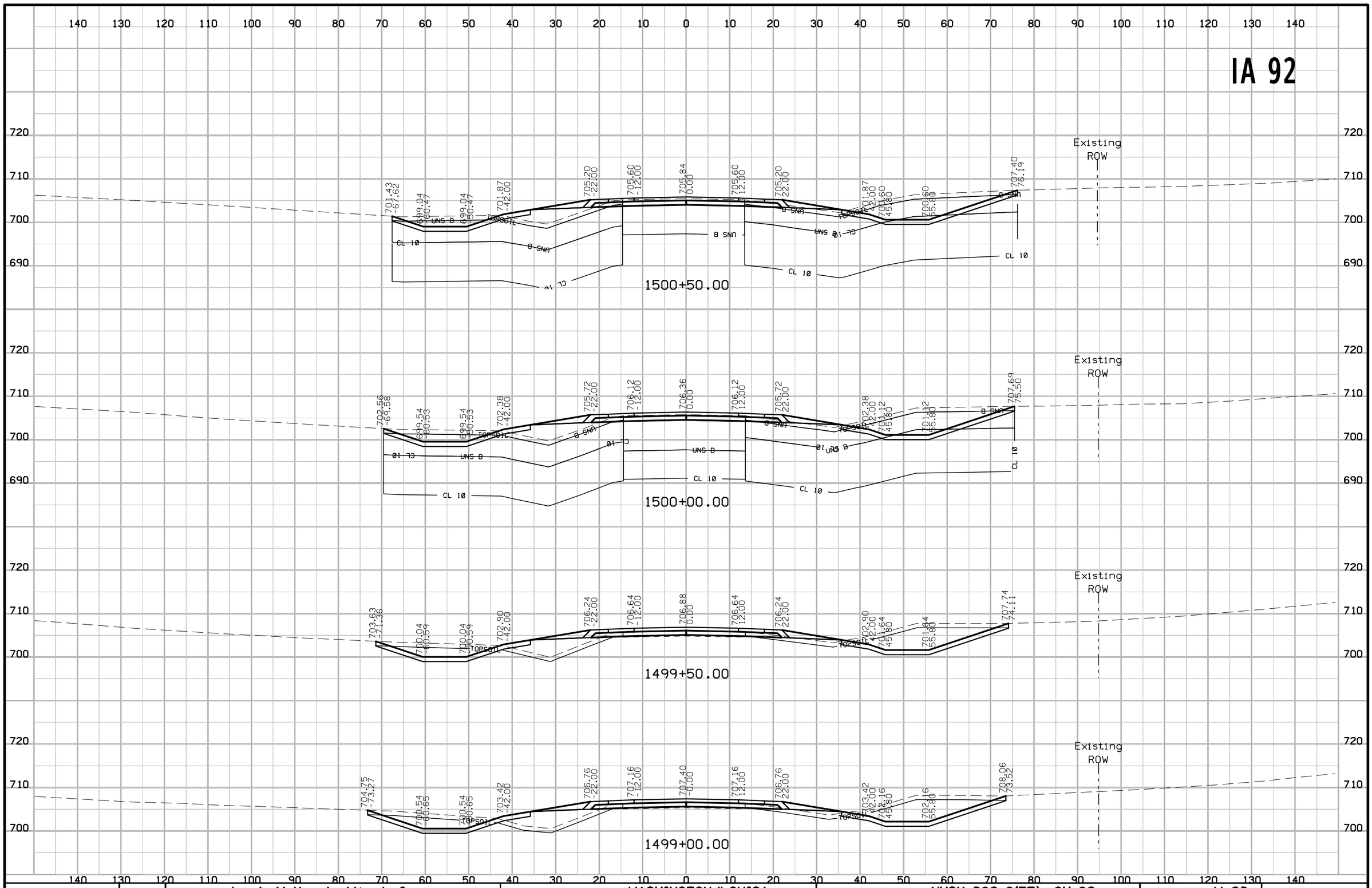

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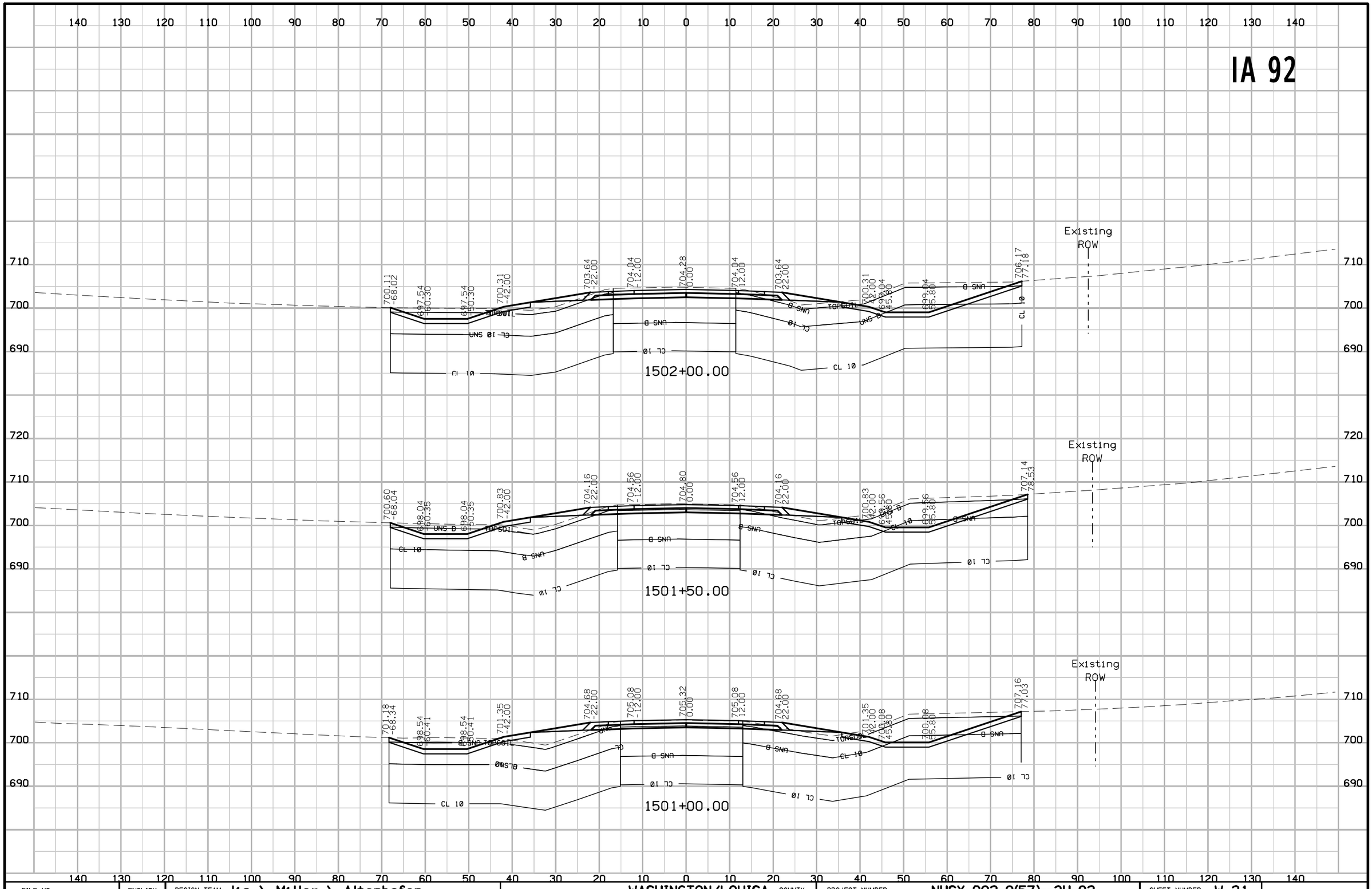

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.21

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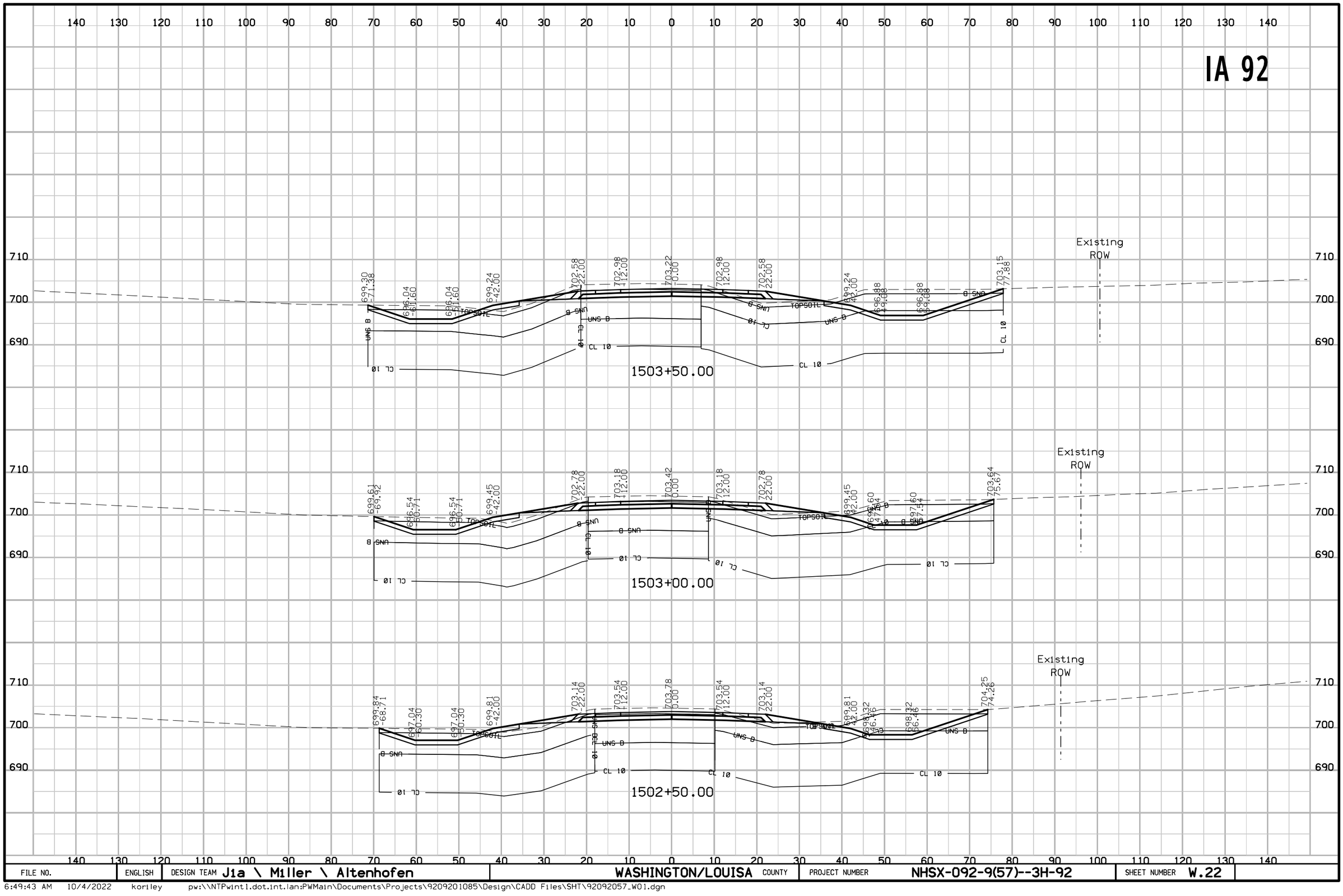

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.22

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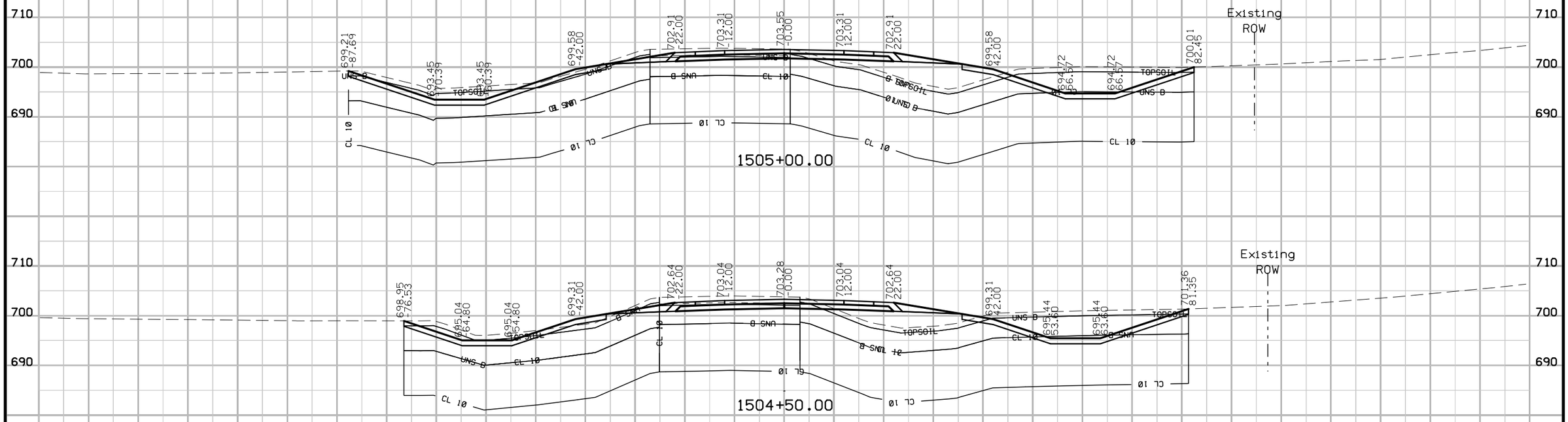

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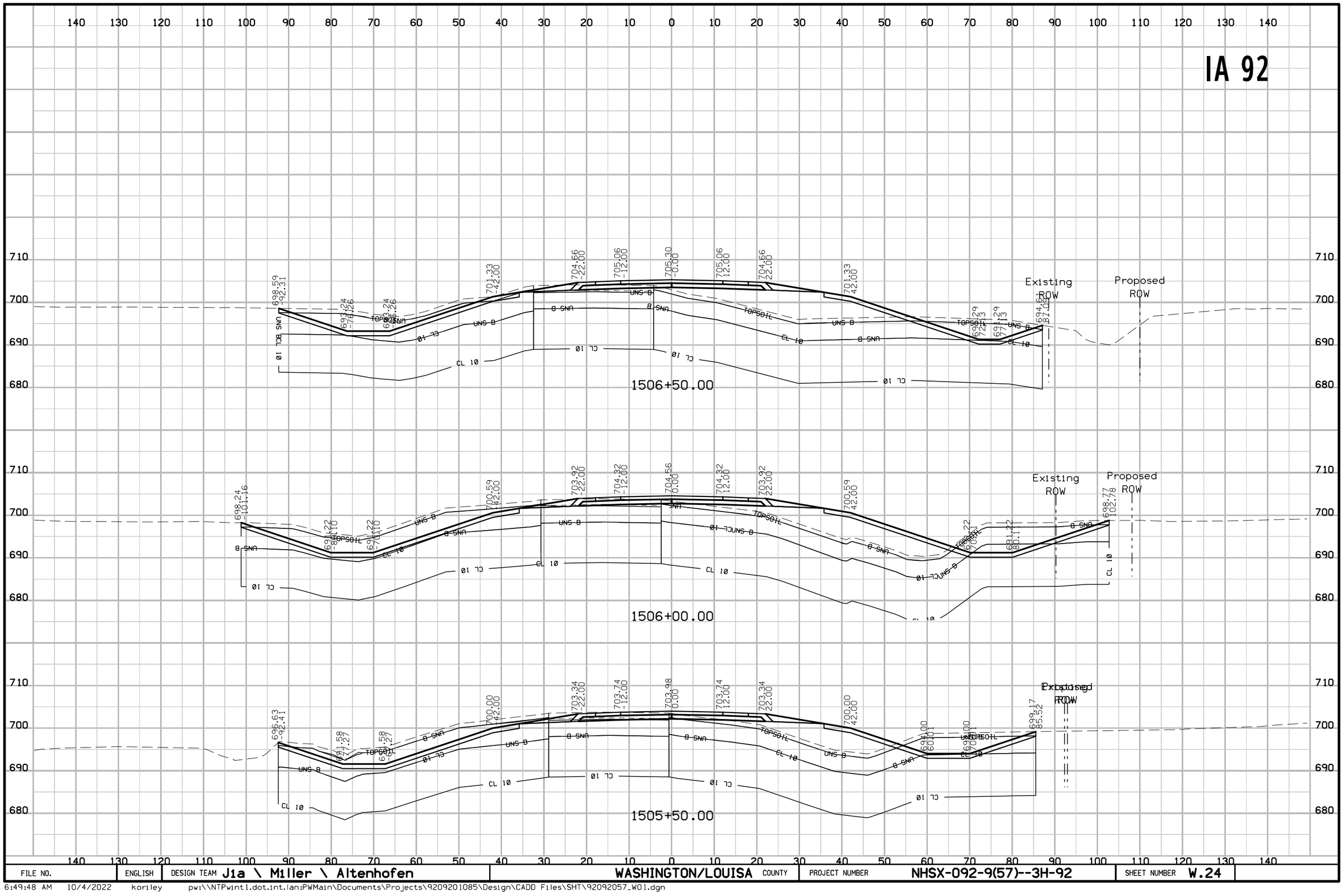

FILE NO.	ENGLISH	DESIGN TEAM	J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	W.24

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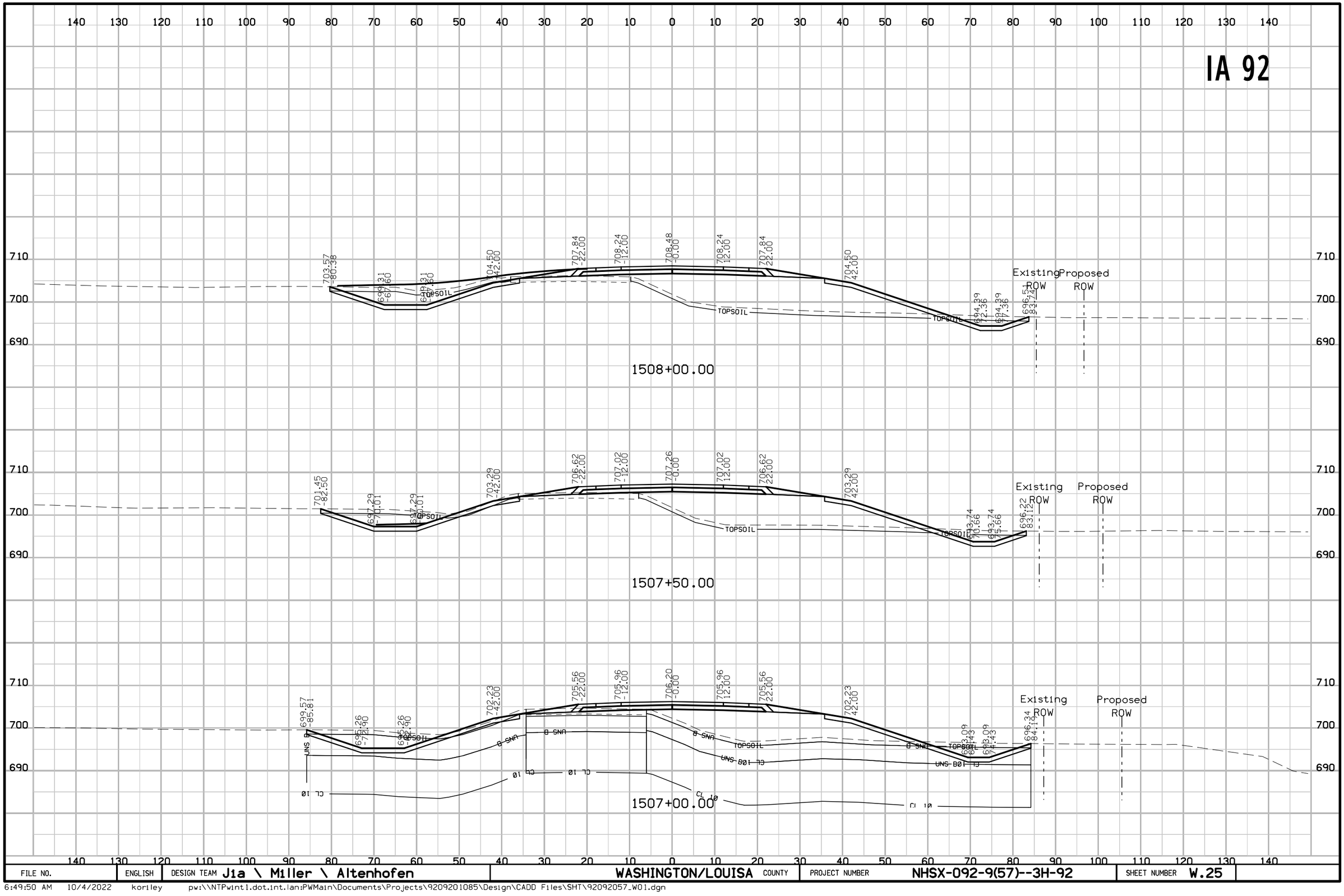

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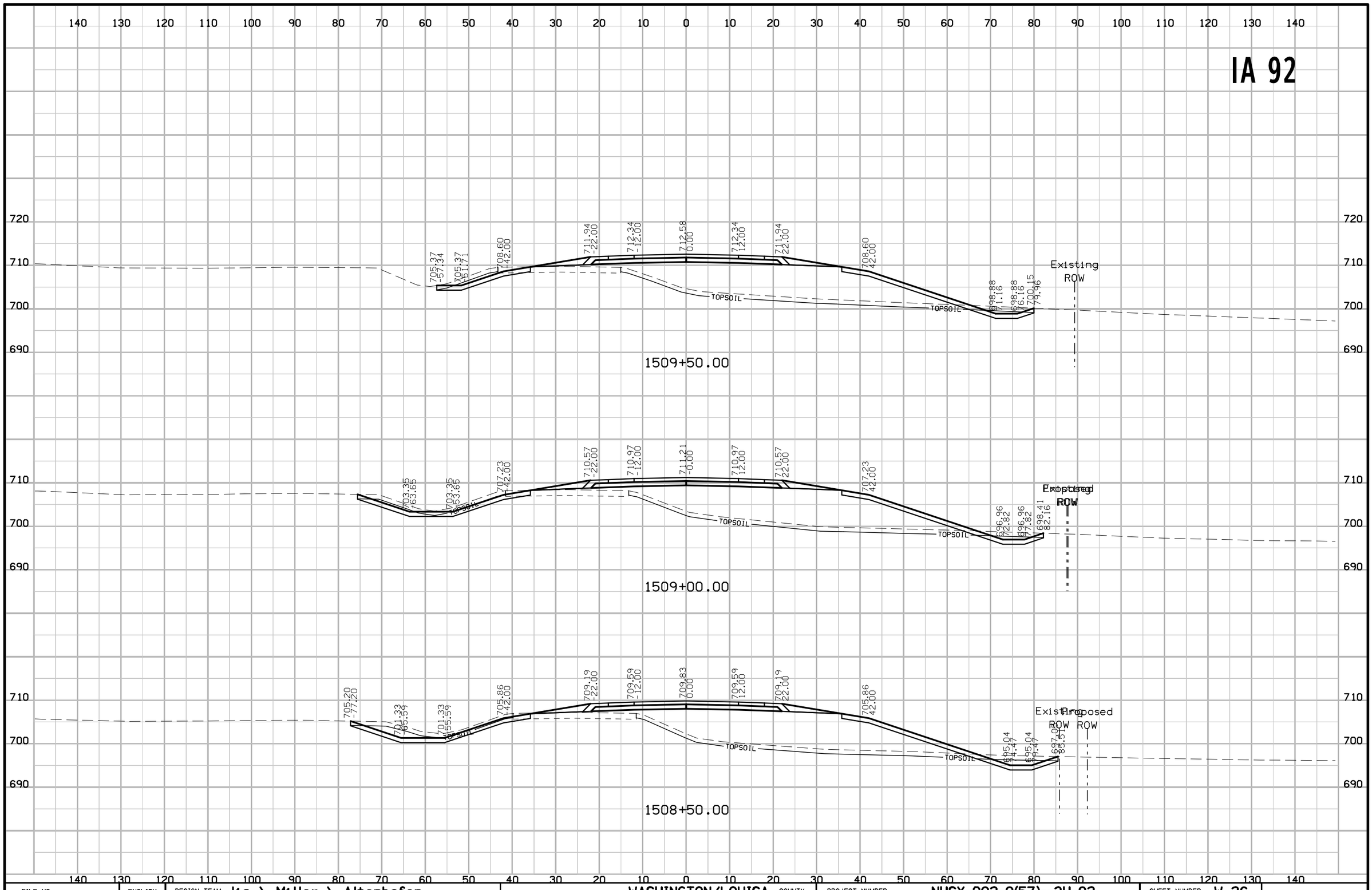

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.26

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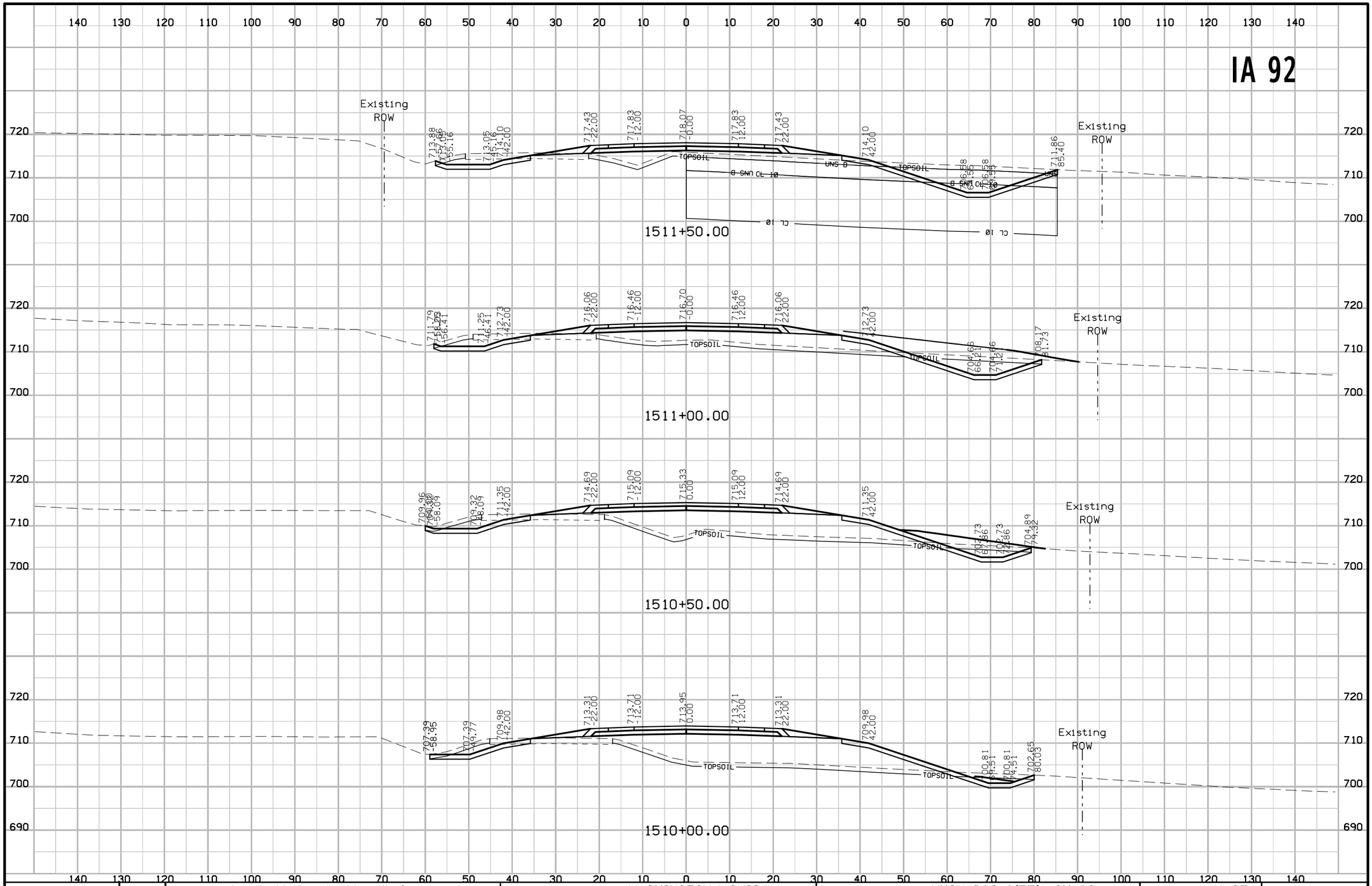

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	W.27

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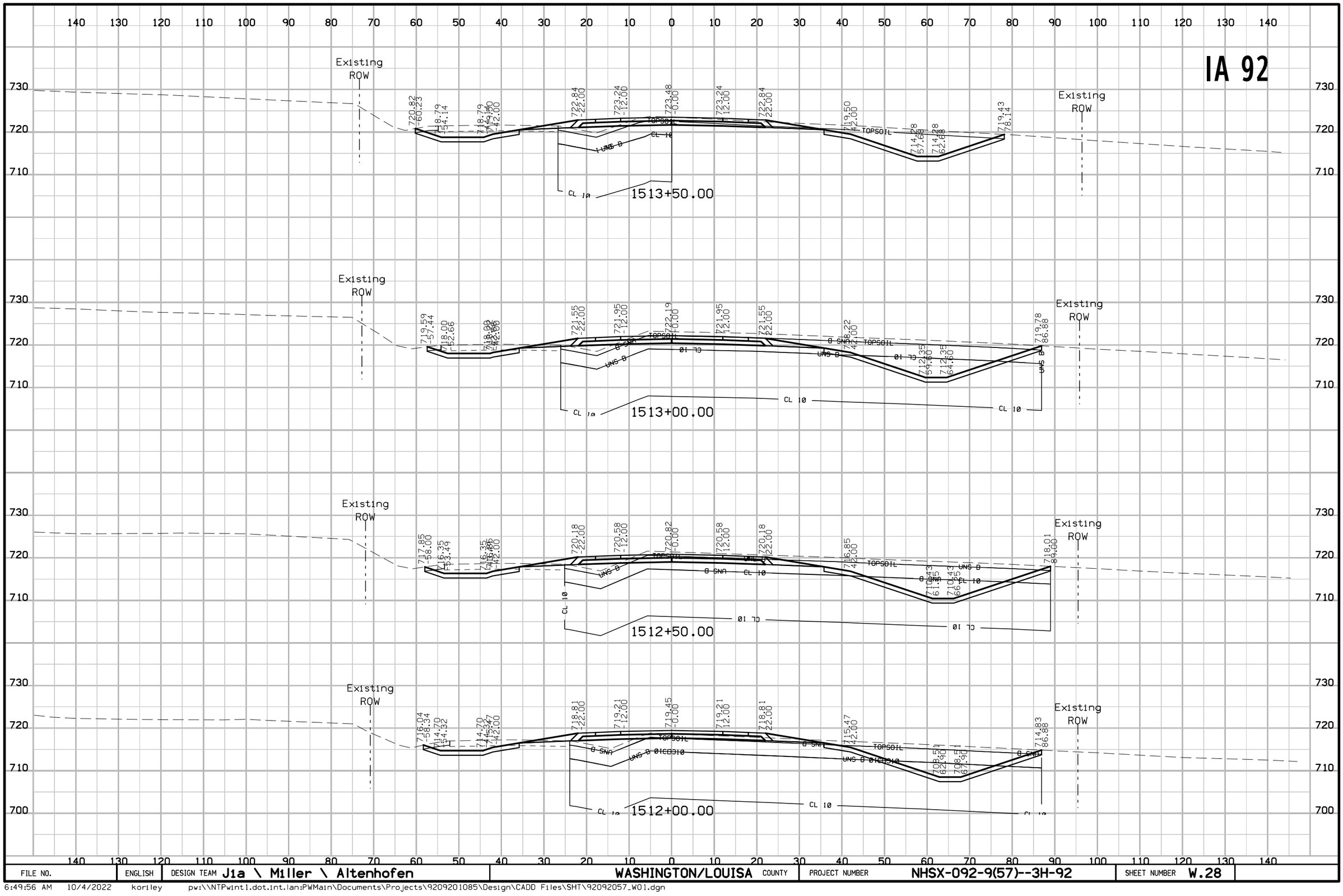

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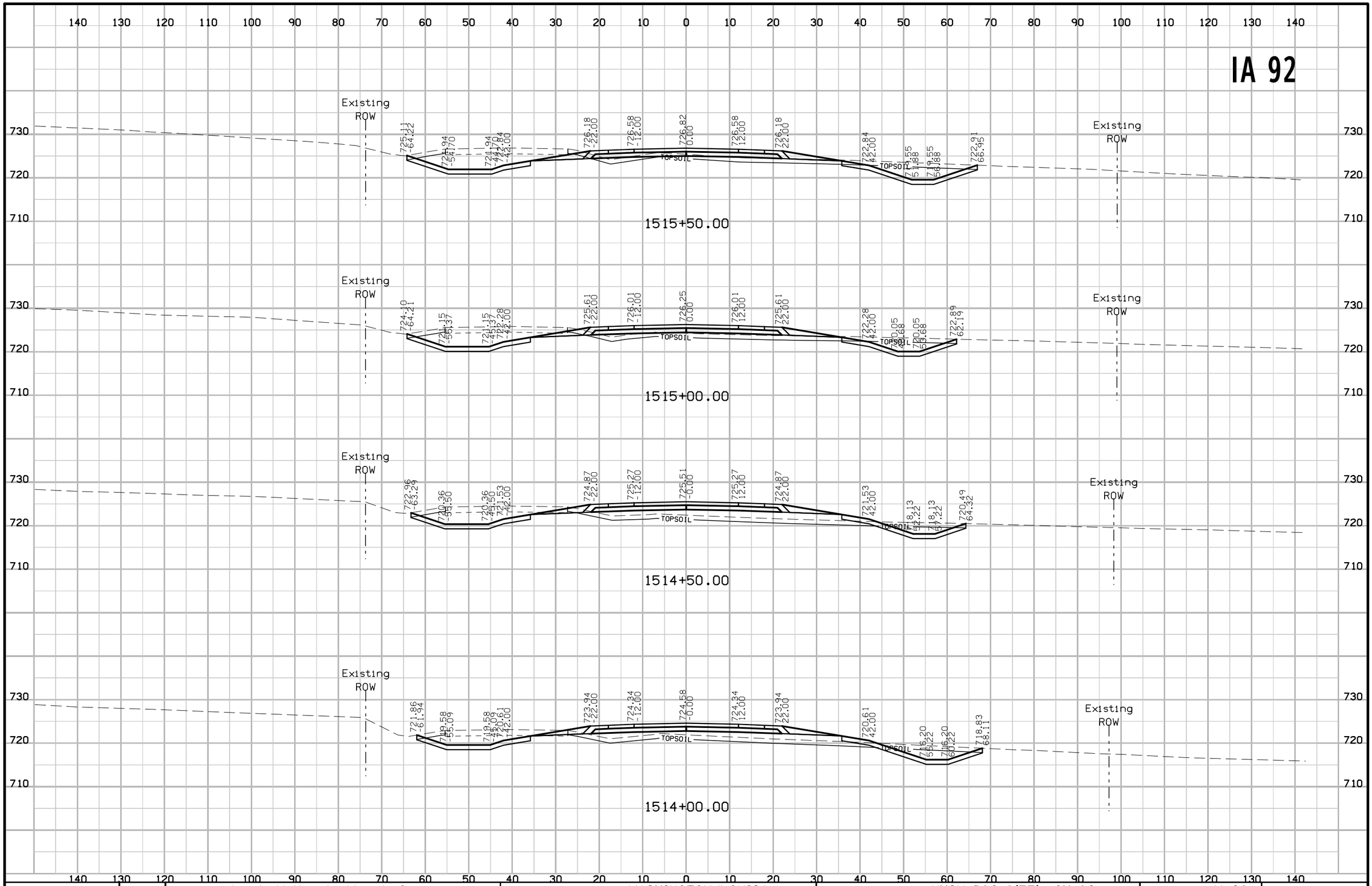

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.29

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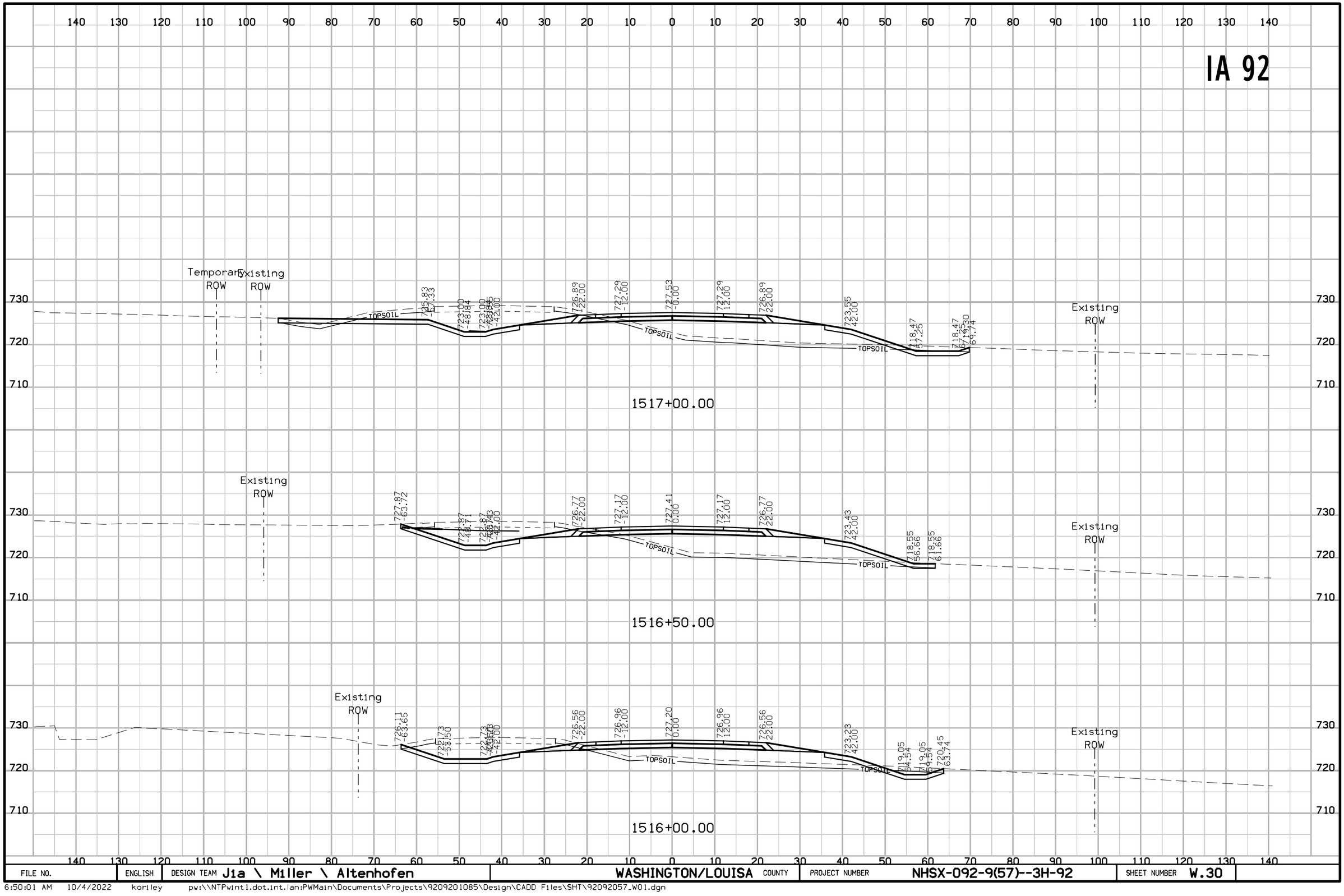

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.30

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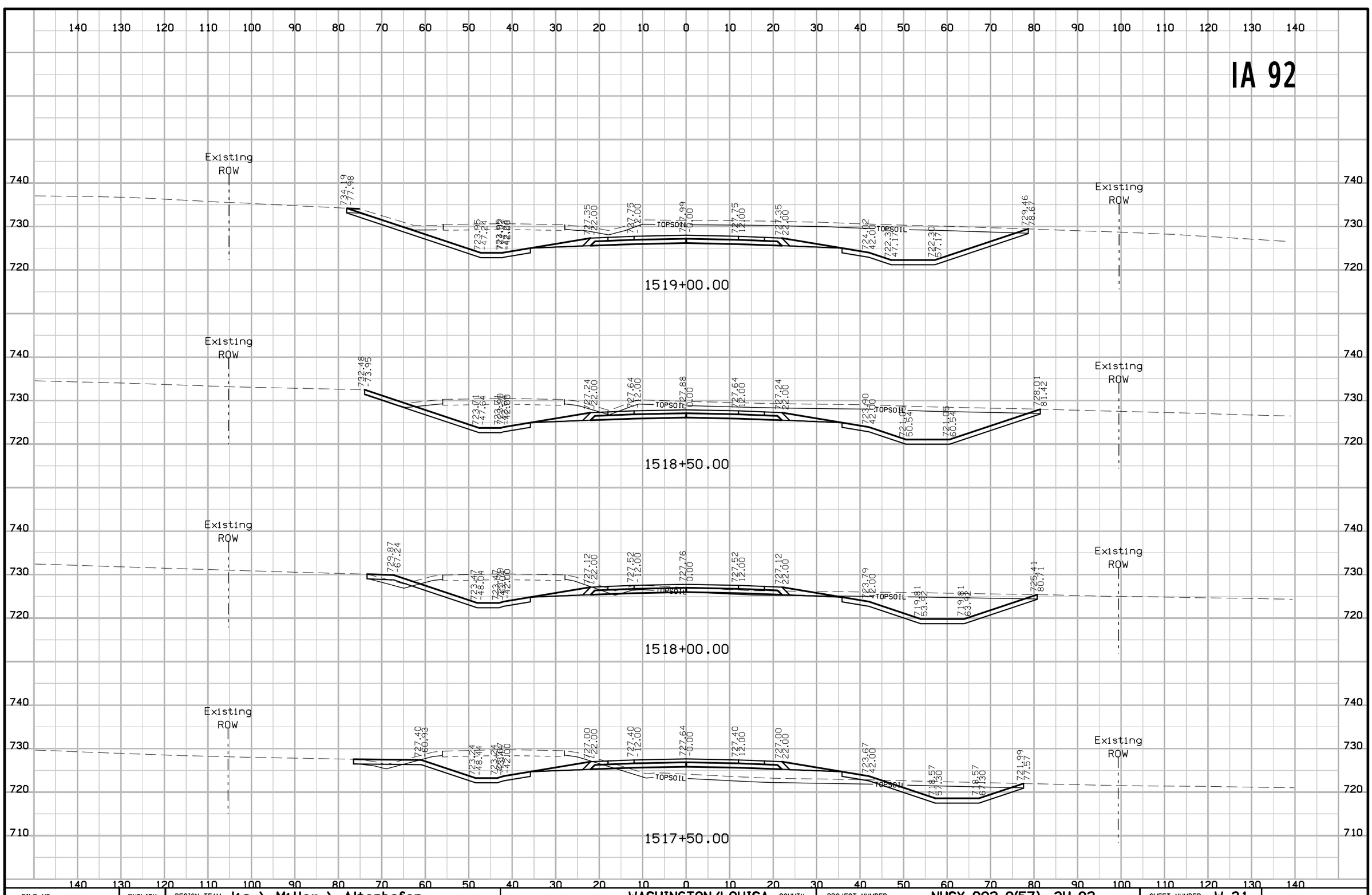

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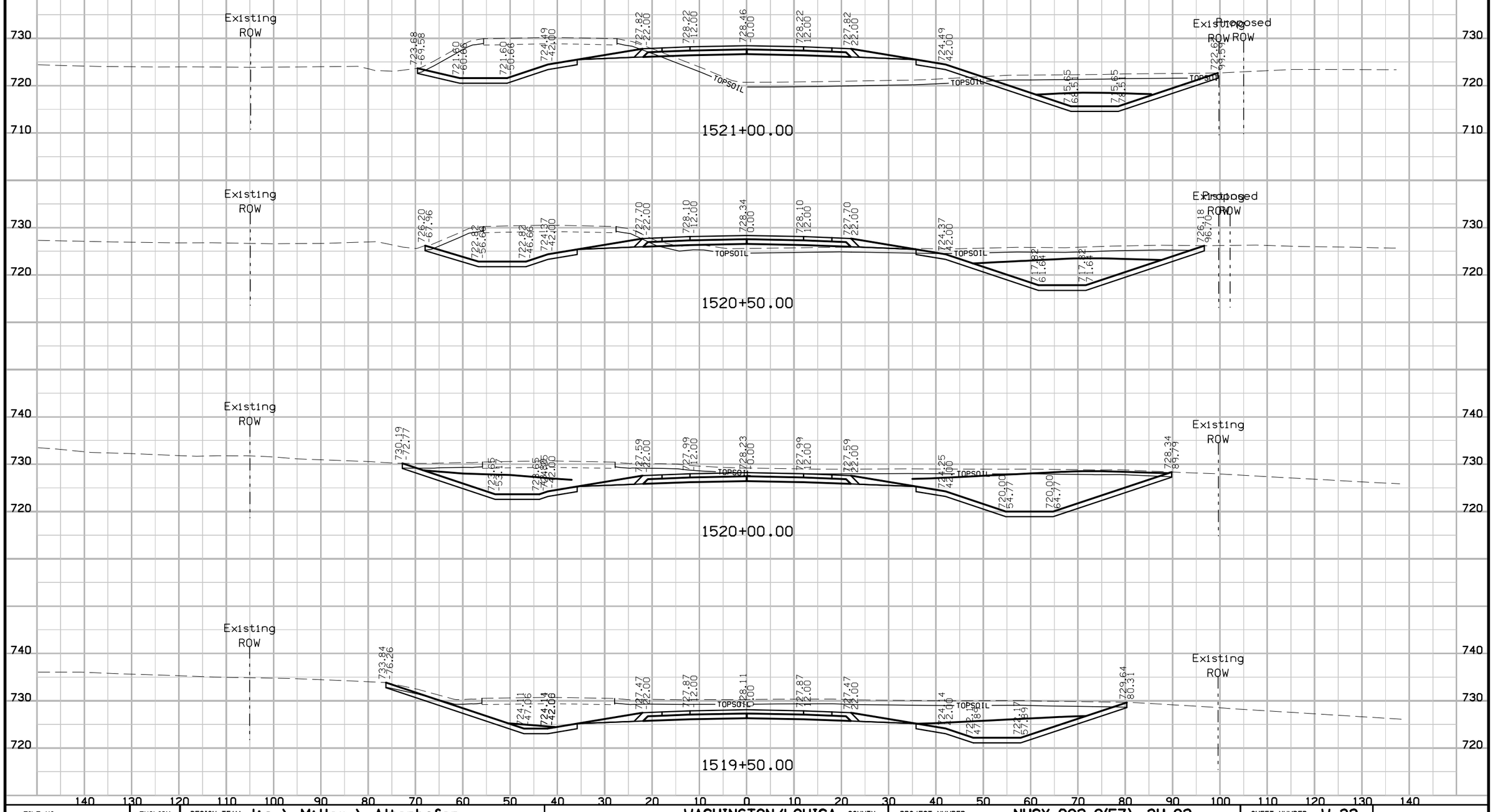

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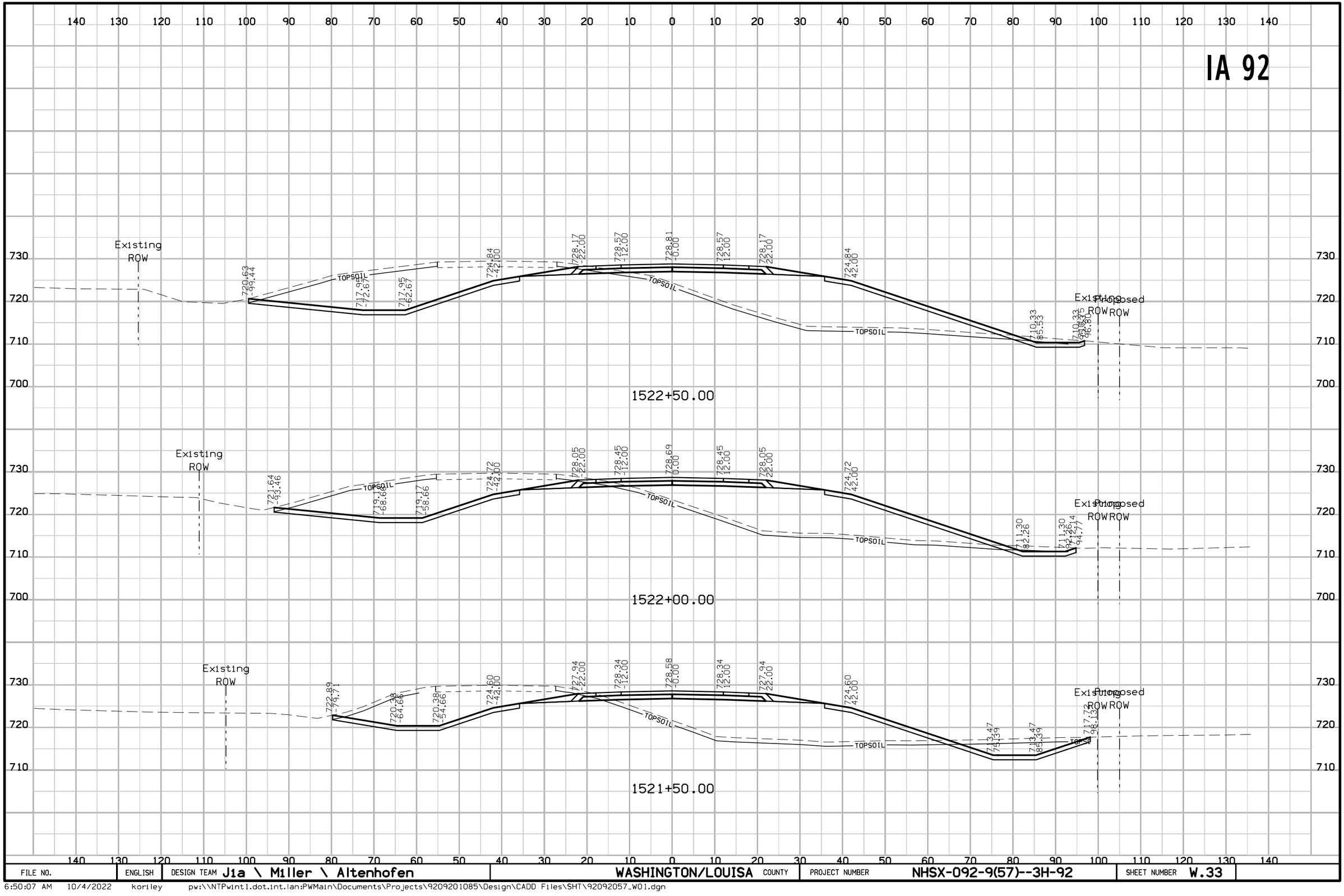

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.33

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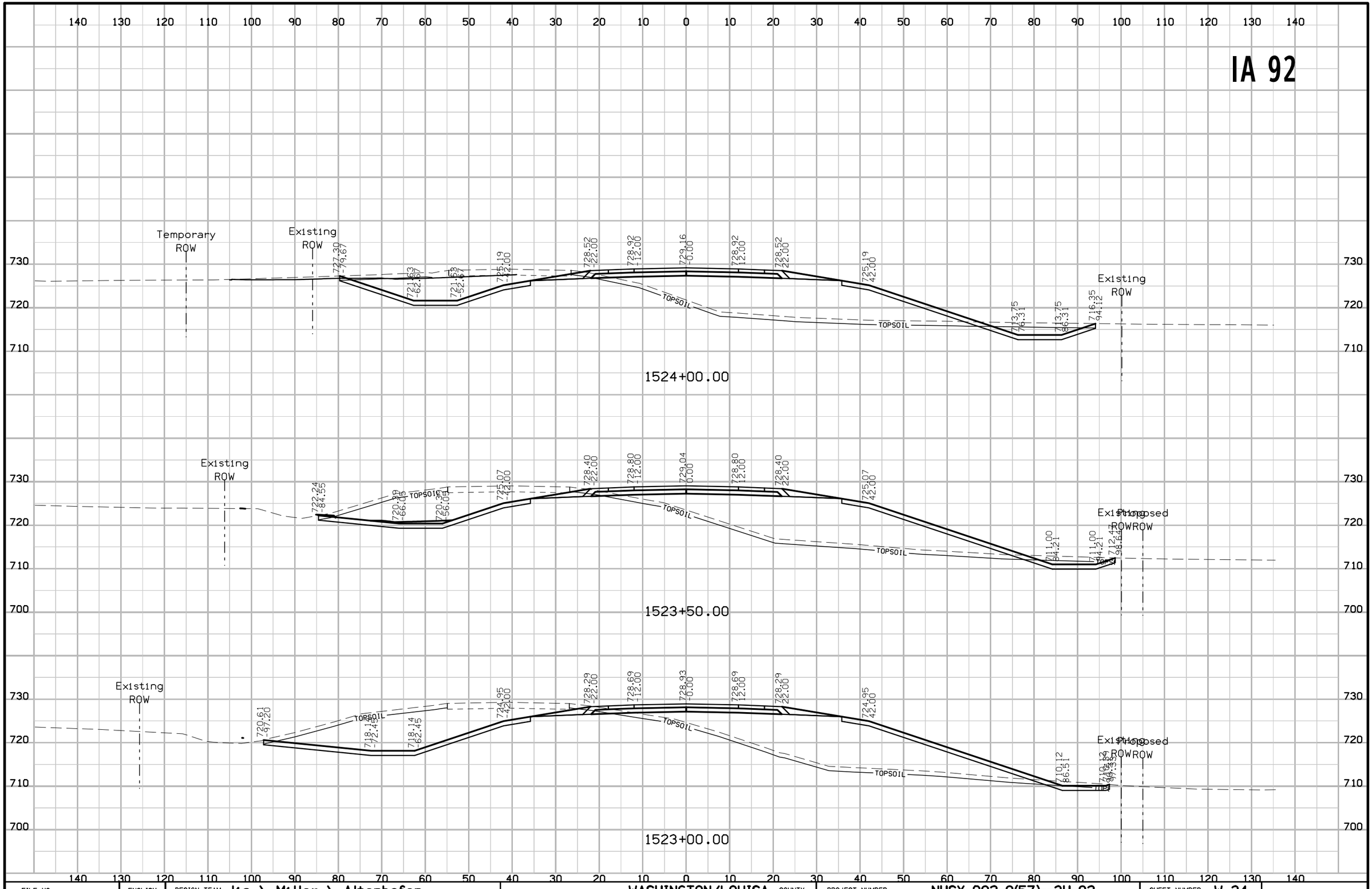

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.34

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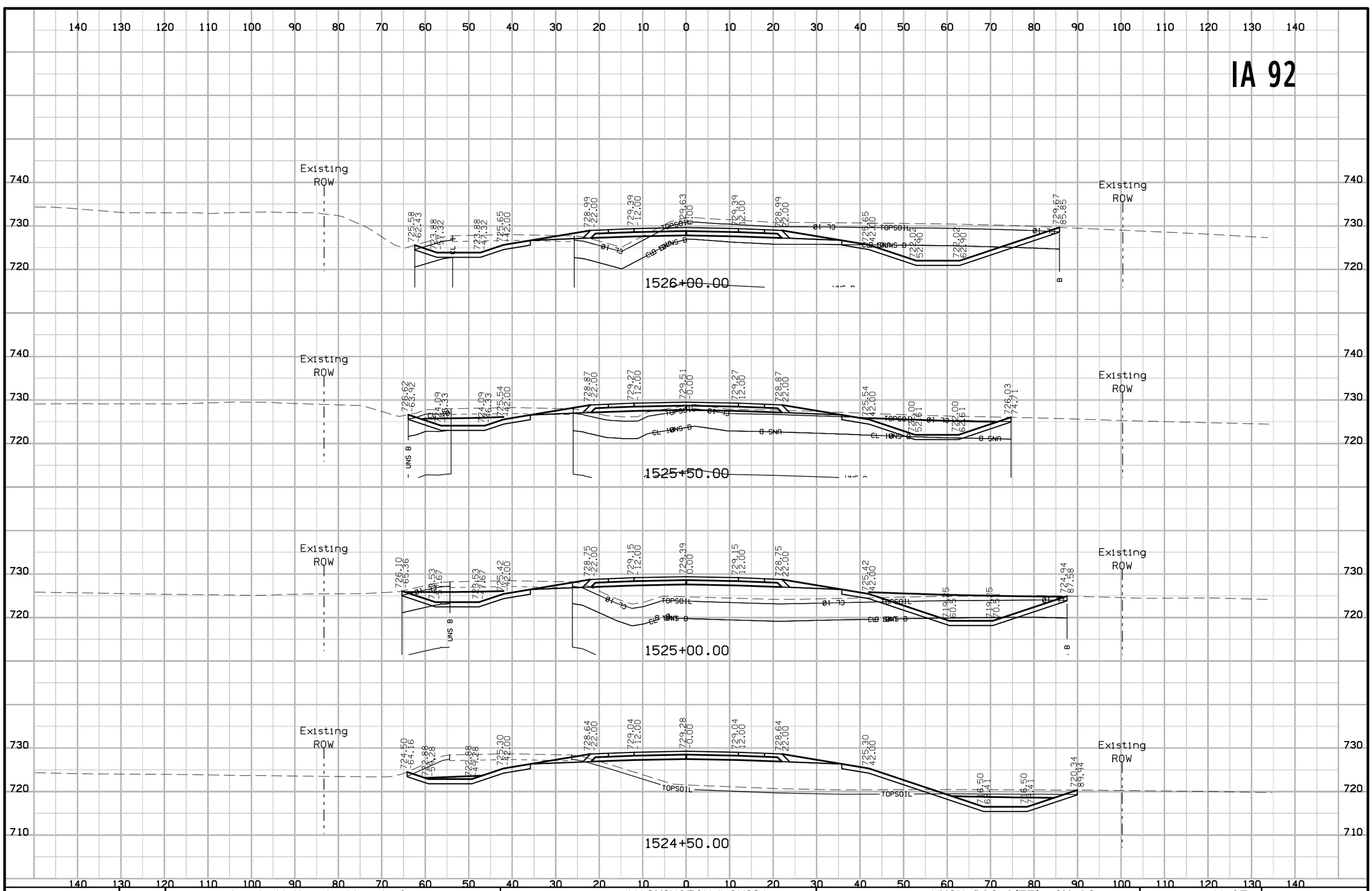

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA	COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER W.35

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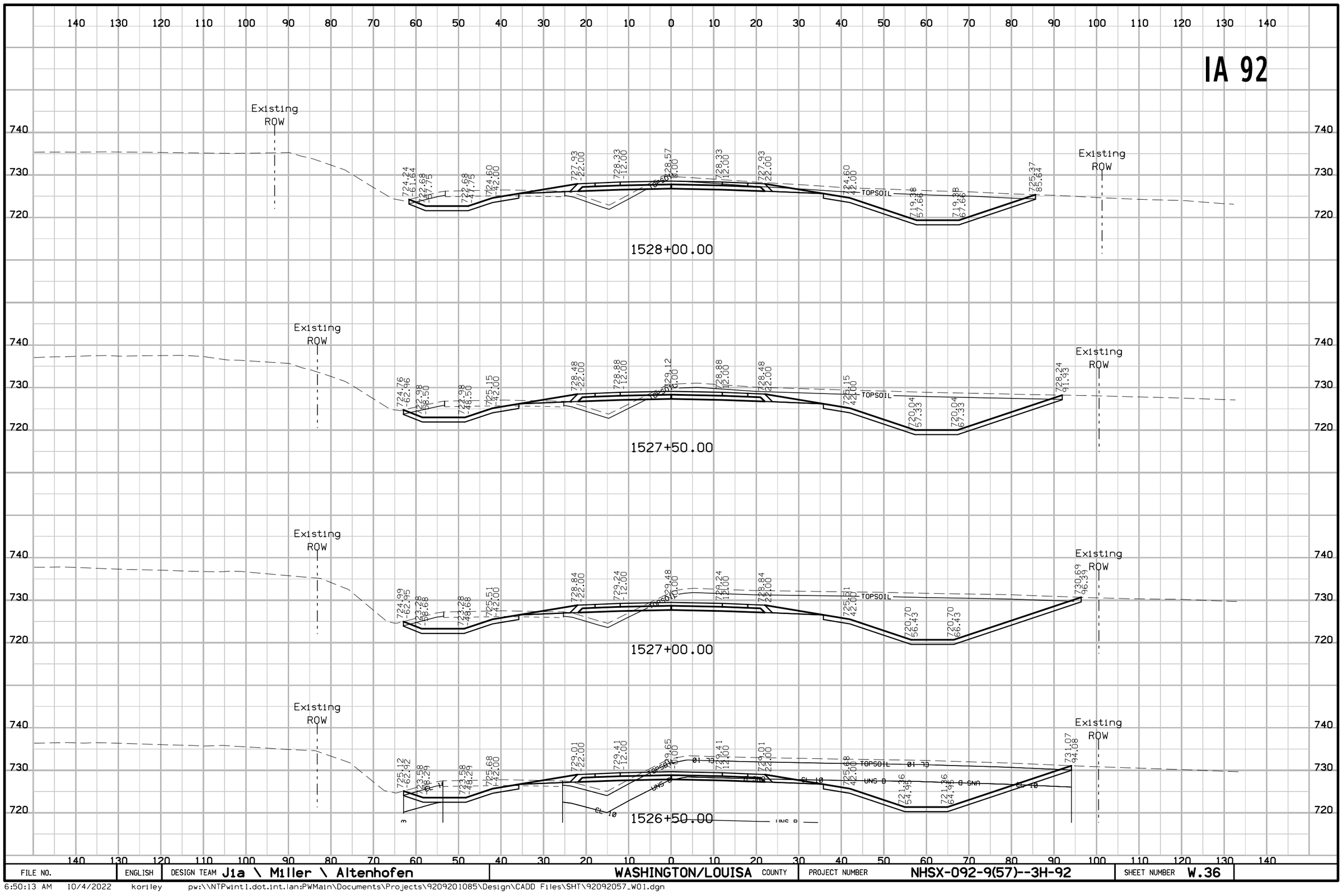

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.36

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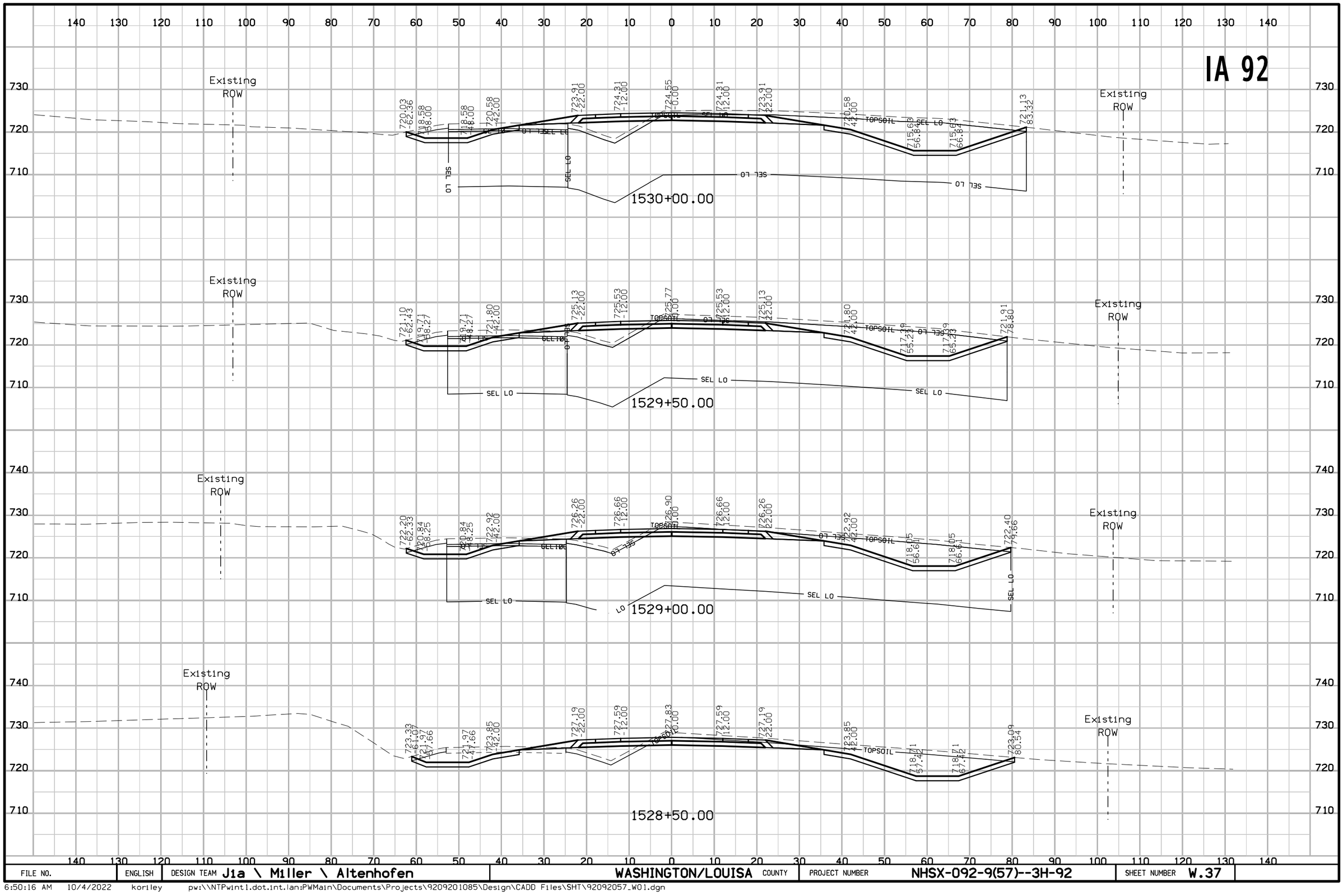

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.37

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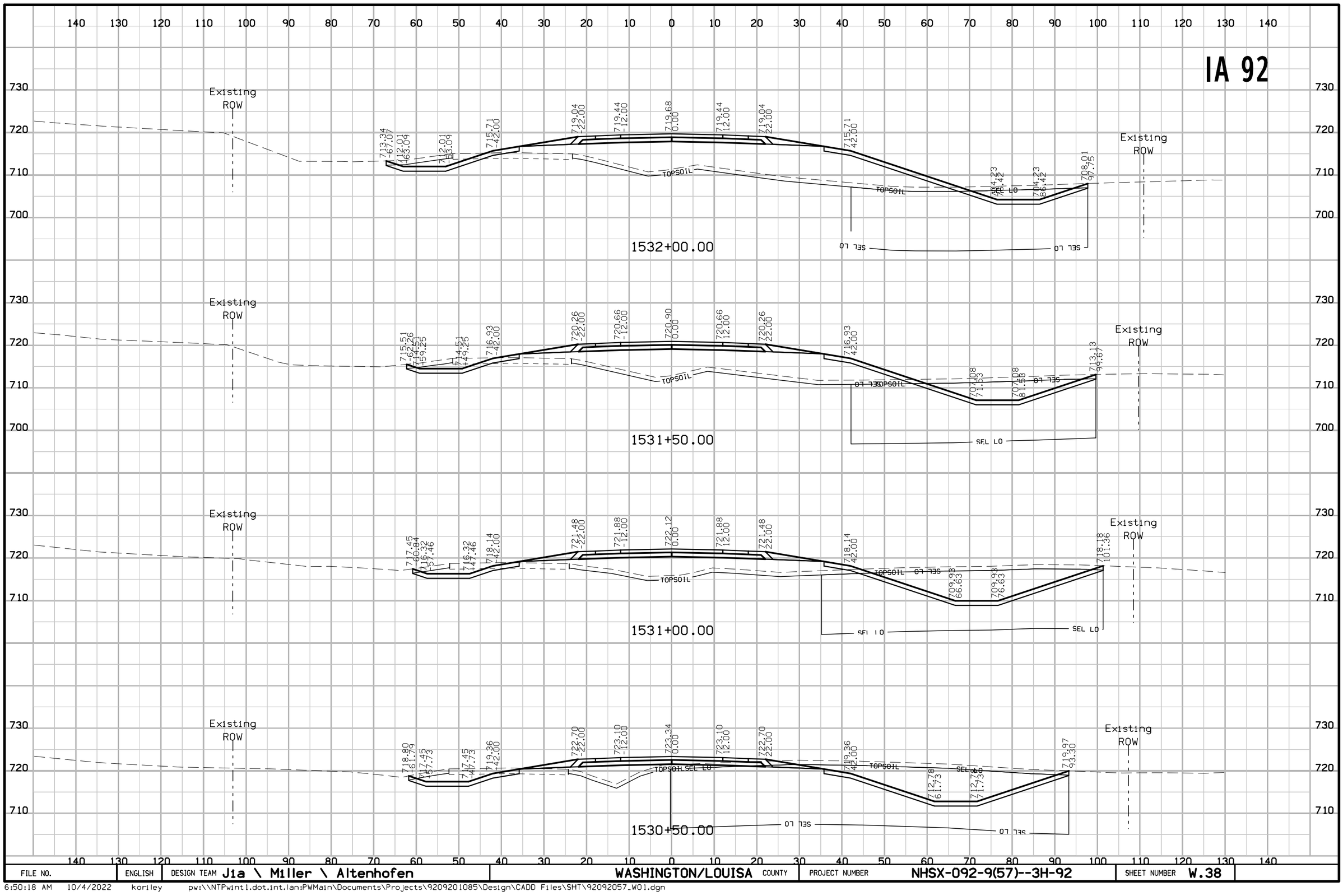

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.38

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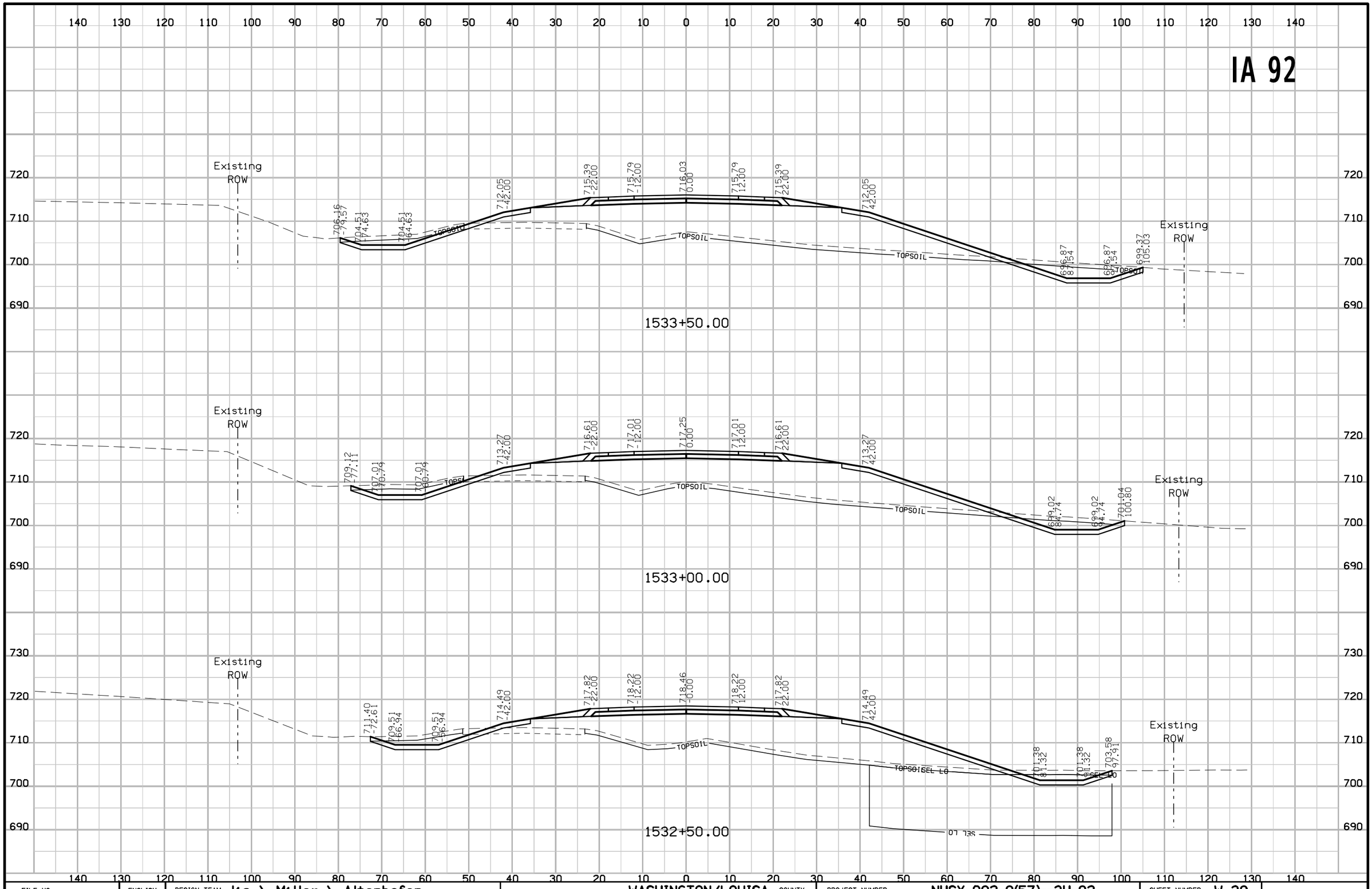

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.39

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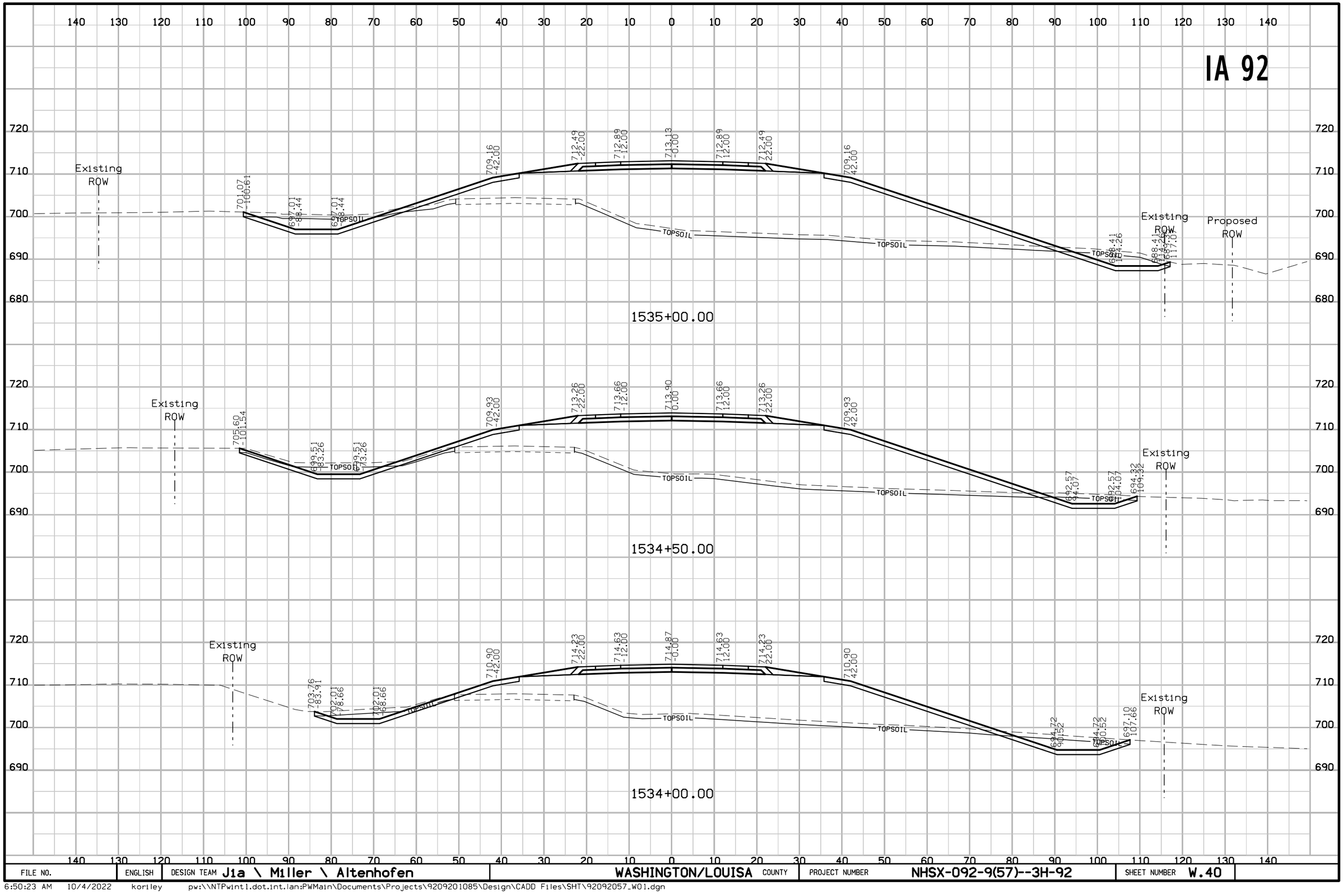

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.40

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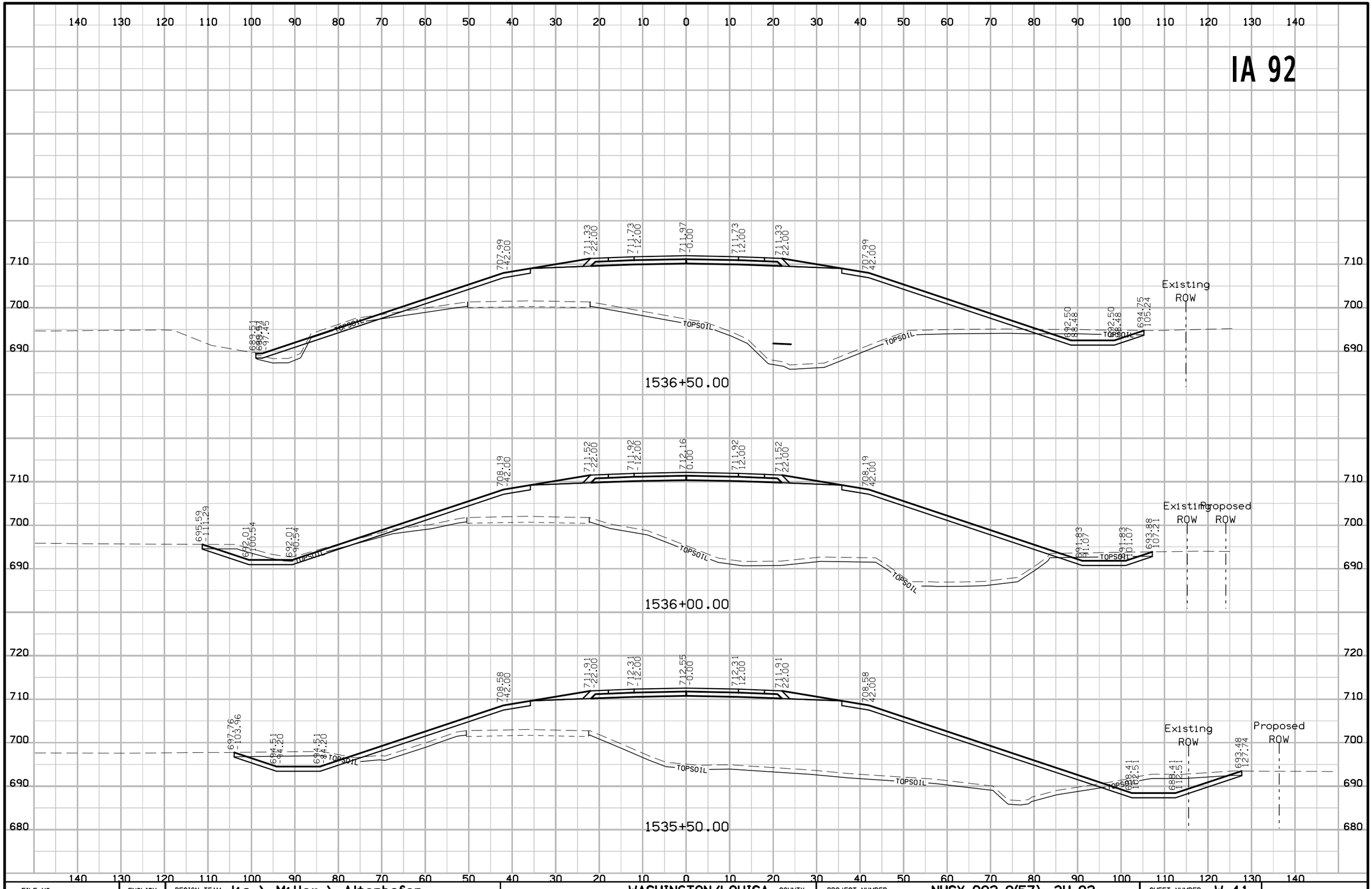

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.41

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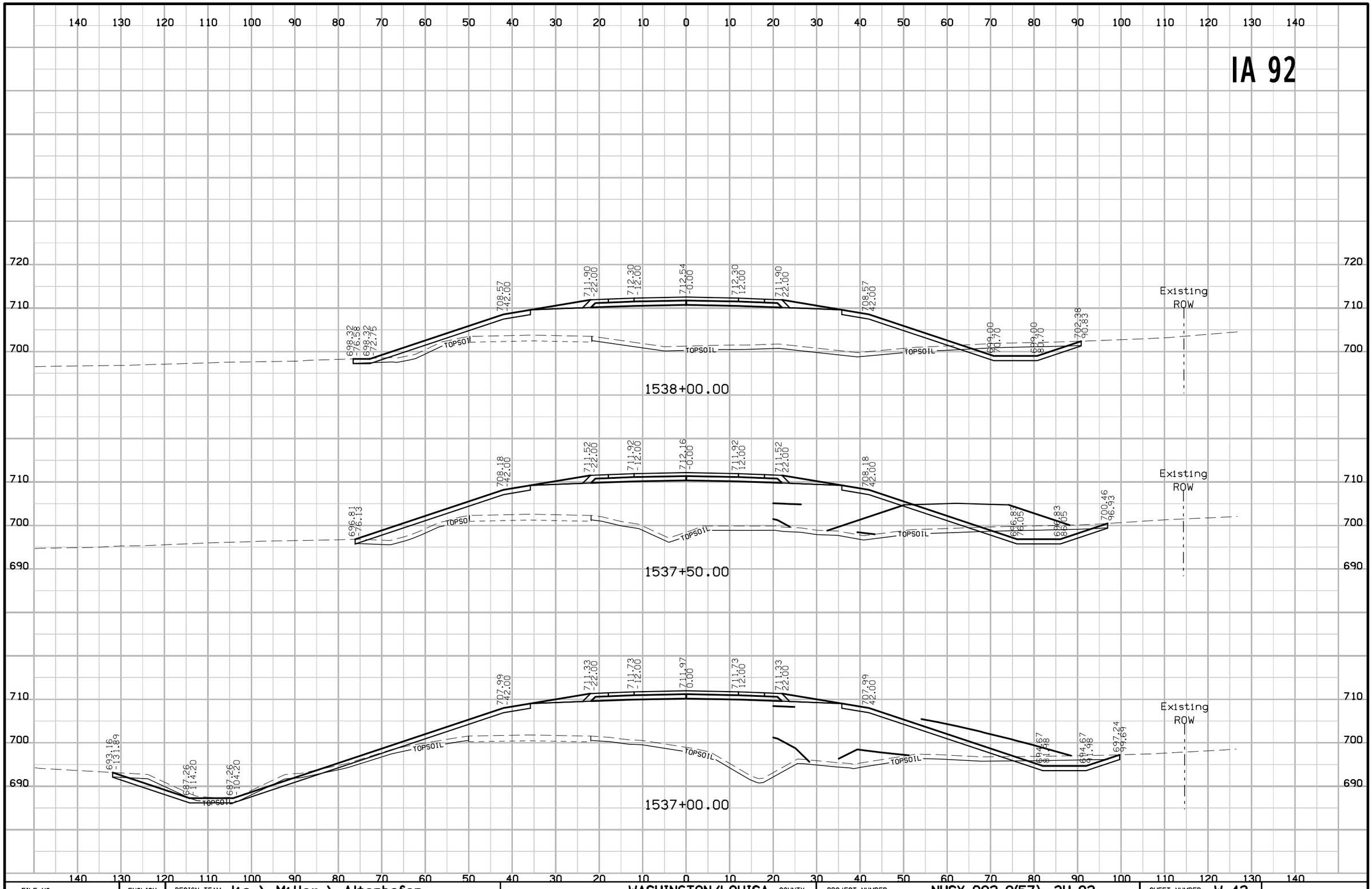
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.42

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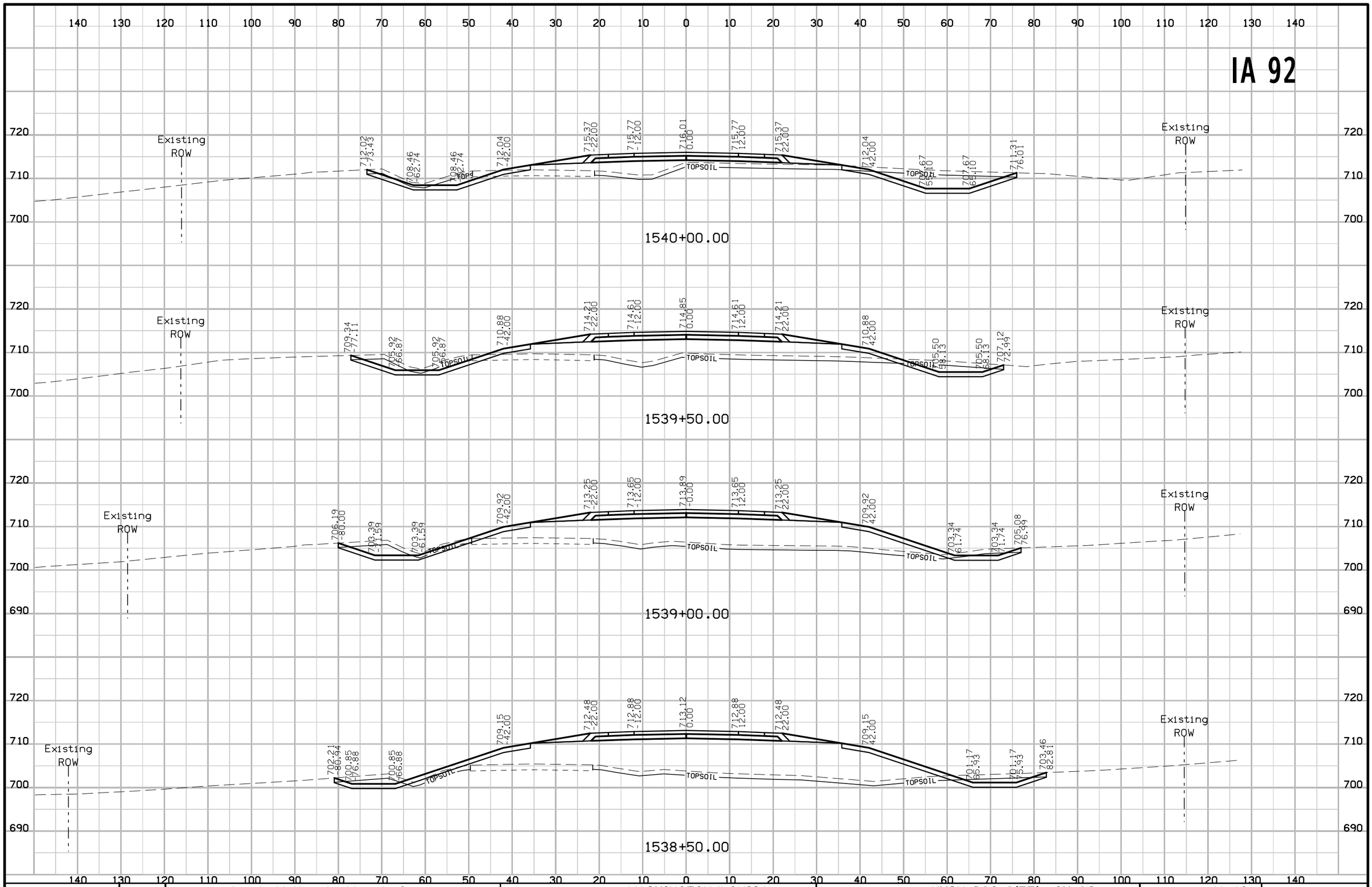
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.43

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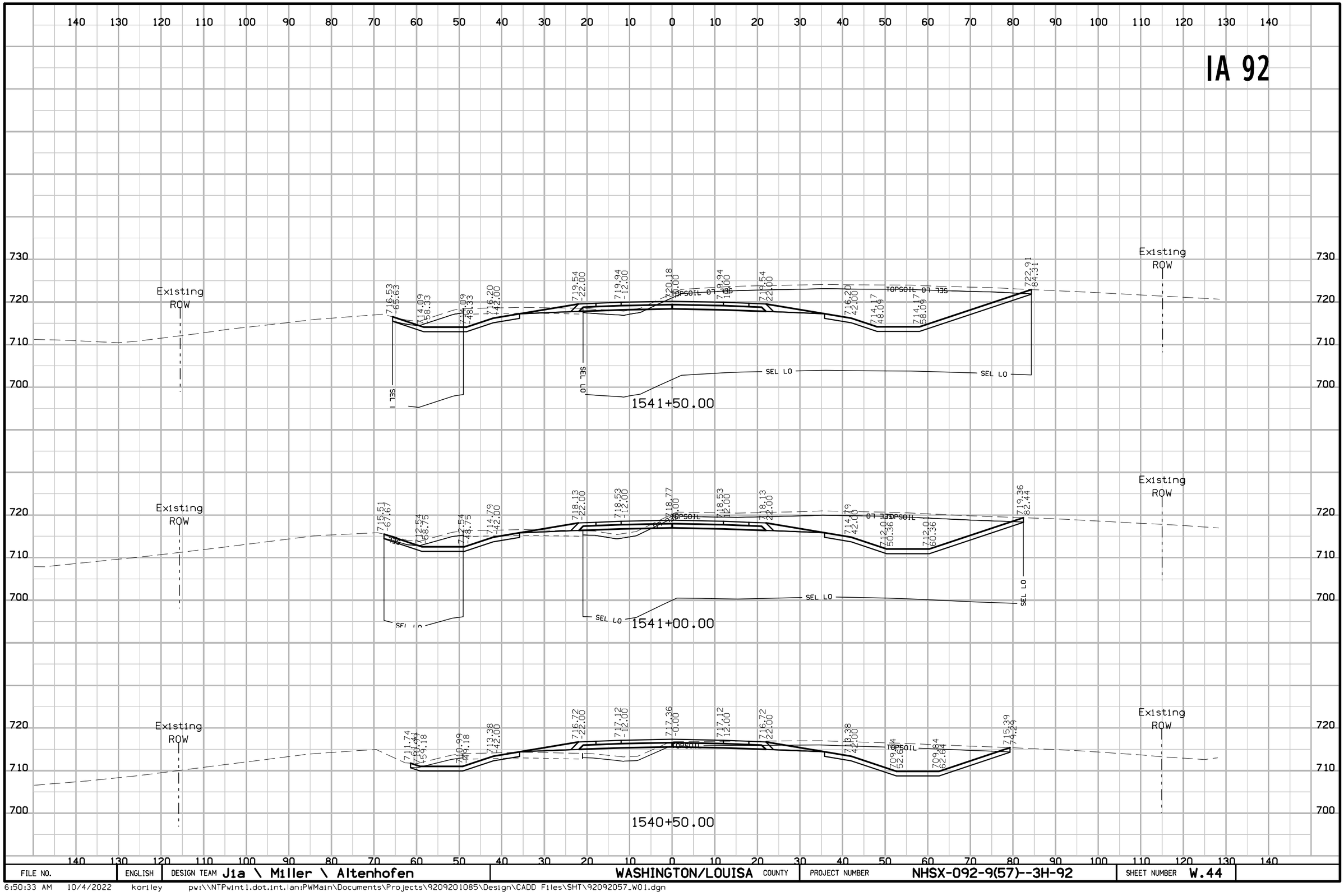
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.44

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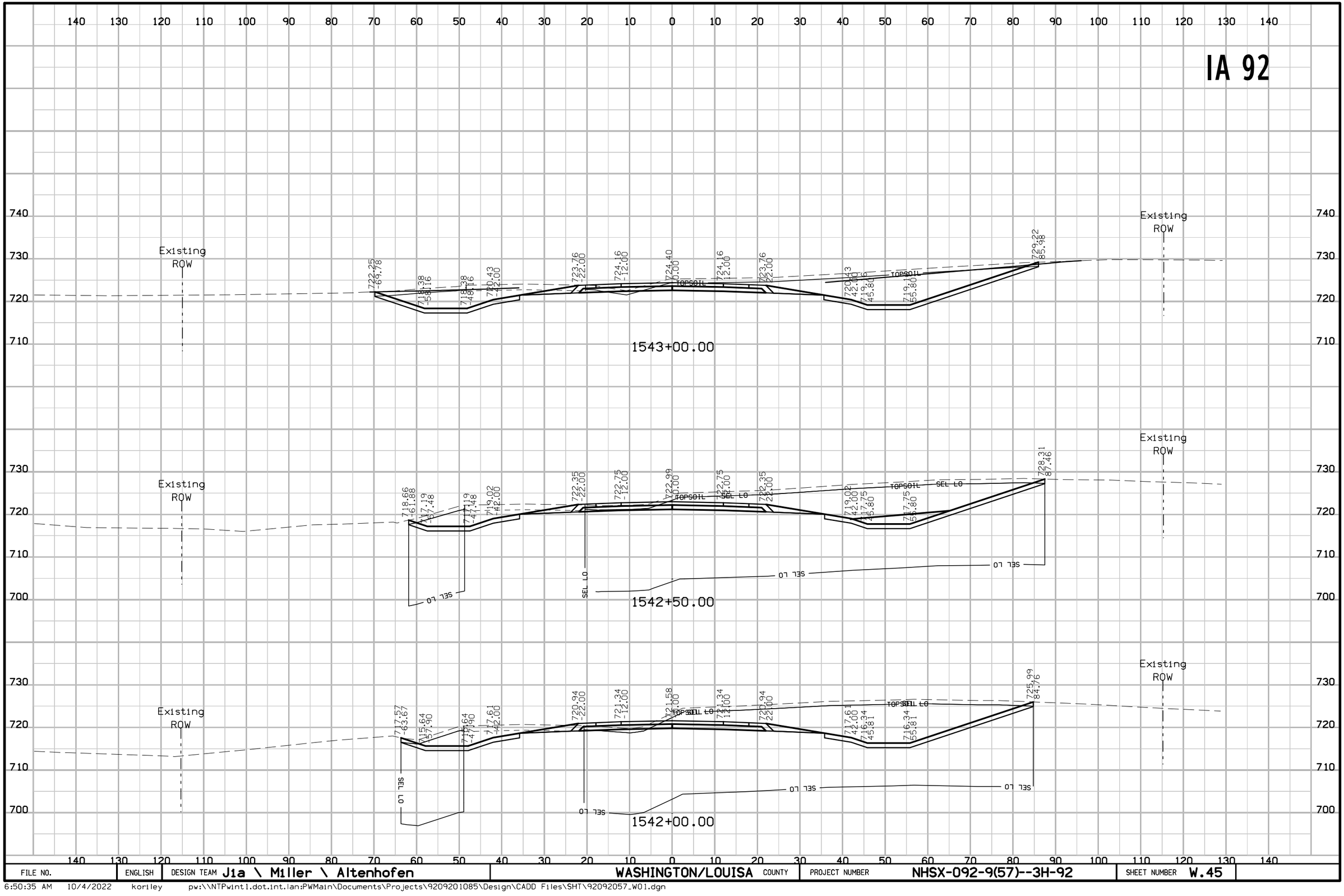
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.45

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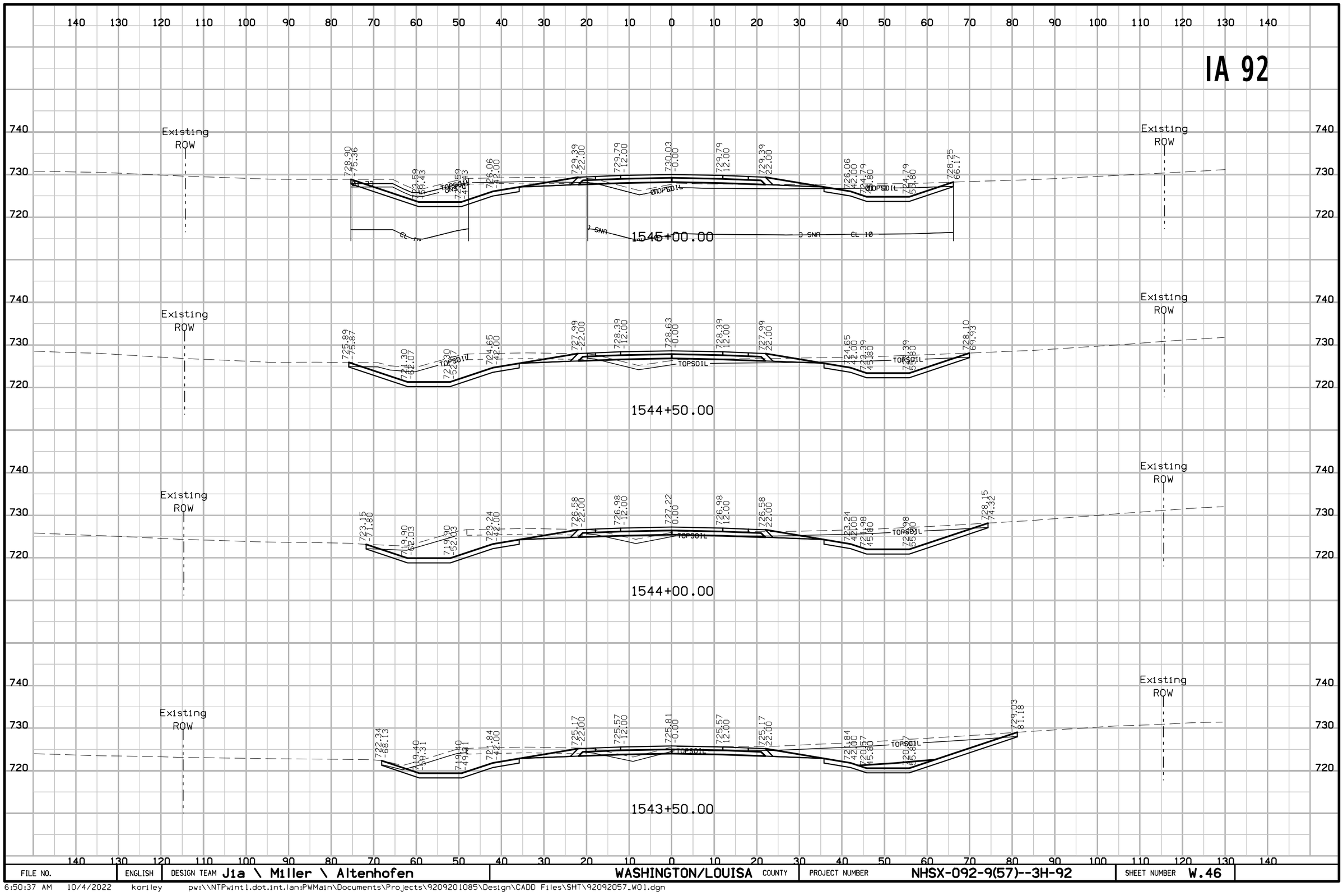
IA 92



FILE NO.	ENGLISH	DESIGN TEAM	J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	W.46

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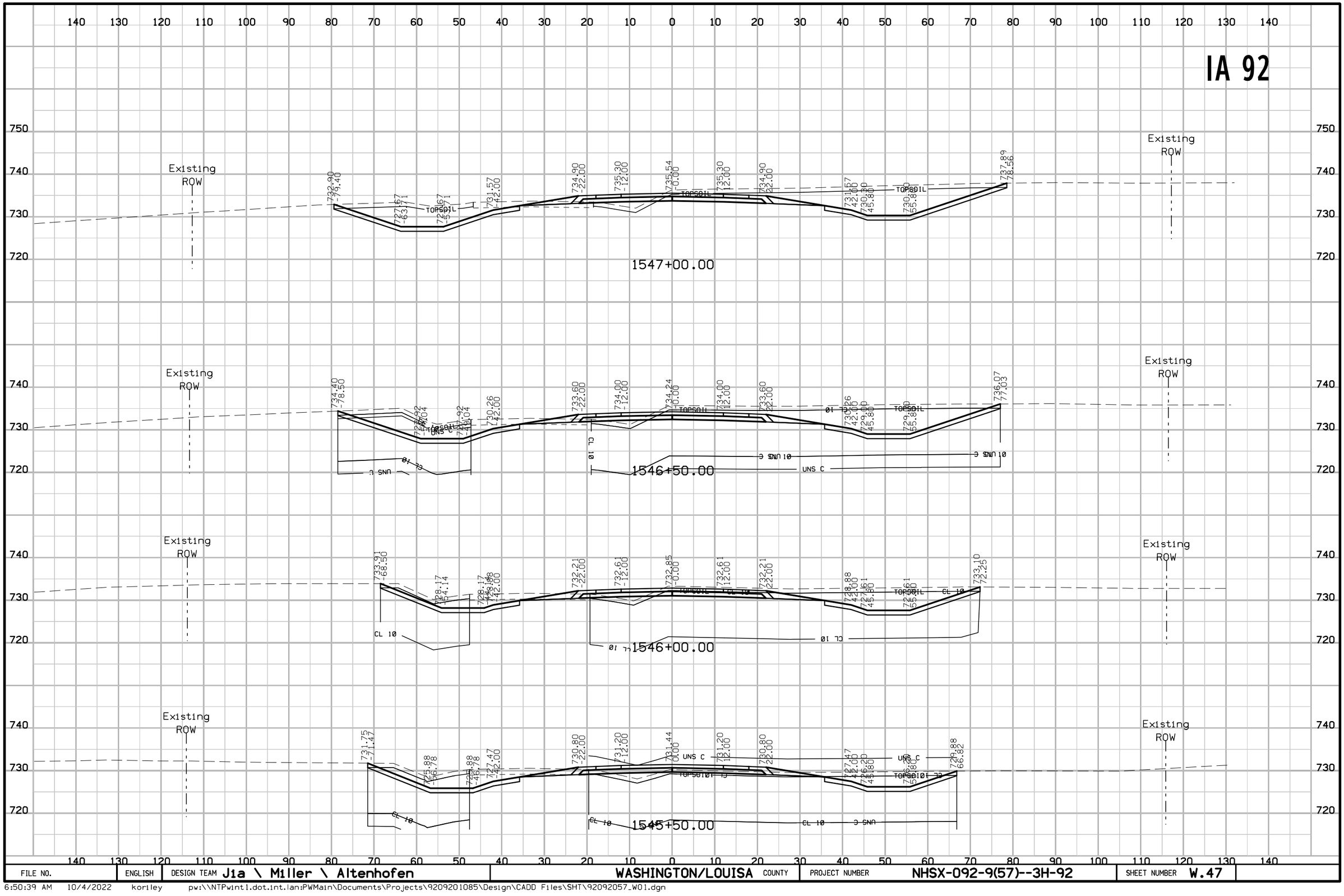

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.47

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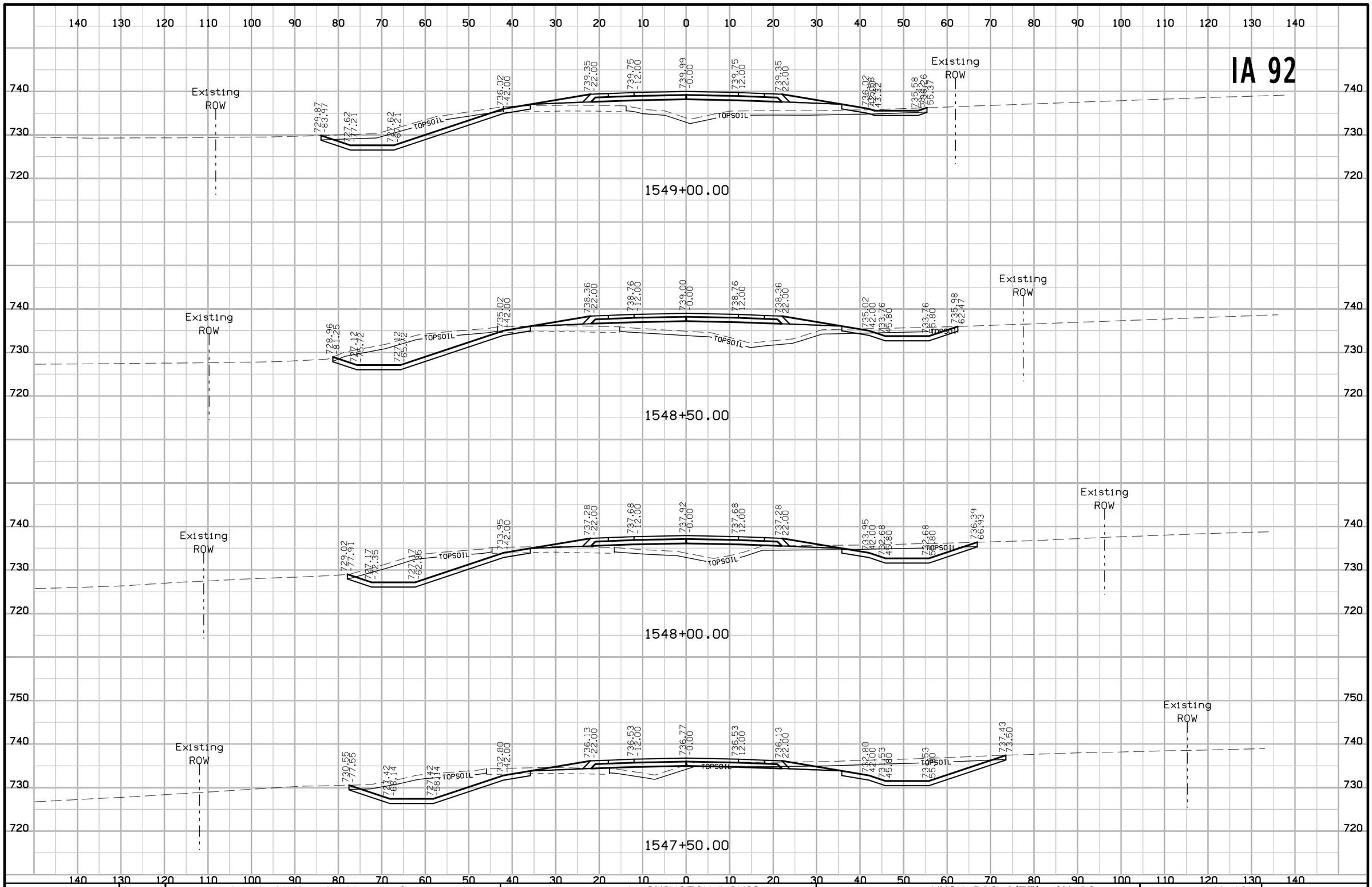
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.48

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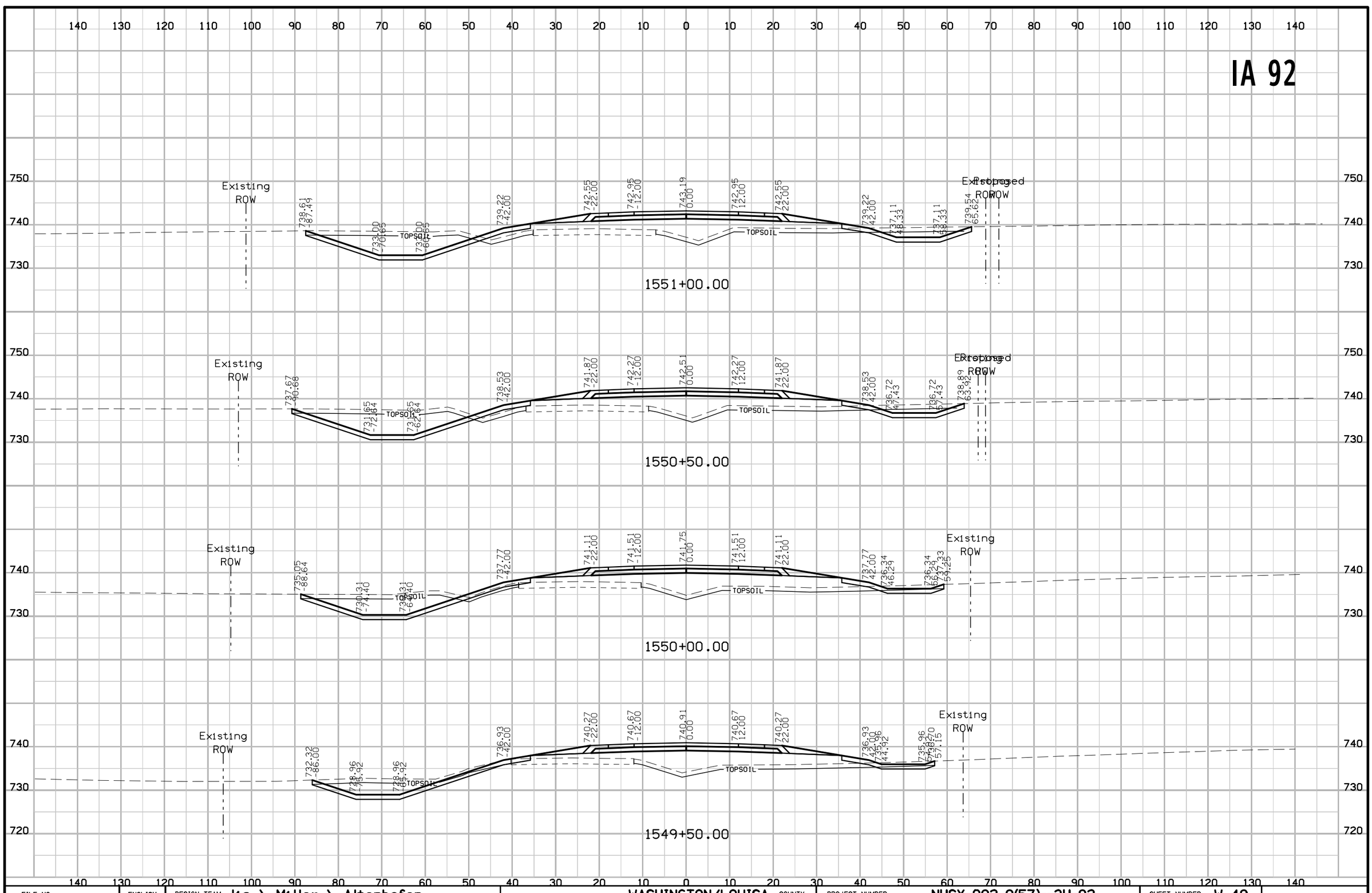
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.49

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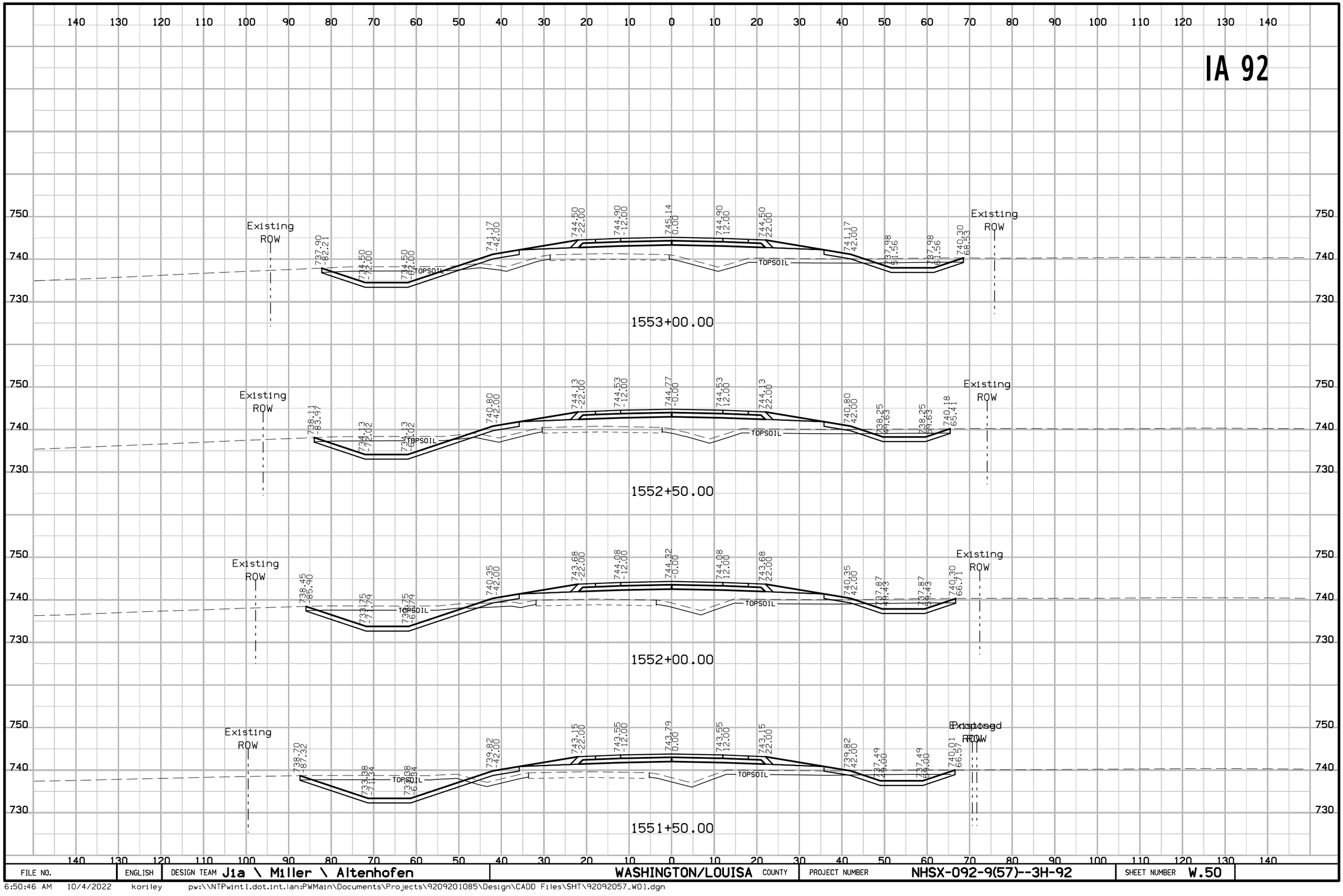
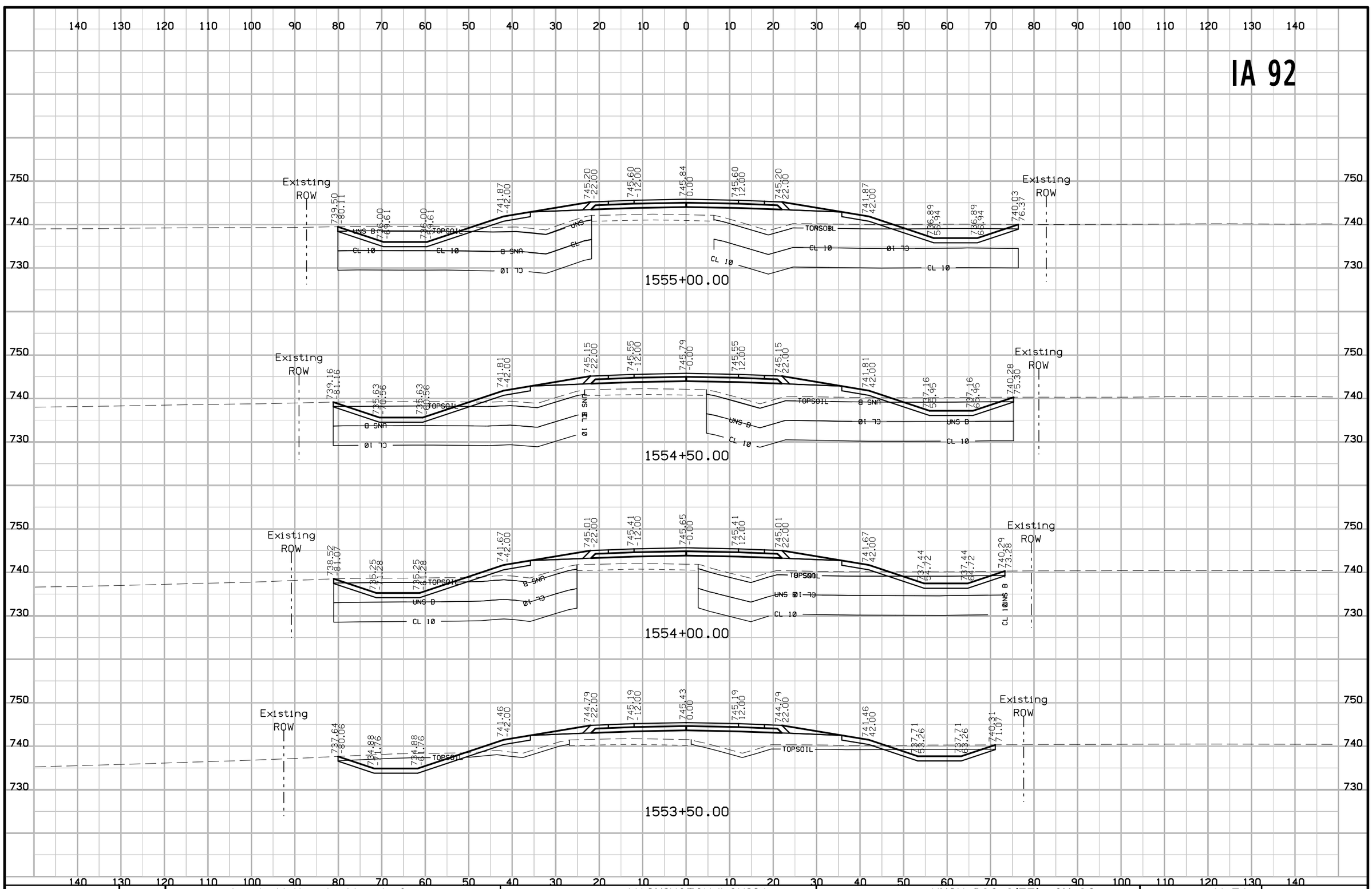


FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.50

6:50:46 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.51

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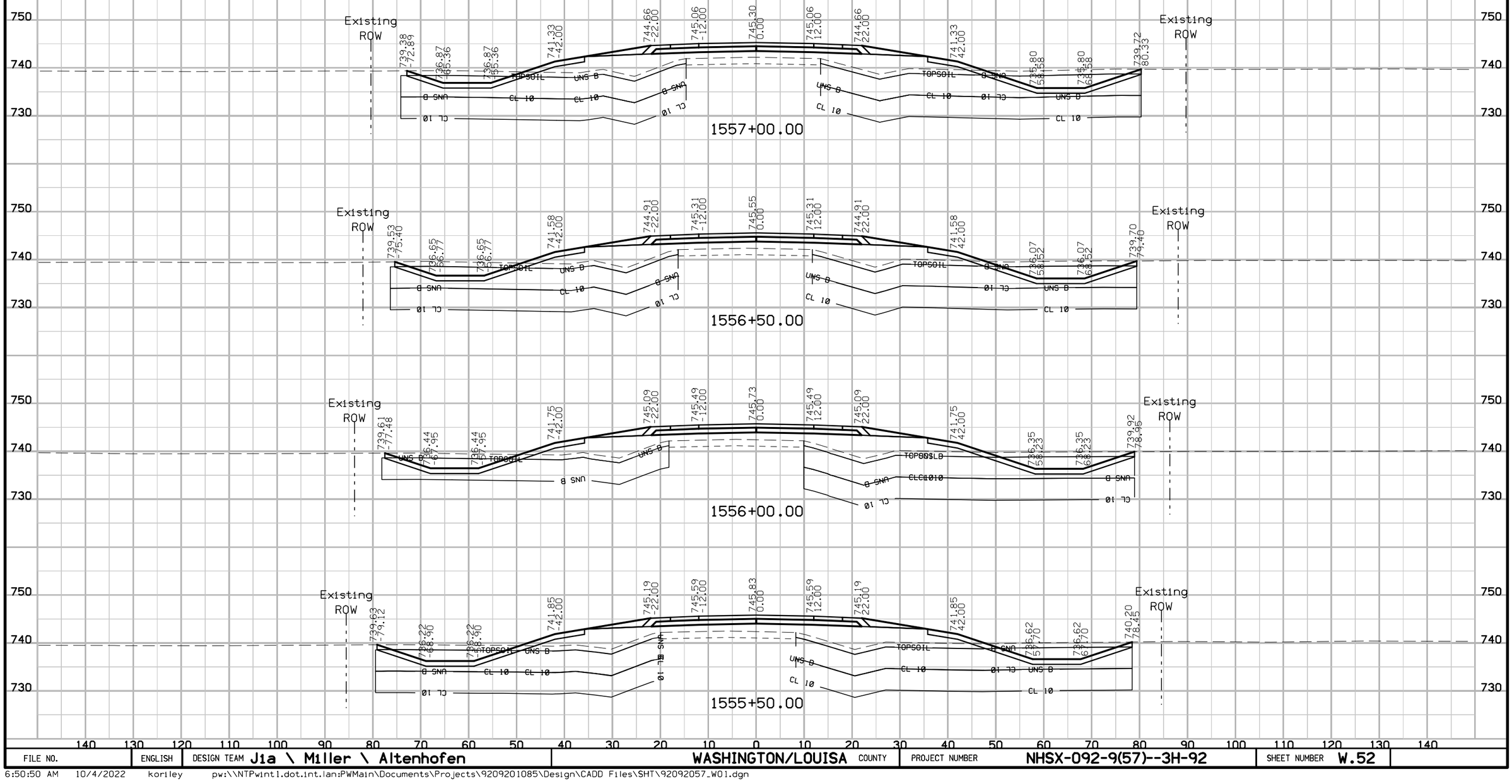

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.52

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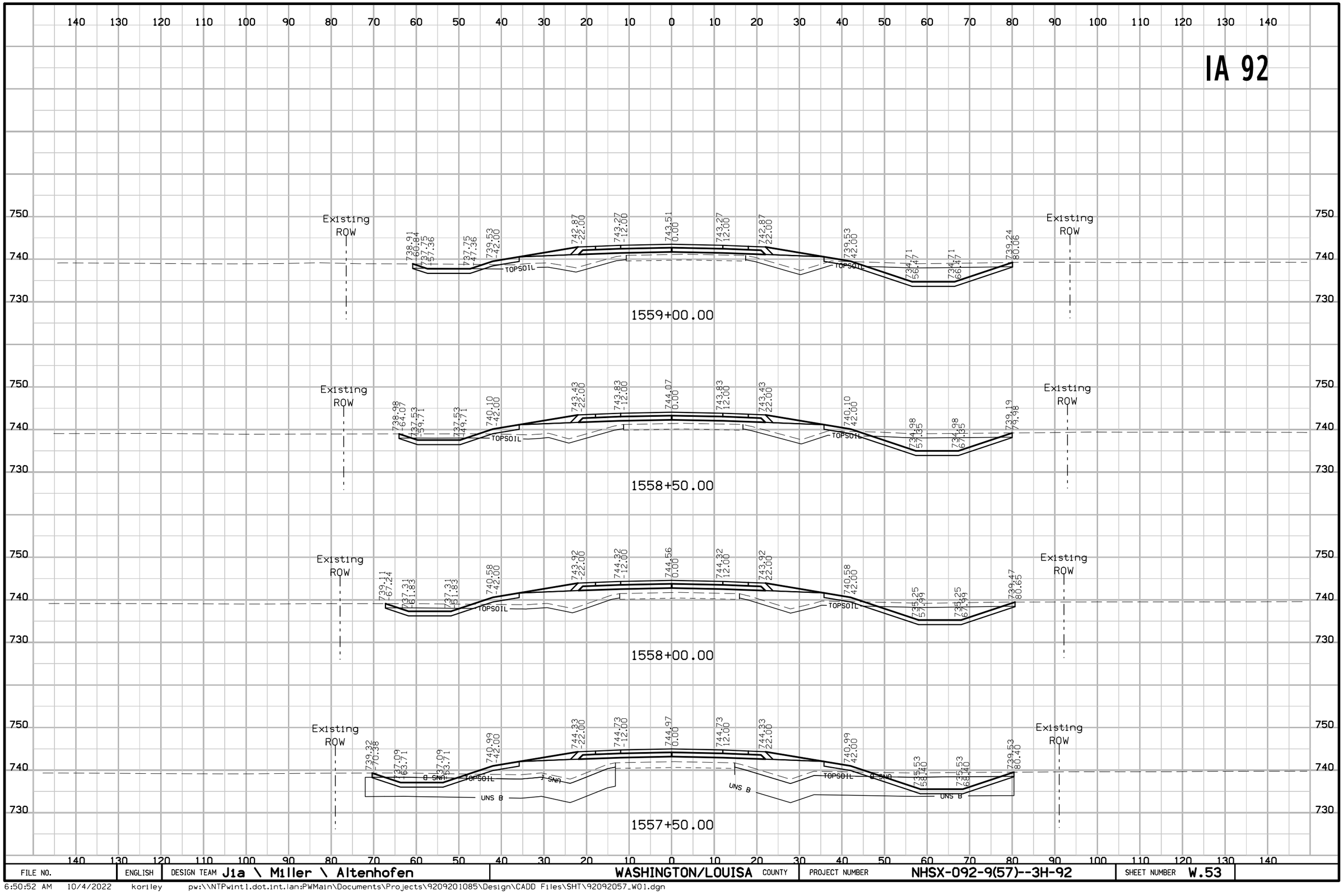

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.53

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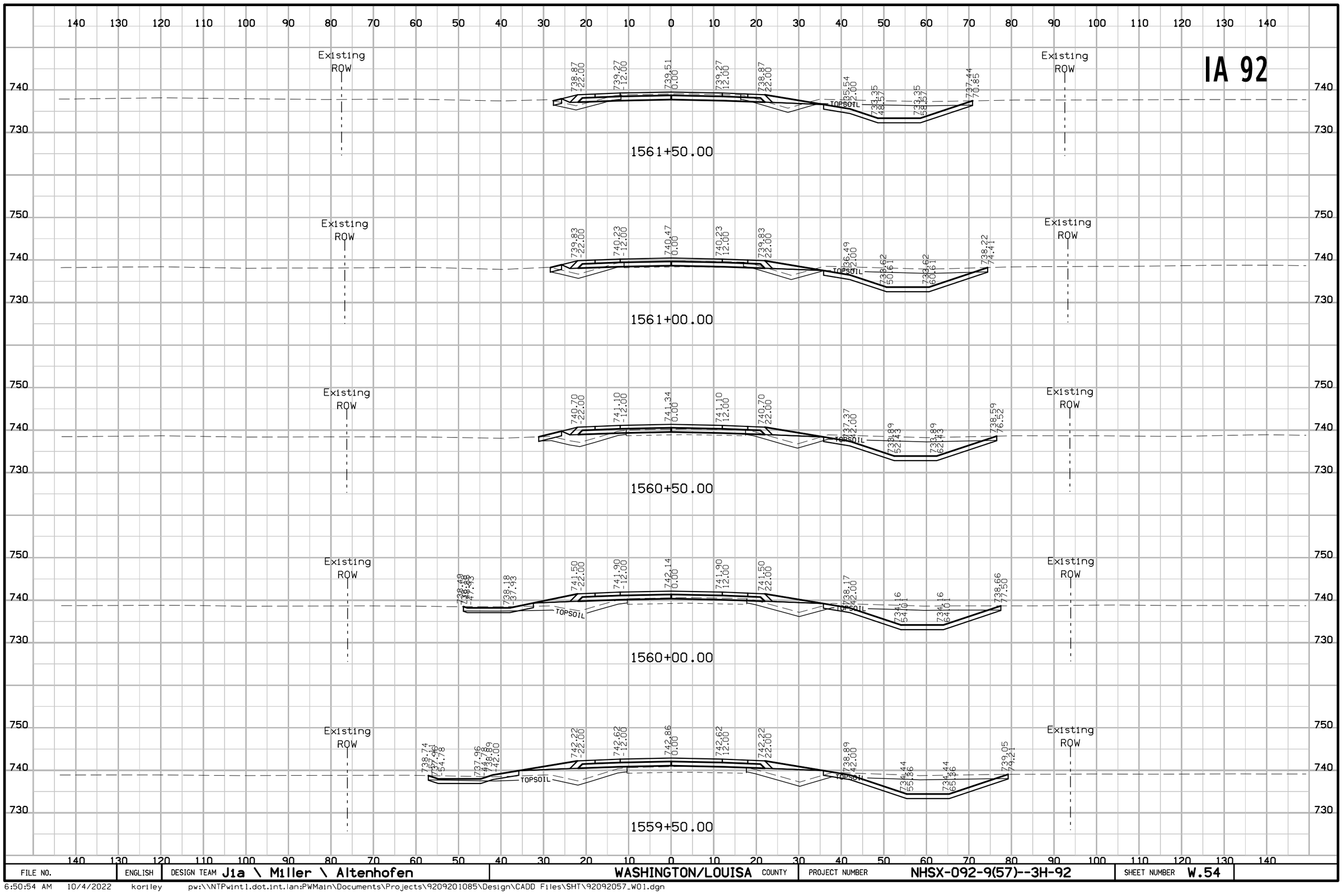

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.54

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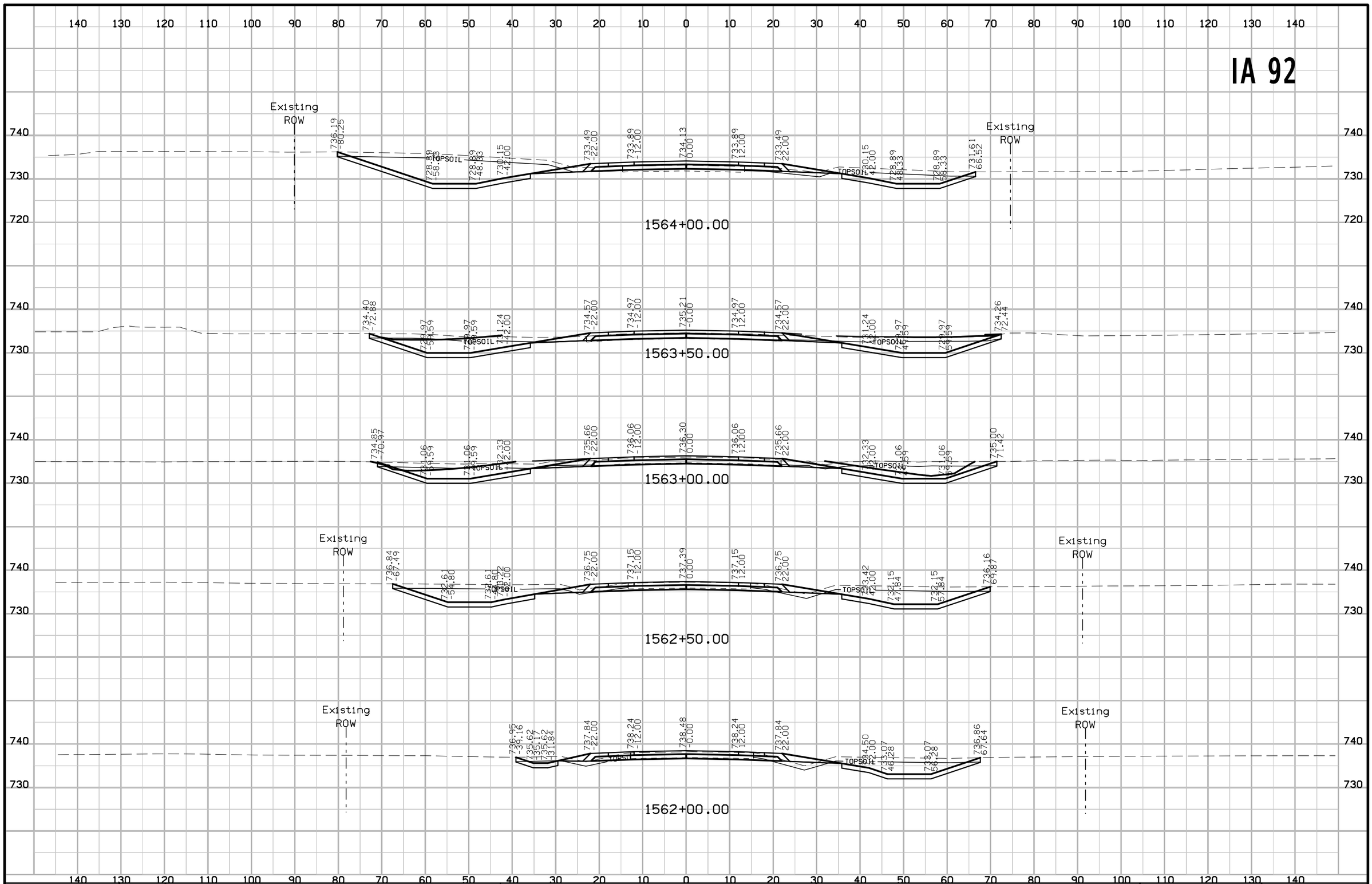
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.55

