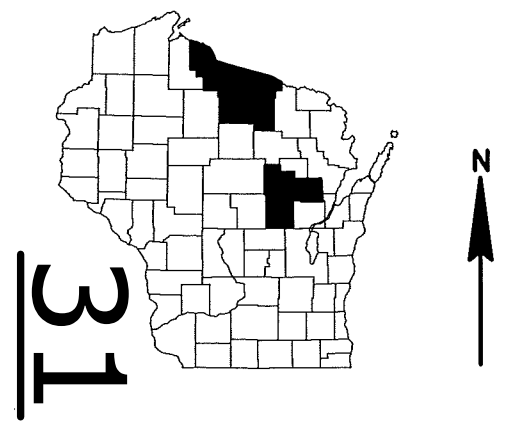


WIS MAY 2019
PROJECT ID: 1009-42-49
COUNTY: NC REGION WIDE

ORDER OF SHEETS

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

TOTAL SHEETS = 32



DESIGN DESIGNATION 1009-42-48

A.A.D.T.	VARIABLES	=	VARIABLES
A.A.D.T.	VARIABLES	=	VARIABLES
D.H.V.		=	VARIABLES
D.D.		=	VARIABLES
T.		=	VARIABLES
DESIGN SPEED		=	VARIABLES
ESALS		=	VARIABLES

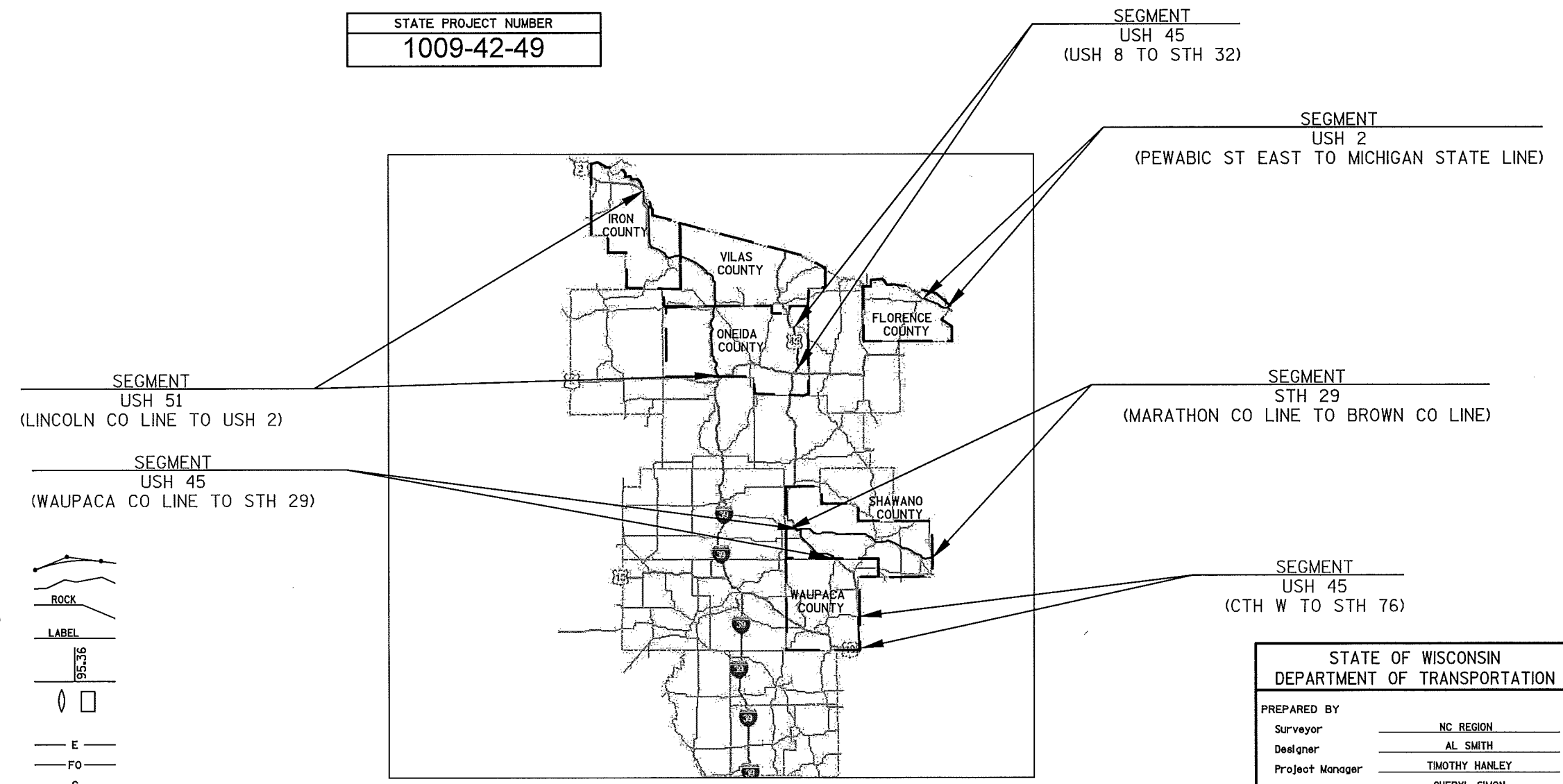
CONVENTIONAL SYMBOLS

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	CAUTION
MARSH AREA	----
WOODED OR SHRUB AREA	----

PROFILE	
GRADE LINE	----
ORIGINAL GROUND	----
MARSH OR ROCK PROFILE (To be noted as such)	----
SPECIAL DITCH	----
GRADE ELEVATION	95.36
CULVERT (Profile View)	----
UTILITIES	
ELECTRIC	E
FIBER OPTIC	FO
GAS	G
SANITARY SEWER	SAN
STORM SEWER	SS
TELEPHONE	T
WATER	W
UTILITY PEDESTAL	----
POWER POLE	----
TELEPHONE POLE	----

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
NC REGION, EPOXY PAVEMENT MARKING
LOCATIONS ON STN PER ANNUAL PLAN
VAR HWY
NORTH CENTRAL REGION WIDE

STATE PROJECT NUMBER
1009-42-49



LAYOUT
SCALE 0 NA

TOTAL NET LENGTH OF CENTERLINE = 0 MILES

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1009-42-49	WISC 2019300	1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NC REGION
Designer	AL SMITH
Project Manager	TIMOTHY HANLEY
Regional Examiner	CHERYL SIMON
Regional Supervisor	NICHOLE LYSNE

APPROVED FOR THE DEPARTMENT

DATE: 3-4-19 *Timothy Hanley* (Signature)

E

DNR LIAISON

Jon Simonsen (715)367-1936
Jonathan.Simonsen@wisconsin.gov
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Wendy Henniges (715)421-7845
Wendy.Henniges@wisconsin.gov
COUNTIES: Oneida

Marc Hershfield (715)421-7867
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COUNTIES: Waupaca

Jim Doperalski Jr.(920)412-0165
James.Doperalski@wisconsin.gov
COUNTIES: Shawano

Runoff Coefficient Table


	Hydrologic Soil Group											
	A			B			C			D		
	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	0.08	0.16	0.22	0.12	0.20	0.27	0.15	0.24	0.33	0.19	0.28	0.38
	0.22	0.30	0.38	0.26	0.34	0.44	0.30	0.37	0.50	0.34	0.41	0.56
Median Strip-Turf	0.19	0.20	0.24	0.19	0.22	0.26	0.20	0.23	0.30	0.20	0.25	0.30
	0.24	0.26	0.30	0.25	0.28	0.33	0.26	0.30	0.37	0.27	0.32	0.40
Side Slope Turf			0.25			0.27			0.28			0.30
			0.32			0.34			0.36			0.38
Pavement												
Asphalt	0.70 - 0.95											
Concrete	0.80 - 0.95											
Brick	0.70 - 0.80											
Drives, Sidewalks	0.75 - 0.85											
Roofs	0.75 - 0.95											
Gravel Roads, Shoulders	0.40 - 0.60											

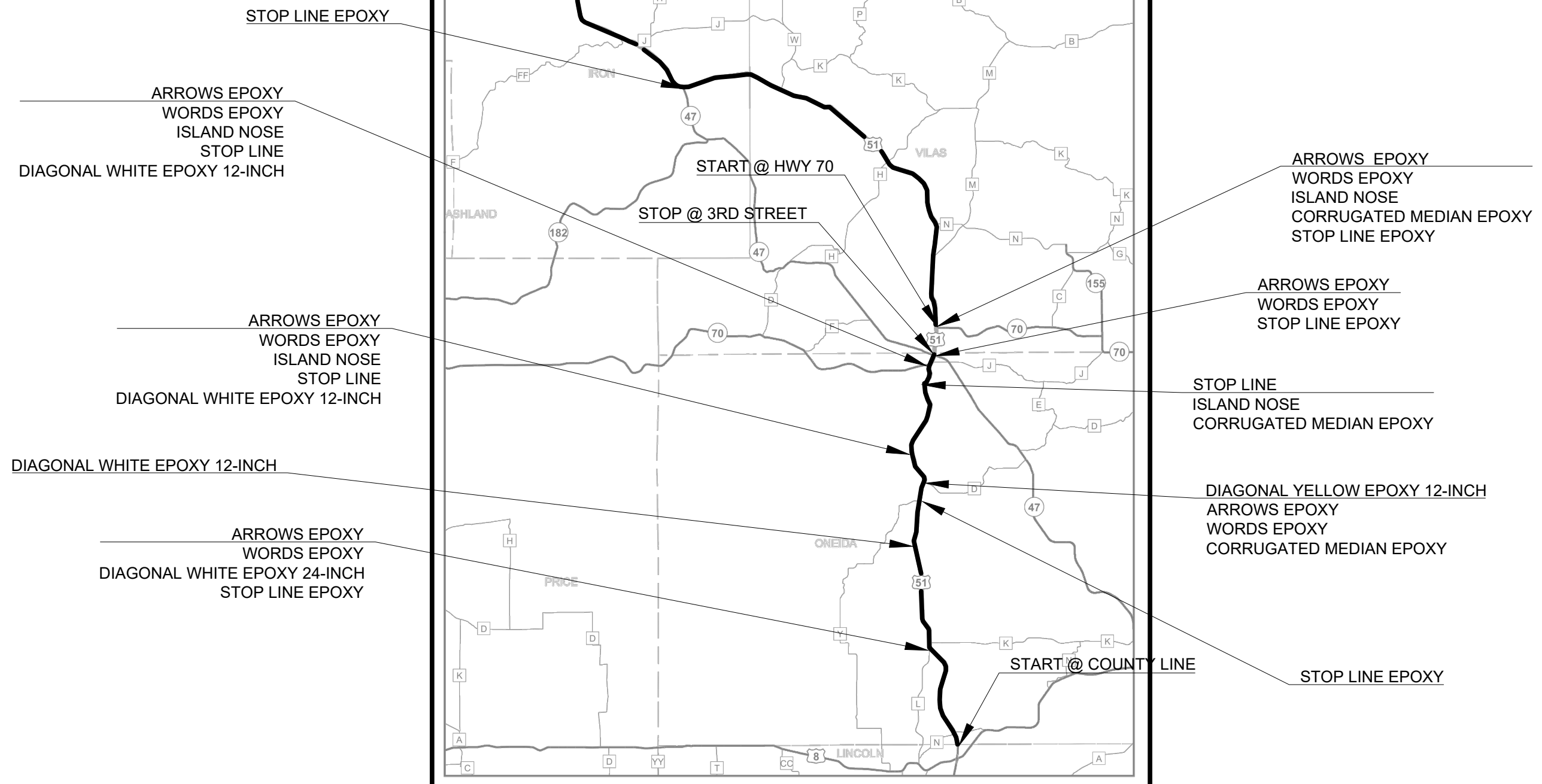
Total Project Area = 279 Acres
Total Area Expected To Be Disturbed By Construction Activities = 0 Acres

GENERAL NOTES

THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS.



