

RHI
MAY 2017

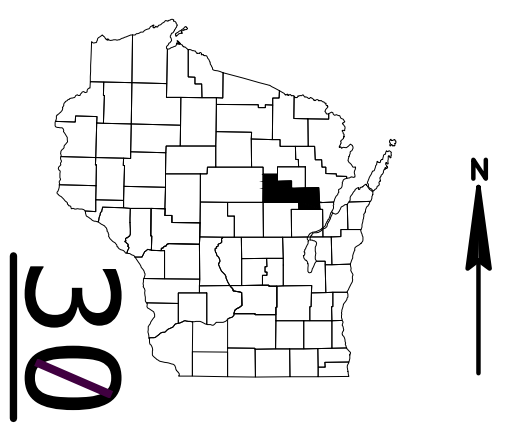
PROJECT ID: 1600-22-71

COUNTY: SHAWANO

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS = 108



DESIGN DESIGNATION

A.A.D.T.	2012	=	3100
A.A.D.T.	2030	=	3900
D.H.V.		=	10.1
D.D.		=	61/39
T.		=	6.5%
DESIGN SPEED		=	60 MPH
ESALS		=	1,190,000

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	
EXISTING RIGHT OF WAY		GRADE ELEVATION	
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE		ELECTRIC	
EXISTING CULVERT		FIBER OPTIC	
PROPOSED CULVERT (Box or Pipe)		GAS	
COMBUSTIBLE FLUIDS		SANITARY SEWER	
		STORM SEWER	
MARSH AREA		TELEPHONE	
		WATER	
WOODED OR SHRUB AREA		UTILITY PEDESTAL	
		POWER POLE	
		TELEPHONE POLE	

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CLINTONVILLE - WITTENBERG

GOLLNOW ROAD TO MENZEL ROAD

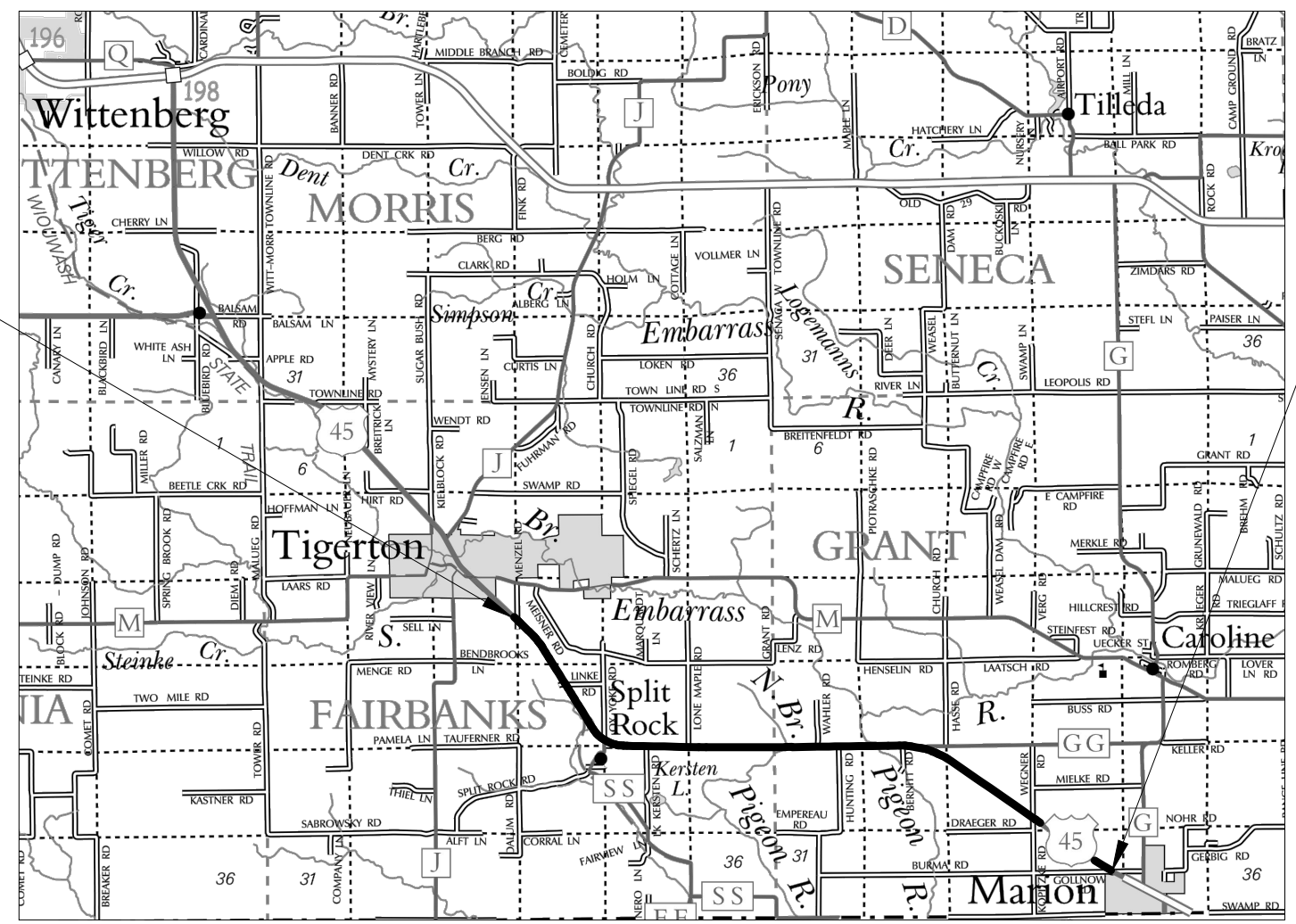
USH 45

SHAWANO COUNTY

STATE PROJECT NUMBER

1600-22-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1600-22-71	WISC 2017285	1



END PROJECT
STA 1003+24

BEGIN PROJECT
STA 565+00

LAYOUT

SCALE 0 2 MILE

TOTAL NET LENGTH OF CENTERLINE = 8.30

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, SHAWANO COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NORTH AMERICA VERTICAL DATUM OF NAVD88 (2012).

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SURVEYOR
Designer	CHAD P. BLUMENSCHNEIN
Project Manager	JIM L. VOLKMAN
Regional Examiner	CHERYL L. SIMON
Regional Supervisor	MICHAEL WENDT

APPROVED FOR THE DEPARTMENT

DATE: 1/30/2017

(Signature)

P.E.

E

GENERAL NOTES

THE LOCATIONS OF EXISTING UTILITY FACILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

WHEN THE QUANTITY OF THE ITEMS BASE AGGREGATE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYERS SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY THEIR OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

UTILITY CONTACTS

ALLIANT ENERGY - ELECTRICITY
708 N.E. 7TH ST
MARION, WI 54950
KENT SMITH
(715) 754-4323 (WORK)
(715) 903-0201 (MOBILE)
KENTSMITH@ALLIANTENERGY.COM

ALLIANT ENERGY - GAS
708 N.E. 7TH ST
MARION, WI 54950
KENT SMITH
(715) 754-4323 (WORK)
(715) 903-0201 (MOBILE)
KENTSMITH@ALLIANTENERGY.COM

ATC MANAGEMENT, INC. - ELECTRICITY
801 O'KEEFE ROAD
DE PERE, WI 54115-6113
GERALD RHODE
(920) 338-6523 (WORK)
GRHODE@ATCLLC.COM

CENTURYLINK COMMUNICATIONS, LLC - COMMUNICATION
1310 E MARY ST
OTTUMWA, IA 52501
ROBERT SAMPSON
(636) 887-5367 (WORK)
ROBERT.SAMPSON@CENTURYLINK.COM

CHARTER COMMUNICATIONS - COMMUNICATION
5024 HEFFERON ST
STEVENS POINT, WI 54481
RUDI RUDIGER
(715) 204-5339 (WORK/MOBILE)
RUDI.RUDIGER@CHARTER.COM

FRONTIER COMMUNICATIONS OF WI, LLC - COMMUNICATION
26 W 12TH ST
CLINTONVILLE, WI 54929
JAMES A. JASKOLSKI
(715) 823-1227 (WORK)
JAMES.JASKOLSKI@FTR.COM

DNR CONTACT

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
2984 SHAWANO AVE.
GREEN BAY, WI 54313
JIM DOPERALSKI
(920) 662-5119
JAMES.DOPERALSKI@WISCONSIN.GOV



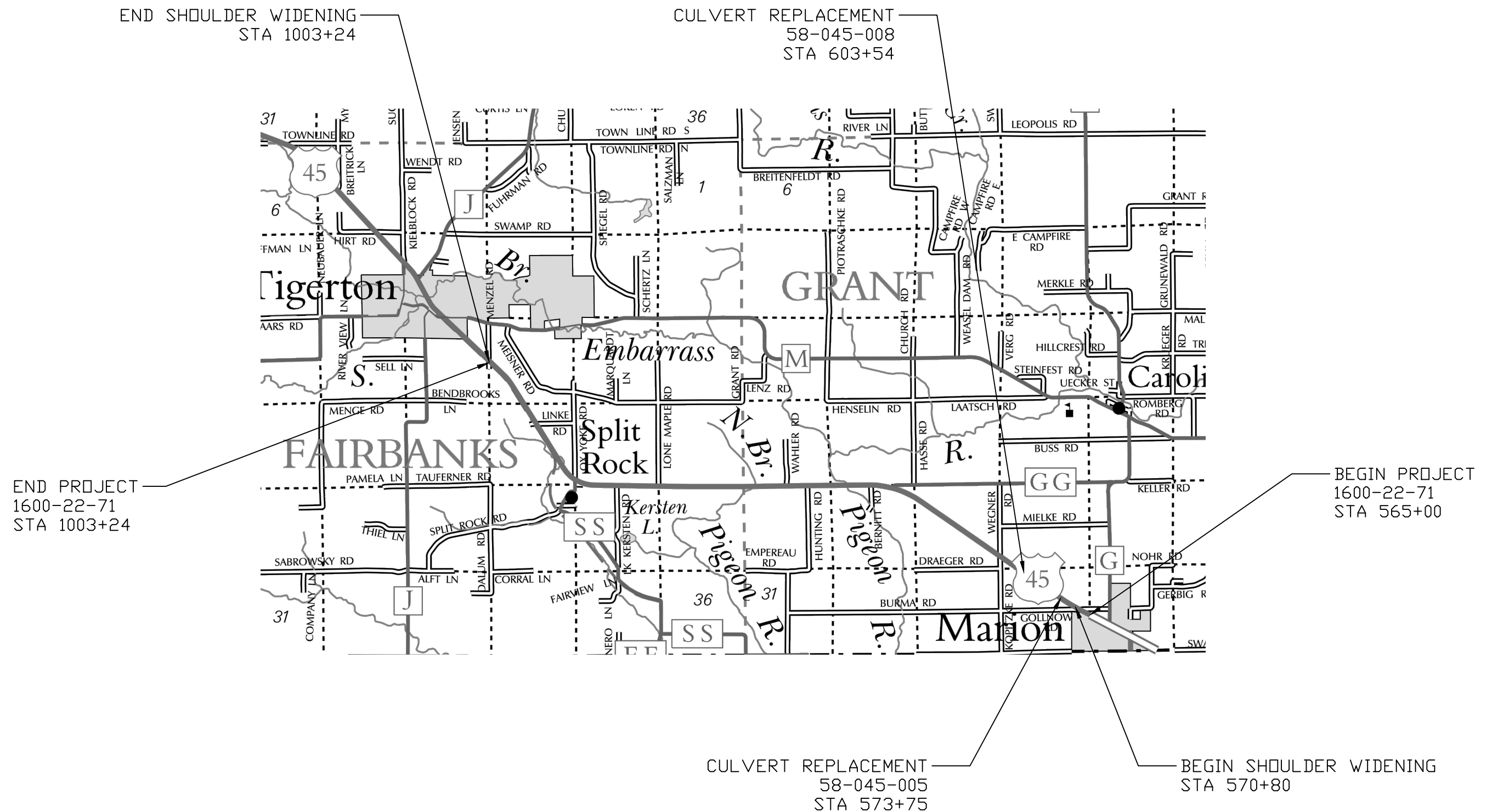
Dial 811 or (800)242-8511
www.DiggersHotline.com

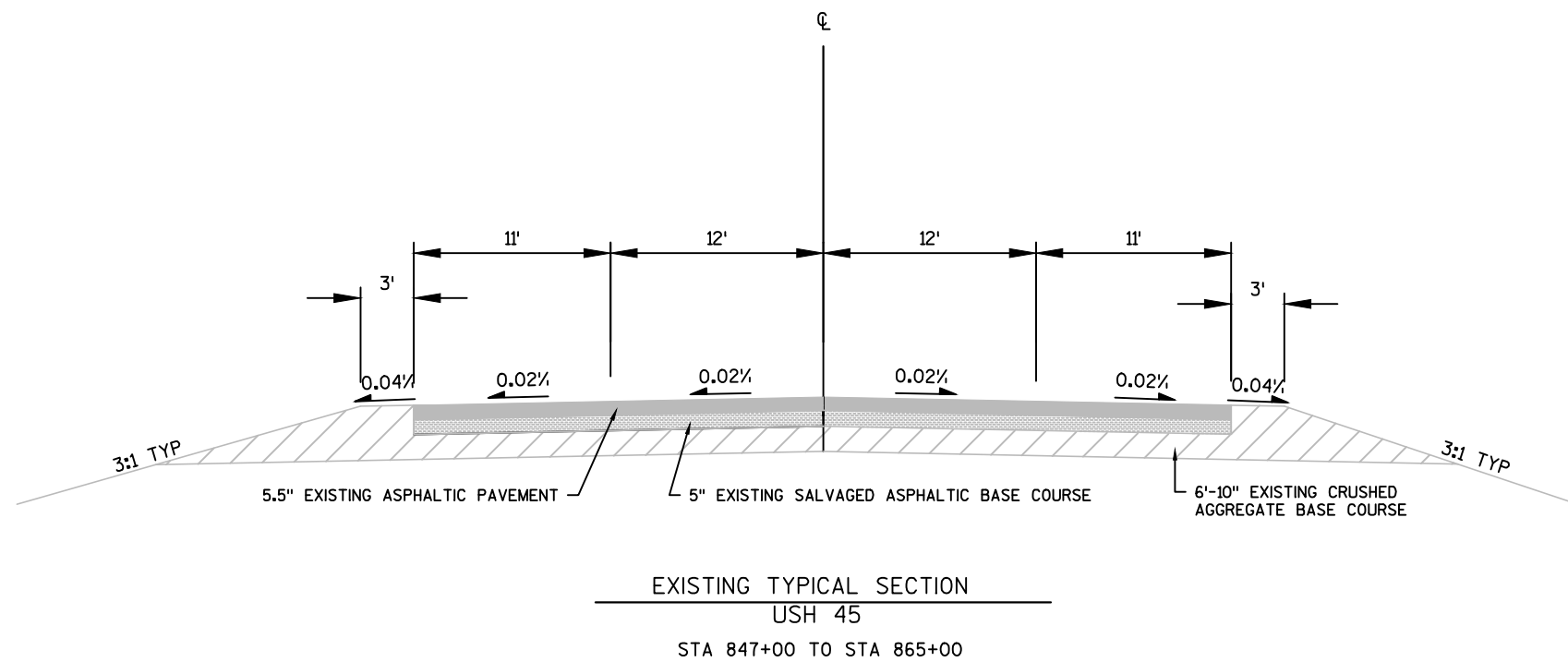
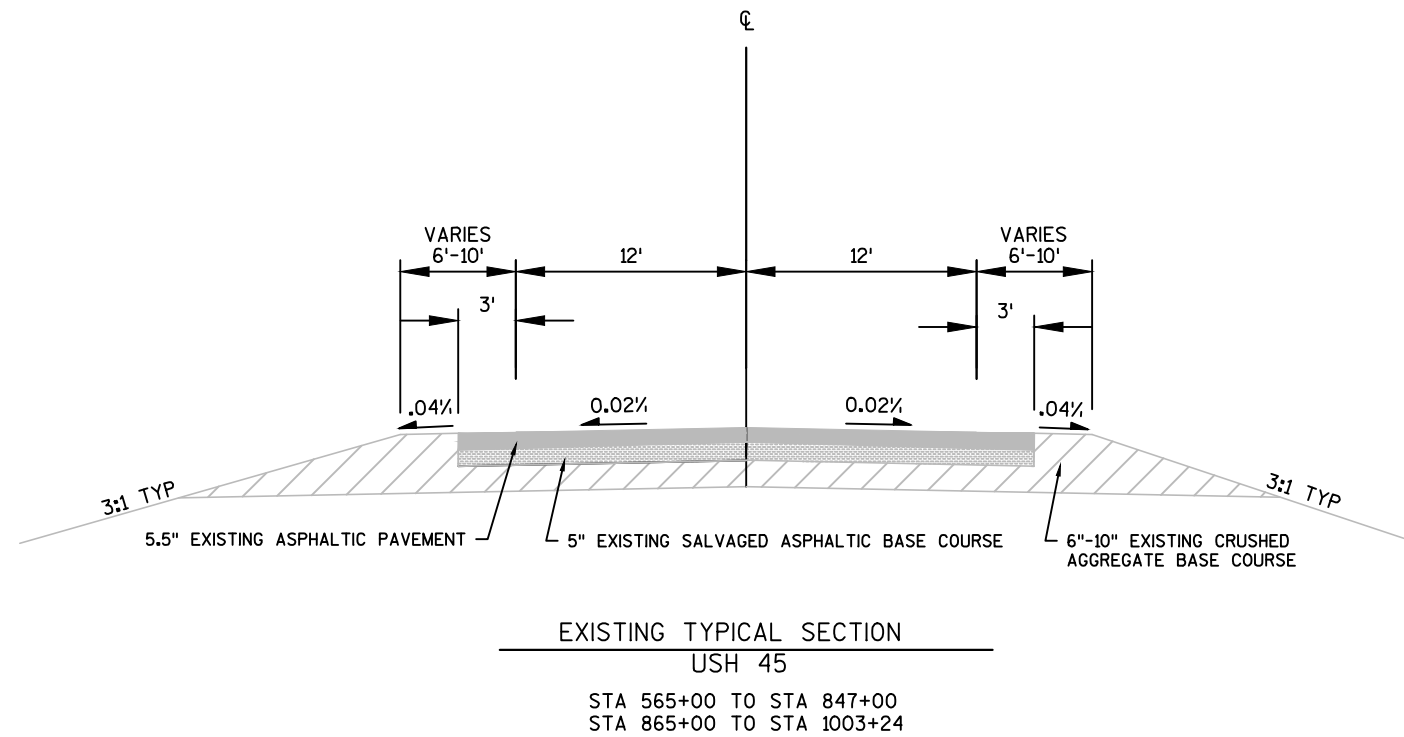
PAVEMENT CORE BORING LOG

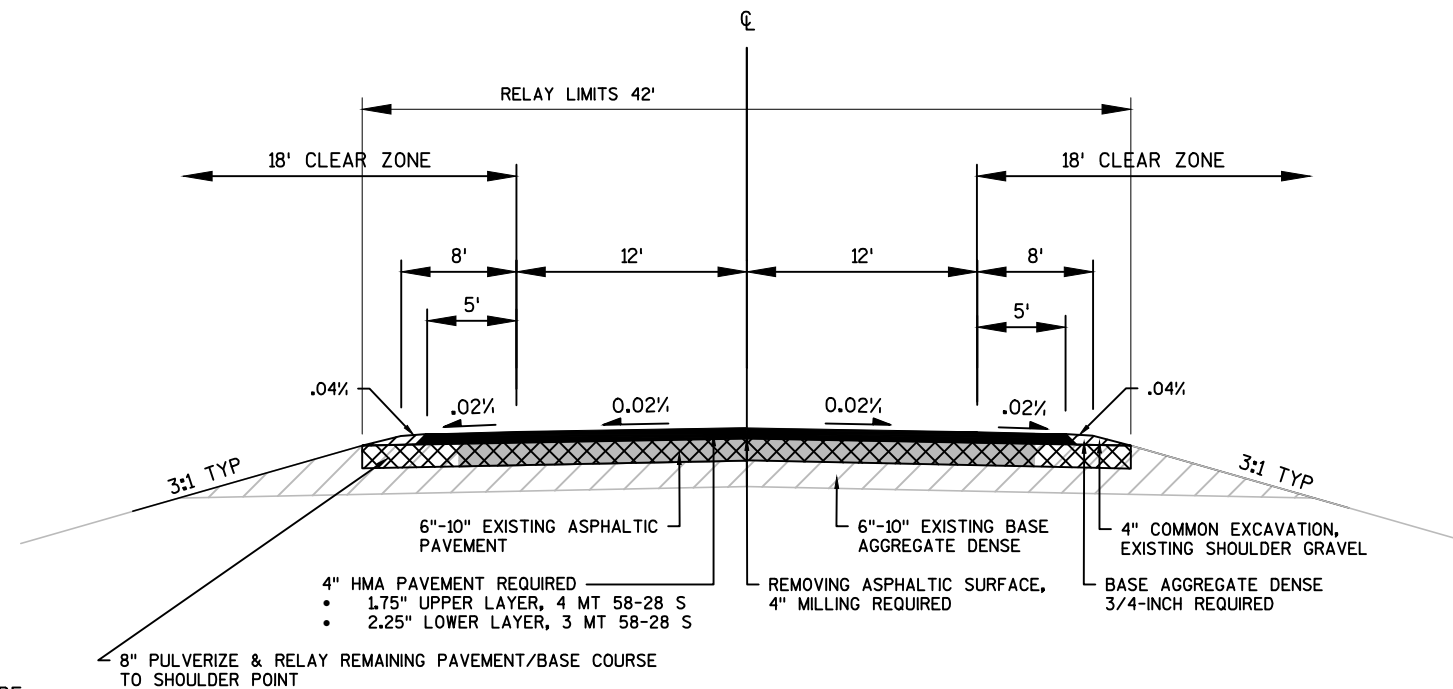
CORE #	LOG MILE	OFFSET FROM C/L	ASPHALT DEPTH (INCHES)
1	0.3	6' RT	6.25"
2	0.6	6' LT	5.25"
3	0.9	6' RT	5.125"
4	1.2	6' LT	5"
5	1.3	6' RT	4.75"
6	1.5	6' LT	5.375"
7	1.8	6' RT	4.5"
8	2.1	6' LT	6.875"
9	2.4	6' RT	7.75"
10	2.7	6' LT	7.75"
11	3	6' RT	6.75"
12	3.3	6' LT	5.75"
13	3.6	6' RT	5.125"
14	3.9	6' LT	4.625"
15	4.2	6' RT	4"
16	4.5	6' LT	4.625"
17	4.8	6' RT	5"
18	5.1	6' LT	5.25"
19	5.4	6' RT	5.25"
20	5.7	6' LT	4.5"
21	6	6' RT	6"
22	6.3	6' LT	5.625"
23	6.6	6' RT	5.75"
24	6.9	6' LT	5.75"
25	7.2	6' RT	4.75"
26	7.5	6' LT	5.25"
27	7.8	6' RT	7.5"
28	8.1	6' LT	5.25"

PROPOSED SUPER ELEVATION TABLE

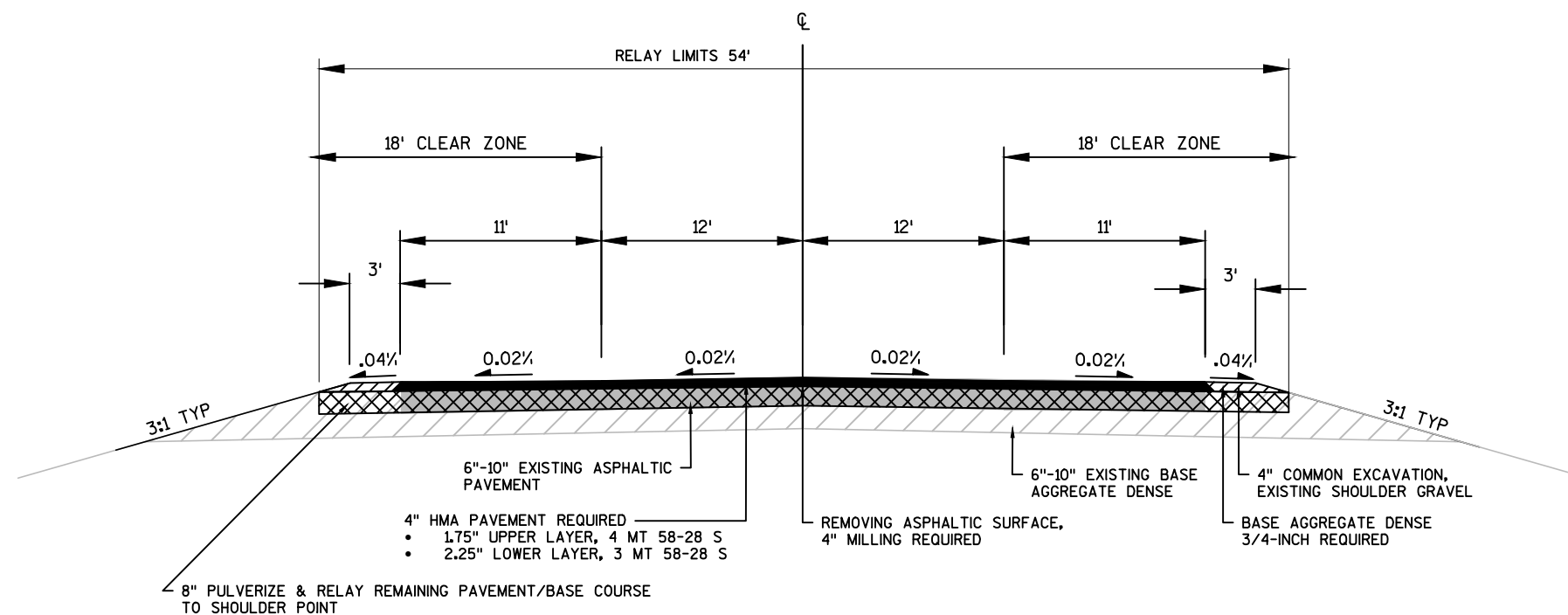
Curve No.	Station	Description	Left Outside Shoulder	Left Outside Lane	Right Outside Lane	Right Outside Shoulder
	565+00.00'	Begin Alignment	-4.00%	-2.00%	-2.00%	-4.00%
1	569+58.69'	End Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
1	570+11.69'	End Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
1	570+64.69'	Level Crown	-4.00%	0.00%	-2.00%	-4.00%
1	571+17.69'	Begin Full Super	-4.00%	2.00%	-2.00%	-4.00%
1	571+17.69'	Reverse Crown	-4.00%	2.00%	-2.00%	-4.00%
1	584+23.10'	End Full Super	-4.00%	2.00%	-2.00%	-4.00%
1	584+23.10'	Reverse Crown	-4.00%	2.00%	-2.00%	-4.00%
1	584+76.10'	Level Crown	-4.00%	0.00%	-2.00%	-4.00%
1	585+29.10'	Begin Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
1	585+82.10'	Begin Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
2	688+81.19'	End Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
2	689+34.76'	End Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
2	689+88.34'	Level Crown	-4.00%	-2.00%	0.00%	-4.00%
2	690+41.91'	Reverse Crown	-4.00%	-2.00%	2.00%	-4.00%
2	690+63.34'	Begin Full Super	-4.00%	-2.80%	2.80%	-4.00%
2	725+54.19'	End Full Super	-4.00%	-2.80%	2.80%	-4.00%
2	725+75.62'	Reverse Crown	-4.00%	-2.00%	2.00%	-4.00%
2	726+29.19'	Level Crown	-4.00%	-2.00%	0.00%	-4.00%
2	726+82.76'	Begin Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
2	727+36.33'	Begin Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
3	806+17.38'	Normal super elevation				
4	841+44.27'	Normal super elevation				
5	894+39.06'	End Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
5	894+92.52'	End Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
5	895+45.99'	Level Crown	-4.00%	0.00%	-2.00%	-4.00%
5	895+99.45'	Reverse Crown	-4.00%	2.00%	-2.00%	-4.00%
5	896+52.91'	Low Shoulder Match	-4.00%	4.00%	-4.00%	-4.00%
5	896+52.91'	Begin Shoulder Rollover	-4.00%	4.00%	-2.00%	-4.00%
5	896+84.99'	Begin Full Super	-2.80%	5.20%	-5.20%	-5.20%
5	918+85.24'	End Full Super	-2.80%	5.20%	-5.20%	-5.20%
5	919+17.32'	Low Shoulder Match	-4.00%	4.00%	-4.00%	-4.00%
5	919+17.32'	End Shoulder Rollover	-4.00%	4.00%	-2.00%	-4.00%
5	919+70.78'	Reverse Crown	-4.00%	2.00%	-2.00%	-4.00%
5	920+24.24'	Level Crown	-4.00%	0.00%	-2.00%	-4.00%
5	920+77.70'	Begin Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
5	921+31.16'	Begin Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
6	978+89.76'	End Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%
6	979+43.24'	End Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
6	979+96.72'	Level Crown	-4.00%	-2.00%	0.00%	-4.00%
6	980+50.20'	Reverse Crown	-4.00%	-2.00%	2.00%	-4.00%
6	981+03.67'	Low Shoulder Match	-4.00%	-4.00%	4.00%	-4.00%
6	981+03.67'	Begin Shoulder Rollover	-4.00%	-2.00%	4.00%	-4.00%
6	981+19.72'	Begin Full Super	-4.60%	-4.60%	4.60%	-3.40%
6	987+55.58'	End Full Super	-4.60%	-4.60%	4.60%	-3.40%
6	987+71.62'	Low Shoulder Match	-4.00%	-4.00%	4.00%	-4.00%
6	987+71.62'	End Shoulder Rollover	-4.00%	-2.00%	4.00%	-4.00%
6	988+25.10'	Reverse Crown	-4.00%	-2.00%	2.00%	-4.00%
6	988+78.58'	Level Crown	-4.00%	-2.00%	0.00%	-4.00%
6	989+32.06'	Begin Normal Crown	-4.00%	-2.00%	-2.00%	-4.00%
6	989+85.53'	Begin Normal Shoulder	-4.00%	-2.00%	-2.00%	-4.00%





**NOTES:**

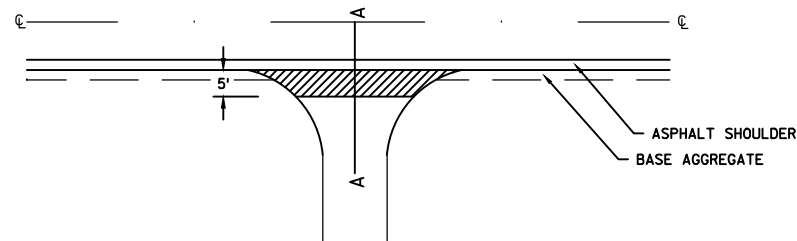
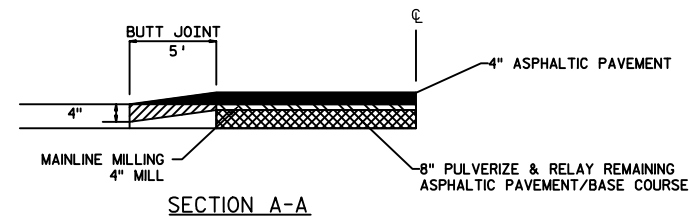
1. C/L RUMBLE STRIPS REQUIRED.
2. EXISTING SUPERELEVATION AT STA 917+50 IS 8%. THIS SHALL BE BROUGHT DOWN TO 6% DURING PULVERIZE & RELAY OPERATIONS.
3. SAFETY EDGE REQUIRED.

PROPOSED TYPICAL SECTION
USH 45STA 565+00 TO STA 847+00
STA 865+00 TO STA 1003+24**NOTES:**

1. C/L RUMBLE STRIPS REQUIRED.
2. SAFETY EDGE REQUIRED.

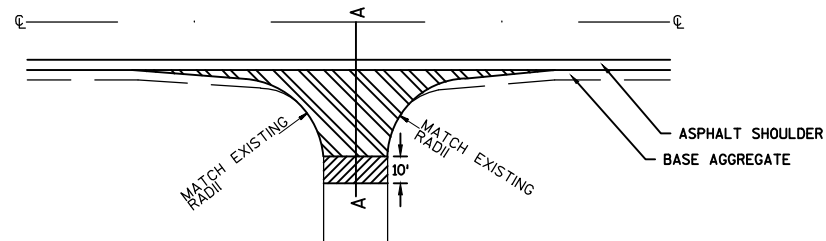
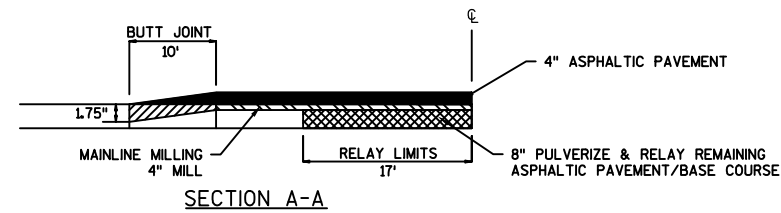
PROPOSED TYPICAL SECTION
USH 45

STA 847+00 TO STA 865+00



-  REMOVING ASPHALTIC SURFACE BUTT JOINT
-  REMOVING ASPHALTIC SURFACE MILLING
-  PULVERIZE AND RELAY MATERIAL

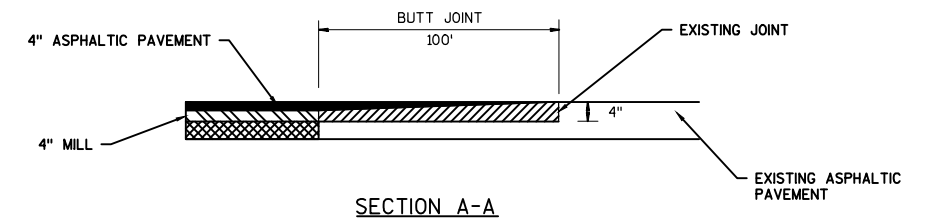
BUTT JOINT DETAIL
ALL ASPHALTIC DRIVEWAYS



-  REMOVING ASPHALTIC SURFACE BUTT JOINT
-  REMOVING ASPHALTIC SURFACE MILLING
-  PULVERIZE AND RELAY MATERIAL

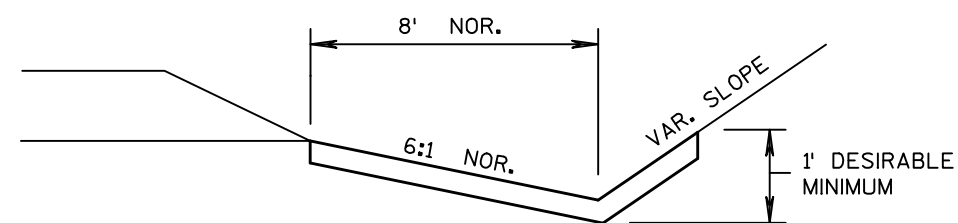
BUTT JOINT DETAIL
SIDE ROADS
ALL INTERSECTIONS

NOTE: SIDE ROADS WILL NOT BE PULVERIZED.

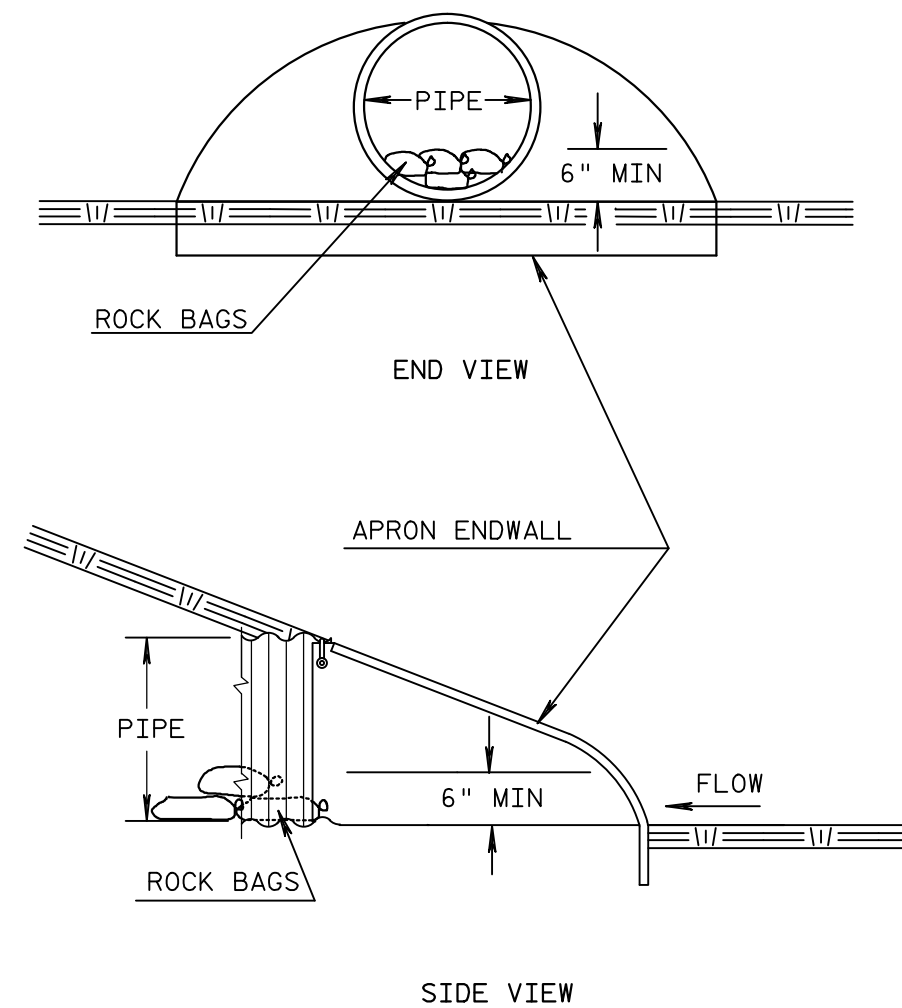


-  REMOVING ASPHALTIC SURFACE BUTT JOINT
-  REMOVING ASPHALTIC SURFACE MILLING
-  PULVERIZE AND RELAY MATERIAL

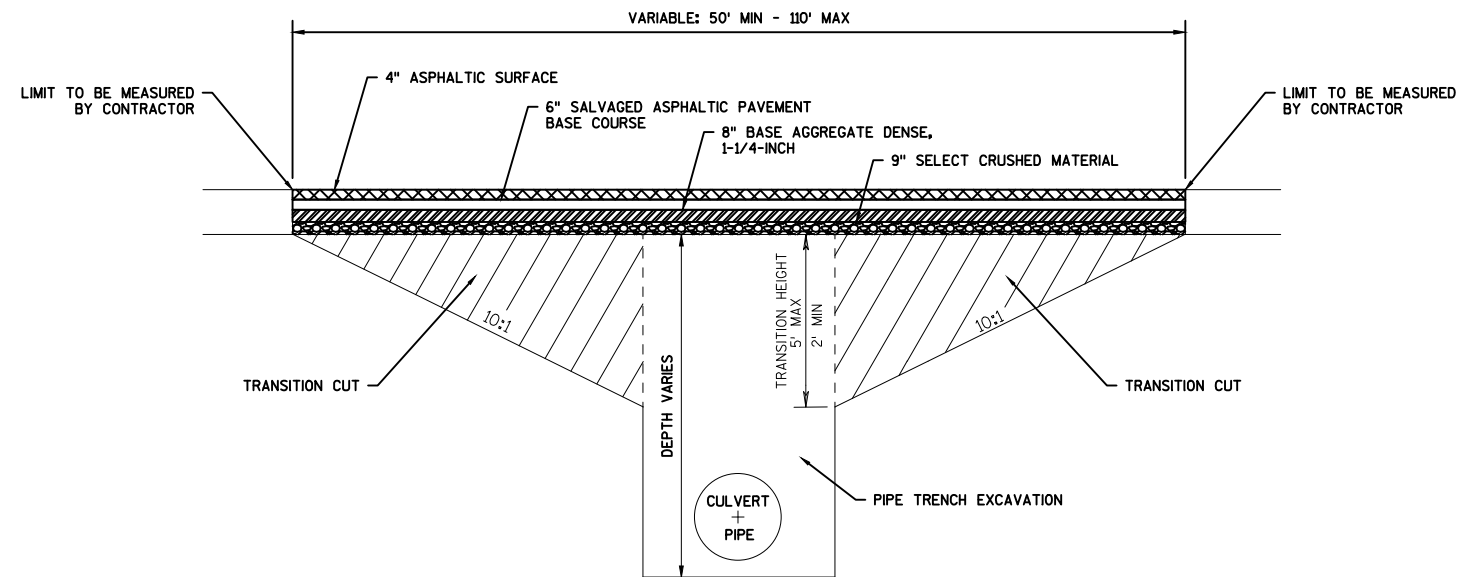
BUTT JOINT DETAIL
MAINLINE
STA 565+00 - 566+00
STA 1002+24 - 1003+24



EROSION MAT DETAIL FOR DITCHES



CULVERT PIPE CHECK



QUANTITIES FOR INFORMATIONAL PURPOSES ONLY

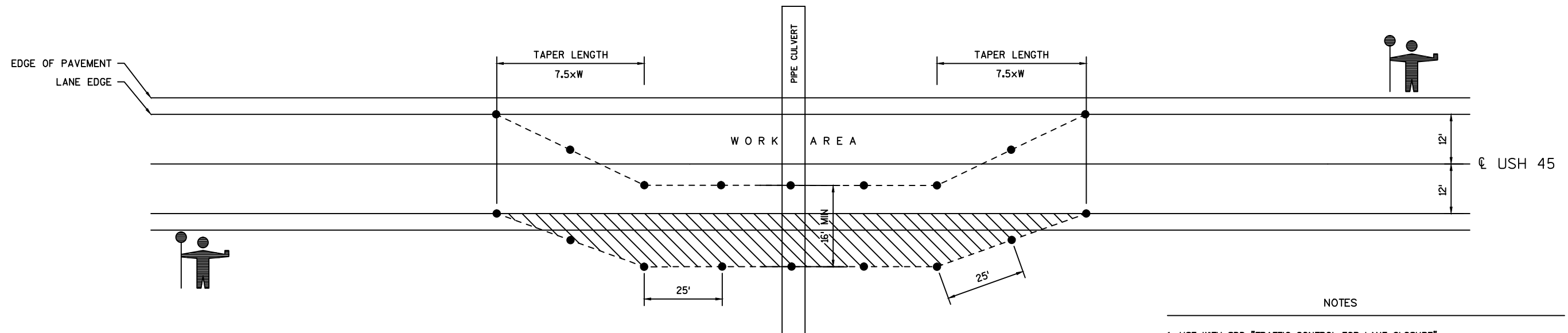
LOCATION	CULVERT ID	SIZE	TRANSITION HEIGHT	LENGTH OF TRANSITION CUT	CUT VOLUME
STA 573+75	58-045-005	30"	5'	110'	378 CY
STA 603+54	58-045-008	30"	2'	50'	76 CY

CULVERT PIPE TRANSITION

NOTE: REUSE MATERIAL REMOVED IN TRANSITION CUT AND PIPE TRENCH EXCAVATIONS AS BACKFILL UNLESS OTHERWISE DIRECTED BY THE ENGINEER TO USE BACKFILL GRANULAR

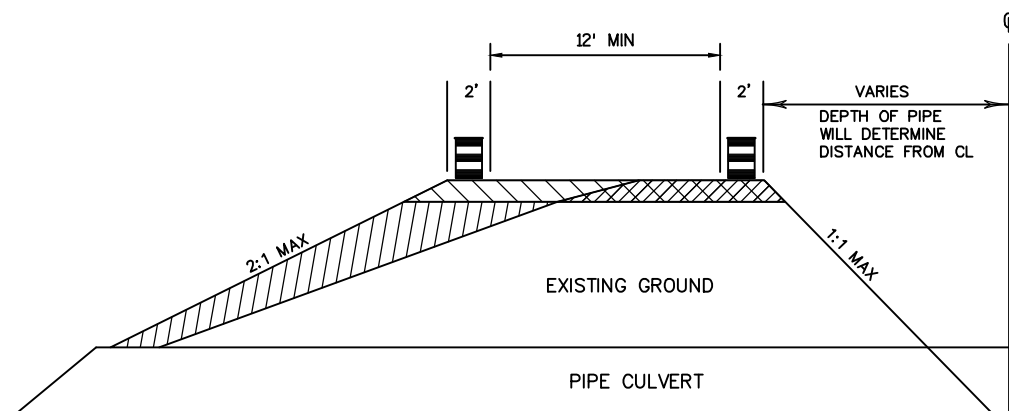
PIPE TRENCH EXCAVATION, EXCLUDING TRANSITION CUT, IS CONSIDERED INCIDENTAL TO PIPE INSTALLATION. TRANSITION CUT WILL BE PAID FOR AS CULVERT PIPE TRANSITIONS.

TRANSITION CUT WILL BE TO EDGE OF SHOULDER POINT ON EACH SIDE OF CENTERLINE.



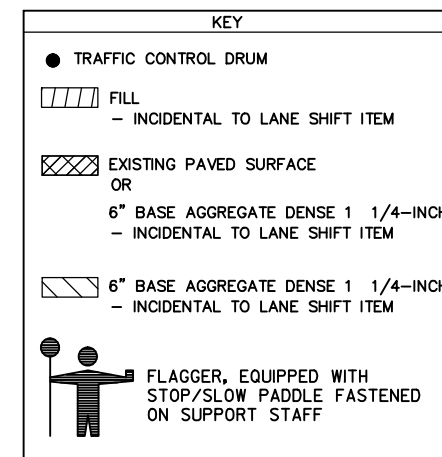
NOTES

1. USE WITH SDD "TRAFFIC CONTROL FOR LANE CLOSURE".
2. FLAGGERS ARE SPECIFIC TO THIS OPERATION.
3. THE TAPER SHOULD EXTEND ACROSS THE SHOULDER UNLESS DOING SO WOULD GREATLY CONFLICT WITH THE WORK OPERATION.
4. ALL LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL DEVICES REMOVED BEYOND THE SHOULDER WHEN WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO ORIGINAL CONFIGURATION.
5. CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED AWAY FROM TRAVEL LANE WHEN FLAGGING OPERATIONS ARE NOT IN USE.



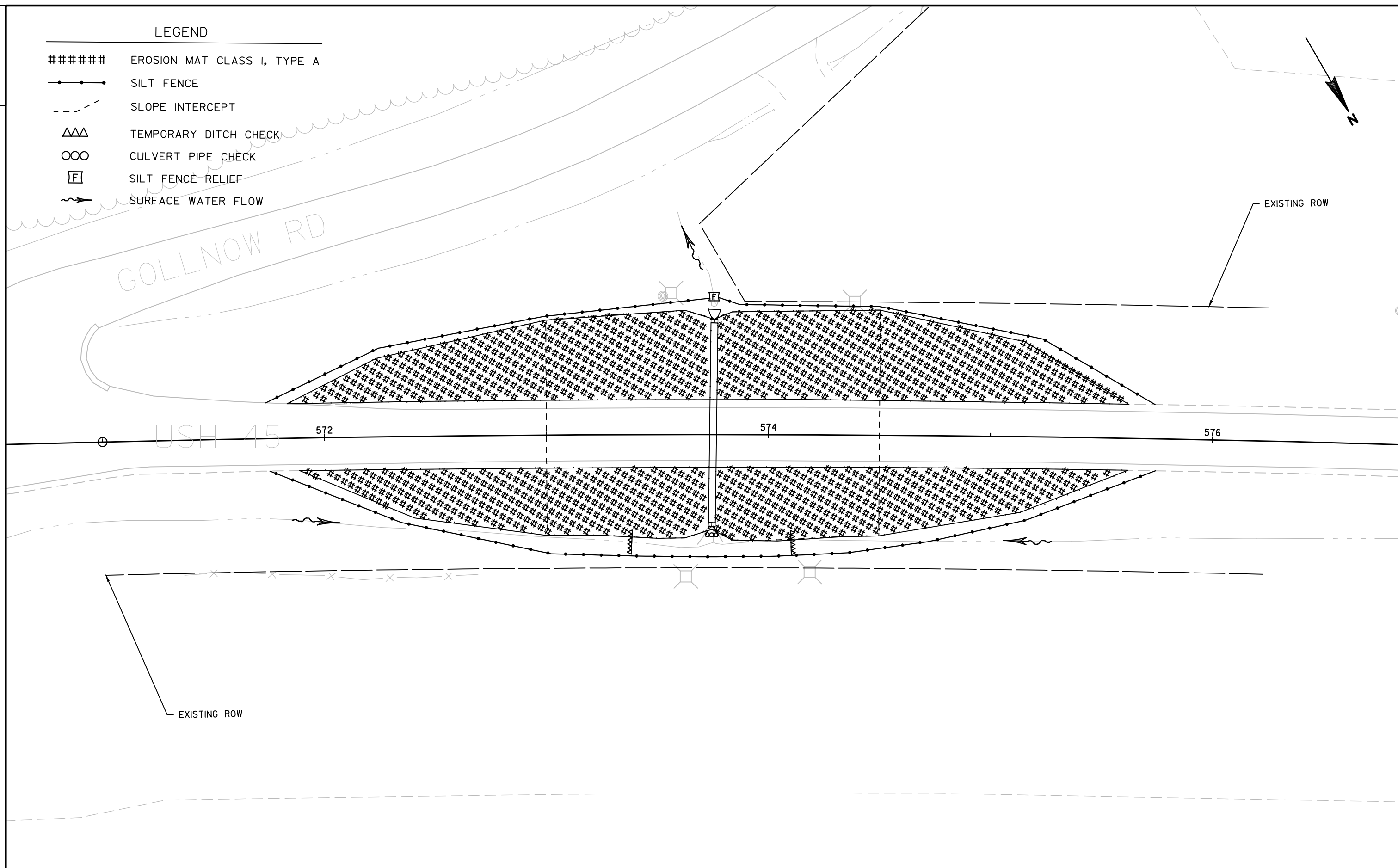
LANE SHIFT DETAIL

STA 573+75 58-045-005
STA 603+54 58-045-008



LEGEND

#####	EROSION MAT CLASS I, TYPE A
—●—●—●—	SILT FENCE
- - - -	SLOPE INTERCEPT
△△△	TEMPORARY DITCH CHECK
ooo	CULVERT PIPE CHECK
[F]	SILT FENCE RELIEF
~>	SURFACE WATER FLOW



2

2

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##### EROSION MAT CLASS I, TYPE A
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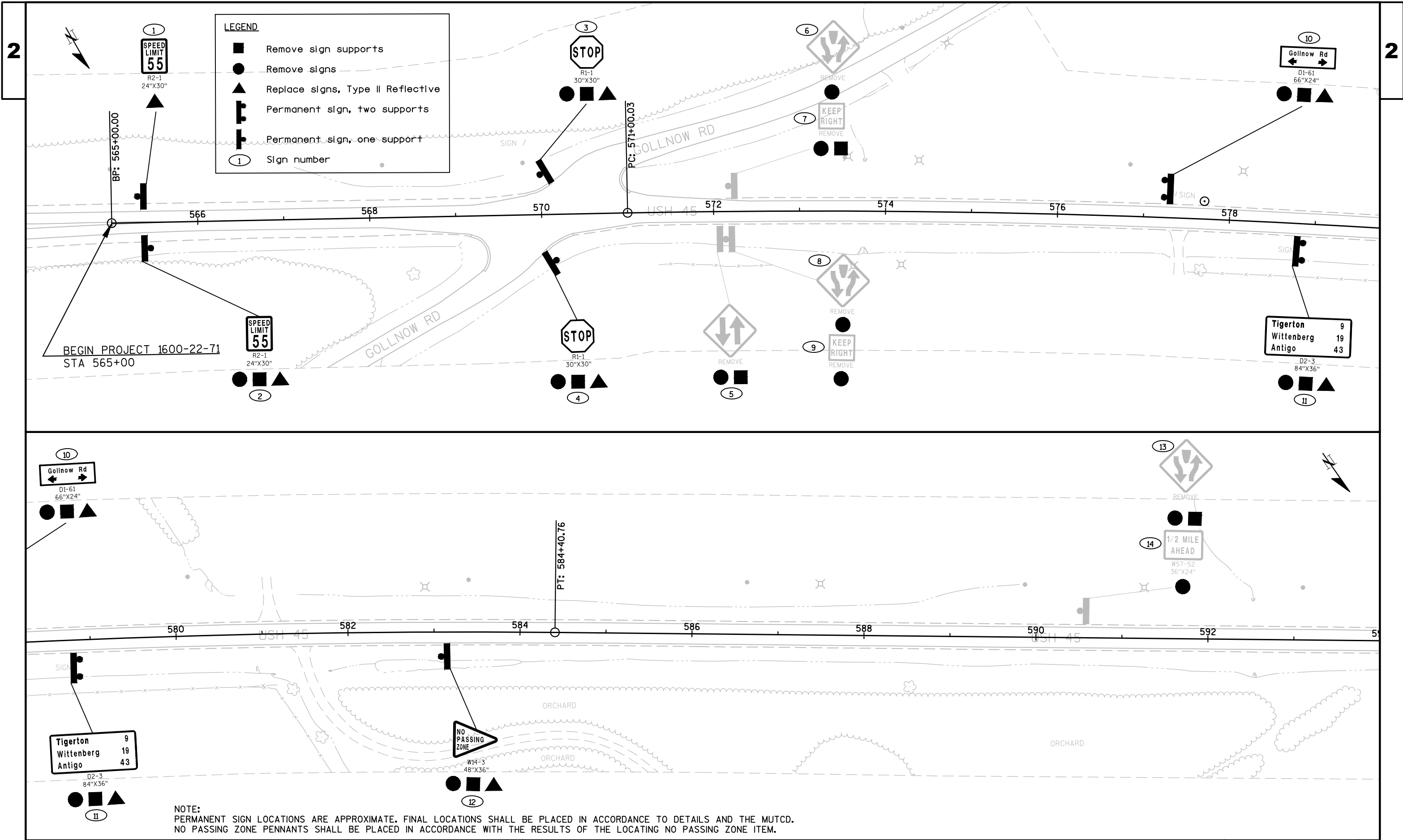
 SILT FENCE

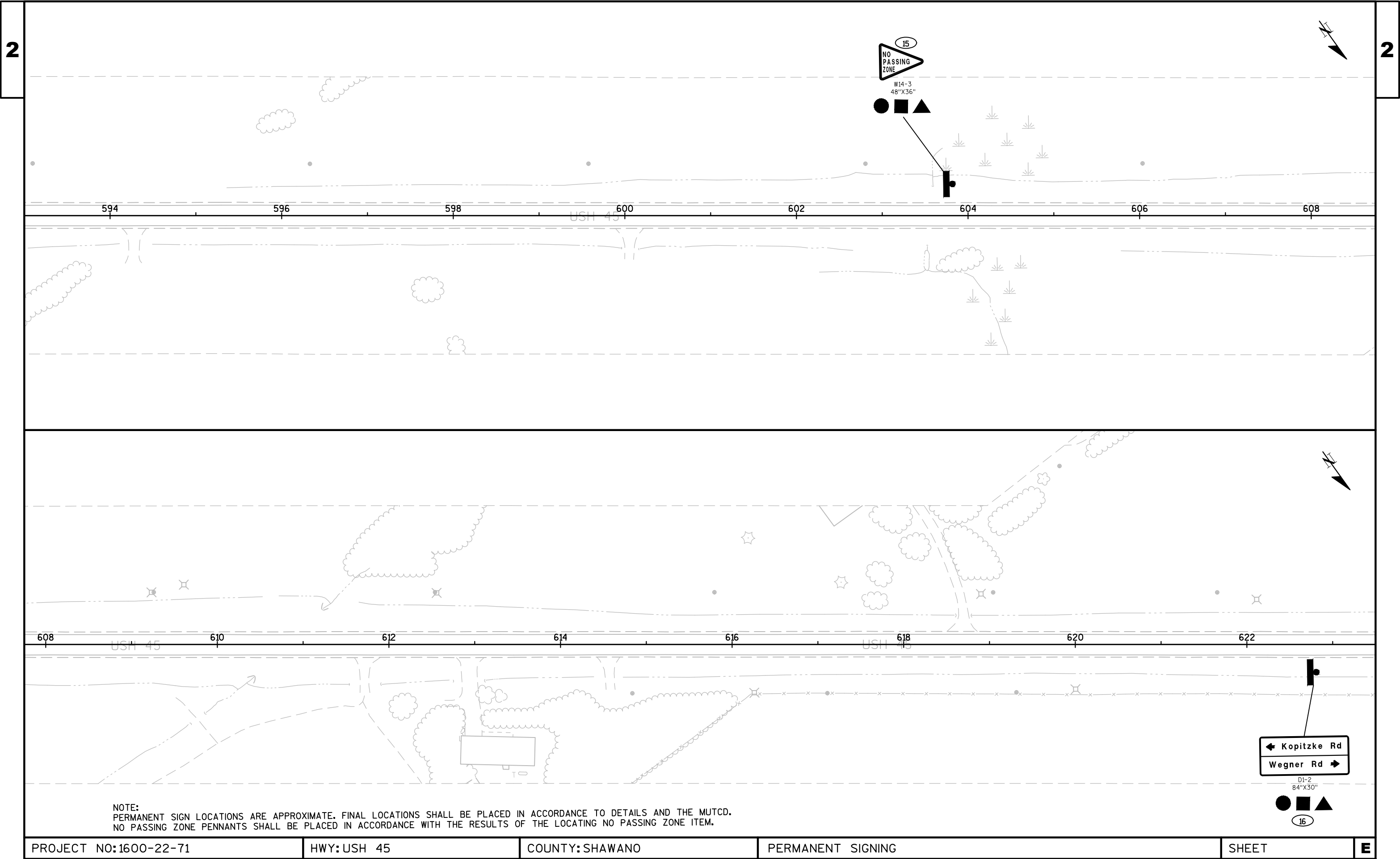
--- SLOPE INTERCEPT

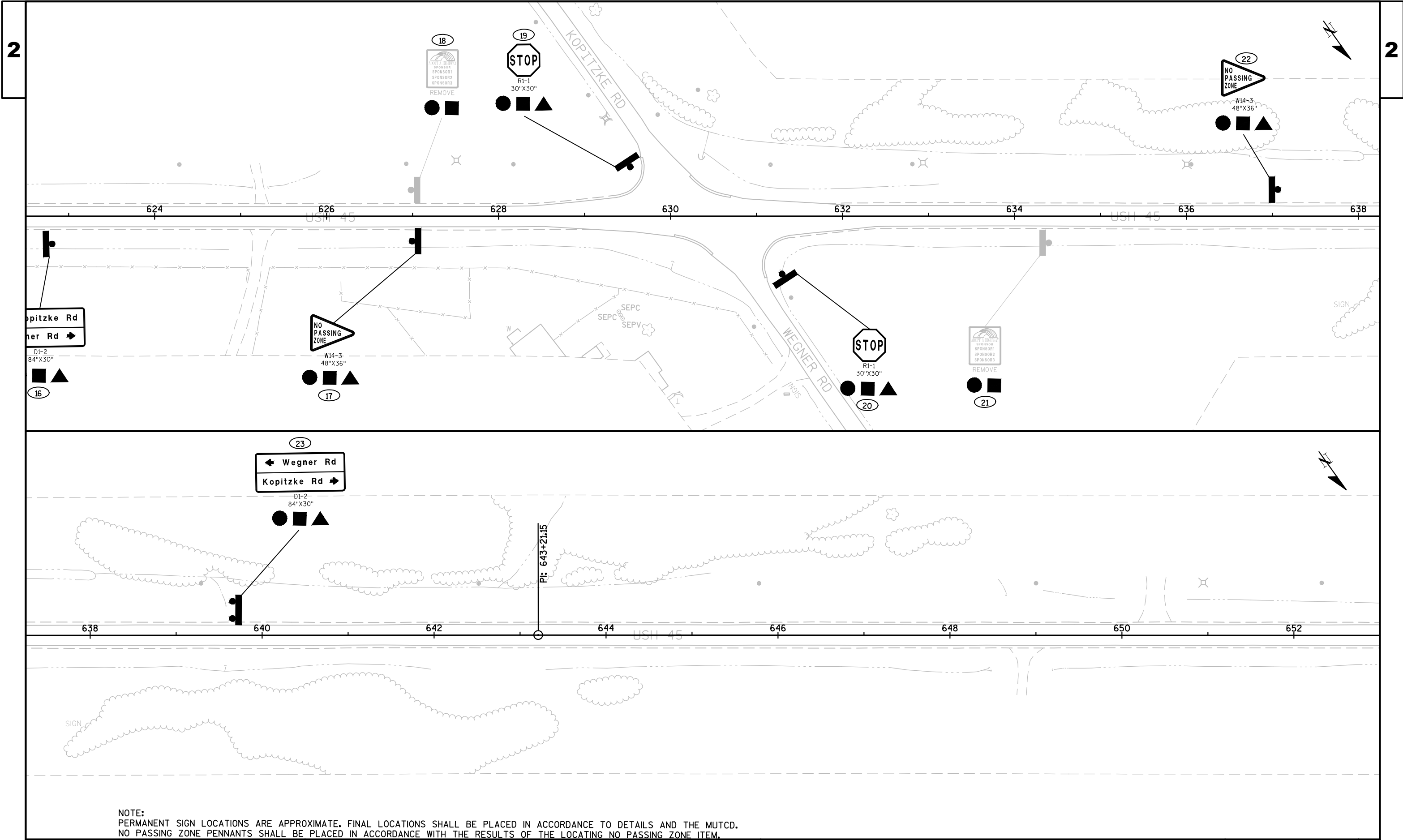


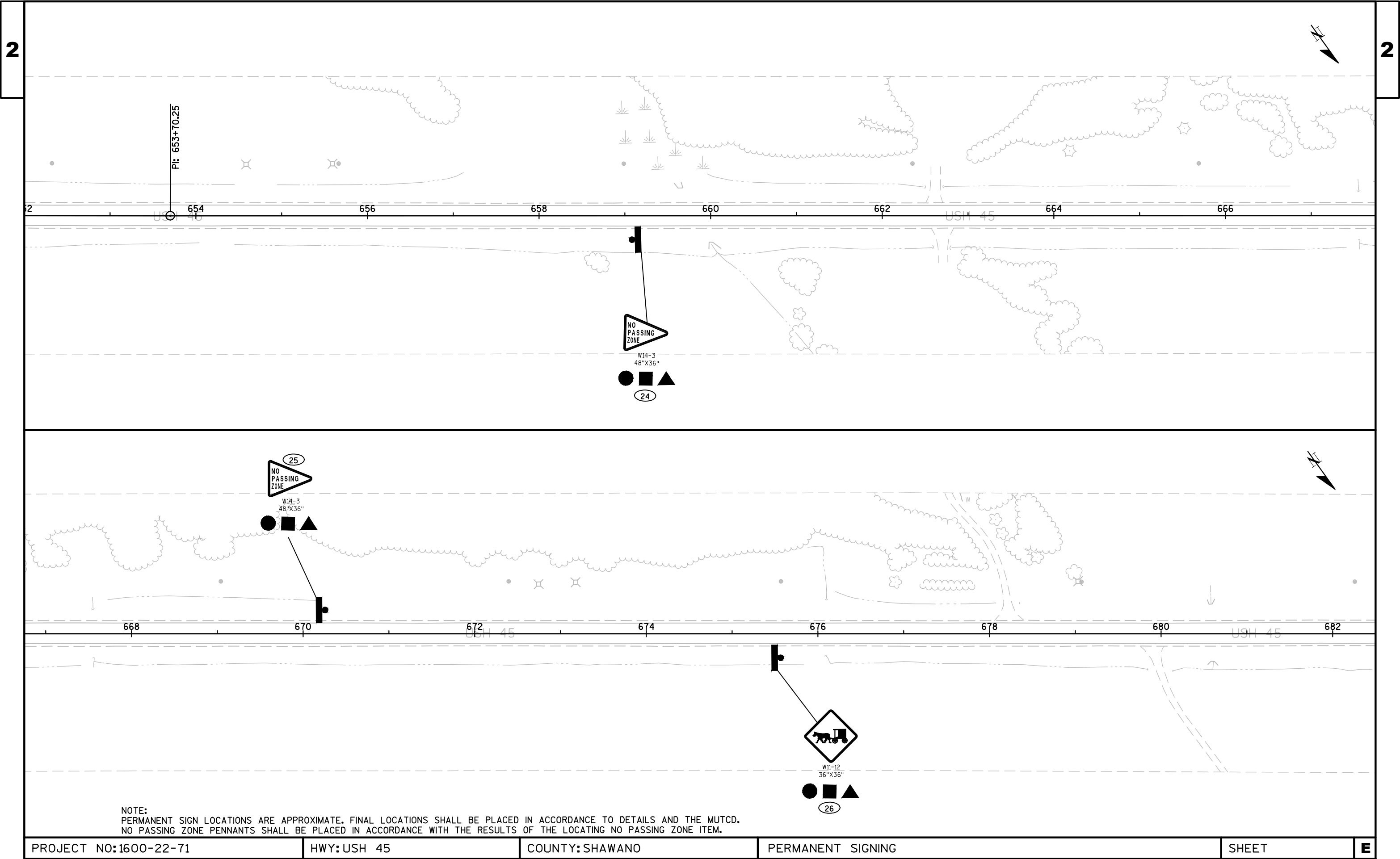
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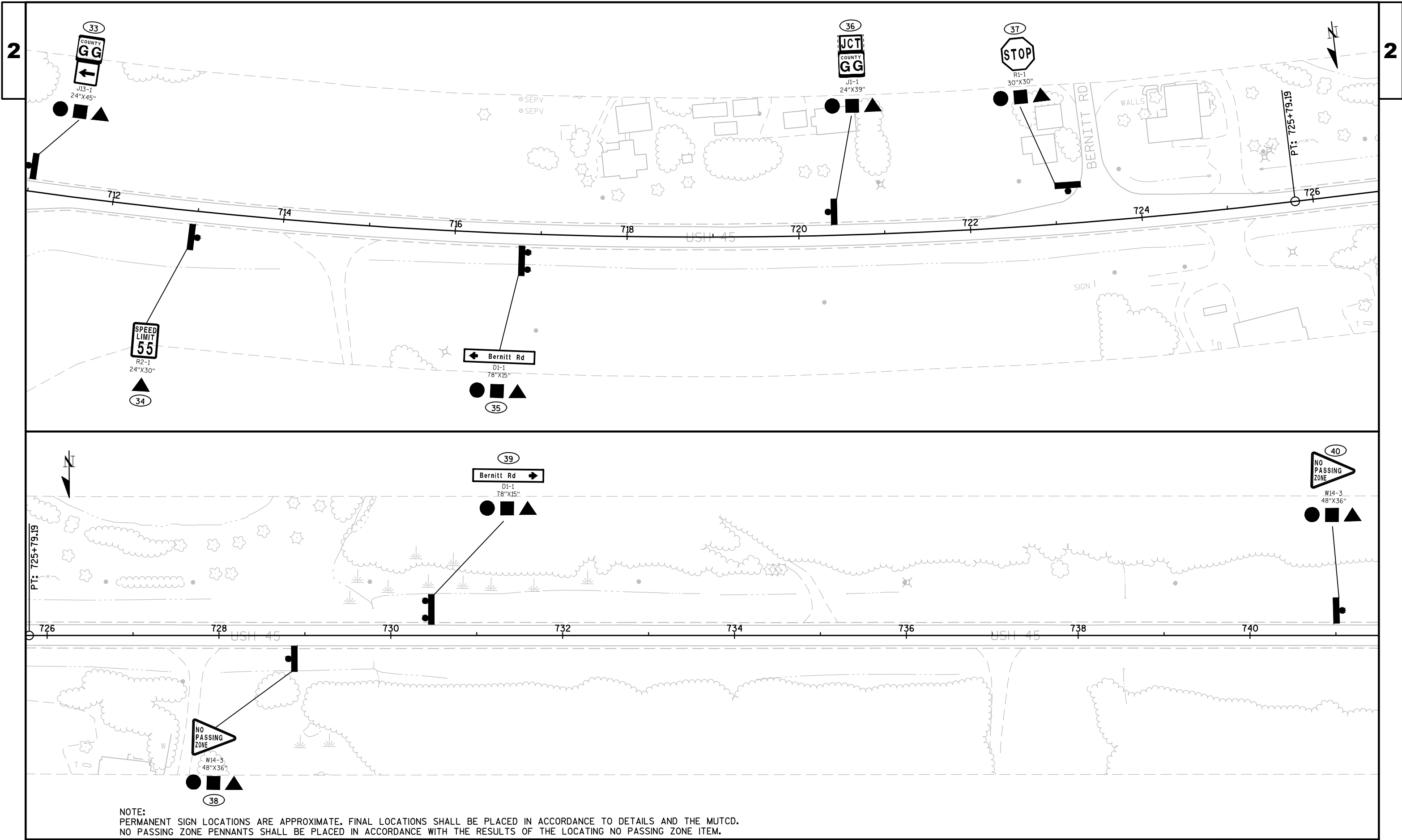