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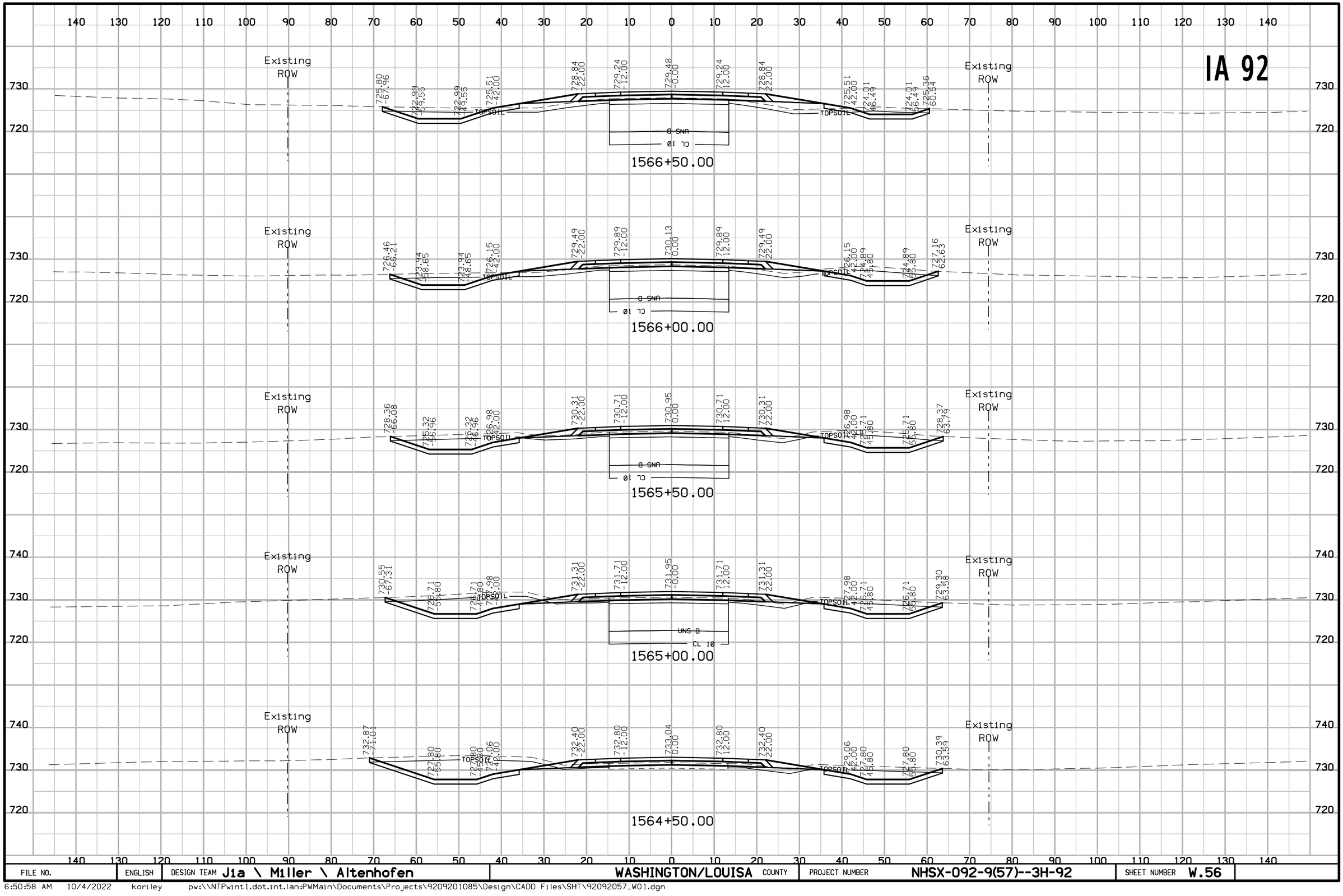

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.56

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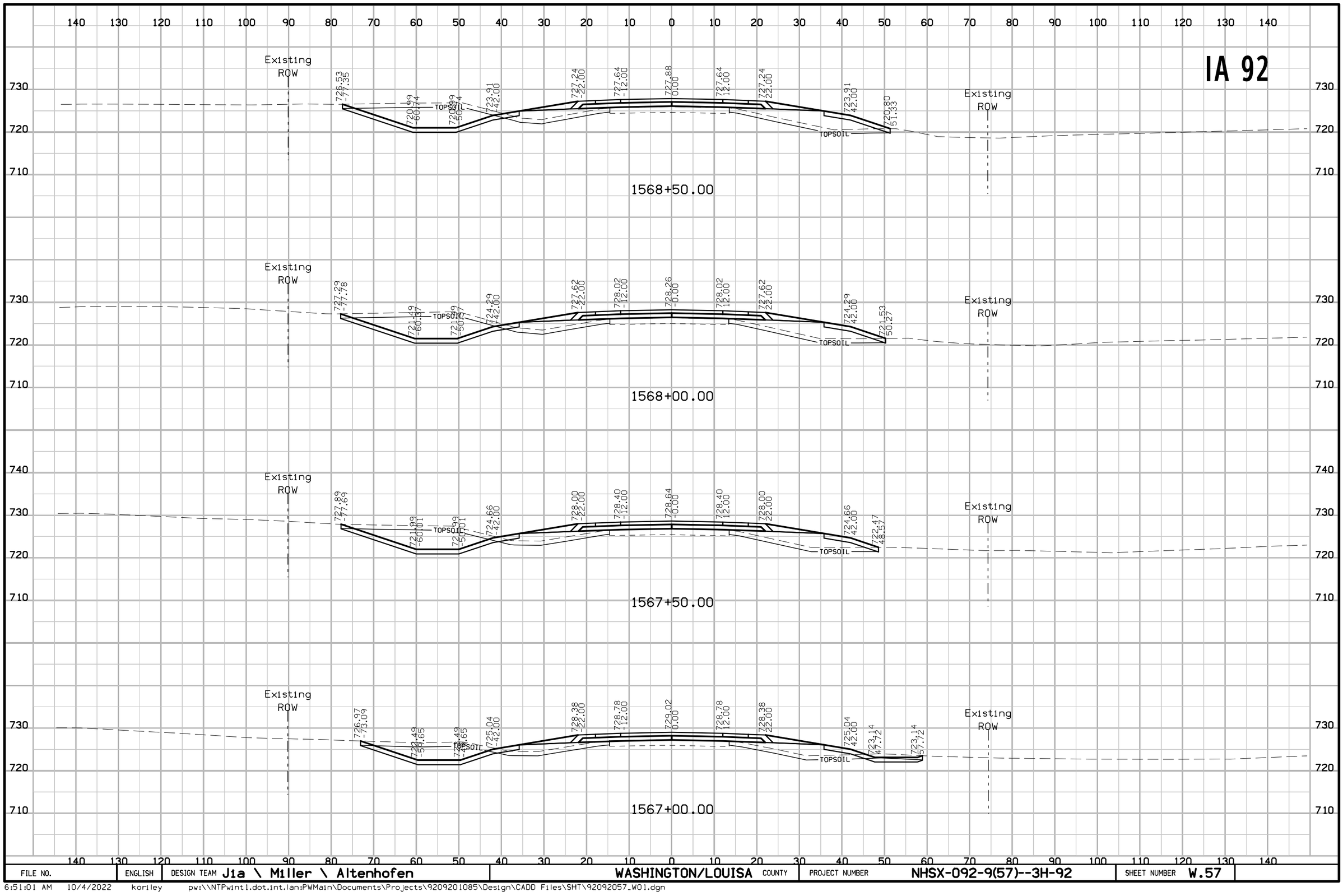
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.57

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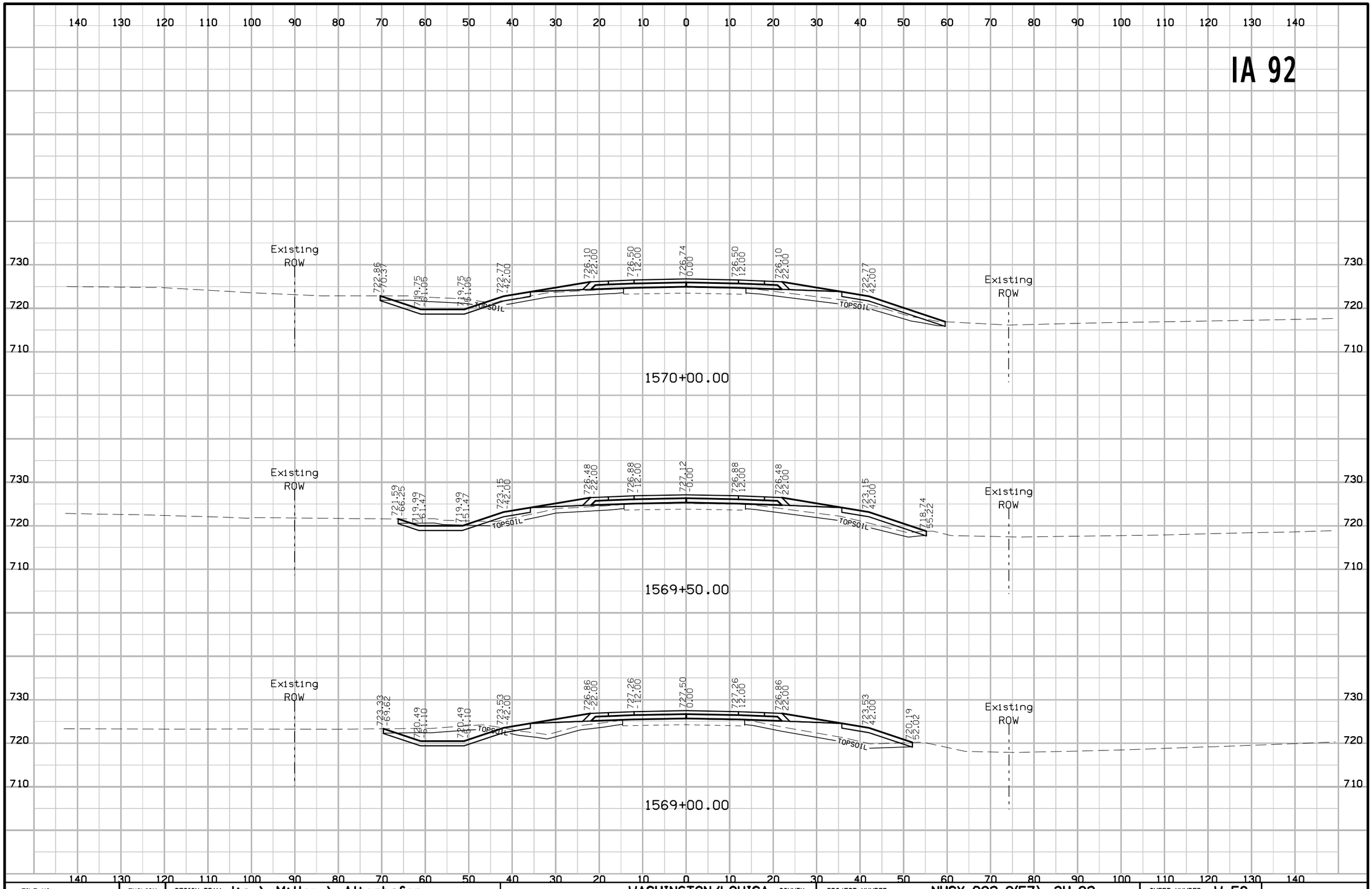
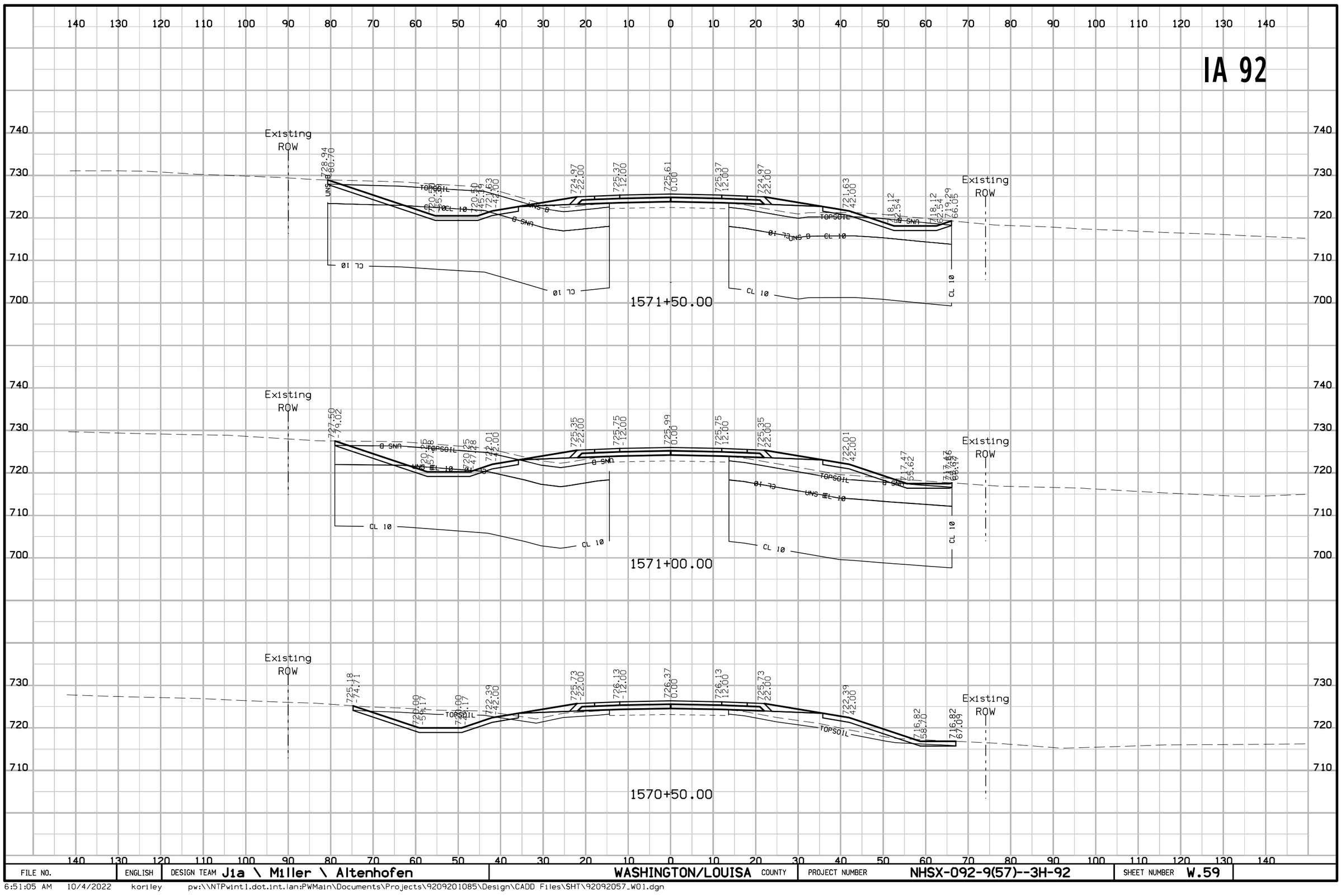


FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.58

6:51:03 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.59

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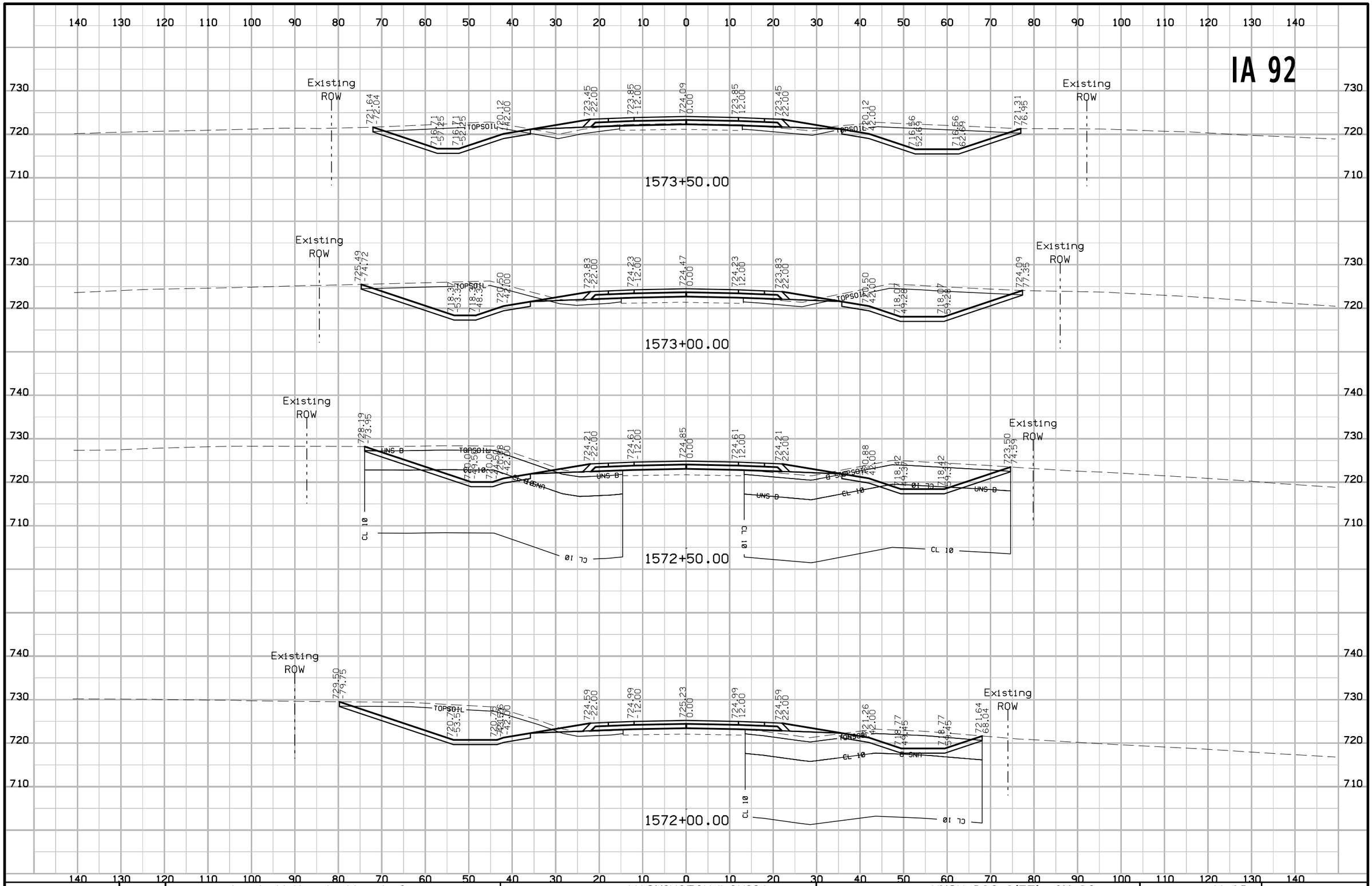
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.60

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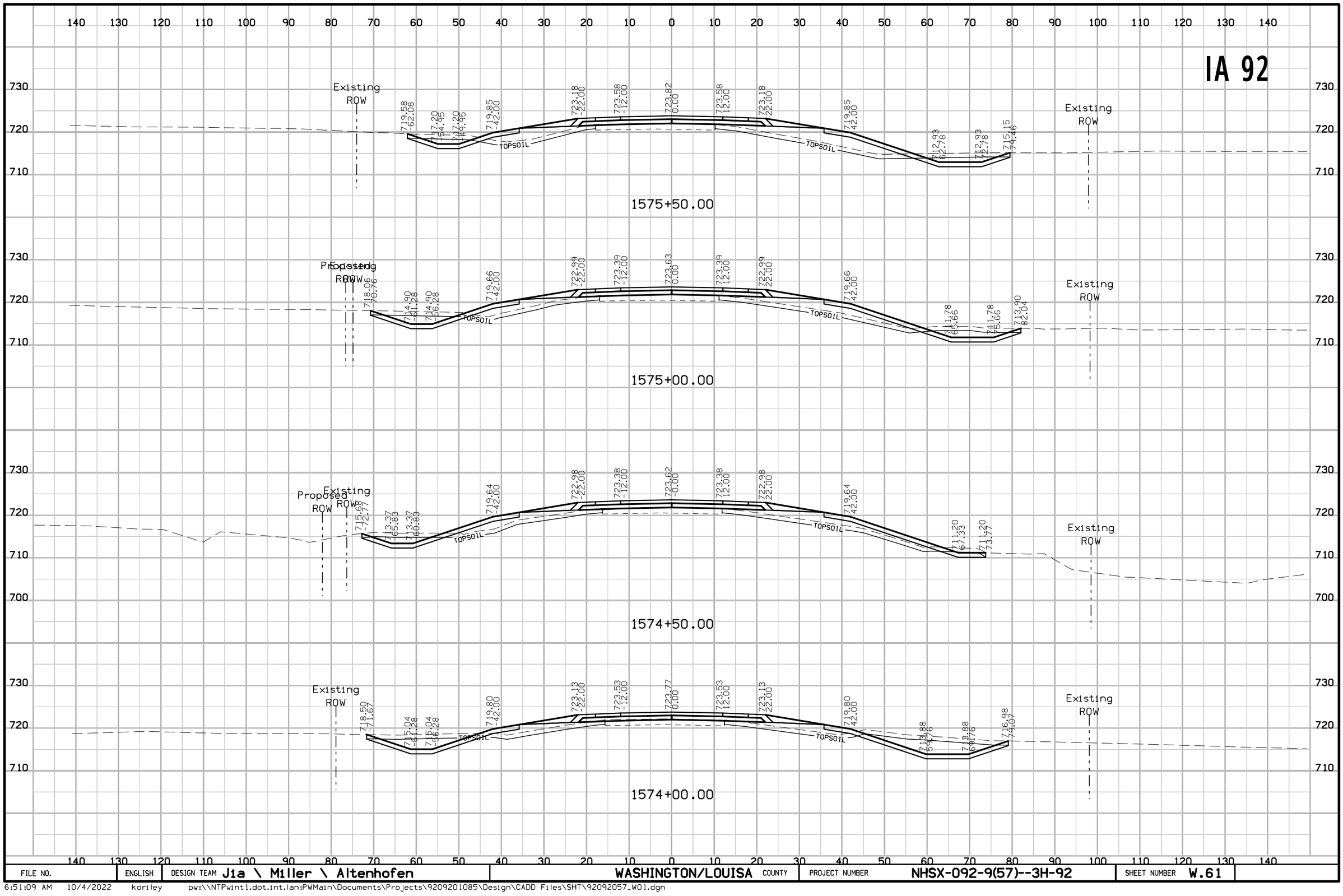
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.61

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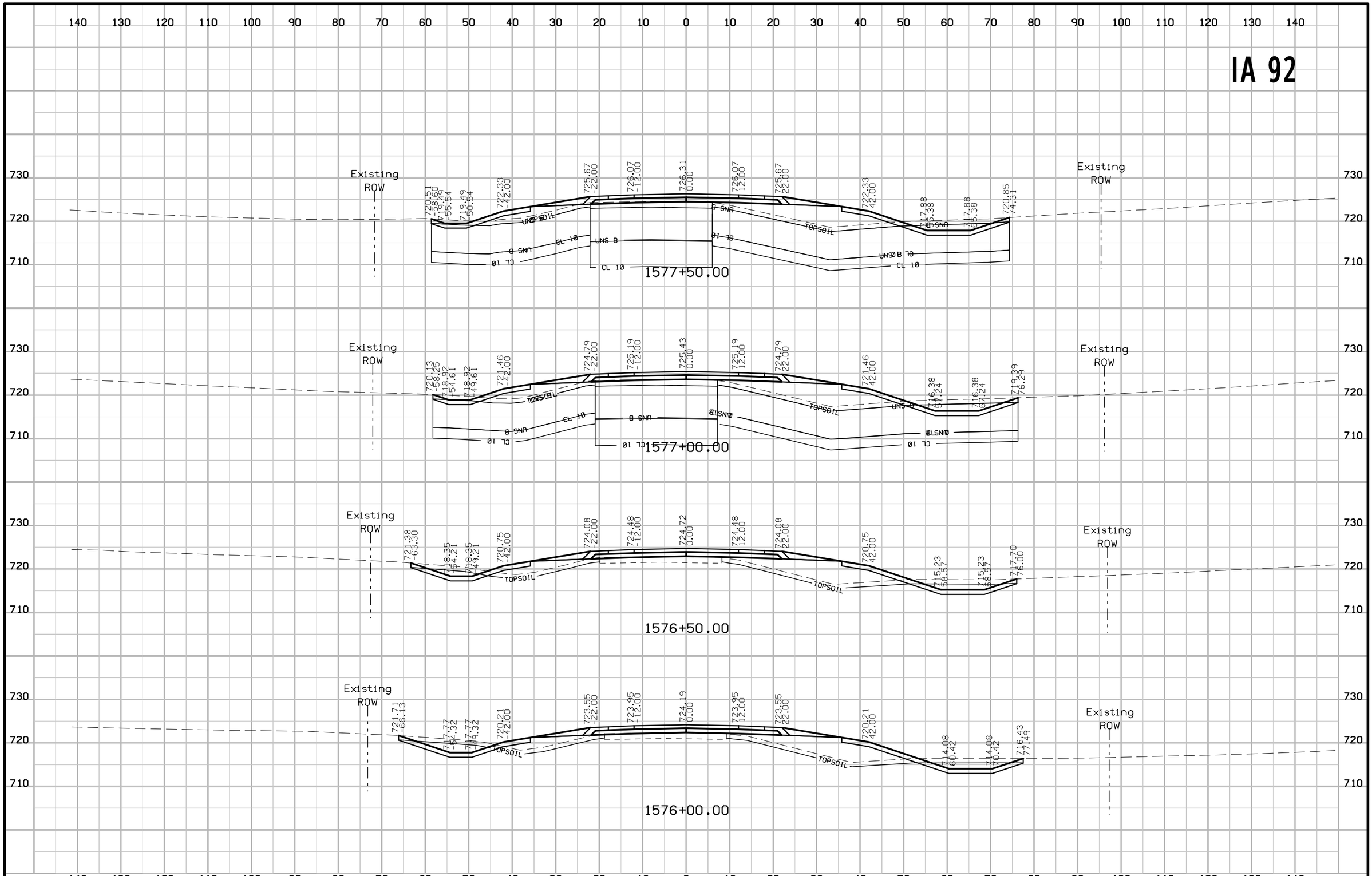

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.62

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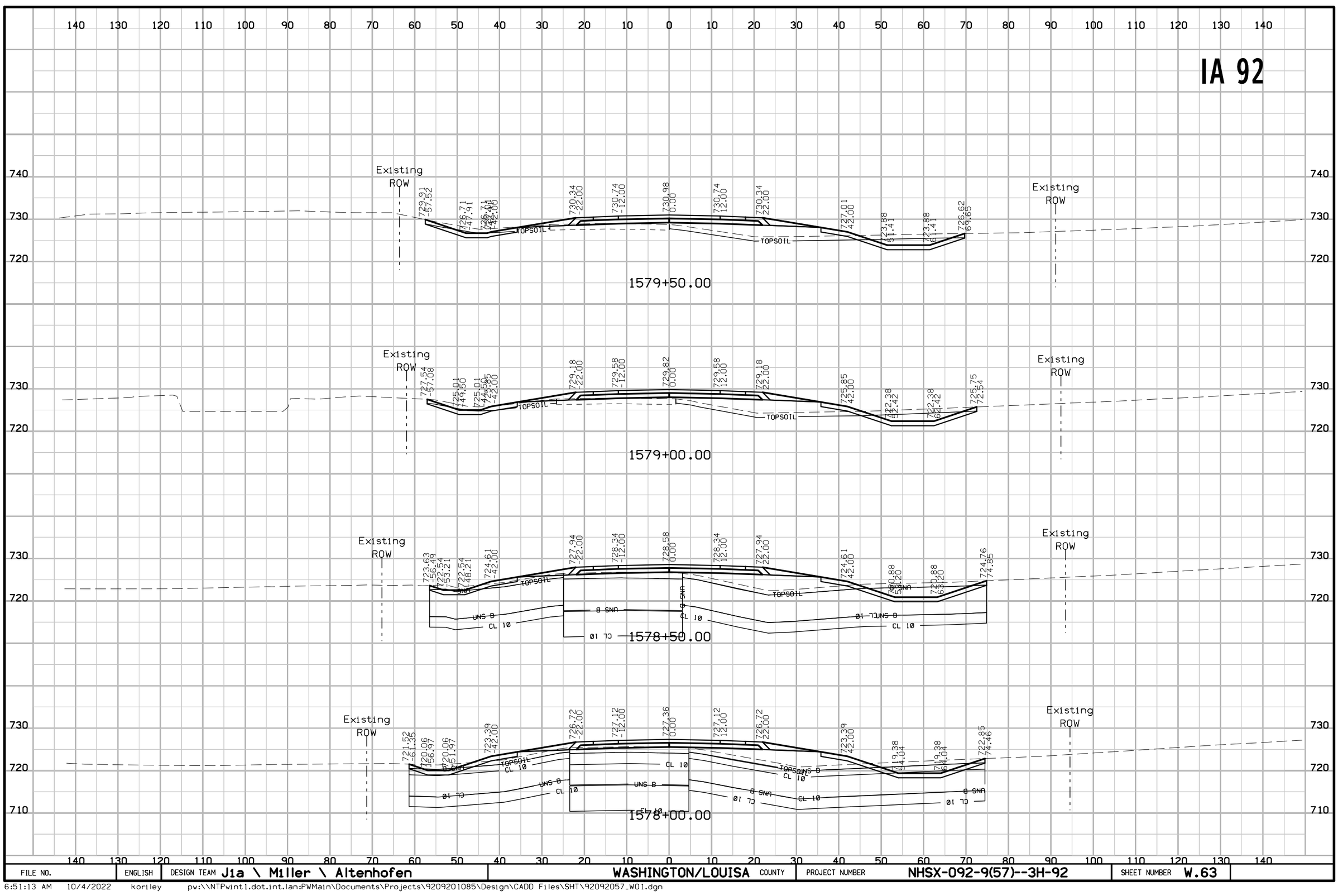

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.63

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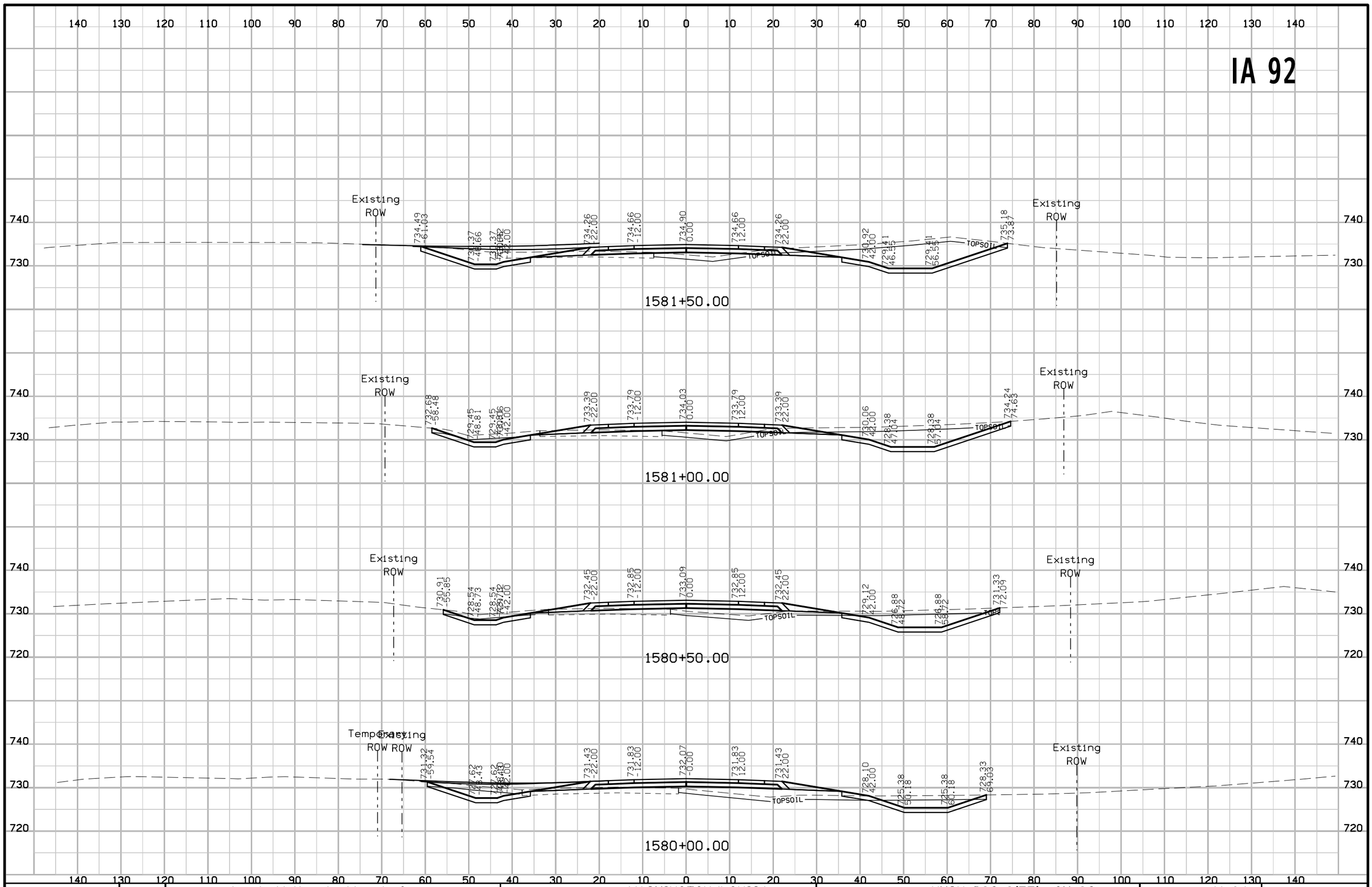
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.64

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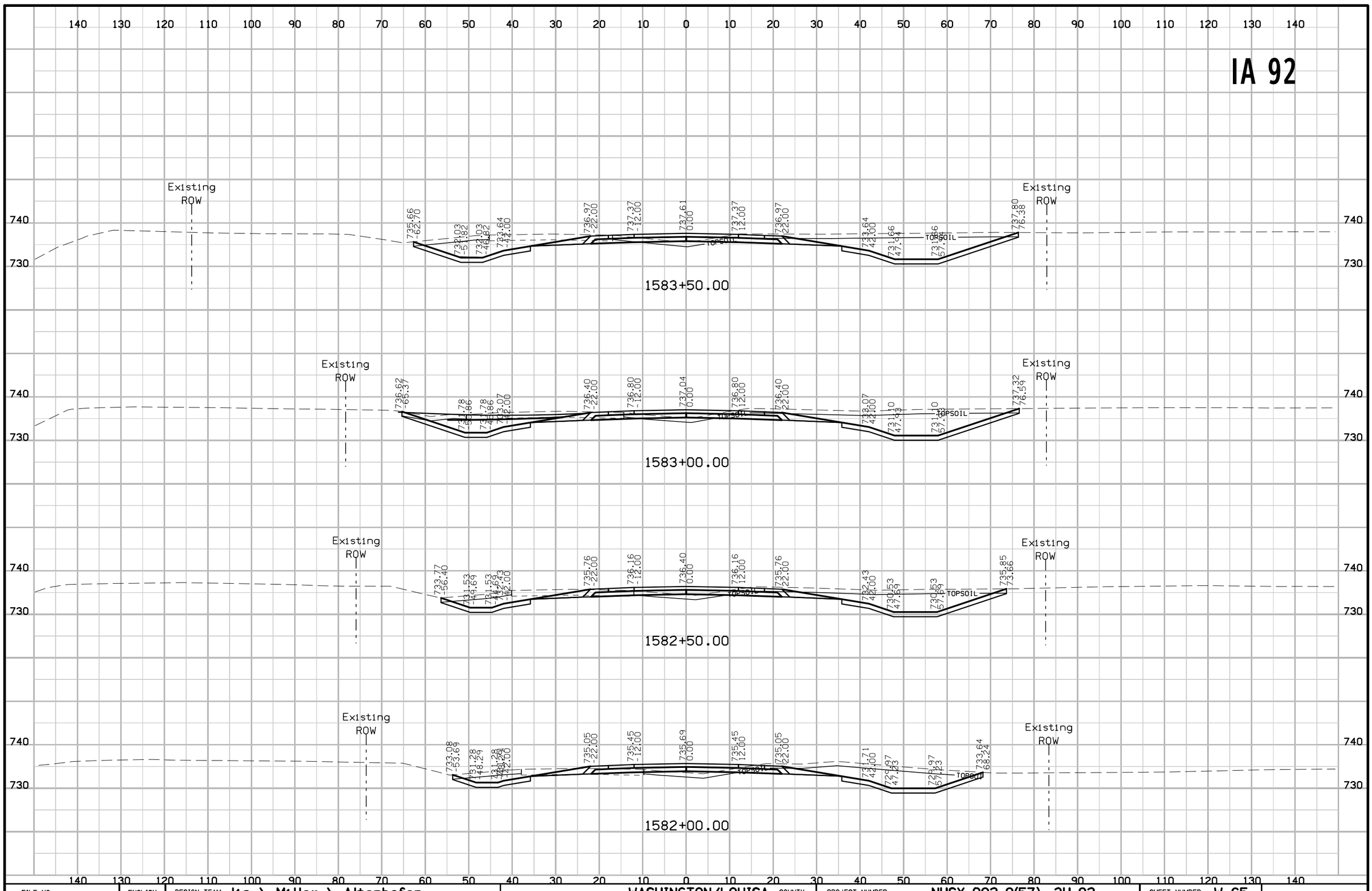

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.65

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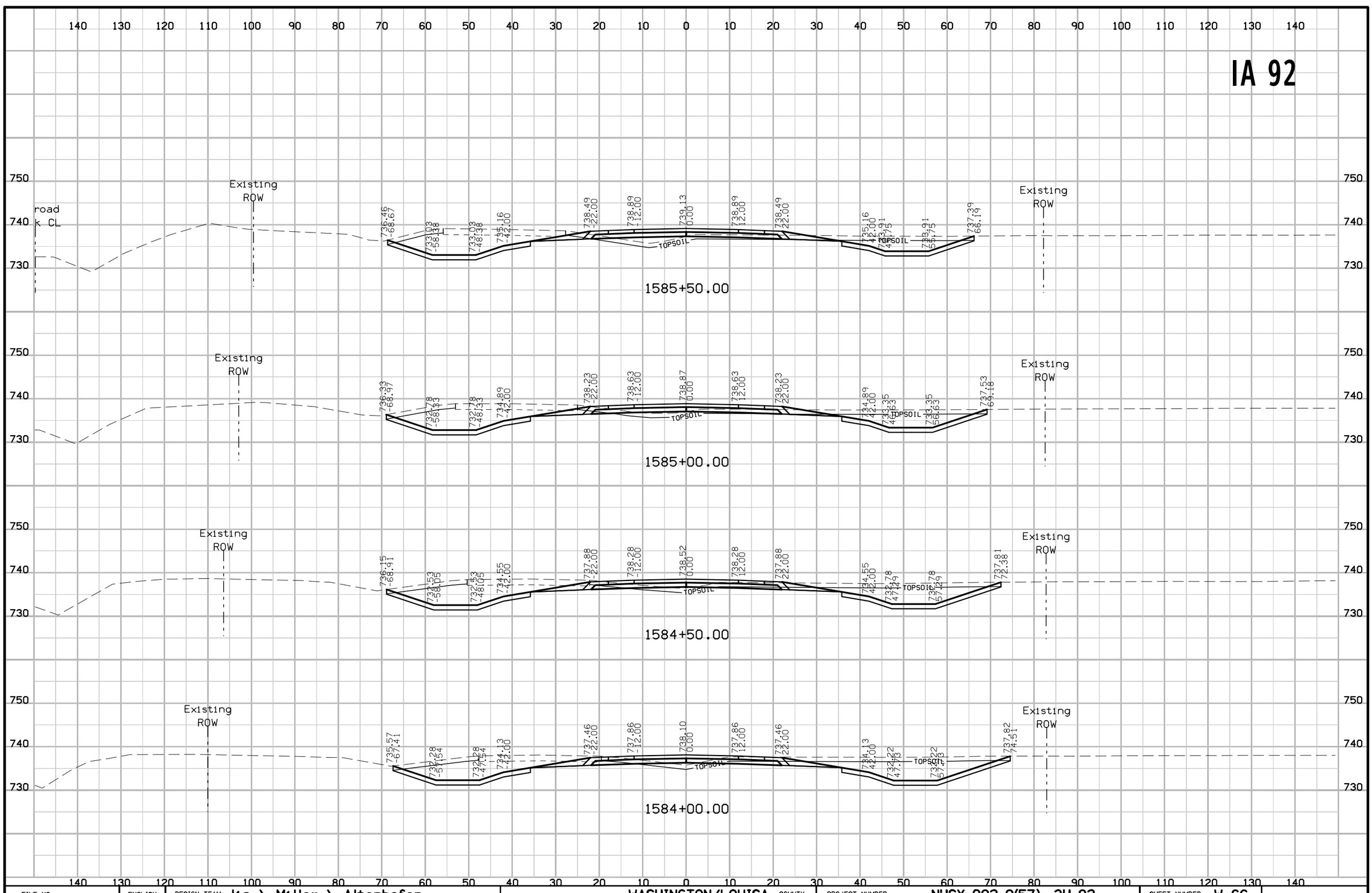
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.66

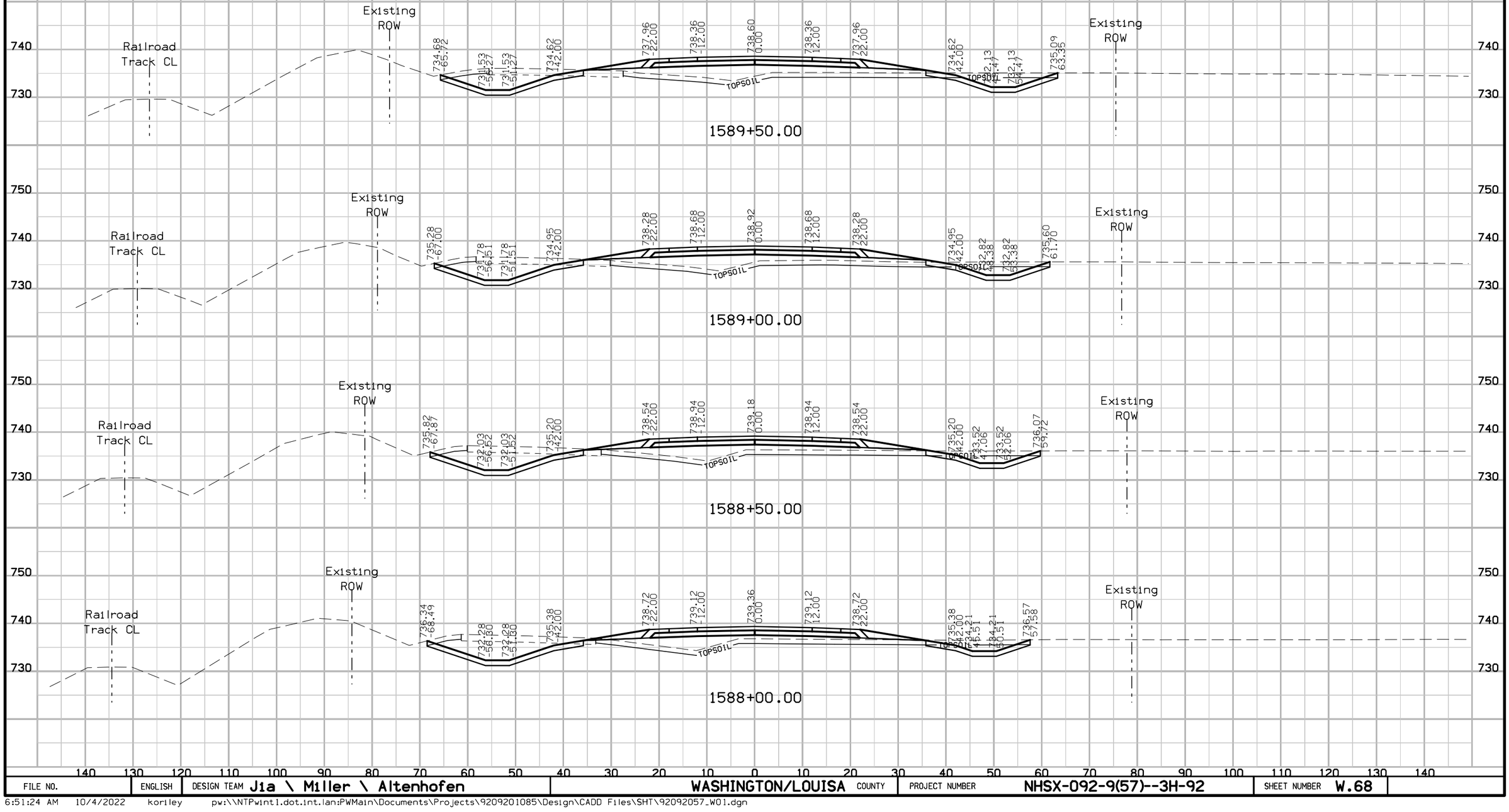
6:51:20 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

IA 92

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.67

6:51:22 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

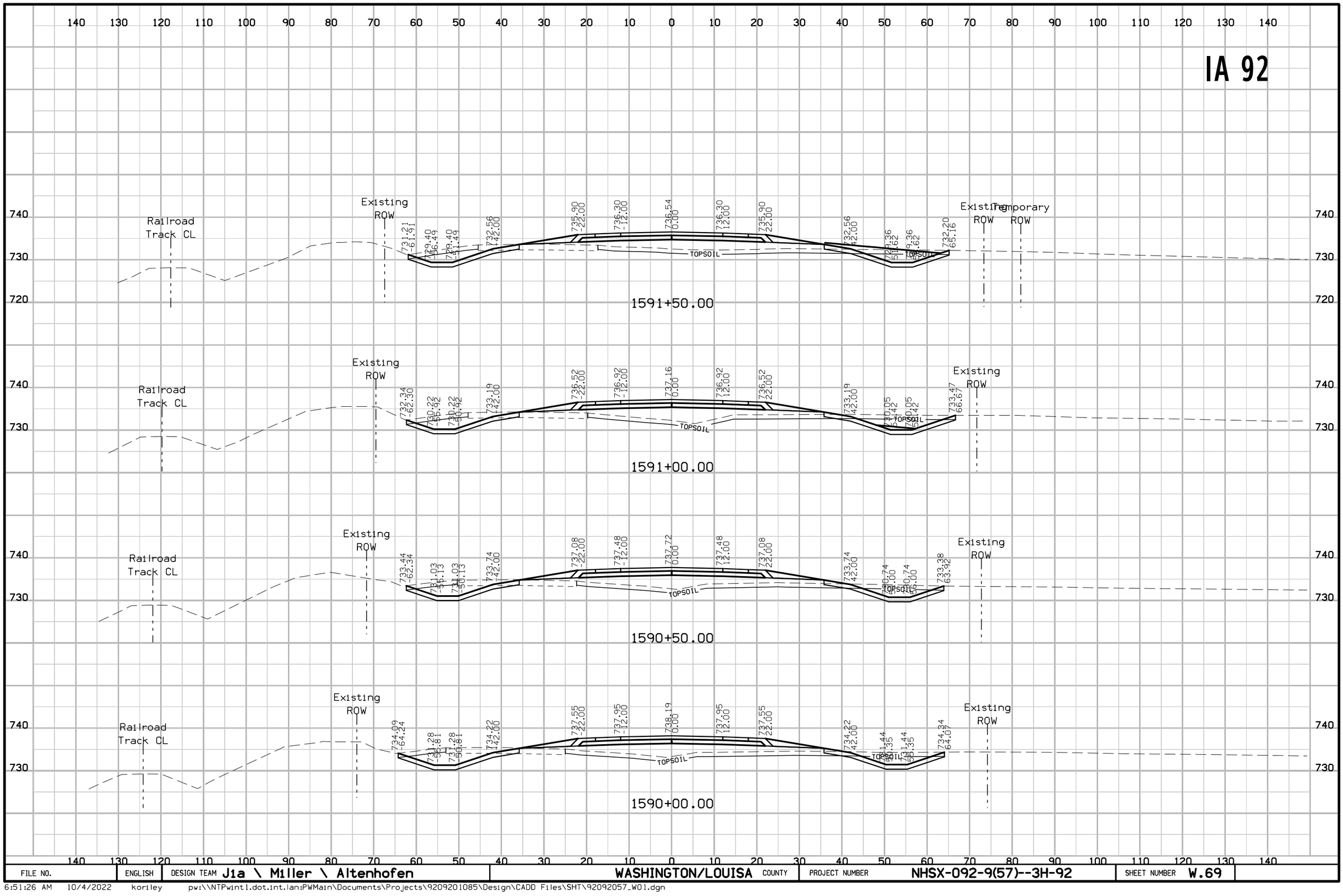
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.68

6:51:24 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

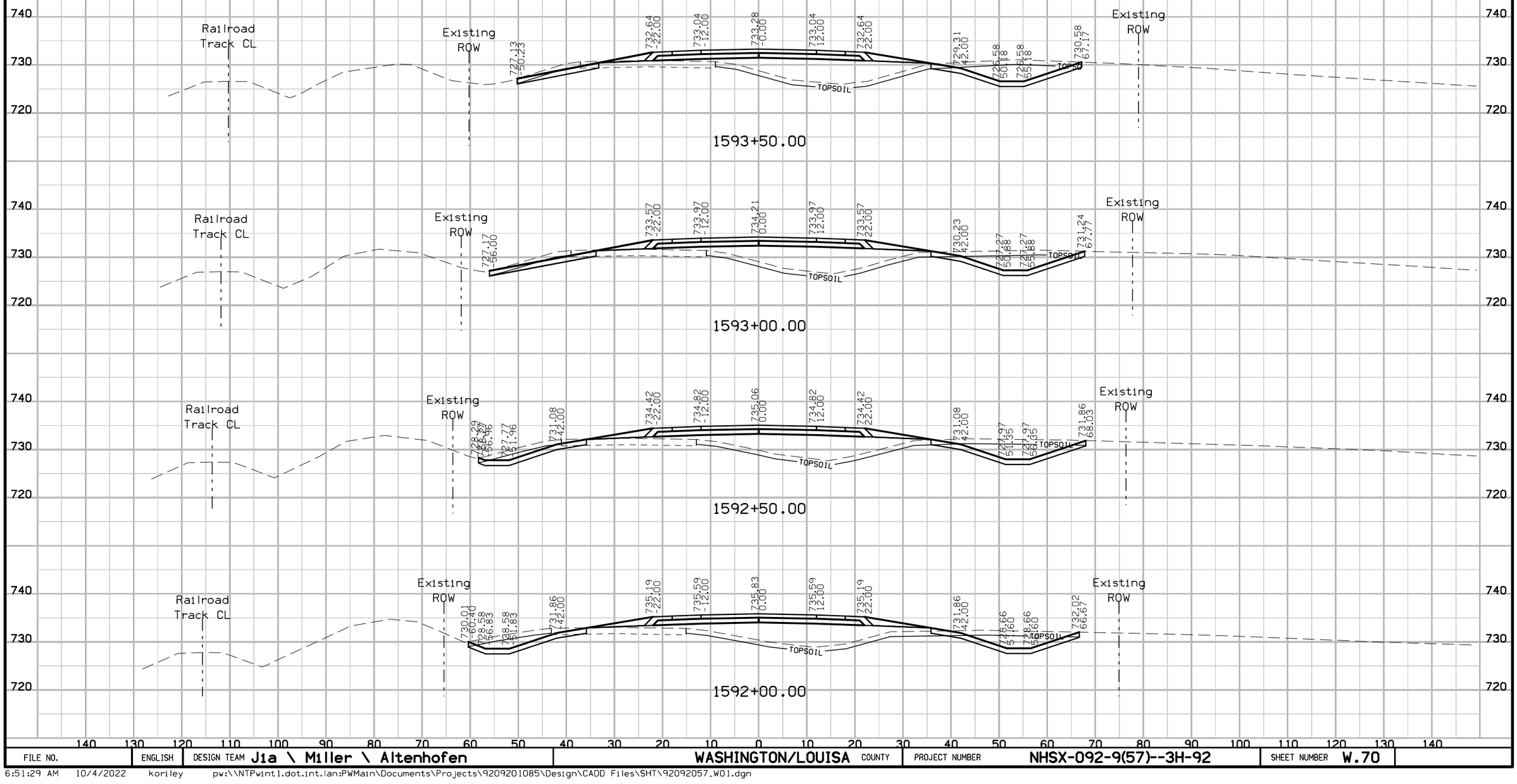
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.69

6:51:26 AM 10/4/2022 korileу pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

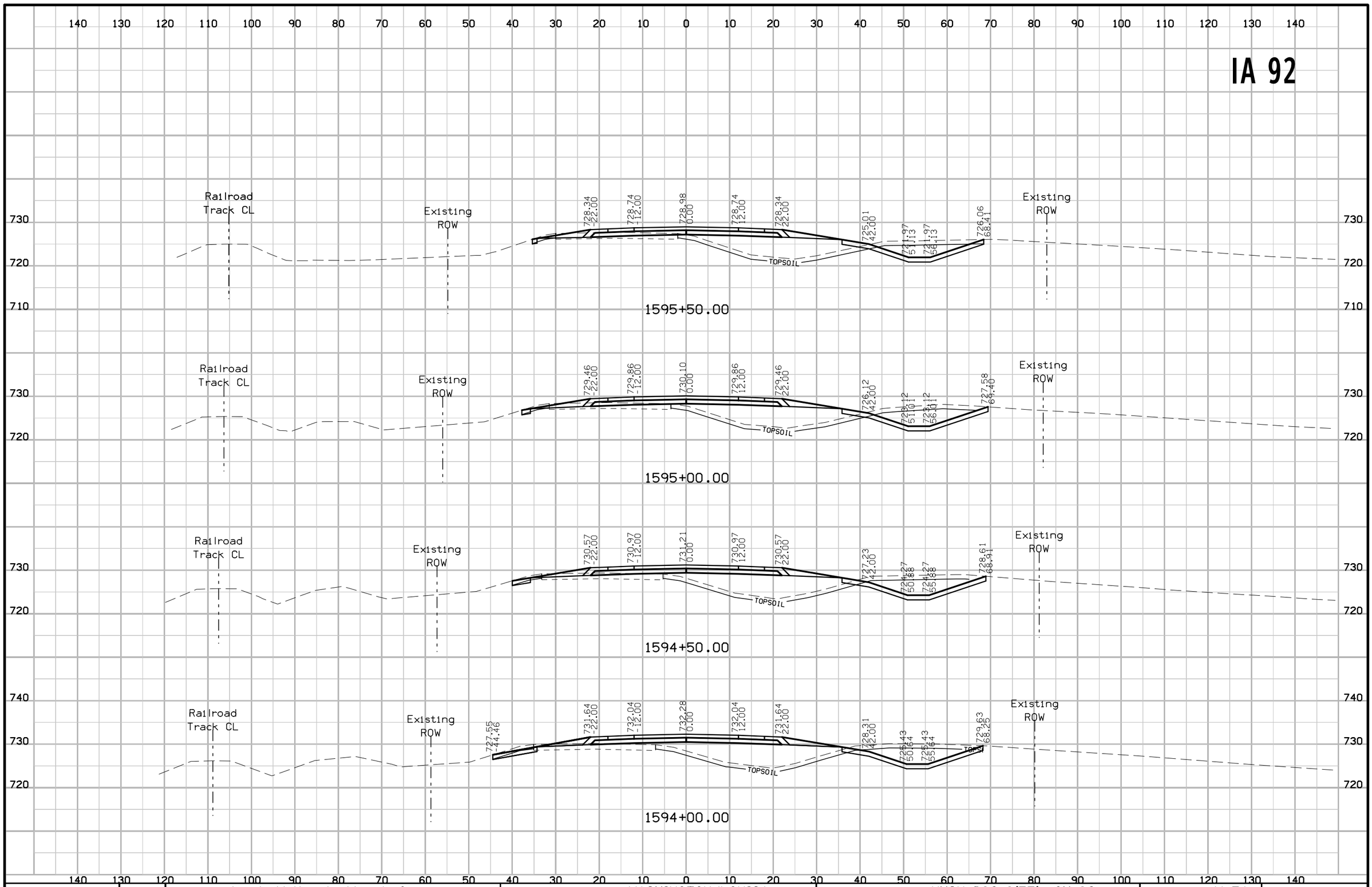
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.70

6:51:29 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.71

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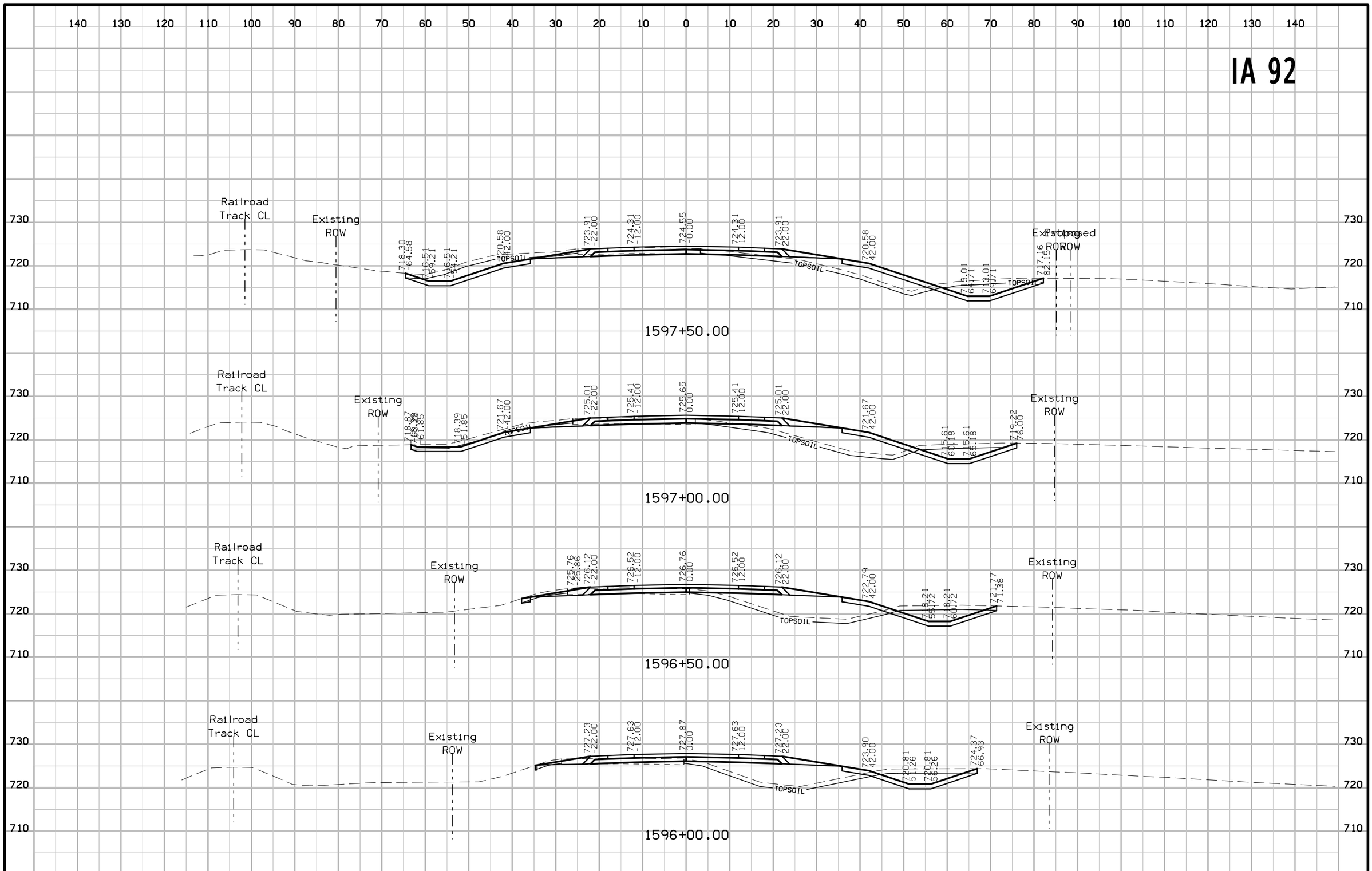
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.72

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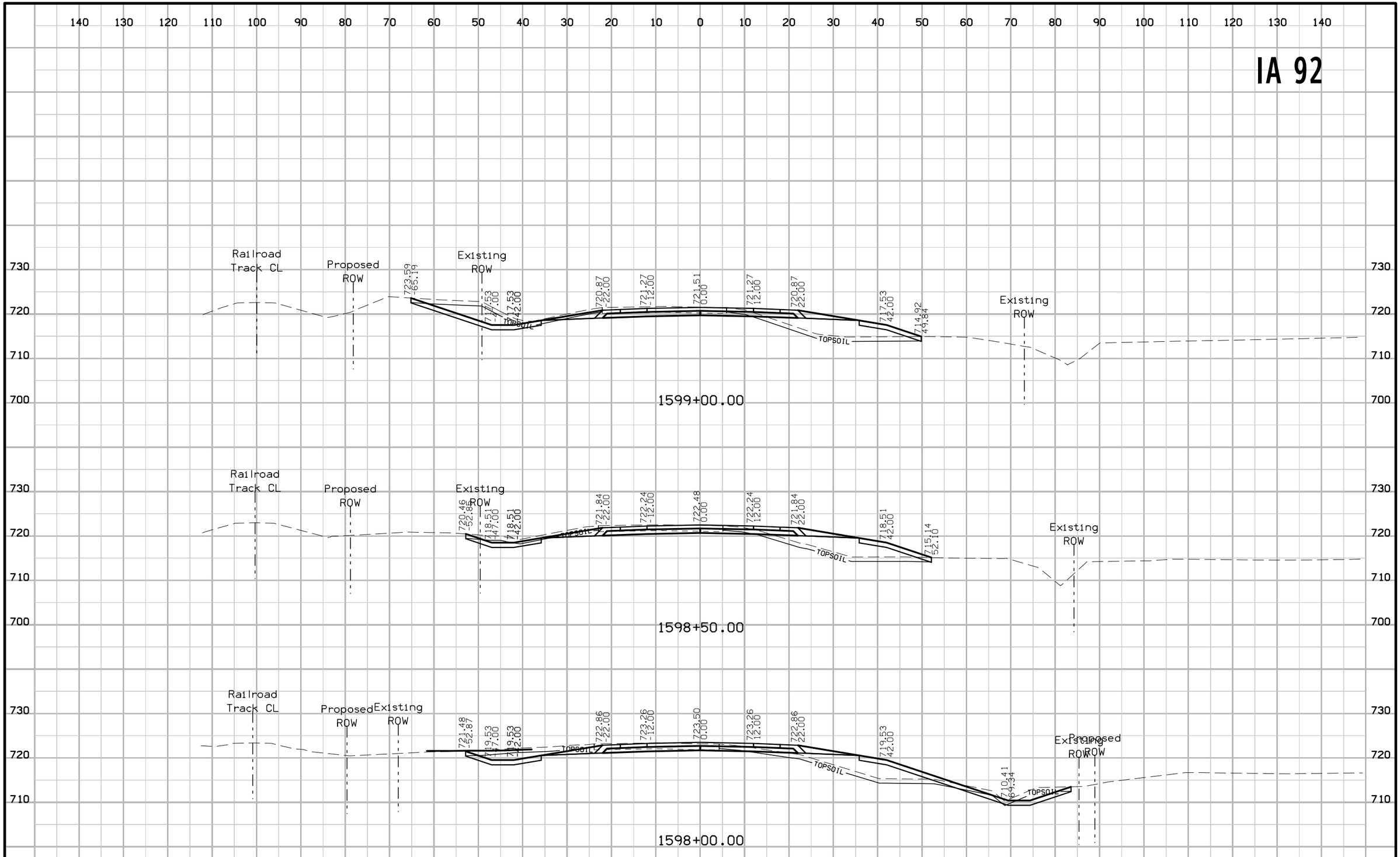
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.73

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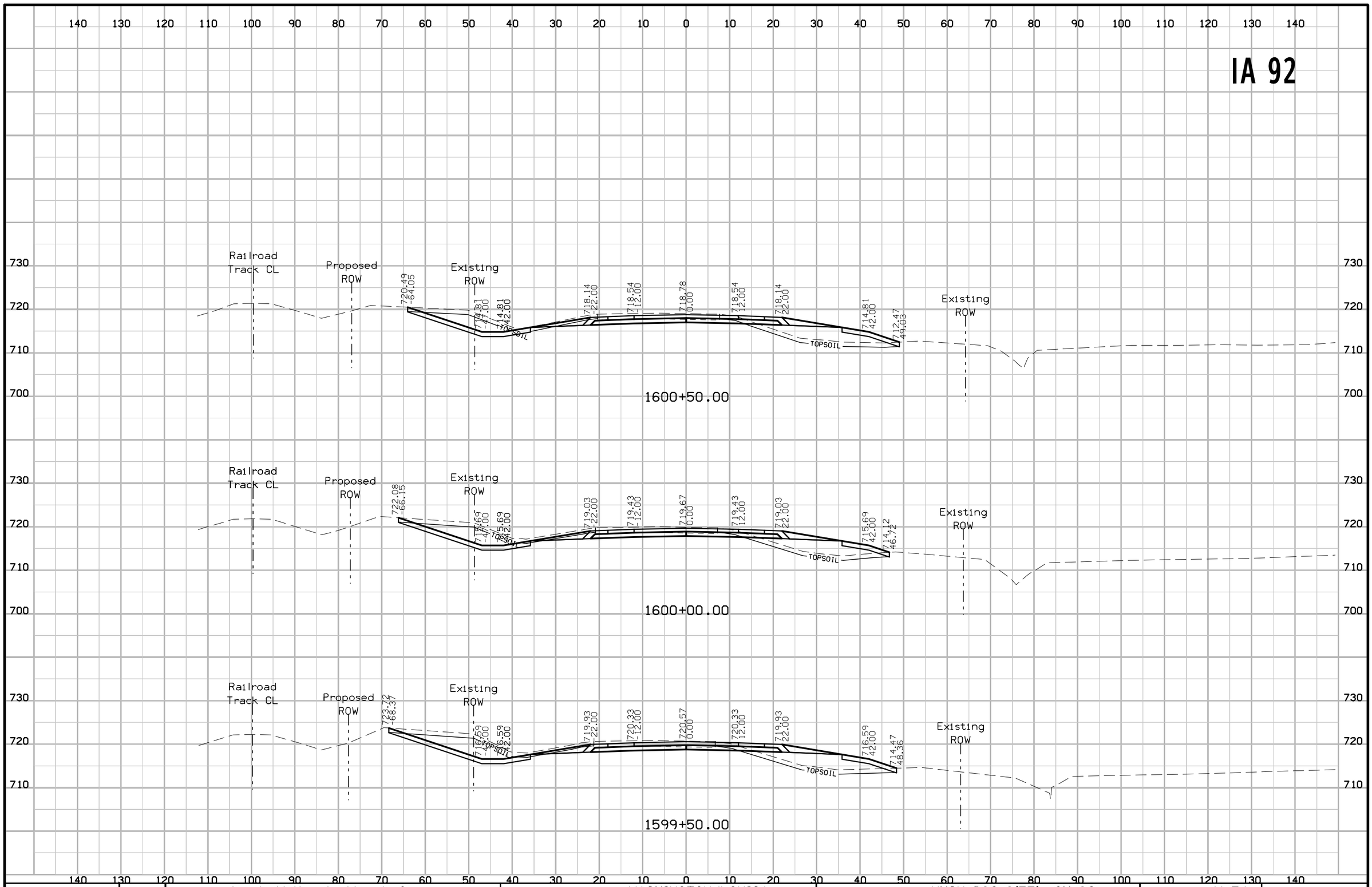
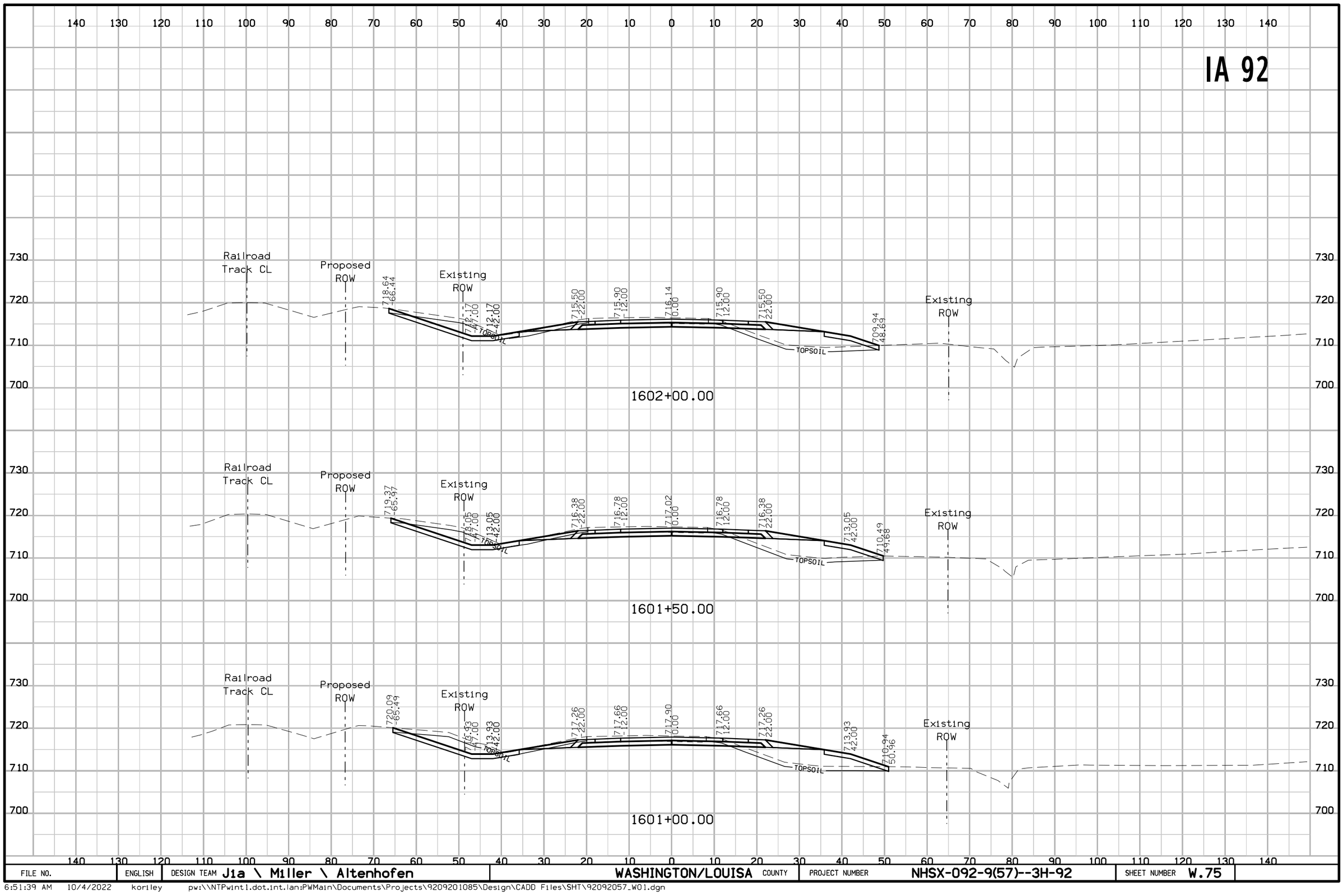
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.74

6:51:37 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.75

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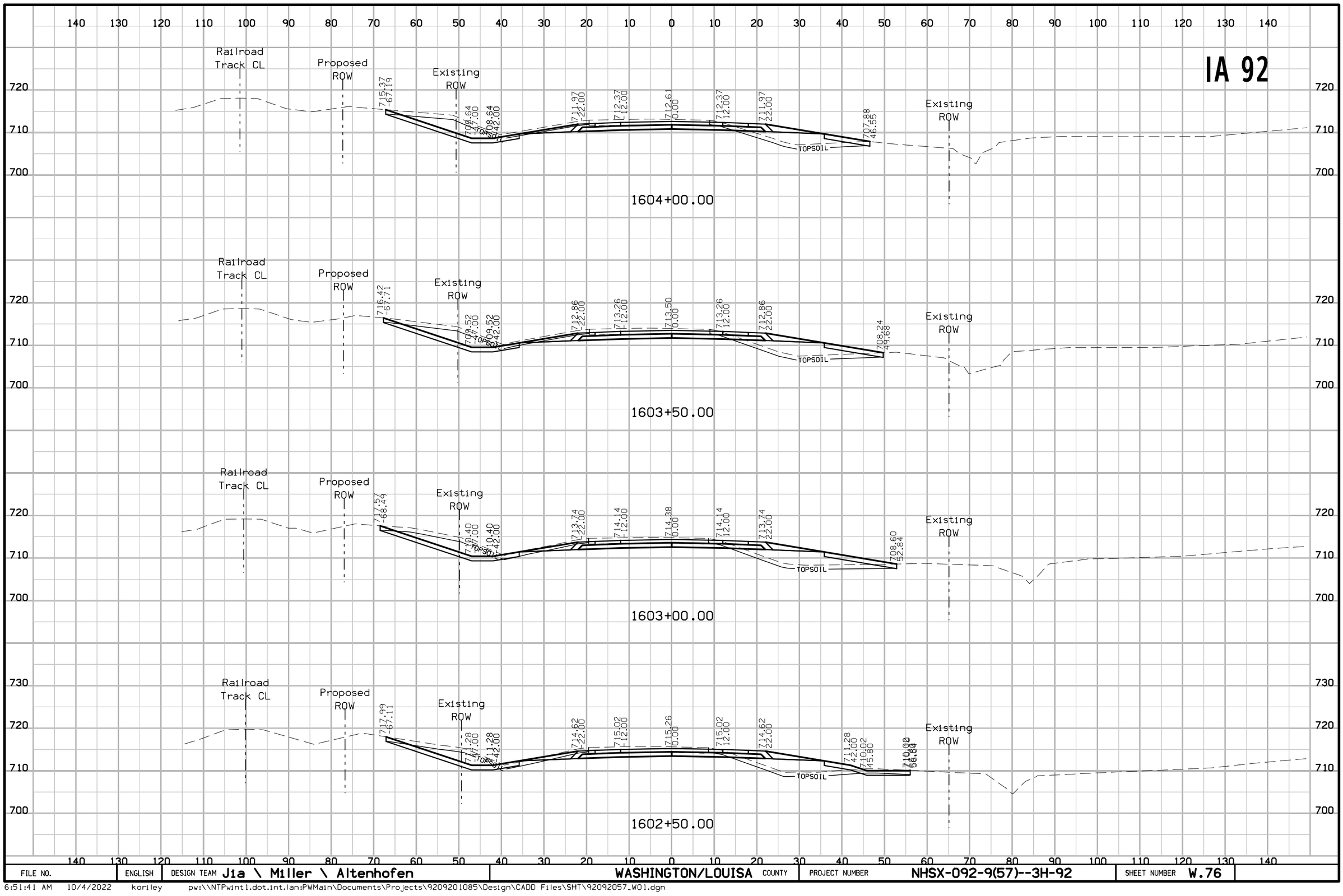
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.76

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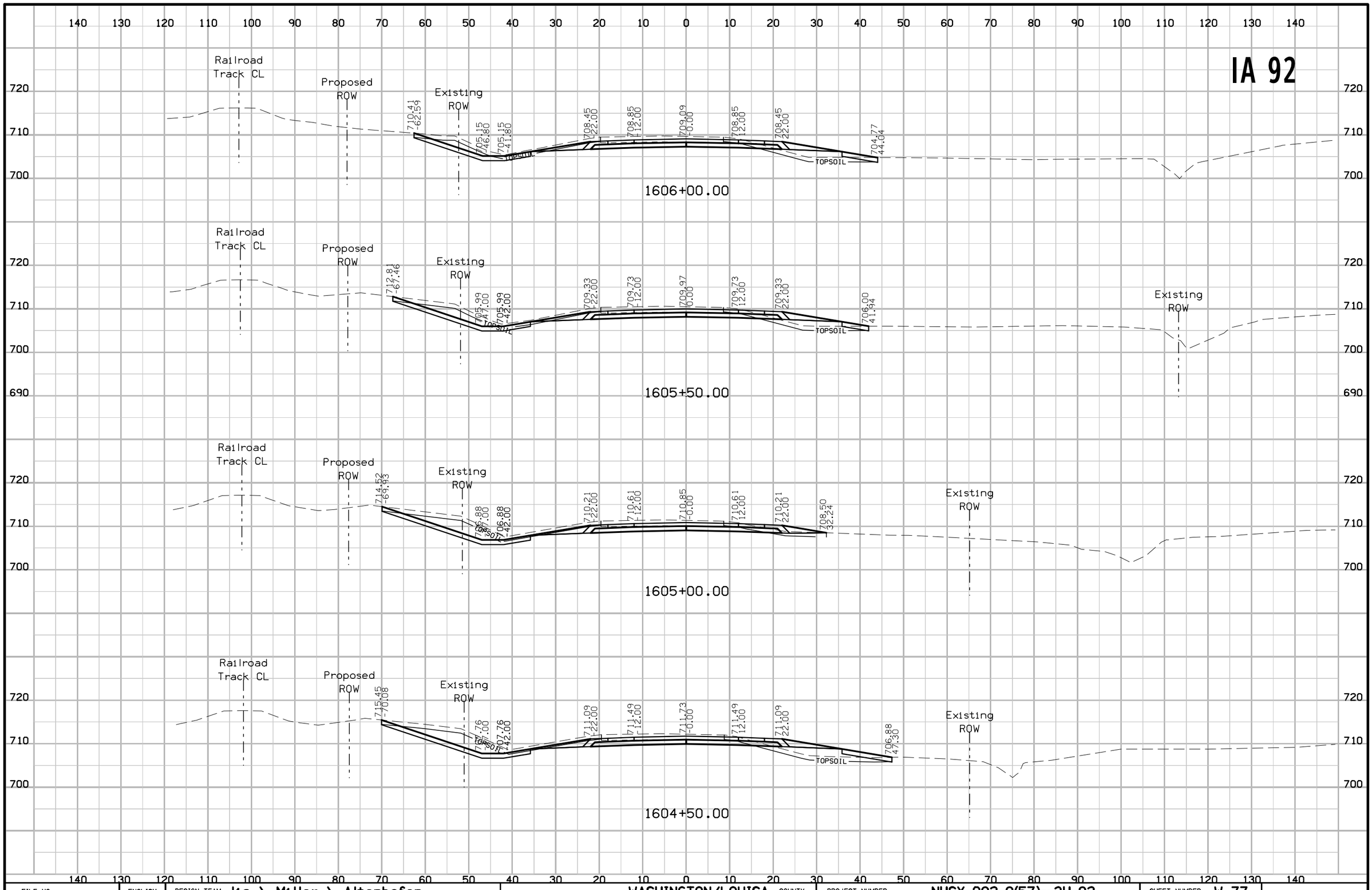

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.77

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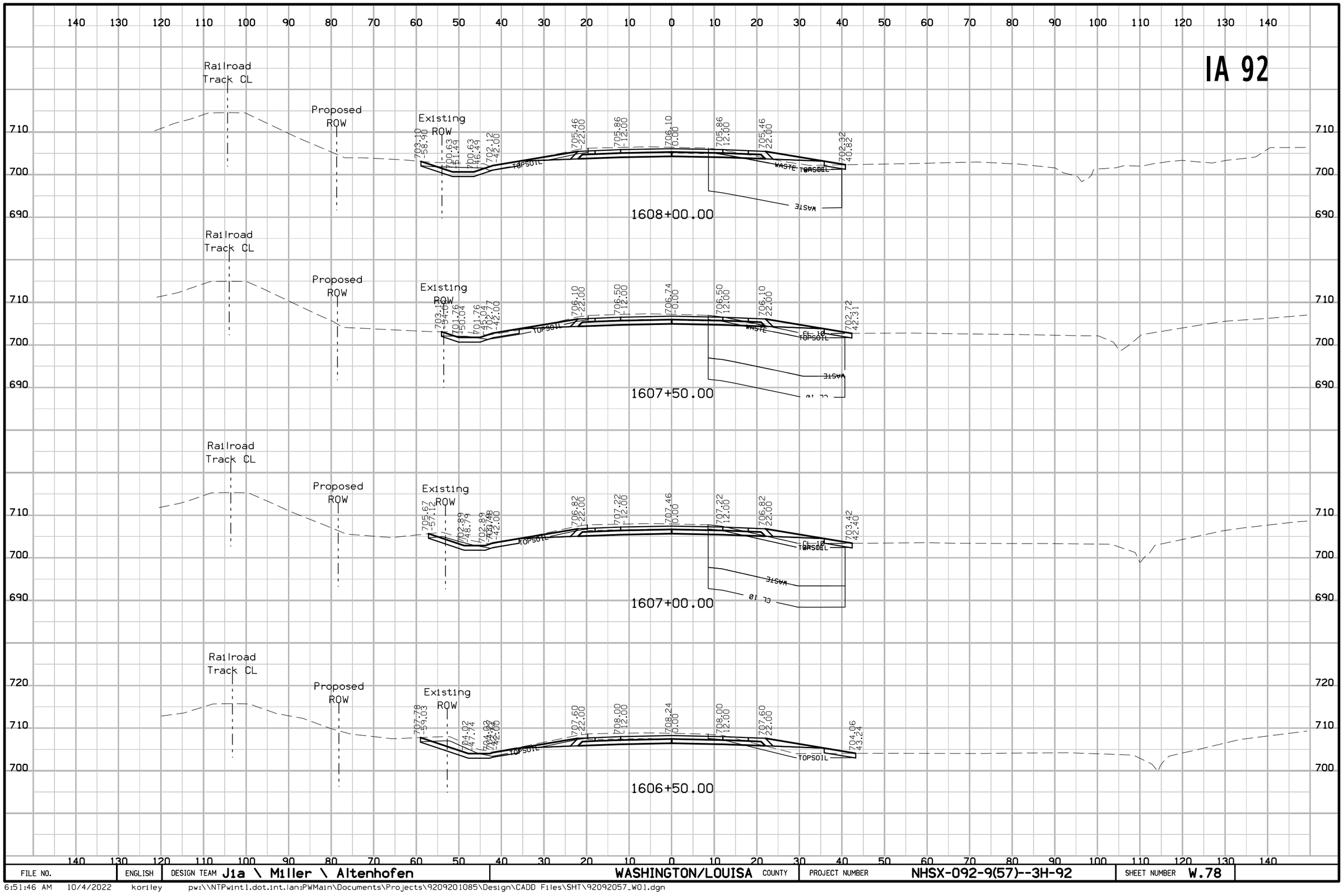
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.78

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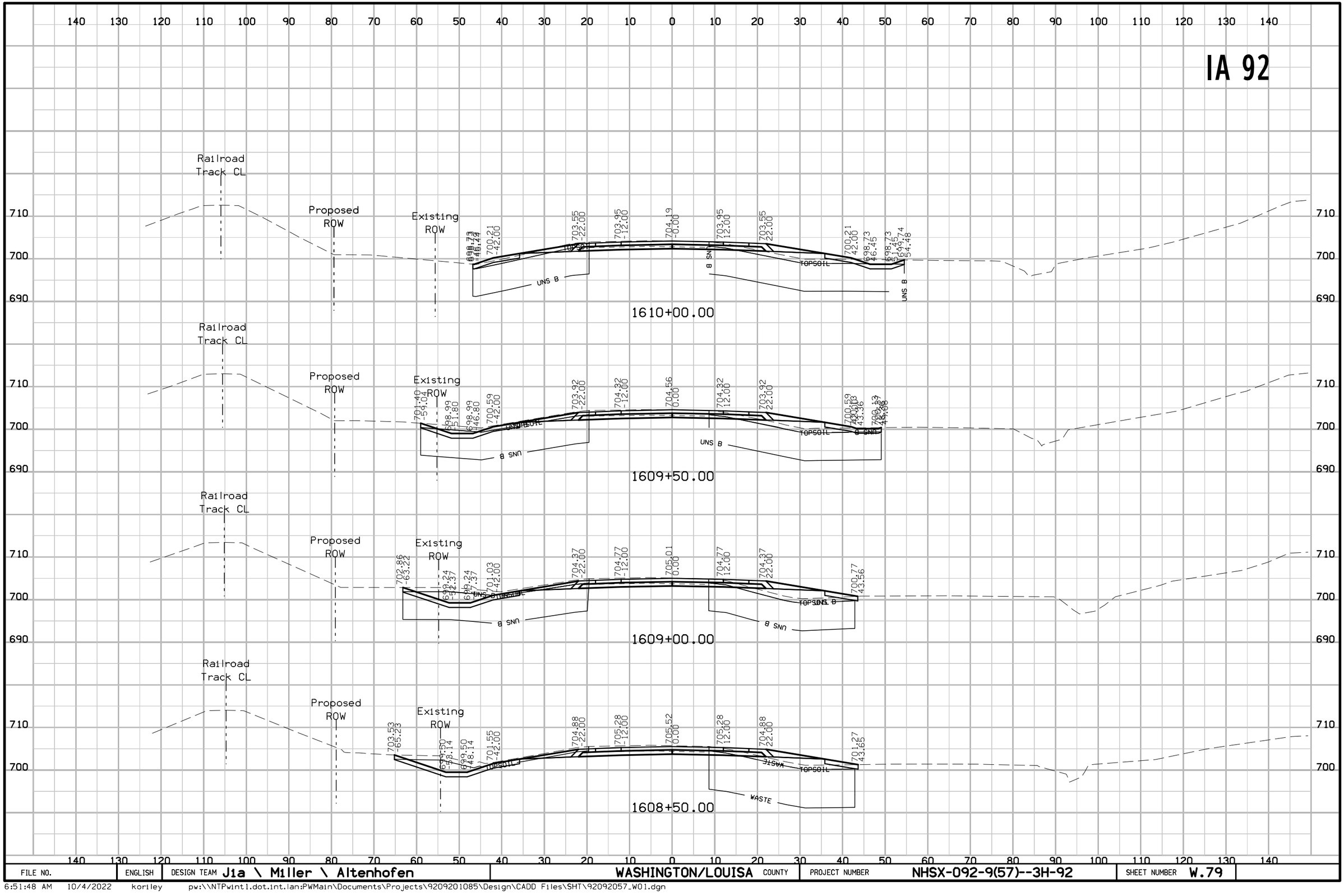
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.79

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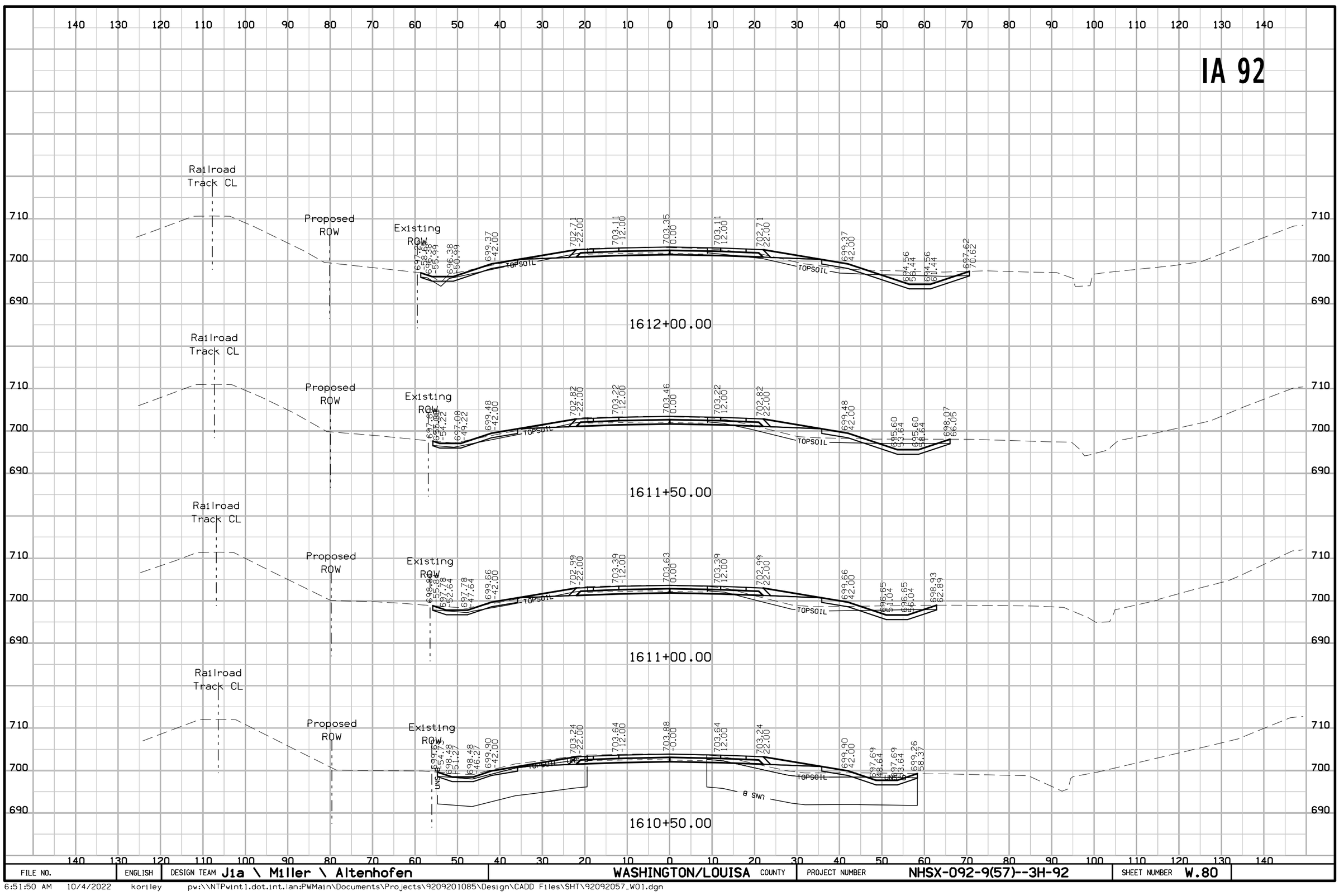

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.80

6:51:50 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

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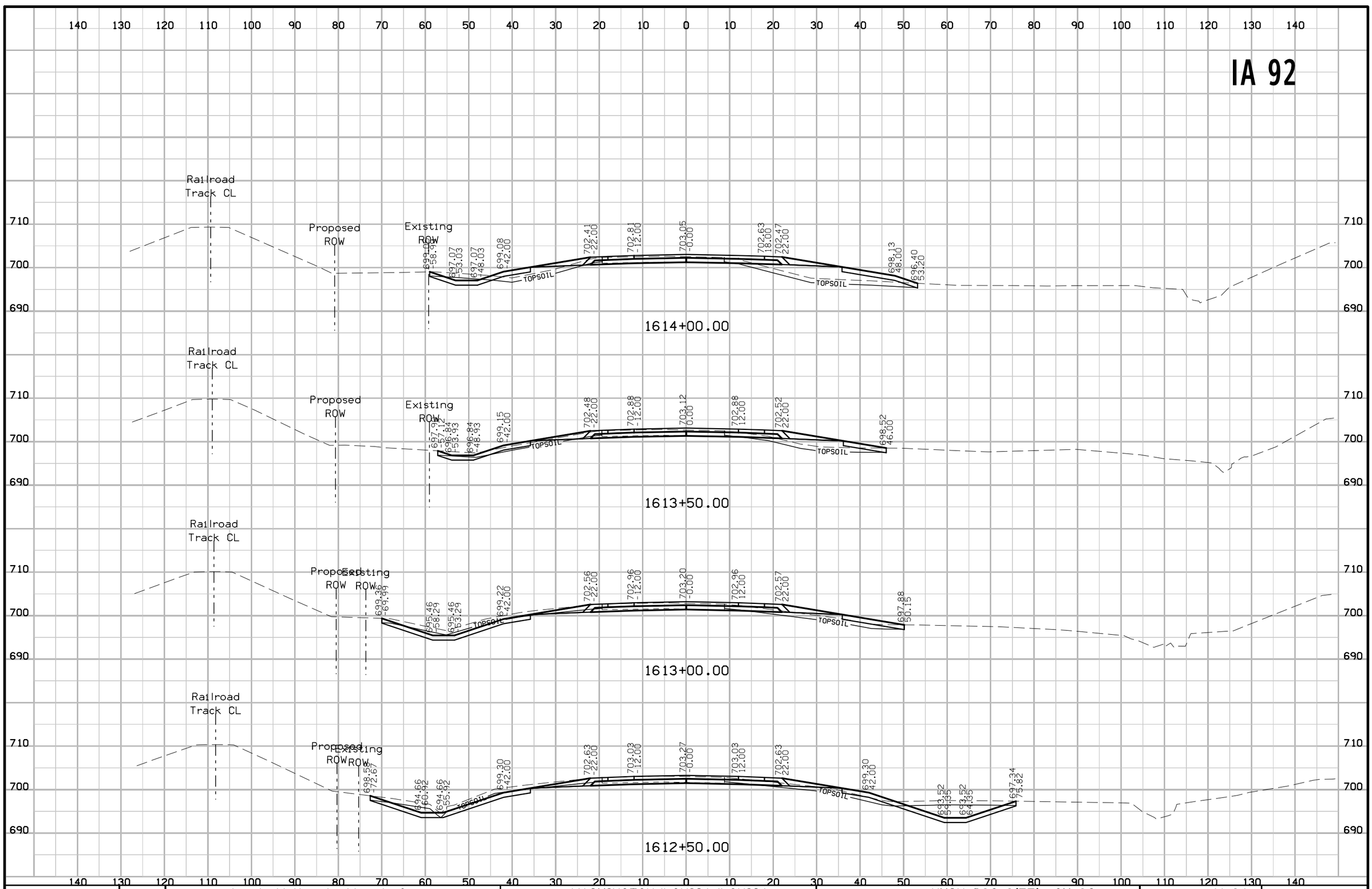
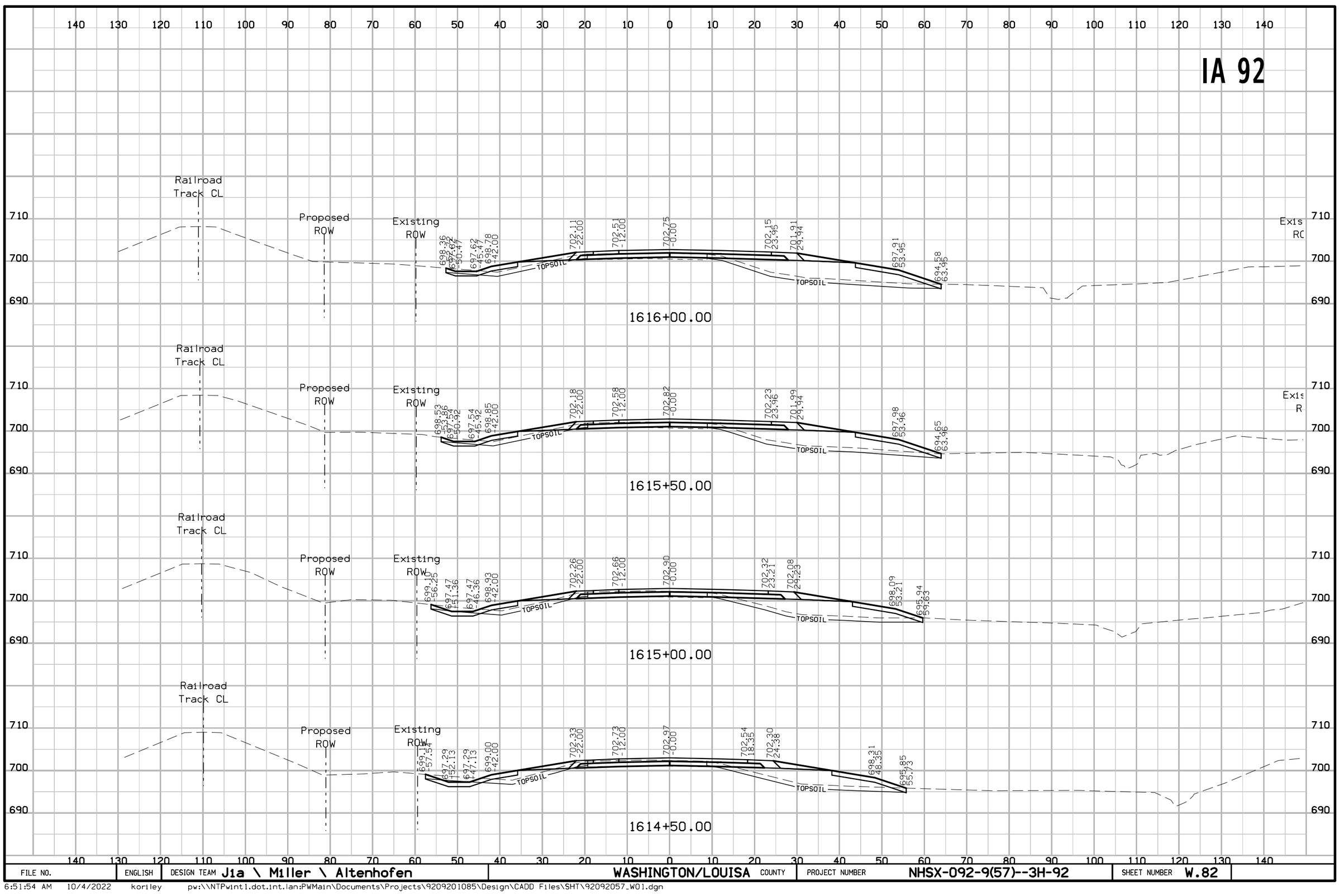


FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.81

6:51:52 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.82

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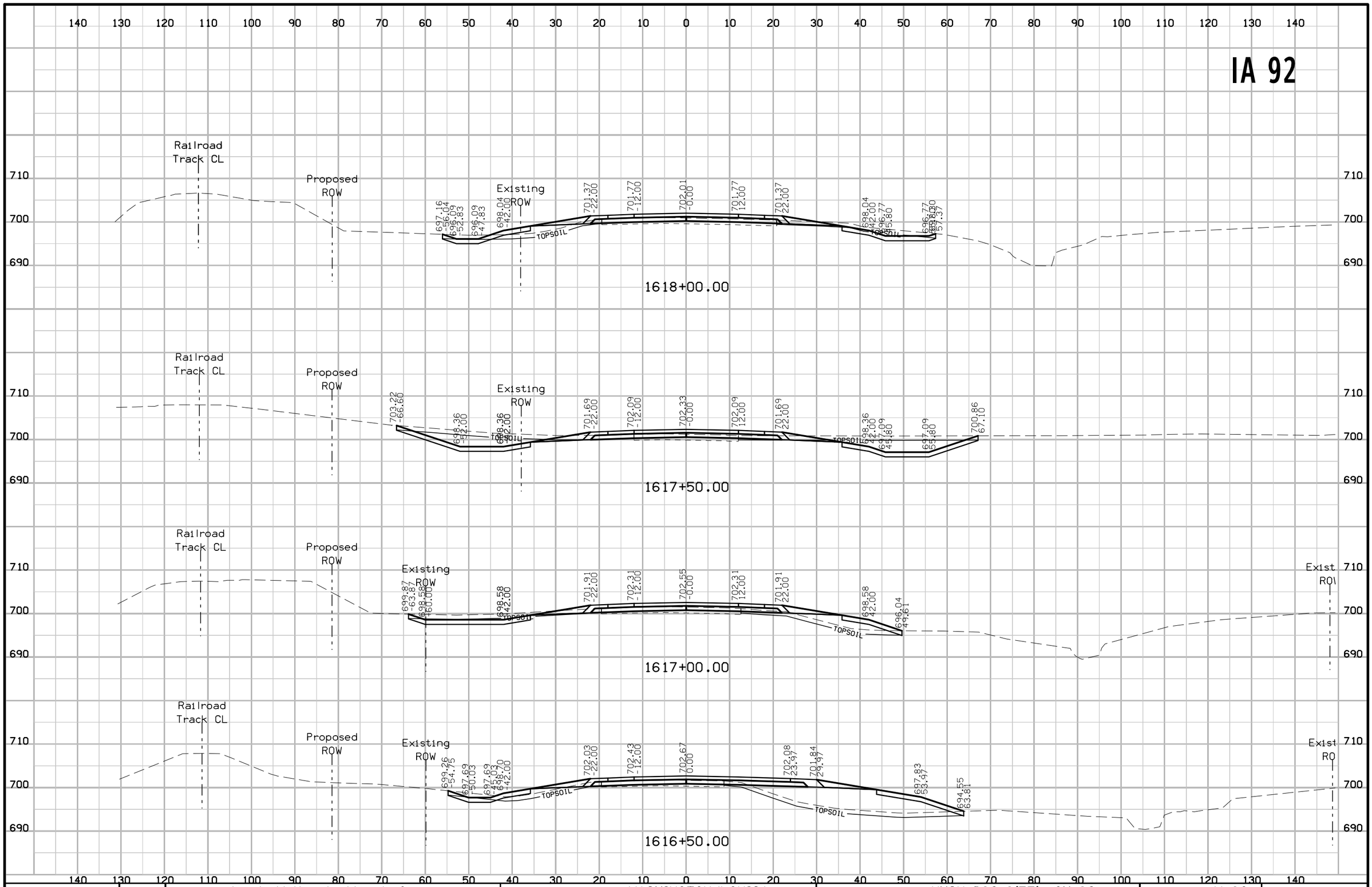
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.83

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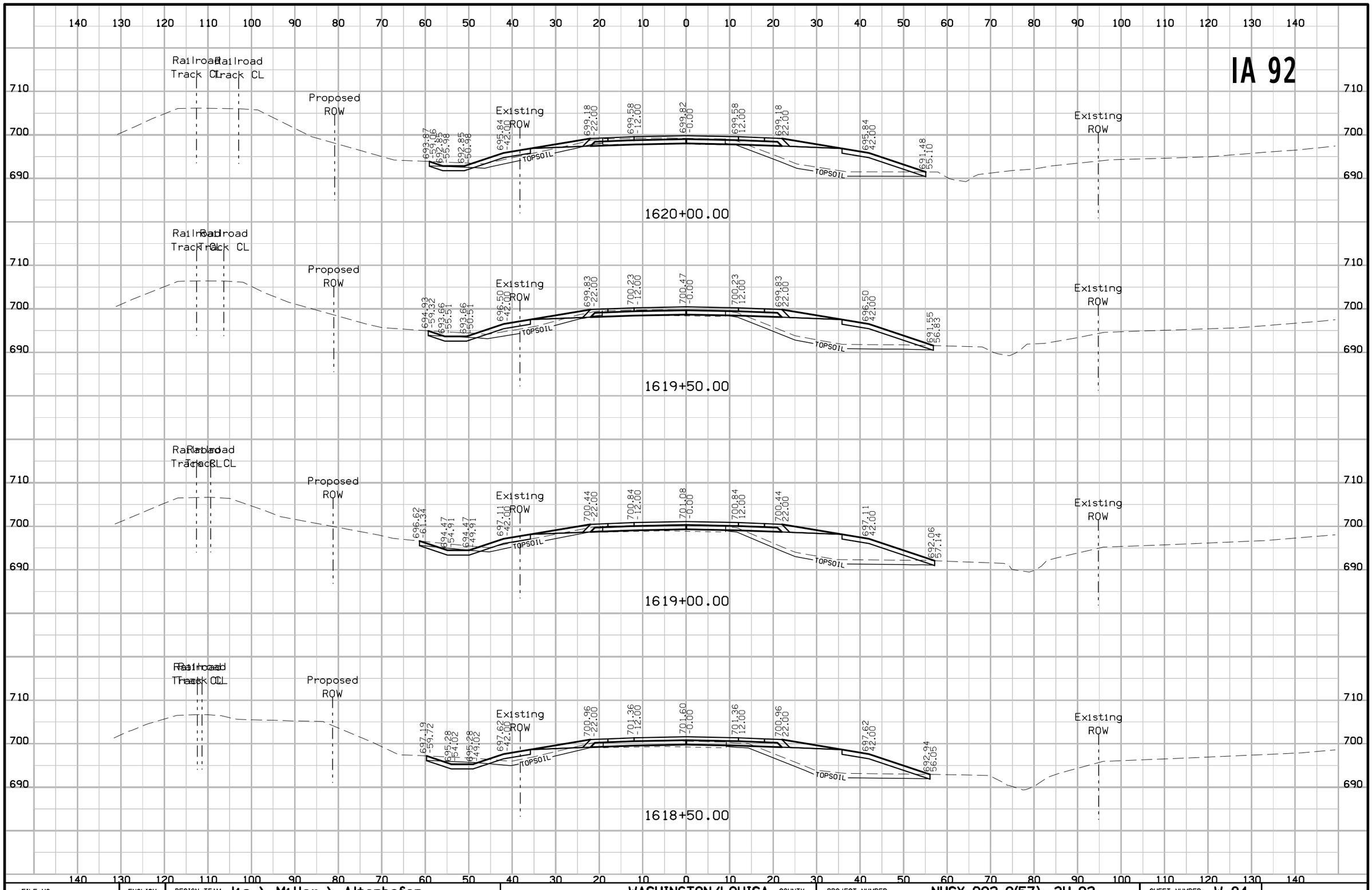
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.84

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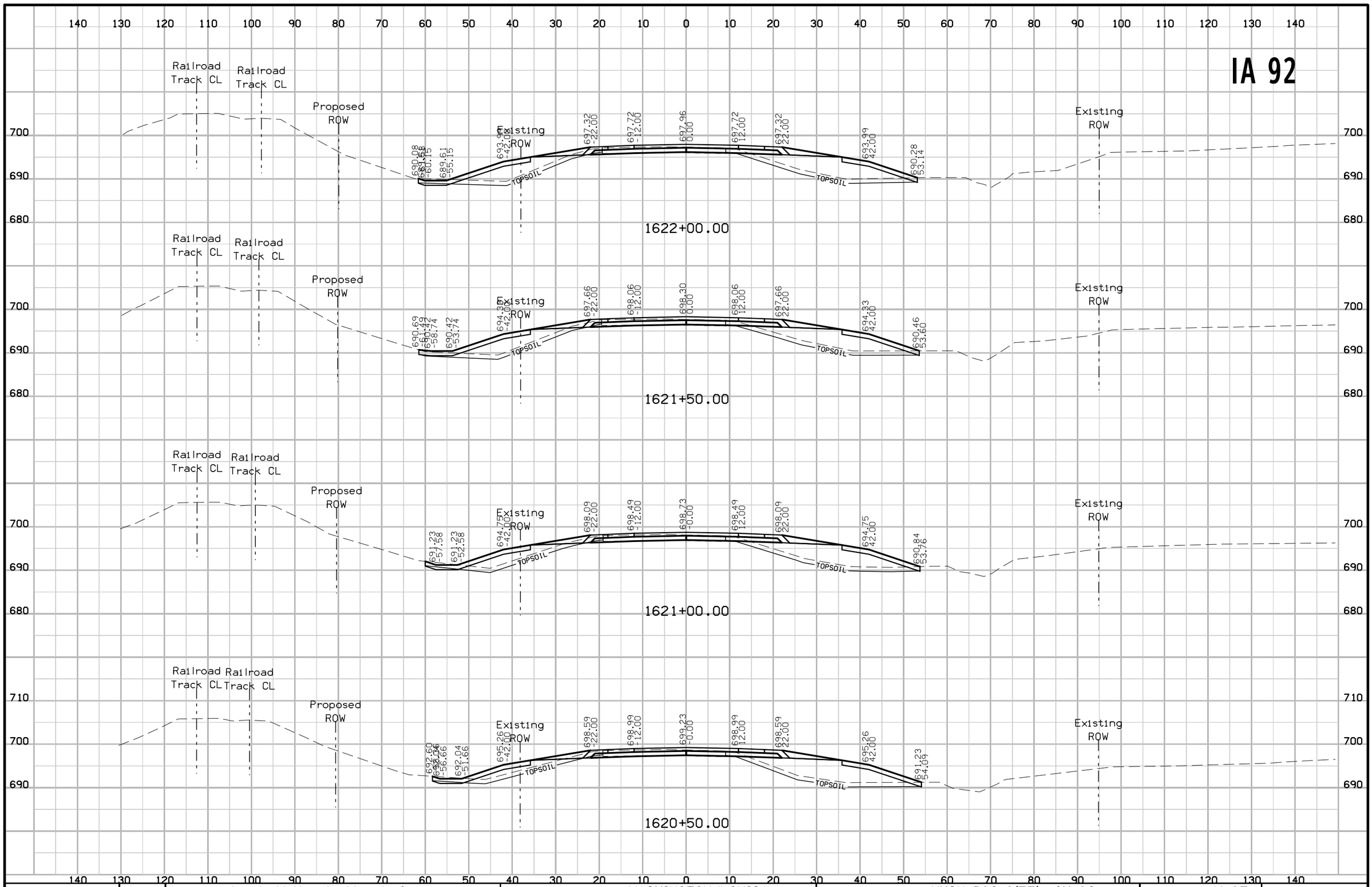
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.85

6:52:01 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

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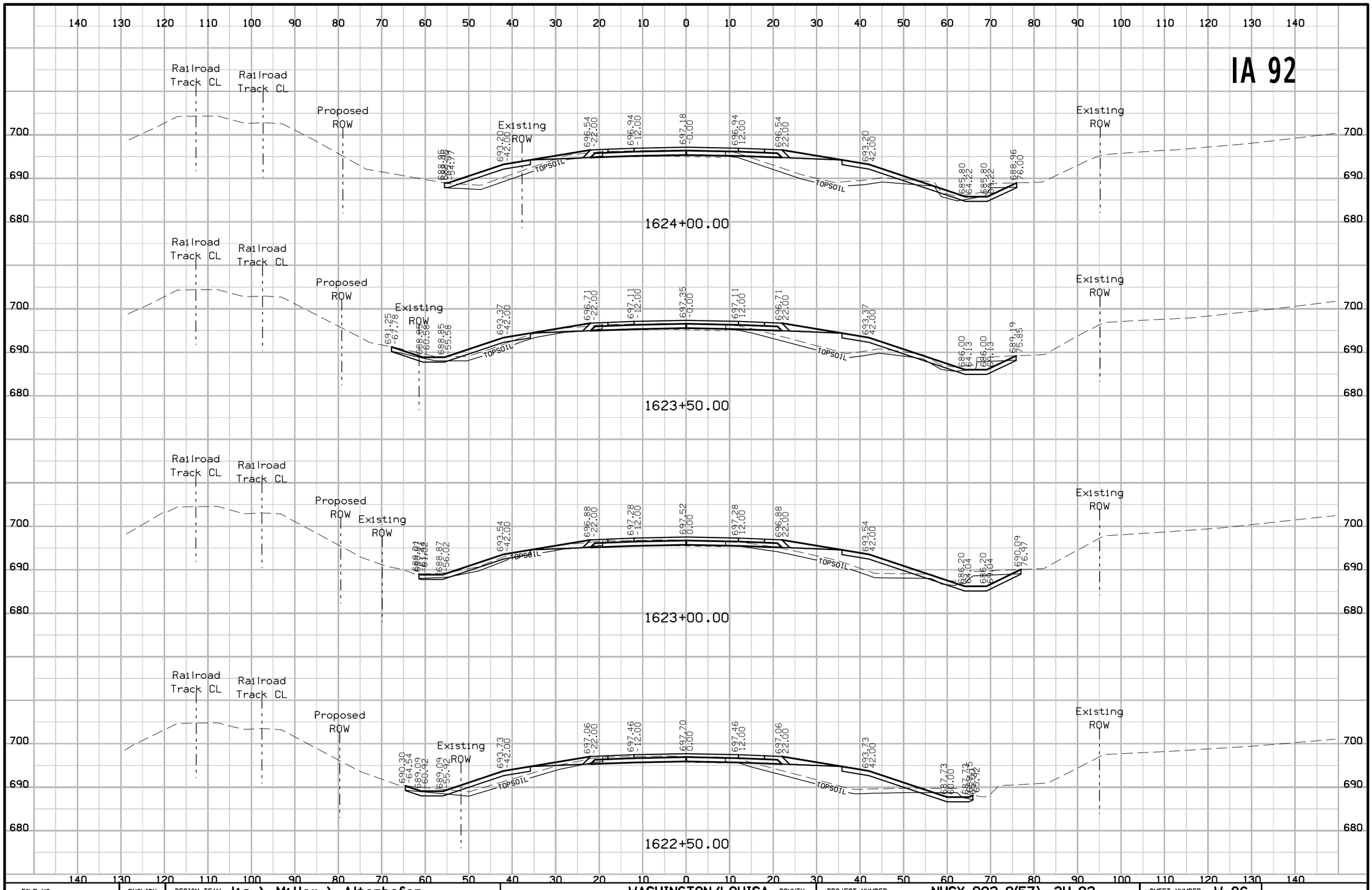
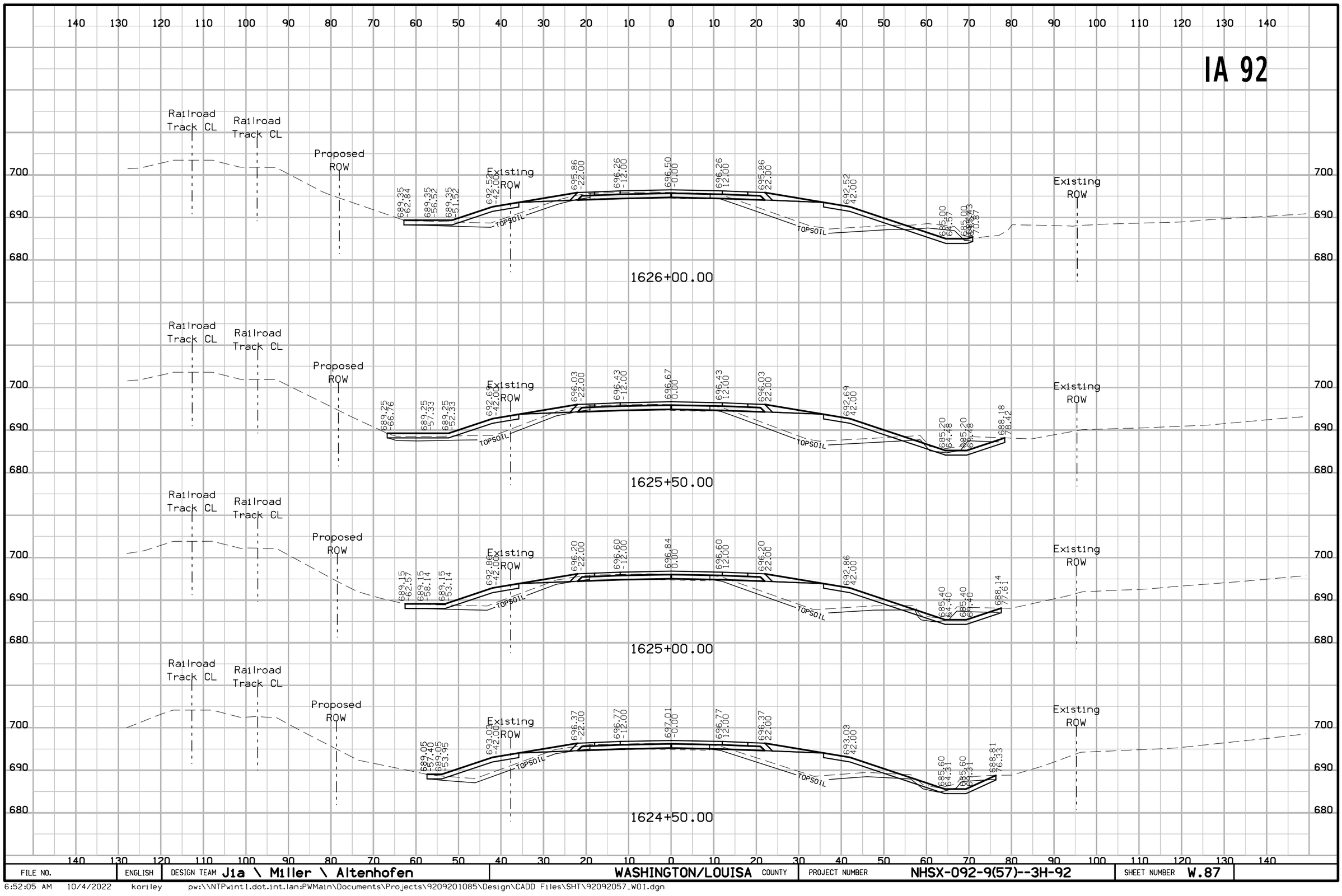


FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.86

6:52:03 AM 10/4/2022 korliey pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.87

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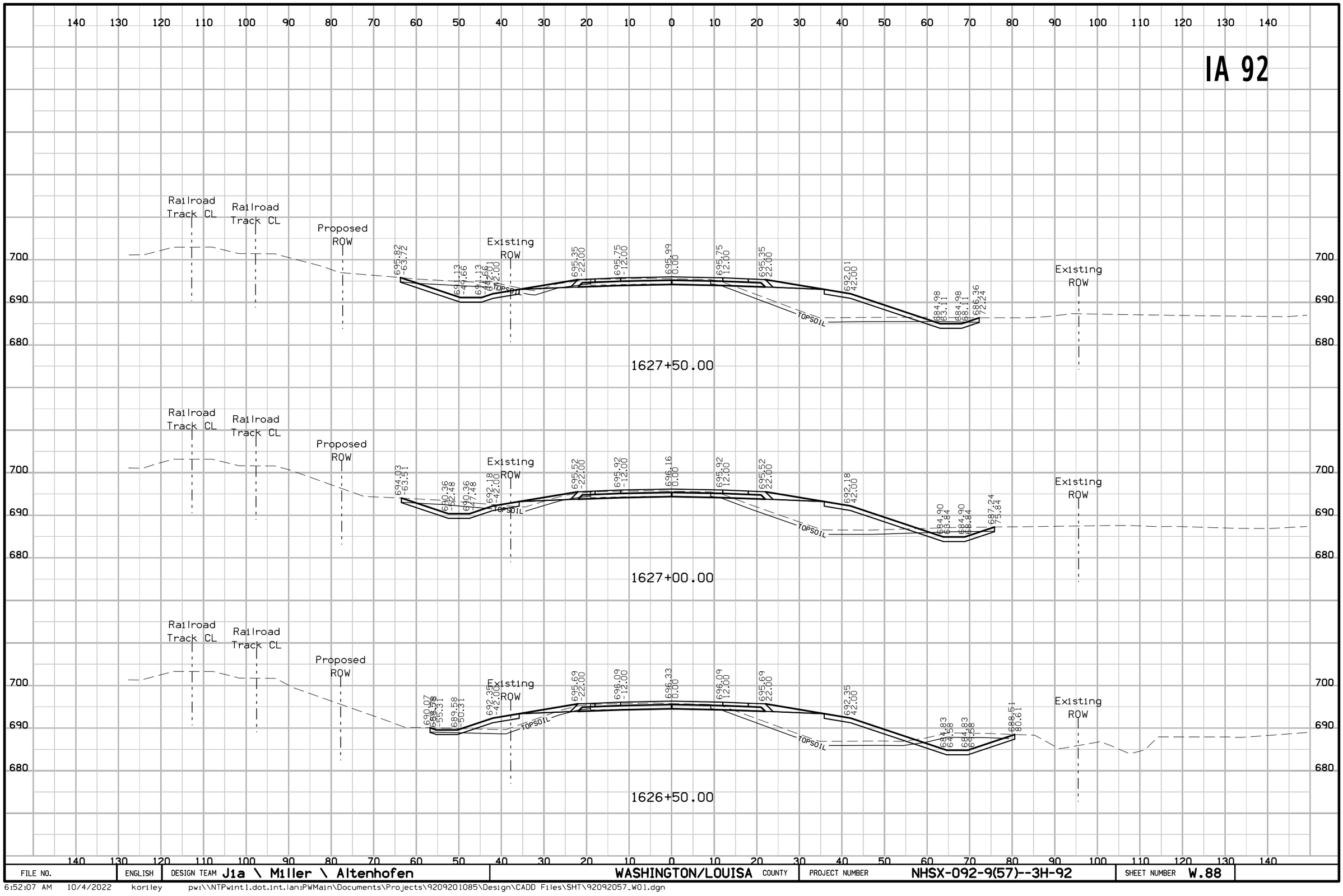

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.88

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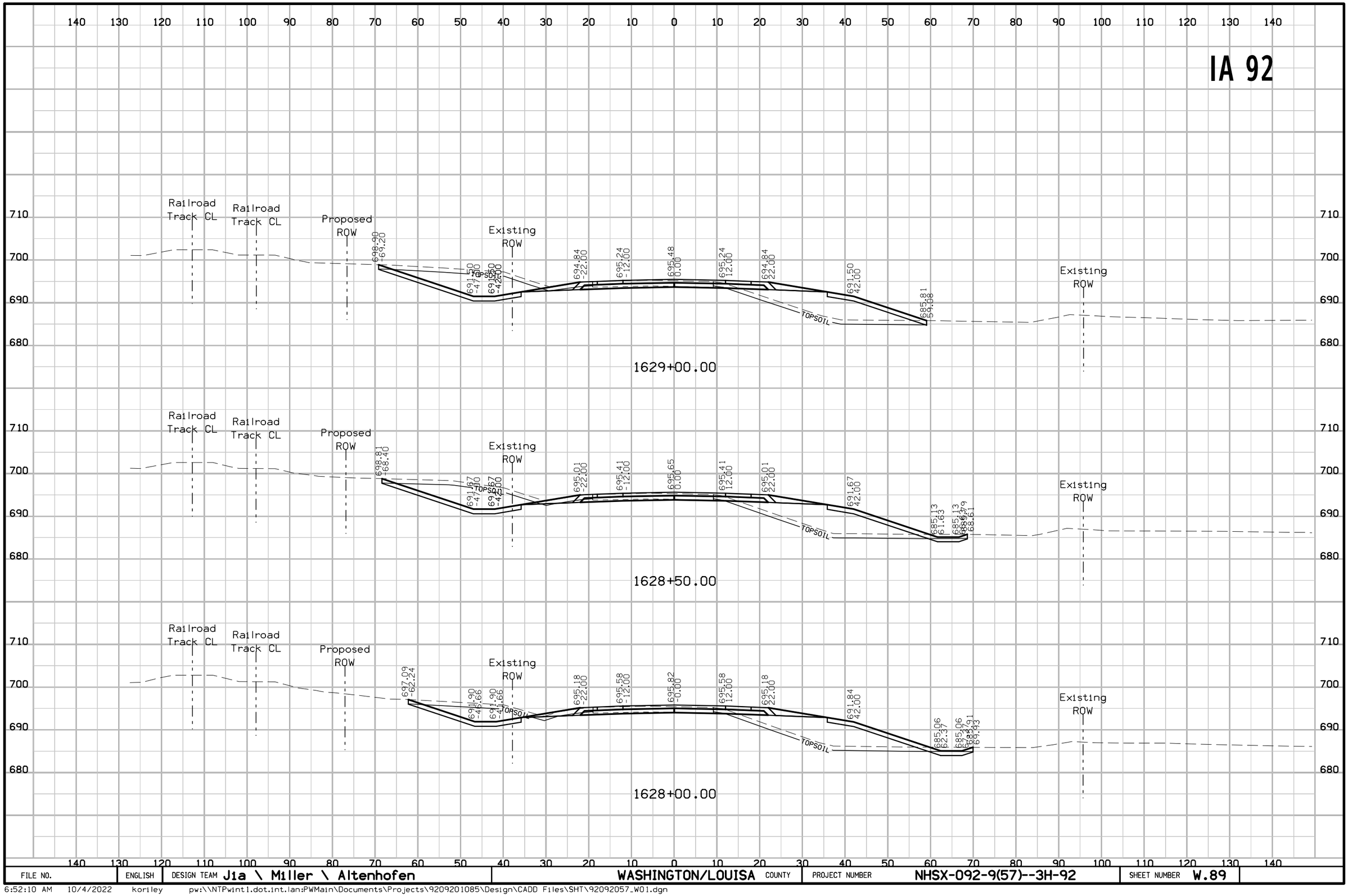
IA 92



FILE NO.	ENGLISH	DESIGN TEAM	Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER	W.89

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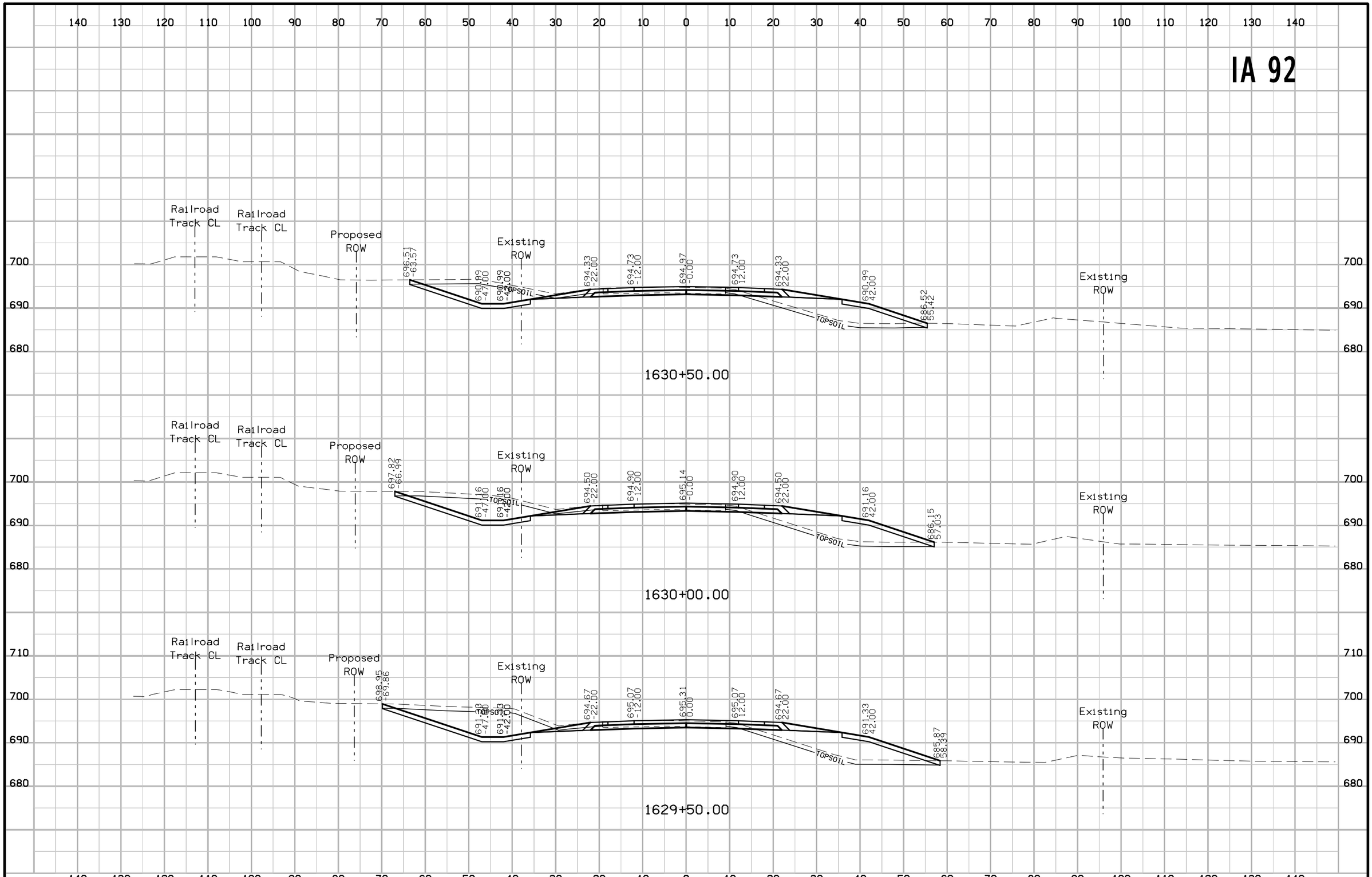
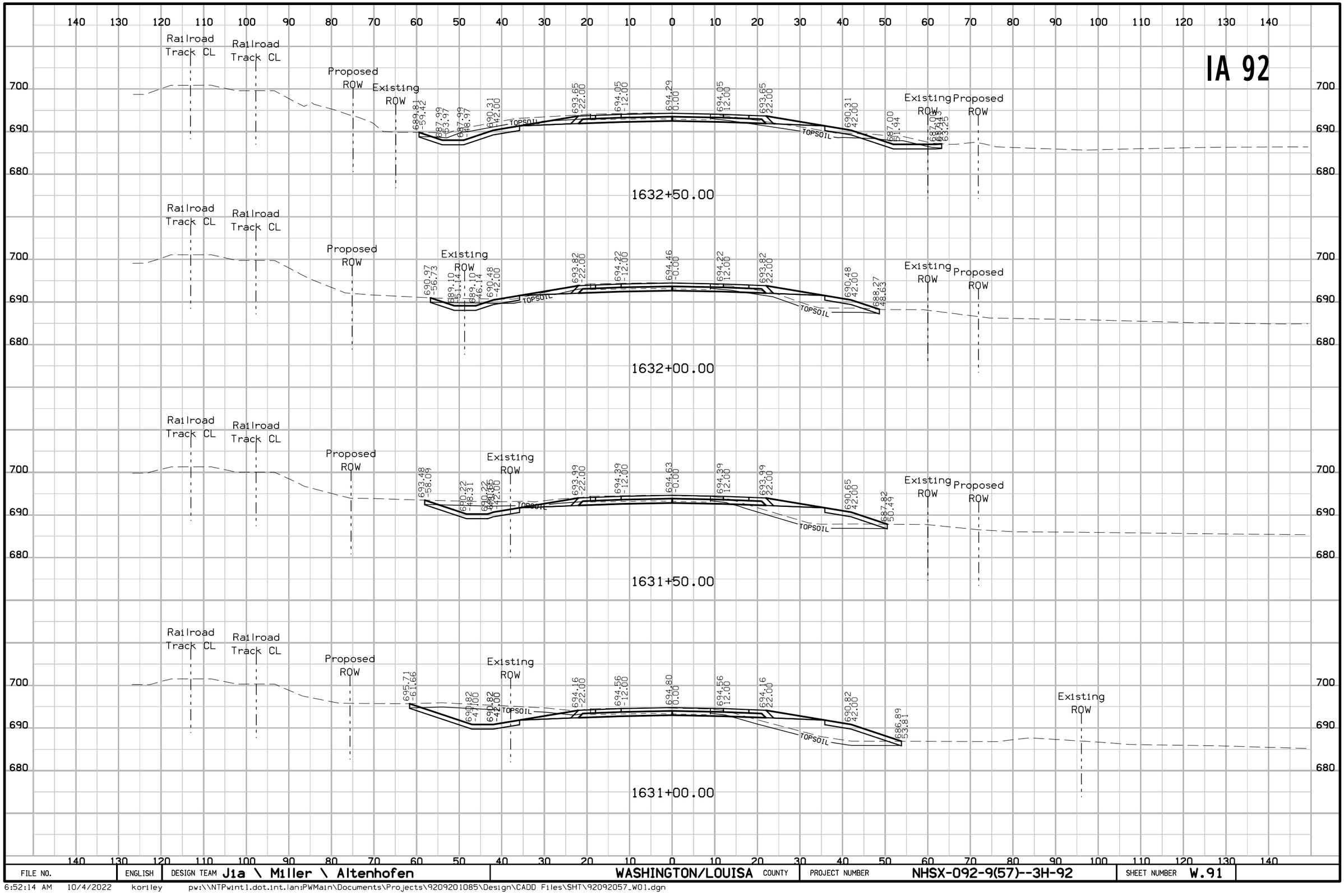
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.90

