

SUP NOVEMBER 2025

PROJECT ID: 8140-00-78

WITH: N/A

COUNTY: SAWYER

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 = 92



DESIGN DESIGNATION	8140-00-78
A.A.D.T.	2027 = 3,370
A.A.D.T.	2047 = 3,490
D.H.V.	= 337
D.D.	= 50/50
T.	= 21.4 %
DESIGN SPEED	= 55 MPH, 45 MPH
ESALS	= 930,000

CONVENTIONAL SYMBOLS

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

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STONE LAKE - HAYWARD

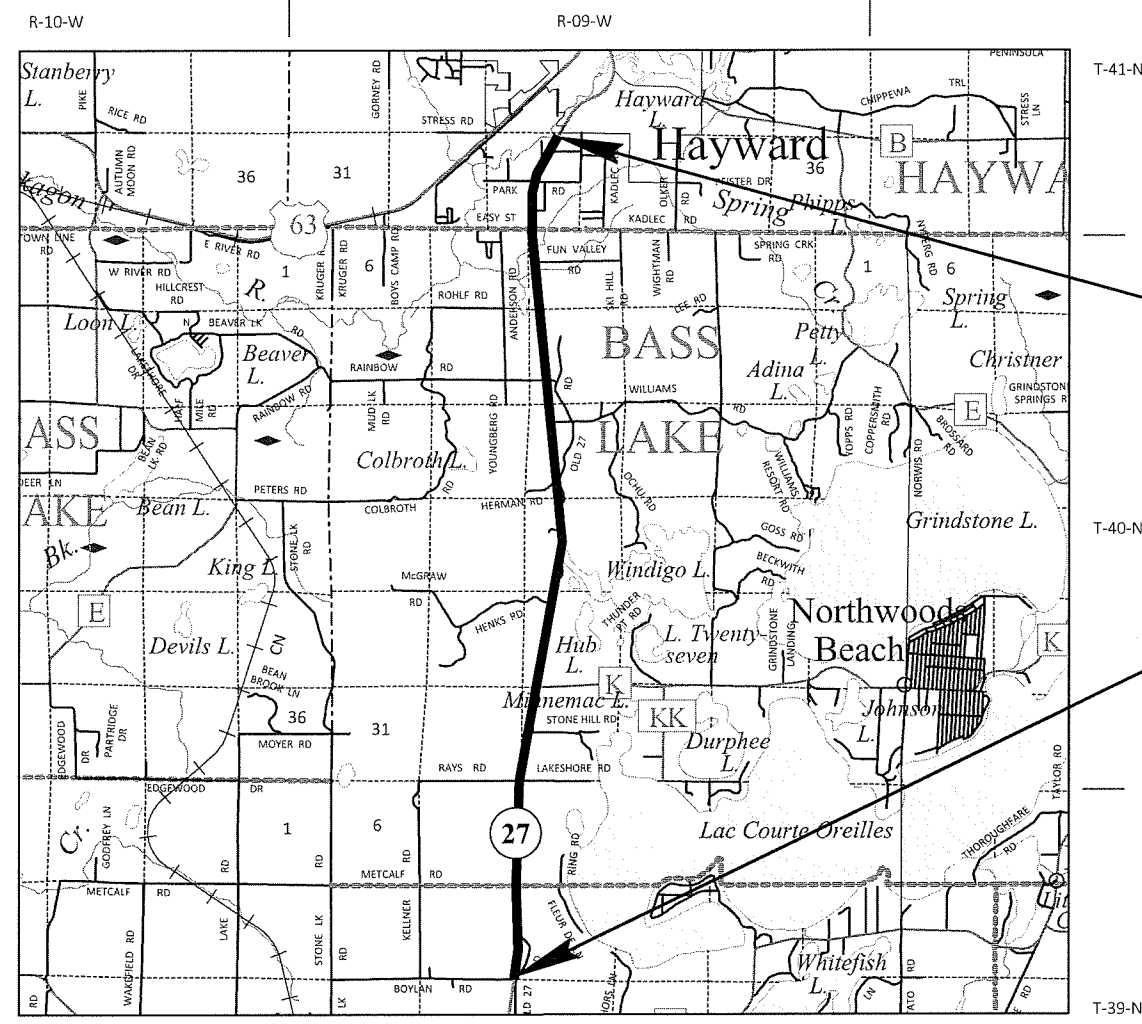
BOYLAN RD TO 700FT N OF CAROL DR

STH 27

SAWYER COUNTY

STATE PROJECT NUMBER

8140-00-78



END PROJECT

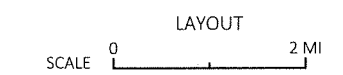
STA 1116+70

BEGIN PROJECT

STA 650+00

Y = 385,560.9318

X = 612,905.5845



TOTAL NET LENGTH OF CENTERLINE = 8.839 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), SAWYER COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8140-00-78	WISC 2026046	1

ORIGINAL PLANS PREPARED BY

Short Elliott Hendrickson Inc.
10 North Bridge Street
Chippewa Falls, WI 54729-2550
715.720.6200 main | 888.908.8166 fax
800.472.5881 toll free | www.sehinc.com

DATE: 7-8-2025

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SEH
Designer	SEH
Project Manager	DIEGO SILVA
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	REGIONAL SUPERVISOR

APPROVED FOR THE DEPARTMENT

DATE: 7/8/2025

(Signature)

E

STANDARD ABBREVIATIONS

ABUT	ABUTMENT	ID	INSIDE DIAMETER
AC	ACRE	INV	INVERT
AGG	AGGREGATE	IP	IRON PIPE ON PIN
AECPRC	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE	LHF	LEFT-HAND FORWARD
AECPCS	APRON ENDWALL FOR CULVERT PIPE CORRUGATED STEEL	L	LENGTH OF CURVE
ASPH	ASPHALTIC	LF	LINEAR FOOT
AVG	AVERAGE	LC	LONG CHORD OF CURVE
ADT	AVERAGE DAILY TRAFFIC	LS	LUMP SUM
BF	BACK FACE	MH	MANHOLE
BM	BENCH MARK	MOR	MID POINT OF RADIUS
BR	BRIDGE	NC	NORMAL CROWN
CE	COMMERCIAL ENTRANCE	NO	NUMBER
C/L	CENTER LINE	OBLIT	OBLITERATE
Δ	CENTRAL ANGLE OR DELTA	PAVT	PAVEMENT
COB	CENTER OF BARRIER	PE	PRIVATE ENTRANCE
CONC	CONCRETE	PVRC	POINT OF VERTICAL REVERSE CURVE
CPRC	CULVERT PIPE REINFORCED CONCRETE	QOR	QUARTER POINT OF RADIUS
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL	R	RADIUS
CR	CREEK	REQ'D	REQUIRED
CY	CUBIC YARD	RES	RESIDENCE OR RESIDENTIAL
C&G	CURB AND GUTTER	RHF	RIGHT-HAND FORWARD
D	DEGREE OF CURVE	R/W	RIGHT-OF-WAY
DHV	DESIGN HOUR VOLUME	R	RIVER
DISCH	DISCHARGE	RDWY	ROADWAY
DG	DITCH GRADE	R/L	REFERENCE LINE
DWY	DRIVEWAY	SALV	SALVAGED
X	EAST GRID COORDINATE	SAN	SANITARY SEWER
EAT	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	SF	SQUARE FEET
EOR	END POINT OF RADIUS	SY	SQUARE YARD
EL	ELEVATION	SDD	STANDARD DETAIL DRAWINGS
ENT	ENTRANCE	STA	STATION
ESALS	EQUIVALENT SINGLE AXLE LOADS	SS	STORM SEWER
EXC	EXCAVATION	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
EBS	EXCAVATION BELOW SUBGRADE	SE	SUPERELEVATION RATE
EXIST	EXISTING	TC	TOP OF CURB
FC	FACE OF CURB	T OR TN	TOWN
FF	FACE TO FACE	T	TRUCKS (PERCENT OF)
FERT	FERTILIZE	TYP	TYPICAL
FE	FIELD ENTRANCE	VAR	VARIABLE
FL	FLOW LINE	VC	VERTICAL CURVE
FO	FIBER OPTIC	Y	NORTH GRID COORDINATE
CWT	HUNDREDWEIGHT	YD	YARD
HYD	HYDRANT		

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPERANGE (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	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP- TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE- TURF			.25			.27			.28			.30
			.32			.34			.36			.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 = 181 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 28 ACRES

DNR AREA LIAISON:

WI DEPT OF NATURAL RESOURCES
NR NORTHERN REGION HEADQUARTERS
810 W. MAPLE STREET
SPOONER, WI 54801
TELEPHONE: 715-635-4228
ATTENTION: SHAWN HASELEU
EMAIL: SHAWN.HASELEU@WISCONSIN.GOV

SAWYER CO SURVEYOR:

LAND RECORDS DIRECTOR/SURVEYOR
SAWYER COUNTY COURTHOUSE
SUITE 54
10610 MAIN STREET
HAYWARD, WI 54843
TELEPHONE: 715-638-3240
ATTENTION: DAN PLEOGER
EMAIL: SURVEYOR@SAWYERCOUNTYGOV.ORG

UTILITY CONTACT LIST:

MONTY PARKER
CENTURYLINK - COMMUNICATION LINE
20 S WILSON AVE
RICE LAKE, WI 54868
(715) 234-5528
RELOCATIONS@LUMEN.COM

GUY FOLSOM
NORVADO - COMMUNICATION LINE
43705 USH 63
P.O. BOX 67
CABLE, WI 54821-0067
(715) 798-7123
GFOLSOM@NORVADO.COM

RYAN LUCKEN
SPECTRUM - COMMUNICATION LINE
1201 MCCANN DR
ALTOONA, WI 54720
(715) 831-8940
CHTR_WI_CONST@CHARTER.COM
RYAN.LUCKEN@CHARTER.COM

KELLY DALY
ENBRIDGE ENERGY - GAS/PETROLEUM
1600 2ND AVE SW, SUITE 16
MINOT, ND 58701
(701) 857-0813
KELLY.DALY@ENBRIDGE.COM

WISDOT CONTACT:

WISDOT SOUTHEAST REGION -
WAUKESHA OFFICE
141 NW BARSTOW ST
WAUKESHA, WI 53188
TELEPHONE: 262.548.6433
ATTENTION: DIEGO SILVA
EMAIL: DIEGO.SILVA@DOT.WI.GOV

DESIGN CONTACT:

SHORT ELLIOTT HENDRICKSON INC
10 NORTH BRIDGE STREET
CHIPPEWA FALLS WI 54729
TELEPHONE: 715-720-6291
ATTENTION: TARA KRISTA
EMAIL: TKRISTA@SEHINC.COM

GENERAL NOTES:

- ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE APPROXIMATE USGS DATUM.
- WHEN THE QUANTITY OF BASE AGGREGATE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.
- THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
- THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.
- DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOILED, FERTILIZED, AND SEEDED AND MULCHED. FINISHED SEEDED SURFACE SHALL BE 1-INCH BELOW THE TOP OF ADJACENT CONCRETE.
- ALL CURB AND GUTTER RADII, PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.
- A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS AND PAVEMENTS AT REMOVAL LIMITS.
- CONTACT THE PROJECT ENGINEER AND COUNTY SURVEYOR, AT LEAST TWO WEEKS PRIOR TO WORK NEAR ANY PUBLIC SURVEY MONUMENT.
- A CONVERSION FACTOR OF 2.1 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE 3/4-INCH.
- A CONVERSION FACTOR OF 2.0 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE 1 1/4-INCH.
- APPLY TACK COAT AT A RATE OF 0.07 GAL/SY TO MILLED SURFACE AND 0.05 GA/SY BETWEEN LAYERS OF HMA PAVEMENT.
- HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

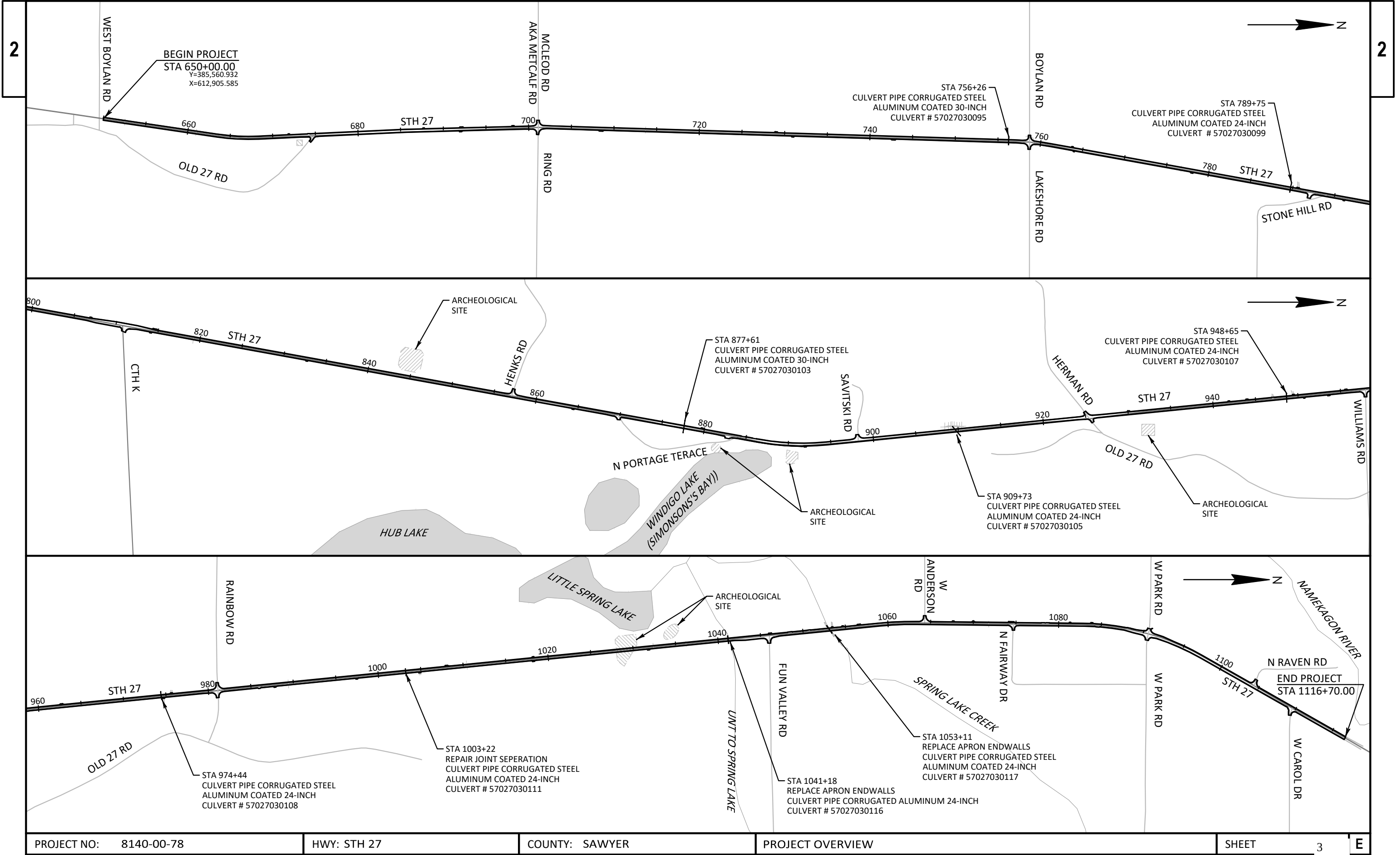
DIGGERS

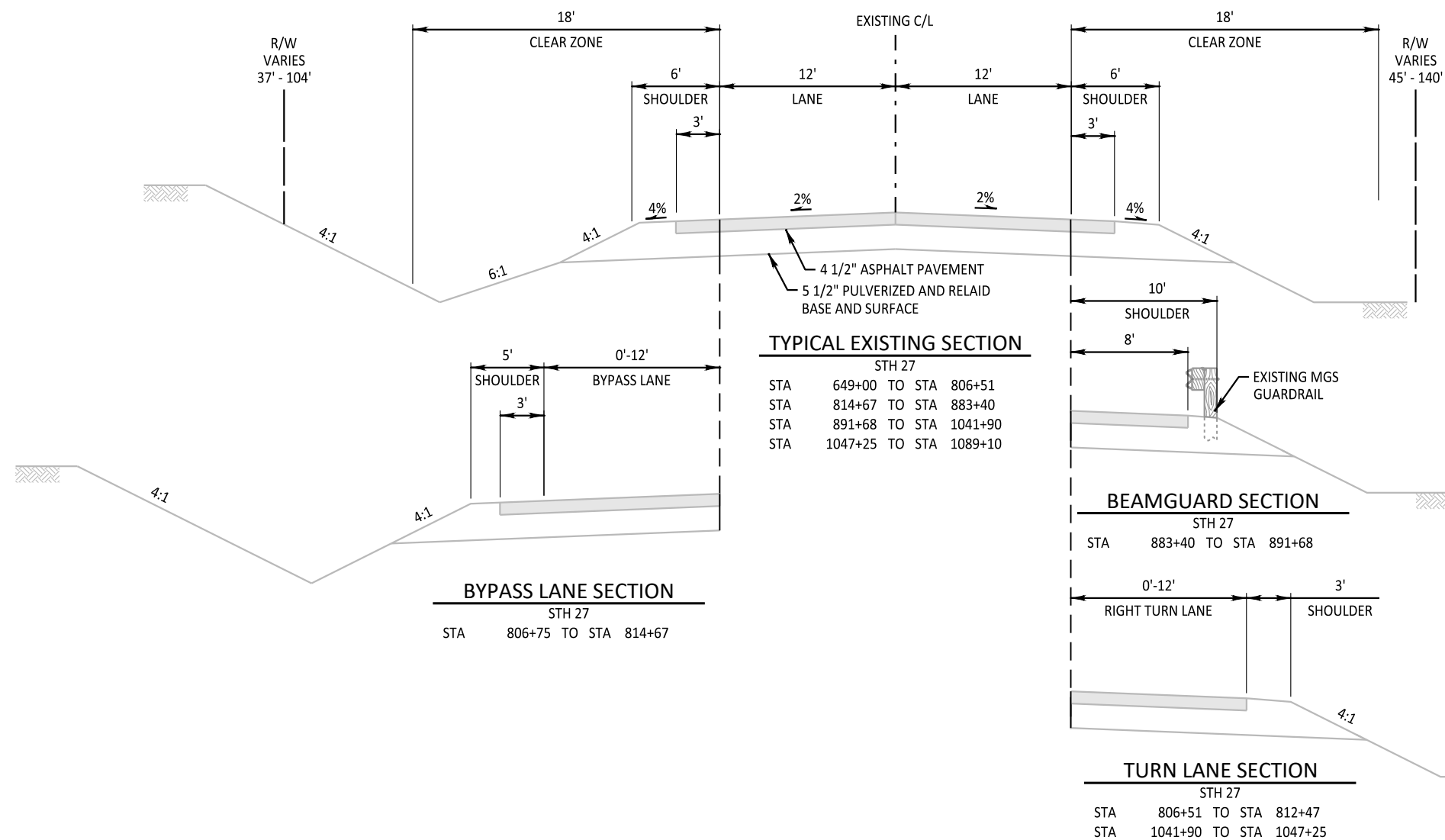
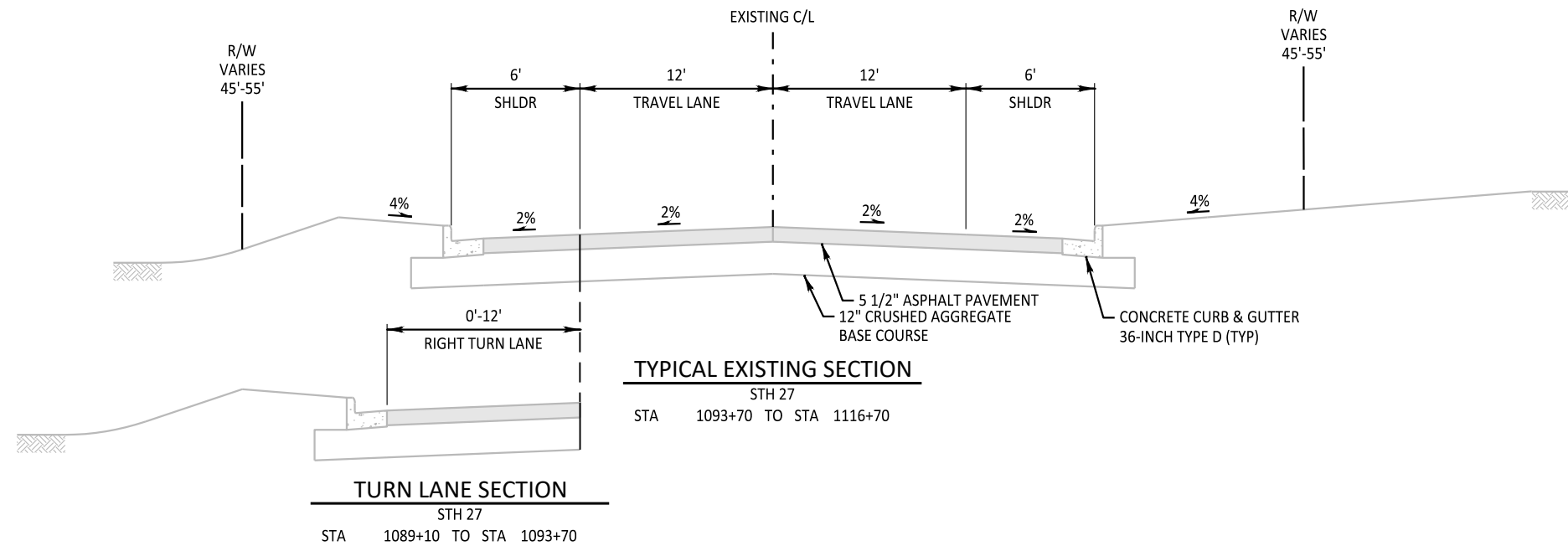


HOTLINE

Dial  or (800)242-8511

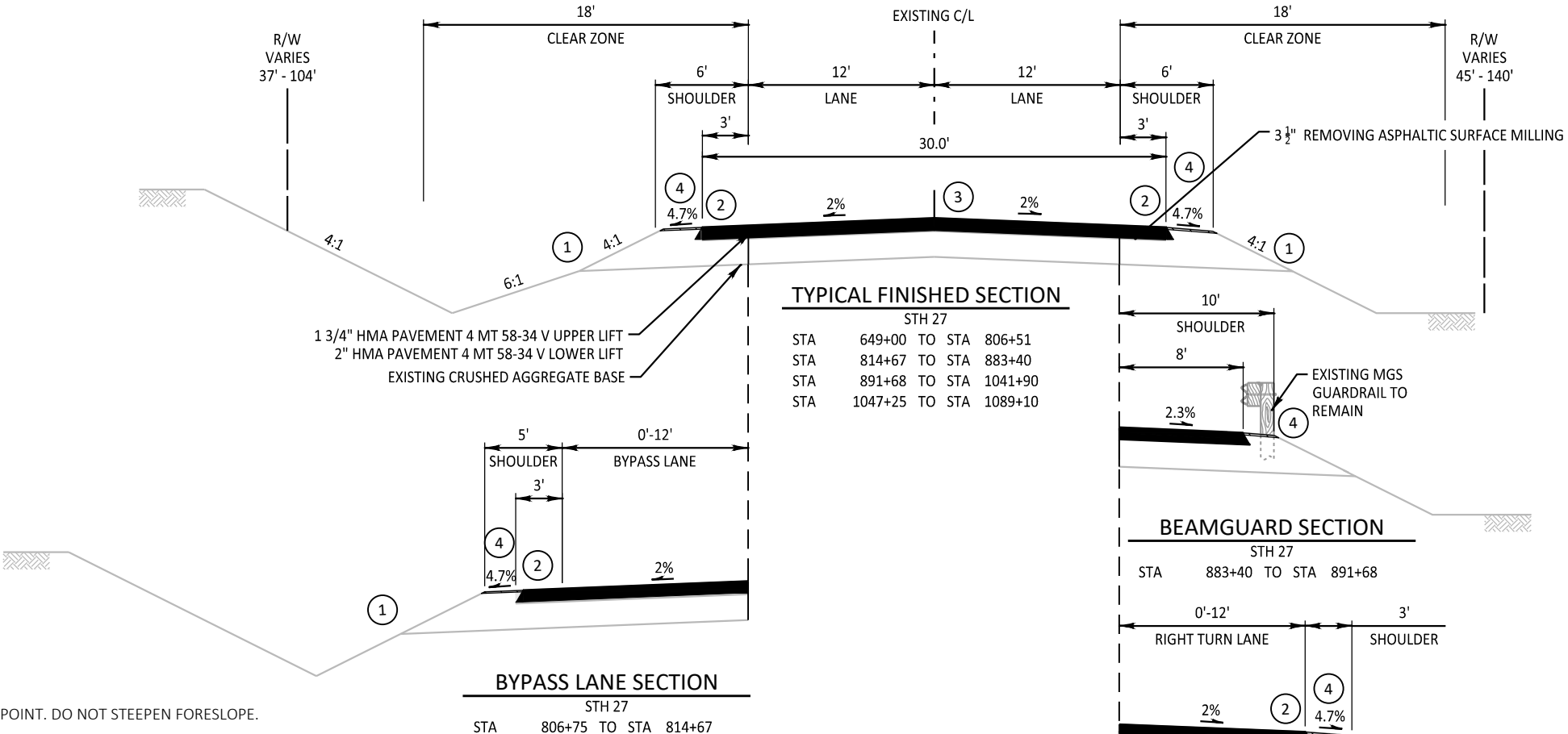
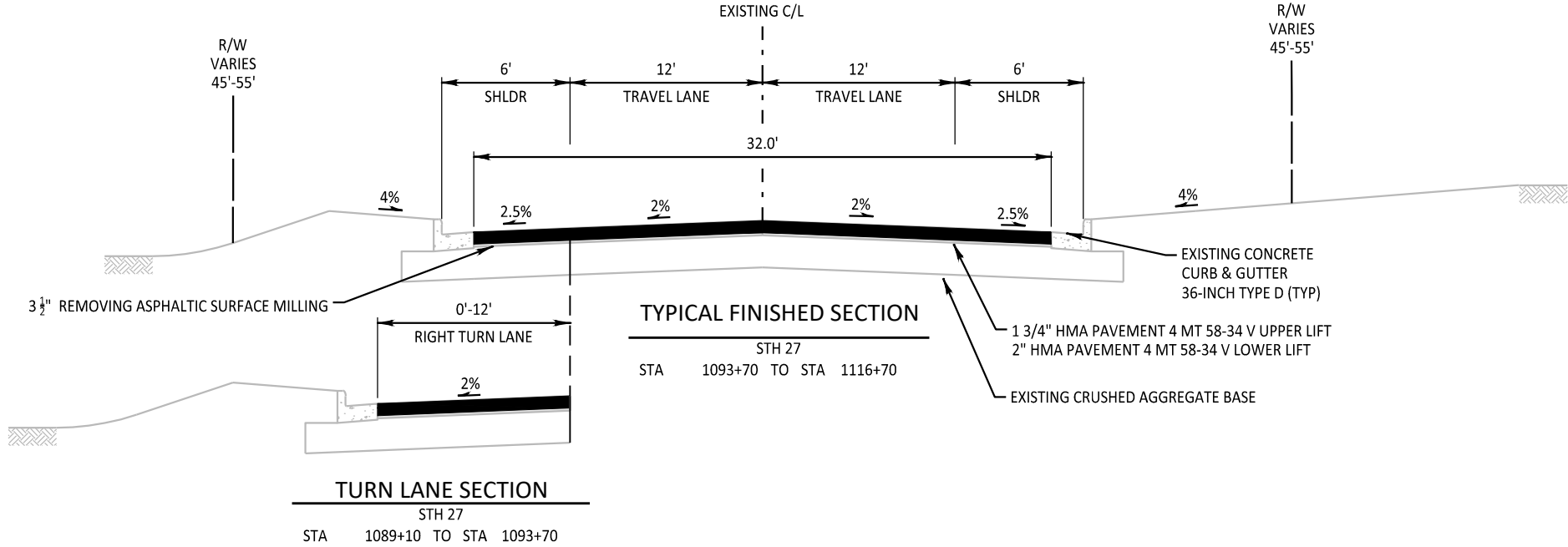
www.DiggersHotline.com





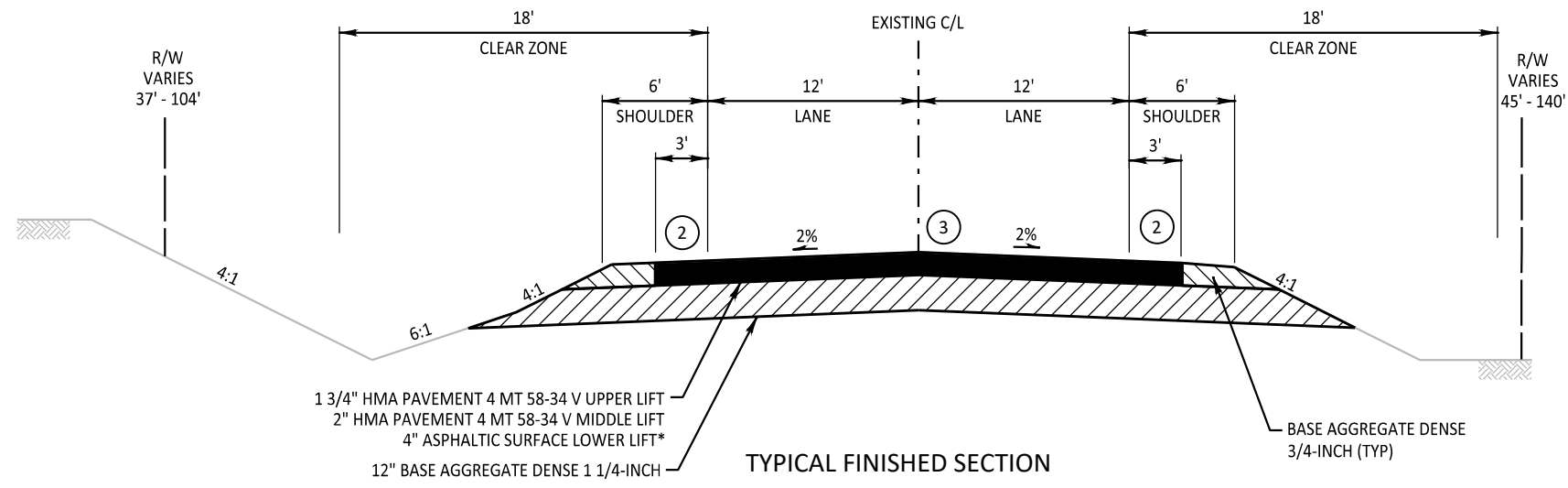
2

2



- LEGEND:**
- ① MATCH EXISTING SHOULDER POINT. DO NOT STEEPEN FORESLOPE.
 - ② SAFETY EDGE
 - ③ ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL. SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS.
 - ④ BASE AGGREGATE DENSE 3/4-INCH FOR FINAL SHOULDER SURFACE.

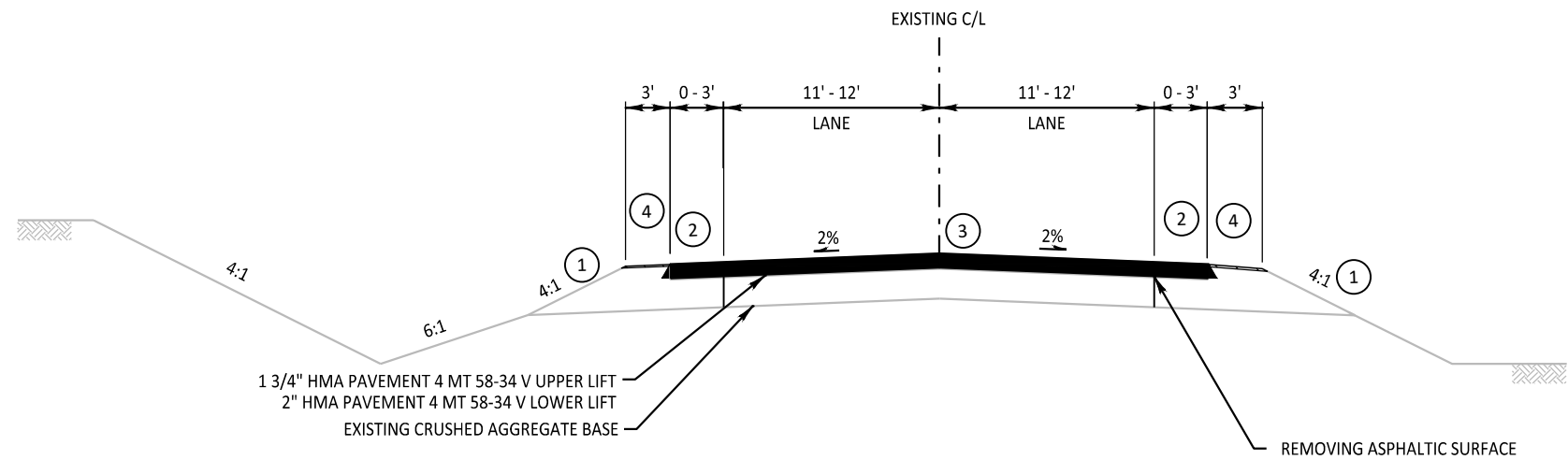
TURN LANE SECTION			
STH 27			
STA	806+51	TO	STA 812+47
STA	1041+90	TO	STA 1047+25



* ASPHALTIC SURFACE NEEDS TO MEET A MINIMUM GRADE OF 4 MT 58-34 S

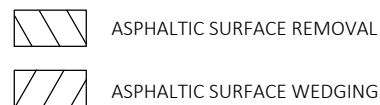
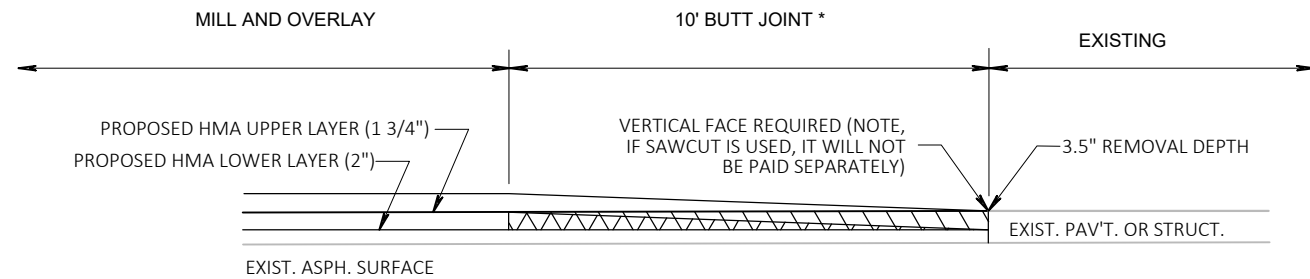
TYPICAL FINISHED SECTION

STH 27			
CULVERT PIPE REPLACEMENT LOCATIONS			
STA 755+65	TO	STA 756+85	
STA 789+15	TO	STA 790+35	
STA 877+02	TO	STA 878+22	
STA 908+79	TO	STA 909+99	
STA 948+08	TO	STA 949+28	
STA 973+83	TO	STA 975+03	



TYPICAL FINISHED SECTION

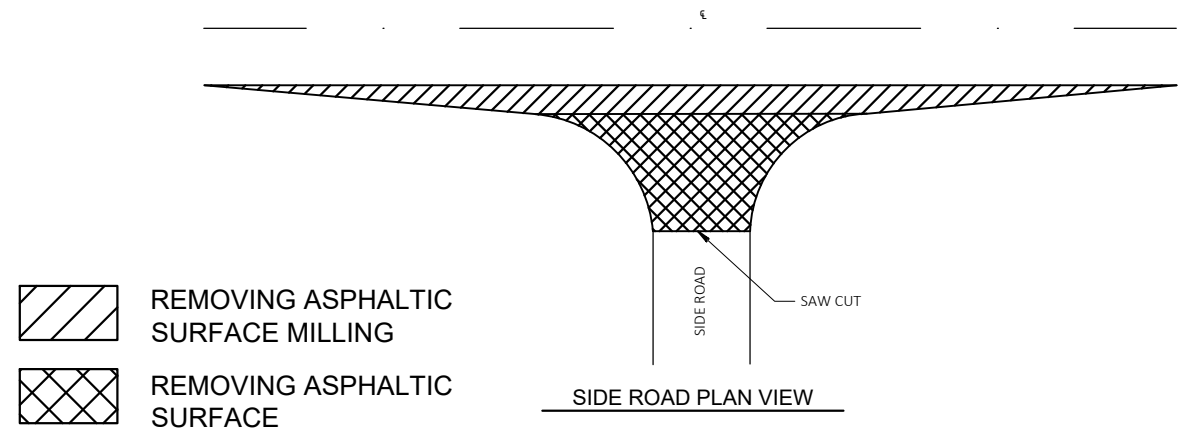
OLD 27 RD	HENKS RD	FUN VALLEY RD
METCALF RD	PORTAGE TERRACE	W ANDERSON RD
LAKESHORE RD	SAVITSKI RD	N FAIRWAY DR
RAYS RD	HERMAN RD	PARK RD
STONE HILL RD	W WILLIAMS RD	RAVEN RD
CTH K	RAINBOW RD	CAROL DR



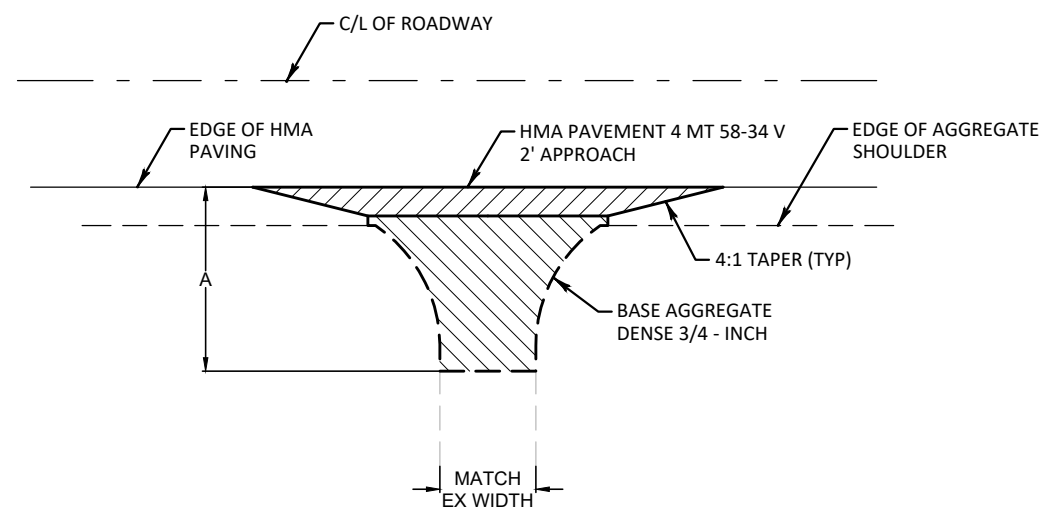
MAINLINE PROFILE VIEW

* MAINLINE (NORTH AND SOUTH PROJECT LIMITS)

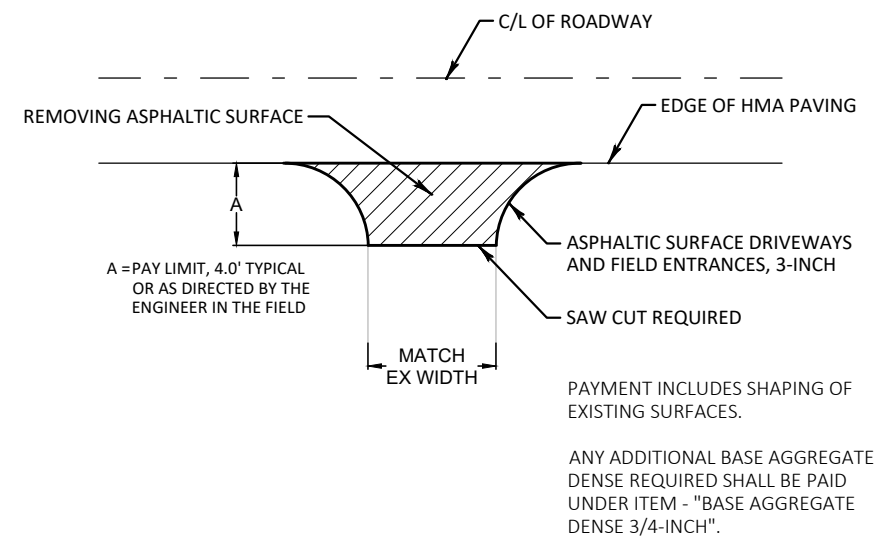
DETAIL OF BUTT JOINTS - MAINLINE

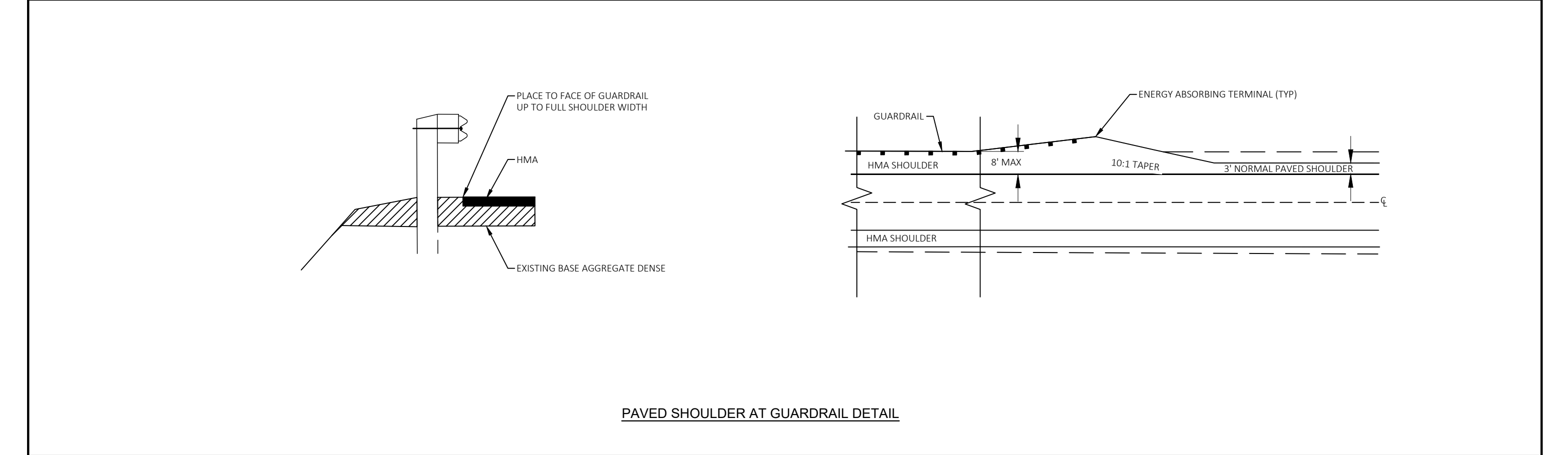
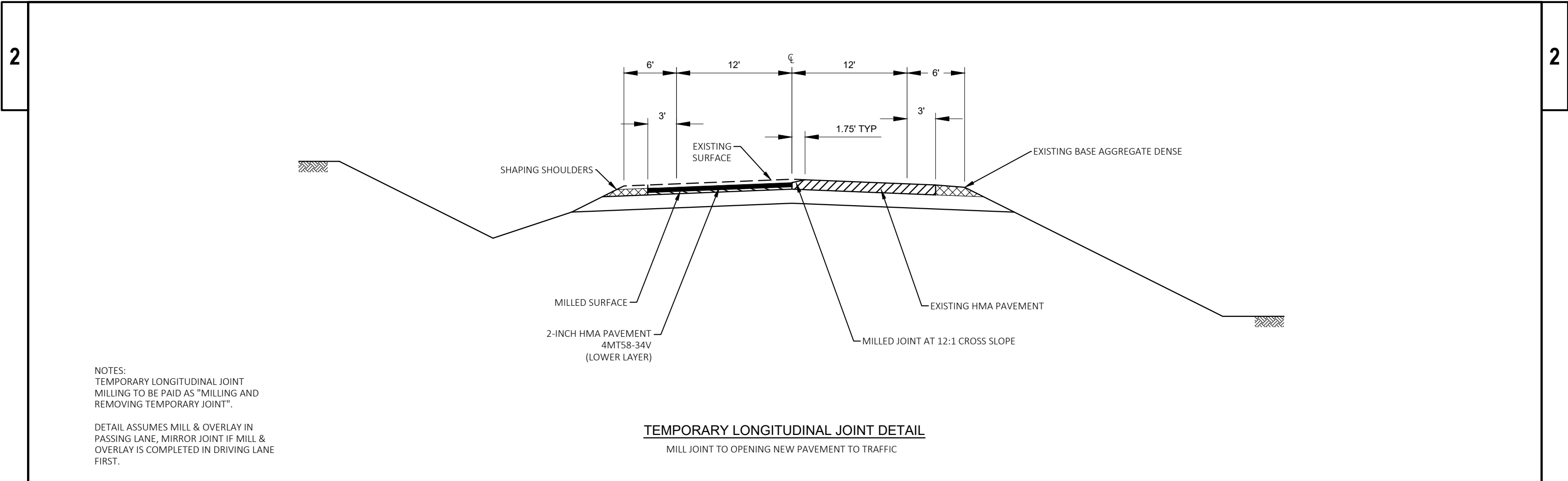


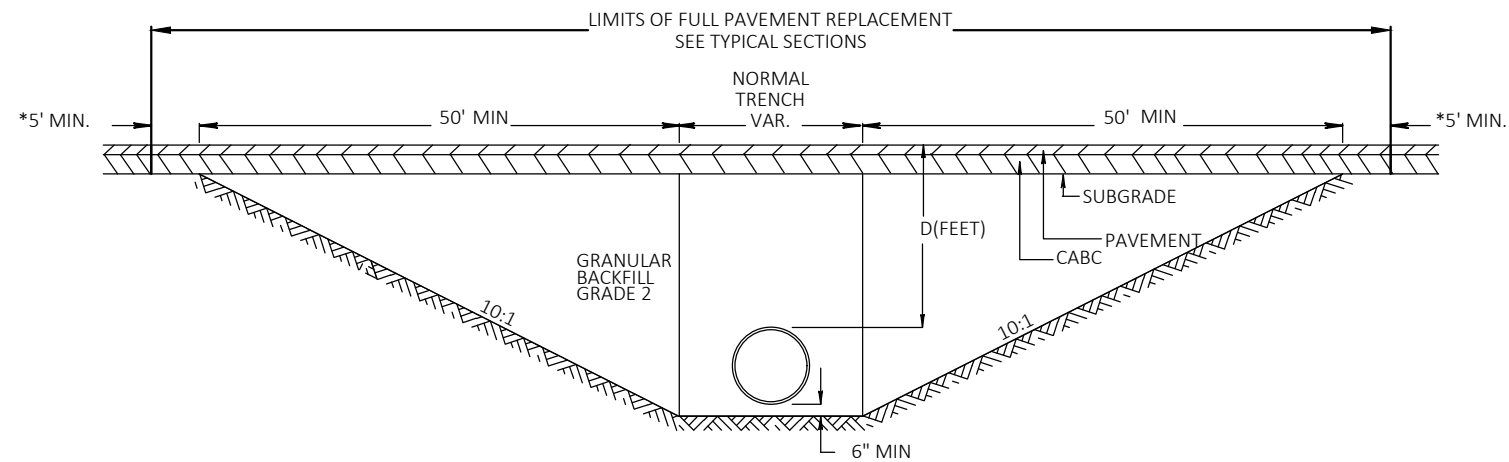
DETAIL OF SIDEROAD PAVEMENT REMOVAL



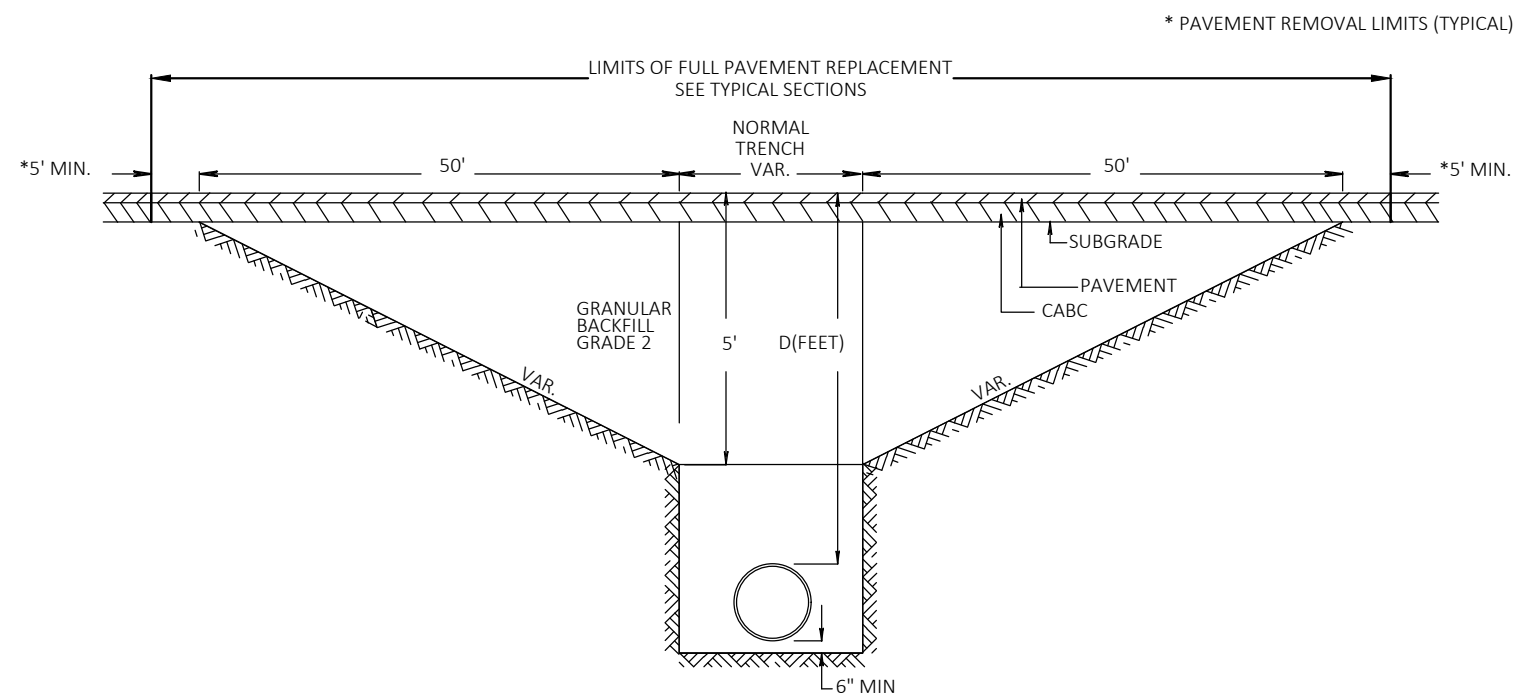
NOTE, 2' HMA APPROACH NOT SHOWN ON PLAN SHEETS

RURAL DRIVEWAY OR FIELD ENTRANCE
AGGREGATE (PE, CE OR FE)ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTERANCES
(PE,CE, OR FE)

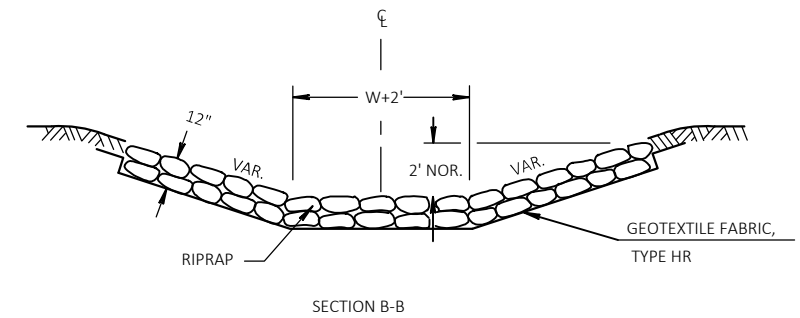
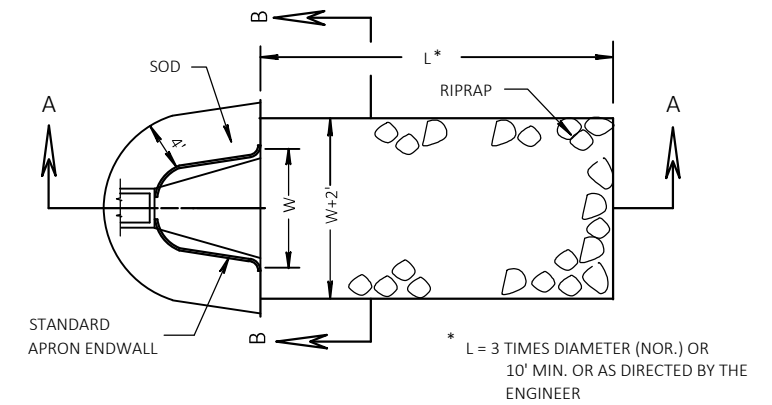




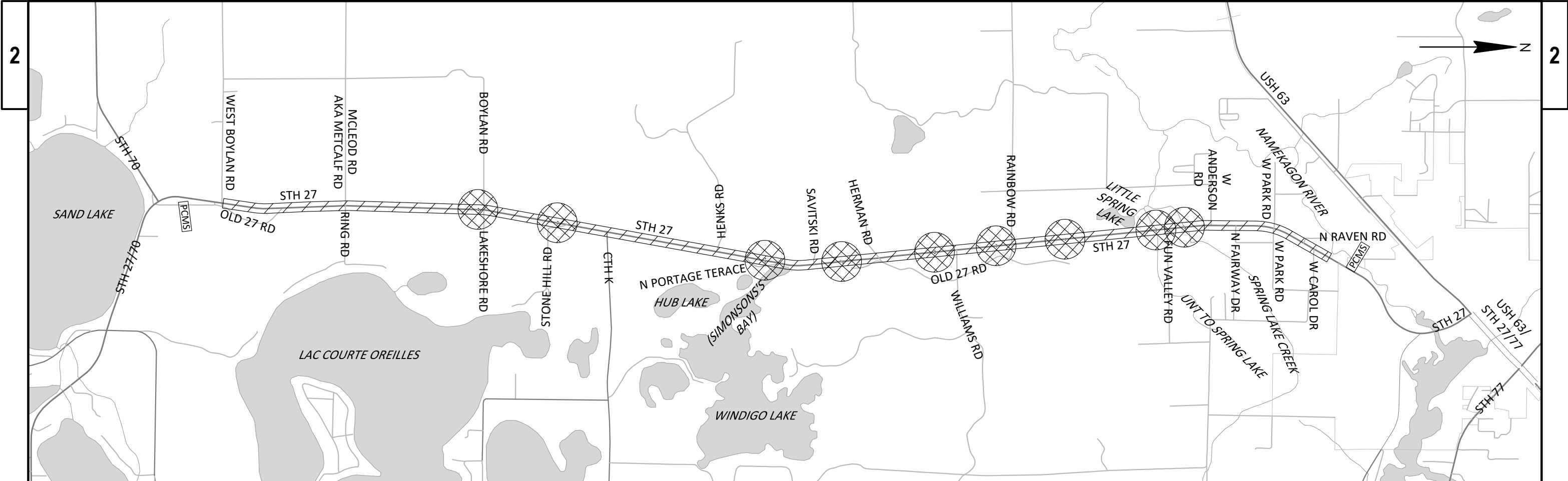
CROSS DRAIN INSTALLATION DETAIL
FOR $D \leq 5'$



