

RHI JANUARY 2017
PROJECT ID: 1053-07-74
WITH:

COUNTY: MARATHON

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 = 138



DESIGN DESIGNATION

A.A.D.T. (2017)	=	540
A.A.D.T. (2037)	=	2800
D.H.V. (2037)	=	358
D.D. (2037)	=	62/38
T. (2037)	=	7.9%
DESIGN SPEED	=	40 MPH
ESALS	=	241,000

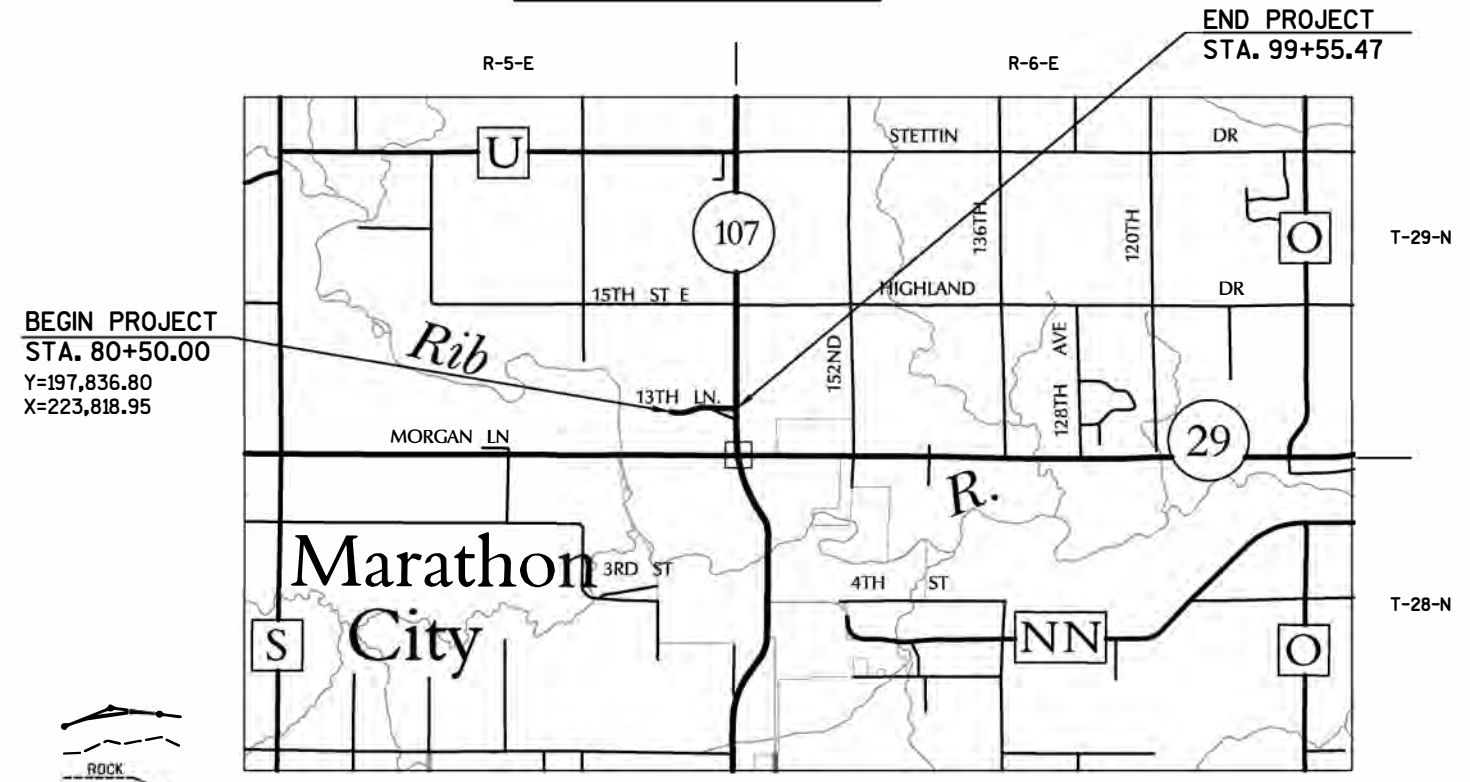
CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	////
PROPERTY LINE	---
LOT LINE	----
LIMITED HIGHWAY EASEMENT	L---
EXISTING RIGHT OF WAY	---
PROPOSED OR NEW R/W LINE	---
SLOPE INTERCEPT	---
REFERENCE LINE	---
EXISTING CULVERT	---
PROPOSED CULVERT (Box or Pipe)	---
COMBUSTIBLE FLUIDS	CAUTION
MARSH AREA	---
WOODED OR SHRUB AREA	---

PROFILE	
GRADE LINE	---
ORIGINAL GROUND	---
MARSH OR ROCK PROFILE (To be noted as such)	---
SPECIAL DITCH	---
GRADE ELEVATION	---
CULVERT (Profile View)	---
UTILITIES	
ELECTRIC	---
FIBER OPTIC	---
GAS	---
SANITARY SEWER	---
STORM SEWER	---
TELEPHONE	---
WATER	---
UTILITY PEDESTAL	---
POWER POLE	---
TELEPHONE POLE	---

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
ABBOTSFORD - WAUSAU
BIG RIB RIVER BRIDGE TO 152ND AVENUE
STH 29
MARATHON COUNTY

STATE PROJECT NUMBER
1053-07-74



LAYOUT
SCALE 0 0.6 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.361 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MARATHON COUNTY, NAD 83 (91).
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1053-07-74	WISC 2017009	1

ORIGINAL PLANS PREPARED BY:

SA
STRAND
ASSOCIATES®
910 West Wingra Drive
Madison, WI 53715
608 251-4843
608 251-8655 FAX
www.strand.com



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	S strand Associates, Inc.
Designer	S strand Associates, Inc.
Project Manager	Jed Peters
Regional Examiner	
Regional Supervisor	Robin S tafford
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 7/29/2016
(Signature)

GENERAL NOTES

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

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS EXCAVATION COMMON.

RADI DIMENSIONS FOR THE CURB AND GUTTER ARE TO THE FLANGE LINE, UNLESS OTHERWISE NOTED.

THE LOCATION OF EXISTING OR PROPOSED UTILITIES AS NOTED ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

UTILITIES

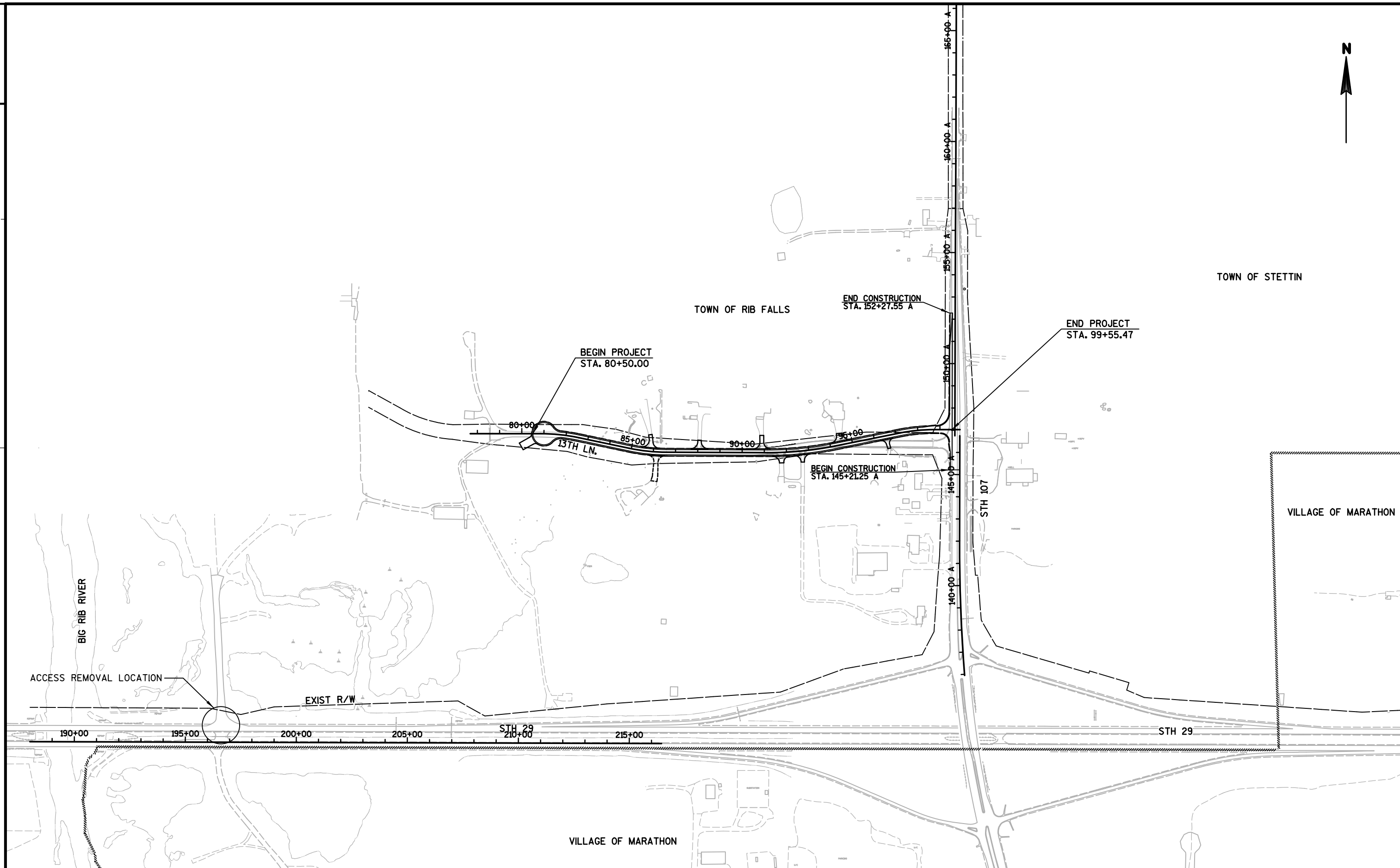
UTILITY OR MUNICIPALITY	ADDRESS	CONTACT	UTILITY TYPE
CHARTER COMMUNICATIONS	853 MCINTOSH STREET WAUSAU, WI 54403 PH: (715) 301-4079 M: (715) 216-6204 SCOTT.OLSON@CHARTER.COM	SCOTT OLSON	COMMUNICATIONS
FRONTIER NORTH, INC.	1851 N. 14TH AVENUE WAUSAU, WI 54401 PH: (715) 847-1525 M: (715) 573-2110 CALVIN.KLADE@FTR.COM	CALVIN KLADE	COMMUNICATIONS
WISCONSIN PUBLIC SERVICE CORPORATION	700 N ADAMS STREET P.O. BOX 19001 GREEN BAY, WI 54307-9001 PH: (920) 433-1703 LABUTRY@INTEGRYSGROUP.COM	LORI BUTRY	ELECTRIC - DISTRIBUTION
WISCONSIN PUBLIC SERVICE CORPORATION	1700 SHERMAN STREET P.O. BOX 1166 WAUSAU, WI 54402-1166 PH: (715) 848-7463 M: (920) 493-0050 MJCURTIN@WISCONSINPUBLICSERVICE.COM	MATT CURTIN	GAS



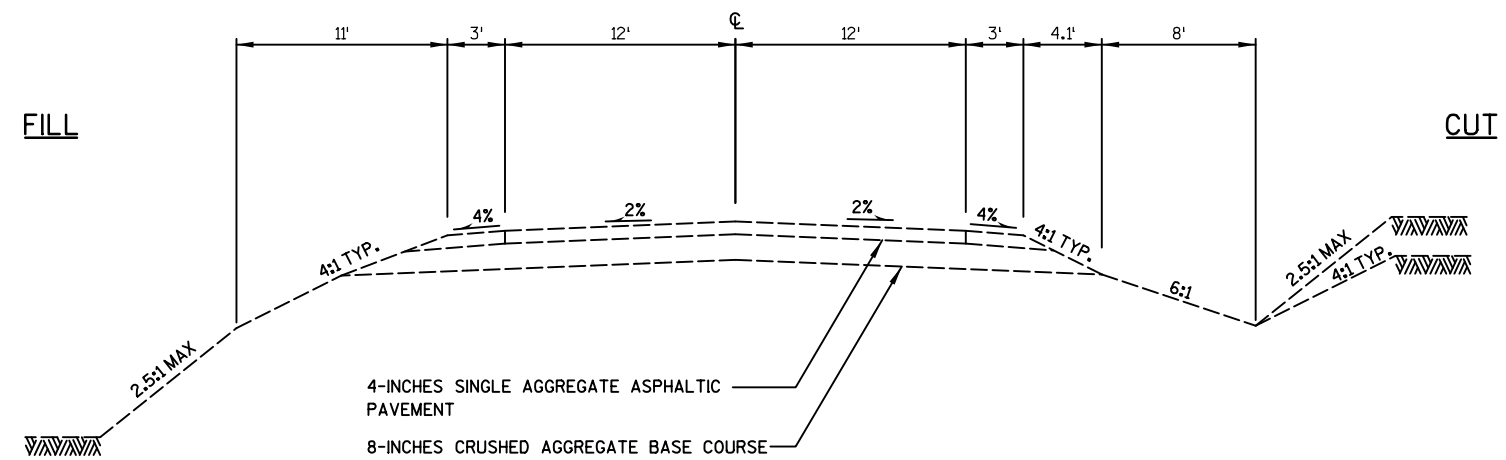
Dial 811 or (800)242-8511
www.DiggersHotline.com

WISDNR CONTACT

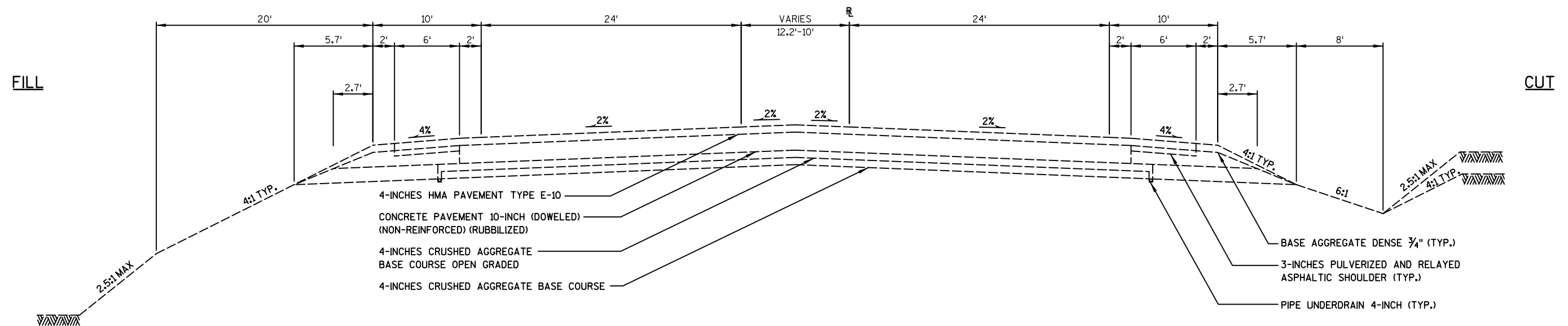
MARC HERSHFIELD
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
473 GRIFFITH DRIVE
WISCONSIN RAPIDS, WI 54494
PH: (715) 421-7867
MARC.HERSHFIELD@WISCONSIN.GOV



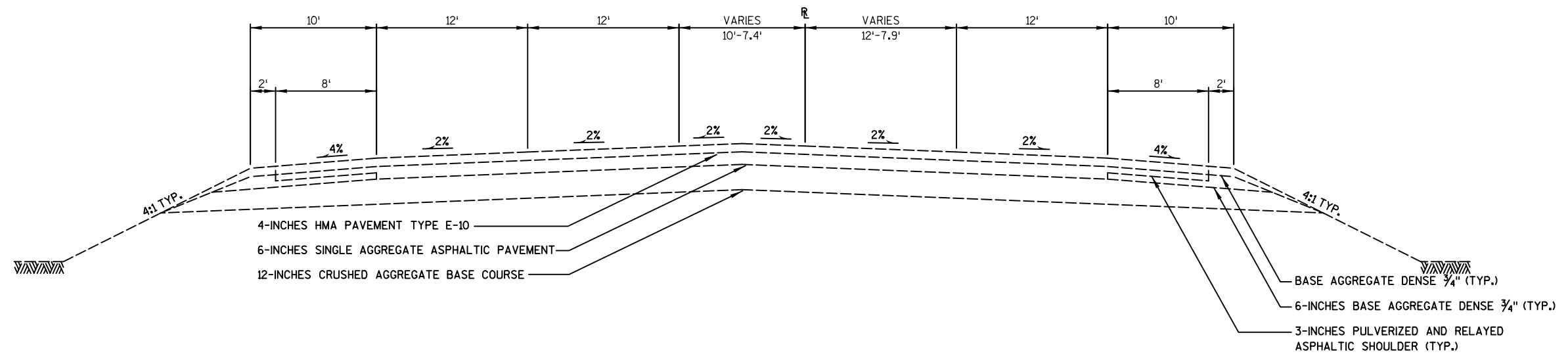
PROJECT NO:1053-07-74	HWY: STH 29	COUNTY: MARATHON	PROJECT OVERVIEW	SHEET	E
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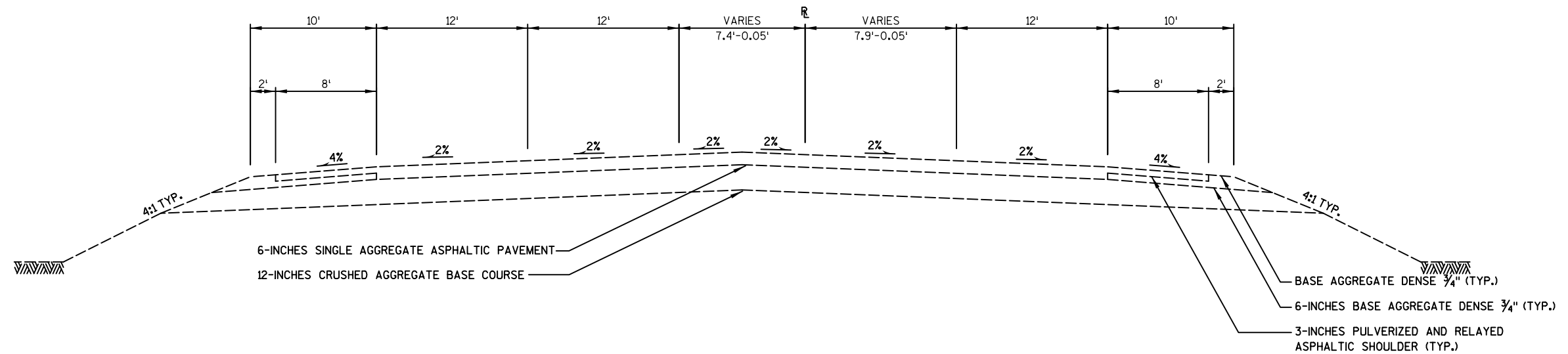
TYPICAL EXISTING SECTION - 13TH LN.
STA. 80+50.00 - STA. 99+55.47



TYPICAL EXISTING SECTION - STH 107
STA. 145+21.25 A - STA. 146+75.00 A



TYPICAL EXISTING SECTION - STH 107
STA. 146+75.00 A - STA. 148+75.00 A

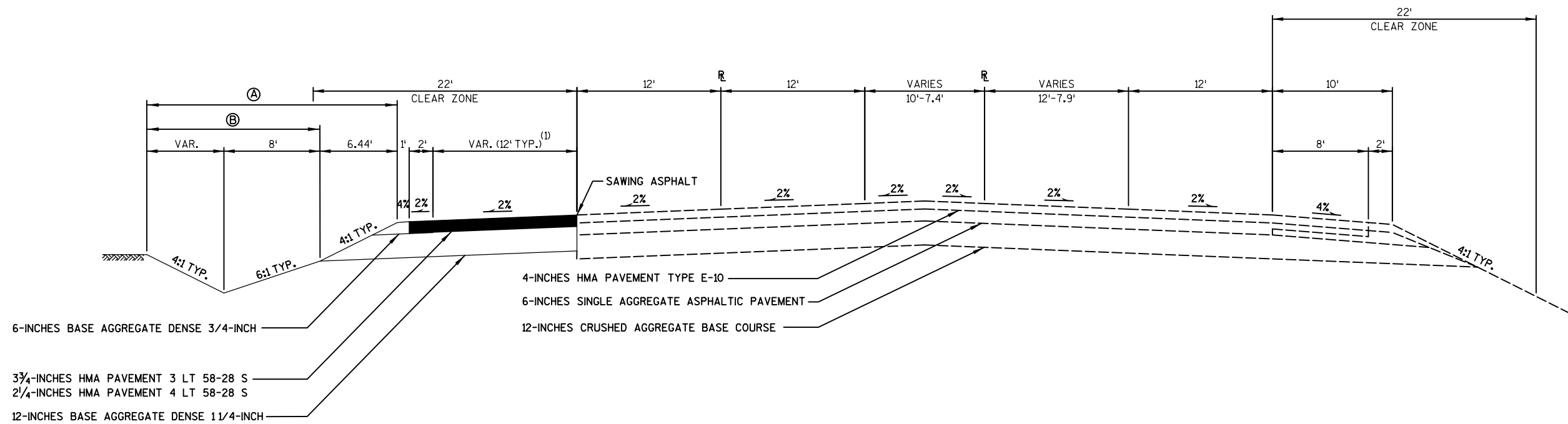
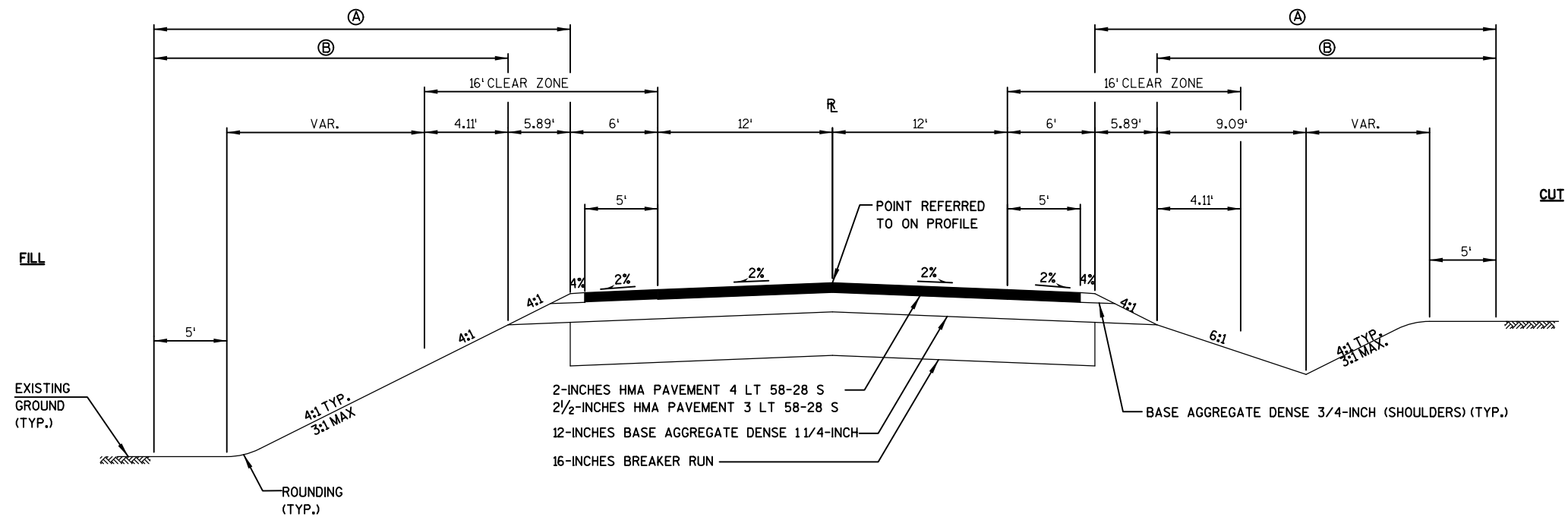


TYPICAL EXISTING SECTION - STH 107
STA. 148+75.00 A - STA. 152+27.55 A

2

2

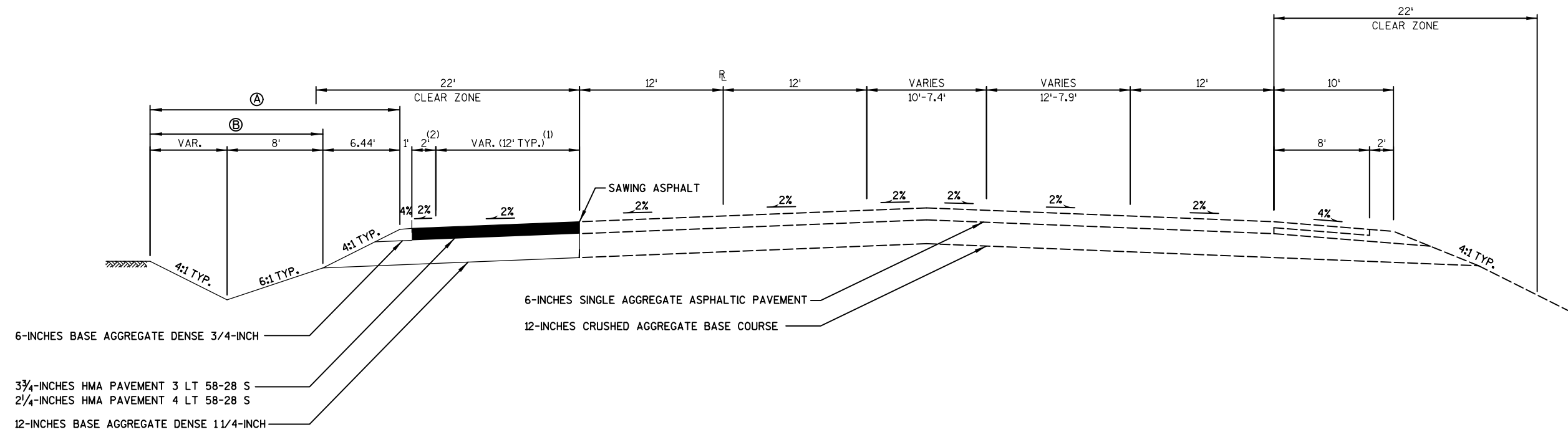




④ SEEDING MIXTURE NO. 20, AND FERTILIZER TYPE B OR
SEEDING MIXTURE NO. 40, AND FERTILIZER FOR LAWN TYPE TURF (SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)

⑤ SALVAGED TOPSOIL AND MULCHING OR
TOPSOIL, PREPARING TOPSOIL FOR LAWN TYPE TURF, AND EROSION MAT URBAN CLASS I TYPE A (SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)

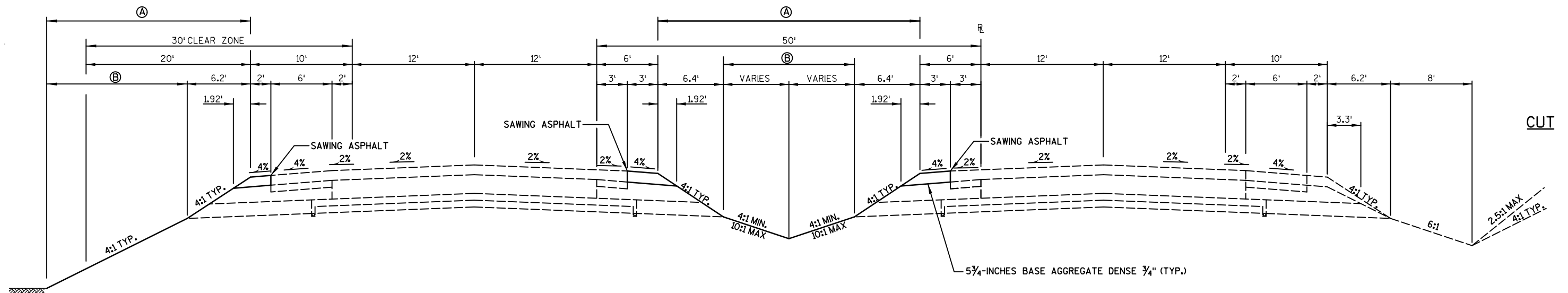
(1) SEE INTERSECTION LAYOUT DETAIL
FOR MORE INFORMATION



TYPICAL FINISHED SECTION - STH 107

STA. 148+75.00 A - STA. 152+27.55 A

- (1) 12' STA. 148+75.00 A TO STA. 150+77.55 A
 12' - 0' STA. 150+77.55 A TO STA. 152+27.55 A
- (2) 2' STA. 148+75.00 A TO STA. 151+15.13 A
 2' - 8' STA. 151+15.13 A TO STA. 152+27.55 A

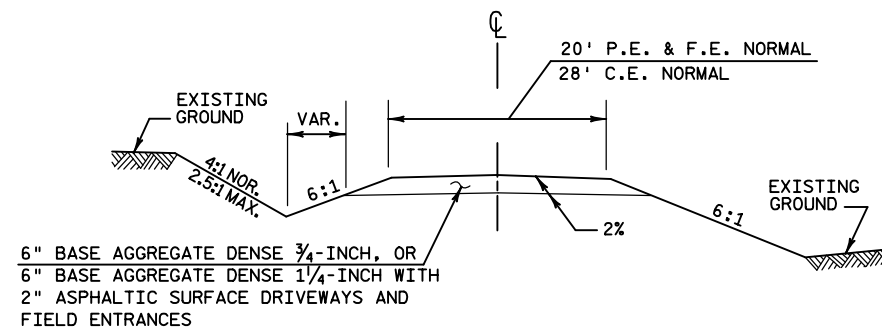


TYPICAL FINISHED SECTION - STH 29

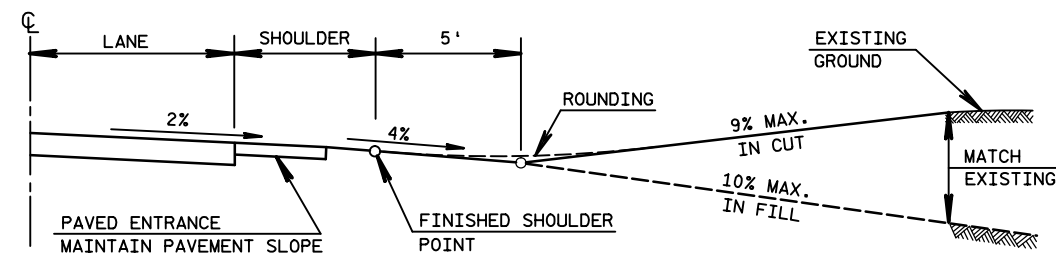
STA. 194+54.59 - STA. 197+48.85

Ⓐ SEEDING MIXTURE NO. 20, AND FERTILIZER TYPE B

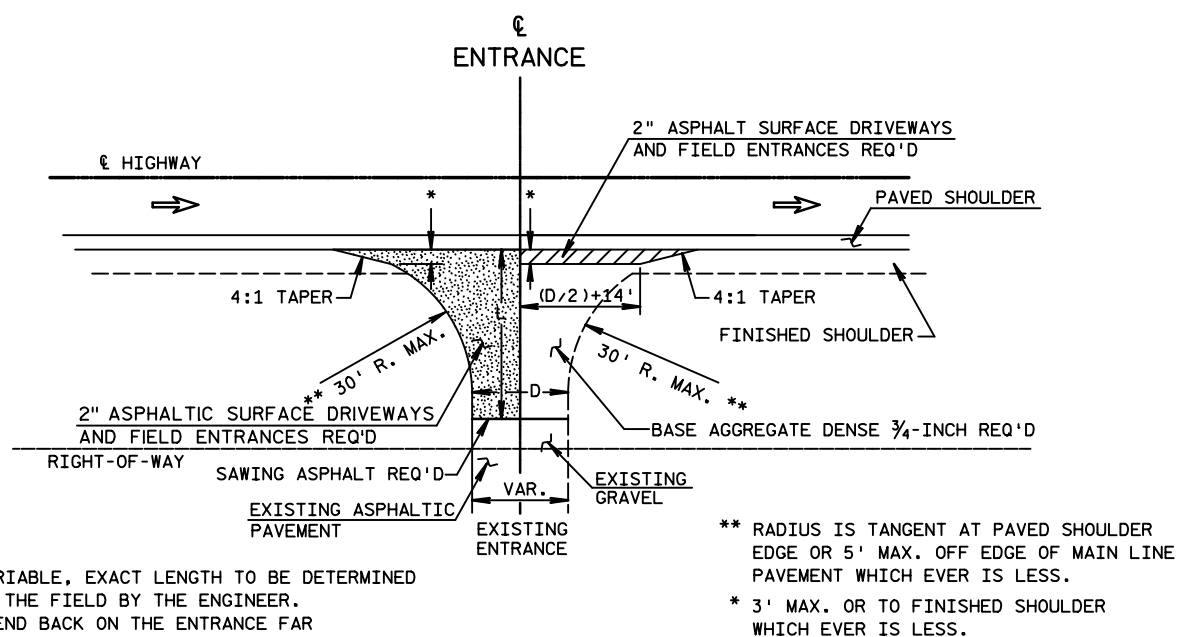
Ⓑ SALVAGED TOPSOIL, MULCHING



TYPICAL CROSS SECTION



PROFILE VIEW



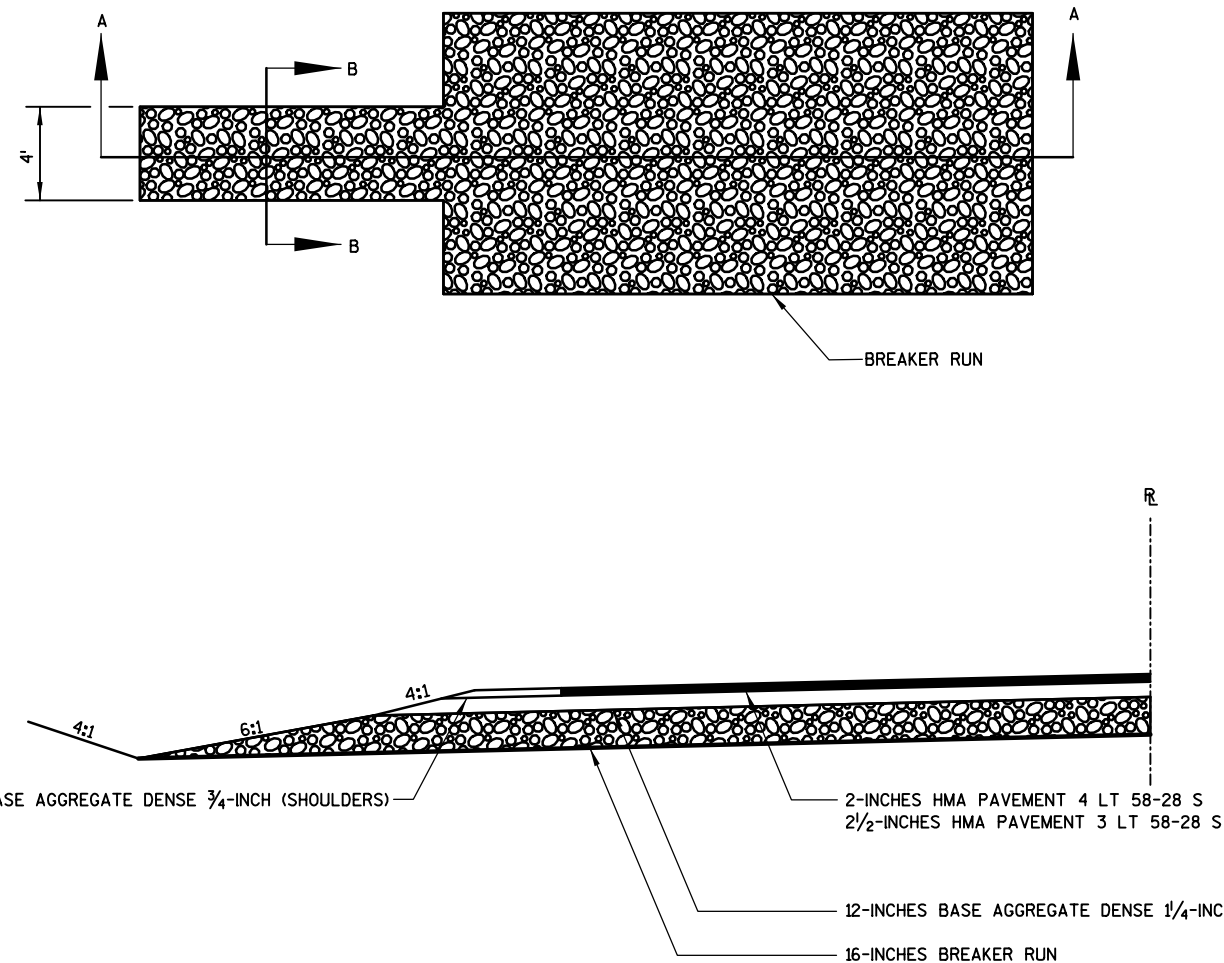
L=VARIABLE, EXACT LENGTH TO BE DETERMINED
IN THE FIELD BY THE ENGINEER.
BLEND BACK ON THE ENTRANCE FAR
ENOUGH TO GET A SMOOTH PROFILE.

D=DRIVEWAY WIDTH
D=20'TYP. (PE'S & FE'S) (16'MIN.-24'MAX.)
D=28'TYP. (CE'S & FARM ENT.) (24'MIN.-35'MAX.)

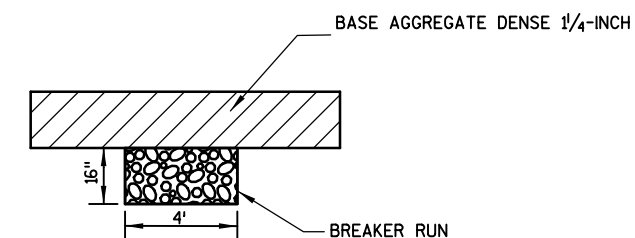
PLAN VIEW

RURAL DRIVEWAY INTERSECTION DETAIL

(PE'S, FE'S & CE'S)



SECTION A-A

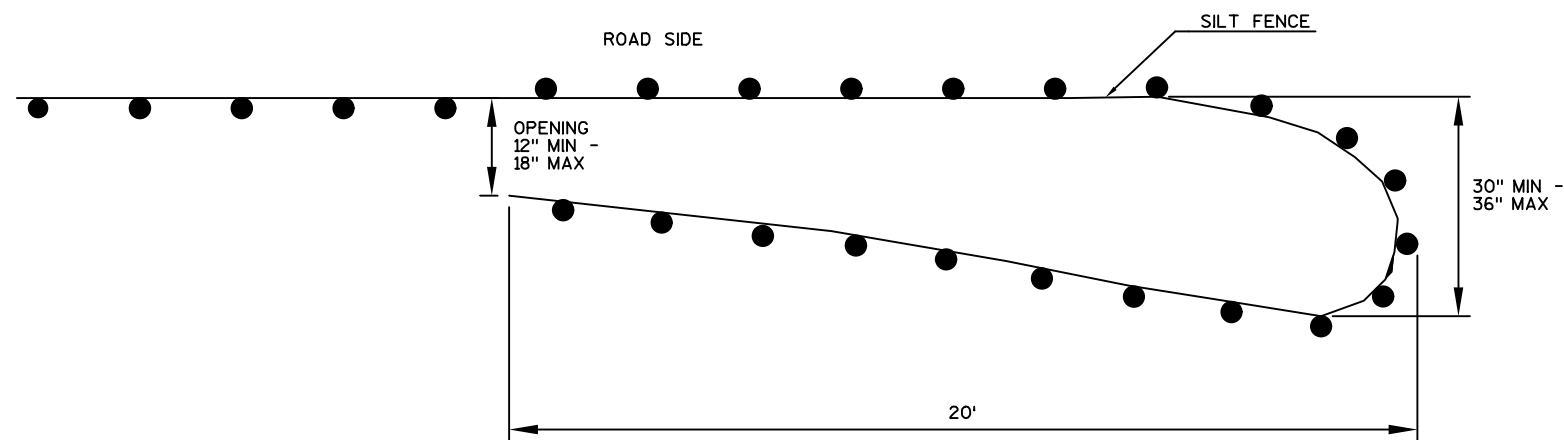


SECTION B-B

FRENCH DRAIN DETAIL - 13TH LN.

LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER (200' NORMAL).

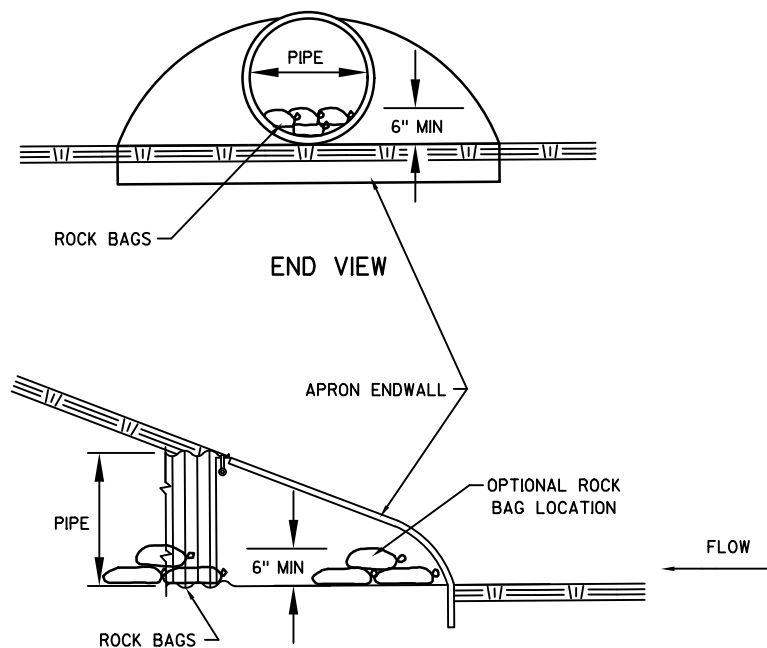
EXCAVATION REQUIRED TO CONSTRUCT FRENCH DRAINS SHALL
BE CONSIDERED INCIDENTAL TO THE ITEM BREAKER RUN.



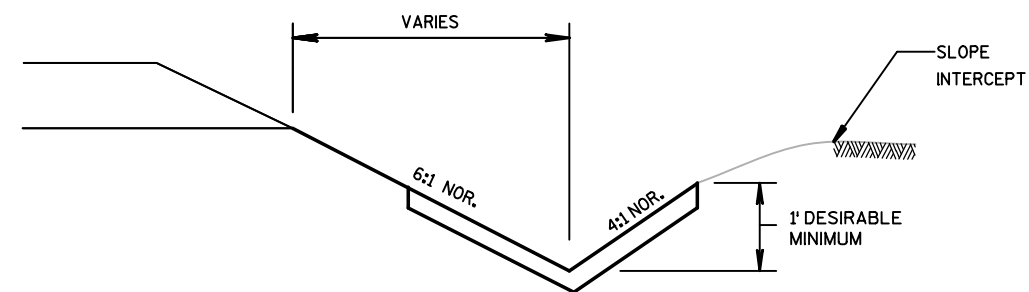
PLAN VIEW

GENERAL NOTES:

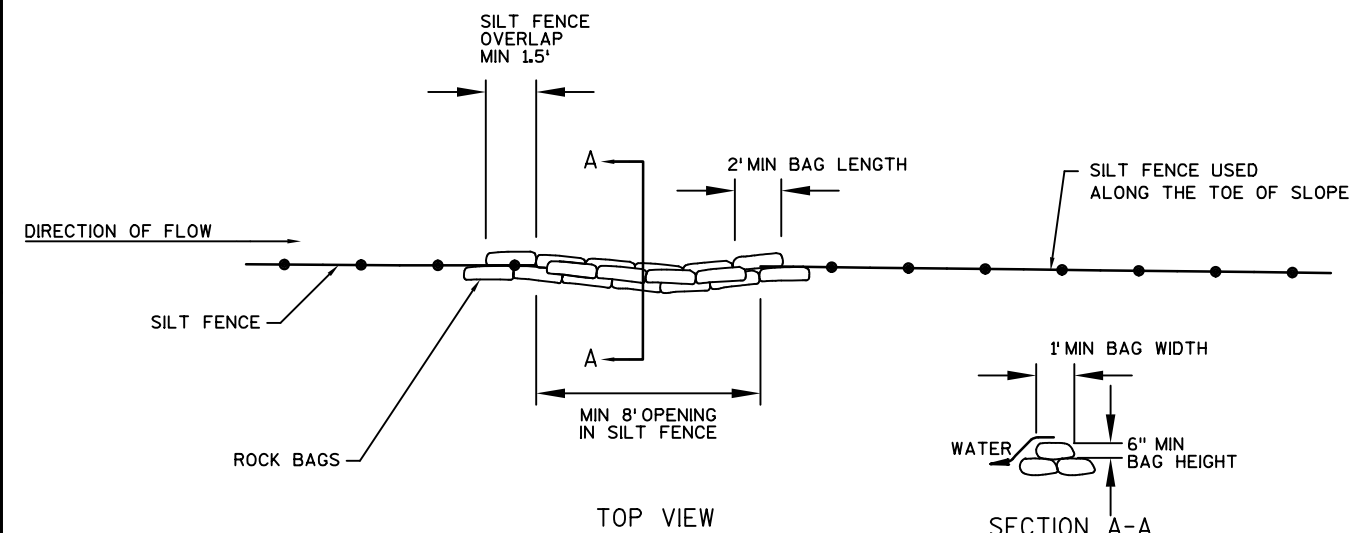
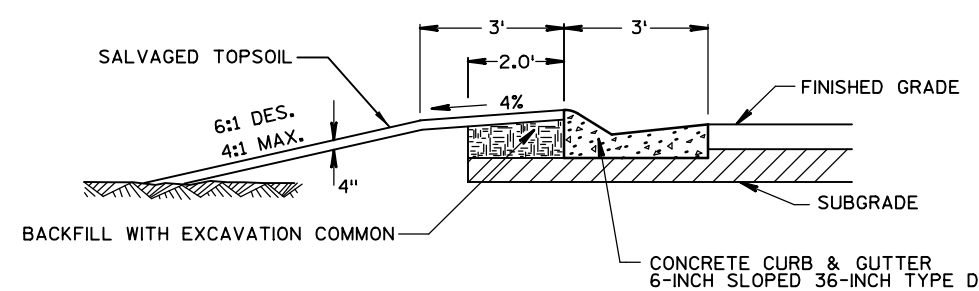
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND, AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

TEMPORARY SMALL ANIMAL TURN-AROUND**CULVERT PIPE CHECKS DETAIL**

INSTALL AT INLET END ONLY
LOCATIONS SHOWN ON EROSION CONTROL PLANS

**EROSION MAT DETAIL**

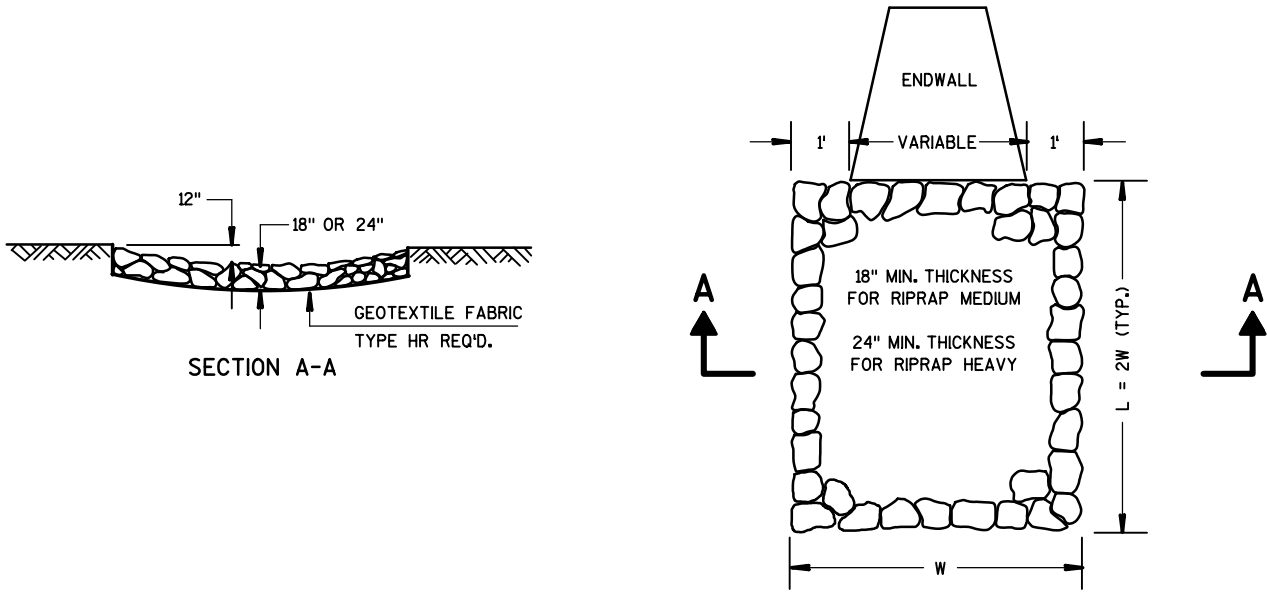
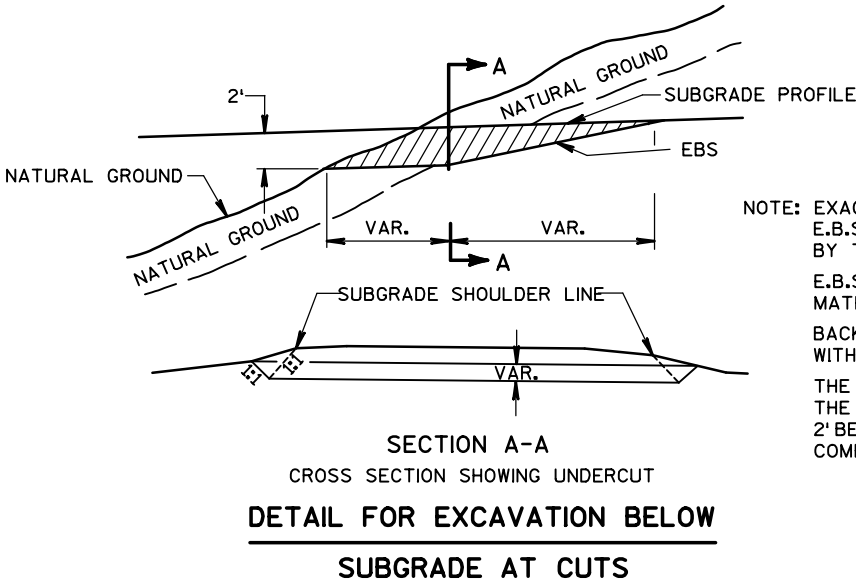
FOR V DITCH

**ROCK BAGS USED FOR SILT FENCE RELIEF****BERM DETAIL AT INTERSECTION RADII**

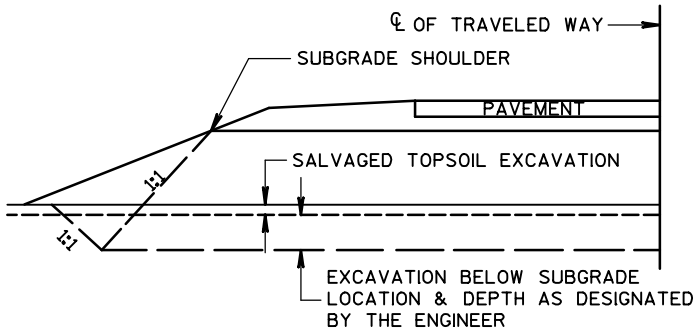
RUNOFF COEFFICIENT TABLE

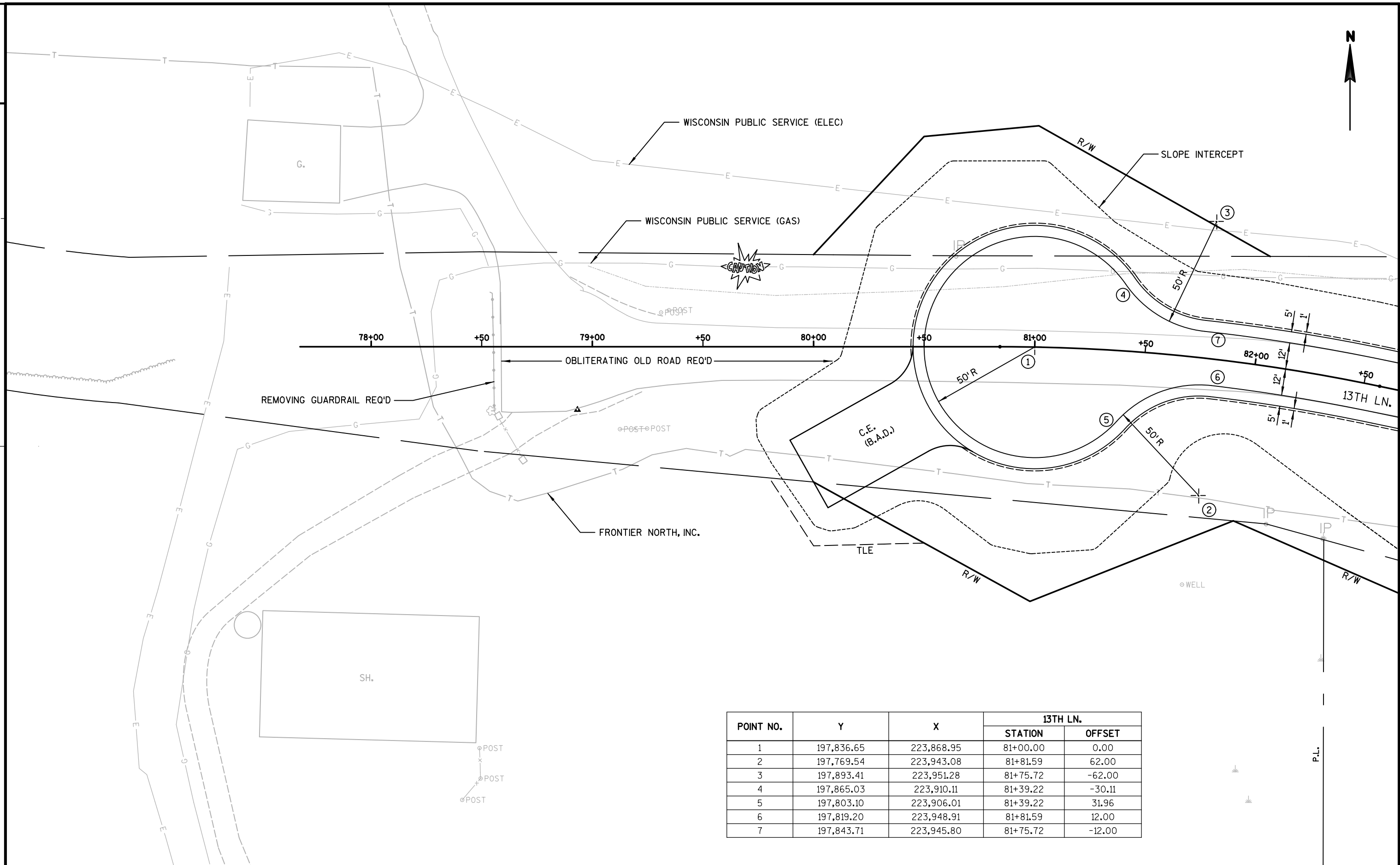
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 6.5 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 5.5 ACRES

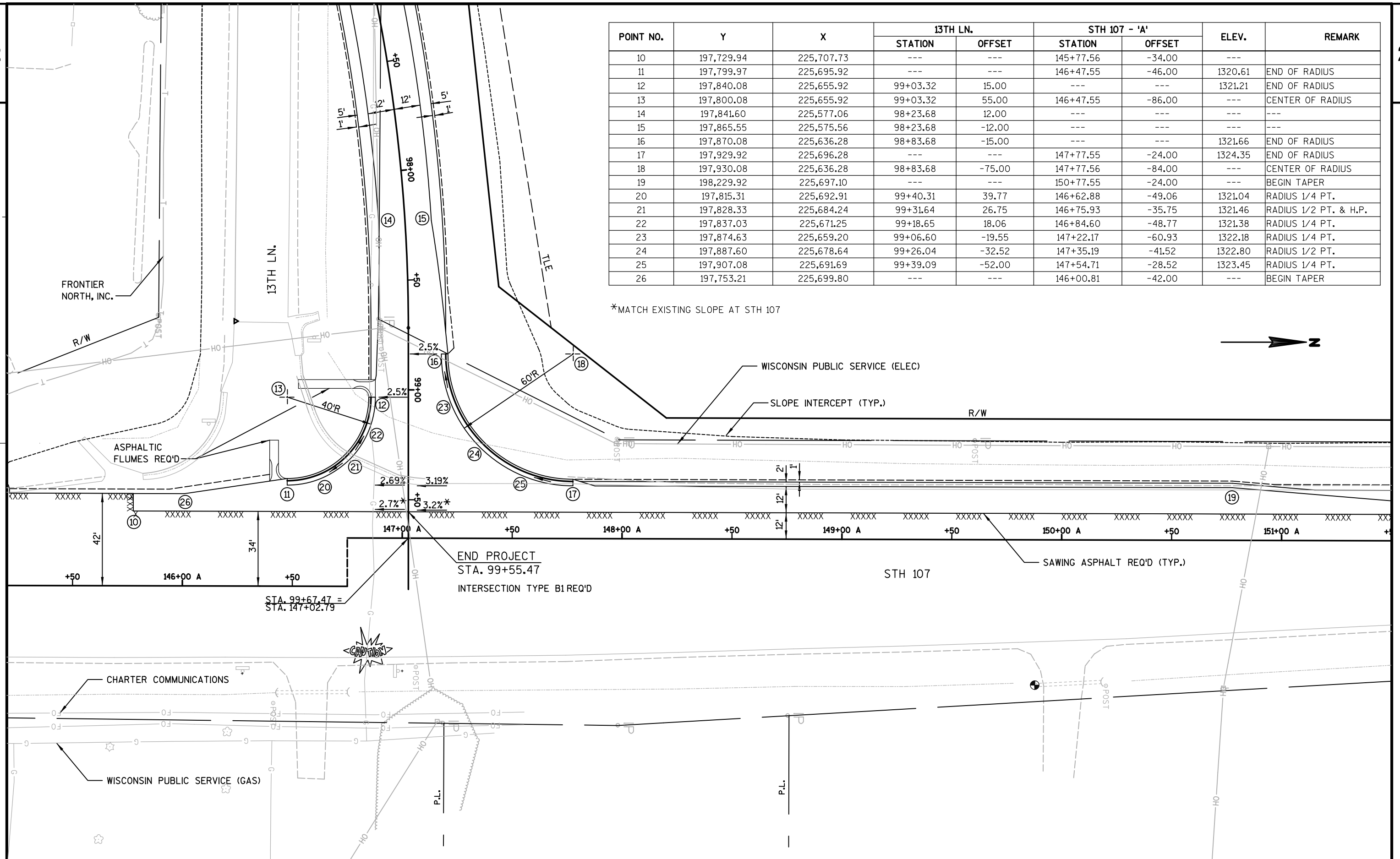


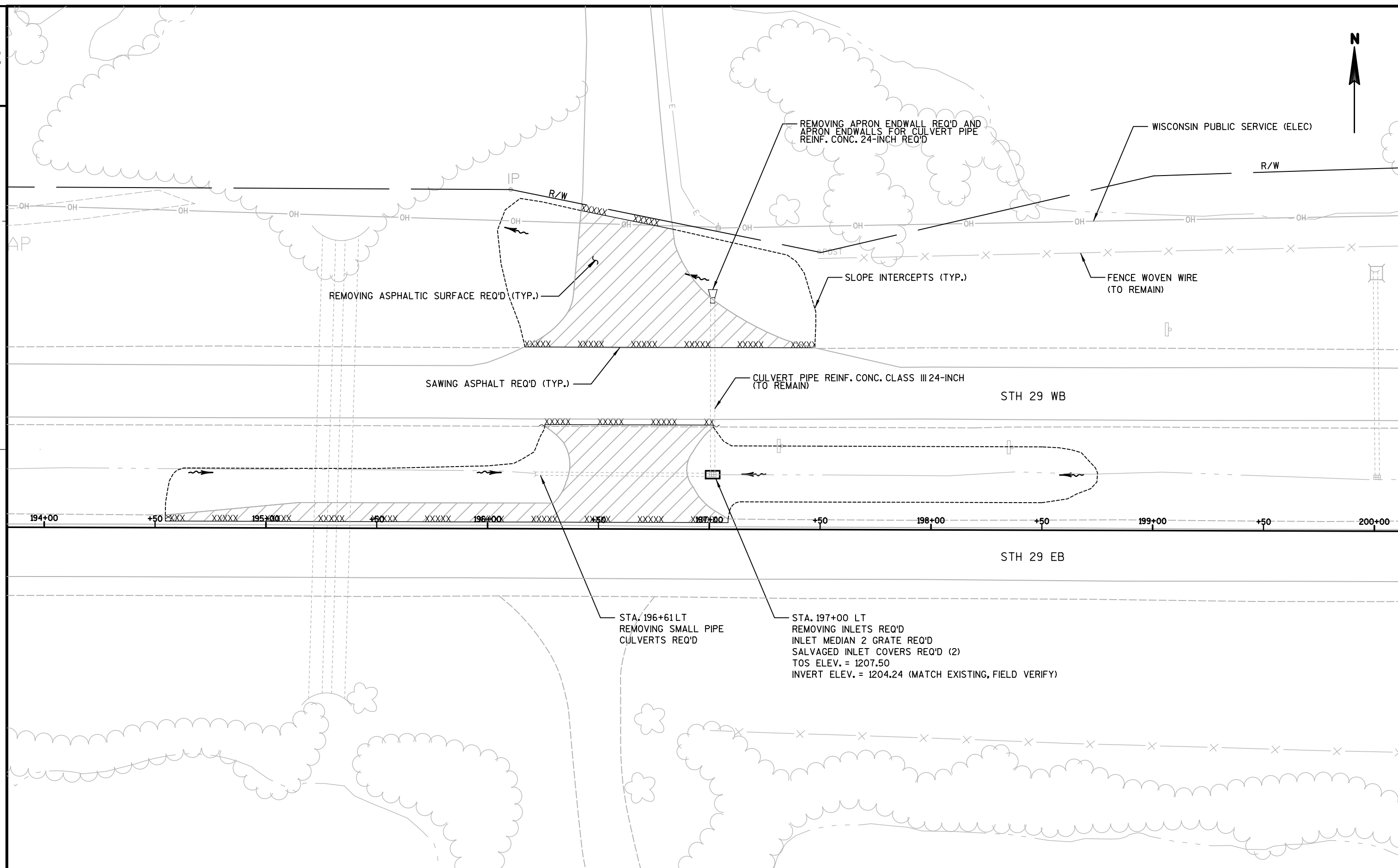
RIPRAP MEDIUM AND RIPRAP HEAVY TREATMENT AT CULVERTS

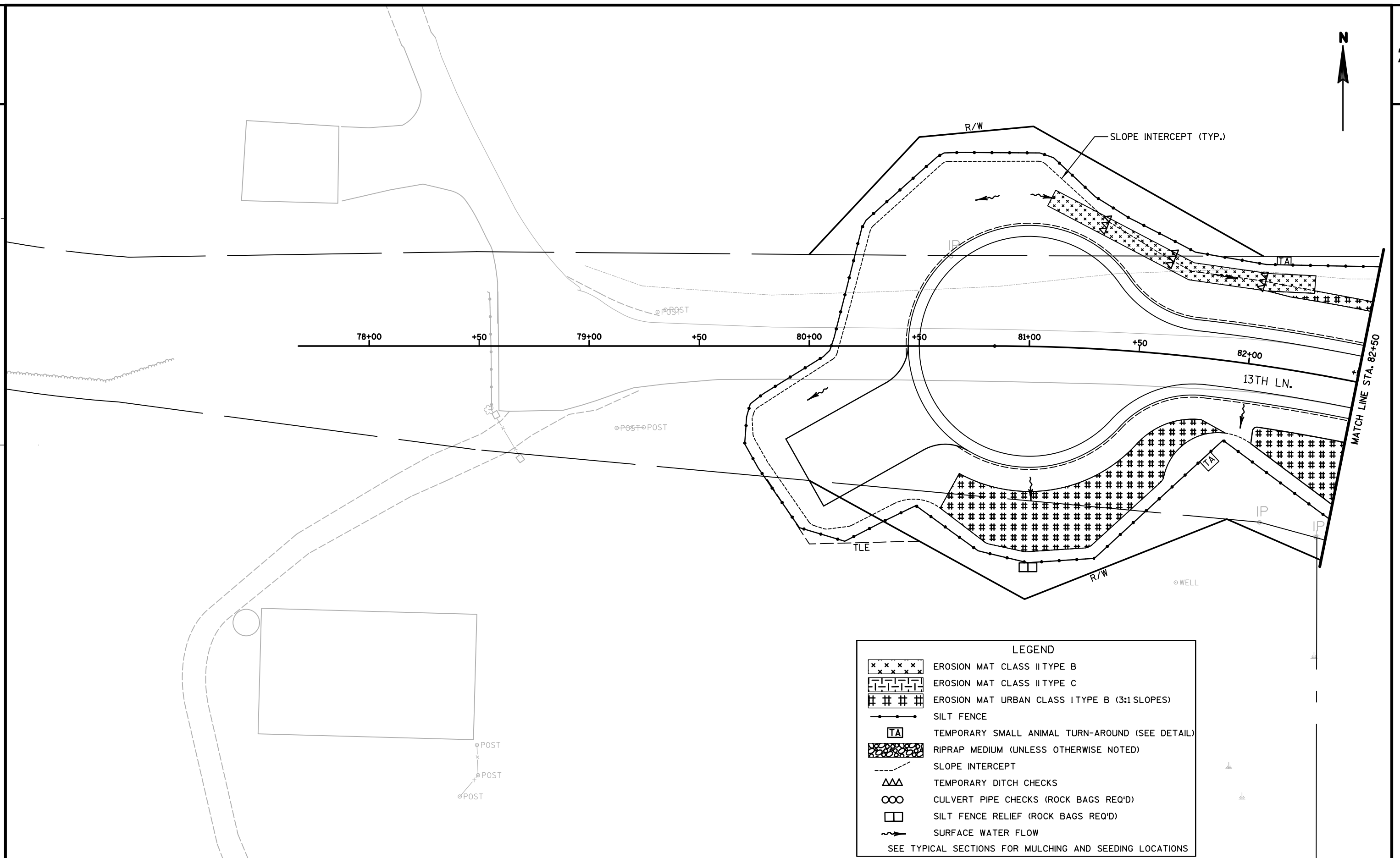




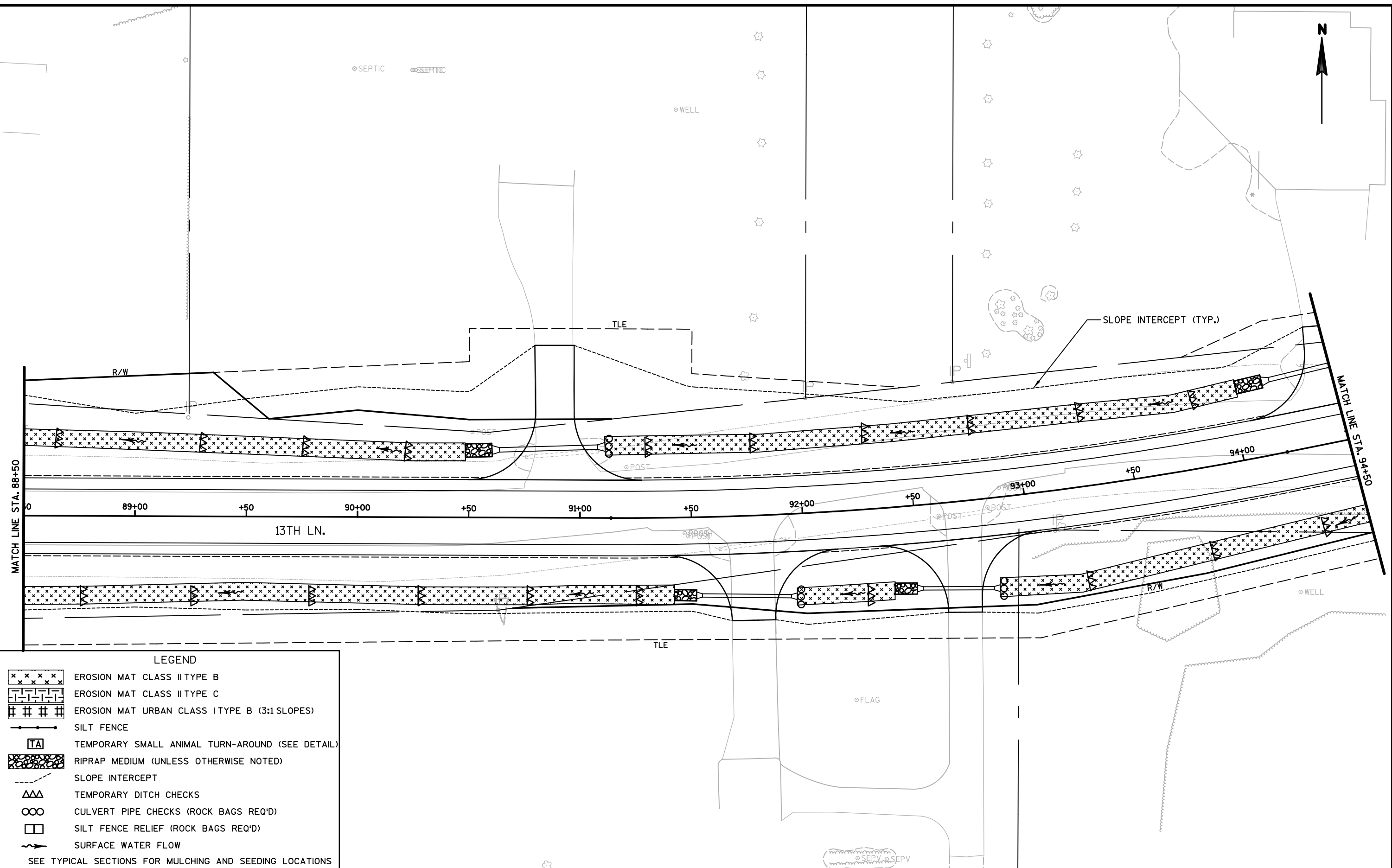
POINT NO.	Y	X	13TH LN.	
			STATION	OFFSET
1	197,836.65	223,868.95	81+00.00	0.00
2	197,769.54	223,943.08	81+81.59	62.00
3	197,893.41	223,951.28	81+75.72	-62.00
4	197,865.03	223,910.11	81+39.22	-30.11
5	197,803.10	223,906.01	81+39.22	31.96
6	197,819.20	223,948.91	81+81.59	12.00
7	197,843.71	223,945.80	81+75.72	-12.00