6:52:12 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.91

6:52:14 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

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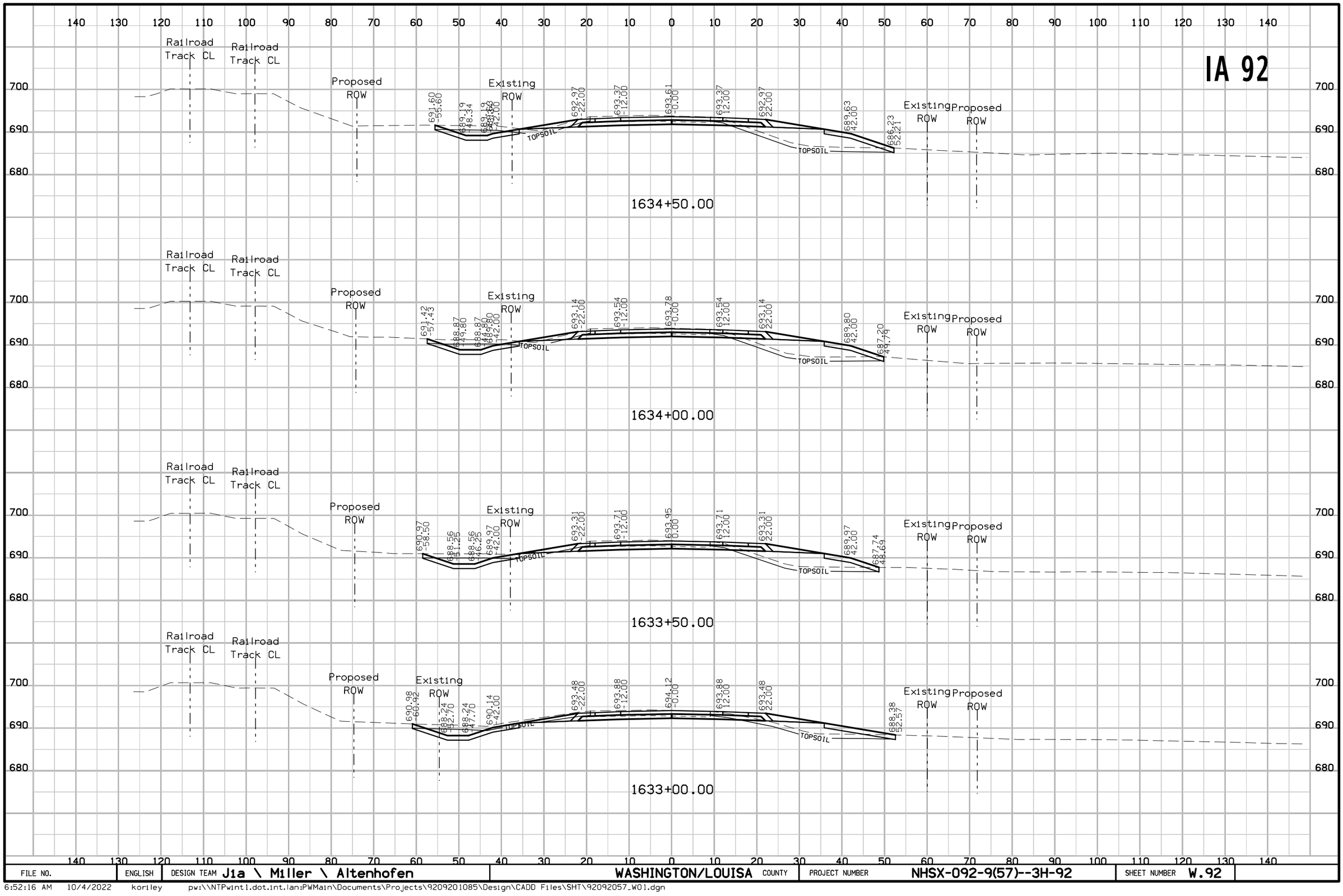
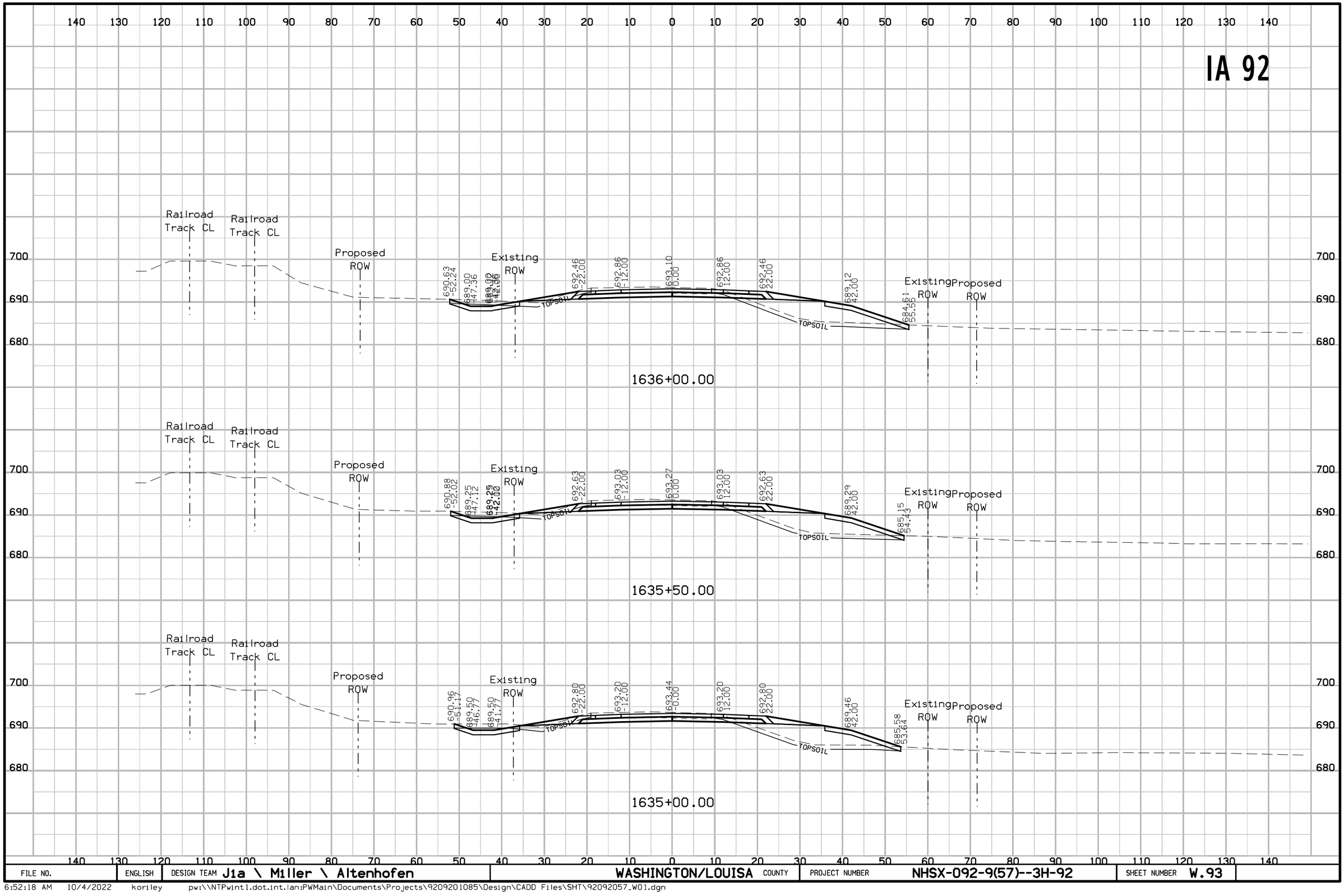


FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.92

6:52:16 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.93

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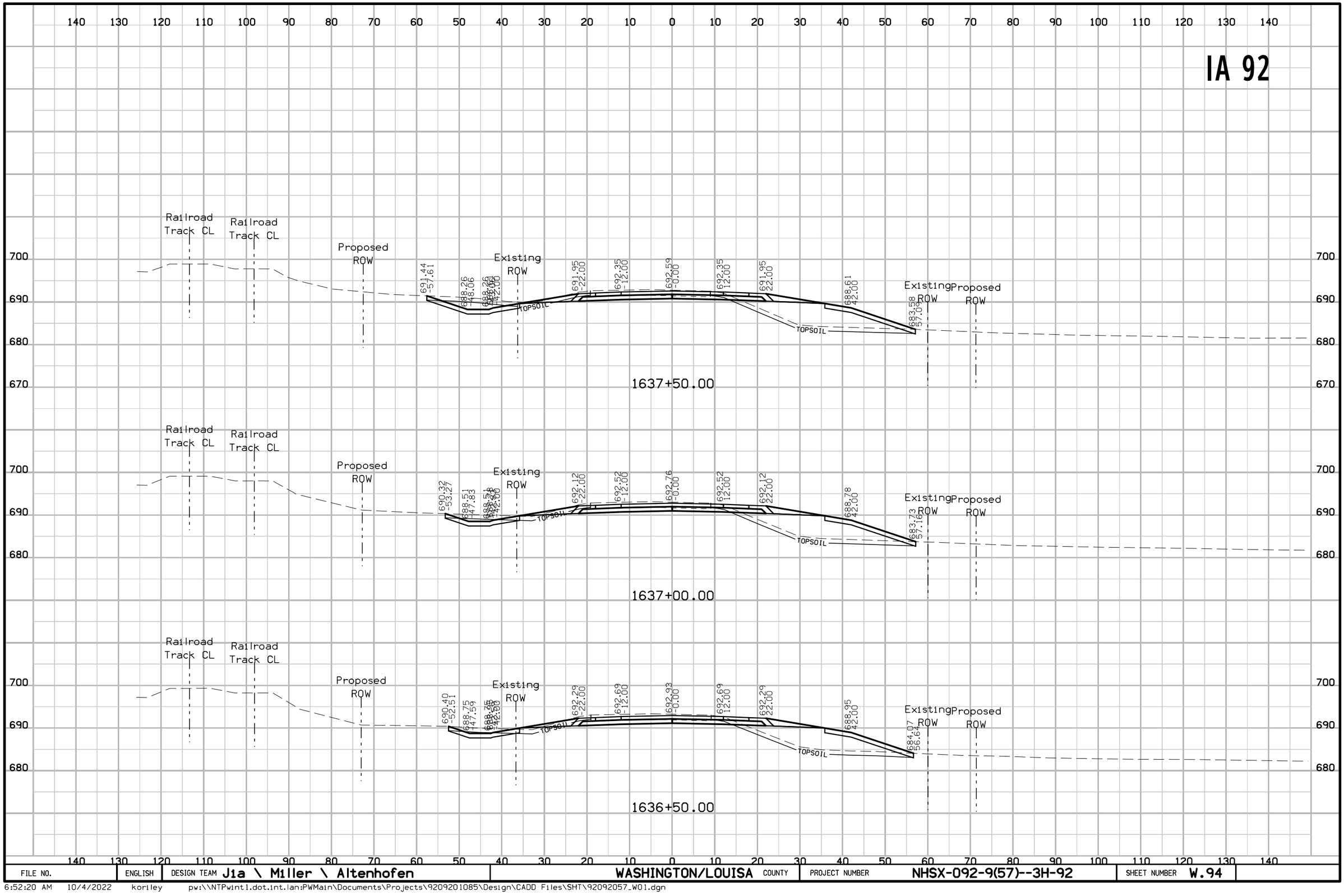

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.94

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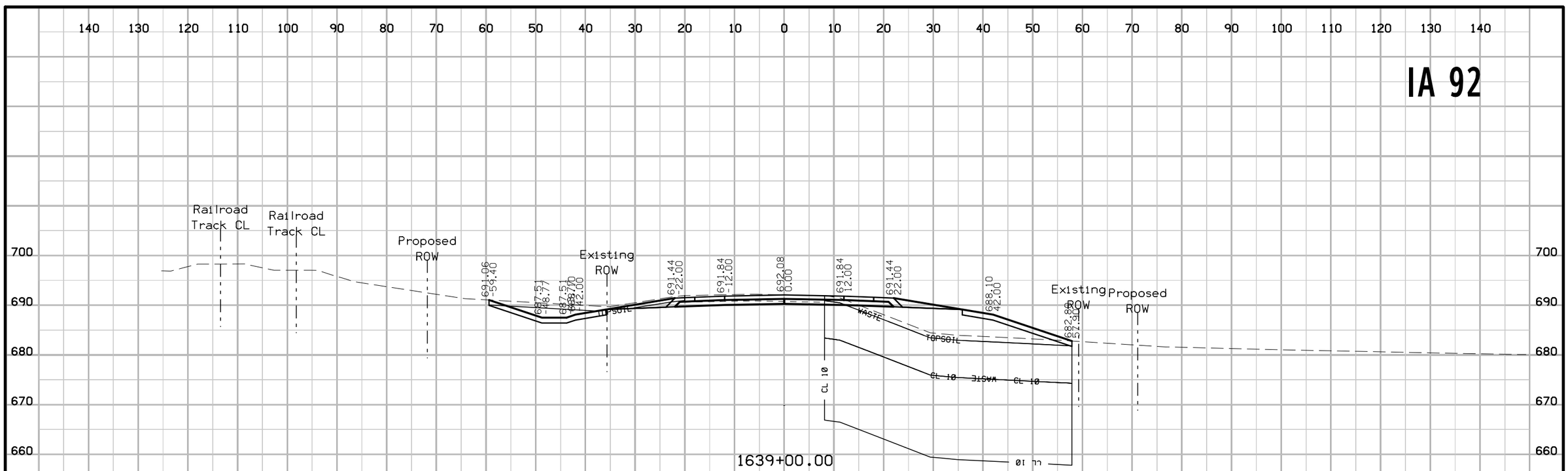
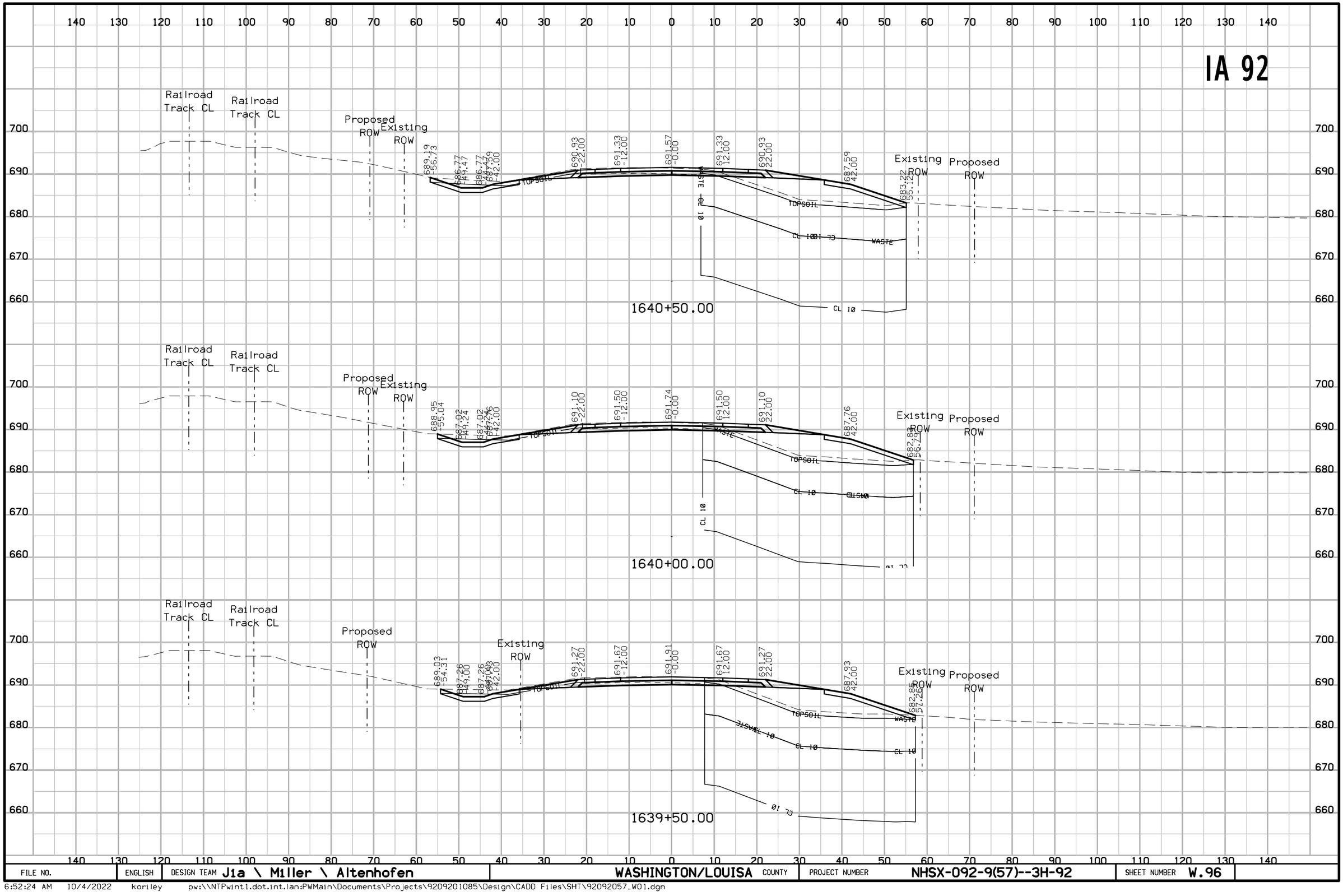
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.95

6:52:22 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

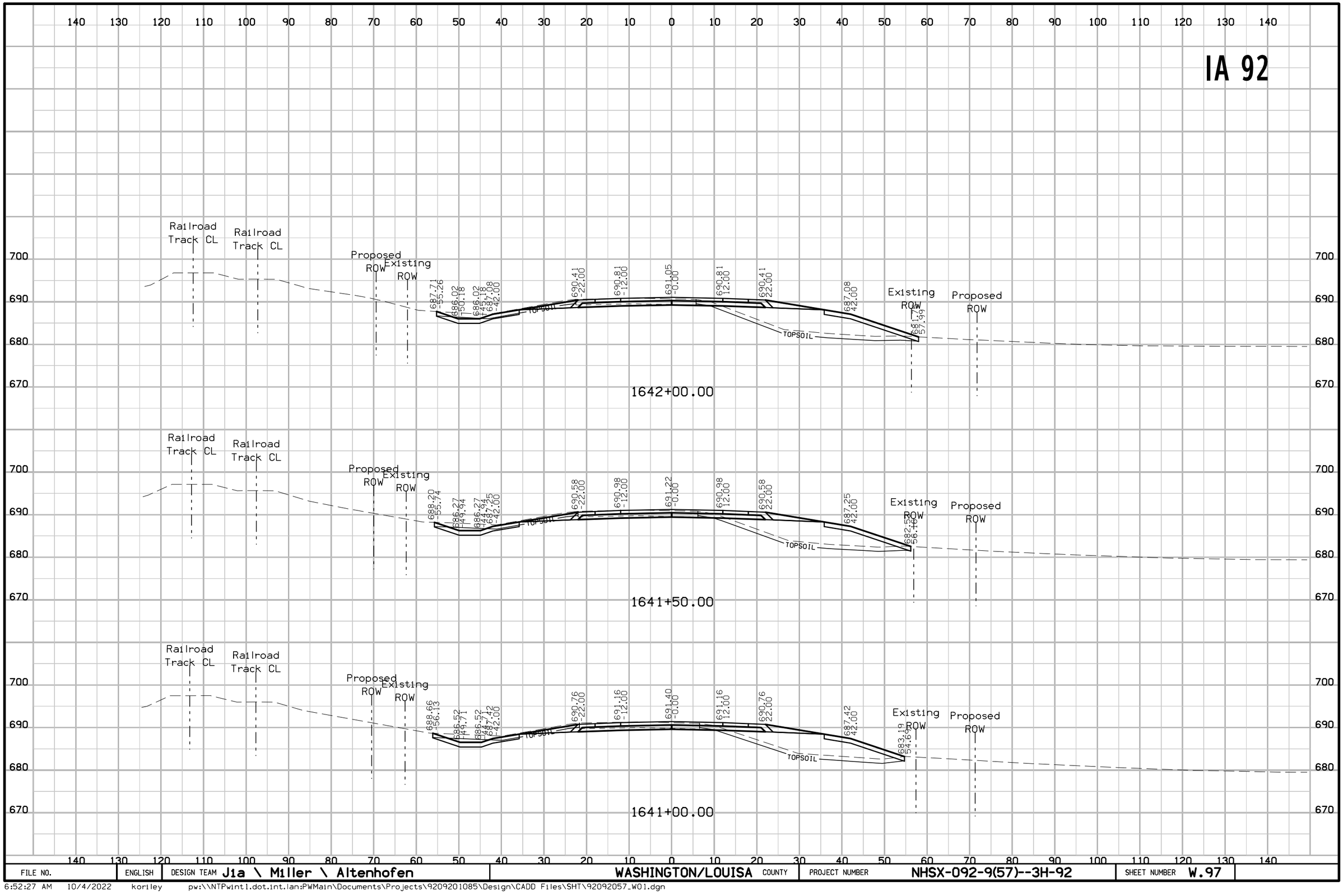
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.96

6:52:24 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

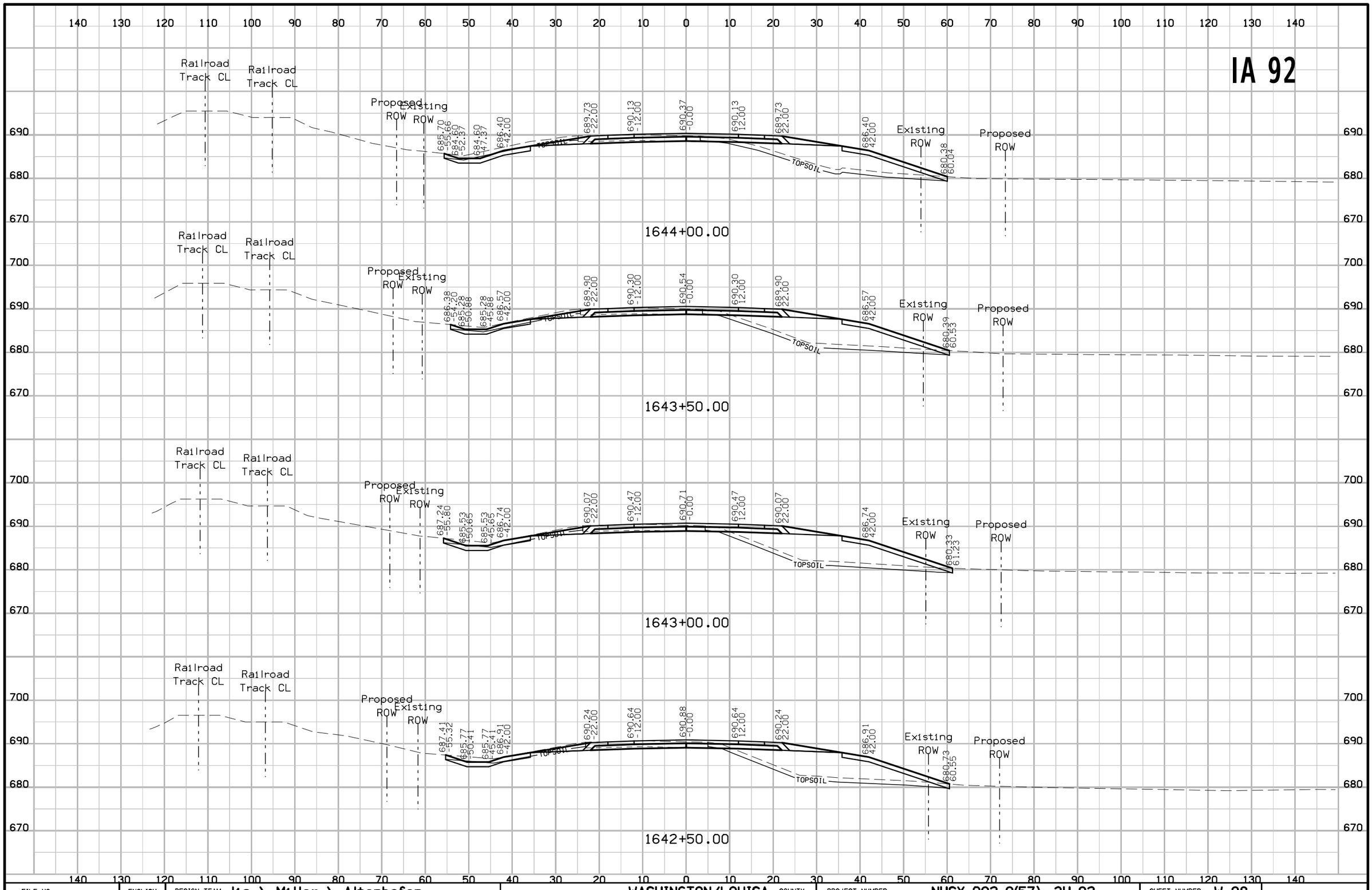
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.97

6:52:27 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

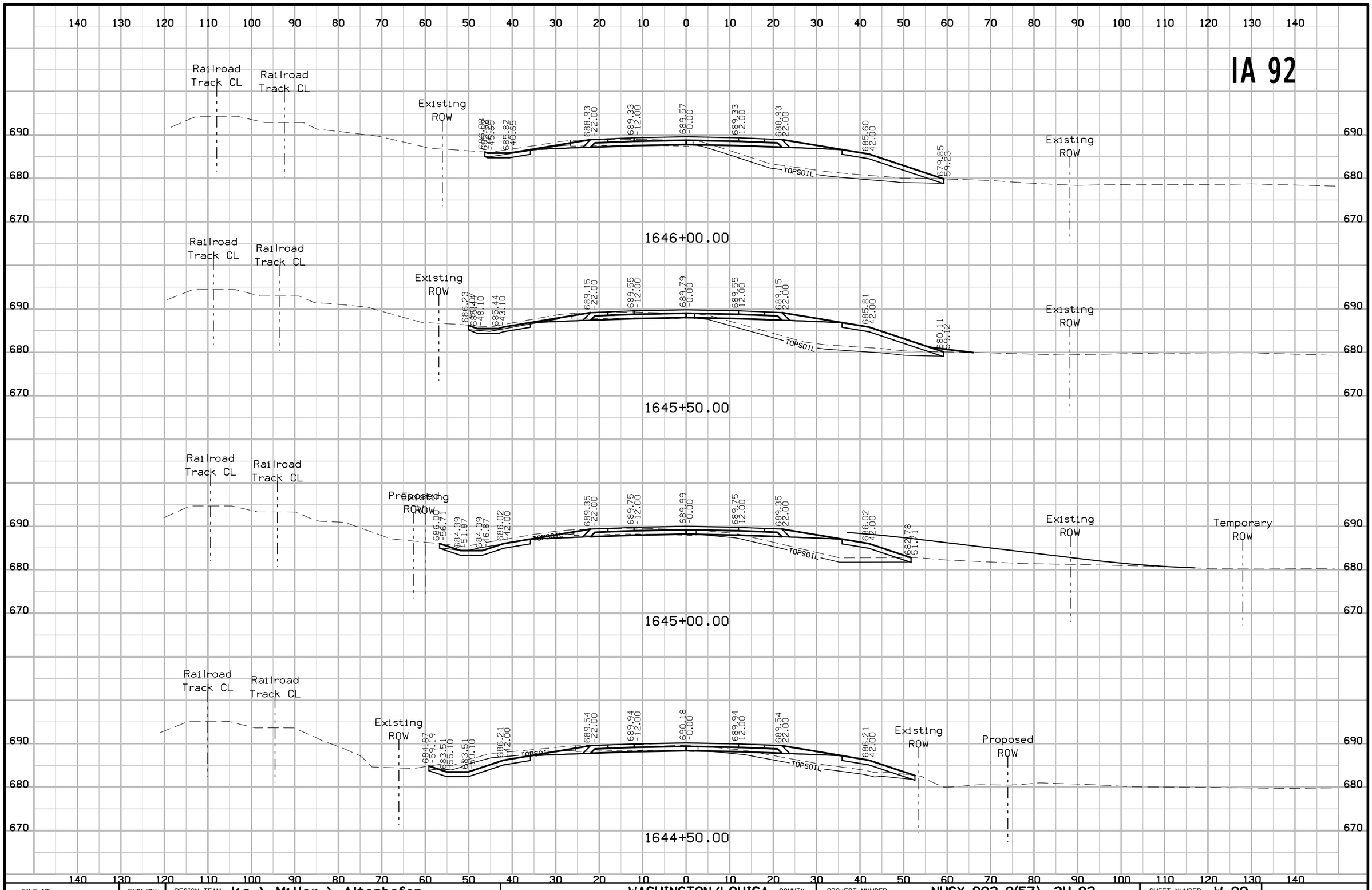
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.98

6:52:29 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

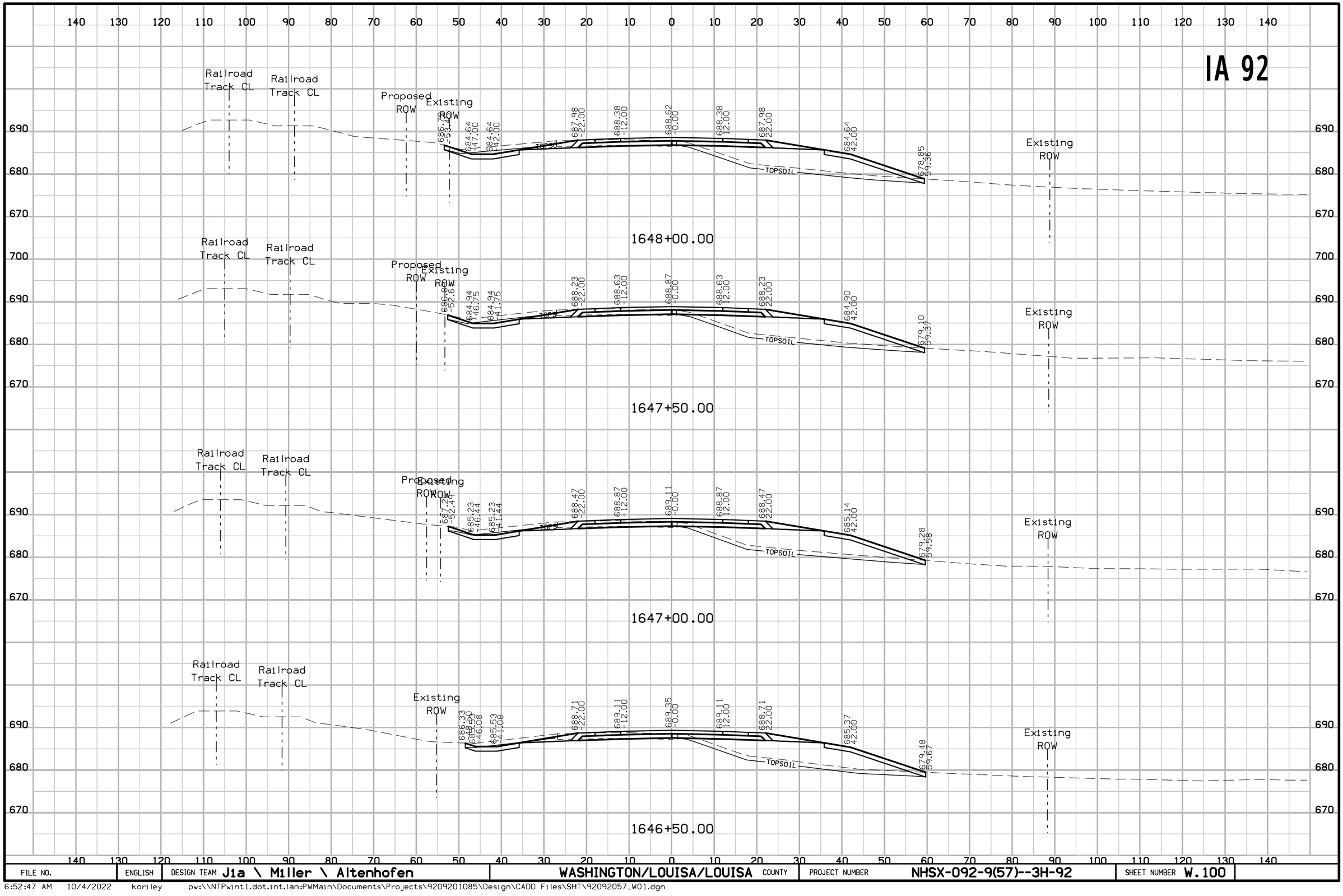
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.99

6:52:31 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

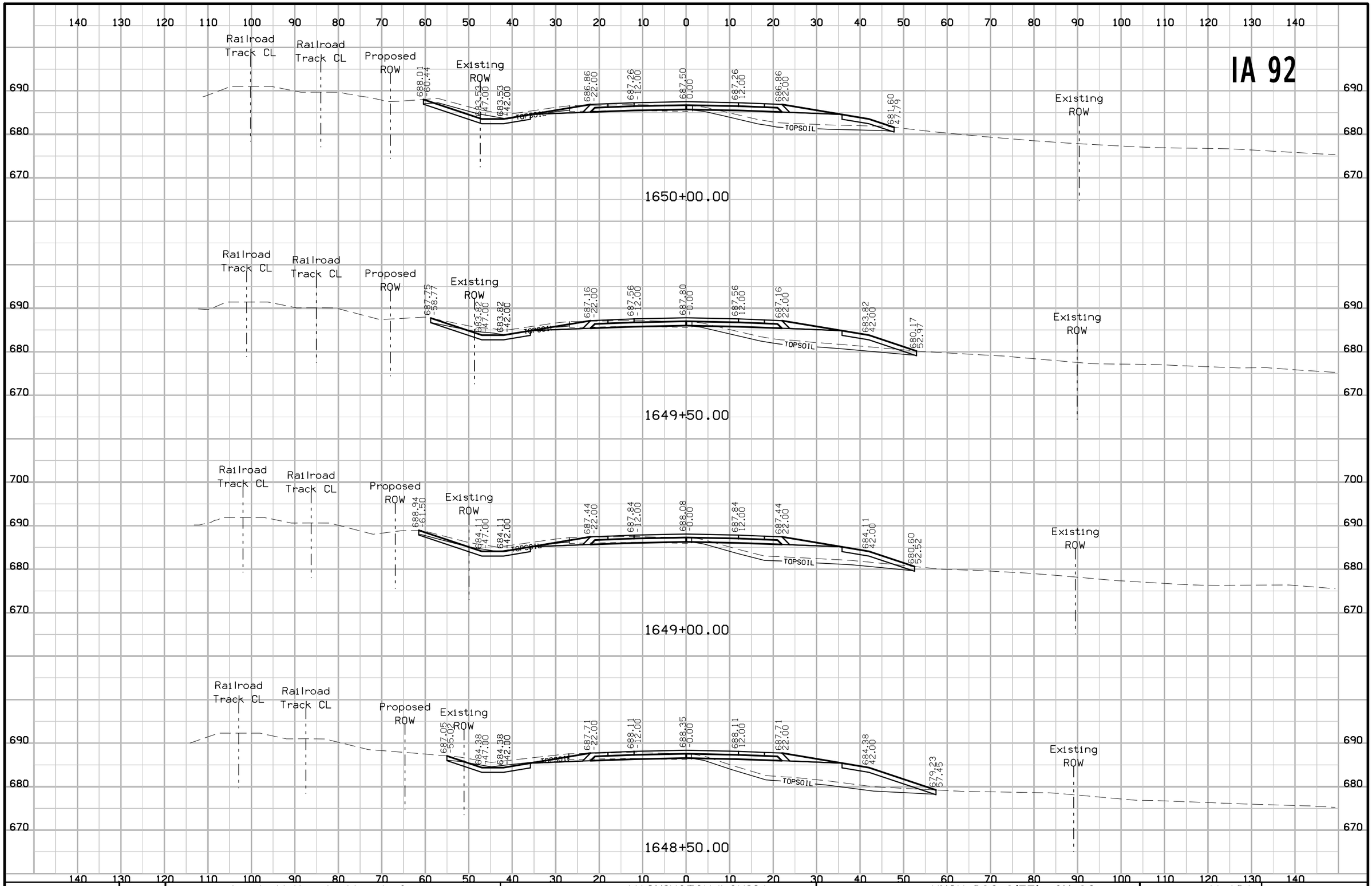
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.100

6:52:47 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W01.dgn

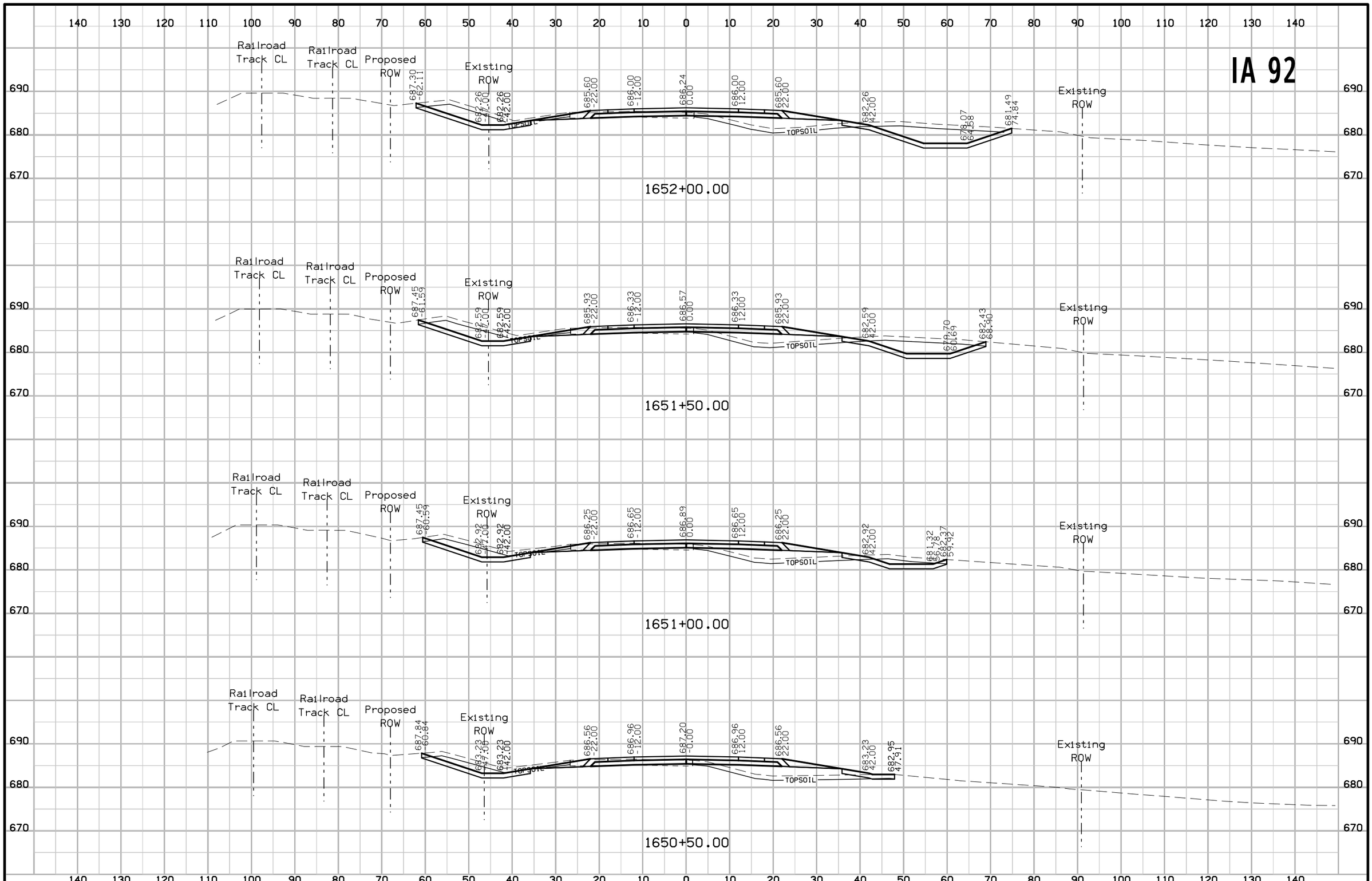
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.101

7:12:41 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

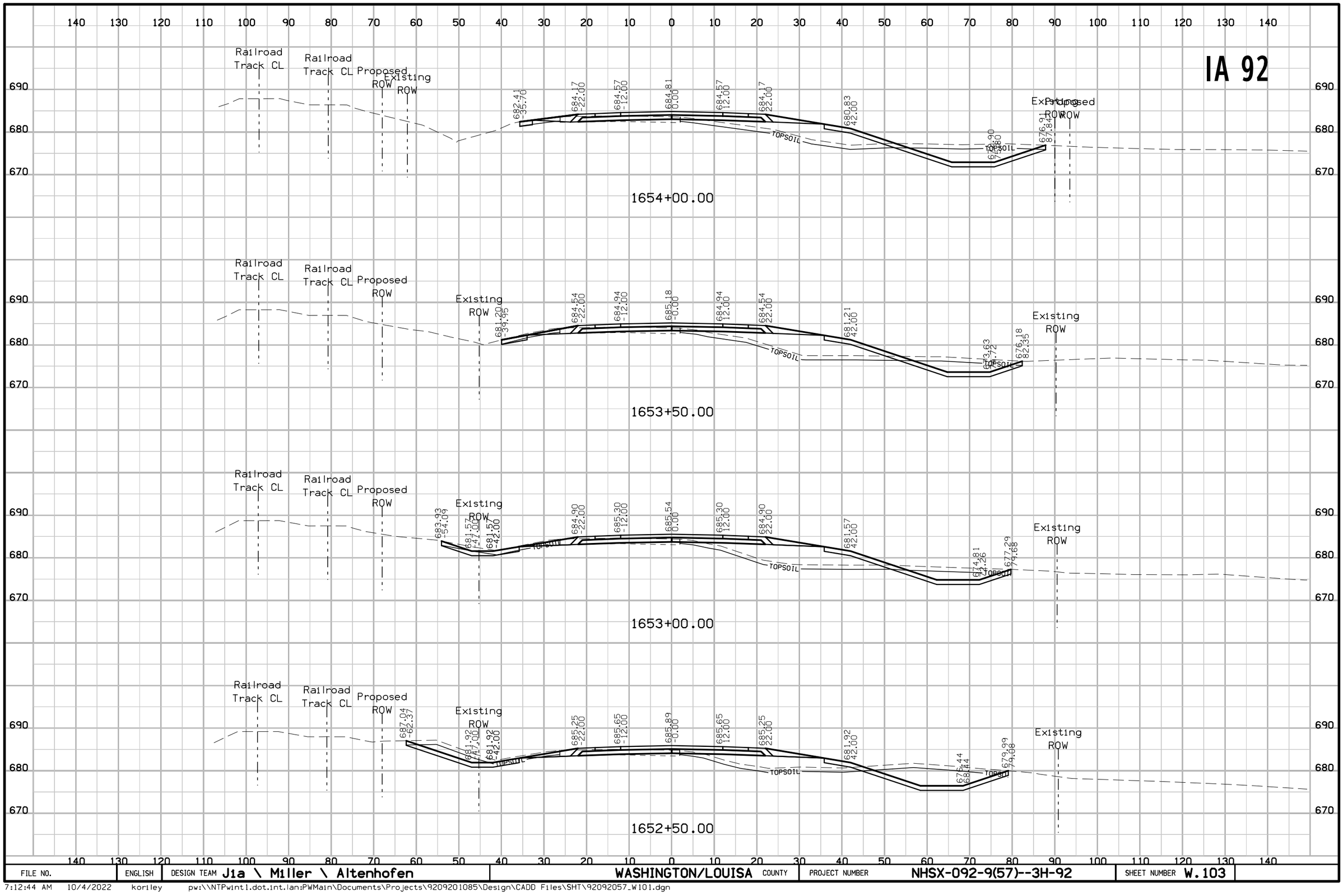
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.102

7:12:43 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

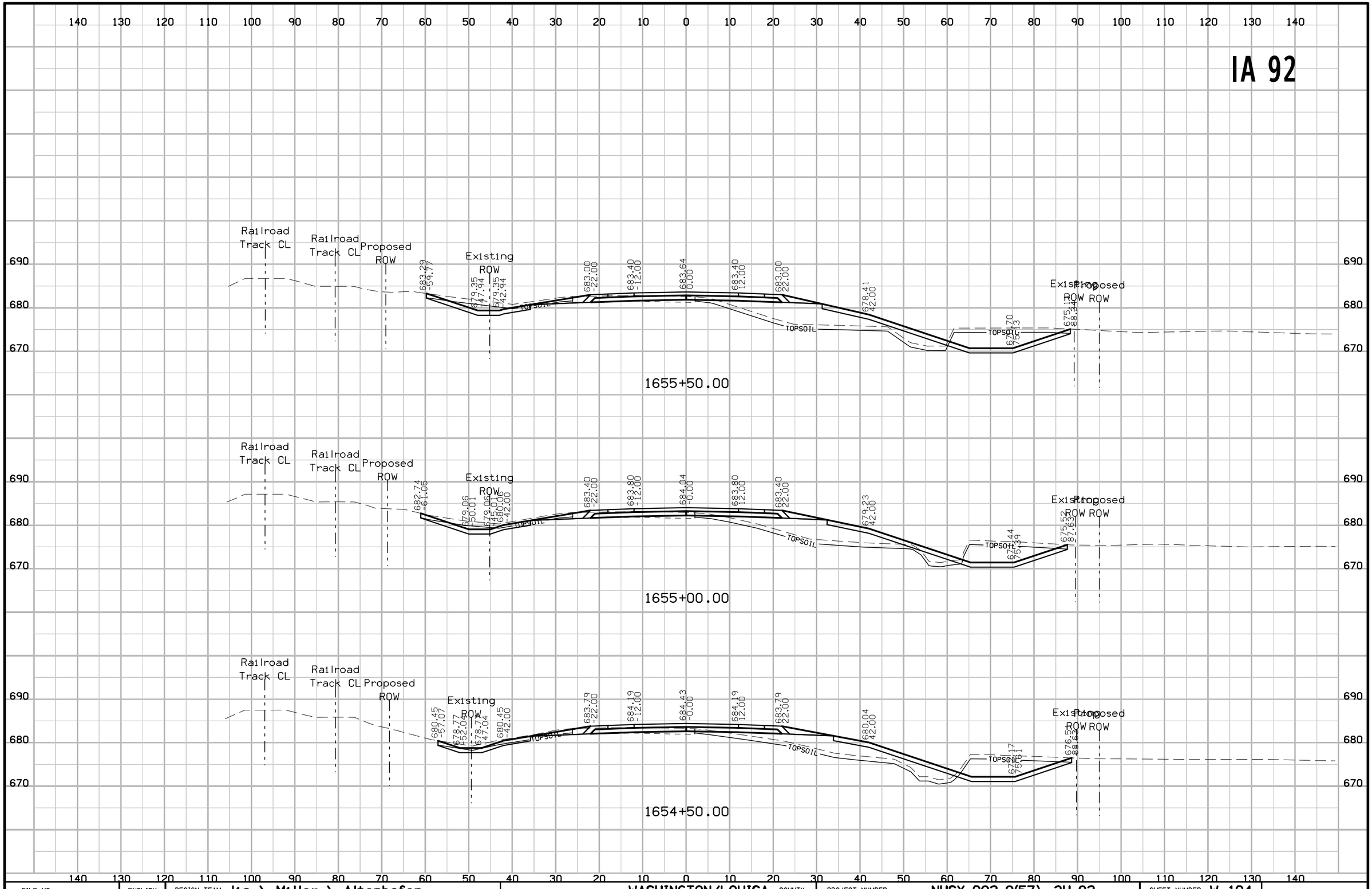
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.103

7:12:44 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

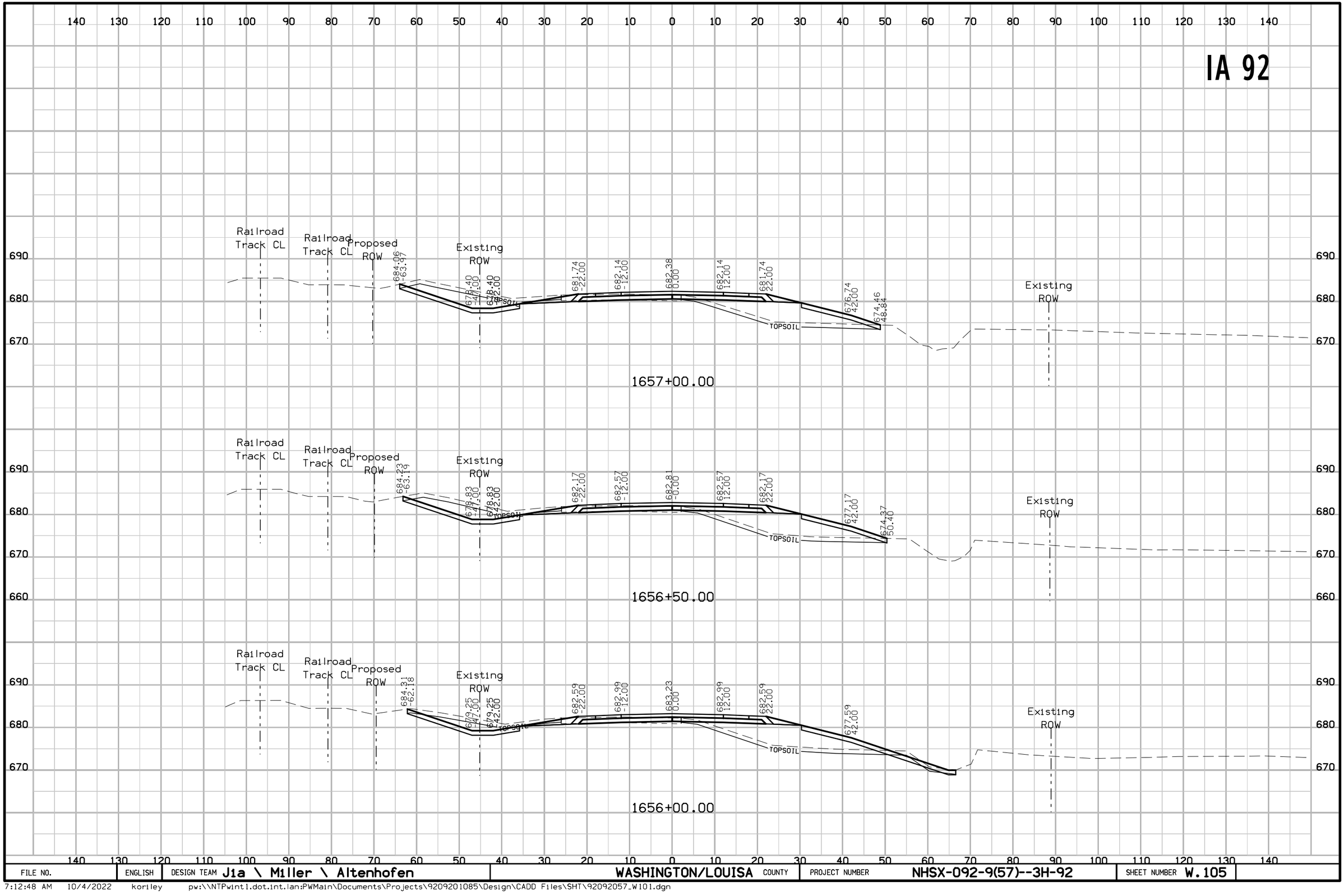
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.104

7:12:46 AM 10/4/2022 korliey pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

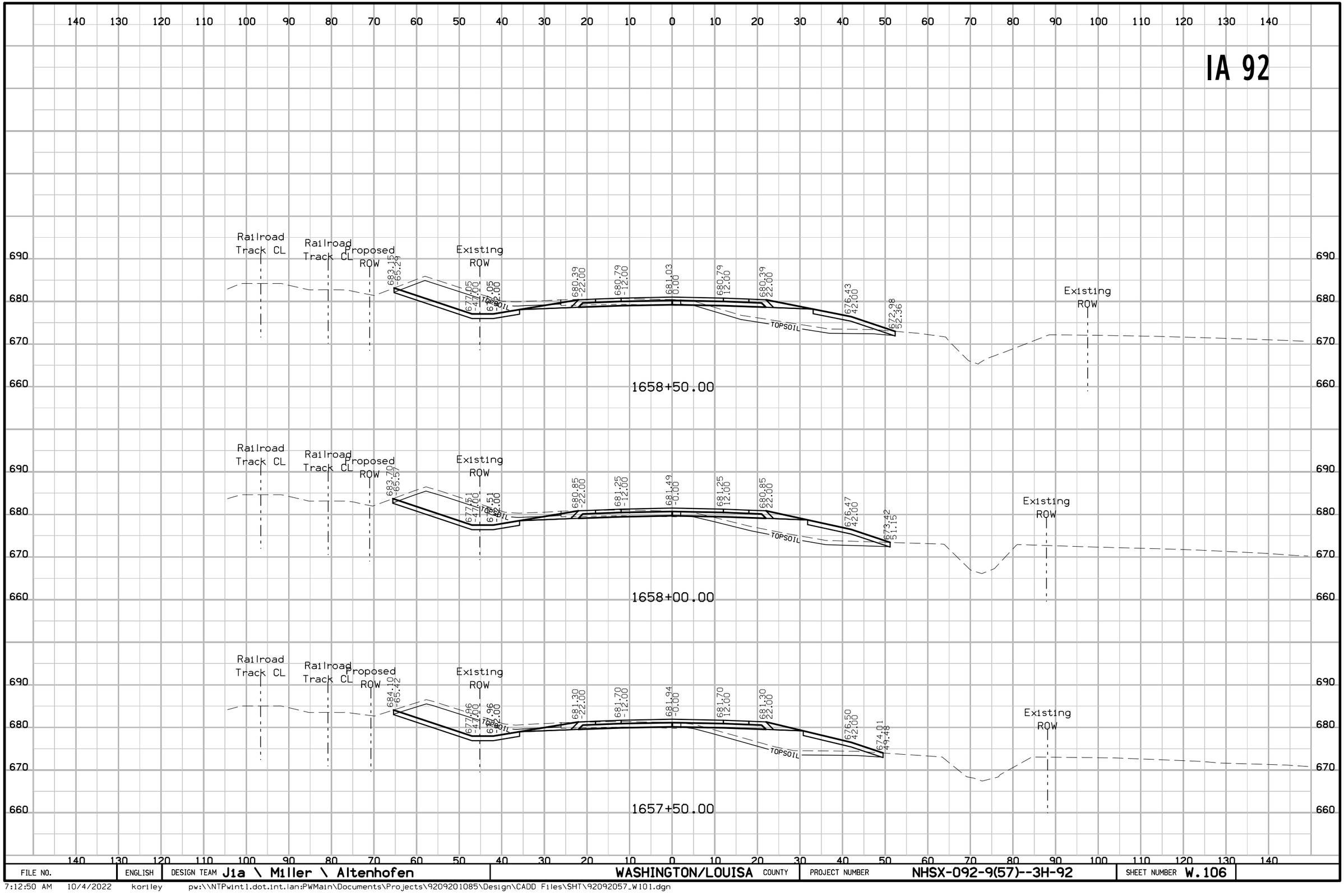
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.105

7:12:48 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

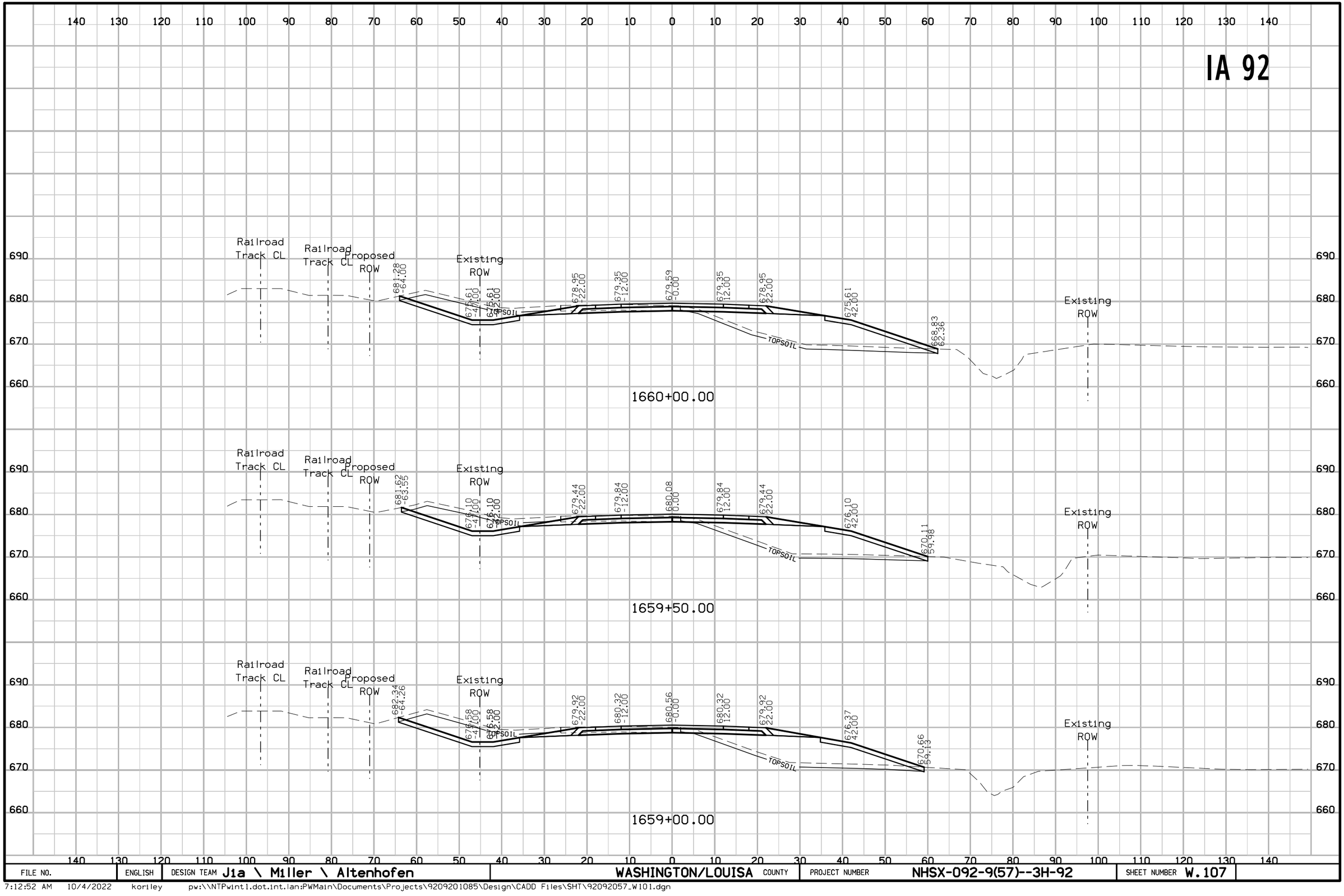
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.106

7:12:50 AM 10/4/2022 korliey pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

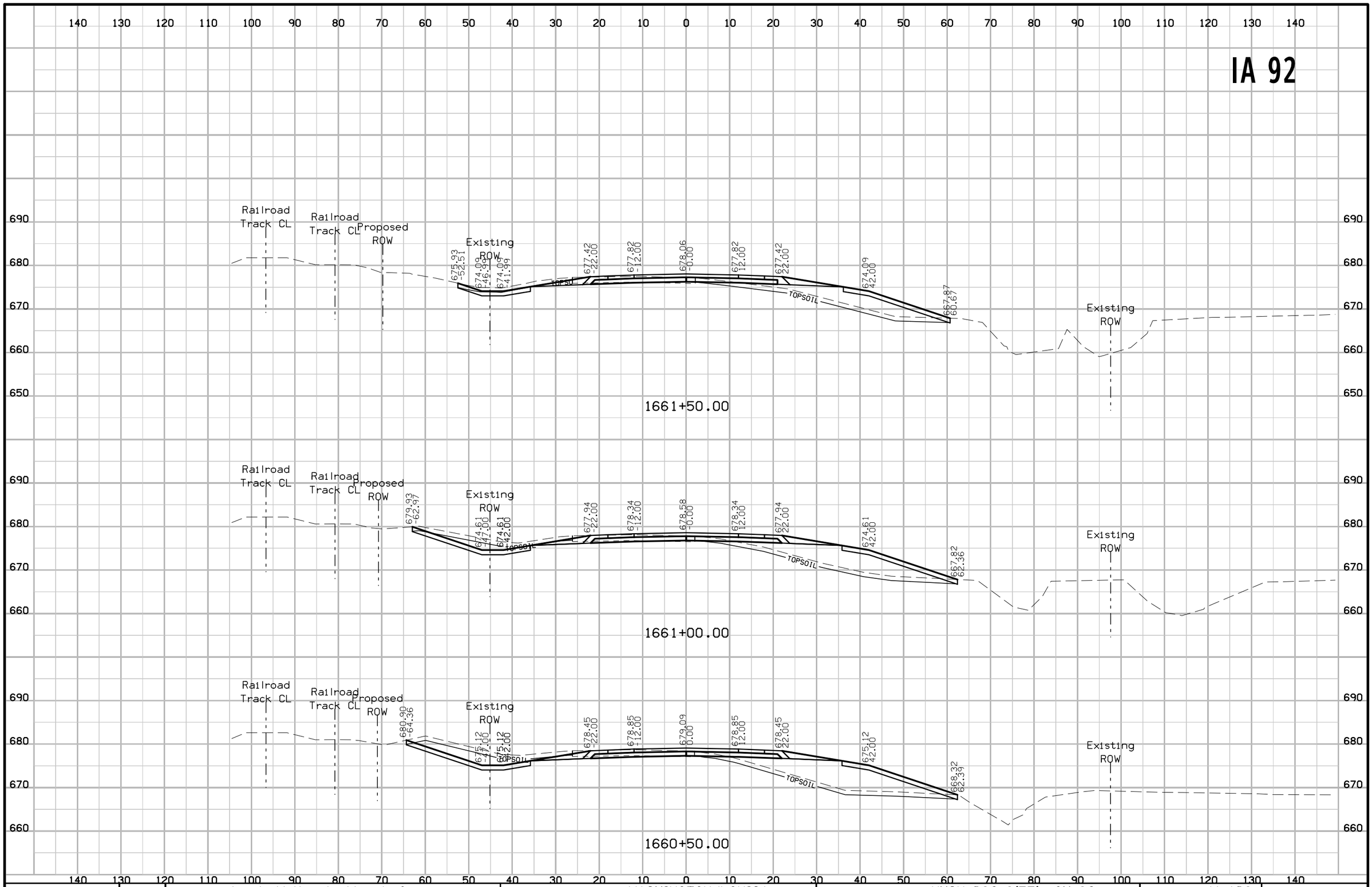
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.107

7:12:52 AM 10/4/2022 korliey pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

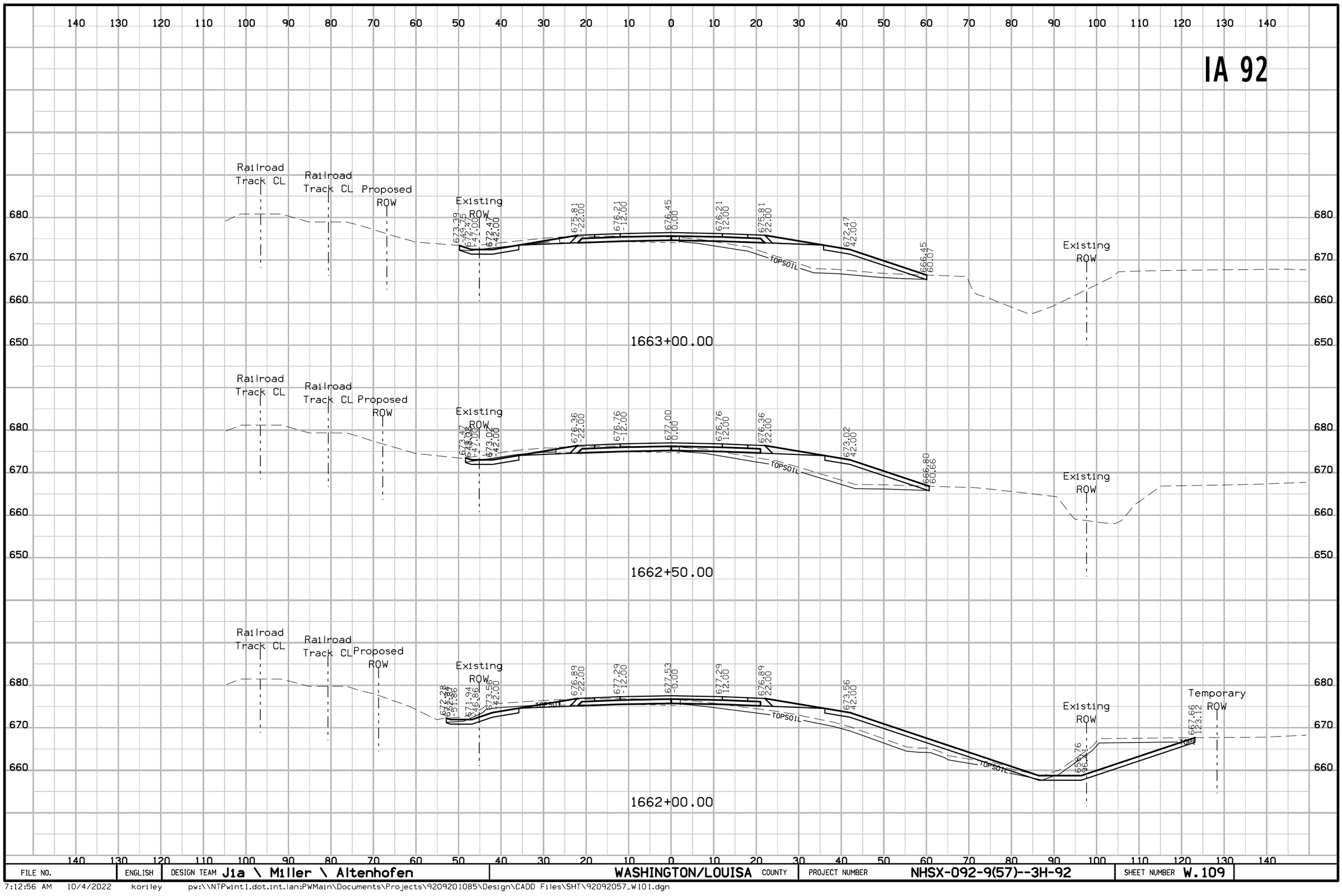
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.108

7:12:54 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

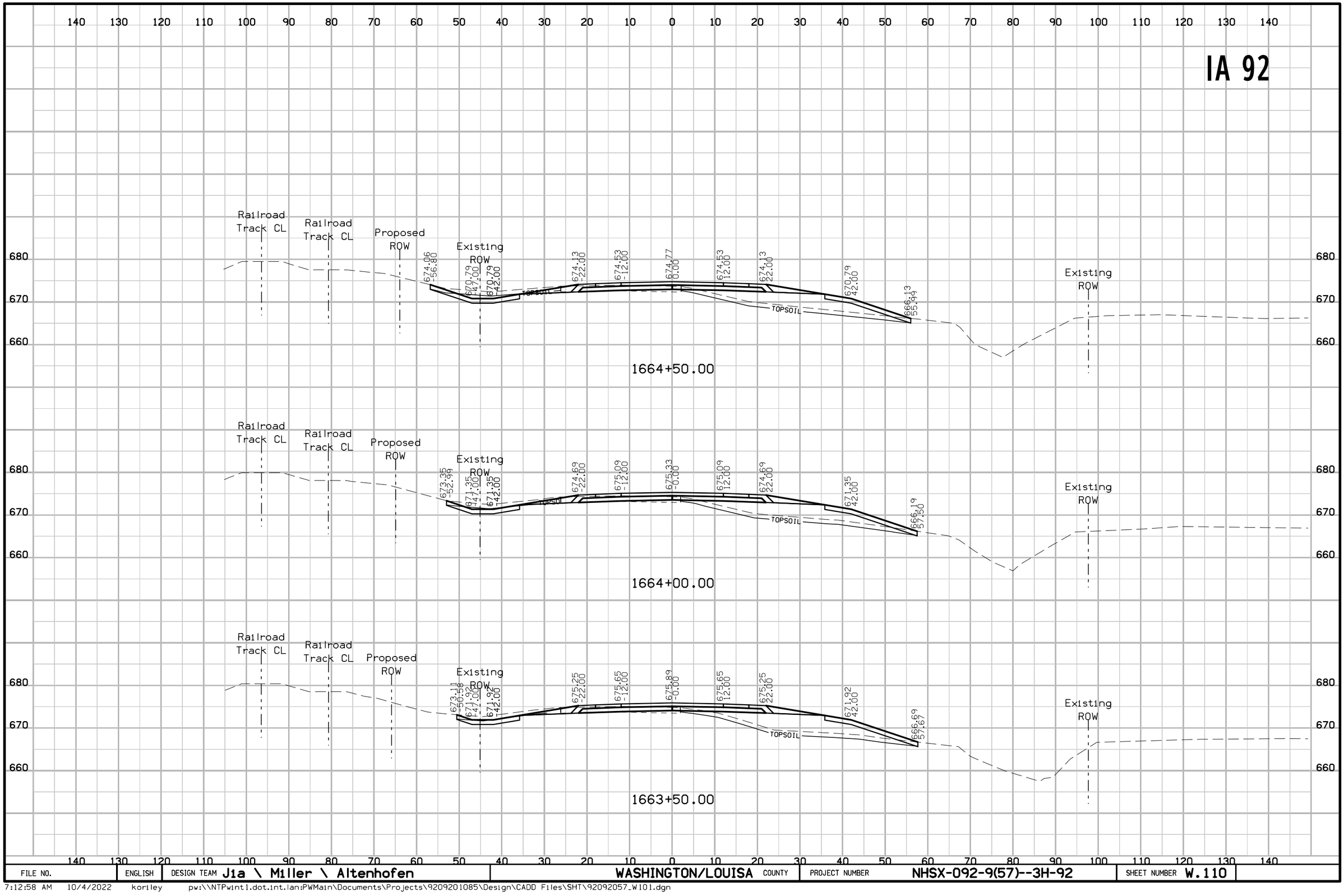
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.109

7:12:56 AM 10/4/2022 korilley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

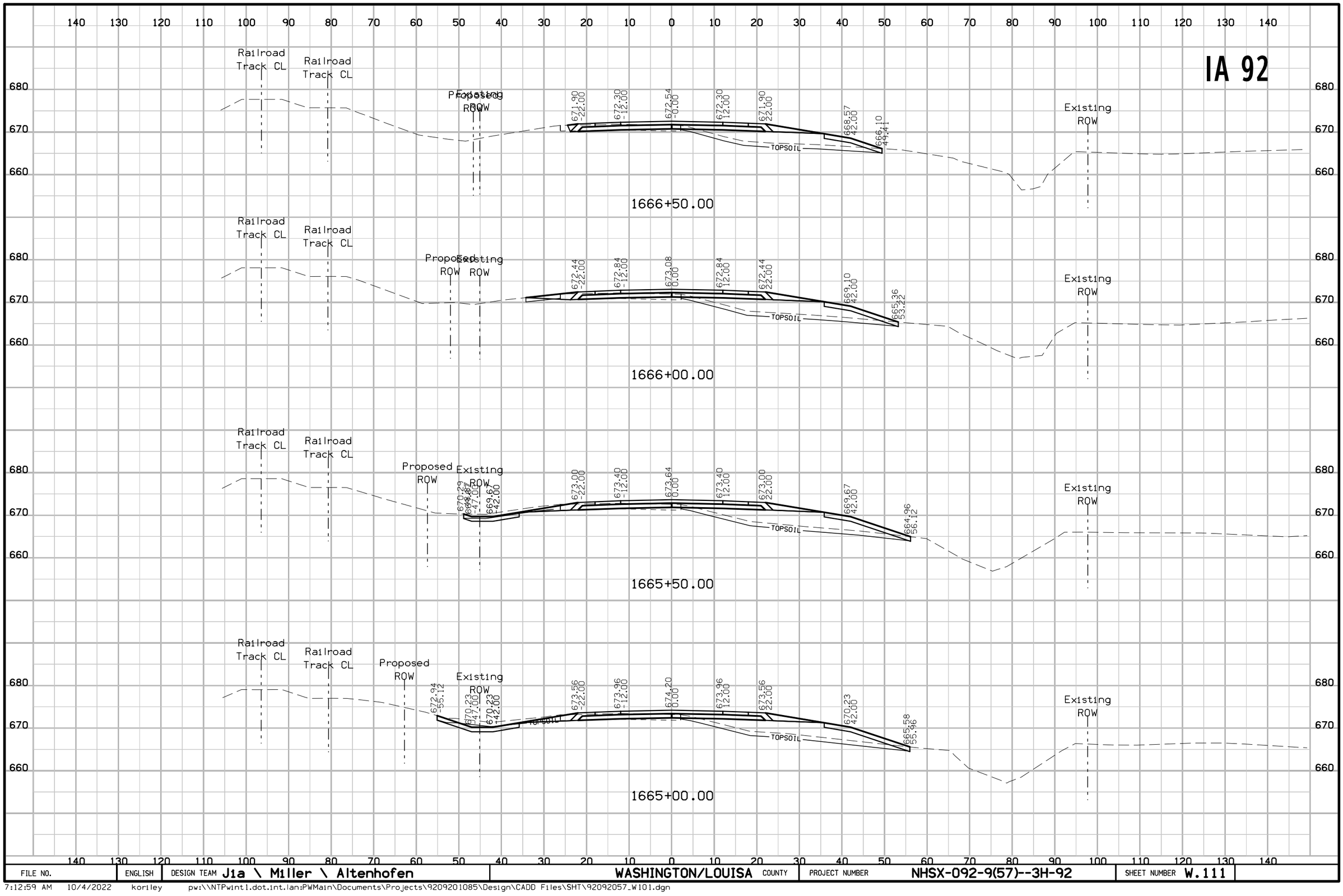
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.110

7:12:58 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

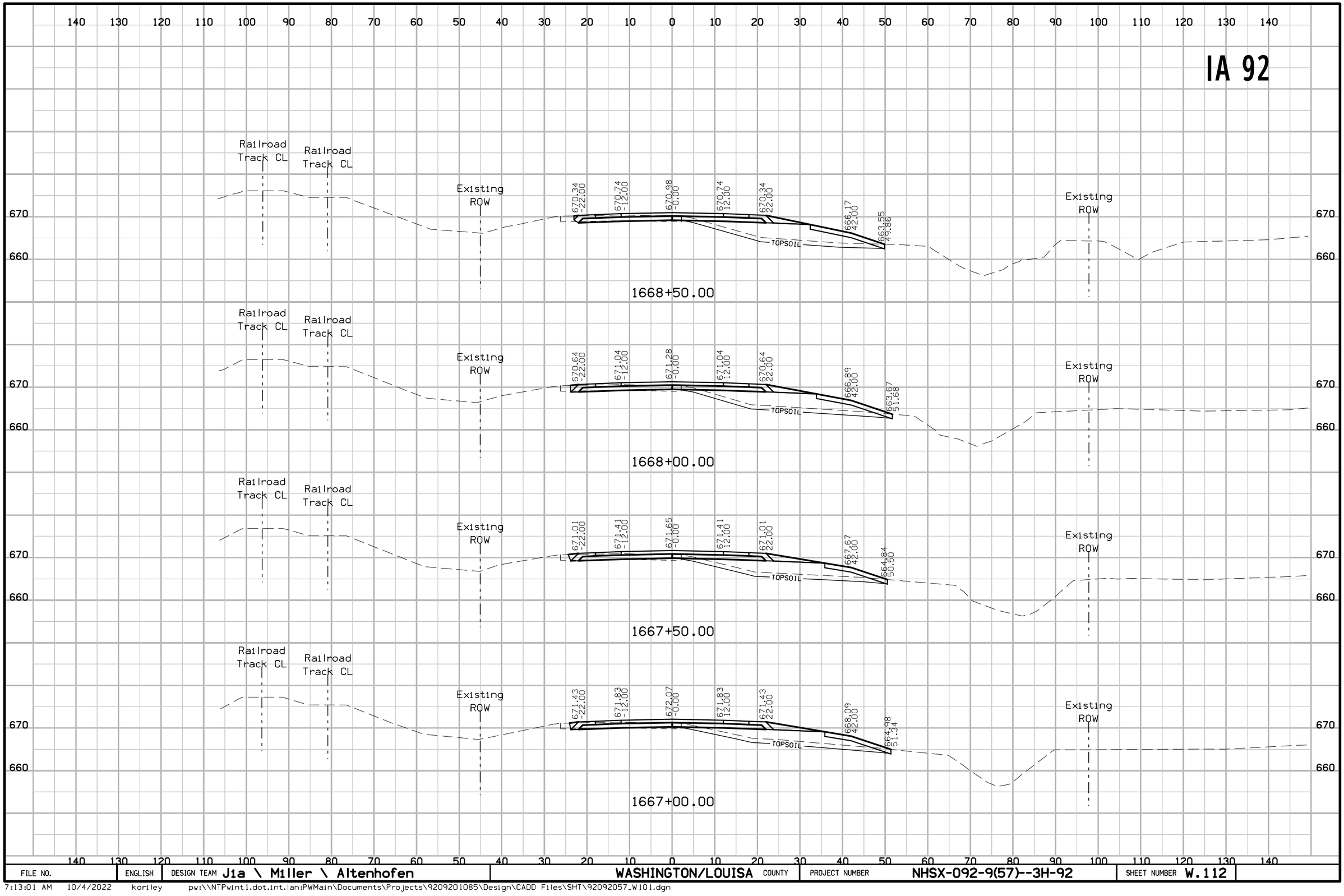
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.111

7:12:59 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

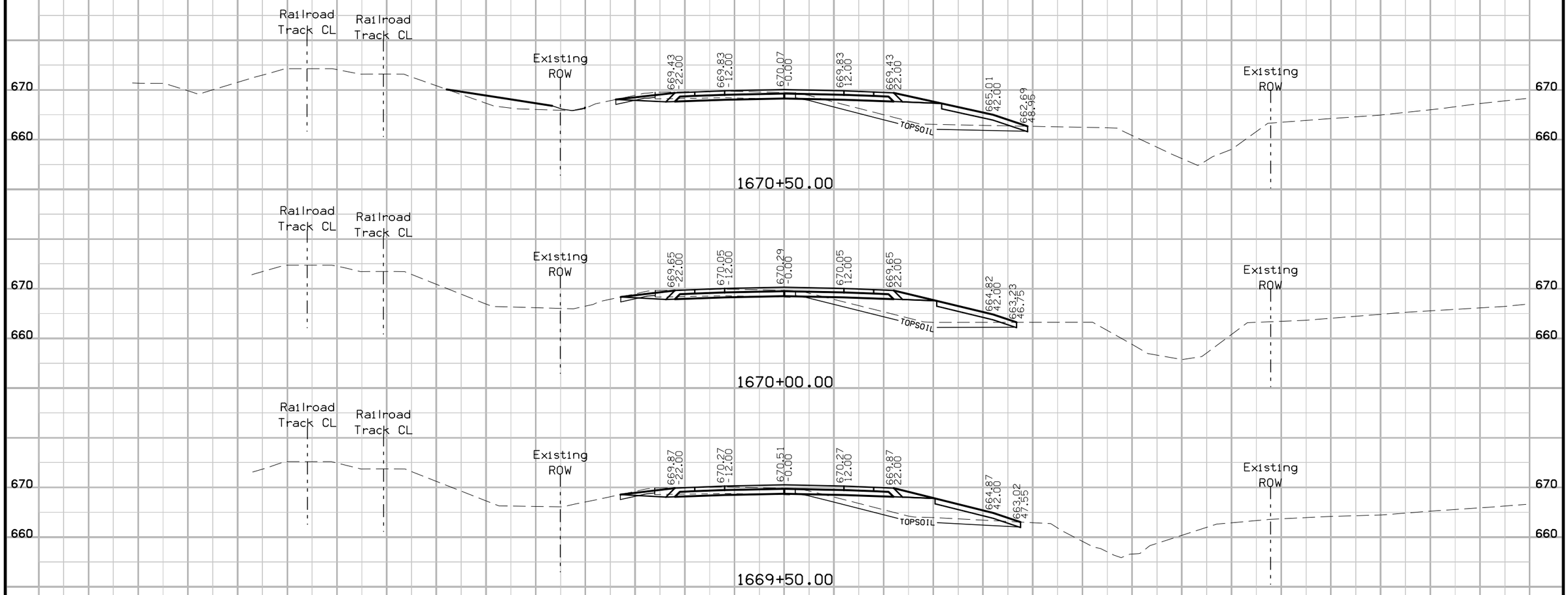
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.112

7:13:01 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

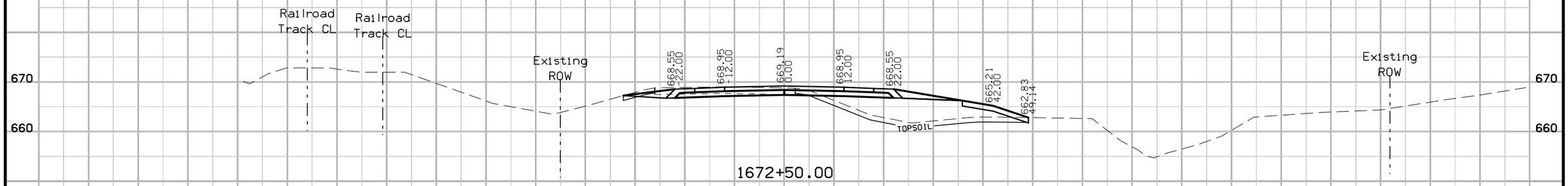
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.113

7:13:03 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

IA 92



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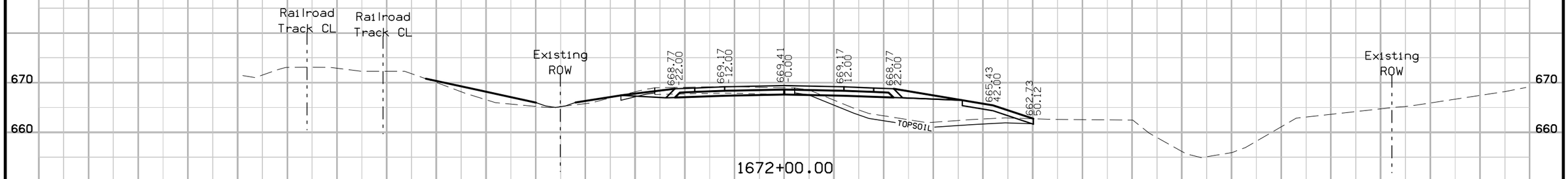
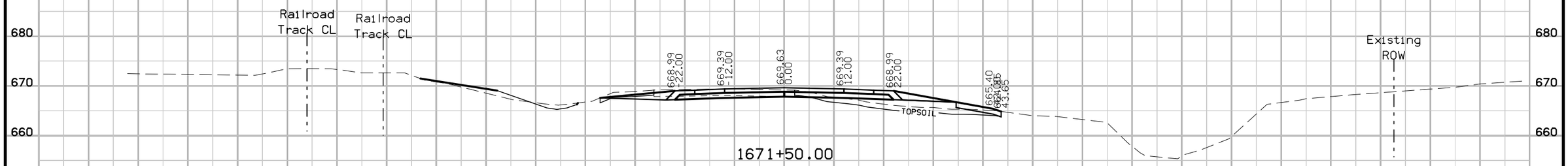
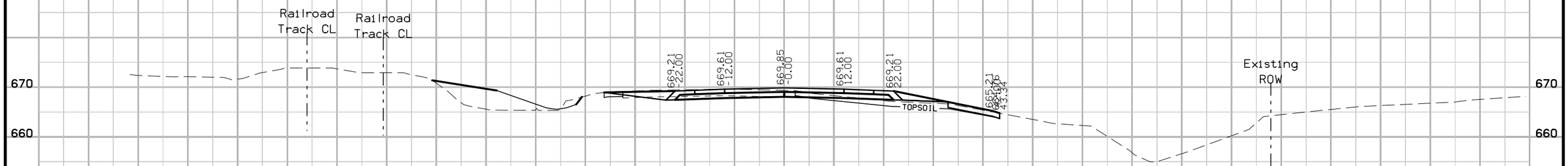


1672+00.00



1671+50.00

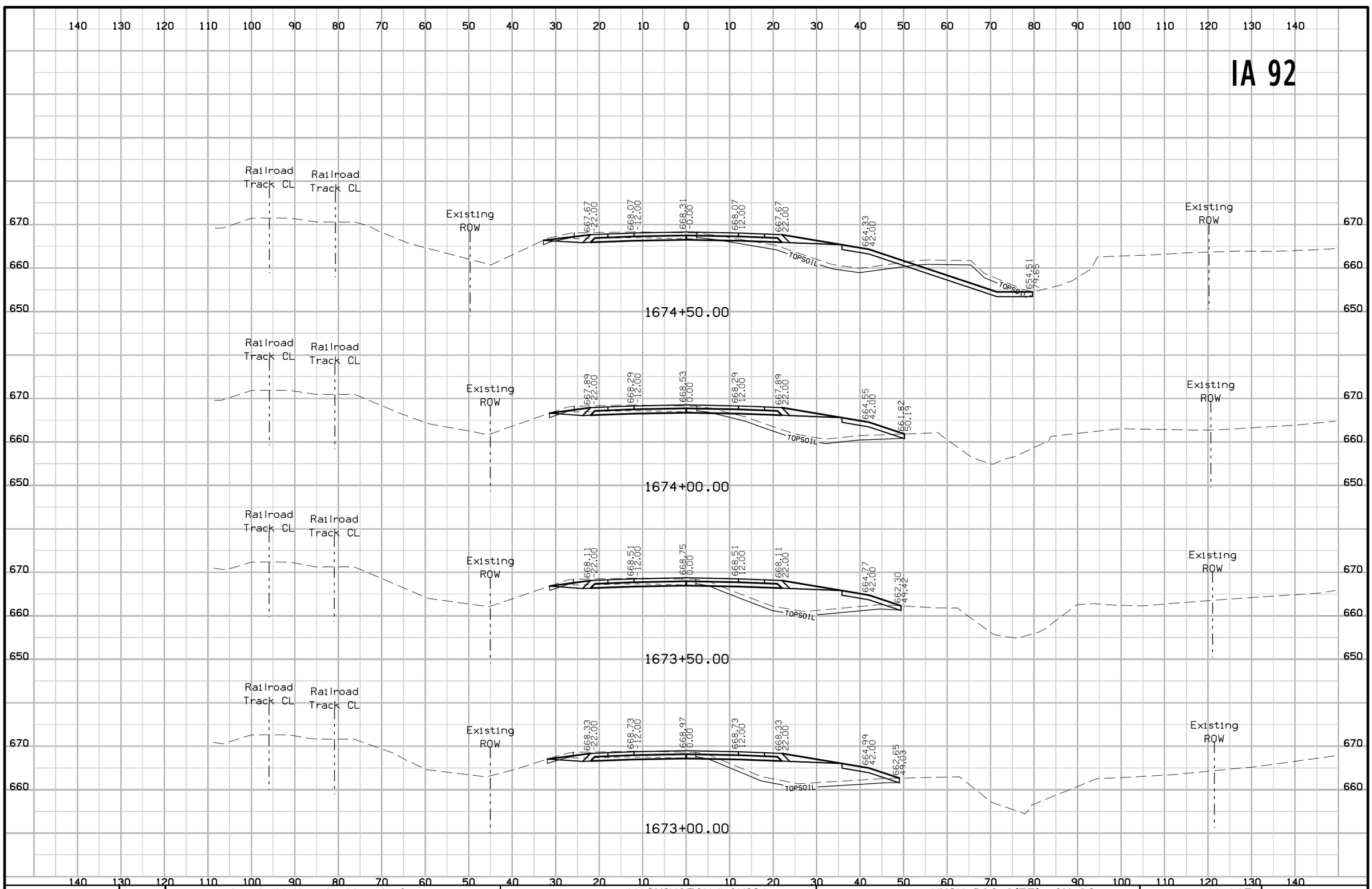


1671+00.00

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.114

7:13:05 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

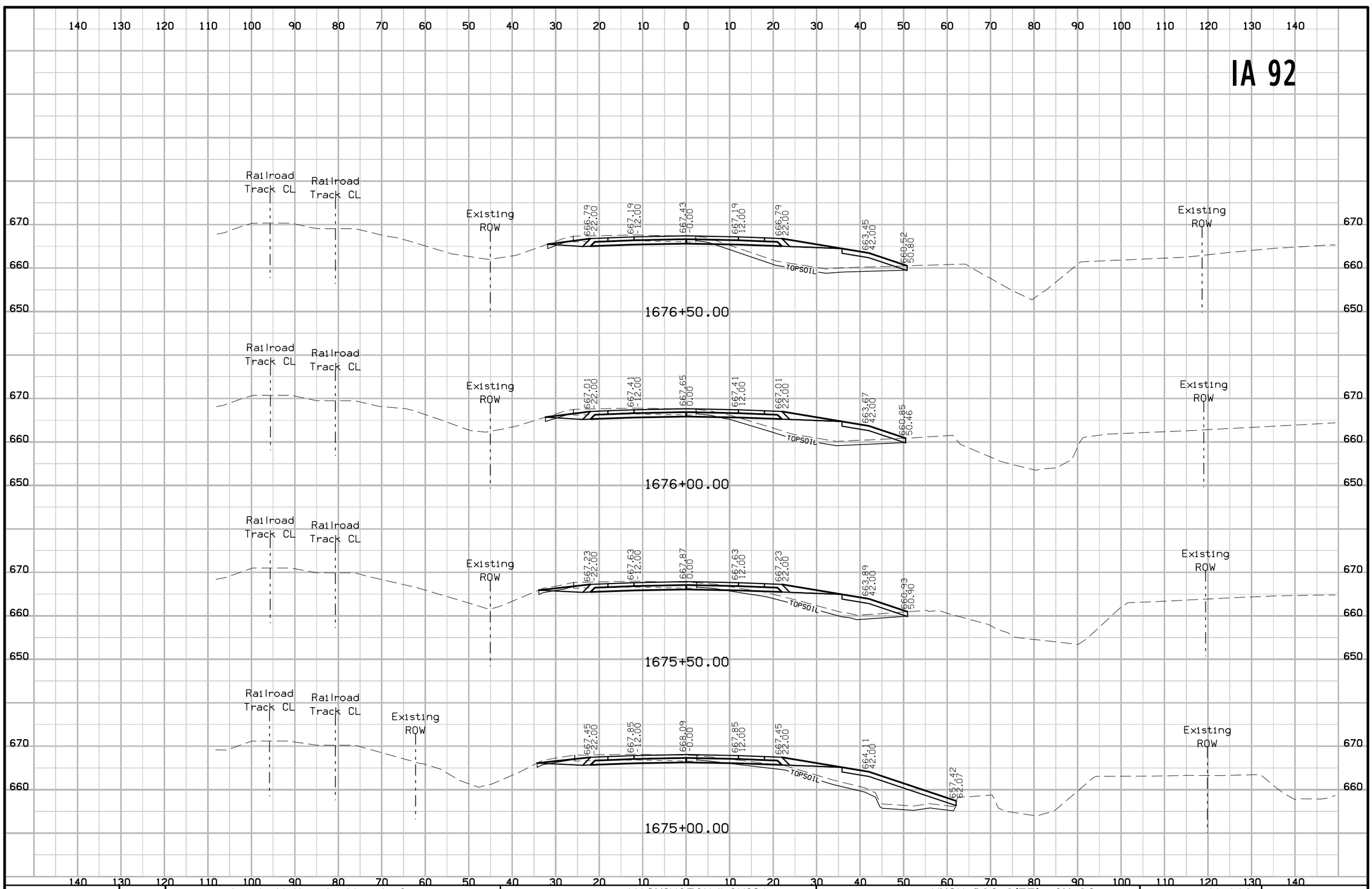
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.115

7:13:07 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

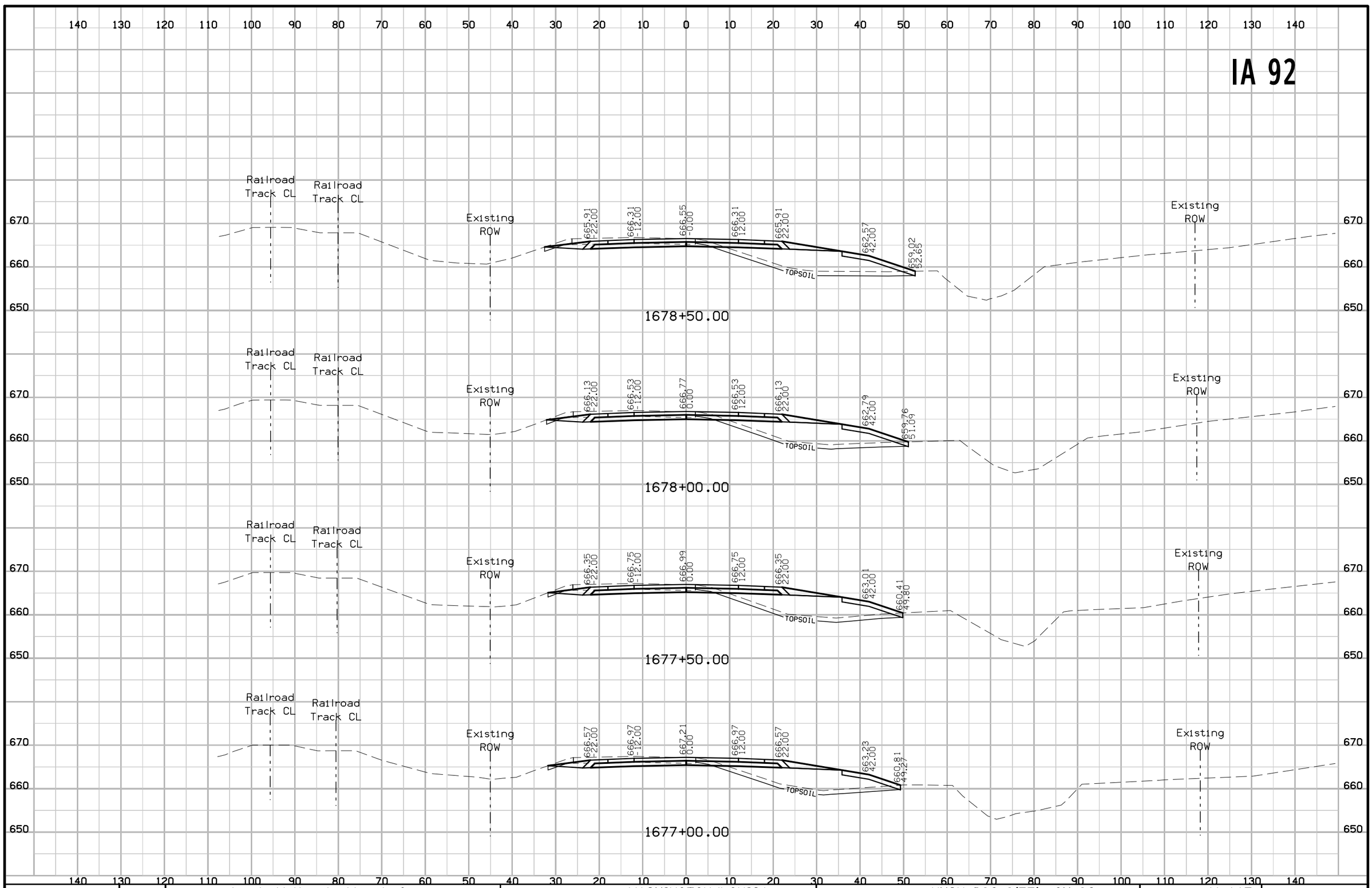
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.116

7:13:09 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

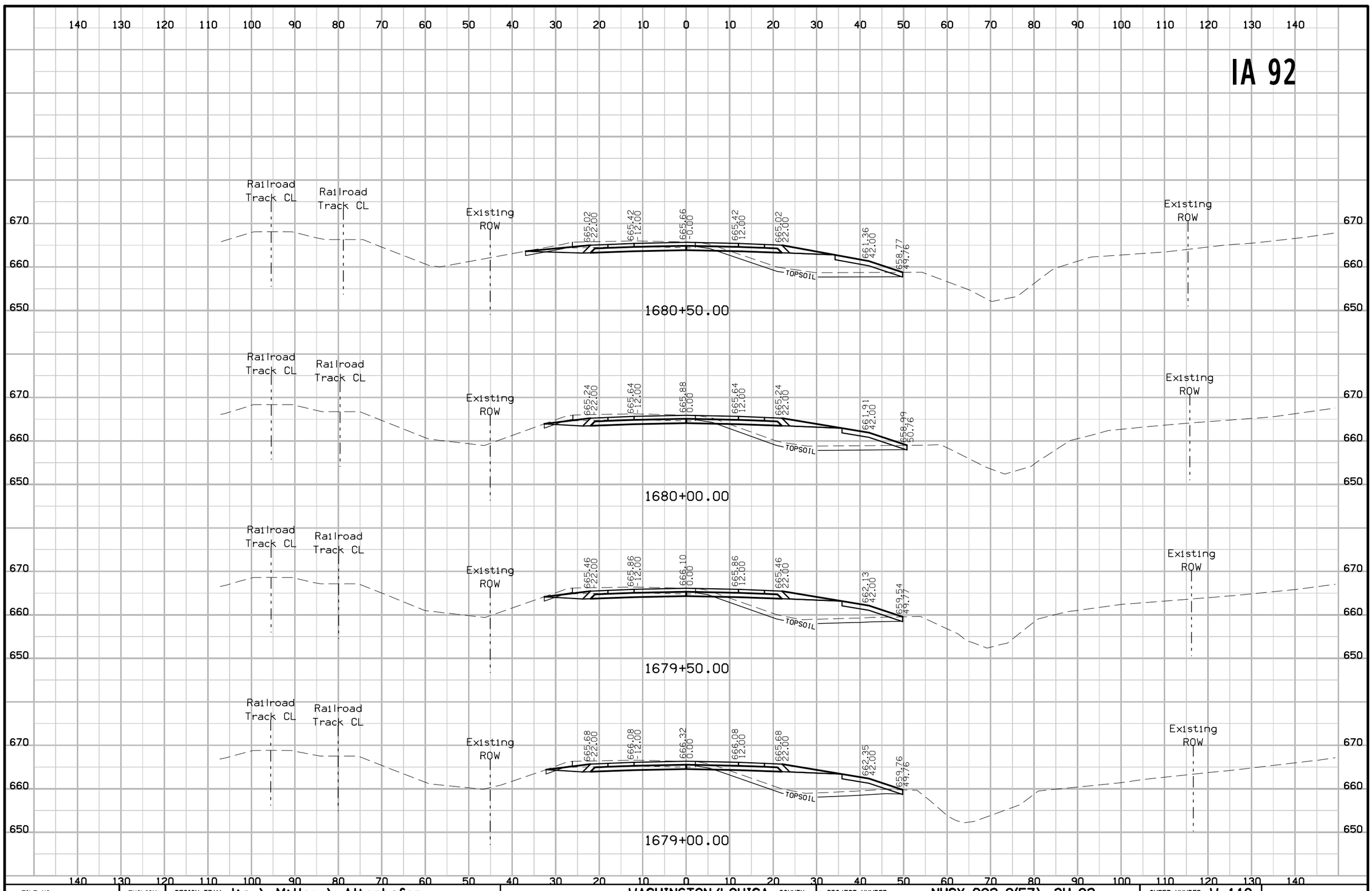
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.117

7:13:11 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

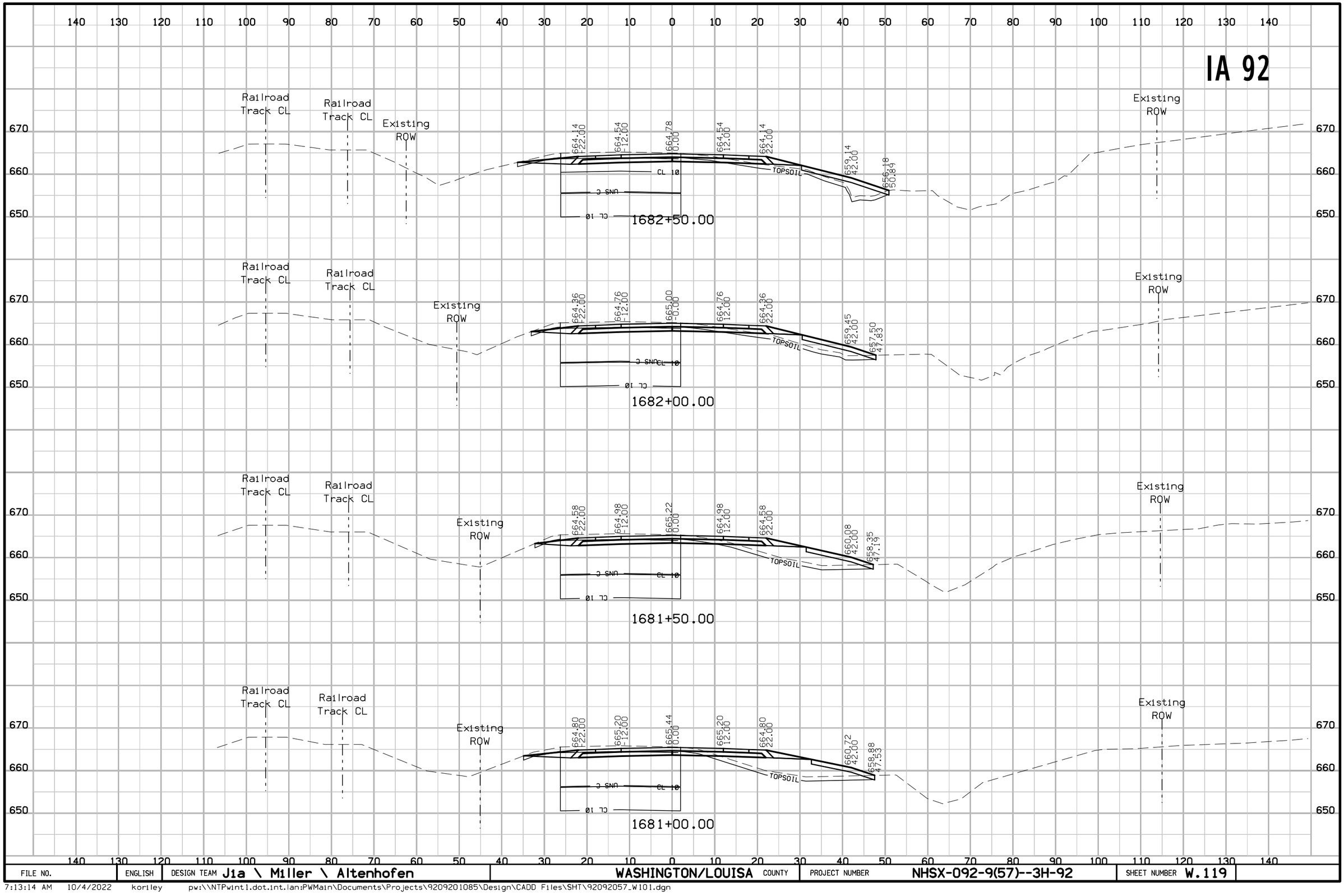
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.118

7:13:12 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

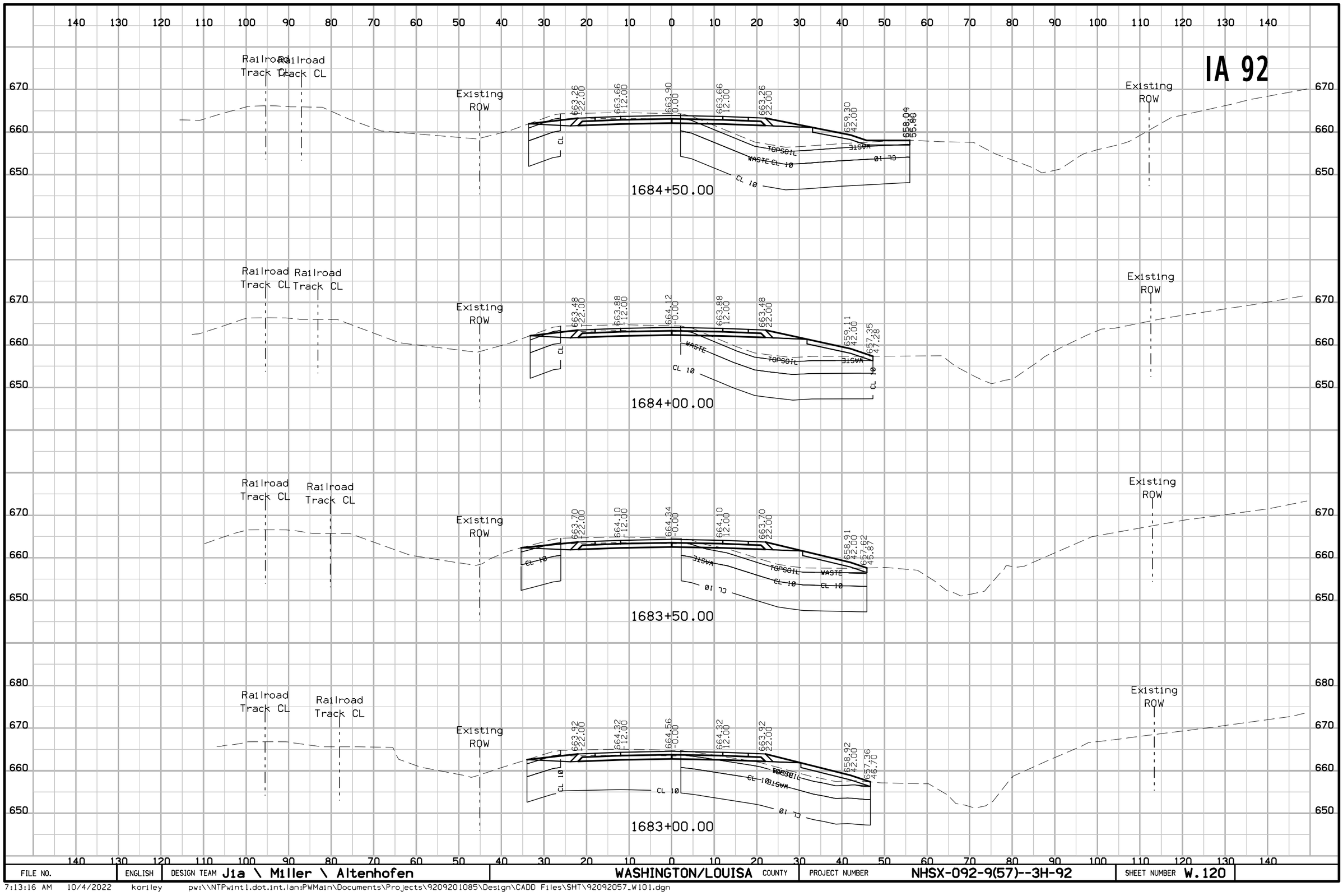
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.119

7:13:14 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

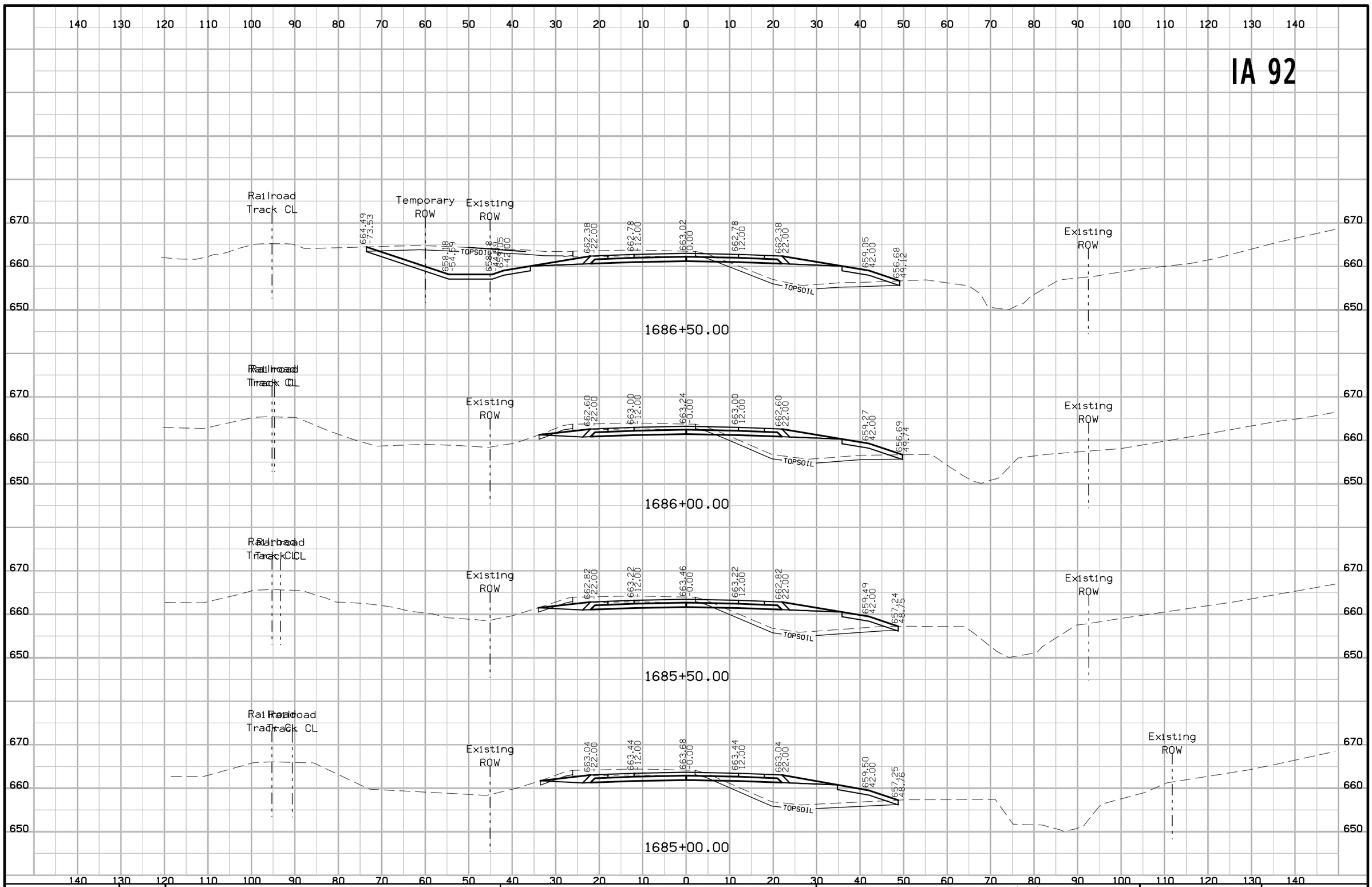
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.120

7:13:16 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

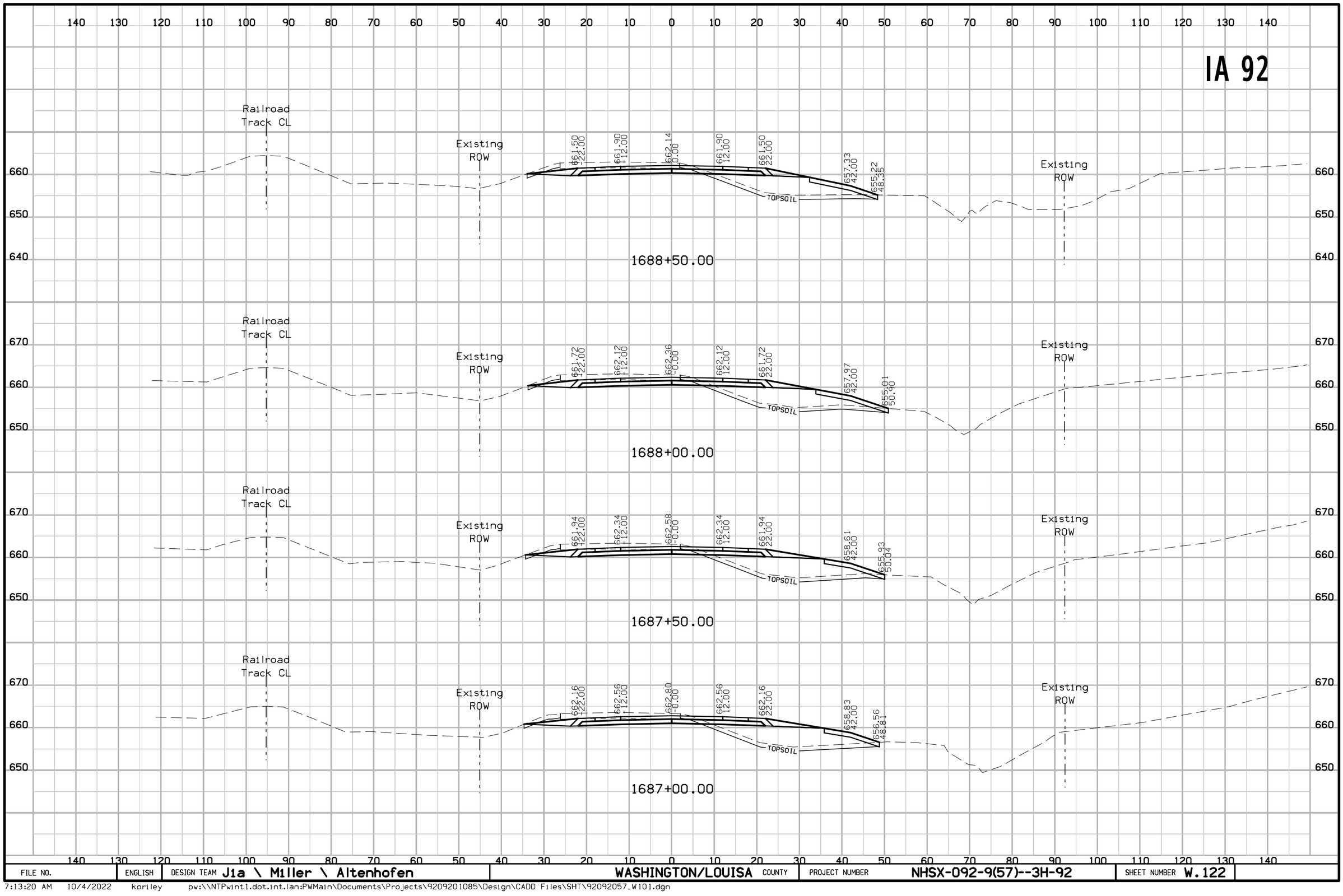
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.121

7:13:18 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

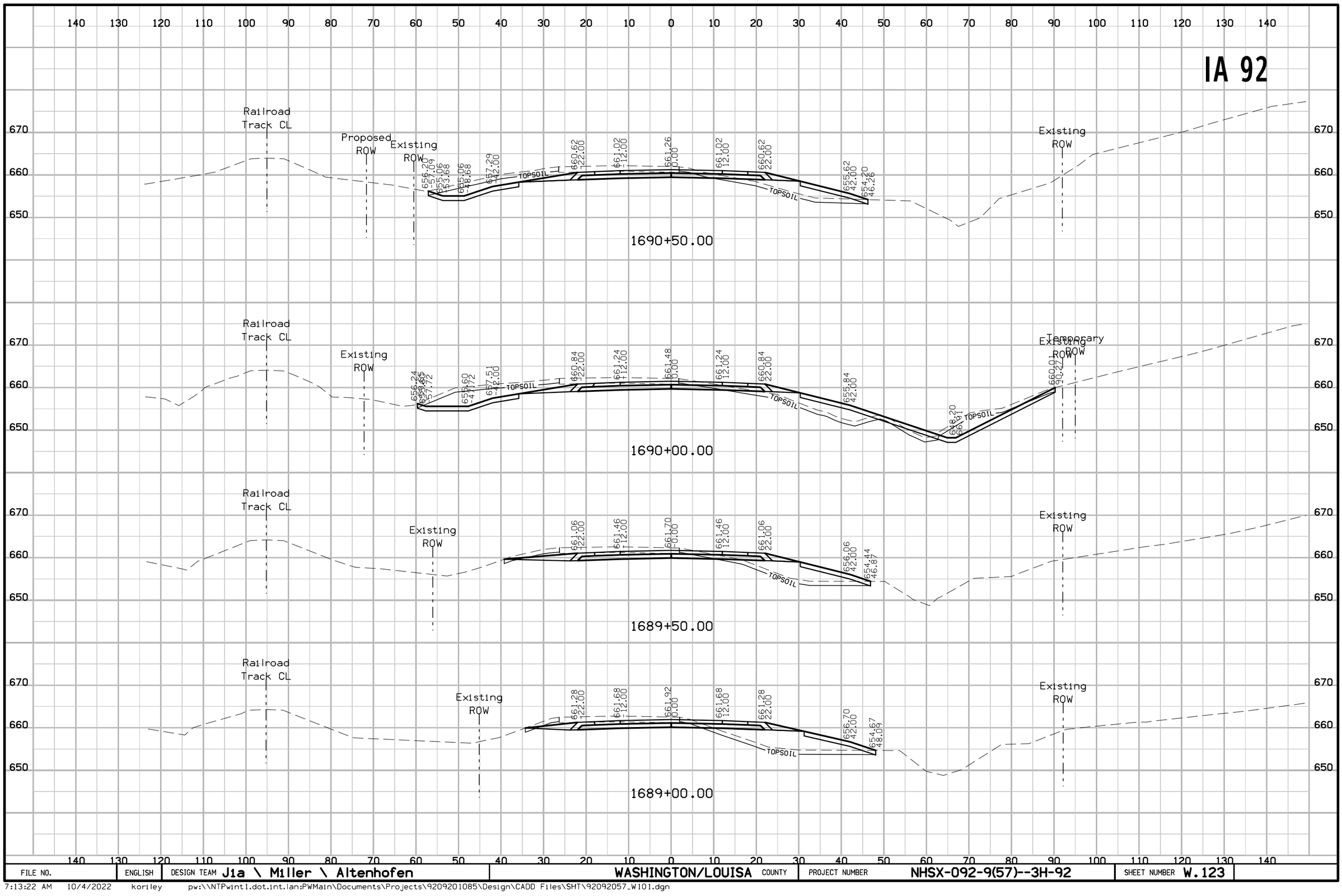
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.122

7:13:20 AM 10/4/2022 korliey pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

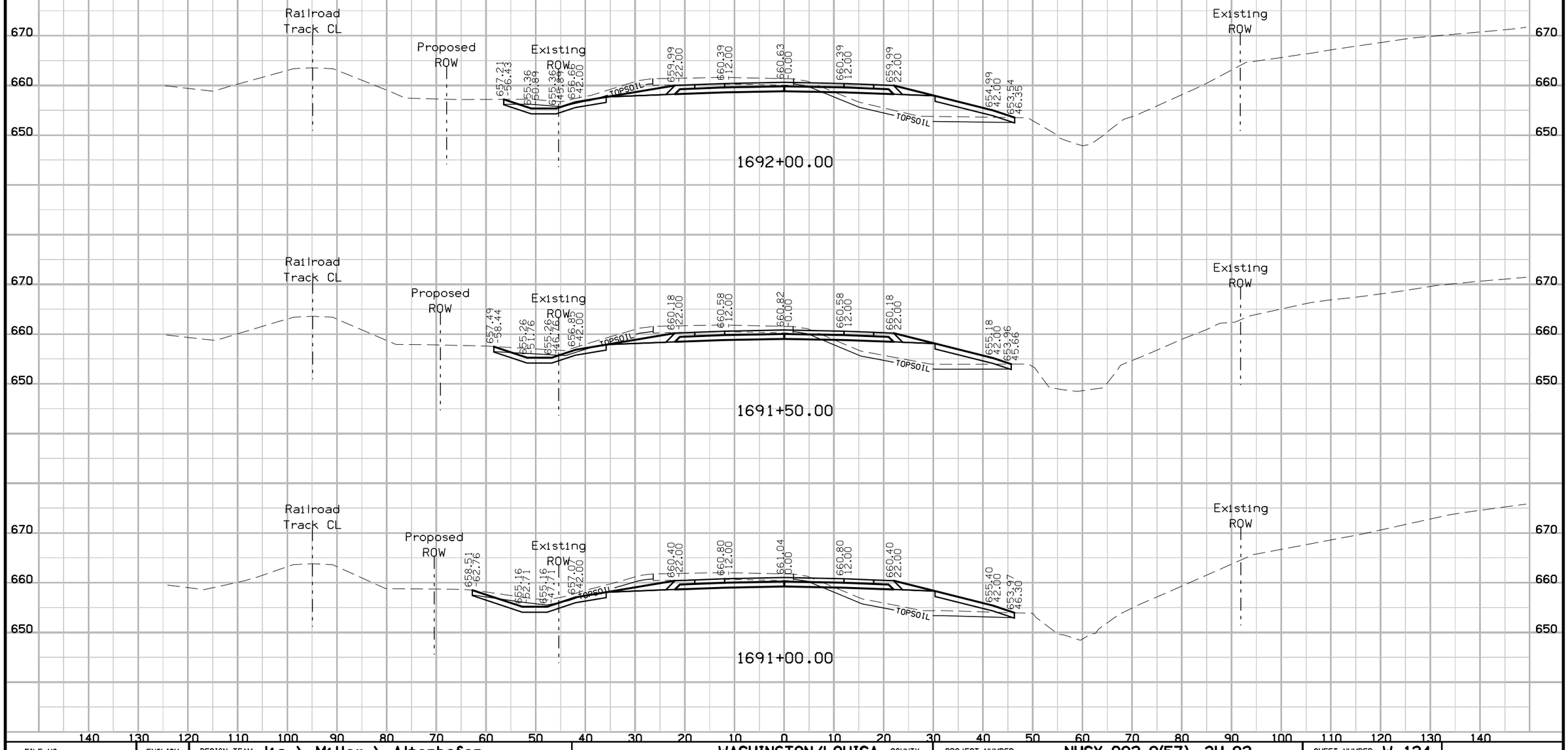
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.123

7:13:22 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

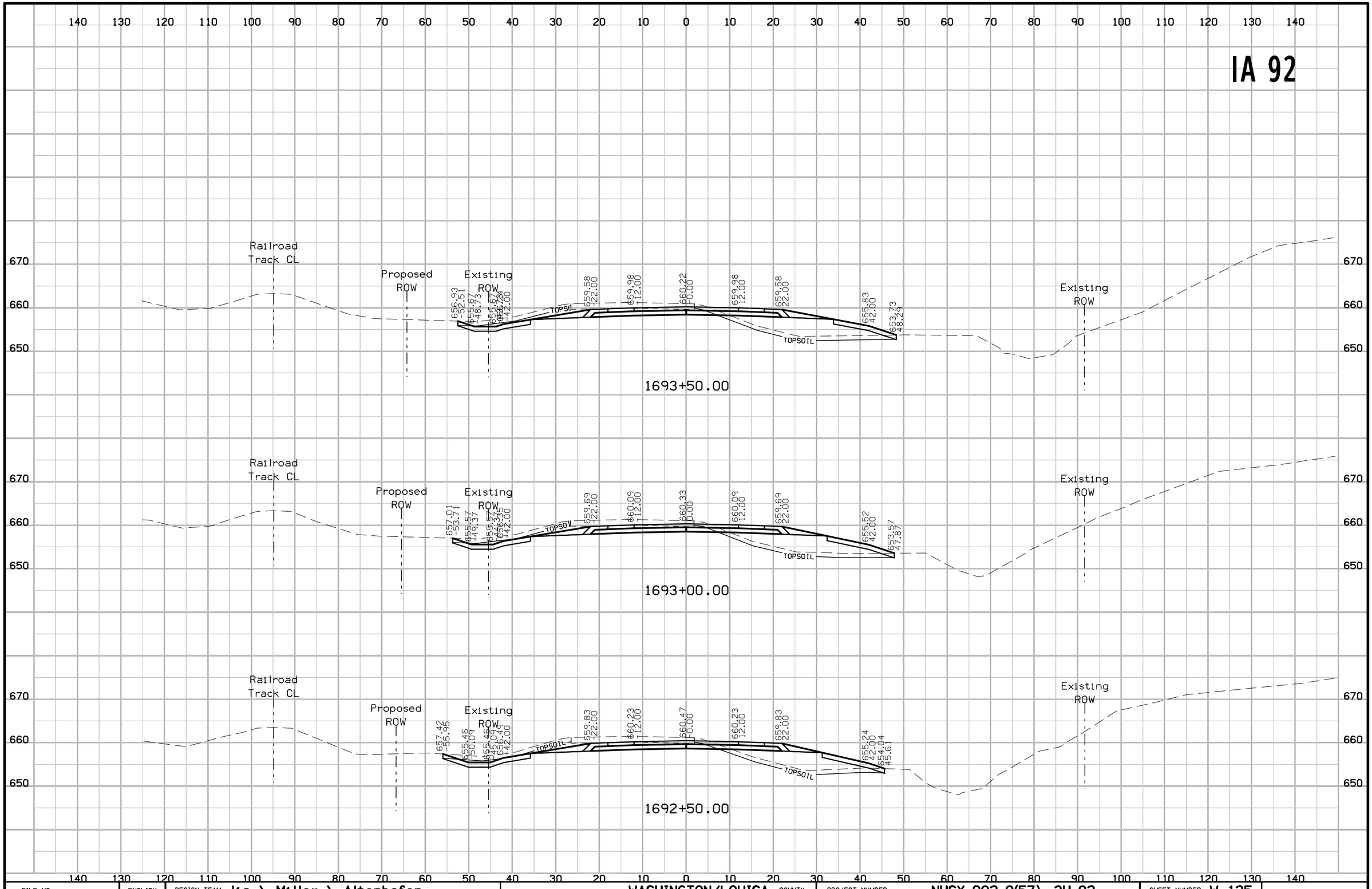
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.124

7:13:24 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

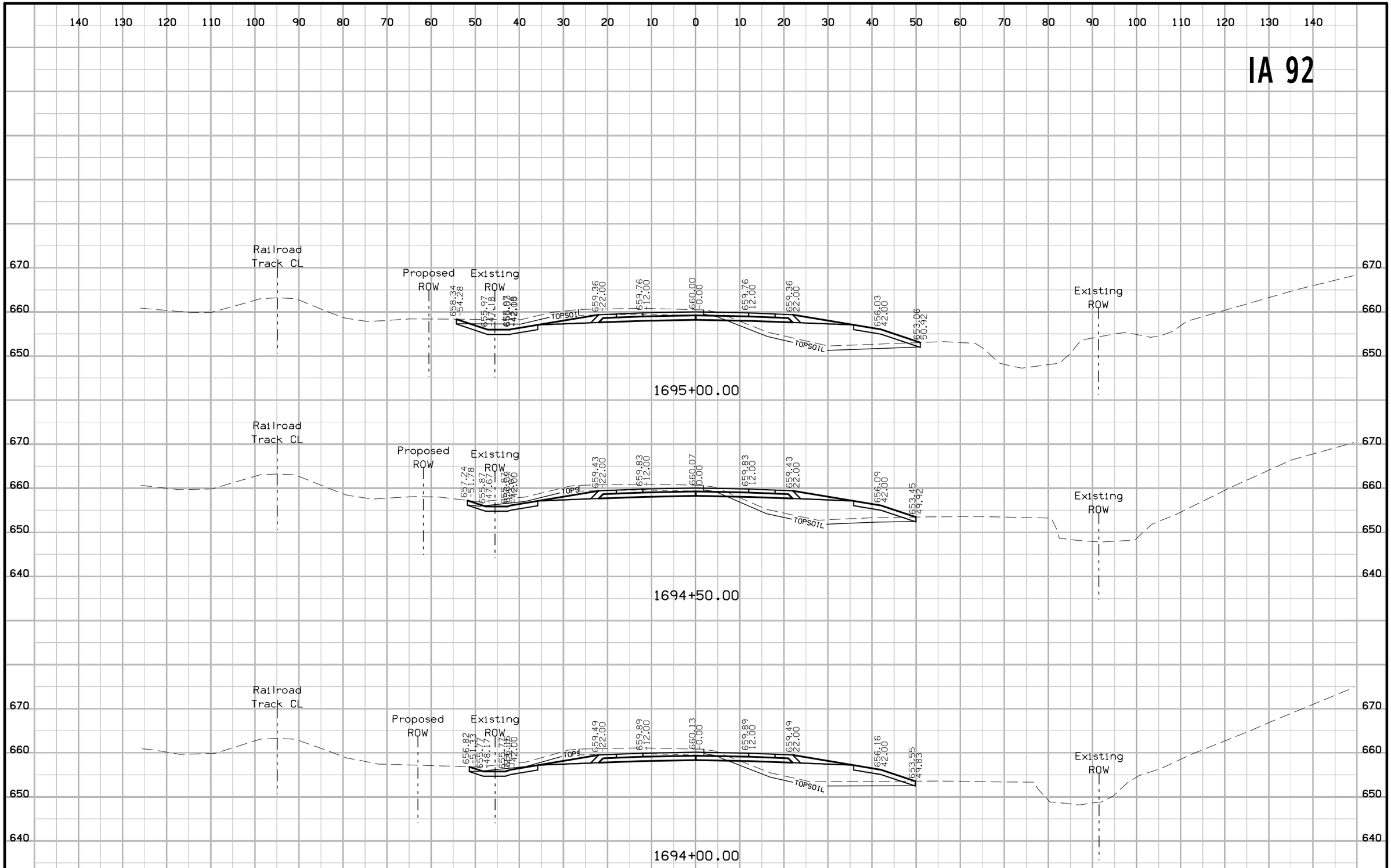
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.125

