

MAD

PROJECT ID:  
WITH: N/A

6070-01-63

COUNTY:

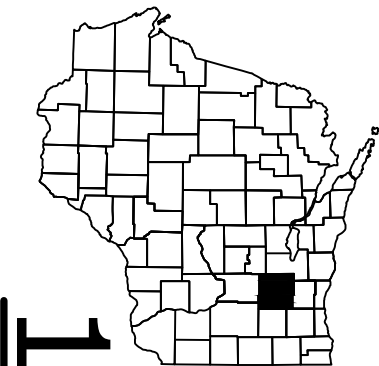
DODGE

JANUARY 2026

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
<del>Section No.</del>	<del>4</del>	<del>Right of Way Plat</del>
<del>Section No.</del>	<del>5</del>	<del>Plan and Profile</del>
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
<del>Section No.</del>	<del>8</del>	<del>Structure Plans</del>
<del>Section No.</del>	<del>9</del>	<del>Computer Earthwork Data</del>
Section No.	9	Cross Sections

TOTAL SHEETS = 148



18

DESIGN DESIGNATION 6070-01-33

A.A.D.T.	2028	=	8000
A.A.D.T.	2048	=	9400
D.H.V.		=	480
D.D.		=	60/40
T.		=	23.7%
DESIGN SPEED		=	40 MPH/60 MPH
ESALS		=	4,500,000

CONVENTIONAL SYMBOLS

PLAN

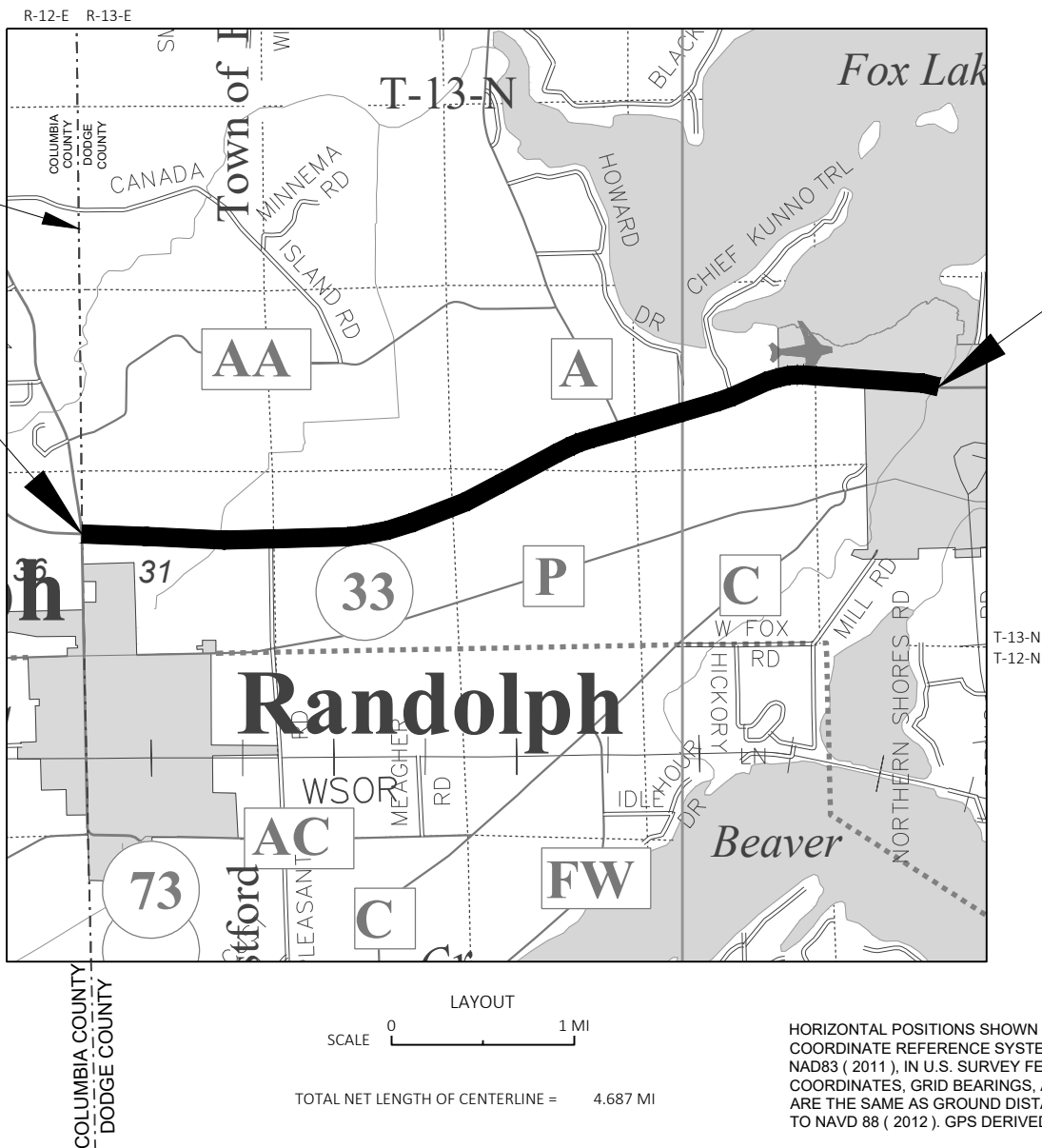
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE

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

COUNTY LINE

BEGIN PROJECT  
STA 297+58.00  
X=802,218.43  
Y=759,292.08



STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

PORTAGE - FOX LAKE

STH 73 TO FOREST STREET

STH 33

DODGE COUNTY

STATE PROJECT NUMBER

6070-01-63

STATE PROJECT

6070-01-63

FEDERAL PROJECT

PROJECT

WISC 2026141

CONTRACT

1

END PROJECT  
STA 545+05.00  
X=826,118.11  
Y=763,329.64

ORIGINAL PLANS PREPARED BY



DATE: 7/9/2025  
(Professional Engineer Signature)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	OES
Designer	OES
Project Manager	MATTHEW LAMB, PE
Regional Examiner	SW REGION
Regional Supervisor	JUSTIN KUTSCHENREUTER, PE

APPROVED FOR THE DEPARTMENT  
DATE: 7/21/2025  
(Signature)

E

GENERAL NOTES

THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE ARE OTHER UTILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

ALL RADII AREA MEASURED TO EDGE OF PAVEMENT UNLESS OTHERWISE SHOWN OR NOTED ON THE PLAN.

RESTORE EXISTING DRIVEWAYS IN KIND AND AT THE LOCATION AND WIDTH DETERMINED BY THE ENGINEER IN THE FIELD.

PAVING LIMITS AT INTERSECTIONS ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

THE EXACT LOCATIONS AND LIMITS OF PRIVATE ENTRANCES AND FIELD ENTRANCES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

THE RATE OF APPLICATION FOR TACK COAT IS 0.050 GAL/SY BETWEEN LAYERS, 0.070 GAL/SY ON MILLED SURFACES, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING, OR PARKING LANE.

THE LOCATION OF STOP LINES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

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

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED, FERTILIZED, SEEDED, AND EROSION MATTED AS DIRECTED BY THE ENGINEER.

EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. THE EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE QUANTITY OF THE ITEMS FOR EROSION PROTECTION INCLUDES AN UNDISTRIBUTED AMOUNT FOR PROTECTION, CONTROL, AND ABATEMENT OF WATER POLLUTION RESULTING FROM SOIL EROSION. THE DISTRIBUTION AND LOCATION OF THESE MATERIALS ARE TO BE DETERMINED BY THE ENGINEER.

HAND MILLING OPERATIONS MAY BE NECESSARY TO ENSURE THAT SURVEY MONUMENTS ARE NOT DISTURBED DURING MILLING OPERATIONS. PAYMENT IS INCLUDED AS PART OF REMOVING ASPHALTIC SURFACE MILLING.

MILL AND PAVE ADJACENT TO MONUMENT WITHOUT DAMAGING THE MONUMENT.

STANDARD ABBREVIATIONS

AGG	AGGREGATE	NB	NORTHBOUND
ASPH.	ASPHALTIC	PAV'T	PAVEMENT
BM	BENCH MARK	P.C.	POINT OF CURVATURE
C/L	CENTER LINE	P.I.	POINT OF INTERSECTION
CMCP	CORRUGATED METAL CULVERT PIPE	P.T.	POINT OF TANGENCY
CMP	CORRUGATED METAL PIPE	R	RADIUS OF CURVE
CO.	COUNTY	R/L	REFERENCE LINE
CTH	COUNTRY TRUCK HIGHWAY	REQ'D	REQUIRED
CONC	CONCRETE	RT	RIGHT
CPRC	CULVERT PIPE REINFORCED CONCRETE	R/W	RIGHT OF WAY
CY	CUBIC-YARD	SHLD.	SHOULDER(S)
C&G	CURB AND GUTTER	STA.	STATION
DIA.	DIAMETER	SY	SQUARE YARD
EB	EASTBOUND	TYP	TYPICAL
EL	ELEVATION	V.C.	VERTICAL CURVE
EXIST	EXISTING	V.C.L.	VERTICAL CURVE LENGTH
F.E.	FIELD ENTRANCE	V.P.C.	VERTICAL POINT OF CURVATURE
HMA	HOT MIX ASPHALT	V.P.I.	VERTICAL POINT OF INTERSECTION
INV	INVERT	V.P.T.	VERTICAL POINT OF TANGENCY
LT	LEFT	WB	WESTBOUND
M/L	MATCHLINE		

ORDER OF SECTION 2 SHEETS

GENERAL NOTES  
PROJECT OVERVIEW  
TYPICAL SECTIONS  
CONSTRUCTION DETAILS  
PLAN DETAILS  
EROSION CONTROL  
PAVEMENT MARKING  
TRAFFIC CONTROL  
STAGE CONSTRUCTION  
DETOUR PLAN

DNR LIAISON

ERIC HEGGELUND  
ENVIRONMENTAL ANALYSIS & REVIEW SPECIALIST  
WISCONSIN DEPT. OF NATURAL RESOURCES  
SOUTH CENTRAL REGION  
3911 FISH HATCHERY ROAD  
FITCHBURG, WI 53711  
(608) 228-7927  
ERIC.HEGGELUND@WISCONSIN.GOV

DESIGN CONTACTS

MATTHEW R. LAMB  
PROJECT MANAGER  
WISCONSIN DEPARTMENT OF TRANSPORTATION  
2101 WRIGHT STREET  
MADISON, WI 53704  
(608) 246-5638  
MATTHEW.LAMB@DOT.WI.GOV

BRETT PETERSON  
PROJECT DESIGNER  
ONEIDA ENGINEERING SOLUTIONS  
5100 EASTPARK BLVD. SUITE 300  
MADISON, WI 53718  
(608) 241-6710  
BPETERSON@OESCGROUP.COM

UTILITY CONTACTS

ALLIANT ENERGY - ELECTRICITY  
JEREMY RENTMEESTER  
120 E MAPLE AVE  
BEAVER DAM, WI 53916  
(920) 904-1753  
JEREMYRENTMEESTER@ALLIANTENERGY.COM

ALLIANT ENERGY - GAS/PETROLEUM  
JEREMY RENTMEESTER  
120 E MAPLE AVE  
BEAVER DAM, WI 53916  
(920) 904-1753  
JEREMYRENTMEESTER@ALLIANTENERGY.COM

ATC MANAGEMENT, INC. - ELECTRICITY-TRANSMISSION  
DOUG VOSBERG  
2489 RINDEN RD  
COTTAGE GROVE, WI 53527  
(608) 877-7650  
DVOSBERG@ATCLLC.COM

BRIGHTSPEED OF SOUTHERN WI - COMMUNICATION LINE  
SCOTT HEINZELMAN  
144 N PEARL ST  
BERLIN, WI 54923  
(920) 757-4802  
SCOTT.HEINZELMAN@BRIGHTSPEED.COM


BRIGHTSPEED TELEVIEW, INC. - COMMUNICATION LINE  
SCOTT HEINZELMAN  
144 N PEARL ST  
BERLIN, WI 54923  
(920) 757-4802  
SCOTT.HEINZELMAN@BRIGHTSPEED.COM

CITY OF FOX LAKE UTILITIES - SEWER  
BRAD RUENGER  
248 E STATE ST  
FOX LAKE, WI 53933  
(920) 928-3577  
BRADRUENGER@CITYOFFOXLAKE.ORG

CITY OF FOX LAKE UTILITIES - WATER  
BRAD RUENGER  
248 E STATE ST  
FOX LAKE, WI 53933  
(920) 928-3577  
BRADRUENGER@CITYOFFOXLAKE.ORG

SPECTRUM - COMMUNICATION LINE  
JOSH WALKOWIAK  
165 KNIGHTS WAY  
FOND DU LAC, WI 54935  
(608) 419-6214  
JOSHUA.WALKOWIAK@CHARTER.COM



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

LOCATION	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	HMA PAVEMENT ITEM
STH 33	3.5-INCHES	1.75" UPPER 1.75" LOWER	HMA PAVEMENT 4 MT 58-28 H HMA PAVEMENT 4 MT 58-28 S
SIDE ROADS	3.5-INCHES	1.75" UPPER 1.75" LOWER	HMA PAVEMENT 4 MT 58-28 H HMA PAVEMENT 4 MT 58-28 S
STH 33/STH 73 INTERSECTION	5.25-INCHES	2.25" UPPER 3.00" LOWER	HMA PAVEMENT 4 MT 58-28 H HMA PAVEMENT 4 MT 58-28 H
STH 33 CULVERT REPLACEMENT LOCATIONS	6-INCHES	1.75" UPPER 1.75" MIDDLE 2.50" LOWER	ASPHALTIC SURFACE ASPHALTIC SURFACE ASPHALTIC SURFACE

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS:	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIPTURF:	.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 SLOPETURF:			.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 = 25.961 ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.342 ACRES

PROJECT NO: 6070-01-63

HWY: STH 33

COUNTY: DODGE

GENERAL NOTES

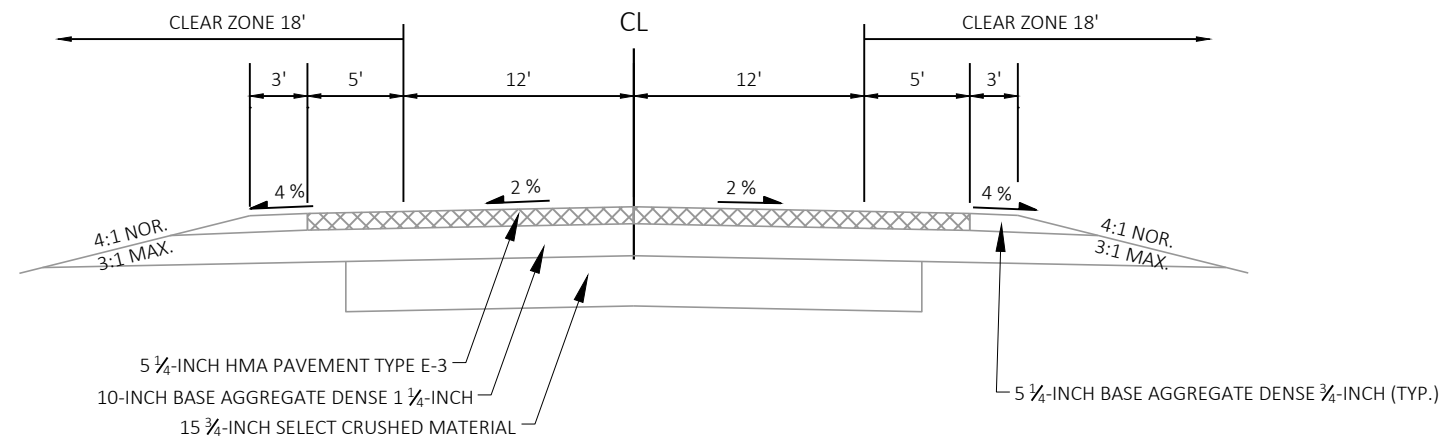
SHEET

E

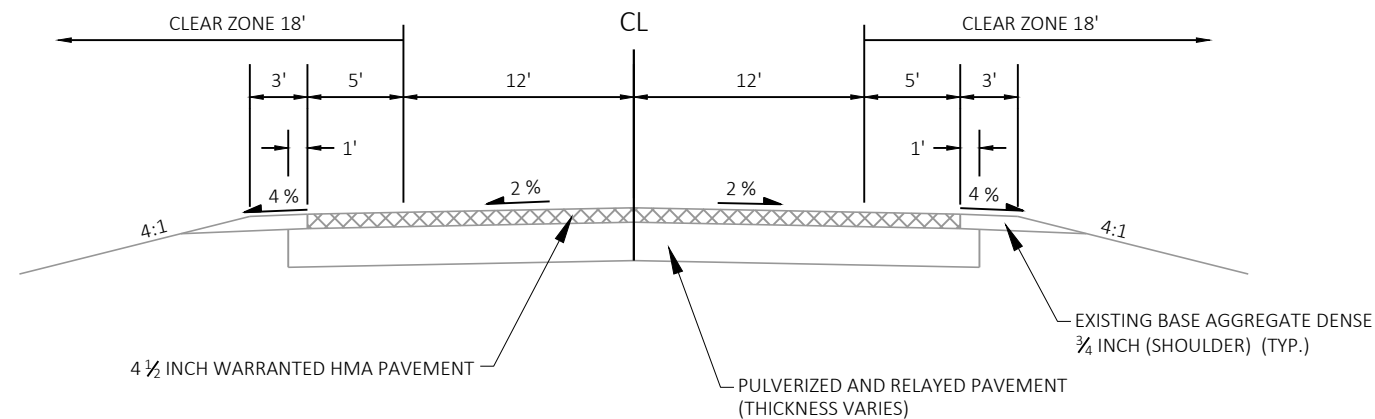




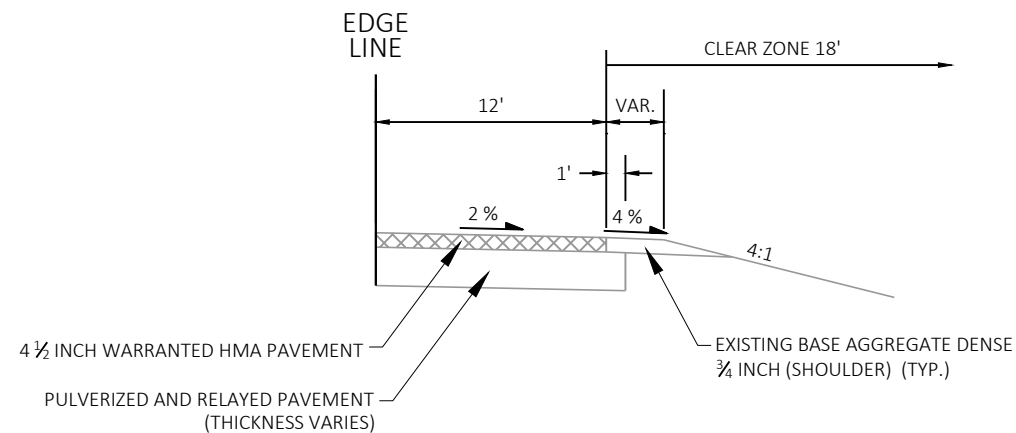
PROJECT NO: 6070-01-63	HWY: STH 33	COUNTY: DODGE	PROJECT OVERVIEW	SHEET	E
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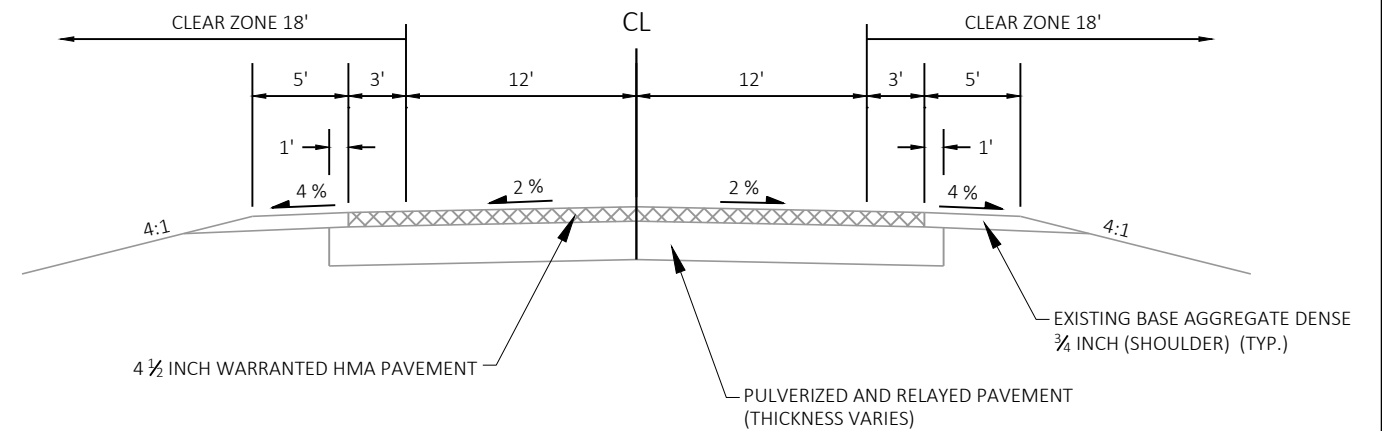
EXISTING TYPICAL SECTION

STH 33  
STA. 297+58.00 - STA. 302+30.00

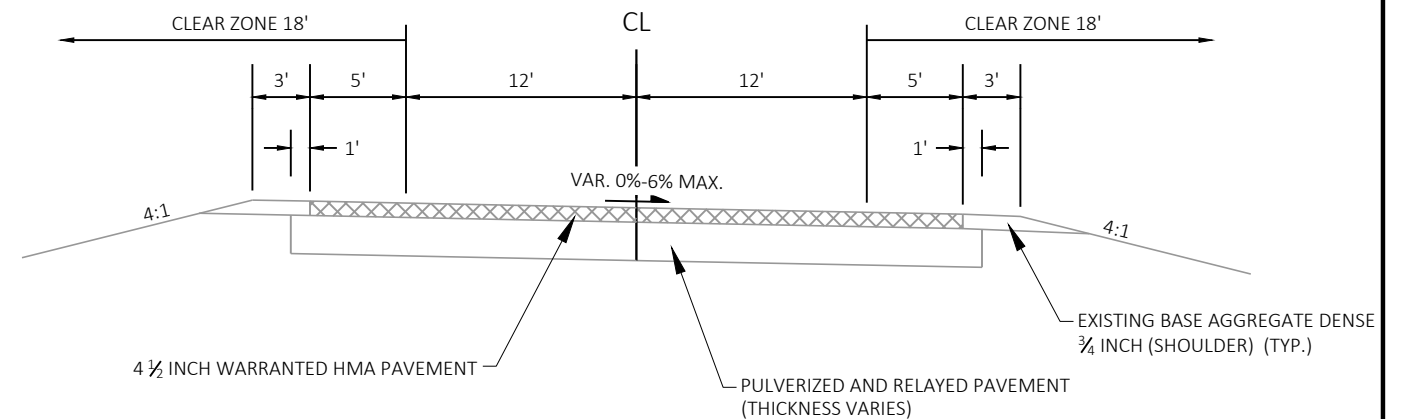
EXISTING TYPICAL SECTION

STH 33  
STA. 462+00.00 - STA. 506+40.61  
STA. 517+77.50 - STA. 545+05.00

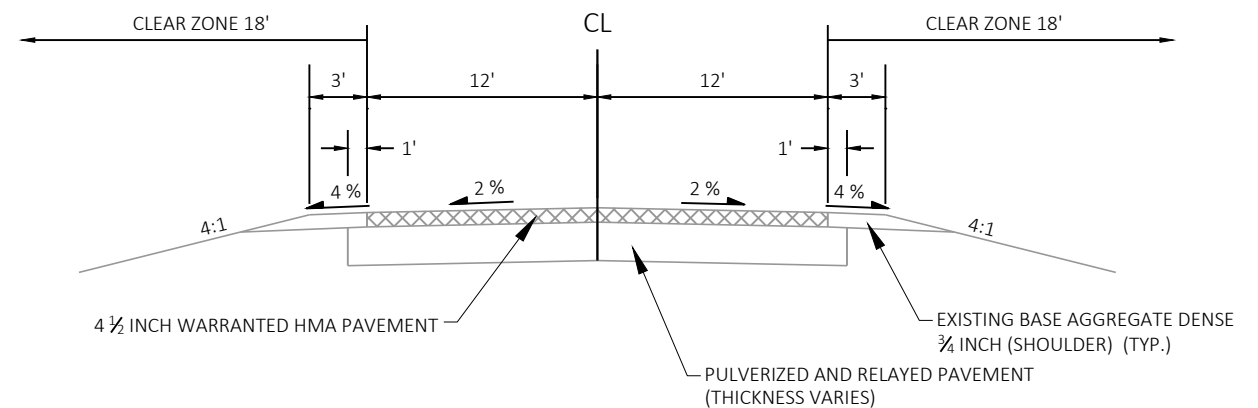
EXISTING BYPASS TYPICAL SECTION

STH 33  
STA. 351+00.00 LT - STA. 357+20.00 LT, SHOULDER 5'  
STA. 458+85.00 RT - STA. 465+20.00 RT, SHOULDER 5'  
STA. 477+95.00 RT - STA. 483+46.00 RT, SHOULDER 3'  
STA. 493+45.00 RT - STA. 497+60.00 RT, SHOULDER 3'

EXISTING TYPICAL SECTION

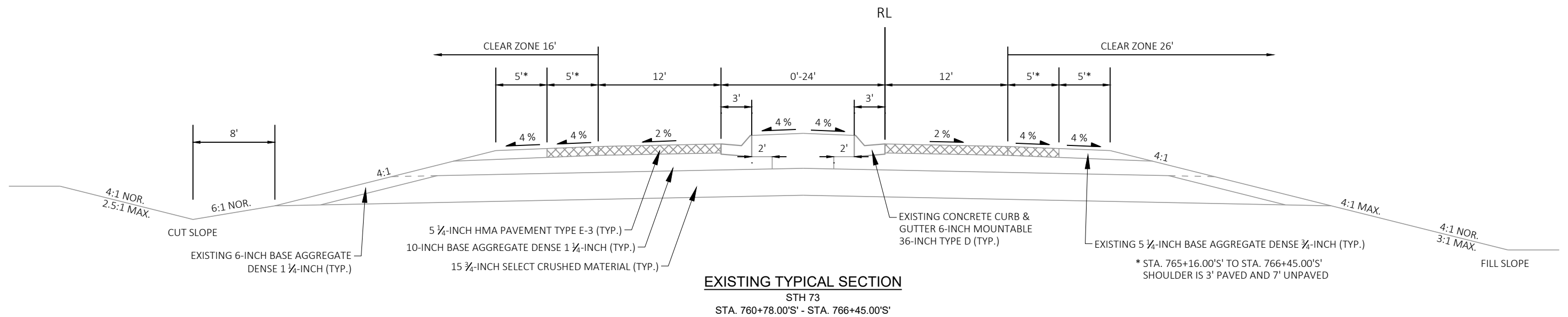
STH 33  
STA. 302+30.00 - STA. 462+00.00

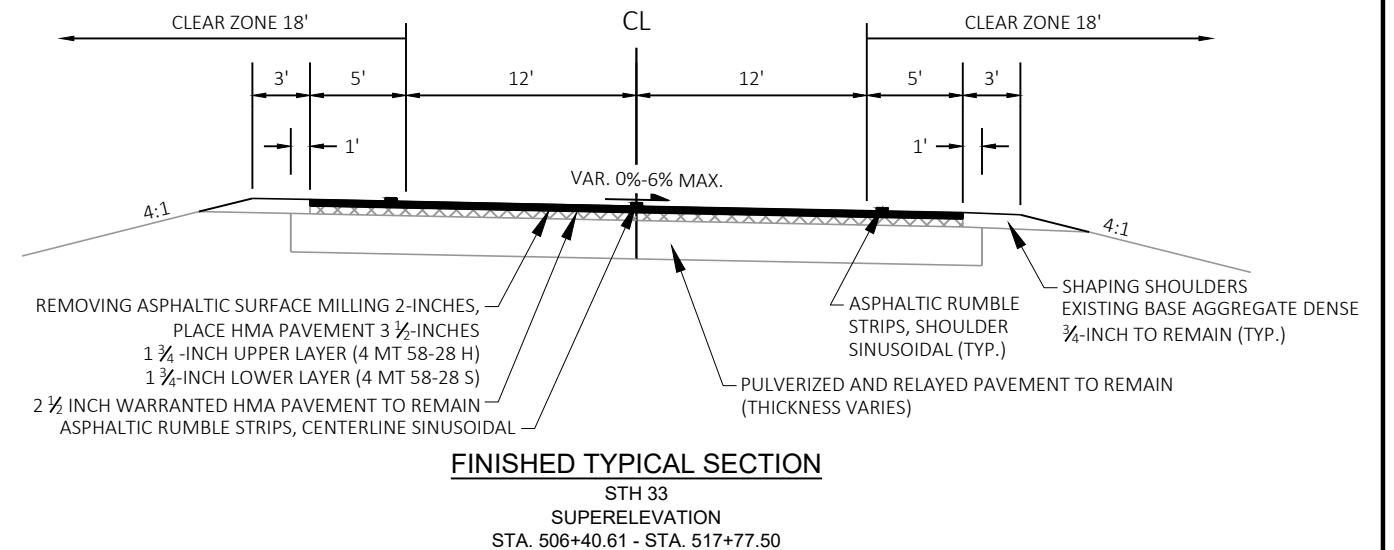
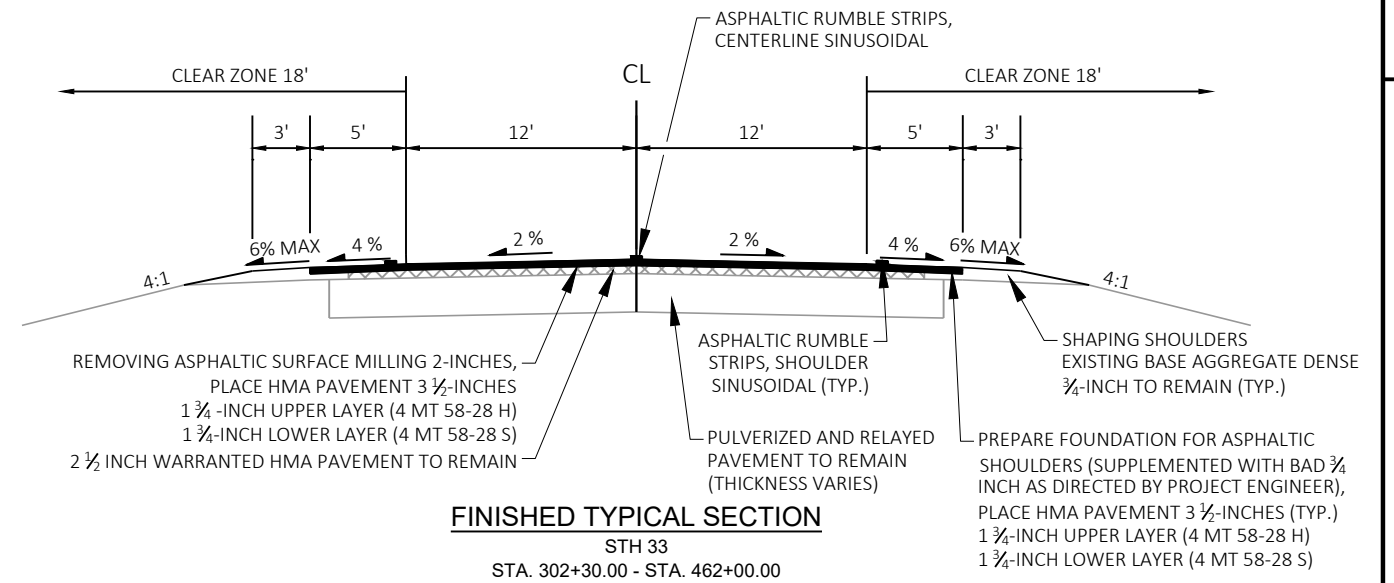
EXISTING TYPICAL SECTION

STH 33  
SUPERELEVATION  
STA. 506+40.61 - STA. 517+77.50

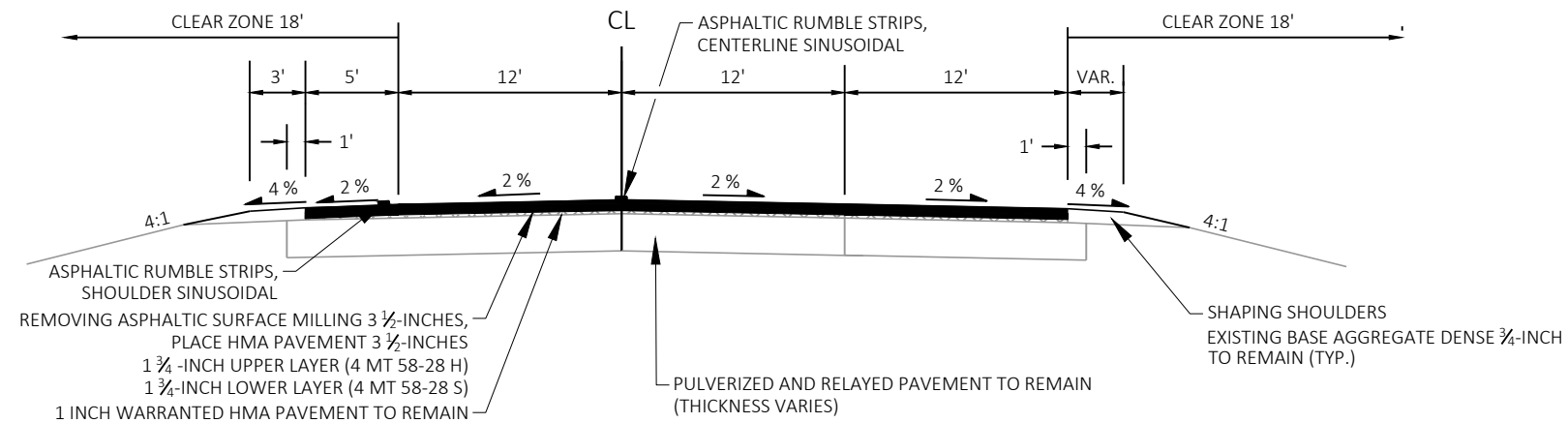
EXISTING SIDE ROAD TYPICAL SECTION

PLEASANT ROAD  
CTH A  
HOWARD DRIVE  
CHIEF KUNO TRAIL  
LINDEN LANE





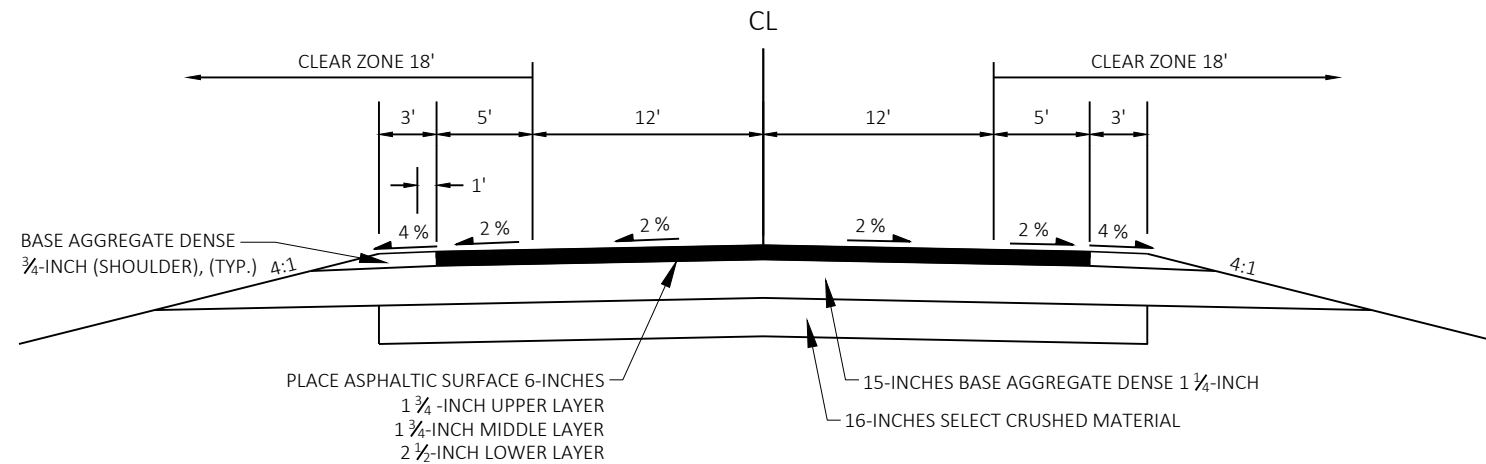
- GENERAL FINISHED TYPICAL SECTION NOTES:**
- 1) MILL AND REMOVE PAVEMENT ACROSS ENTIRE PAVEMENT WIDTH.
  - 2) ADJUST MILLING CROSS SLOPES OF SHOULDERS TO FACILITATE TIE-IN AS NEEDED.
  - 3) TREAT SPOT LOCATIONS OF PAVEMENT WEAKNESS AND/OR SIGNIFICANT BREAKUP AFTER MILLING WITH "REMOVING DISTRESSED PAVEMENT MILLING".
  - 4) FOR WIDENING PAVED SHOULDERS, EXCAVATE THE EXISTING SHOULDER AGGREGATE AND SHAPE UNDER "PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS" AND PAVE SHOULDER WIDTH CONCURRENTLY WITH MAINLINE.
  - 5) PAVED SHOULDER TO BE PAVED INTEGRALLY WITH 12' DRIVING LANES.
  - 6) THE 4% CROSS SLOPE OF THE PAVED SHOULDER TO BE ACHIEVED VIA THE MILLING OPERATION.
  - 7) UNPAVED SHOULDER SLOPE: 4.83% NOR., 6% MAX. FOR NON-SUPERELEVATED STH 33.



### FINISHED BYPASS TYPICAL SECTION

STH 33

STA. 351+00.00 LT - STA. 357+20.00 LT, SHOULDER 5'  
STA. 458+85.00 RT - STA. 465+20.00 RT, SHOULDER 5'  
STA. 477+95.00 RT - STA. 483+46.00 RT, SHOULDER 3'  
STA. 493+45.00 RT - STA. 497+60.00 RT, SHOULDER 3'



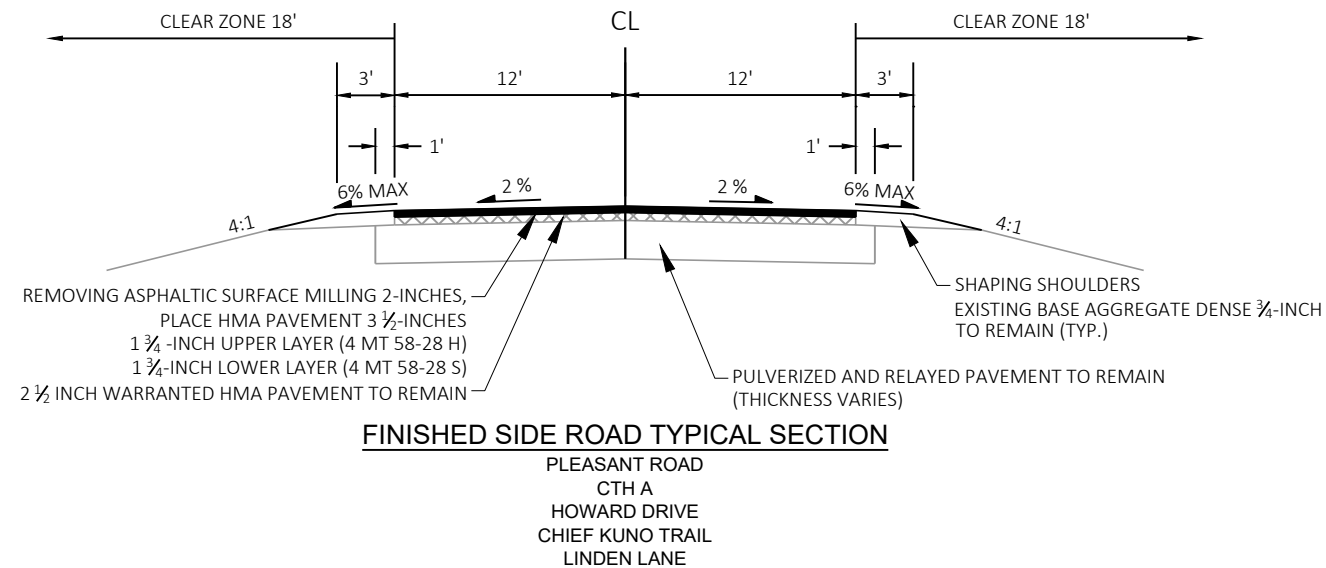
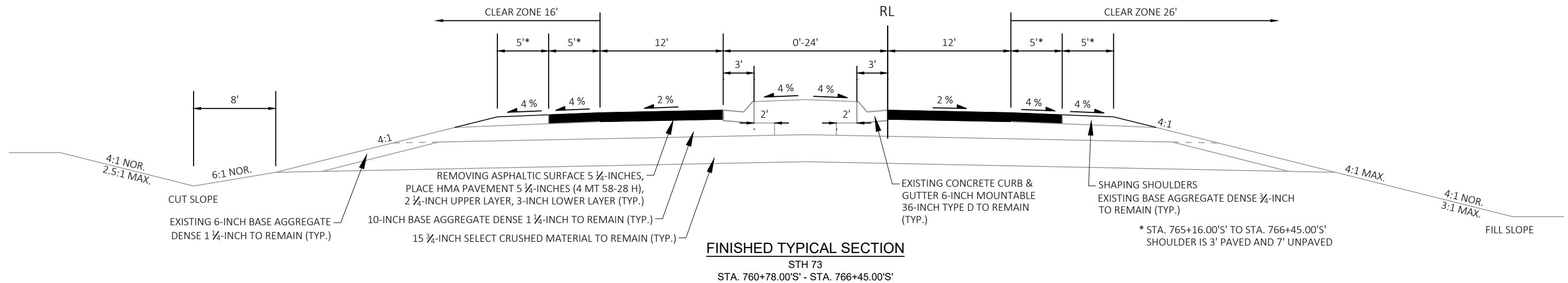
### FINISHED TYPICAL SECTION

STH 33

CULVERT REPLACEMENT LOCATIONS PRIOR TO MILLING OPERATIONS

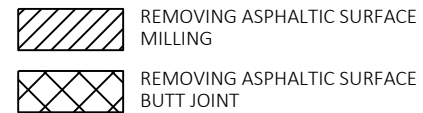
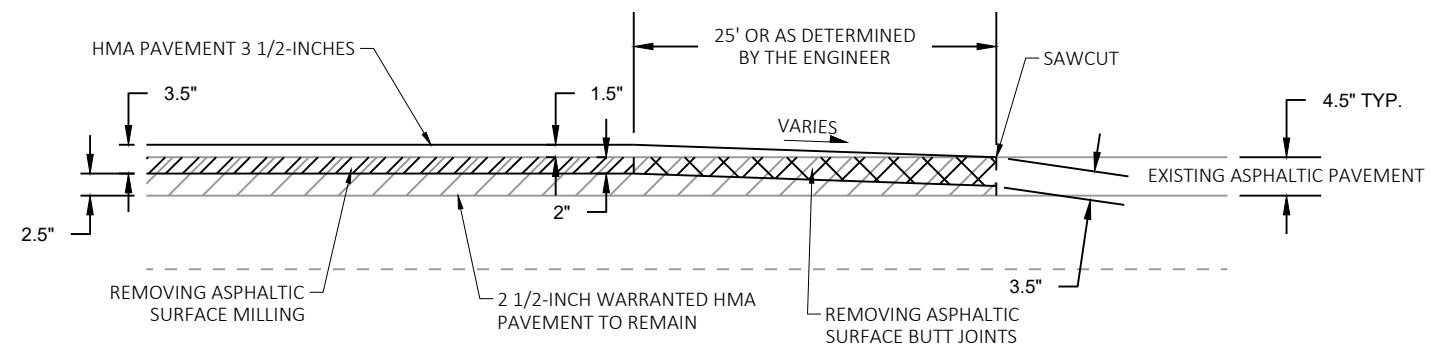
#### GENERAL FINISHED TYPICAL SECTION NOTES:

- 1) MILL AND REMOVE PAVEMENT ACROSS ENTIRE PAVEMENT WIDTH.
- 2) ADJUST MILLING CROSS SLOPES OF SHOULDERS TO FACILITATE TIE-IN AS NEEDED.
- 3) TREAT SPOT LOCATIONS OF PAVEMENT WEAKNESS AND/OR SIGNIFICANT BREAKUP AFTER MILLING WITH "REMOVING DISTRESSED PAVEMENT MILLING".
- 4) FOR WIDENING PAVED SHOULDERS, EXCAVATE THE EXISTING SHOULDER AGGREGATE AND SHAPE UNDER "PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS" AND PAVE SHOULDER WIDTH CONCURRENTLY WITH MAINLINE.
- 5) PAVED SHOULDER TO BE PAVED INTEGRALLY WITH 12' DRIVING LANES.



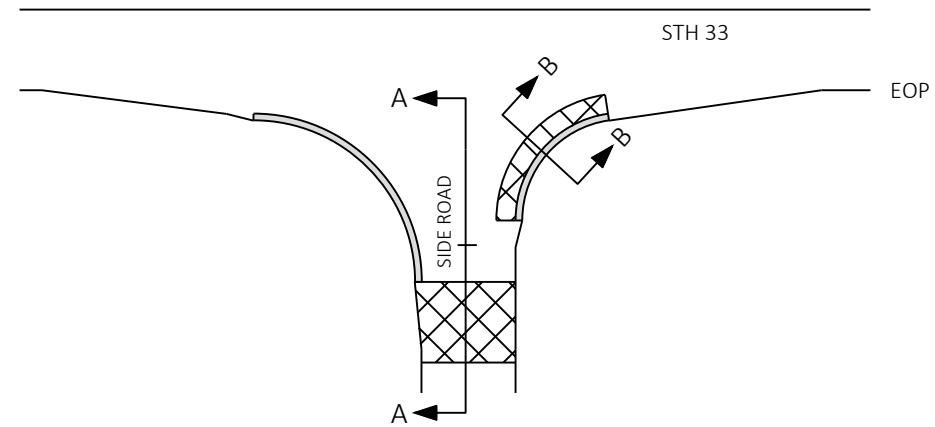
GENERAL FINISHED TYPICAL SECTION NOTES:

- 1) MILL AND REMOVE PAVEMENT ACROSS ENTIRE PAVEMENT WIDTH.
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- 3) TREAT SPOT LOCATIONS OF PAVEMENT WEAKNESS AND/OR SIGNIFICANT BREAKUP AFTER MILLING WITH "REMOVING DISTRESSED PAVEMENT MILLING".
- 4) FOR WIDENING PAVED SHOULDERS, EXCAVATE THE EXISTING SHOULDER AGGREGATE AND SHAPE UNDER "PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS" AND PAVE SHOULDER WIDTH CONCURRENTLY WITH MAINLINE.
- 5) PAVED SHOULDER TO BE PAVED INTEGRALLY WITH 12' DRIVING LANES.

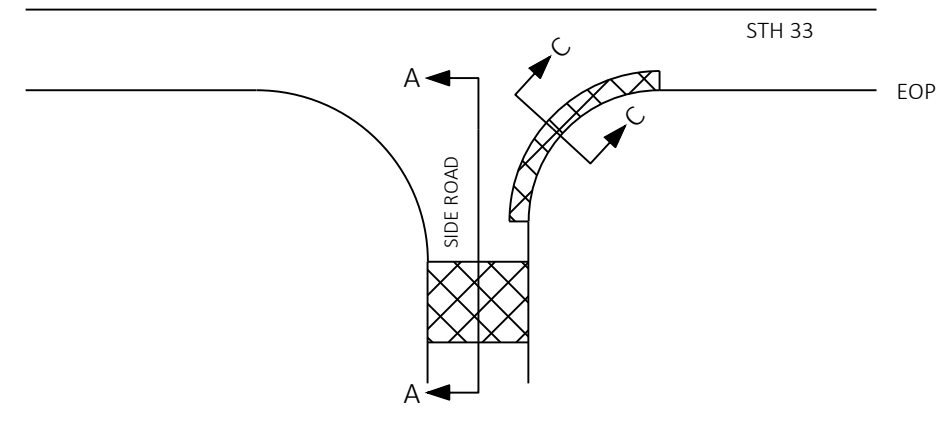


### BUTT JOINT DETAIL MAINLINE

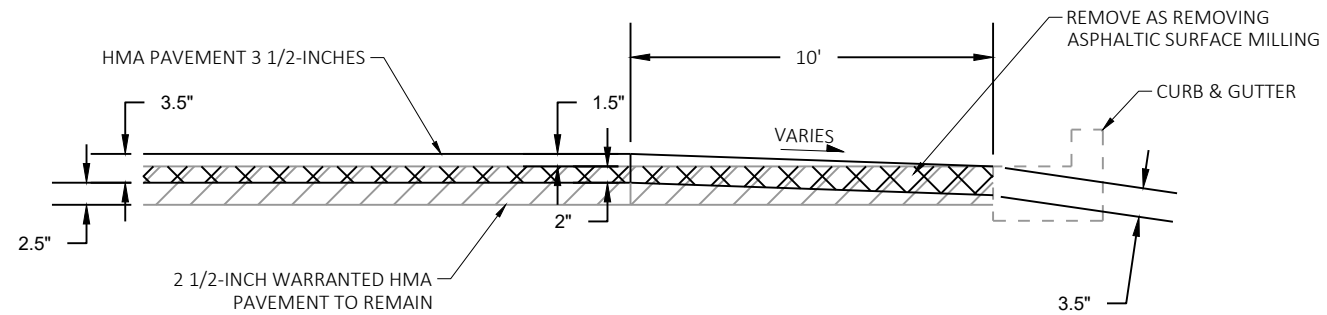
STH 33 - STA 545+05



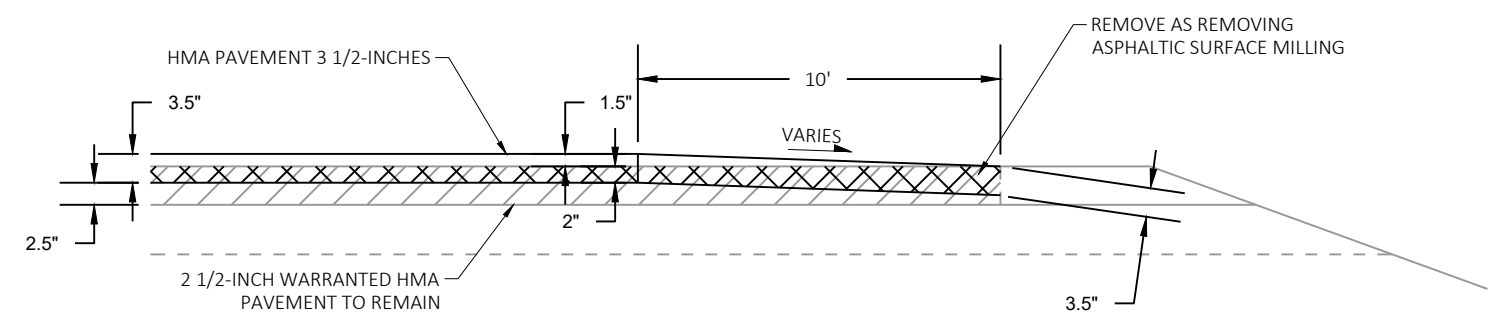
PLAN  
DETAIL AT SIDE ROADS AND DRIVEWAYS  
WITH EXISTING CURB & GUTTER



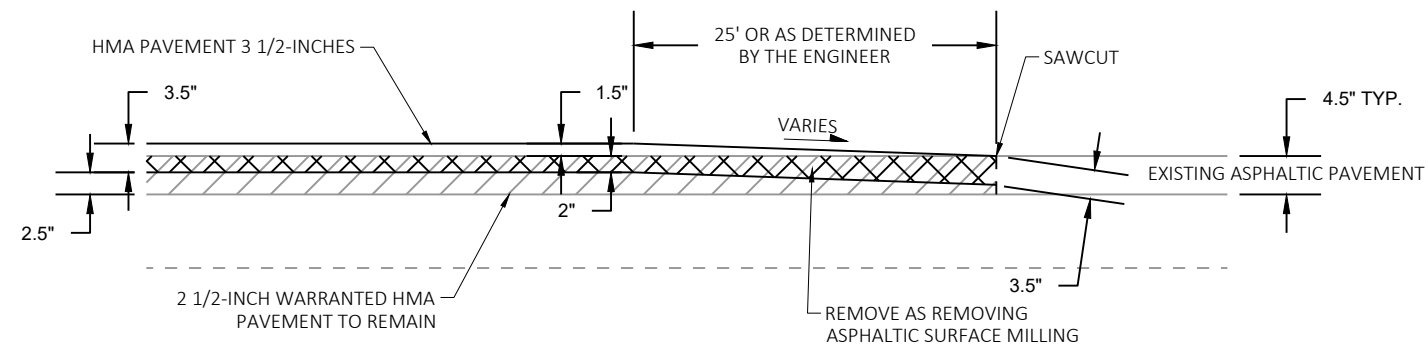
PLAN



SECTION B-B



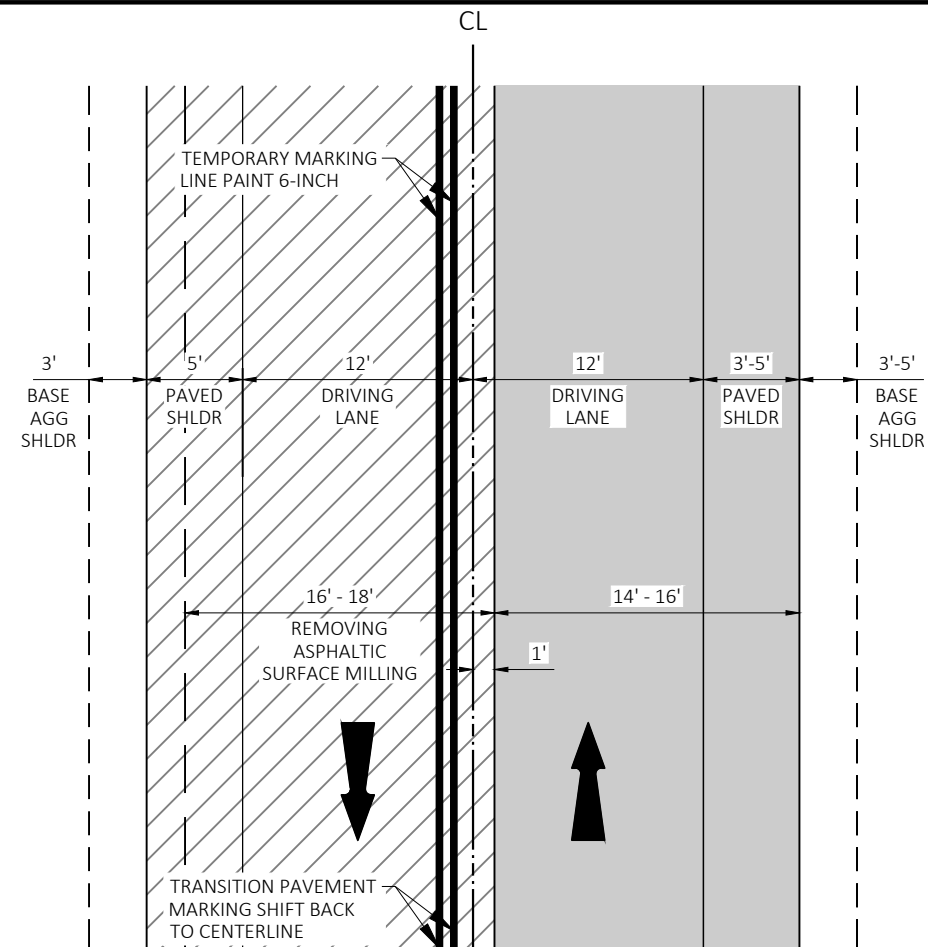
SECTION C-C



SECTION A-A

SIDE ROAD DETAIL  
PLEASANT ROAD  
CTH A  
HOWARD DRIVE  
CHIEF KUNO TRAIL  
LINDEN LANE  
BROWER BOULEVARD

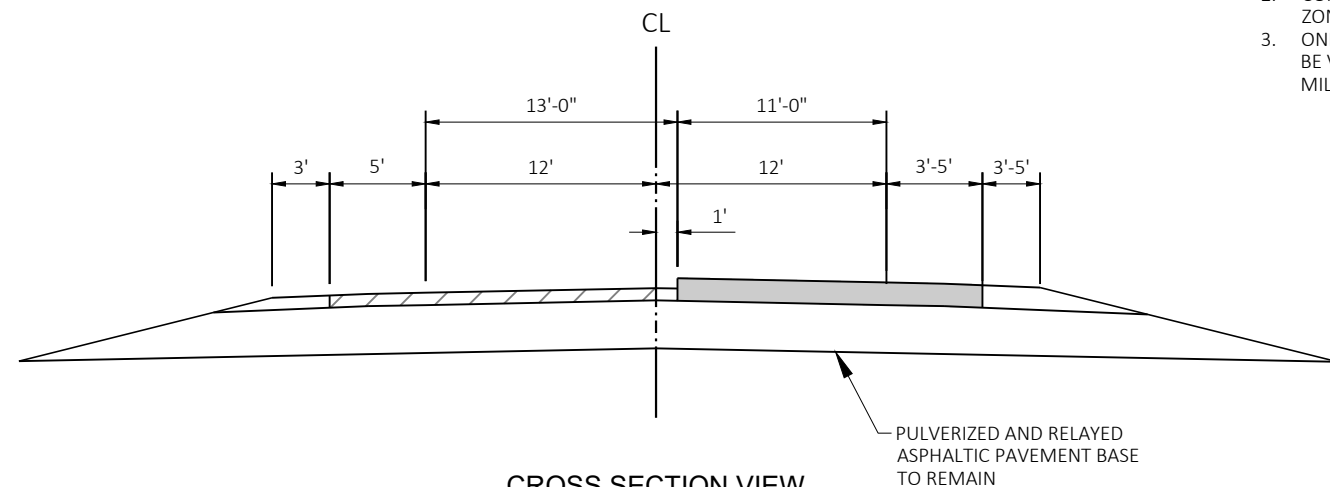




PLAN VIEW

- EXISTING ASPHALTIC SURFACE TO REMAIN
- FIRST PASS REMOVING ASPHALTIC SURFACE MILLING 2"  
FIRST PASS PLACING 1.75" HMA PAVEMENT LOWER LAYER 4 MT 58-28 S

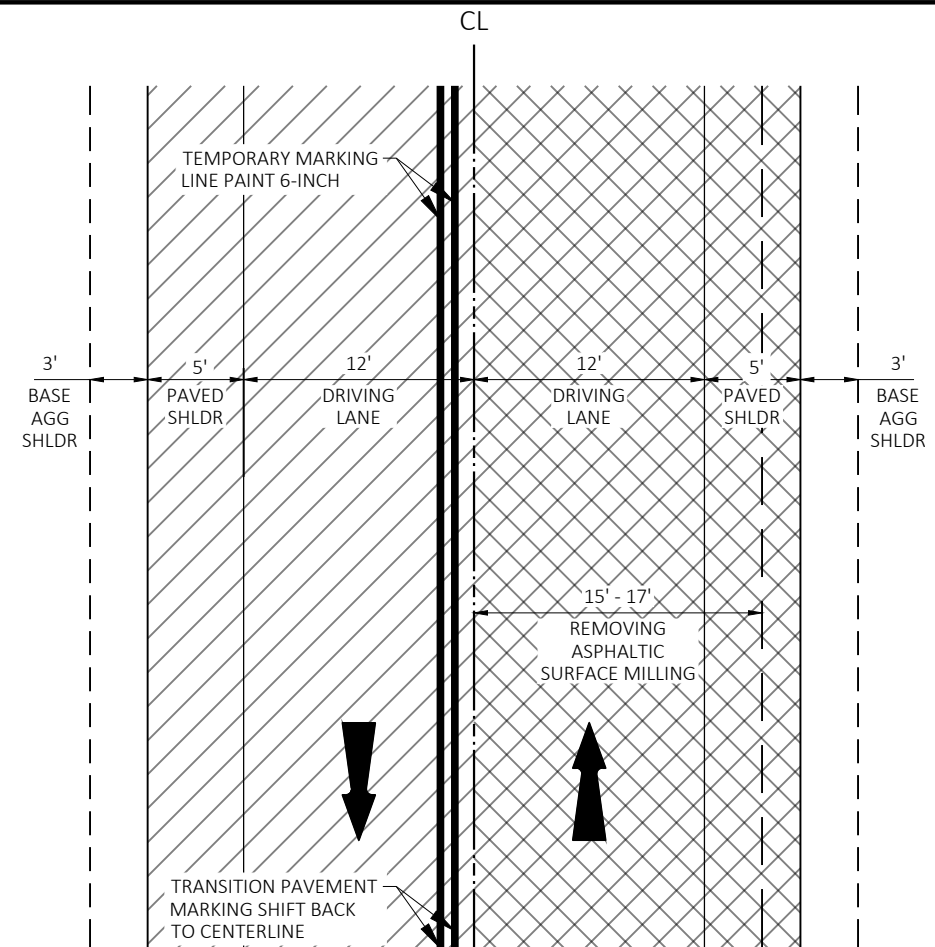
\* PAVED SHOULDER WIDTH VARIES  
BASED ON TYPICAL SECTIONS

CROSS SECTION VIEW  
FIRST PASS DETAIL

PULVERIZED AND RELAYED  
ASPHALTIC PAVEMENT BASE  
TO REMAIN

## NOTES:

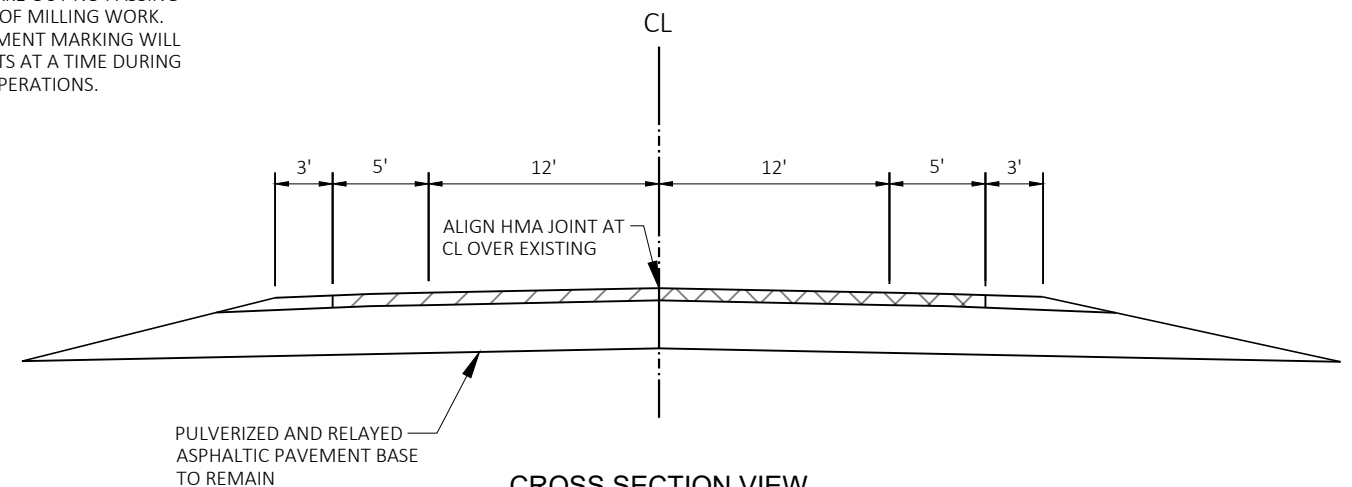
1. THESE DETAILS DO NOT APPLY TO FULL DEPTH PAVEMENT REPLACEMENT AT STH 73 INTERSECTION AND CULVERT REPLACEMENTS. CONTRACTOR SHALL STAKE OUT NO PASSING ZONES PRIOR TO START OF MILLING WORK.
2. ONLY ONE SET OF PAVEMENT MARKING WILL BE VISIBLE TO MOTORISTS AT A TIME DURING MILLING AND PAVING OPERATIONS.



PLAN VIEW

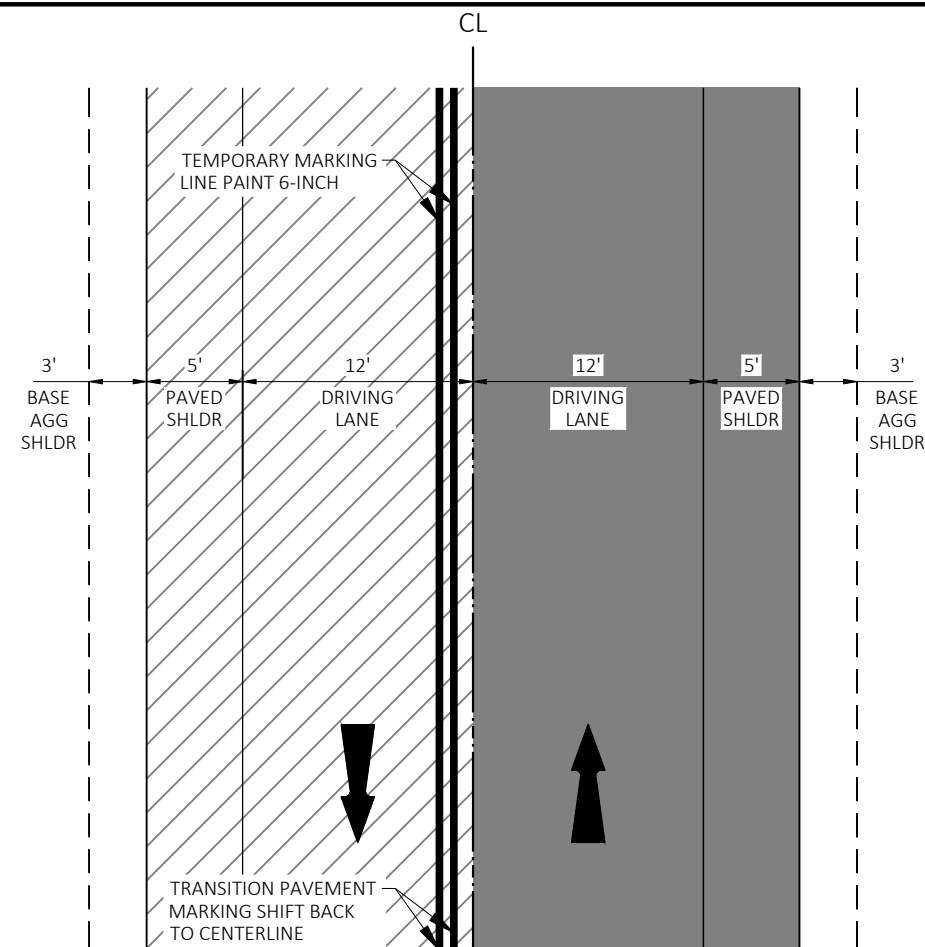
- 1.75" HMA PAVEMENT LOWER LAYER 4 MT 58-28 S
- SECOND PASS REMOVING ASPHALTIC SURFACE MILLING 2"  
SECOND PASS PLACING 1.75" HMA PAVEMENT LOWER LAYER 4 MT 58-28 S

\* PAVED SHOULDER WIDTH VARIES  
BASED ON TYPICAL SECTIONS

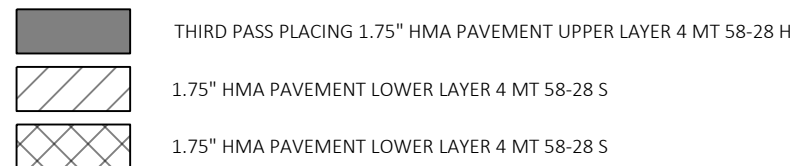
CROSS SECTION VIEW  
SECOND PASS DETAIL

PULVERIZED AND RELAYED  
ASPHALTIC PAVEMENT BASE  
TO REMAIN

ALIGN HMA JOINT AT  
CL OVER EXISTING

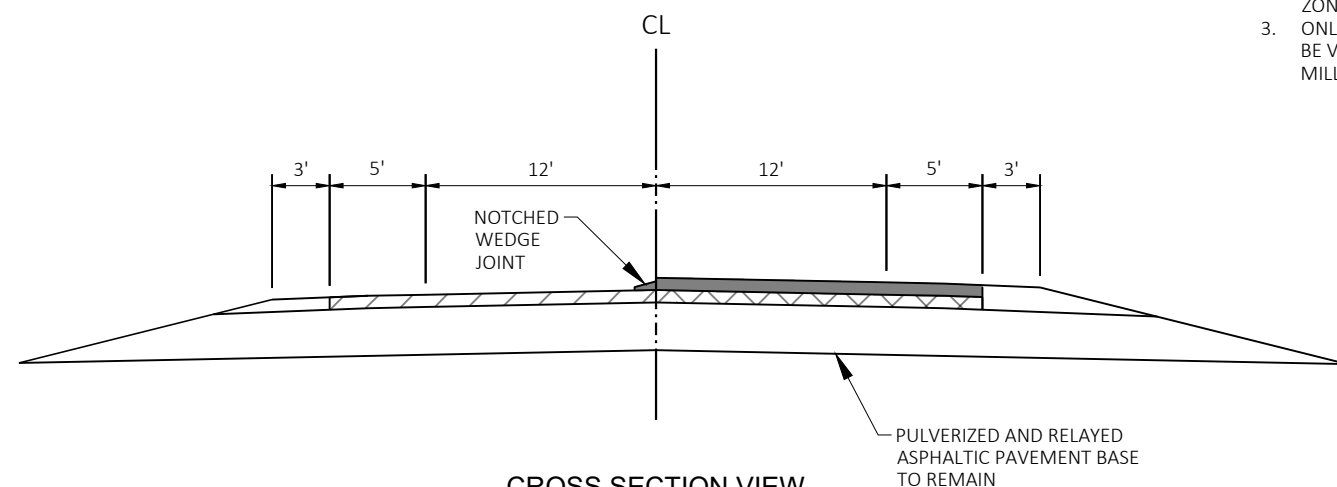
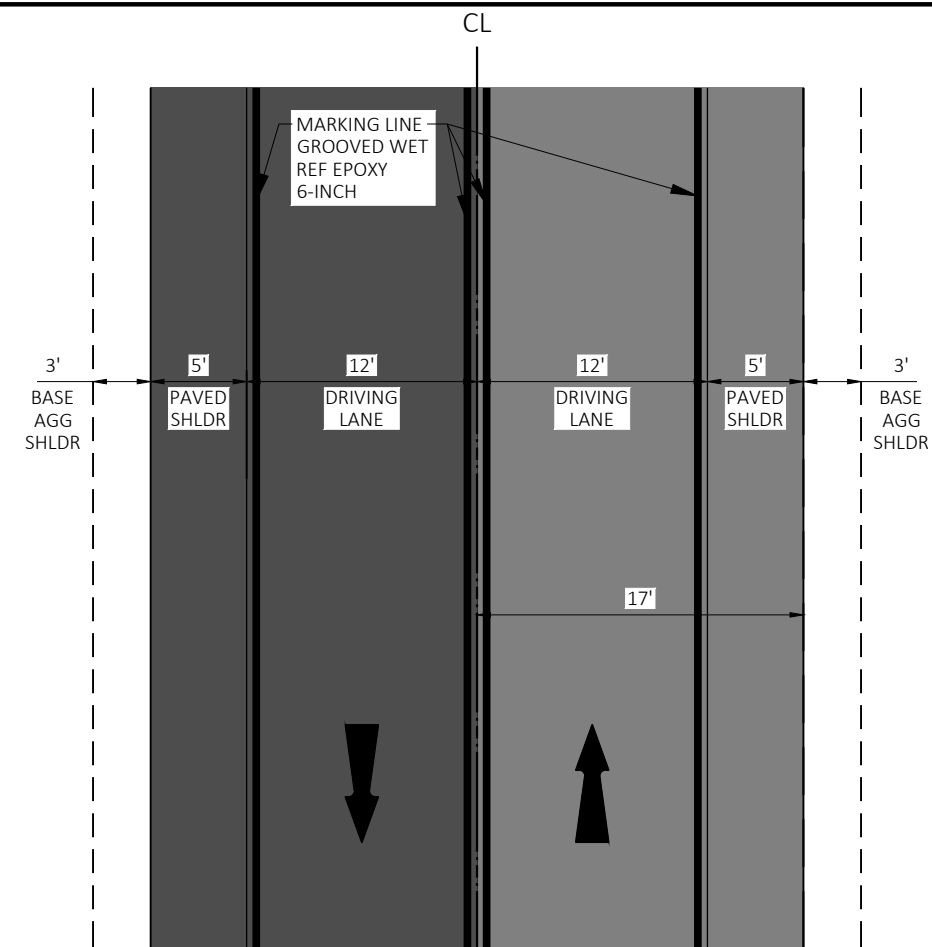


PLAN VIEW

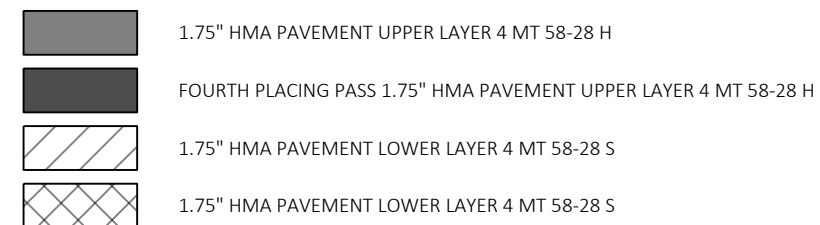


\* PAVED SHOULDER WIDTH VARIES  
BASED ON TYPICAL SECTIONS

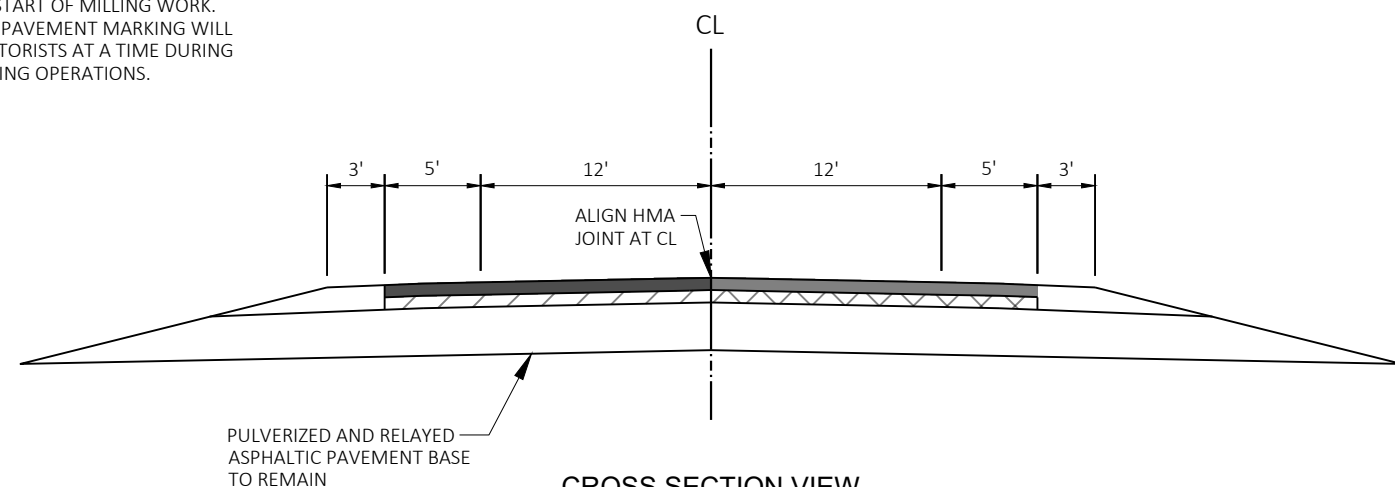
- NOTES:
- THESE DETAILS DO NOT APPLY TO FULL DEPTH PAVEMENT REPLACEMENT AT STH 73 INTERSECTION AND CULVERT REPLACEMENTS. CONTRACTOR SHALL STAKE OUT NO PASSING ZONES PRIOR TO START OF MILLING WORK.
  - ONLY ONE SET OF PAVEMENT MARKING WILL BE VISIBLE TO MOTORISTS AT A TIME DURING MILLING AND PAVING OPERATIONS.

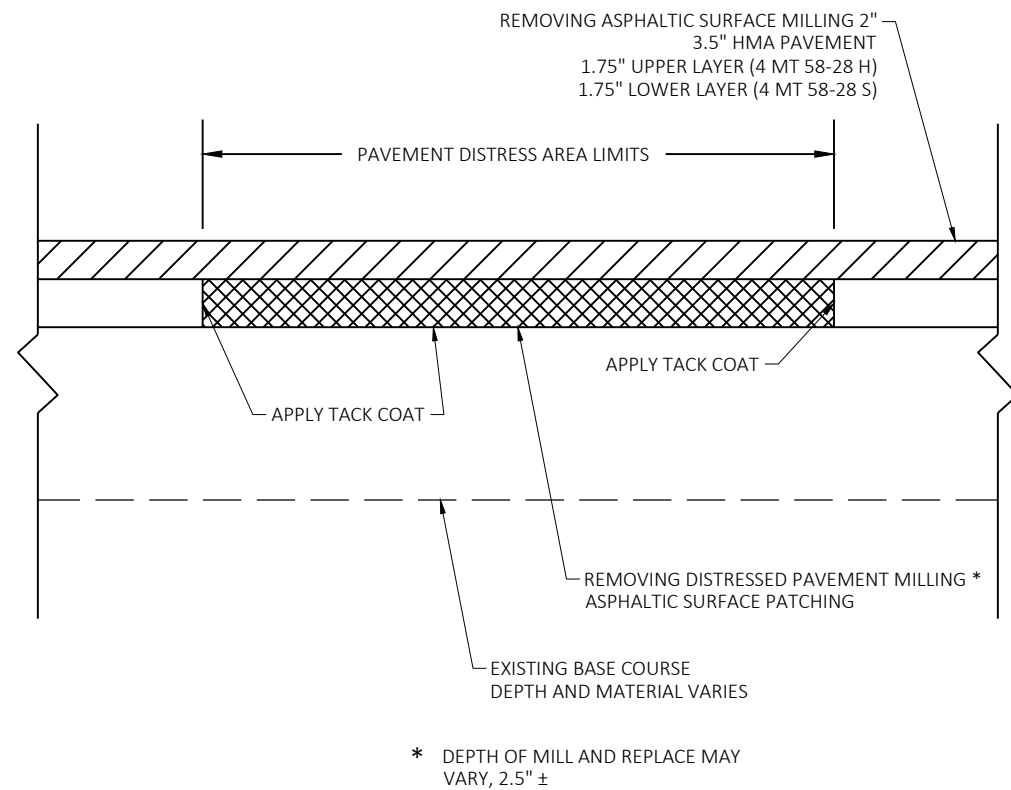
CROSS SECTION VIEW  
THIRD PASS DETAIL

PLAN VIEW

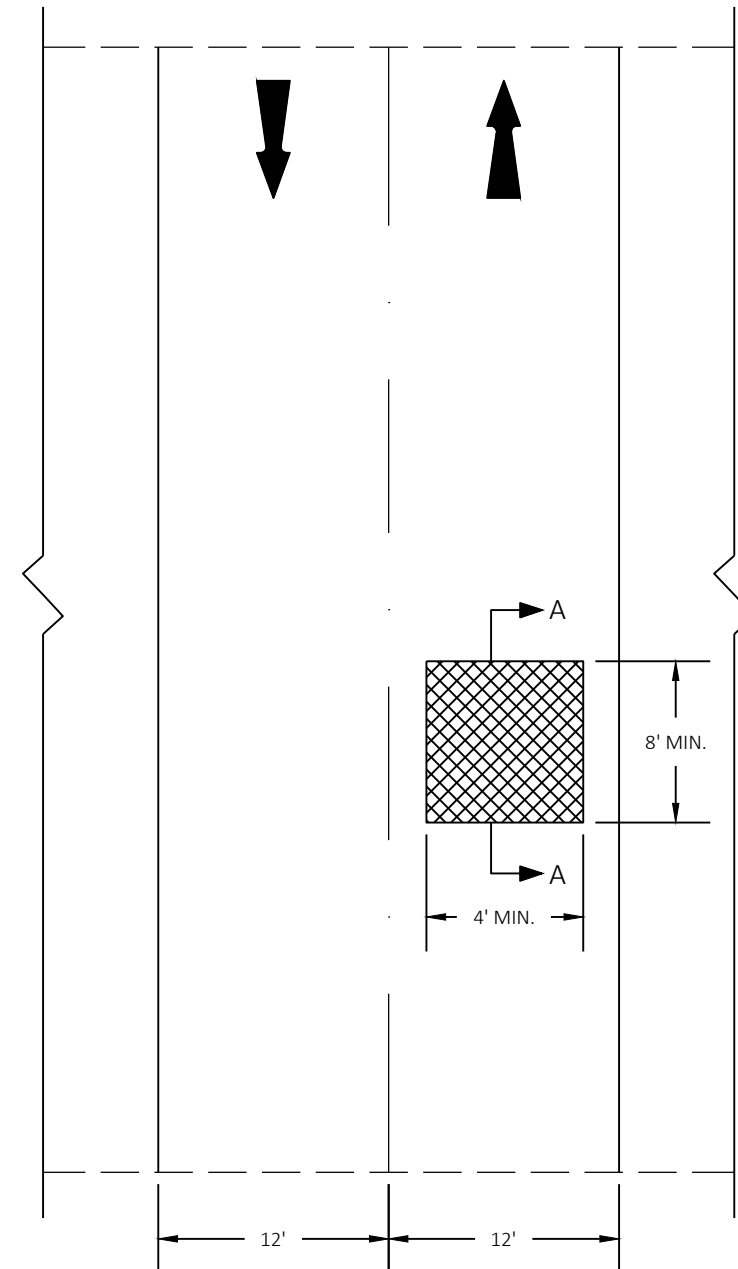


\* PAVED SHOULDER WIDTH VARIES  
BASED ON TYPICAL SECTIONS

CROSS SECTION VIEW  
FOURTH PASS DETAIL



SECTION A-A

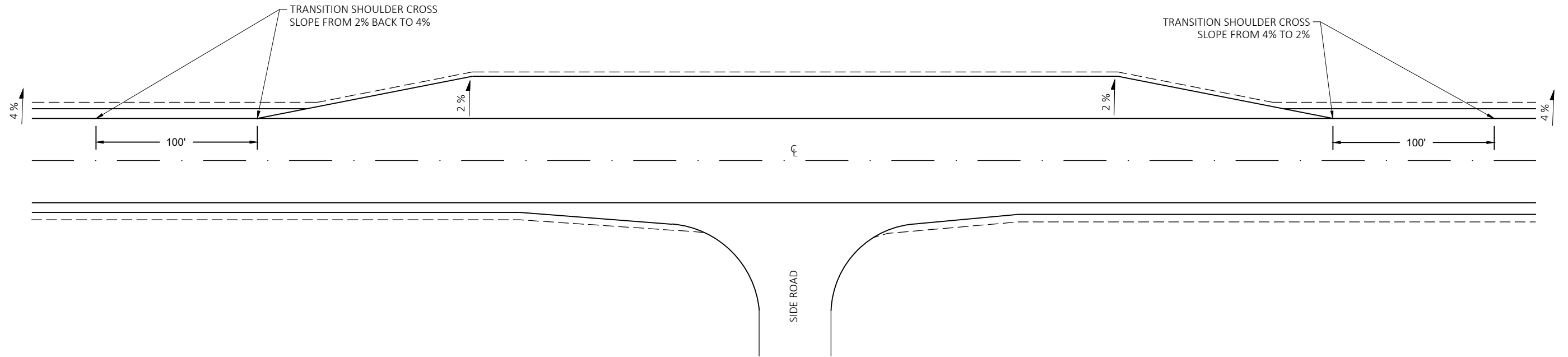


PLAN VIEW

REMOVING DISTRESSED PAVEMENT MILLING  
LOCATIONS TO BE DETERMINED BY ENGINEER IN FIELD

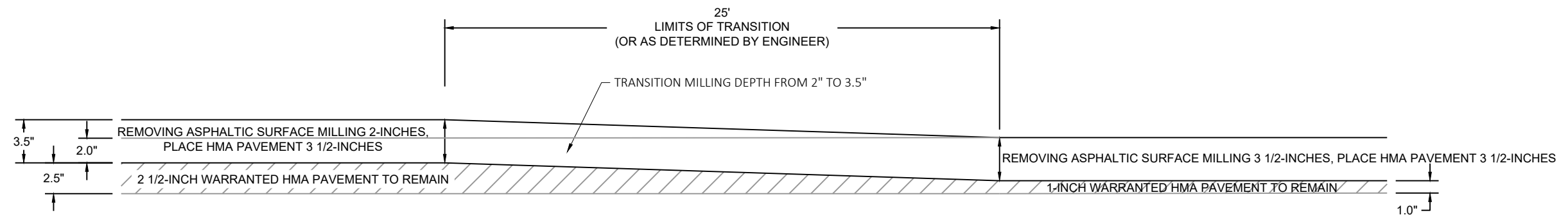
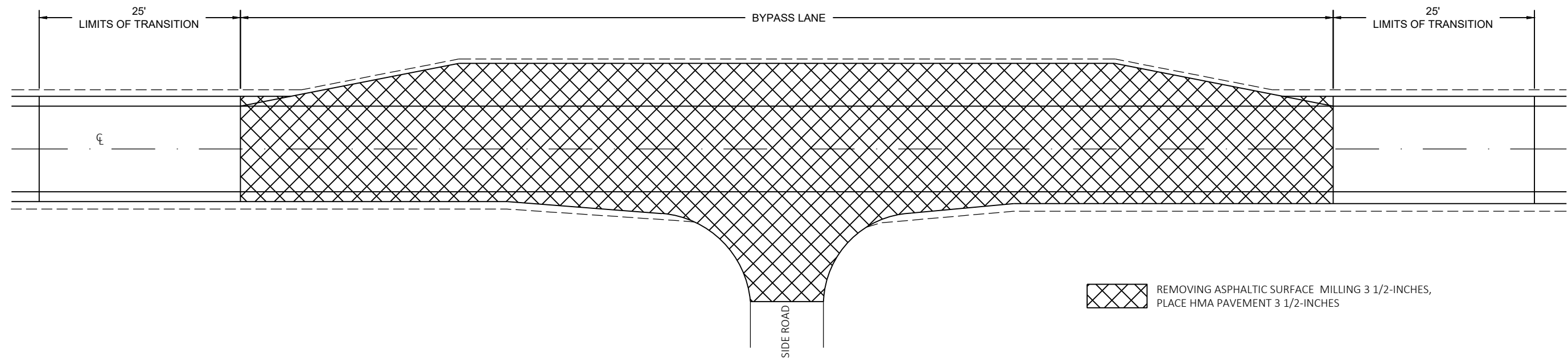
The diagram illustrates the cross-section of a road shoulder. It shows three distinct layers: A (PAVEMENT), B (BASE), and C (SELECT MATERIAL). The shoulder is defined by a 4:1 slope on the left and a 6:1 slope on the right. The total width of the shoulder is labeled T. The distance from the centerline (CL) to the start of the shoulder is D. The shoulder width is E. The distance from the end of the shoulder to the CL is S. The distance from the CL to the start of the shoulder is I. The shoulder is graded with a 4% slope on the left and a 2% slope on the right.

