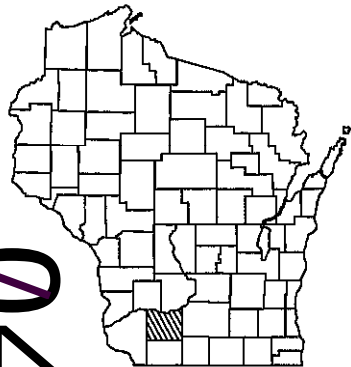


MAD MAY 2022
PROJECT ID: 1640-00-63
WITH: N/A
COUNTY: IOWA

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details (Includes Erosion Control Plan)
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 Endwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 44



DESIGN DESIGNATION

A.A.D.T. (2026)	=	8,200
A.A.D.T. (2046)	=	8,500
D.H.V. (2046)	=	551
D.D.	=	60/40
T.	=	20.4%
DESIGN SPEED	=	55 MPH (STA. 100+55.45 - STA. 445+48)
ESALS	=	45 MPH (STA. 445+48 - STA. 446+02.39)
	=	3,100,000

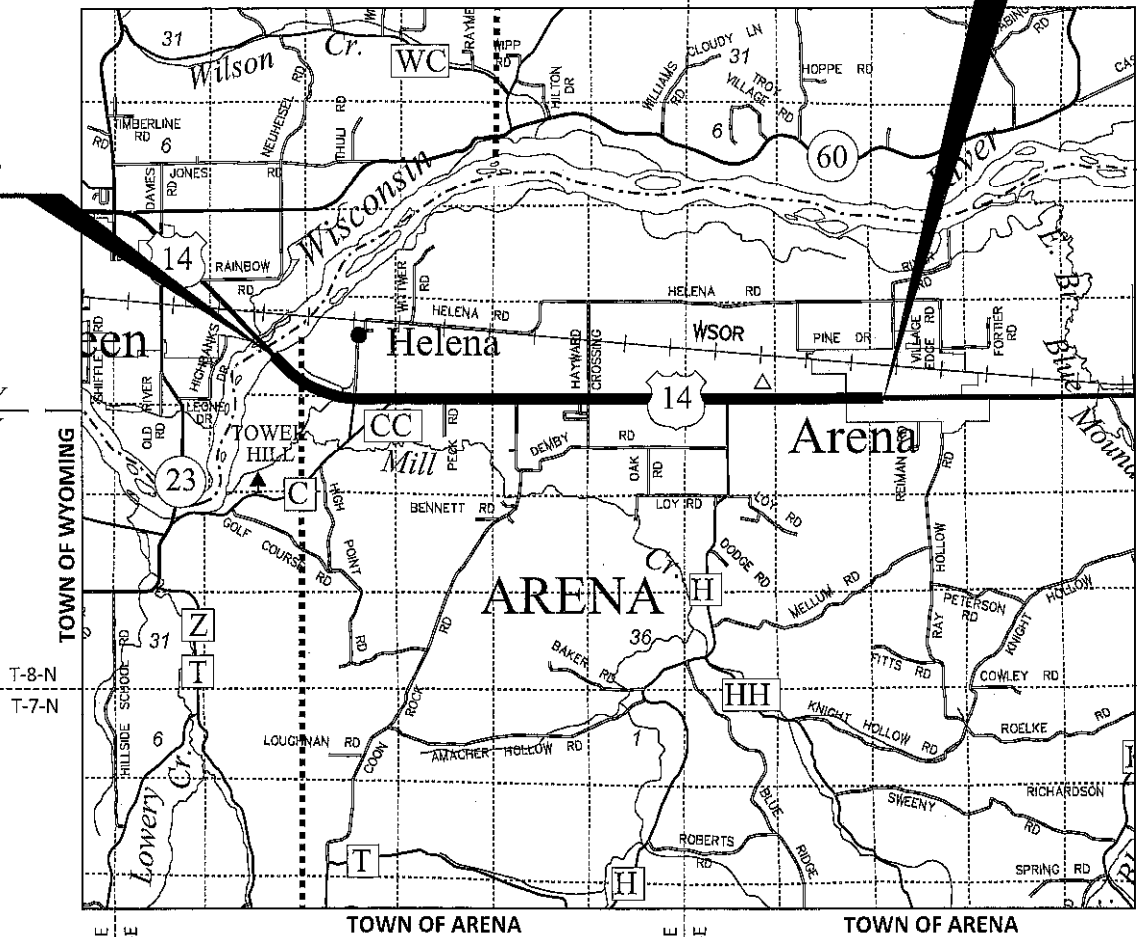
CONVENTIONAL SYMBOLS

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	

BEGIN PROJECT
STA. 100+55.45
Y=229,283.28
X=403,212.52

SAUK COUNTY
IOWA COUNTY



LAYOUT
SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 6.543 MILES

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

ELEVATION SHOWN ON THIS PLAN ARE REFERENCE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88 (2012).