7:13:26 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

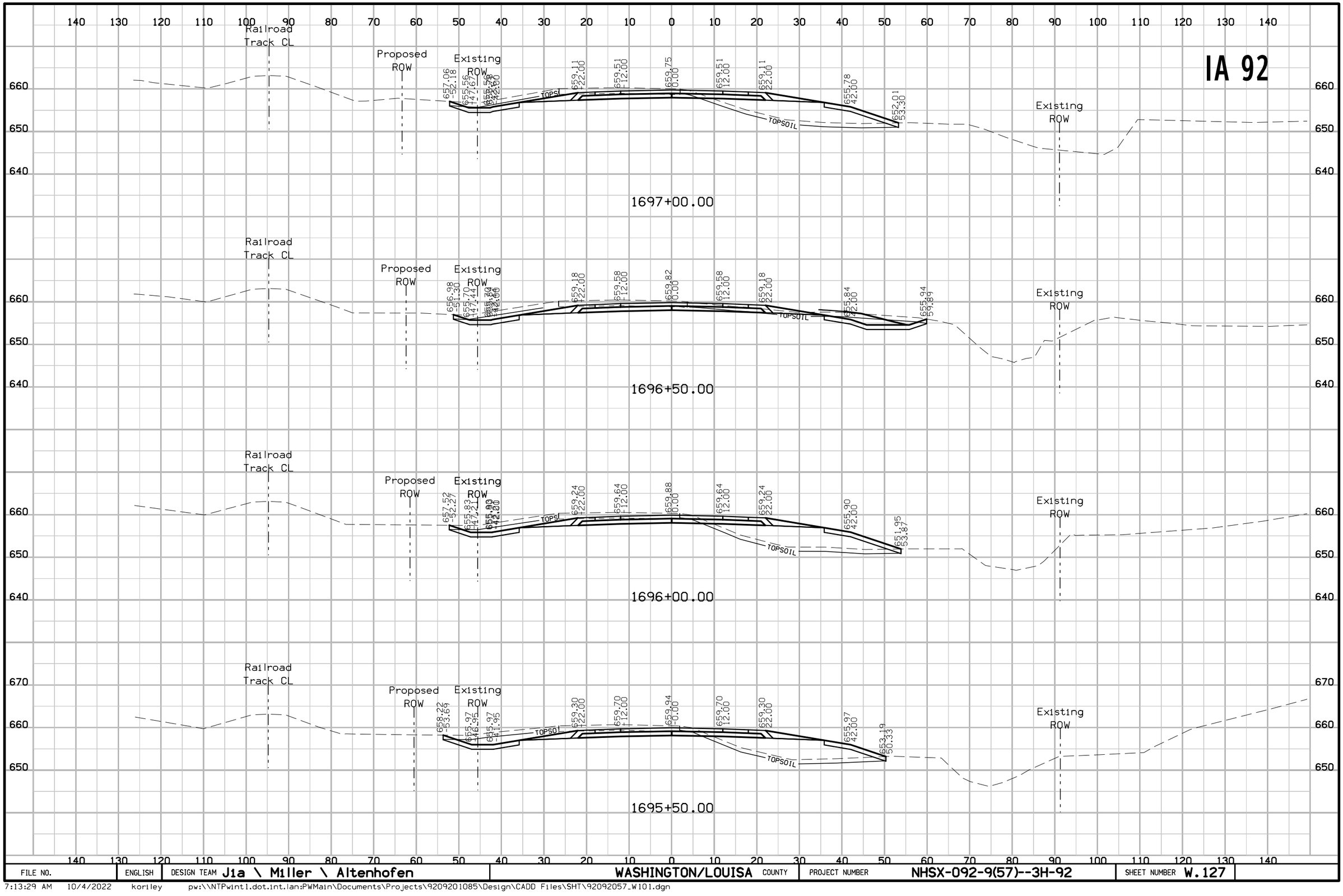
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.126

7:13:27 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.127

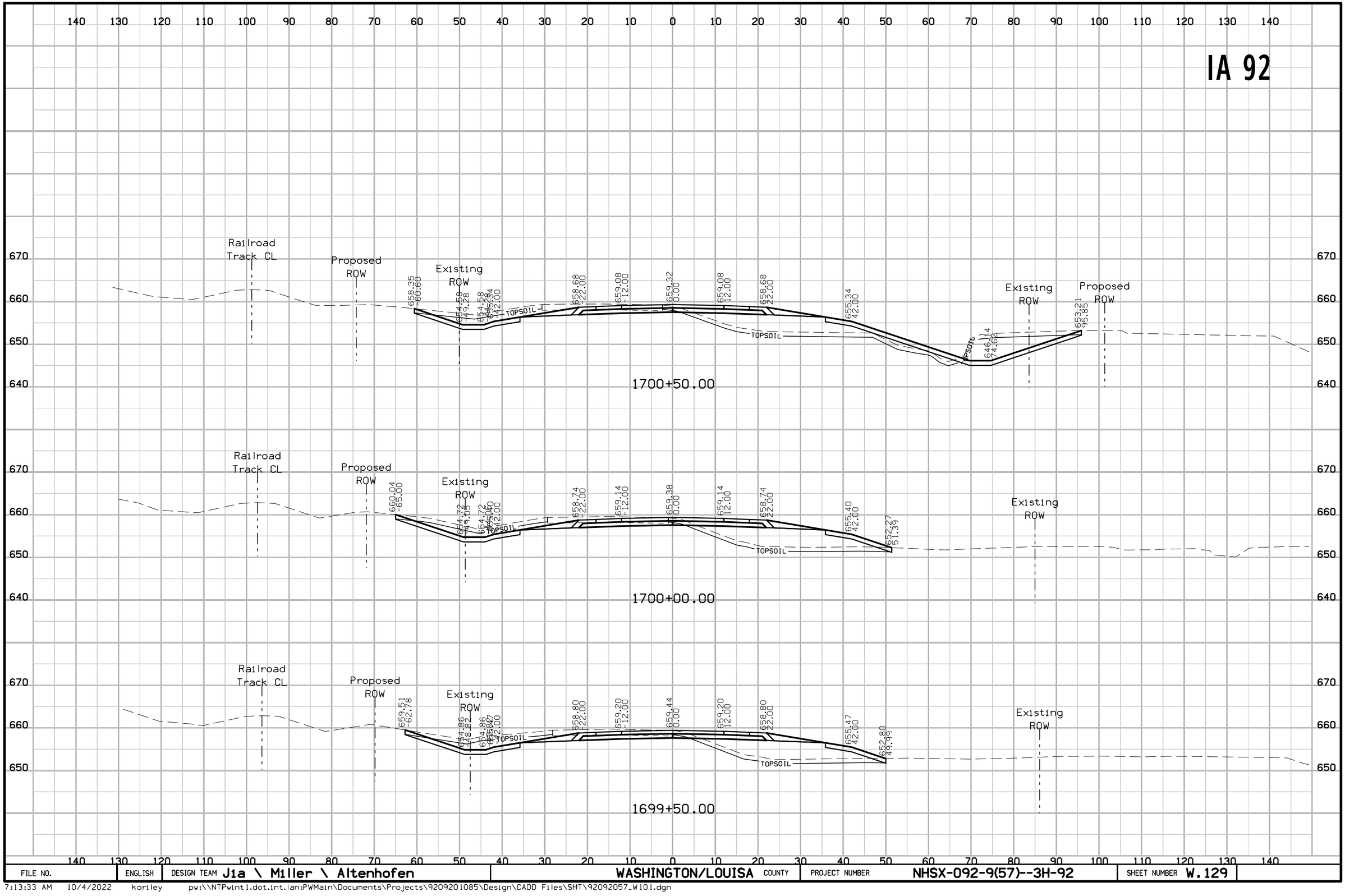
7:13:29 AM 10/4/2022 korliey pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

IA 92

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.128

7:13:31 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

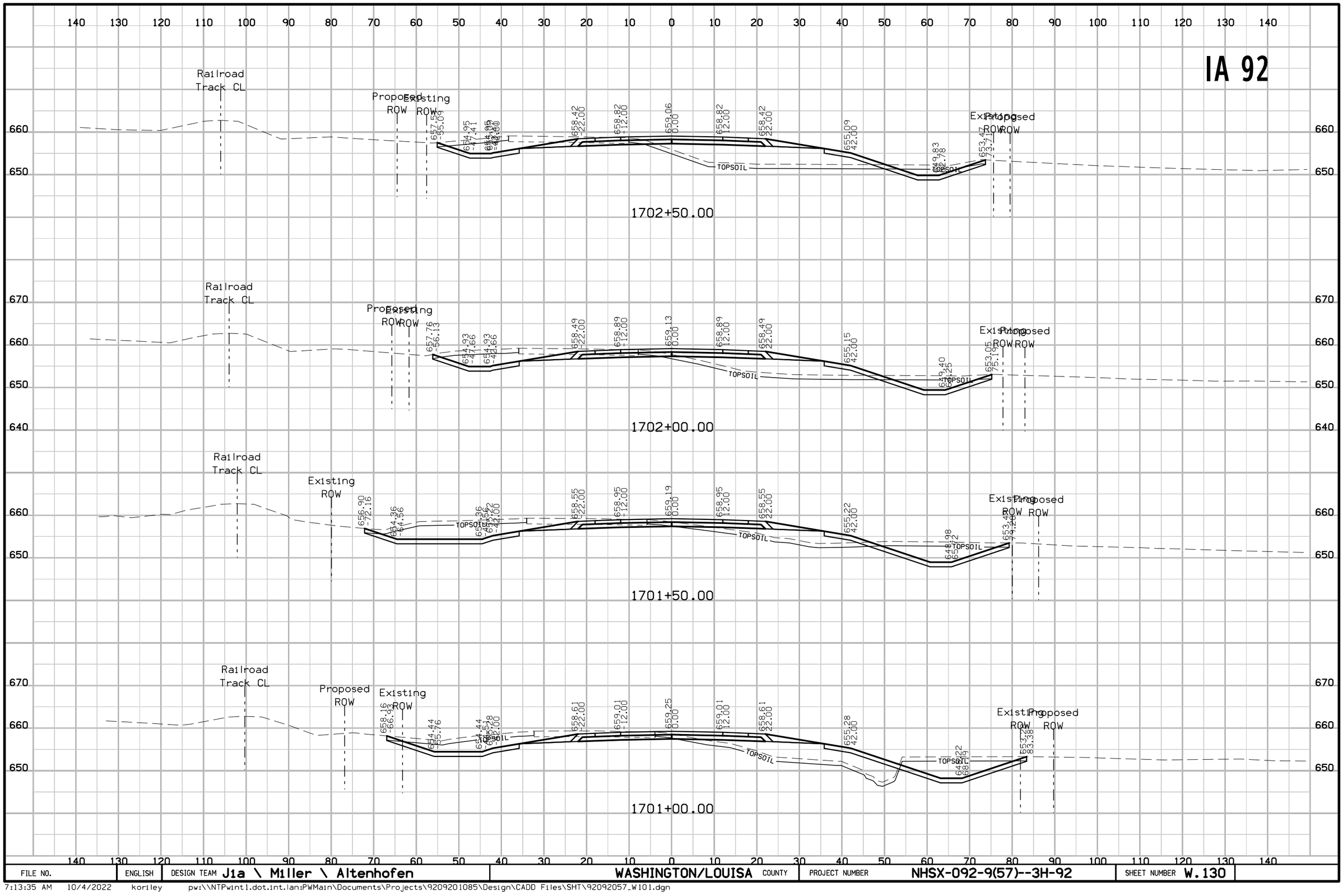
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.129

7:13:33 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

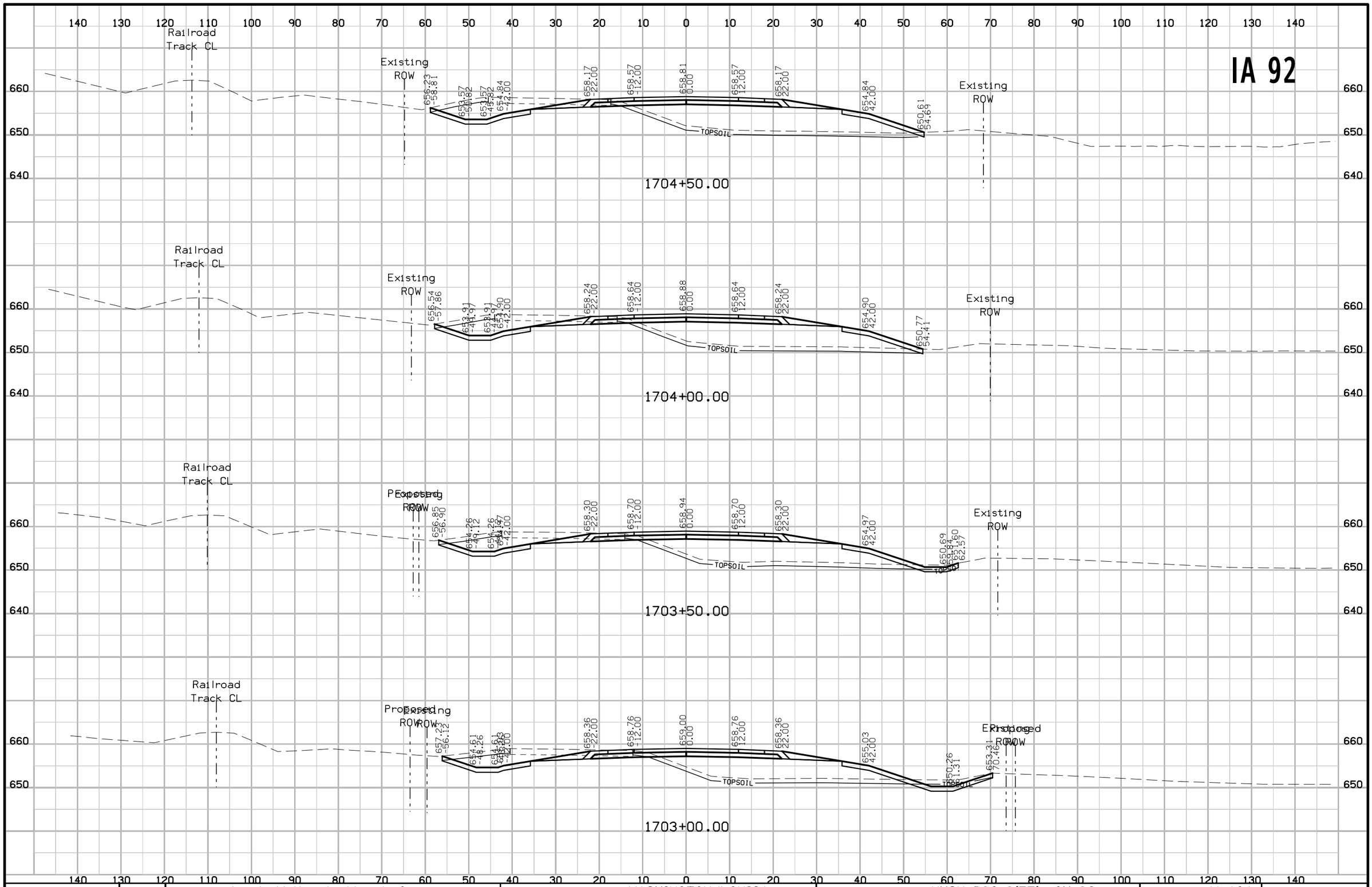
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.130

7:13:35 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

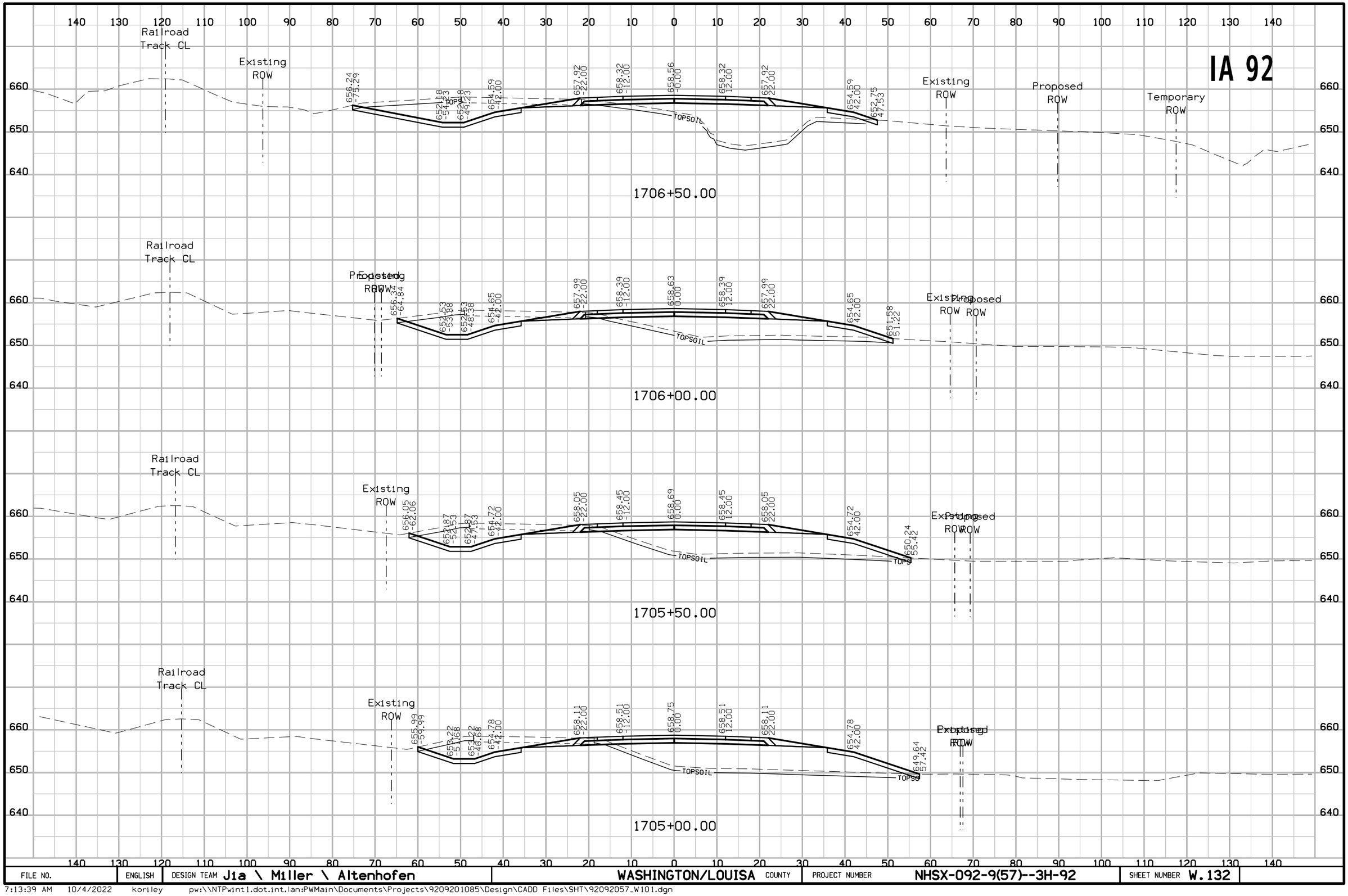
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.131

7:13:37 AM 10/4/2022 korilley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

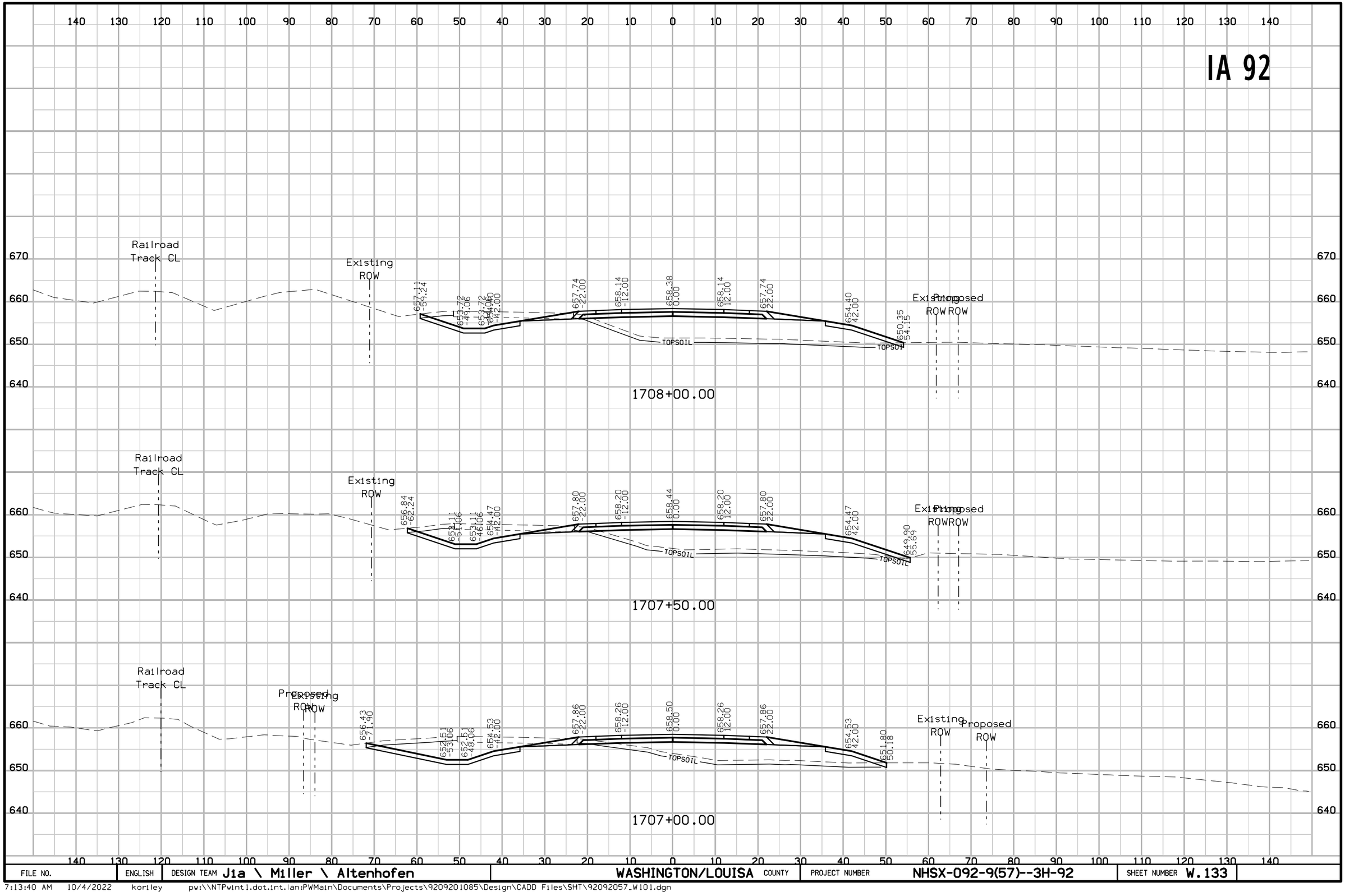
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.132

7:13:39 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

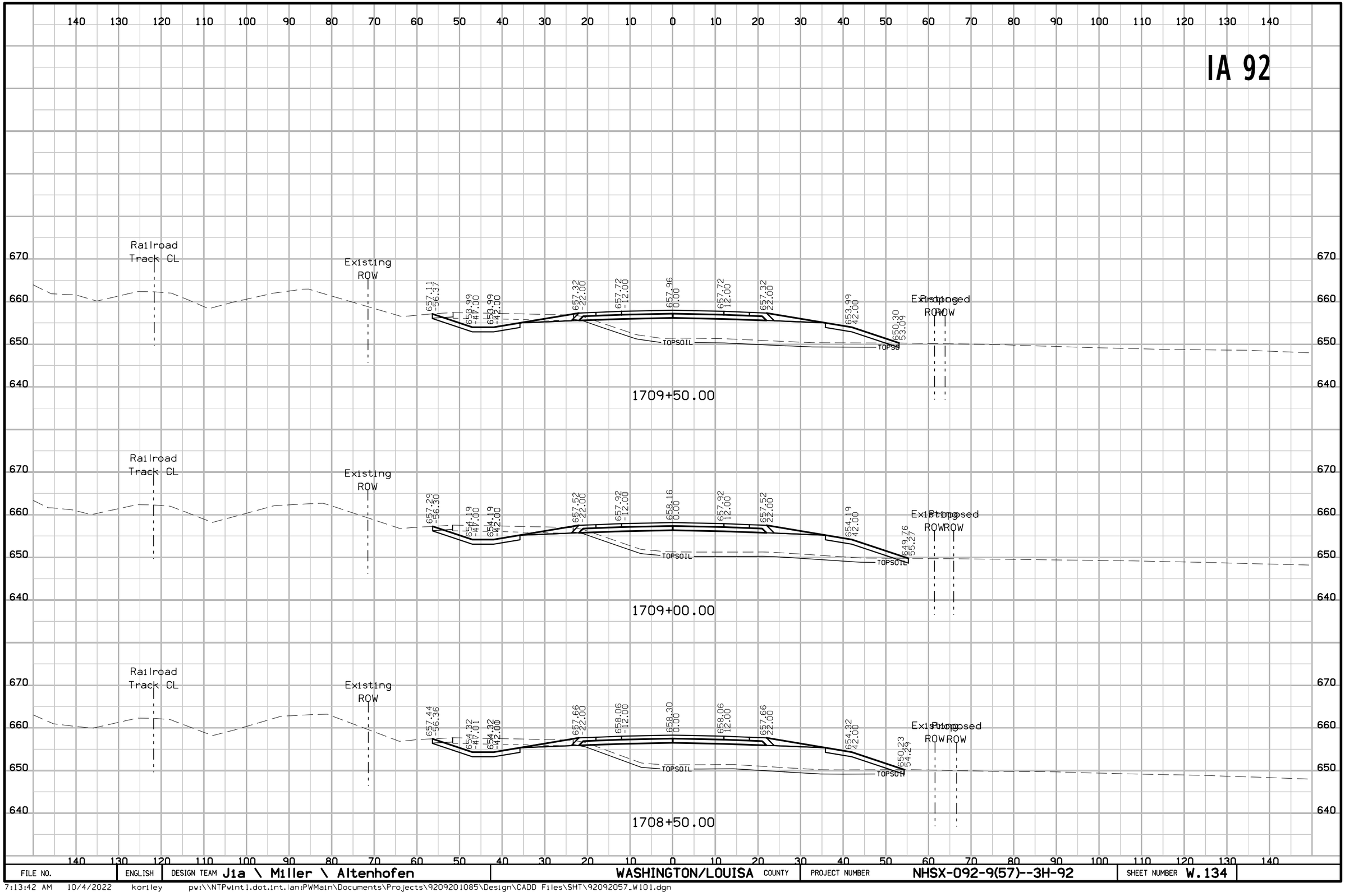
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.133

7:13:40 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

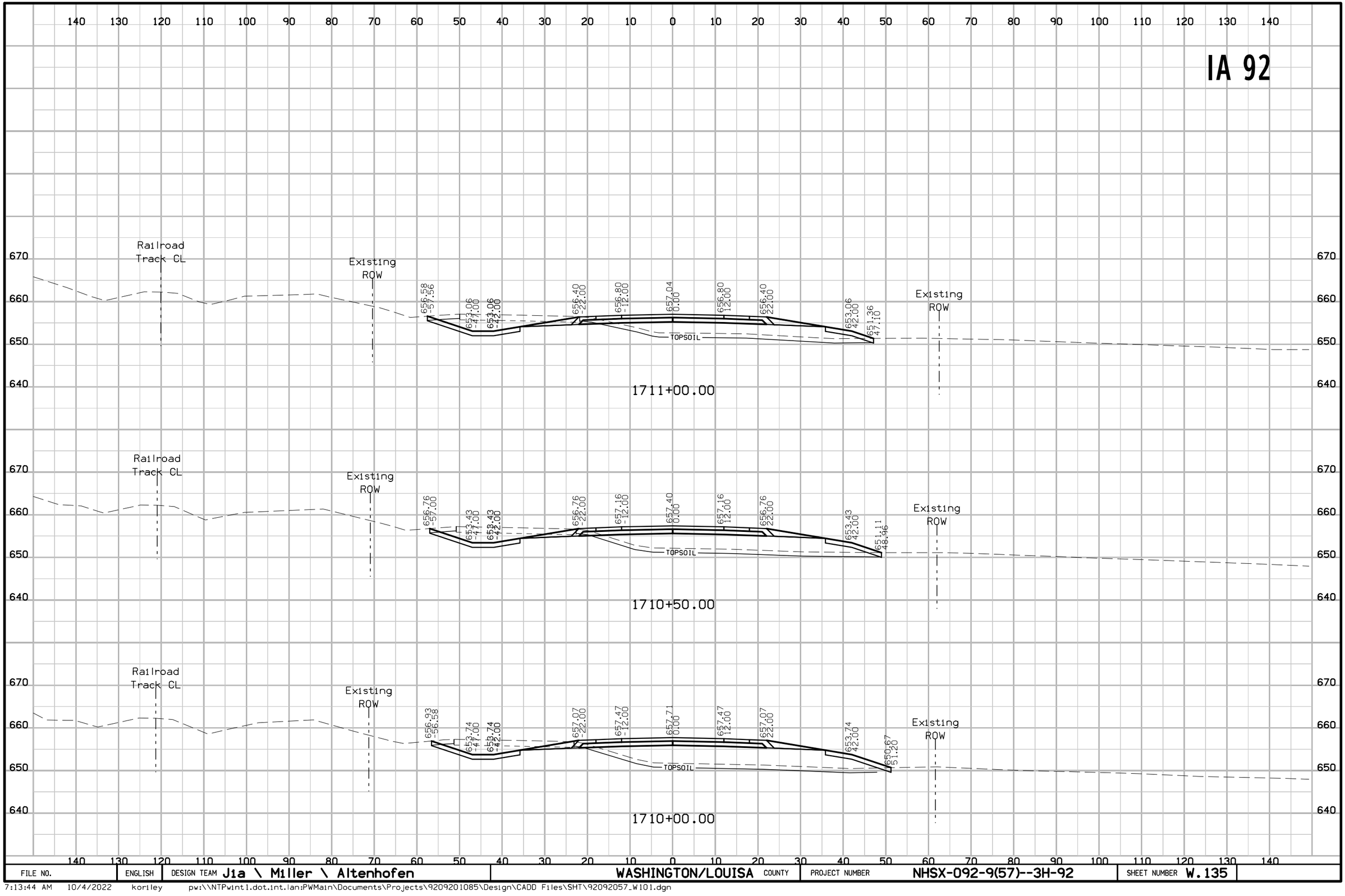
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.134

7:13:42 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

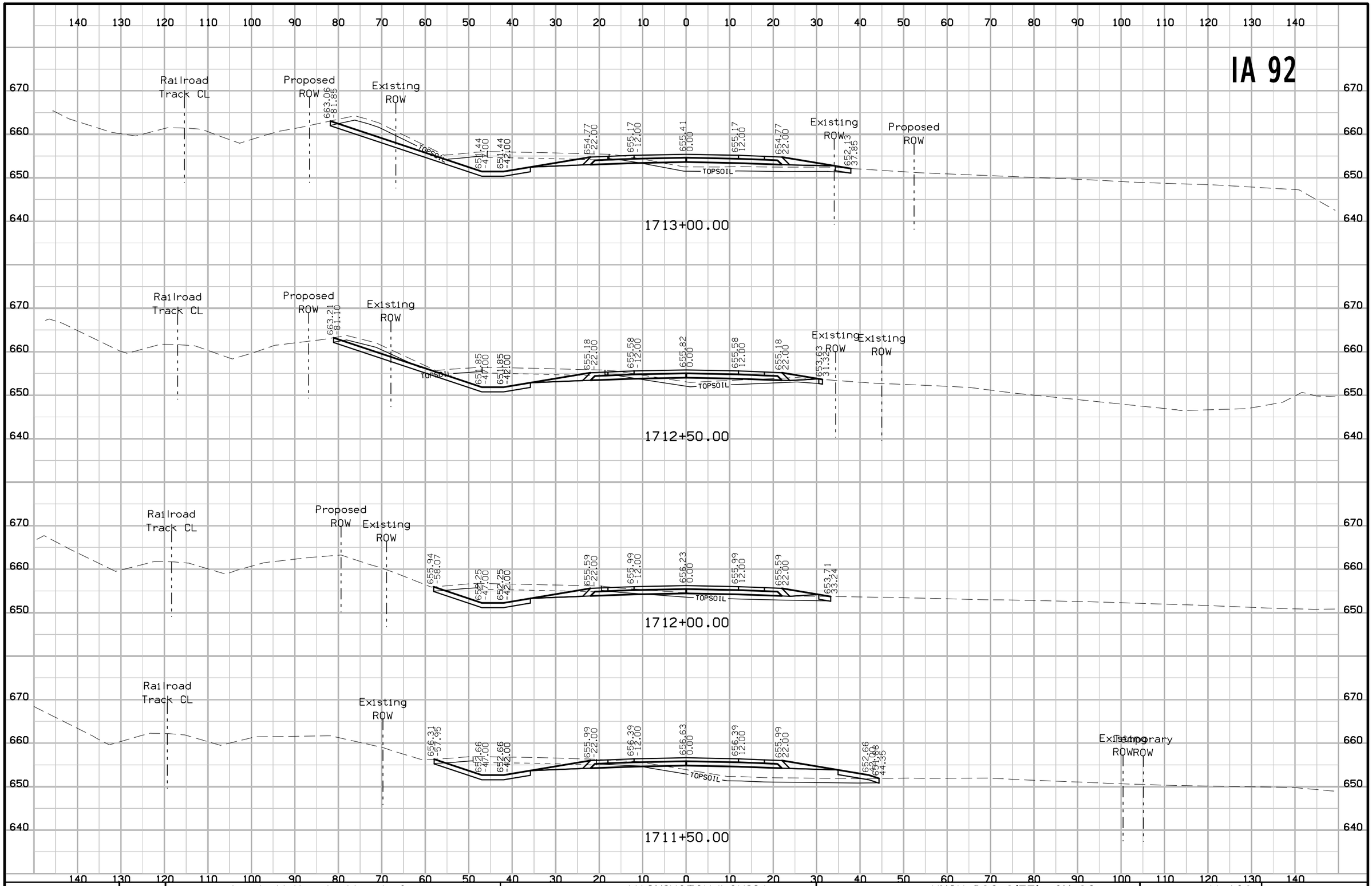
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.135

7:13:44 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

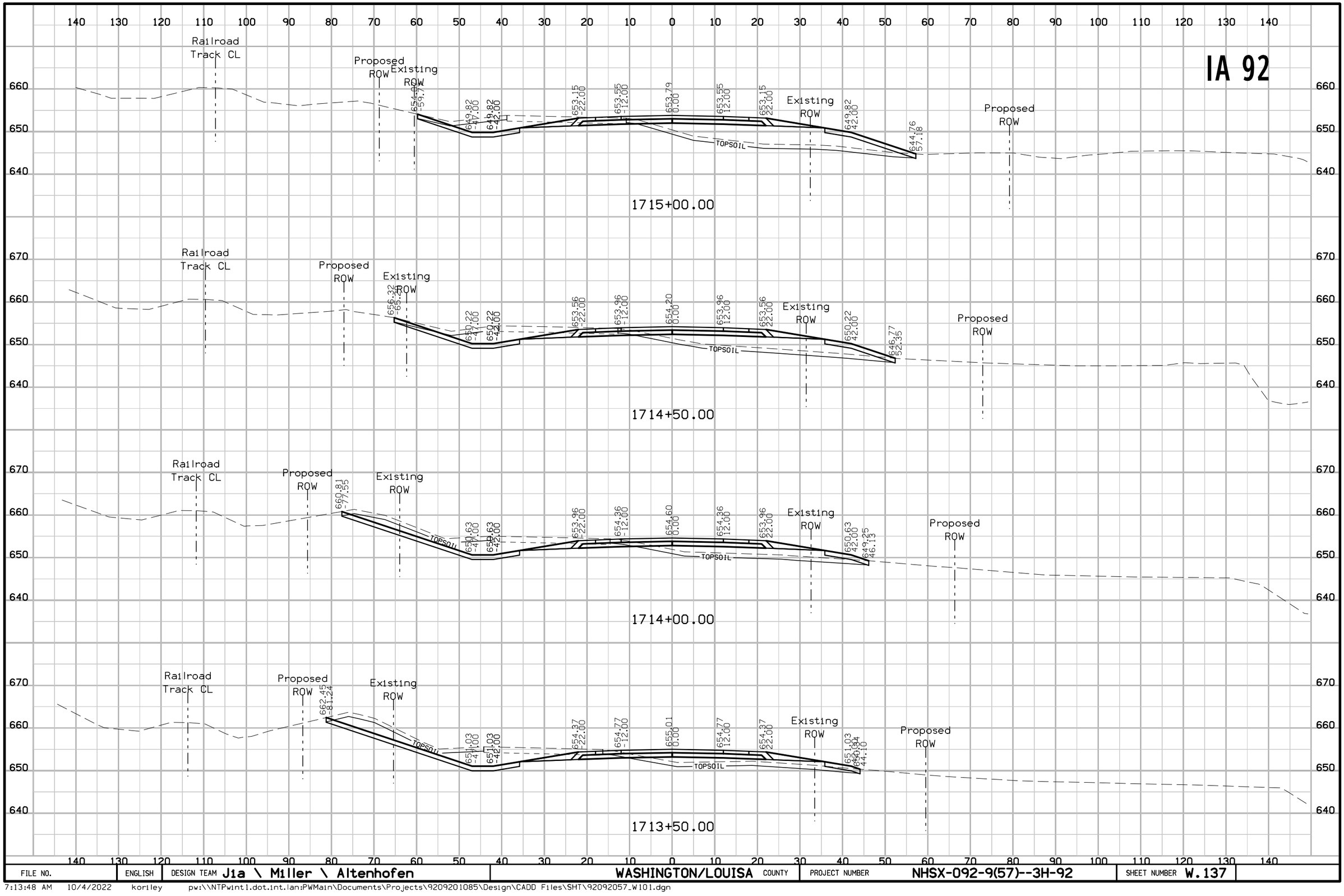
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.136

7:13:46 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

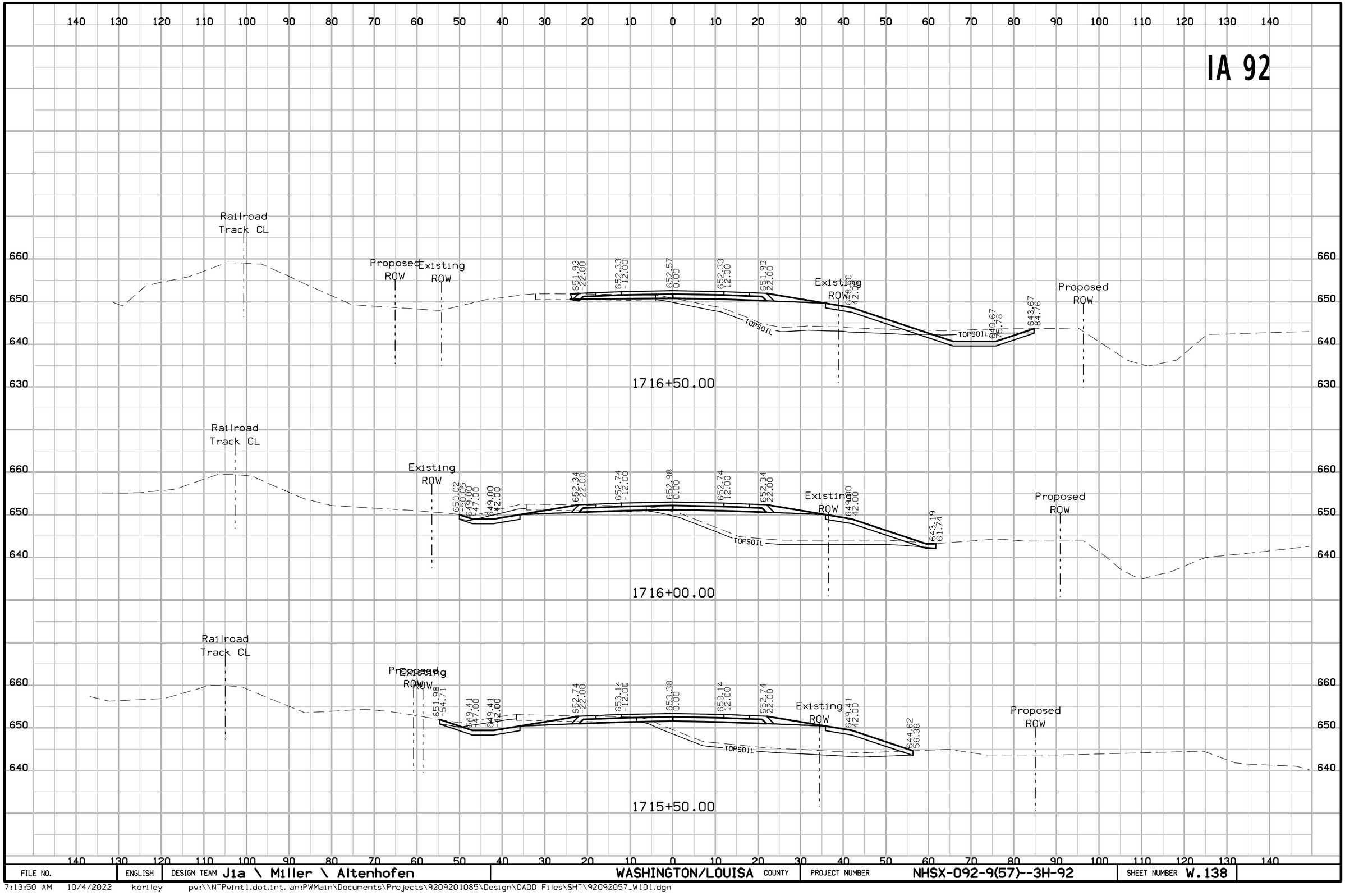
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.137

7:13:48 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

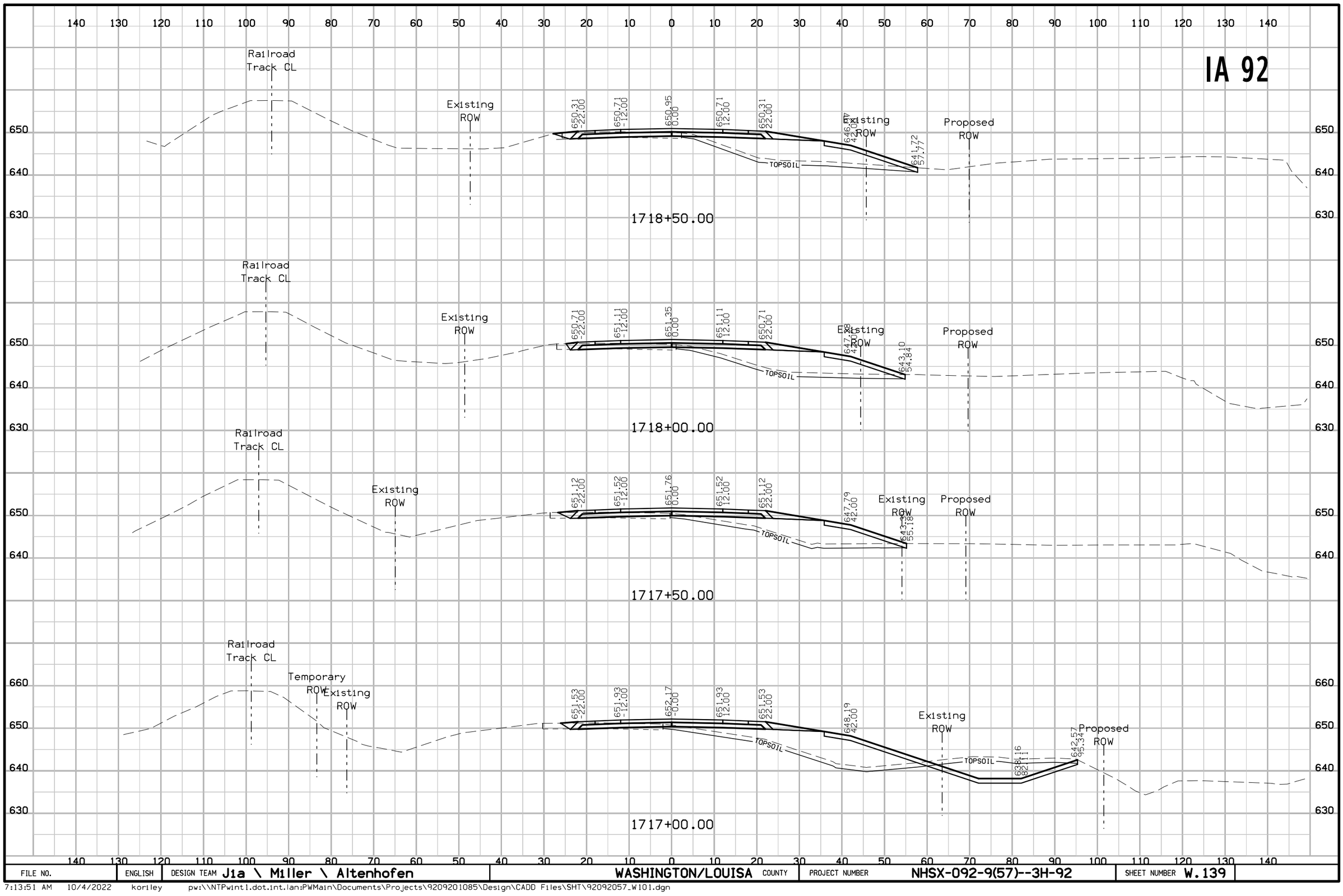
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.138

7:13:50 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

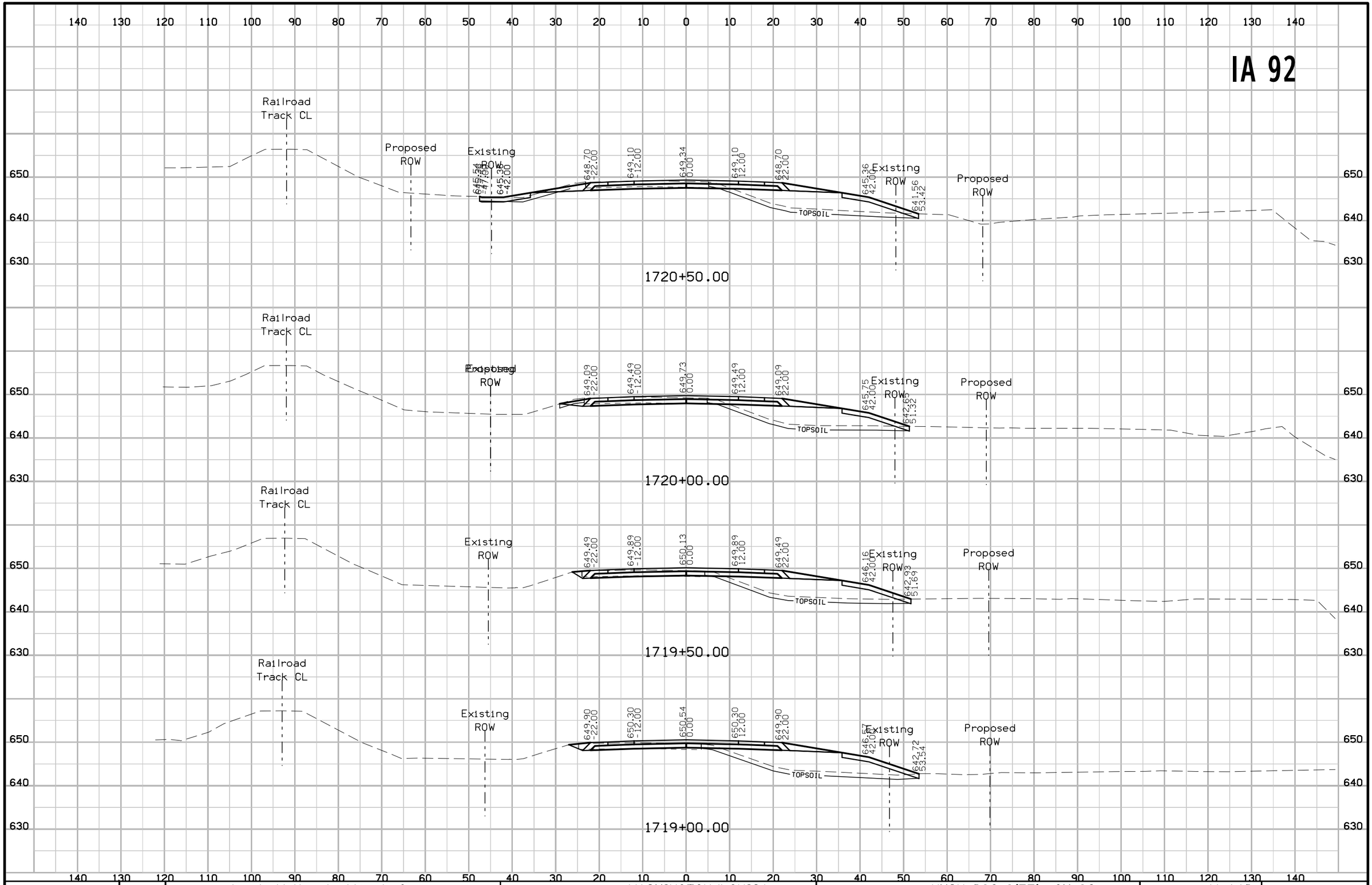
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.139

7:13:51 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

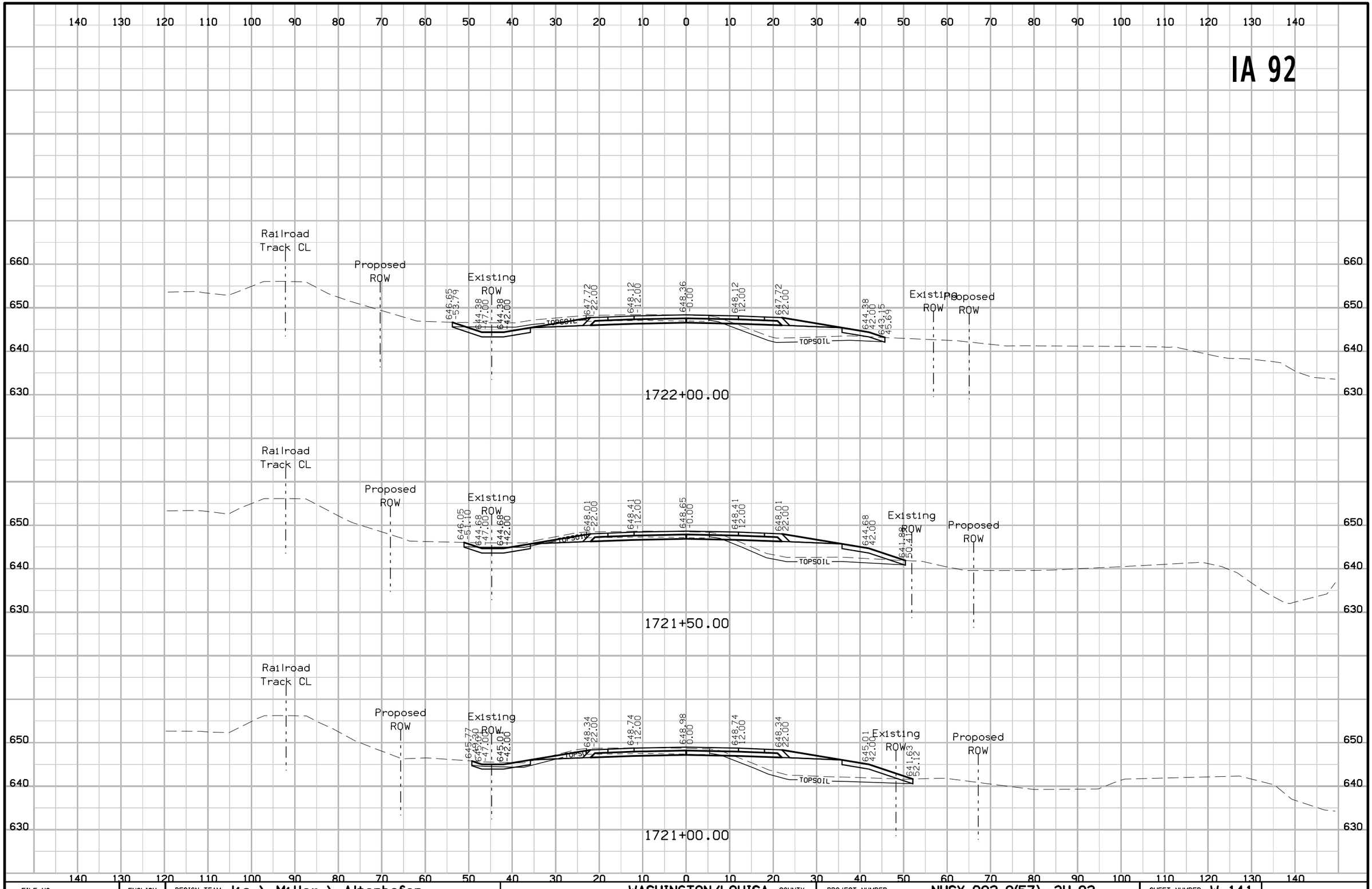
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.140

7:13:53 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

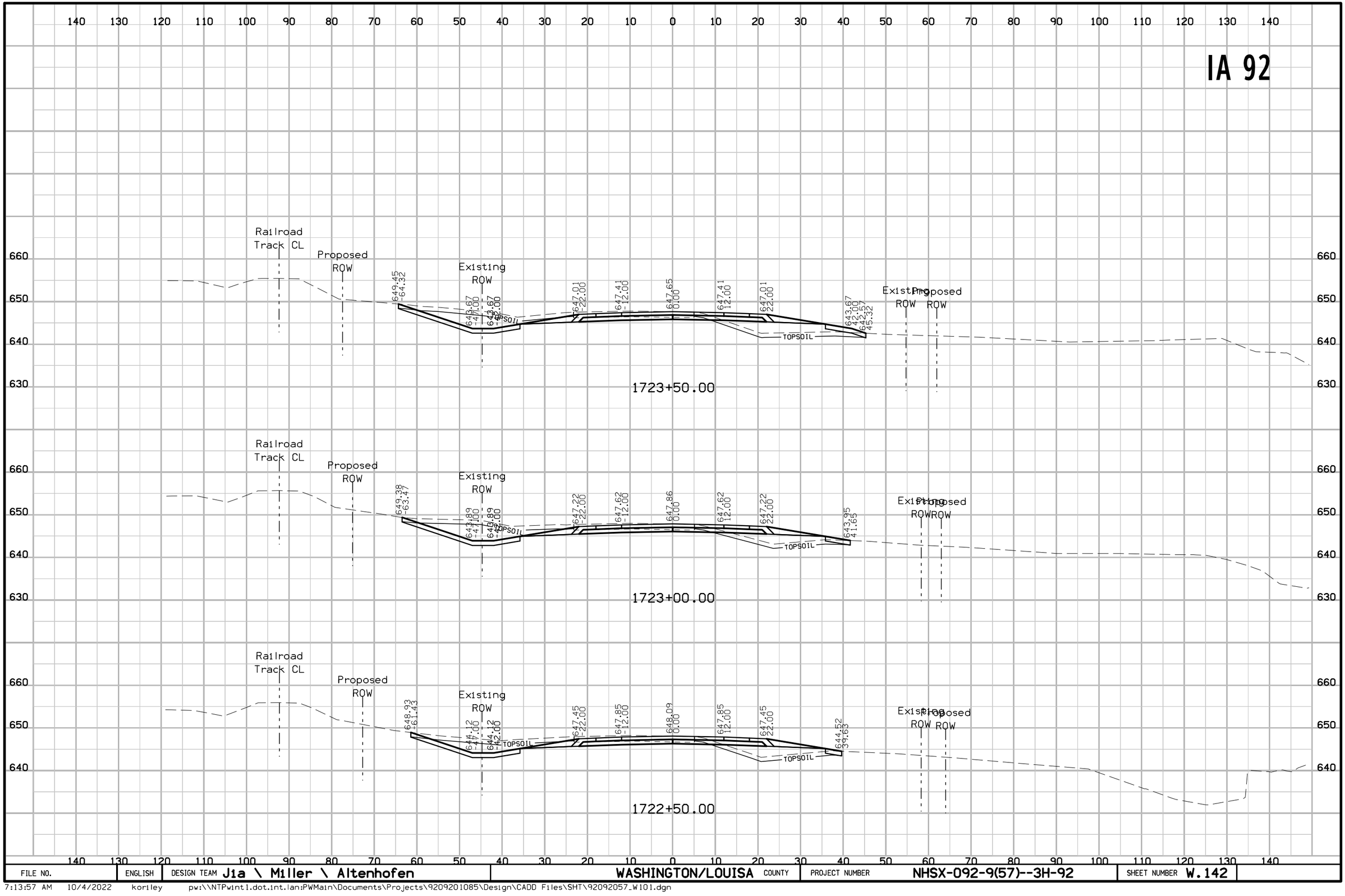
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.141

7:13:55 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

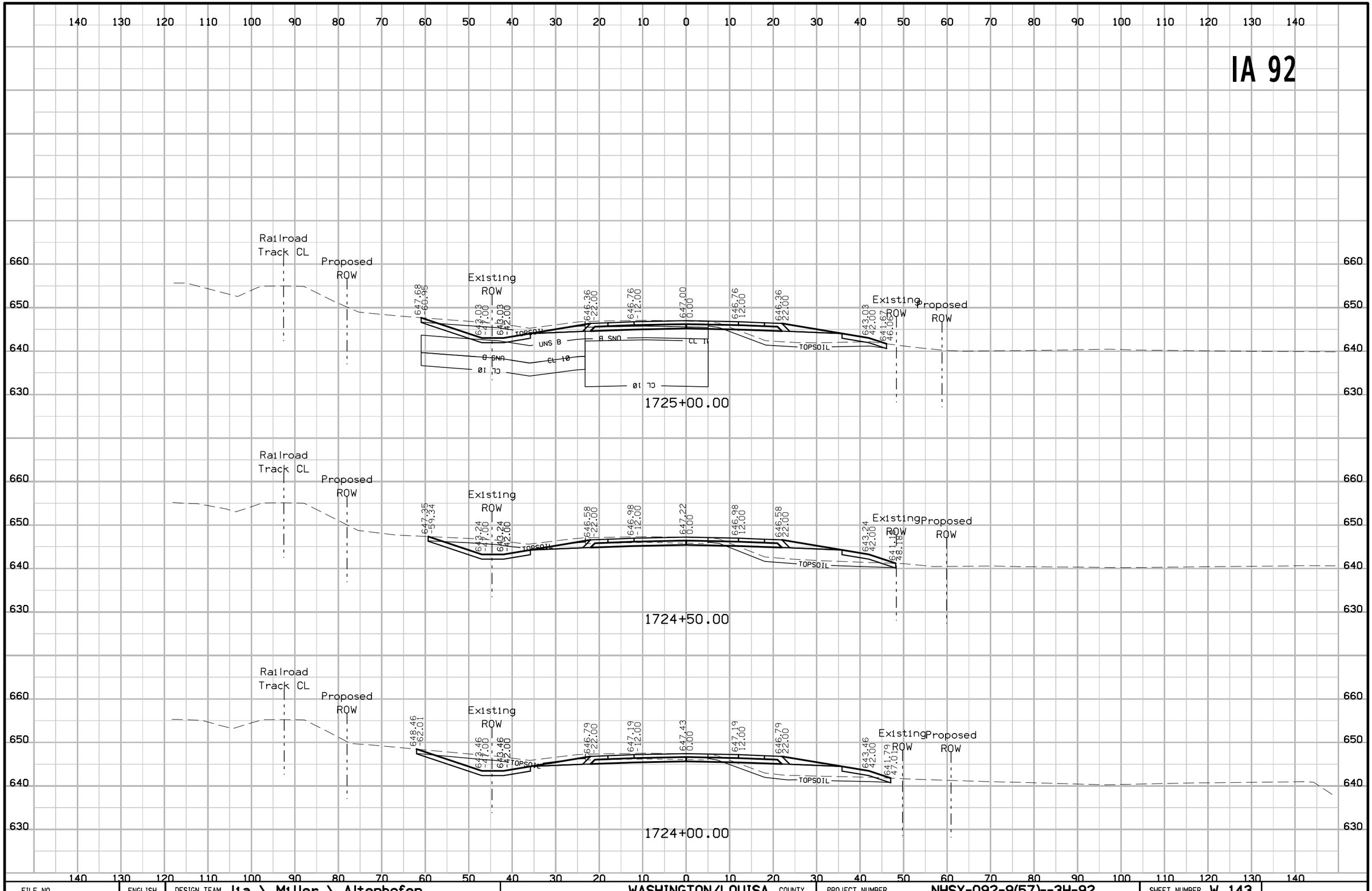
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.142

7:13:57 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

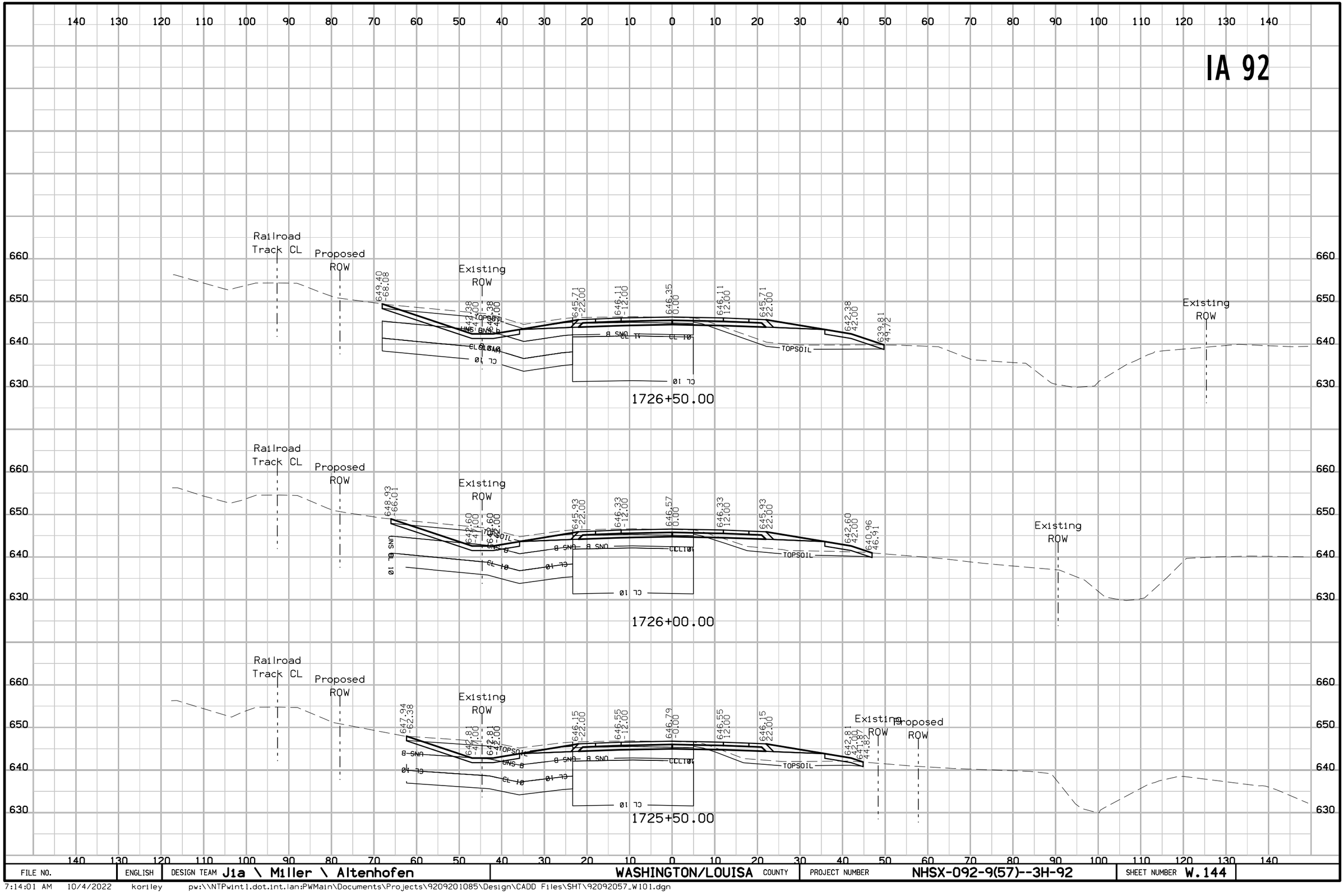
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.143

7:13:59 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

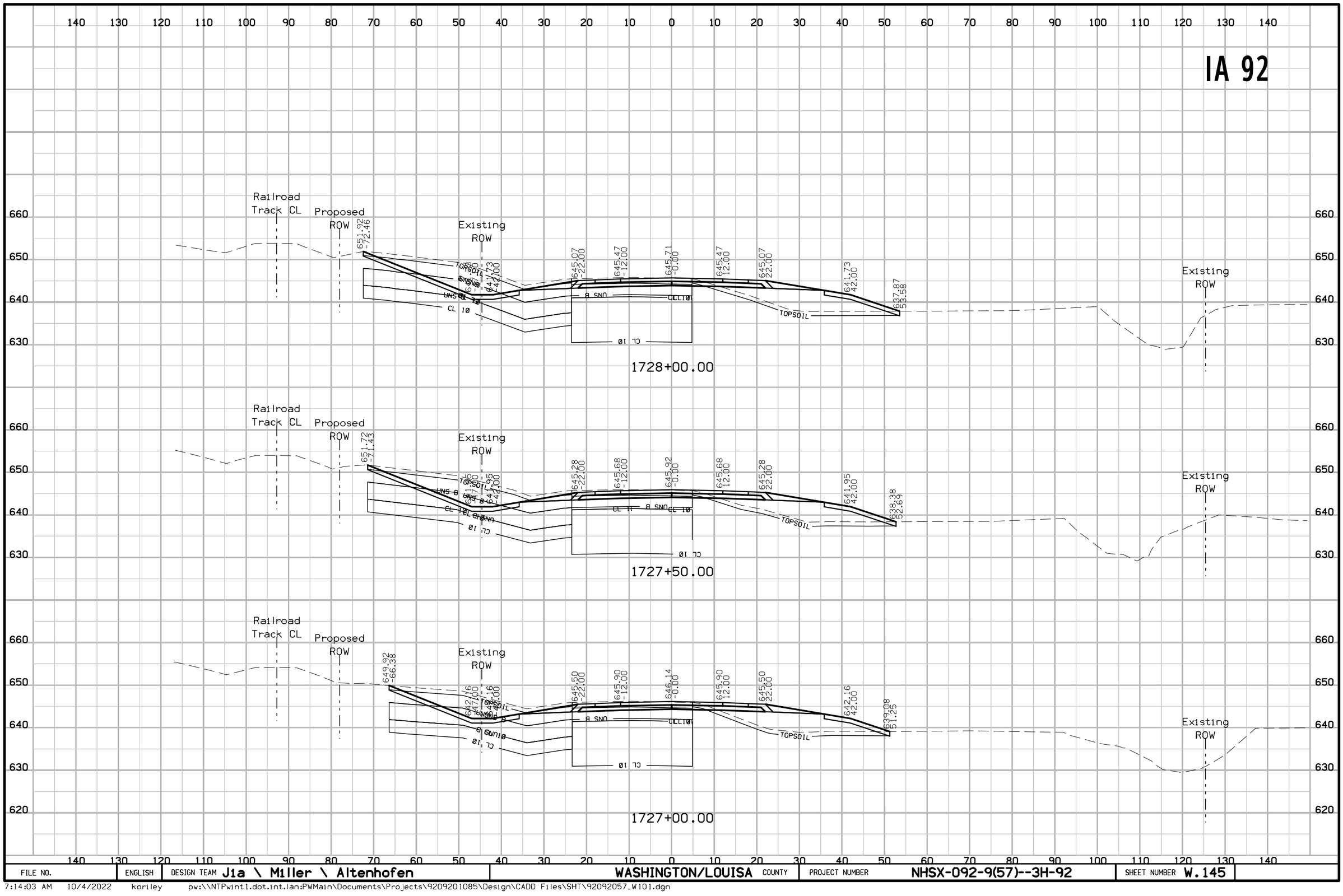
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.144

7:14:01 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

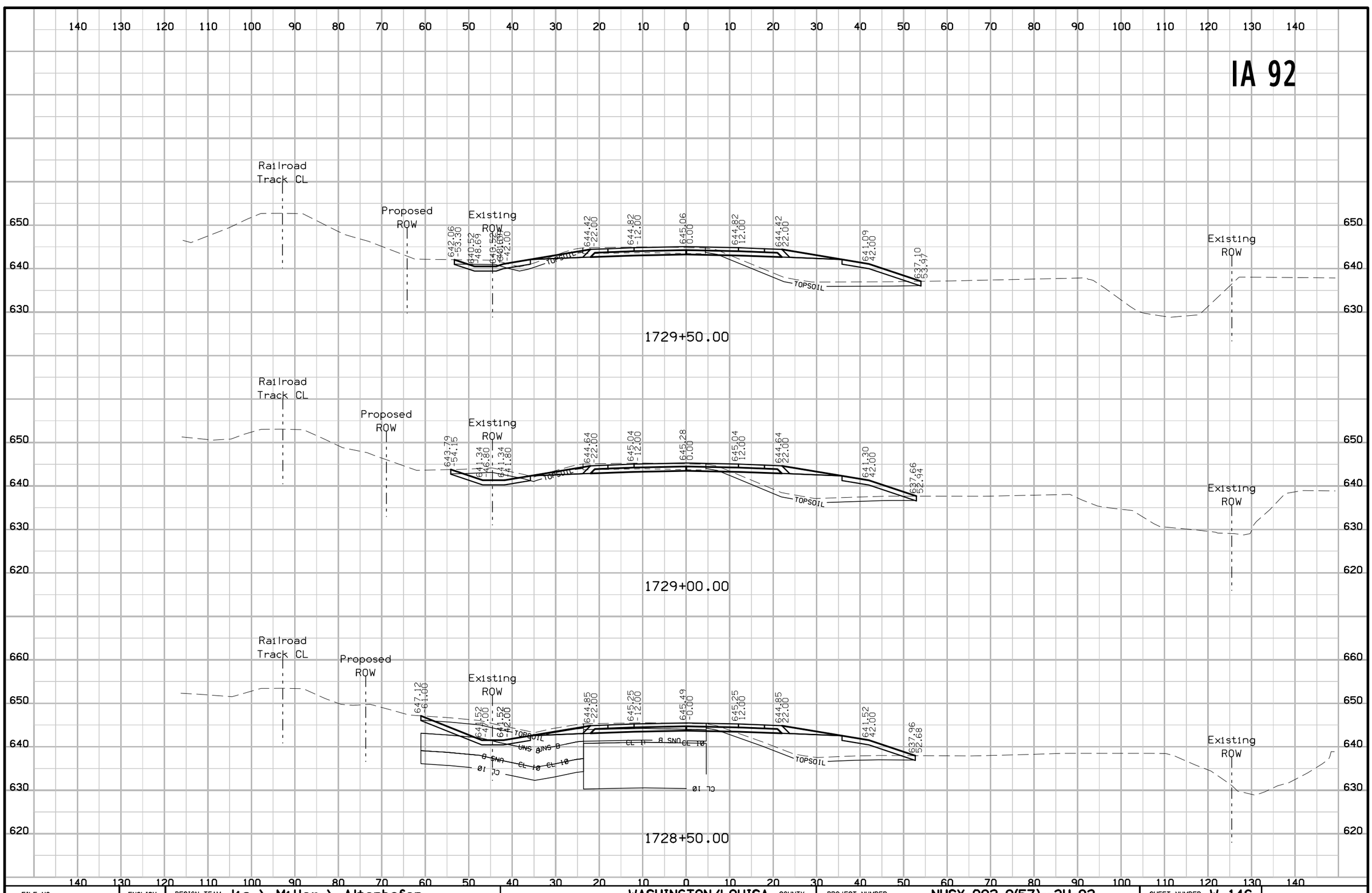
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.145

7:14:03 AM 10/4/2022 korliey pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

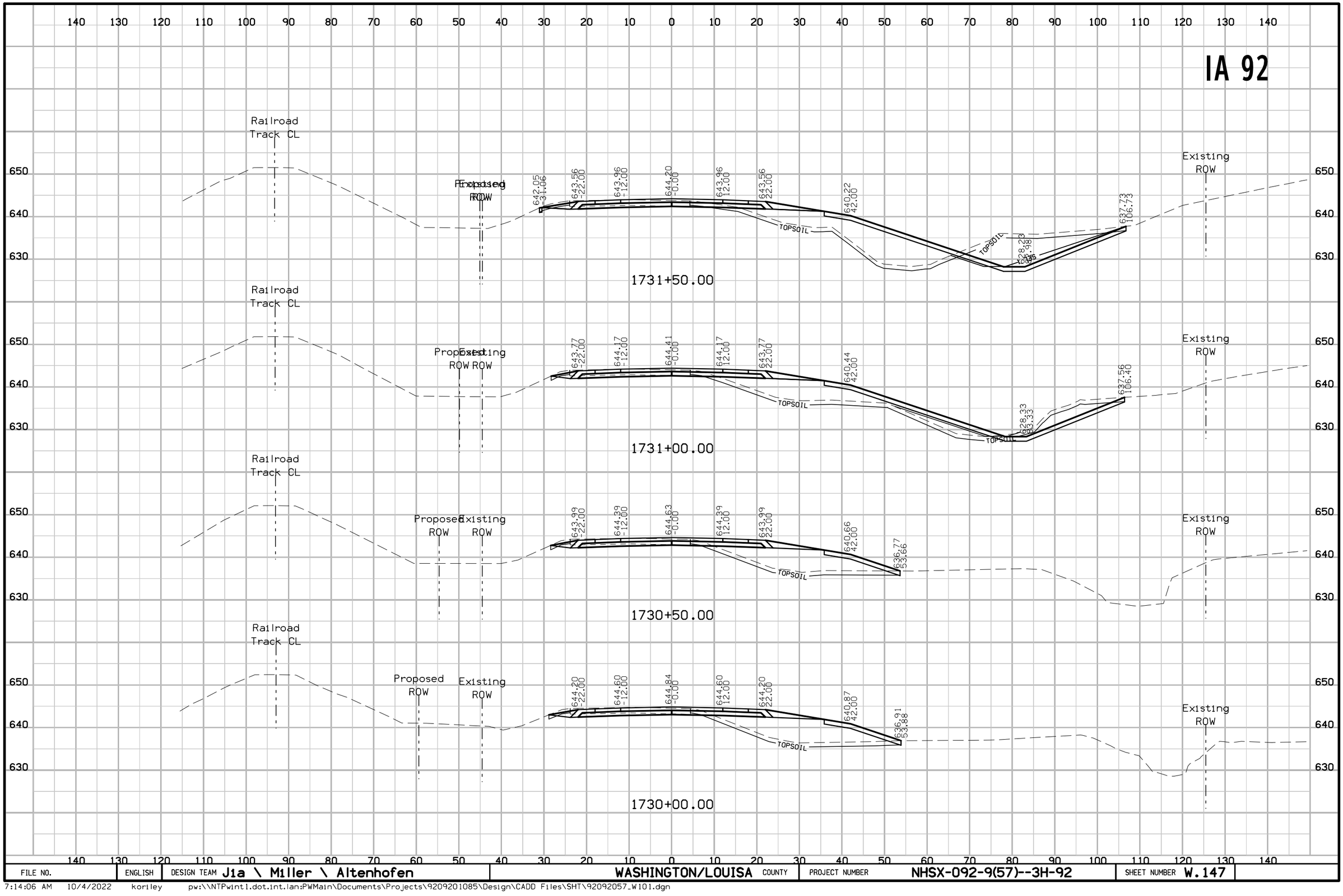
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.146

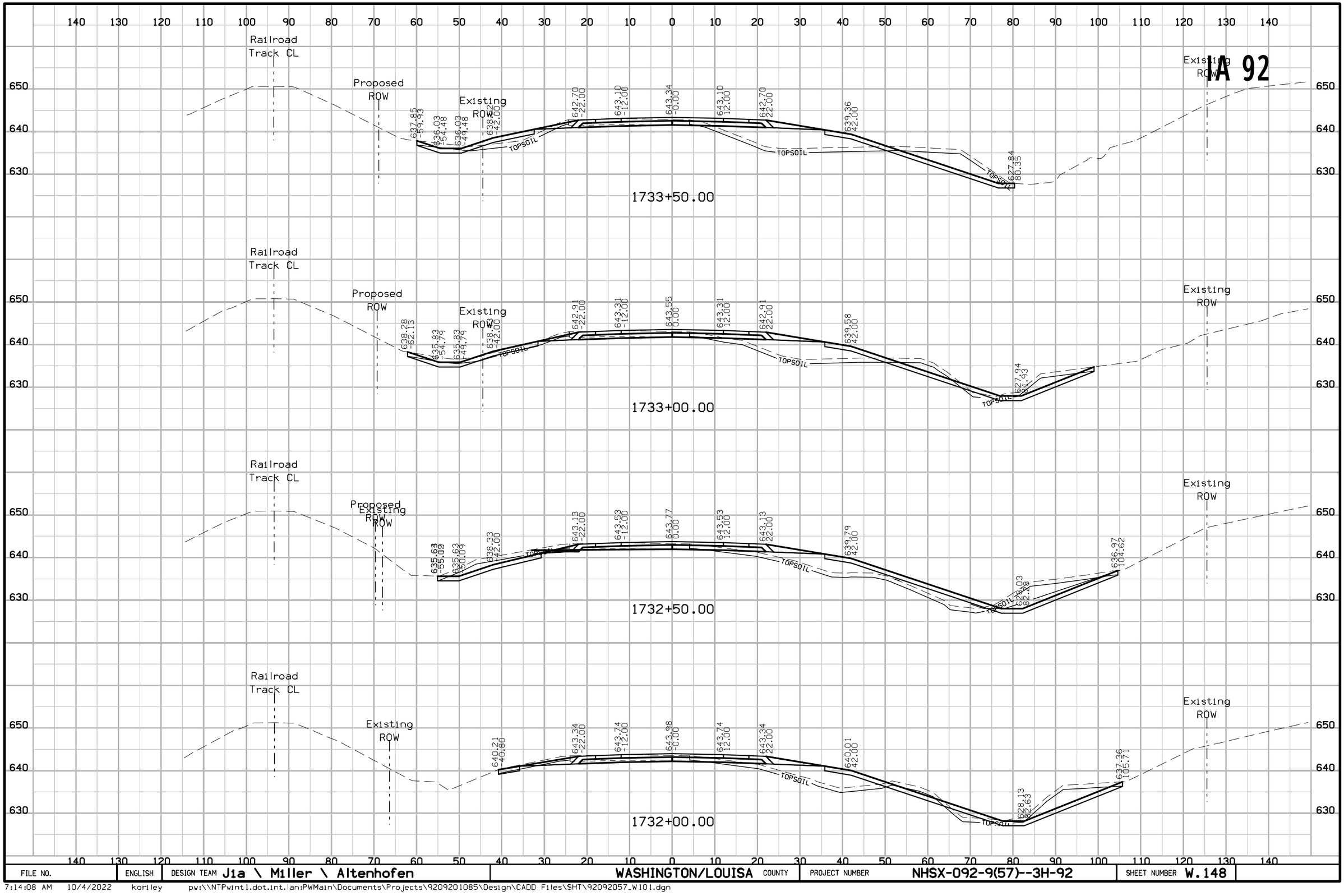
7:14:04 AM 10/4/2022 korliey pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.147

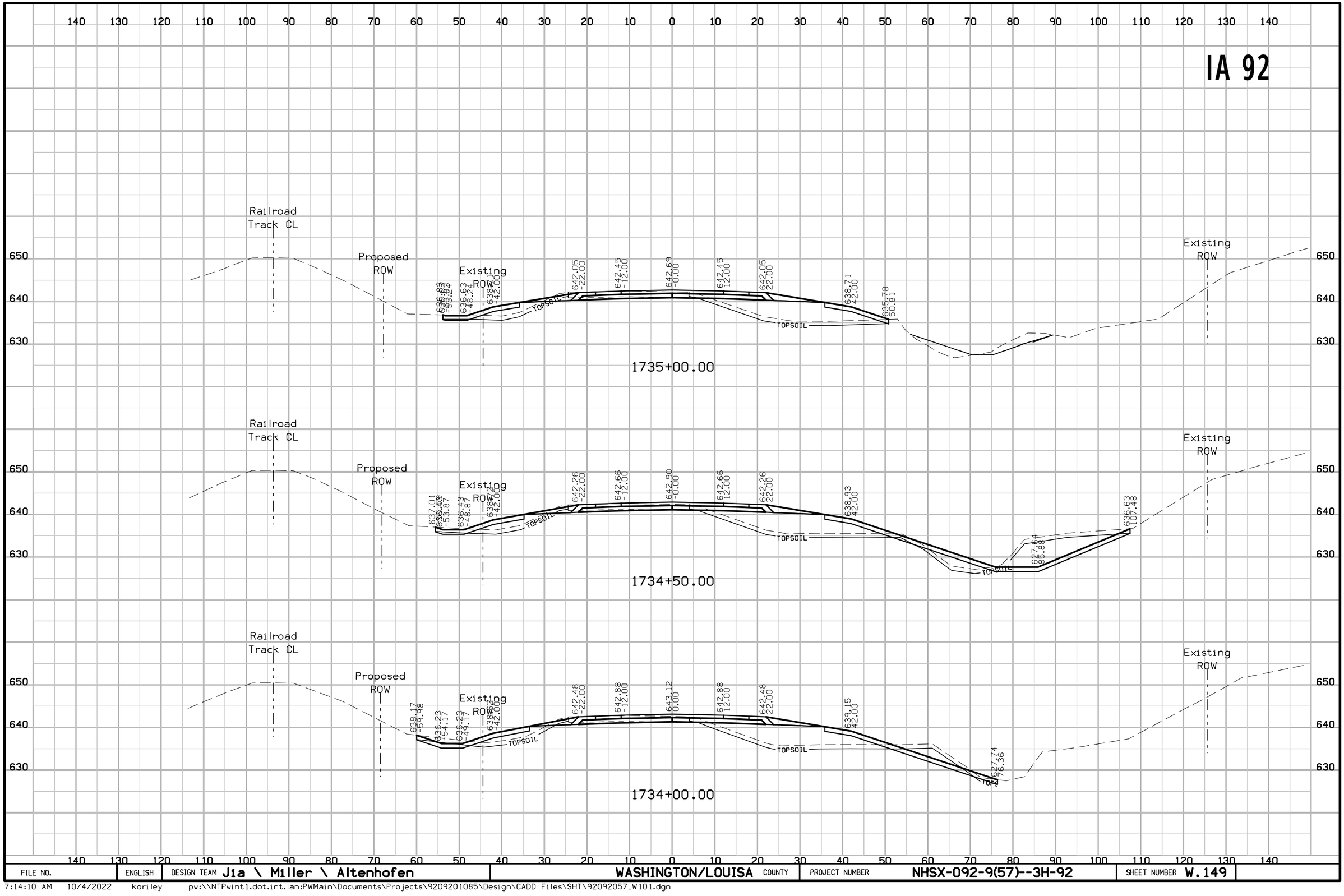
7:14:06 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.148

7:14:08 AM 10/4/2022 korilley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

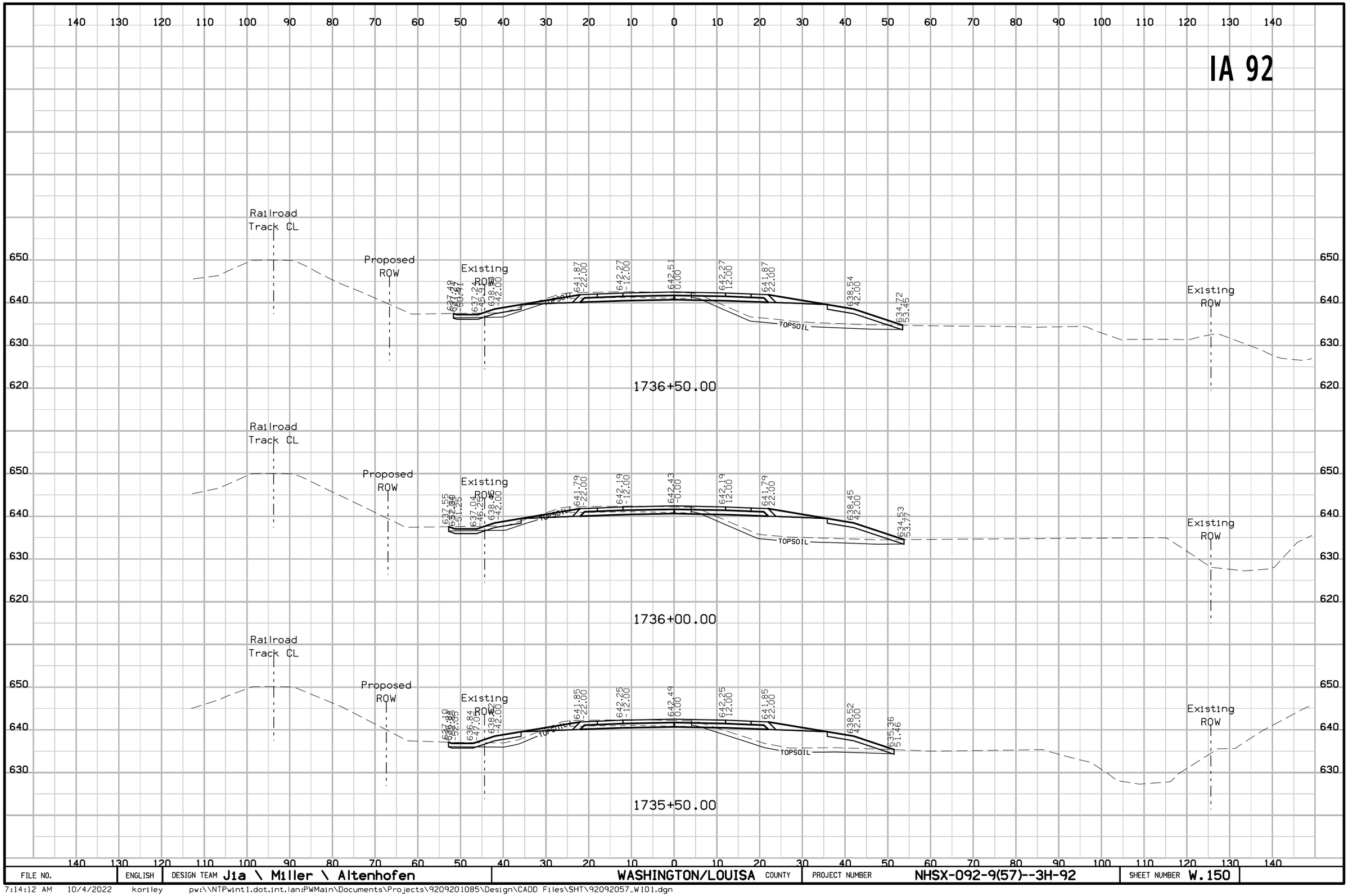
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.149

7:14:10 AM 10/4/2022 korliey pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

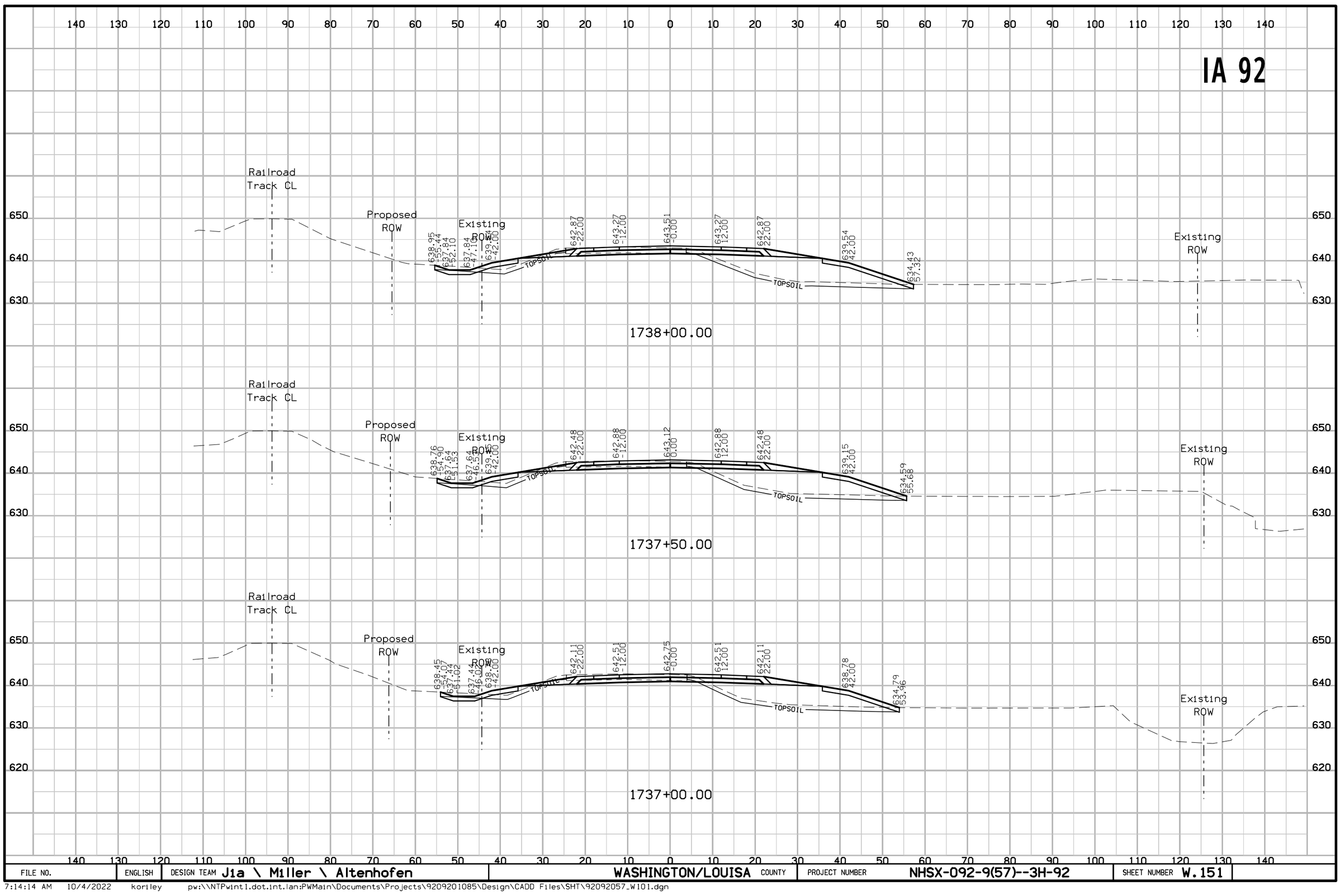
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.150

7:14:12 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

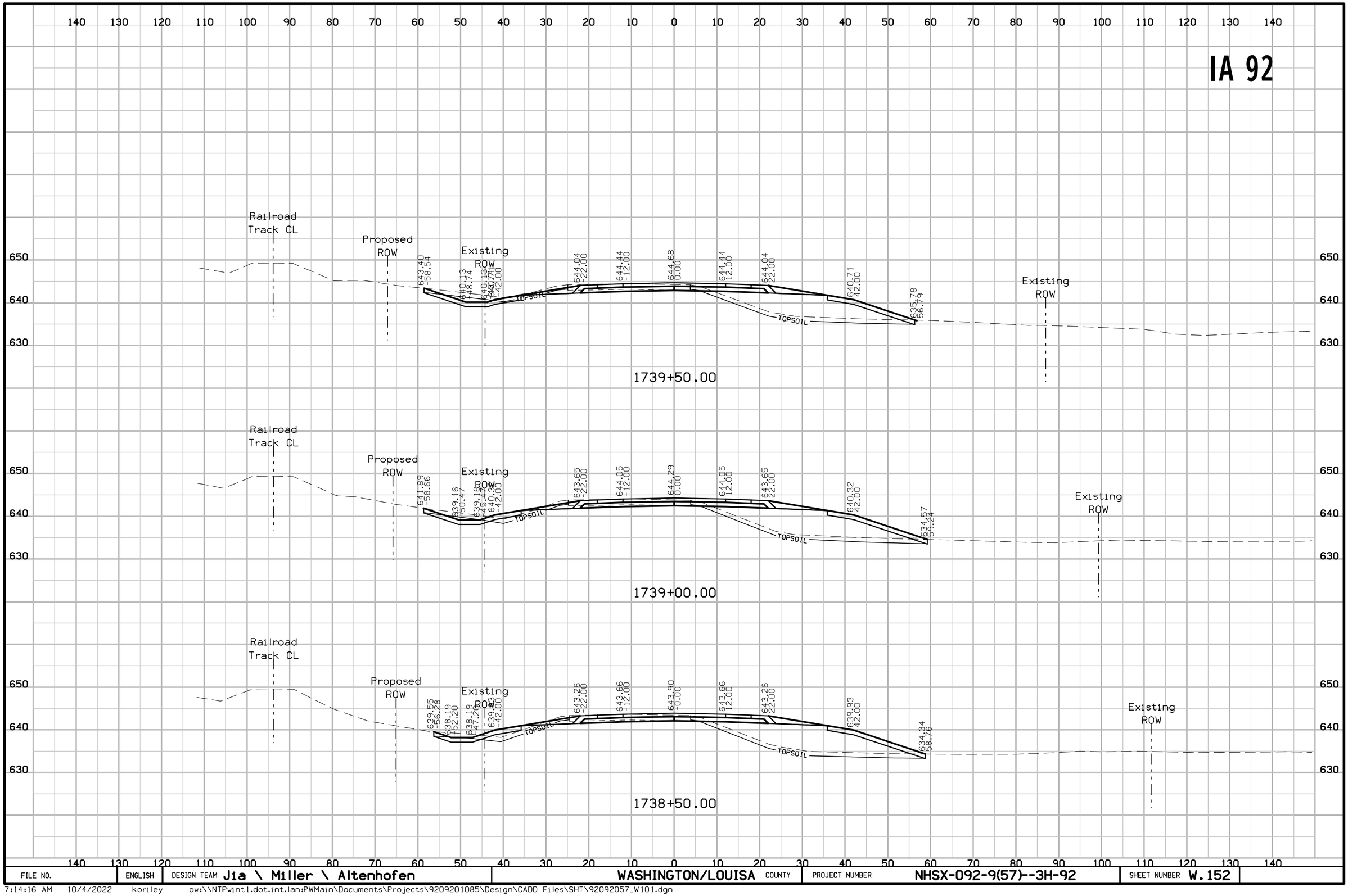
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.151

7:14:14 AM 10/4/2022 korileу pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

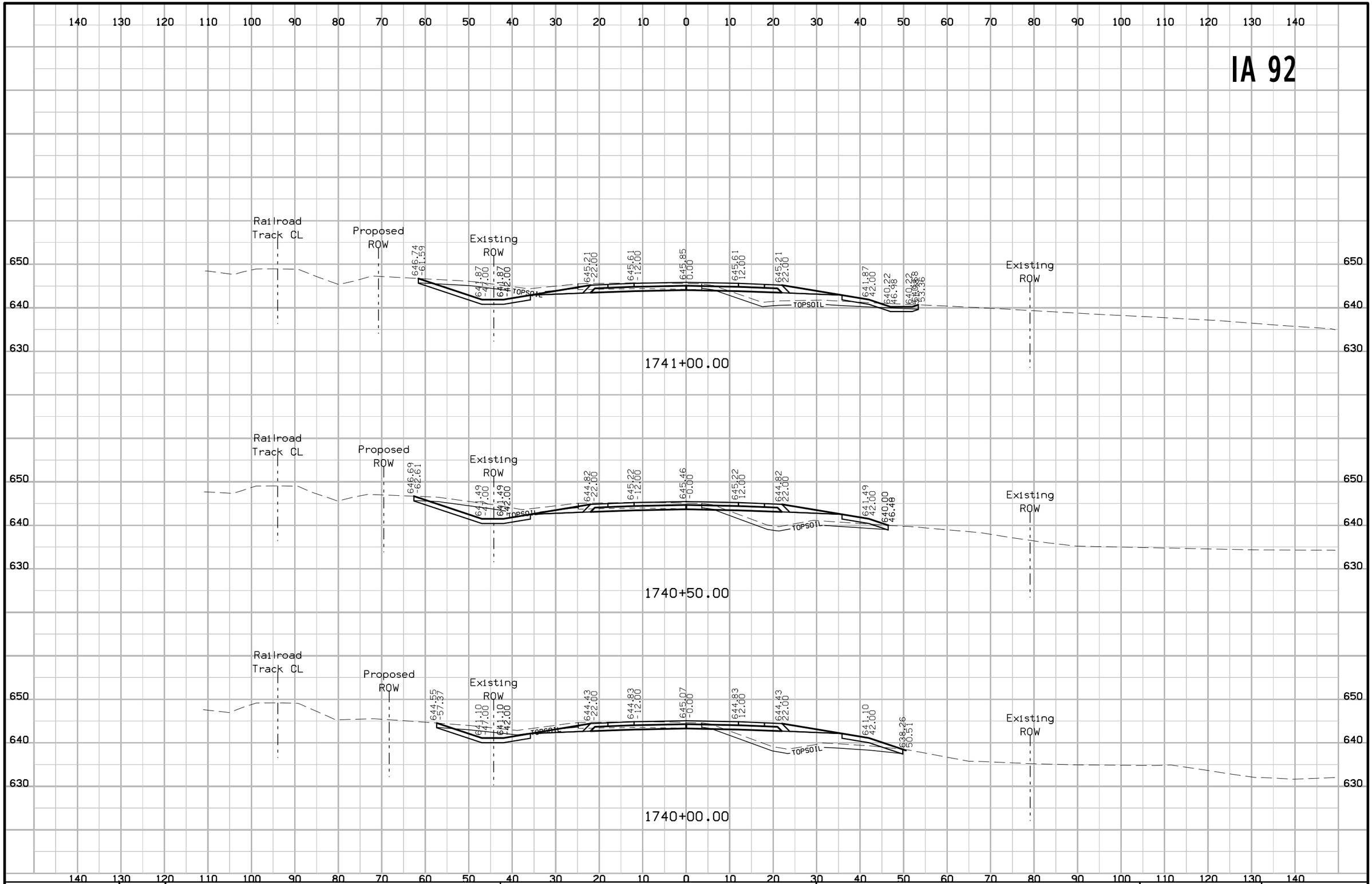
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.152

7:14:16 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

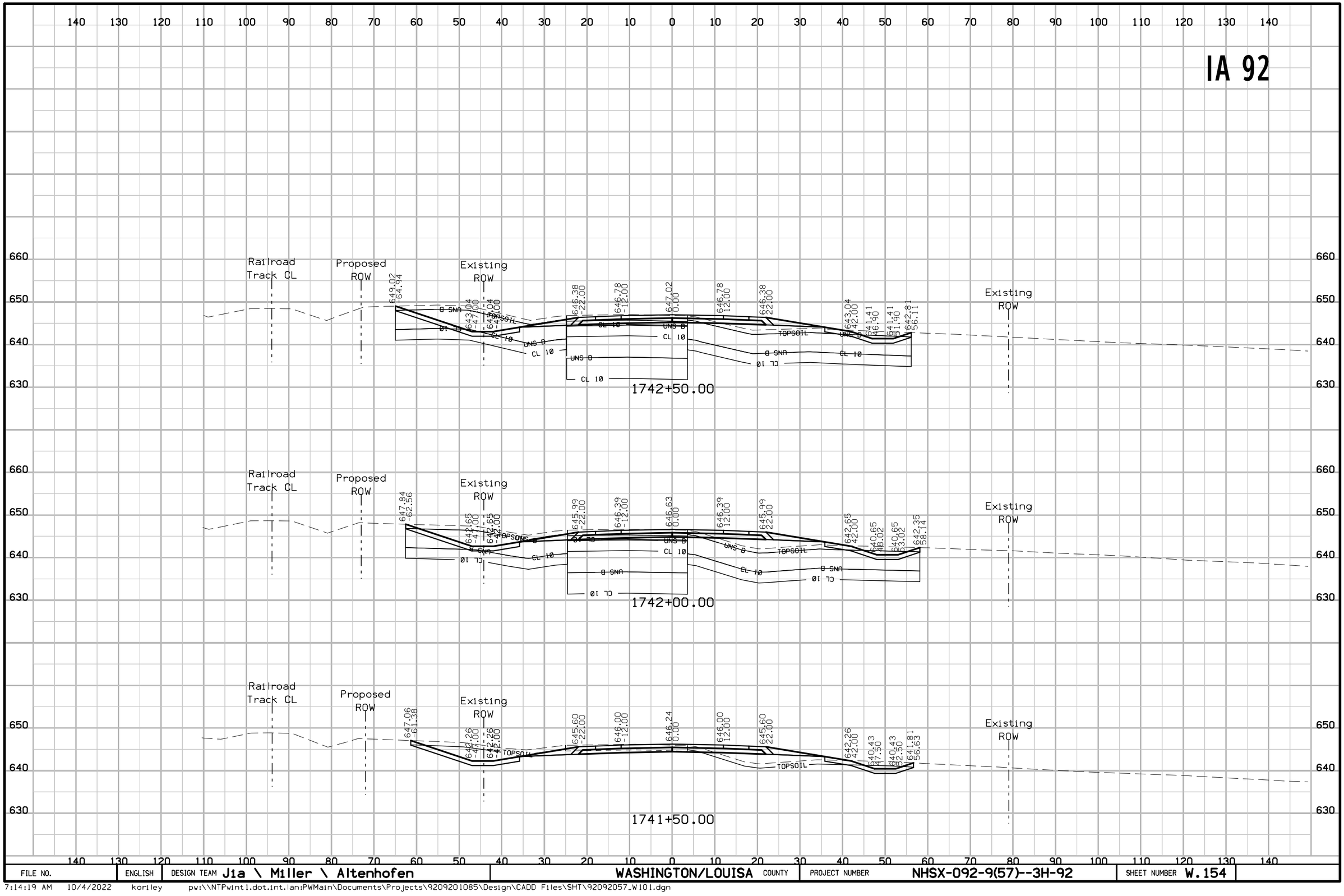
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.153

7:14:17 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

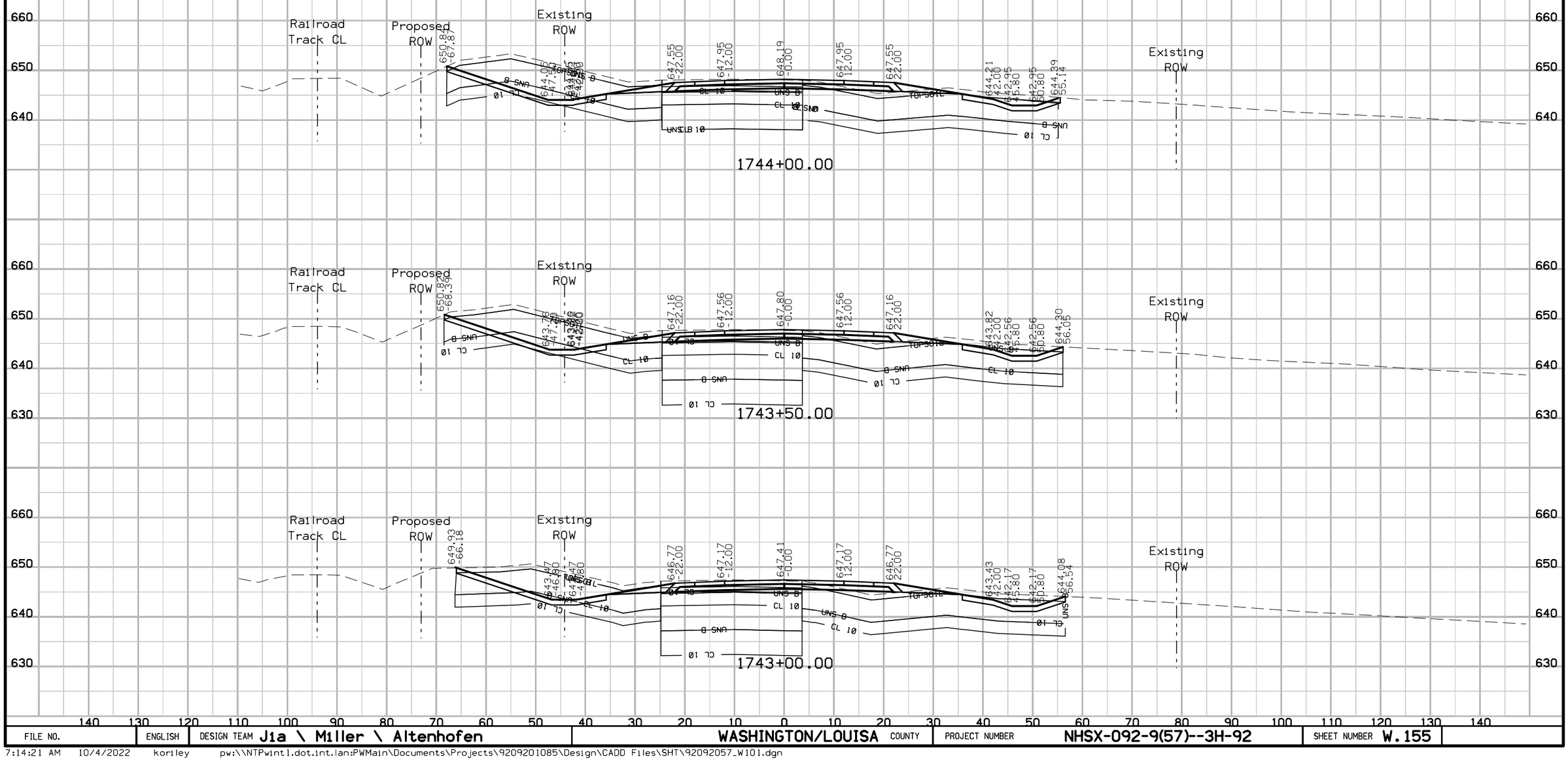
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.154

7:14:19 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

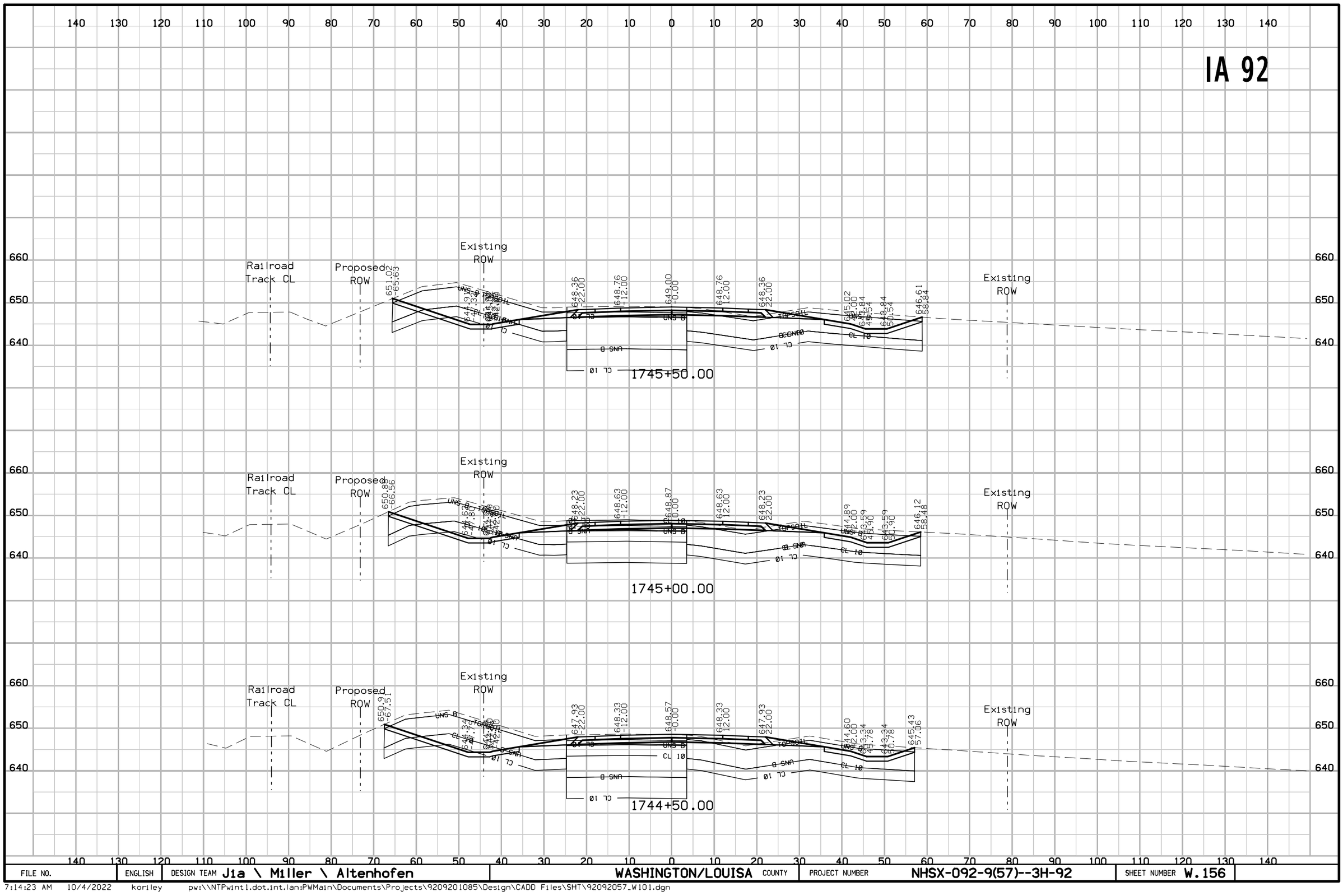
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.155

7:14:21 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

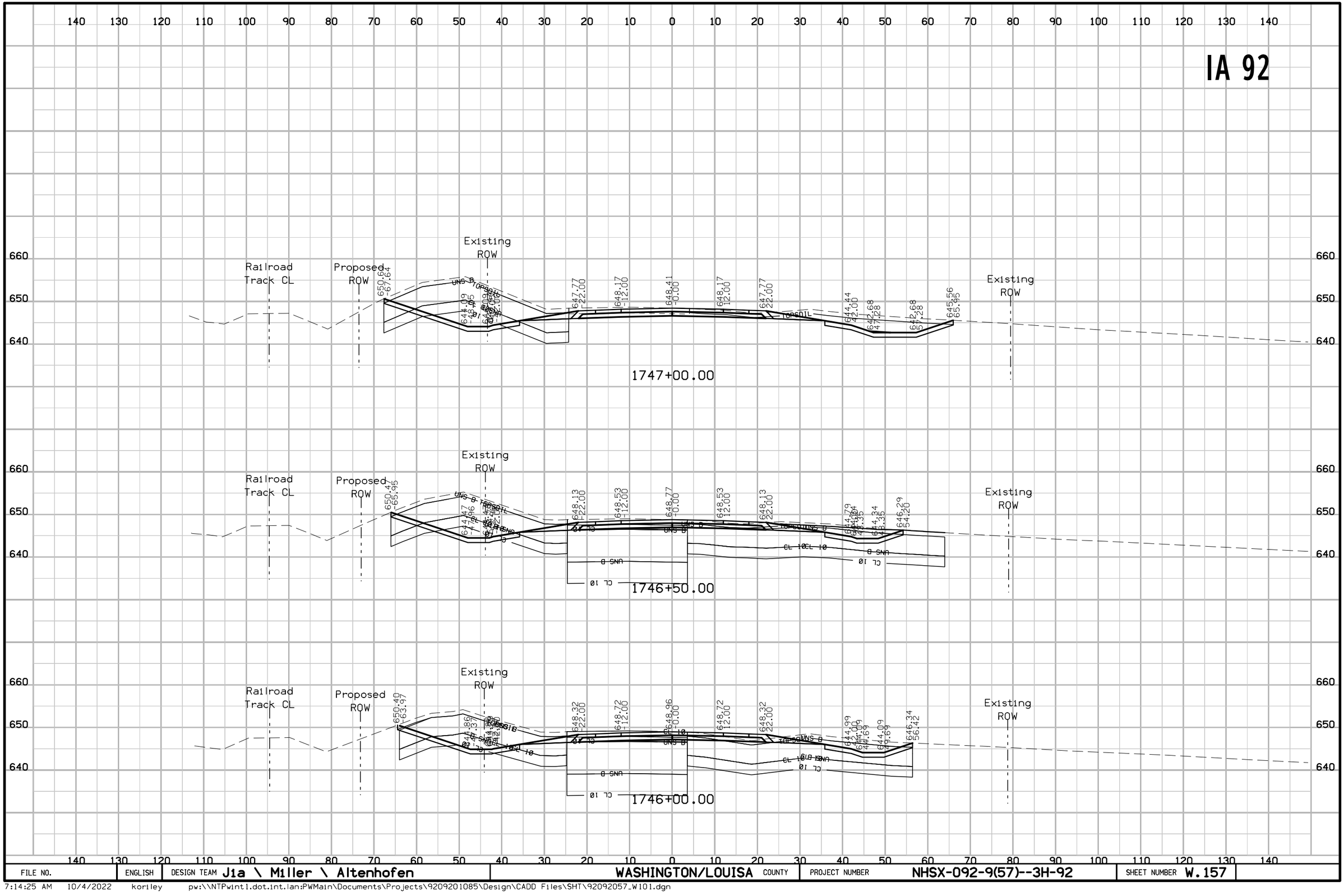
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.156

7:14:23 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

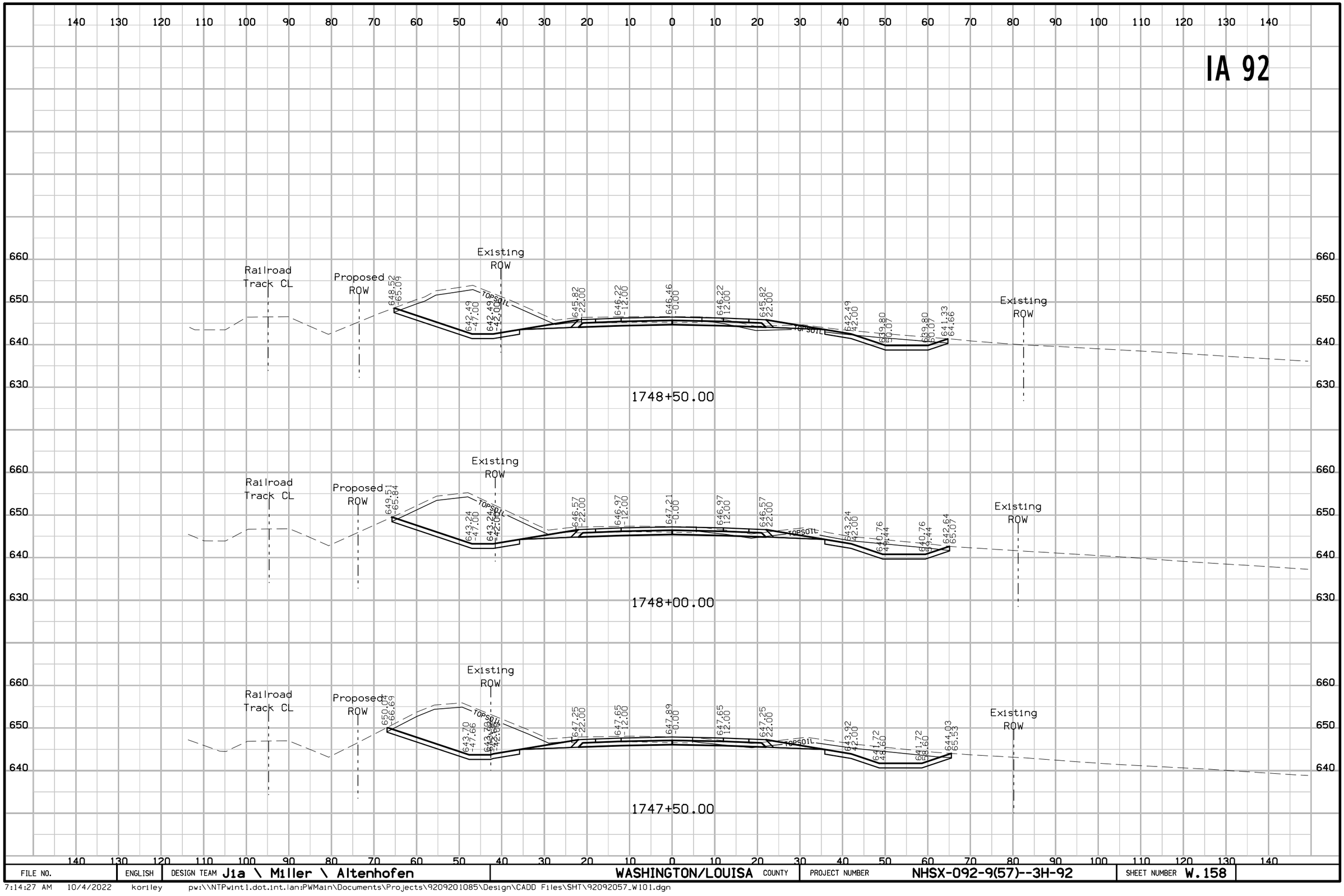
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.157

7:14:25 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

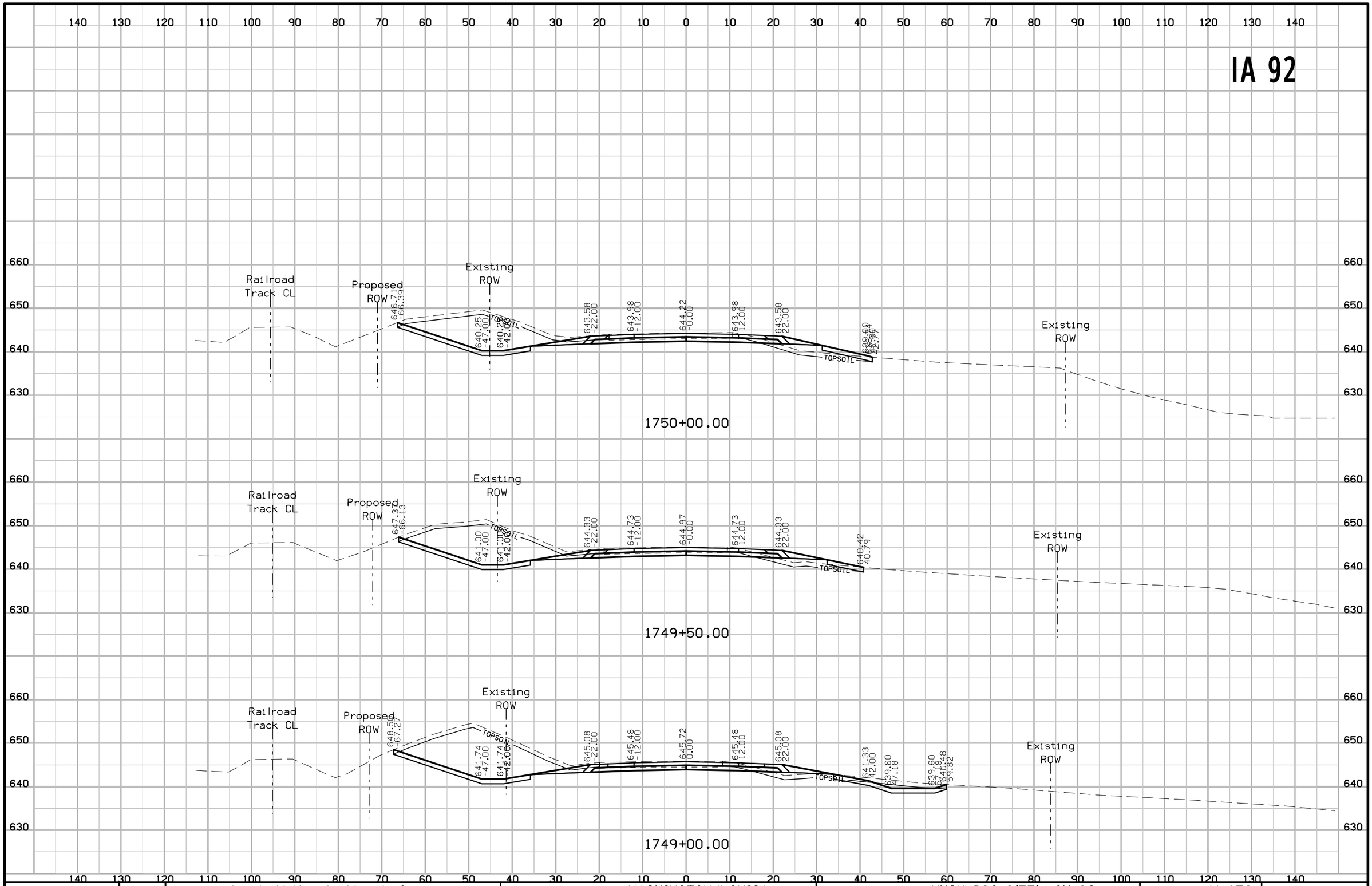
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.158

7:14:27 AM 10/4/2022 korliey pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

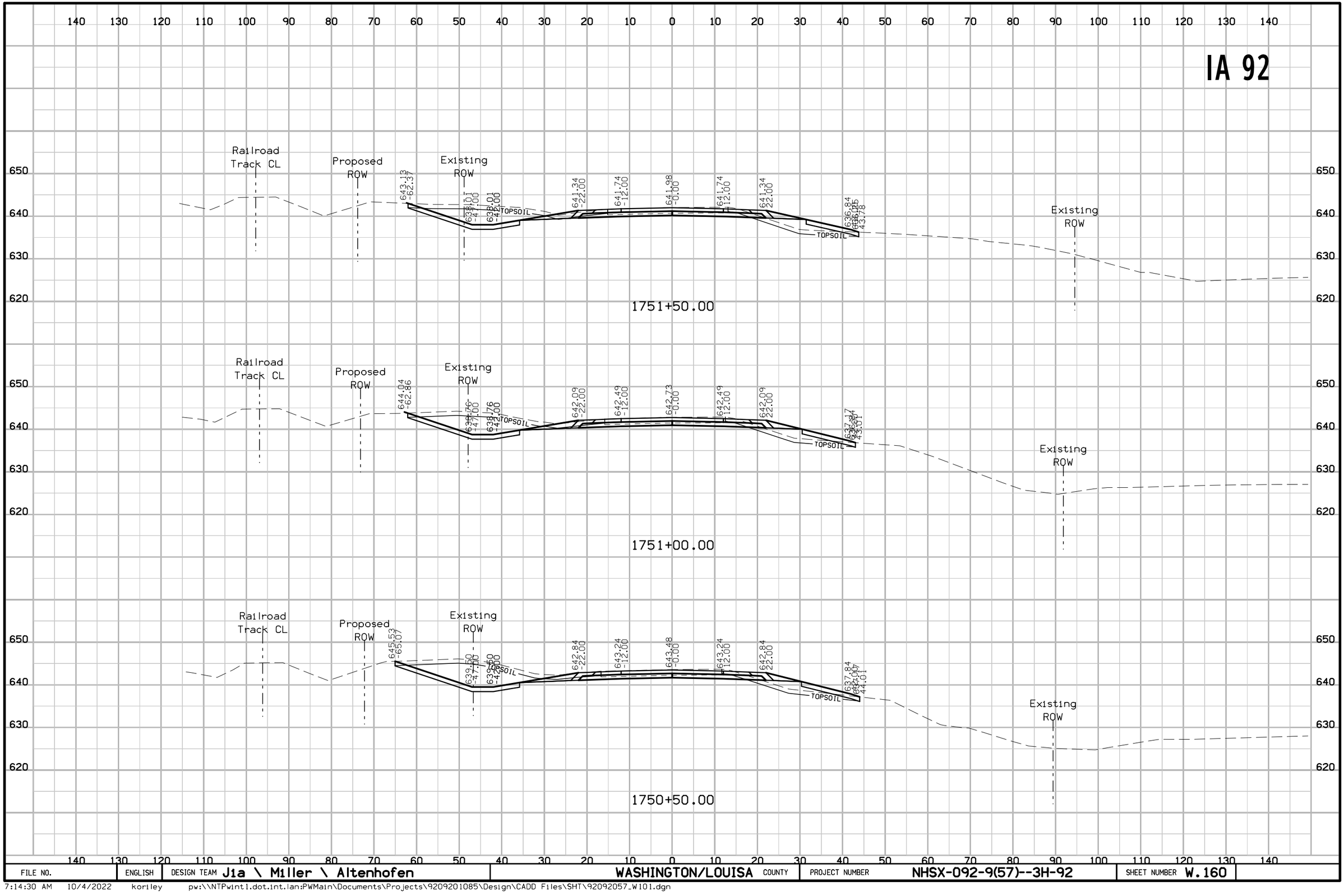
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.159

7:14:29 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

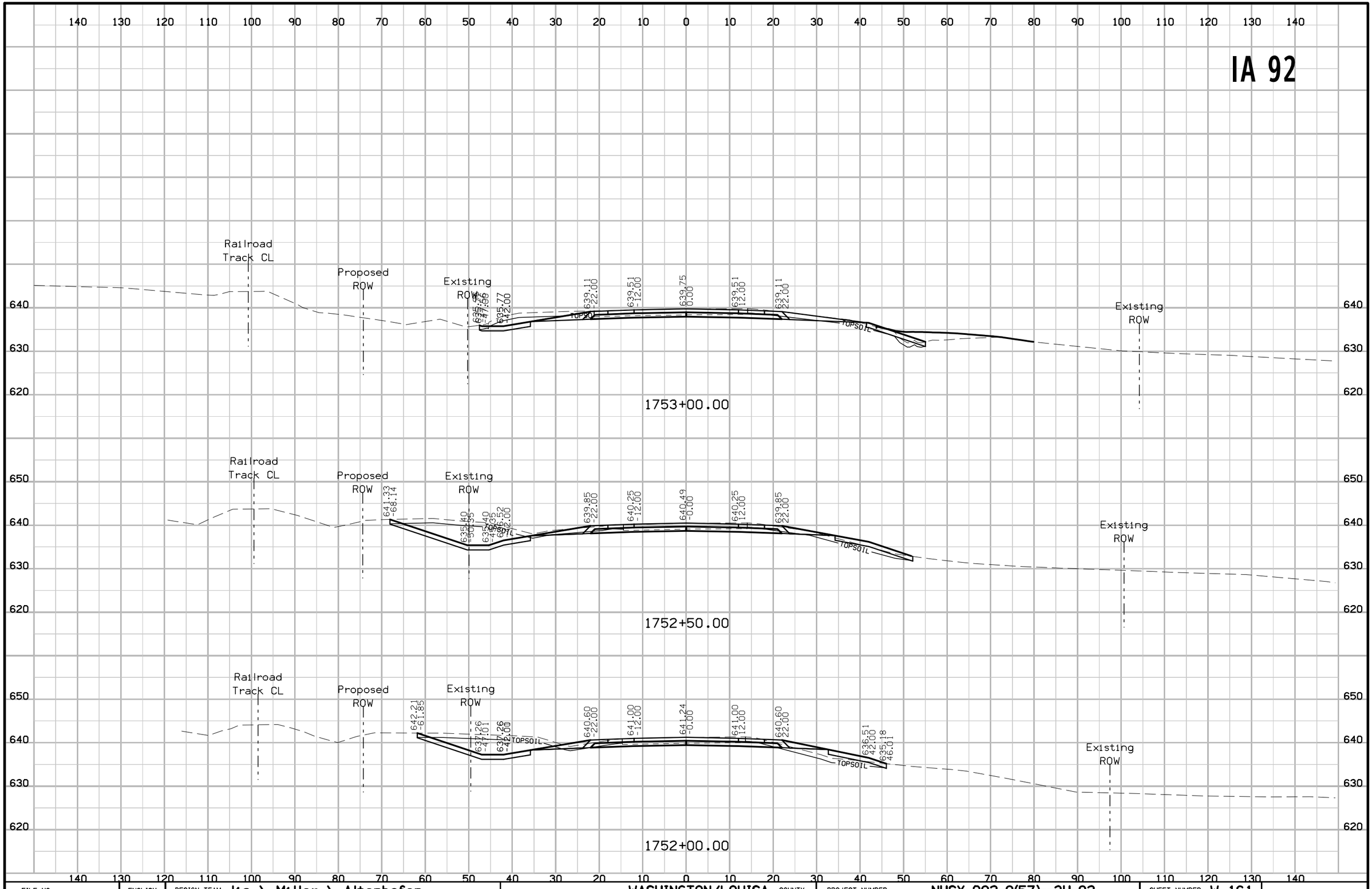
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.160

7:14:30 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

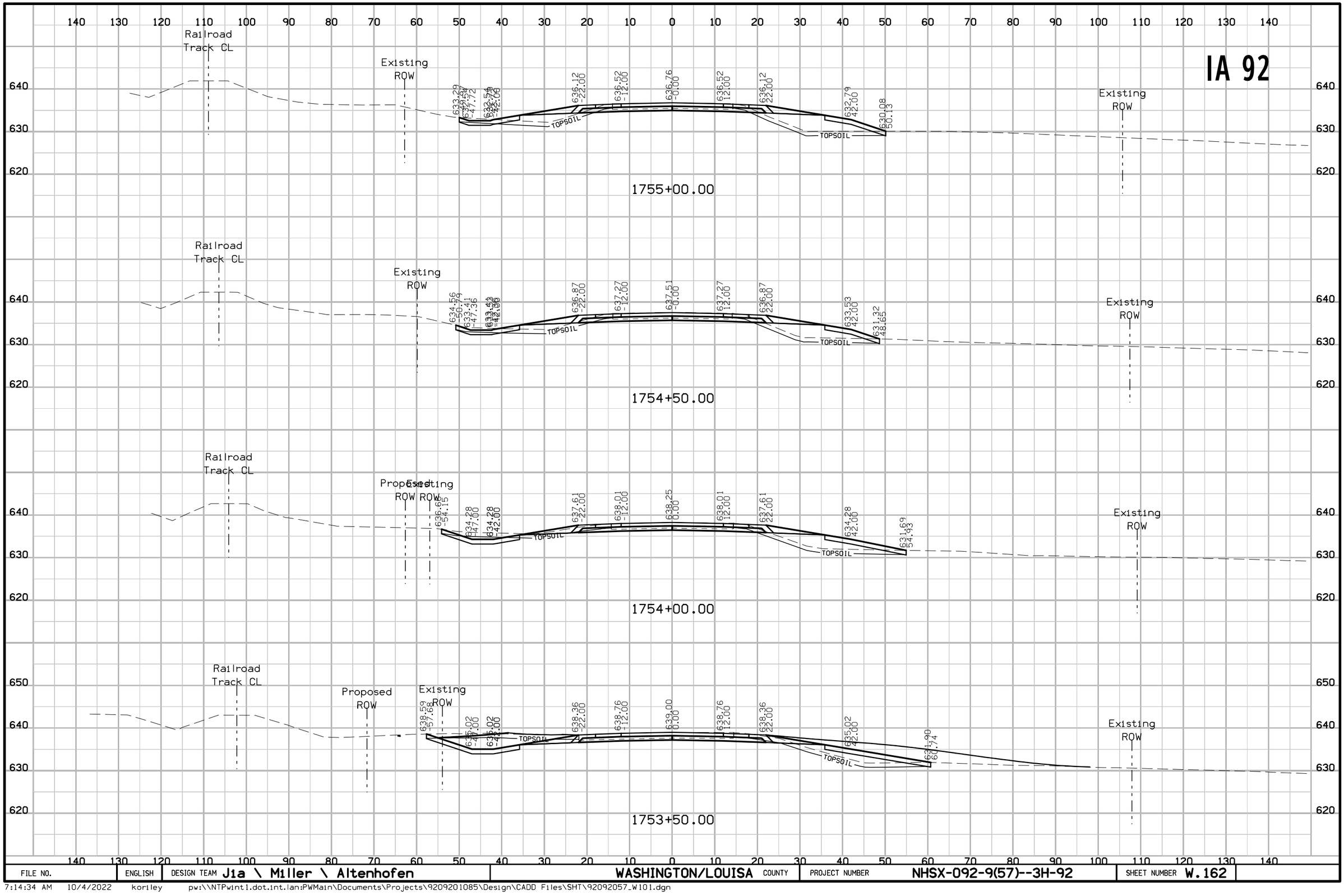
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.161