RELIEF TRENCH DETAIL PLAN VIEW  
THROUGH SELECT MATERIAL

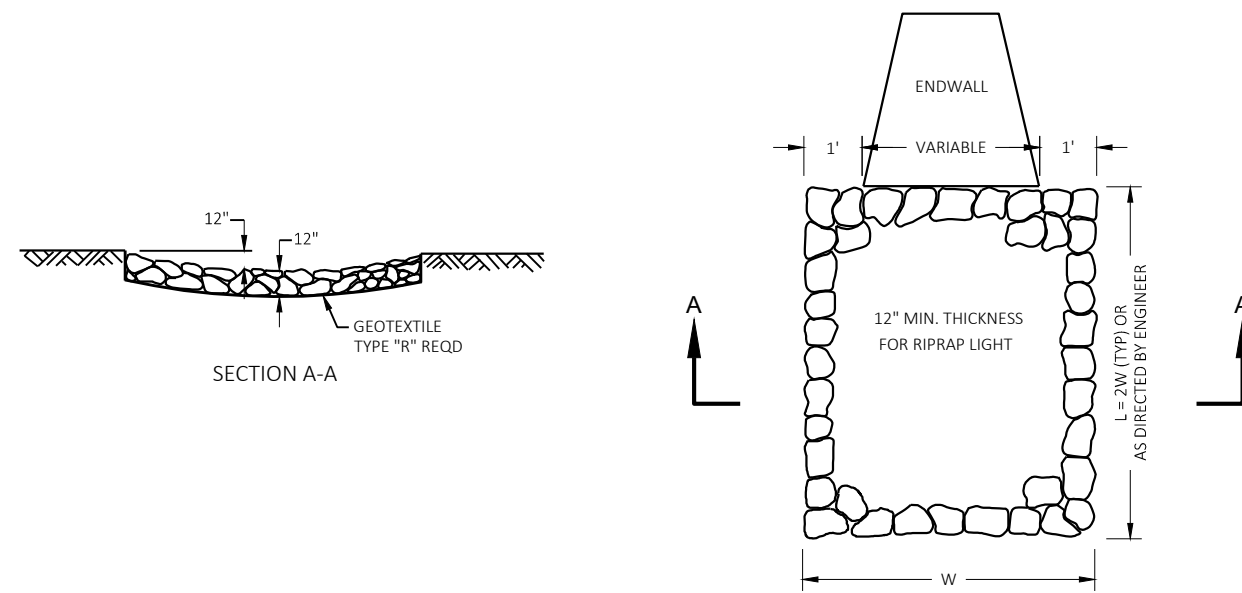


SHOULDER CROSS SLOPE TRANSITION DETAIL AT INTERSECTIONS WITH BYPASS LANE

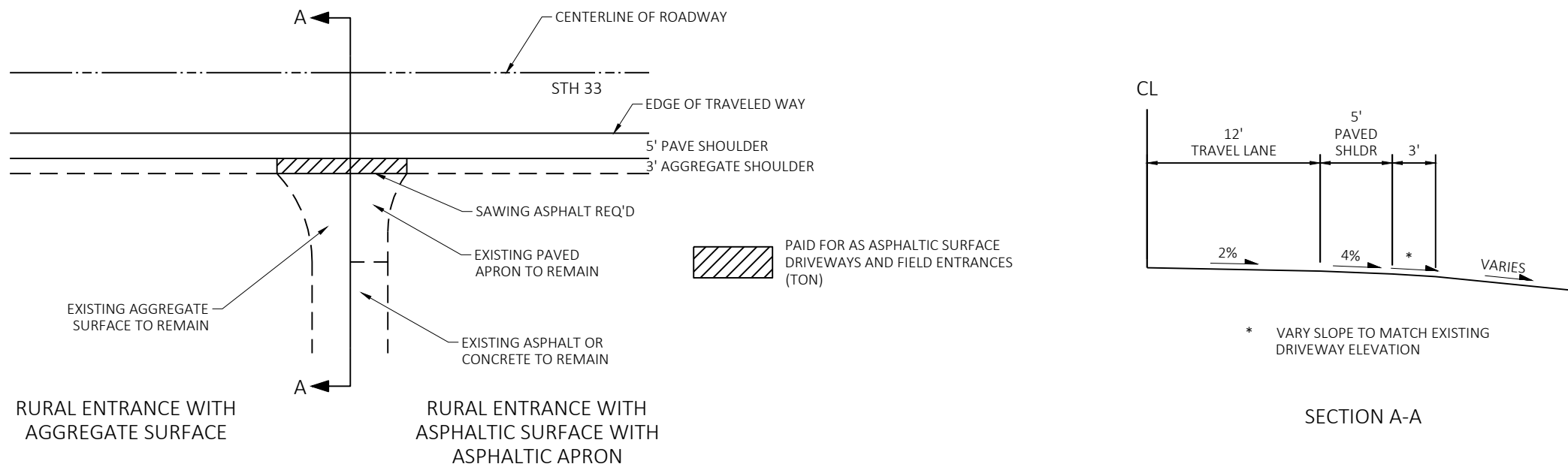
PLEASANT ROAD  
CTH A  
HOWARD DRIVE  
CHIEF KUNO TRAIL



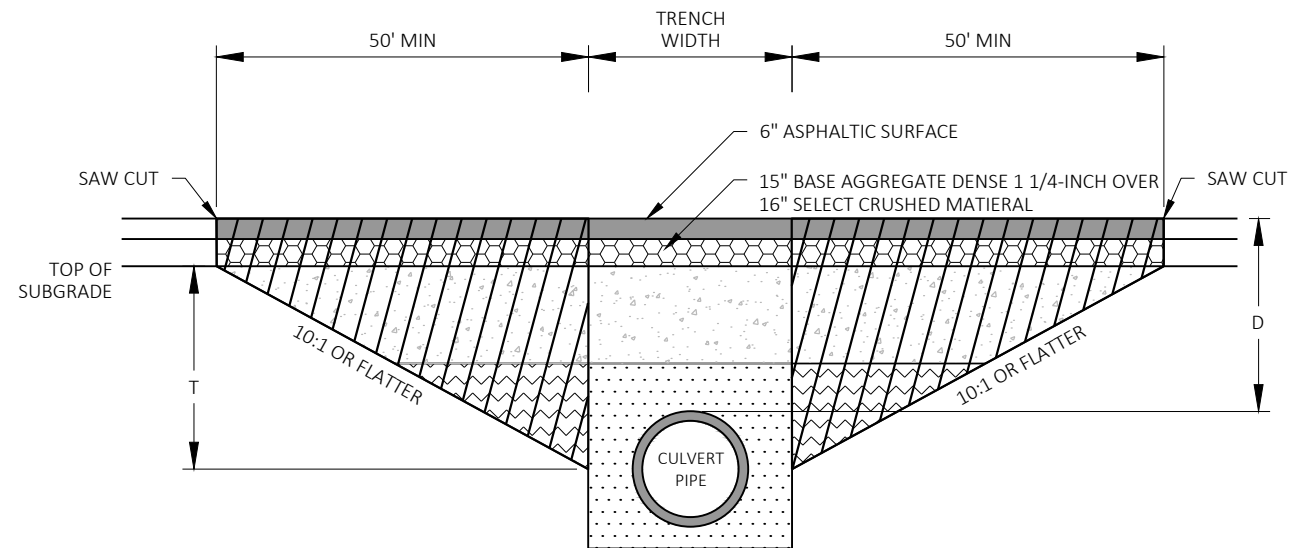
MILLING DEPTH TRANSITION DETAIL AT INTERSECTIONS WITH BYPASS LANE  
PLEASANT ROAD  
CTH A  
HOWARD DRIVE  
CHIEF KUNO TRAIL



RIPRAP TREATMENT AT CULVERTS

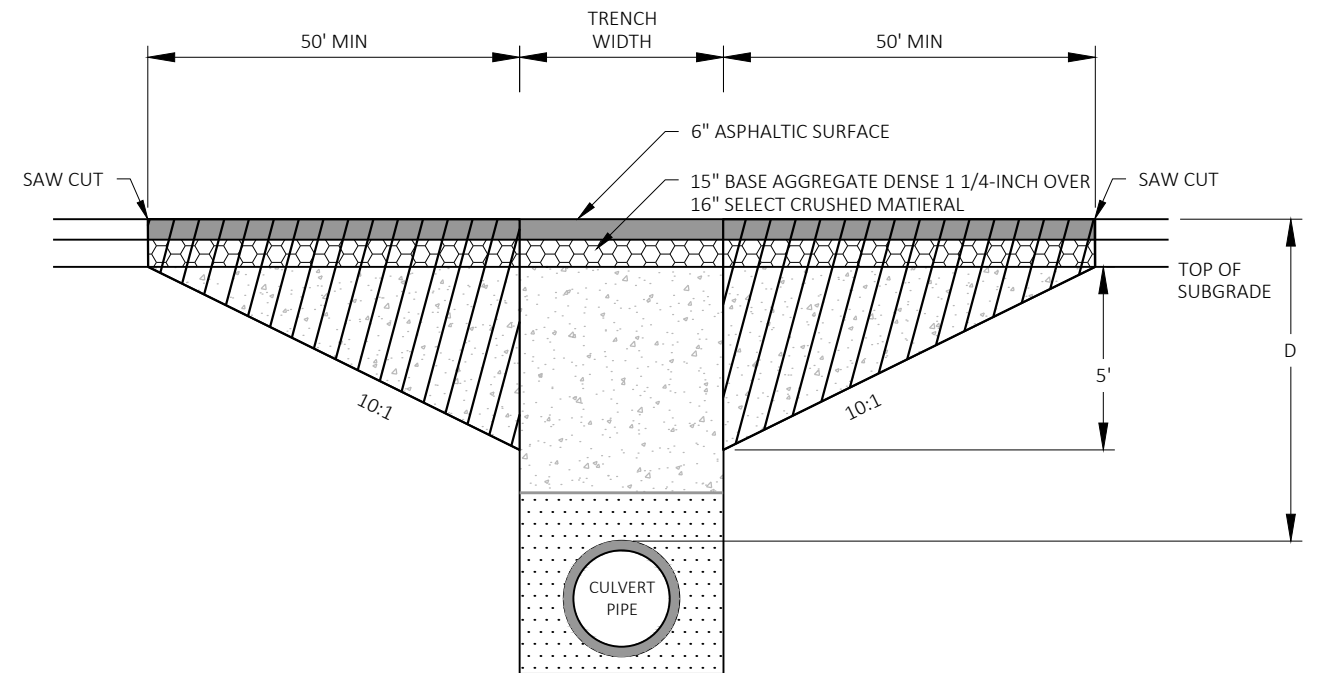


RURAL ENTRANCE DETAIL



DEPTH D < 6 FT

TRANSITION CUT DEPTH (T) = THE LESSER OF DEPTH TO CENTER OF PIPE OR 5 FT.  
DO NOT EXTEND TRANSITION CUT BELOW HORIZONTAL CENTER OF PIPE.



DEPTH D ≥ 6 FT

**NOTES**

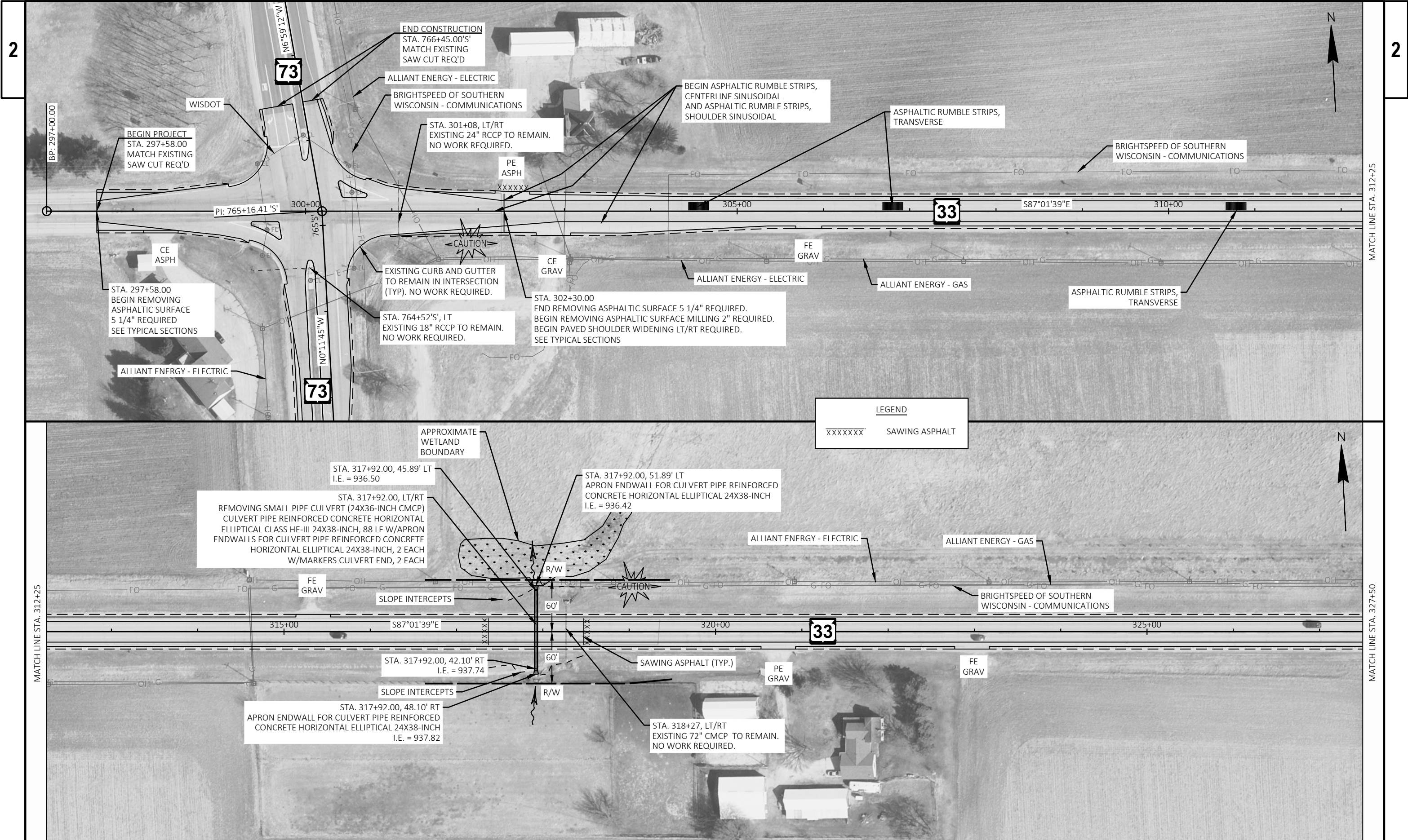
TRANSITION CUT IS PAID AS EXCAVATION COMMON.  
TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.  
BACKFILL THE TRANSITION CUT AREAS WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520.  
PERFORM CULVERT PIPE INSTALLATIONS BEFORE MILLING.

LEGEND	
	PROPOSED SURFACE
	PROPOSED BASE
	TRENCH BACKFILL
	TRENCH OR FOUNDATION BACKFILL
	FOUNDATION BACKFILL
	TRANSITION CUT

**CULVERT PIPE TRANSITION**

ROUTE	STA (CL)	DEPTH D (FT)	PIPE DIA (IN)
STH 33	317+92	8.18	CLASS HE-III 24X38-INCH
STH 33	399+81	1.96	CLASS HE-IV 48X76-INCH
STH 33	416+44	2.15	CLASS HE-IV 34X53-INCH
STH 33	427+04	1.85	CLASS HE-IV 34X53-INCH
STH 33	452+78	4.41	CLASS HE-III 34X53-INCH
STH 33	467+10	2.06	CLASS IV 36-INCH
STH 33	474+31	3.36	CLASS IV 30-INCH
STH 33	485+21	2.15	CLASS IV 30-INCH
STH 33	493+11	3.18	CLASS IV 30-INCH
STH 33	504+31	3.12	CLASS HE-IV 38X60-INCH
STH 33	515+68	3.54	CLASS HE-IV 24X38-INCH
STH 33	532+55	2.99	CLASS IV 36-INCH







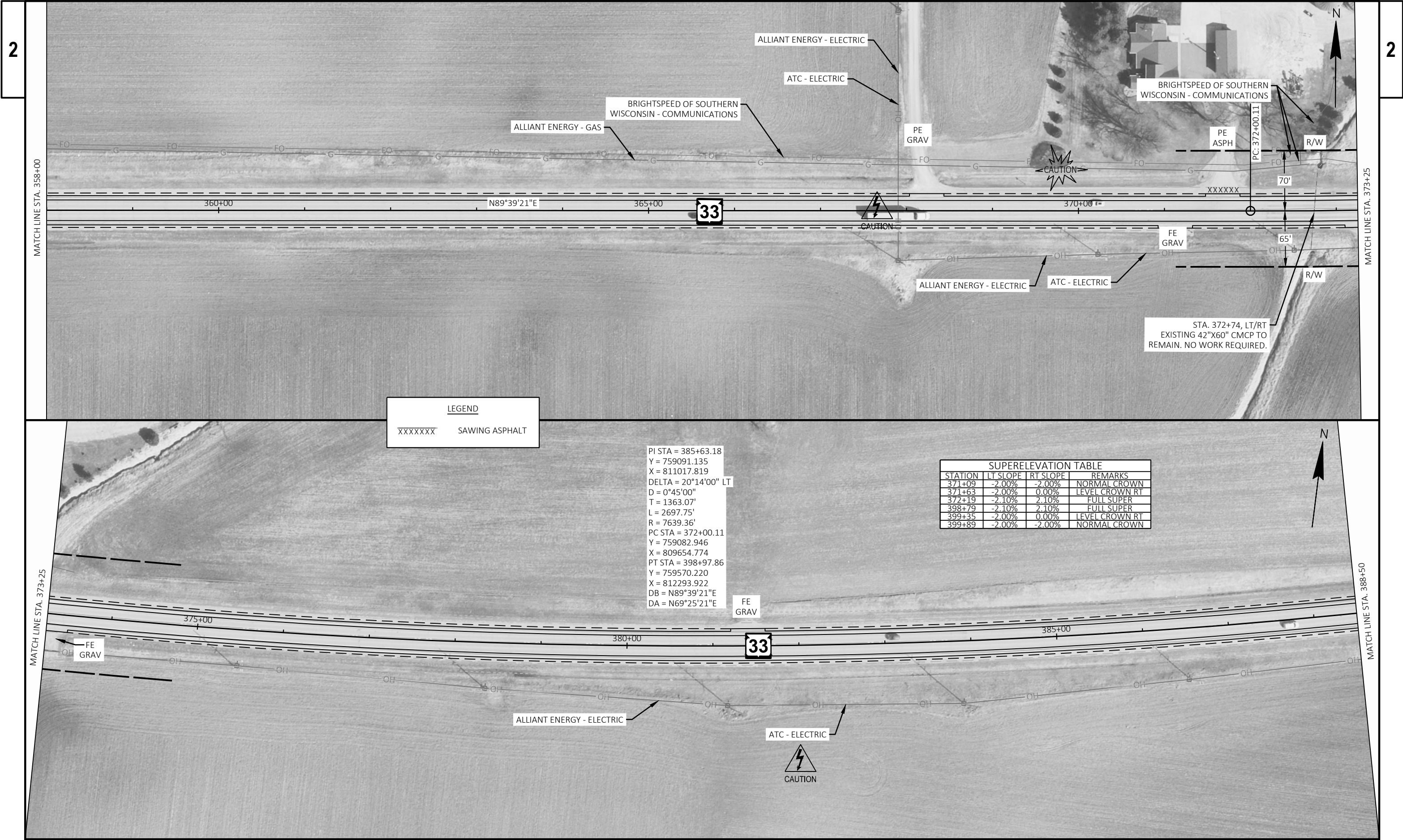


LEGEND

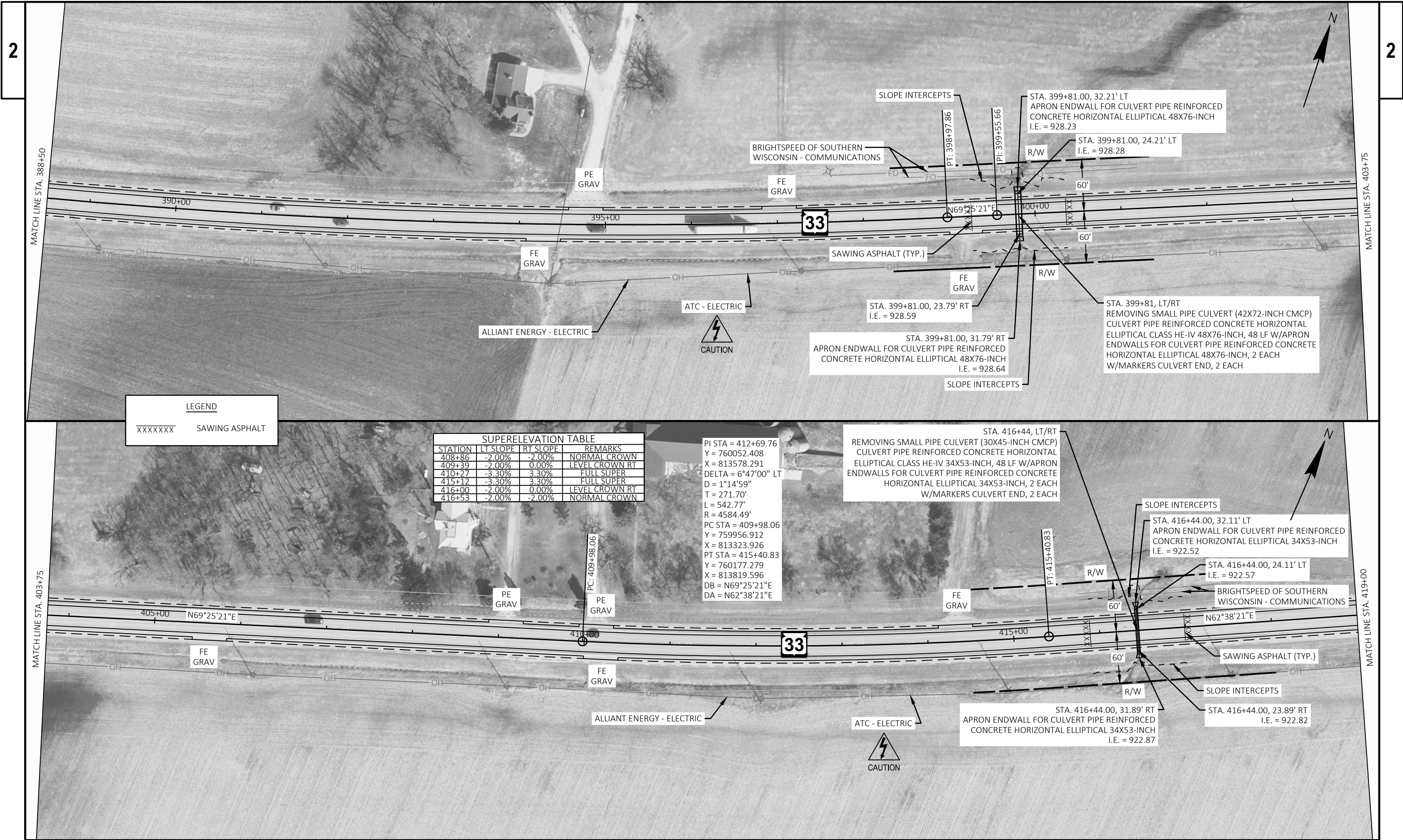
XXXXXX SAWING ASPHALT

PI STA = 341+44.90  
Y = 759064.590  
X = 806599.429  
DELTA = 3°19'00" LT  
D = 0°30'00"  
T = 331.80'  
L = 663.41'  
R = 11460.56'  
PC STA = 338+13.10  
Y = 759081.796  
X = 806268.076  
PT STA = 344+76.51  
Y = 759066.584  
X = 806931.223  
DB = S87°01'39"E  
DA = N89°39'21"E









**LEGEND**

XXXXXXX SAWING ASPHALT

SUPERELEVATION TABLE			
STATION	LT SLOPE	RT SLOPE	REMARKS
408+86	-2.00%	-2.00%	NORMAL CROWN
409+39	-2.00%	0.00%	LEVEL CROWN RT
410+27	-3.30%	3.30%	FULL SUPER
415+12	-3.30%	3.30%	FULL SUPER
416+00	-2.00%	0.00%	LEVEL CROWN RT
416+53	-2.00%	-2.00%	NORMAL CROWN

PI STA = 412+69.76  
Y = 760052.408  
X = 813578.291  
DELTA = 6°47'00" LT  
D = 1°14'59"  
T = 271.70'  
L = 542.77'  
R = 4584.49'  
PC STA = 409+98.06  
Y = 759956.912  
X = 813323.926  
PT STA = 415+40.83  
Y = 760177.279  
X = 813819.596  
DB = N69°25'21"E  
DA = N62°38'21"E

STA. 416+44, LT/RT  
REMOVING SMALL PIPE CULVERT (30X45-INCH CMCP)  
CULVERT PIPE REINFORCED CONCRETE HORIZONTAL  
ELLIPTICAL CLASS HE-IV 34X53-INCH, 48 LF W/APRON  
ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE  
HORIZONTAL ELLIPTICAL 34X53-INCH, 2 EACH  
W/MARKERS CULVERT END, 2 EACH

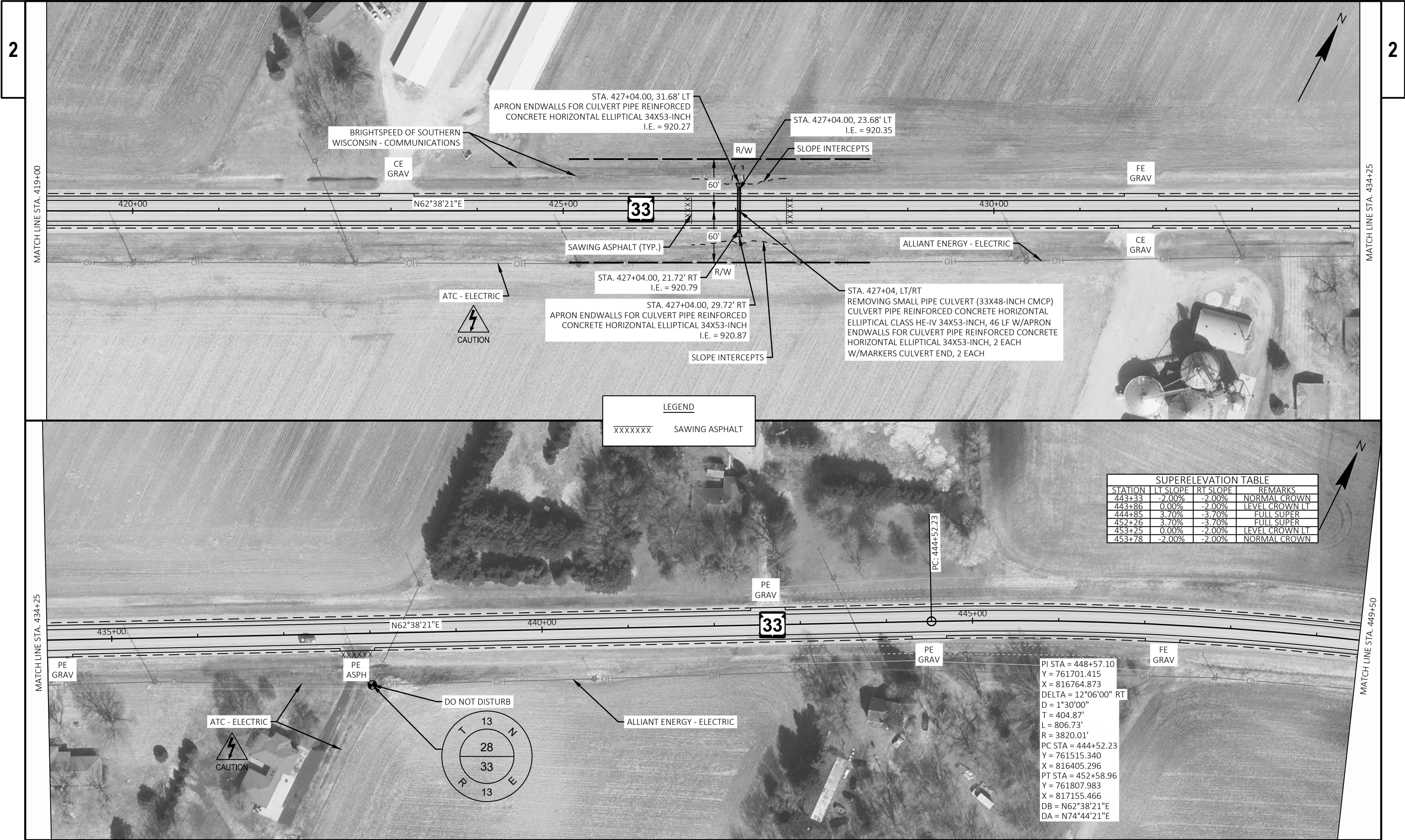
STA. 416+44.00, 31.89' RT  
APRON ENDWALL FOR CULVERT PIPE REINFORCED  
CONCRETE HORIZONTAL ELLIPTICAL 34X53-INCH  
I.E. = 922.87

STA. 416+44.00, 32.11' LT  
APRON ENDWALL FOR CULVERT PIPE REINFORCED  
CONCRETE HORIZONTAL ELLIPTICAL 34X53-INCH  
I.E. = 922.52

STA. 416+44.00, 24.11' LT  
I.E. = 922.57

STA. 416+44.00, 23.89' RT  
I.E. = 922.82

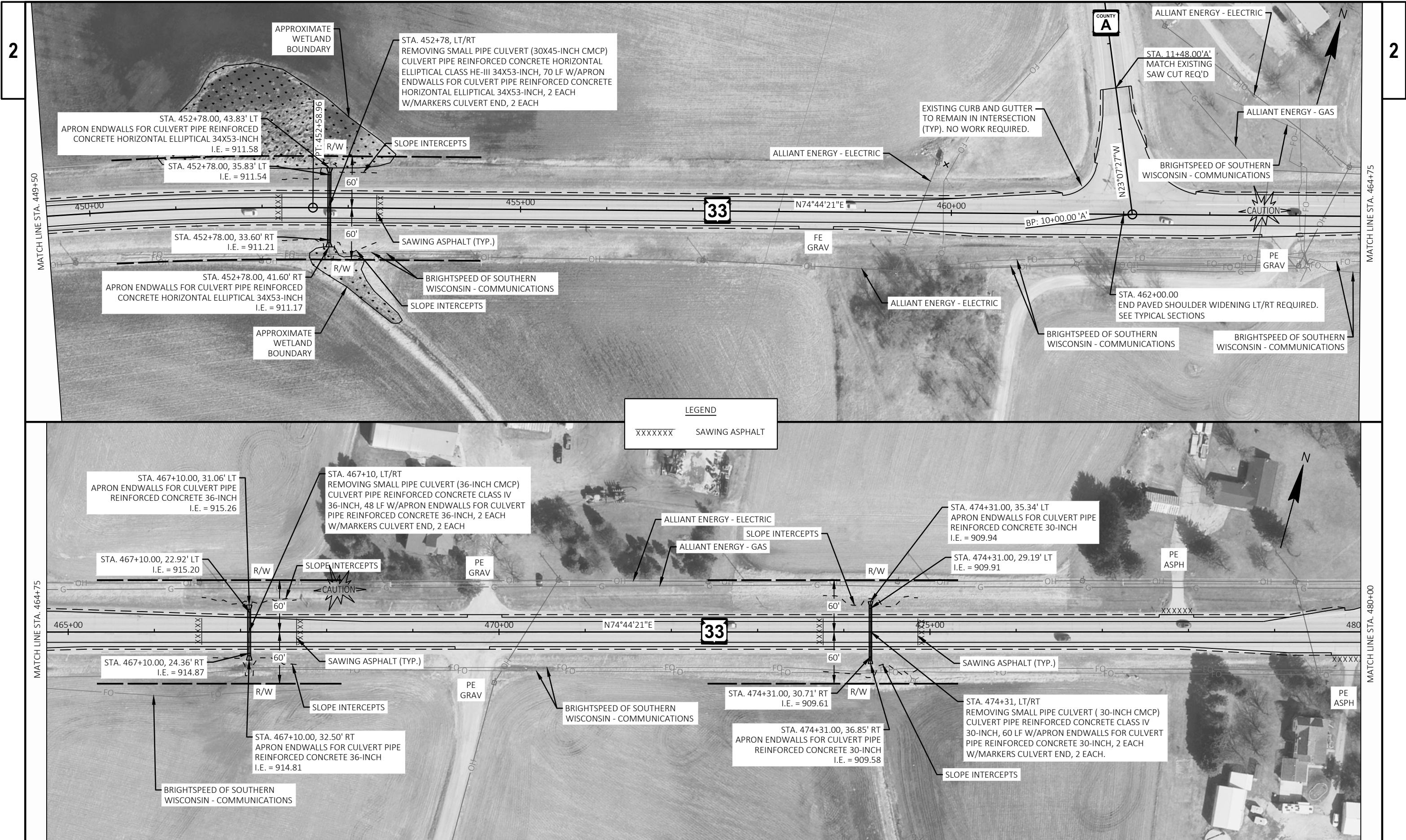




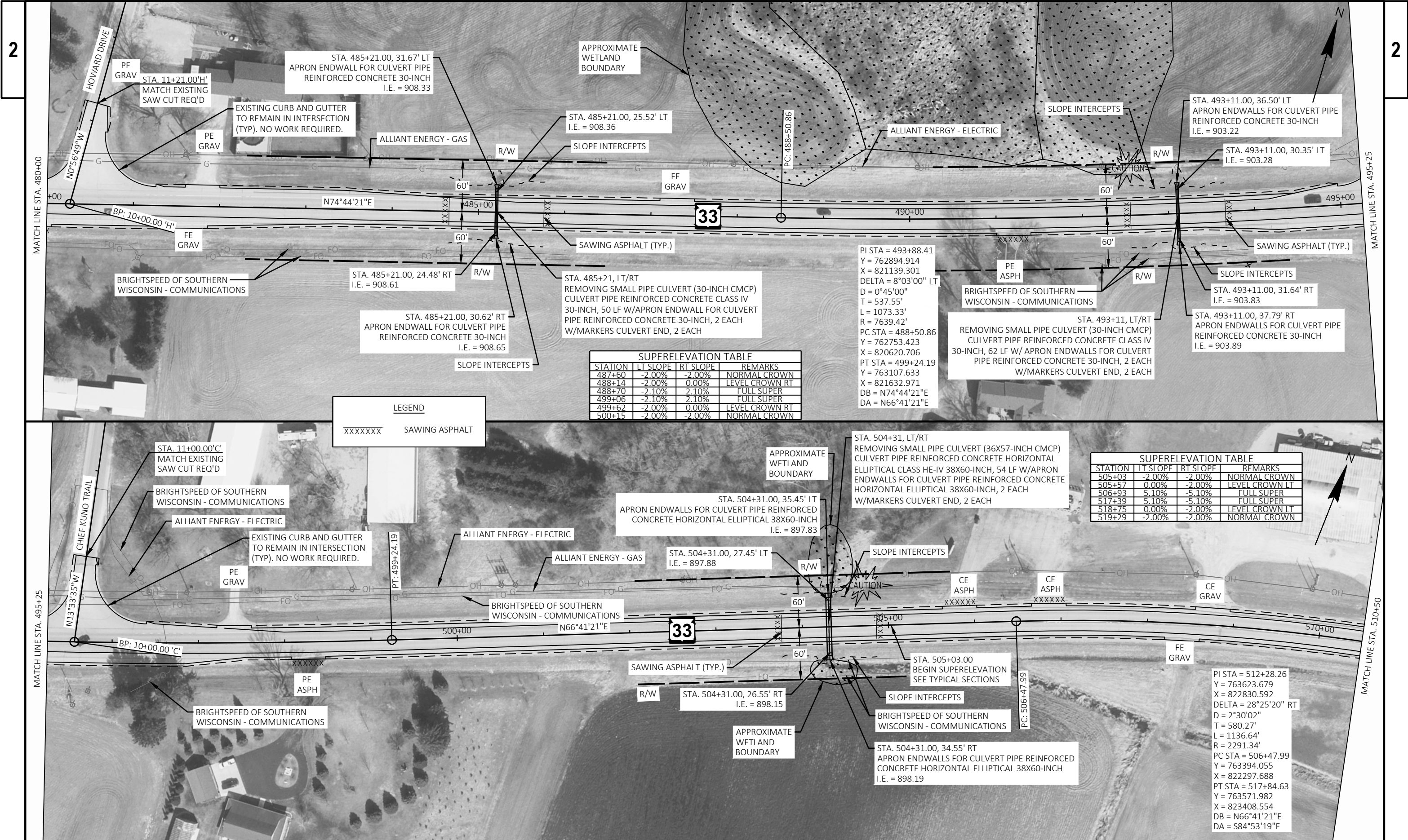
SUPERELEVATION TABLE			
STATION	LT SLOPE	RT SLOPE	REMARKS
443+33	-2.00%	-2.00%	NORMAL CROWN
443+86	0.00%	-2.00%	LEVEL CROWN LT
444+85	3.70%	-3.70%	FULL SUPER
452+26	3.70%	-3.70%	FULL SUPER
453+25	0.00%	-2.00%	LEVEL CROWN LT
453+78	-2.00%	-2.00%	NORMAL CROWN

PI STA = 448+57.10  
Y = 761701.415  
X = 816764.873  
DELTA = 12°06'00" RT  
D = 1°30'00"  
T = 404.87'  
L = 806.73'  
R = 3820.01'  
PC STA = 444+52.23  
Y = 761515.340  
X = 816405.296  
PT STA = 452+58.96  
Y = 761807.983  
X = 817155.466  
DB = N62°38'21"E  
DA = N74°44'21"E

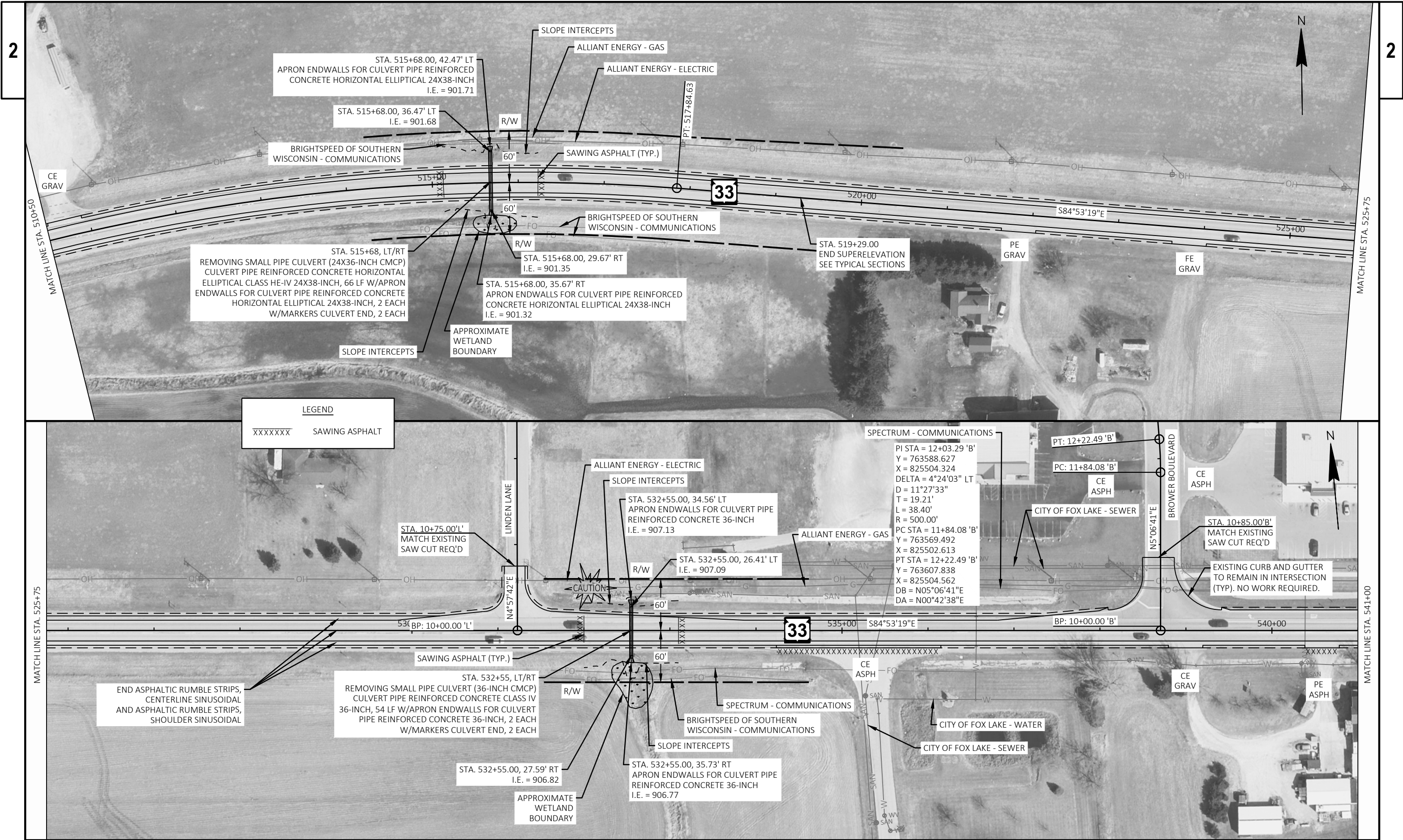




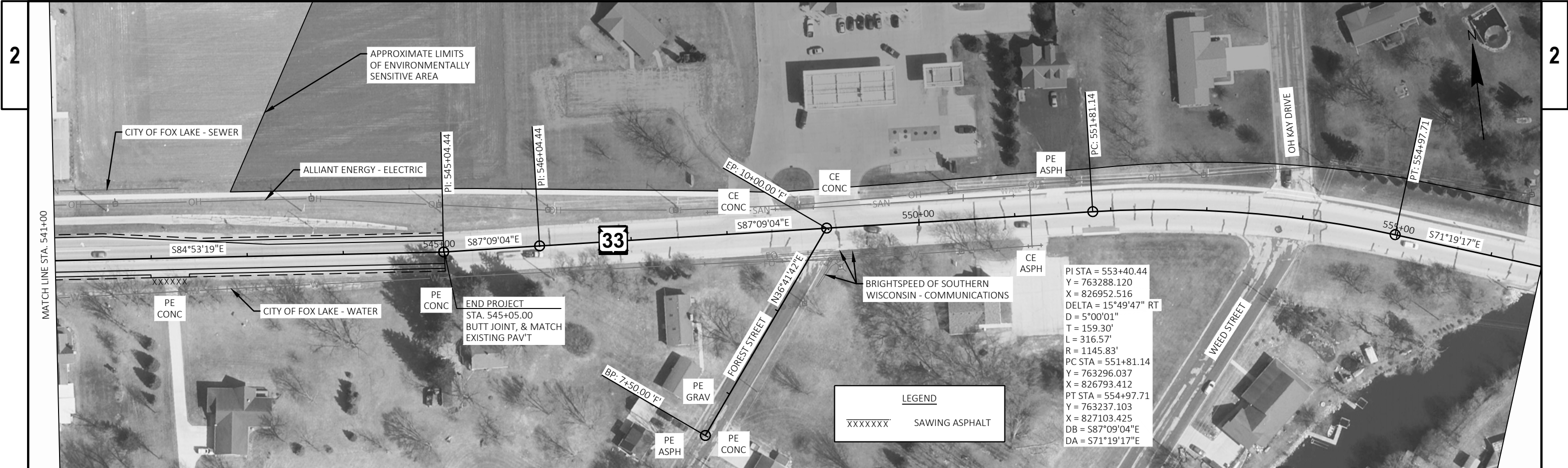




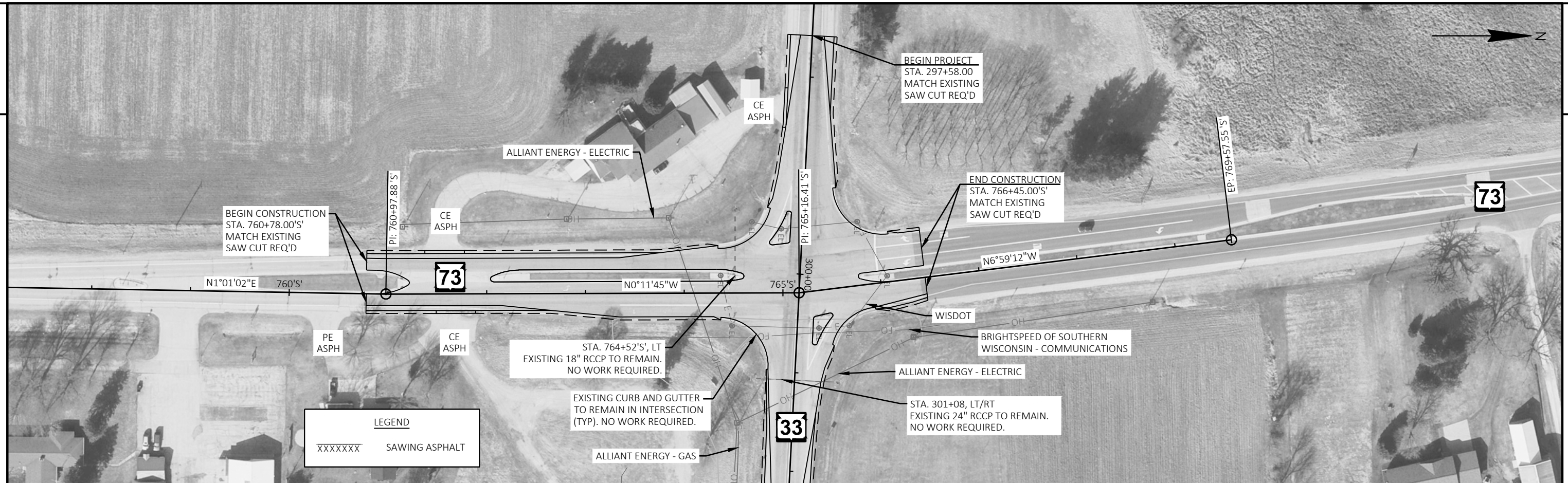






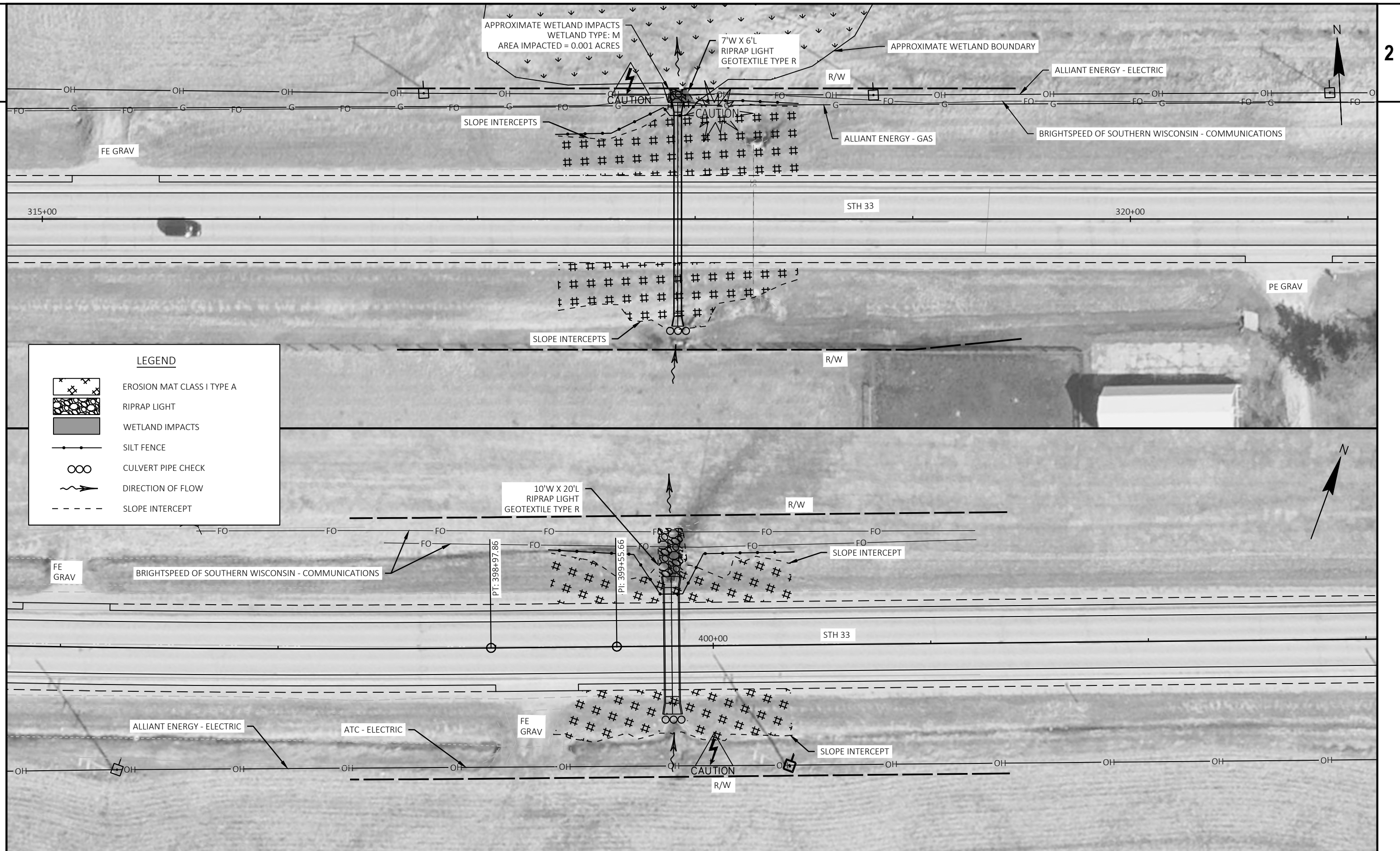


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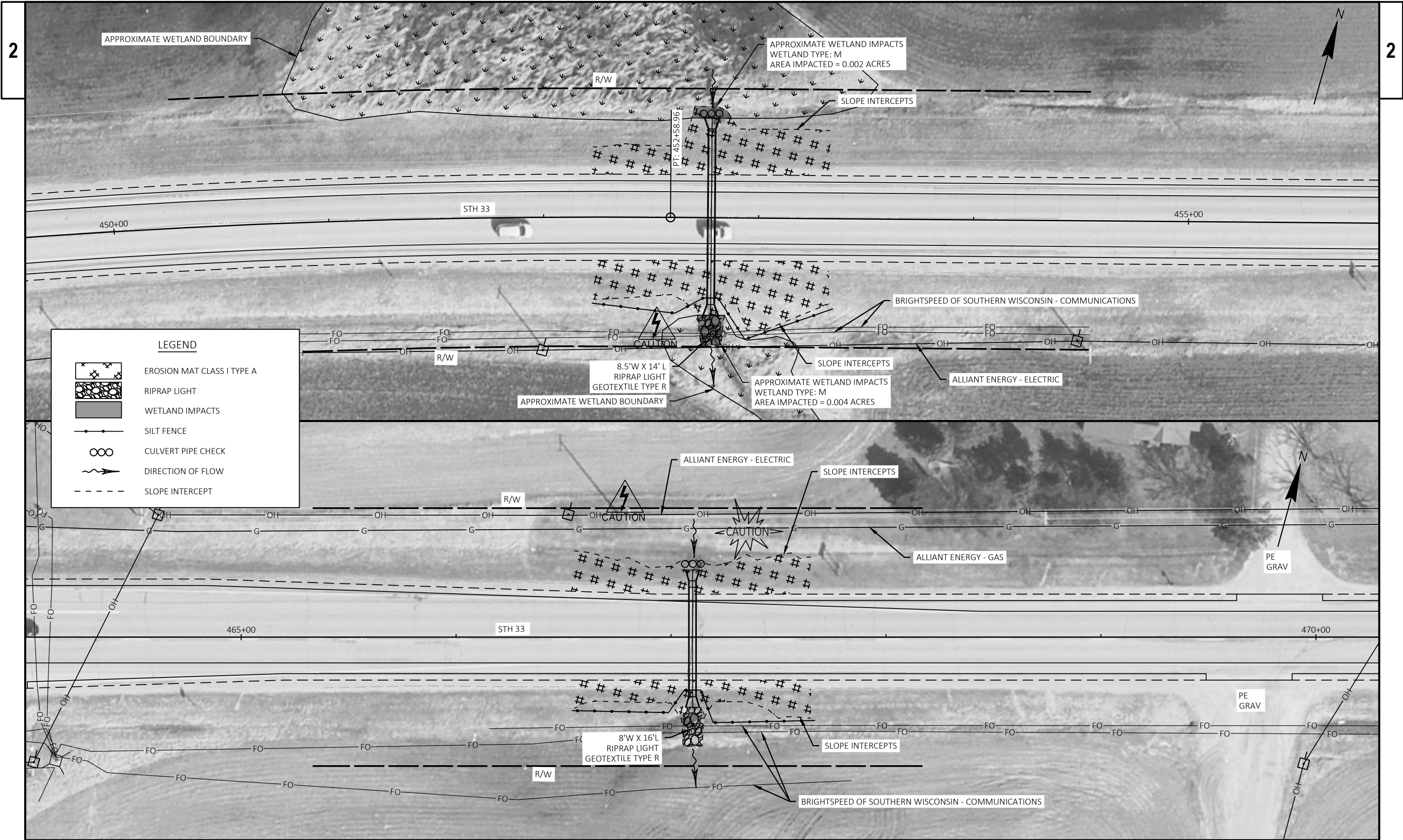
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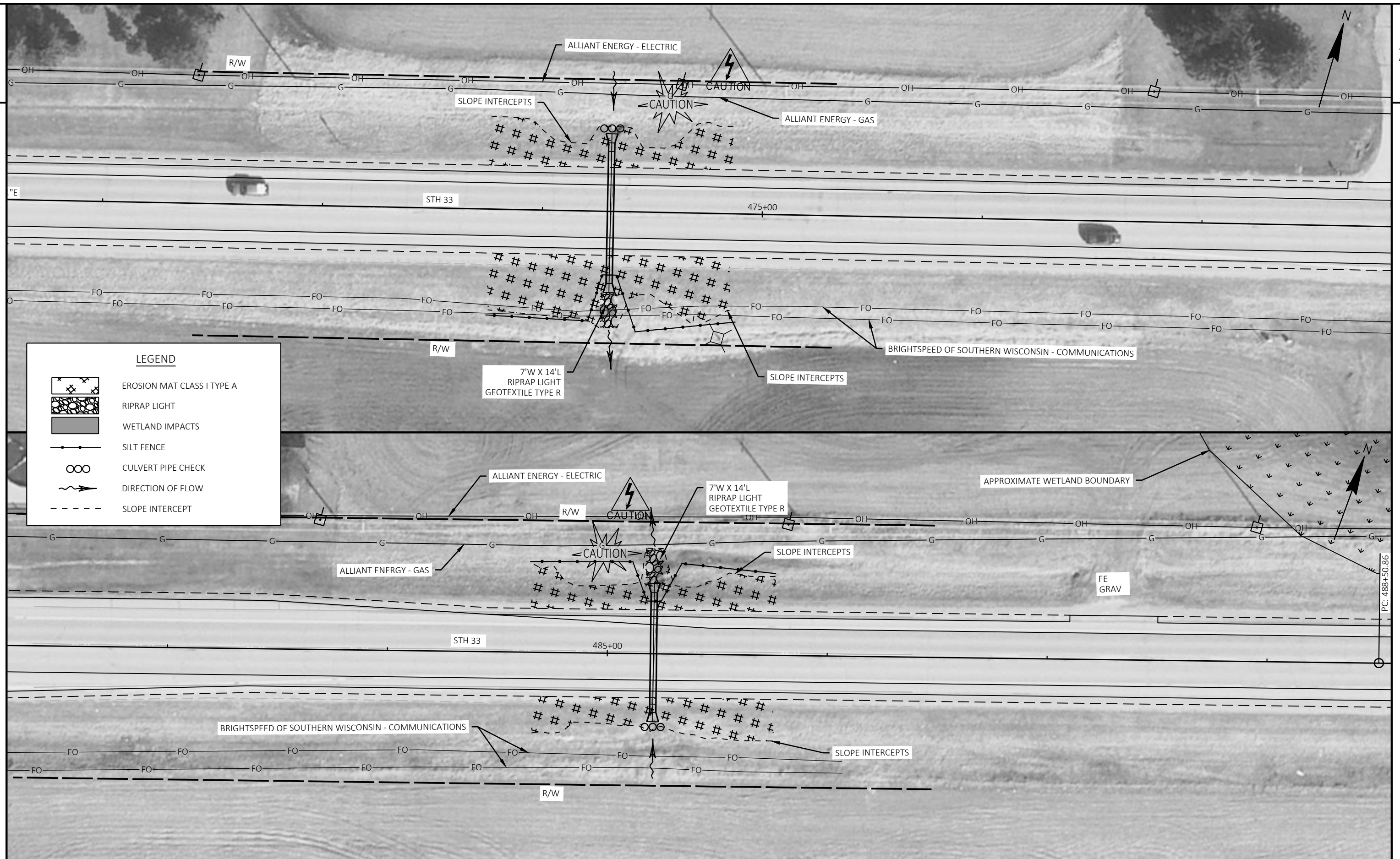












PROJECT NO: 6070-01-63

HWY: STH 33

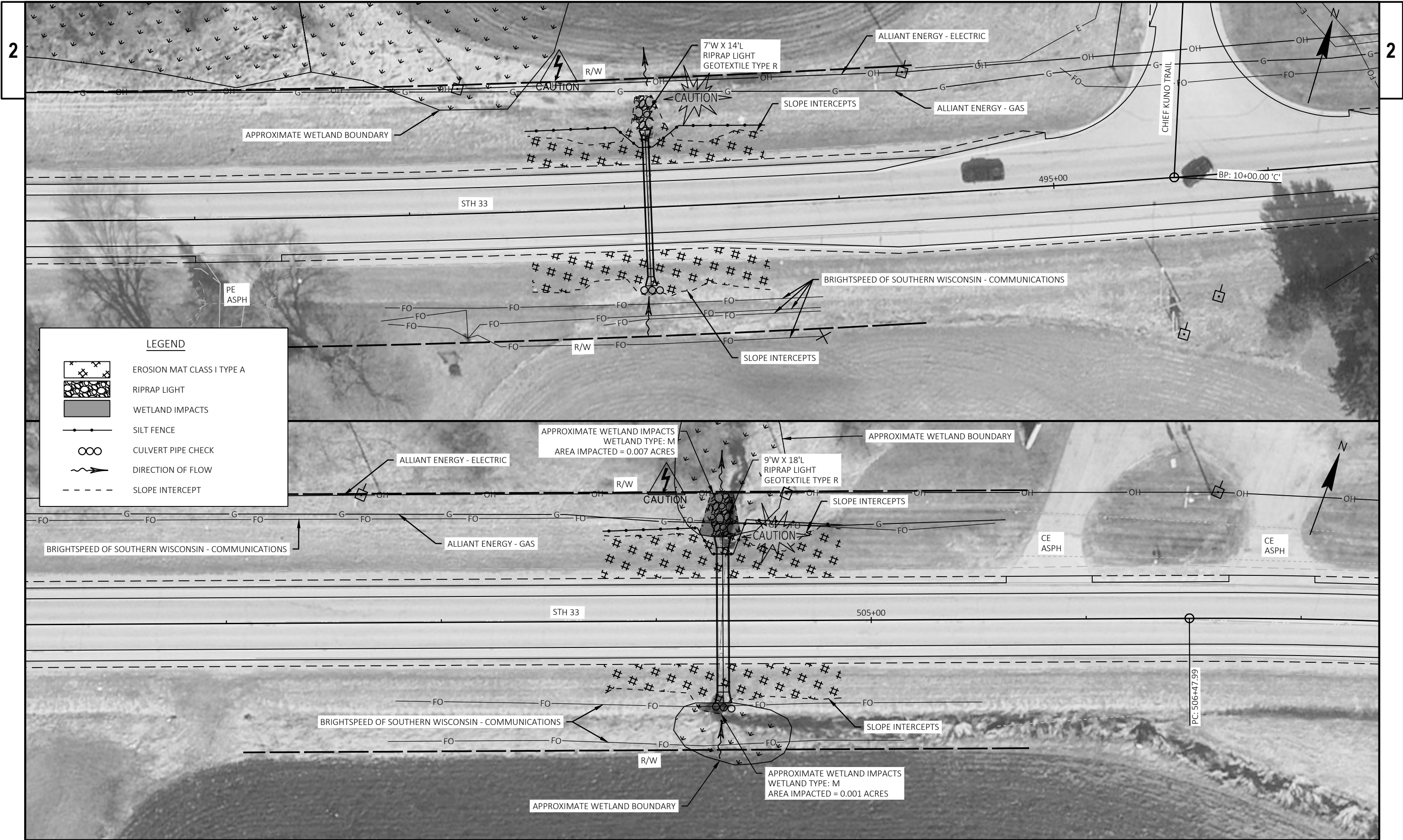
COUNTY: DODGE

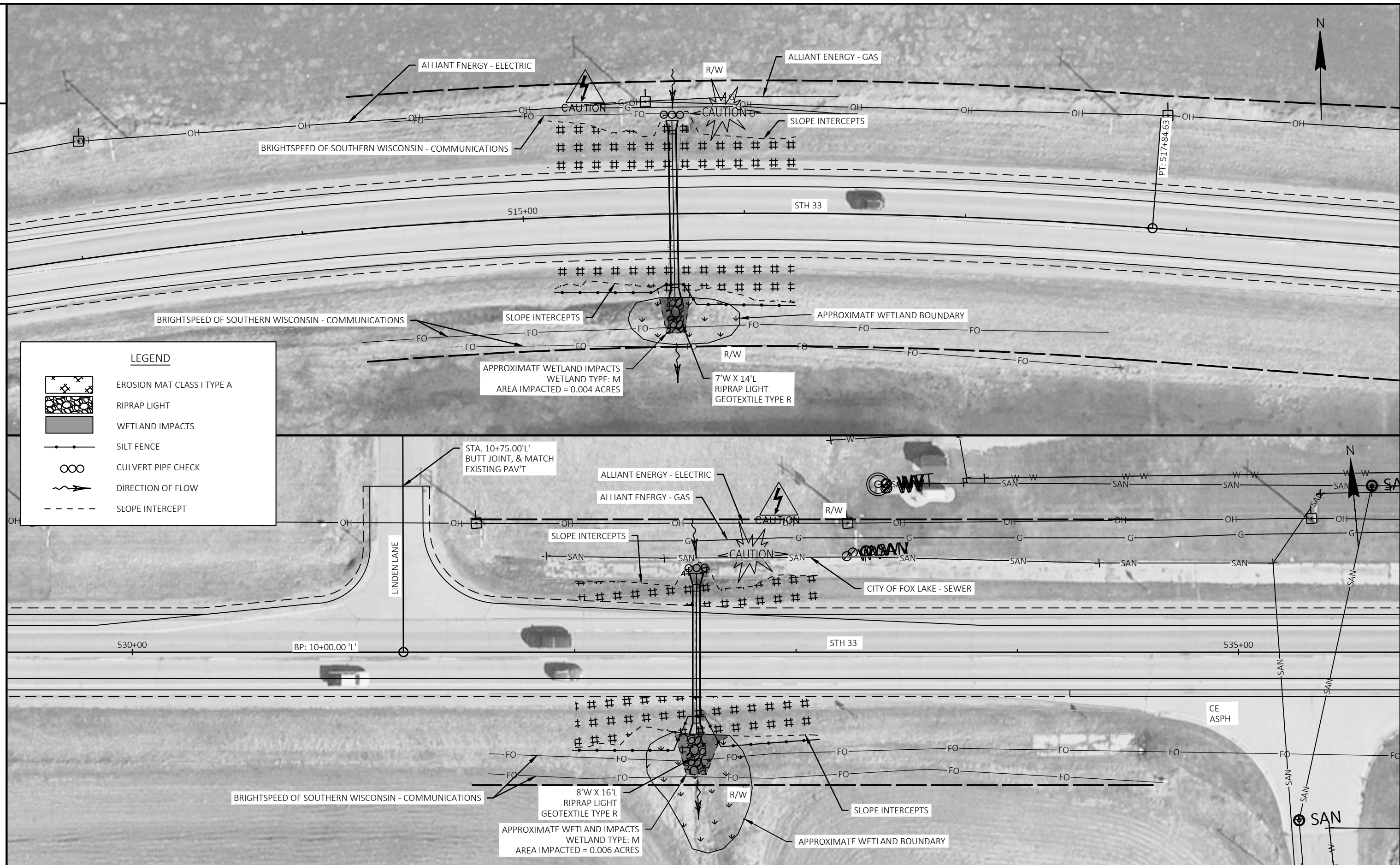
EROSION CONTROL

SHEET

E









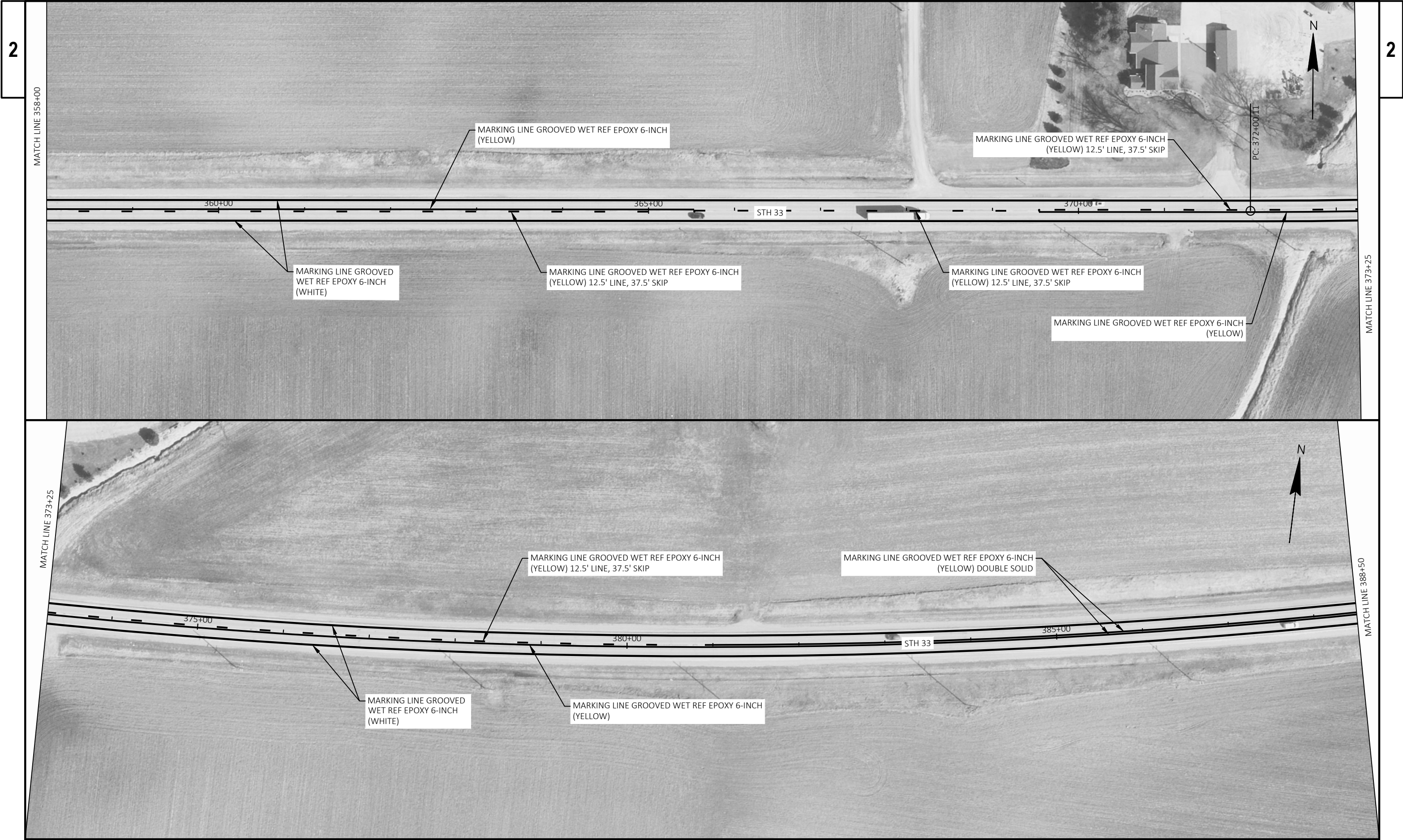






PROJECT NO: 6070-01-63	HWY: STH 33	COUNTY: DODGE	PAVEMENT MARKING	SHEET	E
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PROJECT NO: 6070-01-63	HWY: STH 33	COUNTY: DODGE	PAVEMENT MARKING	SHEET	E
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PROJECT NO: 6070-01-63	HWY: STH 33	COUNTY: DODGE	PAVEMENT MARKING	SHEET	E
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PROJECT NO: 6070-01-63	HWY: STH 33	COUNTY: DODGE	PAVEMENT MARKING	SHEET	E
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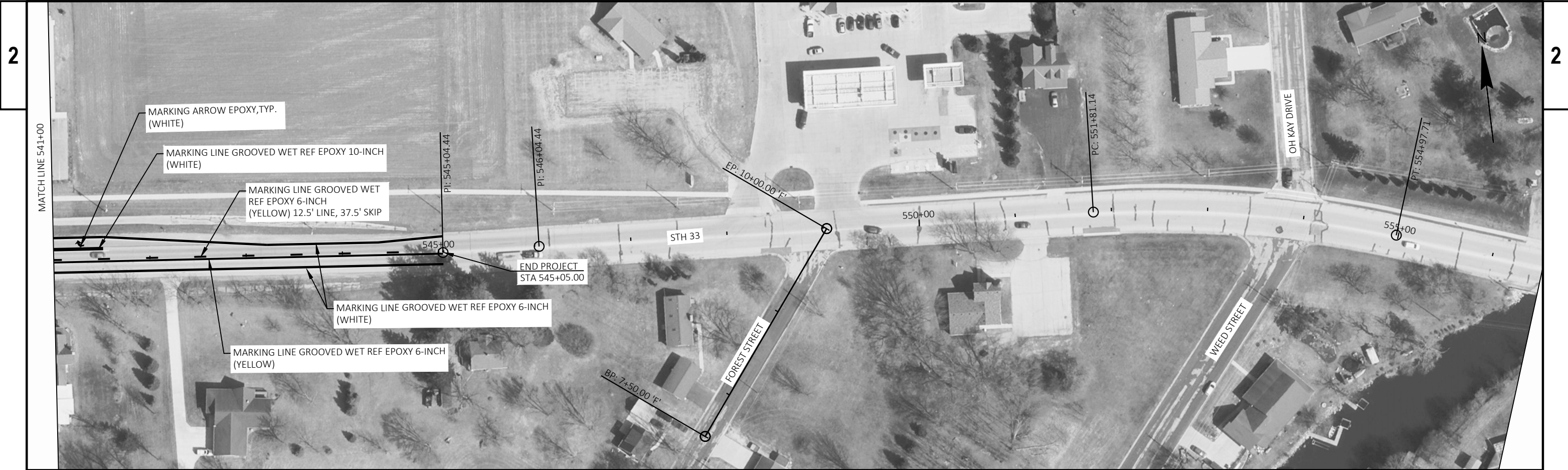
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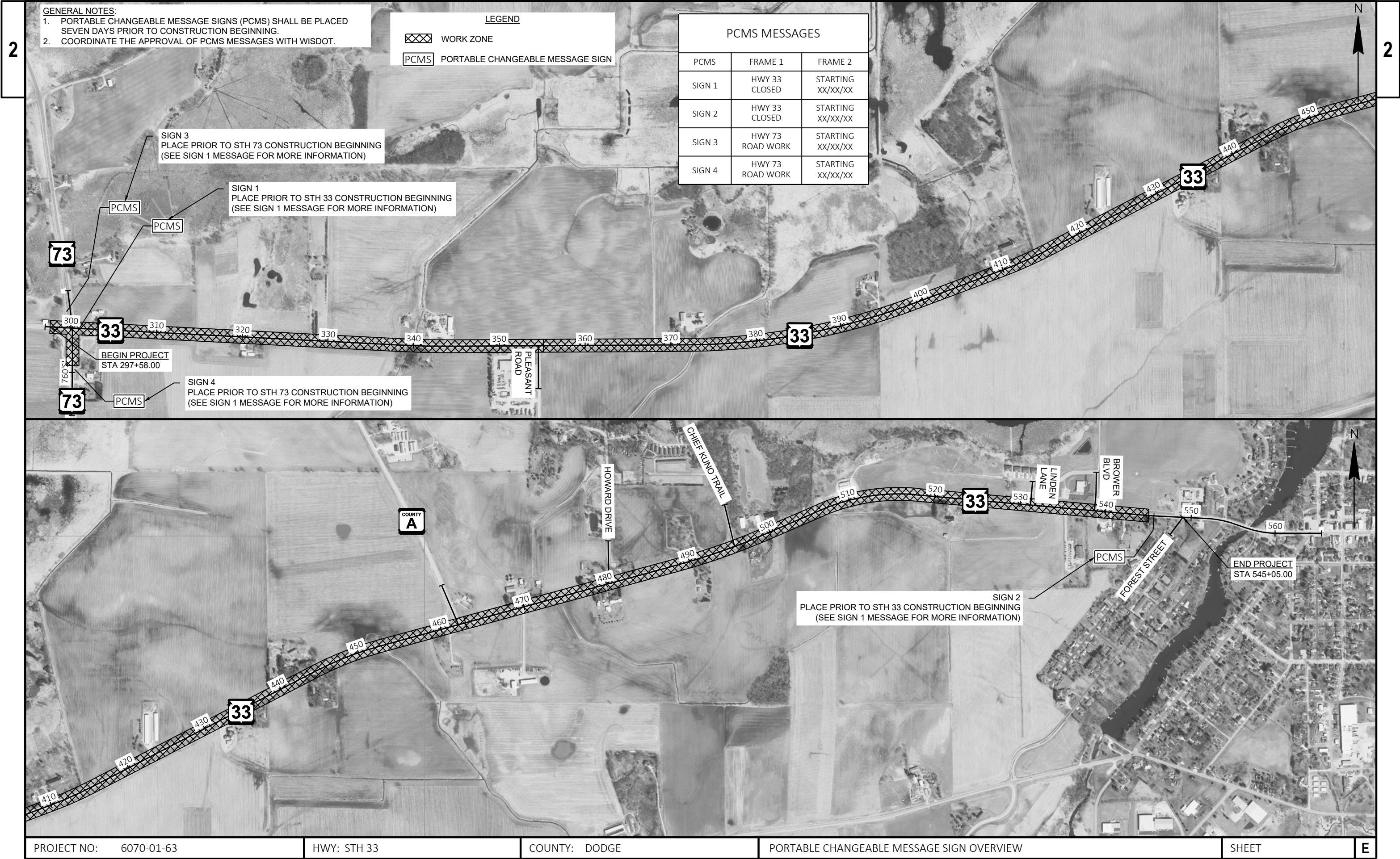




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GENERAL NOTES:  
1. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE PLACED SEVEN DAYS PRIOR TO CONSTRUCTION BEGINNING.  
2. COORDINATE THE APPROVAL OF PCMS MESSAGES WITH WISDOT.

LEGEND

WORK ZONE

PORTABLE CHANGEABLE MESSAGE SIGN

PCMS MESSAGES		
PCMS	FRAME 1	FRAME 2
SIGN 1	HWY 33 CLOSED	STARTING XX/XX/XX
SIGN 2	HWY 33 CLOSED	STARTING XX/XX/XX
SIGN 3	HWY 73 ROAD WORK	STARTING XX/XX/XX
SIGN 4	HWY 73 ROAD WORK	STARTING XX/XX/XX

SIGN 3  
PLACE PRIOR TO STH 73 CONSTRUCTION BEGINNING  
(SEE SIGN 1 MESSAGE FOR MORE INFORMATION)

SIGN 1  
PLACE PRIOR TO STH 33 CONSTRUCTION BEGINNING  
(SEE SIGN 1 MESSAGE FOR MORE INFORMATION)

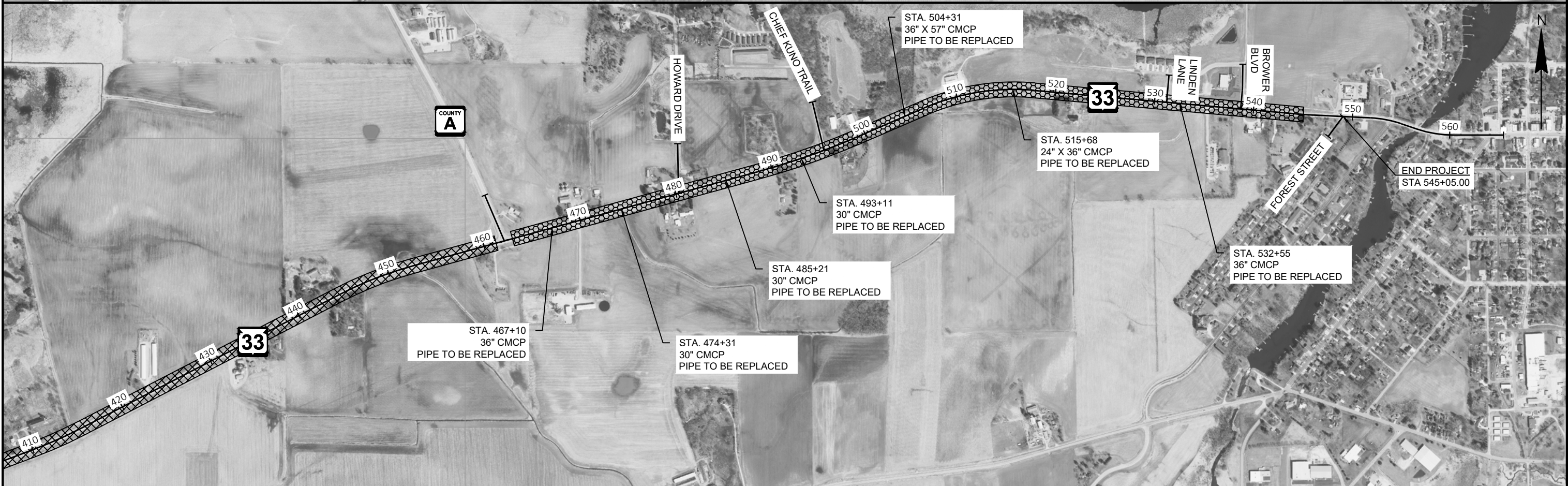
SIGN 4  
PLACE PRIOR TO STH 73 CONSTRUCTION BEGINNING  
(SEE SIGN 1 MESSAGE FOR MORE INFORMATION)

SIGN 2  
PLACE PRIOR TO STH 33 CONSTRUCTION BEGINNING  
(SEE SIGN 1 MESSAGE FOR MORE INFORMATION)



- GENERAL NOTES:**
1. CULVERT REPLACEMENTS SHALL BE COMPLETED WHILE THE STH 33 DETOUR IS IN PLACE. SEE DETOUR PLAN FOR MORE INFORMATION.
  2. STAGE 1 LIMITS: STH 73 TO PLEASANT ROAD
  3. STAGE 2 LIMITS: PLEASANT ROAD TO CTH A
  4. STAGE 3 LIMITS: CTH A TO FOREST STREET
  5. THE FULL DEPTH PAVEMENT REPLACEMENT AT THE STH 33/STH 73 INTERSECTION SHALL BE COMPLETED DURING STAGE 1 WHILE THE DETOUR IS IN PLACE. THE PAVEMENT SHALL BE REPLACED HALF AT A TIME UTILIZING A FLAGGING OPERATION TO MAINTAIN ACCESS TO THE DETOUR ROUTE. SEE THE STAGING OVERVIEW - STH 73 INTERSECTION SHEETS FOR MORE INFORMATION.
  6. THE ORDER OF THE STAGES FOR THE CULVERT REPLACEMENT CAN BE CHANGED, BUT THE CONTRACTOR SHALL KEEP EACH STAGE LIMITS THE SAME TO MAINTAIN ACCESS TO PROPERTIES AND BUSINESSES.
  7. ACCESS TO EMERGENCY SERVICES SHALL BE MAINTAINED AT ALL TIMES.
  8. SEE STANDARD DETAIL DRAWING "BARRICADES AND SIGNS FOR MAINLINE CLOSURES, VARIOUS CLOSURES, DETOUR SIGNING FOR MAINLINE CLOSURES"

- LEGEND**
- STAGE 1 WORK ZONE
  - STAGE 2 WORK ZONE
  - STAGE 3 WORK ZONE



PROJECT NO: 6070-01-63	HWY: STH 33	COUNTY: DODGE	STAGING OVERVIEW - CULVERT REPLACEMENTS	SHEET	E
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LEGEND:

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL BARRICADES TYPE III WITH ATTACHED SIGN
- TRAFFIC CONTROL SIGNS ON PERMANENT SUPPORT
- SIDE ROAD CLOSURE DETAIL

GENERAL NOTES:

SEE DETOUR PLAN FOR MORE INFORMATION.