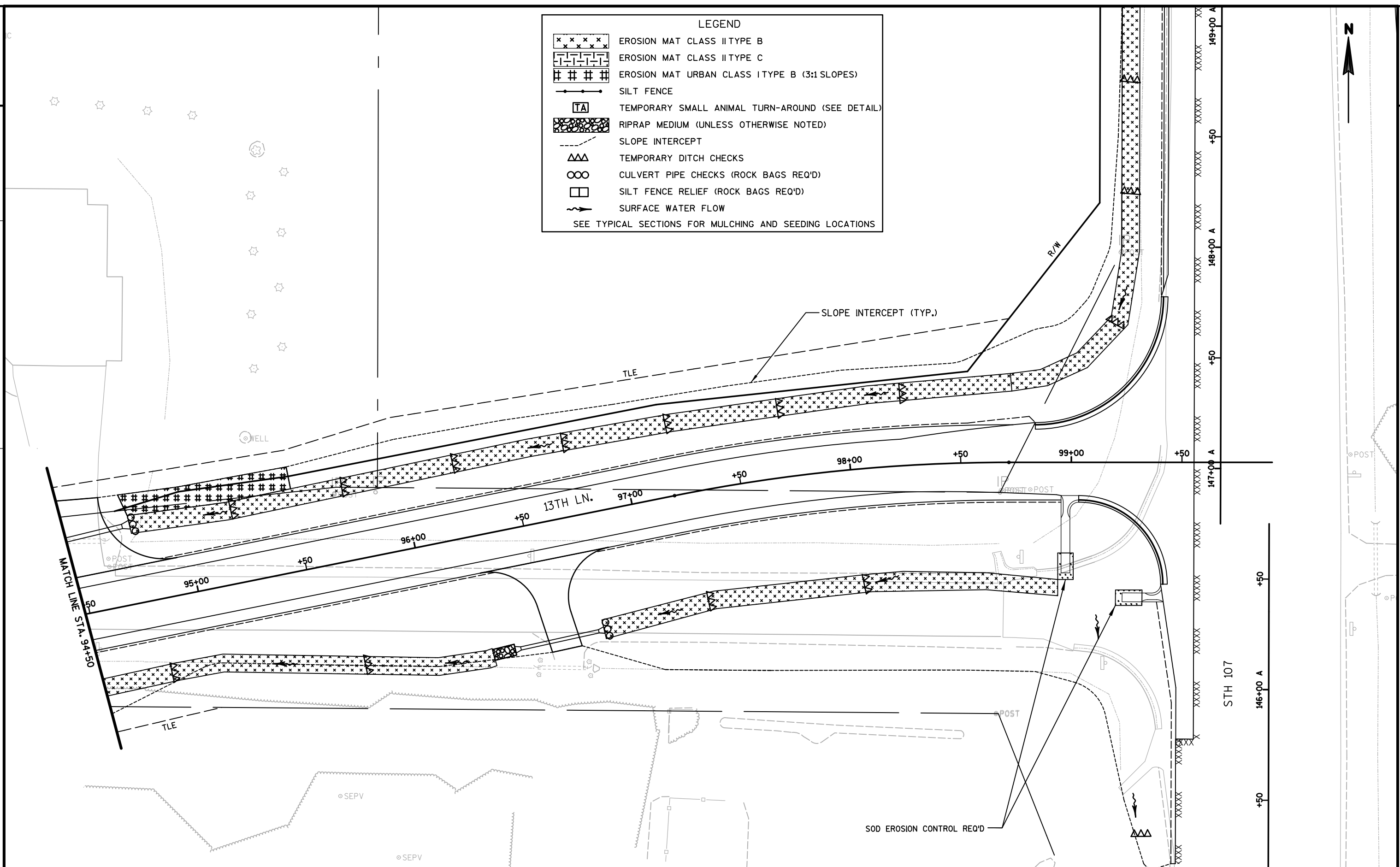




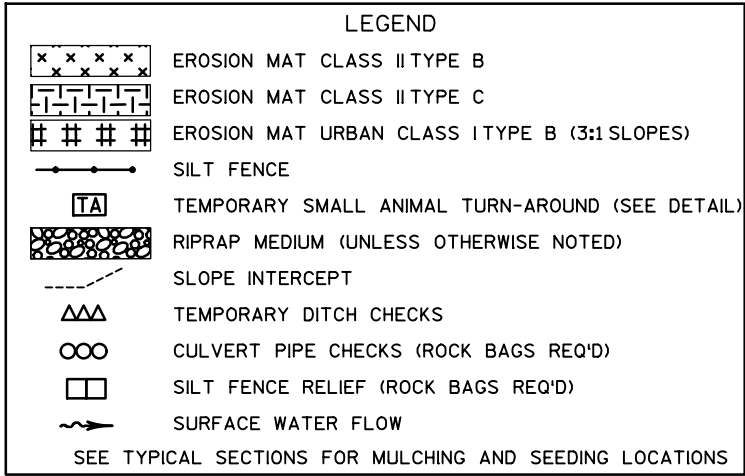


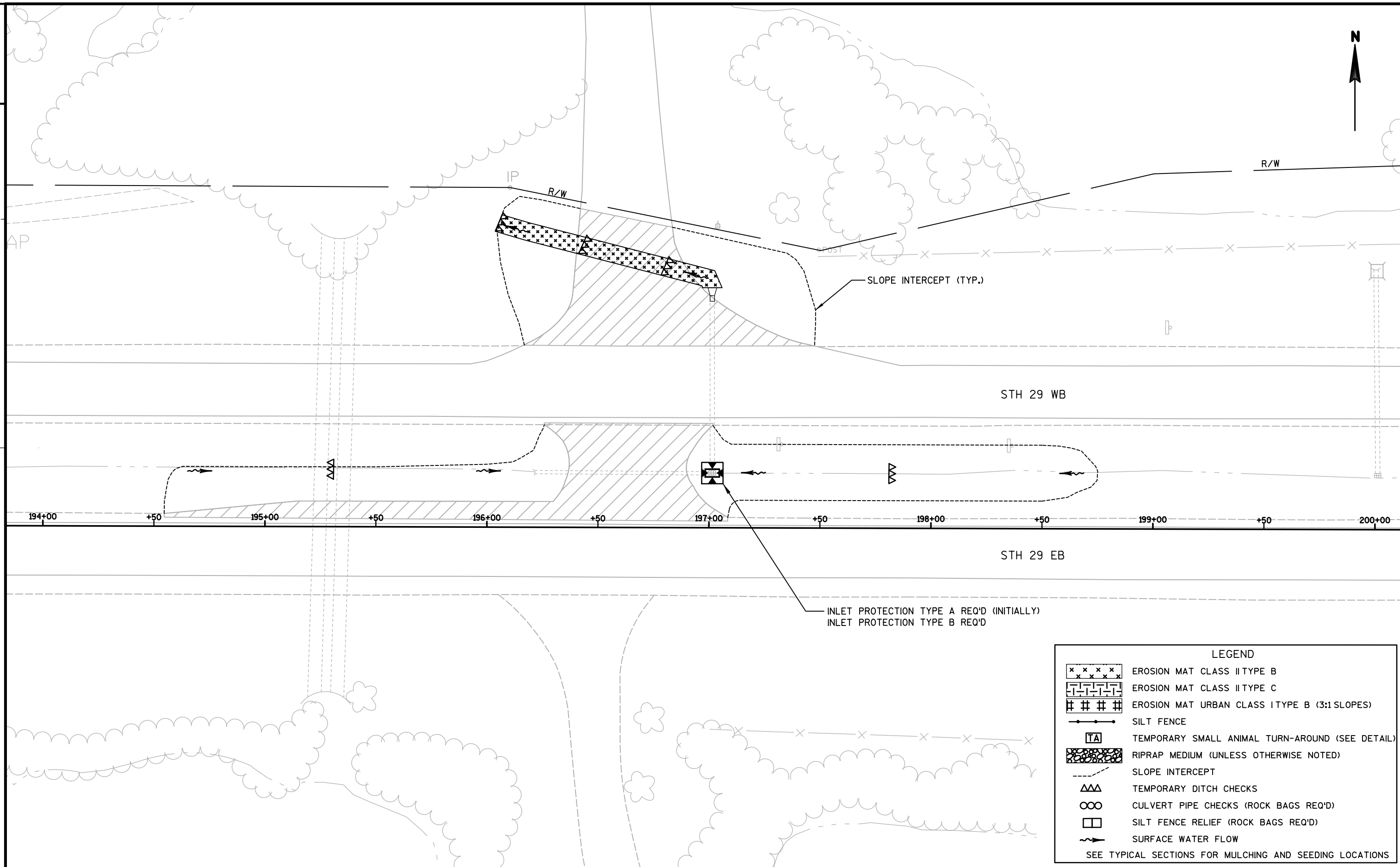


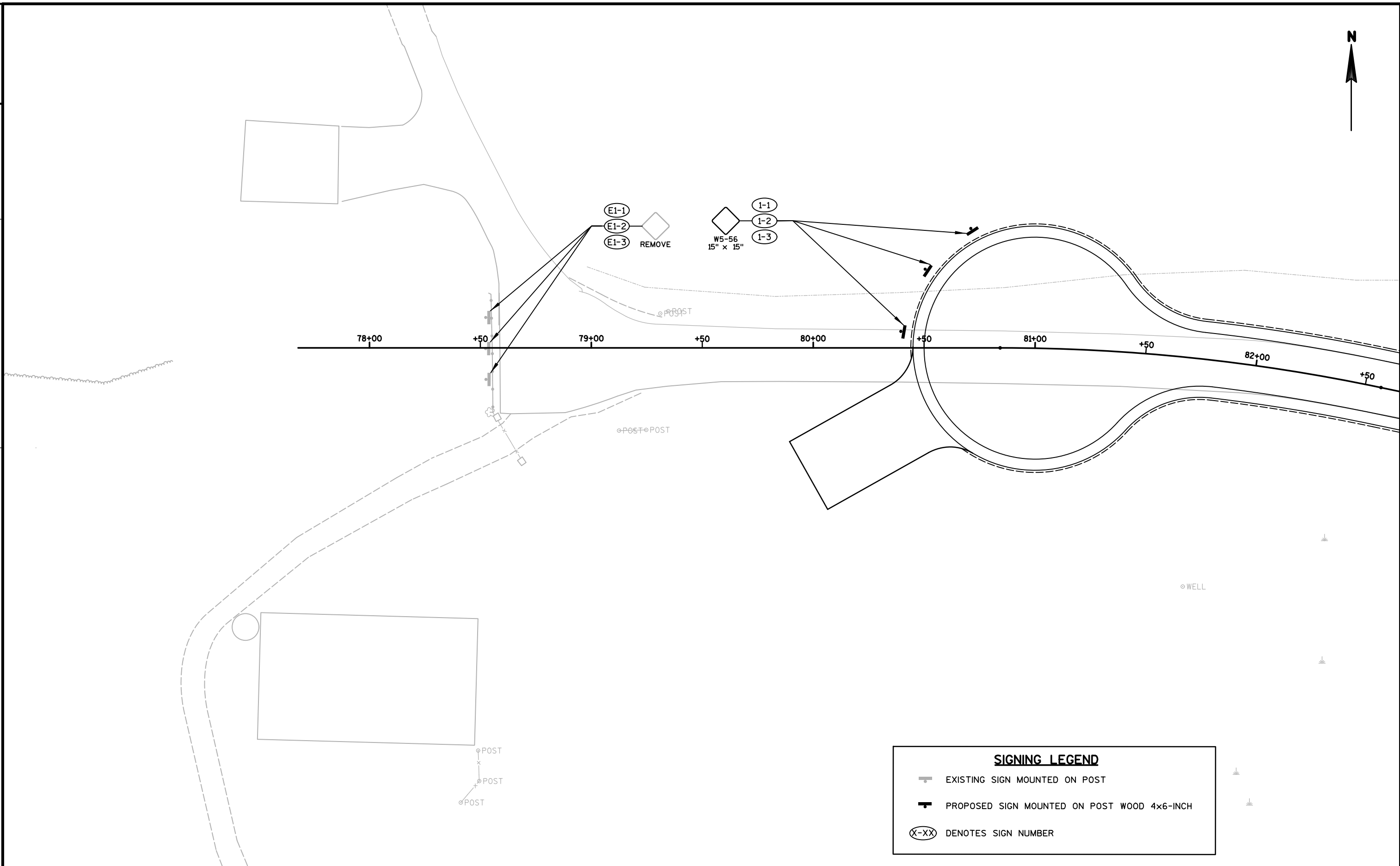




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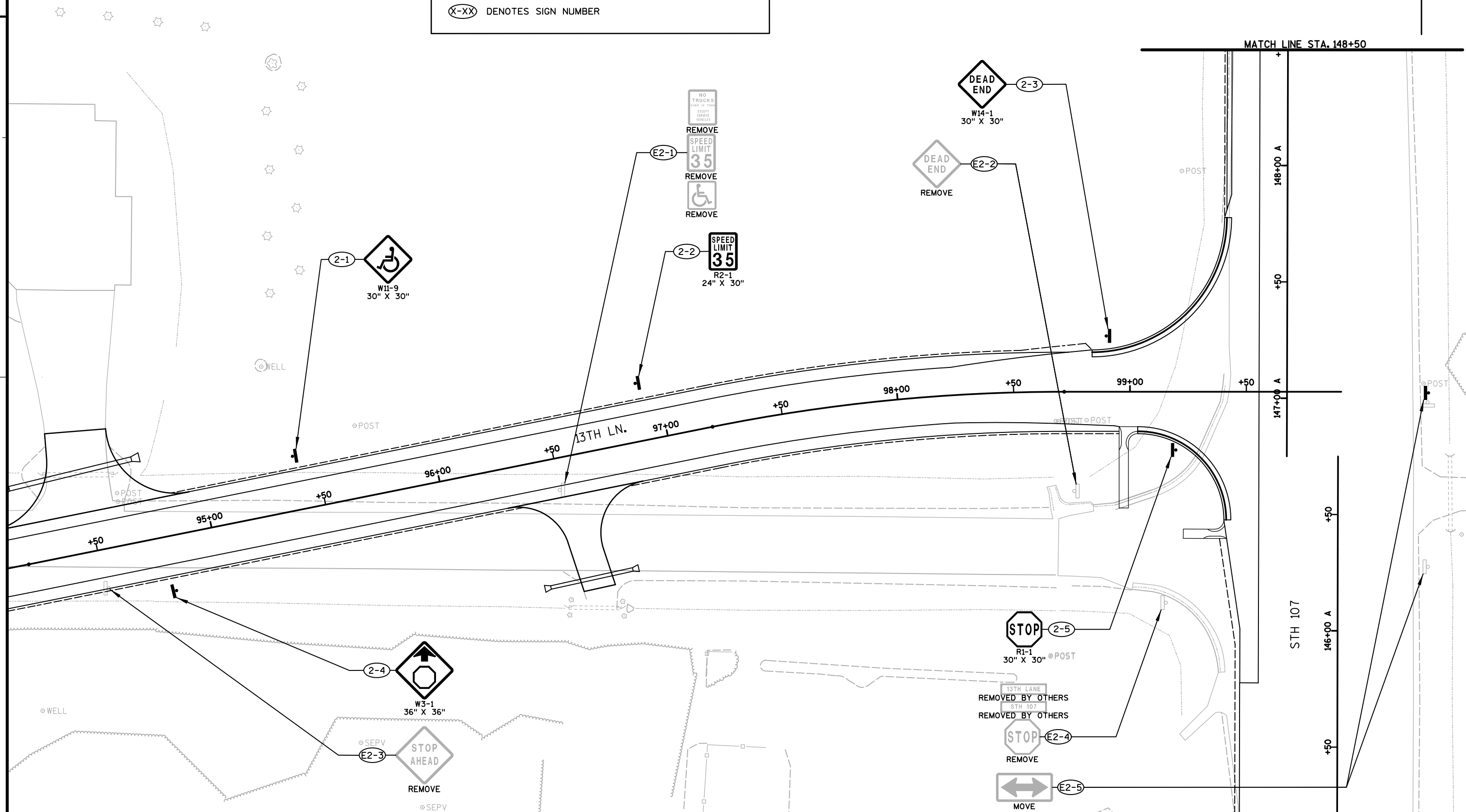






SIGNING LEGEND

- EXISTING SIGN MOUNTED ON POST
- PROPOSED SIGN MOUNTED ON POST WOOD 4x6-INCH
- (X-XX) DENOTES SIGN NUMBER



PROJECT NO:1053-07-74

HWY: STH 29

COUNTY: MARATHON

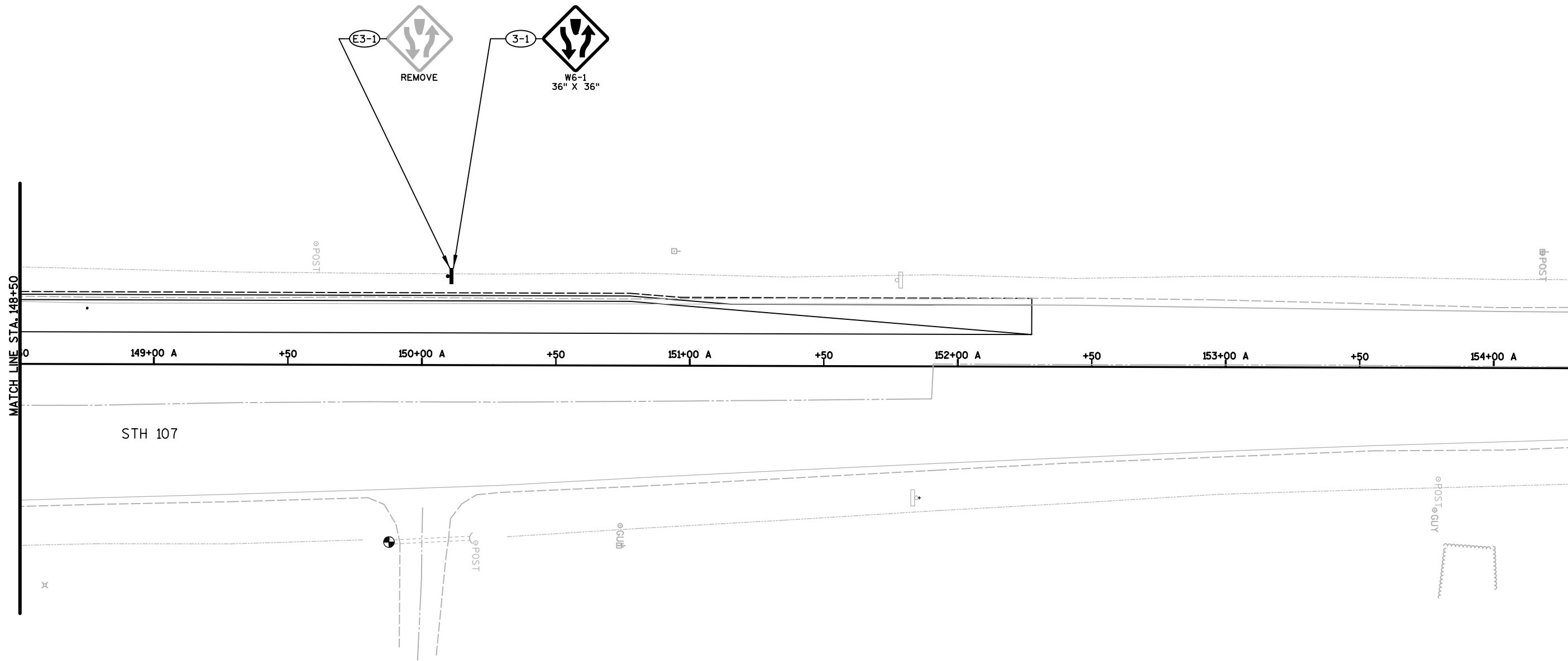
PERMANENT SIGNING - 13TH LN.

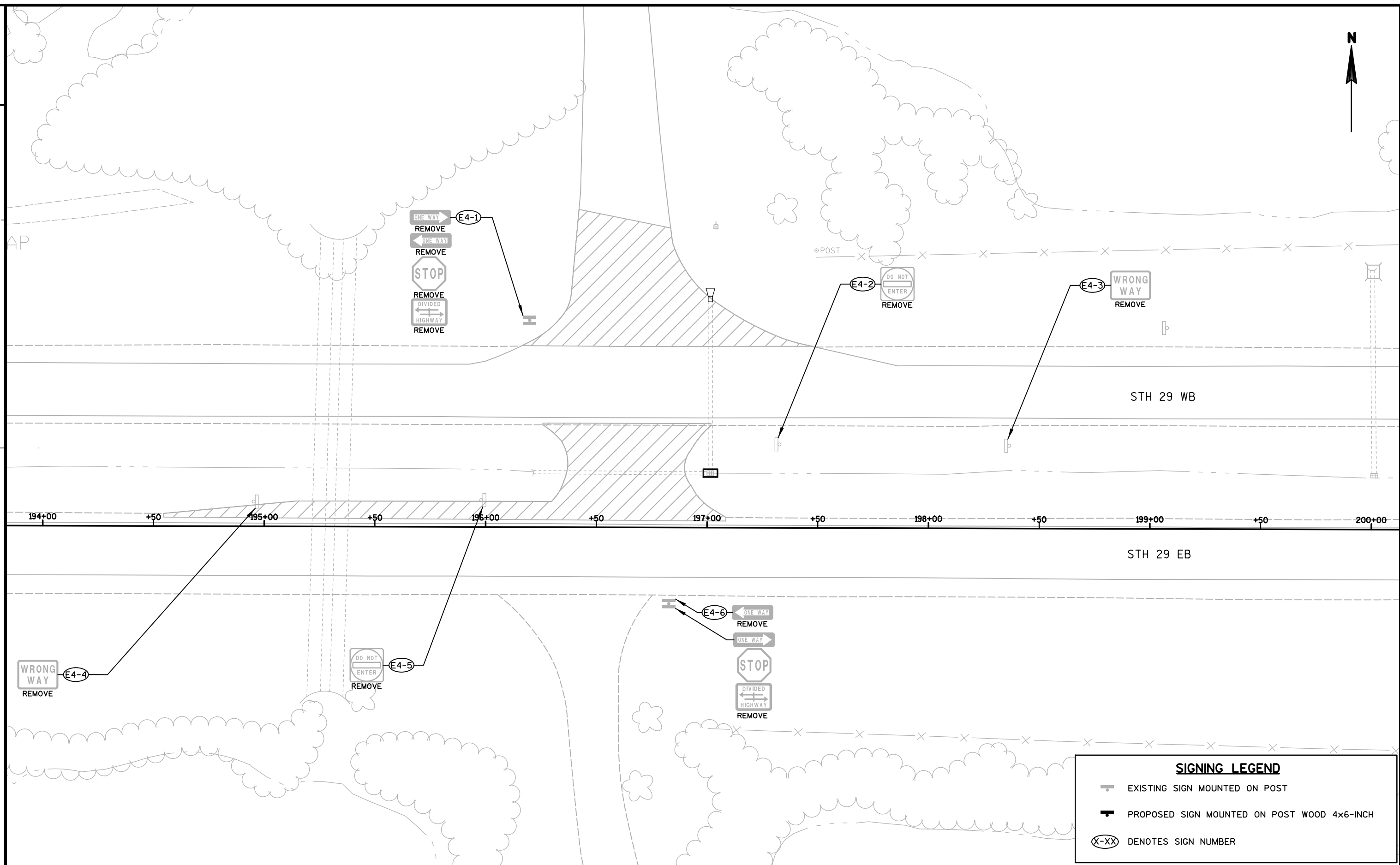
SHEET

E

SIGNING LEGEND

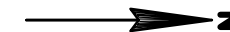
- EXISTING SIGN MOUNTED ON POST
- PROPOSED SIGN MOUNTED ON POST WOOD 4x6-INCH
- (X-XX) DENOTES SIGN NUMBER

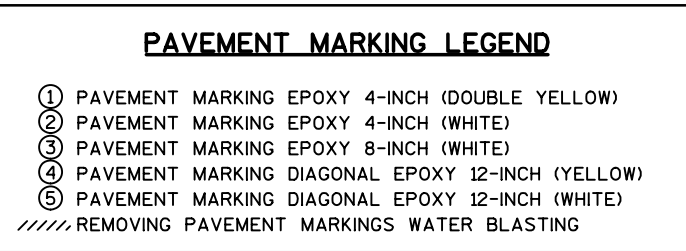




PAVEMENT MARKING LEGEND

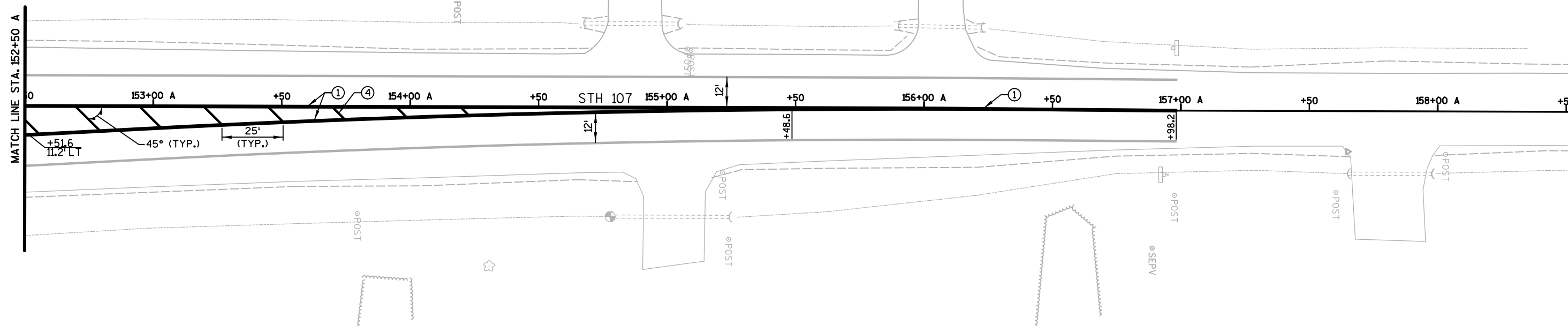
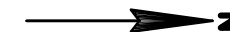
- ① PAVEMENT MARKING EPOXY 4-INCH (DOUBLE YELLOW)
- ② PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- ③ PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- ④ PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- ⑤ PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
- ///// REMOVING PAVEMENT MARKINGS WATER BLASTING





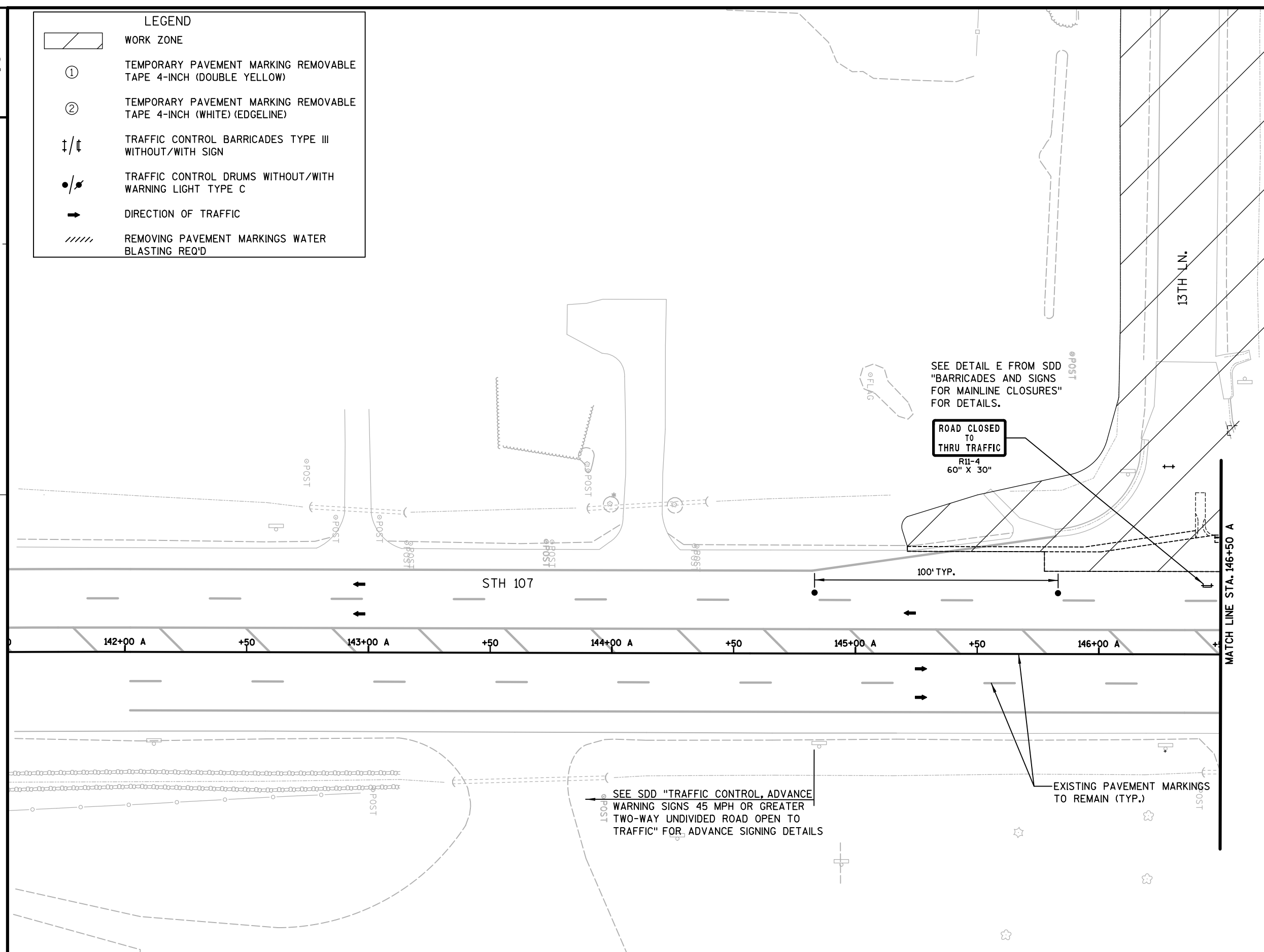
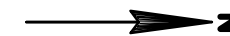
PAVEMENT MARKING LEGEND

- ① PAVEMENT MARKING EPOXY 4-INCH (DOUBLE YELLOW)
- ② PAVEMENT MARKING EPOXY 4-INCH (WHITE)
- ③ PAVEMENT MARKING EPOXY 8-INCH (WHITE)
- ④ PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
- ⑤ PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
- ////// REMOVING PAVEMENT MARKINGS WATER BLASTING



LEGEND

	WORK ZONE
①	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
②	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE) (EDGE LINE)
	TRAFFIC CONTROL BARRICADES TYPE III WITHOUT/WITH SIGN
	TRAFFIC CONTROL DRUMS WITHOUT/WITH WARNING LIGHT TYPE C
	DIRECTION OF TRAFFIC
	REMOVING PAVEMENT MARKINGS WATER BLASTING REQ'D



PROJECT NO:1053-07-74

HWY:STH 29

COUNTY:MARATHON

CONSTRUCTION STAGING - STH 107

SHEET

E

FILE NAME : S:\MAD\1000--1099\1089\373\Micros\plan\026001_s1.dgn

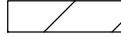
PLOT DATE : 5/25/2016

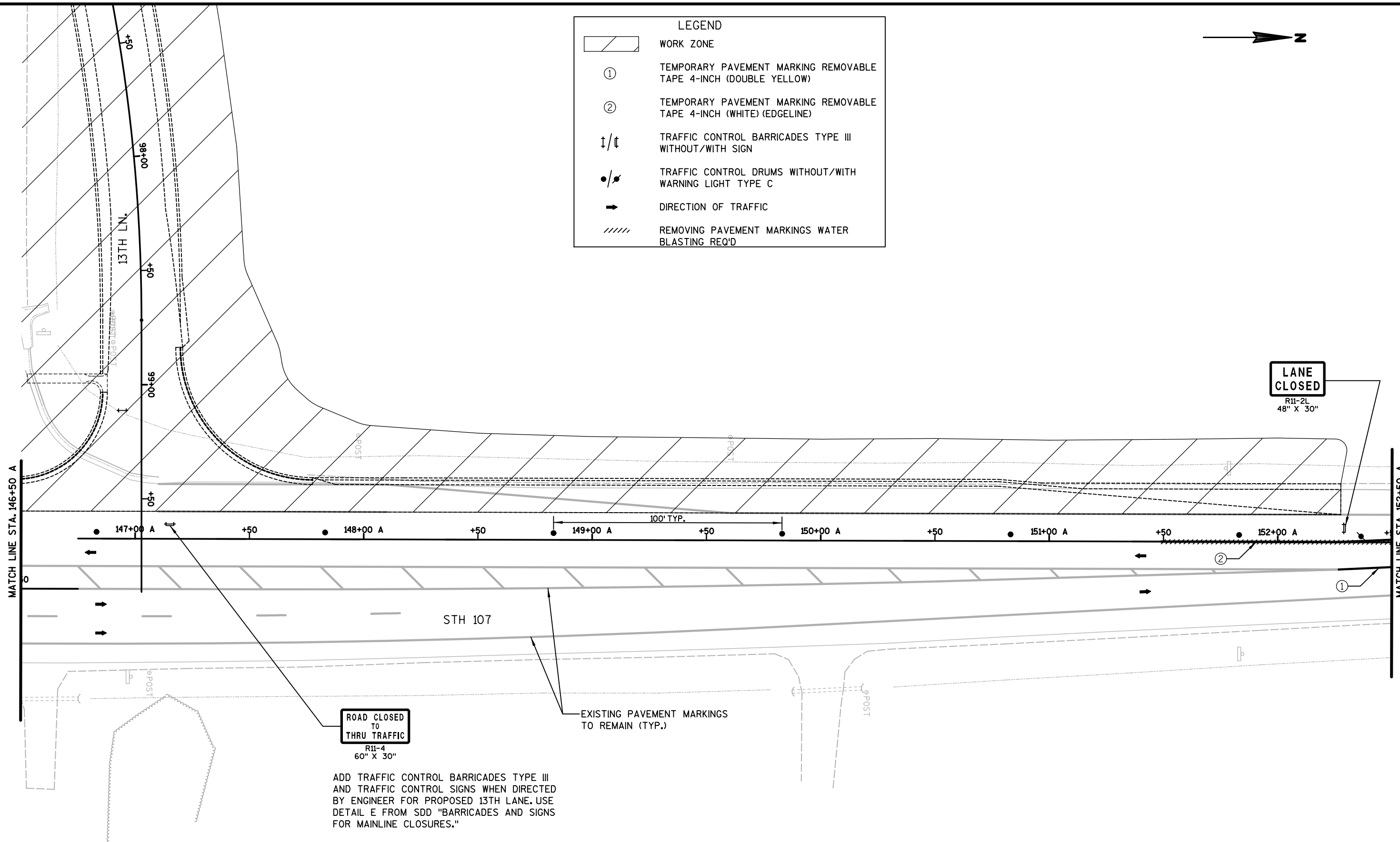
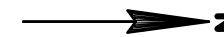
PLOT BY : _username_

PLOT NAME :

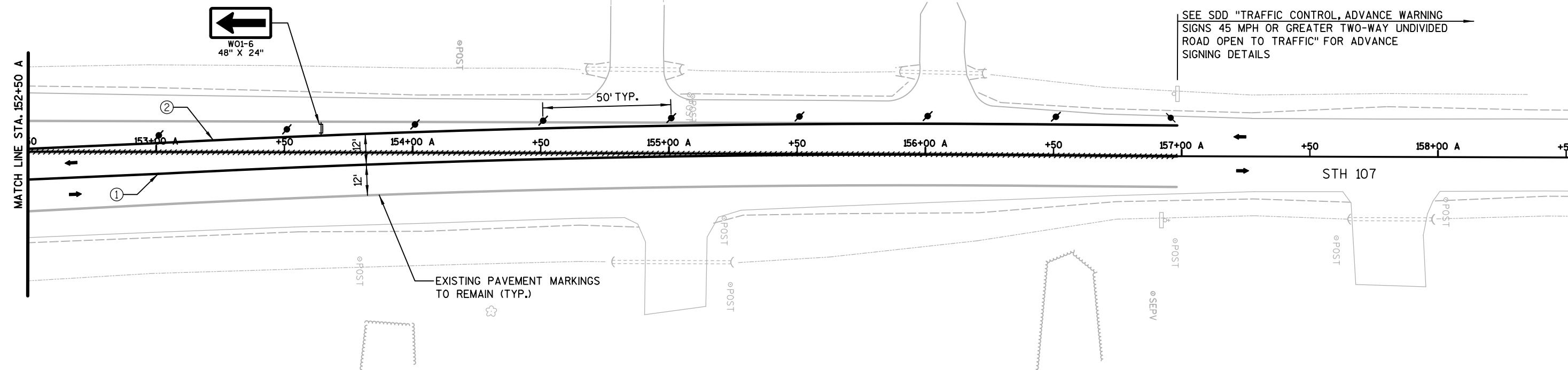
PLOT SCALE : \$\$\$.....plotscale.....\$\$

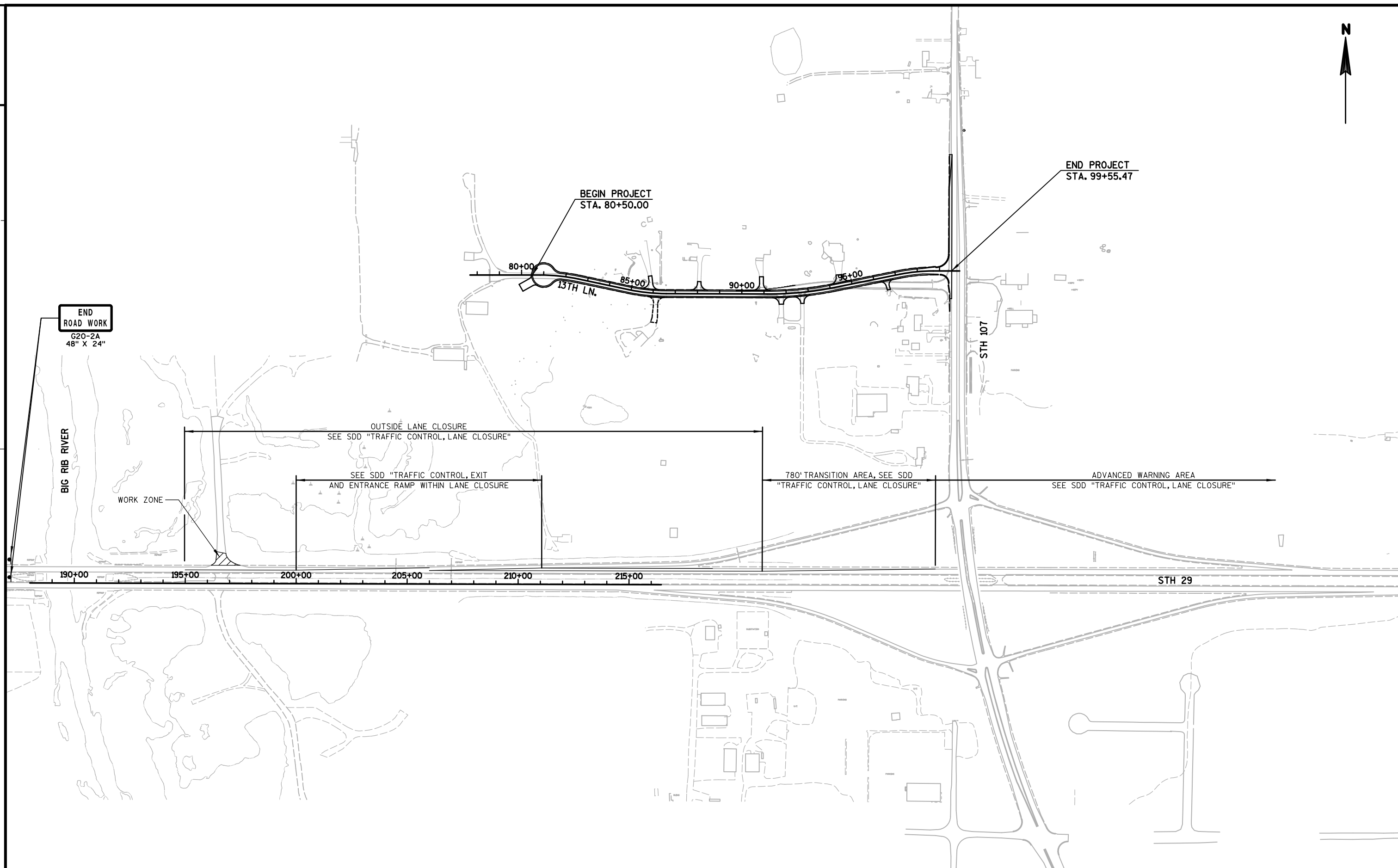
WISDOT/CADDS SHEET 42

LEGEND	
	WORK ZONE
①	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
②	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE) (EDGE LINE)
	TRAFFIC CONTROL BARRICADES TYPE III WITHOUT/WITH SIGN
	TRAFFIC CONTROL DRUMS WITHOUT/WITH WARNING LIGHT TYPE C
	DIRECTION OF TRAFFIC
	REMOVING PAVEMENT MARKINGS WATER BLASTING REQ'D



LEGEND	
	WORK ZONE
①	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
②	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE) (EDGE LINE)
	TRAFFIC CONTROL BARRICADES TYPE III WITHOUT/WITH SIGN
	TRAFFIC CONTROL DRUMS WITHOUT/WITH WARNING LIGHT TYPE C
	DIRECTION OF TRAFFIC
	REMOVING PAVEMENT MARKINGS WATER BLASTING REQ'D





CURVE 1

P.L. = 81+71.04
Y = 197,836.80
X = 223,939.98
DELTA = 11° 53' 41" (RT)
D = 6° 52' 42"
T = 86.78'
L = 172.93'
R = 833.00'
P.C. = 80+84.26
P.T. = 82+57.19
S.E. = 3.7%
T = 119'
L = 77'

P.O.T. = 77+67.85
Y = 197,836.80
X = 223,536.80

CURVE 2

P.L. = 85+75.32
Y = 197,753.34
X = 224,336.19
DELTA = 11° 40' 01" (LT)
D = 6° 52' 42"
T = 85.10'
L = 169.62'
R = 833.00'
P.C. = 84+90.21
P.T. = 86+59.83
S.E. = 3.7%
T = 119'
L = 77'

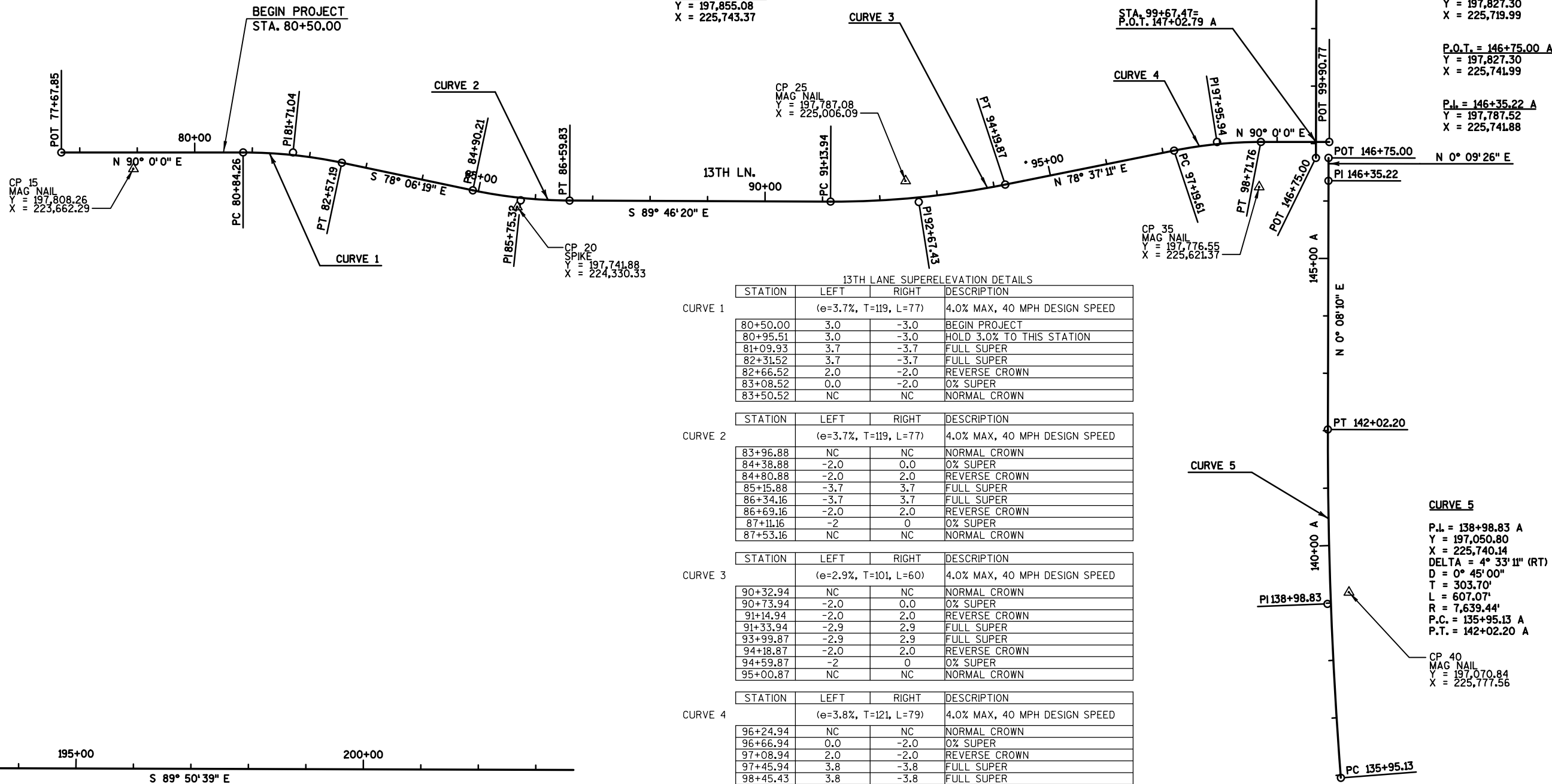
CURVE 3

P.L. = 92+67.43
Y = 197,750.59
X = 225,028.89
DELTA = 11° 36' 29" (LT)
D = 3° 47' 40"
T = 153.49'
L = 305.93'
R = 1,510.00'
P.C. = 91+13.94
P.T. = 94+19.87
S.E. = 2.9%
T = 101'
L = 60'

CURVE 4

P.L. = 97+95.94
Y = 197,855.08
X = 225,548.03
DELTA = 11° 22' 49" (RT)
D = 7° 28' 48"
T = 76.32'
L = 152.15'
R = 766.00'
P.C. = 97+19.61
P.T. = 98+71.76
S.E. = 3.8%
T = 121'
L = 79'

P.O.T. = 99+90.77
Y = 197,855.08
X = 225,743.37



P.O.T. = 188+00.10
Y = 196,449.23
X = 221,553.54

P.O.T. = 216+44.93
Y = 196,441.10
X = 224,398.36

* SEE LAYOUT DETAIL ELEVATIONS FOR CROSS SLOPE TRANSITION TO PROJECT MATCH AT STH 107.

Estimate Of Quantities

1053-07-74

Line	Item	Item Description	Unit	Total	Qty
0010	201.0105	Clearing	STA	4.000	4.000
0020	201.0205	Grubbing	STA	4.000	4.000
0030	203.0100	Removing Small Pipe Culverts	EACH	10.000	10.000
0040	204.0110	Removing Asphaltic Surface	SY	810.000	810.000
0050	204.0150	Removing Curb & Gutter	LF	148.000	148.000
0060	204.0165	Removing Guardrail	LF	55.000	55.000
0070	204.0185	Removing Masonry	CY	4.000	4.000
0080	204.0220	Removing Inlets	EACH	1.000	1.000
0090	205.0100	Excavation Common	CY	12,200.000	12,200.000
0100	213.0100	Finishing Roadway (project) 01. 1053-04-74	EACH	1.000	1.000
0110	214.0100	Obliterating Old Road	STA	2.000	2.000
0120	305.0110	Base Aggregate Dense 3/4-Inch	TON	365.000	365.000
0130	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	8,370.000	8,370.000
0140	311.0110	Breaker Run	TON	7,880.000	7,880.000
0150	440.4410	Incentive IRI Ride	DOL	1,450.000	1,450.000
0160	455.0605	Tack Coat	GAL	441.000	441.000
0170	460.2000	Incentive Density HMA Pavement	DOL	1,460.000	1,460.000
0180	460.5223	HMA Pavement 3 LT 58-28 S	TON	1,280.000	1,280.000
0190	460.5224	HMA Pavement 4 LT 58-28 S	TON	990.000	990.000
0200	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	140.000	140.000
0210	465.0315	Asphaltic Flumes	SY	28.000	28.000
0220	465.0400	Asphaltic Shoulder Rumble Strips	LF	900.000	900.000
0230	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	2.000	2.000
0240	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	2.000	2.000
0250	520.1048	Apron Endwalls for Culvert Pipe 48-Inch	EACH	2.000	2.000
0260	520.3148	Culvert Pipe Class III 48-Inch	LF	128.000	128.000
0270	520.3318	Culvert Pipe Class III-A 18-Inch	LF	108.000	108.000
0280	520.3324	Culvert Pipe Class III-A 24-Inch	LF	198.000	198.000
0290	521.1518	Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 18-Inch 6 to 1	EACH	4.000	4.000
0300	521.1524	Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 24-Inch 6 to 1	EACH	6.000	6.000
0310	522.0130	Culvert Pipe Reinforced Concrete Class III 30-Inch	LF	30.000	30.000
0320	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	1.000	1.000
0330	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	2.000	2.000
0340	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	151.000	151.000
0350	606.0200	Riprap Medium	CY	30.000	30.000
0360	606.0300	Riprap Heavy	CY	13.000	13.000
0370	611.3902	Inlets Median 2 Grate	EACH	1.000	1.000

Estimate Of Quantities

1053-07-74					
Line	Item	Item Description	Unit	Total	Qty
0380	611.9710	Salvaged Inlet Covers	EACH	2.000	2.000
0390	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1053-07-74	EACH	1.000	1.000
0400	619.1000	Mobilization	EACH	1.000	1.000
0410	623.0200	Dust Control Surface Treatment	SY	7,950.000	7,950.000
0420	624.0100	Water	MGAL	151.000	151.000
0430	625.0100	Topsoil	SY	8,050.000	8,050.000
0440	625.0500	Salvaged Topsoil	SY	7,500.000	7,500.000
0450	627.0200	Mulching	SY	9,000.000	9,000.000
0460	628.1504	Silt Fence	LF	2,000.000	2,000.000
0470	628.1520	Silt Fence Maintenance	LF	4,000.000	4,000.000
0480	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0490	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0500	628.2006	Erosion Mat Urban Class I Type A	SY	9,650.000	9,650.000
0510	628.2008	Erosion Mat Urban Class I Type B	SY	2,955.000	2,955.000
0520	628.2023	Erosion Mat Class II Type B	SY	5,060.000	5,060.000
0530	628.2027	Erosion Mat Class II Type C	SY	140.000	140.000
0540	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0550	628.7010	Inlet Protection Type B	EACH	1.000	1.000
0560	628.7504	Temporary Ditch Checks	LF	985.000	985.000
0570	628.7555	Culvert Pipe Checks	EACH	31.000	31.000
0580	628.7560	Tracking Pads	EACH	1.000	1.000
0590	628.7570	Rock Bags	EACH	118.000	118.000
0600	629.0210	Fertilizer Type B	CWT	6.600	6.600
0610	630.0120	Seeding Mixture No. 20	LB	290.000	290.000
0620	630.0140	Seeding Mixture No. 40	LB	196.000	196.000
0630	631.0300	Sod Water	MGAL	238.000	238.000
0640	631.1100	Sod Erosion Control	SY	12.000	12.000
0650	633.5200	Markers Culvert End	EACH	3.000	3.000
0660	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	3.000	3.000
0670	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	5.000	5.000
0680	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	3.000	3.000
0690	637.2210	Signs Type II Reflective H	SF	10.180	10.180
0700	637.2220	Signs Type II Reflective SH	SF	4.690	4.690
0710	637.2230	Signs Type II Reflective F	SF	30.500	30.500
0720	638.2102	Moving Signs Type II	EACH	1.000	1.000
0730	638.2602	Removing Signs Type II	EACH	19.000	19.000
0740	638.3000	Removing Small Sign Supports	EACH	14.000	14.000
0750	642.5201	Field Office Type C	EACH	1.000	1.000
0760	643.0100	Traffic Control (project) 01. 1053-07-74	EACH	1.000	1.000

Estimate Of Quantities

1053-07-74

Line	Item	Item Description	Unit	Total	Qty
0770	643.0300	Traffic Control Drums	DAY	4,614.000	4,614.000
0780	643.0420	Traffic Control Barricades Type III	DAY	506.000	506.000
0790	643.0705	Traffic Control Warning Lights Type A	DAY	1,012.000	1,012.000
0800	643.0715	Traffic Control Warning Lights Type C	DAY	2,002.000	2,002.000
0810	643.0800	Traffic Control Arrow Boards	DAY	60.000	60.000
0820	643.0900	Traffic Control Signs	DAY	1,182.000	1,182.000
0830	643.0920	Traffic Control Covering Signs Type II	EACH	1.000	1.000
0840	645.0120	Geotextile Type HR	SY	140.000	140.000
0850	646.0106	Pavement Marking Epoxy 4-Inch	LF	7,565.000	7,565.000
0860	646.0126	Pavement Marking Epoxy 8-Inch	LF	300.000	300.000
0870	646.0690.S	Removing Pavement Markings Water Blasting	LF	8,300.000	8,300.000
0880	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	648.000	648.000
0890	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	4,435.000	4,435.000
0900	649.0801	Temporary Pavement Marking Removable Tape 8-Inch	LF	600.000	600.000
0910	650.4000	Construction Staking Storm Sewer	EACH	1.000	1.000
0920	650.4500	Construction Staking Subgrade	LF	2,985.000	2,985.000
0930	650.5000	Construction Staking Base	LF	2,985.000	2,985.000
0940	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	151.000	151.000
0950	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000
0960	650.9910	Construction Staking Supplemental Control (project) 01. 1053-07-74	LS	1.000	1.000
0970	650.9920	Construction Staking Slope Stakes	LF	2,985.000	2,985.000
0980	690.0150	Sawing Asphalt	LF	1,344.000	1,344.000
0990	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
1000	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
1010	SPV.0030	Special 01. Fertilizer For Lawn Type Turf	CWT	6.700	6.700
1020	SPV.0105	Special 01. Research And Locate Existing Property Monuments	LS	1.000	1.000
1030	SPV.0105	Special 02. Verify And Replace Existing Property Monuments	LS	1.000	1.000
1040	SPV.0180	Special 01. Preparing Topsoil For Lawn Type Turf	SY	8,050.000	8,050.000

CLEARING AND GRUBBING				
CATEGORY	STATION - STATION	201.0105	201.0205	
		CLEARING STA	GRUBBING STA	
0010	83+00 - 85+00	2	2	
	93+00 - 95+00	2	2	
TOTALS		4	4	

REMOVING SMALL PIPE CULVERTS				
CATEGORY	STATION	OFFSET	203.0100 EACH	REMARKS
0010	83+52	CL	1	48"x130' CMCP
	85+86	LT	1	24"x60' RCCP
	86+16	RT	1	24"x43' CMCP
	88+08	LT	1	24"x35' CMCP
	90+88	LT	1	18"x33' CMCP
	91+76	RT	1	18"x30' CMCP
	92+69	RT	1	18"x30' CMCP
	94+50	LT	1	24"x30' CMCP
	96+50	RT	1	18"x22' CMCP
	196+61	LT	1	18"x80' RCCP
TOTAL			10	

REMOVING ASPHALTIC SURFACE			
CATEGORY	STATION - STATION	LOCATION	204.0110 SY
0010	194+54 - 197+09	LT	385
	196+16 - 197+47	LT	425
TOTAL			810

REMOVING CURB & GUTTER			
CATEGORY	STATION - STATION	LOCATION	204.0150 LF
0010	98+94 - 99+52	RT	90
	99+10 - 99+48	RT	58
TOTAL			148

REMOVING GUARDRAIL			
CATEGORY	STATION	OFFSET	204.0165 LF
0010	78+55	CL	55

REMOVING MASONRY			
CATEGORY	STATION	LOCATION	204.0185 CY
0010	87+91	LT	1
	88+24	LT	1
	96+35	RT	1
	96+63	RT	1
TOTAL			4

REMOVING INLETS			
CATEGORY	STATION	OFFSET	204.0220 EACH
0010	197+00	LT	1

OBLITERATING OLD ROAD			
CATEGORY	STATION - STATION	LOCATION	214.0100 STA
0010	78+59 - 80+00	RT	2

ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES			
CATEGORY	STATION - STATION	LOCATION	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
0010	80+50 - 94+50	DRIVEWAYS RT/LT	140

ASPHALTIC SHOULDER RUMBLE STRIPS				
CATEGORY	STATION - STATION	LOCATION	465.0400 LF	REMARKS
0010	193+75 - 199+05	STH 29 WB OUTSIDE SHOULDER	530	MATCH EXIST RUMBLE STRIP LOCATION
	196+10 - 197+00	STH 29 WB INSIDE SHOULDER	90	MATCH EXIST RUMBLE STRIP LOCATION
	194+55 - 197+35	STH 29 EB INSIDE SHOULDER	280	MATCH EXIST RUMBLE STRIP LOCATION
	TOTAL		900	

BASE AGGREGATE DENSE SUMMARY						
CATEGORY	STATION	LOCATION	305.0110	305.0120	311.0110	624.0100
			BASE AGGREGATE DENSE 3/4-INCH TON	1 1/4-INCH TON	BREAKER** RUN TON	WATER* MGAL
0010	80+50 - 99+43	13TH LN.	160	6,450	6,650	130.0
	145+21 - 152+28	STH 107	45	830	---	8.8
	194+55 - 197+49	STH 29	160	---	---	1.6
	80+50 - 96+50	13TH LN. DRIVEWAYS	---	290	---	2.9
	UNDISTRIBUTED	MAINTAIN LOCAL ACCESS	---	800	---	8.0
	TOTALS		365	8,370	6,650	151

*WATER FOR COMPACTION
**ADDITIONAL QUANTITIES LISTED ELSEWHERE

ASPHALTIC ITEMS					
CATEGORY	STATION - STATION	LOCATION	455.0605	460.5223	460.5224
			TACK COAT GAL	HMA PAVEMENT 3 LT 58-28 S TON	HMA PAVEMENT 4 LT 58-28 S TON
0010	80+50 - 99+43.47	13TH LN.	395	1,090	875
	145+77.56 - 152+27.55	STH 107	46	190	115
TOTALS			441	1,280	990

EARTHWORK														
205.0100										*311.0110				
					EXCAVATION COMMON (1)		SALVAGED/UNUSABLE	AVAILABLE	EXPANDED EBS	UNEXPANDED	EXPANDED	MASS ORDINATE	WASTE	BREAKER
					CUT (2)	EBS EXCAVATION (3)	PAVEMENT	MATERIAL (4)	BACKFILL (5)	FILL	FILL (6)	+/- (7)	(8)	RUN
							MATERIAL							(9)
									FACTOR		FACTOR			FACTOR
									1.25		1.25			1.80
CATEGORY	LOCATION	STATION	-	STATION	CY	CY	CY	CY	CY	CY	CY		CY	TON
	13TH LN.	80+60	-	99+00	9,939	461	0	9,939	576	3,090	3,862	6,077	6,653	1,037
	STH 107	145+21.25 A	-	152+50.00 A	710	36	0	710	44	71	88	622	666	80
	STH 29	195+00	-	198+50	1,010	51	0	1,010	63	3	3	1,007	1,070	114
SUBTOTALS					11,659	547	0	11,659	683	3,163	3,953	7,705	8,389	1,230
TOTAL					12,200									

- 1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100.
- 2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- 3) EBS EXCAVATION TO BE BACKFILLED WITH BREAKER RUN.
- 4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL.
- 5) EXPANDED EBS BACKFILL: THIS IS TO BE FILLED WITH BREAKER RUN. EBS BACKFILL EXPANSION FACTOR = 1.25.
- 6) EXPANDED FILL = UNEXPANDED FILL * EXPANDED FILL FACTOR. EXPANDED FILL FACTOR = 1.25.
- 7) MASS ORDINATE: MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - EXPANDED FILL
PLUS MASS ORDINATE QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS MASS ORDINATE QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- 8) WASTE = MASS ORDINATE + EXPANDED EBS BACKFILL
- 9) BREAKER RUN IS USED FOR BACKFILL OF EBS. CONVERSION FACTOR = 1.8.

* ADDITIONAL QUANTITIES LISTED ELSEWHERE

3

ASPHALTIC FLUMES			
CATEGORY	STATION	LOCATION	465.0315 SY
0010	99+00	RT	17
	146+42 A	LT	11
TOTAL			28

CURB AND GUTTER				
CATEGORY	STATION - STATION	LOCATION	601.0557 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF
0010	98+84 - 99+44	LT	91	91
	99+03 - 99+43	RT	60	60
TOTALS			151	151

MARKERS CULVERT END			
CATEGORY	STATION	LOCATION	633.5200 MARKERS CULVERT END EACH
0010	83+51.98	LT & RT	2
	197+00	LT	1
TOTALS			3

RIPRAP SUMMARY					
CATEGORY	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	606.0300 RIPRAP HEAVY CY	645.0120 GEOTEXTILE FABRIC TYPE HR SY
0010	83+18	RT	---	13	33
	85+60	LT	5	---	18
	85+80	RT	4	---	14
	87+84	LT	4	---	14
	90+60	LT	4	---	14
	91+51	RT	3	---	11
	92+48	RT	3	---	11
	94+14	LT	4	---	14
	96+35	RT	3	---	11
TOTALS			30	13	140

INLETS AND SALVAGED INLET COVERS					
CATEGORY	STATION	LOCATION	611.3902 INLETS MEDIAN 2 GRATE EACH	611.9710 SALVAGED INLET COVERS EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH
0010	197+00	LT	1	2	1

CULVERT PIPE
CROSS DRAINS

CATEGORY	STATION	LOCATION	CULVERT PIPE CLASS III-A DIAMETER		CULVERT PIPE CLASS III 520.3148 48-INCH LF	APRON ENDWALLS FOR CULVERT PIPE			APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL		CPRC CLASS III DIAMETER 522.0130 30-INCH LF	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE		THICKNESS INCHES STEEL	JOINT TIES EACH (IF CONC.)*	JOINT TIES REQ'D EACH*	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH
			520.3318 18-INCH LF	520.3324 24-INCH LF		520.1018 18-INCH EACH	520.1024 24-INCH EACH	520.1048 48-INCH EACH	521.1518 18-INCH 6 TO 1 EACH	521.1524 24-INCH 6 TO 1 EACH		522.1024 24-INCH EACH	522.1030 30-INCH EACH				
			---	---		---	---	---	---	---		---	---				
0010	83+51.98	CL	---	---	128	---	---	2	---	---	---	---	---	0.109	12	---	1
	197+00	LT	---	---	---	---	---	---	---	---	---	1	---	---	---	2	1
MINOR SIDE ROAD, PRIVATE ENTRANCE AND SLOPE DRAINS																	
0010	85+86	P.E. LT	---	---	---	---	---	---	---	---	30	---	2	---	---	12	---
	86+16	P.E. RT	---	64	---	---	2	---	---	---	---	---	---	0.064	12	---	---
	88+08	P.E. LT	---	36	---	---	---	---	---	2	---	---	---	0.064	12	---	---
	90+88	P.E. LT	---	44	---	---	---	---	---	2	---	---	---	0.064	12	---	---
	91+76	P.E. RT	40	---	---	---	---	---	2	---	---	---	---	0.064	12	---	---
	92+69	P.E. RT	32	---	---	---	---	---	2	---	---	---	---	0.064	12	---	---
	94+50	P.E. LT	---	54	---	---	---	---	---	2	---	---	---	0.064	12	---	---
	96+50	P.E. RT	36	---	---	2	---	---	---	---	---	---	---	0.064	12	---	---
TOTALS			108	198	128	2	2	2	4	6	30	1	2		96	14	2

*NON-BID ITEM (FOR INFORMATION ONLY)

DUST CONTROL SURFACE TREATMENT			
CATEGORY	STATION - STATION	LOCATION	623.0200 SY
0010	80+50 - 99+43	13TH LN.	7,950

SILT FENCE SUMMARY				
CATEGORY	STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
0010	79+71 - 86+00	RT	810	1,620
	79+71 - 85+40	LT	710	1,420
	86+33 - 88+00	RT	220	440
	UNDISTRIBUTED		260	520
TOTALS			2,000	4,000

MOBILIZATIONS EROSION CONTROL		
CATEGORY	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	4	3

PROJECT NO:1053-07-74

HWY:STH 29

COUNTY:MARATHON

MISCELLANEOUS QUANTITIES

SHEET

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3

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FINISHING ITEMS													
CATEGORY	STATION - STATION	LOCATION	625.0100	625.0500	SPV.0180.01	627.0200	628.2006	629.0210	SPV.0030.01	630.0120	630.0140	631.0300	631.1100
			TOPSOIL	SALVAGED	PREPARING	MULCHING	EROSION	FERTILIZER	FERTILIZER	SEEDING	SEEDING	SOD	EROSION
SY	SY	SY	SY	SY	TOPSOIL FOR	SY	CLASS I TYPE A	TYPE B	TYPE TURF	NO. 20	NO. 40	WATER	CONTROL
0010	80+50 - 84+75	13TH LN. LT	---	1,300	---	1,300	---	1.0	---	40	---	---	---
	84+75 - 95+95	13TH LN. LT	3,250	---	3,250	---	3,250	---	2.3	---	65	80	---
	95+95 - 99+43	13TH LN. LT	---	1,050	---	1,050	---	0.8	---	35	---	---	---
	80+50 - 86+16	13TH LN. RT	---	2,850	---	2,850	---	2.0	---	85	---	---	---
	86+16 - 99+43	13TH LN. RT	4,550	---	4,550	---	4,550	---	3.2	---	90	110	6
	145+21 A - 146+40 A	STH 107	250	---	250	---	250	---	0.2	---	6	8	6
	147+78 A - 152+28 A	STH 107	---	650	---	650	---	0.6	---	25	---	---	---
	194+55 - 197+49	STH 29	---	1,650	---	1,650	---	1.3	---	55	---	---	---
	UNDISTRIBUTED		---	---	---	1,500	1,600	1	1	50	35	40	---
	TOTALS		8,050	7,500	8,050	9,000	9,650	6.6	6.7	290	196	238	12

EROSION MAT					
CATEGORY	STATION - STATION	LOCATION	628.2008	628.2023	628.2027
			EROSION MAT URBAN	EROSION MAT	EROSION MAT
SY	SY	SY	CLASS I TYPE B	CLASS II TYPE B	CLASS II TYPE C
0010	80+60 - 81+95	RT	320	---	---
	81+00 - 82+25	LT	---	140	---
	82+05 - 85+45	LT	610	---	---
	82+05 - 85+95	RT	1,350	---	---
	83+50 - 84+50	LT	---	---	110
	84+50 - 85+45	LT	---	110	---
	86+05 - 87+73	LT	---	180	---
	86+35 - 87+90	RT	---	---	---
	86+47 - 91+42	RT	---	550	---
	88+28 - 90+48	LT	---	250	---
UNDISTRIBUTED	91+12 - 94+02	LT	---	320	---
	91+96 - 92+39	RT	---	50	---
	92+86 - 96+25	RT	---	380	---
	94+70 - 95+50	LT	85	---	---
	94+76 - 98+73	LT	---	450	---
	96+77 - 98+94	RT	---	230	---
	147+35 A - 152+28 A	LT	---	580	---
	196+03 - 197+06	LT	---	820	---
	UNDISTRIBUTED		590	1,000	30
	TOTAL		2,955	5,060	140

INLET PROTECTION SUMMARY				
CATEGORY	STATION	LOCATION	628.7005	628.7010
			INLET	INLET
EACH	EACH	EACH	PROTECTION	PROTECTION
0010	197+00	LT	1	1

TRACKING PADS			
CATEGORY	STATION	LOCATION	628.7560
			EACH
0010	99+50	LT	1

CULVERT PIPE CHECKS			
CATEGORY	STATION	LOCATION	628.7555
			EACH
0010	83+79	LT	10
	86+06	LT	5
	86+47	RT	3
	88+27	LT	3
	91+11	LT	2
	91+96	RT	2
	92+85	RT	2
	94+75	LT	2
	96+76	RT	2
	TOTAL		31

ROCK BAGS				
CATEGORY	STATION	LOCATION	628.7570	REMARK
			EACH	
0010	81+00	RT	17	SILT FENCE RELIEF
	82+90	RT	17	SILT FENCE RELIEF
	83+40	RT	17	SILT FENCE RELIEF
	85+00	RT	17	SILT FENCE RELIEF
	UNDISTRIBUTED		50	
TOTAL			118	

3

TEMPORARY DITCH CHECKS			
CATEGORY	STATION	LOCATION	628.7504 LF
0010	81+30	LT	12
	81+60	LT	12
	82+00	LT	12
	84+30	LT	10
	84+60	LT	10
	84+80	LT	10
	84+90	LT	10
	85+10	LT	10
	85+25	LT	12
	85+45	RT	12
	86+30	LT	10
	86+65	LT	10
	86+80	LT	12
	86+80	RT	10
	87+00	LT	12
	87+15	LT	12
	87+20	RT	10
	87+35	LT	12
	87+40	RT	10
	87+65	RT	10
	87+85	RT	10
	88+20	RT	12
	88+35	RT	12
	88+65	LT	15
	88+80	RT	15
	89+30	LT	15
	89+30	RT	15
	89+80	LT	15
	89+80	RT	15
	90+20	LT	15
CON'T			

TEMPORARY DITCH CHECKS (CON'T)			
CATEGORY	STATION	LOCATION	628.7504 LF
0010	90+30	RT	15
	90+75	RT	15
	91+25	RT	15
	91+30	LT	15
	91+80	LT	15
	92+30	LT	15
	92+30	RT	15
	92+80	LT	15
	93+20	RT	15
	93+30	LT	15
	93+80	LT	15
	93+80	RT	15
	94+30	RT	15
	94+80	RT	15
	95+20	LT	14
	95+70	LT	15
	95+70	RT	15
	96+25	LT	15
	96+75	LT	15
	97+20	LT	15
	97+20	RT	15
	97+70	LT	15
	98+00	RT	15
	98+25	LT	15
	145+35 A	LT	12
	147+70 A	LT	12
	148+25 A	LT	12
	148+75 A	LT	12
	149+30 A	LT	12
	149+80 A	LT	12
CON'T			

TEMPORARY DITCH CHECKS (CON'T)			
CATEGORY	STATION	LOCATION	628.7504 LF
0010	150+25 A	LT	12
	150+75 A	LT	12
	151+30 A	LT	12
	151+80 A	LT	12
	195+30	LT	15
	196+05	LT	10
	196+45	LT	10
	196+80	LT	10
	197+80	LT	14
	UNDISTRIBUTED		90
	TOTAL		985

FIELD OFFICE TYPE C		
CATEGORY	PROJECT	642.5201 EACH
0010	1053-07-74	1

PERMANENT SIGNING

								634.0612	634.0616	634.0618	637.2210	637.2220	637.2230			
								SIGN SIZE (WXH) IN	POSTS WOOD 4X6-INCH			SIGNS TYPE II REFLECTIVE				
CATEGORY	LOCATION DESCRIPTION	SIGN NO.	APPROXIMATE STATION	LOCATION	SIGN CODE	SIGN MESSAGE		x 12-FT EACH	x 16-FT EACH	x 18-FT EACH	H SF	SH SF	F SF	REMARKS		
0010	13TH LN.	1 - 1	80+40	LT	W5-56	END OF ROAD MARKER WITH RED TYPE SH SHEETING	15 x 15	1	---	---	---	1.56	---			
		1 - 2	80+50	LT	W5-56	END OF ROAD MARKER WITH RED TYPE SH SHEETING	15 x 15	1	---	---	---	1.56	---			
		1 - 3	80+70	LT	W5-56	END OF ROAD MARKER WITH RED TYPE SH SHEETING	15 x 15	1	---	---	---	1.56	---			
		2 - 1	95+40	LT	W11-9	WHEELCHAIR CROSSING SYMBOL	30 x 30	---	1	---	---	---	6.25			
		2 - 2	96+90	LT	R2-1	SPEED LIMIT_ MPH	24 x 30	---	1	---	5.00	---	---	35 MPH		
	STH 107	2 - 3	98+90	LT	W14-1	DEAD END	30 x 30	---	1	---	---	---	---	6.25		
		2 - 4	94+80	RT	W3-1	STOP AHEAD	36 x 36	---	---	1	---	---	9.00			
		2 - 5	99+20	RT	R1-1	STOP	30 x 30	---	1	---	5.18	---	---			
		E2 - 5	147+03 A	RT	W1-7	NIGHT ARROW (DOUBLE)	48 x 24	---	---	2	---	---	---	MOVED SIGN (QUANTITY LISTED ELSEWHERE), NEW SUPPORTS		
		3 - 1	150+10 A	LT	W6-1	DIVIDED HIGHWAY AHEAD SYMBOL	36 x 36	---	1	---	---	---	9.00			
		TOTALS							3	5	3	10.18	4.69	30.50		

PROJECT NO:1053-07-74

HWY:STH 29

COUNTY:MARATHON

MISCELLANEOUS QUANTITIES

SHEET

E

3

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MOVING/REMOVING SIGN ITEMS							
CATEGORY	SIGN NUMBER	SIGN CODE	638.2602	638.3000	638.2102	DESCRIPTION	REMARKS
			REMOVING	REMOVING	MOVING		
			SIGNS TYPE II EACH	SMALL SIGN SUPPORTS EACH	SIGNS TYPE II EACH		
0010	E1-1	W5-56	1	1	---	END OF ROAD MARKER WITH RED TYPE SH SHEETING	
	E1-2	W5-56	1	1	---	END OF ROAD MARKER WITH RED TYPE SH SHEETING	
	E1-3	W5-56	1	1	---	END OF ROAD MARKER WITH RED TYPE SH SHEETING	
	E2-1	R12-54, R2-1, D9-6	3	1	---	NO TRUCKS OVER 12 TONS EXCEPT SERVICE VEHICLES, SPEED LIMIT 35 MPH, HANDICAPPED ACCESS J WHEELCHAIR SYMBOL	
	E2-2	W14-1	1	1	---	DEAD END	
	E2-3	W3-1obs	1	1	---	STOP AHEAD WORD MESSAGE	
	E2-4	R1-1	1	1	---	STOP SIGN	
	E2-5	W1-7	---	1	1	DOUBLE ARROW (NIGHT)	SALVAGE SIGN FROM STA 146+28 A, PLACE ON NEW SUPPORTS AT STA 147+03 A
	E3-1	W6-1	1	1	---	DIVIDED HIGHWAY AHEAD SYMBOL	
	E4-1	R6-1L, R61-1R, R1-1, R6-3	4	1	---	ONE WAY SIGN (LEFT), ONE WAY SIGN (RIGHT), STOP SIGN, DIVIDED HIGHWAY CROSSING SIGN	
	E4-2	R5-1	1	1	---	DO NOT ENTER	
	E4-3	R5-1A	1	1	---	WRONG WAY	
	E4-4	R5-1A	1	1	---	WRONG WAY	
	E4-5	R5-1	1	1	---	DO NOT ENTER	
	E4-6	R6-1L	1	---	---	ONE WAY SIGN (LEFT)	LEAVE POST AND SOUTH FACING SIGNS IN PLACE, TO BE REMOVED BY OTHERS
TOTALS			19	14	1		

TRAFFIC CONTROL COVERING SIGNS TYPE II						
CATEGORY	LOCATION	SIGN CODE	NUMBER OF CYCLES	NUMBER OF SIGNS	643.0920	REMARK
					EACH	
0010	STH 29 WB	W4-1	1	1	1	RAMP MERGE SIGN

TRAFFIC CONTROL		
CATEGORY	PROJECT	643.0100 EACH
0010	1053-07-74	1

TRAFFIC CONTROL																
CATEGORY	STAGE	LOCATION	STATION - STATION	DURATION (DAYS)	643.0300 TRAFFIC CONTROL DRUMS		643.0420 TRAFFIC CONTROL BARRICADES TYPE III		643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A		643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C		643.0800 TRAFFIC CONTROL ARROW BOARDS		643.0900 TRAFFIC CONTROL SIGNS	
					EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY
0010	STAGE 1	STH 107	ADVANCE WARNING	58	0	0	0	0	0	0	0	0	---	---	8	464
		STH 107	144+83 A - 156+98 A	58	18	1,044	6	348	12	696	10	580	---	---	4	232
		13TH LANE	UNDISTRIBUTED	58	30	1,740	2	116	4	232	15	870	---	---	---	---
		SUBTOTALS (STAGE 1)			48	2,784	8	464	16	928	25	1,450	0	0	12	696
	STAGE 2	STH 29 WB	OUTSIDE LANE CLOSURE	6	87	522	3	18	6	36	28	168	2	12	21	126
		STH 29 WB	INSIDE LANE CLOSURE	12	62	744	1	12	2	24	16	192	2	24	15	180
		STH 29 EB	INSIDE LANE CLOSURE	12	47	564	1	12	2	24	16	192	2	24	15	180
		SUBTOTALS (STAGE 2)			196	1,830	5	42	10	84	60	552	6	60	51	486
	TOTALS				244	4,614	13	506	26	1,012	85	2,002	6	60	63	1,182

PROJECT NO:1053-07-74

HWY:STH 29

COUNTY:MARATHON

MISCELLANEOUS QUANTITIES

SHEET

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PAVEMENT MARKING ITEMS											
CATEGORY	STATION	-	STATION	LOCATION	646.0106 EPOXY 4-INCH			646.0126	647.0726 DIAGONAL EPOXY 12-INCH		
					(WHITE) LF	(WHITE SKIP)		EPOXY 8-INCH LF	(WHITE) LF	(WHITE) LF	(YELLOW) LF
						(12.5' SEG, 37.5' GAP)					
						(DOUBLE YELLOW) LF					
0010	141+72.6 A	-	146+95.05 A	STH 107	---	---	2,100	---	---	180	
	143+22.8 A	-	147+17.84	STH 107	790	---	---	58	---		
	144+82.2 A	-	146+47.6 A	STH 107	165	---	---	---	---		
	147+57.6 A	-	156+98.2 A	STH 107	---	---	3,480	---	410		
	147+77.6 A	-	152+27.3 A	STH 107	450	---	---	300	---		
			STH 29 WB LANE LINE	---	365	---	---	---	---		
			STH 29 EB LANE LINE	---	215	---	---	---	---		
	SUBTOTALS				1,405	580	5,580	300	58	590	
	TOTALS					7,565		300		648	

REMOVING PAVEMENT MARKINGS WATER BLASTING					
646.0690.S					
CATEGORY	STATION - STATION		LOCATION	LF	REMARK
0010	141+72.6 A - 152+26.7 A		STH 107	4,220	MEDIAN EDGELINES (DOUBLE YELLOW)*
	141+72.6 A - 152+26.7 A		STH 107	1,430	MEDIAN DIAGONALS (12" YELLOW)*
	141+72.6 A - 151+49 A		STH 107	250	SOUTHBOUND SKIP DASHES
	144+82.2 A - 145+82.2 A		STH 107	100	SOUTHBOUND EDGELINE
	151+49 A - 156+98.2 A		STH 107	1,100	SOUTHBOUND DOUBLE YELLOW*
	147+10 A - 152+27.3 A		STH 107	520	SOUTHBOUND EDGELINE
	147+10 A - 152+27.3 A		STH 107	100	SOUTHBOUND CHANNELIZING LINE
			STH 29 WB	215	WESTBOUND LANE LINE AT LANE CLOSURE TRANSITION AREA
			STH 29 WB	150	WESTBOUND LANE LINE AT TEMP. RAMP MERGE
			STH 29 EB	215	EASTBOUND LANE LINE AT LANE CLOSURE TRANSITION AREA
	TOTAL			8,300	

* QUANTITY DOUBLED SINCE MARKING WIDTH IS BEYOND A SINGLE 8-INCH WIDTH

TEMPORARY PAVEMENT MARKING ITEMS							
CATEGORY	STATION	-	STATION	LOCATION	649.0400 REMOVABLE TAPE 4-INCH		649.0801 REMOVABLE TAPE 8-INCH
					(WHITE)		(WHITE)
					(EDGE LINE) LF	(DOUBLE YELLOW) LF	(CHANNELIZING) LF
0010	151+49 A	-	156+98.2 A	STH 107	550	---	---
	152+27.3 A	-	156+98.2 A	STH 107	---	945	---
	221+00	-	228+80	STH 29 WB	780	---	---
	200+00	-	211+06	STH 29 WB	600	---	600
	221+00	-	228+80	STH 29 WB	780	---	---
	178+70	-	186+50	STH 29 EB	780	---	---
	SUBTOTALS				3,490	945	600
	TOTALS					4,435	600

RESEARCH AND LOCATE EXISTING PROPERTY MONUMENTS			
(FOR INFORMATION ONLY)			
EXISTING PROPERTY MONUMENTS			
WITHIN EASEMENT THAT MAY BE DISTURBED			
CATEGORY	PROJECT	SPV.0105.01 LS	EACH
0010	1053-07-74	1	5

CONSTRUCTION STAKING SUPPLEMENTAL CONTROL			
CATEGORY		PROJECT	650.9910 LS
0010		1053-07-74	1
SAWING ASPHALT			
CATEGORY		STATION	690.0150 LOCATION LF
0010	85+86		P.E. LT 16
	88+08		P.E. LT 16
	90+88		P.E. LT 18
	91+76		P.E. RT 20
	92+69		P.E. RT 15
	94+50		P.E. LT 26
	145+21.25 A - 152+27.55 A		STH 107 725
	194+54.6 - 197+08.5		STH 29 - MEDIAN EB 255
	196+25.7 - 197+01.7		STH 29 - MEDIAN WB 76
	196+16.7 - 197+48.9		STH 29 - OUTSIDE WB 135
	196+41.8 - 196+83.2		STH 29 - ACCESS LT 42
	TOTAL		1,344

CONSTRUCTION STAKING					
CATEGORY		STATION - STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF
0010		80+50 - 99+43.47	13TH LN.	1,890	650.9920 SLOPE STAKES LF
		145+21.25 A - 152+27.55 A	STH 107	705	1,890
		194+54.6 - 197+08.5	STH 29 EB	255	705
		196+16.7 - 197+48.9	STH 29 WB	135	255
TOTALS				2,985	2,985

VERIFY AND REPLACE EXISTING PROPERTY MONUMENTS			
(FOR INFORMATION ONLY)			
EXISTING PROPERTY MONUMENTS			
WITHIN EASEMENT THAT MAY BE DISTURBED			
CATEGORY	PROJECT	SPV.0105.02 LS	EACH
0010	1053-07-74	1	5

3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
TRANSPORTATION PROJECT PLAT TITLE SHEET
PROJECT 1053-07-24
ABBOTSFORD - WAUSAU
(BIG RIB RIVER BRIDGE TO 152ND AVENUE)

STH 29
MARATHON COUNTY



PROJECT LOCATION

T-29-N

T-28-N

T-29-N

T-28-N

R-5-E

R-6-E

R-5-E

R-6-E

NOTES

THE NOTES, CONVENTIONAL SIGNS, AND ABBREVIATIONS ARE ASSOCIATED WITH EACH TRANSPORTATION PROJECT PLAT FOR PROJECT 1053-07-24.

DISTANCES SHOWN FROM BUILDINGS TO RIGHT OF WAY LINES ARE APPROXIMATE.

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, MARATHON COUNTY, NAD83/2007 IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL RIGHT-OF-WAY LINES DEPICTED IN NON ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4" X 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE LAND SURVEY.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN RHINELANDER.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLE'S) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

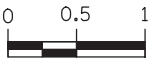
A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

AN EASEMENT FOR HIGHWAY PURPOSES (HE), AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE.

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS AND INTERESTS REQUIRED.



LAYOUT SCALE



MILES

CONVENTIONAL ABBREVIATIONS

ACCESS POINT	AP	POINT OF CURVATURE	PC
ACCESS RIGHTS	AR	POINT OF INTERSECTION	PI
ACRES	AC.	POINT OF REVERSE CURVATURE	PRC
AGRICULTURAL	AG	PRIVATE DRIVEWAY	P.D.
AHEAD	AH	POINT ON TANGENT	POT
ALUMINUM	ALUM.	PROPERTY LINE	P.L.
AND OTHERS	ET.AL.	RECORDED AS	P.L. (100')
BACK	BK	REFERENCE LINE	R
BLOCK	BLK	REMAINING	REM.
CENTERLINE	C/L	RIGHT	RT.
CERTIFIED SURVEY MAP	CSM	RIGHT OF WAY	R/W
CONCRETE	CONC.	SECTION	SEC.
CORNER	COR.	SEPTIC VENT	SEPV.
COUNTY	CO.	SQUARE FEET	S.F.
COUNTY TRUNK HIGHWAY	CTH	STATE TRUNK HIGHWAY	STH
DISTANCE	DIST.	STATION	STA.
DOCUMENT NUMBER	DOC.	SUBDIVISION	SUBD
EASEMENT	EASE	TANGENT	TAN.
EXISTING	EX.	TELEPHONE PEDESTAL	T.P.
GAS VALVE	G.V.	TEMPORARY LIMITED EASEMENT	TLE
GRID NORTH	GN	TRANSPORTATION PROJECT PLAT	TPP
HIGHWAY EASEMENT	HE	UNITED STATES HIGHWAY	USH
IDENTIFICATION	ID.	VOLUME	V.
LAND CONTRACT	LC	WITH	W/
LEFT	LT.		
MONUMENT	MON.	LONG CHORD	L.C.
NATIONAL GEODETIC SURVEY	NGS	LONG CHORD BEARING	L.C.B.
NUMBER	NO.	RADIUS	R.
OUTLOT	O.L.	DEGREE OF CURVE	D.
PAGE	P.	CENTRAL ANGLE OR DELTA	Δ.
PART OF	PT.	LENGTH OF CURVE	L.
PERMANENT LIMITED EASEMENT	PLE	TANGENT	T.
POINT OF BEGINNING	P.O.B.	DIRECTION AHEAD	DA.
POINT OF COMPOUND CURVE	PCC	DIRECTION BACK	DB.