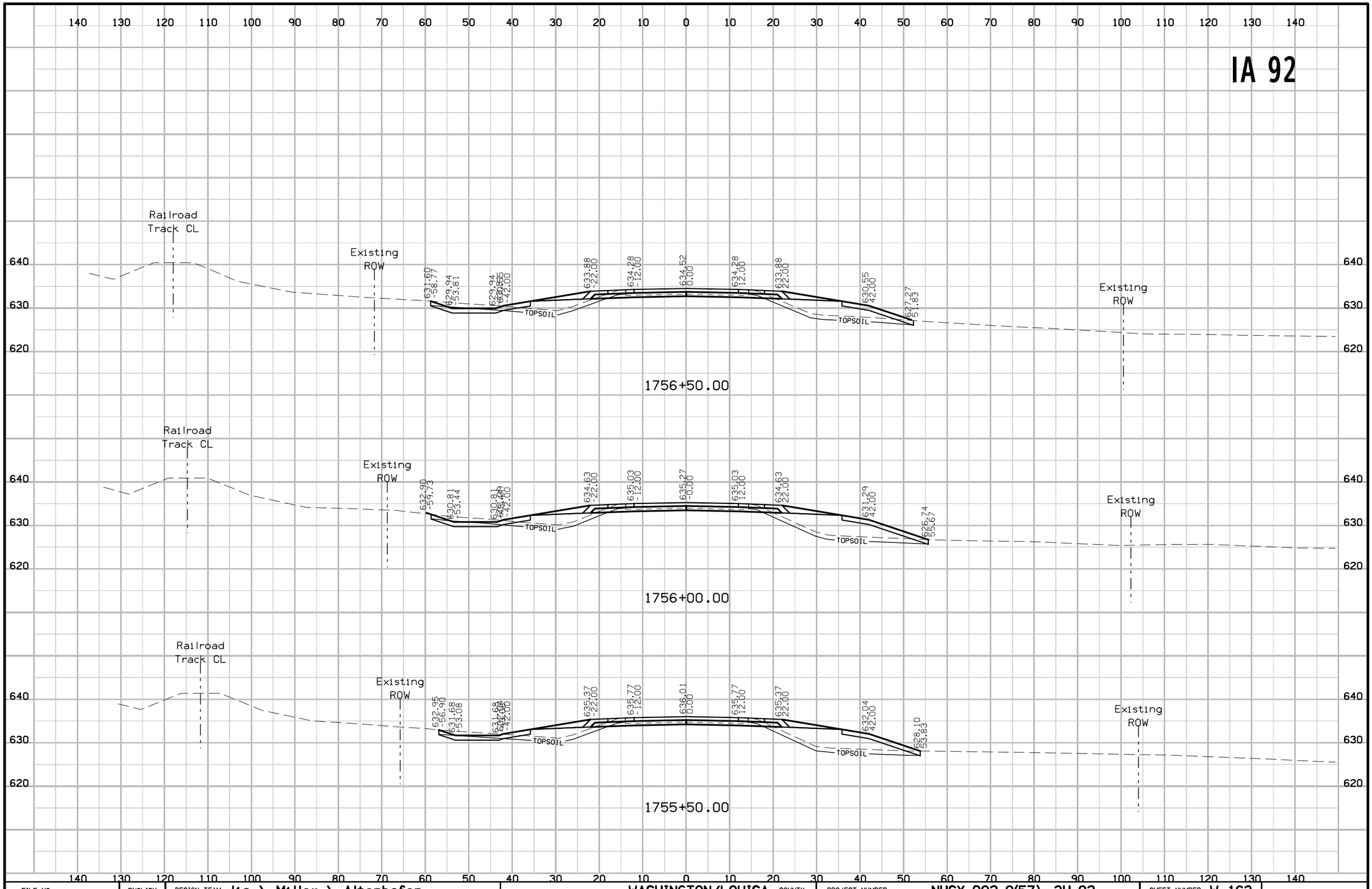
7:14:32 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.162

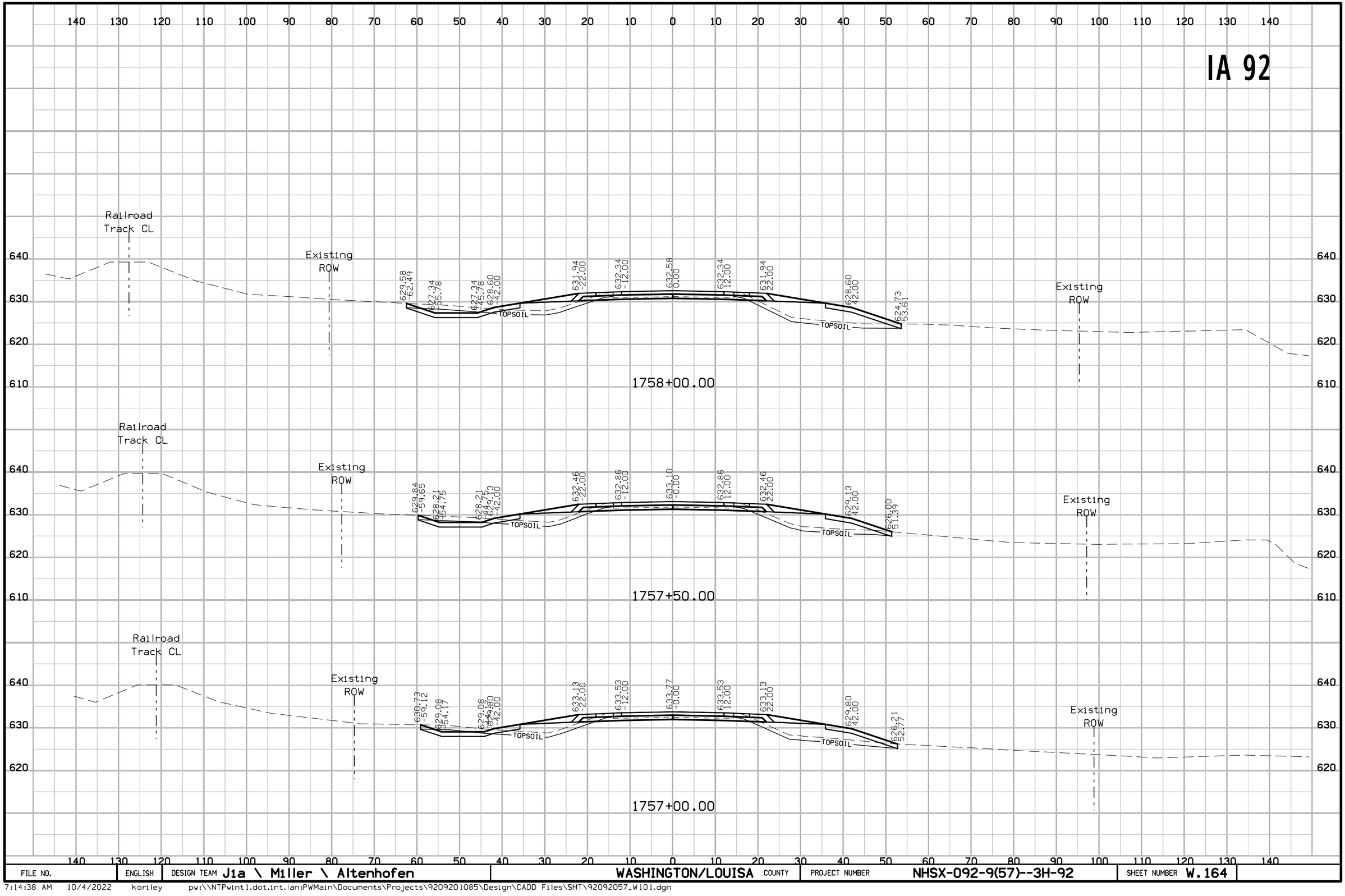
7:14:34 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.163

7:14:36 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

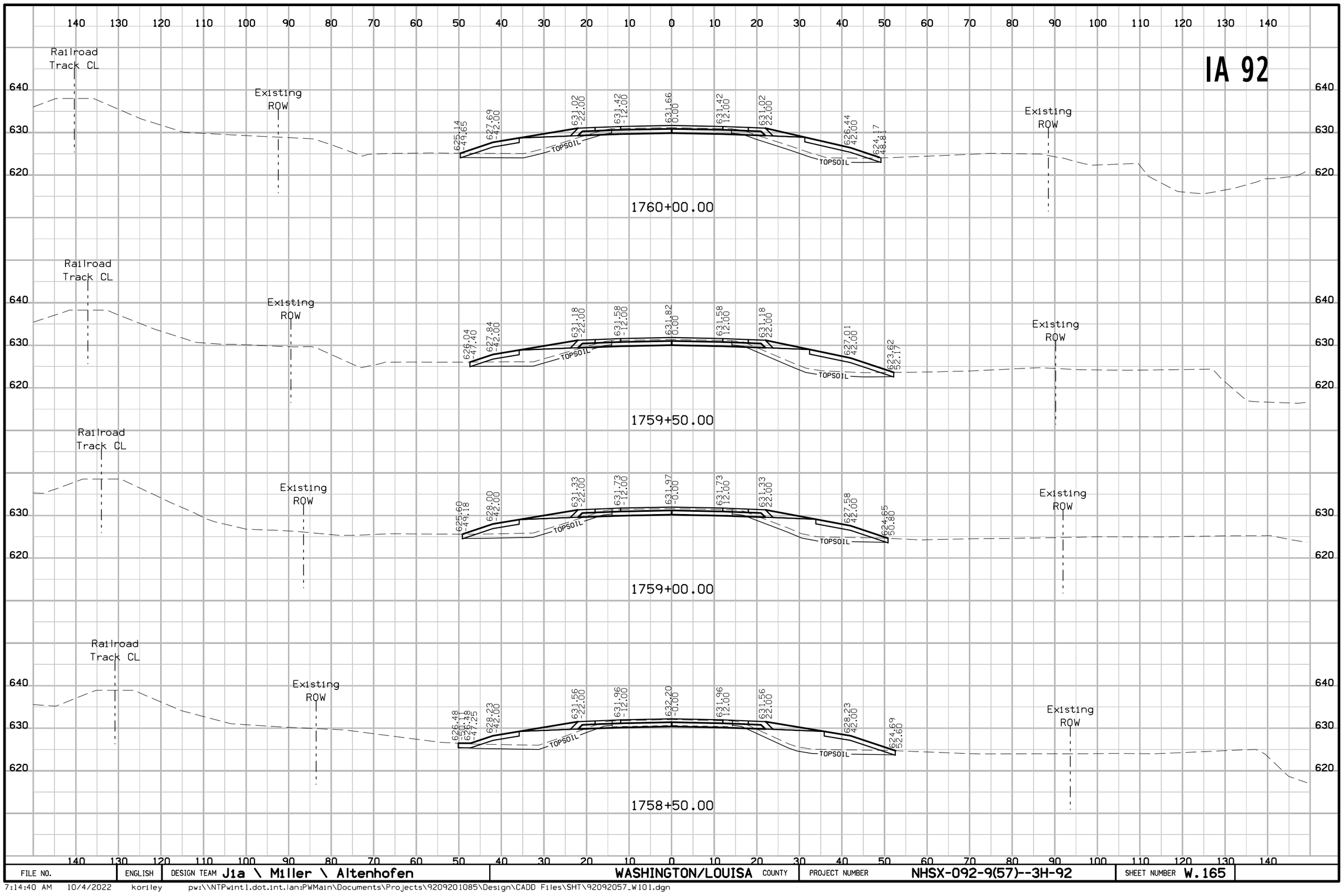
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.164

7:14:38 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

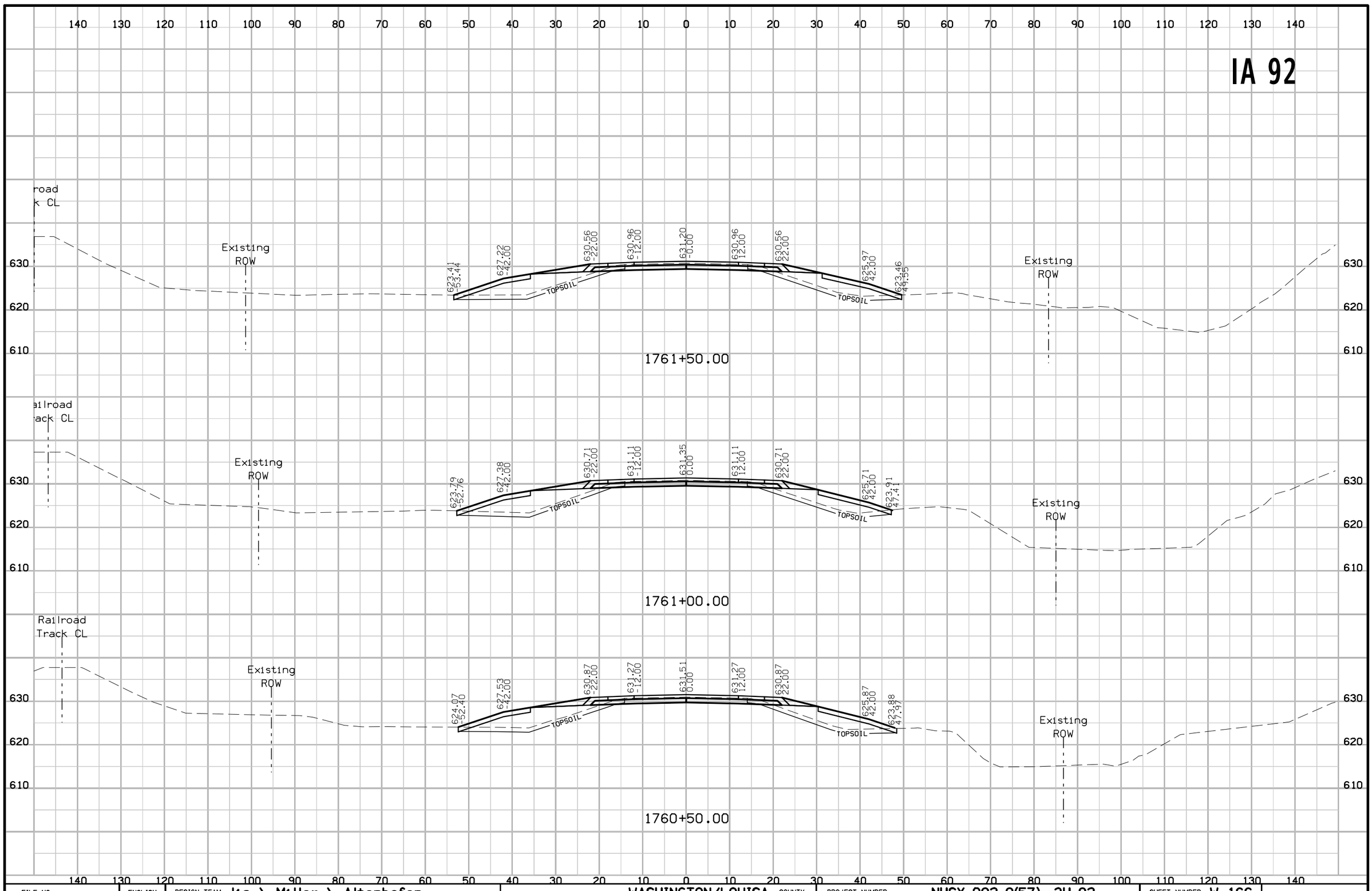
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.165

7:14:40 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

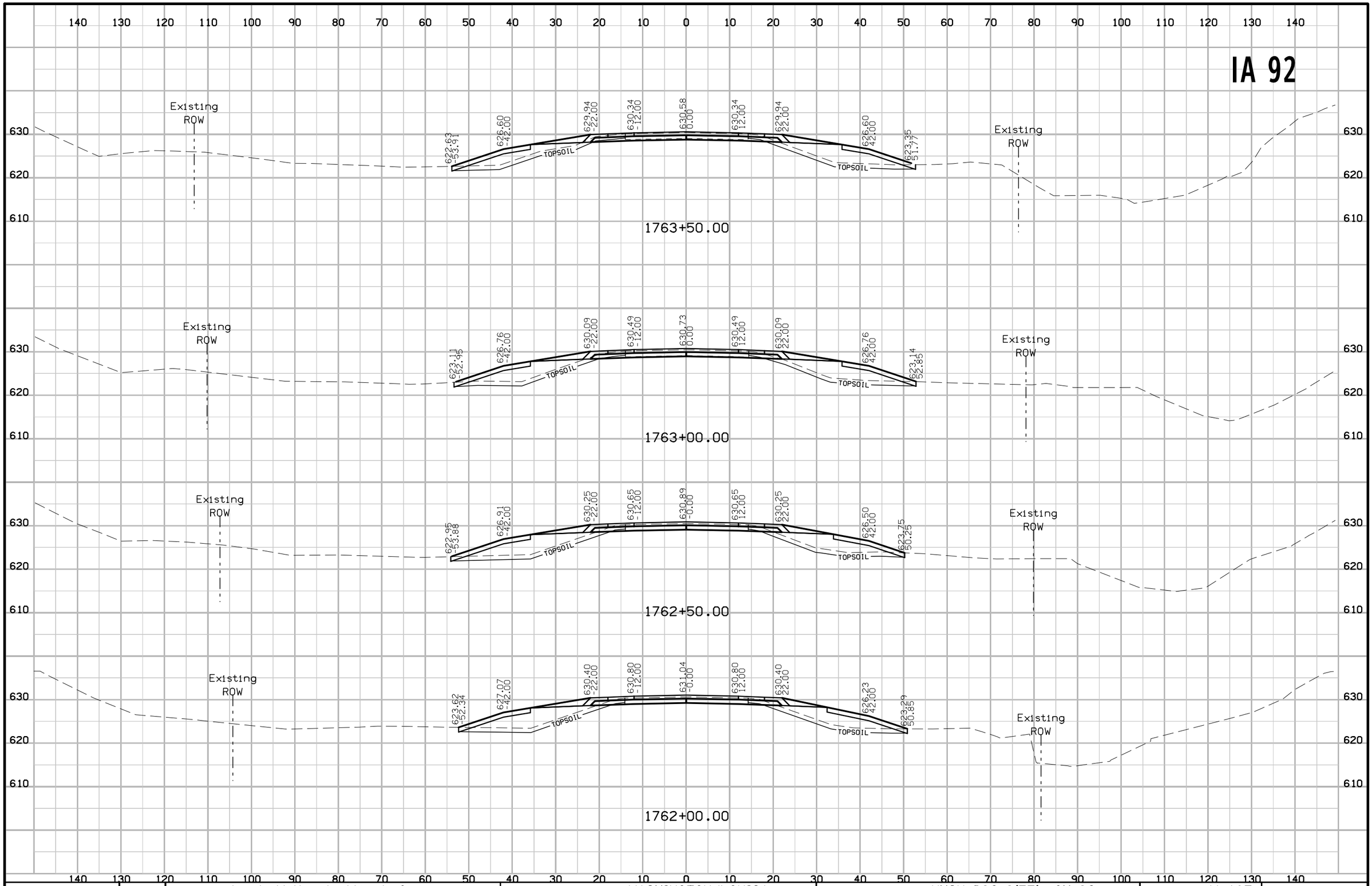
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.166

7:14:42 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

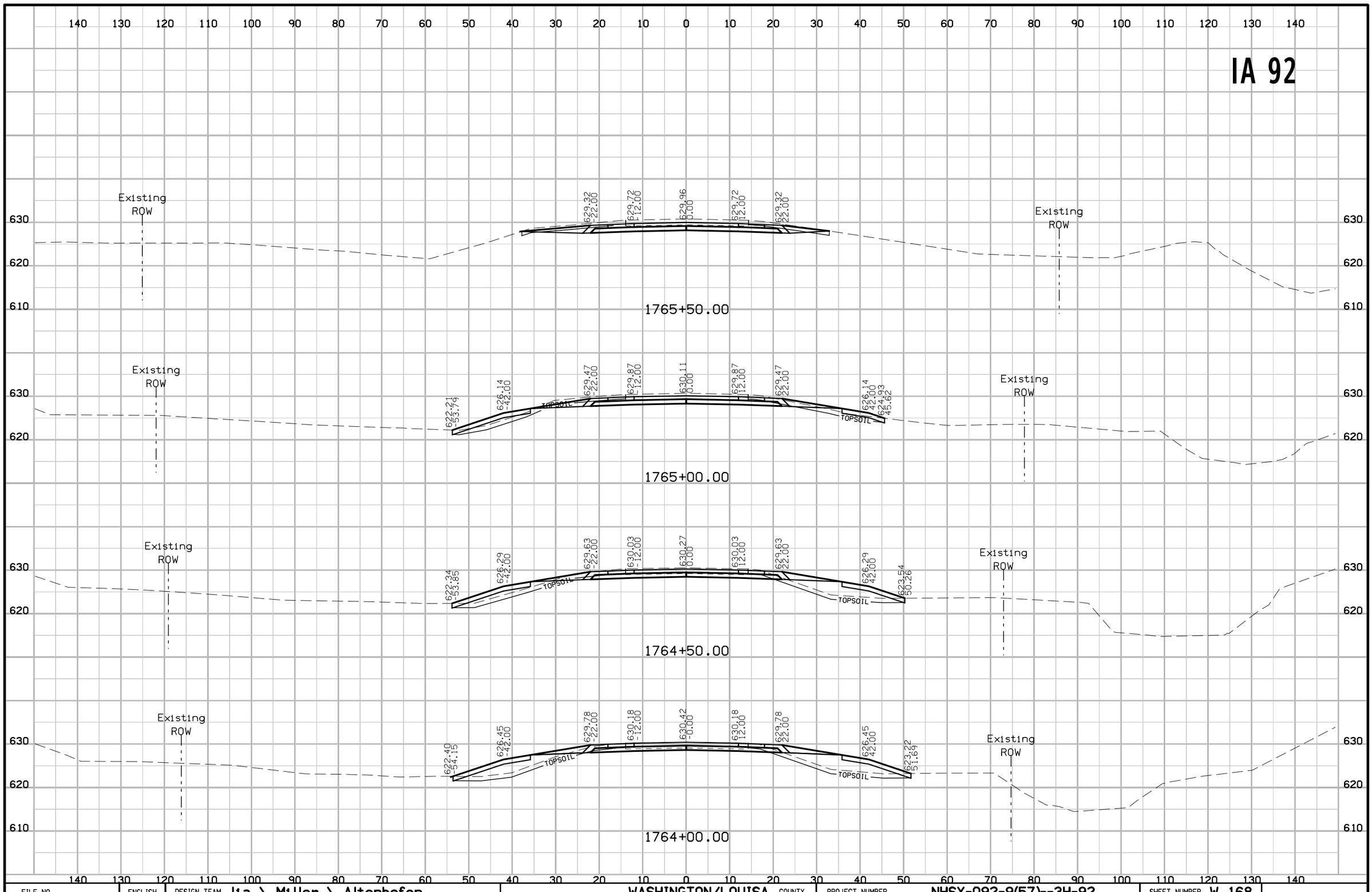
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.167

7:14:43 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

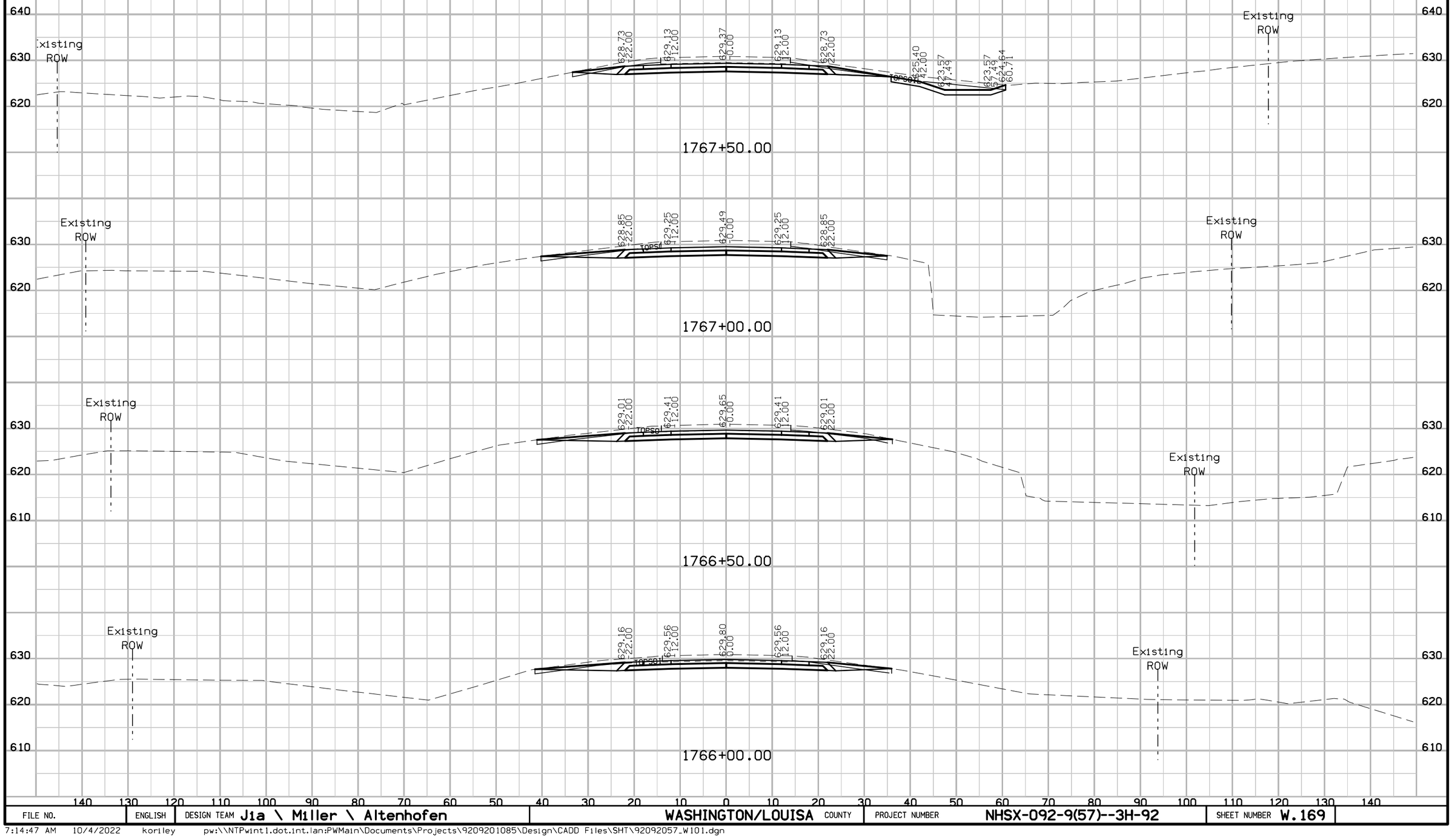
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.168

7:14:45 AM 10/4/2022 korliey pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

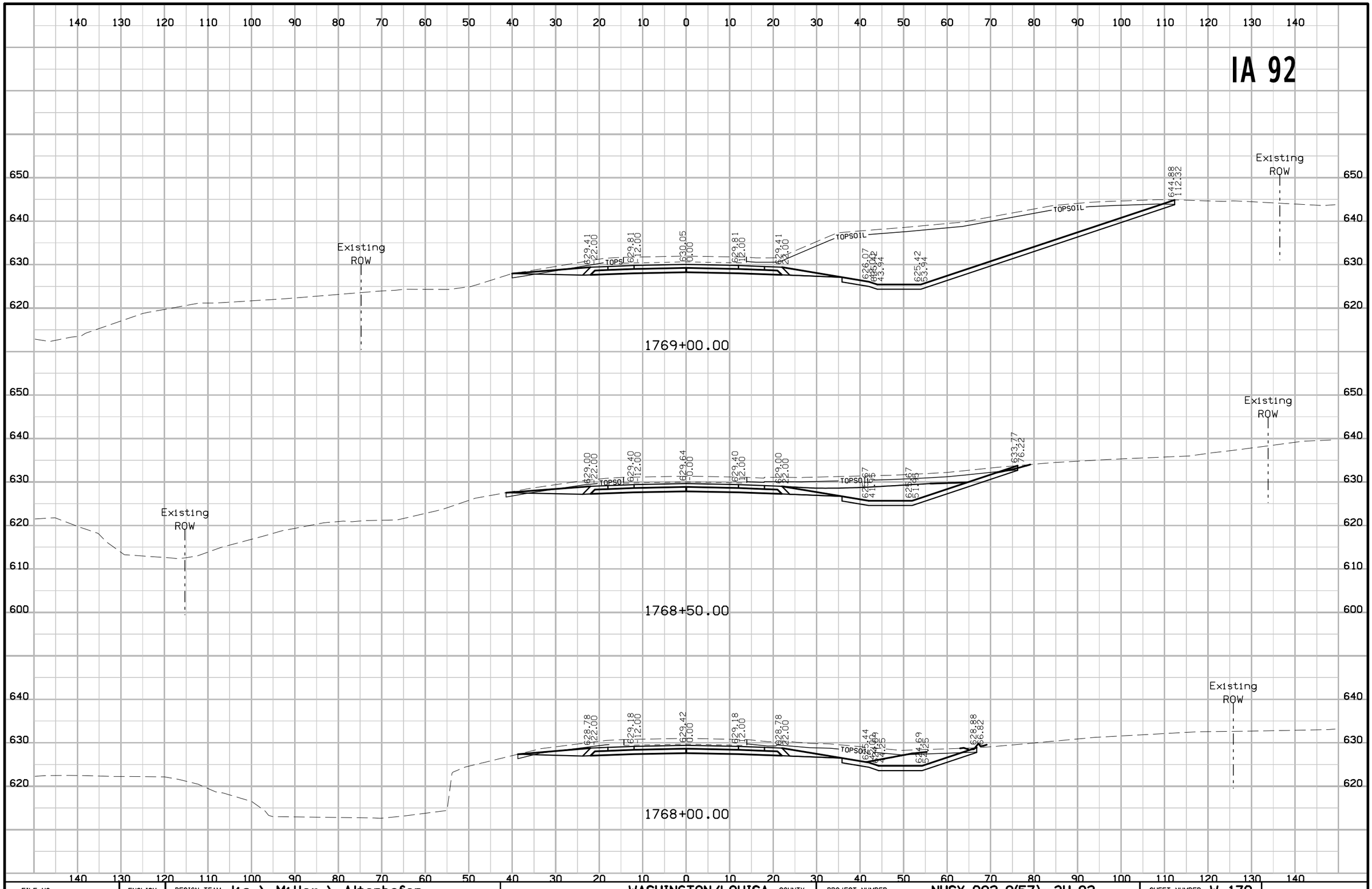
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.169

7:14:47 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

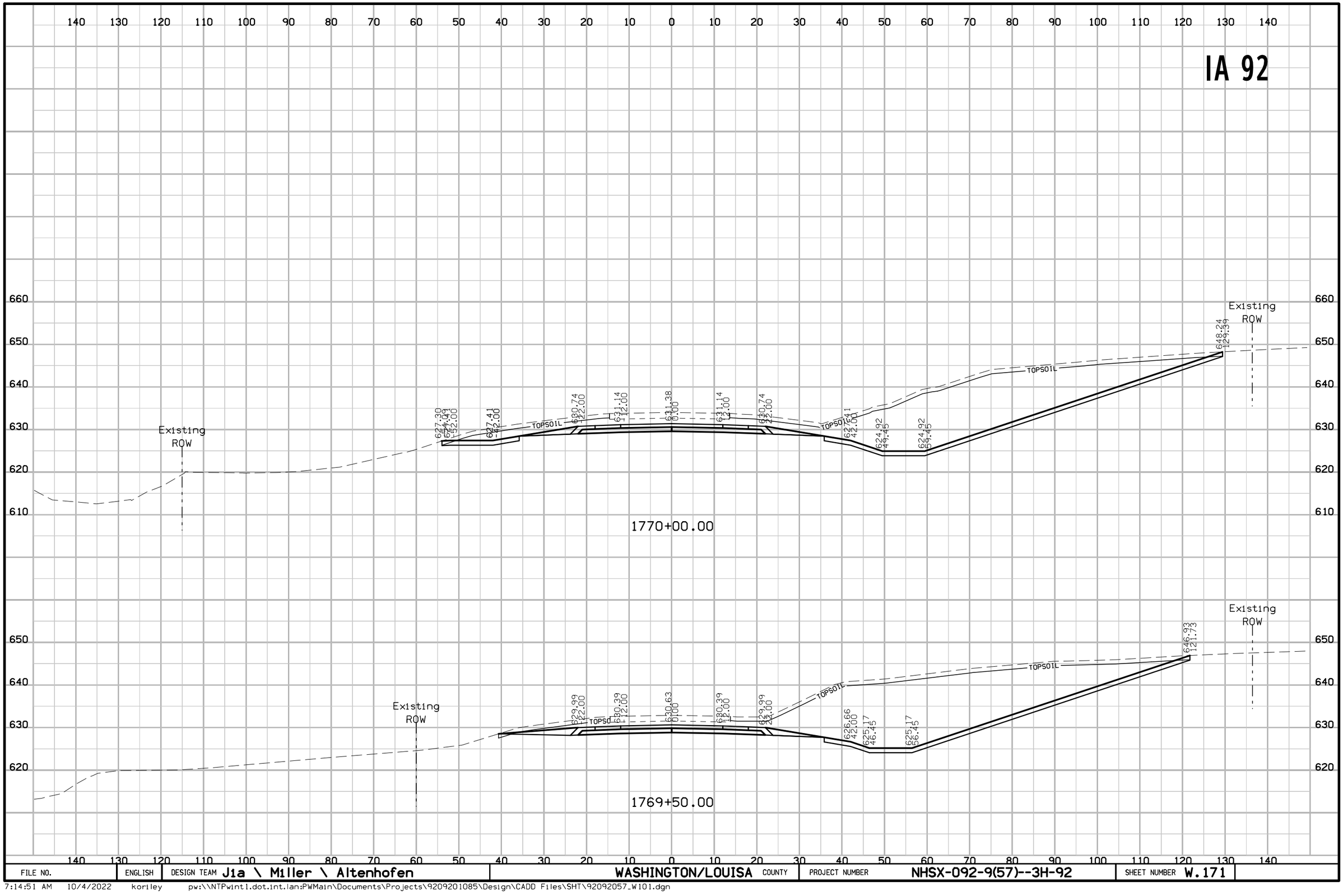
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.170

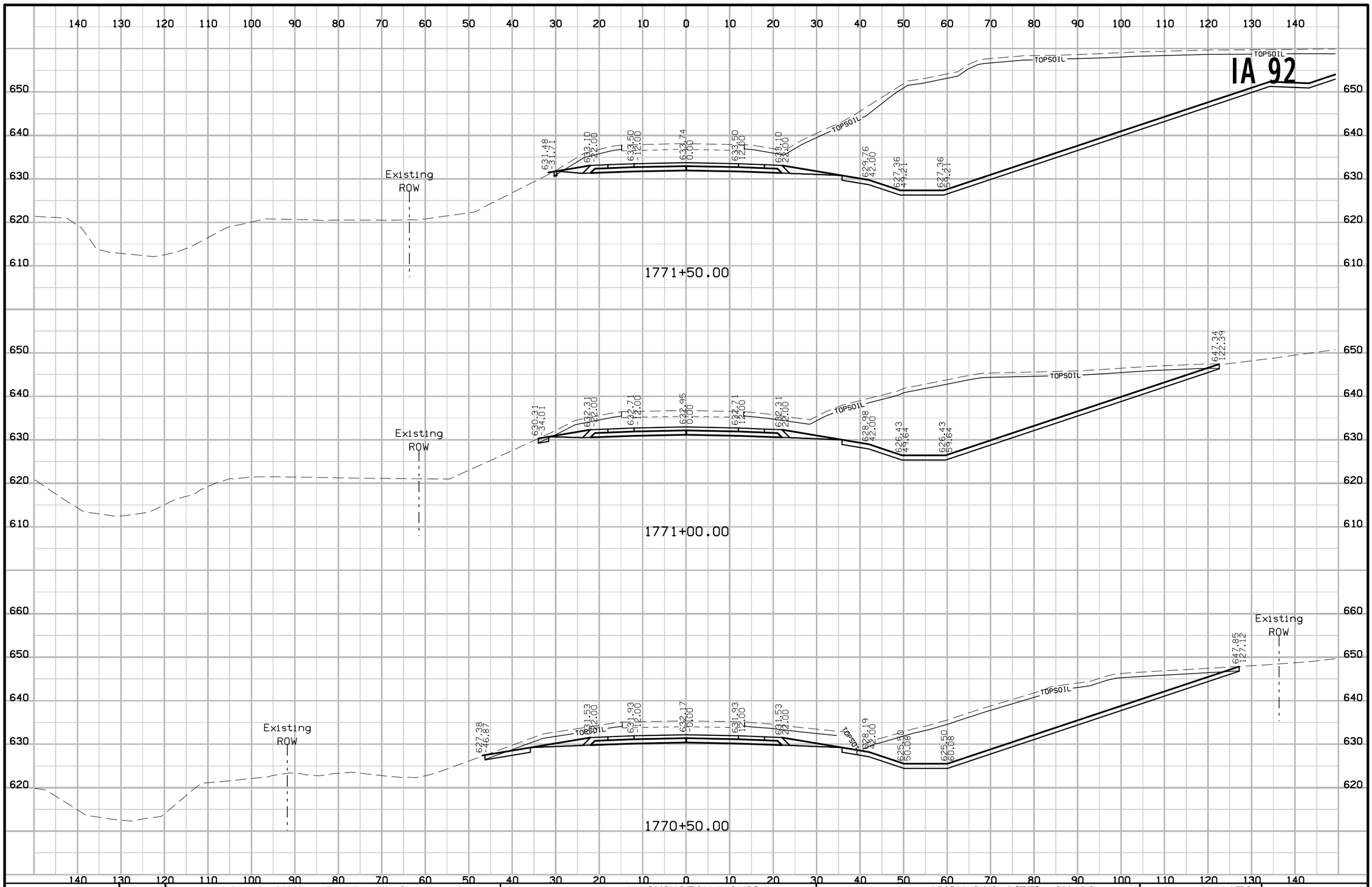
7:14:49 AM 10/4/2022 korileyp pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.171

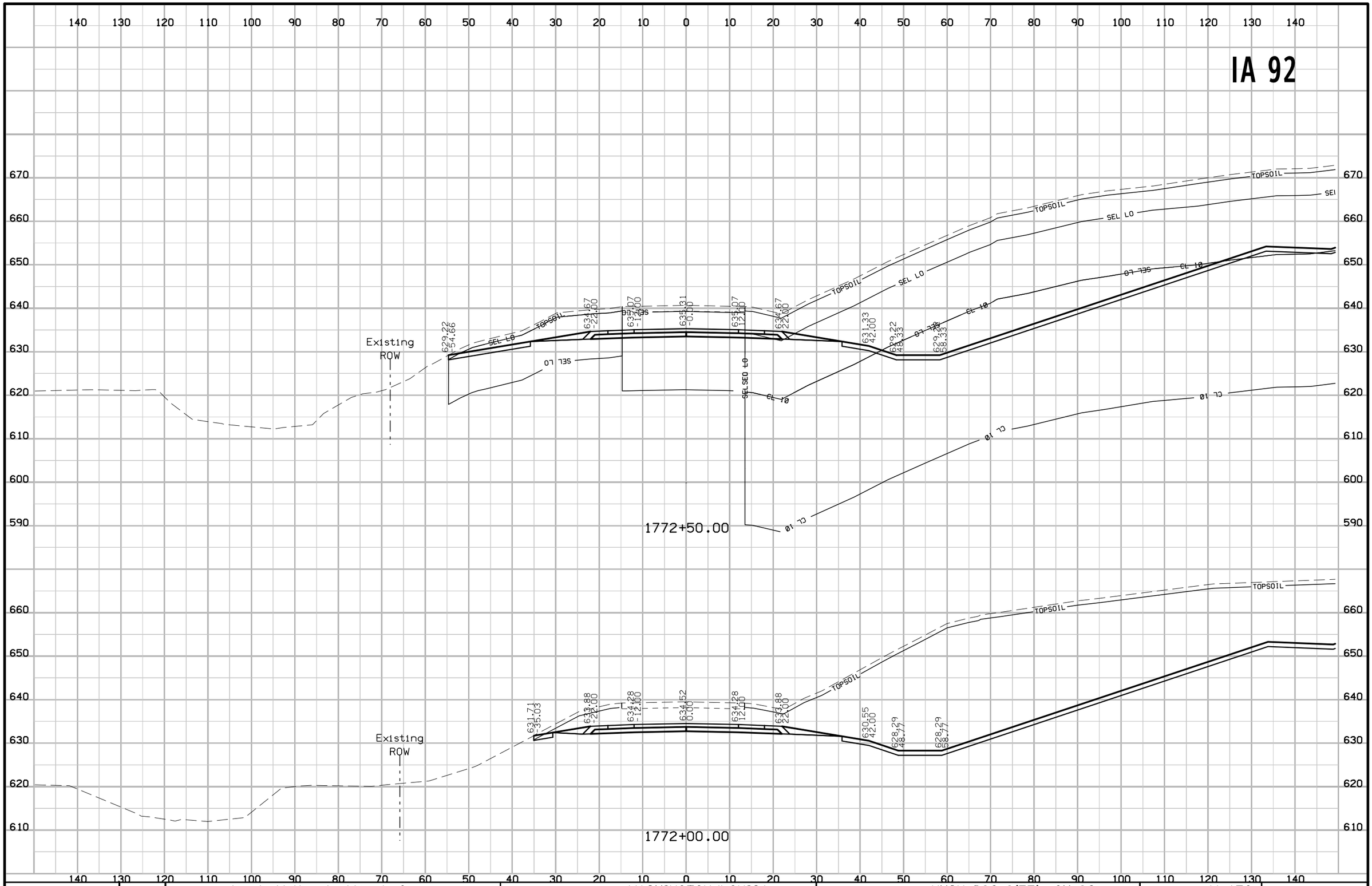
7:14:51 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.172

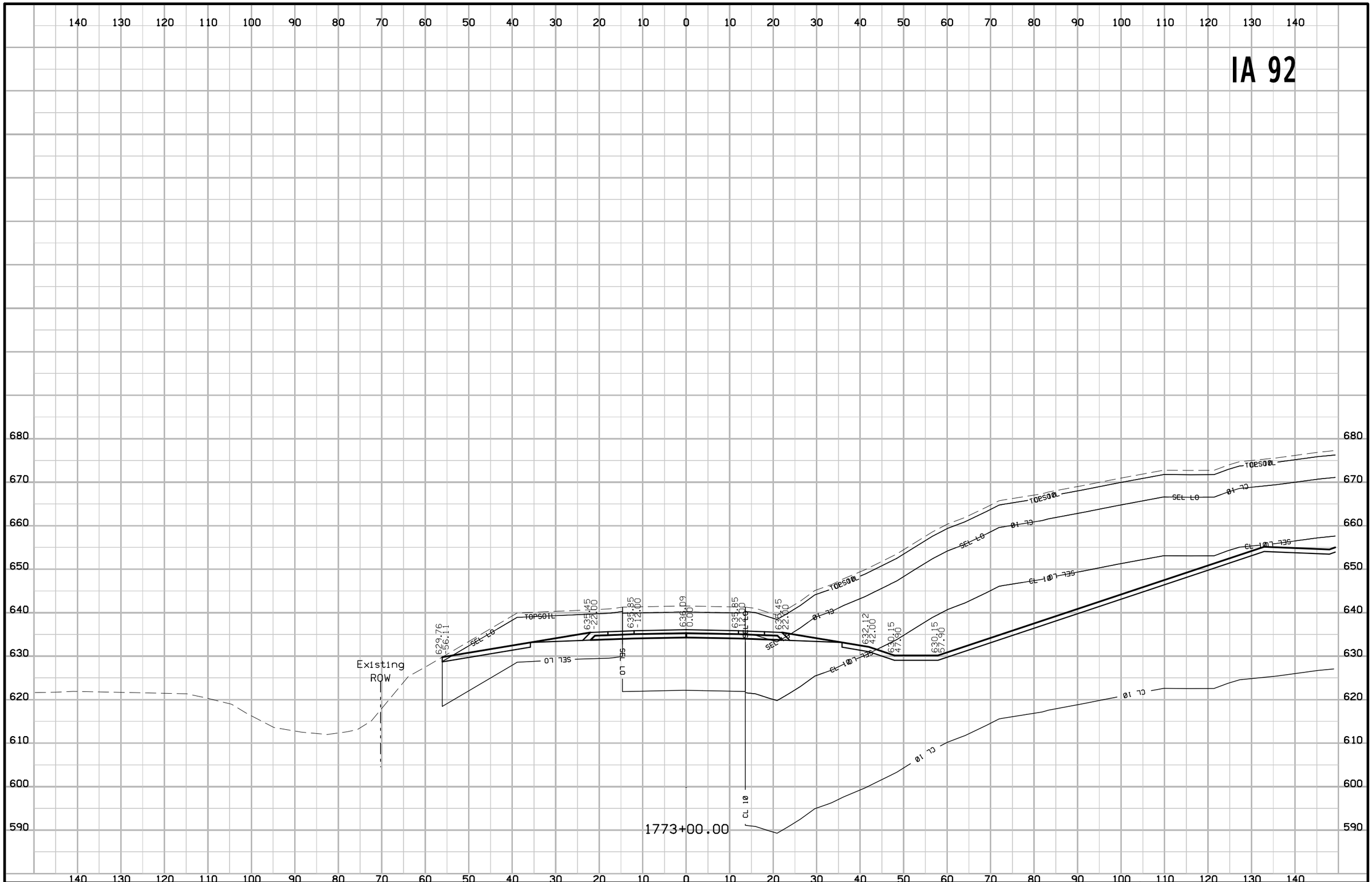
7:14:53 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

IA 92



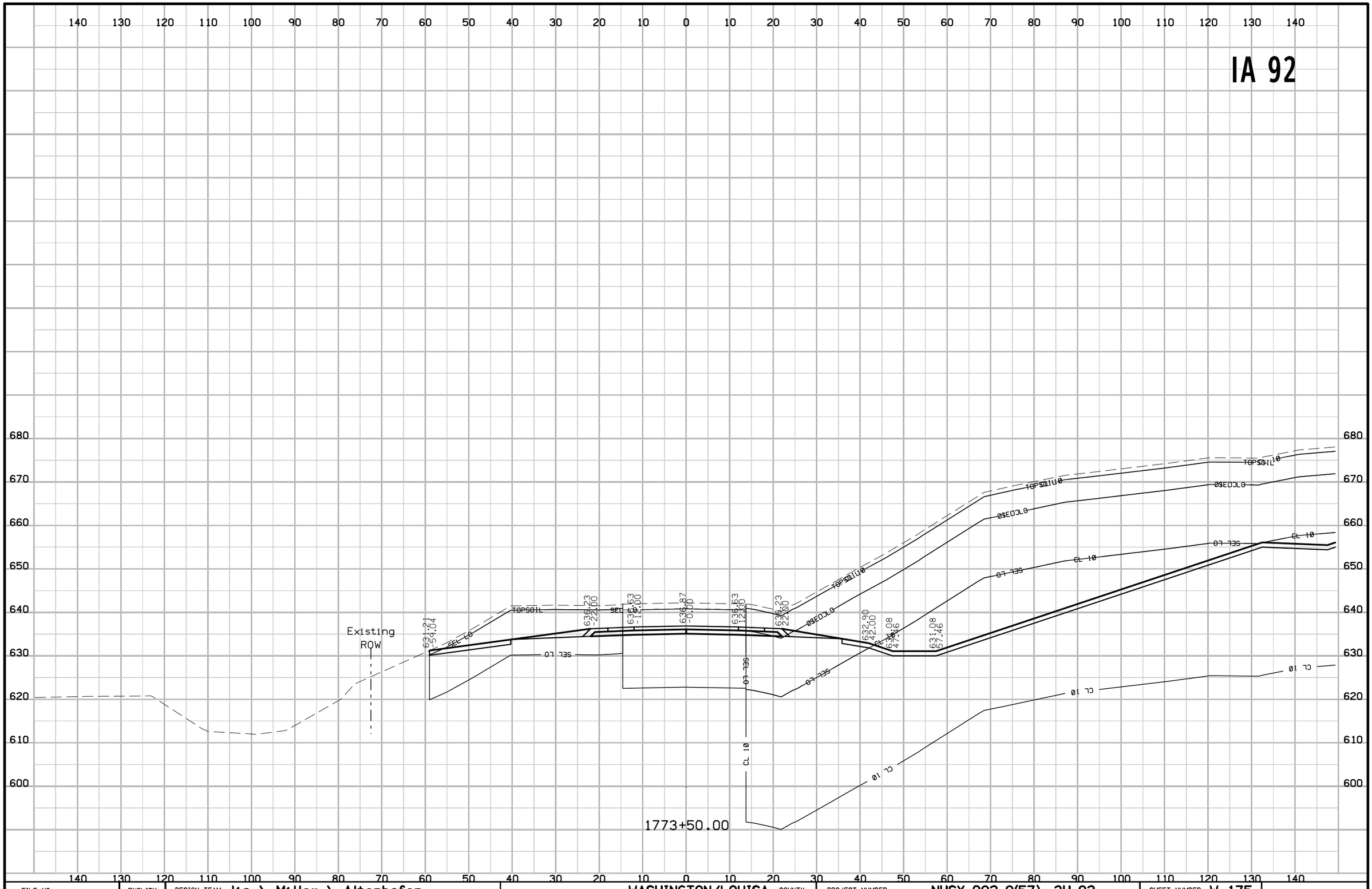
FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.173

7:14:55 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.174

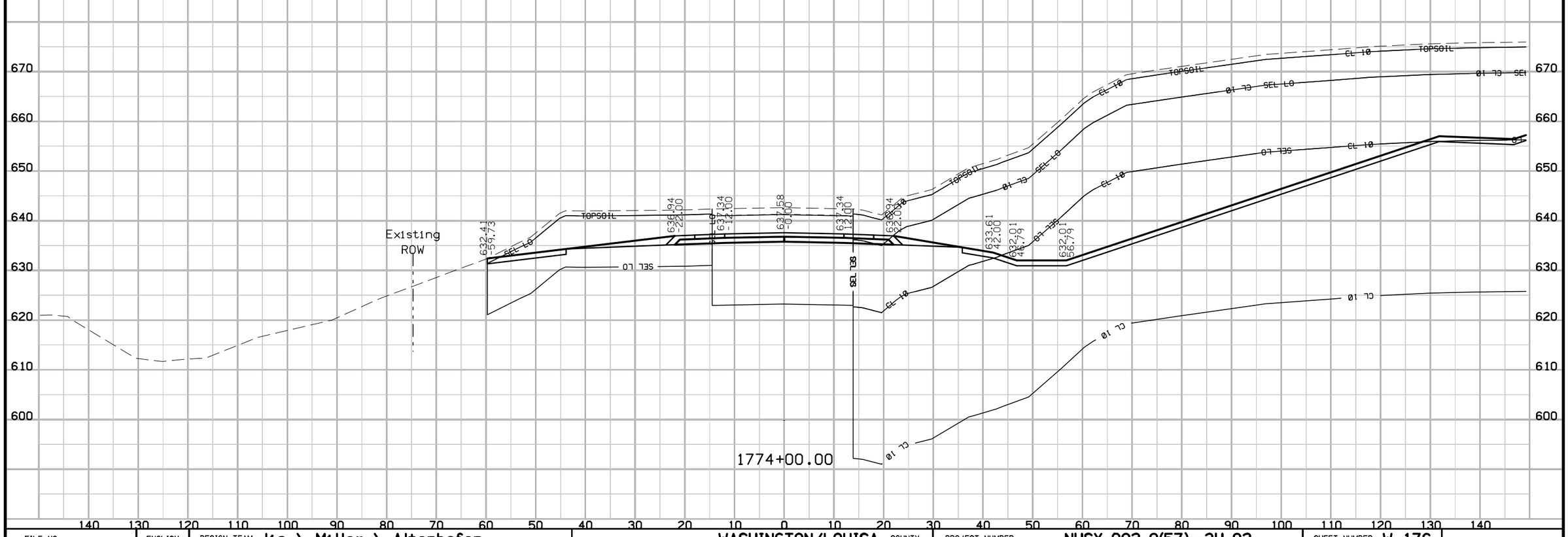
7:14:56 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.175

7:14:58 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

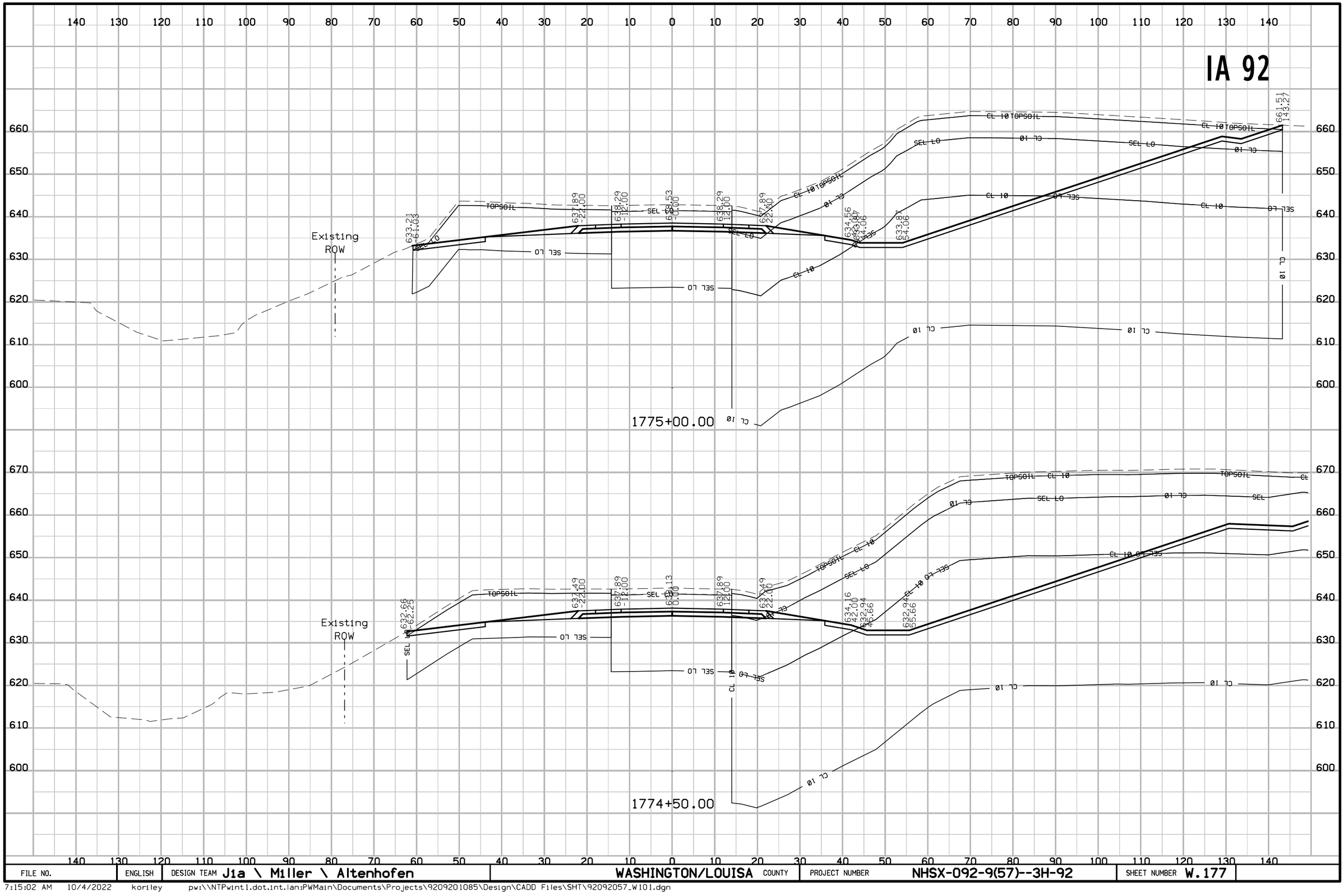
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.176

7:15:00 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

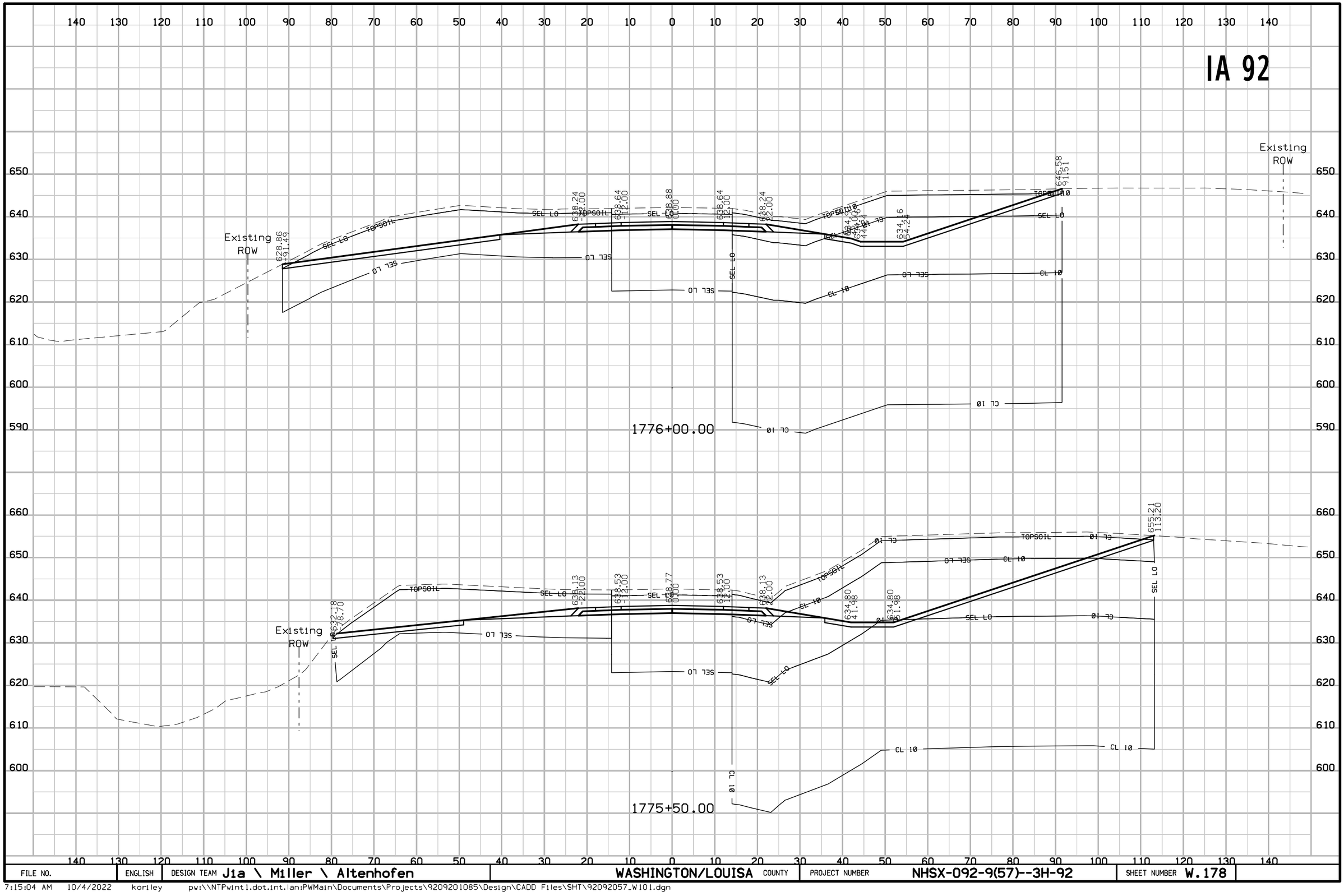
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.177

7:15:02 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

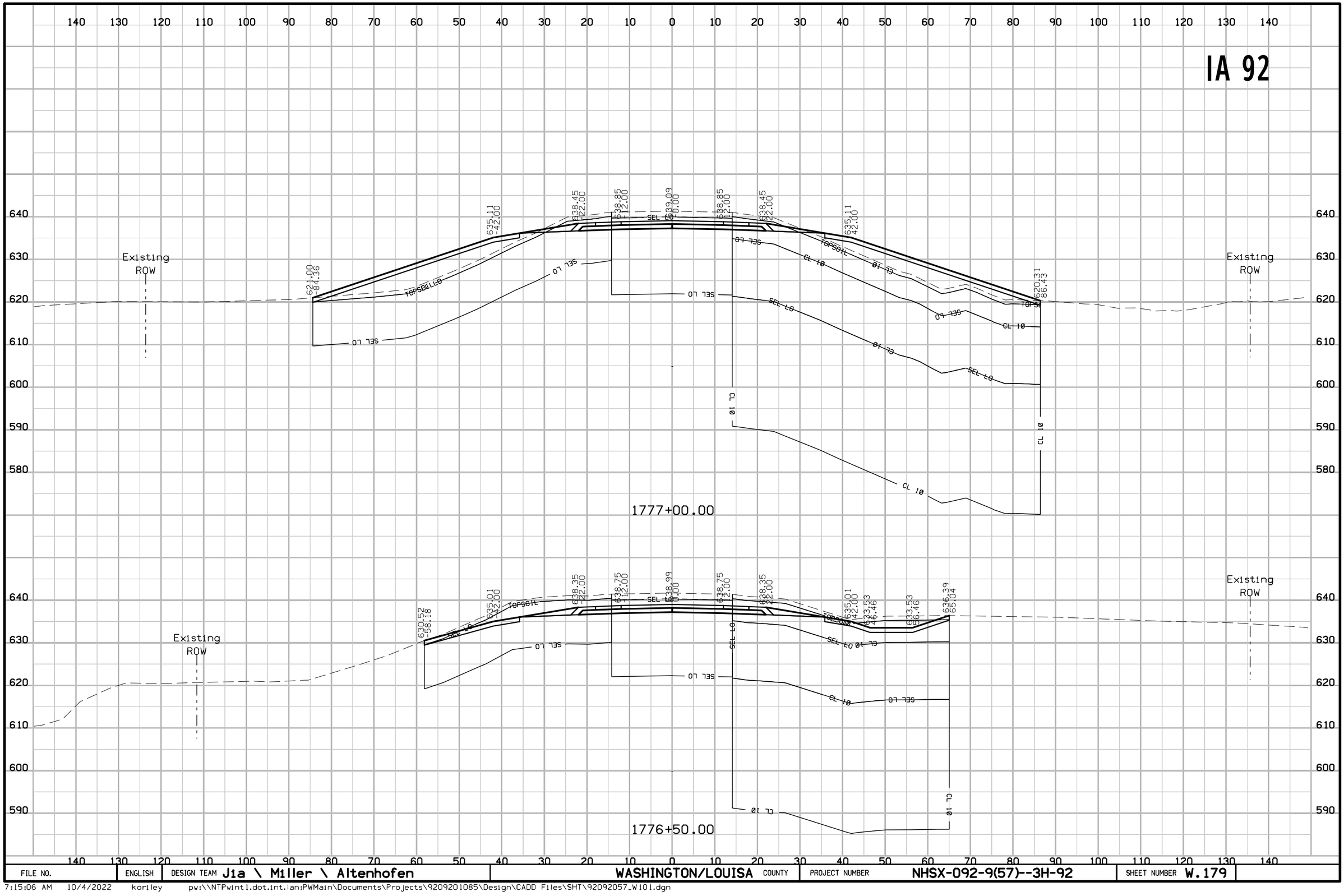
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER W.178	

7:15:04 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

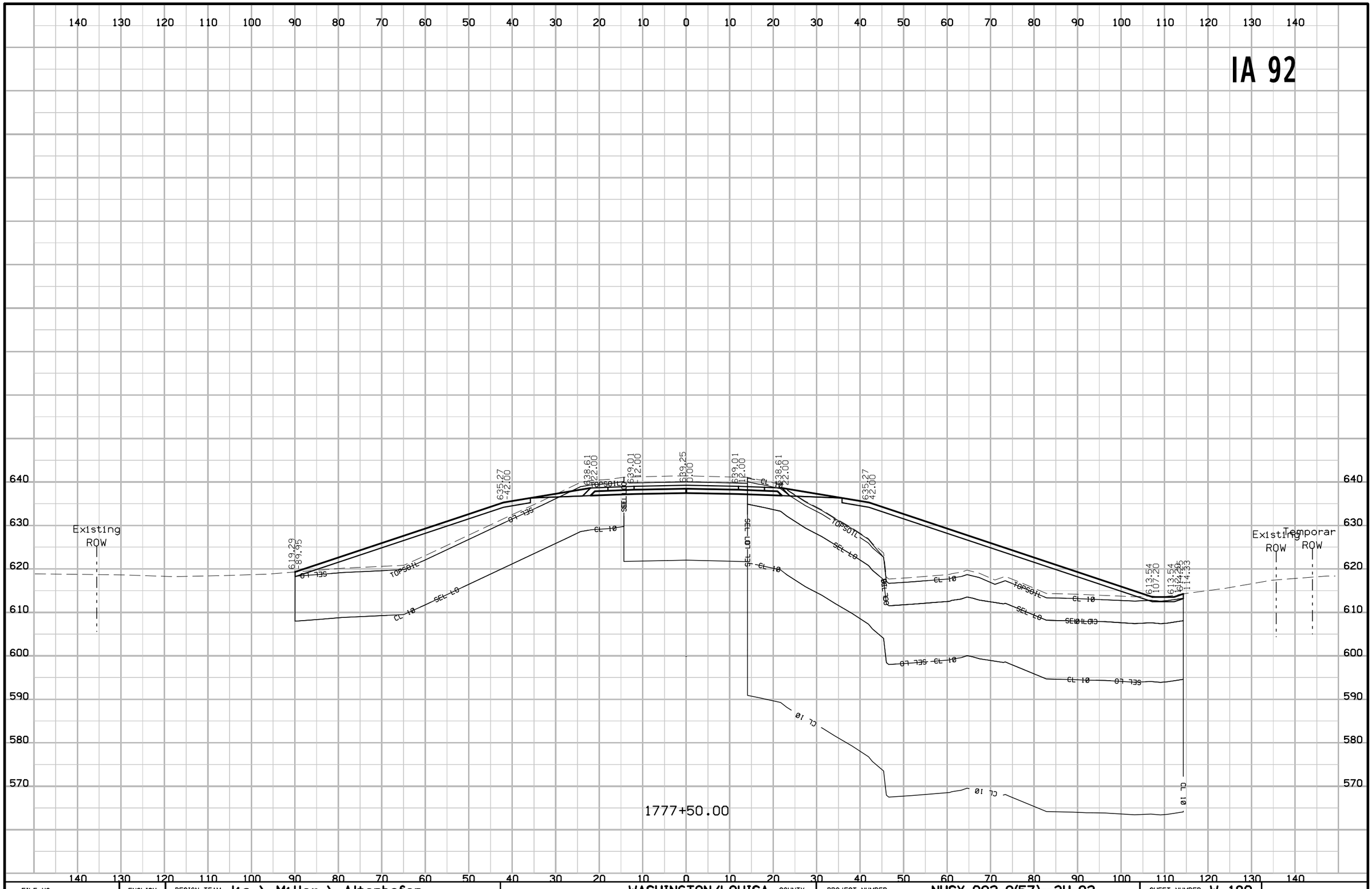
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.179

7:15:06 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

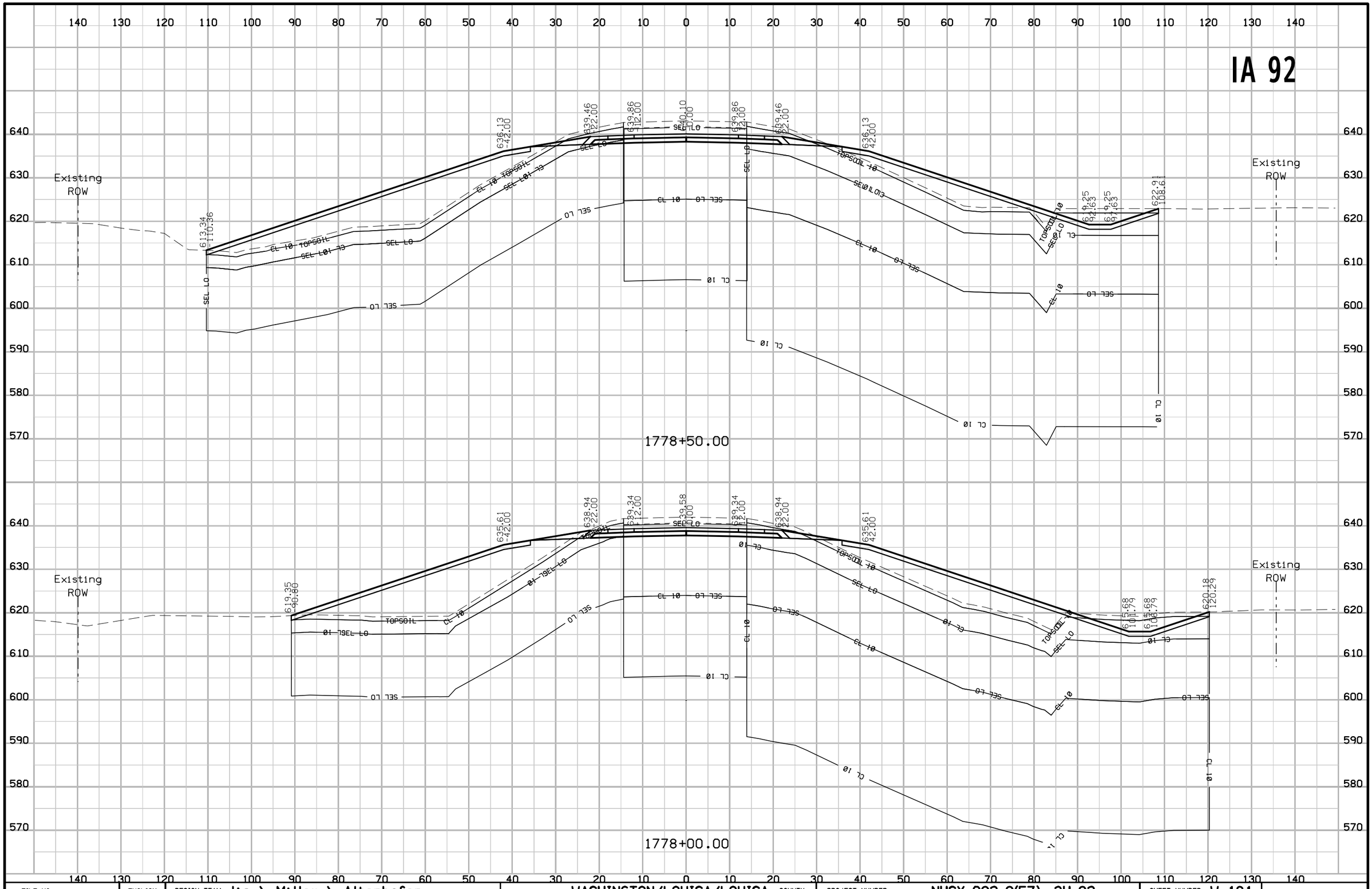
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.180

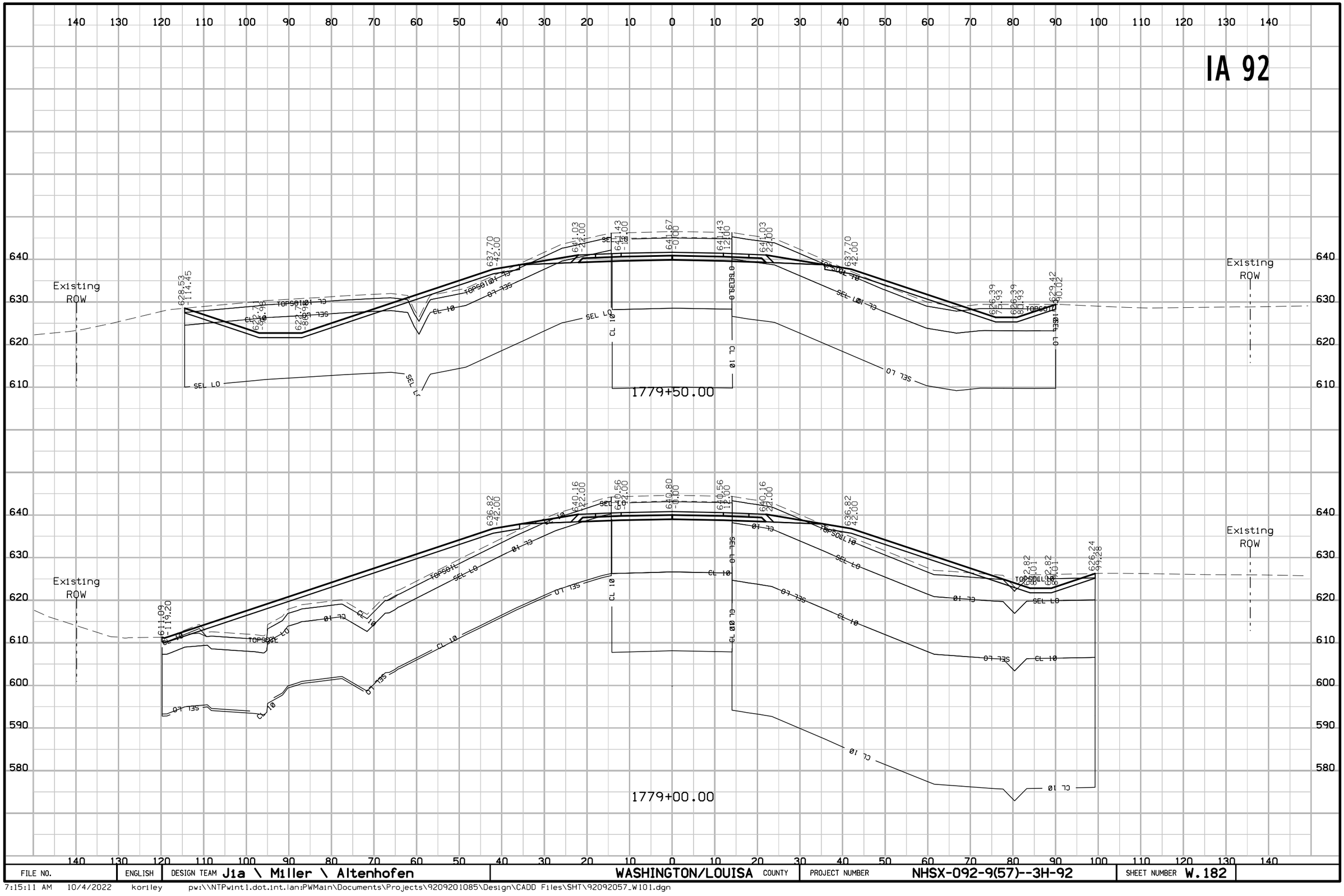
7:15:07 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

IA 92



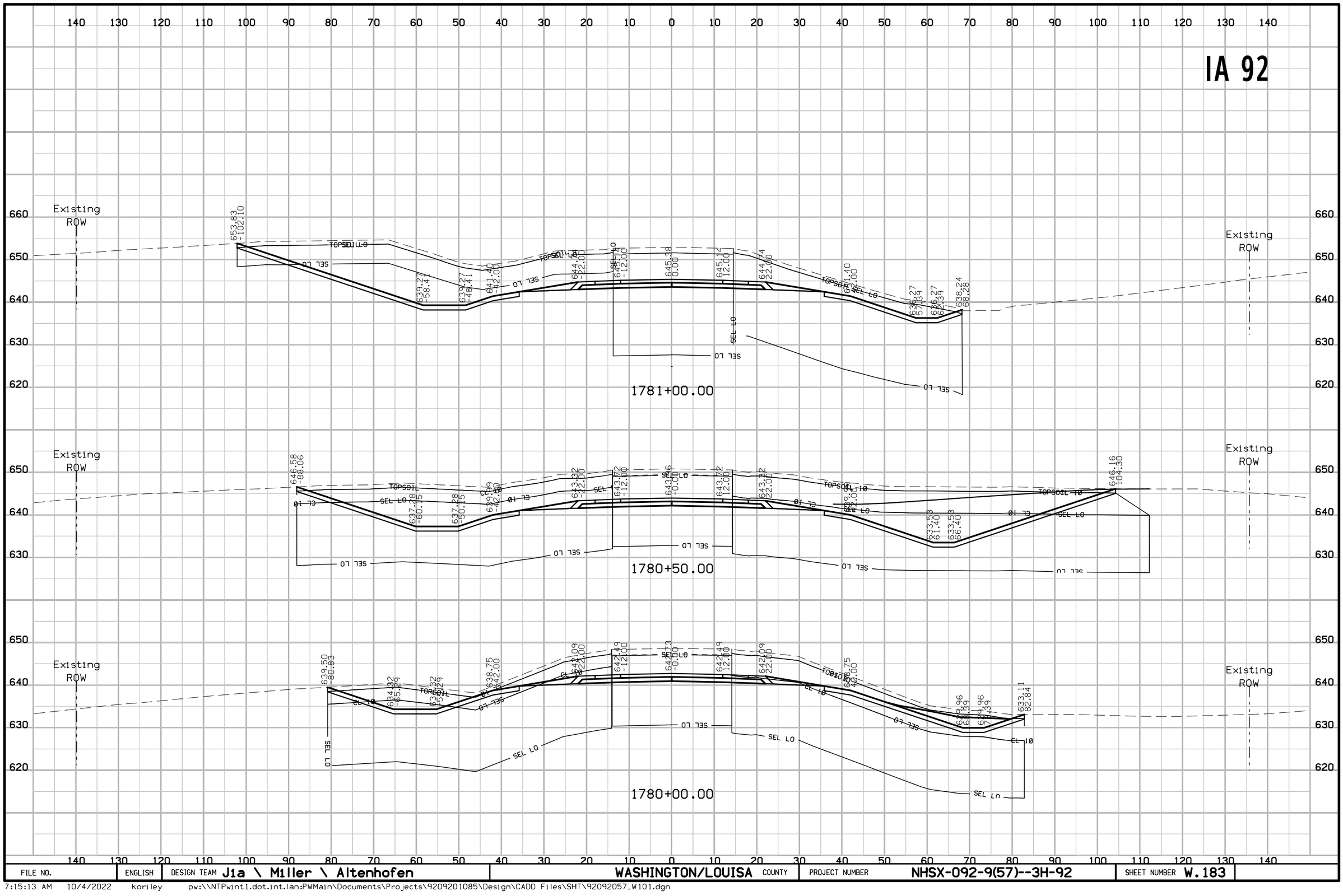
FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.181

7:15:09 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.182

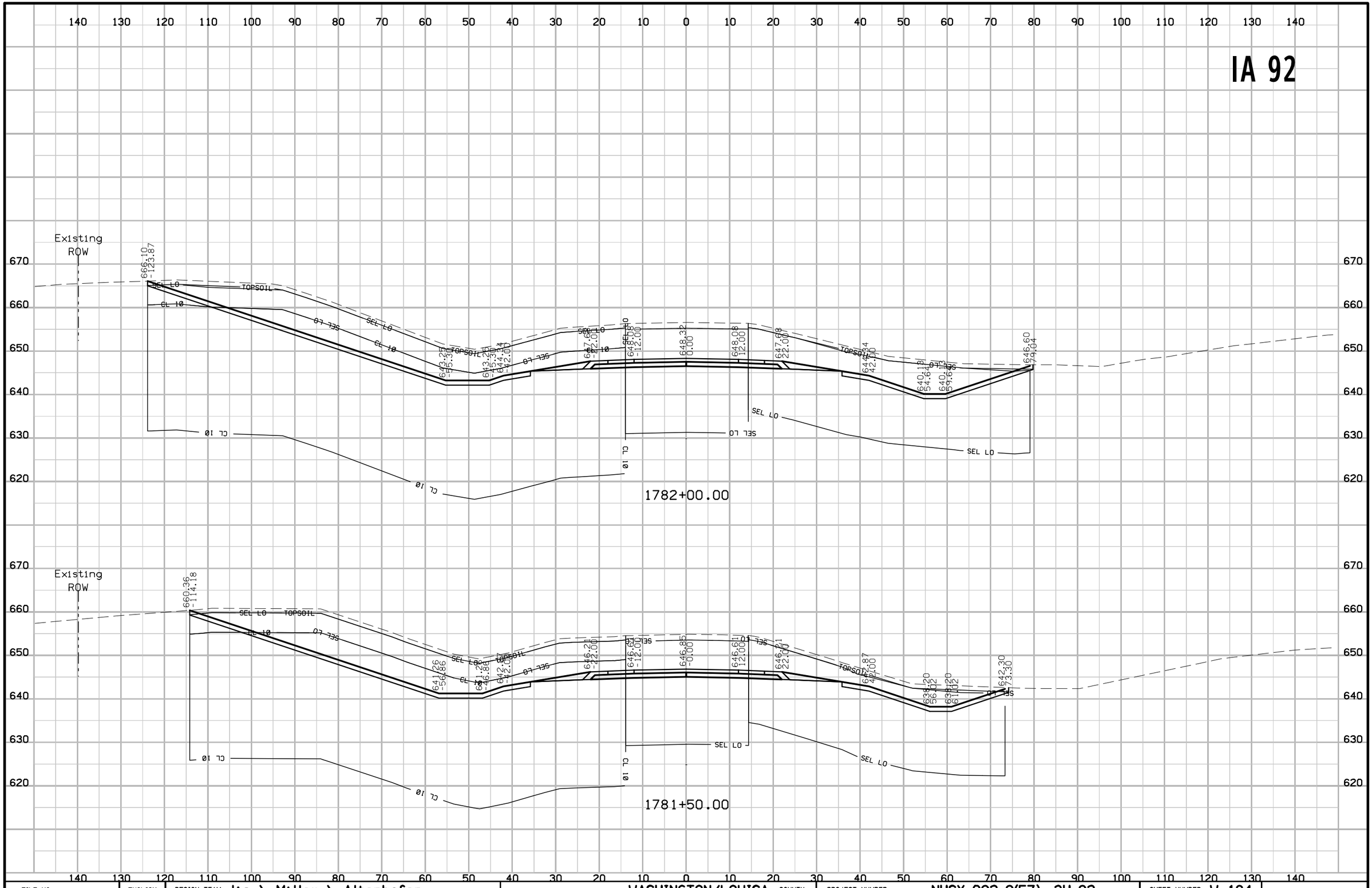
7:15:11 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.183

7:15:13 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

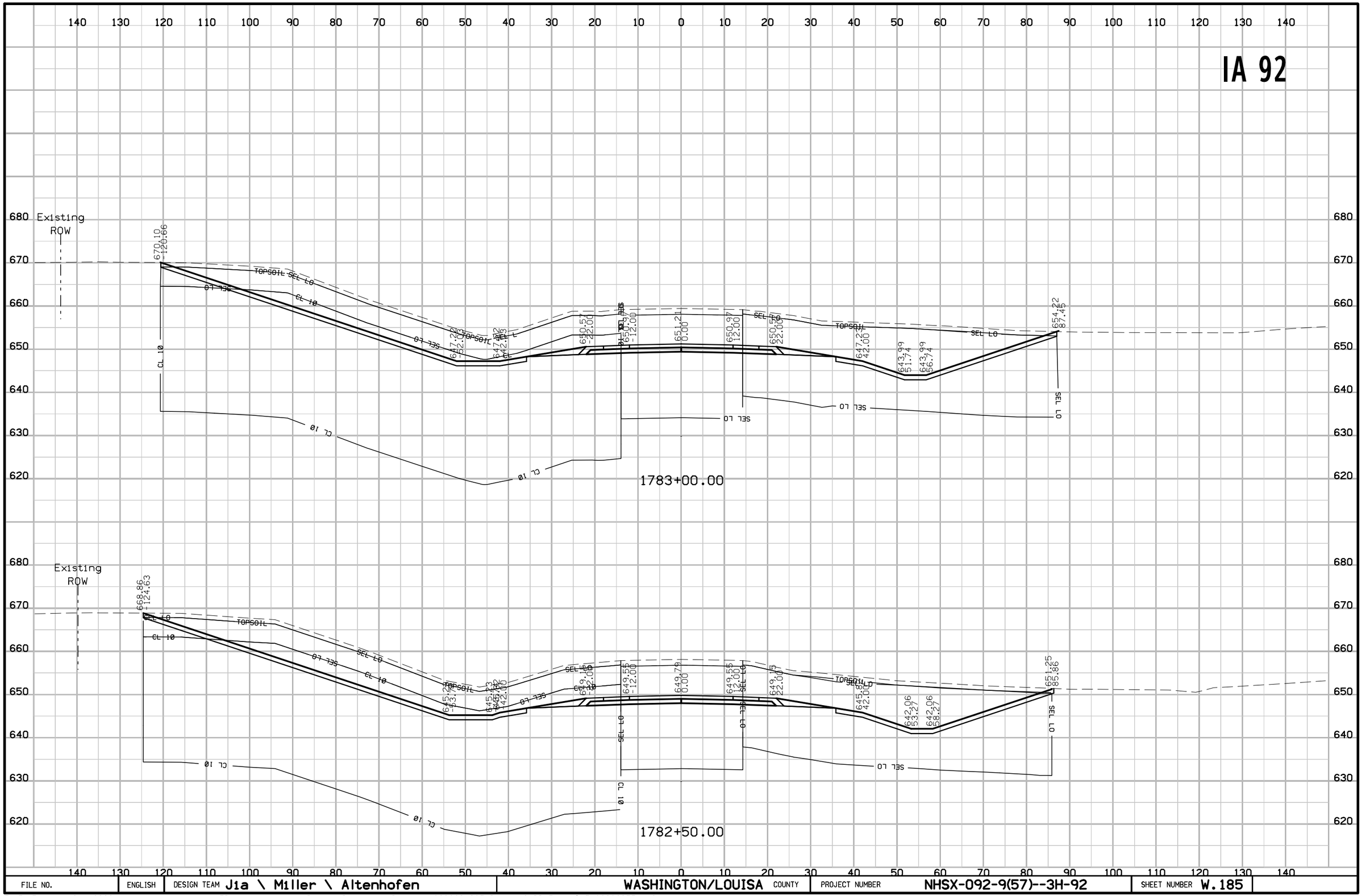
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.184

7:15:15 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

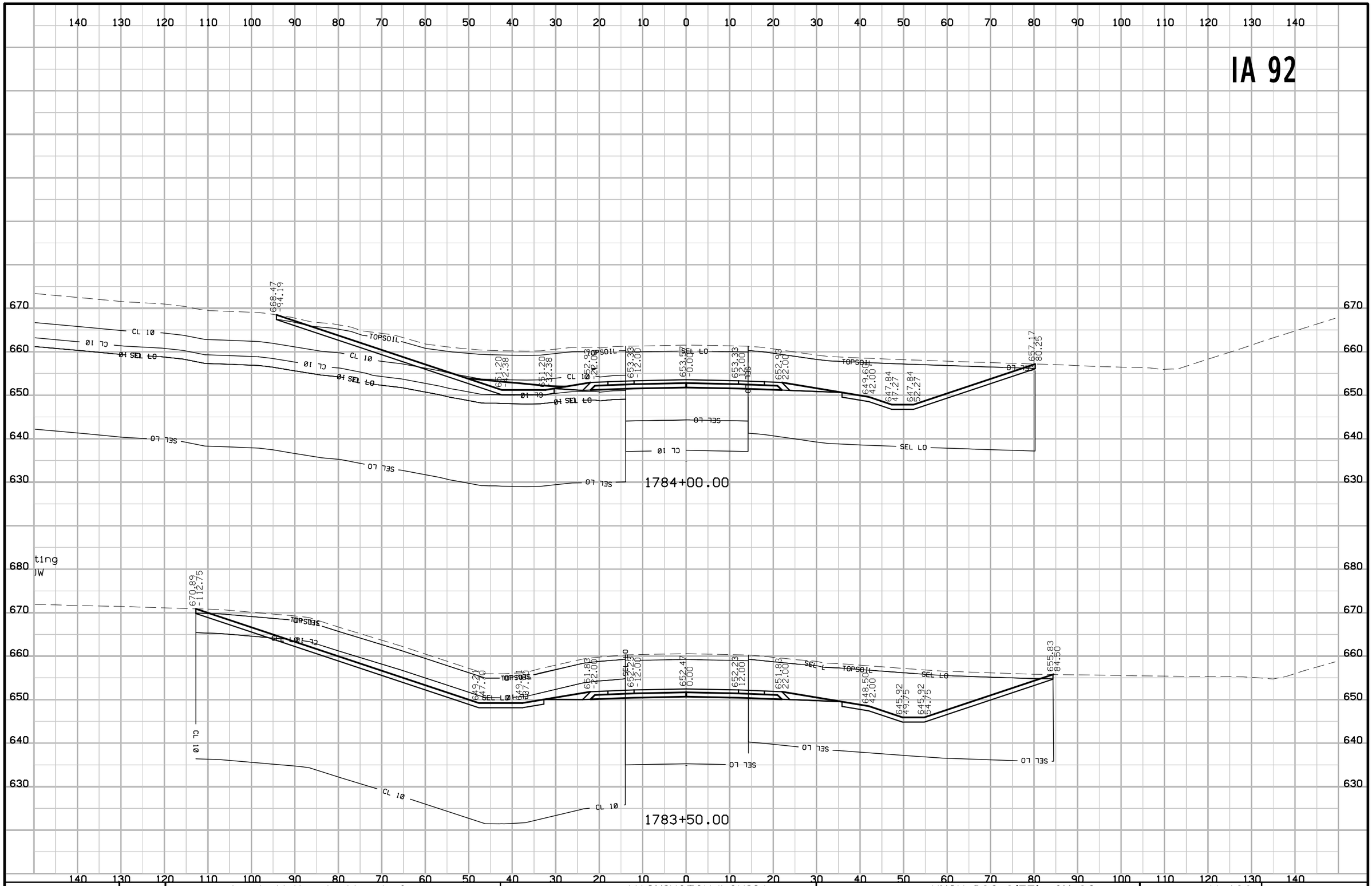
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.185

7:15:17 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

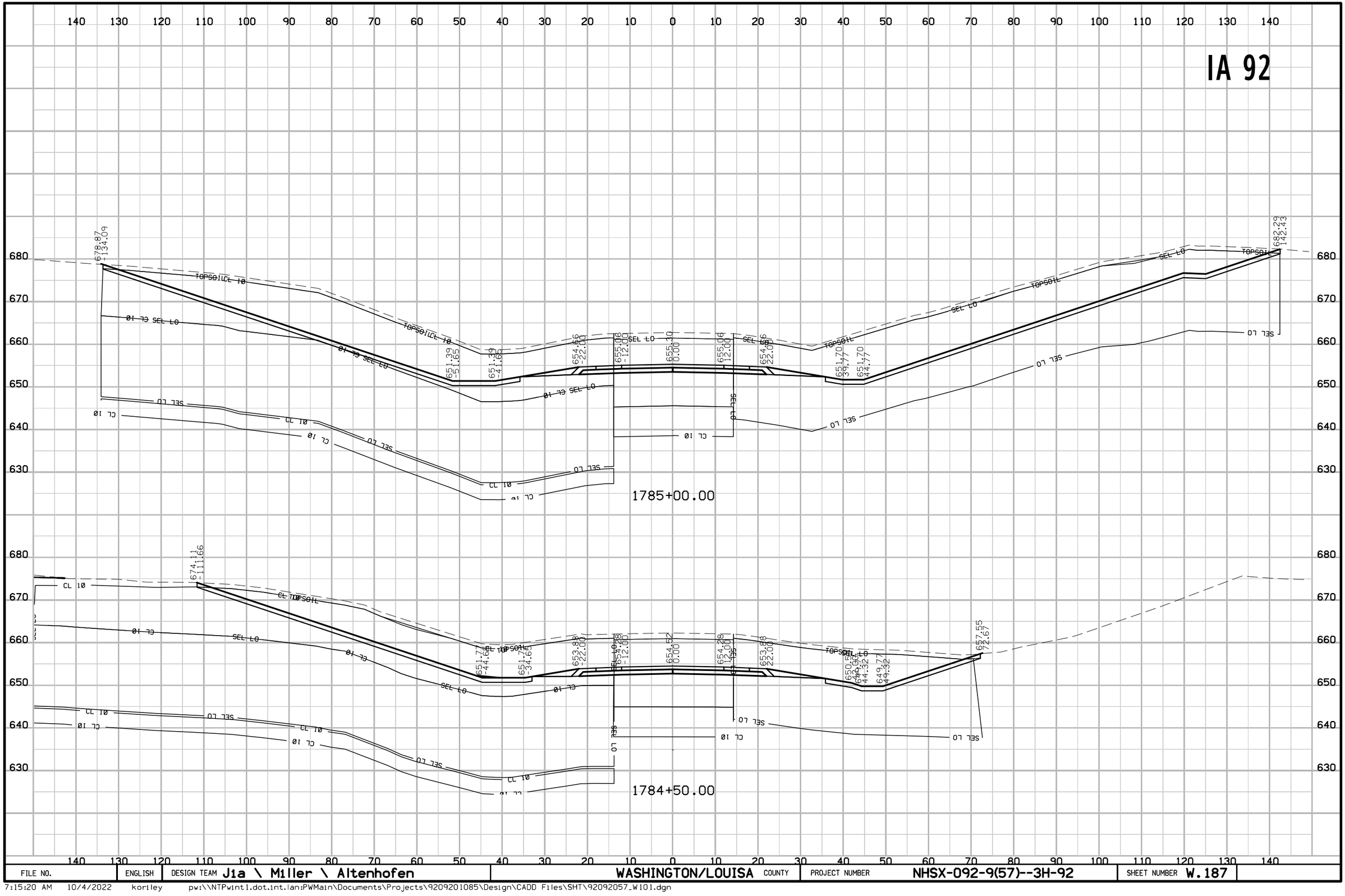
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.186

7:15:19 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

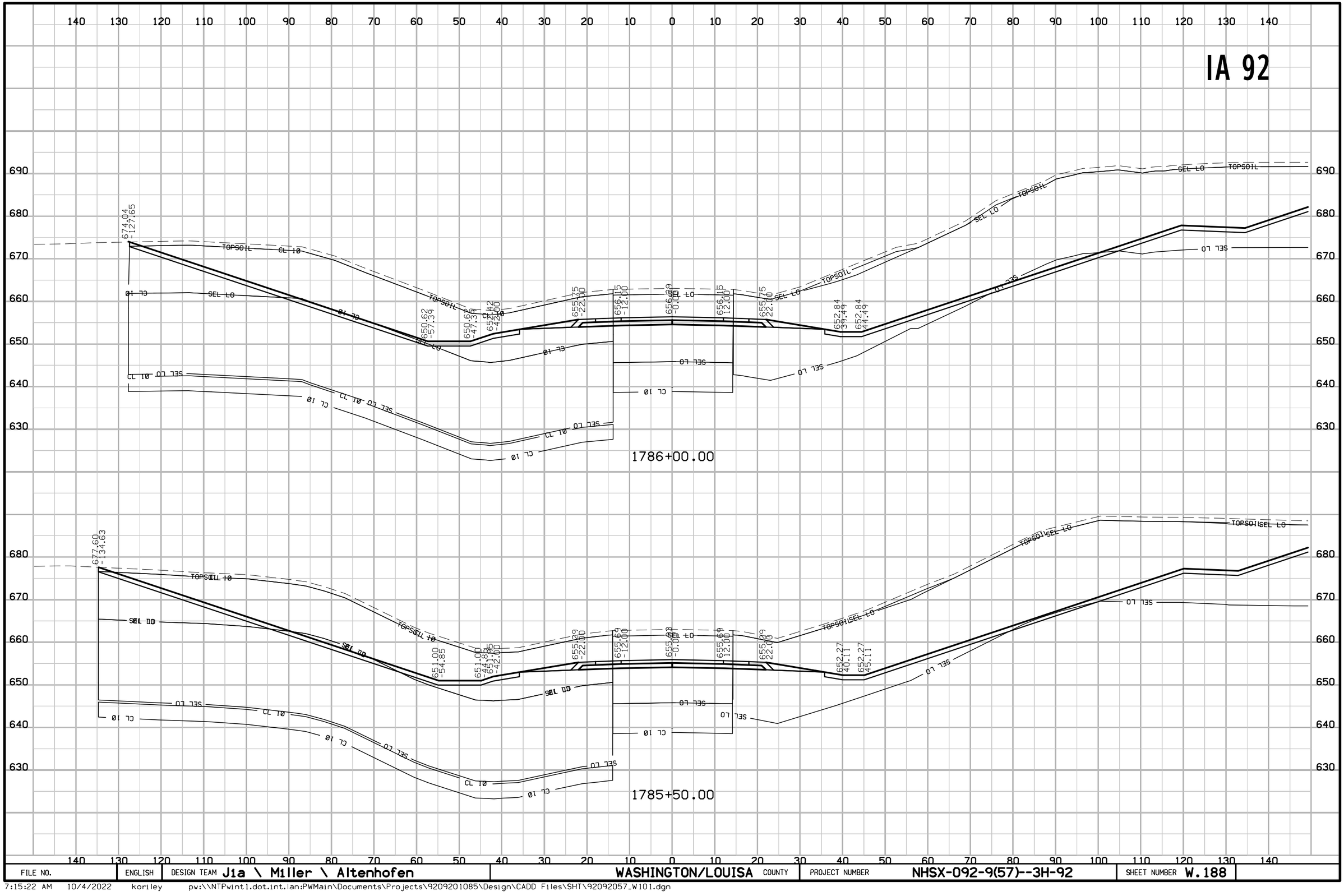
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.187

7:15:20 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

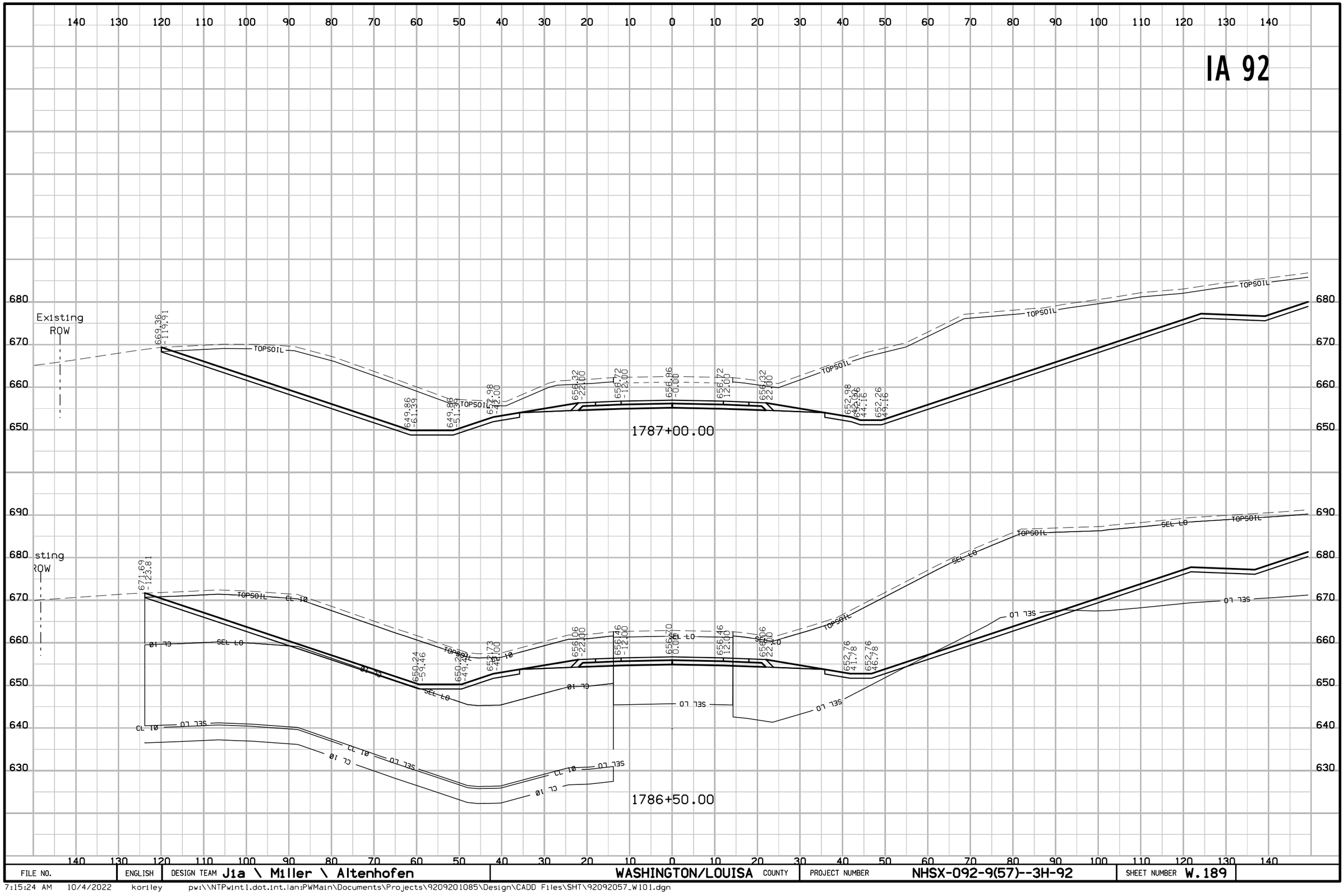
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER W.188

7:15:22 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

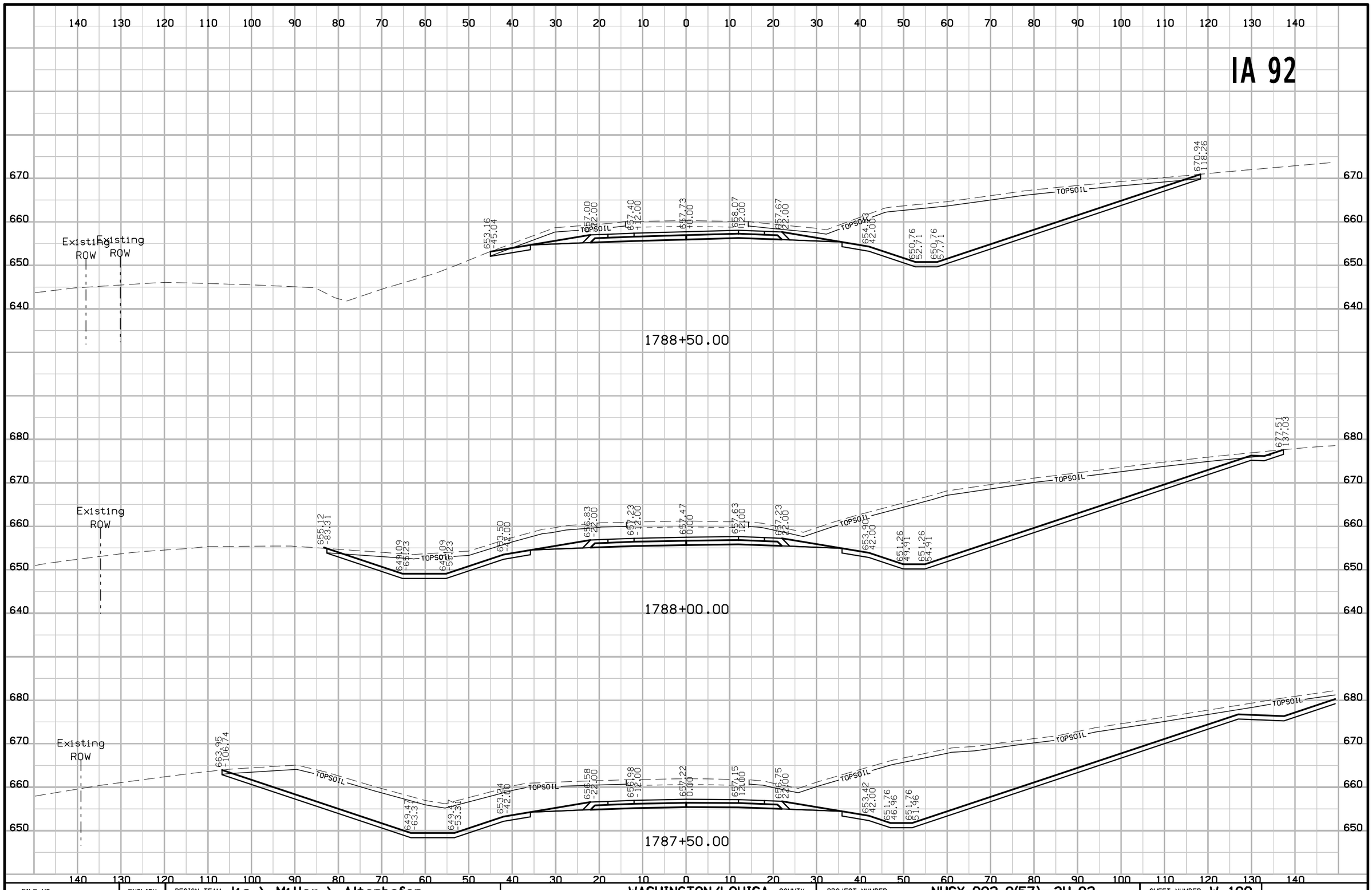
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.189

7:15:24 AM 10/4/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

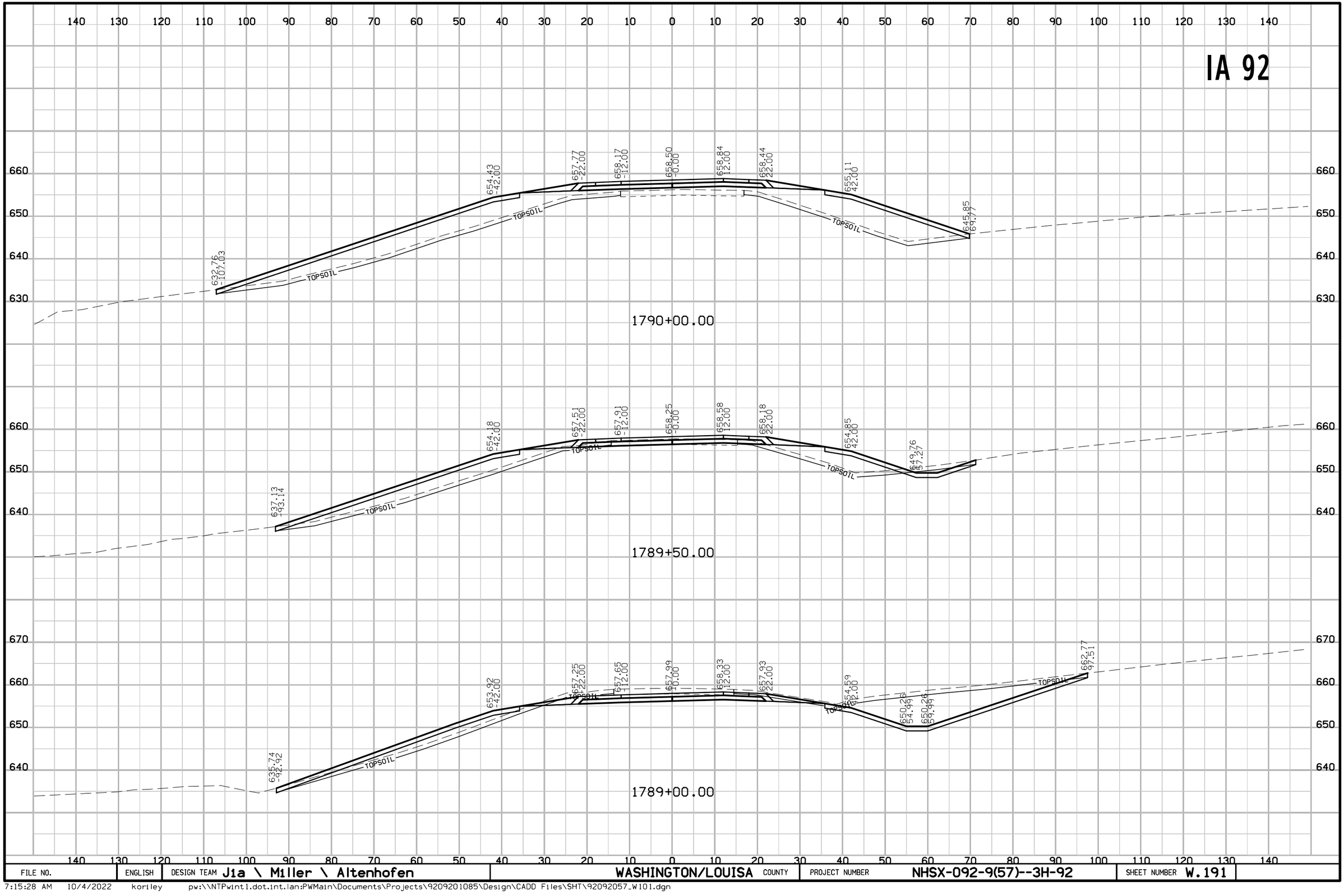
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.190

7:15:26 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

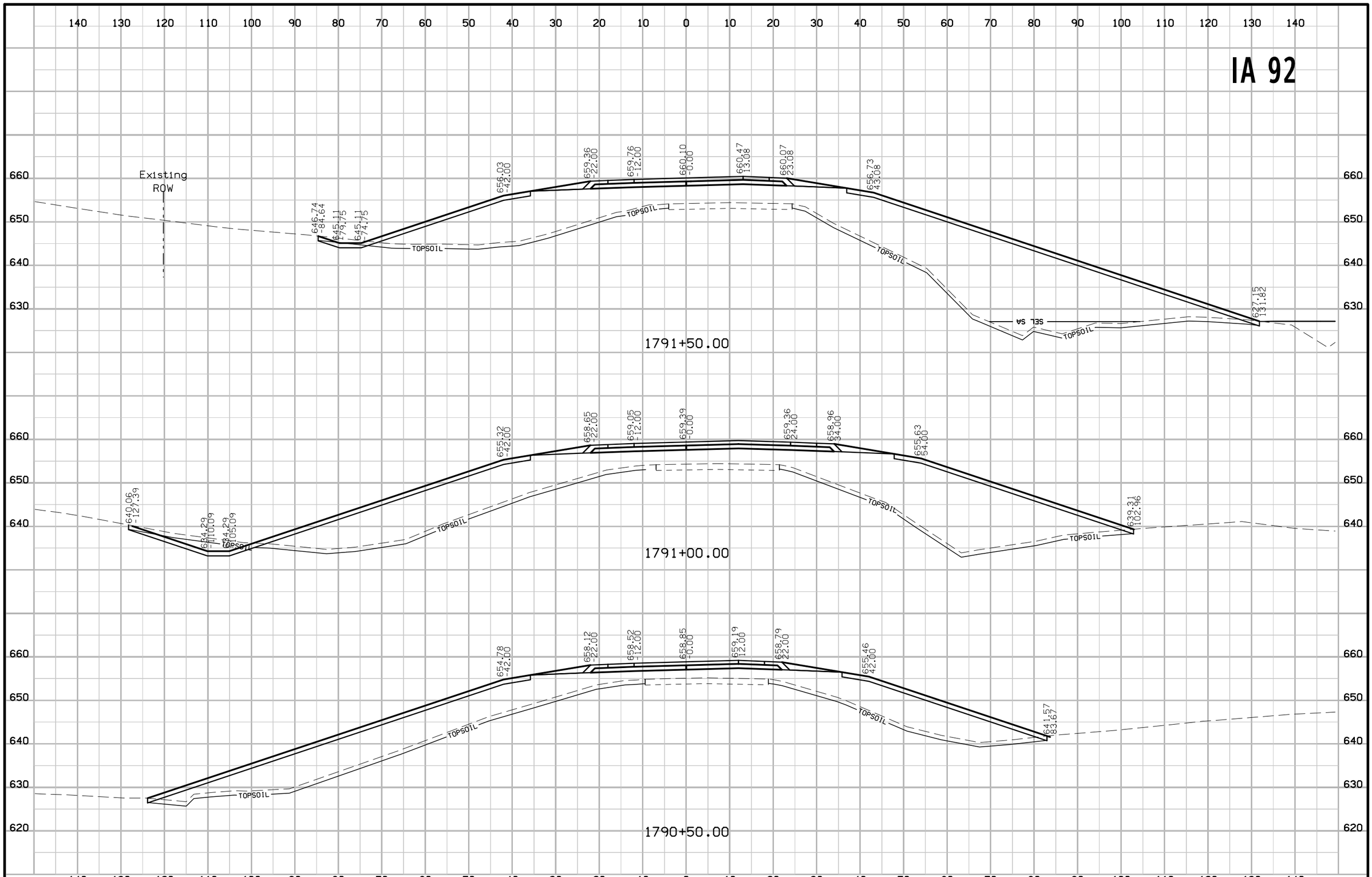
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.191

7:15:28 AM 10/4/2022 korilley pw:\\NTPwintl.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

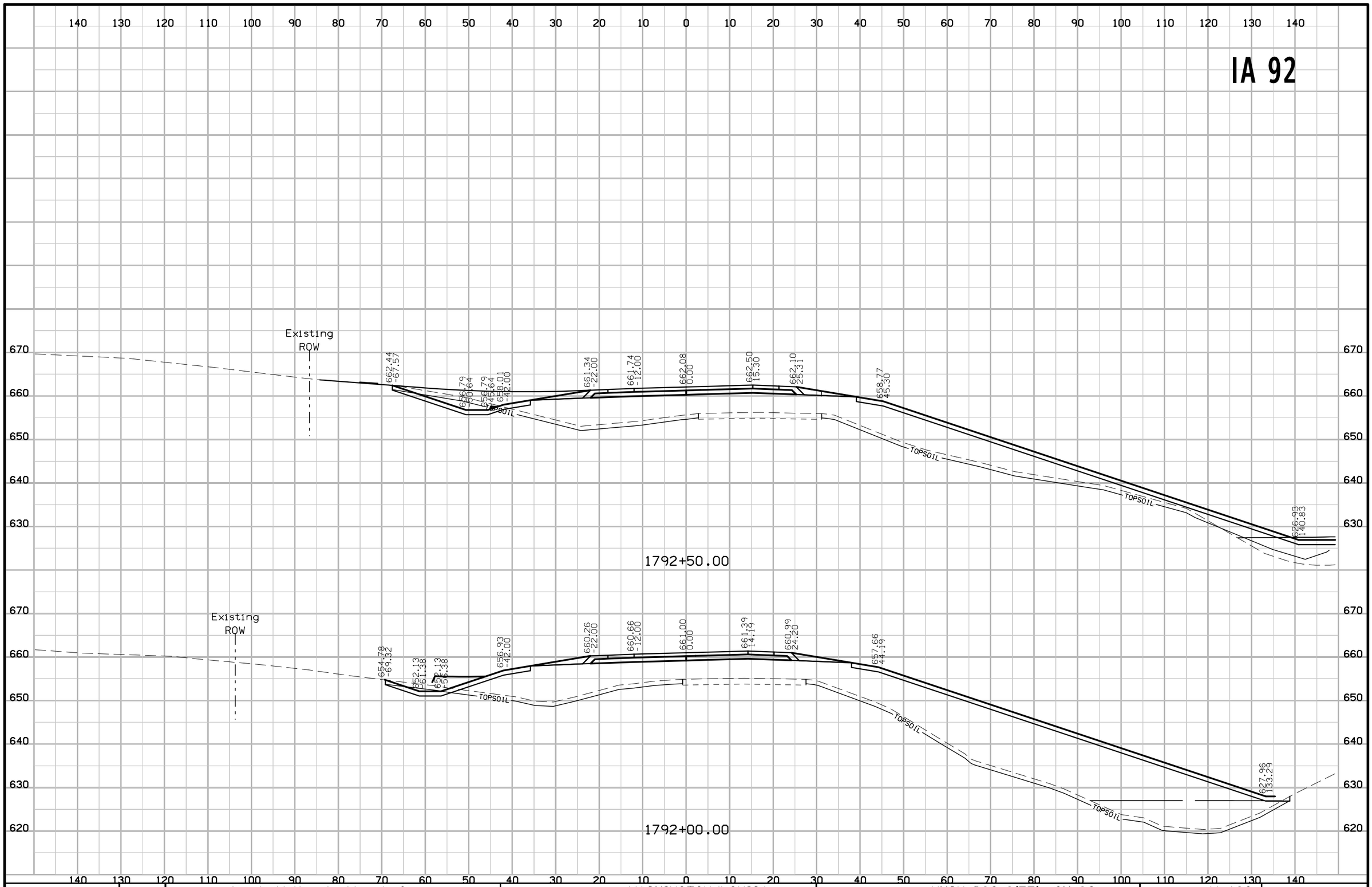
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.192

7:15:30 AM 10/4/2022 korley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.193

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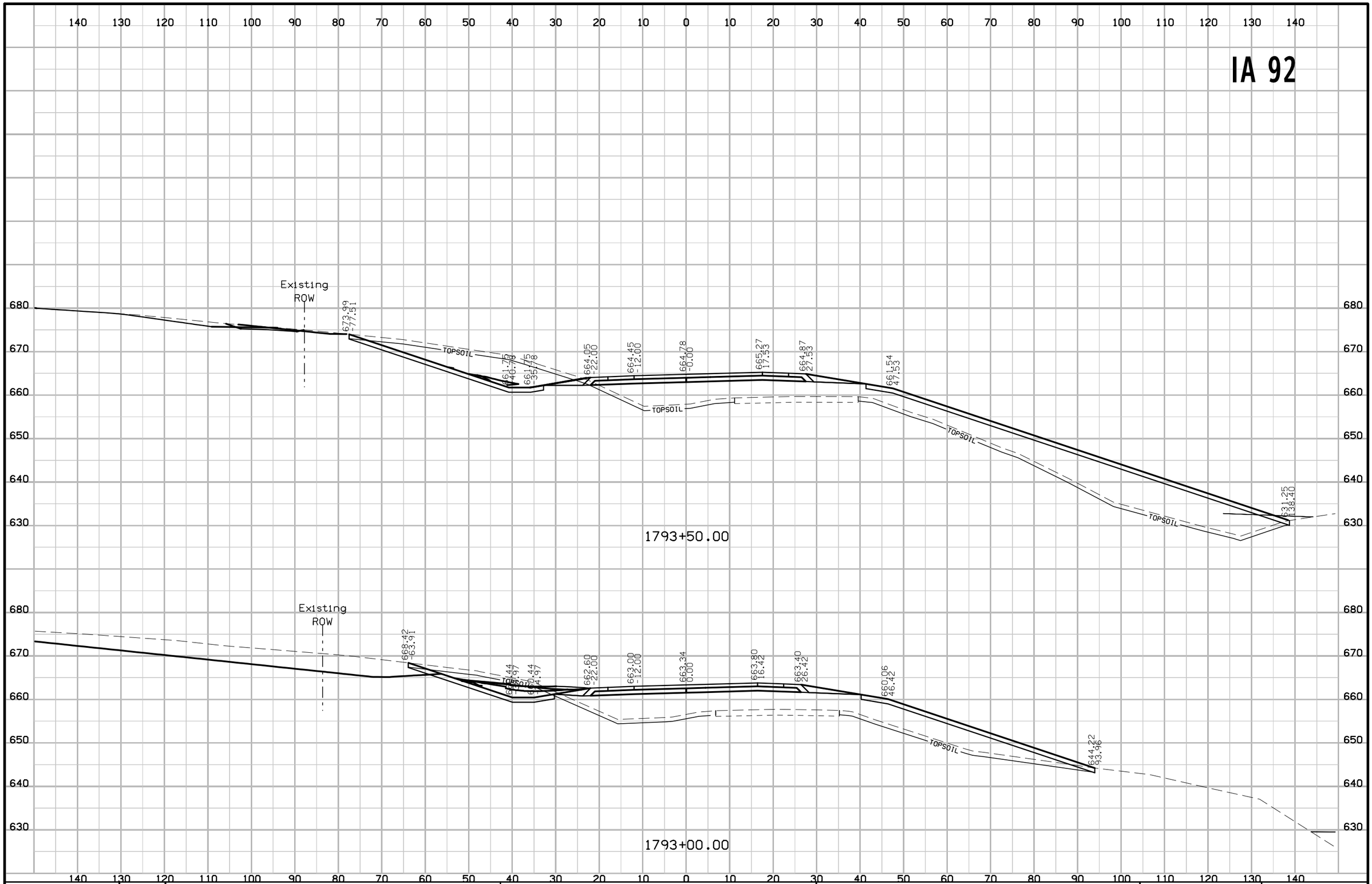
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.194

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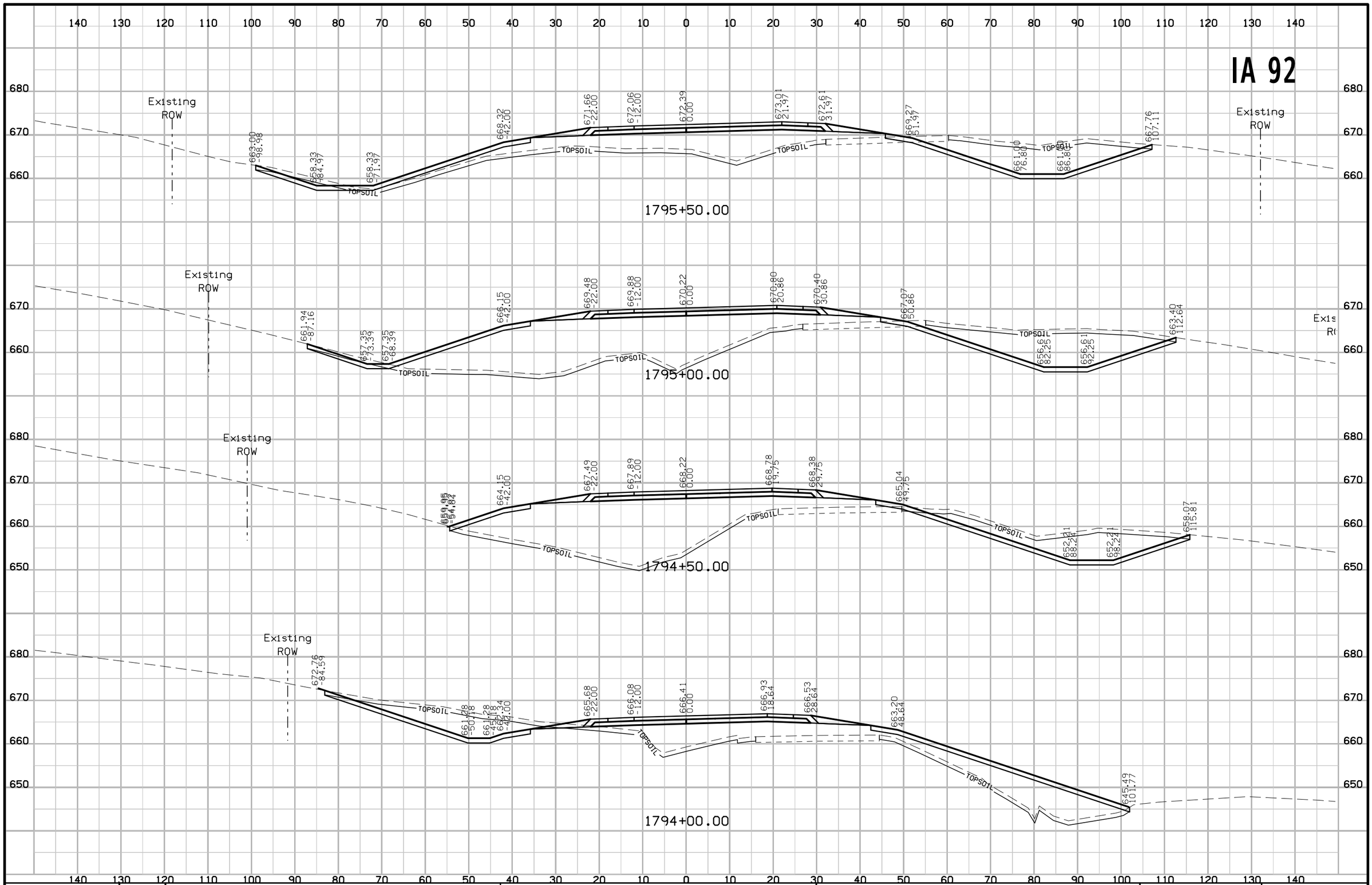
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.195

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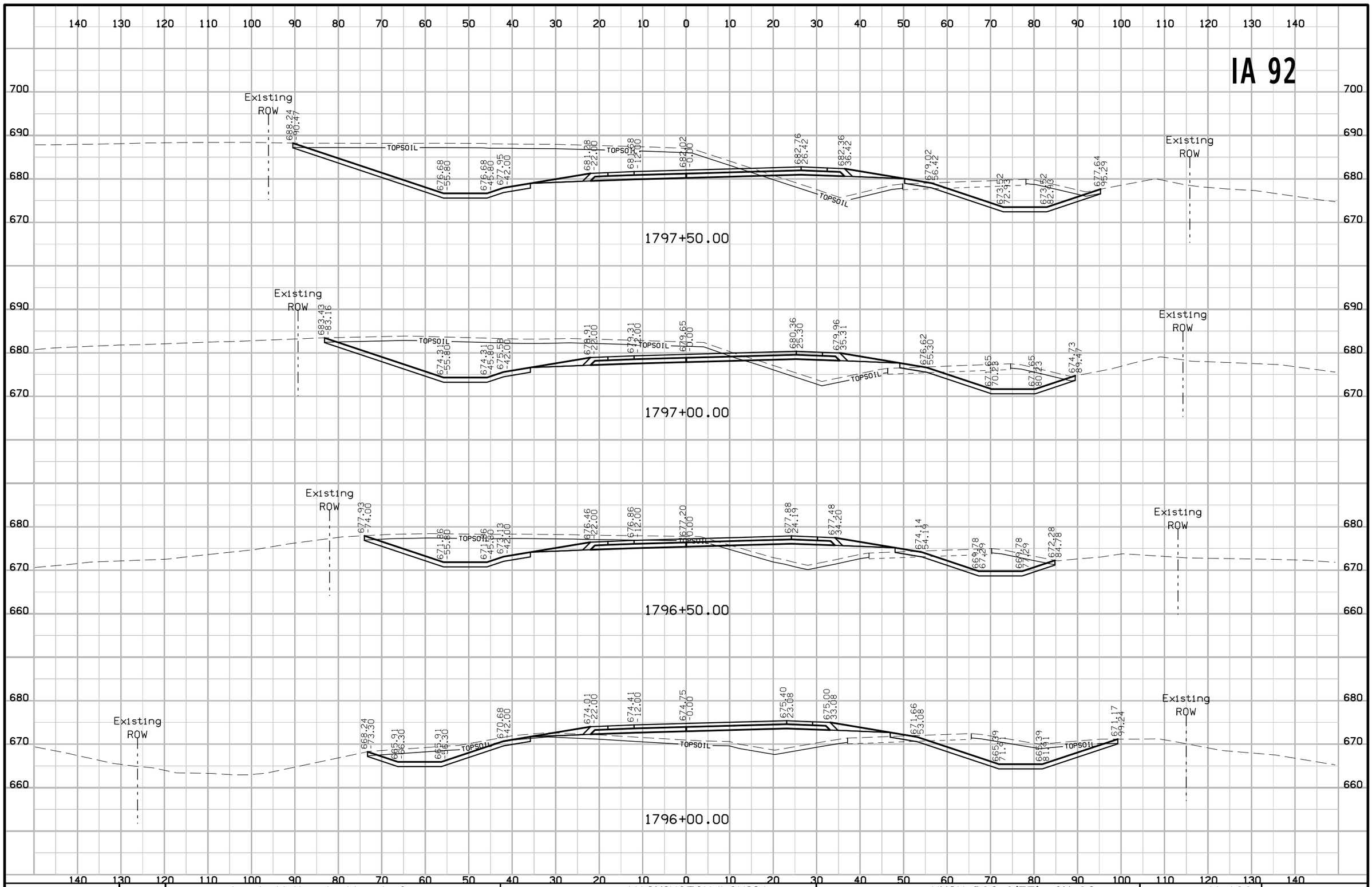

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.196

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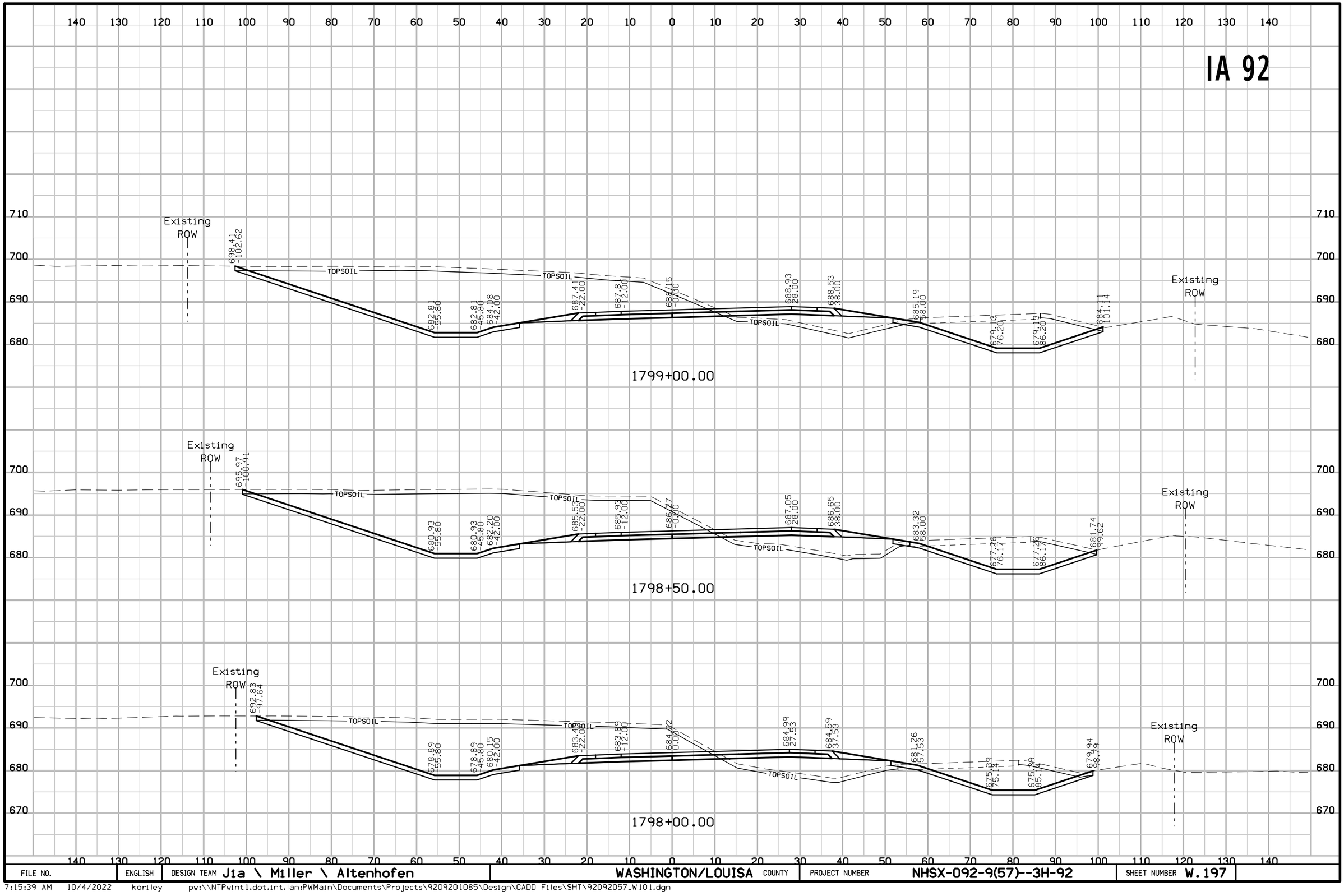
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.197