STAGE 1:  
FULL CLOSURE FROM EAST OF STH 33/STH 73 INTERSECTION TO WEST OF STH 33 / PLEASANT ROAD INTERSECTION. REFER TO SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES, SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES", SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" AND SDD "TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES"

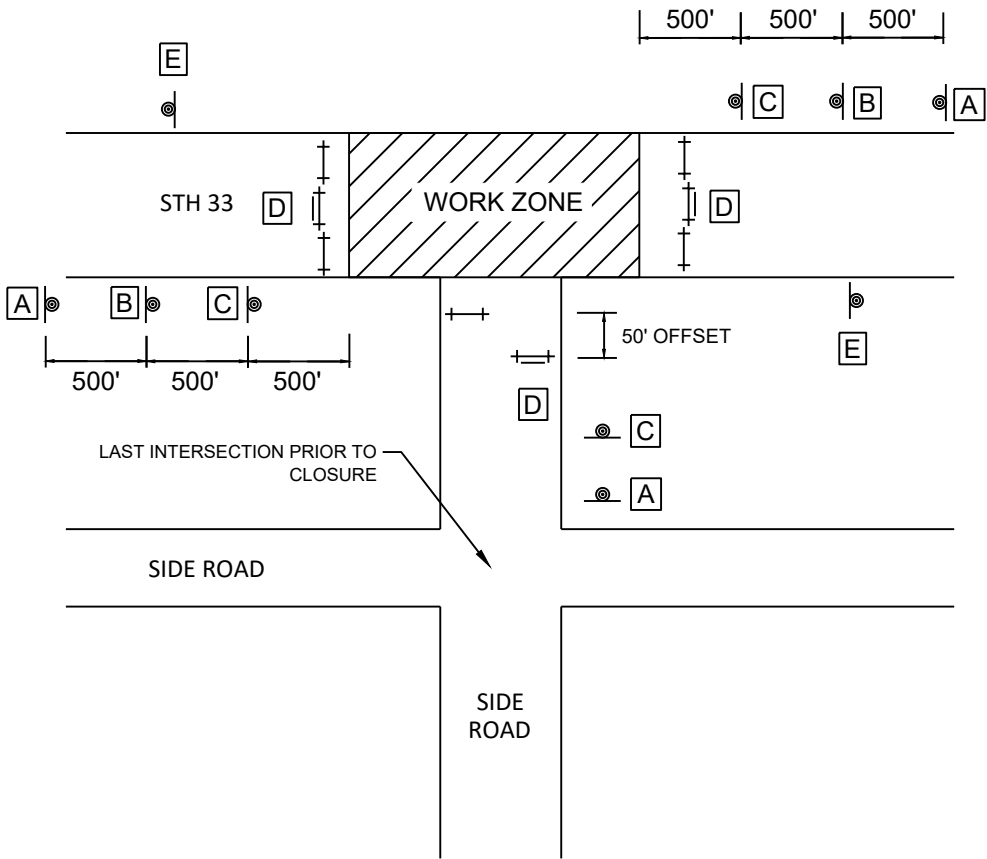
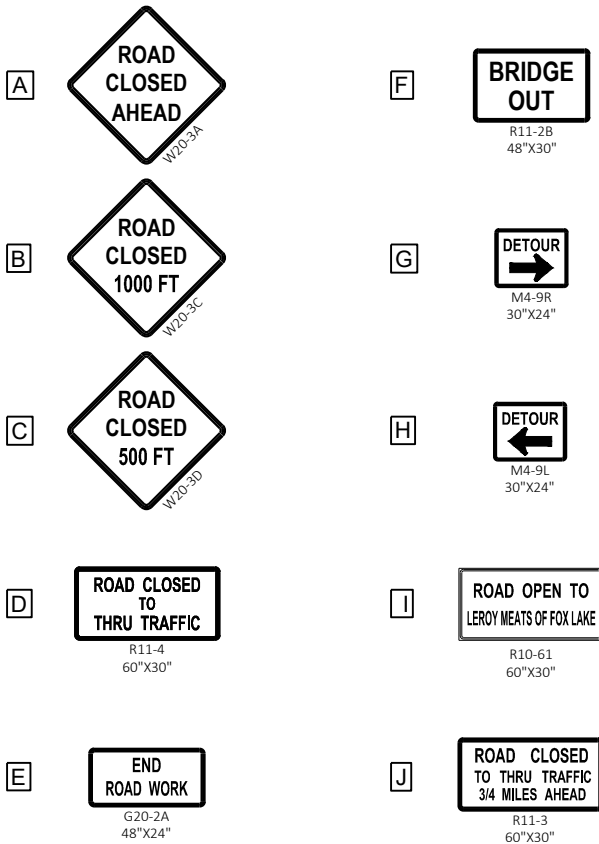
THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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

POST MOUNTED SIGNS LOCATED NEAR OR ADJACENT TO THE SIDEWALK SHALL HAVE A 7-FT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE EXISTING OR NEW SIDEWALK.

ALL 'W' SIGNS SHALL BE 48"X48" UNLESS OTHERWISE NOTED AND SHALL HAVE REFLECTIVE FLUORESCENT DIAMOND GRADE SHEETING.

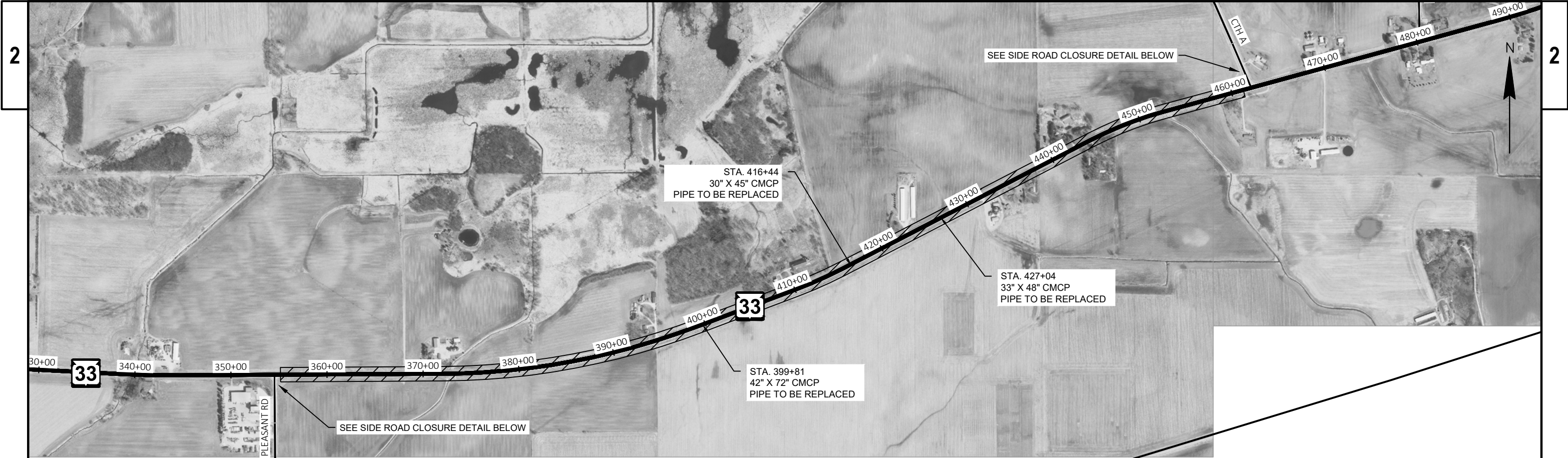
ALL EXISTING SIGNS THAT NEED TO BE COVERED SHALL BE COVERED WITH A BLANK ORANGE PANEL.



SIDE ROAD CLOSURE DETAIL

(REFER TO DETAIL 4 OF SDD BARRICADES AND SIGNS FOR SIDEROAD CLOSURES)





LEGEND:

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL BARRICADES TYPE III WITH ATTACHED SIGN
- TRAFFIC CONTROL SIGNS ON PERMANENT SUPPORT
- SIDE ROAD CLOSURE DETAIL

GENERAL NOTES:

SEE DETOUR PLAN FOR MORE INFORMATION.

STAGE 2:  
FULL CLOSURE FROM EAST OF STH 33/ PLEASANT ROAD INTERSECTION TO WEST OF STH 33 / CTH A INTERSECTION. REFER TO SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES", SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES", SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" AND SDD "TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES"

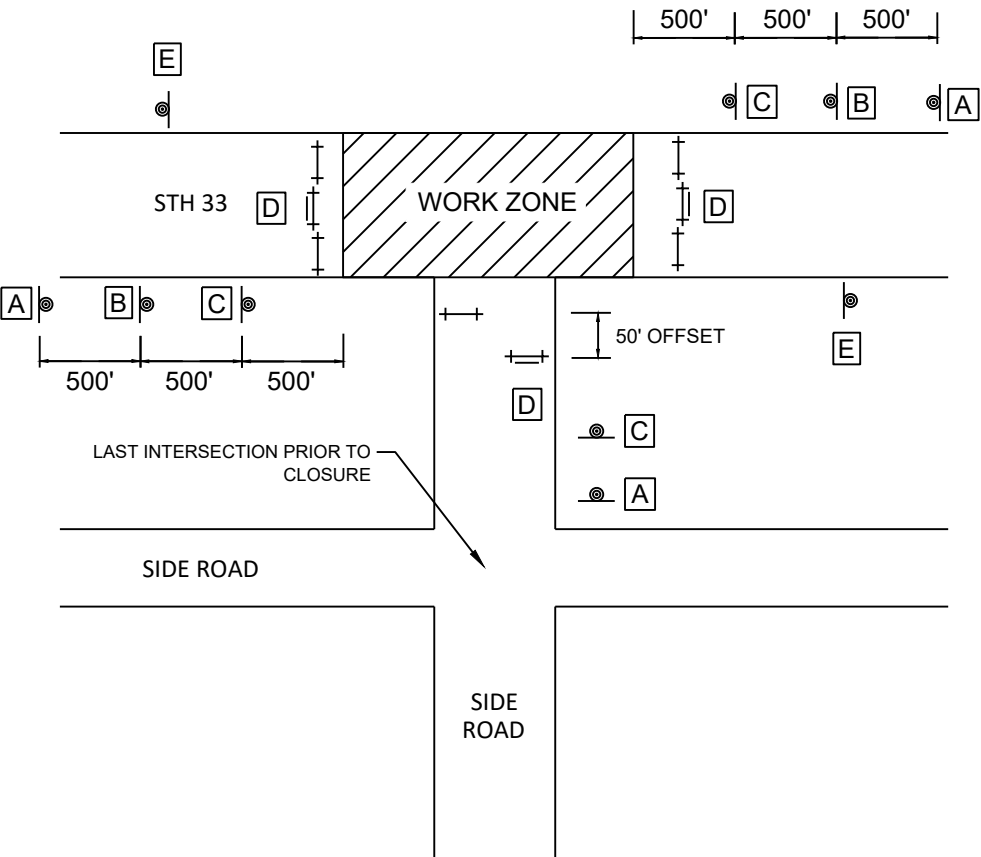
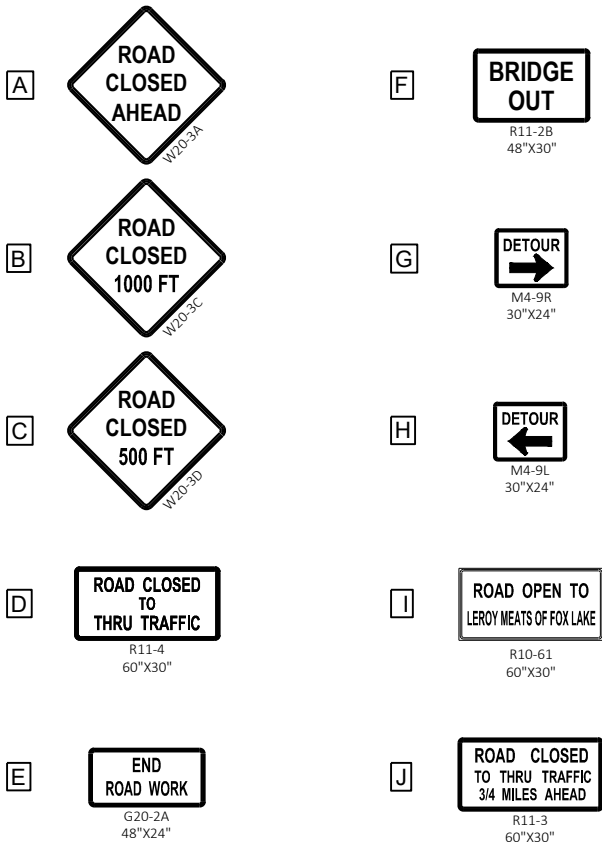
THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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

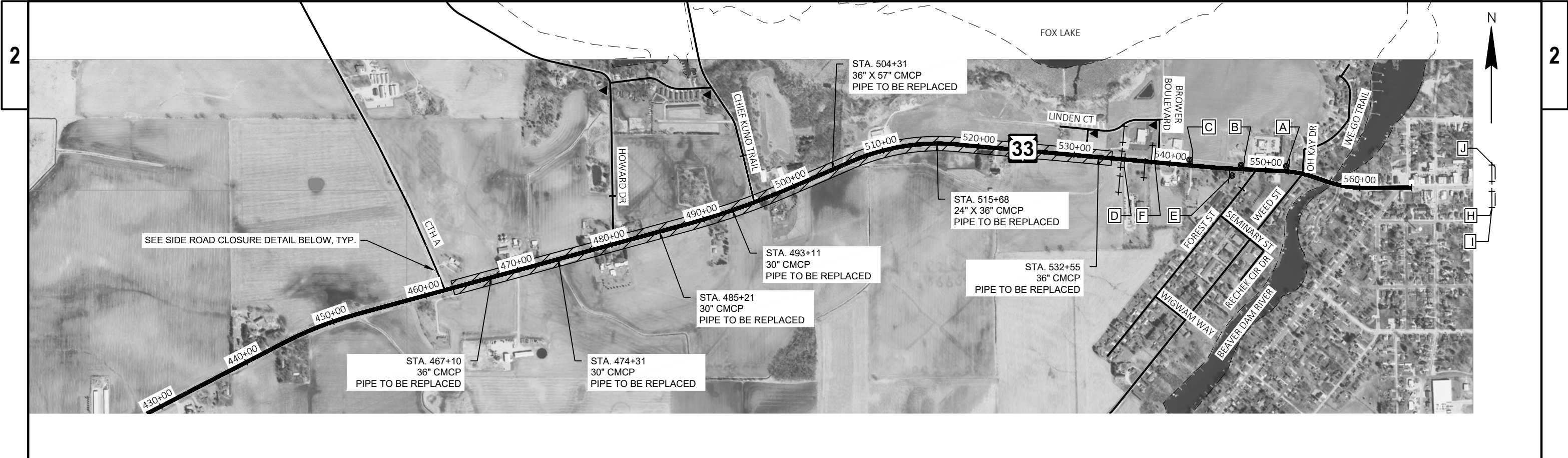
POST MOUNTED SIGNS LOCATED NEAR OR ADJACENT TO THE SIDEWALK SHALL HAVE A 7-FT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE EXISTING OR NEW SIDEWALK.

ALL 'W' SIGNS SHALL BE 48\"/>

ALL EXISTING SIGNS THAT NEED TO BE COVERED SHALL BE COVERED WITH A BLANK ORANGE PANEL.



SIDE ROAD CLOSURE DETAIL  
(REFER TO DETAIL 4 OF SDD BARRICADES AND SIGNS FOR SIDEROAD CLOSURES)



LEGEND:

- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL BARRICADES TYPE III WITH ATTACHED SIGN
- TRAFFIC CONTROL SIGNS ON PERMANENT SUPPORT
- SIDE ROAD CLOSURE DETAIL

GENERAL NOTES:

SEE DETOUR PLAN FOR MORE INFORMATION.

STAGE 3:  
FULL CLOSURE FROM EAST OF CTH A INTERSECTION TO WEST OF STH 33 / FOREST DR INTERSECTION. REFER TO SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES", SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES", SDD " TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" AND SDD "TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES"

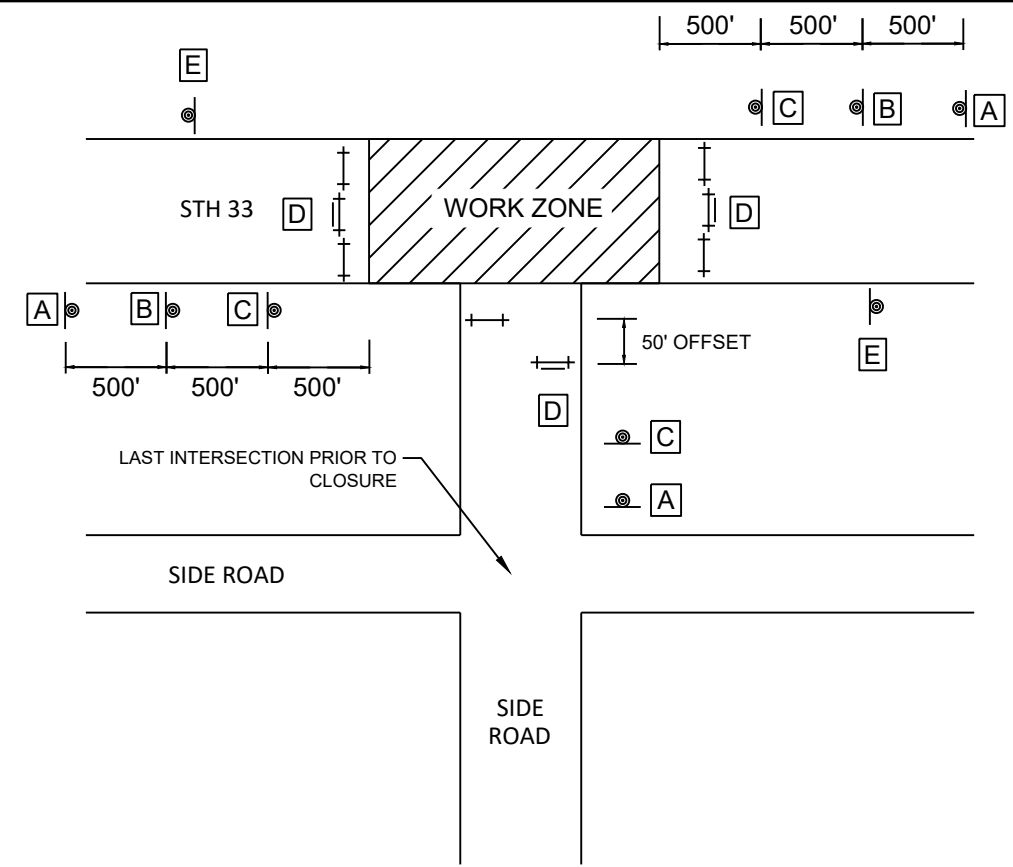
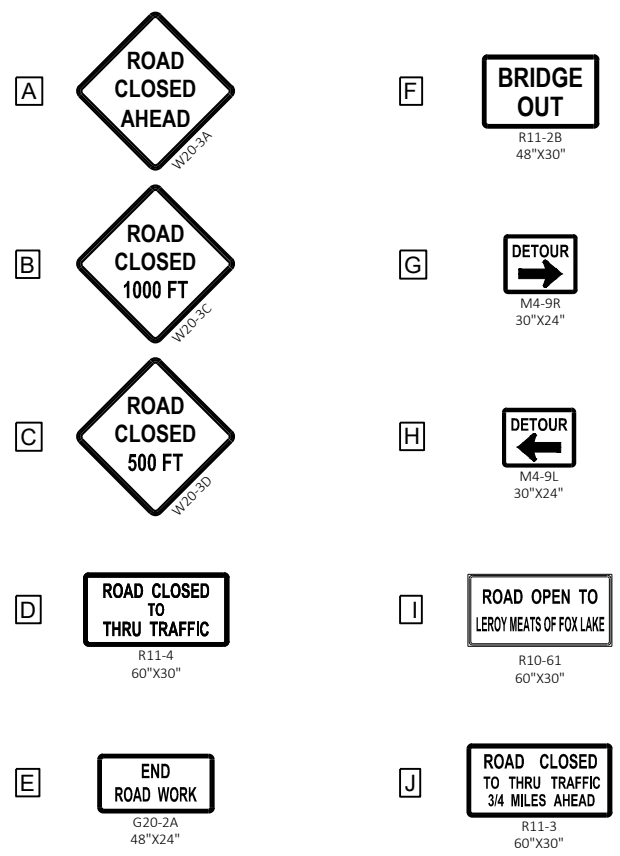
THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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

POST MOUNTED SIGNS LOCATED NEAR OR ADJACENT TO THE SIDEWALK SHALL HAVE A 7-FT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE EXISTING OR NEW SIDEWALK.

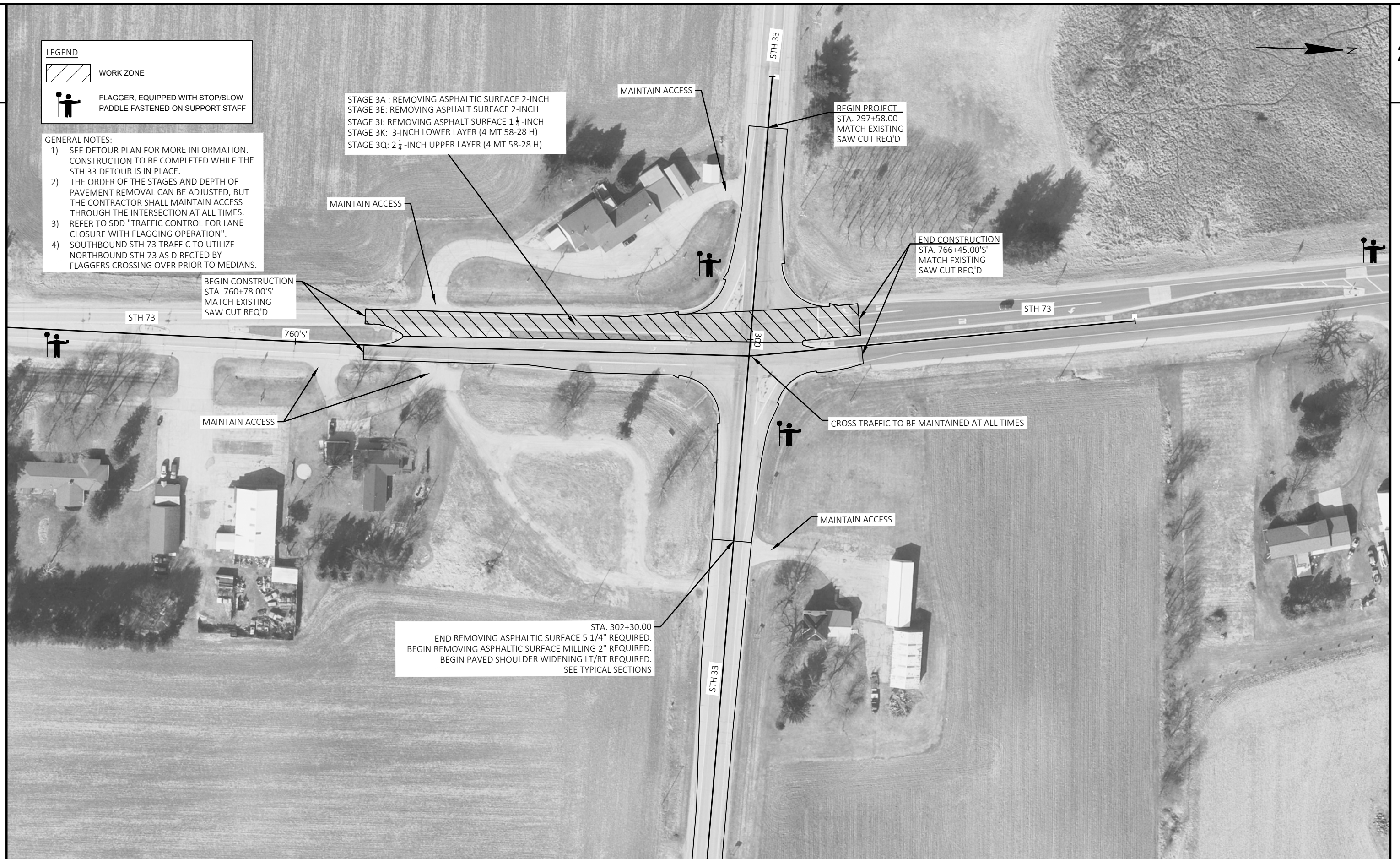
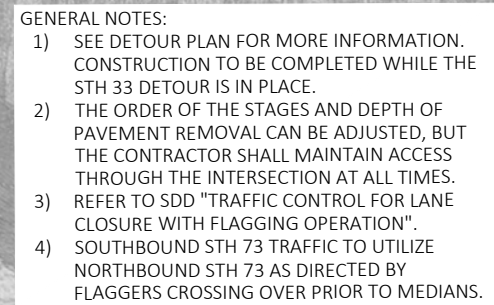
ALL "W" SIGNS SHALL BE 48"X48" UNLESS OTHERWISE NOTED AND SHALL HAVE REFLECTIVE FLUORESCENT DIAMOND GRADE SHEETING.

ALL EXISTING SIGNS THAT NEED TO BE COVERED SHALL BE COVERED WITH A BLANK ORANGE PANEL.



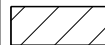
SIDE ROAD CLOSURE DETAIL  
(REFER TO DETAIL 4 OF SDD BARRICADES AND SIGNS FOR SIDEROAD CLOSURES)







## LEGEND



WORK ZONE

FLAGGER, EQUIPPED WITH STOP/SLOW  
PADDLE FASTENED ON SUPPORT STAFF

## GENERAL NOTES:

- 1) SEE DETOUR PLAN FOR MORE INFORMATION. CONSTRUCTION TO BE COMPLETED WHILE THE STH 33 DETOUR IS IN PLACE.
- 2) THE ORDER OF THE STAGES AND DEPTH OF PAVEMENT REMOVAL CAN BE ADJUSTED, BUT THE CONTRACTOR SHALL MAINTAIN ACCESS THROUGH THE INTERSECTION AT ALL TIMES.
- 3) REFER TO SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION".
- 4) NORTHBOUND STH 73 TRAFFIC TO UTILIZE SOUTHBOUND STH 73 AS DIRECTED BY FLAGGERS CROSSING OVER PRIOR TO MEDIANS.

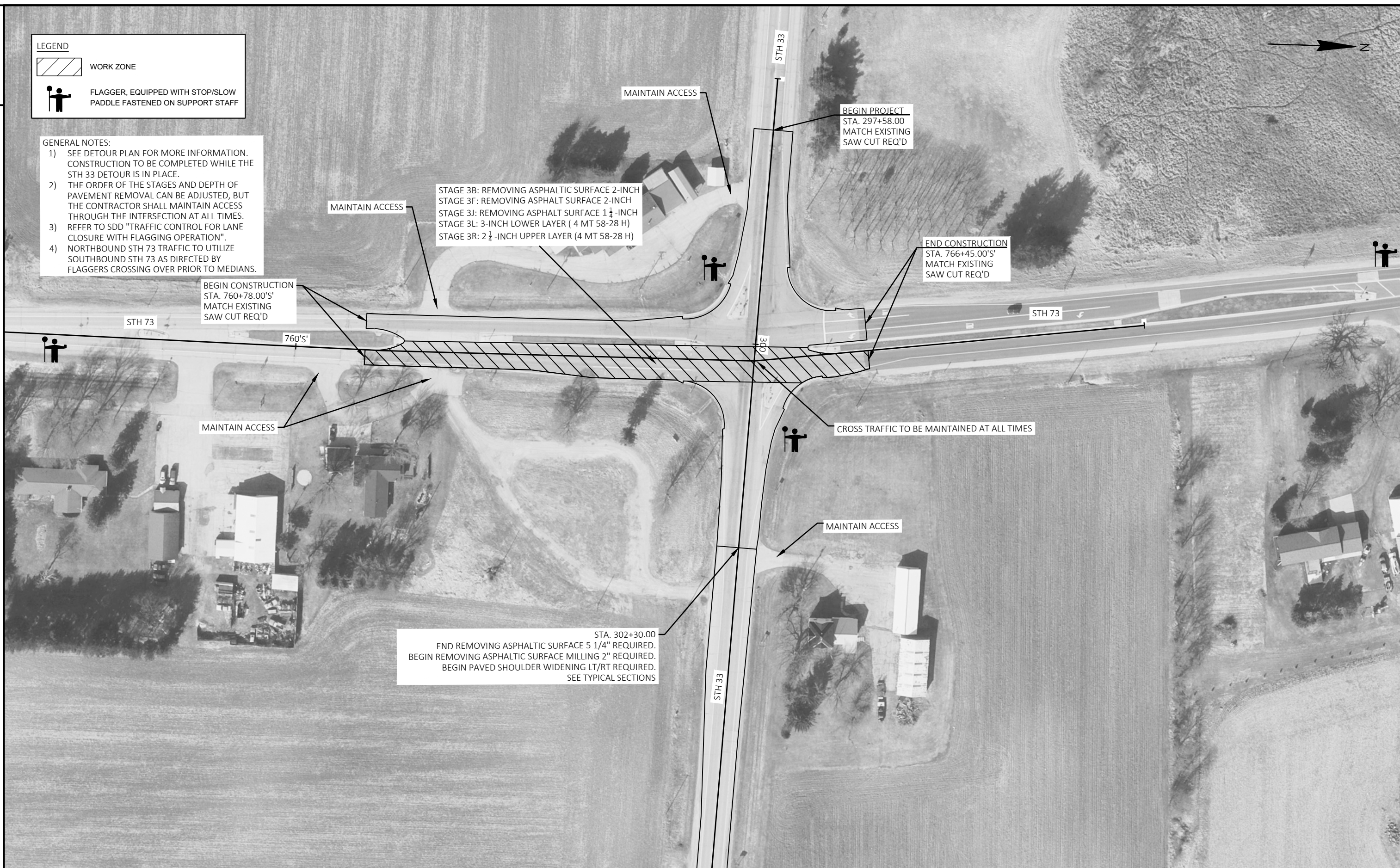
STAGE 3B: REMOVING ASPHALTIC SURFACE 2-INCH  
STAGE 3F: REMOVING ASPHALT SURFACE 2-INCH  
STAGE 3J: REMOVING ASPHALT SURFACE 1 1/2-INCH  
STAGE 3L: 3-INCH LOWER LAYER ( 4 MT 58-28 H)  
STAGE 3R: 2 1/4-INCH UPPER LAYER (4 MT 58-28 H)

BEGIN CONSTRUCTION  
STA. 760+78.00'S  
MATCH EXISTING  
SAW CUT REQ'D

BEGIN PROJECT  
STA. 297+58.00  
MATCH EXISTING  
SAW CUT REQ'D

END CONSTRUCTION  
STA. 766+45.00'S  
MATCH EXISTING  
SAW CUT REQ'D

STA. 302+30.00  
END REMOVING ASPHALTIC SURFACE 5 1/4" REQUIRED.  
BEGIN REMOVING ASPHALTIC SURFACE MILLING 2" REQUIRED.  
BEGIN PAVED SHOULDER WIDENING LT/RT REQUIRED.  
SEE TYPICAL SECTIONS



PROJECT NO: 6070-01-63

HWY: STH 33

COUNTY: DODGE

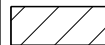
STAGING OVERVIEW - STH 73 INTERSECTION

SHEET

E



## LEGEND

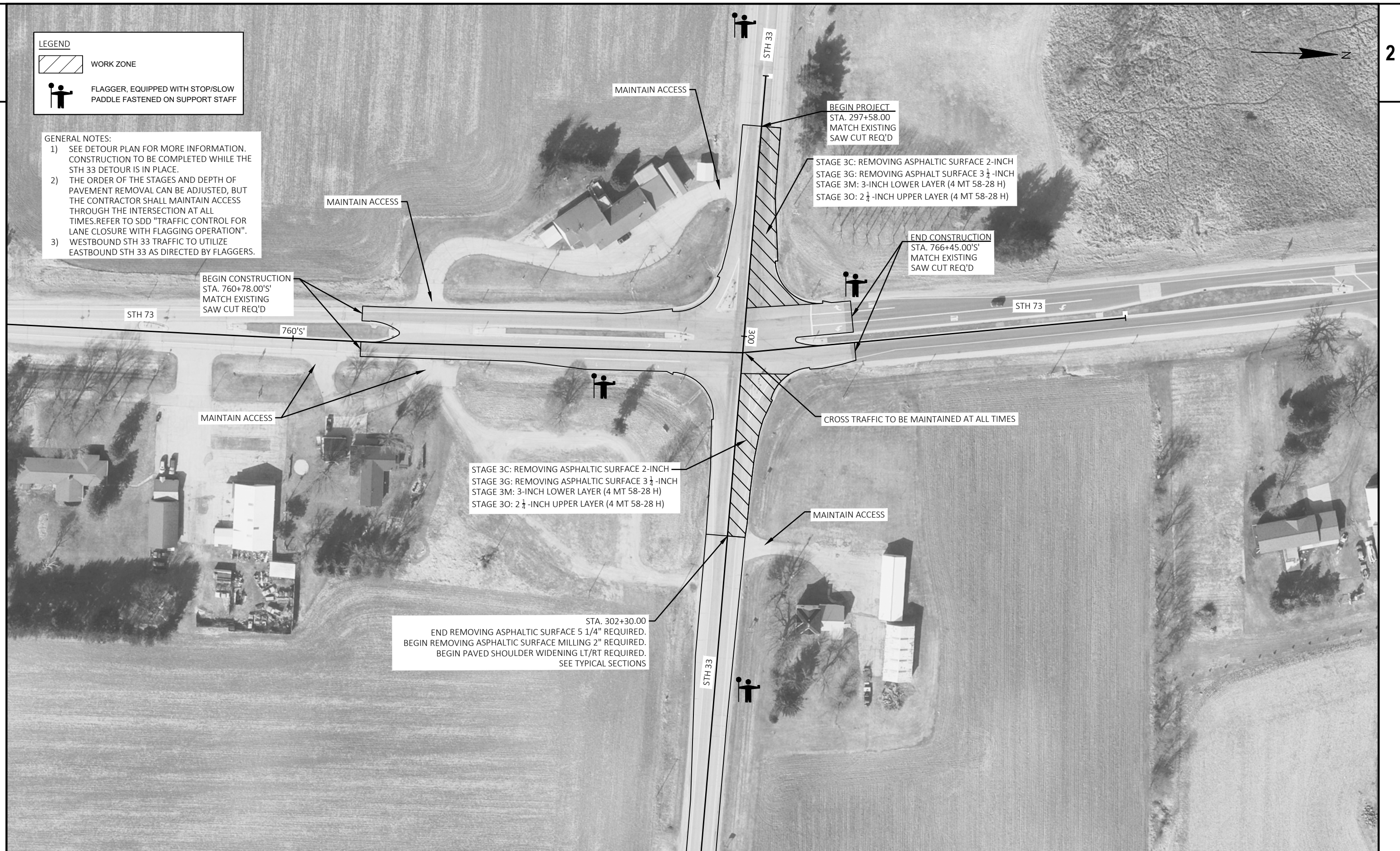


WORK ZONE

FLAGGER, EQUIPPED WITH STOP/SLOW  
PADDLE FASTENED ON SUPPORT STAFF

## GENERAL NOTES:

- 1) SEE DETOUR PLAN FOR MORE INFORMATION. CONSTRUCTION TO BE COMPLETED WHILE THE STH 33 DETOUR IS IN PLACE.
- 2) THE ORDER OF THE STAGES AND DEPTH OF PAVEMENT REMOVAL CAN BE ADJUSTED, BUT THE CONTRACTOR SHALL MAINTAIN ACCESS THROUGH THE INTERSECTION AT ALL TIMES. REFER TO SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION".
- 3) WESTBOUND STH 33 TRAFFIC TO UTILIZE EASTBOUND STH 33 AS DIRECTED BY FLAGGERS.



PROJECT NO: 6070-01-63

HWY: STH 33

COUNTY: DODGE

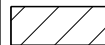
STAGING OVERVIEW - STH 73 INTERSECTION

SHEET

E



## LEGEND



WORK ZONE

FLAGGER, EQUIPPED WITH STOP/SLOW  
PADDLE FASTENED ON SUPPORT STAFF

## GENERAL NOTES:

- 1) SEE DETOUR PLAN FOR MORE INFORMATION. CONSTRUCTION TO BE COMPLETED WHILE THE STH 33 DETOUR IS IN PLACE.
- 2) THE ORDER OF THE STAGES AND DEPTH OF PAVEMENT REMOVAL CAN BE ADJUSTED, BUT THE CONTRACTOR SHALL MAINTAIN ACCESS THROUGH THE INTERSECTION AT ALL TIMES. REFER TO SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION".
- 3) EASTBOUND STH 33 TRAFFIC TO UTILIZE WESTBOUND STH 33 AS DIRECTED BY FLAGGERS.



PROJECT NO: 6070-01-63

HWY: STH 33

COUNTY: DODGE

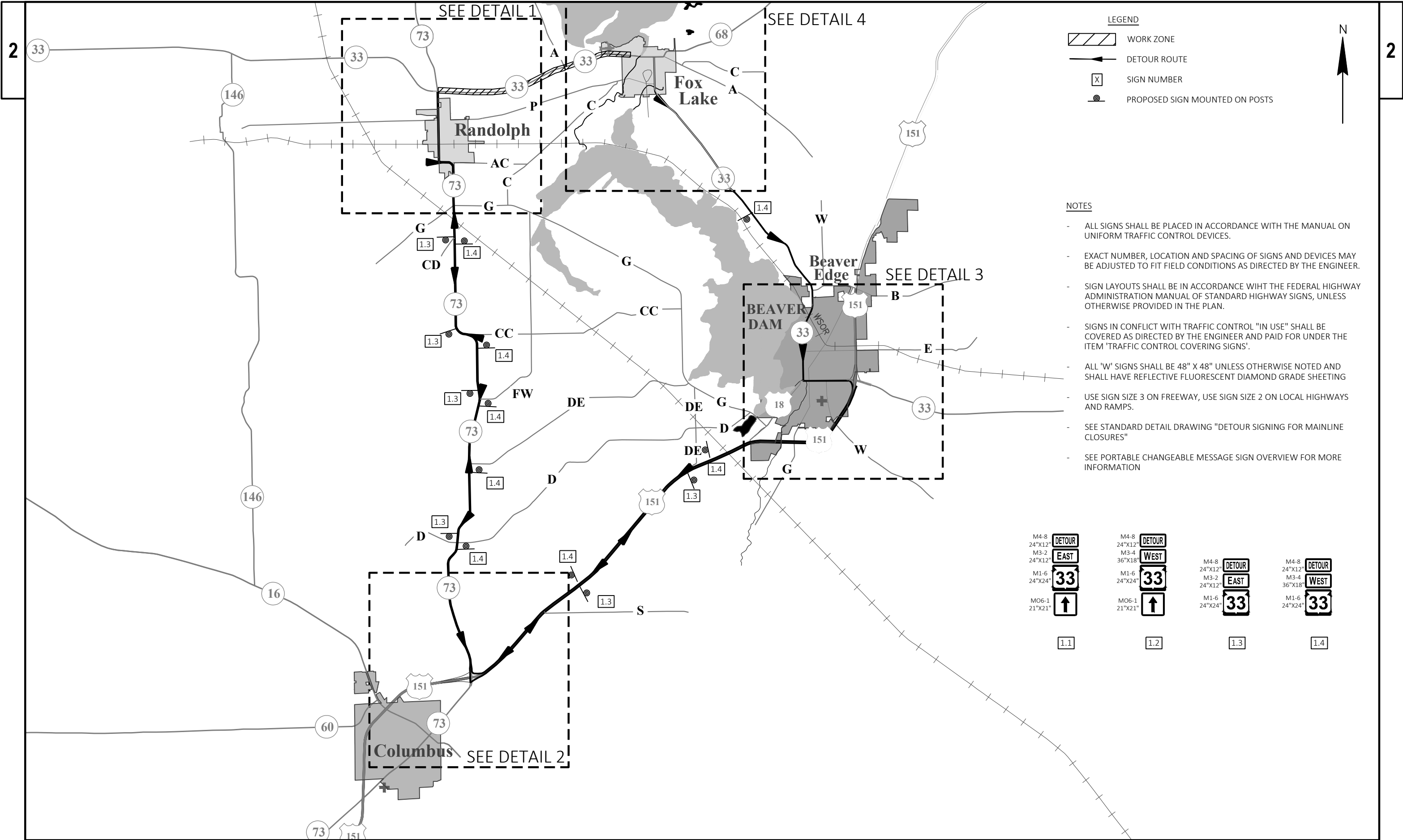
STAGING OVERVIEW - STH 73 INTERSECTION

SHEET

E







LEGEND

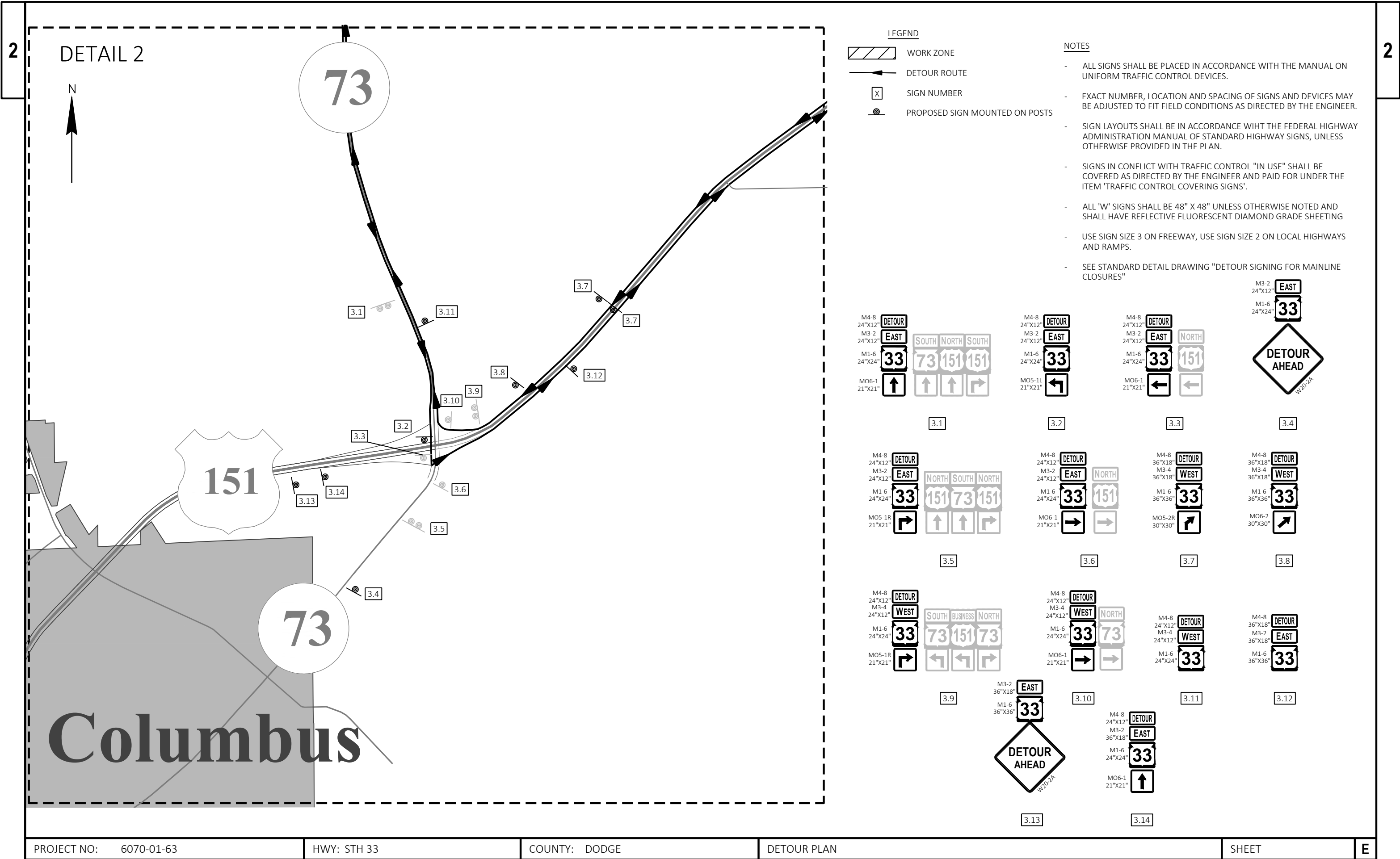
- WORK ZONE
- DETOUR ROUTE
- SIGN NUMBER
- PROPOSED SIGN MOUNTED ON POSTS

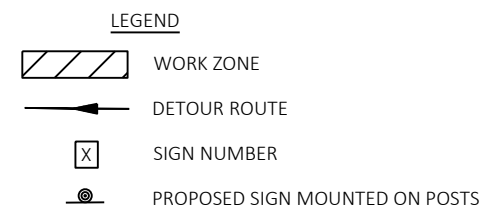
- NOTES
- ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
  - EXACT NUMBER, LOCATION AND SPACING OF SIGNS AND DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
  - SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS, UNLESS OTHERWISE PROVIDED IN THE PLAN.
  - SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER THE ITEM "TRAFFIC CONTROL COVERING SIGNS".
  - ALL 'W' SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED AND SHALL HAVE REFLECTIVE FLUORESCENT DIAMOND GRADE SHEETING
  - USE SIGN SIZE 3 ON FREEWAY, USE SIGN SIZE 2 ON LOCAL HIGHWAYS AND RAMP.
  - SEE STANDARD DETAIL DRAWING "DETOUR SIGNING FOR MAINLINE CLOSURES"
  - SEE PORTABLE CHANGEABLE MESSAGE SIGN OVERVIEW FOR MORE INFORMATION

M4-8 24"x12" M3-2 24"x12" M1-6 24"x24" MO6-1 21"x21"	  	M4-8 24"x12" M3-4 36"x18" M1-6 24"x24" MO6-1 21"x21"	  	M4-8 24"x12" M3-2 24"x12" M1-6 24"x24"	 	M4-8 24"x12" M3-4 36"x18" M1-6 24"x24"	 
	1.1		1.2		1.3		1.4





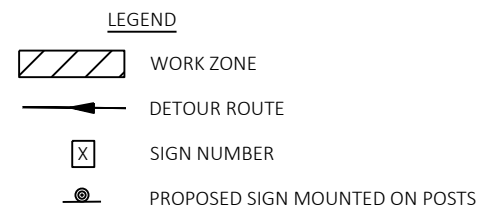




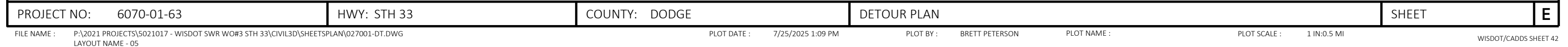
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- ALL 'W' SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED AND SHALL HAVE REFLECTIVE FLUORESCENT DIAMOND GRADE SHEETING
- USE SIGN SIZE 3 ON FREEWAY, USE SIGN SIZE 2 ON LOCAL HIGHWAYS AND RAMPs.
- SEE STANDARD DETAIL DRAWING "DETOUR SIGNING FOR MAINLINE CLOSURES"







- ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- EXACT NUMBER, LOCATION AND SPACING OF SIGNS AND DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
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- USE SIGN SIZE 3 ON FREEWAY, USE SIGN SIZE 2 ON LOCAL HIGHWAYS AND RAMPS.
- SEE STANDARD DETAIL DRAWING "DETOUR SIGNING FOR MAINLINE CLOSURES"



Estimate Of Quantities

6070-01-63

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	12.000	12.000
0004	204.0110	Removing Asphaltic Surface	SY	6,072.000	6,072.000
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	90.000	90.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	91,838.000	91,838.000
0010	204.0180	Removing Delineators and Markers	EACH	24.000	24.000
0012	205.0100	Excavation Common	CY	6,005.000	6,005.000
0014	209.2500	Backfill Granular Grade 2	TON	6,461.000	6,461.000
0016	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 6070-01-63	EACH	1.000	1.000
0018	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	319.000	319.000
0020	213.0100	Finishing Roadway (project) 01. 6070-01-63	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	160.000	160.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	940.000	940.000
0026	305.0500	Shaping Shoulders	STA	494.000	494.000
0028	312.0110	Select Crushed Material	TON	950.000	950.000
0030	455.0605	Tack Coat	GAL	12,187.000	12,187.000
0032	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0034	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0036	460.2000	Incentive Density HMA Pavement	DOL	1,150.000	1,150.000
0038	460.2005	Incentive Density PWL HMA Pavement	DOL	12,680.000	12,680.000
0040	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	4,970.000	4,970.000
0042	460.2010	Incentive Air Voids HMA Pavement	DOL	12,680.000	12,680.000
0044	460.6224	HMA Pavement 4 MT 58-28 S	TON	9,513.000	9,513.000
0046	460.6424	HMA Pavement 4 MT 58-28 H	TON	11,318.000	11,318.000
0048	465.0105	Asphaltic Surface	TON	395.000	395.000
0050	465.0110	Asphaltic Surface Patching	TON	505.000	505.000
0052	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	185.000	185.000
0054	465.0525	Asphaltic Rumble Strips, Shoulder Sinusoidal	LF	43,770.000	43,770.000
0056	465.0565	Asphaltic Rumble Strips, Centerline Sinusoidal	LF	21,100.000	21,100.000
0058	465.0580	Asphaltic Rumble Strips, Transverse	SY	99.000	99.000
0060	522.0430	Culvert Pipe Reinforced Concrete Class IV 30-Inch	LF	172.000	172.000
0062	522.0436	Culvert Pipe Reinforced Concrete Class IV 36-Inch	LF	102.000	102.000
0064	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	6.000	6.000
0066	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	4.000	4.000
0068	522.2324	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 24x38-Inch	LF	88.000	88.000
0070	522.2334	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 34x53-Inch	LF	70.000	70.000
0072	522.2424	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch	LF	66.000	66.000
0074	522.2434	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 34x53-Inch	LF	94.000	94.000
0076	522.2624	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 24x38-Inch	EACH	4.000	4.000
0078	522.2634	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 34x53-Inch	EACH	6.000	6.000
0080	522.2638	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 38x60-Inch	EACH	2.000	2.000
0082	522.2648	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 48x76-Inch	EACH	2.000	2.000
0084	606.0100	Riprap Light	CY	70.000	70.000
0086	618.0100	Maintenance and Repair of Haul Roads (project) 01. 6070-01-63	EACH	1.000	1.000
0088	619.1000	Mobilization	EACH	1.000	1.000
0090	623.0200	Dust Control Surface Treatment	SY	23,751.000	23,751.000
0092	624.0100	Water	MGAL	60.600	60.600
0094	625.0100	Topsoil	SY	5,680.000	5,680.000
0096	628.1504	Silt Fence	LF	1,620.000	1,620.000
0098	628.1520	Silt Fence Maintenance	LF	1,620.000	1,620.000



Estimate Of Quantities

6070-01-63

Line	Item	Item Description	Unit	Total	Qty
0100	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0102	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0104	628.2002	Erosion Mat Class I Type A	SY	5,680.000	5,680.000
0106	628.7010	Inlet Protection Type B	EACH	4.000	4.000
0108	628.7555	Culvert Pipe Checks	EACH	73.000	73.000
0110	629.0210	Fertilizer Type B	CWT	3.400	3.400
0112	630.0120	Seeding Mixture No. 20	LB	260.000	260.000
0114	630.0200	Seeding Temporary	LB	160.000	160.000
0116	630.0500	Seed Water	MGAL	63.900	63.900
0118	633.5200	Markers Culvert End	EACH	24.000	24.000
0120	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	12.000	12.000
0122	638.2102	Moving Signs Type II	EACH	11.000	11.000
0124	638.3000	Removing Small Sign Supports	EACH	12.000	12.000
0126	642.5201	Field Office Type C	EACH	1.000	1.000
0128	643.0420	Traffic Control Barricades Type III	DAY	2,580.000	2,580.000
0130	643.0705	Traffic Control Warning Lights Type A	DAY	5,160.000	5,160.000
0132	643.0900	Traffic Control Signs	DAY	28,575.000	28,575.000
0134	643.0920	Traffic Control Covering Signs Type II	EACH	7.000	7.000
0136	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0138	643.1500	Traffic Control Speed Feedback Trailer	DAY	180.000	180.000
0140	643.3165	Temporary Marking Line Paint 6-Inch	LF	78,562.000	78,562.000
0142	643.3265	Temporary Marking Line Paint 10-Inch	LF	1,080.000	1,080.000
0144	643.3505	Temporary Marking Arrow Paint	EACH	9.000	9.000
0146	643.3605	Temporary Marking Word Paint	EACH	4.000	4.000
0148	643.3805	Temporary Marking Stop Line Paint 18-Inch	LF	145.000	145.000
0150	643.5000	Traffic Control	EACH	1.000	1.000
0152	645.0130	Geotextile Type R	SY	200.000	200.000
0154	646.2020	Marking Line Epoxy 6-Inch	LF	876.000	876.000
0156	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	77,020.000	77,020.000
0158	646.4020	Marking Line Epoxy 10-Inch	LF	94.000	94.000
0160	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	1,022.000	1,022.000
0162	646.5020	Marking Arrow Epoxy	EACH	9.000	9.000
0164	646.5120	Marking Word Epoxy	EACH	4.000	4.000
0166	646.6105	Marking Stop Line Paint 18-Inch	LF	68.000	68.000
0168	646.6120	Marking Stop Line Epoxy 18-Inch	LF	136.000	136.000
0170	646.8120	Marking Curb Epoxy	LF	293.000	293.000
0172	646.8220	Marking Island Nose Epoxy	EACH	10.000	10.000
0174	648.0100	Locating No-Passing Zones	MI	4.690	4.690
0176	650.6000	Construction Staking Pipe Culverts	EACH	12.000	12.000
0178	650.8000	Construction Staking Resurfacing Reference	LF	24,747.000	24,747.000
0180	650.9911	Construction Staking Supplemental Control (project) 01. 6070-01-63	EACH	1.000	1.000
0182	650.9920	Construction Staking Slope Stakes	LF	1,200.000	1,200.000
0184	690.0150	Sawing Asphalt	LF	2,029.000	2,029.000
0186	740.0440	Incentive IRI Ride	DOL	18,770.000	18,770.000
0188	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,400.000	2,400.000
0190	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	2,160.000	2,160.000
0192	SPV.0090	Special 01. Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 48X76-Inc	LF	48.000	48.000
0194	SPV.0090	Special 02. Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 38X60-Inc	LF	54.000	54.000

Estimate Of Quantities

6070-01-63

Line	Item	Item Description	Unit	Total	Qty
0196	SPV.0180	Special 01. Removing Distressed Pavement Milling	SY	2,720.000	2,720.000



REMOVING SMALL CULVERT PIPES

						203.0100 REMOVING SMALL PIPE CULVERTS
CATEGORY	STAGE	STATION	LOCATION	SIZE	TYPE	EACH
0010	1	317+92	STH 33	24X36 INCH	CMCP	1
0010	2	399+81	STH 33	42X72 INCH	CMCP	1
0010	2	416+44	STH 33	30X45 INCH	CMCP	1
0010	2	427+04	STH 33	33X48 INCH	CMCP	1
0010	2	452+78	STH 33	30X45 INCH	CMCP	1
0010	3	467+10	STH 33	36 INCH	CMCP	1
0010	3	474+31	STH 33	30 INCH	CMCP	1
0010	3	485+21	STH 33	30 INCH	CMCP	1
0010	3	493+11	STH 33	30 INCH	CMCP	1
0010	3	504+31	STH 33	36X57 INCH	CMCP	1
0010	3	515+68	STH 33	24X36 INCH	CMCP	1
0010	3	532+55	STH 33	36 INCH	CMCP	1
TOTAL:						12

PAVEMENT REMOVAL

						204.0110	204.0115	204.0120	SPV.0180.01 SPECIAL (01. REMOVING DISTRESSED PAVEMENT MILLING)	REMARKS
CATEGORY	STAGE	STATION	TO	STATION	LOCATION	REMOVING ASPHALTIC SURFACE SY	REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	REMOVING ASPHALTIC SURFACE MILLING SY	SY	
0010	3	297+58	-	302+30	STH 33/STH 73 INTERSECTION	6072	-	-	-	
0010	4	302+30	-	359+00	STH 33	-	-	20275	610	USING 3% OF THE AREA FOR REMOVING DISTRESSED PAVEMENT MILLING
0010	4	359+00	-	421+00	STH 33	-	-	20667	620	USING 3% OF THE AREA FOR REMOVING DISTRESSED PAVEMENT MILLING
0010	4	421+00	-	483+00	STH 33	-	-	24252	730	USING 3% OF THE AREA FOR REMOVING DISTRESSED PAVEMENT MILLING
0010	4	483+00	-	545+05	STH 33	-	-	25240	760	USING 3% OF THE AREA FOR REMOVING DISTRESSED PAVEMENT MILLING
0010	4	8+95 'P'	-	8+95 'P'	PLEASANT ROAD	-	-	67	-	SEE CONSTRUCTION DETAIL - SIDE ROAD DETAIL
0010	4	11+48 'A'	-	11+48 'A'	CTH A	-	-	83	-	SEE CONSTRUCTION DETAIL - SIDE ROAD DETAIL
0010	4	11+21 'H'	-	11+21 'H'	HOWARD DRIVE	-	-	67	-	SEE CONSTRUCTION DETAIL - SIDE ROAD DETAIL
0010	4	11+00 'C'	-	11+00 'C'	CHIEF KUNO TRAIL	-	-	67	-	SEE CONSTRUCTION DETAIL - SIDE ROAD DETAIL
0010	4	10+75 'L'	-	10+75 'L'	LINDEN LANE	-	-	67	-	SEE CONSTRUCTION DETAIL - SIDE ROAD DETAIL
0010	4	10+85 'B'	-	10+85 'B'	BROWER BOULEVARD	-	-	103	-	SEE CONSTRUCTION DETAIL - SIDE ROAD DETAIL
0010	4	545+05	-	545+05	STH 33, END PROJECT	-	90	-	-	SEE CONSTRUCTION DETAIL - BUTT JOINT DETAIL MAINLINE
0010	4				SIDE ROAD CURB AND GUTTER	-	-	950	-	SEE CONSTRUCTION DETAIL - SIDE ROAD DETAIL
TOTAL 0010						6,072	90	91,838	2,720	

REMOVING MARKERS

204.0180 REMOVING DELINEATORS AND MARKERS					
CATEGORY	STATION	LOCATION	SIZE	TYPE	EACH
0010	764+52 'S'	STH 73	18-INCH	RCCP	-
0010	301+08	STH 33	24-INCH	RCCP	-
0010	317+92	STH 33	24X36 INCH	CMCP	2
0010	318+27	STH 33	72-INCH	CMCP	-
0010	339+74	STH 33	36 INCH	CMCP	-
0010	340+08	STH 33	72-INCH	CMCP	-
0010	372+74	STH 33	42X60 INCH	CMCP	-
0010	399+81	STH 33	42X72 INCH	CMCP	2
0010	416+44	STH 33	30X45 INCH	CMCP	2
0010	427+04	STH 33	33X48 INCH	CMCP	2
0010	452+78	STH 33	30X45 INCH	CMCP	2
0010	467+10	STH 33	36 INCH	CMCP	2
0010	474+31	STH 33	30 INCH	CMCP	2
0010	485+21	STH 33	30 INCH	CMCP	2
0010	493+11	STH 33	30 INCH	CMCP	2
0010	504+31	STH 33	36X57 INCH	CMCP	2
0010	515+68	STH 33	24X36 INCH	CMCP	2
0010	532+55	STH 33	36 INCH	CMCP	2
TOTAL 0010					24

EXCAVATION COMMON SUMMARY

205.0100 EXCAVATION COMMON		
CATEGORY	LOCATION	CY
0010	CULVERT REPLACEMENTS	6,005
TOTAL 0010		6,005

BACKFILL SUMMARY

209.2500 BACKFILL GRANULAR GRADE 2		
CATEGORY	LOCATION	TON
0010	CULVERT REPLACEMENTS	6,461
TOTAL 0010		6,461

PREPARE FOUNDATION ASPHALTIC

211.0101.01 PREPARE FOUNDATION FOR ASPHALTIC PAVING (6070-01-63)			
CATEGORY	LOCATION	EACH	REMARKS
0010	PROJECT 6070-01-63	1	STH 33 (STA 297+58 - STA 545+05), STH 73 (STA 760+78'S' - STA 766+45'S')
TOTAL 0010		1	



PREPARE FOUNDATION SHOULDERS

211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS					
CATEGORY	STATION	TO	STATION	LOCATION	STA
0020	302+30	-	462+00	STH 33	319
TOTAL 0010					319

BASE AGGREGATE

						305.0110 BASE AGGREGATE DENSE 3/4-INCH	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	312.0110 SELECT CRUSHED MATERIAL	REMARKS
CATEGORY	STATION	TO	STATION	LOCATION	TON	TON	TON		
0010	297+58	-	302+30	STH 33/STH 73 INTERSECTION	2	-	-		PLACEMENT OF MATERIAL TO BE DIRECTED BY ENGINEER
0010	302+30	-	462+00	STH 33	49	-	-		PLACEMENT OF MATERIAL TO BE DIRECTED BY ENGINEER
0010	462+00	-	545+05	STH 33	23	-	-		PLACEMENT OF MATERIAL TO BE DIRECTED BY ENGINEER
0010				CULVERT REPLACEMENTS	77	889	901		
0010				UNDISTRIBUTED	10	51	49		PLACEMENT OF MATERIAL TO BE DIRECTED BY ENGINEER
TOTAL 0010					160	940	950		

SHAPING SHOUDLERS

305.0500 SHAPING SHOULDERS					
CATEGORY	STATION	TO	STATION	LOCATION	STA
0010	297+58	-	302+30	STH 33/STH 73 INTERSECTION	9
0010	302+30	-	462+00	STH 33	319
0010	462+00	-	545+05	STH 33	166
TOTAL 0010					494

ASPHALT PAVEMENT									
					455.0605	460.6224	460.6424	465.0105	465.0110
CATEGORY	STATION	TO	STATION	LOCATION	TACK COAT GAL	HMA PAVEMENT 4 MT 58-28 S TON	HMA PAVEMENT 4 MT 58-28 H TON	ASPHALTIC SURFACE TON	ASPHALTIC SURFACE PATCHING TON
0010	297+58	-	302+30	STH 33/STH 73 INTERSECTION	425	-	1785	-	-
0010	302+30	-	359+00	STH 33	2417	1,974	1974	-	-
0010	359+00	-	421+00	STH 33	2458	2,008	2008	-	-
0010	421+00	-	483+00	STH 33	2870	2,344	2344	-	-
0010	483+00	-	545+05	STH 33	2976	2,430	2430	-	-
0010	302+30	-	545+05	CULVERT REPLACEMENTS	106	-	-	358	
0010				DISTRESSED PAVEMENT MILLING AREAS	136	-	-		457
0010				UNDISTRIBUTED	117	89	109	37	48
TOTAL 0010					11,505	8,845	10,650	395	505
0020	302+30	-	462+00	SHOULDER WIDENING UNDISTRIBUTED	682	668	668	-	-
TOTAL 0020					682	668	668	0	0
TOTAL					12,187	9,513	11,318	395	505

PWL MIXTURE USE TABLE									
LOCATION	STATION	TO	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS (INCHES)	QUALITY MANAGEMENT PROGRAM TO BE USED FOR
									MIXTURE ACCEPTANCE DENSITY ACCEPTANCE
12' DRIVING LANE	297+58	-	302+30	UPPER LAYER	4 MT 58-28 H	4 MT 58-28 H	160	2.25	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 INCENTIVE DENSITY HMA PAVEMENT 460.2000
12' DRIVING LANE	297+58	-	302+30	LOWER LAYER	BASE AGGREGATE	4 MT 58-28 H	210	3	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 INCENTIVE DENSITY HMA PAVEMENT 460.2000
5' SHOULDER/TURN LANE/SIDE ROADS	297+58	-	302+30	UPPER LAYER	4 MT 58-28 H	4 MT 58-28 H	610	2.25	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 DEPARTMENT ACCEPTANCE (SS 460.3.3.2); NOT ELIGIBLE FOR INCENTIVE
5' SHOULDER/TURN LANE/SIDE ROADS	297+58	-	302+30	LOWER LAYER	BASE AGGREGATE	4 MT 58-28 H	810	3	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 DEPARTMENT ACCEPTANCE (SS 460.3.3.2); NOT ELIGIBLE FOR INCENTIVE
12' DRIVING LANE	302+30	-	462+00	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 H	4170	1.75	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
12' DRIVING LANE	302+30	-	462+00	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	4170	1.75	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
3' SHOULDER/TURN LANE/SIDE ROADS	302+30	-	462+00	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 H	1230	1.75	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 DEPARTMENT ACCEPTANCE (SS 460.3.3.2); NOT ELIGIBLE FOR INCENTIVE
3' SHOULDER/TURN LANE/SIDE ROADS	302+30	-	462+00	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	1230	1.75	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 DEPARTMENT ACCEPTANCE (SS 460.3.3.2); NOT ELIGIBLE FOR INCENTIVE
2' SHOULDER WIDENING	302+30		462+00	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 H	1340	1.75	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 DEPARTMENT ACCEPTANCE (SS 460.3.3.2); NOT ELIGIBLE FOR INCENTIVE
2' SHOULDER WIDENING	302+30		462+00	LOWER LAYER	BASE AGGREGATE	4 MT 58-28 S	1340	1.75	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 DEPARTMENT ACCEPTANCE (SS 460.3.3.2); NOT ELIGIBLE FOR INCENTIVE
12' DRIVING LANE	462+00	-	545+05	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 H	2170	1.75	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
12' DRIVING LANE	462+00	-	545+05	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	2170	1.75	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
5' SHOULDER/TURN LANE/PASSING LANE/SIDE ROADS	462+00	-	545+05	UPPER LAYER	4 MT 58-28 S	4 MT 58-28 H	1280	1.75	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 DEPARTMENT ACCEPTANCE (SS 460.3.3.2); NOT ELIGIBLE FOR INCENTIVE
5' SHOULDER/TURN LANE/PASSING LANE/SIDE ROADS	462+00	-	545+05	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-28 S	1280	1.75	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010 DEPARTMENT ACCEPTANCE (SS 460.3.3.2); NOT ELIGIBLE FOR INCENTIVE
VARIOUS	297+58	-	545+05	CULVERT REPLACEMENTS - UPPER LAYER	ASPHALTIC SURFACE	ASPHALTIC SURFACE	100	1.75	SS 465 ACCEPTANCE BY ORDINARY COMPACTION (SS 450.3.2.6.2)
VARIOUS	297+58	-	545+05	CULVERT REPLACEMENTS - MIDDLE LAYER	ASPHALTIC SURFACE	ASPHALTIC SURFACE	100	1.75	SS 465 ACCEPTANCE BY ORDINARY COMPACTION (SS 450.3.2.6.2)
VARIOUS	297+58	-	545+05	CULVERT REPLACEMENTS - LOWER LAYER	BASE AGGREGATE	ASPHALTIC SURFACE	150	2.5	SS 465 ACCEPTANCE BY ORDINARY COMPACTION (SS 450.3.2.6.2)
VARIOUS	297+58	-	545+05	REMOVING DISTRESSED ASPHALTIC SURFACE MILLING	BASE AGGREGATE/MILLED EXISTING HMA SURFACE	ASPHALTIC SURFACE	300	3	SS 465 ACCEPTANCE BY ORDINARY COMPACTION (SS 450.3.2.6.2)

ASPHALT DRIVEWAYS

			465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
CATEGORY	STATION	LOCATION	TON
0010	302+40	STH 33, LT	3
0010	302+87	STH 33, RT	3
0010	305+83	STH 33, RT	2
0010	315+34	STH 33, LT	3
0010	320+75	STH 33, RT	3
0010	322+97	STH 33, RT	3
0010	328+02	STH 33, LT	3
0010	338+04	STH 33, RT	3
0010	338+65	STH 33, LT	3
0010	341+93	STH 33, RT	3
0010	341+94	STH 33, LT	3
0010	343+79	STH 33, LT	3
0010	357+35	STH 33, LT	3
0010	368+24	STH 33, LT	3
0010	371+13	STH 33, RT	3
0010	371+68	STH 33, LT	3
0010	373+30	STH 33, RT	3
0010	381+41	STH 33, LT	3
0010	394+28	STH 33, RT	3
0010	394+77	STH 33, LT	3
0010	399+19	STH 33, RT	2
0010	405+64	STH 33, RT	3
0010	409+08	STH 33, LT	3
0010	410+13	STH 33, LT	3
0010	410+20	STH 33, RT	3
0010	414+33	STH 33, LT	3
0010	423+07	STH 33, LT	3
0010	431+65	STH 33, RT	3
0010	431+72	STH 33, LT	3
0010	434+34	STH 33, RT	3
0010	437+85	STH 33, RT	3
0010	442+63	STH 33, LT	3
0010	444+49	STH 33, RT	3
0010	447+22	STH 33, RT	3
0010	458+43	STH 33, RT	3
0010	463+81	STH 33, RT	3
0010	469+69	STH 33, RT	3
0010	469+83	STH 33, LT	3
0010	477+87	STH 33, LT	3
0010	479+86	STH 33, RT	3
0010	481+66	STH 33, RT	3
0010	481+80	STH 33, LT	3
0010	487+30	STH 33, LT	3
0010	491+20	STH 33, RT	3
0010	497+42	STH 33, LT	3
0010	498+27	STH 33, RT	3
0010	505+83	STH 33, LT	3
0010	506+86	STH 33, LT	3
0010	508+41	STH 33, RT	3
0010	508+74	STH 33, LT	3
0010	510+72	STH 33, LT	3
0010	521+85	STH 33, RT	3
0010	523+84	STH 33, RT	3
0010	535+19	STH 33, RT	13
0010	539+00	STH 33, RT	3
0010	540+58	STH 33, RT	3
0010	542+19	STH 33, RT	3
0010	761+58	STH 73, LT	3
0010	761+69	STH 73, RT	3
TOTAL 0010			185



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HMA PWL			
CATEGORY	LOCATION	460.0105.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP VOLUMETRICS EACH	460.0110.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP DENSITY EACH
0010	PROJECT 6070-01-63	1	2
TOTAL 0010		1	2

SHOULDER RUMBLE STRIPS					
CATEGORY	STATION	TO	STATION	LOCATION	465.0525 ASPHALTIC RUMBLE STRIPS, SHOULDER SINUSOIDAL LF
0020	302+50	-	529+15	STH 33, LT	21,390
0020	302+50	-	529+15	STH 33, RT	22,380
TOTAL 0020					43,770

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INTERSECTION RUMBLE STRIPS			
CATEGORY	STATION	LOCATION	465.0580 ASPHALTIC RUMBLE STRIPS, TRANSVERSE SY
0010	304+50	STH 33, LT	33
0010	306+75	STH 33, LT	33
0010	310+75	STH 33, LT	33
TOTAL 0010			99

CENTERLINE RUMBLE STRIPS					
CATEGORY	STATION	TO	STATION	LOCATION	465.0565 ASPHALTIC RUMBLE STRIPS, CENTERLINE SINUSOIDAL LF
0010	302+50	-	529+15	STH 33	21,100
TOTAL 0010					21,100

CULVERT PIPES

										522.0430	522.0436	522.2324	522.2334	522.2424	522.2434	SPV.0090.01	SPV.0090.02
										CULVERT PIPE REINFORCED CONCRETE CLASS IV 30-INCH	CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 24X38-INCH	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 34X53-INCH	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 34X53-INCH	SPECIAL (CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE -IV 48X76-INCH)	SPECIAL (CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 38X60)
CATEGORY	STAGE	INLET STATION	INLET OFFSET	INLET ELEVATION	OUTLET STATION	OUTLET OFFSET	OUTLET ELEVATION	LOCATION	SLOPE	LF	LF	LF	LF	LF	LF	LF	LF
0010	1	317+92	42.10 RT	937.74	317+92	45.89 LT	936.50	STH 33	1.40%	-	-	88	-	-	-	-	-
0010	2	399+81	23.79 RT	928.59	399+81	24.21 LT	928.28	STH 33	0.63%	-	-	-	-	-	-	48	-
0010	2	416+44	23.89 RT	922.82	416+44	24.11 LT	922.57	STH 33	0.54%	-	-	-	-	-	48	-	-
0010	2	427+04	21.72 RT	920.79	427+04	23.68 LT	920.35	STH 33	0.98%	-	-	-	-	-	46	-	-
0010	2	452+78	35.83 LT	911.54	452+78	33.60 RT	911.21	STH 33	0.48%	-	-	-	70	-	-	-	-
0010	3	467+10	22.92 LT	915.20	467+10	24.36 RT	914.87	STH 33	0.71%	-	48	-	-	-	-	-	-
0010	3	474+31	29.19 LT	909.91	474+31	30.71 RT	909.61	STH 33	0.50%	60	-	-	-	-	-	-	-
0010	3	485+21	24.48 RT	908.61	485+21	25.52 LT	908.36	STH 33	0.51%	50	-	-	-	-	-	-	-
0010	3	493+11	31.64 RT	903.83	493+11	30.35 LT	903.28	STH 33	0.90%	62	-	-	-	-	-	-	-
0010	3	504+31	26.55 RT	898.15	504+31	27.45 LT	897.88	STH 33	0.52%	-	-	-	-	-	-	-	54
0010	3	515+68	36.47 LT	901.68	515+68	29.67 RT	901.35	STH 33	0.50%	-	-	-	-	66	-	-	-
0010	3	532+55	26.41 LT	907.09	532+55	27.59 RT	906.82	STH 33	0.51%	-	54	-	-	-	-	-	-
TOTAL 0010										172	102	88	70	66	94	48	54

APRON ENDWALLS

										522.1030	522.1036	522.2624	522.2634	522.2638	522.2648	633.5200	JOINT TIES *
										APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 34X53-INCH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 38X60-INCH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 48X76-INCH	MARKERS CULVERT END	
CATEGORY	STAGE	INLET STATION	INLET OFFSET	INLET ELVATION	OUTLET STATION	OUTLET OFFSET	OUTLET ELEVATION	LOCATION	PIPE SIZE	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
0010	1	317+92	48.39 RT	937.85	317+92	53.17 LT	936.08	STH 33	24X38 INCH	-	-	2	-	-	-	2	6
0010	2	399+81	31.45 RT	928.60	399+81	31.55 LT	928.30	STH 33	48X76 INCH	-	-	-	-	-	2	2	6
0010	2	416+44	32.18 RT	922.87	416+44	32.33 LT	922.55	STH 33	34X53 INCH	-	-	-	2	-	-	2	6
0010	2	427+04	29.73 RT	920.87	427+04	31.71 LT	920.26	STH 33	34X53 INCH	-	-	-	2	-	-	2	6
0010	2	452+78	47.00 LT	910.79	452+78	44.96 RT	910.33	STH 33	34X53 INCH	-	-	-	2	-	-	2	6
0010	3	467+10	30.81 LT	915.25	467+10	32.25 RT	914.81	STH 33	36 INCH	-	2	-	-	-	-	2	6
0010	3	474+31	35.01 LT	909.94	474+31	36.52 RT	909.58	STH 33	30 INCH	2	-	-	-	-	-	2	6
0010	3	485+21	30.50 RT	908.65	485+21	31.55 LT	908.33	STH 33	30 INCH	2	-	-	-	-	-	2	6
0010	3	493+11	36.98 RT	903.88	493+11	36.16 LT	903.22	STH 33	30 INCH	2	-	-	-	-	-	2	6
0010	3	504+31	37.82 RT	897.29	504+31	38.79 LT	896.91	STH 33	38X60 INCH	-	-	-	-	2	-	2	6
0010	3	515+68	42.34 LT	901.79	515+68	38.30 RT	900.62	STH 33	24X38 INCH	-	-	2	-	-	-	2	6
0010	3	532+55	35.33 LT	906.93	532+55	36.64 RT	906.57	STH 33	36 INCH	-	2	-	-	-	-	2	6
* FOR INFORMATIONAL ONLY										TOTAL 0010	6	4	4	6	2	2	24

WATER			
		623.0200 DUST CONTROL SURFACE TREATMENT	624.0100 WATER
CATEGORY	LOCATION	SY	MGAL
0010	PROJECT 6070-01-63	23,751	60.6
TOTAL 0010		23,751	60.6

EC MOBILIZATION			
		628.1905 MOBILIZATIONS EROSION CONTROL	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL
CATEGORY	LOCATION	EACH	EACH
0010	PROJECT 6070-01-63	5	3
TOTAL 0010		5	3

EROSION CONTROL										
					606.0100	628.1504	628.1520	628.2002	628.7555	645.0130
					RIPRAP LIGHT	SILT FENCE	SILT FENCE	EROSION MAT	CULVERT PIPE	GEOTEXTILE TYPE R
CATEGORY	STATION	TO	STATION	LOCATION	CY	LF	LF	CLASS I TYPE A	CHECKS	TYPE R
0010	301+08	-	301+08	STH 33	-	-	-	-	-	-
0010	317+37	-	318+47	STH 33	2	120	120	585	5	5
0010	339+74	-	339+74	STH 33	-	-	-	-	-	-
0010	372+74	-	372+74	STH 33	-	-	-	-	-	-
0010	399+26	-	400+36	STH 33	7	134	134	437	9	22
0010	415+89	-	416+99	STH 33	5	135	135	479	6	16
0010	426+49	-	427+59	STH 33	5	130	130	384	6	16
0010	452+23	-	453+33	STH 33	4	127	127	509	6	13
0010	466+55	-	467+65	STH 33	5	129	129	334	5	14
0010	473+76	-	474+86	STH 33	4	148	148	506	4	11
0010	484+66	-	485+76	STH 33	4	135	135	356	4	11
0010	492+56	-	493+66	STH 33	4	119	119	373	4	11
0010	503+76	-	504+76	STH 33	6	130	130	427	7	18
0010	515+13	-	516+23	STH 33	4	115	115	397	5	11
0010	532+00	-	533+10	STH 33	5	130	130	373	5	14
0010	UNDISTRIBUTED				15	68	68	520	7	38
TOTAL 0010					70	1,620	1,620	5,680	73	200



INLET PROTECTION

				628.7010 INLET PROTECTION TYPE B EACH
CATEGORY	STATION	O/S	LOCATION	
0010	761+15 'S'	LT	STH 33	2
0010	764+52 'S'	LT	STH 33	2
TOTAL 0010				4

LANDSCAPING

					625.0100	629.0210	630.0120	630.0200	630.0500
					TOPSOIL	FERTILIZER TYPE B	SEEDING MIXTURE NO. 20	SEEDING TEMPORARY	SEED WATER
CATEGORY	STATION	TO	STATION	LOCATION	SY	CWT	LB	LB	MGAL
0010	317+37	-	318+47	STH 33	585	0.4	26	16	6.6
0010	399+26	-	400+36	STH 33	437	0.3	20	12	4.9
0010	415+89	-	416+99	STH 33	479	0.3	22	13	5.4
0010	426+49	-	427+59	STH 33	384	0.2	17	10	4.3
0010	452+23	-	453+33	STH 33	509	0.3	23	14	5.7
0010	466+55	-	467+65	STH 33	334	0.2	15	9	3.8
0010	473+76	-	474+86	STH 33	506	0.3	23	14	5.7
0010	484+66	-	485+76	STH 33	356	0.2	16	10	4.0
0010	492+56	-	493+66	STH 33	373	0.2	17	10	4.2
0010	503+76	-	504+76	STH 33	427	0.3	19	12	4.8
0010	515+13	-	516+23	STH 33	397	0.2	18	11	4.5
0010	532+00	-	533+10	STH 33	373	0.2	17	10	4.2
0010	UNDISTRIBUTED				520	0.3	27	19	5.8
TOTAL 0010					5,680	3.4	260	160	63.9

MOVING SIGNS							
CATEGORY	STATION	LOCATION	SIGN MESSAGE	638.2102	638.3000	634.0616	REMARKS
				MOVING SIGNS TYPE II	REMOVING SMALL SIGN SUPPORTS	POSTS WOOD 4X6-INCH X 16-FT	
				EACH	EACH	EACH	
0010	STA 313+24 RT	STH 33	NO PASSING ZONE	1	1	1	W14-3
0010	STA 341+50 LT	STH 33	NO PASSING ZONE	1	1	1	W14-3
0010	STA 365+40 RT	STH 33	NO PASSING ZONE	1	1	1	W14-3
0010	STA 376+30 LT	STH 33	NO PASSING ZONE	1	1	1	W14-3
0010	STA 393+60 RT	STH 33	NO PASSING ZONE	1	1	1	W14-3
0010	STA 439+50 LT	STH 33	NO PASSING ZONE	1	1	1	W14-3
0010	STA 458+15 RT	STH 33	NO PASSING ZONE	1	1	1	W14-3
0010	STA 471+00 LT	STH 33	NO PASSING ZONE	1	1	1	W14-3
0010	STA 525+00 RT	STH 33	NO PASSING ZONE	1	1	1	W14-3
0010	STA 532+60 RT	STH 33	MUNICIPALITY POPULATION SIGN	1	2	2	I2-3 (FOX LAKE POPULATION 1,604)
0010	STA 533+50 LT	STH 33	NO PASSING ZONE	1	1	1	W14-3
TOTAL 0010				11	12	12	

TRAFFIC CONTROL												
CATEGORY	STAGE	DURATION CALENDER DAYS*	LOCATION	643.0420	643.0705	643.0900	**			***	****	643.5000
				TRAFFIC CONTROL BARRICADES TYPE III	TRAFFIC CONTROL WARNING LIGHTS TYPE A	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL COVERING SIGNS TYPE II			TRAFFIC CONTROL SIGNS PCMS	TRAFFIC CONTROL SPEED FEEDBACK TRAILER	TRAFFIC CONTROL
				DAY	DAY	DAY	SIGNS	# CYCLES	EACH	DAY	DAY	EACH
0010	DETOUR (STAGE 1-4)	90	STH 33	2,340	4,680	25,970	7	1	7	28	180	-
0010			UNDISTRIBUTED	240	480	2,605	-	-	-	-	-	-
0010			PROJECT 6070-01-63	-	-	-	-	-	-	-	-	1
TOTAL 0010				2,580	5,160	28,575	7			28	180	1

\* FOR INFORMATION ONLY  
\*\* COVERING SIGNS IS FOR ONE CYCLE.  
\*\*\*PCMS TO BE IN PLACE 7 DAYS PRIOR TO CONSTRUCTION. SEE PCMS OVERVIEW FOR MORE INFORMATION.  
\*\*\* ASSUMES TWO SPEED FEEDBACK TRAILERS FOR DURATION OF THE PROJECT. LOCATION OF TRAILERS TO BE DETERMINED BY ENGINEER.