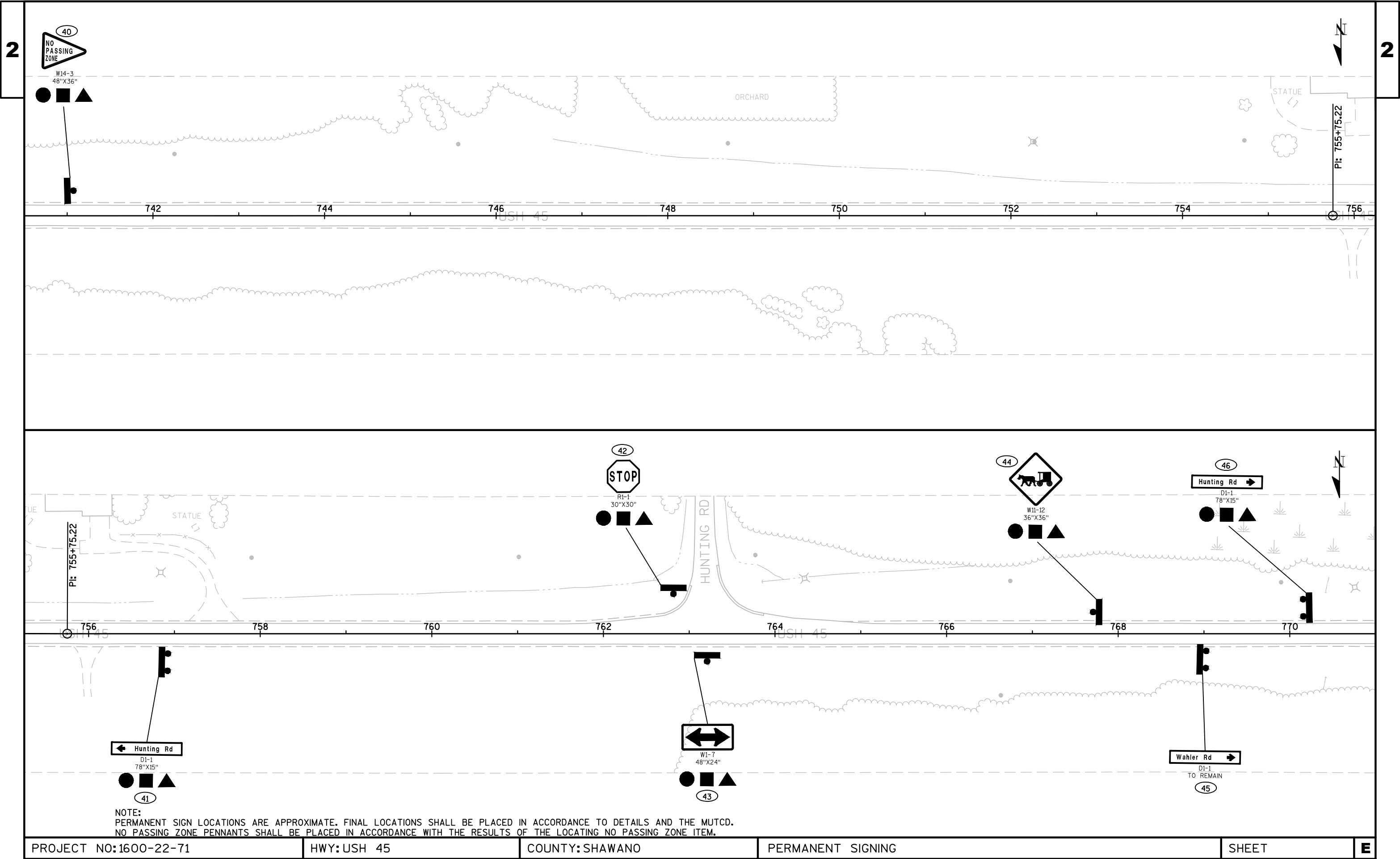




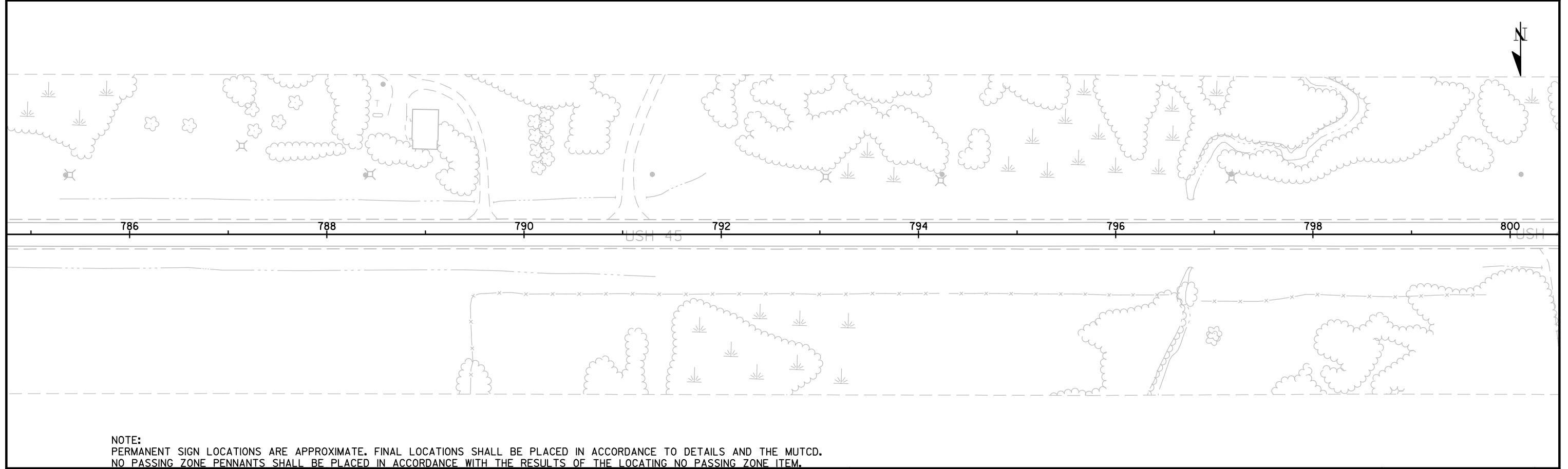
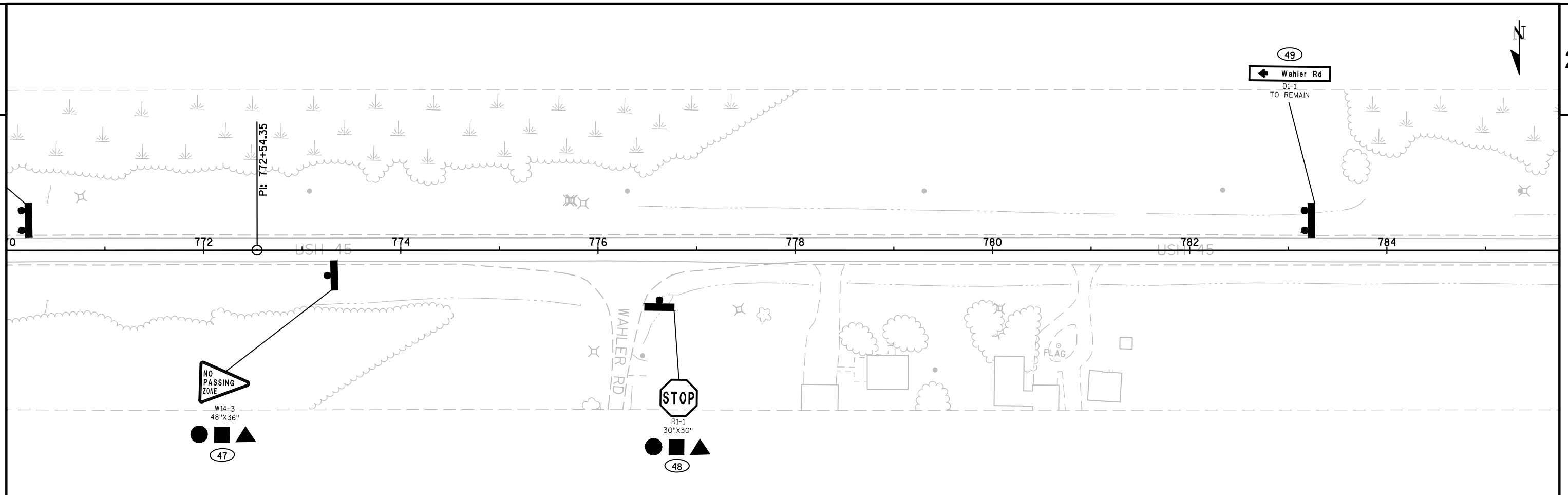




PROJECT NO:1600-22-71	HWY:USH 45	COUNTY:SHAWANO	PERMANENT SIGNING	SHEET	E
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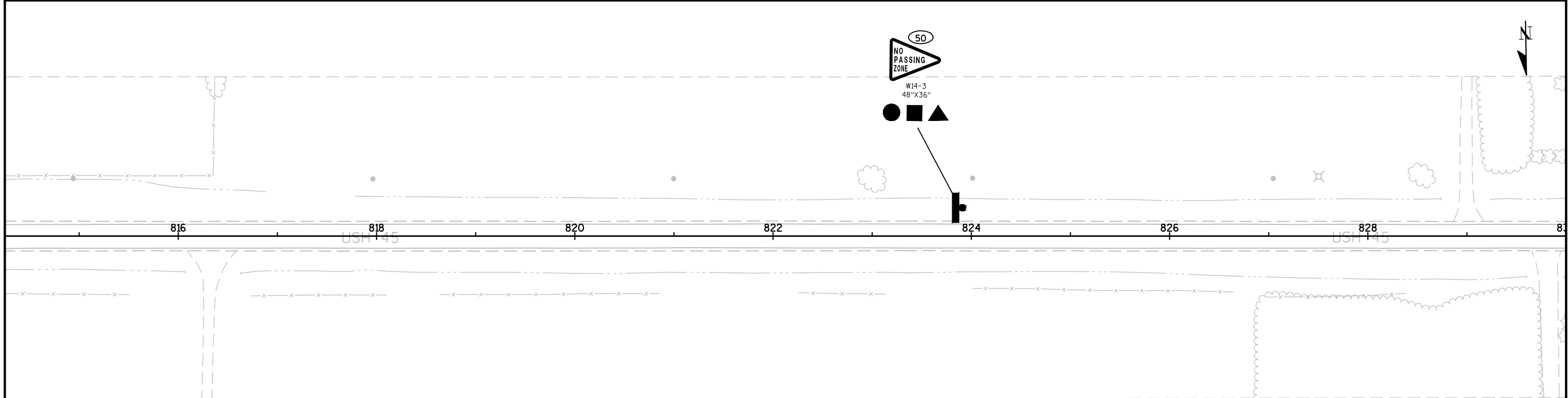
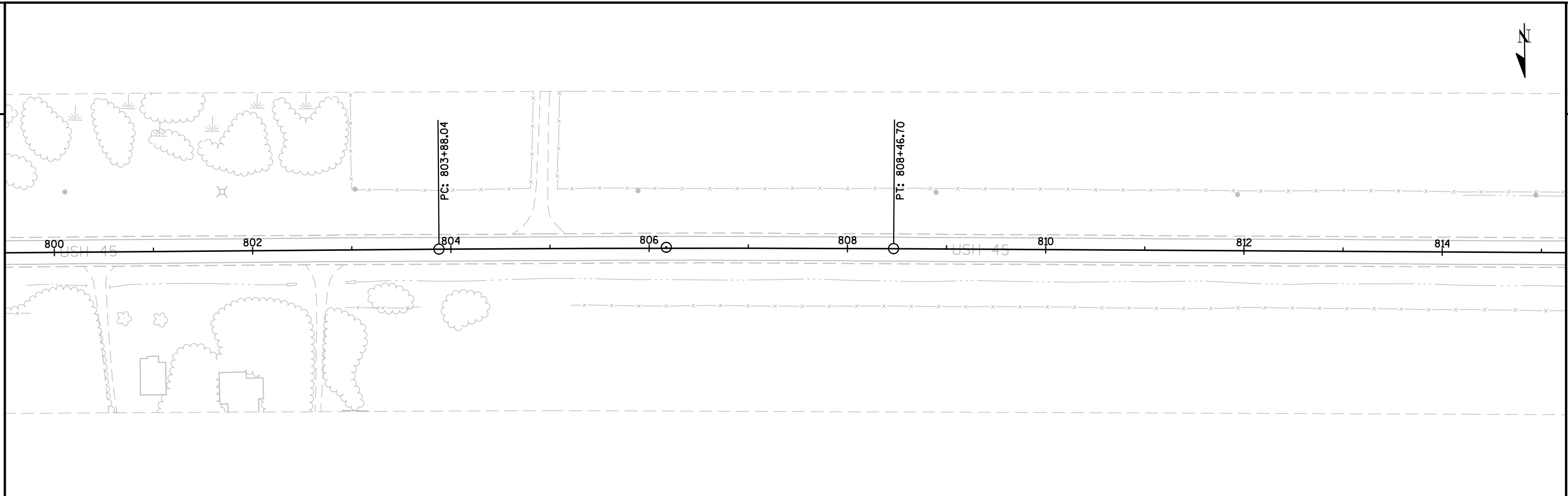


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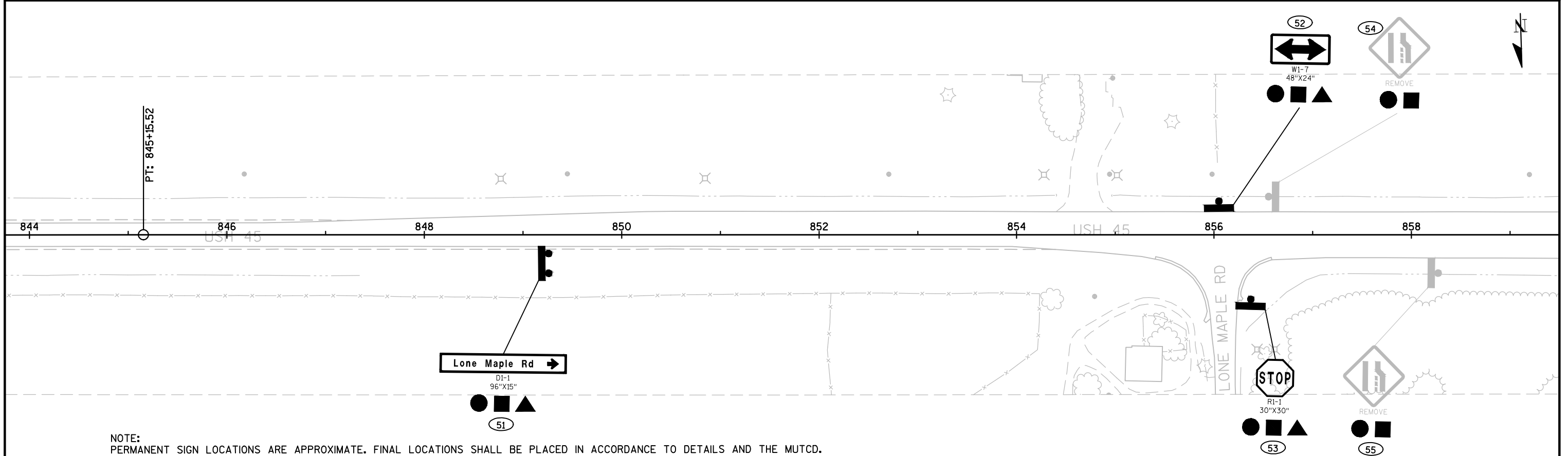
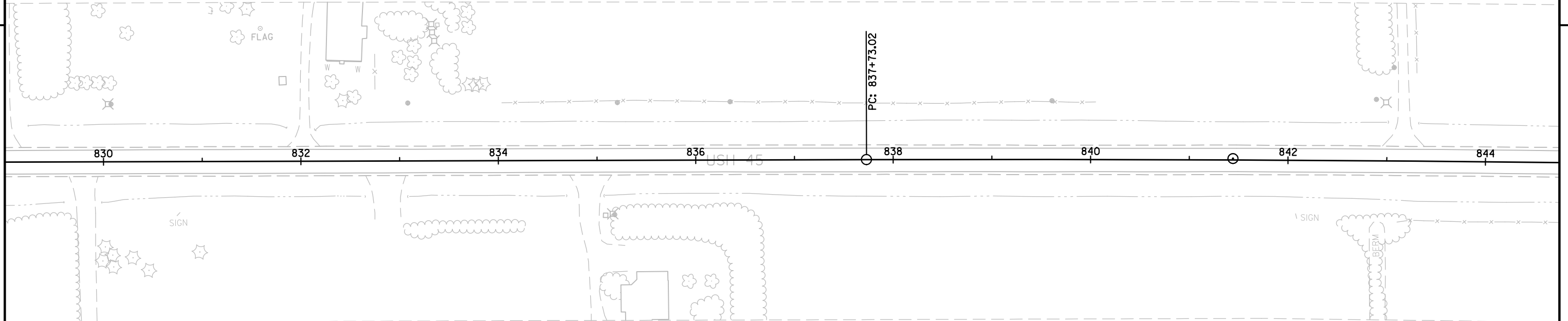
NOTE:
PERMANENT SIGN LOCATIONS ARE APPROXIMATE. FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD.
NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM.

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NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM.

PROJECT NO:1600-22-71

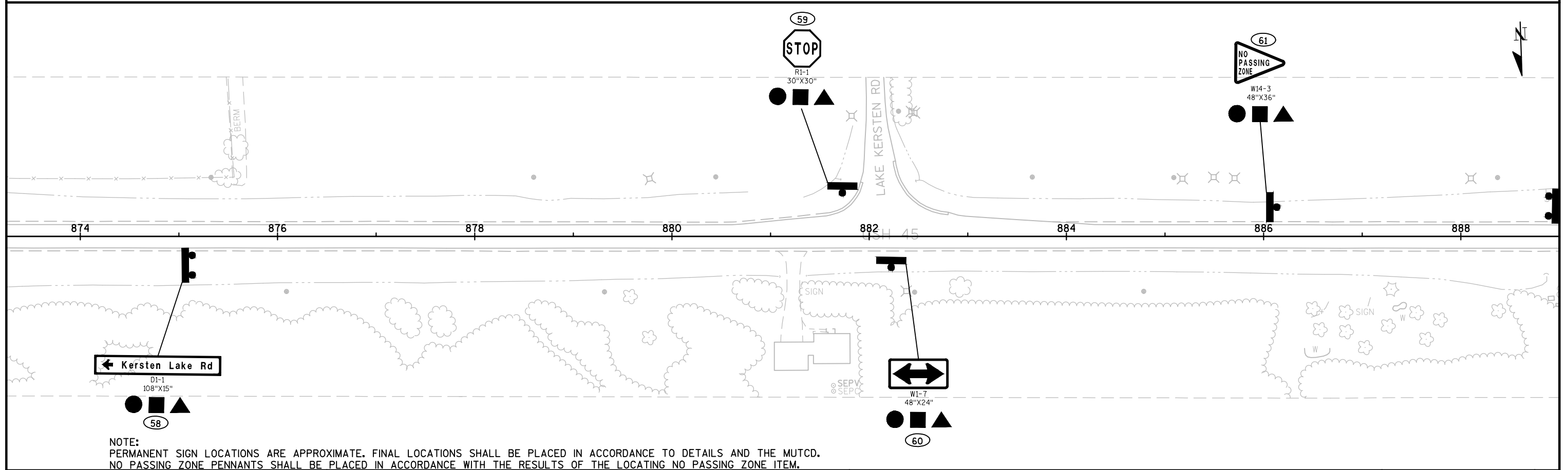
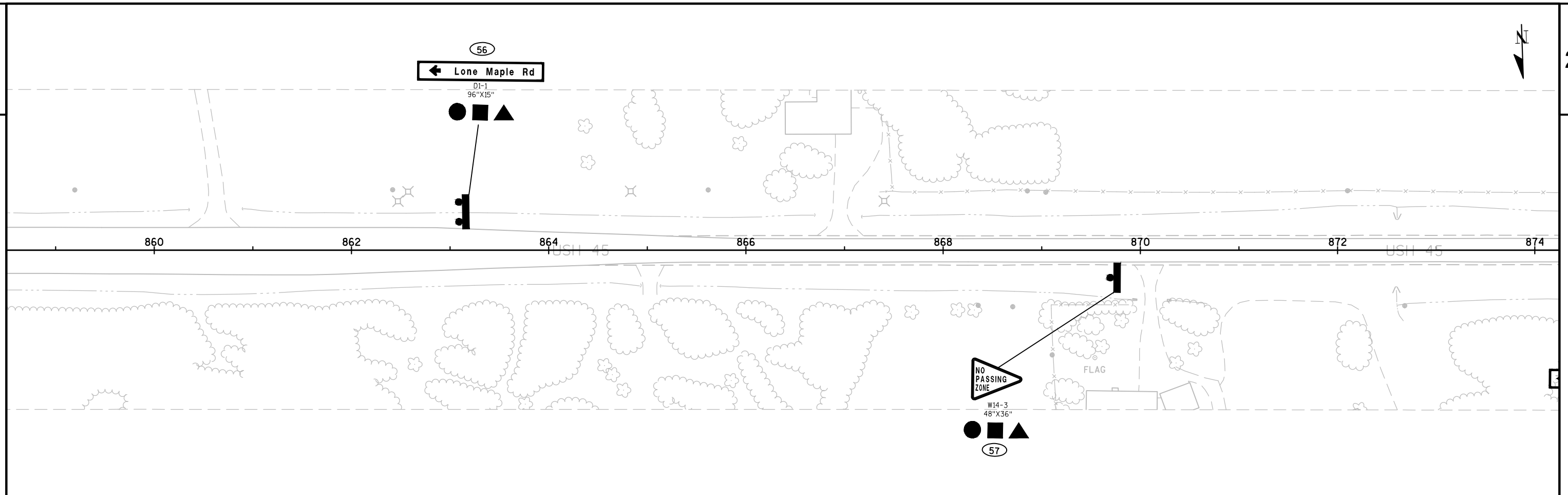
HWY:USH 45

COUNTY:SHAWANO

PERMANENT SIGNING

SHEET

E



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PROJECT NO:1600-22-71

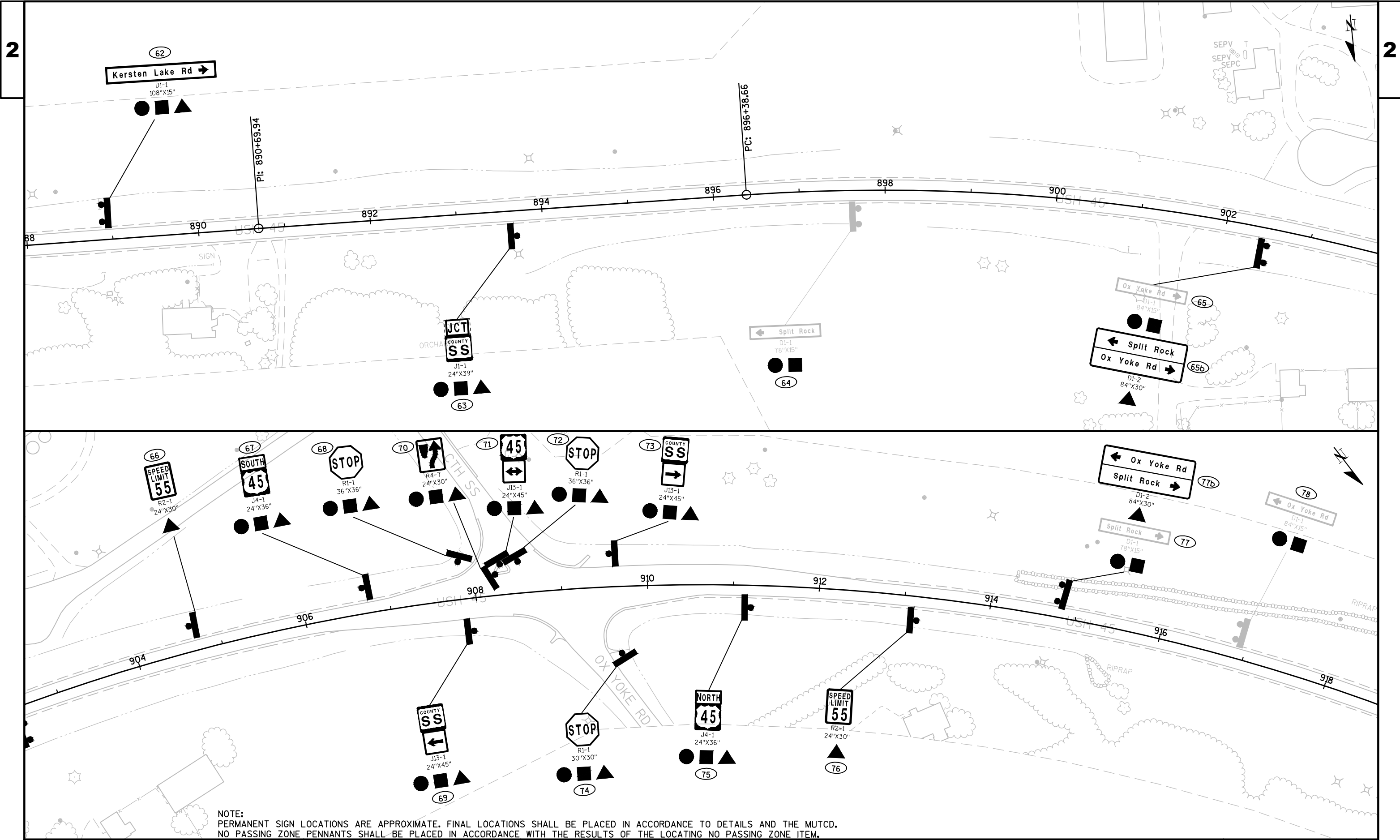
HWY:USH 45

COUNTY:SHAWANO

PERMANENT SIGNING

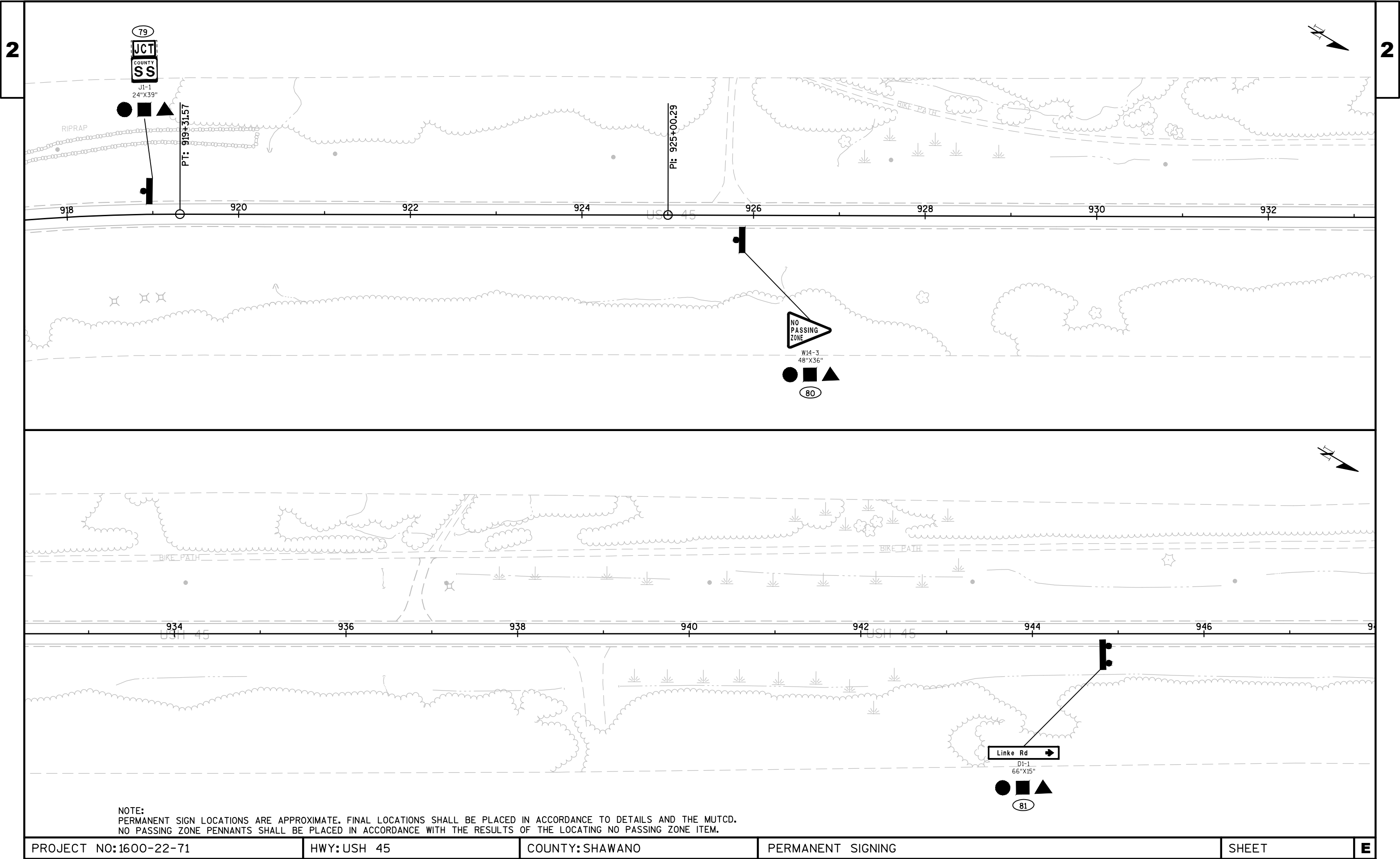
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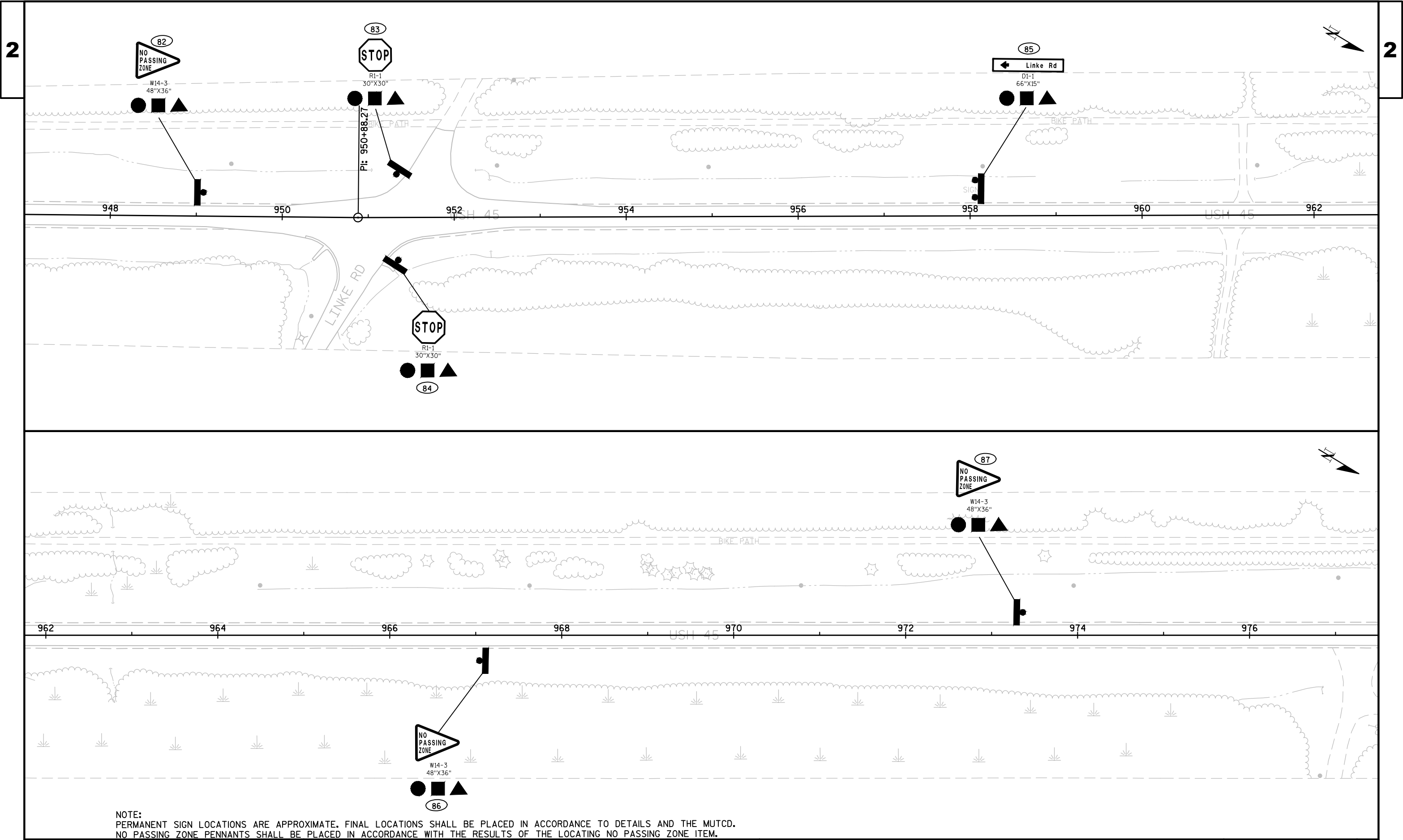
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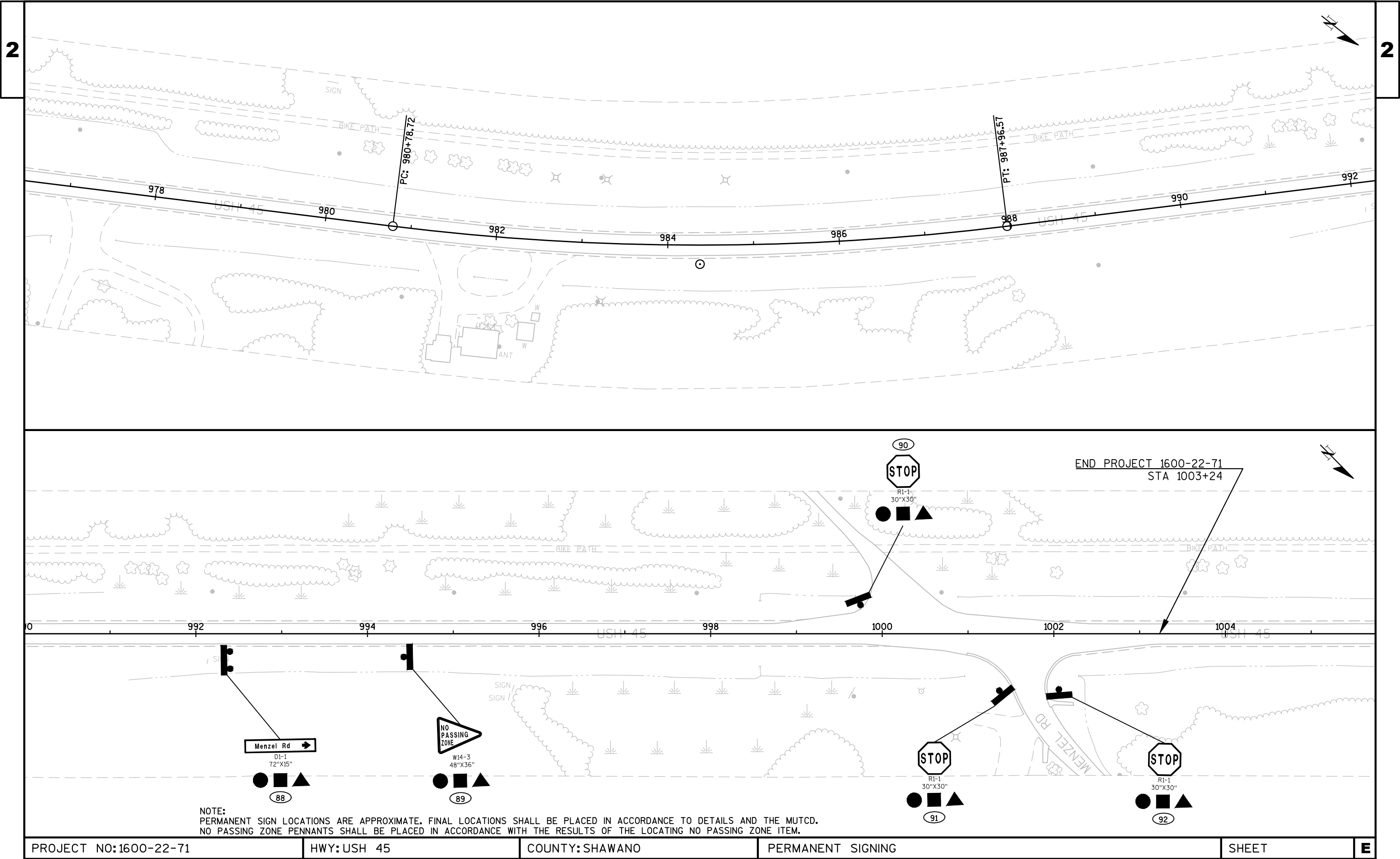
PROJECT NO:1600-22-71	HWY:USH 45	COUNTY:SHAWANO	PERMANENT SIGNING	SHEET	E
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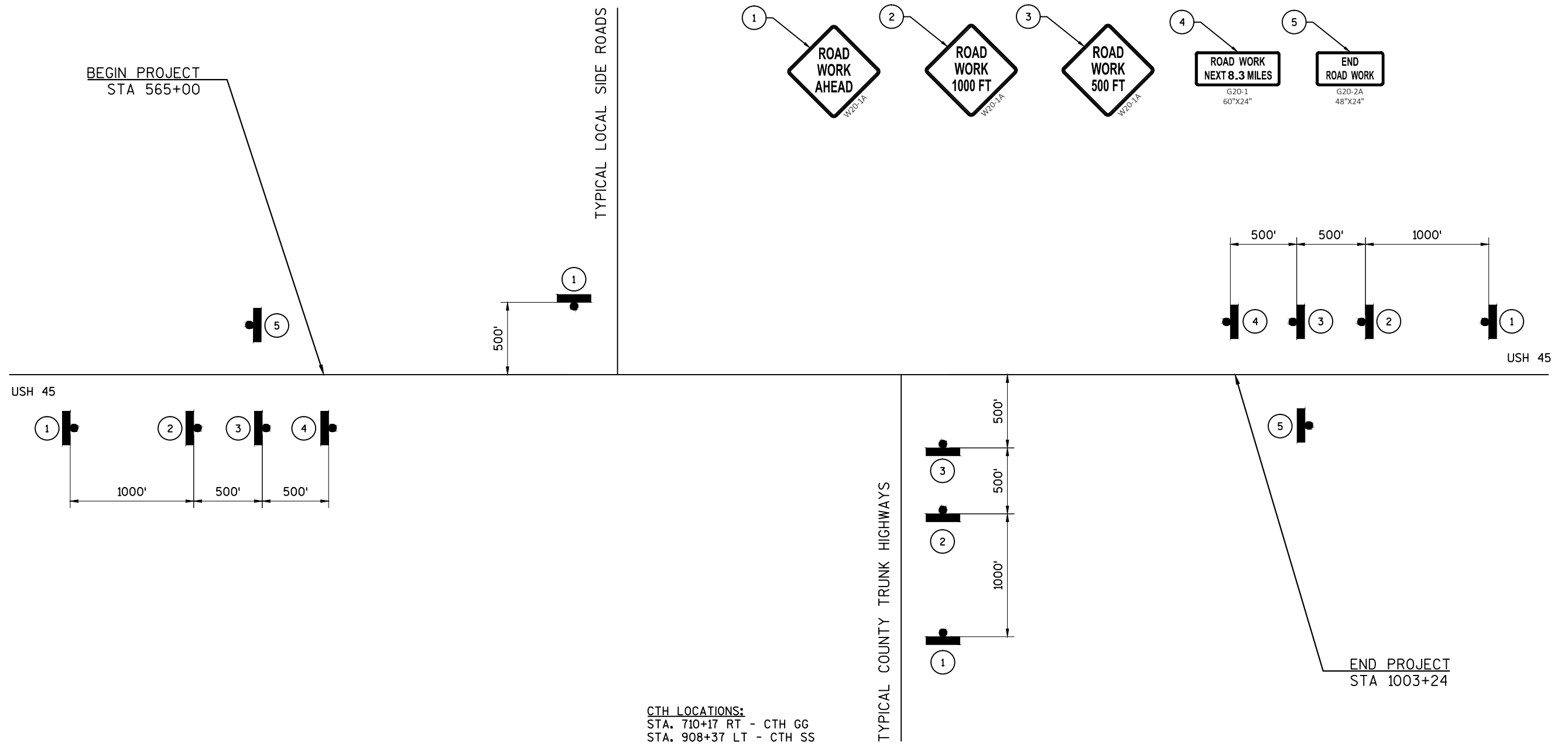




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PROJECT NO:1600-22-71	HWY:USH 45	COUNTY:SHAWANO	PERMANENT SIGNING	SHEET	E
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Estimate Of Quantities

1600-22-71

Line	Item	Item Description	Unit	Total	Qty
0010	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0020	204.0115	Removing Asphaltic Surface Butt Joints	SY	1,240.000	1,240.000
0030	204.0120	Removing Asphaltic Surface Milling	SY	158,359.000	158,359.000
0040	204.0185	Removing Masonry	CY	2.000	2.000
0050	205.0100	Excavation Common	CY	3,250.000	3,250.000
0060	209.2100	Backfill Granular Grade 2	CY	150.000	150.000
0070	213.0100	Finishing Roadway (project) 01. 1600-22-71	EACH	1.000	1.000
0080	305.0110	Base Aggregate Dense 3/4-Inch	TON	7,190.000	7,190.000
0090	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	577.000	577.000
0100	305.0500	Shaping Shoulders	STA	876.480	876.480
0110	312.0110	Select Crushed Material	TON	342.000	342.000
0120	325.0100	Pulverize and Relay	SY	208,184.000	208,184.000
0130	440.4410	Incentive IRI Ride	DOL	33,200.000	33,200.000
0140	455.0605	Tack Coat	GAL	21,541.000	21,541.000
0150	460.2000	Incentive Density HMA Pavement	DOL	25,680.000	25,680.000
0160	460.4110.S	Reheating HMA Pavement Longitudinal Joints	LF	43,824.000	43,824.000
0170	460.6223	HMA Pavement 3 MT 58-28 S	TON	22,564.000	22,564.000
0180	460.6224	HMA Pavement 4 MT 58-28 S	TON	17,555.000	17,555.000
0190	465.0105	Asphaltic Surface	TON	134.000	134.000
0200	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	18.000	18.000
0210	465.0475	Asphalt Center Line Rumble Strips 2-Lane Rural	LF	38,367.000	38,367.000
0220	522.0130	Culvert Pipe Reinforced Concrete Class III 30-Inch	LF	158.000	158.000
0230	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	4.000	4.000
0240	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1600-22-71	EACH	1.000	1.000
0250	619.1000	Mobilization	EACH	1.000	1.000
0260	624.0100	Water	MGAL	2,784.000	2,784.000
0270	625.0100	Topsoil	SY	3,985.000	3,985.000
0280	628.1504	Silt Fence	LF	1,690.000	1,690.000
0290	628.1520	Silt Fence Maintenance	LF	1,690.000	1,690.000
0300	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0310	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0320	628.2006	Erosion Mat Urban Class I Type A	SY	3,985.000	3,985.000
0330	628.7504	Temporary Ditch Checks	LF	50.000	50.000
0340	628.7555	Culvert Pipe Checks	EACH	2.000	2.000
0350	628.7570	Rock Bags	EACH	40.000	40.000
0360	629.0210	Fertilizer Type B	CWT	2.510	2.510
0370	630.0120	Seeding Mixture No. 20	LB	107.570	107.570
0380	633.5200	Markers Culvert End	EACH	5.000	5.000

Estimate Of Quantities

1600-22-71					
Line	Item	Item Description	Unit	Total	Qty
0390	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	94.000	94.000
0400	637.2210	Signs Type II Reflective H	SF	420.050	420.050
0410	637.2230	Signs Type II Reflective F	SF	144.000	144.000
0420	638.2602	Removing Signs Type II	EACH	84.000	84.000
0430	638.3000	Removing Small Sign Supports	EACH	99.000	99.000
0440	642.5201	Field Office Type C	EACH	1.000	1.000
0450	643.0100	Traffic Control (project) 01. 1600-22-71	EACH	1.000	1.000
0460	643.0300	Traffic Control Drums	DAY	210.000	210.000
0470	643.0310.S	Temporary Portable Rumble Strips	LS	1.000	1.000
0480	643.0420	Traffic Control Barricades Type III	DAY	4.000	4.000
0490	643.0715	Traffic Control Warning Lights Type C	DAY	40.000	40.000
0500	643.0900	Traffic Control Signs	DAY	1,304.000	1,304.000
0510	646.0106	Pavement Marking Epoxy 4-Inch	LF	43,881.000	43,881.000
0520	646.0406	Pavement Marking Same Day Epoxy 4-Inch	LF	43,448.000	43,448.000
0530	646.0842.S	Pavement Marking Grooved Contrast Wet Reflective Epoxy 4-Inch	LF	84,349.000	84,349.000
0540	646.0844.S	Pavement Marking Grooved Contrast Wet Reflective Epoxy 8-Inch	LF	393.000	393.000
0550	647.0803	Pavement Marking Aerial Enforcement Bars Epoxy 24-Inch	LF	48.000	48.000
0560	648.0100	Locating No-Passing Zones	MI	8.300	8.300
0570	650.4000	Construction Staking Storm Sewer	EACH	4.000	4.000
0580	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000
0590	650.8000	Construction Staking Resurfacing Reference	LF	43,824.000	43,824.000
0600	650.9910	Construction Staking Supplemental Control (project) 01. 1600-22-71	LS	1.000	1.000
0610	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,000.000	2,000.000
0620	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	1,260.000	1,260.000
0630	SPV.0060	Special 01. Lane Shift	EACH	4.000	4.000
0640	SPV.0060	Special 02. Culvert Pipe Transitions	EACH	2.000	2.000

203.0100 REMOVING SMALL PIPE CULVERTS (EACH)		
STATION	LOCATION	
573+75	58-045-005	1
603+54	58-045-008	1
TOTAL		2

204.0185 REMOVING MASONRY (CY)		
STATION	LOCATION	
603+54	58-045-008 (LT/RT)	2
TOTAL		2

305.0500 SHAPING SHOULDERS (STA)		
STATION - STATION	LOCATION	
565+00 - 1003+24	LT/RT SHOULDER	876.48
TOTAL		876.48

204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS (SY)		
STATION	LOCATION	
565+00	MAINLINE SOUTH	333
570+00	GOLLNOW RD	49
612+94	PE RT	15
630+40	KOPITZKE RD	24
630+40	WEGNER RD	24
686+91	PE RT	18
699+87	PE RT	25
710+20	CTH GG	24
723+50	BERNITT RD	24
725+05	PE LT	26
757+46	PE LT	26
763+20	HUNTING RD	24
776+30	WAHLER RD	24
778+34	PE RT	16
854+67	PE LT	29
856+00	LONE MAPLE RD	24
870+08	PE RT	15
881+22	PE RT	14
882+15	LAKE KERSTEN RD	24
908+82	OX YOKE RD	24
908+82	CTH SS	24
951+35	LINKE RD	49
1001+00	MENZEL RD	49
1003+24	MAINLINE NORTH	333
TOTAL		1240

204.0120 REMOVING ASPHALTIC SURFACE MILLING (SY)			
STATION - STATION	LOCATION	REMARKS	
566+00 - 1002+24	USH 45 (MAINLINE)	4-INCH DEPTH	145413
565+00 - 569+12	10' SHOULDERS	LT/RT	477
706+03 - 709+62	CTH GG - PASSING LANE	RT	238
856+57 - 865+37	LONE MAPLE RD - BYPASS	RT	649
846+35 - 865+93	LONE MAPLE RD - BYPASS	LT	1416
909+22 - 912+69	CTH SS - PASSING LANE	LT	241
906+20 - 908+40	OX YOKE RD - PASSING LANE	RT	141
570+00	GOLLNOW RD	LT/RT	1303
630+40	KOPITZKE RD	LT	575
630+40	WEGNER RD	RT	571
710+20	CTH GG	RT	557
723+50	BERNITT RD	LT	437
763+20	HUNTING RD	RT	469
776+30	WAHLER RD	RT	607
856+00	LONE MAPLE RD	RT	544
882+15	LAKE KERSTEN RD	LT	561
908+82	OX YOKE RD	RT	591
908+82	CTH SS	LT	739
951+35	LINKE RD	LT/RT	1440
1001+00	MENZEL RD	LT/RT	1390
TOTAL			158359

465.0475 ASPHALTIC CENTER LINE RUMBLE STRIPS 2-LANE RURAL		
STATION - STATION	LOCATION	(LF)
566+00 - 998+24	USH 45 (MAINLINE)	38367
TOTAL		38367

325.0100 PULVERIZE AND RELAY		
STATION - STATION	LOCATION	(SY)
565+00 - 1003+24	MAINLINE	203492
565+00 - 569+12	10' SHOULDERS (LT/RT)	752
706+03 - 709+62	CTH GG PASSING LANE (RT)	358
846+35 - 865+93	LONE MAPLE ROAD BYPASS (LT)	2069
856+57 - 865+37	LONE MAPLE ROAD BYPASS (RT)	942
906+20 - 908+40	OX YOKE RD PASSING LANE (RT)	214
909+22 - 912+69	CTH SS PASSING LANE (LT)	357
TOTAL		208184

NOTE: REMOVAL OF EXCESS MATERIAL AND/OR SLOPE CORRECTION IS INCIDENTAL TO "325.0100 PULVERIZE AND RELAY" ITEM.

		455.0605 TACK COAT	460.4110.S REHEATING HMA PAVEMENT LONGITUDINAL JOINTS	460.6223 HMA PAVEMENT 3 MT 58-28 S	460.6224 HMA PAVEMENT 4 MT 58-28 S	465.0105 ASPHALTIC SURFACE
STATION - STATION	LOCATION	(GAL)	(LF)	(TON)	(TON)	(TON)
565+00 - 1003+24	MAINLINE	19867	43824	20860	16225	
565+00 - 569+12	10' SHOULDERS (LT/RT)	57		60	47	
706+03 - 709+62	CTH GG PASSING LANE (RT)	29		30	23	
846+35 - 865+93	LONE MAPLE ROAD BYPASS (LT)	170		178	139	
856+57 - 865+37	LONE MAPLE ROAD BYPASS (RT)	78		82	64	
906+20 - 908+40	OX YOKE RD PASSING LANE (RT)	17		18	14	
909+22 - 912+69	CTH SS PASSING LANE (LT)	29		30	24	
	SIDEROADS	1219		1281	994	
573+20 - 574+30	58-045-005	45				82
603+29 - 603+79	58-045-008	15				37
	UNDISTRIBUTED	15		25	25	15
TOTAL		21541	43824	22564	17555	134

		205.0100 EXCAVATION COMMON	209.2100 BACKFILL GRANULAR GRADE 2	305.0110 BASE AGGREGATE DENSE 3/4-INCH	305.0120 BASE AGGREGATE DENSE 1 1/4- INCH	312.0110 SELECT CRUSHED MATERIAL
STATION - STATION	LOCATION	(CY)	(CY)	(TON)	(TON)	(TON)
565+00 - 1003+24	LT/RT SHOULDER	3250		7140		
573+75	58-045-005				397	234
603+54	58-045-008				180	108
	UNDISTRIBUTED		150	50		
TOTAL		3250	150	7190	577	342

465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES		
STATION	LOCATION	(TON)
STA 612+94	RT	1.5
STA 686+91	RT	1.7
STA 699+87	RT	2.4
STA 725+05	LT	2.5
STA 757+46	LT	2.5
STA 778+34	RT	1.5
STA 854+67	LT	2.8
STA 870+08	RT	1.5
STA 881+22	RT	1.4
TOTAL		18

3

		522.0130 CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH (LF)	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH (EACH)
STATION	LOCATION		
573+75	58-045-005	90	2
603+54	58-045-008	68	2
TOTAL		158	4

STATION - STATION	LOCATION	624.0100 WATER (MGAL)
573+75	PIPE CULVERT: 58-045-005	8
603+54	PIPE CULVERT: 58-045-008	4
565+00 - 1003+24	SHOULDERS	45
565+00 - 1003+24	PULVERIZE & RELAY LIMITS	2727
TOTAL		2,784

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL (EACH)	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH)
PROJECT	3	3
TOTAL	3	3

3

STATION	LOCATION	REMARKS	633.5200 MARKERS CULVERT END (EACH)
573+75	PIPE CULVERT: 58-045-005	LT/RT	2
603+54	PIPE CULVERT: 58-045-008	LT/RT	2
630+17	C-CULVERT: C-58-0063	EAST END	1
TOTAL			5

STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)	628.7504 TEMPORARY DITCH CHECKS (LF)	628.7555 CULVERT PIPE CHECKS (EACH)	628.7570 ROCK BAGS (EACH)
573+75	PIPE CULVERT: 58-045-005	825	825	20	1	
603+54	PIPE CULVERT: 58-045-008	815	815	20	1	
	UNDISTRIBUTED	50	50	10		40
TOTAL		1,690	1,690	50	2	40

LOCATION	643.0310.S TEMPORARY PORTABLE RUMBLE STRIPS (LS)
PROJECT	1
TOTAL	1
NOTE: FOR STATIONARY FLAGGING OPERATIONS ONLY. INCLUDES CULVERT REPLACEMENTS.	