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1640-00-63	WISC 2022377	1

ORIGINAL PLANS PREPARED BY

JEWELL
associates engineers, inc
Engineers - Architects - Surveyors

WISCONSIN
ELLERY A. SCHAFER
E-41742-8
SPRING GREEN, WI
PROFESSIONAL ENGINEER
8-25-2021

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JEWELL ASSOCIATES ENGINEERS, INC.
Designer	JEWELL ASSOCIATES ENGINEERS, INC.
Project Manager	MAHESH SHRESTHA, P.E.
Regional Examiner	SW REGION
Regional Supervisor	MARC SCHWEIGER, P.E.

APPROVED FOR THE DEPARTMENT
DATE: _____
Mahesh Shrestha
(Signature)

E

GENERAL NOTES

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

EROSION CONTROL ITEMS IN THE MISC. QUAN. ARE SUGGESTED. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD. MAINTAIN EROSION CONTROL ITEMS UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY. PROTECT WETLANDS AND OTHER WATERWAYS THAT ARE PRESENT WITHIN THE PROJECT LIMITS.

EXISTING SHOULDER AGGREGATE SHALL BE INCORPORATED INTO THE NEW SHOULDERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN THE FIELD.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A VERTICAL EDGE MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

HMA PAVEMENT QUANTITIES WERE CALCULATED USING 112 LB/SY/IN.

2.5-INCHES OF HMA PAVEMENT SHALL BE CONSTRUCTED WITH A SINGLE 2.5-INCH LAYER OF HMA PAVEMENT 4 MT 58-28 S.

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

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

APPLY TACK COAT TO MILLED SURFACE PRIOR TO PLACEMENT OF HMA PAVEMENT AT A RATE OF 0.07 GAL/SY.

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, OR PASSING LANE.

THE LOW SIDE SHOULDER SLOPE ON SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION WHEN THE SUPERELEVATION IS GREATER THAN 0.04 FT./FT. IF THE SUPERELEVATION IS LESS THAN OR EQUALS 0.04 FT./FT., THEN THE LOW SIDE SHOULDER SLOPE IS 0.04 FT./FT. THE HIGH SIDE SHOULDER SLOPE ON THE SUPERELEVATED SECTION EQUALS THE SUPERELEVATION.

CURVE DATA IS BASED ON THE ARC DEFINITION.

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, ALL SIGNS RELATING TO THIS OPERATION SHALL BE COVERED OR REMOVED AND FACILITY RESTORED TO NORMAL OPERATIONS.

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

IF THERE ARE UTILITY CONFLICTS WITH SIGNS OR OTHER WORK UNDER THIS PROJECT, THE CONTRACTOR WILL WORK AROUND THE UTILITY FACILITIES.

A 20 FT. VERTICAL CLEARANCE IS REQUIRED FROM HIGHEST POINT ON THE PAVEMENT SURFACE TO THE LOWEST POINT OF THE OBSTACLE.

CONTRACTOR TO PROTECT DH8322 AND OM1175 GPS AND KEEP CONSTRUCTION EQUIPMENT AT LEAST 10 FEET AWAY FROM DH8322 AND OM1175 GPS.

ENSURE THAT DH8322 AND OM1175 GPS ARE NOT DISTURBED, BUMPED, OR MOVED DURING THE DURATION OF THE PROJECT. NOTIFY JACOB ROCKWEILER IMMEDIATELY IF DH8322 AND OM1175 GPS ARE DISTURBED, BUMPED OR MOVED DURING CONSTRUCTION OPERATIONS.

JACOB ROCKWEILER, P.E., WISCONSIN HEIGHT MODERNIZATION PROGRAM MANAGER WITH THE WISCONSIN DEPARTMENT OF TRANSPORTATION WHOSE PHONE NUMBER IS (608) 516-6362 AND EMAIL IS JACOB.ROCKWEILER@DOT.WI.GOV.

MILL AND PAVE ADJACENT TO MONUMENT WITHOUT DAMAGING THE MONUMENT.