CURVE DATA

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN (3/4" REBAR UNLESS NOTED)	IF	PROPOSED R/W LINE	---
R/W MONUMENT	• (SET)	EXISTING H.E. LINE	---
R/W STANDARD	▲ (SET)	PROPERTY LINE	---
SIGN	ISIGN	LOT & TIE LINES	---
SECTION CORNER MONUMENT	●	SLOPE INTERCEPTS	---
SECTION CORNER SYMBOL	●	CORPORATE LIMITS	---
FEE (HATCH VARIES)	■	ACCESS RESTRICTED (BY PREVIOUS PROJECT/CONTROL OR ACQUISITION)	---
TEMPORARY LIMITED EASEMENT	---	ACCESS RESTRICTED (BY ACQUISITION)	---
PERMANENT LIMITED/HIGHWAY EASEMENT	---	NO ACCESS (BY STATUTORY AUTHORITY)	---
R/W BOUNDARY POINT	8730	SECTION LINE	---
BUILDING	---	QUARTER LINE	---
BUILDING TO BE REMOVED	---	SIXTEENTH LINE	---
PARCEL NUMBER	102	EXISTING CENTERLINE	---
UTILITY NUMBER	92	PROPOSED REFERENCE LINE	---
SIGN NUMBER (OFF PREMISE)	21-1	PARALLEL OFFSET	---
		RECORD MEASUREMENT (TYP.)	(S 89°35'36" W)
		NATIONAL GEODETIC SURVEY MONUMENT	NGS

CONVENTIONAL UTILITY SYMBOLS

WATER	---
GAS	---
TELEPHONE	---
OVERHEAD	---
TRANSMISSION LINES	---
ELECTRIC	---
CABLE TELEVISION	---
FIBER OPTIC	---
SANITARY SEWER	---
STORM SEWER	---
NON	---
COMPENSABLE	---
POWER POLE	---
TELEPHONE POLE	---
PEDESTAL	---
ELECTRIC TOWER	---

TPP NUMBER 1053-07-24 - 4.01
SHEET 2 OF 2



STRAND ASSOCIATES, INC. ○
910 WEST WINGRA DRIVE, MADISON, WI 53715
(608) 251-4843

I, HEATHER S. BARTELT, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1053-07-24-4.02 AMENDMENT NO. 1 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.



(SIGNATURE) Heather S. Bartelt DATE: 2/3/16
(PRINTED NAME) HEATHER S. BARTELT
(REGISTRATION NUMBER) S - 2797

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION
(SIGNATURE) Brent L. Stella DATE: 2-4-16
(PRINTED NAME) Brent L. Stella

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF REGISTER OF DEEDS, IN MARATHON COUNTY AS SHEET 2 OF 2 OF DOCUMENT 1706538.

HWY	BASIS OF EXIST. R/W
13TH LANE	PREVIOUS PROJECT: 1053-06-21 FOUND IRONS
STH 107	PREVIOUS PROJECT: 1053-06-21 FOUND IRONS

EXISTING ACCESS CONTROL ALONG STH 107
ESTABLISHED FROM PREVIOUS PROJECT 1053-06-21

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTEREST.

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W AC. OR S.F. REQUIRED			TLE AC. OR S.F.
			NEW	EXISTING	TOTAL	
4	THOMAS JOHN AND MARLA FAYE BERG	FEE	0.04 AC	---	0.04 AC	---
6	GAIL L. GUMTZ, BRUCE D. KOELLER, KAREN KOELLER AND BRIAN KOELLER	FEE, TLE	0.09 AC	---	0.09 AC	0.22 AC
7	RACHELLE S. PHAKITTHONG	FEE, TLE	0.02 AC	---	0.02 AC	0.16 AC
8	WILBUR AND CHARLOTTE OTTO	FEE, TLE	0.41 AC	---	0.41 AC	0.11 AC
9	MJO INCOME TRUST	FEE, TLE	0.02 AC	---	0.02 AC	0.06 AC
10	JOHN NOEL AND LYNN LENSIRE	FEE, TLE	0.07 AC	---	0.07 AC	0.05 AC

UTILITY INTERESTS REQUIRED

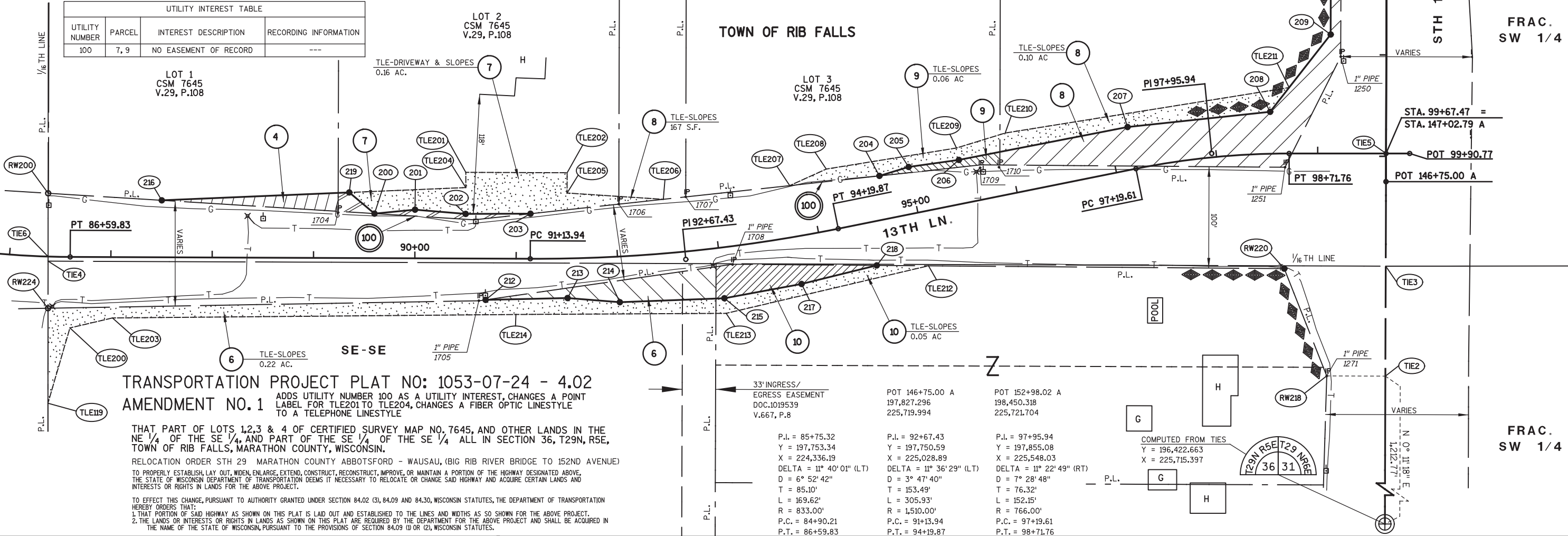
UTILITY NUMBER	OWNER(S)	INTEREST REQUIRED
100	WISCONSIN PUBLIC SERVICE (GAS)	RELEASE OF RIGHTS

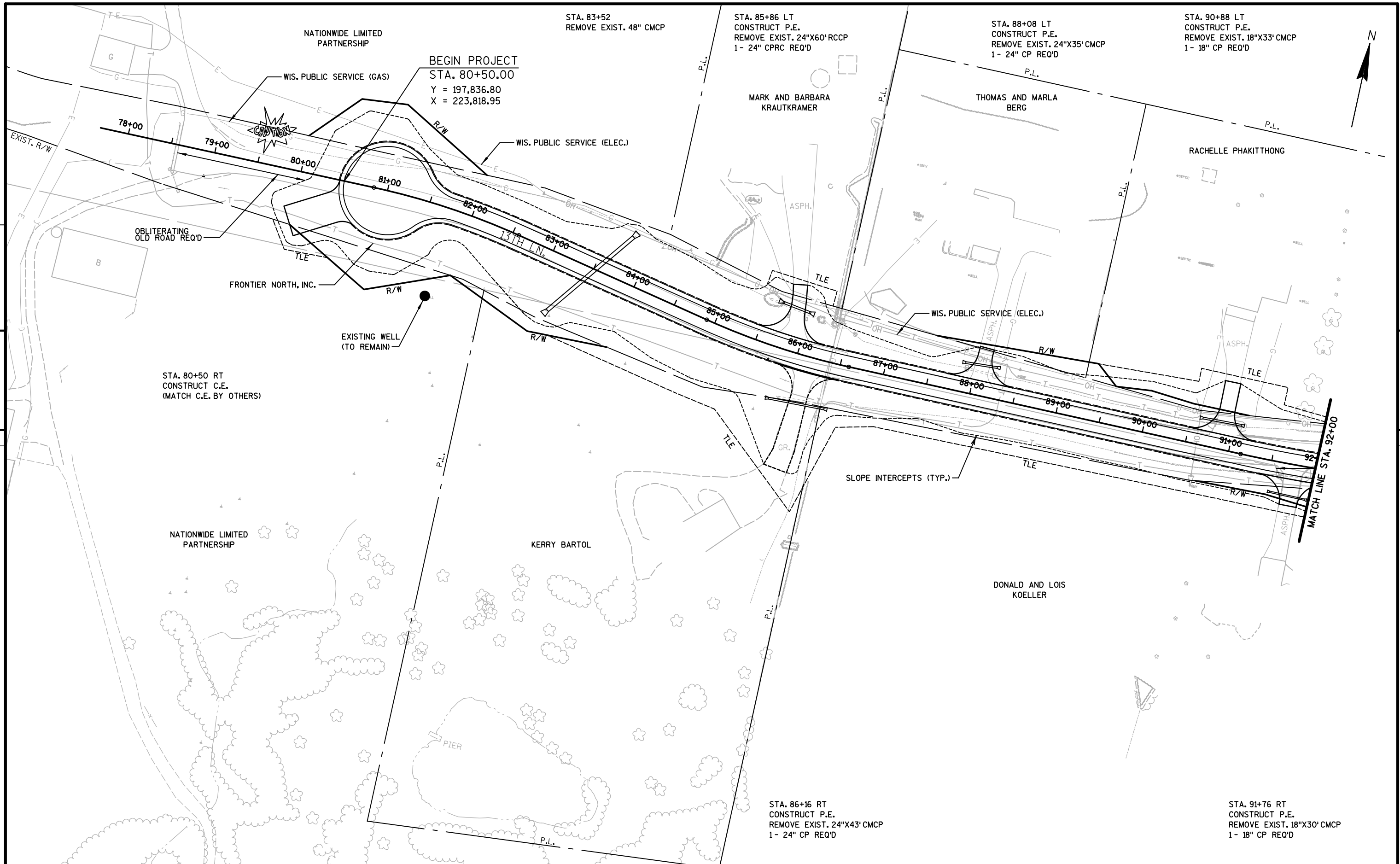
R/W COURSE TABLE		
COURSE	BEARING	LENGTH
TIE1 - TIE5	S 0° 11' 18" W	557.19'
TIE5 - TIE3	S 0° 11' 18" W	111.19'
TIE3 - TIE2	S 0° 11' 18" W	108.46'
TIE2 - RW218	N 89° 48' 42" W	57.87'
RW218 - RW220	N 21° 36' 42" W	113.87'
RW220 - 218	N 89° 32' 50" W	402.20'
218 - 217	S 76° 08' 18" W	76.46'
217 - 215	S 79° 31' 34" W	77.46'
215 - 214	S 87° 50' 22" W	103.25'
214 - 213	N 85° 25' 49" W	51.74'
213 - 212	S 88° 43' 22" W	80.96'
212 - RW223	S 81° 48' 30" W	6.39'
RW223 - RW224	S 89° 00' 29" W	425.60'
RW224 - TIE4	N 0° 02' 55" E	46.44'
TIE4 - TIE6	N 0° 02' 55" E	4.53'
TIE6 - RW200	N 0° 02' 55" E	62.46'
RW200 - 216	S 86° 26' 02" E	112.38'
216 - 219	N 87° 35' 43" E	185.20'
219 - 200	S 50° 04' 19" E	32.49'
200 - 201	N 84° 27' 22" E	40.20'
201 - 202	S 85° 11' 54" E	50.16'
202 - 203	N 89° 49' 55" E	63.94'
203 - 204	N 83° 48' 50" E	346.45'
204 - 205	N 73° 00' 28" E	30.14'
205 - 206	N 82° 03' 12" E	50.09'
206 - 207	N 78° 57' 27" E	169.61'
207 - 208	N 83° 54' 43" E	141.52'
208 - 209	N 38° 04' 57" E	96.86'
209 - 210	N 0° 09' 26" E	410.00'
210 - 211	N 18° 35' 30" E	31.62'
211 - TIE1	S 89° 48' 42" E	45.34'

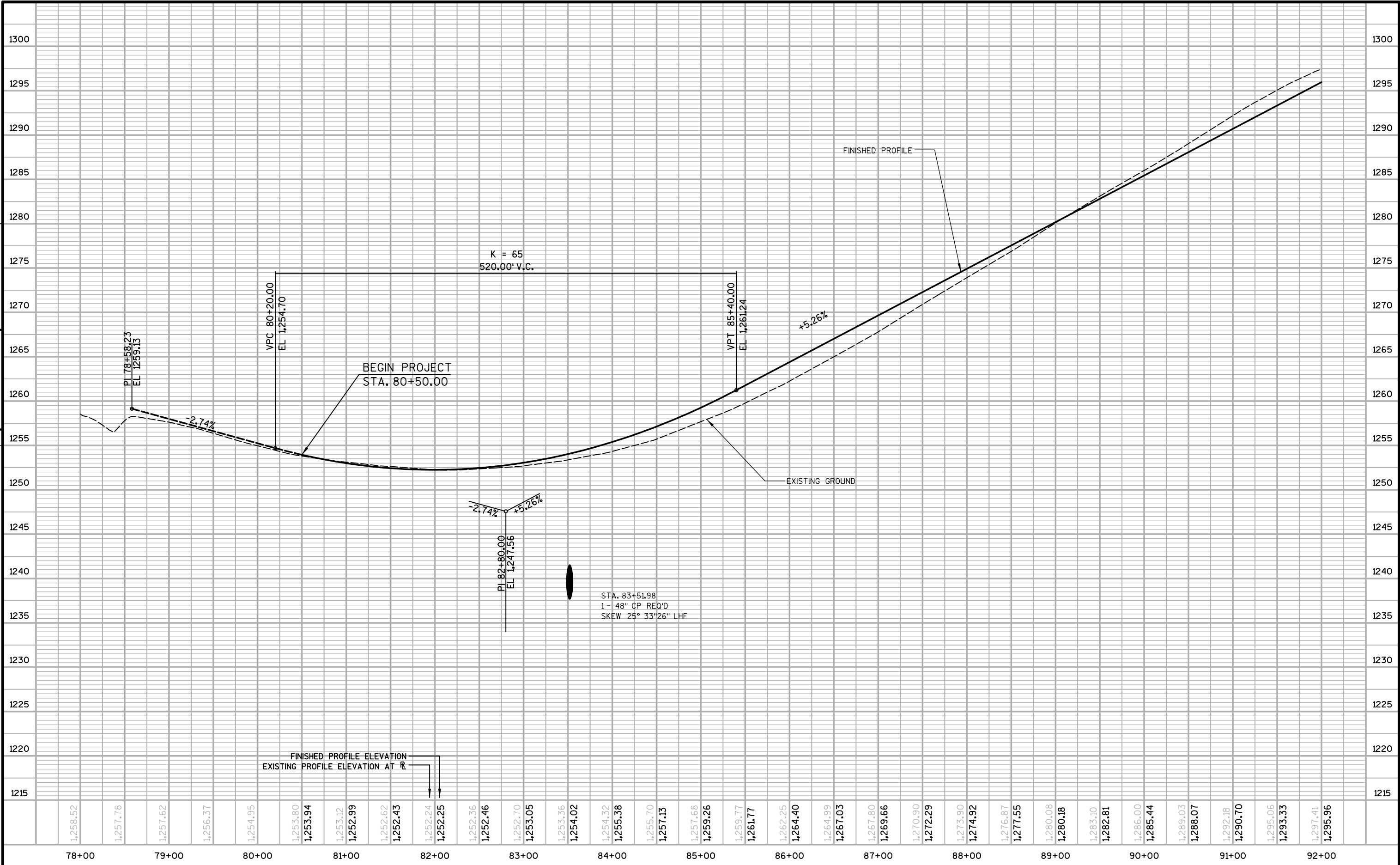
R/W & TLE POINT STATION & OFFSET TABLE		
200	89+60.00	-43.96'
201	90+00.00	-48.00'
202	90+50.00	-44.00'
203	91+13.94	-44.44'
204	94+70.00	-43.05'
205	95+00.00	-46.00'
206	95+50.00	-43.00'
207	97+19.61	-42.00'
208	98+54.01	-41.34'
209	148+20.00	-55.00'
210	152+30.00	-55.00'
211	152+60.00	-45.00'
212	90+70.00	40.68'
213	91+50.00	39.00'
214	92+00.00	45.00'
215	93+00.00	50.00'
216	87+50.00	-56.21'
217	93+75.00	47.00'
218	94+50.00	43.00'
219	89+35.00	-64.71'
RW200	86+36.03	-62.44'
RW218	99+08.91	219.46'
RW220	98+66.14	113.58'
RW223	90+63.67	41.62'
RW224	86+39.42	50.95'

R/W & TLE POINT STATION & OFFSET TABLE		
TIE1	152+59.98	A 0.34'
TIE2	99+66.78	219.65'
TIE3	99+67.14	111.19'
TIE4	86+38.14	4.53'
TIE5	99+67.51	0.00'
TIE6	86+38.01	0.00'
TLE119	86+41.62	144.60'
TLE200	86+59.83	70.00'
TLE201	90+50.00	-85.00'
TLE202	91+52.14	-84.54'
TLE203	87+01.83	60.00'
TLE204	90+50.00	-70.00'
TLE205	91+51.61	-64.55'
TLE206	92+50.00	-53.27'
TLE207	93+80.00	-50.60'
TLE208	94+19.87	-60.00'
TLE209	95+50.00	-55.00'
TLE210	96+00.00	-60.00'
TLE211	98+71.76	-65.00'
TLE212	95+00.00	53.48'
TLE213	93+00.00	65.00'
TLE214	91+00.00	55.00'

IRONS FOUND		
POINT #	NORTHING	EASTING
1242	198112.72	225675.61
1250	197950.61	225675.33
1251	197841.49	225620.34
1271	197635.62	225661.51
1704	197796.39	224685.43
1705	197709.83	224824.64
1706	197805.17	224962.69
1707	197812.29	225028.78
1708	197745.47	225075.02
1709	197840.98	225319.37
1710	197841.56	225338.03







STA. 94+50 LT
CONSTRUCT P.E.
REMOVE EXIST. 24"X30' CMCP
1- 18" CP REQ'D

END CONSTRUCTION
STA. 152+27.55 A

BENCH MARKS

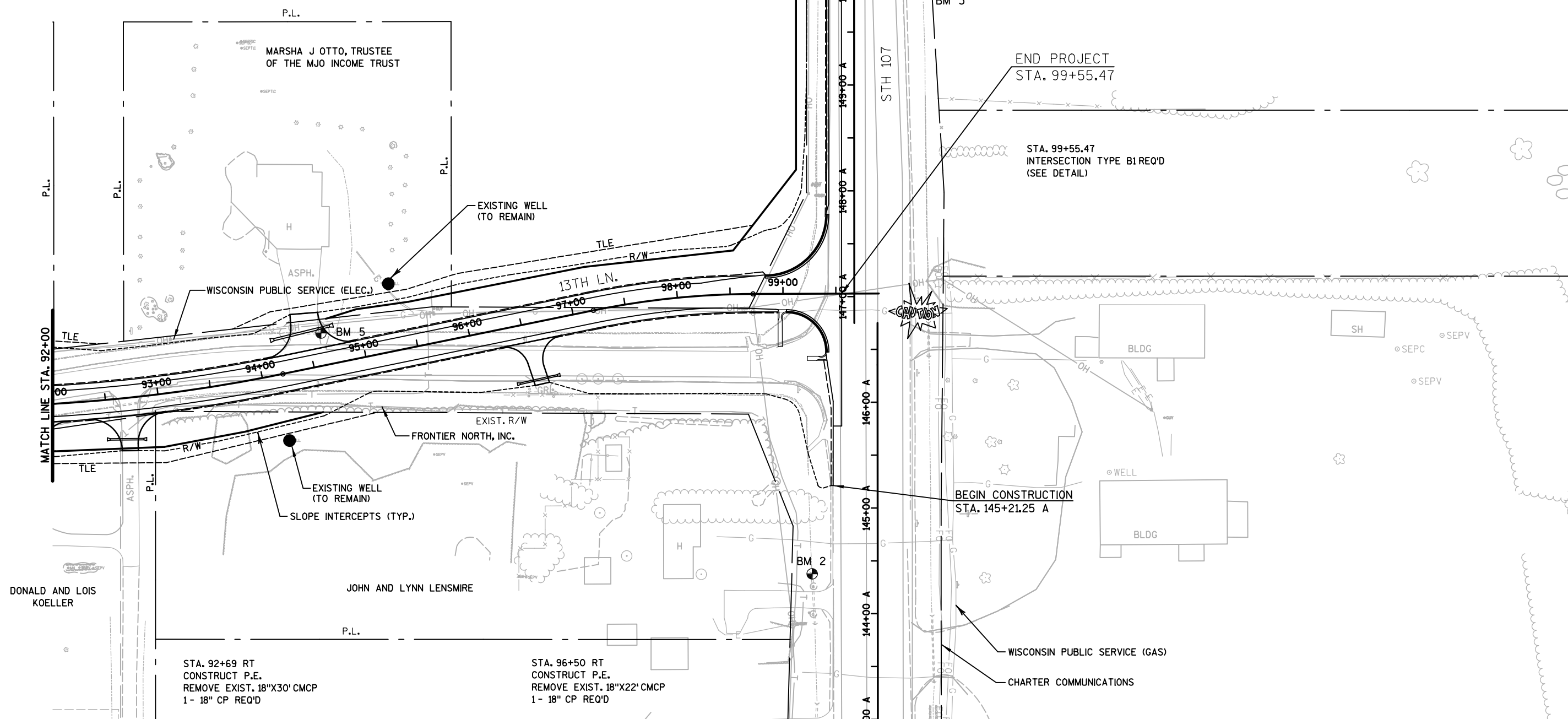
NO.	STATION & OFFSET	DESCRIPTION	ELEV.
2	144+37.76 A, 62.29' LT	TOP OF 18" CMCP	1313.16
3	149+87.84 A, 66.29' RT	TOP OF 18" CMCP	1327.51
4	154+77.87 A, 42.45' RT	TOP OF 15" CMCP	1336.24
5	94+62.89, 30.64' LT	TOP OF 24" CMCP	1308.64

WILBUR AND CHARLOTTE OTTO



5

5



PROJECT NO:1053-07-74

HWY:STH 29

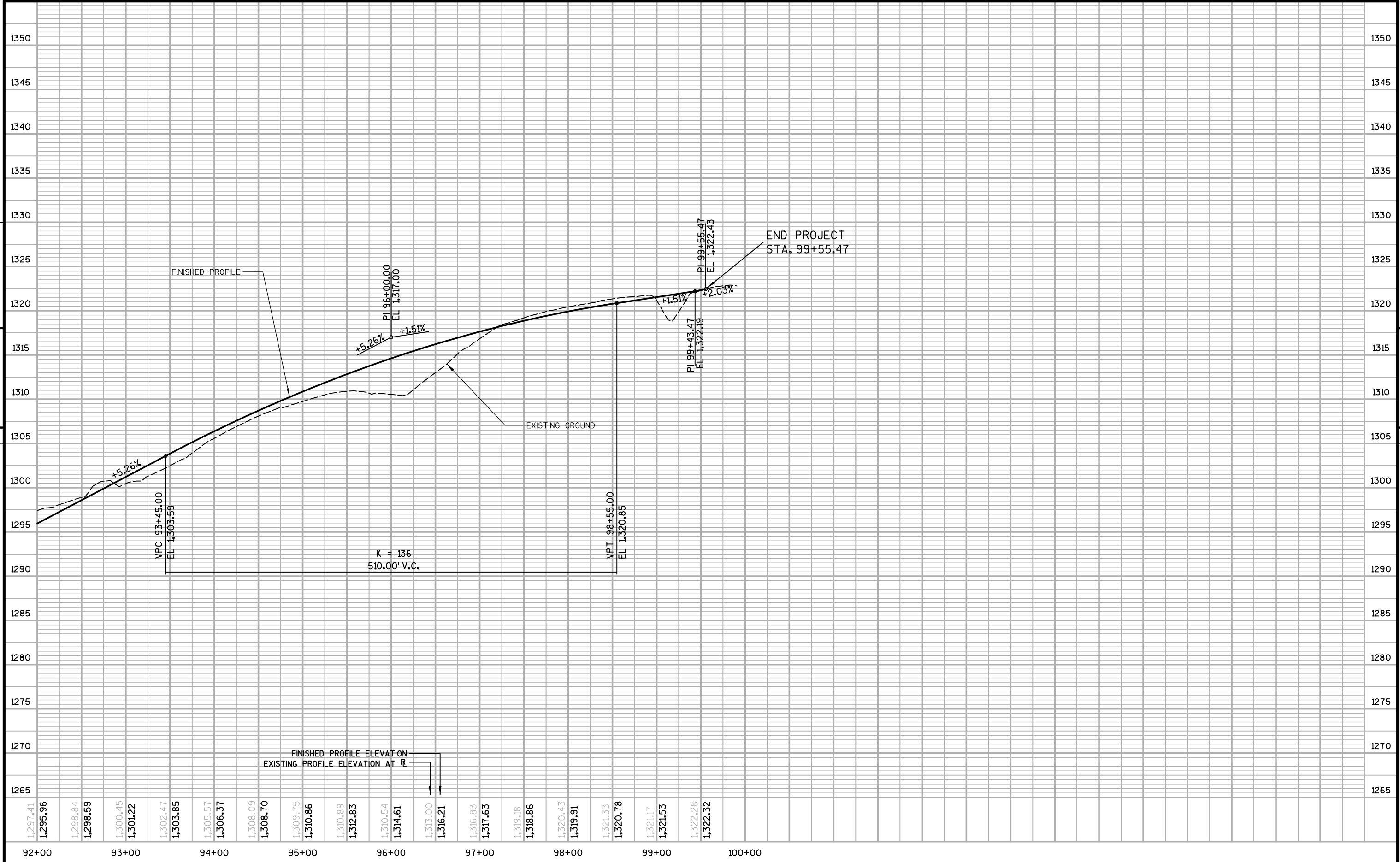
COUNTY:MARATHON

PLAN

SHEET

E

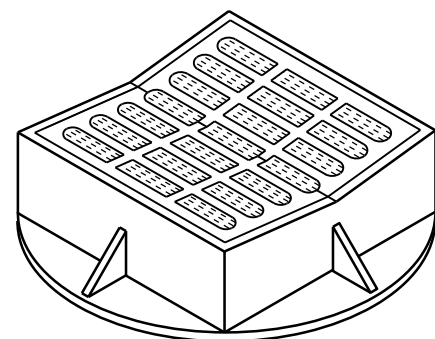
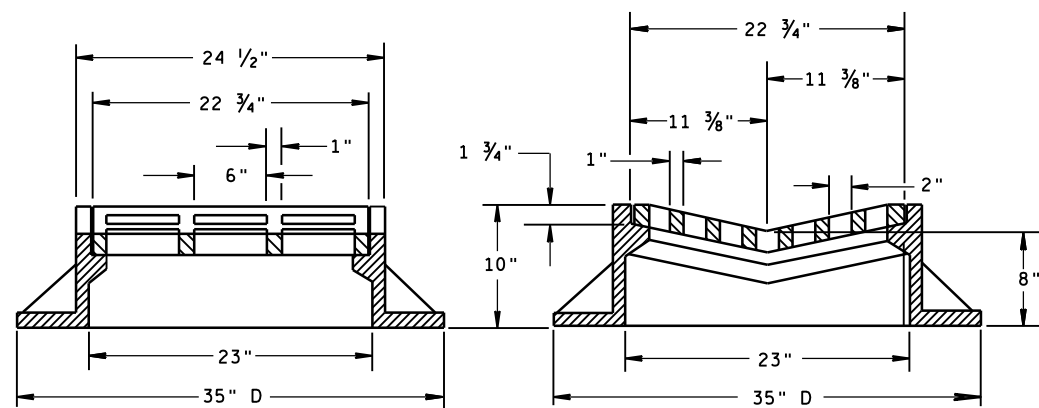
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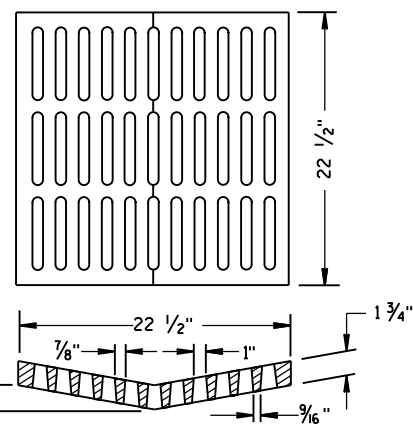
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Standard Detail Drawing List

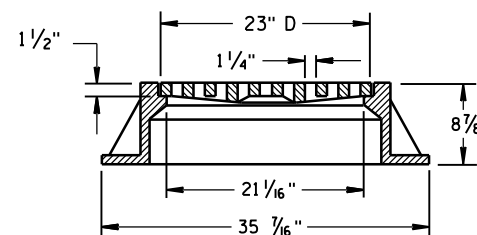
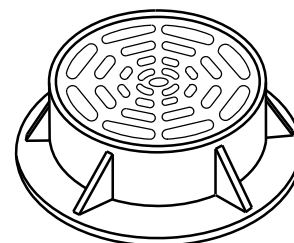
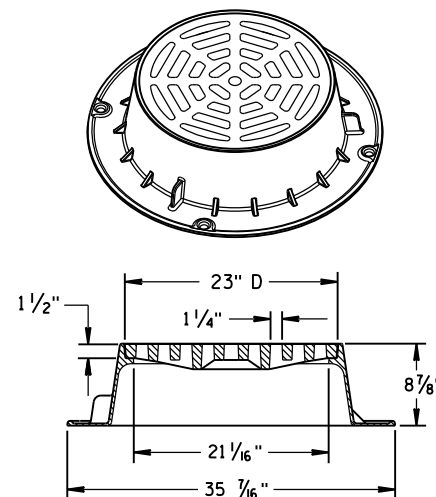
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D01-19	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE FRAINS
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C04-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C26-02	END-OF-ROADWAY SIGNING
15D12-06A	TRAFFIC CONTROL, LANE CLOSURE
15D15-02	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-04	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH



TYPE "B"

ALTERNATIVE GRATE FOR
TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
 NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

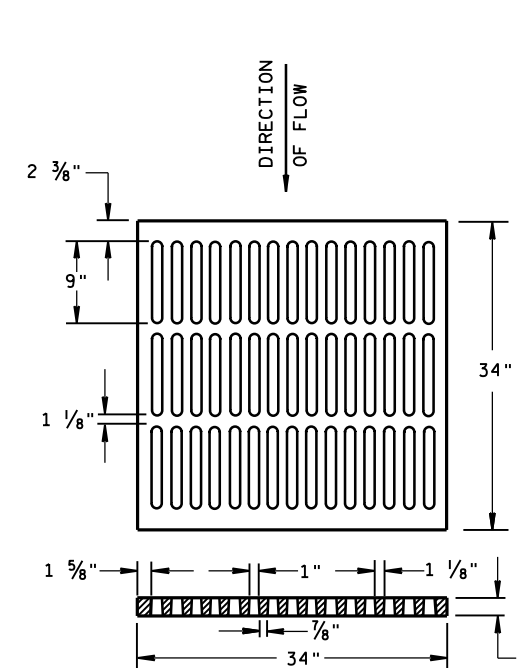
NOTE: EITHER CASTING IS ACCEPTABLE

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.

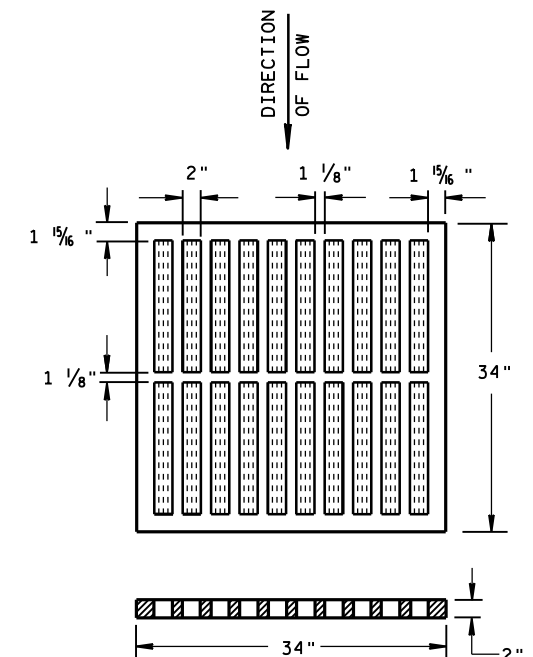
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



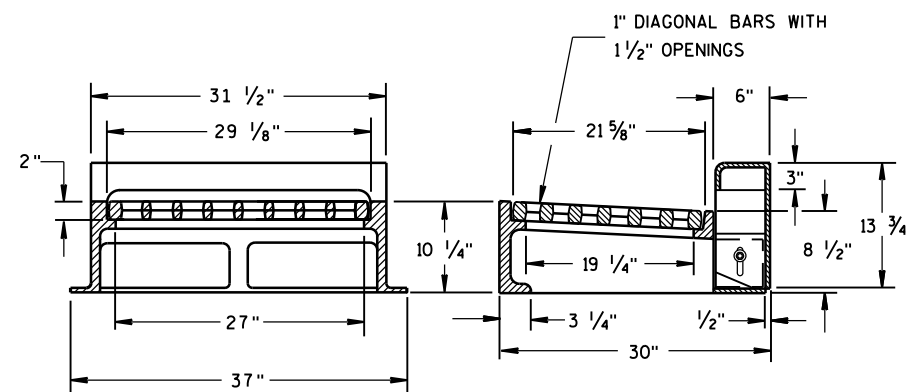
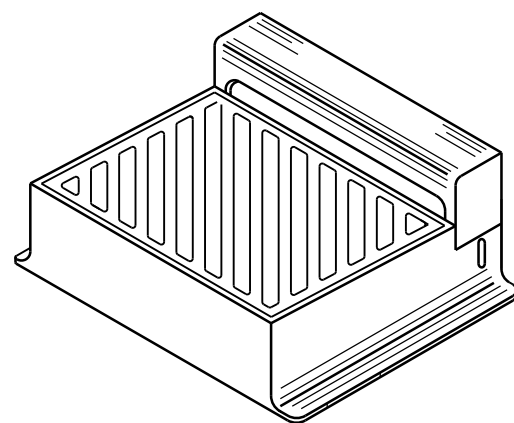
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
 NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
 NOTED AS TYPE MS ON DRAINAGE TABLE



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

DIAGONAL SLOTS, SHALL BE ORIENTED
 TO THE DIRECTION OF FLOW AS ILLUSTRATED.
 GRATES ARE MANUFACTURED TO BE REVERSIBLE.

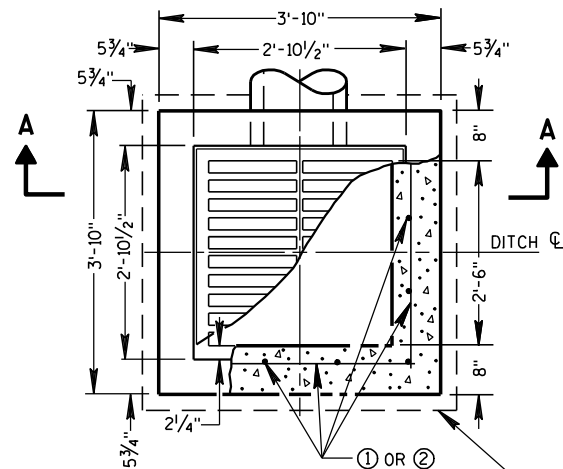
DIRECTION
OF FLOW

INLET COVERS
 TYPE B, B-A, C,
 MS, MS-A, & WM

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

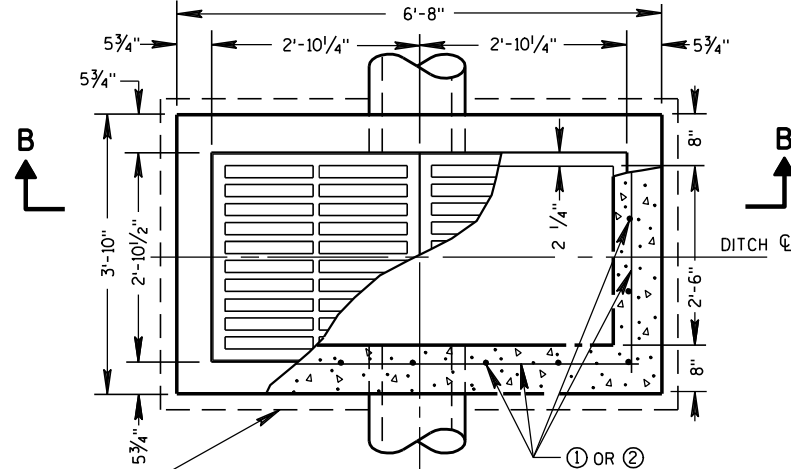
APPROVED
 11/27/2013
 DATE
 FHWA

/S/ Jerry H. Zogg
 ROADWAY STANDARDS DEVELOPMENT
 ENGINEER

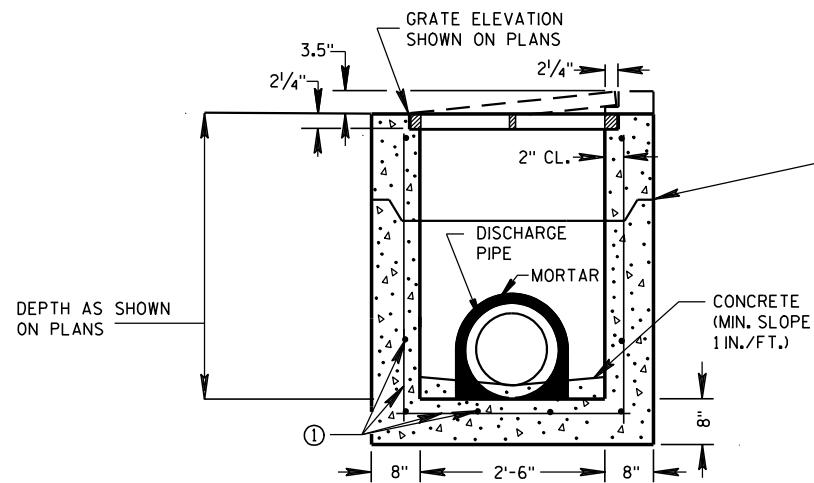


PLAN VIEW

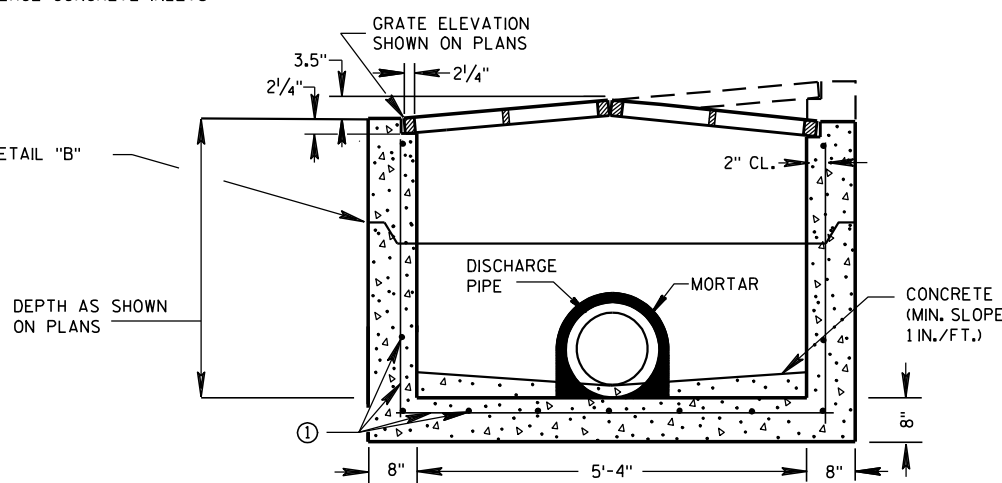
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



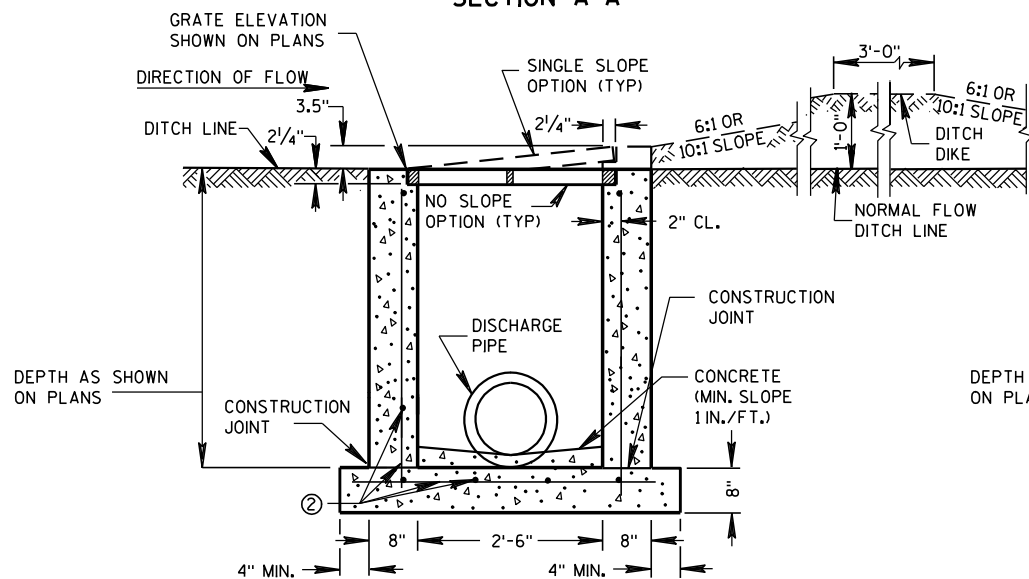
PLAN VIEW



PRECAST REINFORCED CONCRETE SECTION A-A

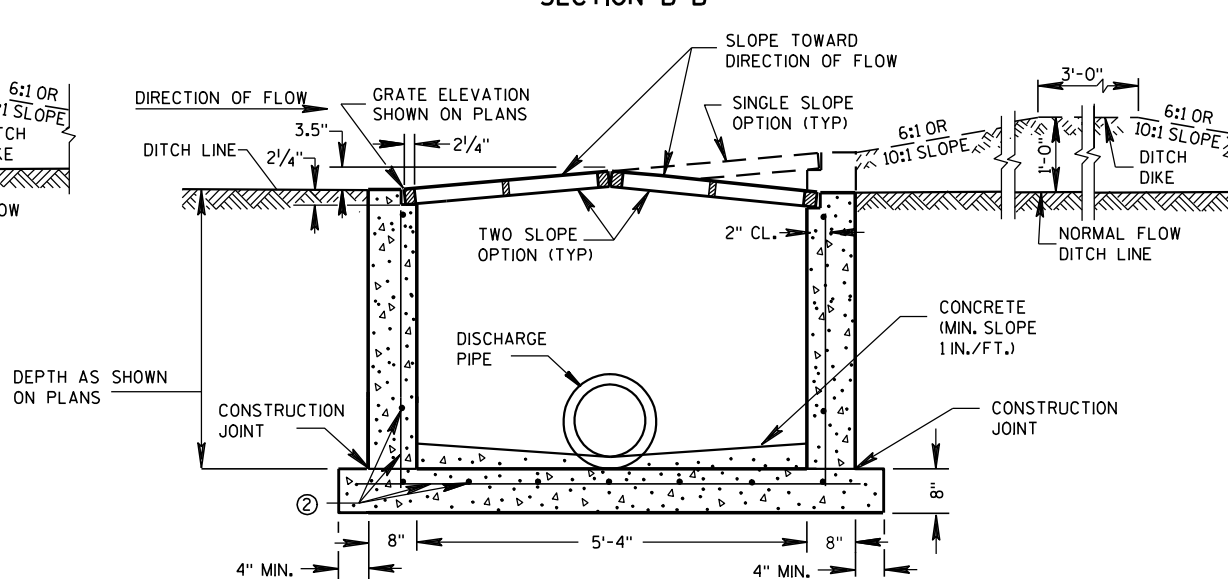


PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A

INLETS MEDIAN 1 GRATE



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 2 GRATE

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, IG-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

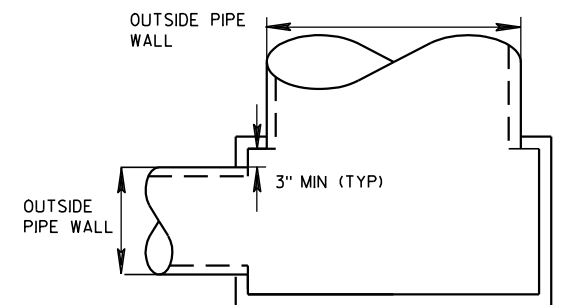
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

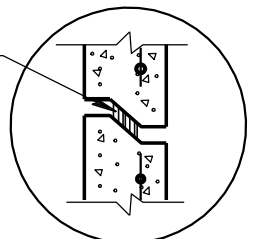
PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

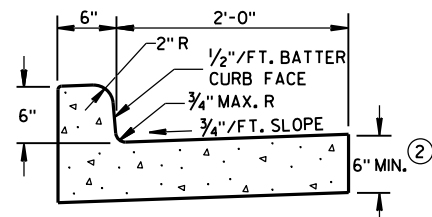
APPROVED

6/5/2012

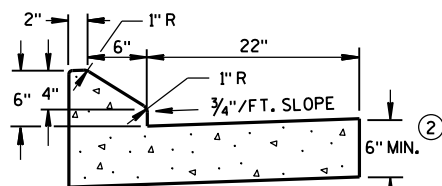
DATE

FHWA

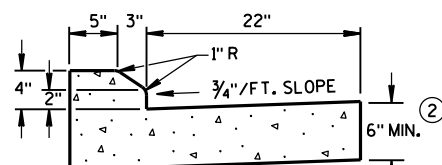
/s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



TYPES A & D ①

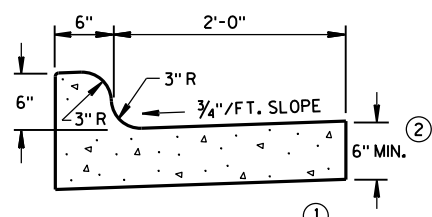


6" SLOPED CURB TYPES G & J ①



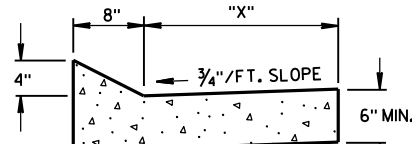
4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"



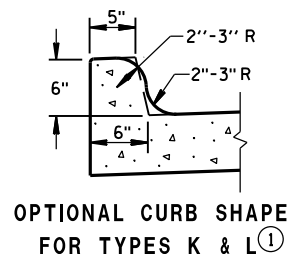
TYPES K & L ①

CONCRETE CURB & GUTTER 30"

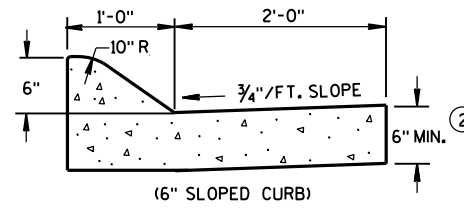


TYPES TBT & TBTT ①
CONCRETE CURB & GUTTER

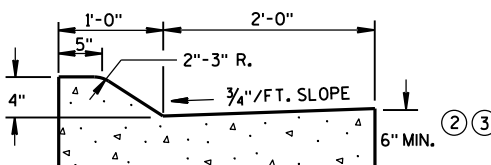
TBT & TBTT	"X"
30"	22"
36"	28"



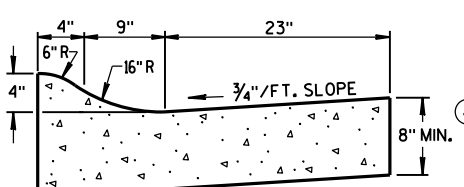
OPTIONAL CURB SHAPE
FOR TYPES K & L ①



(6" SLOPED CURB)



TYPES A & D ①



4" SLOPED CURB TYPES R & T ① ⑤
CONCRETE CURB & GUTTER 36"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

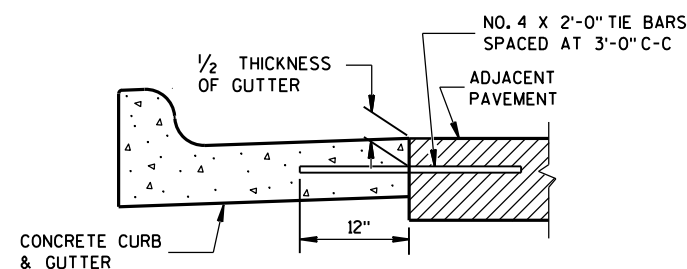
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

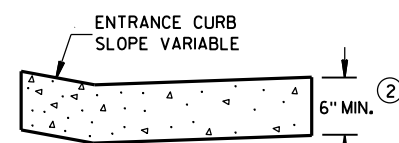
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

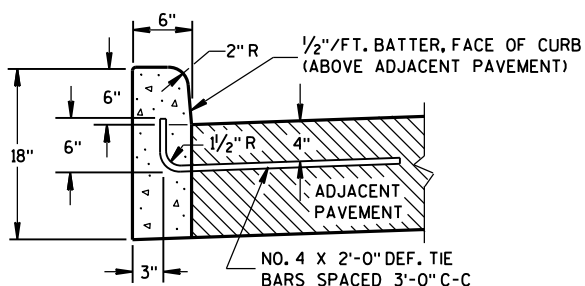
- TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
- THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



TYPICAL TIE BAR LOCATION ①

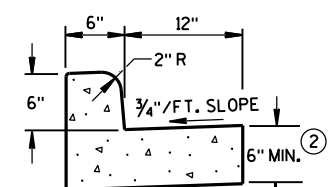


DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

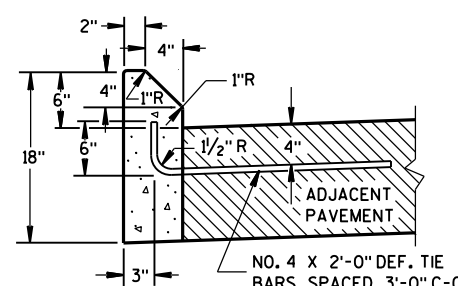


TYPES A & D ①

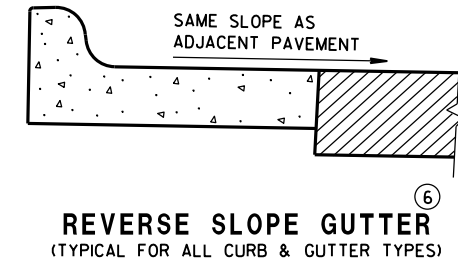
CONCRETE CURB



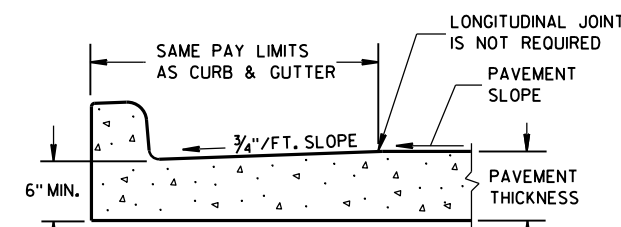
TYPES A & D
CONCRETE CURB & GUTTER 18"



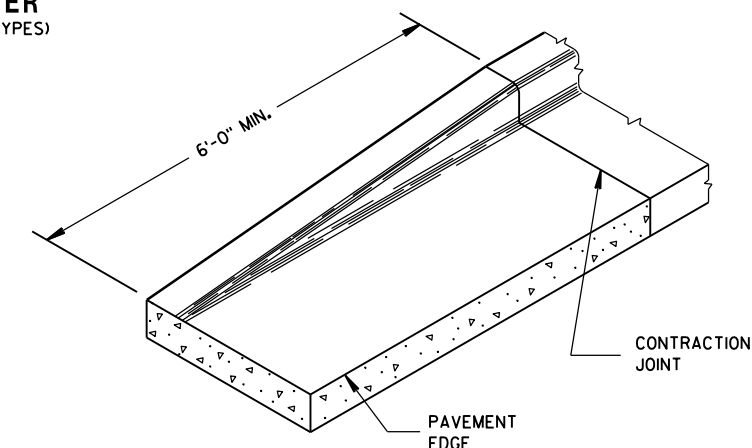
TYPES G & J ①



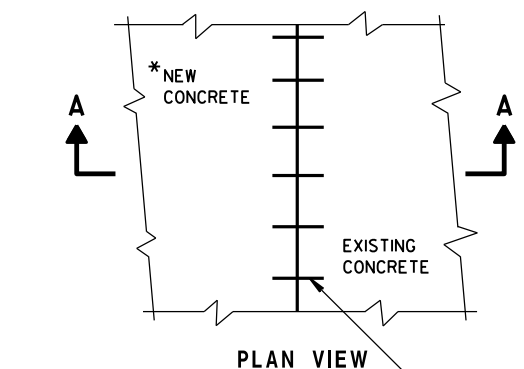
REVERSE SLOPE GUTTER
(TYPICAL FOR ALL CURB & GUTTER TYPES)



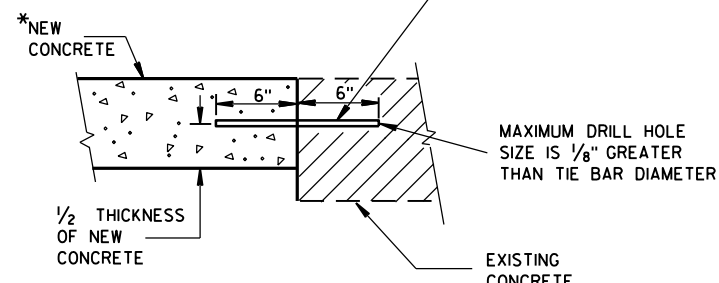
PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER



PLAN VIEW



SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

* NEW CURB & GUTTER,
SURFACE DRAINS,
CONCRETE PAVEMENT
OR OTHER NEW CONCRETE.

NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

MAXIMUM DRILL HOLE
SIZE IS 1/8" GREATER
THAN TIE BAR DIAMETER

EXISTING CONCRETE

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

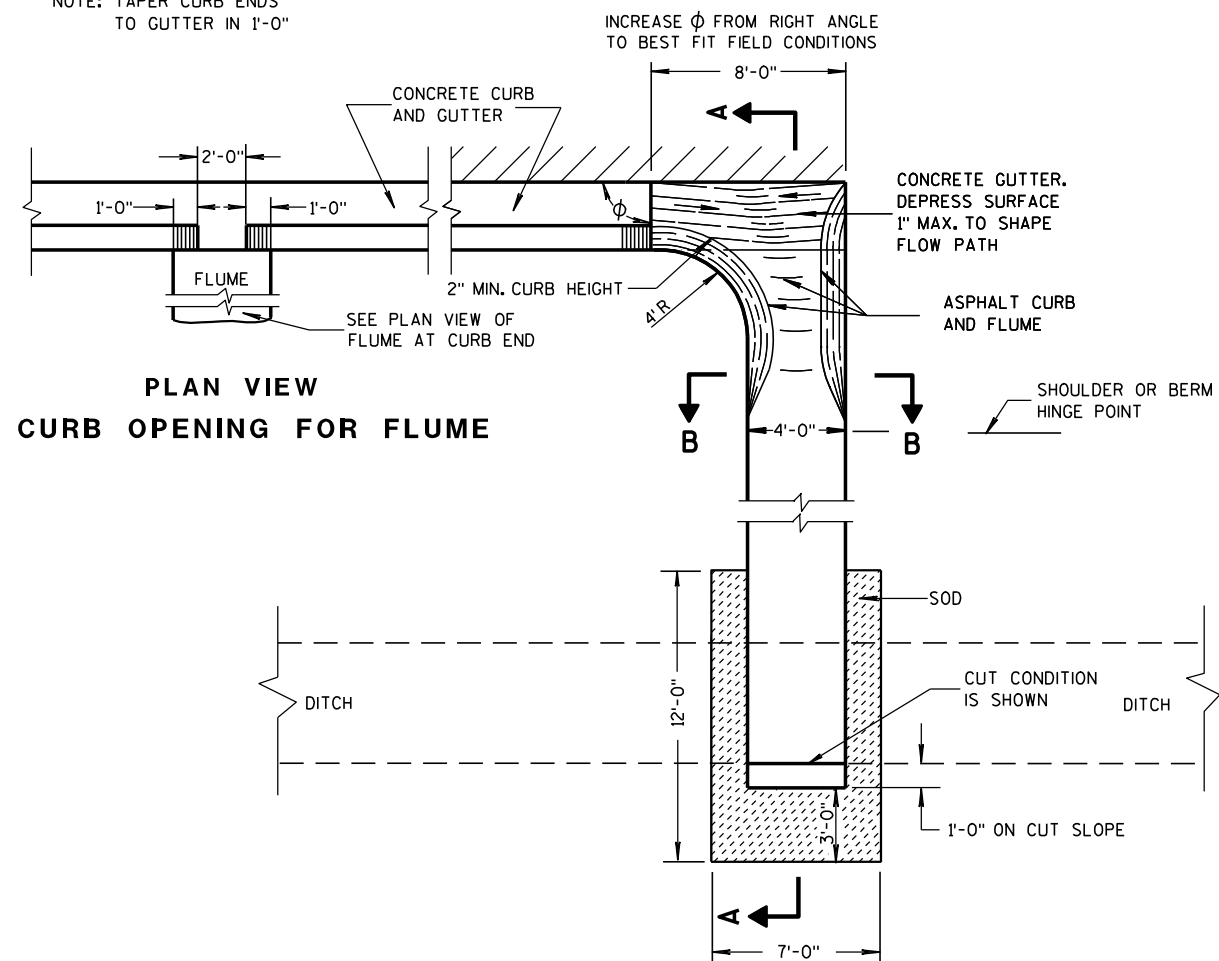
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2016
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

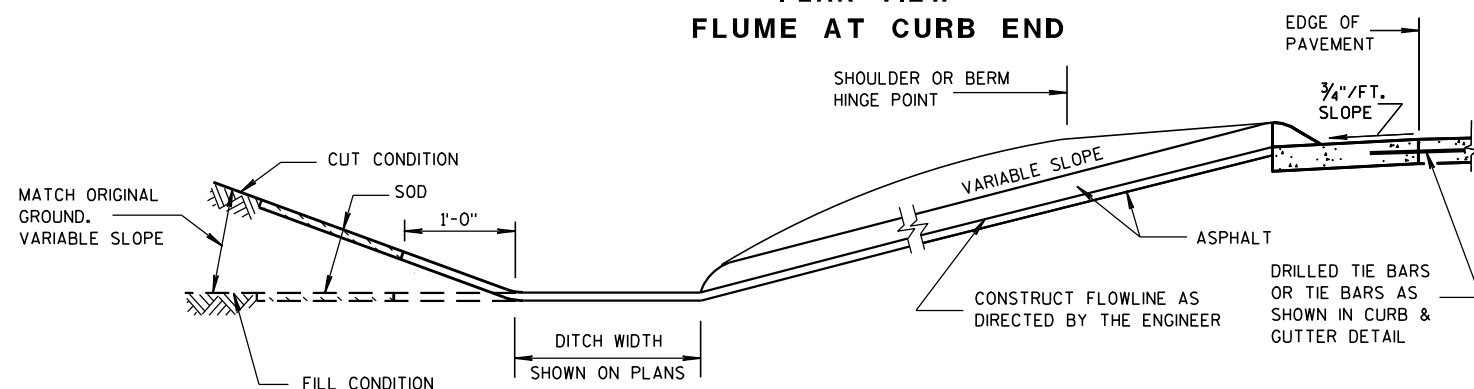
ASPHALTIC FLUME

NOTE: TAPER CURB ENDS
TO GUTTER IN 1'-0"

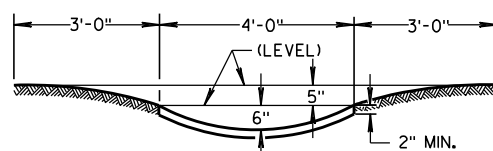


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

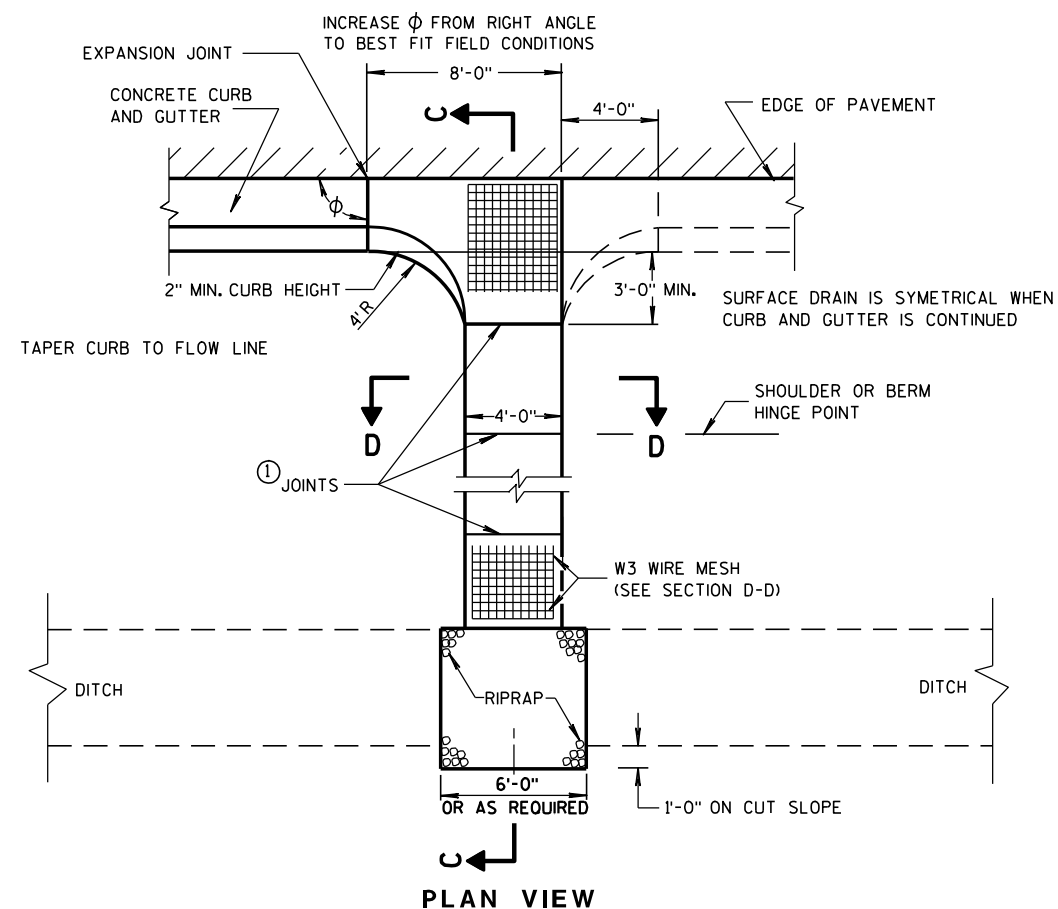
GENERAL NOTES

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

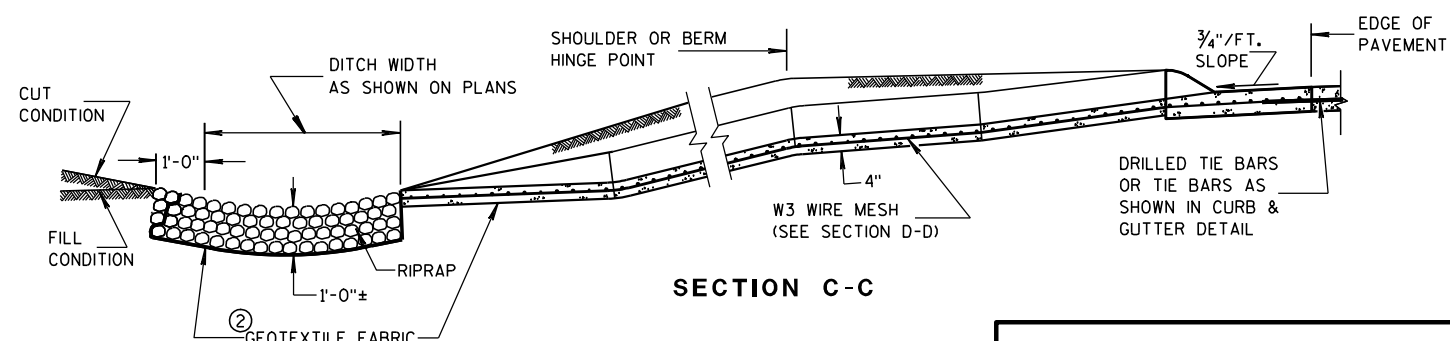
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

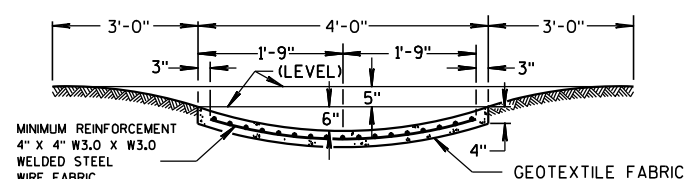
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

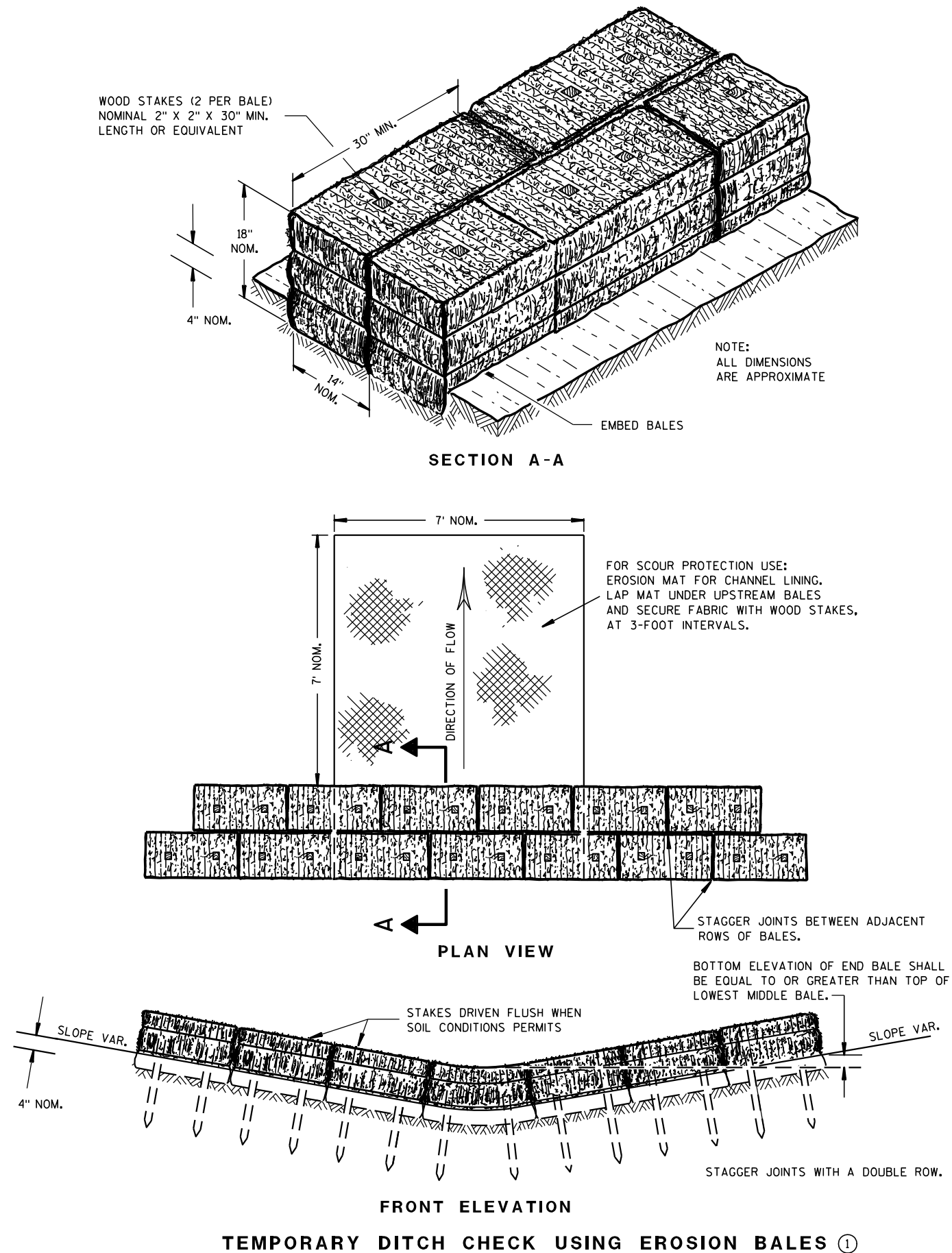
APPROVED

9-4-08

DATE

FHWA

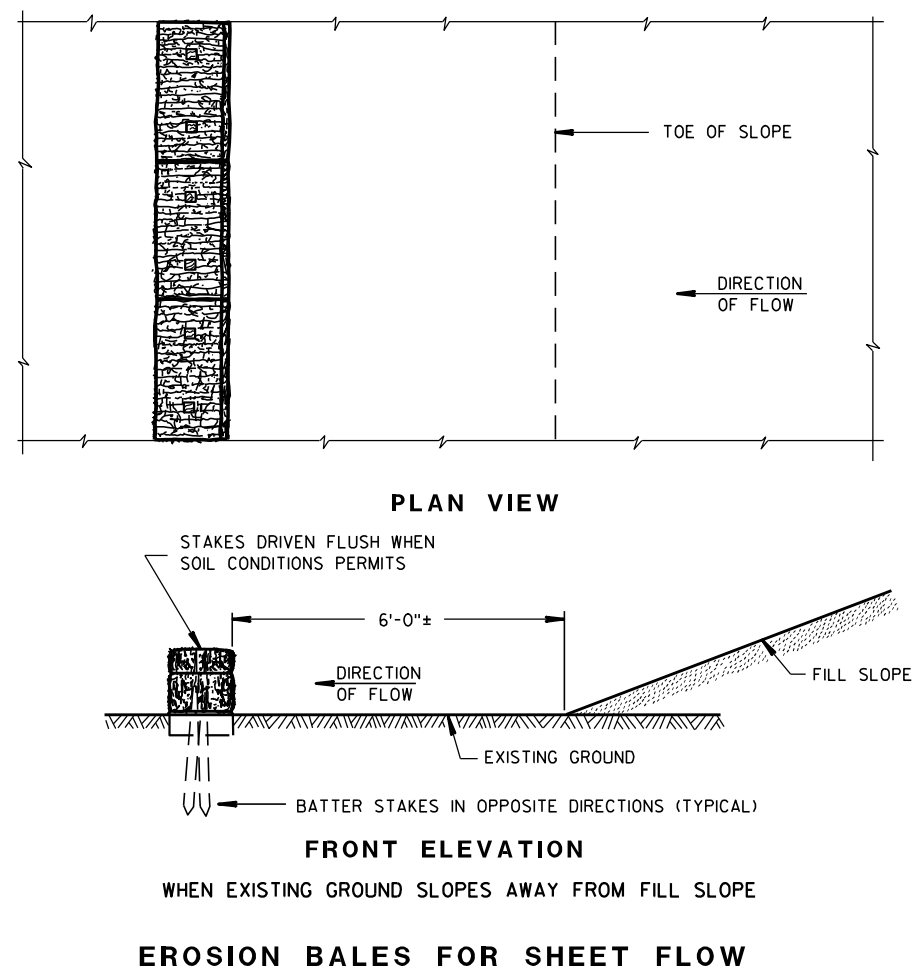
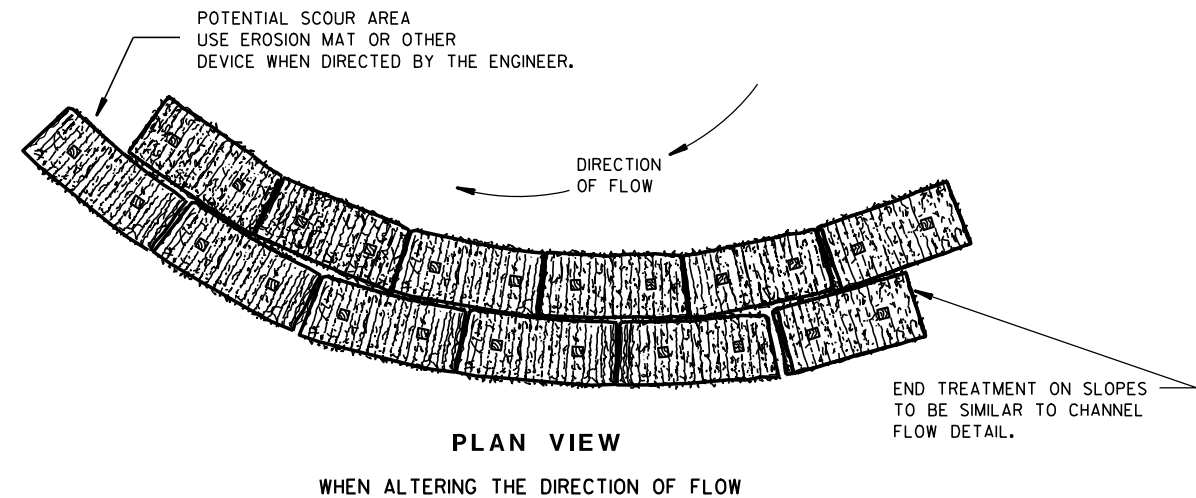
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



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

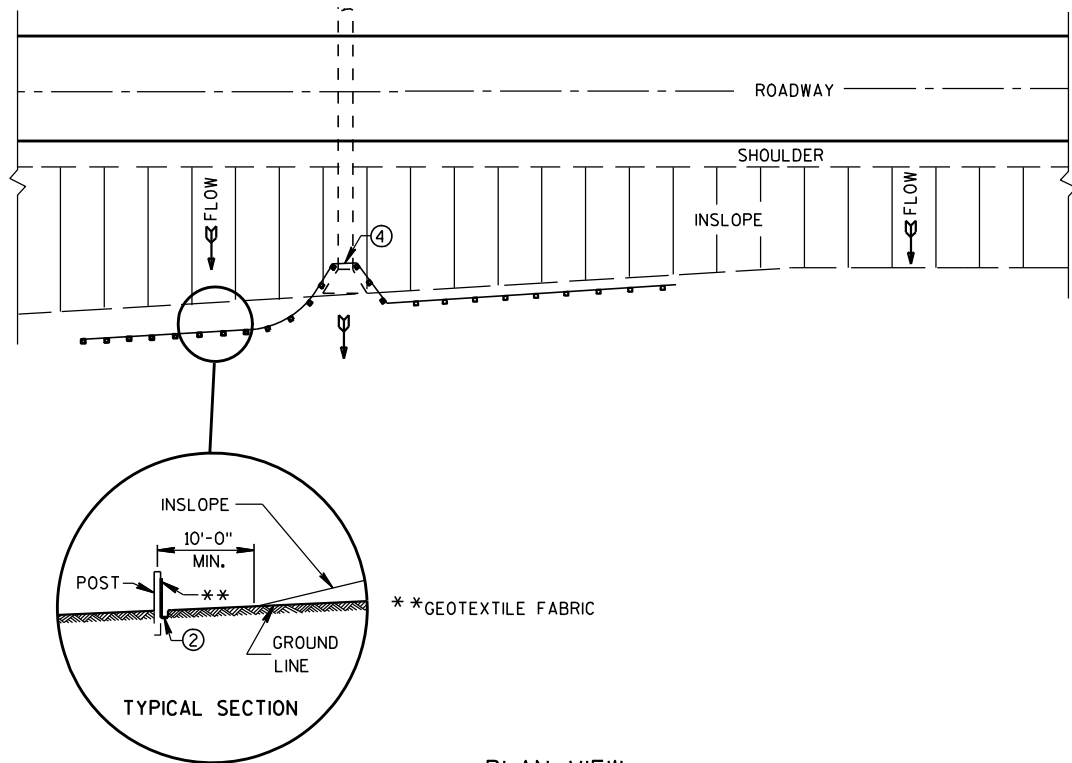
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

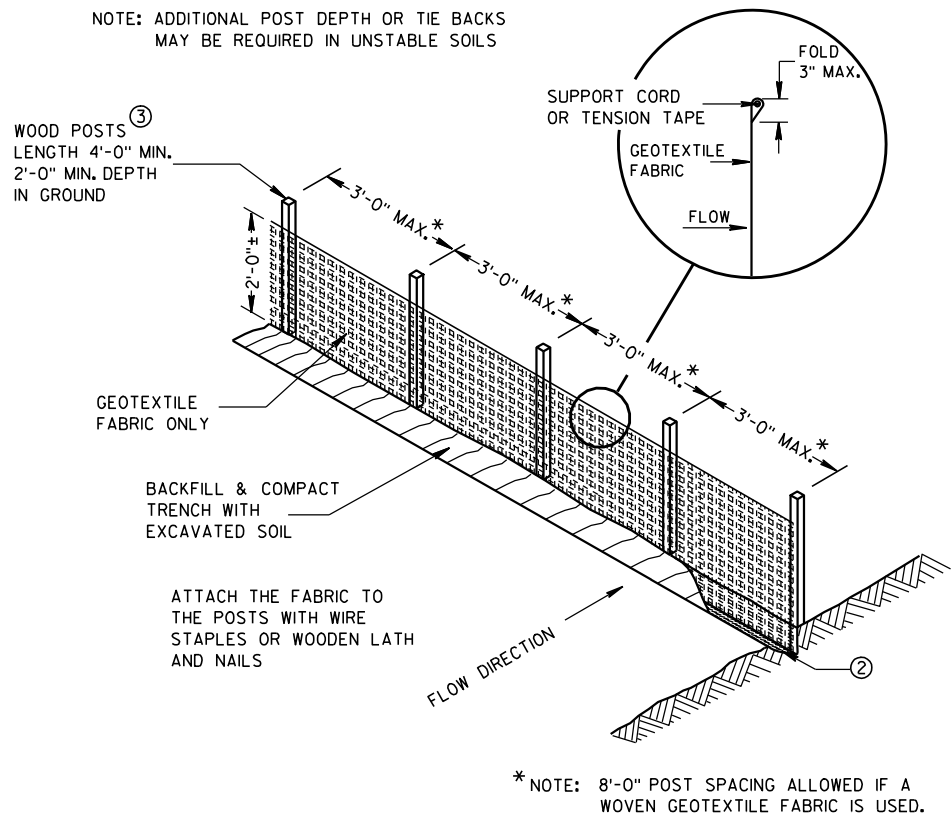
6/04/02
DATE

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

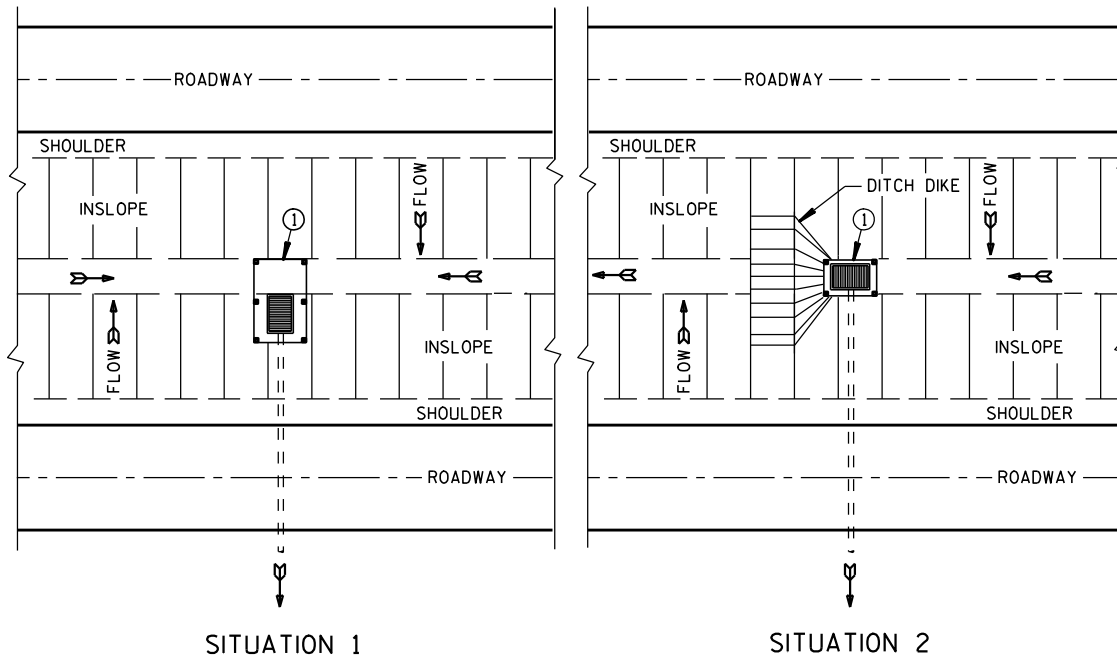
FHWA



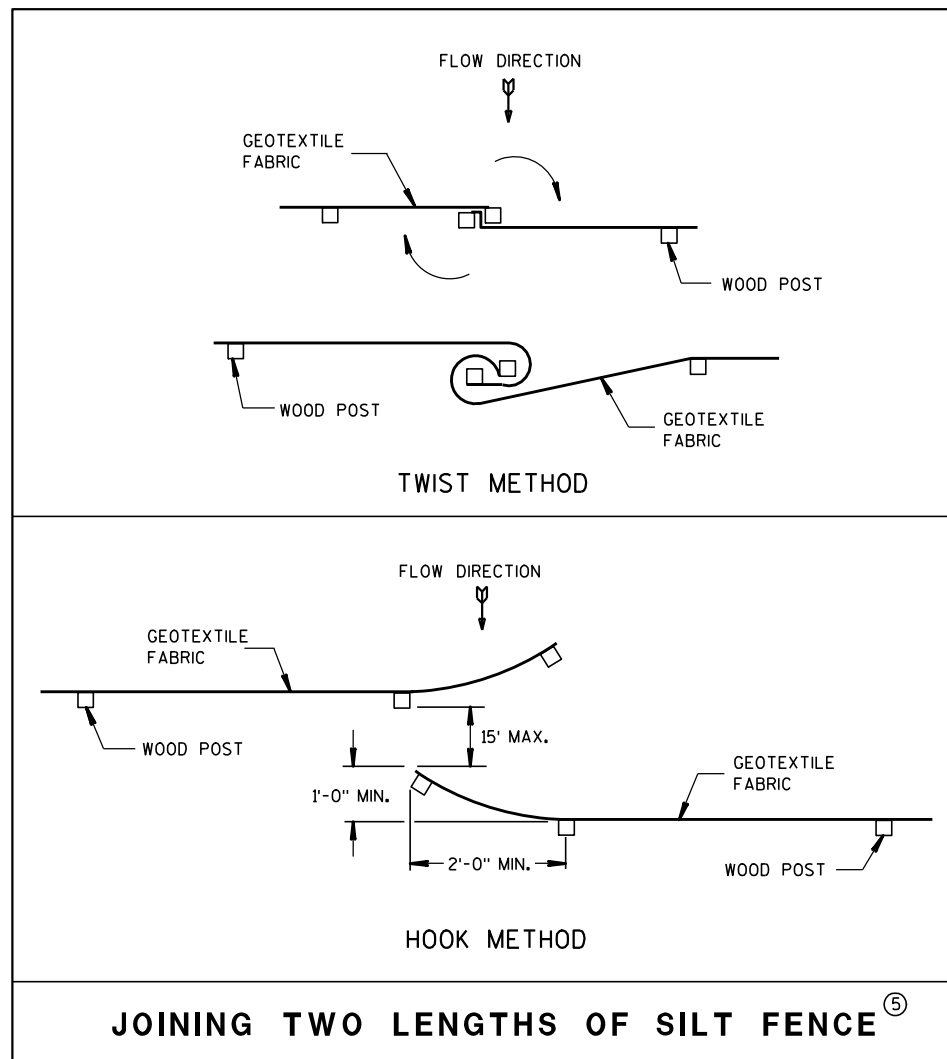
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

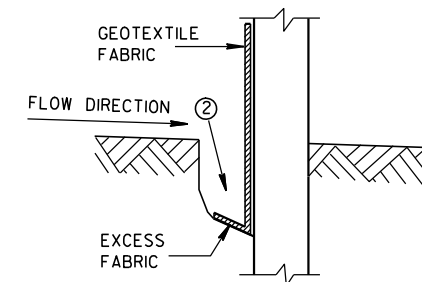


JOINING TWO LENGTHS OF SILT FENCE ⑤

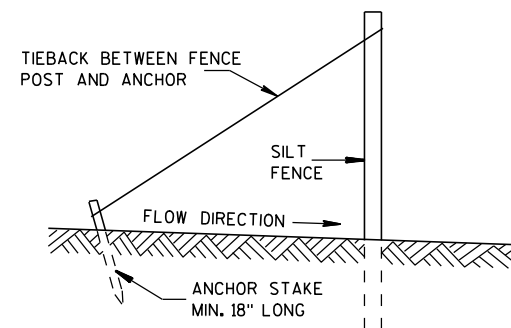
GENERAL NOTES

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

- 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.