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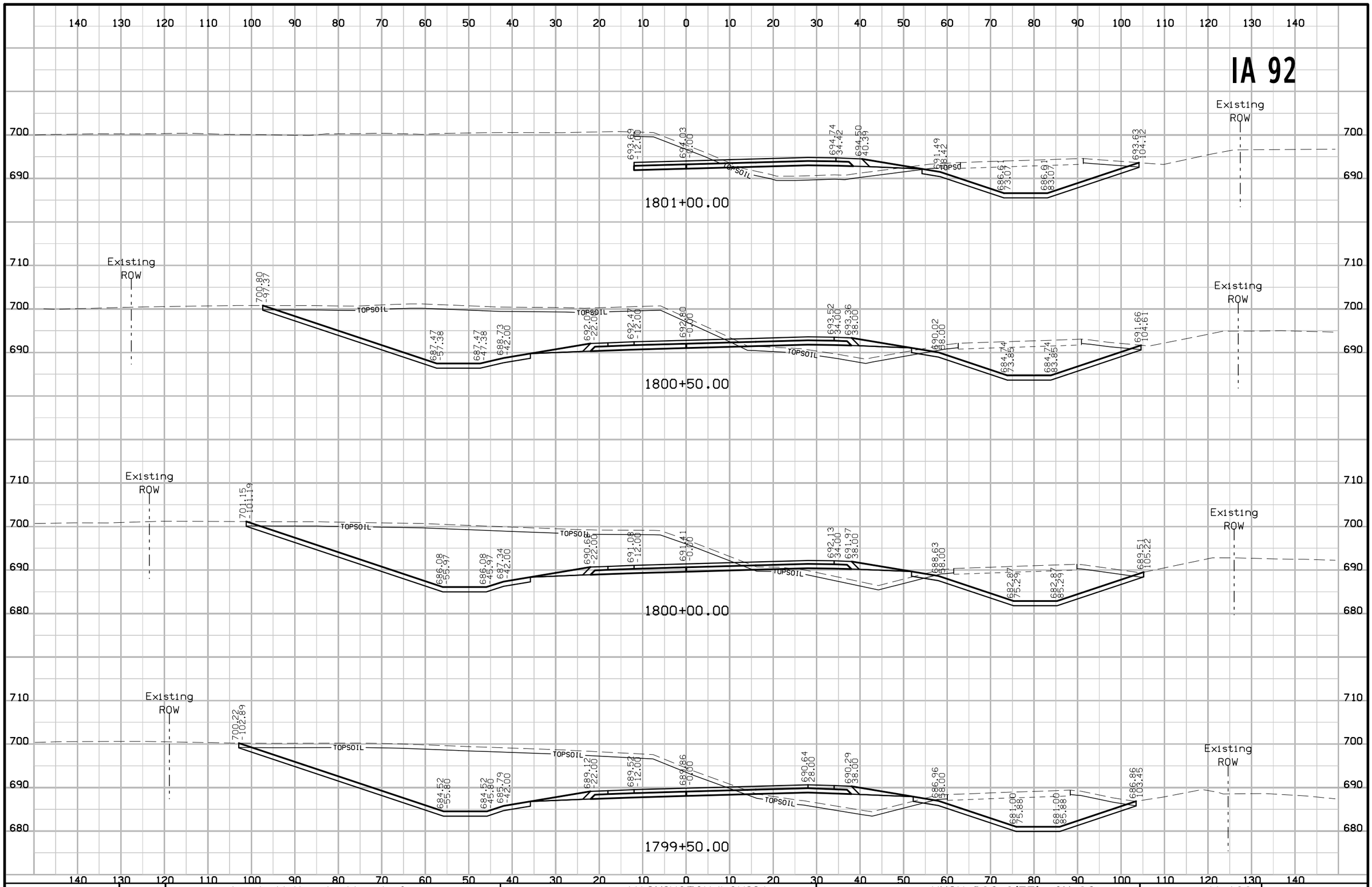
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.198

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IA 92

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

710 / 700 / 690

692.60 -75.64
691.04 -70.94
691.04 -60.94
693.37 -48.00
696.37 -30.00
696.61 -24.00
697.31 -0.00
697.95 40.00
697.71 46.00
694.70 64.00
691.14 74.69
691.14 84.69
697.48 103.71
TOPSOIL
Existing ROW

1803+00.00

696.39 -12.00
696.73 -0.00
697.37 40.00
697.13 46.00
694.13 64.00
690.74 74.16
690.74 84.16
697.03 103.01
TOPSOIL
Existing ROW

1802+50.00

695.66 -12.00
695.99 -0.00
696.63 40.00
696.39 46.00
693.39 64.00
690.35 73.13
690.35 83.13
696.24 100.79
TOPSOIL
Existing ROW

1802+00.00

694.76 -12.00
695.09 -0.00
695.75 38.21
695.52 44.12
692.50 64.21
688.48 74.28
688.48 84.28
694.96 103.72
TOPSOIL
Existing ROW

1801+50.00

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

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.199

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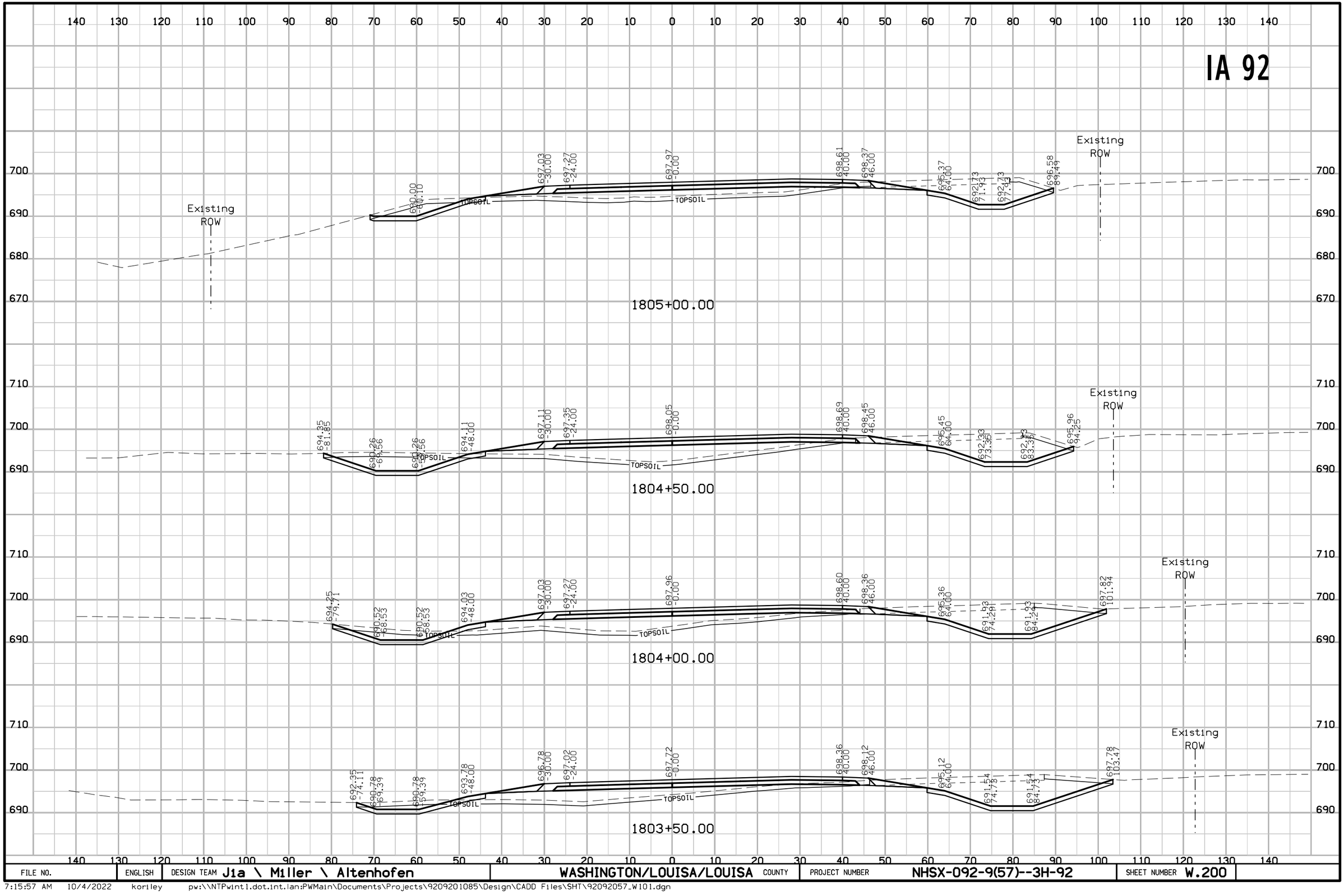
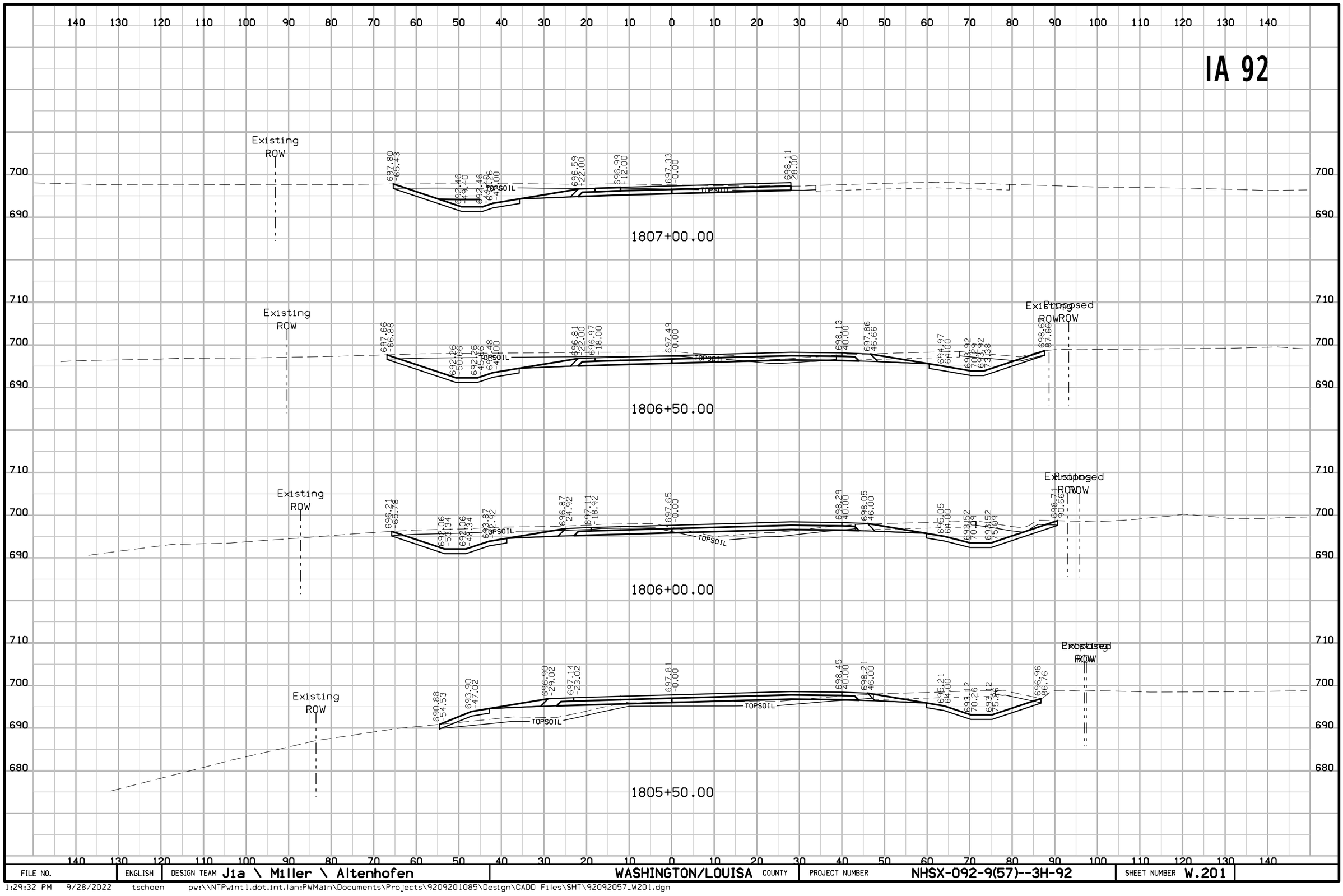
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.200

7:15:57 AM 10/4/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W101.dgn

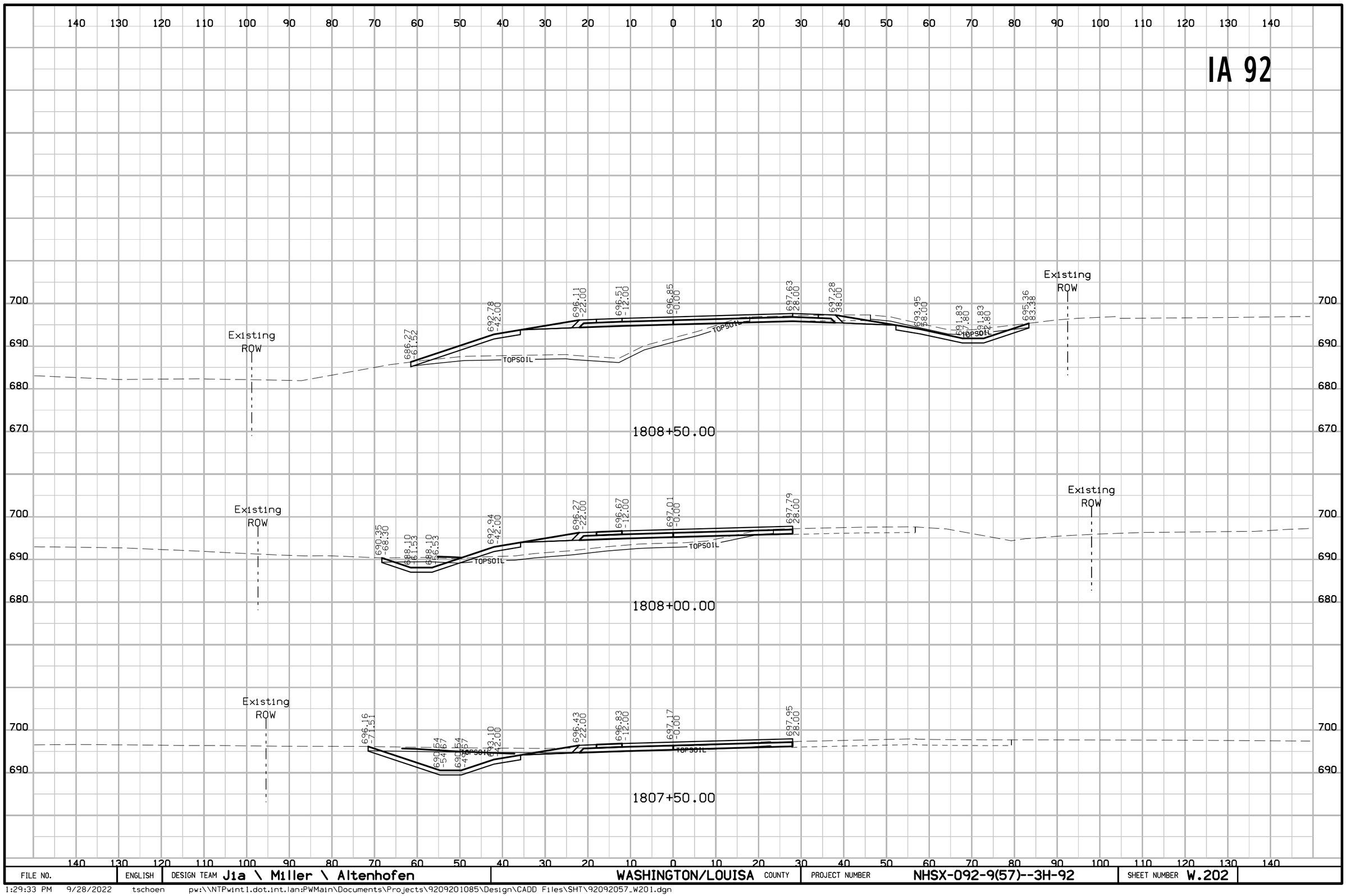
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA	COUNTY	PROJECT NUMBER	NHSX-092-9(57)--3H-92	SHEET NUMBER W.201

1:29:32 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.202

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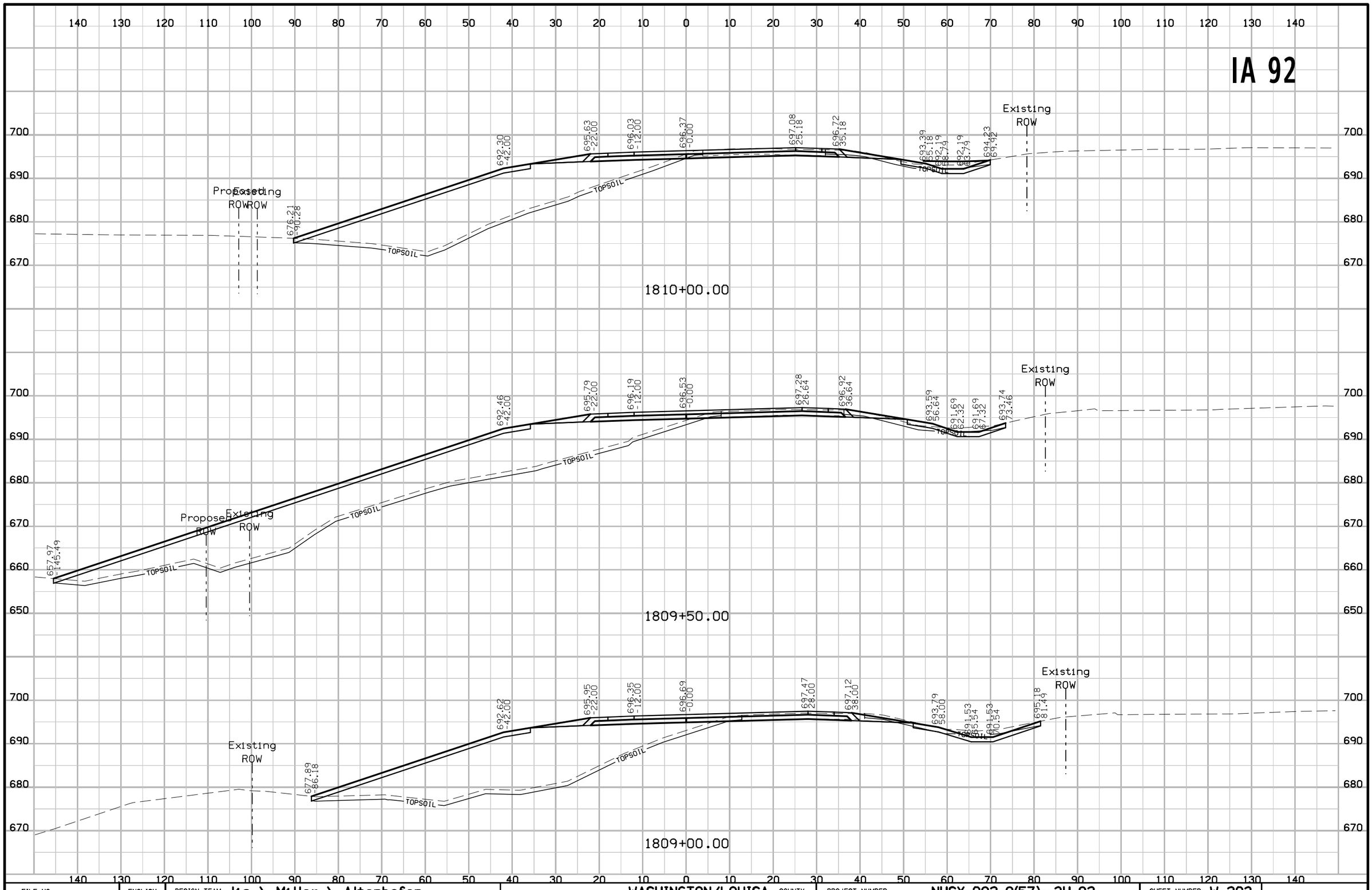
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.203

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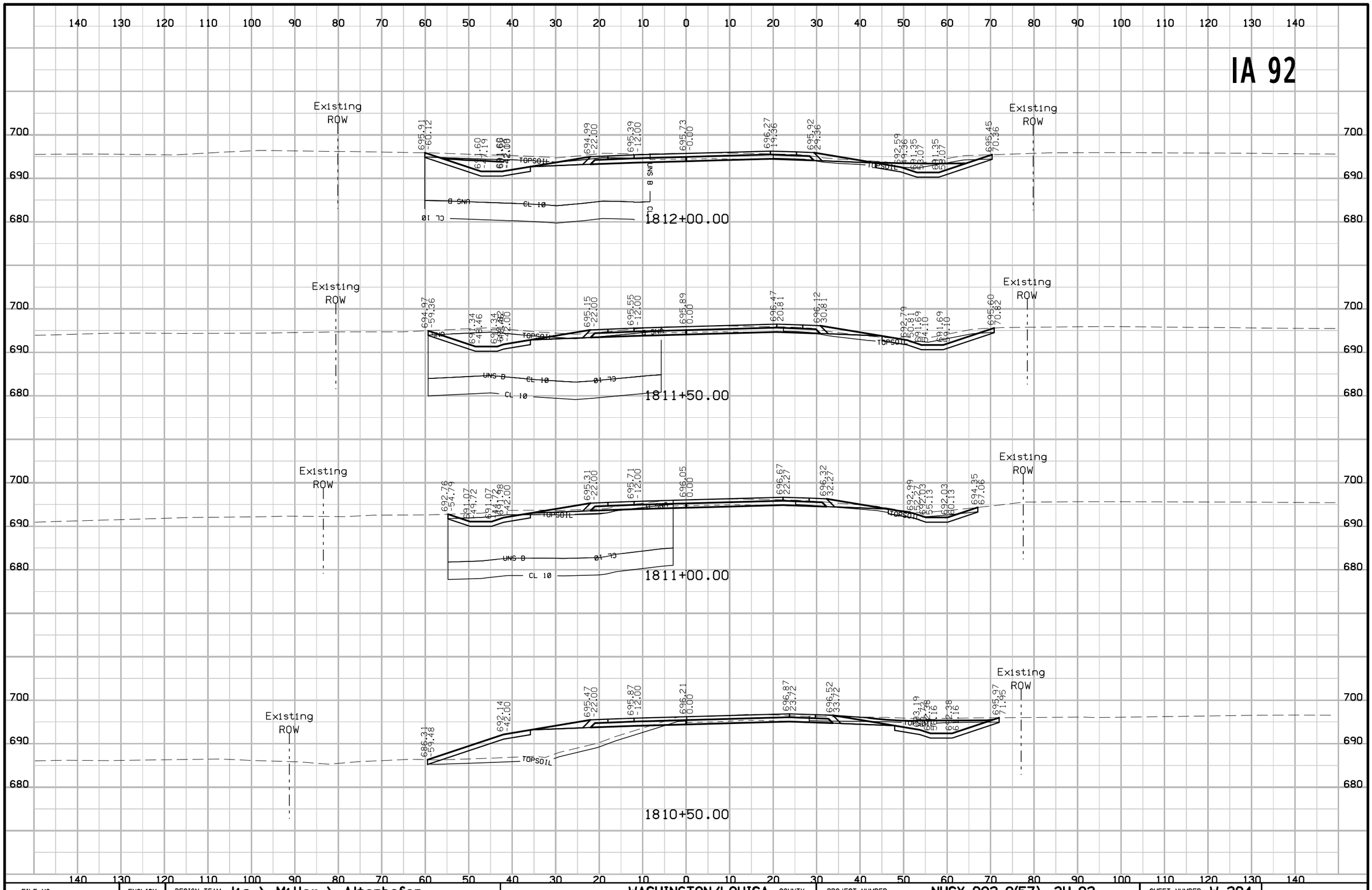
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.204

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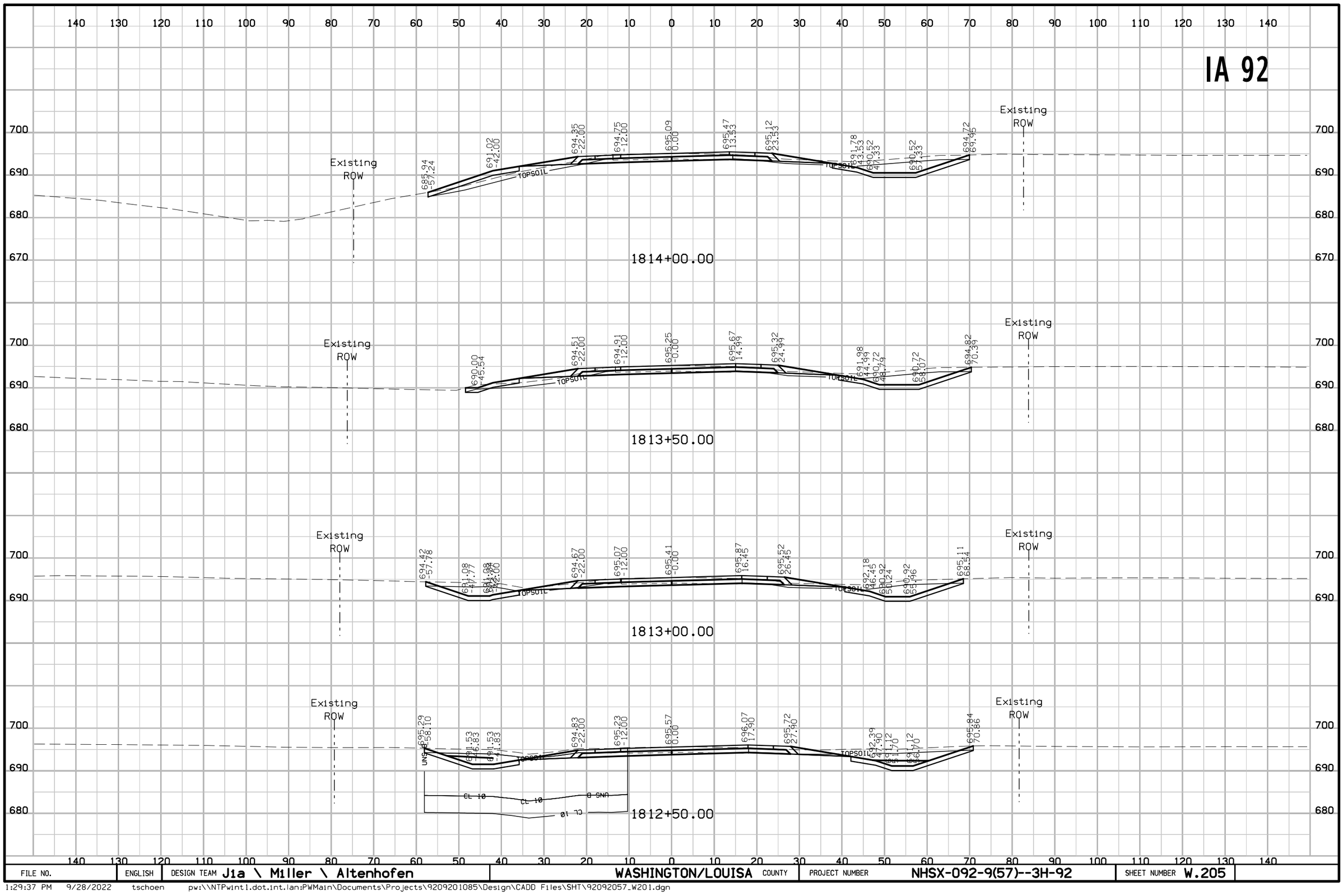

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.205

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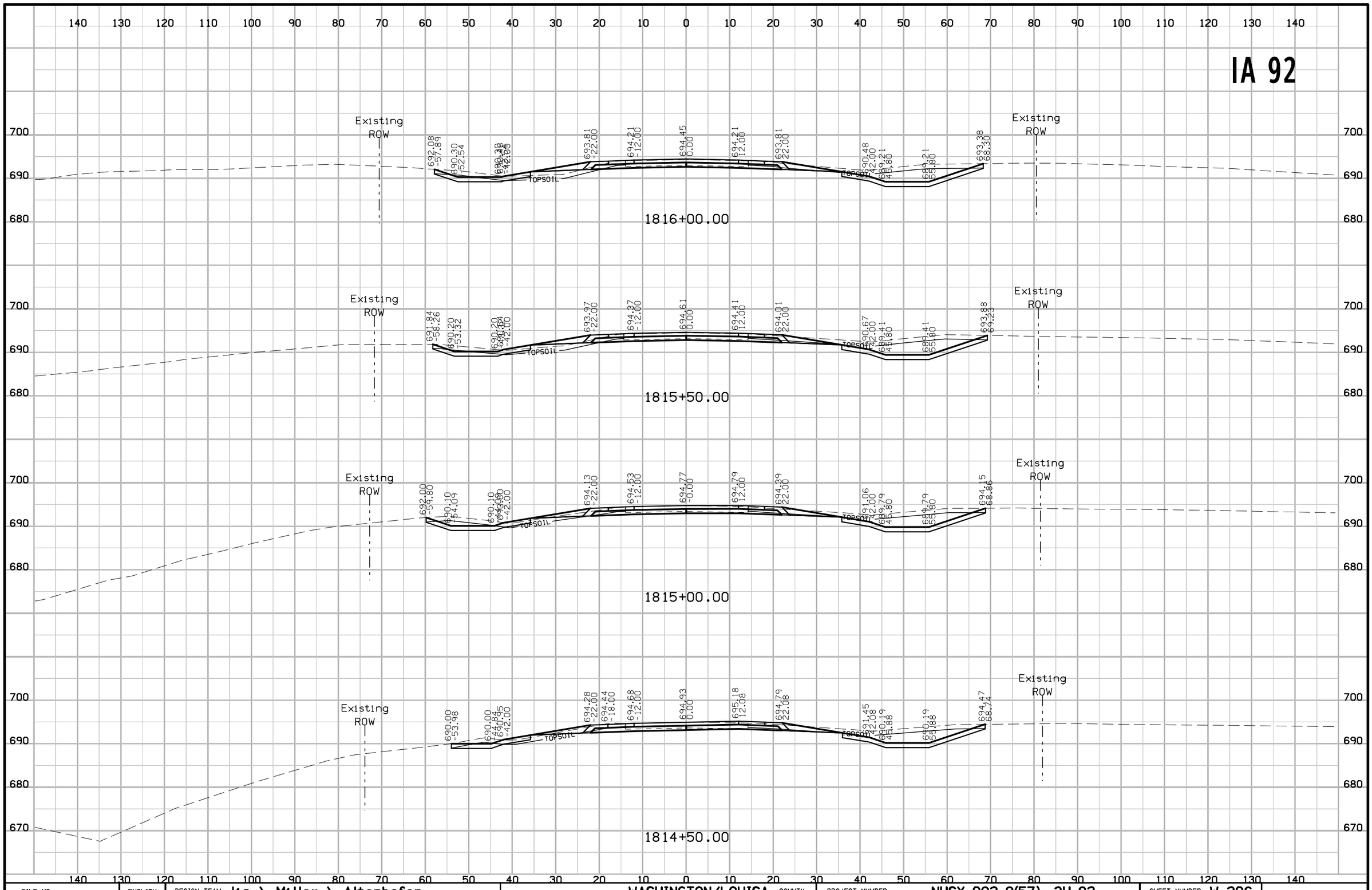

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.206

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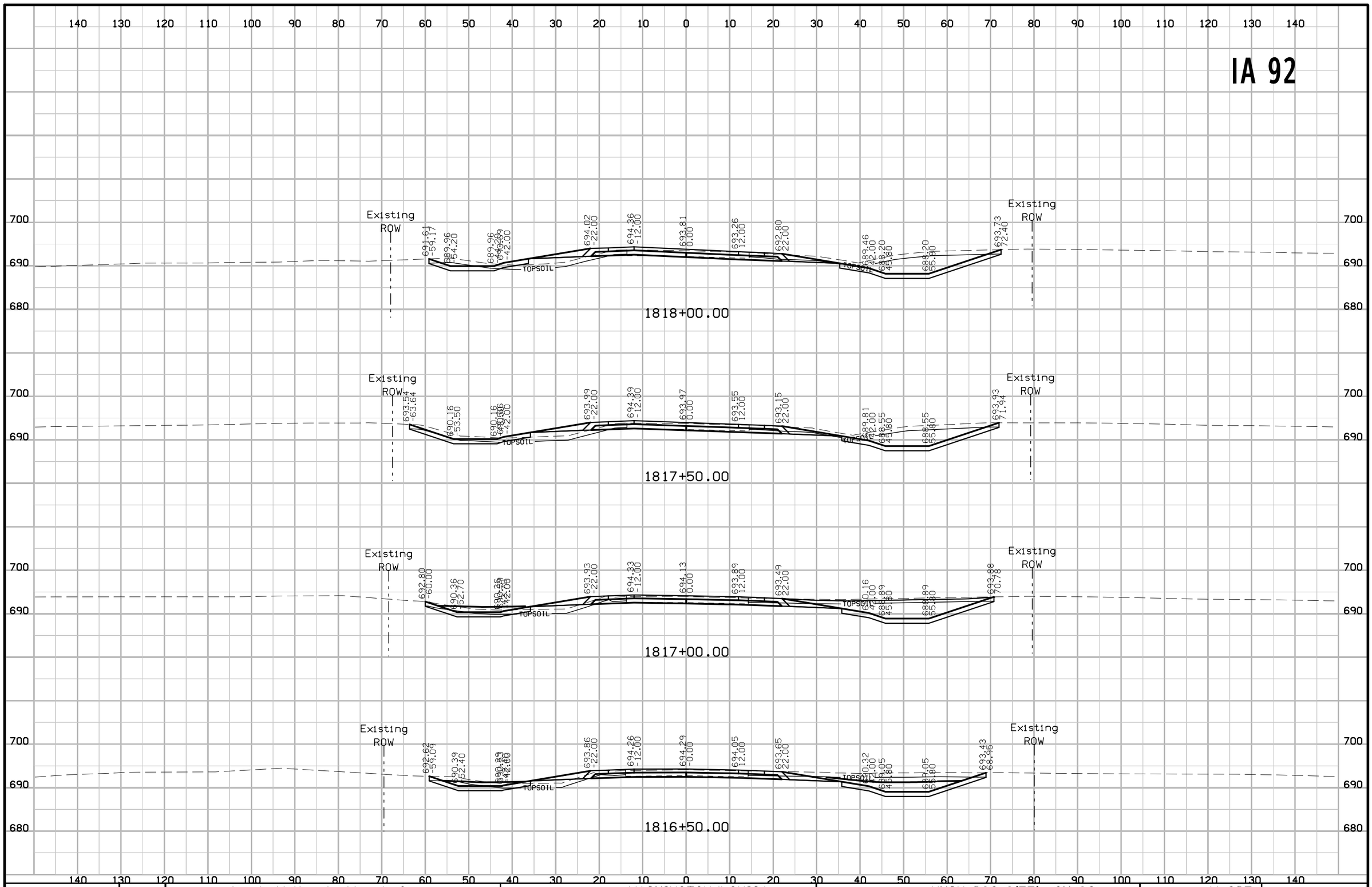
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.207

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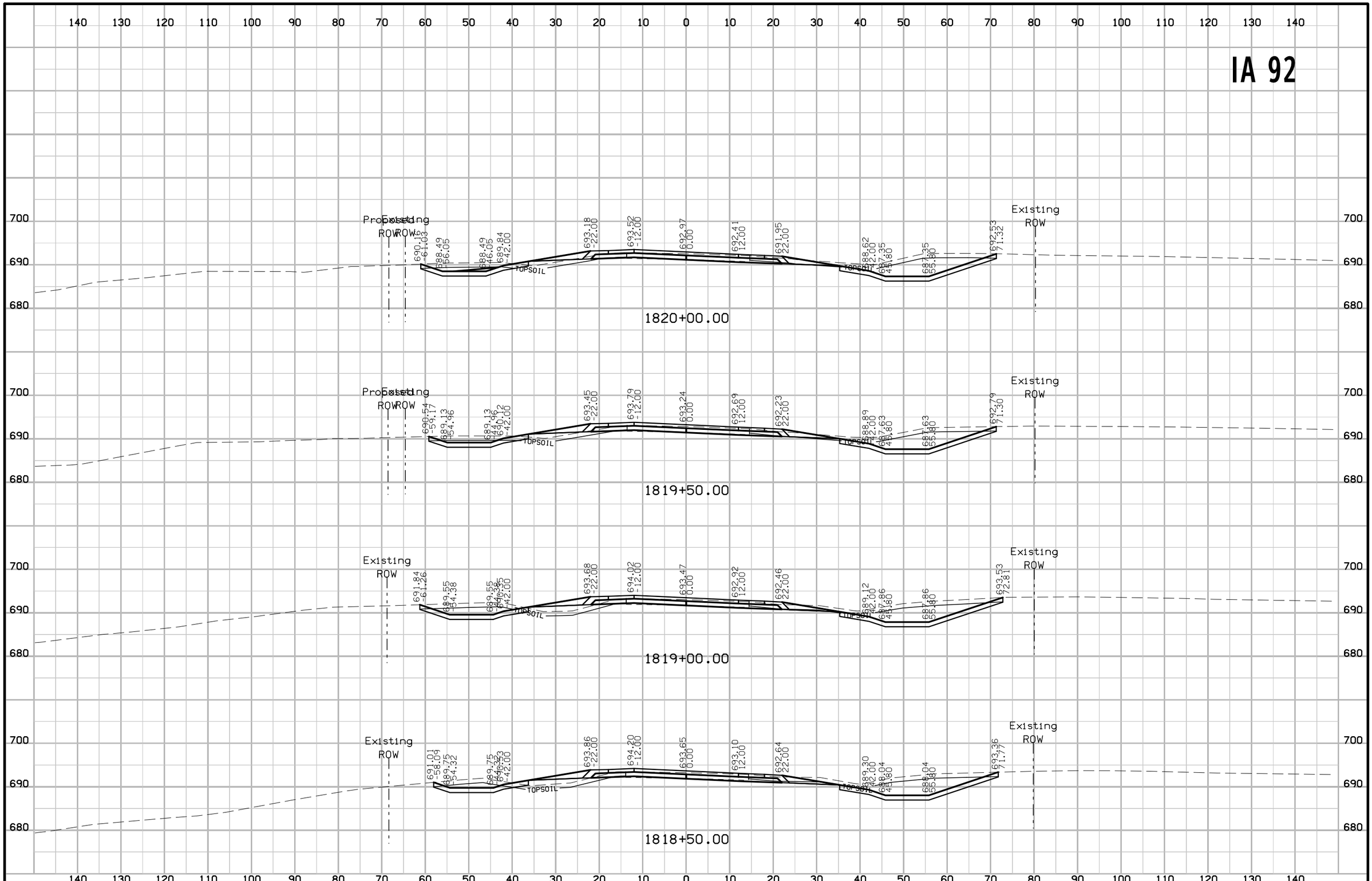
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.208

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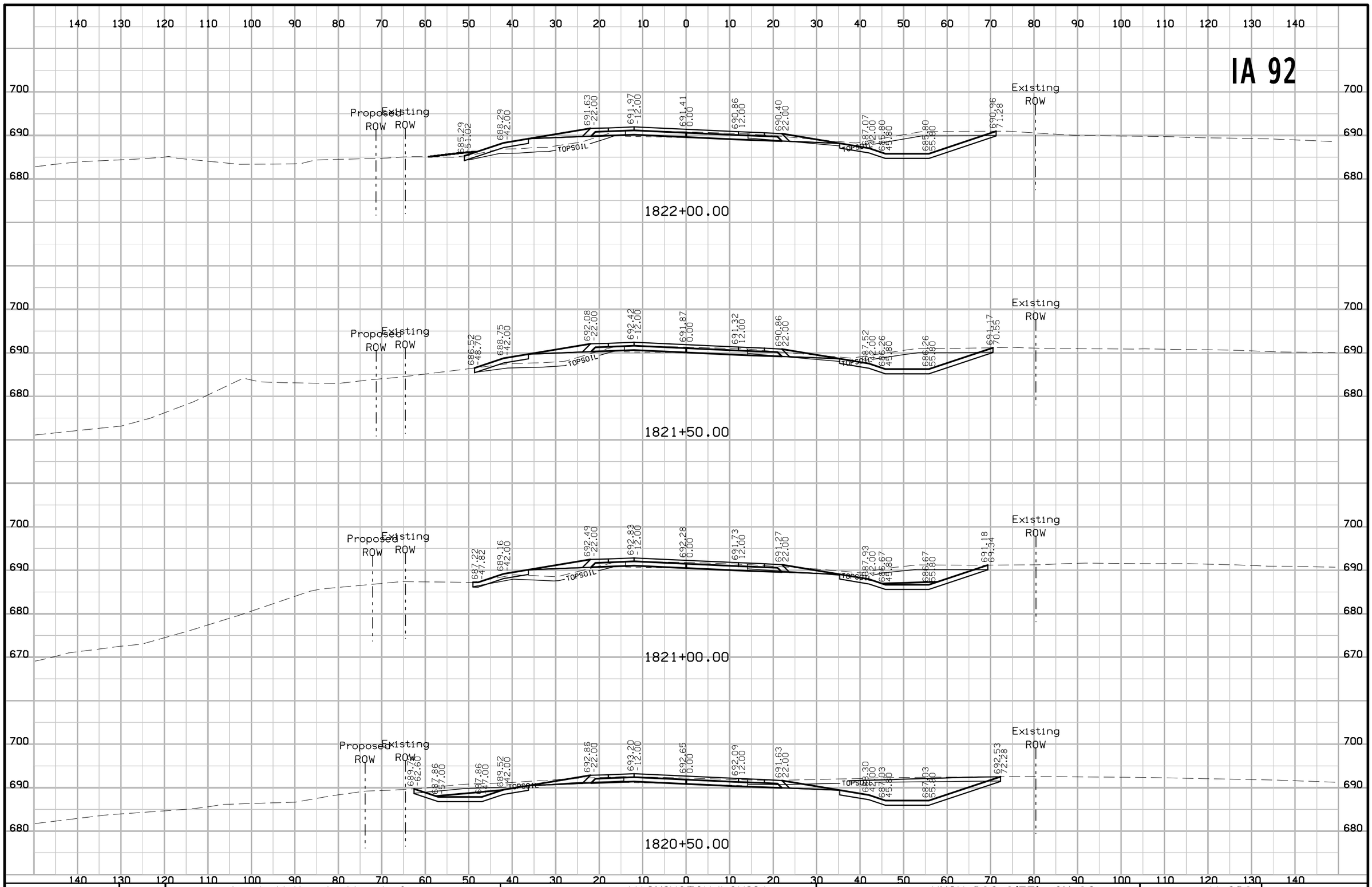
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.209

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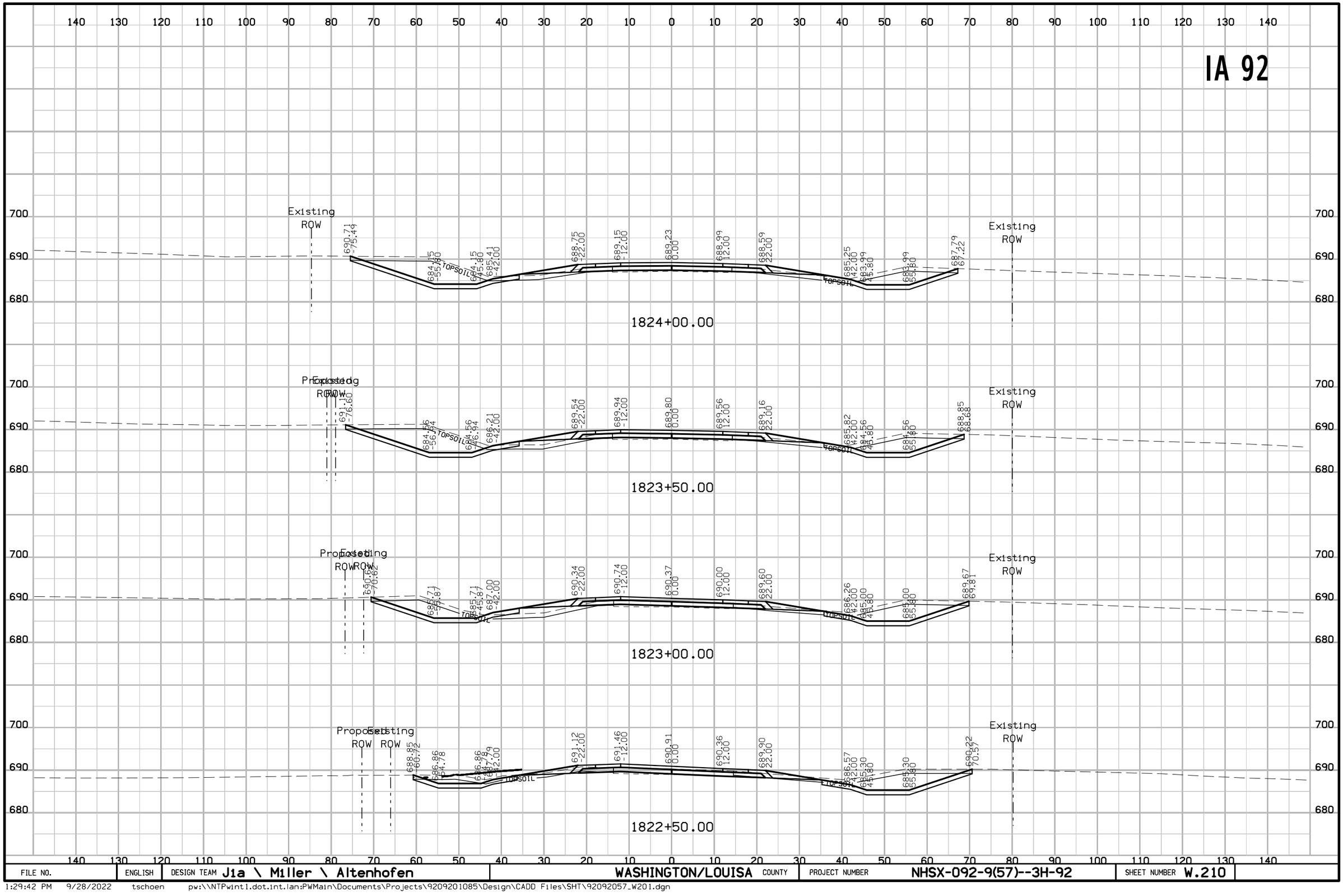
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.210

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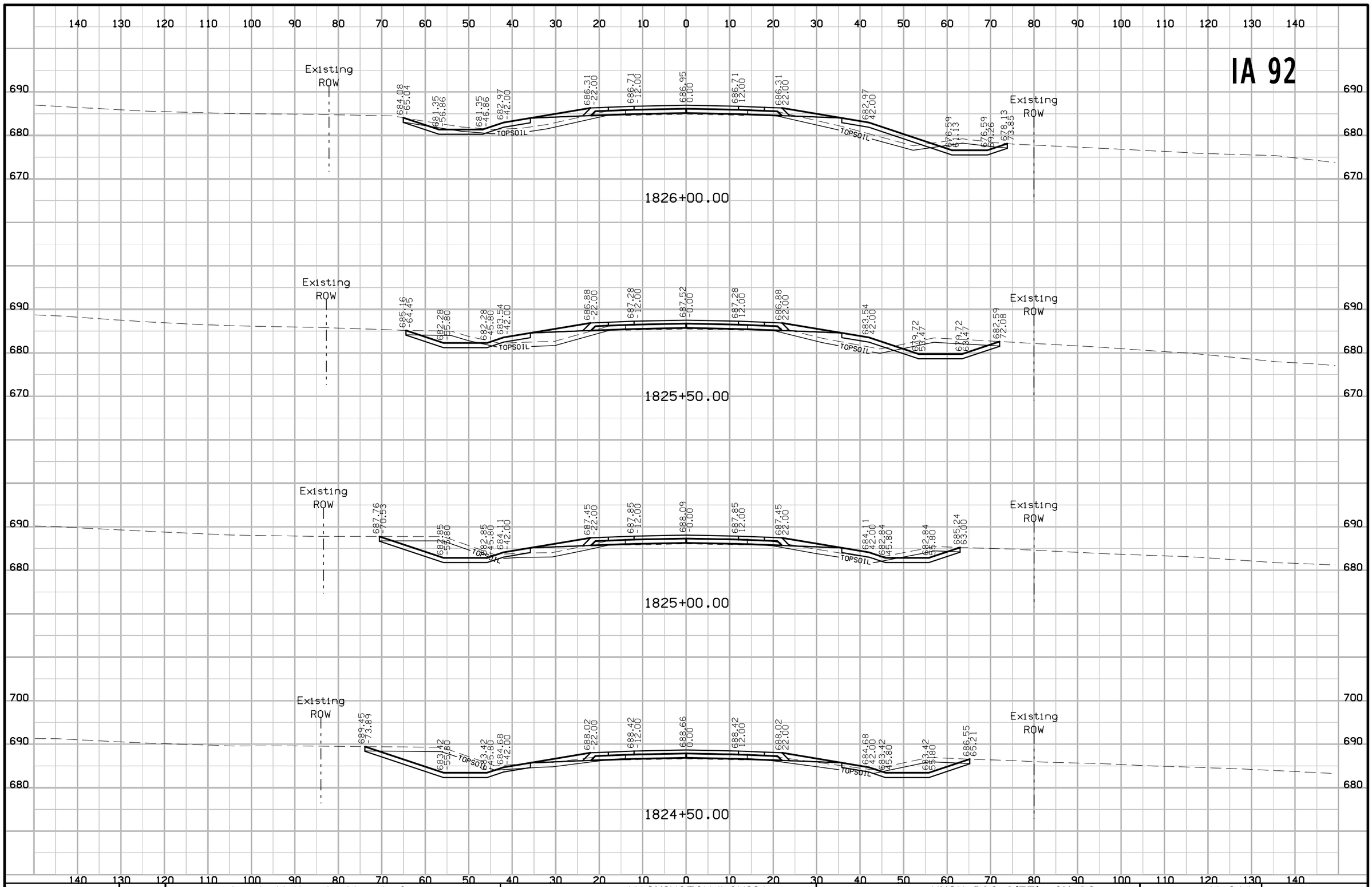
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.211

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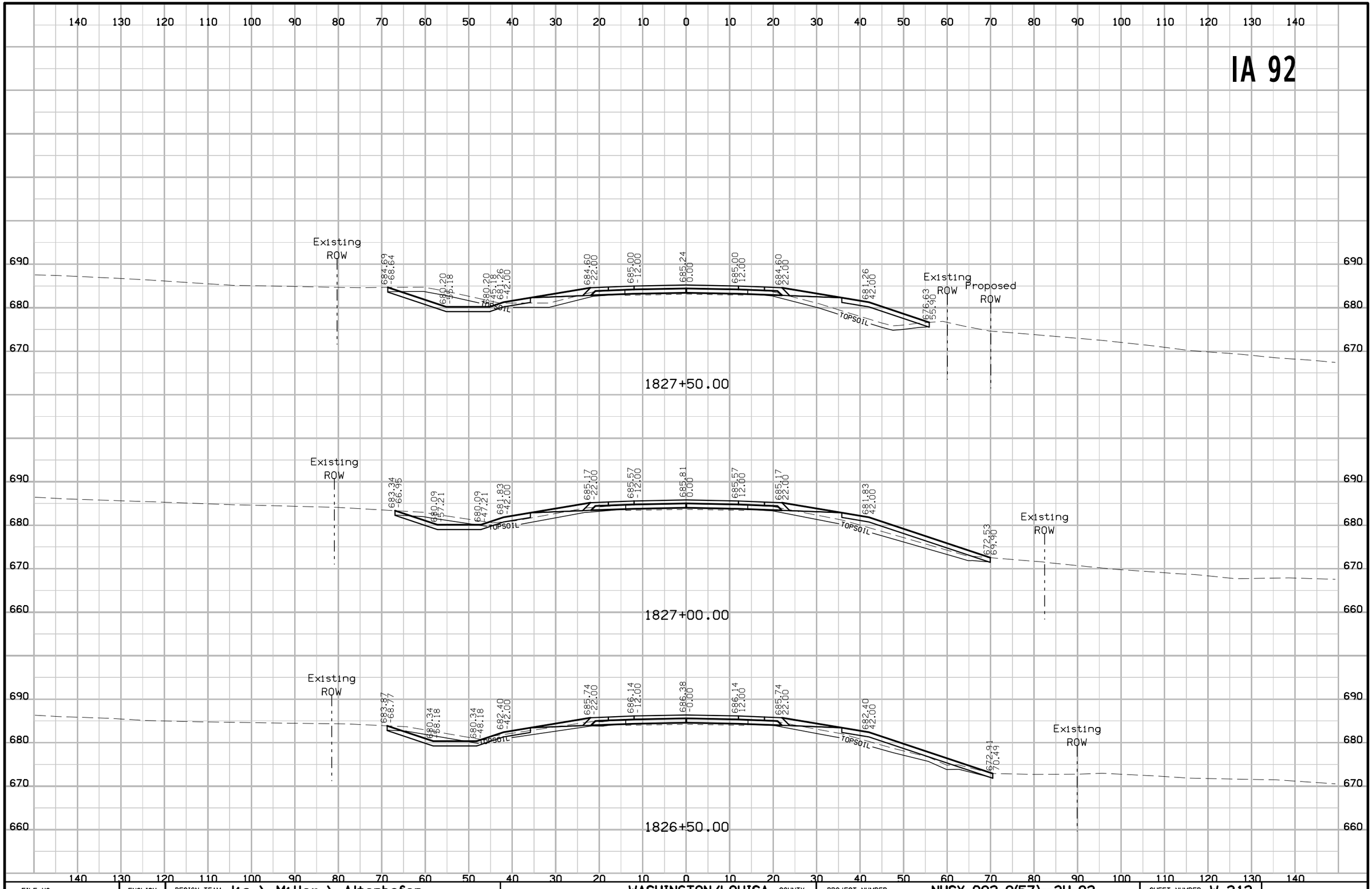
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.212

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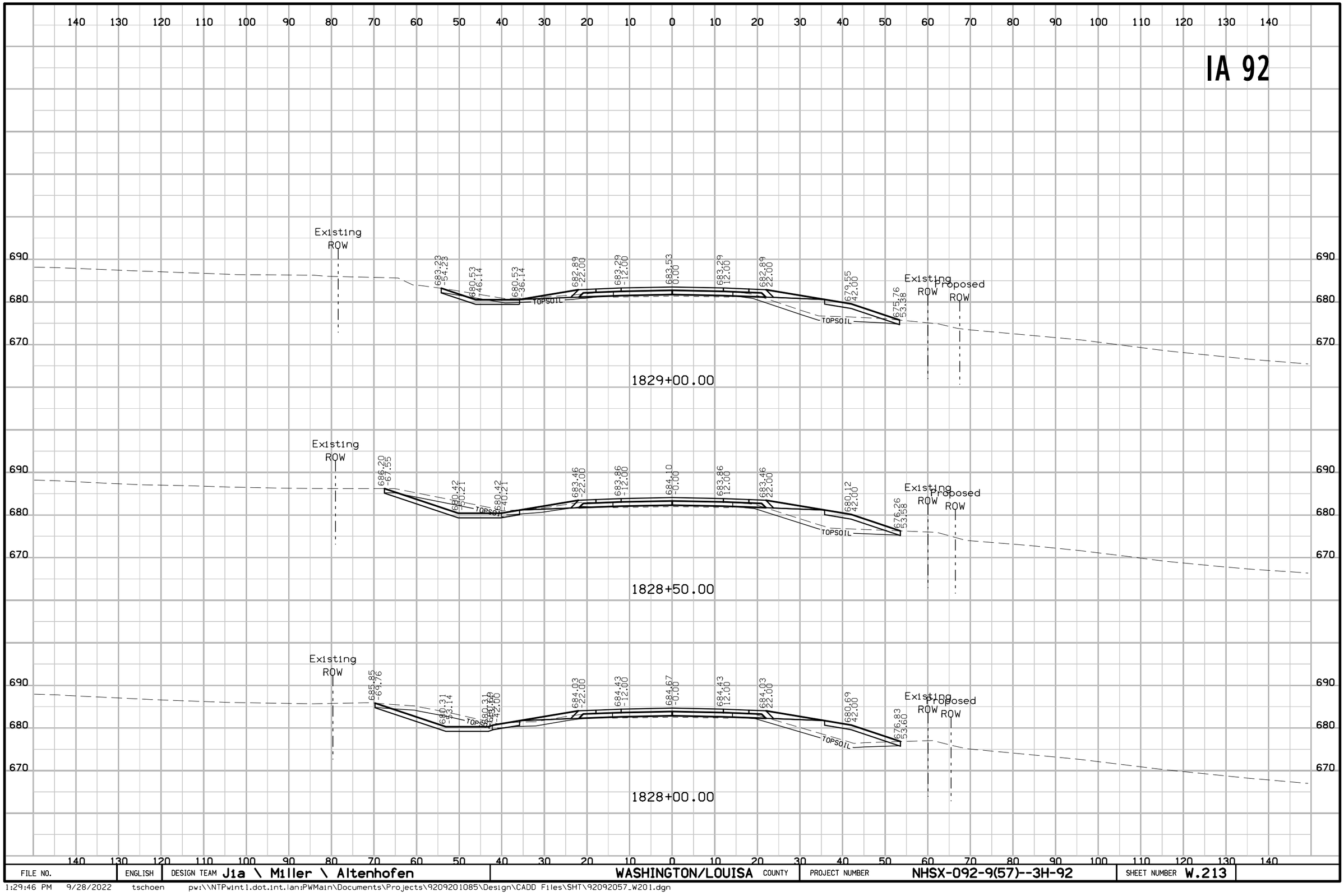
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.213

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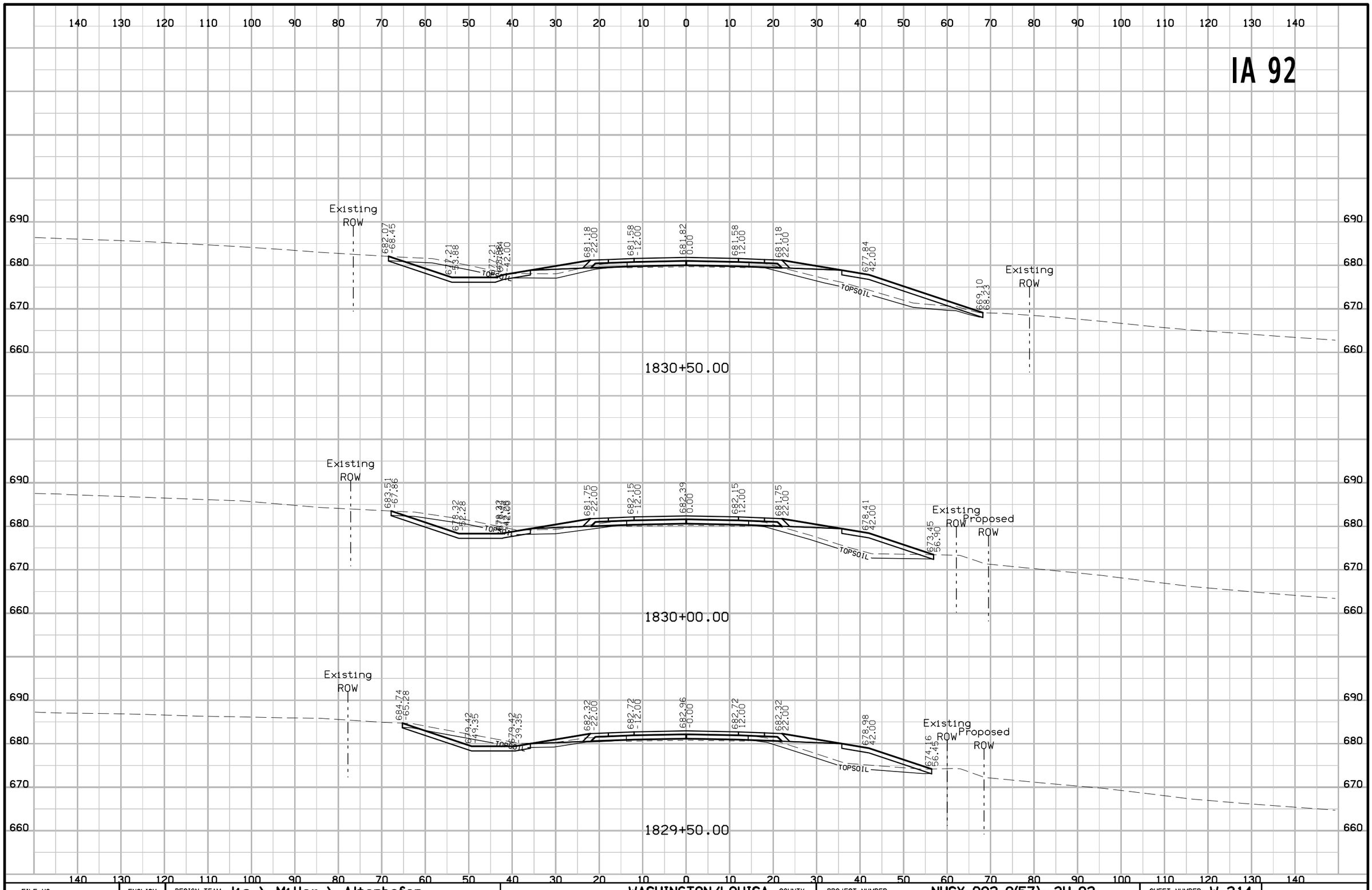

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.214

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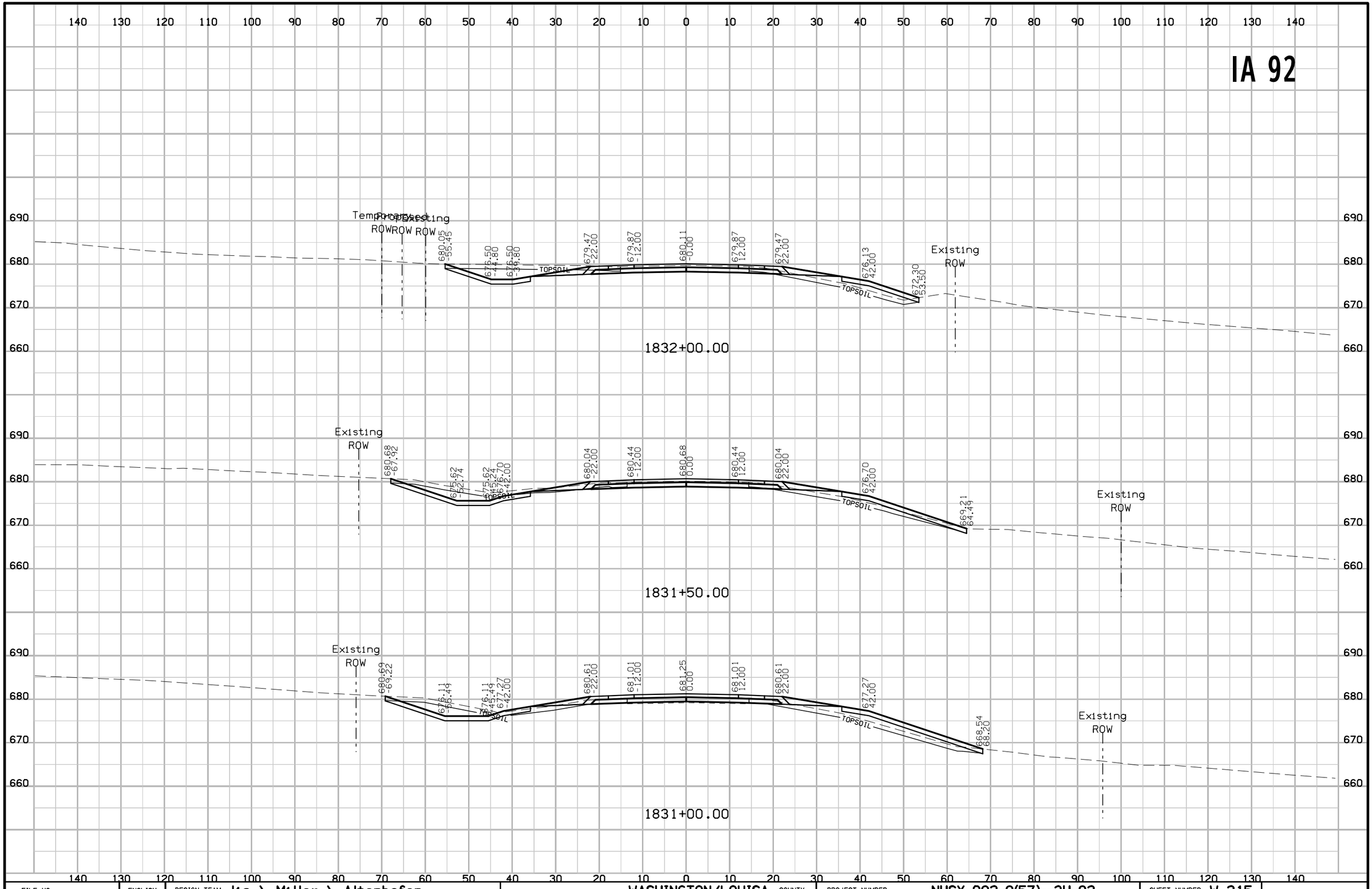
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.215

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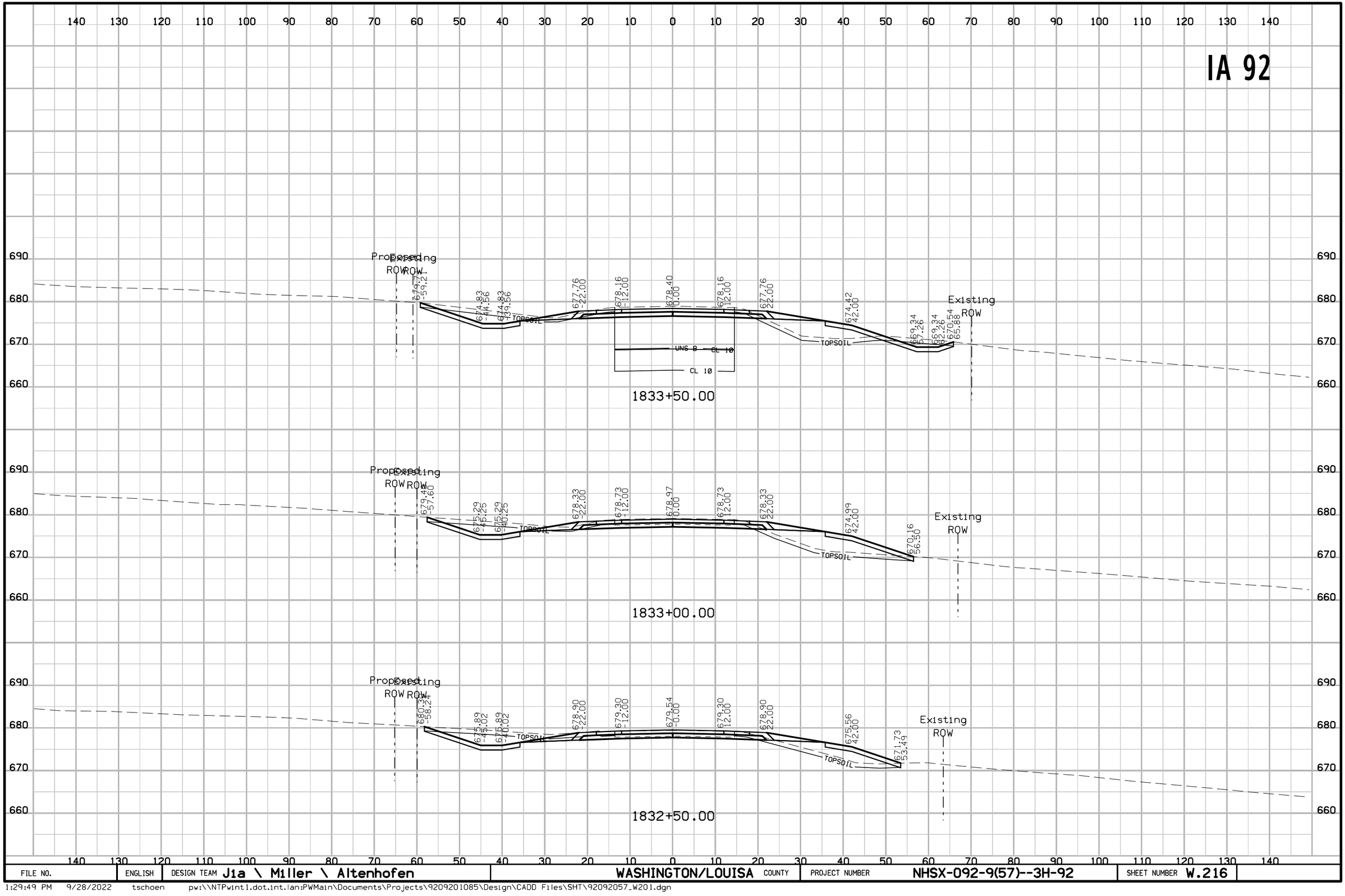
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.216

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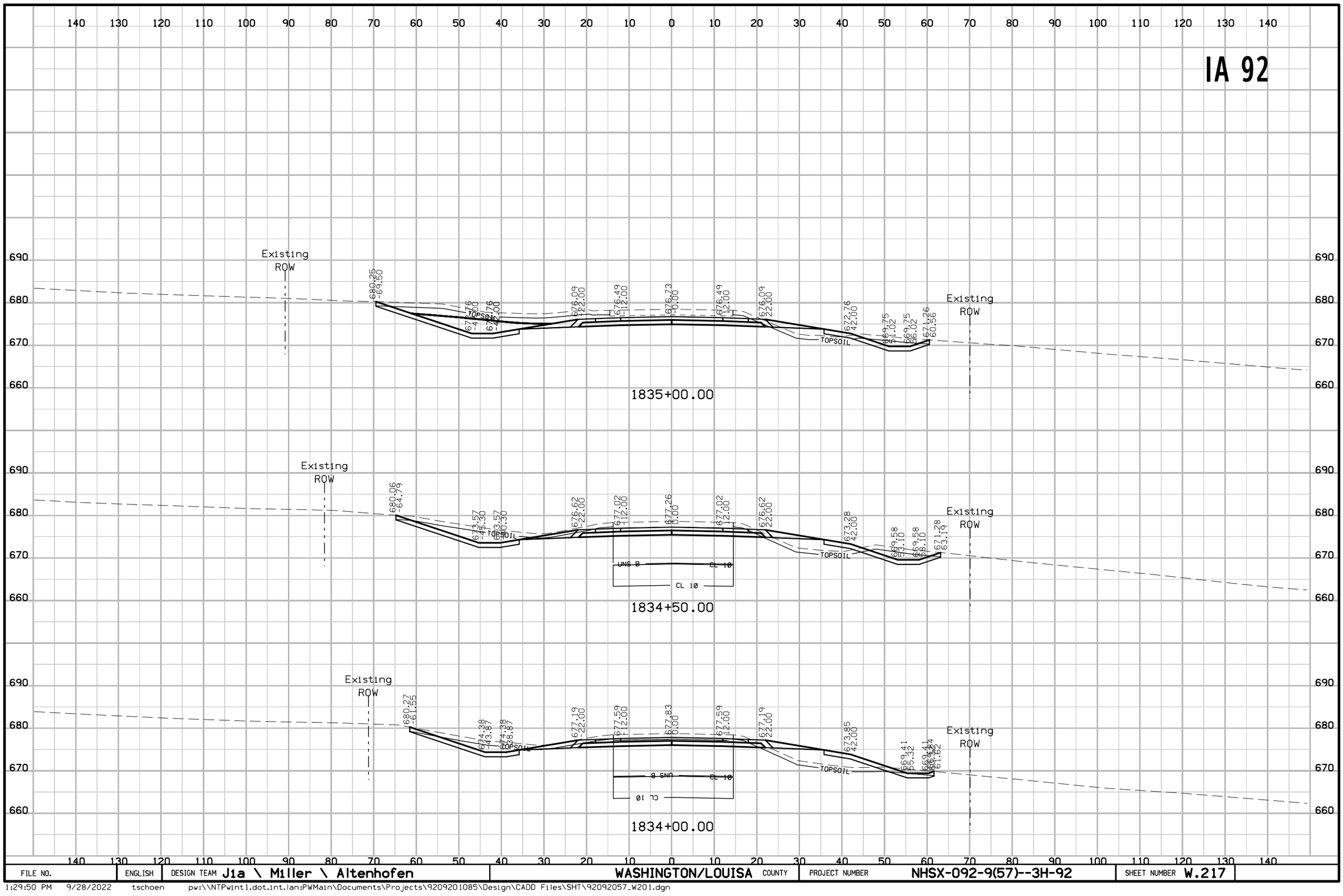

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.217

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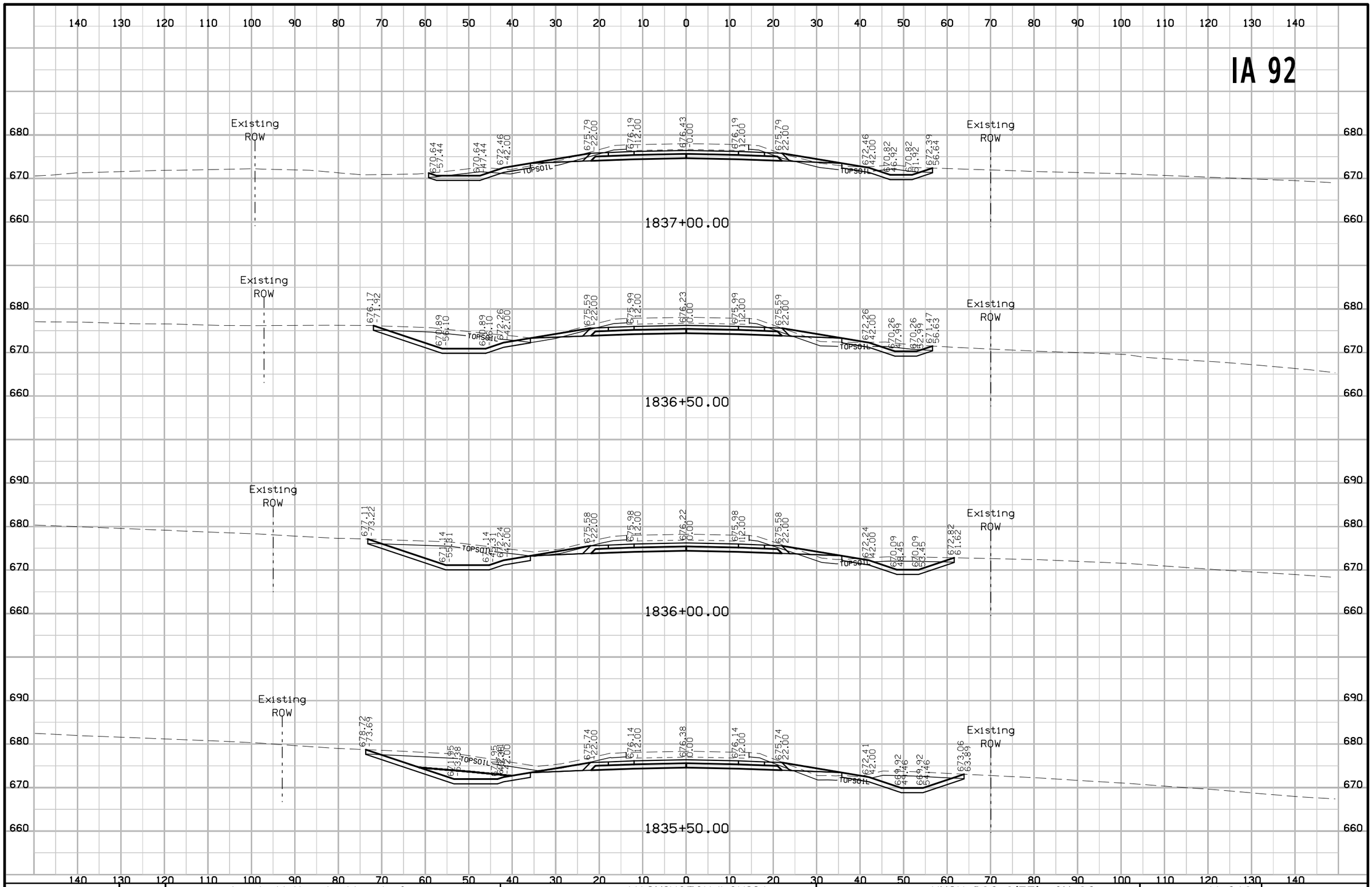

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.218

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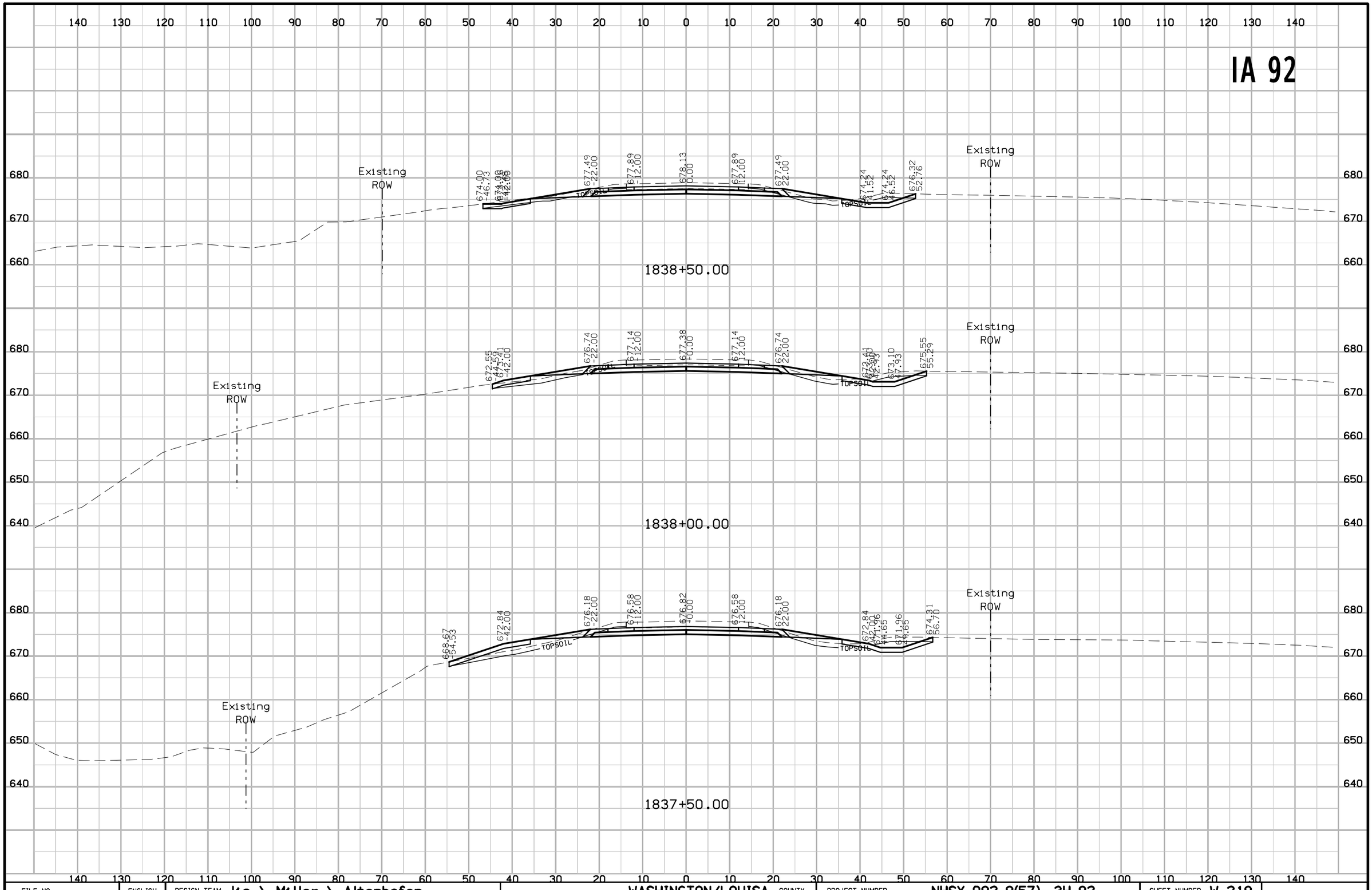
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.219

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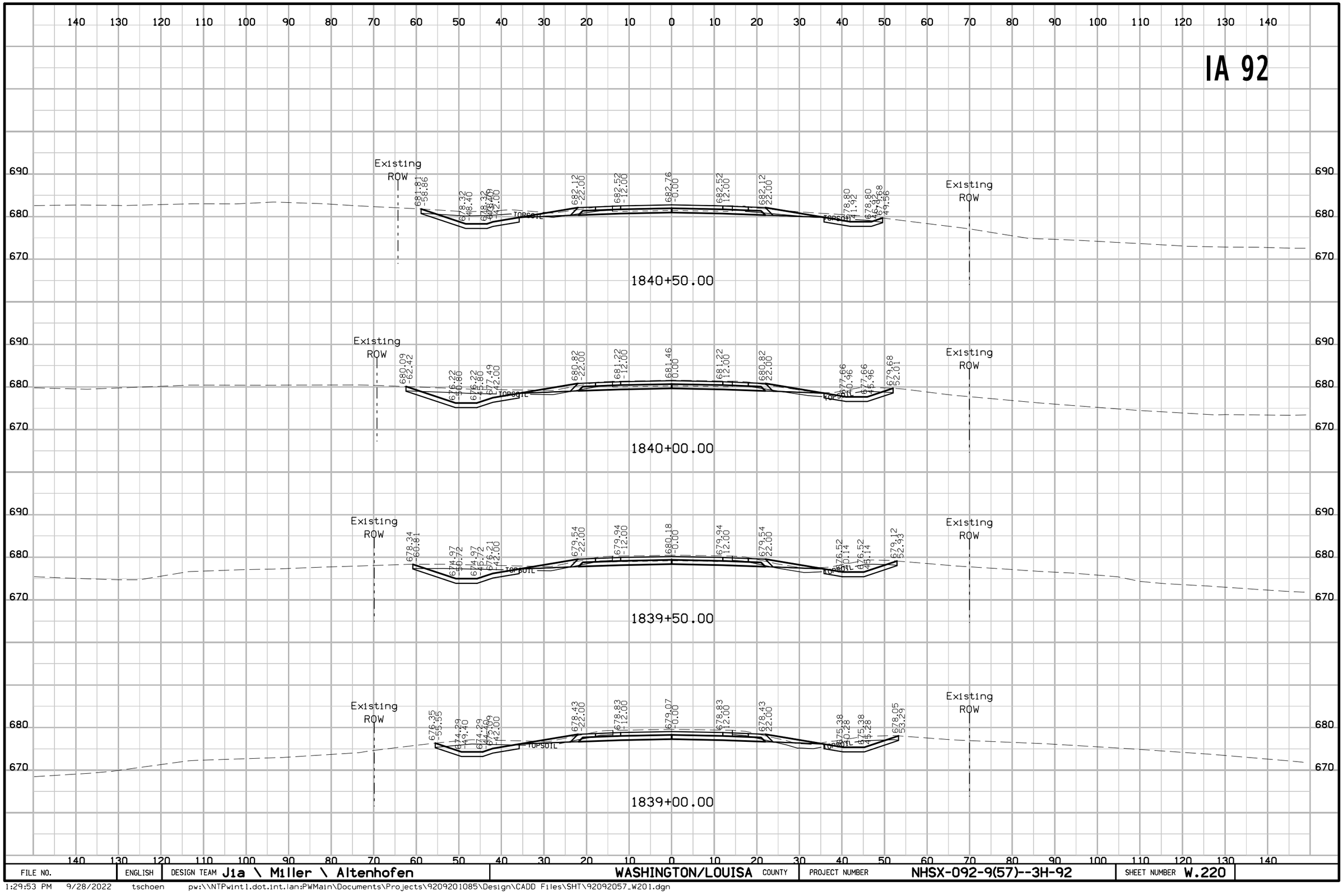

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.220

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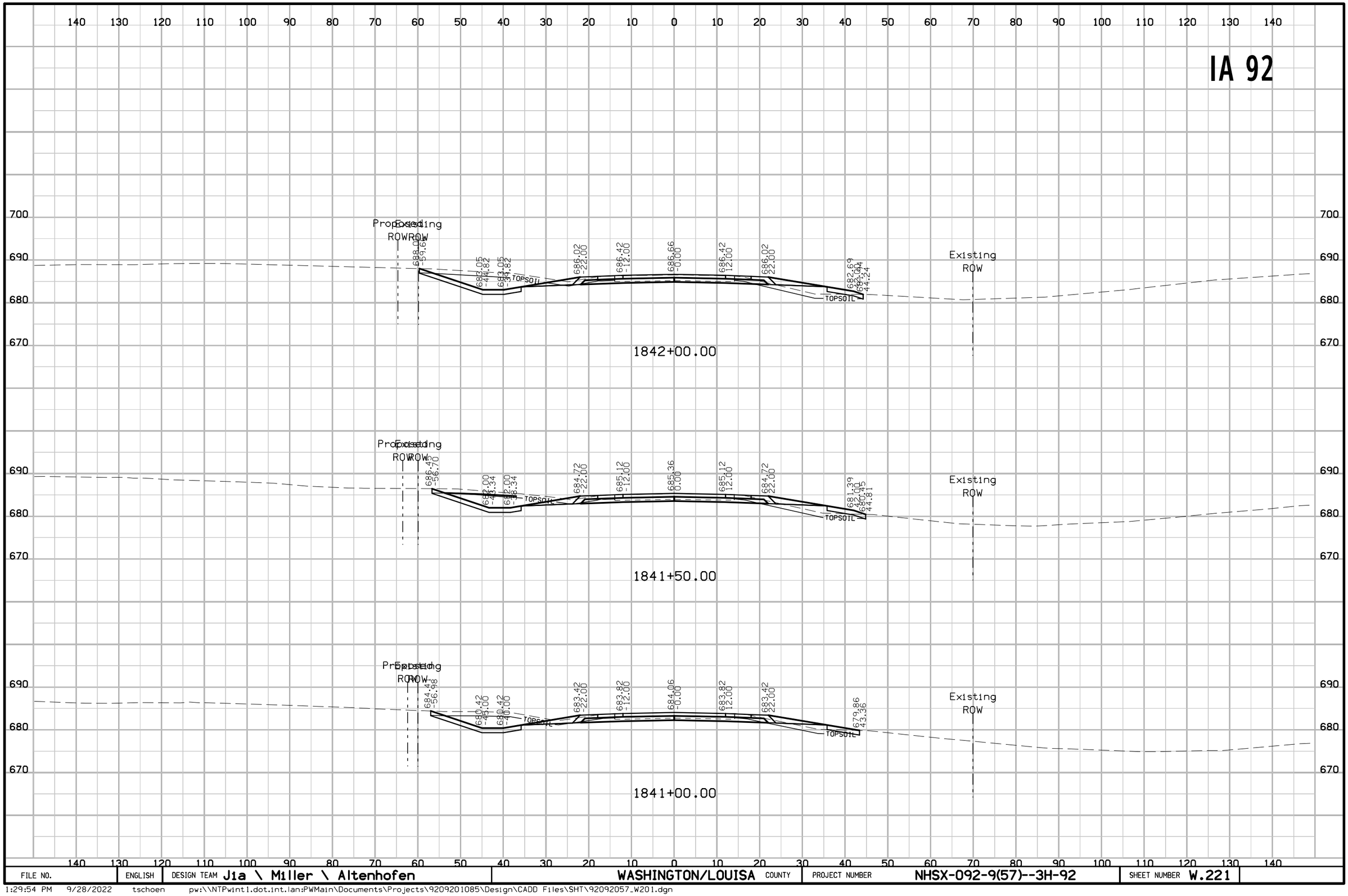

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.221

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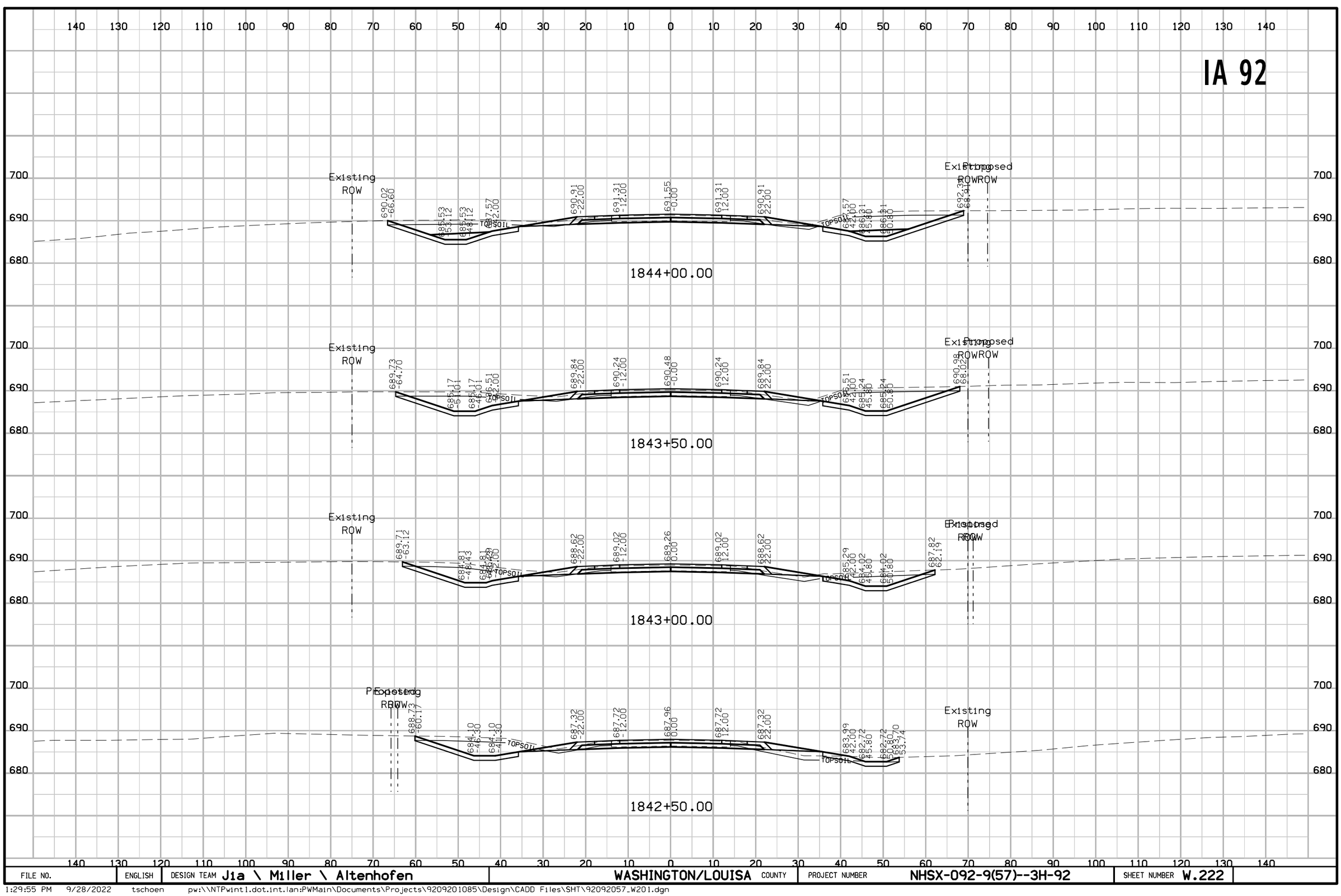
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.222

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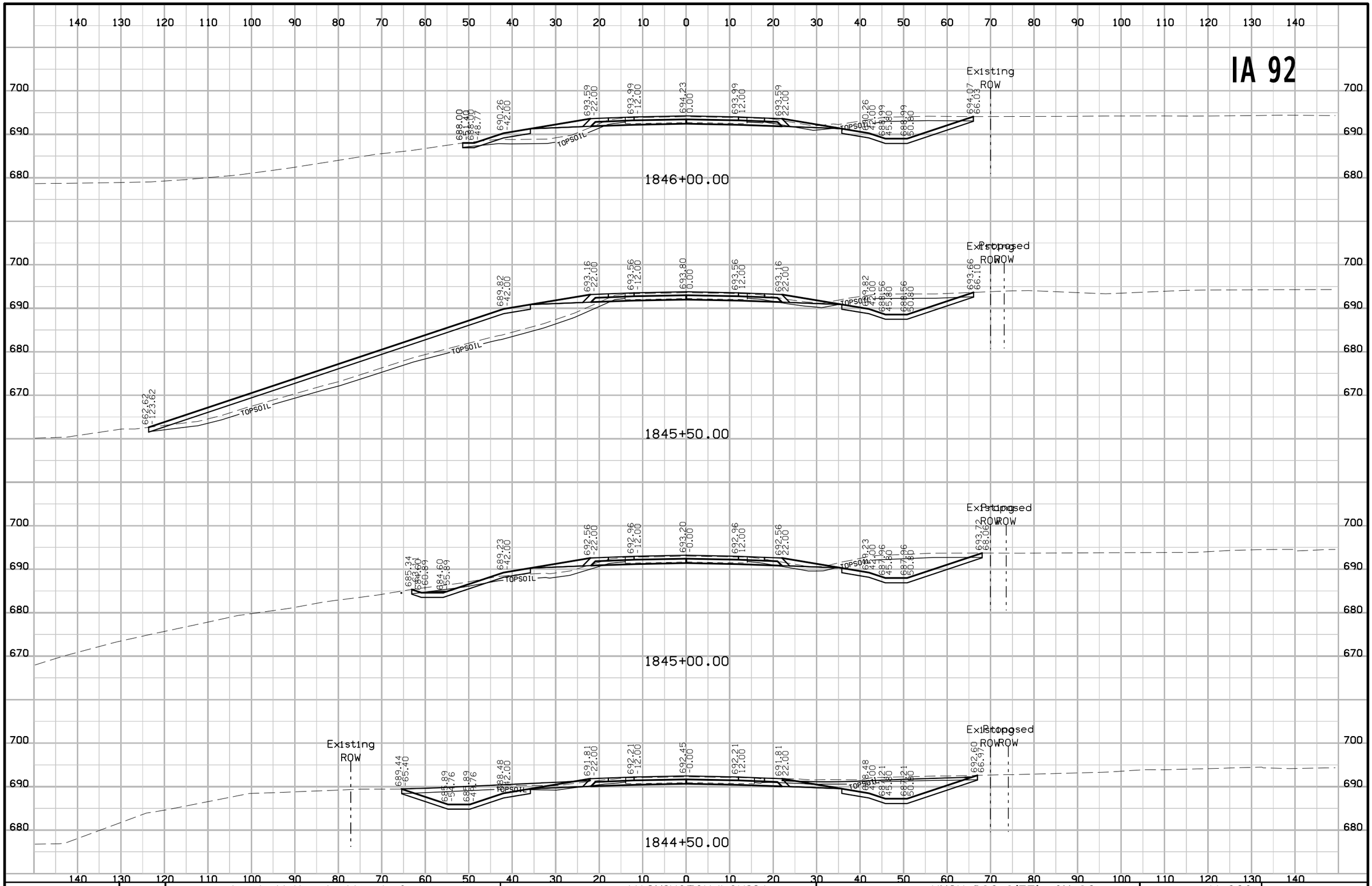

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.223

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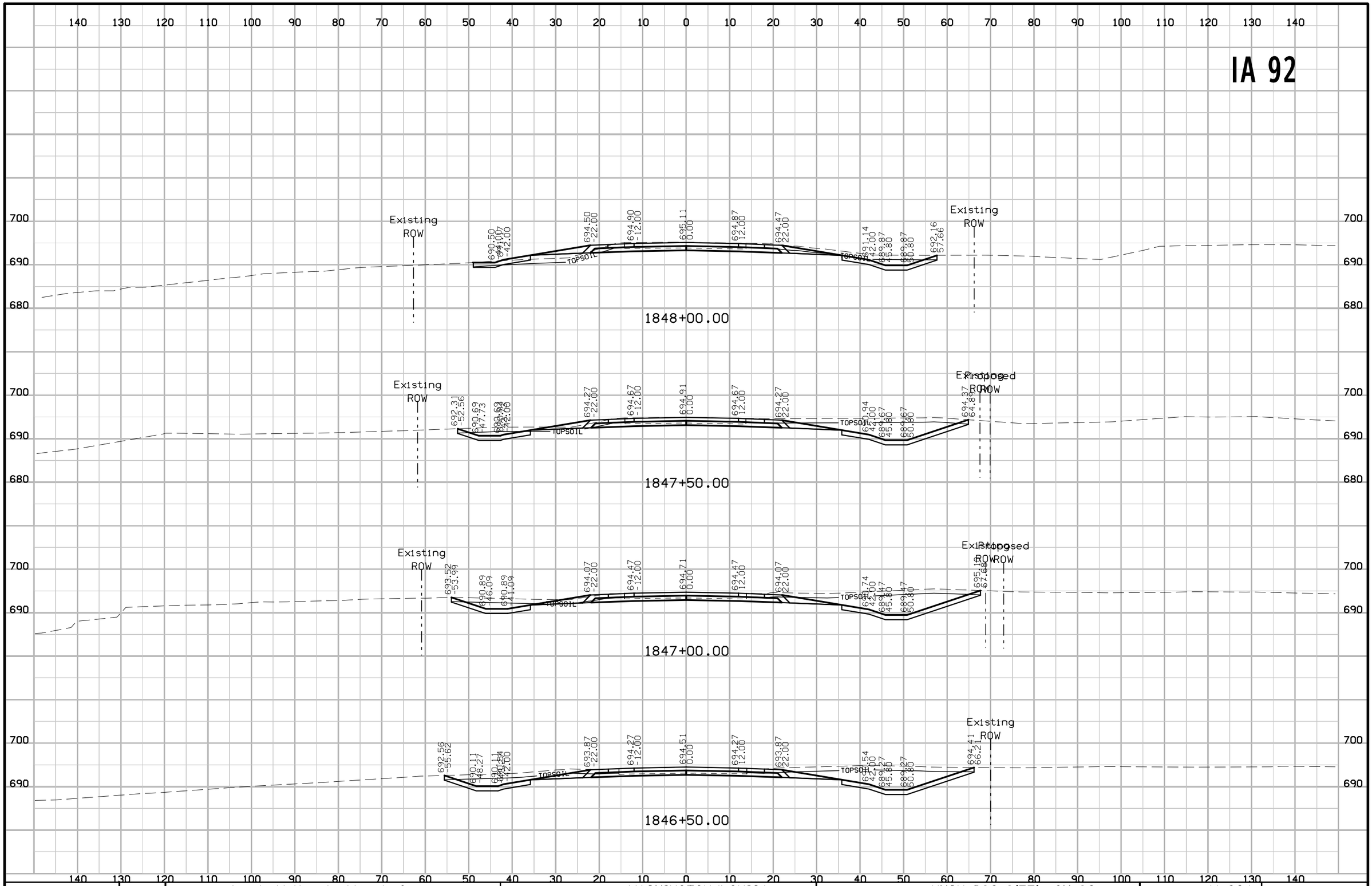
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.224

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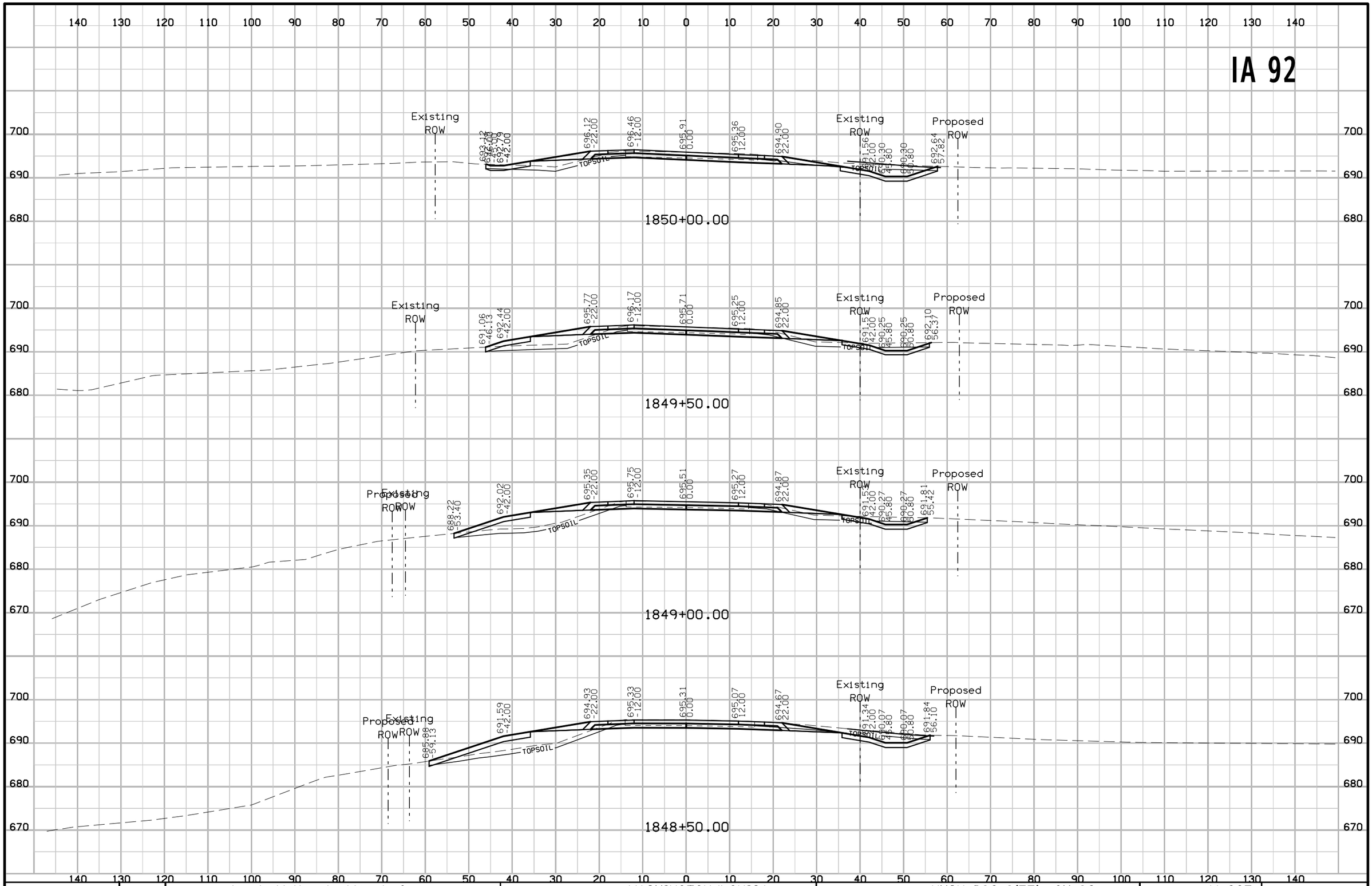

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.225

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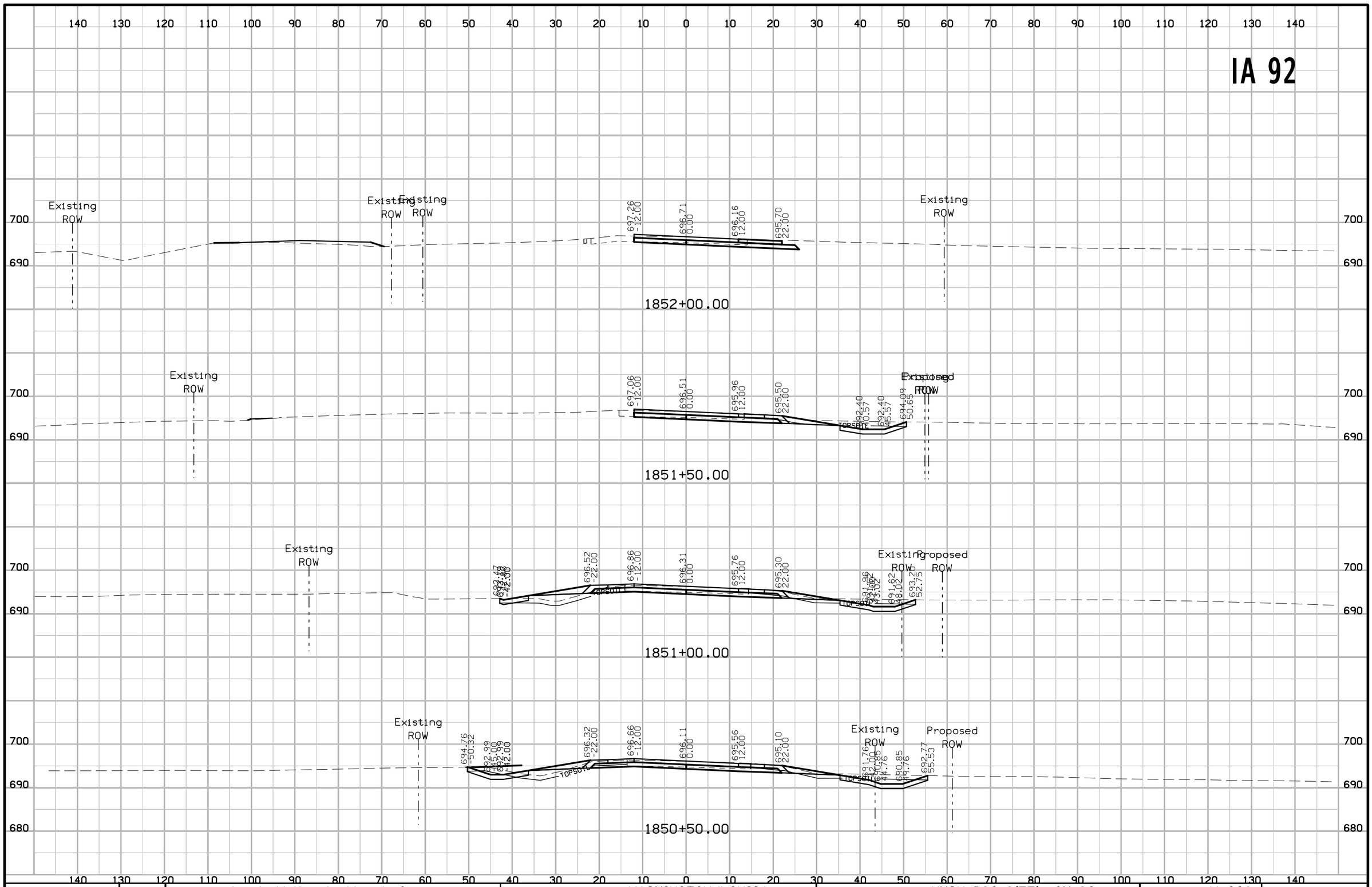
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.226

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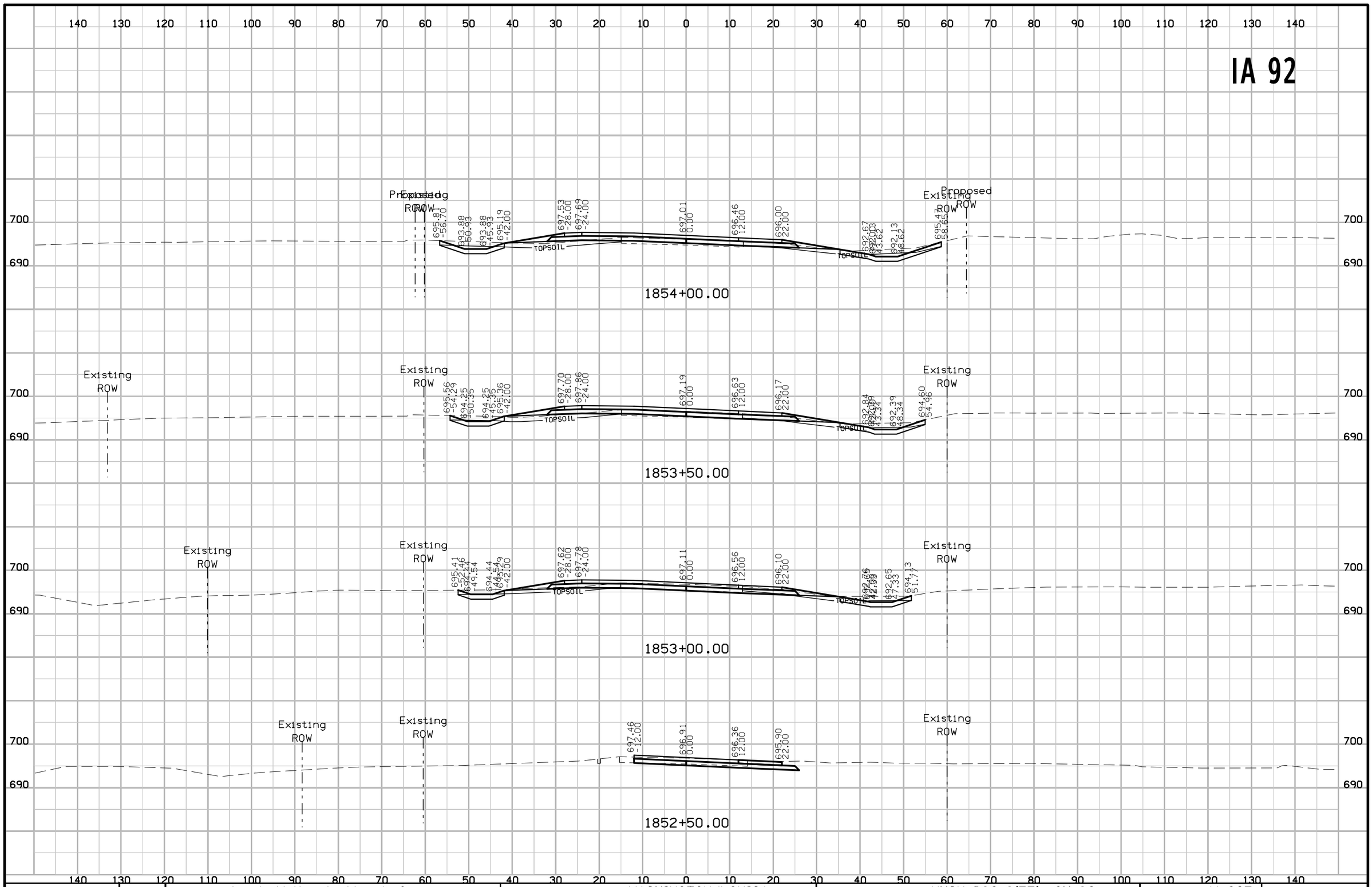

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.227

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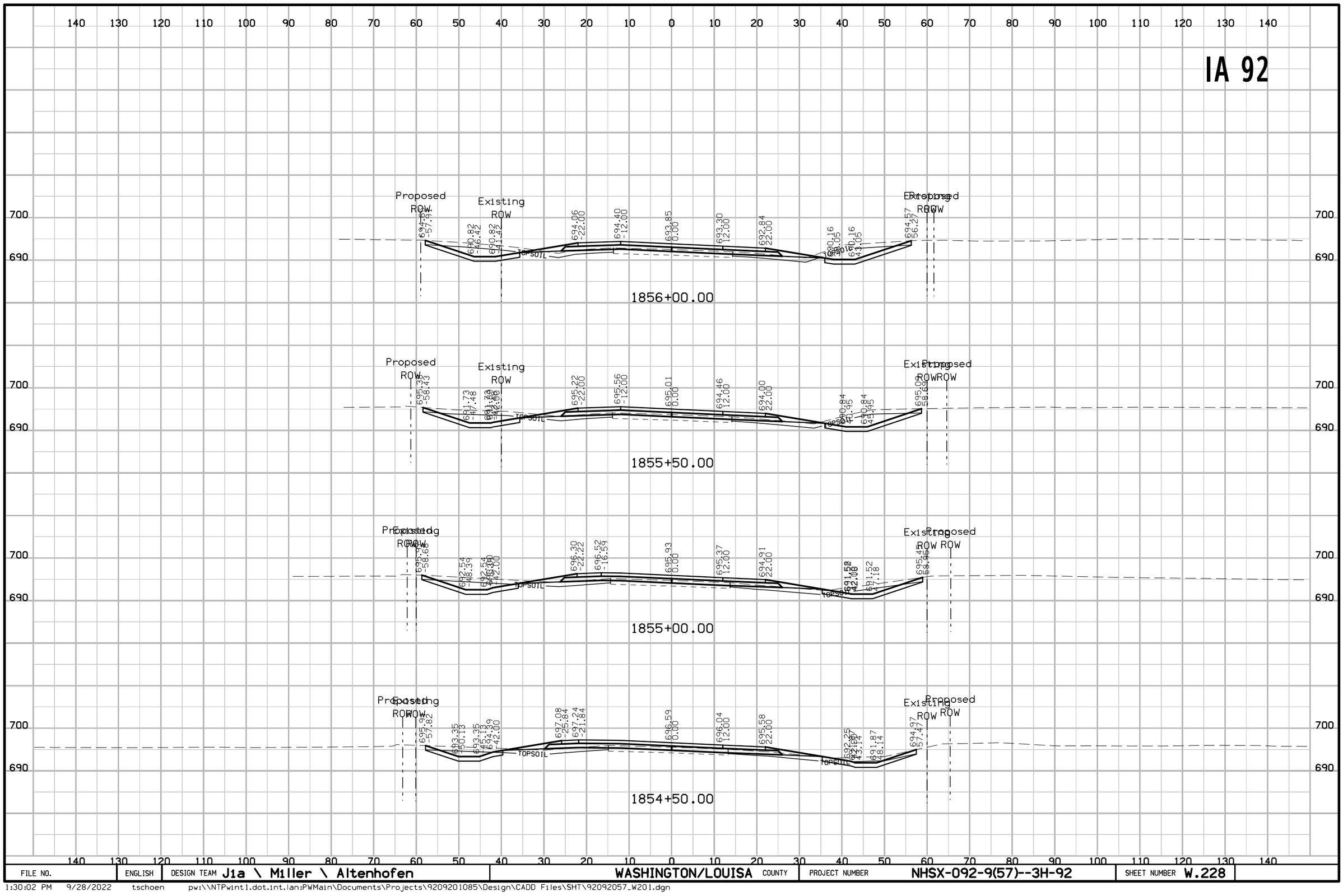
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.228

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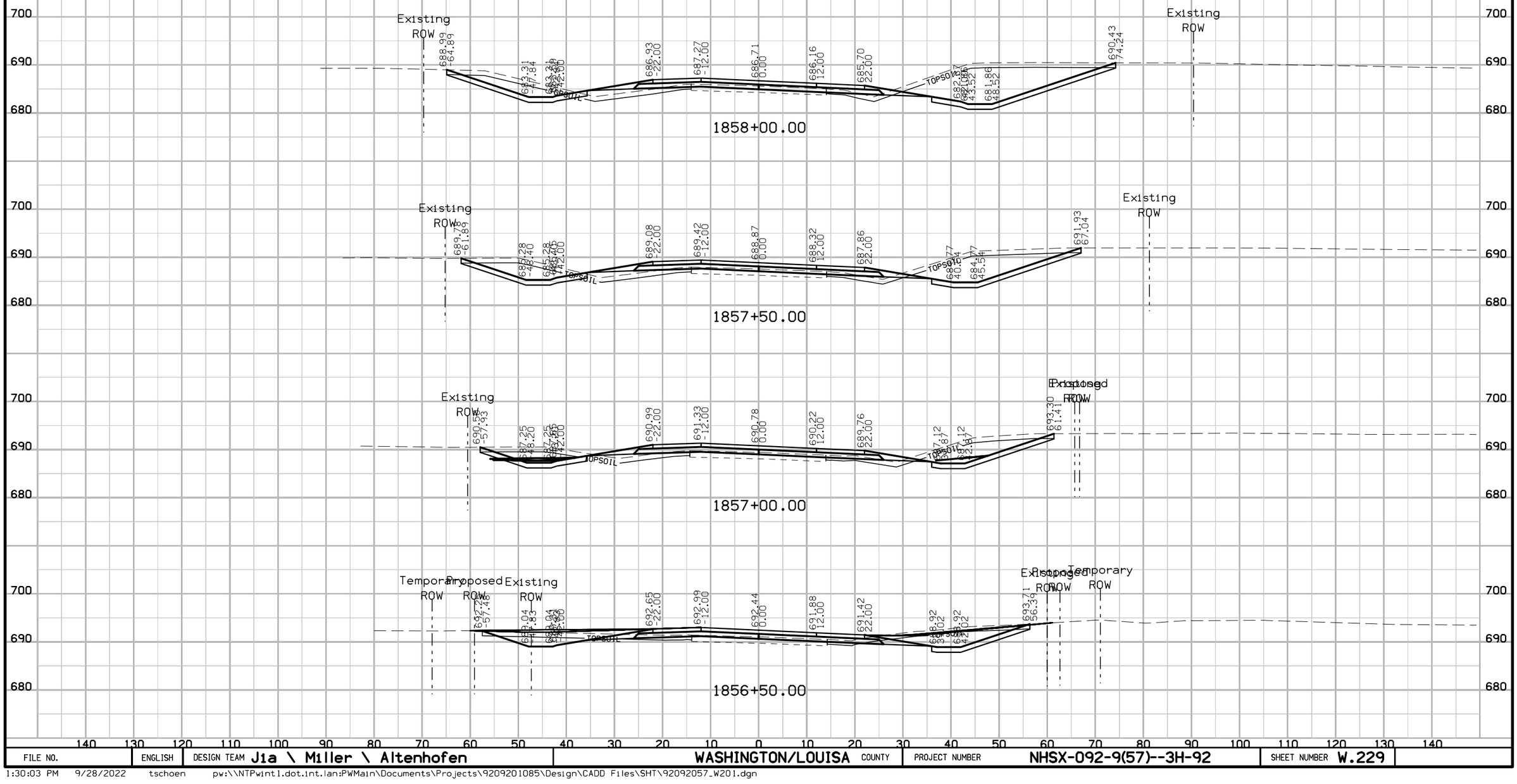
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.229

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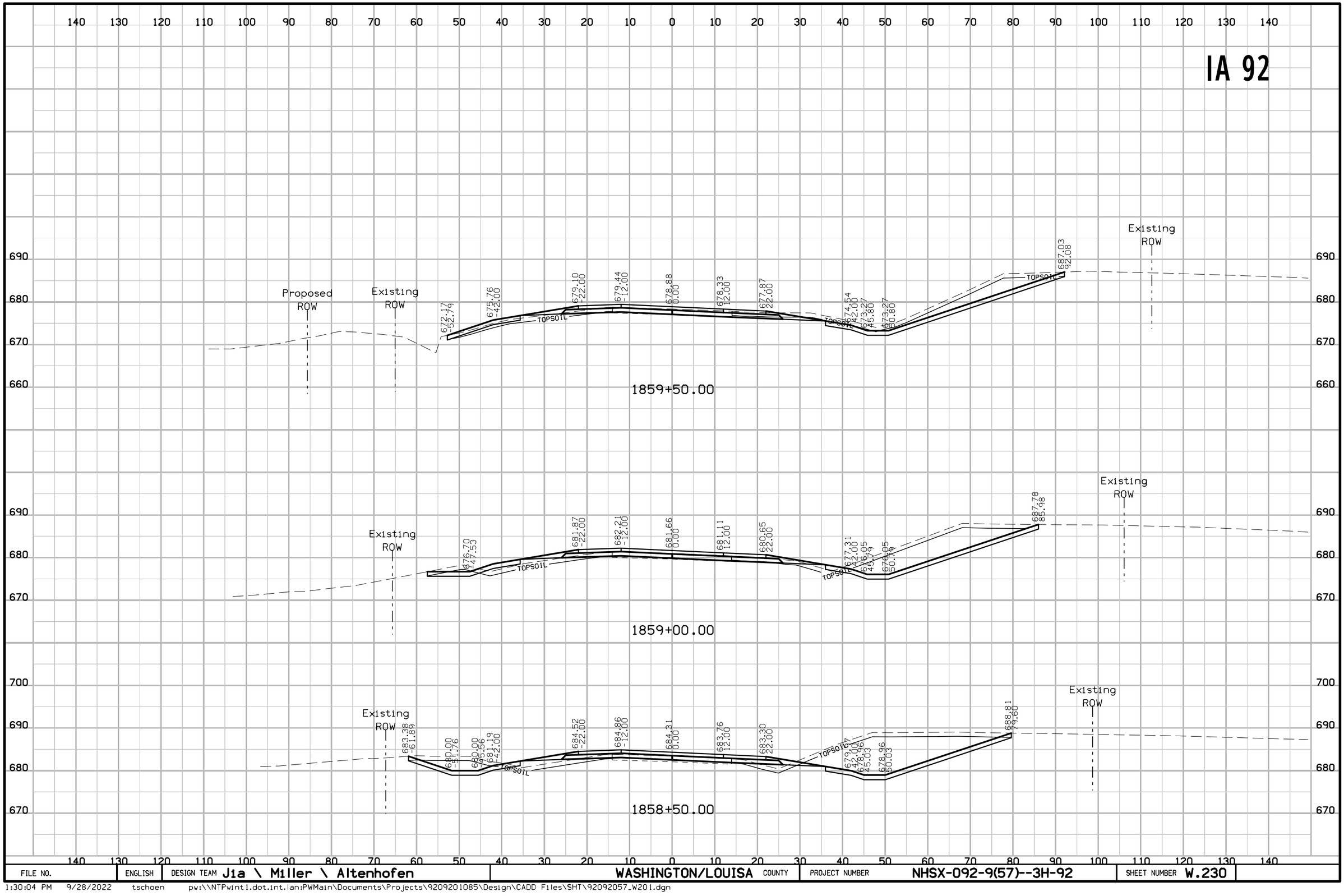
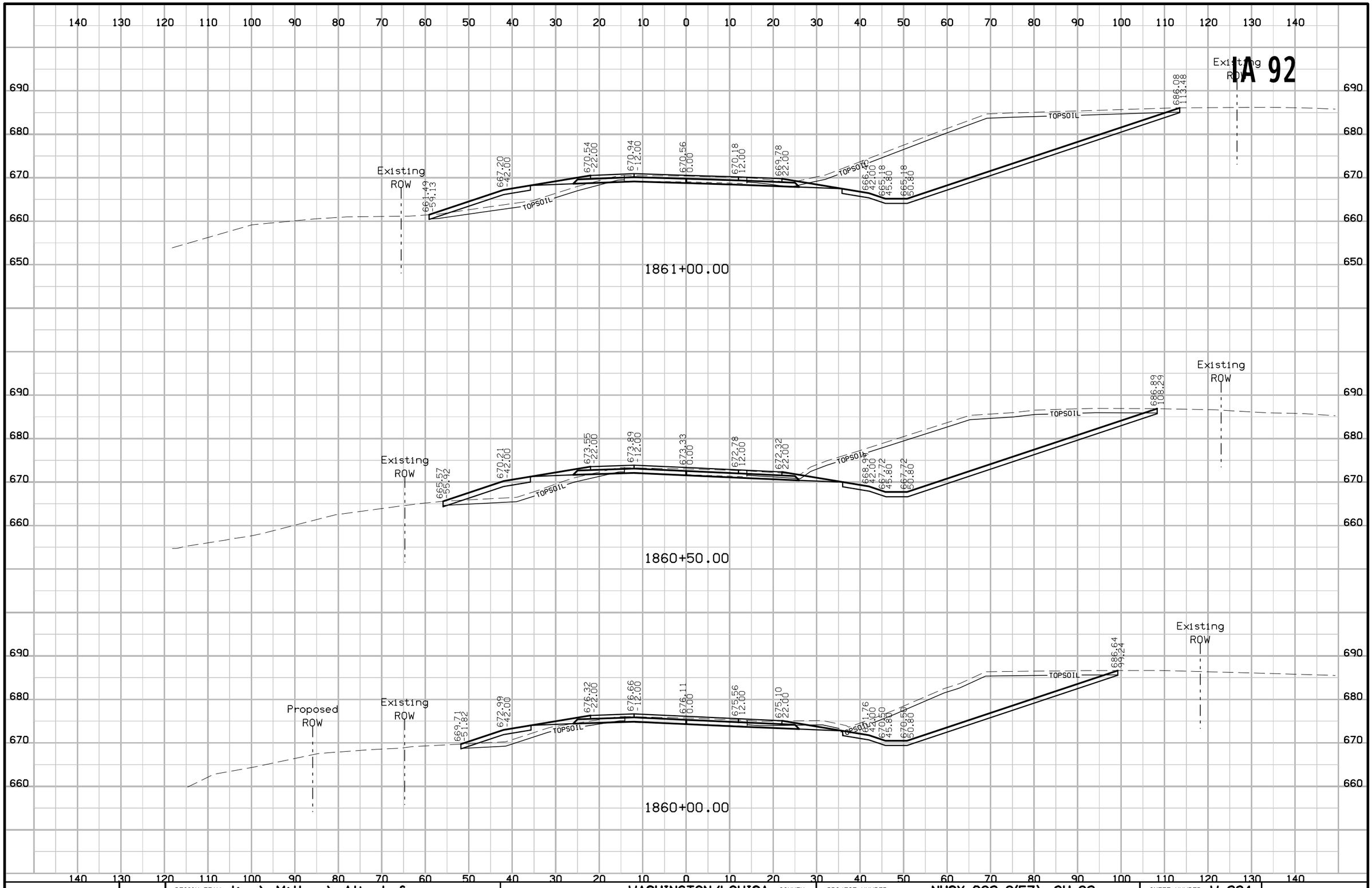
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.230

1:30:04 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.231

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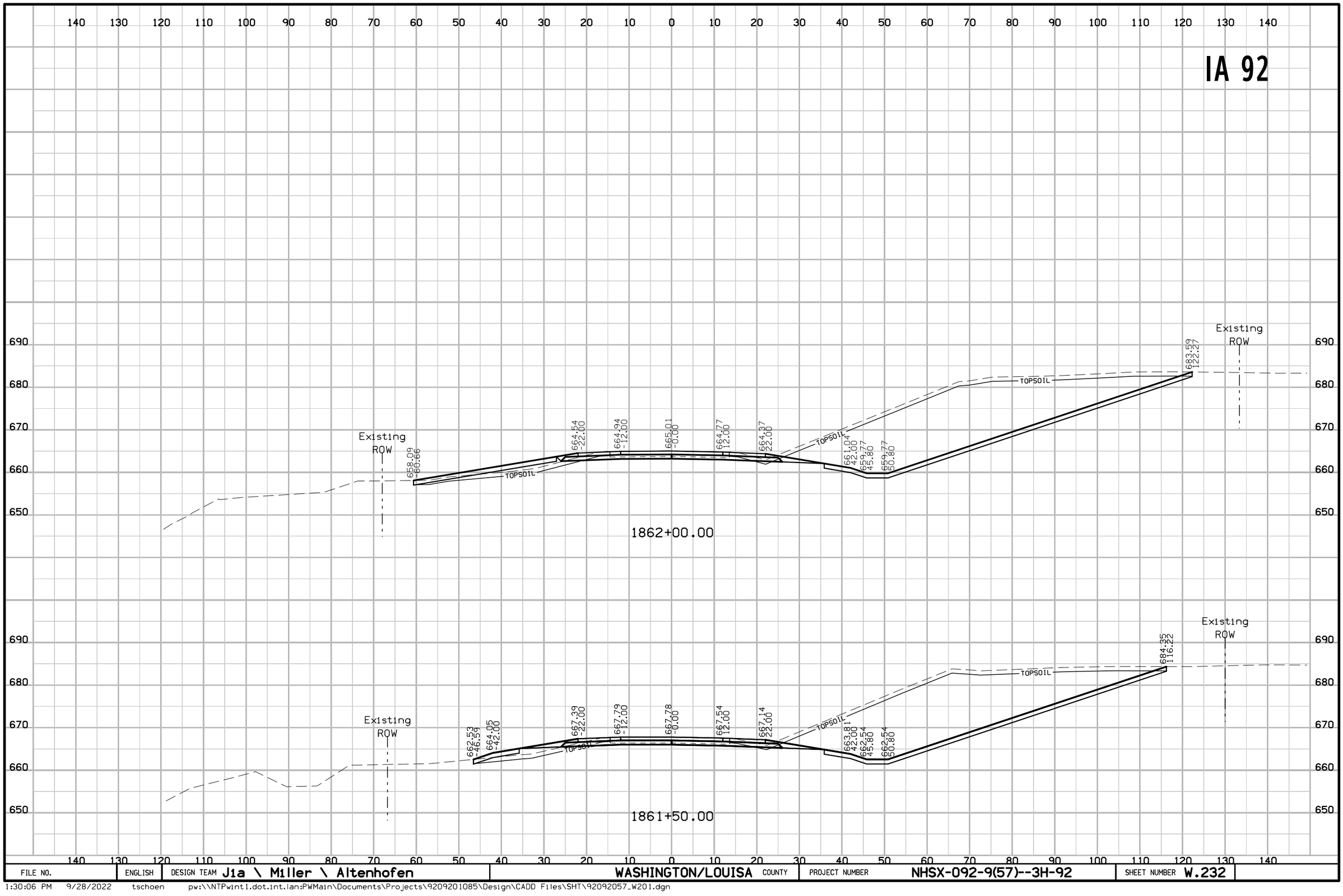

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.232

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IA 92

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

690 680 670 660 650 640

Existing ROW

658.52 -29.13

658.82 -22.00

659.22 -12.00

659.46 0.00

659.22 12.00

658.82 22.00

655.46 42.00

654.22 45.80

654.22 50.80

679.75 127.39

TOPSOIL

Existing ROW

1863+00.00

Existing ROW

660.94 -28.12

661.59 -22.00

661.99 -12.00

662.23 -0.00

661.99 12.00

661.59 22.00

658.26 42.00

656.99 45.80

656.99 50.80

682.29 126.69

TOPSOIL

1862+50.00

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

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.233

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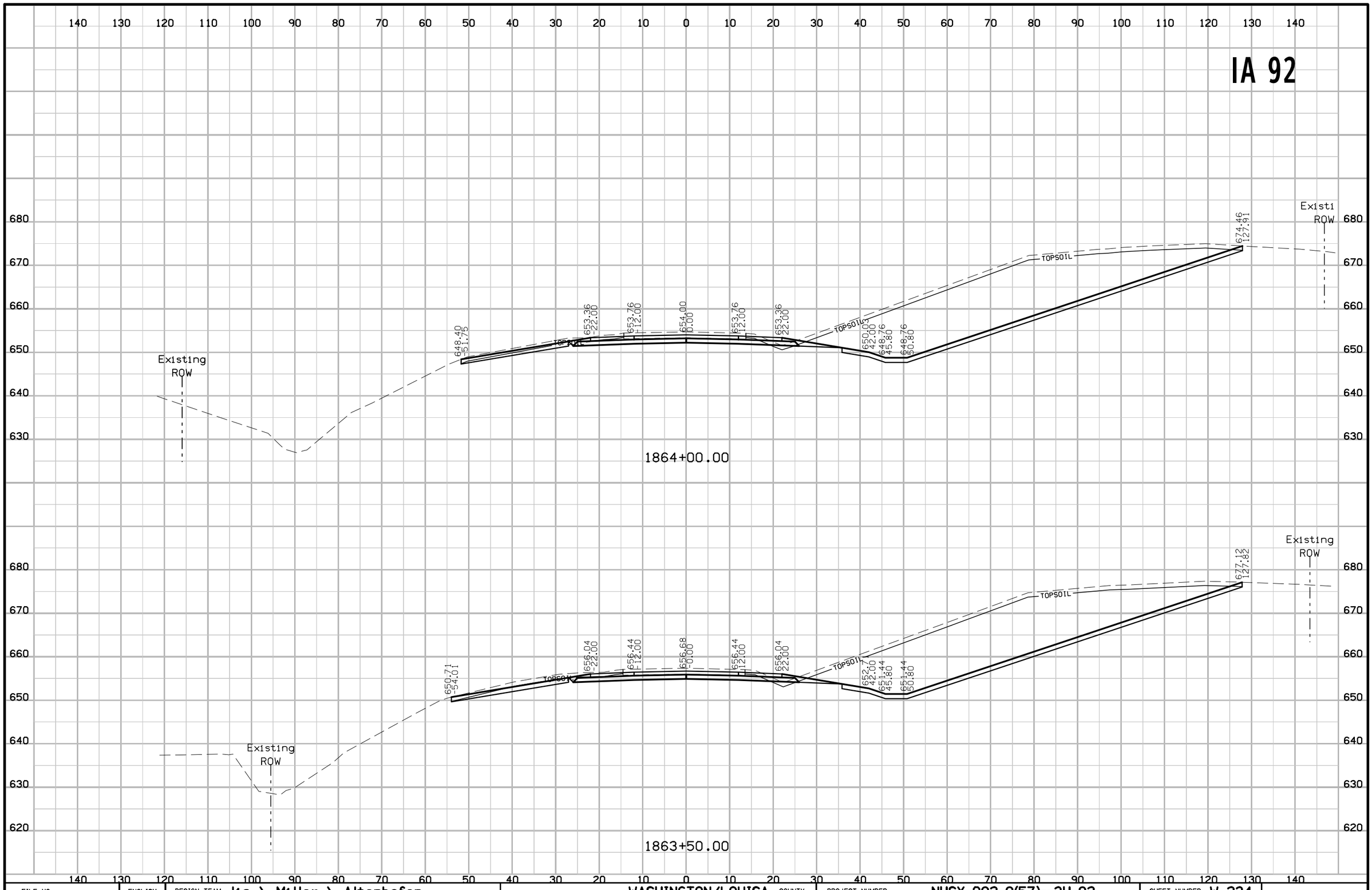
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.234