ADJUST SHOULDER SLOPE FROM STA. 138+27 - STA. 142+43, RT. TO ACHIEVE ALLOWABLE GUARDRAIL HEIGHT RANGE 27.75" - 32". THE EXISTING GUARDRAIL HEIGHT MEASURES 27" - 28" AND NEEDS TO BE ADJUSTED BY 0.75". SHOULDER SLOPE ADJUSTMENTS ARE REQUIRED BETWEEN THE EDGE OF THE DRIVING LANE AND FACE OF GUARDRAIL FROM STA. 138+27 - STA. 142+43, RT. ALL WORK REQUIRED TO ACHIEVE DESIRED GUARDRAIL HEIGHT IS PAID FOR UNDER THE HMA PAVEMENT 4 MT 58-28 S BID ITEM.

ADJUST SHOULDER SLOPE FROM STA. 420+62 - STA. 423+29, RT. AND STA. 421+34 - STA. 422+52, LT. TO ACHIEVE ALLOWABLE GUARDRAIL HEIGHT RANGE 27.75" - 32". THE EXISTING GUARDRAIL HEIGHT MEASURES 28.5" - 33.5" AND 29.5" - 33" RESPECTIVELY AND NEEDS TO BE ADJUSTED TO MEET THE ALLOWABLE GUARDRAIL HEIGHT RANGE OF 27.75" - 32". SHOULDER SLOPE ADJUSTMENTS ARE REQUIRED BETWEEN 15' FROM THE USH 14 FINISHED C/L TO THE FACE OF GUARDRAIL FROM STA. 420+62 - STA. 423+29, RT. AND STA. 421+34 - STA. 422+52, LT. ALL WORK REQUIRED TO ACHIEVE DESIRED GUARDRAIL HEIGHT IS PAID FOR UNDER THE HMA PAVEMENT 4 MT 58-28 S BID ITEM.

CONTACTS

WISCONSIN DEPARTMENT OF TRANSPORTATION:

WisDOT PROJECT MANAGER
2101 WRIGHT STREET
MADISON, WI 53704
ATTN: MAHESH SHRESTHA, P.E.
PH: (608) 245-2674
EMAIL: Mahesh.Shrestha@dot.wi.gov

DESIGN CONSULTANT:

JEWELL ASSOCIATES ENGINEERS, INC.
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
ATTN: ELLERY SCHAFFER, P.E.
PH: (608) 459-6027
CELL: (608) 341-8159
EMAIL: ellery.schaffer@jewellassoc.com

WDNR LIAISON:

STATE OF WISCONSIN
DNR SOUTH CENTRAL REGION HQ
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
ATTN: ANDY BARTA
PH: (608) 275-3308
CELL: (608) 235-2955
EMAIL: Andrew.Barta@wisconsin.gov

UTILITIES

ELECTRICITY

ALLIANT ENERGY
ATTN: MATT HOSLER
900 PRAIRIE LANE
SPRING GREEN, WI 53588
CELL: (608) 963-3655
EMAIL: matthewhosler@alliantenergy.com

GAS/PETROLEUM

MADISON GAS & ELECTRIC
ATTN: SHAUN ENDRES
133 S BLAIR STREET
MADISON, WI 53788
OFFICE: (608) 252-7224
CELL: (608) 213-6708
EMAIL: sendres@mge.com

WATER

VILLAGE OF ARENA
ATTN: MIKE SCHMIDT
345 WEST STREET
P.O. BOX 131
ARENA, WI 53503
OFFICE: (608) 459-5838
EMAIL: publicworks@villageofarena.net

COMMUNICATION LINE

CHARTER COMMUNICATIONS
ATTN: STEVE HEGGE
2701 DANIELS STREET
MADISON, WI 53718
OFFICE: (608) 576-2613
EMAIL: steve.hegge@charter.com

FRONTIER COMMUNICATIONS

ATTN: JERRY MOORE
2222 W WISCONSIN STREET
PORTAGE, WI 53901
OFFICE: (608) 742-9507
CELL: (608) 346-0353
EMAIL: jereld.r.moore@ftr.com

CONTROL POINTS

NO.	STA.	DESCRIPTION	Y	X	Z
1	160+24	¾" I.R.S., 34.2' RT.	226,969.95	408,491.62	717.82
2	272+52	¾" I.R.S., 40.5' LT.	227,061.26	419,720.30	724.32
3	391+77	¾" I.R.S., 40.5' LT.	227,068.20	431,644.44	735.84

ORDER OF SECTION 2 SHEETS:

- WRITTEN MATERIAL
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- PLAN DETAILS