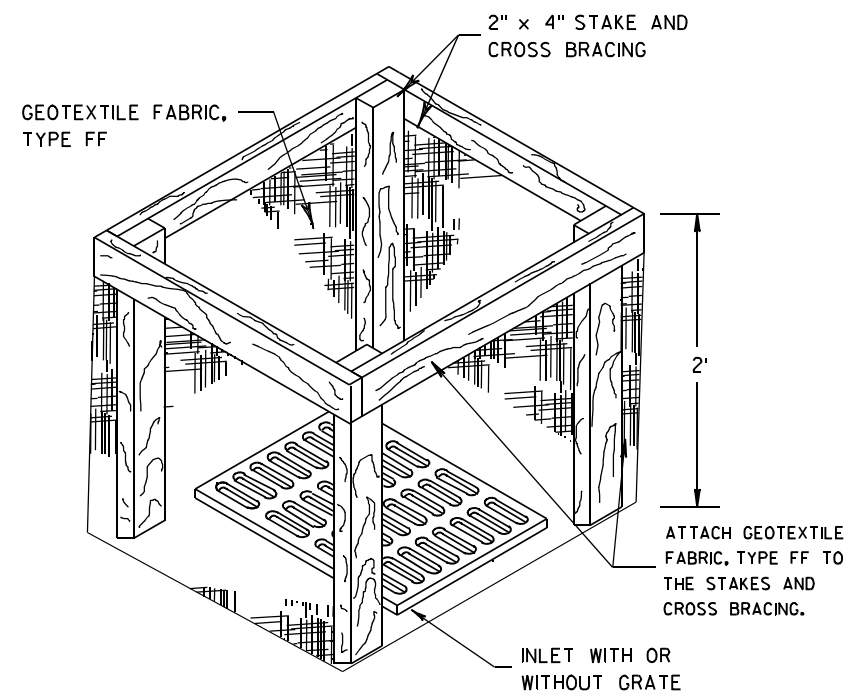
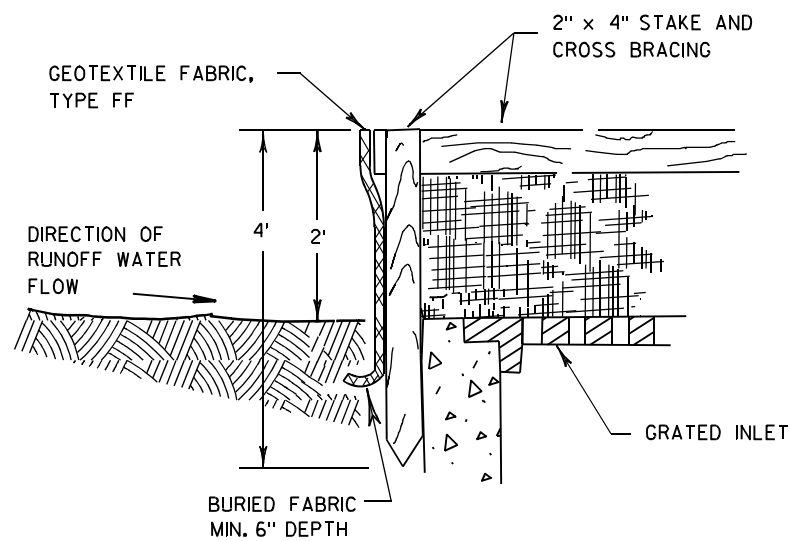


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



INLET PROTECTION, TYPE A

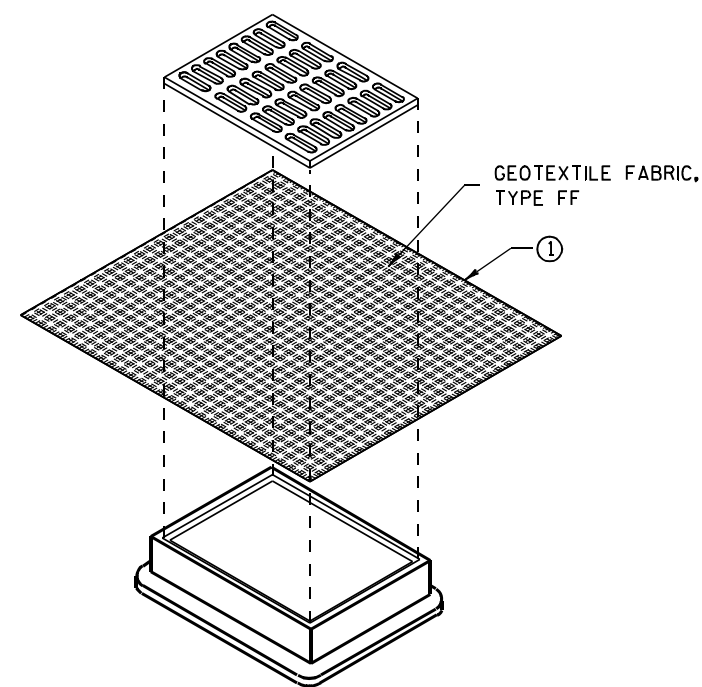
GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

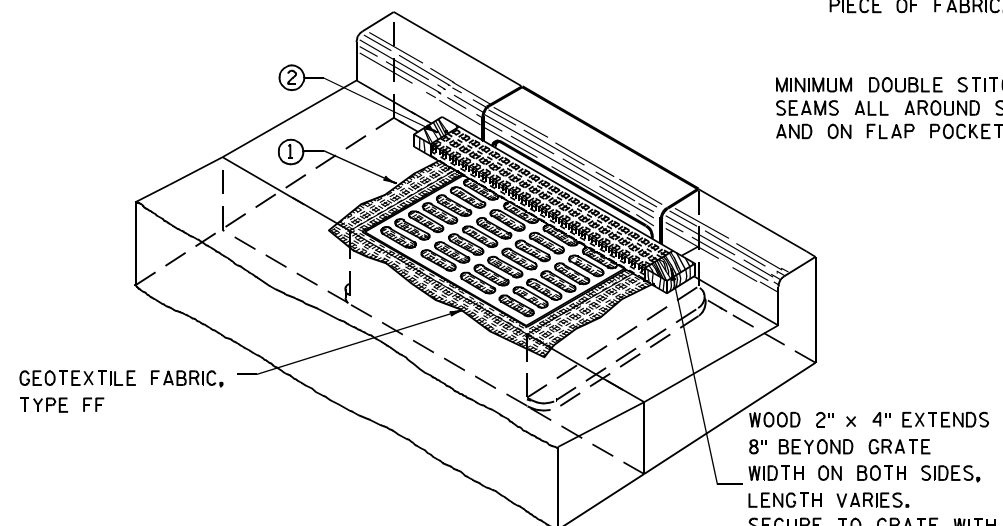
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

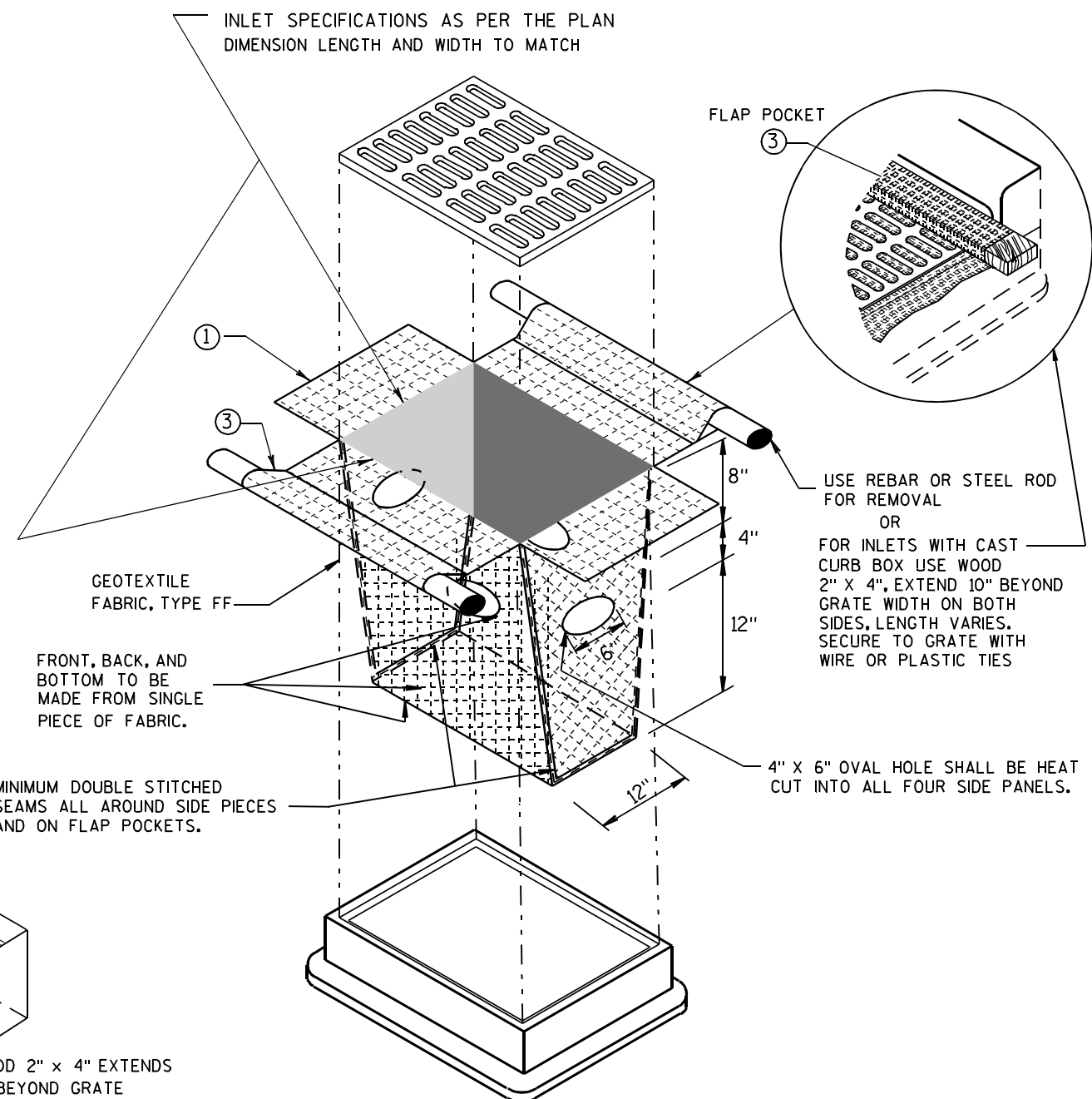
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



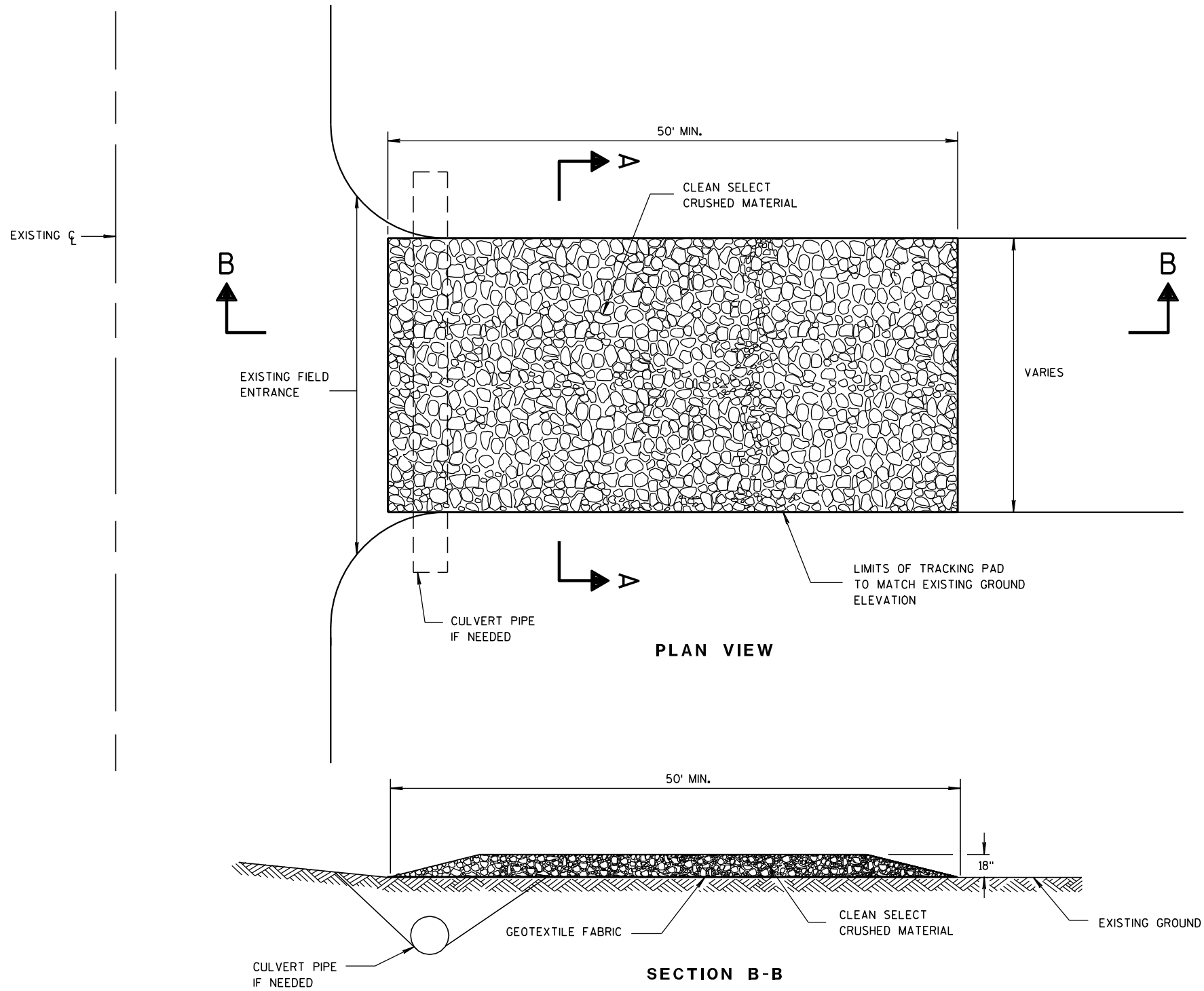
INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Cannestra
DATE
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER



TRACKING PAD

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

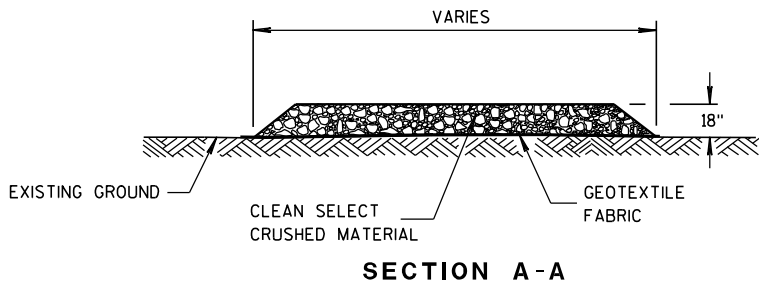
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



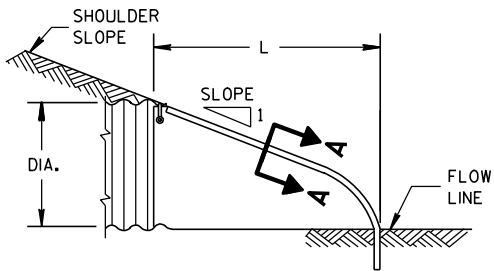
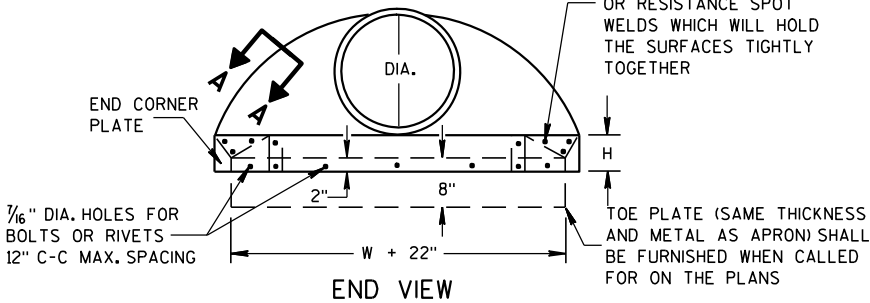
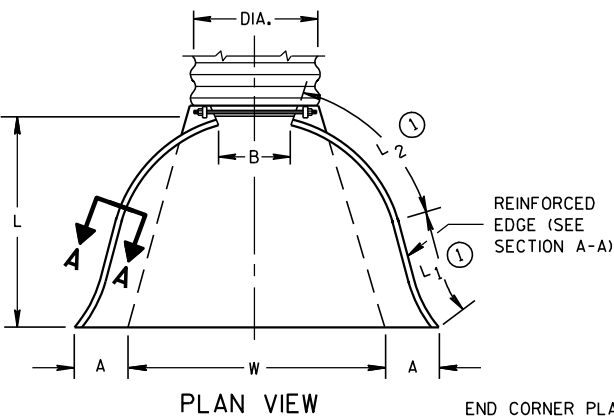
TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011
DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

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.

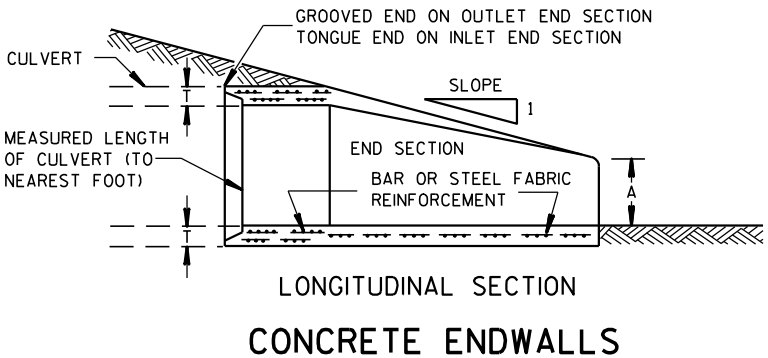
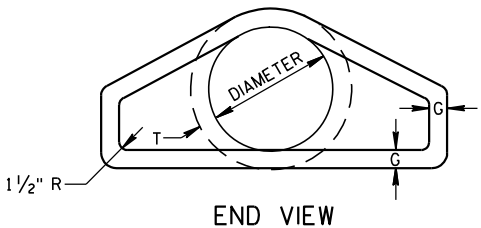
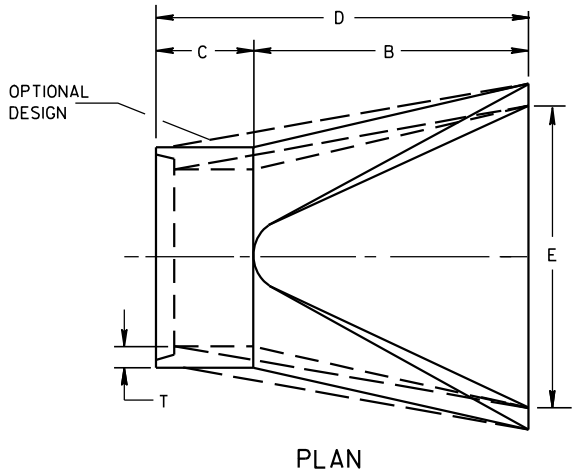
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



SIDE ELEVATION
METAL ENDWALLS

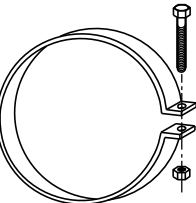
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9 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

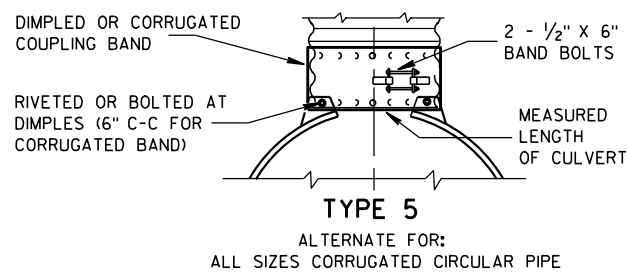
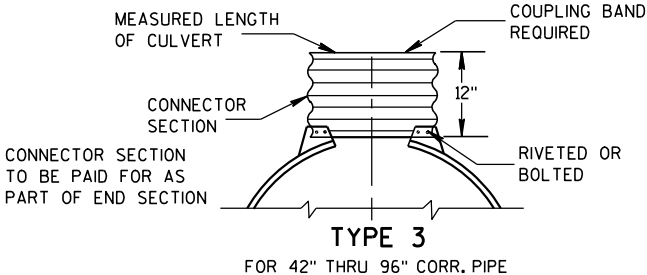
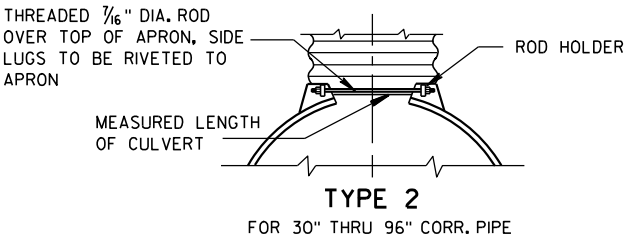
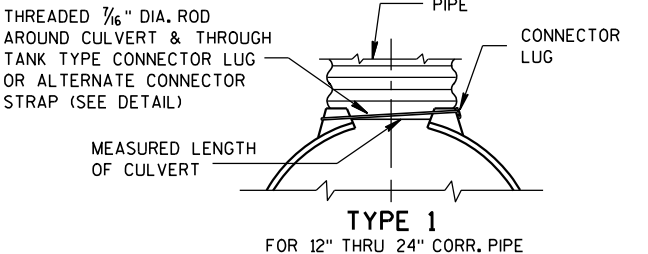


LONGITUDINAL SECTION
CONCRETE ENDWALLS

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



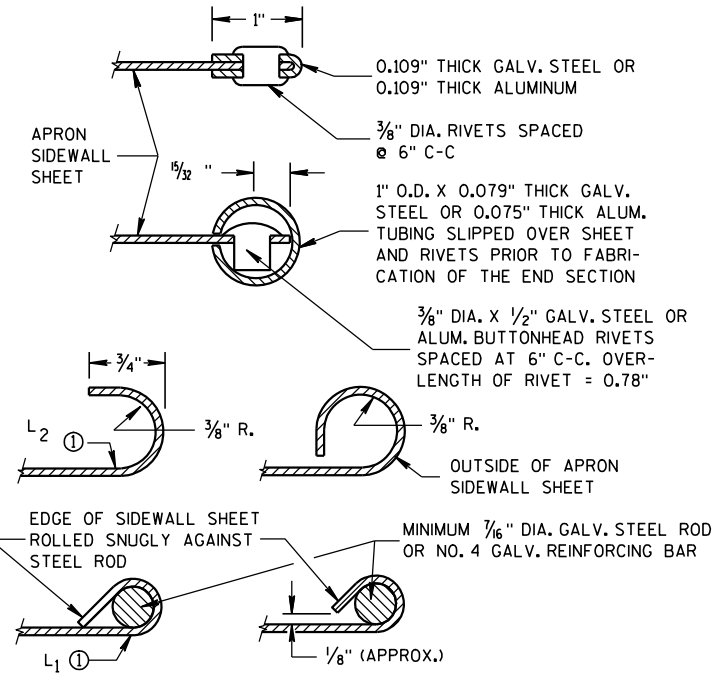
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

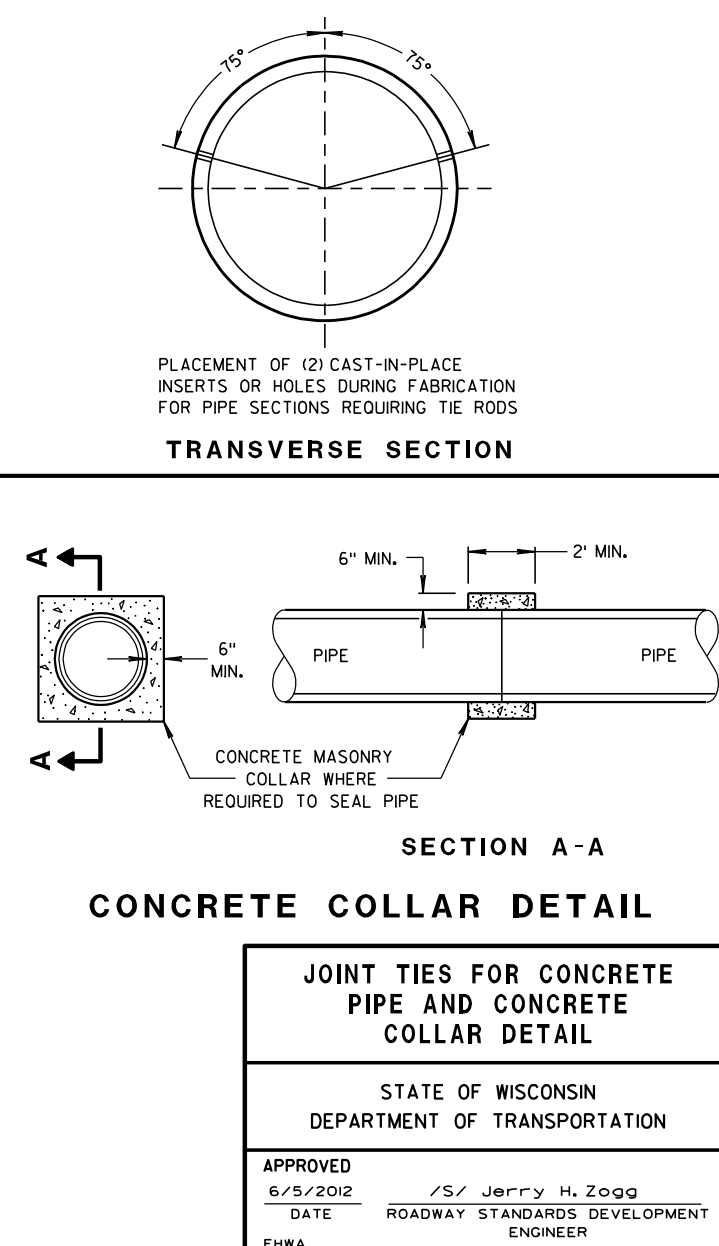
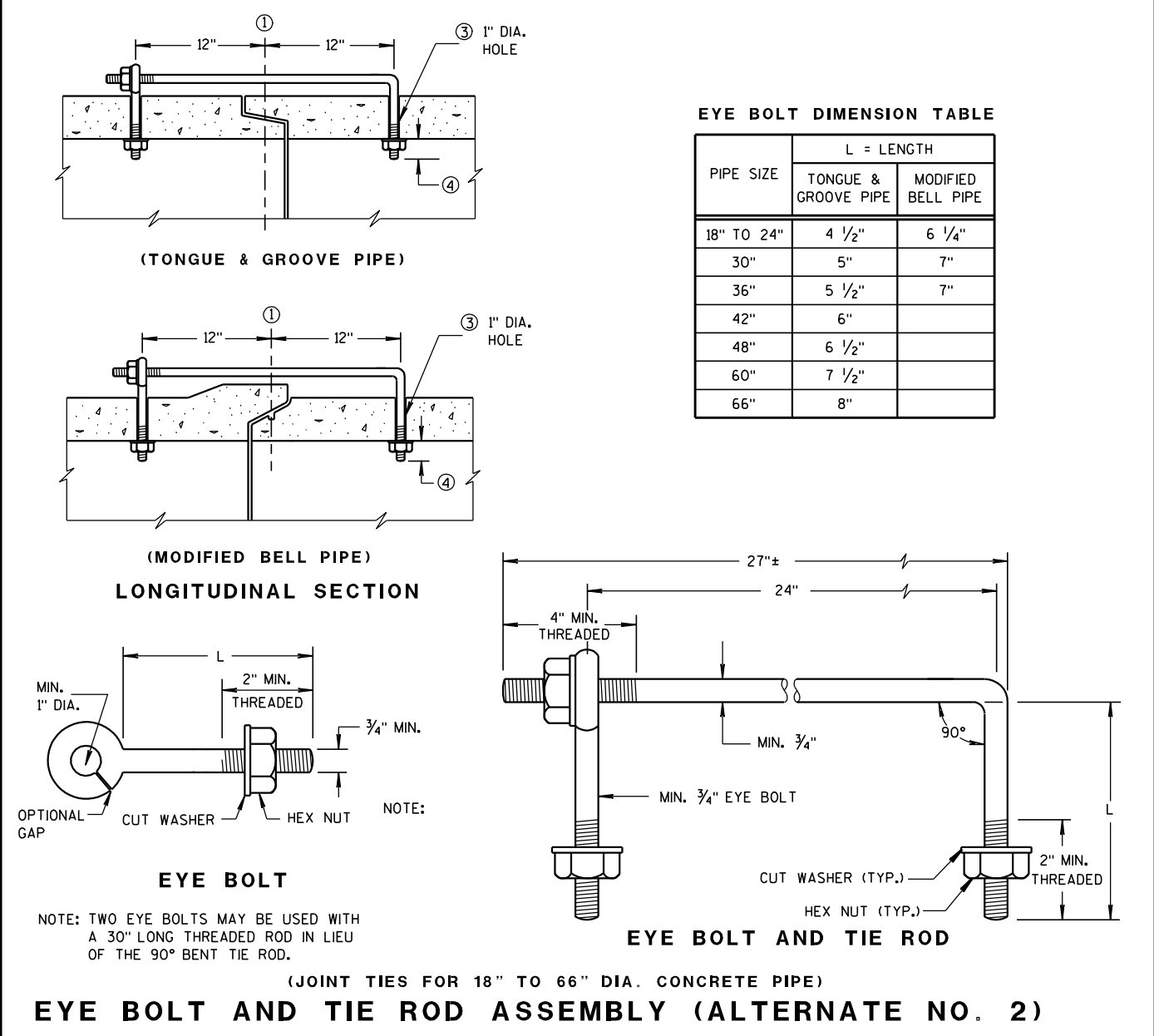
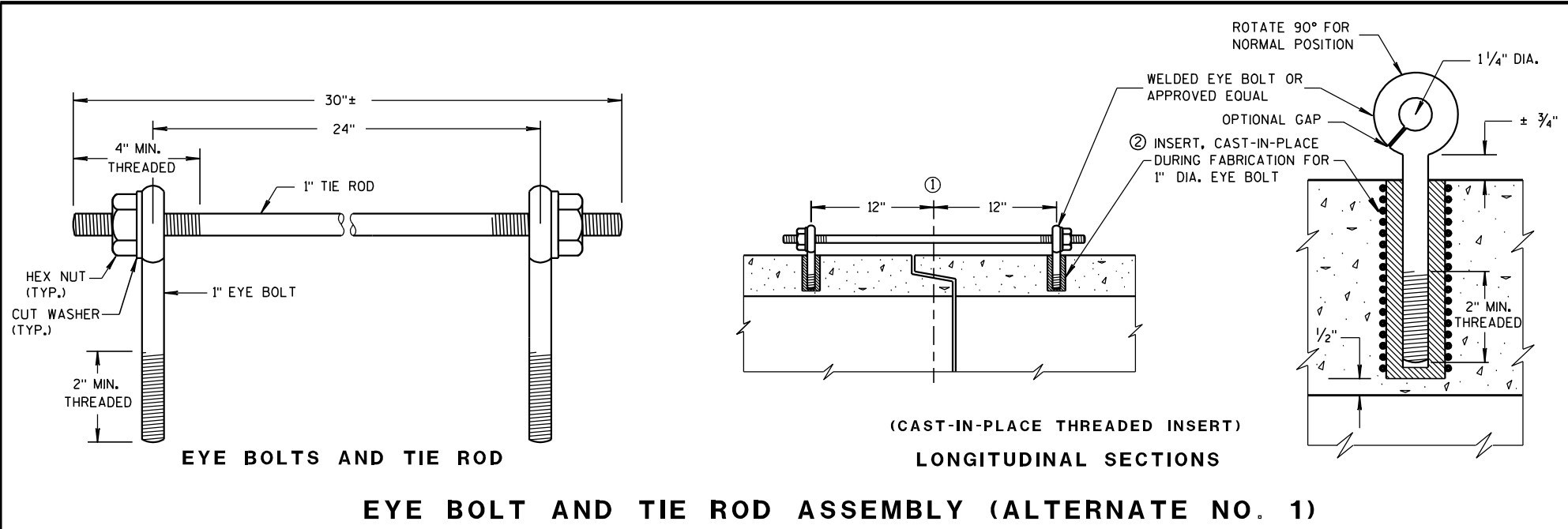
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

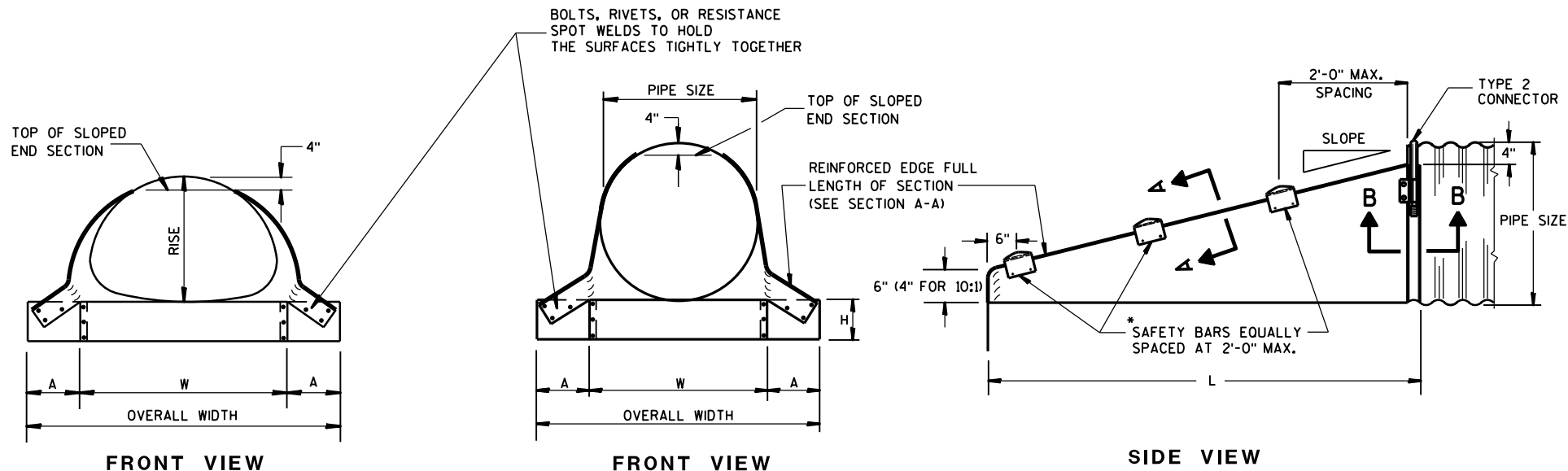
LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES.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





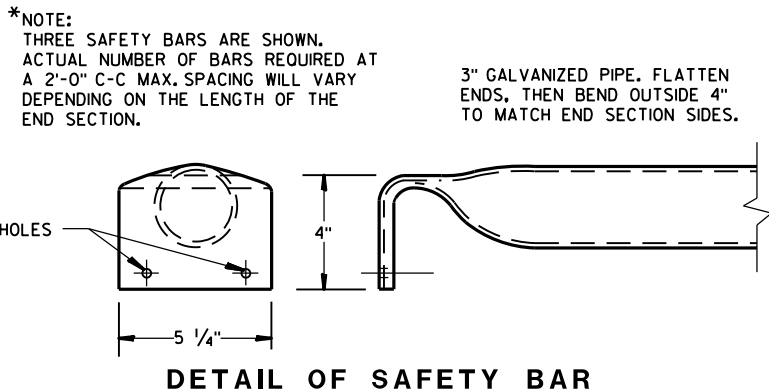
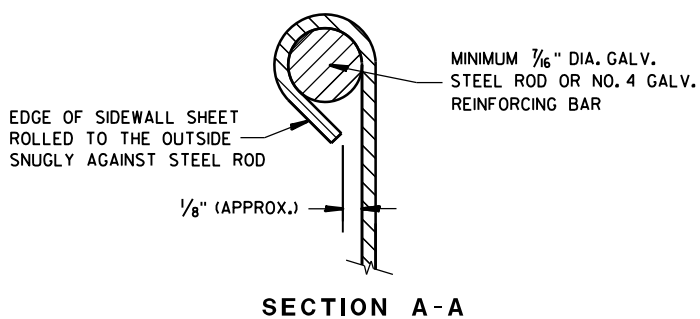
GENERAL NOTES

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

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

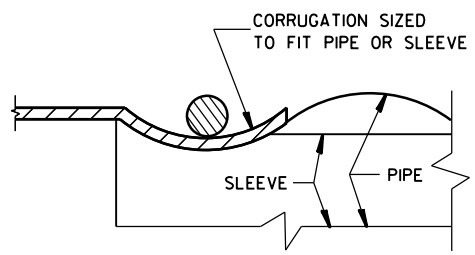
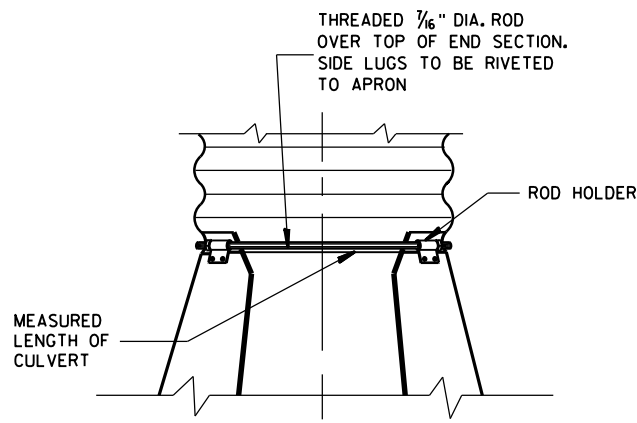
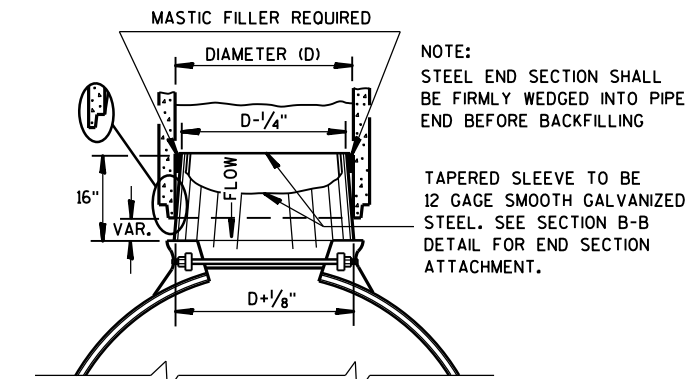
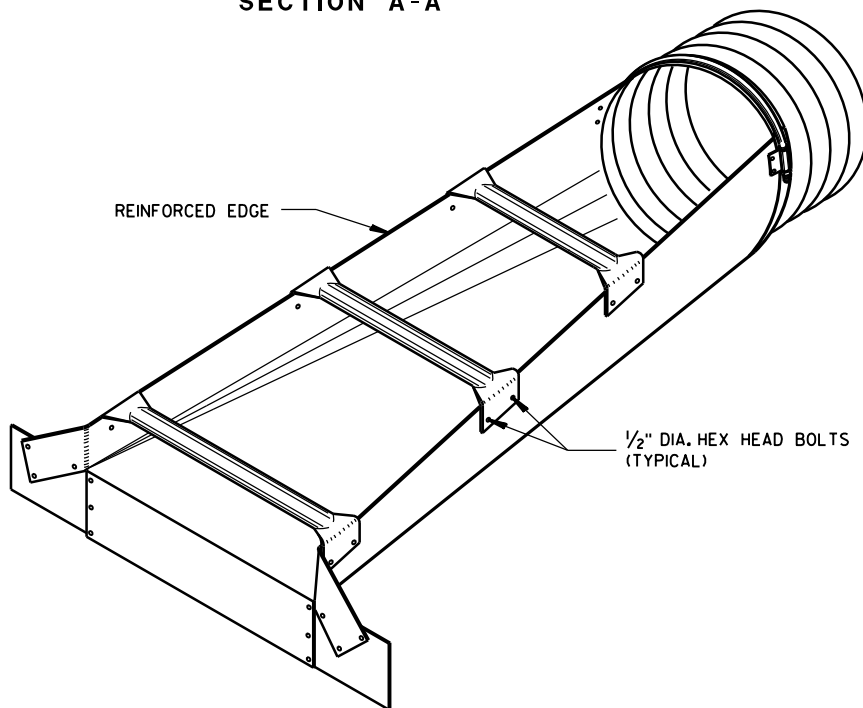
SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

STEEL APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)	DIMENSIONS (Inches)				L DIMENSIONS					
		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	.064	8	6	21	37	4:1	20	6:1	30	10:1	70
18	.064	8	6	24	40	4:1	32	6:1	48	10:1	100
21	.064	8	6	27	43	4:1	44	6:1	66	10:1	130
24	.064	8	6	30	46	4:1	56	6:1	84	10:1	160
30	.109	12	9	36	60	4:1	80	6:1	120	10:1	220
36	.109	12	9	42	66	4:1	104	6:1	156	10:1	280
42	.109	16	12	48	80	4:1	128	6:1	192	—	—
48	.109	16	12	54	86	4:1	152	6:1	228	—	—
54	.109	16	12	60	92	4:1	176	6:1	264	—	—
60	.109	16	12	66	98	4:1	200	6:1	300	—	—



STEEL APRON ENDWALLS FOR PIPE ARCH SLOPED SIDE DRAINS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches) ①	DIMENSIONS (Inches)				L DIMENSIONS					
	SPAN	RISE		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	17	13	.064 *	7	6	30	44	4:1	19	6:1	30	10:1 ②	70
18	21	15	.064 *	8	6	27	43	4:1	20	6:1	30	10:1	70
21	24	18	.064 *	8	6	30	46	4:1	32	6:1	48	10:1	100
24	28	20	.064 *	8	6	34	50	4:1	40	6:1	60	10:1	120
30	35	24	.079 *	12	9	41	65	4:1	56	6:1	84	10:1	160
36	42	29	.109 *	12	9	48	72	4:1	76	6:1	114	10:1	210
42	49	33	.109	16	12	55	87	4:1	92	6:1	138	—	—
48	57	38	.109	16	12	63	95	4:1	112	6:1	168	—	—
54	64	43	.109	16	12	70	102	4:1	132	6:1	198	—	—

① * MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".
② ACTUAL SLOPE GREATER THAN 10:1.



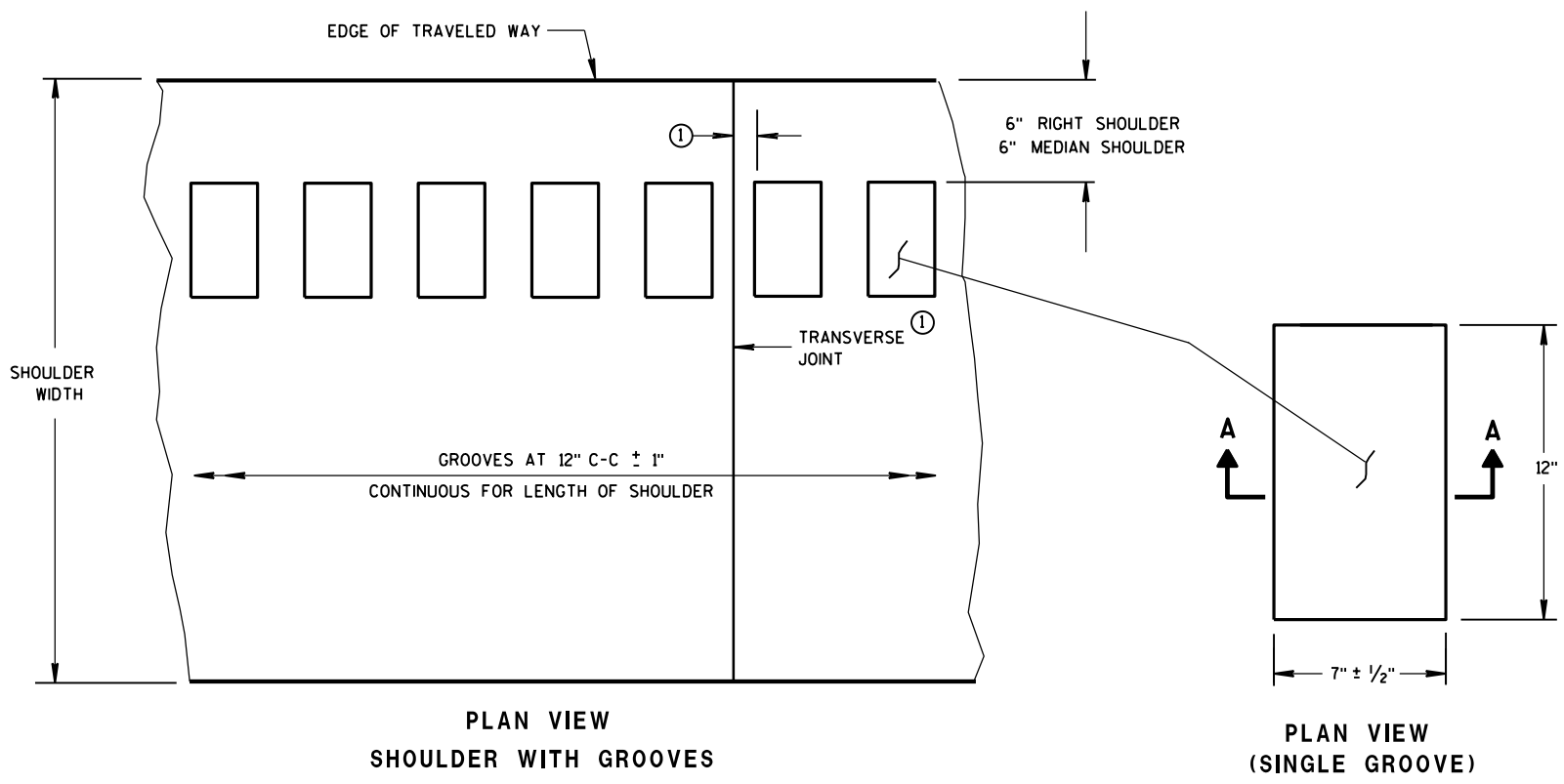
STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/14/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA



PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

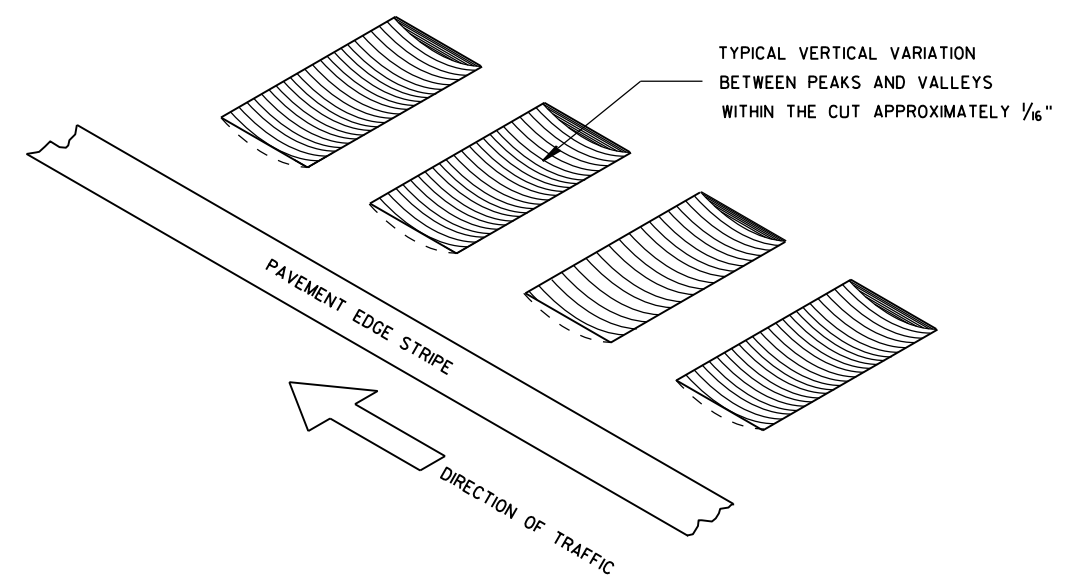
GENERAL NOTES

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

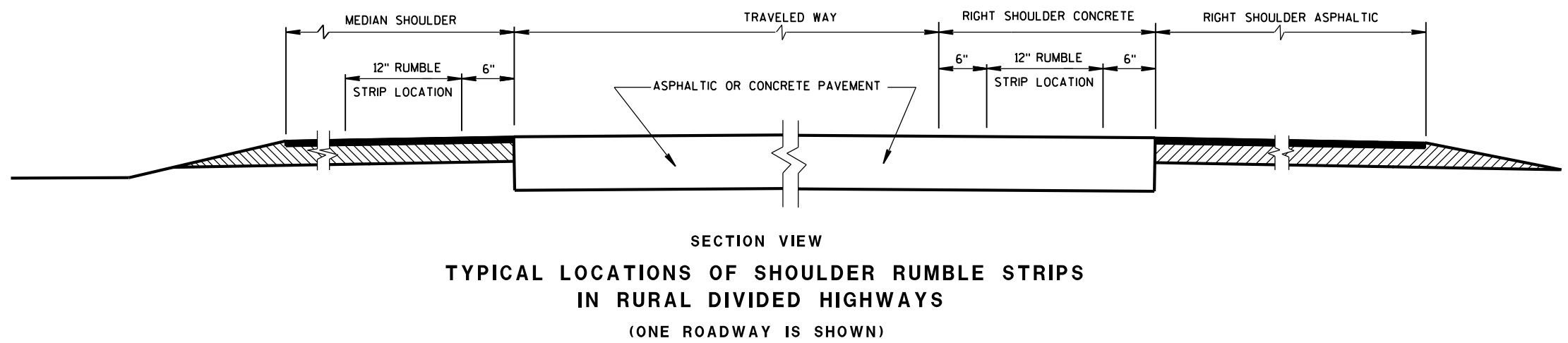
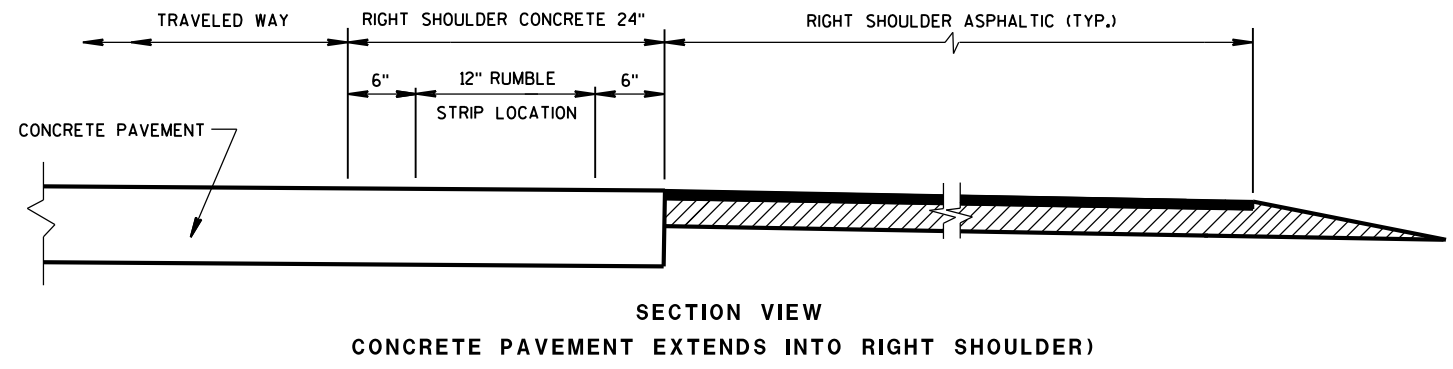
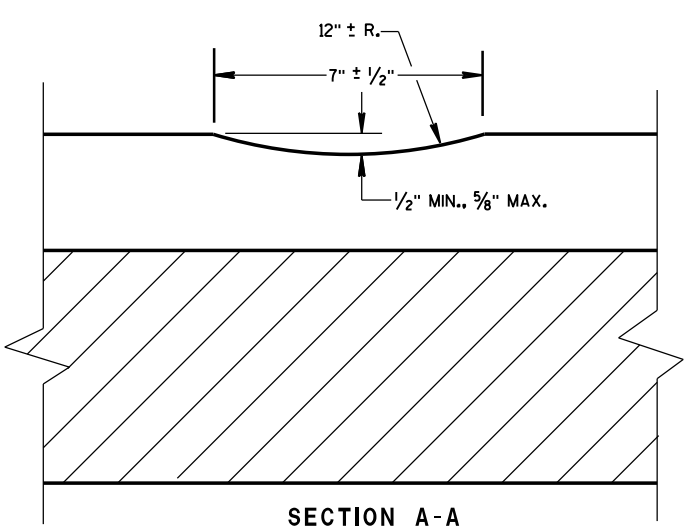
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

① CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.

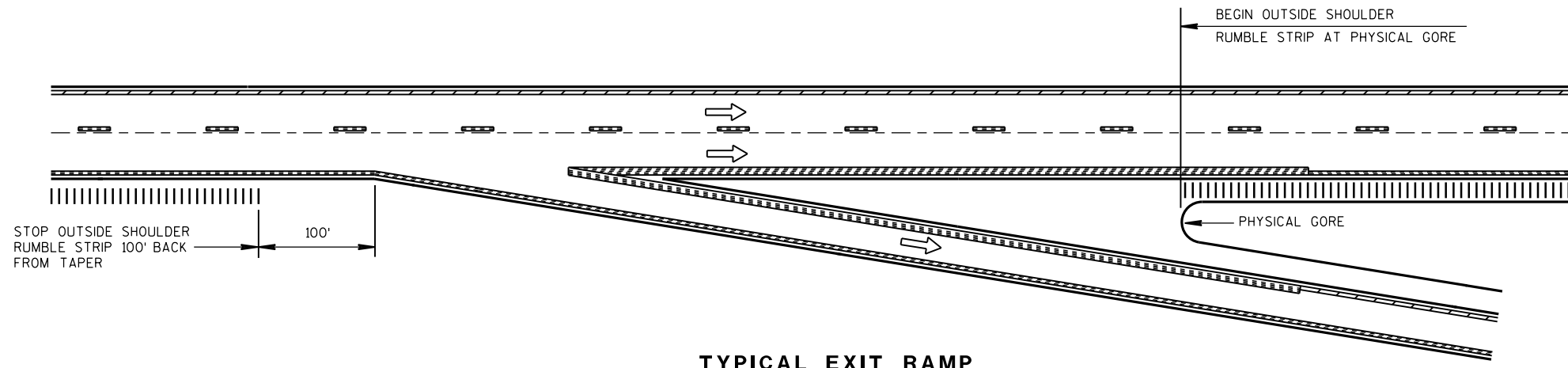


ISOMETRIC



**SHOULDER RUMBLE STRIP,
MILLING**

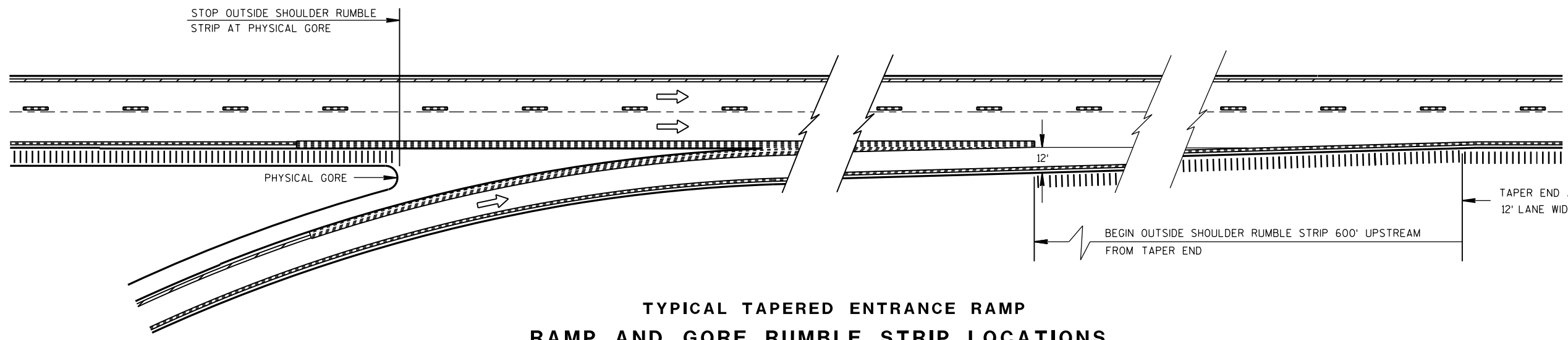
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



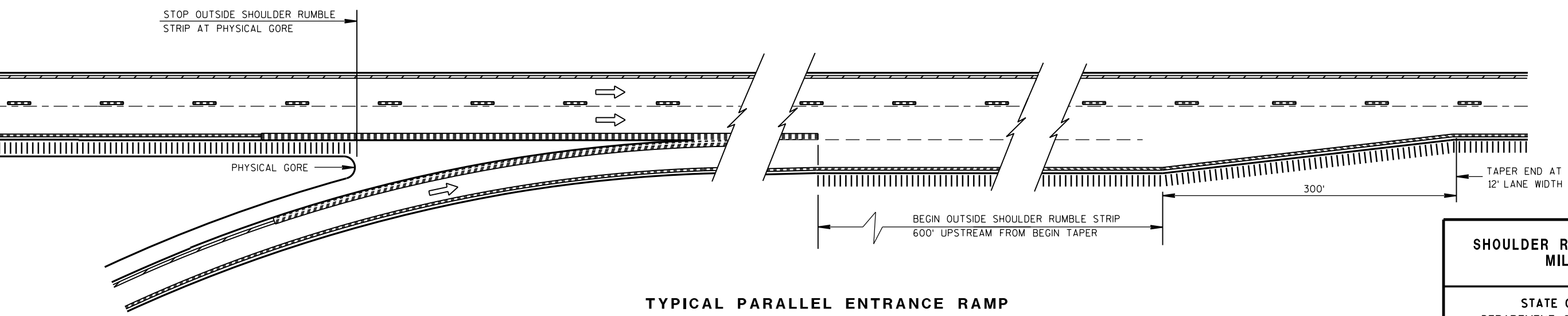
TYPICAL EXIT RAMP

NOTES:
NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (→)
SHOWS DIRECTION OF TRAVEL

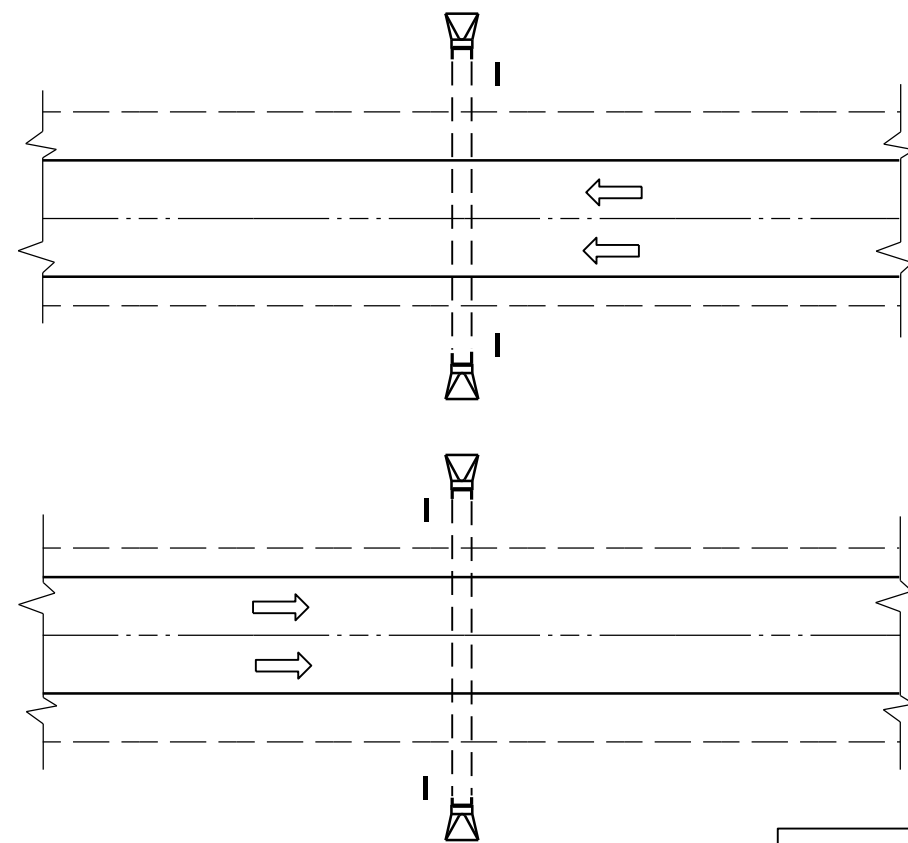


TYPICAL TAPERED ENTRANCE RAMP
RAMP AND GORE RUMBLE STRIP LOCATIONS

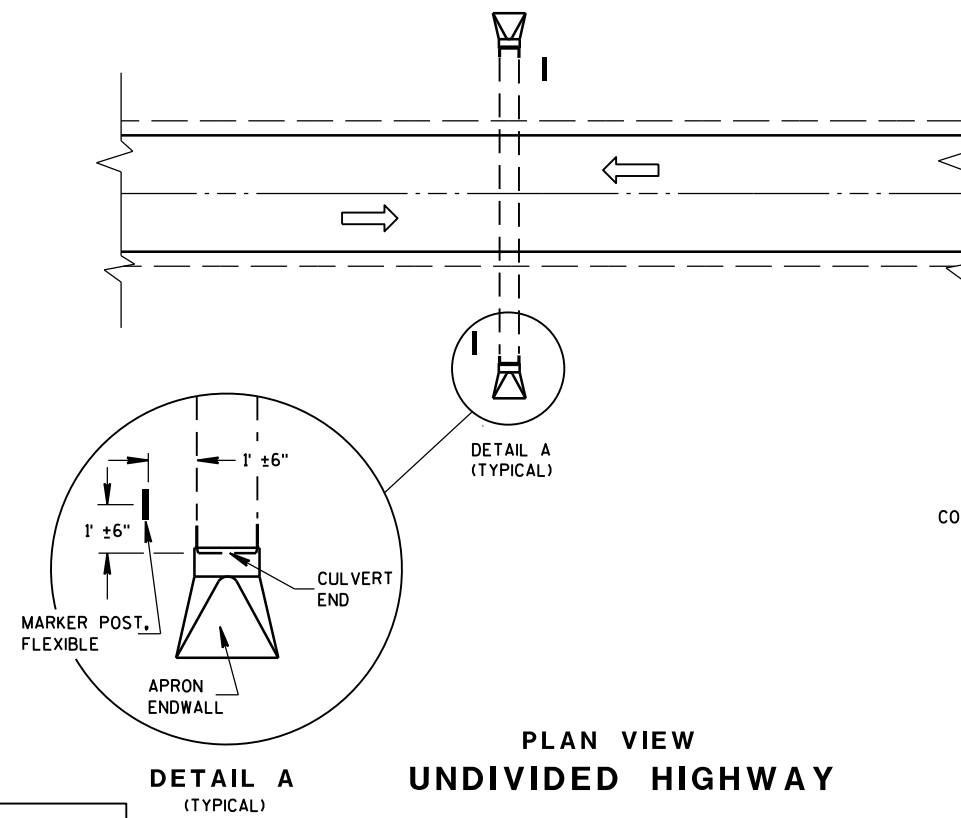
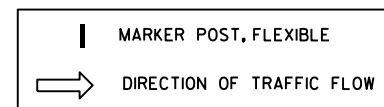


TYPICAL PARALLEL ENTRANCE RAMP
RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 12/17/2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



PLAN VIEW
DIVIDED HIGHWAY

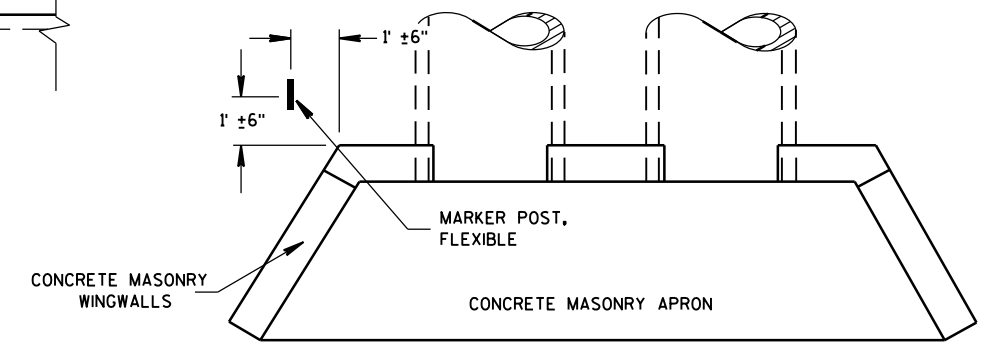


PLAN VIEW
UNDIVIDED HIGHWAY

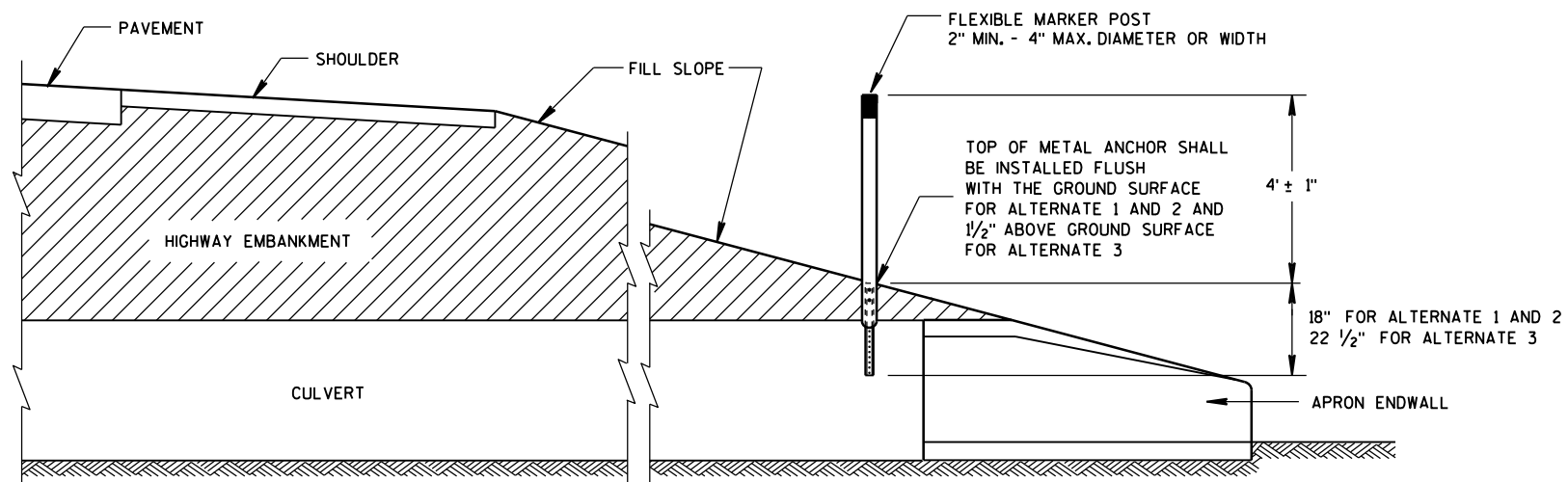
FLEXIBLE MARKER POST LOCATION

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.