TEMP PAVEMENT MARKINGS						
CATEGORY	LOCATION	643.3165	643.3265	643.3505	643.3605	643.3805
		TEMPORARY MARKING LINE PAINT 6-INCH	TEMPORARY MARKING LINE PAINT 10-INCH	TEMPORARY MARKING ARROW PAINT	TEMPORARY MARKING WORD PAINT	TEMPORARY MARKING STOP LINE PAINT 18-INCH
		LF	LF	EACH	EACH	LF
0010	STH 33, WHITE	48416	598	2	1	59
0010	STH 73, WHITE	800	424	7	3	77
0010	STH 33, YELLOW	27159	-	-	-	-
0010	STH 73, YELLOW	645	-	-	-	-
0010	UNDISTRIBUTED	1,542	58	-	-	9
TOTAL 0010		78,562	1,080	9	4	145

PAVEMENT MARKING

					646.2020	646.2040	646.4020	646.4040	646.5120	646.5020	646.6105	646.6120	646.8120	646.8220
					MARKING LINE	MARKING LINE	MARKING LINE	MARKING LINE	MARKING WORD	MARKING ARROW	MARKING STOP	MARKING STOP	MARKING CURB	MARKING ISLAND
					EPOXY 6-INCH	GROOVED WET REF	EPOXY 10-INCH	GROOVED WET REF	EPOXY	EPOXY	LINE PAINT	LINE EPOXY	EPOXY	NOSE EPOXY
CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	LF	LF	EACH	EACH	18-INCH	18-INCH	LF	EACH
0010	297+58	-	299+67	STH 33, WHITE	-	334	-	121	-	-	-	29	55	3
0010	760+78	-	764+47	STH 73, WHITE	-	716	-	335	1	4	-	38	138	3
0010	765+94	-	769+00	STH 73, WHITE	-	84	-	89	2	3	-	39	50	1
0010	300+44	-	302+30	STH 33, WHITE	-	296	-	107	-	-	-	30	50	3
0010	302+30	-	462+00	STH 33, WHITE	-	31,757	-	-	-	-	-	-	-	-
0010	10+00	-	11+48	CTH A, WHITE	161	-	94	-	-	-	34	-	-	-
0010	462+00	-	545+05	STH 33, WHITE	-	16,029	-	370	1	2	-	-	-	-
0010	10+00	-	11+21	HOWARD DRIVE, WHITE	74	-	-	-	-	-	-	-	-	-
0010	10+00	-	11+00	CHIEF KUNO TRAIL, WHITE	41	-	-	-	-	-	-	-	-	-
0010	10+00	-	10+85	BROWER BOULEVARD, WHITE	-	-	-	-	-	-	34	-	-	-
0010	297+58	-	299+67	STH 33, YELLOW	-	422	-	-	-	-	-	-	-	-
0010	760+78	-	764+47	STH 73, YELLOW	-	569	-	-	-	-	-	-	-	-
0010	765+94	-	766+45	STH 73, YELLOW	-	76	-	-	-	-	-	-	-	-
0010	300+44	-	302+30	STH 33, YELLOW	-	372	-	-	-	-	-	-	-	-
0010	302+30	-	462+00	STH 33, YELLOW	-	16,796	-	-	-	-	-	-	-	-
0010	10+00	-	11+48	CTH A, YELLOW	228	-	-	-	-	-	-	-	-	-
0010	462+00	-	545+05	STH 33, YELLOW	-	9569	-	-	-	-	-	-	-	-
0010	10+00	-	11+21	HOWARD DRIVE, YELLOW	136	-	-	-	-	-	-	-	-	-
0010	10+00	-	11+00	CHIEF KUNO TRAIL, YELLOW	126	-	-	-	-	-	-	-	-	-
0010	10+00	-	10+85	BROWER BOULEVARD, YELLOW	110	-	-	-	-	-	-	-	-	-
TOTAL 0010					876	77,020	94	1,022	4	9	68	136	293	10

NO PASSING ZONES

					648.0100
					LOCATING NO-PASSING
					ZONES
CATEGORY	STATION	TO	STATION	LOCATION	MI
0010	297+58	-	545+05	STH 33	4.69
TOTAL 0010					4.69



SAWING

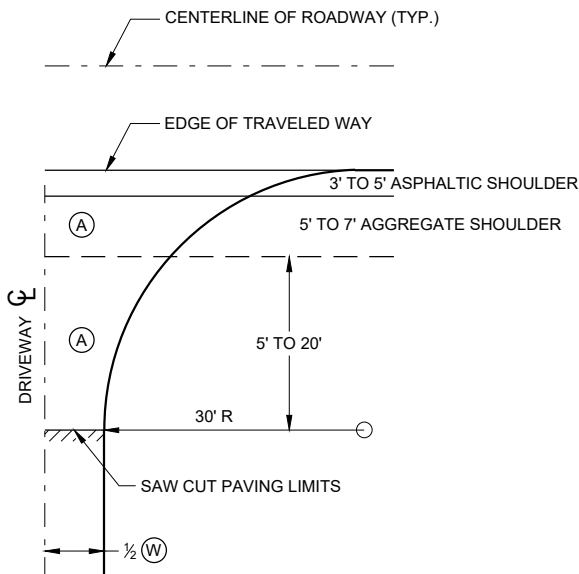
690.0150 SAWING ASPHALT			
CATEGORY	STATION	LOCATION	LF
0010	297+58	STH 33, BEGIN PROJECT	44
0010	760+78 'S'	STH 73	34
0010	766+45 'S'	STH 73	57
0010	317+92	CULVERT	68
0010	8+95 'P'	PLEASANT ROAD	24
0010	399+81	CULVERT	71
0010	416+44	CULVERT	68
0010	427+04	CULVERT	68
0010	452+78	CULVERT	68
0010	11+48 'A'	CTH A	30
0010	467+10	CULVERT	69
0010	474+31	CULVERT	68
0010	11+21 'H'	HOWARD DRIVE	24
0010	485+21	CULVERT	68
0010	493+11	CULVERT	70
0010	11+00 'C'	CHIEF KUNO TRAIL	24
0010	504+31	CULVERT	68
0010	515+68	CULVERT	68
0010	10+75 'L'	LINDEN LANE	24
0010	532+55	CULVERT	72
0010	10+85 'B'	BROWER BOULEVARD	37
0010	545+05	STH 33, END PROJECT	34
0010	PROJECT	DRIVEWAYS	871
TOTAL 0010			2,029

CONSTRUCTION STAKING

					650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (6070-01-63) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
CATEGORY	STATION	TO	STATION	LOCATION				
0010	297+58	-	545+05	STH 33	12	24,747	1	1,200
TOTAL 0010					12	24,747	1	1,200

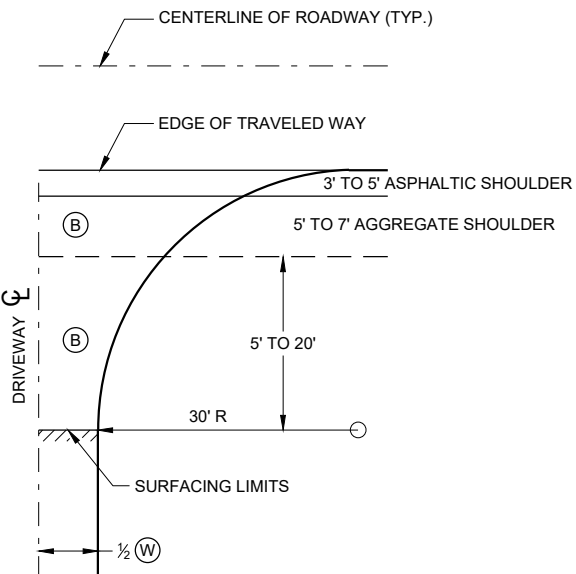
Standard Detail Drawing List

08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13A08-02	TRANSVERSE RUMBLE STRIPS, ASPHALTIC
13A10-03C	SHOULDER RUMBLE STRIPS - ASPHALT SINUSOIDAL
13A10-03G	SHOULDER AND EDGE LINE RUMBLE STRIPS - CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS
13A10-03H	SHOULDER AND EDGE LINE RUMBLE STRIPS - RAILROAD, PASSING, CLIMBING AND BYPASS LANES
13A11-04C	CENTERLINE RUMBLE STRIPS - ASPHALT SINUSOIDAL
13A11-04D	CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS
13C19-03	HMA LONGITUDINAL JOINTS
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
15C02-09H	MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING
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
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M. P. H. OR LESS
15C07-16B	PAVEMENT MARKING WORDS
15C07-16C	PAVEMENT MARKING ARROWS
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C08-23C	PAVEMENT MARKING (TURN LANES)
15C08-23D	PAVEMENT MARKING (TURN LANES)
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C12-09B	TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE
15C18-09A	MEDIAN ISLAND PAVEMENT MARKINGS
15C18-09B	PAVEMENT MARKINGS, MEDIAN ISLAND NOSE
15C19-09A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
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
15D39-03	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D51-01	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

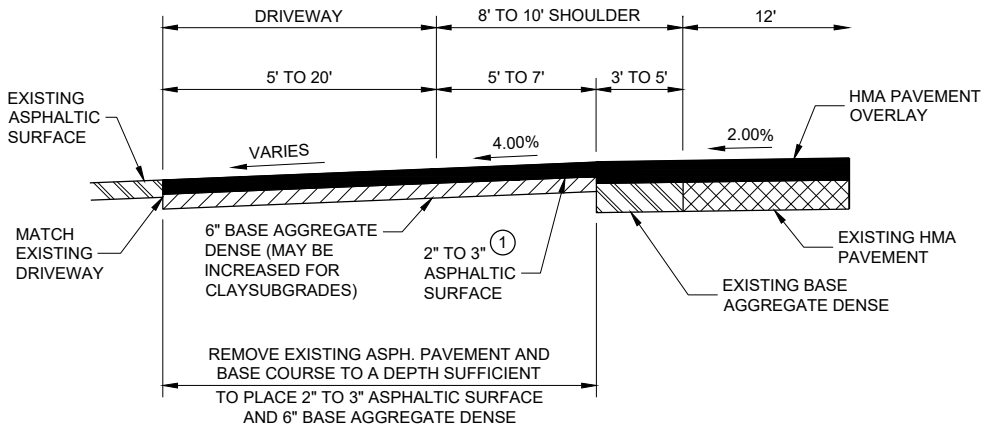


**PLAN VIEW  
HALF SECTION**

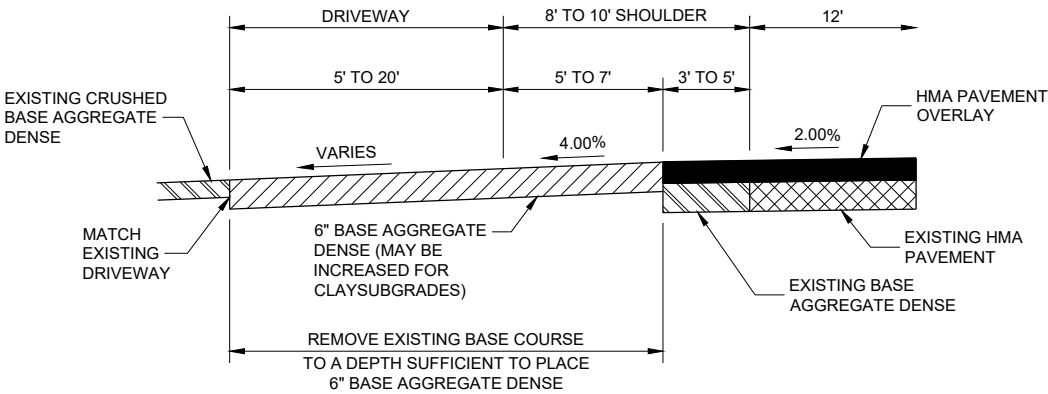
- (A) : PAID FOR AS ASPHALTIC SURFACE DRIVEWAYS  
AND FIELD ENTRANCES. (TON)
- (B) : PAID FOR AS BASE AGGREGATE DENSE 1 1/4" (TON)
- (W) : DRIVEWAY WIDTH 16' MIN. - 24' MAX.



**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**

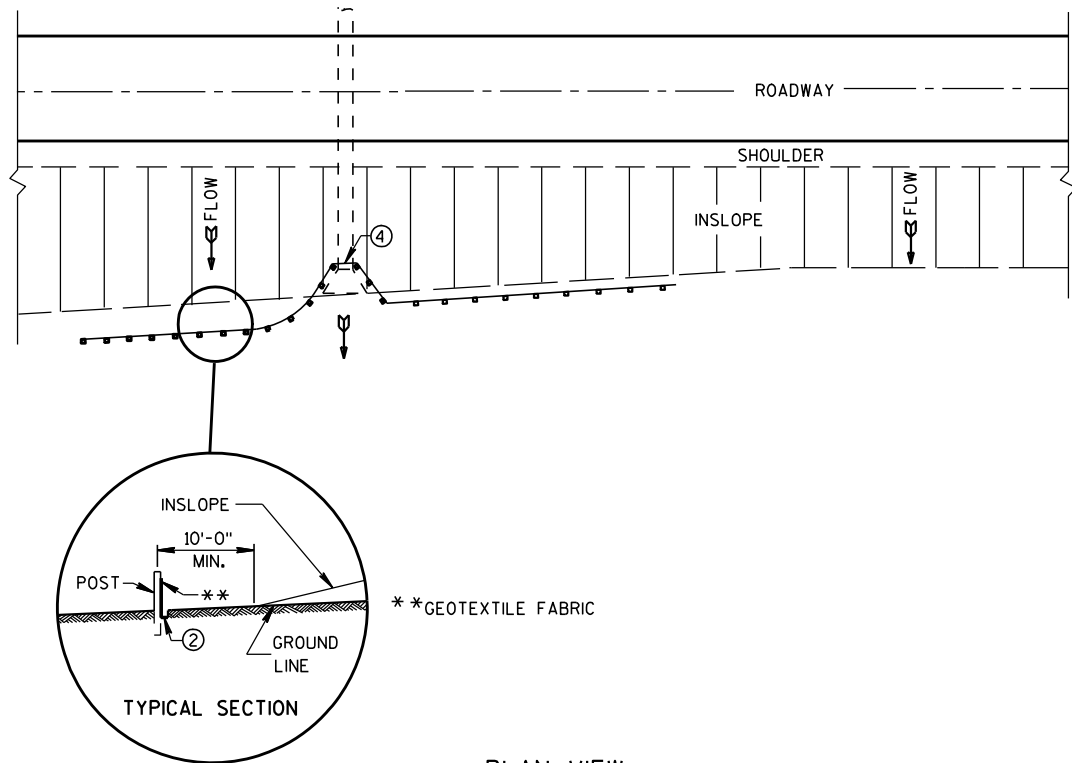
- ① DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS  
BASED ON TYPE OF USAGE AND LOADINGS.

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

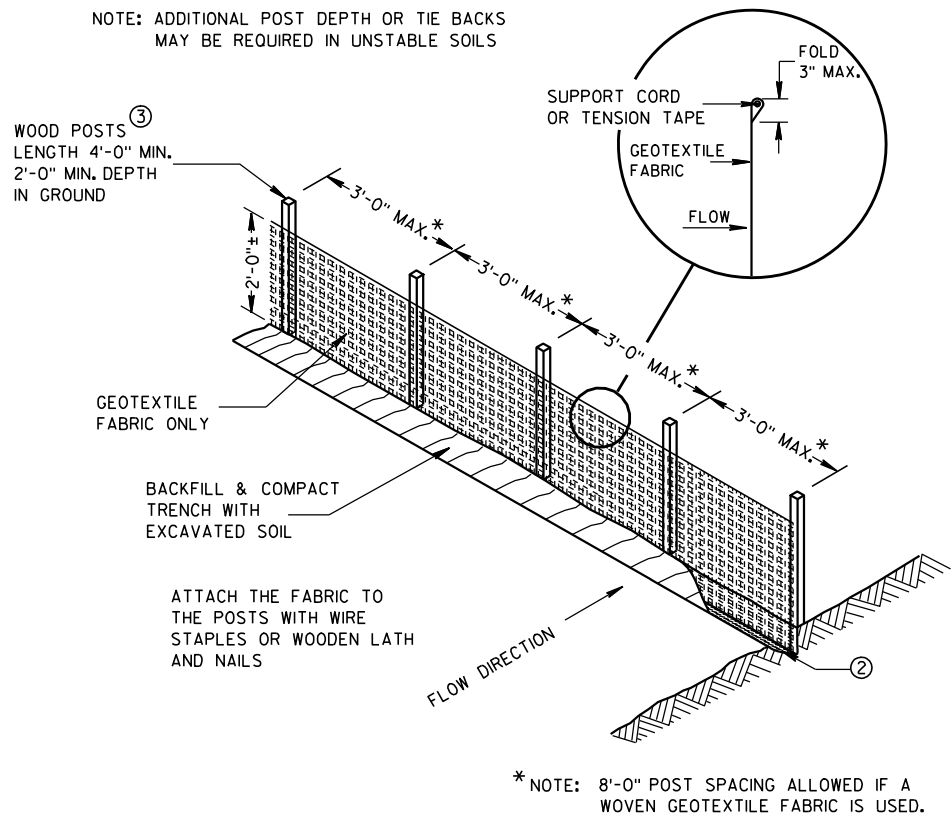
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

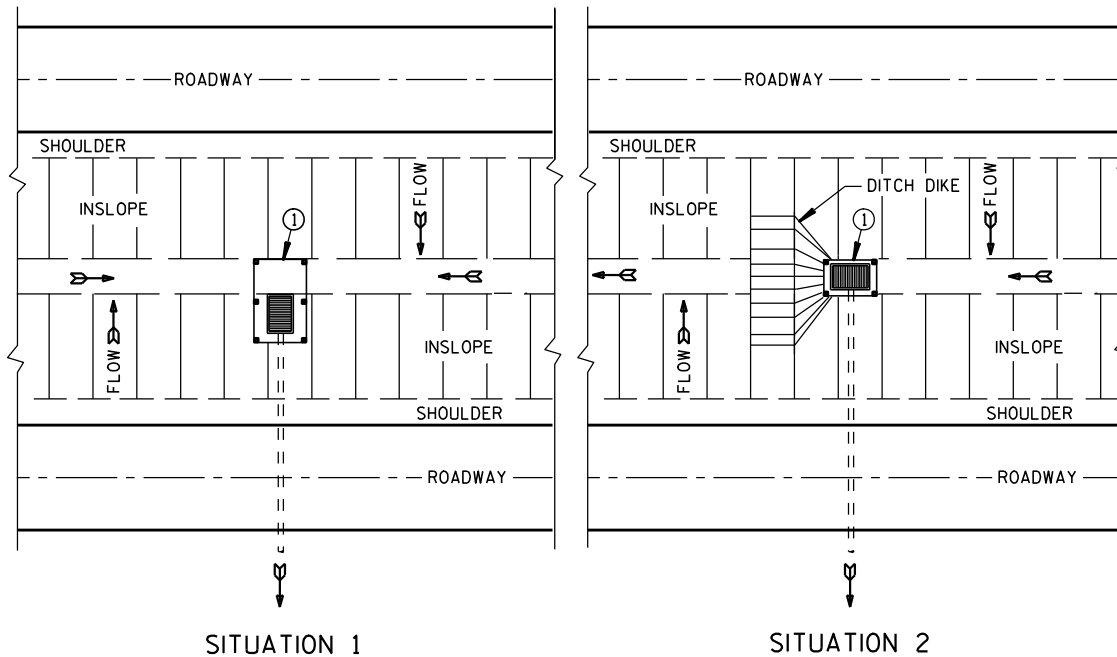




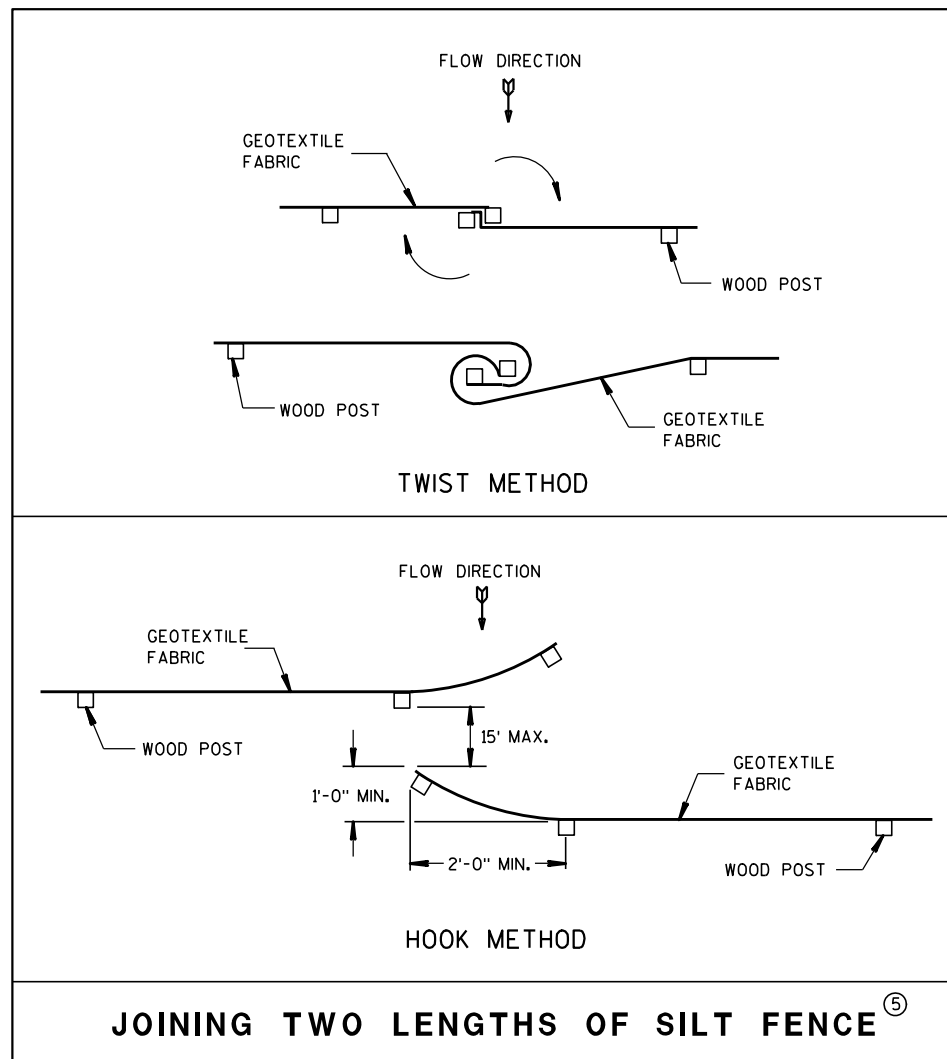
PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

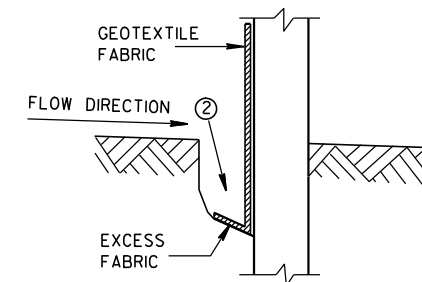


JOINING TWO LENGTHS OF SILT FENCE (5)

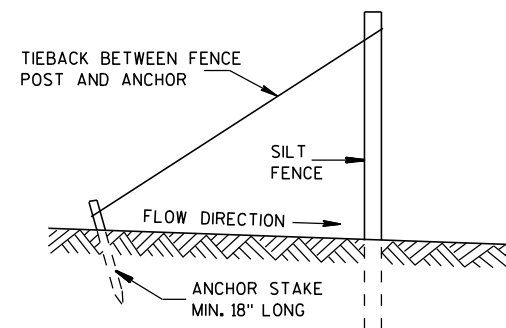
GENERAL NOTES

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

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



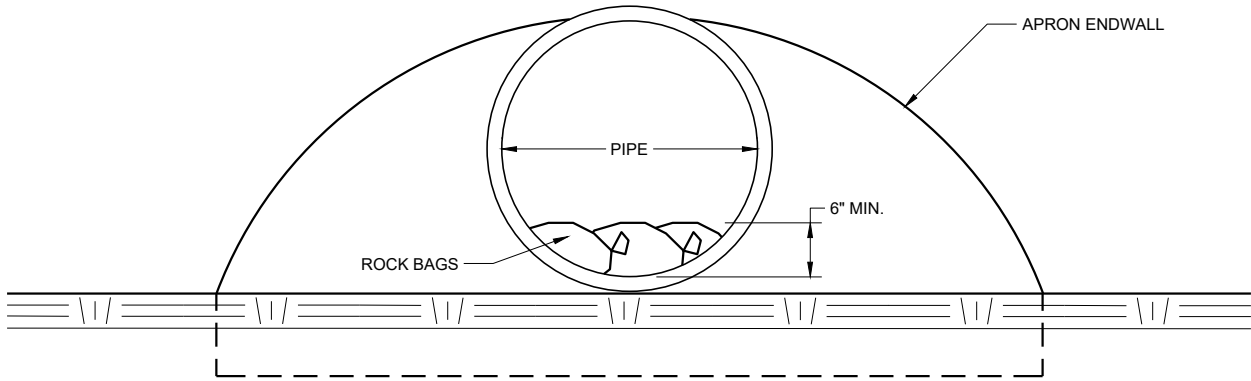
TRENCH DETAIL



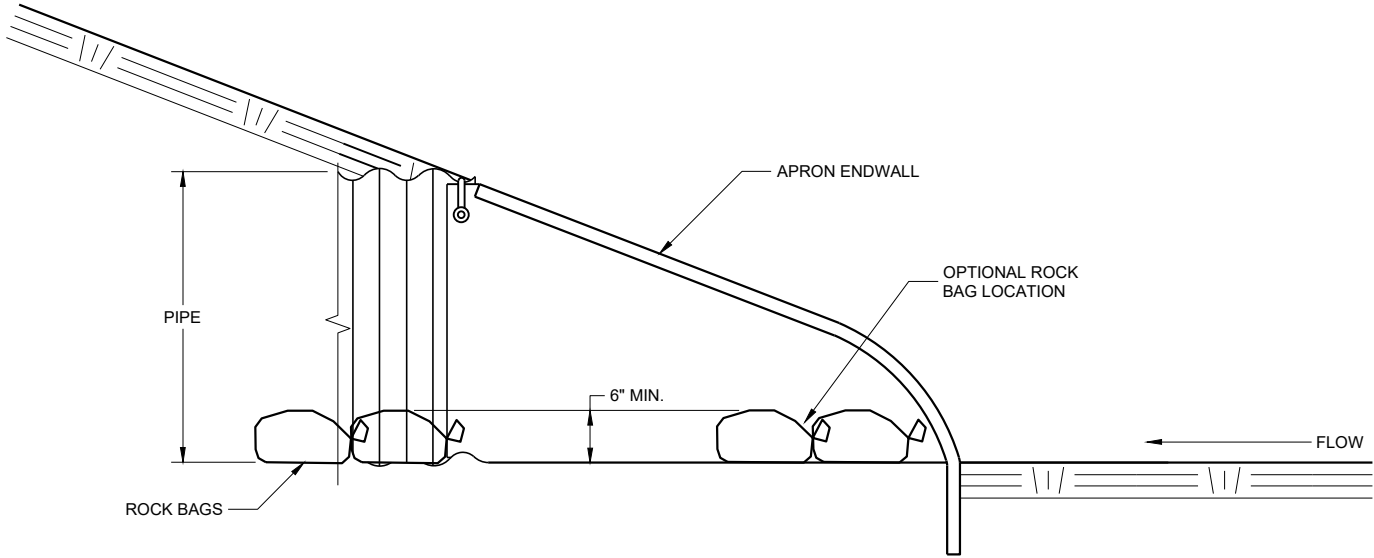
SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

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

**S.D.D. 8 E 10-2**



END VIEW



SIDE VIEW

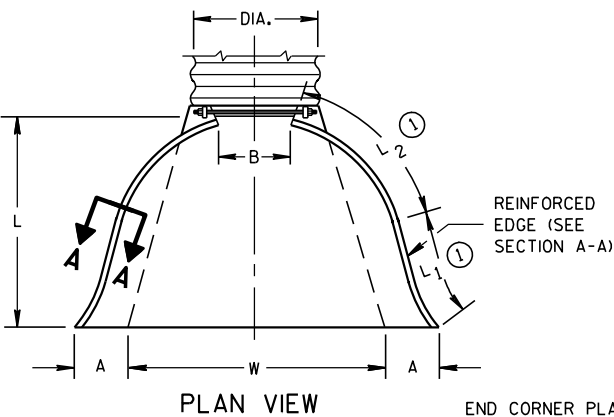
**CULVERT PIPE CHECK**  
(INSTALL ON INLET END ONLY)

<b>CULVERT PIPE CHECK</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGINEER
FHWA	



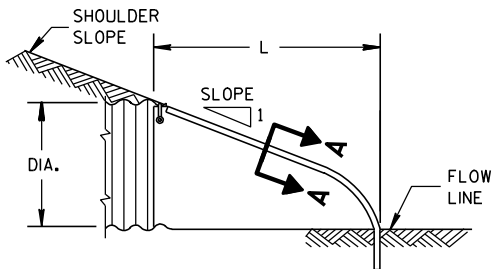
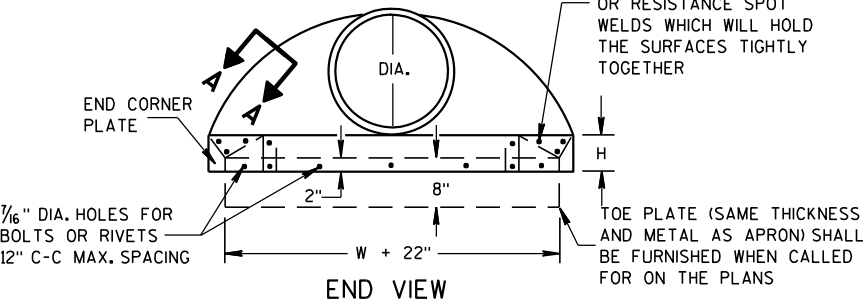
METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060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

\* EXCEPT CENTER PANEL  
SEE GENERAL NOTES



END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

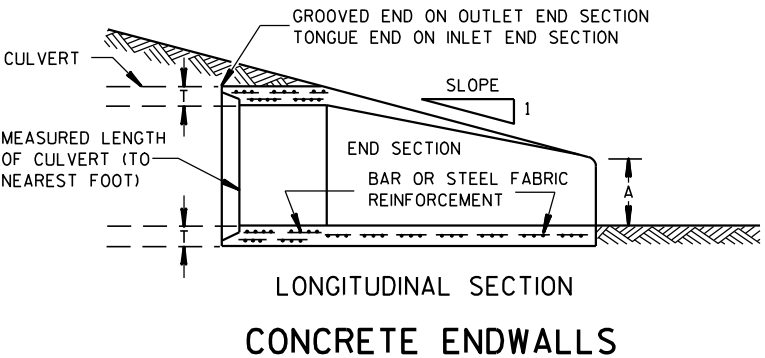
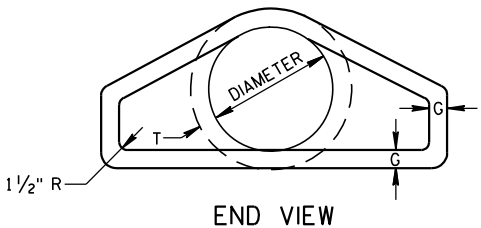
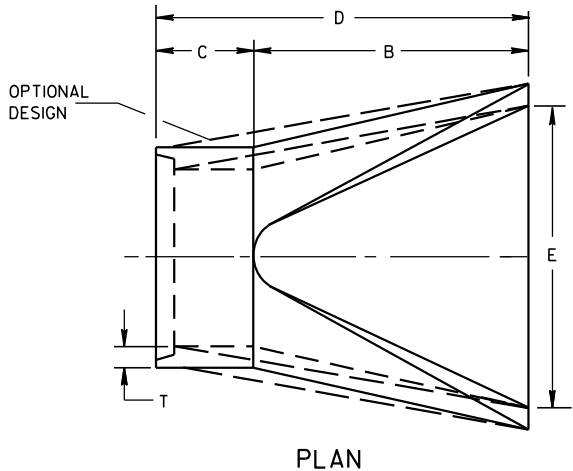
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



SIDE ELEVATION  
METAL ENDWALLS

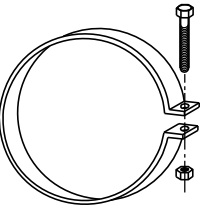
REINFORCED CONCRETE APRON ENDWALLS											
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE			
	T	A	B	C	D	E	G				
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1			
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1			
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1			
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1			
24	3	9 1/2	43 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

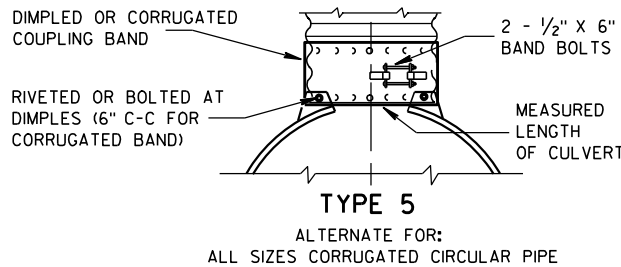
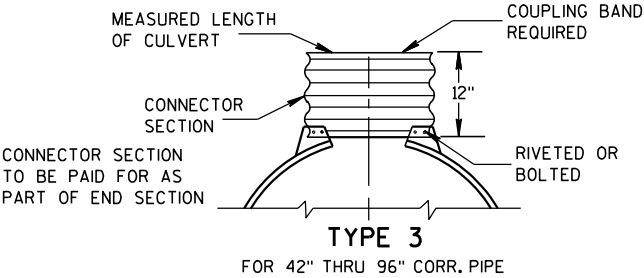
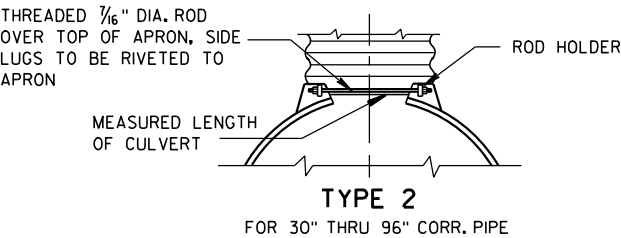
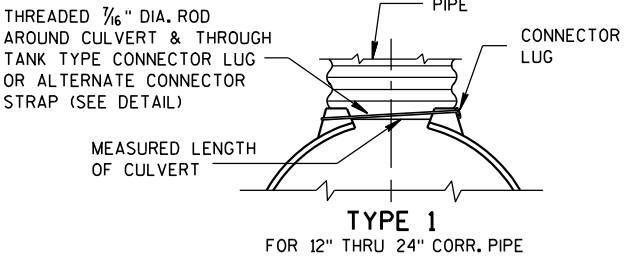


LONGITUDINAL SECTION  
CONCRETE ENDWALLS

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



ALTERNATE FOR TYPE 1 CONNECTION  
END SECTION CONNECTOR STRAP



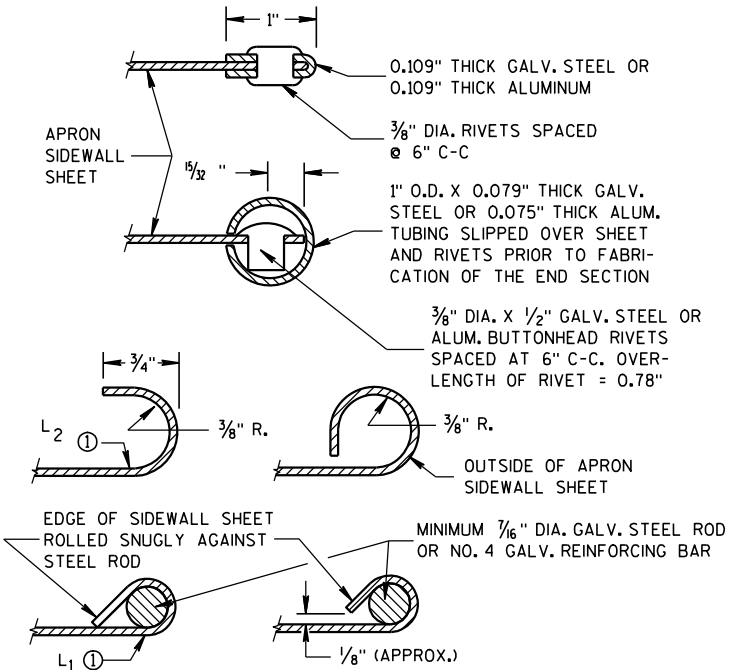
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

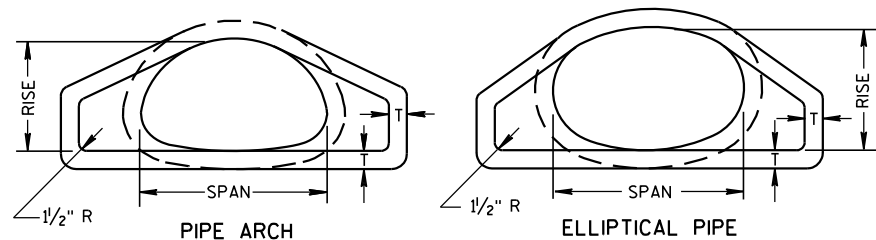
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

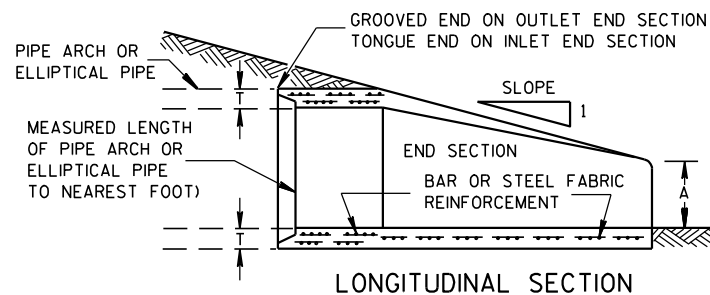
APRON ENDWALLS FOR  
CULVERT PIPE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

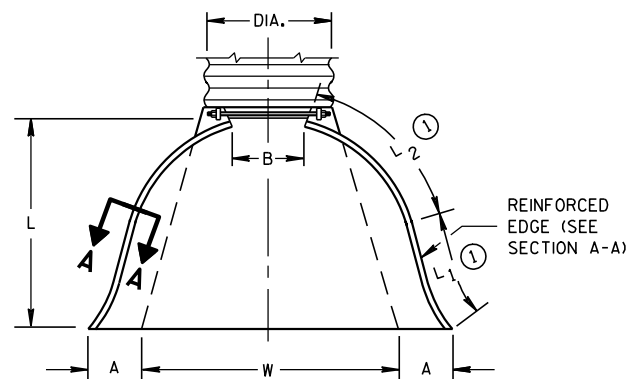


END VIEW



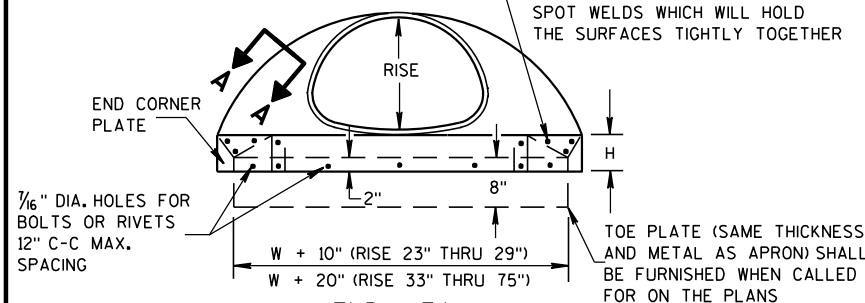
LONGITUDINAL SECTION

## CONCRETE ENDWALLS

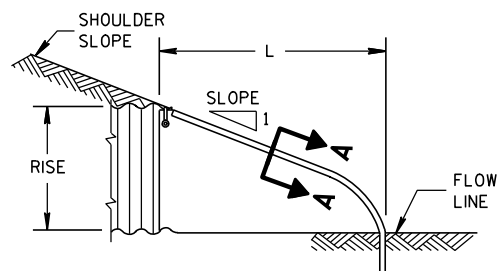
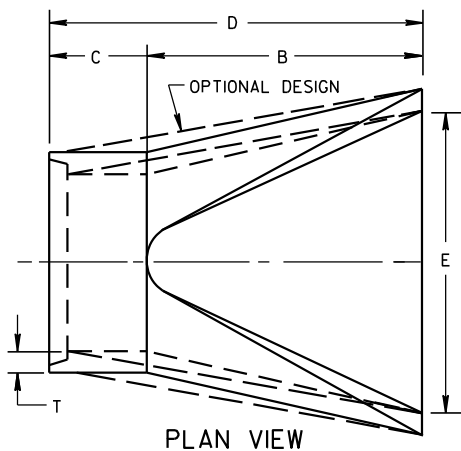


PLAN VIEW

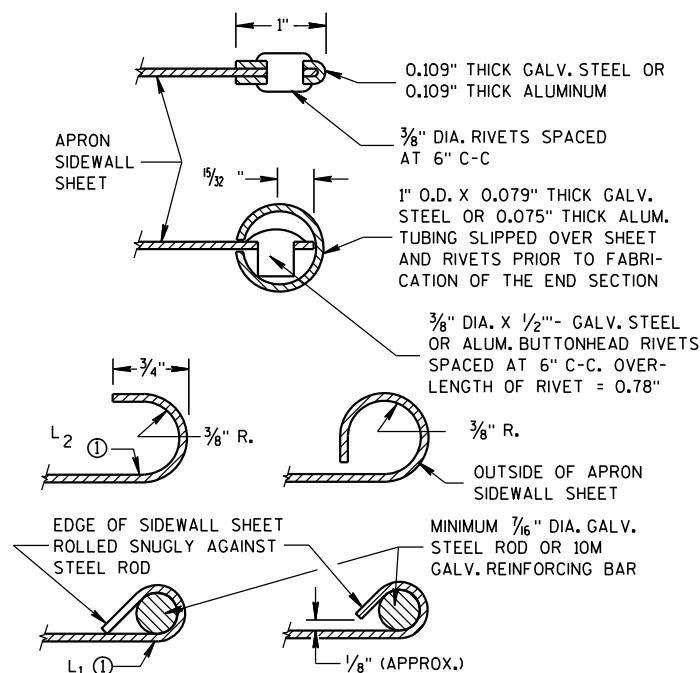
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



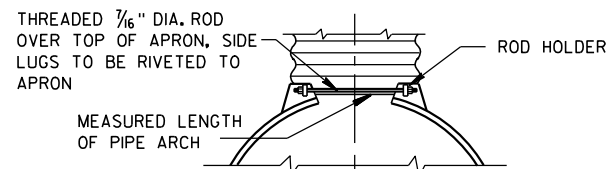
END VIEW

SIDE ELEVATION  
METAL ENDWALLS

PLAN VIEW

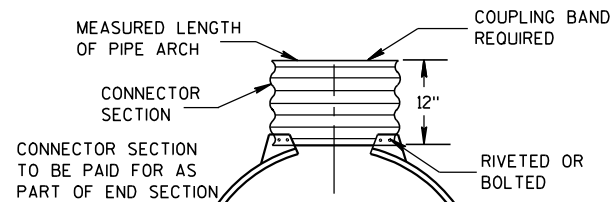


SECTION A-A



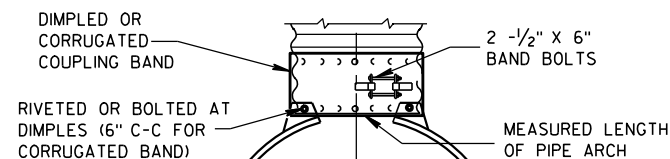
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:  
ALL SIZES CORRUGATED PIPE ARCHESNOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,  
AND CORRUGATED BAND FITS INSIDE ENDWALL.

## CONNECTION DETAILS

## 2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
					(±1")	(MAX.)	(±1")	(±1 1/2")	①	①	(±2")		
15	17	13	.064	.060	7	9	6	19	14	16	30	2 1/2 to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 3/8	36	2 1/2 to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21 3/4	42	2 1/2 to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27 1/2	48	2 1/2 to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 5/8	60	2 1/2 to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 3/8	75	2 1/2 to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54 3/4	85	2 1/2 to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2 1/2 to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72 3/4	102	2 1/4 to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82 1/4	114	2 1/4 to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

## 3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
					(±1")	(MAX.)	(±1")	(±1 1/2")	①	①	(±2")		
48	53	41	.109	.105	18	26	12	63	24	72 3/4	90	2 1/2 to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82 1/4	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1 1/2 to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1 1/2 to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1 1/2 to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1 1/2 to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1 1/2 to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1 1/2 to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

\* EXCEPT CENTER PANEL  
SEE GENERAL NOTES

## REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	** SPAN	** RISE	T	A	B	C	D	E	
	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	
24	29	18	3	8 1/2	39	33	72	48	3 to 1
30	36	22	3 1/2	9 1/2	50	46	96	60	3 to 1
36	44	27	4	11 1/8	60	36	96	72	3 to 1
42	51	31	4 1/2	15 1/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5 1/2	25 1/2	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28 1/2	83	19	102	144	2 to 1

## REINFORCED CONCRETE ELLIPTICAL PIPE

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	** SPAN	** RISE	T	A	B	C	D	E	
	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	
24	30	19	3 1/4	8 1/2	39	33	72	48	3 to 1
30	38	24	3 3/4	9 1/2	54	18	72	60	3 to 1
36	45	29	4 1/2	11 1/8	60	24	84	72	2 1/2 to 1
42	53	34	5	15 1/4	60	36	96	78	2 1/2 to 1
48	60	38	5 1/2	21	60	36	96	84	2 1/2 to 1
54	68	43	6	25 1/2	60	36	96	90	2 1/2 to 1
60	76	48	6 1/2	30	60	36	96	96	2 1/2 to 1

\*\*NOMINAL SIZE

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH 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 ARCH 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 77" X 52" THROUGH 112" X 75" 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 ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR  
PIPE ARCH AND  
ELLIPTICAL PIPESTATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

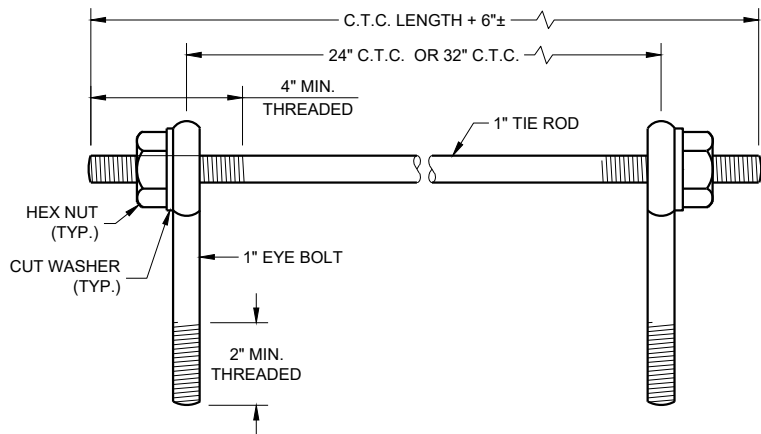
APPROVED

11/30/94

DATE

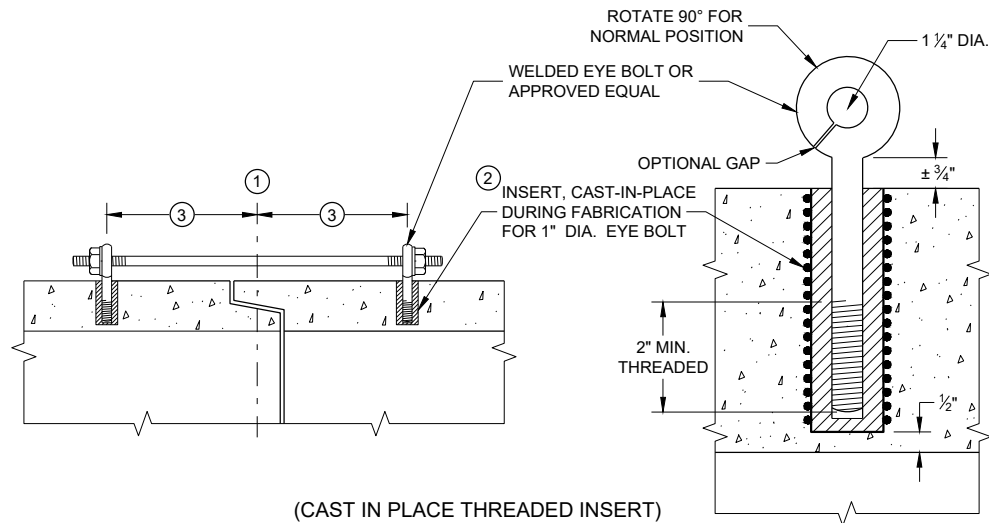
FHWA

/S/ Rory L. Rhinesmith  
CHIEF ROADWAY DEVELOPMENT ENGINEER



EYE BOLTS AND TIE ROD

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



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

## GENERAL NOTES

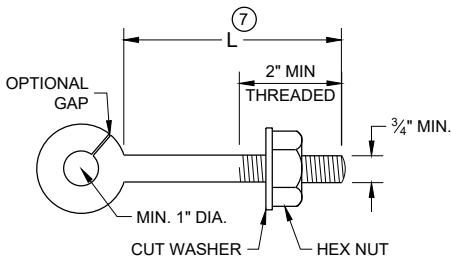
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

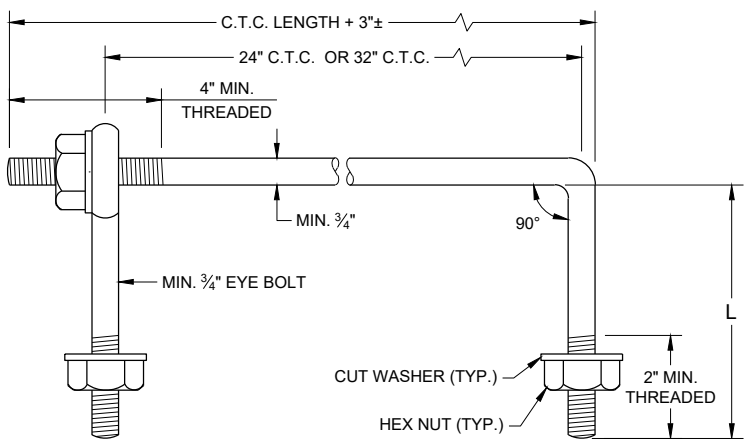
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- 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.

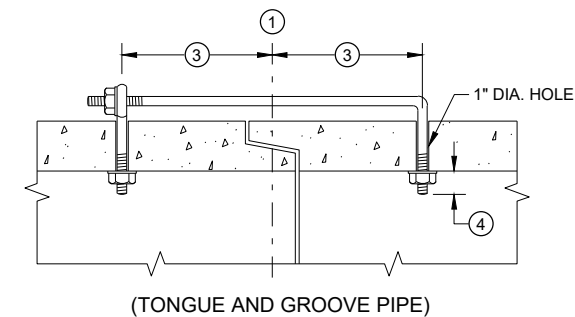


EYE BOLT 7

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

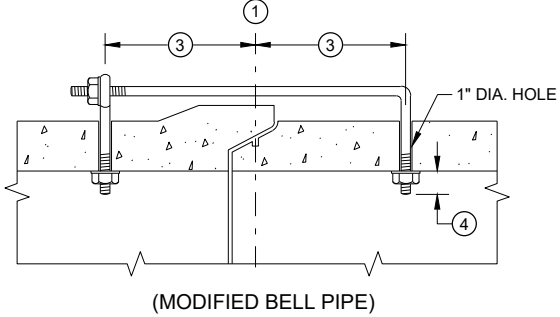


(TONGUE AND GROOVE PIPE)

LONGITUDINAL SECTION

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

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

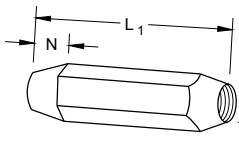


(MODIFIED BELL PIPE)

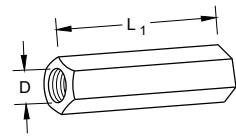
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L <sub>1</sub>	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

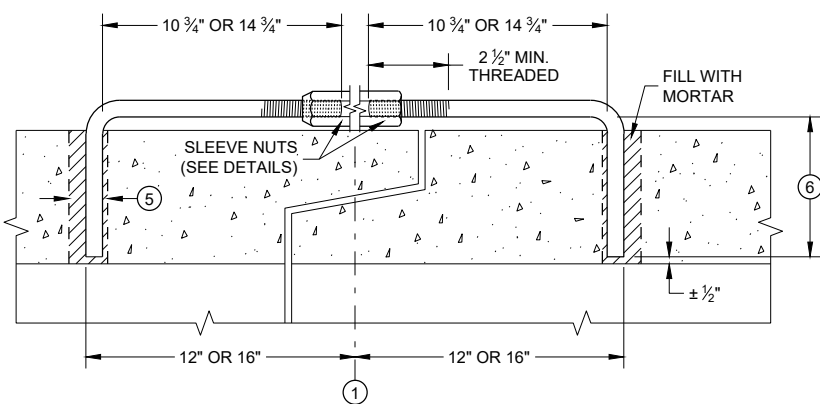


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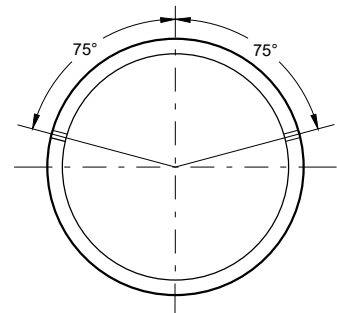
PLAIN

RIGHT AND LEFT THREADS  
SLEEVE NUTS



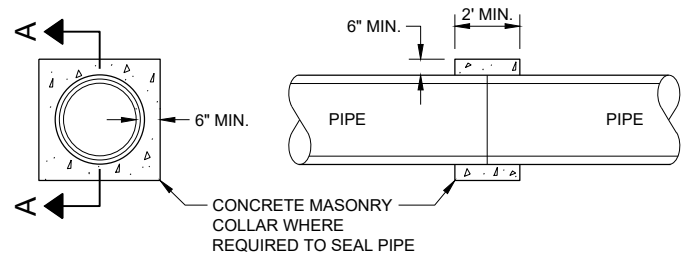
LONGITUDINAL SECTION

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

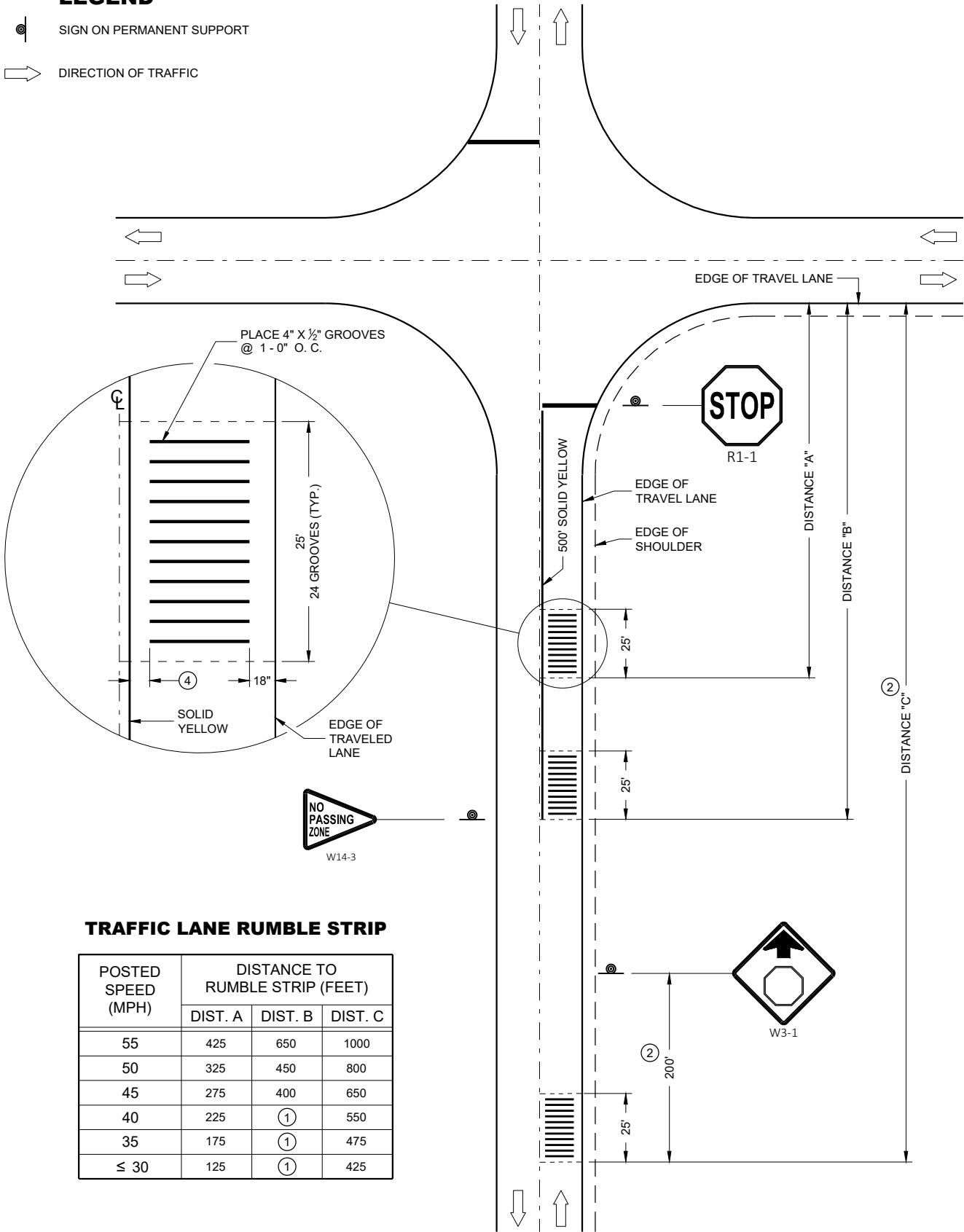
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



LEGEND

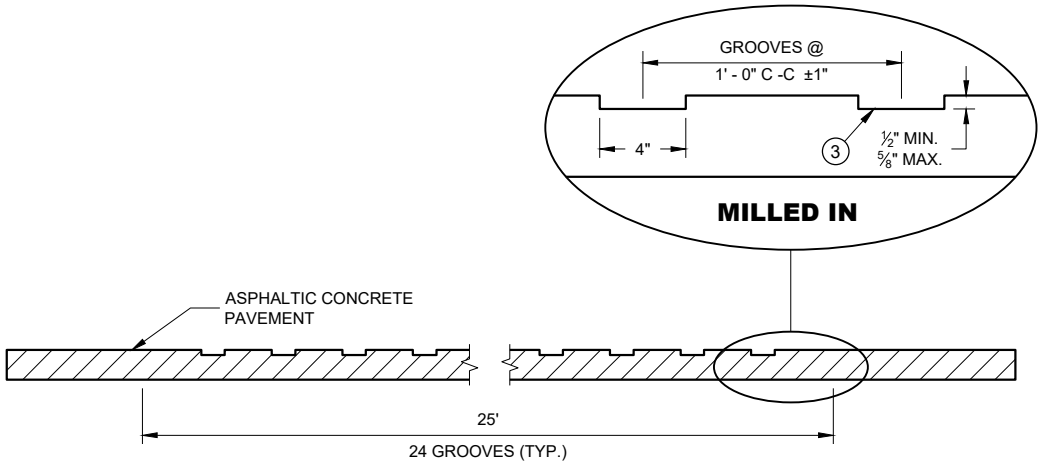
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC



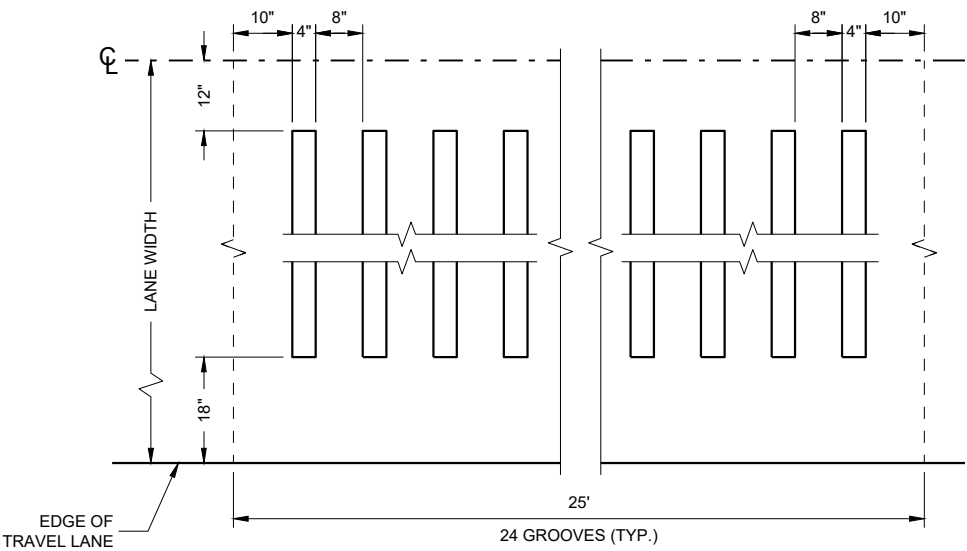
RUMBLE STRIP LOCATION

GENERAL NOTES

- CONTRACTOR SHALL CONFIRM RUMBLE STRIP LOCATION WITH THE ENGINEER PRIOR TO INSTALLATION. THE ENGINEER MAY MODIFY THE RUMBLE STRIP LOCATION AS FIELD CONDITIONS DICTATE.
- WHEN ASPHALTIC PAVEMENT IS NEW IN THE RUMBLE AREA, THE CONTRACTOR SHALL ALLOW THE PAVEMENT TO CURE A MINIMUM OF 7 DAYS PRIOR TO RUMBLE INSTALLATION.
- PAVEMENT MARKING AND SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDE ELSEWHERE IN THE CONTRACT.
- ① ELIMINATE THE MIDDLE SET OF RUMBLE STRIPS.
  - ② LOCATE RUMBLE STRIP 200 FEET IN ADVANCE OF W3-1 SIGN AS SHOWN. IF W3-1 IS NOT IN PLACE, USE DISTANCE "C".
  - ③ TYPICAL VERTICAL VARIATION BETWEEN PEAKS AND VALLEYS WITHIN THE CUT APPROXIMATELY  $\frac{1}{16}$ ".
  - ④ 12 INCH CLEAR BETWEEN THE SOLID YELLOW LINE AND THE EDGE OF THE RUMBLE.



ELEVATION VIEW

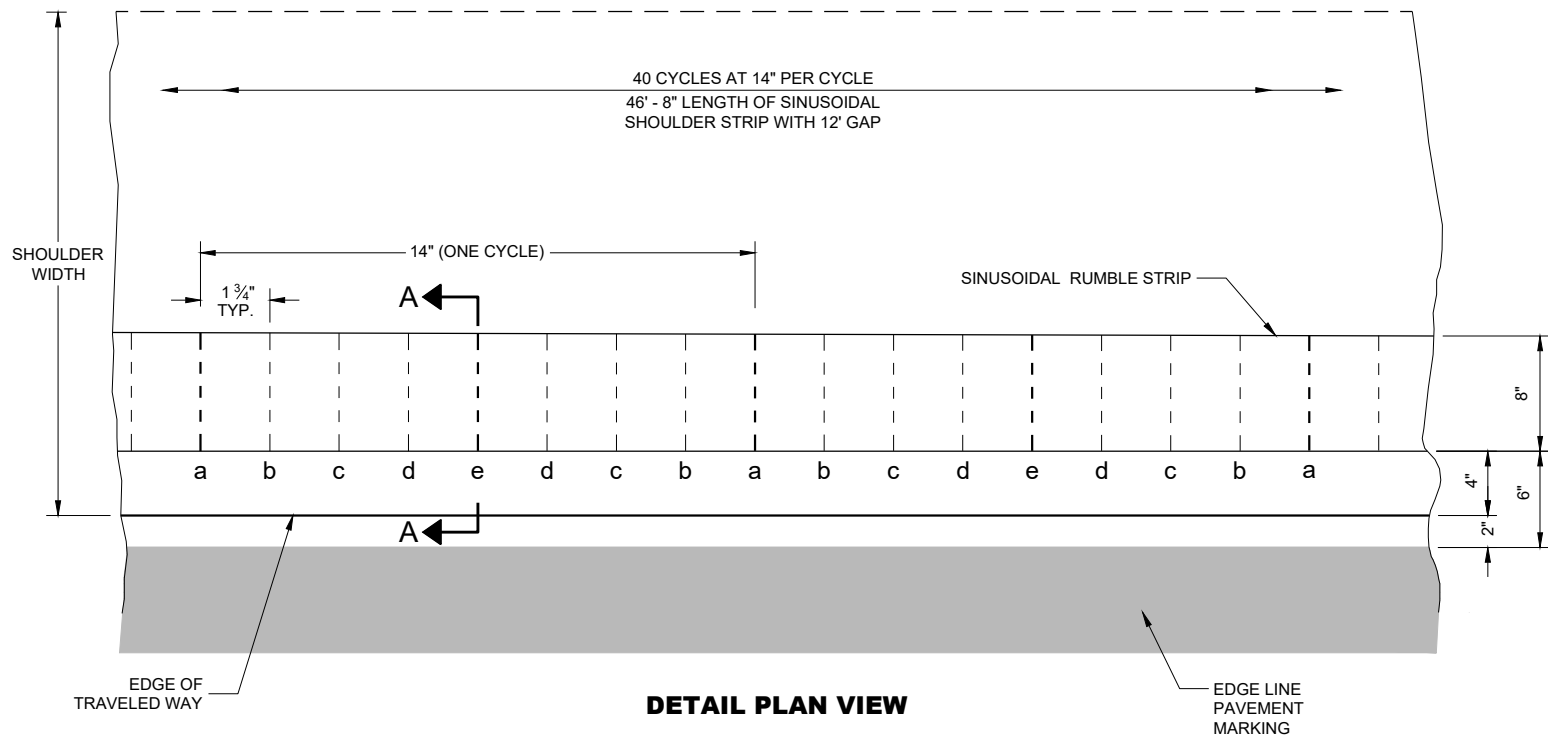


PLAN VIEW  
ASPHALTIC PAVEMENT MILLED IN

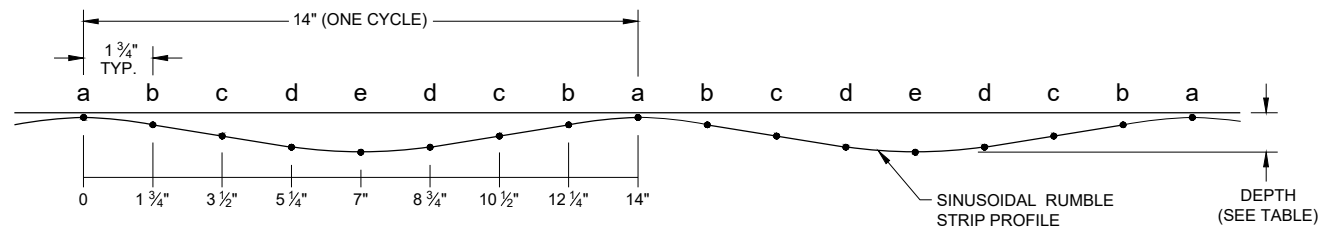
TRANSVERSE RUMBLE STRIPS, ASPHALTIC

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023  
DATE  
/S/ Rodney Taylor  
ROADWAY DESIGN STANDARDS  
UNIT SUPERVISOR  
FHWA



DETAIL PLAN VIEW



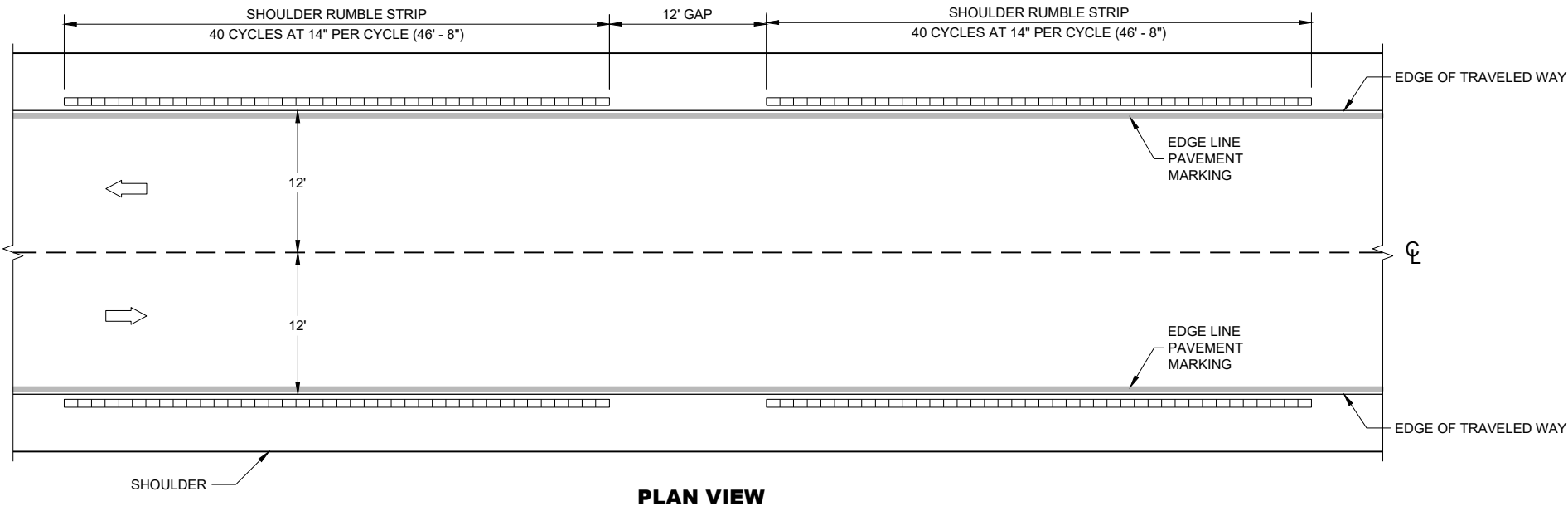
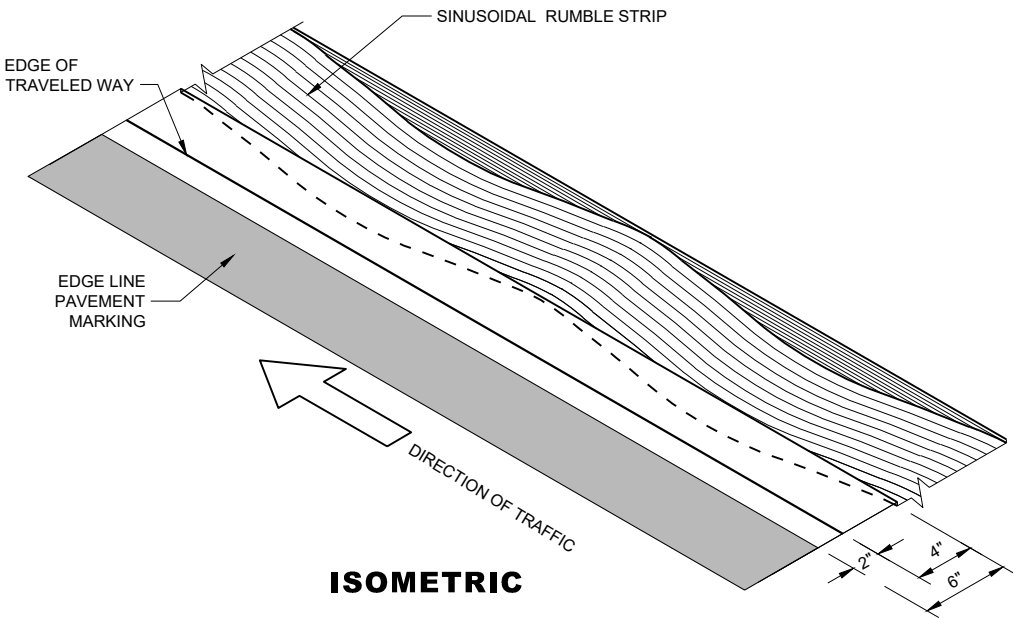
PROFILE VIEW

LOCATION	DEPTH (INCHES)
a	1/16"
b	5/32"
c	9/32"
d	7/16"
e	1/2"

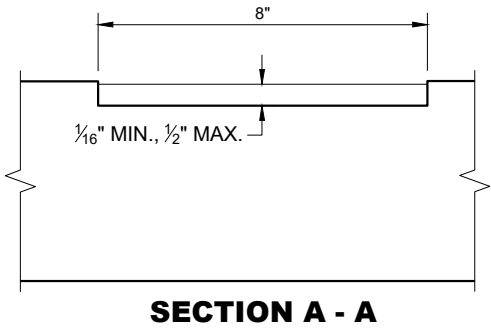
GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A10 SHEETS "g" AND "h".

SHOULDER RUMBLE STRIPS MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.