STATION - STATION	LOCATION	625.0100 TOPSOIL (SY)	628.2006 EROSION MAT CLASS I TYPE A (SY)	629.0210 FERTILIZER TYPE B (CWT)	630.0120 SEEDING MIXTURE NO. 20 (LB)
573+75	PIPE CULVERT: 58-045-005	2240	2240	1.41	60.45
603+54	PIPE CULVERT: 58-045-008	1670	1670	1.05	45.10
	UNDISTRIBUTED	75	75	0.05	2.03
TOTAL		3,985	3,985	2.51	107.57

3

		643.0100 TRAFFIC CONTROL PROJECT	643.0300 TRAFFIC CONTROL DRUMS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	643.0900 TRAFFIC CONTROL SIGNS
STATION - STATION	LOCATION	(EACH)	(DAY)	(DAY)	(DAY)	(DAY)
565+00 - 1003+24	PROJECT	1				1160
565+00 - 1003+24	PAVEMENT REMOVAL/PAVING OPERATIONS		150			120
573+75	58-045-005		30	2	20	12
603+54	58-045-008		30	2	20	12
TOTAL		1	210	4	40	1,304

		650.4000 CONSTRUCTION STAKING STORM SEWER	650.6000 CONSTRUCTION STAKING PIPE CULVERTS	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE
STATION - STATION	LOCATION	(EACH)	(EACH)	(LF)
565+00 - 1003+24	PROJECT			43824
573+75	PIPE CULVERT: 58-045-005	2	1	
603+54	PIPE CULVERT: 58-045-008	2	1	
TOTAL		4	2	43824

3

		646.0106 PAVEMENT MARKING EPOXY 4-INCH DASHED WHITE	646.0106 PAVEMENT MARKING EPOXY 4-INCH CENTERLINE YELLOW	646.0842.S PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 4- INCH EDGELINE WHITE	646.0844.S PAVEMENT MARKING GROOVED CONTRAST WET REFLECTIVE EPOXY 8- INCH CHANNELIZING WHITE	646.0406 PAVEMENT MARKING SAME DAY EPOXY 4- INCH CENTERLINE YELLOW	647.0803 PAVEMENT MARKING AERIAL ENFORCEMENT BARS EPOXY 24- INCH
STATION - STATION	LOCATION	(LF)	(LF)	(LF)	(LF)	(LF)	(LF)
565+00 - 1003+24	PROJECT						
565+00 - 1003+24	MAINLINE		43448	84349		43448	
856+56 - 861+52	LONE MAPLE RD (RT)	125					
850+55 - 862+85	LONE MAPLE RD (LT)	308					
707+60 - 709+61	CTH GG (RT)				202		
909+21 - 911+11	CTH SS (LT)				191		
583+00 - 602+80	NORTHBOUND LANE						24
658+20 - 678+00	SOUTHBOUND LANE						24
TOTALS			43881	84349	393	43448	48

648.0100 LOCATING NO- PASSING ZONES		
STATION - STATION	LOCATION	(MI)
565+00 - 1003+24	PROJECT	8.3
TOTAL		8.3

SPV.0060.01 LANE SHIFT		
STATION - STATION	LOCATION	(EACH)
573+75	58-045-005	2
603+54	58-045-008	2
TOTAL		4

SPV.0060.02 CULVERT PIPE TRANSITIONS		
STATION - STATION	LOCATION	(EACH)
573+20 - 574+30	58-045-005	1
603+29 - 603+79	58-045-008	1
TOTAL		2

3

PERMANENT SIGNING													
SIGN NUMBER	STATION	LOCATION	SIGN CODE	WIDTH (IN)	HEIGHT (IN)	REMARKS	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	634.0616 WOOD POSTS 4X6 INCH 16 FOOT EACH	MOUNT ON SAME POST AS SIGN #	DESCRIPTION
1	565+26	LT	R2-1	24	30	SPEED LIMIT 55	-	-	5.00	-	1	-	REGULATORY SIGN
2	565+26	RT	R2-1	24	30	SPEED LIMIT 55	1	1	5.00	-	1	-	REGULATORY SIGN
3	570+00	LT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN
4	570+02	RT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN
5	572+13	RT	W6-3	36	36	TWO-WAY TRAFFIC SYMBOL	1	1	-	-	-	-	WARNING SIGN
6	572+13	LT	W6-1	36	36	DIVIDED HIGHWAY SYMBOL	1	1	-	-	-	-	WARNING SIGN
7	572+13	LT	R4-52R	24	24	KEEP RIGHT	1	-	-	-	-	-	REGULATORY SIGN
8	572+13	RT	W6-1	36	36	DIVIDED HIGHWAY SYMBOL	1	-	-	-	-	-	WARNING SIGN
9	572+13	RT	R4-52R	24	24	KEEP RIGHT	1	-	-	-	-	-	REGULATORY SIGN
10	577+41	LT	D1-61	66	24	[LA] GOLLNOW RD [RA]	1	2	11.00	-	2	-	DESTINATION SIGN
11	578+99	RT	D2-3	84	36	TIGERTON 9, WITTENBERG 19, ANTIGO 43	1	2	21.00	-	2	-	DESTINATION SIGN
12	583+22	RT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN
13	590+61	LT	W6-1	36	36	DIVIDED HIGHWAY SYMBOL	1	1	-	-	-	-	WARNING SIGN
14	590+61	LT	W57-52	36	24	1 / 2 MILE AHEAD	1	-	-	-	-	-	WARNING SIGN
15	603+81	LT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN
16	622+82	RT	D1-2	84	30	[LA] KOPITZKE RD, WEGNER RD [RA]	1	2	17.50	-	2	-	DESTINATION SIGN
17	627+04	RT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN
18	627+04	LT	I55-56	30	36	REMOVE: MARION EDUCATION ASSOCIATION	1	1	-	-	-	-	ADOPT-A-HIGHWAY
19	629+68	LT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN
20	631+26	RT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN
21	634+43	RT	I55-56	30	36	REMOVE: UNKNOWN SPONSOR	1	1	-	-	-	-	ADOPT-A-HIGHWAY
22	637+07	LT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN
23	639+71	LT	D1-2	84	30	[LA] WEGNER RD, KOPITZKE RD [RA]	1	2	17.50	-	2	-	DESTINATION SIGN
24	659+25	RT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN
25	670+34	LT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN
26	675+50	RT	W11-12	36	36	AMISH TRAFFIC SYMBOL	1	1	-	9.00	1	-	WARNING SIGN
27	698+85	RT	J1-1	24	39		1	1	6.50	-	1	-	JUNCTION ASSEMBLY
			M2-1	21	15	JCT	-	-	-	-	-	-	MARKER SIGN
			M1-5A	24	24	GG	-	-	-	-	-	-	CTH ROUTE MARKER SIGN
28	706+35	LT	R2-1	24	30	SPEED LIMIT 55	-	-	5.00	-	1	-	REGULATORY SIGN
29	708+35	LT	J4-1	24	36		1	1	6.00	-	1	-	REASSURANCE ASSEMBLY
			M3-3	24	12	SOUTH	-	-	-	-	-	-	CARDINAL DIRECTION MARKER
			M1-4	24	24	45	-	-	-	-	-	-	USH ROUTE MARKER SIGN
30	709+41	RT	J13-1	24	45		1	1	7.50	-	1	-	DIRECTIONAL ASSEMBLY
			M1-5A	24	24	GG	-	-	-	-	-	-	CTH ROUTE MARKER SIGN
			M6-1	21	21	RA	-	-	-	-	-	-	MARKER SIGN
31	710+46	RT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN
32	710+46	RT	J13-1	24	45		1	1	7.50	-	1	-	DIRECTIONAL ASSEMBLY
			M1-4	24	24	45	-	-	-	-	-	-	USH ROUTE MARKER SIGN
			M6-4	21	21	DBA	-	-	-	-	-	-	MARKER SIGN
33	710+99	LT	J13-1	24	45		1	1	7.50	-	1	-	DIRECTIONAL ASSEMBLY
			M1-5A	24	24	GG	-	-	-	-	-	-	CTH ROUTE MARKER SIGN
			M6-1	21	21	LA	-	-	-	-	-	-	MARKER SIGN
34	713+00	RT	R2-1	24	30	SPEED LIMIT 55	-	-	5.00	-	1	-	REGULATORY SIGN
35	716+80	RT	D1-1	78	15	[LA] BERNITT RD	1	2	8.13	-	2	-	DESTINATION SIGN
SHEET 1 SUB-TOTALS:							32	33	156.03	45.00	31		
PROJECT NO: 1600-22-71			HWY: USH 45			COUNTY: SHAWANO			MISCELLANEOUS QUANTITIES			SHEET:	E

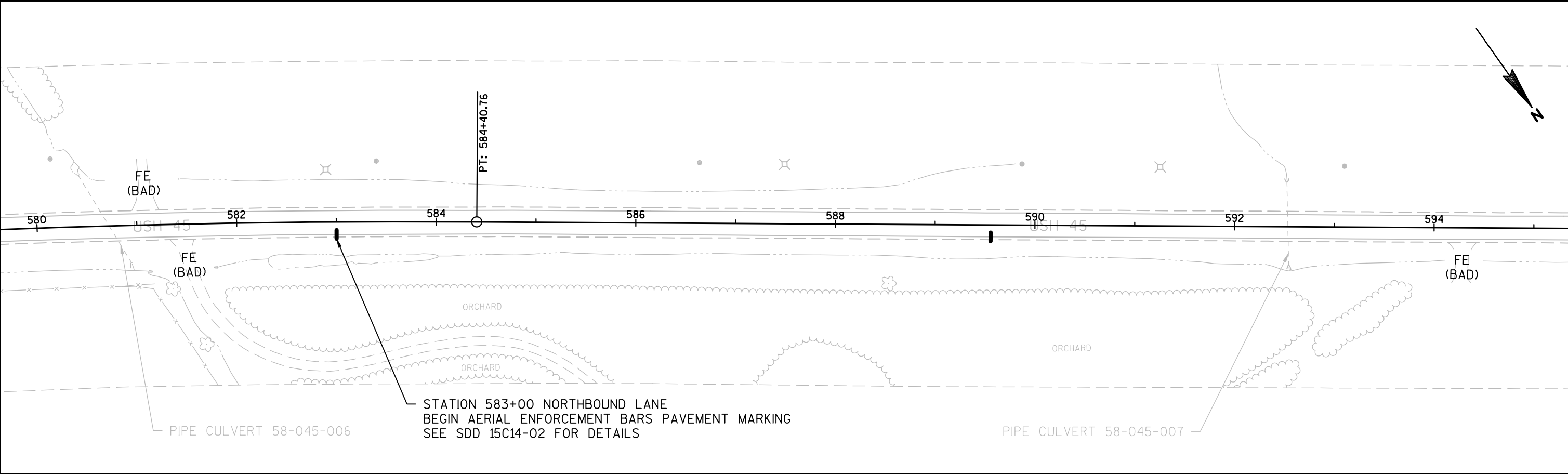
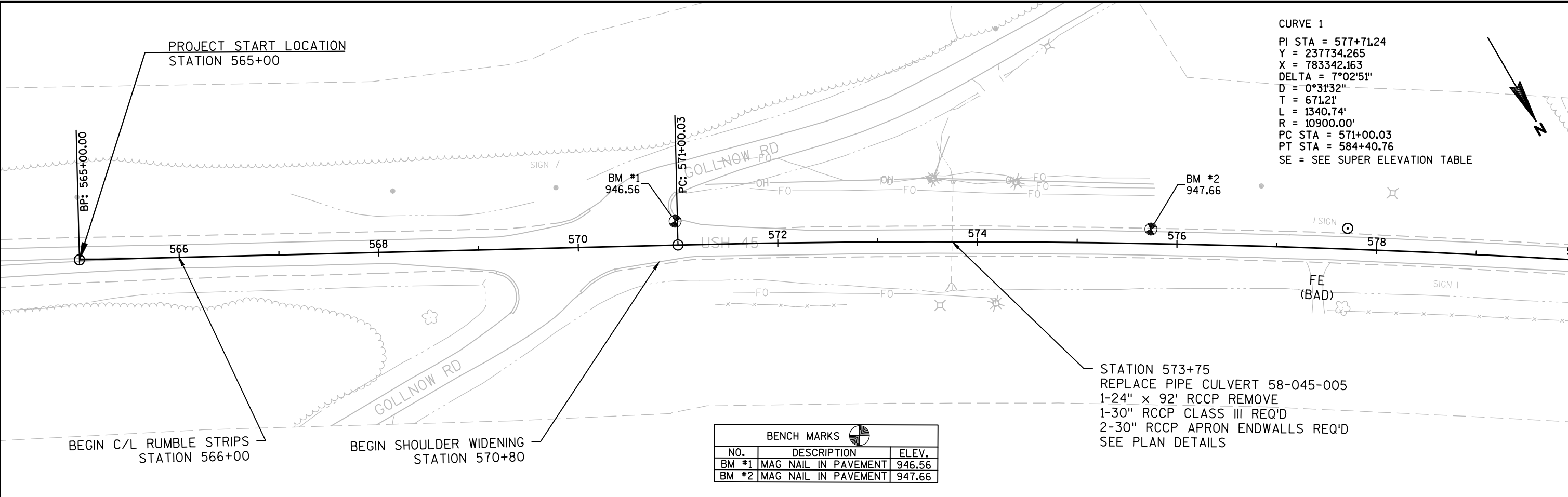
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PERMANENT SIGNING													
SIGN NUMBER	STATION	LOCATION	SIGN CODE	WIDTH (IN)	HEIGHT (IN)	REMARKS	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	634.0618 WOOD POSTS 4X6 INCH 16 FOOT EACH	MOUNT ON SAME POST AS SIGN #	DESCRIPTION
36	720+50	LT	J1-1	24	39		1	1	6.50	-	1	-	JUNCTION ASSEMBLY
			M2-1	21	15	JCT	-	-	-	-	-	-	MARKER SIGN
			M1-5A	24	24	GG	-	-	-	-	-	-	CTH ROUTE MARKER SIGN
37	723+14	LT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN
38	728+94	RT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN
39	730+53	LT	D1-1	78	15	BERNITT RD [RA]	1	2	8.13	-	2	-	DESTINATION SIGN
40	741+09	LT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN
41	756+93	RT	D1-1	78	15	[LA] HUNTING RD	1	2	8.13	-	2	-	DESTINATION SIGN
42	762+74	LT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN
43	763+26	RT	W1-7	48	24	DBA	1	1	-	8.00	1	-	WARNING SIGN
44	767+95	LT	W11-12	36	36	AMISH TRAFFIC SYMBOL	1	1	-	9.00	1	-	WARNING SIGN
45	769+07	RT	D1-1	72	15	TO REMAIN: WAHLER RD	-	-	-	-	-	-	DESTINATION SIGN
46	770+13	LT	D1-1	78	15	HUNTING RD [RA]	1	2	8.13	-	2	-	DESTINATION SIGN
47	773+30	RT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN
48	776+99	RT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN
49	783+33	LT	D1-1	72	15	TO REMAIN: WAHLER RD	-	-	-	-	-	-	DESTINATION SIGN
50	823+98	LT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN
51	849+33	RT	D1-1	96	15	LONE MAPLE RD [RA]	1	2	10.00	-	2	-	DESTINATION SIGN
52	856+19	LT	W1-7	48	24	DBA	1	1	-	8.00	1	-	WARNING SIGN
53	856+50	RT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN
54	856+72	LT	W4-2R	36	36	RIGHT LANE ENDS SYMBOL	1	1	-	-	-	-	WARNING SIGN
55	858+30	RT	W4-2R	36	36	RIGHT LANE ENDS SYMBOL	1	1	-	-	-	-	WARNING SIGN
56	863+06	LT	D1-1	96	15	[LA] LONE MAPLE RD	1	2	10.00	-	2	-	DESTINATION SIGN
57	869+92	RT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN
58	875+20	RT	D1-1	108	15	[LA] KERSTEN LAKE RD	1	2	11.25	-	2	-	DESTINATION SIGN
59	881+75	LT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN
60	883+12	RT	W1-7	48	24	DBA	1	1	-	8.00	1	-	WARNING SIGN
61	886+29	LT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN
62	888+93	LT	D1-1	108	15	KERSTEN LAKE RD [RA]	1	2	11.25	-	2	-	DESTINATION SIGN
63	893+68	RT	J1-1	24	39		-	-	6.50	-	1	-	JUNCTION ASSEMBLY
			M2-1	21	15	JCT	-	-	-	-	-	-	MARKER SIGN
			M1-5A	24	24	SS	-	-	-	-	-	-	CTH ROUTE MARKER SIGN
64	897+90	RT	D1-1	78	15	[LA] SPLIT ROCK	1	2	-	-	-	-	DESTINATION SIGN
65	902+66	RT	D1-1	84	15	OX YOKE RD [RA]	1	2	-	-	-	-	DESTINATION SIGN
65b	902+66	RT	D1-2	84	30	[LA] SPLIT ROCK, OX YOKE RD [RA]	-	-	17.50	-	2	-	DESTINATION SIGN
66	904+88	LT	R2-1	24	30	SPEED LIMIT 55	-	-	5.00	-	1	-	REGULATORY SIGN
67	906+88	LT	J4-1	24	36		1	1	6.00	-	1	-	REASSURANCE ASSEMBLY
			M3-3	24	12	SOUTH	-	-	-	-	-	-	CARDINAL DIRECTION MARKER
			M1-4	24	24	45	-	-	-	-	-	-	USH ROUTE MARKER SIGN
68	907+94	LT	R1-1	36	36	STOP SIGN	1	1	7.46	-	1	-	REGULATORY SIGN
69	907+94	RT	J13-1	24	45		1	1	7.50	-	1	-	DIRECTIONAL ASSEMBLY
			M1-5A	24	24	SS	-	-	-	-	-	-	CTH ROUTE MARKER SIGN
			M6-1	21	21	LA	-	-	-	-	-	-	MARKER SIGN
70	908+46	LT	R4-7	24	30	KEEP RIGHT SYMBOL	1	1	5.00	-	1	-	REGULATORY SIGN
71	908+46	LT	J13-1	24	45		1	1	7.50	-	1	-	DIRECTIONAL ASSEMBLY
			M1-4	24	24	45	-	-	-	-	-	-	USH ROUTE MARKER SIGN
			M6-4	21	21	DBA	-	-	-	-	-	-	MARKER SIGN
72	908+46	LT	R1-1	36	36	STOP SIGN	1	1	7.46	-	1	-	REGULATORY SIGN
SHEET 2 SUB-TOTALS:							33	42	169.20	69.00	40		
PROJECT NO: 1600-22-71			HWY: USH 45			COUNTY: SHAWANO			MISCELLANEOUS QUANTITIES				SHEET:
FILE NAME : N:\pds\project_id\1600-22-01,71,USH45_GallnowtoMenzel\Quantities\16002271_mq.ppt			PLOT DATE : January 26, 2016			PLOT BY : Chad Blumenschein			PLOT NAME : _____			PLOT SCALE : 1:1	

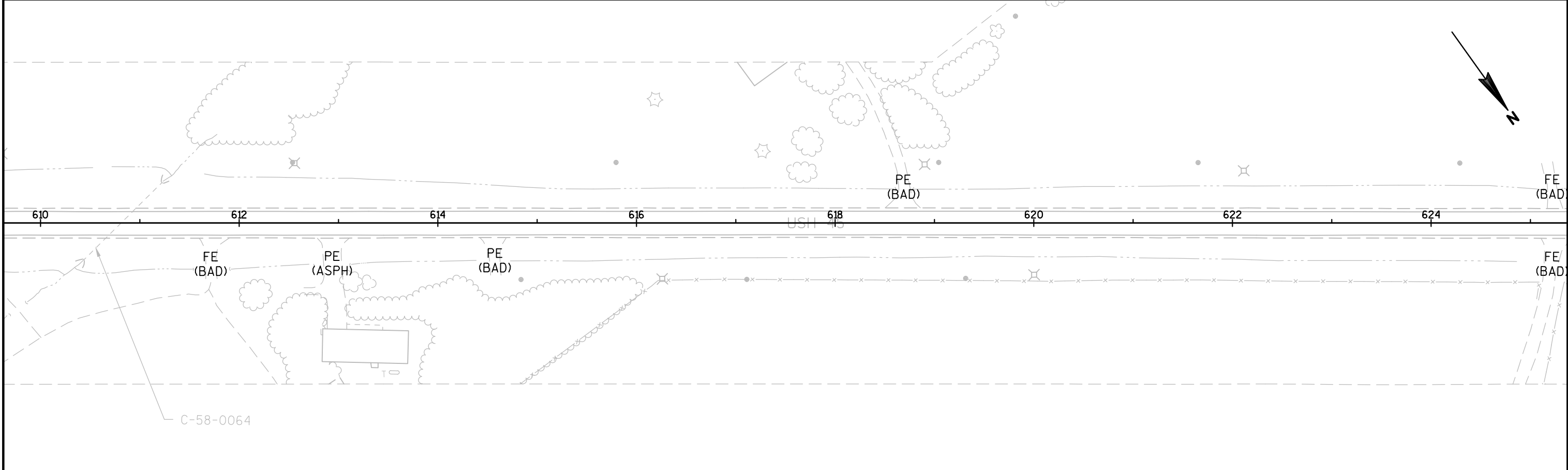
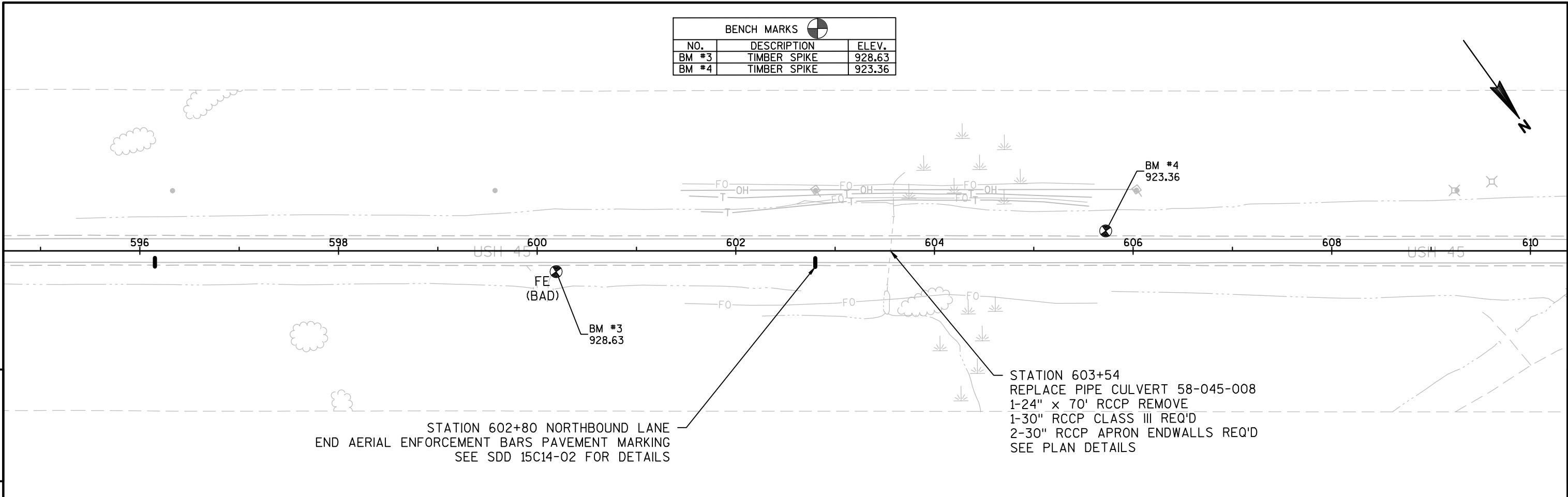
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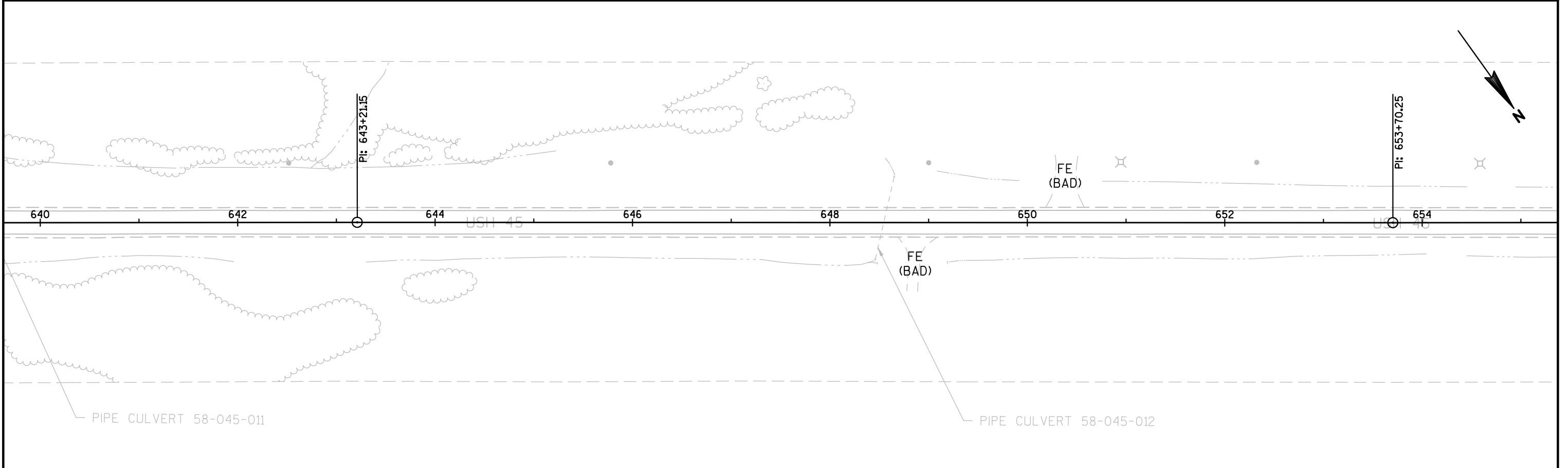
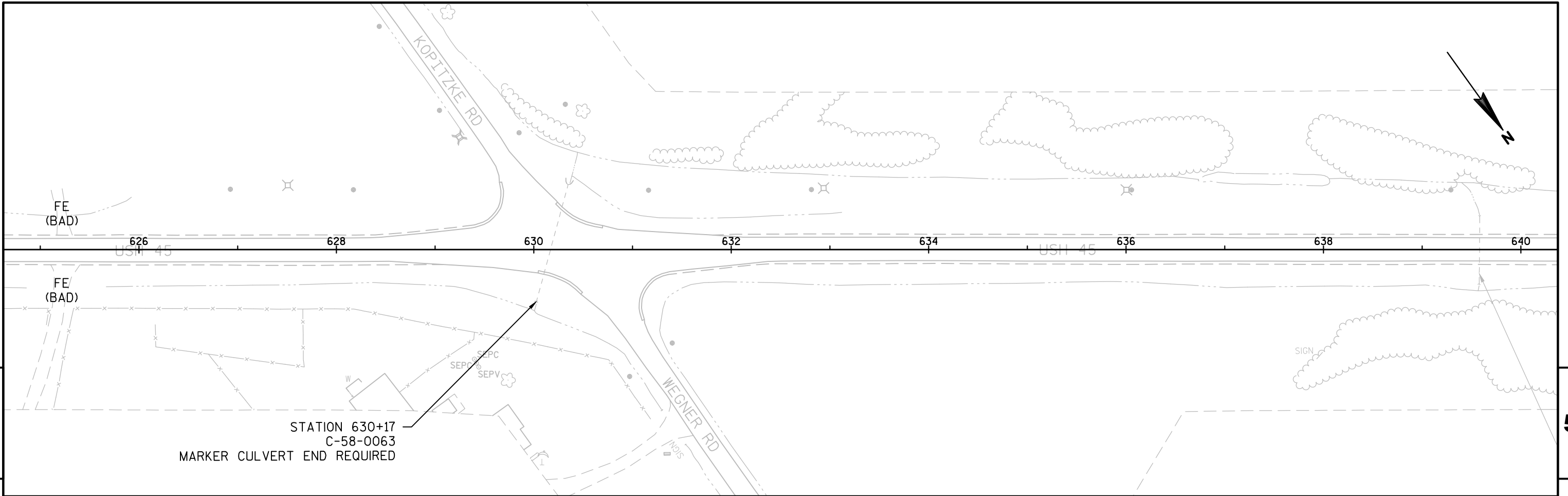
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PERMANENT SIGNING														
SIGN NUMBER	STATION	LOCATION	SIGN CODE	WIDTH (IN)	HEIGHT (IN)	REMARKS	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	637.2230 SIGNS TYPE II REFLECTIVE F S.F.	634.0616 WOOD POSTS 4X6 INCH 16 FOOT EACH	MOUNT ON SAME POST AS SIGN #	DESCRIPTION	
73	909+52	LT	J13-1 M1-5A M6-1	24 24 21	45 24 21	SS RA	1 - -	1 - -	7.50 - -	- - -	1 - -	- - -	<u>DIRECTIONAL ASSEMBLY</u> CTH ROUTE MARKER SIGN MARKER SIGN	
74	909+52	RT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN	
75	911+10	RT	J4-1 M3-1 M1-4	24 24 24	36 12 24	NORTH 45	1 - -	1 - -	6.00 - -	- - -	1 - -	- - -	<u>REASSURANCE ASSEMBLY</u> CARDINAL DIRECTION MARKER USH ROUTE MARKER SIGN	
76	913+10	RT	R2-1	24	30	SPEED LIMIT 55	-	-	5.00	-	1	-	REGULATORY SIGN	
77	914+91	LT	D1-1	78	15	SPLIT ROCK [RA]	1	2	-	-	-	-	DESTINATION SIGN	
77b	914+91	LT	D1-2	84	30	[LA] OX YOKE RD, SPLIT ROCK [RA]	-	-	17.50	-	2	-	DESTINATION SIGN	
78	916+91	LT	D1-1	84	15	[LA] OX YOKE RD	1	2	-	-	-	-	DESTINATION SIGN	
79	919+02	LT	J1-1 M2-1 M1-5A	24 21 24	39 15 24	JCT SS	1 - -	1 - -	6.50 - -	- - -	1 - -	- - -	<u>JUNCTION ASSEMBLY</u> MARKER SIGN CTH ROUTE MARKER SIGN	
80	925+89	RT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN	
81	944+90	RT	D1-1	66	15	LINKE RD [RA]	1	2	6.88	-	2	-	DESTINATION SIGN	
82	949+12	LT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN	
83	951+23	LT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN	
84	951+23	RT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN	
85	958+10	LT	D1-1	66	15	[LA] LINKE RD	1	2	6.88	-	2	-	DESTINATION SIGN	
86	967+07	RT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN	
87	973+41	LT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN	
88	992+42	RT	D1-1	72	15	MENZEL RD [RA]	1	2	7.50	-	2	-	DESTINATION SIGN	
89	994+53	RT	W14-3	48	36	NO PASSING ZONE	1	1	-	6.00	1	-	WARNING SIGN	
90	999+81	LT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN	
91	1001+39	RT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN	
92	1002+18	RT	R1-1	30	30	STOP SIGN	1	1	5.18	-	1	-	REGULATORY SIGN	
SHEET 3							19	24	94.83	30.00	23			
SHEETS 1-3							84	99	420.05	144.00	94			
SUB-TOTALS:														
GRAND TOTAL:														
PROJECT NO: 1600-22-71				HWY: USH 45		COUNTY: SHAWANO			MISCELLANEOUS QUANTITIES				SHEET: E	

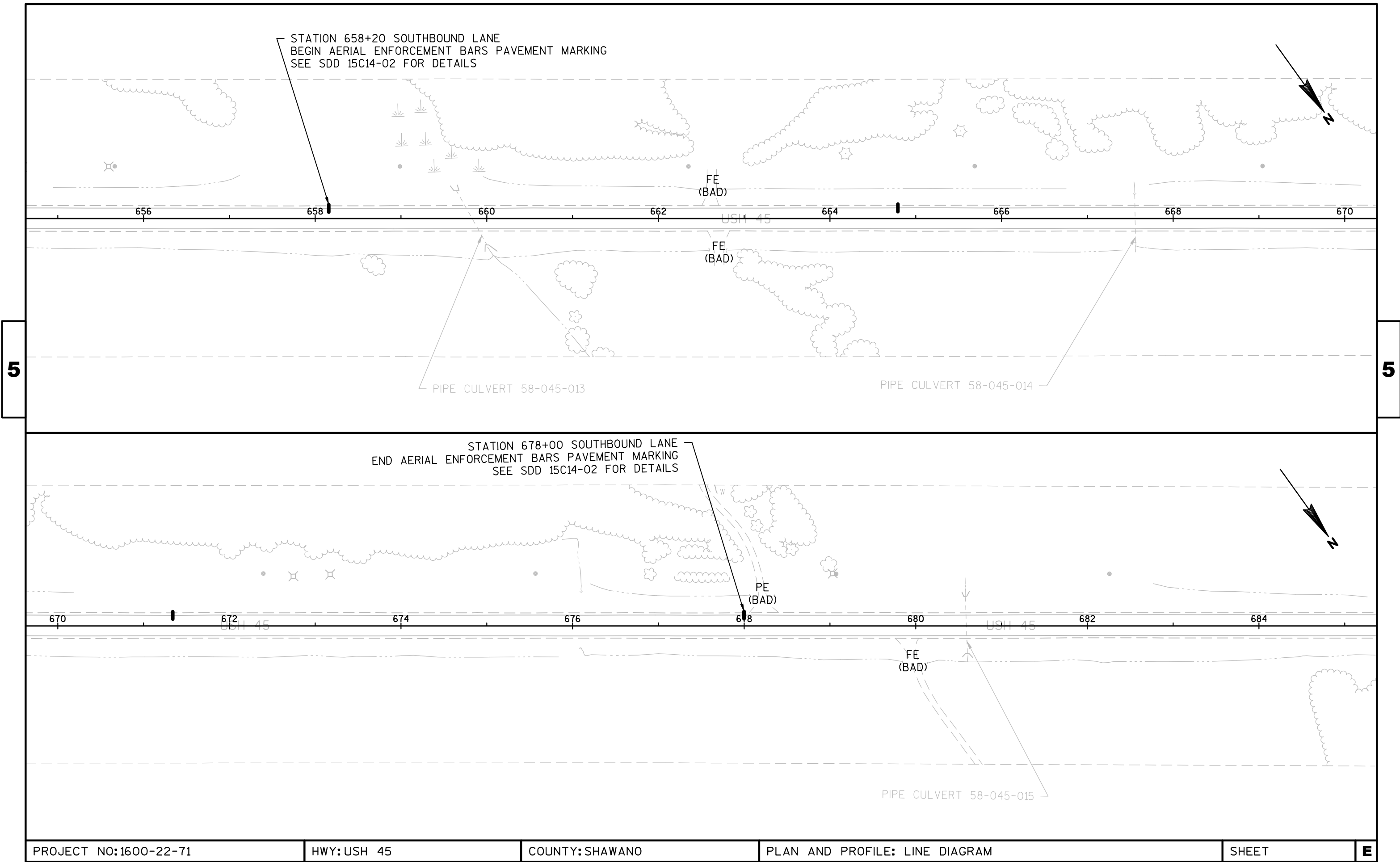


BENCH MARKS		
NO.	DESCRIPTION	ELEV.
BM #3	TIMBER SPIKE	928.63
BM #4	TIMBER SPIKE	923.36





PROJECT NO:1600-22-71	HWY:USH 45	COUNTY:SHAWANO	PLAN AND PROFILE: LINE DIAGRAM	SHEET	E
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PROJECT NO:1600-22-71

HWY:USH 45

COUNTY:SHAWANO

PLAN AND PROFILE: LINE DIAGRAM

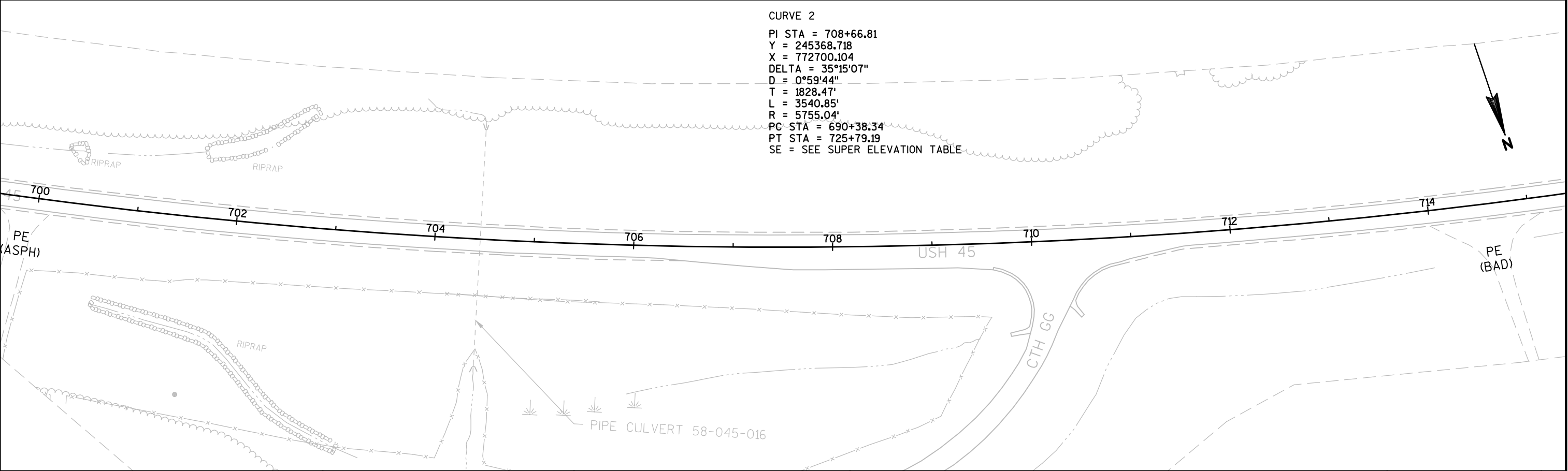
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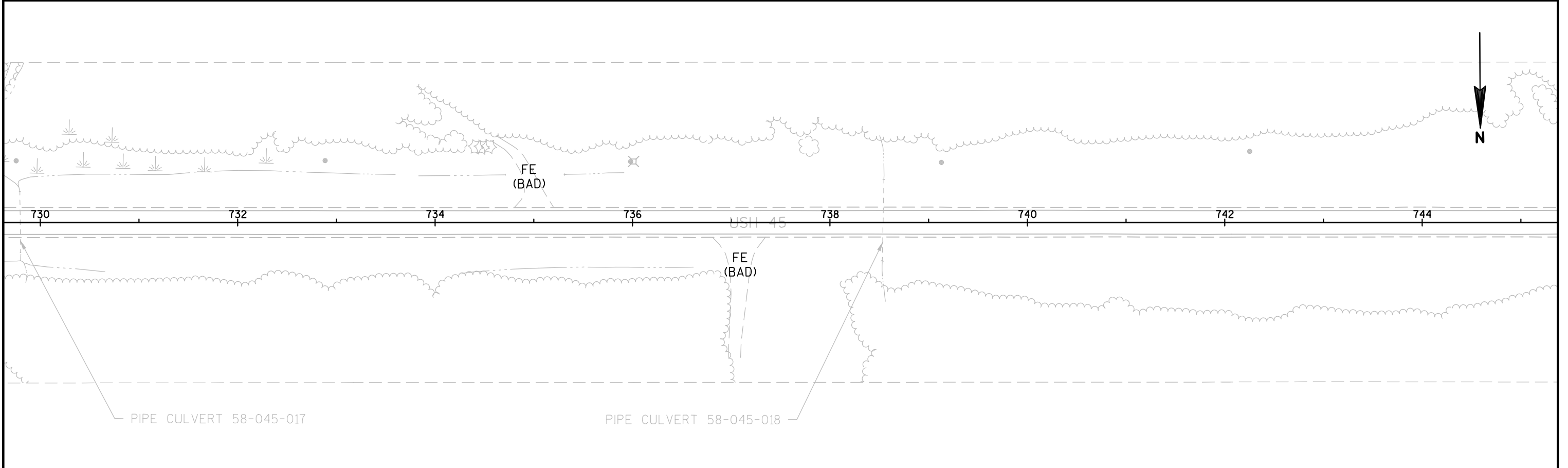
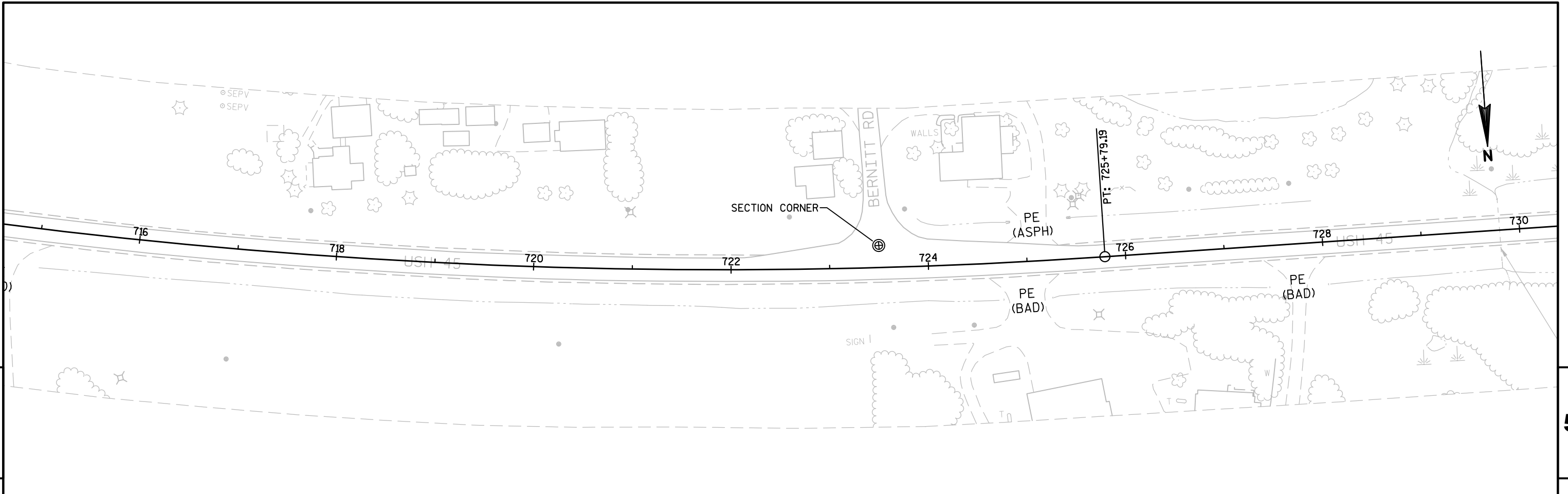
E

5

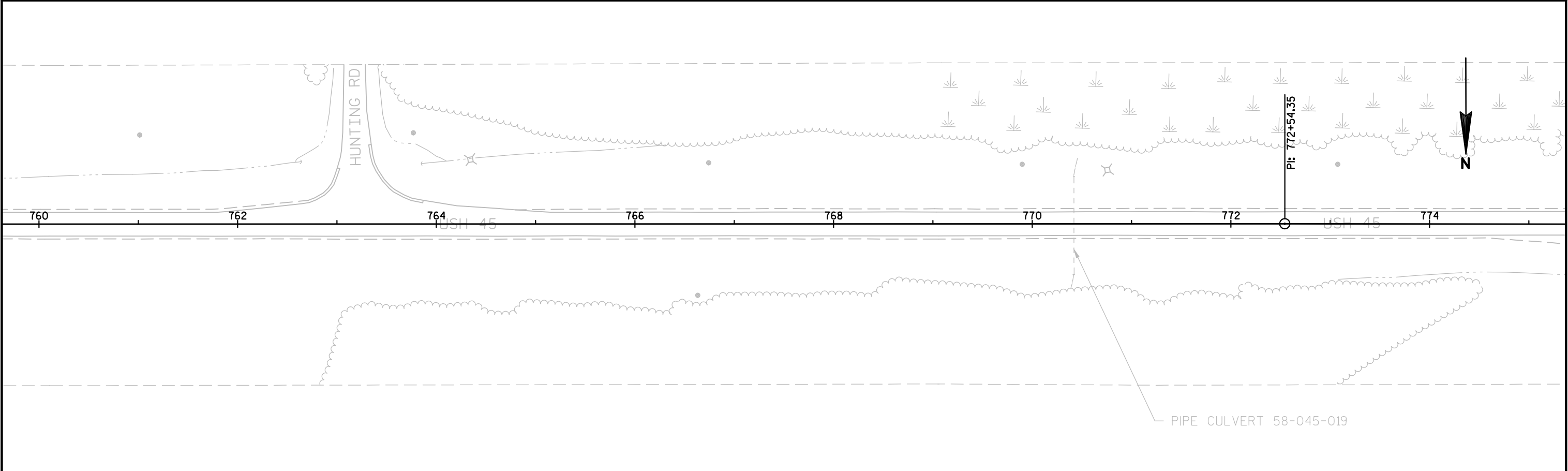
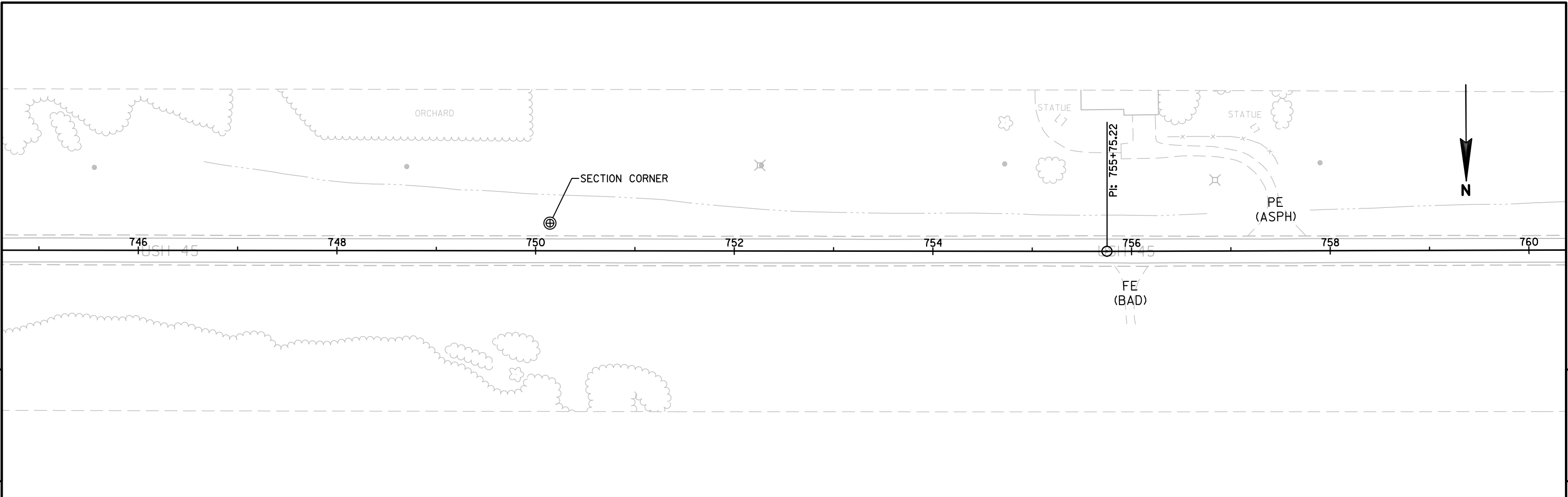


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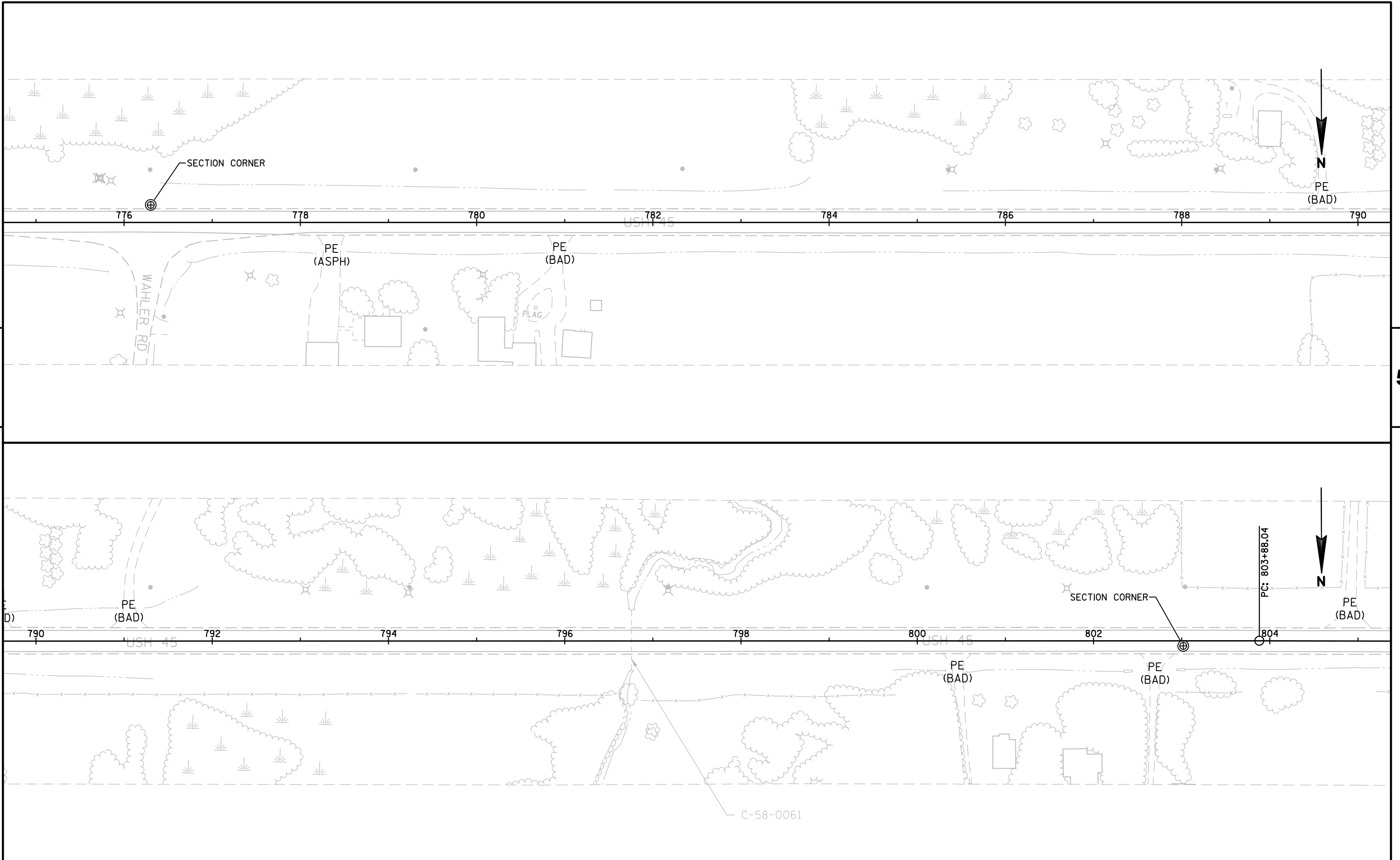




PROJECT NO:1600-22-71	HWY:USH 45	COUNTY:SHAWANO	PLAN AND PROFILE: LINE DIAGRAM	SHEET	E
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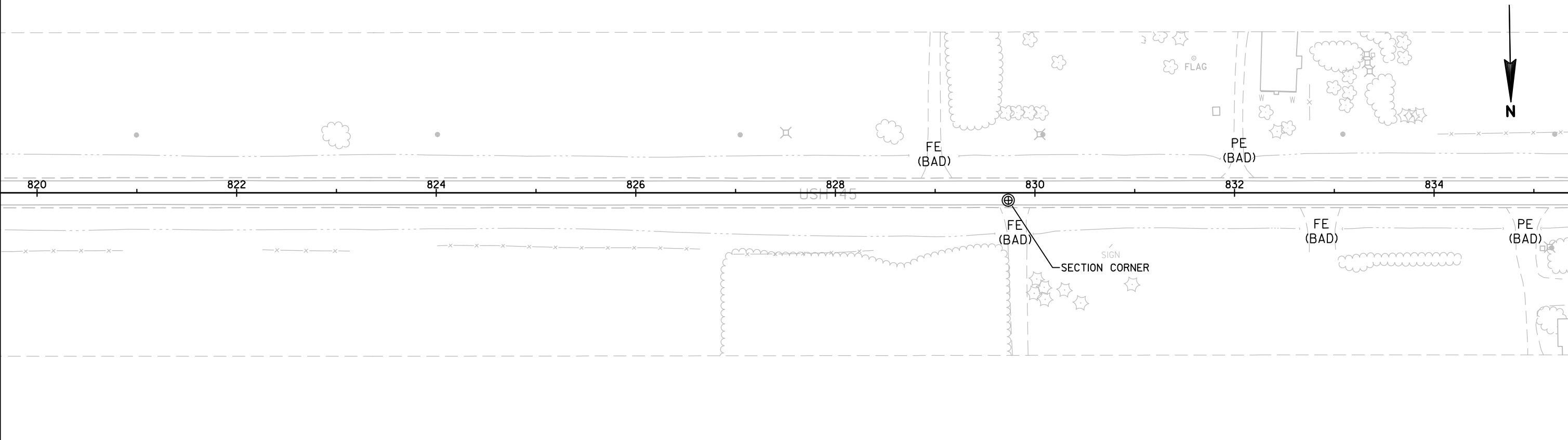
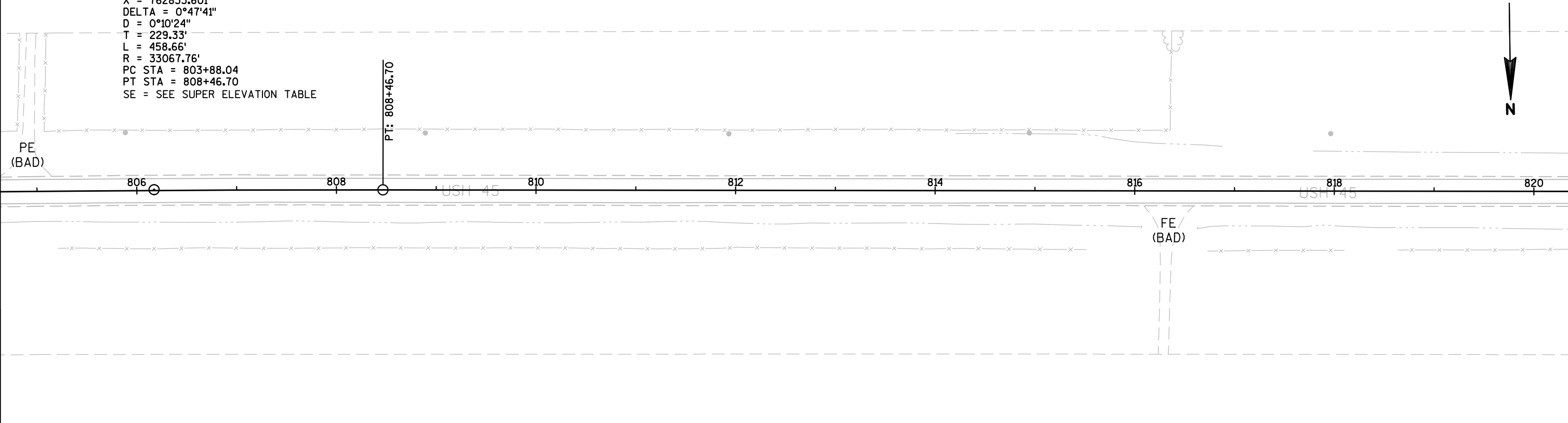


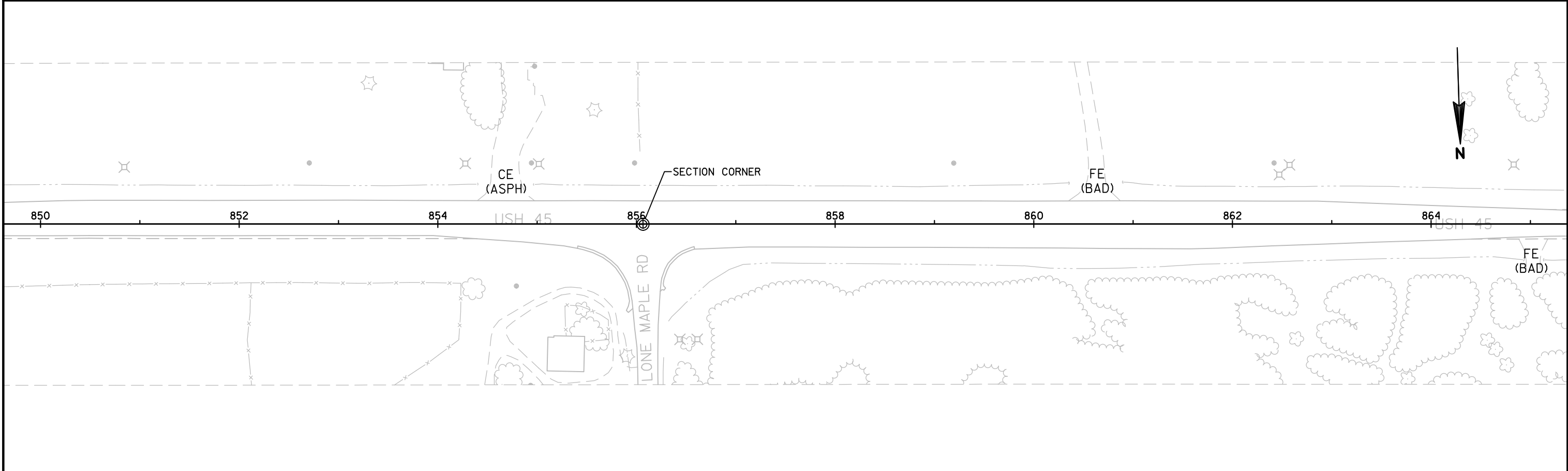
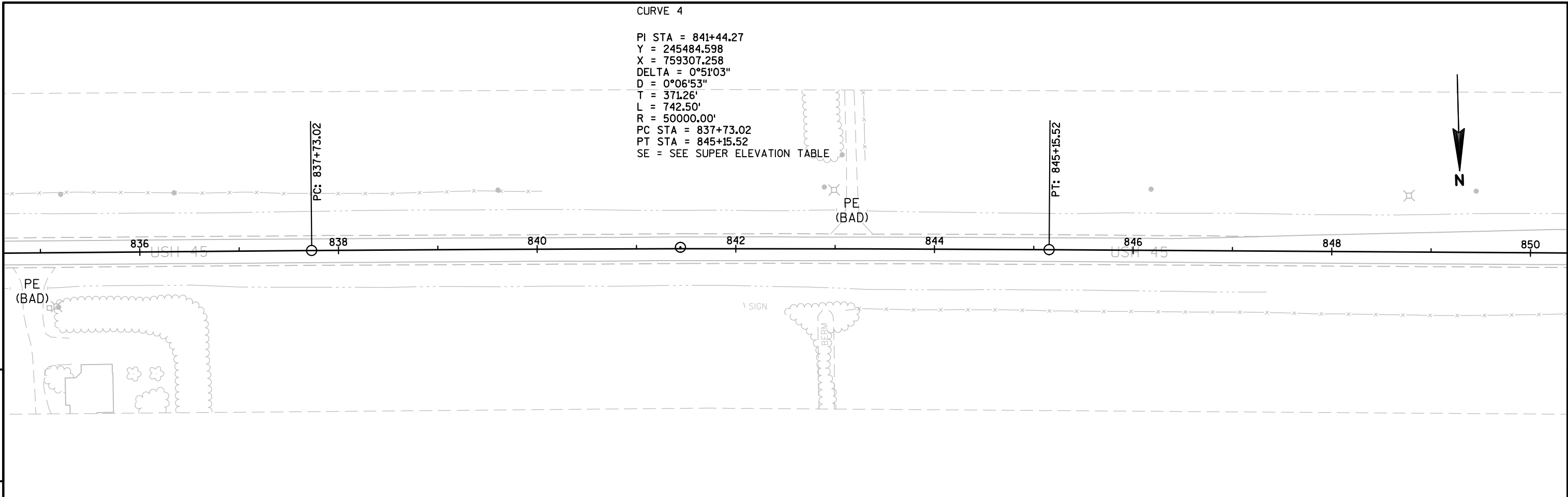
PROJECT NO:1600-22-71	HWY:USH 45	COUNTY:SHAWANO	PLAN AND PROFILE: LINE DIAGRAM	SHEET	E
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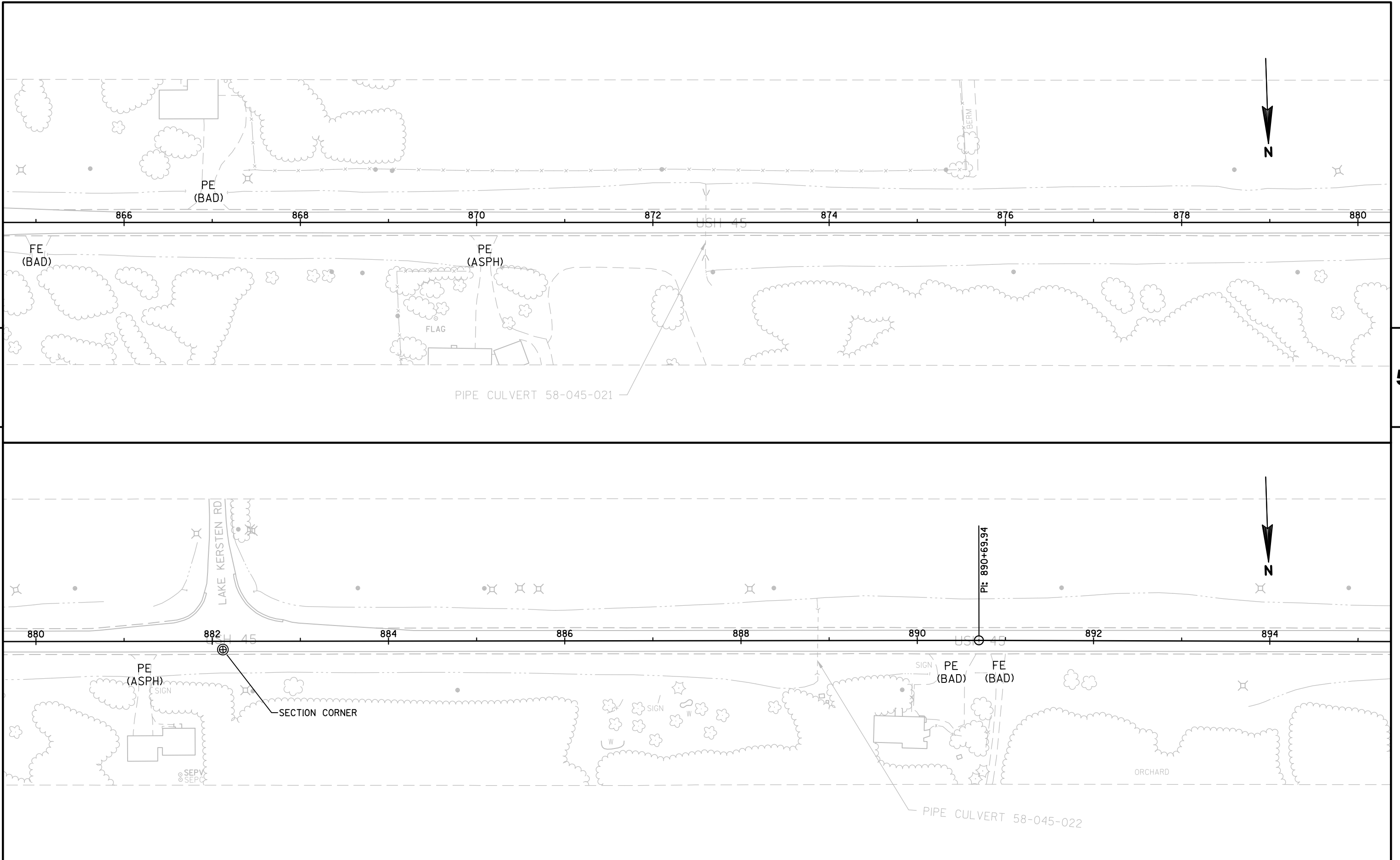
PROJECT NO:1600-22-71	HWY:USH 45	COUNTY:SHAWANO	PLAN AND PROFILE: LINE DIAGRAM	SHEET	E
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CURVE 3
PI STA = 806+17.38
Y = 245421.593
X = 762833.601
DELTA = 0°47'41"
D = 0°10'24"
T = 229.33'
L = 458.66'
R = 33067.76'
PC STA = 803+88.04
PT STA = 808+46.70
SE = SEE SUPER ELEVATION TABLE





PROJECT NO:1600-22-71	HWY:USH 45	COUNTY:SHAWANO	PLAN AND PROFILE: LINE DIAGRAM	SHEET	E
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PROJECT NO:1600-22-71	HWY:USH 45	COUNTY:SHAWANO	PLAN AND PROFILE: LINE DIAGRAM	SHEET	E
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LAYOUT NAME - 050401 - (21)

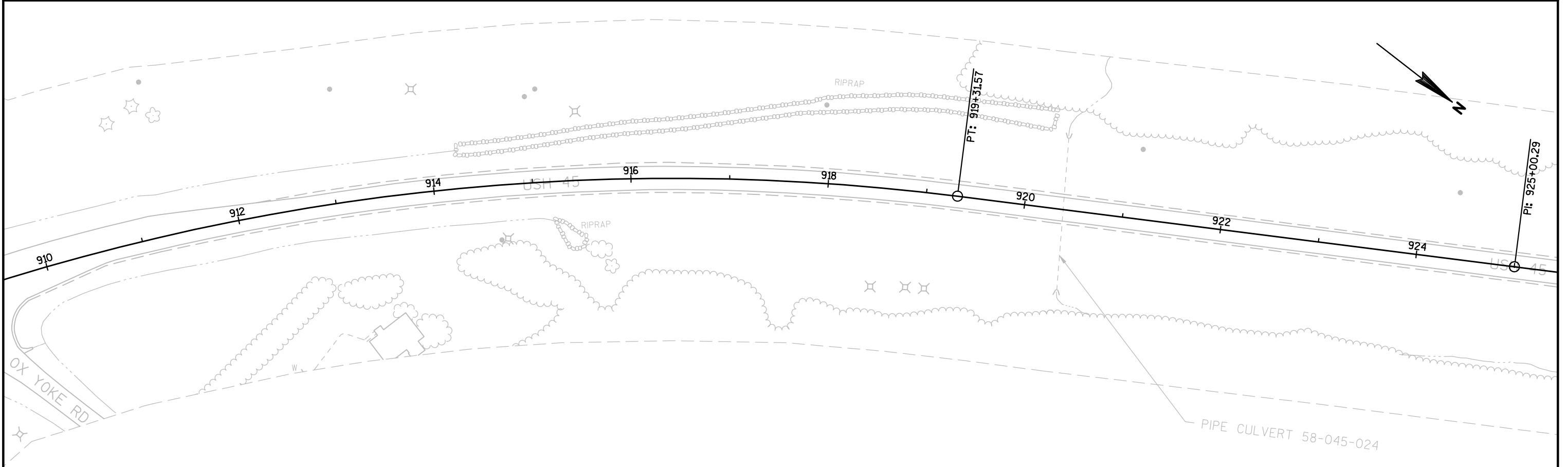
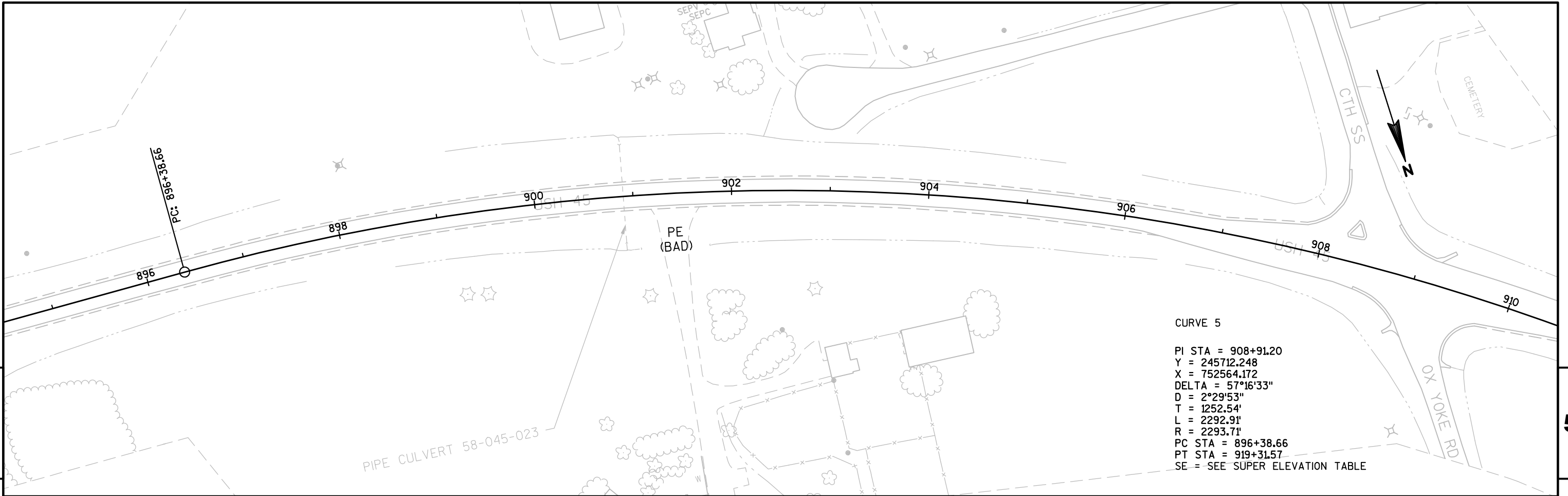
PLOT DATE : 1/12/2017 3:08 PM

PLOT BY : BLUMENSCHN, CHAD P

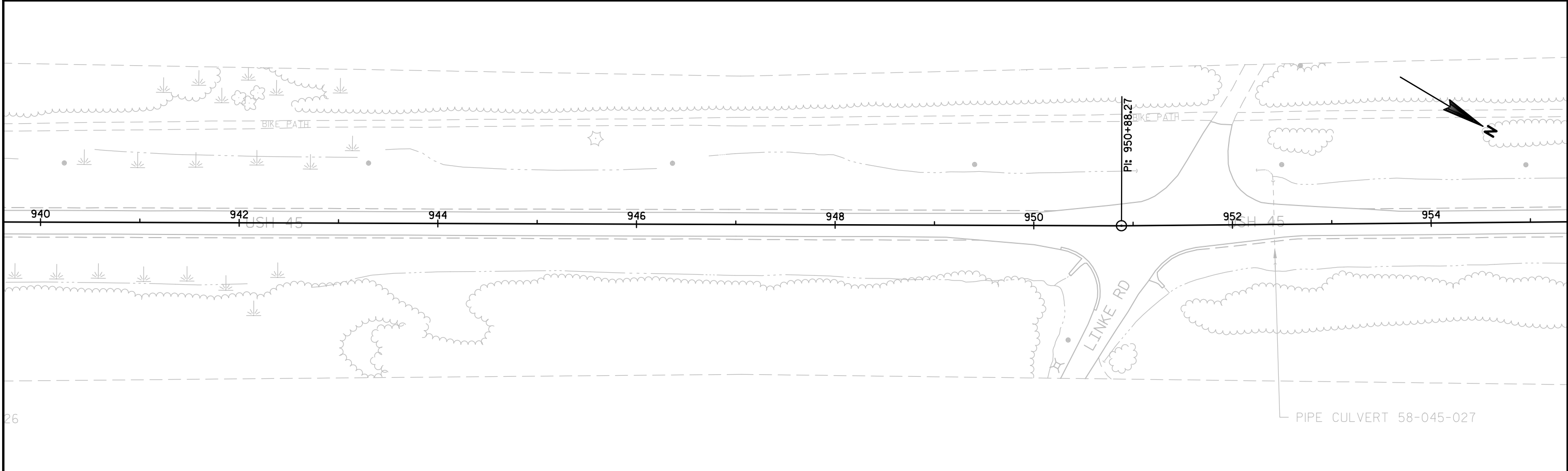
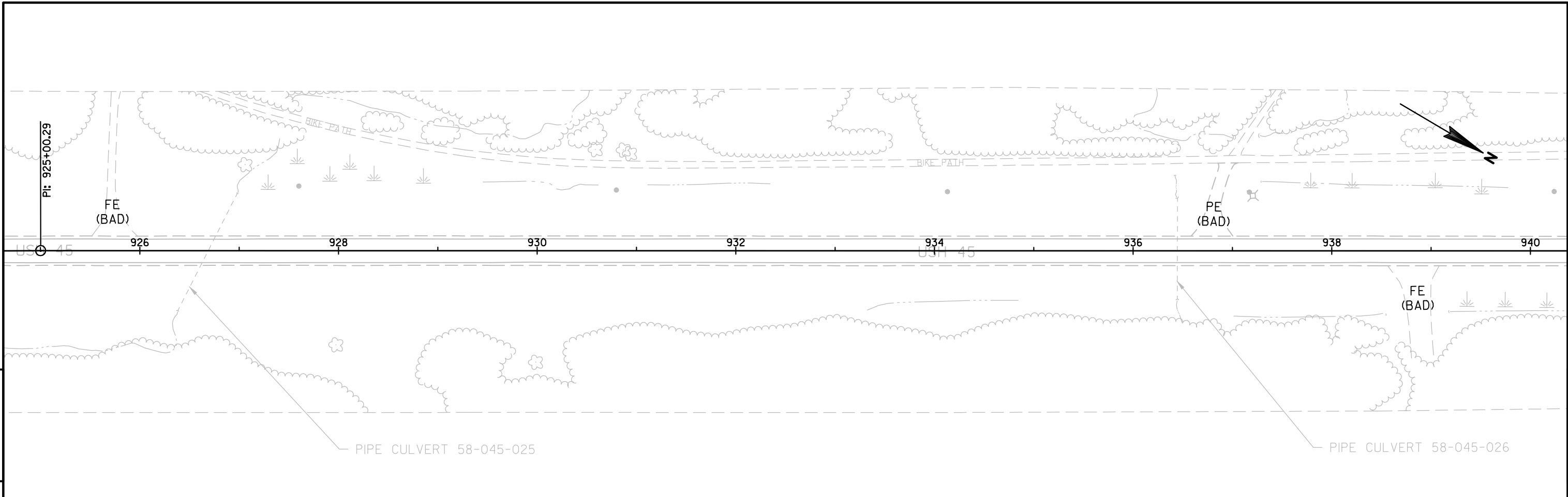
PLOT NAME :