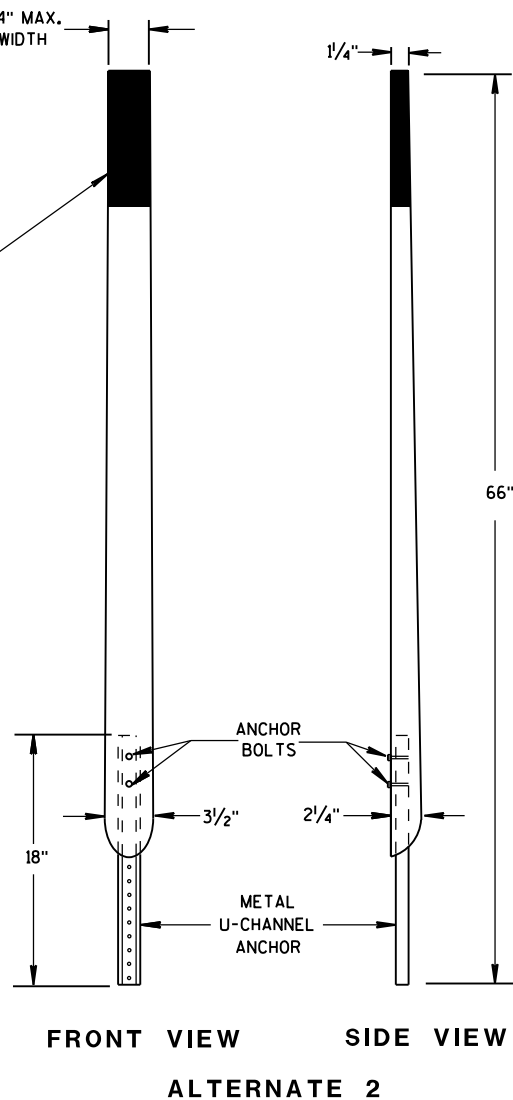
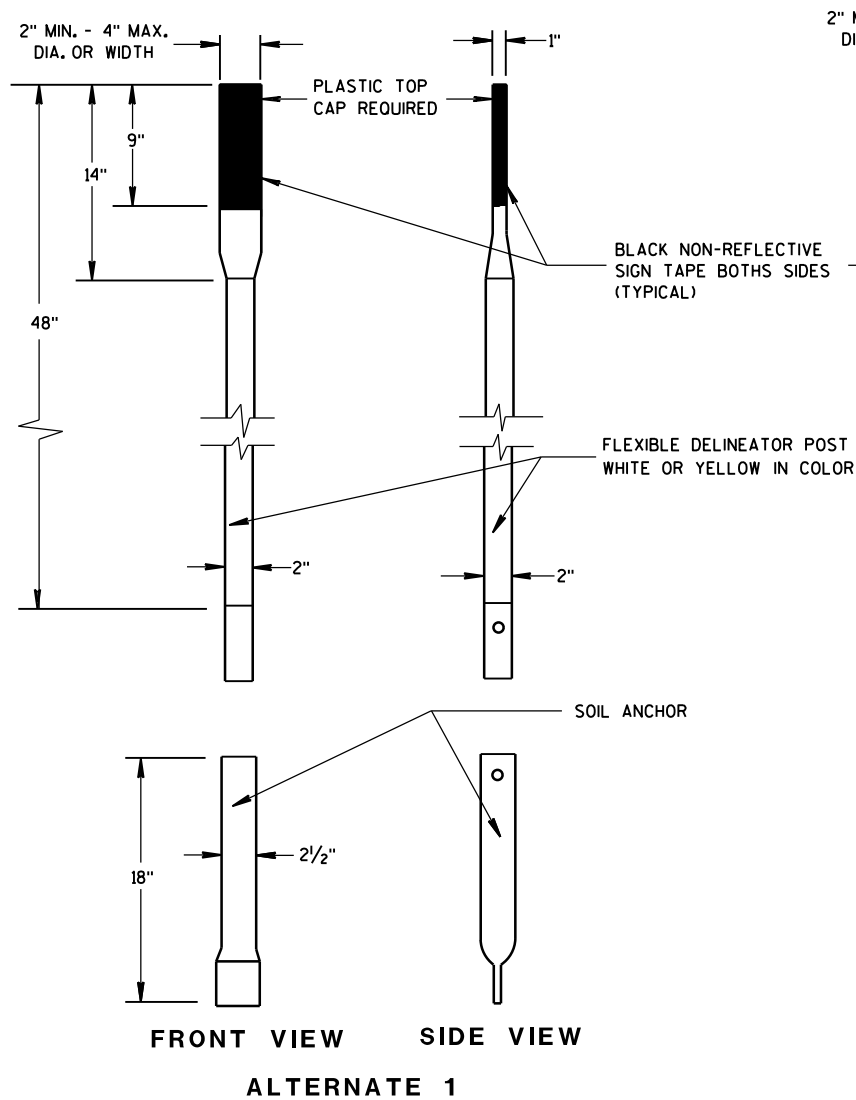
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



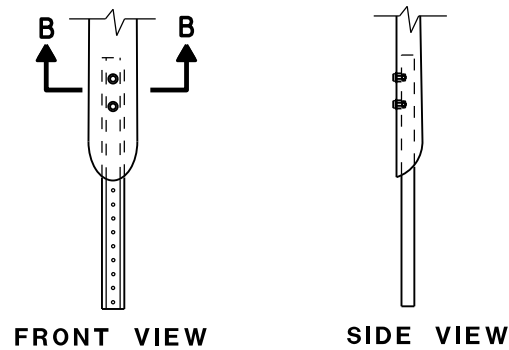
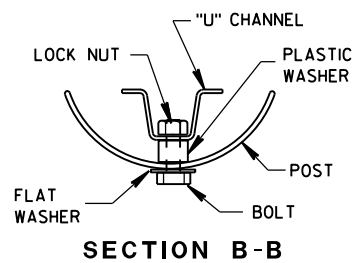
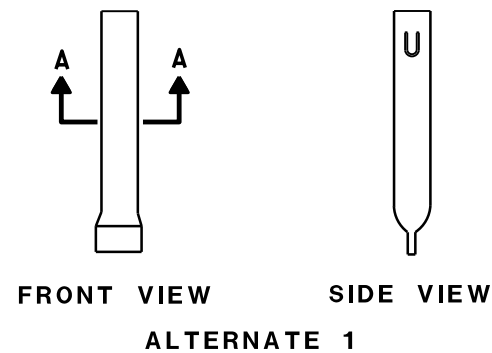
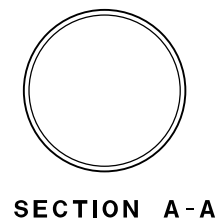
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

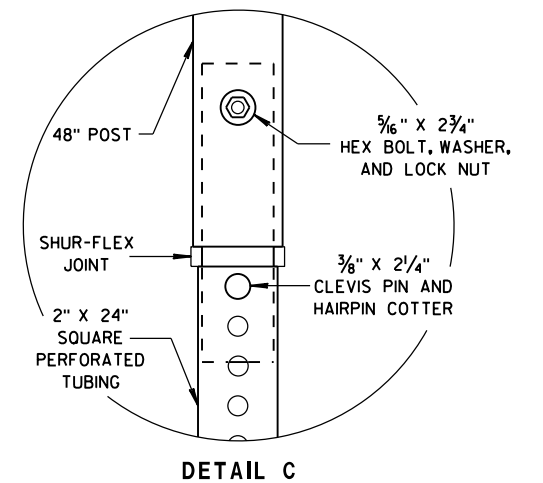
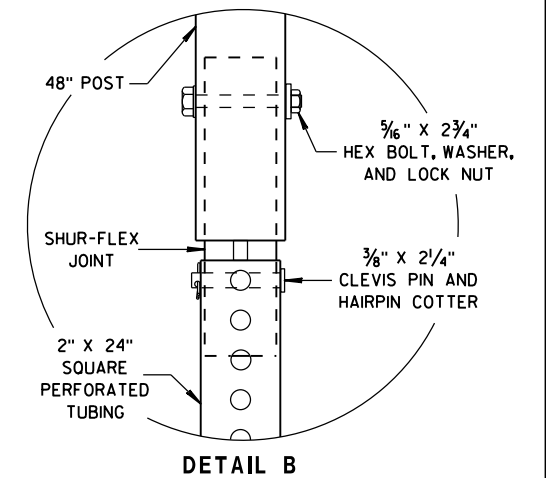
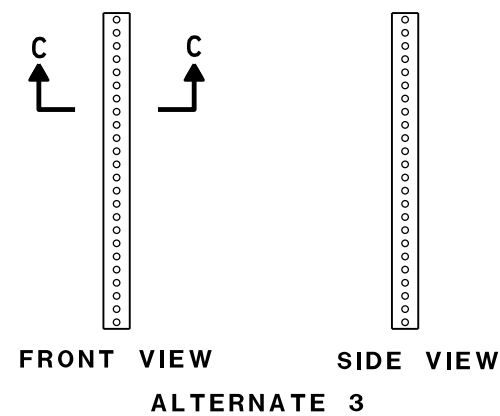
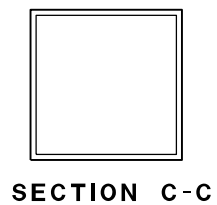
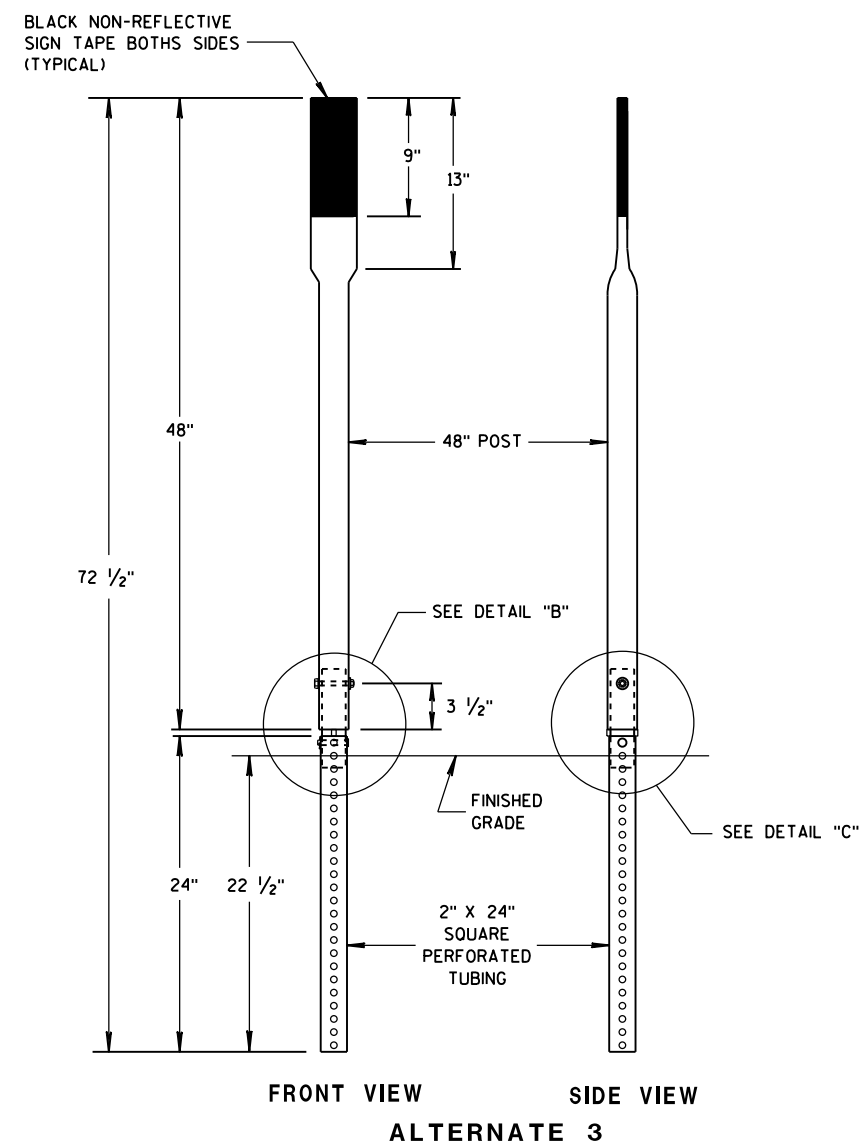
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FLEXIBLE MARKER POSTS



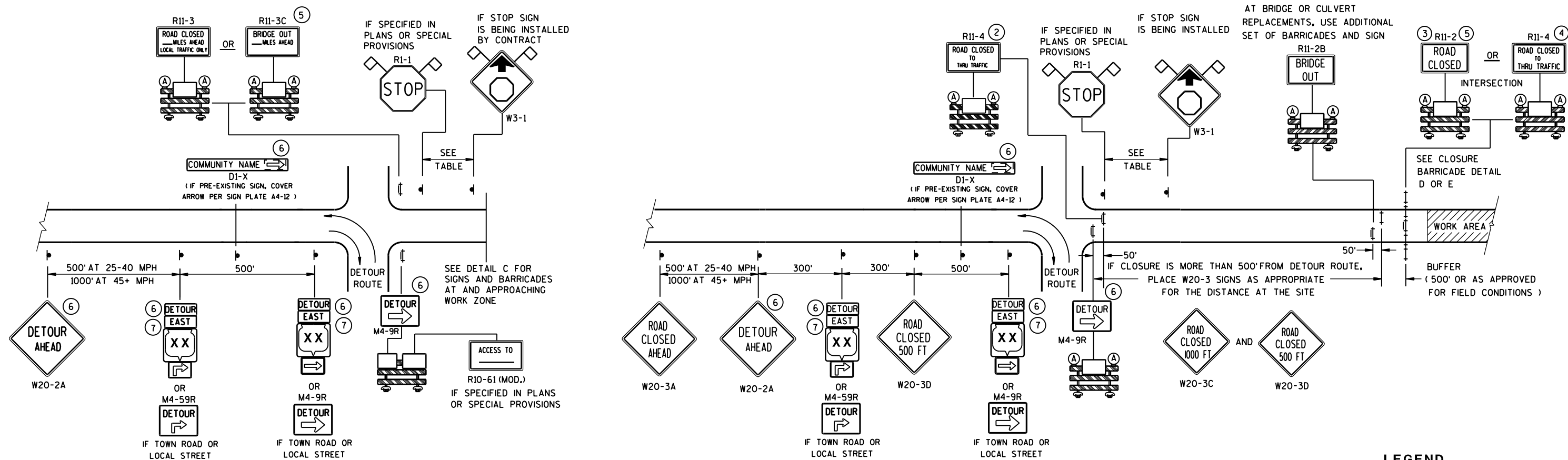
FLEXIBLE MARKER POST ANCHORS



FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

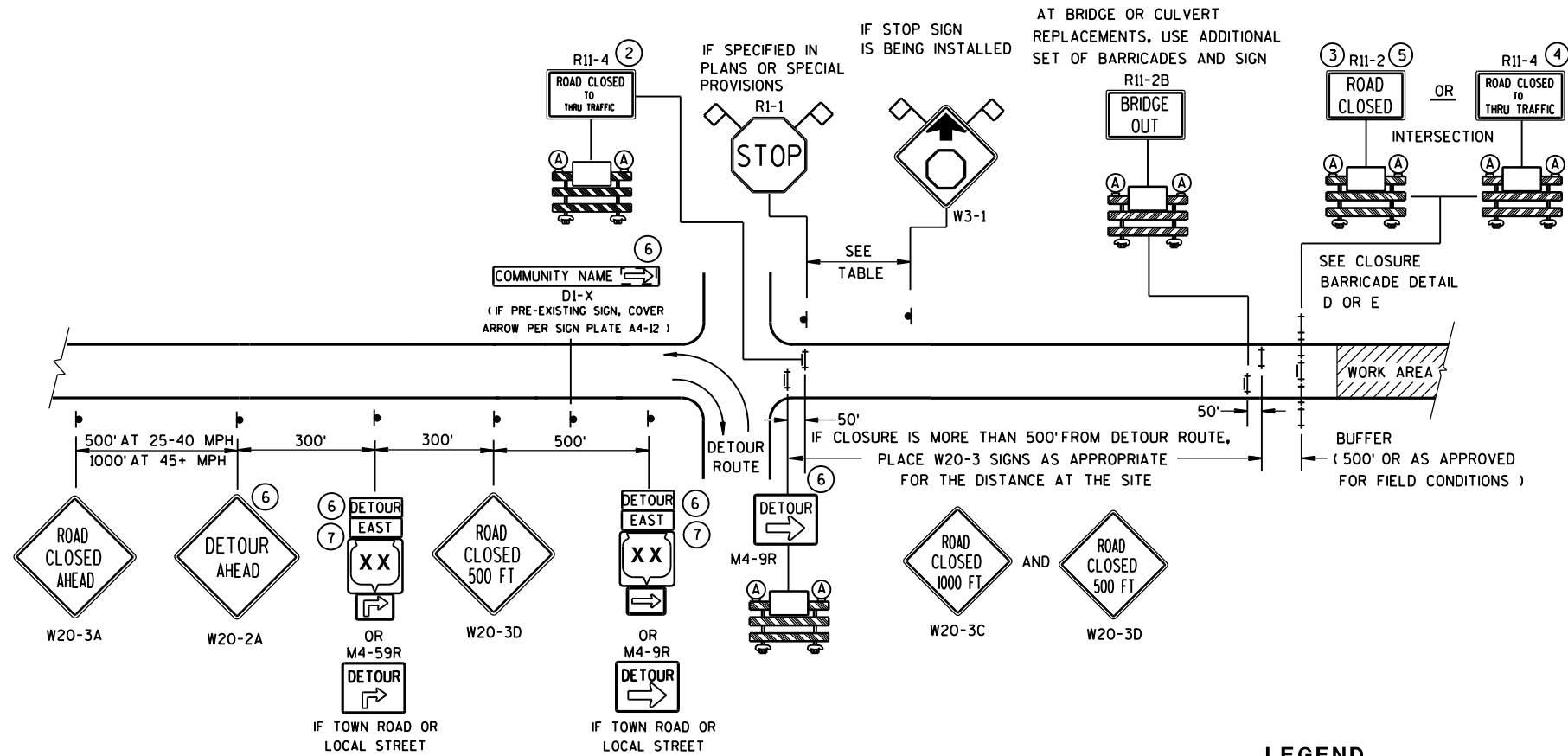
APPROVED
10/1/2012 DATE /S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN
FHWA



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

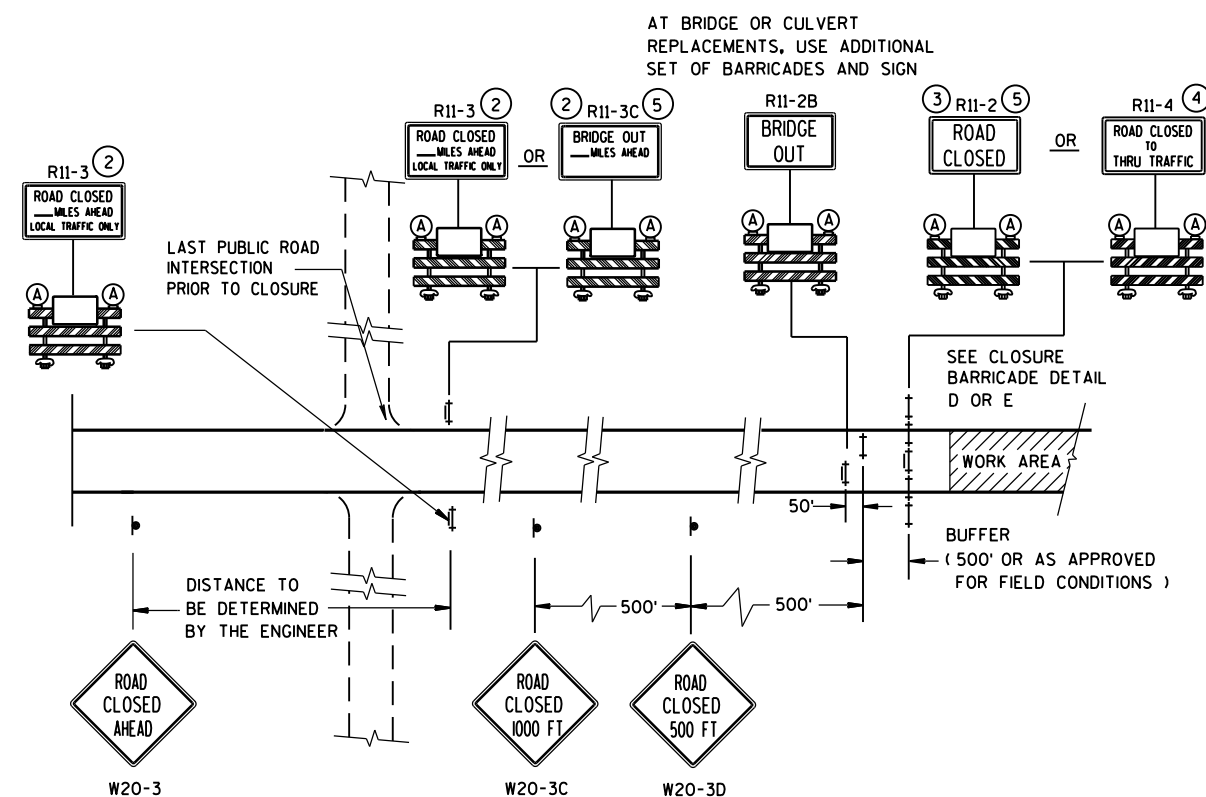
WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



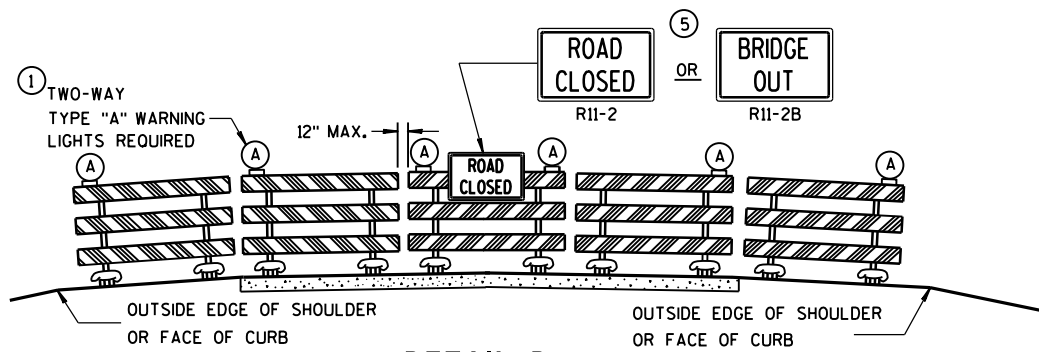
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

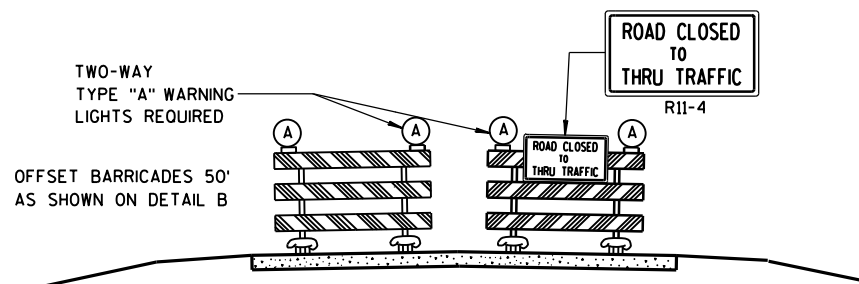
- ## LEGEND
- | | |
|---|---------------------------------------|
|  | SIGN ON PERMANENT SUPPORT |
|  | TYPE III BARRICADE |
|  | TYPE III BARRICADE WITH ATTACHED SIGN |
|  | TYPE "A" WARNING LIGHT (FLASHING) |
|  | WORK AREA |
|  | M4-8
M3-X |
|  | MI-4 |
| OR | |
|  | COUNTY
MI-5A |
| OR | |
|  | MI-6 |
|  | M05-1 |
| OR | |
|  | M06-1 |
|  | FLAGS, 16" X 16" MIN., (ORANGE) |

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
<u>Sept. 2015</u> <u>DATE</u> FHWA	<u>/S/ Peter Amakobe Atepe</u> STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

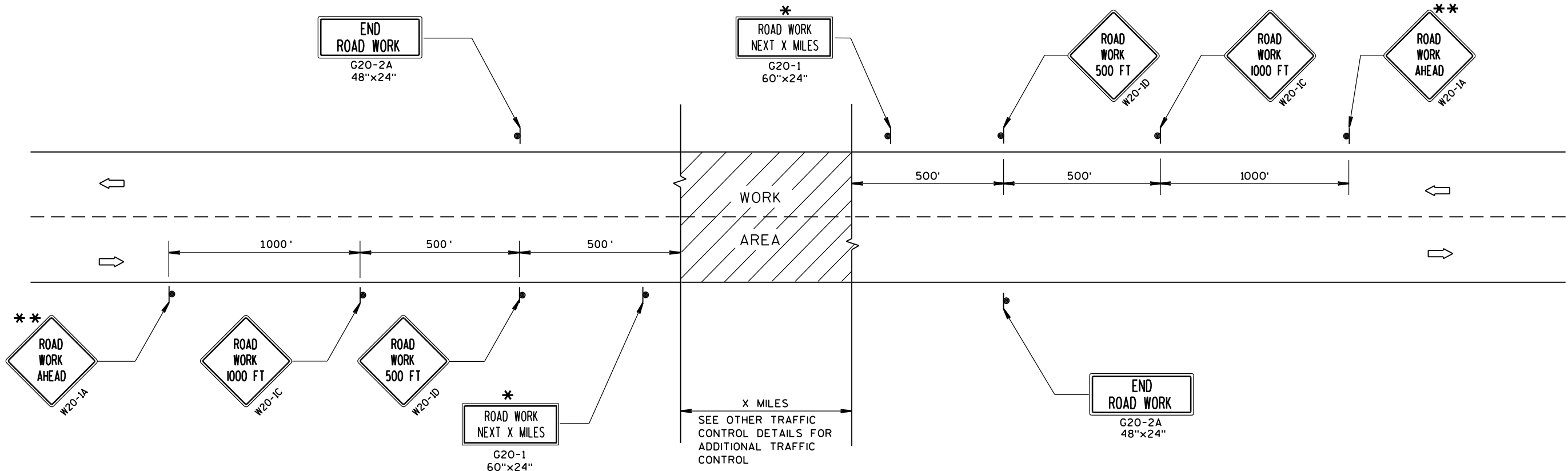
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES**

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

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



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.

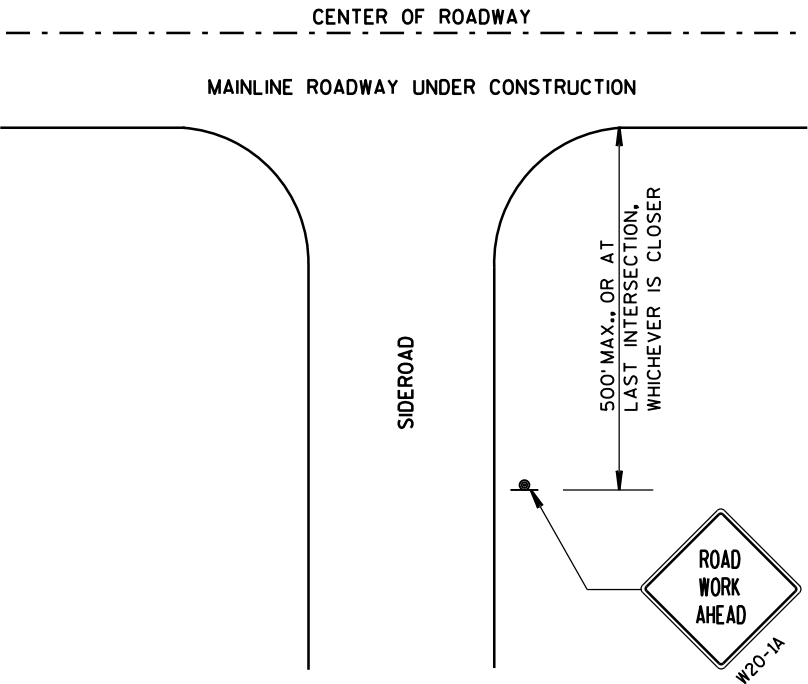
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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.



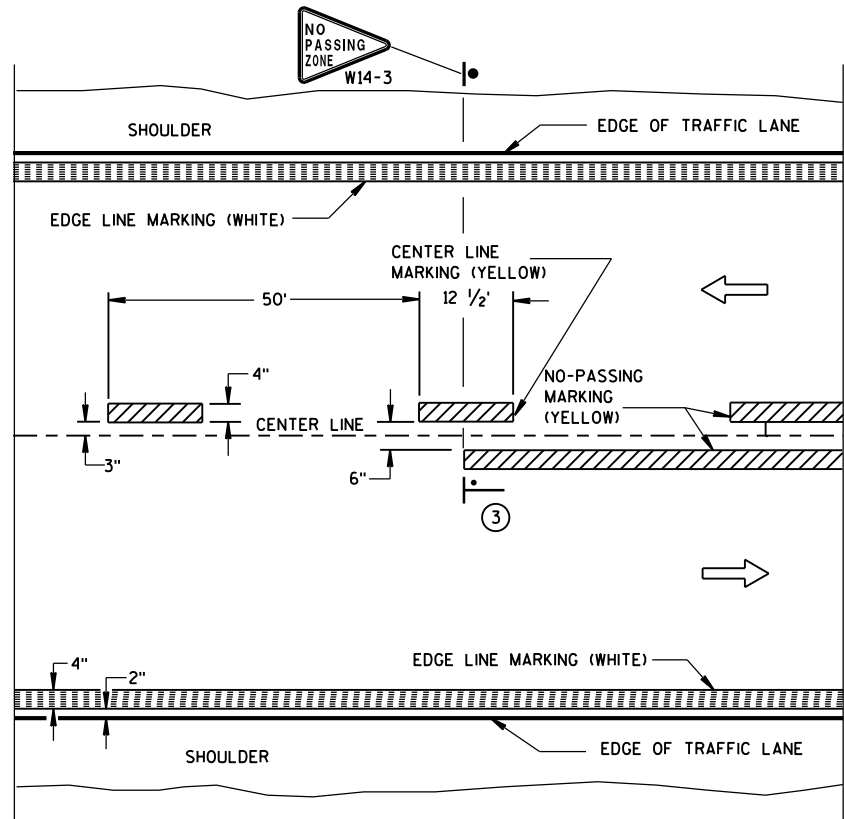
LEGEND

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

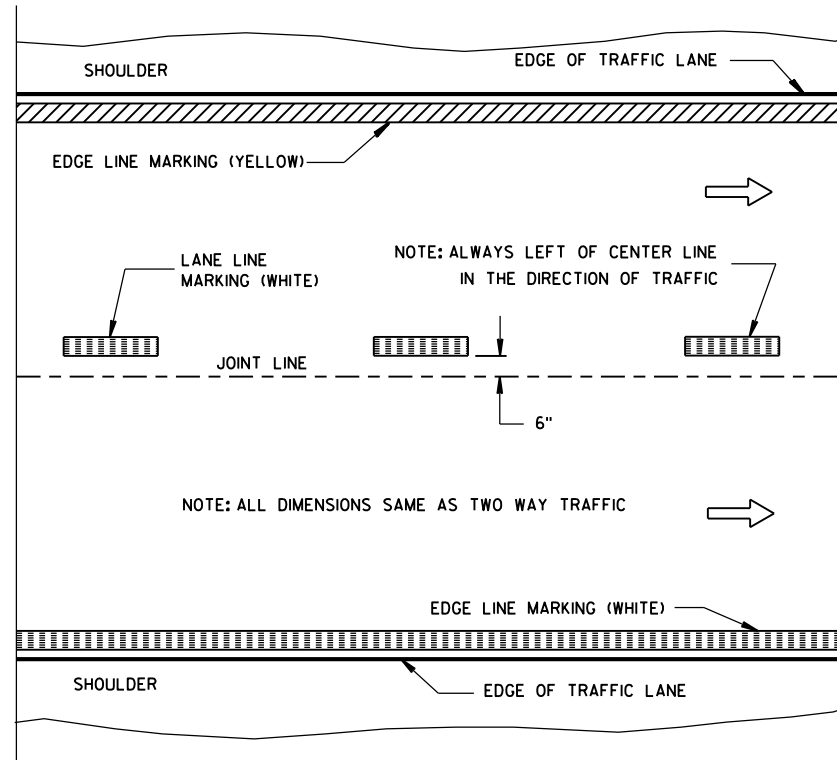
TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

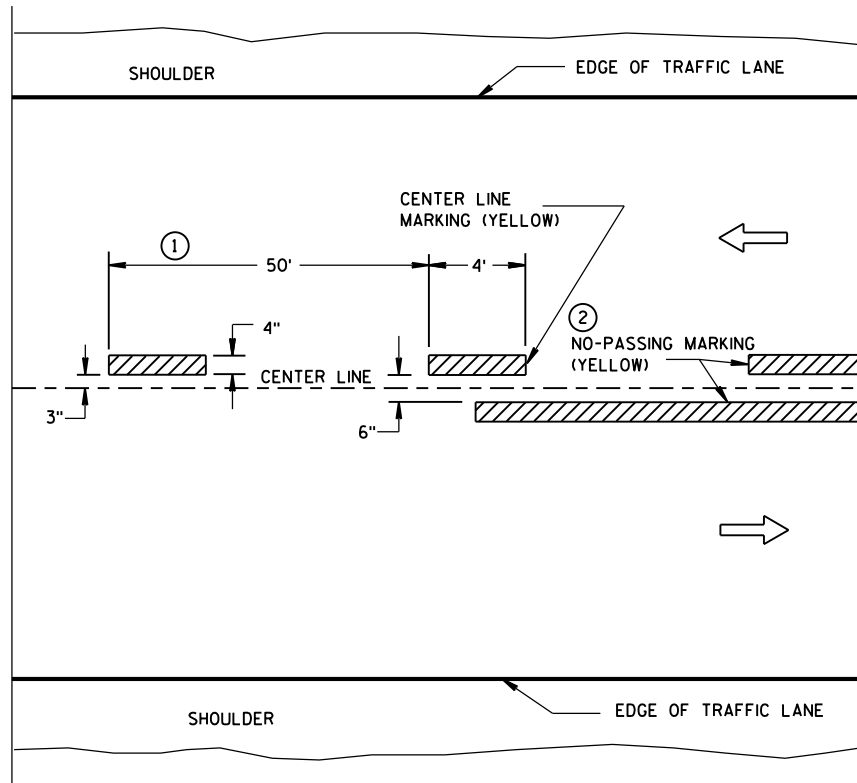


TWO WAY TRAFFIC

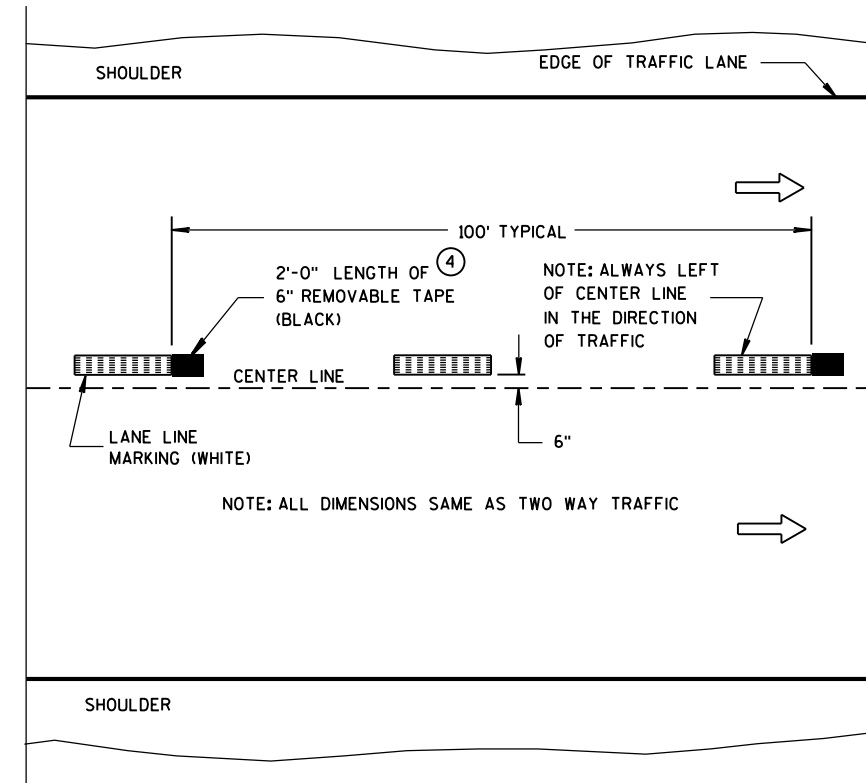


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

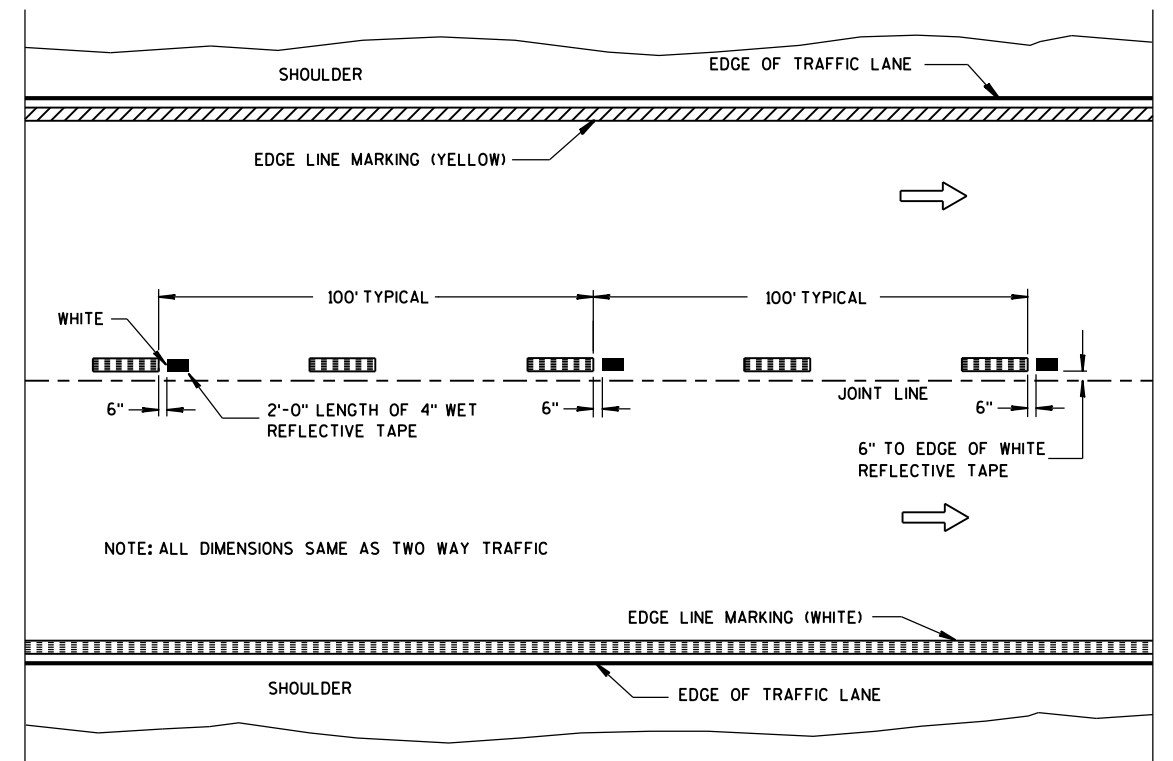
GENERAL NOTES

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

- 1 HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- 2 NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- 3 NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- 4 CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

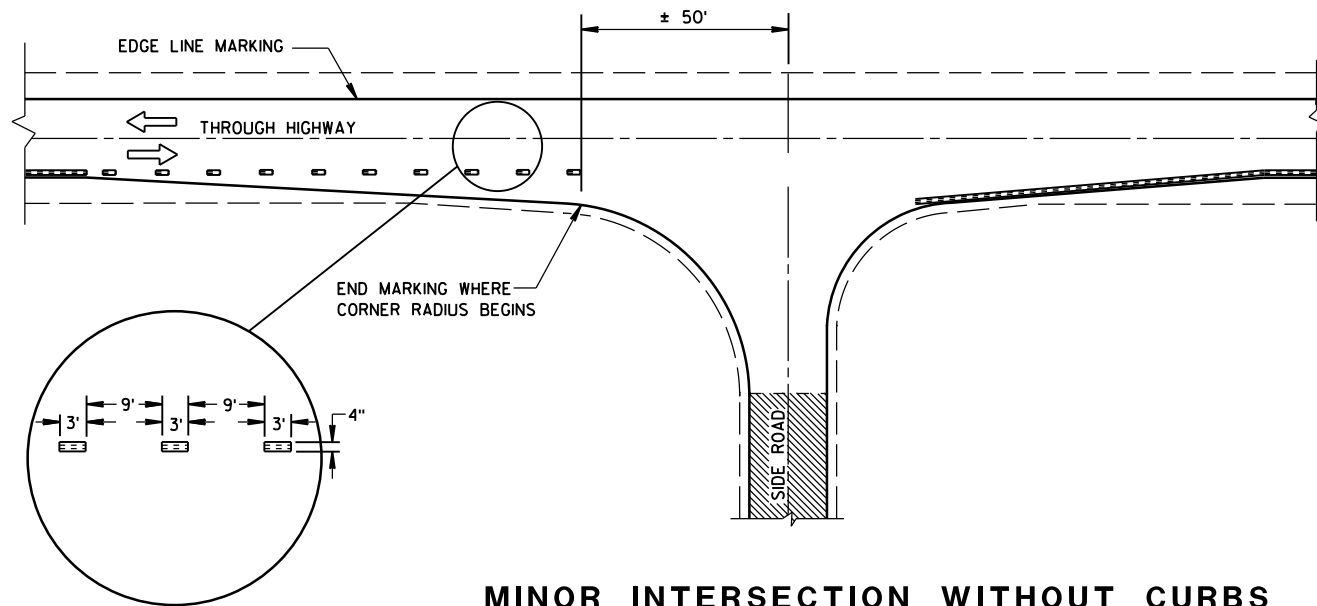
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

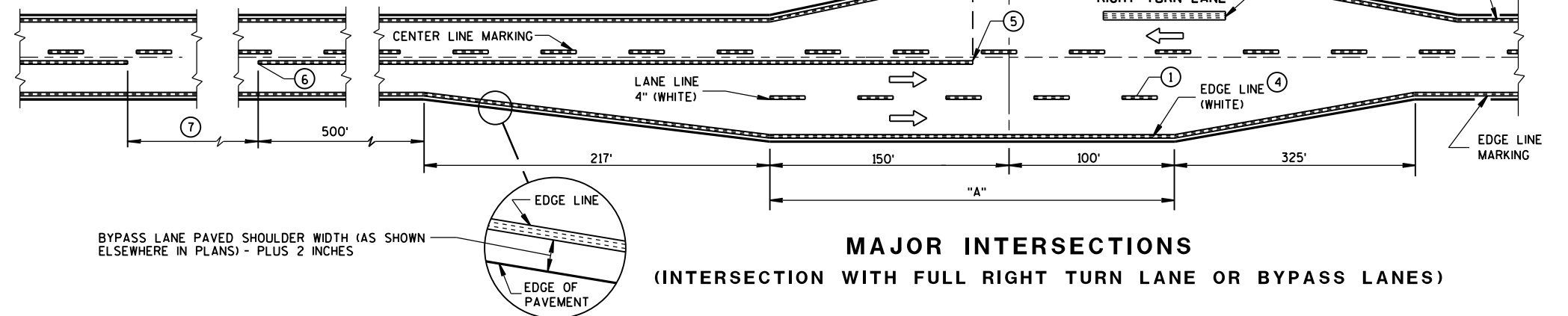
APPROVED
5-13-2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER
FHWA



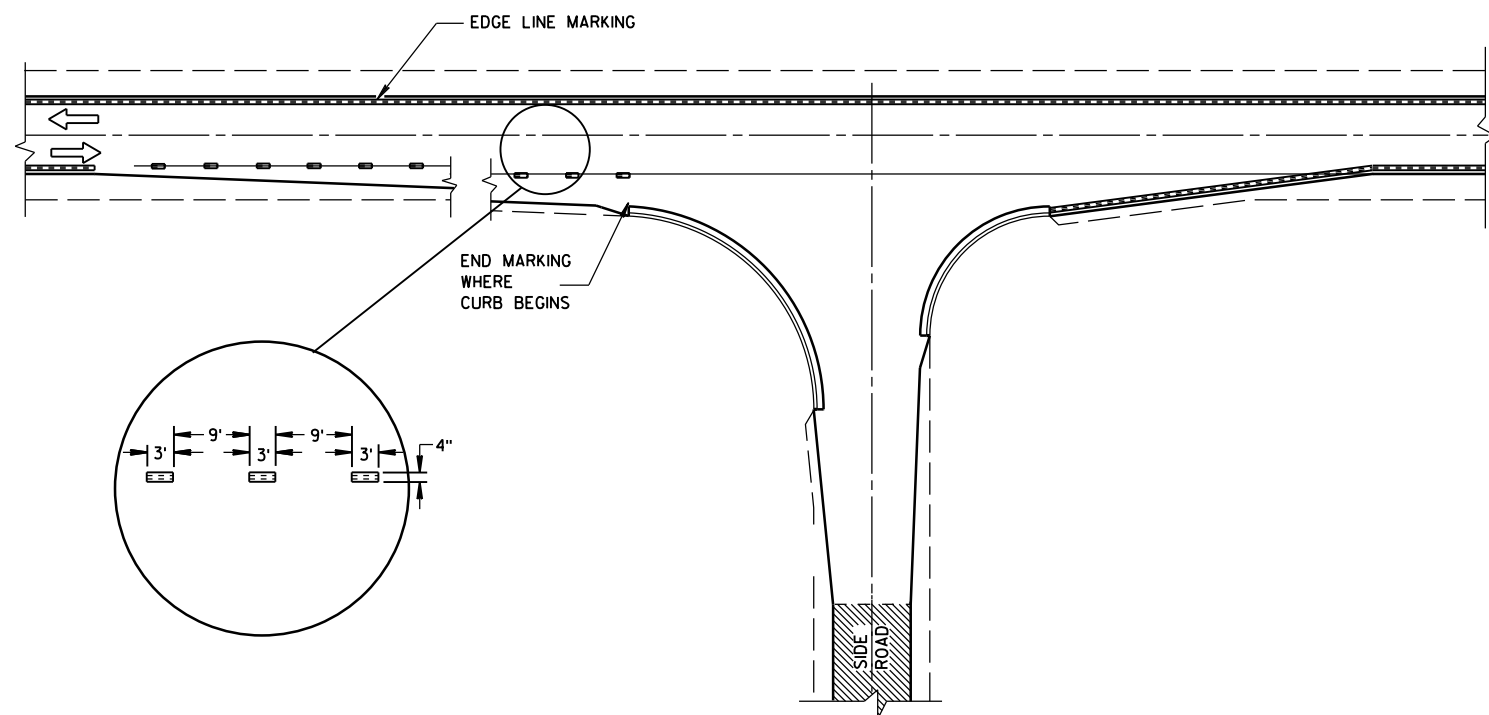
MINOR INTERSECTION WITHOUT CURBS

⑦

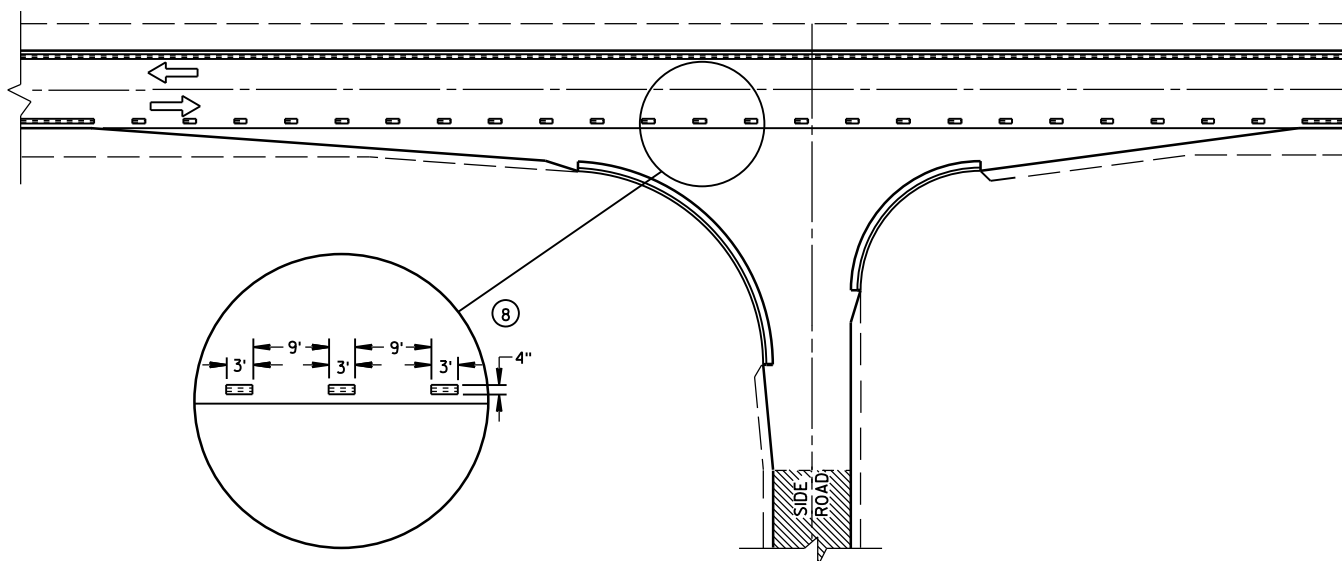
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



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



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



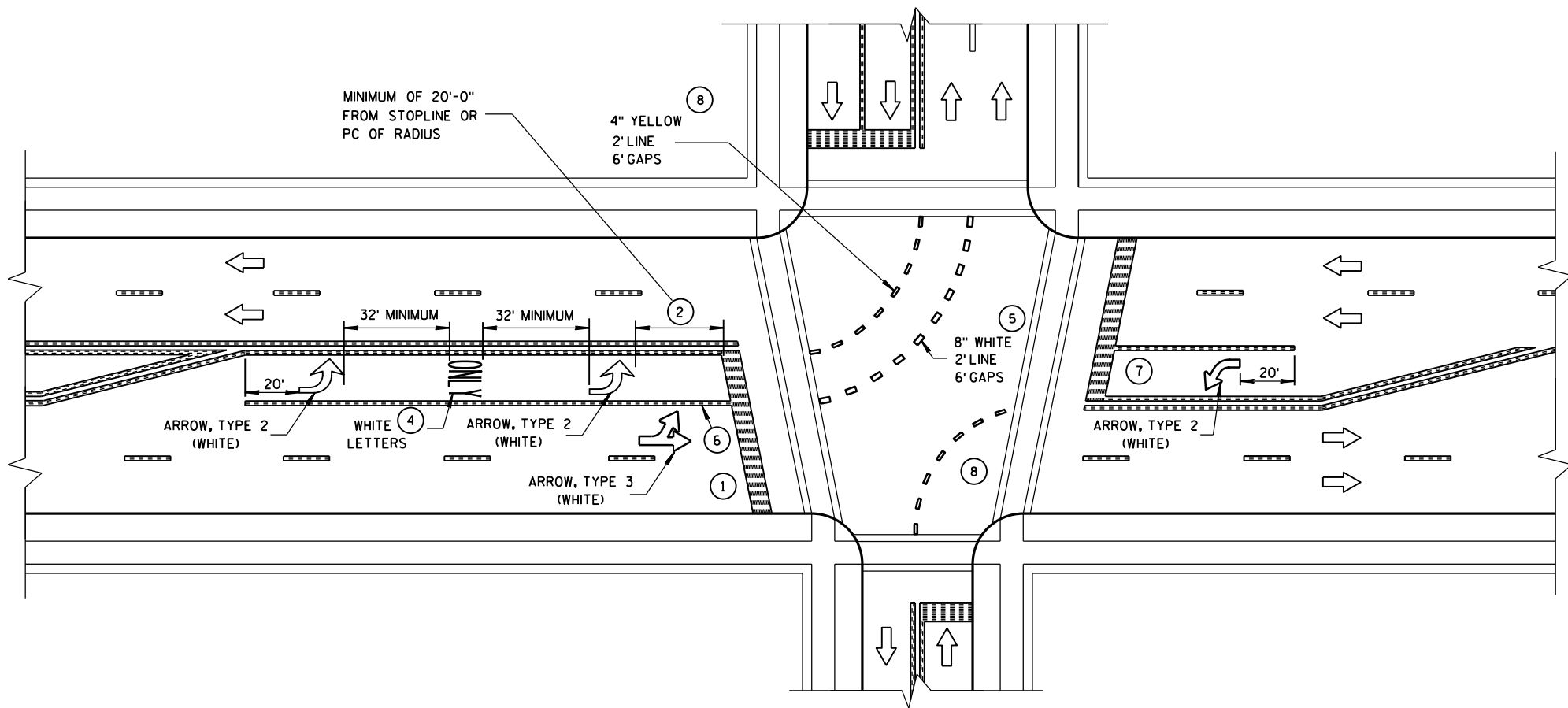
MINOR INTERSECTION WITH CURBS
⑧ (FOR SPECIAL CONDITIONS AS SPECIFIED)

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 ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
 - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
 - ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
 - ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
 - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
 - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

PAVEMENT MARKING
(INTERSECTIONS)

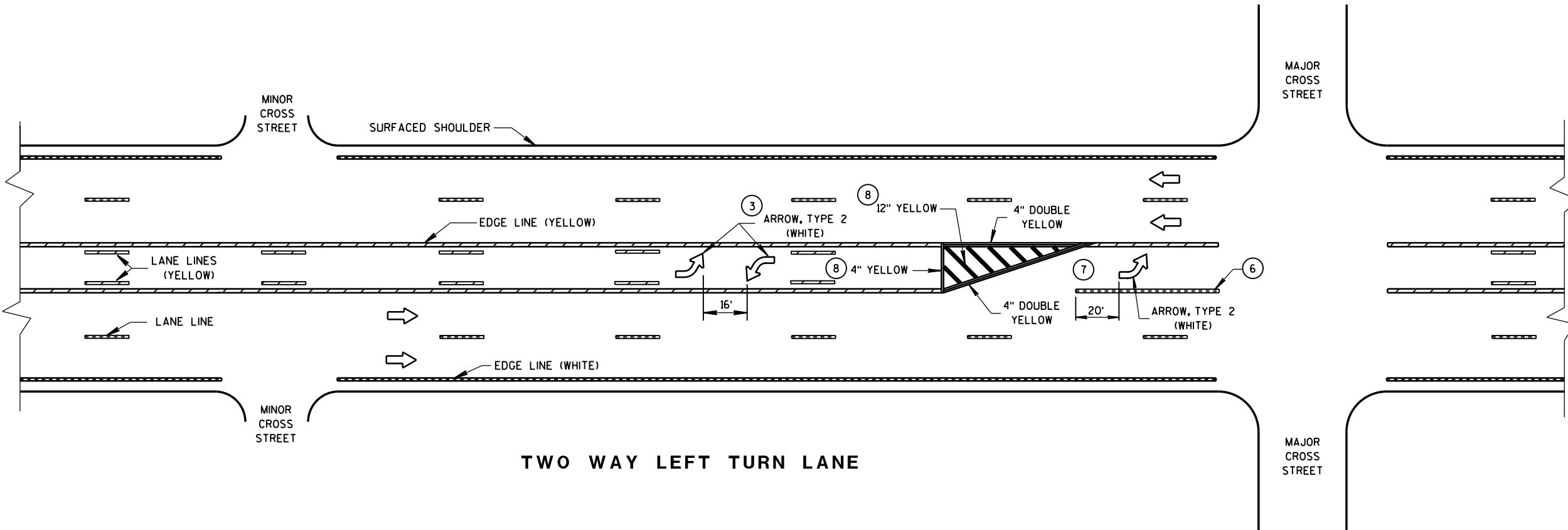
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GENERAL NOTES

- ① STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- ② DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
- ③ A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ④ ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
- ⑤ 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
- ⑥ 8" WHITE
- ⑦ ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
- ⑧ REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (➡)
SHOWS DIRECTION OF TRAVEL



PAVEMENT MARKING
(LEFT TURN LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

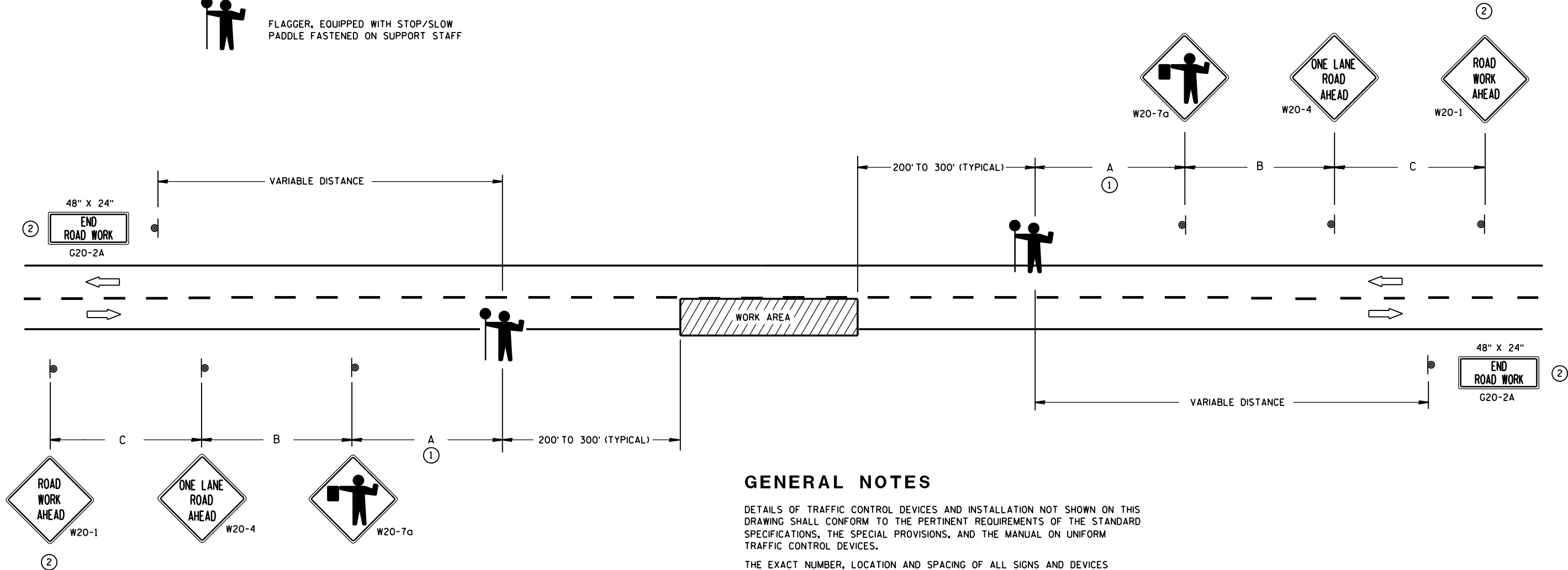
-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

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.

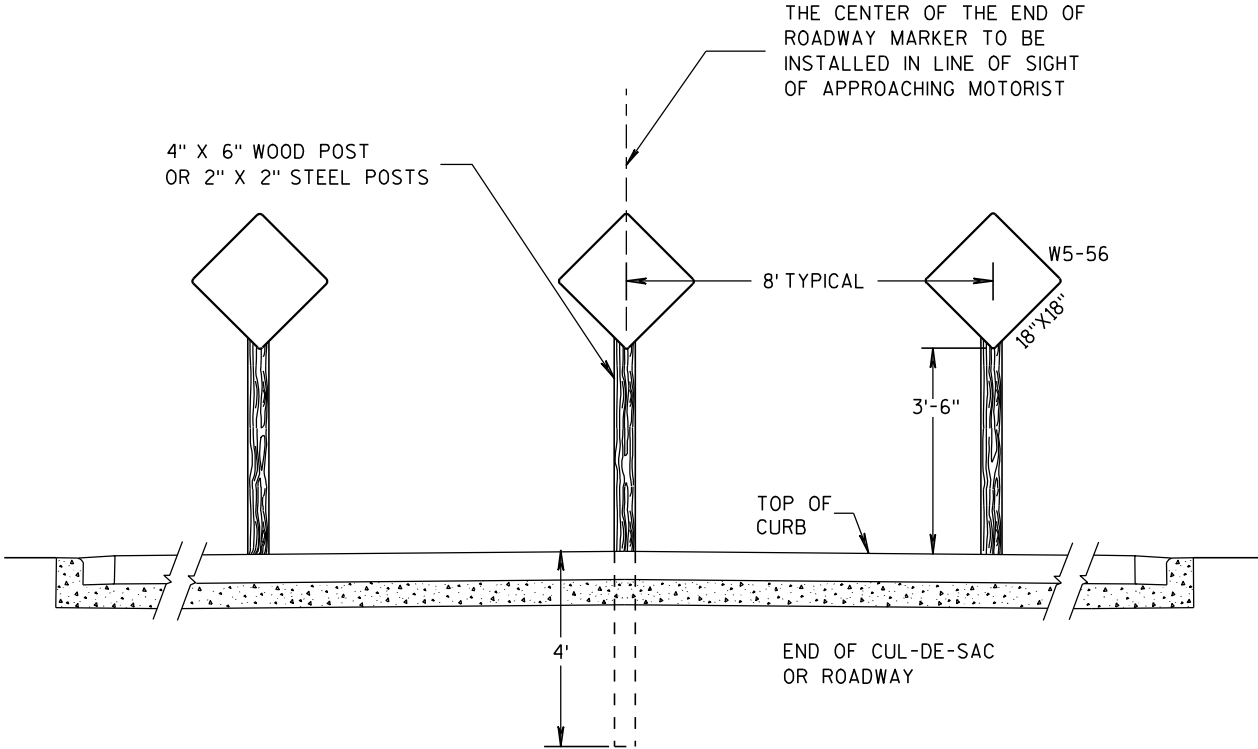
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

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



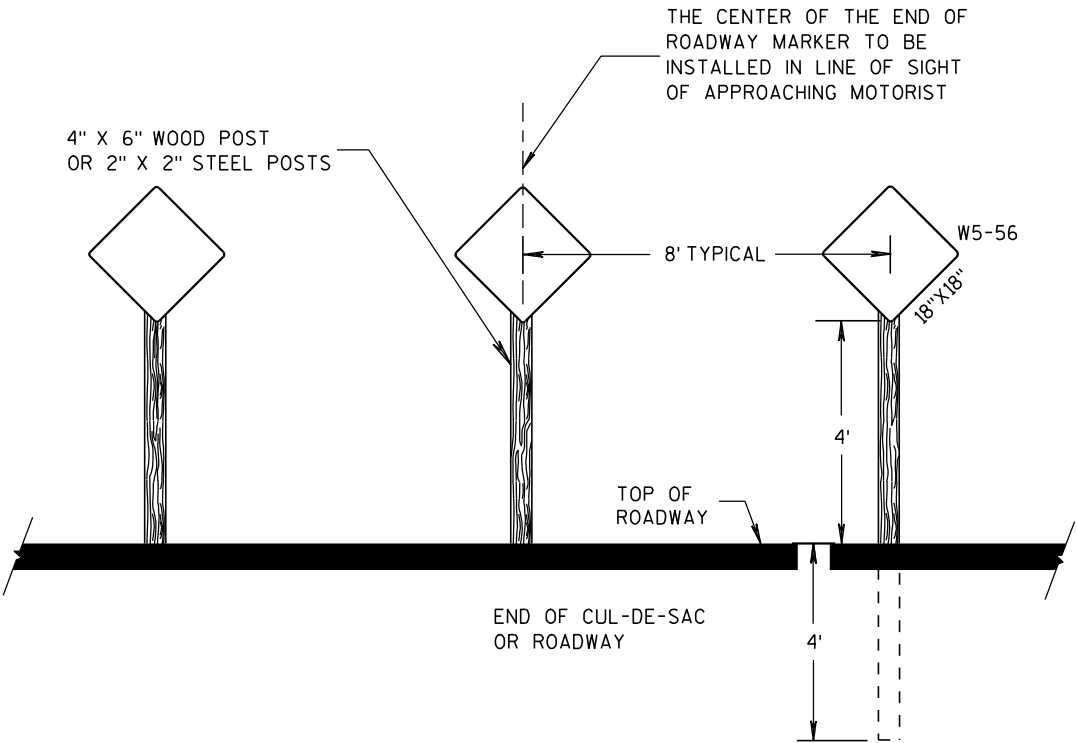
TYPICAL URBAN SIGN INSTALLATION
(WITH CURB & GUTTER)

GENERAL NOTES

SIGN LOCATIONS SHOWN ARE TYPICAL PLACEMENT AND MAY BE ADJUSTED BY THE ENGINEER AS FIELD CONDITIONS DICTATE.

THE MINIMUM NUMBER OF END-OF-ROADWAY SIGNS ARE THREE (AS SHOWN). ADDITIONAL END-OF-ROADWAY SIGNS MAY BE INSTALLED AS FIELD CONDITIONS DICTATE. (SEE SIGNING PLAN).

WHEN BEAMGUARD IS REQUIRED, PLACE END-OF-ROADWAY SIGNING BEHIND BEAMGUARD.



TYPICAL RURAL SIGN INSTALLATION
(WITHOUT CURB & GUTTER)

END-OF-ROADWAY SIGNING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/1/2011 DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

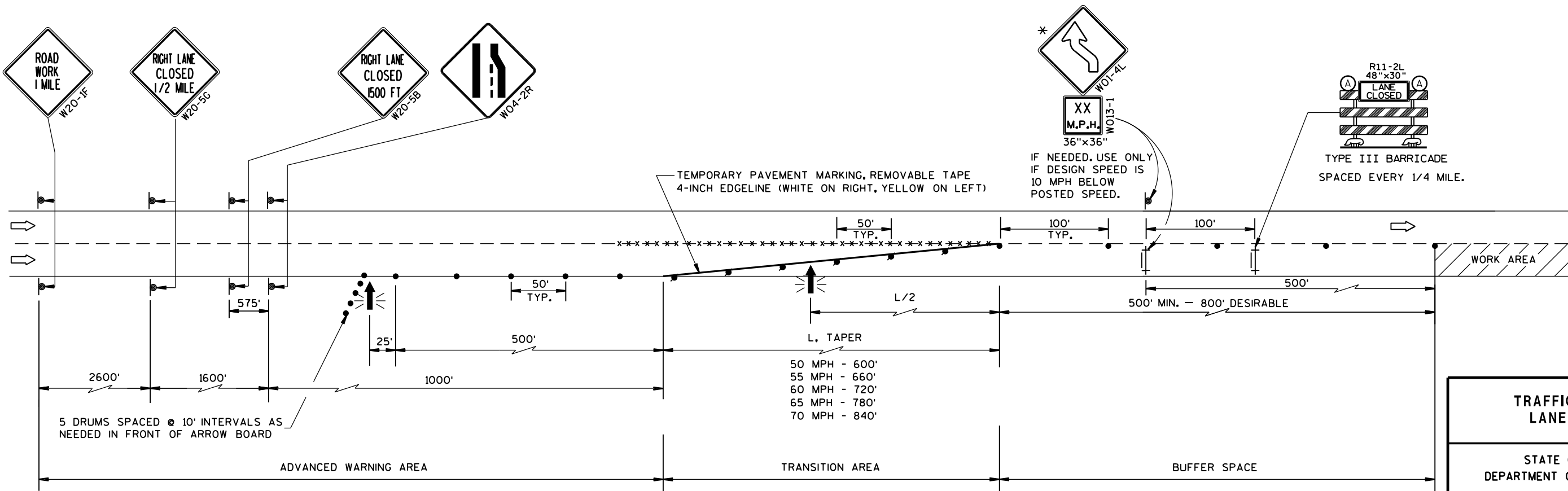
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

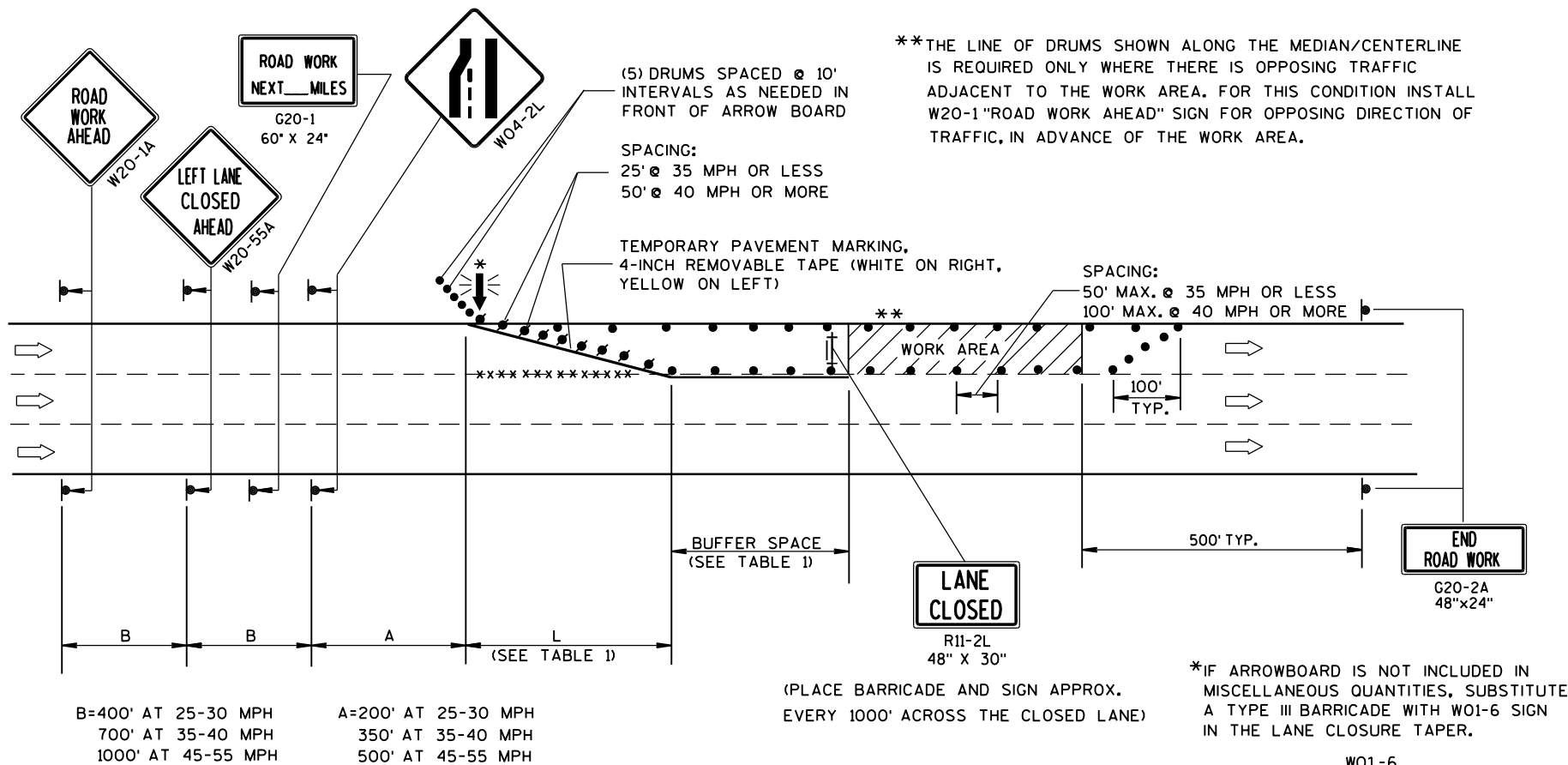
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2016 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

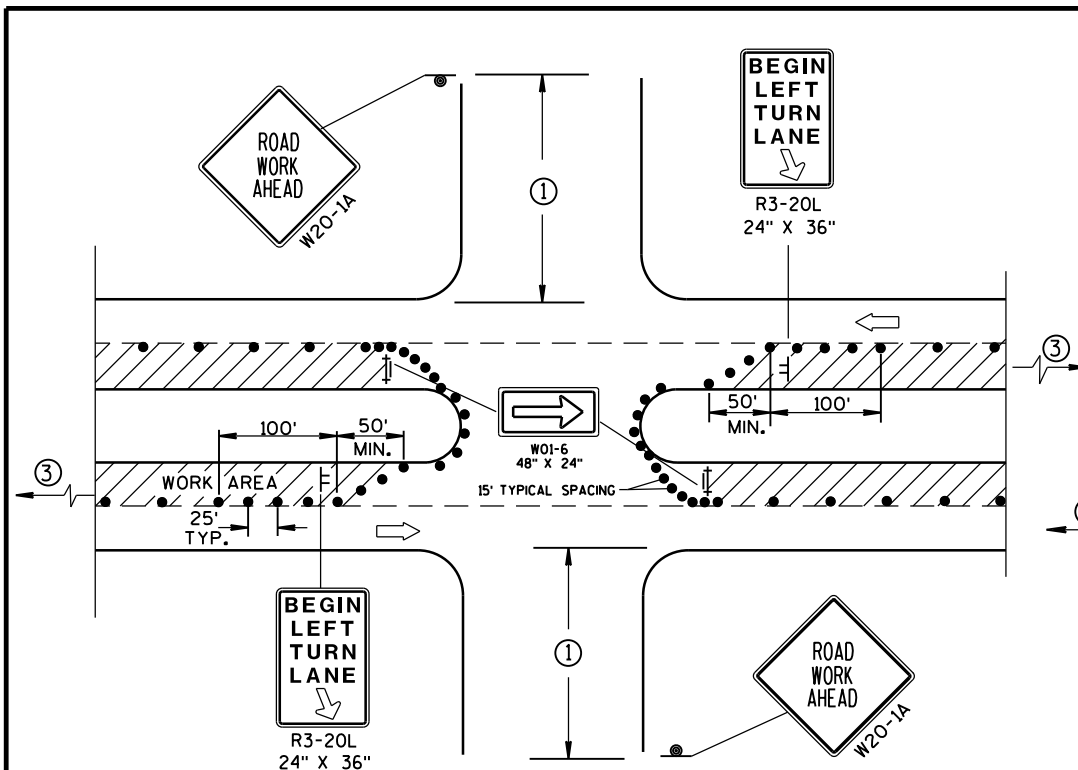
LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

TRAFFIC CONTROL,
SINGLE LANE CLOSURE,
NON-FREEWAY/EXPRESSWAY

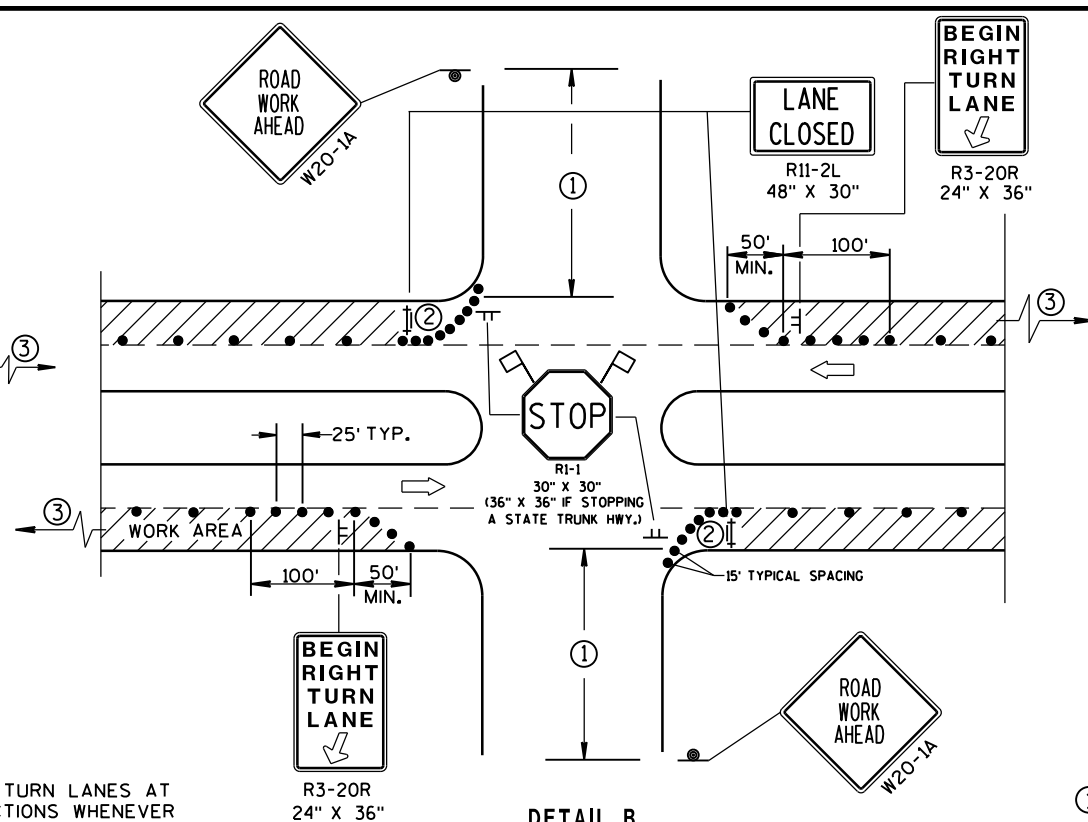
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 /S/ Peter Amakobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



DETAIL A
FOR LEFT LANE CLOSURE AT
INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT
INTERSECTIONS WHENEVER
STAGING OF WORK ALLOWS.
TAPER AND TURN LANE
LENGTHS BASED ON FIELD
CONDITIONS AS APPROVED
BY THE ENGINEER.