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



PROJECT NO: 1009-42-49

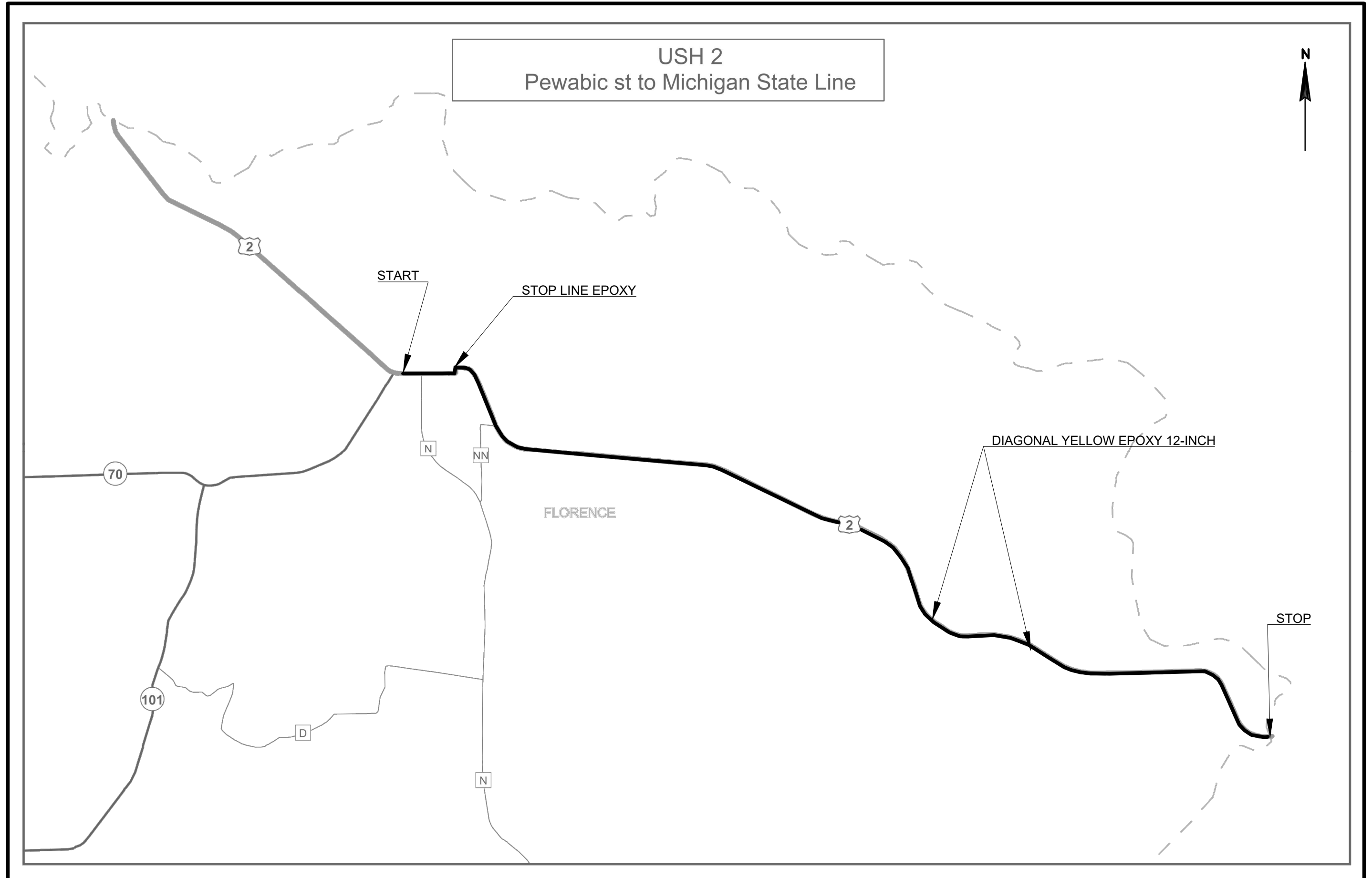
HWY: USH 51

COUNTY: IRON, VILAS, ONEIDA

USH 51 OVERVIEW

SHEET

E



PROJECT NO: 1009-42-49

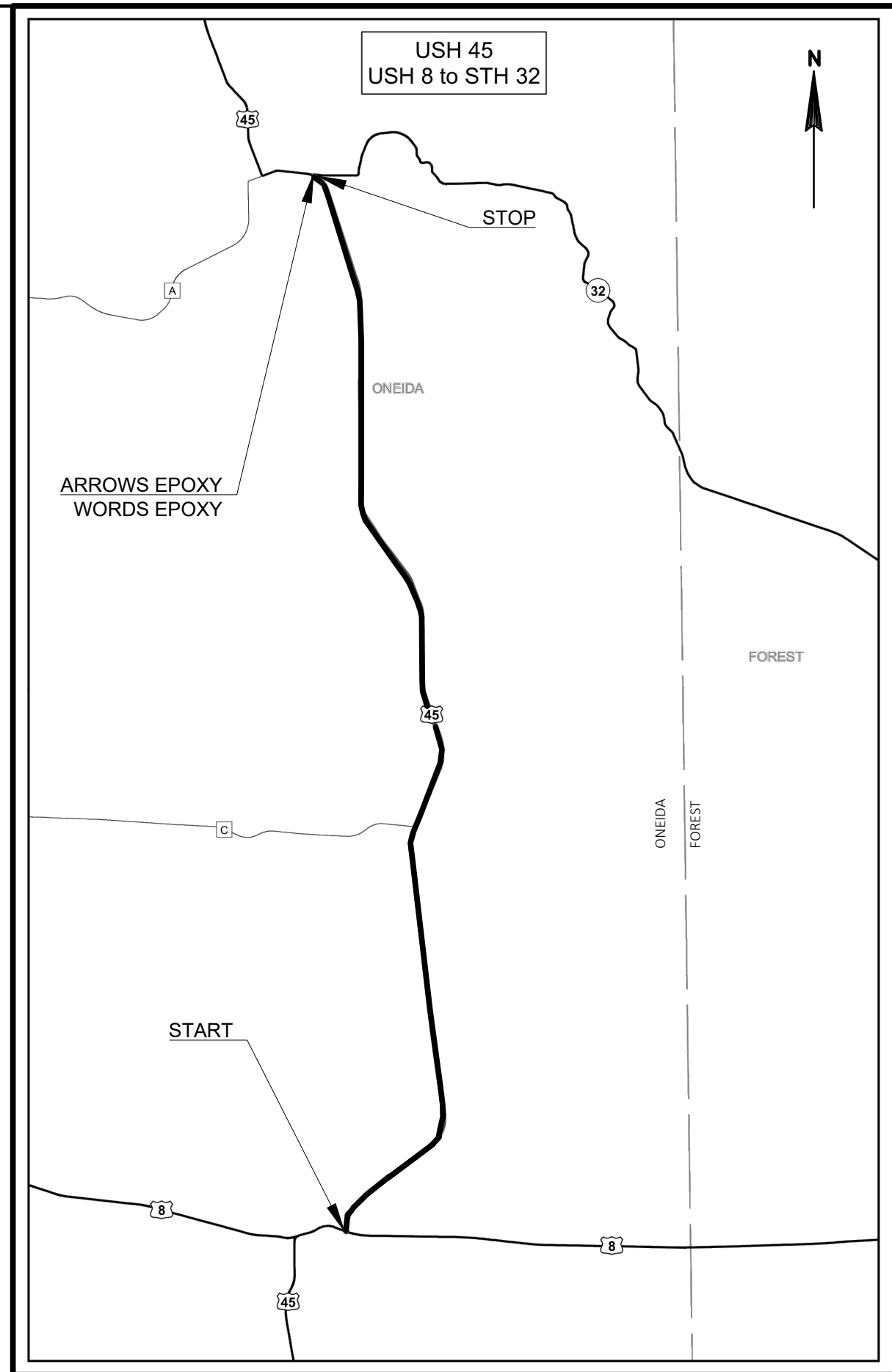
HWY: USH 2

COUNTY: FLORENCE

USH 2 OVERVIEW

SHEET

E



PROJECT NO: 1009-42-49

HWY: USH 45

COUNTY: ONEIDA

USH 45 OVERVIEW

SHEET

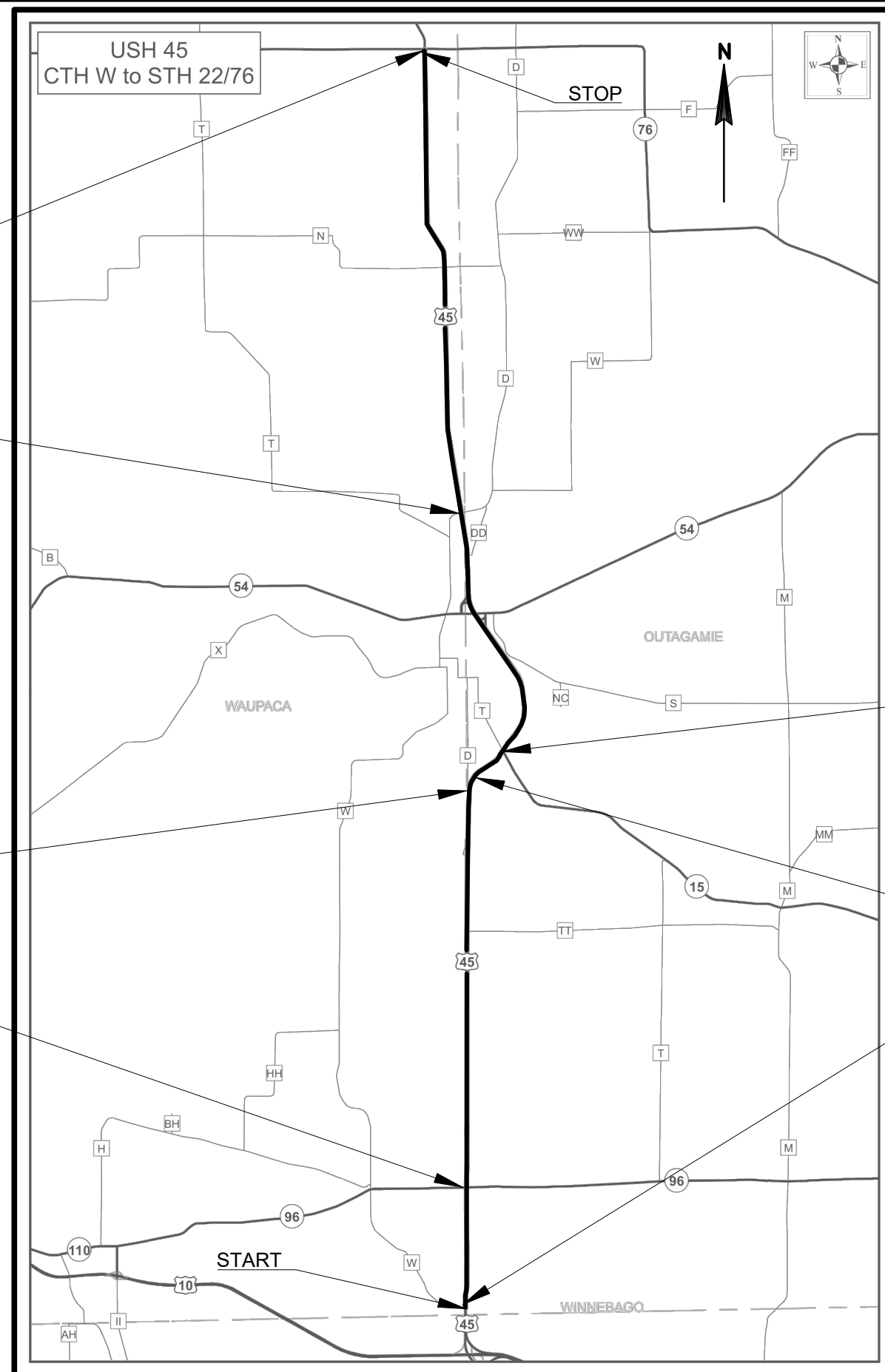
E

ARROWS EPOXY
WORDS EPOXY
ISLAND NOSE
DIAGONAL YELLOW EPOXY 12-INCH

DIAGONAL YELLOW EPOXY 12-INCH

ARROW EPOXY
WORD EPOXY
ISLAND NOSE
CORRUGATED MEDIAN EPOXY

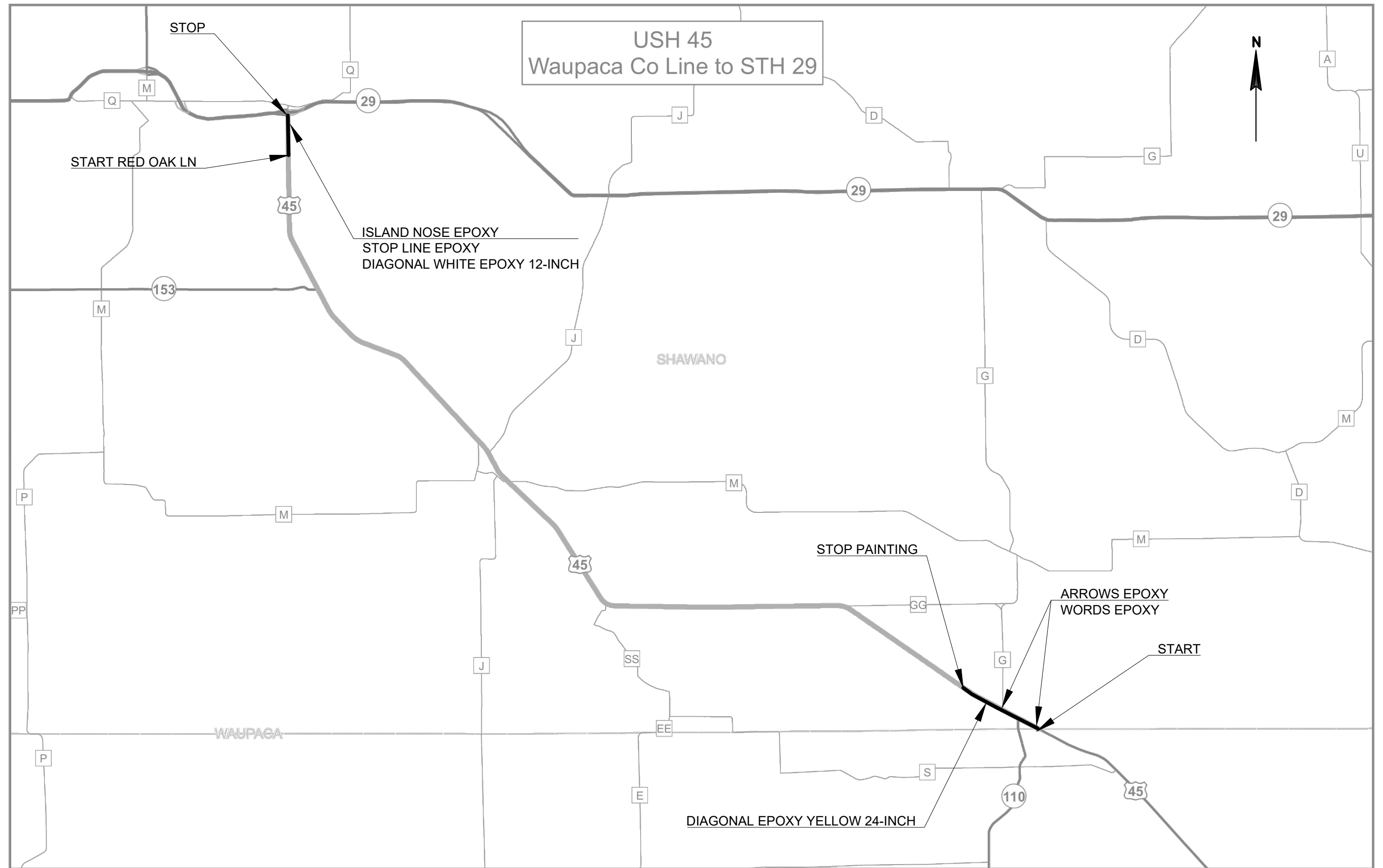
STOP LINE EPOXY
ISLAND NOSE
CORRUGATED MEDIAN EPOXY



ARROWS EPOXY
WORDS EPOXY
RAILROAD CROSSING
STOP LINE EPOXY
DIAGONAL YELLOW EPOXY 12-INCH

ARROW EPOXY
WORD EPOXY

DIAGONAL YELLOW EPOXY 12-INCH



PROJECT NO: 1009-42-49

HWY: USH 45

COUNTY: SHAWANO

USH 45 OVERVIEW

SHEET

E

Estimate Of Quantities

1009-42-49

Line	Item	Item Description	Unit	Total	Qty
0002	619.1000	Mobilization	EACH	1.000	1.000
0004	646.1020	Marking Line Epoxy 4-Inch	LF	3,145,552.000	3,145,552.000
0006	646.3020	Marking Line Epoxy 8-Inch	LF	62,423.000	62,423.000
0008	646.5020	Marking Arrow Epoxy	EACH	189.000	189.000
0010	646.5120	Marking Word Epoxy	EACH	55.000	55.000
0012	646.5320	Marking Railroad Crossings Epoxy	EACH	4.000	4.000
0014	646.6120	Marking Stop Line Epoxy 18-Inch	LF	1,039.000	1,039.000
0016	646.7120	Marking Diagonal Epoxy 12-Inch	LF	8,210.000	8,210.000
0018	646.7220	Marking Chevron Epoxy 24-Inch	LF	1,937.000	1,937.000
0020	646.8020	Marking Corrugated Median Epoxy	SF	4,587.000	4,587.000
0022	646.8220	Marking Island Nose Epoxy	EACH	32.000	32.000
0024	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0026	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000

MARKING							
LOCATION		646.1020 LINE EPOXY 4-INCH		646.3020 LINE EPOXY 8-INCH WHITE LF	646.6120 STOP LINE EPOXY 18-INCH LF	646.7220 DIAGONAL EPOXY 24-INCH WHITE LF	REMARKS
		YELLOW LF	WHITE LF				
SHAWANO COUNTY	MARATHON CO LINE TO BROWN CO LINE	563,894	673,504	42,149	---	---	MAINLINE
SHAWANO COUNTY	STH 29 EB & 45 NORTH	---	---	---	52		INTERSECTION
SHAWANO COUNTY	STH 29 EB & CTH D	---	---	---	21	---	INTERSECTION
SHAWANO COUNTY	STH 29 EB & STH 22	---	---	---	30	390	INTERSECTION
SHAWANO COUNTY	STH 29 EB & STH 55N / 47S	---	---	---	30	132	INTERSECTION
SHAWANO COUNTY	STH 29 EB & STH 47 / 117	---	---	---	30	178	INTERSECTION
SHAWANO COUNTY	STH 29 EB & STH 55 / 160	---	---	---	30	186	INTERSECTION
SHAWANO COUNTY	STH 29 WB & STH 55 / 160	---	---	---	28	146	INTERSECTION
SHAWANO COUNTY	STH 29 WB & STH 47 / 117	---	---	---	30	155	INTERSECTION / MAINLINE
SHAWANO COUNTY	STH 29 WB & STH 47	---	---	---	28	182	INTERSECTION / MAINLINE
SHAWANO COUNTY	STH 29 WB & STH 22	---	---	---	30	168	INTERSECTION
SHAWANO COUNTY	STH 29 WB & STH 45 SOUTH	---	---	---	60	133	INTERSECTION
SHAWANO COUNTY	STH 29 WB & CTH Q	---	---	---	40	134	INTERSECTION
SHAWANO COUNTY	STH 29 WB & STH 45 NORTH	---	---	---	60	133	INTERSECTION
		---	---	---	---	---	
	SUBTOTALS:	563,894	673,504	42,149			
	TOTALS:	1,237,398		42,149	469	1,937	