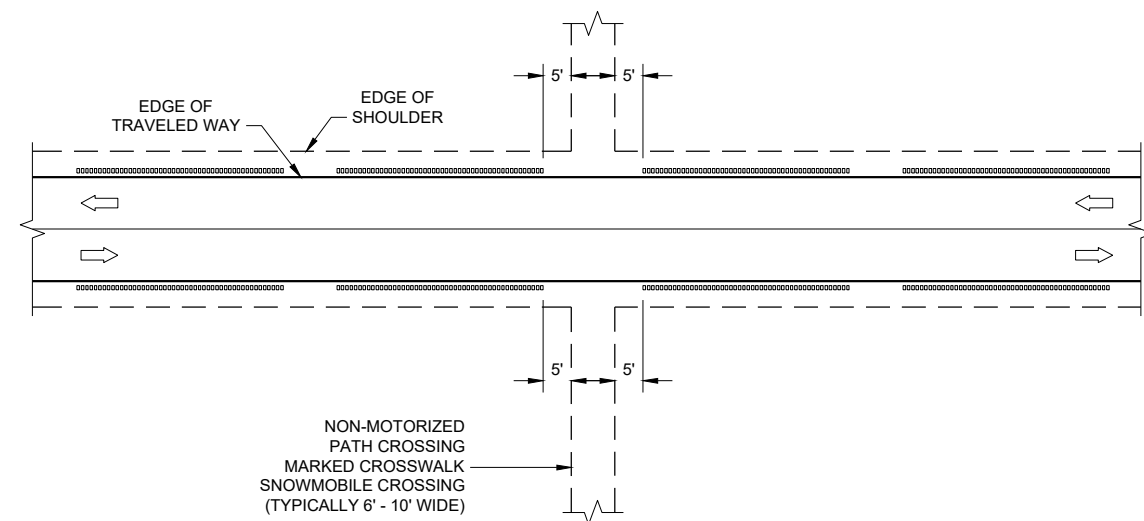


SHOULDER RUMBLE STRIPS - ASPHALT, SINUSOIDAL

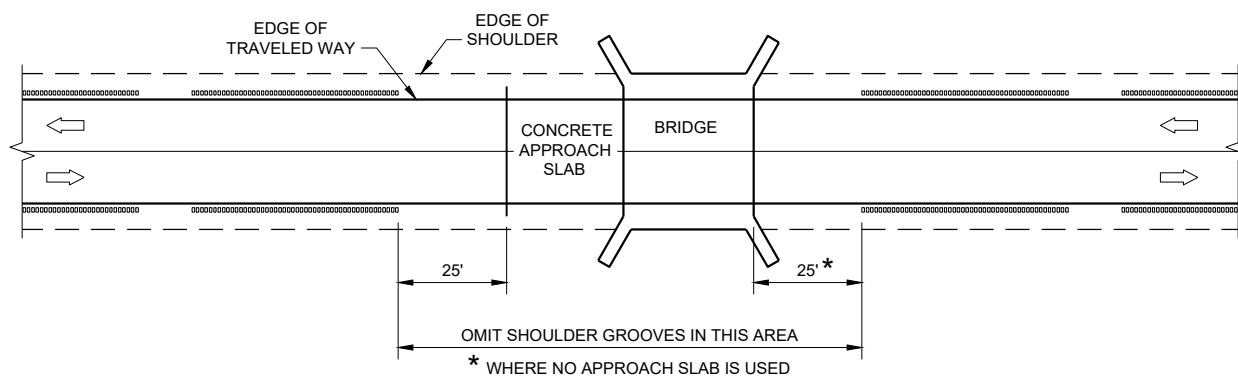


SHOULDER  
RUMBLE STRIPS - ASPHALT,  
SINUSOIDAL

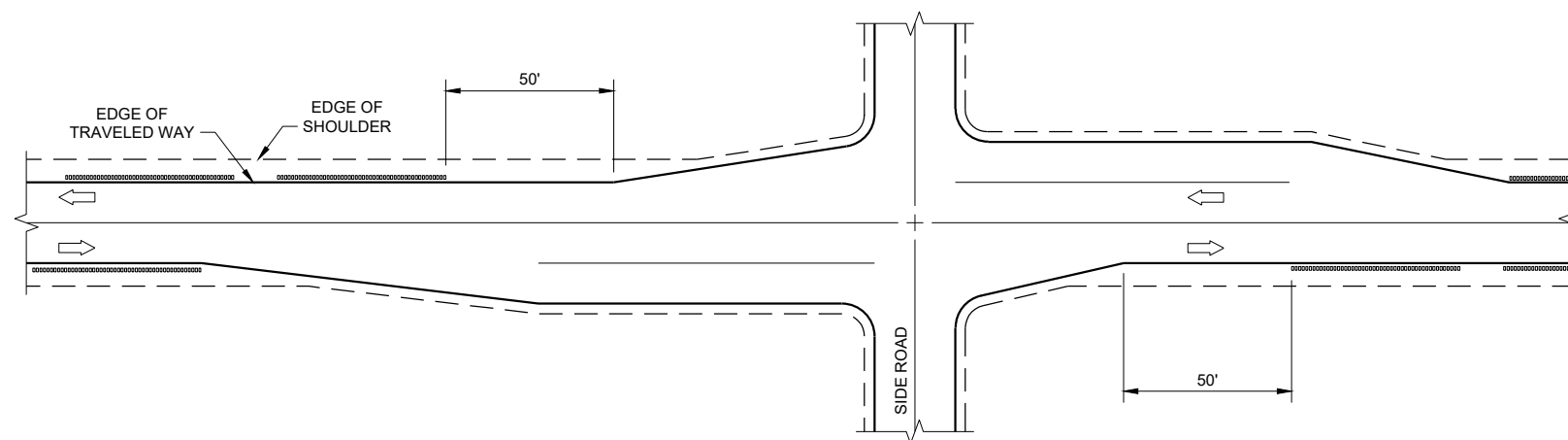
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



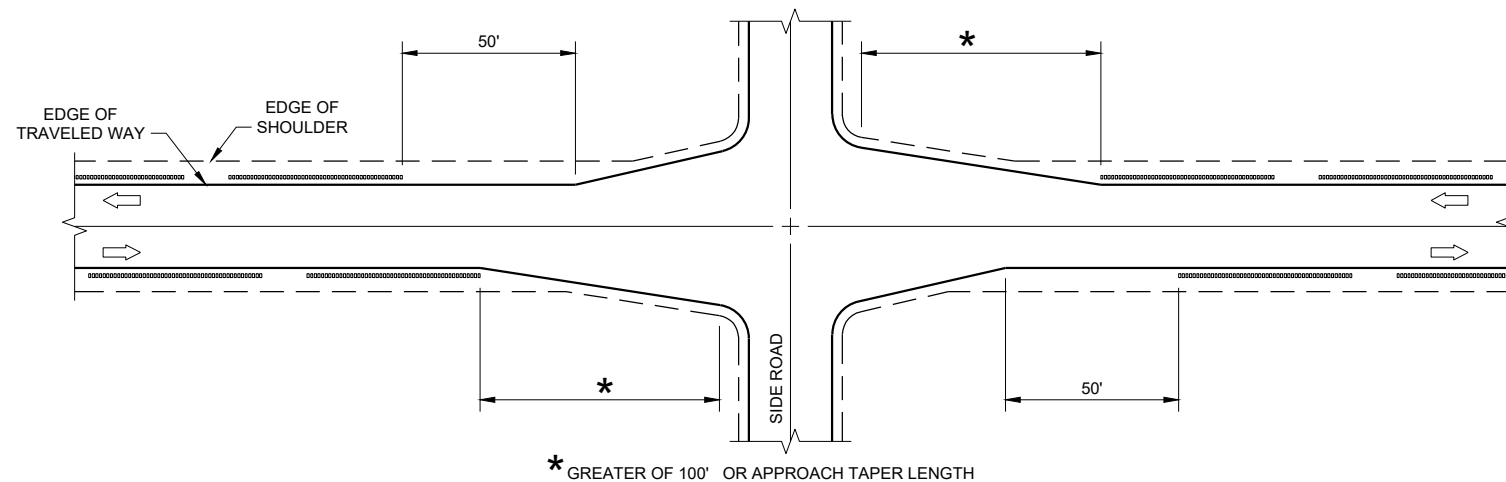
GROOVES AT MISCELLANEOUS CROSSINGS



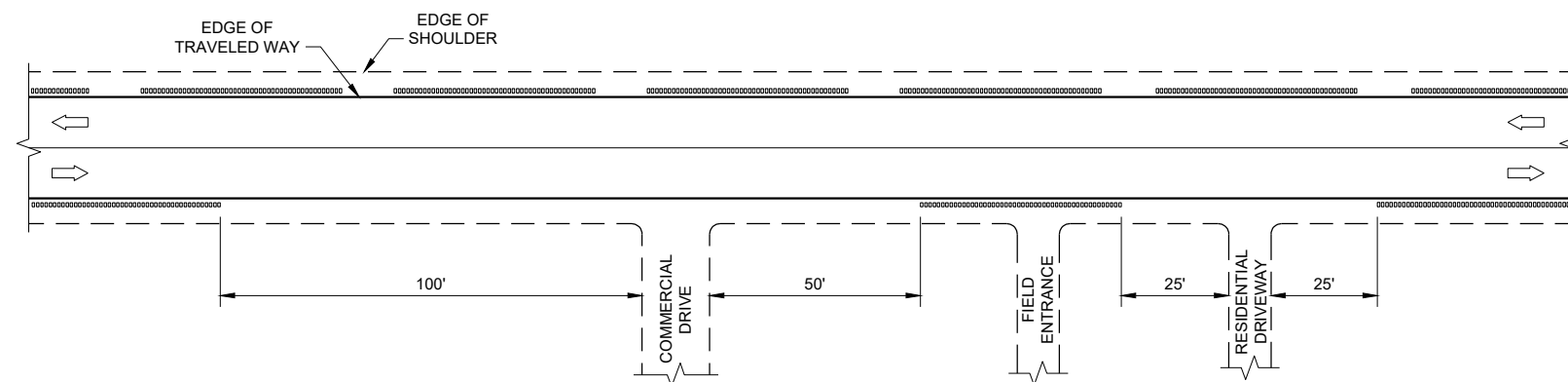
GROOVES AT BRIDGES



GROOVES AT RIGHT TURN LANE



GROOVES AT INTERSECTIONS WITH APPROACH TAPER



GROOVES AT DRIVEWAYS

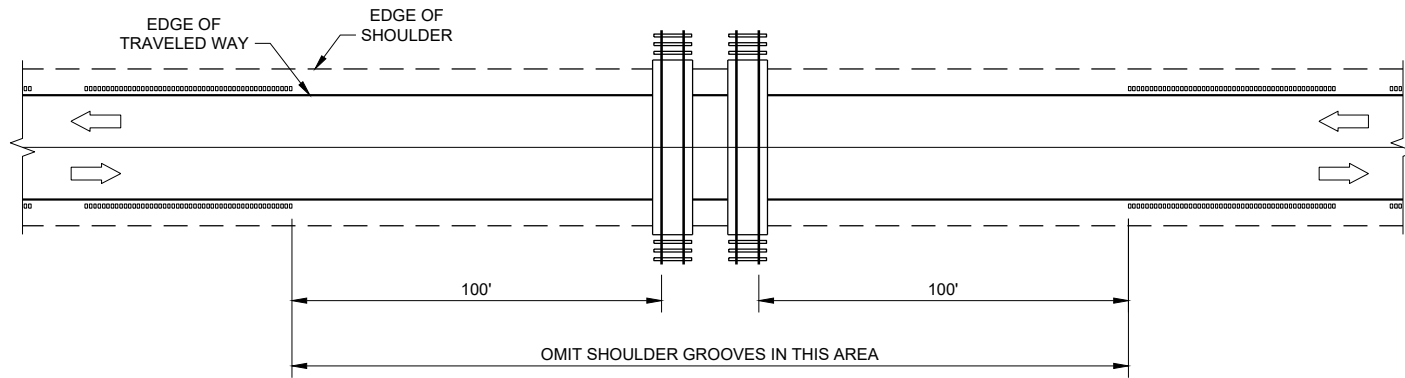
## GENERAL NOTES

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

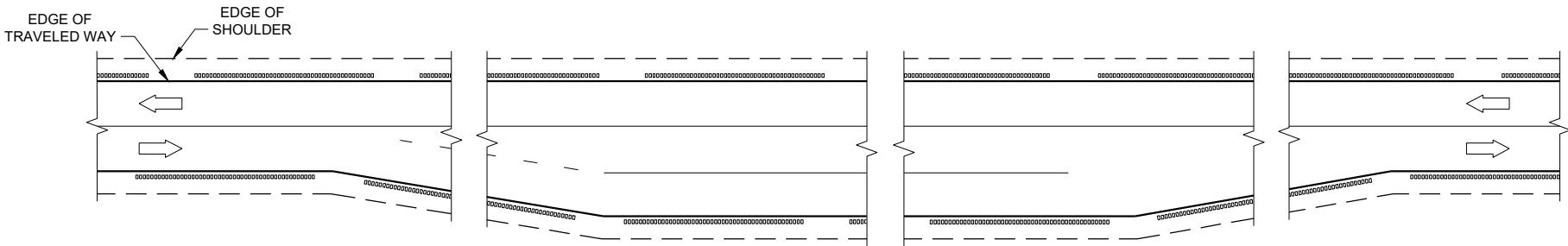
**SHOULDER AND EDGE LINE  
RUMBLE STRIPS  
CROSSINGS, INTERSECTIONS,  
BRIDGES, DRIVEWAYS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

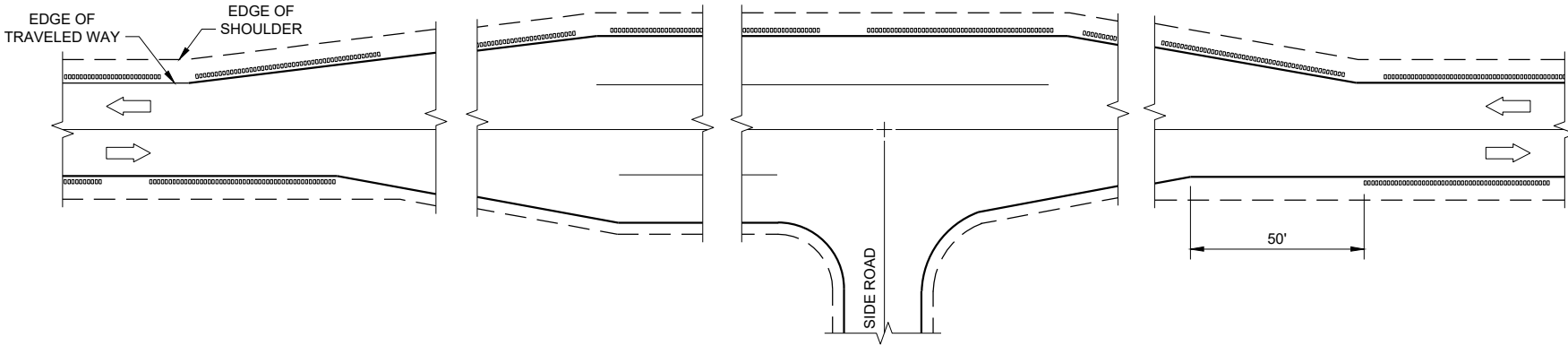




GROOVES AT RAILROADS



GROOVES AT PASSING AND CLIMBING LANES



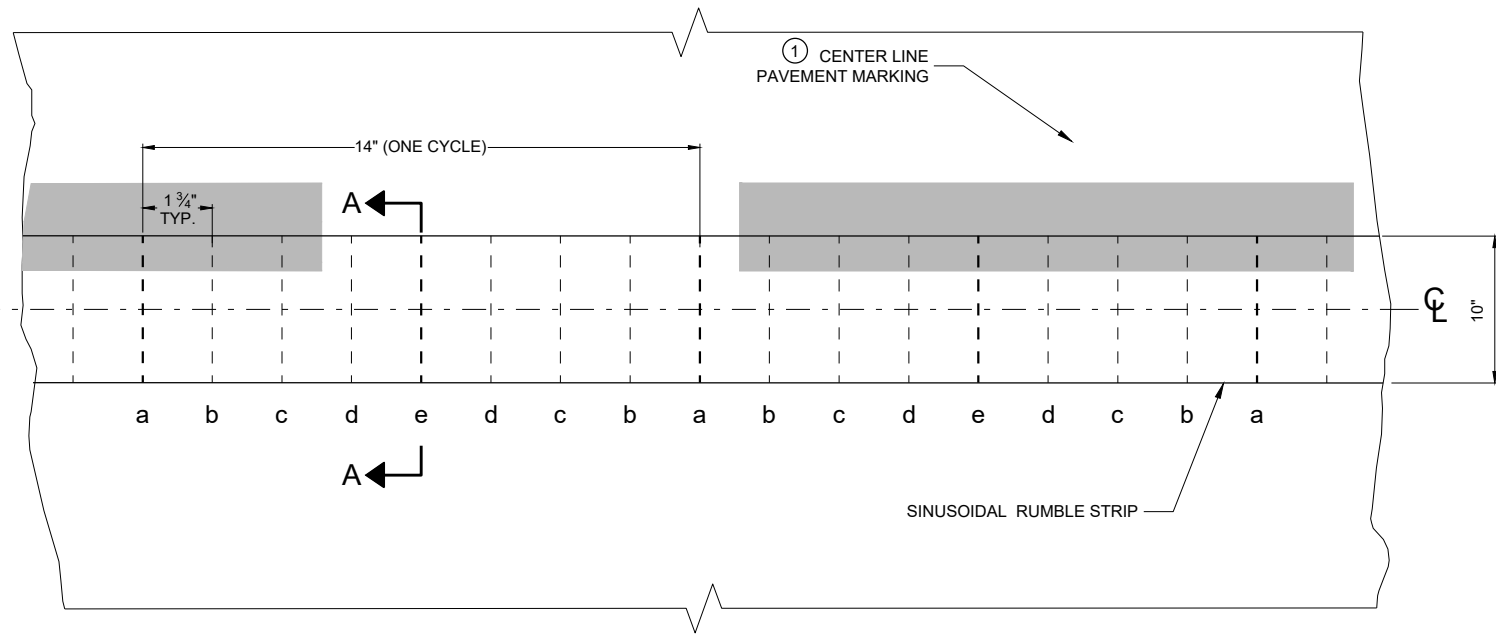
GROOVES AT BYPASS LANES

**SHOULDER AND EDGE LINE  
RUMBLE STRIPS -  
RAILROAD, PASSING,  
CLIMBING AND BYPASS LANES**

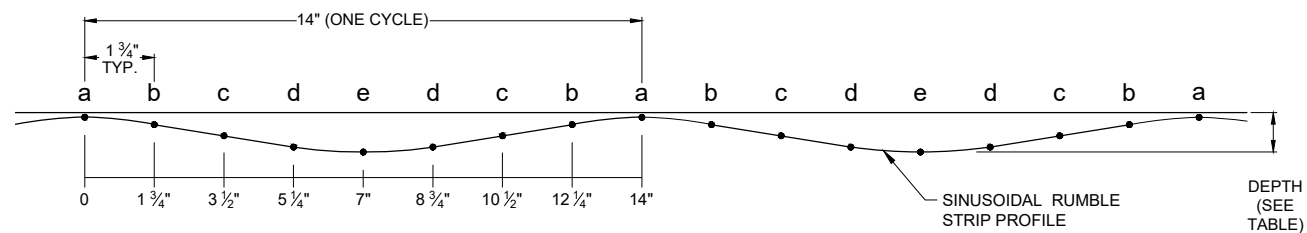
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA

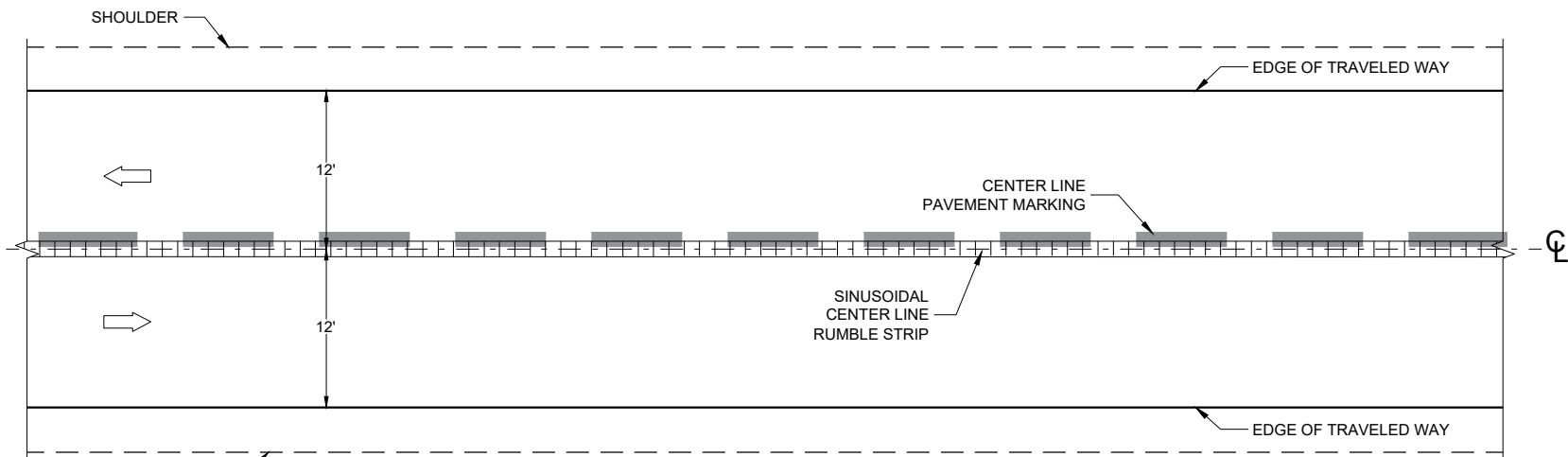


PLAN DETAIL VIEW



PROFILE VIEW  
SINUSOIDAL CENTERLINE RUMBLE STRIPS

LOCATION	DEPTH (INCHES)
a	1/16"
b	5/32"
c	9/32"
d	7/16"
e	1/2"



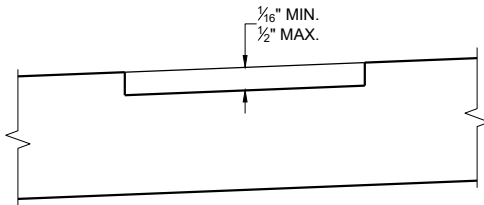
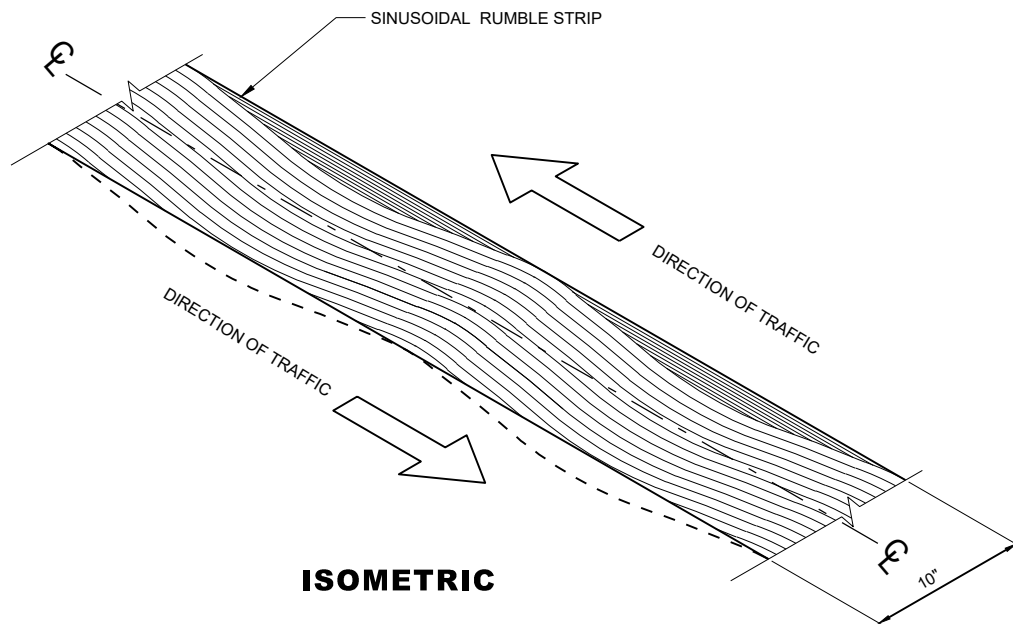
CENTERLINE RUMBLE STRIPS - ASPHALT,  
SINUSOIDAL

GENERAL NOTES

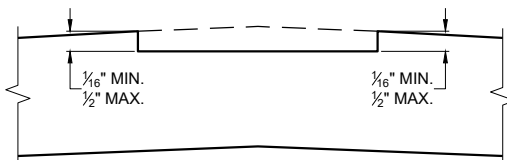
SDD 13A11, SHEET "d" SHOWS THE LOCATIONS OF RUMBLE STRIPS AT INTERSECTIONS, INTERSECTIONS WITH LEFT TURN LANES, BRIDGES, COMMERCIAL AND RESIDENTIAL DRIVEWAYS AND RAILROAD CROSSINGS.

SHOULDER RUMBLE STRIPS MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.

① CENTERLINE PAVEMENT MARKINGS SHALL BE PLACED PARTIALLY IN RUMBLE STRIP GROOVE AND PARTIALLY OUT OF THE RUMBLE STRIP GROOVE.



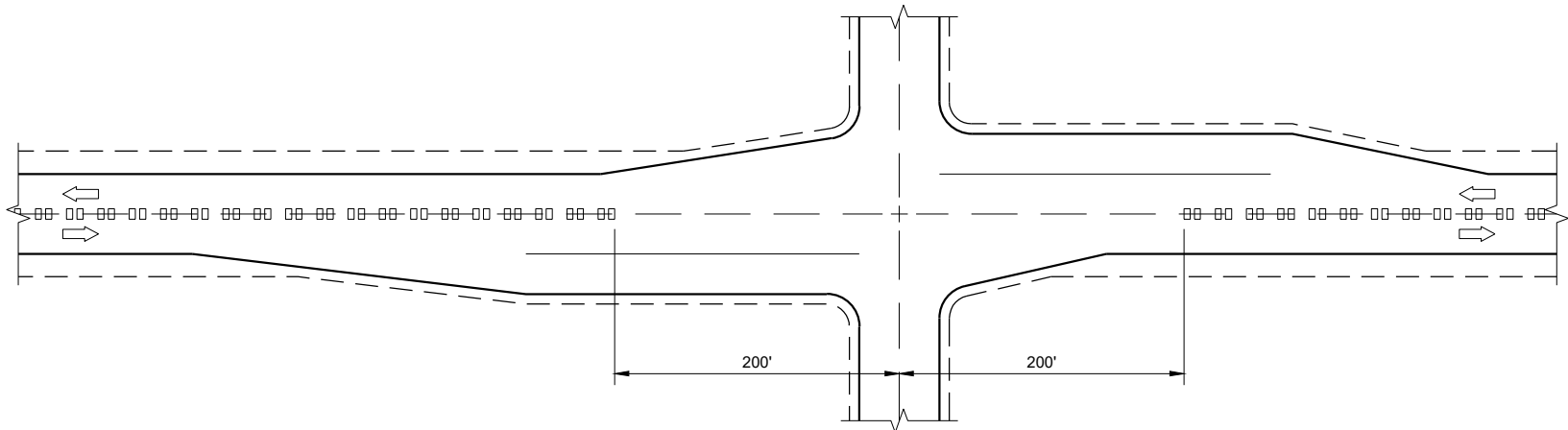
SECTION A - A  
SUPERELEVATED ROADWAY



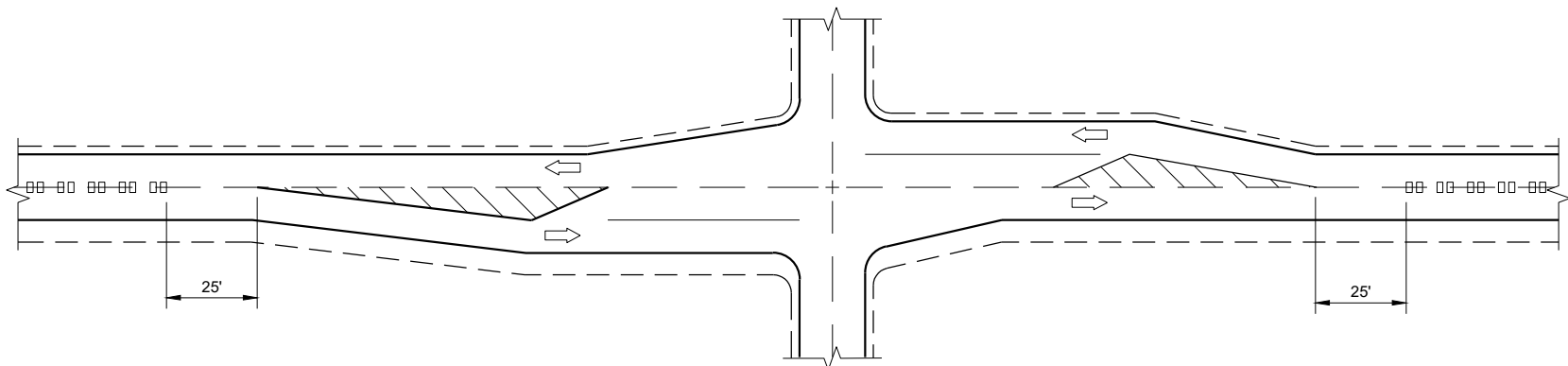
SECTION A - A  
CROWNED ROADWAY

CENTERLINE  
RUMBLE STRIPS - ASPHALT,  
SINUSOIDAL

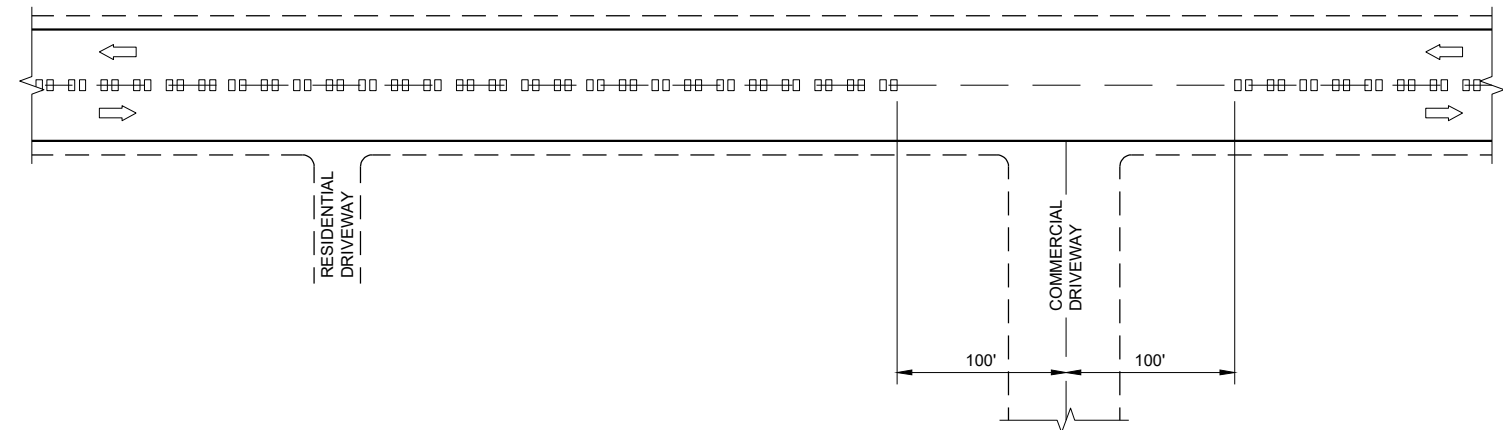
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



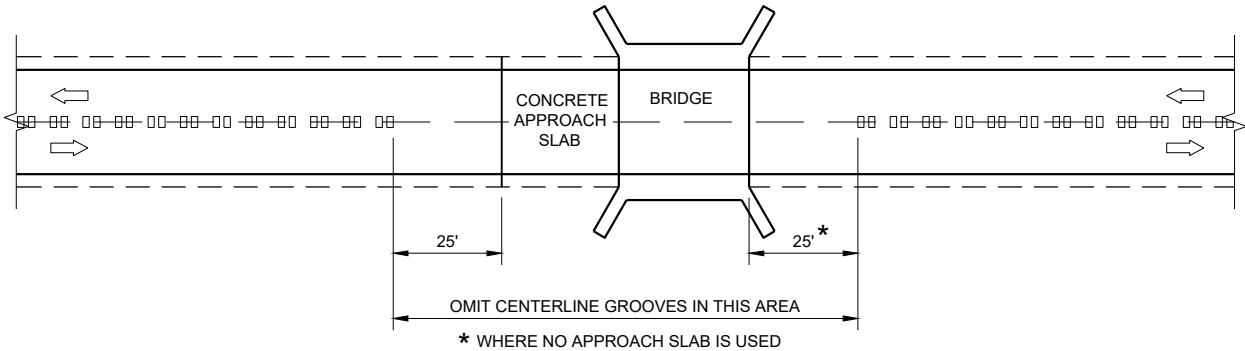
CENTERLINE GROOVES AT INTERSECTIONS  
(WITH LEFT TURN LANES)



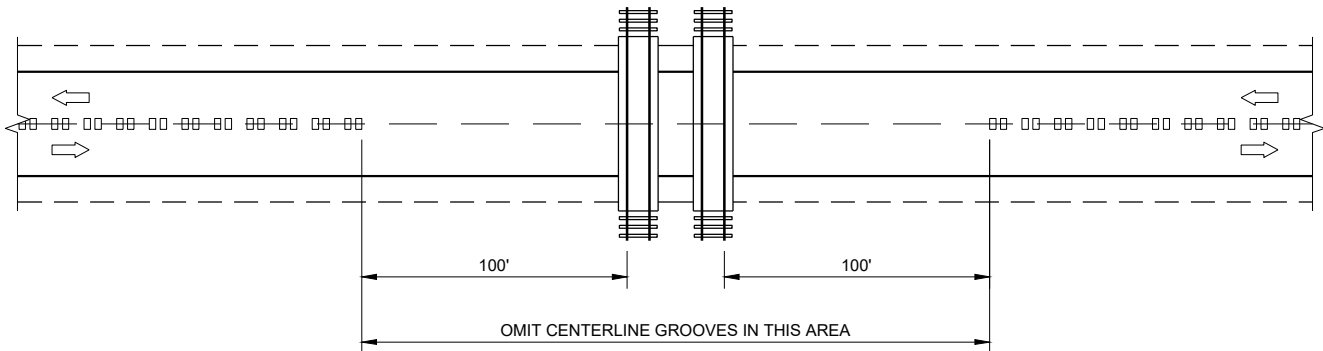
CENTERLINE GROOVES AT DRIVEWAYS<sup>①</sup>

GENERAL NOTES

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



CENTERLINE GROOVES AT BRIDGES



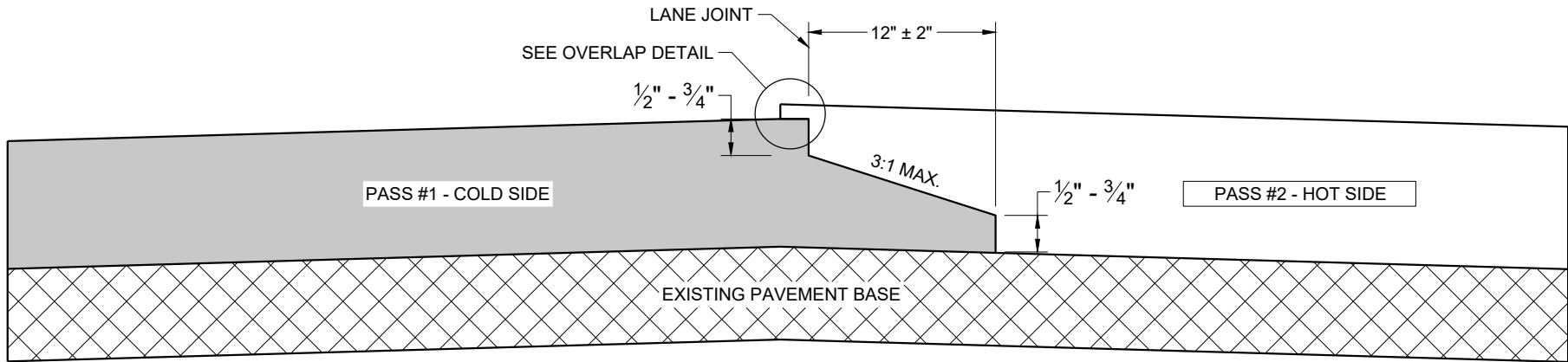
CENTERLINE GROOVES AT RAILROADS

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

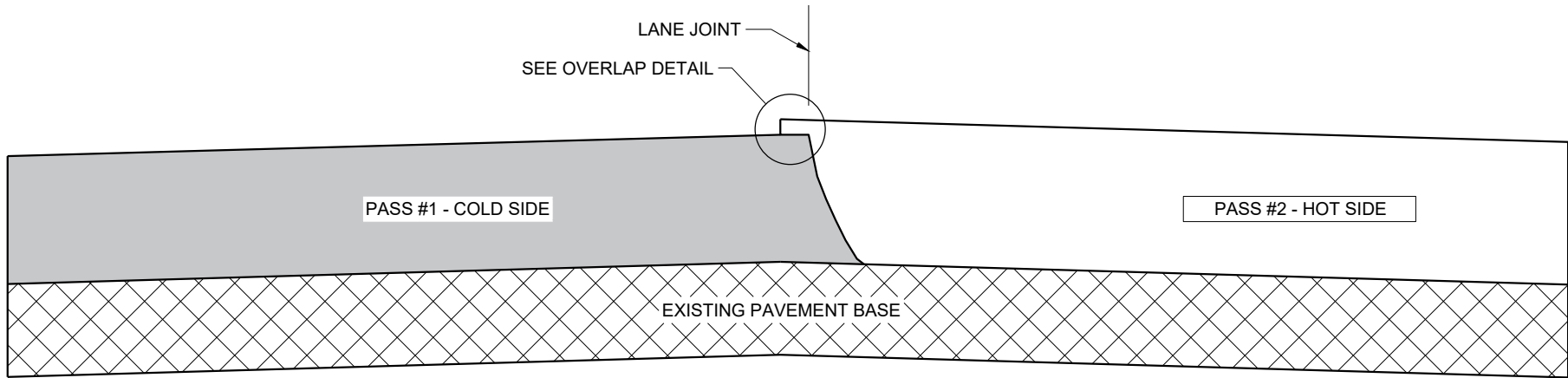
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

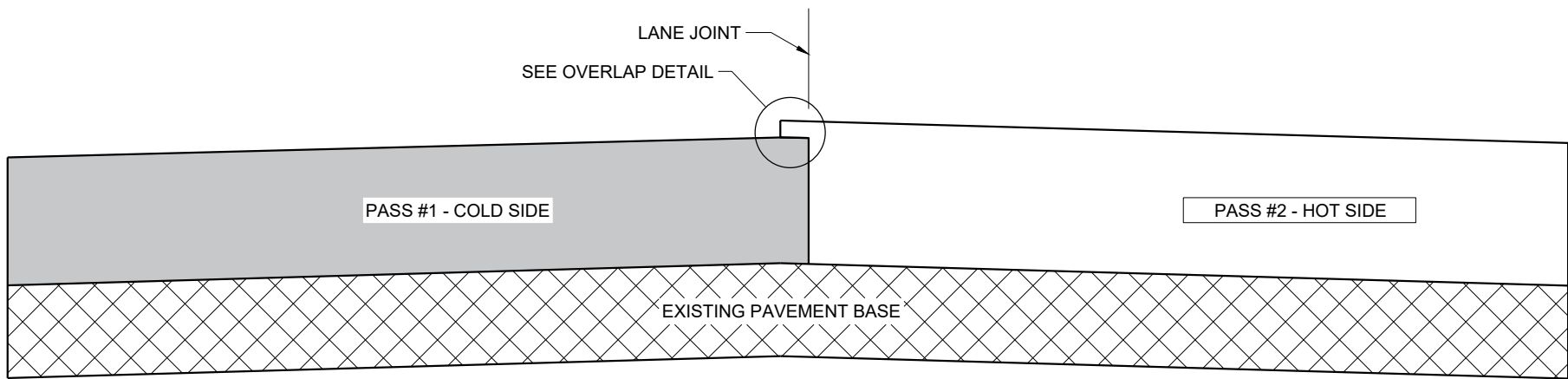




**TYPICAL PAVEMENT CROSS SECTION  
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT (MILLED)**

**GENERAL NOTES**

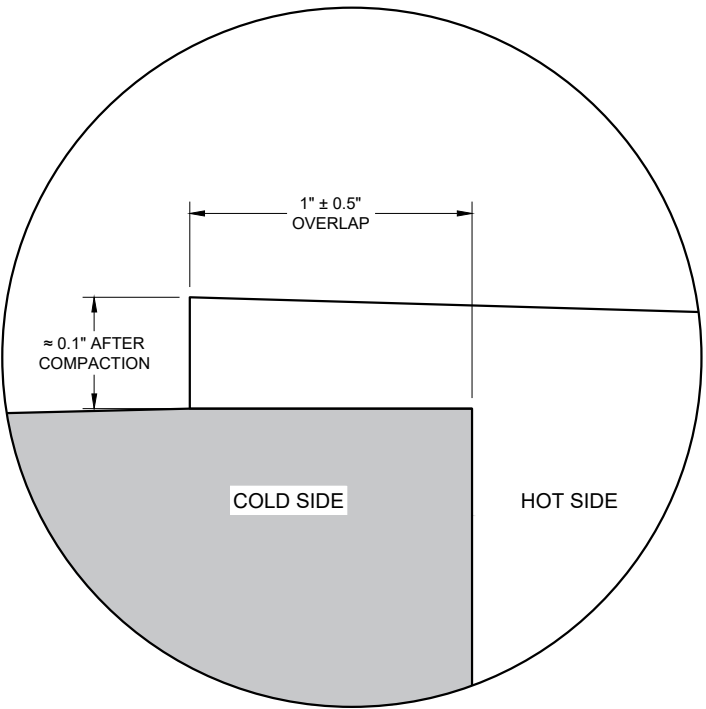
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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.

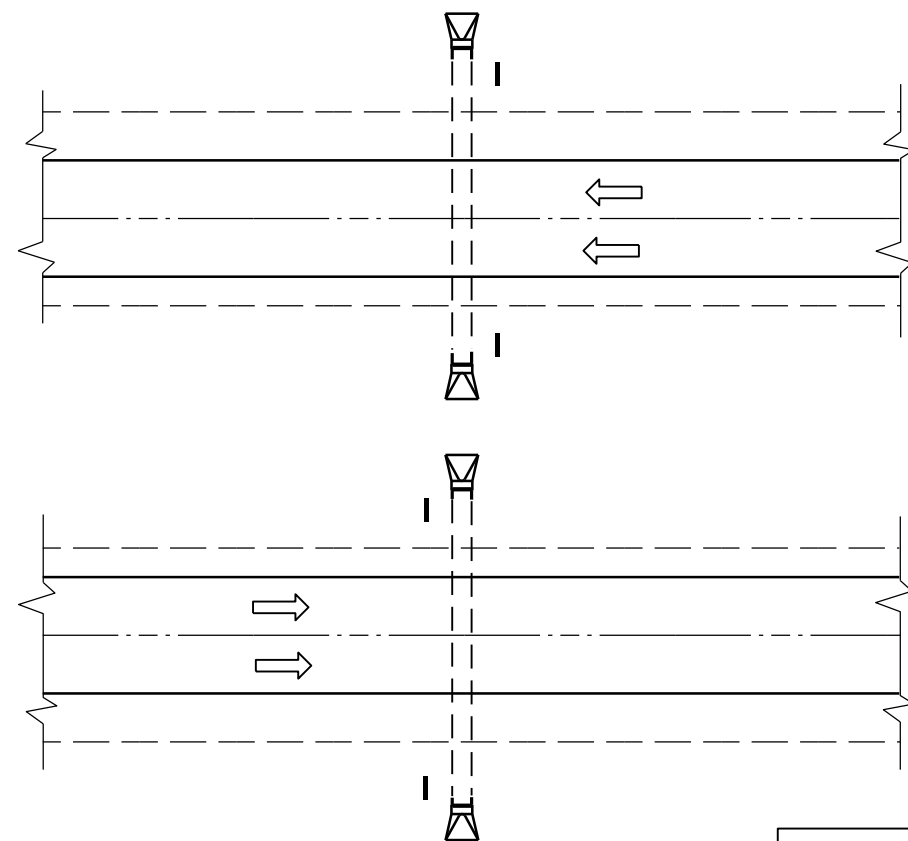


**OVERLAP DETAIL (TYPICAL)**

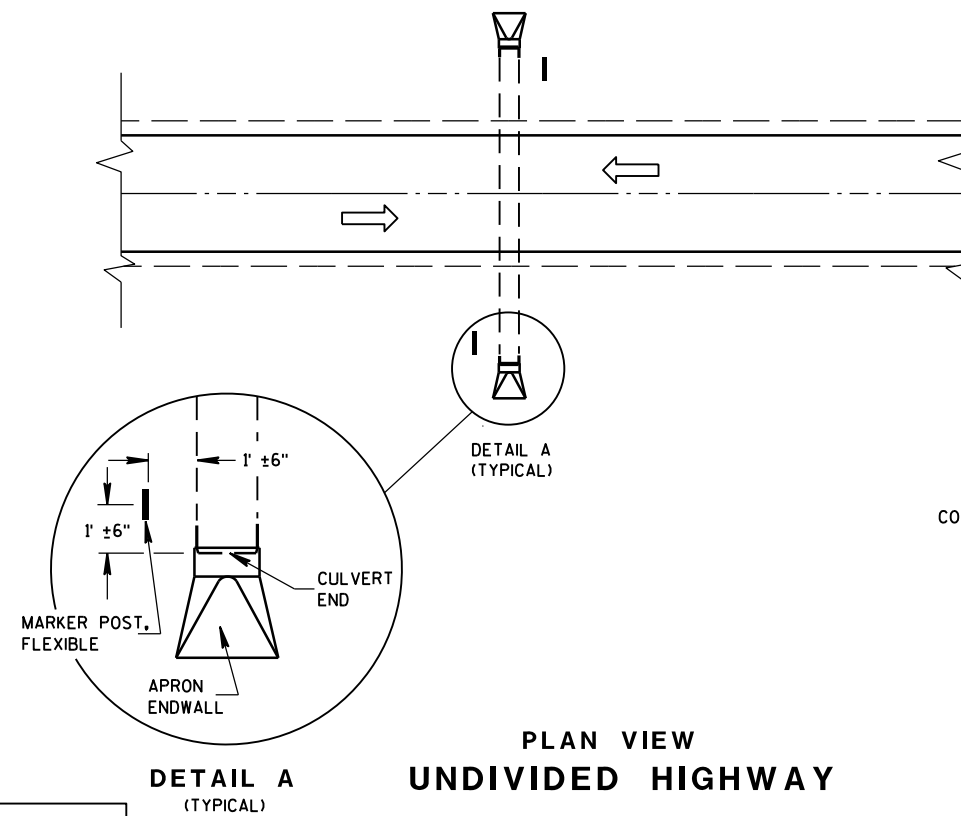
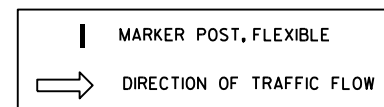
**HMA LONGITUDINAL JOINTS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2020  
DATE /S/ Steven Hefel  
HMA PAVEMENT ENGINEER  
FHWA



PLAN VIEW  
DIVIDED HIGHWAY

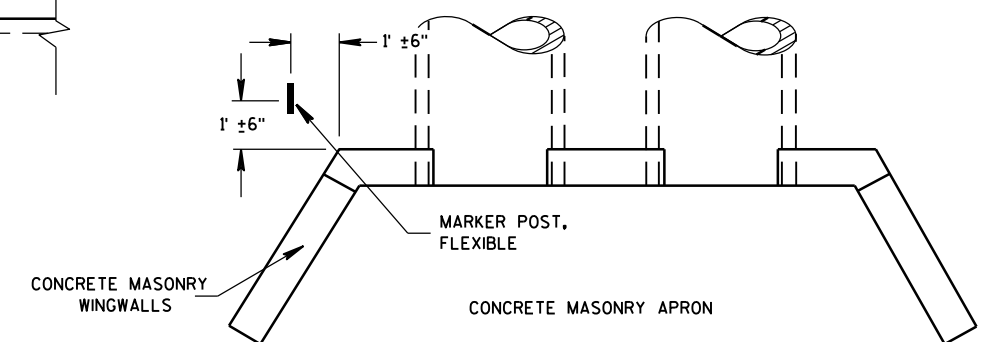


PLAN VIEW  
UNDIVIDED HIGHWAY

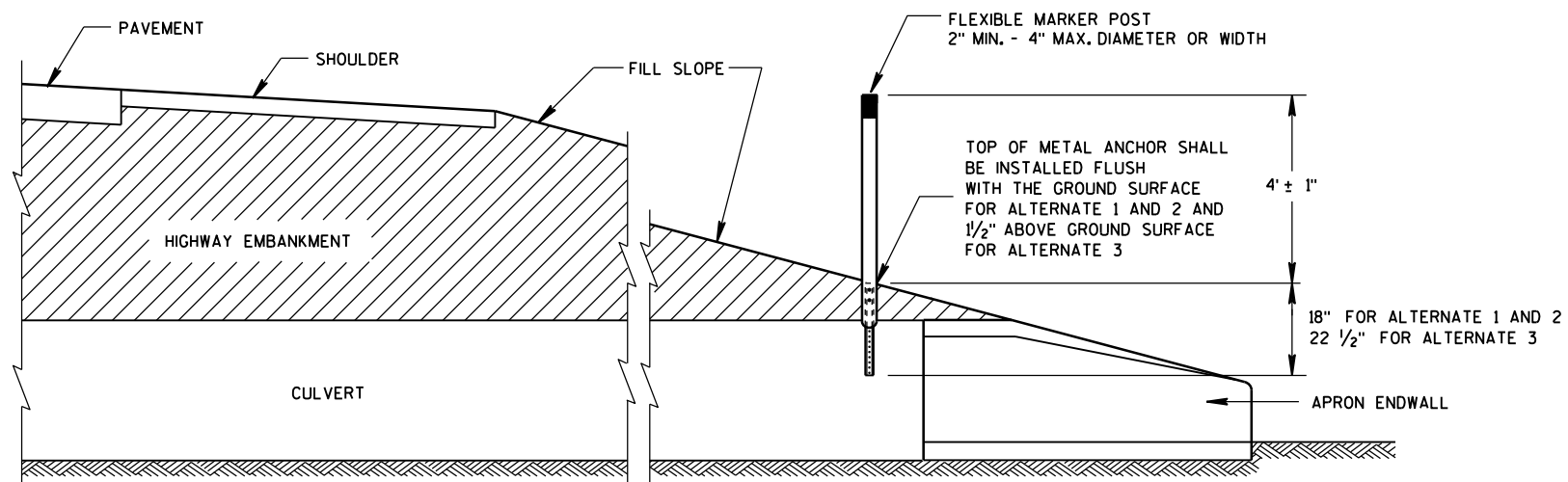
### FLEXIBLE MARKER POST LOCATION

### GENERAL NOTES

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



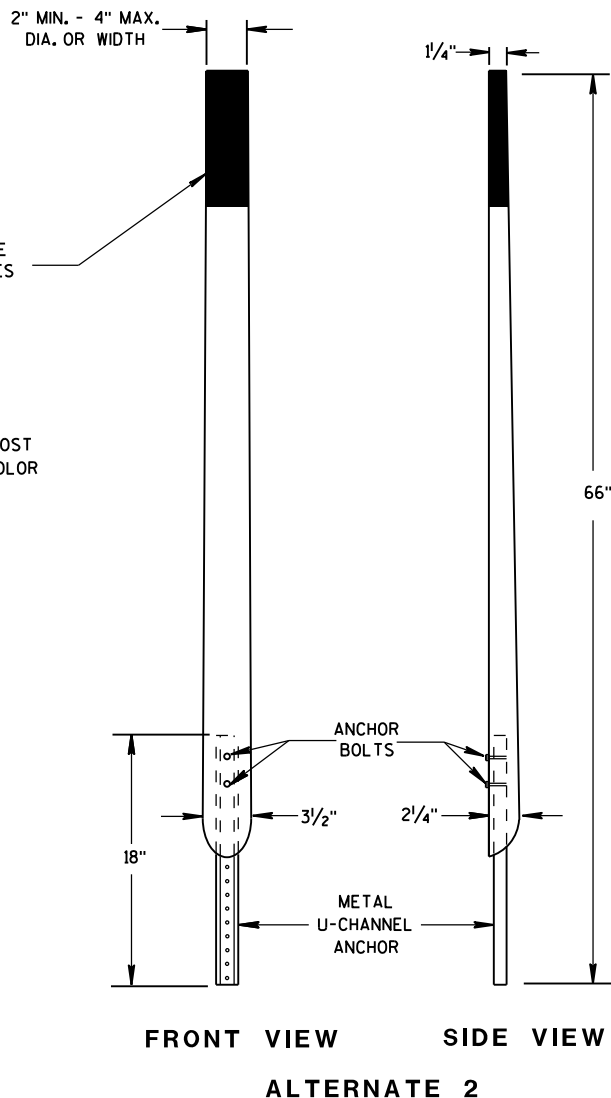
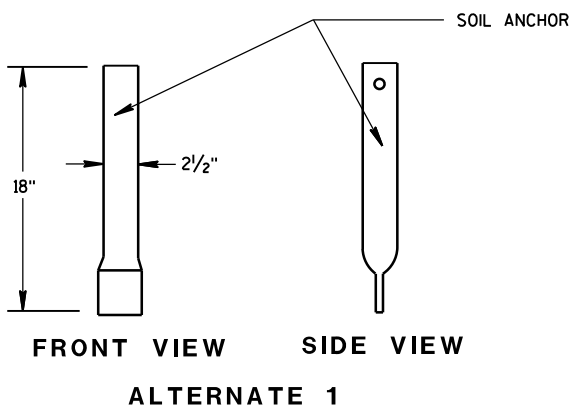
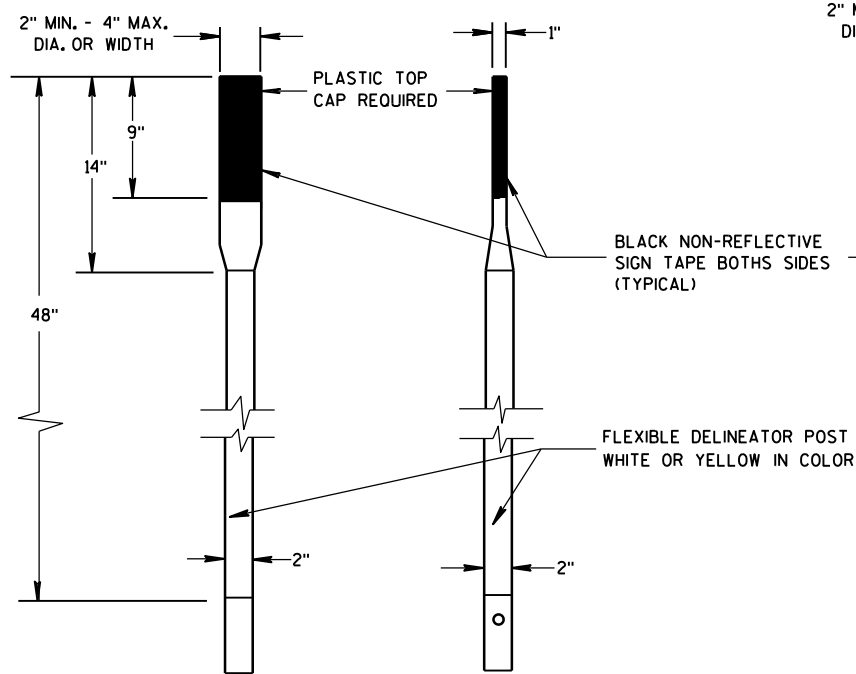
PLAN VIEW  
CONCRETE MASONRY ENDWALLS FOR  
CULVERT PIPE AND PIPE ARCH



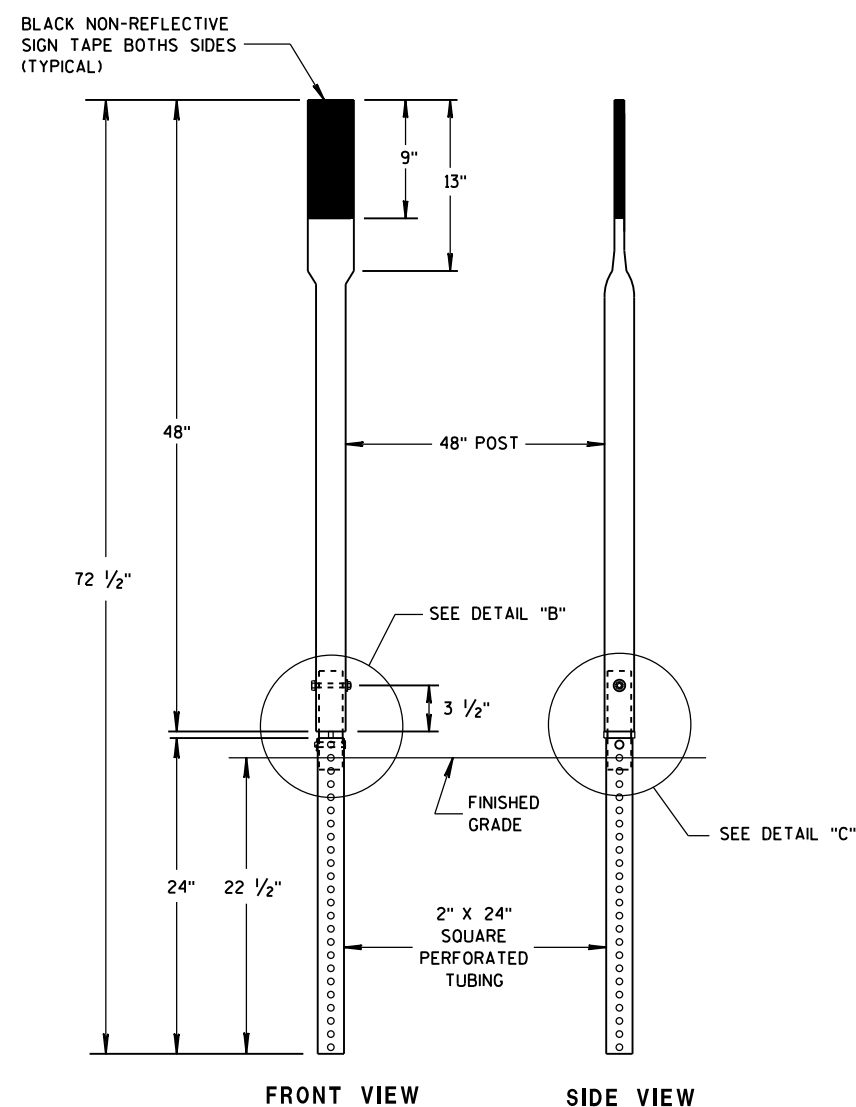
CROSS SECTION  
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST  
FOR CULVERT END

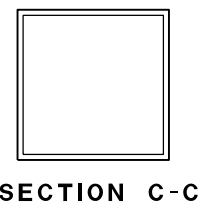
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



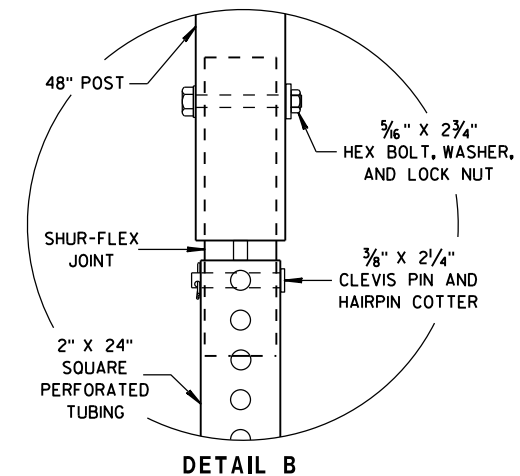
FLEXIBLE MARKER POSTS



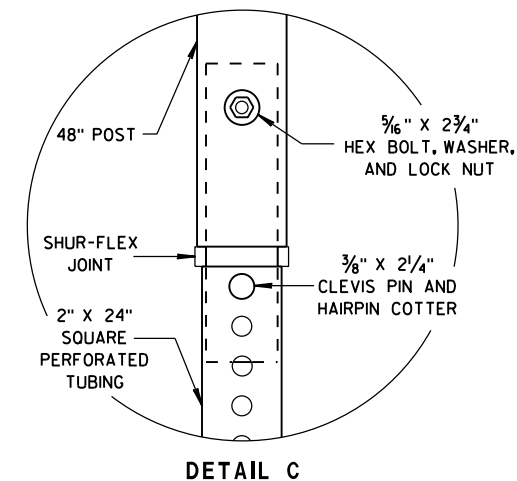
ALTERNATE 3



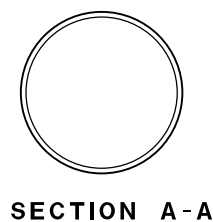
SECTION C-C



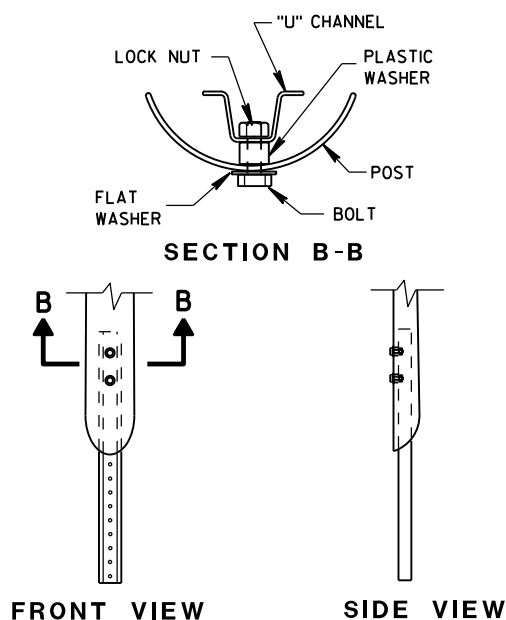
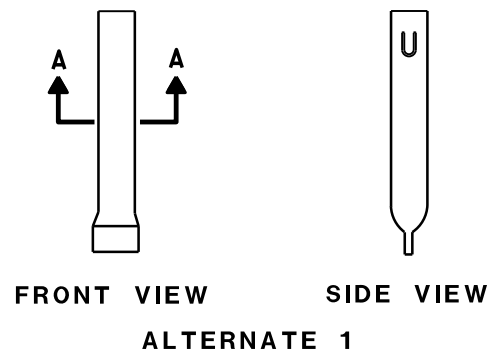
DETAIL B



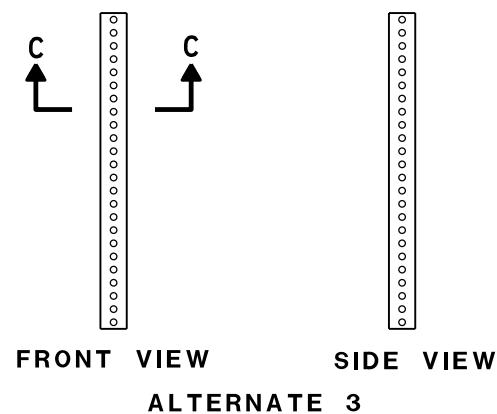
DETAIL C



SECTION A-A



FLEXIBLE MARKER POST ANCHORS

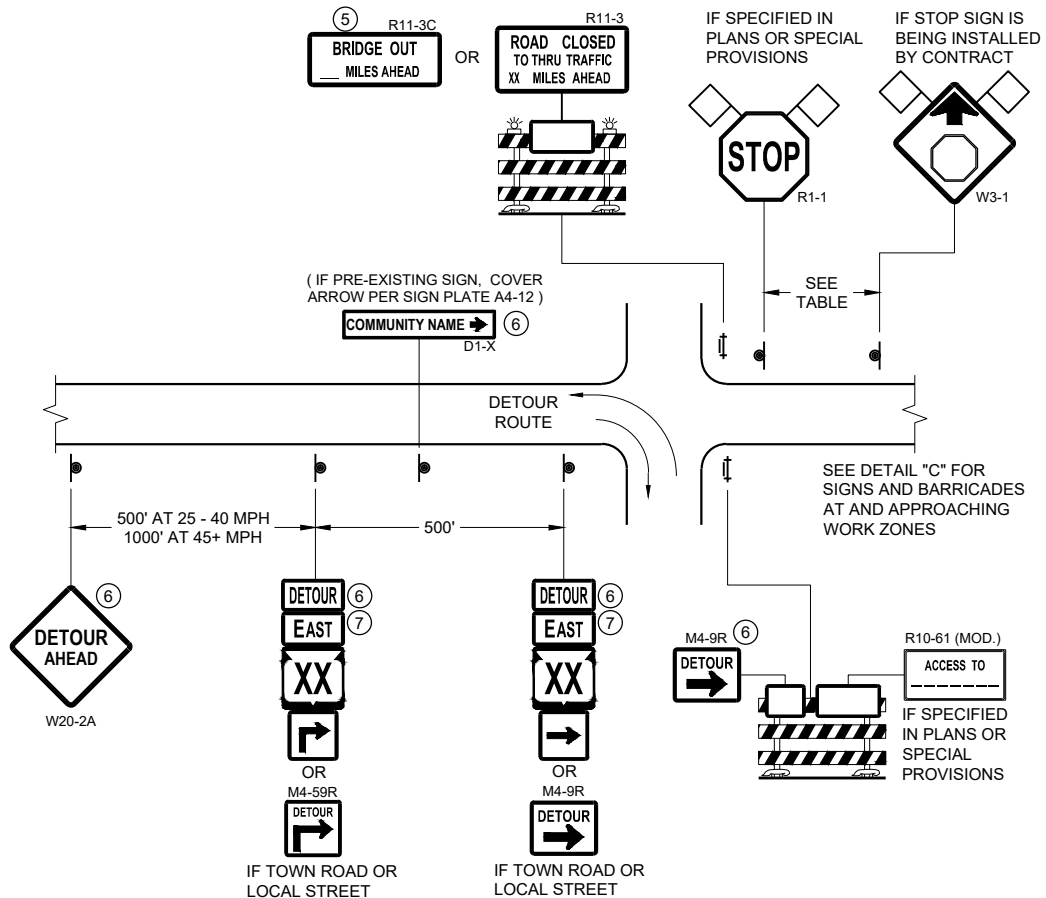


FLEXIBLE MARKER POST  
FOR CULVERT END

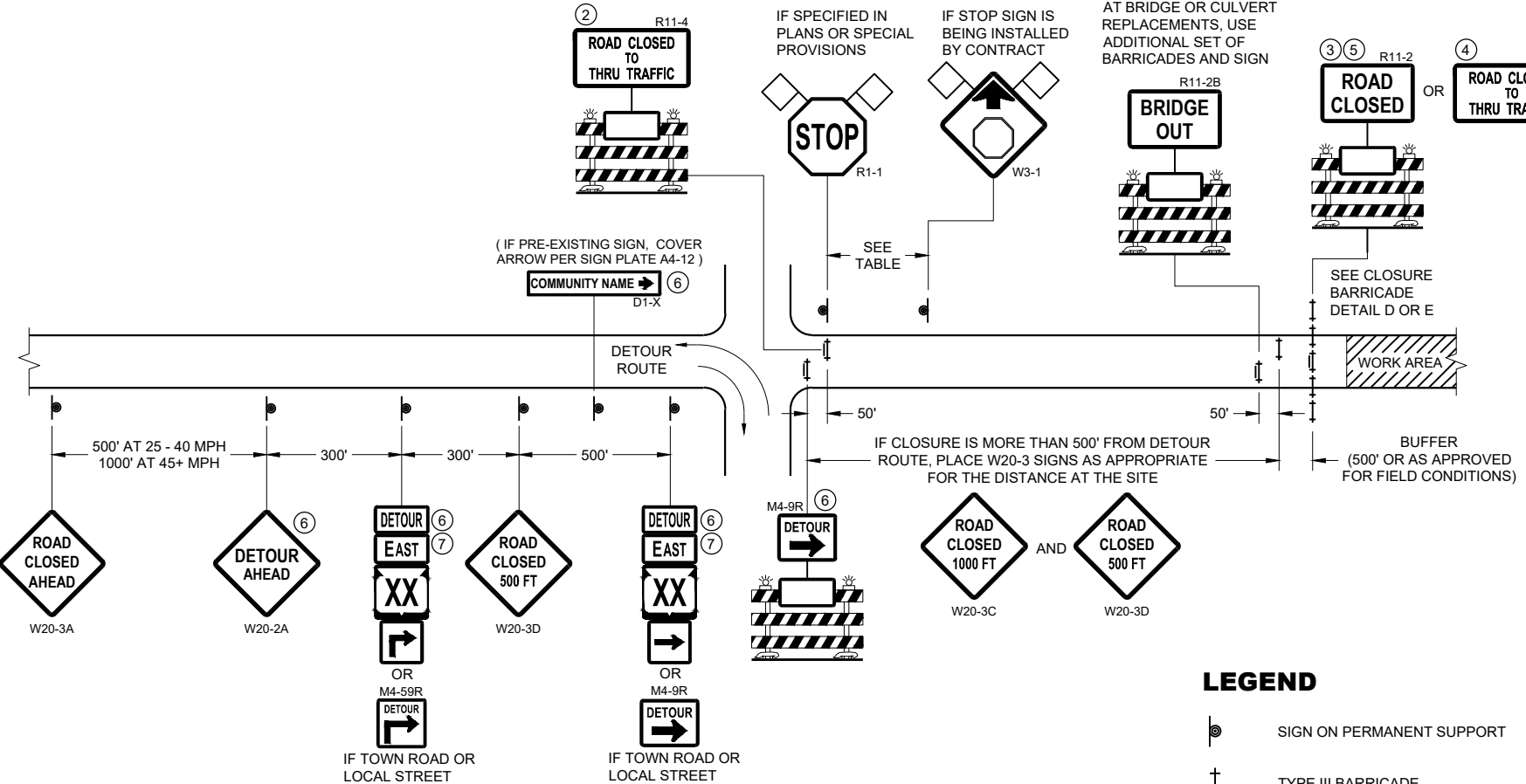
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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





**DETAIL A**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )



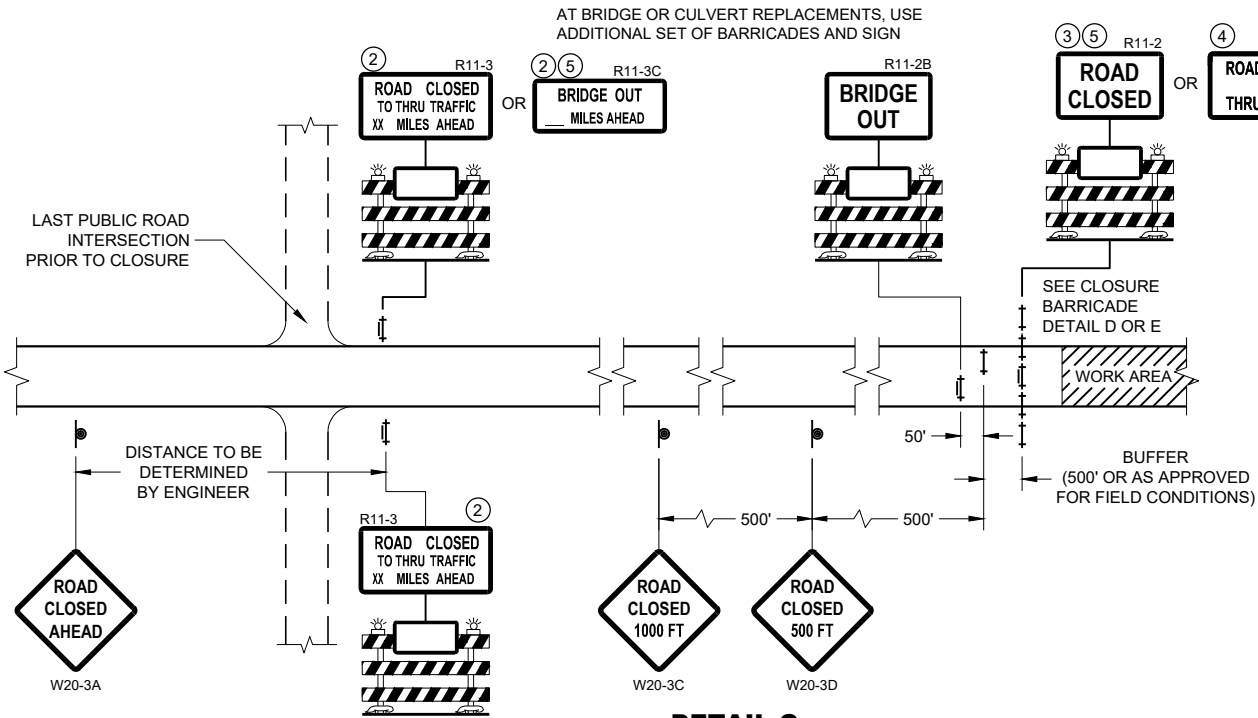
**DETAIL B**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
WORK ZONE LESS THAN ½ MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

- LEGEND**
- 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)

- DETOUR M4 - 8
- EAST M3 - X
- XX M1 - 4 OR XX M1 - 6 OR COUNTY M1 - 5A
- OR M05 - 1 OR M06 - 1

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



**DETAIL C**  
**MAINLINE CLOSURE, NO POSTED DETOUR**

**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA



SEE SDD 15C2 - SHEET "a" FOR LEGEND

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

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

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.

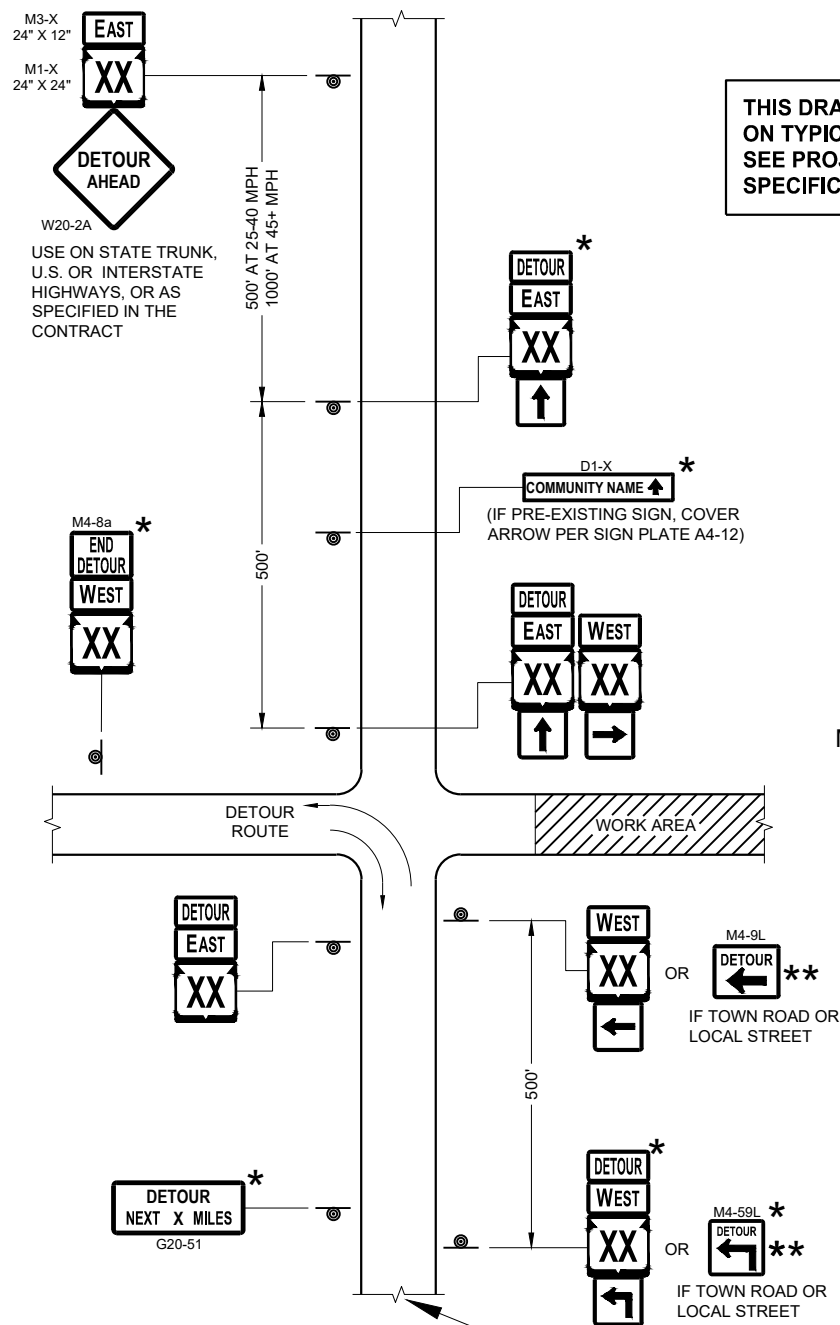
THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"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"

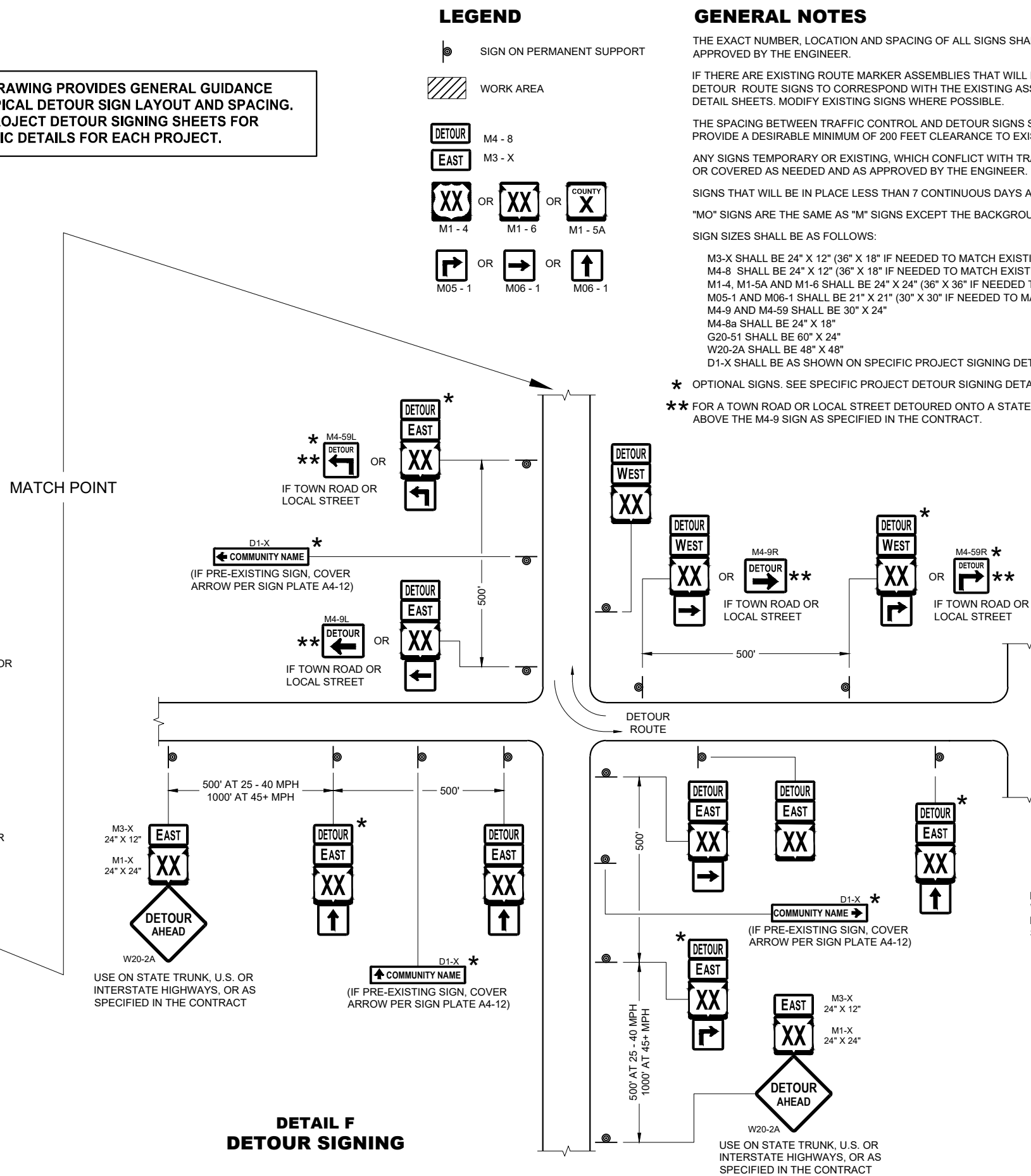
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS 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.



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

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

**SDD 15C02 - 09c**



## DETAIL F DETOUR SIGNING

## 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 M4-59 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.**

## DETOUR SIGNING FOR MAINLINE CLOSURES

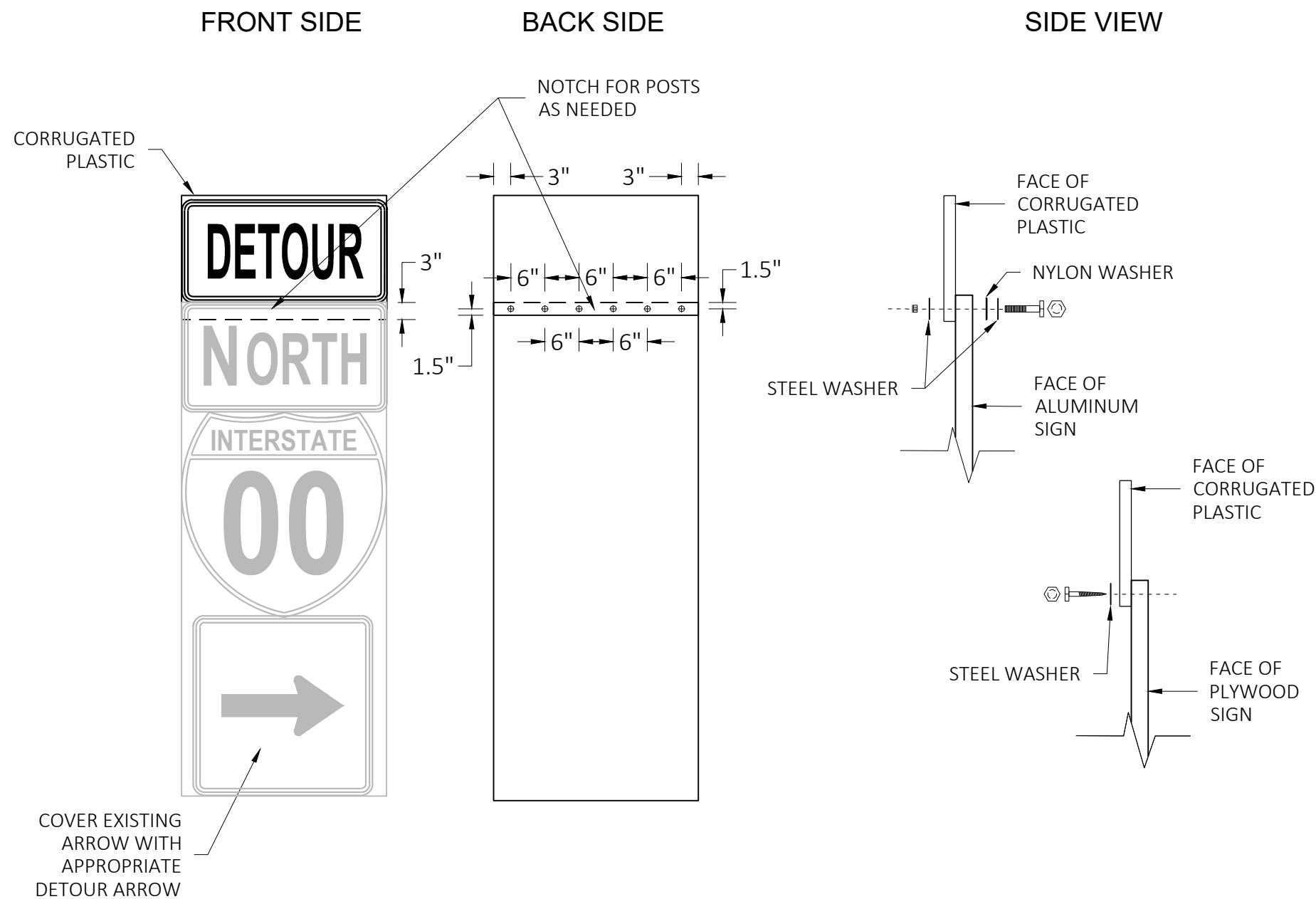
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED	
<u>May 2023</u>	<u>/S/ Andrew Heidtke</u>
DATE	WORK ZONE ENGINEER

FHWA

**SDD15C02 - 09c**





## GENERAL NOTES

CELLS OF CORRUGATED PLASTIC SHALL BE VERTICALLY ORIENTED.

PROVIDE A 0.4-INCH THICK BASE CORRUGATED PLASTIC WITH A 0.035-INCH WALL THICKNESS AND 0.4-INCH CELL SIZE.

FOR 36" WIDE SIGNS: USE 6 FASTENERS AS SHOWN.

FOR 24" WIDE SIGNS: USE 4 FASTENERS WITH EDGE SPACING AS SHOWN AND 6" SPACING BETWEEN FASTENERS.

METAL WASHERS, NUTS, BOLTS AND LAGS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3.
- ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC3

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.

PLYWOOD SIGNS:

LAG SCREWS - 5/16" x 1"

ALUMINUM SIGNS:

MACHINE BOLTS - 5/16" x 1-1/4" LENGTH W/NUTS

WASHERS:

1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL

1-1/4" O.D. x 3/8" I.D. x .080 NYLON

## MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

### MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023

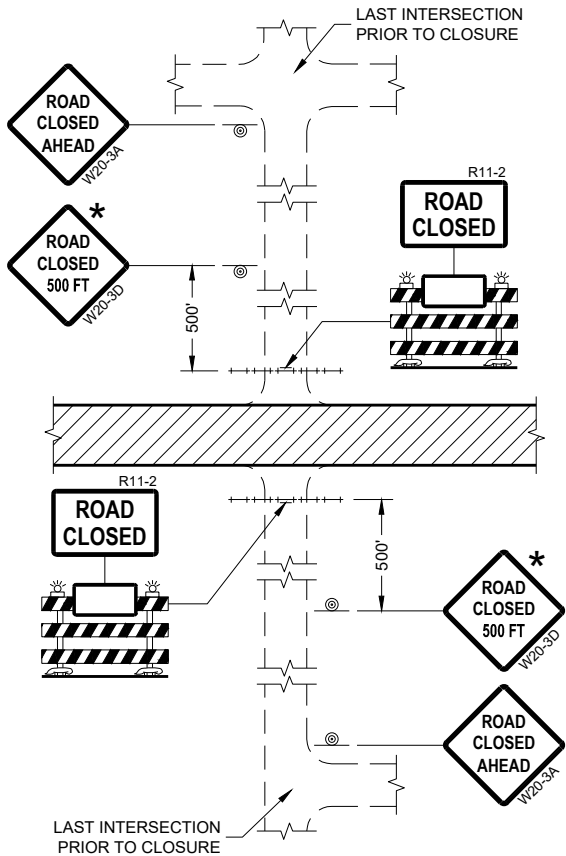
DATE

FHWA

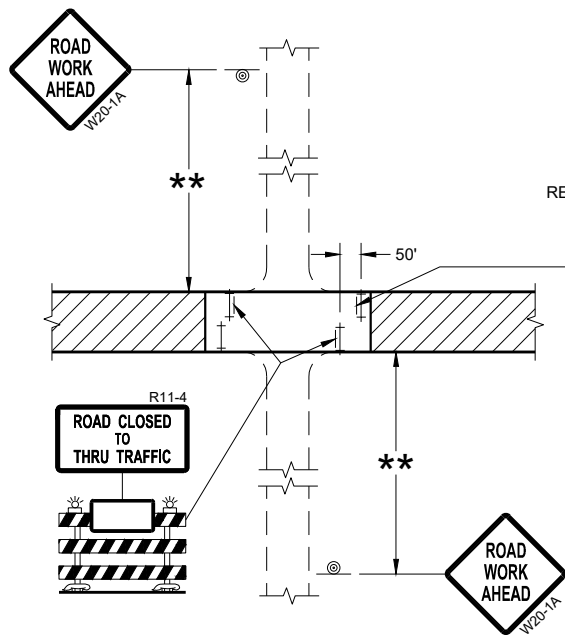
/S/ Andrew Heidtke

ROADWAY STANDARDS DEVELOPMENT

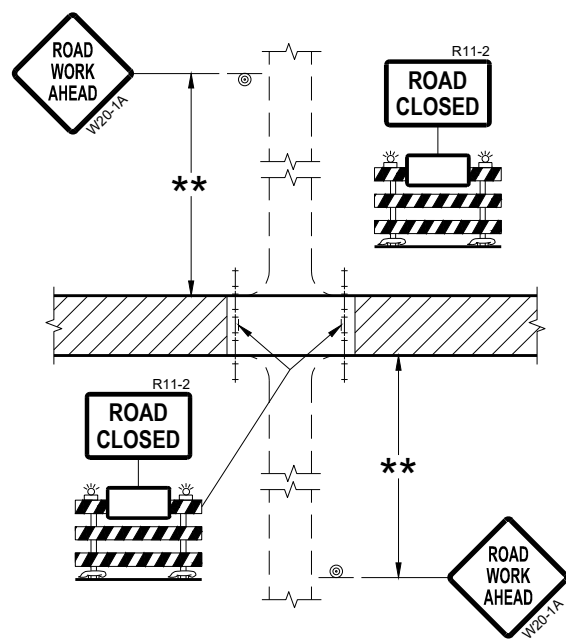
ENGINEER



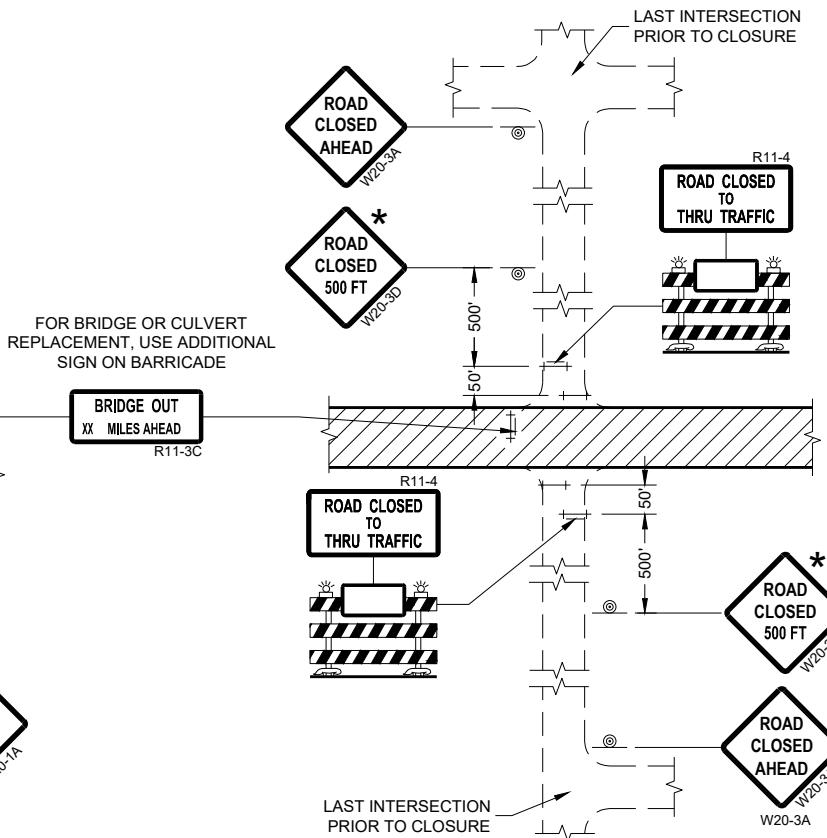
**DETAIL 1**  
(NO ACCESS TO PROJECT)



**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

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.