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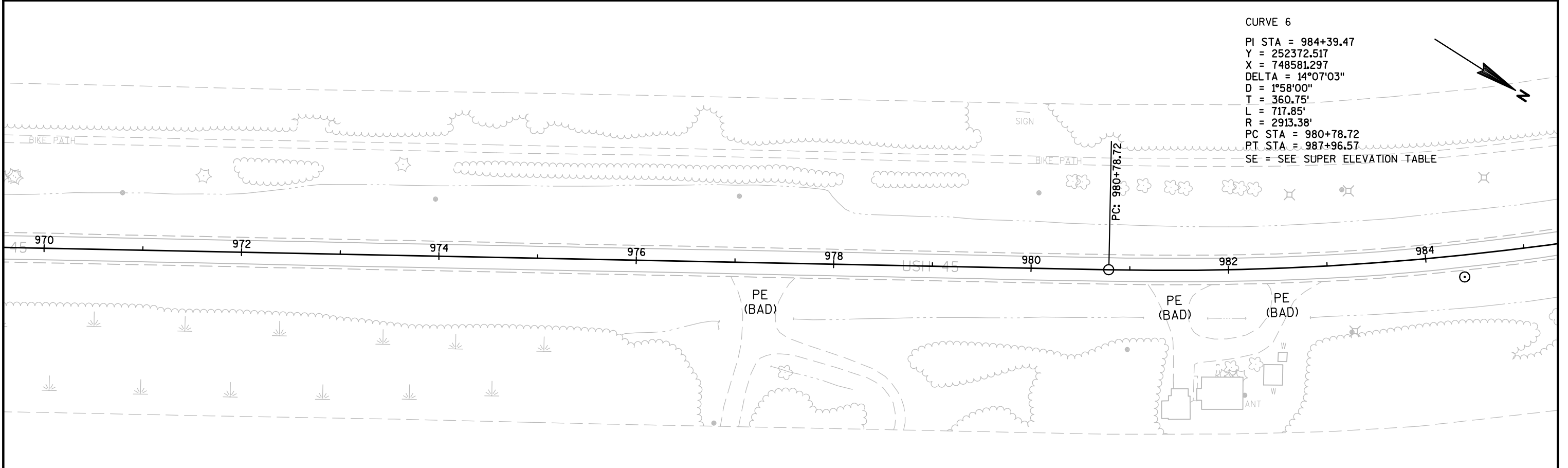
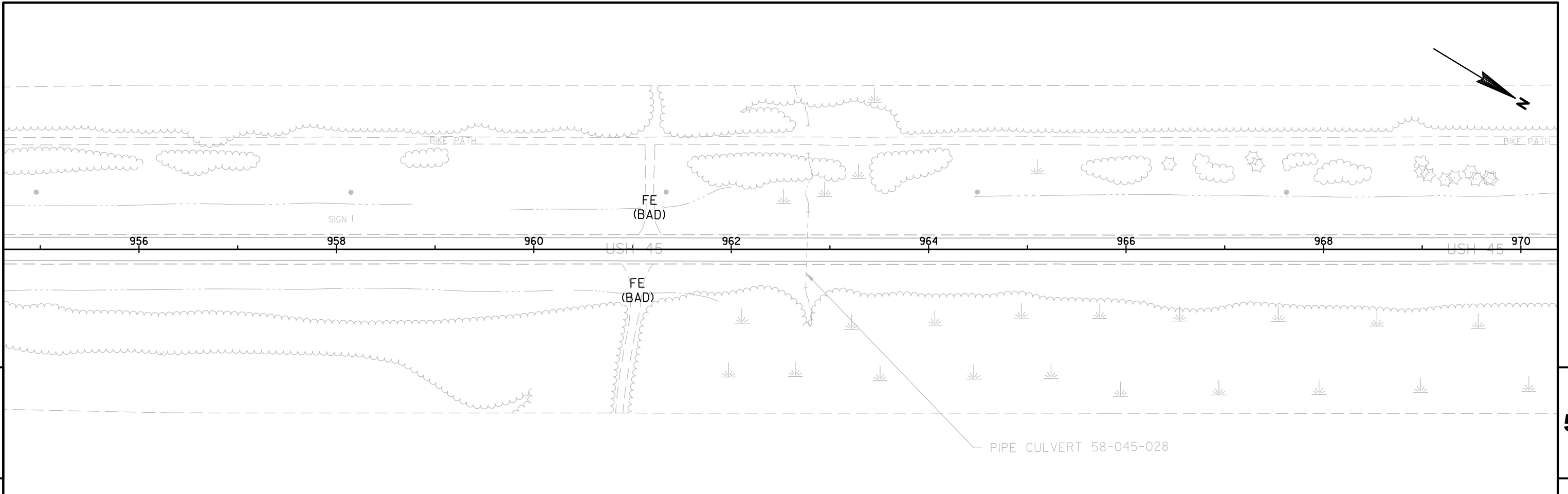
WISDOT/CADDs SHEET 44



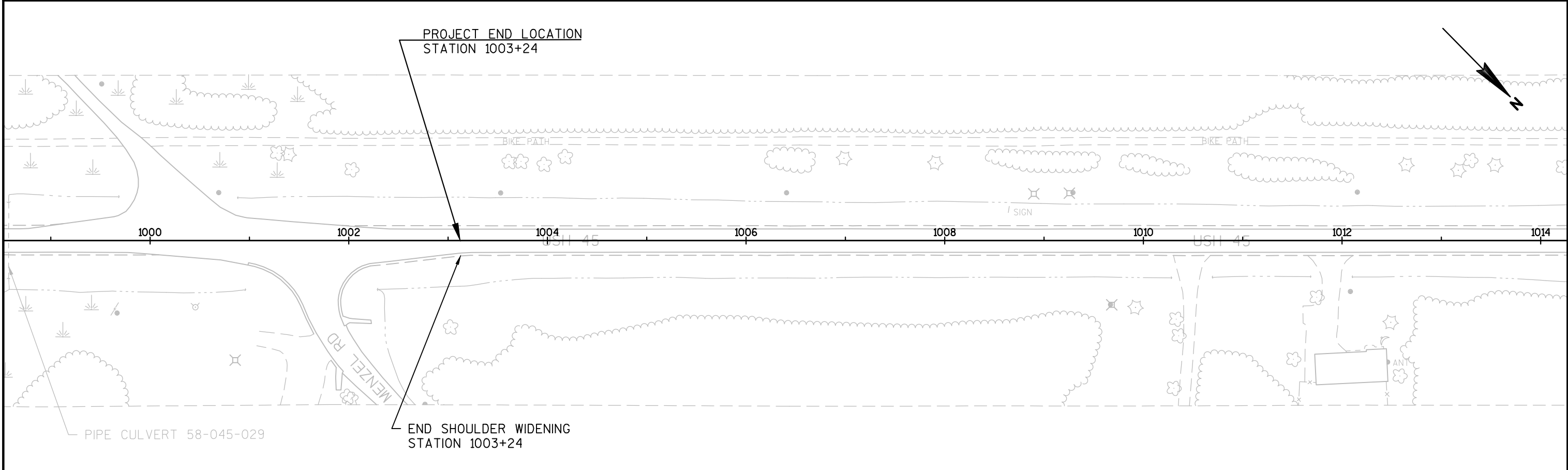
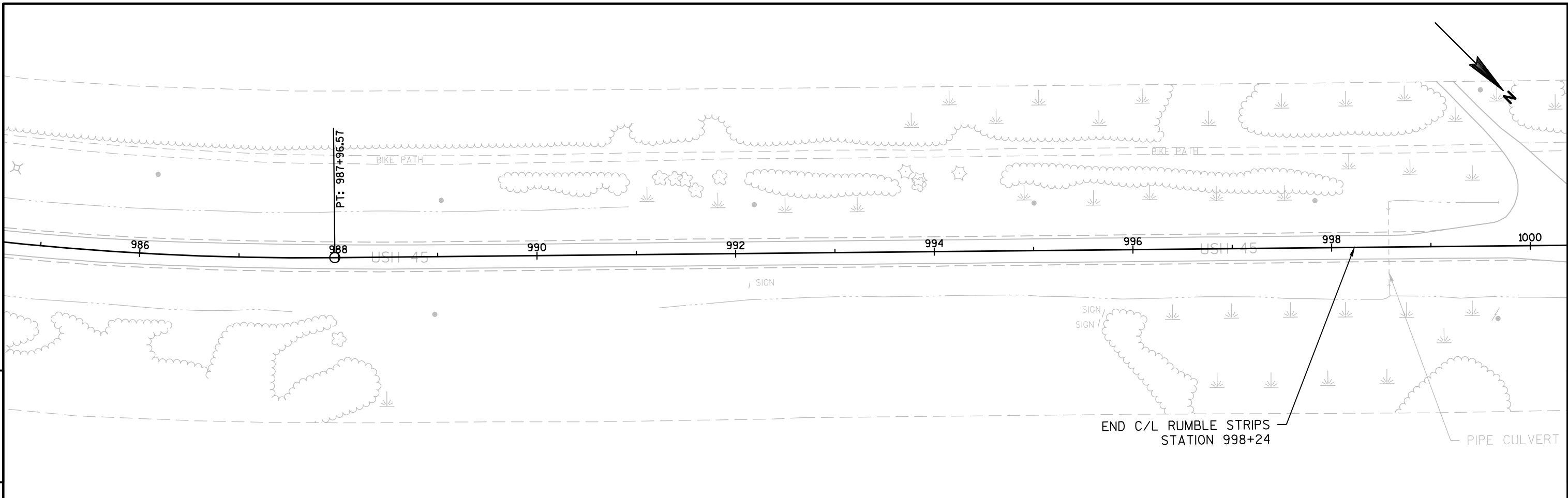
PROJECT NO:1600-22-71	HWY:USH 45	COUNTY:SHAWANO	PLAN AND PROFILE: LINE DIAGRAM	SHEET	E
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PROJECT NO:1600-22-71	HWY:USH 45	COUNTY:SHAWANO	PLAN AND PROFILE: LINE DIAGRAM	SHEET	E
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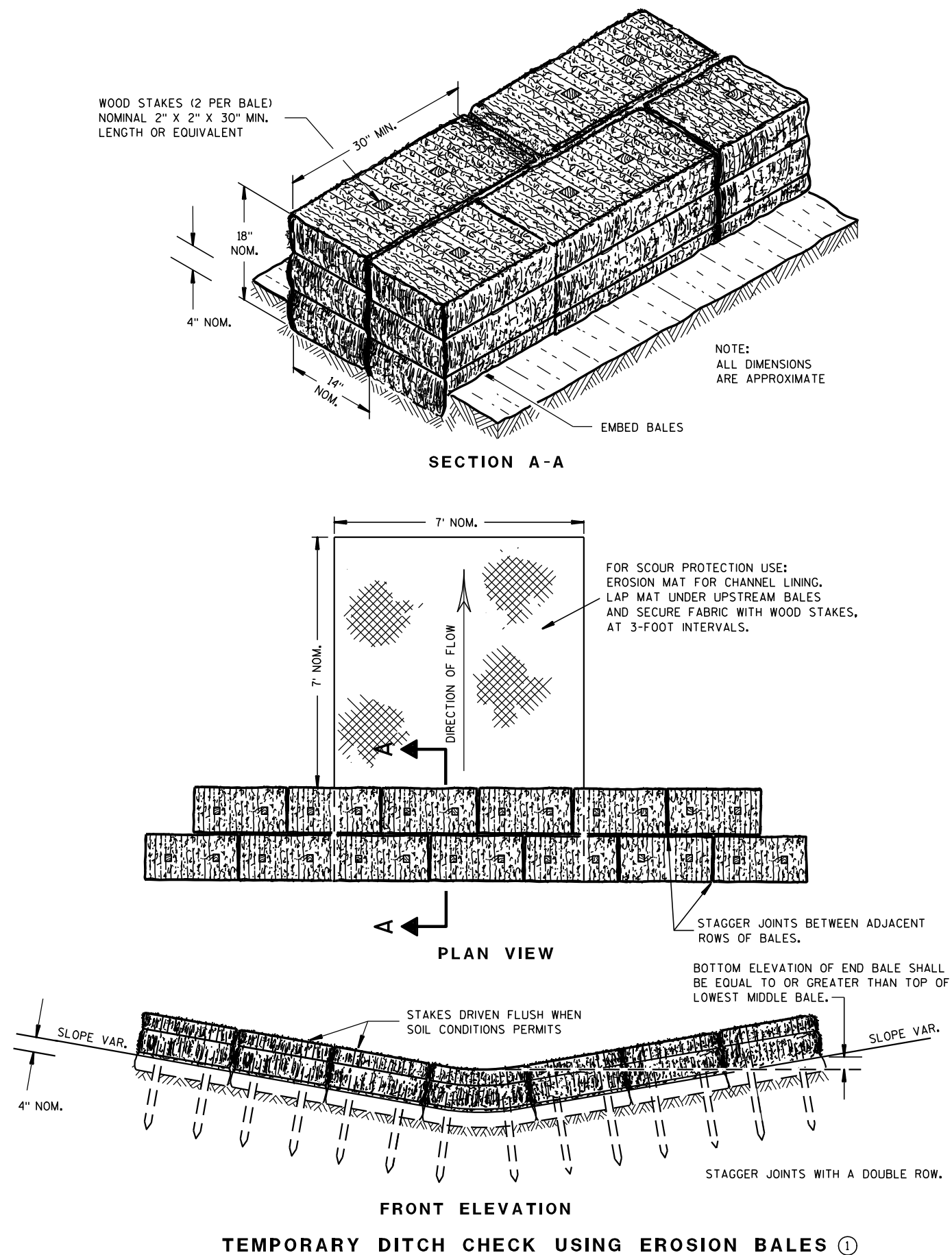
CURVE 6
PI STA = 984+39.47
Y = 252372.517
X = 748581.297
DELTA = 14°07'03"
D = 1°58'00"
T = 360.75'
L = 717.85'
R = 2913.38'
PC STA = 980+78.72
PT STA = 987+96.57
SE = SEE SUPER ELEVATION TABLE



PROJECT NO:1600-22-71	HWY:USH 45	COUNTY:SHAWANO	PLAN AND PROFILE: LINE DIAGRAM	SHEET	E
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Standard Detail Drawing List

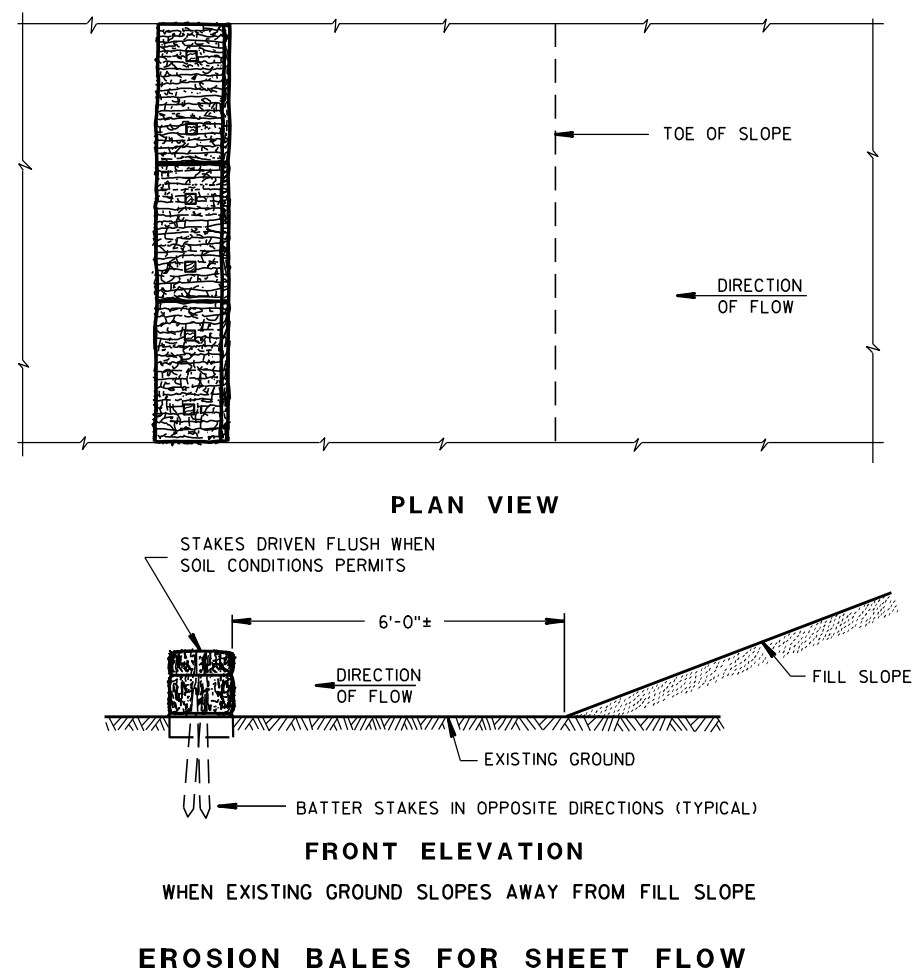
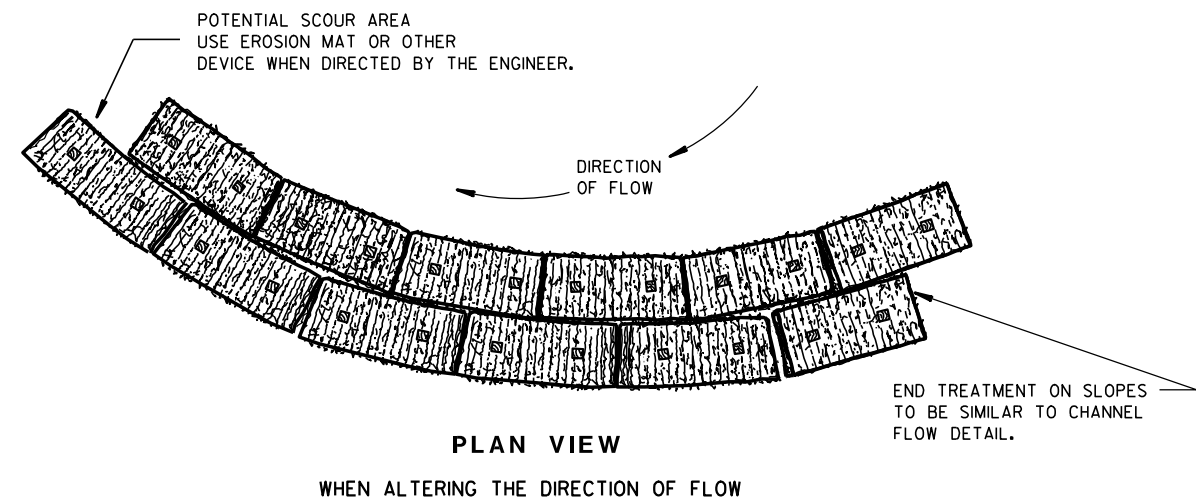
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08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13A11-02A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-02B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
14B29-01	SAFETY EDGE
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C12-05	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C14-02	AERIAL ENFORCEMENT BARS PAVEMENT MARKING DETAILS
15C19-04A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C35-01A	PAVEMENT MARKING (INTERSECTIONS)
15C35-01B	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15C35-01C	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)



GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



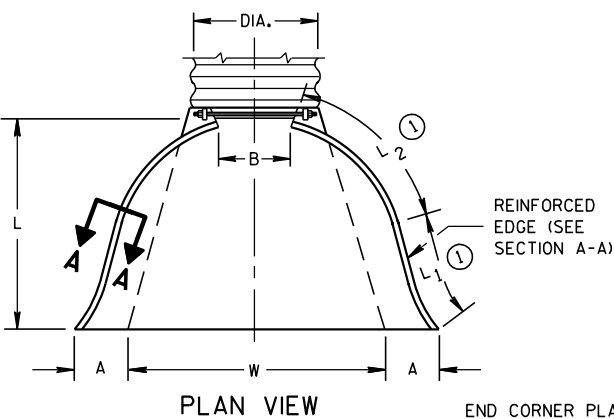
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



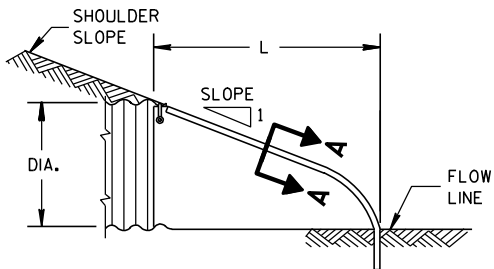
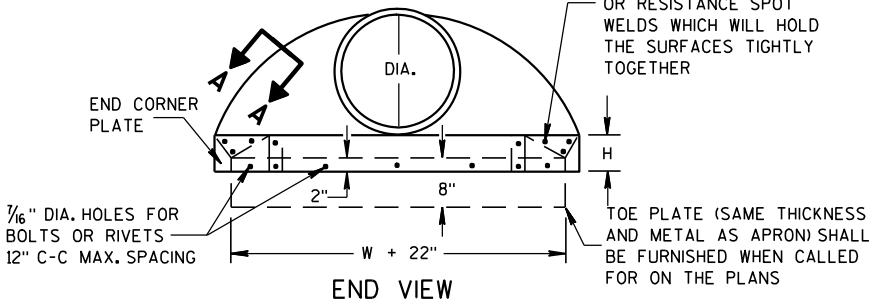
SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/s/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



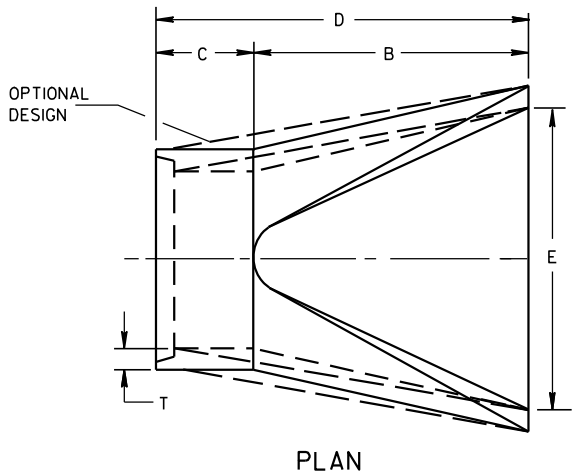
REINFORCED
EDGE (SEE
SECTION A-A)



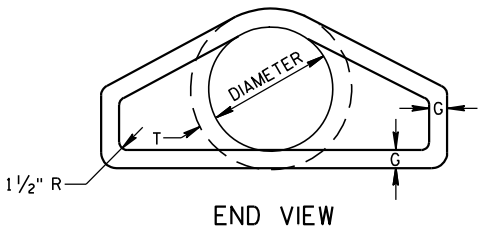
SIDE ELEVATION
METAL ENDWALLS

REINFORCED CONCRETE APRON ENDWALLS											
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE			
	T	A	B	C	D	E	G				
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1			
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1			
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1			
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1			
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1			
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1			
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1			
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1			
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1			
48	5	24	72	26	98	84	5	3 to 1			
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 1/2 to 1			
60	6	30-35	60	39	99	96	5	2 to 1			
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1			
72	7	24-36	78	21	99	108	6	2 to 1			
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1			
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1			
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1			

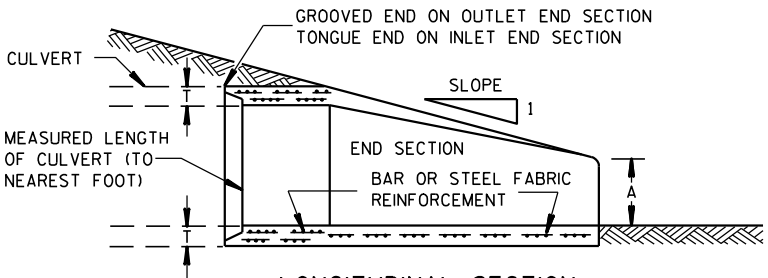
* MINIMUM
** MAXIMUM



PLAN

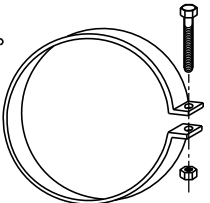


END VIEW

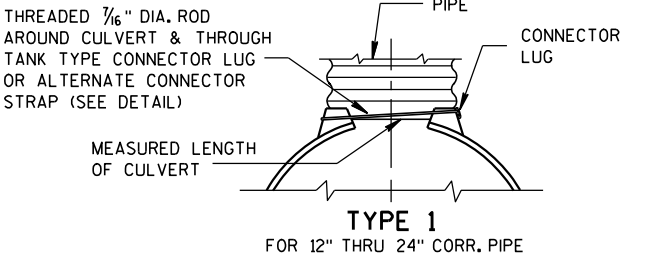


LONGITUDINAL SECTION
CONCRETE ENDWALLS

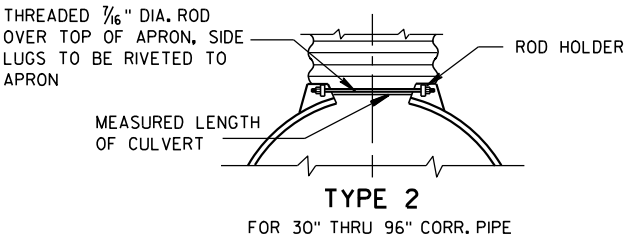
1" WIDE, 12 GA. (0.109"
THICK) GALVANIZED STRAP
WITH STANDARD 6" X 1/2"
BAND BOLT AND NUT



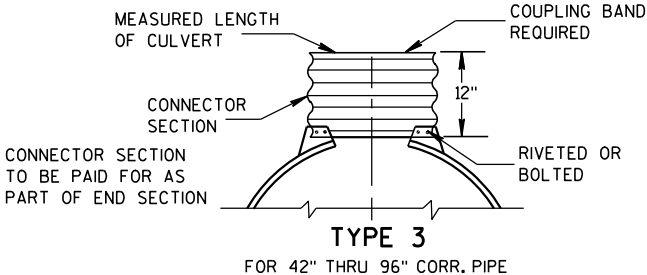
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



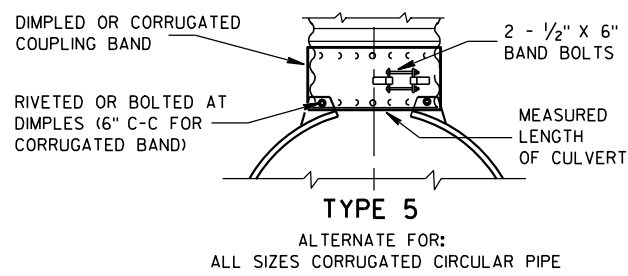
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



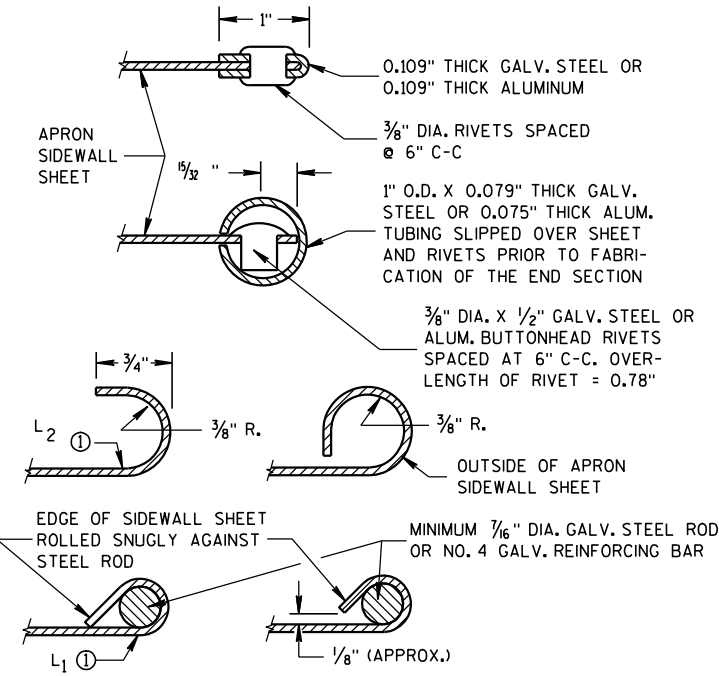
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.
DIMPLED BAND MAY BE USED WITH HELICALLY
CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE
ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5
AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL
CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO
CIRCUMFERENTIAL CORRUGATIONS AT EACH END
USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

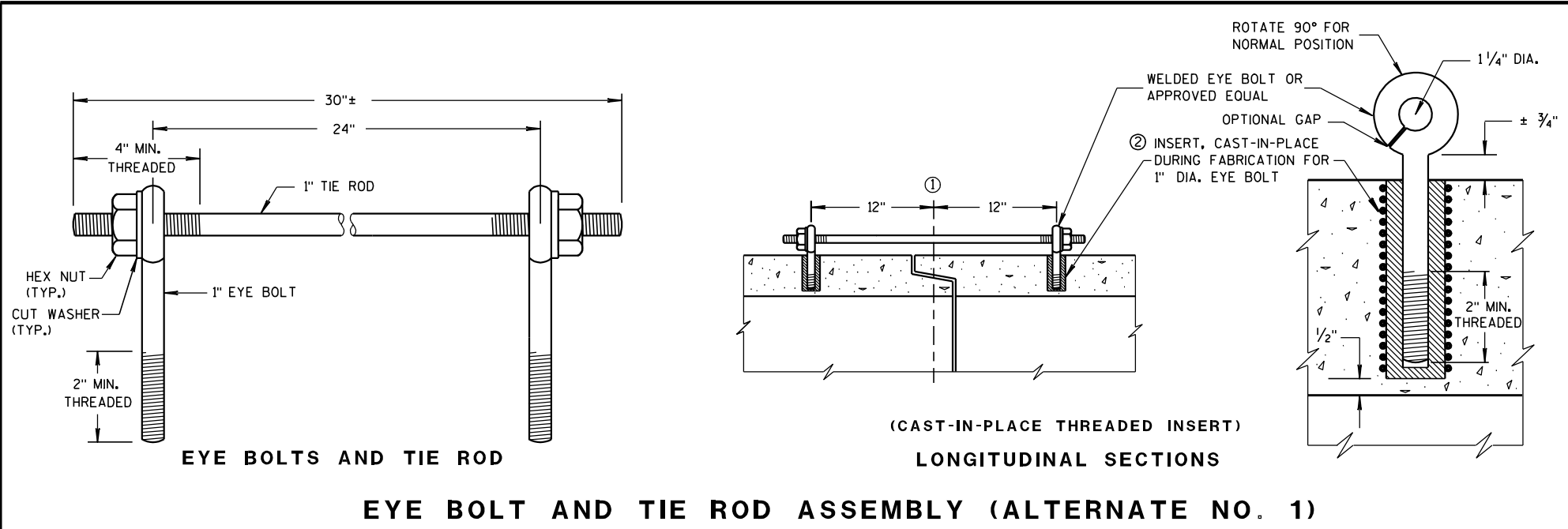
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94
DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



GENERAL NOTES

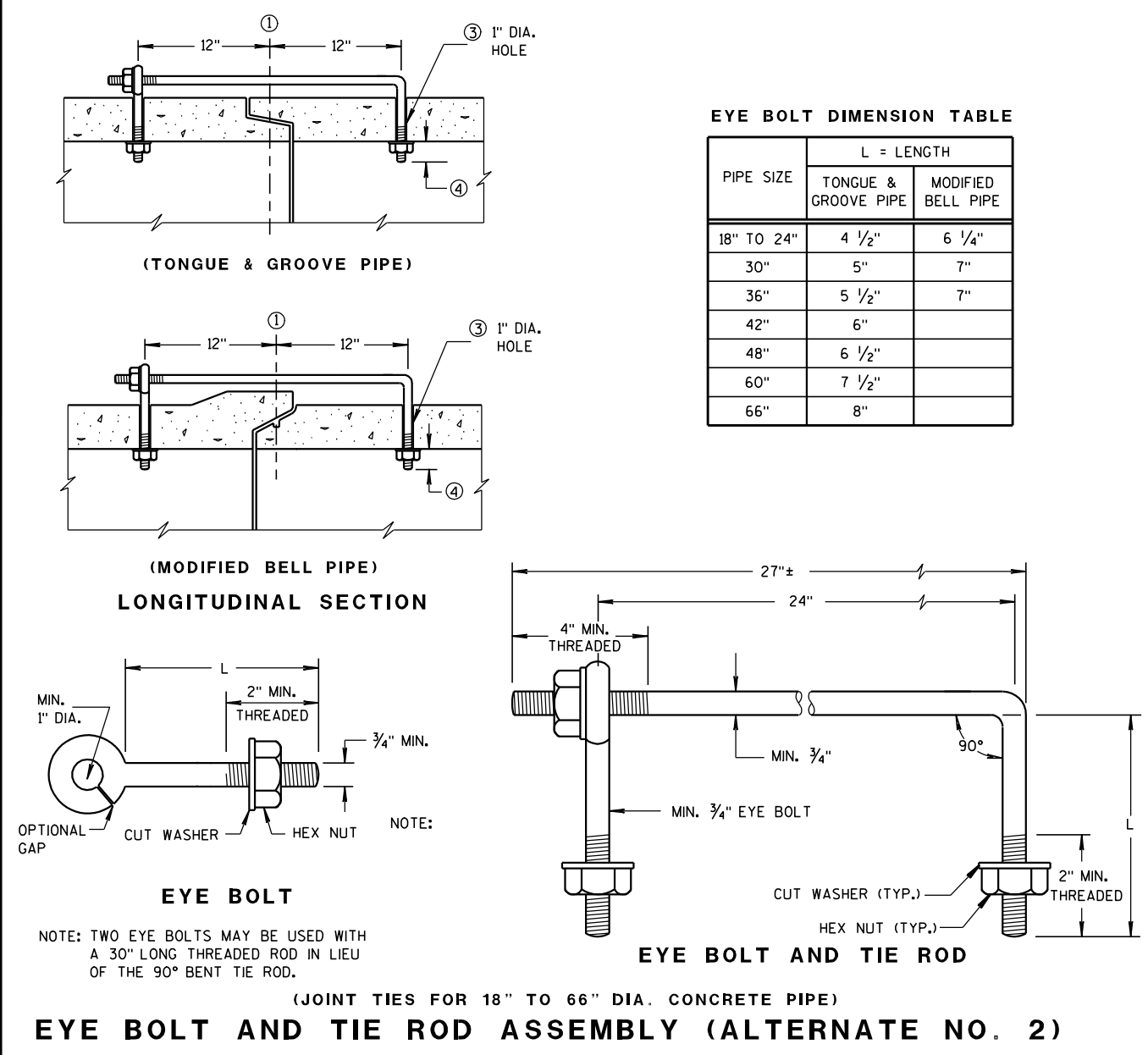
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- ① ϕ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ϕ OF TONGUE AND GROOVE.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



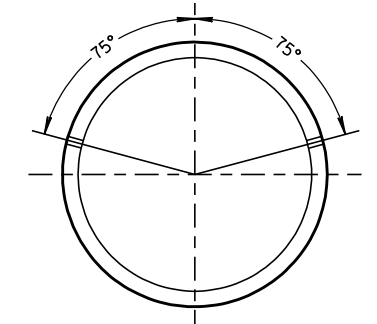
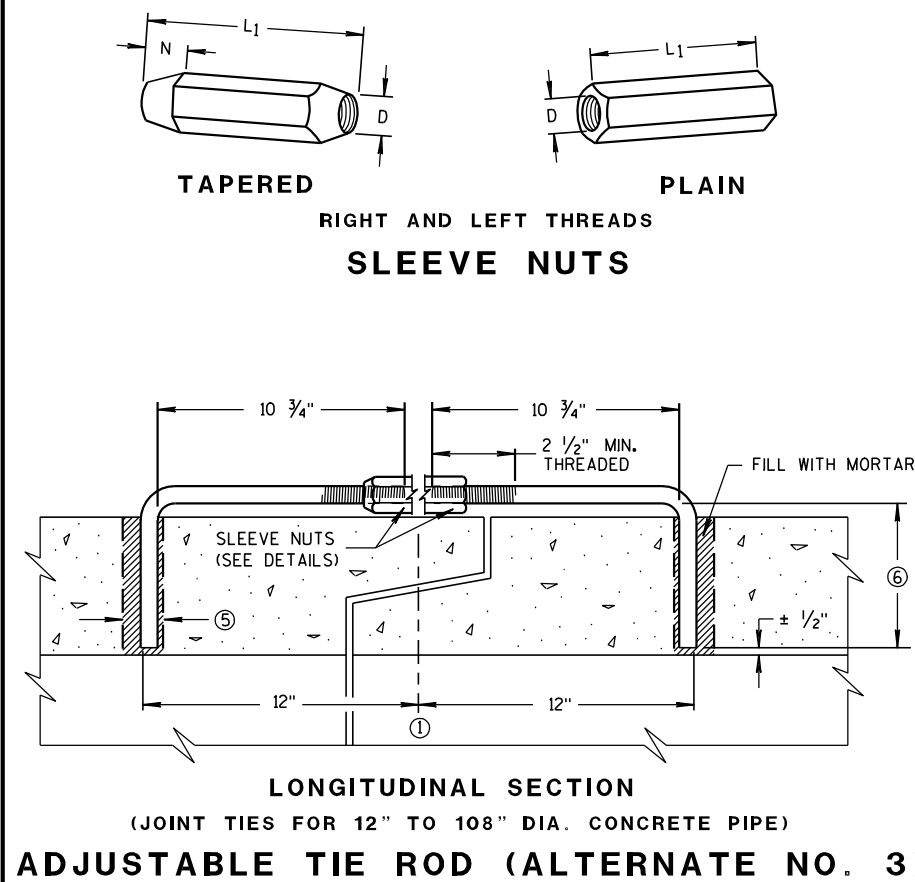
EYE BOLT DIMENSION TABLE

PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	

ADJUSTABLE TIE ROD TABLE

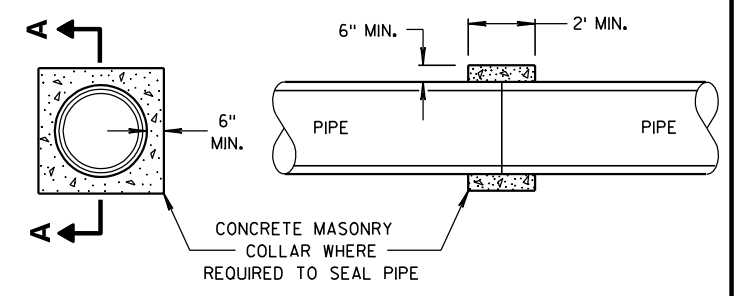
PIPE DIAMETER	TIE ROD DIAMETER	D	L ₁	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

GENERAL NOTES

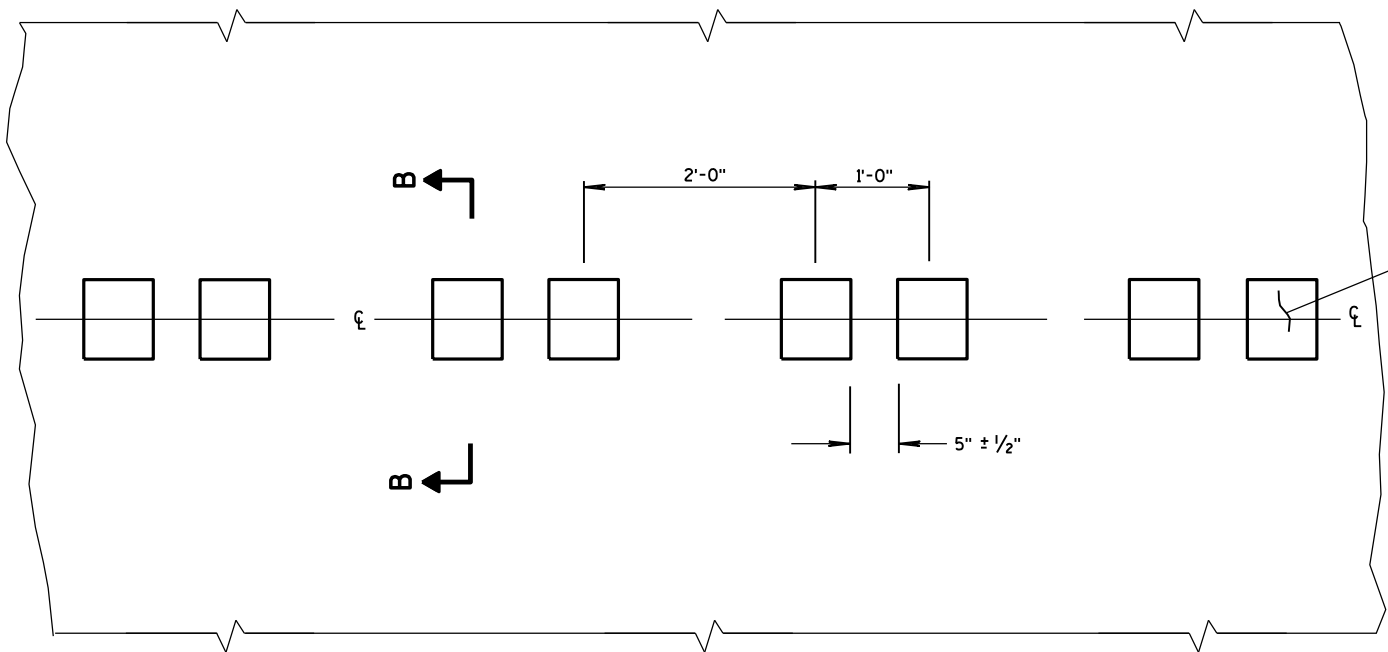
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTER LINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

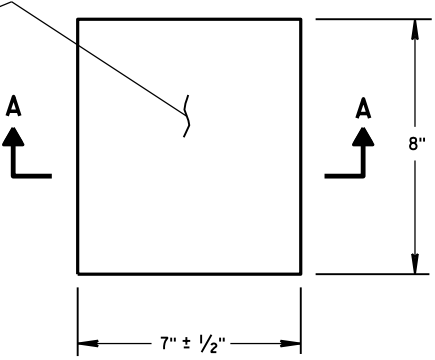
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

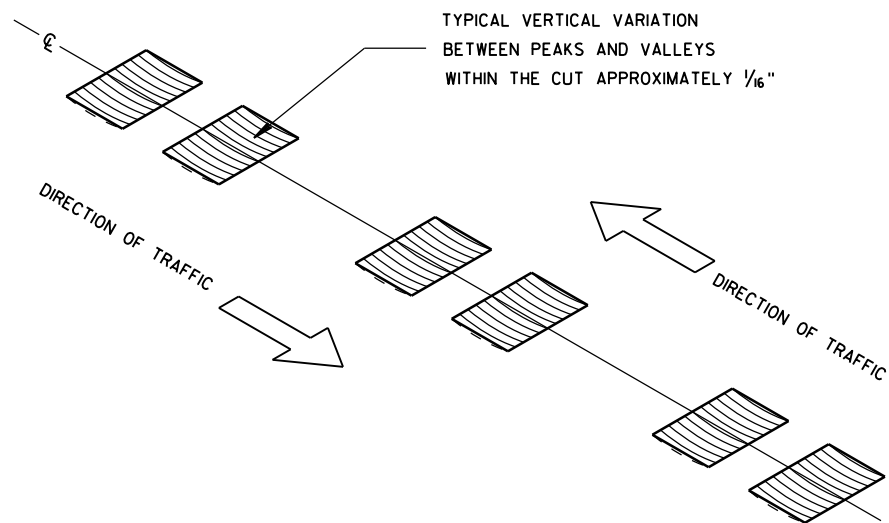
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



PLAN VIEW
CENTER LINE WITH GROOVES

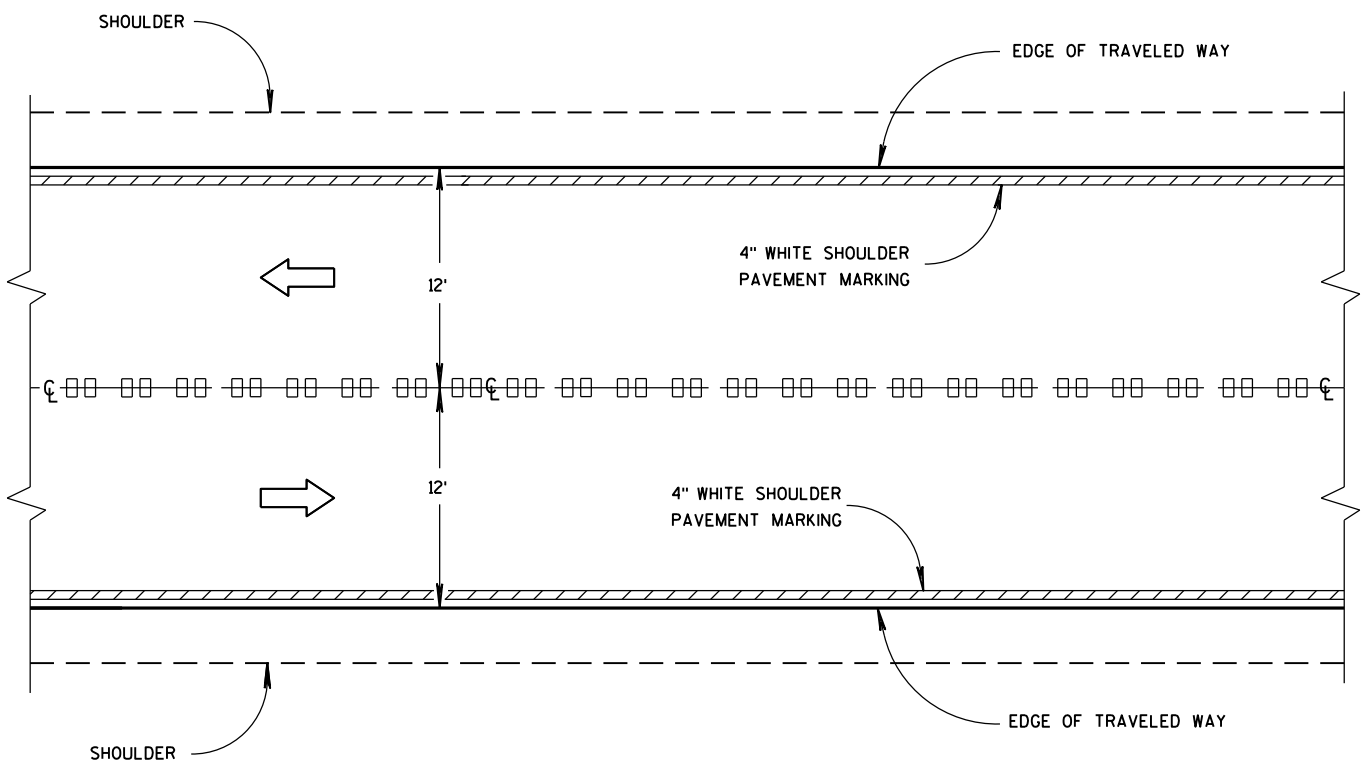


PLAN VIEW
(SINGLE GROOVE)

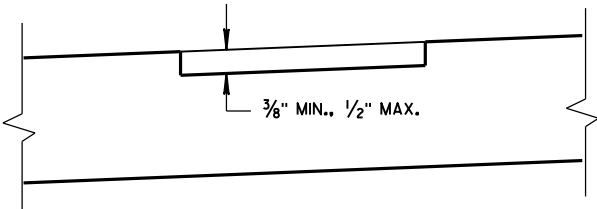


ISOMETRIC

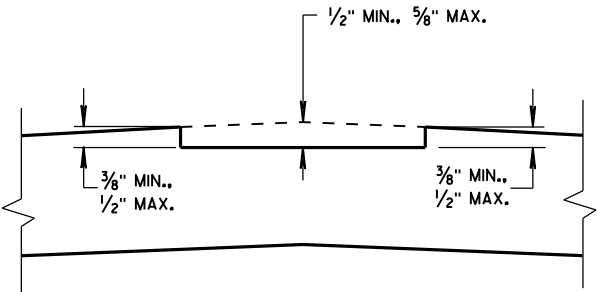
PLACEMENT DETAIL FOR MILLED RUMBLE STRIP



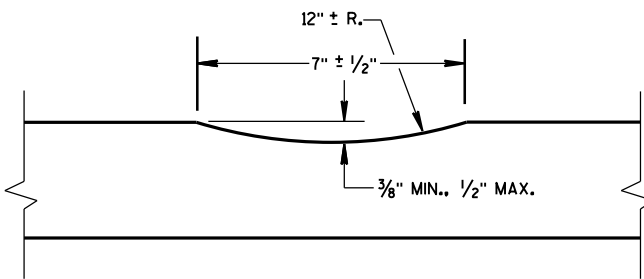
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



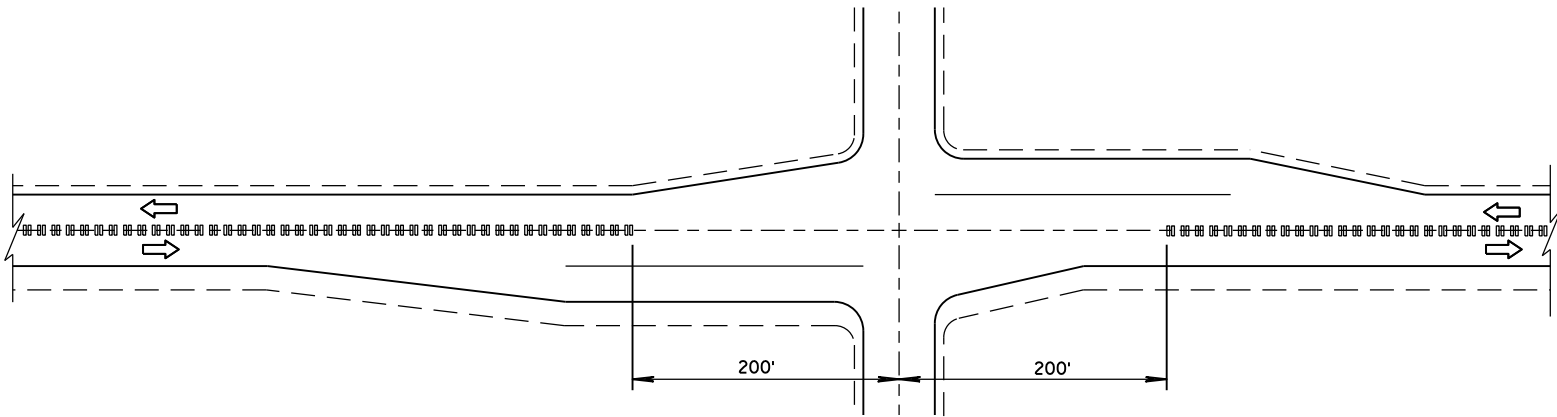
SECTION B-B
CROWNED ROADWAY



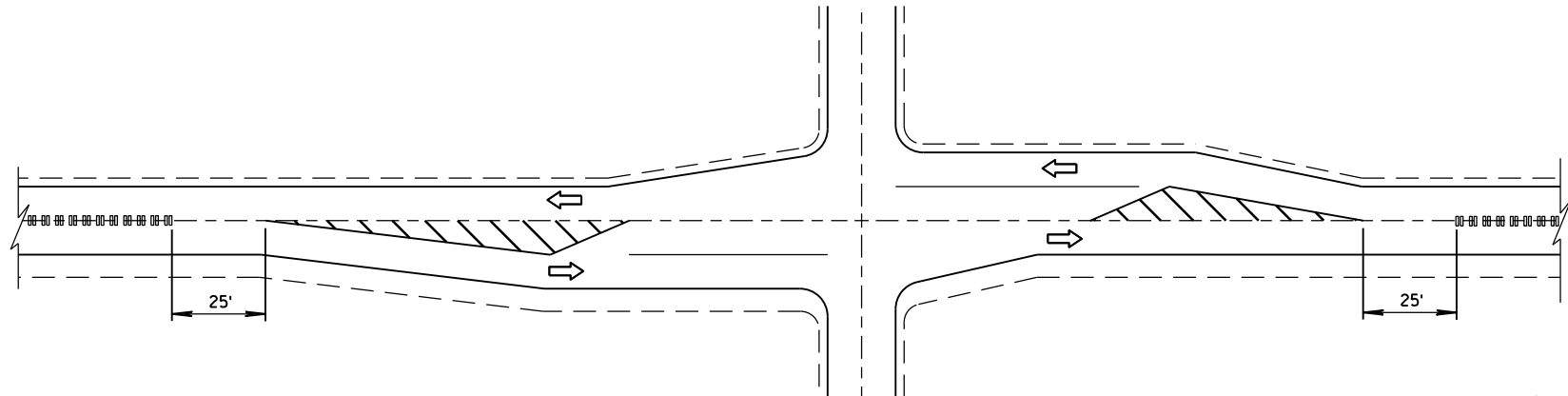
SECTION A-A

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

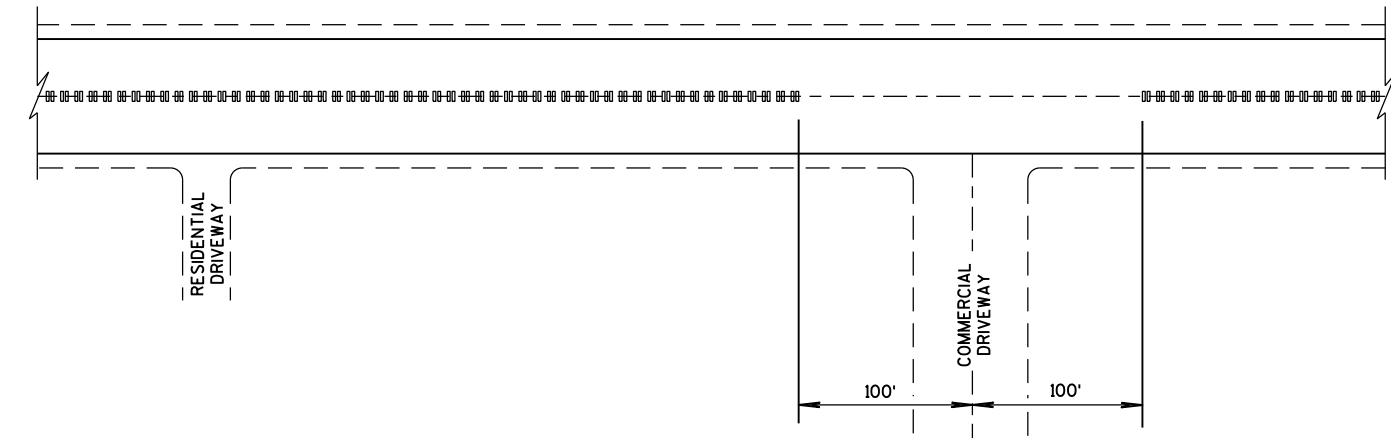
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTER LINE GROOVES AT INTERSECTIONS

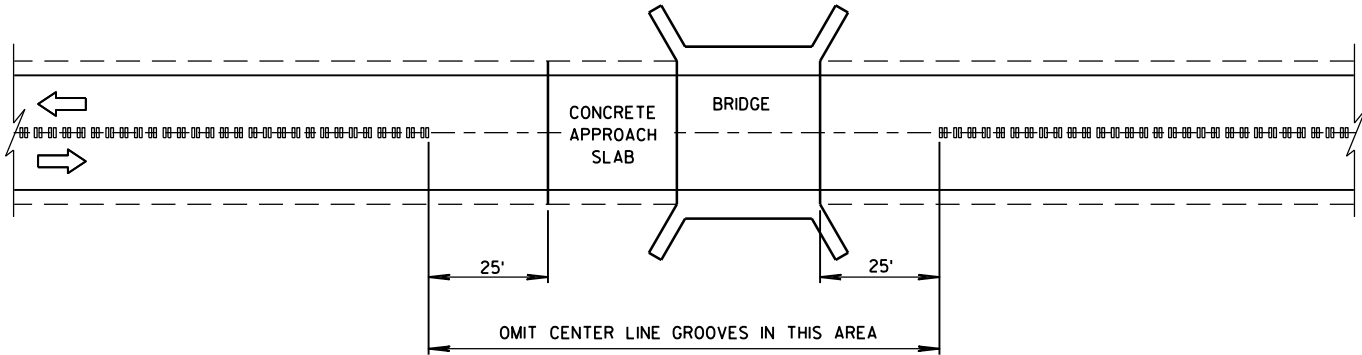


CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)

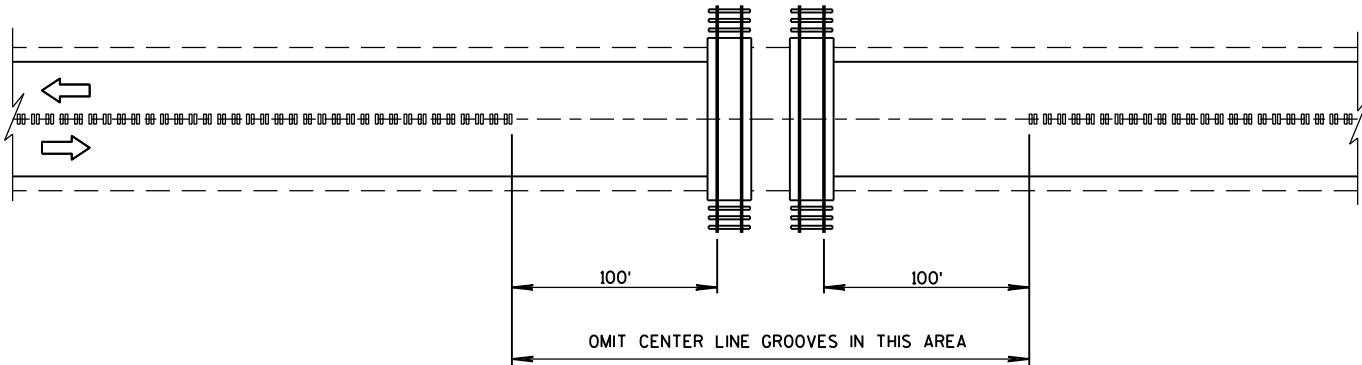


CENTER LINE GROOVES AT DRIVEWAYS^①

① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.