MARKING								
LOCATION		646.1020 LINE EPOXY 4-INCH		646.3020 LINE EPOXY 8-INCH WHITE LF		646.5120 WORDS EPOXY EACH	646.6120 STOP LINE EPOXY 18-INCH LF	REMARKS
		YELLOW LF	WHITE LF		646.5020 ARROWS EPOXY TYPE 2 EACH			
ONEIDA COUNTY	USH 8 - STH 32	79,293	173,712	567	---	---	---	MAINLINE
ONEIDA COUNTY	US 45 & JAVEN RD	---	---	---	1	1	---	INTERSECTION
ONEIDA COUNTY	US 45 & STH 32	---	---	---	2	2	20	INTERSECTION
		---	---	---	---	---	---	
	SUBTOTALS:	79,293	173,712	567				
	TOTALS:	253,005		567	3	3	20	

MARKING											
LOCATION		646.1020 LINE EPOXY 4-INCH		646.3020 LINE EPOXY 8-INCH WHITE LF		647.5120 WORDS EPOXY EACH	646.6120 STOP LINE EPOXY 18-INCH LF	646.7120 DIAGONAL EPOXY 12-INCH		646.8220 ISLAND NOSE EPOXY YELLOW EACH	REMARKS
		YELLOW LF	WHITE LF		646.5020 ARROW EPOXY TYPE 2 EACH			WHITE LF	YELLOW LF		
SHAWANO COUNTY	WAUPACA CO LINE TO GOLLNOW RD	10,990	11,076	1,000	---	---	---	---	334	---	MAINLINE
SHAWANO COUNTY	USH 45 & STH 153	---	---	---	---	---	21	---	---	---	INTERSECTION
SHAWANO COUNTY	RED OAK RD TO STH 29 WB RAMP	3200	2680	400	2	2	---	221	27	5	INTERSECTION
		---	---	---	---	---	---	---	---	---	
	SUBTOTALS:	14,190	13,756	1,400				221	361		
	TOTALS:	27,946		1,400	2	2	21	582		5	

MARKING								
LOCATION		646.1020 LINE EPOXY 4-INCH		646.3020 LINE EPOXY 8-INCH	646.502 EPOXY ARROWS EPOXY TYPE 2 EACH	646.6120 STOP LINE EPOXY 18-INCH	647.7120. DIAGONAL EPOXY 12-INCH	REMARKS
		YELLOW LF	WHITE LF	WHITE LF		LF	WHITE LF	
FLORENCE COUNTY	USH 2 (PEWABIC ST WEST TO MICHIGAN STATE LINE)	65,287	---	400	---	---	---	MAINLINE INTERSECTION MEDIAN
FLORENCE COUNTY	USH 2 - FLORENCE AVE	---	---	---	---	33	---	
FLORENCE COUNTY	USH 2 @ EAST TWIN FALLS RD - WASHINGTON LANE	---	---	---	10	---	342	
FLORENCE COUNTY	USH 2 @ EAST TALL PINE RD - LAKE ELLWOOD RD	---	---	---	24		339	MEDIAN
		---	---	---	---	---	---	---
	SUBTOTALS:	65287	0					
	FLORENCETOTALS:	65,287		400	34	33	681	

MARKING													
LOCATION		646.1020 EPOXY 4-INCH		646.3020 EPOXY 8-INCH	646.5020 ARROWS EPOXY TYPE 4 EACH	646.5020 ARROWS EPOXY TYPE 2 EACH	646.5120 WORDS EPOXY EACH	646.5320 RAILROAD CROSSING EPOXY EACH	646.6120 STOP LINE EPOXY 18-INCH LF	646.7120 DIAGONAL EPOXY 12-INCH	646.8020 CONCRETE CORRUGATED MEDIAN EPOXY SF	646.8220 ISLAND NOSE EPOXY YELLOW EACH	REMARKS
		YELLOW LF	WHITE LF	WHITE LF						YELLOW LF			
WAUPACA, COUNTY	CTH W - 450 SOUTH OF MANSKE / GIVENS OVERPASS	31,799	---	10,751	---	---	---	---	---	---	---	---	GAP STH 96 INTERSECTION
WAUPACA COUNTY	450' SOUTH MANSKE / GIVENS OVERPASS TO STH 22/76	74587	162132	---	---	---	---	---	---	---	---	---	MAINLINE
WAUPACA COUNTY	USH 45 & CTH W	---	---	---	---	---	---	---	---	125	---	---	INTERSECTION
WAUPACA COUNTY	USH 45 & CTH D SOUTH JCT.	---	---	---	---	4	4	---	---	---	725	4	INTERSECTION
WAUPACA COUNTY	USH 45 & CONCRETE PLANT	---	---	---	---	3	3	---	---	---	---	---	INTERSECTION
WAUPACA COUNTY	USH 45 & STH 15 / T	---	---	---	---	4	4	4	145	240	---	---	MAINLINE
WAUPACA COUNTY	USH 45 & CTH D	---	---	---	---	---	---	---	---	578	---	---	START OF ONE WAY
WAUPACA COUNTY	USH 45 & STH 76	---	---	---	---	8	8	---	---	117	---	4	INTERSECTION
WAUPACA COUNTY	USH 45 & STH 54	---	---	---	2	---	---	---	76	---	---	---	
	SUBTOTALS:	106,386	162,132										
	TOTALS:	268,518		10,751	2	19	19	4	221	1,060	725	8	

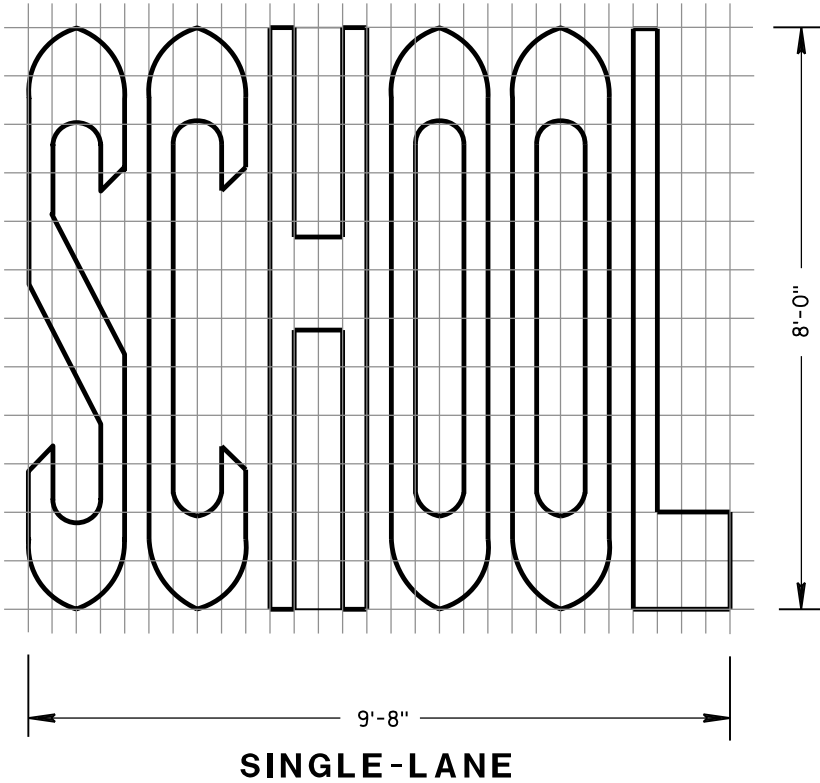
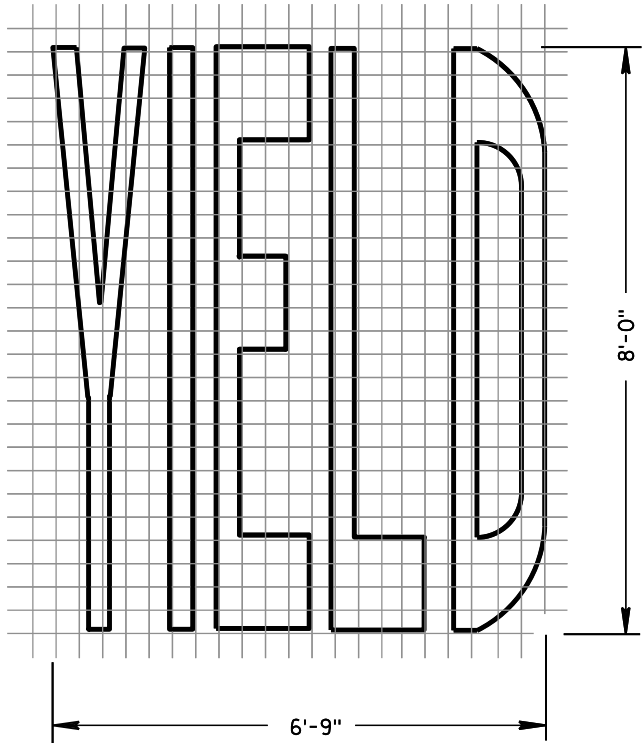
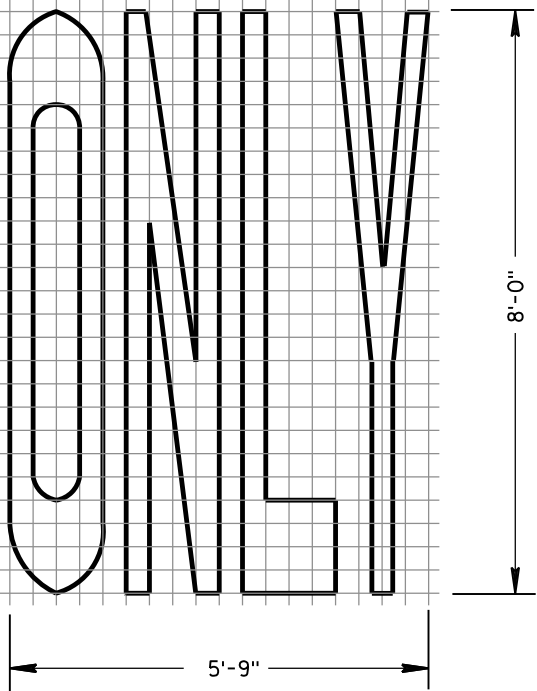
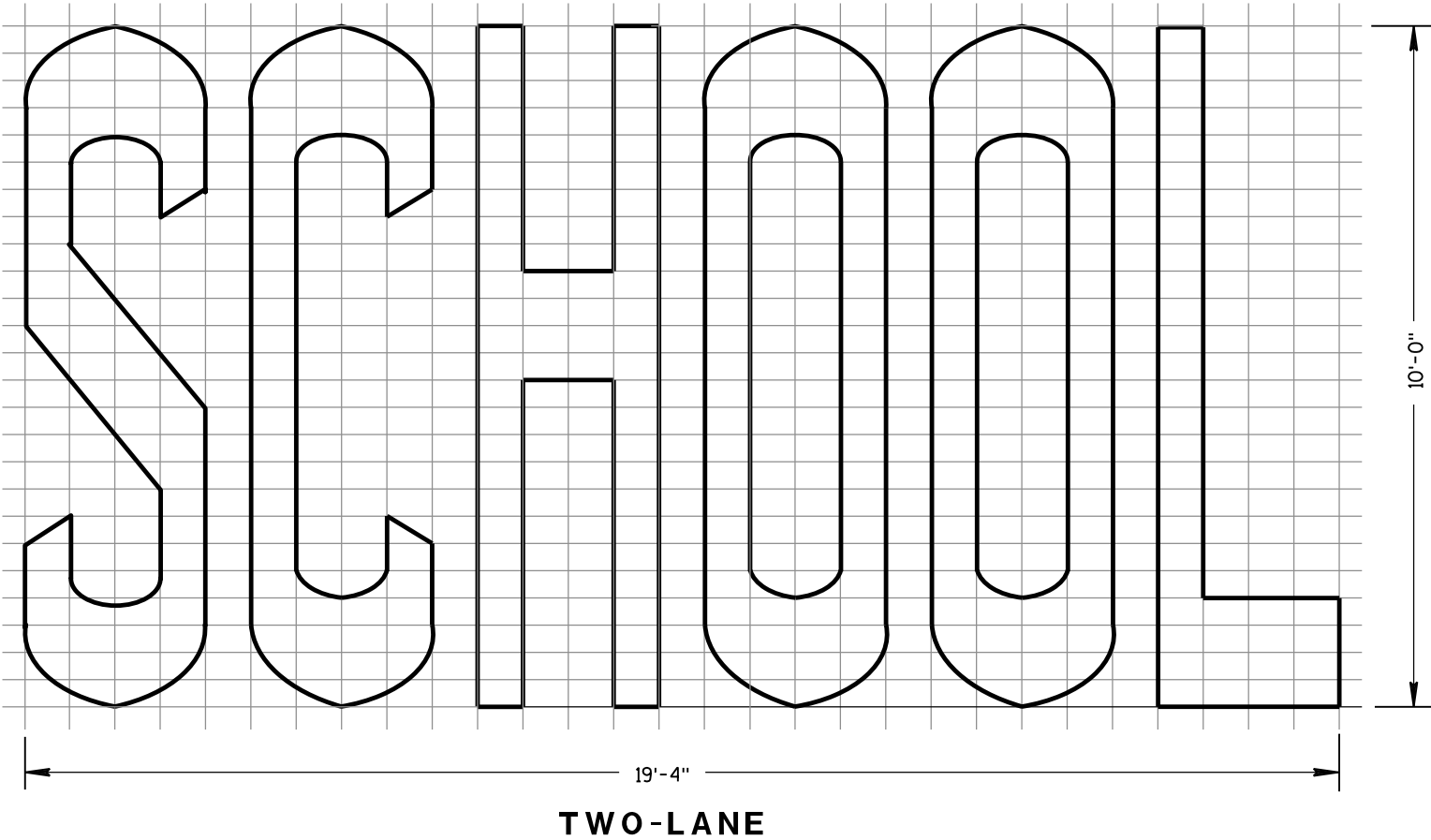
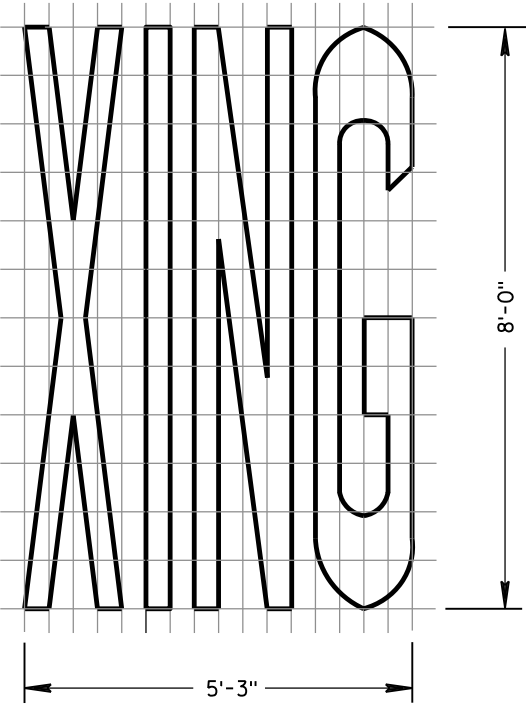
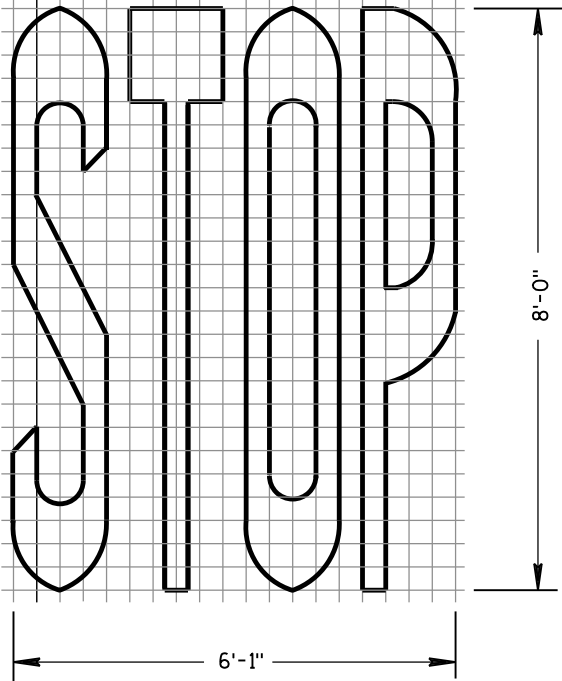
MARKING														
LOCATION		646.1020 LINE EPOXY 4-INCH		646.3020 LINE EPOXY 8-INCH	646.5020 ARROWS			646.5120 WORDS EPOXY EACH	646.6120 STOP LINE EPOXY 18-INCH LF	646.7120 DIAGONAL EPOXY 12-INCH		646.8020 CONCRETE CORRUGATED MEDIAN EPOXY SF	646.8220 ISLAND NOSE EPOXY YELLOW EACH	REMARKS
		YELLOW LF	WHITE LF	WHITE LF	EPOXY TYPE 1 EACH	EPOXY TYPE 2 EACH	EPOXY TYPE 3 EACH			WHITE LF	YELLOW LF			
ONEIDA, VILAS & IRON COUNTES	ONEIDA CO. LINE - USH 2	459,431	833,967	7,156	---	---	---	---	---	---	---	---	---	SKIP WEBER RD - CTH C
ONEIDA COUNTY	USH 51 @ ONEIDA COUNTY LINE	---	---	---	---	---	---	---	---	---	219	---	---	INTERSECTION
ONEIDA COUNTY	US 51 & CTH L	---	---	---	---	2	---	1	---	106	---	---	---	INTERSECTION
ONEIDA COUNTY	USH 51 @ CTH D					3		3		460		2112		INTERSECTION
ONEIDA COUNTY	US 51 & CTH D TO MINOCQUA BRIDGE	---	---	---	---	49	---	1	---	---	3388	---	---	MEDIAN
ONEIDA COUNTY	US 51 & MINOCQUA LOOP	---	---	---	---	---	---	---	---	---	114	---	3	MEDIAN
ONEIDA COUNTY	US 51 & FRONT STREET	---	---	---	2	3	---	5	---	---	---	---	---	MEDIAN
ONEIDA COUNTY	US 51 NB & MINOCQUA LOOP - 3RD AVE	---	---	---	---	56	---	10	195	---	672	480	14	INTERSECTION
ONEIDA COUNTY	US 51 NB & ON STH 70 SOUTH JCT	---	---	---	---	4	---	4	56	928	---	690	2	MEDIAN / MAINLINE
VILAS COUNTY	STH 70 NORTH JCT WITH USH 51	---	---	---	---	1	---	1	---	---	---	580	---	INTERSECTION
IRON COUNTY	US 51 NB & STH 47 SOUTH	---	---	---	---	---	---	---	24	---	---	---	---	INTERSECTION
IRON COUNTY	US 51 NB & STH 77	---	---	---	---	3	3	3	---	---	---	---	---	INTERSECTION
IRON COUNTY	US 51 SB & HOTEL ENTRANCE	---	---	---	---	2	---	2	---	---	---	---	---	INTERSECTION
IRON COUNTY	US 51 SB & REST AREA	---	---	---	---	1	---	1	---	---	---	---	---	INTERSECTION
	SUBTOTALS:	459,431	833,967		2	124	3			1,494	4,393			
	TOTALS:	1,293,398		7,156		129		31	275	5,887		3862	19	