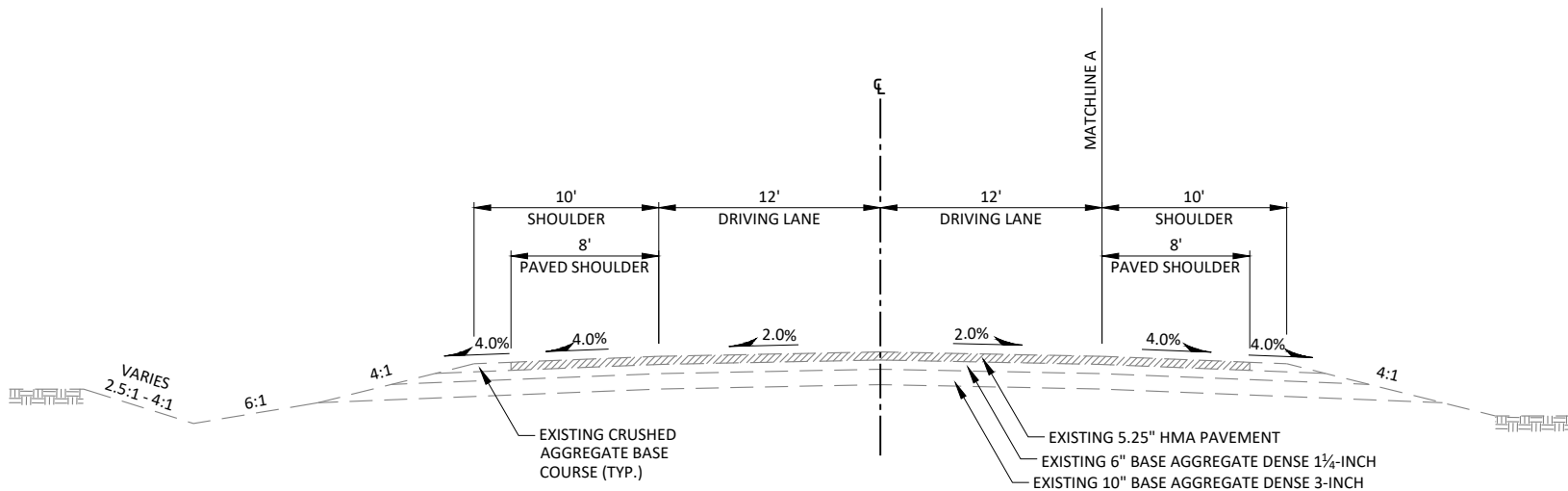
LIST OF STANDARD ABBREVIATIONS

ABUT	Abutment	INV	Invert	RDWY	Roadway
AC	Acre	IP	Iron Pipe or Pin	SALV	Salvaged
AGG	Aggregate	IRS	Iron Rod Set	SAN S	Sanitary Sewer
AH	Ahead	JT	Joint	SEC	Section
<	Angle	JCT	Junction	SHLDR	Shoulder
ASPH	Asphaltic	LHF	Left-Hand Forward	SHR	Shrinkage
AVG	Average	L	Length of Curve	SW	Sidewalk
ADT	Average Daily Traffic	LIN FT	Linear Foot	S	South
BAD	Base Aggregate Dense	or LF		SQ	Square
BK	Back	LC	Long Chord of Curve	SF or SQ FT	Square Feet
BF	Back Face	MH	Manhole	SV or SQ YD	Square Yard
BM	Bench Mark	MB	Mailbox	STD	Standard
BR	Bridge	ML or M/L	Match Line	SDD	Standard Detail Drawings
C or C/L	Center Line	N	North	STH	State Trunk Highways
CC	Center to Center	Y	North Grid Coordinate	STA	Station
C.E.	Commercial Entrance	OD	Outside Diameter	SS	Storm Sewer
CTH	County Trunk Highway	PLE	Permanent Limited Easement	SG	Subgrade
CR	Creek	PT	Point	SE	Superelevation
CR	Crushed	PC	Point of Curvature	SL or S/L	Survey Line
CY or CU YD	Cubic Yard	PI	Point of Intersection	SV	Septic Vent
CP	Culvert Pipe	PRC	Point of Reverse Curvature	T	Tangent
C & G	Curb and Gutter			TEL	Telephone
D	Degree of Curve	PT	Point of Tangency	TEMP	Temporary
DHV	Design Hour Volume	POC	Point On Curve	TI	Temporary Interest
DIA	Diameter	POT	Point on Tangent	TLE	Temporary Limited Easement
E	East	PVC	Polyvinyl Chloride		
X	East Grid Coordinate	PCC	Portland Cement Concrete	t	Ton
ELEC	Electric (al)			T or TN	Town
EL or ELEV	Elevation	LB	Pound	TRANS	Transition
ESALS	Equivalent Single Axle Loads	PSI	Pounds Per Square Inch	TL or T/L	Transit Line
		P.E.	Private Entrance	T	Trucks (percent of)
EBS	Excavation Below Subgrade	R	Radius	TYP	Typical
		RR	Railroad	UNCL	Unclassified
FF	Face to Face	R	Range	UG	Underground Cable
F.E.	Field Entrance	RL or R/L	Reference Line	USH	United States Highway
F	Fill	RP	Reference Point	VAR	Variable
FG	Finished Grade	RCCP	Reinforced Concrete Culvert Pipe	V	Velocity or Design Speed
FL or F/L	Flow Line			VERT	Vertical
FT	Foot	REQD	Required	VC	Vertical Curve
FTG	Footing	RES	Residence or Residential	VOL	Volume
GN	Grid North	RW	Retaining Wall	WM	Water Main
HT	Height	RT	Right	WV	Water Valve
CWT	Hundredweight	RHF	Right-Hand Forward	W	West
HYD	Hydrant	R/W	Right-of-Way	WB	Westbound
INL	Inlet	RD	Road	YD	Yard
ID	Inside Diameter	R	River		