DETAIL B
FOR RIGHT LANE CLOSURE
AT INTERSECTION

GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

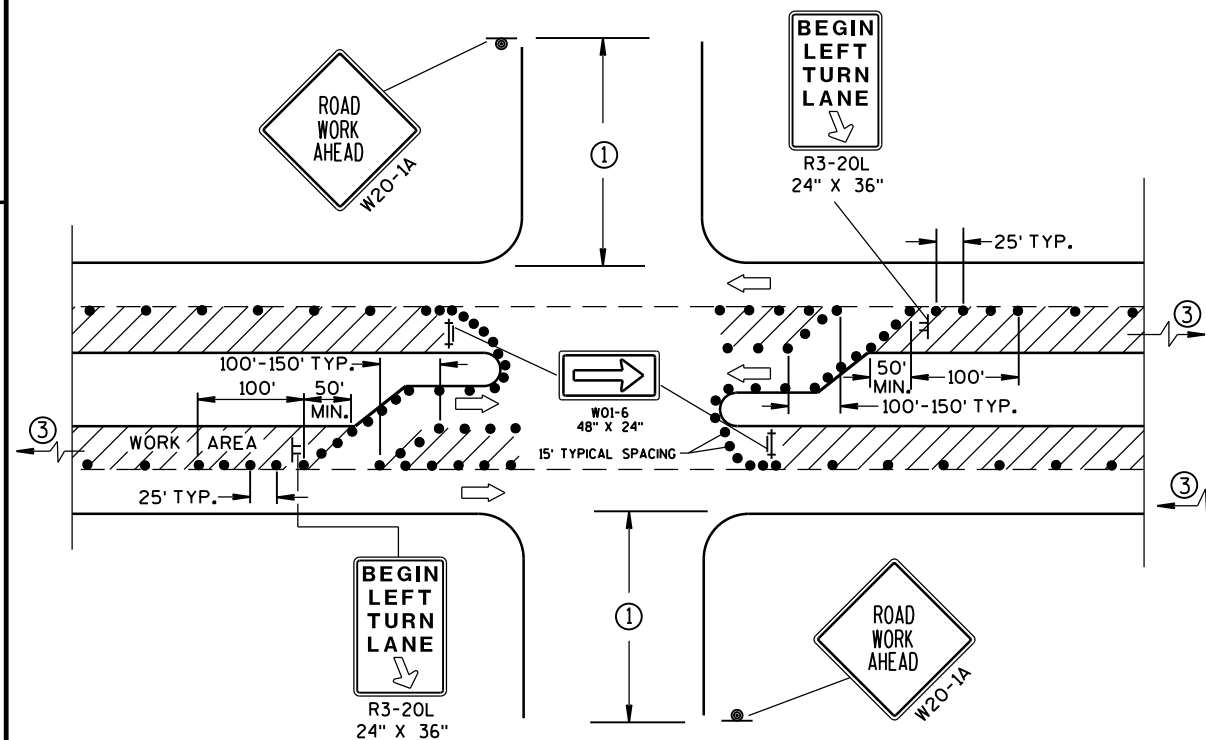
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

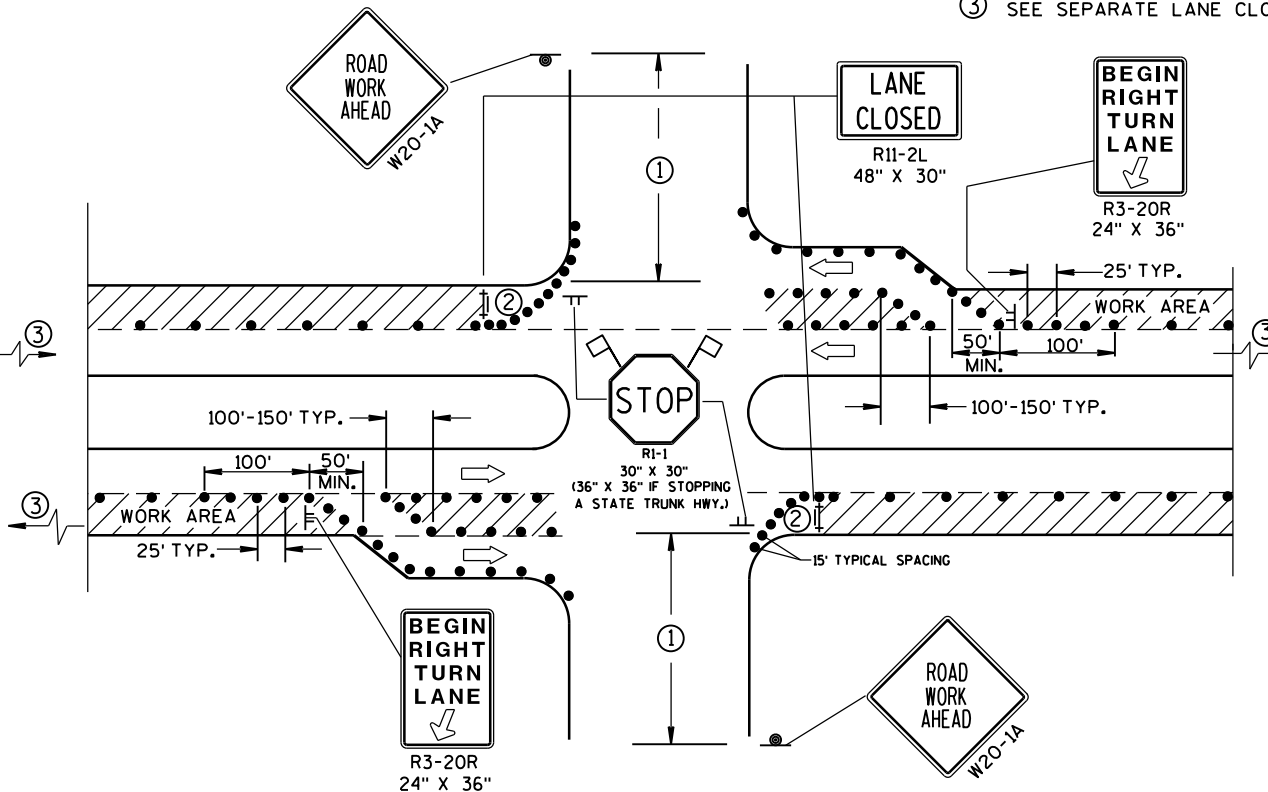
- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.
- ② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

LEGEND

- TRAFFIC CONTROL DRUM
- ⊙ SIGN ON PERMANENT SUPPORT
- ⊢ SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- ⊢ TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- ➡ DIRECTION OF TRAFFIC
- ⚑ FLAGS, 16" X 16" MIN., (ORANGE)
- ▨ WORK AREA



DETAIL C
FOR LEFT LANE CLOSURE AT INTERSECTION OR
MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D
FOR RIGHT LANE CLOSURE AT INTERSECTION
(WITH RIGHT TURN BAY OPEN)

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 /S/ Peter Anakobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

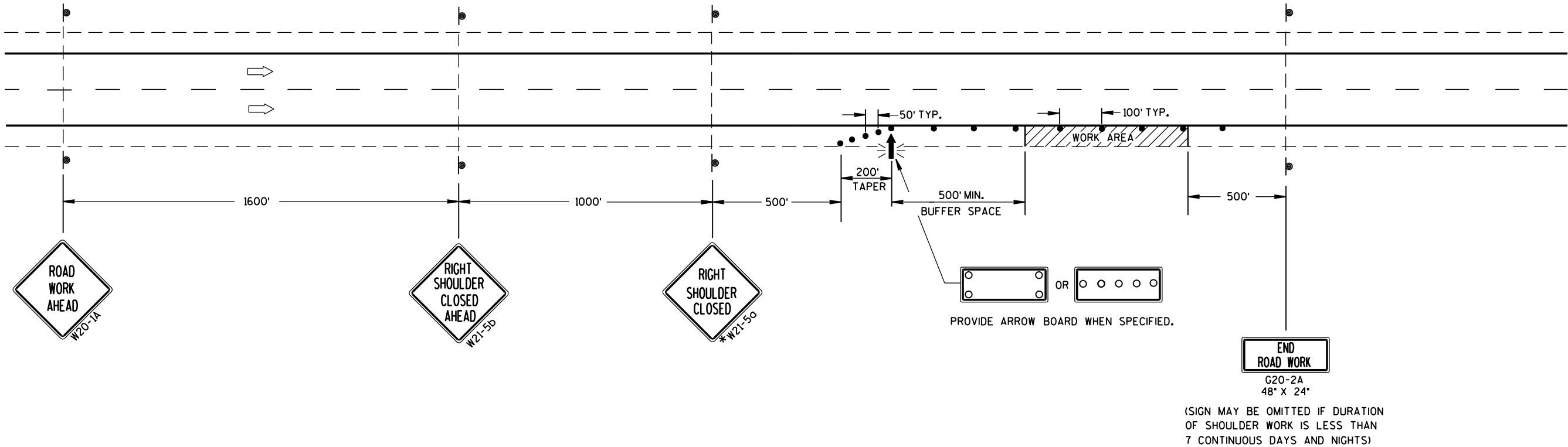
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A 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.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.

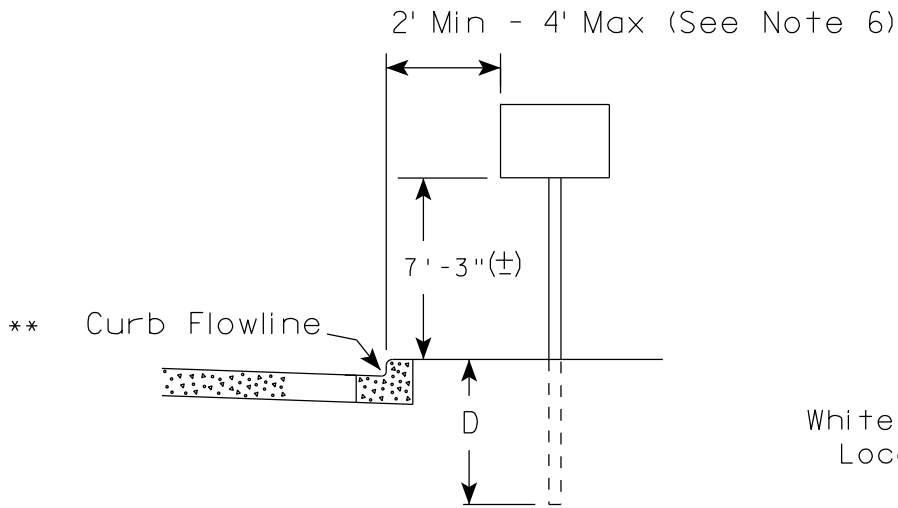


TRAFFIC CONTROL
SHOULDER CLOSURE ON DIVIDED
ROADWAY, SPEEDS GREATER
THAN 40 MPH

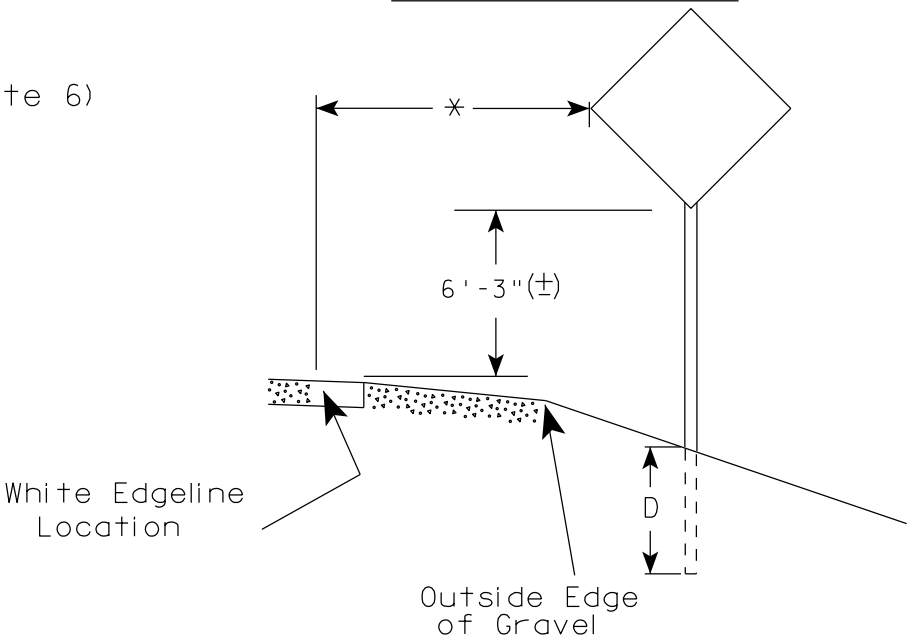
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 /S/ Peter Amakobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER

URBAN AREA

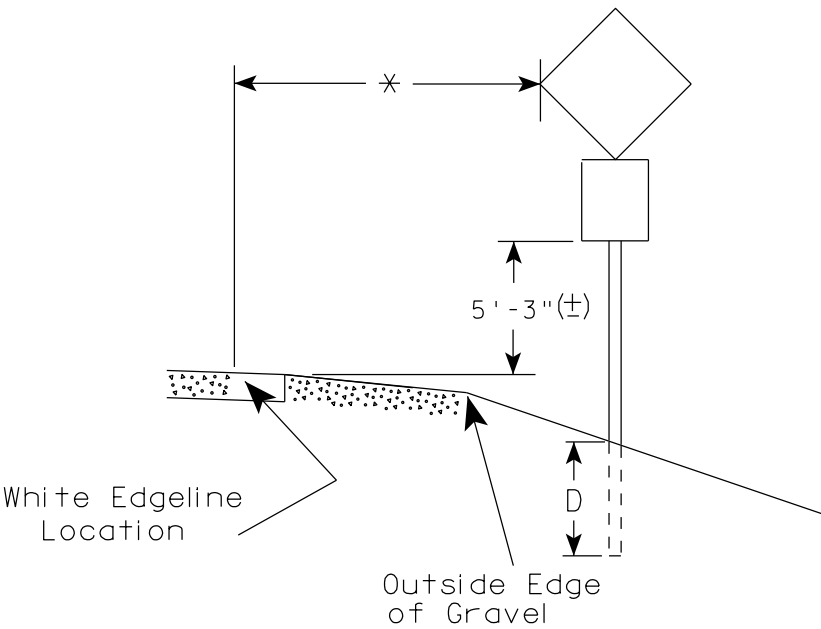
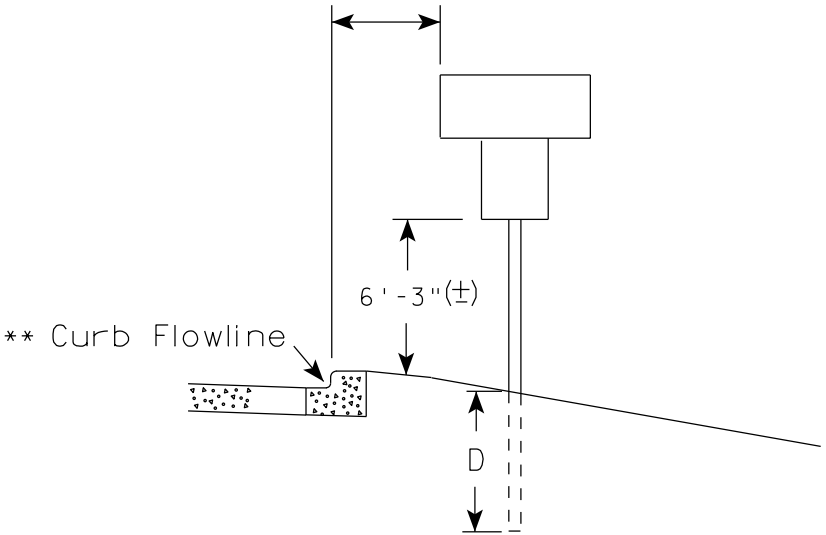


RURAL AREA (See Note 2)



- 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.

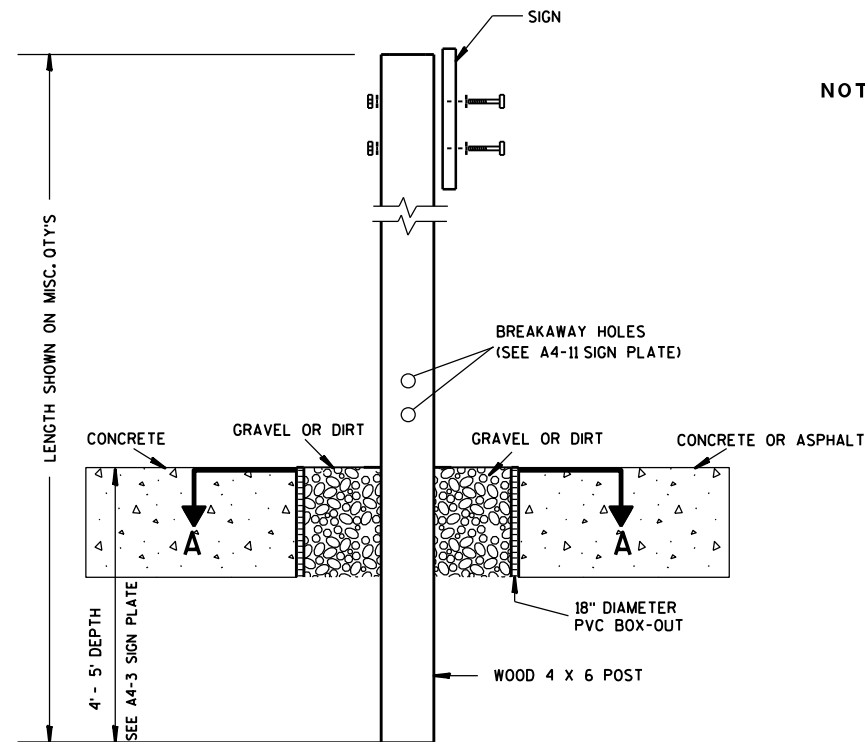
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

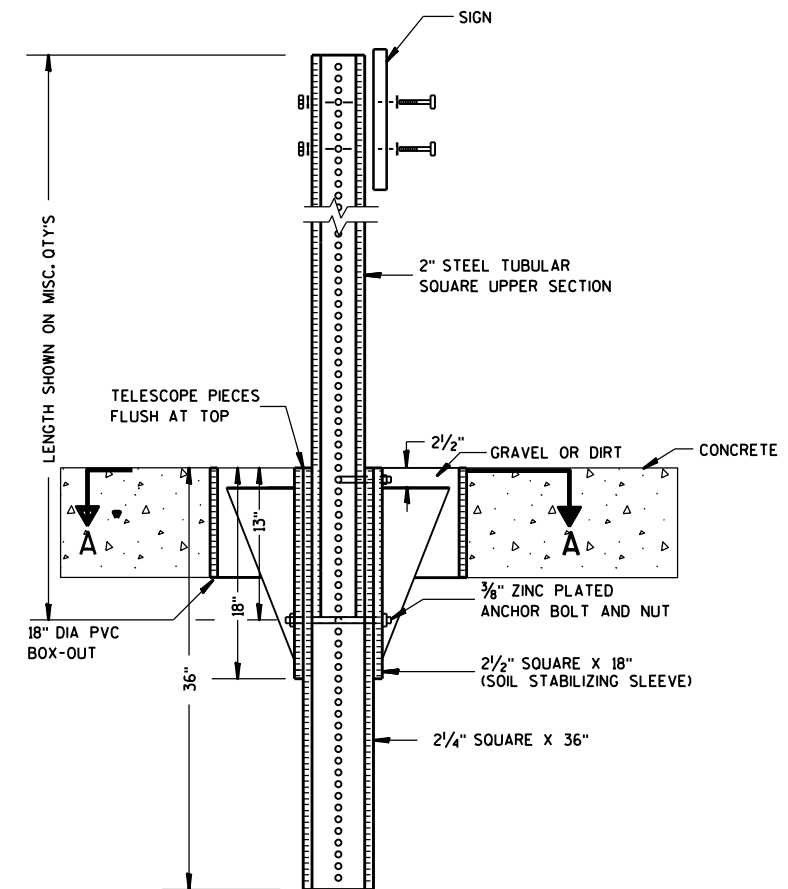
DATE 7/23/15 PLATE NO. A4-3.20



ELEVATION VIEW

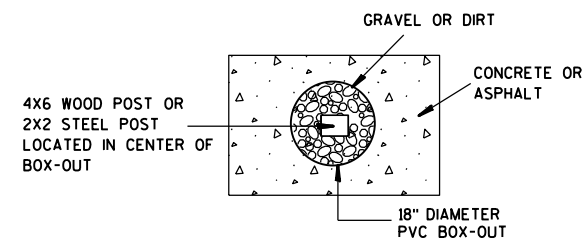
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

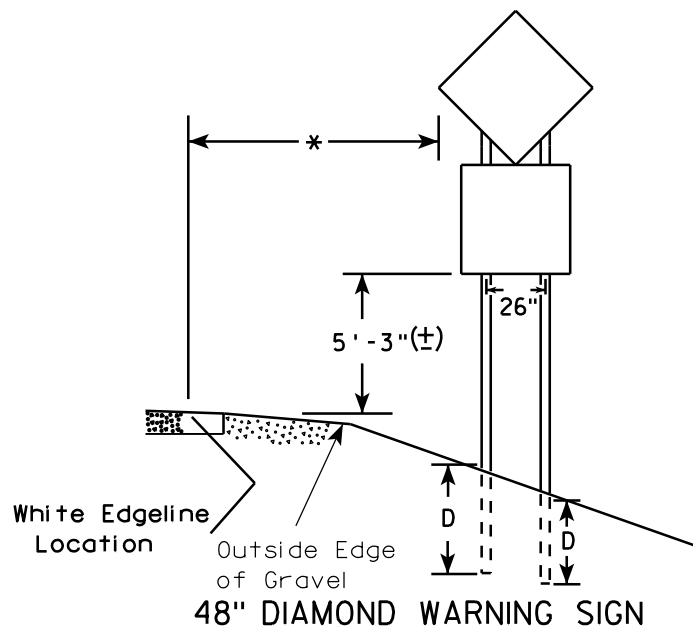
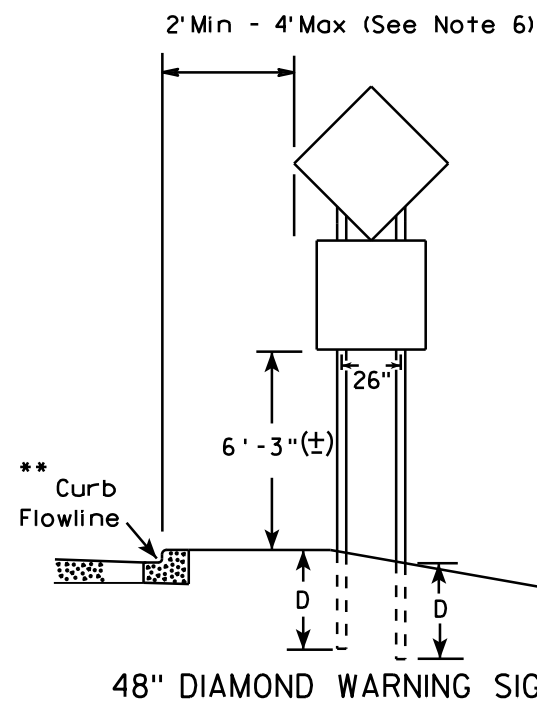
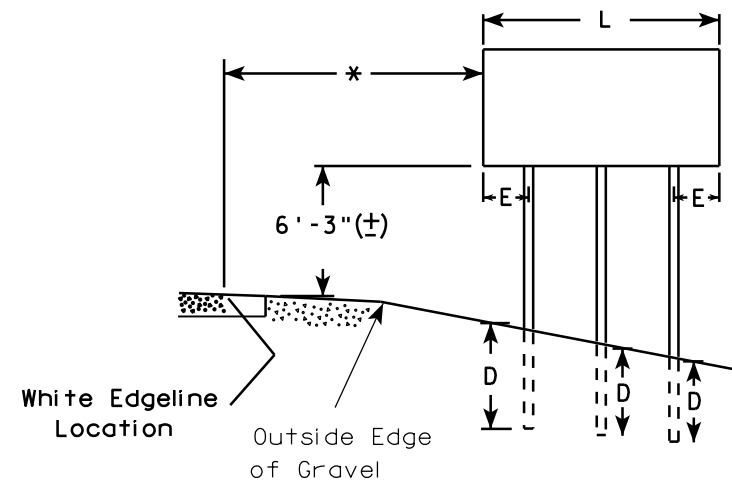
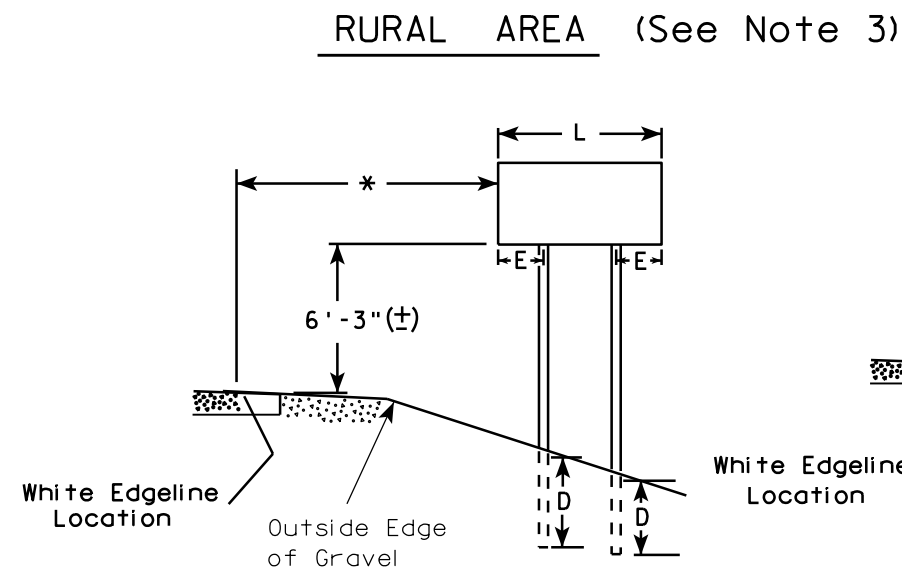
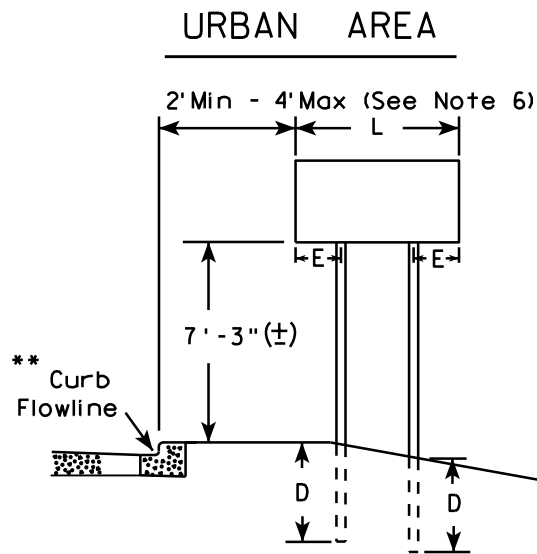
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



- 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.

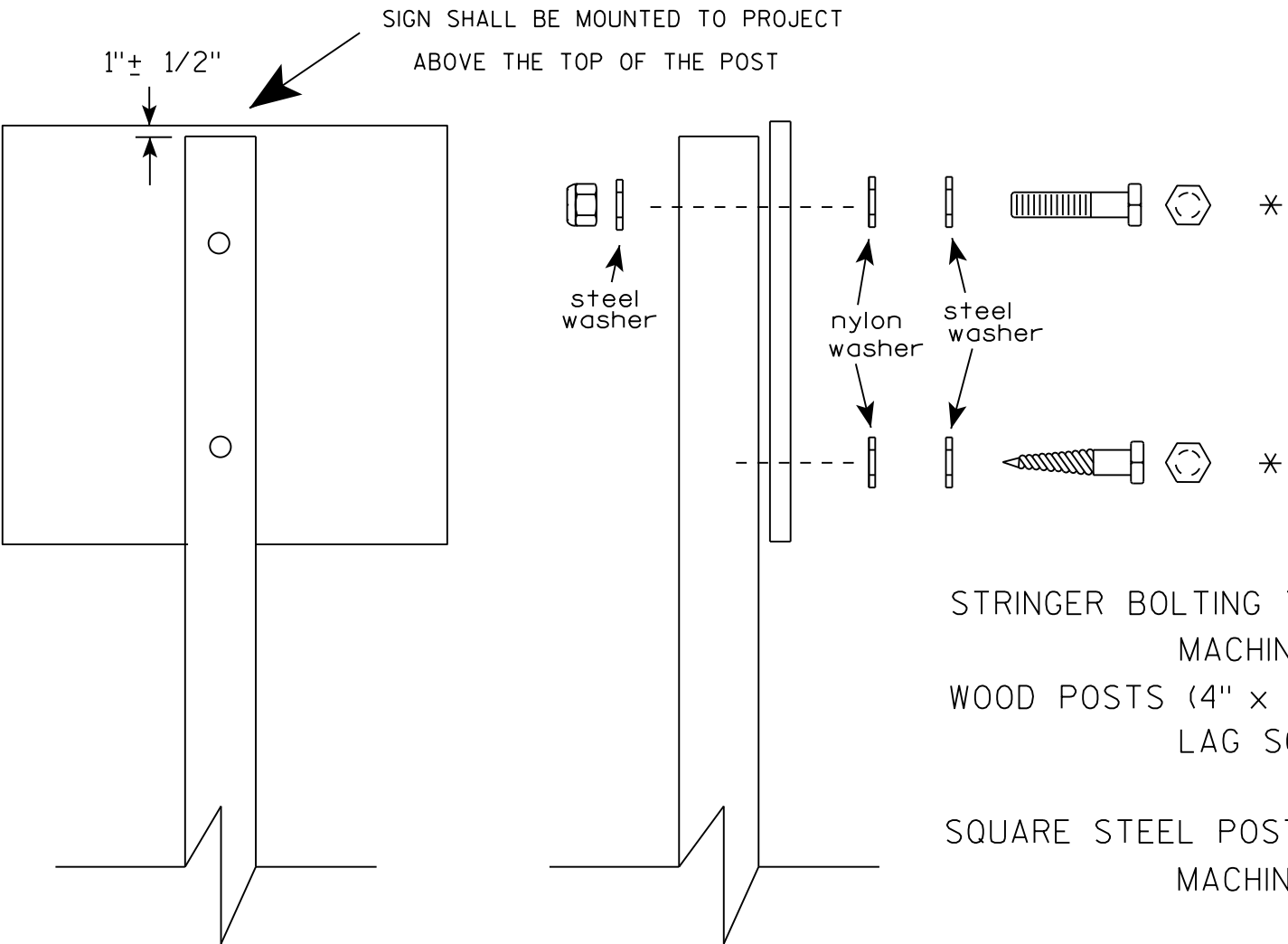
SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

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	<i>Matthew R. Rauch</i> 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

**2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**

4" x 10" x 10 GA. ———→
STEEL PLATE (CUT
AS SHOWN) WELDED
TO ALL FOUR CORNERS
OF TELESPAR TUBE

**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**

2 1/2" TELES PAR TUBE

4" x 10" x 10 GA. STEEL PLATE (CUT AS SHOWN) WELDED TO ALL FOUR CORNERS OF TELES PAR TUBE

4"

2 1/2"

10"

3 1/2"

16"

LENGTH SHOWN ON MISC. QTY'S

TELESCOPE PIECES FLUSH AT TOP

18" DIA SCHEDULE 40 PVC BOX-OUT

36"

18"

13"

2 1/2"

2 1/4" SQUARE X 36"

2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

3/8" ZINC PLATED ANCHOR BOLT AND NUT

2 1/2" GRAVEL OR DIRT

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES

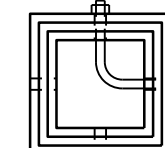
SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

SIGN

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY:

- Dimensions:**
 - Overall height: LENGTH SHOWN ON MISC. QTY'S
 - Section 1 height: 36"
 - Section 2 height: 18"
 - Section 3 height: 12"
- Components and Labels:**
 - SIGN
 - SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
 - 2" STEEL TUBULAR SQUARE UPPER SECTION
 - ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C
 - ALL FOUR SIDES
 - $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT
 - TELESCOPE PIECES FLUSH AT TOP
 - $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT
 - 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
 - 2 1/4" SQUARE X 36"

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT



DIRECTION
OF TRAFFIC

SECTION A-A

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

PROJECT NO:

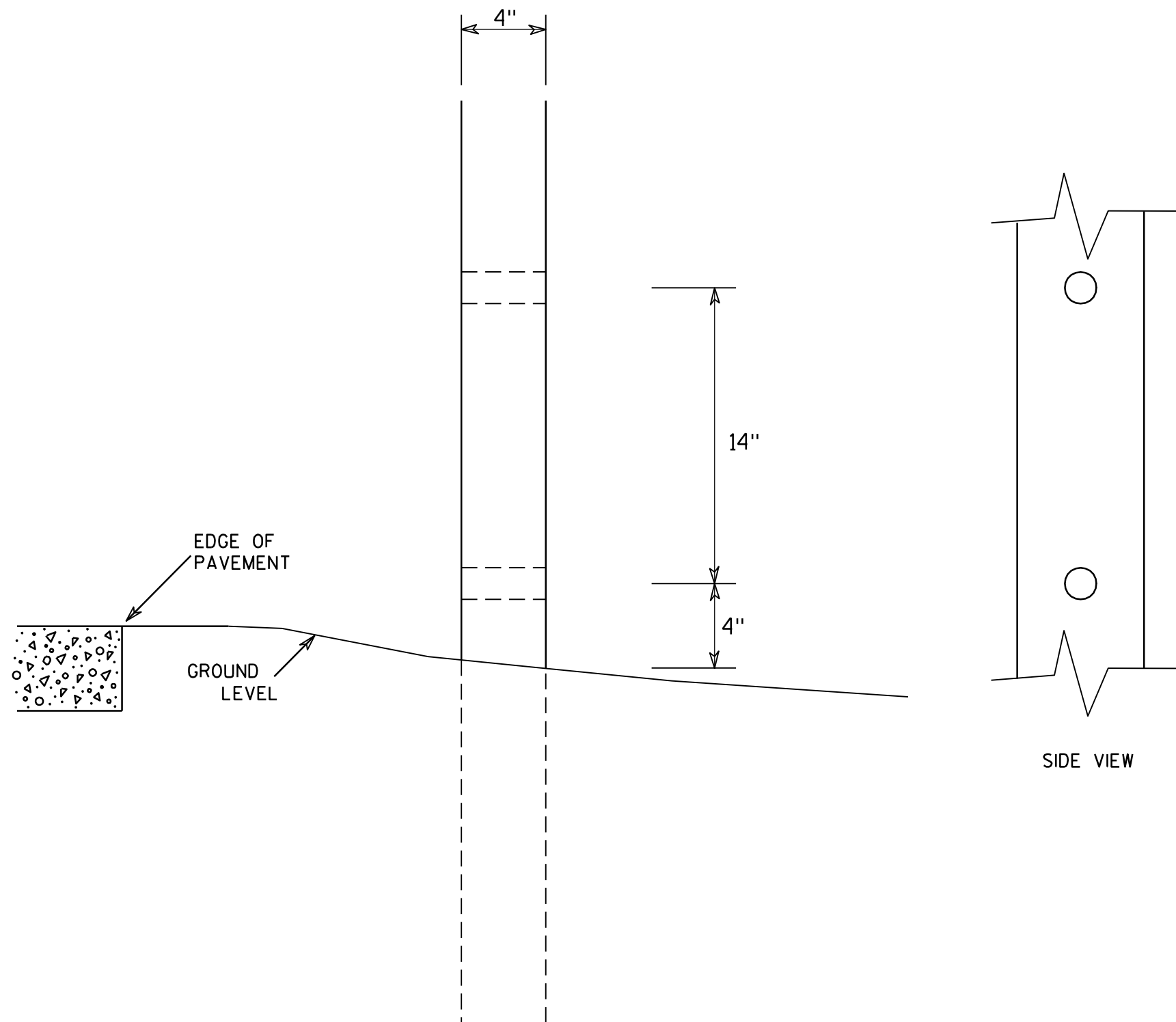
HWY:

COUNTY:

SHEET NO:

1

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

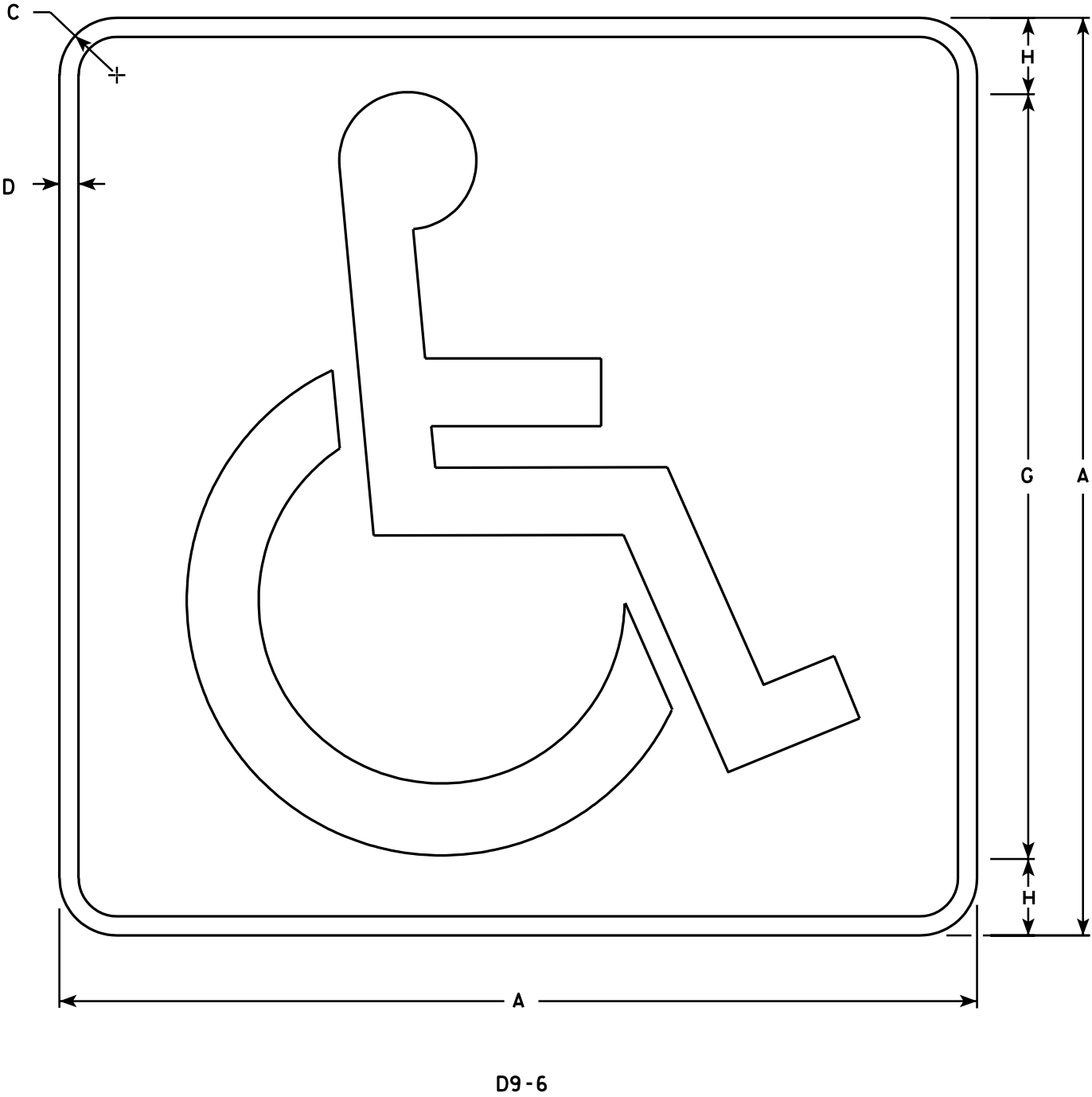
7

Metric equivalent
for this sign is:

SIZE	
1	450 mmX 450 mm
2	600 mmX 600 mm
3	750 mmX 750 mm
4	
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.
1	18		1 1/8	1/2			15	1 1/2																			2.25
2	24		1 1/2	1/2			20	2																			4.0
3	30		1 7/8	3/4			25	2 1/2																			6.25
4																											
5																											

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E
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NOTES

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

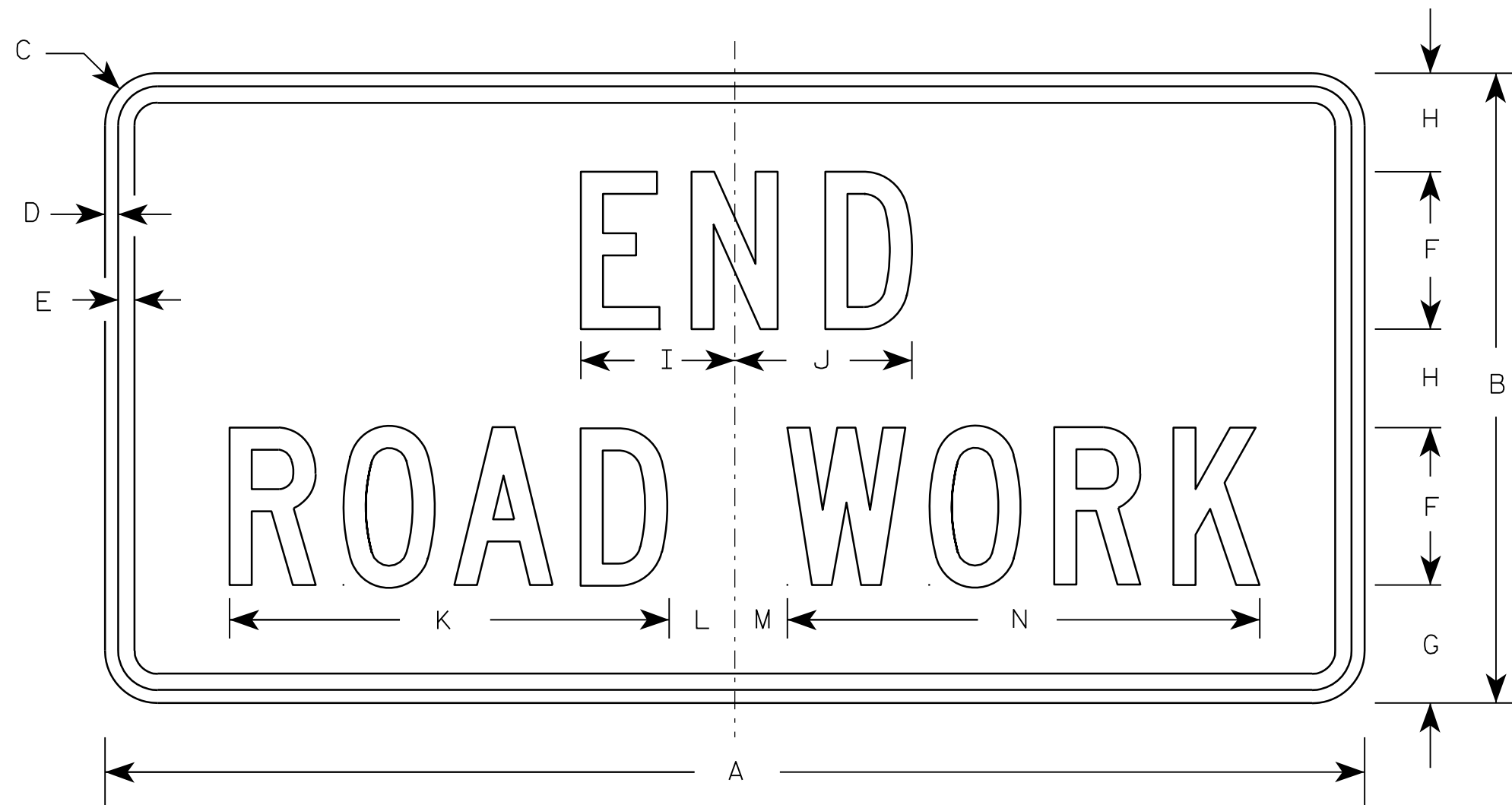
STANDARD SIGN
D9-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Chester J. Spang
for State Traffic Engineer

DATE 1/15/02 PLATE NO. D9-6.3

7



G20-2A

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.

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 m ²
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

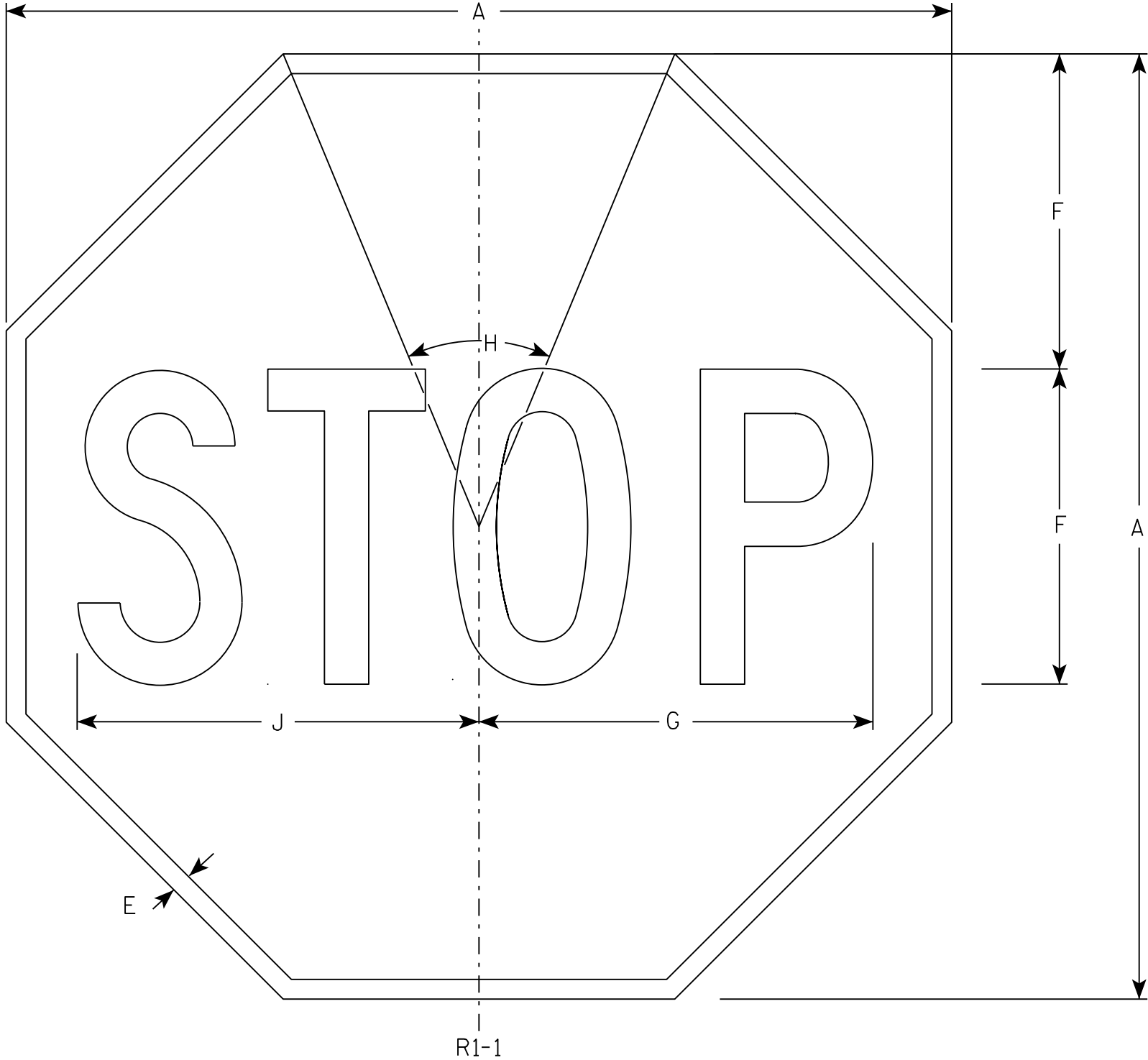
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

7



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

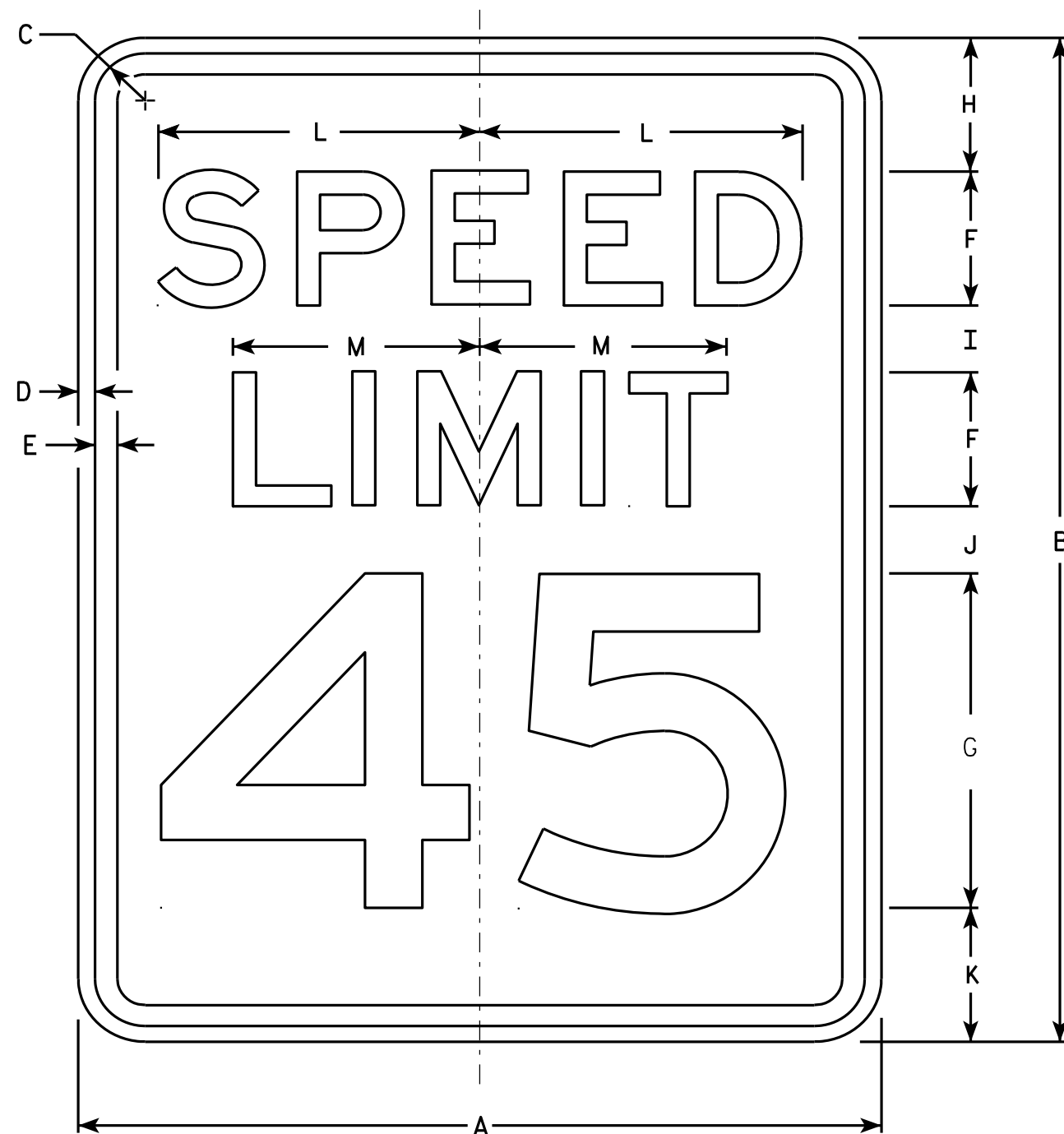
STANDARD SIGN

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

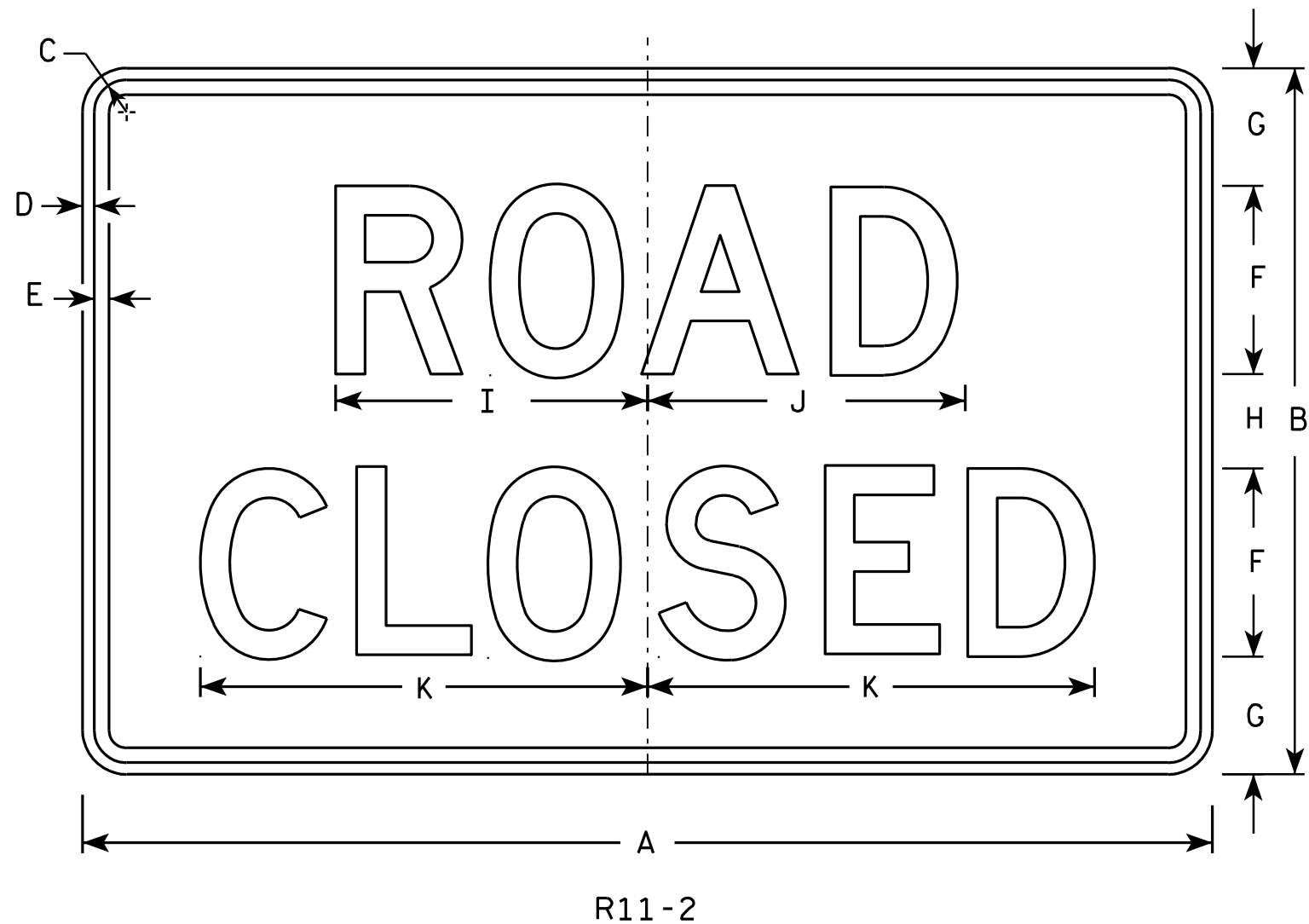
PROJECT NO:

HWY:

COUNTY:

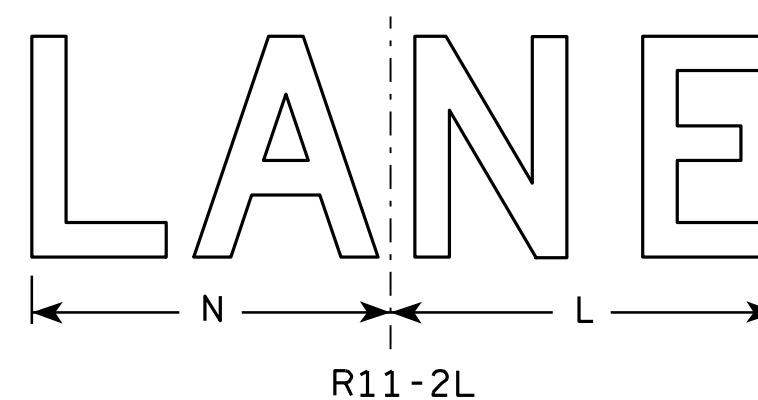
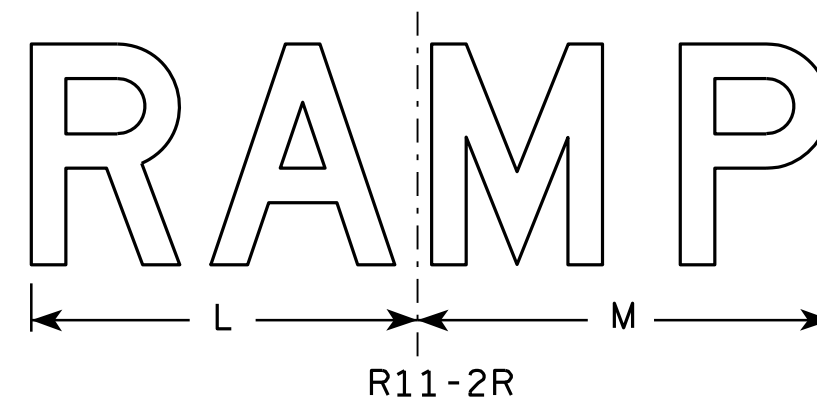
SHEET NO:

E



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 - D
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. Modify the message as required.



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	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
4	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
5	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0

STANDARD SIGN R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

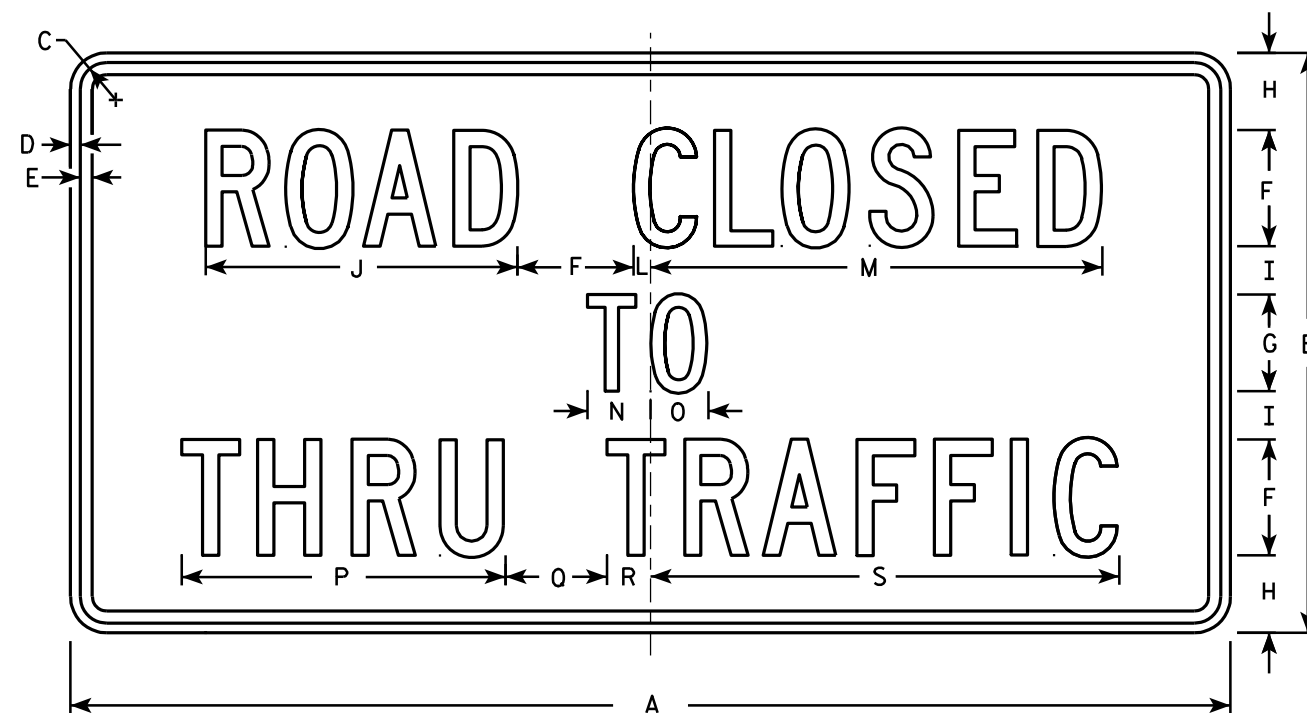
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



R11-4

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 - 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																											
2S	60	30	1 3⁄8	½	5⁄8	6	5	4	2 ½	16 ⅛		7⁄8	23 3⁄8	3 ¼	3	16 ¾	5 ¼	2 ¼	24 ¼								12.5
2M	60	30	1 3⁄8	½	5⁄8	6	5	4	2 ½	16 ⅛		7⁄8	23 3⁄8	3 ¼	3	16 ¾	5 ¼	2 ¼	24 ¼								12.5
3																											
4																											
5																											

STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

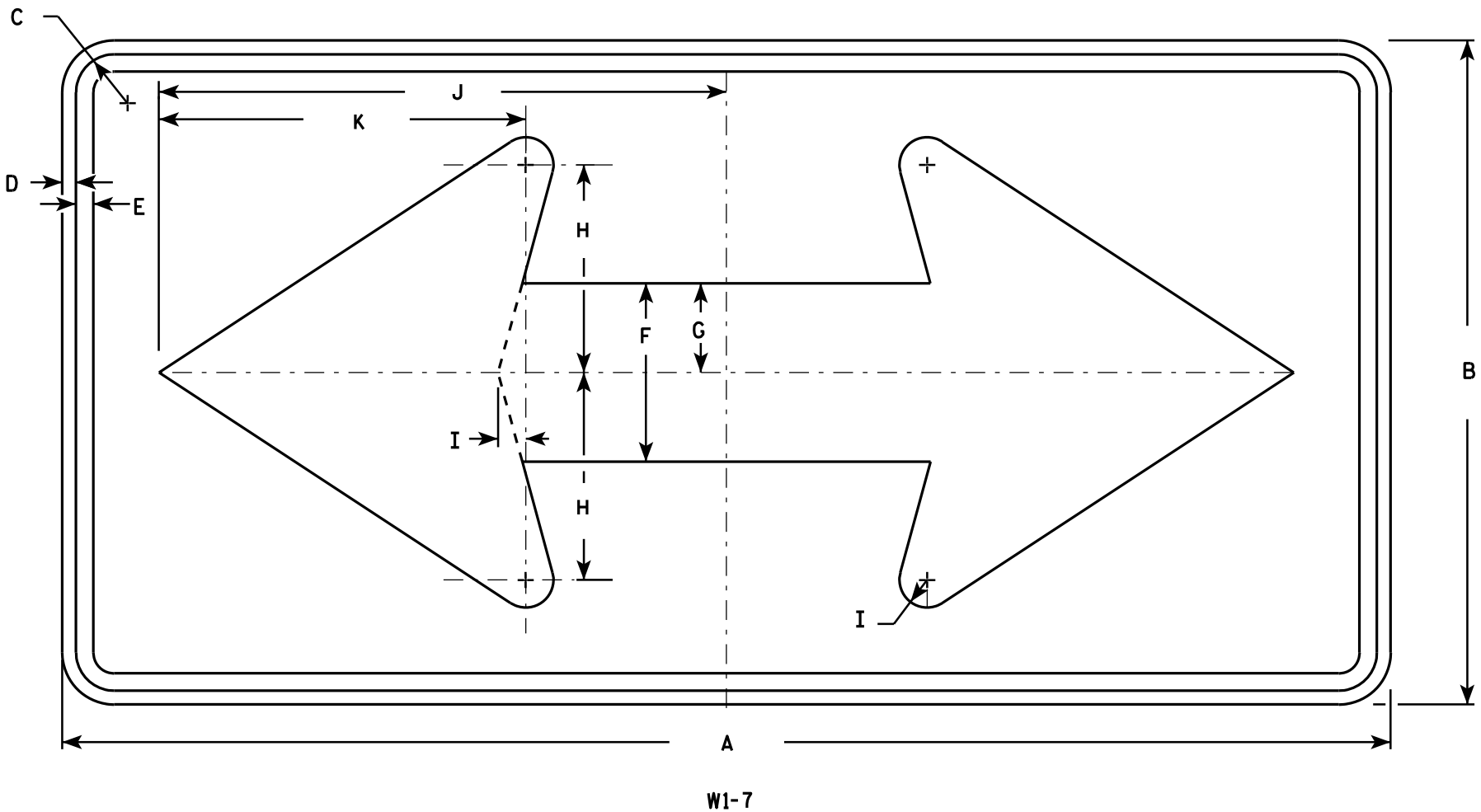
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



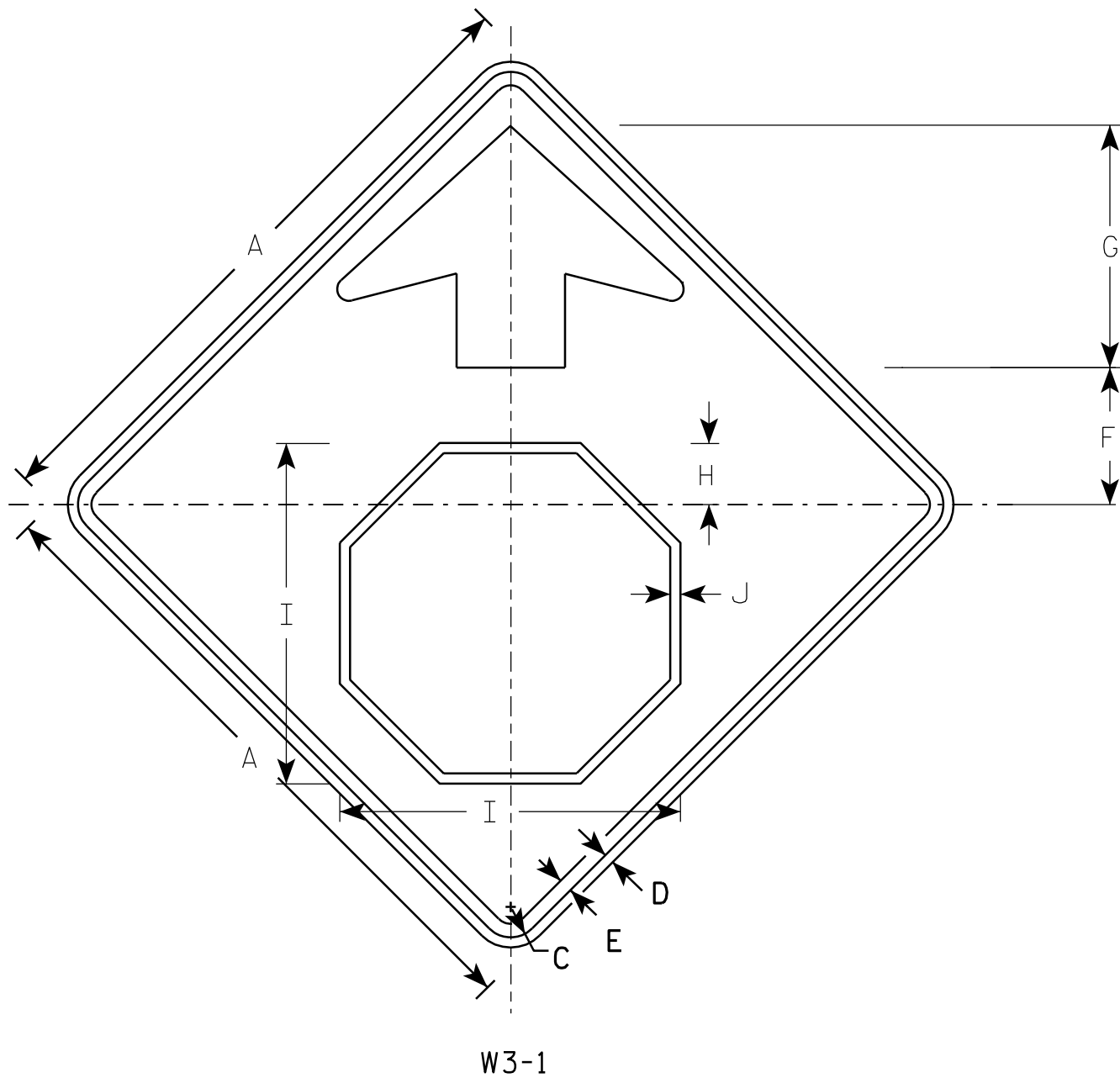
NOTES

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	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

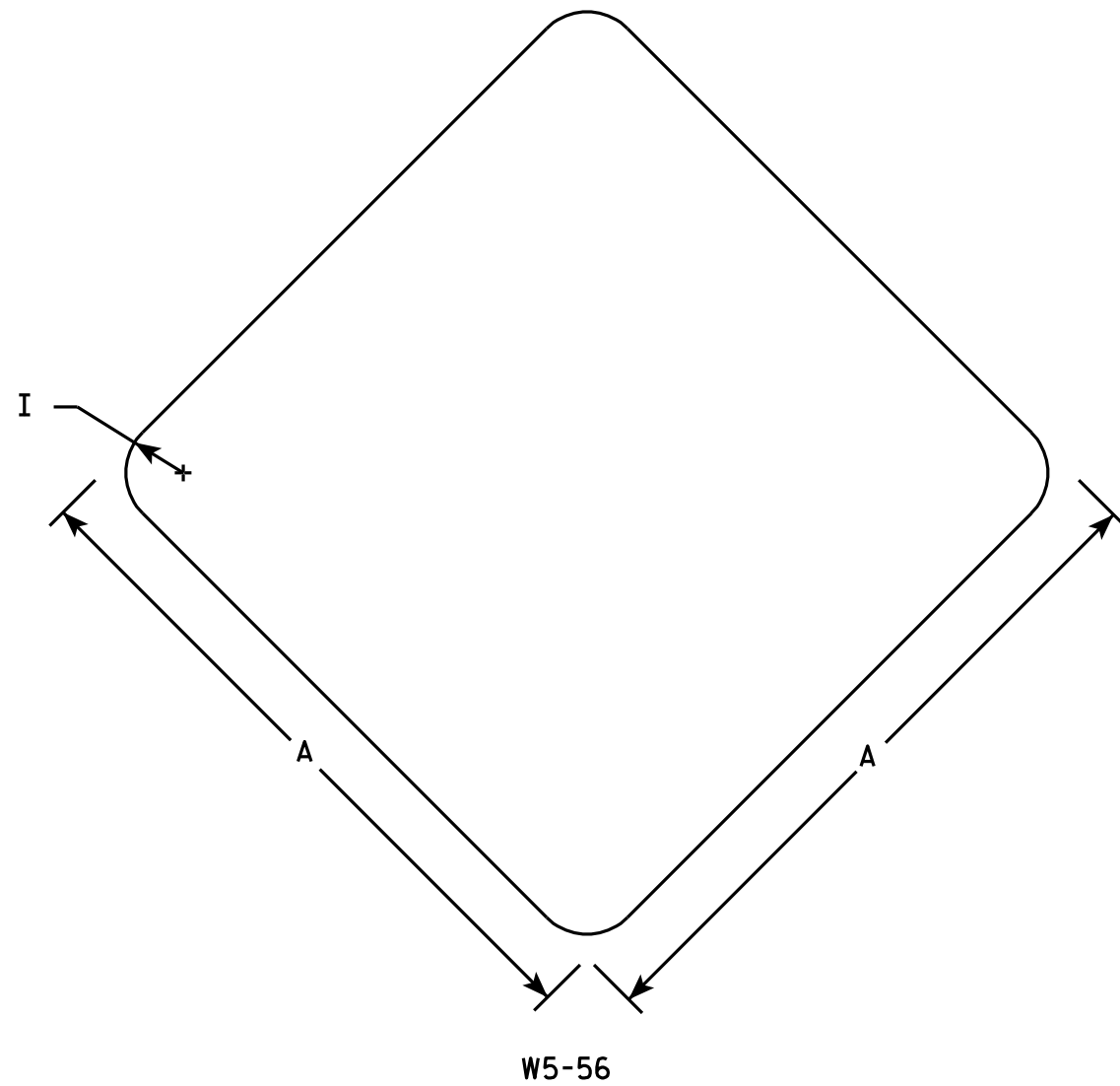
STANDARD SIGN	
W1 - 7	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 6/7/10	PLATE NO. W1-7.7

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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NOTES

1. Sign is Type II - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Red
3. Corners may be square or rounded when base material is plywood. When base material is metal the corners shall be rounded.



7

7

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	12								1																		1.0
2S	18								1 1/2																		2.25
2M	18								1 1/2																		2.25
3																											
4																											
5																											

STANDARD SIGN

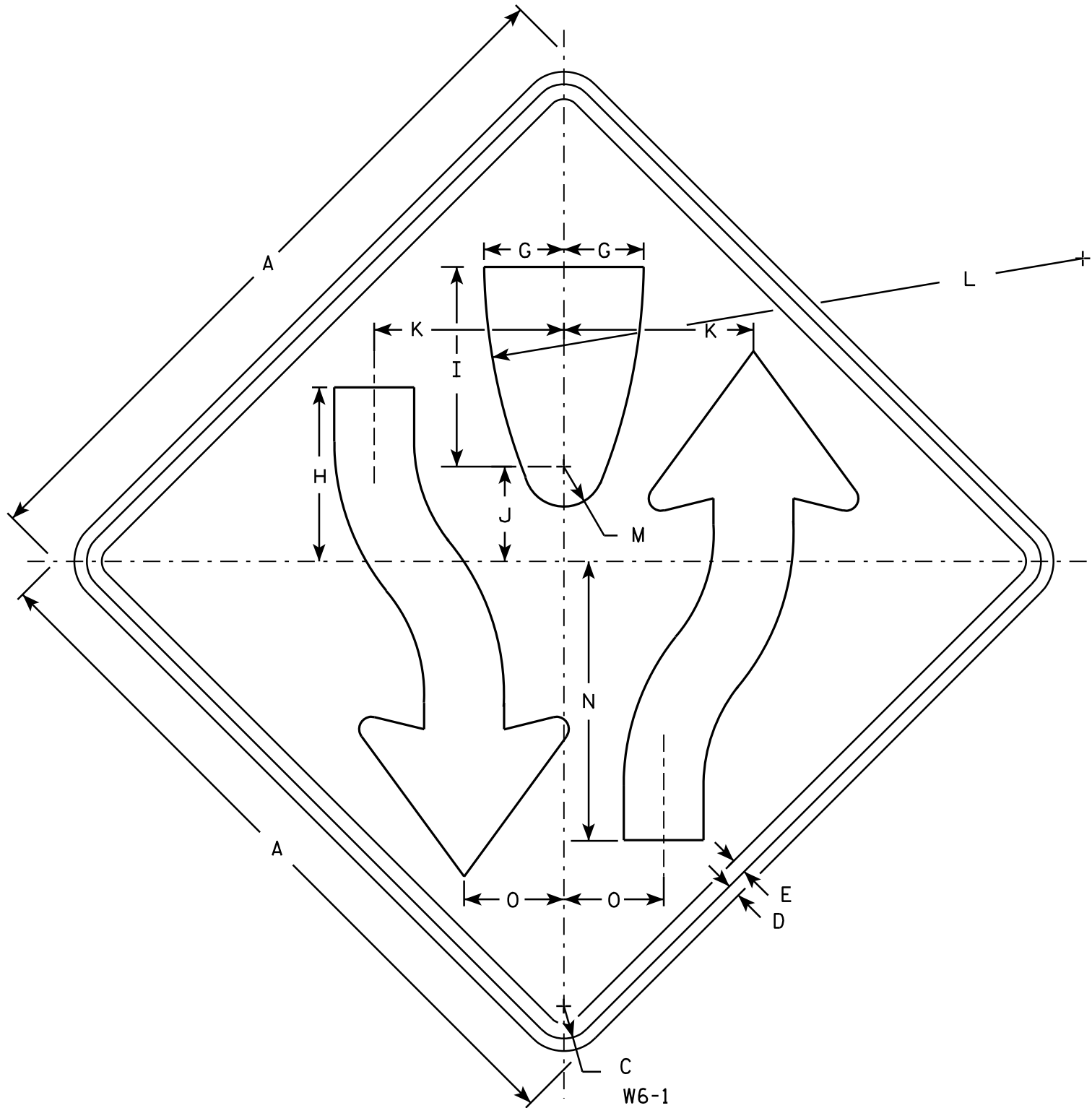
W5 - 56

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer

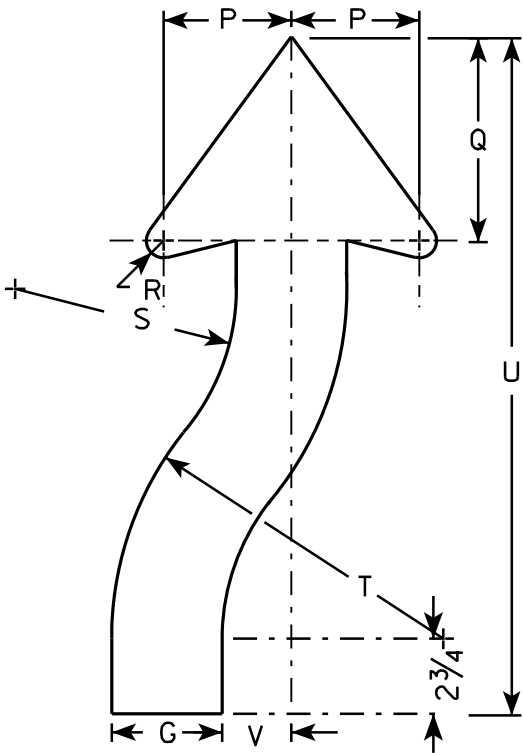
DATE 11/2/10 PLATE NO. W5-56.6

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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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. W6-2 same as W6-1 but is rotated 180° when mounted.