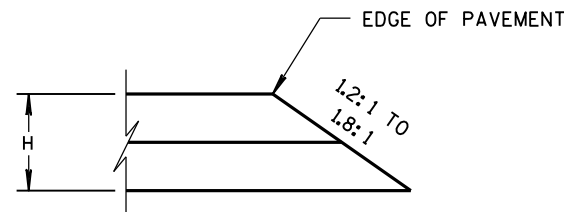


CENTER LINE GROOVES AT BRIDGES

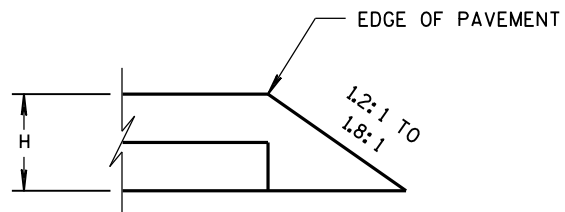


CENTER LINE GROOVES AT RAILROADS

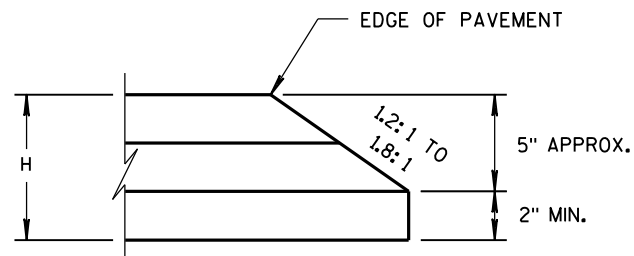
2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 5/15/2013 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



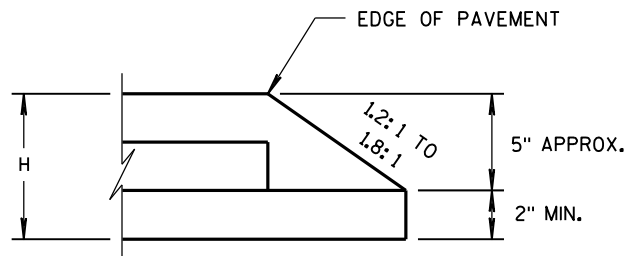
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

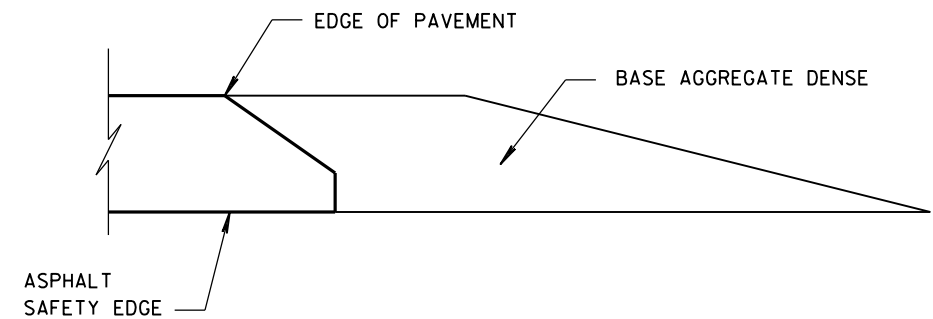


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



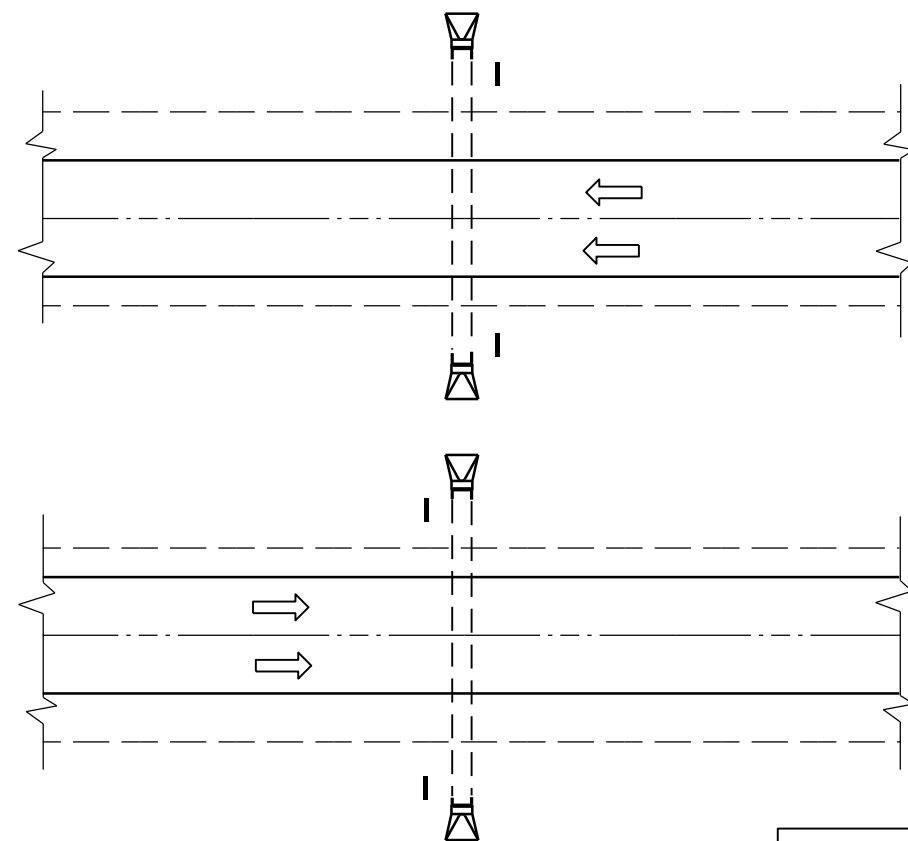
FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

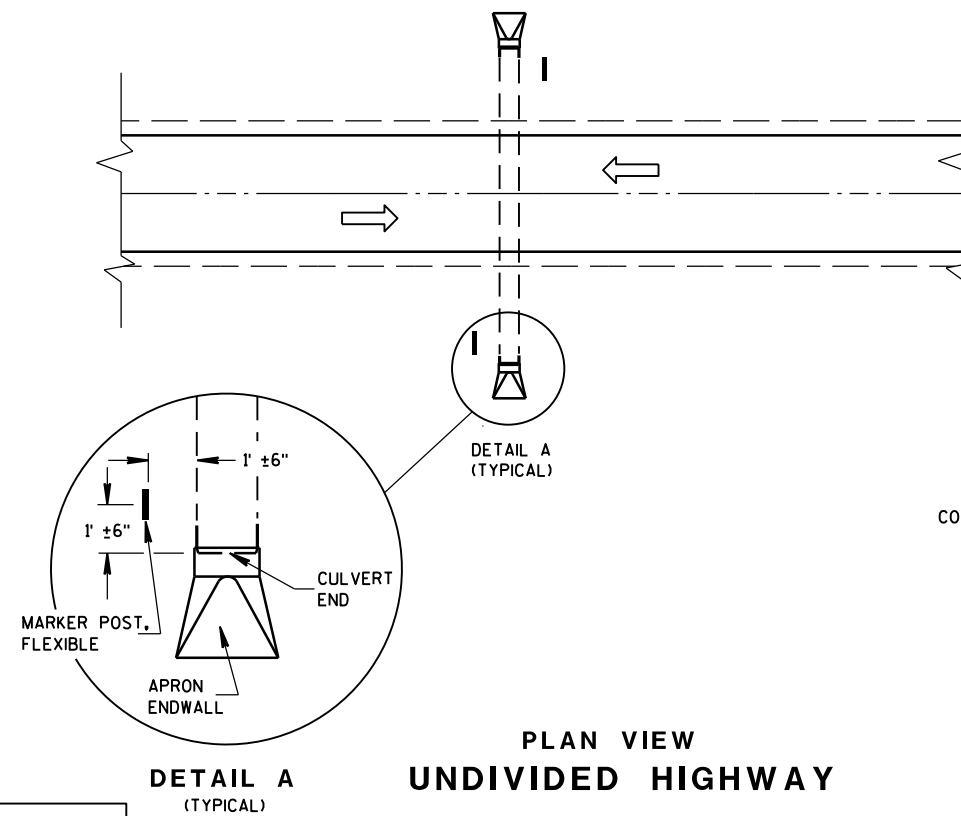
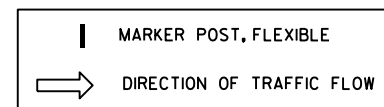
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/2012
DATE
FHWA

/s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



PLAN VIEW
DIVIDED HIGHWAY

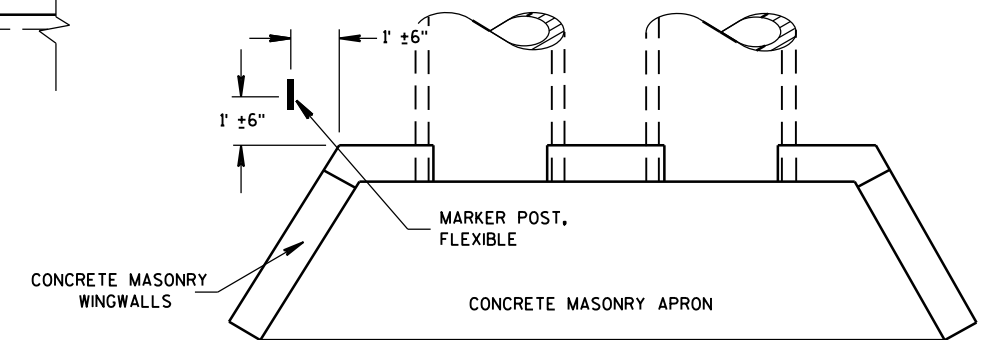


PLAN VIEW
UNDIVIDED HIGHWAY

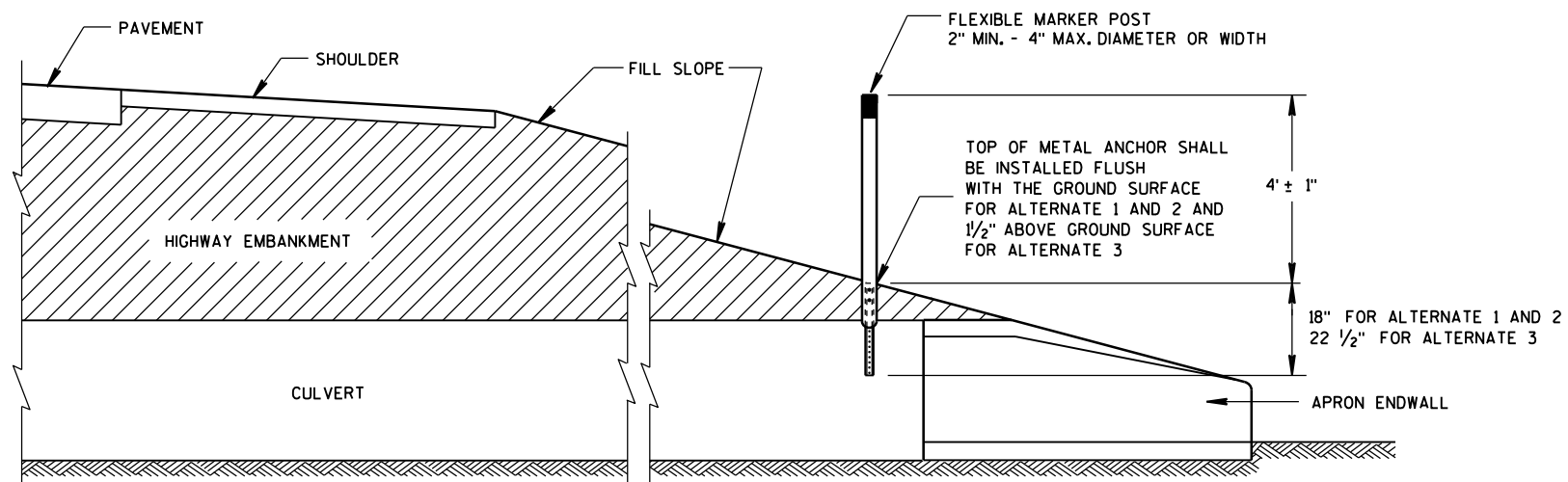
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



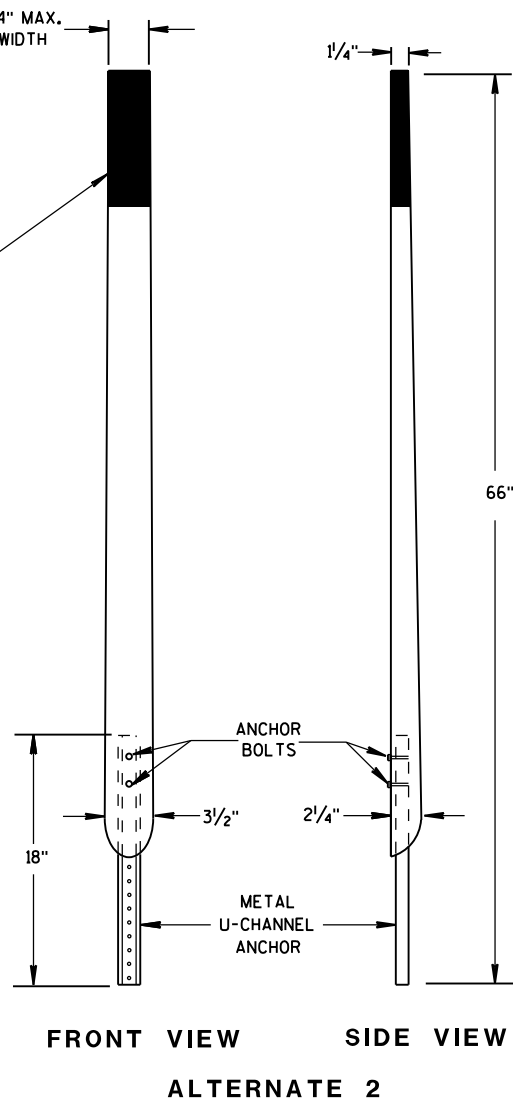
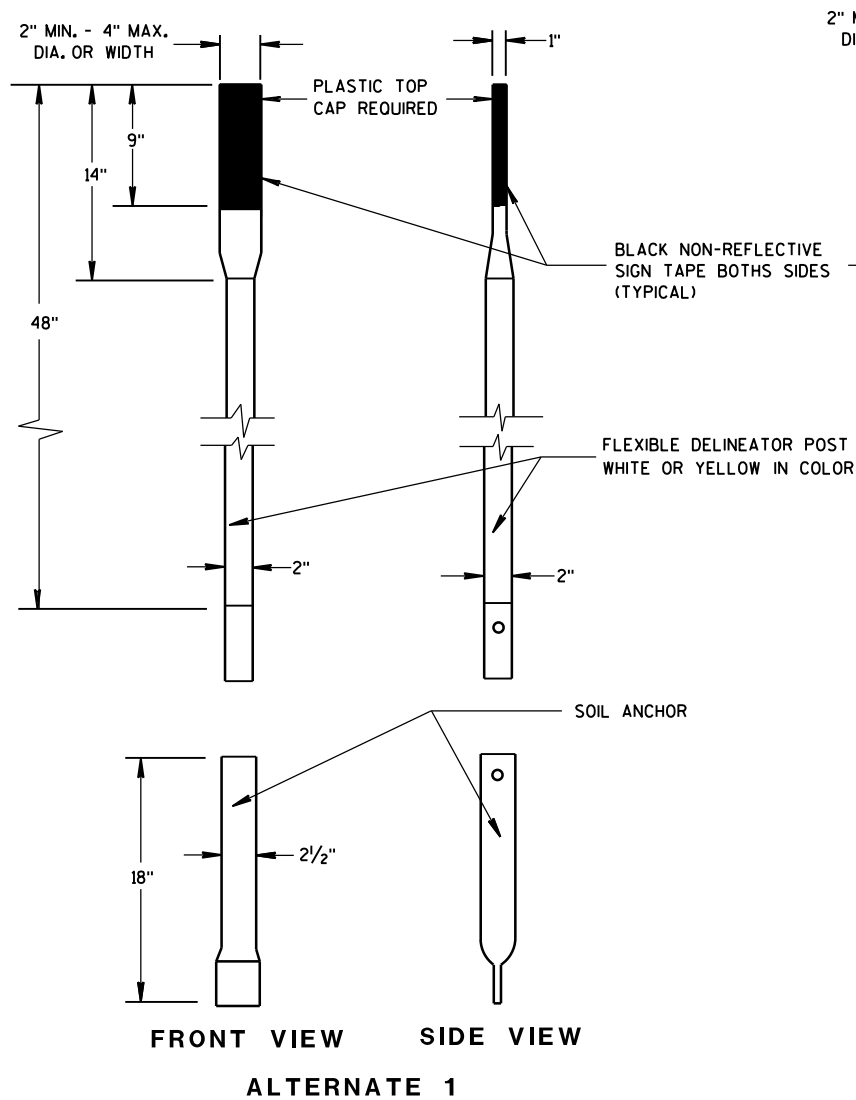
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



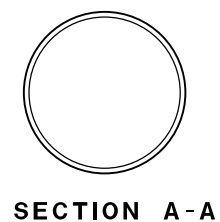
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

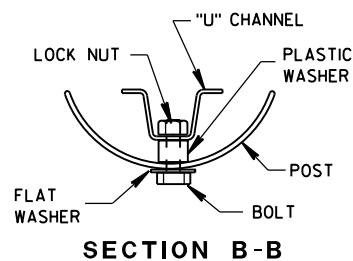
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



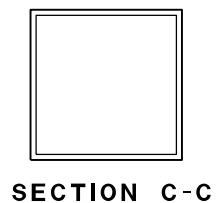
FLEXIBLE MARKER POSTS



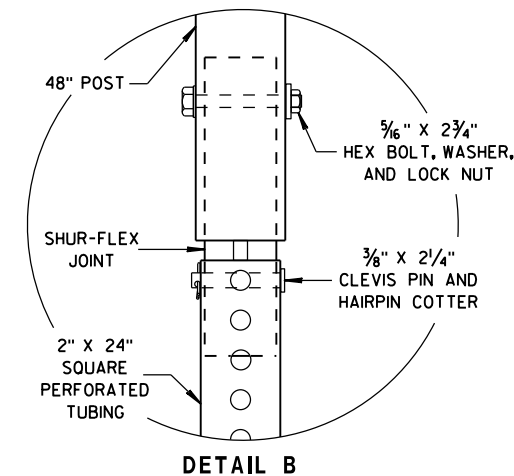
SECTION A-A



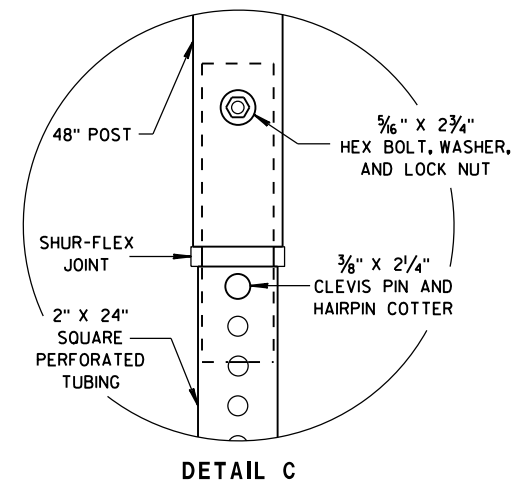
SECTION B-B



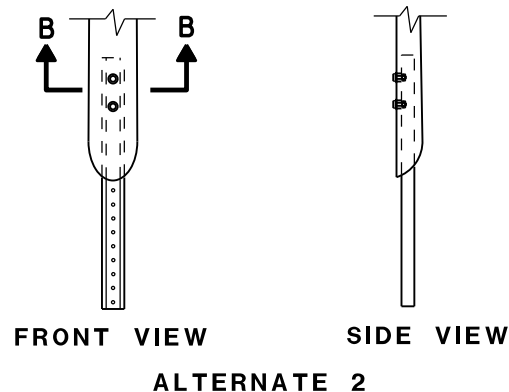
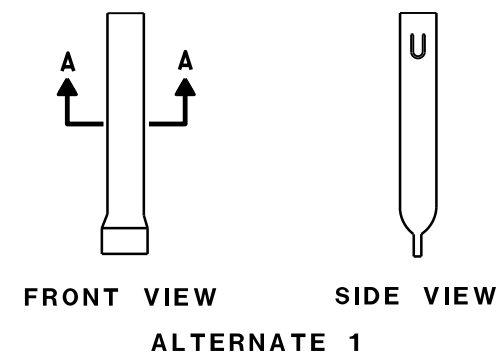
SECTION C-C



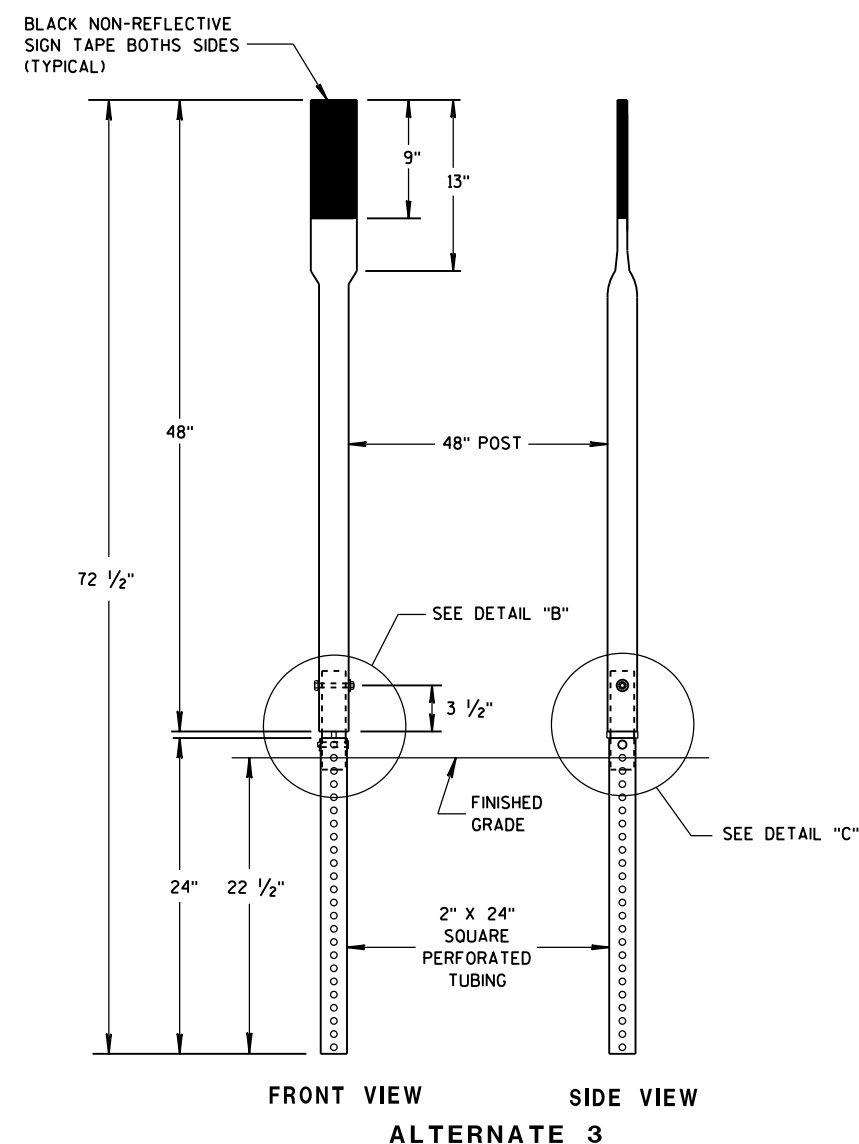
DETAIL B



DETAIL C

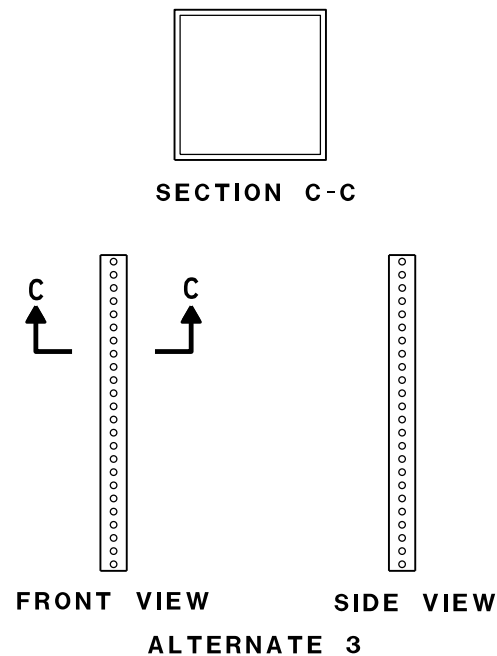


FLEXIBLE MARKER POST ANCHORS



FRONT VIEW SIDE VIEW

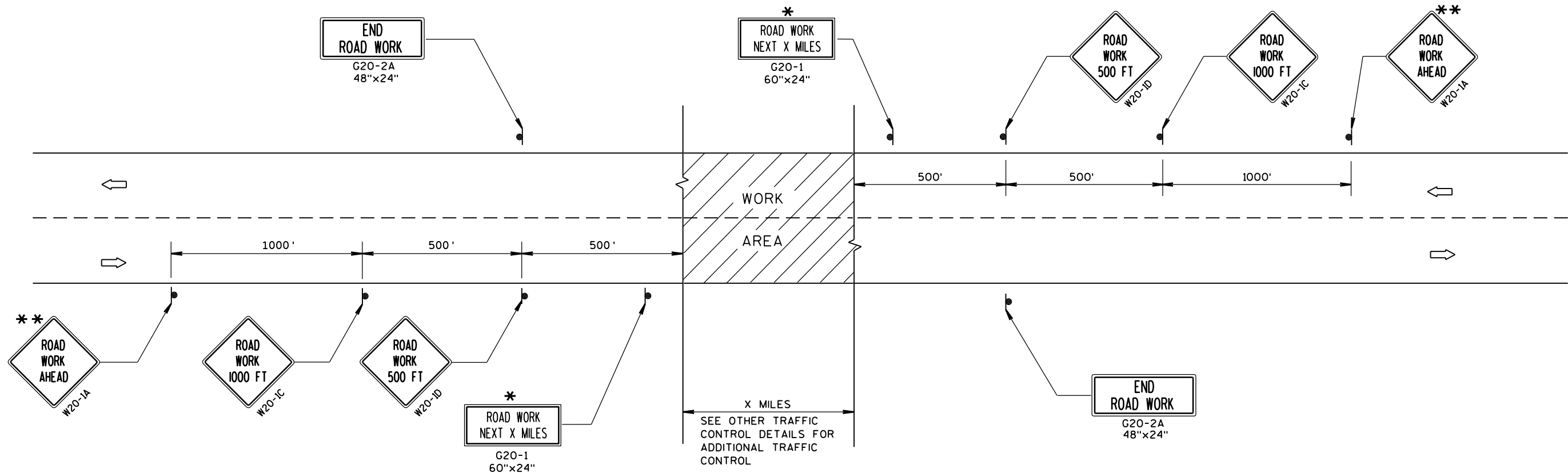
ALTERNATE 3



FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

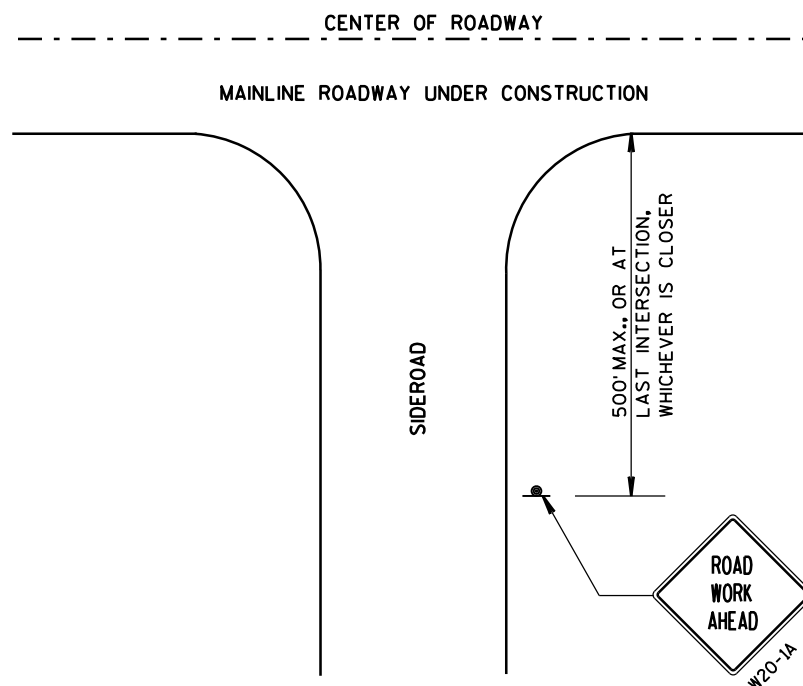
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



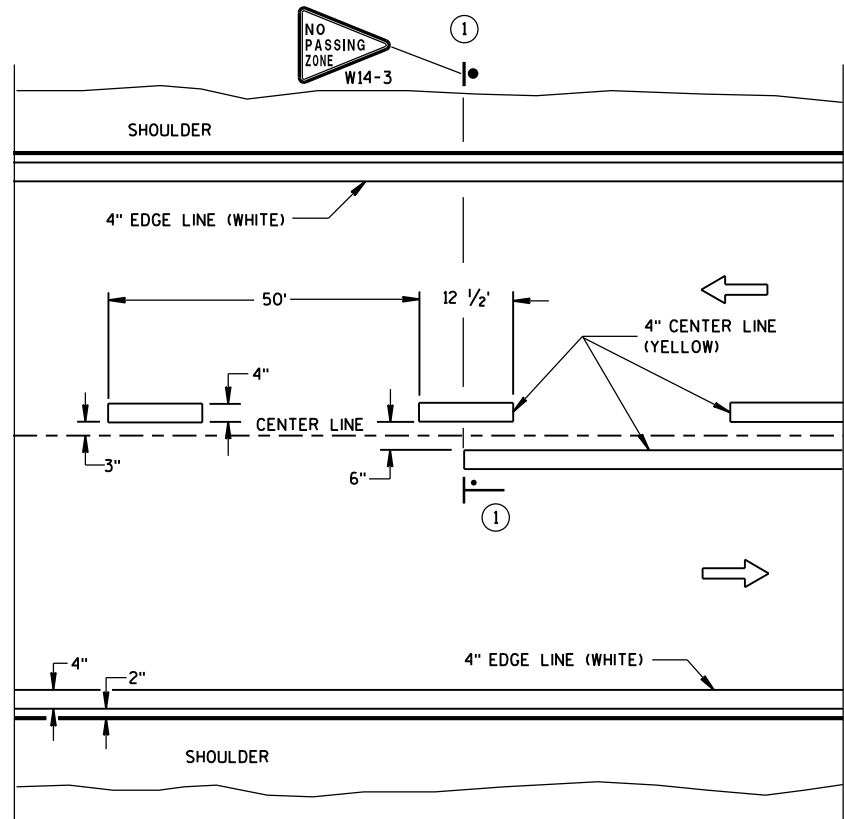
LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

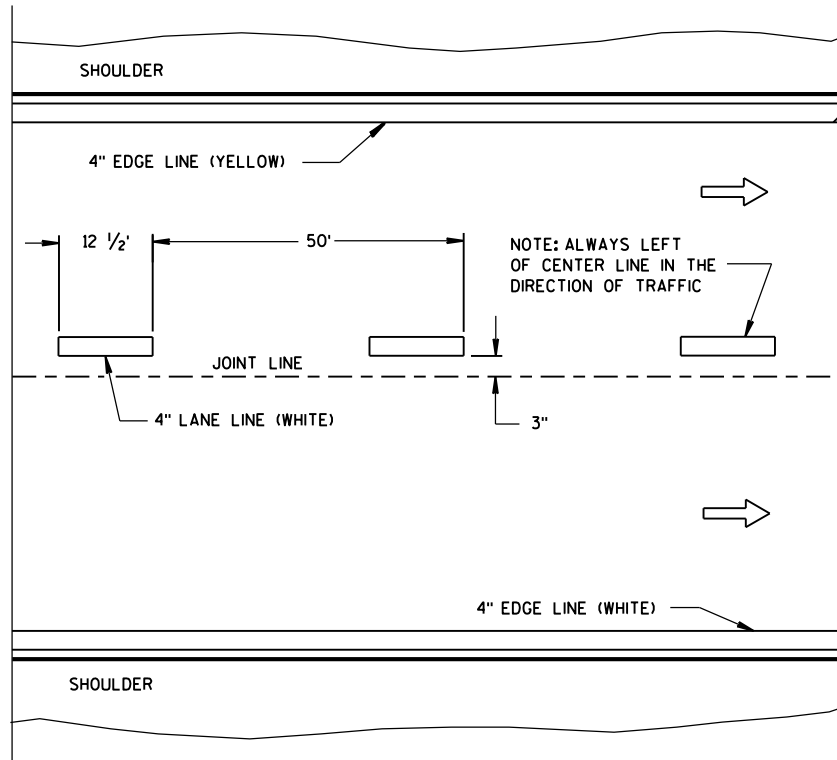
TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER

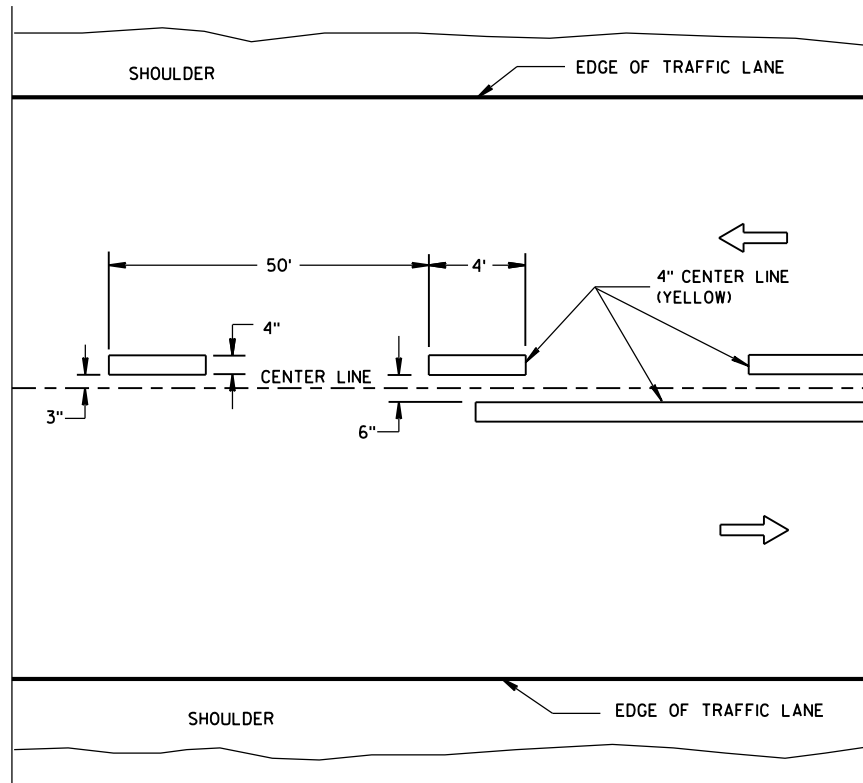


TWO WAY TRAFFIC

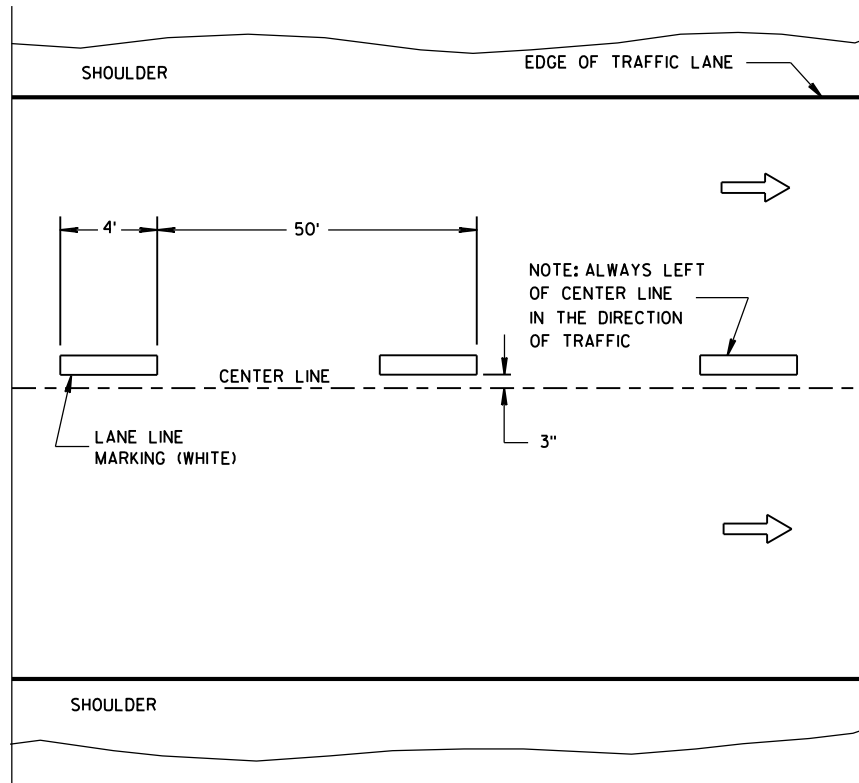


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

① NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

LEGEND

—●— "T" MARKING

● POST MOUNTED SIGN

LONGITUDINAL MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

LEGEND

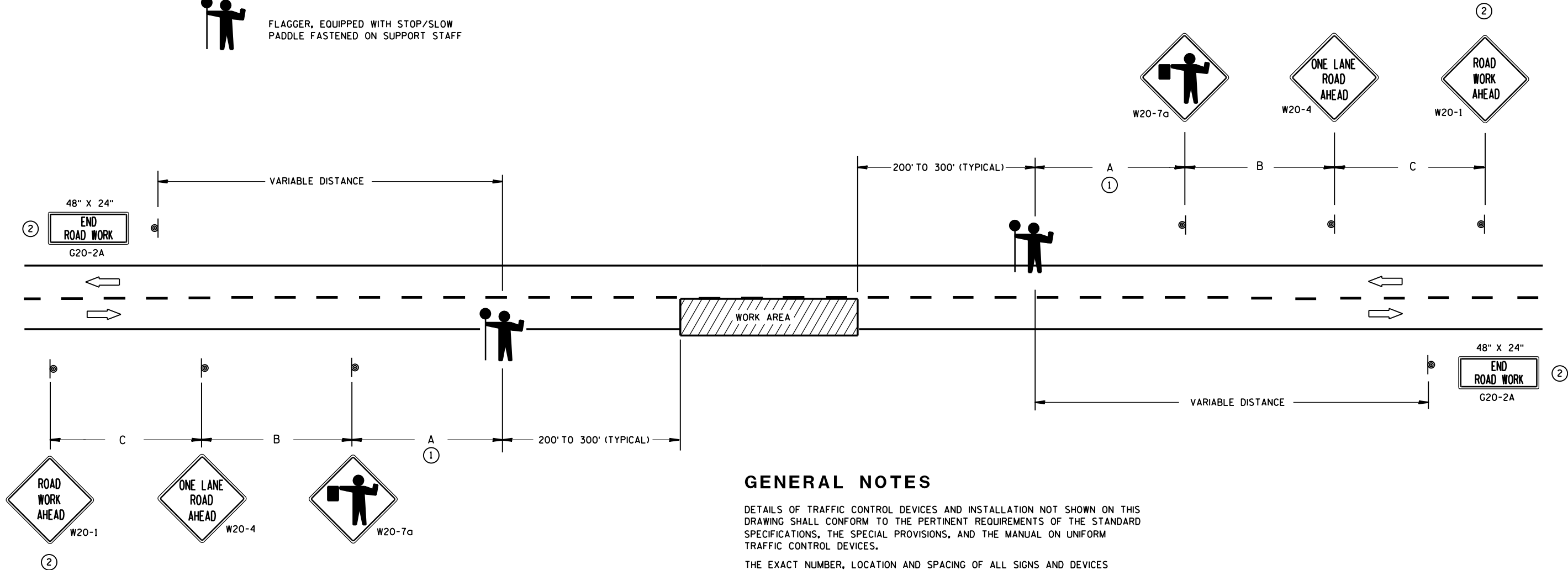
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



- ① FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE LOCATION OF ALL FLAGGERS) SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

LEGEND

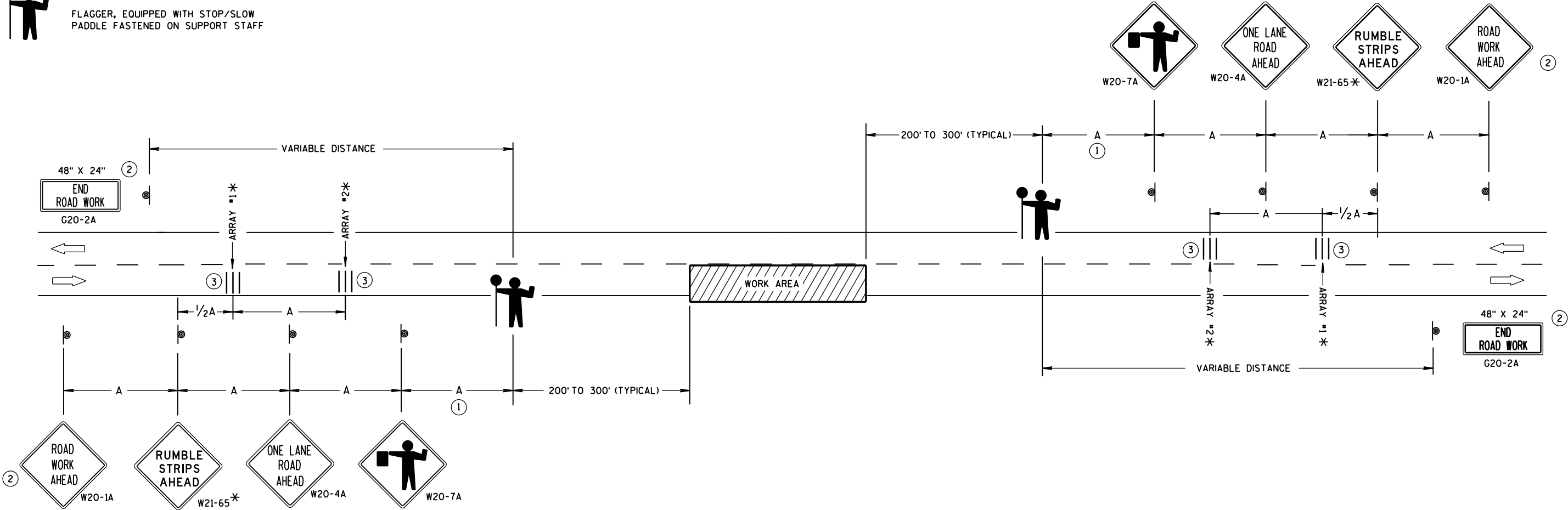
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING A
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING A.



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE LOCATION OF ALL FLAGGERS) SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

"W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS. PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, REMOVE TEMPORARY RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

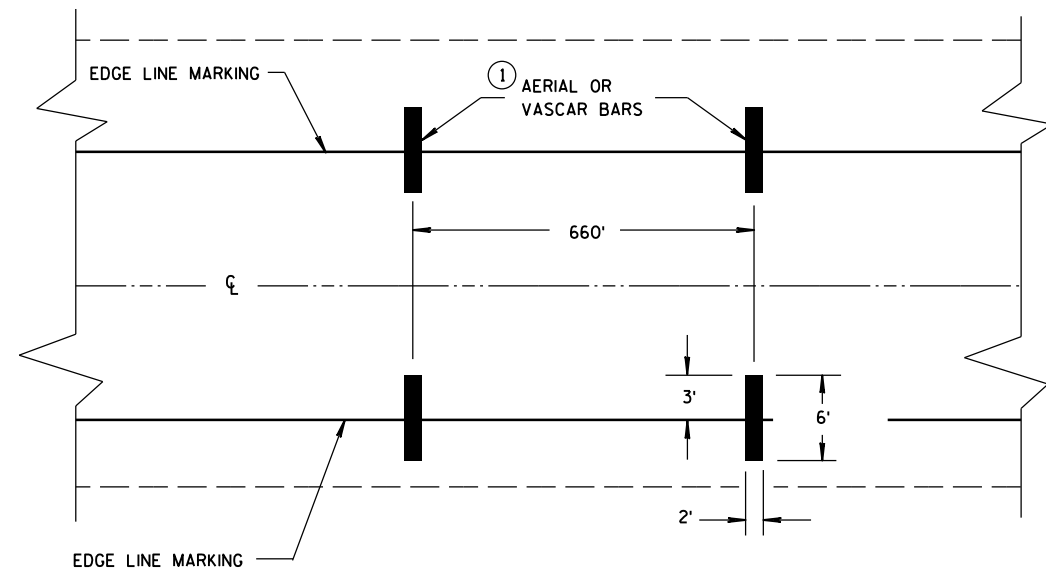
* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

- FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

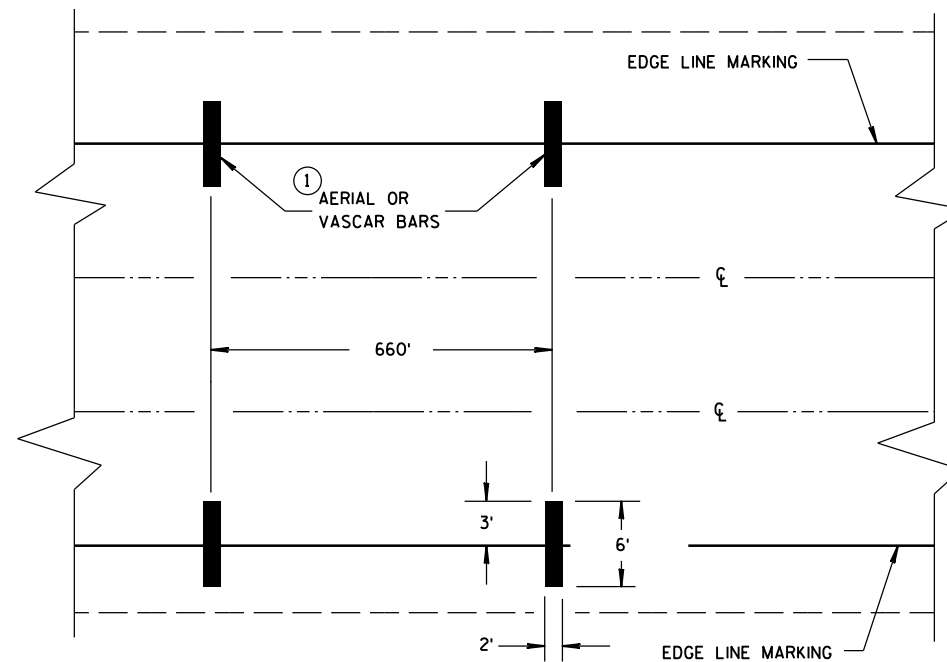
TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 /S/ Andrew Heldtke
DATE WORK ZONE ENGINEER
FHWA



TYPICAL FOR TWO WAY OR ONE WAY TRAFFIC



TYPICAL FOR MULTILANE TRAFFIC

SPEED ENFORCEMENT ZONE WITH AERIAL OR VASCAR BARS

GENERAL NOTES

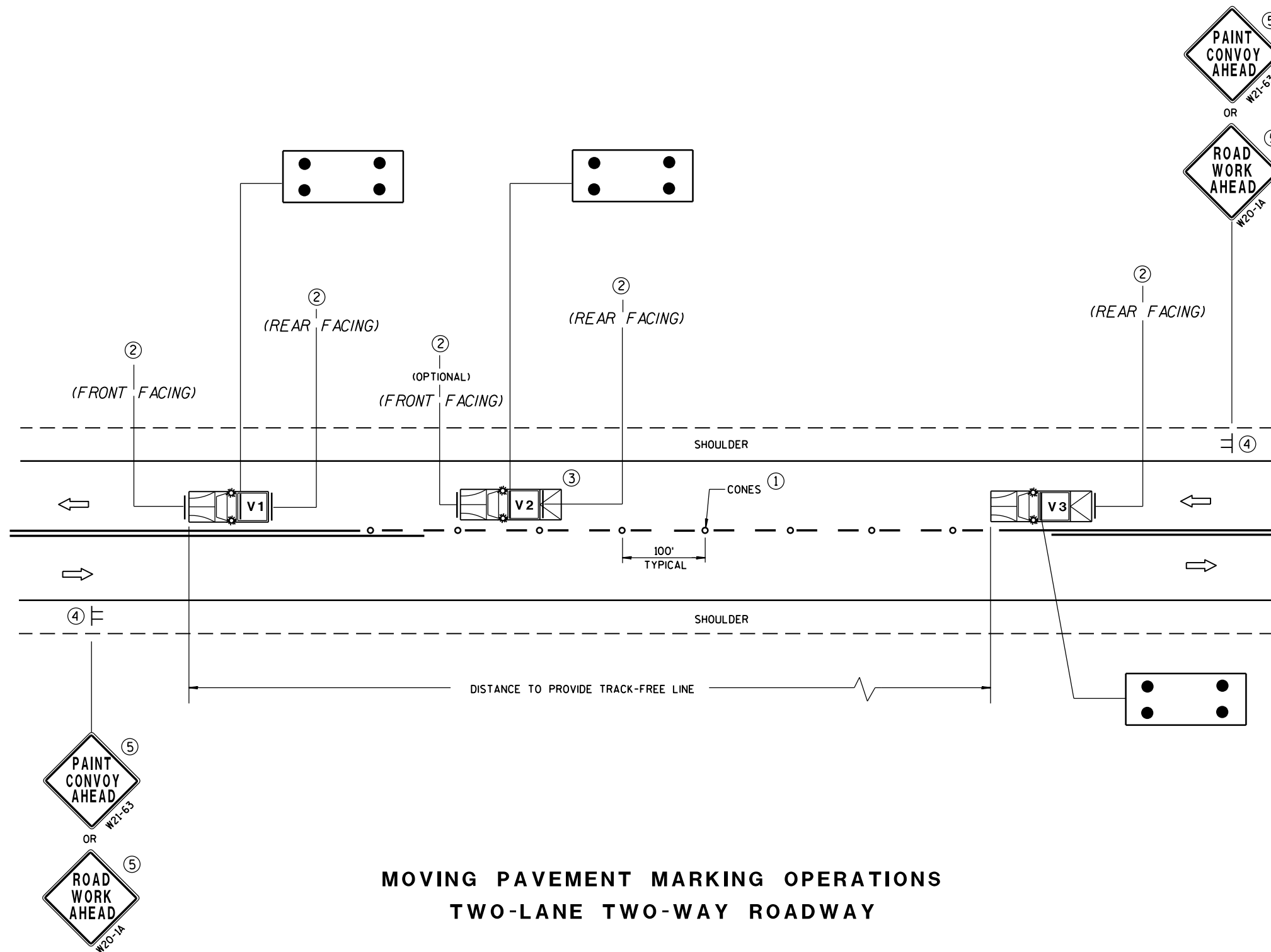
- ① NUMBER OF VASCAR OR AERIAL BARS SHALL BE A MINIMUM OF 2 OR A MAXIMUM OF 5 AT 660' SPACING.

A CAR CAN BE PROVIDED BY THE WISCONSIN STATE PATROL FOR TRAFFIC CONTROL.

AERIAL ENFORCEMENT BARS
PAVEMENT MARKING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/18/2016 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

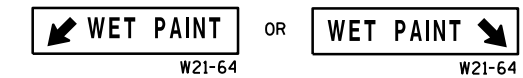
THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.



③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.

④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

V1 LEAD VEHICLE

V2 SHADOW VEHICLE

V3 TRAIL VEHICLE WITH TMA

TMA TRUCK-MOUNTED ATTENUATOR

Sign on Temporary Support

Direction of Traffic

CONES

FLASHING ARROW PANEL (CAUTION)

**MOVING PAVEMENT MARKING
OPERATION
TWO-LANE TWO-WAY ROADWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016

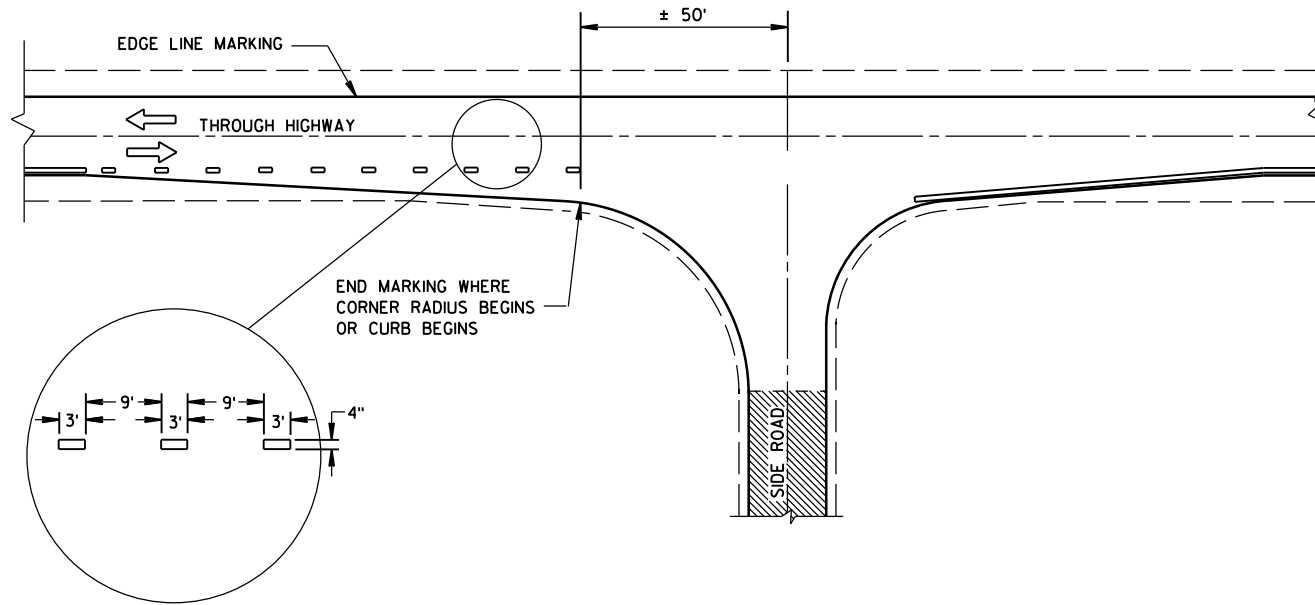
DATE

FHWA

/S/ Peter Amakobe Atepe

STATEWIDE WORK ZONE TRAFFIC

SAFETY ENGINEER



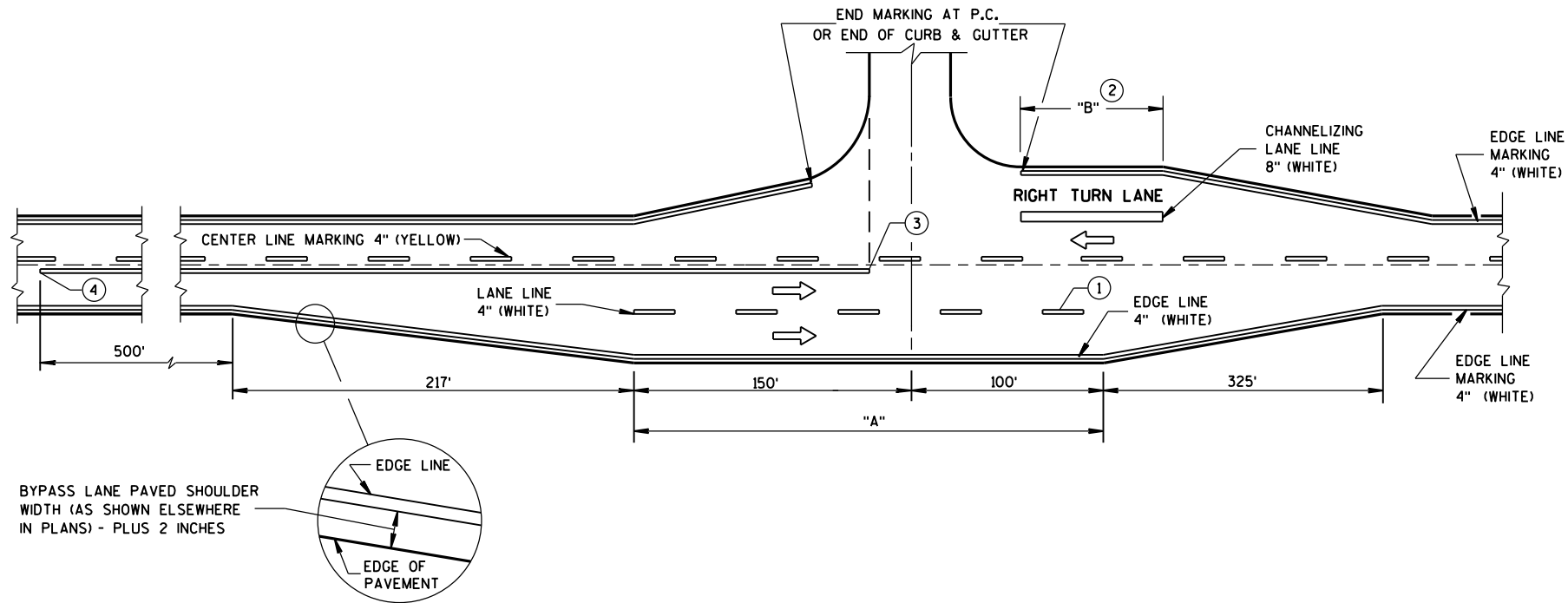
MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

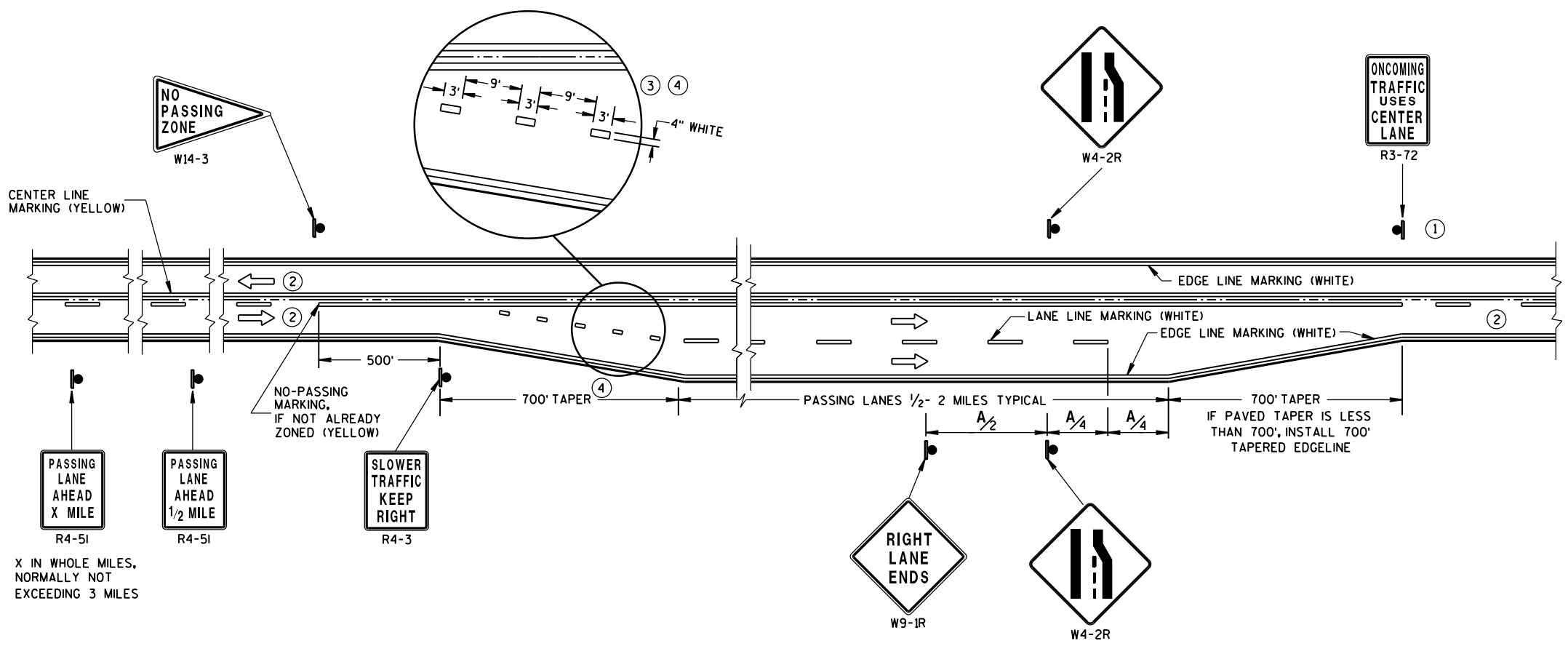
ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)

**PAVEMENT MARKING
(INTERSECTIONS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**SOLID DOUBLE-YELLOW LINE
(THROUGHOUT ENTIRE PASSING/CLIMBING LANE)**

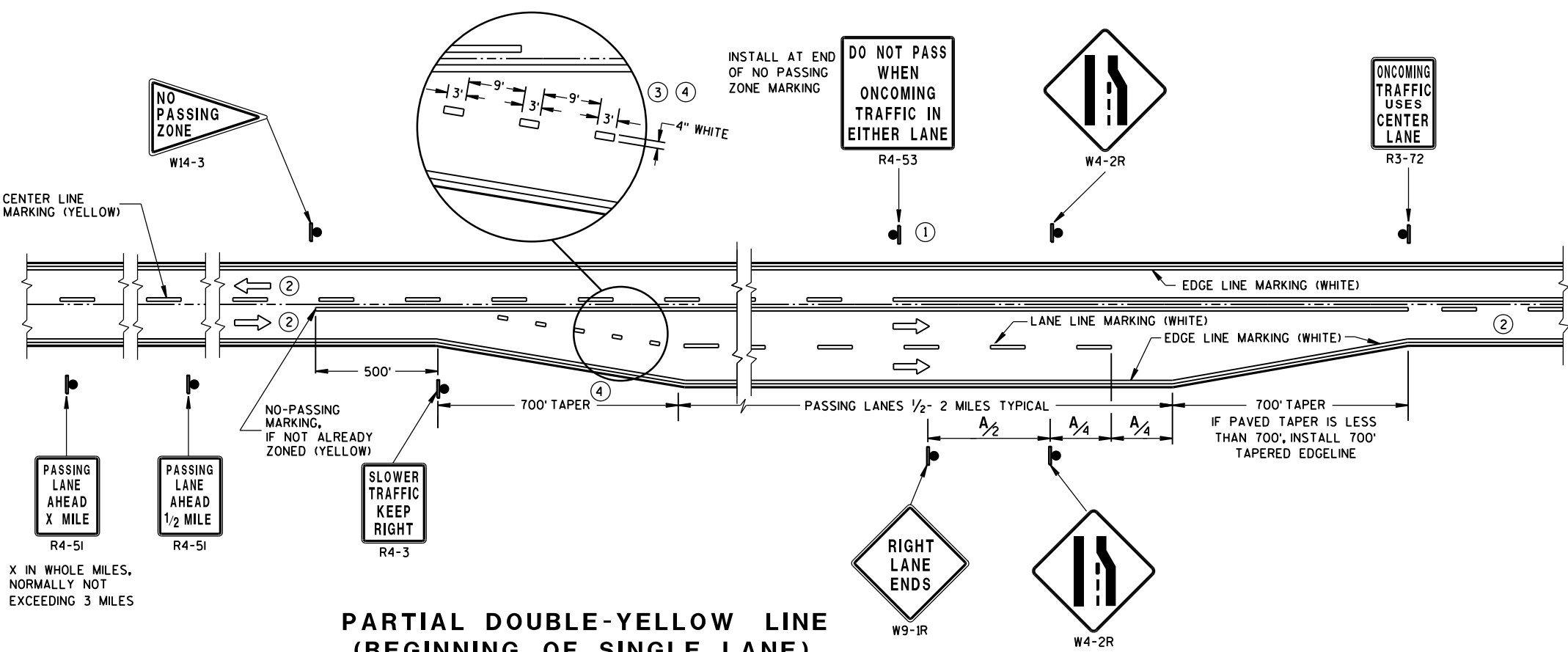
GENERAL NOTES

- ① SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
- ② THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
- ③ THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ④ WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING/CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

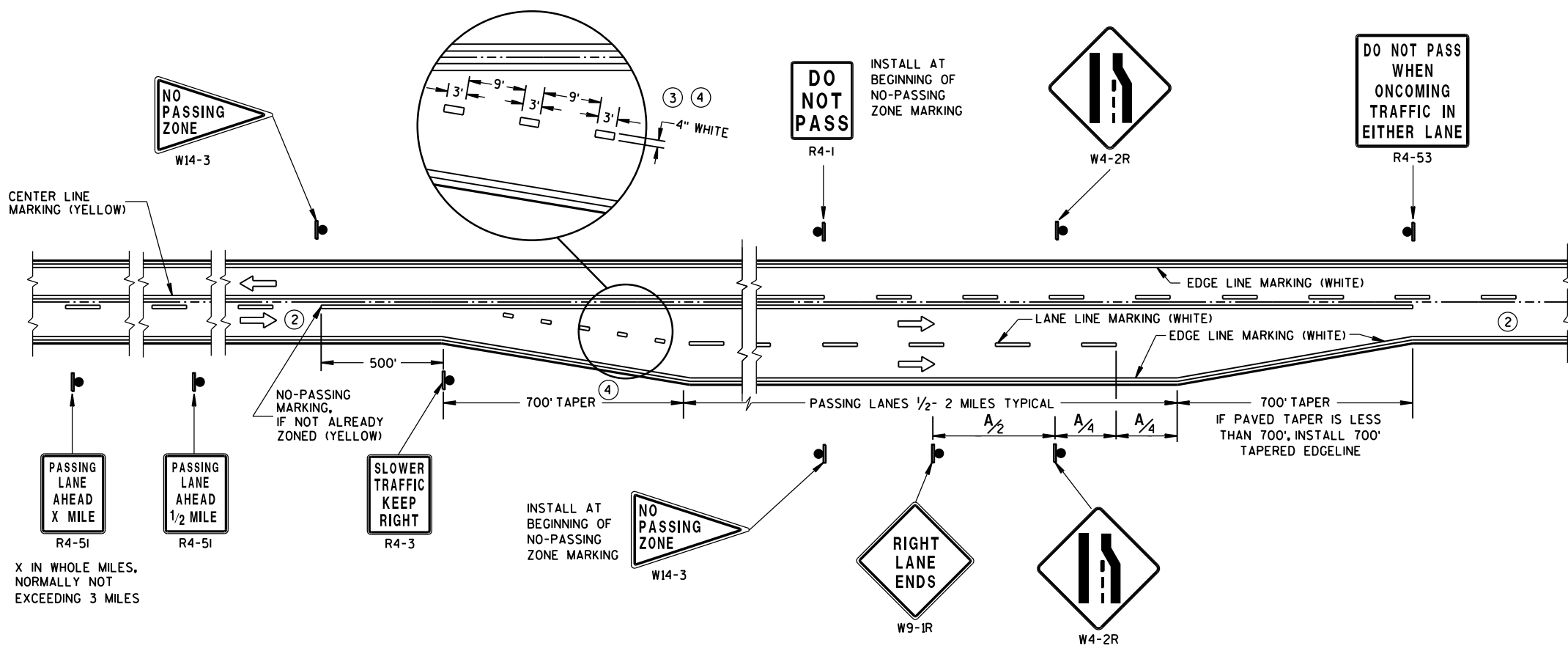
POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	750
50	850
55	950



**PARTIAL DOUBLE-YELLOW LINE
(BEGINNING OF SINGLE LANE)**

**PAVEMENT MARKING & SIGNING
(CLIMBING LANE & PASSING LANE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



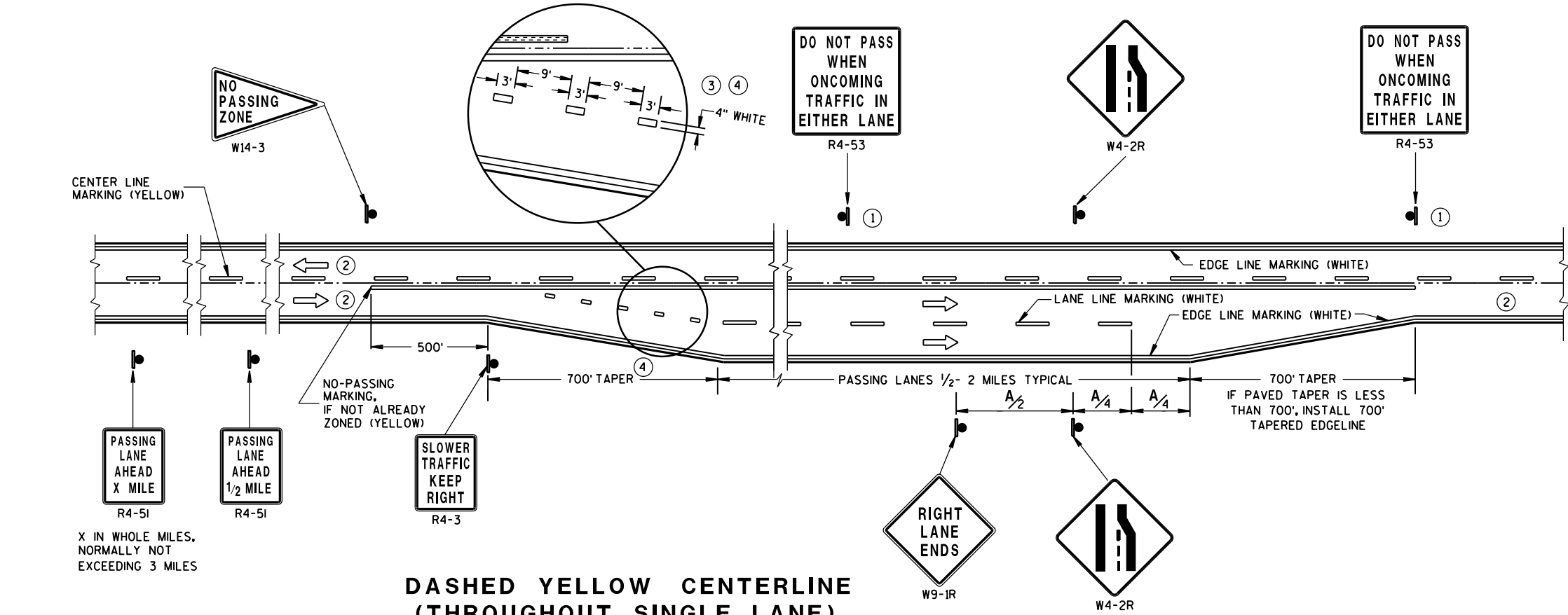
**SOLID DOUBLE-YELLOW LINE
(END OF SINGLE LANE)**

GENERAL NOTES

- ① SIGN SHALL BE REPEATED AT ONE MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
- ② THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
- ③ THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3" LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ④ WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING/CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE	
POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	750
50	850
55	950