SOIL BORING TABLE

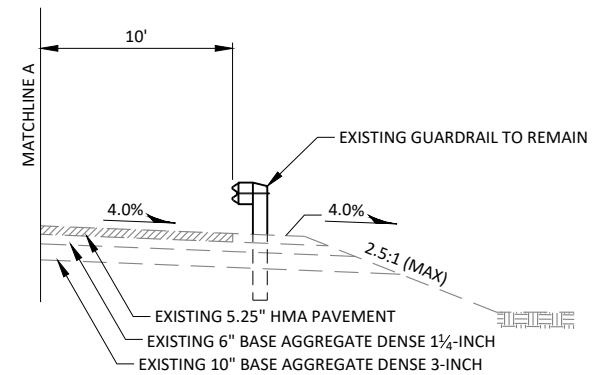
STATION	OFFSET	HMA LAYER 1 (INCH)	LAYER 2 MATERIAL	LAYER 2 THICKNESS (INCH)	OTHER MATERIAL BELOW LAYER 2 IN 5-FT AUGER BORINGS
114+81	6' RT.	5.875	RECYCLED ASPHALT		
130+12	9' RT.	6.50	BASE	22.5	3'+ SAND
145+96	12' RT.	5.50	RECYCLED ASPHALT		
166+03	6' LT.	9.25	RECYCLED ASPHALT		
177+64	9' RT.	9.75	RUBBALIZED CONCRETE	7.0	3'+ SAND
200+87	12' LT.	6.13	RECYCLED ASPHALT		
215+66	6' LT.	6.13	RECYCLED ASPHALT		
233+08	9' LT.	9.00	RUBBALIZED CONCRETE	7.5	3.5' SAND
252+62	12' RT.	6.30	BASE		
263+71	18' RT.	5.75	BASE		
269+51	6' LT.	10.00	RUBBALIZED CONCRETE	7.5	3.5' SAND
289+58	9' RT.	11.50	RUBBALIZED CONCRETE	8.5	
298+03	12' LT.	8.13	RECYCLED ASPHALT		3.5' SAND
313+87	18' LT.	4.63	BASE		
322+31	6' RT.	11.00	RUBBALIZED CONCRETE	6.5	3.5' SAND
340+27	9.5' LT.	8.25	RUBBALIZED CONCRETE		
358+22	12' RT.	9.50	RECYCLED ASPHALT		
426+86	6' LT.	10.00	RUBBALIZED CONCRETE	6.0	3.5' SAND
393+07	9' RT.	7.50	INTACT RECYCLED ASPHALT	2.5	CONCRETE
409+43	12' LT.	8.00	INTACT RECYCLED ASPHALT	2.75	
424+75	6' RT.	10.50	RUBBALIZED CONCRETE	6.0	3.5' SAND
434+78	9' LT.	9.25	RUBBALIZED CONCRETE	8.0	3.5' SAND