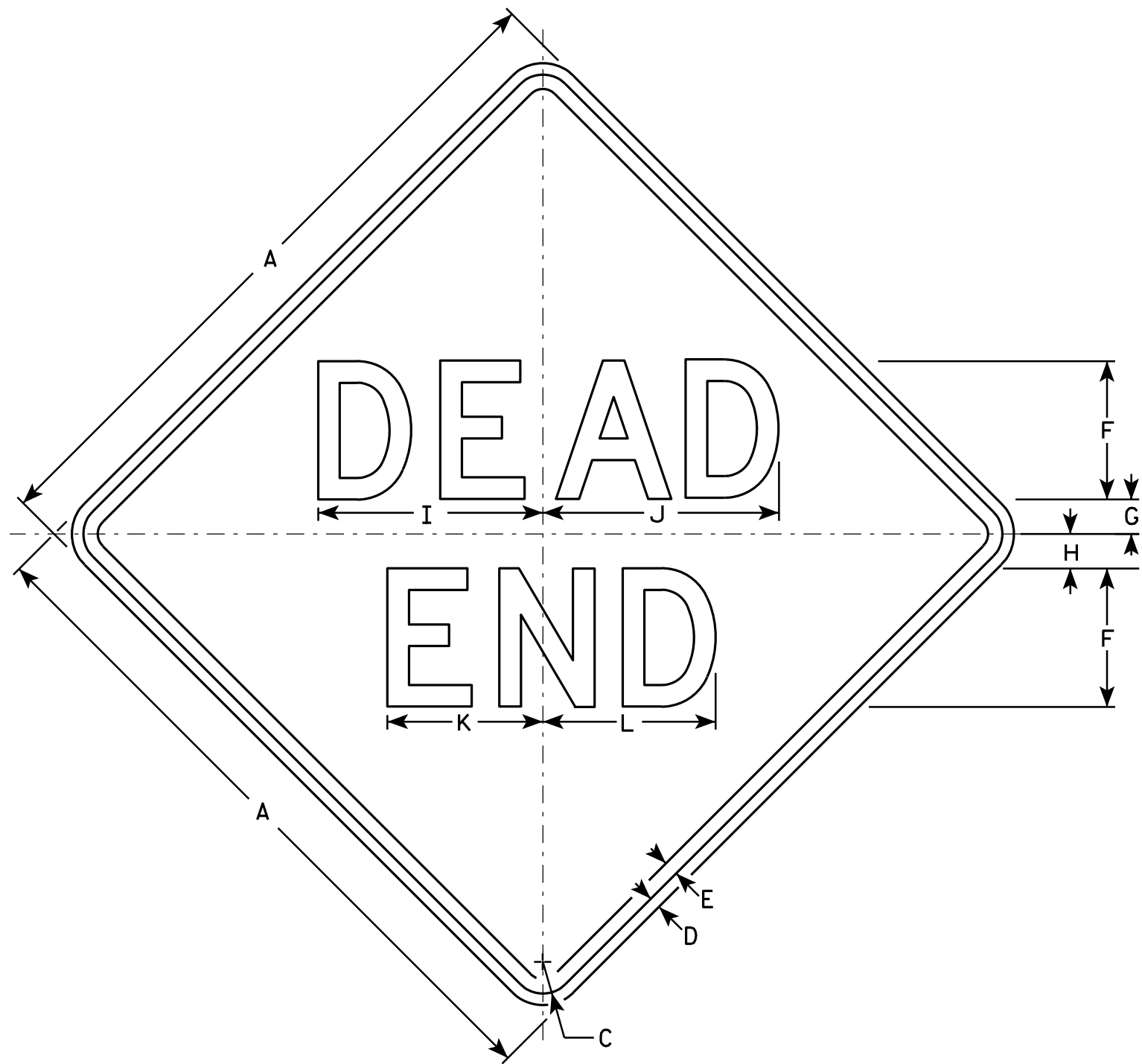


ARROW DETAIL

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		3 1/4	8	8 1/4	4 1/8	7 7/8	25	1 3/4	11 5/8	4 1/8	3 7/8	6 3/4	5/8	6 5/8	9 7/8	21 5/8	2					6.25
2S	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2M	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
3																											
4	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
5	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0

STANDARD SIGN
W6-1 & W6-2

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 03/12/13 PLATE NO. W6-1.14



W14-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Message Series - D
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	24		1 1/8	3/8	1/2	5	1	2	8 1/4	8 5/8	5 5/8	6 1/4															4.0
2S	30		1 3/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
2M	30		1 3/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
3	36		1 5/8	5/8	3/4	7	2	3	11 3/8	12	7 7/8	8 3/4															9.0
4																											
5																											

STANDARD SIGN
W14-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W14-1.7

PROJECT NO:

HWY:

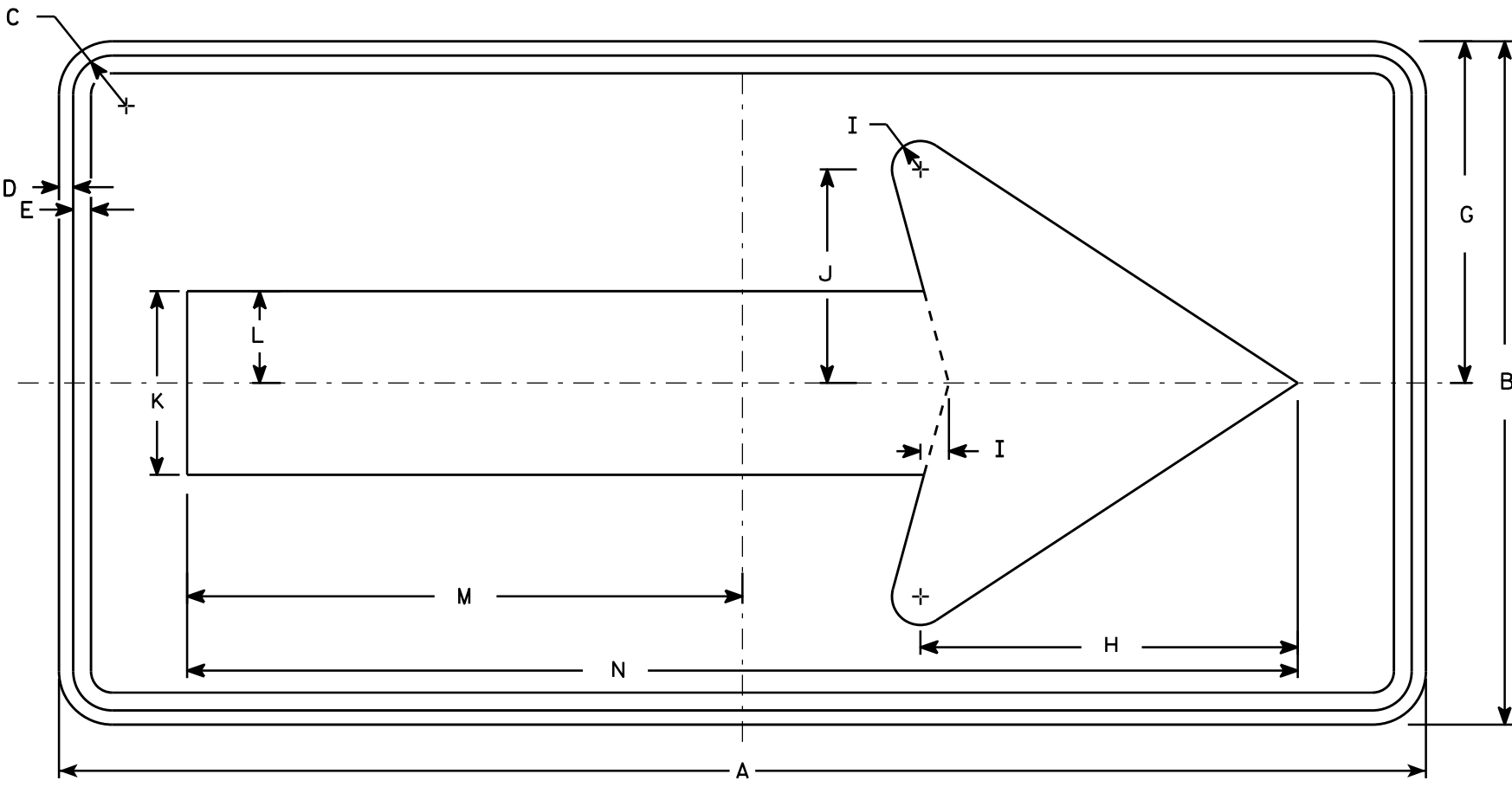
COUNTY:

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 - Orange
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.



W01-6

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	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN
W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

13TH LANE		AREA (SF)			INCREMENTAL VOL (CY)(UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE NOTE 4
STATION	DISTANCE	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 100	EXPANDED FILL 125	
81+50		125.5	0.0	64.8	0.0	0.0	0.0	0.0	0.0	0
82+00	50	97.7	0.0	12.4	206.6	0.0	71.4	206.6	89.3	117
82+50	50	91.0	0.0	33.2	174.7	0.0	42.2	381.4	142.0	239
83+00	50	88.4	0.0	84.1	166.1	0.0	108.6	547.4	277.8	270
83+50	50	80.4	0.0	48.3	156.3	0.0	122.6	703.7	431.0	273
84+00	50	61.6	0.0	90.6	131.5	0.0	128.6	835.2	591.8	243
84+50	50	45.8	0.0	111.8	99.5	0.0	187.5	934.7	826.1	109
85+00	50	36.9	0.0	129.4	76.6	0.0	223.4	1011.3	1105.3	-94
85+50	50	21.1	0.0	195.1	53.8	0.0	300.5	1065.1	1481.0	-416
86+00	50	13.7	0.0	44.8	32.3	0.0	222.2	1097.3	1758.7	-661
86+50	50	27.4	0.0	114.3	38.0	0.0	147.3	1135.3	1942.8	-807
87+00	50	30.1	0.0	75.3	53.2	0.0	175.5	1188.5	2162.2	-974
87+50	50	49.2	0.0	37.2	73.4	0.0	104.2	1261.9	2292.4	-1,030
88+00	50	82.7	0.0	16.4	122.2	0.0	49.7	1384.1	2354.5	-970
88+50	50	124.8	0.0	13.3	192.2	0.0	27.6	1576.3	2389.0	-813
89+00	50	131.9	0.0	4.6	237.7	0.0	16.6	1814.0	2409.7	-596
89+50	50	188.7	0.0	0.0	296.8	0.0	4.3	2110.8	2415.0	-304
90+00	50	238.5	0.0	0.0	395.5	0.0	0.0	2506.3	2415.0	91
90+50	50	258.2	0.0	0.0	459.9	0.0	0.0	2966.2	2415.0	551
91+00	50	208.2	0.0	0.0	431.8	0.0	0.0	3398.0	2415.0	983
91+50	50	266.5	0.0	0.0	439.5	0.0	0.0	3837.5	2415.0	1,422
92+00	50	281.3	0.0	0.0	507.3	0.0	0.0	4344.8	2415.0	1,930
92+50	50	207.0	0.0	0.0	452.2	0.0	0.0	4797.0	2415.0	2,382
93+00	50	264.1	0.0	0.0	436.2	0.0	0.0	5233.2	2415.1	2,818
93+50	50	185.0	0.0	0.1	415.9	0.0	0.1	5649.1	2415.2	3,234
94+00	50	136.7	0.0	8.6	297.9	0.0	8.1	5946.9	2425.4	3,522
94+50	50	113.0	0.0	12.2	231.2	0.0	19.3	6178.1	2449.5	3,729
95+00	50	95.0	0.0	5.8	192.6	0.0	16.6	6370.8	2470.2	3,901
95+50	50	90.1	0.0	9.4	171.4	0.0	14.0	6542.2	2487.7	4,054
96+00	50	113.9	0.0	19.1	188.9	0.0	26.3	6731.1	2520.6	4,210
96+50	50	106.9	0.0	43.7	204.5	0.0	58.1	6935.5	2593.3	4,342
97+00	50	209.7	0.0	36.5	293.1	0.0	74.3	7228.7	2686.1	4,543
97+50	50	243.9	0.0	28.1	420.0	0.0	59.8	7648.6	2760.9	4,888
98+00	50	285.9	0.0	13.1	490.5	0.0	38.2	8139.2	2808.7	5,331
98+50	50	301.3	0.0	3.4	543.8	0.0	15.4	8682.9	2827.8	5,855
98+84	34	289.0	0.0	3.5	368.2	0.0	4.3	9051.1	2833.3	6,218
99+00	16	154.2	0.0	20.0	133.9	0.0	7.1	9185.0	2842.1	6,343
99+03	3	120.8	0.0	37.5	16.9	0.0	3.5	9201.9	2846.6	6,355
					9201.9	0.0	2277.2			

85+86 PE LT	20	9.1	0.0	44.7	6.8	0.0	33.1	9208.7	2887.9	6,321
86+16 PE RT	20	9.3	0.0	185.5	6.9	0.0	137.4	9215.6	3059.7	6,156

CUL DE SAC	---	---	---	723.1	0.0	641.9	9938.7	3862.1	6,077	
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9938.7	0.0	3089.6
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- NOTES:
- 1) CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
 - 2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS NOT SHOWN IN CROSS SECTIONS
 - 3) FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
 - 4) MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - EXPANDED FILL

STH 107		AREA (SF)			INCREMENTAL VOL (CY)(UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE NOTE 4
		CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00	EXPANDED FILL 1.25	
STATION	DISTANCE									
145+21		11.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
145+50	29	17.2	0.0	0.0	15.1	0.0	0.0	15.1	0.0	15
146+00	50	65.2	0.0	0.0	76.3	0.0	0.0	91.4	0.0	91
146+48	48	24.1	0.0	1.4	78.6	0.0	1.3	170.0	1.6	168
147+00	52	17.4	0.0	0.0	40.3	0.0	1.4	210.3	3.3	207
147+50	50	16.7	0.0	0.0	31.6	0.0	0.0	241.9	3.3	239
147+78	28	40.7	0.0	24.1	29.2	0.0	12.3	271.1	18.7	252
148+00	22	31.5	0.0	3.4	30.0	0.0	11.4	301.1	33.0	268
148+50	50	25.0	0.0	3.9	52.3	0.0	6.7	353.5	41.4	312
149+00	50	24.4	0.0	3.7	45.7	0.0	7.0	399.2	50.2	349
149+50	50.0	24.5	0.0	3.2	45.2	0.0	6.4	444.4	58.2	386
150+00	50.0	24.5	0.0	3.0	45.3	0.0	5.8	489.7	65.4	424
150+50	50.0	24.5	0.0	3.2	45.3	0.0	5.8	535.0	72.6	462
151+00	50.0	25.4	0.0	2.2	46.1	0.0	5.0	581.1	78.9	502
151+50	50.0	27.1	0.0	2.0	48.5	0.0	3.9	629.6	83.8	546
152+00	50.0	28.5	0.0	0.9	51.4	0.0	2.7	681.1	87.2	594
152+28	27.5	28.2	0.0	0.7	28.9	0.0	0.8	710.0	88.1	622
					710.0	0.0	70.5			

STH 29		AREA (SF)			INCREMENTAL VOL (CY)(UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE NOTE 4
STATION	DISTANCE	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 100	EXPANDED FILL 125	
195+00		13.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
195+50	50	16.1	0.0	0.0	27.1	0.0	0.0	27.1	0.0	27
196+00	50	19.1	0.0	1.0	32.6	0.0	0.9	59.8	1.2	59
196+50	50	289.3	0.0	0.0	285.6	0.0	0.9	345.3	2.4	343
197+00	50	195.8	0.0	0.0	449.1	0.0	0.0	794.5	2.4	792
197+50	50	11.8	0.0	0.3	192.3	0.0	0.3	986.7	2.7	984
198+00	50	5.9	0.0	0.1	16.4	0.0	0.3	1003.1	3.1	1,000
198+50	50	1.6	0.0	0.0	7.0	0.0	0.1	1010.1	3.2	1,007
					1010.1	0.0	2.6			

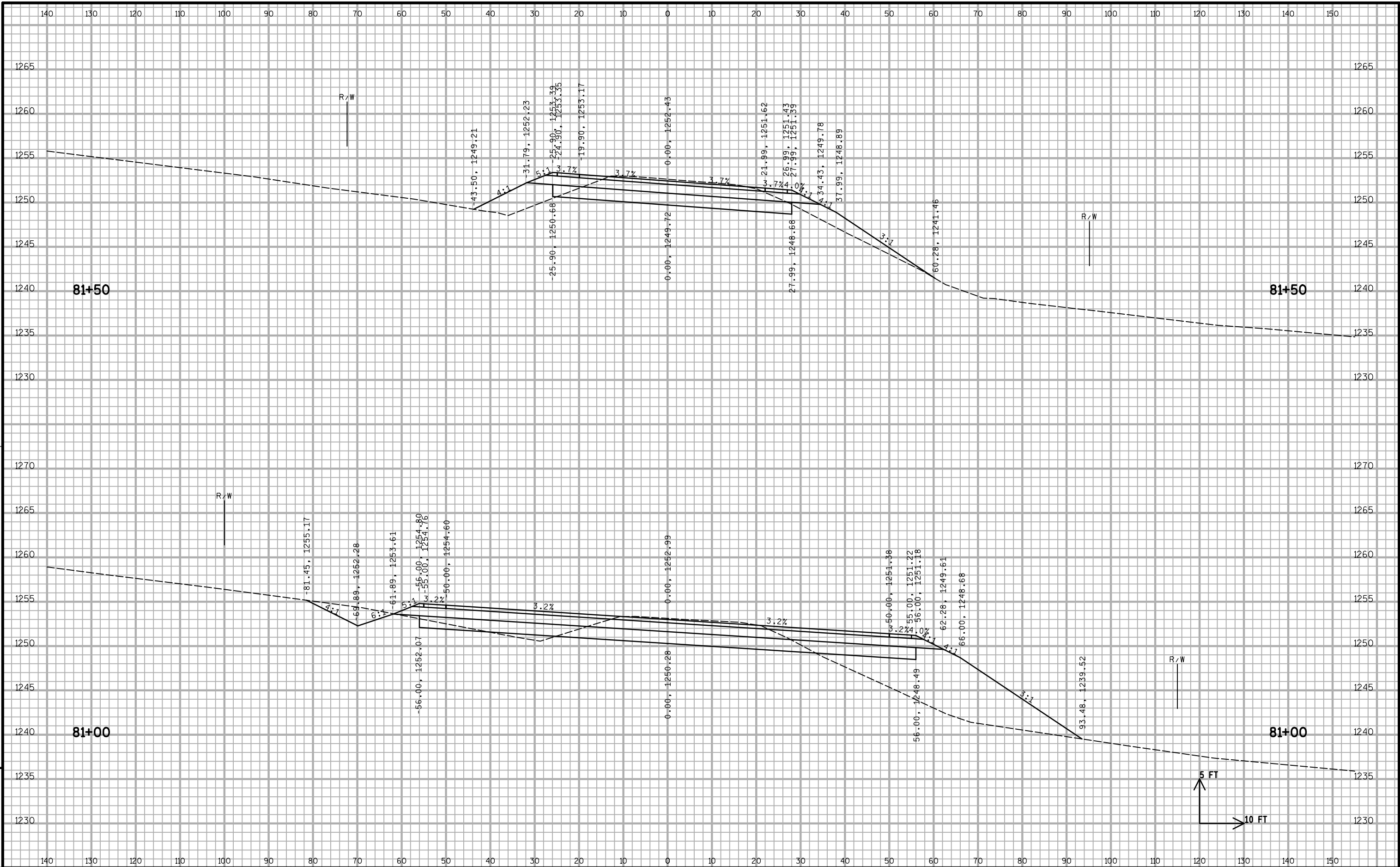
- NOTES:
- 1)

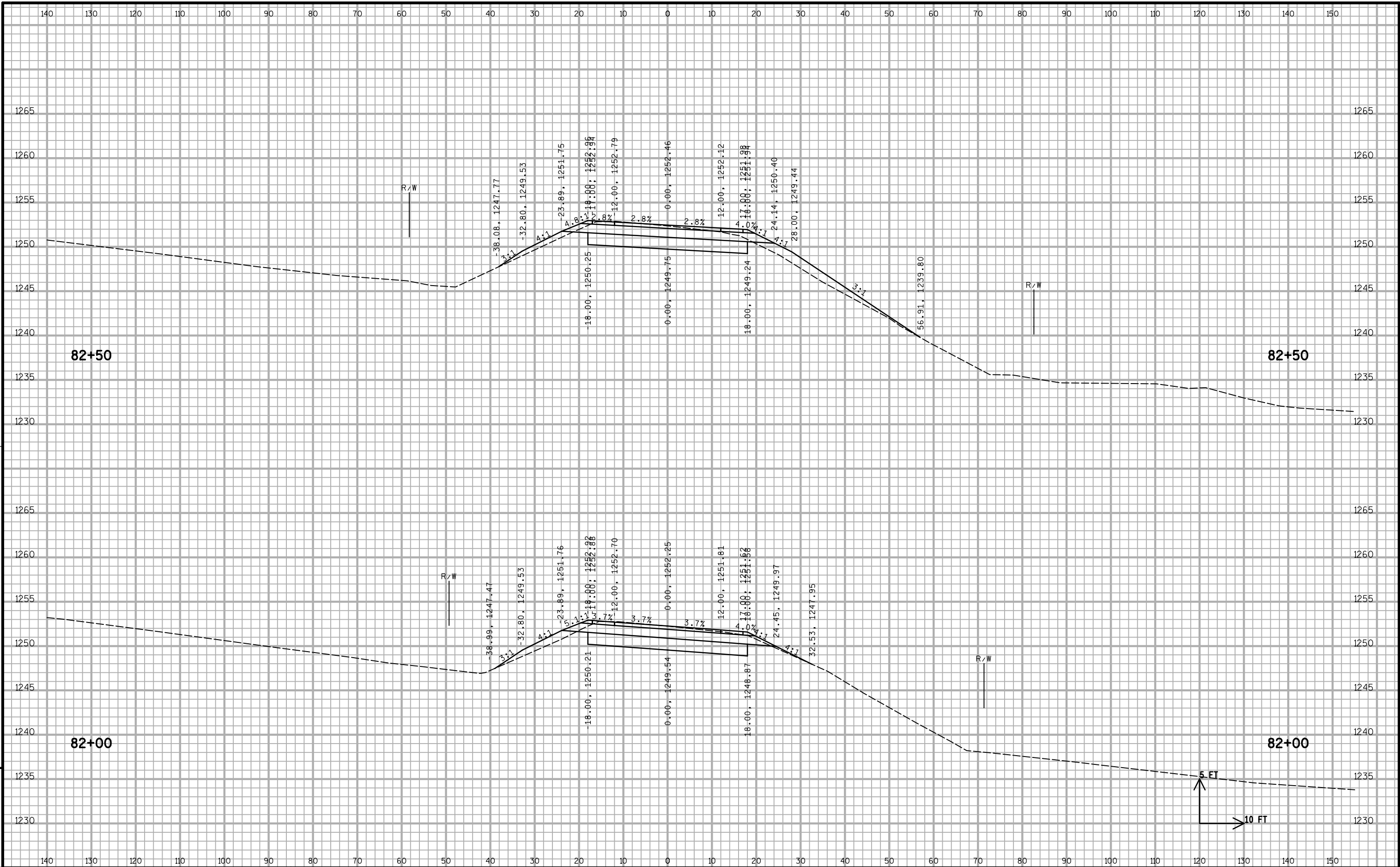
CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
- 2)

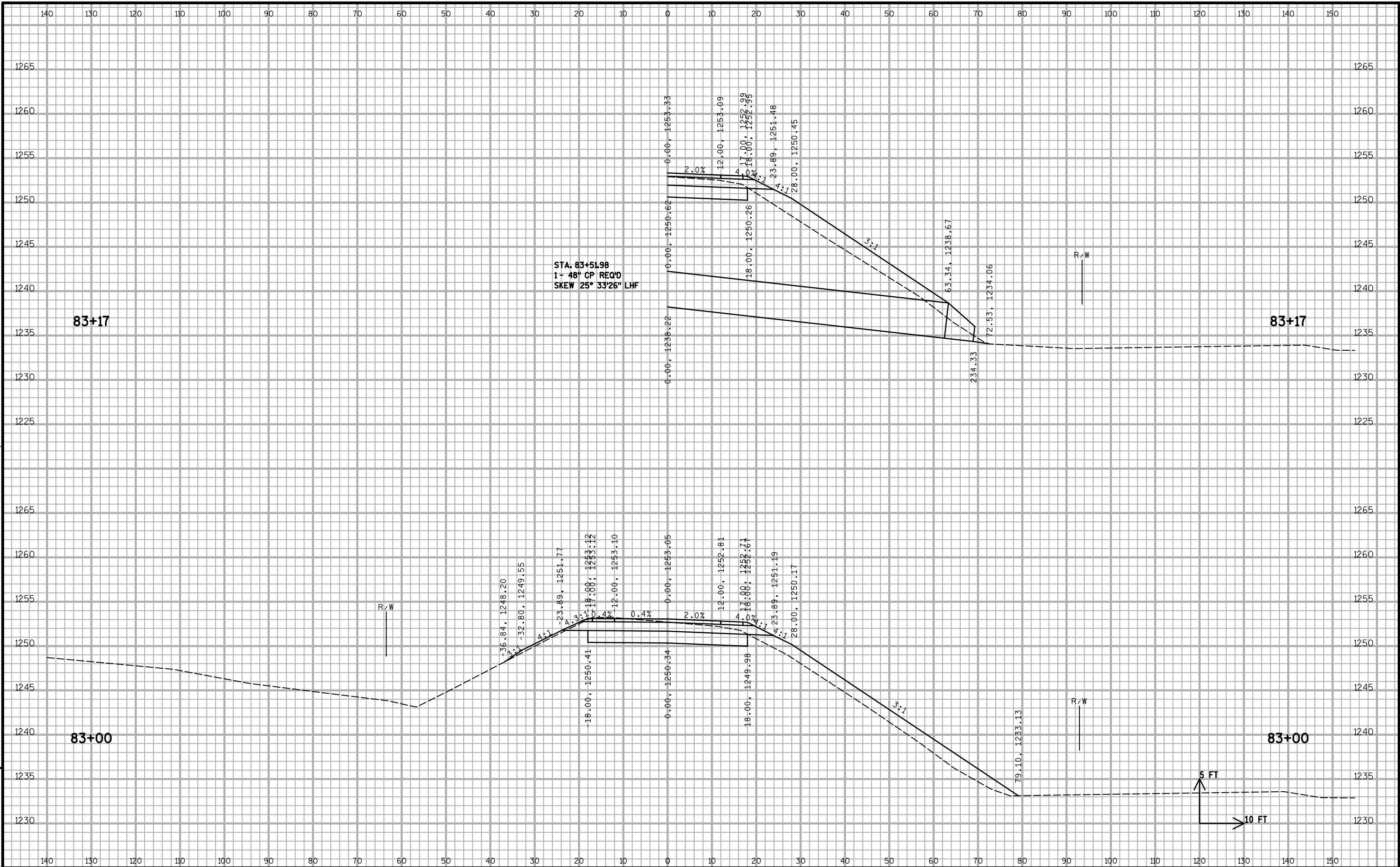
SALVAGED/UNUSABLE PAVEMENT MATERIAL IS NOT SHOWN IN CROSS SECTIONS
- 3)

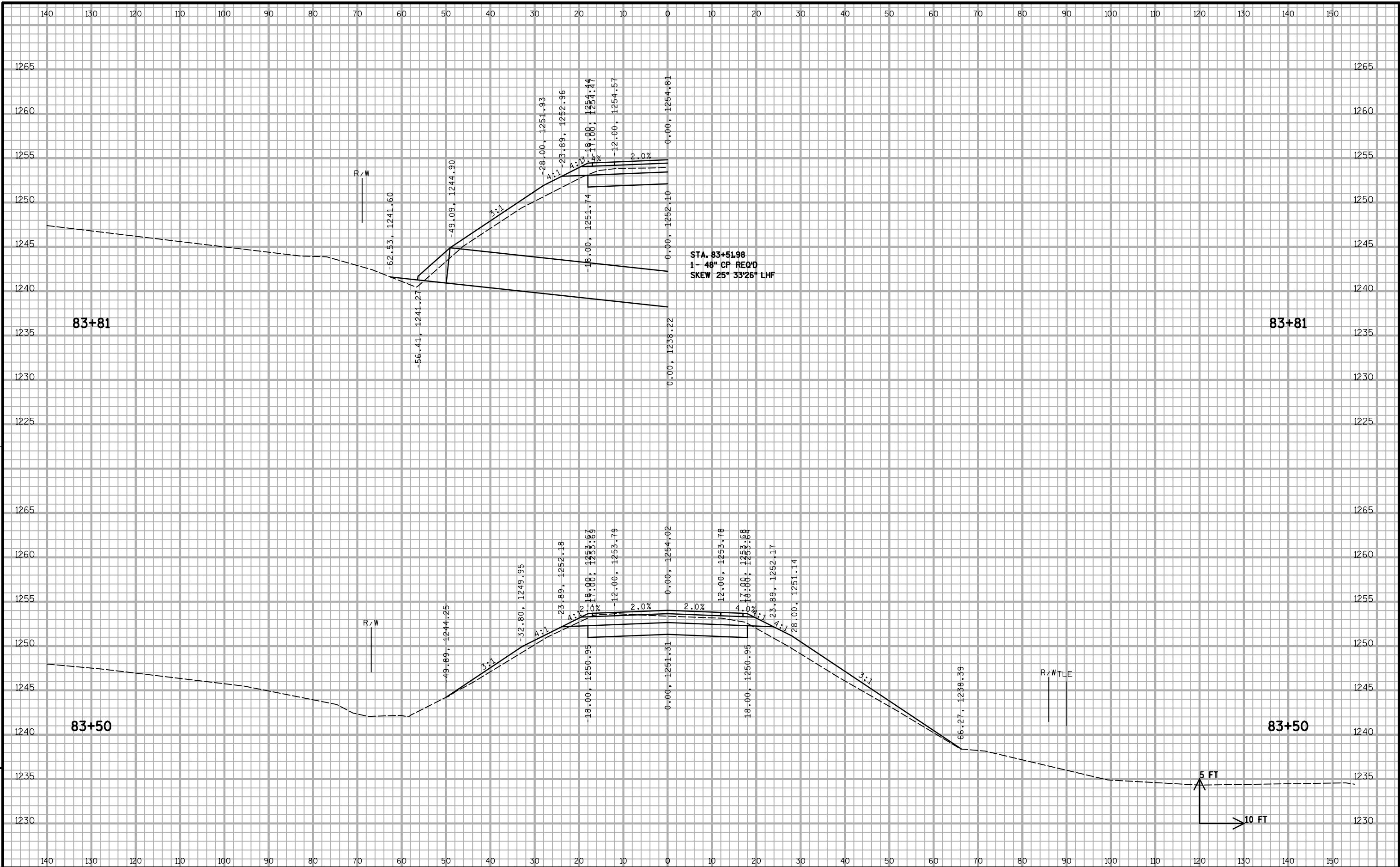
FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
- 4)

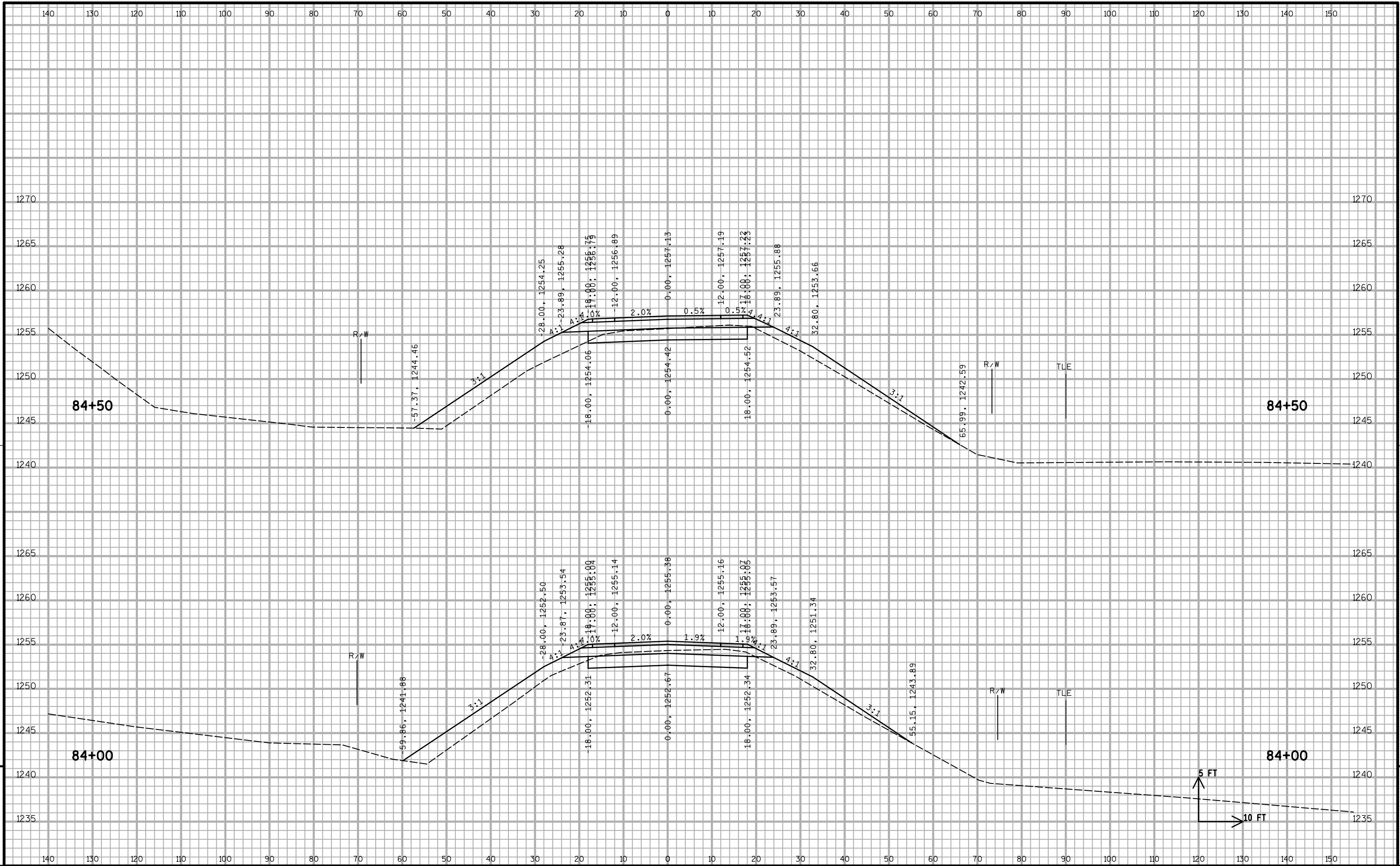
MASS ORDINATE = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL - EXPANDED FILL

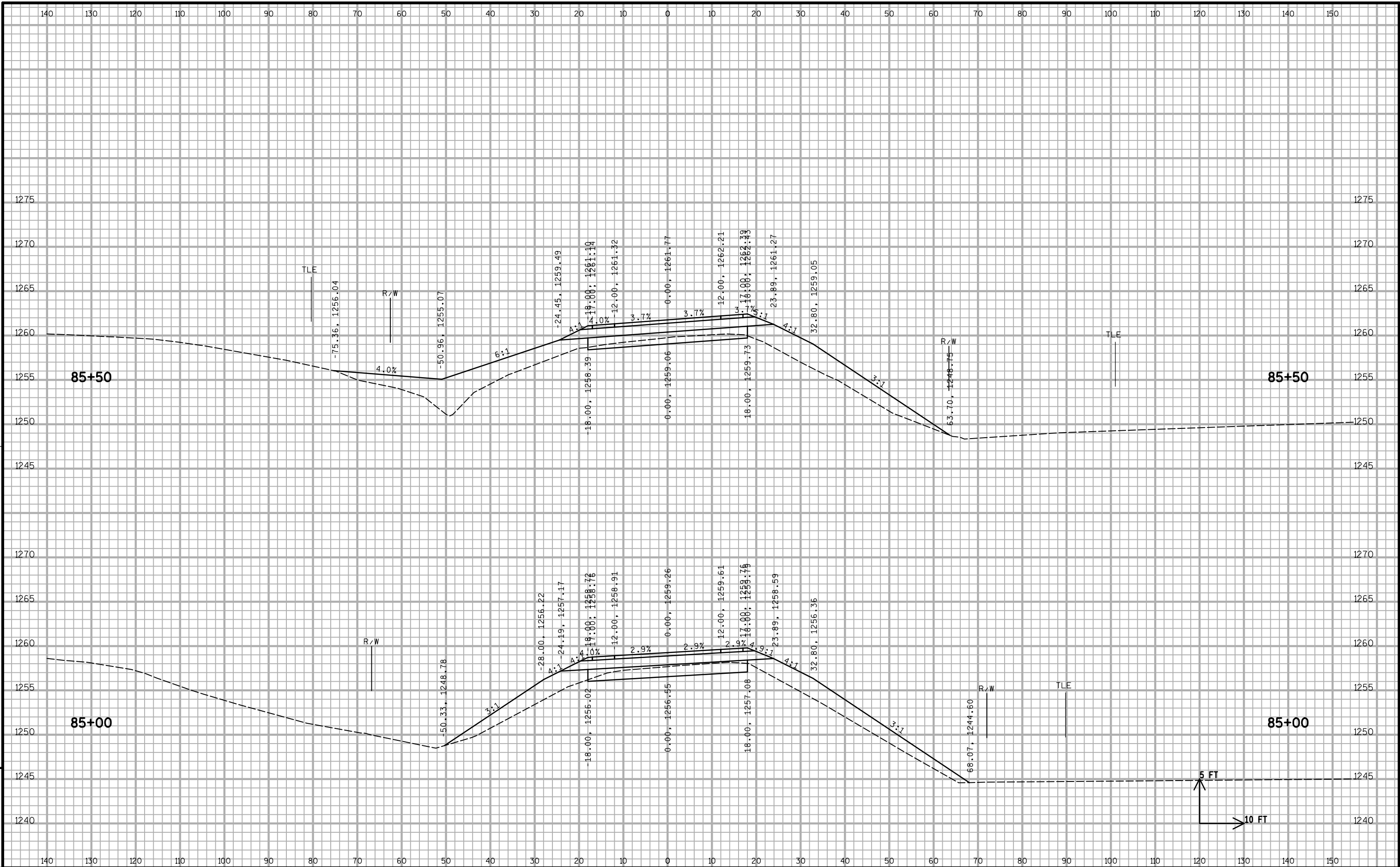


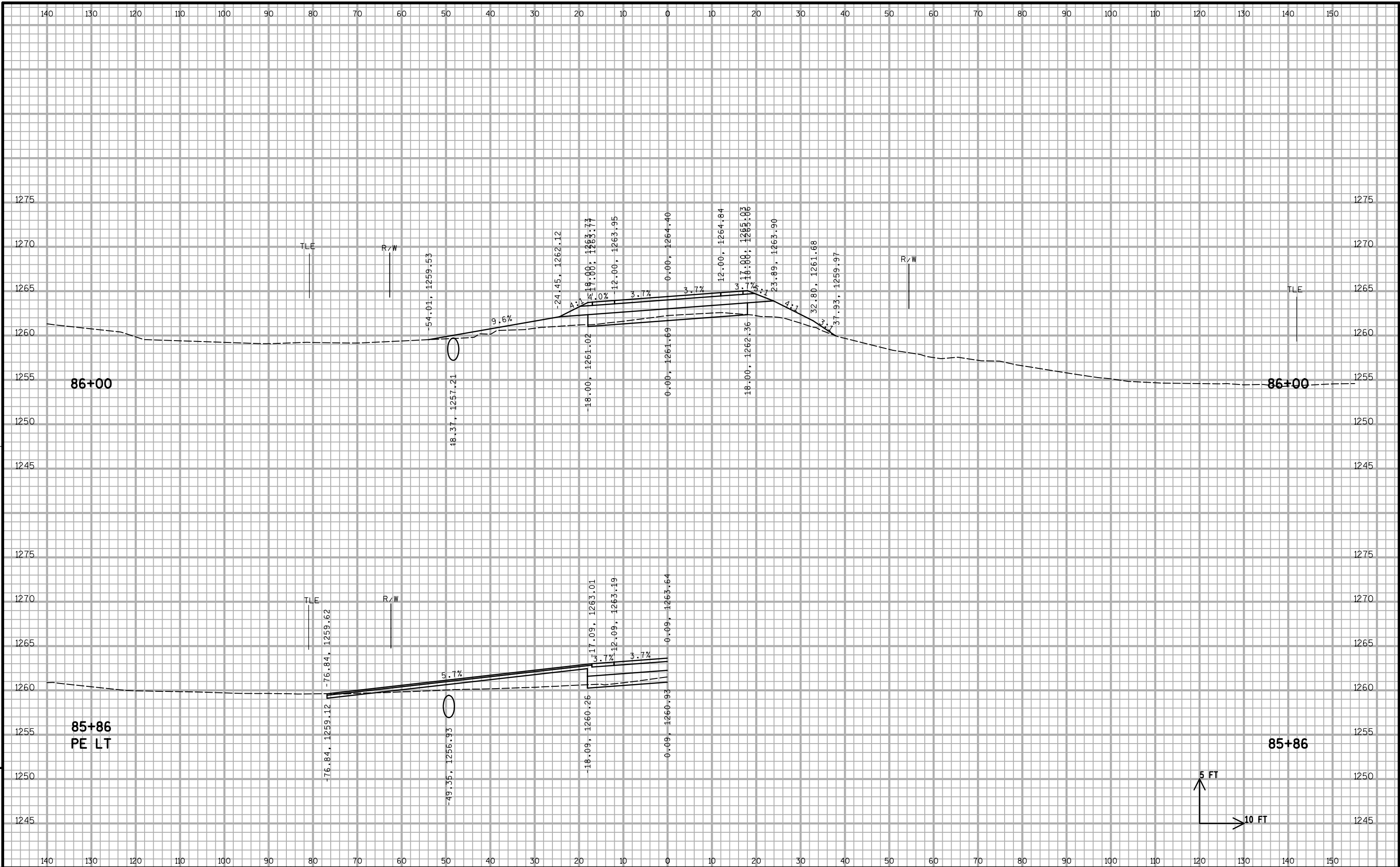


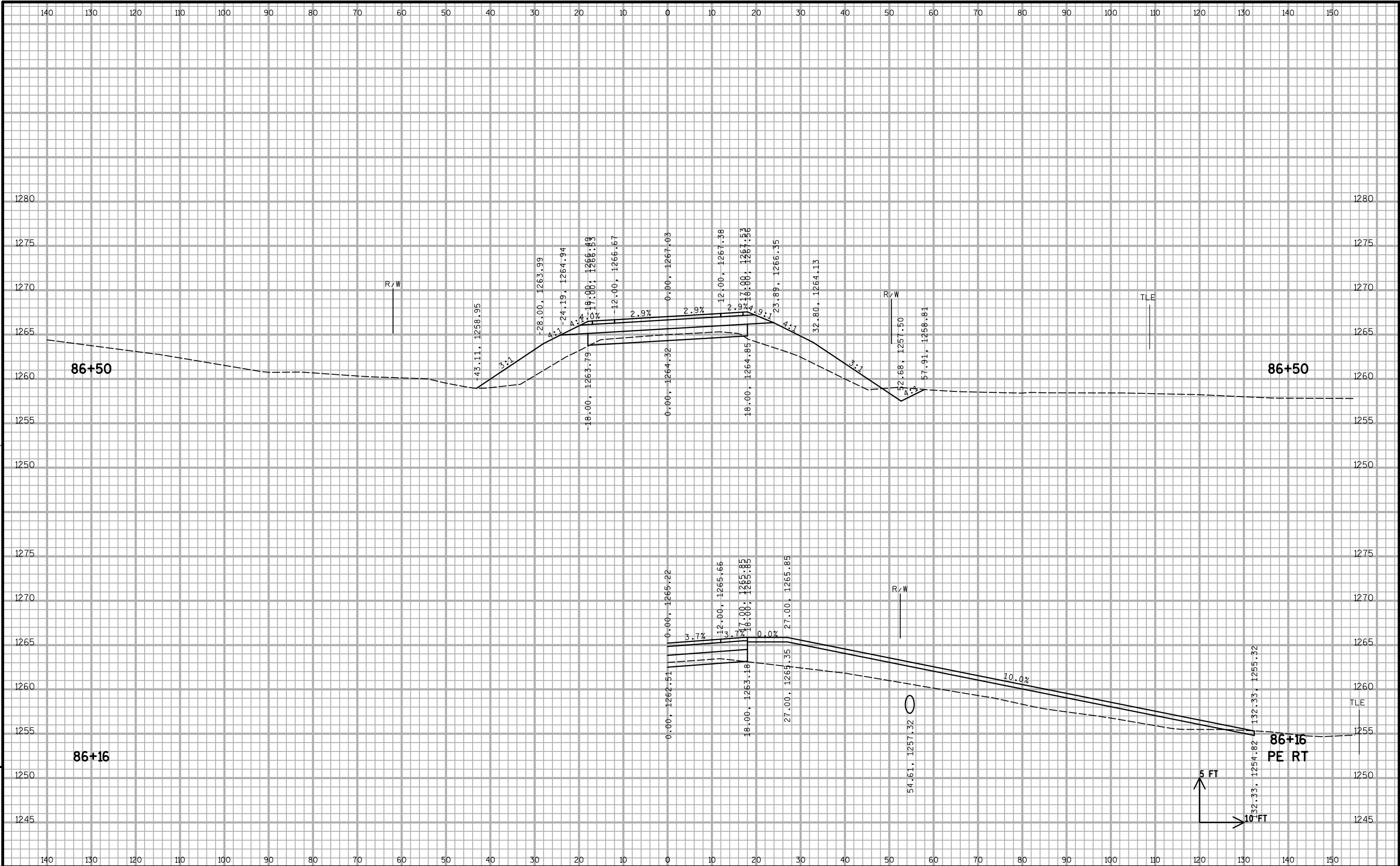


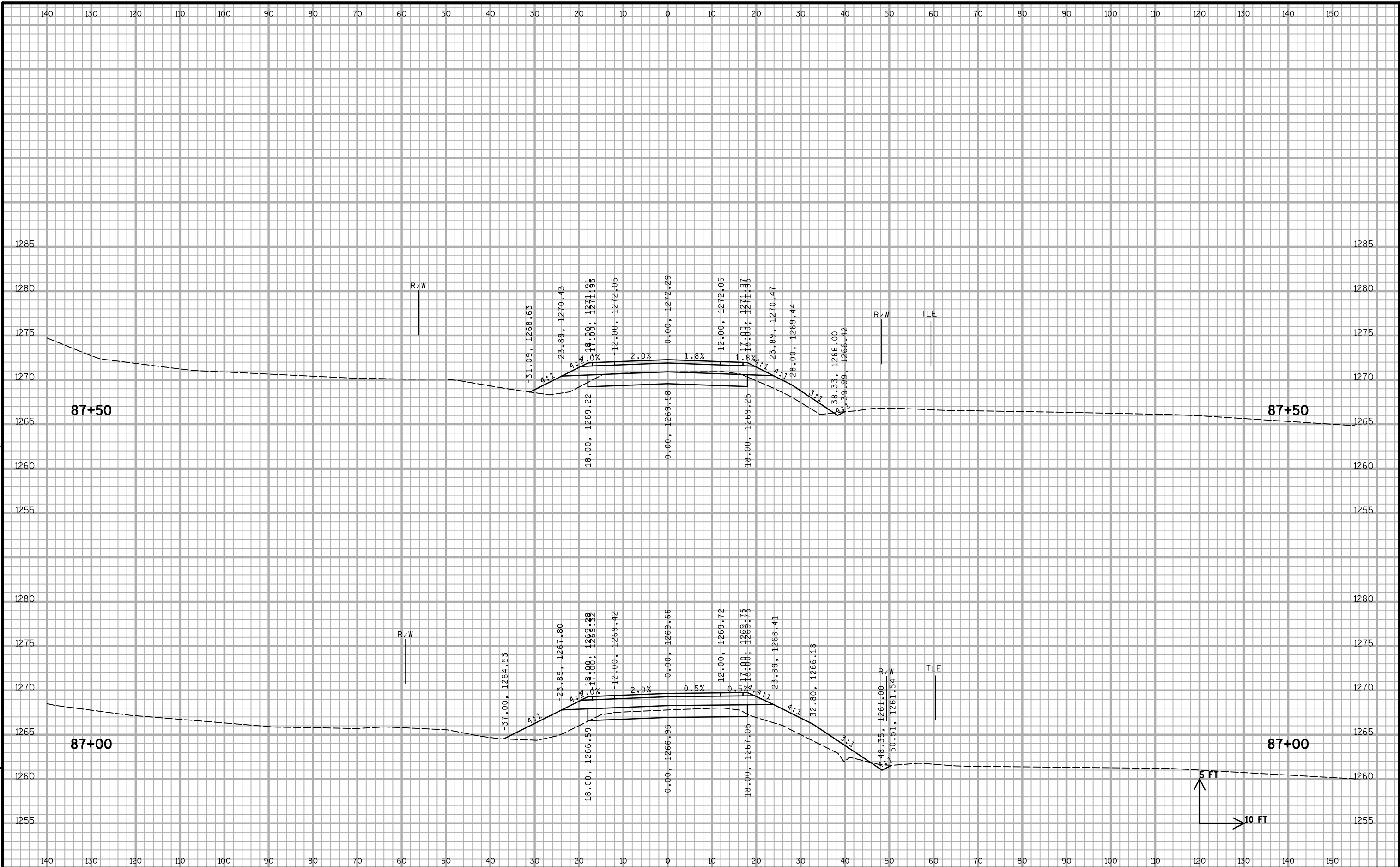


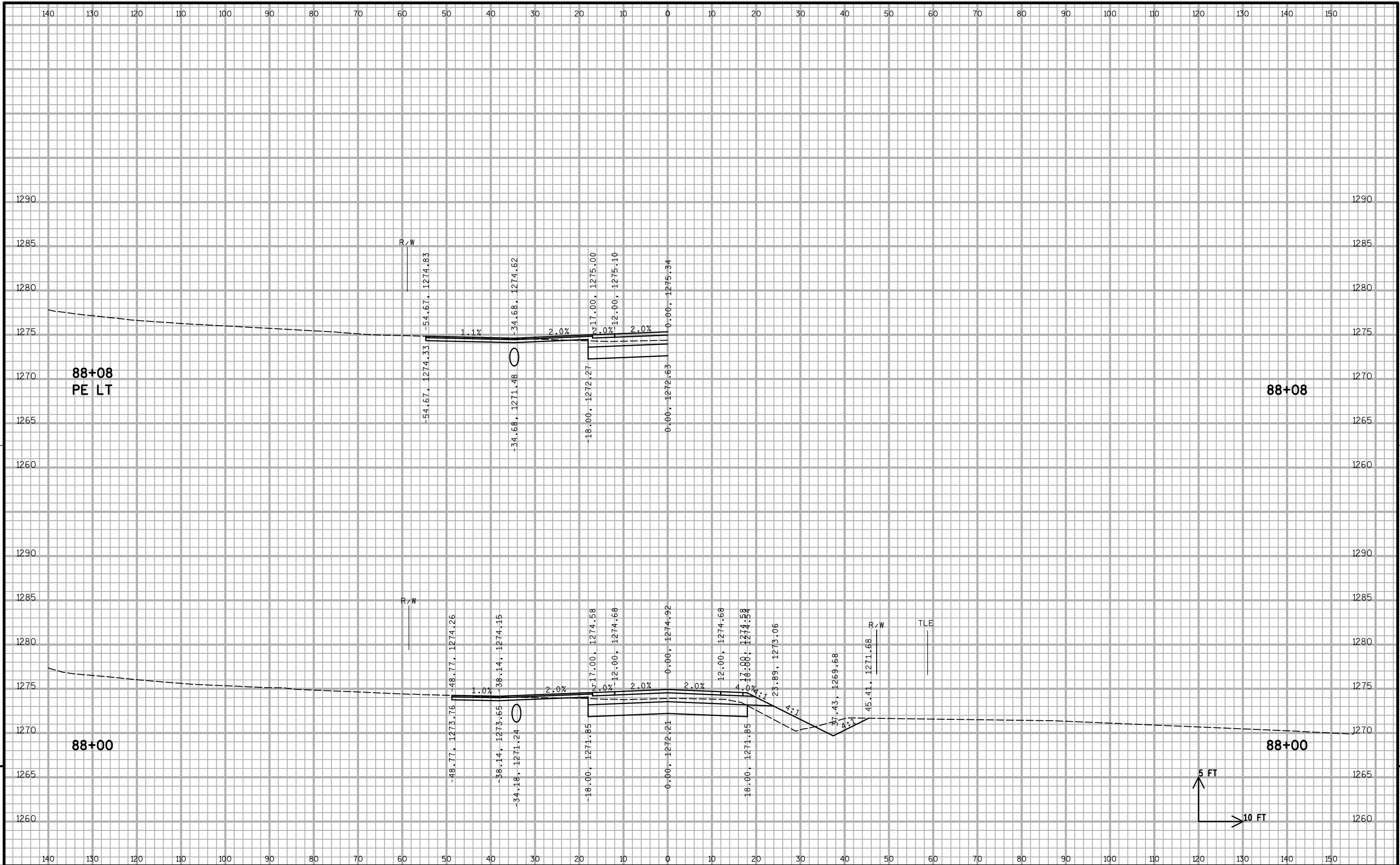


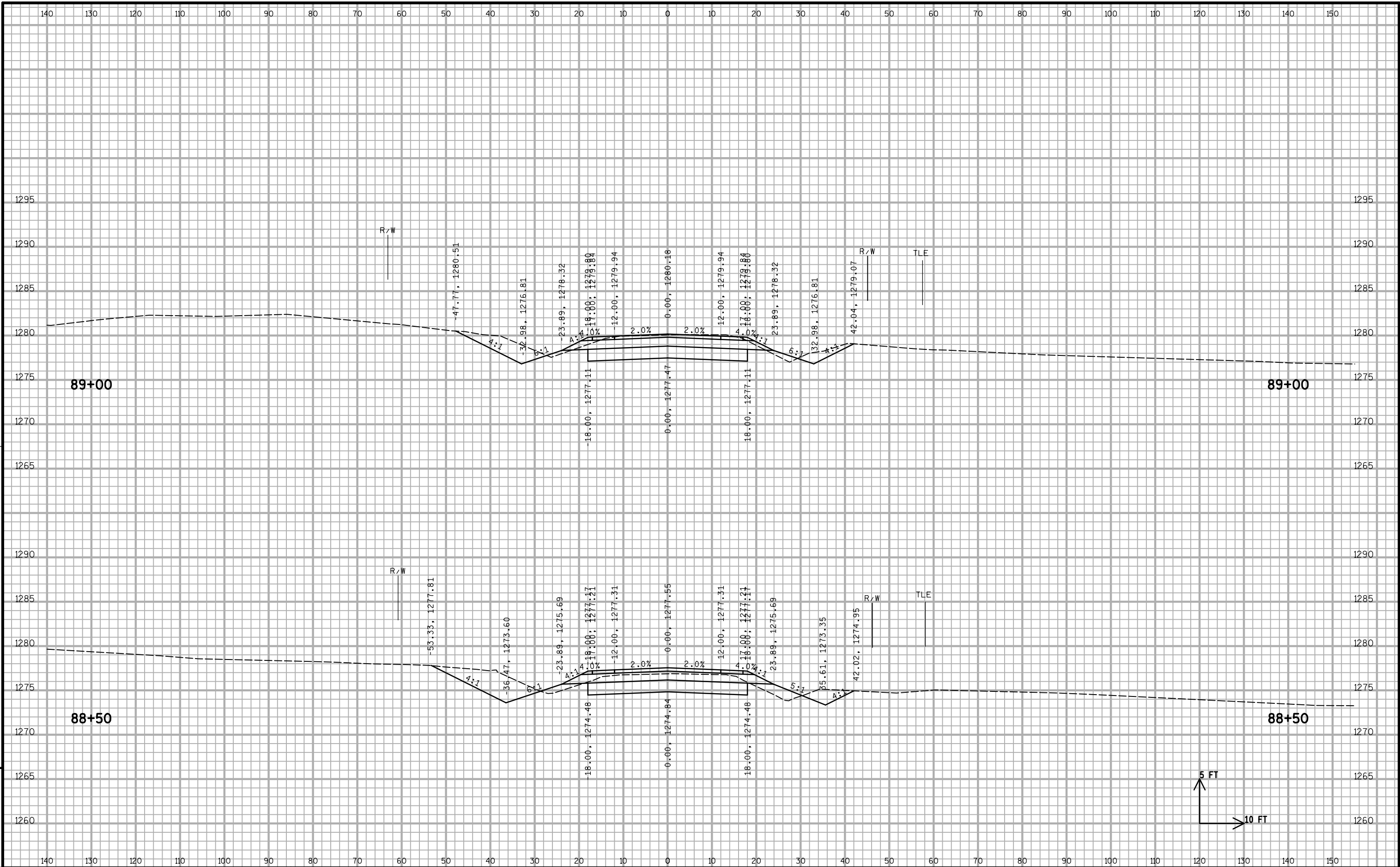


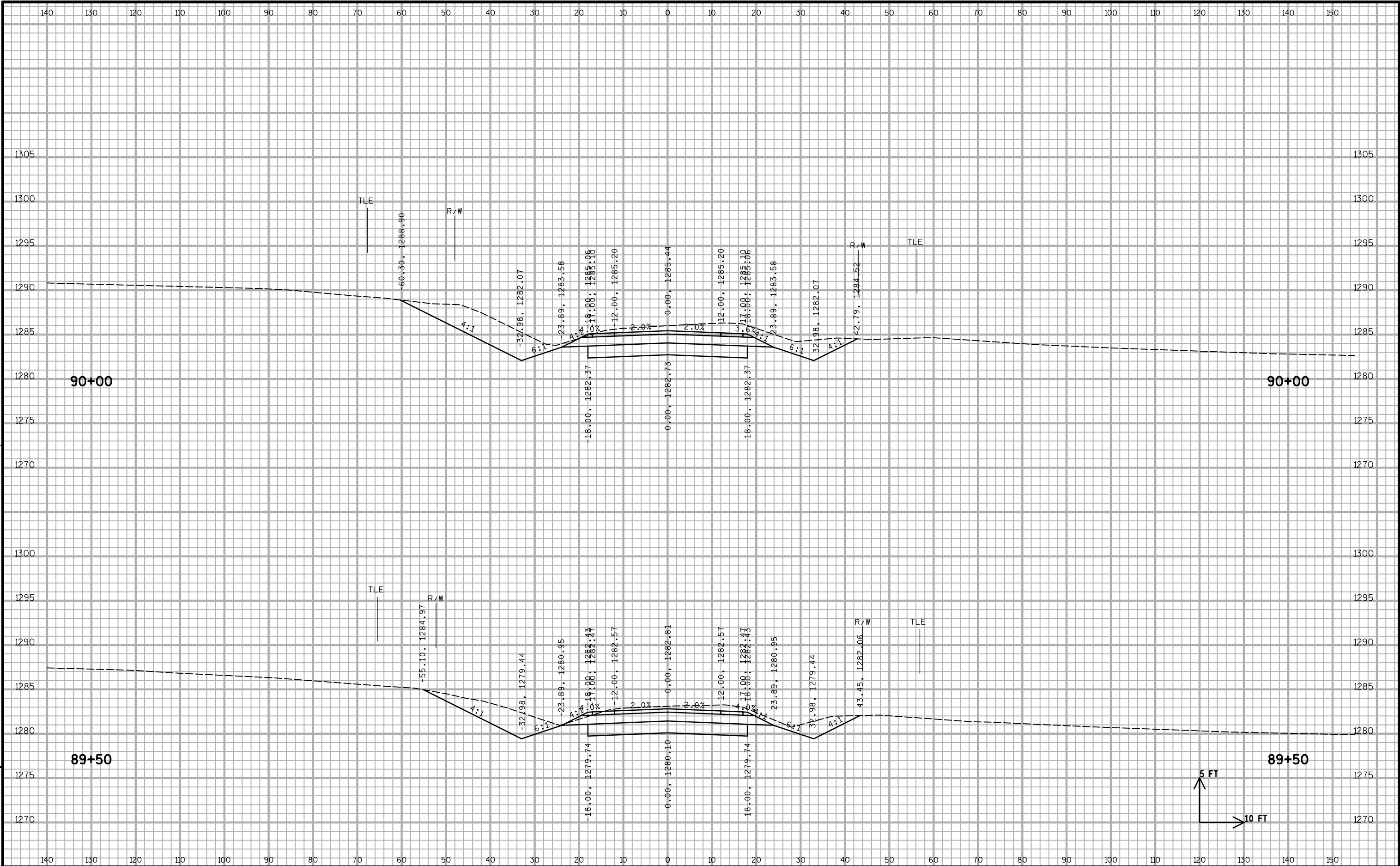












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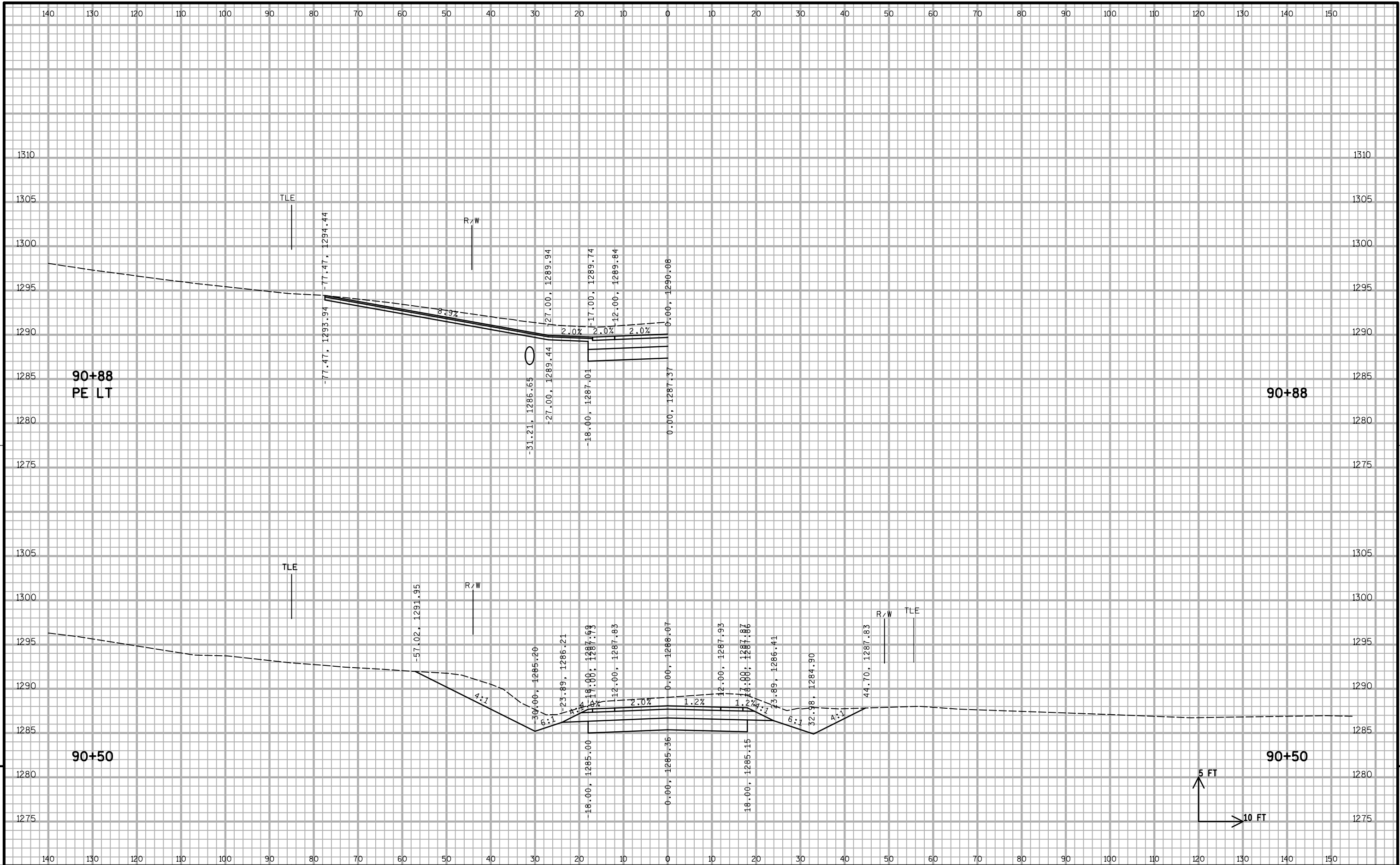
HWY: STH 29

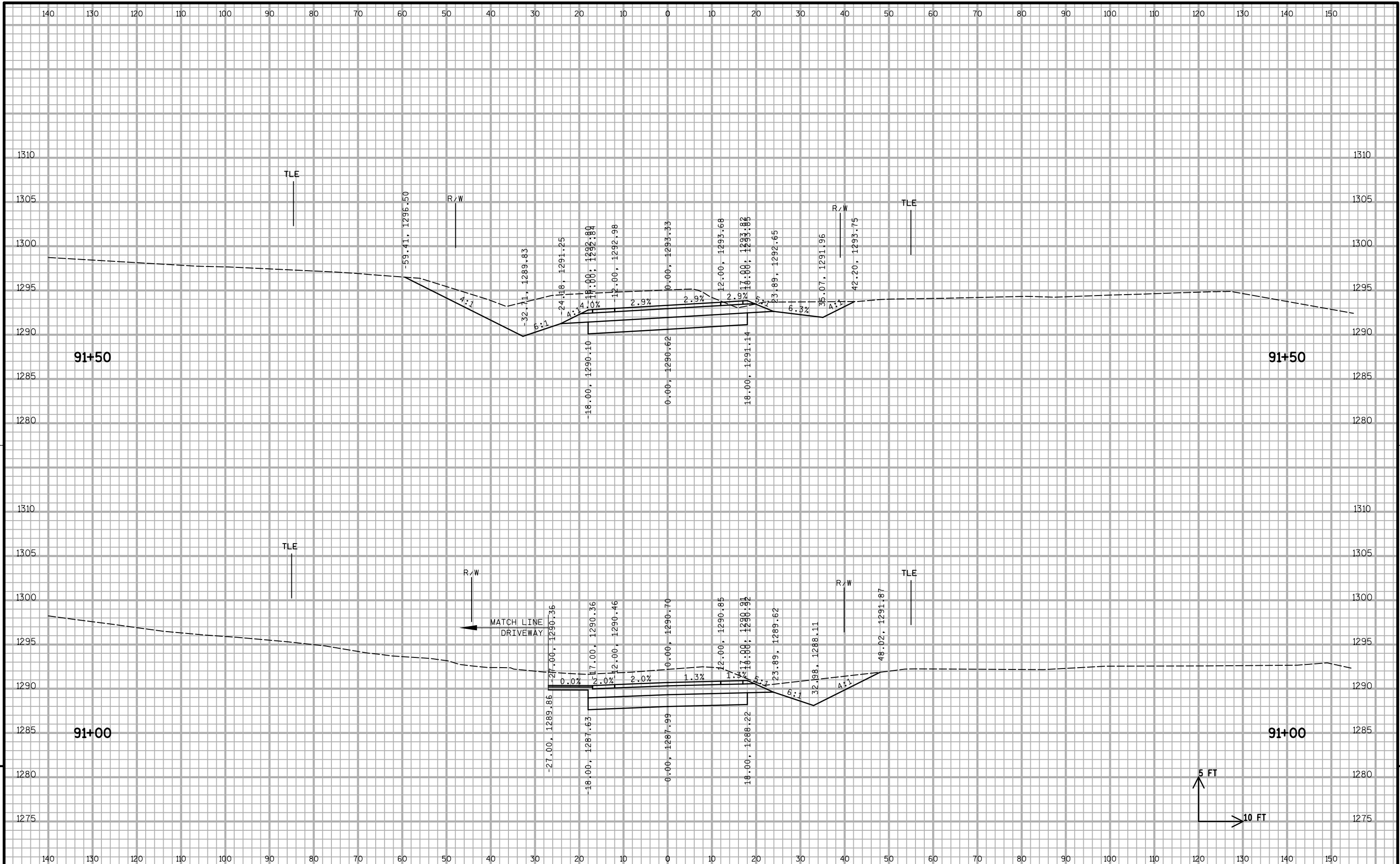
COUNTY: MARATHON

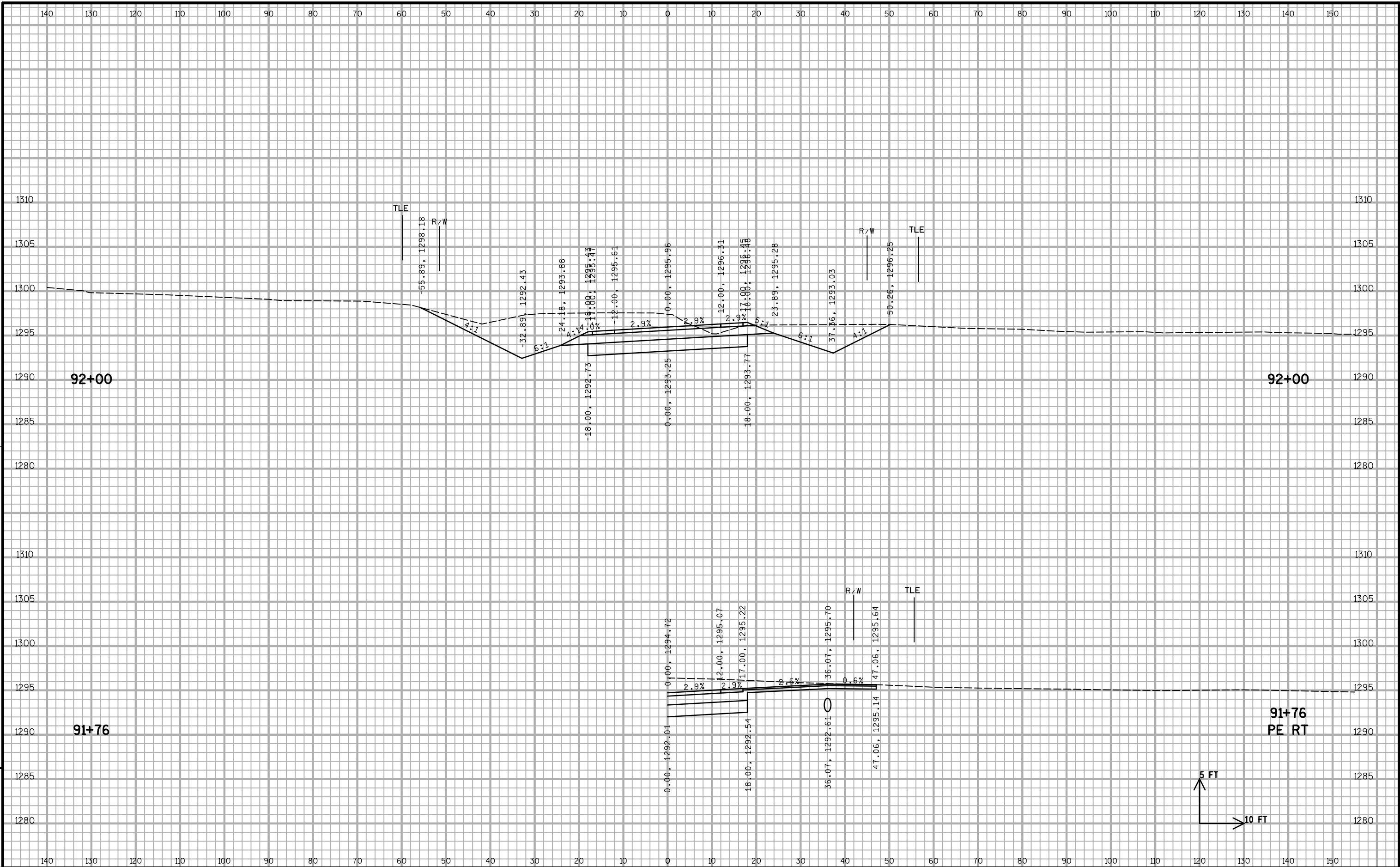
CROSS SECTIONS: 13TH LN.