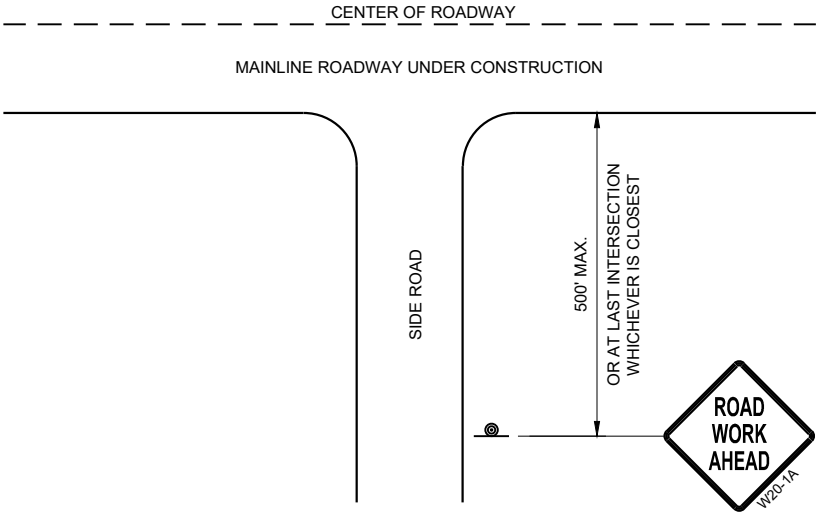
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

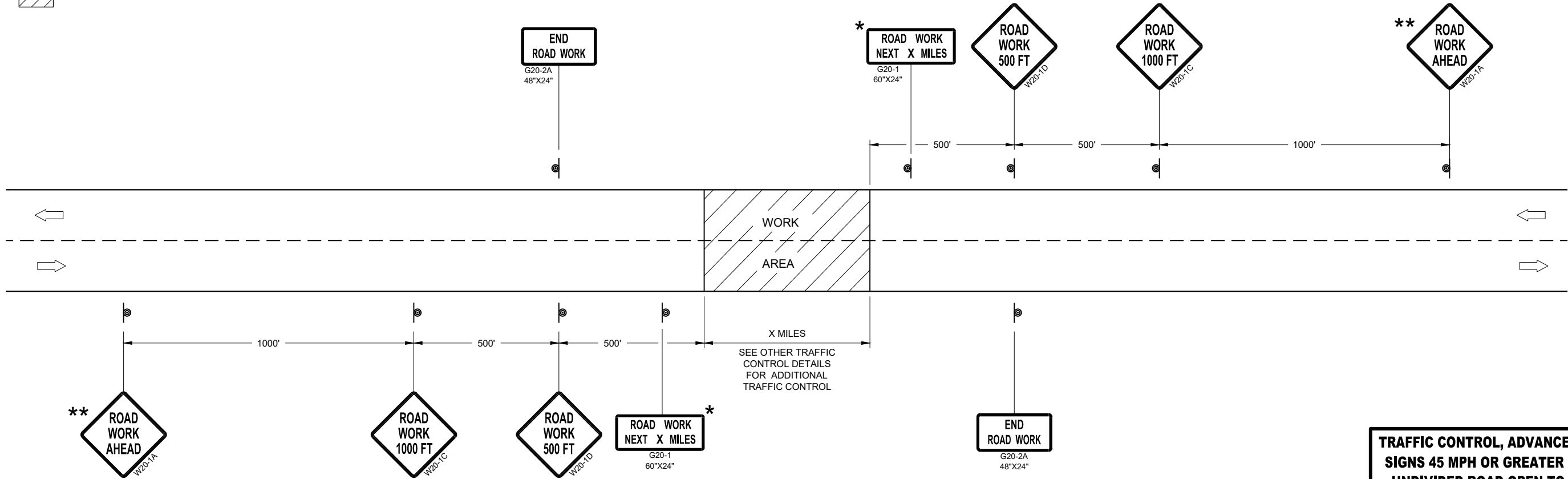
- \* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- \*\* PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

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  
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. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

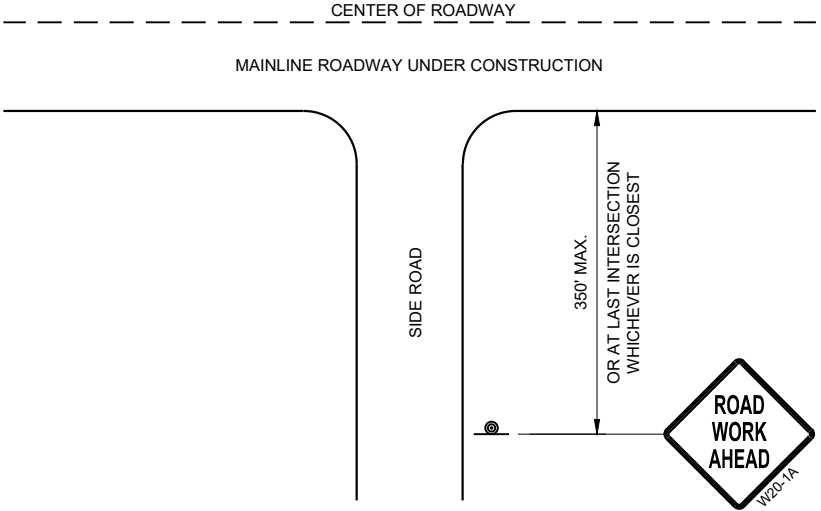
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

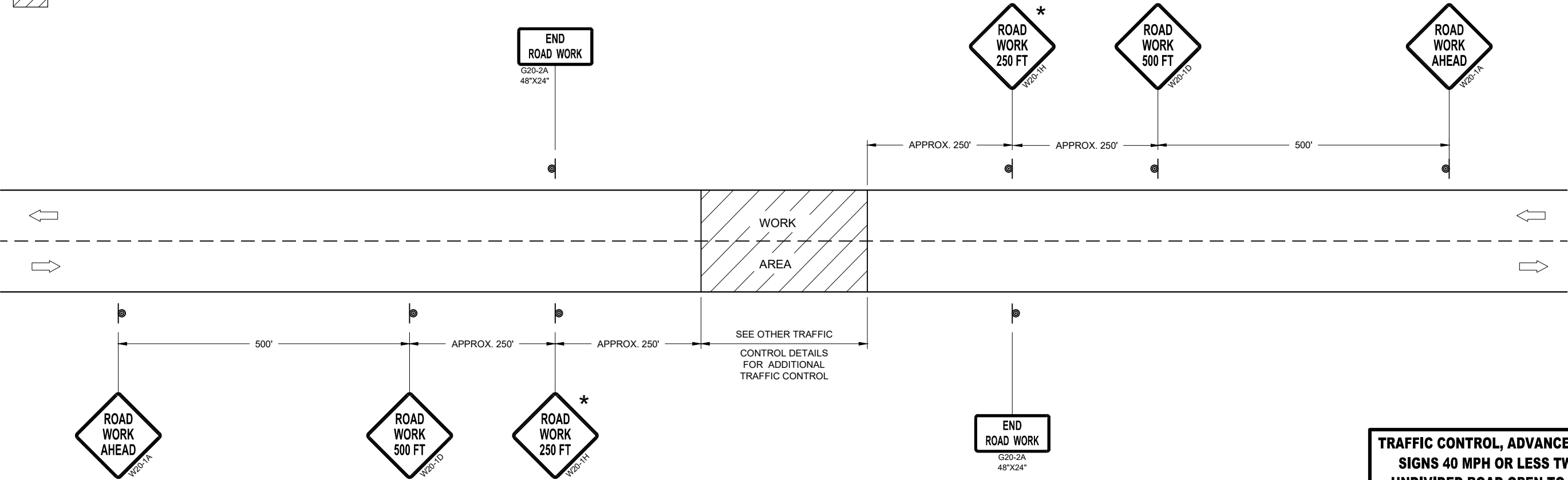
\* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

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



TYPICAL SIDE ROAD APPROACH  
WARNING SIGN DETAIL



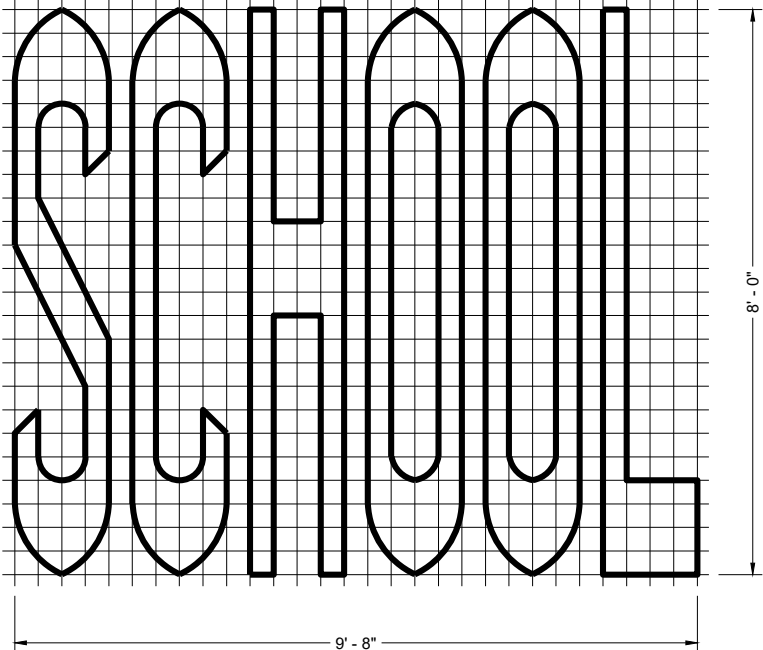
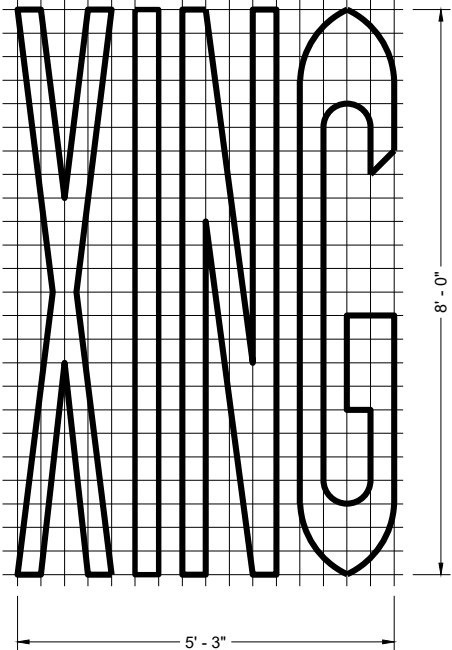
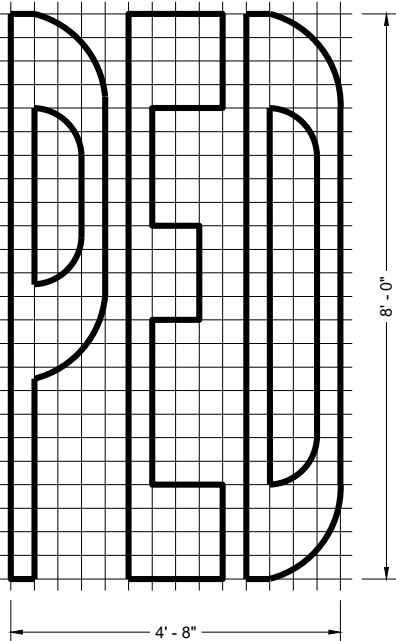
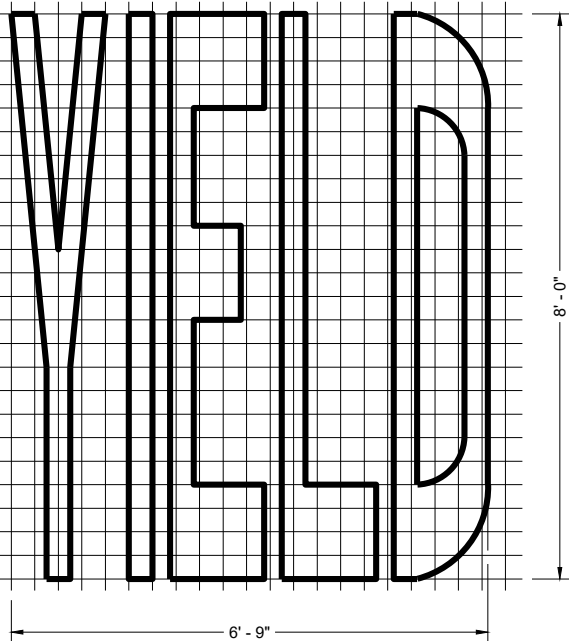
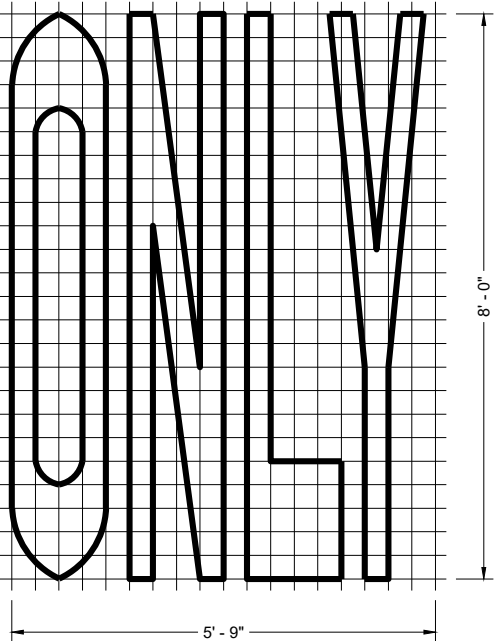
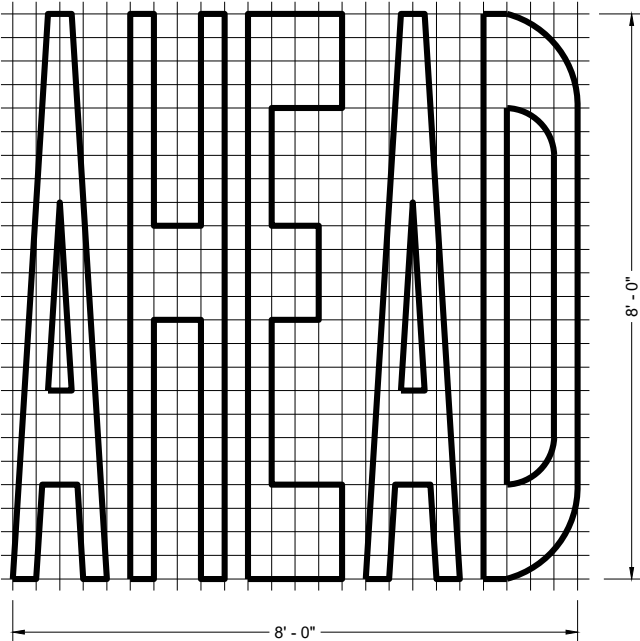
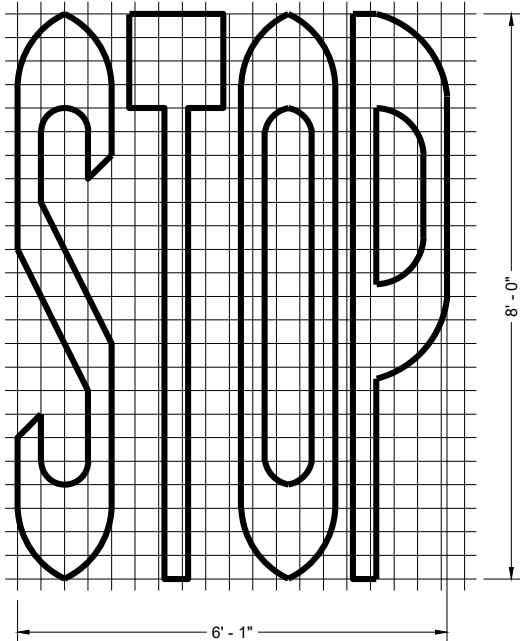
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING  
SIGNS 40 MPH OR LESS TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC

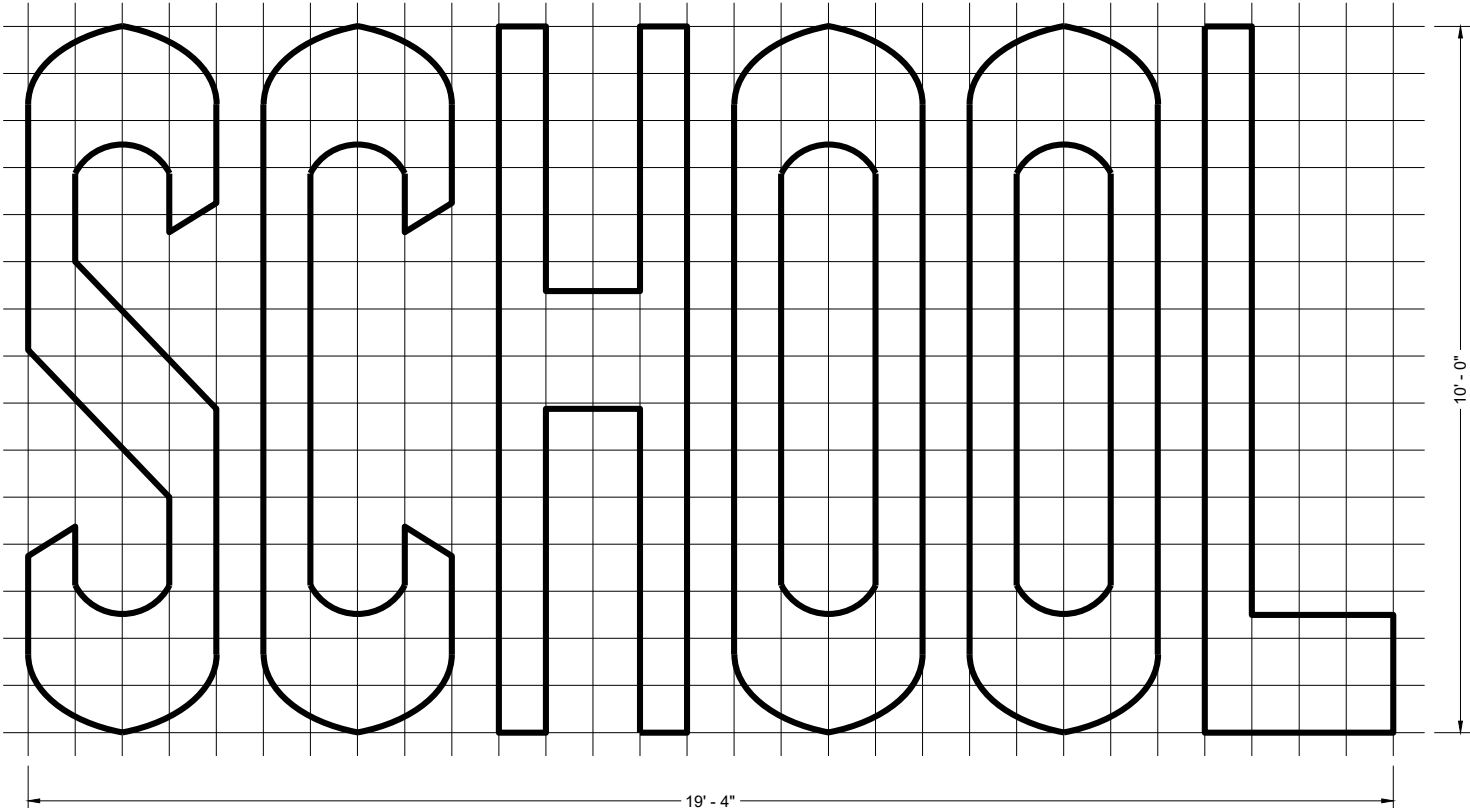
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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





SINGLE LANE

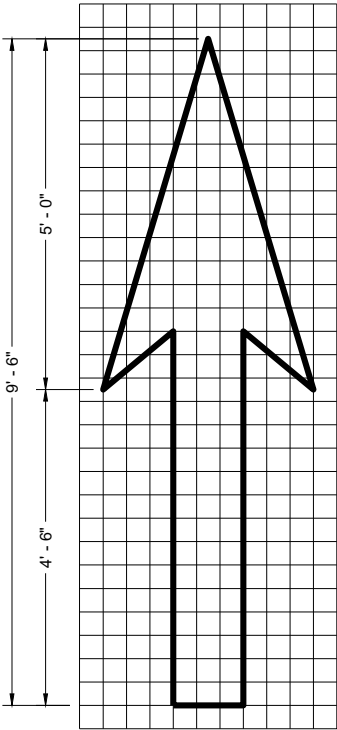


TWO - LANE

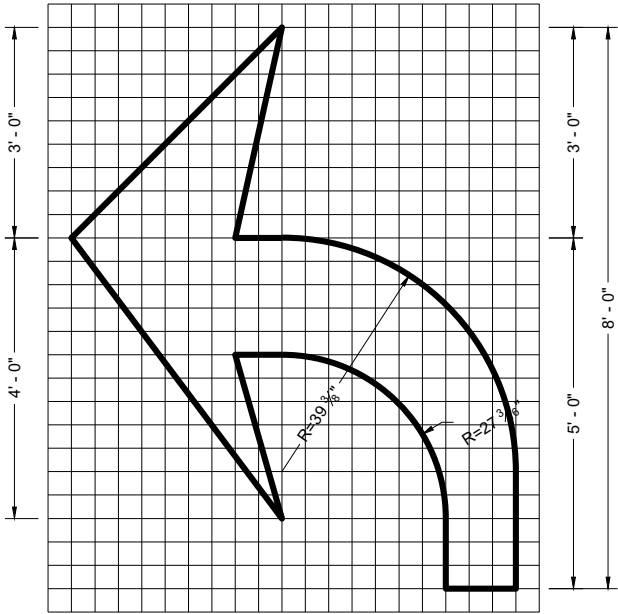
GENERAL NOTES

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.

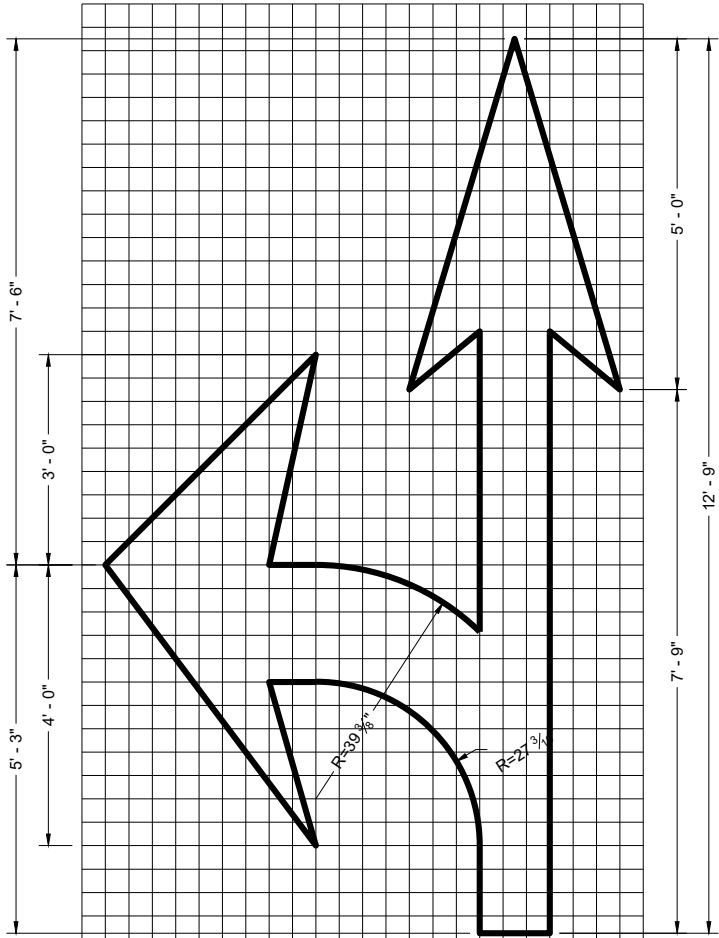
PAVEMENT MARKING WORDS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2024 DATE	/S/ Jeannie Silver STATE SIGNING AND MARKING ENGINEER
FHWA	



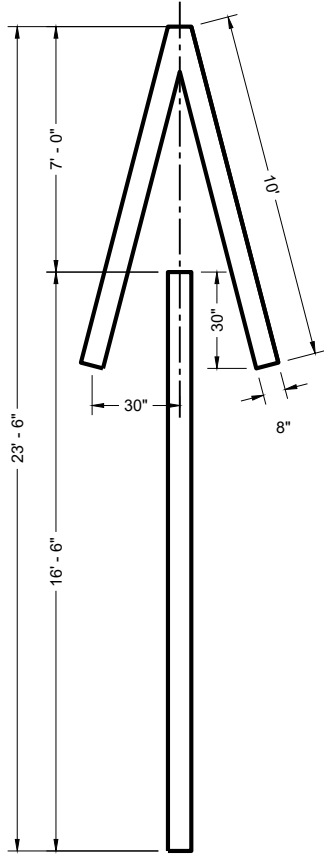
TYPE 1



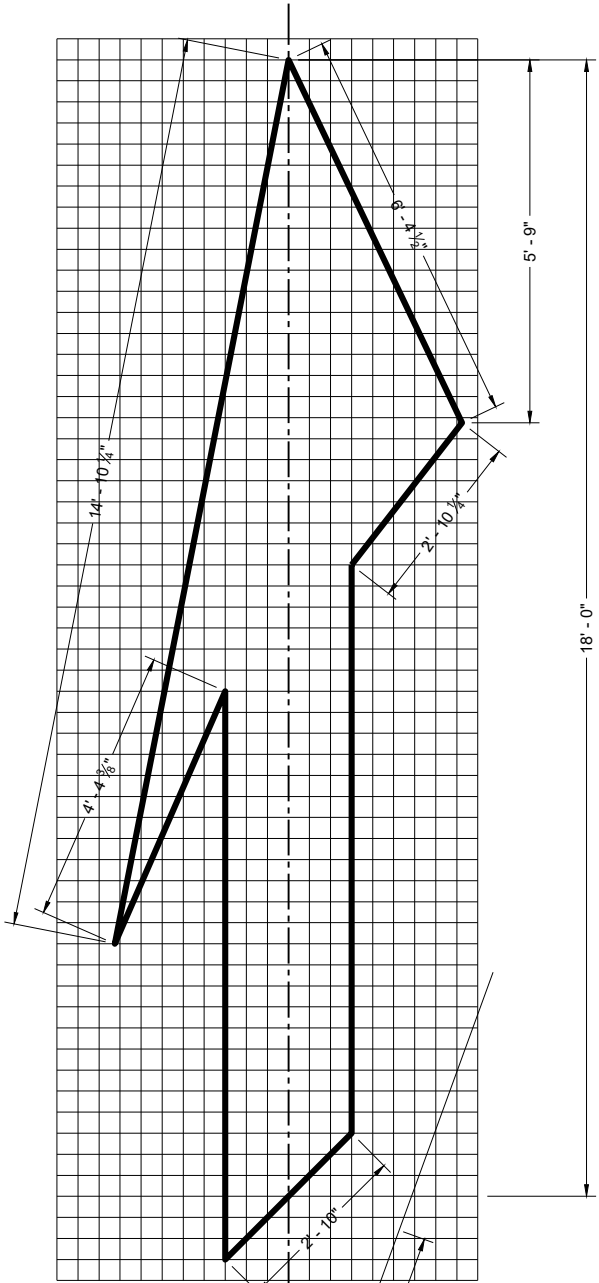
TYPE 2



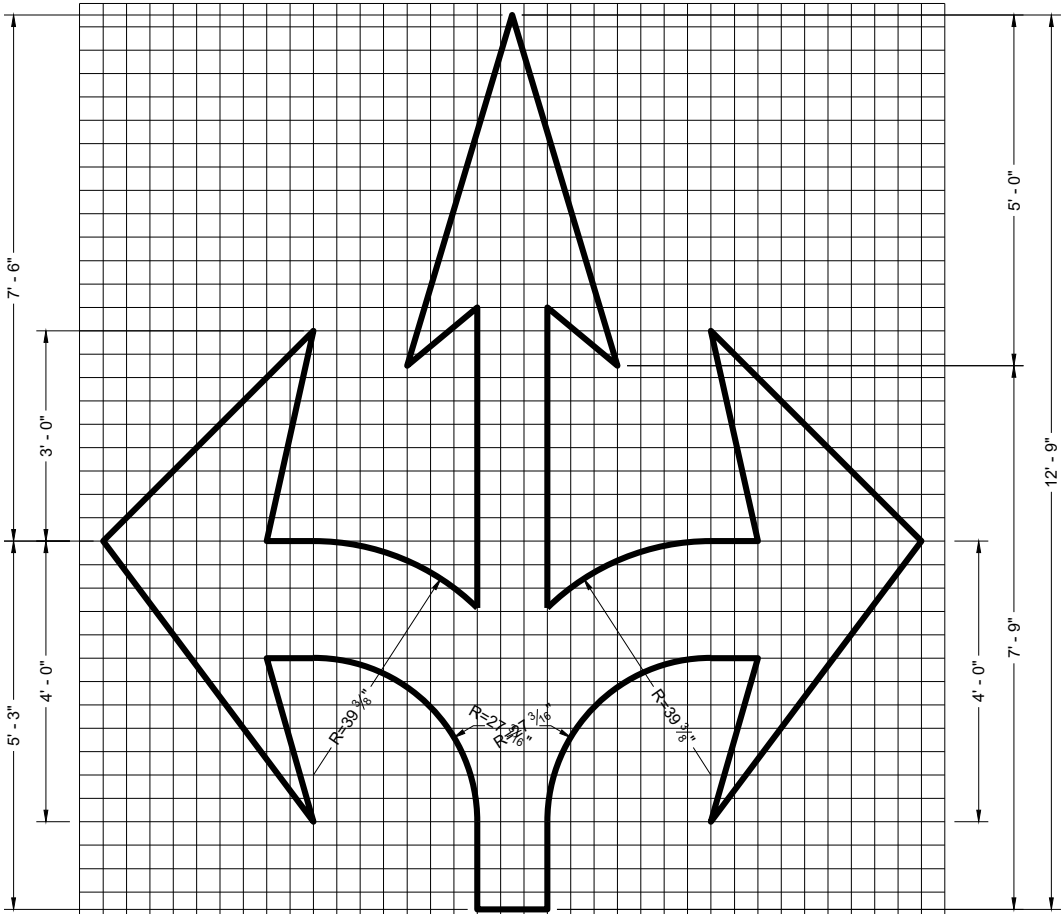
TYPE 3



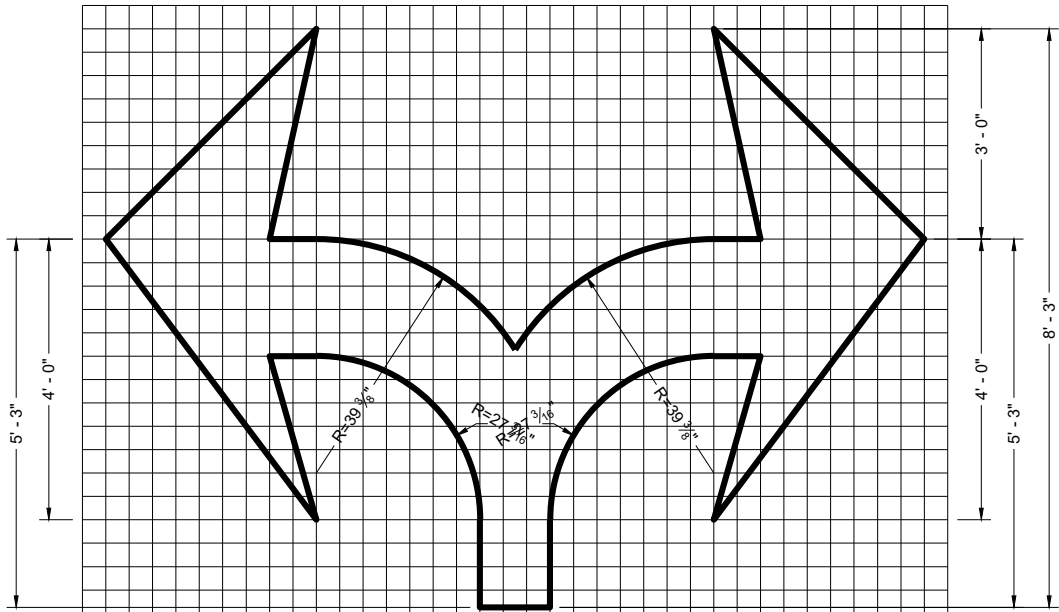
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

GENERAL NOTES

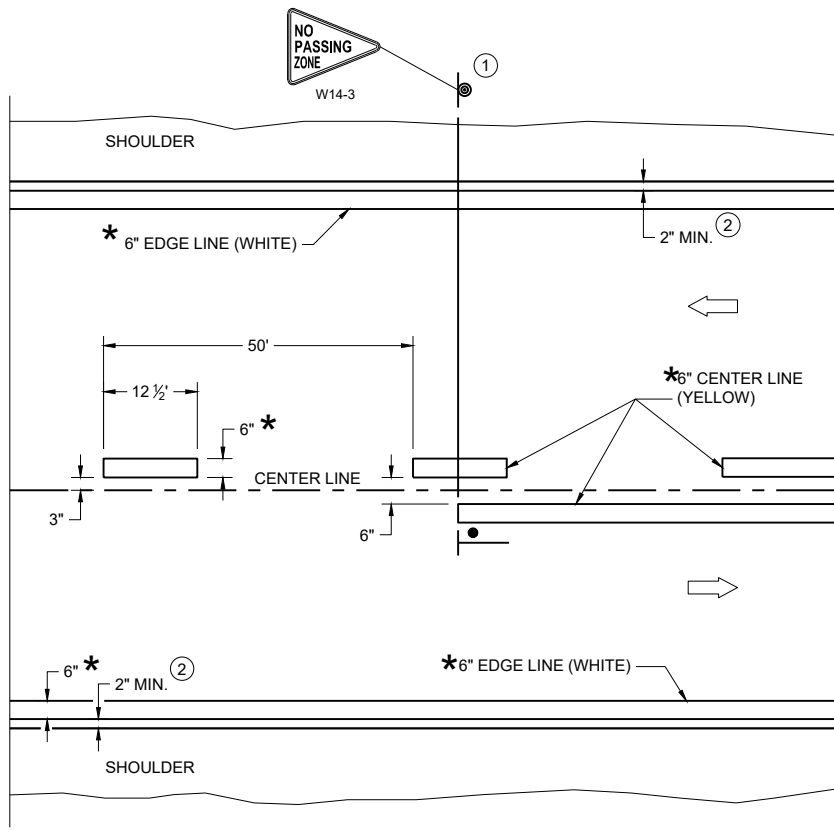
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PAVEMENT MARKING ARROWS

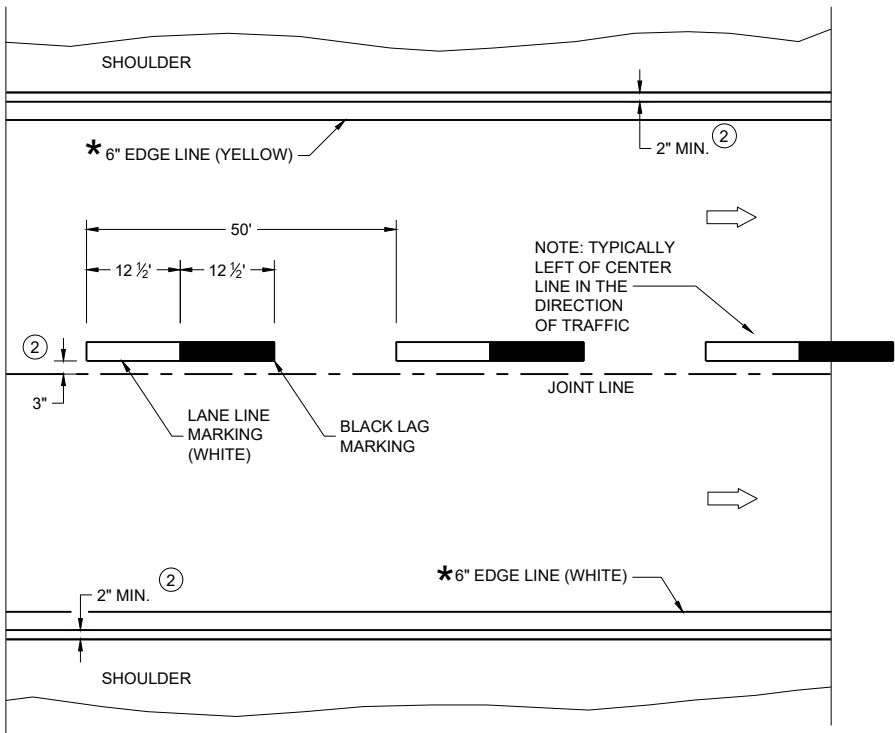
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2024 /S/ Jeannie Silver  
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

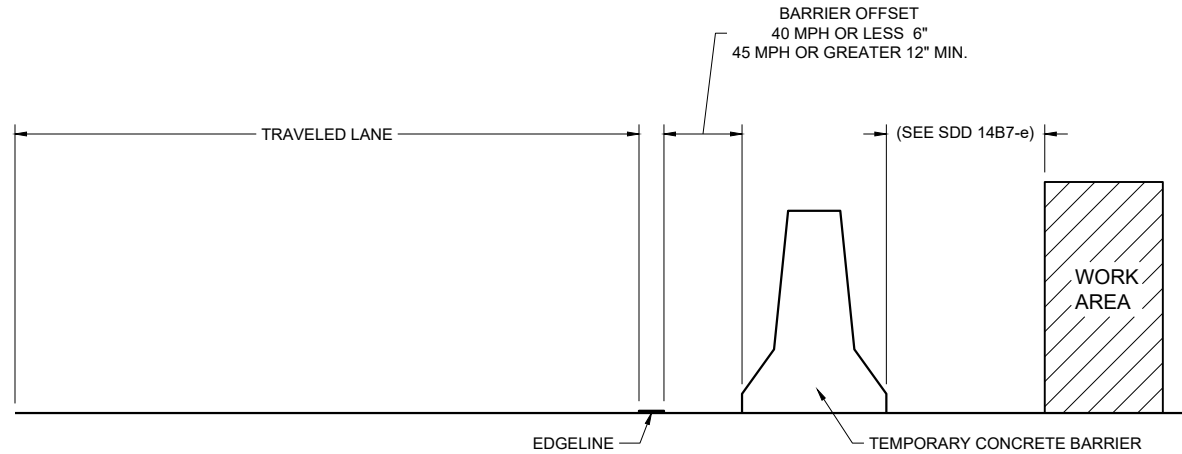
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- 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 May 2023 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	



TEMPORARY BARRIER OFFSET FROM EDGE LINE

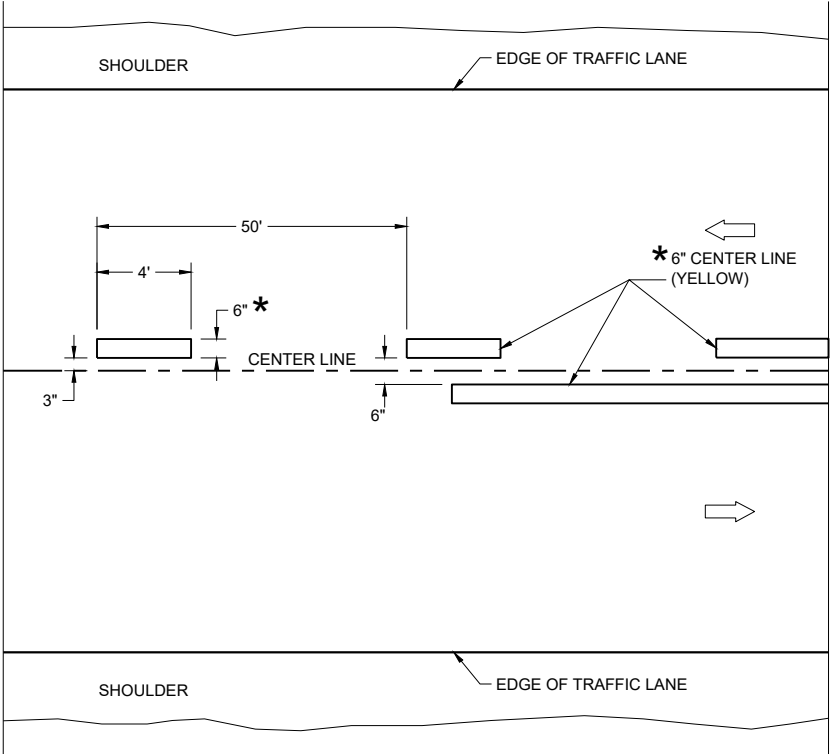
GENERAL NOTES

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

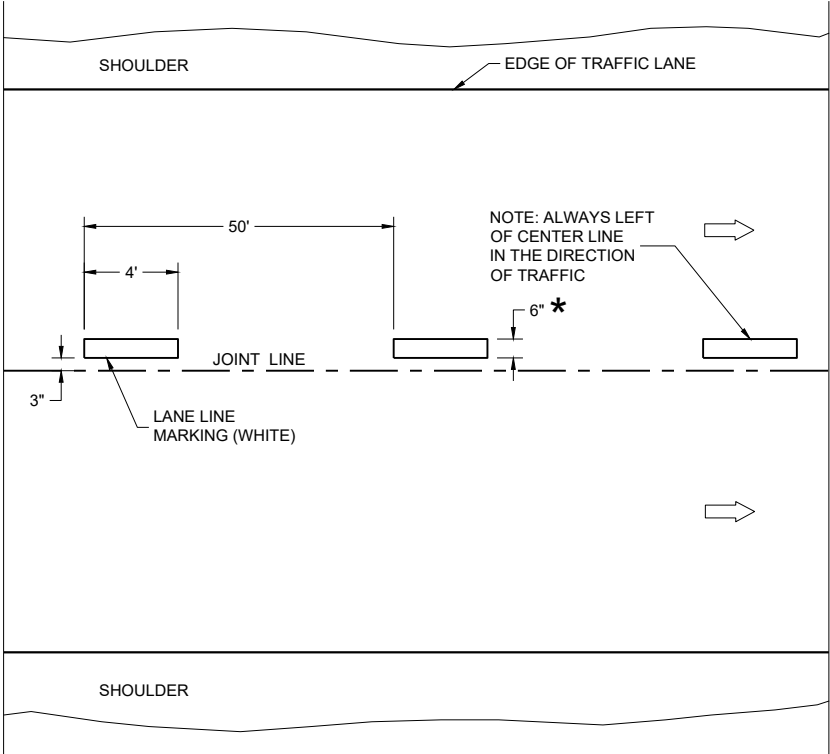
LEGEND

➡ DIRECTION OF TRAFFIC

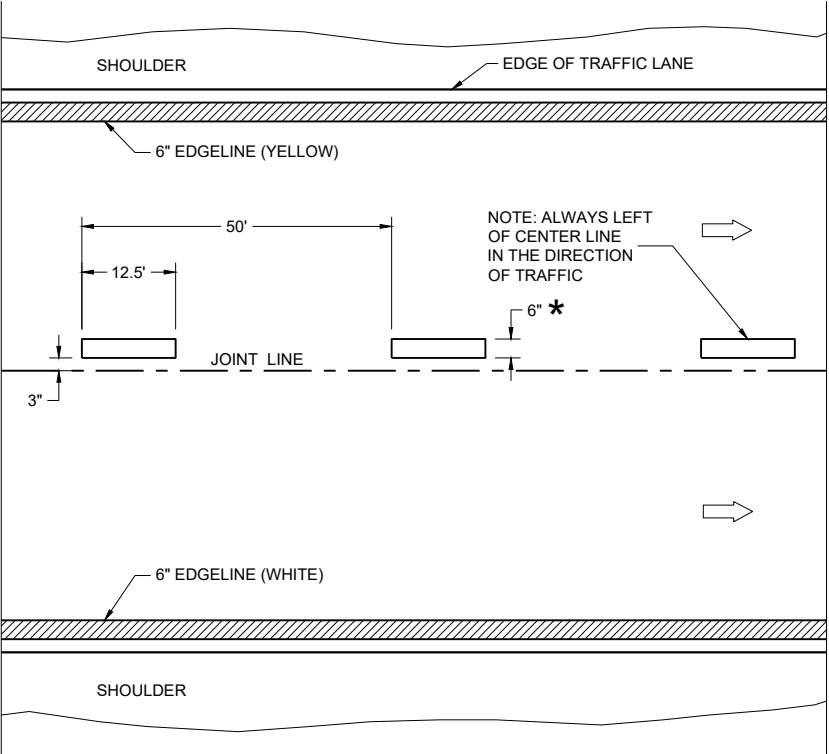
\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC

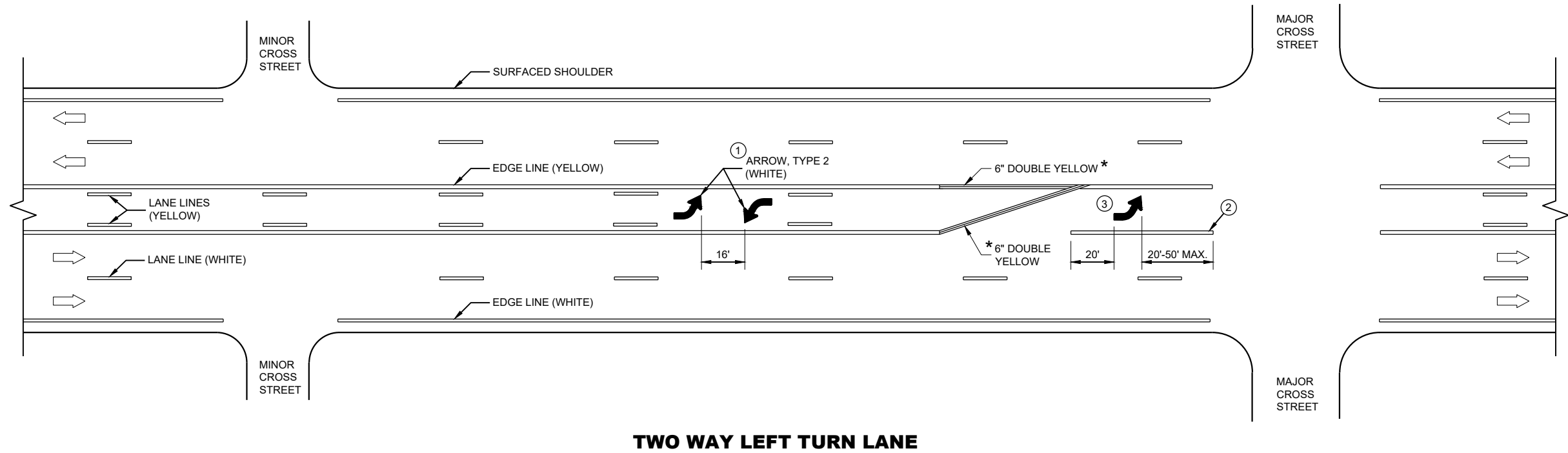


FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	





**GENERAL NOTES**

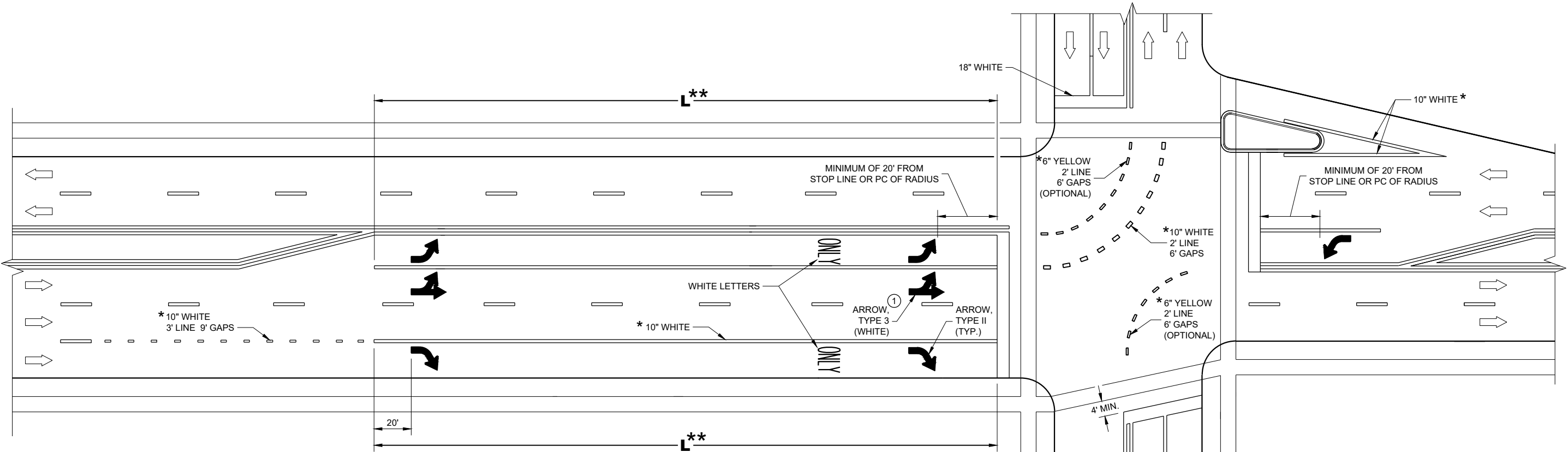
- ① A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ② 10" WHITE
- ③ TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

➡ DIRECTION OF TRAFFIC

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

**PAVEMENT MARKING  
(TURN LANES)**

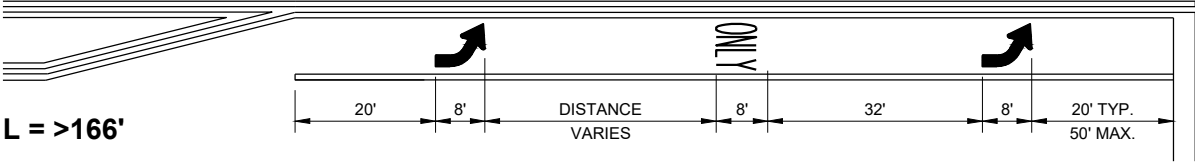
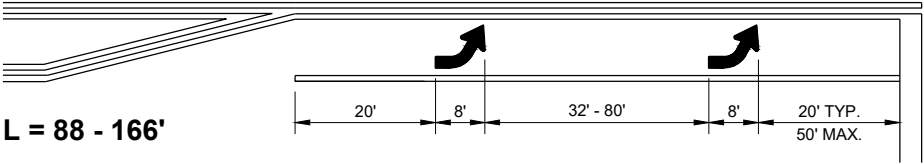
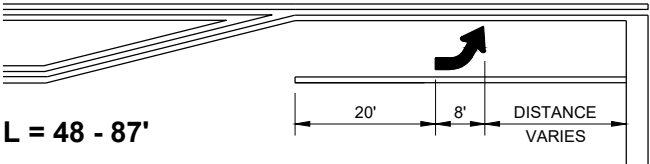
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



\*\* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

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.

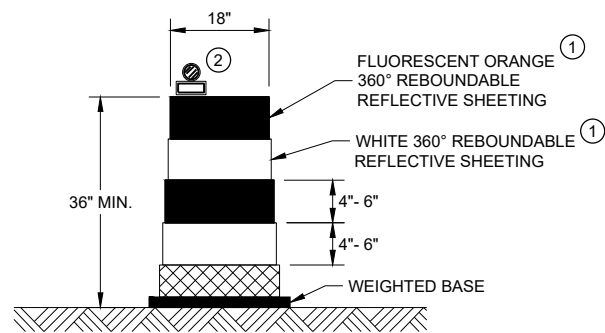
→ DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

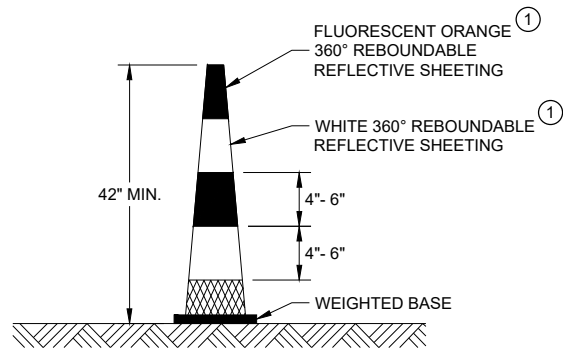
PAVEMENT MARKING  
(TURN LANES)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



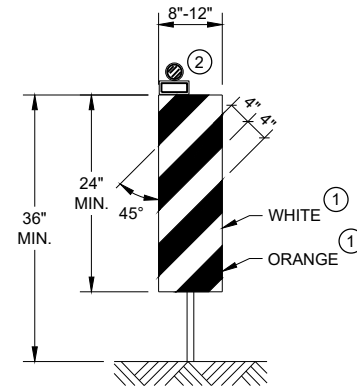
**DRUM**

BALLAST WIDTHS  
RANGE FROM 24"-36"



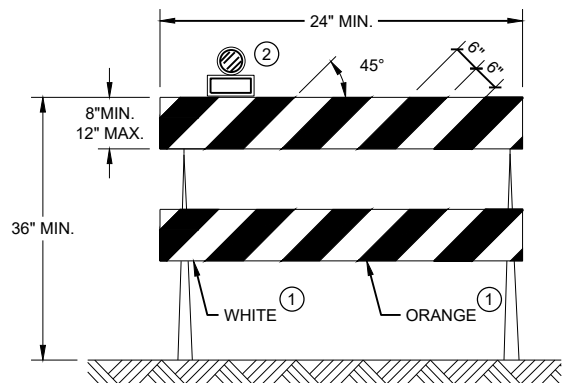
**42" CONE**

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



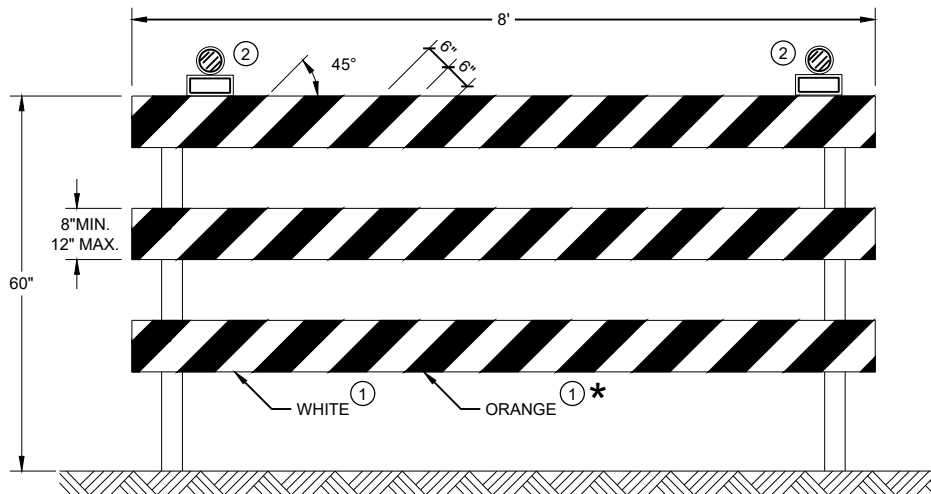
**VERTICAL PANEL**

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

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

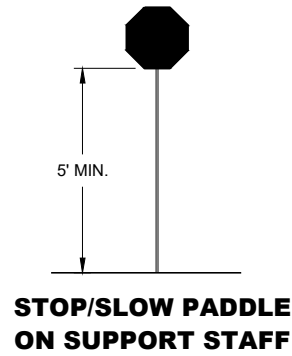
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- 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.

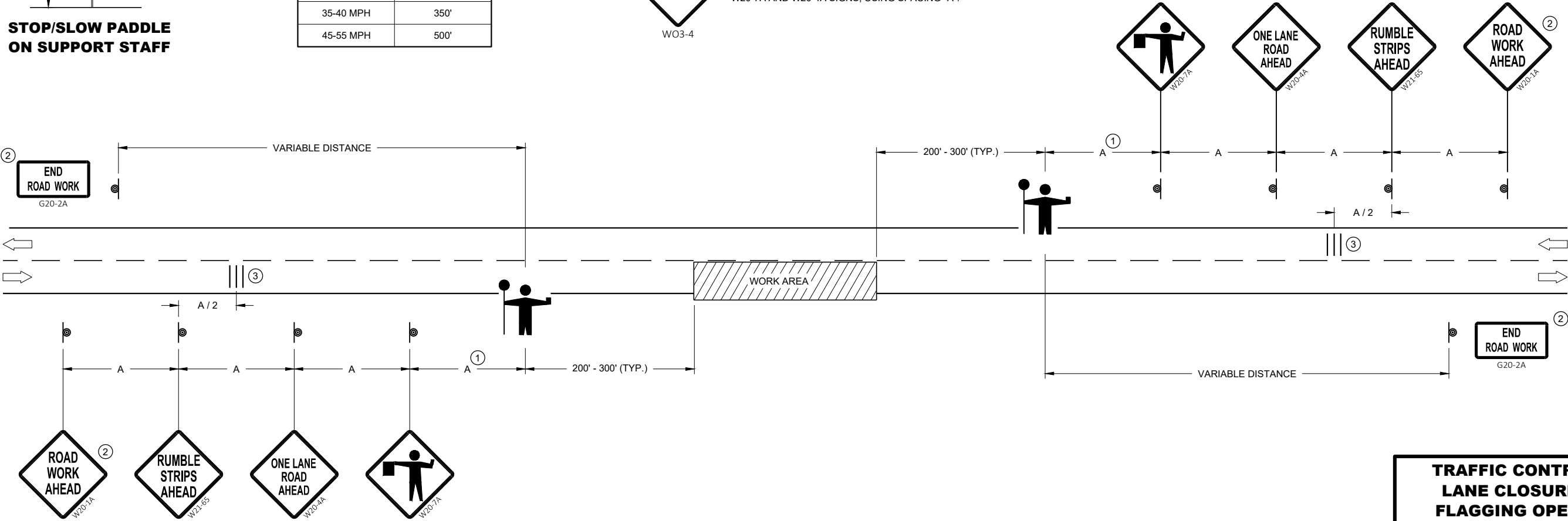


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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










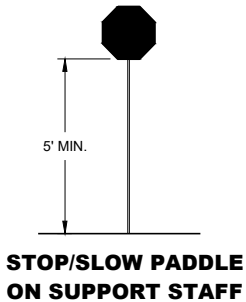
USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



- **GENERAL NOTES**  
SIGN ON PERMANENT SUPPORT
-   
TRAFFIC CONTROL CONE 42-INCH
-   
TRAFFIC CONTROL DRUM
-   
TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-   
DIRECTION OF TRAFFIC
-   
WORK AREA
-   
AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)



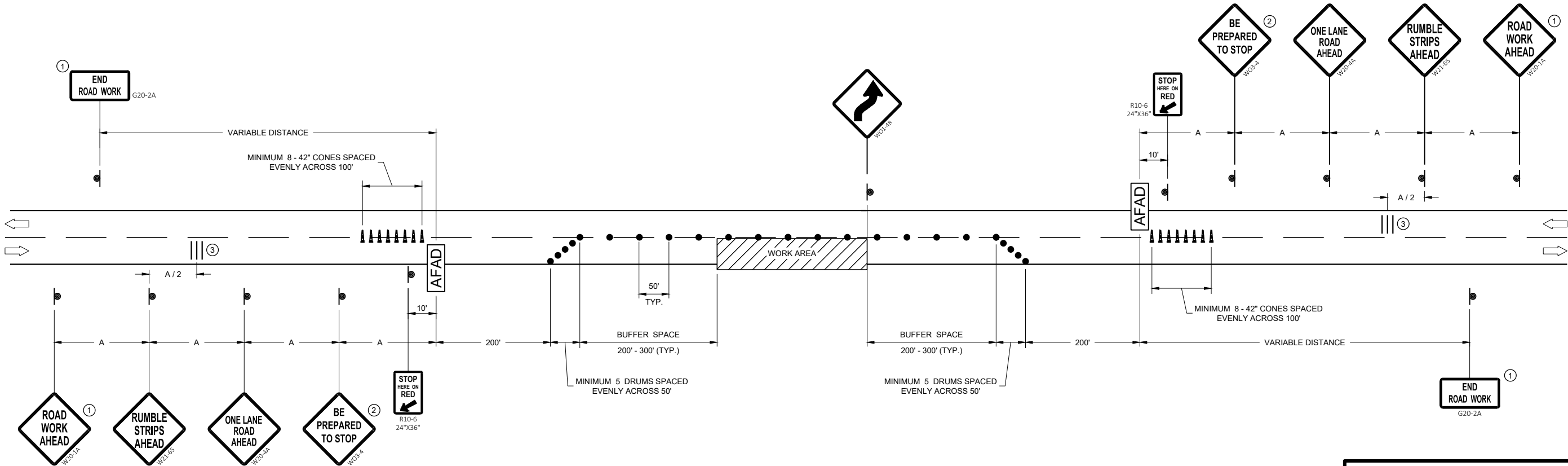
- GENERAL NOTES**  
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.  
  
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.  
  
"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.

**SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE**

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

- FLAGGING**  
IF THE AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) STOPS WORKING, 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.  
  
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.
- ① SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

② IF FLAGGERS ARE PHYSICALLY NEEDED TO FLAG, REPLACE WO3-4 SIGNS WITH W20-7A SIGNS.
- TEMPORARY PORTABLE RUMBLE STRIPS**  
UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.  
  
ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.  
  
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.  
  
③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSELY AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER.

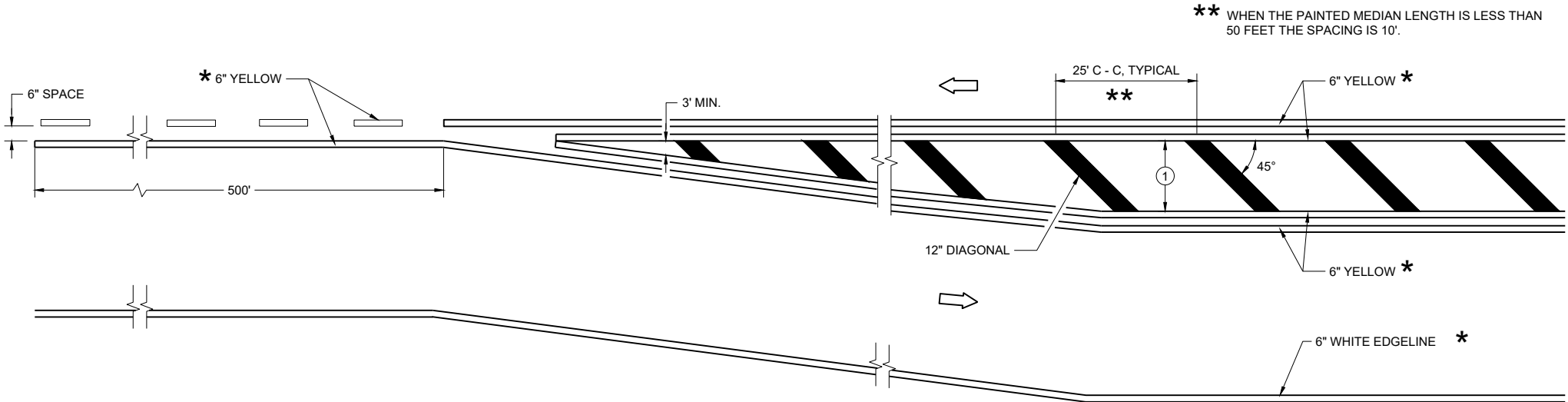


**TRAFFIC CONTROL, LANE  
CLOSURE WITH AUTOMATED  
FLAGGER ASSISTANCE DEVICE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA



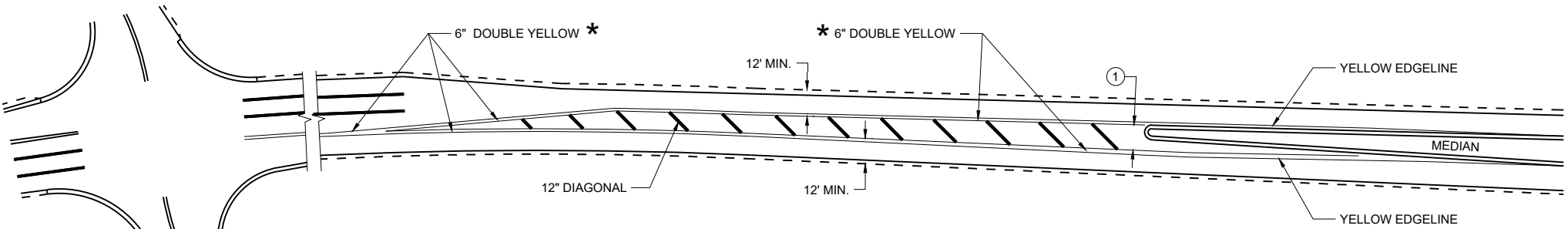
MEDIAN ISLAND DETAIL

GENERAL NOTES

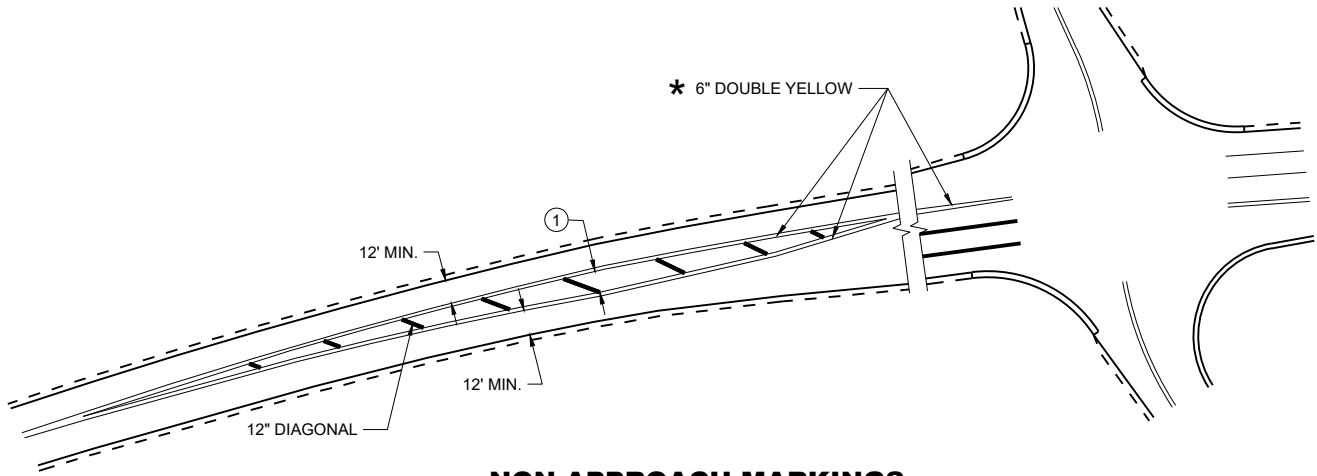
① DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT THE WIDEST POINT. OMIT DIAGONALS IF WIDTH IS LESS THAN 4 FEET.

➡ DIRECTION OF TRAVEL

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



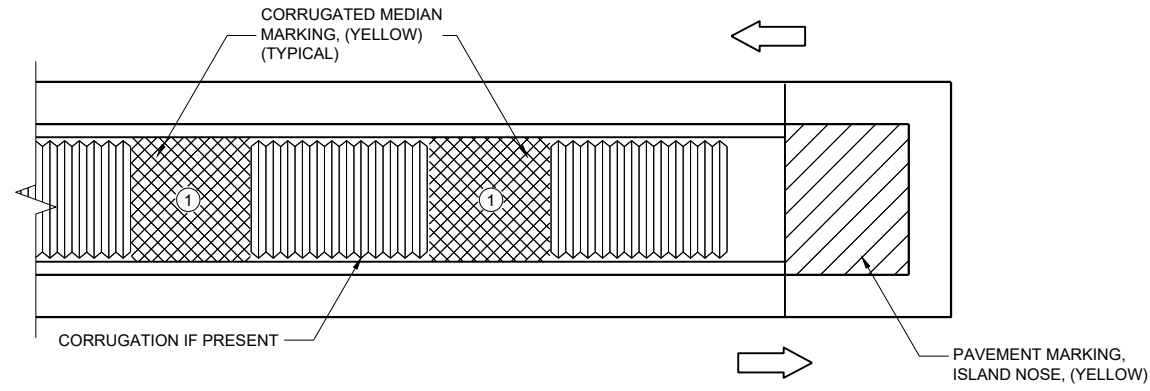
NON-APPROACH MARKINGS

MEDIAN ISLAND  
PAVEMENT MARKINGS

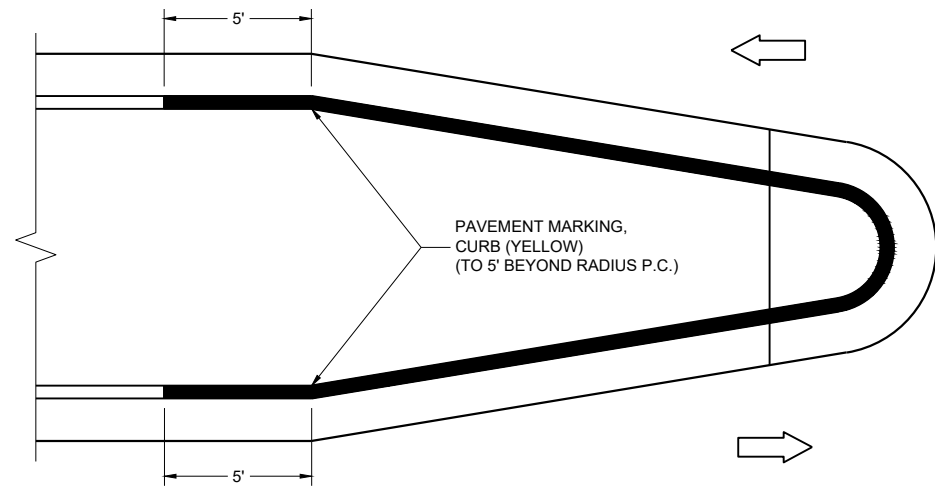
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
August 2024 /S/ Jeannie Silver  
DATE Statewide Pavement Marking Engineer

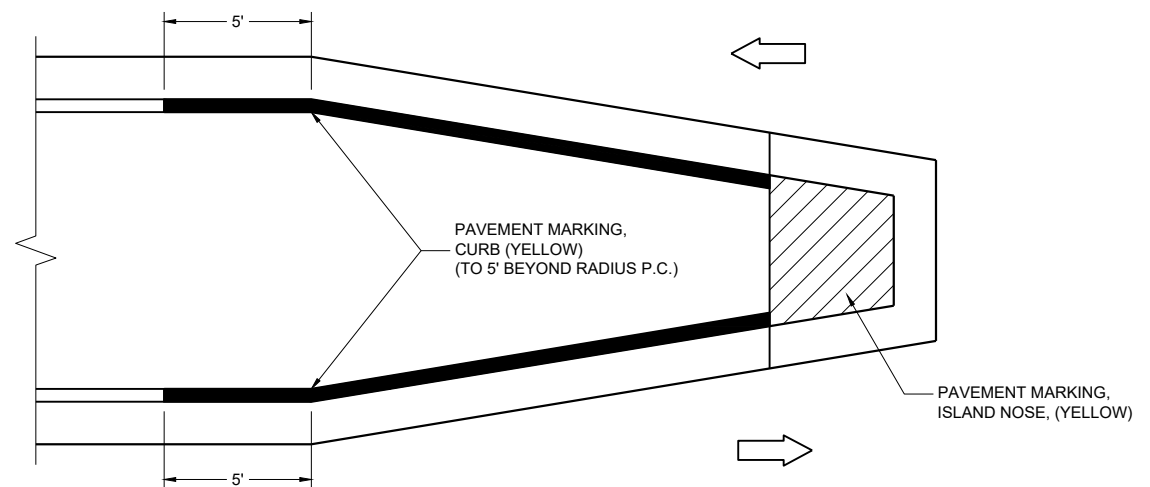
FHWA



**MEDIAN ISLAND WITH SQUARE BLUNT NOSE**



**MEDIAN ISLAND WITH ROUND BLUNT NOSE**



**MEDIAN ISLAND WITH SLOPED NOSE**

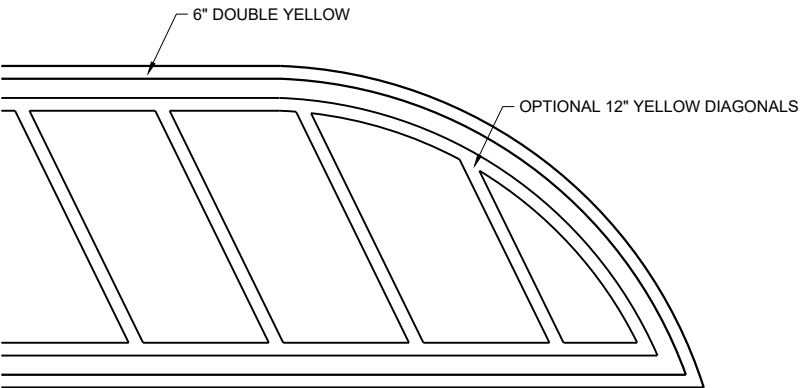
**TYPICAL PLACEMENT OF  
PAVEMENT MARKING ON MEDIAN ISLANDS**

**GENERAL NOTES**

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

① APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL



**FLUSH MEDIAN ISLAND NOSE**

**PAVEMENT MARKINGS,  
MEDIAN ISLAND NOSE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION


APPROVED  
August 2024 /S/ Jeannie Silver  
DATE Statewide Pavement Marking Engineer  
FHWA


LEGEND


- V1

LEAD VEHICLE
- V2

MARKING VEHICLE
- V3

SHADOW VEHICLE
- 

TRUCK MOUNTED ATTENUATOR (TMA)
- 

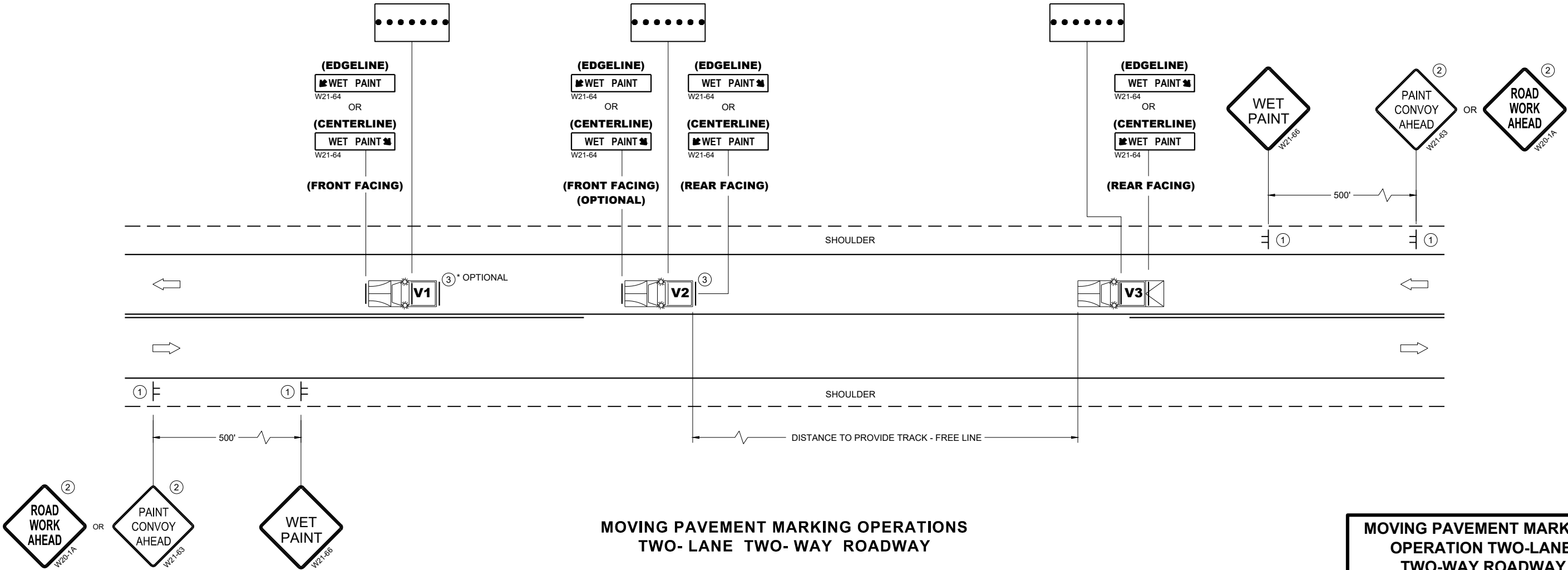
SIGN ON TEMPORARY SUPPORT
- 

DIRECTION OF TRAFFIC

GENERAL NOTES

- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.
- DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.
- WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH

- UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.
- CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .
- ① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY MAJOR INTERSECTION.
- ② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.
- ③ V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.