Standard Detail Drawing List

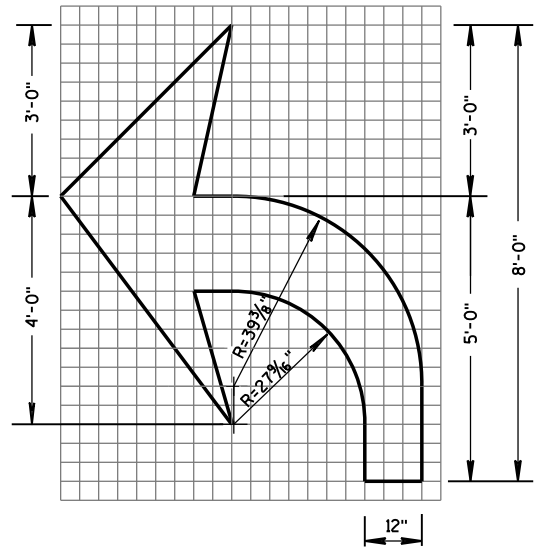
15C07-14B	PAVEMENT MARKING WORDS
15C07-14C	PAVEMENT MARKING ARROWS
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C08-19B	PAVEMENT MARKING (TURN LANES)
15C08-19C	PAVEMENT MARKING (TURN LANES)
15C19-05A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C19-05B	MOVING PAVEMENT MARKING OPERATION MULTI-LANE UNDIVIDED ROADWAY
15C19-05C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C31-03A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-03B	PAVEMENT MARKING MAJOR SPLIT FREEWAY TO FREEWAY
15C33-03	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-03A	PAVEMENT MARKING (INTERSECTIONS)
15C35-03B	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15C35-03C	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)

GENERAL NOTES

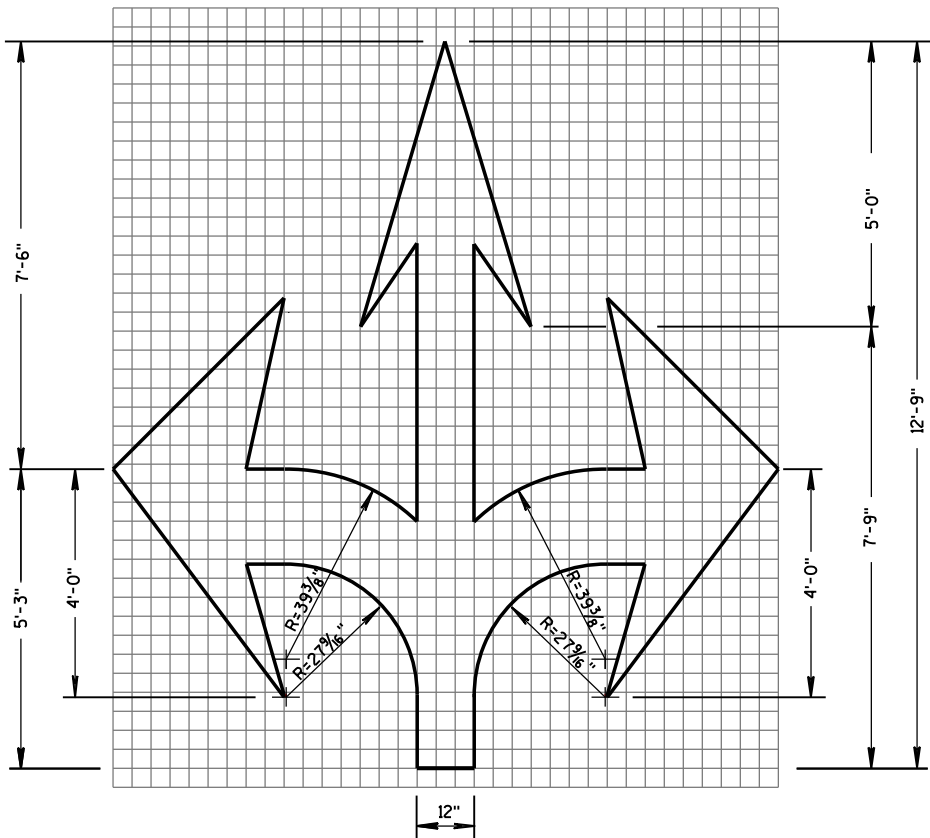
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



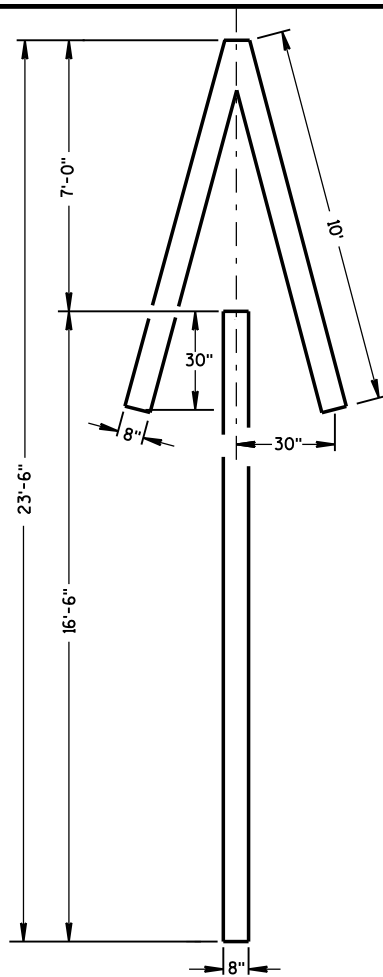
PAVEMENT MARKING WORDS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	



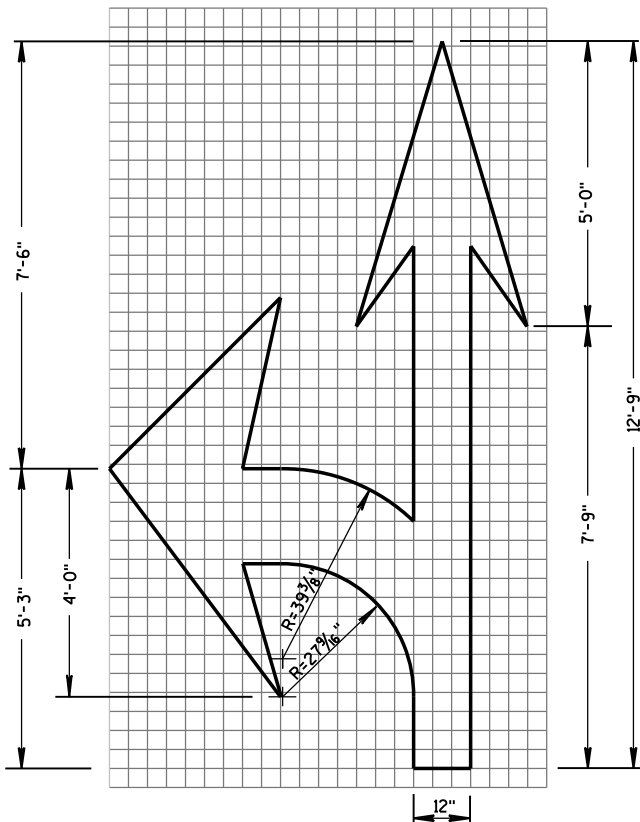
TYPE 2



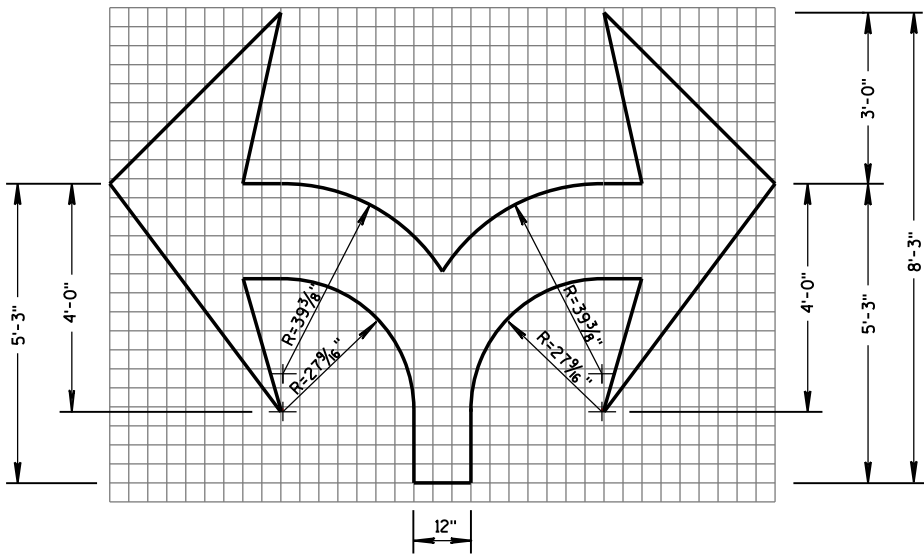
TYPE 6



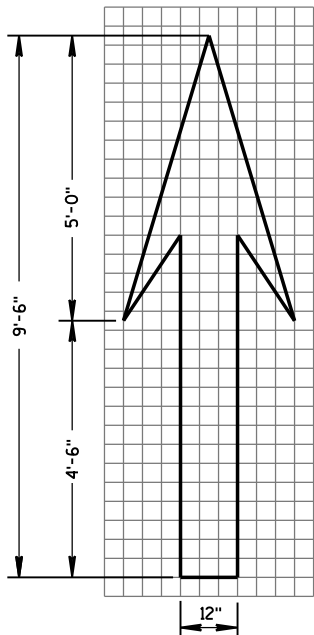
TYPE 4



TYPE 3



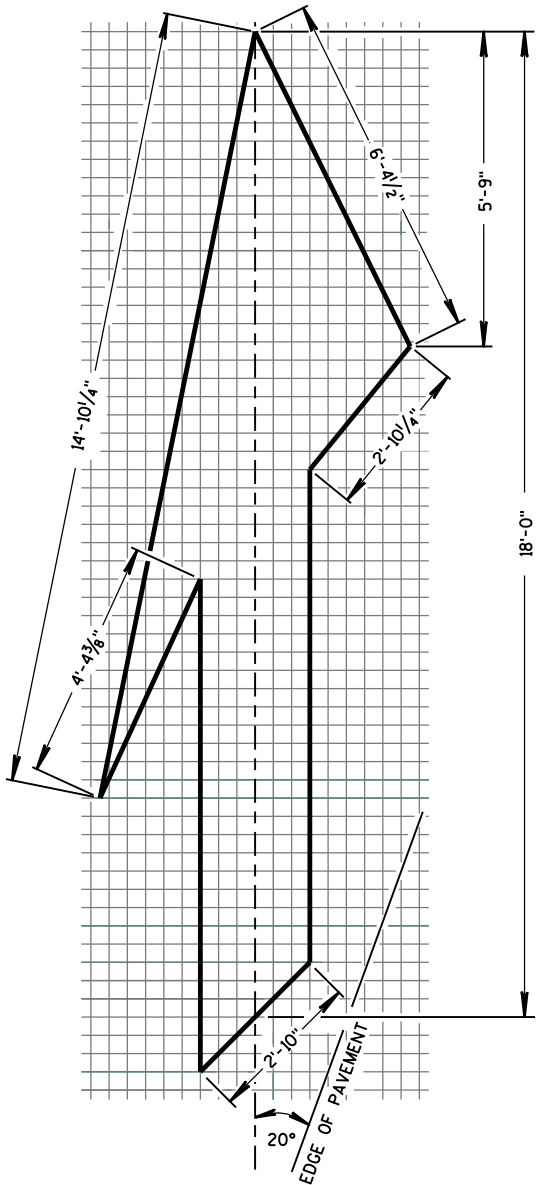
TYPE 7



TYPE 1

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.