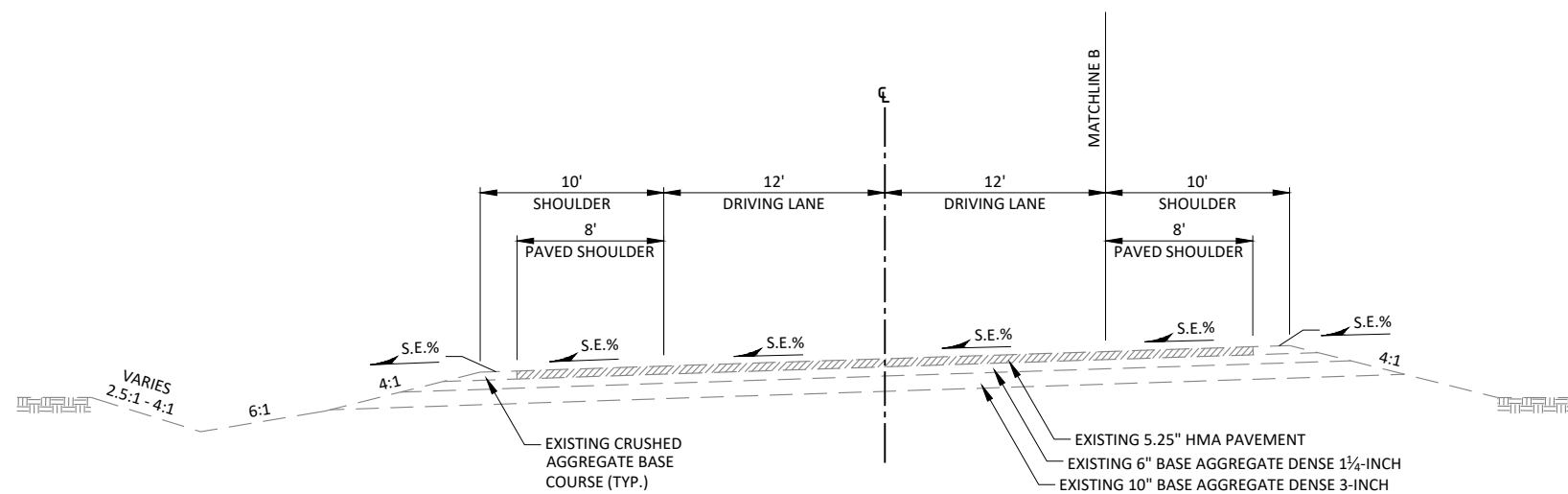
TYPICAL EXISTING SECTION

STA. 100+55.45 - STA. 106+85



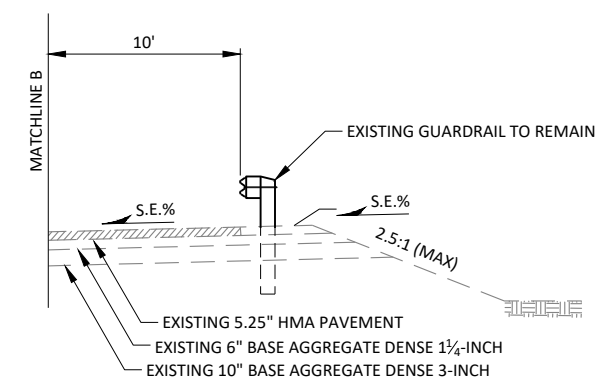
TYPICAL PARTIAL EXISTING SECTION

STA. 100+55.45 - STA. 101+92, RT.
STA. 100+55.45 - STA. 102+92, LT.



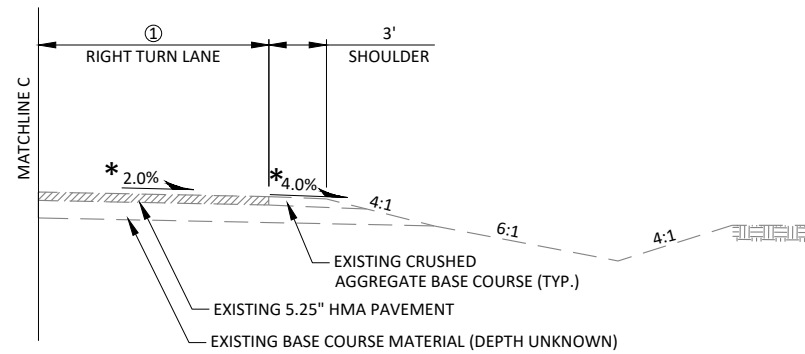
TYPICAL EXISTING SUPERELEVATED SECTION

STA. 106+85 - STA. 144+83



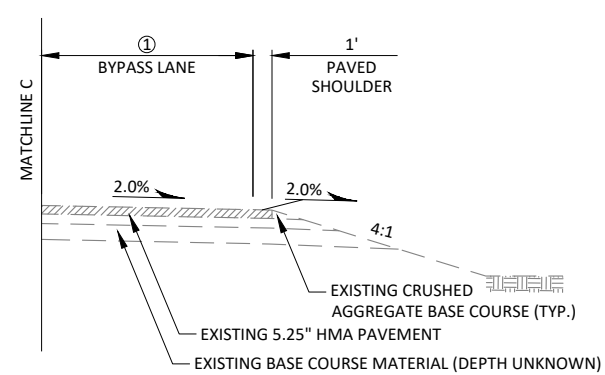
TYPICAL PARTIAL EXISTING SECTION

STA. 138+27 - STA. 142+43, RT.