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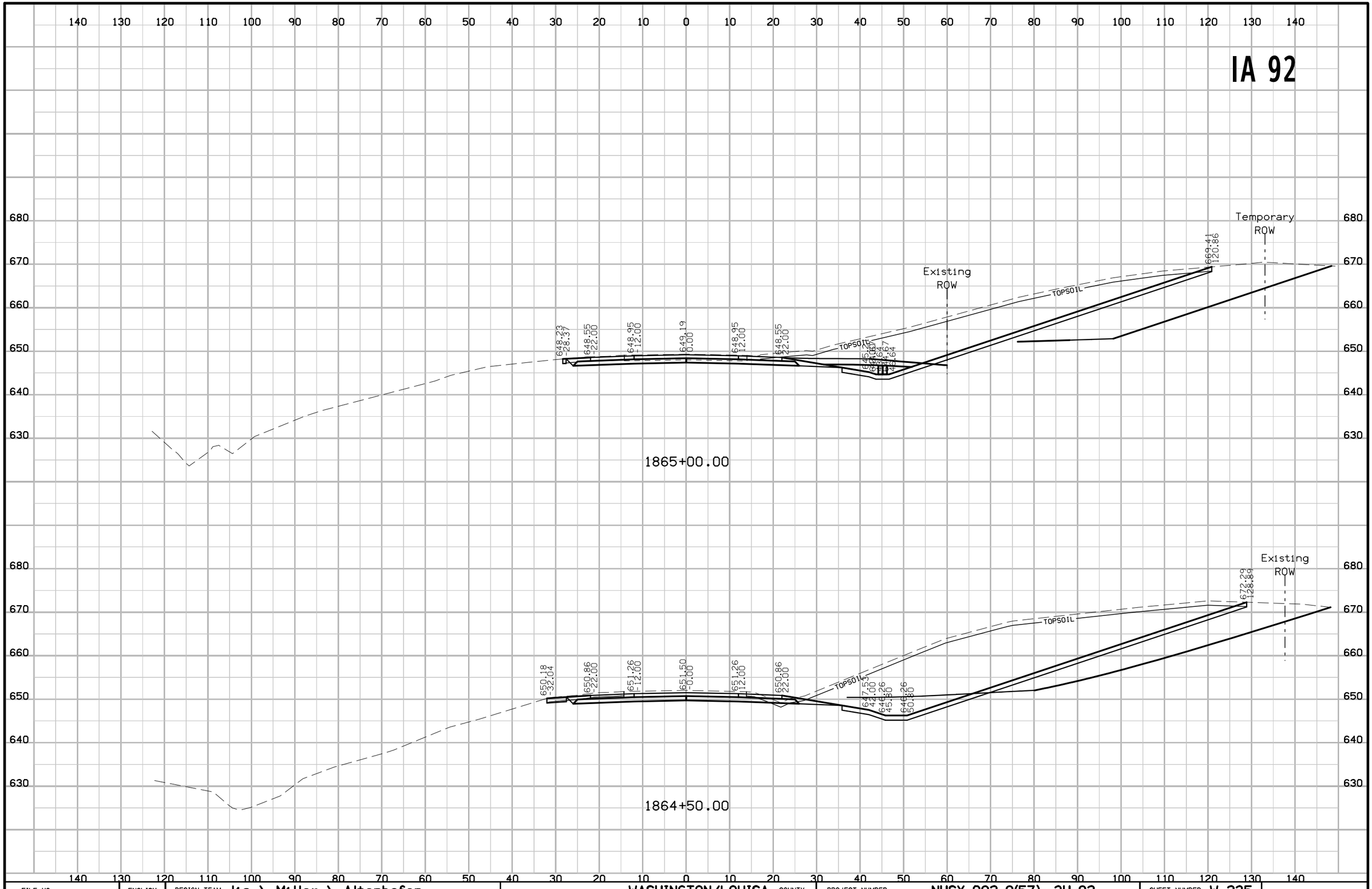
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.235

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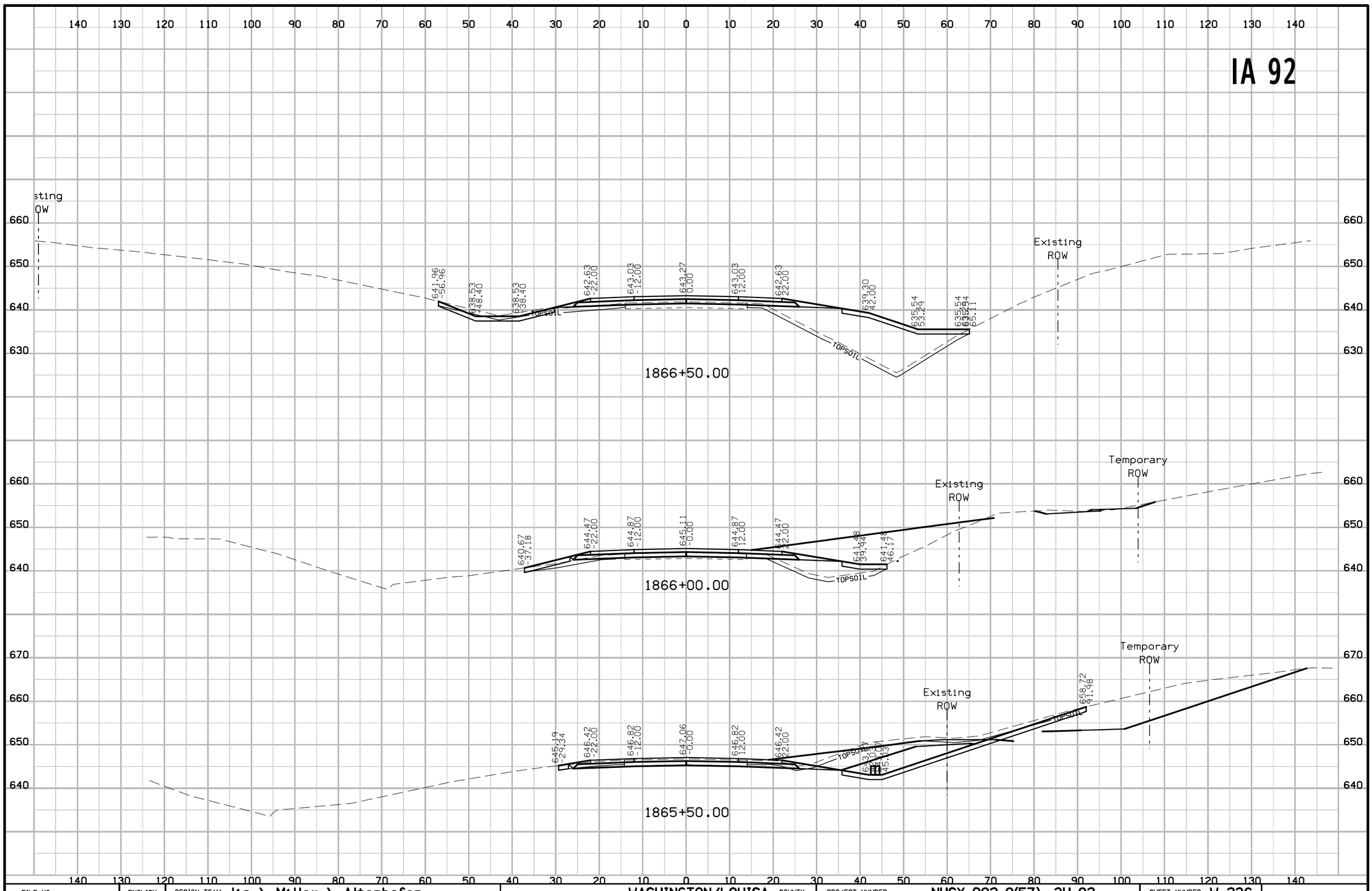
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.236

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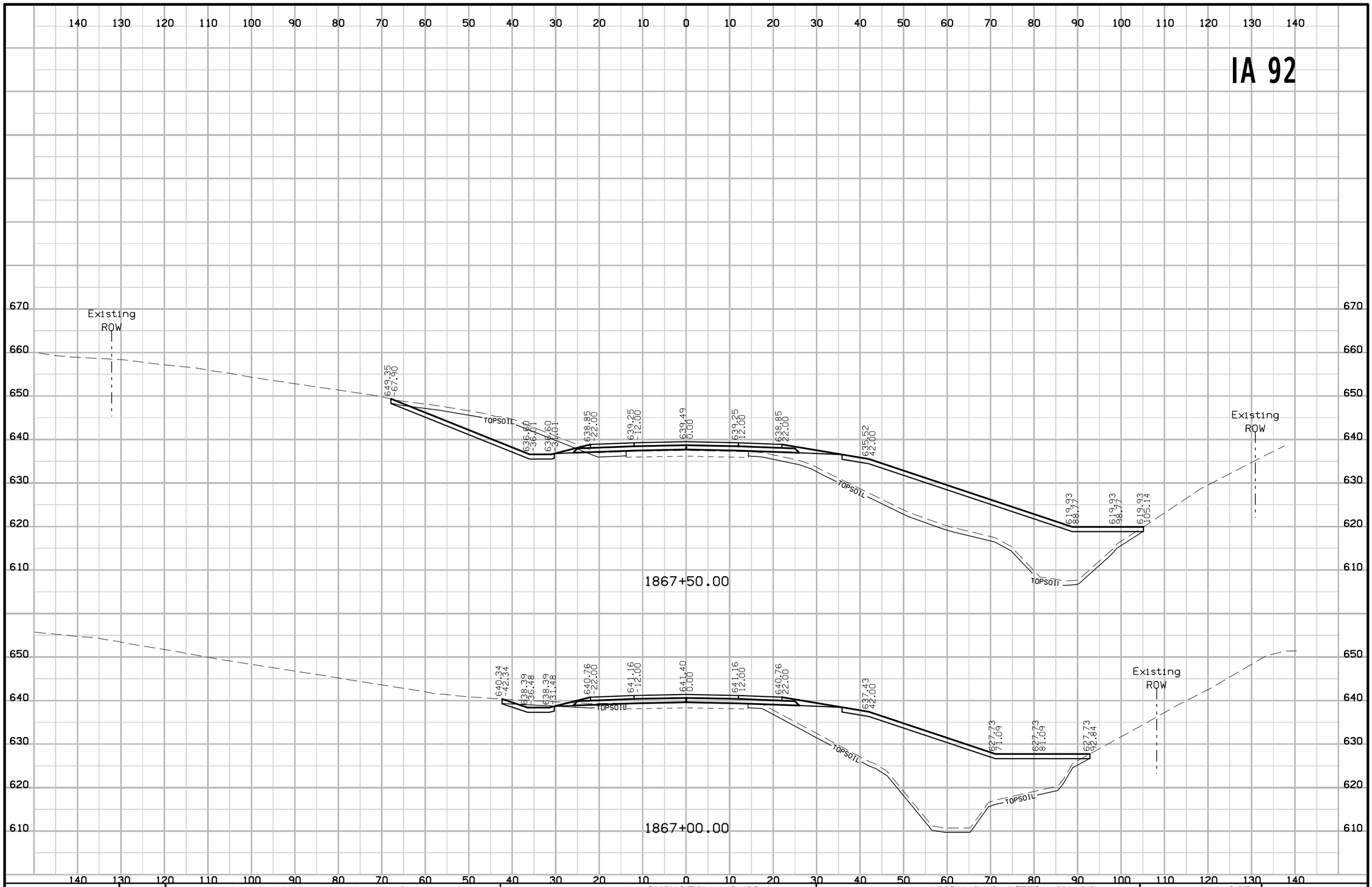

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.237

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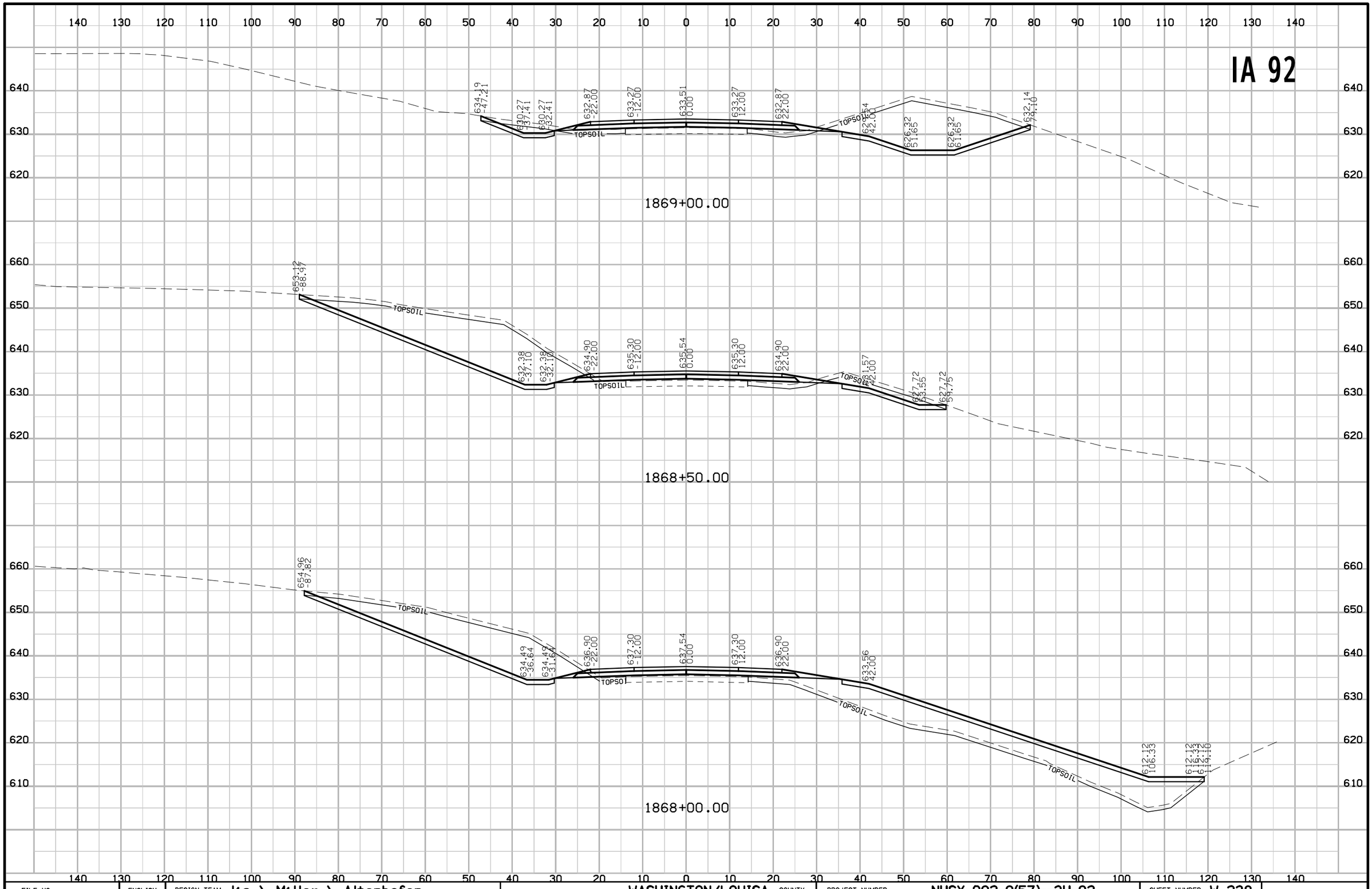
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.238

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IA 92

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

640 630 620 610 600

631.83 -92.08
620.01 -58.63
620.01 -46.63
621.56 142.00
626.56 -22.00
626.96 -12.00
627.20 -0.00
627.27 12.00
626.87 22.00
623.53 42.00
607.44 90.27
607.44 100.27
612.91 116.66

TOPSOIL

Existing ROW

Proposed ROW

1870+50.00

621.40 -76.97
617.20 -66.46
617.20 -61.46
623.68 142.00
628.68 -22.00
629.08 -12.00
629.32 0.00
629.17 12.00
628.77 22.00
625.43 42.00
617.78 64.96
617.78 74.96
629.95 111.46

TOPSOIL

Existing ROW

Proposed ROW

1870+00.00

635.56 -82.76
623.73 -53.09
623.73 -48.09
625.80 142.00
630.80 -22.00
631.20 -12.00
631.44 0.00
631.20 12.00
630.80 22.00
627.46 42.00
624.92 49.63
624.92 59.63
636.27 93.67

TOPSOIL

1869+50.00

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.239

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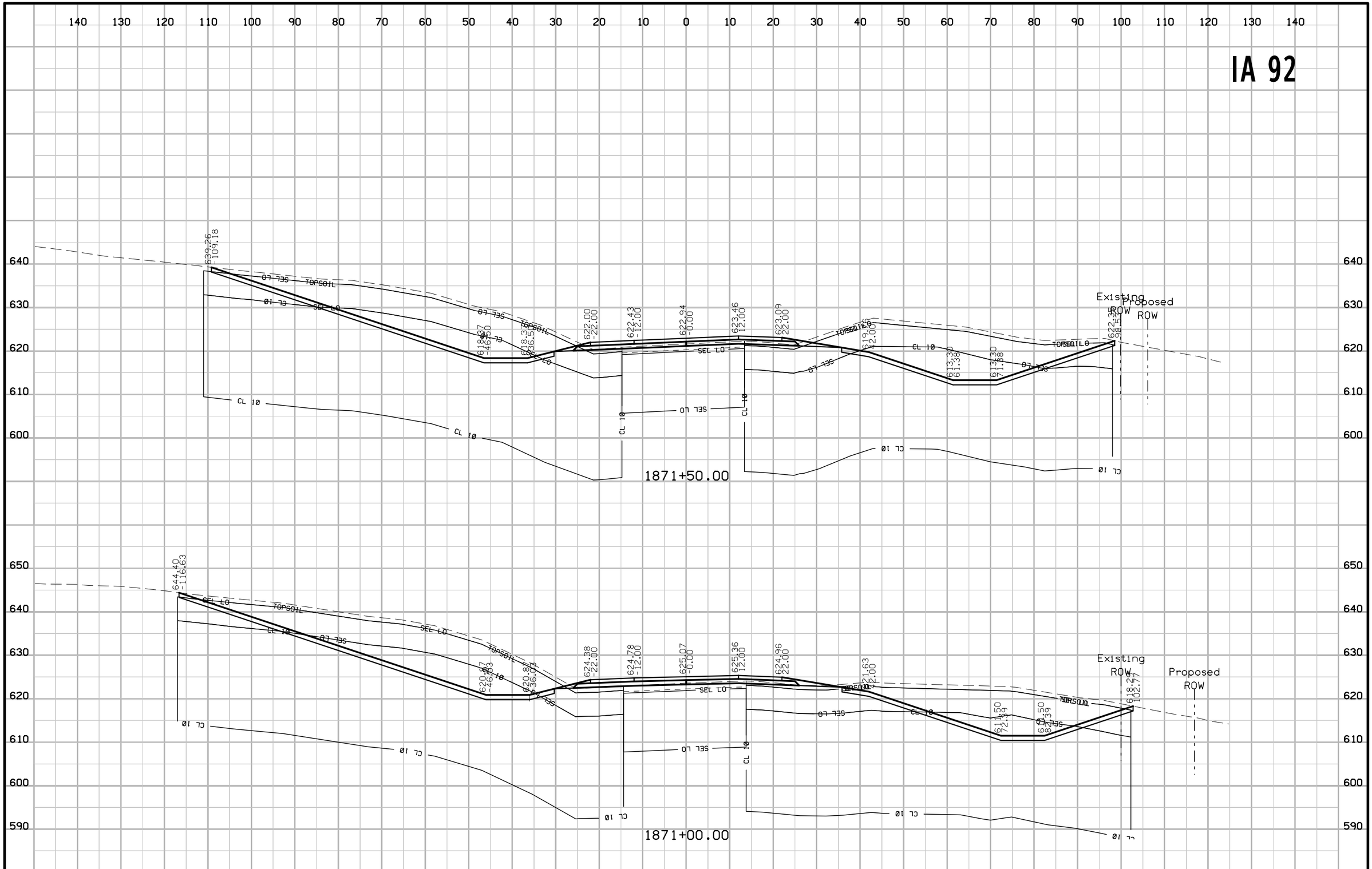
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.240

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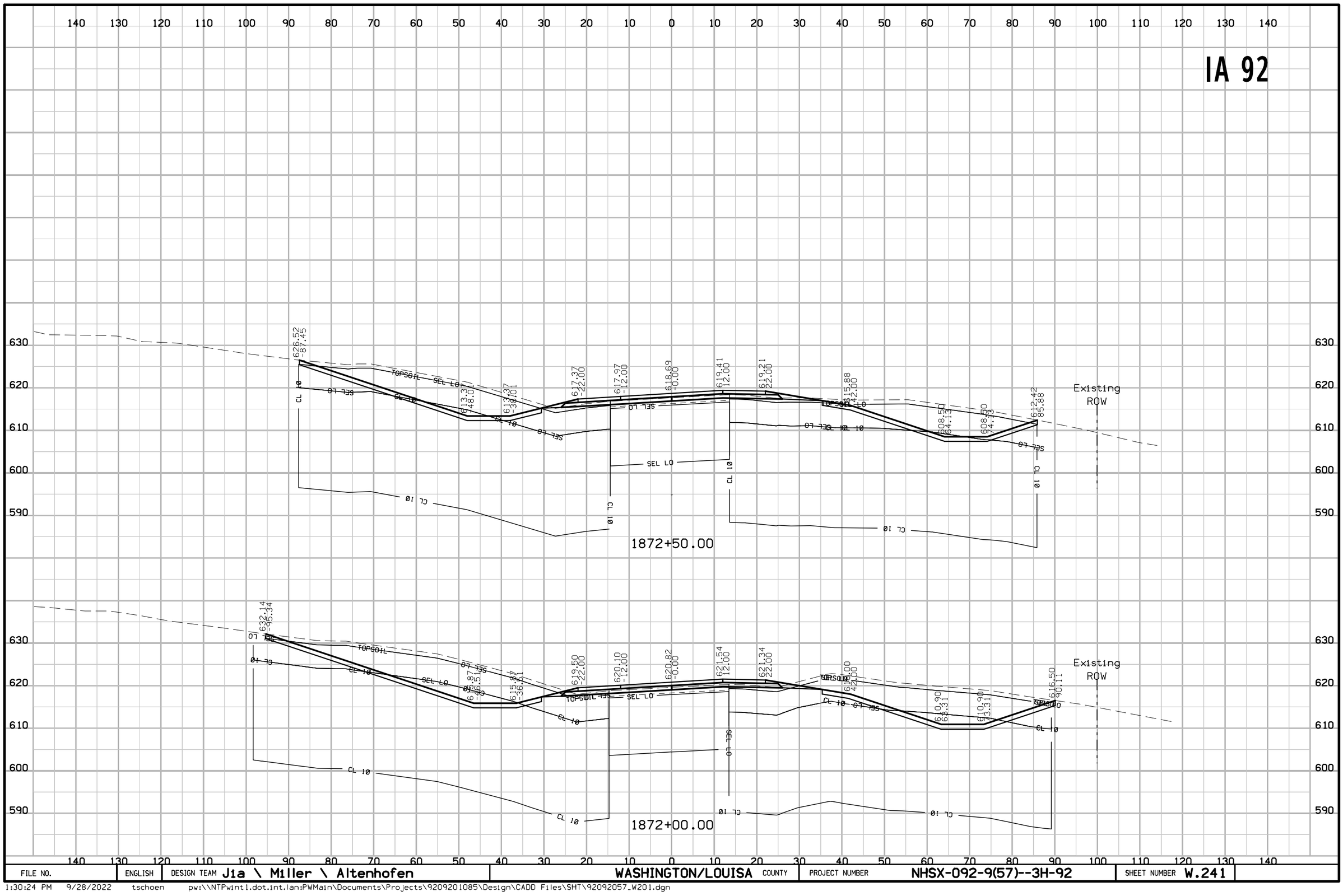

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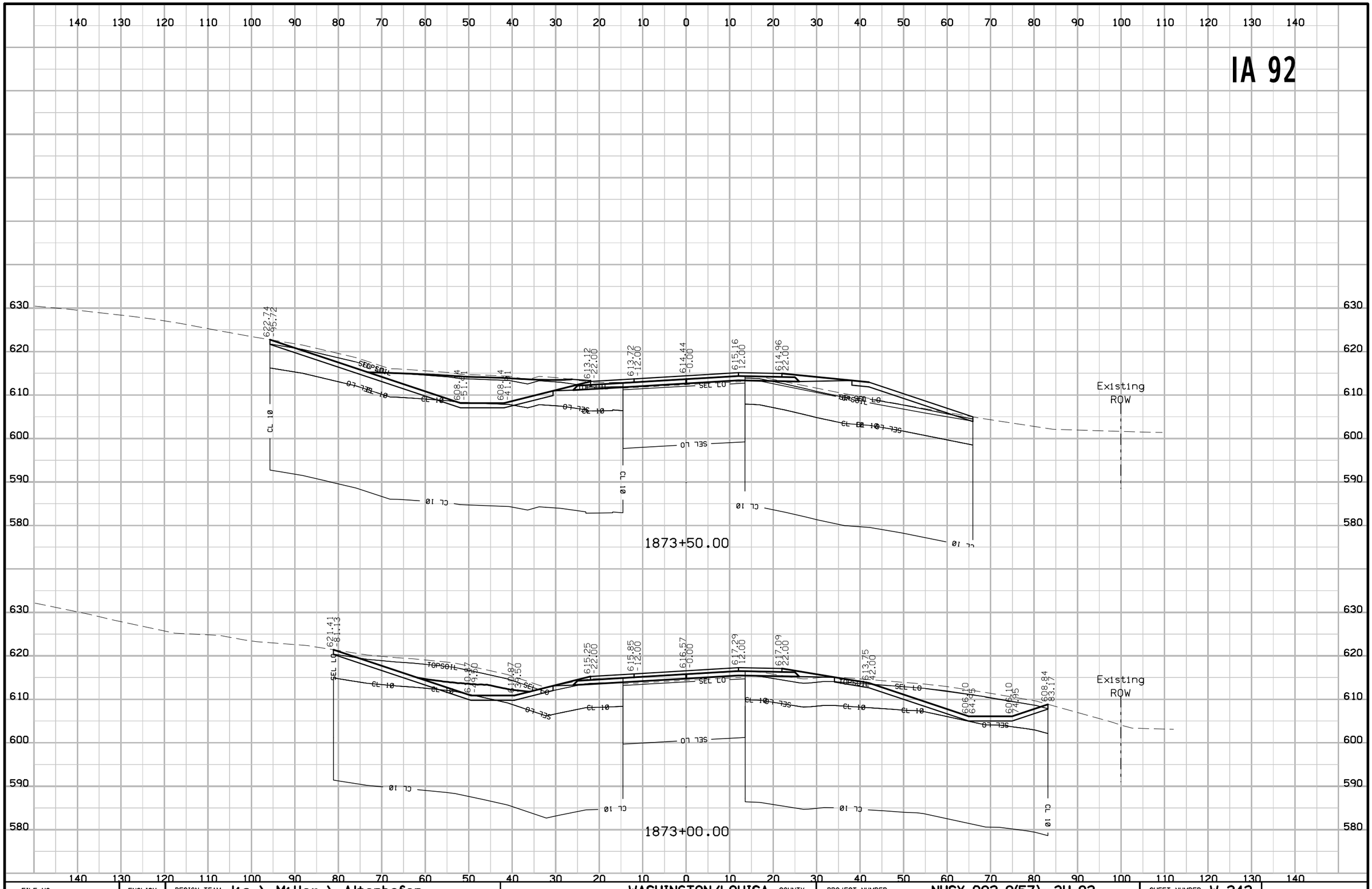
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.242

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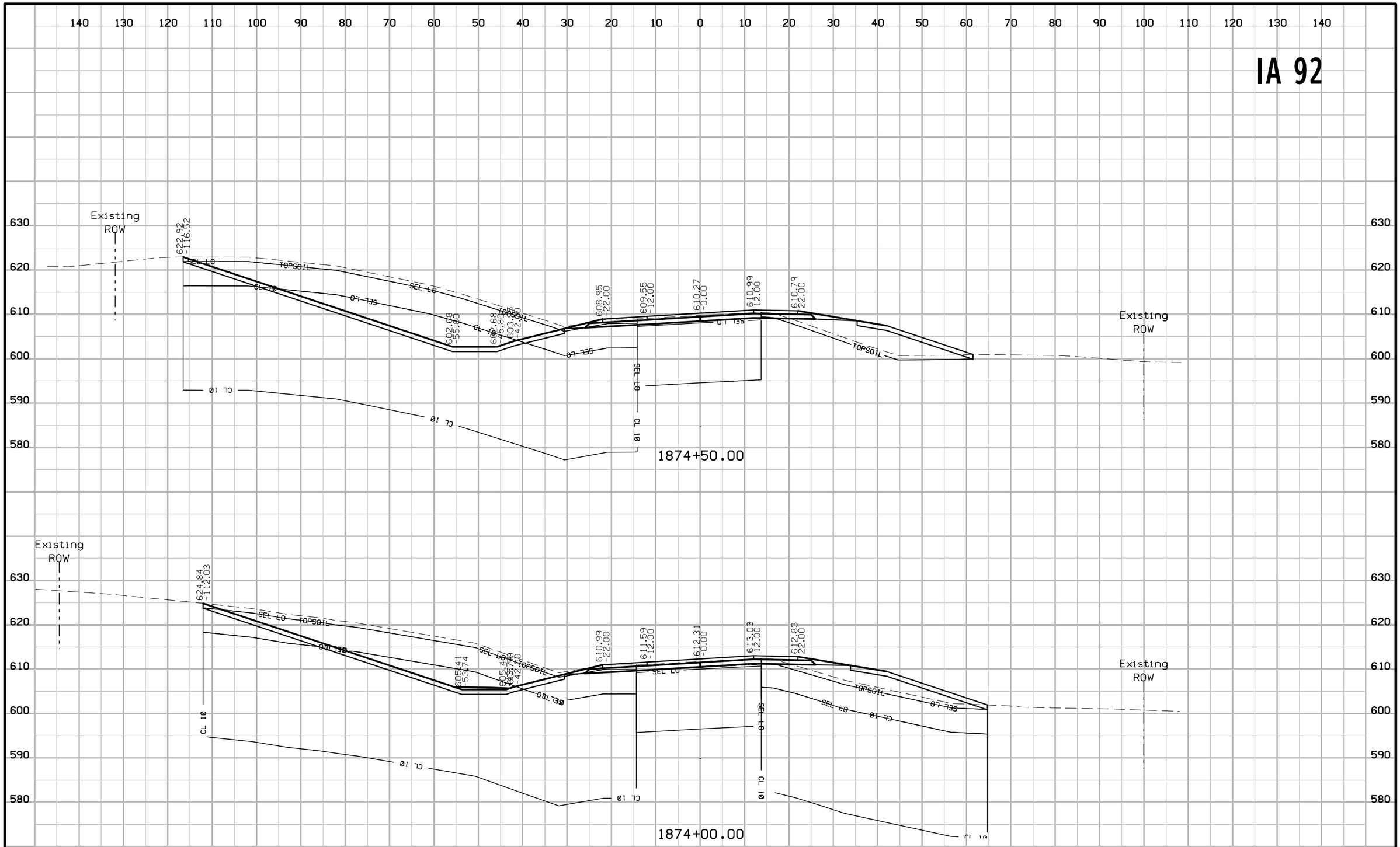
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.243

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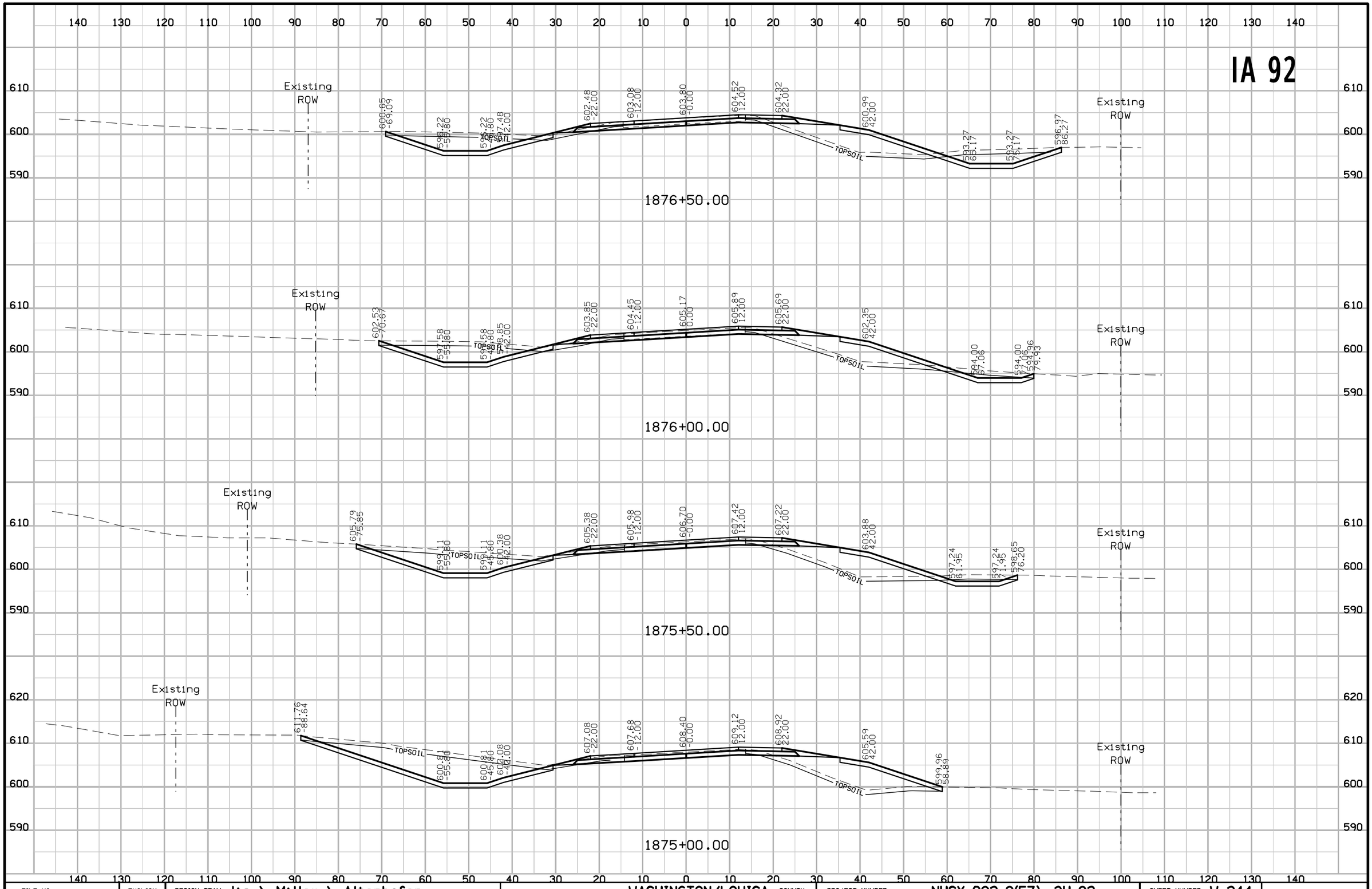
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.244

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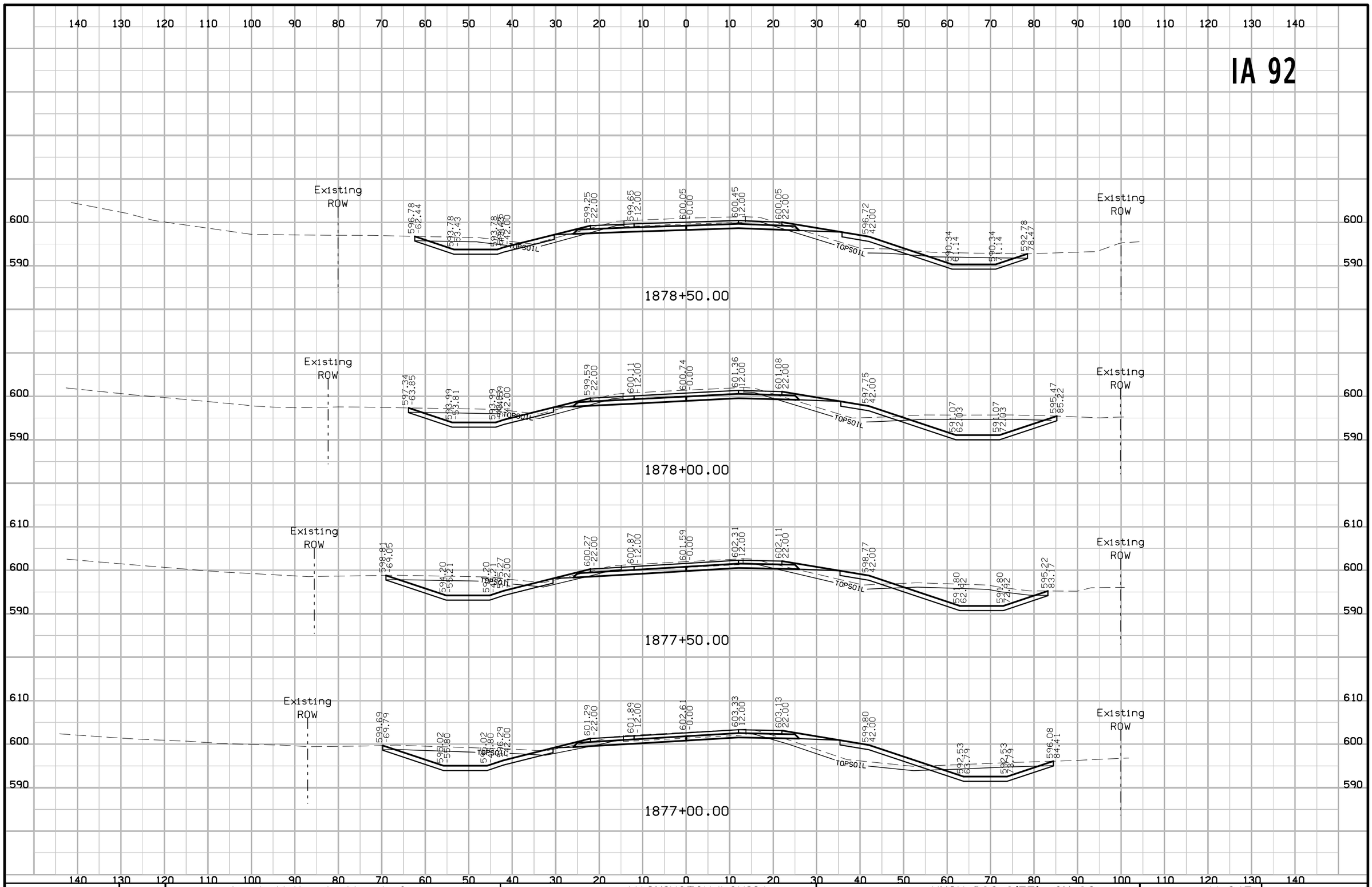
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.245

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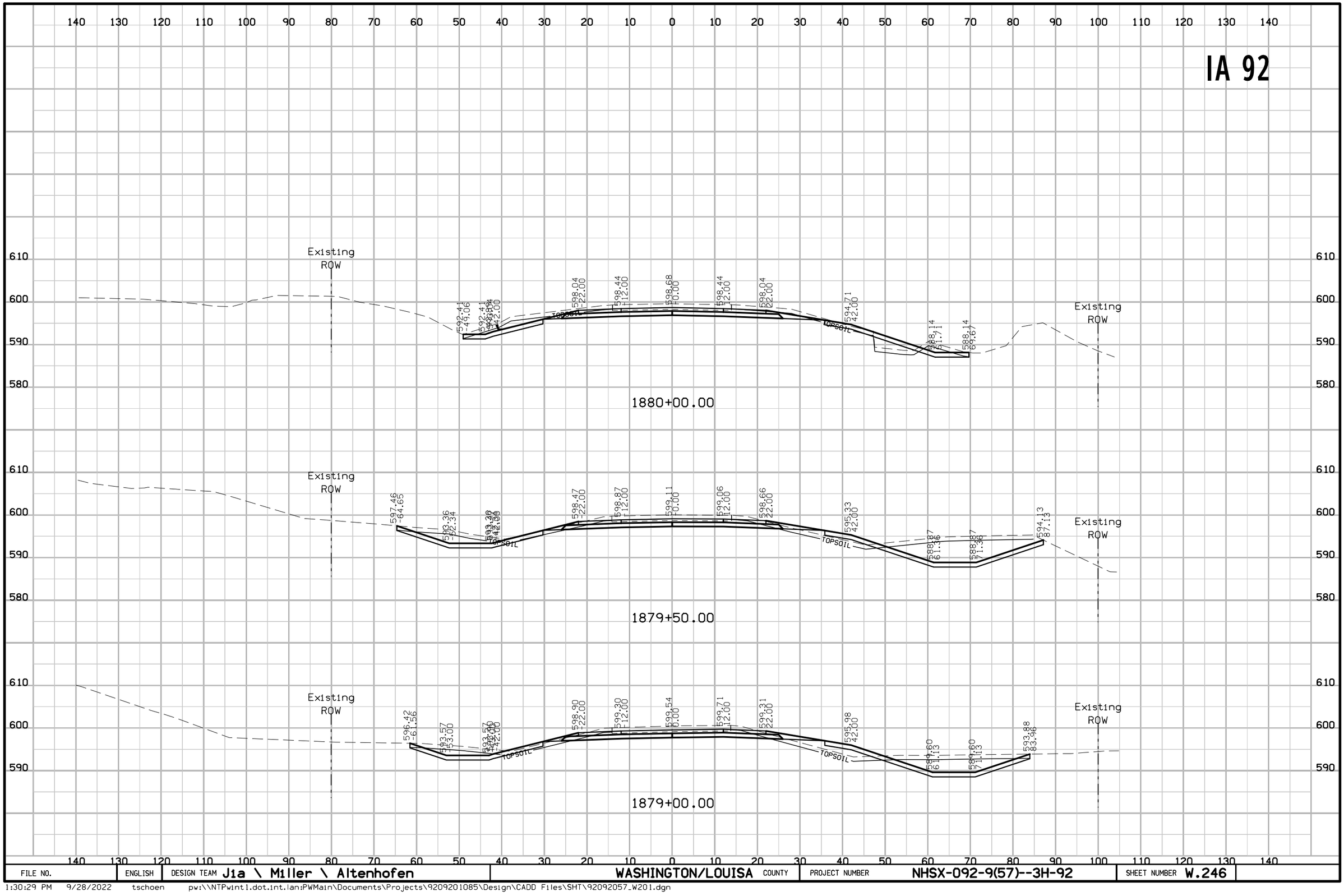
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.246

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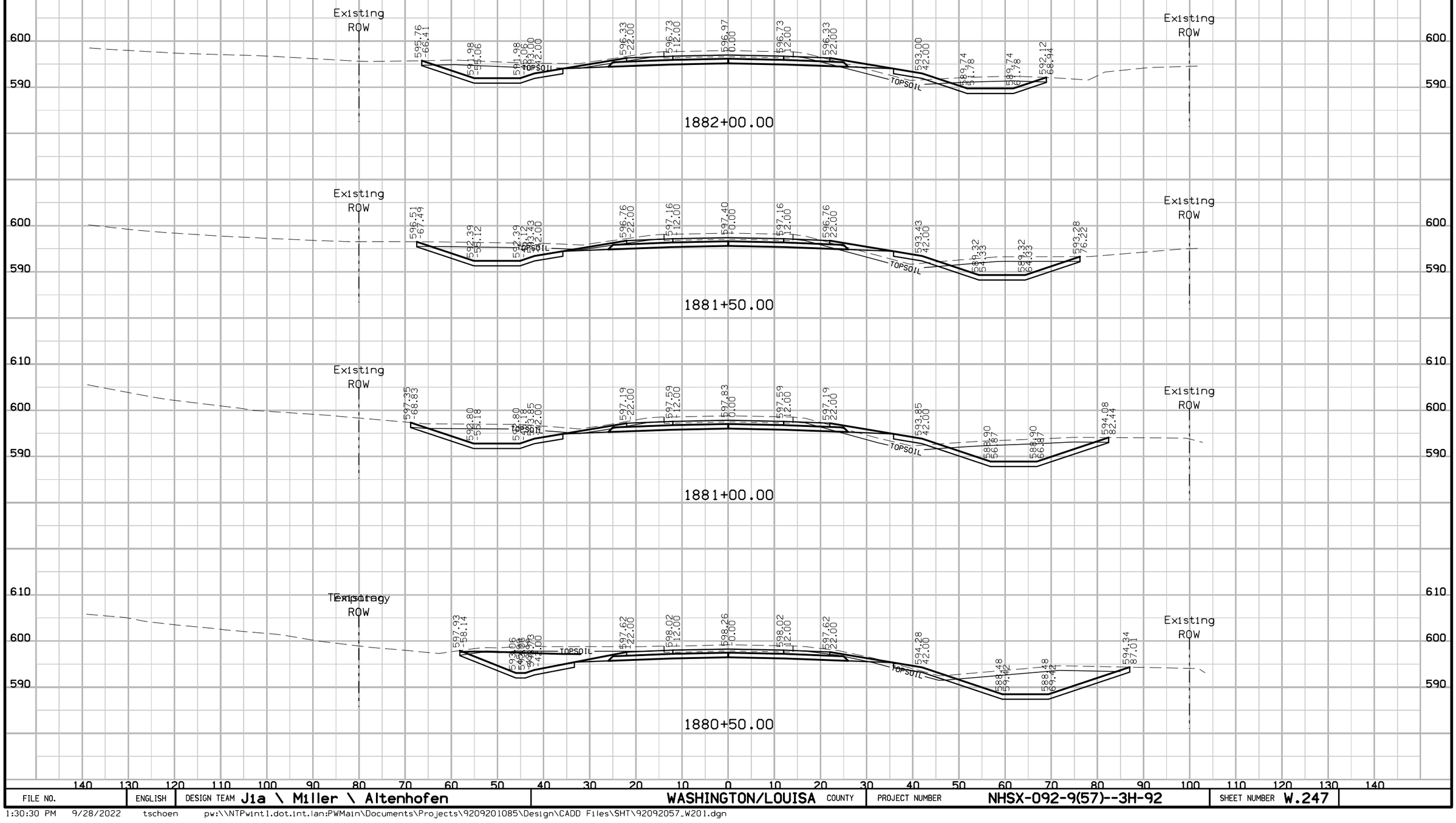
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.247

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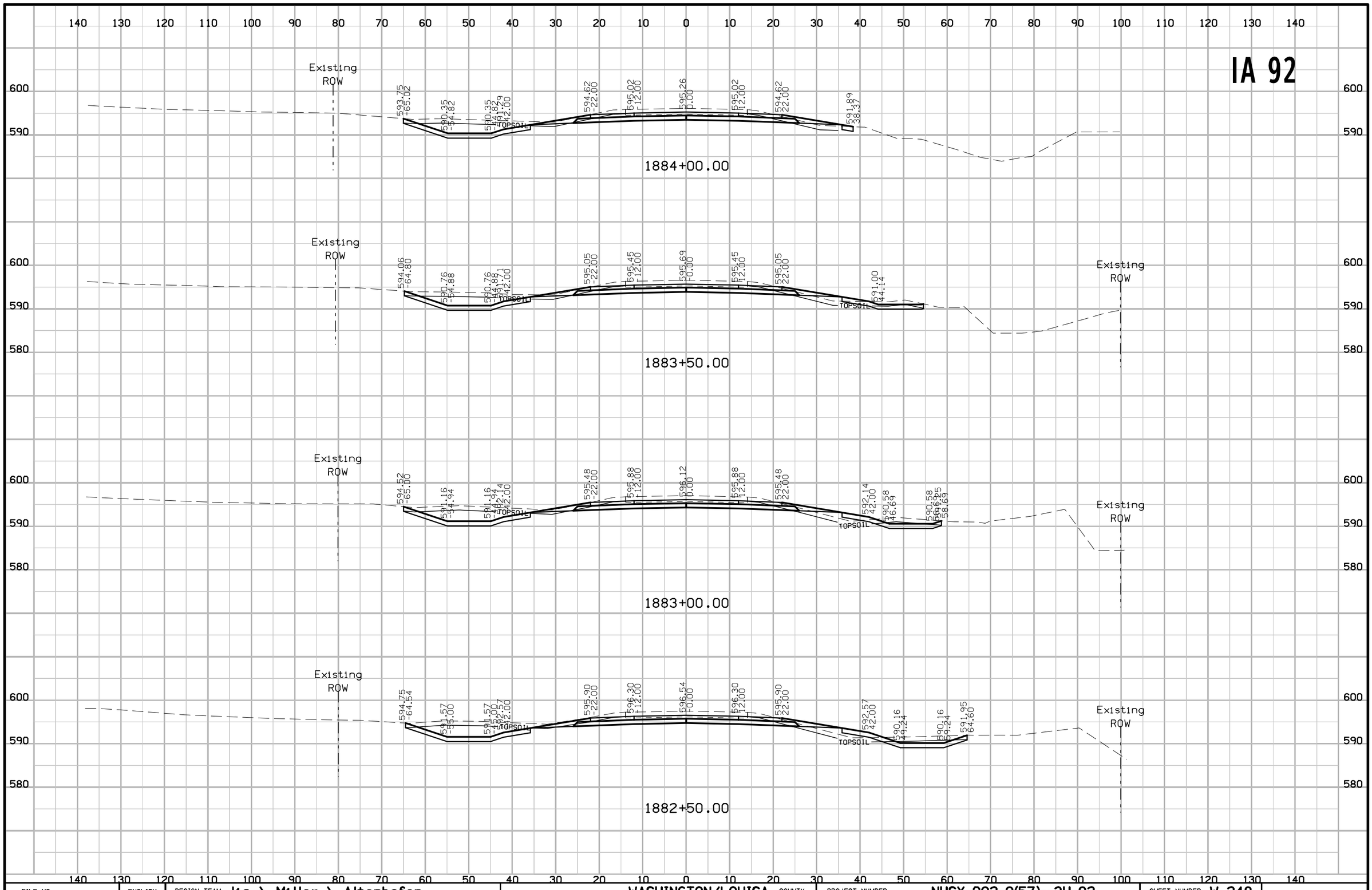
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.248

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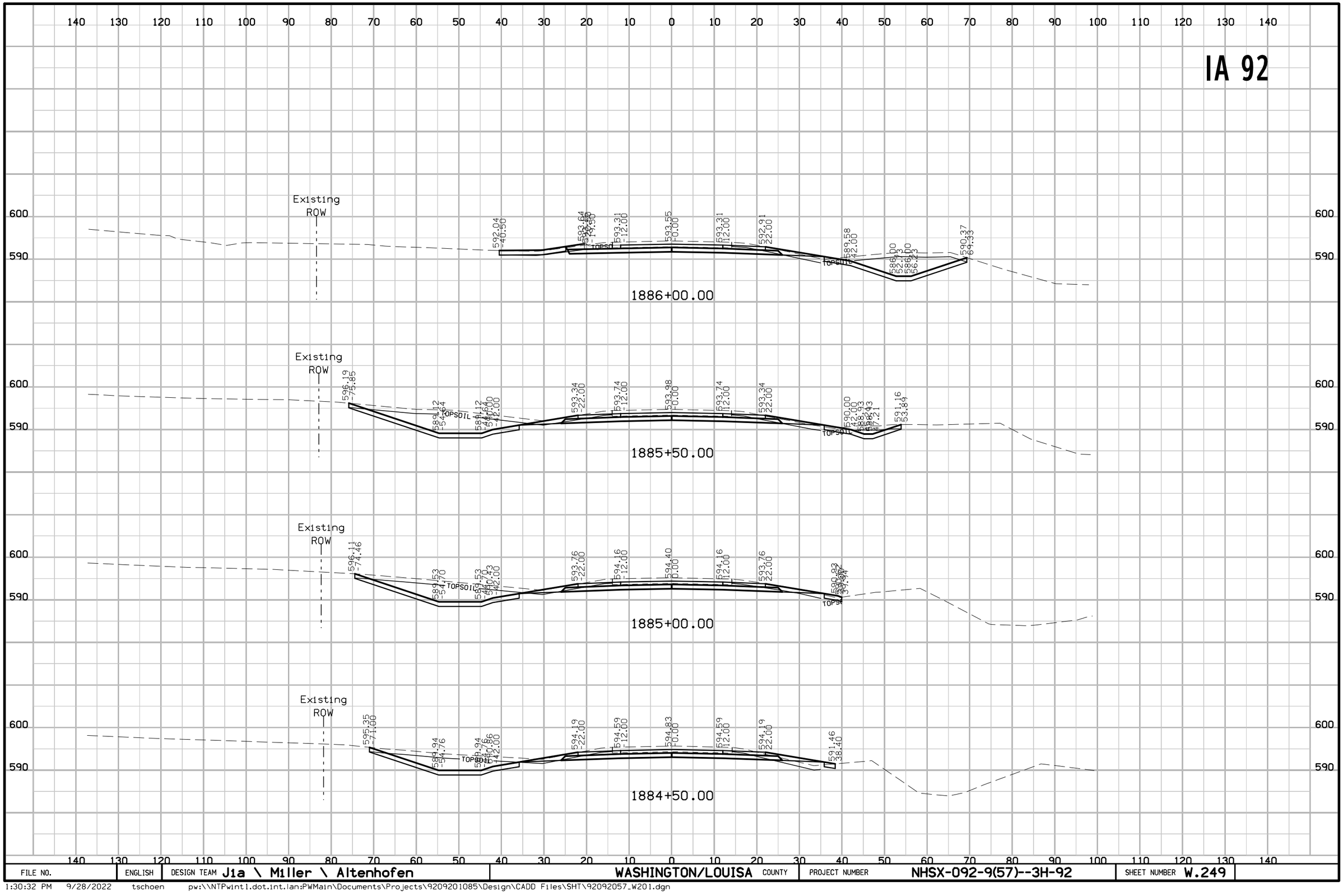
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.249

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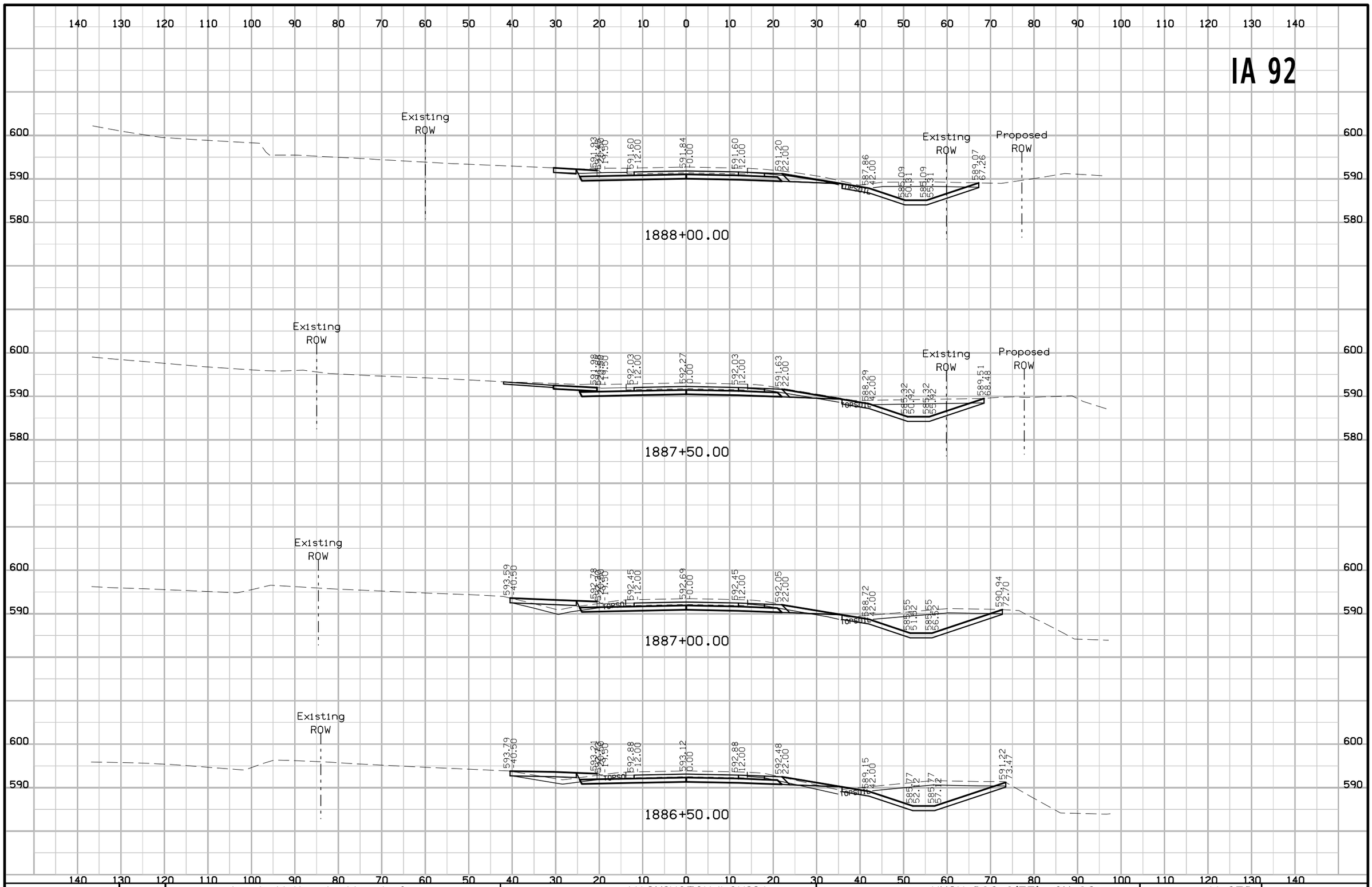
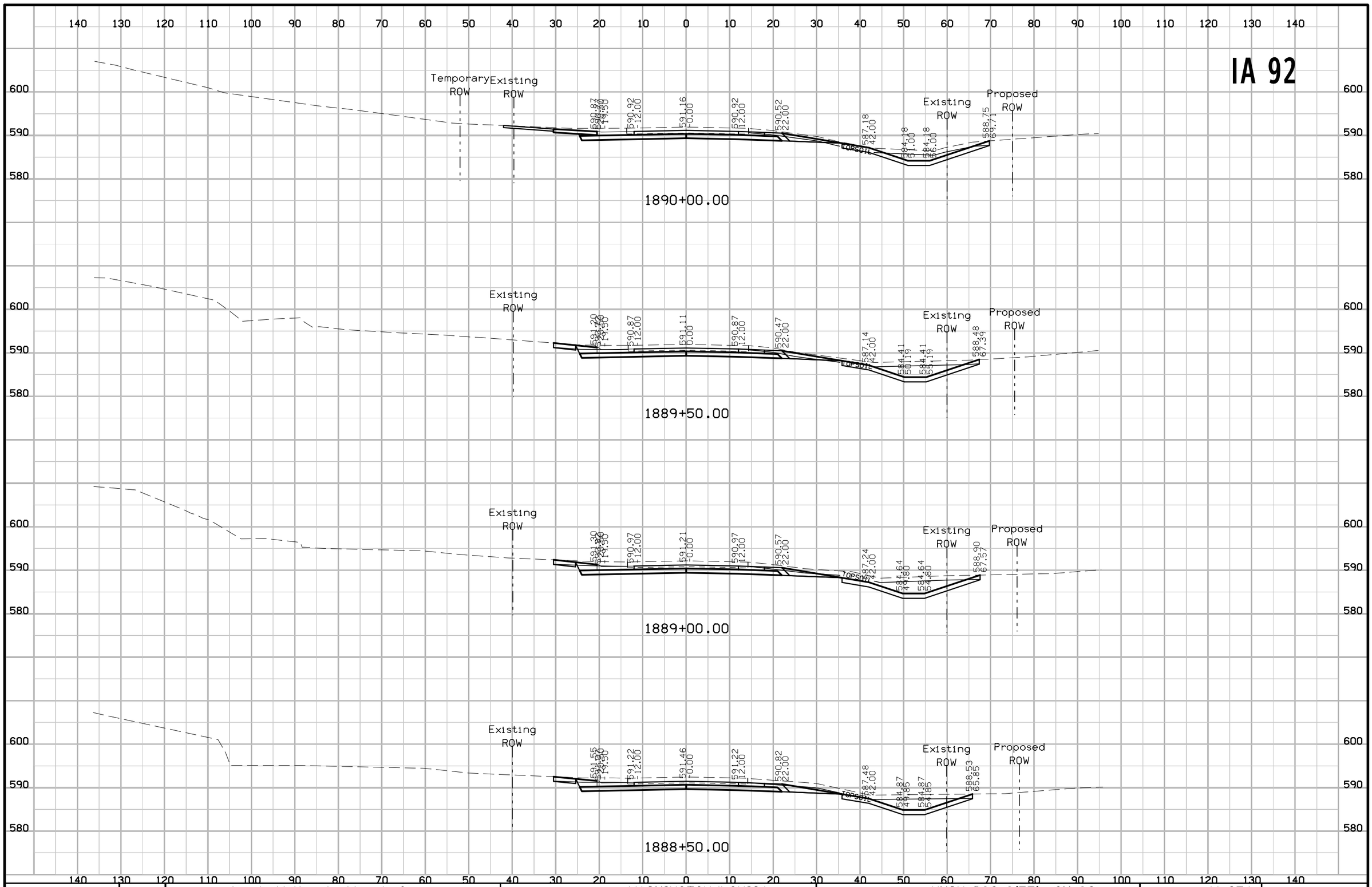
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.250

1:30:33 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

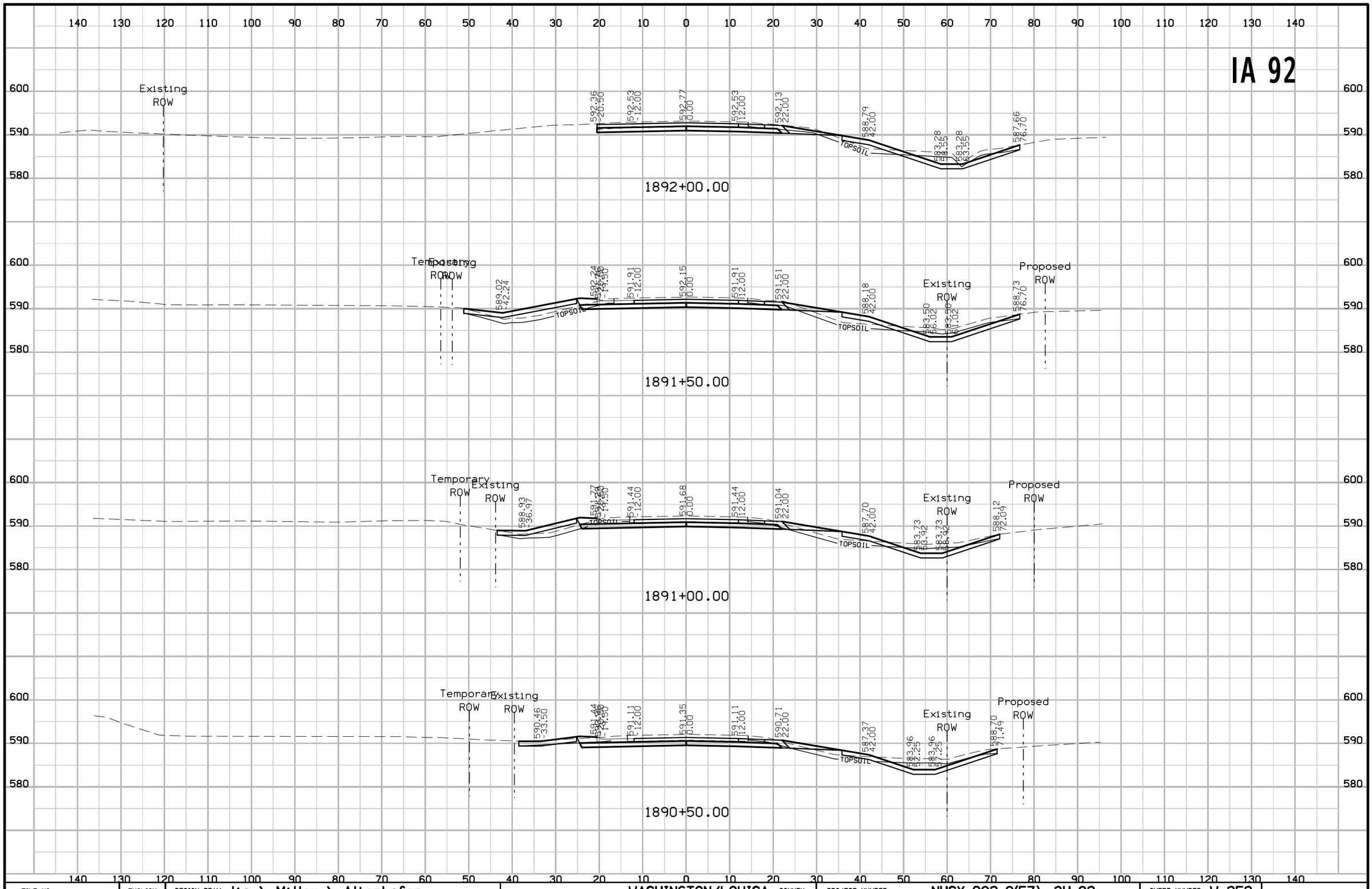
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.251

1:30:35 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.252

1:30:36 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

IA 92

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

610
600
590

596.35
0.00

1894+50.00

600
590

595.63
-0.00

1894+00.00

600
590

594.92
0.00

1893+50.00

590

1893+00.00

600
590

593.12
-18.00

593.24
-12.00

593.48
0.00

593.24
12.00

592.84
22.00

TOPSOIL

593.05
61.37

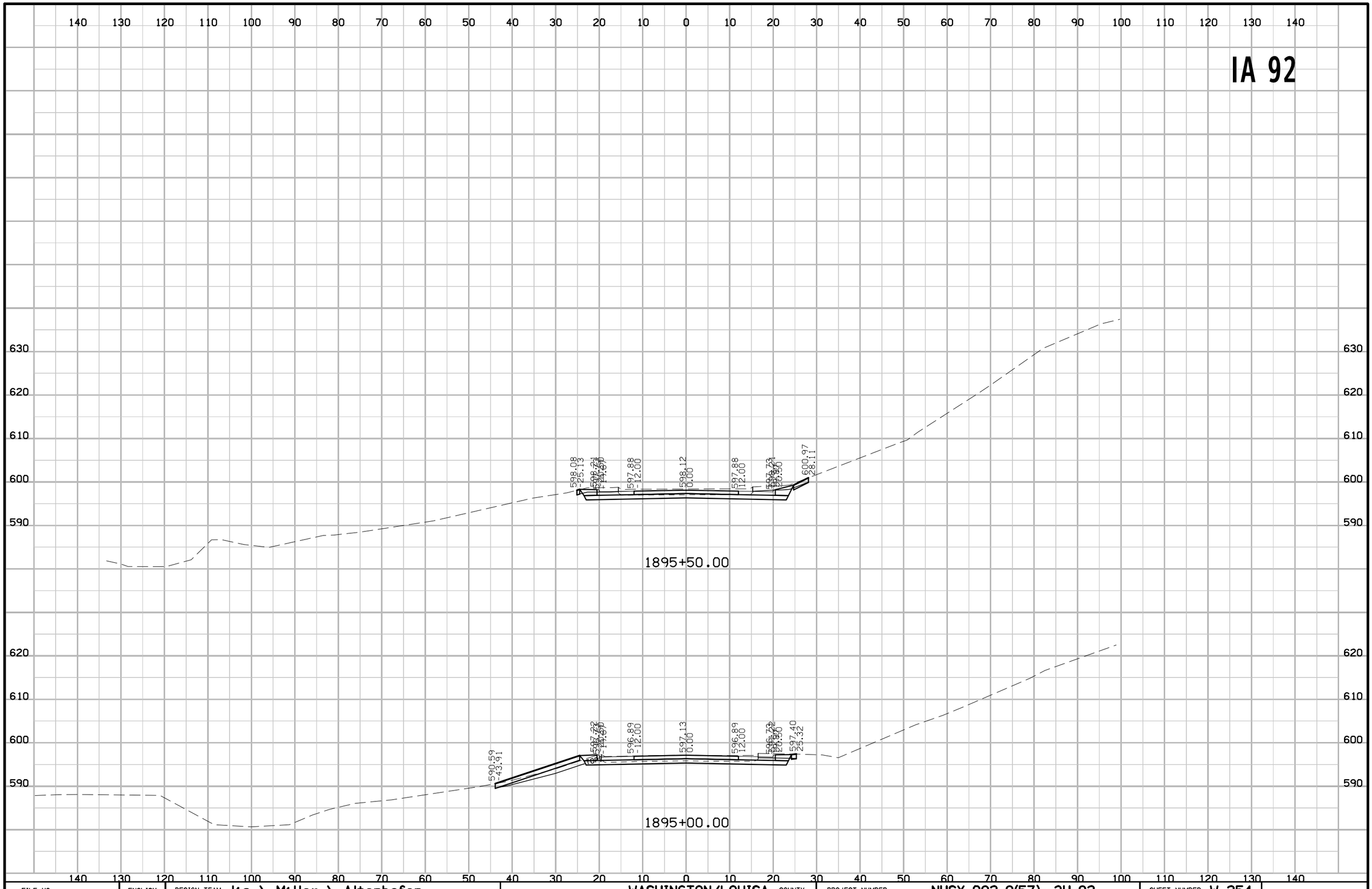
1892+50.00

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

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.253

1:30:37 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

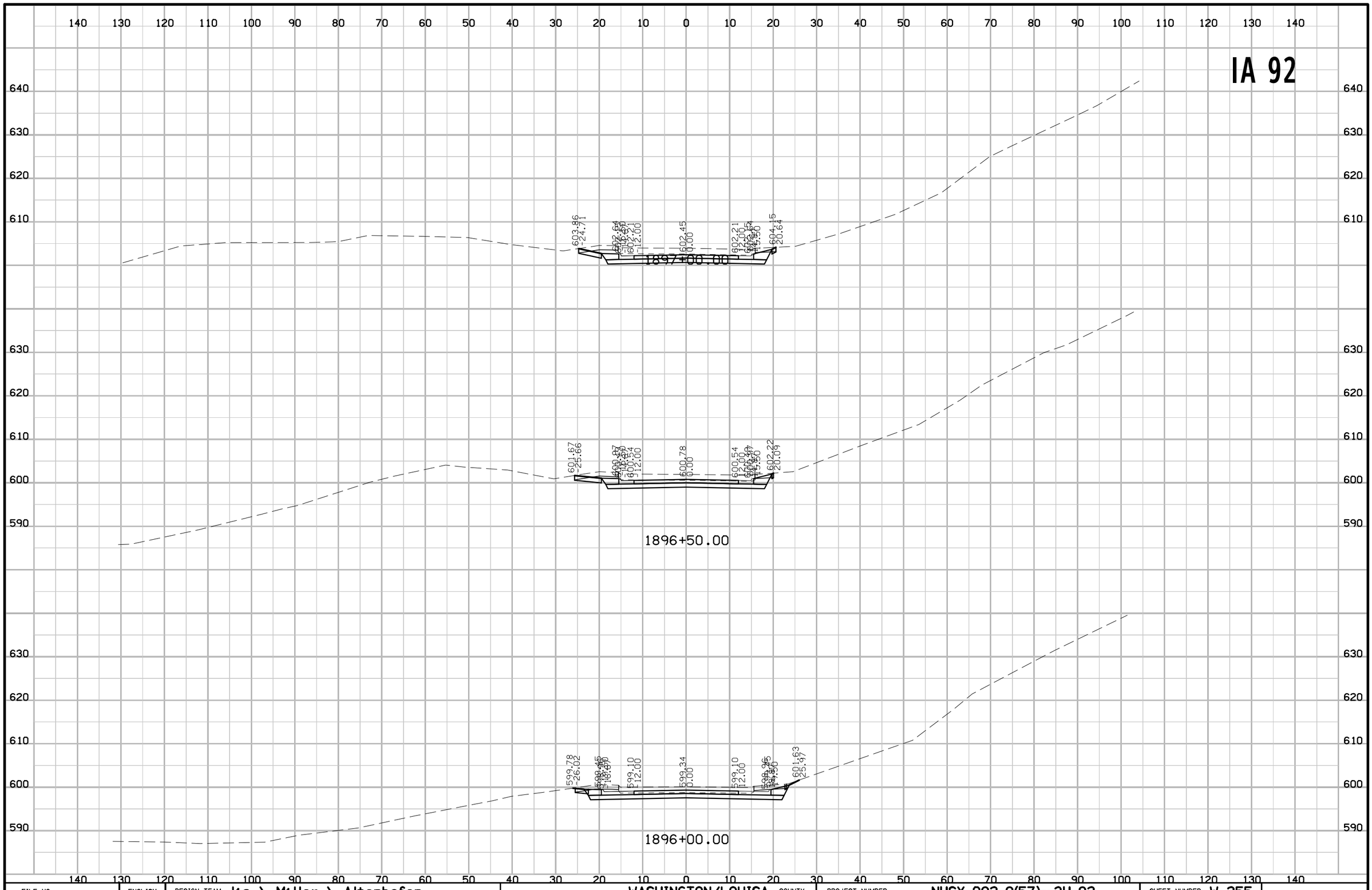
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.254

1:30:38 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

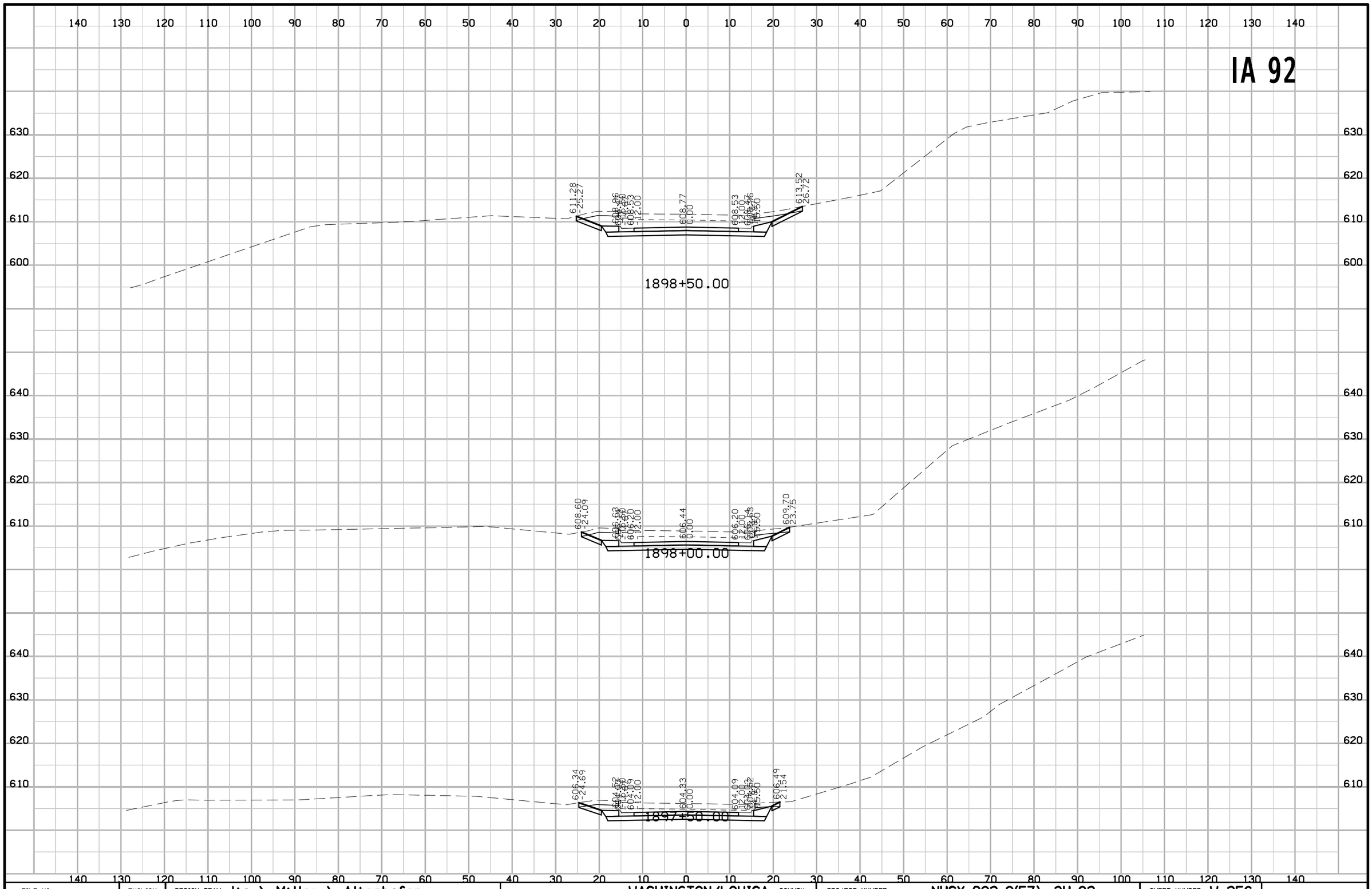
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.255

1:30:39 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

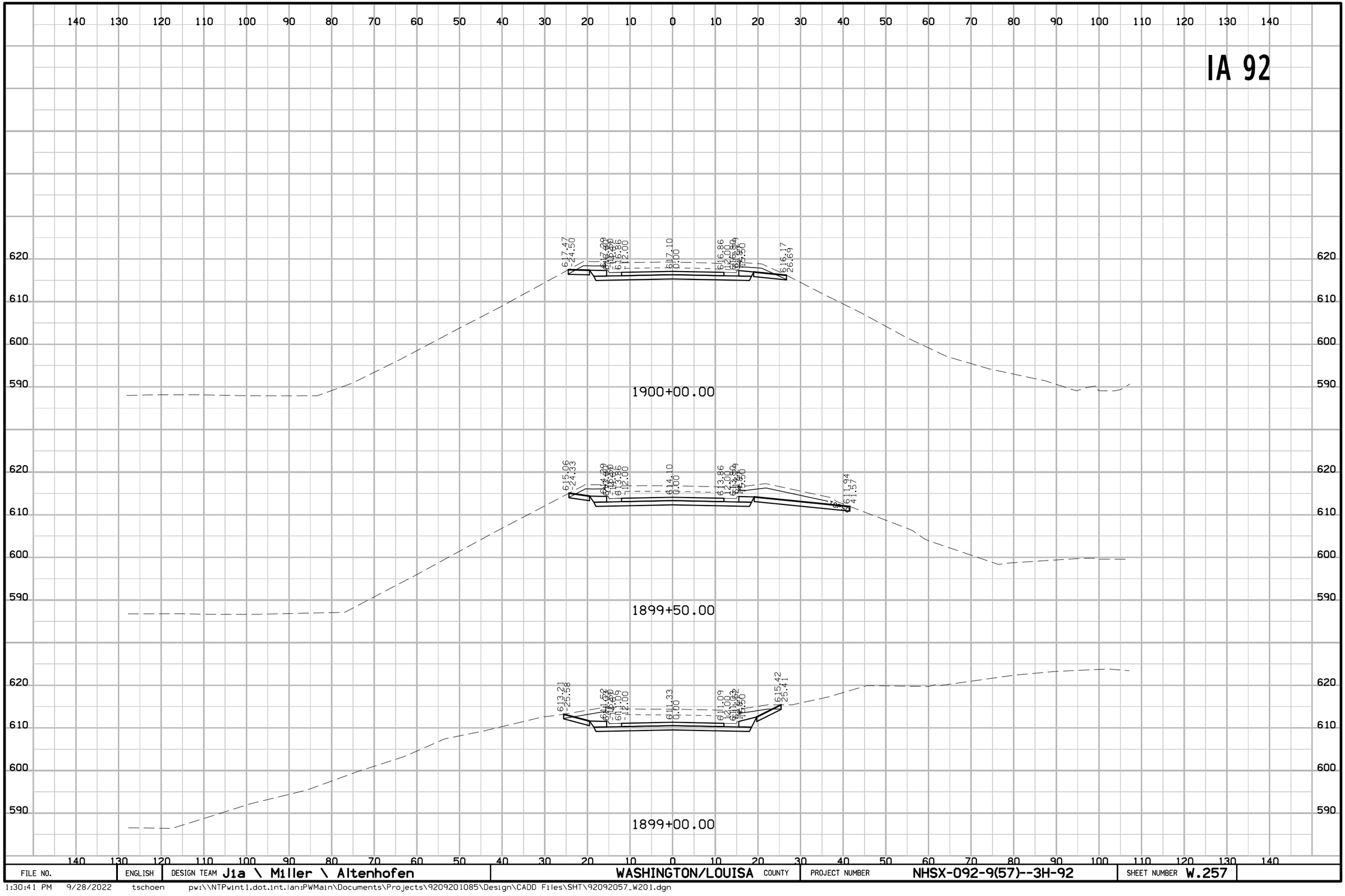
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.256

1:30:40 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

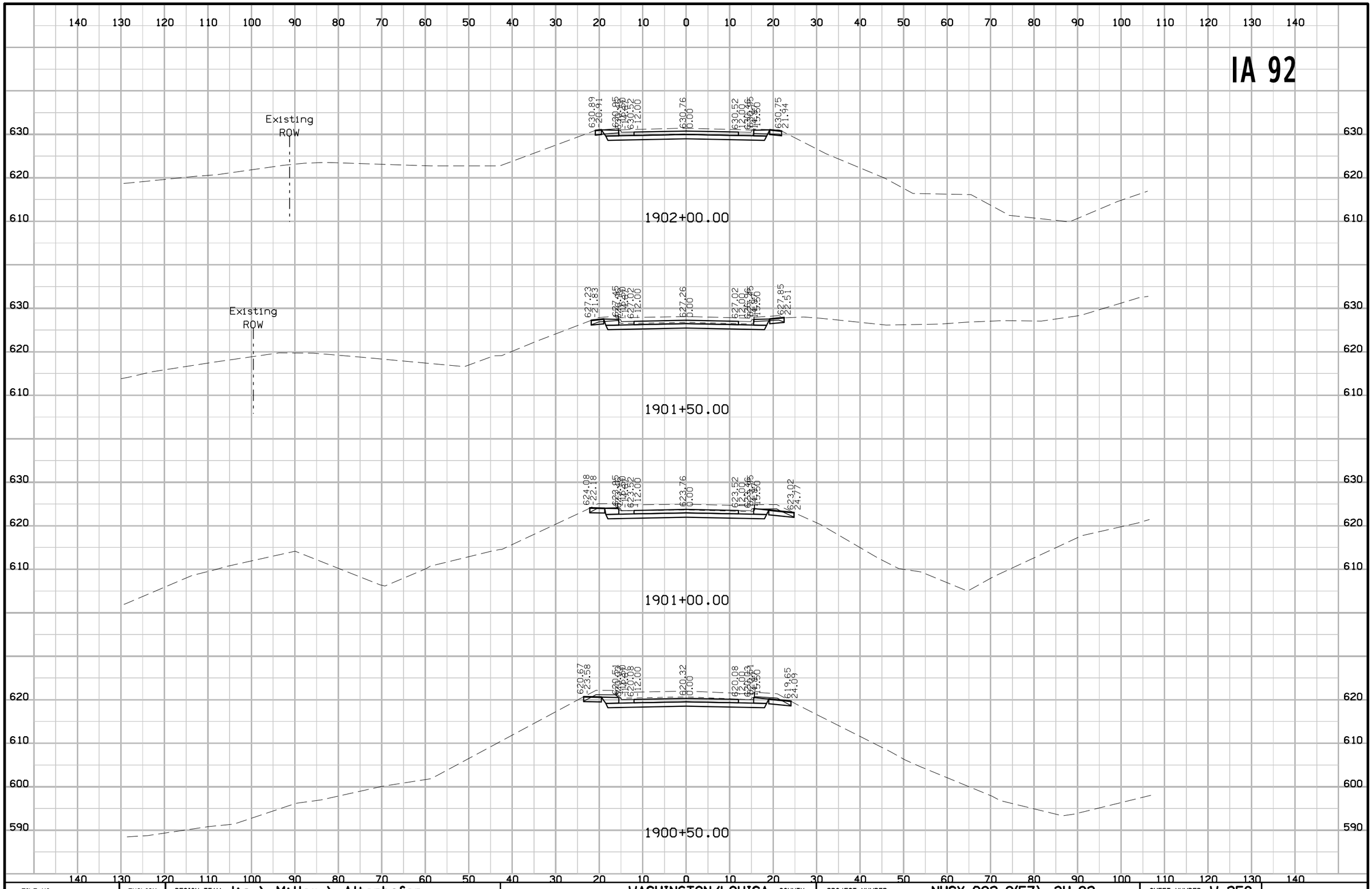
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.257

1:30:41 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

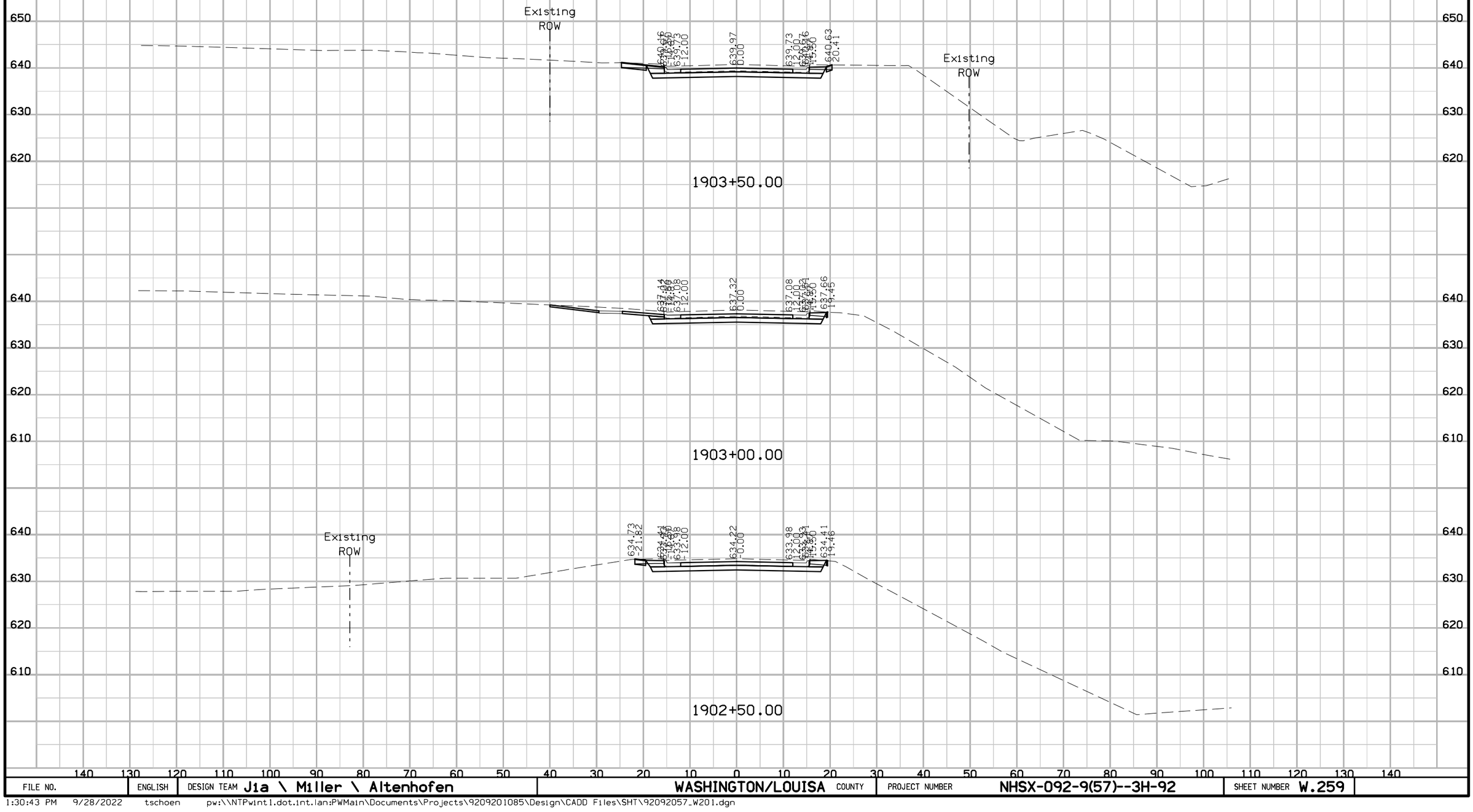
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.258

1:30:42 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

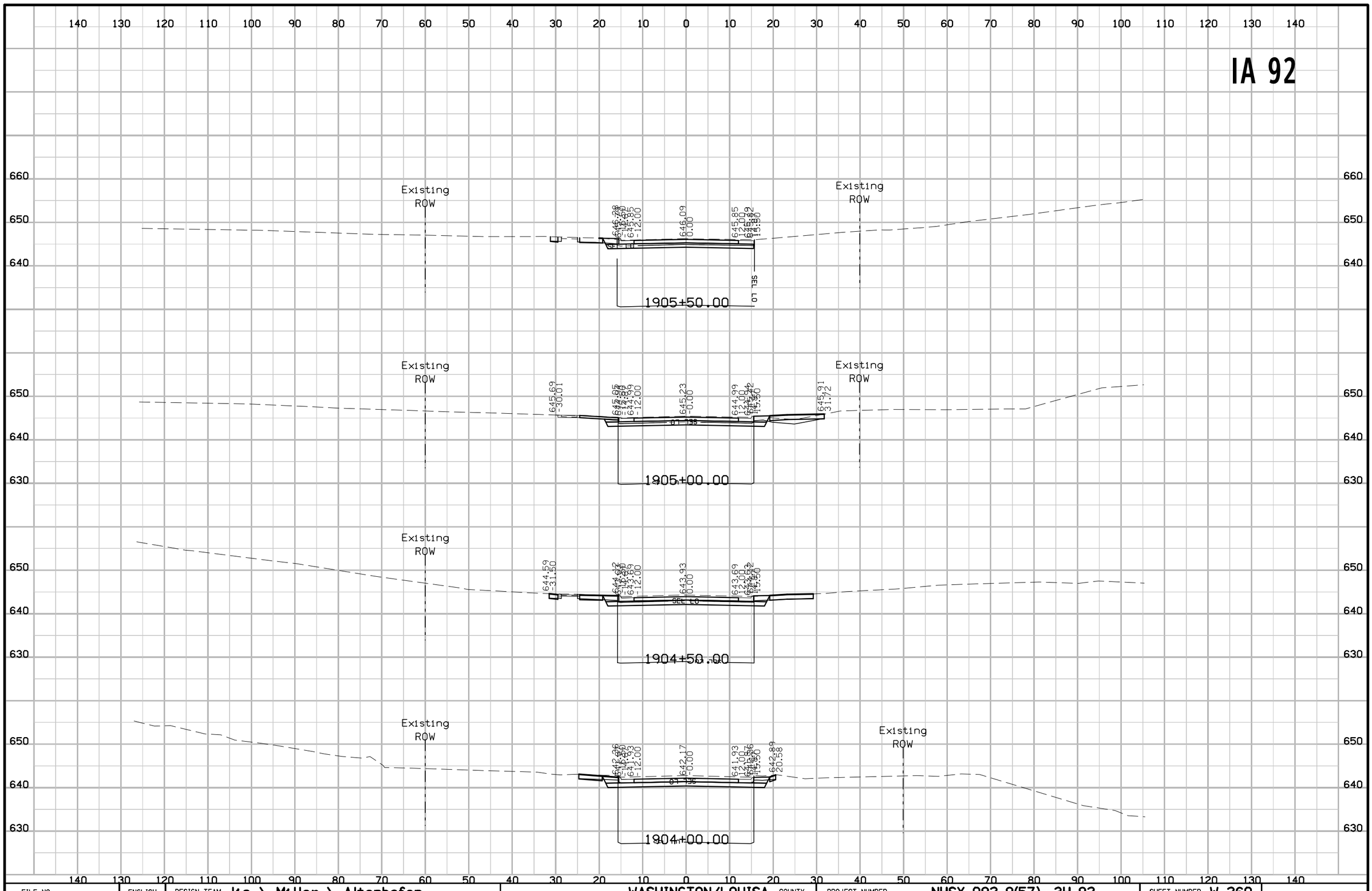
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.259

1:30:43 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

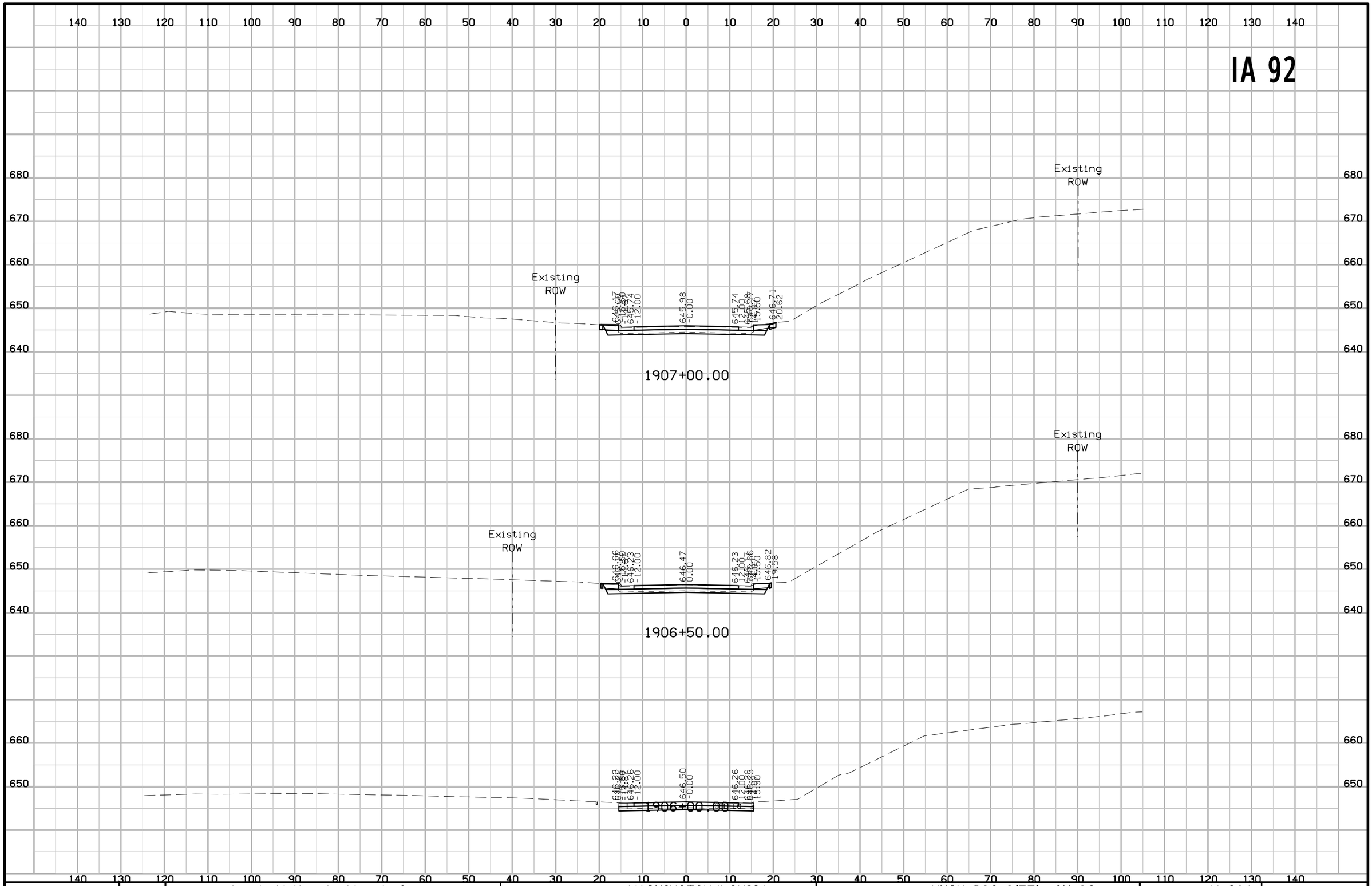
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.260

1:30:44 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

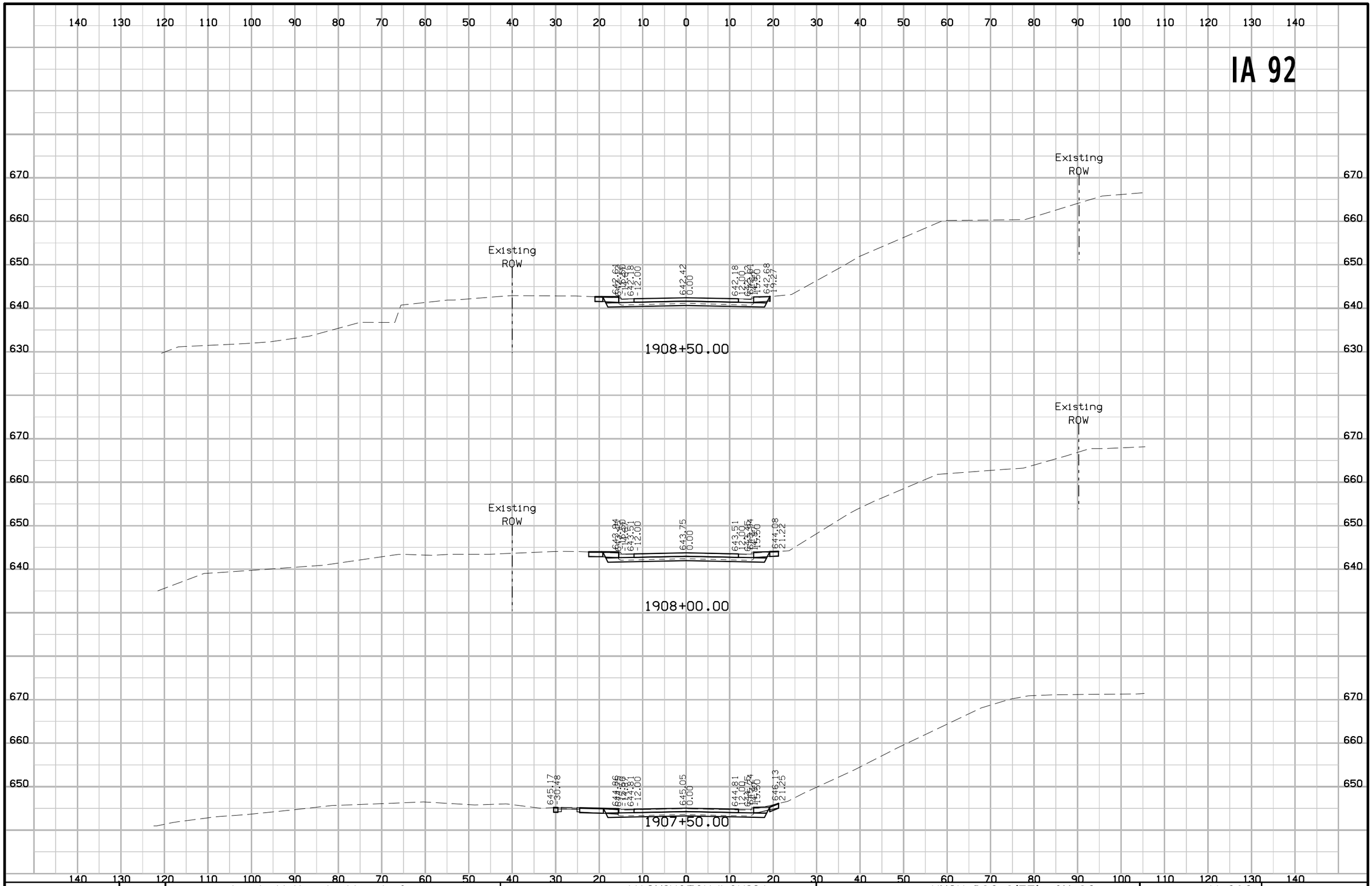
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.261

1:30:45 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

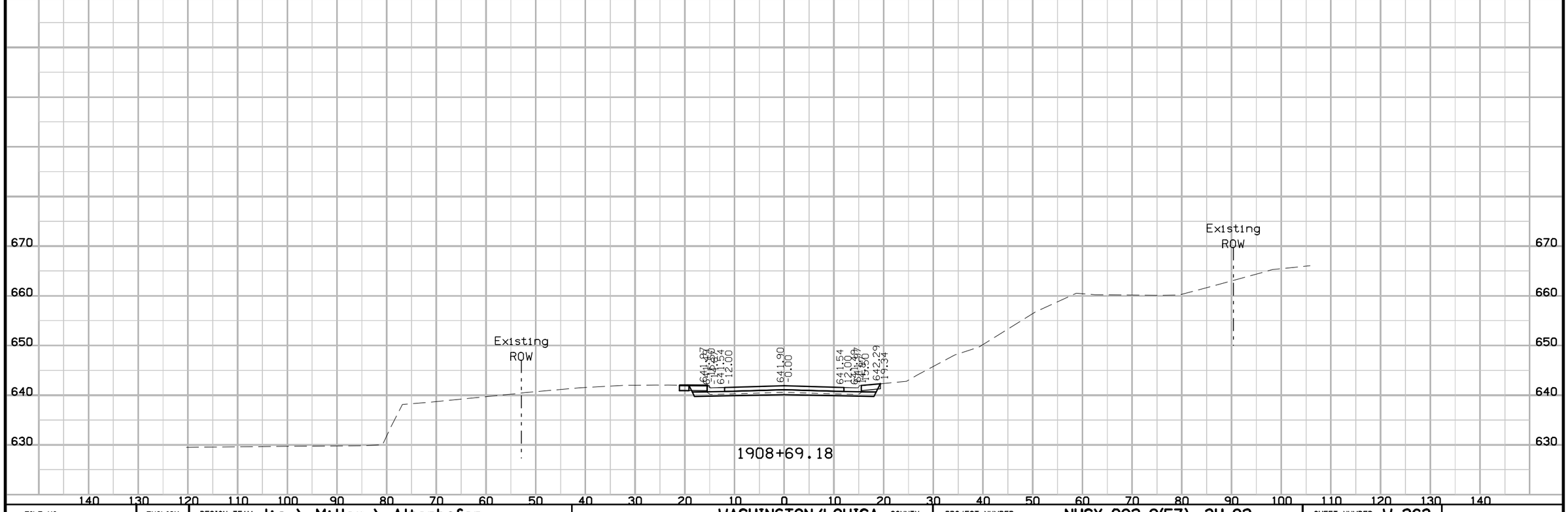
IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.262

1:30:46 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER W.263

1:30:47 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_W201.dgn

Yucca Ave

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

740
735
730

736
-44
733.45
-36.22
733.45
-26.22

82+75.00

740
735
730

736
-45
733.5
-36.6
733.5
-24.7

82+50.00

740
735
730

736
-38
734.5
-32.0
734.5
-25.2

82+25.00

740
735
730

736
-25
735.6
-24.1

82+00.00

735
730

81+91.68

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.1

2:30:52 PM 9/30/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X01_SRYucca.dgn

Yucca Ave

84+25.00

84+00.00

83+75.00

83+50.00

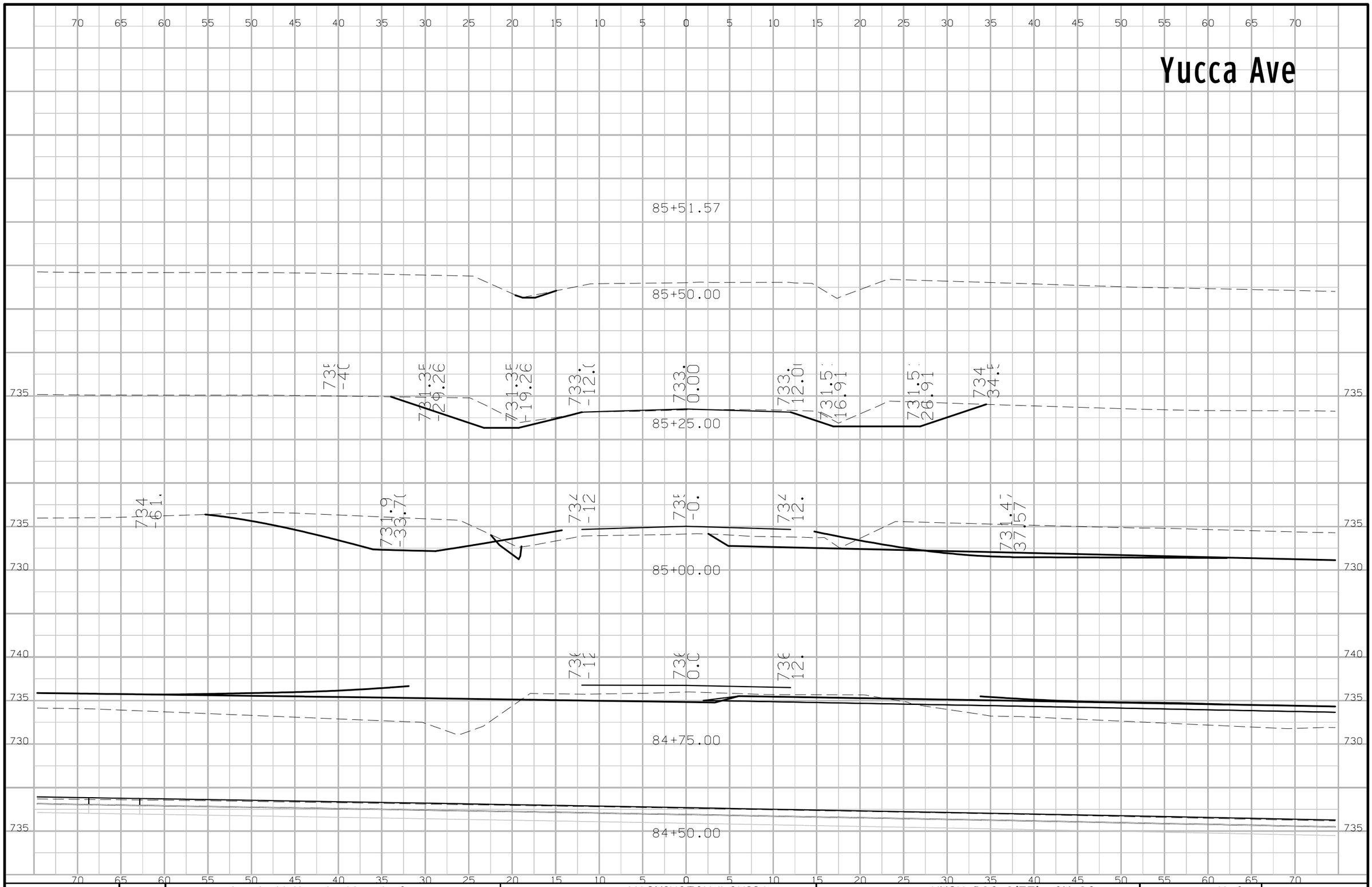
83+25.00

83+00.00

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.2

2:30:53 PM 9/30/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X01_SRYucca.dgn

Yucca Ave



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.3

2:30:54 PM 9/30/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X01_SRYucca.dgn

County Line Rd

735.03
0.00

734.78
14.00

734.04
19.92

63+75.00

63+50.00

63+25.00

63+00.00

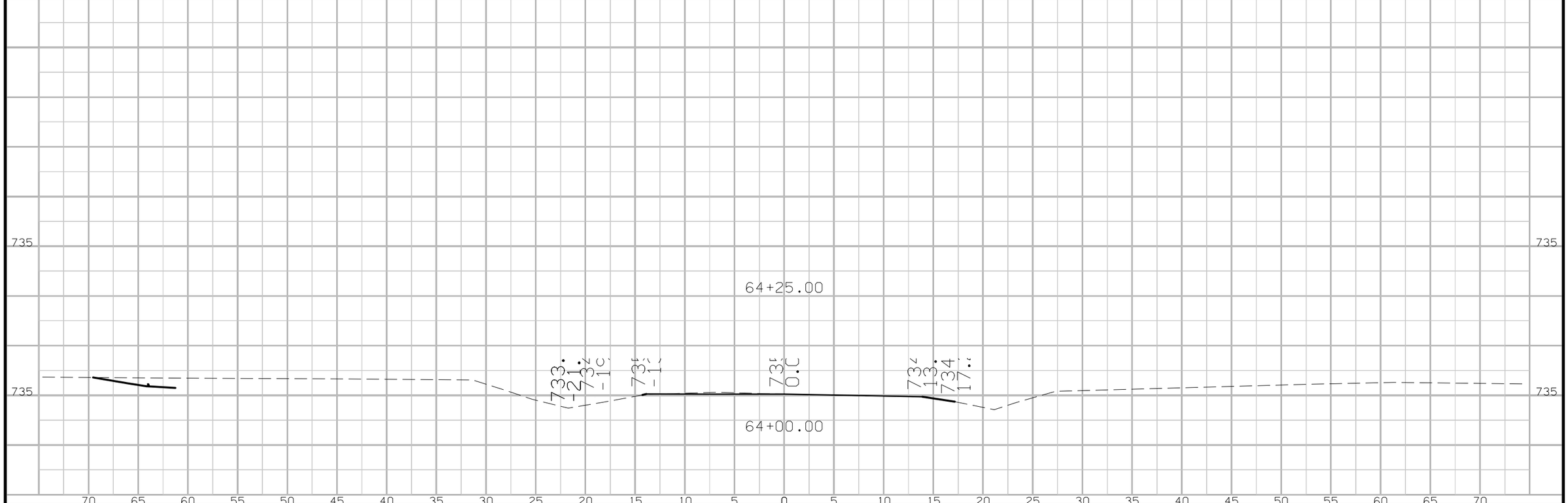
62+75.00

62+50.00

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.100

2:31:16 PM 9/30/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X100_SRCountyLine.dgn

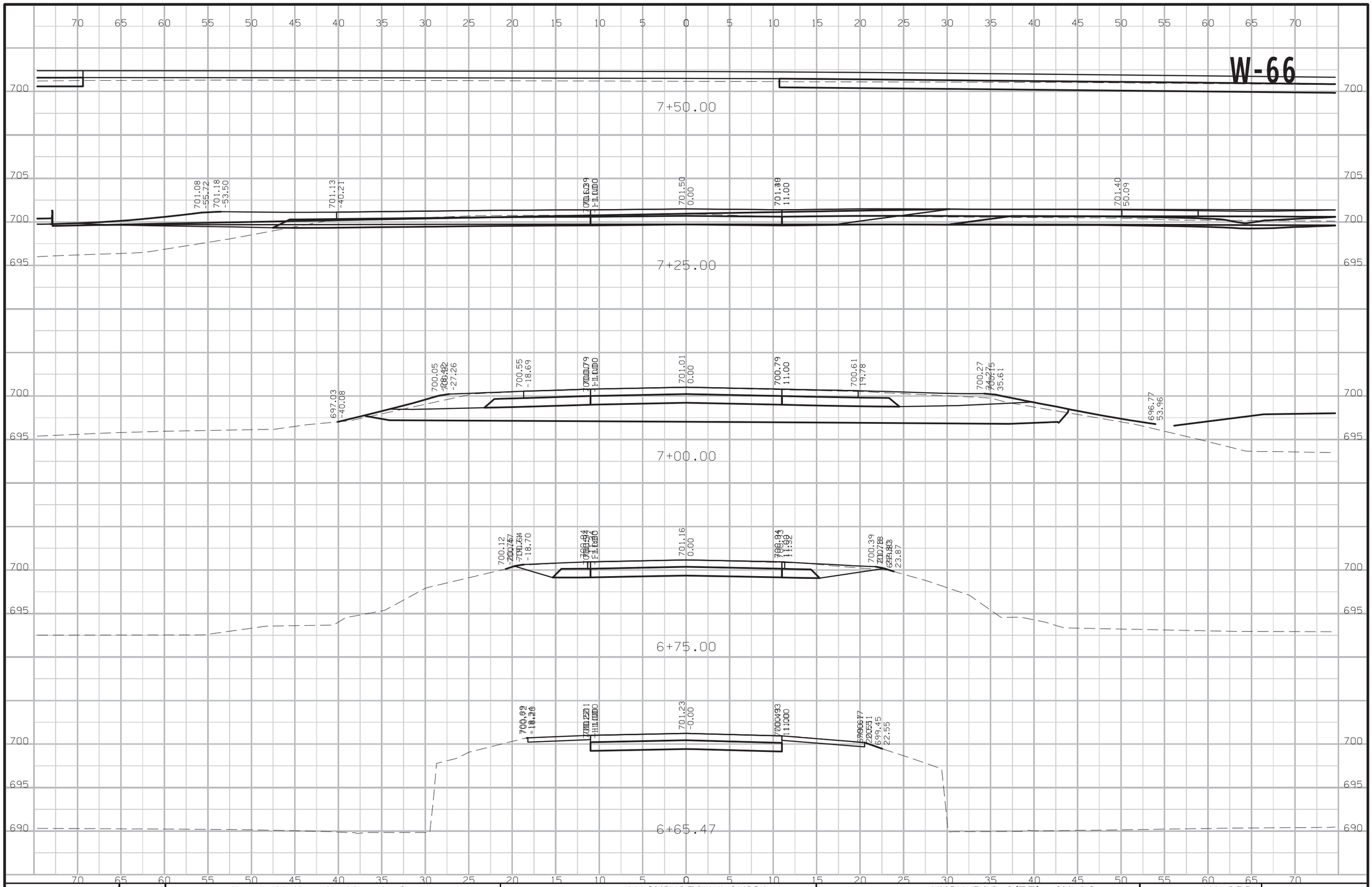
County Line Rd



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.101

2:31:17 PM 9/30/2022 korliey pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X100_SRCountyLine.dgn

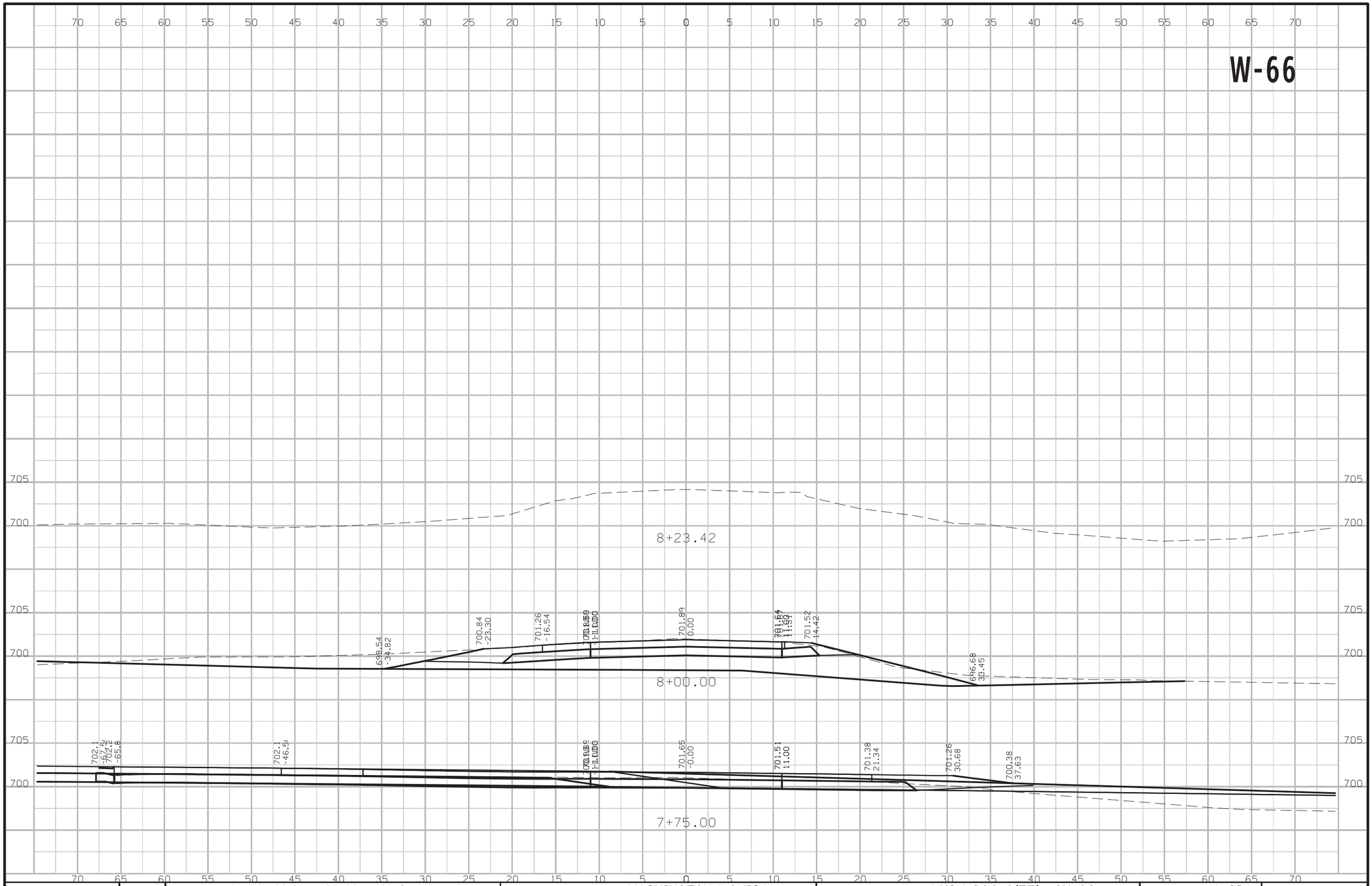
W-66



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.200

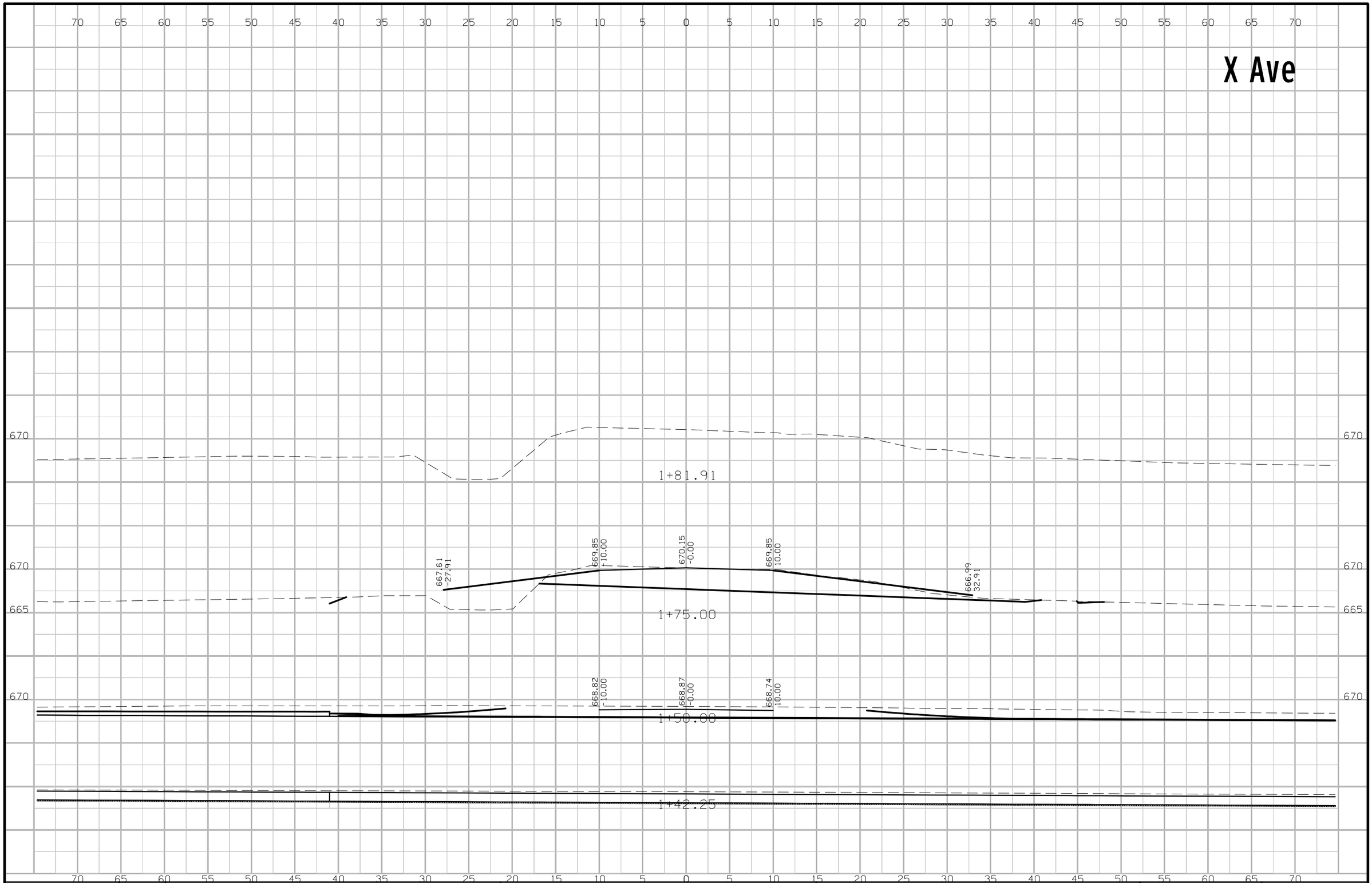
3:13:12 PM 10/19/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X200_SRW66.dgn

W-66



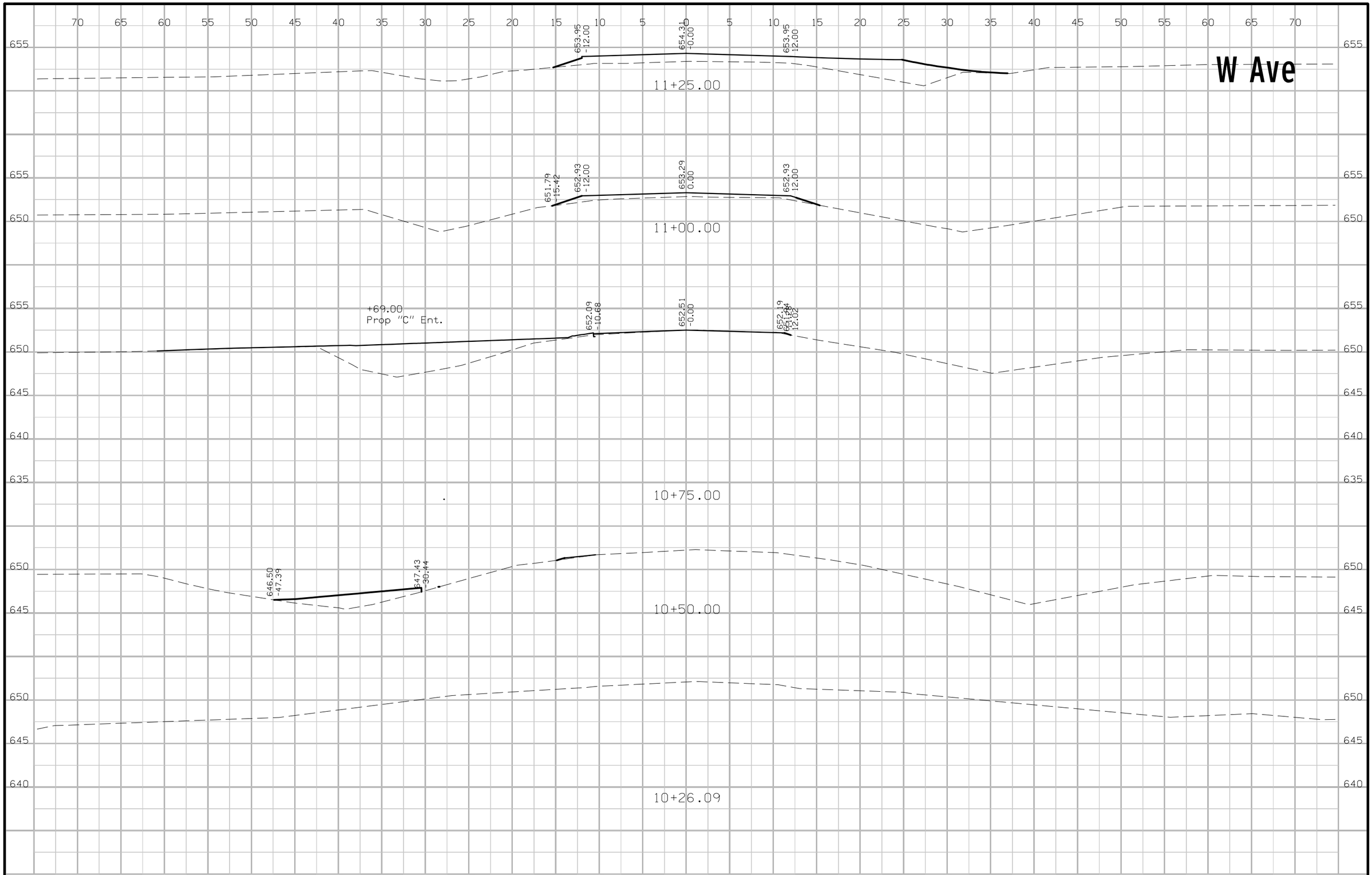
FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.201

3:13:13 PM 10/19/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X200_SRW66.dgn



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.300

2:31:56 PM 9/30/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X300_SRXAve.dgn



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.400

2:32:18 PM 9/30/2022 koriley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X400_SRWAve.dgn

W Ave

655.70
-12.00

656.06
0.00

655.70
12.00

655

655

11+67.86

654.97
-12.00

655.33
0.00

654.97
12.00

655

655

11+50.00

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.401

2:32:18 PM 9/30/2022 korlley pw:\\NTPwintl.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X400_SRWAve.dgn

V Ave

4+75.00

4+50.00

4+25.00

641.02
-11.51

640.94
-0.00

640.94
12.65

4+00.00

36.08
28.18

639.7
-12.0

639.8
-0.00

639.5
11.92

638.72
21.72

3+75.00

638.4
-12.0

639.1
-0.00

638.7
12.00

637.12
53.69

3+57.07

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.500

2:32:40 PM 9/30/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X500_SRVAve.dgn

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

V Ave

640

640

5+22.95

5+00.00

640

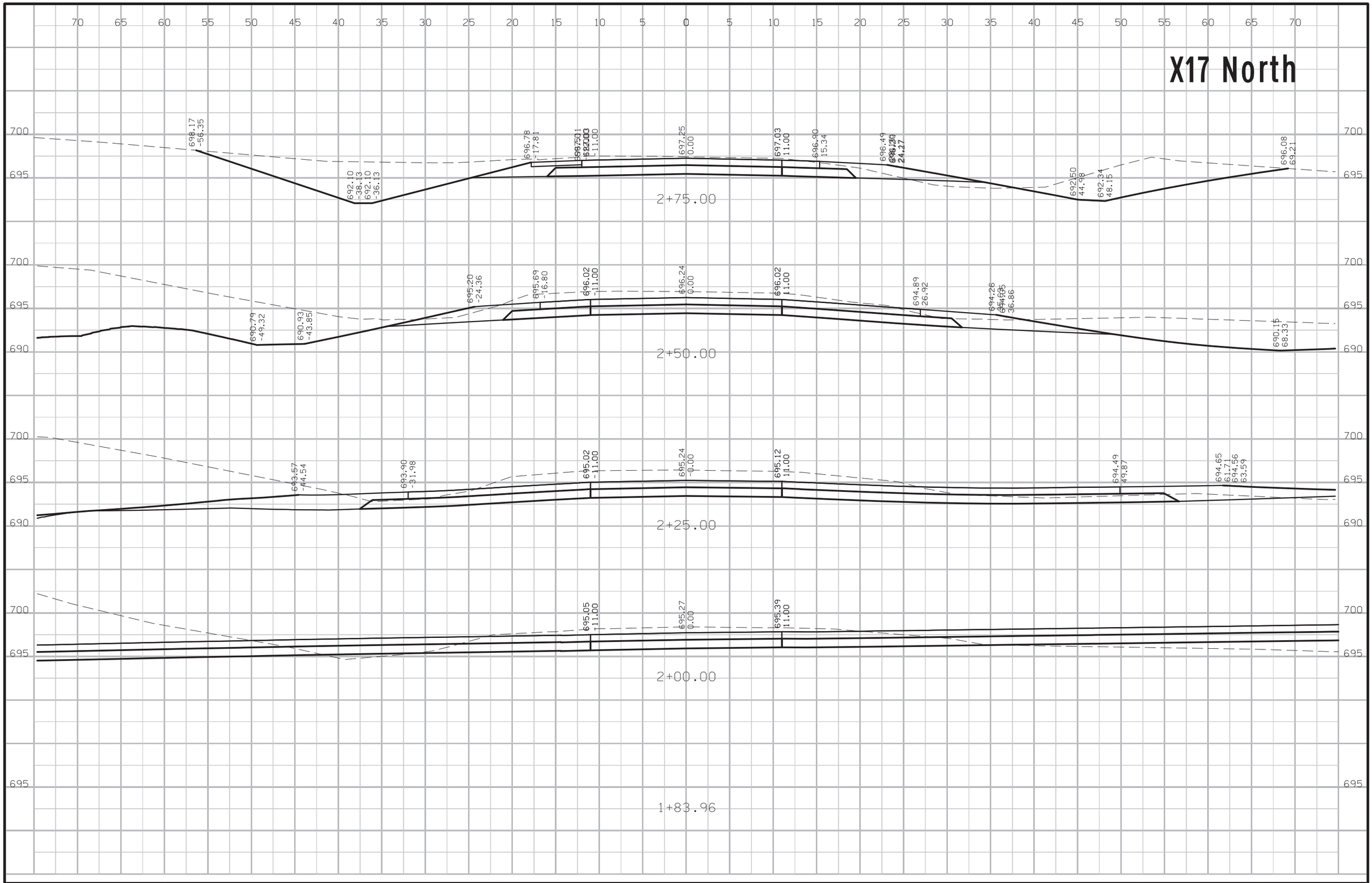
640

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.501

2:32:41 PM 9/30/2022 korlley pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X500_SRVAve.dgn