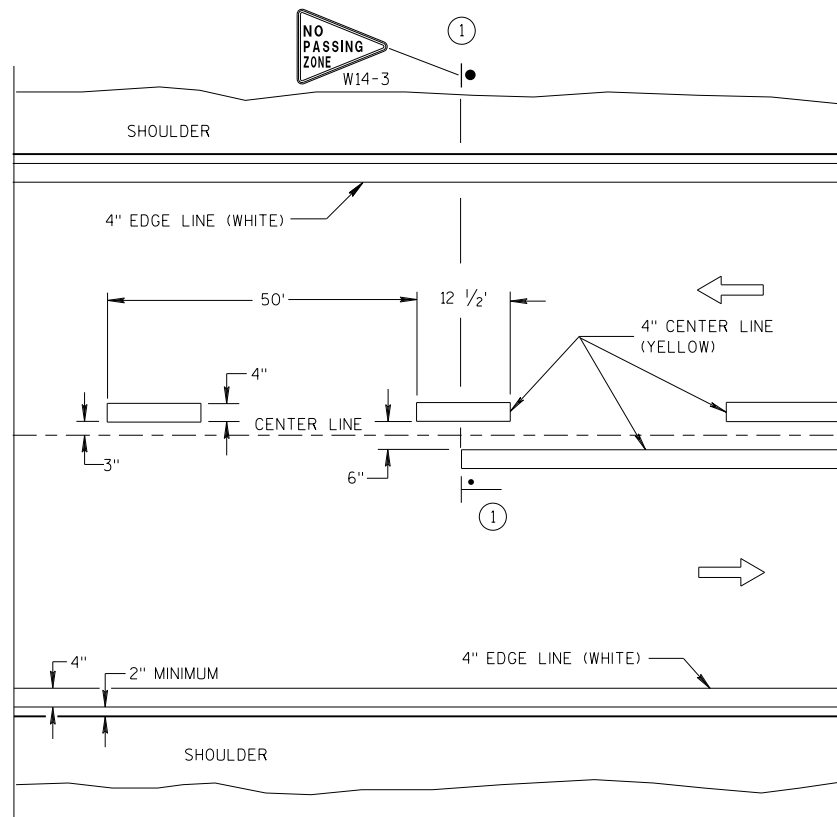


TYPE 5 LANE DROP ARROW

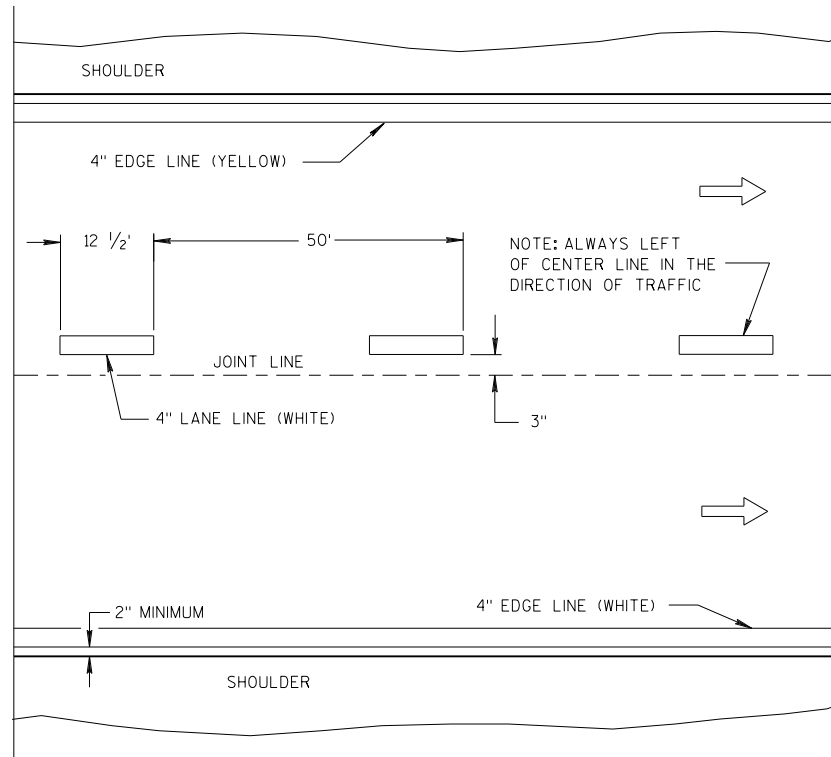
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

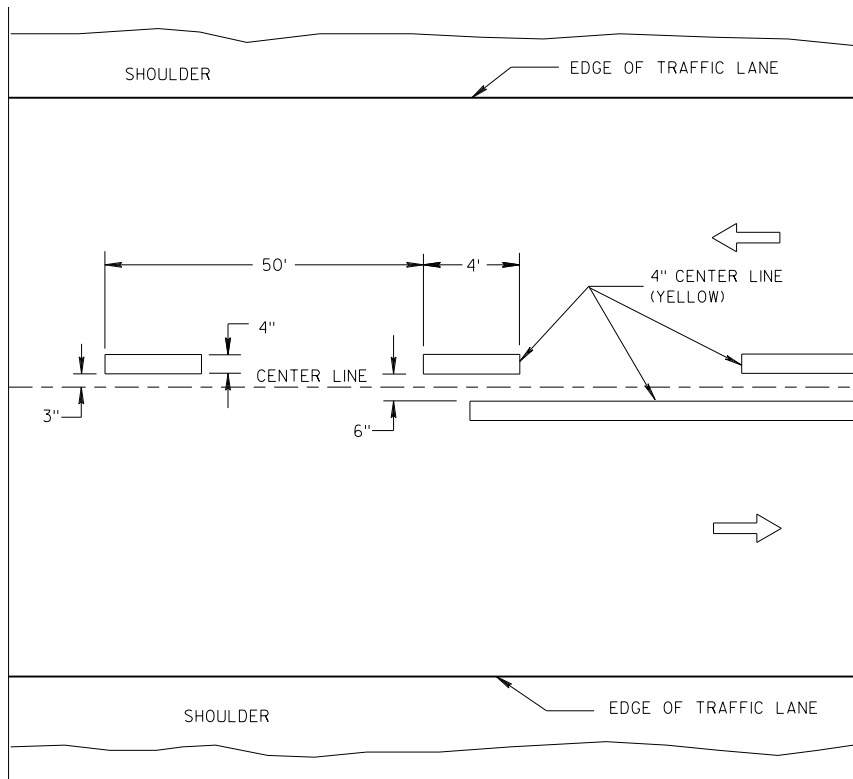


TWO WAY TRAFFIC

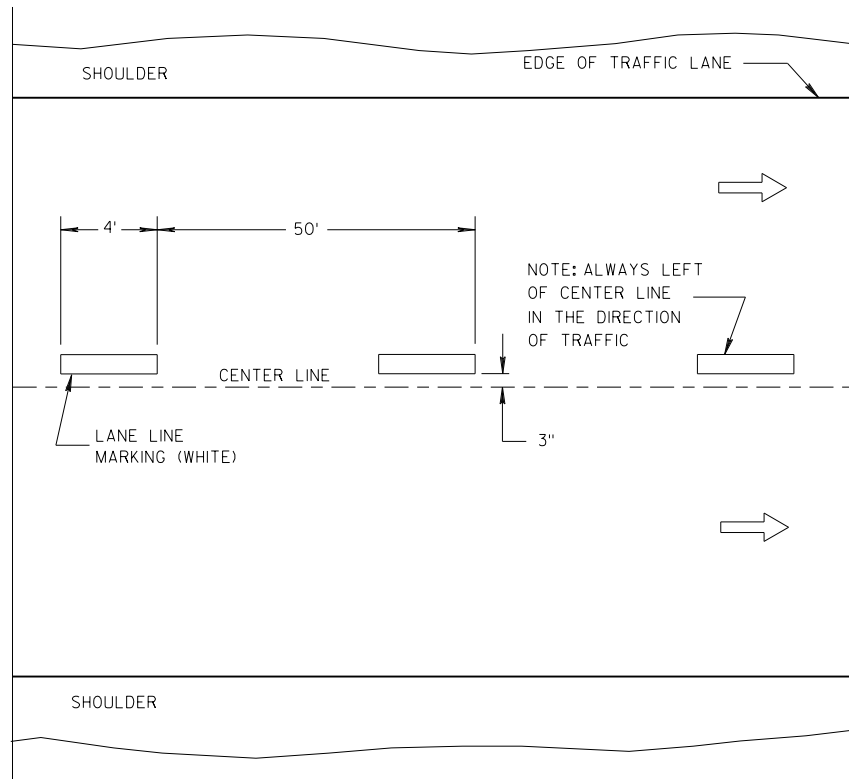


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

LONGITUDINAL MARKING
(MAINLINE)

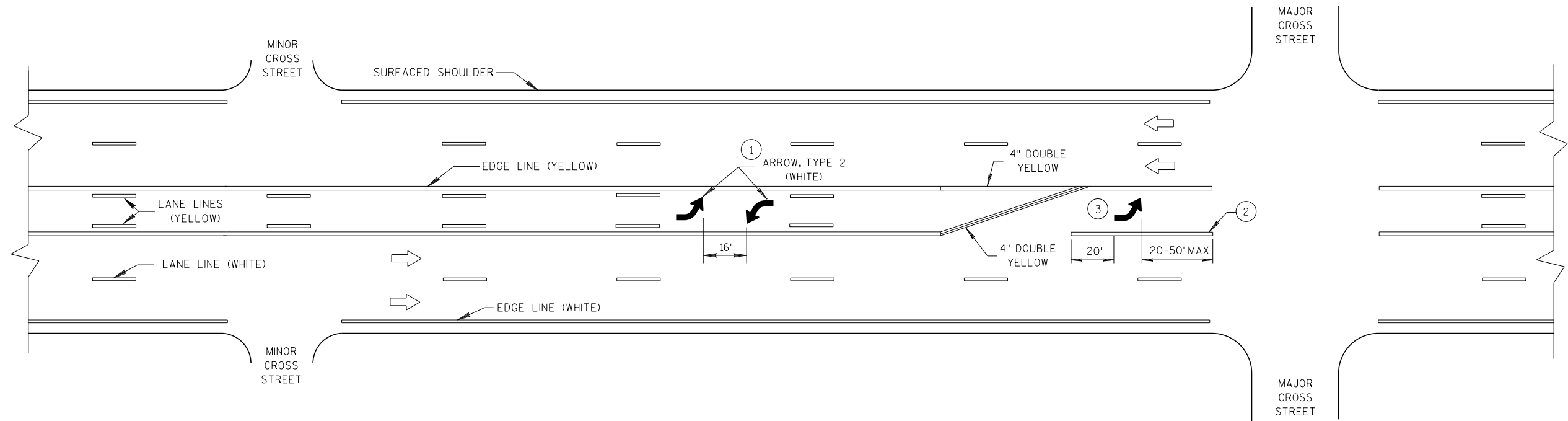
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

GENERAL NOTES

- 1 A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- 2 8" WHITE
- 3 TURN BAY LENGTH OF LESS THAN 48'DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT

DIRECTION OF TRAFFIC



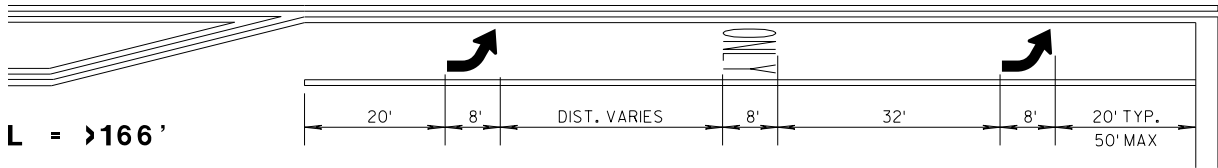
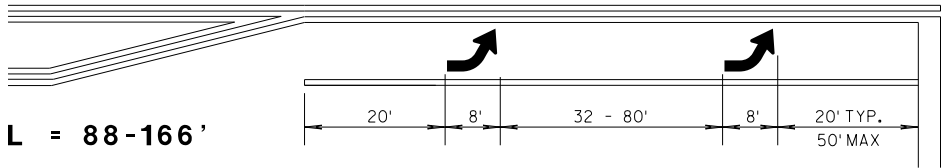
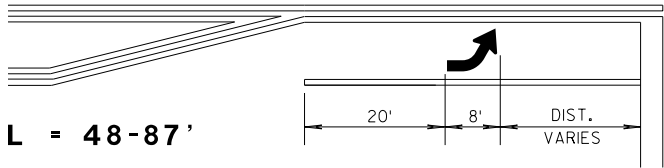
TWO WAY LEFT TURN LANE

PAVEMENT MARKING
(TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

TURN LANE OPTIONS

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



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

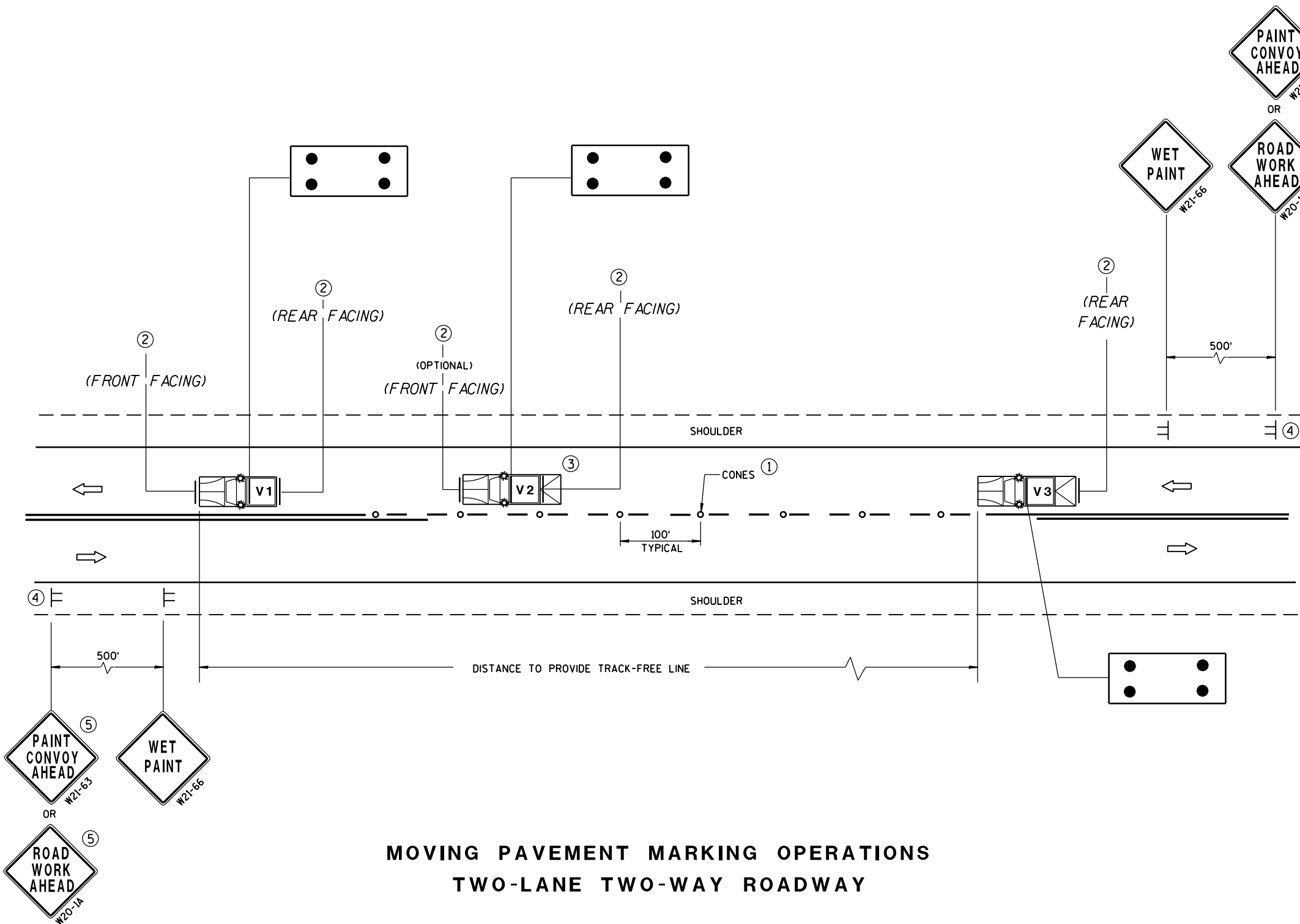
GENERAL NOTES

- ① 8" WHITE
- ② QUANTITY AND LOCATION OF TYPE 3 ARROW ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION, THE ARROWS AND ONLY MARKING ARE ELIMINATED.