**TYPICAL PARTIAL EXISTING SECTION**

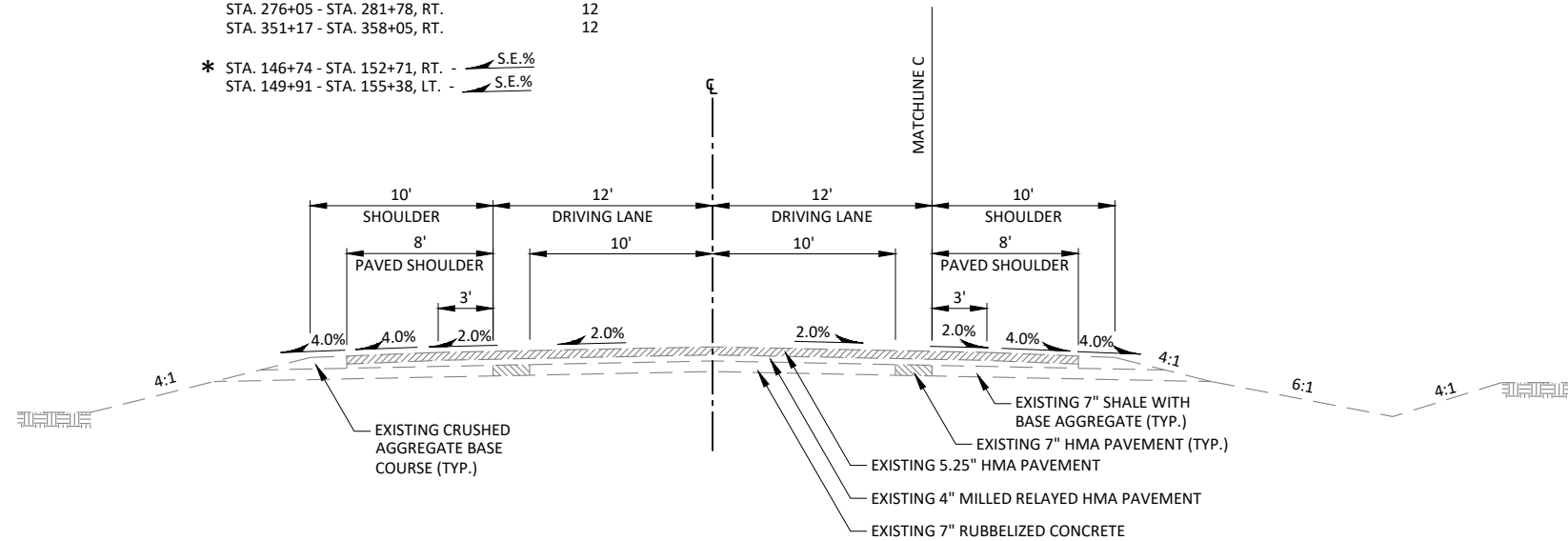
- * STA. 146+74 - STA. 152+71, RT.
- * STA. 149+91 - STA. 155+38, LT.
- STA. 168+90 - STA. 174+50, RT.
- STA. 276+05 - STA. 281+78, RT.
- STA. 351+17 - STA. 358+05, RT.
- * STA. 146+74 - STA. 152+71, RT. - S.E.%
- STA. 149+91 - STA. 155+38, LT. - S.E.%