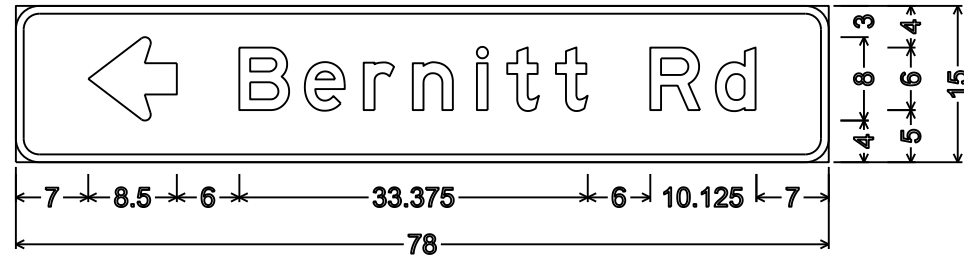


**DASHED YELLOW CENTERLINE
(THROUGHOUT SINGLE LANE)**

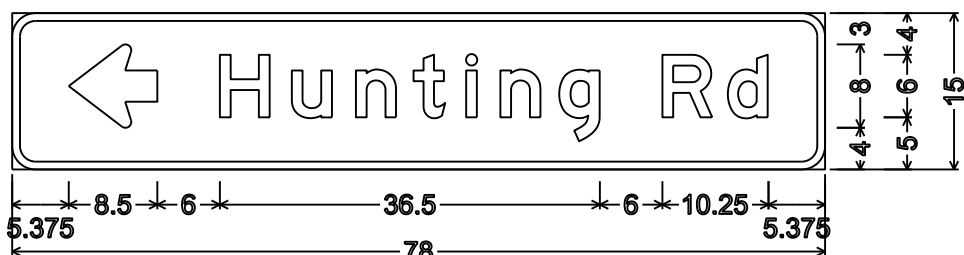
**PAVEMENT MARKING & SIGNING
(CLIMBING LANE & PASSING LANE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

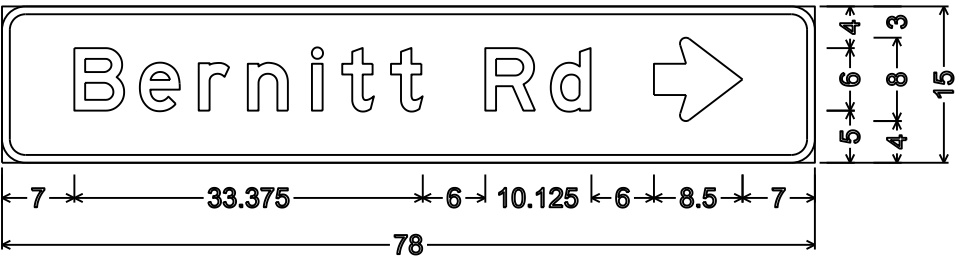
APPROVED
Sept., 2016 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



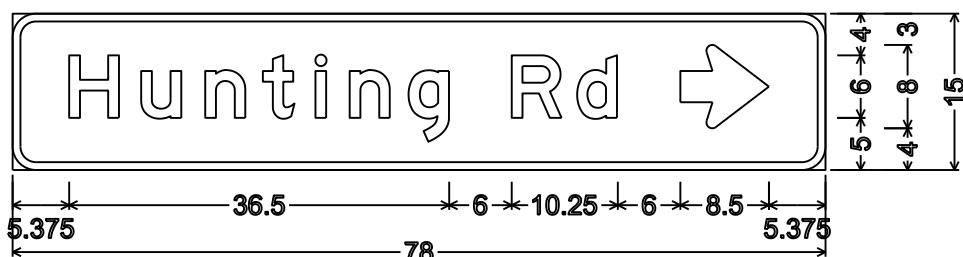
D1-1; 2.250" Radius, 0.750" Border



D1-1; 2.250" Radius, 0.750" Border



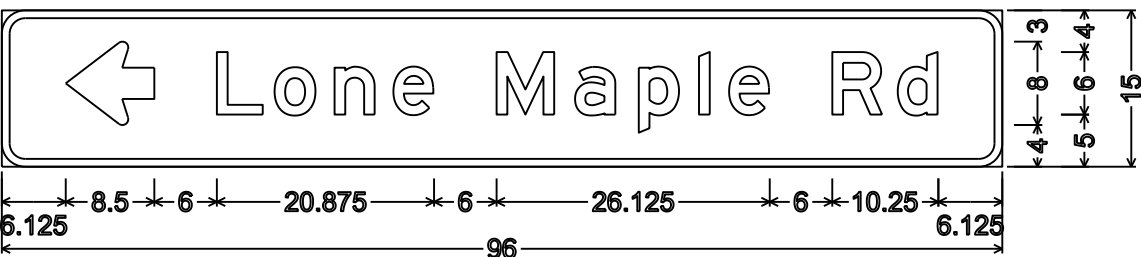
D1-1; 2.250" Radius, 0.750" Border



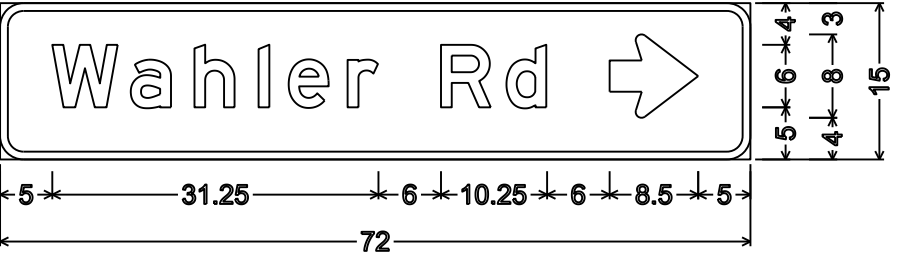
D1-1; 2.250" Radius, 0.750" Border



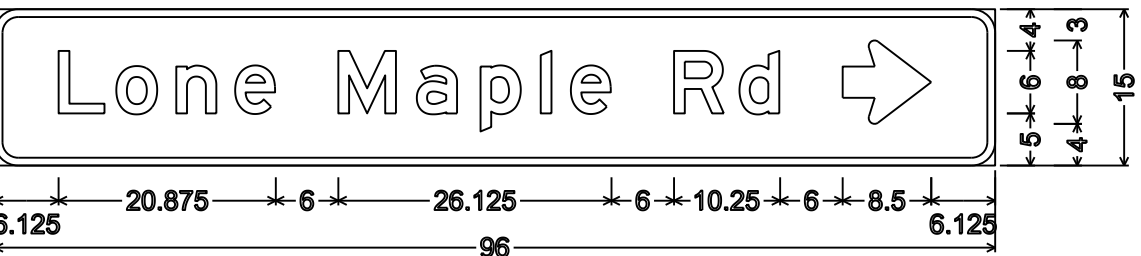
D1-1; 2.250" Radius, 0.750" Border



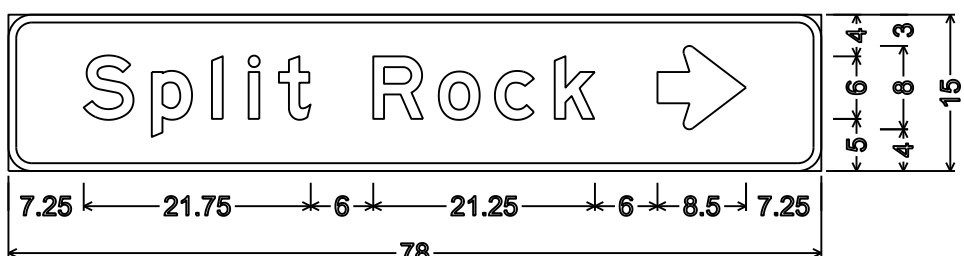
D1-1; 2.250" Radius, 0.750" Border



D1-1; 2.250" Radius, 0.750" Border



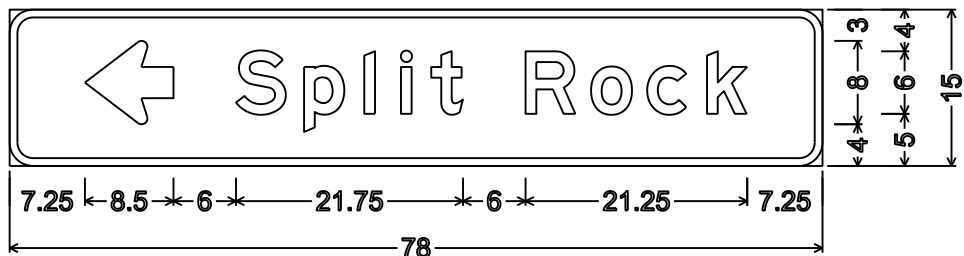
D1-1; 2.250" Radius, 0.750" Border



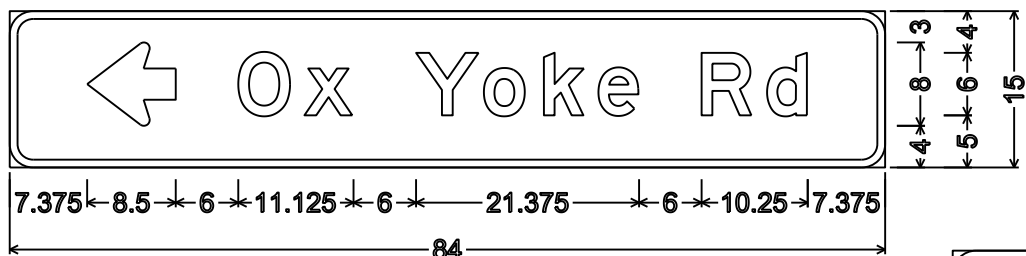
D1-1; 2.250" Radius, 0.750" Border



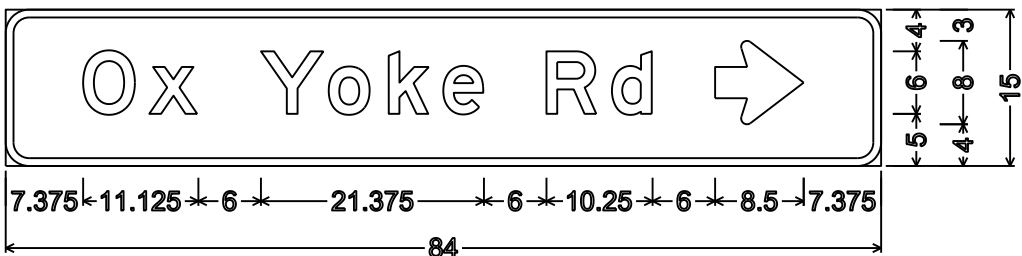
D1-61;
2.250" Radius, 0.750" Border



D1-1; 2.250" Radius, 0.750" Border



D1-1; 2.250" Radius, 0.750" Border



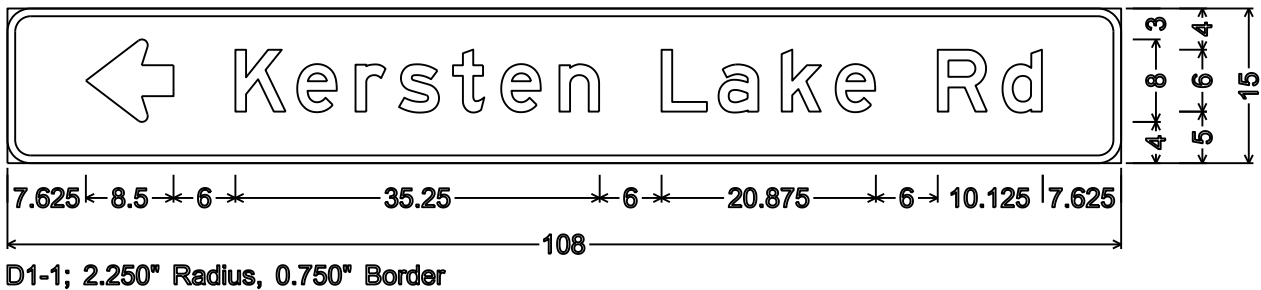
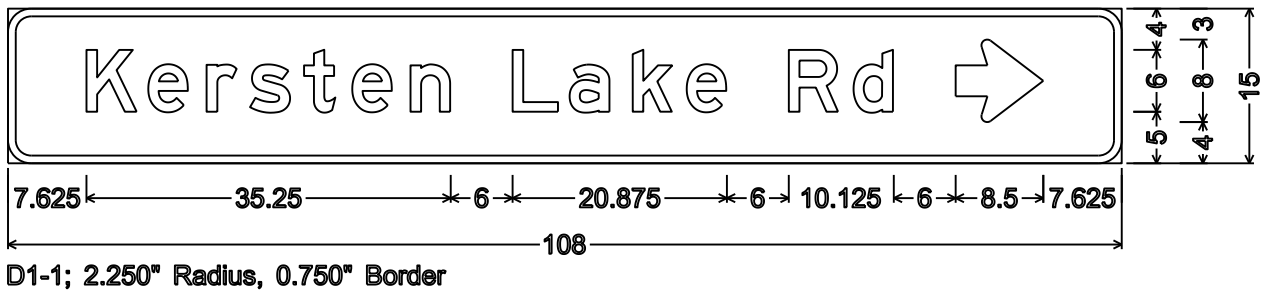
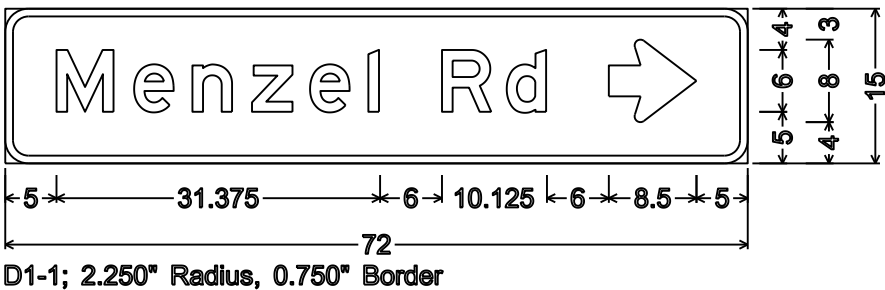
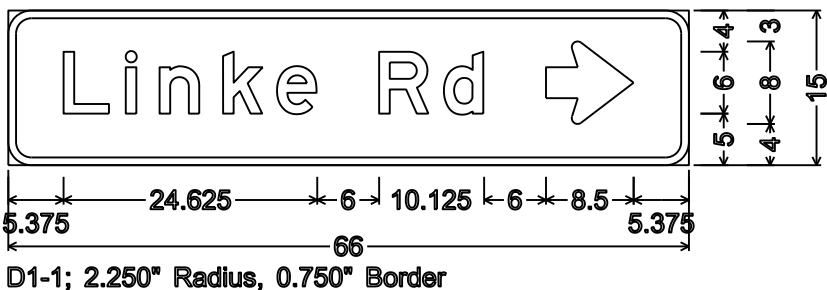
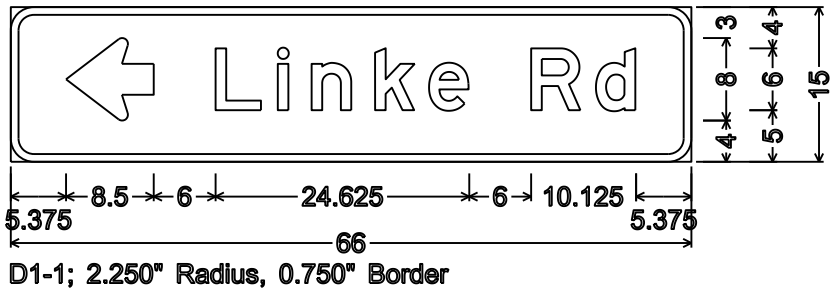
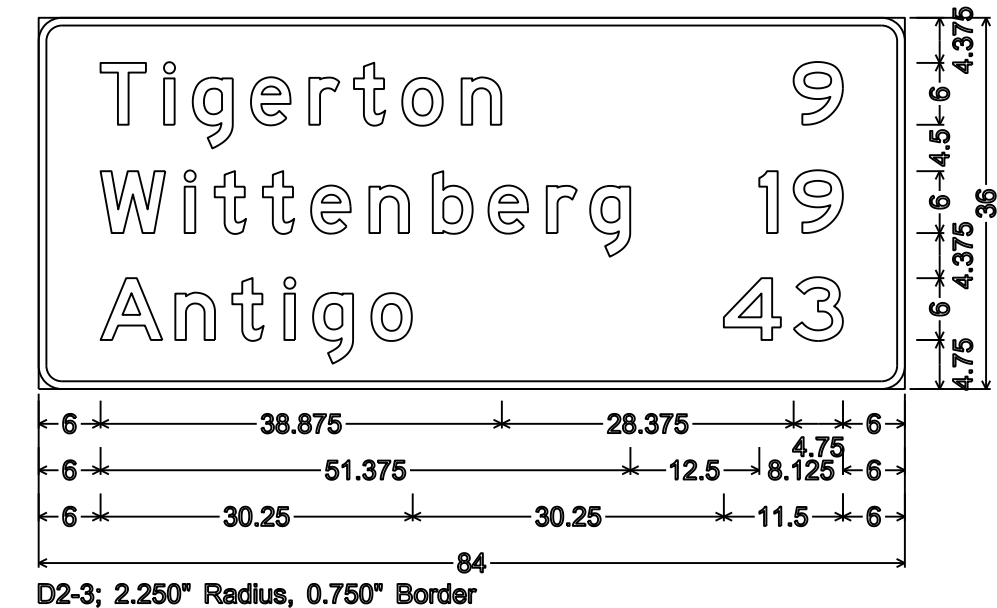
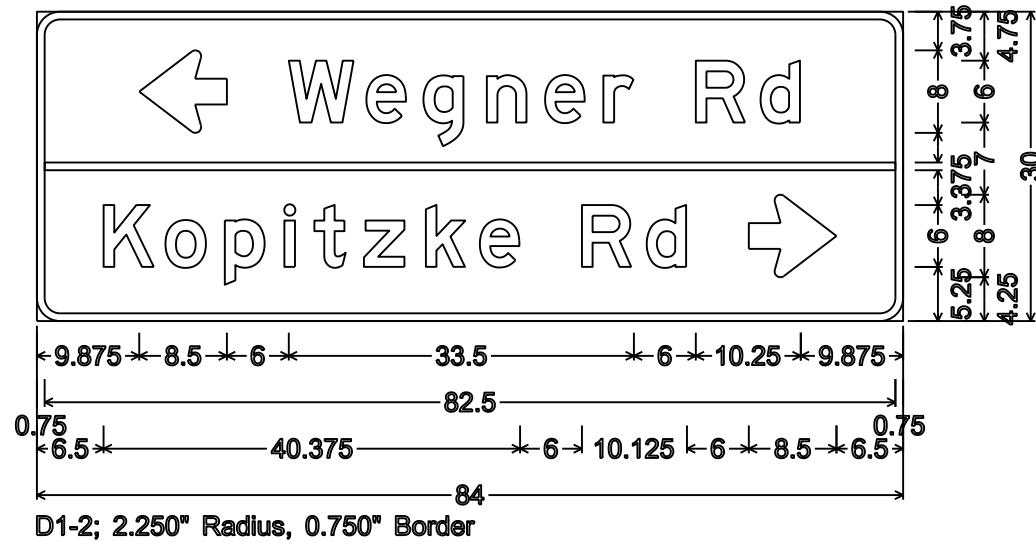
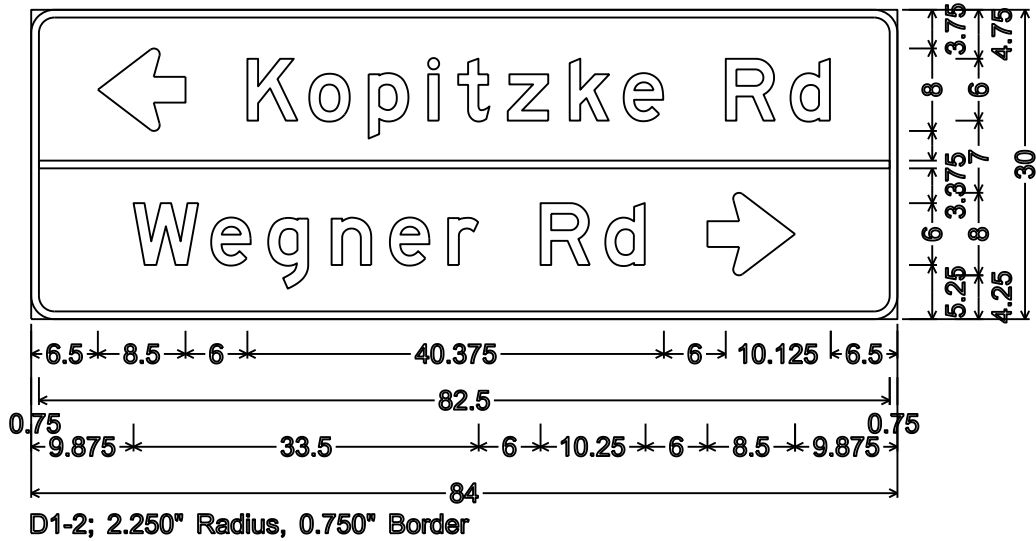
D1-1; 2.250" Radius, 0.750" Border

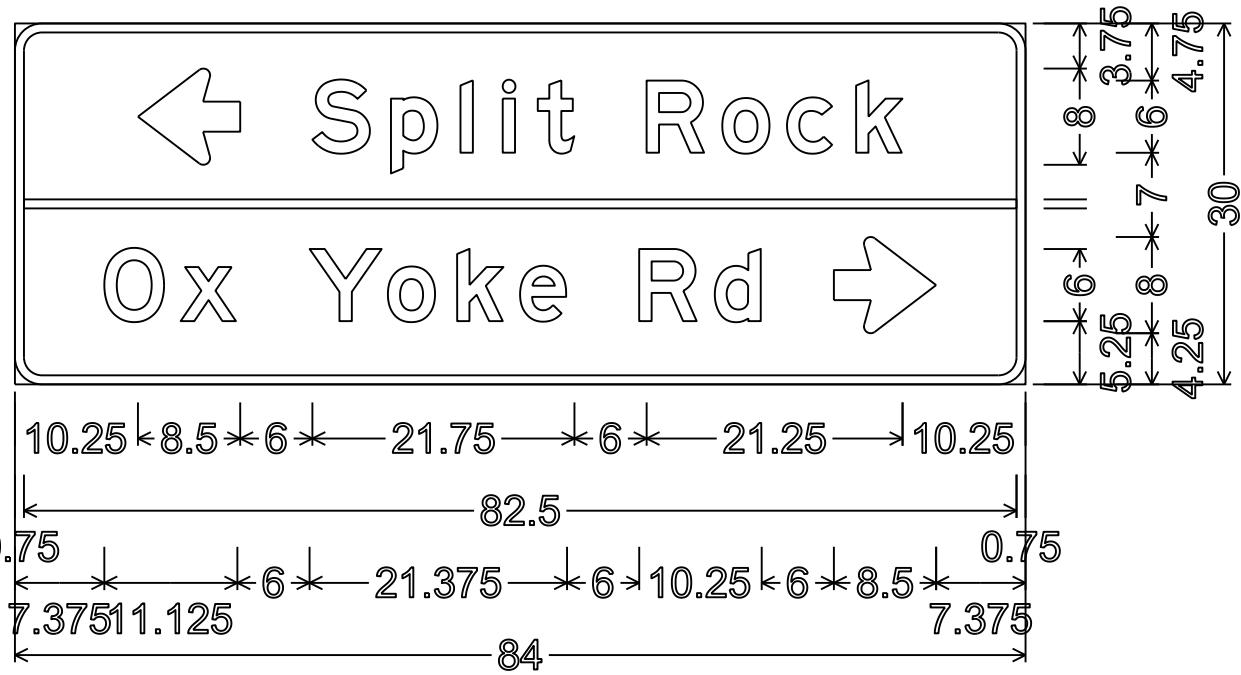
NOTES

1. All Signs Type II - Type H Reflective
2. Color:
Background - GREEN
Message - WHITE
3. Message Series - E

NOTES

- 1. All Signs Type II - Type H Reflective
- 2. Color:
Background - GREEN
Message - WHITE
- 3. Message Series - E

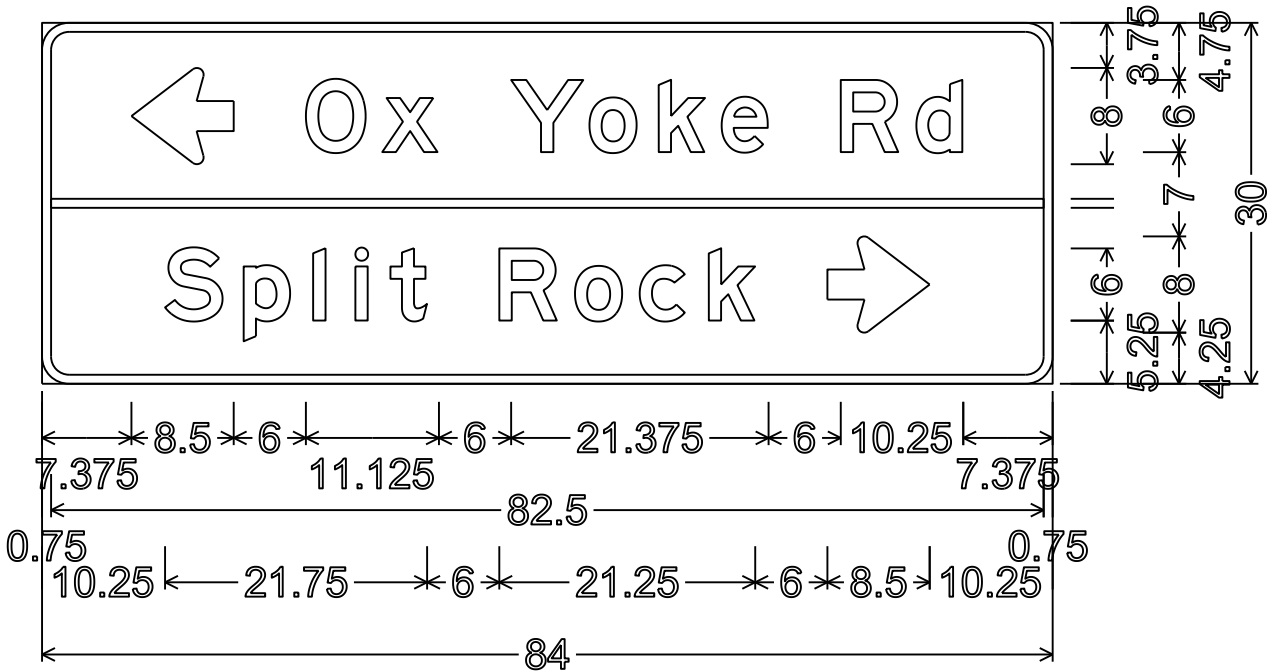




D1-2;
2.250" Radius, 0.750" Border, White on Green;

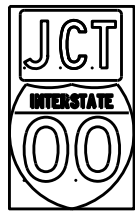
NOTES

- 1. All Signs Type II - Type H Reflective
- 2. Color:
Background - Green
Message - White
- 3. Message Series - E

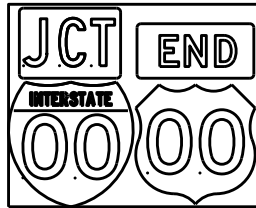


D1-2;
2.250" Radius, 0.750" Border, White on Green;

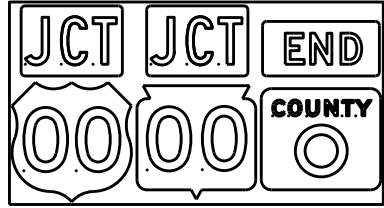
TYPICAL ASSEMBLIES



J1-1



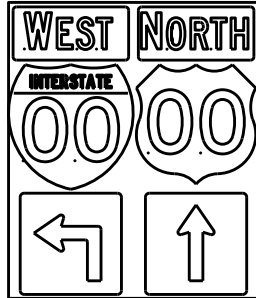
J1-2



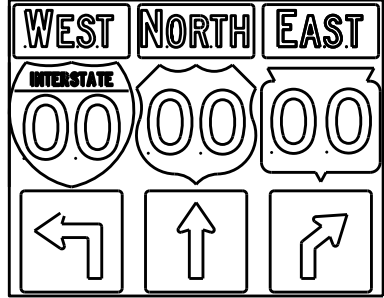
J1-3



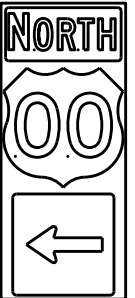
J2-1



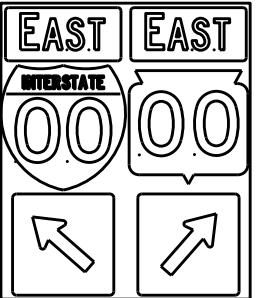
J2-2



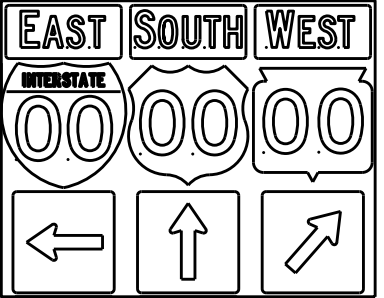
J2-3



J3-1



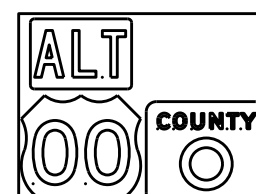
J3-2



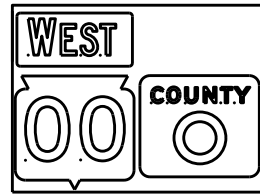
J3-3



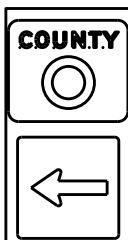
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

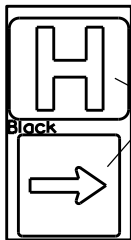


J22-1



JV

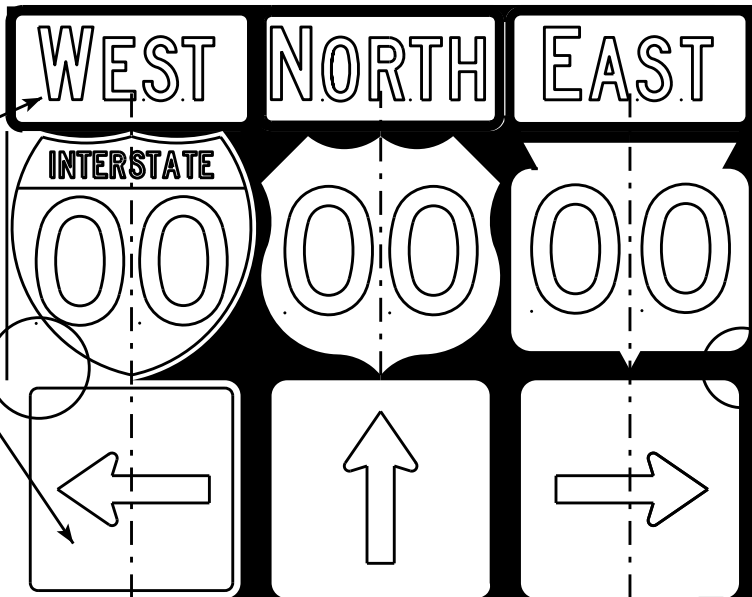
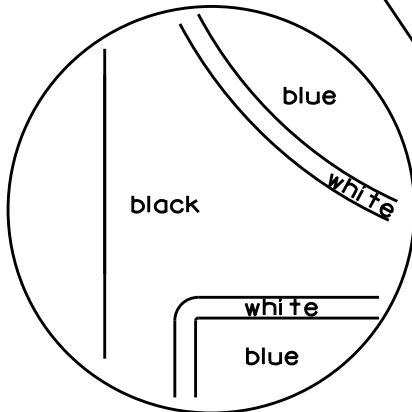
(Typical Vertical J-Assembly
See Note 10 and 11)



JH-1

Blue Background

[blue background
with interstate]



[black background]

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

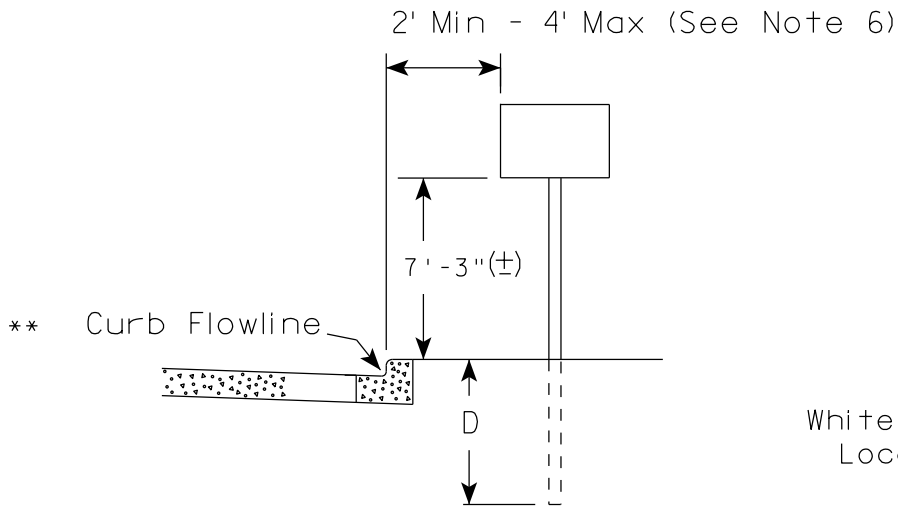
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/06/14 PLATE NO. A2-1S.8

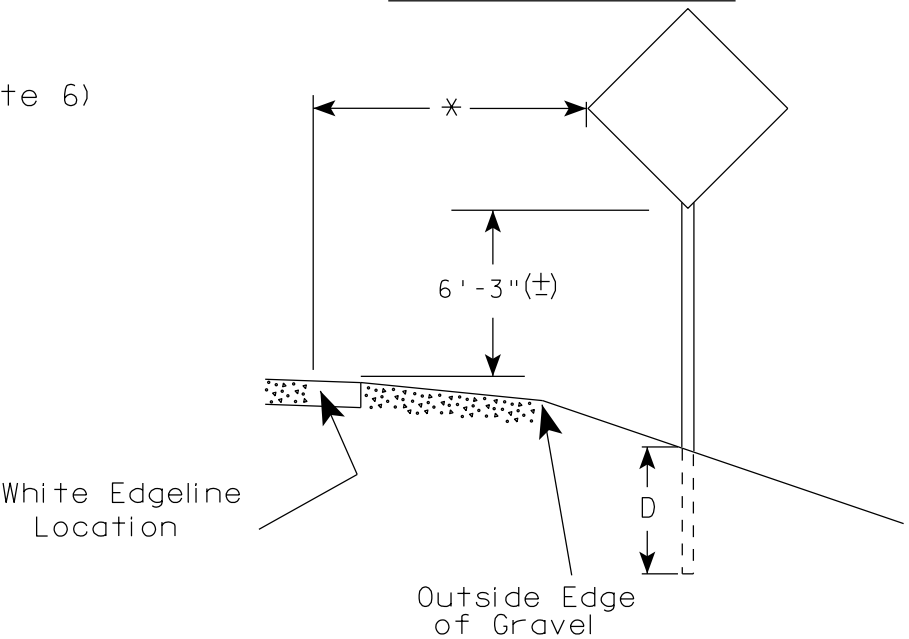
NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Black Non-reflective
Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

URBAN AREA

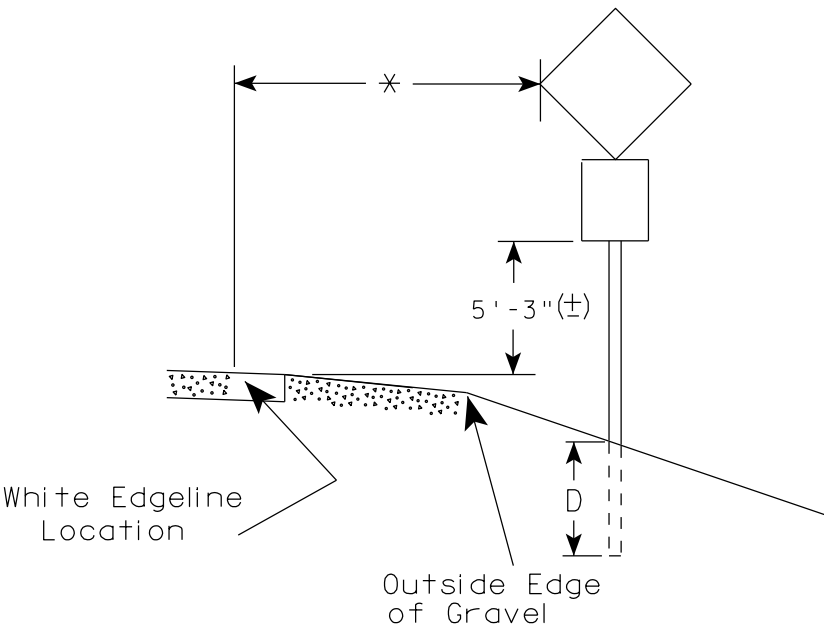
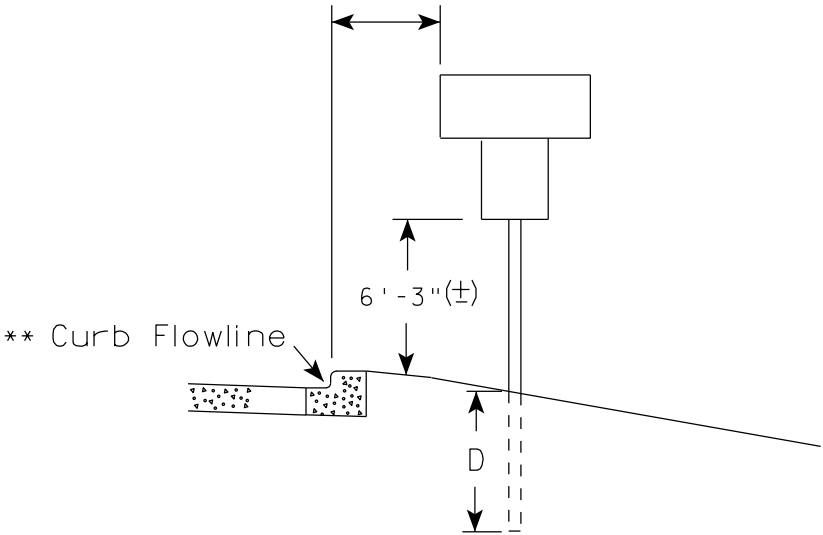


RURAL AREA (See Note 2)



- GENERAL NOTES
1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
 2. If signs are mounted on barrier wall, see A4-10 sign plate.
 3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
 4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. The (±) tolerance for mounting height is 3 inches.
 8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
 9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

2' Min - 4' Max (See Note 6)



POST EMBEDMENT DEPTH

Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

×× The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

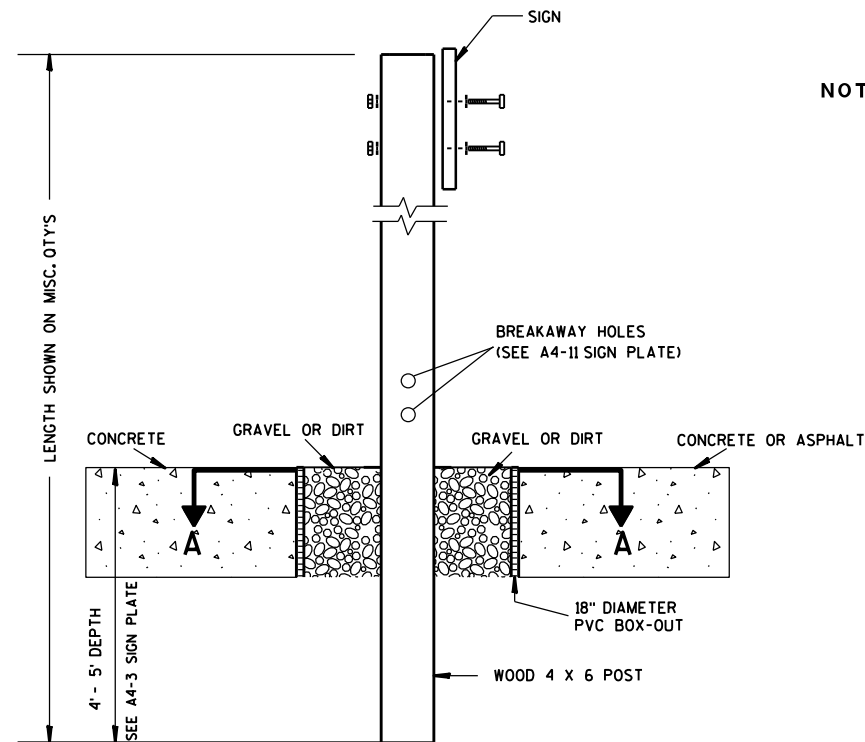
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

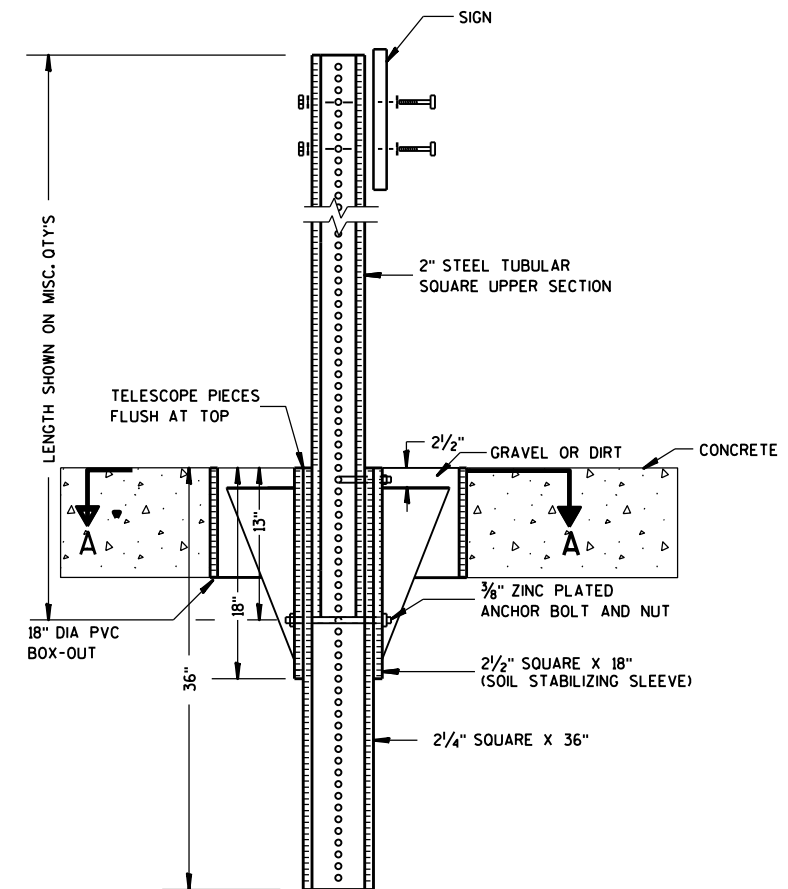
DATE 7/23/15 PLATE NO. A4-3.20



ELEVATION VIEW

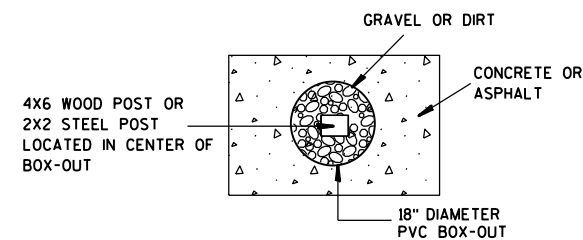
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

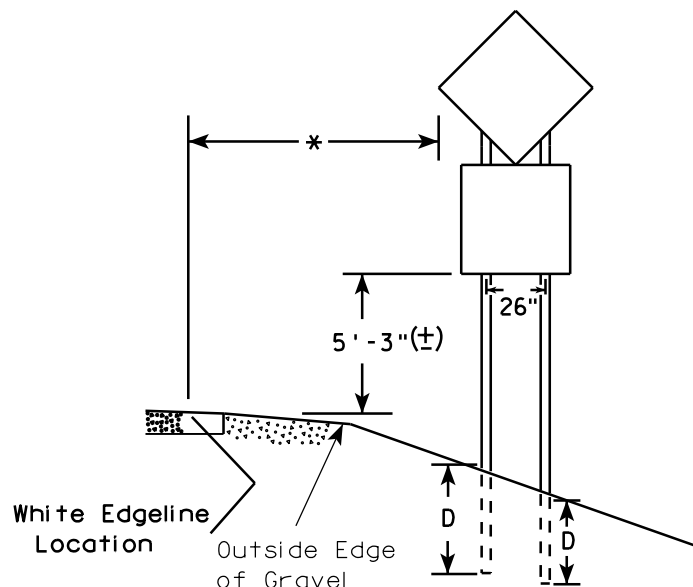
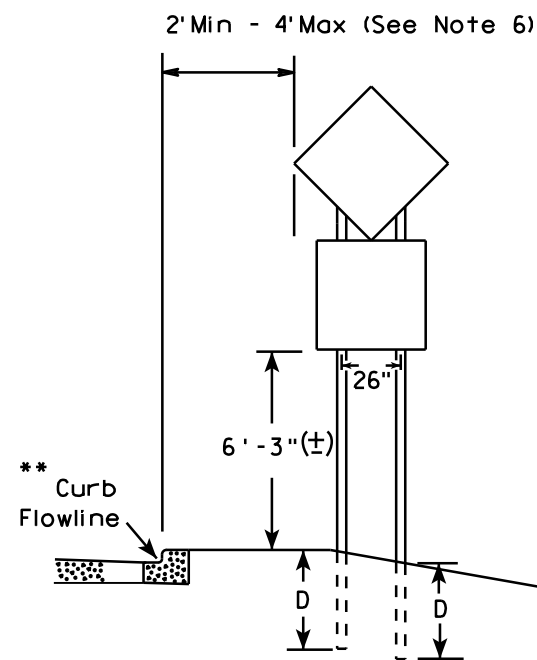
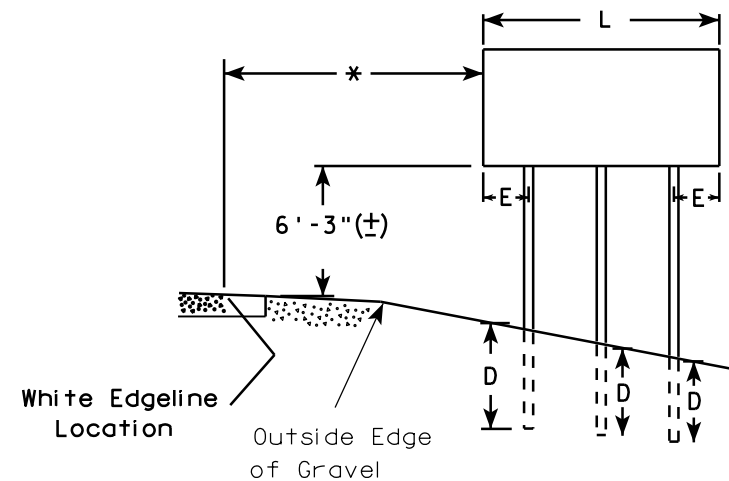
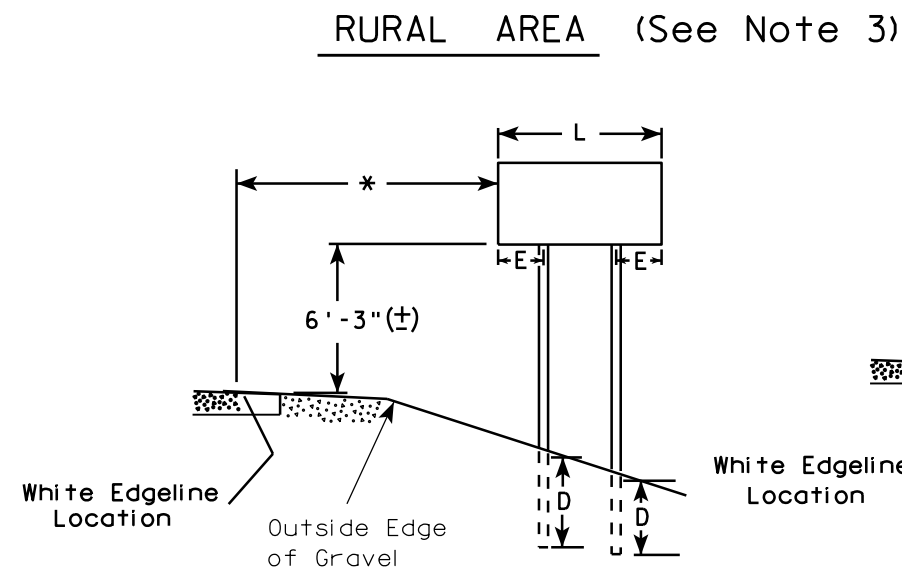
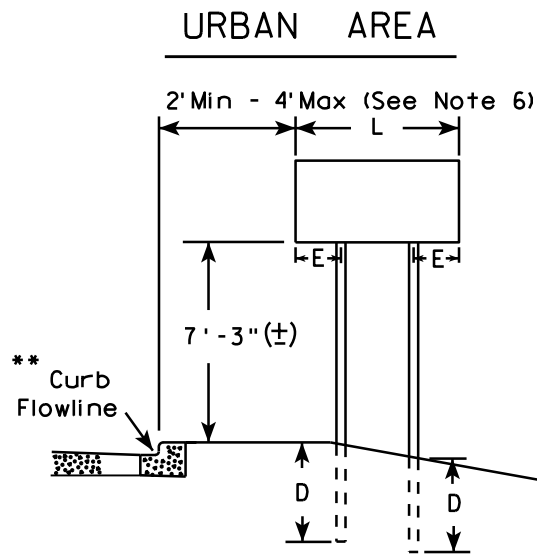
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



48" DIAMOND WARNING SIGN

48" DIAMOND WARNING SIGN

- GENERAL NOTES**
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 2. See tables below for required number of posts.
 3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 4. The (±) tolerance for mounting height is 3 inches.
 5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

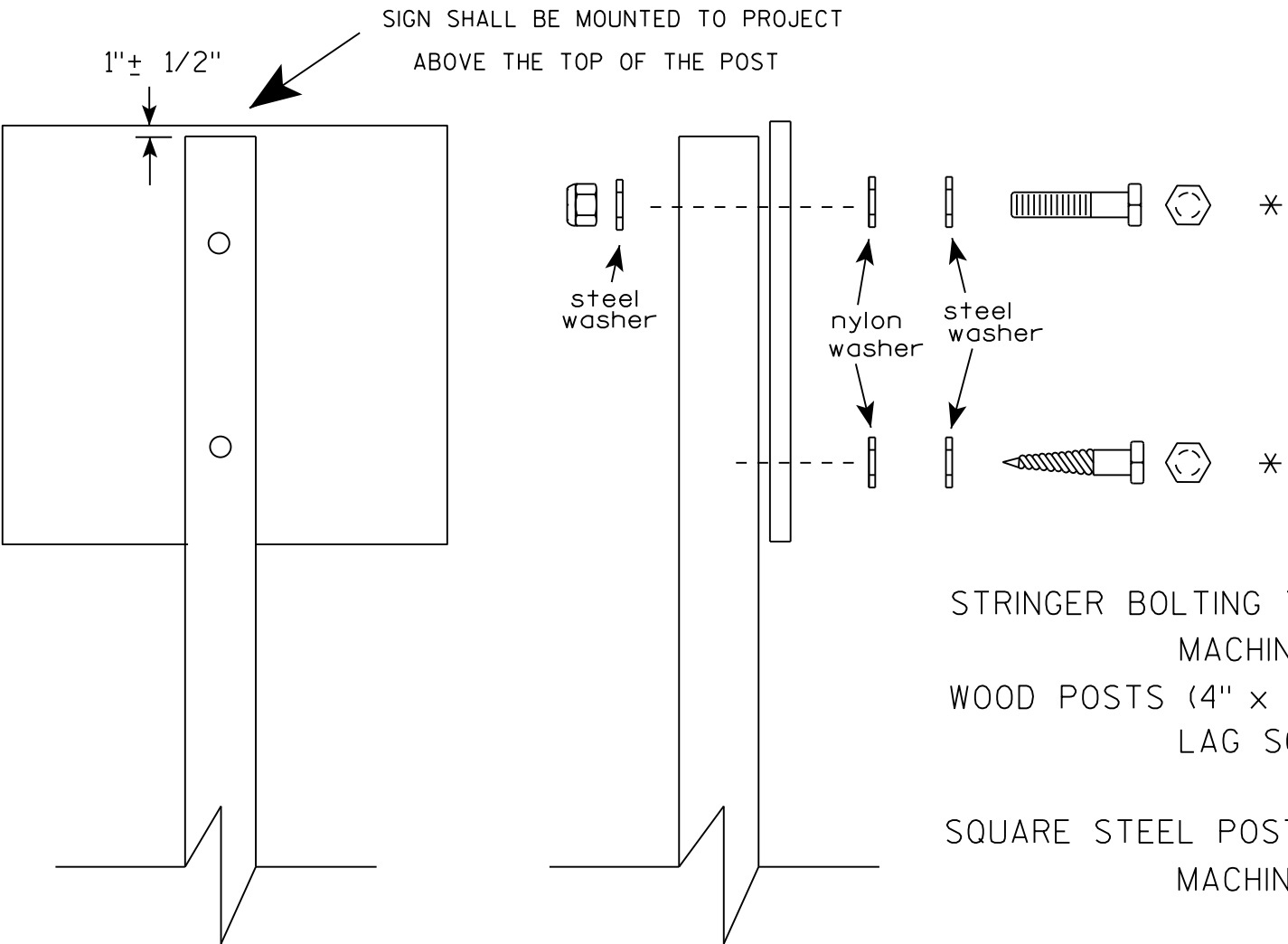
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4.14



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

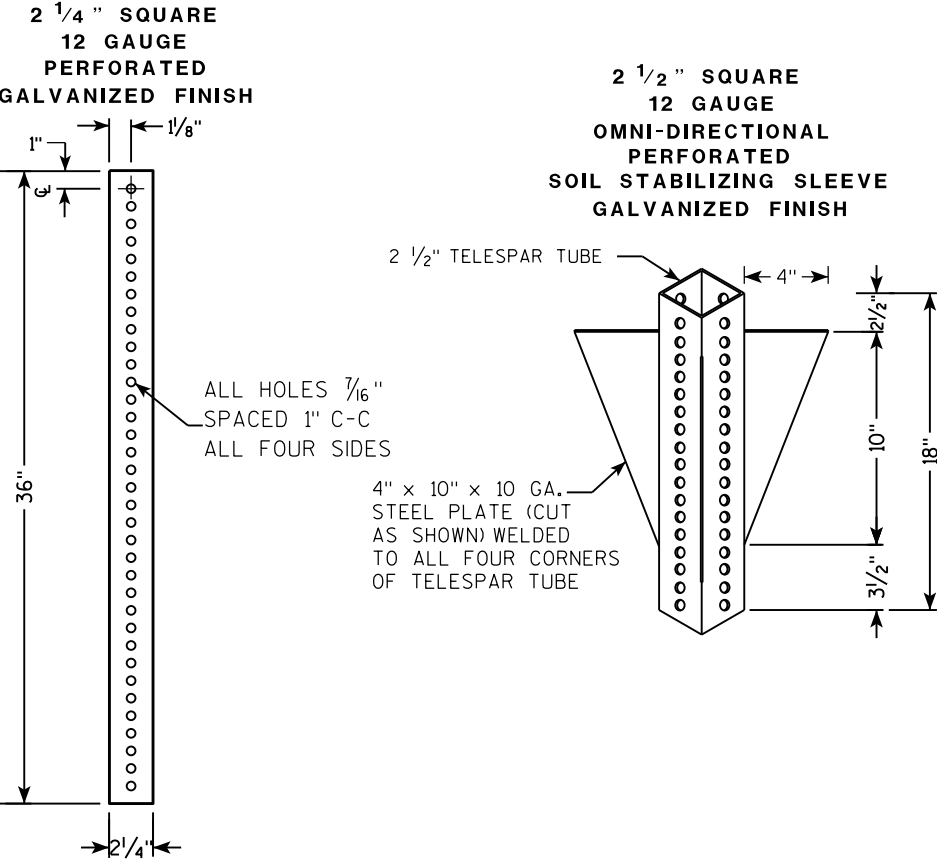
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
 - 3/8" X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - 3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
 - 1-1/4" O.D. X 3/8" I.D. X .080 NYLON

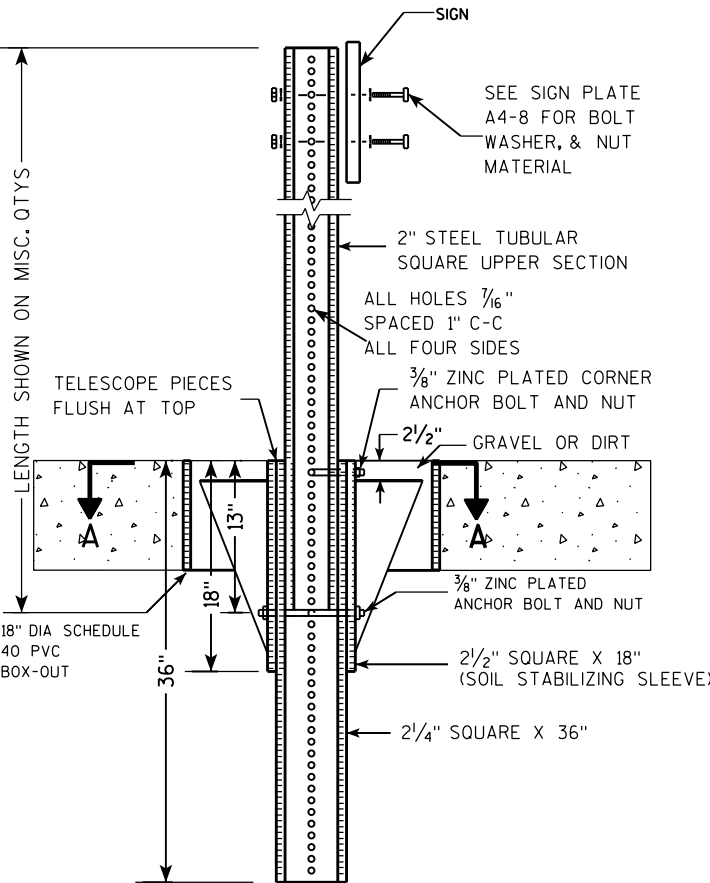
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 8/11/16	PLATE NO. A4-8.8

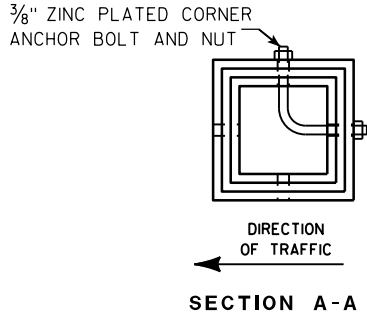
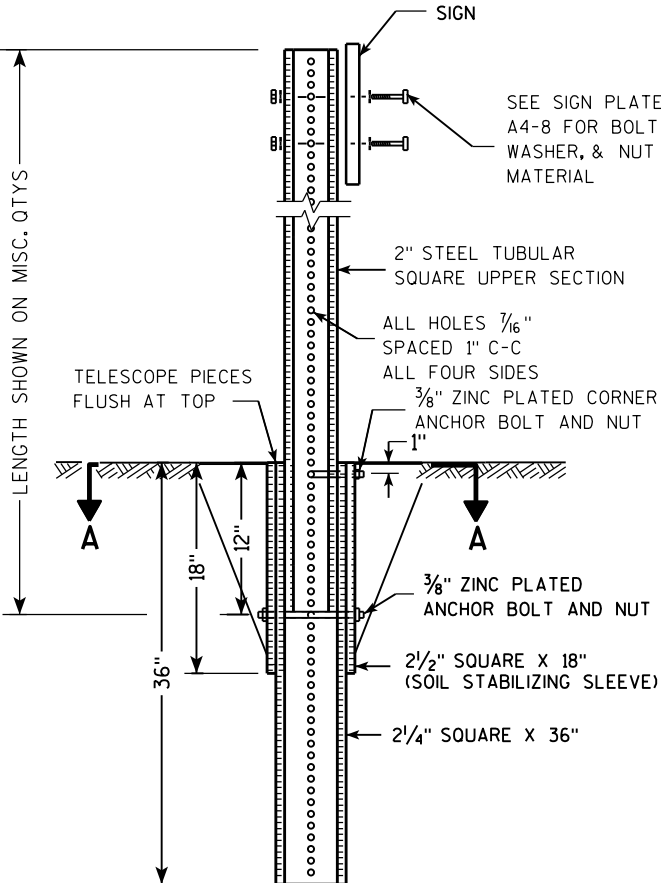
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

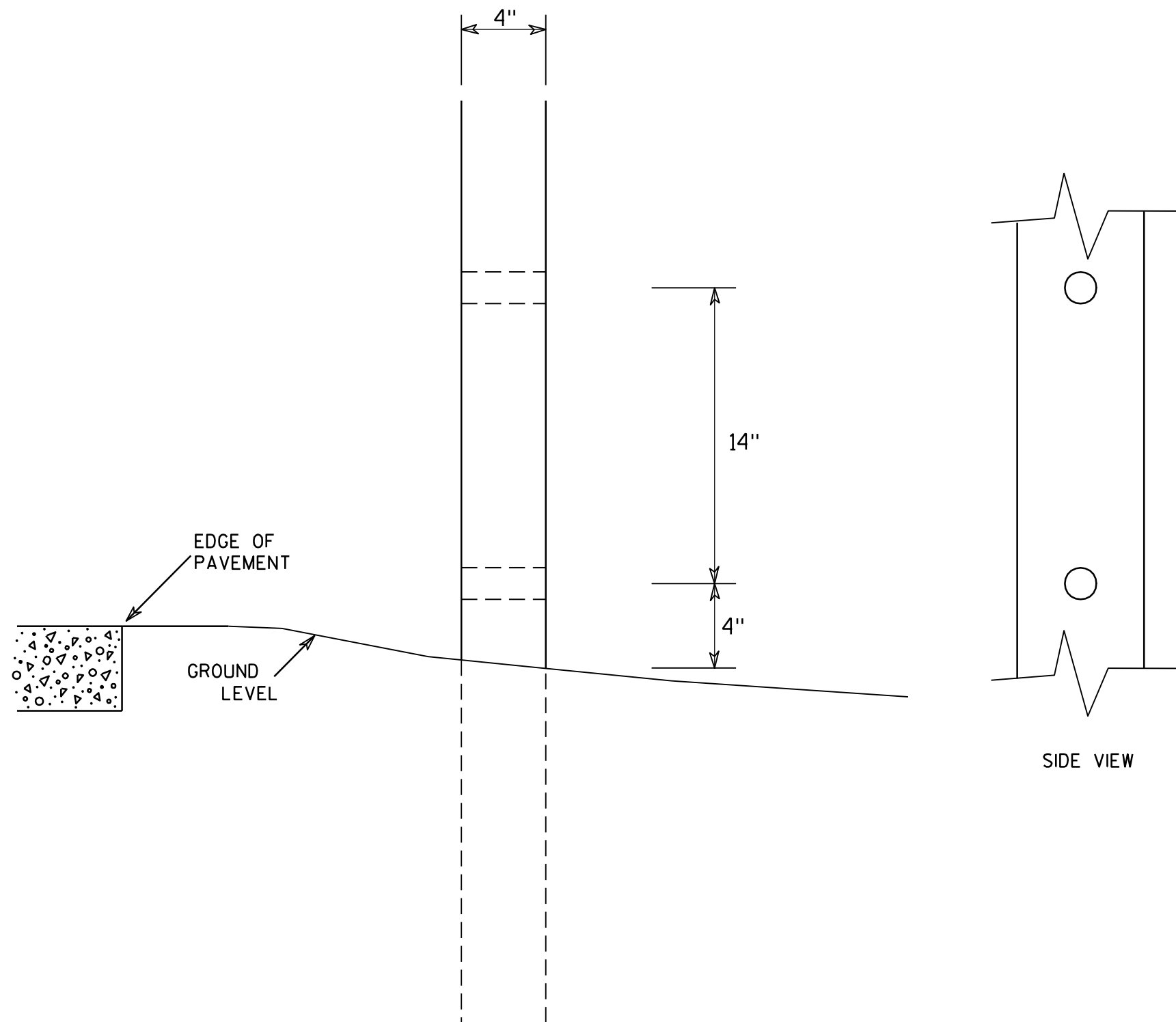
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