→ DIRECTION OF TRAFFIC
L = LENGTH OF TURN BAY

PAVEMENT MARKING
(TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.
- IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.
- ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.
- DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.
- THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.
- WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.
- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.
- ③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.
- ④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

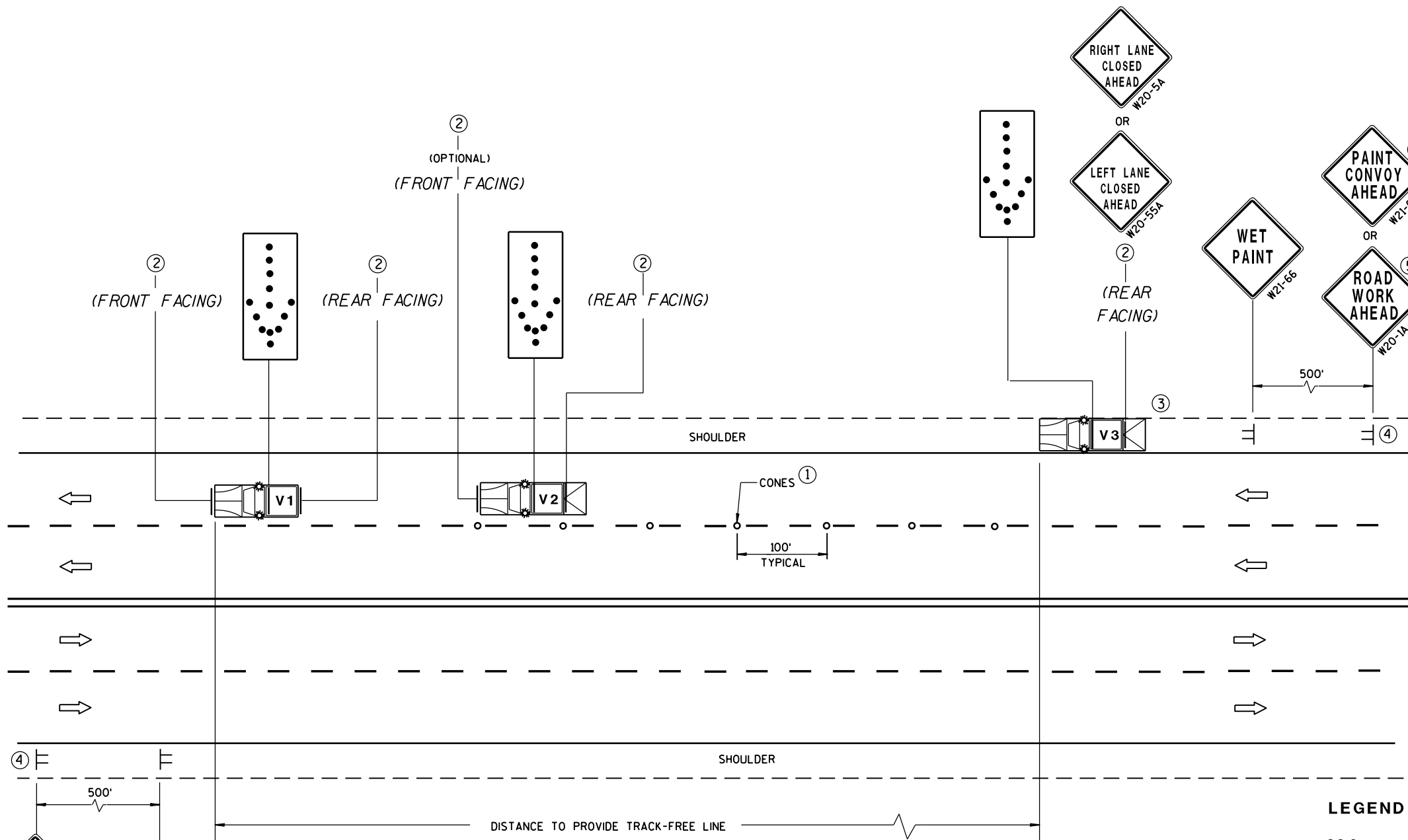
LEGEND

- V1** LEAD VEHICLE
- V2** SHADOW VEHICLE
- V3** TRAIL VEHICLE WITH TMA
- TMA** TRUCK-MOUNTED ATTENUATOR
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- CONES
- FLASHING ARROW PANEL (CAUTION)

MOVING PAVEMENT MARKING
OPERATION
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



MOVING PAVEMENT MARKING OPERATIONS
MULTI-LANE UNDIVIDED ROADWAY

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. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

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

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

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

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

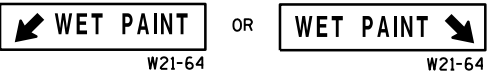
FOR EDGE LINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH.

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

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGE LINE OR LANELINE MARKING FOR MULTILANE UNDIVIDED ROADWAYS.

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

② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.



③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.

④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

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

LEGEND

V1 LEAD VEHICLE

V2 SHADOW VEHICLE

V3 TRAIL VEHICLE WITH TMA

TMA TRUCK-MOUNTED ATTENUATOR

Sign on temporary support

Direction of traffic

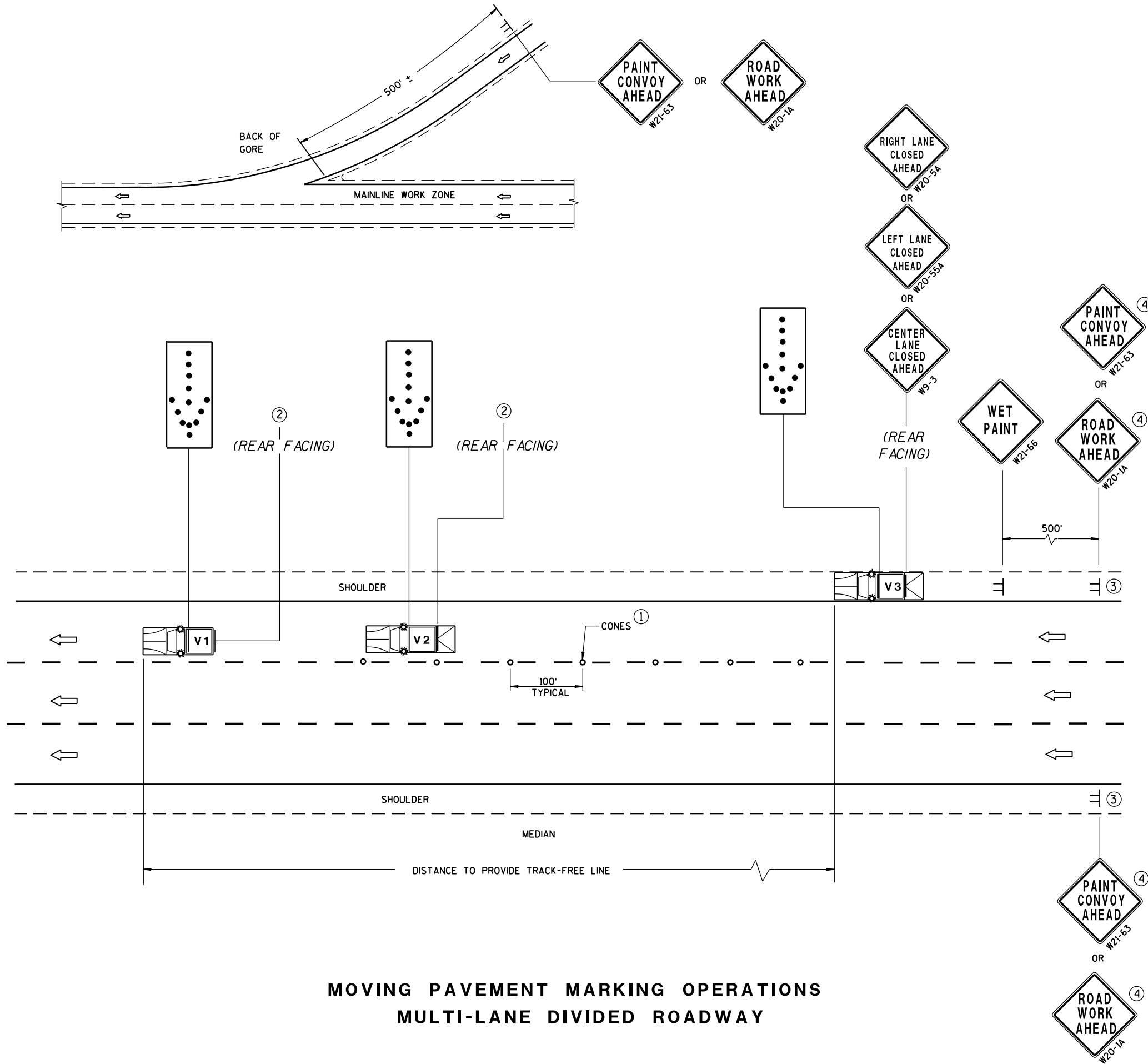
Cones

Flashing arrow panel (merge)

MOVING PAVEMENT MARKING
OPERATION
MULTI-LANE UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 /S/ Andrew Heldtke
DATE WORK ZONE ENGINEER
FHWA



MOVING PAVEMENT MARKING OPERATIONS
MULTI-LANE DIVIDED ROADWAY

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. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

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

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

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

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.



WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

FOR EDGE LINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH. USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

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

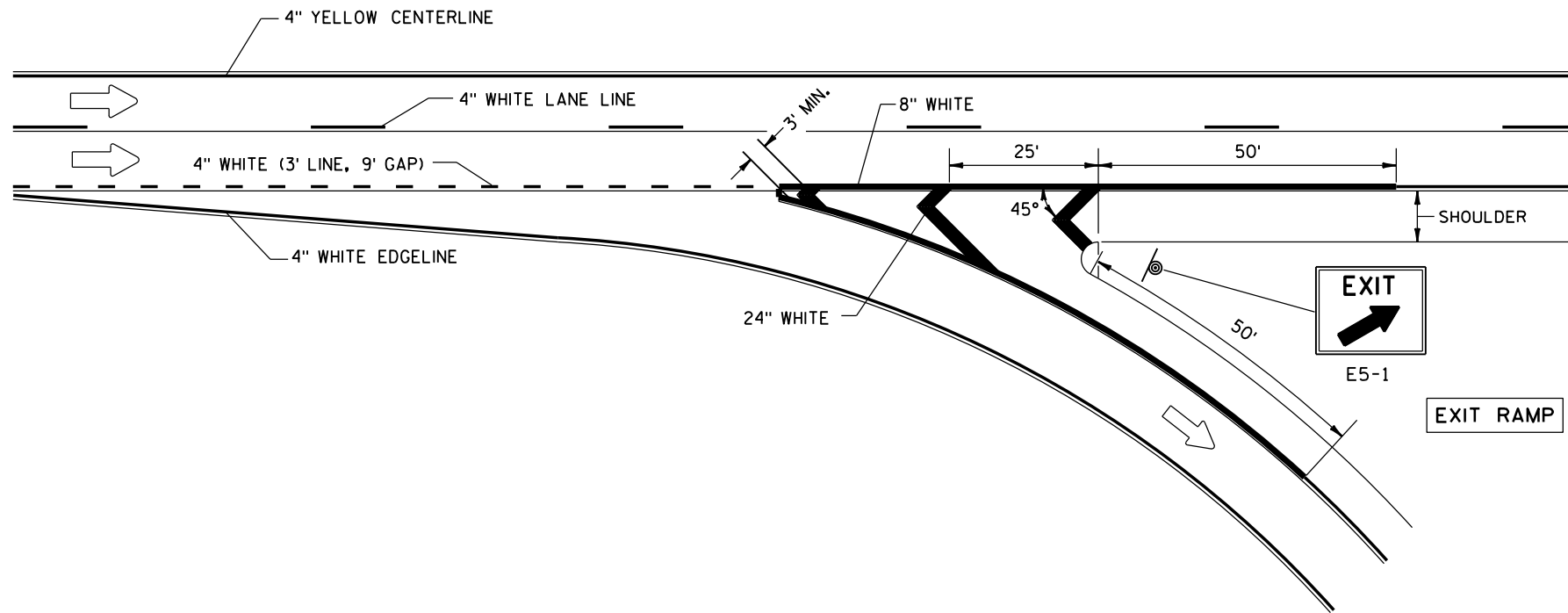
THIS DRAWING SHALL BE USED FOR EDGE LINE OR LANELINE MARKING FOR MULTILANE DIVIDED ROADWAYS.

- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.
 OR 
W21-64 W21-64
- ③ SIGNS SHALL BE REPEATED AFTER EVERY ON RAMP OR EVERY THREE MILES.
- ④ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

- V1 LEAD VEHICLE
- V2 SHADOW VEHICLE
- V3 TRAIL VEHICLE WITH TMA
- TMA TRUCK-MOUNTED ATTENUATOR
- Sign on temporary support
- DIRECTION OF TRAFFIC
- CONES
- FLASHING ARROW PANEL (MERGE)

MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE Sept. 2017	/S/ Andrew Heldtke WORK ZONE ENGINEER
FHWA	



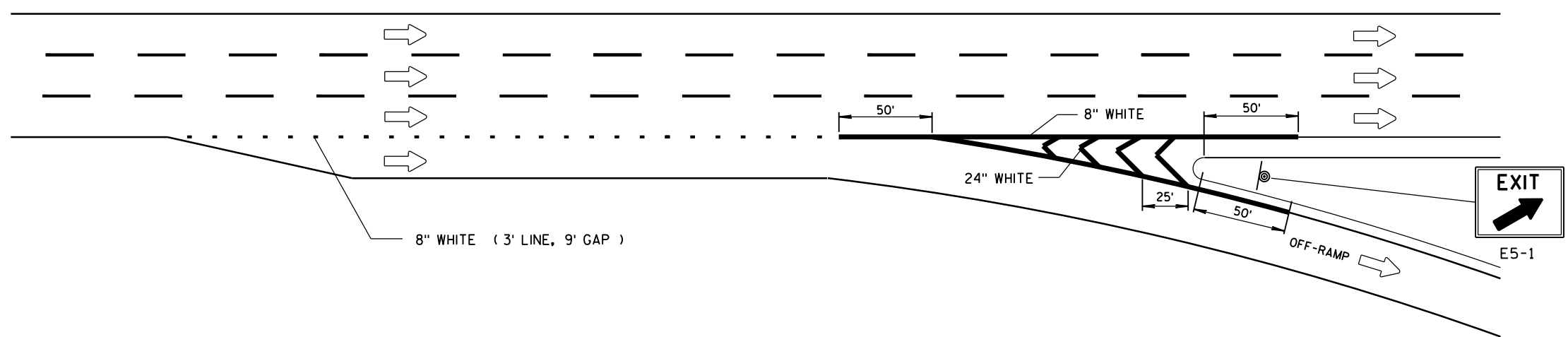
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

- DIRECTION OF TRAVEL
- SIGN ON PERMANENT SUPPORT

PAVEMENT MARKING FOR EXIT RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

PAVEMENT MARKING
(RAMPS AND GOES)