CROSS DRAIN INSTALLATION DETAIL
FOR $D > 5'$



SOD, RIPRAP AND GEOTEXTILE FABRIC DETAIL
AT APRON ENDWALLS

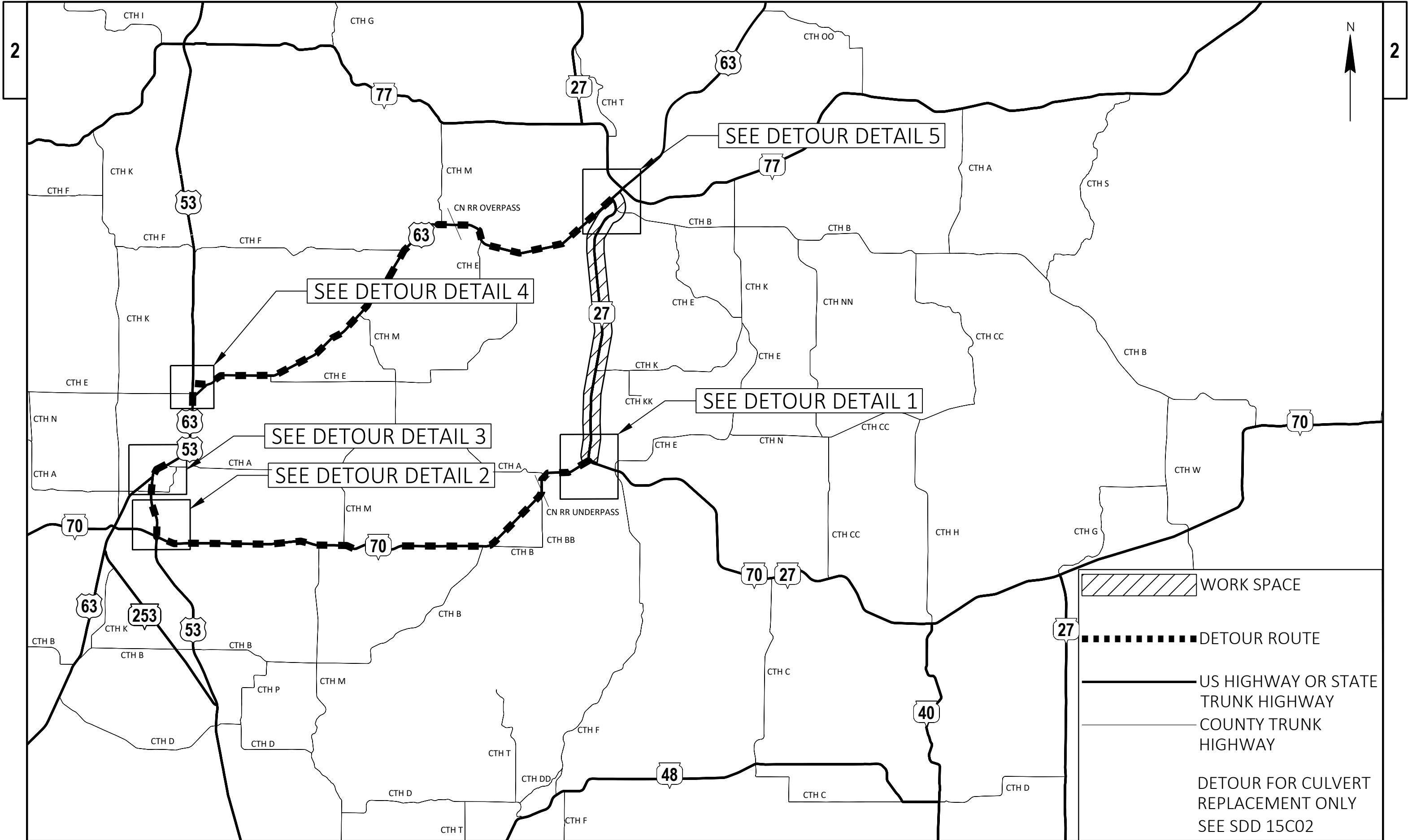


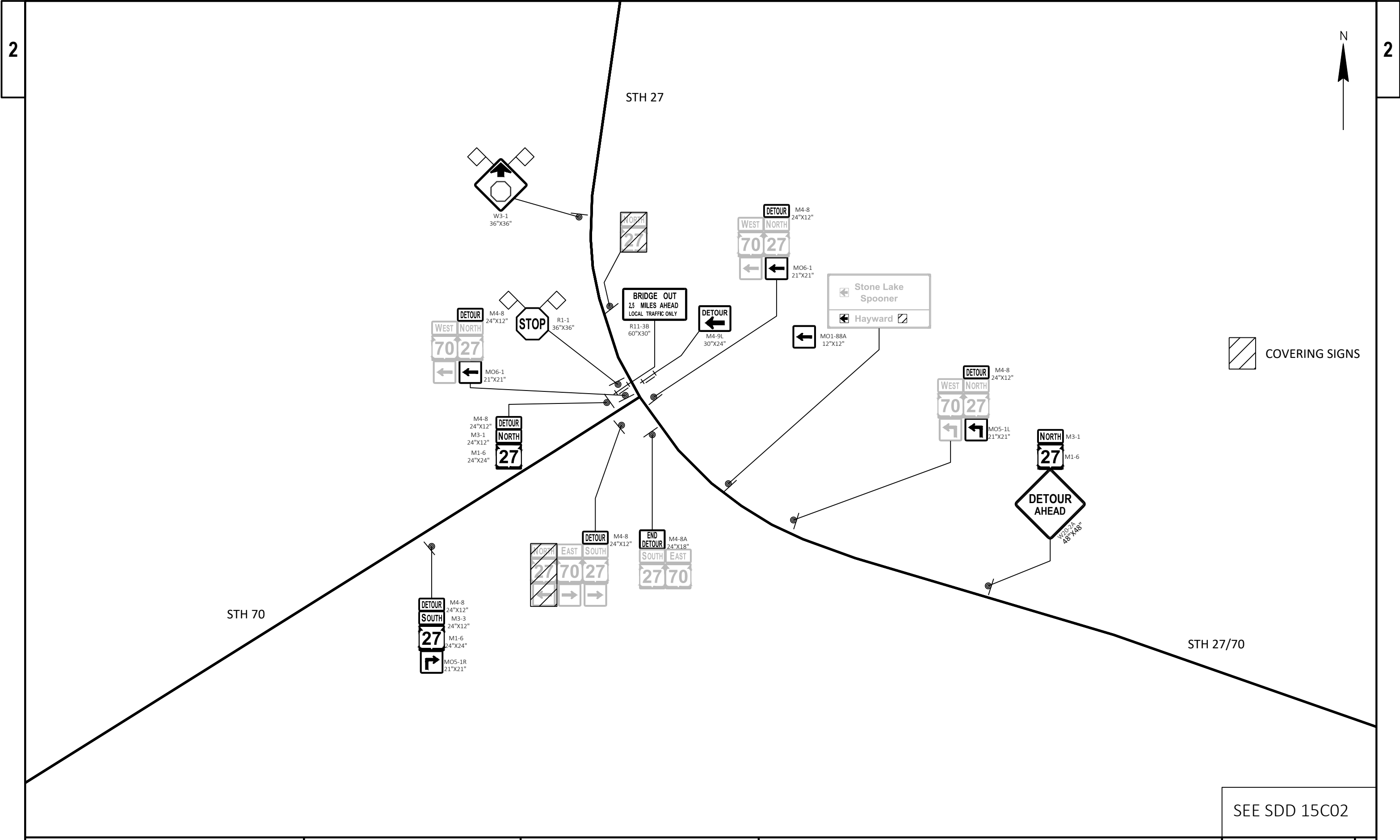
TRAFFIC CONTROL LEGEND	
	WORK SPACE, OPEN TO TRAFFIC
	WORK SPACE, CLOSED TO TRAFFIC
	PORTABLE CHANGEABLE MESSAGE SIGN

PCMS MESSAGE:	
ROAD CLOSED BEGINS	DATE & TIME
FRAME A	FRAME B
(IN PLACE A MINIMUM OF 7 CALENDAR DAYS PRIOR TO EXTENDED ROAD CLOSURE)	

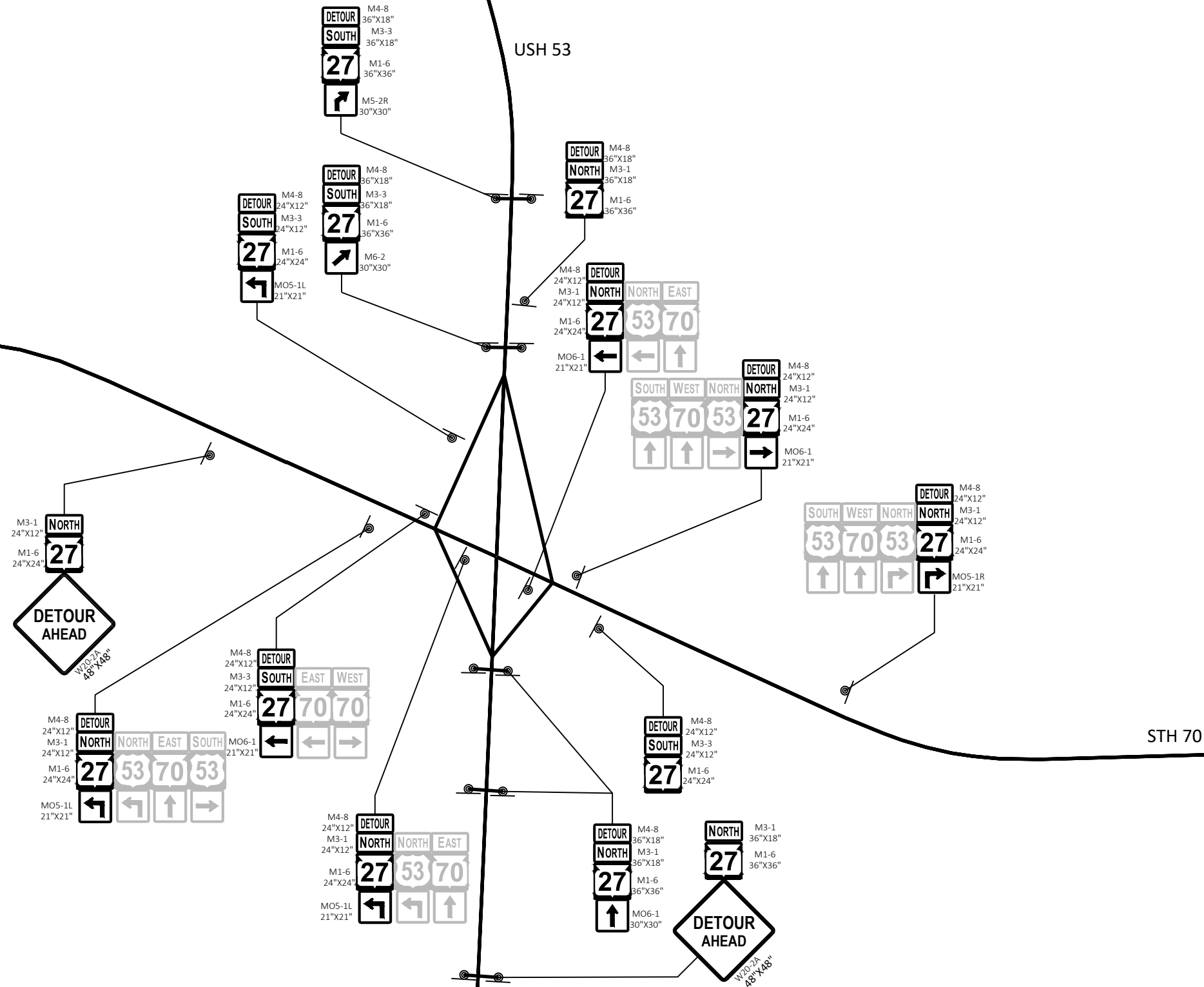
GENERAL NOTES: TRAFFIC CONTROL

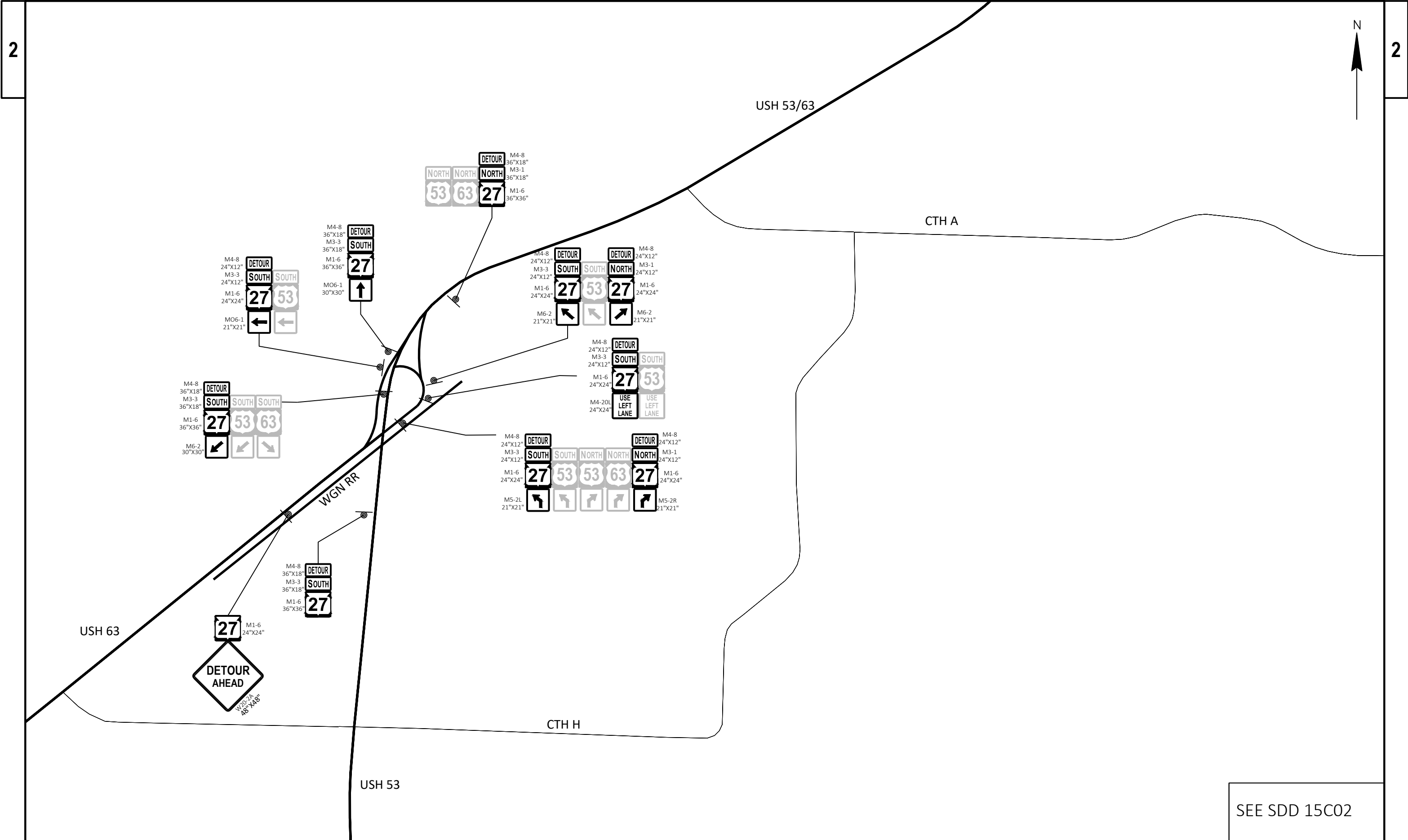
1. THE FOLLOWING NOTES ARE APPLICABLE TO ALL STAGES. SEE THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC CONTROL AND CONSTRUCTION STAGING REQUIREMENTS.
2. THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS OR AS DIRECTED BY THE ENGINEER IN THE FIELD.
3. ALL "WO" OR "W" DIAMOND SHAPED WARNING SIGNS, SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.
4. ALL DRUMS IN TAPERS SHALL HAVE A TRAFFIC CONTROL WARNING LIGHTS TYPE C, (STEADY BURN).
5. MOUNT ALL PORTABLE TRAFFIC CONTROL SIGNS AT A MINIMUM HEIGHT OF 5 FEET, MEASURED FROM THE BOTTOM OF THE SIGN, ABOVE THE EDGE OF PAVEMENT.
6. THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.
7. ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROW BOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION. DRUMS ADJACENT TO GUARDRAIL SHOULD BE STORED BEHIND THE GUARDRAIL IN LOCATIONS WHERE PRACTICAL.
8. SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

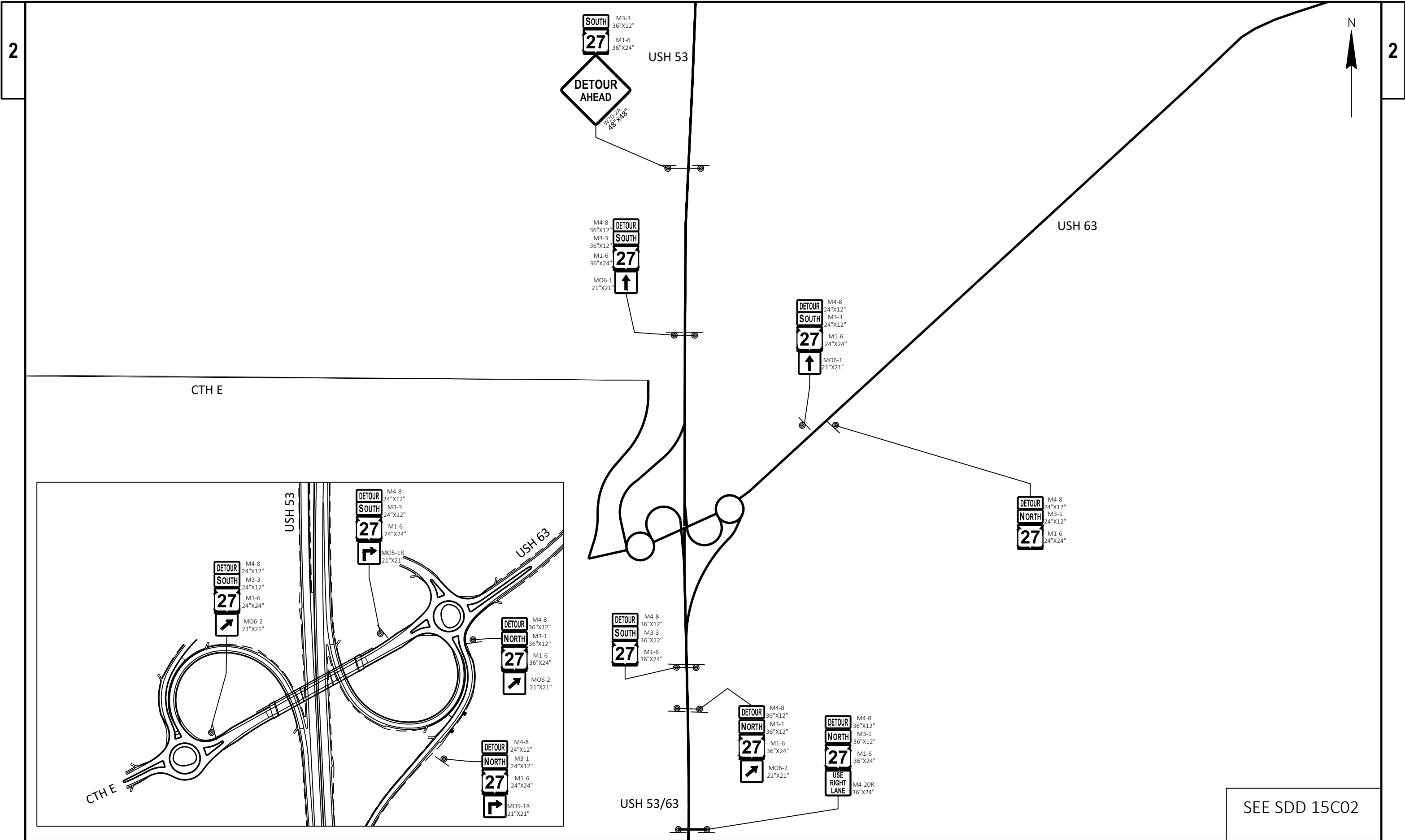


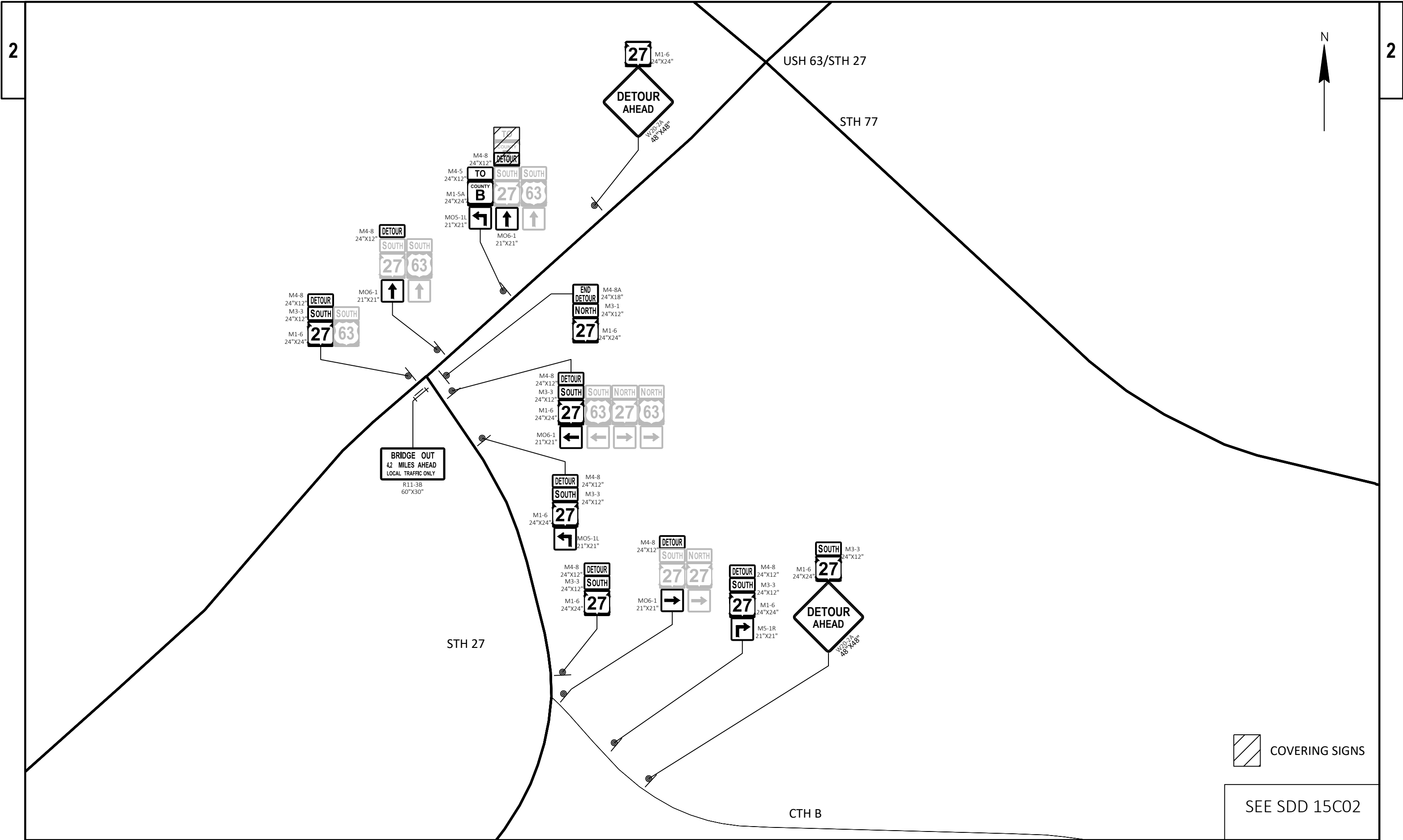


SEE SDD 15C02



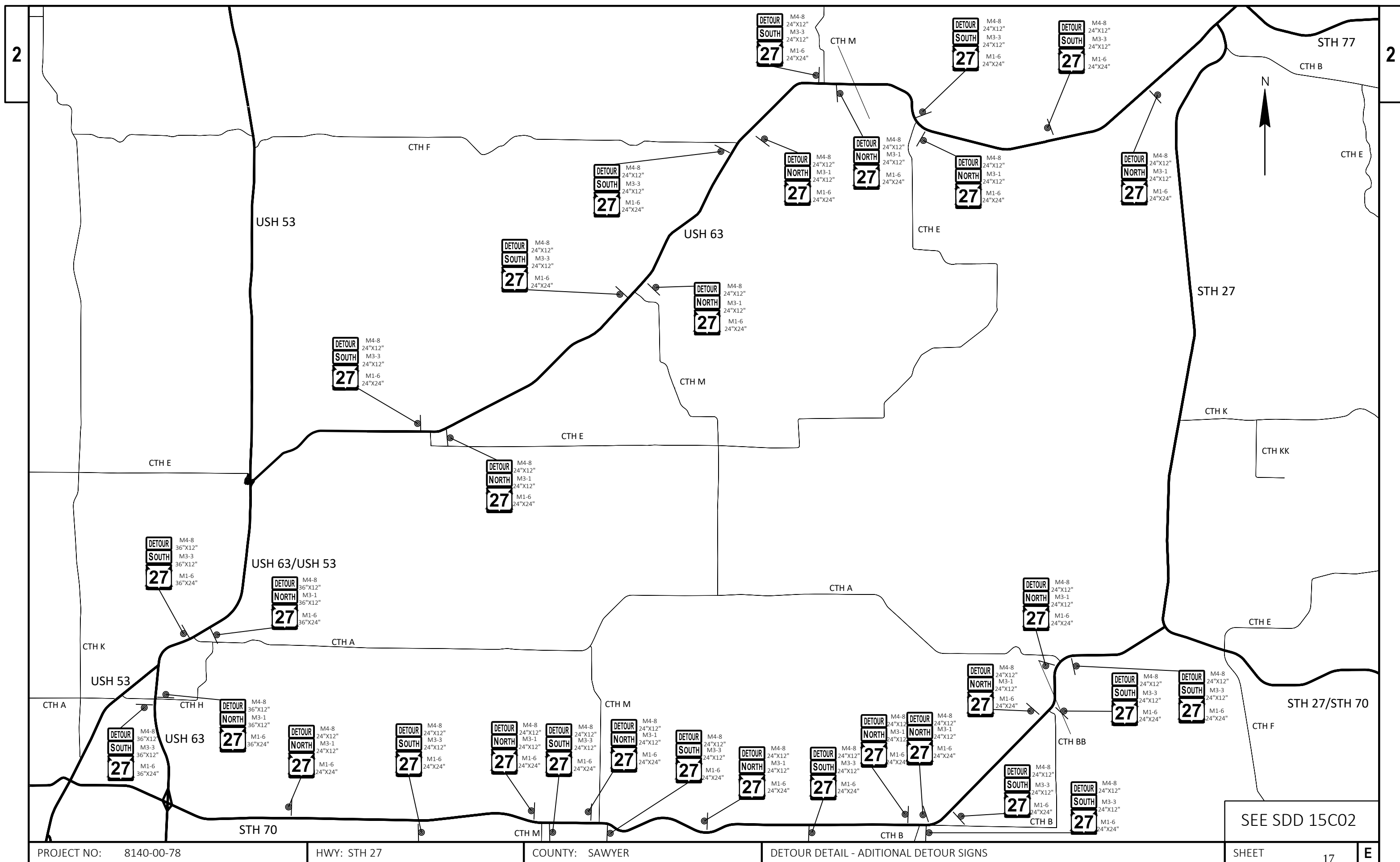






 COVERING SIGNS

SEE SDD 15C02



Estimate Of Quantities

8140-00-78					
Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	6.000	6.000
0004	204.0110	Removing Asphaltic Surface	SY	7,570.000	7,570.000
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	67.000	67.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	159,565.000	159,565.000
0010	204.0126.S	Removing Asphaltic Longitudinal Notched Wedge Joint Milling	LF	46,700.000	46,700.000
0012	204.9060.S	Removing (item description) 01. Endwalls	EACH	4.000	4.000
0014	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 8140-00-78	EACH	1.000	1.000
0016	213.0100	Finishing Roadway (project) 01. 8140-00-78	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	810.000	810.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,340.000	2,340.000
0022	455.0605	Tack Coat	GAL	19,960.000	19,960.000
0024	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0026	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0028	460.2005	Incentive Density PWL HMA Pavement	DOL	26,140.000	26,140.000
0030	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	23,335.000	23,335.000
0032	460.2010	Incentive Air Voids HMA Pavement	DOL	34,950.000	34,950.000
0034	460.6644	HMA Pavement 4 MT 58-34 V	TON	34,950.000	34,950.000
0036	460.9000.S	Material Transfer Vehicle	EACH	1.000	1.000
0038	465.0105	Asphaltic Surface	TON	540.000	540.000
0040	465.0110	Asphaltic Surface Patching	TON	300.000	300.000
0042	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	30.000	30.000
0044	465.0560	Asphaltic Rumble Strips, Centerline	LF	41,270.000	41,270.000
0046	521.6124	Culvert Pipe Corrugated Steel Aluminum Coated 24-Inch	LF	416.000	416.000
0048	521.6130	Culvert Pipe Corrugated Steel Aluminum Coated 30-Inch	LF	226.000	226.000
0050	525.0324	Apron Endwalls for Culvert Pipe Aluminum 24-Inch	EACH	8.000	8.000
0052	525.0330	Apron Endwalls for Culvert Pipe Aluminum 30-Inch	EACH	4.000	4.000
0054	525.0336	Apron Endwalls for Culvert Pipe Aluminum 36-Inch	EACH	2.000	2.000
0056	525.0348	Apron Endwalls for Culvert Pipe Aluminum 48-Inch	EACH	2.000	2.000
0058	606.0200	Riprap Medium	CY	38.000	38.000
0060	618.0100	Maintenance and Repair of Haul Roads (project) 01. 8140-00-78	EACH	1.000	1.000
0062	619.1000	Mobilization	EACH	1.000	1.000
0064	624.0100	Water	MGAL	9.000	9.000
0066	625.0500	Salvaged Topsoil	SY	1,900.000	1,900.000
0068	627.0200	Mulching	SY	1,520.000	1,520.000
0070	628.1504	Silt Fence	LF	1,250.000	1,250.000
0072	628.1520	Silt Fence Maintenance	LF	1,250.000	1,250.000
0074	628.1905	Mobilizations Erosion Control	EACH	7.000	7.000
0076	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0078	628.2008	Erosion Mat Urban Class I Type B	SY	380.000	380.000
0080	628.7555	Culvert Pipe Checks	EACH	20.000	20.000
0082	629.0210	Fertilizer Type B	CWT	1.200	1.200
0084	630.0130	Seeding Mixture No. 30	LB	52.000	52.000
0086	630.0200	Seeding Temporary	LB	55.000	55.000
0088	630.0500	Seed Water	MGAL	45.000	45.000
0090	633.5200	Markers Culvert End	EACH	16.000	16.000
0092	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	10.000	10.000
0094	637.2210	Signs Type II Reflective H	SF	40.000	40.000
0096	637.2230	Signs Type II Reflective F	SF	40.000	40.000
0098	638.2102	Moving Signs Type II	EACH	10.000	10.000

Estimate Of Quantities

8140-00-78					
Line	Item	Item Description	Unit	Total	Qty
0100	638.3000	Removing Small Sign Supports	EACH	10.000	10.000
0102	642.5001	Field Office Type B	EACH	1.000	1.000
0104	643.0300	Traffic Control Drums	DAY	70.000	70.000
0106	643.0420	Traffic Control Barricades Type III	DAY	336.000	336.000
0108	643.0705	Traffic Control Warning Lights Type A	DAY	672.000	672.000
0110	643.0900	Traffic Control Signs	DAY	5,484.000	5,484.000
0112	643.0920	Traffic Control Covering Signs Type II	EACH	5.000	5.000
0114	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0116	643.3165	Temporary Marking Line Paint 6-Inch	LF	158,880.000	158,880.000
0118	643.3170	Temporary Marking Line Epoxy 6-Inch	LF	79,440.000	79,440.000
0120	643.5000	Traffic Control	EACH	1.000	1.000
0122	645.0120	Geotextile Type HR	SY	76.000	76.000
0124	646.2020	Marking Line Epoxy 6-Inch	LF	120.000	120.000
0126	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	169,860.000	169,860.000
0128	646.4020	Marking Line Epoxy 10-Inch	LF	690.000	690.000
0130	646.5020	Marking Arrow Epoxy	EACH	8.000	8.000
0132	646.5120	Marking Word Epoxy	EACH	4.000	4.000
0134	646.6120	Marking Stop Line Epoxy 18-Inch	LF	140.000	140.000
0136	650.6000	Construction Staking Pipe Culverts	EACH	6.000	6.000
0138	650.8000	Construction Staking Resurfacing Reference	LF	46,670.000	46,670.000
0140	650.9911	Construction Staking Supplemental Control (project) 01. 8140-00-78	EACH	1.000	1.000
0142	690.0150	Sawing Asphalt	LF	1,070.000	1,070.000
0144	740.0440	Incentive IRI Ride	DOL	17,680.000	17,680.000
0146	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	960.000	960.000
0148	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	2,700.000	2,700.000
0150	SPV.0060	Special 01. Repair 24-Inch Culvert Joint Separation	EACH	1.000	1.000

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ASPHALT REMOVALS <table><tr><th colspan="2"></th><th>204.0120</th><th>204.0126.S</th><th>204.0115</th><th>204.0110</th></tr><tr><th colspan="2"></th><th>REMOVING ASPHALTIC SURFACE MILLING</th><th>REMOVING ASPHALTIC LONGITUDINAL NOTCHED WEDGE JOINT MILLING</th><th>REMOVING ASPHALTIC SURFACE BUTT JOINTS</th><th>REMOVING ASPHALTIC SURFACE</th></tr><tr><th>STATION</th><th>LOCATION</th><th>SY</th><th>LF</th><th>SY</th><th>SY</th></tr><tr><td>650+00 - 760+00</td><td>LT & RT</td><td>36936</td><td>11000</td><td>33</td><td>-</td></tr><tr><td>760+00 - 870+00</td><td>LT & RT</td><td>38023</td><td>11000</td><td>-</td><td>-</td></tr><tr><td>870+00 - 980+00</td><td>LT & RT</td><td>37304</td><td>11000</td><td>-</td><td>-</td></tr><tr><td>980+00 - 1090+00</td><td>LT & RT</td><td>37389</td><td>11000</td><td>-</td><td>-</td></tr><tr><td>1090+00 - 1116+70</td><td>LT & RT</td><td>9913</td><td>2700</td><td>33</td><td>-</td></tr><tr><td>SIDEROADS</td><td>LT & RT</td><td>-</td><td>-</td><td>-</td><td>7460</td></tr><tr><td>DRIVEWAYS</td><td>LT & RT</td><td>-</td><td>-</td><td>-</td><td>110</td></tr><tr><td colspan="2">PROJECT TOTAL</td><td>159,565</td><td>46,700</td><td>67</td><td>7,570</td></tr></table>												204.0120	204.0126.S	204.0115	204.0110			REMOVING ASPHALTIC SURFACE MILLING	REMOVING ASPHALTIC LONGITUDINAL NOTCHED WEDGE JOINT MILLING	REMOVING ASPHALTIC SURFACE BUTT JOINTS	REMOVING ASPHALTIC SURFACE	STATION	LOCATION	SY	LF	SY	SY	650+00 - 760+00	LT & RT	36936	11000	33	-	760+00 - 870+00	LT & RT	38023	11000	-	-	870+00 - 980+00	LT & RT	37304	11000	-	-	980+00 - 1090+00	LT & RT	37389	11000	-	-	1090+00 - 1116+70	LT & RT	9913	2700	33	-	SIDEROADS	LT & RT	-	-	-	7460	DRIVEWAYS	LT & RT	-	-	-	110	PROJECT TOTAL		159,565	46,700	67	7,570	PREPARE FOUNDATION FOR ASPHALTIC PAVING <table><tr><th colspan="2"></th><th>211.0101</th></tr><tr><th>PROJECT</th><th>EACH</th><th></th></tr><tr><td>01. 8140-00-78</td><td>1</td><td></td></tr><tr><td>PROJECT TOTAL</td><td>1</td><td></td></tr></table>						211.0101	PROJECT	EACH		01. 8140-00-78	1		PROJECT TOTAL	1		FINISHING ROADWAY <table><tr><th colspan="2"></th><th>213.0100</th></tr><tr><th>PROJECT</th><th>EACH</th><th></th></tr><tr><td>01. 8140-00-78</td><td>1</td><td></td></tr><tr><td>PROJECT TOTAL</td><td>1</td><td></td></tr></table>						213.0100	PROJECT	EACH		01. 8140-00-78	1		PROJECT TOTAL	1																																																																																																																																								
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		203.0100	204.9060.S	521.6124	521.6130	525.0324	525.0330	525.0336	525.0348	633.5200																																																																																																																																																																																																																																								
		REMOVING SMALL PIPE CULVERTS	REMOVAL COMMENTS	01. REMOVING ENDWALLS	STEEL ALUMINUM CORRUGATED COATED 24-INCH	STEEL ALUMINUM CORRUGATED COATED 30-INCH	APRON ENDWALLS FOR CULVERT PIPE ALUMINUM 24-INCH	APRON ENDWALLS FOR CULVERT PIPE ALUMINUM 30-INCH	APRON ENDWALLS FOR CULVERT PIPE ALUMINUM 36-INCH	APRON ENDWALLS FOR CULVERT PIPE ALUMINUM 48-INCH	MARKERS CULVERT END																																																																																																																																																																																																																																							
INLET	OUTLET	PIPE																																																																																																																																																																																																																																																
STATION	OFFSET	ELEV. (FT)	STATION	OFFSET	ELEV. (FT)	SLOPE (%)	THICKNESS	EACH	EACH	LF	LF	EACH	EACH	EACH	EACH	EACH																																																																																																																																																																																																																																		
756+25	40.0	1304.66	756+25	46.0	1303.88	0.91%	0.079	1	30-INCH CMP	-	-	86	-	2	-	-	2																																																																																																																																																																																																																																	
789+75	42.0	1387.59	789+75	54.0	1382.35	5.46%	0.064	1	24-INCH CMP	-	96	-	2	-	-	-	2																																																																																																																																																																																																																																	
877+62	64.0	1305.10	877+58	76.0	1301.77	2.38%	0.079	1	30-INCH CMP	-	-	140	-	2	-	-	2																																																																																																																																																																																																																																	
909+39	48.0	1338.58	910+18	65.0	1327.18	8.26%	0.064	1	24-INCH CMP	-	138	-	2	-	-	-	2																																																																																																																																																																																																																																	
948+68	43.0	1286.02	948+61	53.0	1282.40	3.77%	0.064	1	24-INCH CMP	-	96	-	2	-	-	-	2																																																																																																																																																																																																																																	
974+43	33.0	1207.25	974+43	53.0	1202.92	5.03%	0.064	1	24-INCH CMP	-	86	-	2	-	-	-	2																																																																																																																																																																																																																																	
1041+18	-	-	1041+18	-	-	-	0.079	-	24-INCH CMP	2	-	-	-	-	2	-	2																																																																																																																																																																																																																																	
1053+11	-	-	1053+11	-	-	-	0.109	-	24-INCH CMP	2	-	-	-	-	-	2	2																																																																																																																																																																																																																																	
PROJECT TOTAL								6	4	416	226	8	4	2	2	16																																																																																																																																																																																																																																		

HMA PAVEMENT ITEMS									
		455.0605	460.6644	460.9000.S	465.0105	465.0110	465.0120	465.0560	REMARKS
		TACK COAT	HMA PAVEMENT 4 MT 58-34 V	MATERIAL TRANSFER VEHICLE	ASPHALTIC SURFACE	ASPHALTIC SURFACE PATCHING	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	ASPHALTIC RUMBLE STRIPS, CENTERLINE	
STATION	LOCATION	GAL	TON	EACH	TON	TON	TON	LF	
650+00 - 760+00	LT & RT	4610	8070	1	90	50	-	10549	DRIVING LANE, SHOULDERS, INTERSECTIONS, CULVERT PATCHES
760+00 - 870+00	RT	4692	8210	-	90	50	-	10400	DRIVING LANE, SHOULDERS, INTERSECTIONS, CULVERT PATCHES
870+00 - 980+00	LT & RT	4620	8090	-	360	200	-	10200	DRIVING LANE, SHOULDERS, INTERSECTIONS, CULVERT PATCHES
980+00 - 1090+00	LT & RT	4693	8220	-	-	-	-	10121	DRIVING LANE, SHOULDERS, INTERSECTIONS, CULVERT PATCHES
1090+00 - 1116+70	RT	1345	2360	-	-	-	-	-	DRIVING LANE, SHOULDERS, INTERSECTIONS
674+22	LT	-	-	-	-	-	2	-	DRIVEWAY
947+05	LT	-	-	-	-	-	2	-	DRIVEWAY
985+97	RT	-	-	-	-	-	5	-	DRIVEWAY
1048+48	LT	-	-	-	-	-	4	-	DRIVEWAY
1050+70	LT	-	-	-	-	-	3	-	DRIVEWAY
1078+45	LT	-	-	-	-	-	6	-	DRIVEWAY
1084+55	RT	-	-	-	-	-	4	-	DRIVEWAY
1088+21	LT	-	-	-	-	-	4	-	DRIVEWAY
PROJECT TOTAL		19,960	34,950	1	540	300	30	41,270	

PWL ITEMS			
		460.0105.S	460.0110.S
		HMA PERCENT WITHIN LIMITS {PWL} TEST STRIP VOLUMETRICS	HMA PERCENT WITHIN LIMITS {PWL} TEST STRIP DENSITY
STATION - STATION	LOCATION	EACH	EACH
650+00 - 1116+70	LT & RT	1	2
PROJECT TOTAL		1	2

PWL MIXTURE USE TABLE

LOCATION	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR:	
							MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
12 FOOT DRIVING LANE	650+00 TO 1116+70	UPPER LAYER	4 MT 58-34 V	4 MT 58-34 V	12,200	1 3/4"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
12 FOOT DRIVING LANE	650+00 TO 1116+70	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-34 V	13,940	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
3 FOOT SHOULDER	650+00 TO 1089+10	UPPER LAYER	4 MT 58-34 V	4 MT 58-34 V	2,870	1 3/4"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
3 FOOT SHOULDER	650+00 TO 1089+11	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-34 V	3,280	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
TURNING LANE	806+51 TO 1093+70	UPPER LAYER	4 MT 58-34 V	4 MT 58-34 V	285	1 3/4"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
TURNING LANE	806+51 TO 1093+70	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-34 V	327	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
BYPASS LANE	806+75 TO 814+67	UPPER LAYER	4 MT 58-34 V	4 MT 58-34 V	68	1 3/4 "	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
BYPASS LANE	806+75 TO 814+67	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-34 V	78	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
BEAMGUARD	883+40 TO 891+68	UPPER LAYER	4 MT 58-34 V	4 MT 58-34 V	29	1 3/4"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
BEAMGUARD	883+40 TO 891+68	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-34 V	33	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
4 FOOT SHOULDER	1093+70 TO 1116+70	UPPER LAYER	4 MT 58-34 V	4 MT 58-34 V	230	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
4 FOOT SHOULDER	1093+70 TO 1116+70	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-34 V	200	1 3/4 "	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
INTERSECTIONS	650+00 TO 1116+70	UPPER LAYER	4 MT 58-34 V	4 MT 58-34 V	660	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
INTERSECTIONS	650+00 TO 1116+70	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-34 V	750	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE OR DISINCENTIVE
VARIOUS	650+00 TO 1116+70	CULVERT PATCHES	BASE AGGREGATE	ASPHALTIC SURFACE	540	4" TOTAL	QMP AS PER SS 465	ACCEPTANCE BY ORDINARY COMPACTION

3

		RESTORATION					
		625.0500	627.0200	629.0210	630.0130	630.0200	630.0500
		SALVAGED TOPSOIL	MULCHING	FERTILIZER TYPE B	SEEDING MIXTURE NO. 30	SEEDING TEMPORARY	SEED WATER
STATION	LOCATION	SY	SY	CWT	LB	LB	MGAL
756+26	LT & RT	192	192	0.12	5	6	5
789+75	LT & RT	205	-	0.13	6	6	5
877+60	LT & RT	385	385	0.24	10	11	9
909+75	LT & RT	397	397	0.25	11	11	9
948+65	LT & RT	163	69	0.10	4	5	4
974+43	LT & RT	177	176	0.11	5	5	4
UNDISTRIBUTED (25%)		380	300	0.24	10	11	9
PROJECT TOTALS		1,900	1,520	1.20	52	55	45

FIELD OFFICE TYPE B	
	642.5001
PROJECT	EACH
8140-00-78	1
PROJECT TOTAL	1

TRAFFIC CONTROL	
	643.5000
PROJECT	EACH
8140-00-78	1
PROJECT TOTAL	1

3

PERMANENT SIGNING ITEMS					
	637.2210	637.2230	638.2102	638.3000	634.0618
	SIGNS TYPE II REFLECTIVE H	SIGNS TYPE II REFLECTIVE F	MOVING SIGNS TYPE II	REMOVING SMALL SIGN SUPPORTS	POSTS WOOD 4X6-INCH X 18-FT
STATION - STATION	LOCATION	SF	SF	EACH	EACH
650+00 - 1116+70	STH 27	40.00	40.00	10	10
PROJECT TOTAL		40.00	40.00	10	10

NOTE: UNDISTRIBUTED SIGNING QUANTITIES PROVIDED FOR MISCELLANEOUS IMPACTS

		EROSION CONTROL							
		606.0200	628.1504	628.1520	628.1905	628.1910	628.2008	628.7555	645.0120
		RIPRAP MEDIUM	SILT FENCE	SILT FENCE MAINTENANCE	MOBILIZATIONS EROSION CONTROL	MOBILIZATIONS EMERGENCY EROSION CONTROL	EROSION MAT URBAN CLASS I TYPE B	CULVERT PIPE CHECKS	GEOTEXTILE TYPE HR
STATION	LOCATION	CY	LF	LF	EACH	EACH	SY	EACH	SY
PROJECT LENGTH	LT/RT	-	-	-	7	3	-	-	-
756+26	LT	8.3	220	220	-	-	-	4	17
789+75	LT	5.3	-	-	-	-	205	3	11
877+60	LT	8.3	180	180	-	-	-	4	17
910+00	RT	5.3	300	300	-	-	-	3	11
948+65	RT	5.3	150	150	-	-	95	3	11
974+43	LT	5.3	150	150	-	-	-	3	11
UNDISTRIBUTED (25%)			250	250			80		
PROJECT TOTAL		38	1,250	1,250	7	3	380	20	76

PROJECT NO: 8140-00-78

HWY: STH 27

COUNTY: SAWYER

MISCELLANEOUS QUANTITIES

SHEET

23

E

TRAFFIC CONTROL ITEMS														
APPROX. SERVICE			643.0300	643.0420		643.0705		643.0900	643.0920		643.1050			
			TRAFFIC CONTROL DRUMS	TRAFFIC CONTROL BARRICADES TYPE III		TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL COVERING SIGNS TYPE II		TRAFFIC CONTROL SIGNS PCMS			
STAGE	PROJECT LOCATION	PERIOD DAYS	QTY.	DAY	QTY.	DAY	QTY.	DAY	QTY.	DAY	EACH	QTY.	DAY	REMARKS
-	BEGIN/END PROJECT	7	10	70	-	-	-	-	-	-	-	2	14	PRIOR TO CONSTRUCTION
1	BEGIN/END PROJECT	78	-	-	-	-	-	-	10	780	-	-	-	SEE SDD 15C04
1	DETOURS	12	-	-	-	-	-	-	285	3,420	5	-	-	SEE DETOUR PLAN SHEET
1	BEGIN/END PROJECT	12	-	-	4	48	8	96	2	24	-	-	-	SEE SDD 15C02-B
1	INTERSECTIONS	12	-	-	24	288	48	576	72	864	-	-	-	SEE SDD 15C03
2	MAINLINE	66	-	-	-	-	-	-	6	396	-	-	-	SEE SDD 15C12-A
PROJECT TOTAL				70		336		672		5,484		5	14	

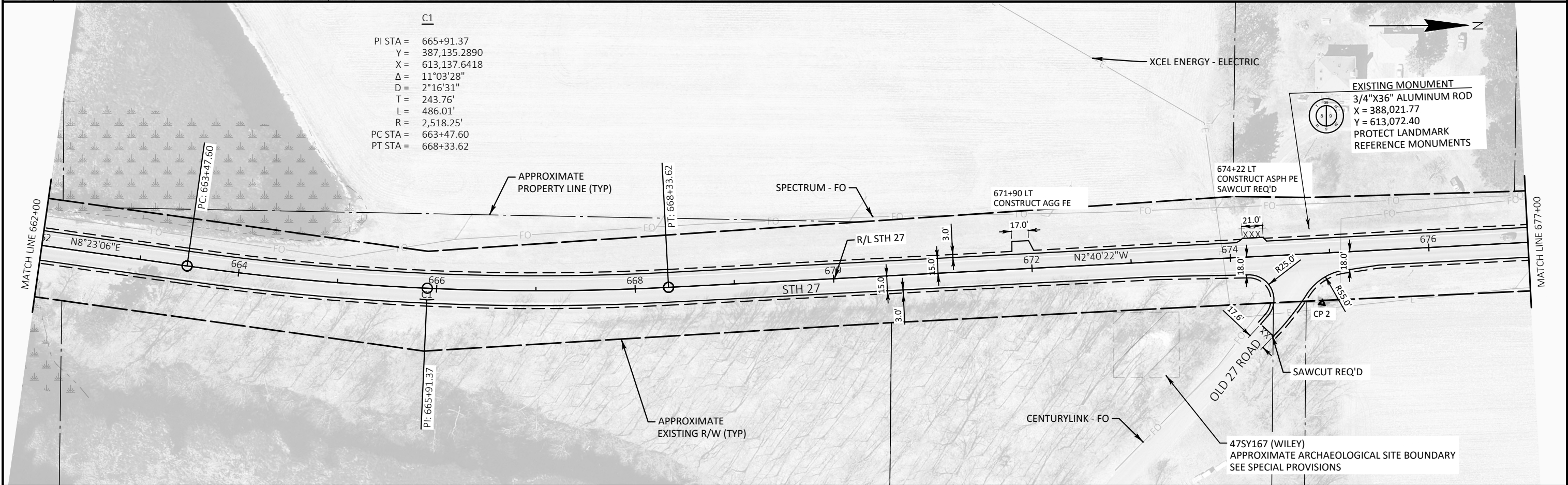
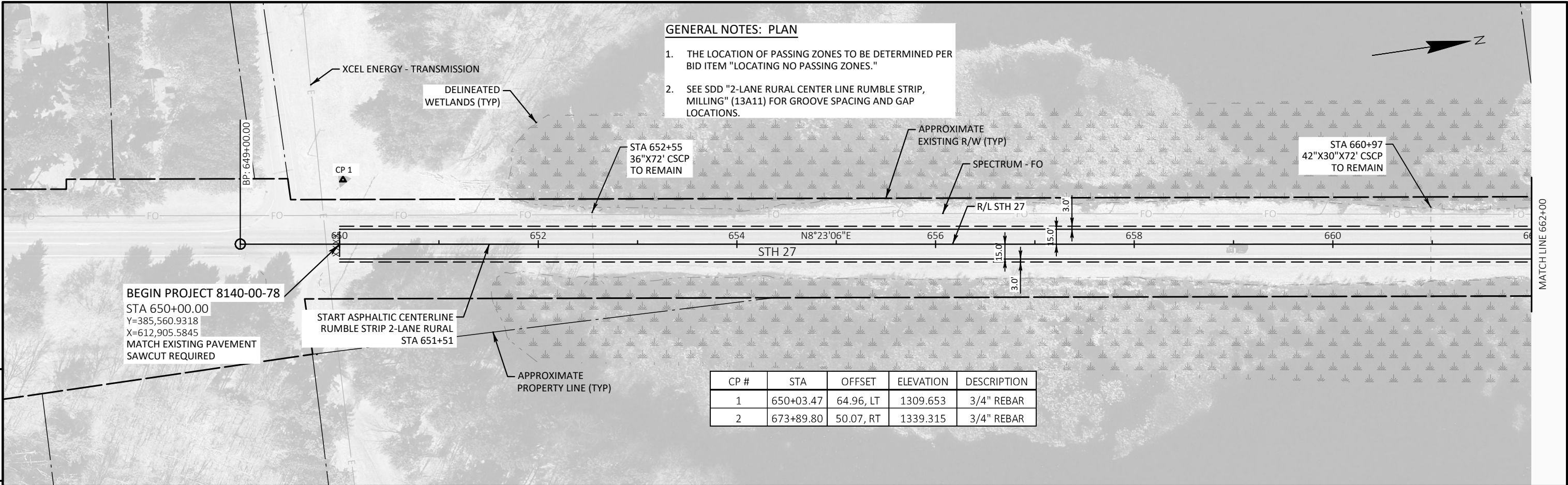
PAVEMENT MARKING									
		643.3165	643.3170	646.2020	646.2040	626.4020	646.5020	646.5120	646.6120
		TEMPORARY MARKING LINE PAINT 6-INCH	TEMPORARY MARKING LINE EPOXY 6-INCH	MARKING LINE EPOXY 6-INCH	MARKING LINE GROOVED WET REF EPOXY 6-INCH	MARKING LINE EPOXY 10-INCH	MARKING ARROW EPOXY	MARKING WORD EPOXY	MARKING STOP LINE EPOXY 18-INCH
STATION	LOCATION	LF	MI	LF	LF	LF	EACH	EACH	LF
650+00 - 1116+70	LT & RT	158880	79440		169860	-	-	-	140
807+64 - 812+50	LT & RT	-	-	120	-	276	2	1	-
1043+19 - 1045+23	RT	-	-	-	-	206	2	1	-
1088+88 - 1092+34	LT & RT	-	-	-	-	208	4	2	-
PROJECT TOTAL		158,880	79,440	120	169,860	690	8	4	140

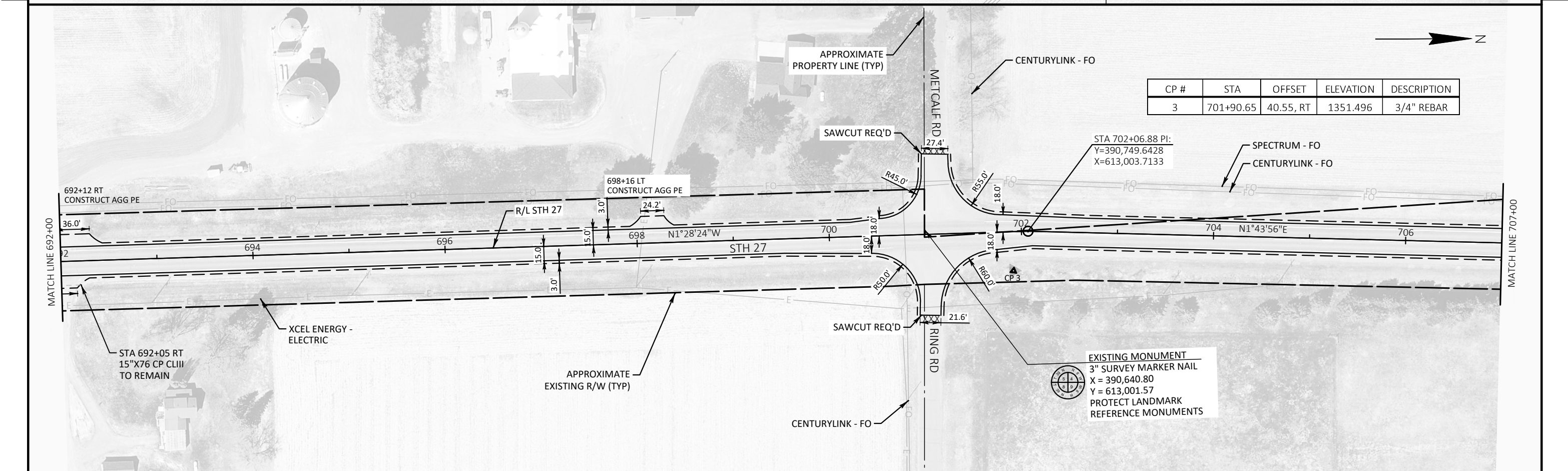
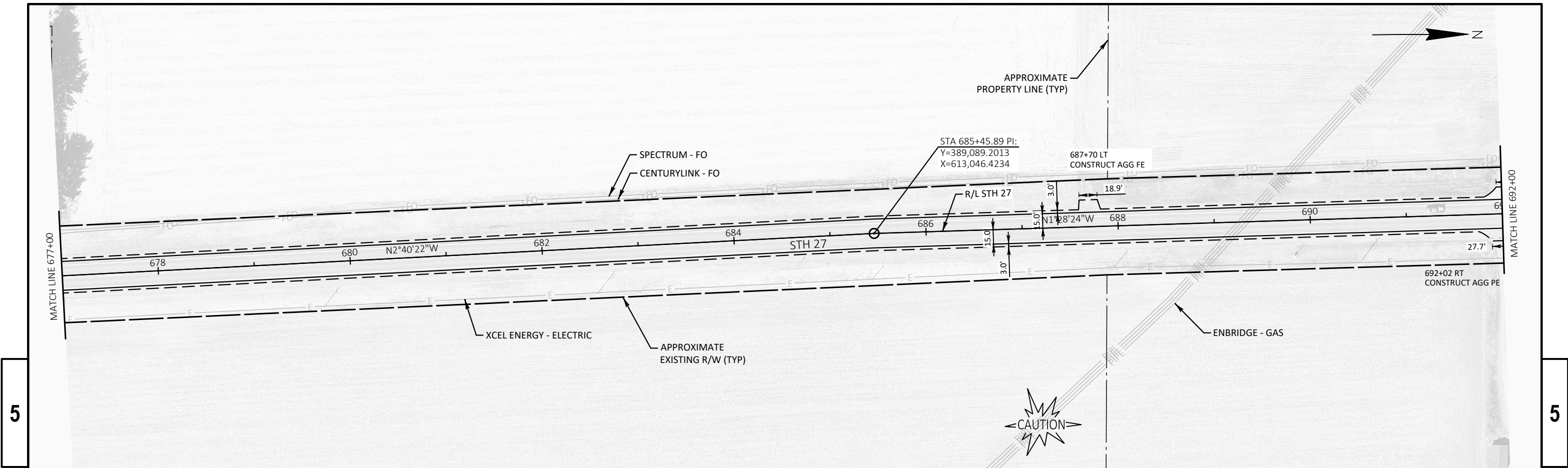
- NOTES
- 1) STOP LINE TO BE PLACED AT THE FOLLOWING LOCATIONS: CTH K, FUN VALLEY RD, PARK RD, RAVEN RD, AND CAROL DR.
- 2) TEMPORARY MARKING LINE PAINT 6-INCH YELLOW TO BE PLACED ON MILLED SURFACE AND LOWER LAYER.
- 3) TEMPORARY MARKING LINE EPOXY 6-INCH YELLOW TO BE PLACED ON FINAL UPPER LAYER BEFORE CENTERLINE RUMBLES.