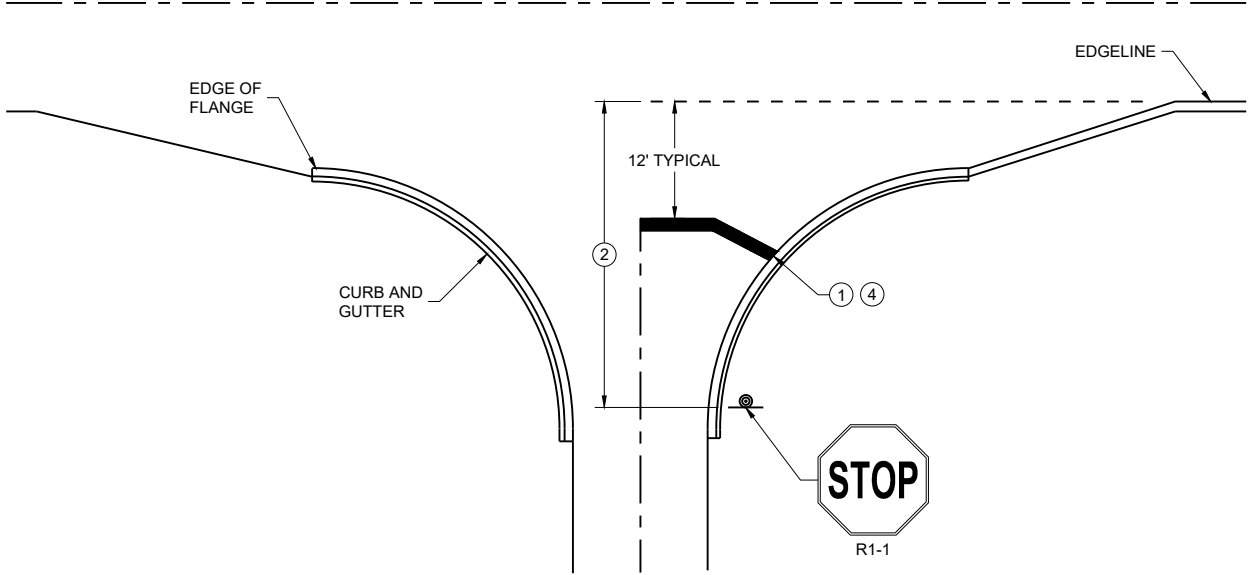
MOVING PAVEMENT MARKING  
OPERATION TWO-LANE  
TWO-WAY ROADWAY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

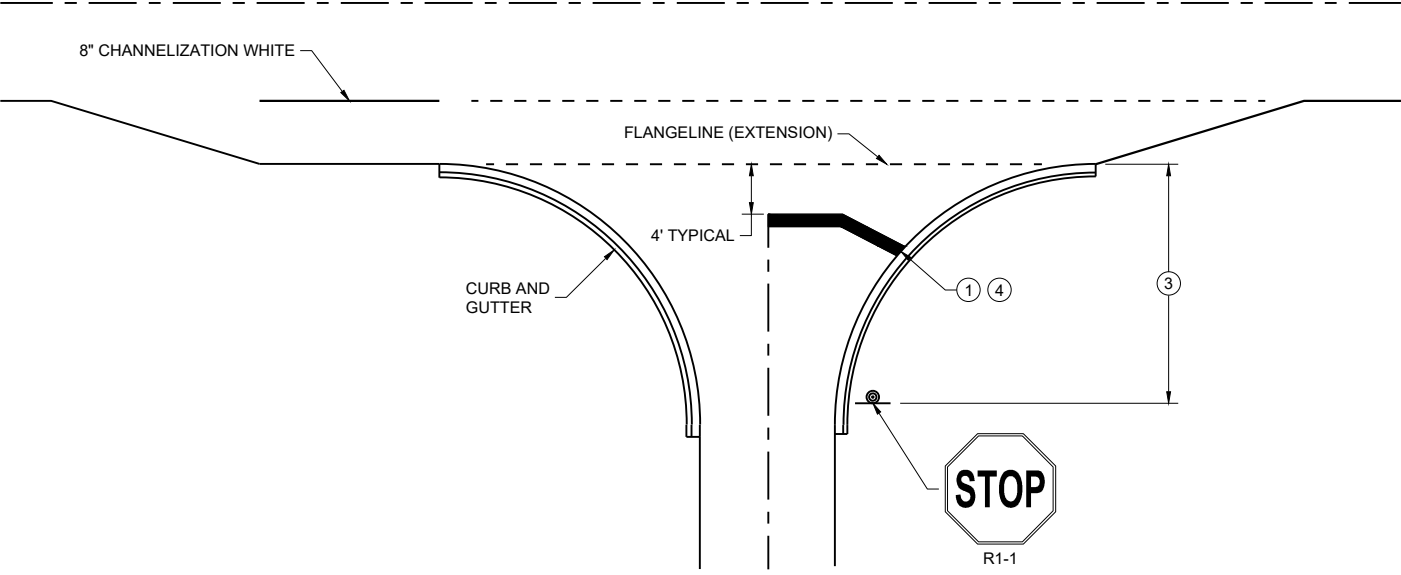
APPROVED  
March 2024 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA

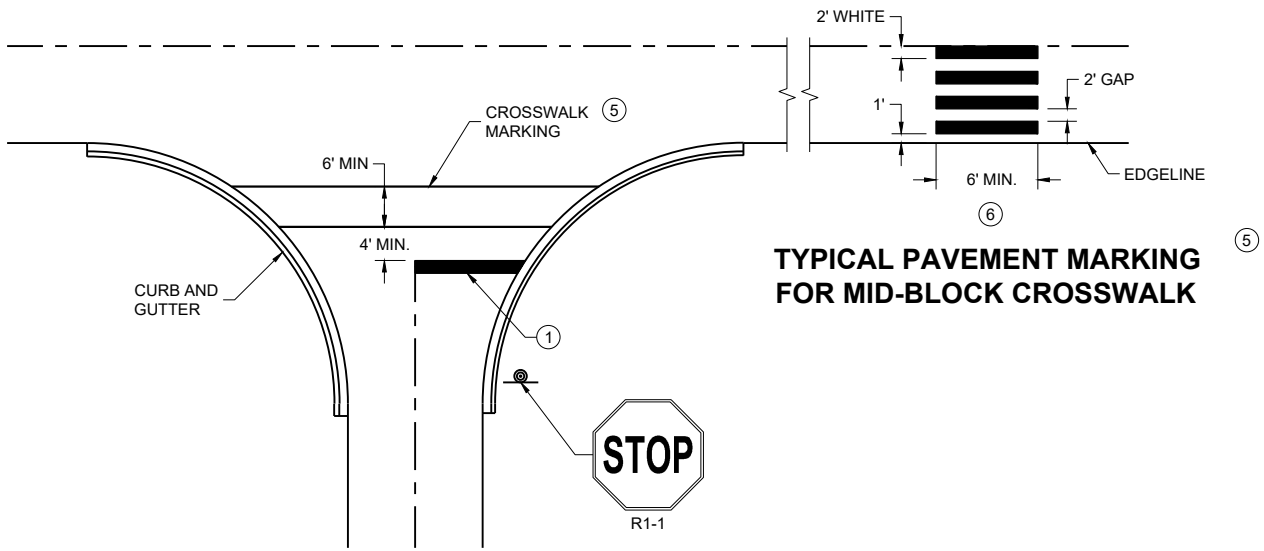




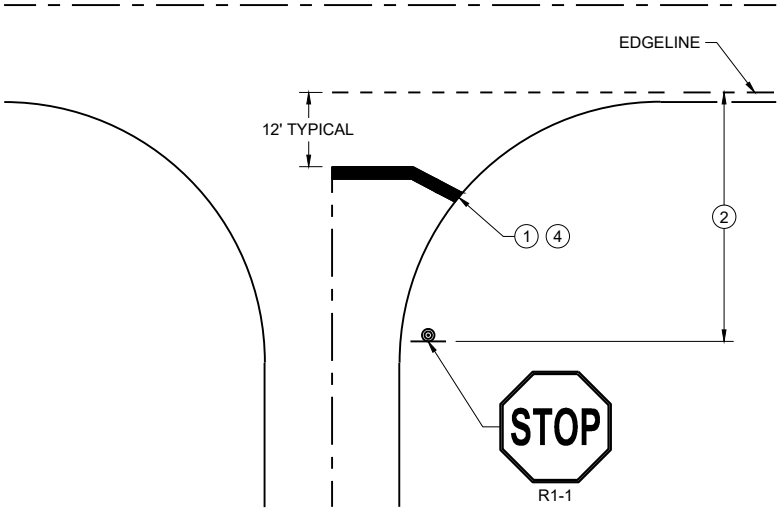
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



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

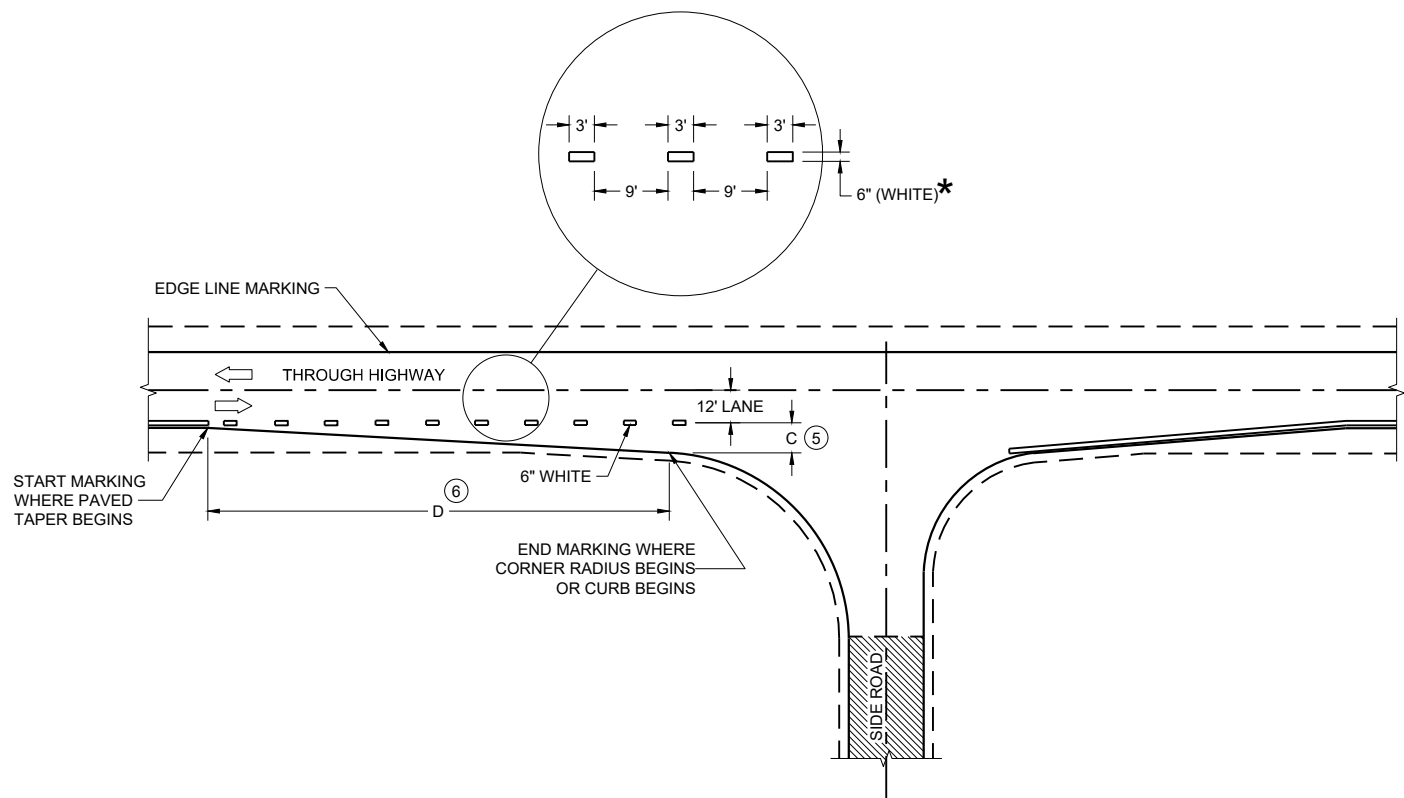
STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

- 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

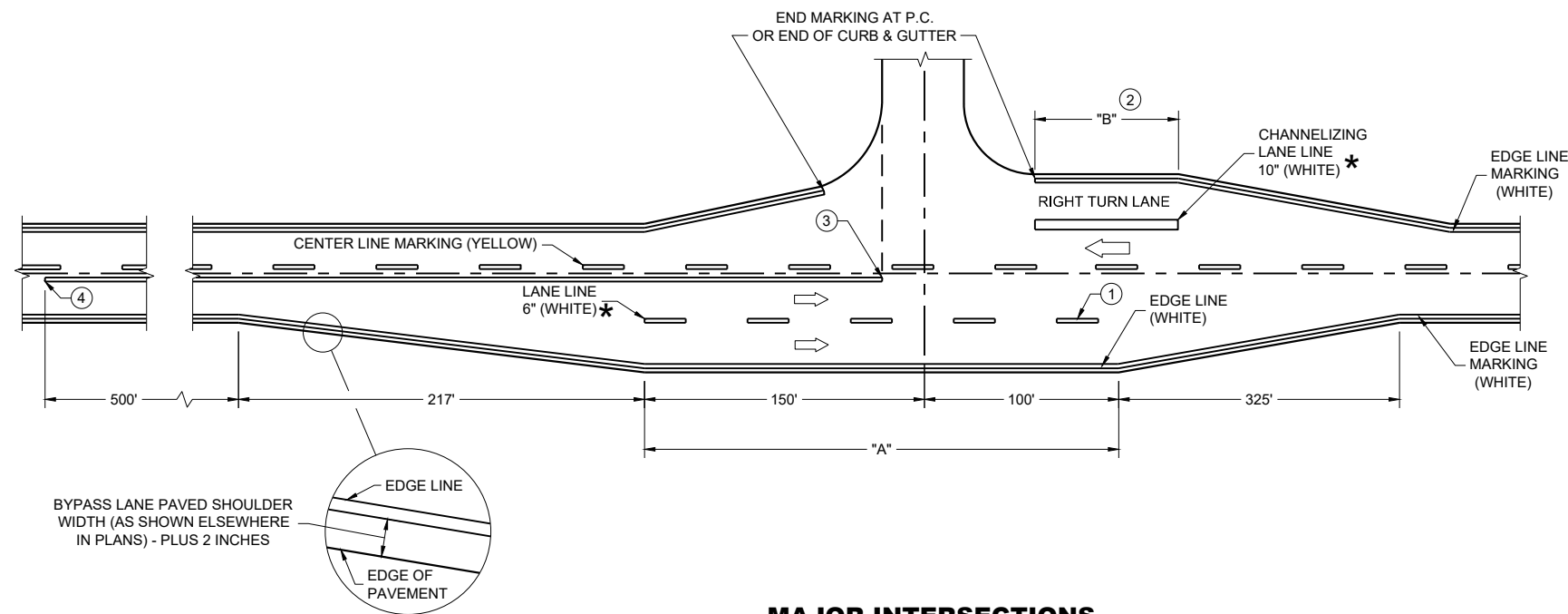
STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



MINOR INTERSECTION



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

\*CONFIRM MARKING LINE WIDTH WITH  
THE MISCELLANEOUS QUANTITIES

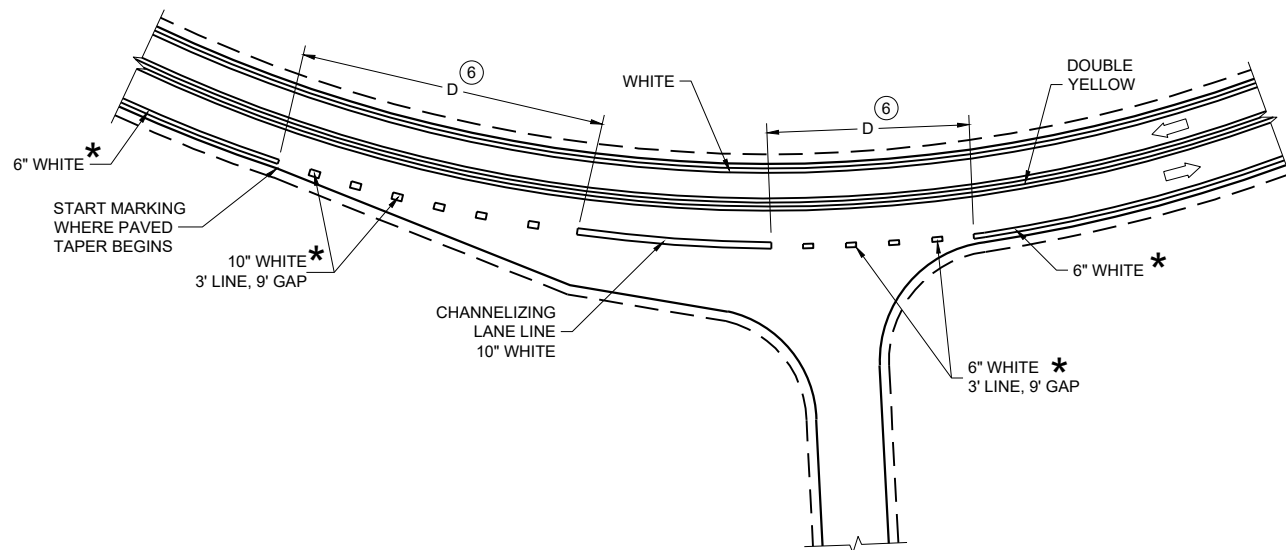
GENERAL NOTES

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.

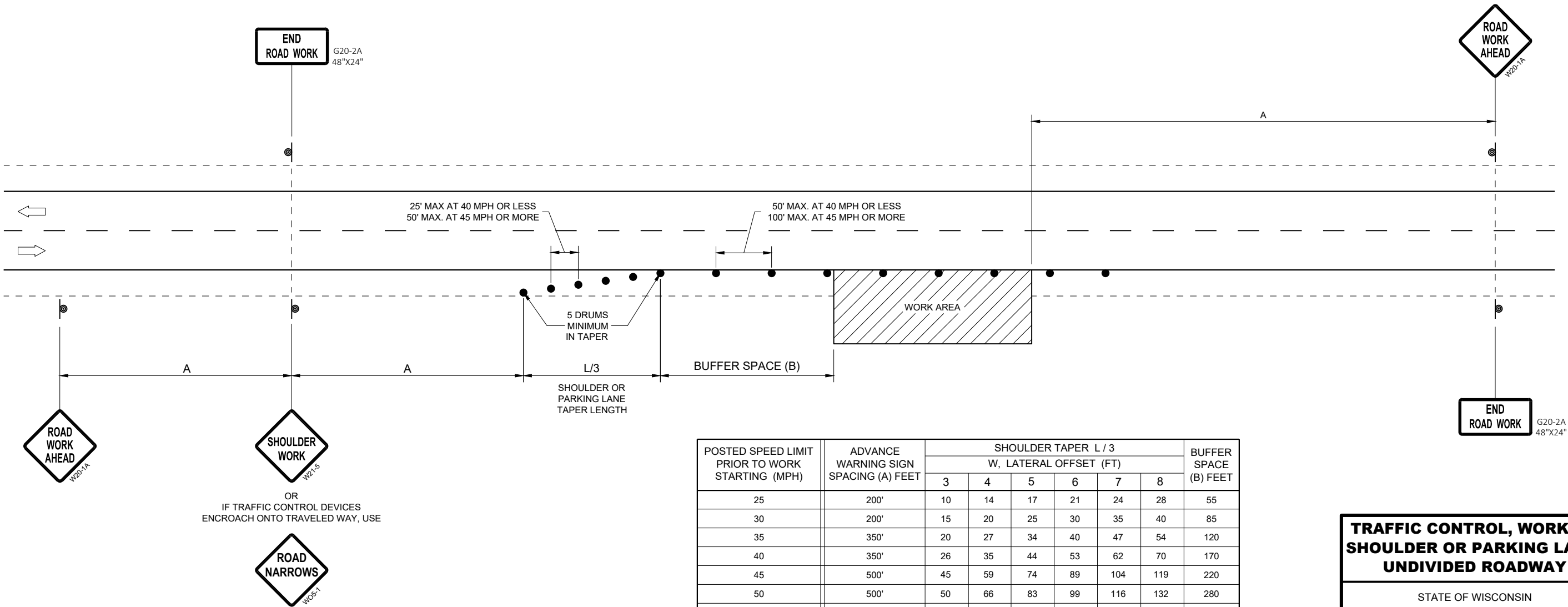
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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.

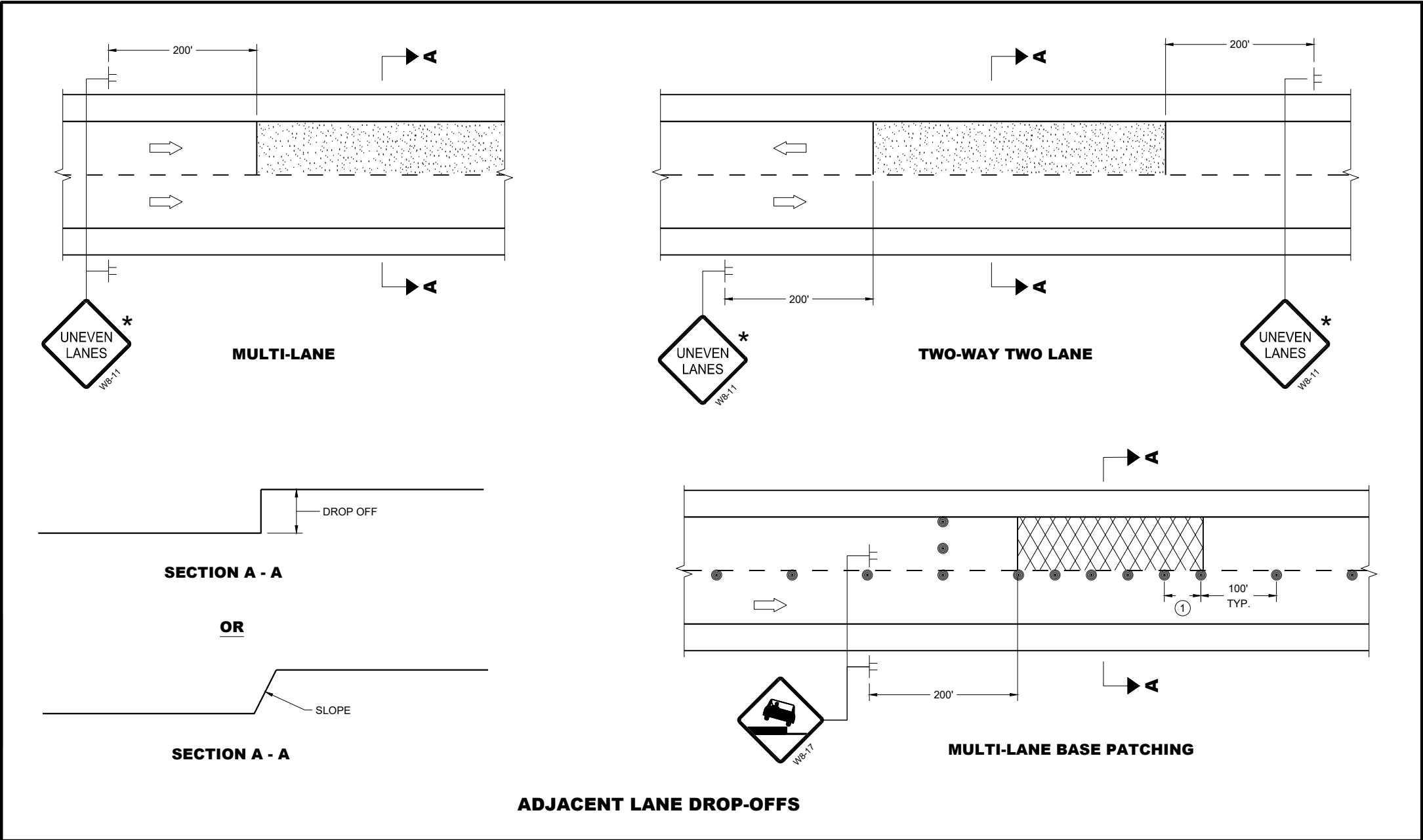


POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	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 TRAFFIC  
SAFETY ENGINEER  
FHWA



ADJACENT LANE DROP-OFFS

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

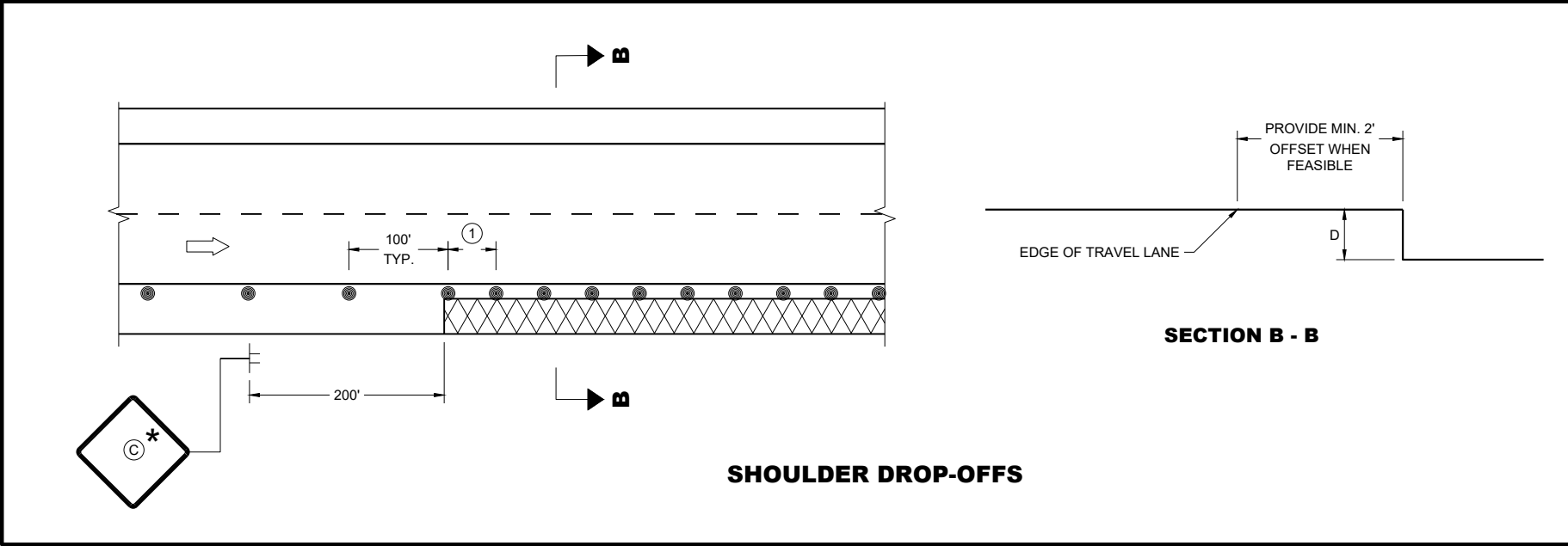
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

★ IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE



SECTION B - B

SHOULDER DROP-OFFS

D	SIGN ©
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF WB-9A
PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT	

TRAFFIC CONTROL,  
DROP-OFF SIGNING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2025  
DATE

/S/ Andrew Heidtke  
WORK ZONE ENGINEER

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.

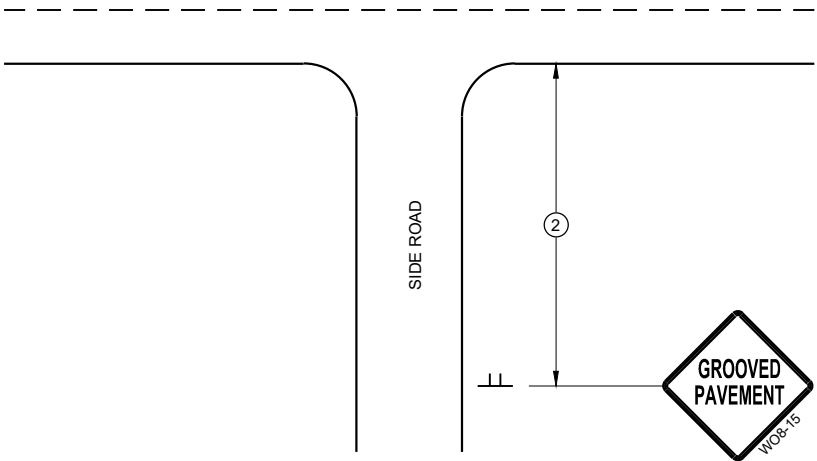
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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.

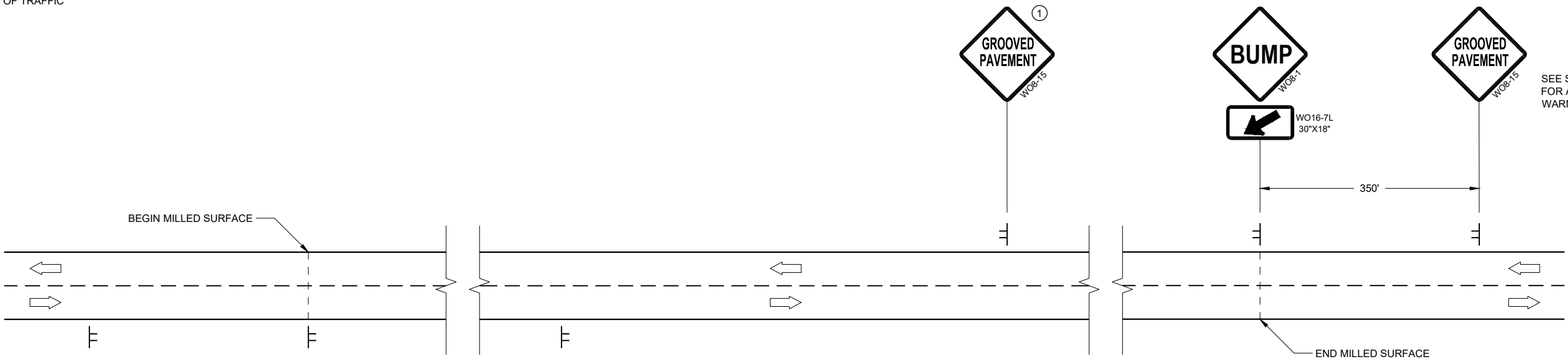
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

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

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.

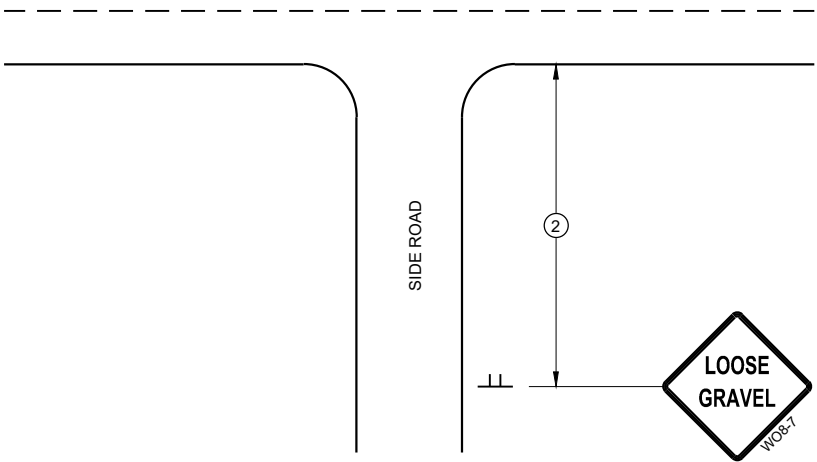
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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.

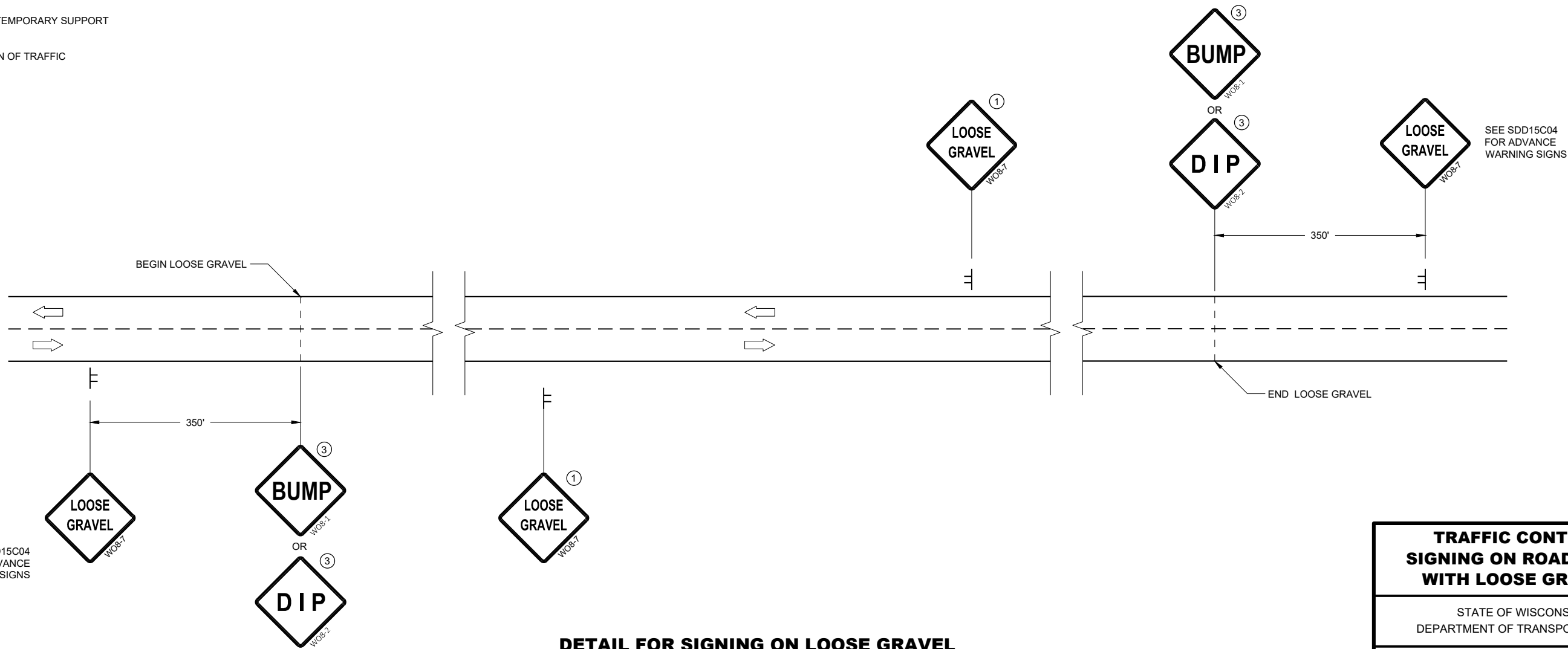
- 1 PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- 2 PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.
- 3 ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH  
SIGN DETAIL



DETAIL FOR SIGNING ON LOOSE GRAVEL  
OR CHIP SEALED SURFACES

TRAFFIC CONTROL  
SIGNING ON ROADWAYS  
WITH LOOSE GRAVEL


STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION


APPROVED  
February 2021 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER  
FHWA


LEGEND


- V1

WORK VEHICLE
- V2

SHADOW VEHICLE
- 

TRUCK MOUNTED ATTENUATOR (TMA)
- 

FLASHING ARROW PANEL (CAUTION)
- 

WORK AREA
- 

DIRECTION OF TRAFFIC

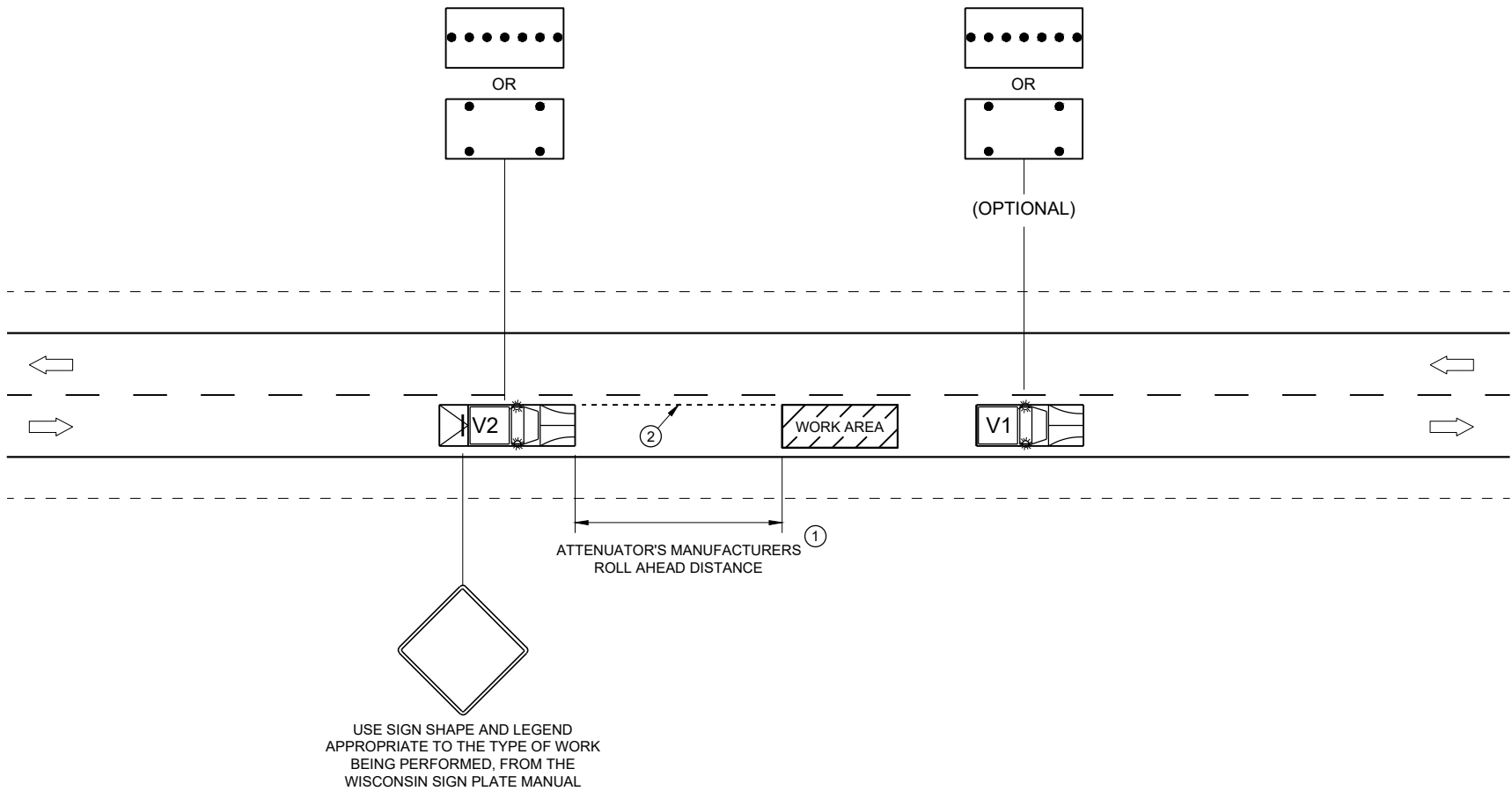
POSTED SPEED PRIOR TO WORK STARTING (MPH)	DECISION SIGHT DISTANCE (D)
0 - 25	550'
30	550'
35	700'
40	700'
45	900'
50	900'
55	1200'

GENERAL NOTES

- ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.
- MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.
- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.
- ①

DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- ②

ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.



TRAFFIC CONTROL,  
MOBILE OPERATIONS ON  
AN UNDIVIDED ROADWAY

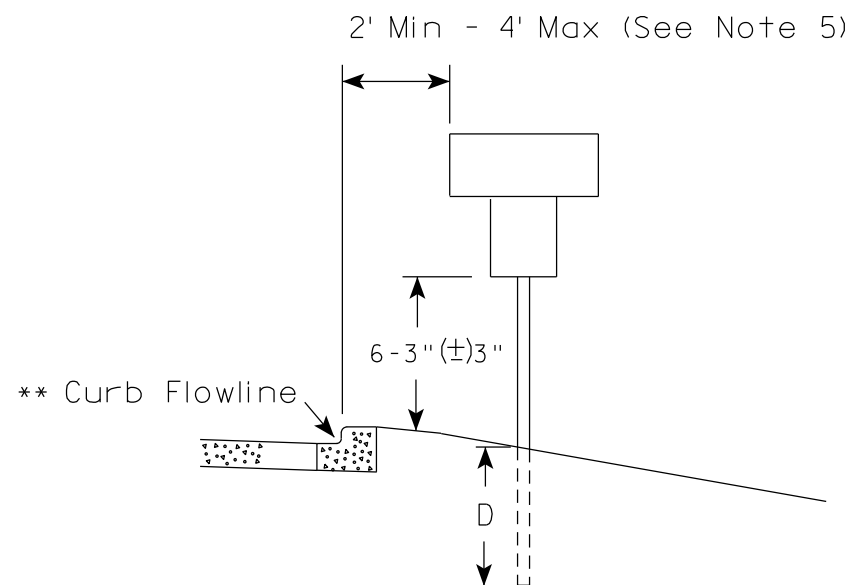
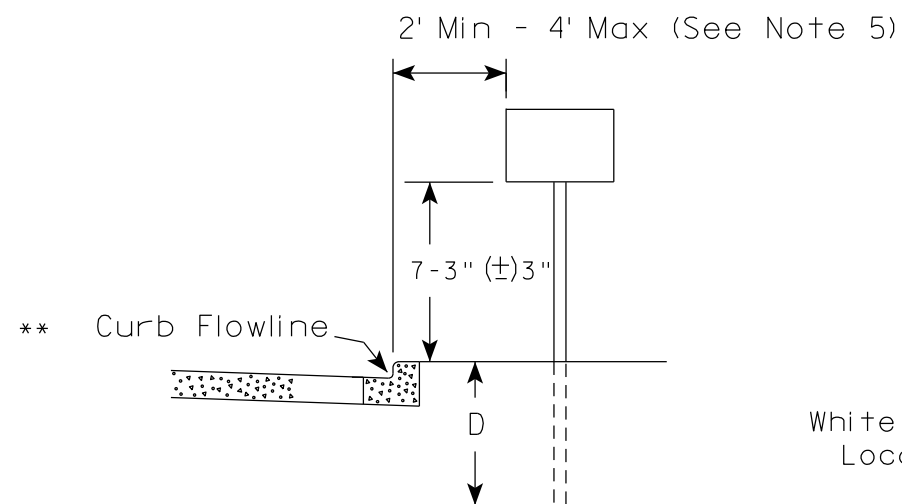
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2021  
DATE

/S/ Andrew Heidtke  
STATEWIDE WORK ZONE TRAFFIC  
SAFETY ENGINEER

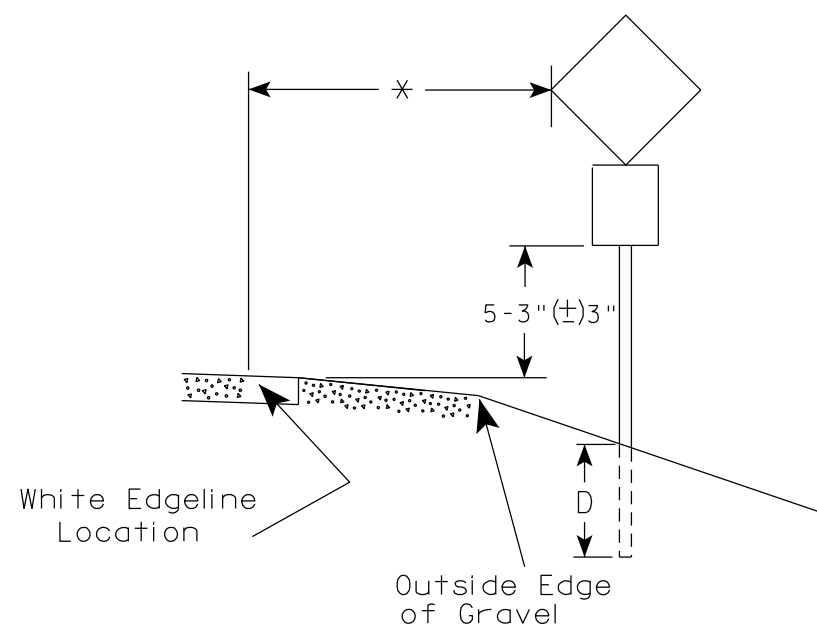
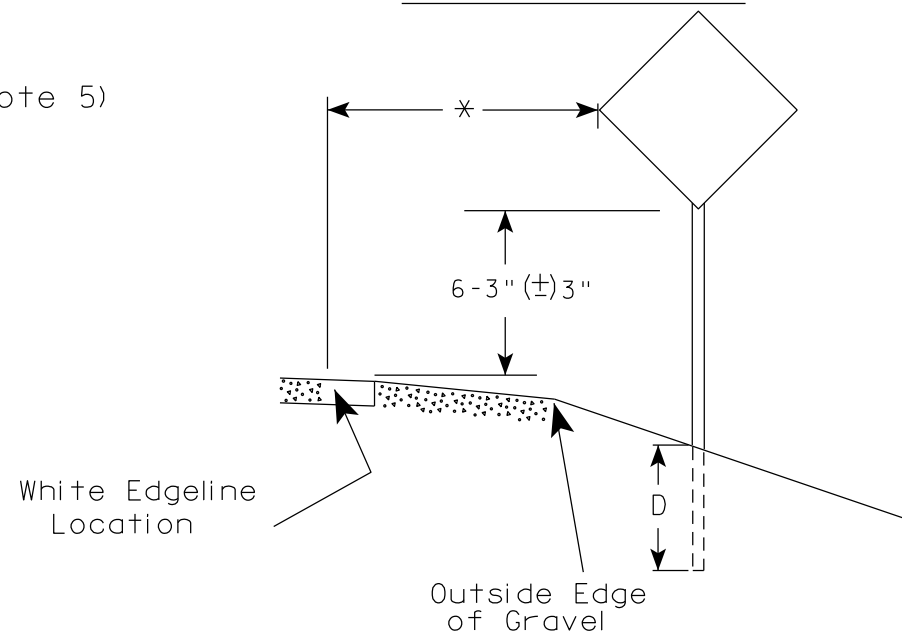
FHWA

## URBAN AREA



\* \* 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.

## RURAL AREA (See Note 2)



\* 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.

POST EMBEDMENT DEPTH

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

## GENERAL NOTES

- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- 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".
- For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- 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.

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

PROJECT NO:

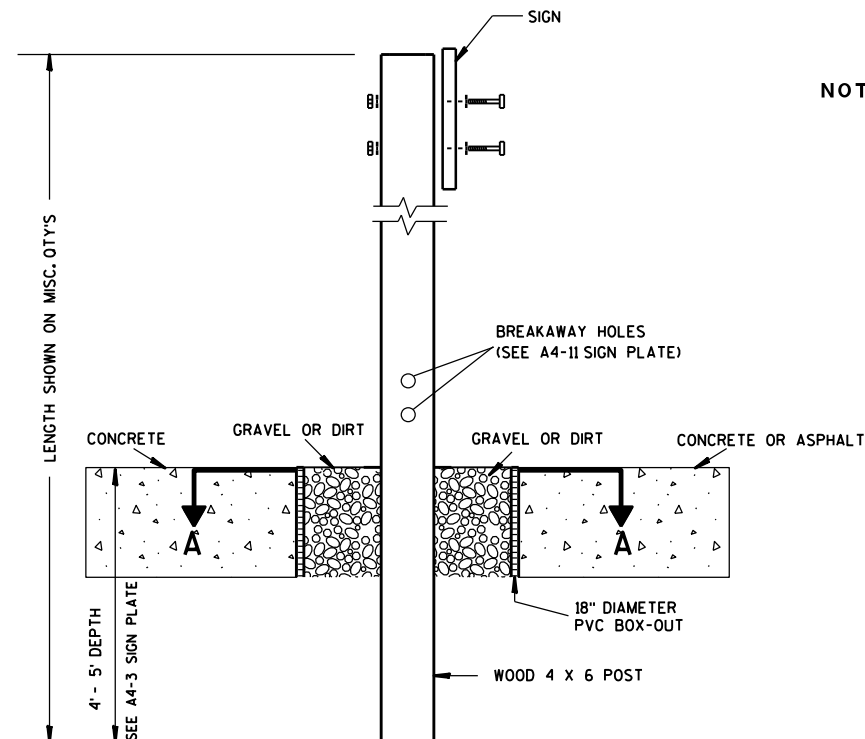
HWY:

COUNTY:

SHEET NO:

E

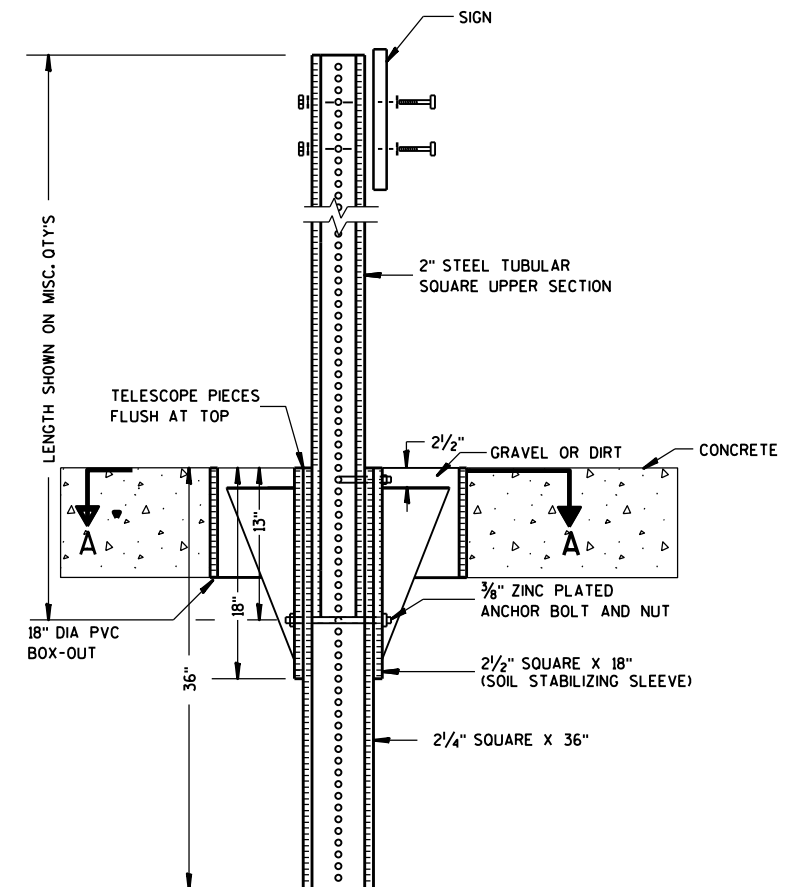




### ELEVATION VIEW

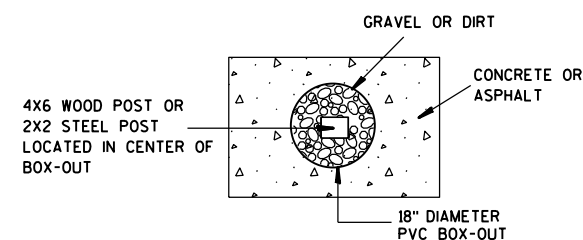
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



### ELEVATION VIEW

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



### PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST  
BOX-OUTS  
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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

PROJECT NO:

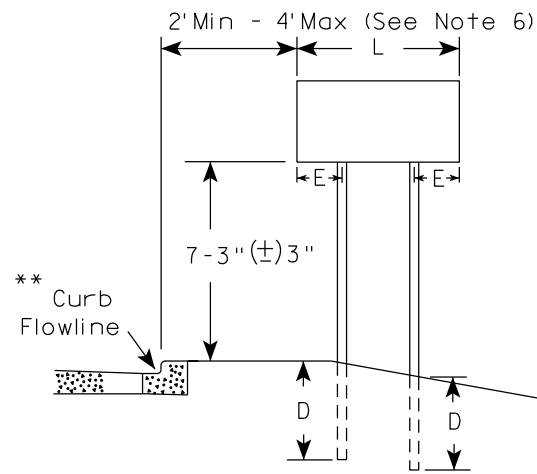
HWY:

COUNTY:

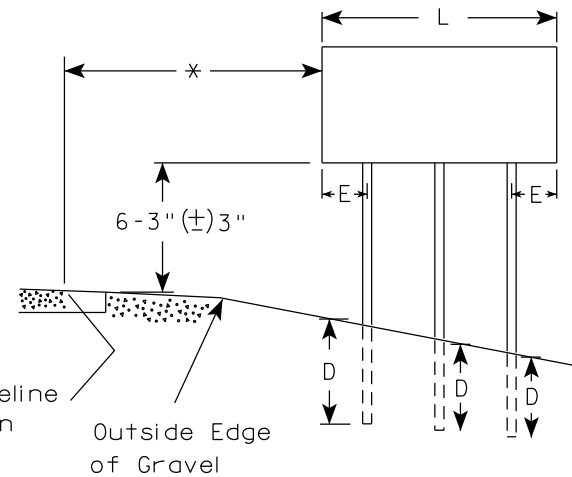
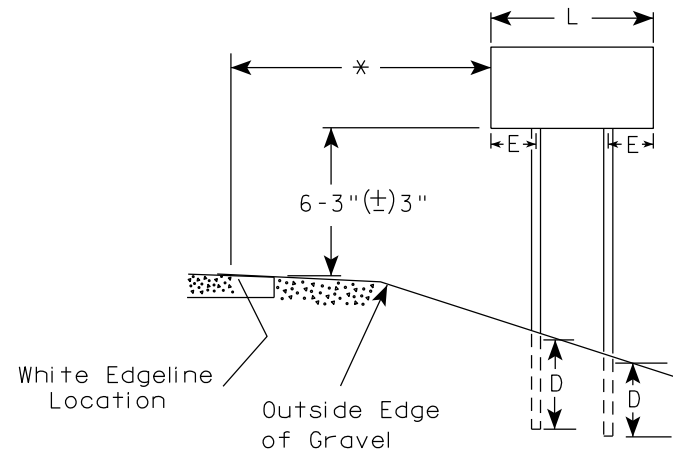
SHEET NO:

E

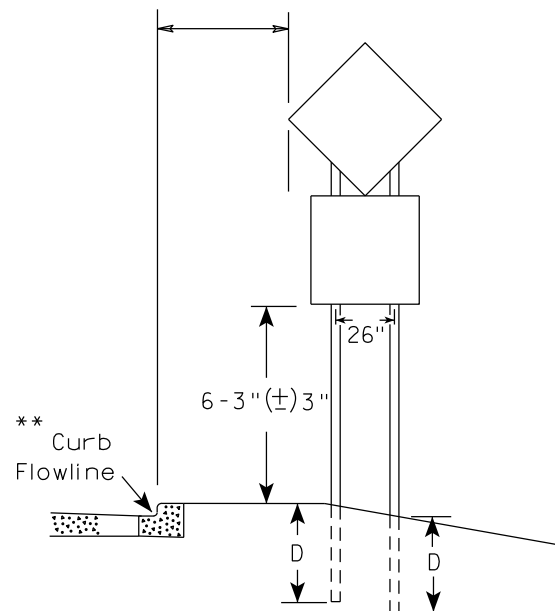
URBAN AREA



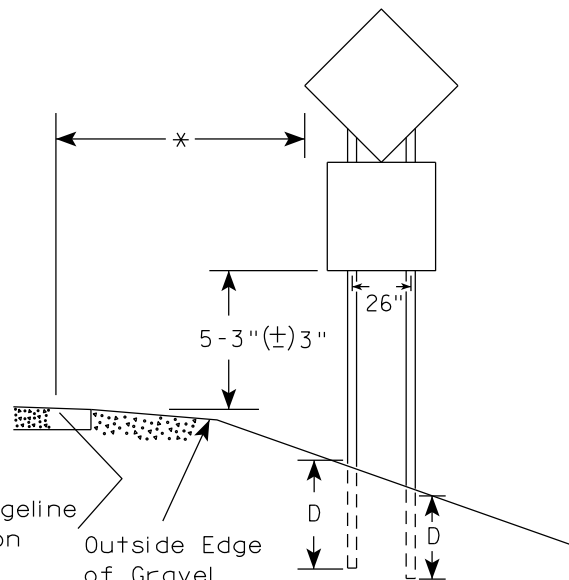
RURAL AREA (See Note 3)



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

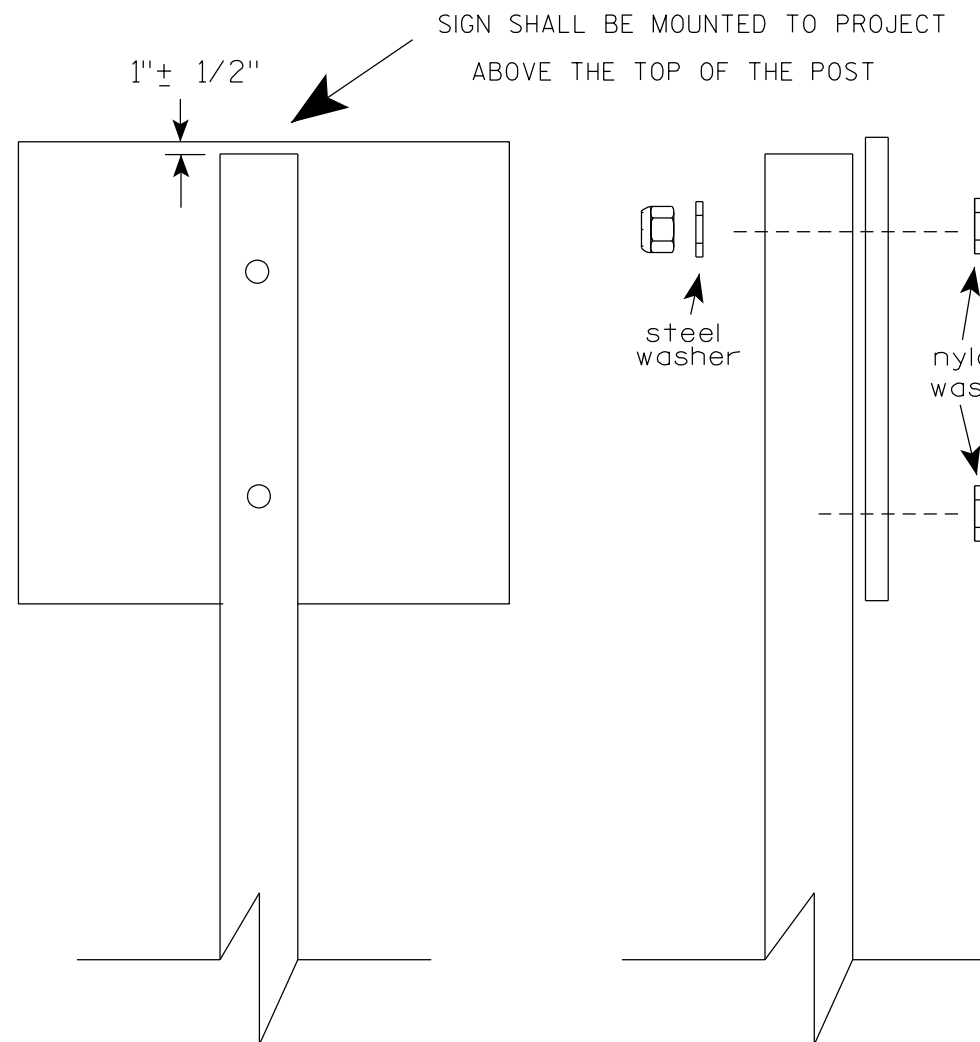
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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.

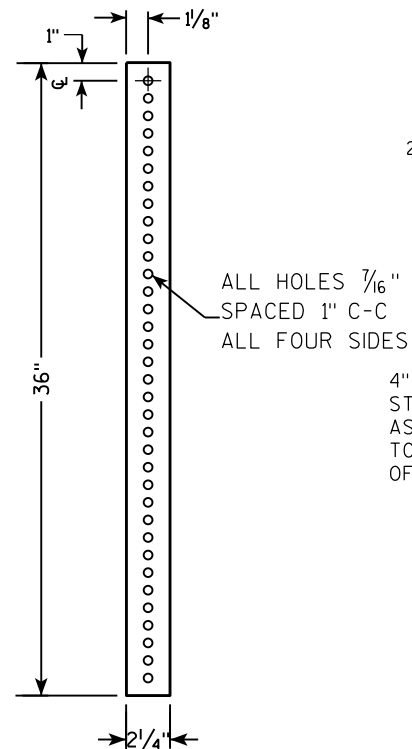
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- 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

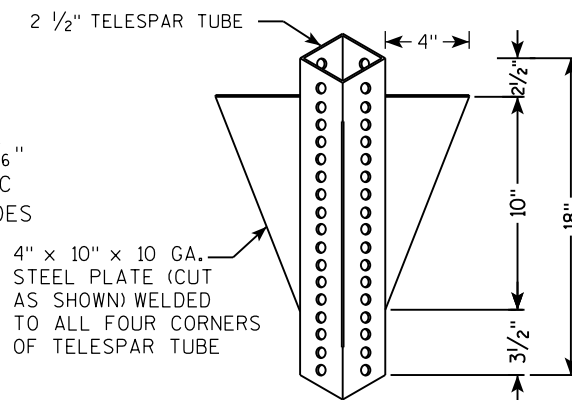
\* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

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

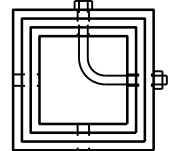


**2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH**



LENGTH SHOWN ON MISC. QTY'S  
 18" DIA SCHEDULE 40 PVC BOX-OUT  
 TELESCOPE PIECES FLUSH AT TOP  
 36"  
 18"  
 13"  
 2 1/2"  
 2 1/4" SQUARE X 36"  
 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)  
 3/8" ZINC PLATED ANCHOR BOLT AND NUT  
 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT  
 ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES  
 2" STEEL TUBULAR SQUARE UPPER SECTION  
 SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL  
 SIGN  
 2 1/2" GRAVEL OR DIRT

3/8" ZINC PLATED CORNER  
ANCHOR BOLT AND NUT



DIRECTION  
OF TRAFFIC

SECTION A-A

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

TUBULAR STEEL  
SIGN POST  
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthieu R. Rauch

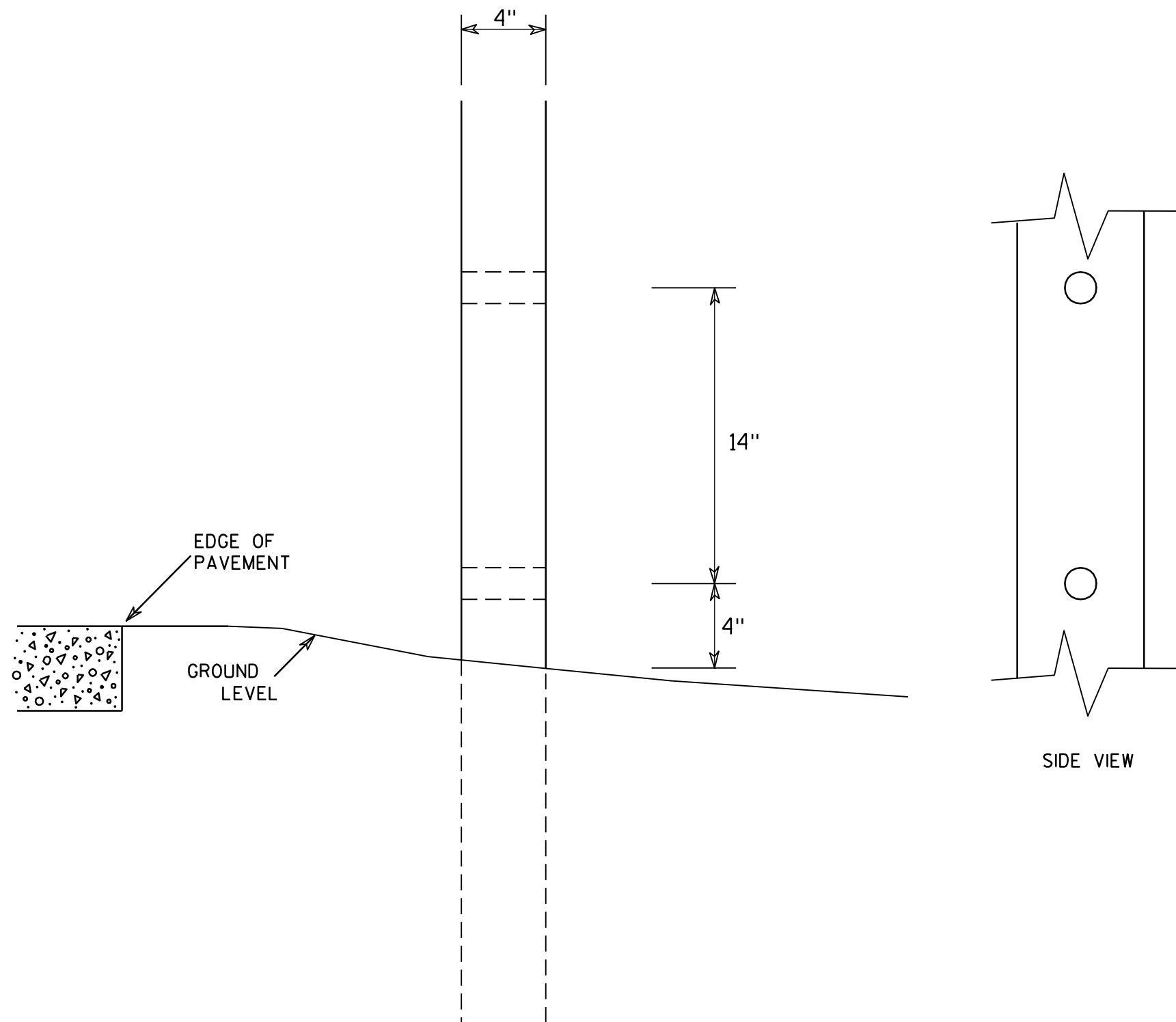
for State Traffic Engineer

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

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

GENERAL NOTES

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

7

**4 X 6 WOOD POST  
MODIFICATIONS**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

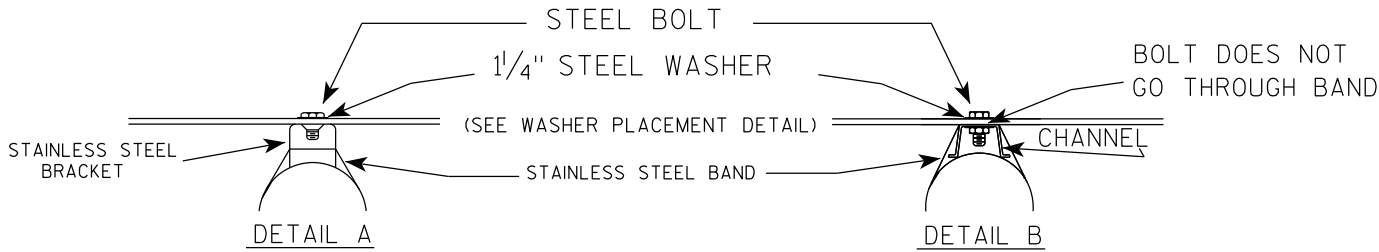
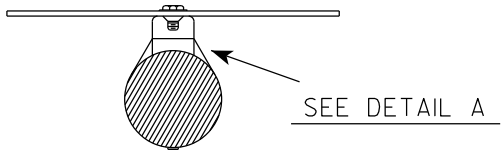
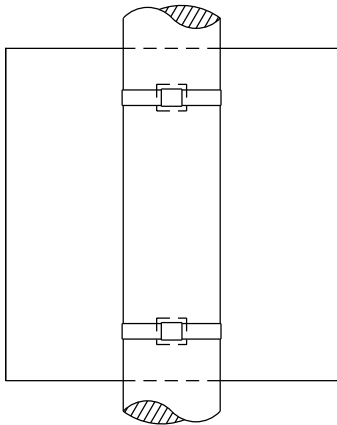
COUNTY:

SHEET NO:

E

BANDING

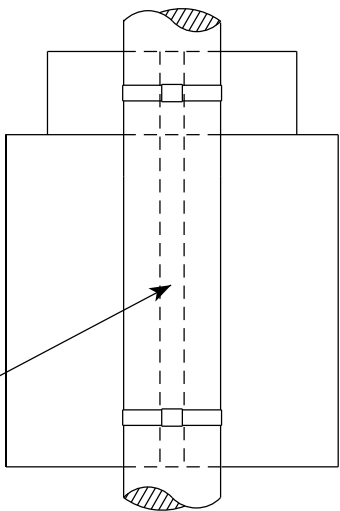
SINGLE SIGN



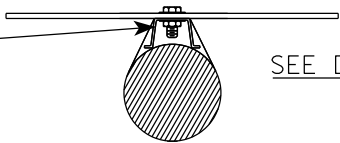
GENERAL NOTES

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

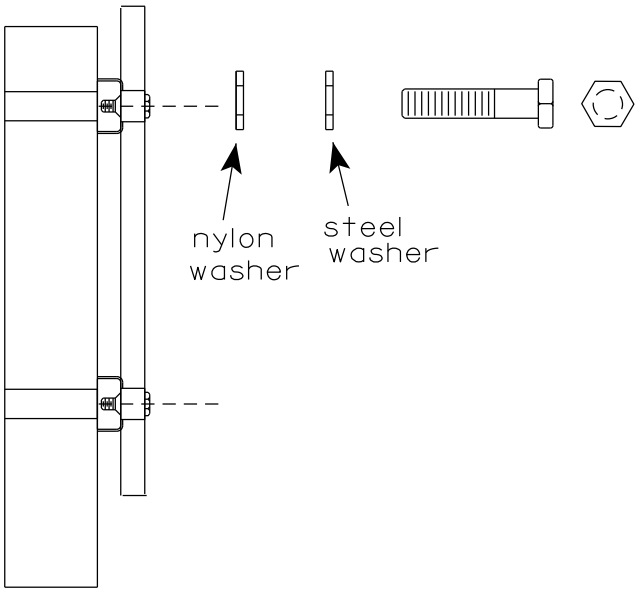
"J" ASSEMBLY



CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



WASHER PLACEMENT

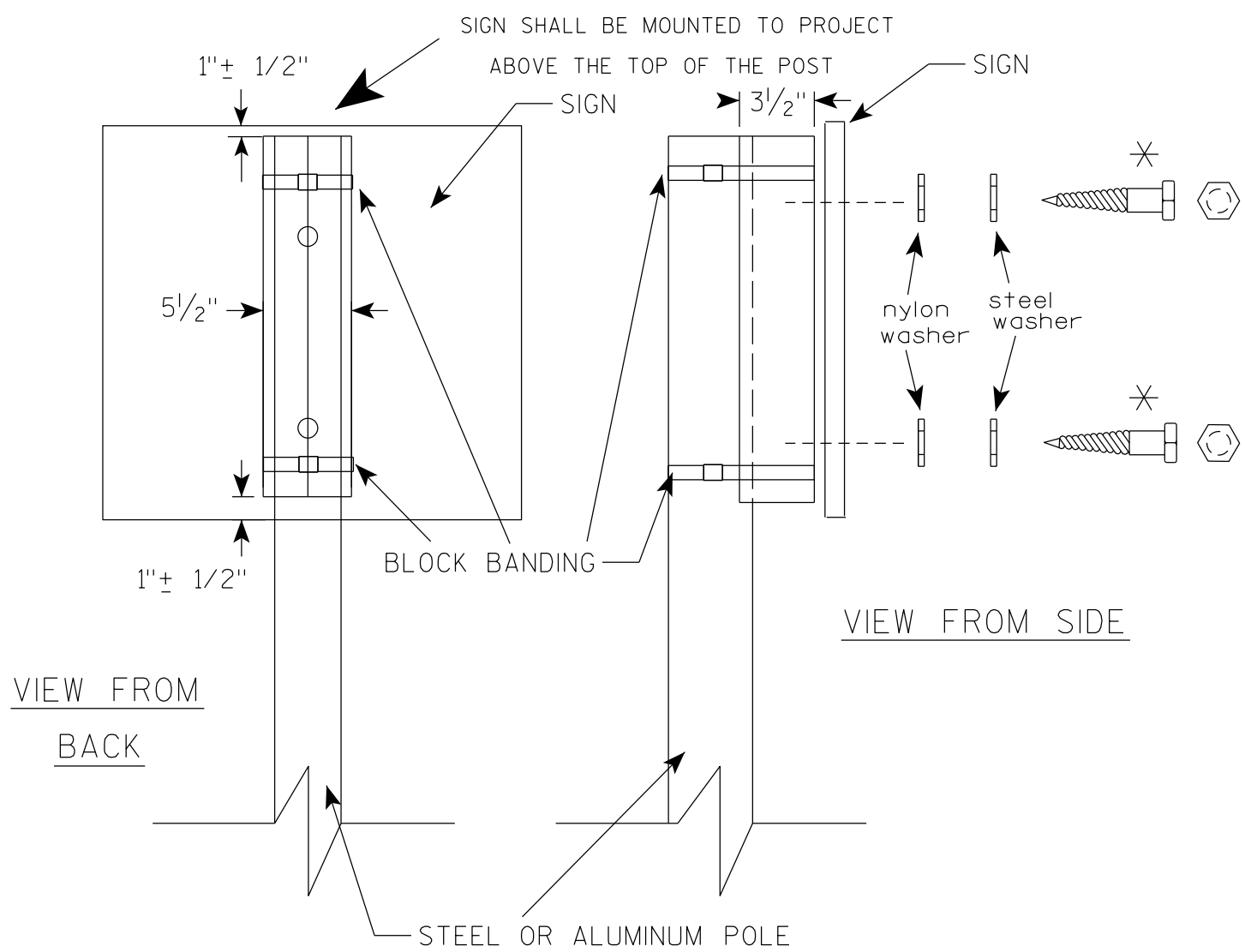


WASHERS (ALL POSTS) -  
1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ " STEEL  
1-1/4" O.D. X  $\frac{3}{8}$ " I.D. X .080 NYLON  
FOR ALL TYPE H SIGNS

STANDARD SIGN  
SIGN BANDING DETAILS

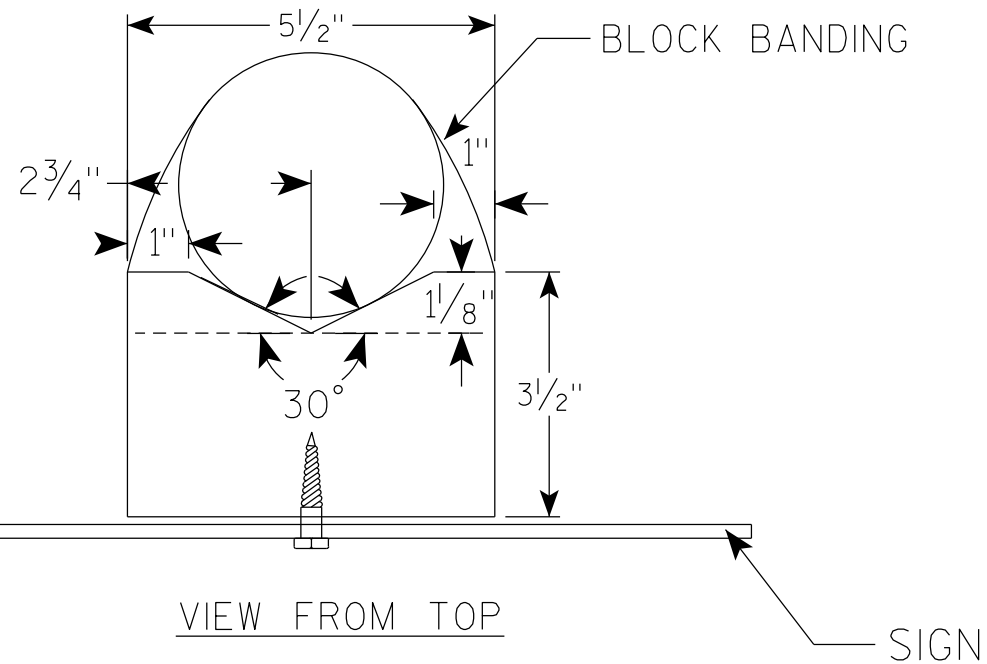
WISCONSIN DEPT OF TRANSPORTATION

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:

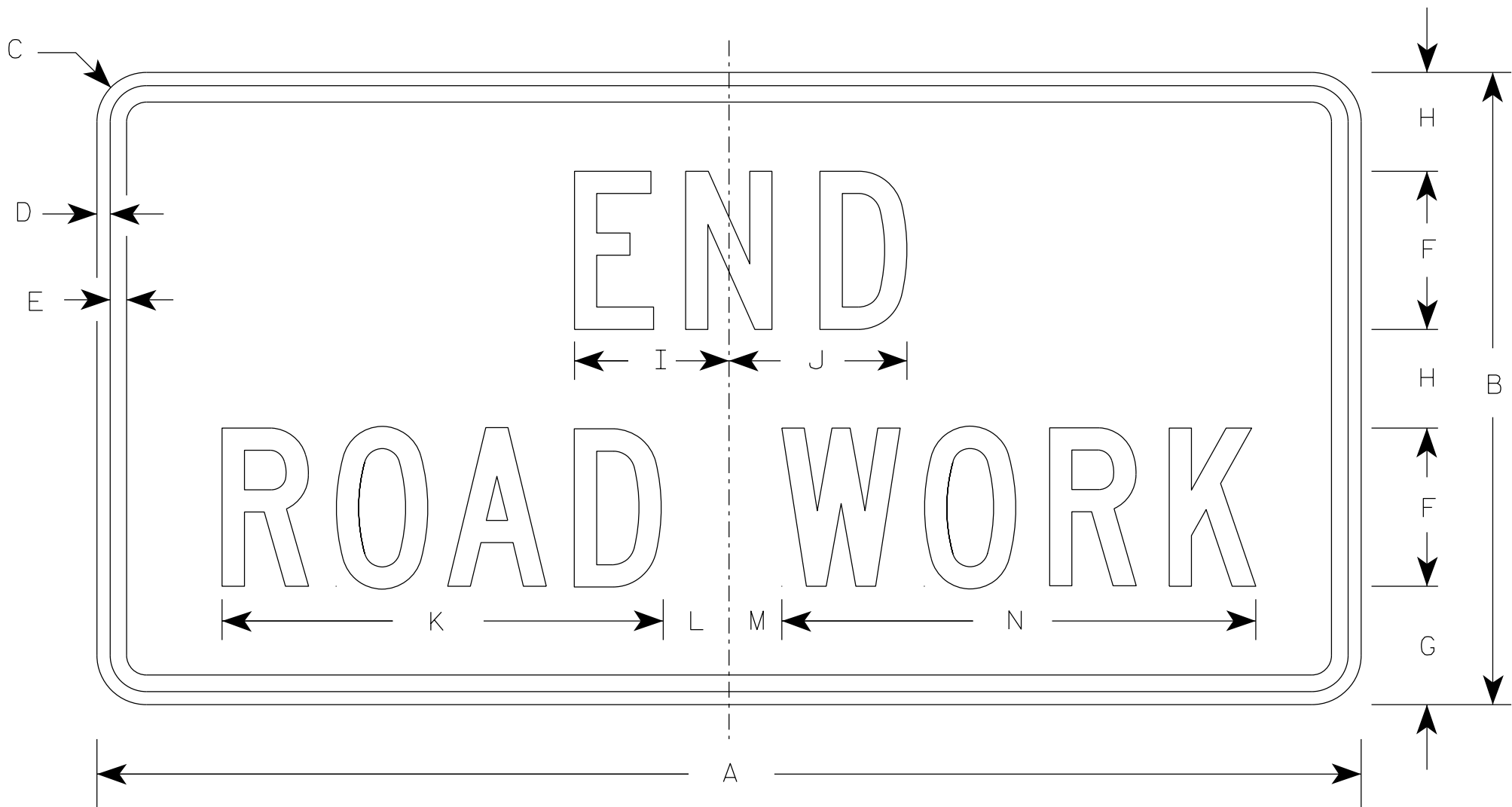
E

NOTES

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

Background - Orange

Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



G20-2A

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	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5
2	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
2M	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
3	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
4	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
5	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

STANDARD SIGN

G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*

For State Traffic Engineer

DATE 1/26/2023 PLATE NO. G20-2A.10

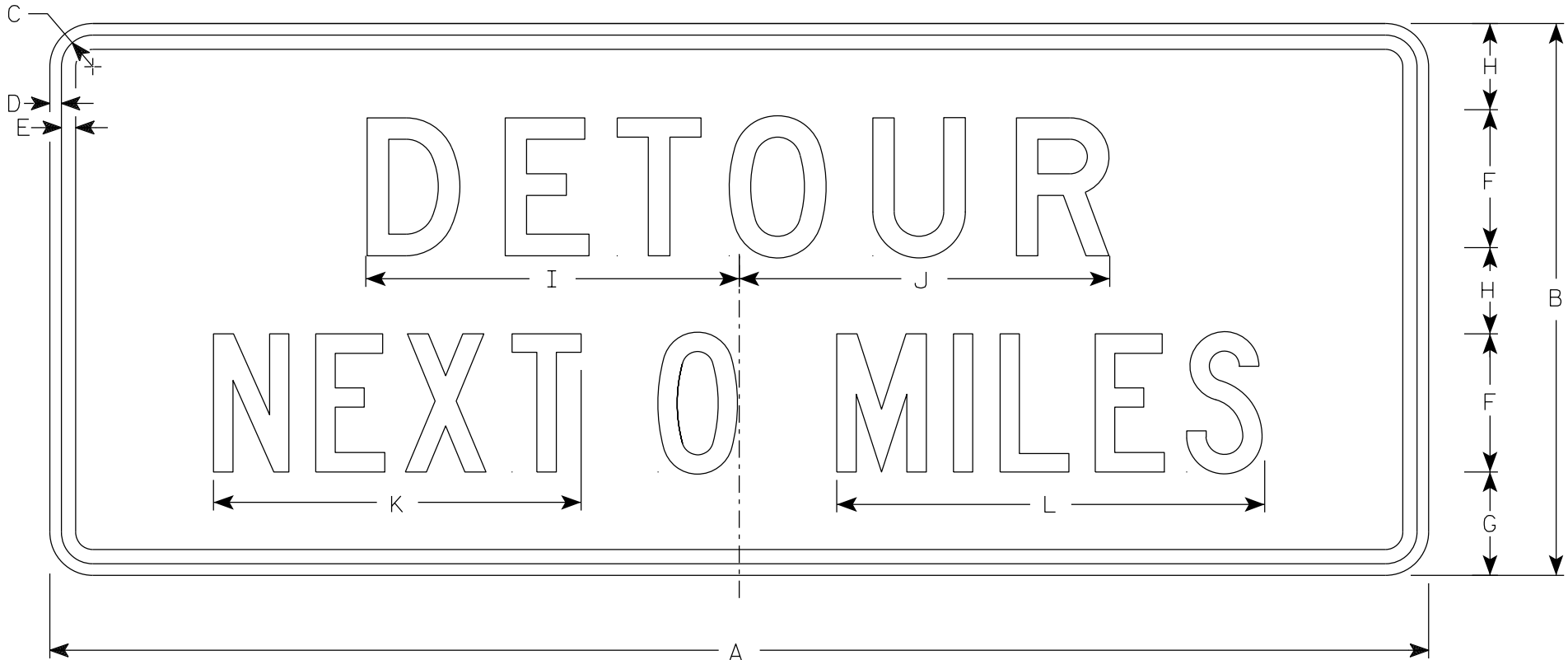


NOTES

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

Background - Orange

Message - Black
3. Message Series - Line 1 is D and Line 2 is 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. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance



G20-51

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	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0
2M	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0
3	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0
4	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0
5	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0

STANDARD SIGN  
G20-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
State Traffic Engineer

DATE 1/26/2023 PLATE NO. G20-51.3

PROJECT NO:

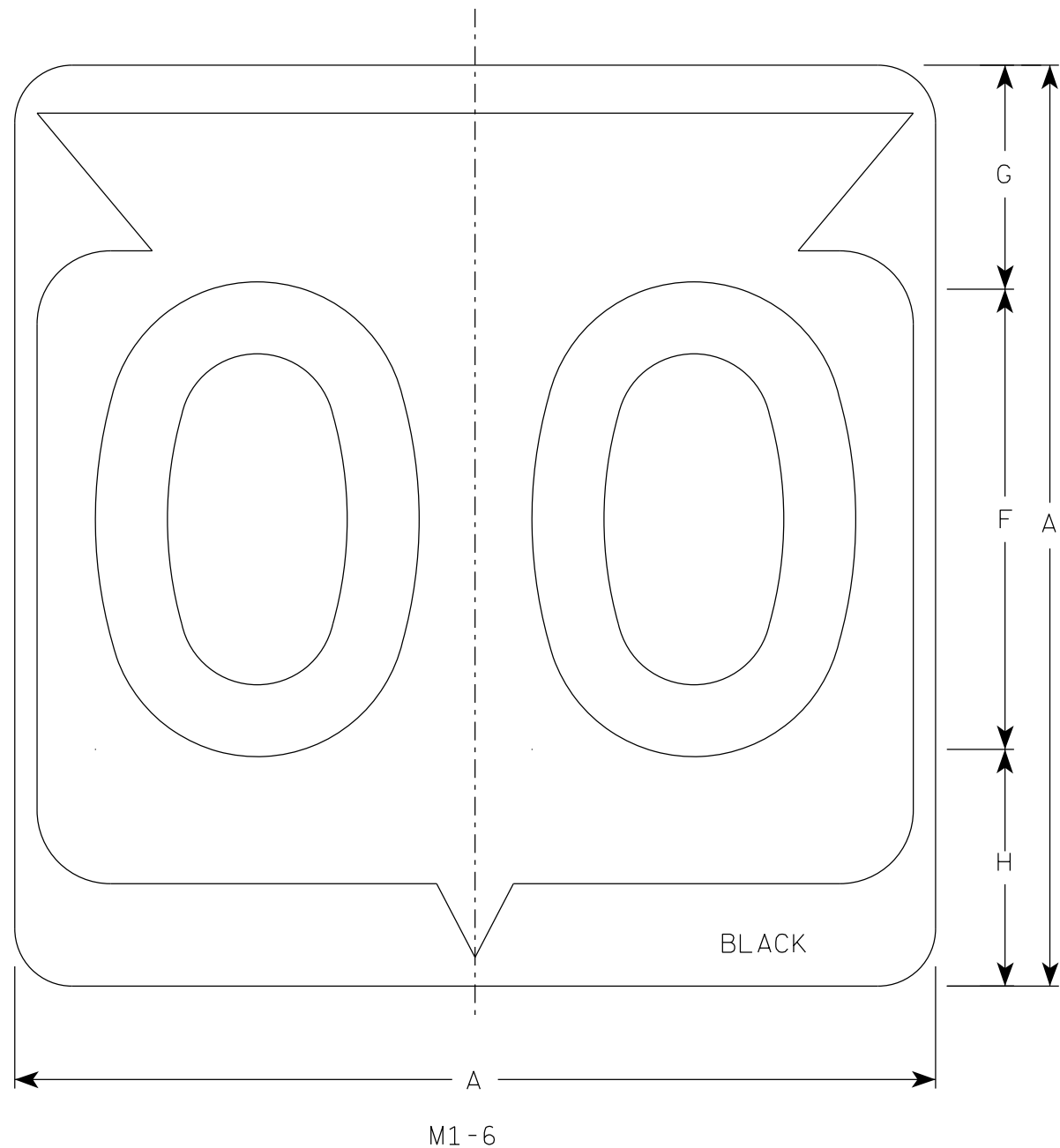
HWY:

COUNTY:

SHEET NO:

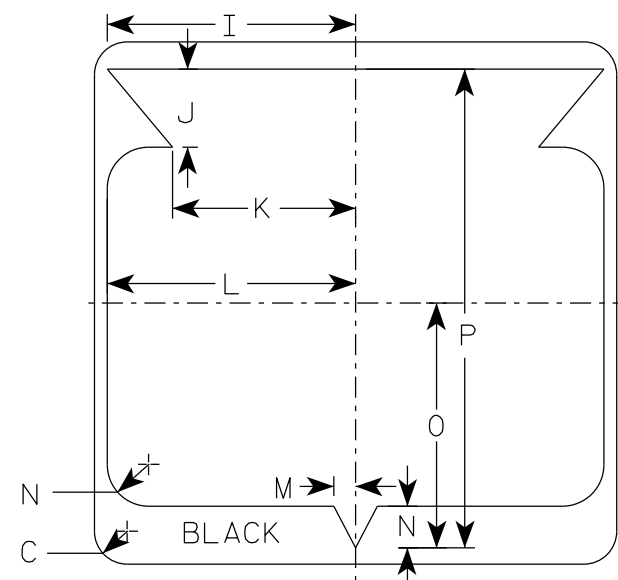
E

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

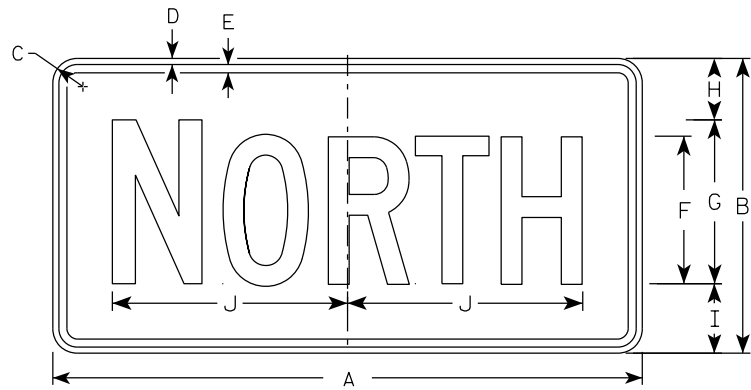
STATE ROUTE MARKER  
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

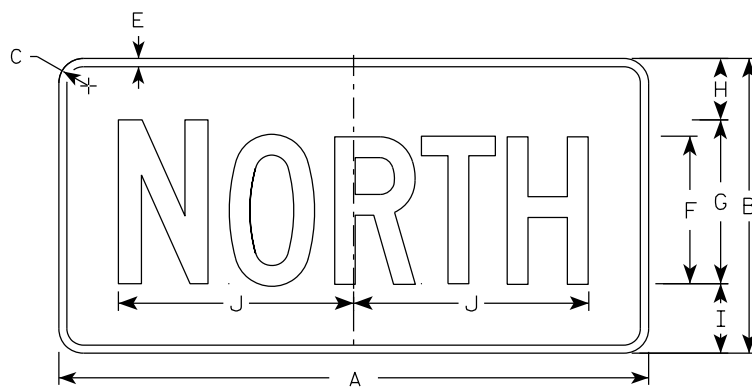
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-6.11

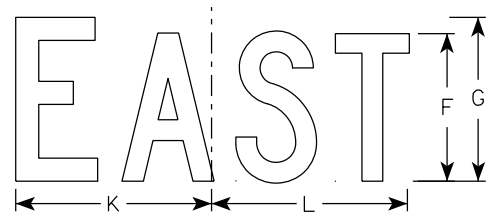
PROJECT NO: HWY: COUNTY: SHEET NO: **E**



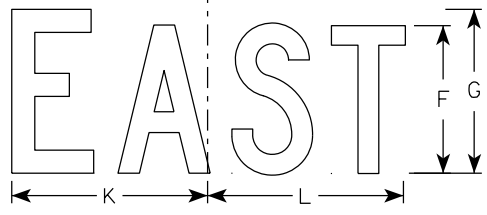
M3-1  
MM3-1  
MP3-1



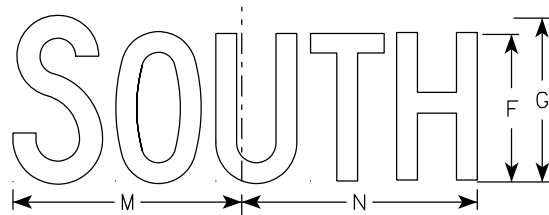
MB3-1  
MK3-1  
MN3-1



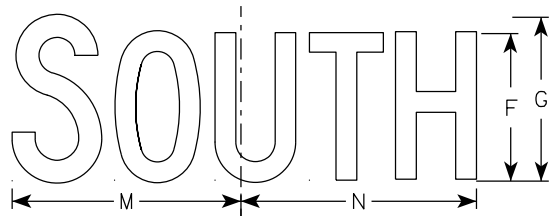
M3-2  
MM3-2  
MP3-2



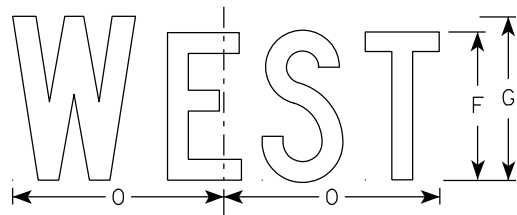
MB3-2  
MK3-2  
MN3-2



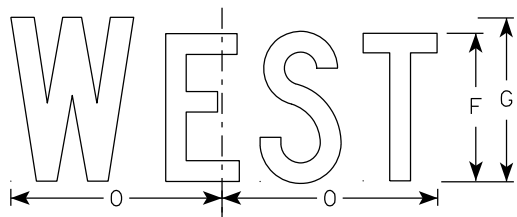
M3-3  
MM3-3  
MP3-3



MB3-3  
MK3-3  
MN3-3



M3-4  
MM3-4  
MP3-4



MB3-4  
MK3-4  
MN3-4

## NOTES

- All Signs Type II - Type H Reflective
- 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.
- M3-1 thru M3-4 Background - White  
Message - Black  
MB3-1 thru MB3-4 Background - Blue  
Message - White  
MK3-1 thru MK3-4 Background - Green  
Message - White  
MM3-1 thru MM3-4 Background - White  
Message - Green  
MN3-1 thru MN3-4 Background - Brown  
Message - White  
MP3-1 thru MP3-4 Background - White  
Message - Blue
- Note the first letter of each direction is larger than the remainder of the message.