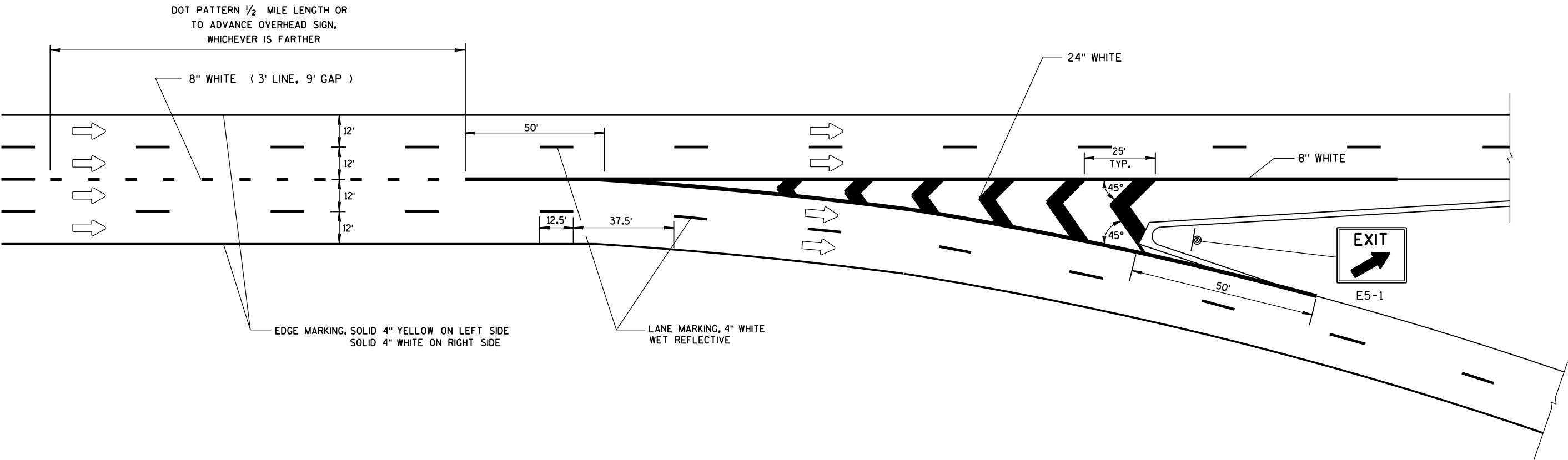
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

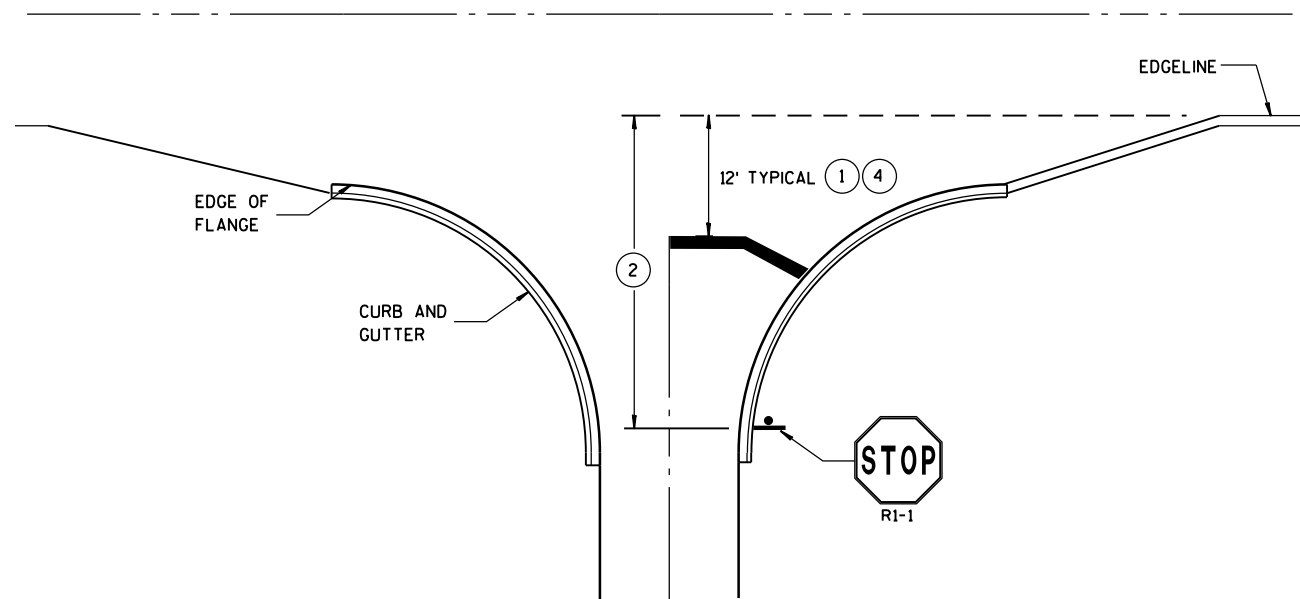
LEGEND

- ➡ DIRECTION OF TRAVEL
- ⊙ SIGN ON PERMANENT SUPPORT

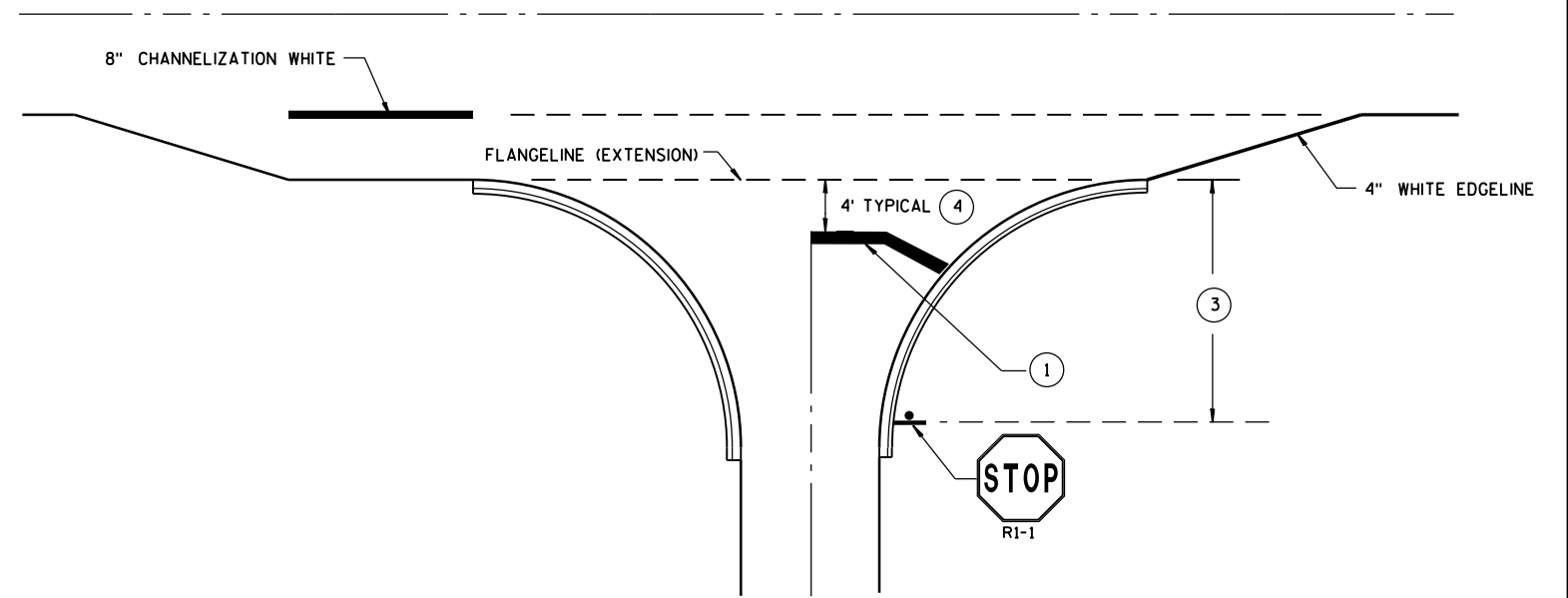


PAVEMENT MARKING
MAJOR SPLIT
FREEWAY TO FREEWAY

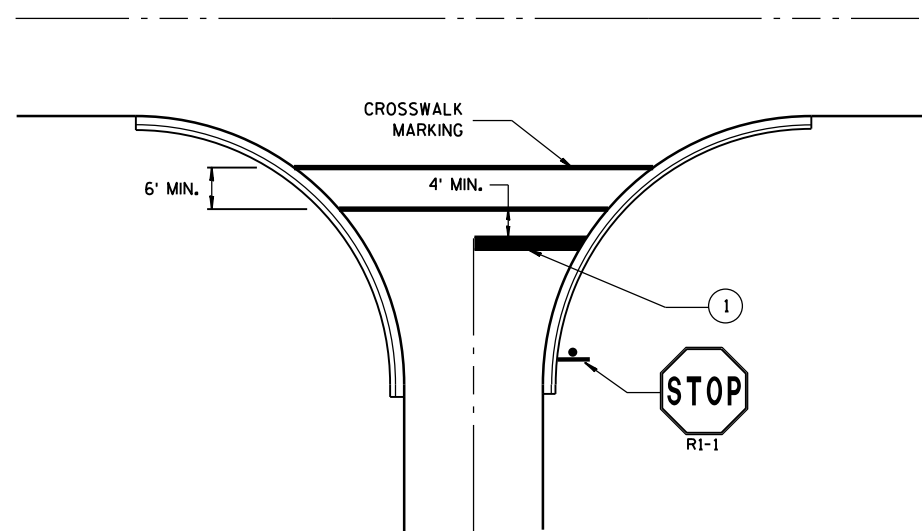
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



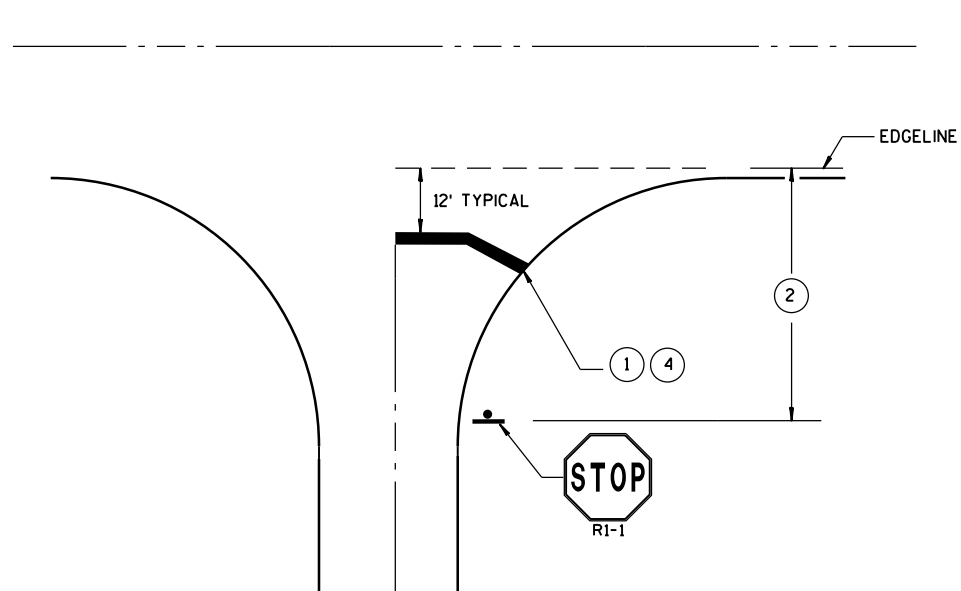
**TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER**



**TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE**



**TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS 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 EDGE LINE LOCATION.

- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE THAN NO STOP LINE IS REQUIRED.
- ③ IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
- ④ MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING

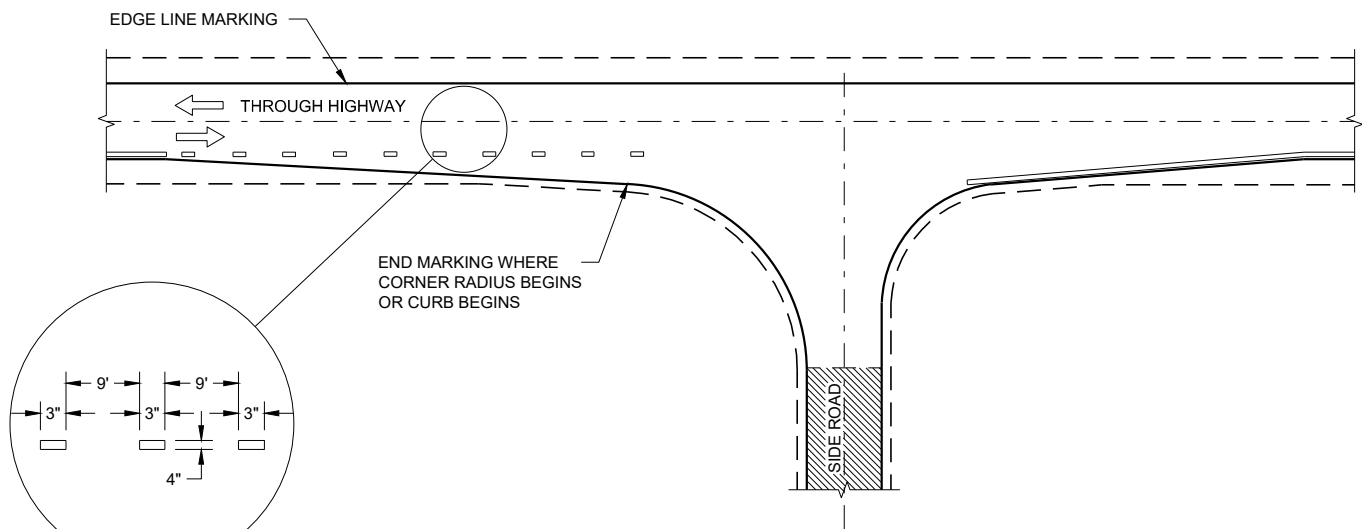
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

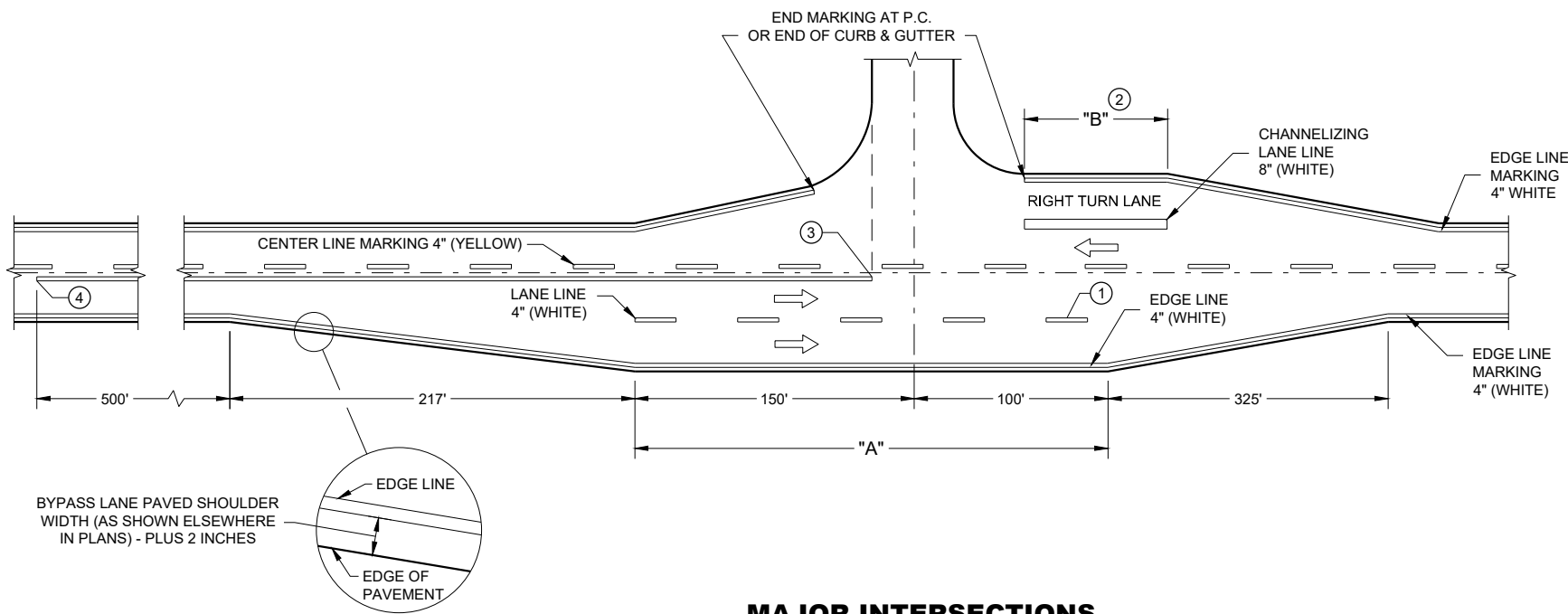
Sept., 2017
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA