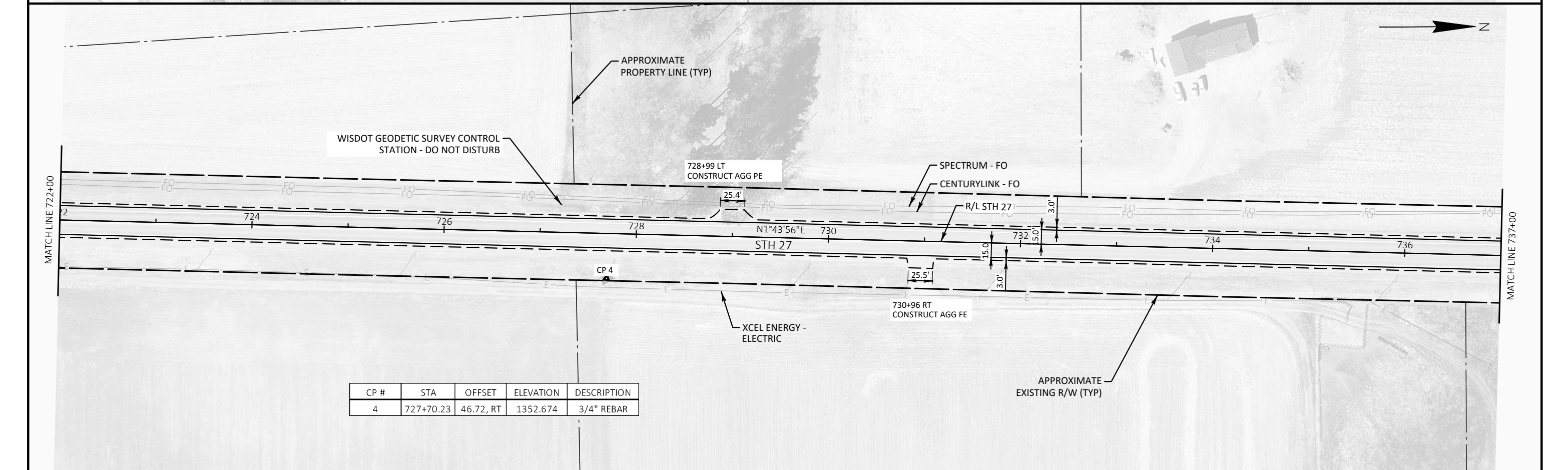
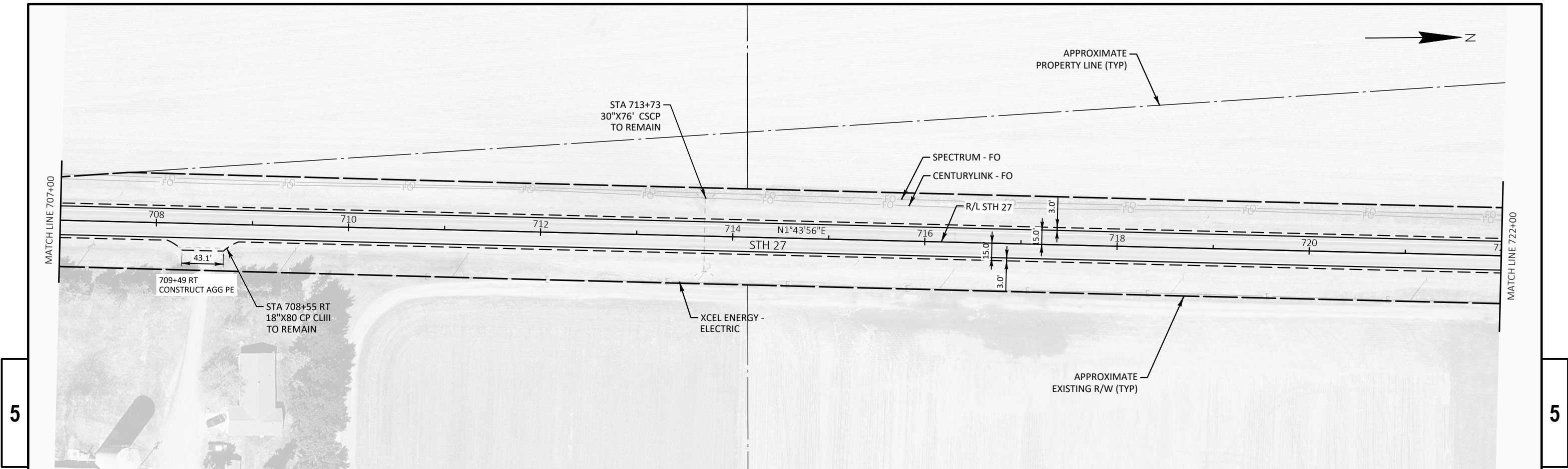
CONSTRUCTION STAKING				
		650.6000	650.8000	650.9911
		PIPE CULVERTS	RESURFACING REFERENCE	SUPPLEMENTAL CONTROL 01. 8140-00-78
STATION	LOCATION	EACH	LF	EACH
PROJECT LENGTH	LT & RT	6	46670	1
PROJECT TOTAL		6	46,670	1

SAWING		
		690.0150
		SAWING ASPHALT
STATION	LOCATION	LF
650+00 - 1116+70	LT & RT	1070
PROJECT TOTAL		1,070

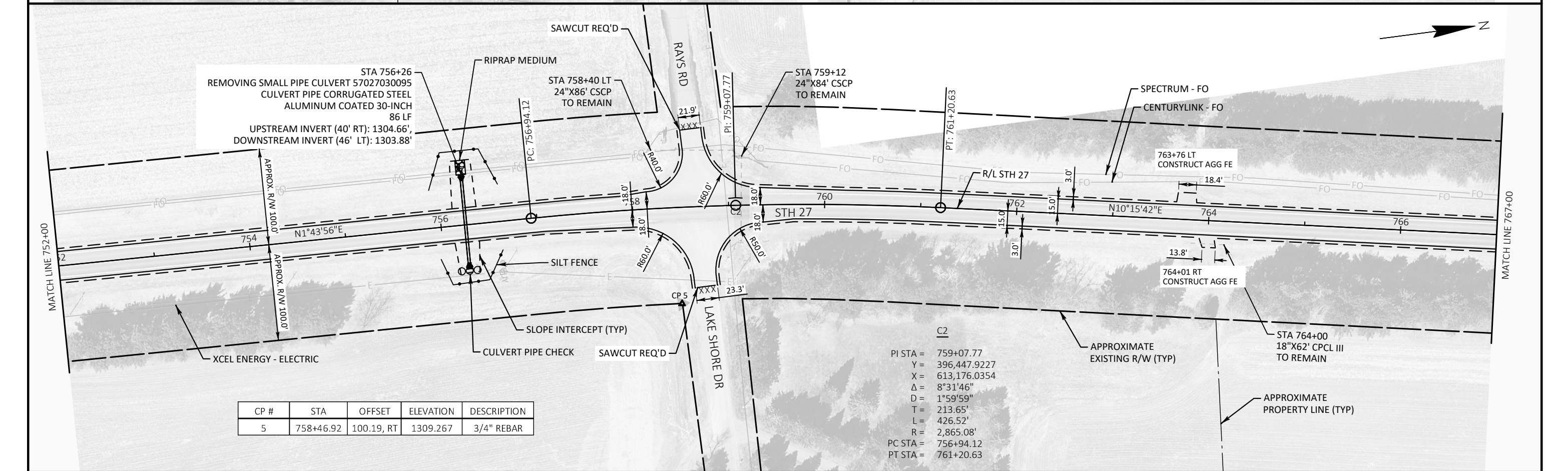
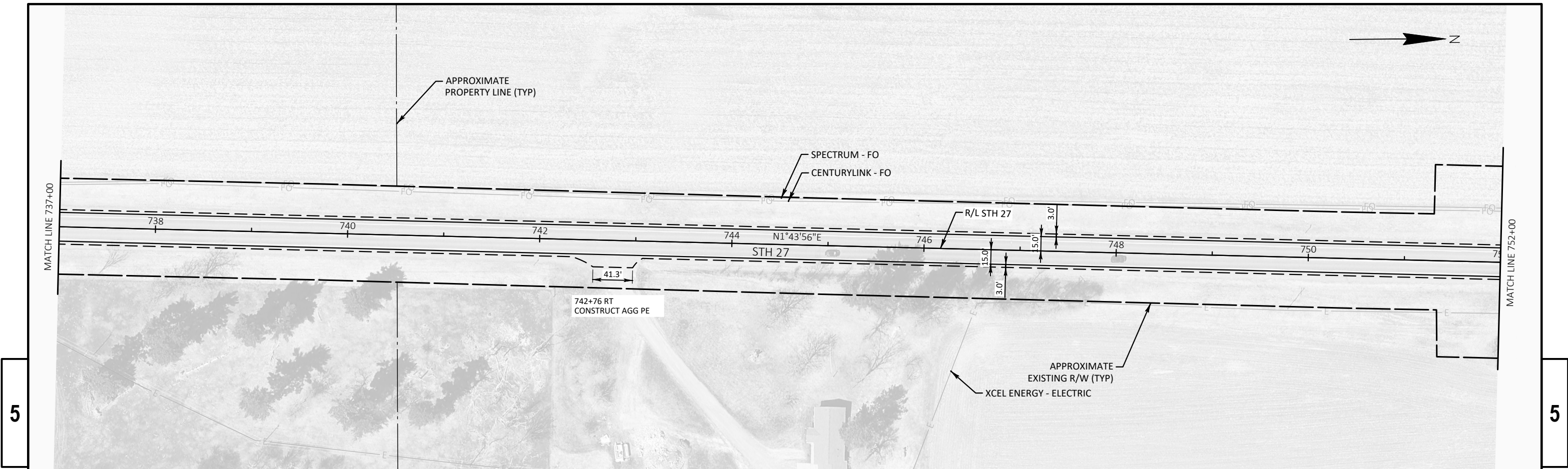
REPAIR 24-INCH CULVERT JOINT SEPARATION		
		SPV.0060.01
STATION	LOCATION	EACH
1003+22	LT	1
PROJECT TOTAL		1





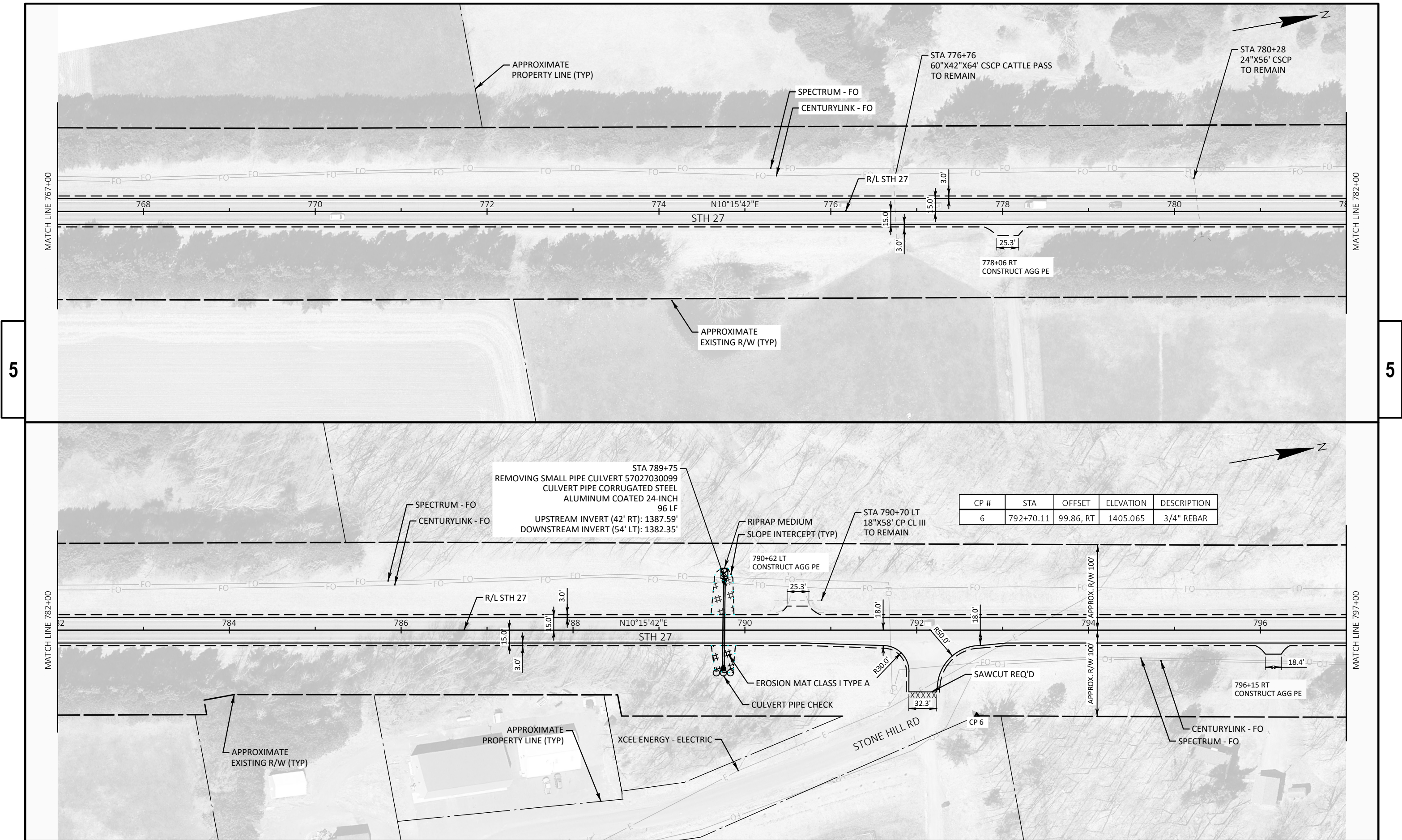


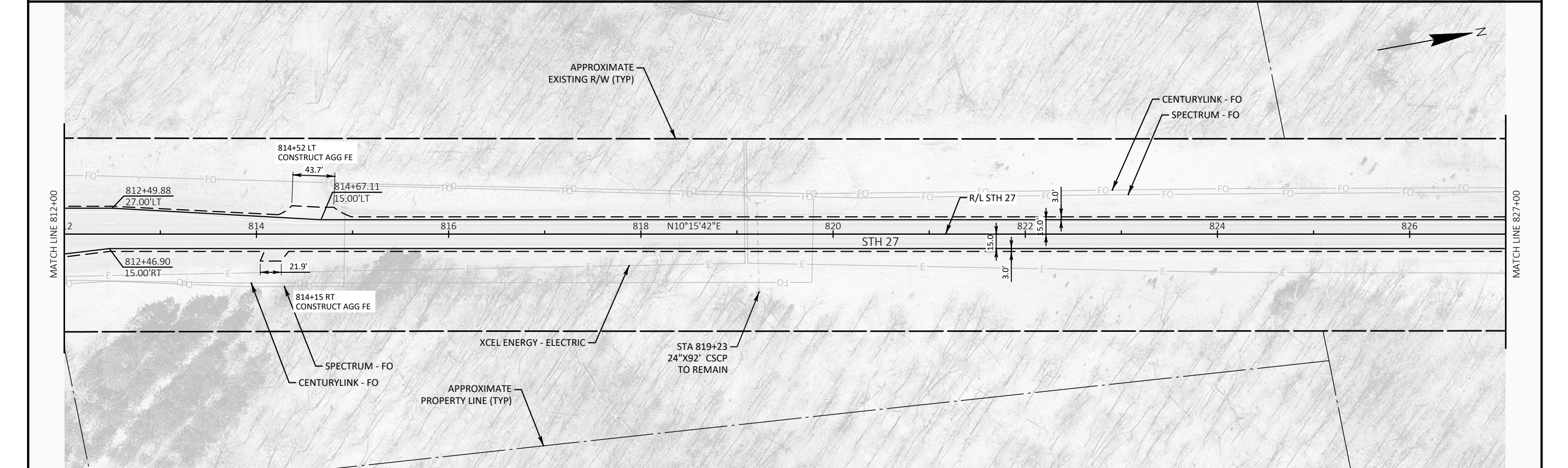
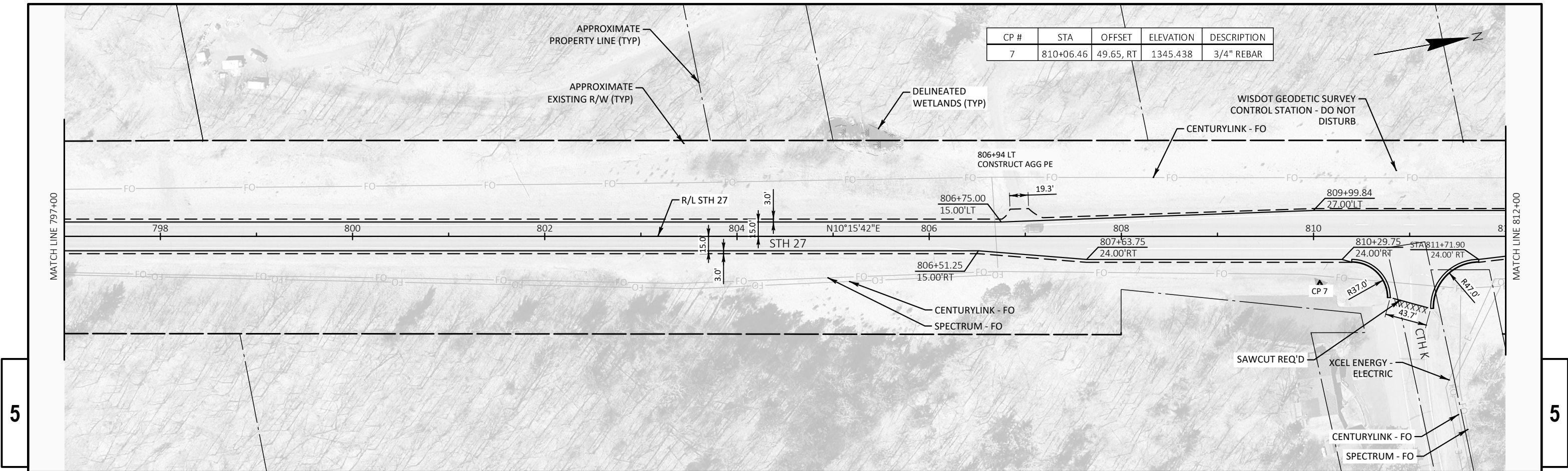
CP #	STA	OFFSET	ELEVATION	DESCRIPTION
4	727+70.23	46.72, RT	1352.674	3/4" REBAR

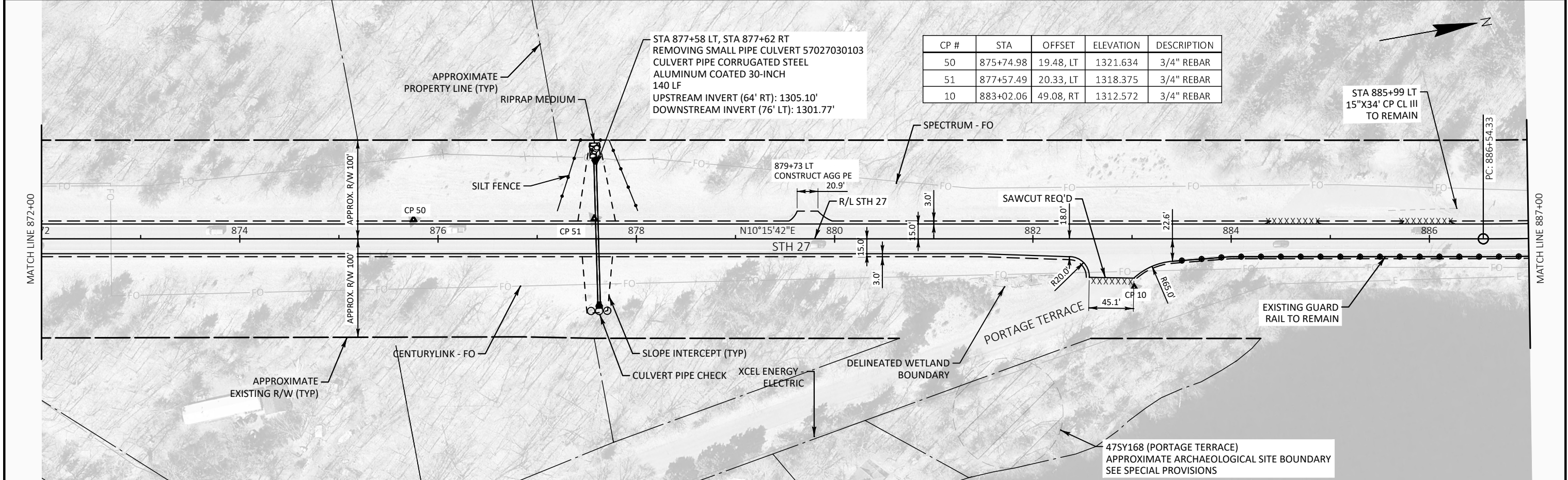
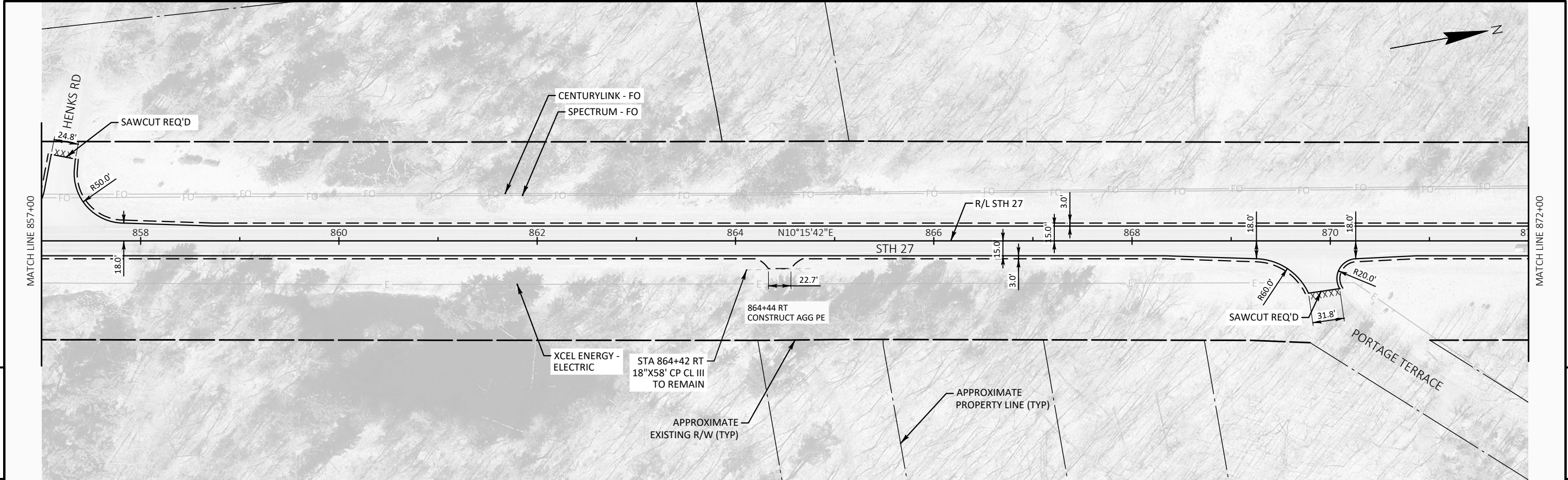


CP #	STA	OFFSET	ELEVATION	DESCRIPTION
5	758+46.92	100.19, RT	1309.267	3/4" REBAR

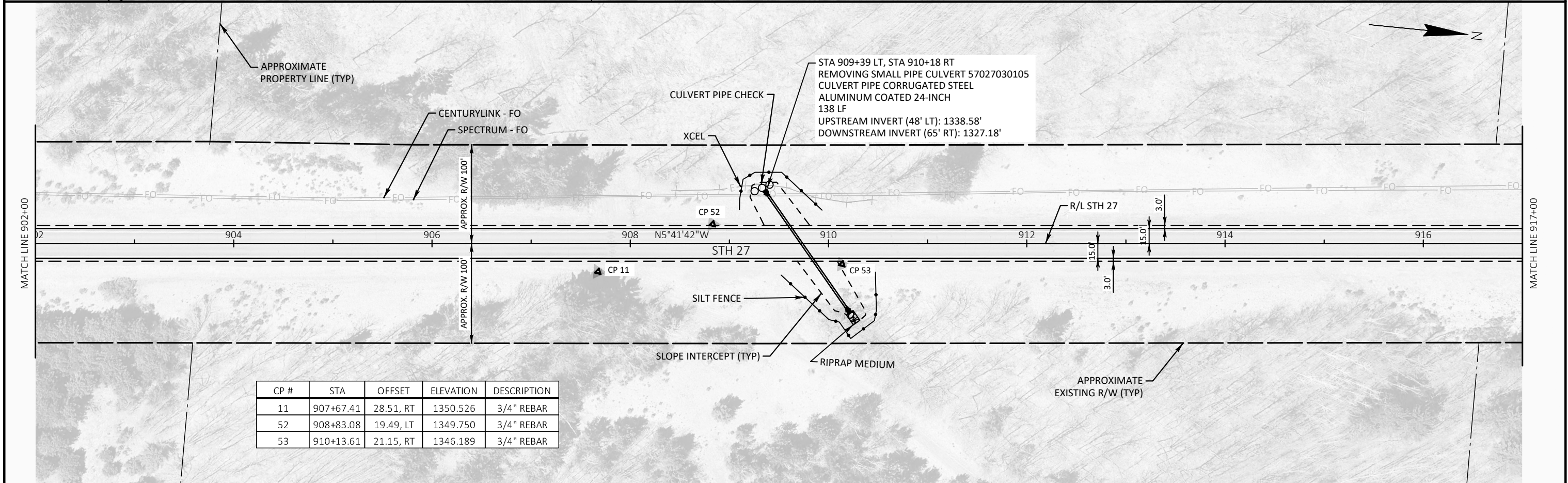
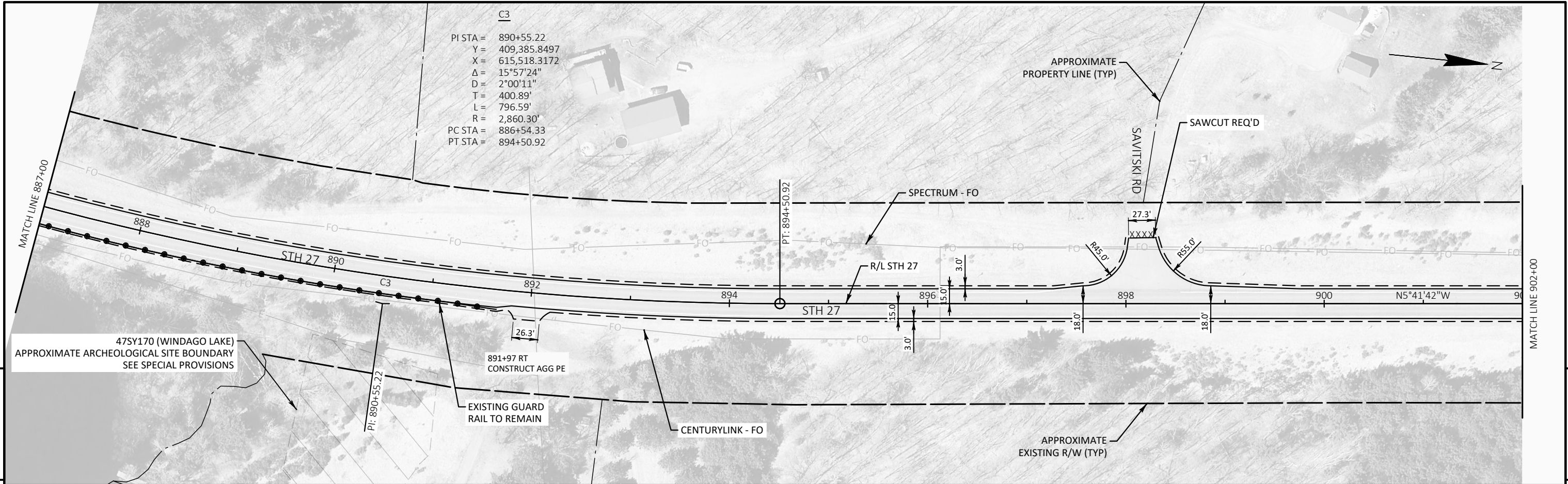
C2
 PI STA = 759+07.77
 Y = 396,447.9227
 X = 613,176.0354
 Δ = 8°31'46"
 D = 1°59'59"
 T = 213.65'
 L = 426.52'
 R = 2,865.08'
 PC STA = 756+94.12
 PT STA = 761+20.63



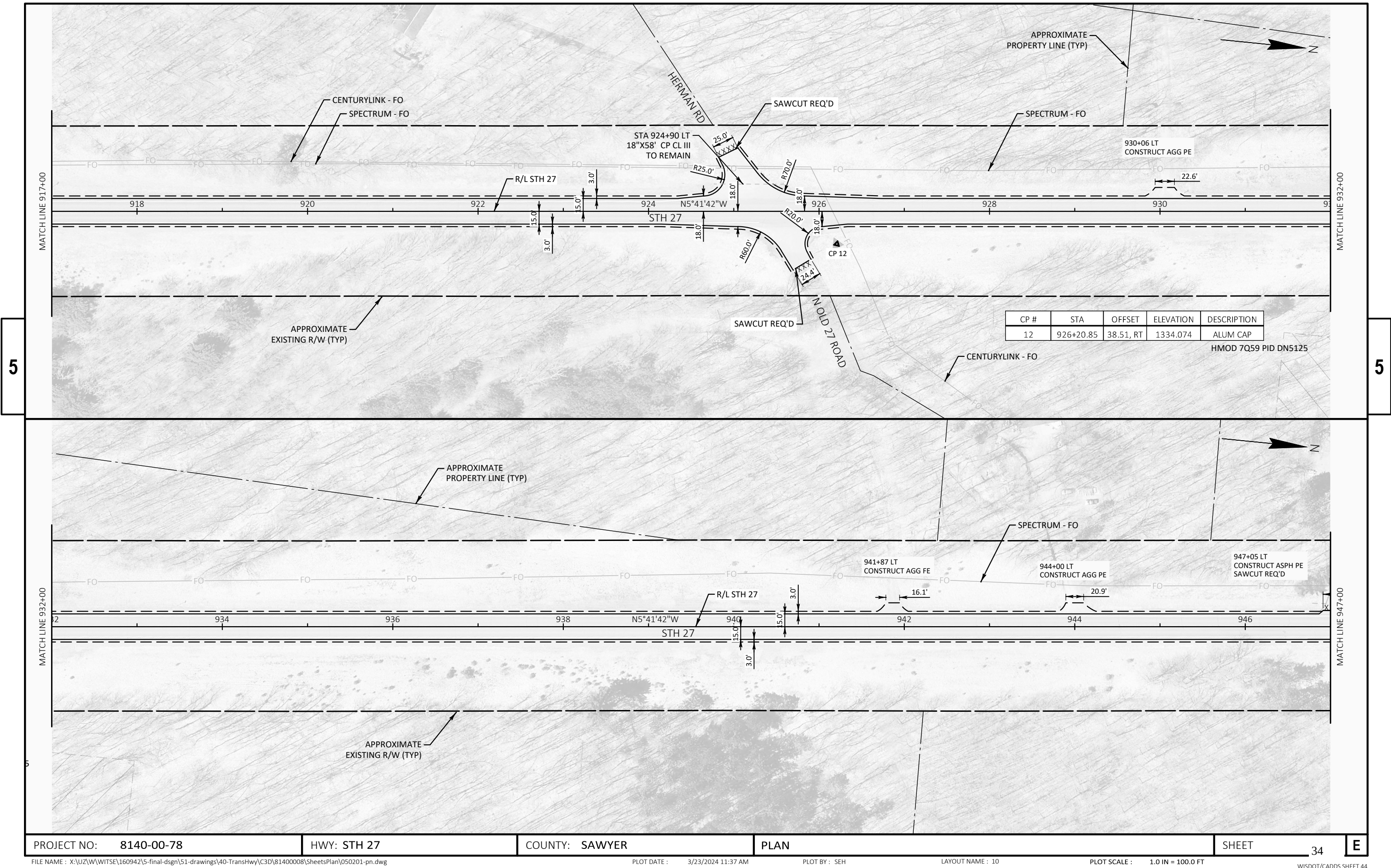


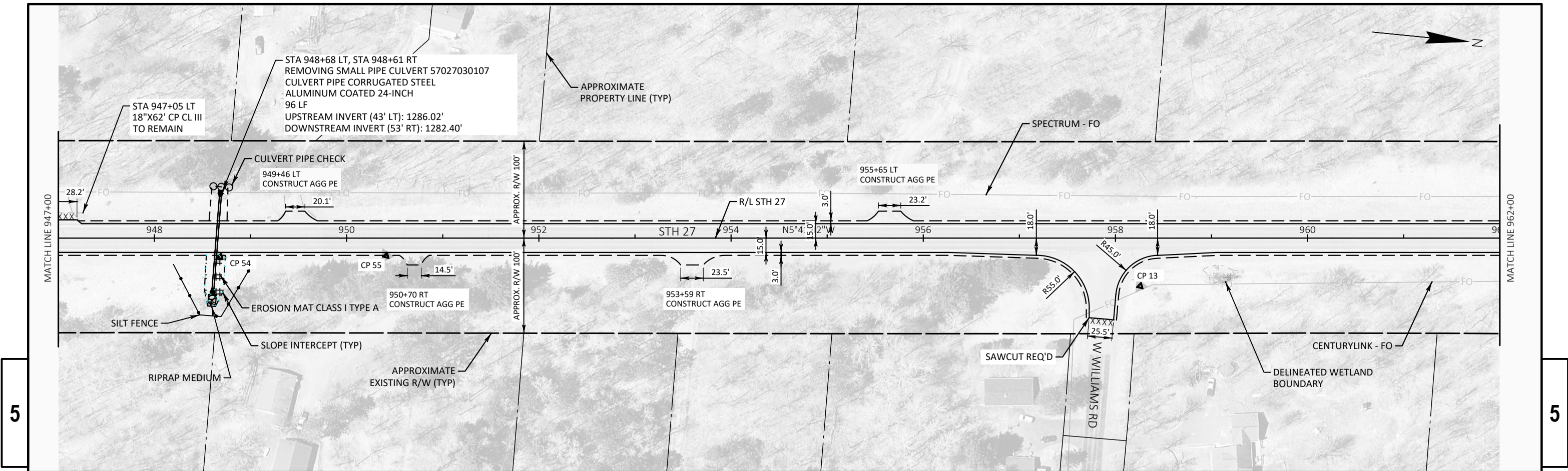


CP #	STA	OFFSET	ELEVATION	DESCRIPTION
50	875+74.98	19.48, LT	1321.634	3/4" REBAR
51	877+57.49	20.33, LT	1318.375	3/4" REBAR
10	883+02.06	49.08, RT	1312.572	3/4" REBAR

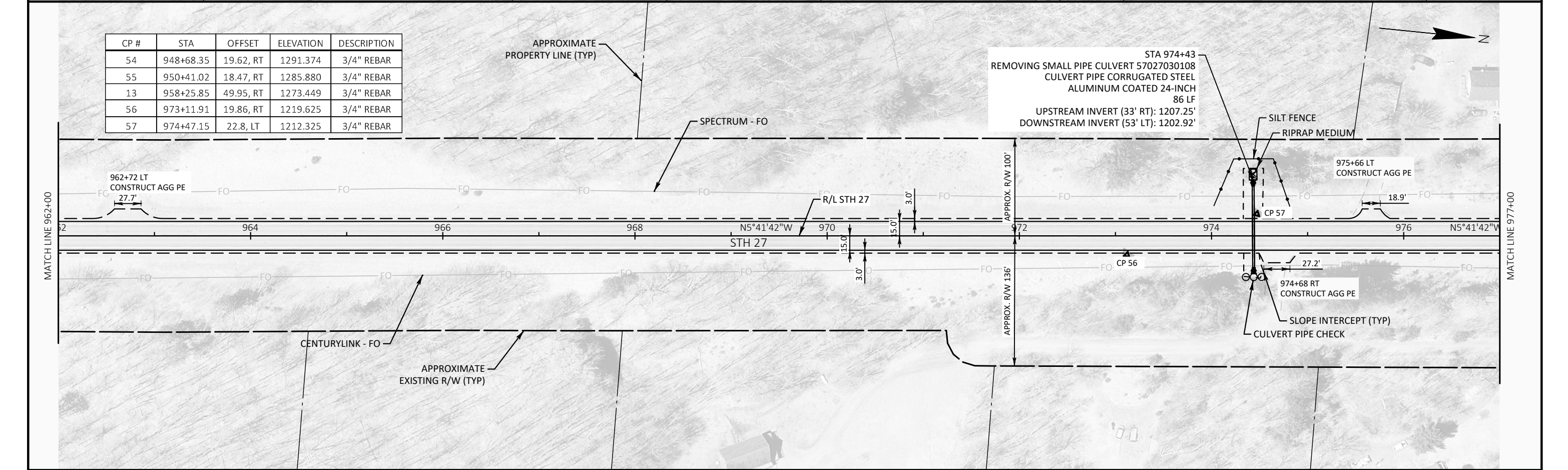


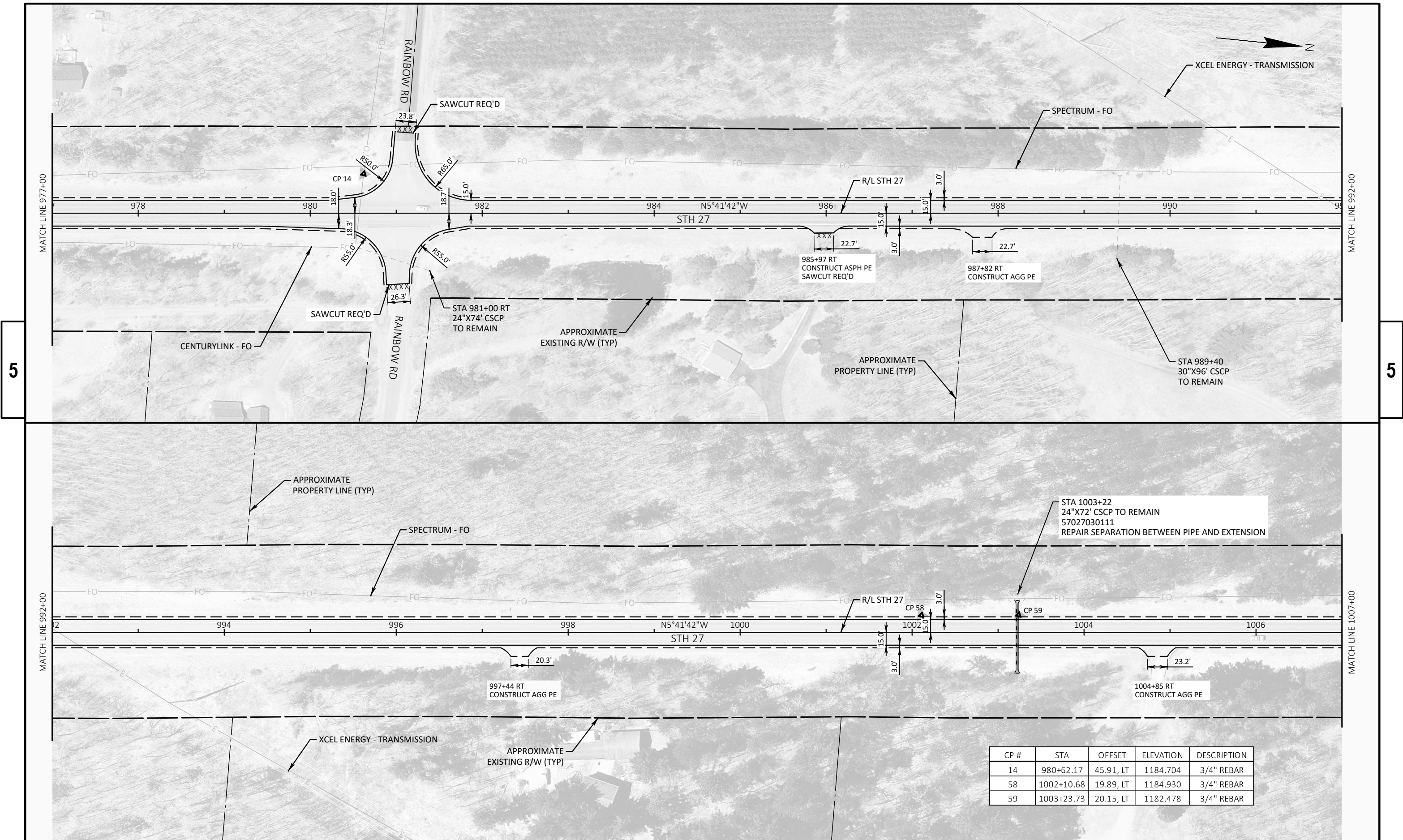
CP #	STA	OFFSET	ELEVATION	DESCRIPTION
11	907+67.41	28.51, RT	1350.526	3/4" REBAR
52	908+83.08	19.49, LT	1349.750	3/4" REBAR
53	910+13.61	21.15, RT	1346.189	3/4" REBAR



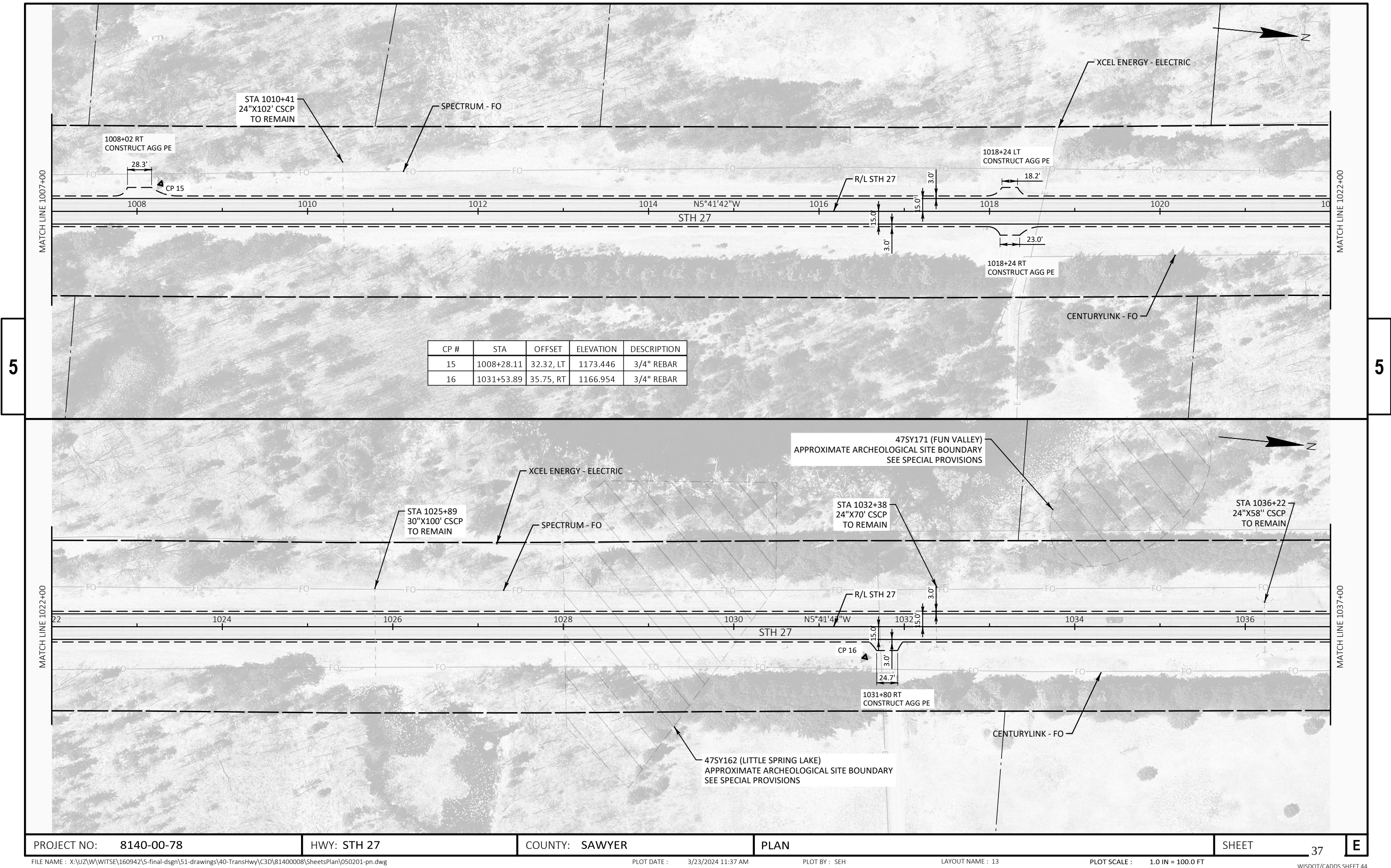


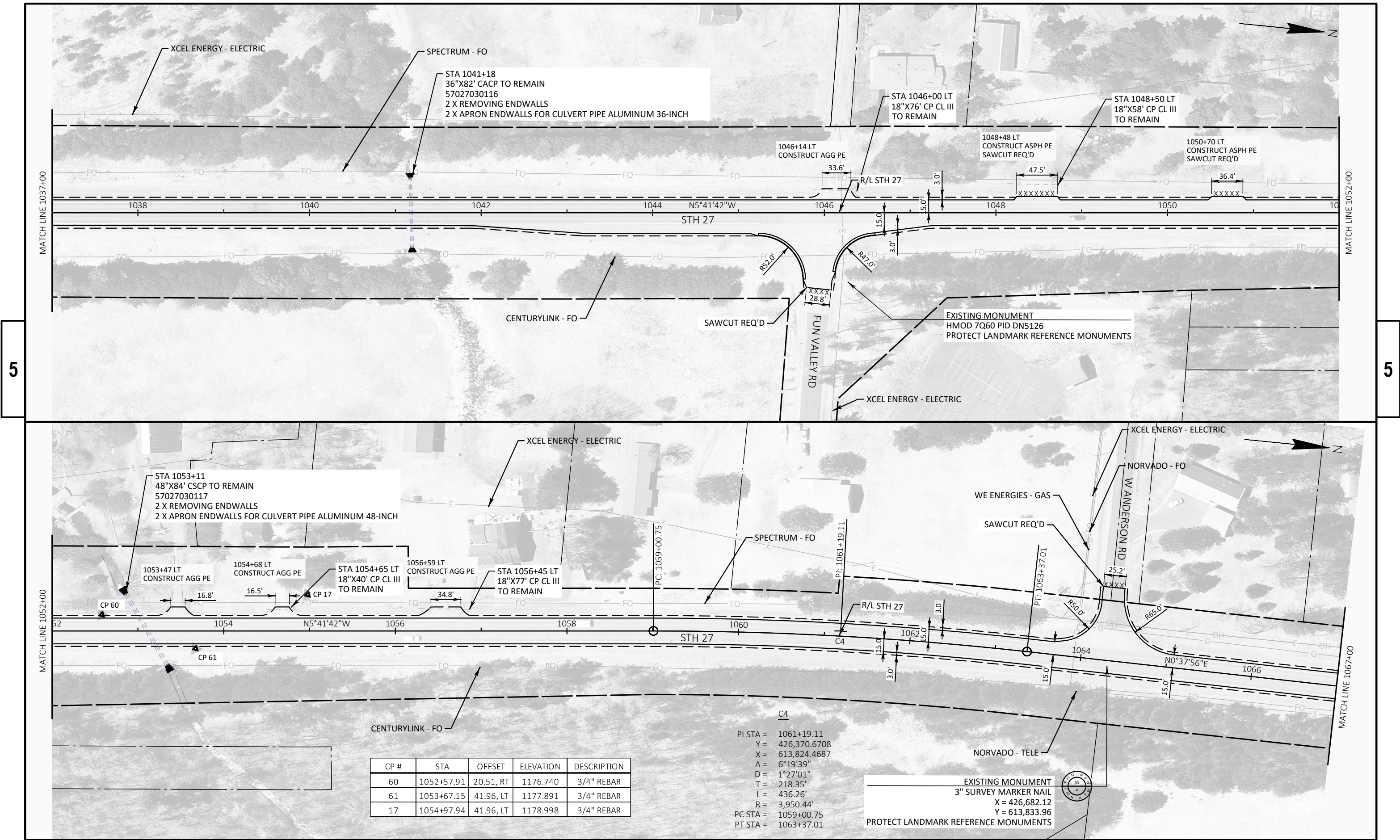
CP #	STA	OFFSET	ELEVATION	DESCRIPTION
54	948+68.35	19.62, RT	1291.374	3/4" REBAR
55	950+41.02	18.47, RT	1285.880	3/4" REBAR
13	958+25.85	49.95, RT	1273.449	3/4" REBAR
56	973+11.91	19.86, RT	1219.625	3/4" REBAR
57	974+47.15	22.8, LT	1212.325	3/4" REBAR

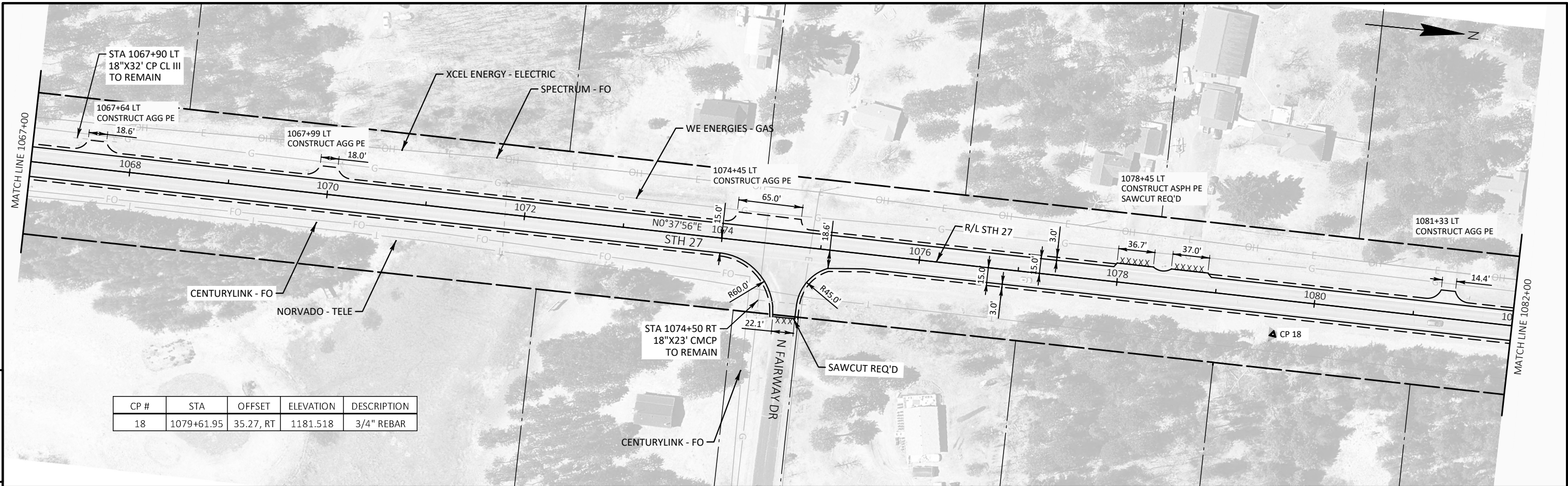




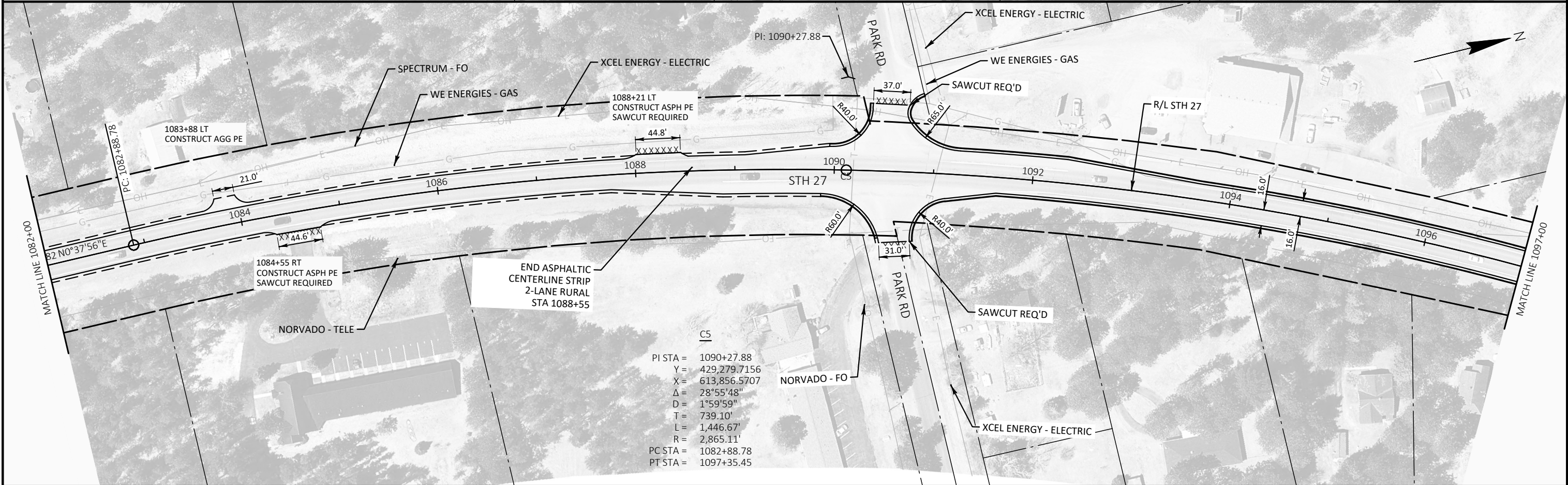
CP #	STA	OFFSET	ELEVATION	DESCRIPTION
14	980+62.17	45.91, LT	1184.704	3/4" REBAR
58	1002+10.68	19.89, LT	1184.930	3/4" REBAR
59	1003+23.73	20.15, LT	1182.478	3/4" REBAR





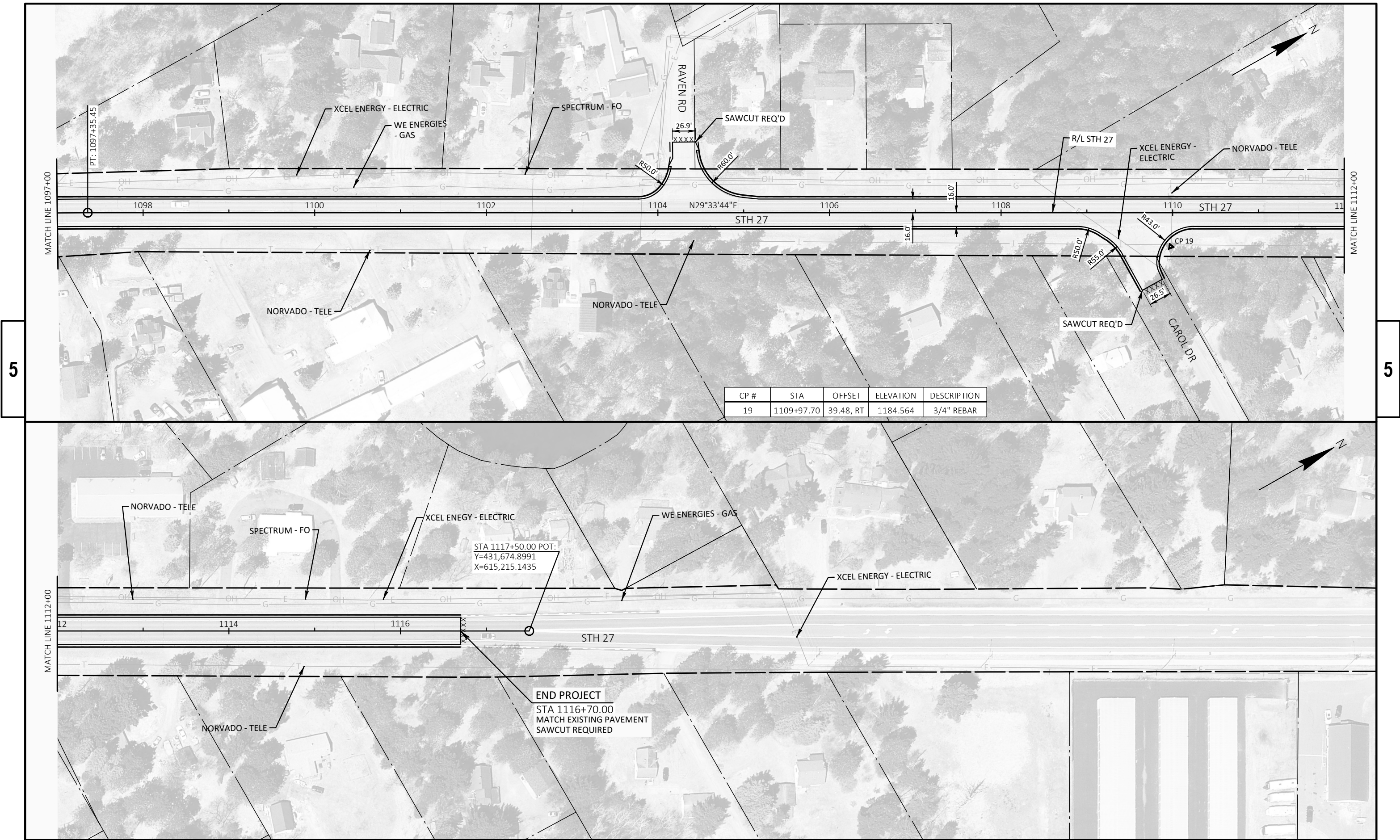


CP #	STA	OFFSET	ELEVATION	DESCRIPTION
18	1079+61.95	35.27, RT	1181.518	3/4" REBAR



C5

PI STA =	1090+27.88
Y =	429,279.7156
X =	613,856.5707
Δ =	28°55'48"
D =	1°59'59"
T =	739.10'
L =	1,446.67'
R =	2,865.11'
PC STA =	1082+88.78
PT STA =	1097+35.45



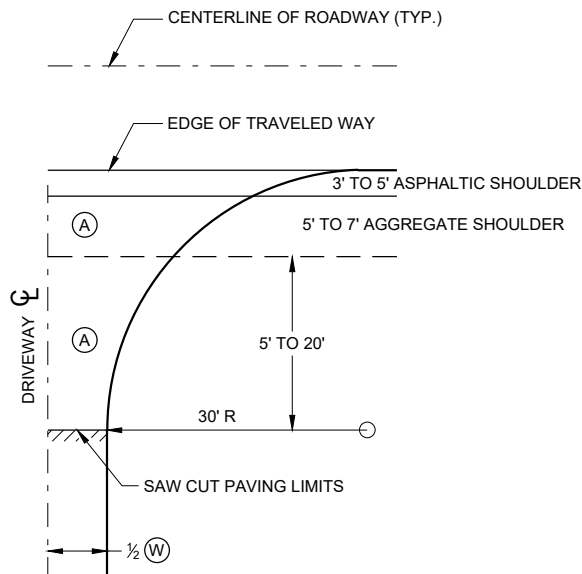
CP #	STA	OFFSET	ELEVATION	DESCRIPTION
19	1109+97.70	39.48, RT	1184.564	3/4" REBAR

STA 1117+50.00 POT:
Y=431,674.8991
X=615,215.1435

END PROJECT
STA 1116+70.00
MATCH EXISTING PAVEMENT
SAWCUT REQUIRED

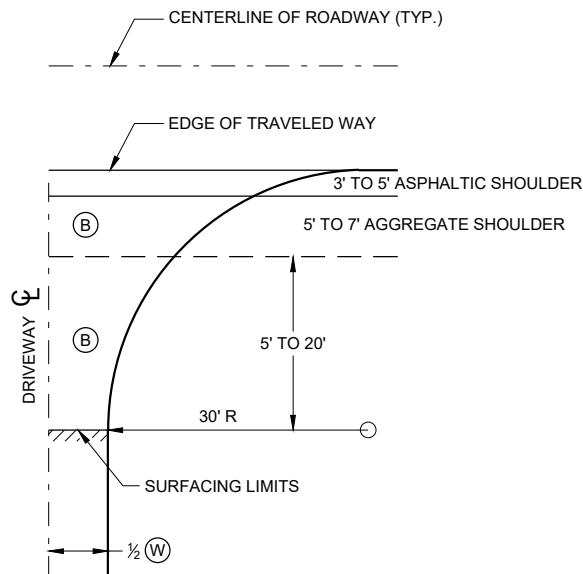
Standard Detail Drawing List

08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13A11-04A	CENTERLINE RUMBLE STRIPS - ASPHALT
13A11-04D	CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C07-16B	PAVEMENT MARKING WORDS
15C07-16C	PAVEMENT MARKING ARROWS
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-24B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-24C	PAVEMENT MARKING (TURN LANES)
15C08-24D	PAVEMENT MARKING (TURN LANES)
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C33-05	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

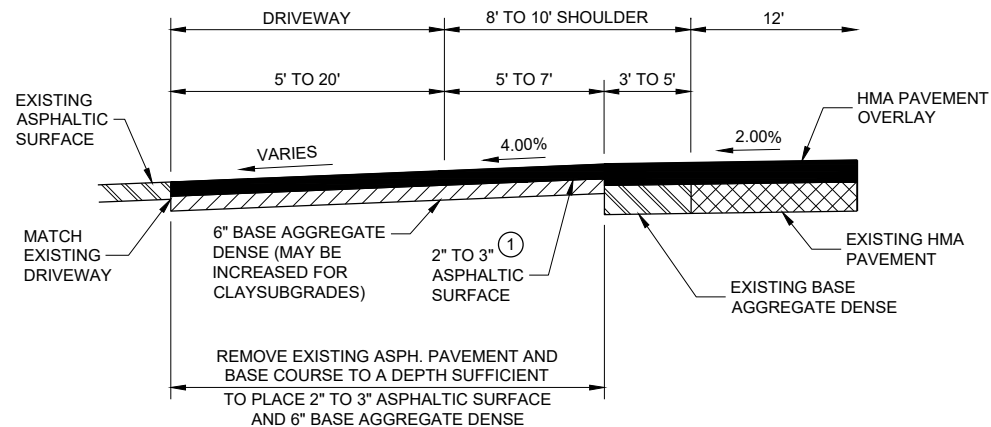


**PLAN VIEW
HALF SECTION**

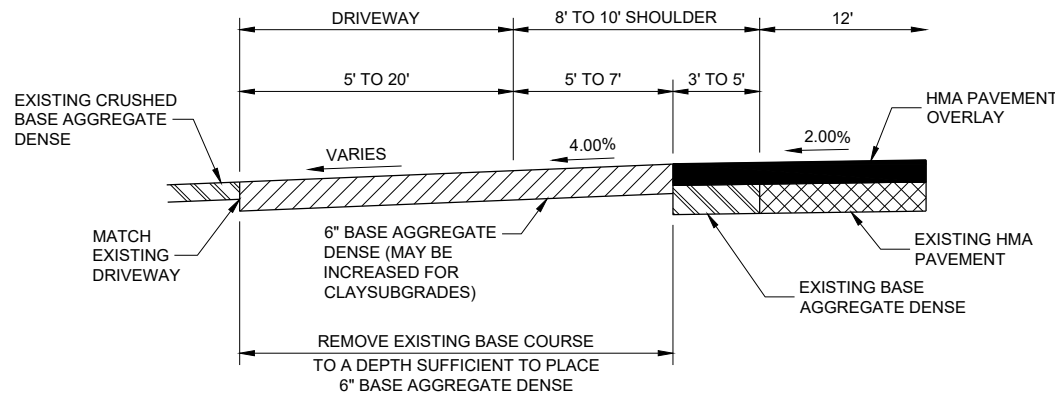
- (A) : PAID FOR AS ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES. (TON)
- (B) : PAID FOR AS BASE AGGREGATE DENSE 1 1/4" (TON)
- (W) : DRIVEWAY WIDTH 16' MIN. - 24' MAX.