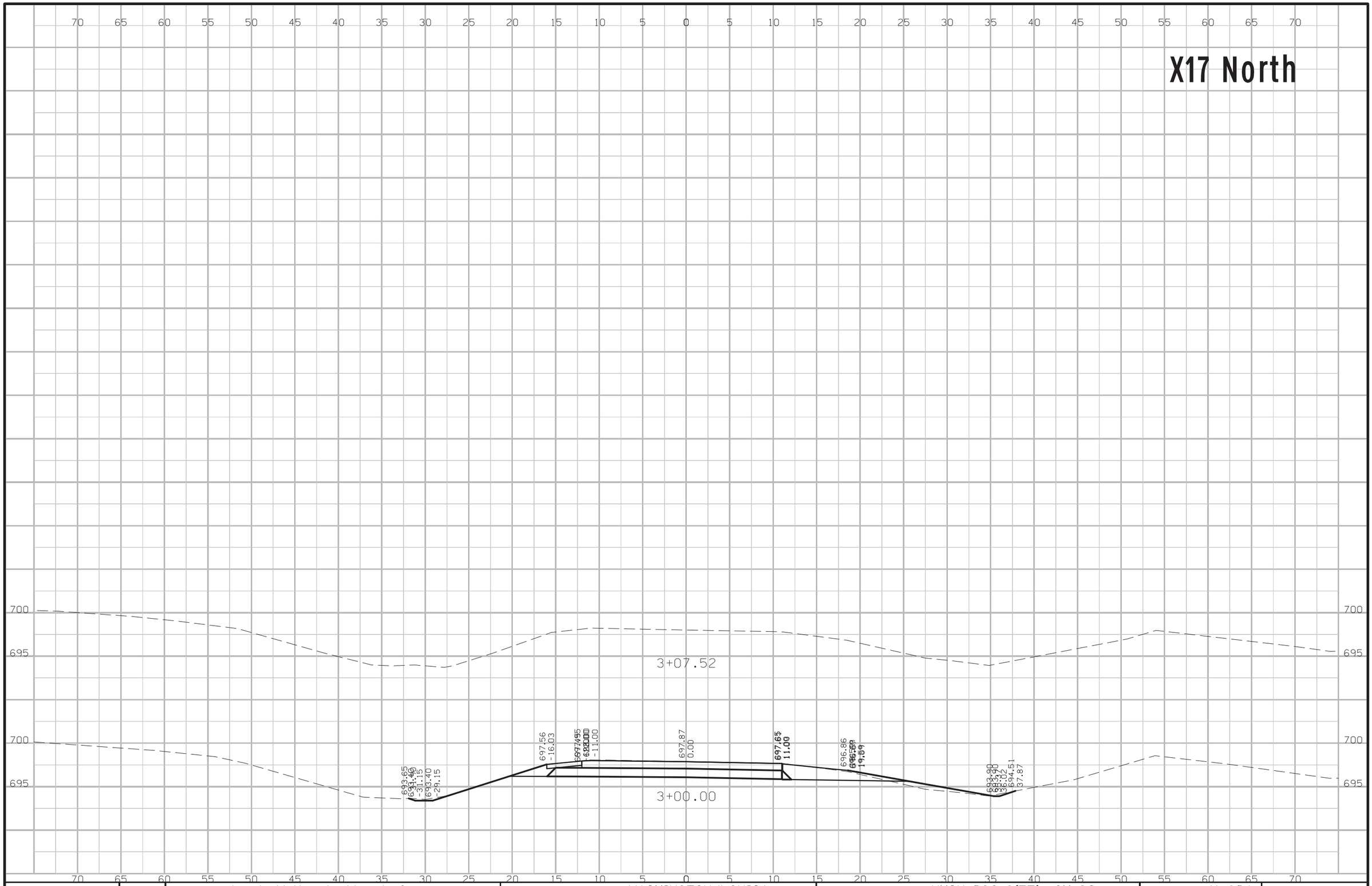
X17 North



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.600

3:28:30 PM 10/19/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X600_SRX17.dgn

X17 North



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.601

3:28:31 PM 10/19/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X600_SRX17.dgn

X17 South

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

697.92
21.83

697.66
61.78

7+14.74

697.74
-11.00

697.84
0.00

697.73
11.00

697.20
36.53

697.14
54.55

697.07
58.21

7+00.00

698.33
-52.39

696.51
-32.74

697.68
-11.00

697.90
0.00

697.68
11.00

697.42
18.02

696.83
30.32

696.50
36.09

695

695

6+75.00

696.61
-43.23

695.66
-40.09

696.85
-33.26

697.57
-16.29

697.75
-11.00

697.97
0.00

697.75
11.00

697.71
13.30

697.33
22.70

697.06
27.72

696.71
34.16

6+50.00

696.45
-41.04

696.45
-38.25

697.11
-27.27

697.69
-12.87

697.58
-11.00

697.80
-0.00

697.88
11.00

696.64
21.89

6+25.00

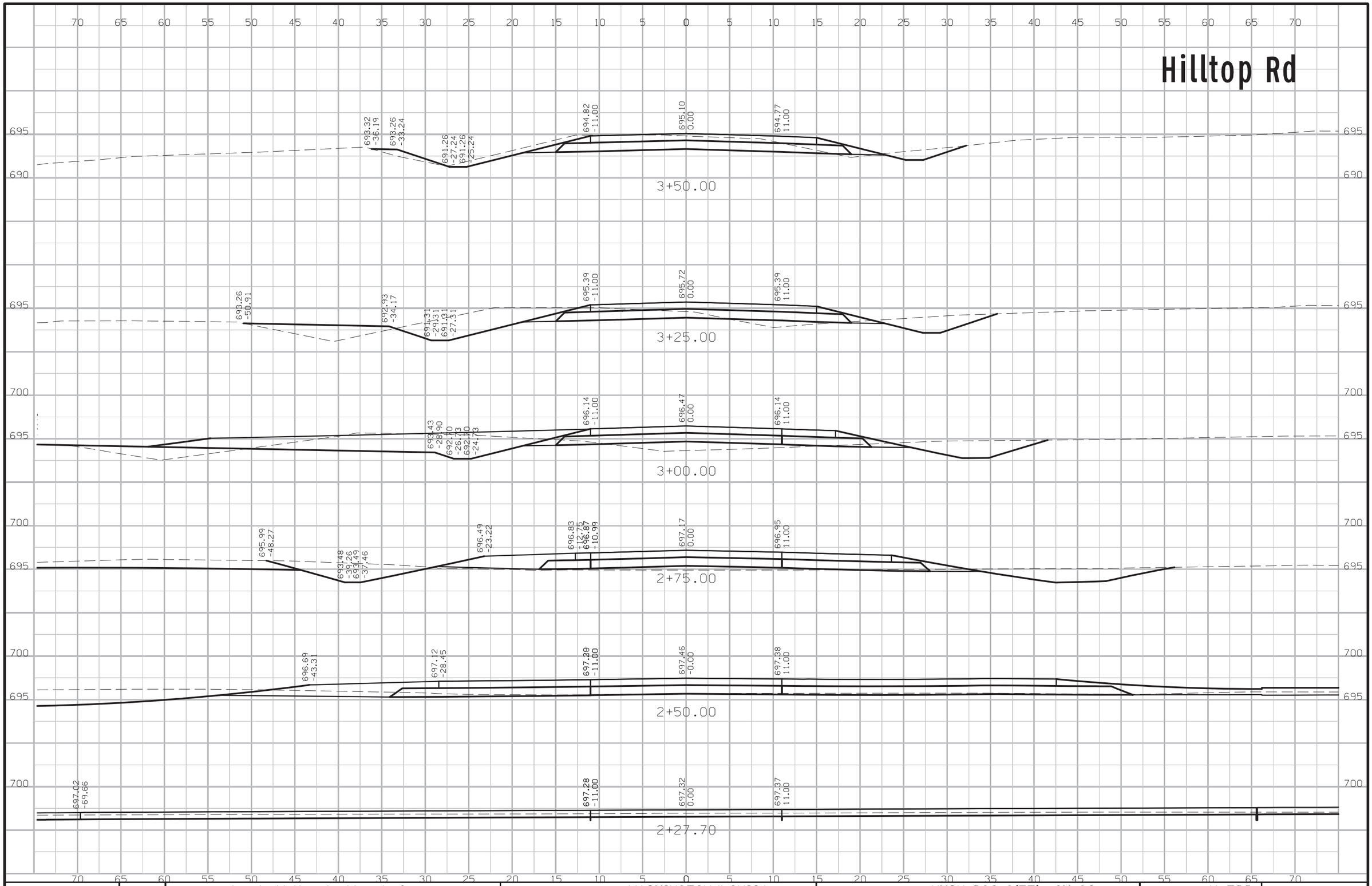
6+05.99

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.602

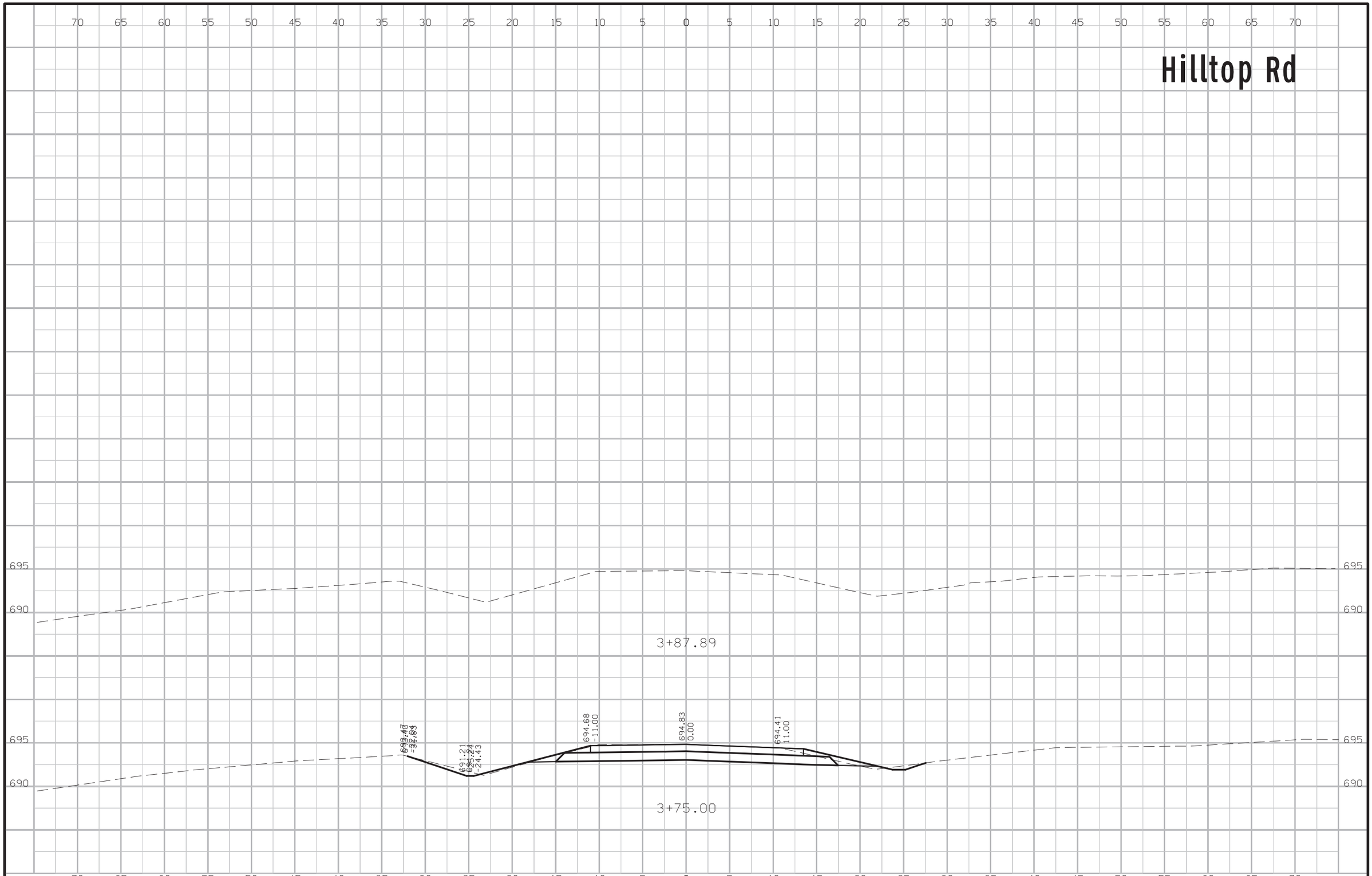
3:28:31 PM 10/19/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X600_SRX17.dgn

Hilltop Rd



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.700

3:37:37 PM 10/19/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_X700_SRHillTop.dgn



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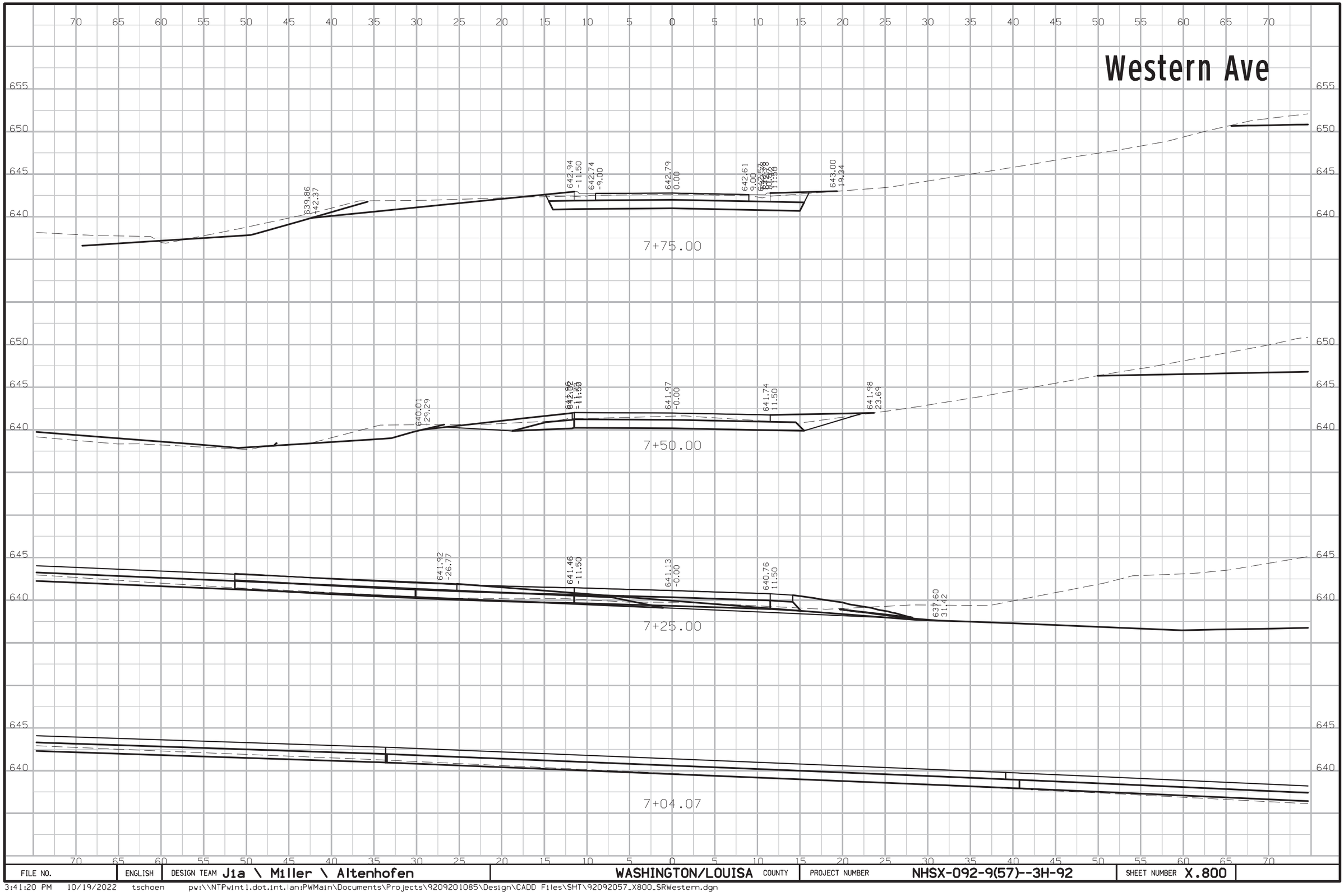
Western Ave



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.800

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Western Access

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

590

588.96 -28.66 | 588.16 -23.46 | 588.16 -18.46 | 588.16 -13.46 | 590.52 -14.00 | 590.60 -12.00 | 590.84 0.00 | 590.60 12.00 | 590.52 14.00 | 589.16 19.44 | 587.62 34.91 | 590.77 69.98

1+00.00

590

591.03 -11.99 | 591.27 0.01 | 591.13 12.01

0+75.00

590

Prop "C" Ent

0+67.62

595 590

591.53 -11.99 | 591.77 0.01 | 591.78 12.01

0+50.00

595 590

592.04 -11.99 | 592.27 0.01 | 592.43 12.01

0+25.00

595 590

592.18 -11.97 | 592.39 0.03 | 592.60 12.03

585

0+17.77

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.900

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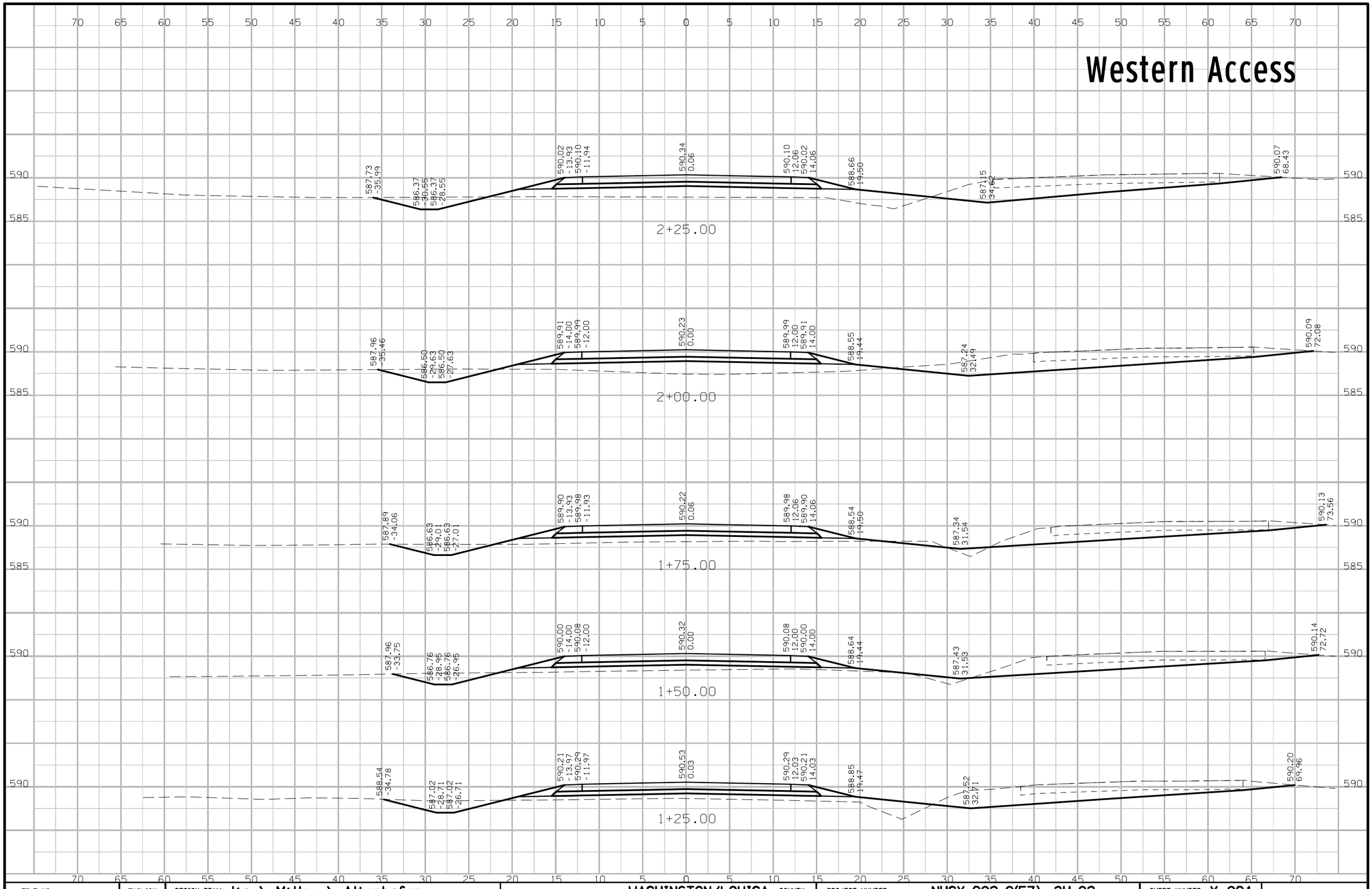
Western Access



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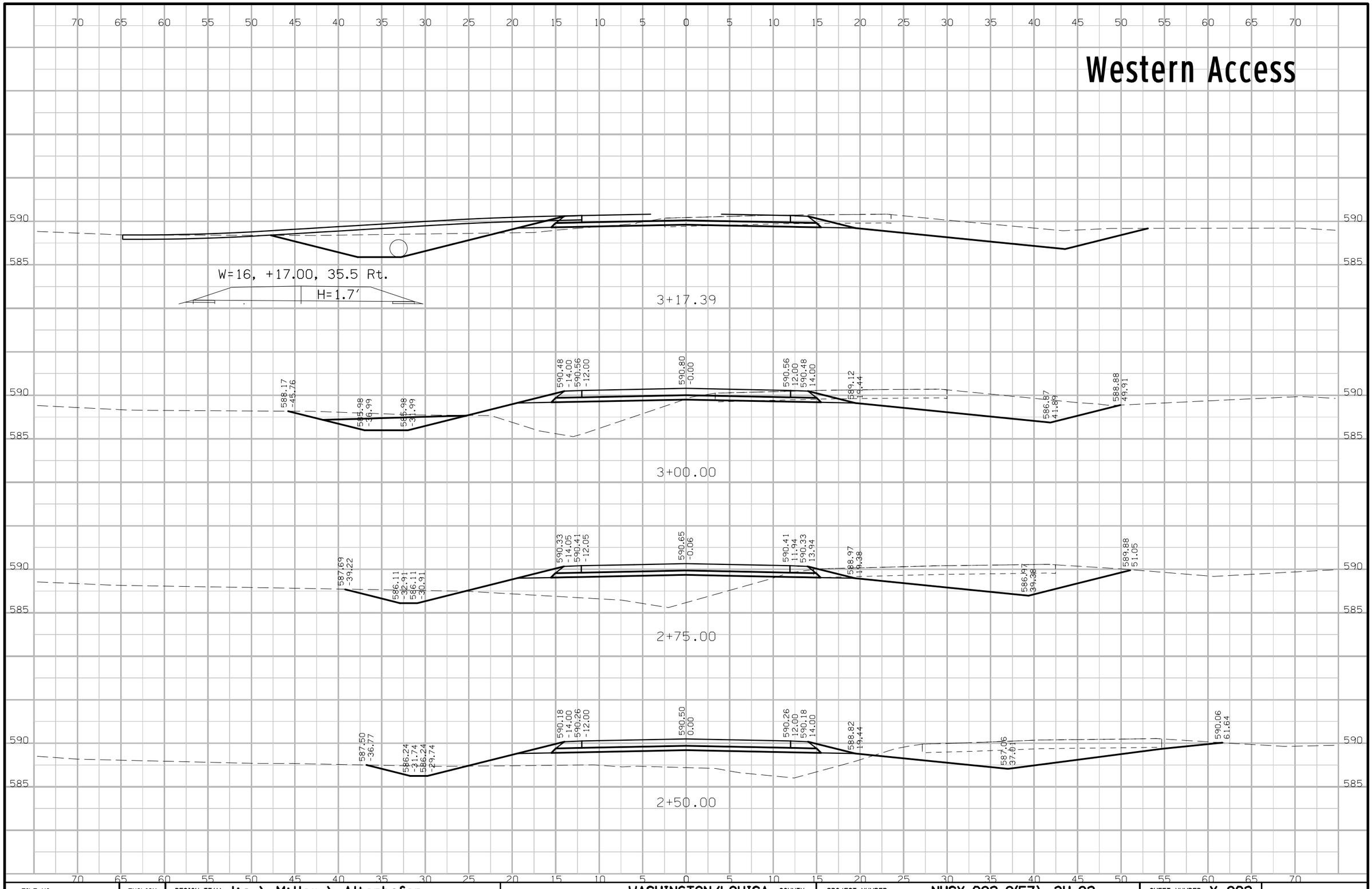

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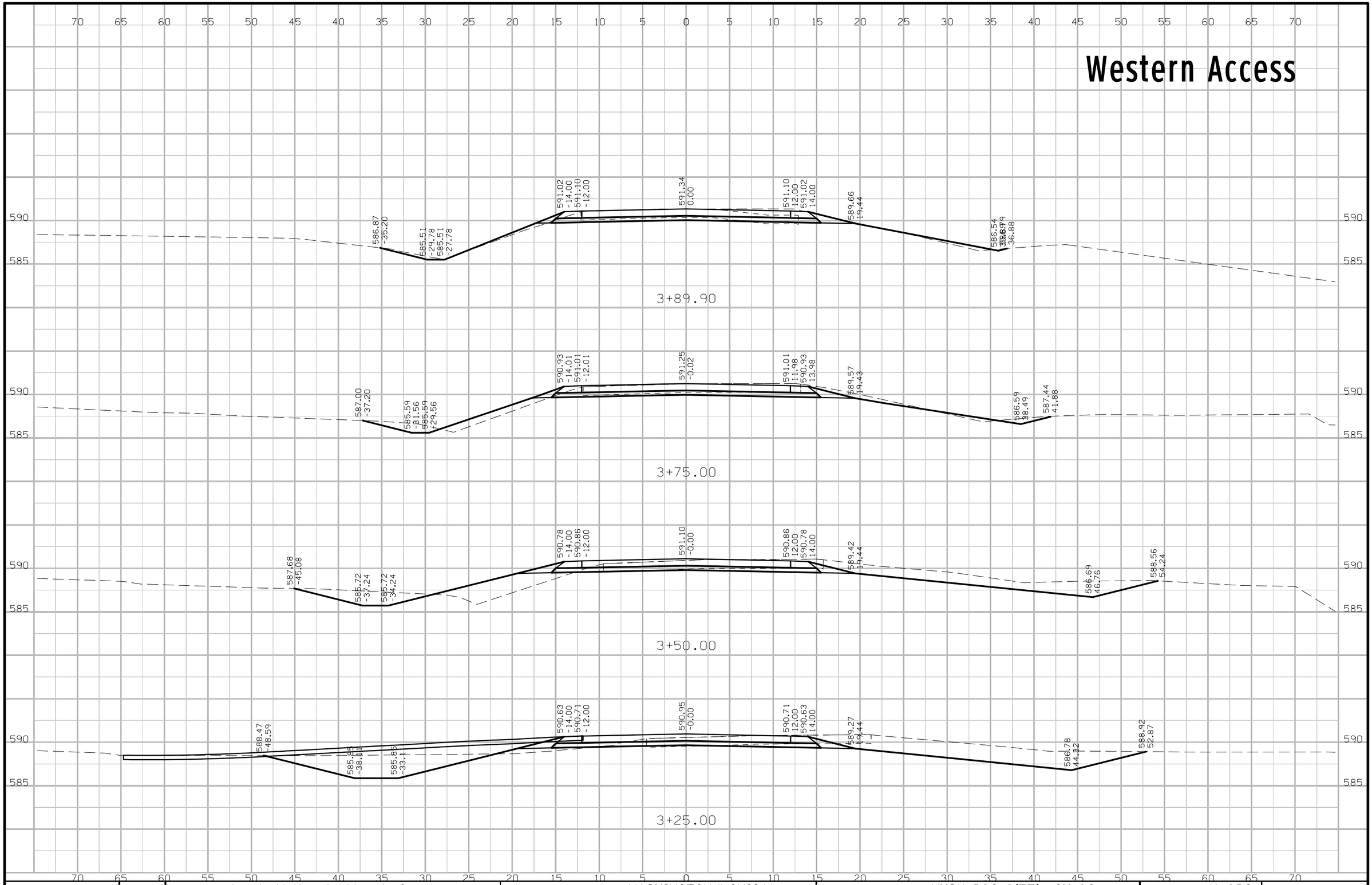

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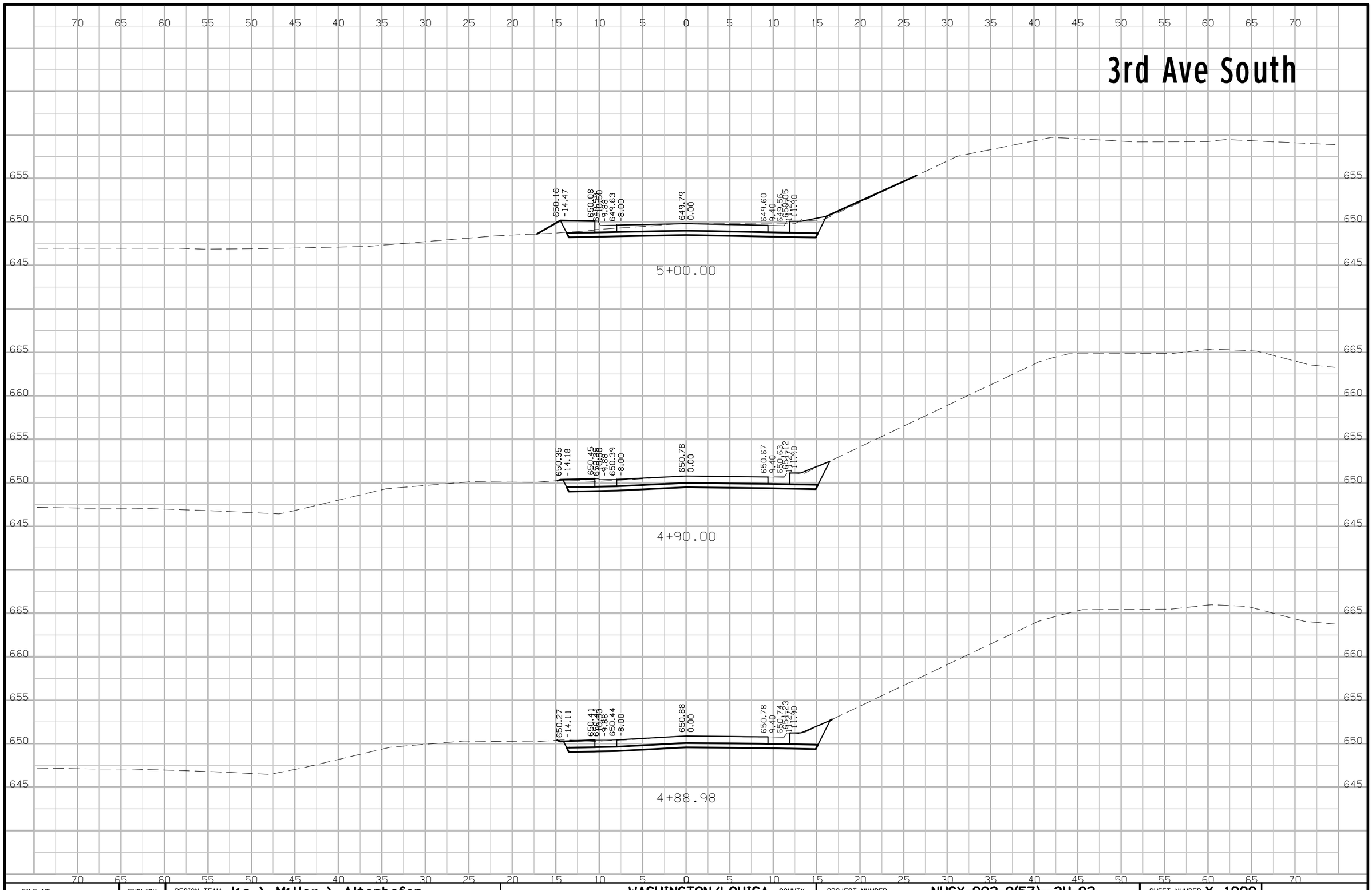
3rd Ave South



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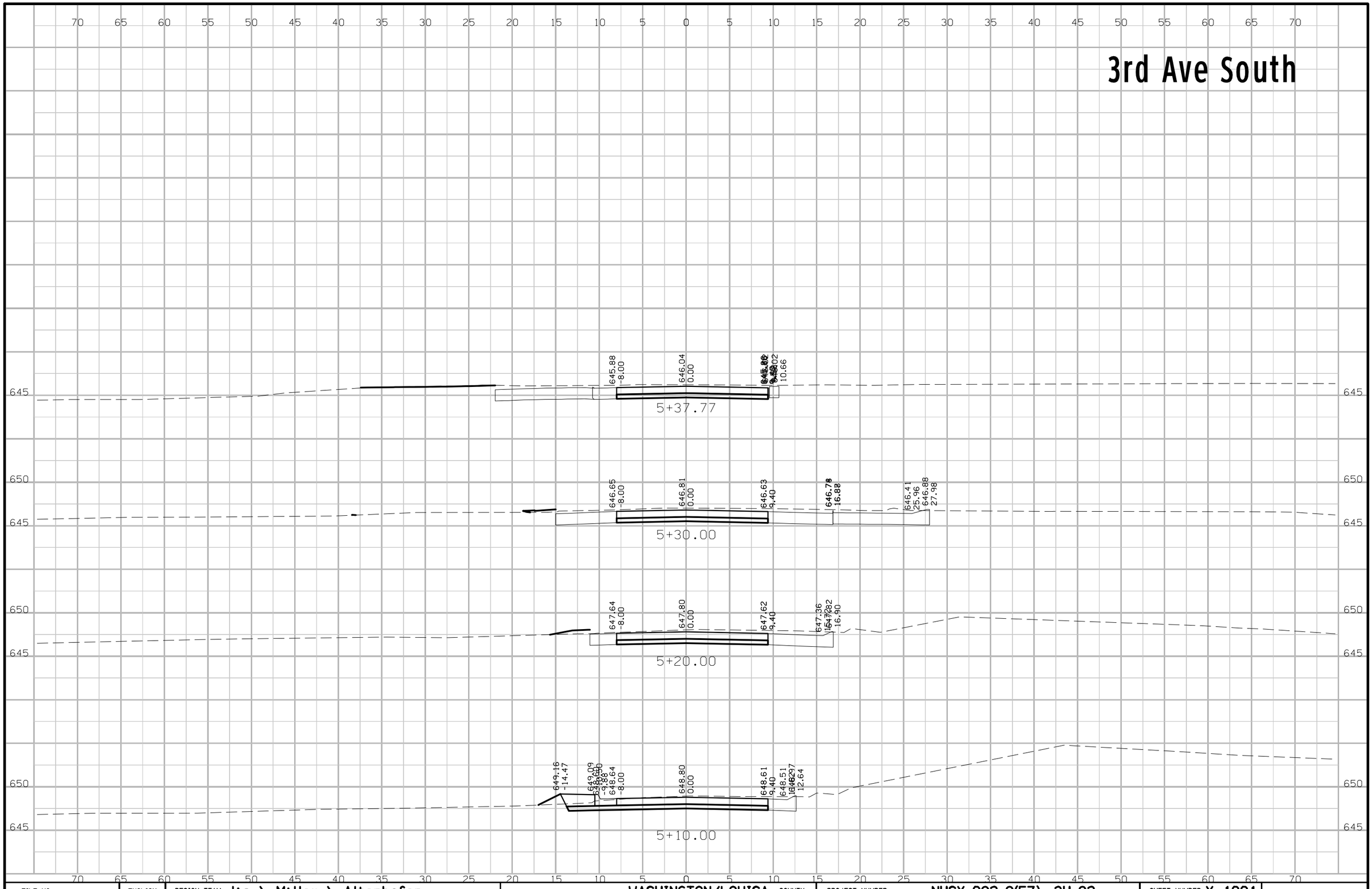
3rd Ave South



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3rd Ave North

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

650
645

0+30.00

0+20.00

650
645

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER X.1002

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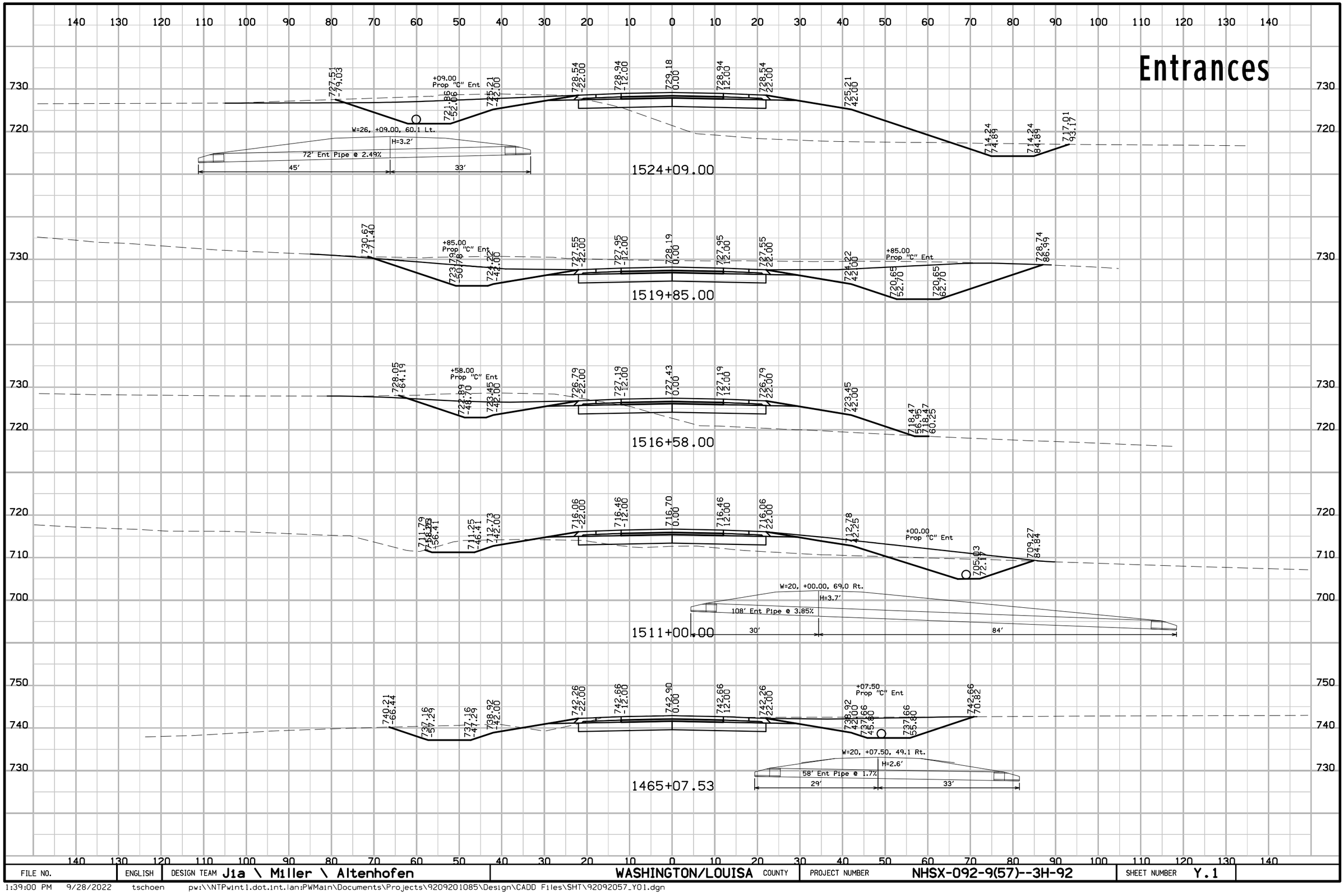
Entrances



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Y.1

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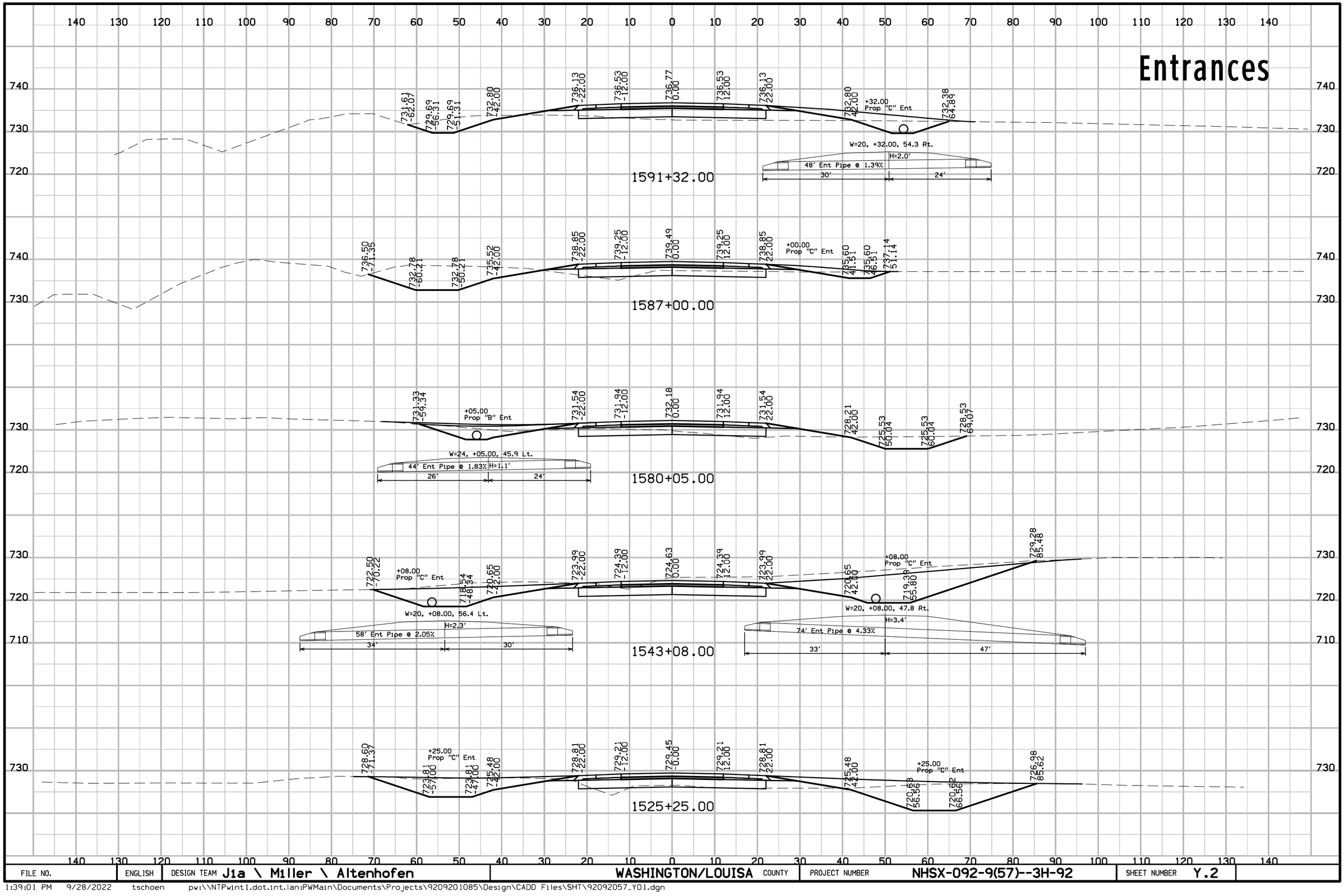

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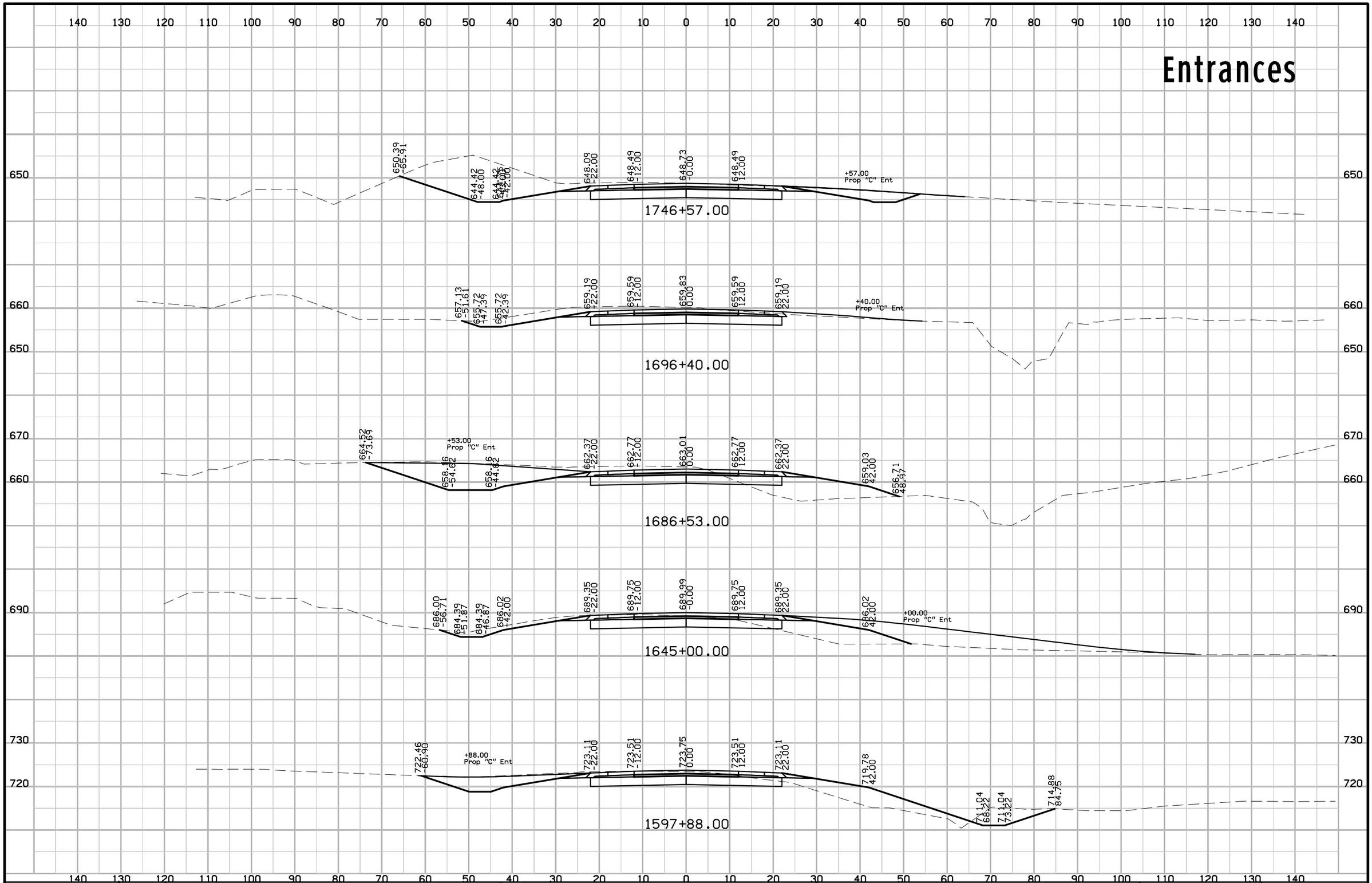

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Y.3

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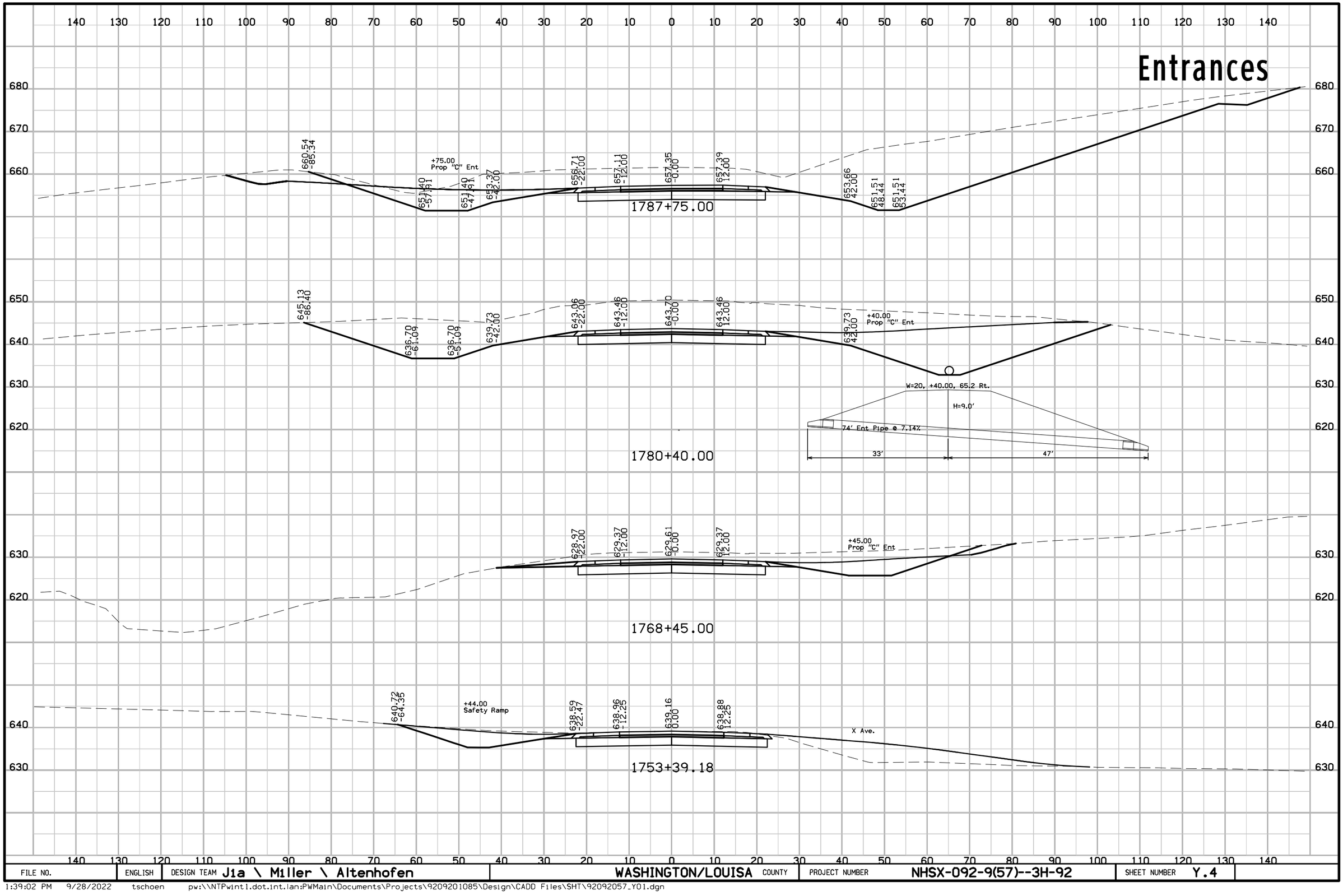

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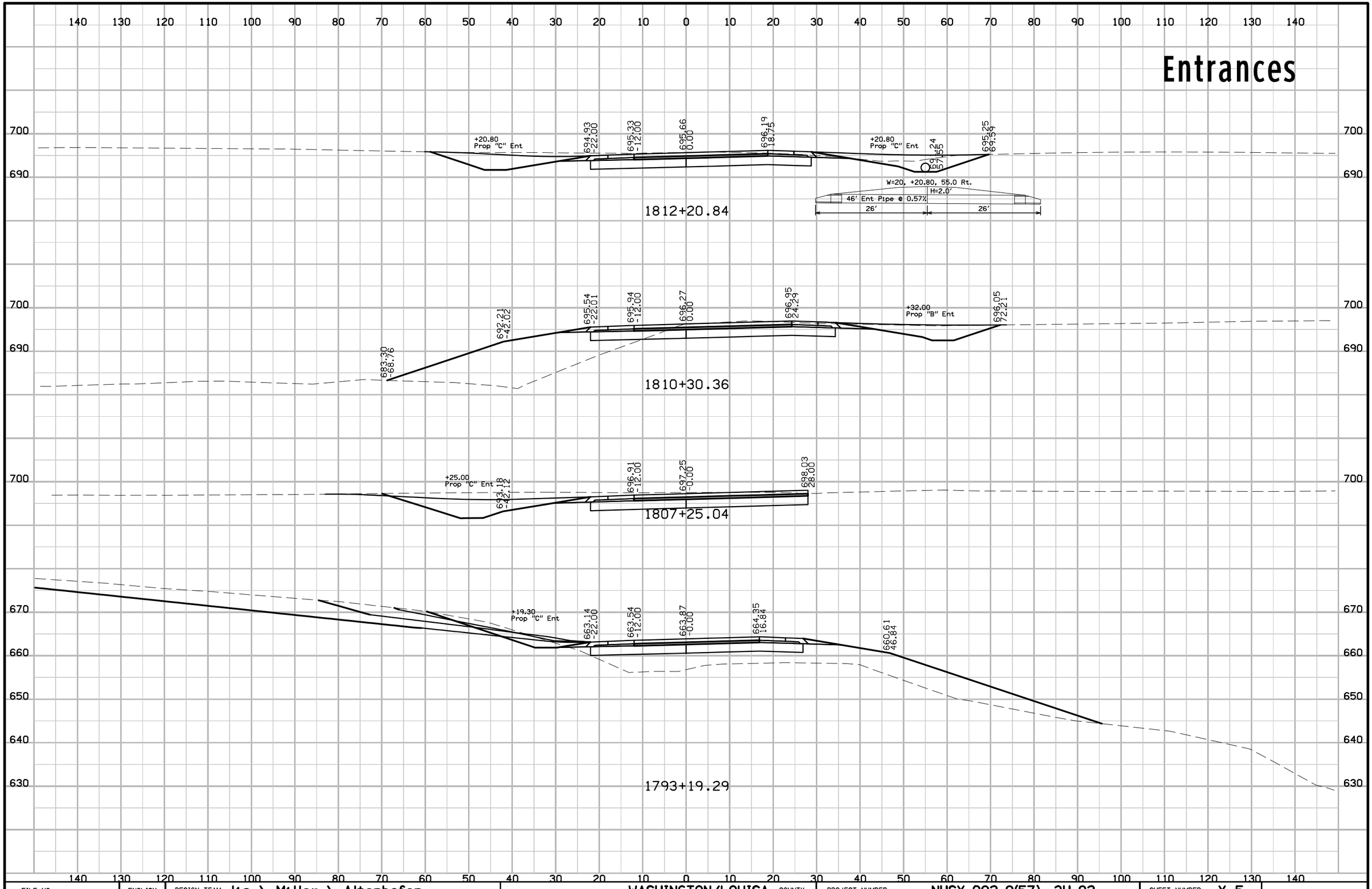

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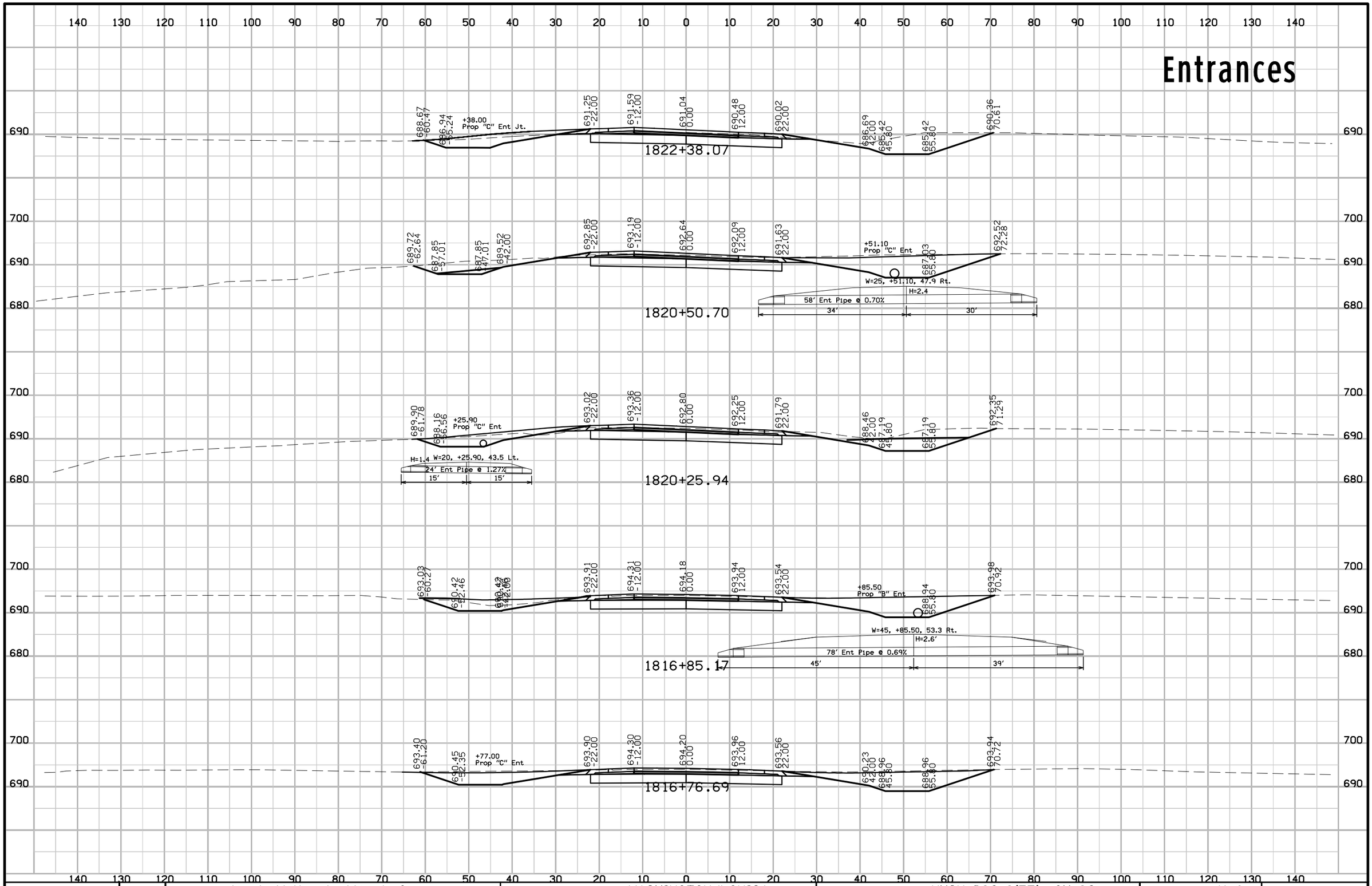

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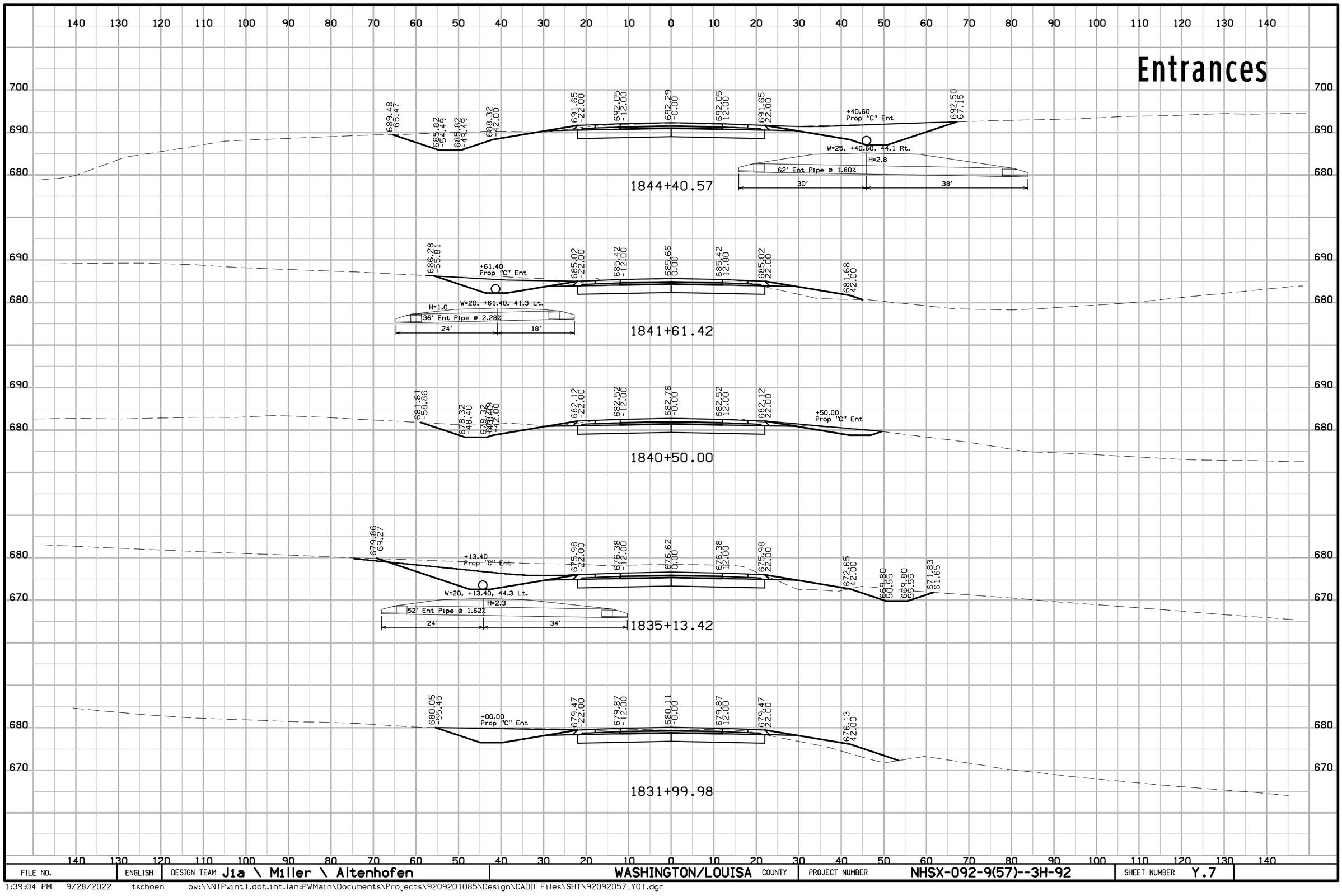

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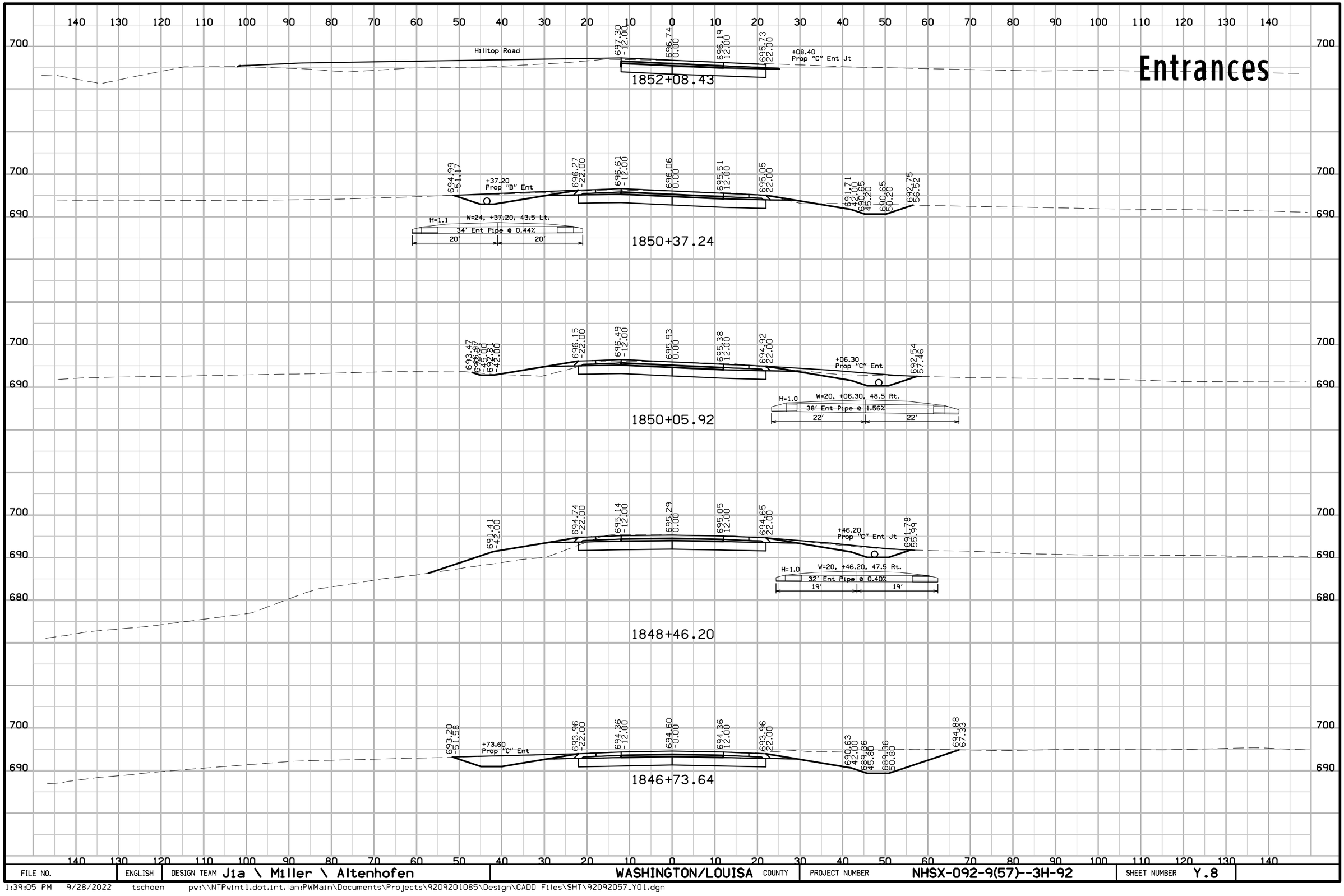

FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Y.8

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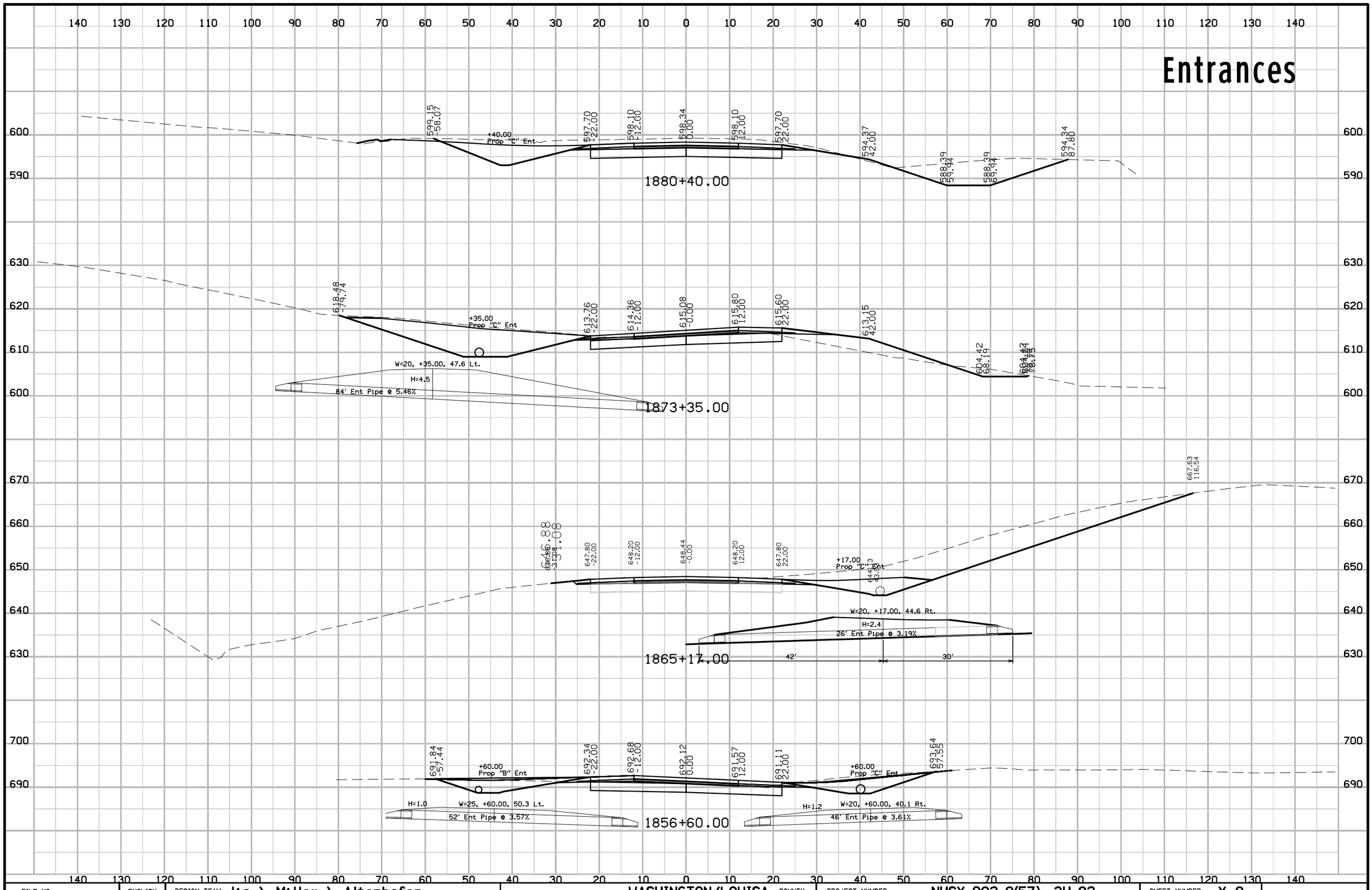

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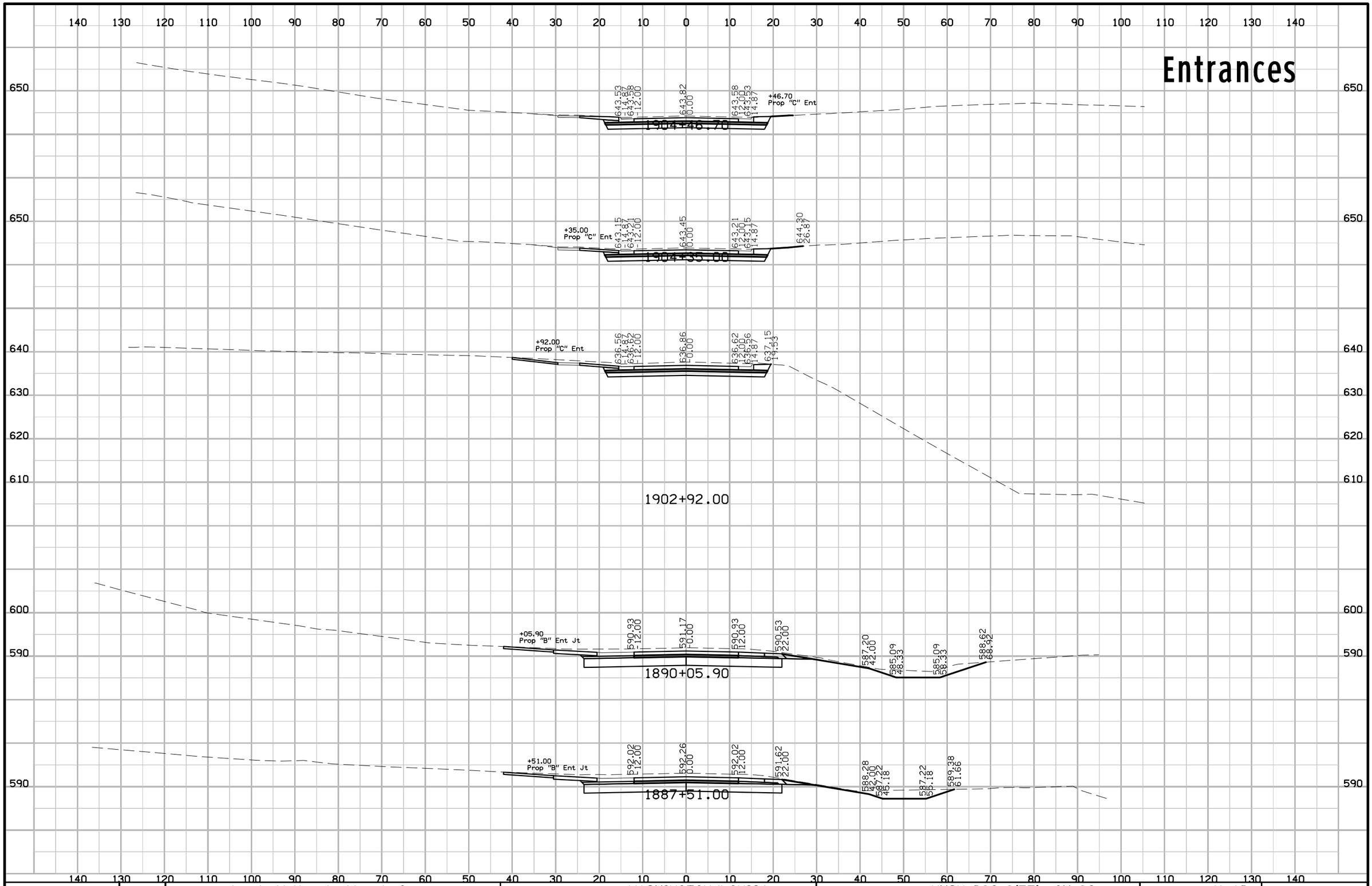

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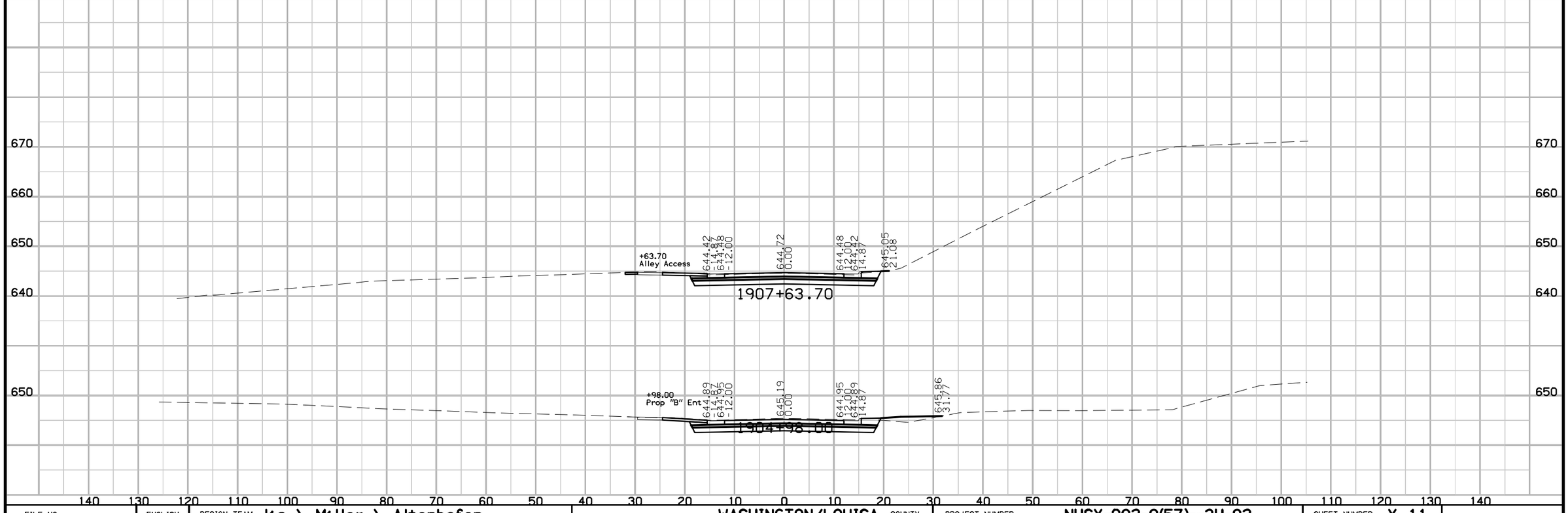

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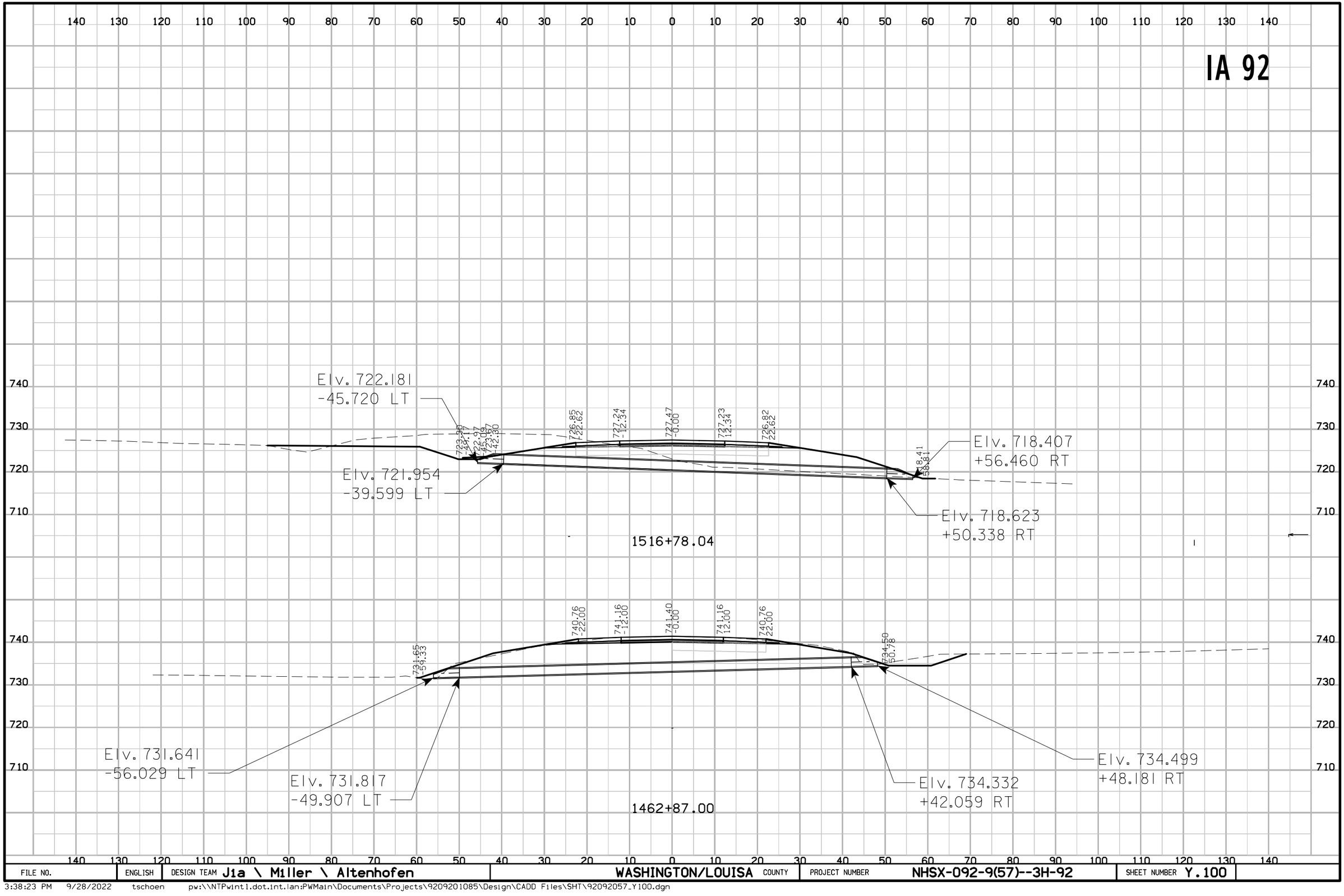
IA 92



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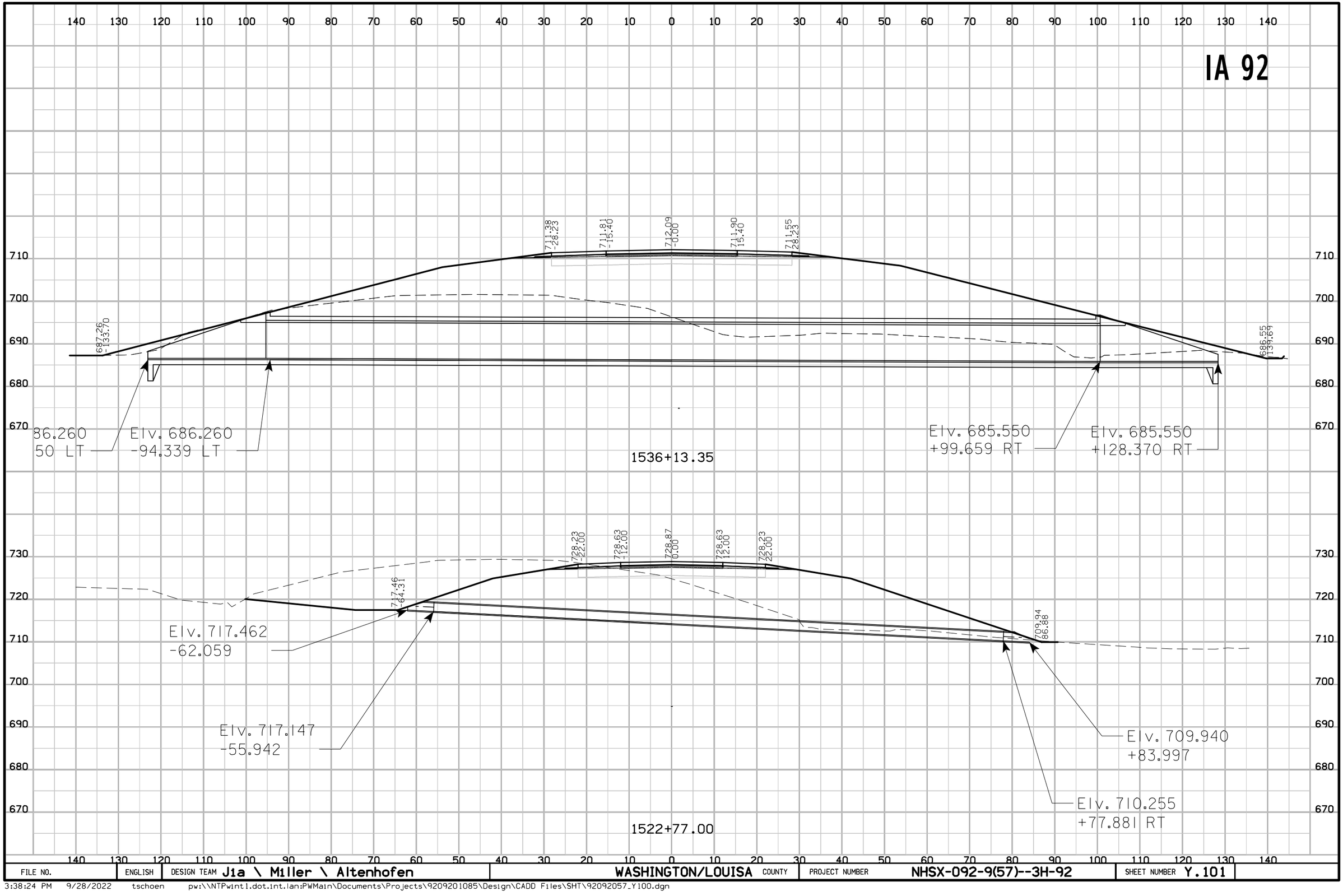
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Y.101

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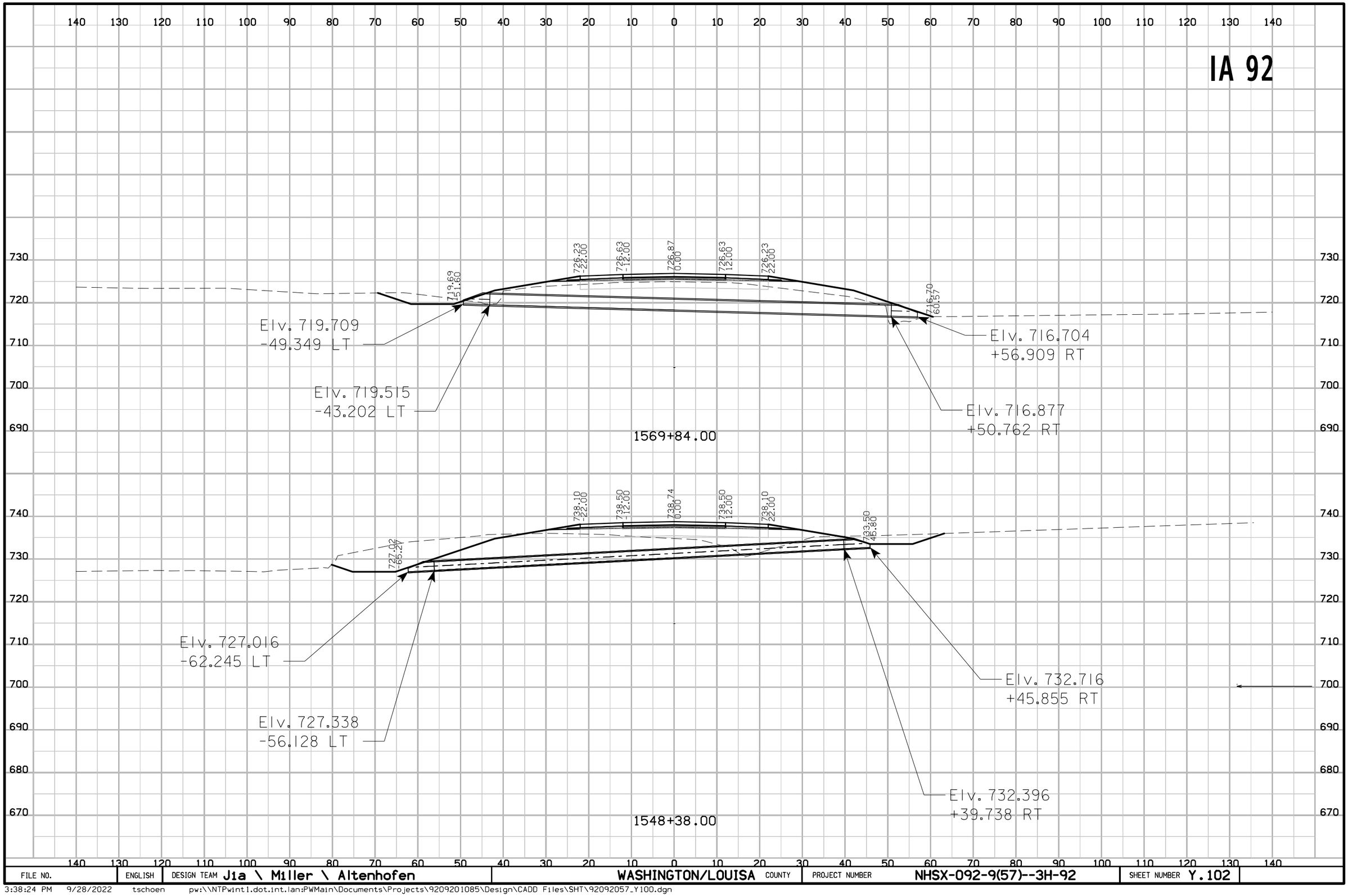
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Y.102

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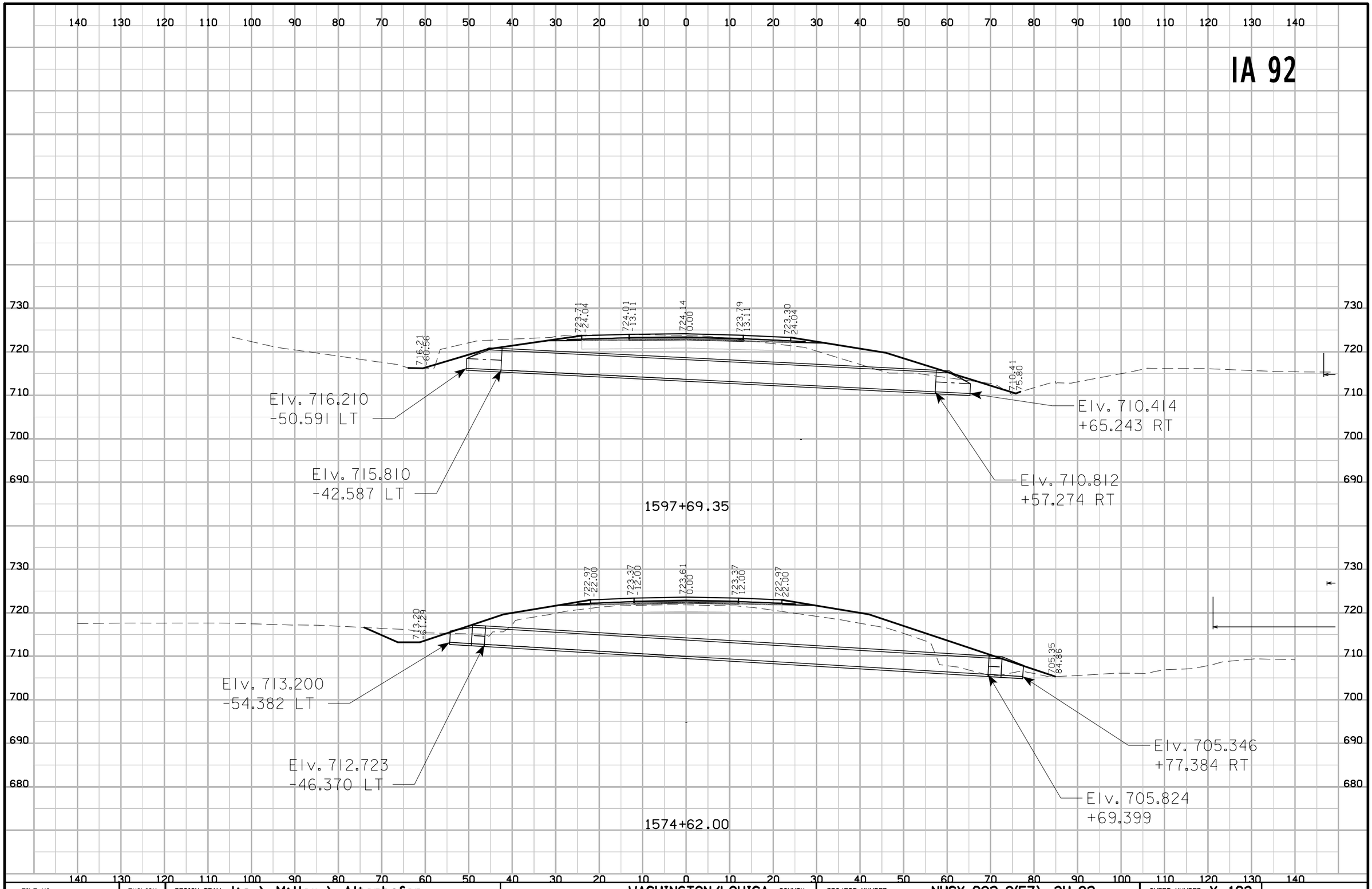
IA 92



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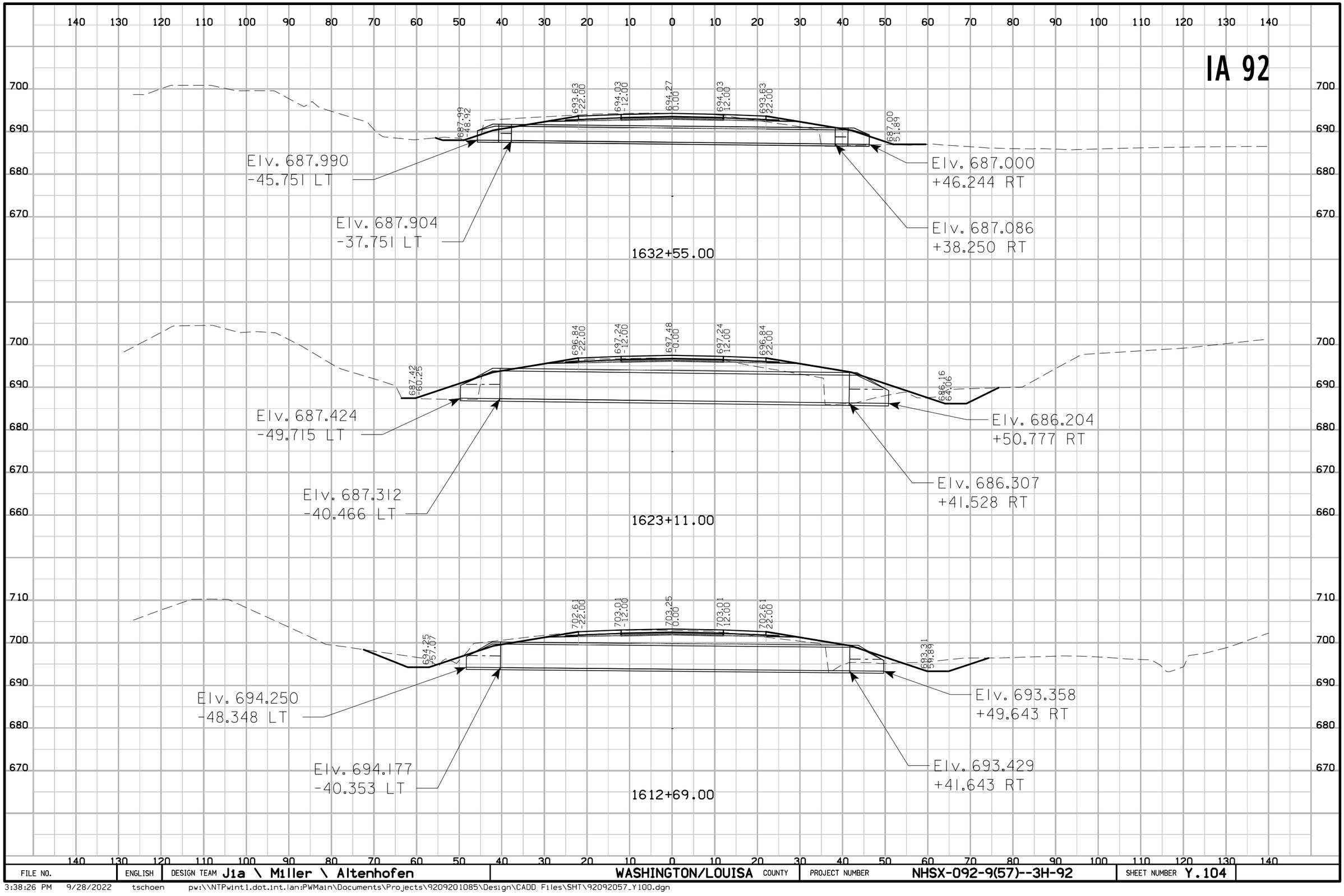
IA 92



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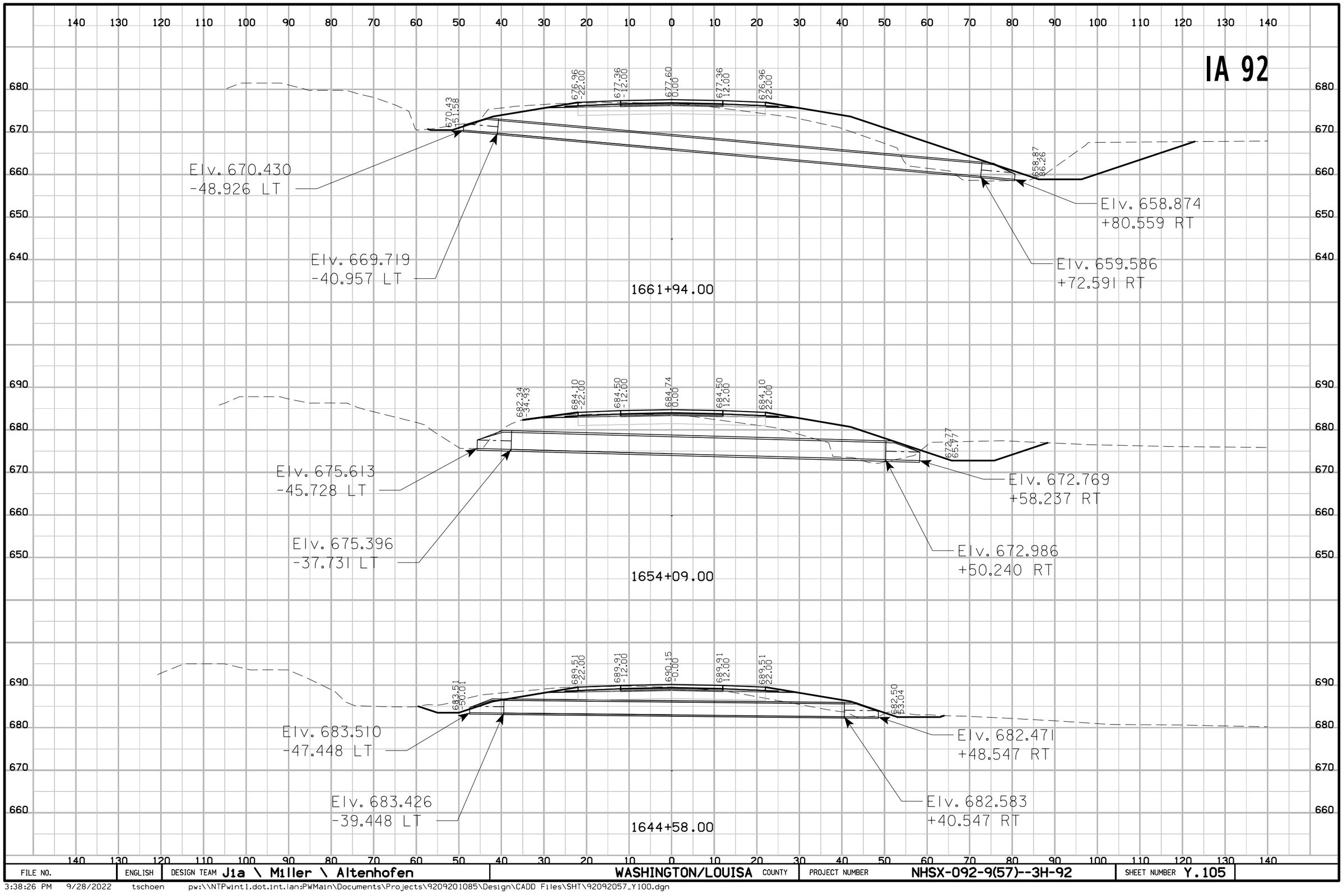
IA 92



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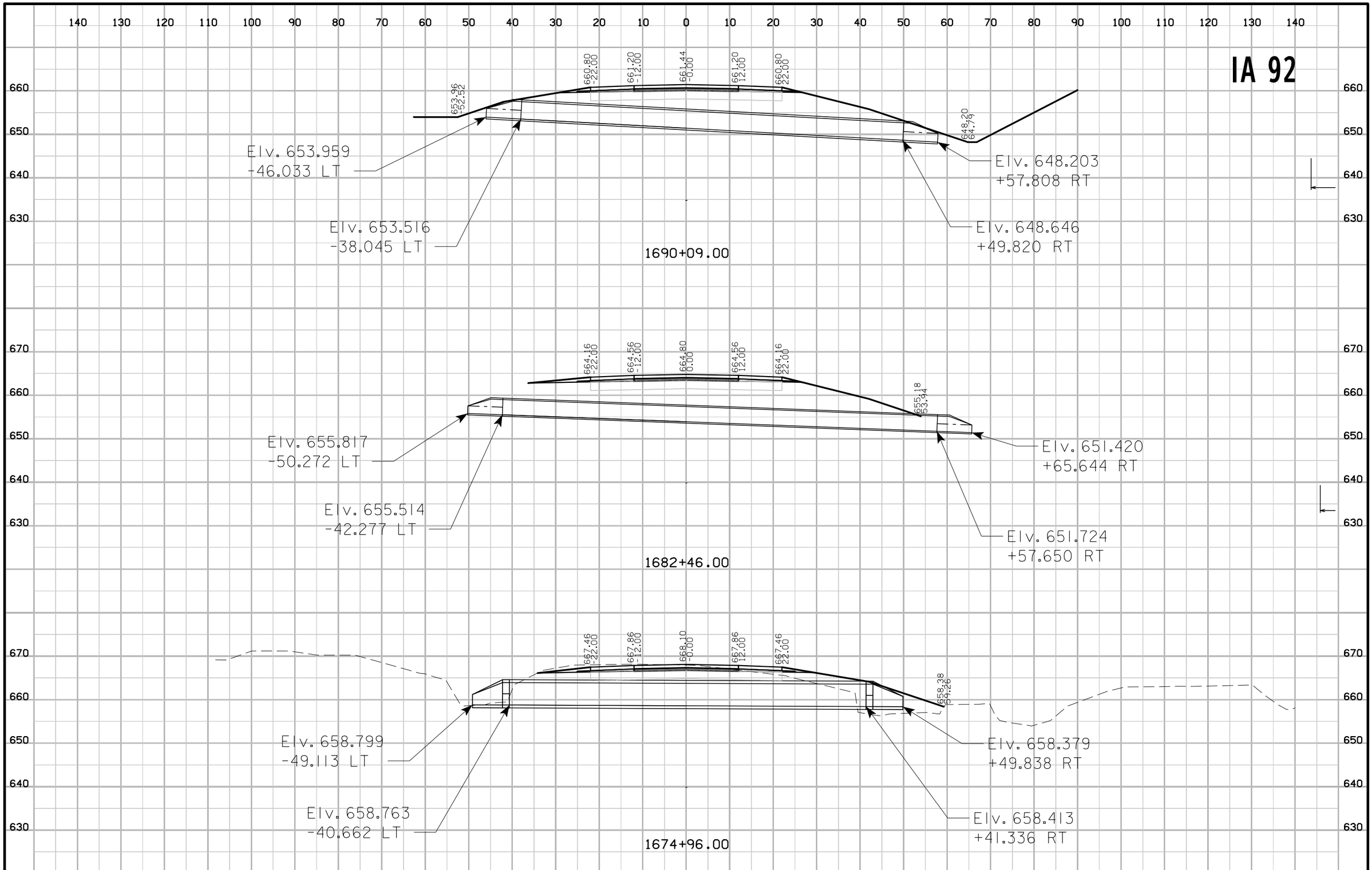
IA 92



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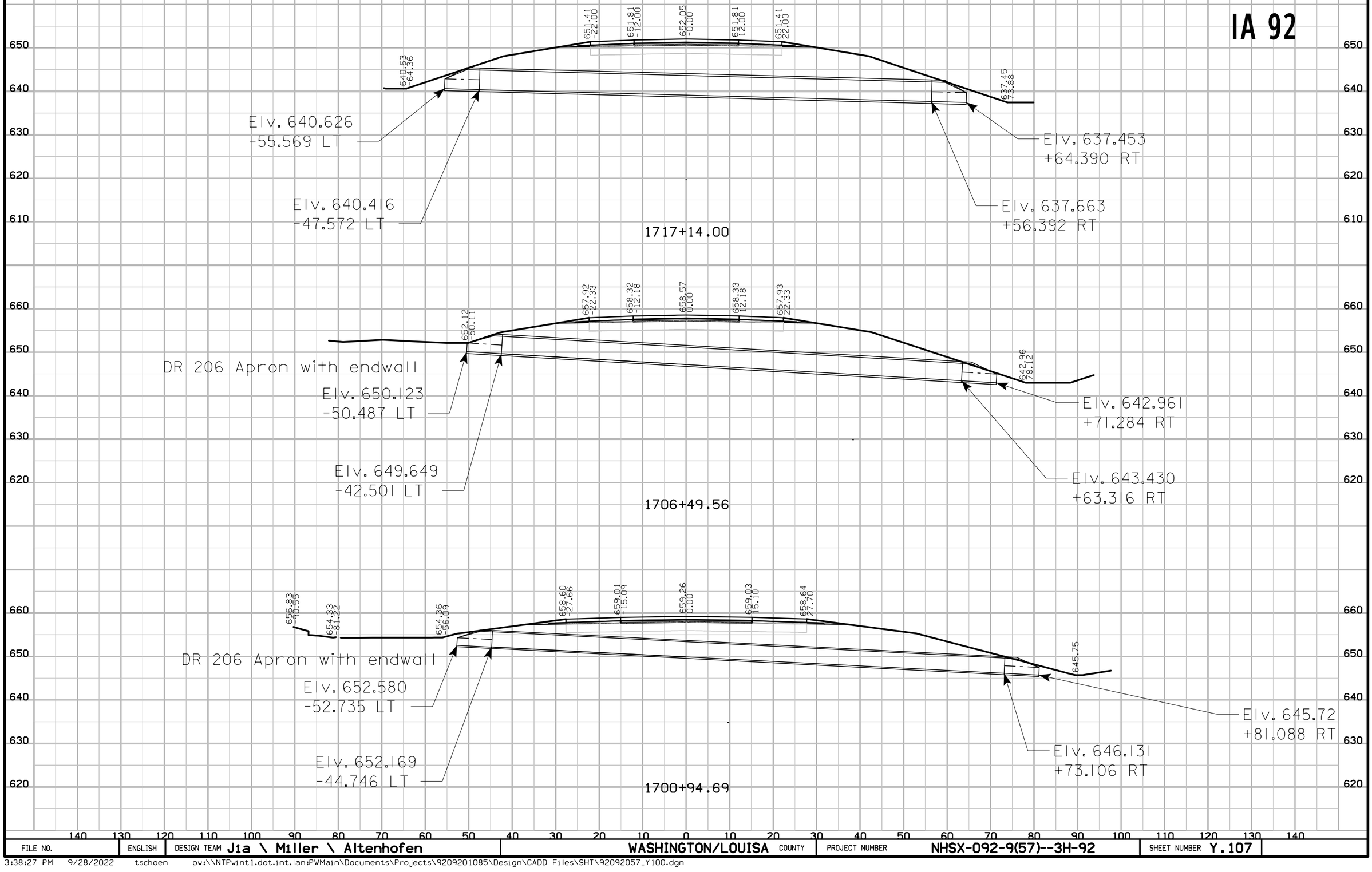
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Y.107

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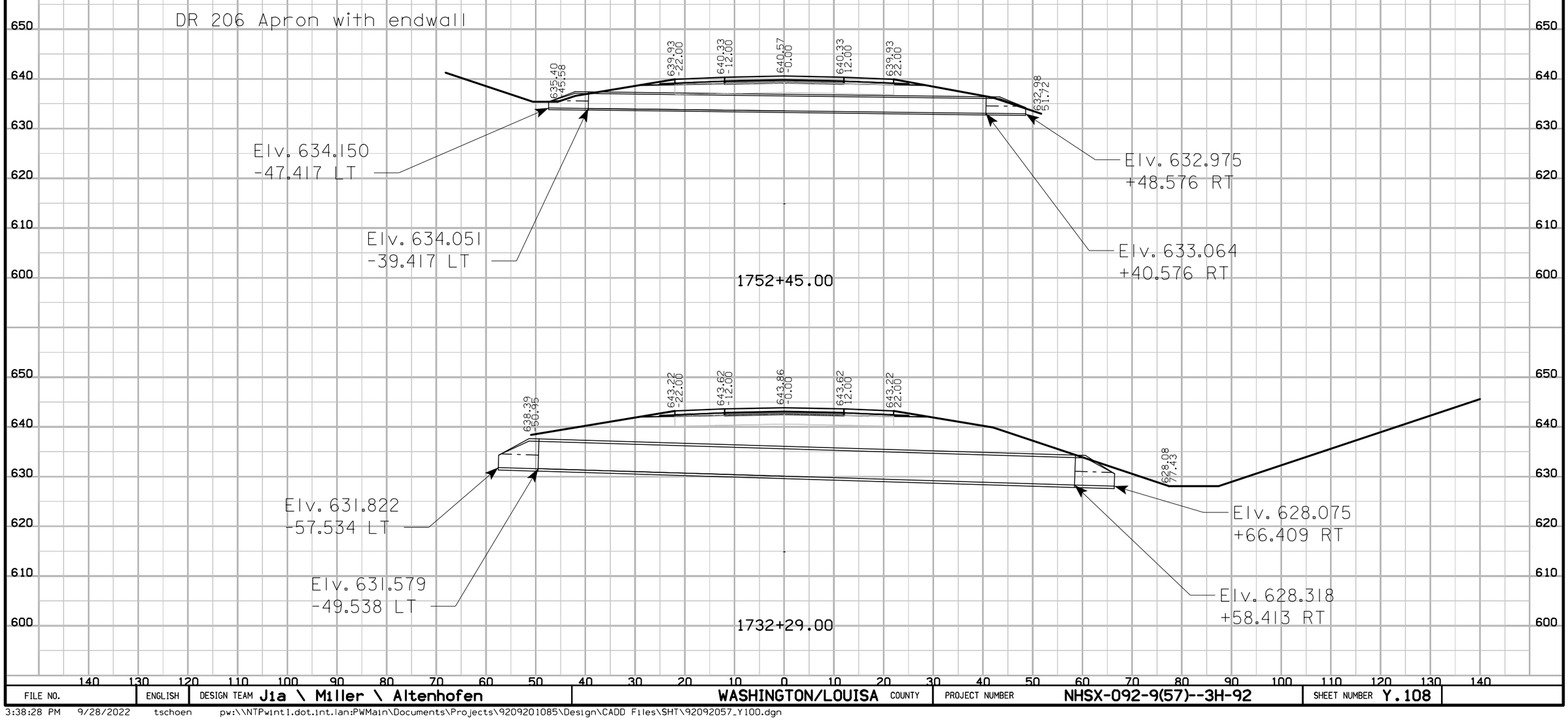
IA 92

DR 206 Apron with endwall



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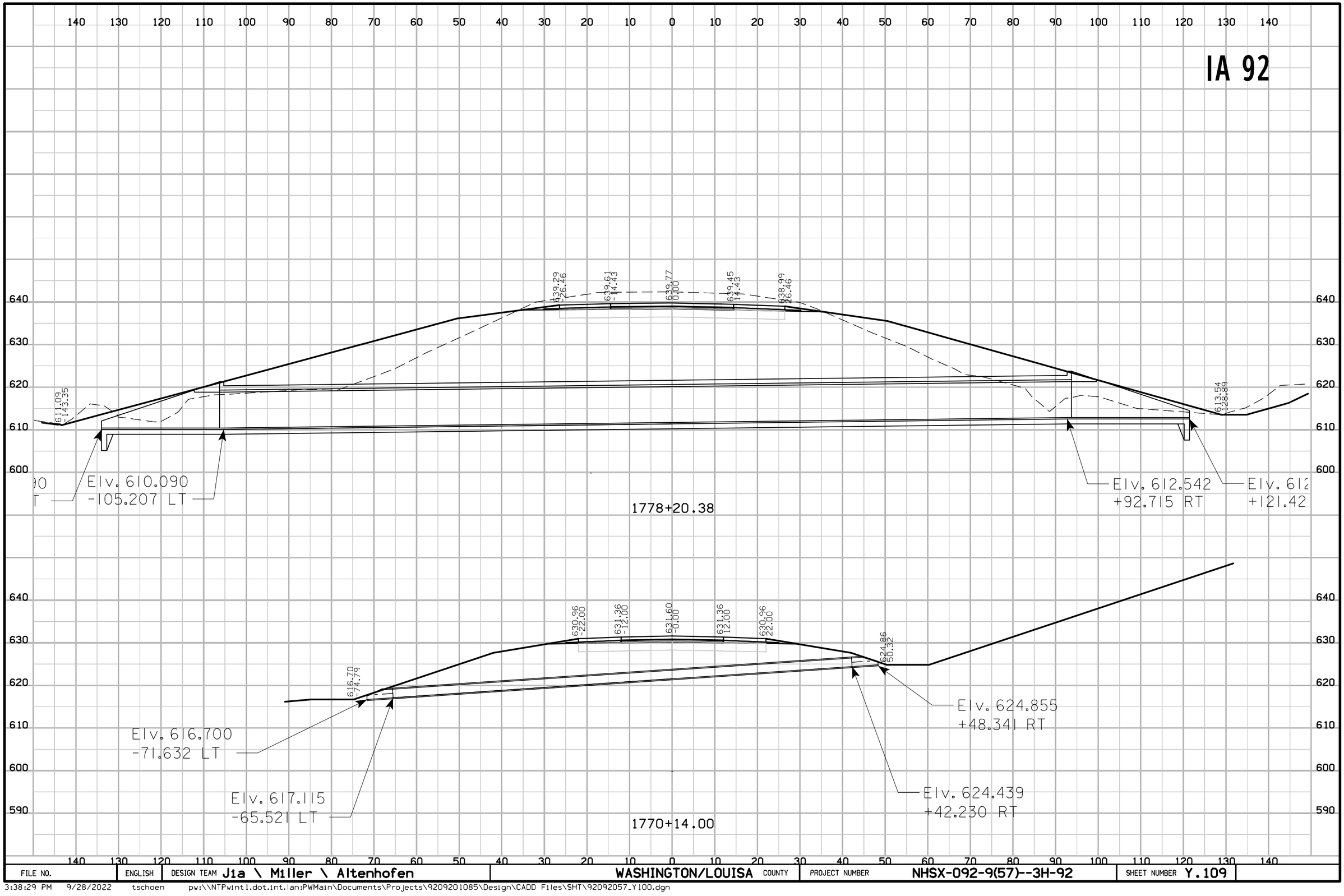
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Y.109

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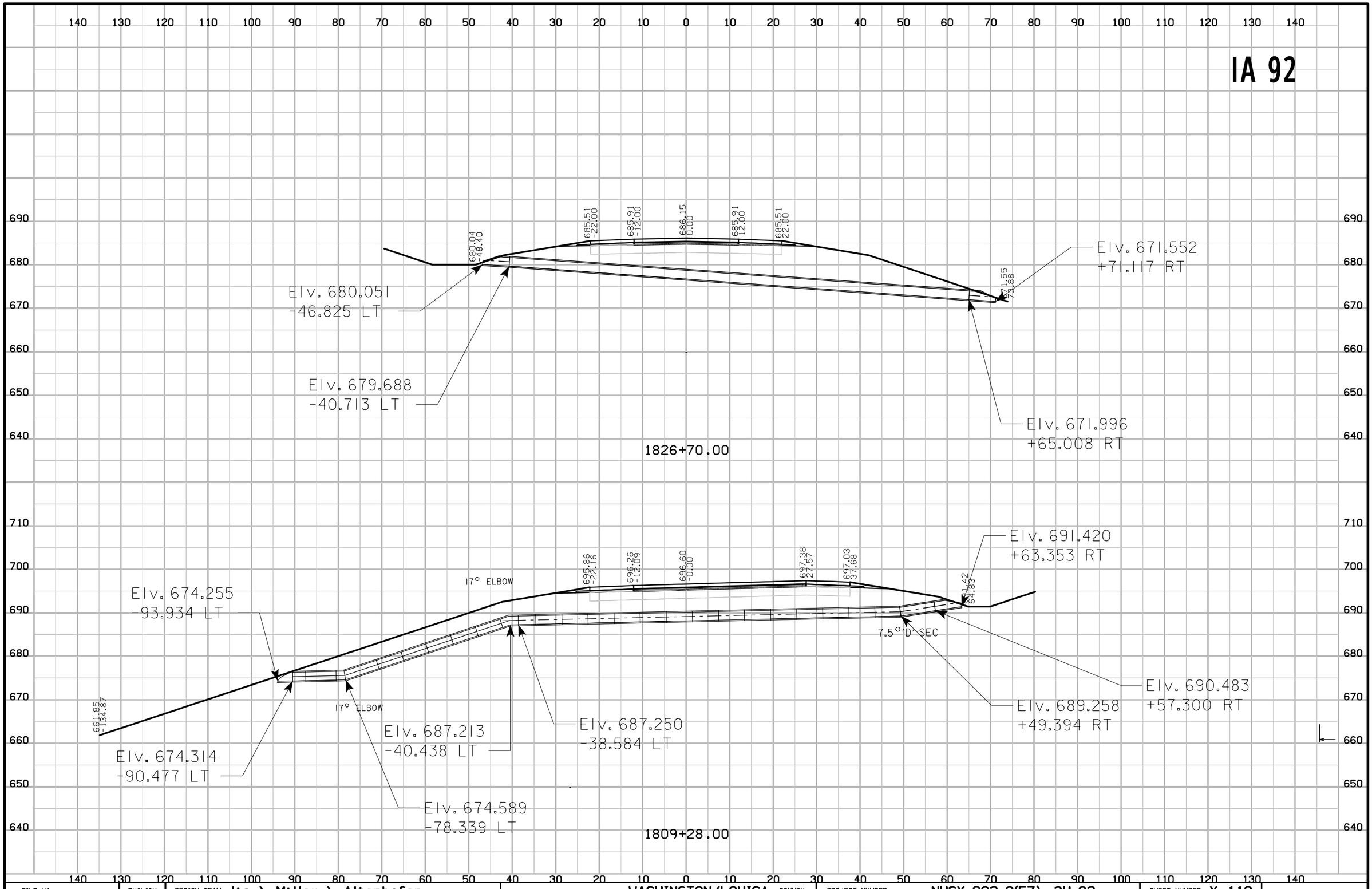
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Y.110

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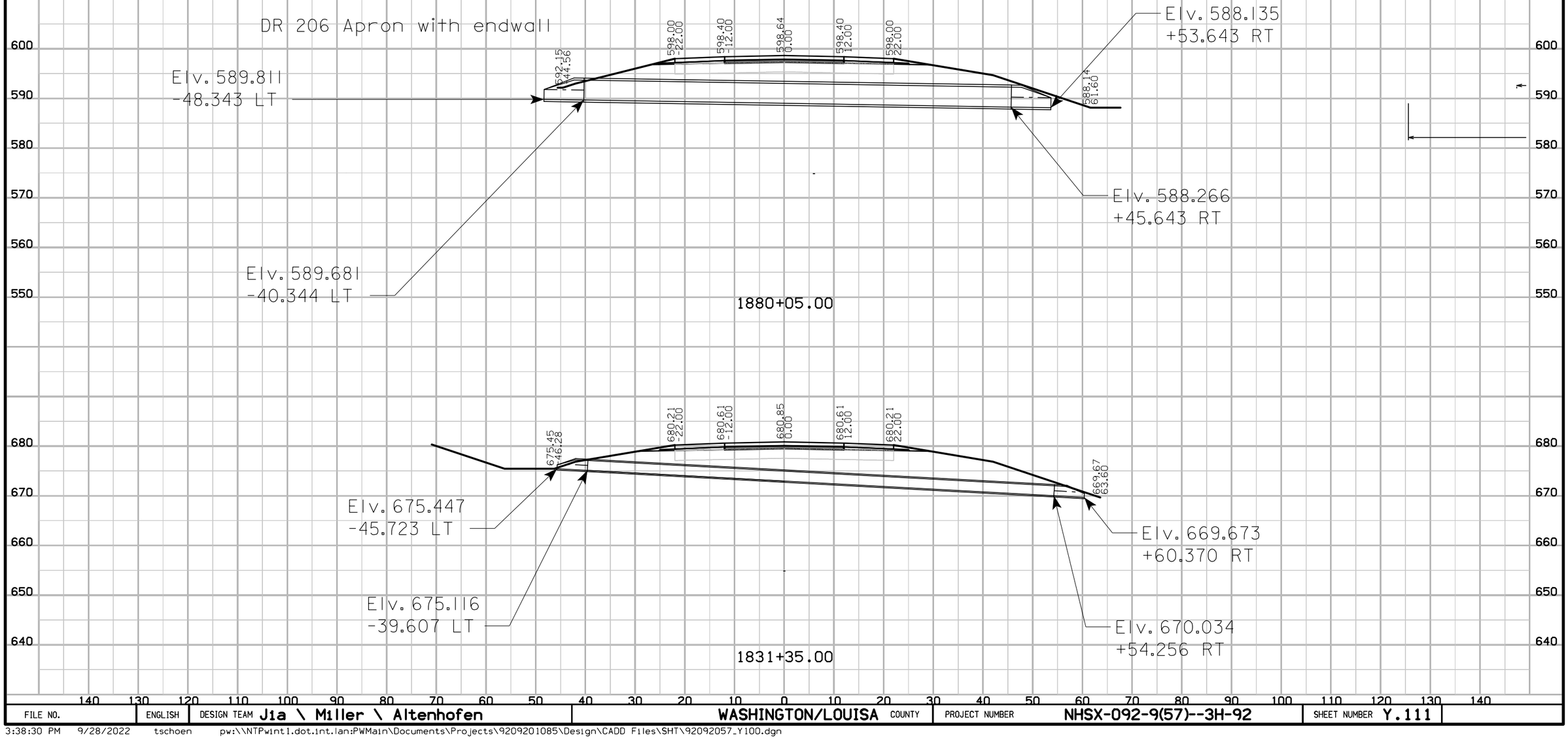
IA 92

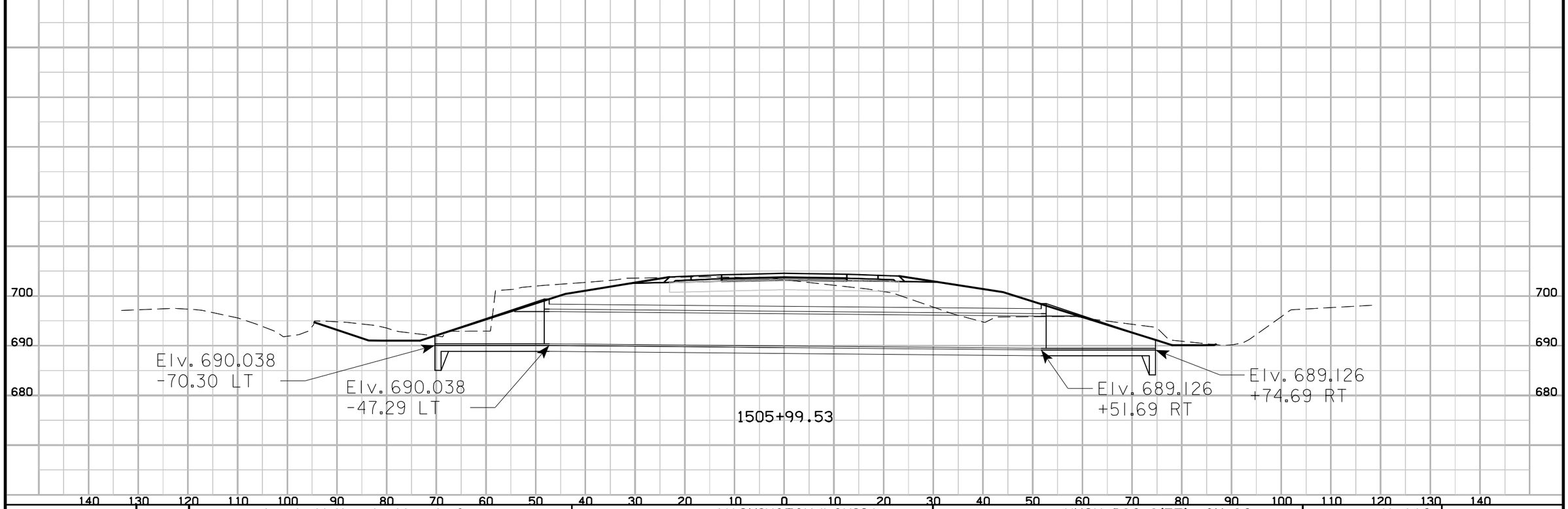
DR 206 Apron with endwall



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Y.111

3:38:30 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_Y100.dgn

IA 92



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Y.112

3:38:30 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_Y100.dgn

IA 92

1866+46.86

Elv. 657.367
-80.909 LT

Elv. 657.225
-74.786 LT

17° ELBOW

17° ELBOW

Elv. 654.173
+59.179 RT

Elv. 654.136
+61.033 RT

1794+50.26

1791+45.14

FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Y.113

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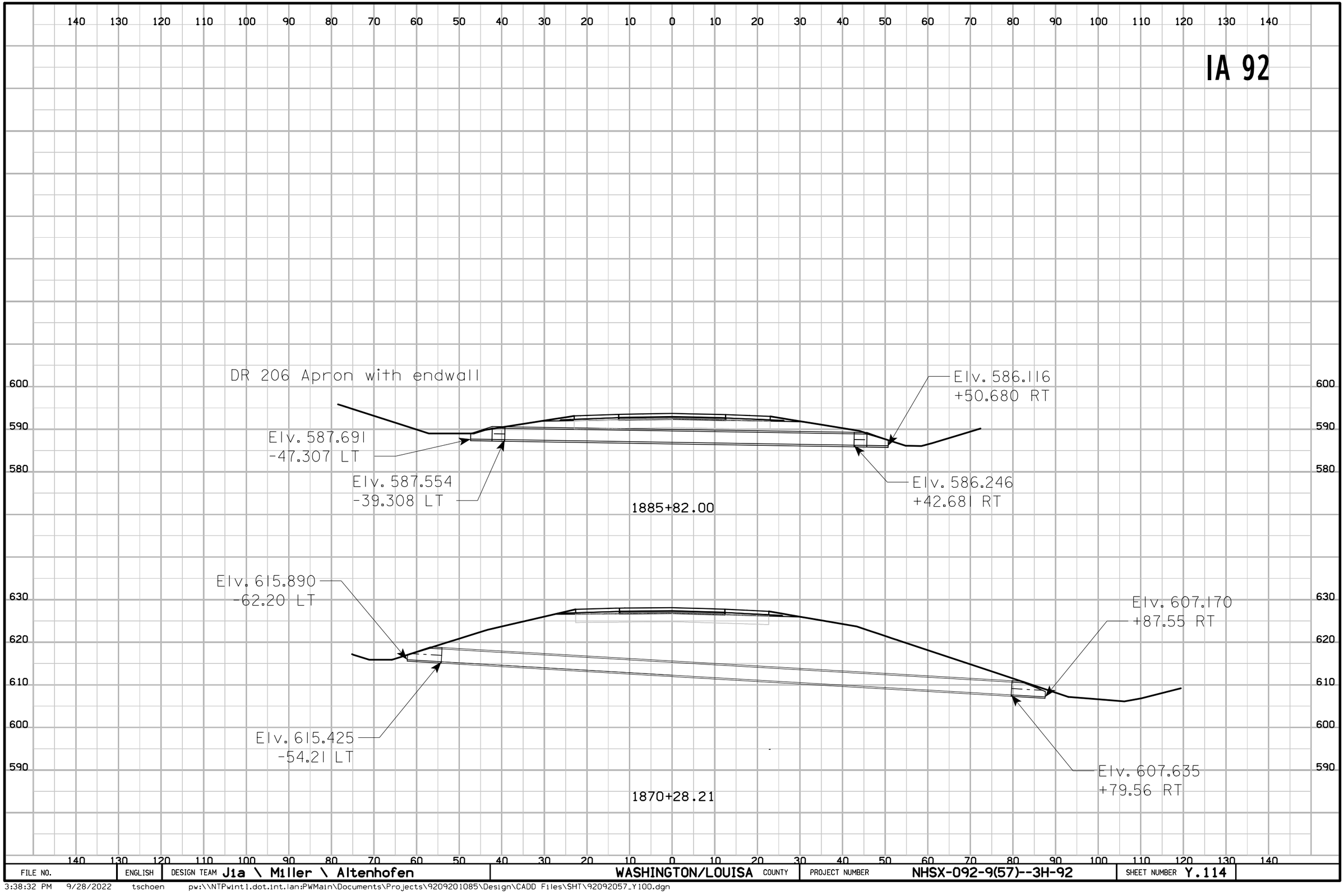
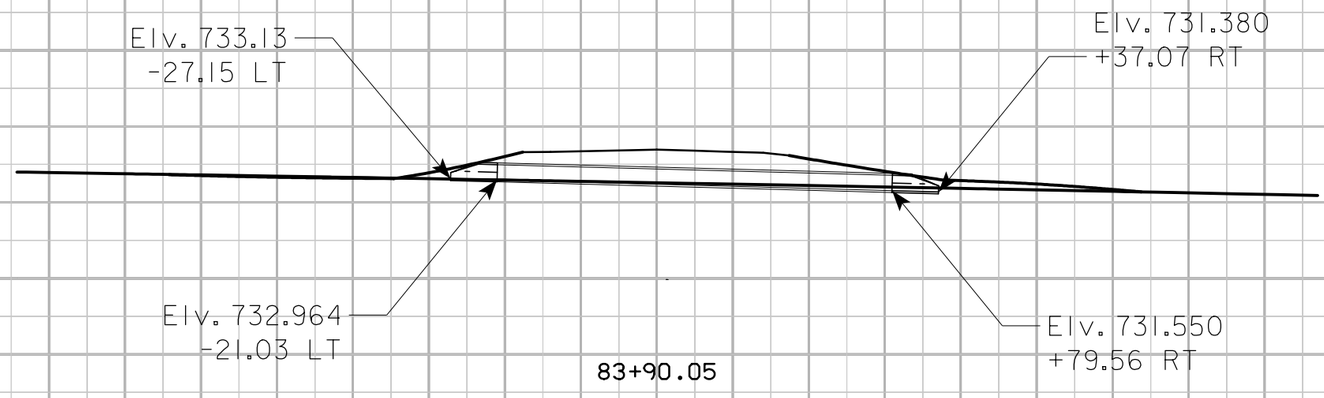
IA 92



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Y.114

3:38:32 PM 9/28/2022 tschoen pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_Y100.dgn

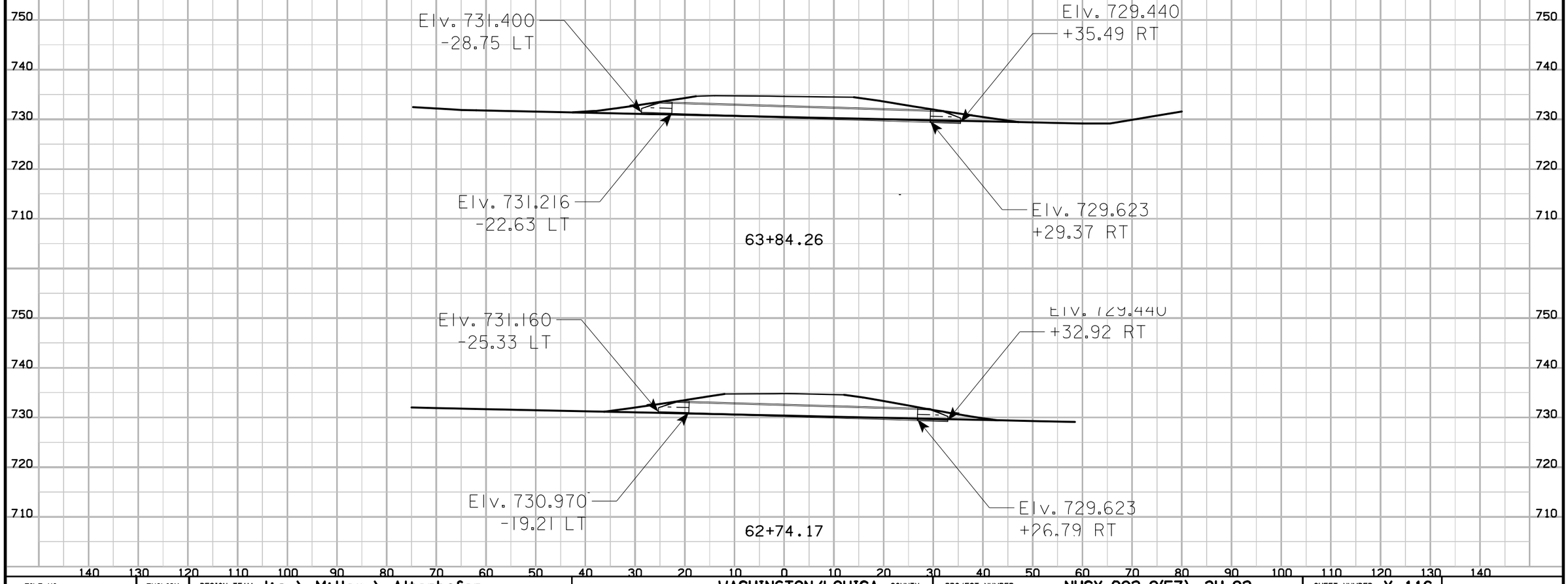
Yucca Ave.



FILE NO.	ENGLISH	DESIGN TEAM J1a \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Y.115

3:38:32 PM 9/28/2022 tschoen pw:\\NTPwintl.dot.int.lan:PWMain\Documents\Projects\9209201085\Design\CADD Files\SHT\92092057_Y100.dgn

County Line Road



FILE NO.	ENGLISH	DESIGN TEAM Jia \ Miller \ Altenhofen	WASHINGTON/LOUISA COUNTY	PROJECT NUMBER NHSX-092-9(57)--3H-92	SHEET NUMBER Y.116

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