7

7

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

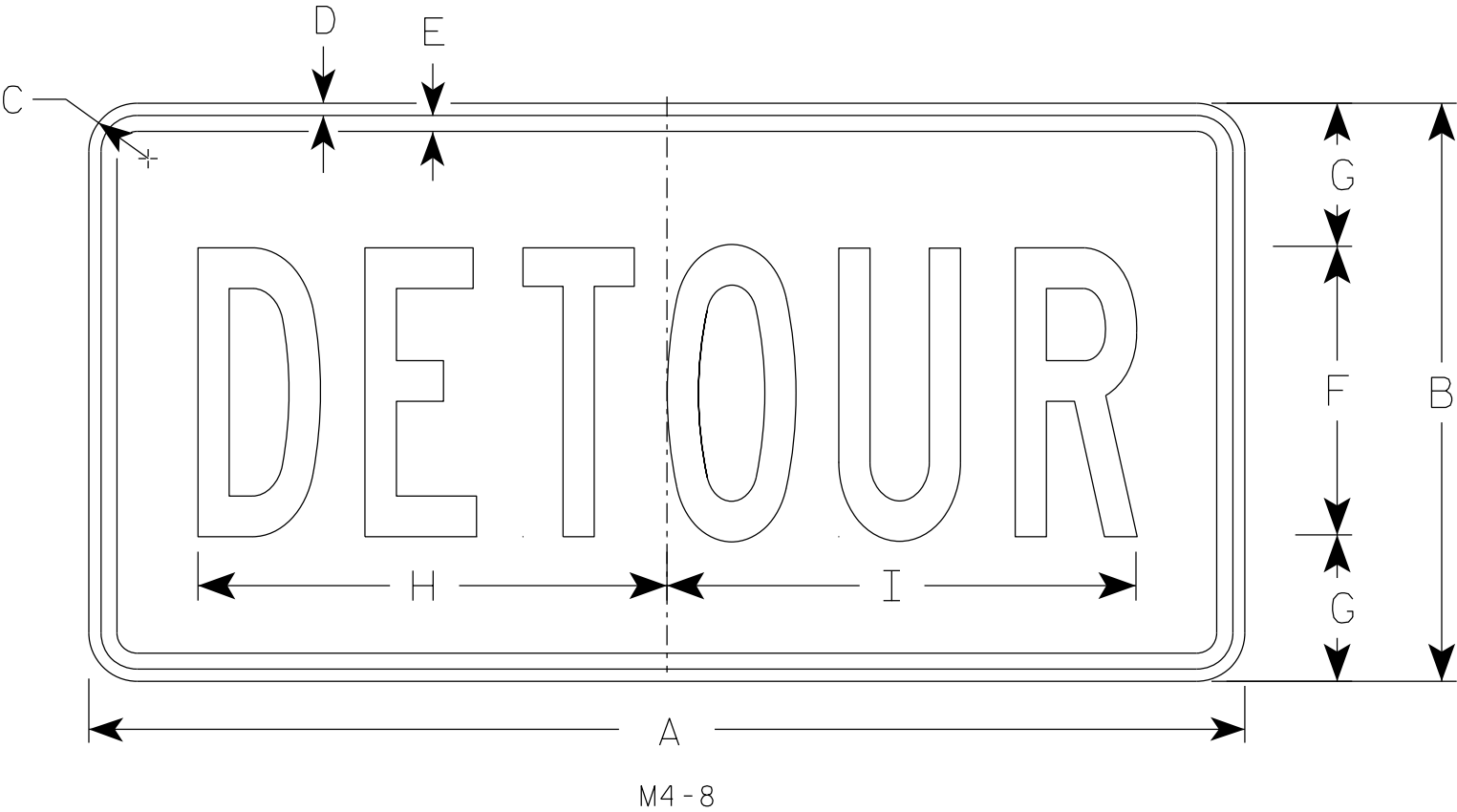
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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7

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

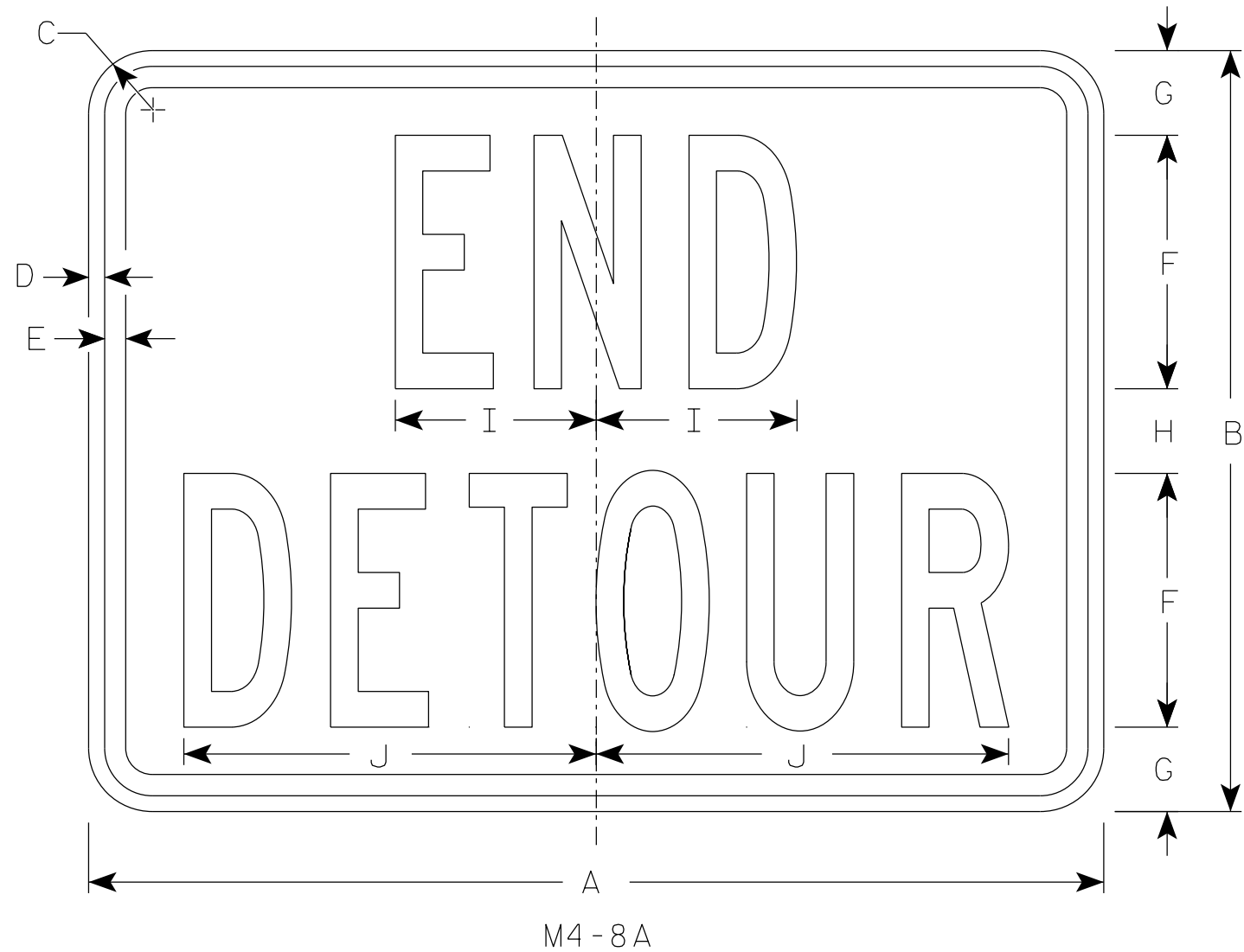
M4-8

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.

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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

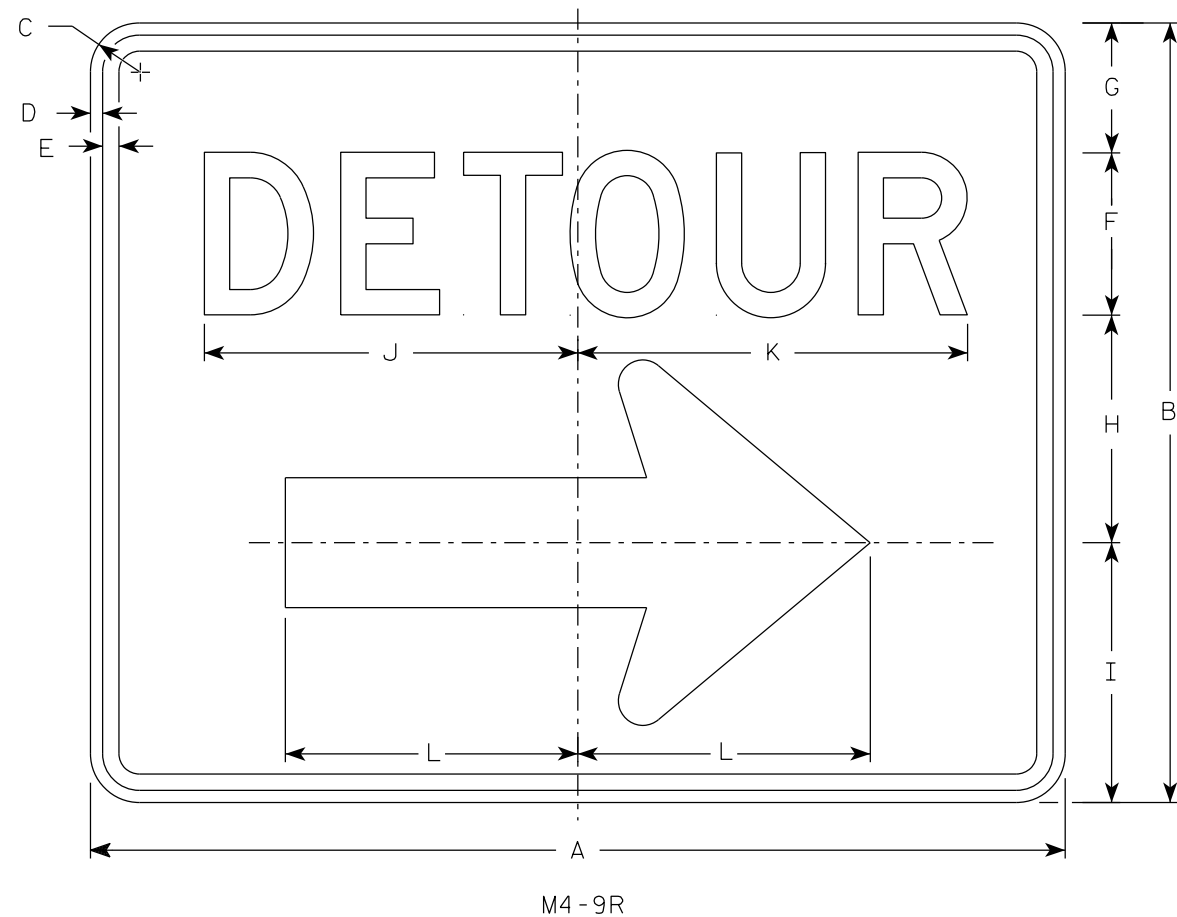
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

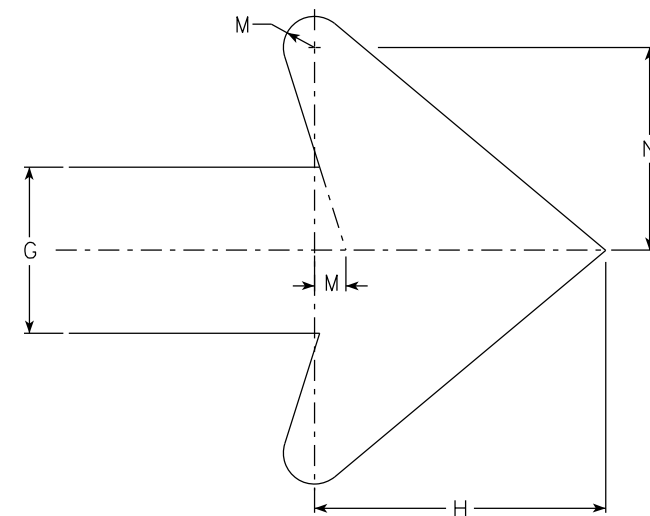
DATE 2/9/2023 PLATE NO. M4-8A.4





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

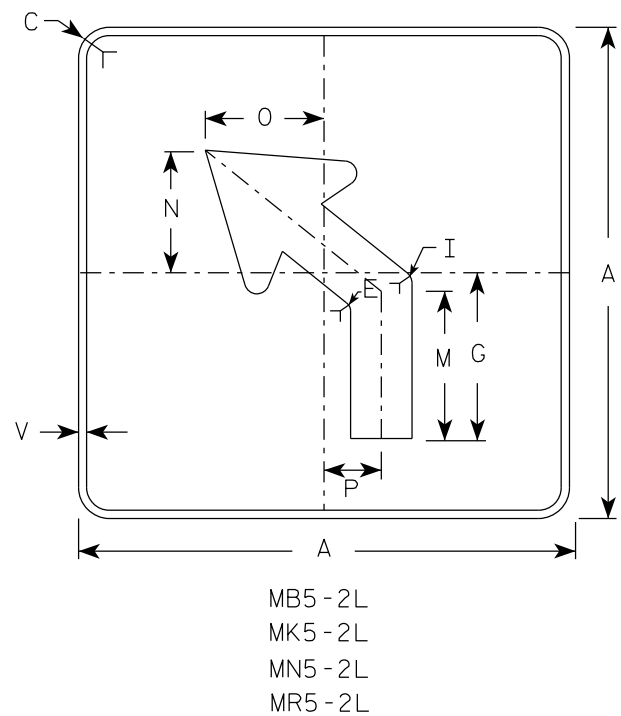
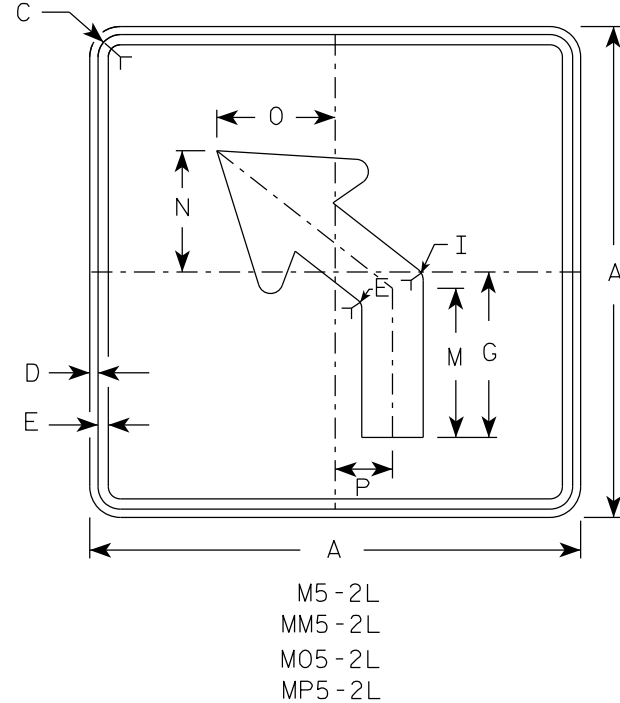
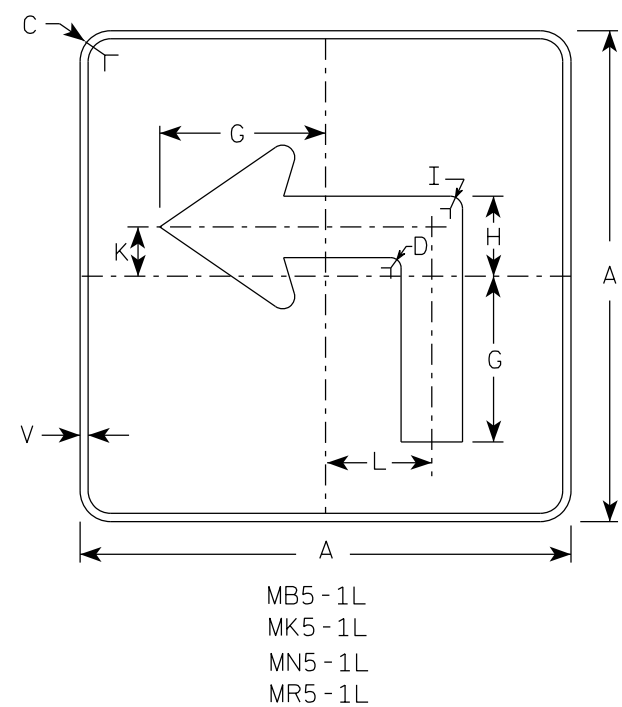
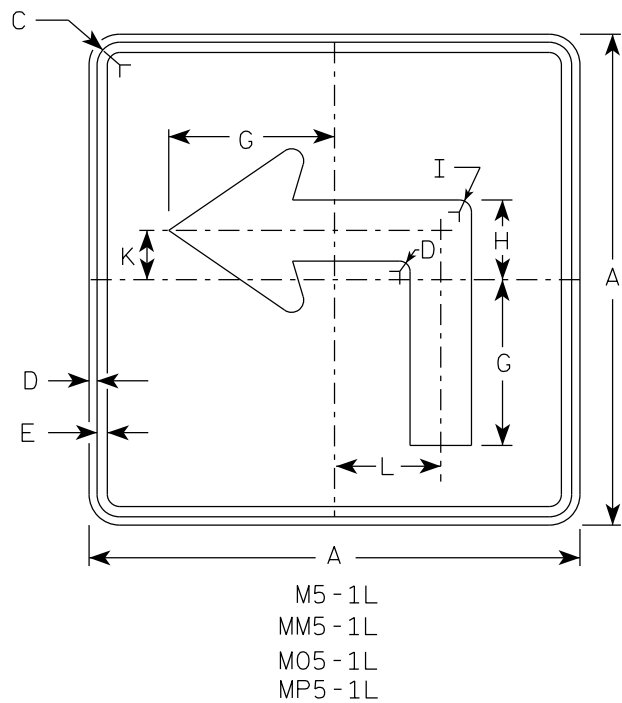
STANDARD SIGN  
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9R.6

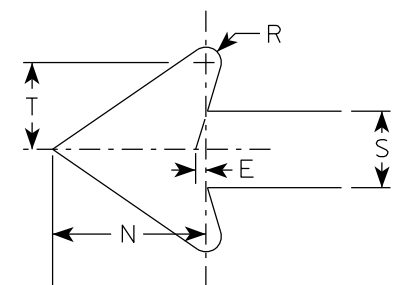
PROJECT NO: HWY: COUNTY: SHEET NO: **E**



NOTES

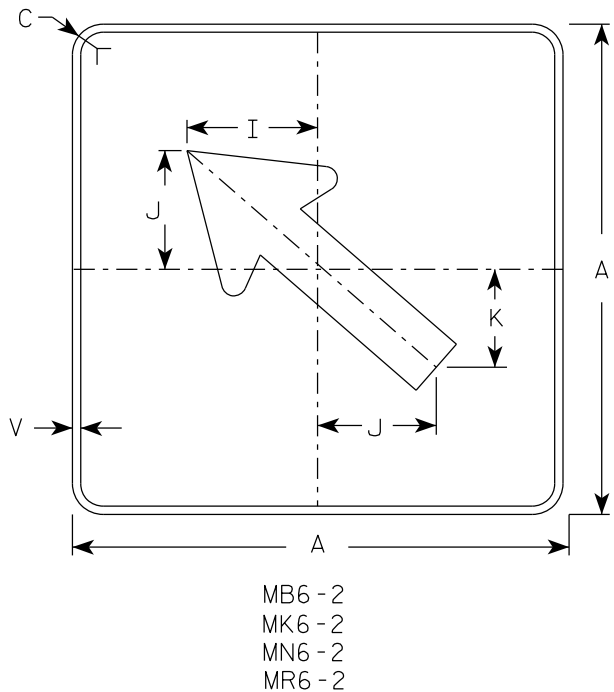
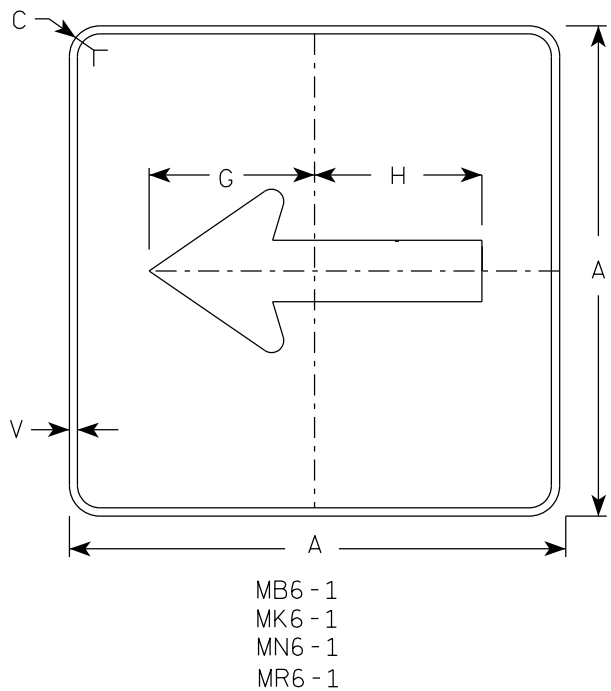
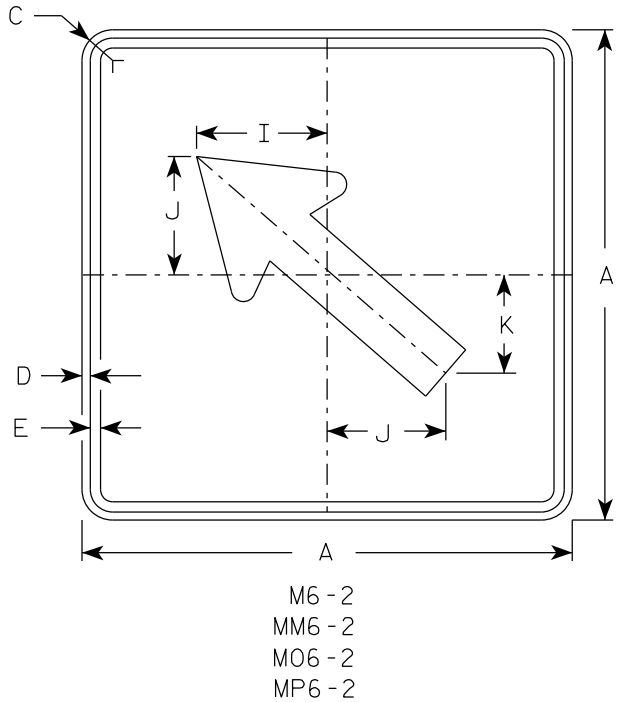
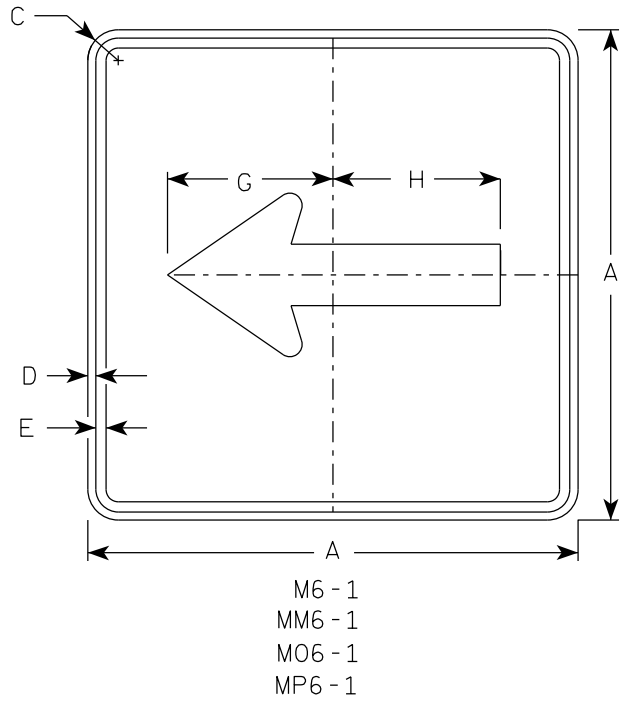
- Signs are Type II - Type H reflective except as shown
- Color:  
Background - See note 4  
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- |           |       |   |
|-----------|-------|---|
| 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

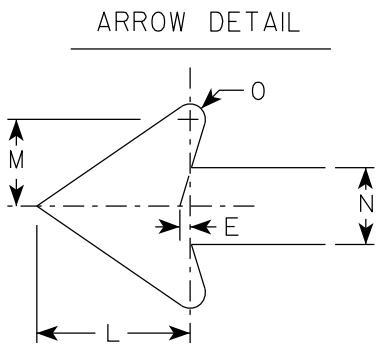


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

STANDARD SIGN  
M6-1 & M6-2  
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

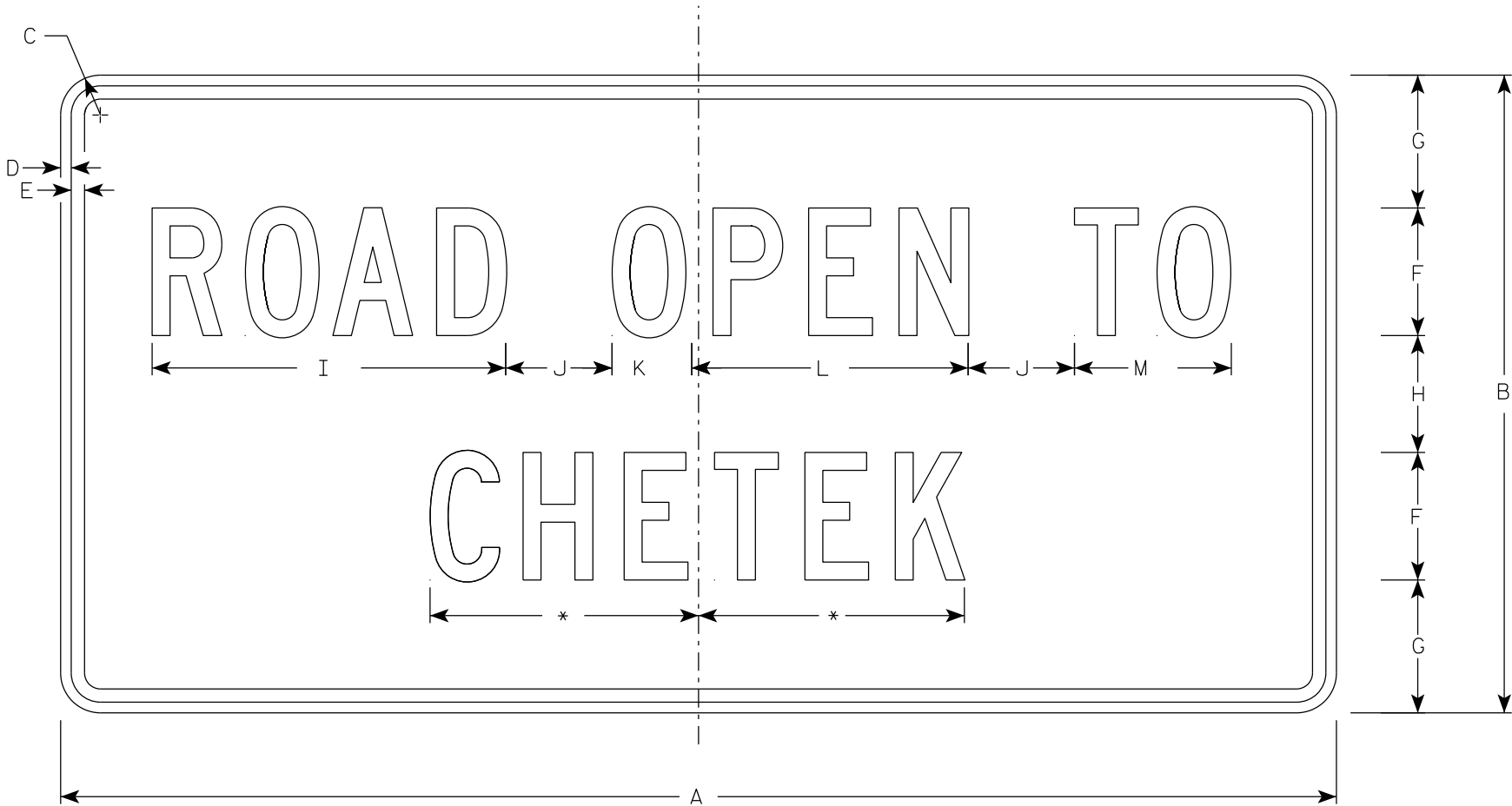
DATE 2/13/2023 PLATE NO. M6-1.16

7

7

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 message and optically balance.



R10-61

\*See note 5

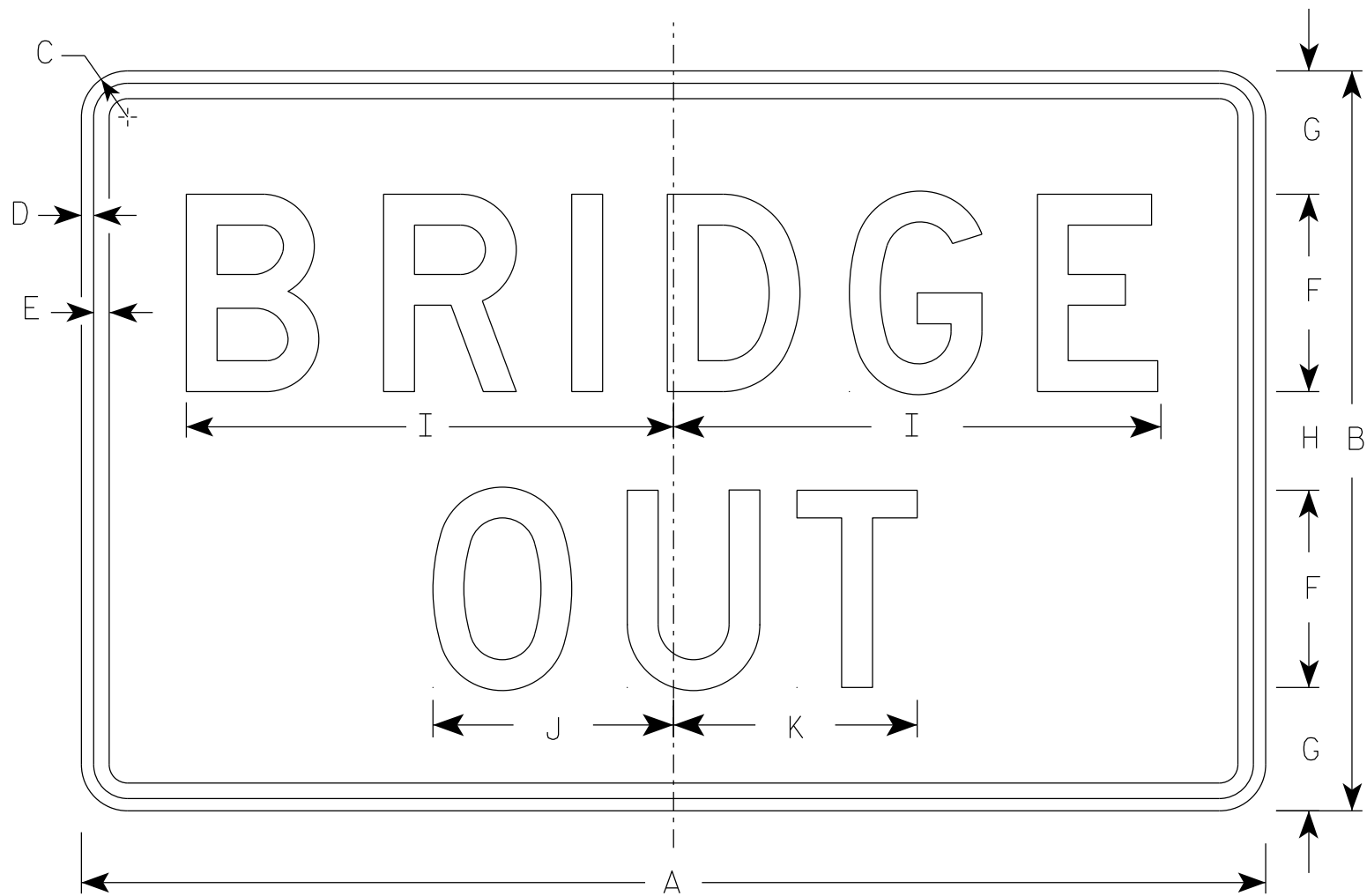
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	24	1 1/2	1/2	5/8	4	5 1/2	5	10 3/4	2	2 1/8	8 3/8	4 5/8														6.0
2S	60	30	1 7/8	1/2	5/8	6	6 1/4	5 1/2	16 5/8	5	3 3/4	13	7 3/8														12.5
2M	60	30	1 7/8	1/2	5/8	6	6 1/4	5 1/2	16 5/8	5	3 3/4	13	7 3/8														12.5
3																											
4																											
5																											

STANDARD SIGN  
R10-61

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R10-61.6



R11-2B

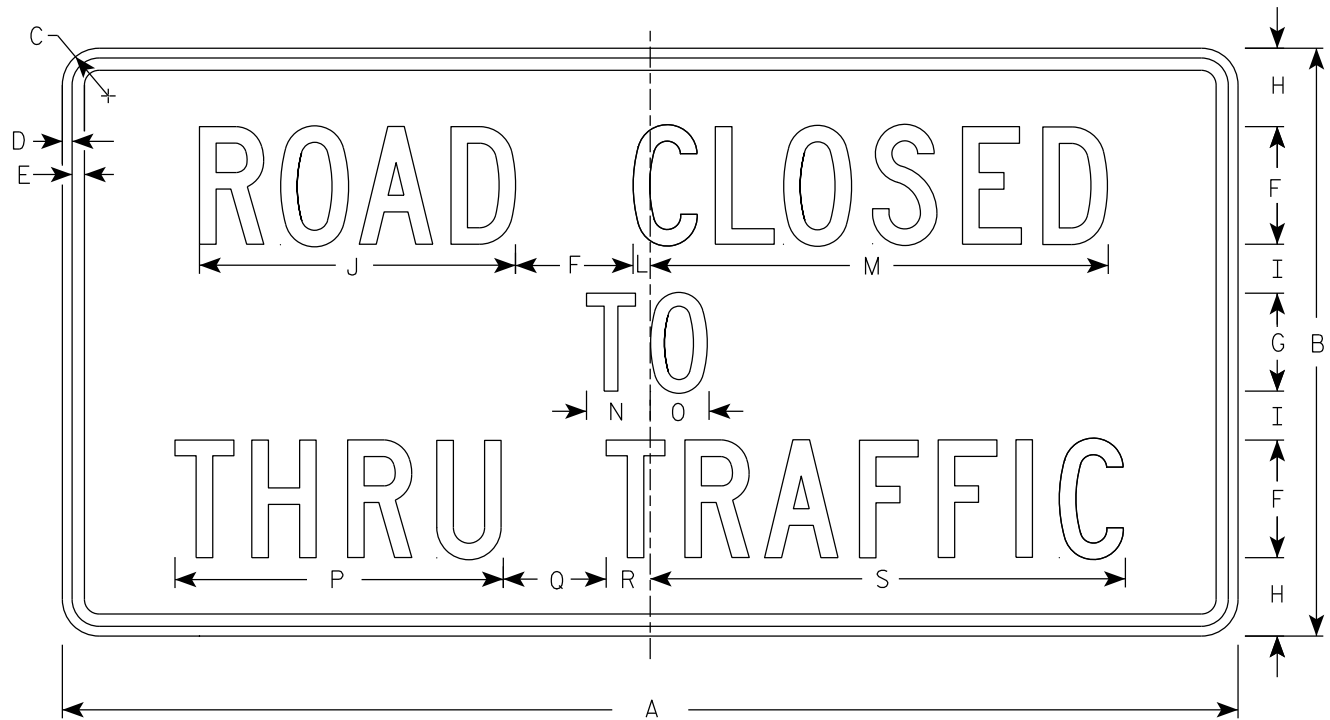
NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0



7



R11-4

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.

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																											
2S	60	30	1 7/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 7/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

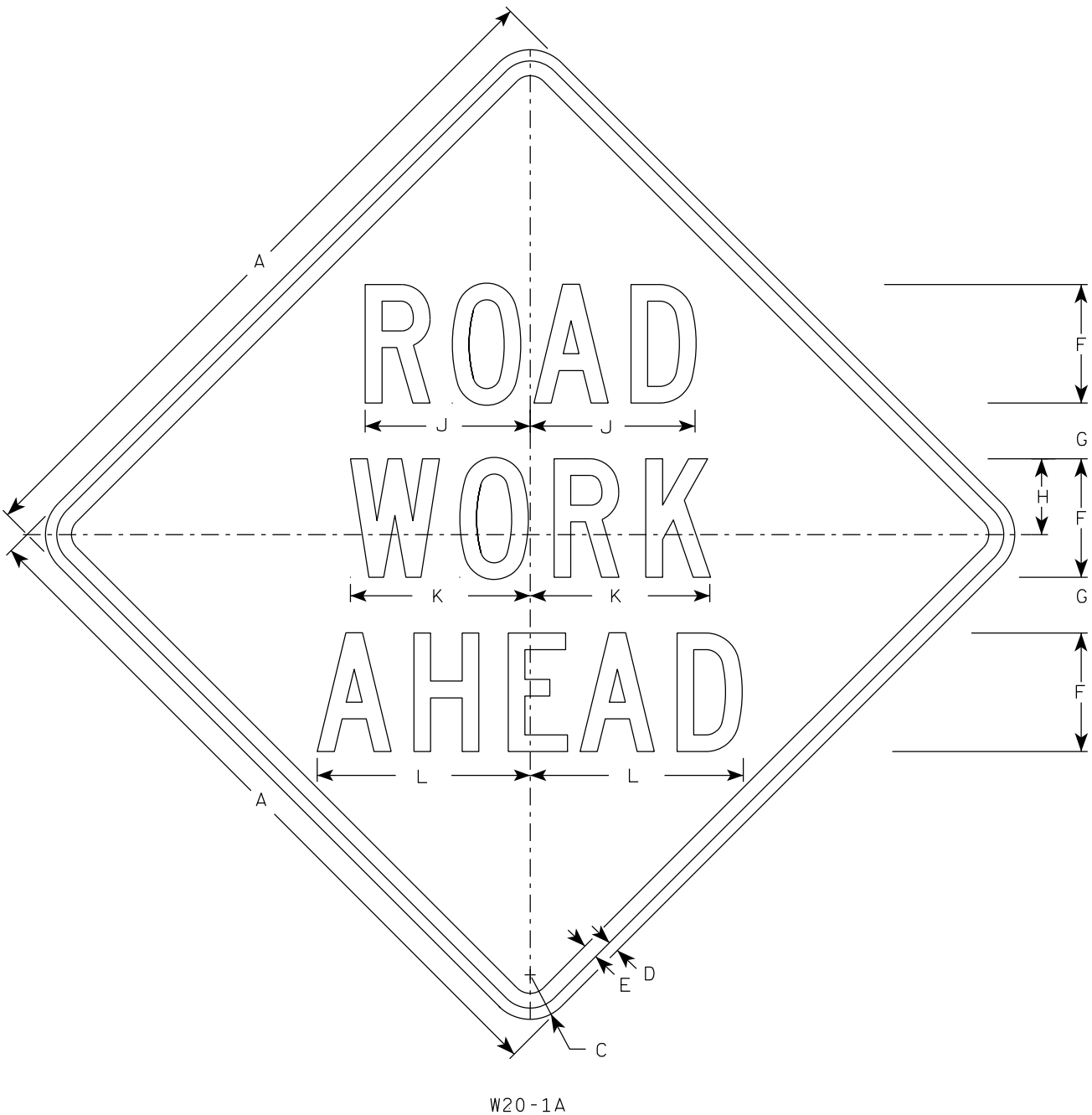
PROJECT NO:

HWY:

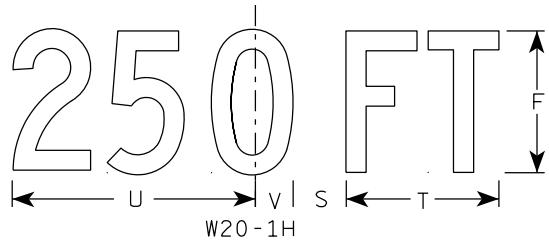
COUNTY:

SHEET NO:

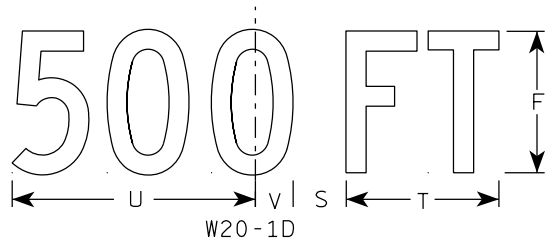
E



W20-1A



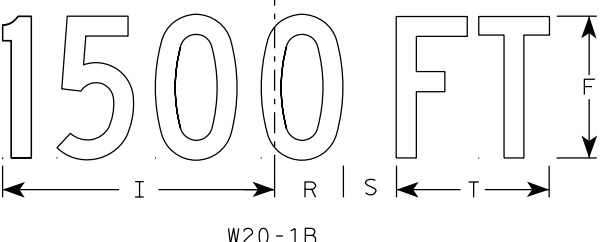
W20-1H



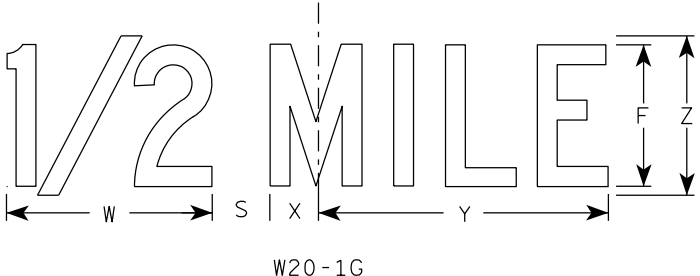
W20-1D



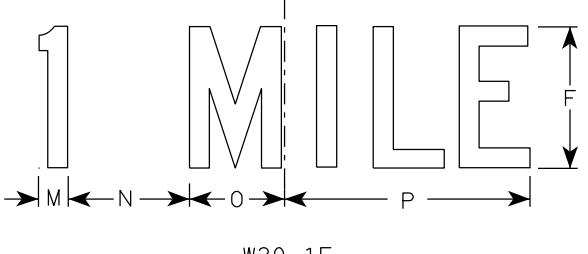
W20-1C



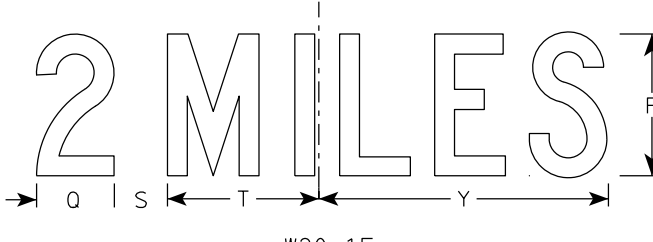
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

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

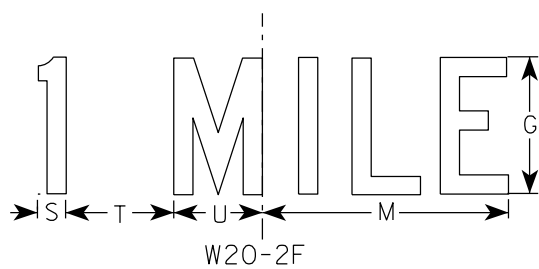
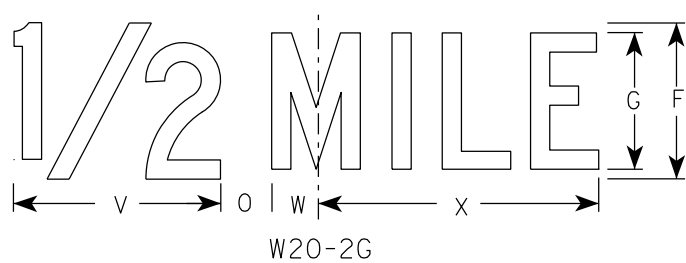
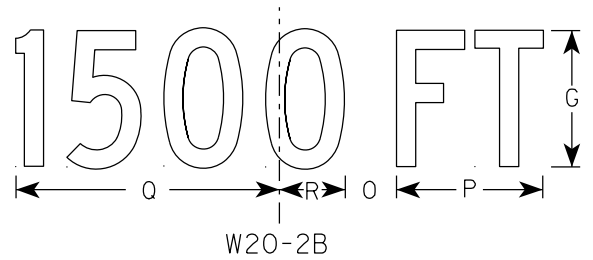
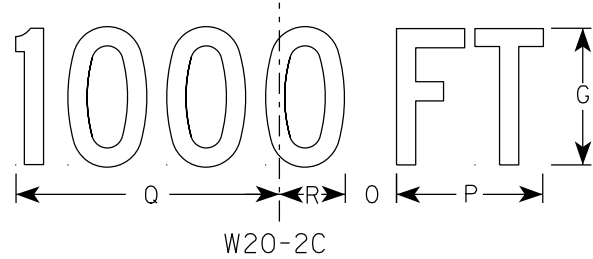
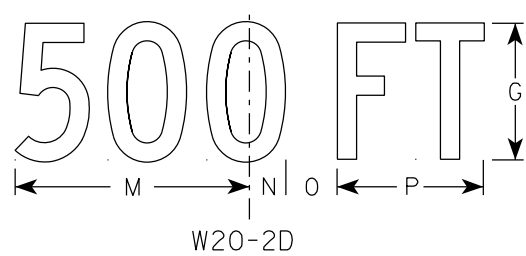
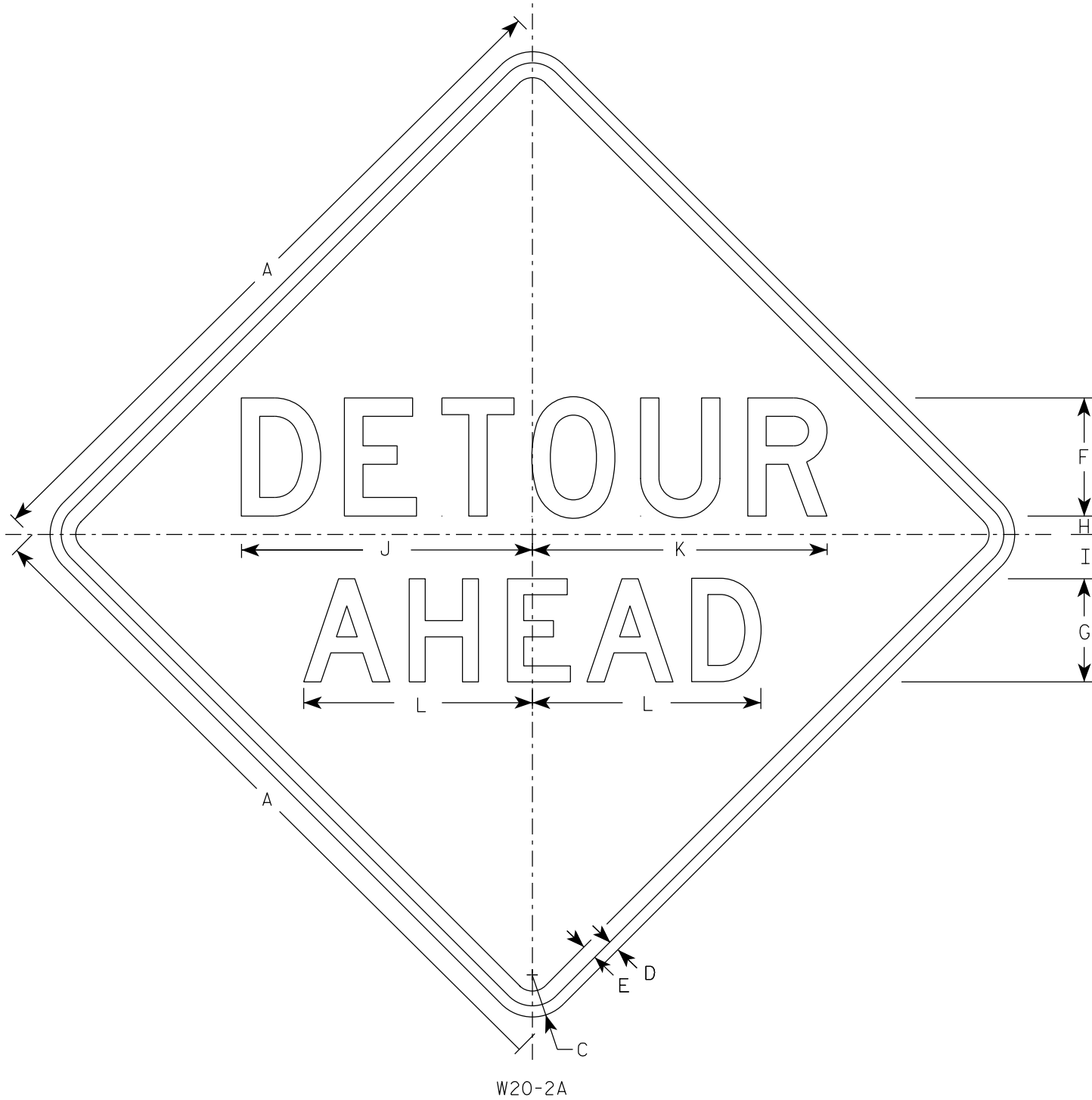
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-1.12



NOTES

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

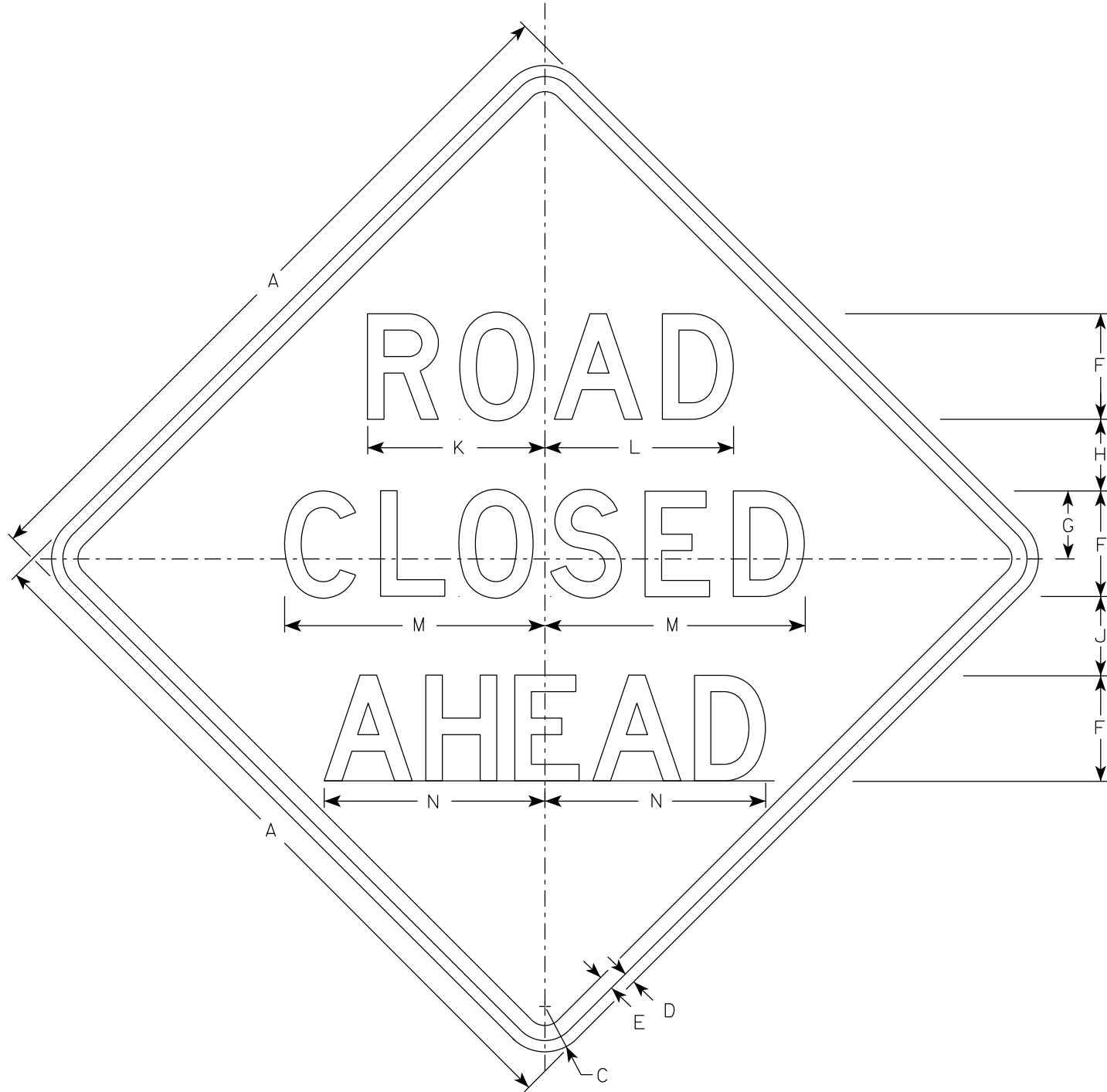
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	w	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			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

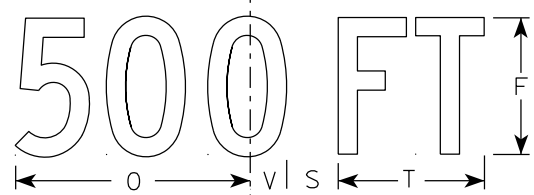
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

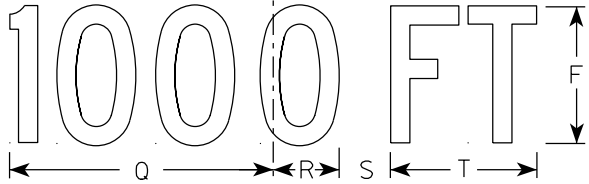
DATE 1/10/2024 PLATE NO. W20-2.7



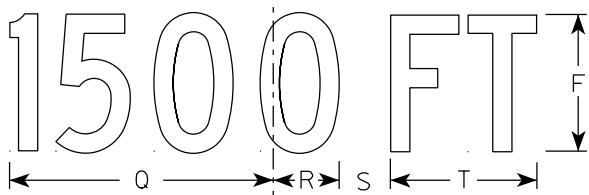
W20-3A



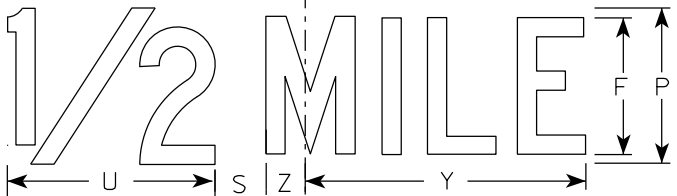
W20-3D



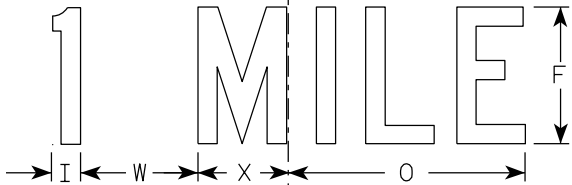
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
  - Background - Orange
  - Message - Black
- 3. Message Series - see note 5
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Lines 1 and 2 are Series D.  
Line 3 is Series D for AHEAD and Series C for all other distances.

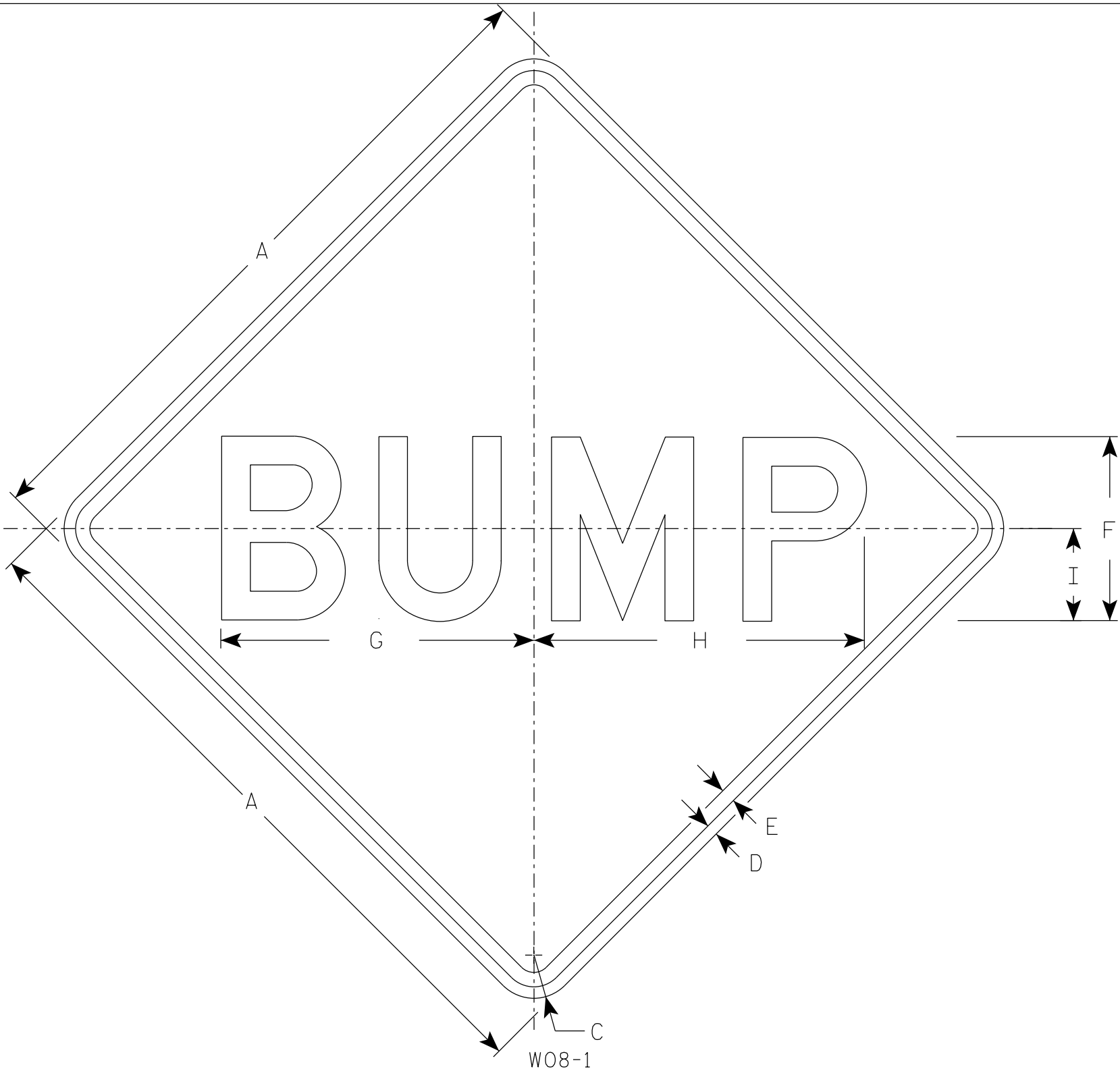
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN  
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-3.8



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.

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	10	16 7/8	17 7/8	5																		9.0
2S	48		3	3/4	1	12	20 3/8	21 5/8	6																		16.0
2M	48		3	3/4	1	12	20 3/8	21 5/8	6																		16.0
3	48		3	3/4	1	12	20 3/8	21 5/8	6																		16.0
4	48		3	3/4	1	12	20 3/8	21 5/8	6																		16.0
5	48		3	3/4	1	12	20 3/8	21 5/8	6																		16.0

STANDARD SIGN  
W08-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 1/30/2024 PLATE NO. W08-1.2

PROJECT NO:

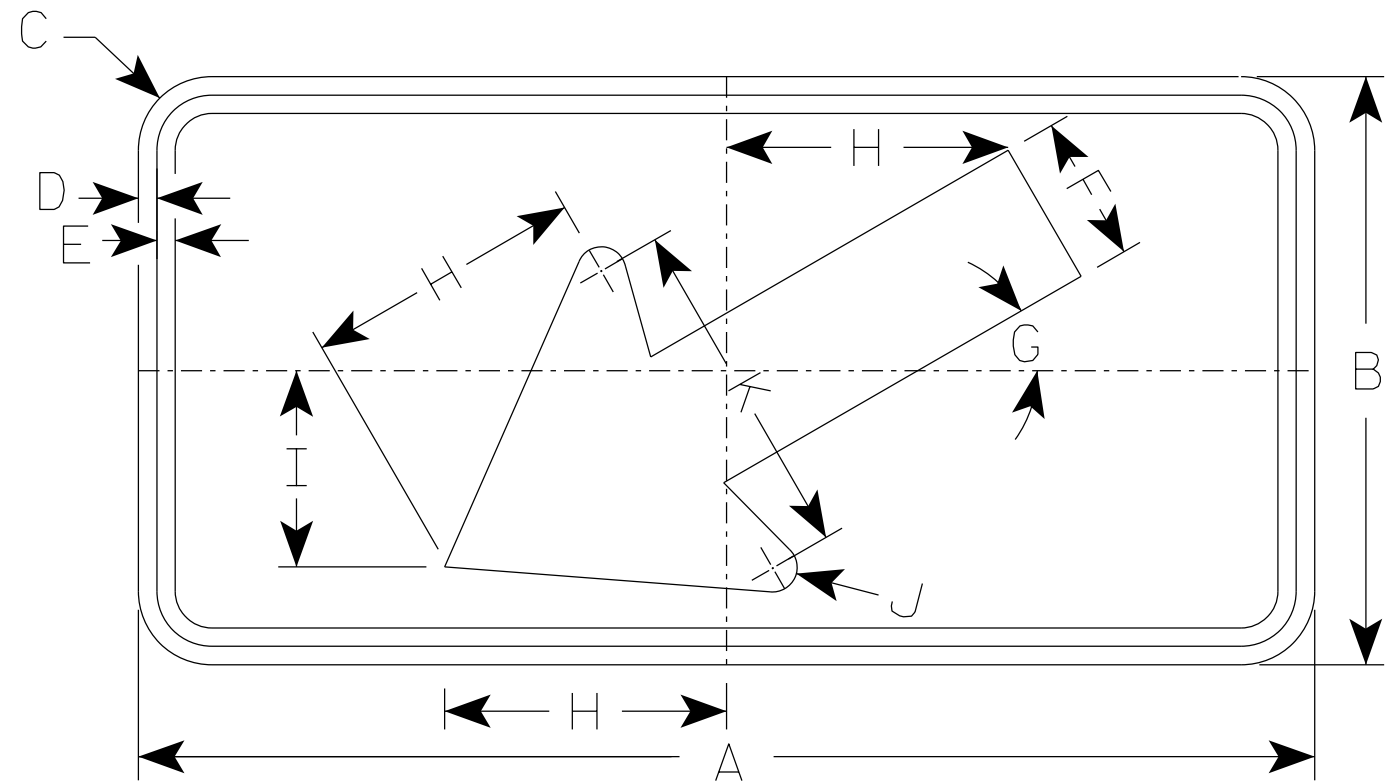
HWY:

COUNTY:

SHEET NO:

E





W016 - 7L

NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Corners may be square or rounded but corners shall be rounded when base material is metal.
4. W016-7R is the same as W016-L except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2	3/8	1/2	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
2S	48	24	1 7/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0
2M	48	24	1 7/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0
3	48	24	1 7/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0
4	48	24	1 7/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0
5	48	24	1 7/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0

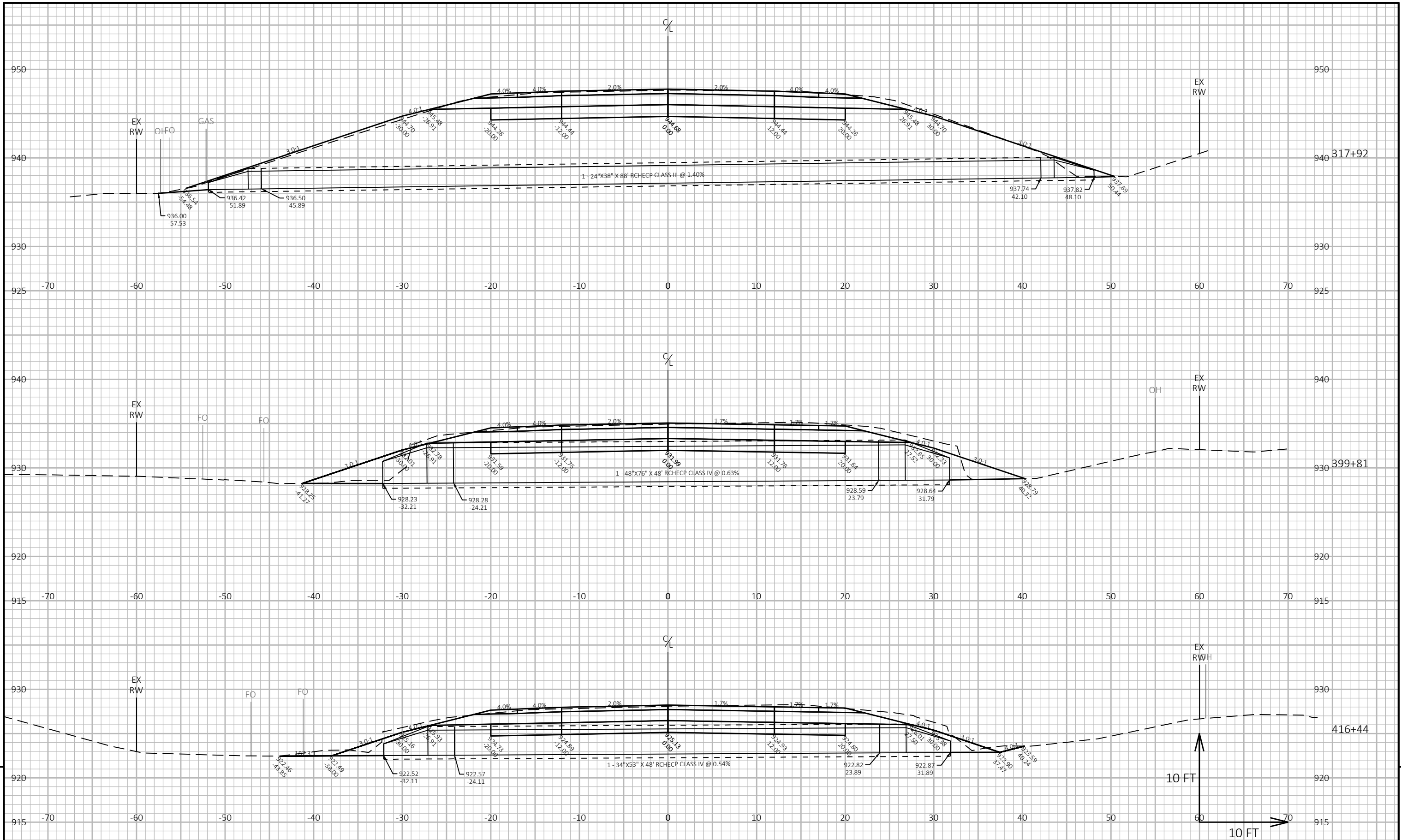
PROJECT NO:			HWY:			COUNTY:													SHEET NO:					E
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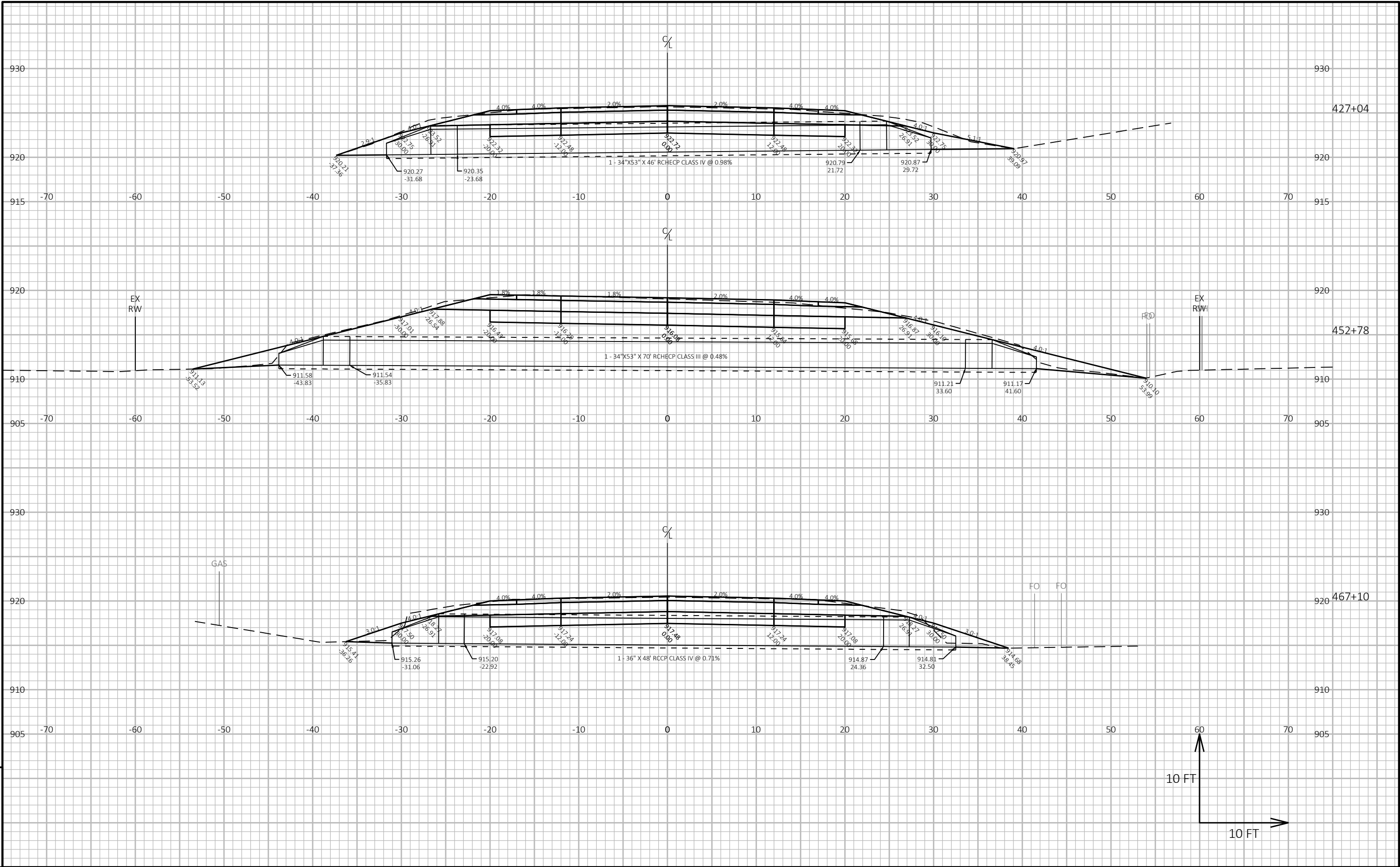
STANDARD SIGN  
W016 - 7

WISCONSIN DEPT OF TRANSPORTATION

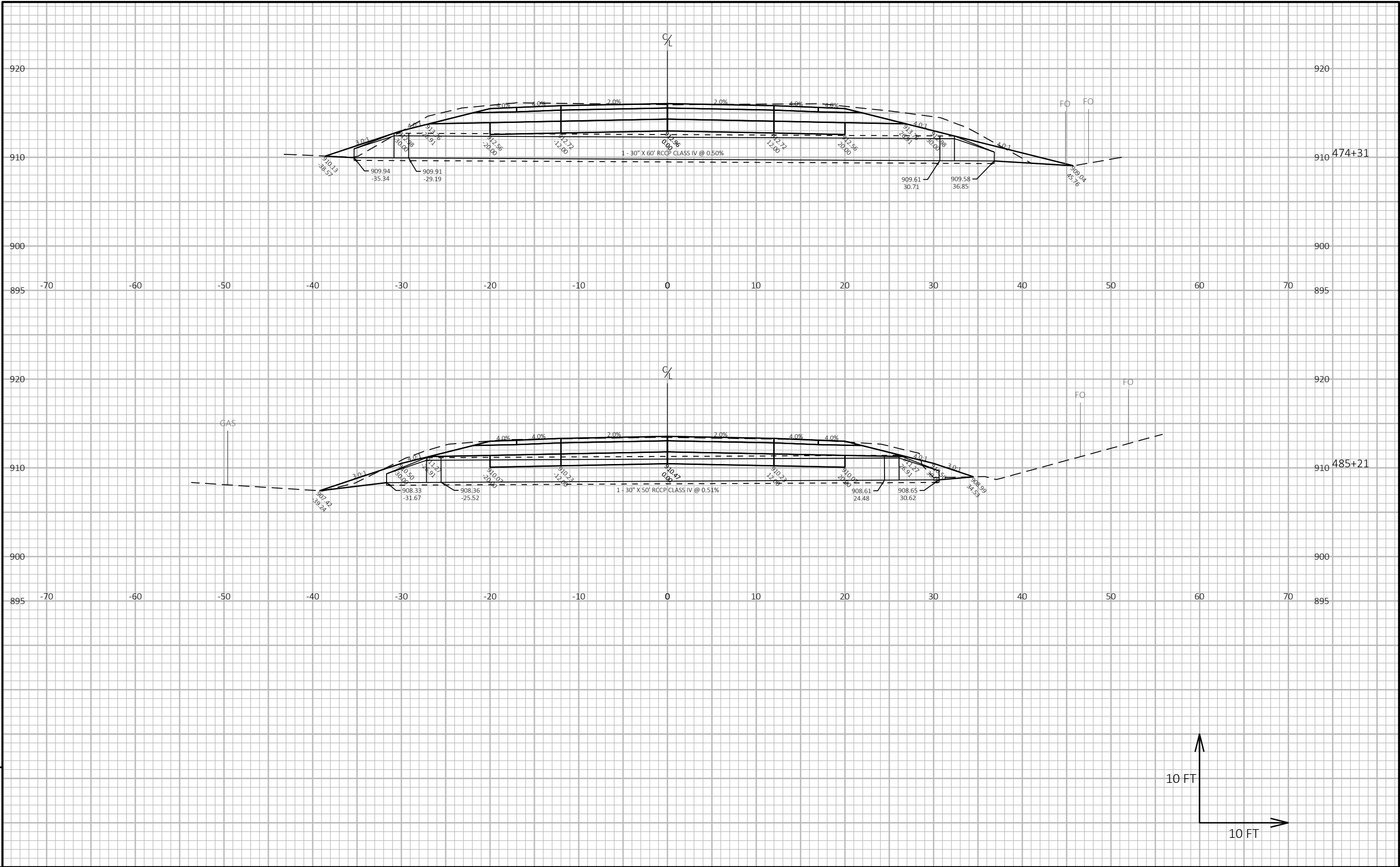
APPROVED *Matthew R Rauch*  
for State Traffic Engineer

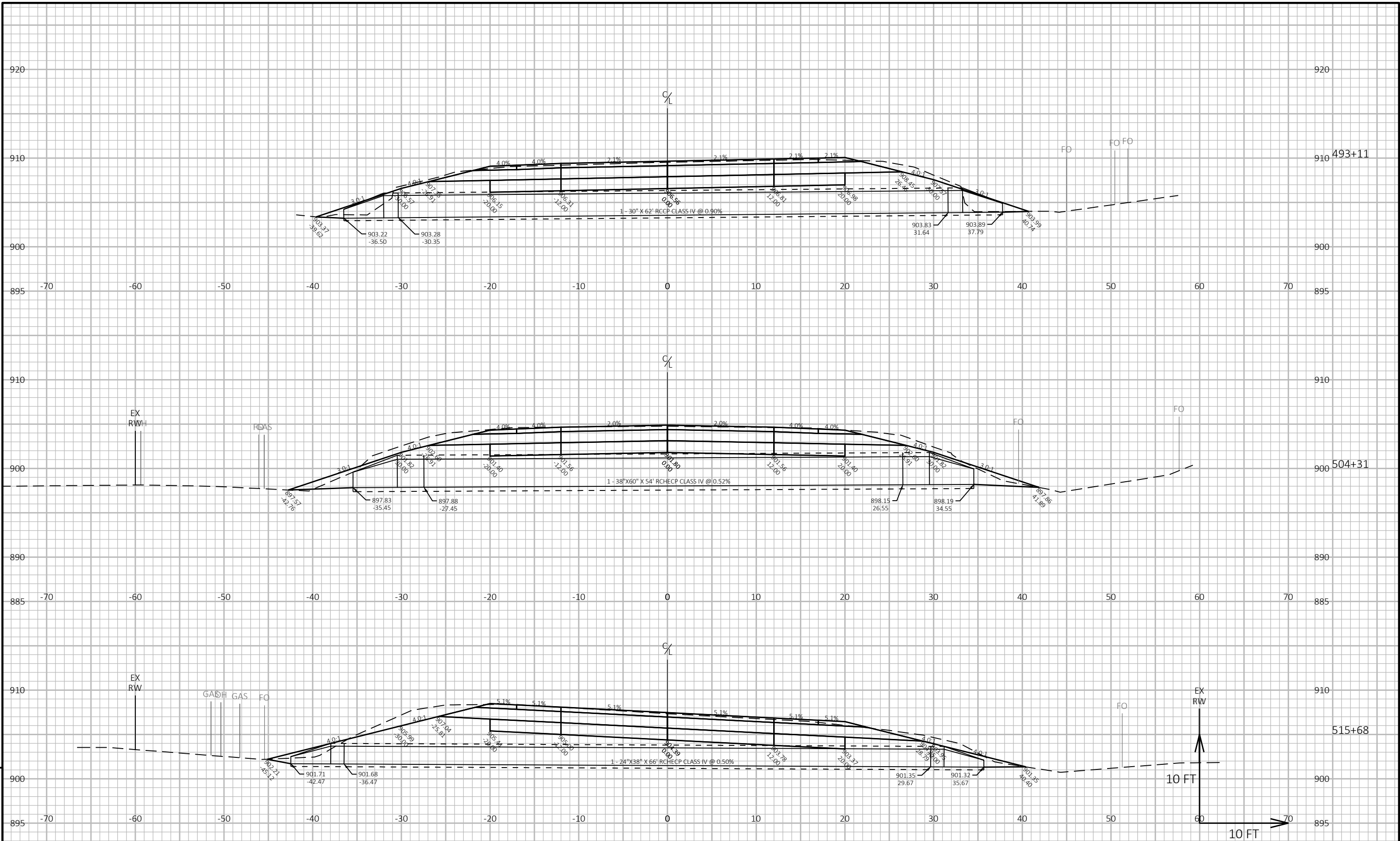
DATE 2/1/2024      PLATE NO. W016-7.3



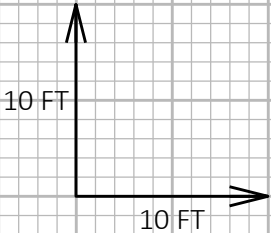
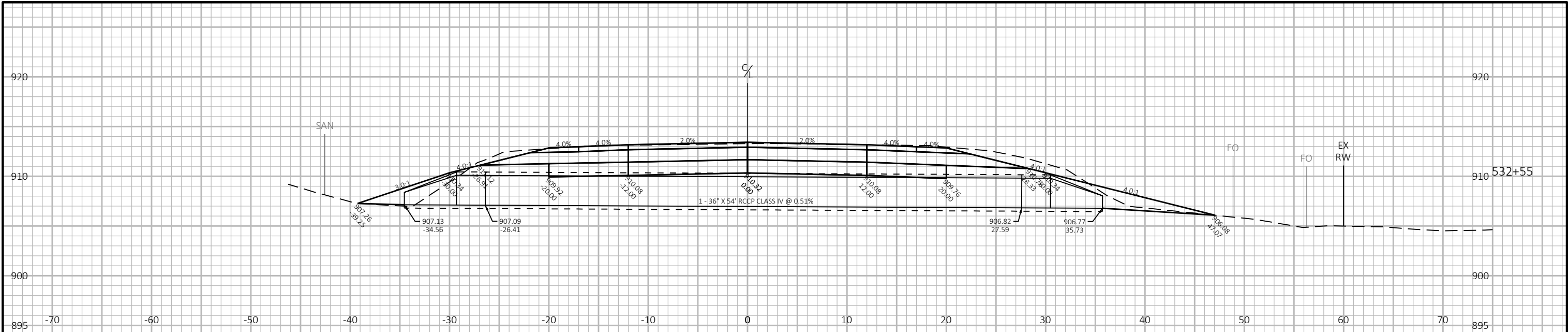


PROJECT NO: 6070-01-63	HWY: STH 33	COUNTY: DODGE	CROSS SECTIONS: STH 33 - CULVERTS	SHEET E
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9

9

PROJECT NO: 6070-01-63	HWY: STH 33	COUNTY: DODGE	CROSS SECTIONS: STH 33 - CULVERTS	SHEET	E
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## *Wisconsin Department of Transportation*

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