**PLAN VIEW
HALF SECTION**



**PROFILE VIEW
RURAL ENTRANCE
WITH ASPHALTIC SURFACE
RESURFACING PROJECTS**



**PROFILE VIEW
RURAL ENTRANCE
WITH AGGREGATE SURFACE
6" BASE AGGREGATE DENSE
RESURFACING PROJECTS**

GENERAL NOTES

- ① DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.

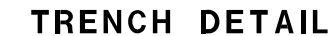
**DRIVEWAYS WITHOUT CURB
AND GUTTER RESURFACING
PROJECTS RURAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA 42



- 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 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

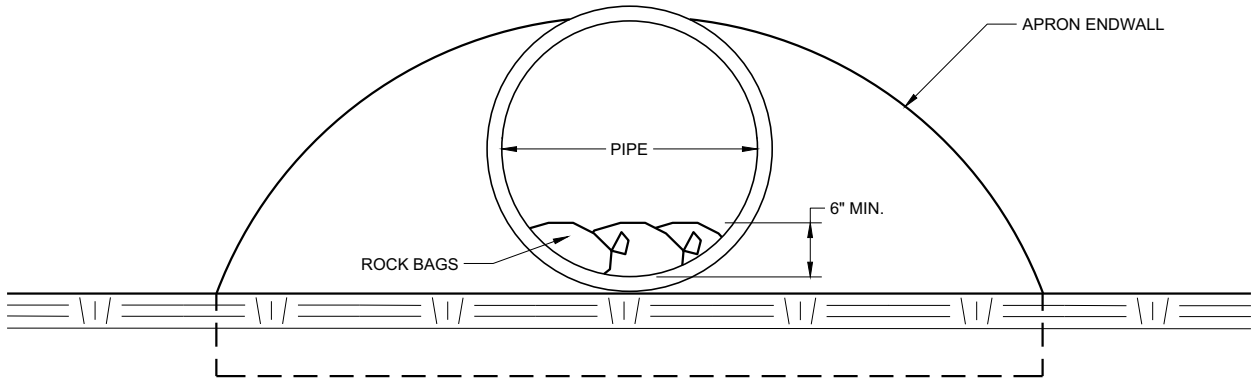


SILT FENCE

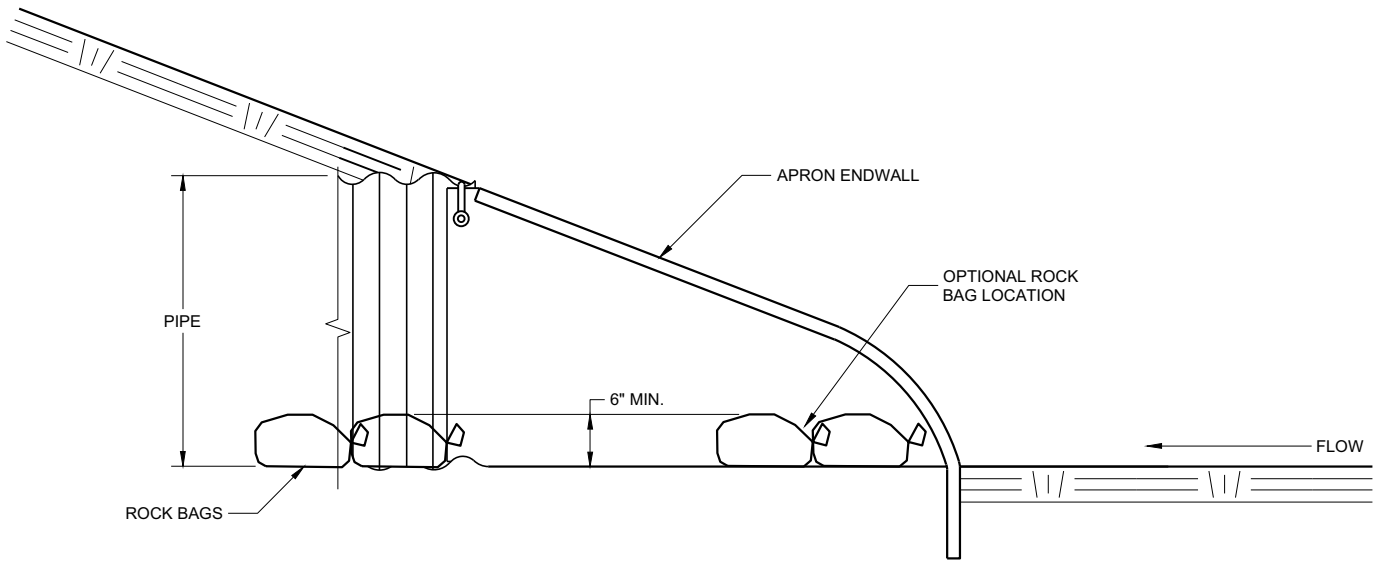
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05
DATE /S/ Beth Connolly
CHIEF ROADWAY DEVELOPMENT **43** INCH

FHWA



END VIEW



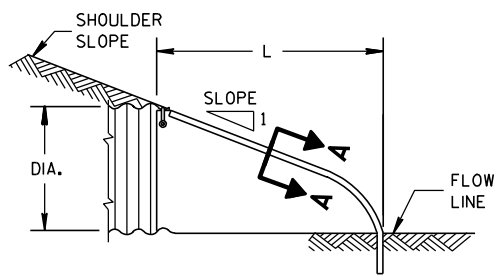
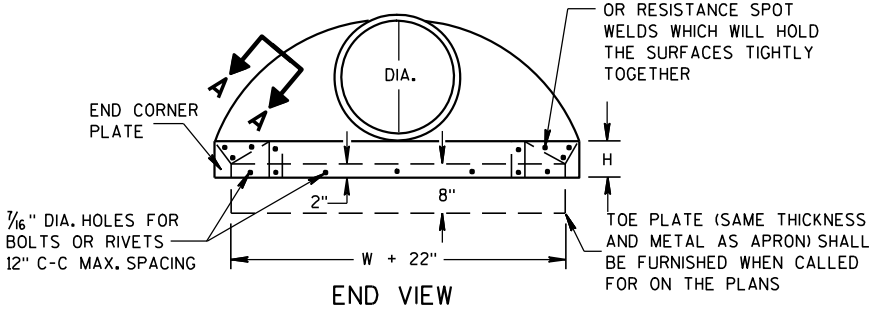
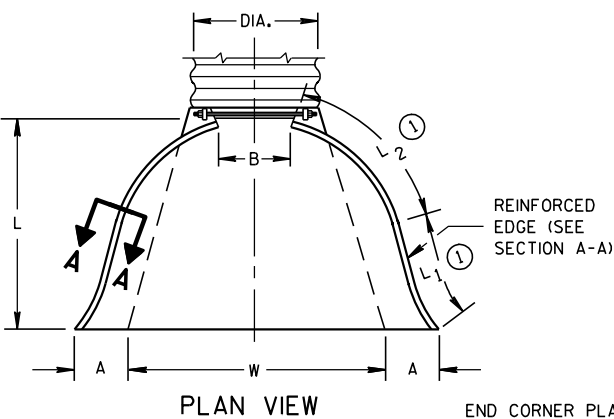
SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI 44
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.

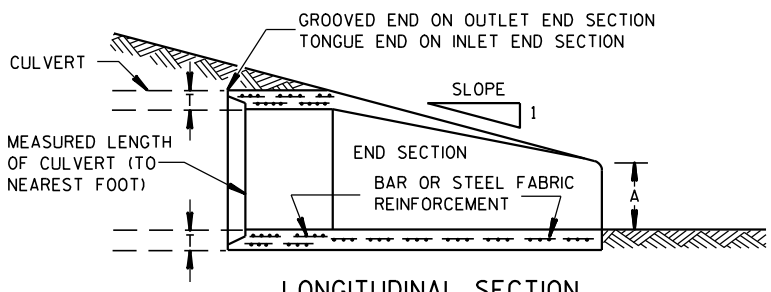
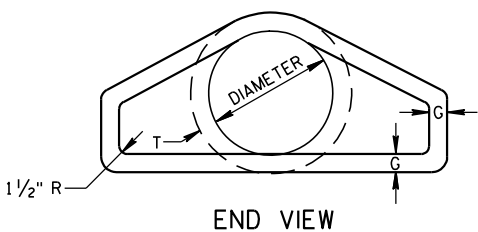
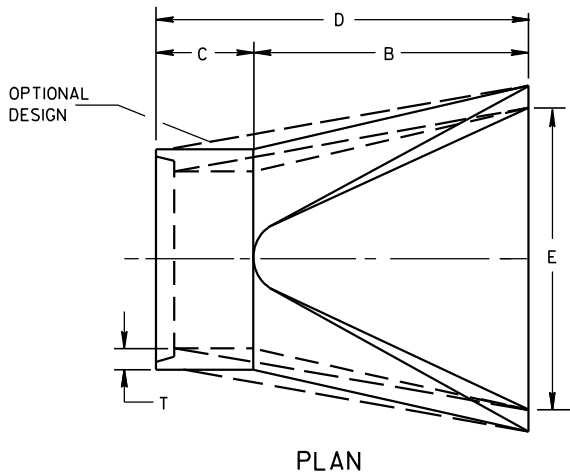
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



METAL ENDWALLS

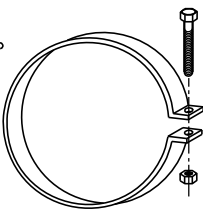
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9 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 2/5 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

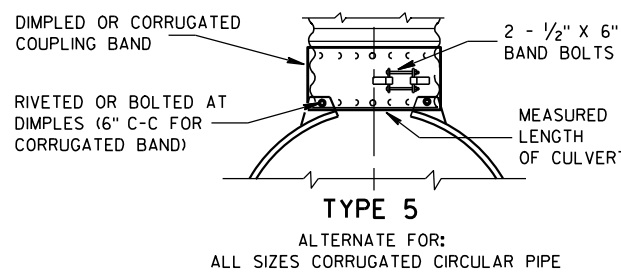
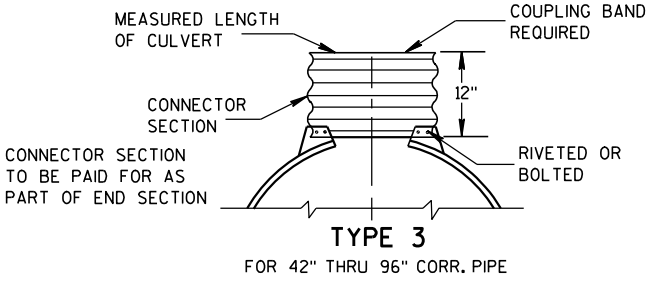
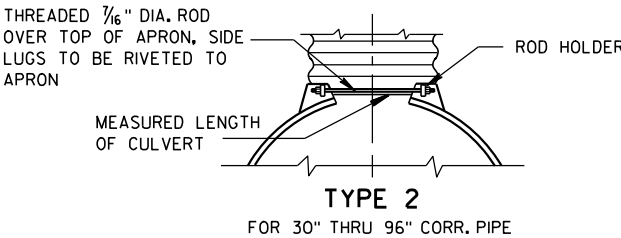
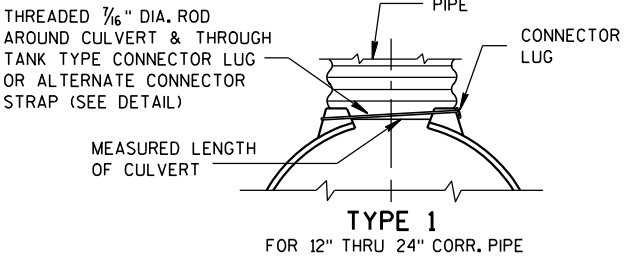


CONCRETE ENDWALLS

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



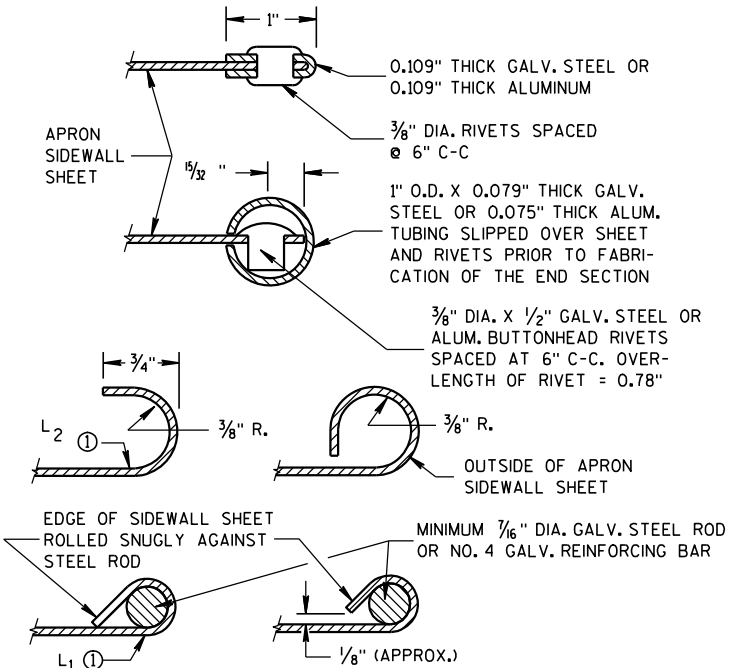
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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



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.

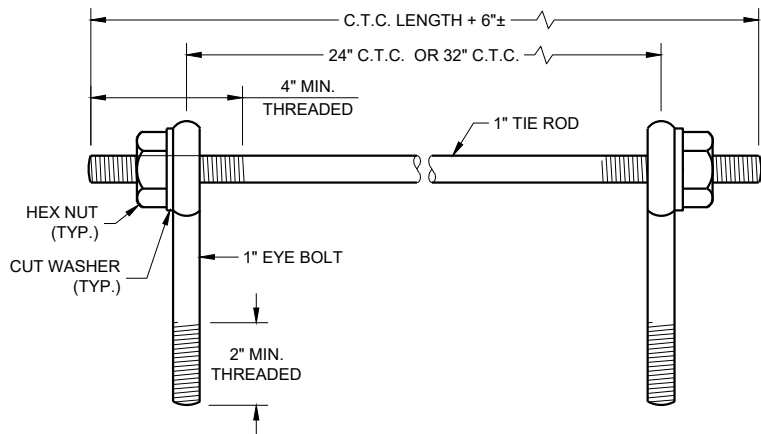
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

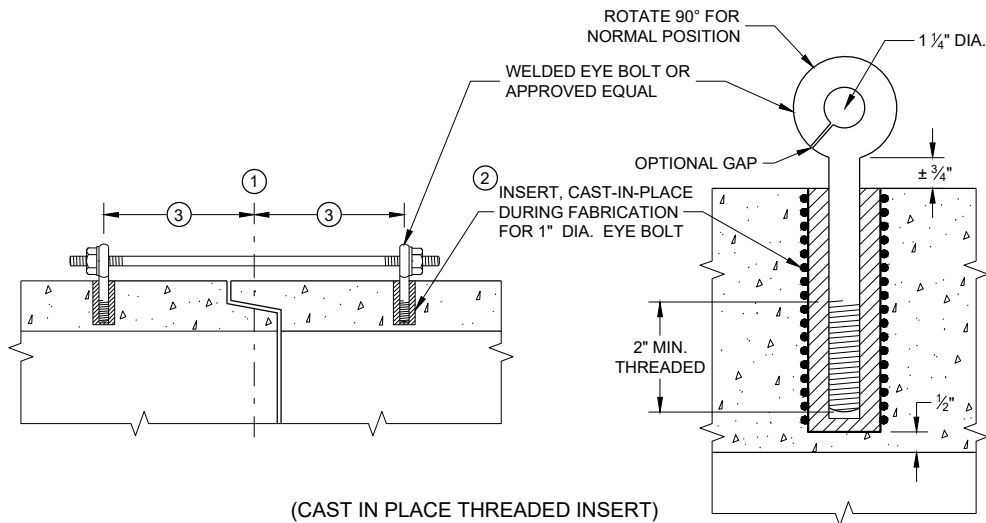
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94
DATE
/S/ Rory L. Rhinehart
CHIEF ROADWAY DEVELOP 45
NEER
FHWA



EYE BOLTS AND TIE ROD

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(CAST IN PLACE THREADED INSERT)
LONGITUDINAL SECTIONS

GENERAL NOTES

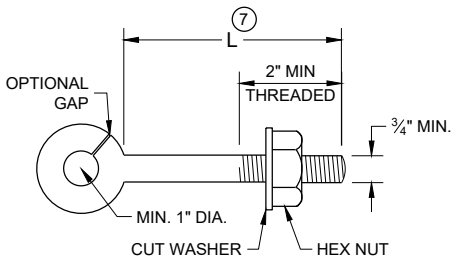
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

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

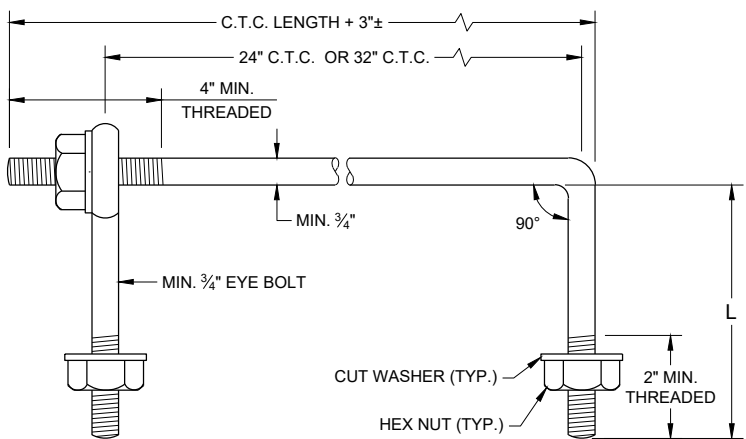
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- 1 CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- 2 THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- 3 HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- 4 BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- 5 OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- 6 LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.
- 7 EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

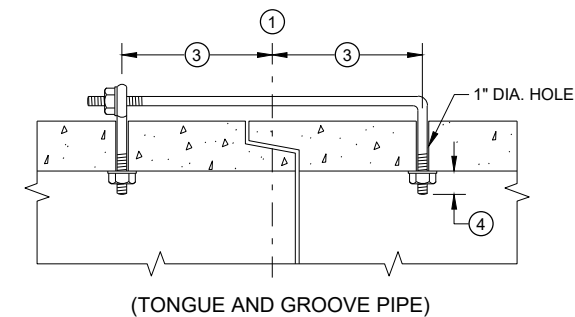


EYE BOLT 7

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

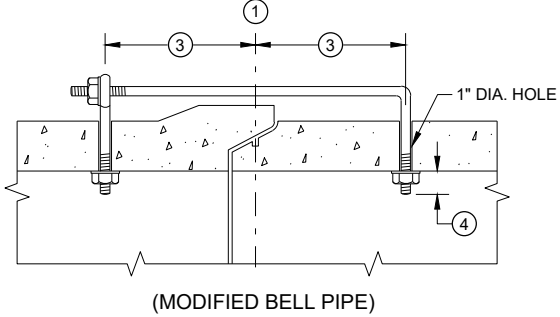


(TONGUE AND GROOVE PIPE)

LONGITUDINAL SECTION

(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

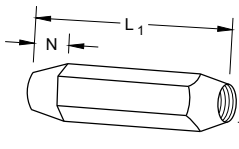


(MODIFIED BELL PIPE)

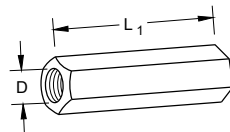
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L ₁	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES

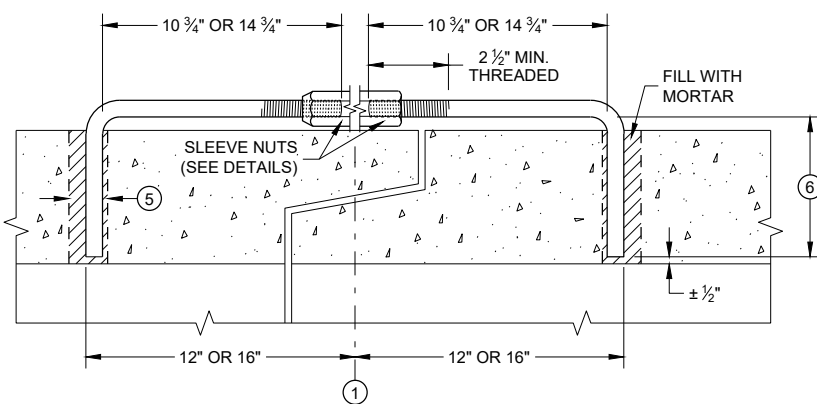


TAPERED



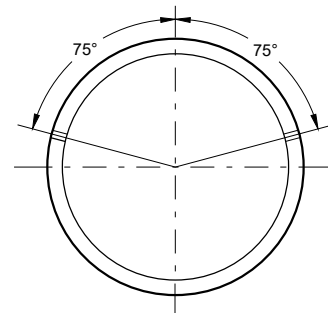
PLAIN

RIGHT AND LEFT THREADS
SLEEVE NUTS



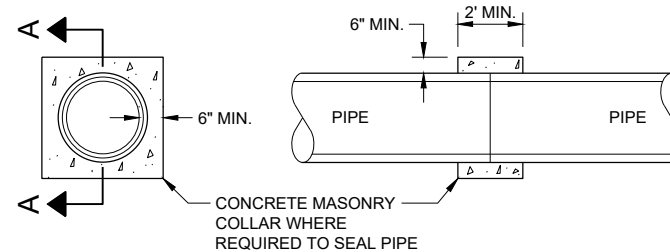
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



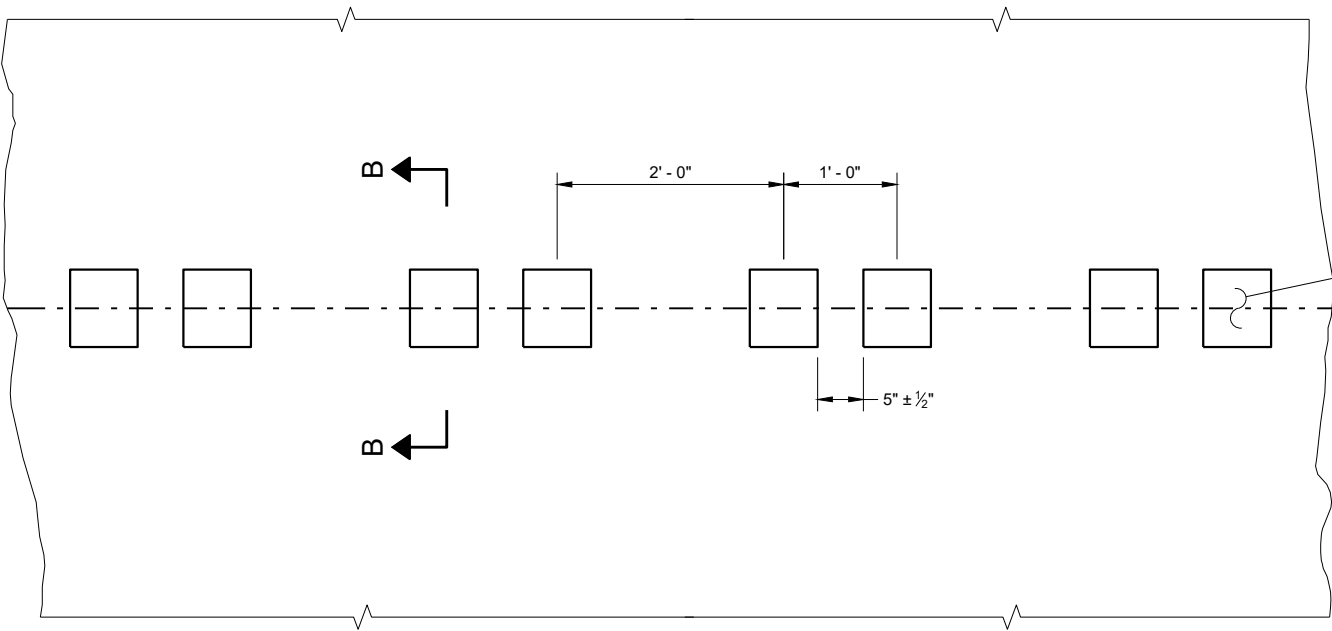
SECTION A - A

CONCRETE COLLAR DETAIL

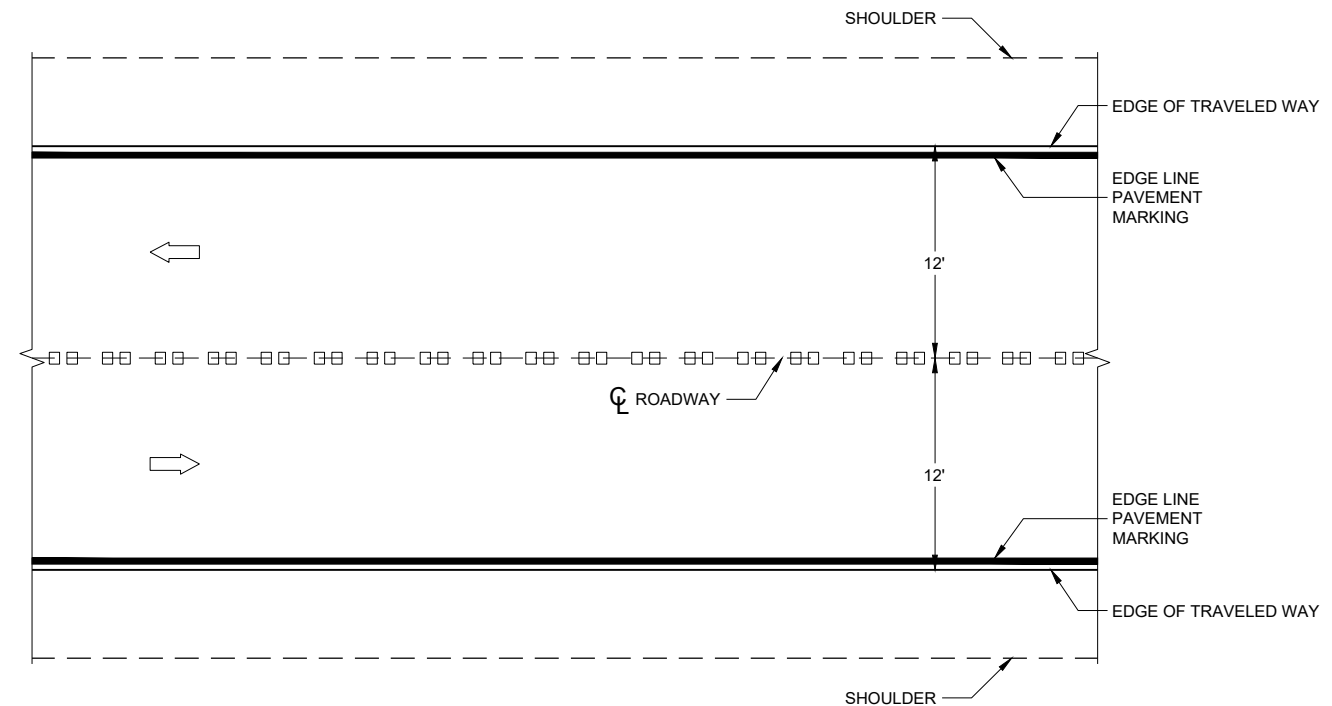
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER 46
FHWA

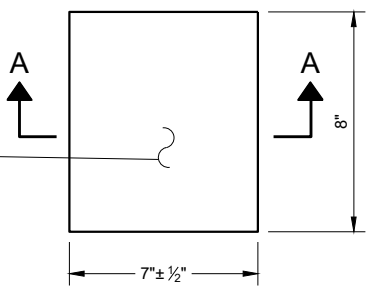


PLAN DETAIL VIEW

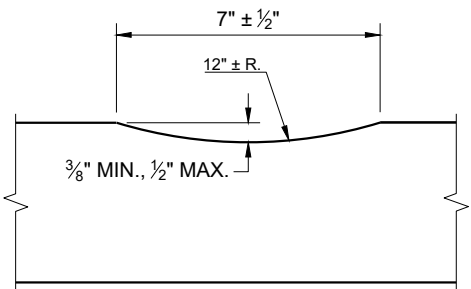


PLAN VIEW

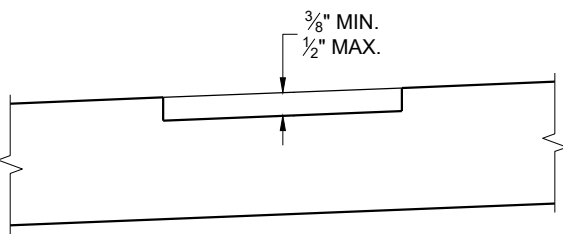
CENTERLINE RUMBLE STRIPS - ASPHALT



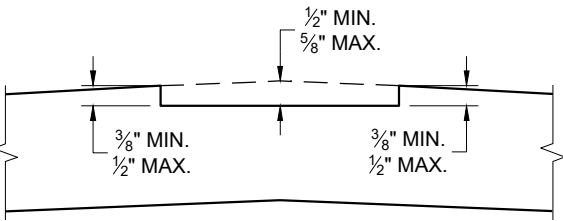
PLAN VIEW
(SINGLE GROOVE)



SECTION A - A



SECTION B - B
SUPERELEVATED ROADWAY

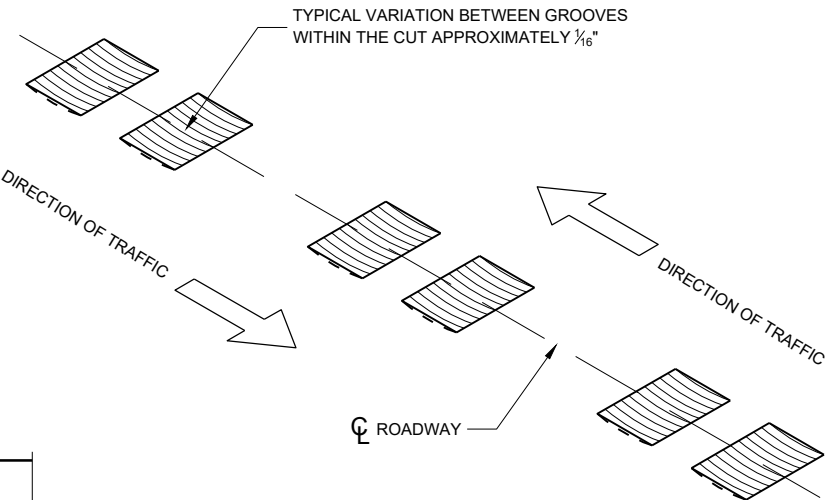


SECTION B - B
CROWNED ROADWAY

GENERAL NOTES

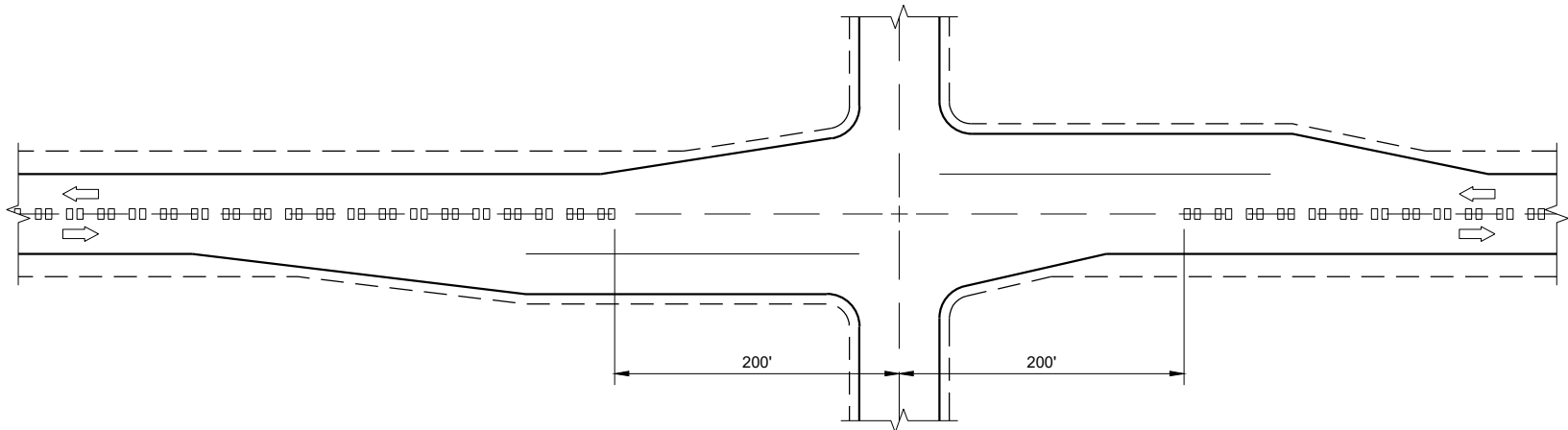
DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A11 SHEETS "d" AND "e".

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

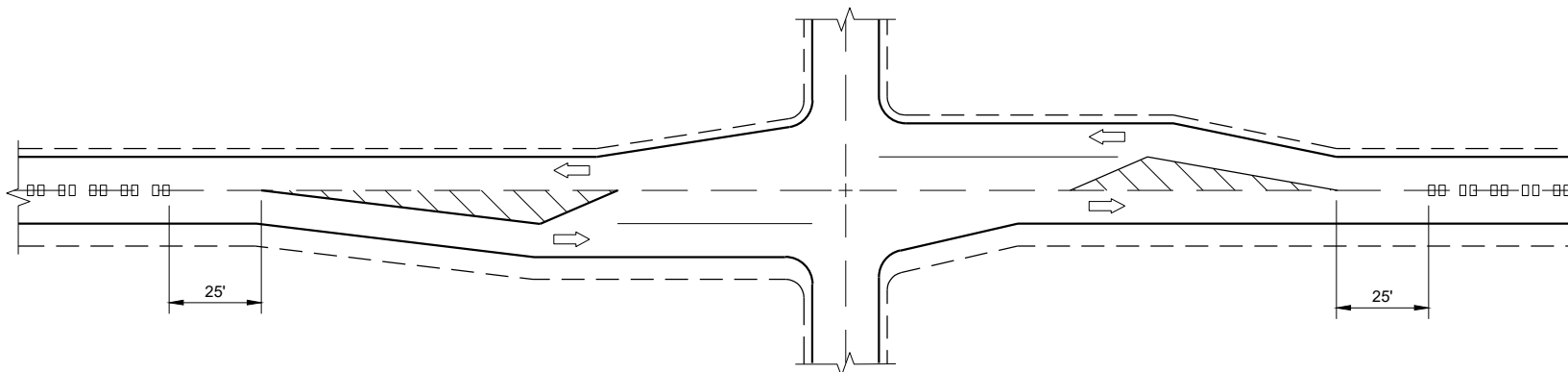


CENTERLINE RUMBLE STRIPS - ASPHALT

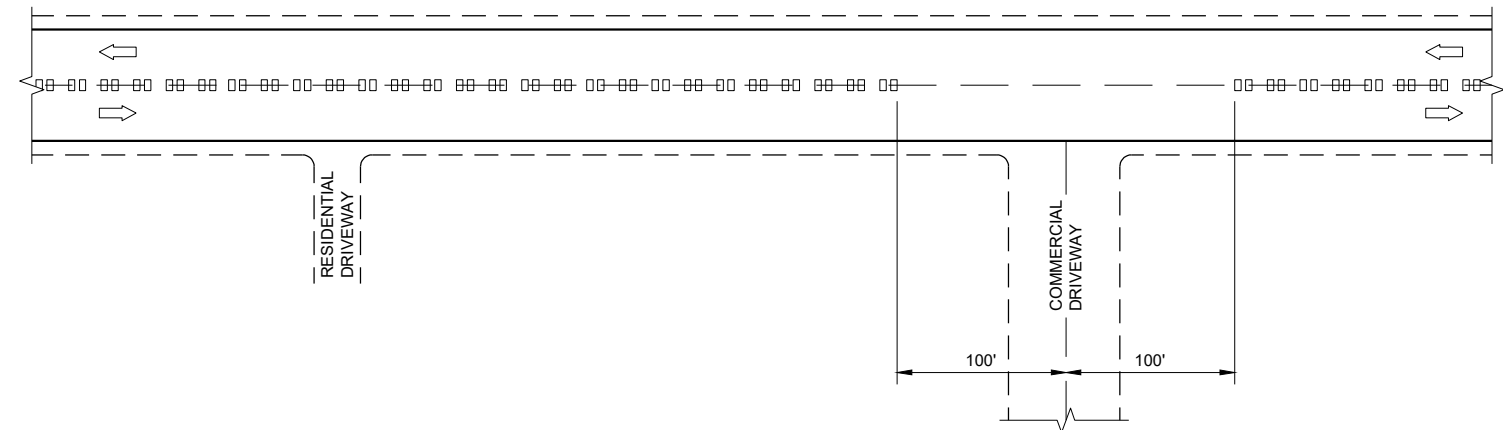
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



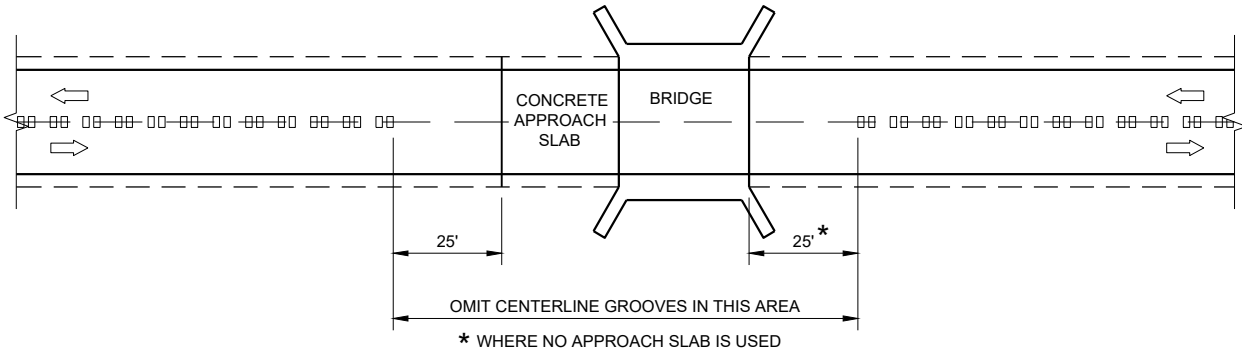
CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)



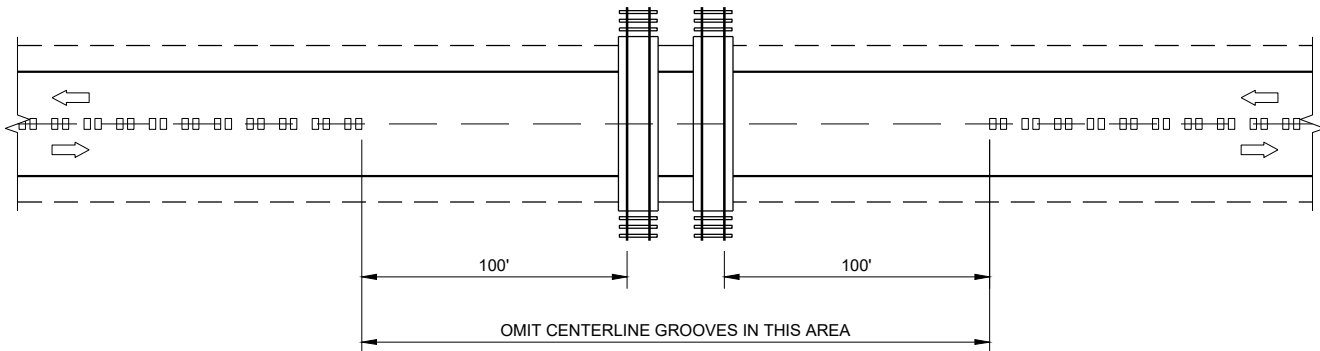
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

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



CENTERLINE GROOVES AT BRIDGES

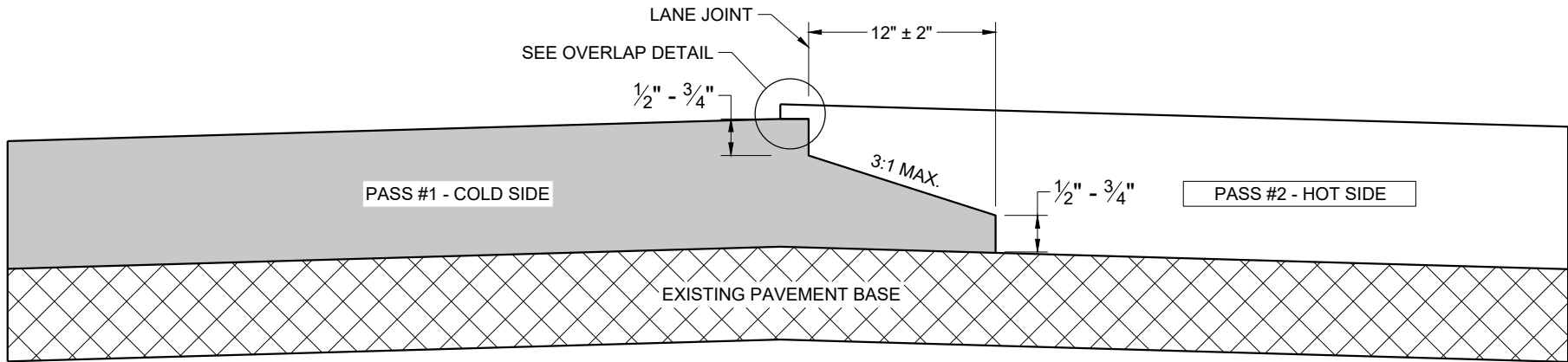


CENTERLINE GROOVES AT RAILROADS

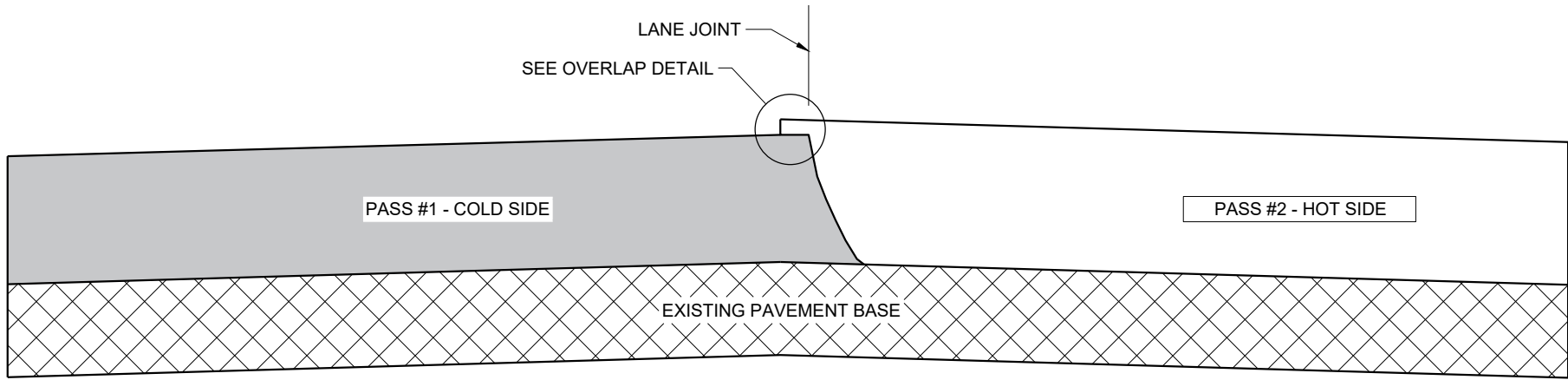
CENTER LINE
RUMBLE STRIPS -
INTERSECTIONS, DRIVEWAYS,
BRIDGES, RAIL ROADS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

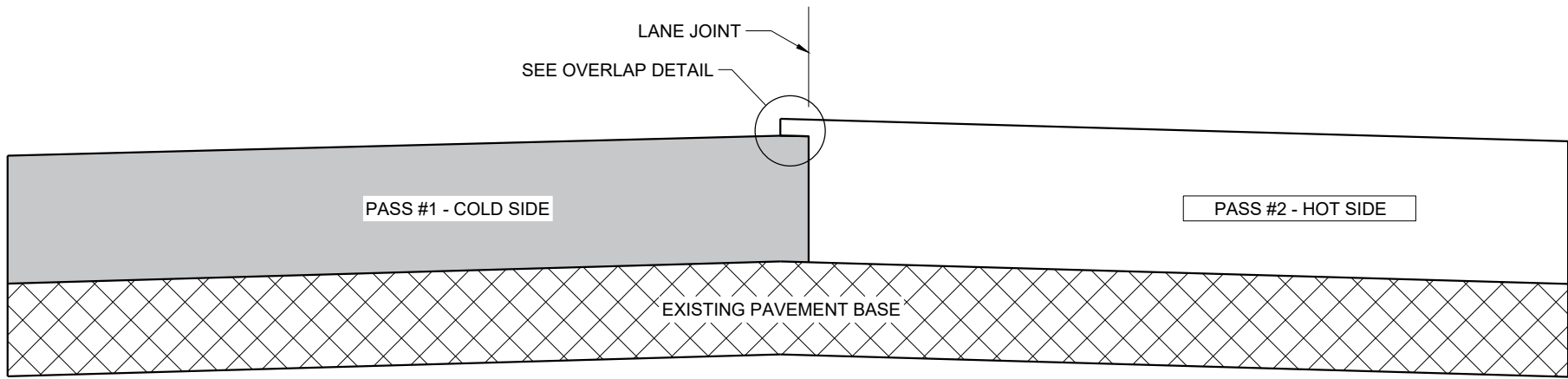
APPROVED
May 2023
DATE
/S/ John Jenkins
ROADWAY STANDARDS DEVELOPMENT
ENGINEER 48
FHWA



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

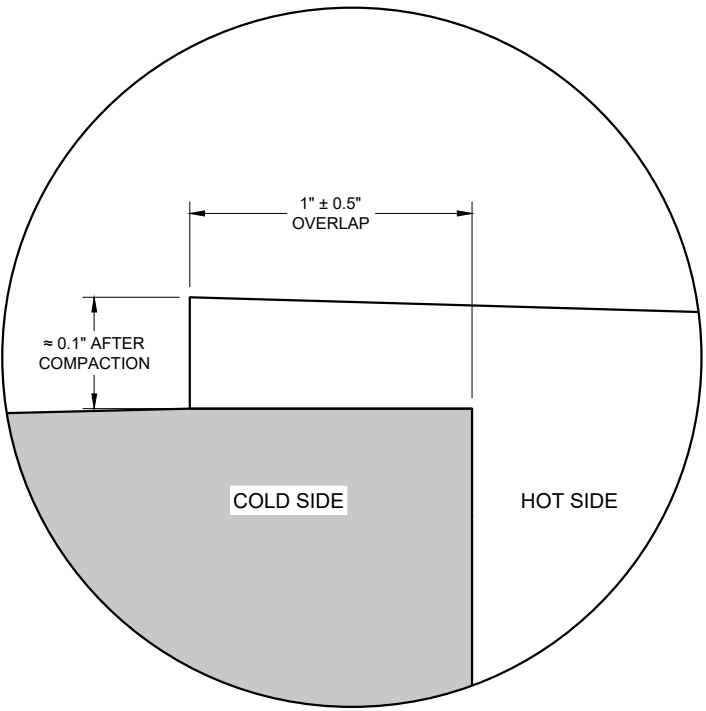
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1" \pm 0.5"$ AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY $0.1"$ AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO $2"$ FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.