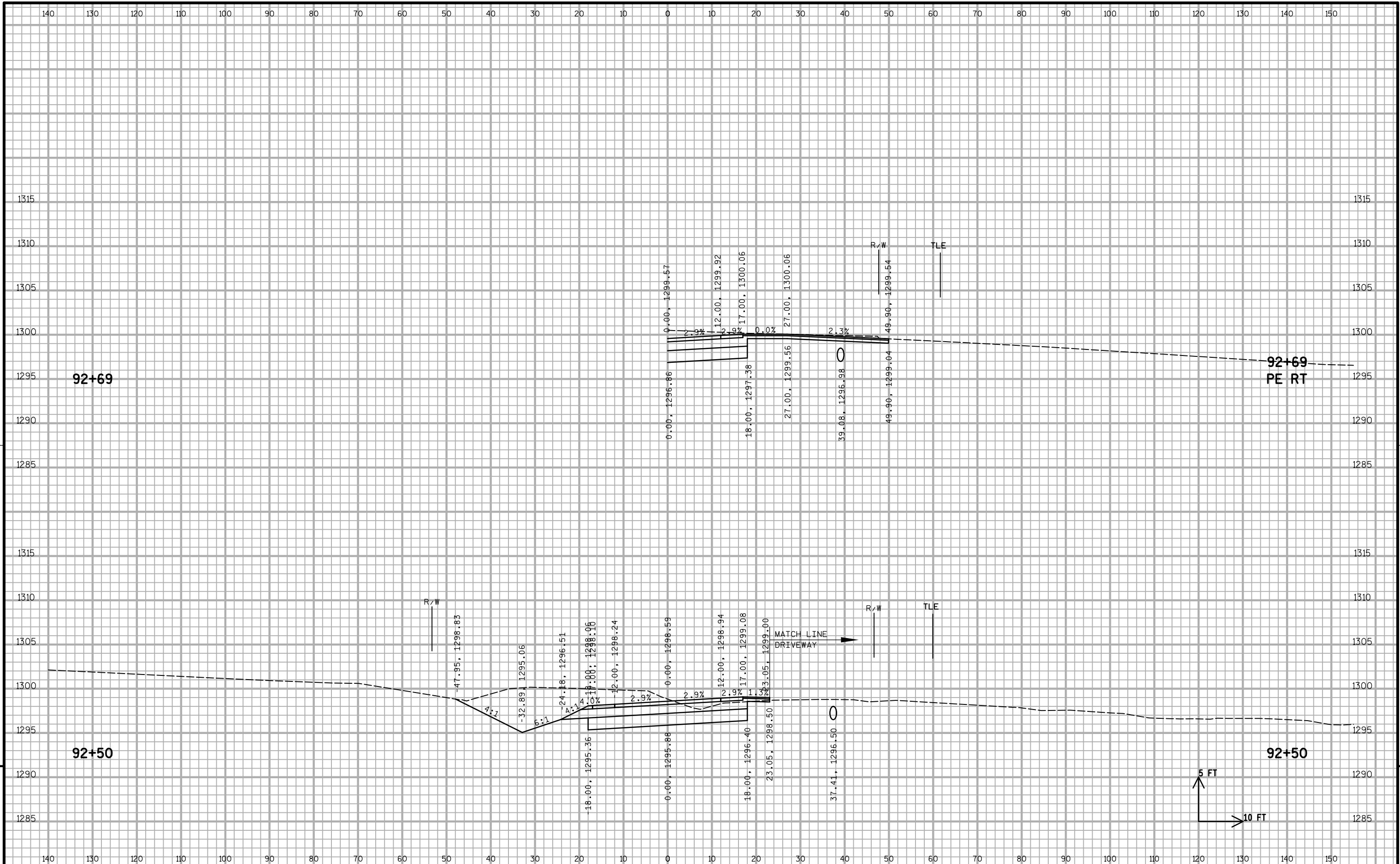
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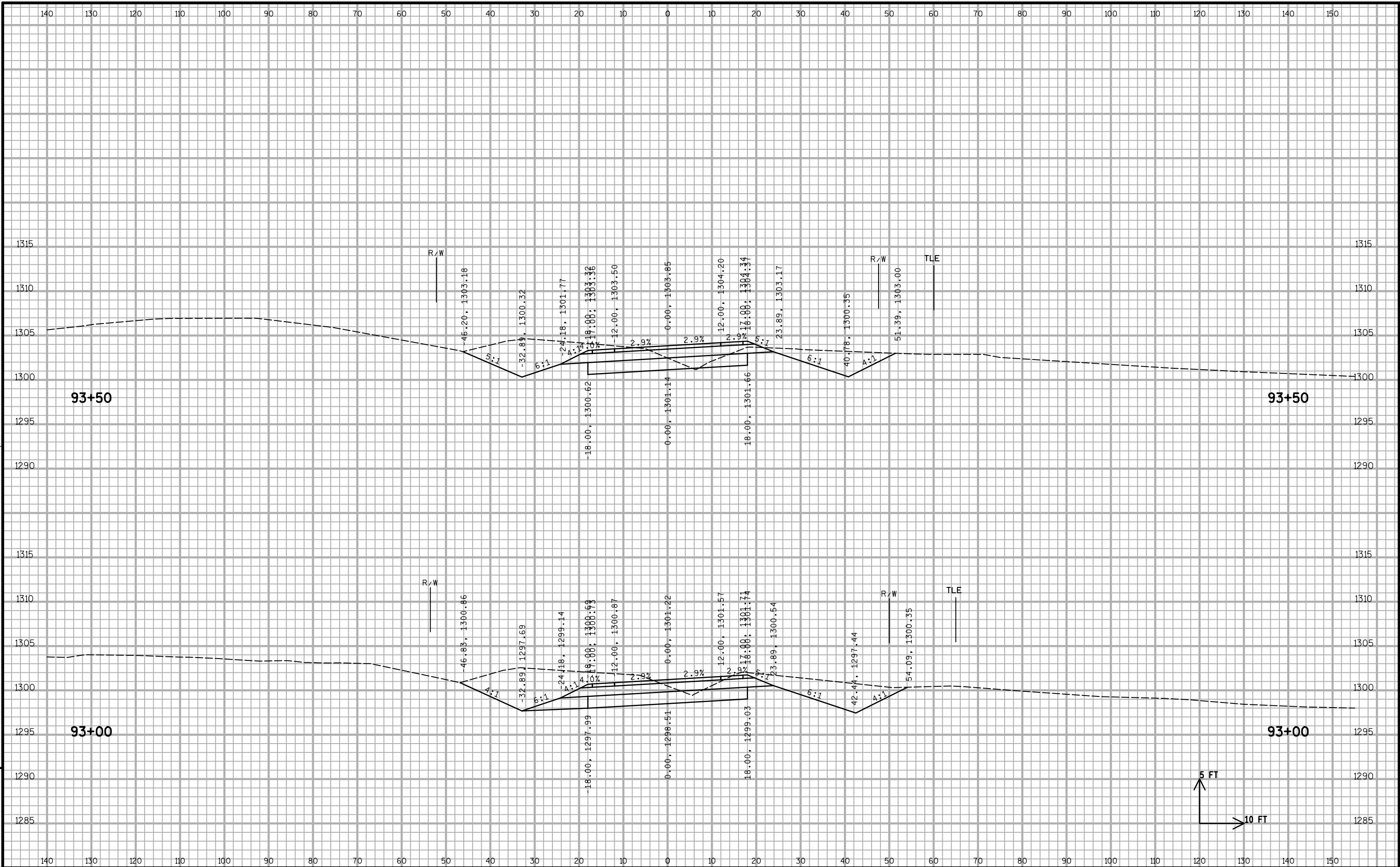
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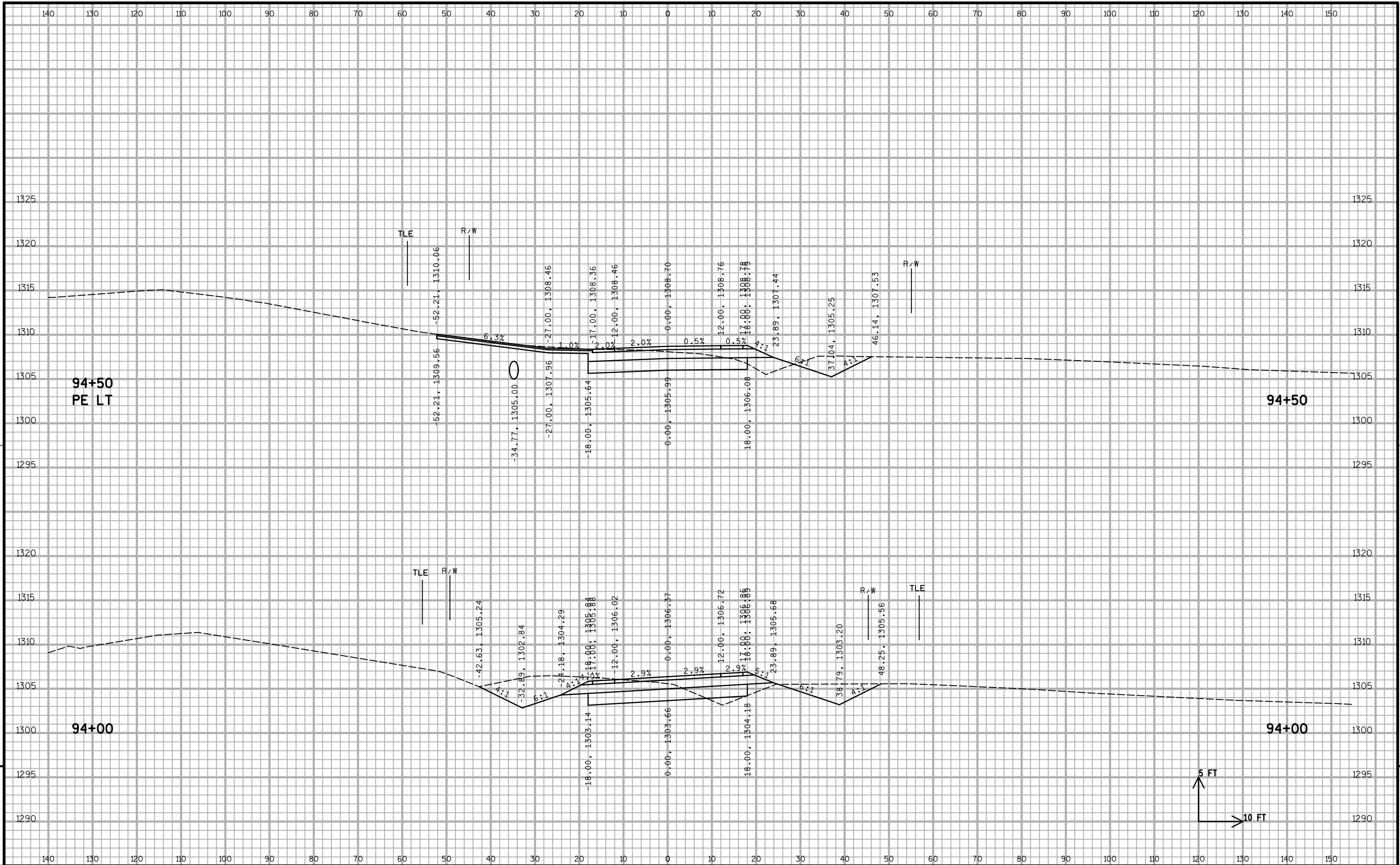


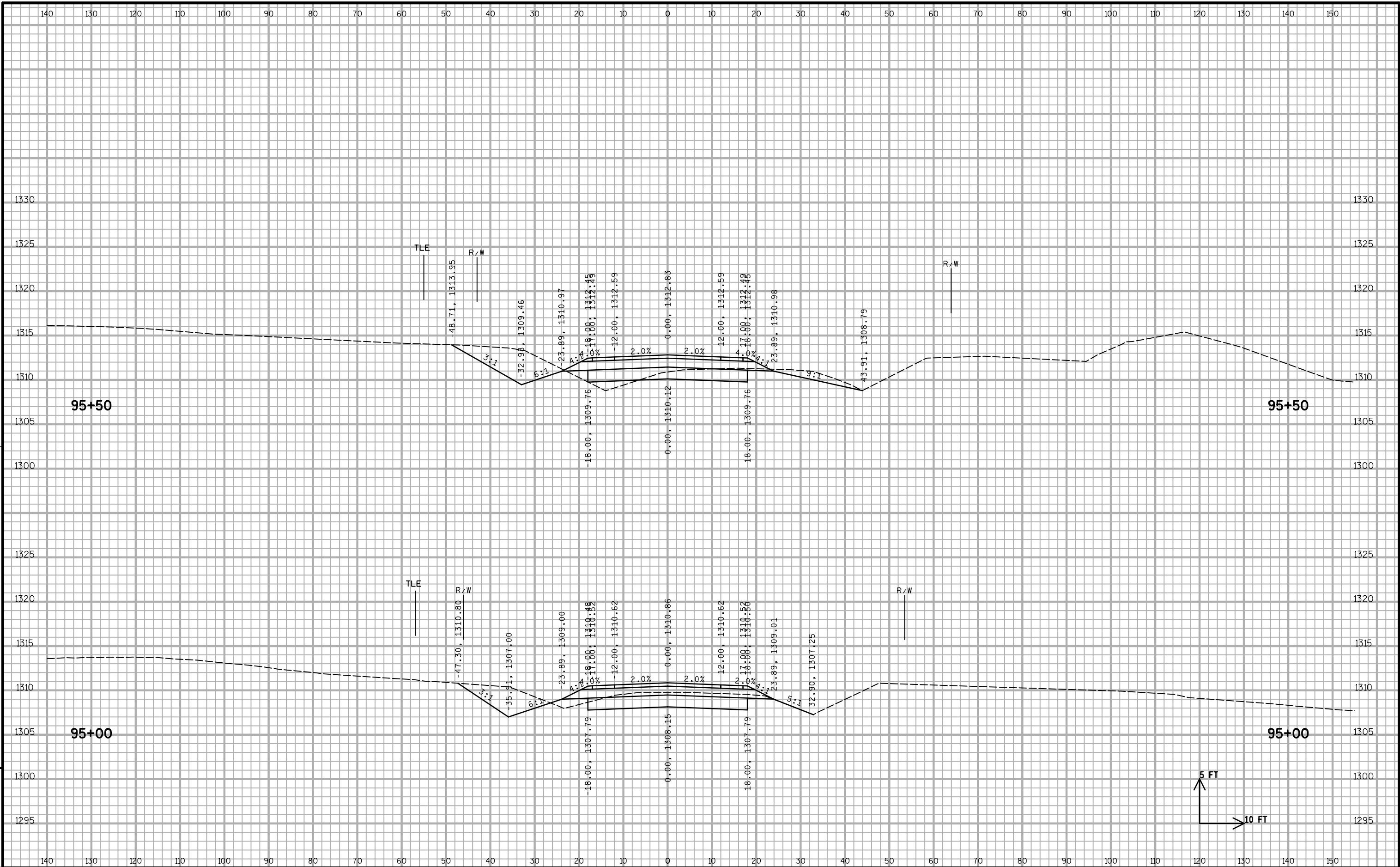


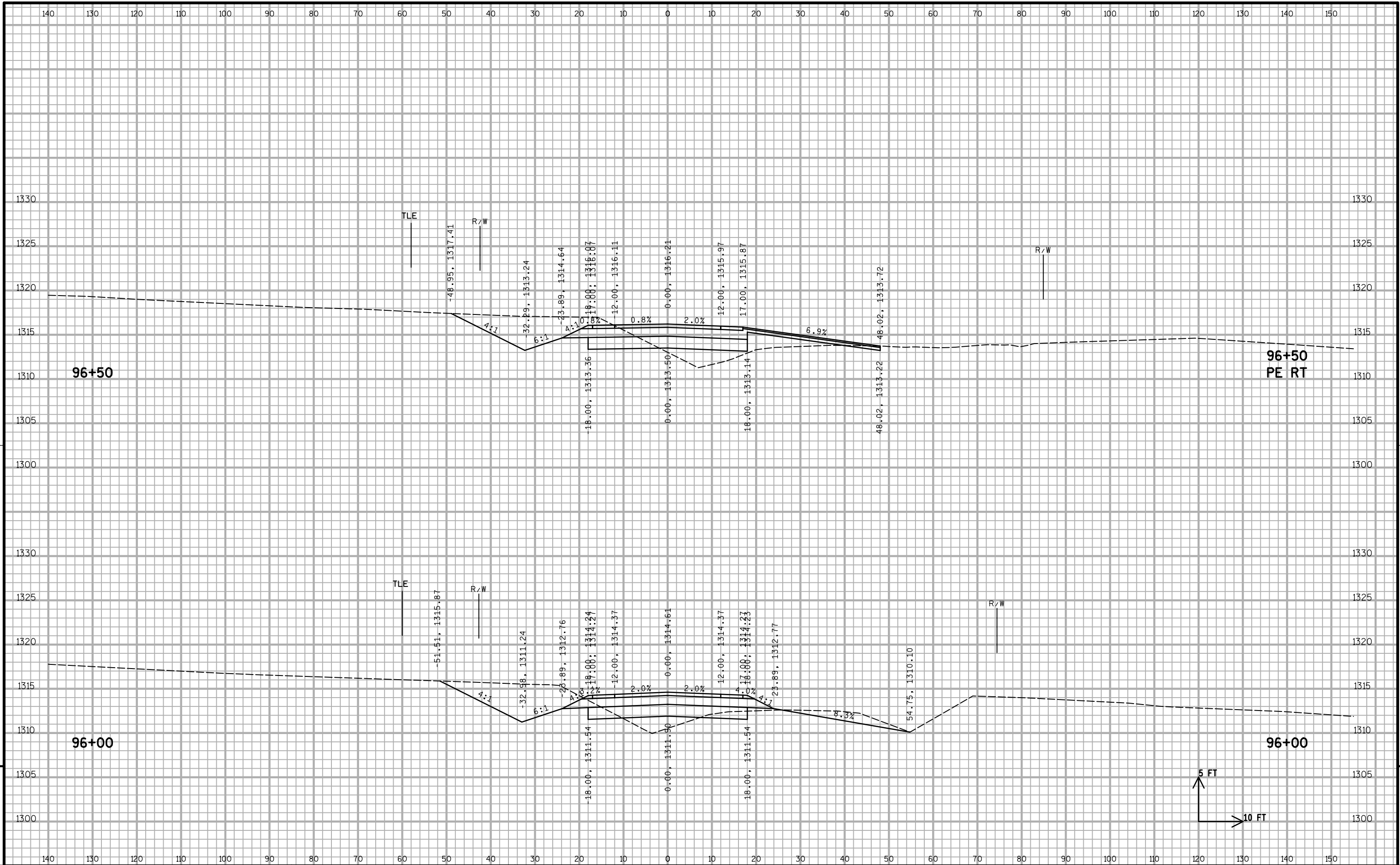


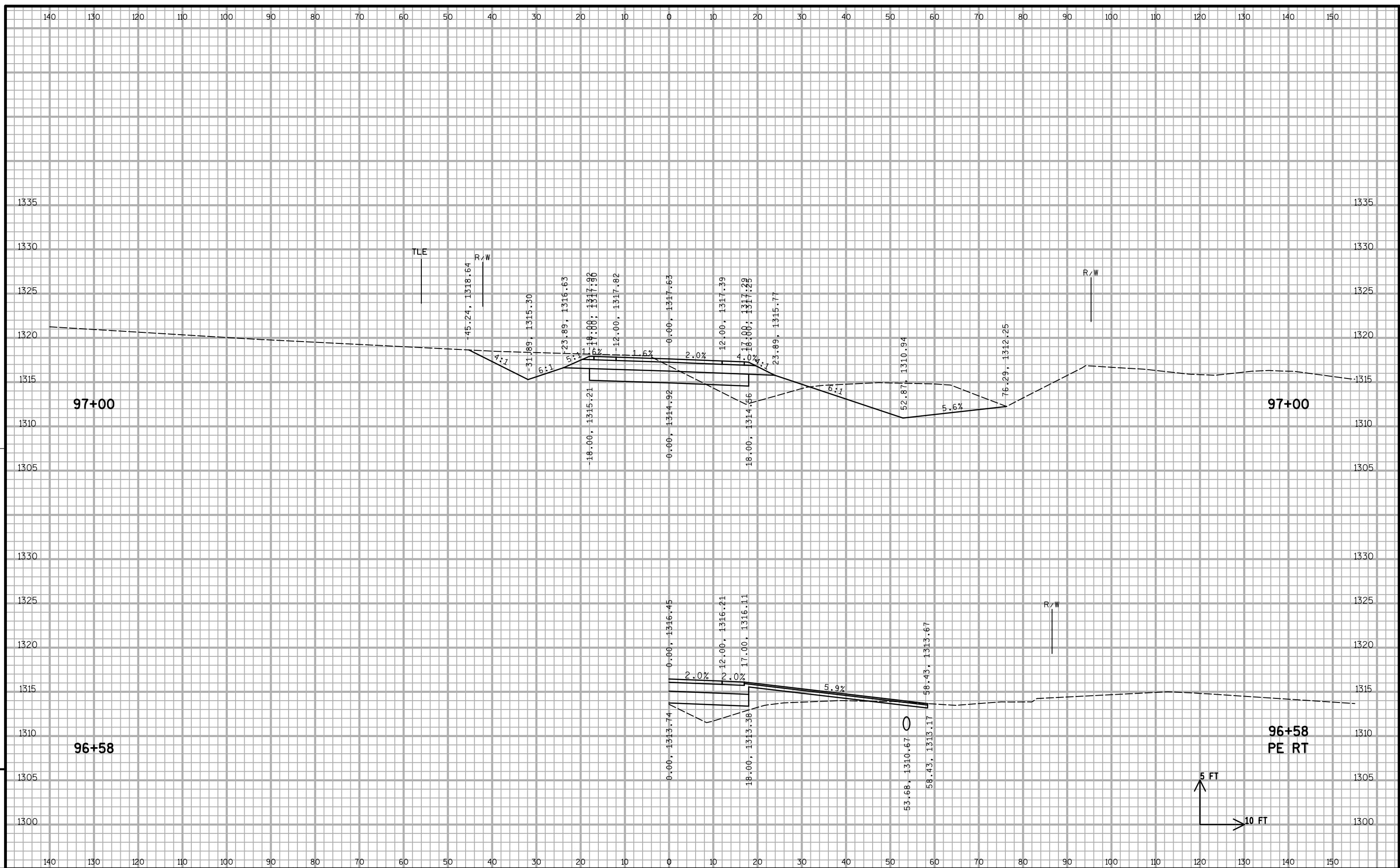












PROJECT NO: 1053-07-74

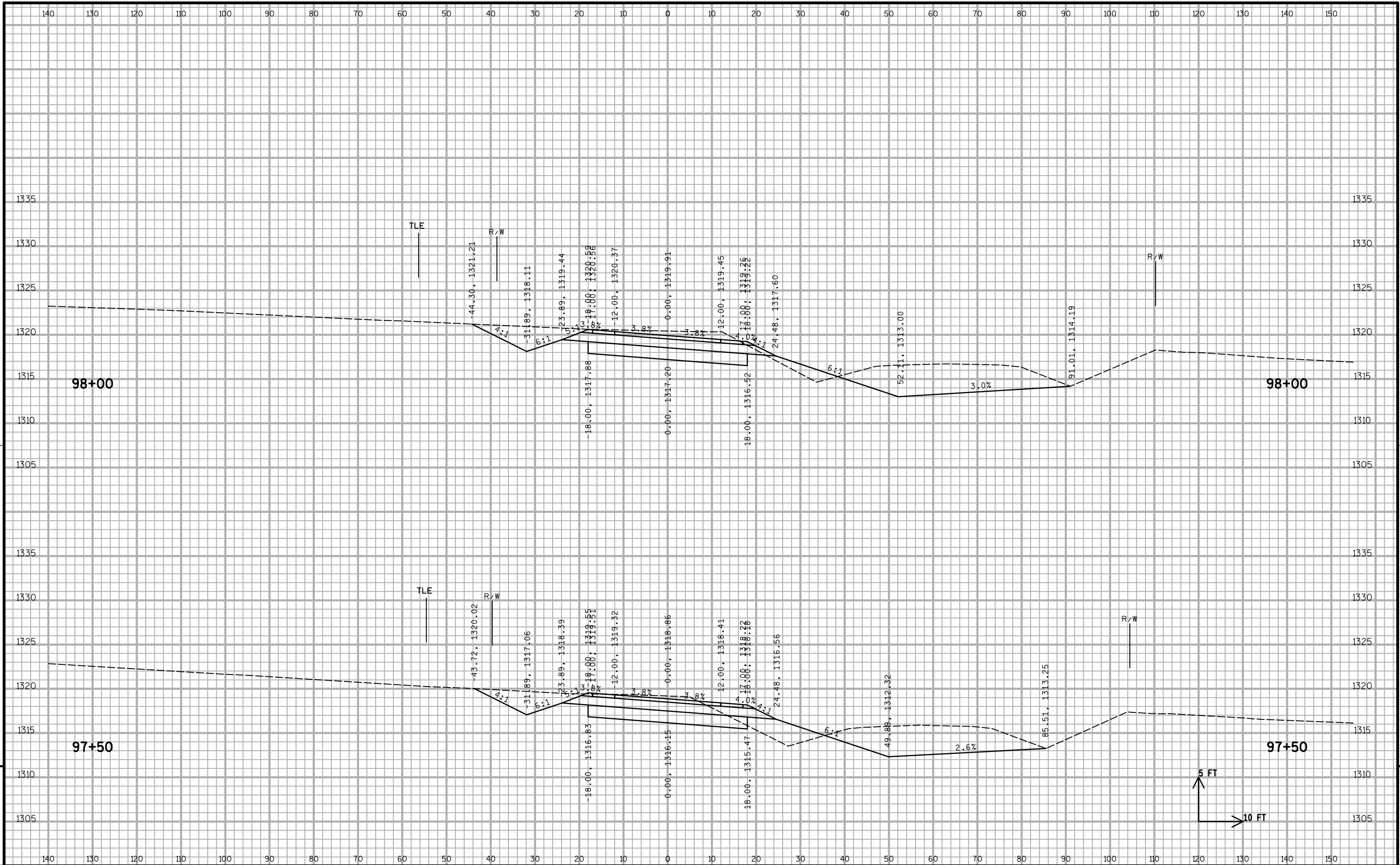
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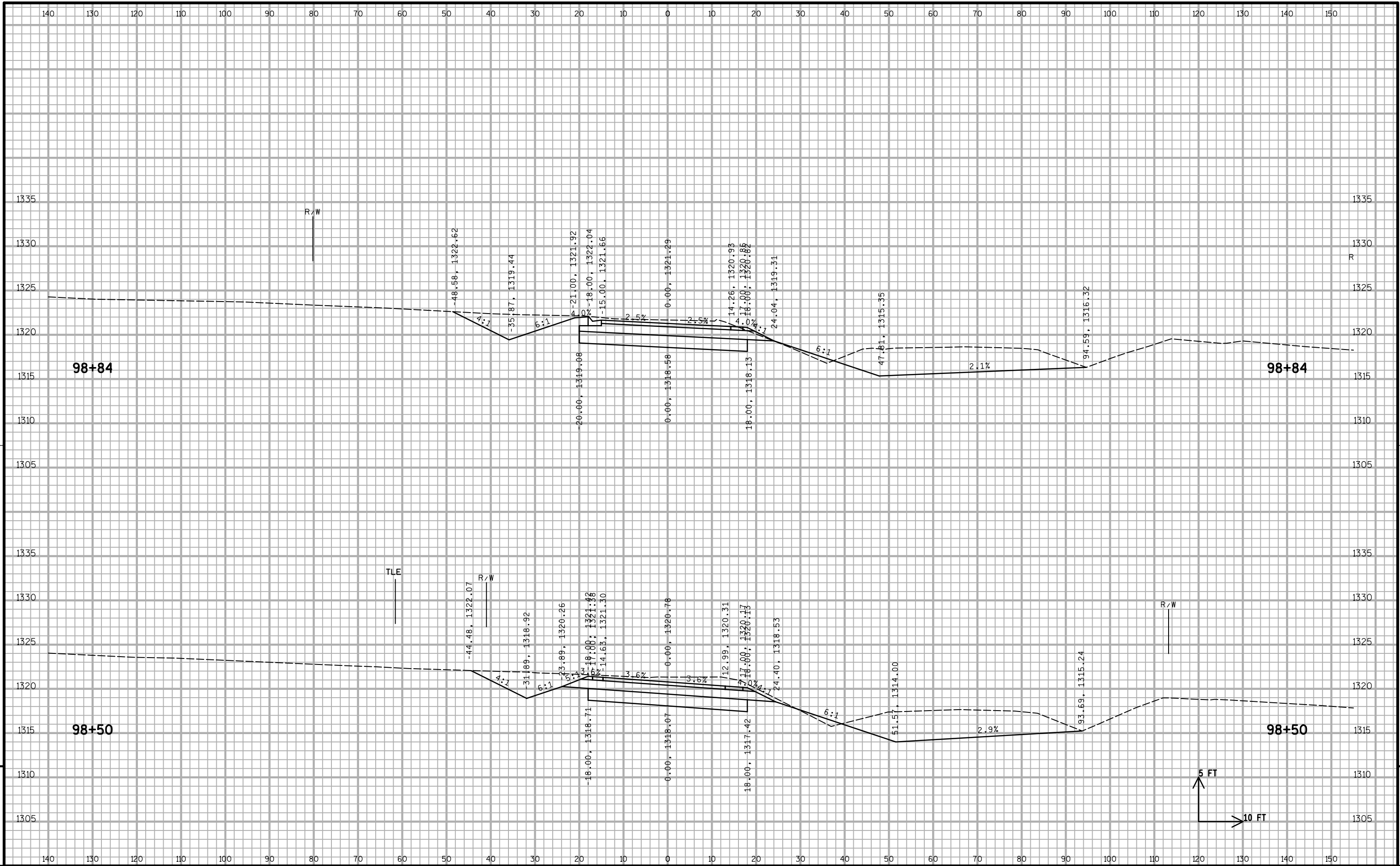
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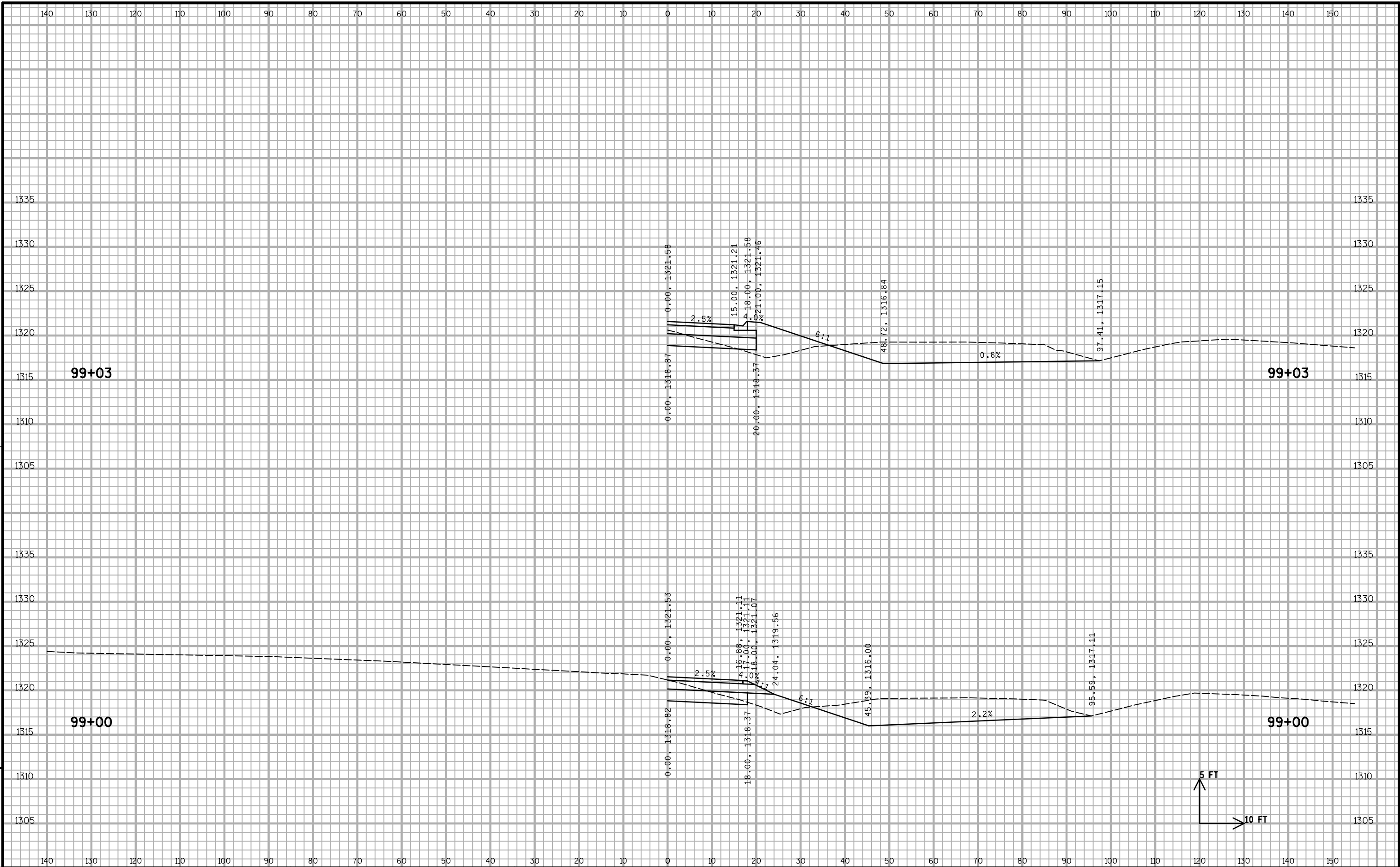
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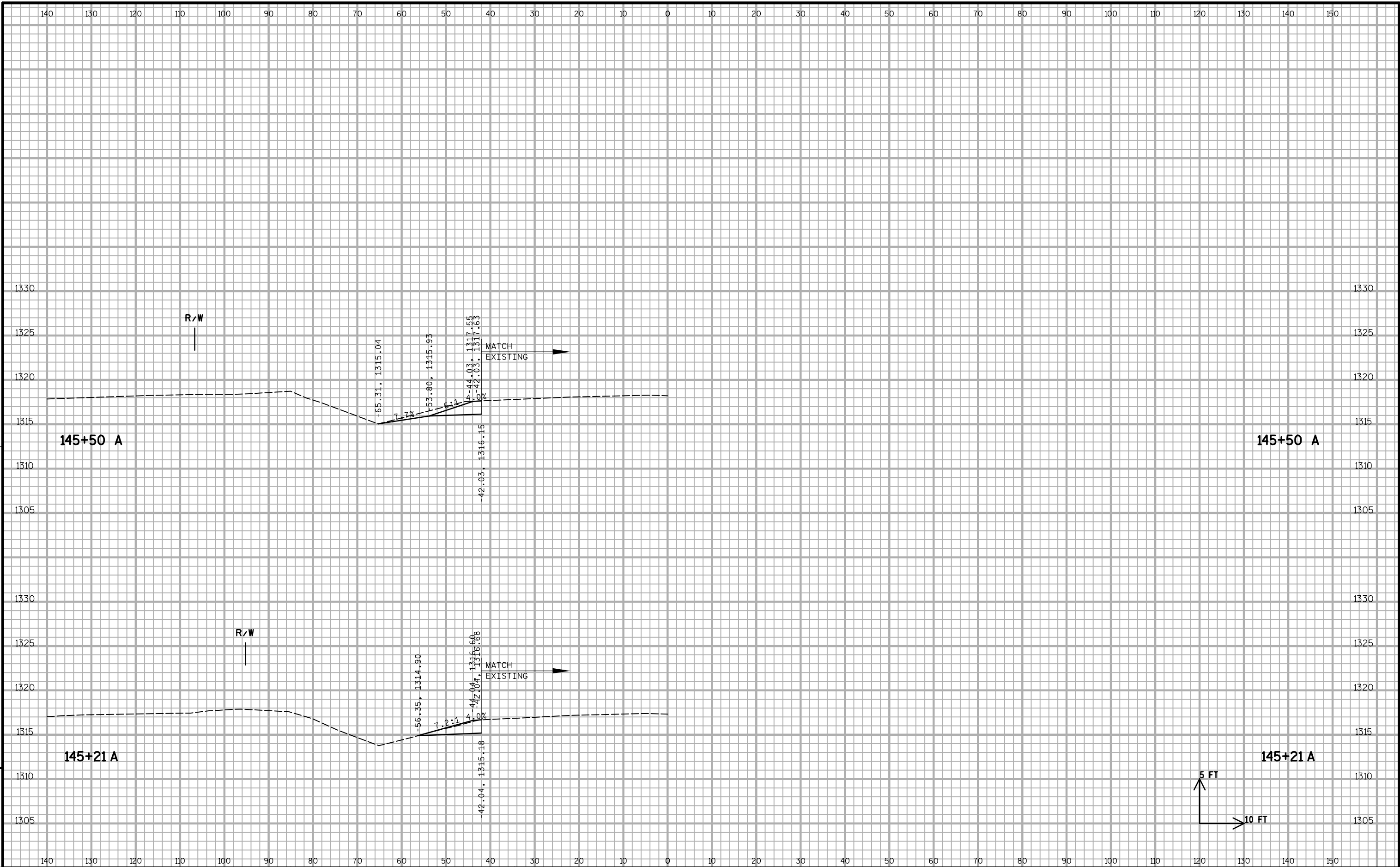
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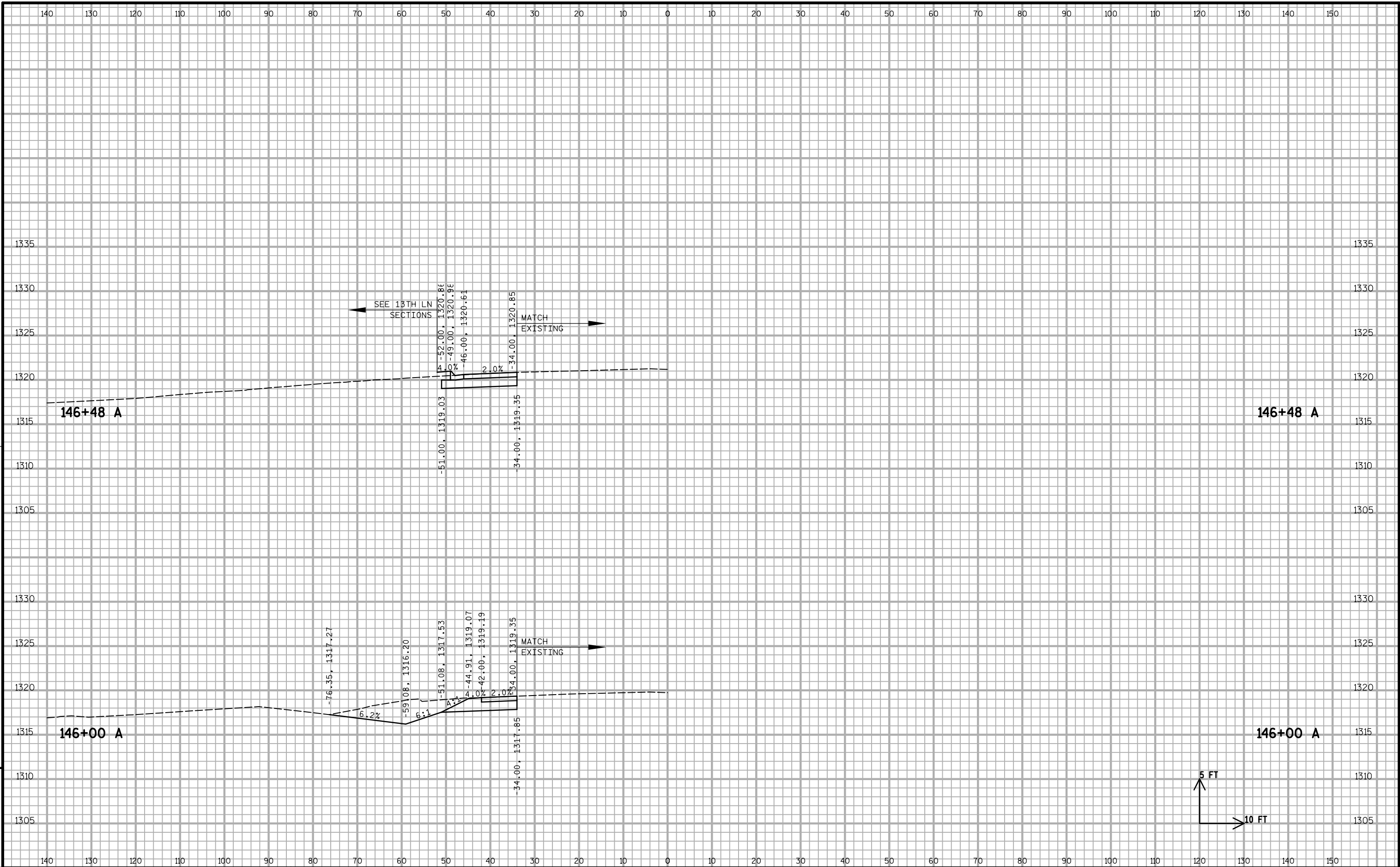
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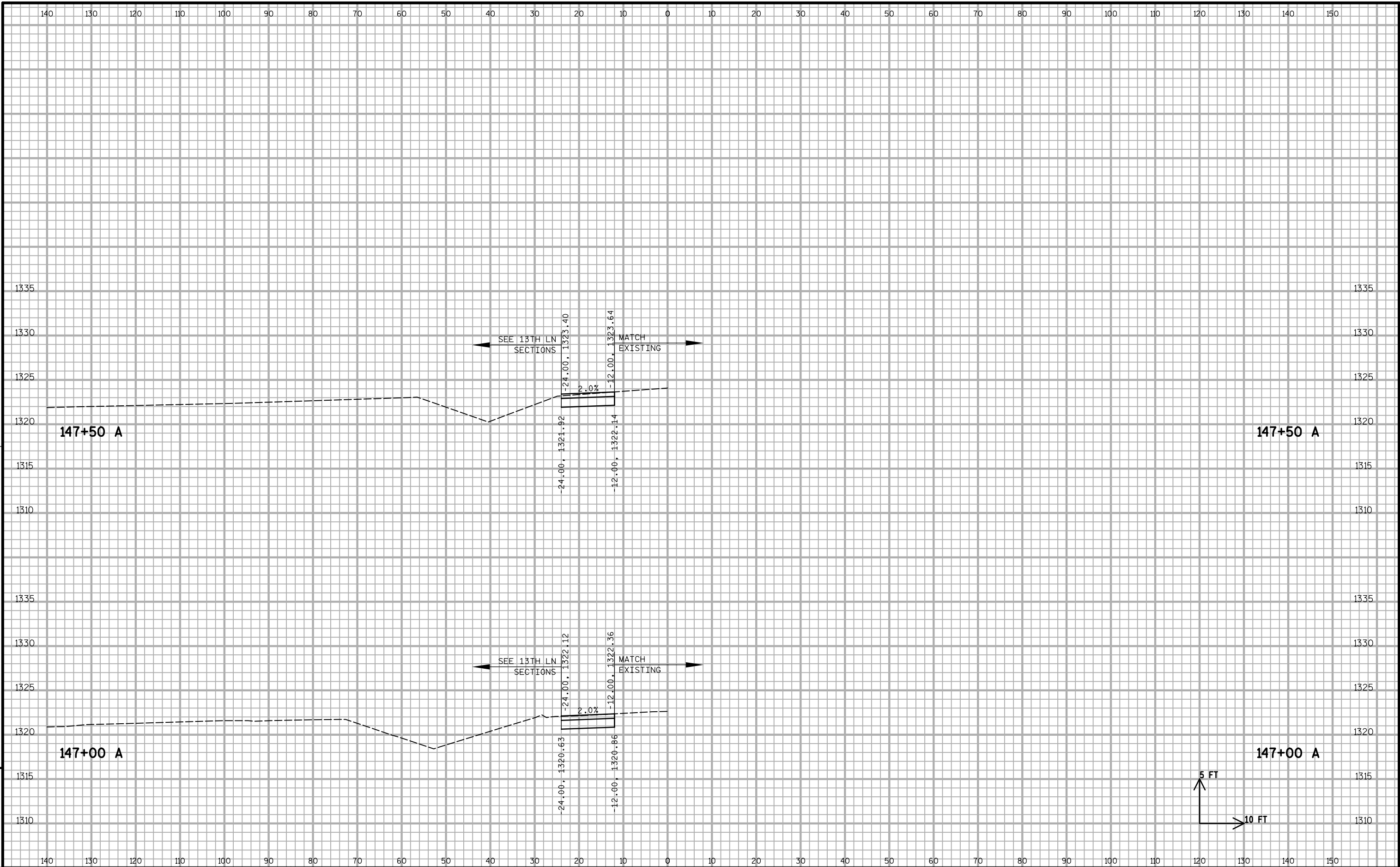


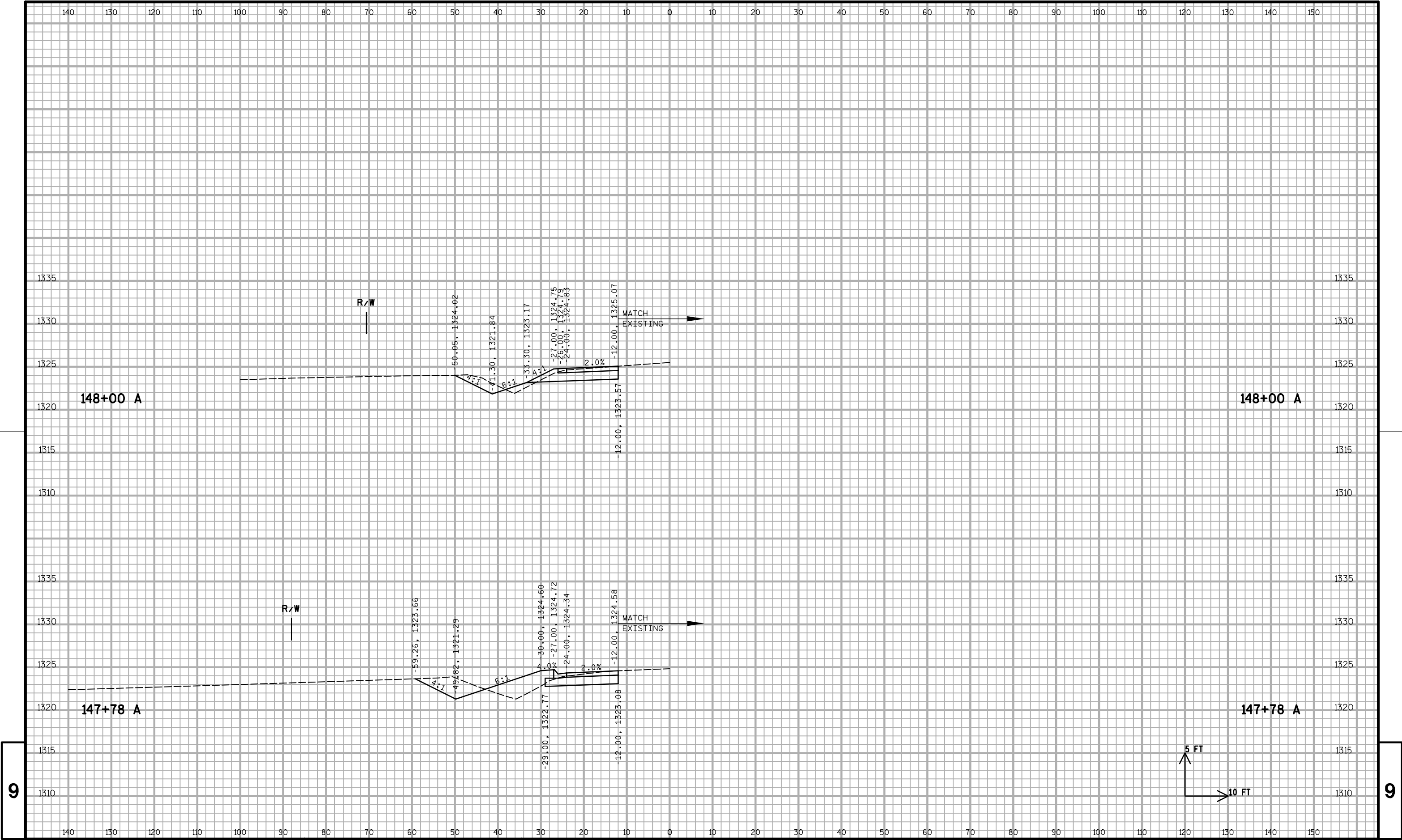


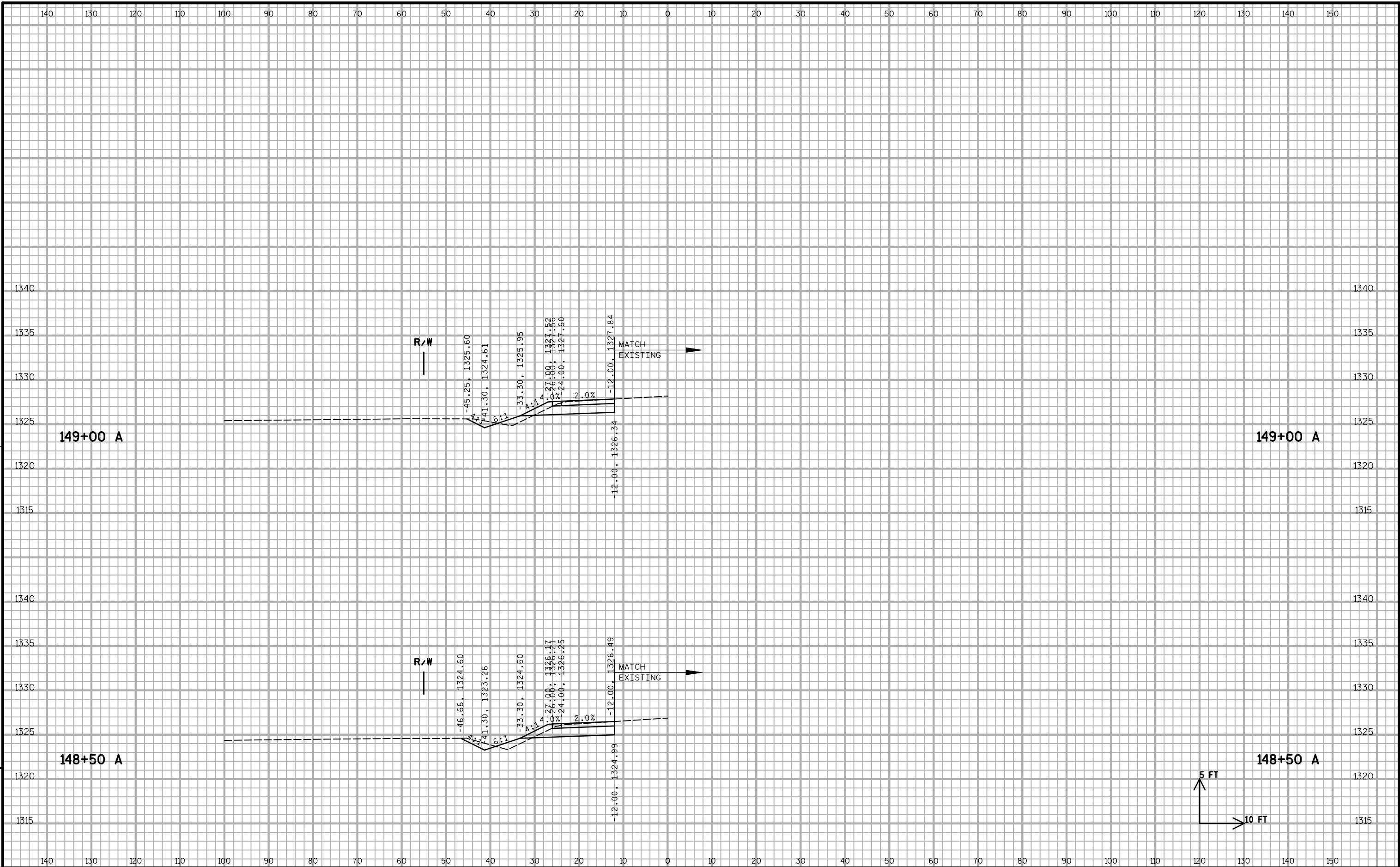


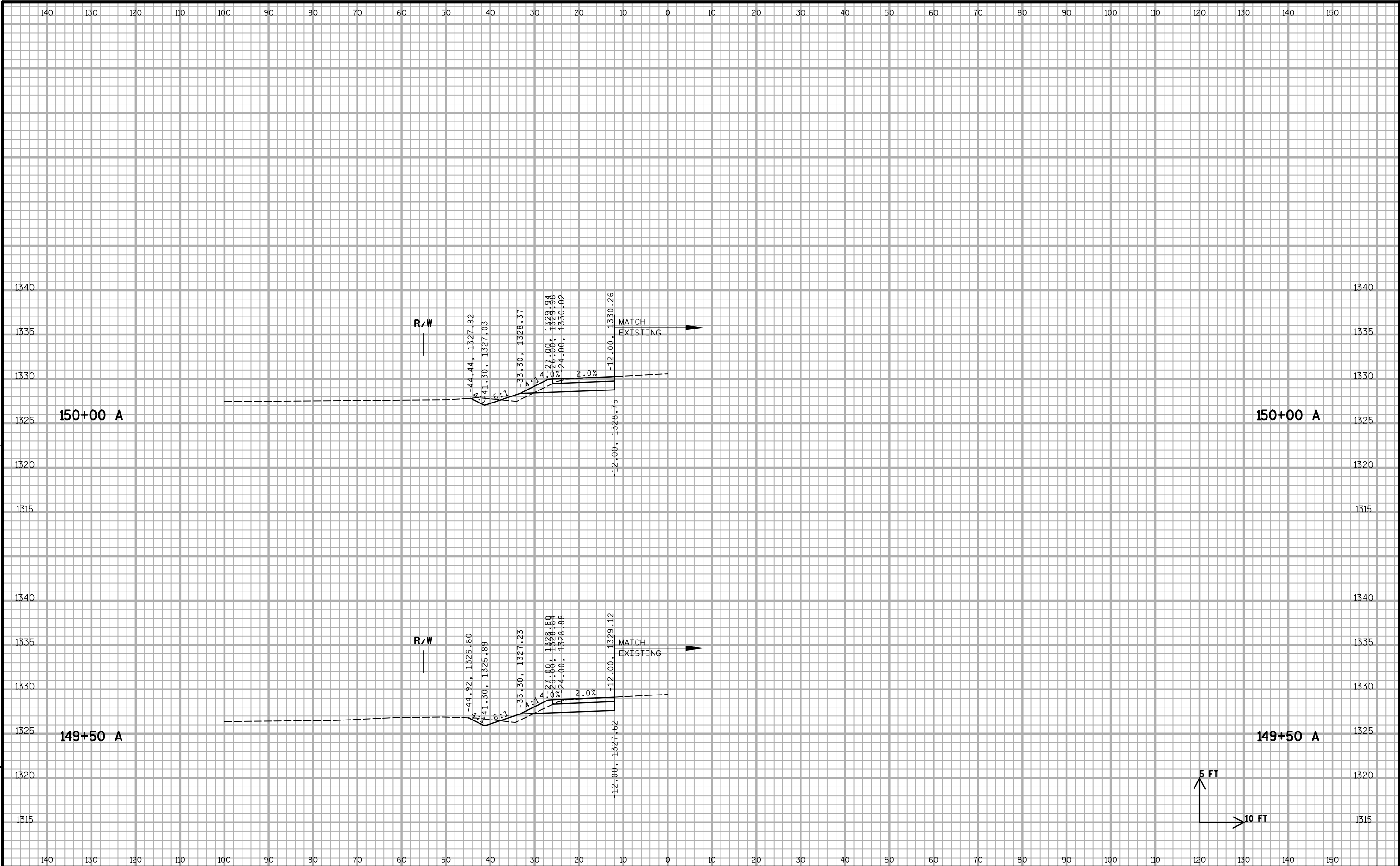


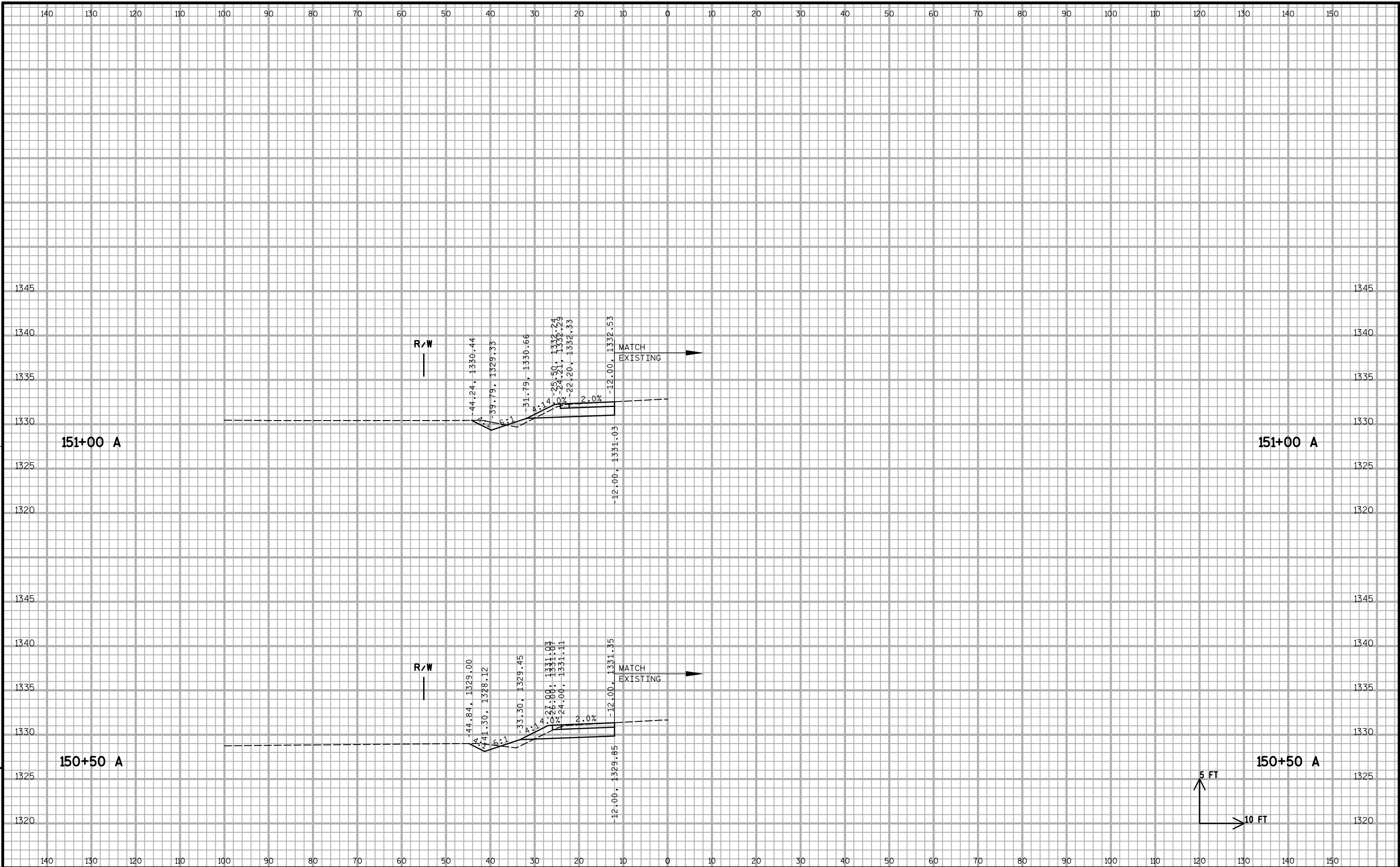


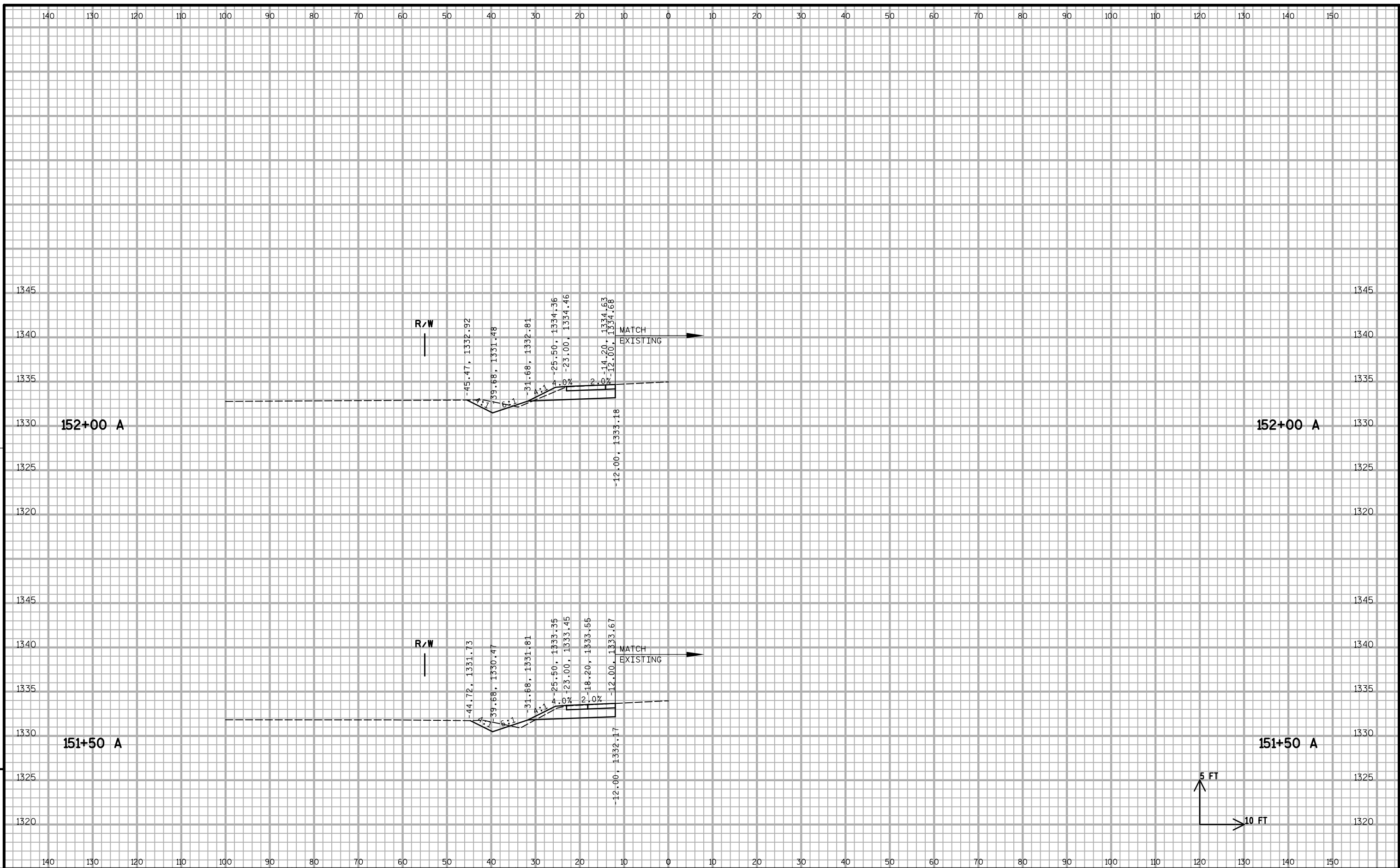


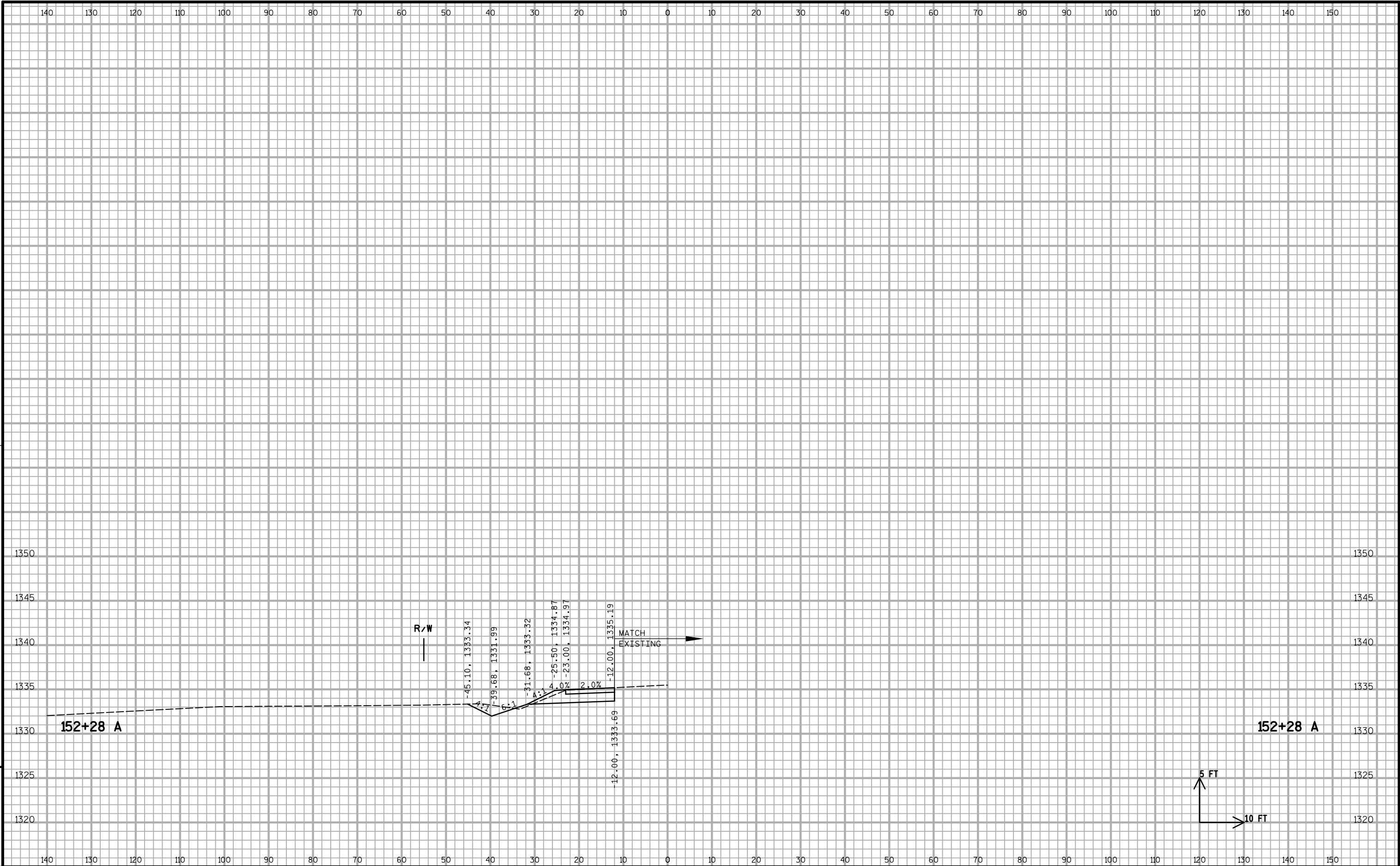






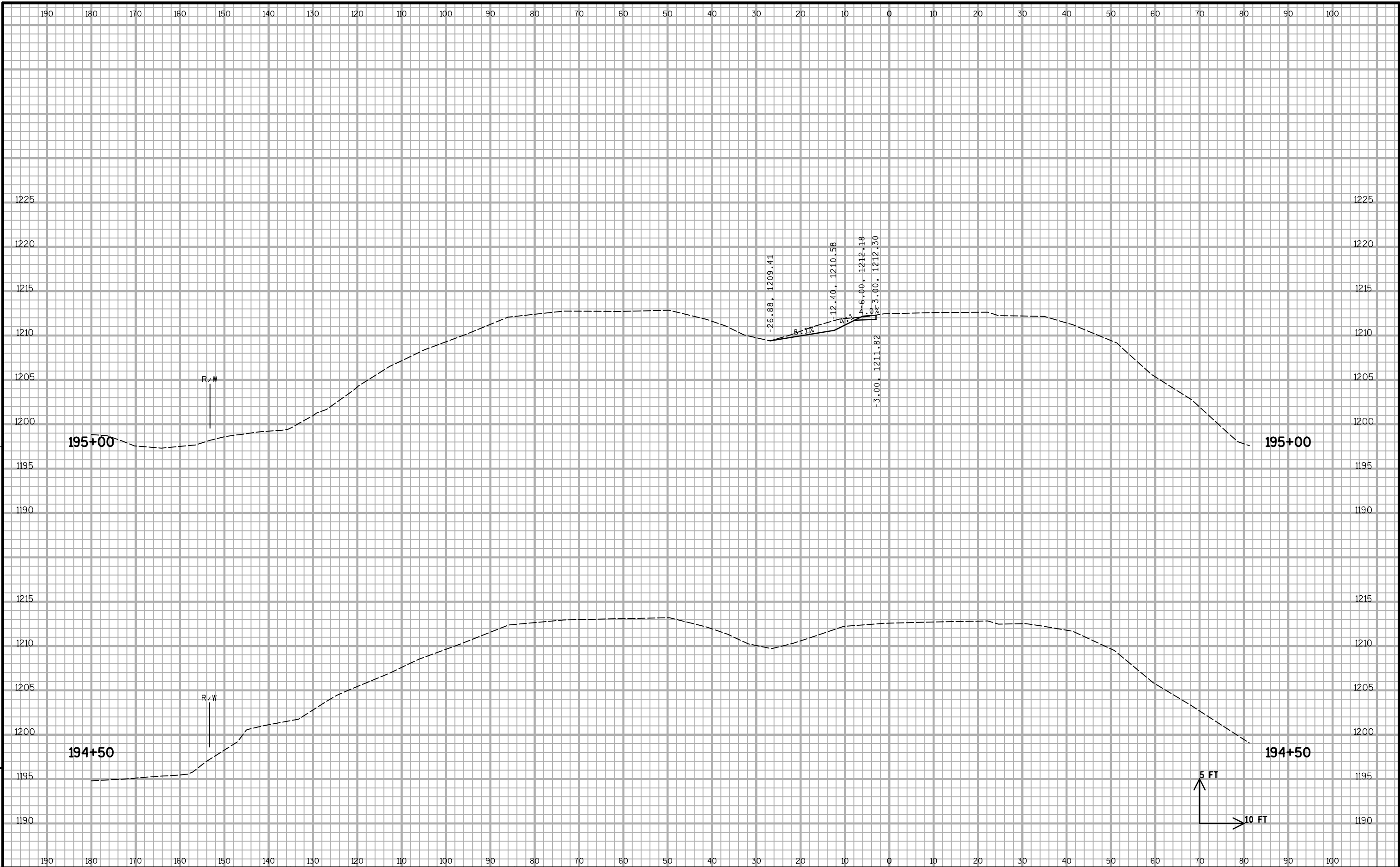


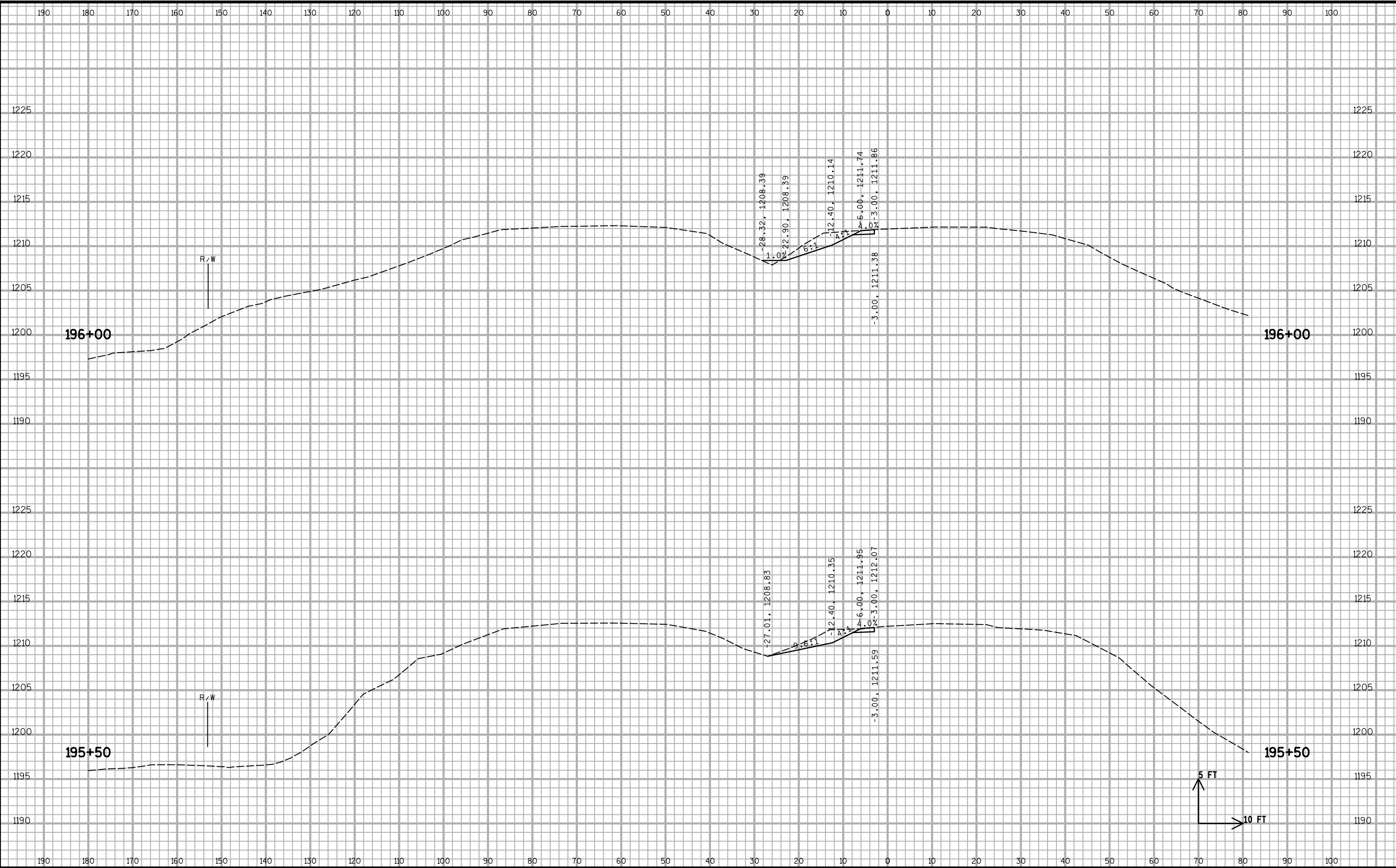


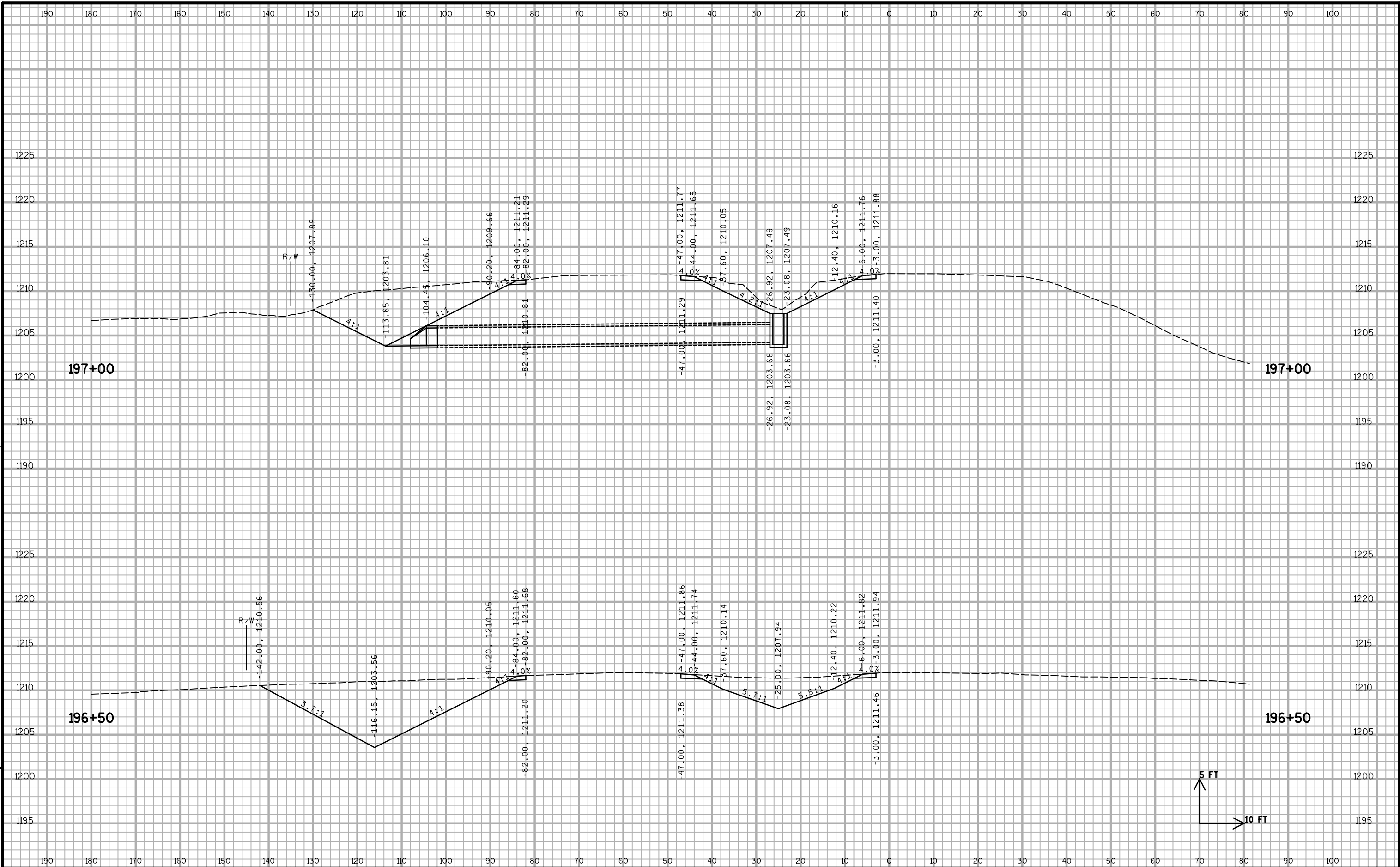


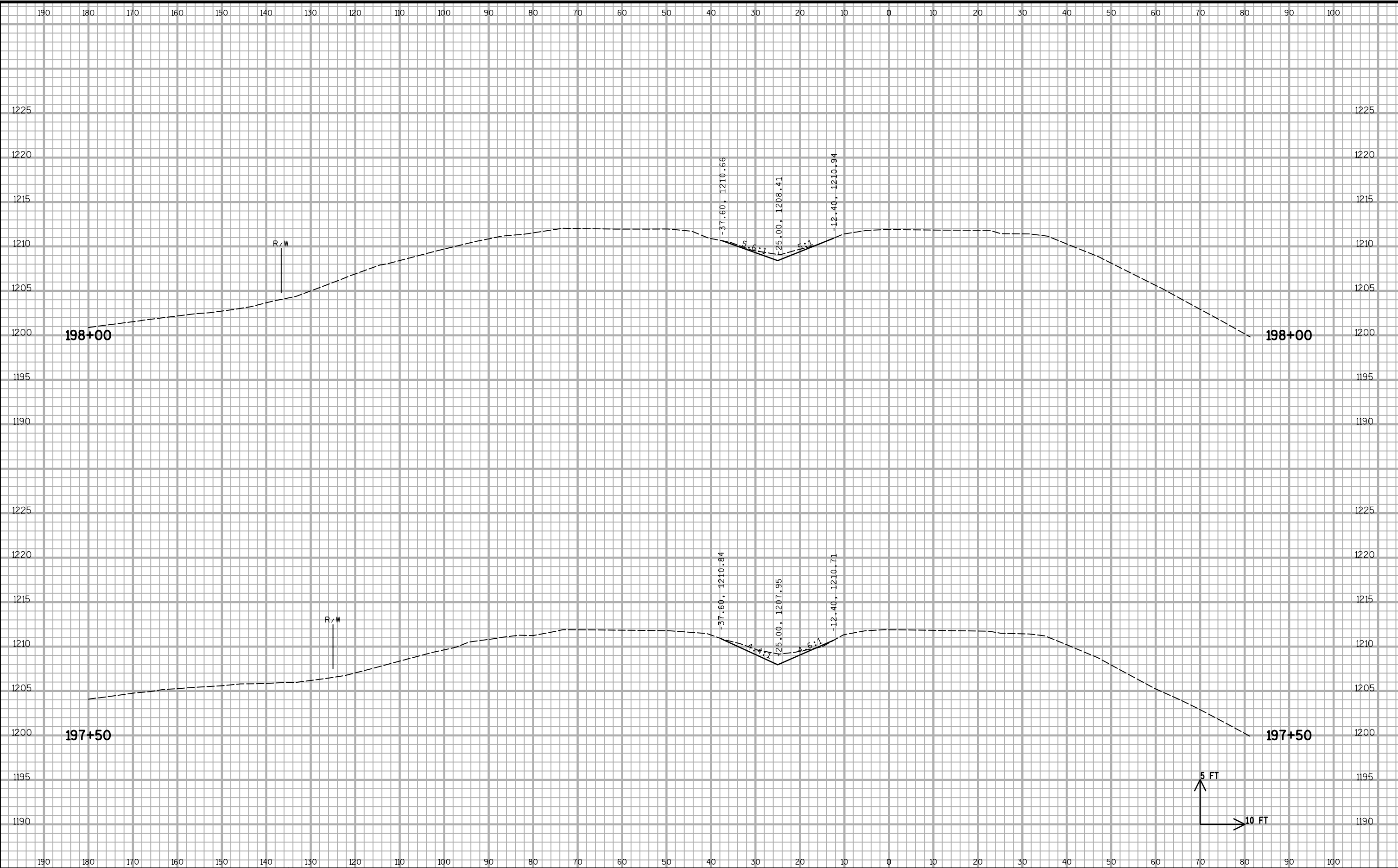
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PROJECT NO: 1053-07-74

HWY: STH 29

COUNTY: MARATHON

CROSS SECTIONS: STH 29

SHEET

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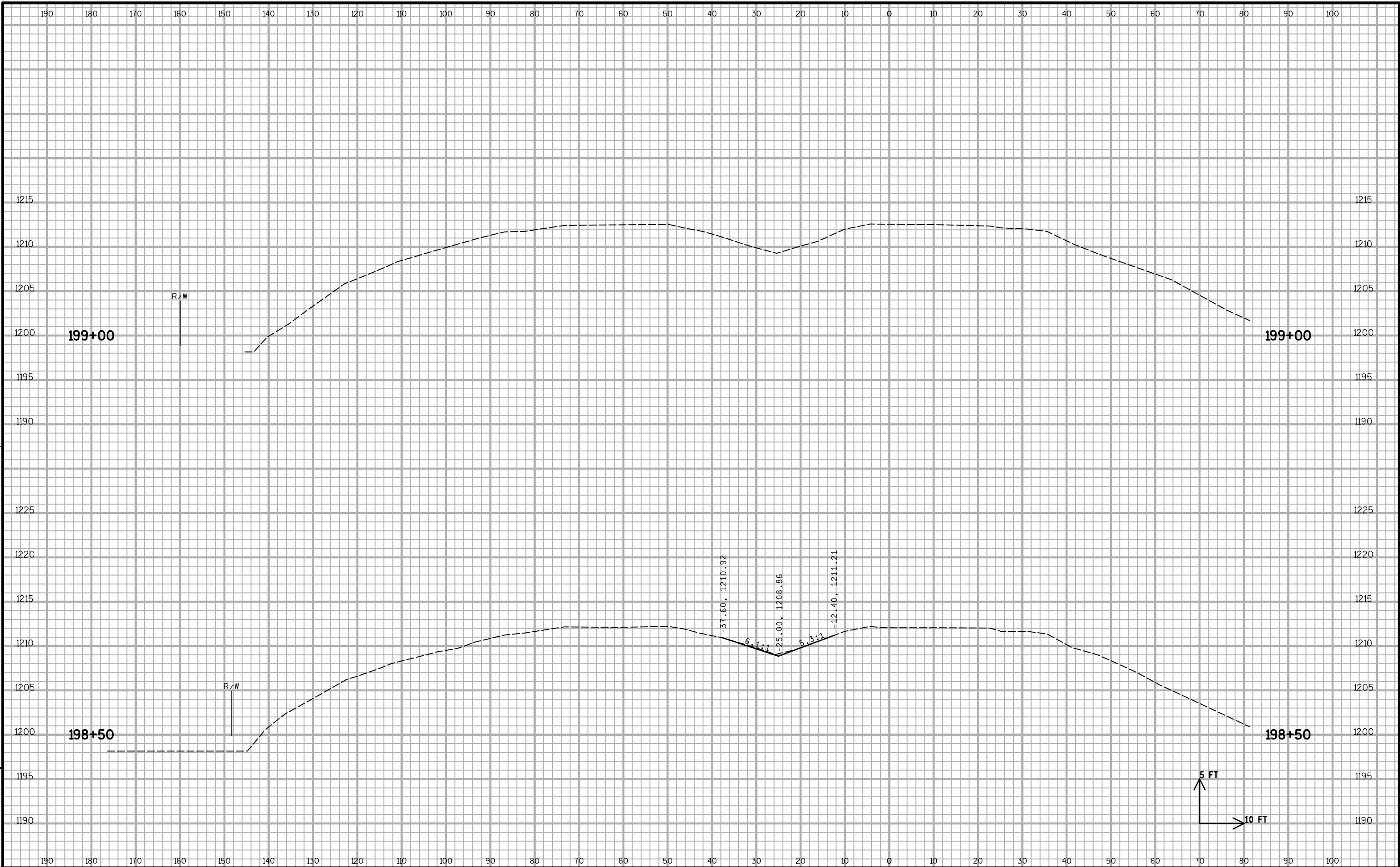
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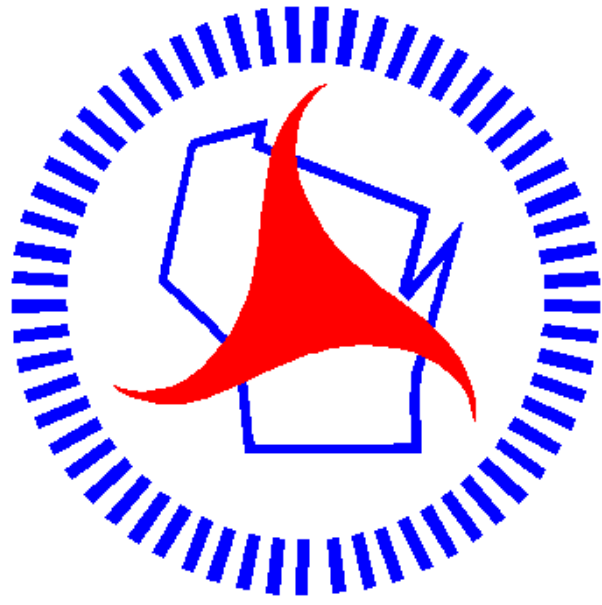
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PLOT BY : _username_

PLOT NAME :

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