7

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

**4 X 6 WOOD POST
MODIFICATIONS**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

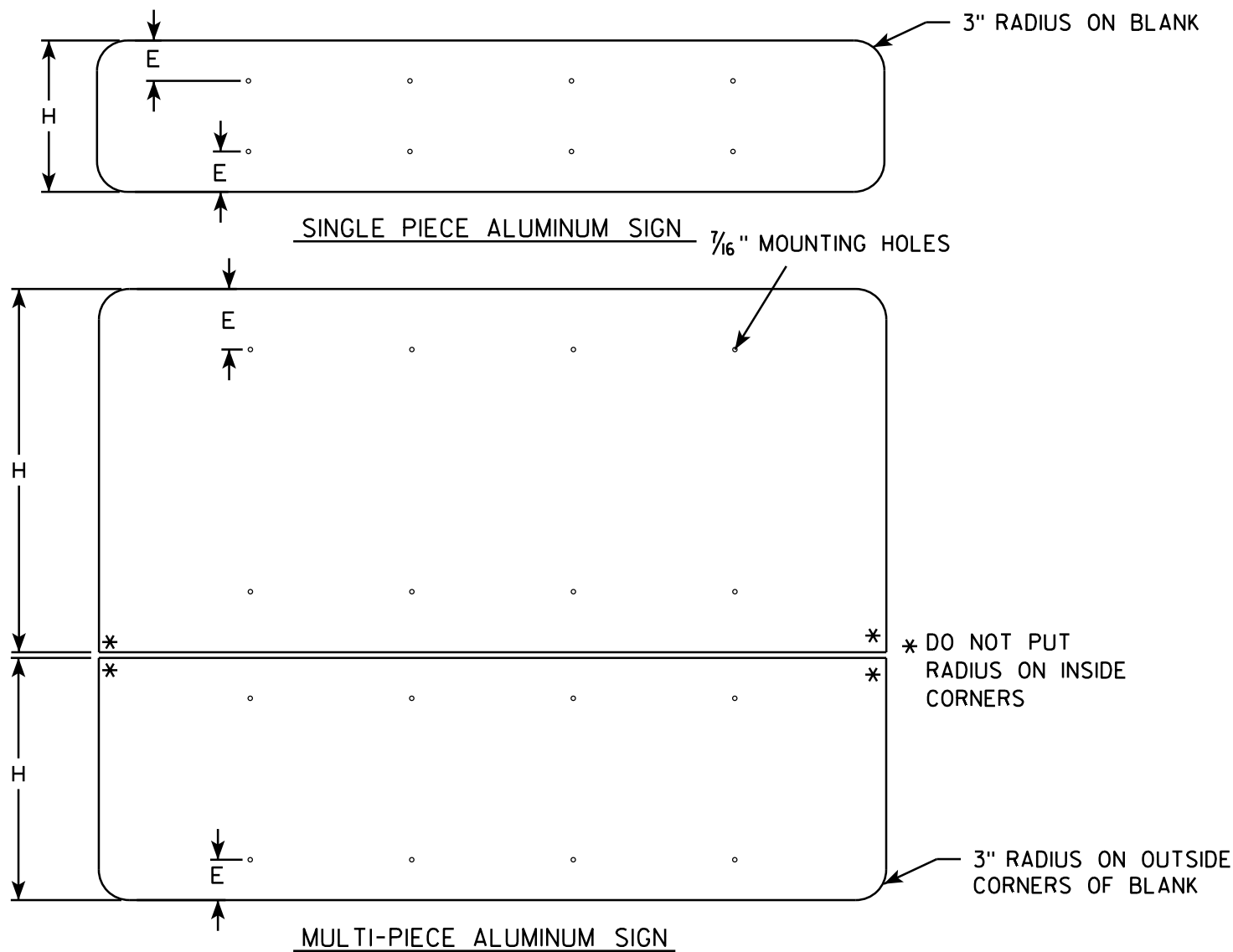
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

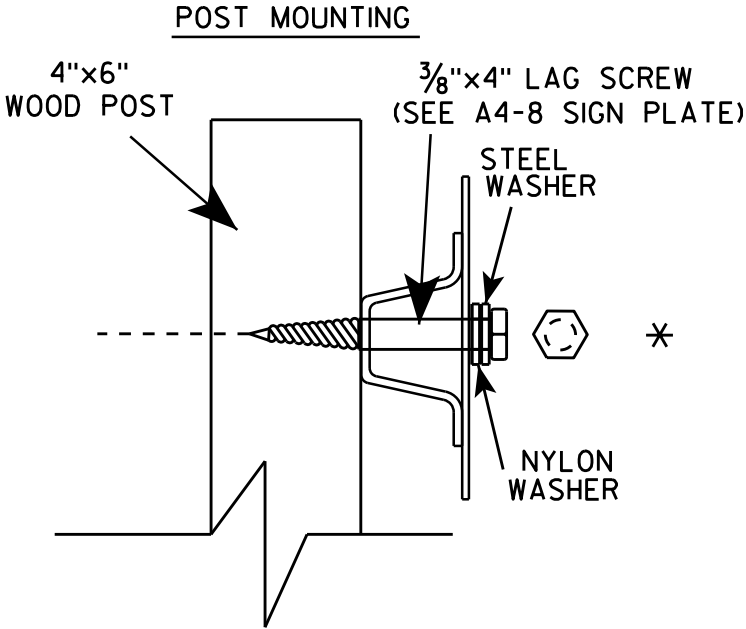
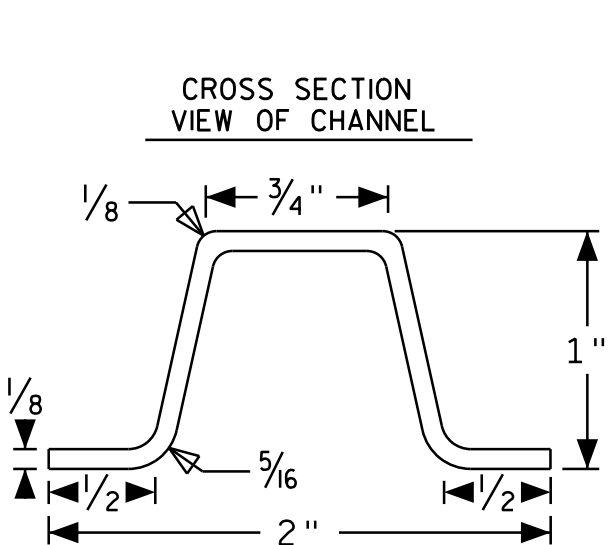
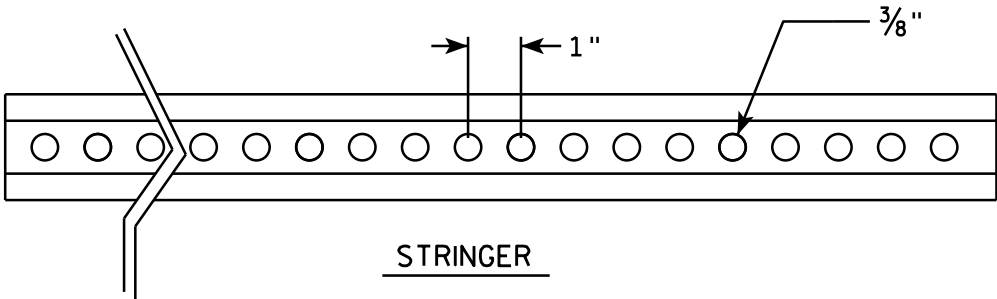
E



GENERAL NOTES

- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES			
78"	72"	2	16"	15"	31"	47"	63"
84"	72"	2	17"	16 1/2"	33 1/2"	50 1/2"	67 1/2"
90"	72"	2	18"	18"	36"	54"	72"
96"	90"	2	19"	19 1/2"	38 1/2"	57 1/2"	76 1/2"
102"	90"	2	20"	21"	41"	61"	81"
108"	90"	2	21"	22 1/2"	43 1/2"	64 1/2"	85 1/2"
114"	108"	3	15"	12"	27"	42"	57" 72" 87" 102"
120"	108"	3	16"	12"	28"	44"	60" 76" 92" 108"
126"	108"	3	17"	12"	29"	46"	63" 80" 97" 114"
132"	126"	3	18"	12"	30"	48"	66" 84" 102" 120"
138"	126"	3	19"	12"	31"	50"	69" 88" 107" 126"
144"	126"	3	20"	12"	32"	52"	72" 92" 112" 132"



SIGN STRINGER
MOUNTING REQUIREMENTS

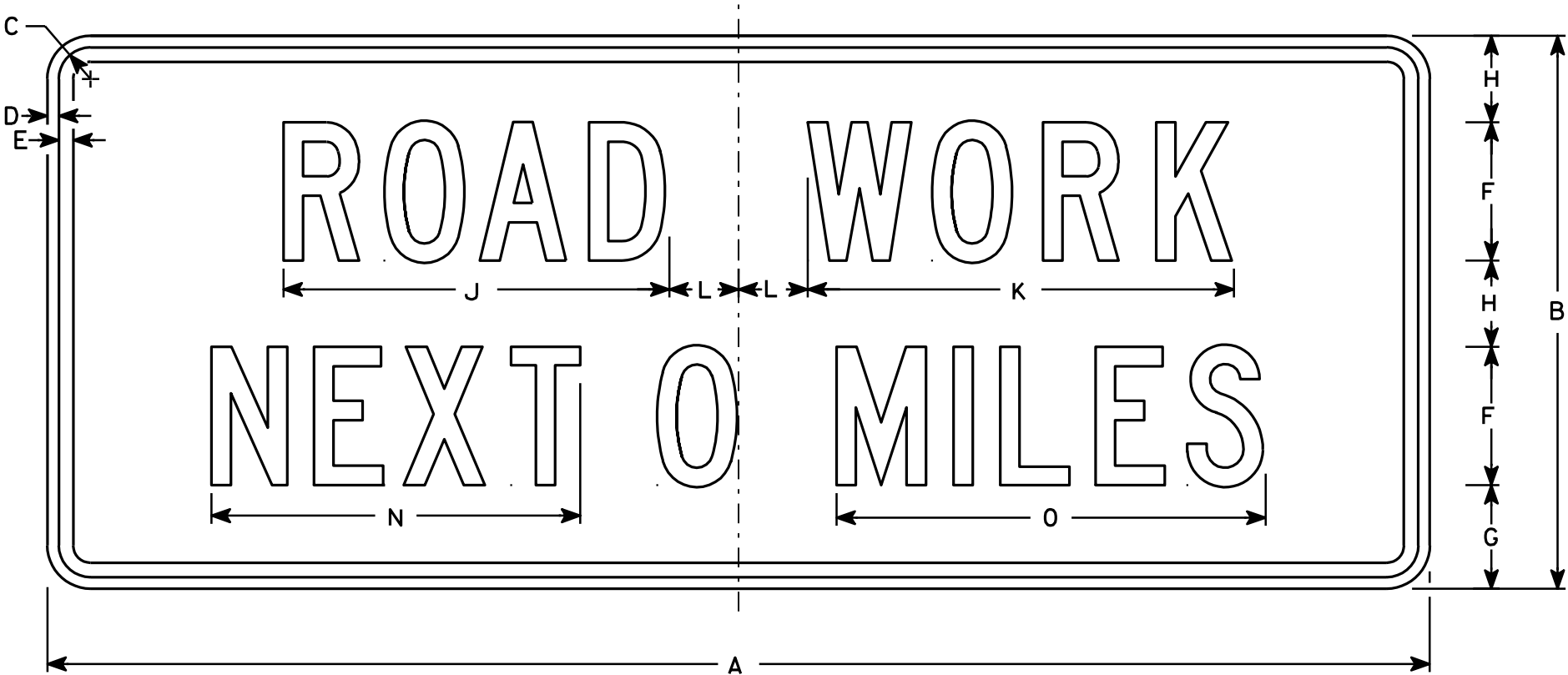
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/26/16 PLATE NO. A4-18.1

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance



G20-1

Metric equivalent
for this sign is:

SIZE	
1	
2	1500 mm X 600 mm
3	
4	1500 mm X 600 mm
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	60	24	1 3⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10	.90
3																												
4	60	24	1 3⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4		16 3⁄4	18 1⁄2	3		16	18 5⁄8												10	.90
5																												

STANDARD SIGN
G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chris J. Spay
State Traffic Engineer

DATE 4/8/97

PLATE NO. G20-1.7

PROJECT NO:

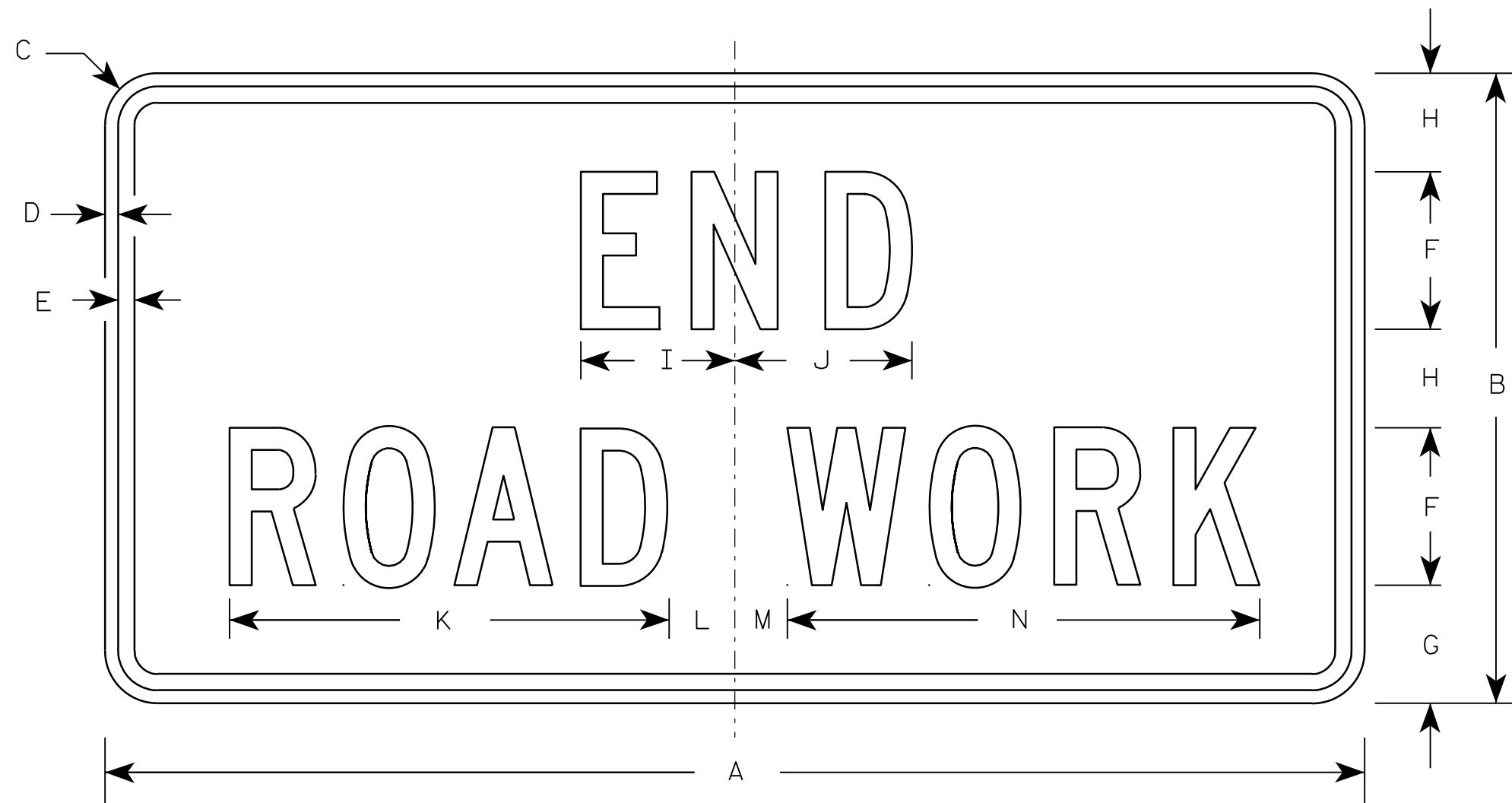
HWY:

COUNTY:

SHEET NO:

E

7



G20-2A

Metric equivalent
for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area sq. m.
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

PROJECT NO:

HWY:

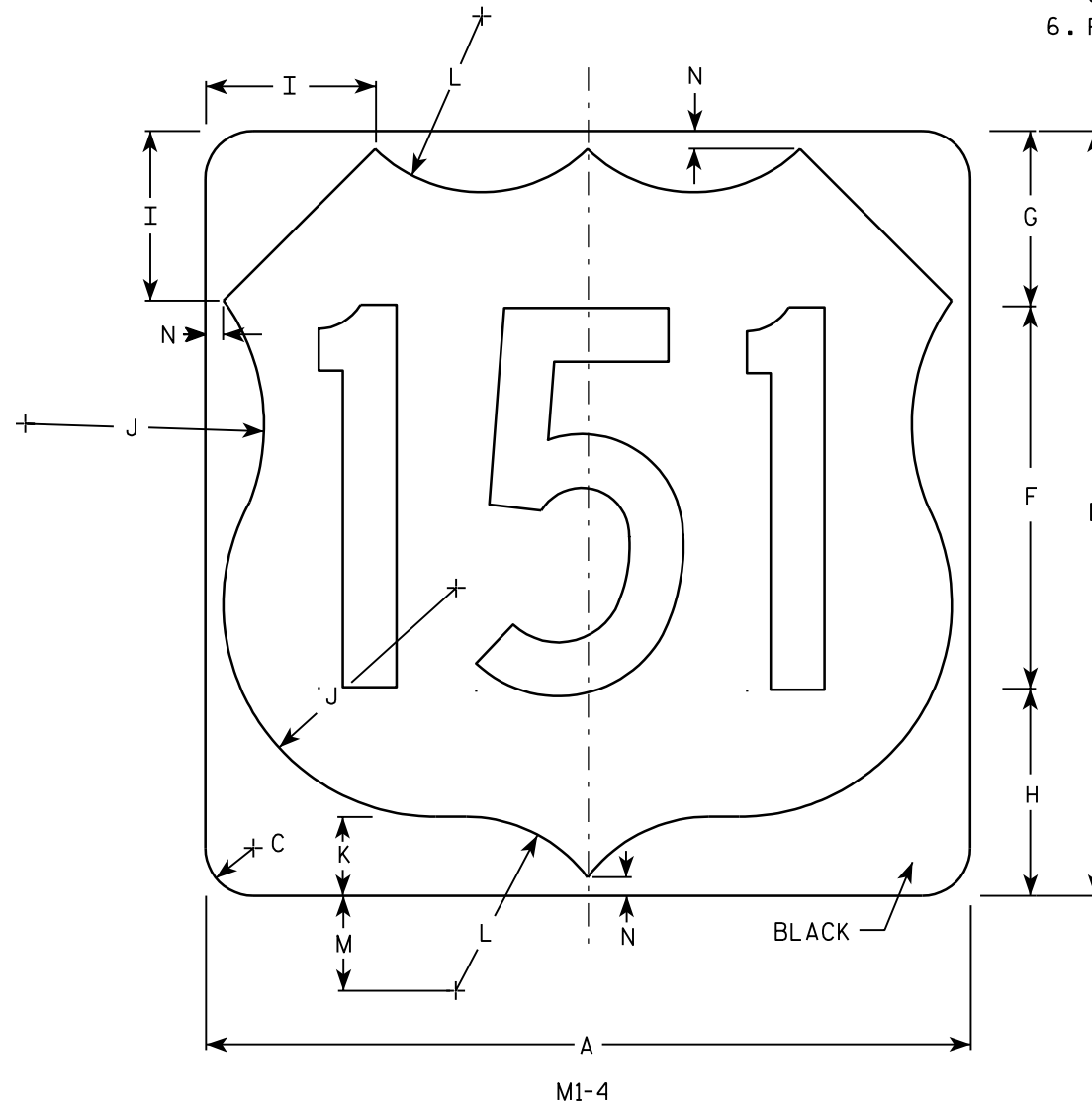
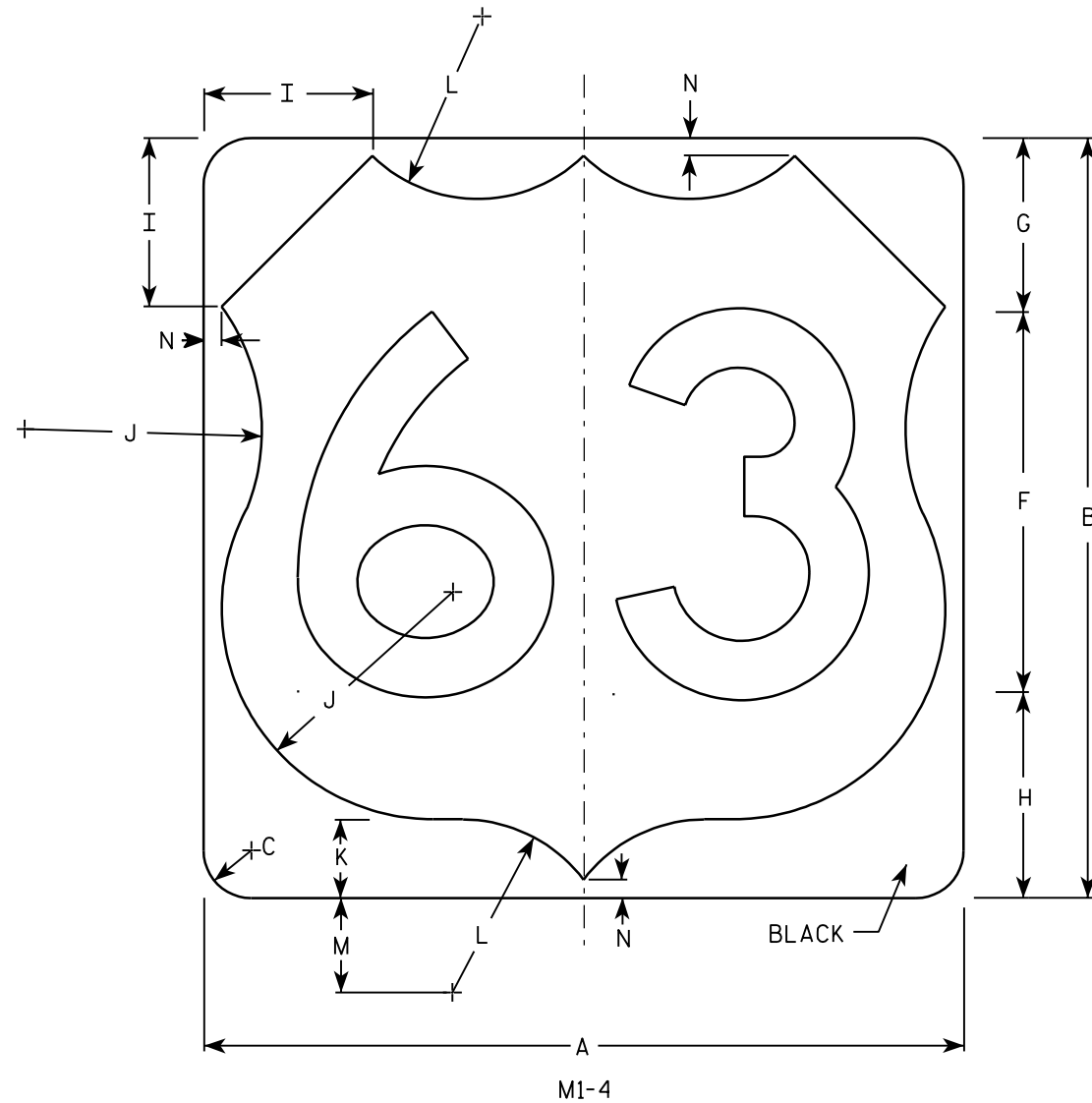
COUNTY:

SHEET NO:

E

NOTES

1. Sign is Type II - See Note 6 - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 6
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base
material is plywood but borders shall be rounded
as shown. When base material is metal, the
corners and borders shall be rounded.
5. Substitute appropriate numerals and adjust
spacing as per Plate A10-1.
6. Permanent Signs
Background - Type H Reflective
Detour or other temporary signs
Background - Reflective



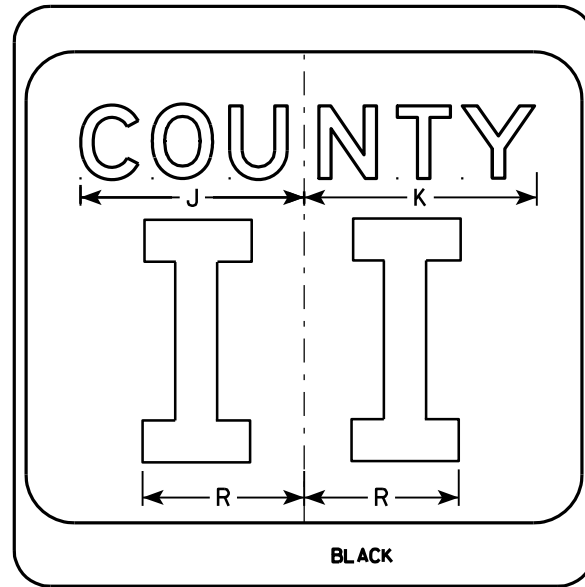
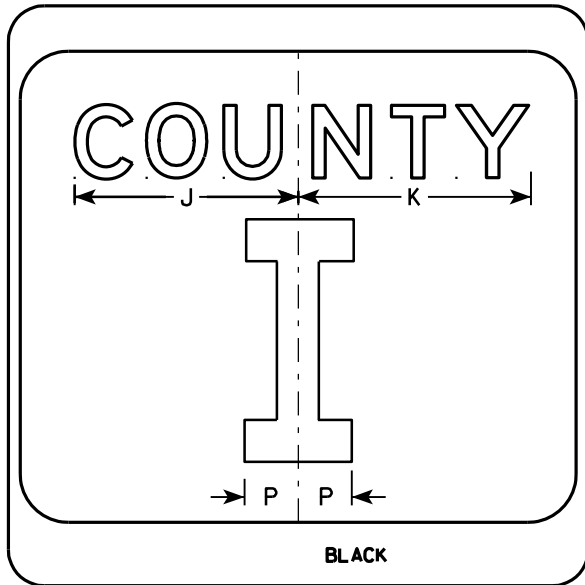
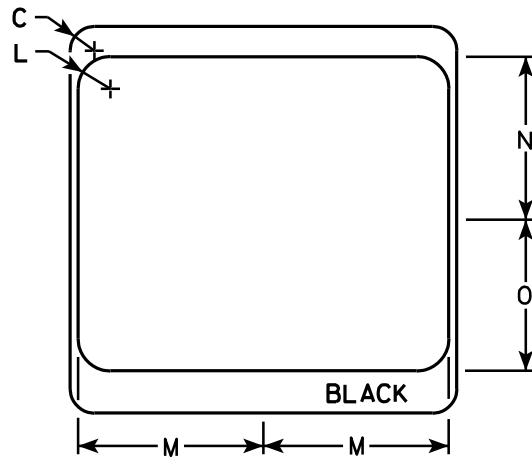
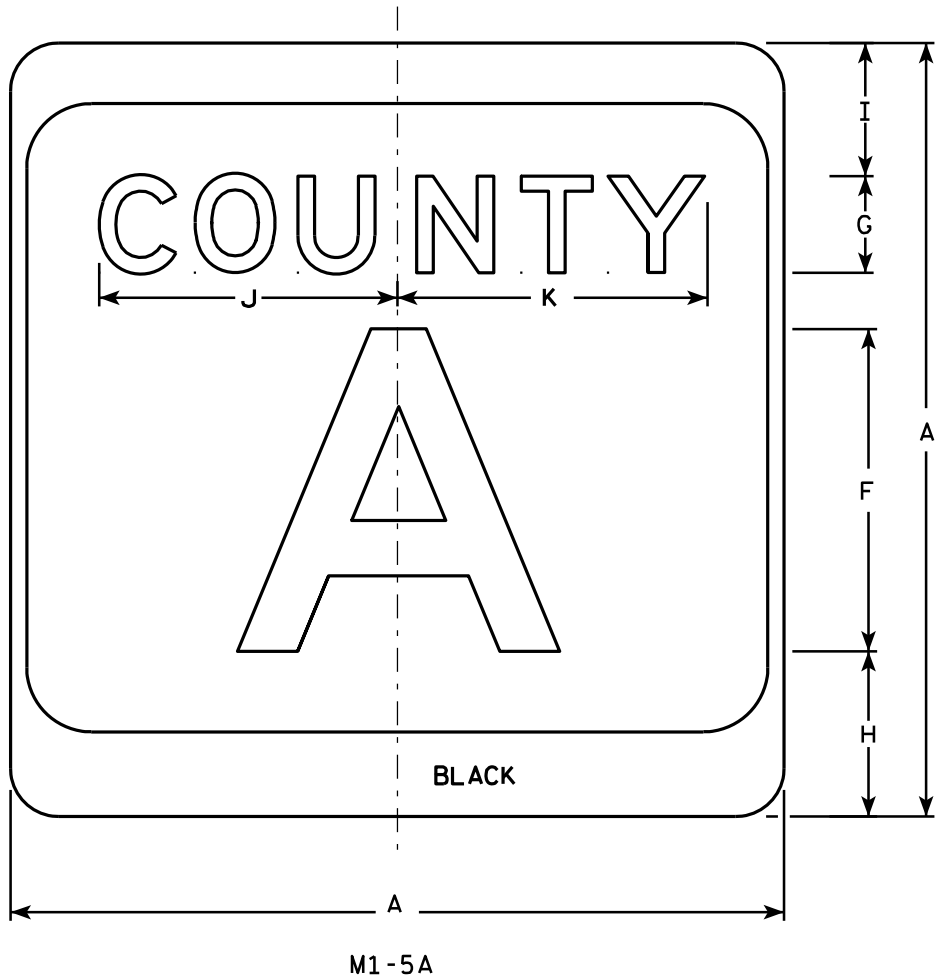
Metric equivalent
for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Areq sq. ft.	Area m ²
1																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

PROJECT NO: HWY: COUNTY: SHEET NO: E

7



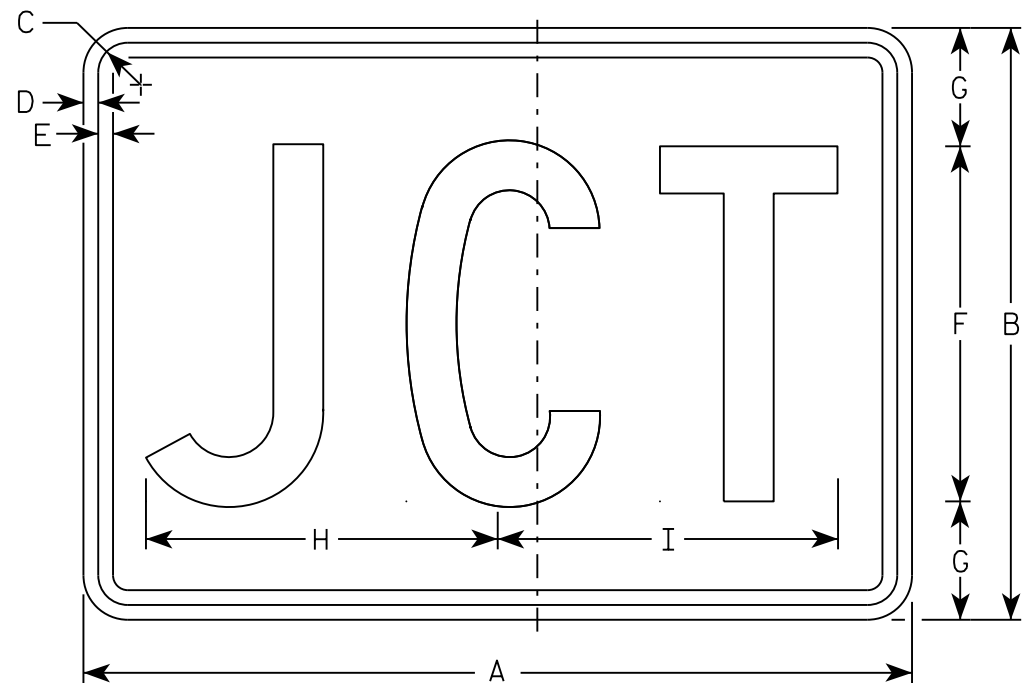
NOTES

- Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - White & Black - See Note 7
Message - Black
- Message Series - see Note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
- Substitute appropriate letters & optically center to achieve proper balance.
- Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective

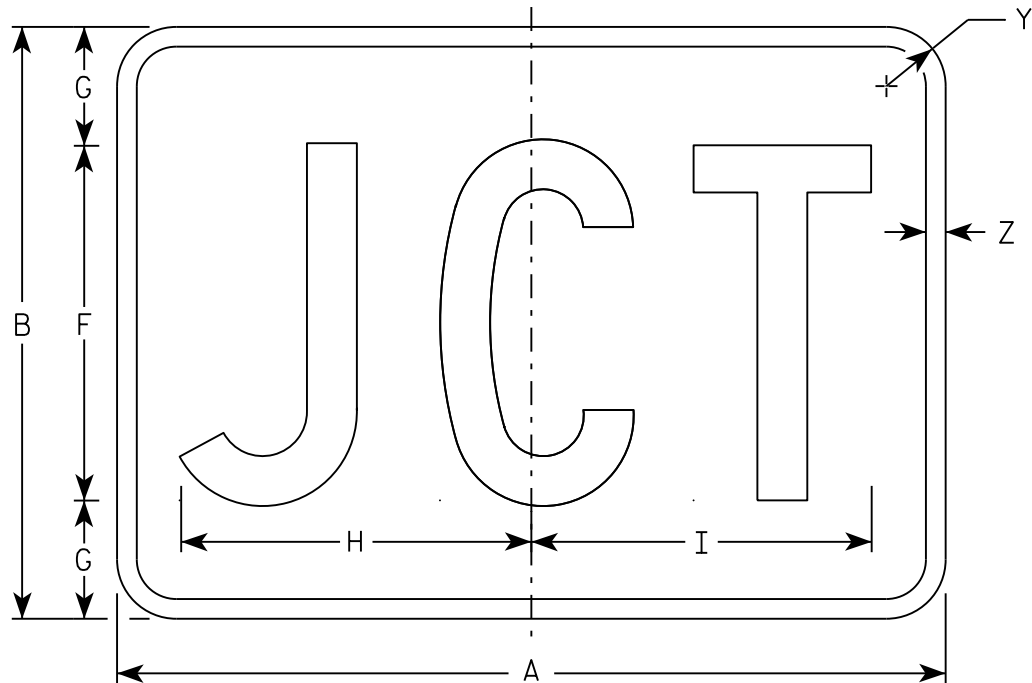
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER	
M1-5A FOR ASSEMBLIES	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 9/27/11	PLATE NO. M1-5A.8

7



M2-1
MM2-1
MP2-1



MB2-1
MK2-1
MN2-1
MR2-1

NOTES

- 1. Sign is Type II - Type H
- 2. Color:
 - Background - See note 5
 - Message - See note 5
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. M2-1 Background - White
 Message - Black
 MB2-1 Background - Blue
 Message - White
 MK2-1 Background - Green
 Message - White
 MM2-1 Background - White
 Message - Green
 MN2-1 Background - Brown
 Message - White
 MP2-1 Background - White
 Message - Blue
 MR2-1 Background - Brown
 Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

STANDARD SIGN

M2 - 1

WISCONSIN DEPT OF TRANSPORTATION

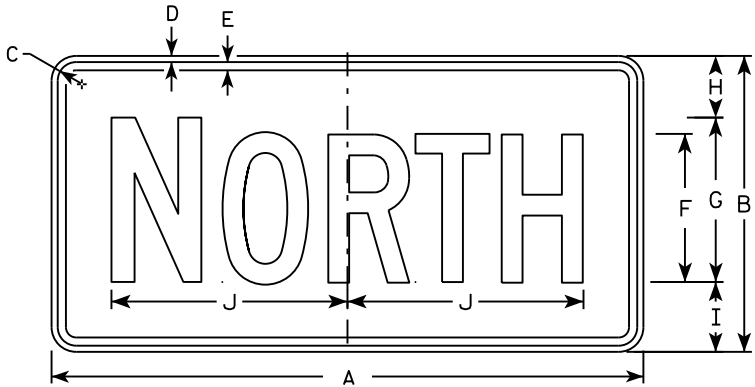
APPROVED

Matthew R. Rauch

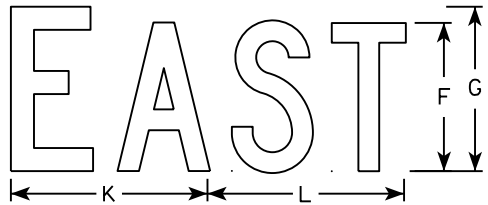
For State Traffic Engineer

DATE 10/15/15

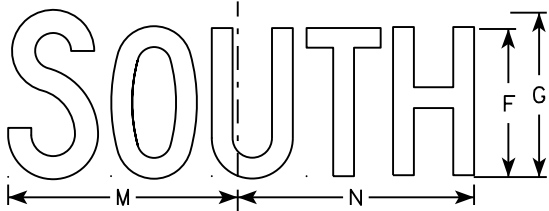
PLATE NO. M2-1.12



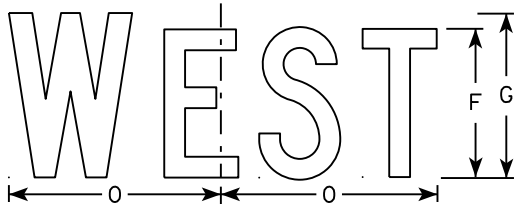
M3-1
MM3-1
MP3-1



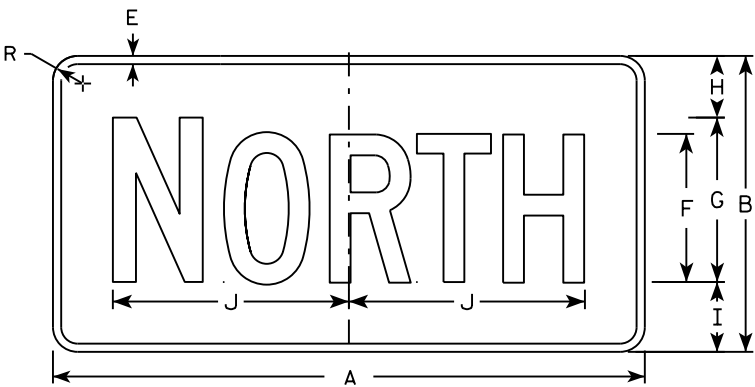
M3-2
MM3-2
MP3-2



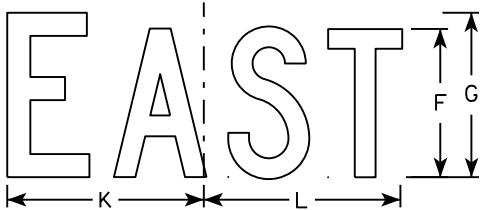
M3-3
MM3-3
MP3-3



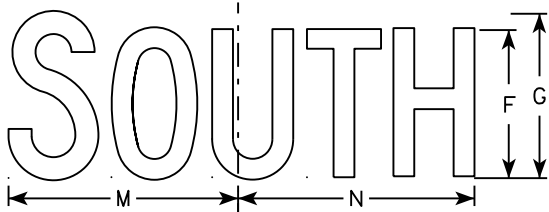
M3-4
MM3-4
MP3-4



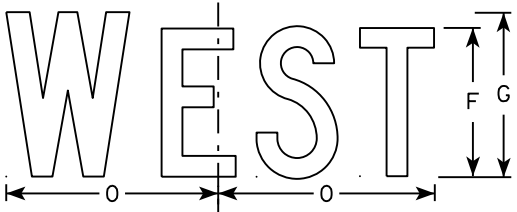
MB3-1
MK3-1
MN3-1



MB3-2
MK3-2
MN3-2



MB3-3
MK3-3
MN3-3



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White
MK3-1 thru MK3-4 Background - Green
Message - White
MM3-1 thru MM3-4 Background - White
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White
MP3-1 thru MP3-4 Background - White
Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

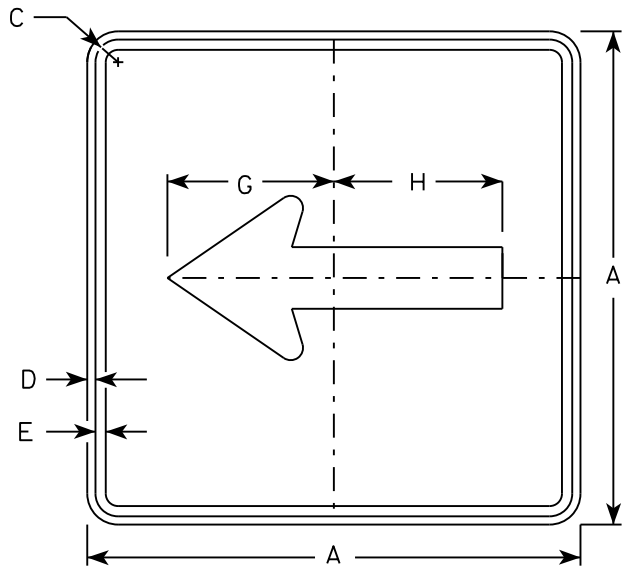
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thru M3-4
SERIES

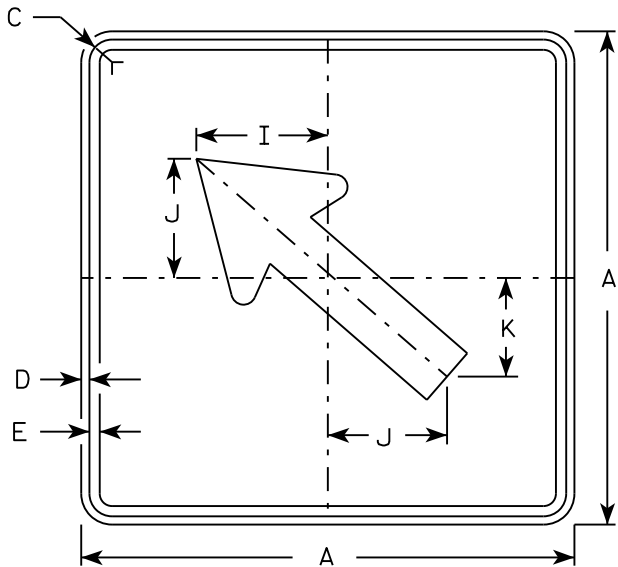
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

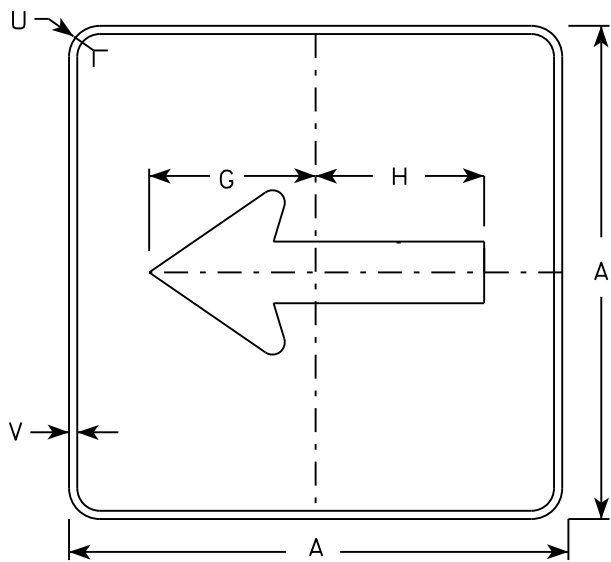
DATE 10/15/15 PLATE NO. M3-1.14



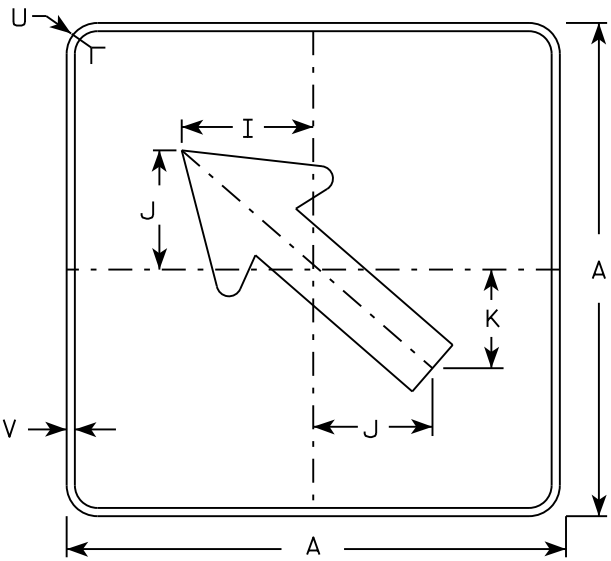
M6 - 1
MM6 - 1
M06 - 1
MP6 - 1



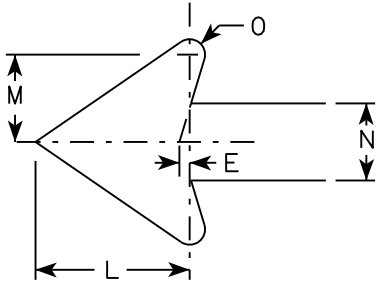
M6 - 2
MM6 - 2
M06 - 2
MP6 - 2



MB6 - 1
MK6 - 1
MN6 - 1
MR6 - 1



MB6 - 2
MK6 - 2
MN6 - 2
MR6 - 2



NOTES

- Signs are Type II - Type H except as Shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

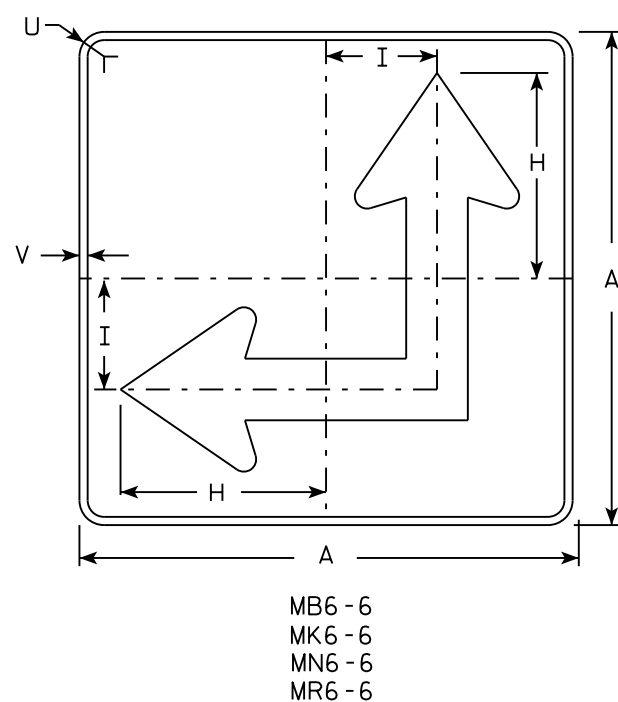
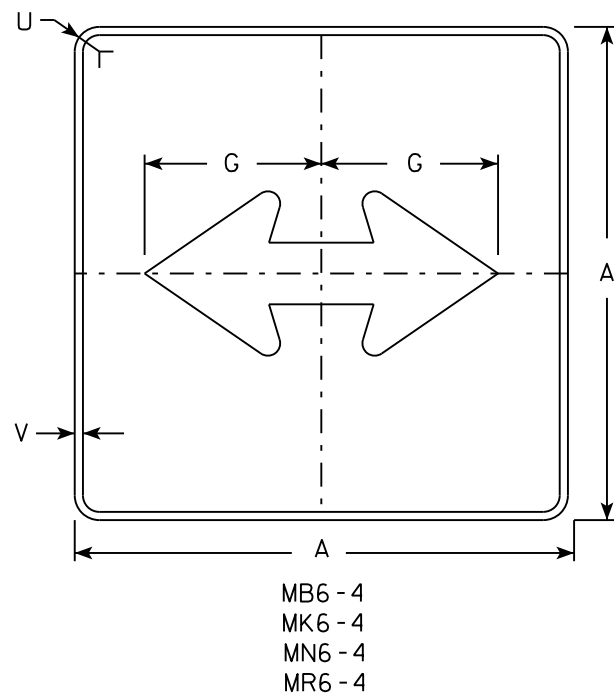
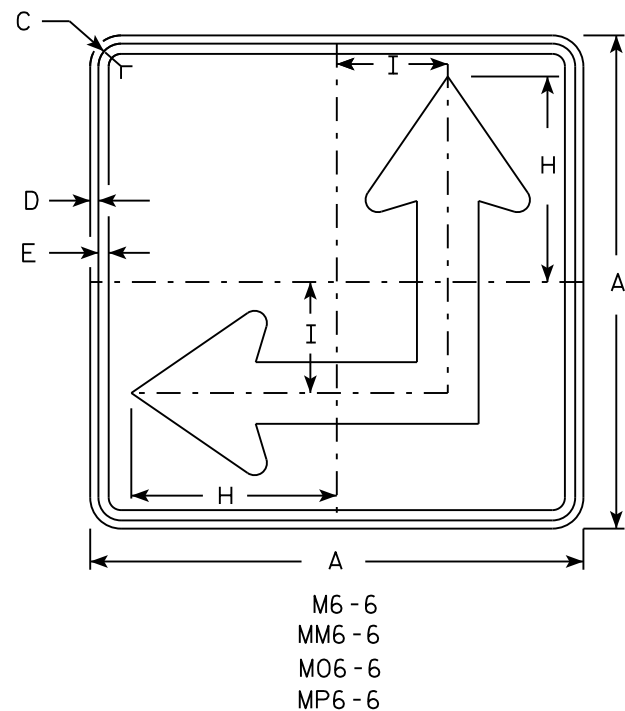
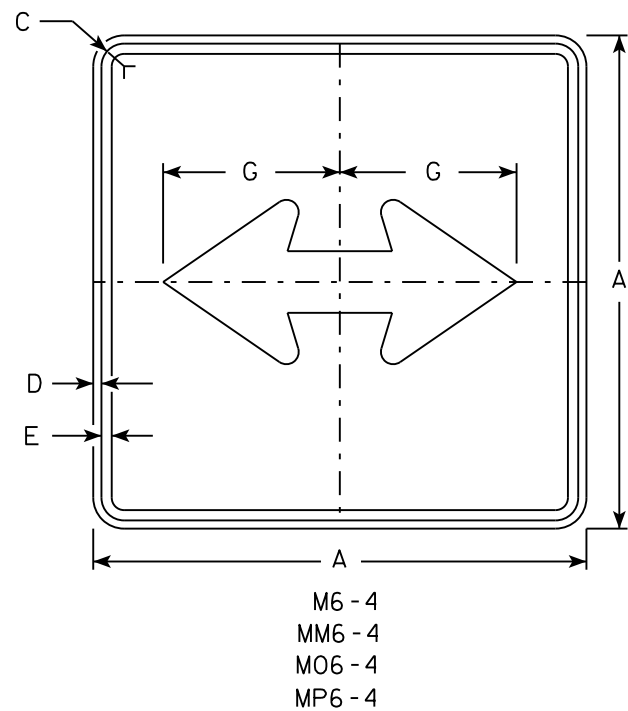
E

STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

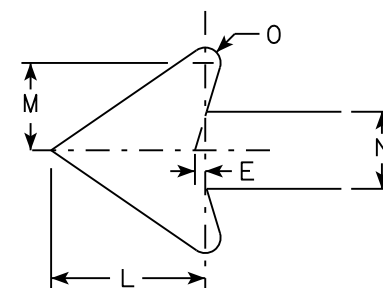
APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15



NOTES

- Signs are Type II - Type H except as Shown
- Color:
Background - See Note 4
Message - See Note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-4 and M6-6 Background - White
Message - Black
MB6-4 and MB6-6 Background - Blue
Message - White
MK6-4 and MK6-6 Background - Green
Message - White
MM6-4 and MM6-6 Background - White
Message - Green
MN6-4 and MN6-6 Background - Brown
Message - White
MO6-4 and MO6-6 Background - Orange - Type F Reflective
Message - Black
MP6-4 and MP6-6 Background - White
Message - Blue
MR6-4 and MR6-6 Background - Brown
Message - Yellow
- M6-6R same as M6-6L except arrow points ahead and right.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

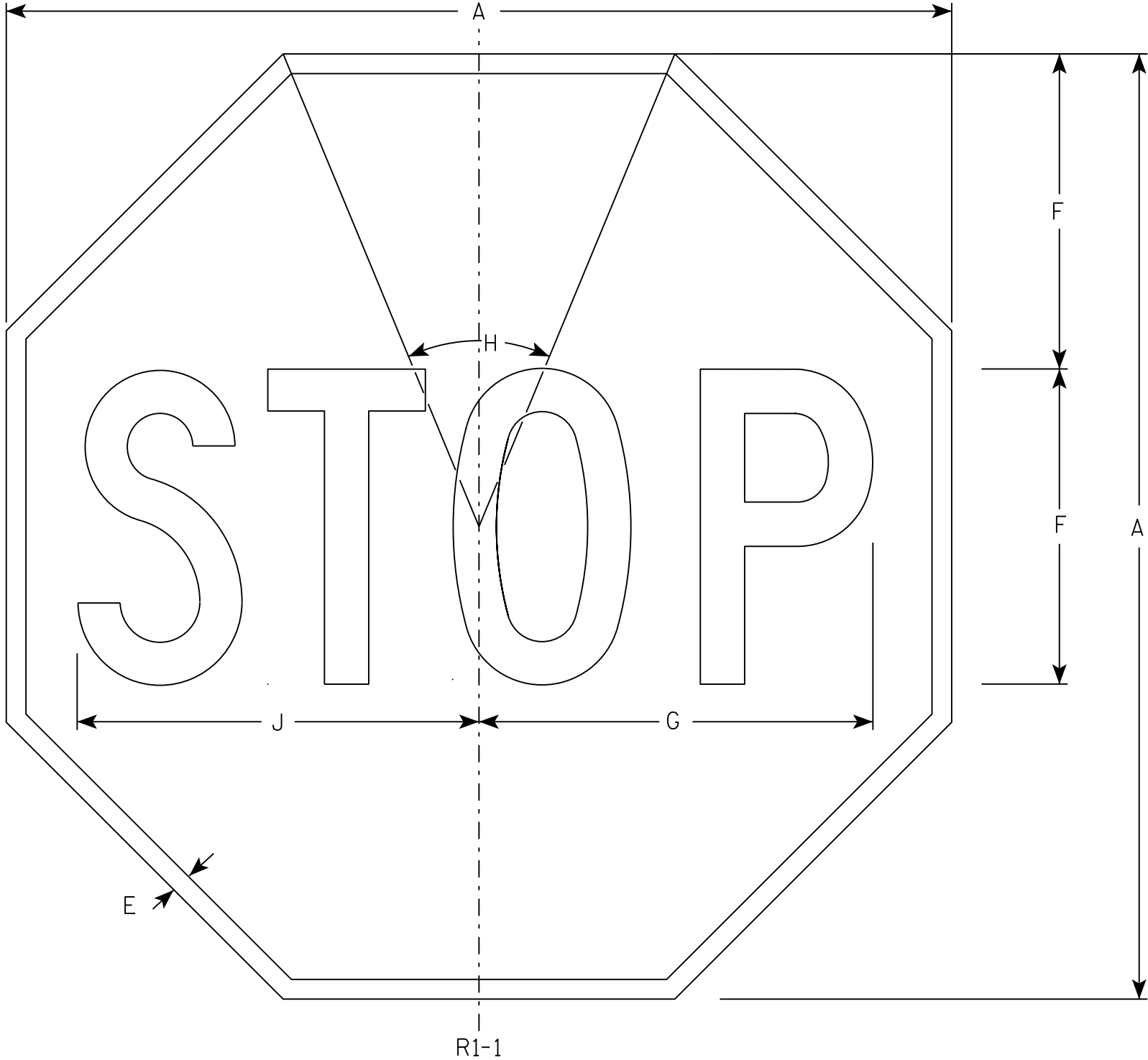
STANDARD SIGN
M6 - 4 & M6 - 6
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15

PLATE NO. M6-4.10



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
 - Background - Red
 - Message - White
- 3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

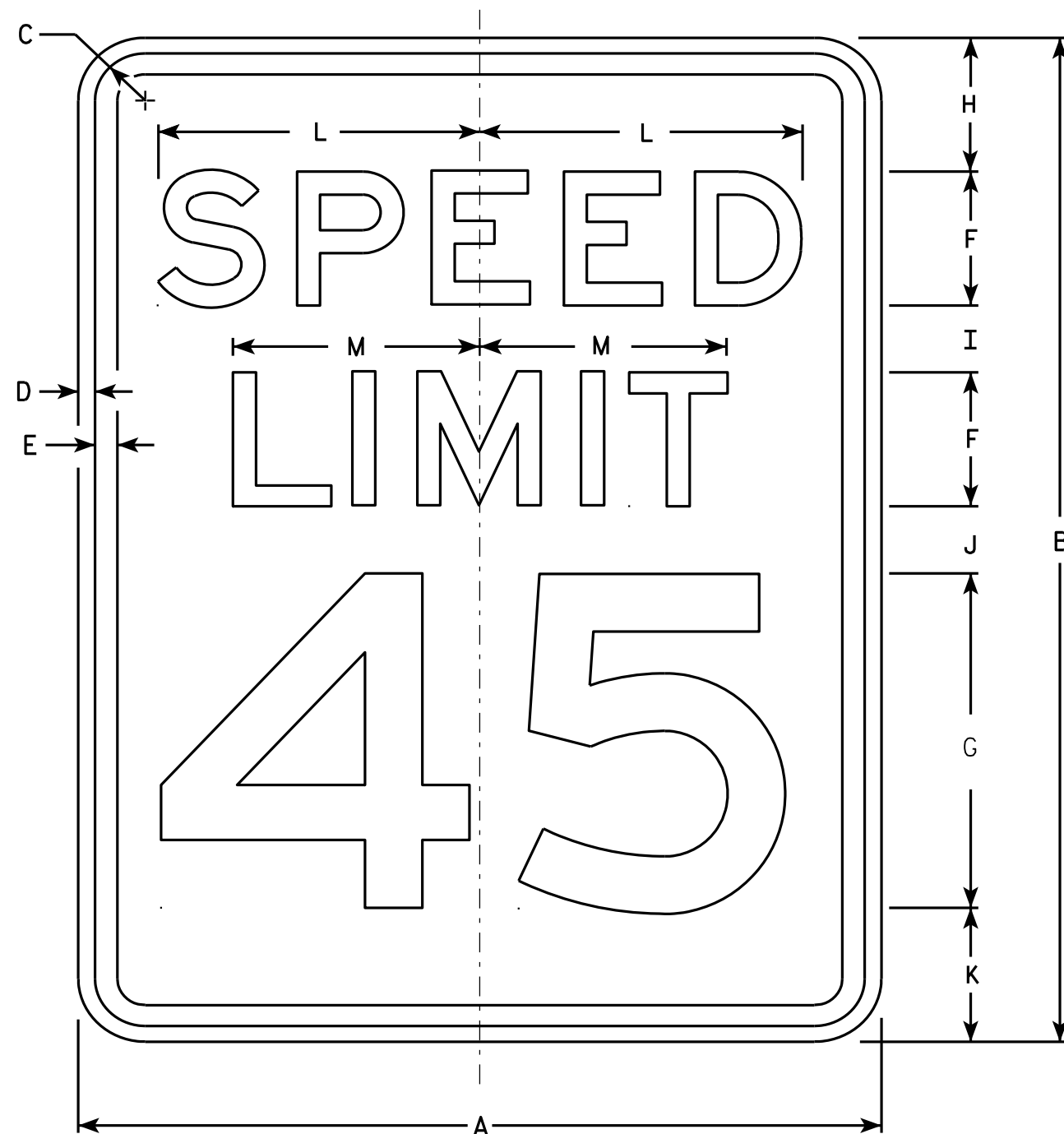
STANDARD SIGN

R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13



R2-1

NOTES

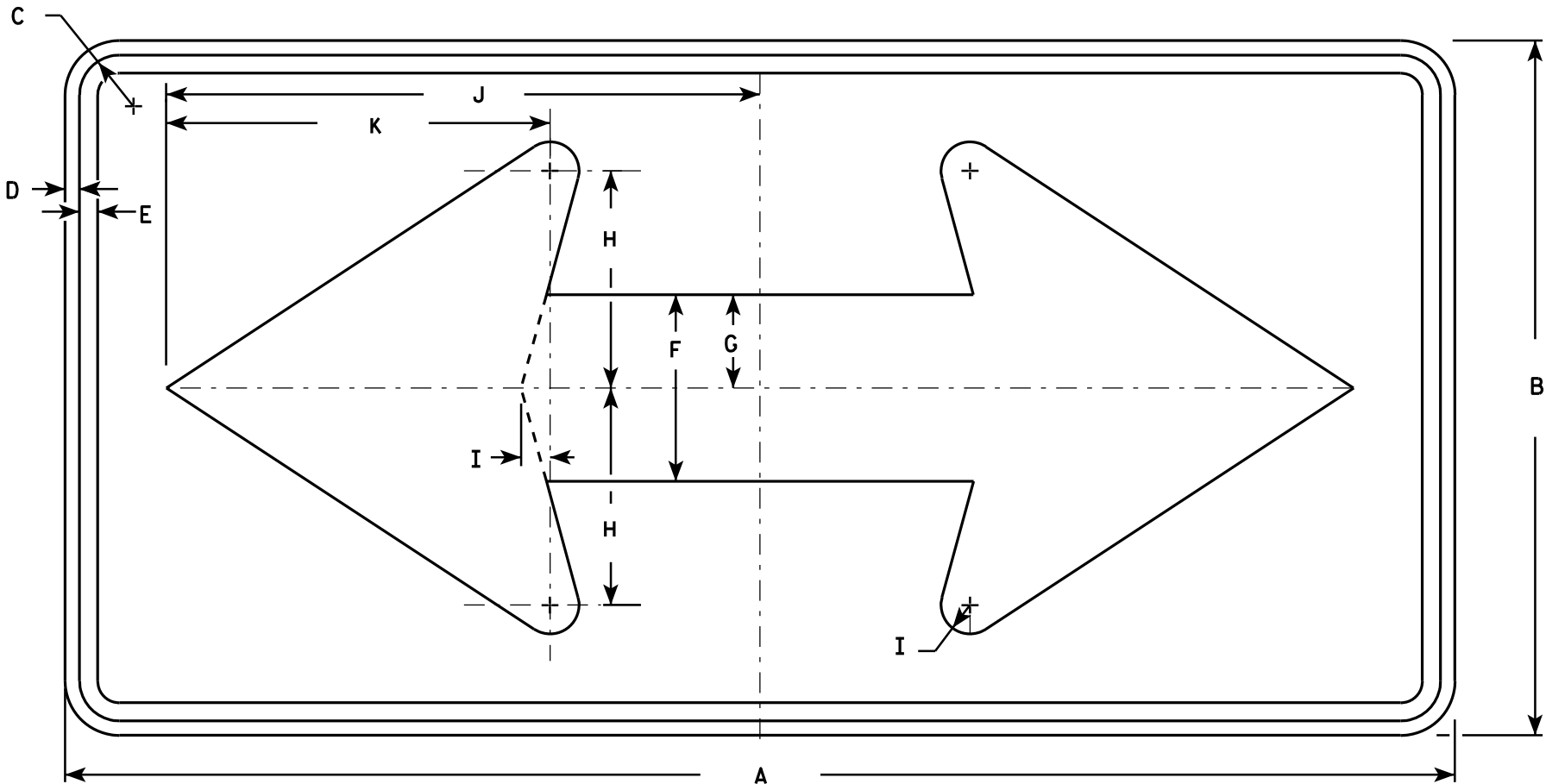
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN R2-1