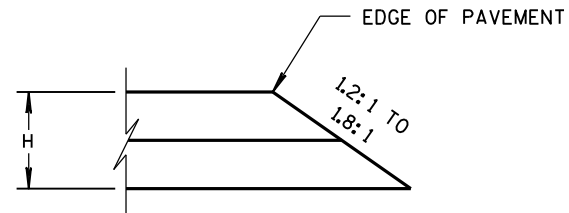


OVERLAP DETAIL (TYPICAL)

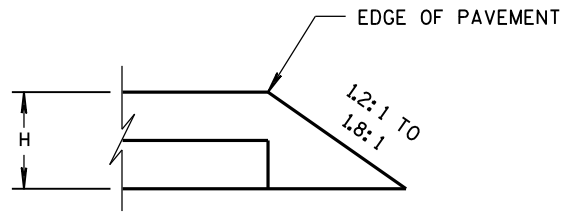
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

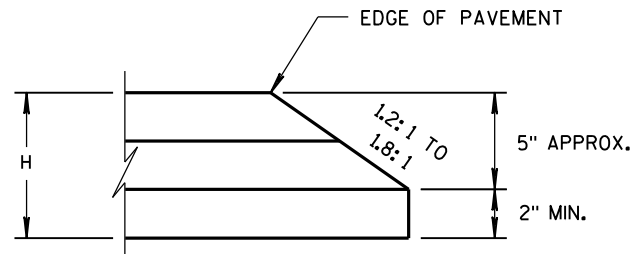
APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 49
FHWA



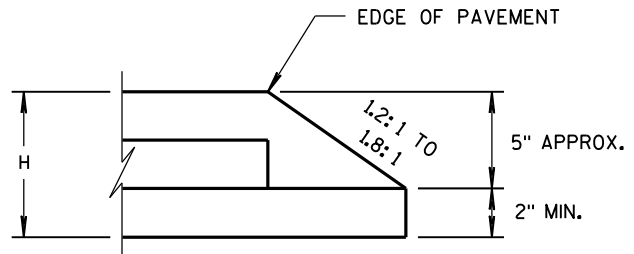
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

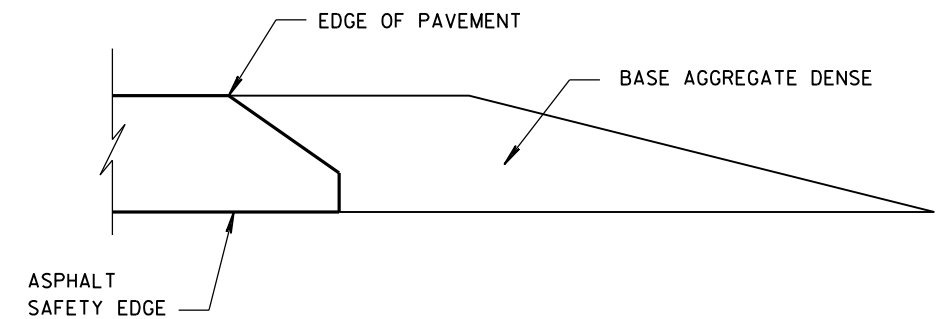


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

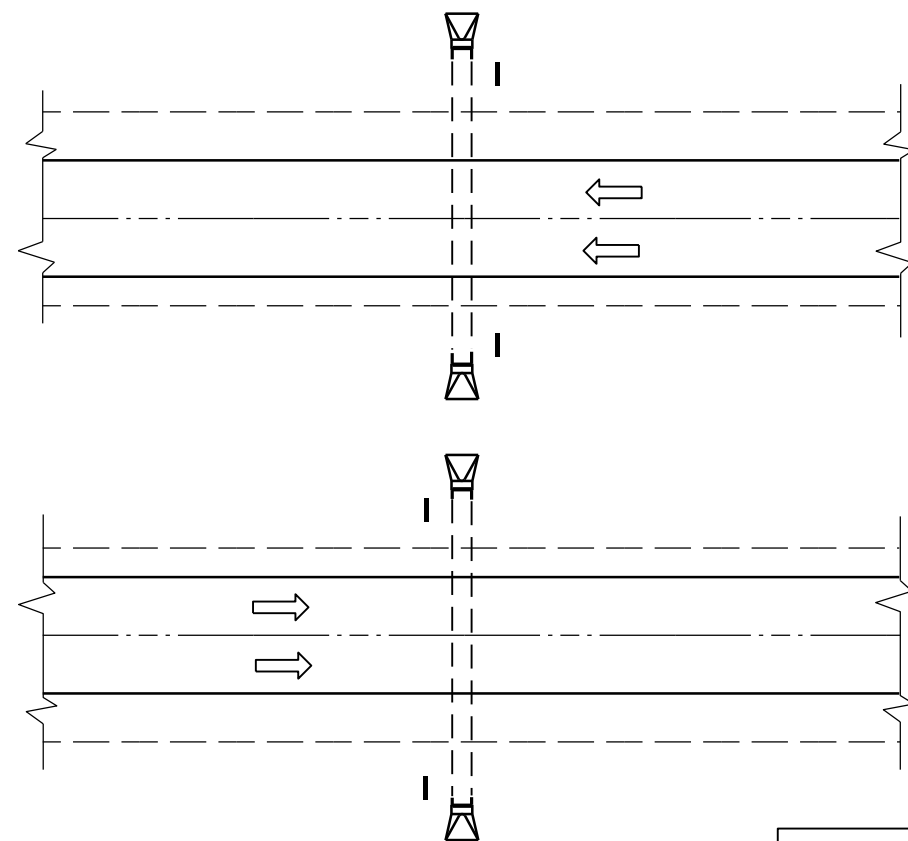
11/30/2012
DATE

FHWA

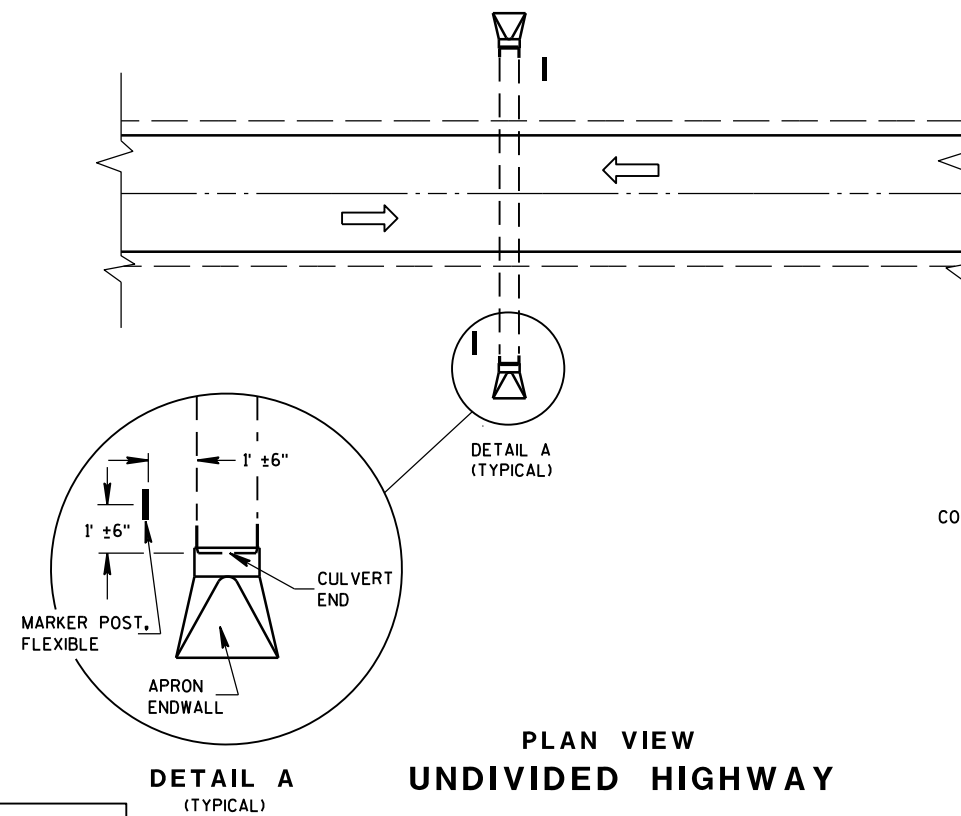
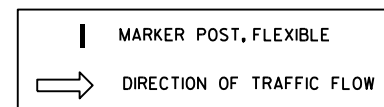
/s/ Jerry H. Zoaga
ROADWAY STANDARDS
ENGINEER

50

ENT



PLAN VIEW
DIVIDED HIGHWAY

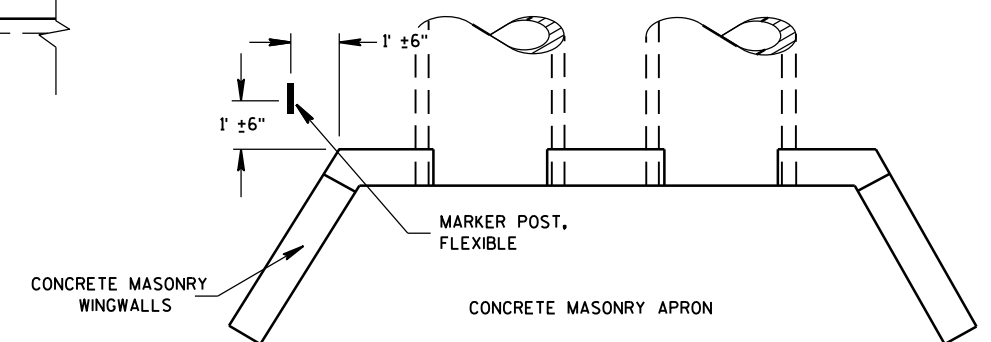


PLAN VIEW
UNDIVIDED HIGHWAY

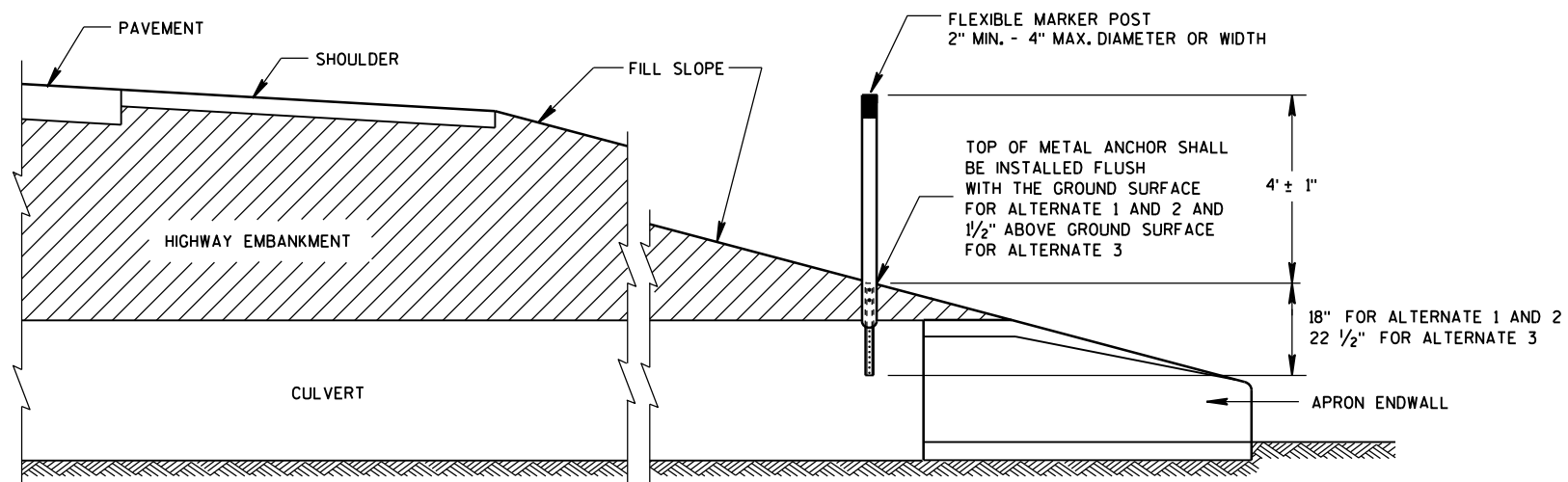
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



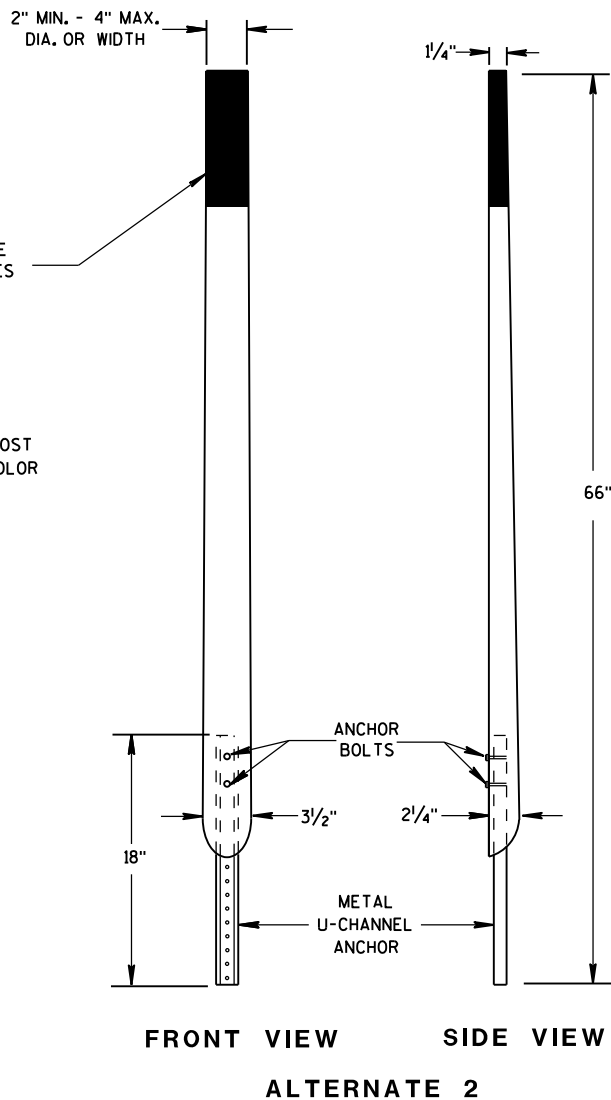
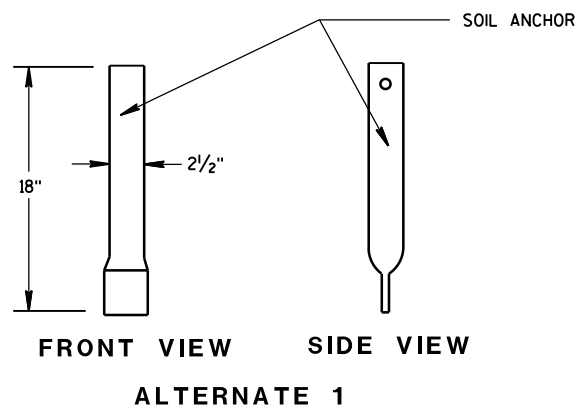
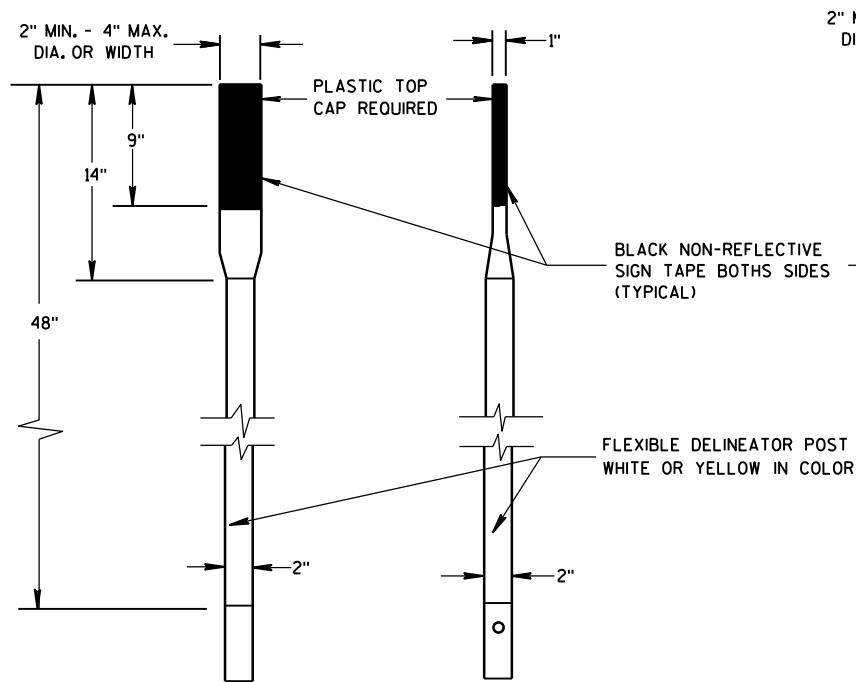
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



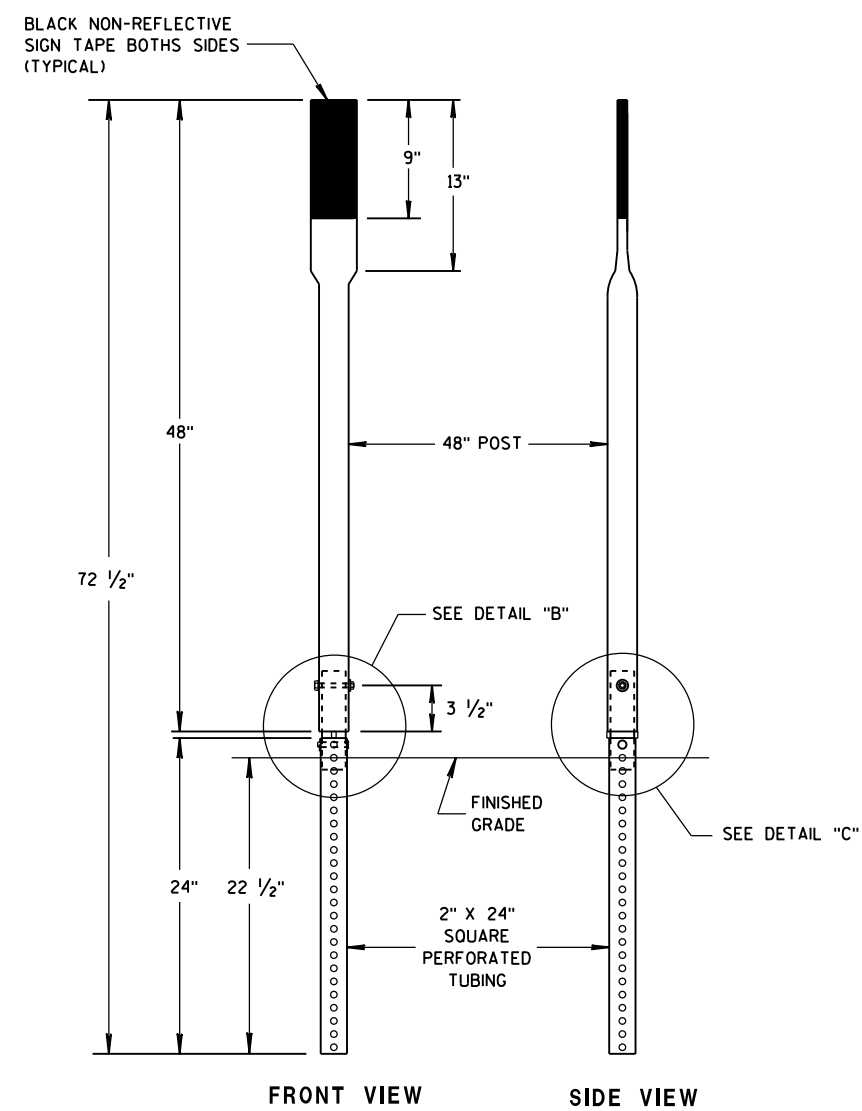
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

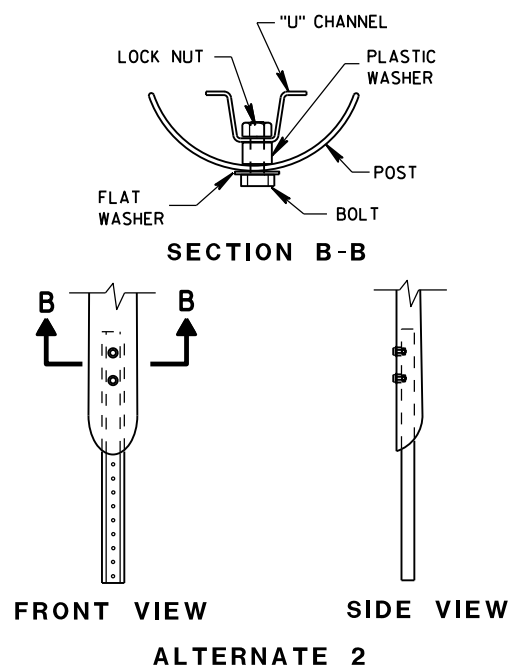
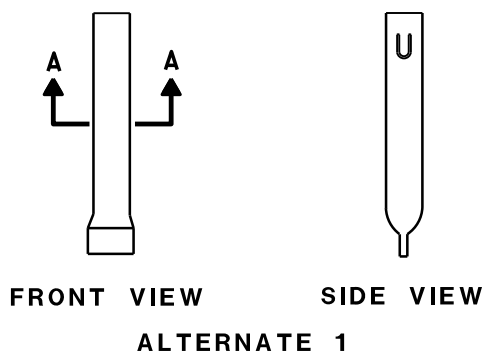
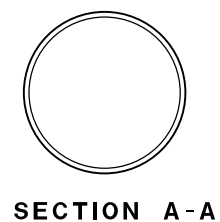
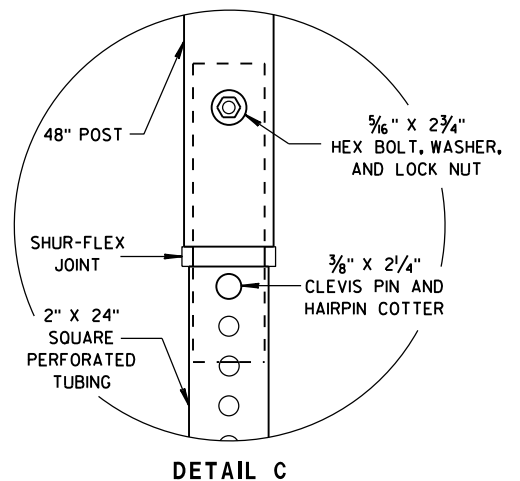
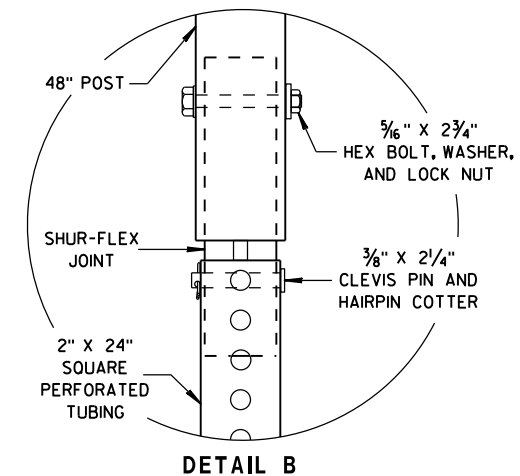
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



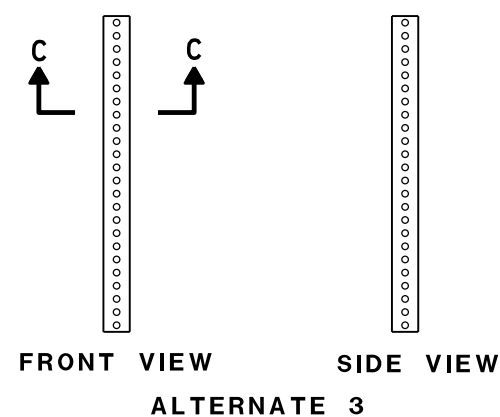
FLEXIBLE MARKER POSTS



SECTION C-C



FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT ENDSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

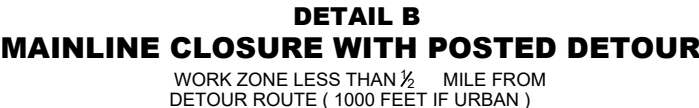
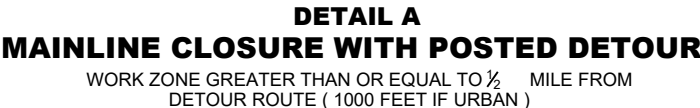
APPROVED

10/1/2012
DATE

FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER 52

IGN

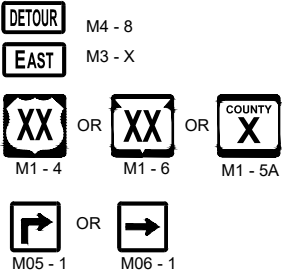


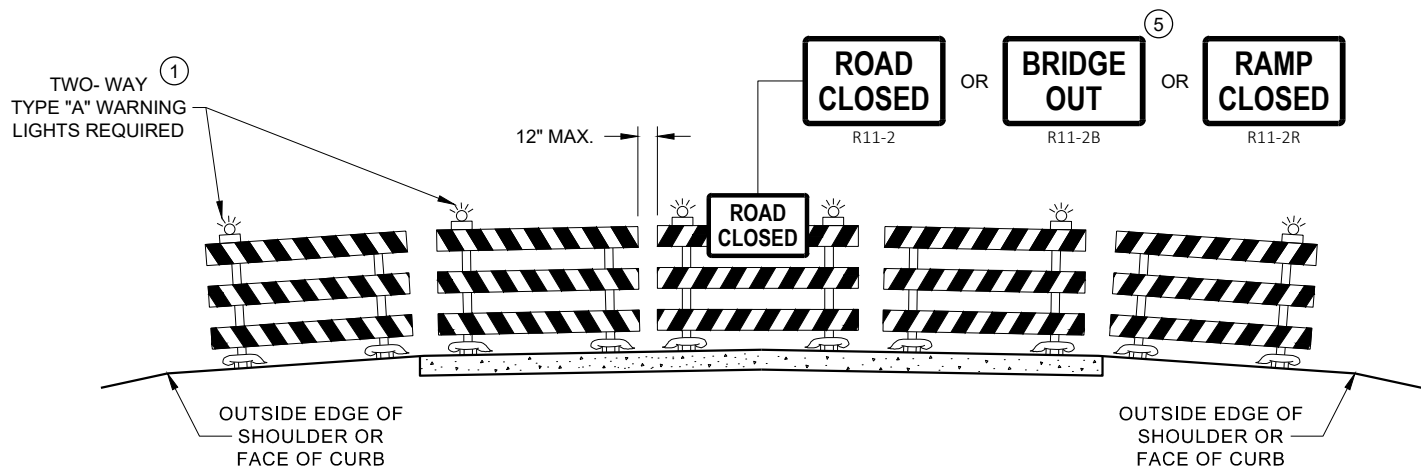
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

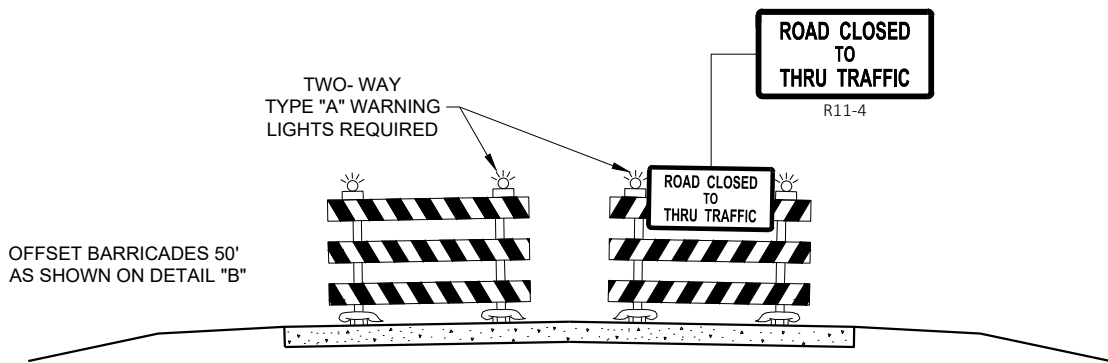


	SIGN ON PERMANENT SUPPORT
	TYPE III BARRICADE
	TYPE III BARRICADE WITH ATTACHED SIGN
	TYPE "A" WARNING LIGHT (FLASHING)
	WORK AREA
	FLAGS, 16" X 16" MIN. (ORANGE)





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 THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL 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 SHALL, 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" (36" X 18" 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)
- MO5 - 1 AND MO6 - 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"

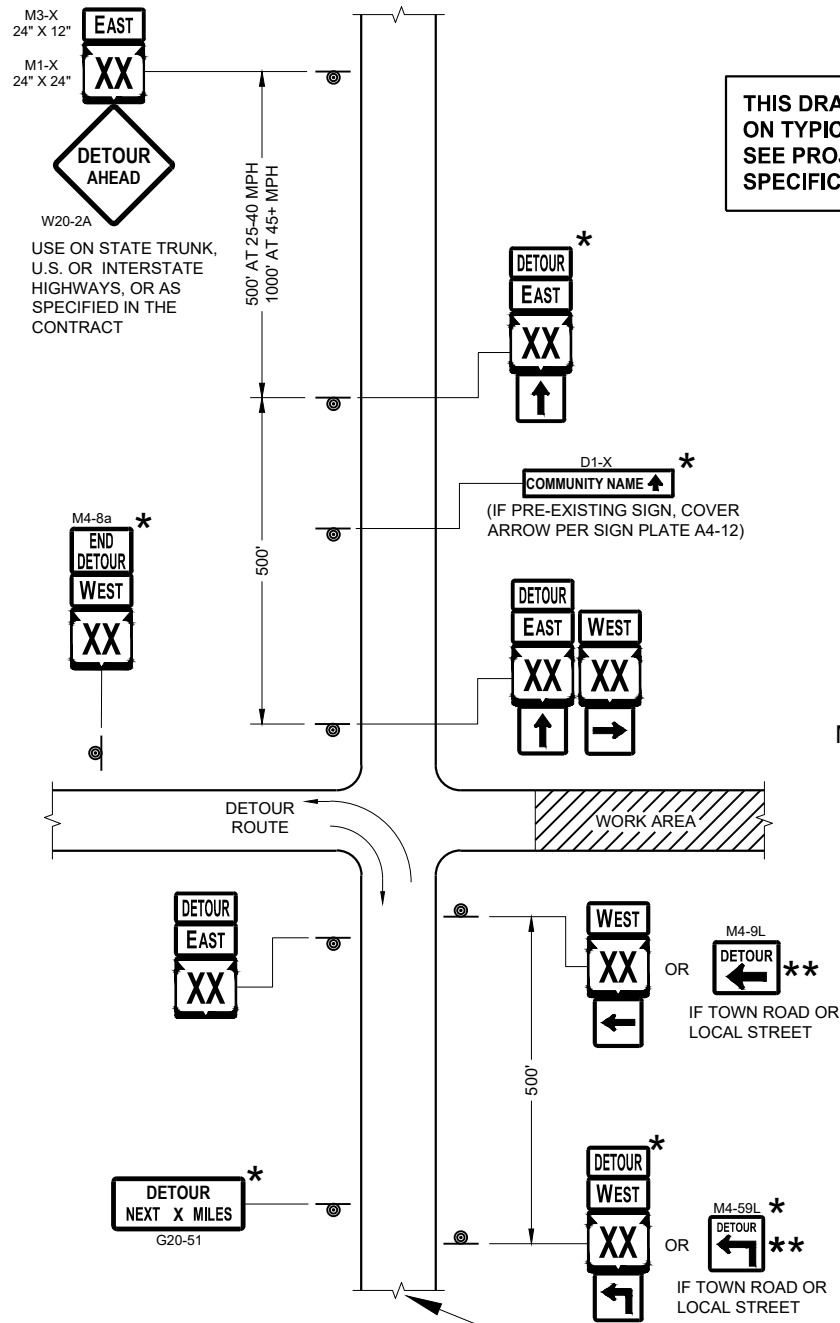
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN 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 ROAD 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
VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 54

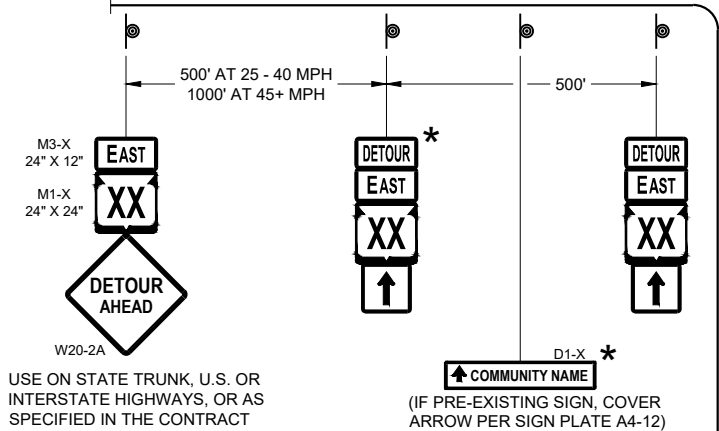
FHWA



SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT



DETAIL F
DETOUR SIGNING

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR EAST M4 - 8
- DETOUR WEST M3 - X
- DETOUR AHEAD M1 - 4 OR M1 - 6 OR M1 - 5A
- DETOUR NEXT X MILES M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

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. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

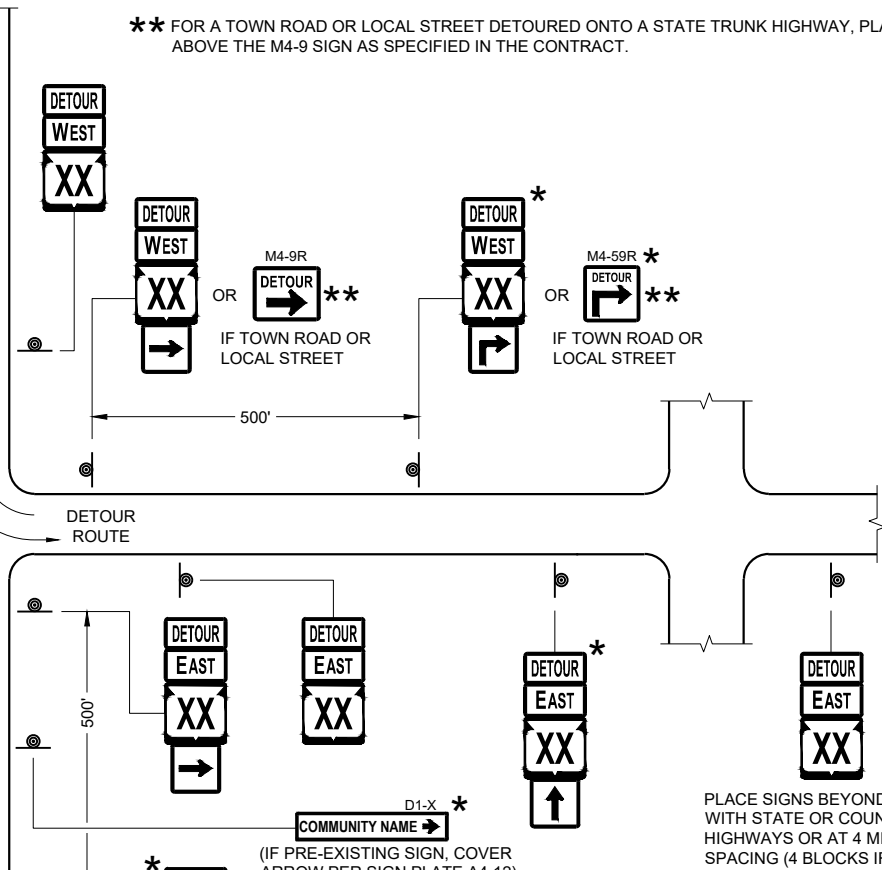
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" 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)
- M4-9 AND M4-9R SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

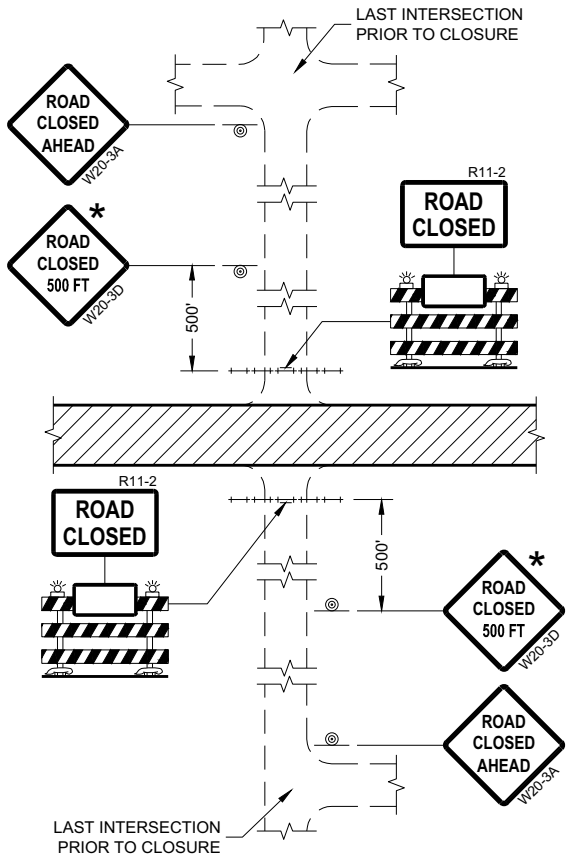


PLACE SIGNS BEYOND INTERSECTIONS
WITH STATE OR COUNTY TRUNK
HIGHWAYS OR AT 4 MILE MAXIMUM
SPACING (4 BLOCKS IF URBAN AREA)

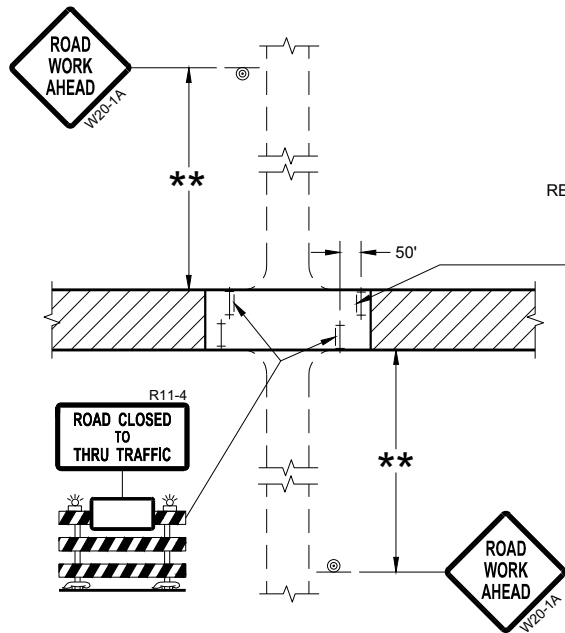
DETOUR SIGNING
FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

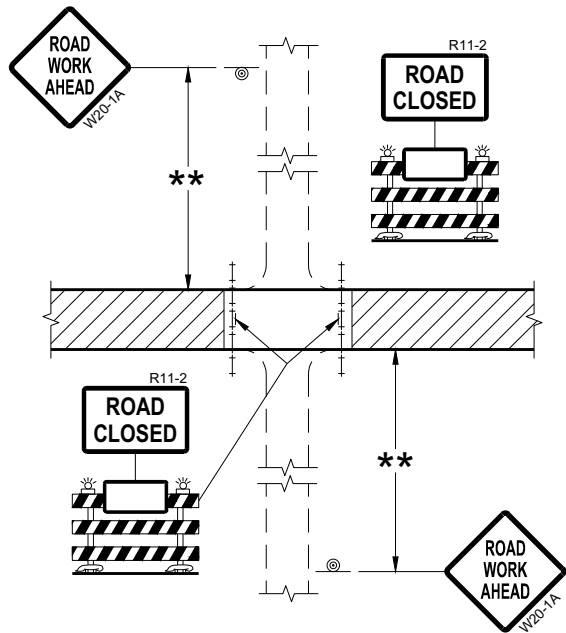
APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 55
FHWA



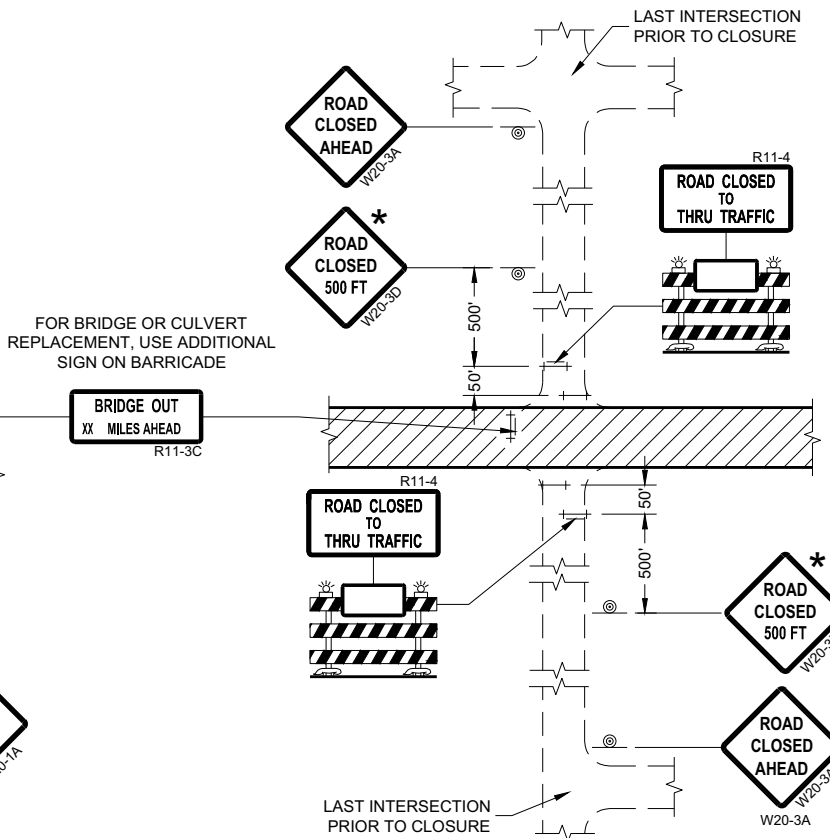
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

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 (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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 REESTABLISHED.

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

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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, AND R11-4 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.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

- * OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.
- ** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 56
FHWA

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" X 48" UNLESS OTHERWISE NOTED.

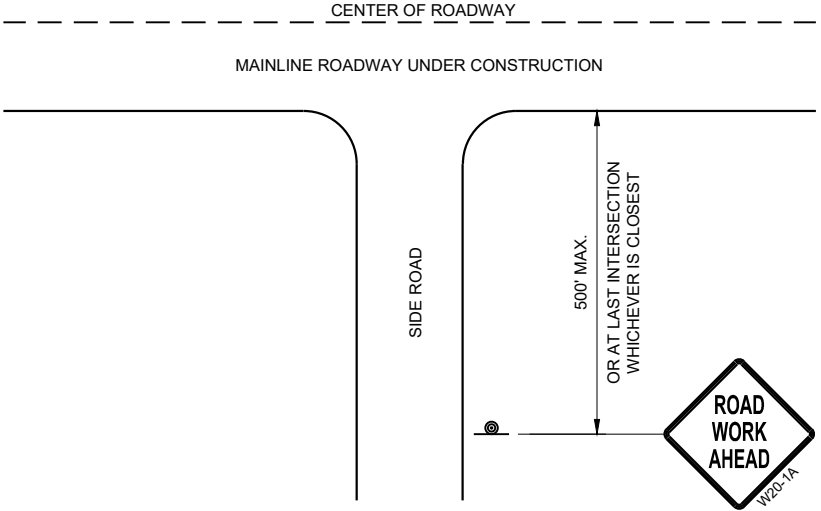
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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 REESTABLISHED.

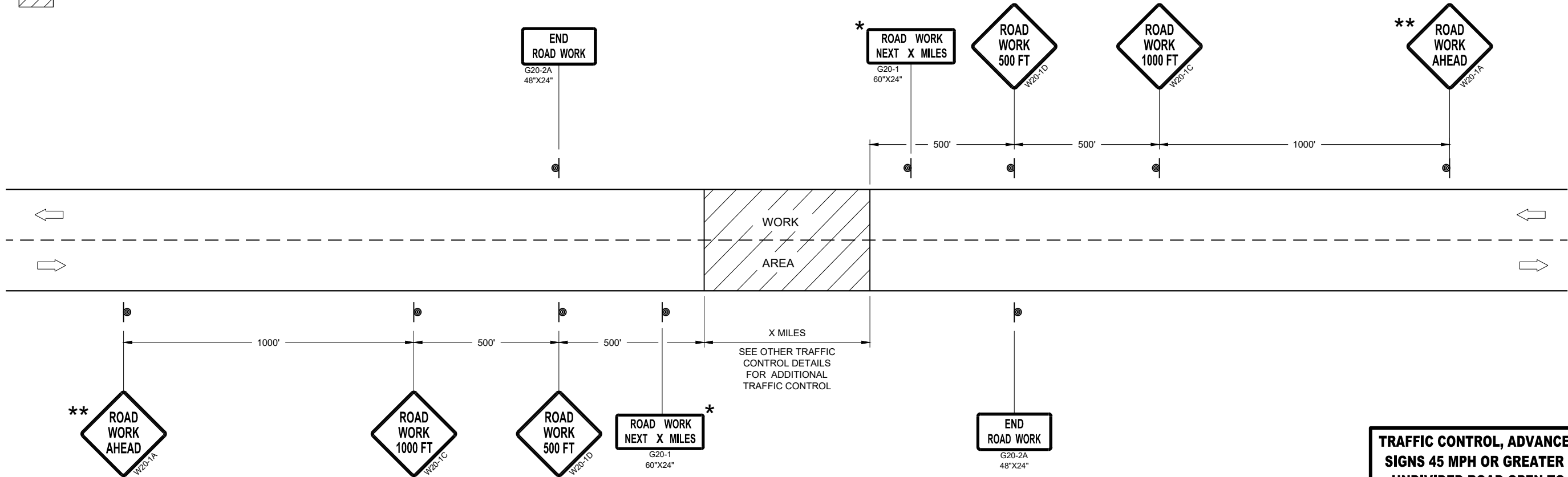
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

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



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL

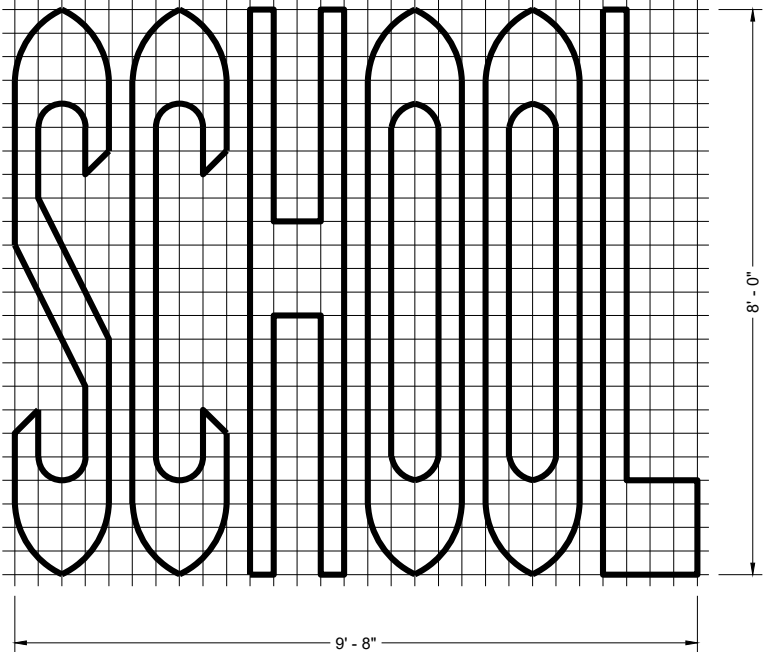
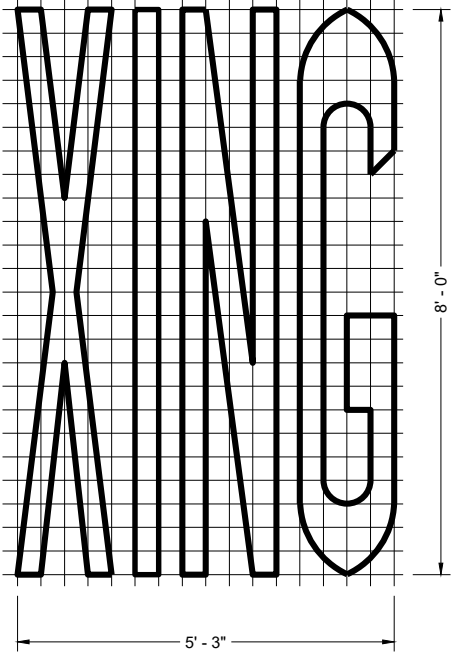
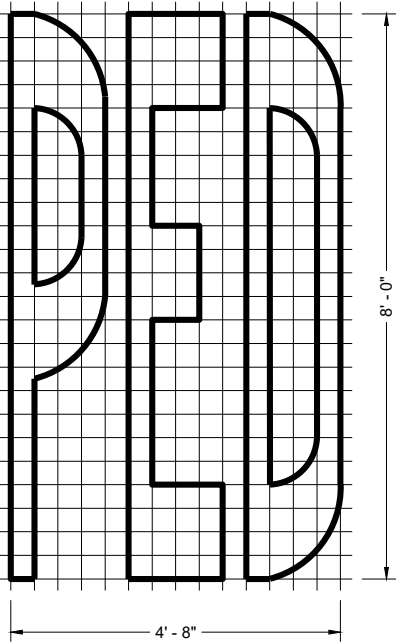
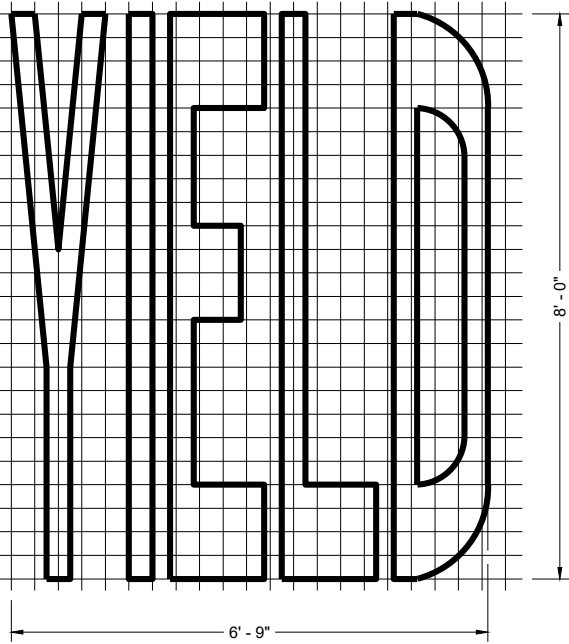
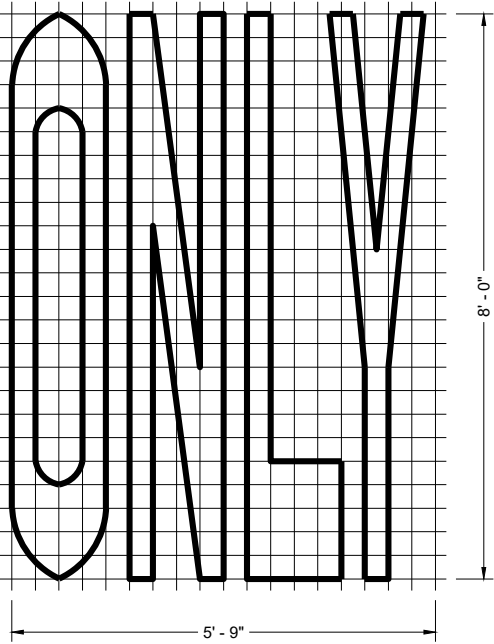
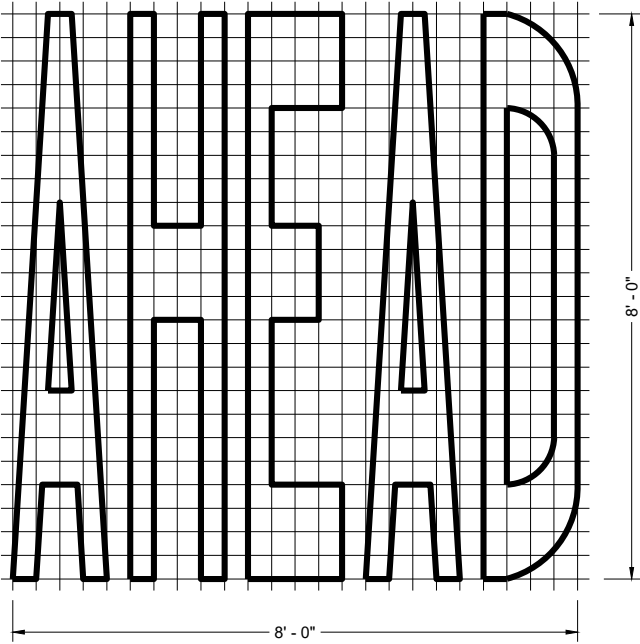
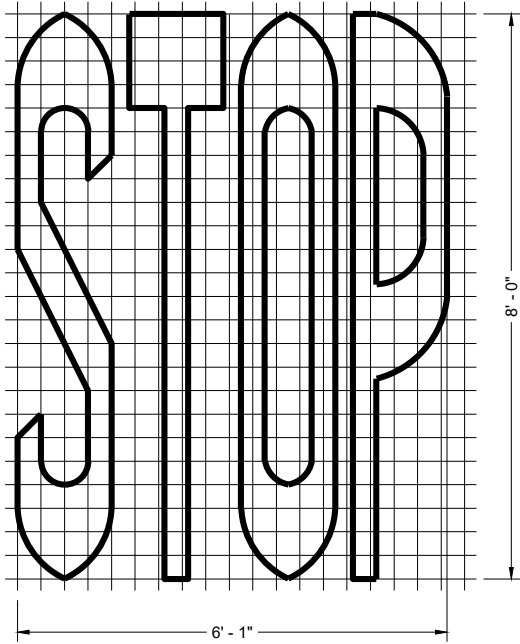


TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

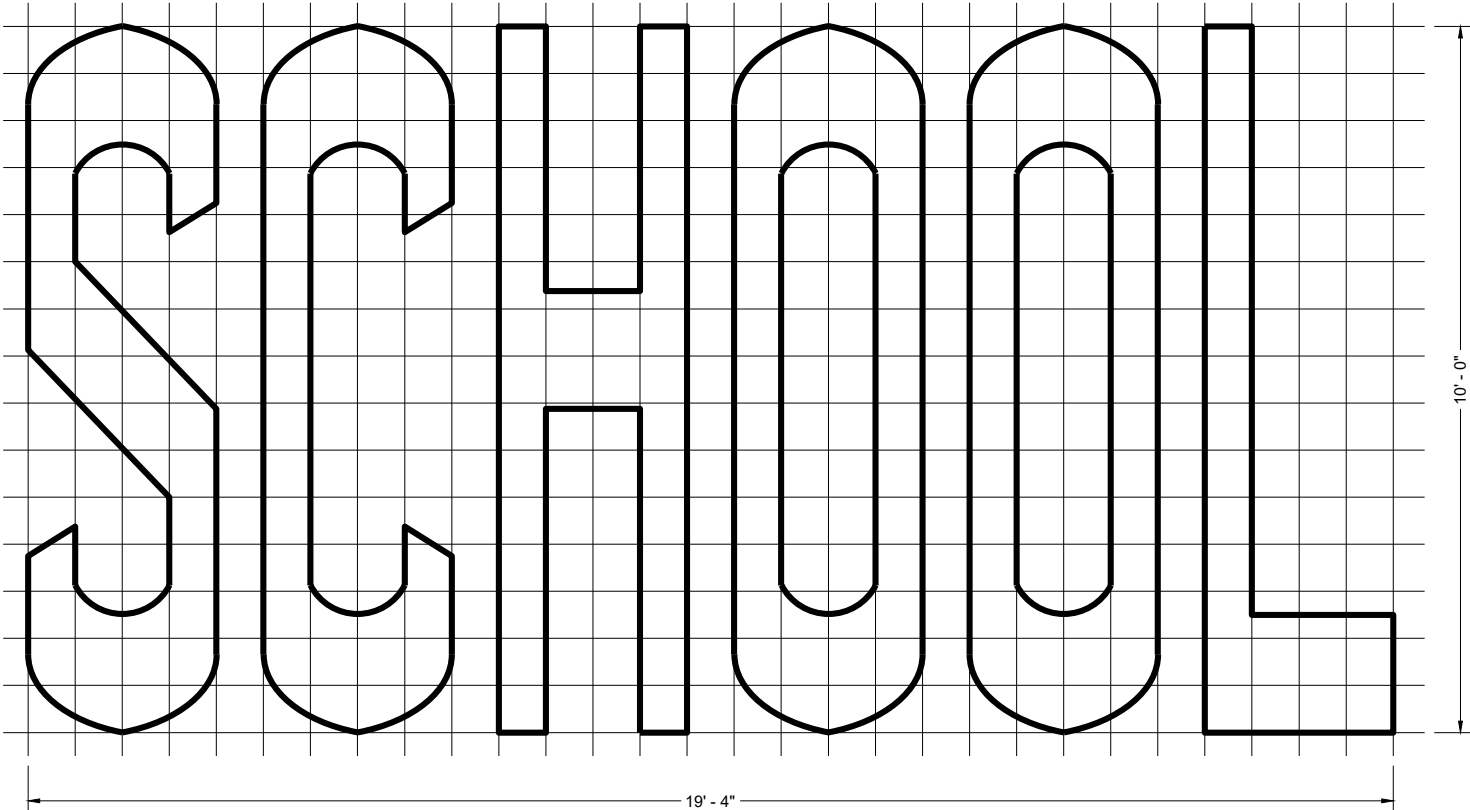
TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 45 MPH OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 57
FHWA