MINOR INTERSECTION



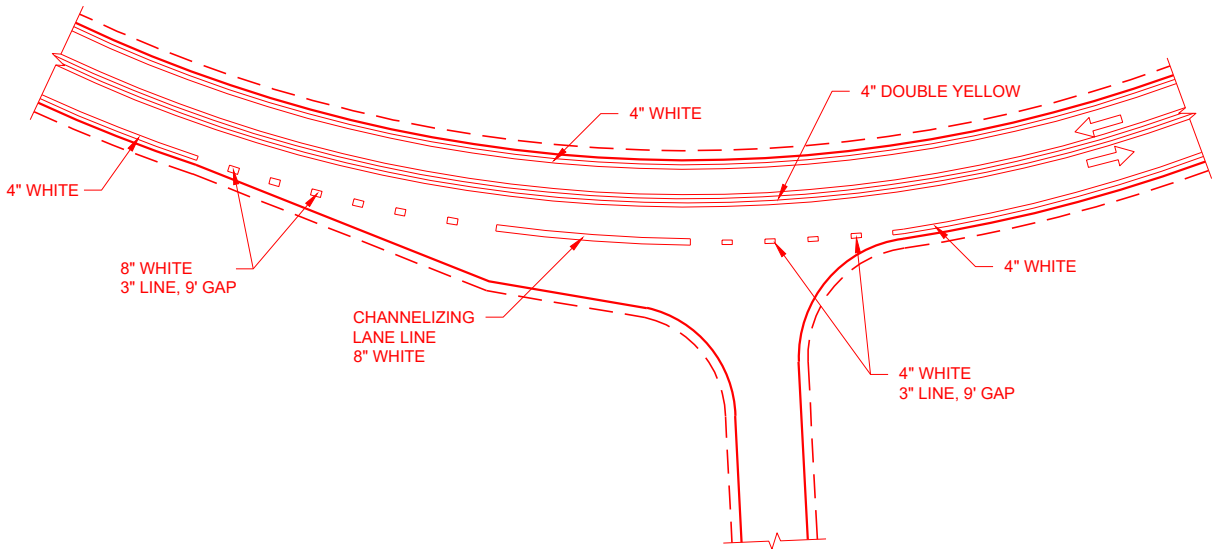
MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

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

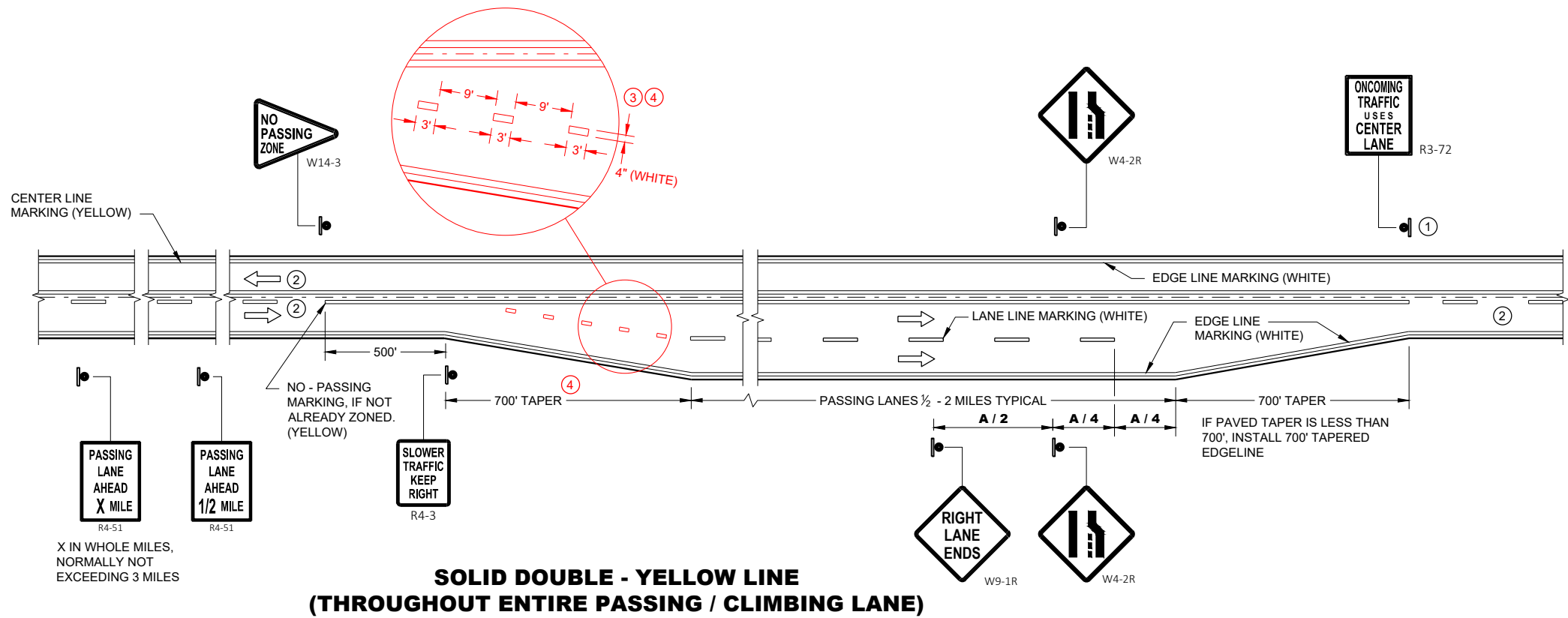
ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



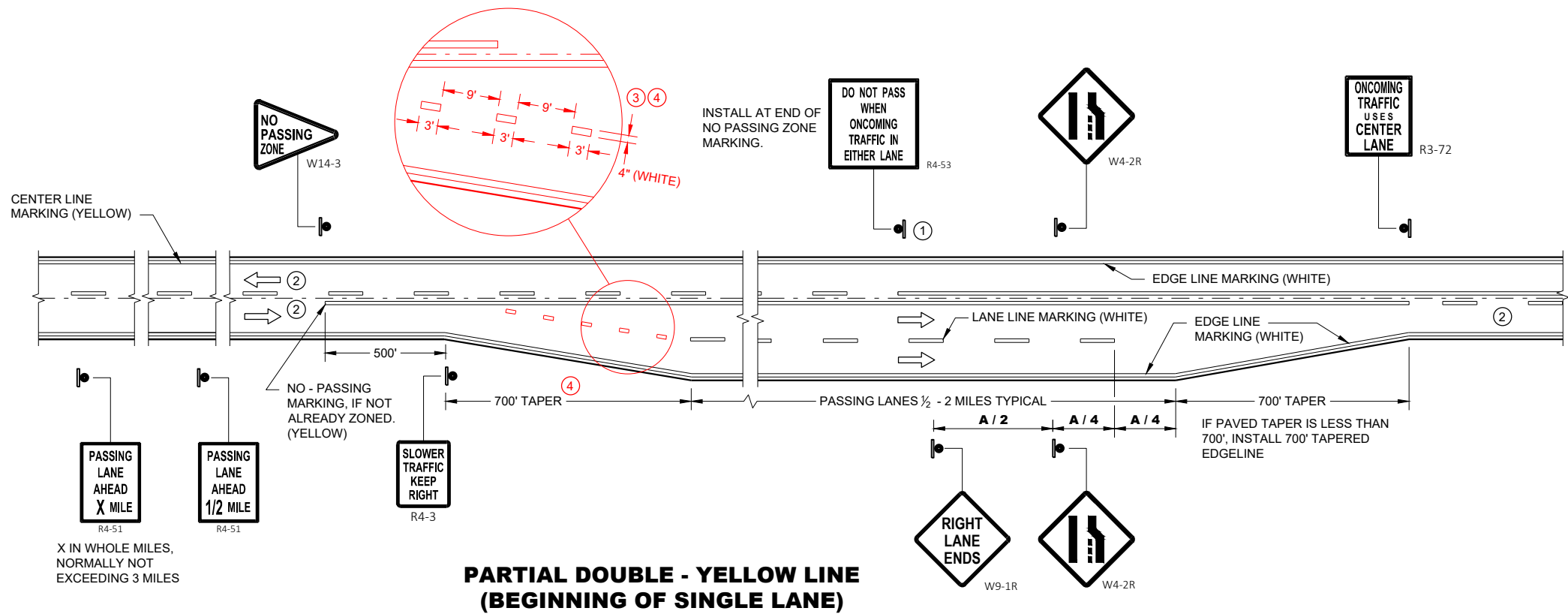
GENERAL NOTES

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

ARROW SYMBOL (➞) SHOWS DIRECTION OF TRAVEL

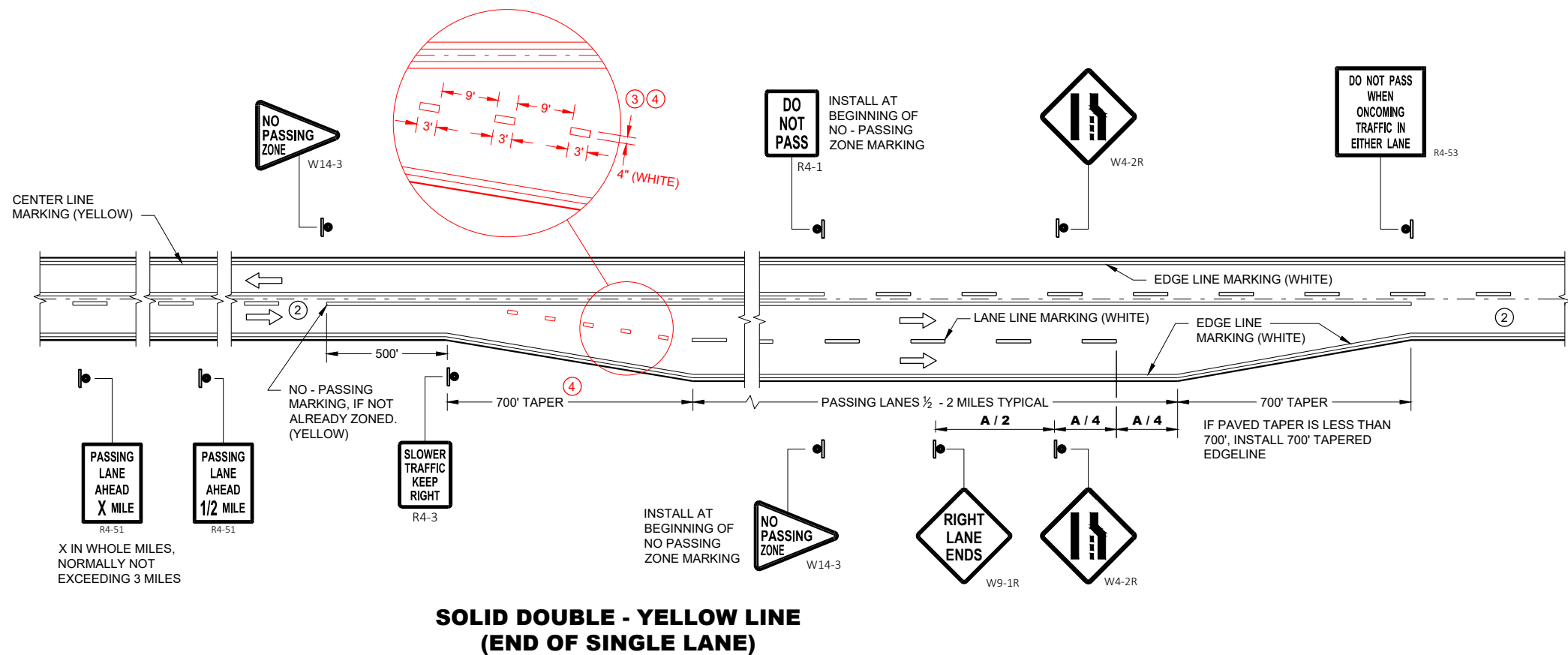
DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	850
55	950



PAVEMENT MARKING & SIGNING (CLIMBING LANE & PASSING LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



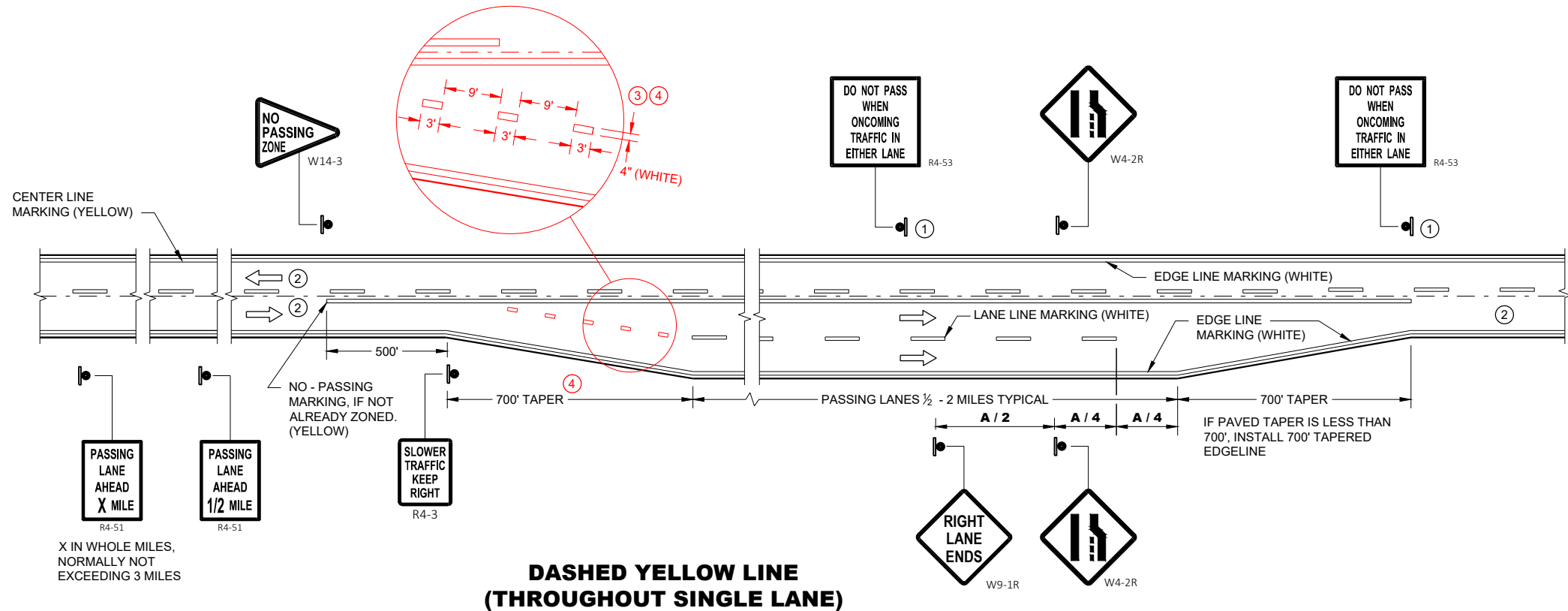
GENERAL NOTES

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

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	850
55	950



PAVEMNET MARKING & SIGNING (CLIMBLING LANE & PASSING LANE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
00-00-00
DATE
/S/ <AUTHOR>
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

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