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: E



W1-7

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

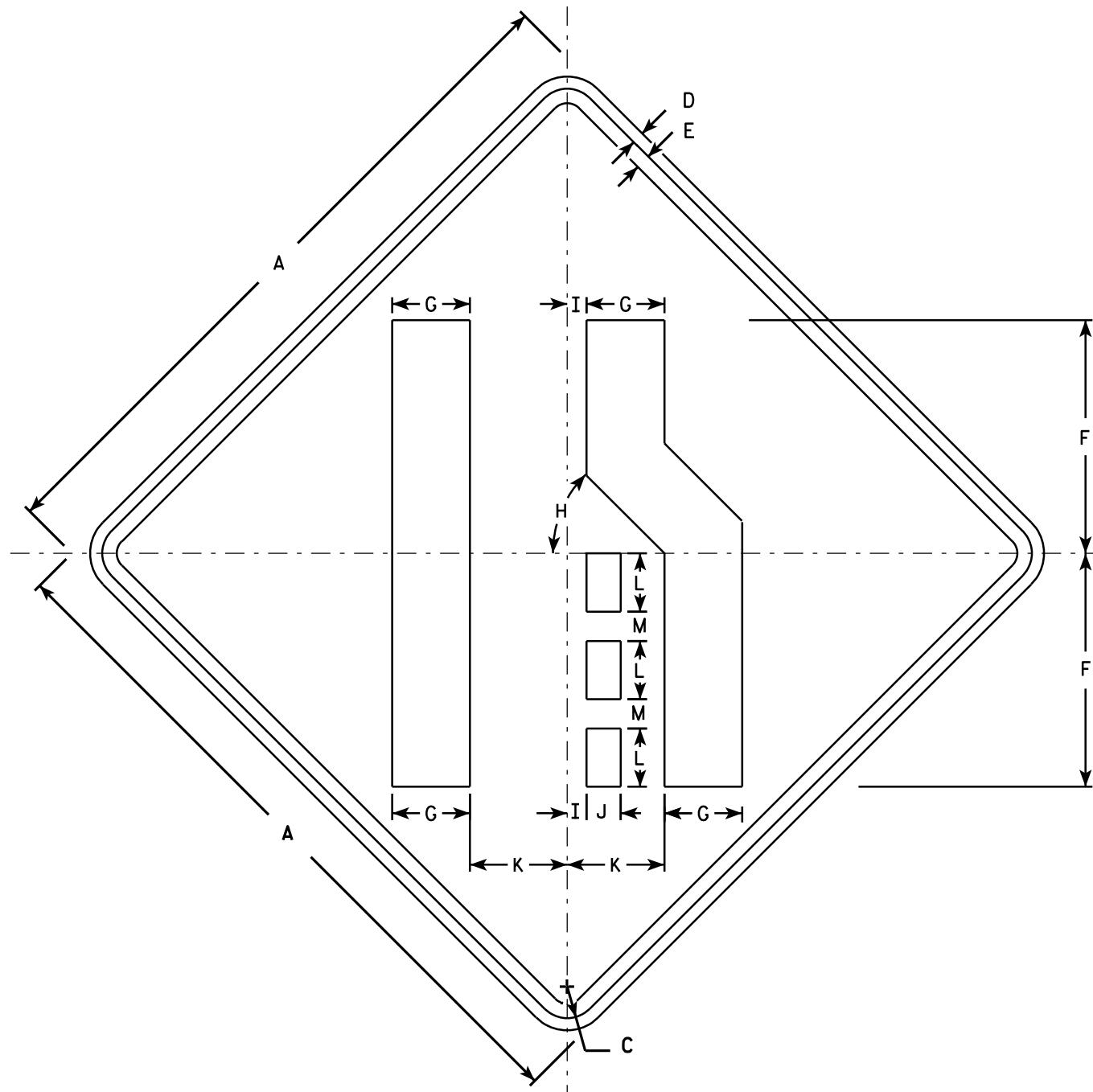
STANDARD SIGN

W1 - 7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7



W4-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-2L is the same as W4-2R except the symbols is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3⁄8	1⁄2	5⁄8	10	3 3⁄8	45°	7⁄8	1 1⁄2	4 1⁄4	2 1⁄2	1 1⁄4														6.25
2S	36		1 5⁄8	5⁄8	3⁄4	12	4	45°	1	1 3⁄4	5	3	1 1⁄2														9.0
2M	36		1 5⁄8	5⁄8	3⁄4	12	4	45°	1	1 3⁄4	5	3	1 1⁄2														9.0
3	36		1 5⁄8	5⁄8	3⁄4	12	4	45°	1	1 3⁄4	5	3	1 1⁄2														9.0
4	48		2 1⁄4	3⁄4	1	16	5 3⁄8	45°	1 1⁄4	2 3⁄8	6 3⁄4	4	2														16.0
5	48		2 1⁄4	3⁄4	1	16	5 3⁄8	45°	1 1⁄4	2 3⁄8	6 3⁄4	4	2														16.0

STANDARD SIGN W4-2

WISCONSIN DEPT OF TRANSPORTATION

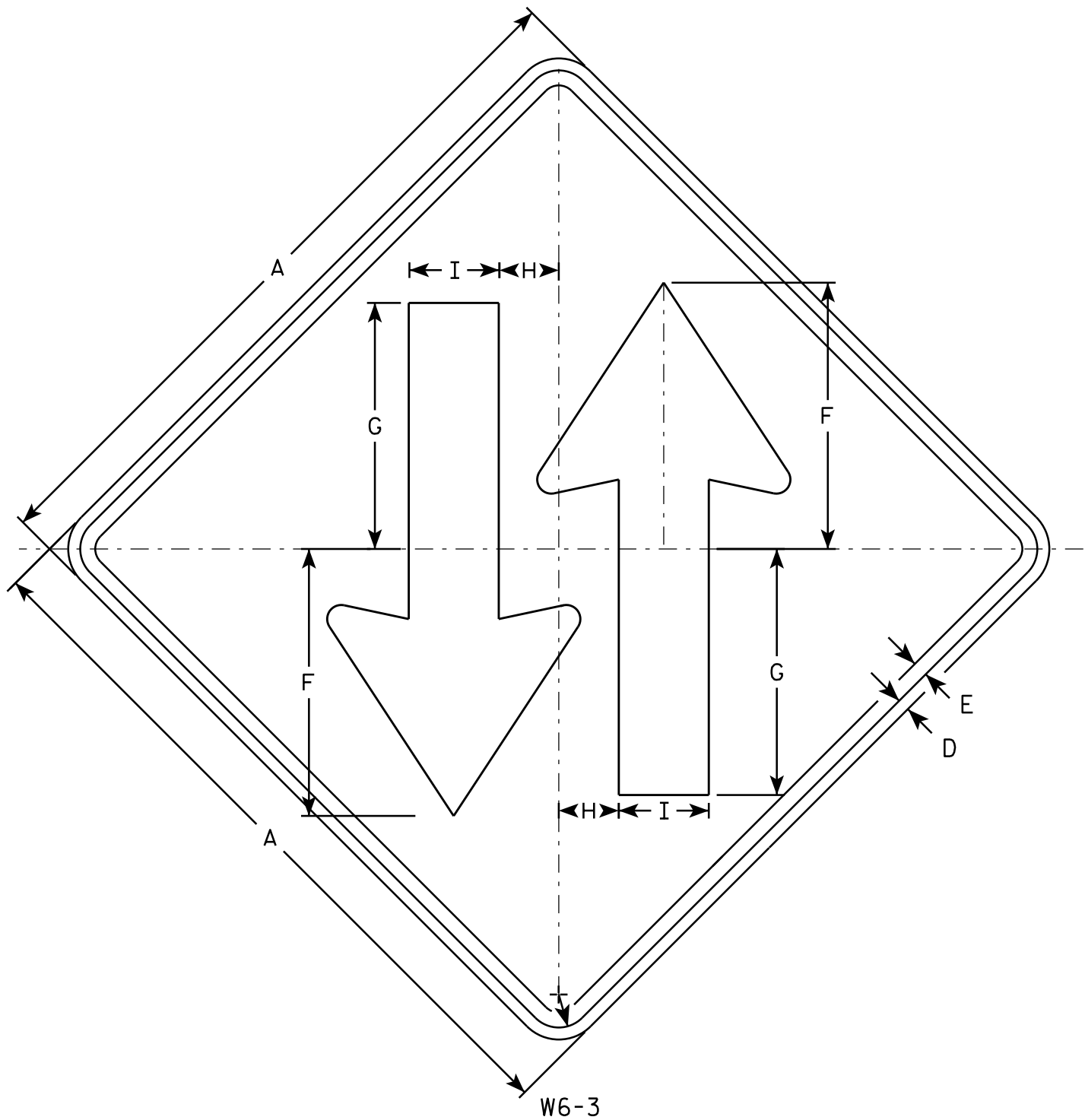
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/12/13 PLATE NO. W4-2.14

PROJECT NO:

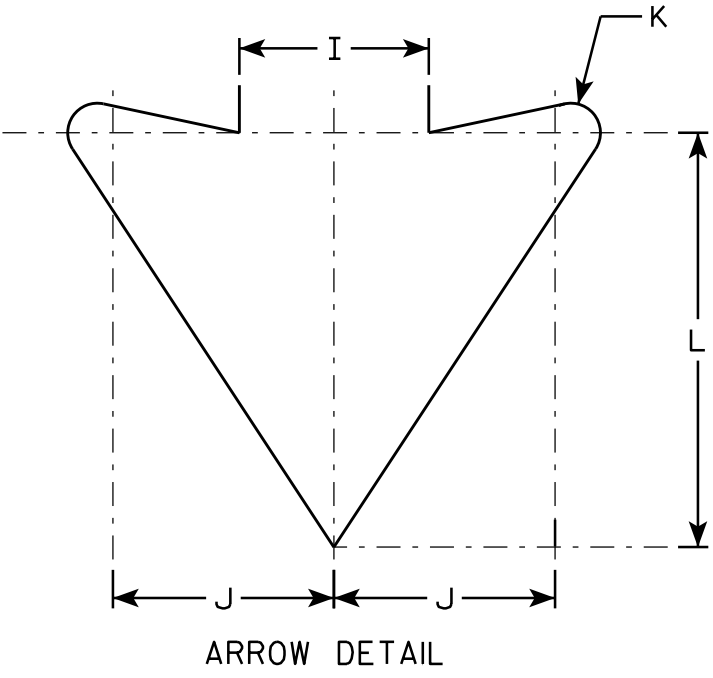
SHEET NO:

E



NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	11 1/8	10 1/4	2 1/2	3 3/4	4 3/8	5/8	8 1/4															6.25
2S	36		1 5/8	5/8	3/4	13 3/8	12 1/4	3	4 1/2	5 1/4	3/4	9 7/8															9.0
2M	36		1 5/8	5/8	3/4	13 3/8	12 1/4	3	4 1/2	5 1/4	3/4	9 7/8															9.0
3																											
4	48		2 1/4	3/4	1	17 3/4	16 3/8	4	6	7	1	13 1/8															16.0
5	48		2 1/4	3/4	1	17 3/4	16 3/8	4	6	7	1	13 1/8															16.0

STANDARD SIGN

W6-3

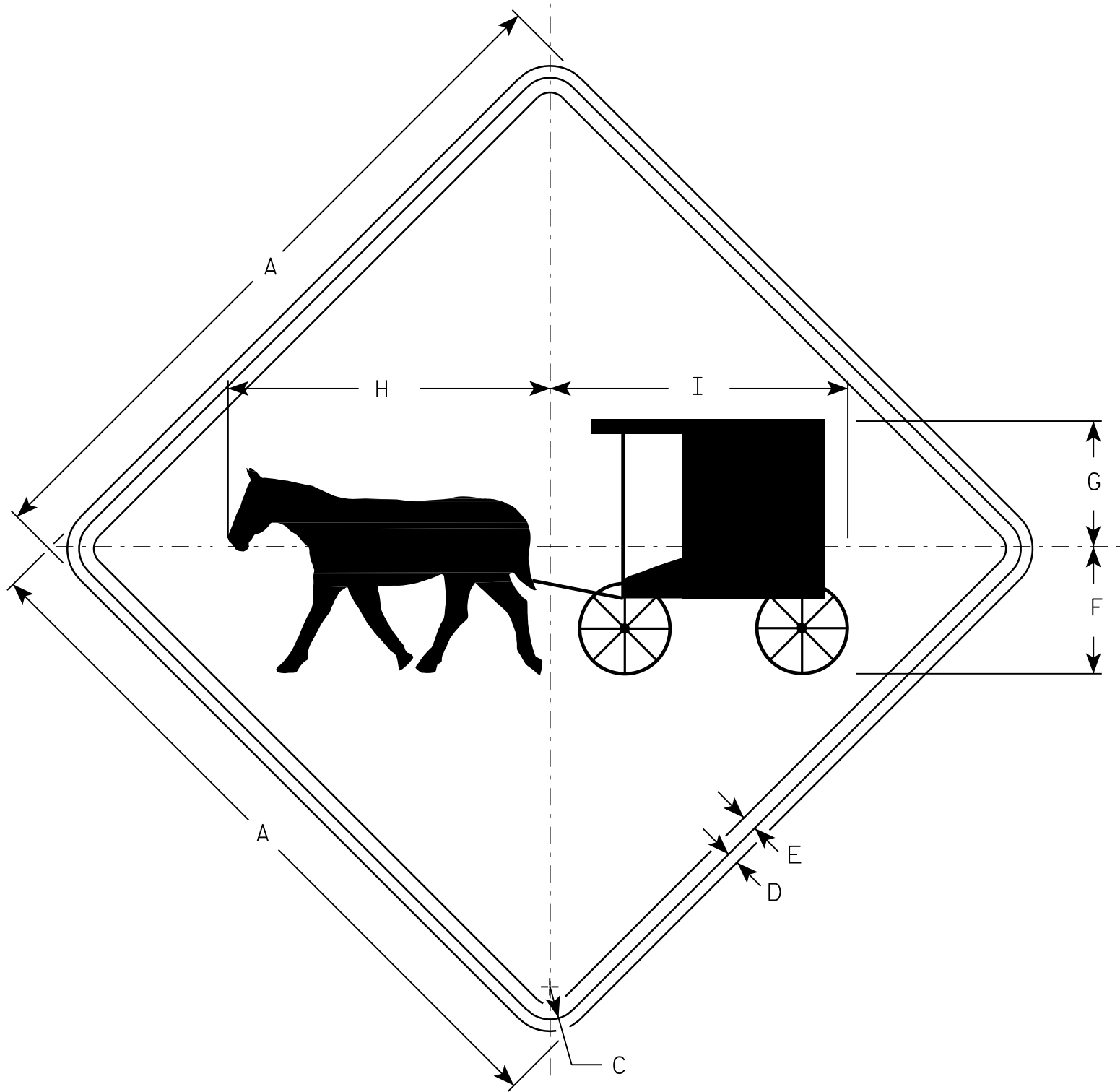
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 3/10/16

PLATE NO. W6-3.11



W11-12

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5 3/8	5 1/4	13 5/8	12 5/8																		6.25
2S	36		1 5/8	5/8	3/4	6 1/2	6 3/8	16 3/8	15 1/8																		9.0
2M	36		1 5/8	5/8	3/4	6 1/2	6 3/8	16 3/8	15 1/8																		9.0
3	48		2 1/4	3/4	1	8 5/8	8 1/2	21 7/8	20 1/8																		16.0
4																											
5																											

STANDARD SIGN

W11-12

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

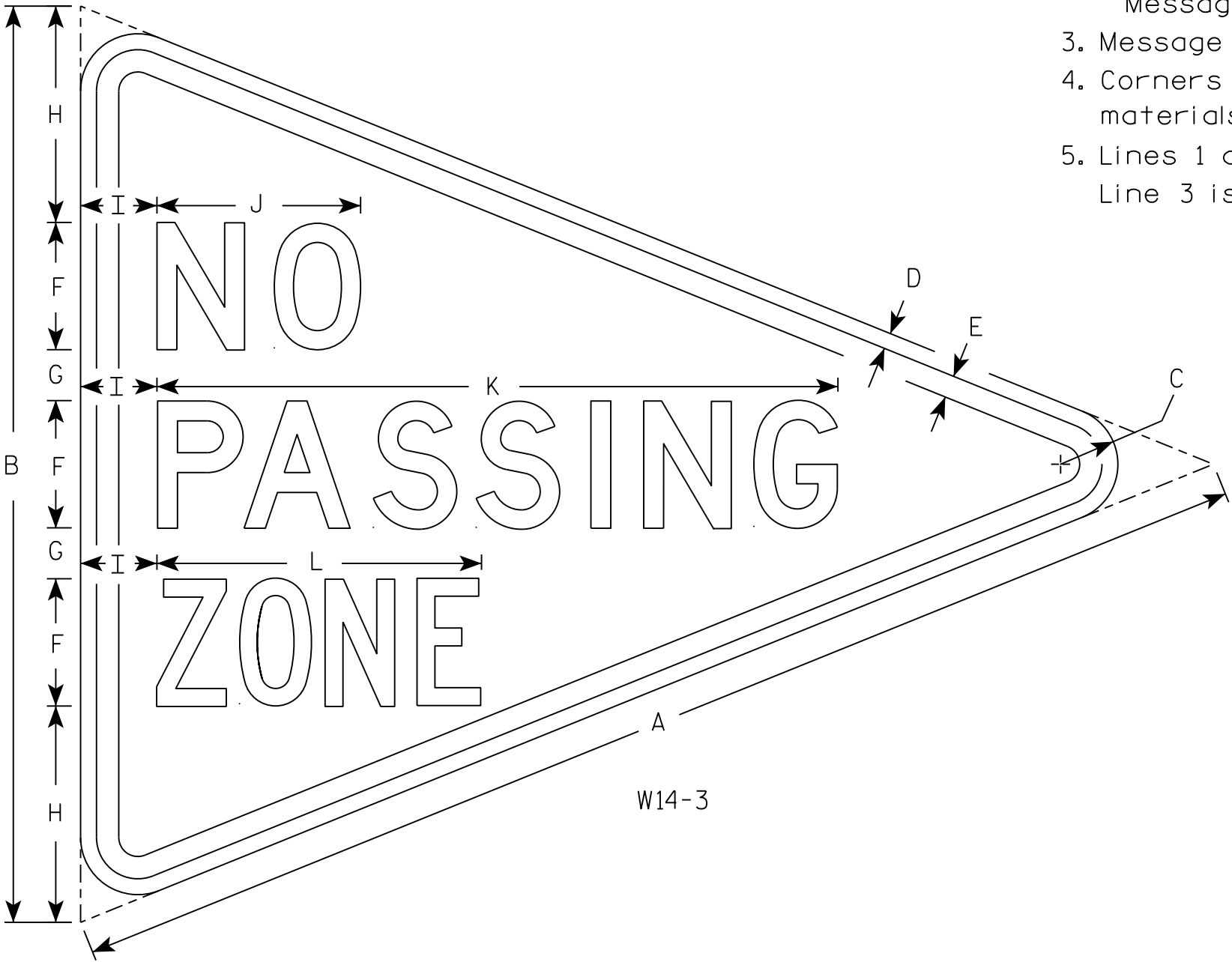
Matthew R. Rauch
For State Traffic Engineer

DATE 3/13/13

PLATE NO. W11-12.4

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Yellow
Message - Black
- 3. Message Series - See note 5
- 4. Corners and borders shall be rounded on all base materials for this sign.
- 5. Lines 1 and 2 are Series D.
Line 3 is series C.



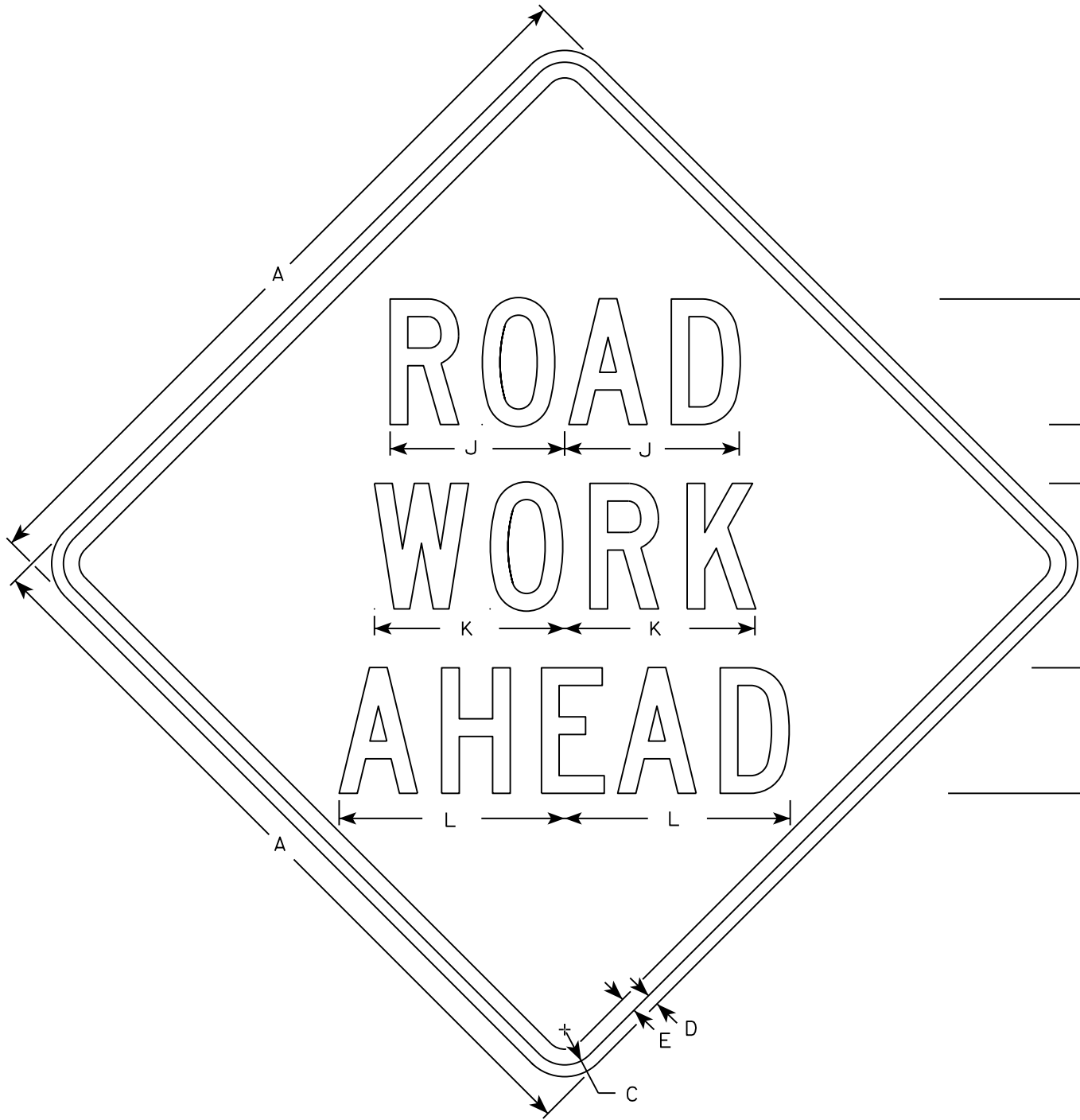
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															5.56
2M																											
3																											
4																											
5																											

STANDARD SIGN
W14-3

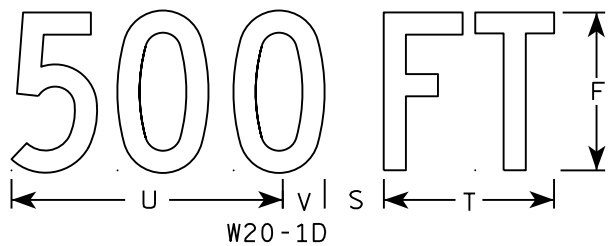
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

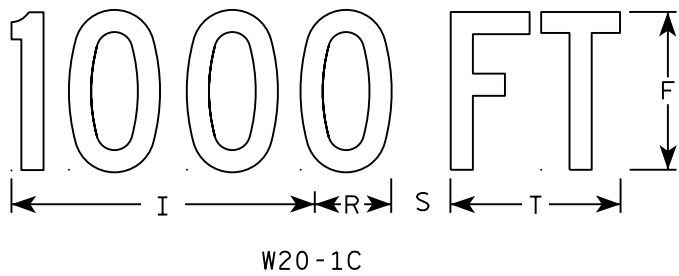
DATE 2/23/17 PLATE NO. W14-3.10



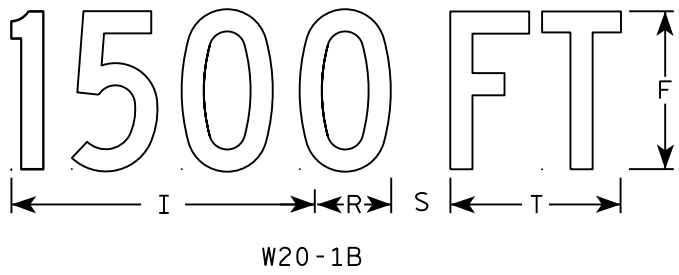
W20-1A



W20-1D



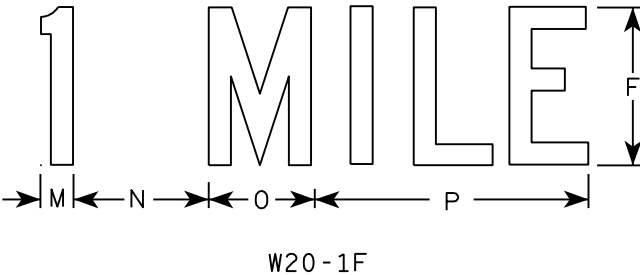
W20-1C



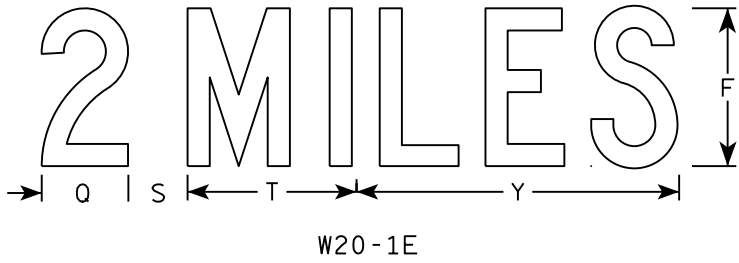
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

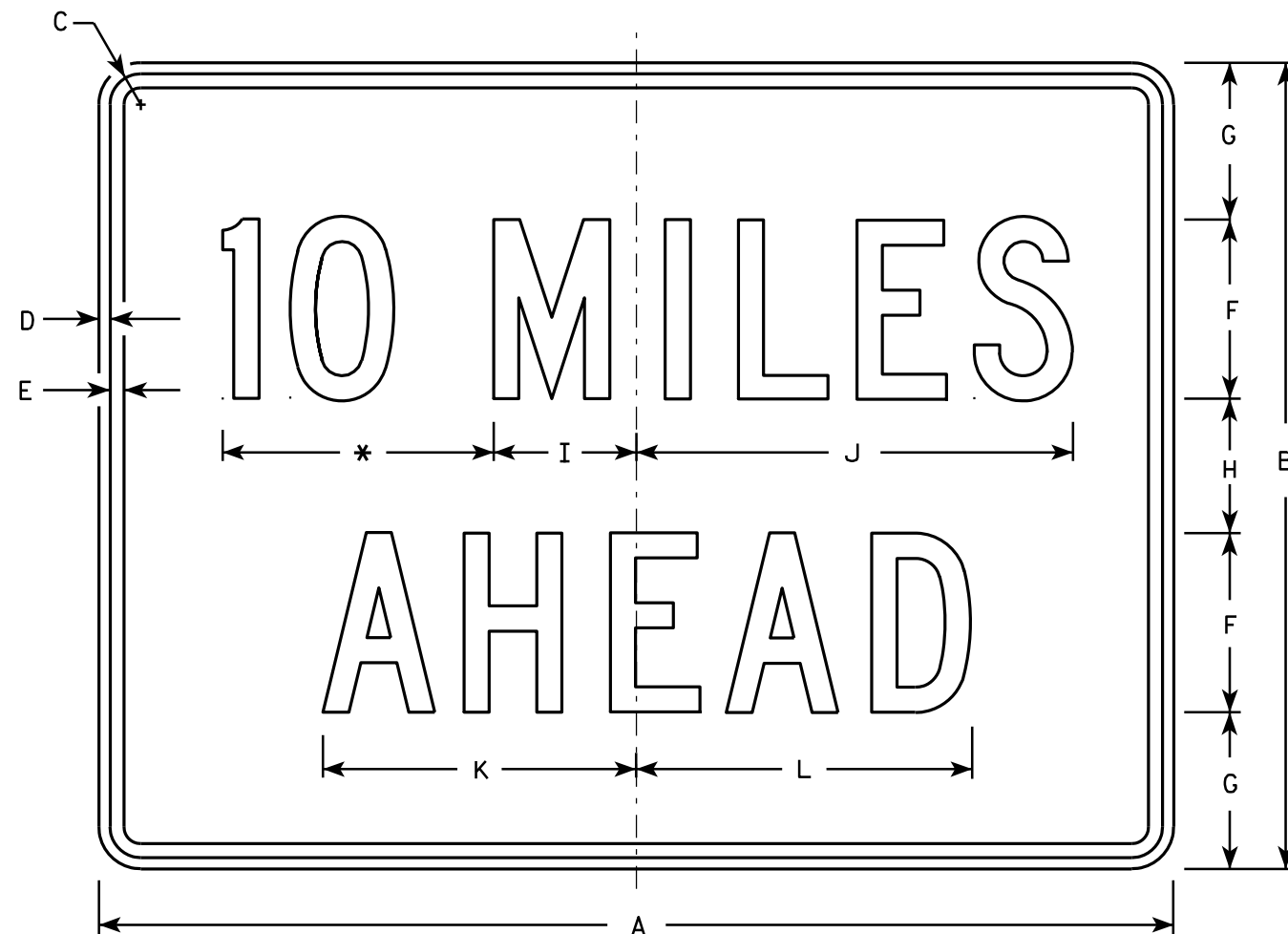
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

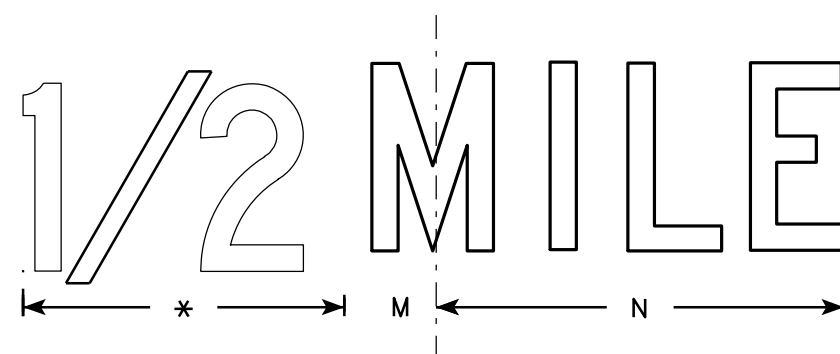
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10



W57-52



* See note 5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

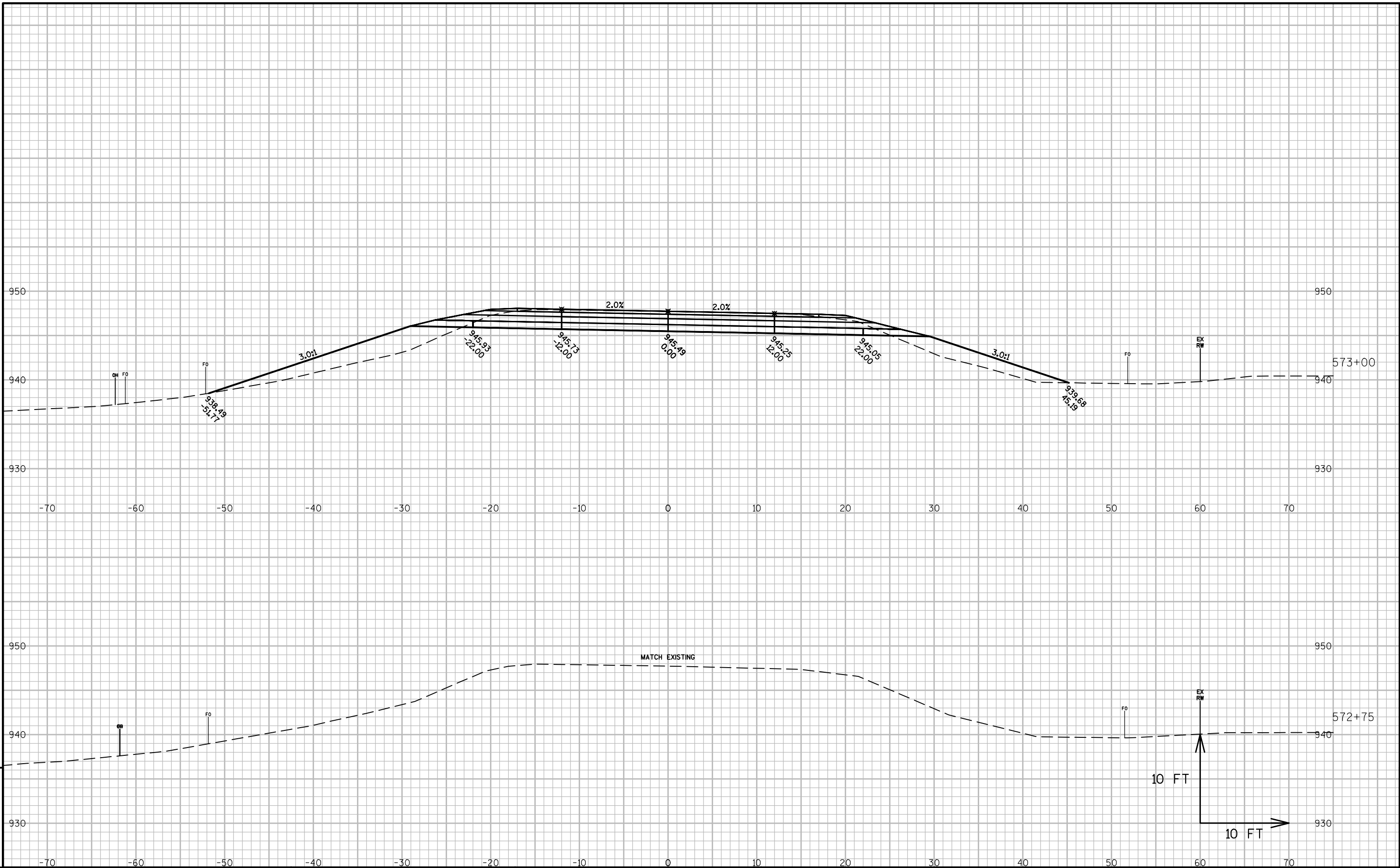
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	18	1 1/8	3/8	1/2	4	3 1/2	3	3 1/8	9 3/4	7	7 1/2	1 3/8	8 3/4													3.0
2S	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	13													6.0
2M	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	13													6.0
3	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	13													6.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0

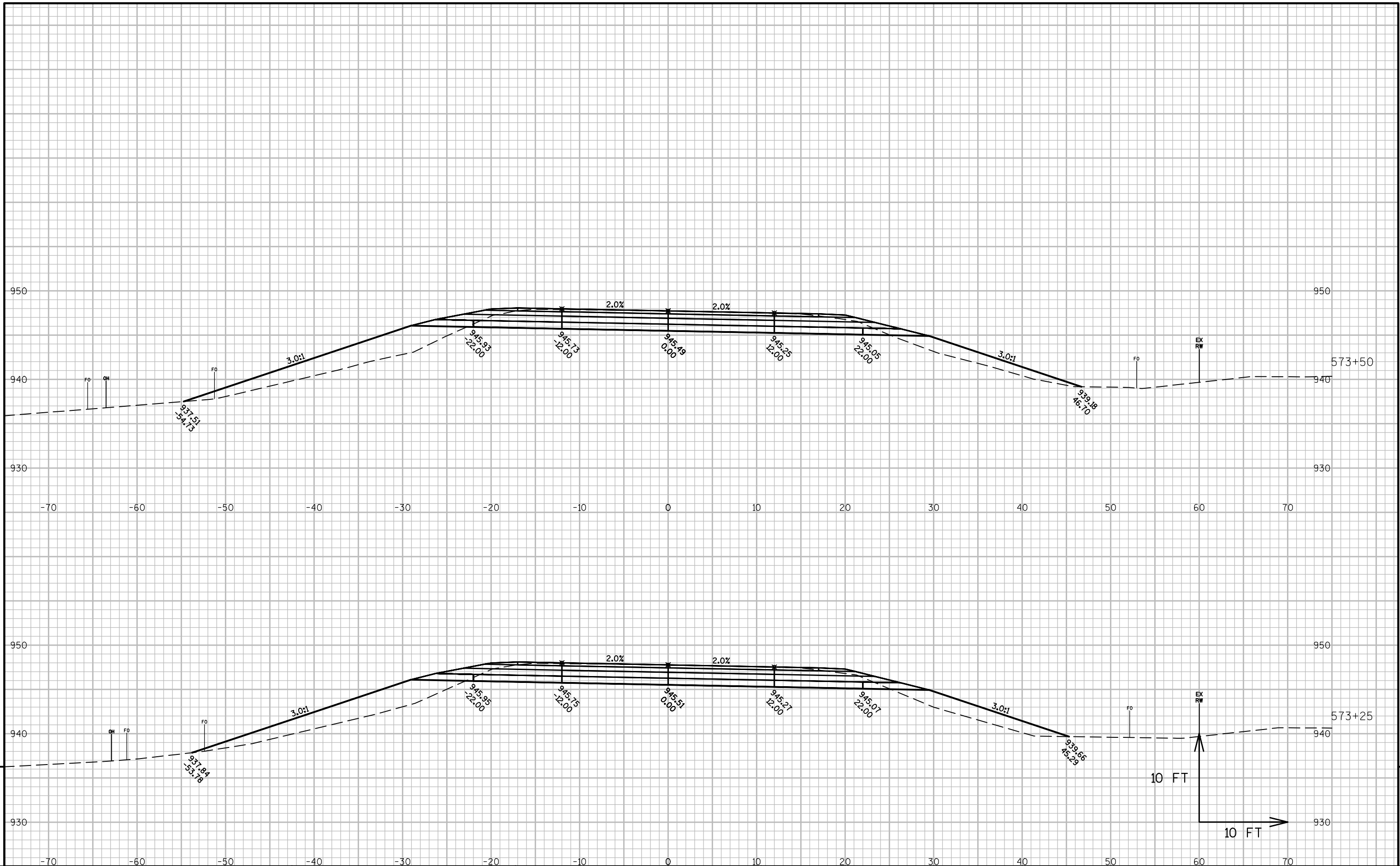
STANDARD SIGN W57-52

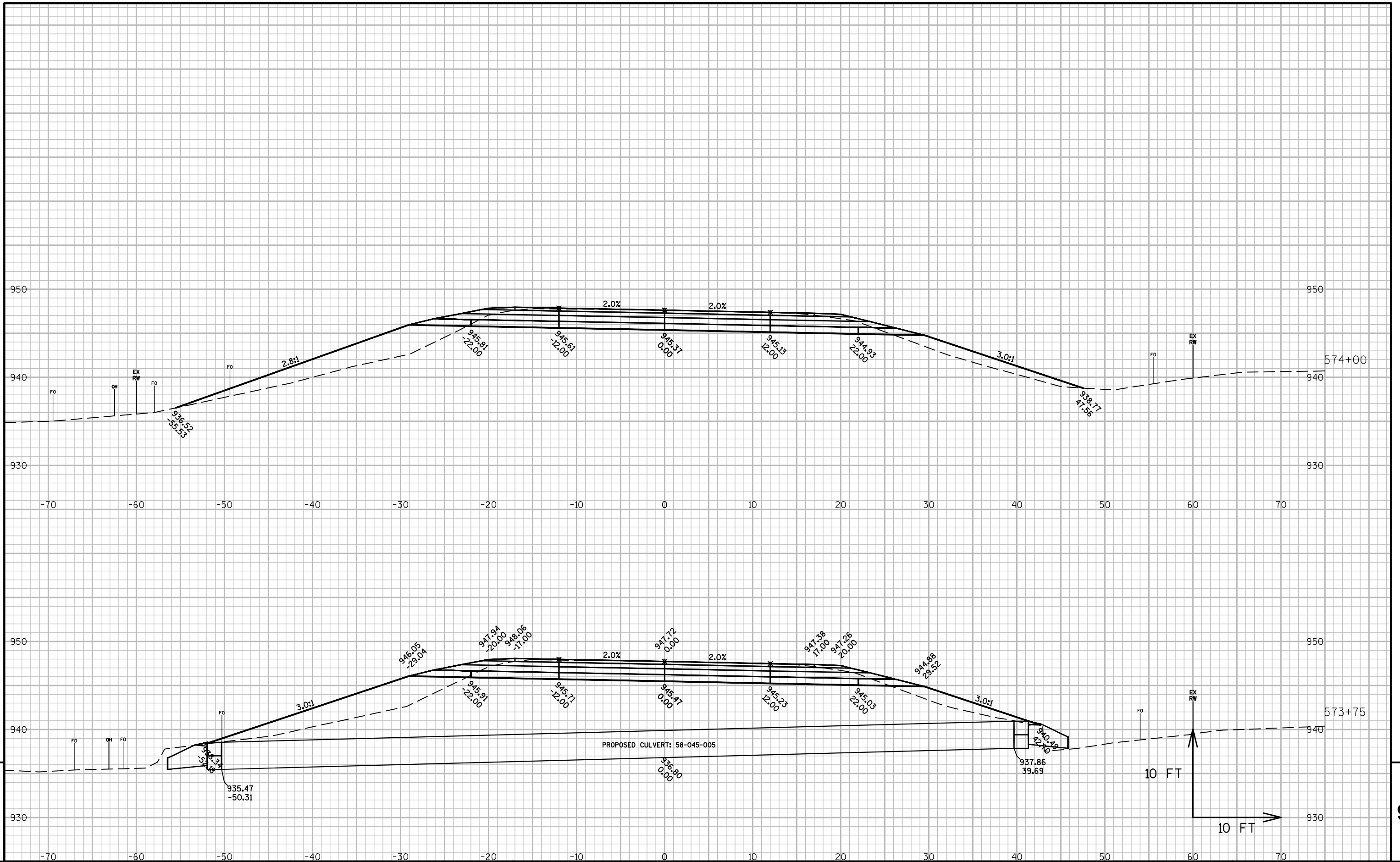
WISCONSIN DEPT OF TRANSPORTATION

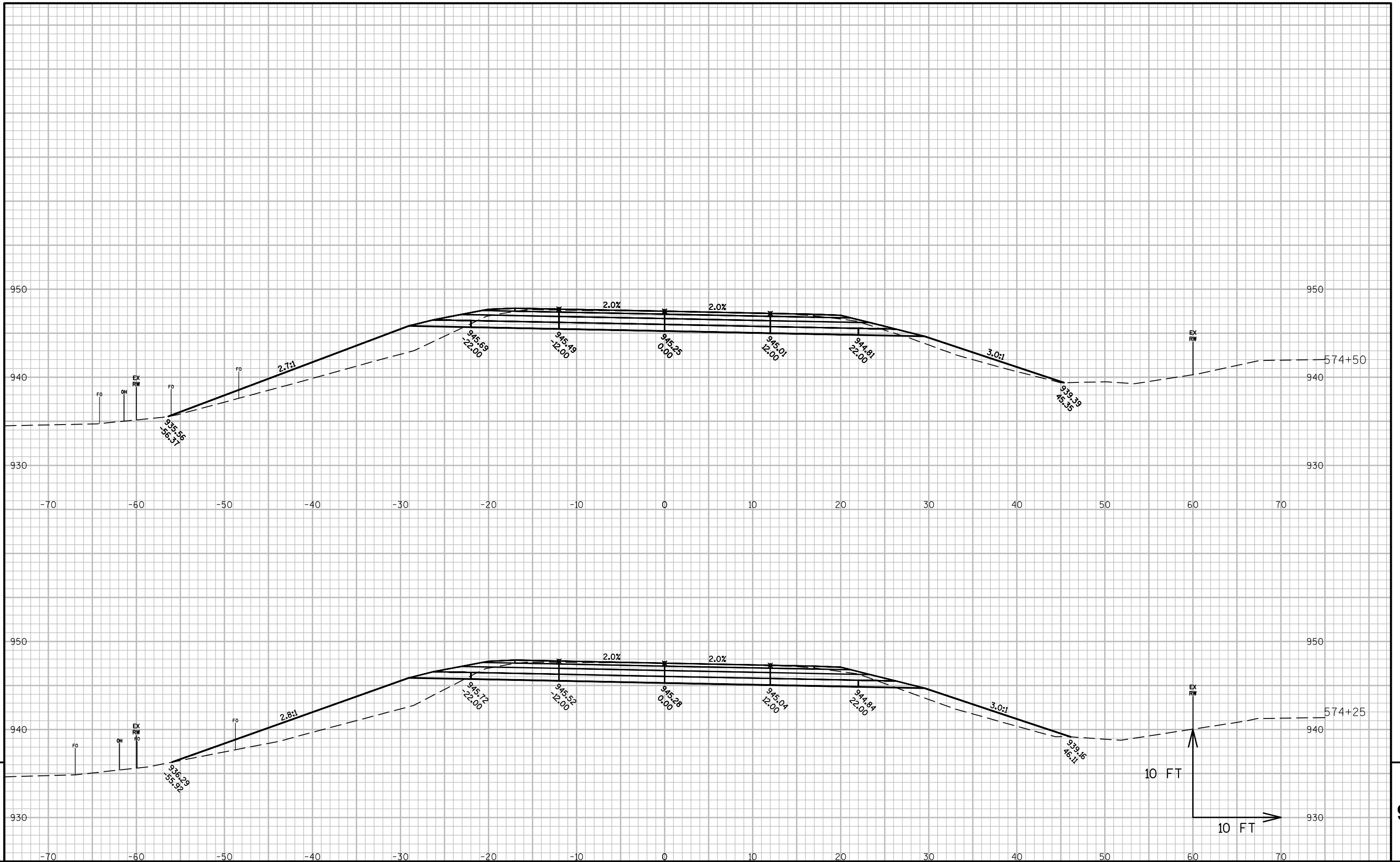
APPROVED *Matthew R. Rauch*
State Traffic Engineer
DATE 3/13/13 for PLATE NO. W57-52.7

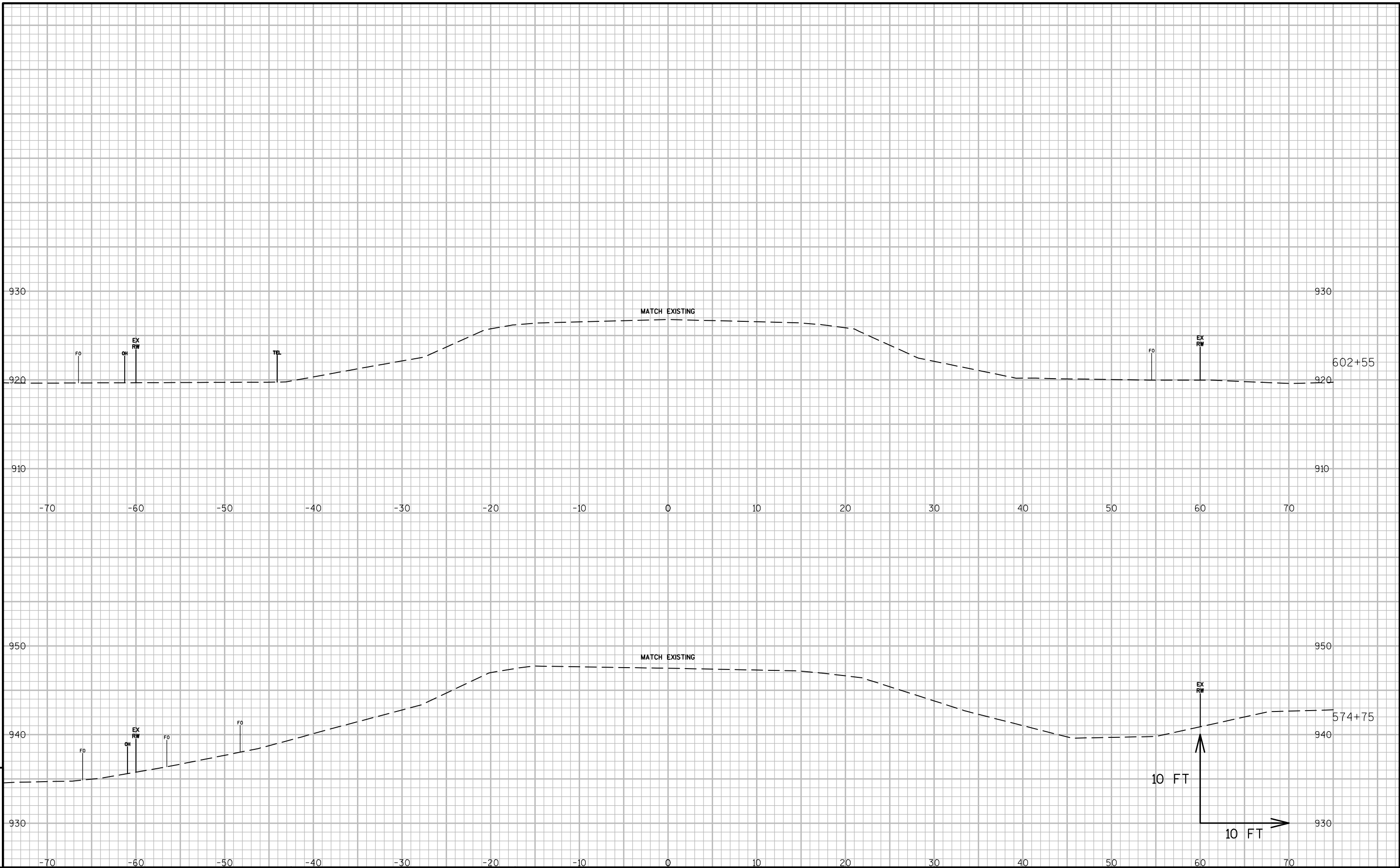
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

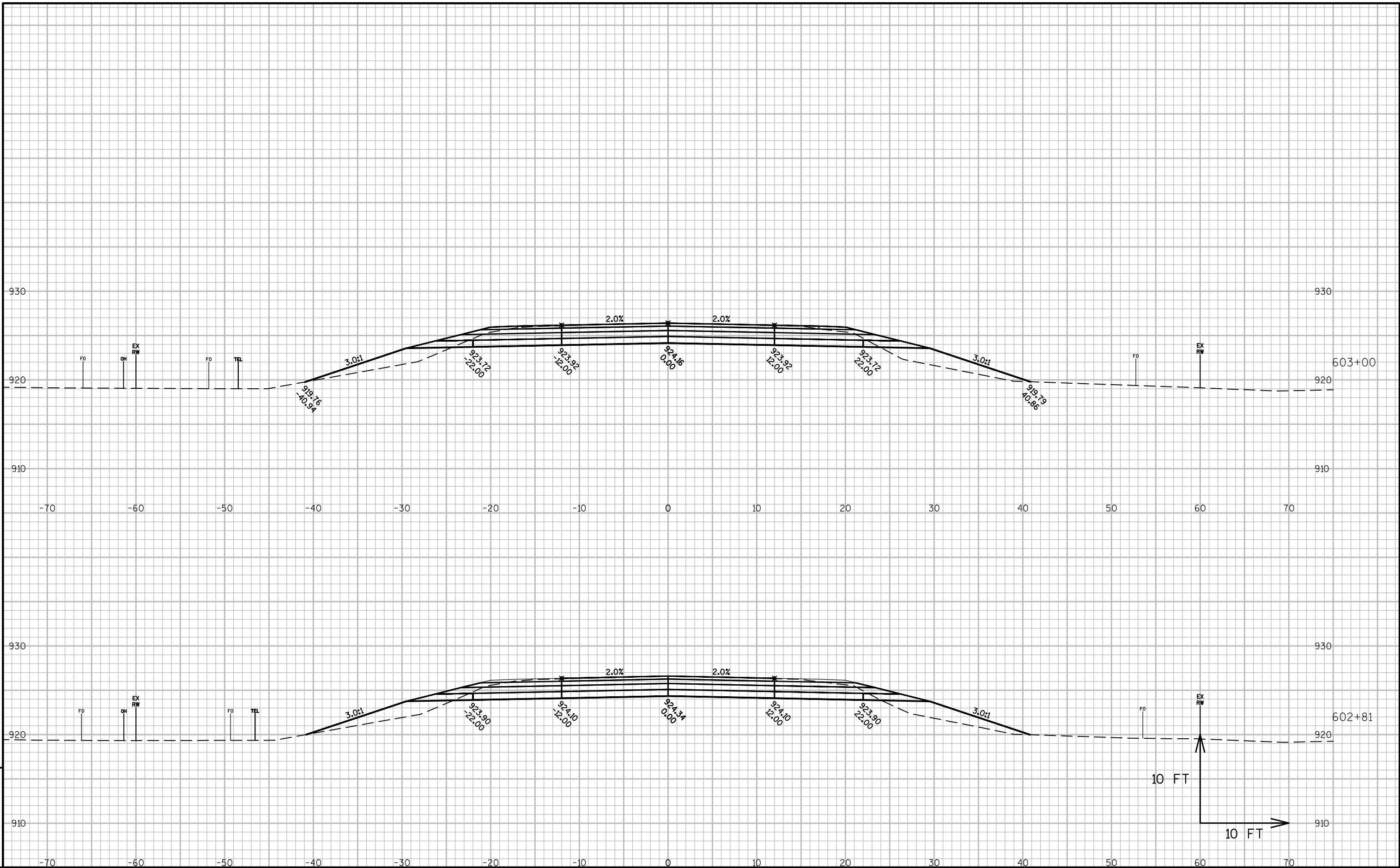


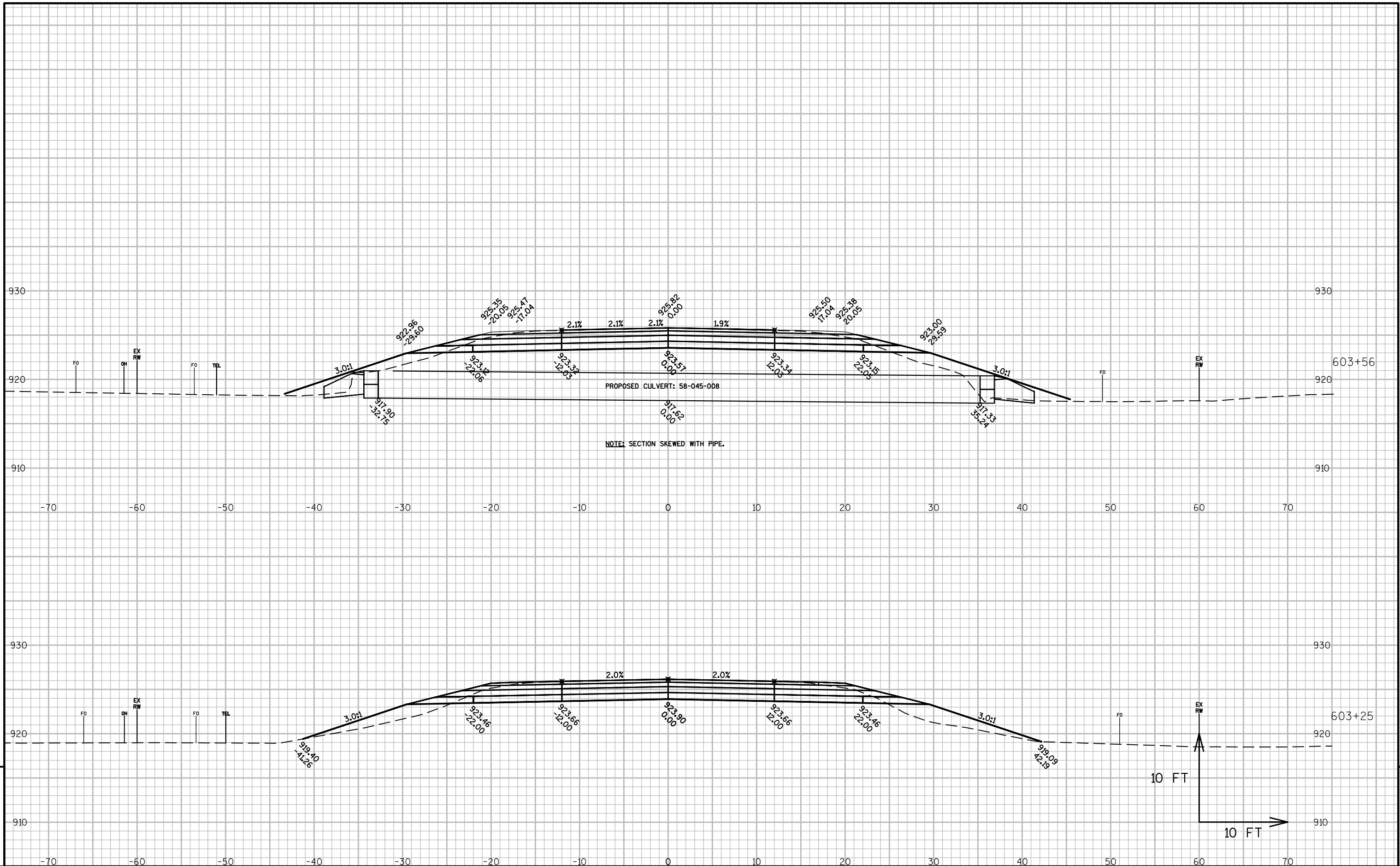


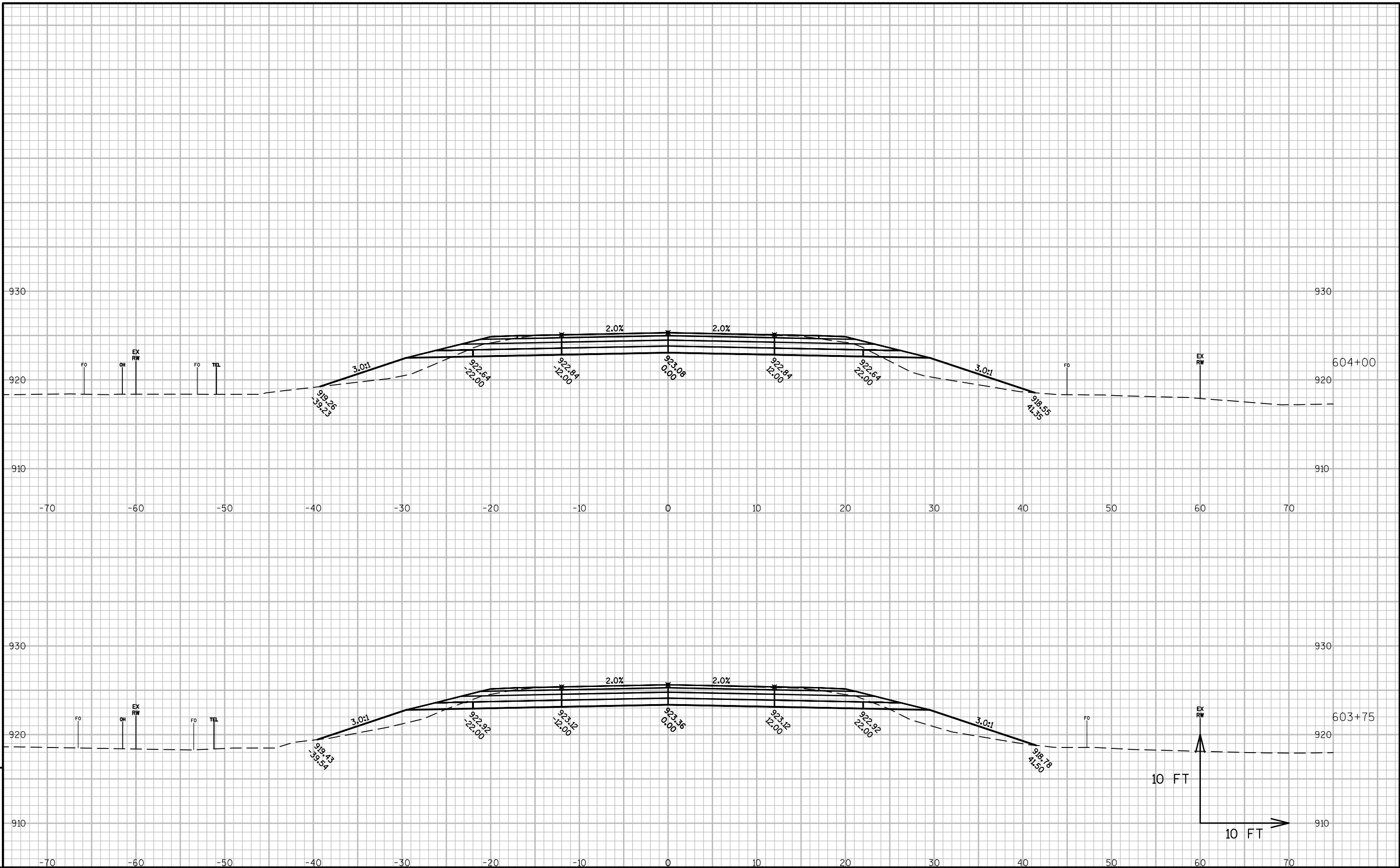


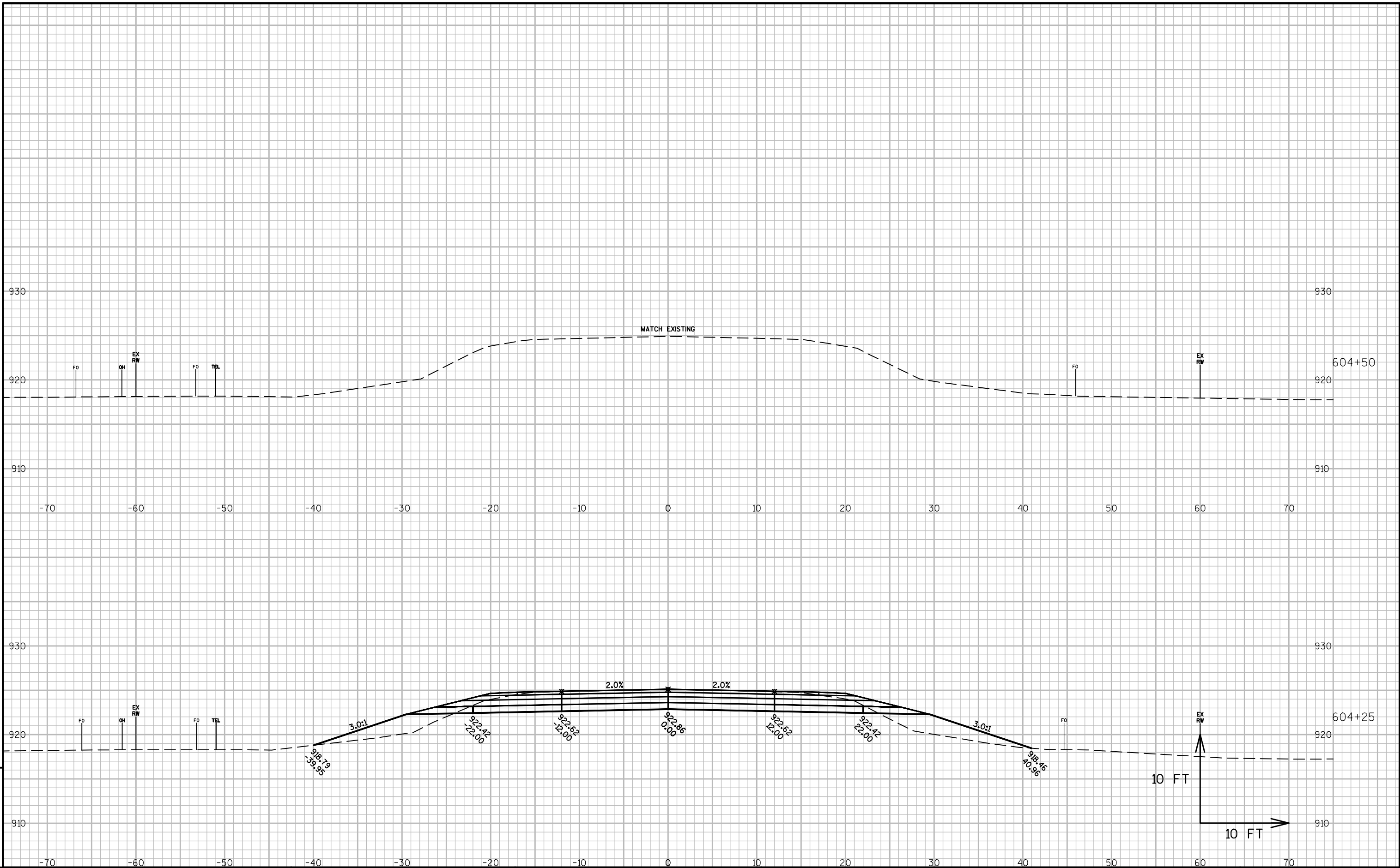


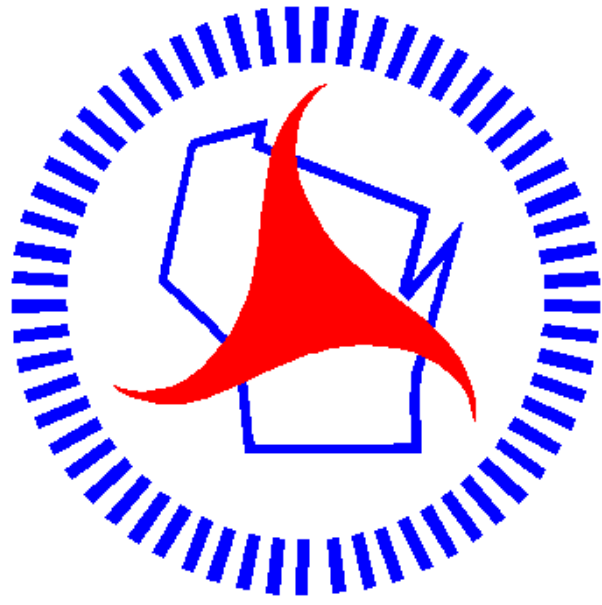












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