SINGLE LANE

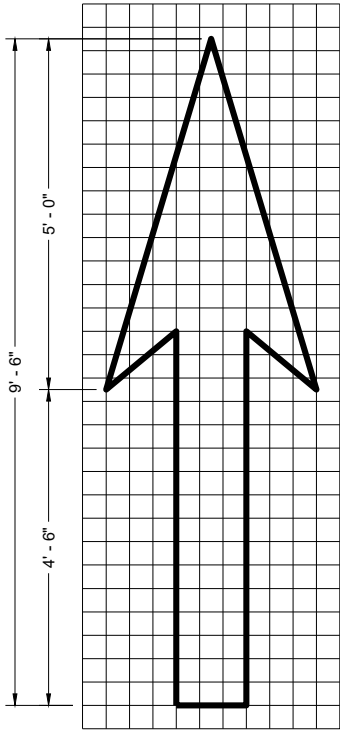


TWO - LANE

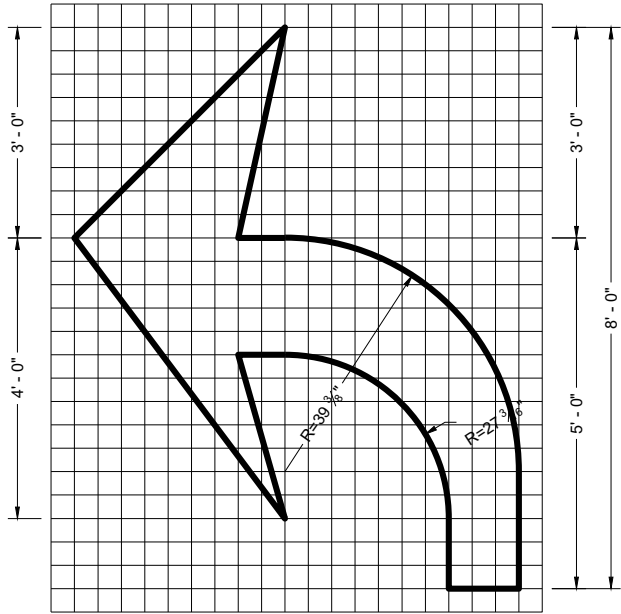
GENERAL NOTES

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

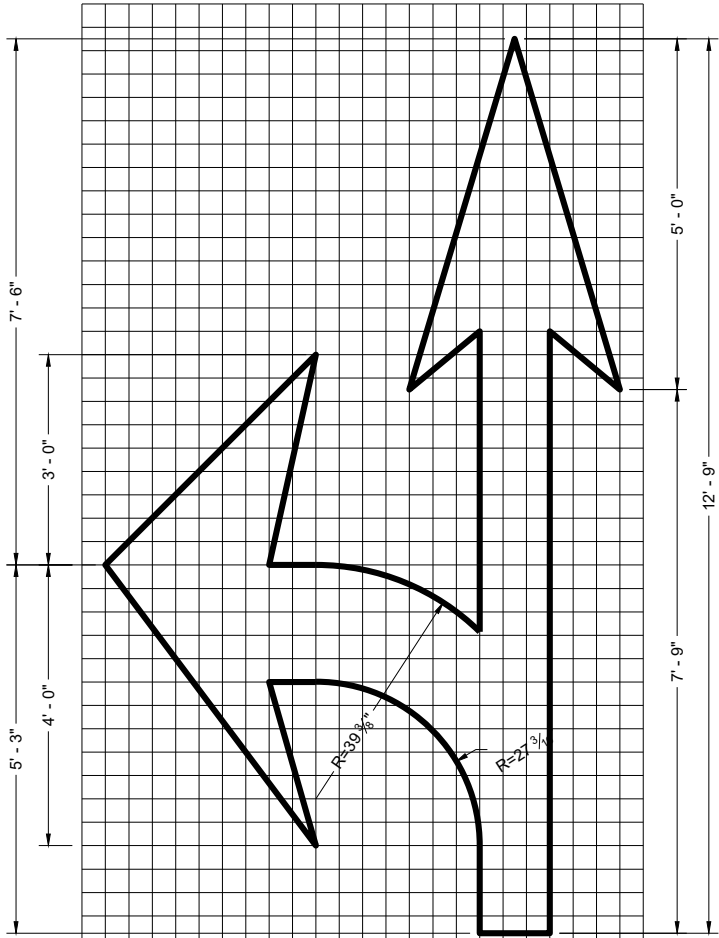
PAVEMENT MARKING WORDS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2024 DATE	/S/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	58



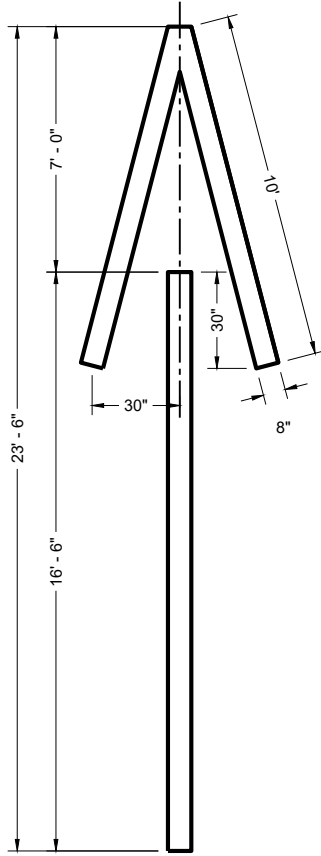
TYPE 1



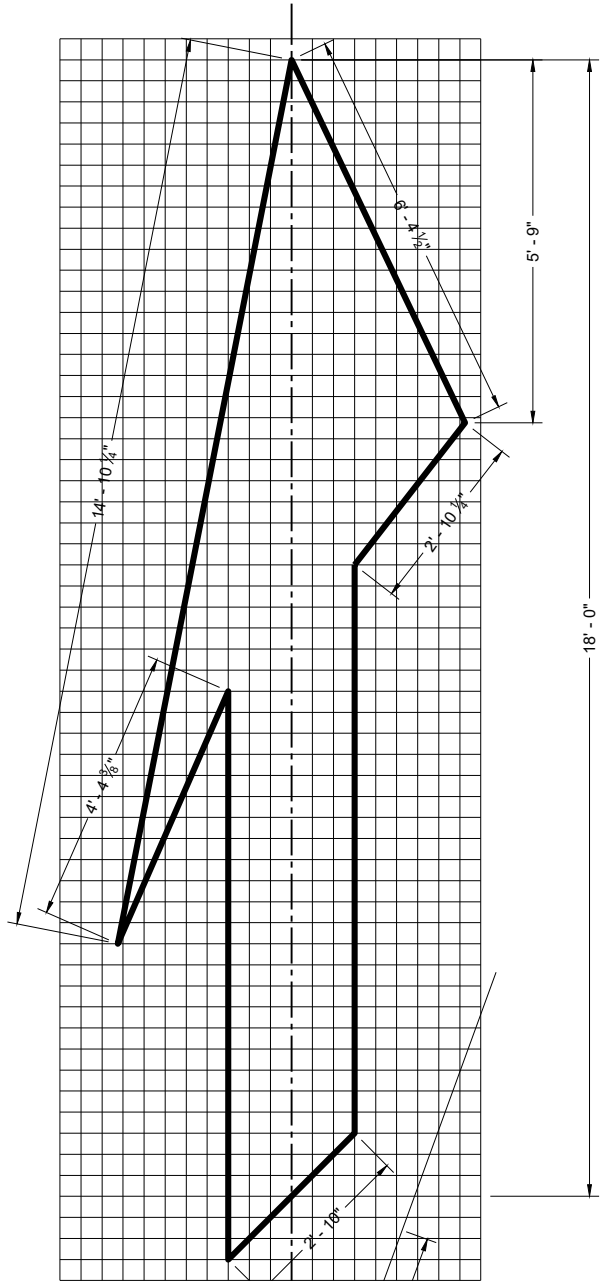
TYPE 2



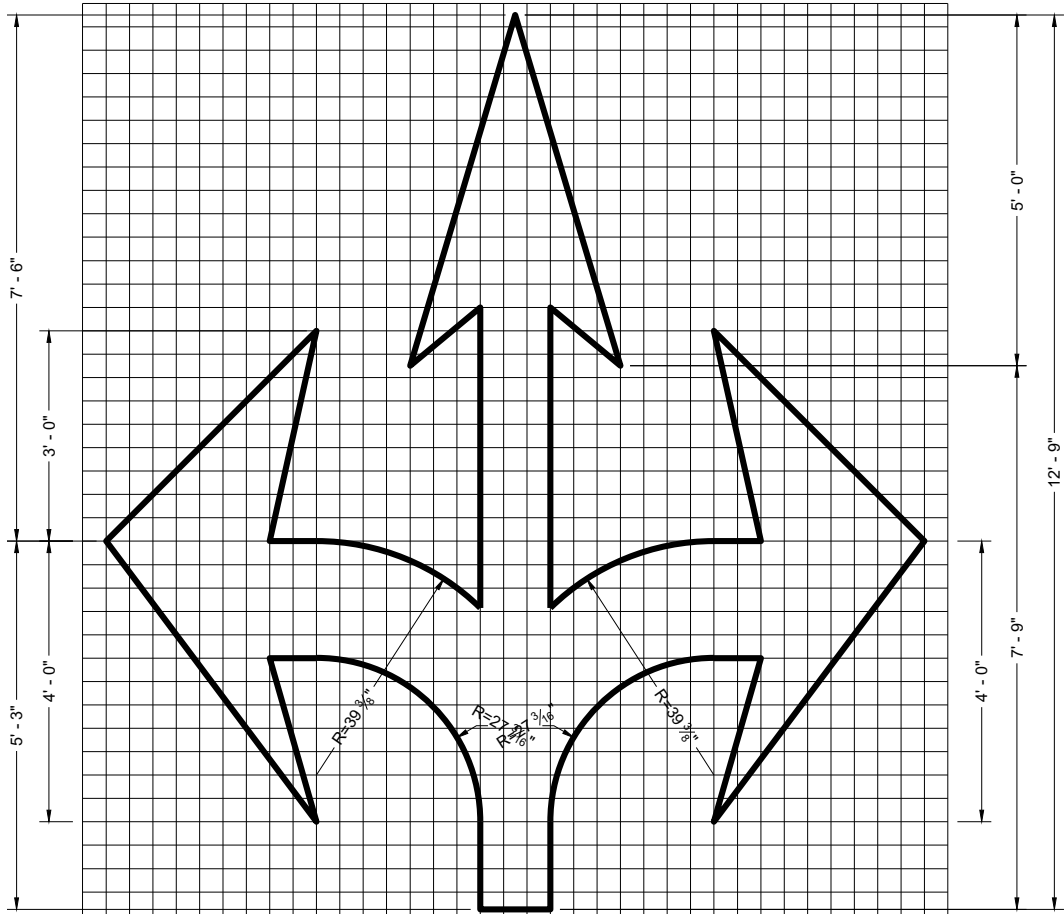
TYPE 3



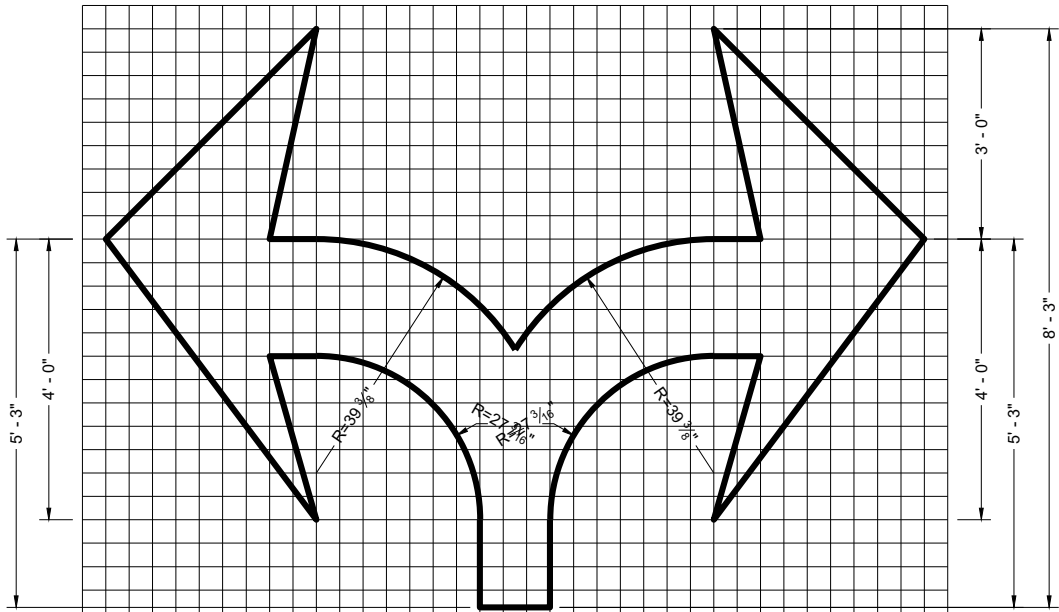
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

GENERAL NOTES

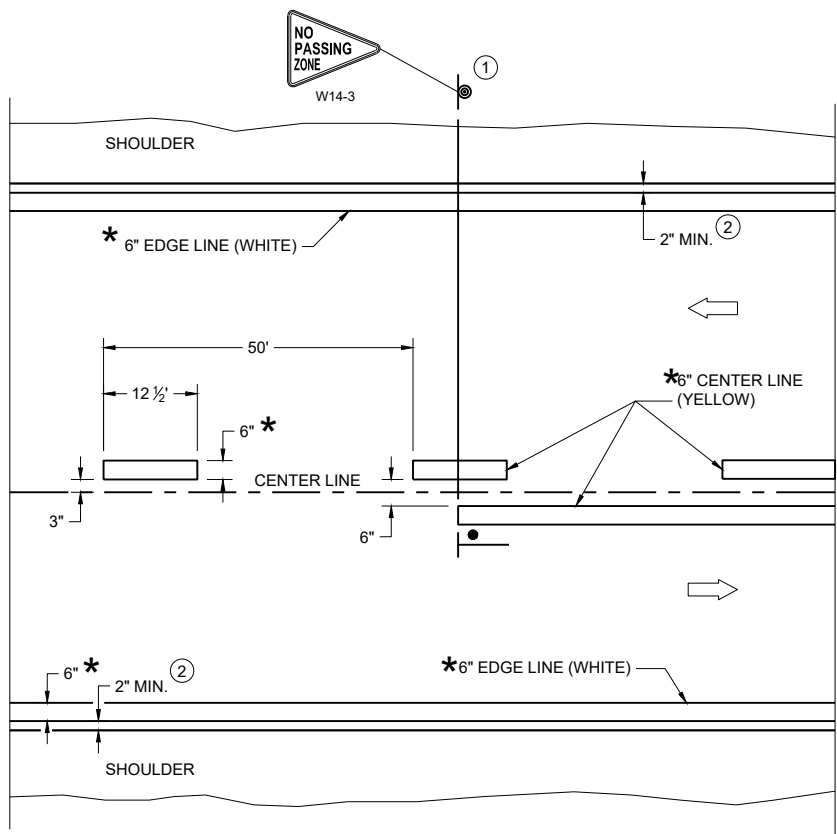
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PAVEMENT MARKING ARROWS

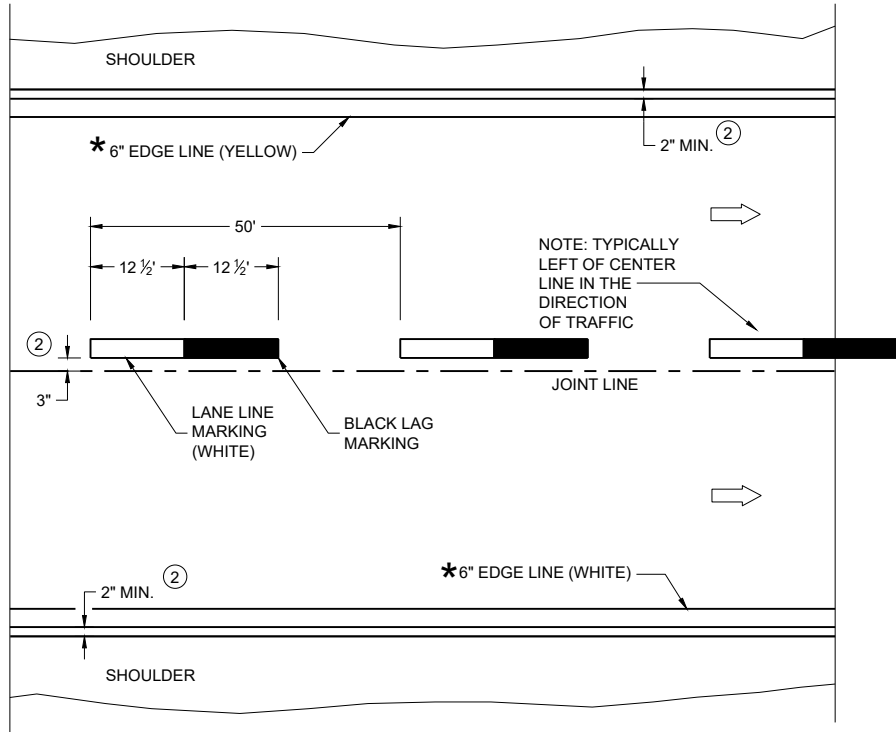
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING ENGINEER

FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

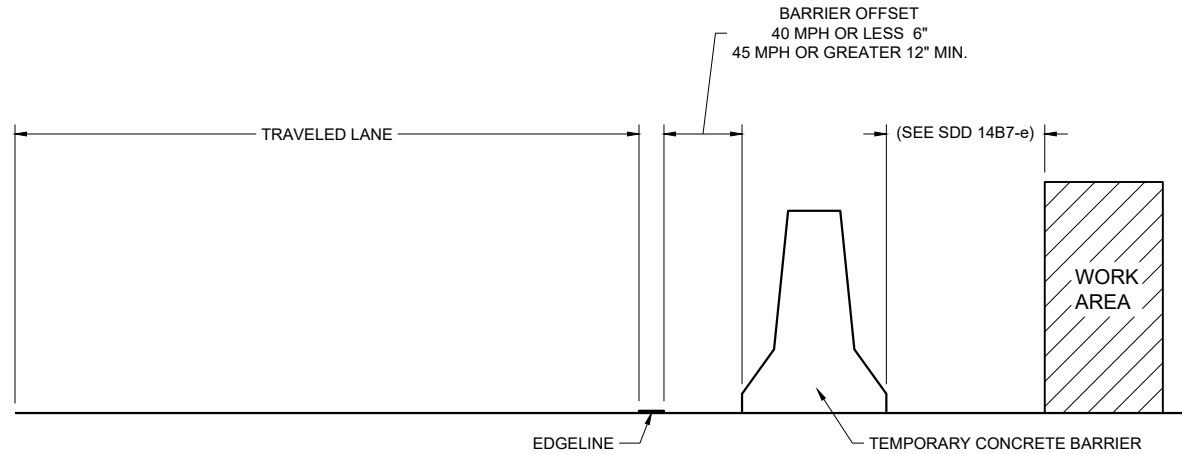
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2024 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA 60	



TEMPORARY BARRIER OFFSET FROM EDGE LINE

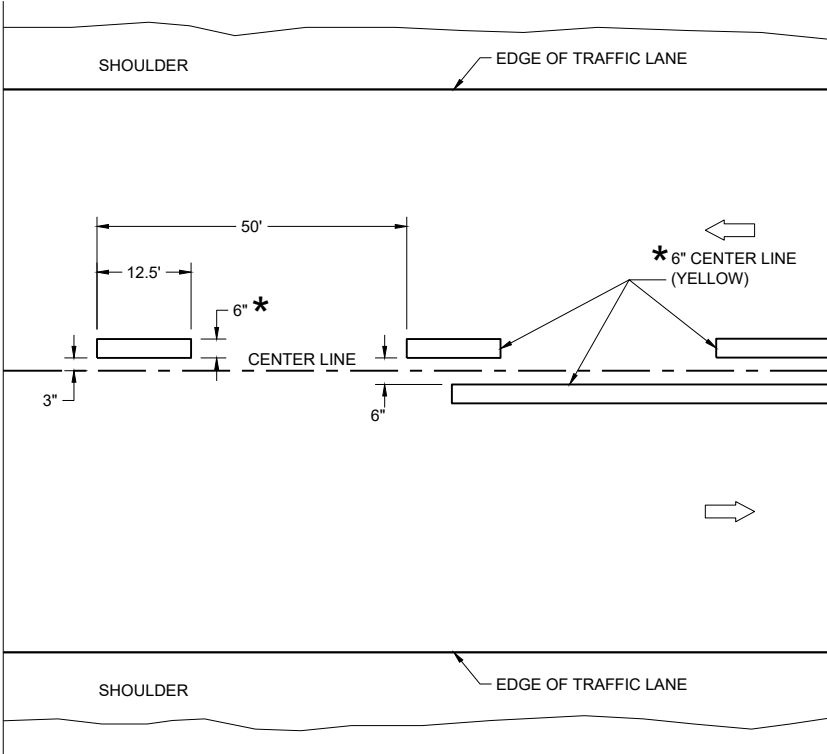
GENERAL NOTES

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

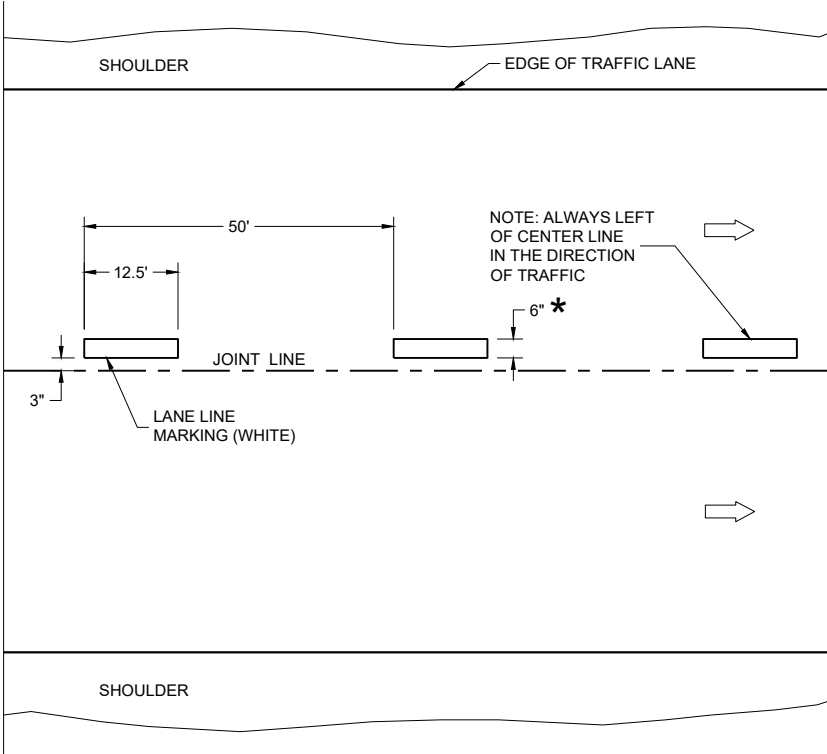
LEGEND

DIRECTION OF TRAFFIC

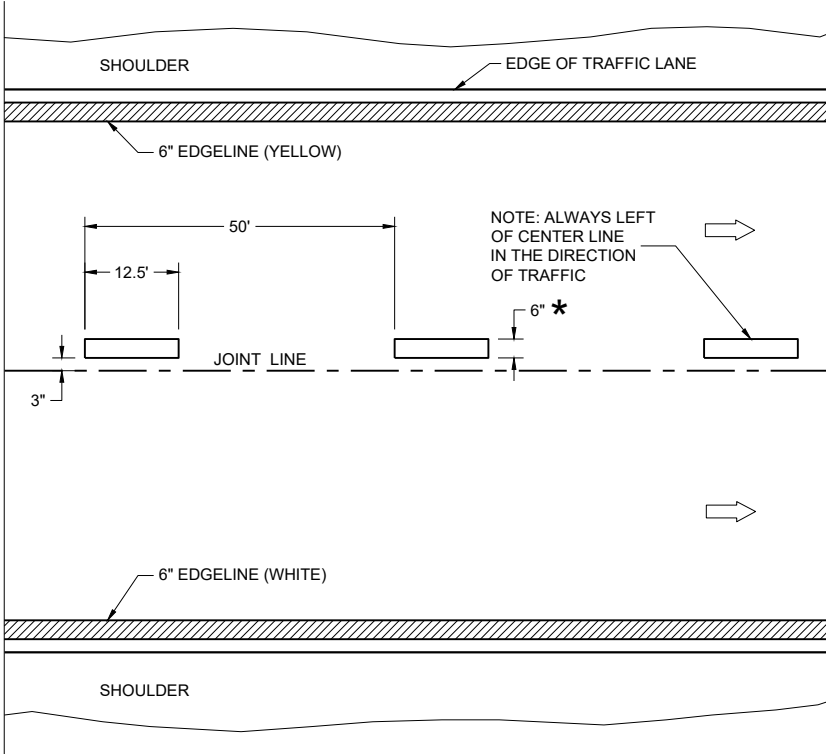
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

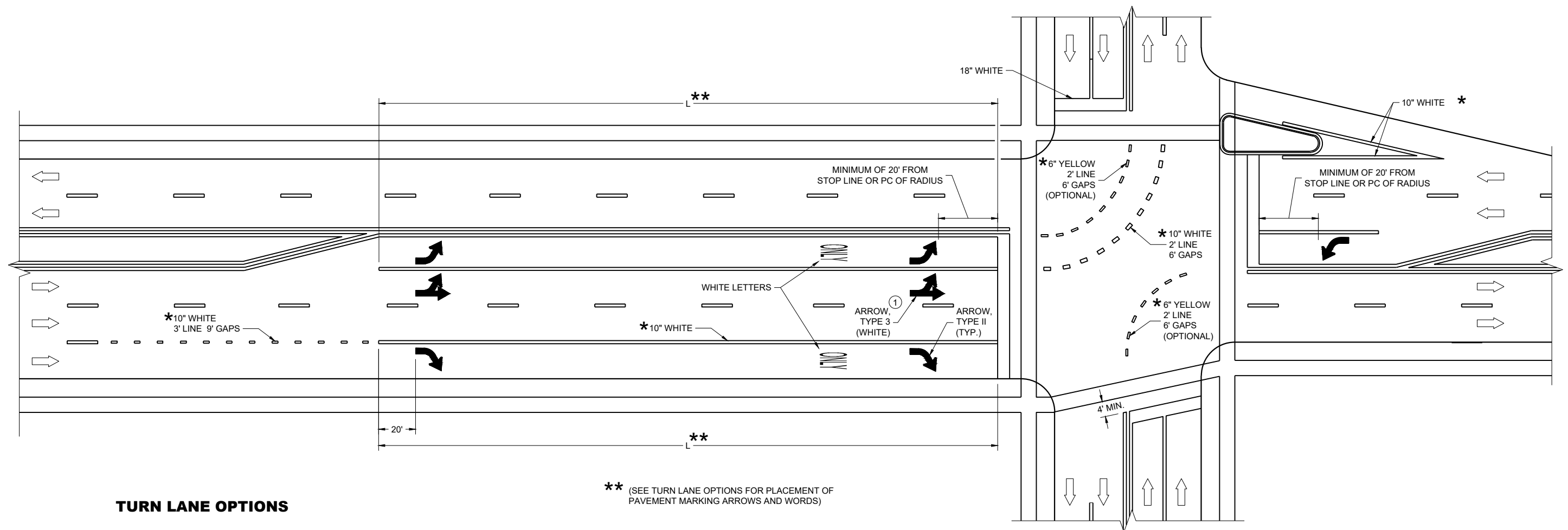
TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2024 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	61

- ① A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ② 10" WHITE
- ③ TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

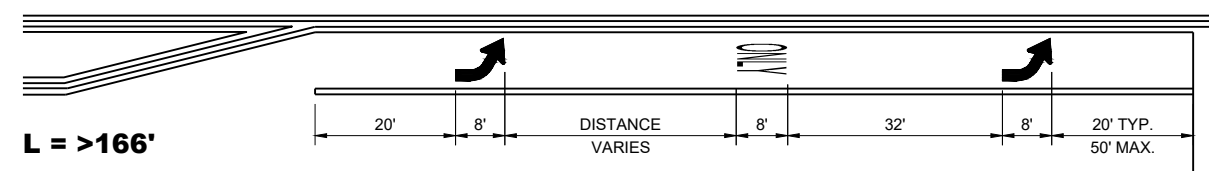
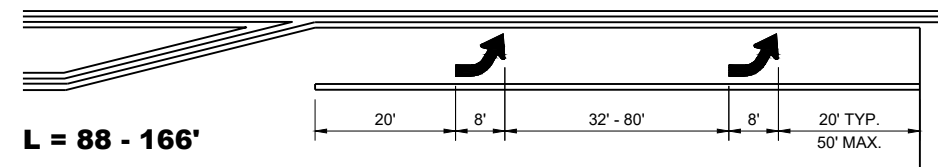
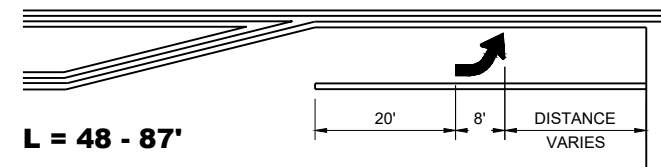
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES





TURN LANE OPTIONS

LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT
REQUIRE PAVEMENT MARKING ARROWS OR WORDS



GENERAL NOTES

- ① QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

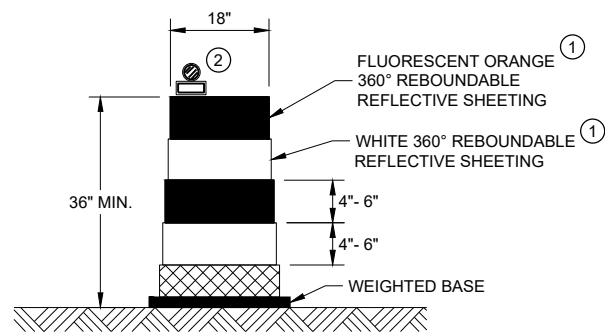
➡ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

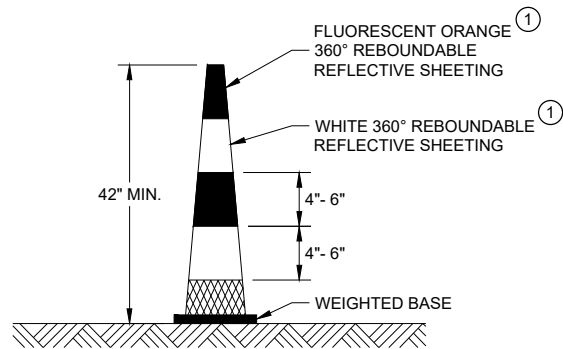
PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



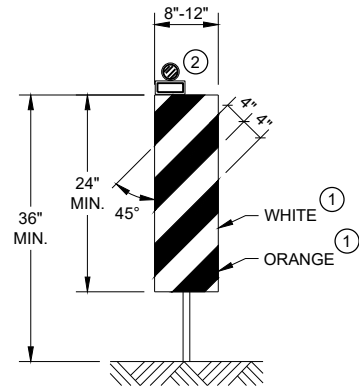
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



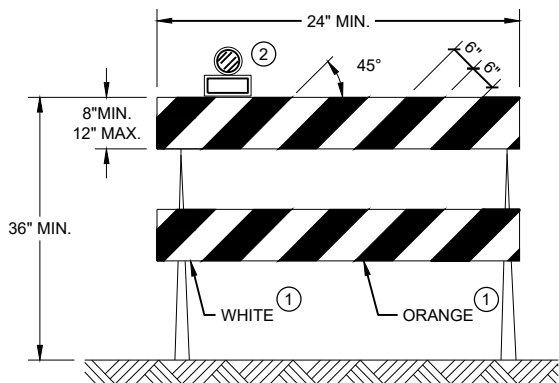
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



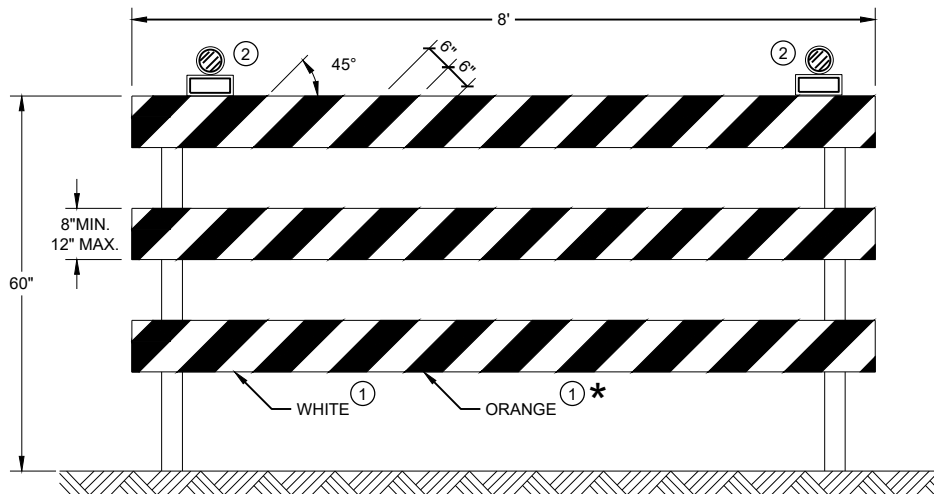
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 64

FHWA

LEGEND

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

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.

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

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

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND 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.

FLAGGING

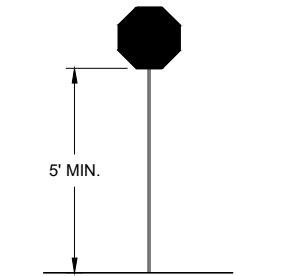
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' 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.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

- UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER
- ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.
- INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.
- PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.
- DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



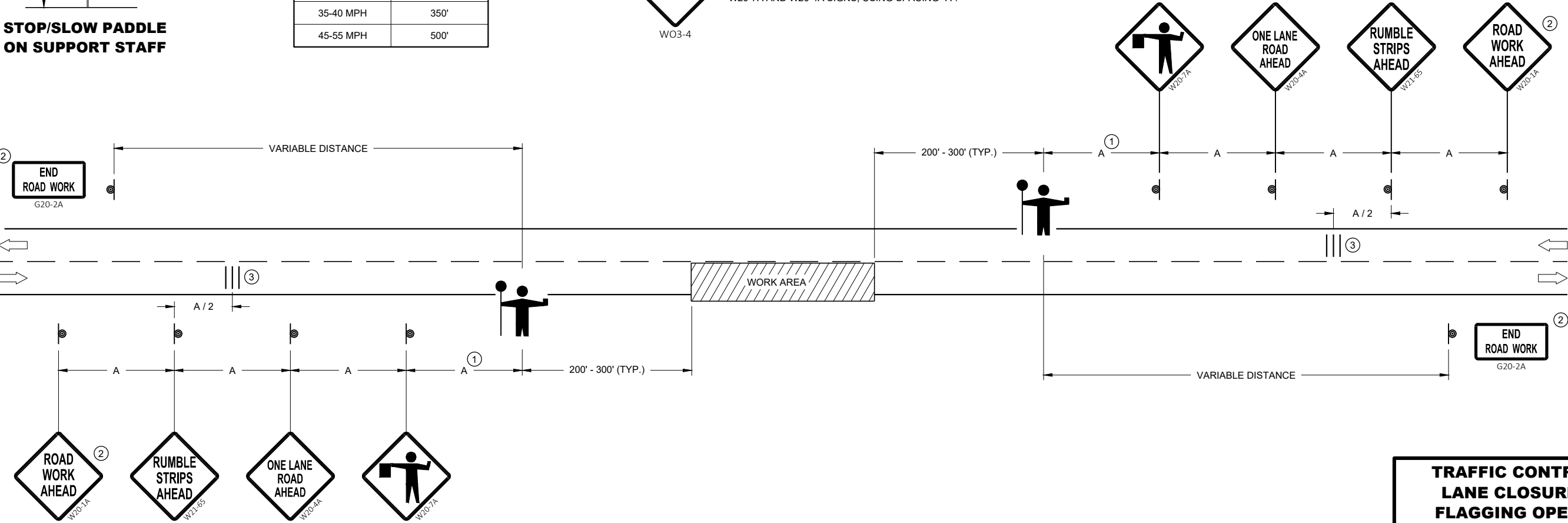
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".

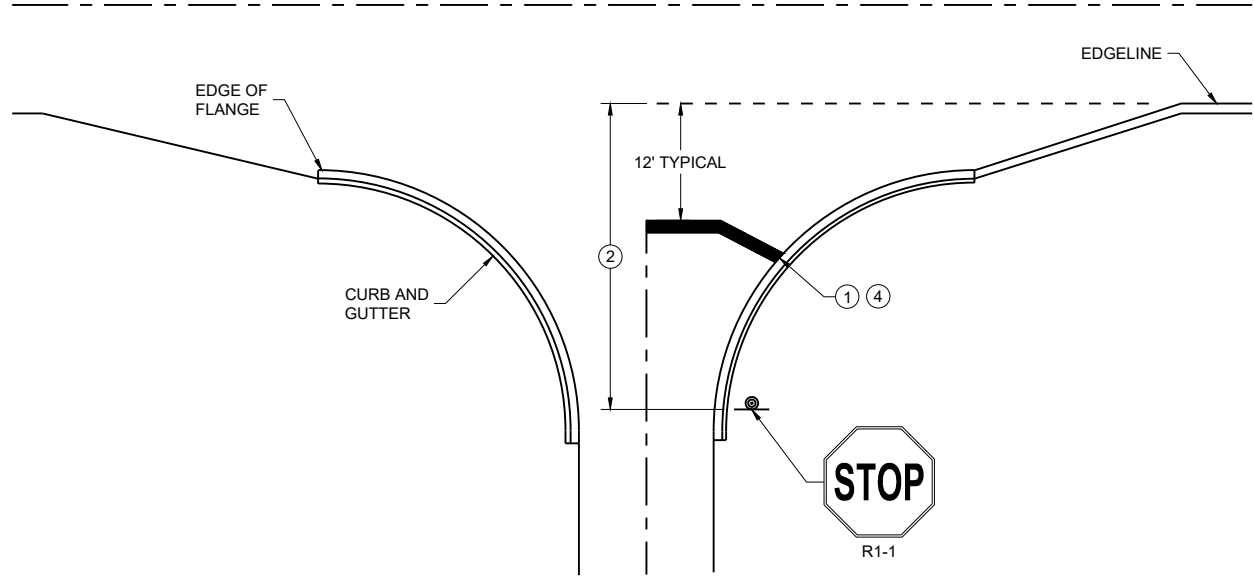


**TRAFFIC CONTROL FOR
LANE CLOSURE WITH
FLAGGING OPERATION**

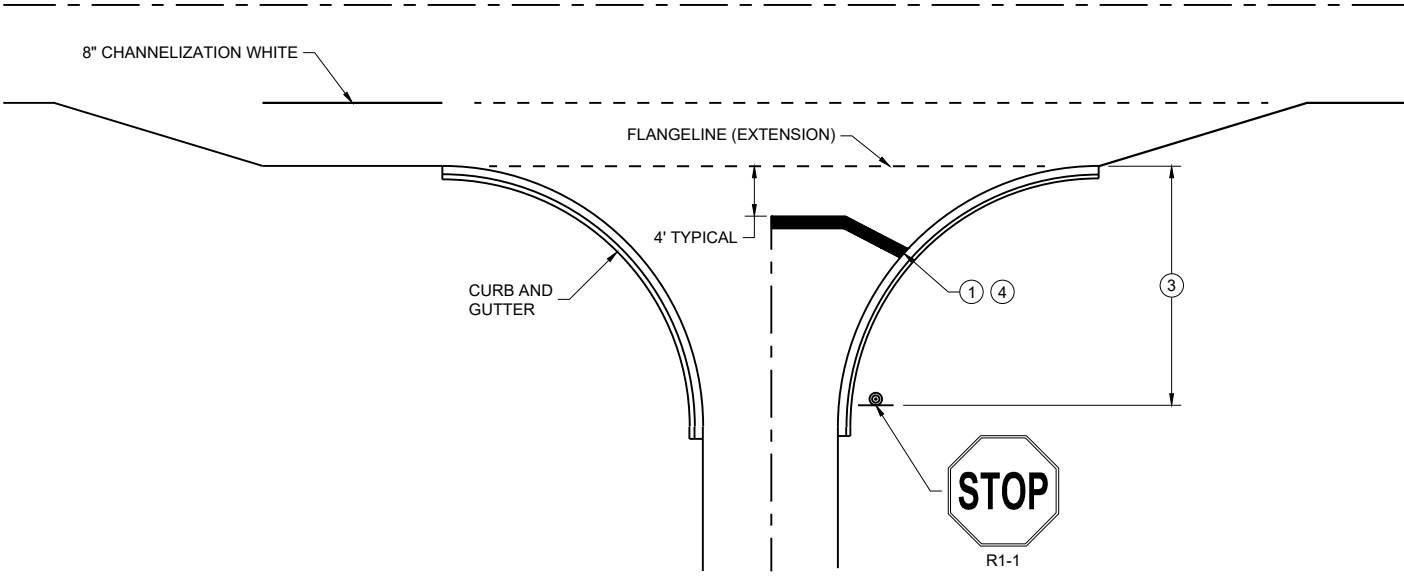
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 65

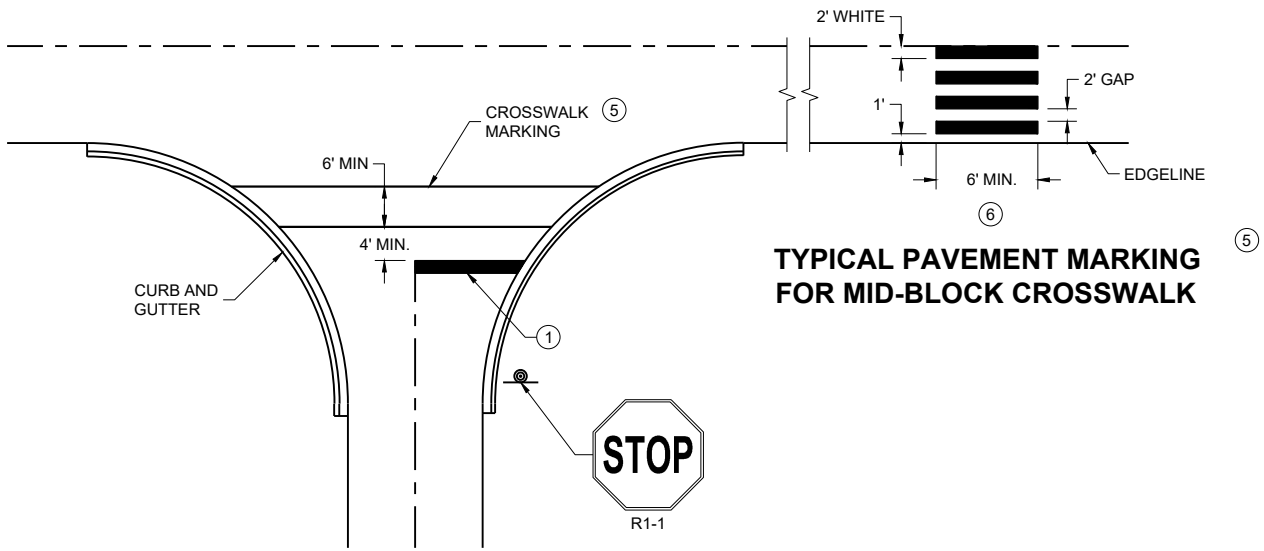
FHWA



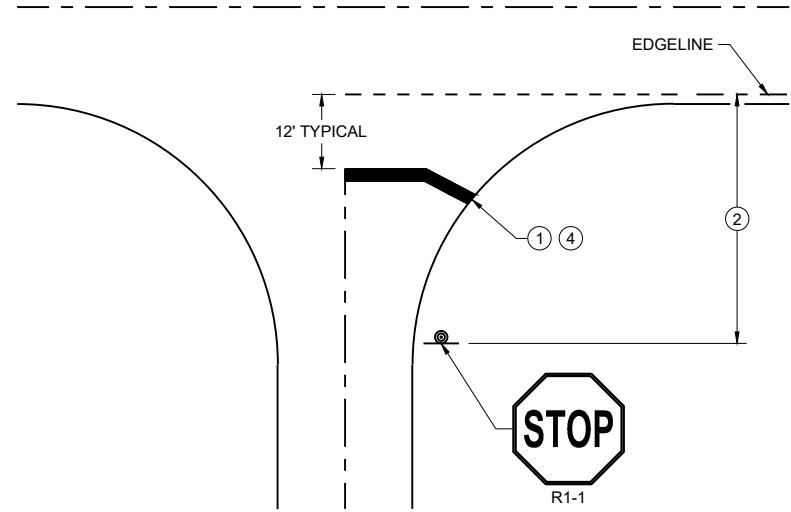
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING



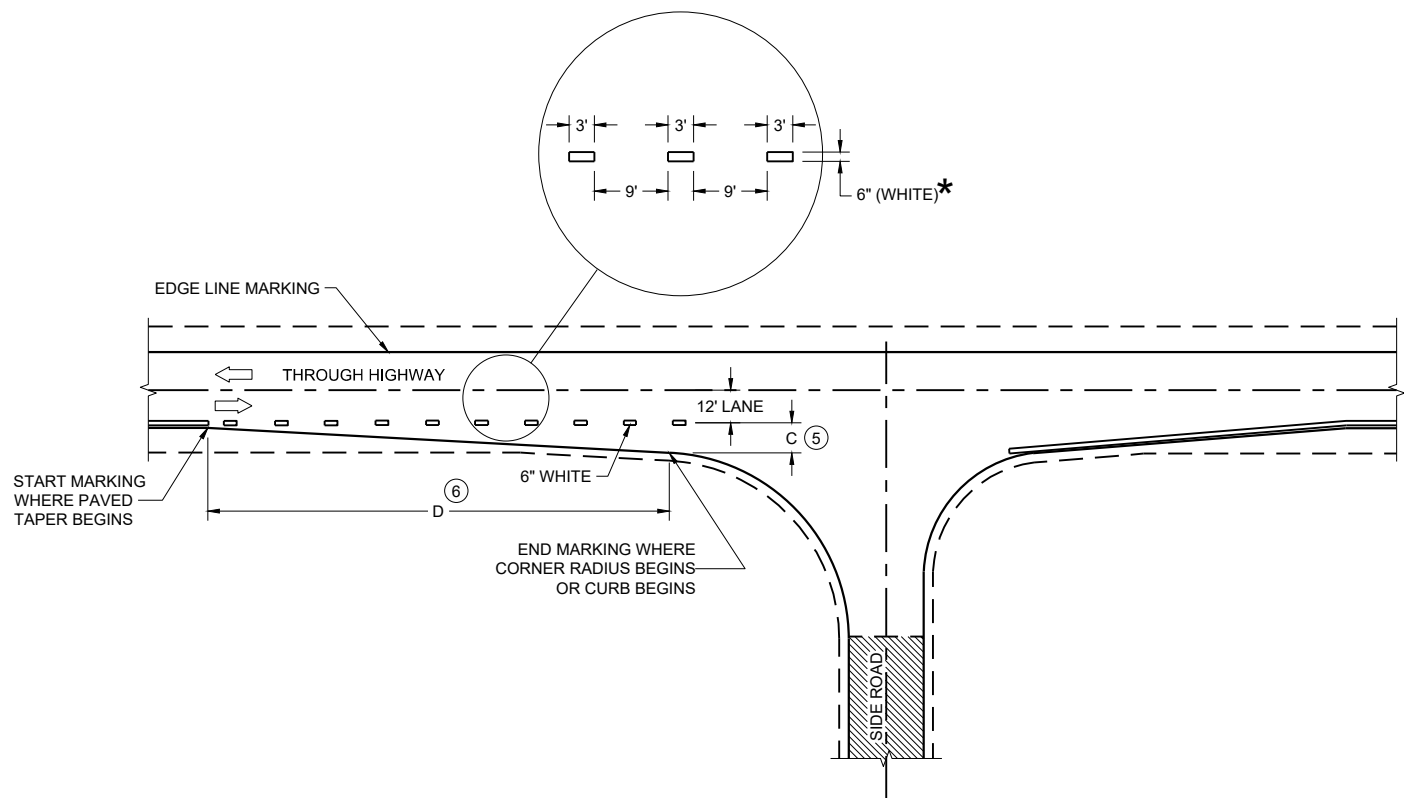
TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

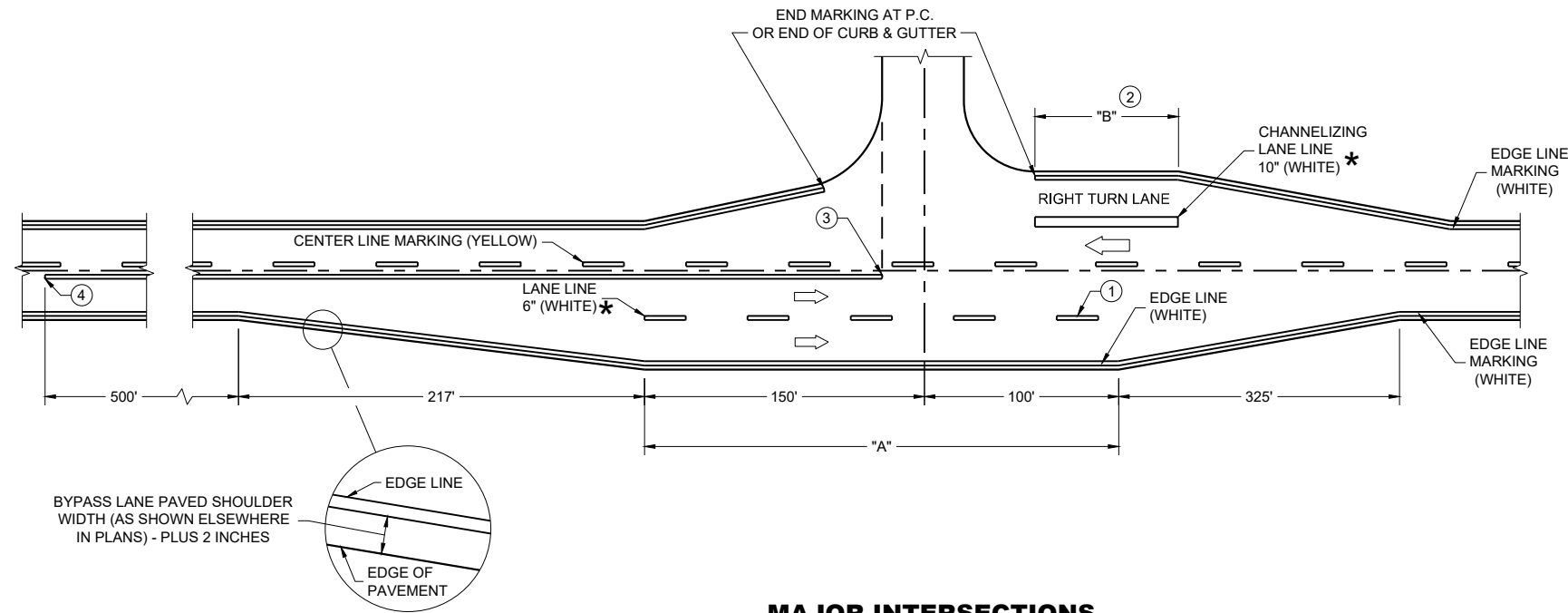
STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

- 1 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- 2 NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- 3 NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
- 4 MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
- 5 LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES.
- 6 POSTED SPEED LIMITS OF 40 MPH OR GREATER USE A MINIMUM WIDTH OF 8' FOR MIDBLOCK CROSSWALKS

STOP LINE AND CROSSWALK PAVEMENT MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2024 DATE	/S/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER



MINOR INTERSECTION



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

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

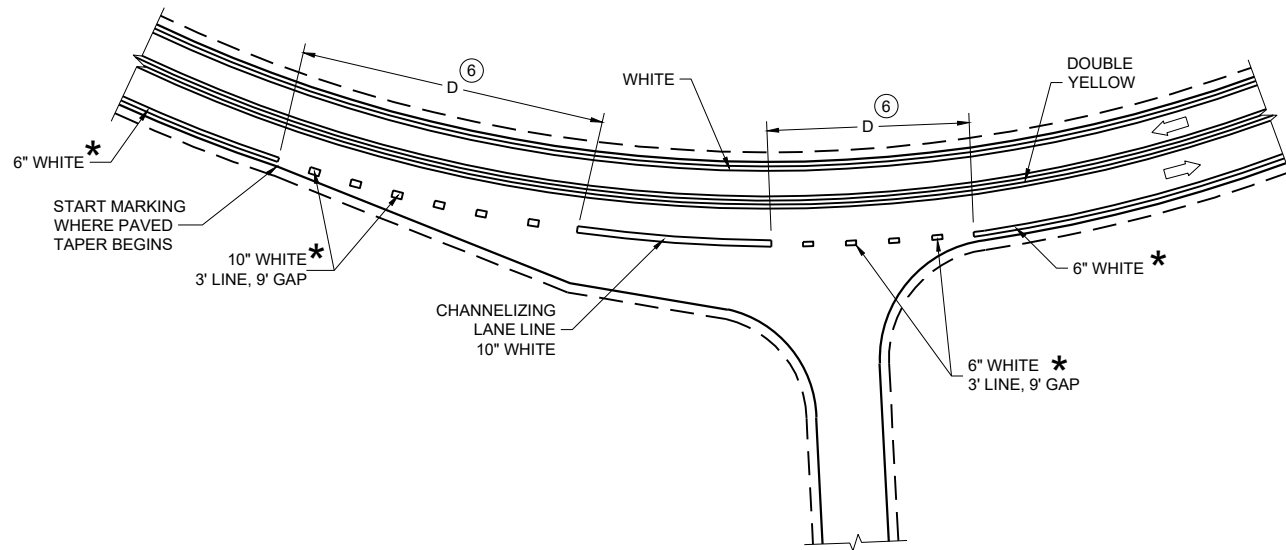
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
- ⑥ WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

➡ DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

GENERAL NOTES

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 THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

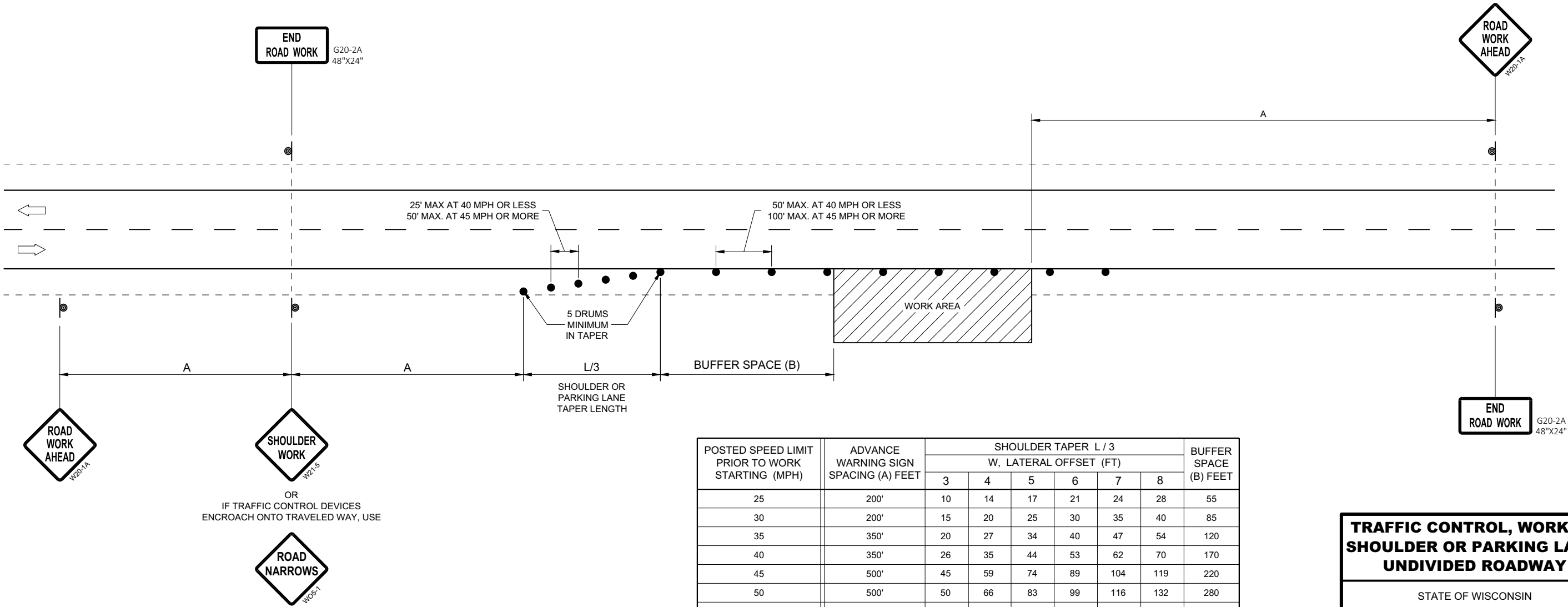
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

TRAFFIC CONTROL, WORK ON
SHOULDER OR PARKING LANE,
UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020 /S/ Andrew Heidtke
DATE STATEWIDE WORK ZONE T SAFETY ENGINEER 68
FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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

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

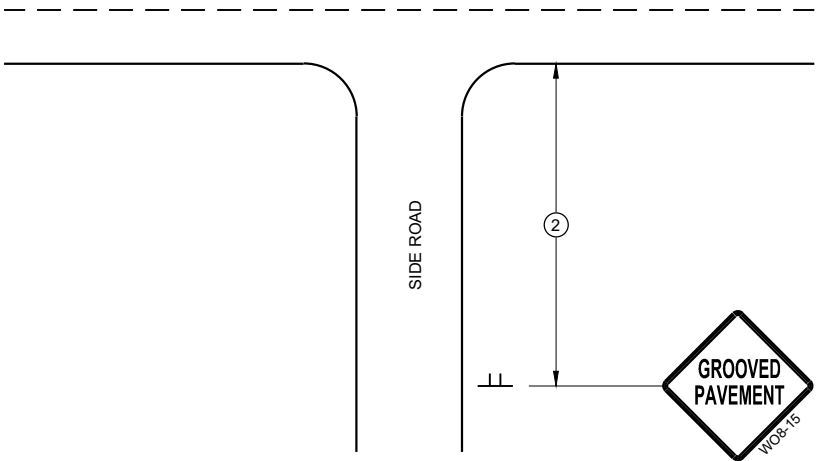
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

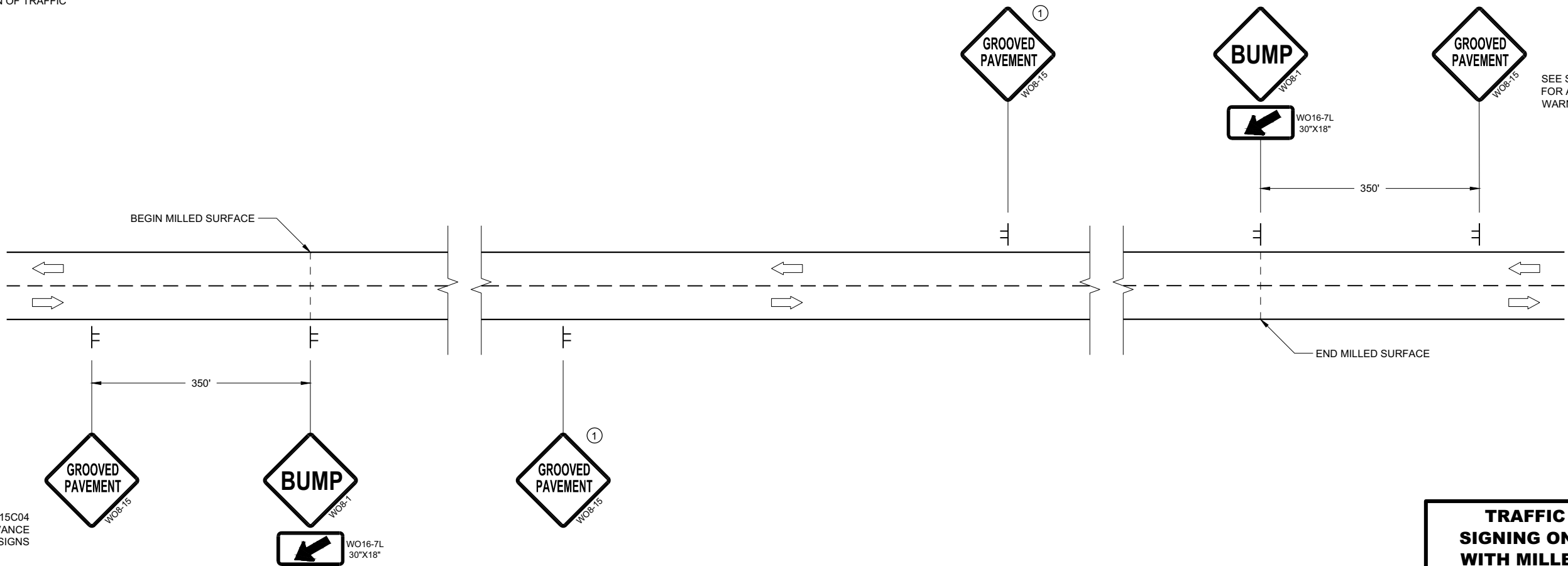
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH
SIGN DETAIL



SEE SDD15C04
FOR ADVANCE
WARNING SIGNS

SEE SDD15C04
FOR ADVANCE
WARNING SIGNS

DETAIL FOR SIGNING ON MILLED SURFACES

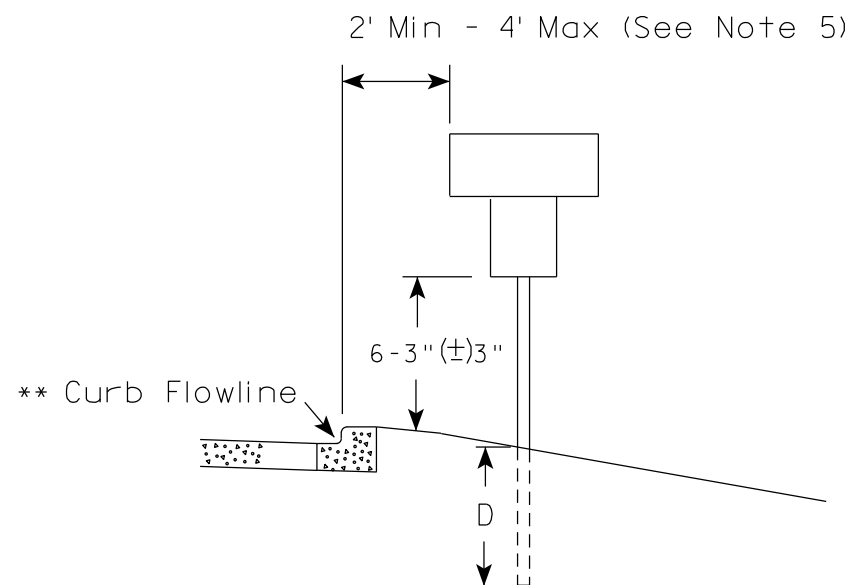
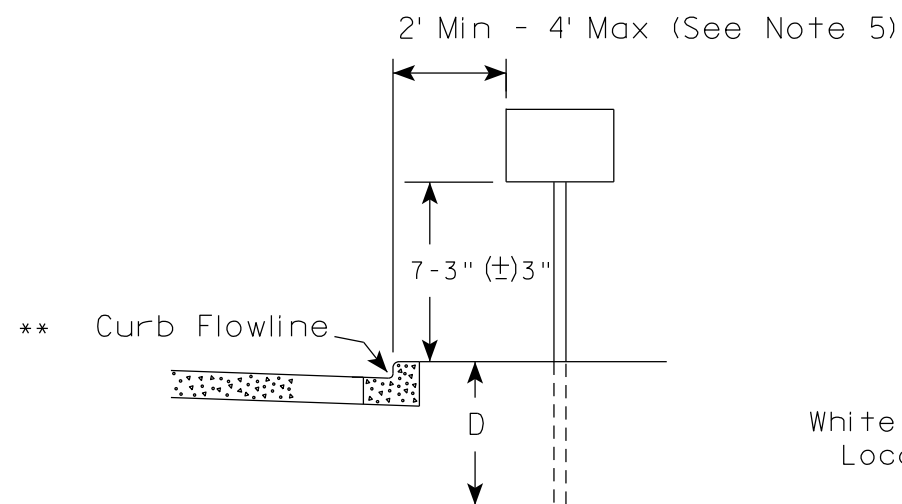
TRAFFIC CONTROL,
SIGNING ON ROADWAYS
WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

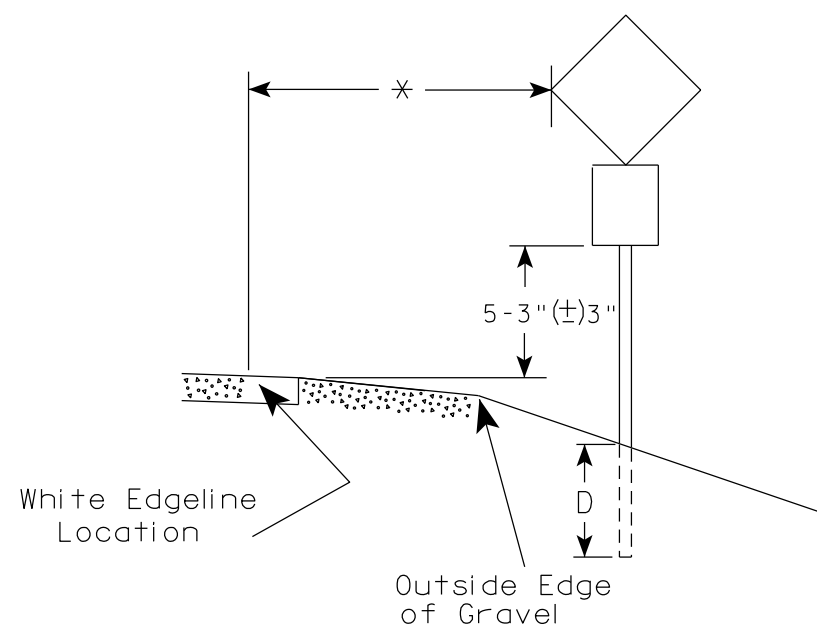
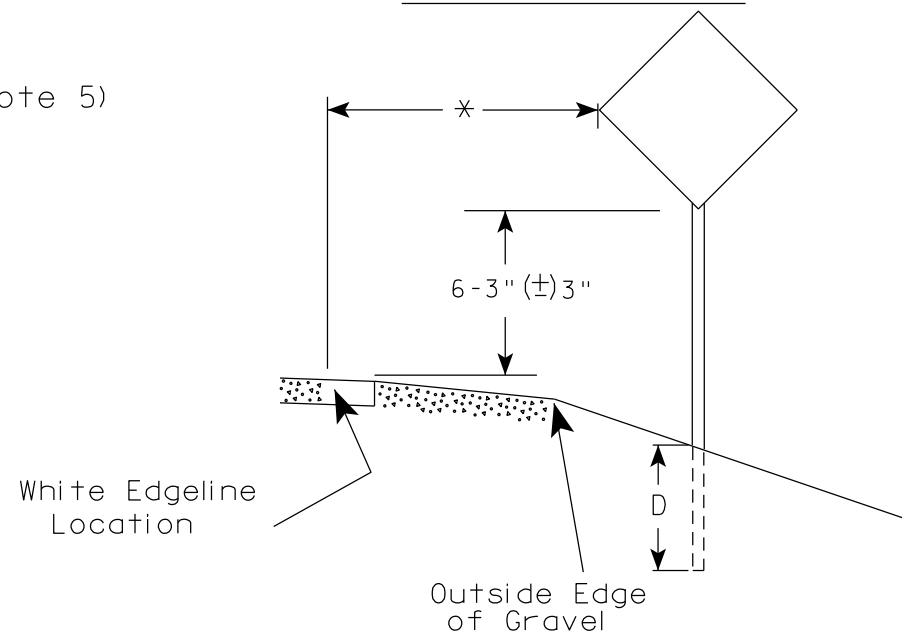
APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 69

FHWA

URBAN AREA



RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

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

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 or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 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" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the 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.

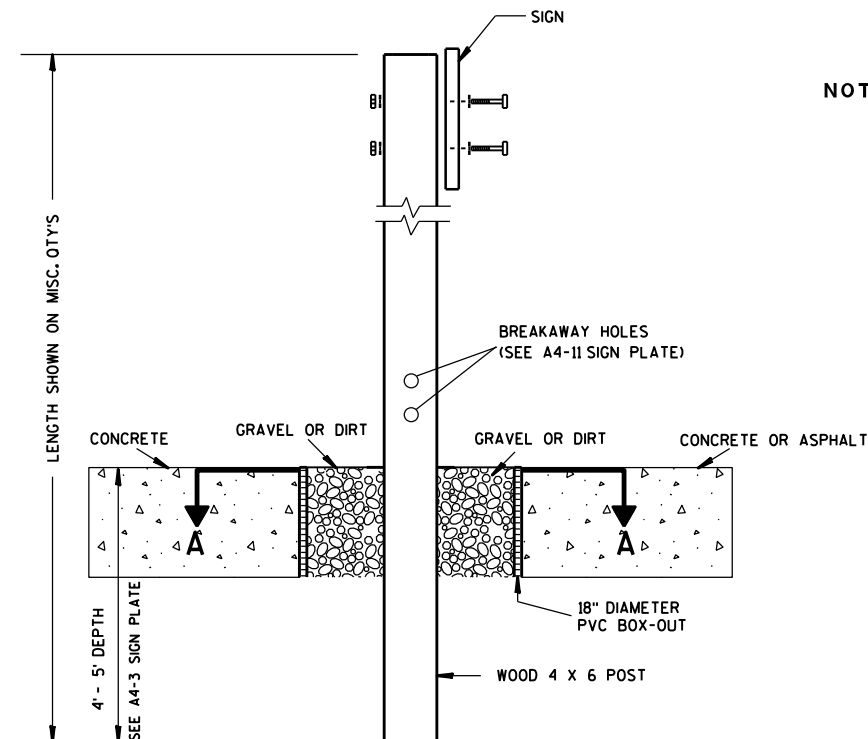
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

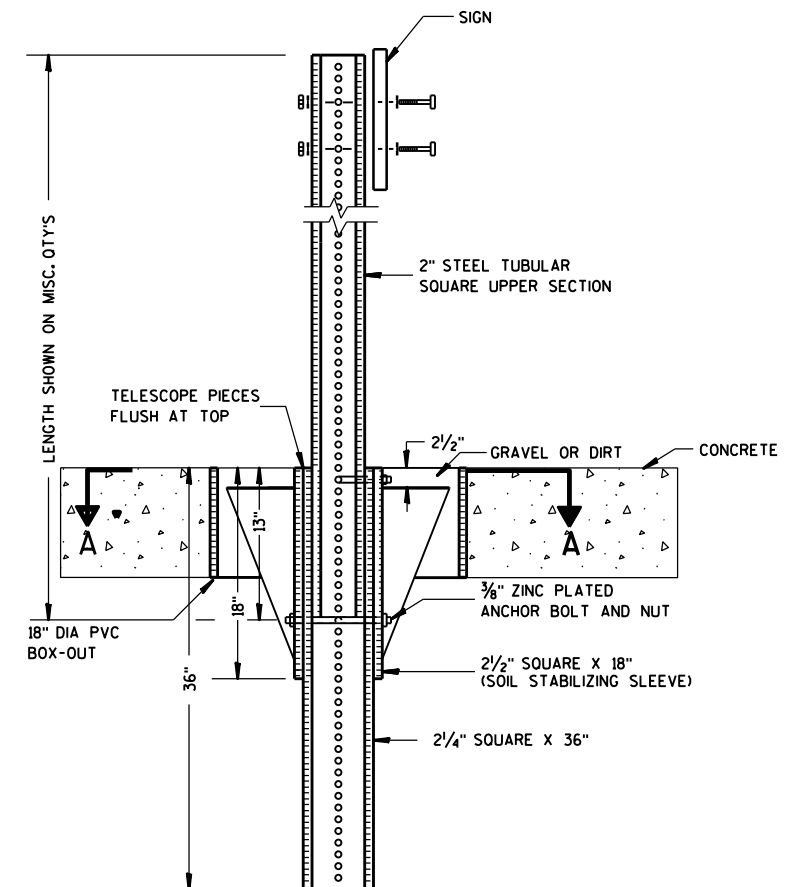
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

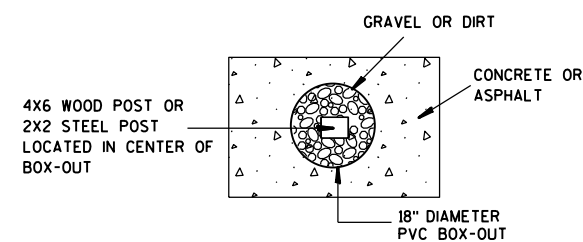
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 PLAT 71 A4-3B.1

PROJECT NO:

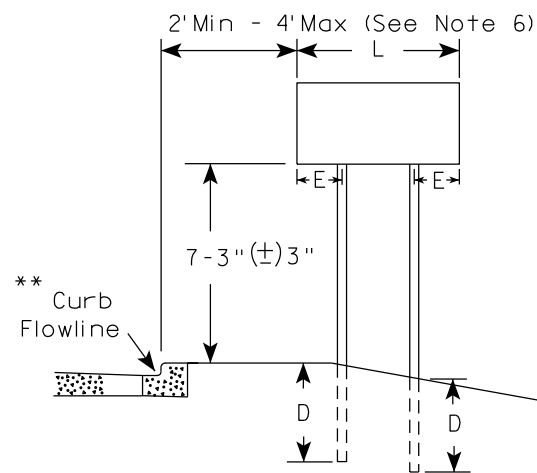
HWY:

COUNTY:

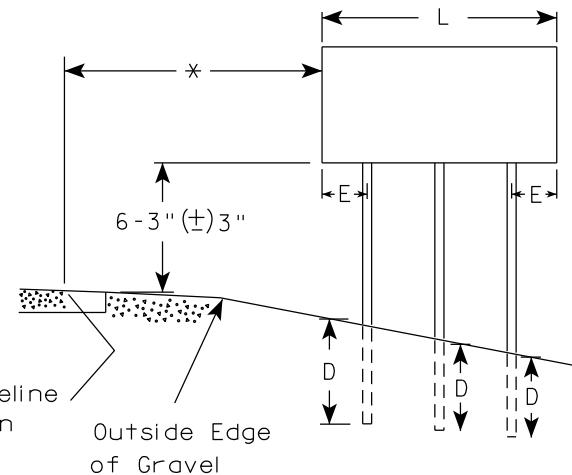
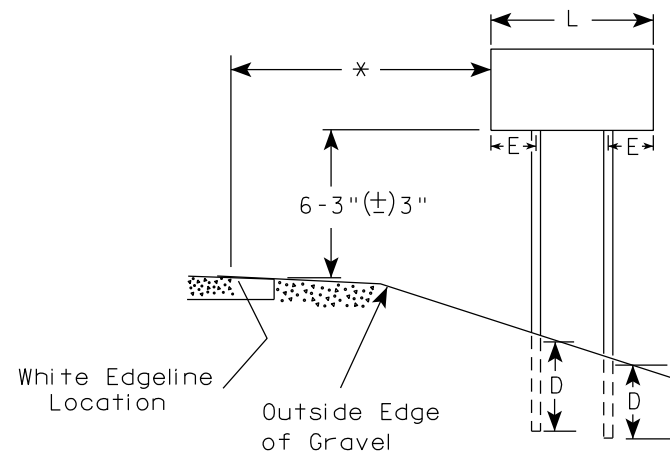
SHEET NO:

E

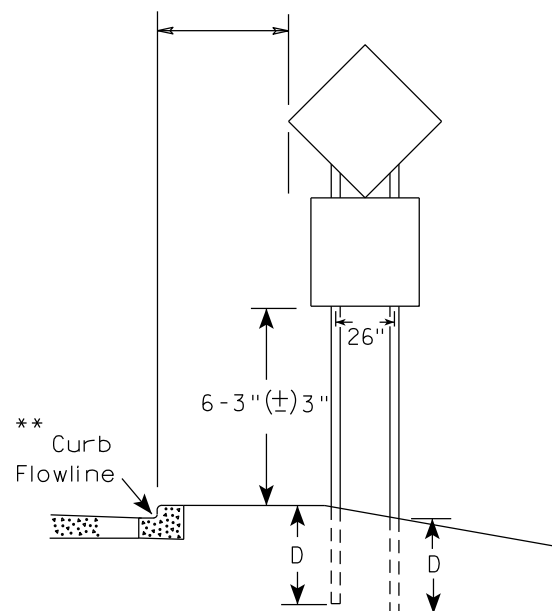
URBAN AREA



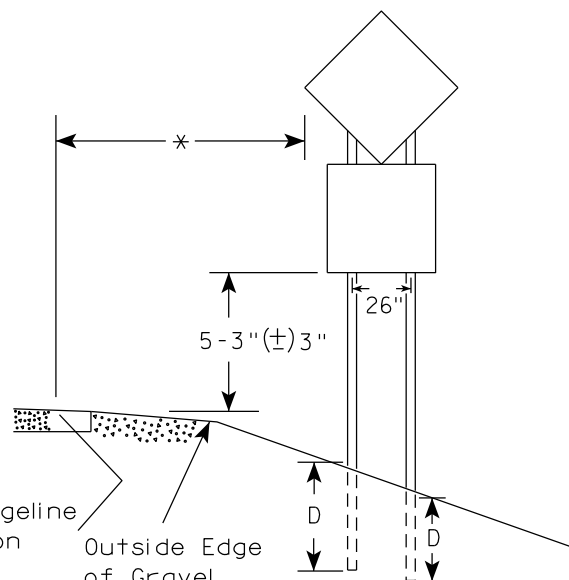
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

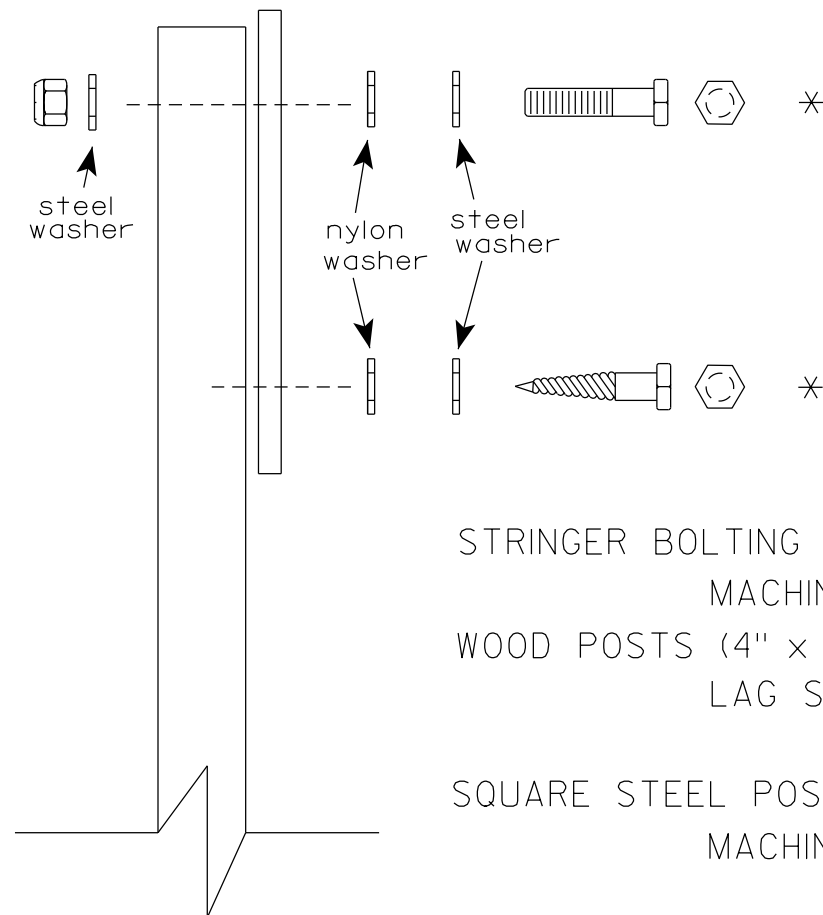
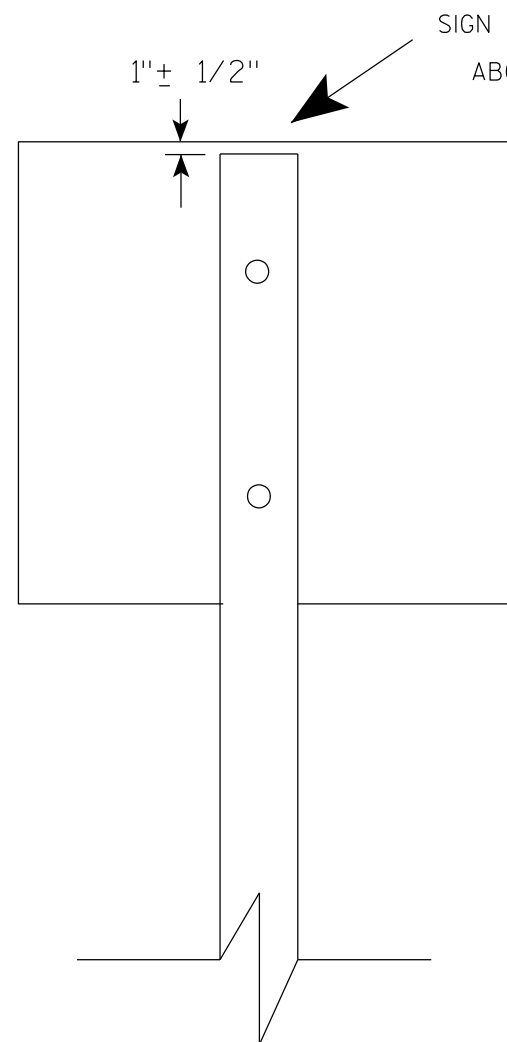
GENERAL NOTES

- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
- The (±) tolerance for mounting height is 3 inches.
- J-Assemblies are considered to be one sign for mounting height.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 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" (±) 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.



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.

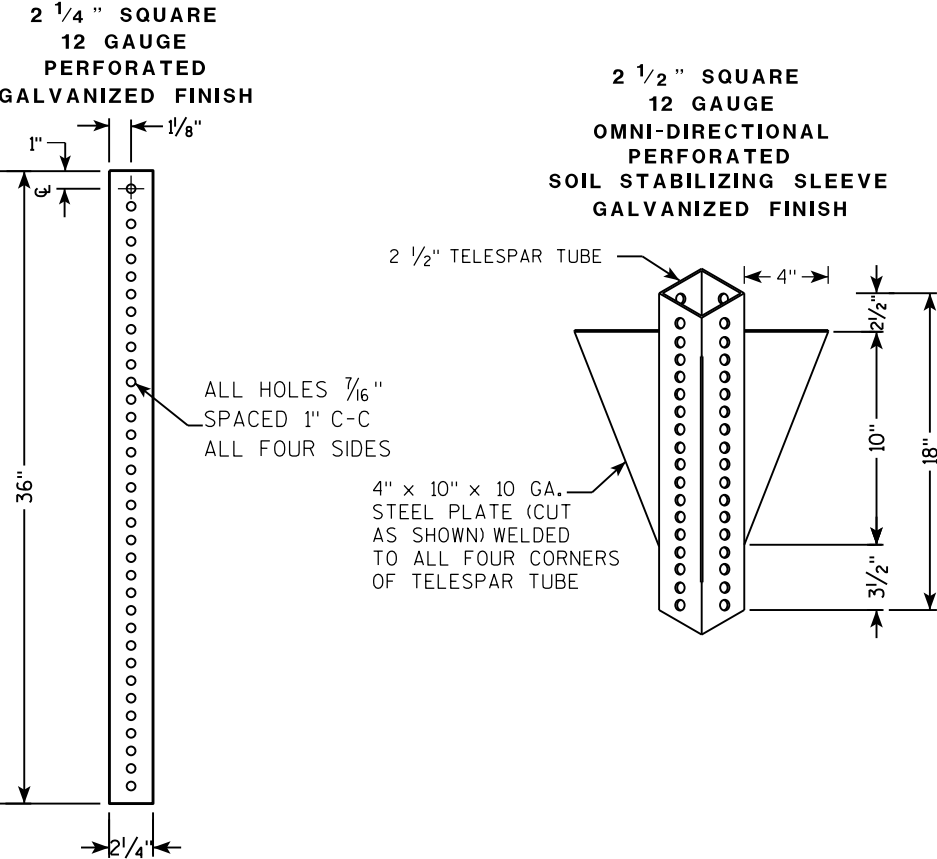
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

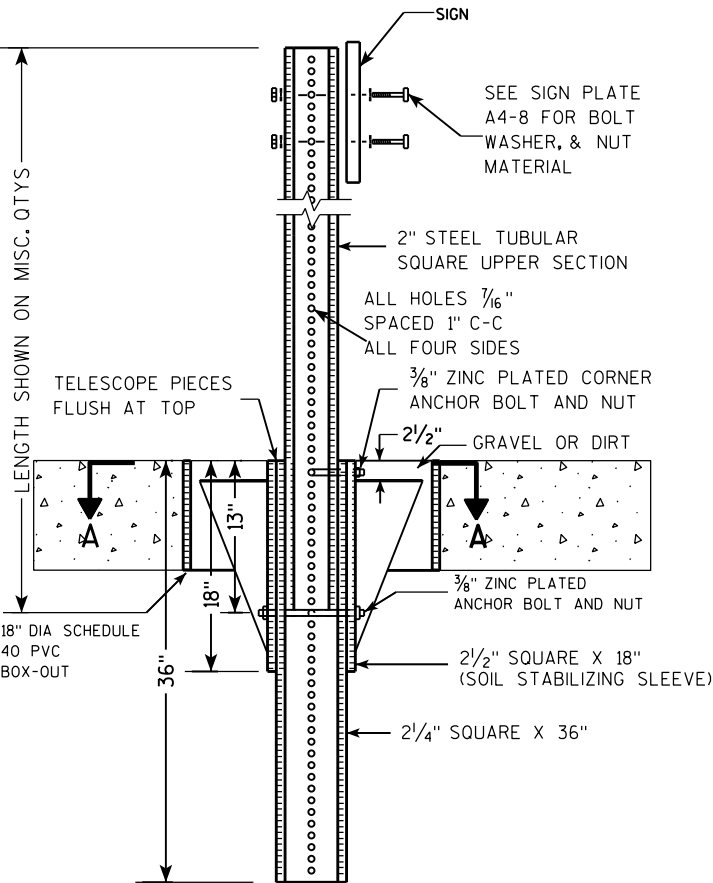
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require 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 4/1/2020	PLATE NO. A4-8.9

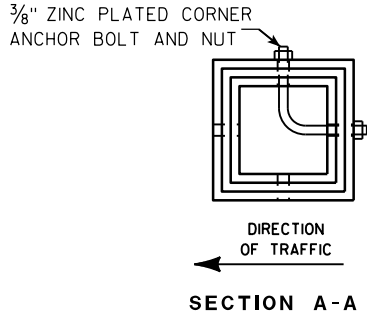
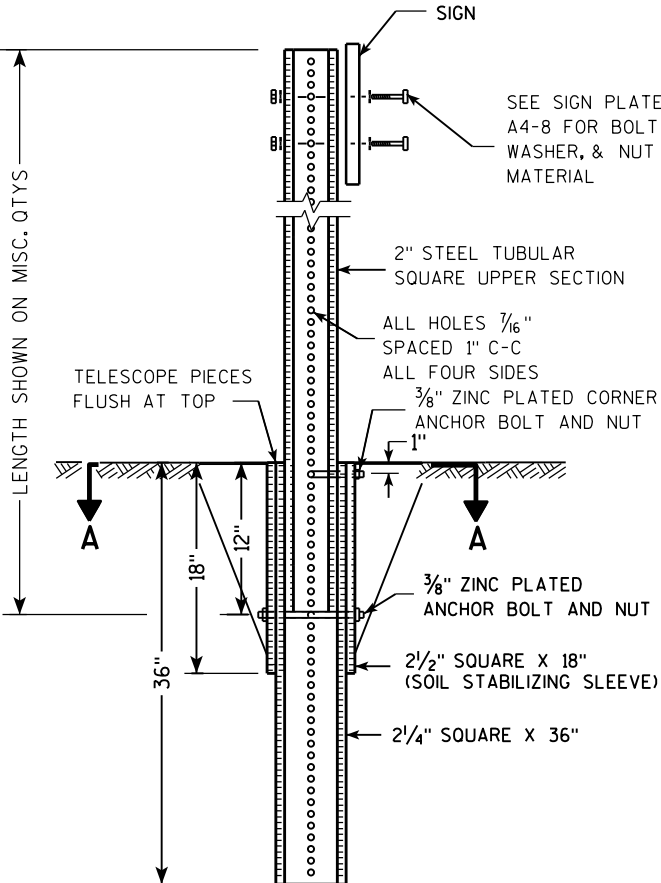
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



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



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



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

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

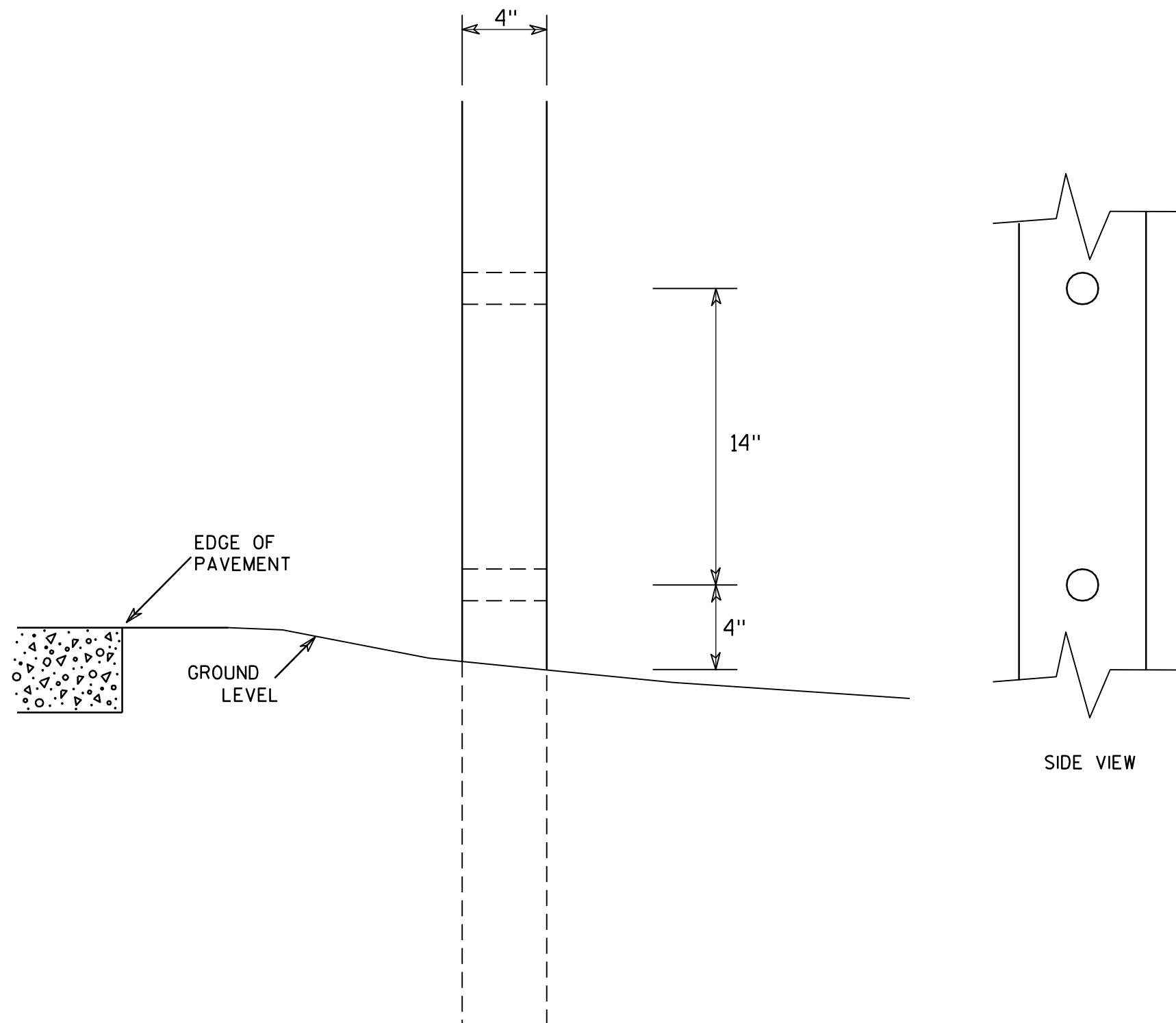
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLAT 74 14-9.9

7



GENERAL NOTES

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

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

COUNTY:

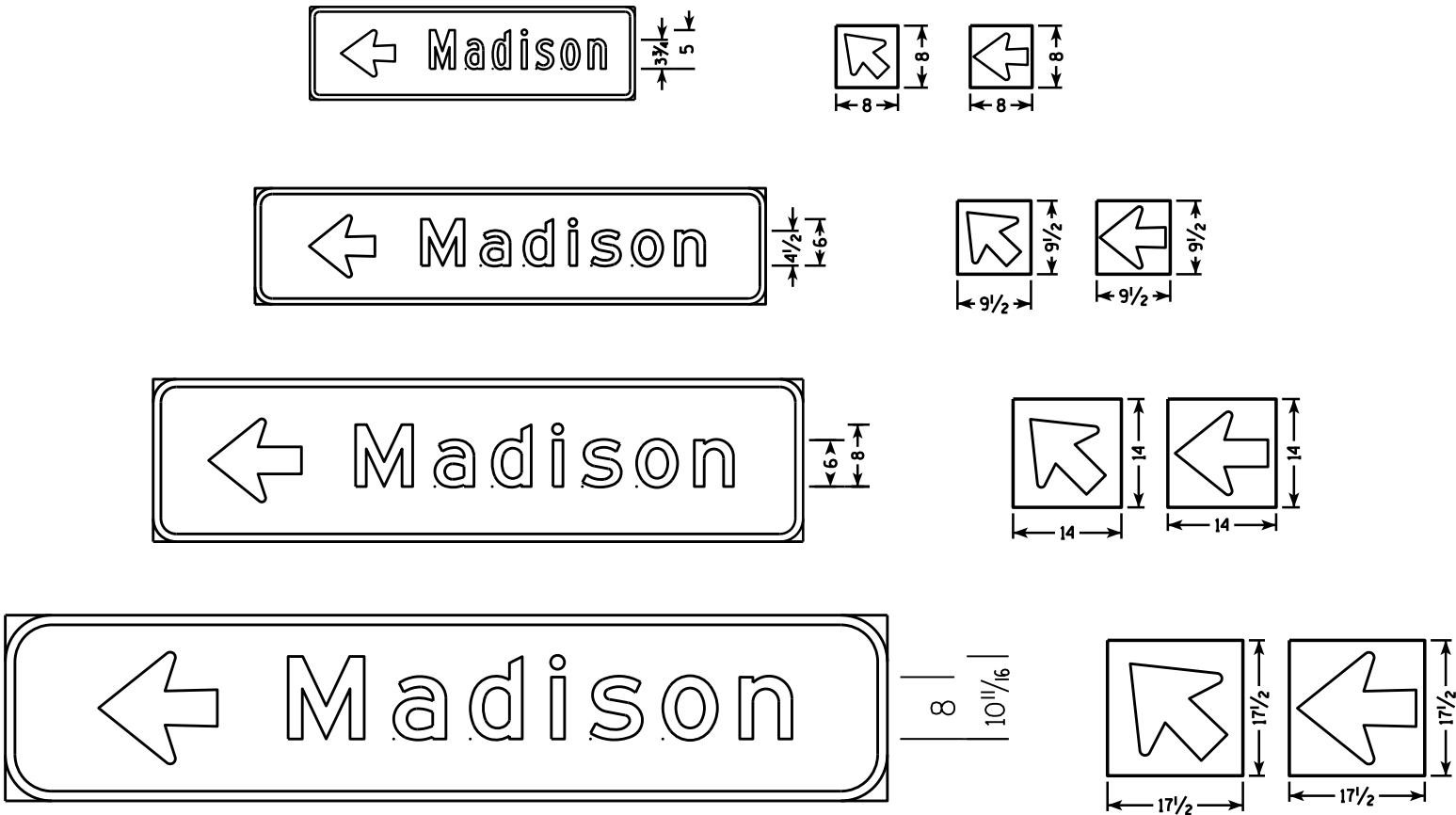
SHEET NO: 75

E

SIGN LAYOUT WITH VARIOUS SIZED MESSAGES

GENERAL NOTES

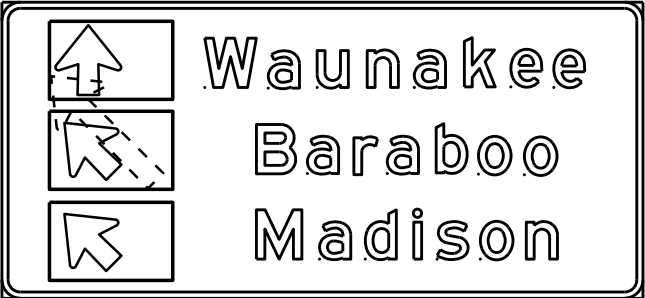
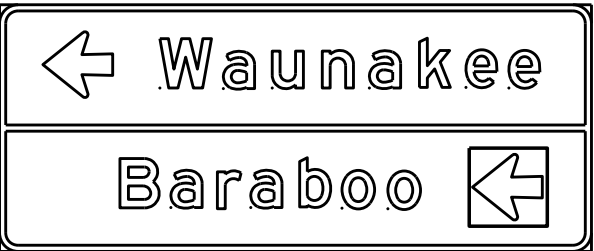
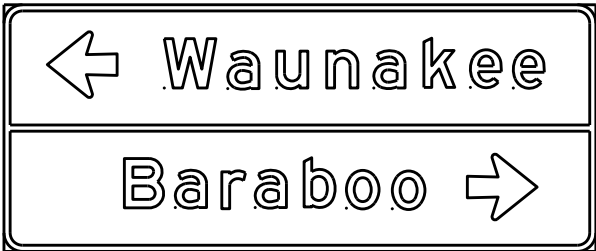
- 1. Materials shall conform to Standard Specification Section 637.
Base - Sheet Aluminum 0.040" Thickness
Sheeting - Orange Type F Reflective
Arrow - Black Non-Reflective
- 2. Arrow signs shall be fastened to permanent sign by either aluminum rivets or aluminum self-tapping sheet metal screws.
There shall be a minmum of 2 fasteners used per arrow sign.
- 3. There shall be a spacer consisting of a 0.08" nylon washer between the back of the arrow sign and the face of the permanent sign.
- 4. Arrows are per standard plate A1-2
- 5. Use separate arrow sign for each destination
- 6. Tilt arrow is always at 45 degrees
- 7. Arrow is centered on arrow sign



Lower Case Copy Size	Standard Width (Single Arrow)	2 Line Tilt Arrow Cover Width	3 Line Tilt Arrow Cover Width	Height
3 3/4" Series C	8	9 1/2	14 1/2	8
4 1/2" Series D & E	9 1/2	10	15	9 1/2
6" Series D & E	14	16	20 1/2	14
8" Series E	17 1/2	20 1/2	25	17 1/2

BEFORE

AFTER



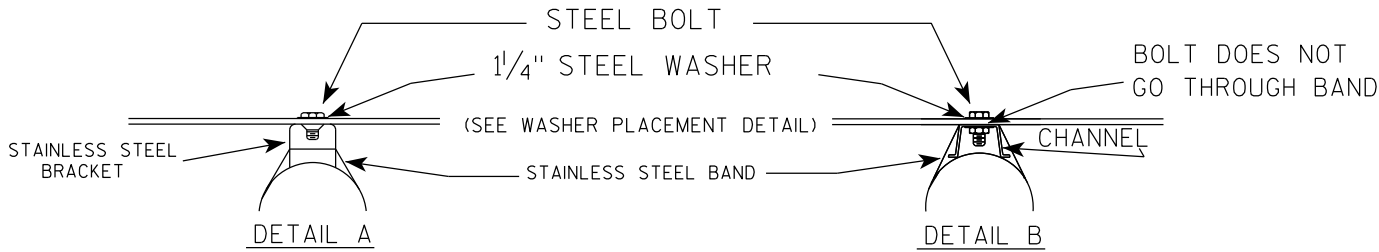
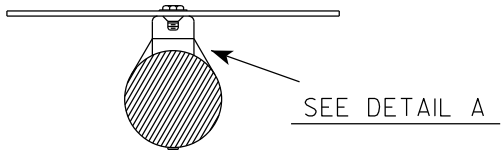
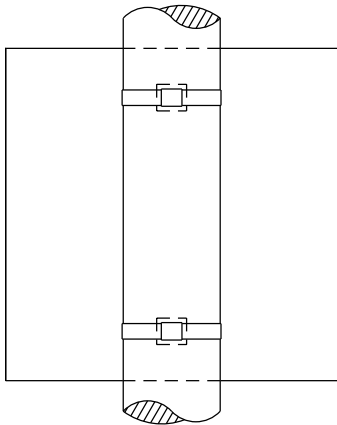
DESTINATION DIRECTIONAL ARROW FOR DETOUR SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 10/08/14 76 . A4-12.2

BANDING

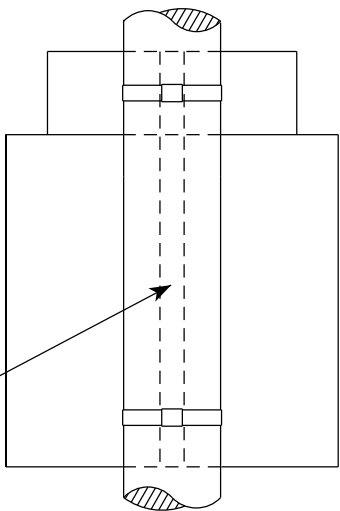
SINGLE SIGN



GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be $\frac{3}{4}$ " in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

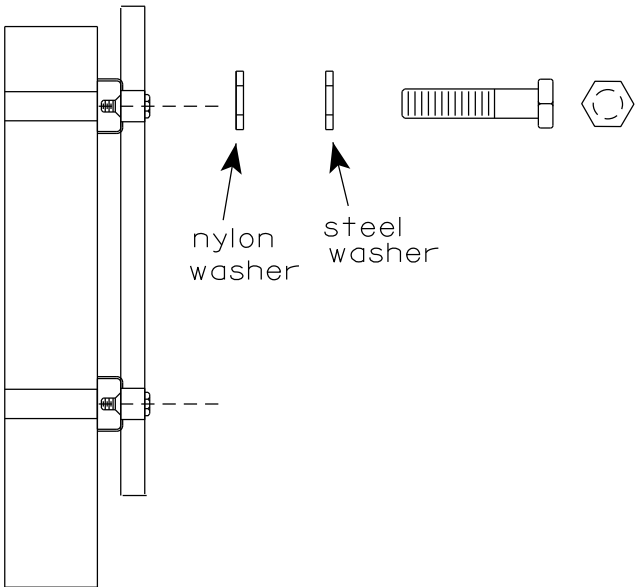
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

SEE DETAIL B

WASHER PLACEMENT

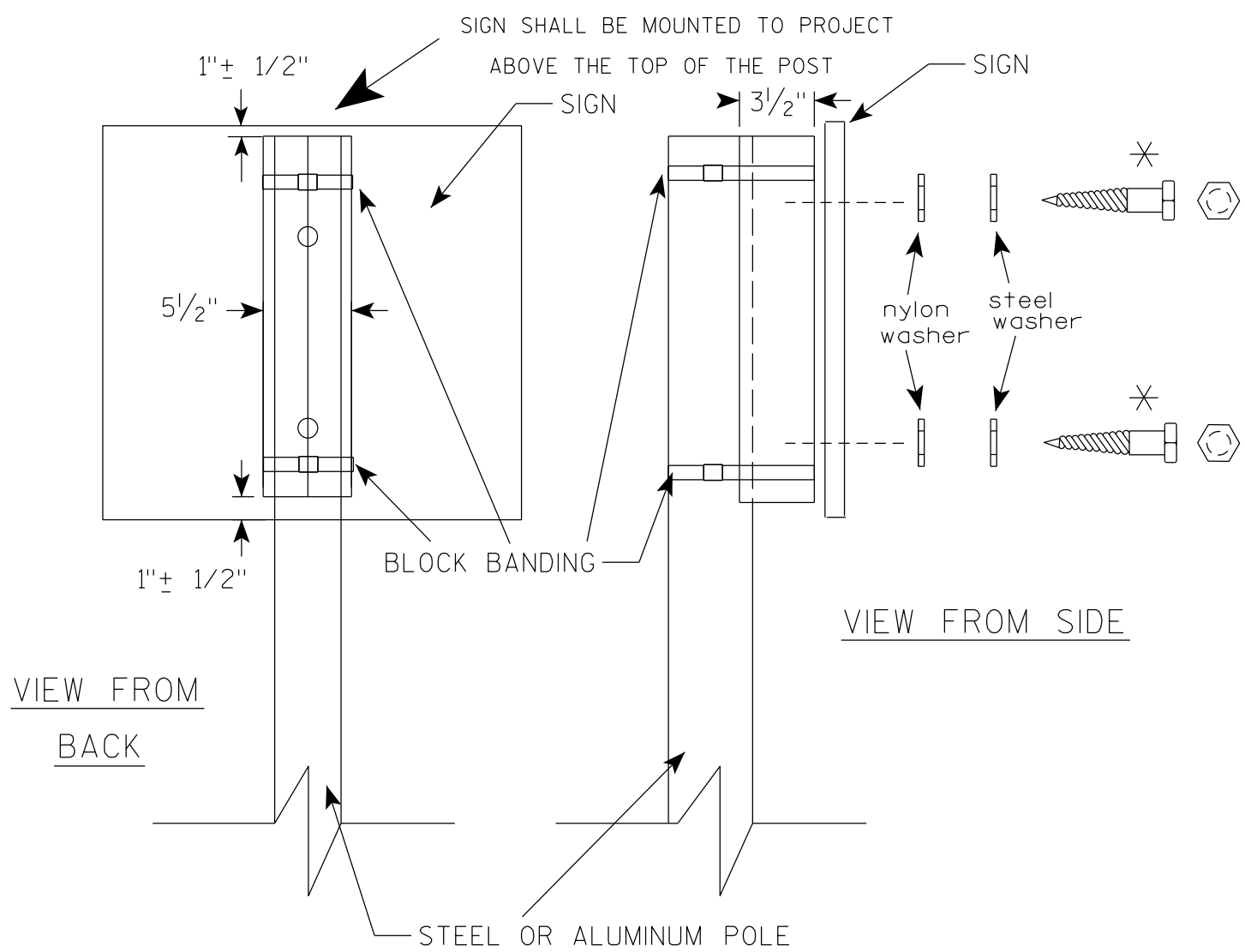


WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

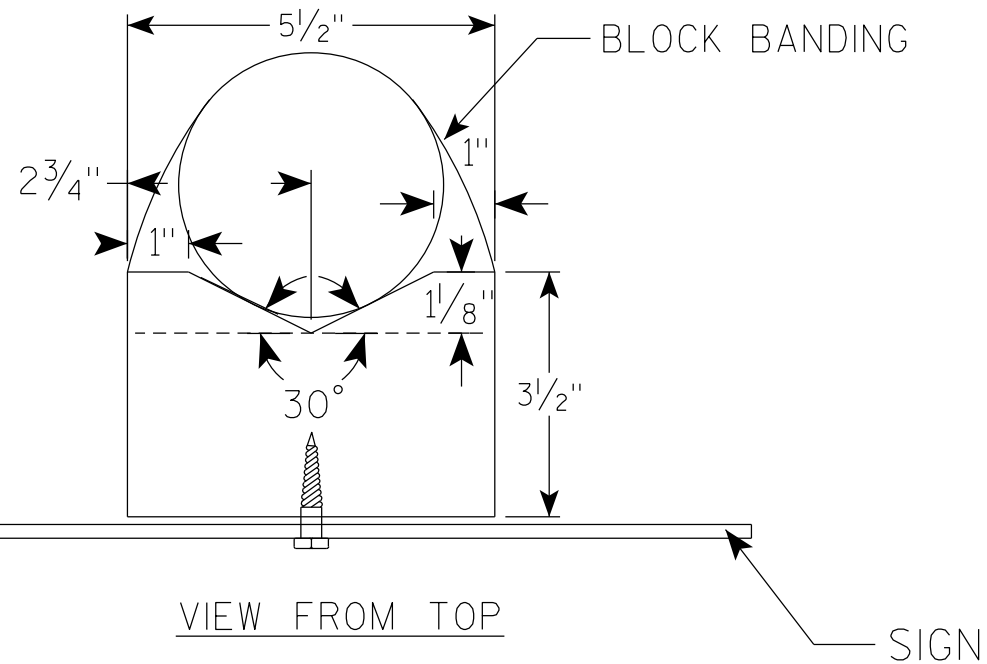
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

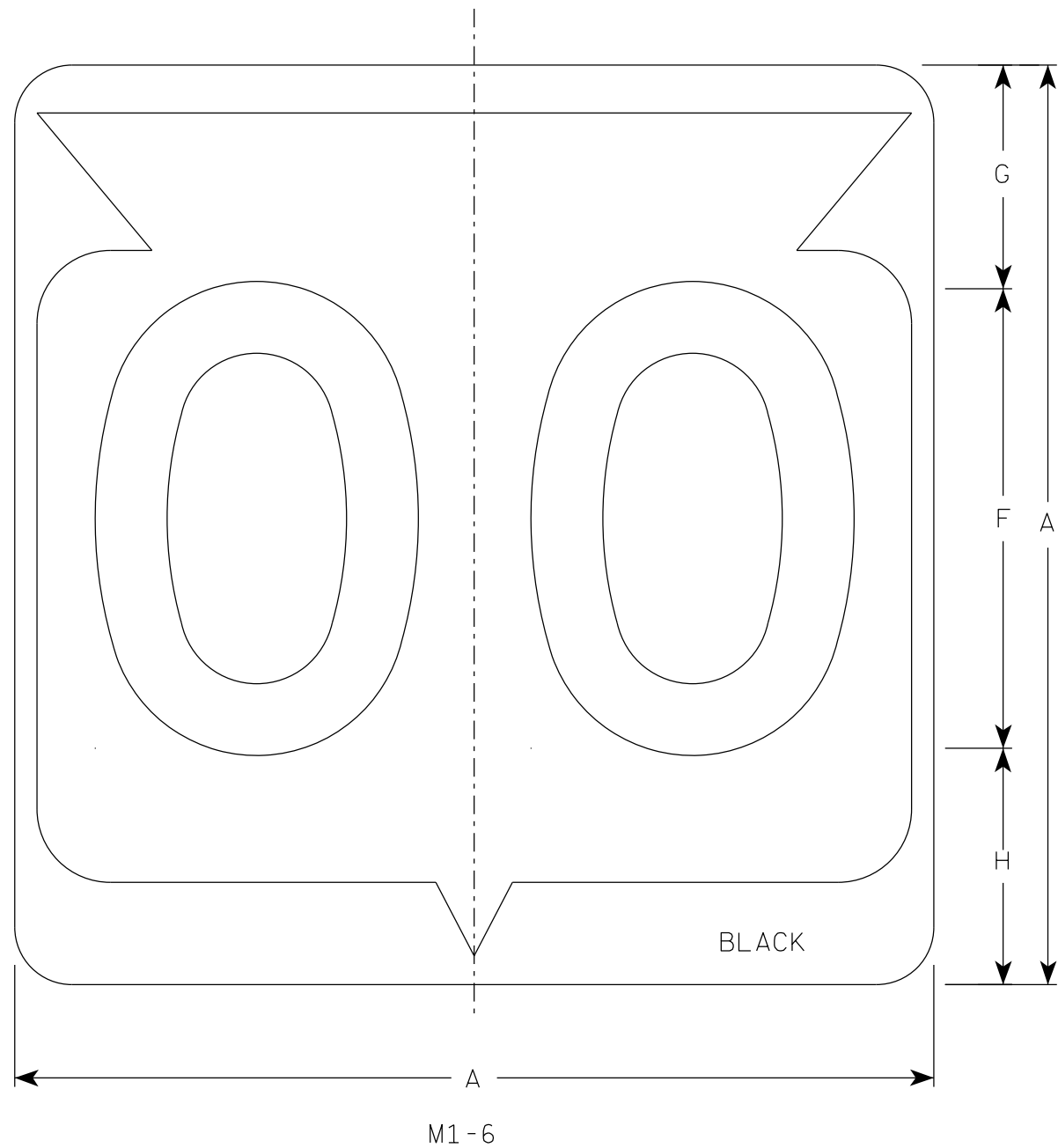
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 78

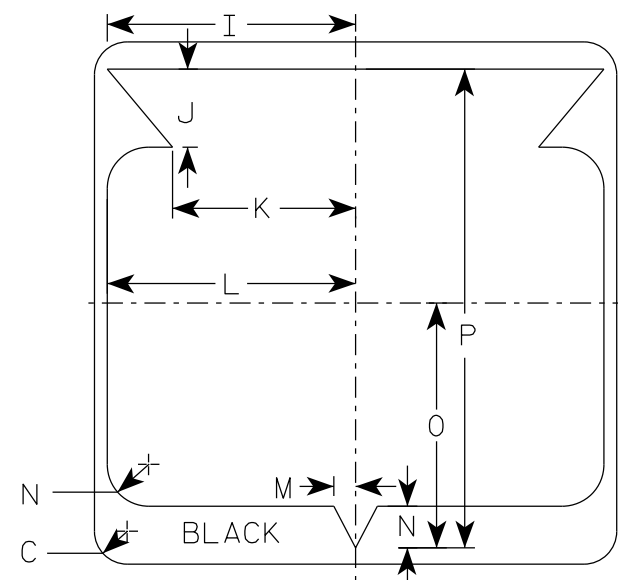
E

7



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - D except 3 number signs Series C



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																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
2M	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

STATE ROUTE MARKER M1-6 FOR ASSEMBLIES	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 11/8/2022	PLATE NO. M1-6.11

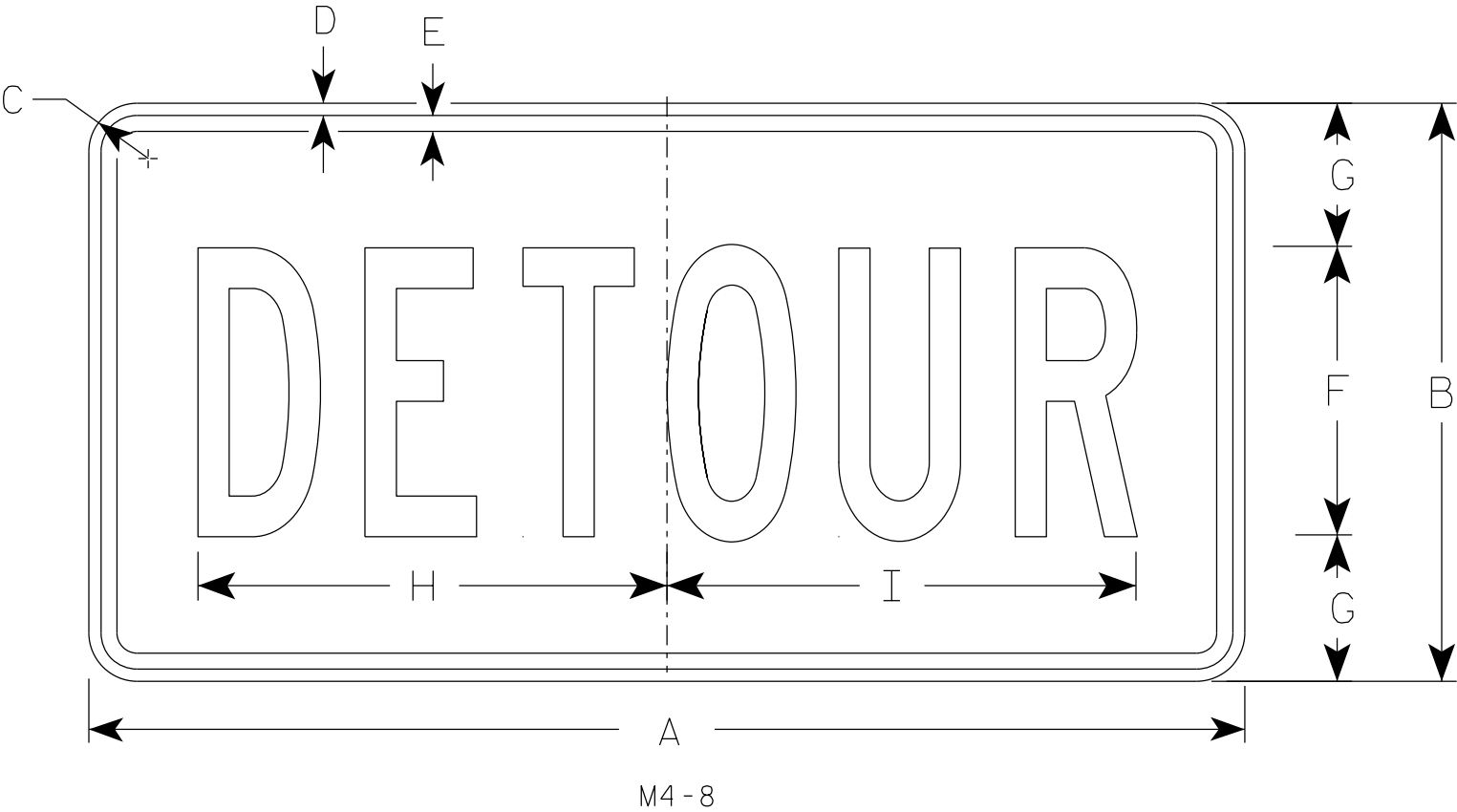
PROJECT NO:	HWY:	COUNTY:	SHEET NO: 79												E
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7

7

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - B
- 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																											
2	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

STANDARD SIGN

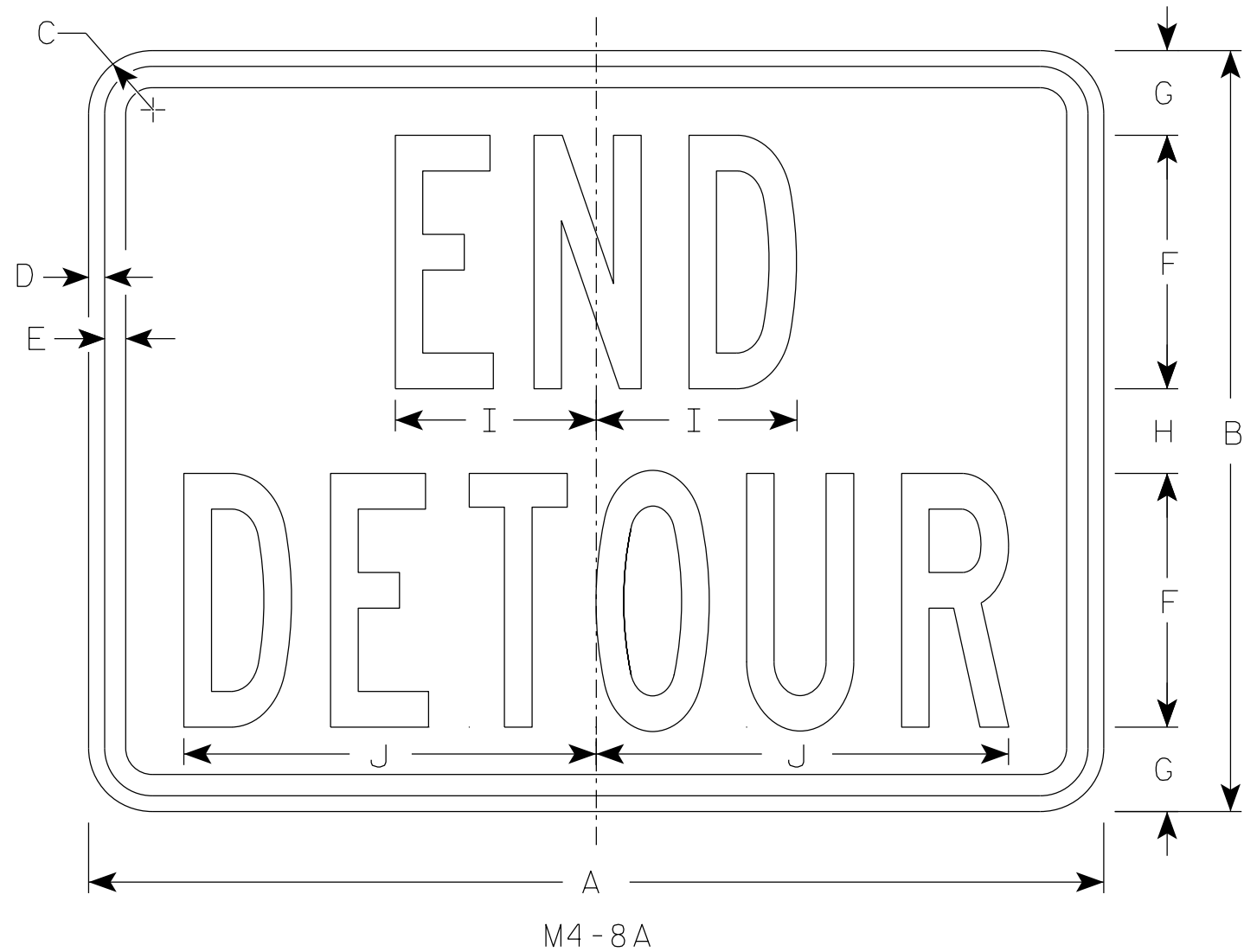
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

7



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - B
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.

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																											
2	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
2M	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
5	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0

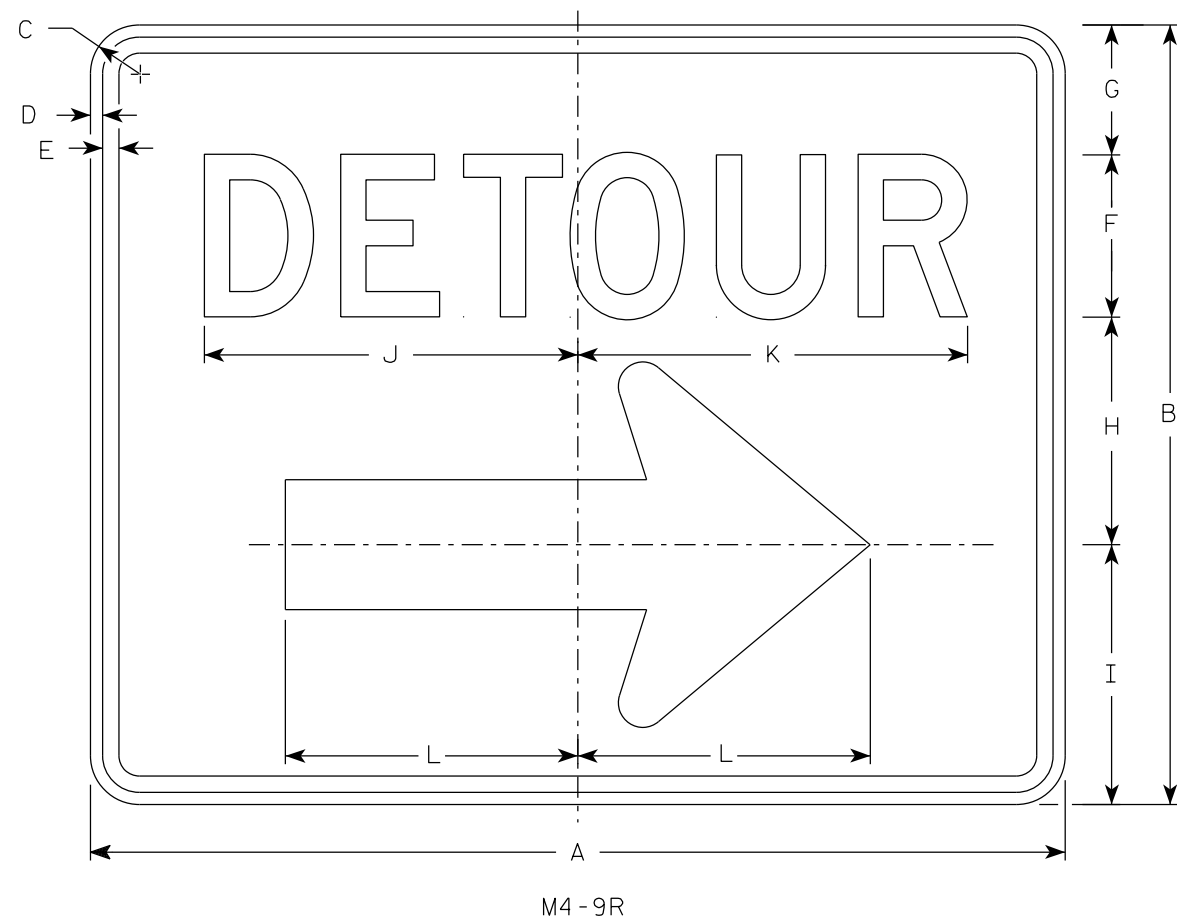
STANDARD SIGN

M4-8A

WISCONSIN DEPT OF TRANSPORTATION

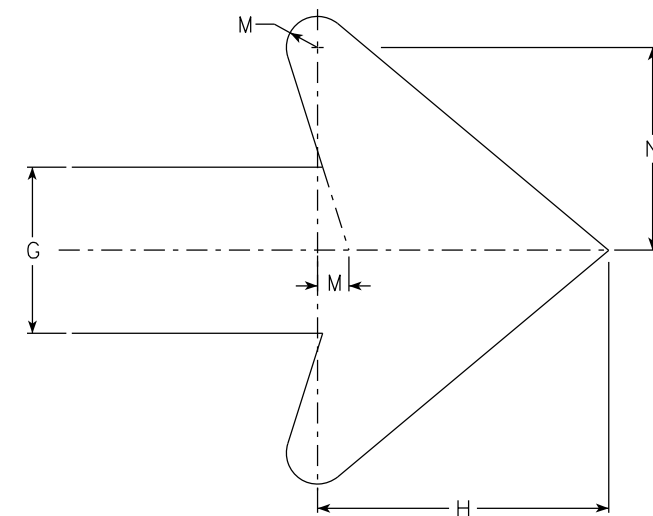
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
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.
4. M4-9L is the same as M4-9R except the arrow is reversed.

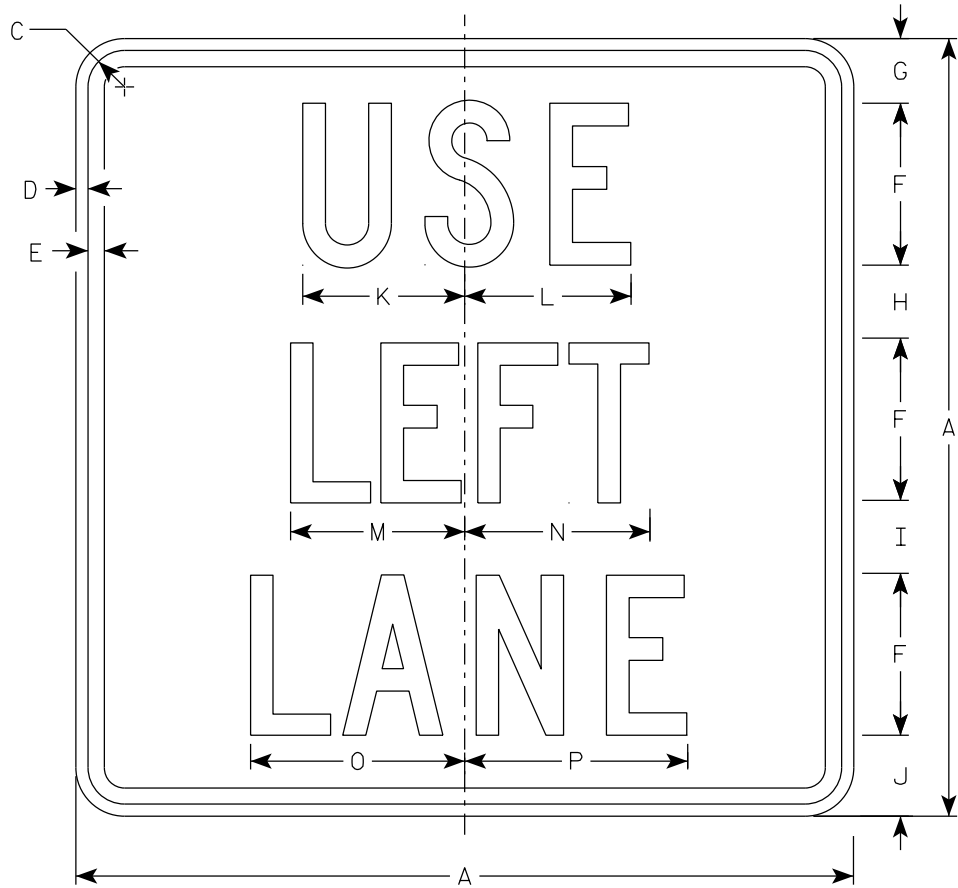


Arrow Detail

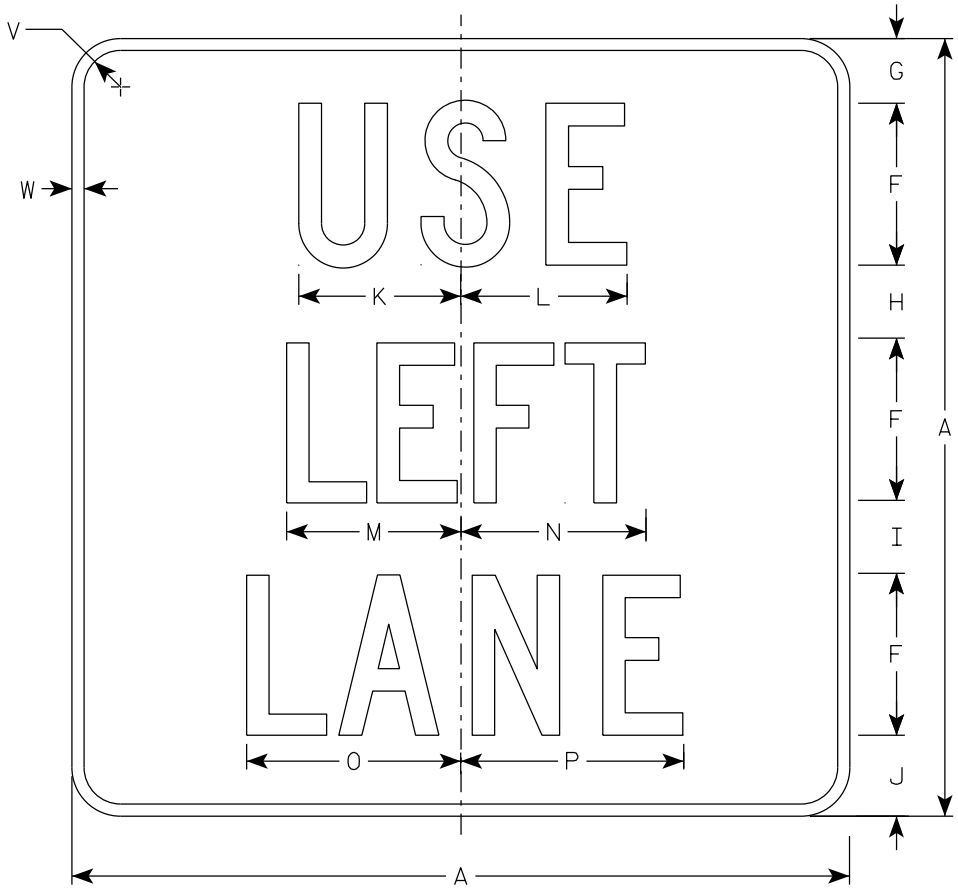
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
2M	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

STANDARD SIGN
M4-9 R & L

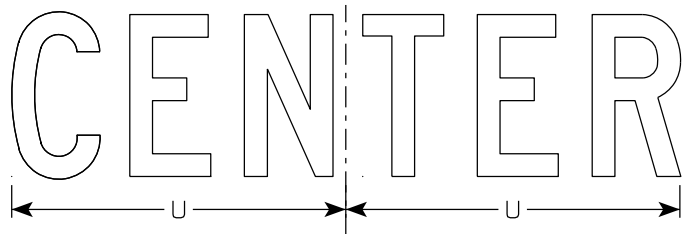
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 2/9/2023 PLATE NO. M4-9R.6



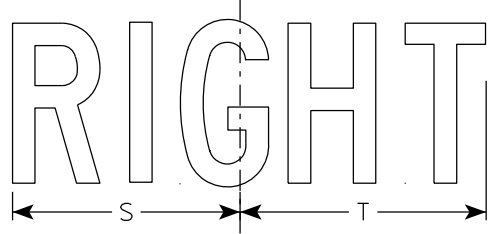
M4-20L
MM4-20L
M04-20L
MP4-20L



MB4-20L
MK4-20L
MN4-20L
MR4-20L



M4-20C
MB4-20C
MK4-20C
MM4-20C
MN4-20C
M04-20C
MP4-20C
MR4-20C

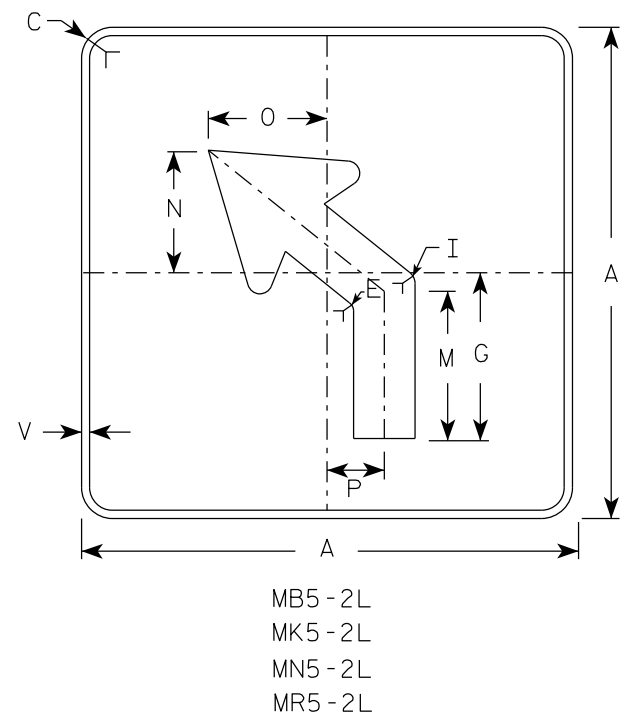
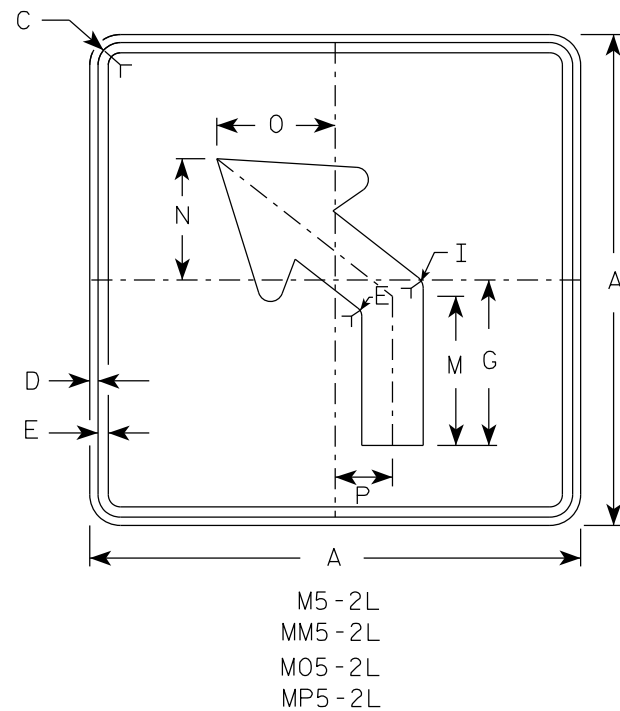
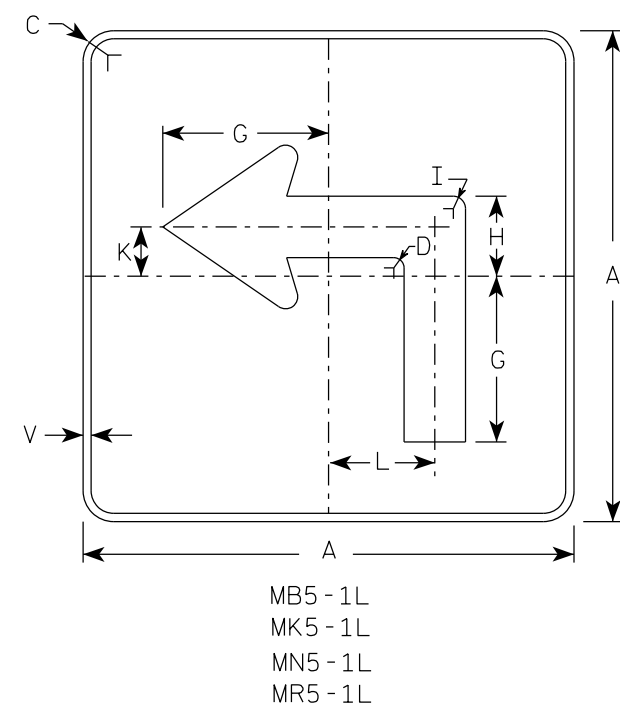
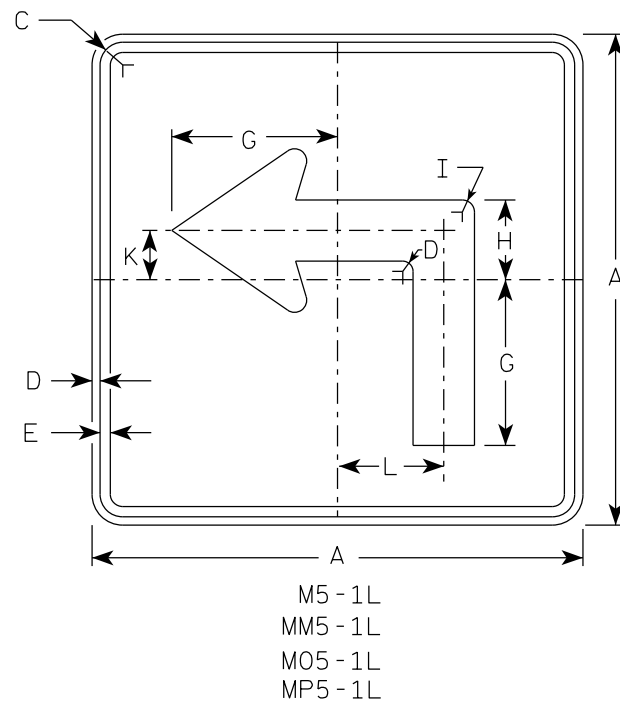


M4-20R
MB4-20R
MK4-20R
MM4-20R
MN4-20R
M04-20R
MP4-20R
MR4-20R

NOTES

- Sign is Type II - Type H except as Shown
- Color:
Background - See note 5
Message - See note 5
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M4-20 Background - White
Message - Black
MB4-20 Background - Blue
Message - White
MK4-20 Background - Green
Message - White
MM4-20 Background - White
Message - Green
MN4-20 Background - Brown
Message - White
M04-20 Background - Orange - Type F Reflective
Message - Black
MP4-20 Background - White
Message - Blue
MR4-20 Background - Brown
Message - Yellow

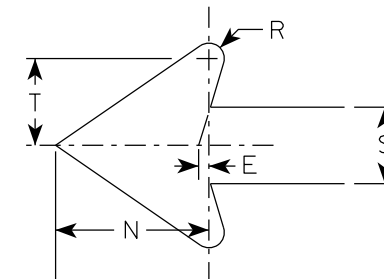
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/2	3/8	1/2	5	2	2 1/4	2 1/4	2 1/2	5	5 1/8	5 3/8	5 3/4	6 5/8	6 7/8			7	7 5/8	10 1/4	1 1/2	1/2				4.0
2M	24		1 1/2	3/8	1/2	5	2	2 1/4	2 1/4	2 1/2	5	5 1/8	5 3/8	5 3/4	6 5/8	6 7/8			7	7 5/8	10 1/4	1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



NOTES

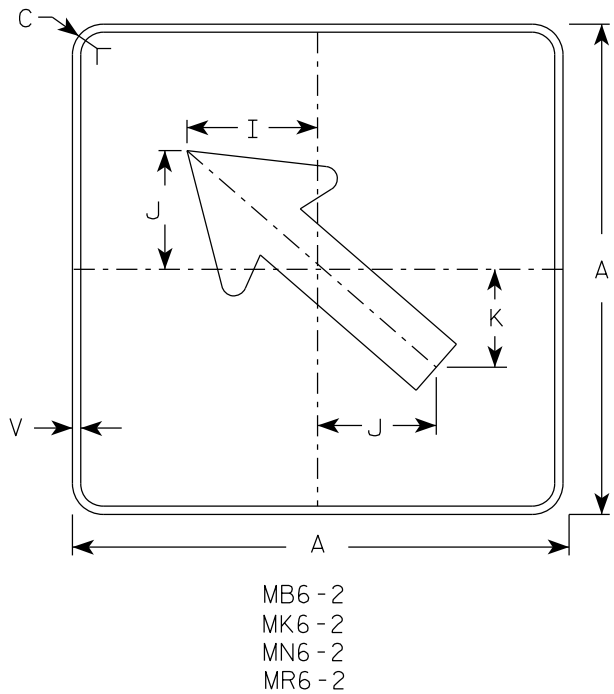
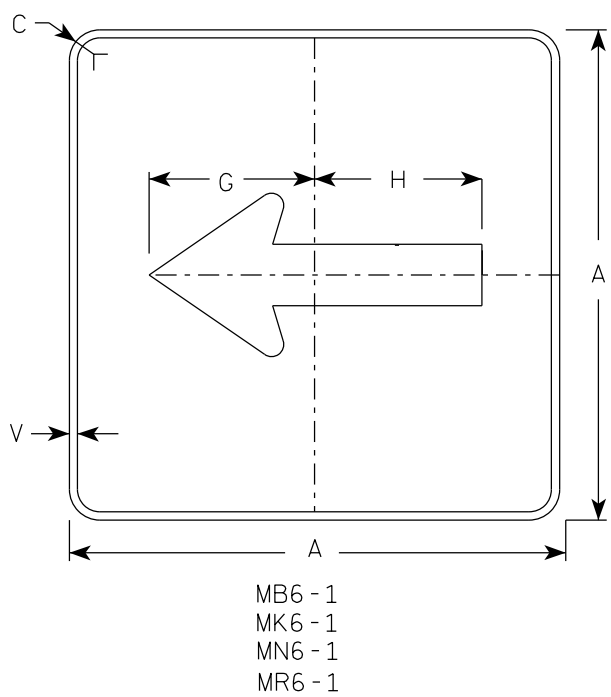
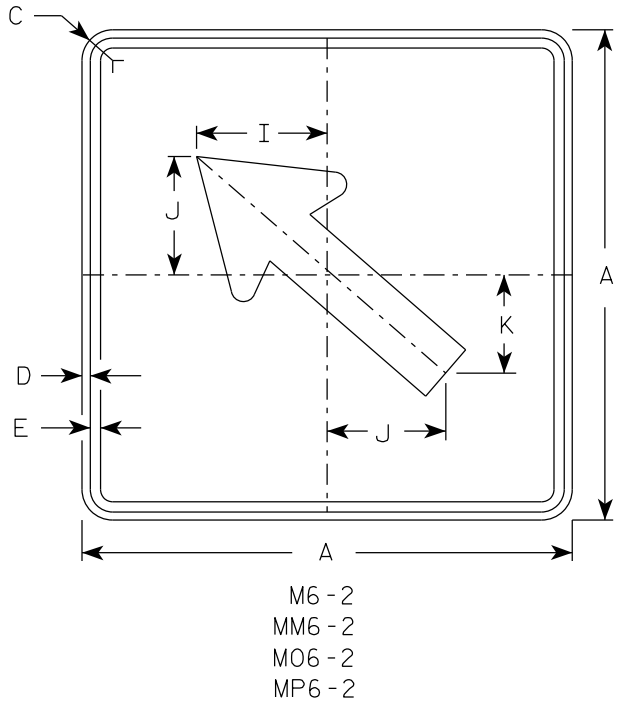
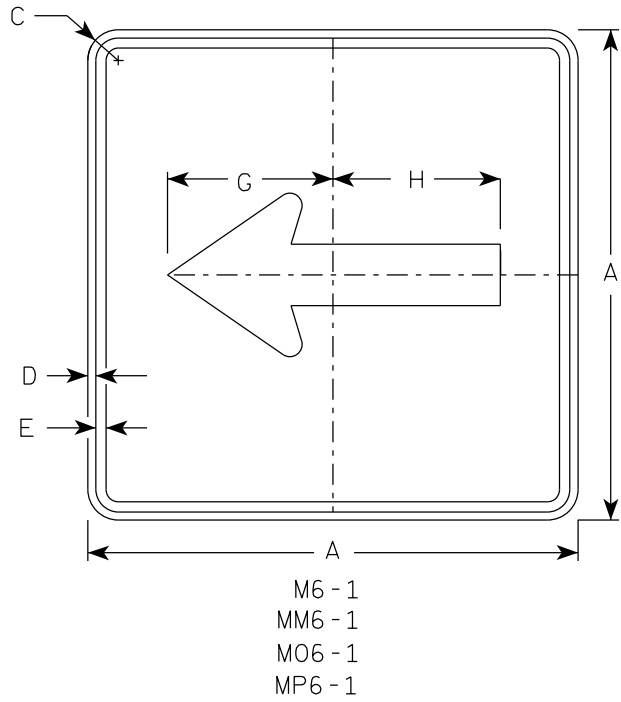
- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- | | | |
|-----------|-------|---|
| M5-1 and | M5-2 | Background - White |
| | | Message - Black |
| MB5-1 and | MB5-2 | Background - Blue |
| | | Message - White |
| MK5-1 and | MK5-2 | Background - Green |
| | | Message - White |
| MM5-1 and | MM5-2 | Background - White |
| | | Message - Green |
| MN5-1 and | MN5-2 | Background - Brown |
| | | Message - White |
| M05-1 and | M05-2 | Background - Orange - Type F Reflective |
| | | Message - Black |
| MP5-1 and | MP5-2 | Background - White |
| | | Message - Blue |
| MR5-1 and | MR5-2 | Background - Brown |
| | | Message - Yellow |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL

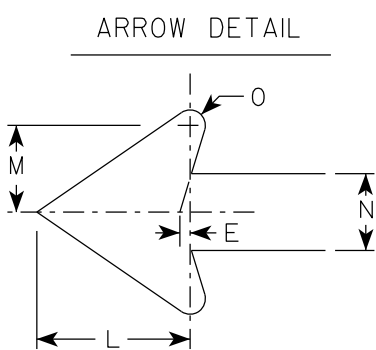


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
4	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
5	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25

PROJECT NO:		HWY:		COUNTY:		SHEET NO: 84		E
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- NOTES**
- Signs are Type II - Type H Reflective except as Shown
 - Color:
Background - See note 4
Message - See note 4
 - Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 - M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow



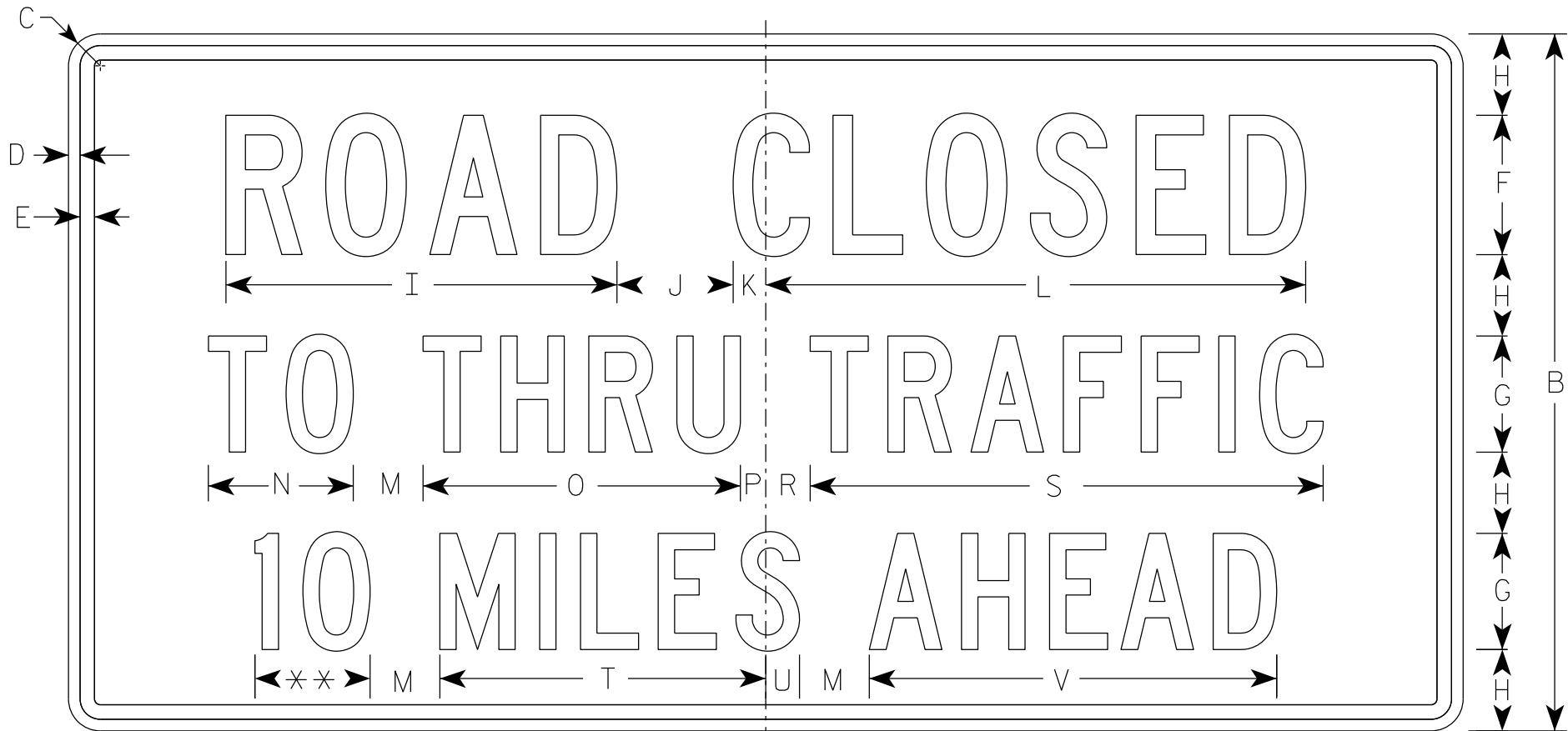
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
2M	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
3	30		1 7/8	1/2	5/8		10 3/4	10 1/4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

NOTES

1. Sign is Type II - Type H Reflective
2. Color:

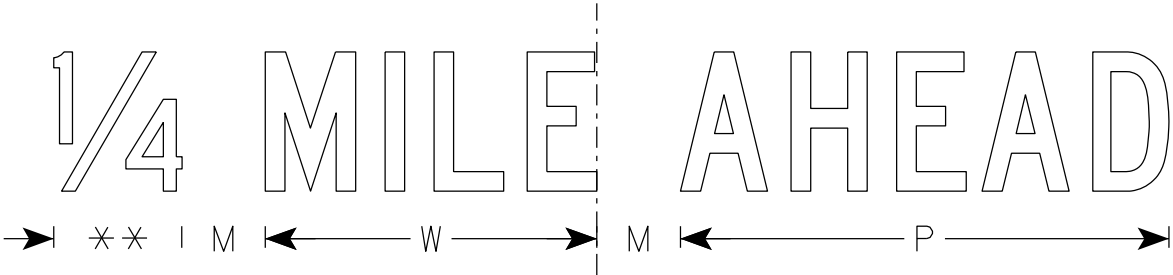
Background - White

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.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3

** See Note 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	36	18	1 1/2	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8				4.5
2S	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
2M	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3.10

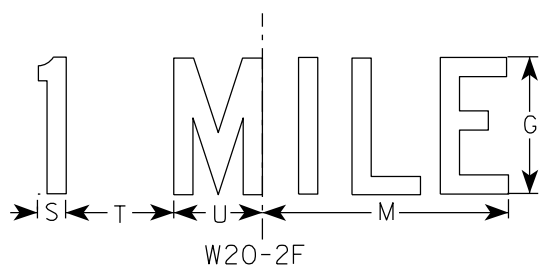
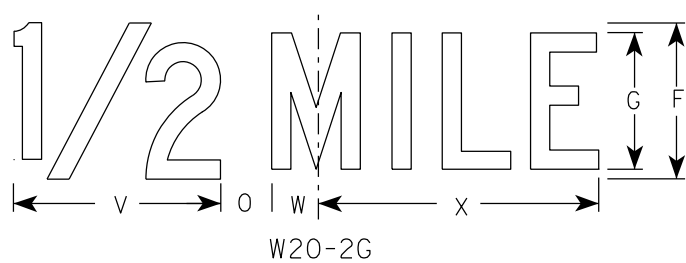
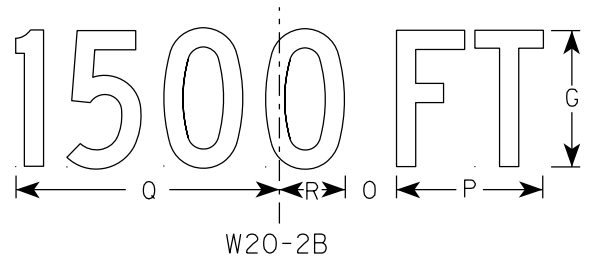
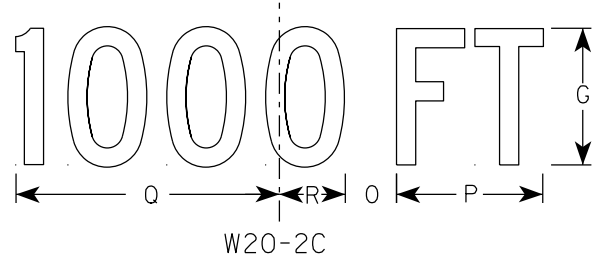
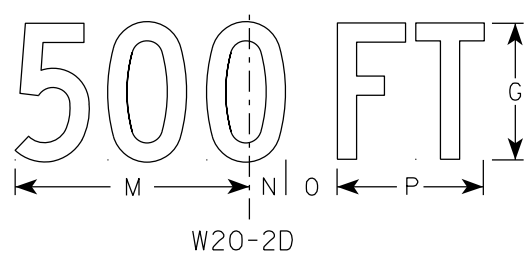
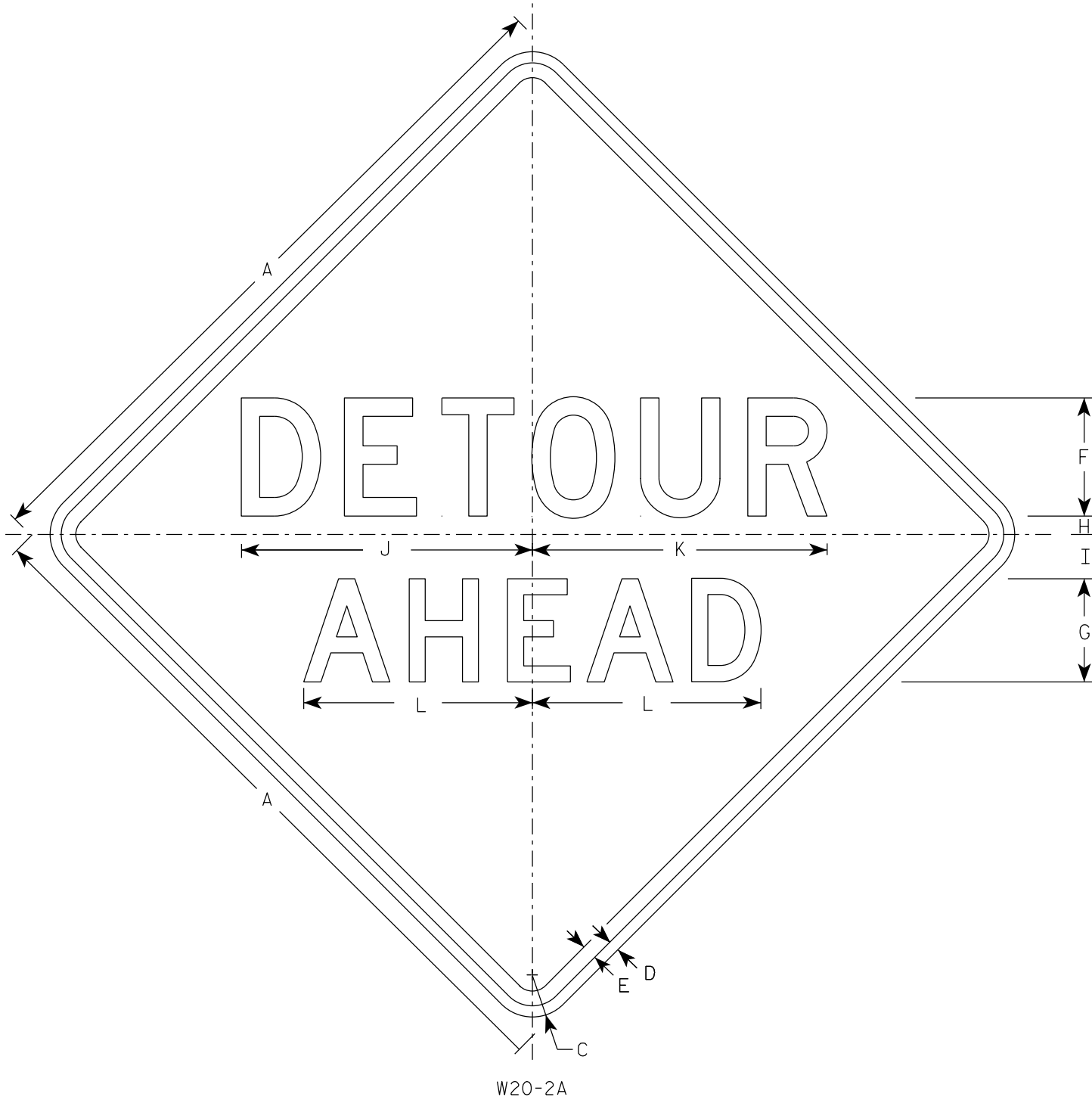
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 86

E



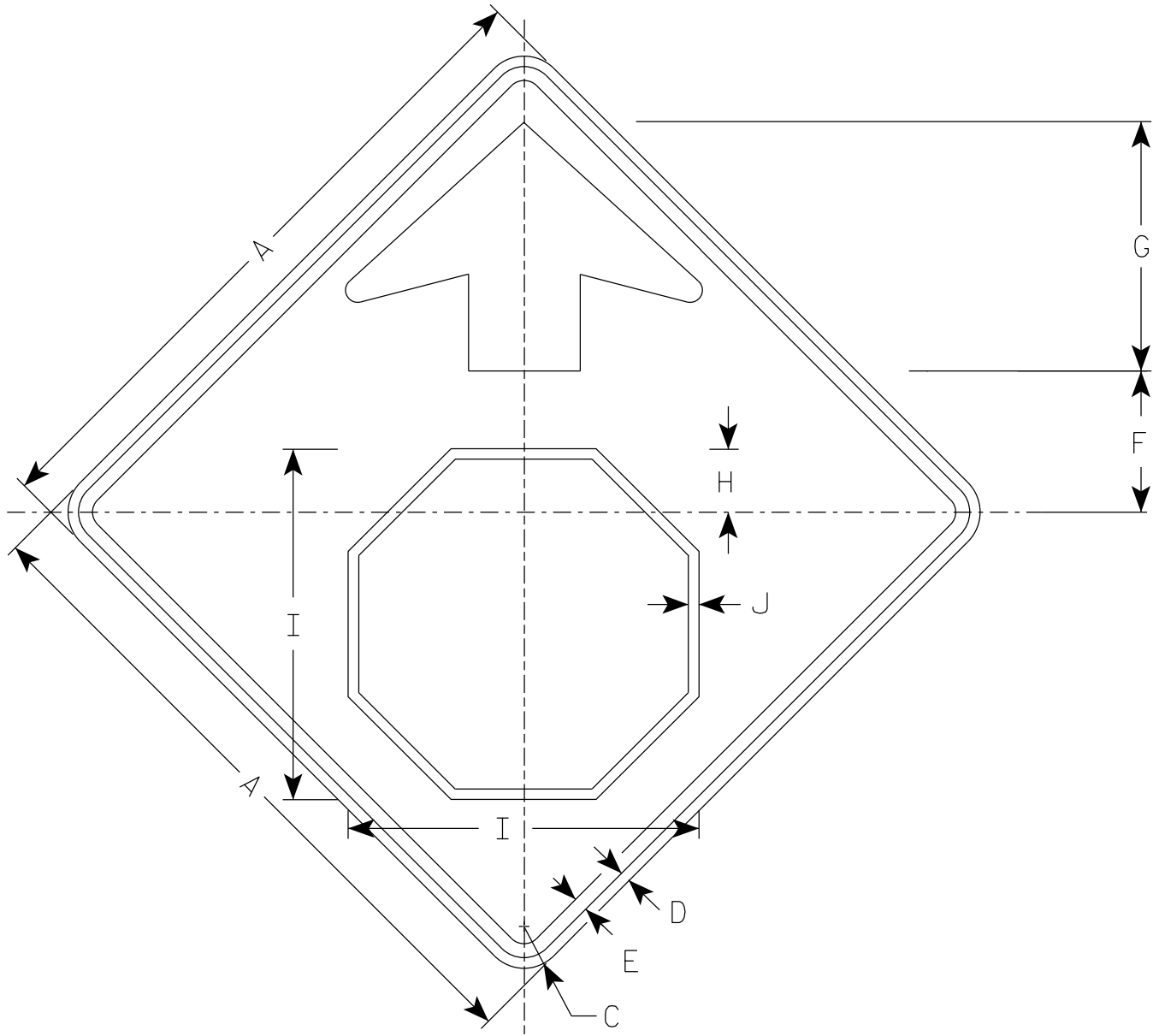
NOTES

- Sign is Type II - Type F Reflective
- Color:
Background - Orange
Message - Black
- Message Series - See note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

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		2 1/4	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN W20-2A,B,C,D,F & G	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 1/10/2024	PLATE NO. W20-2.7

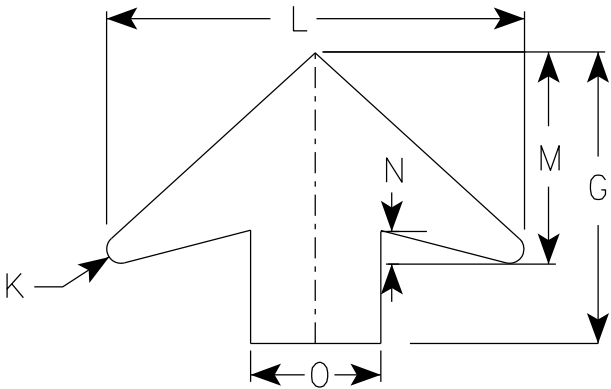
PROJECT NO:	HWY:	COUNTY:	SHEET NO: 87	E
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W03-1

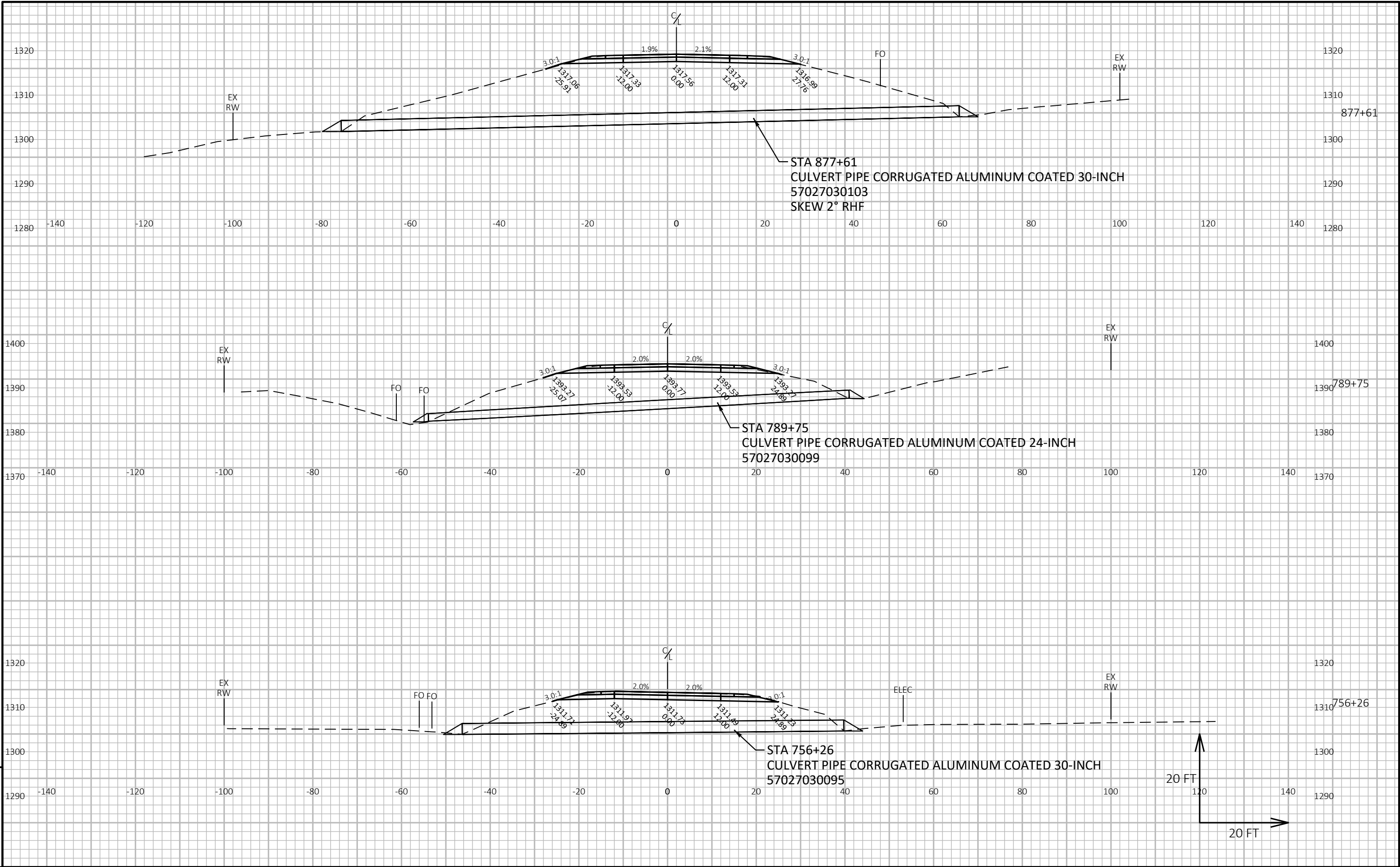
NOTES

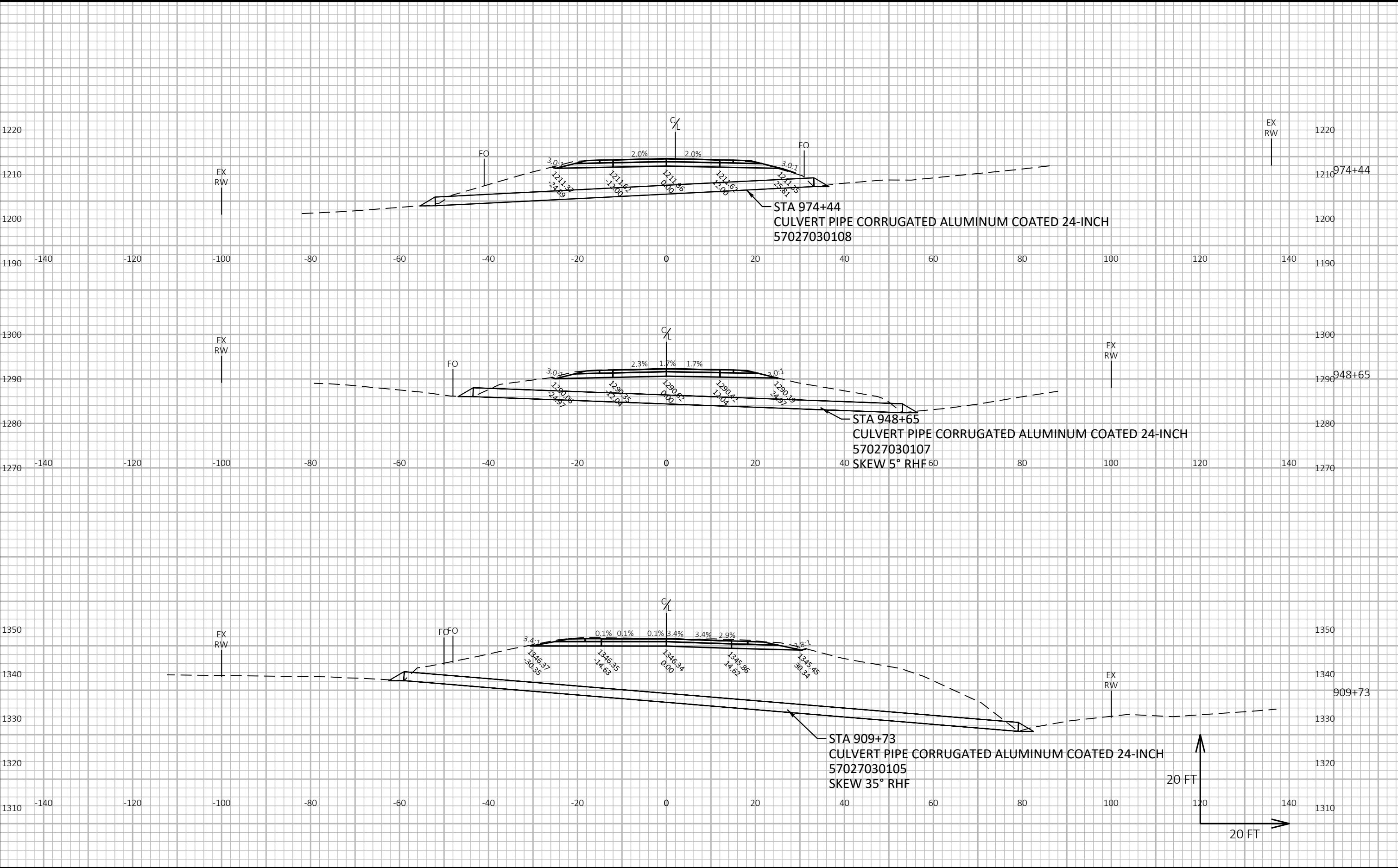
- 1. All Signs Type II - Type F Reflective
- 2. Color:
 - Background - ORANGE
 - Arrow & Border - BLACK
 - Stop Symbol - WHITE BORDER ON RED BACKGROUND



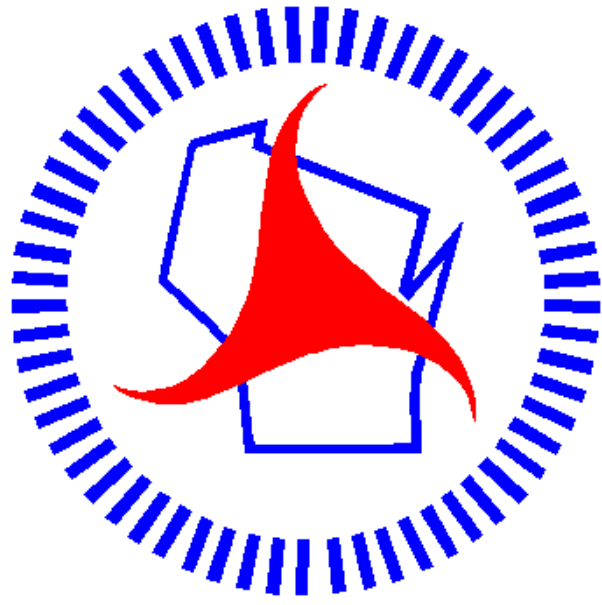
ARROW DETAIL

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	36		2 1/4	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2S	48		3	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
2M	48		3	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
3	48		3	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
4	48		3	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		3	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0





Notes



Wisconsin Department of Transportation

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<http://www.dot.wisconsin.gov>