①
FT.
12
12
11
12
12

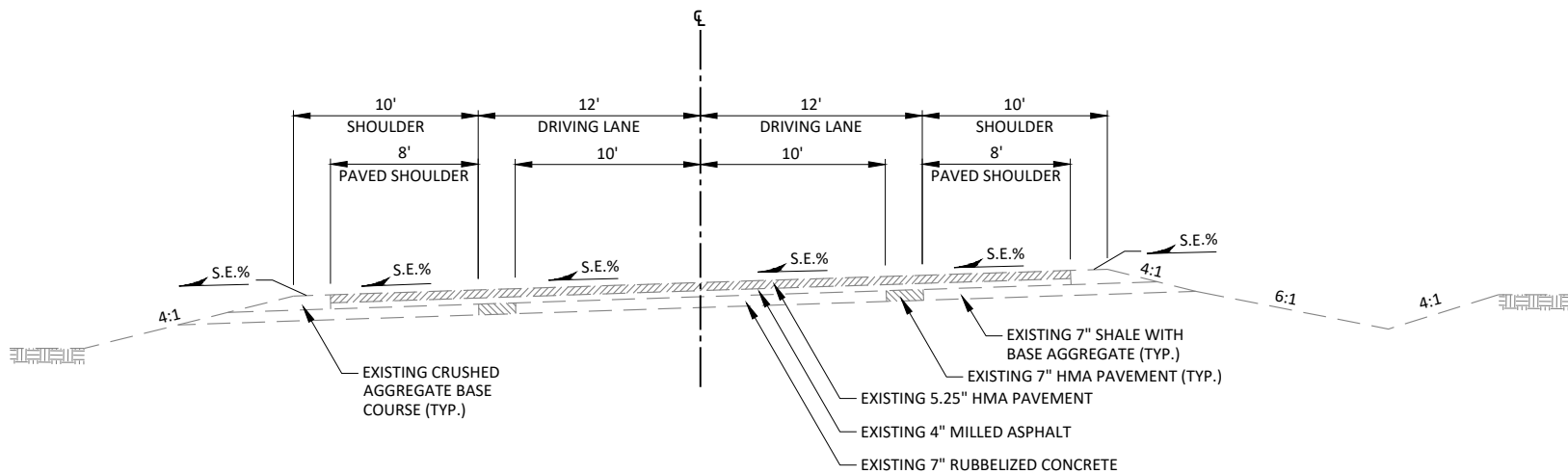
**TYPICAL PARTIAL EXISTING SECTION**

- STA. 170+23 - STA. 176+49, LT.
- STA. 441+57 - STA. 446+02.39, RT.

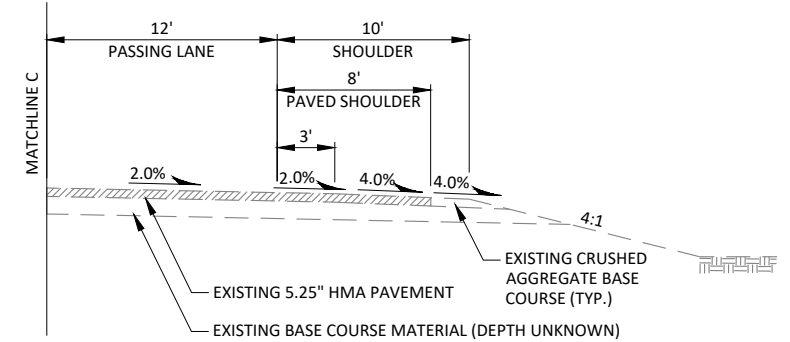
①
FT.
11
11
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**TYPICAL EXISTING SECTION**

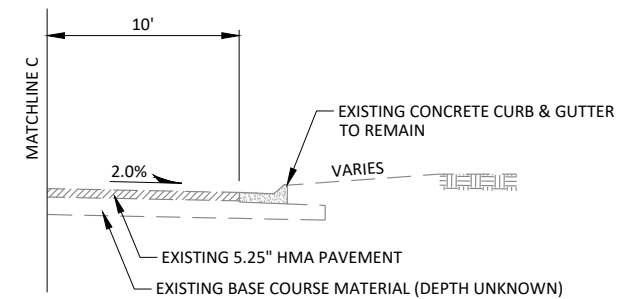
STA. 156+09 - STA. 446+02.39

**TYPICAL EXISTING SUPERELEVATED SECTION**

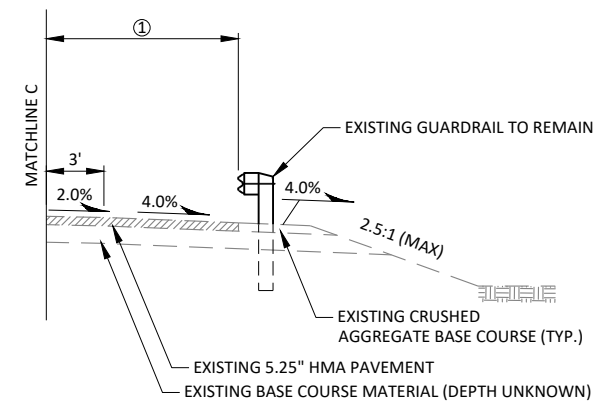
STA. 144+83 - STA. 156+09

**TYPICAL PARTIAL EXISTING SECTION**

- STA. 245+60 - STA. 298+70, RT.
- STA. 298+70 - STA. 365+29, LT.

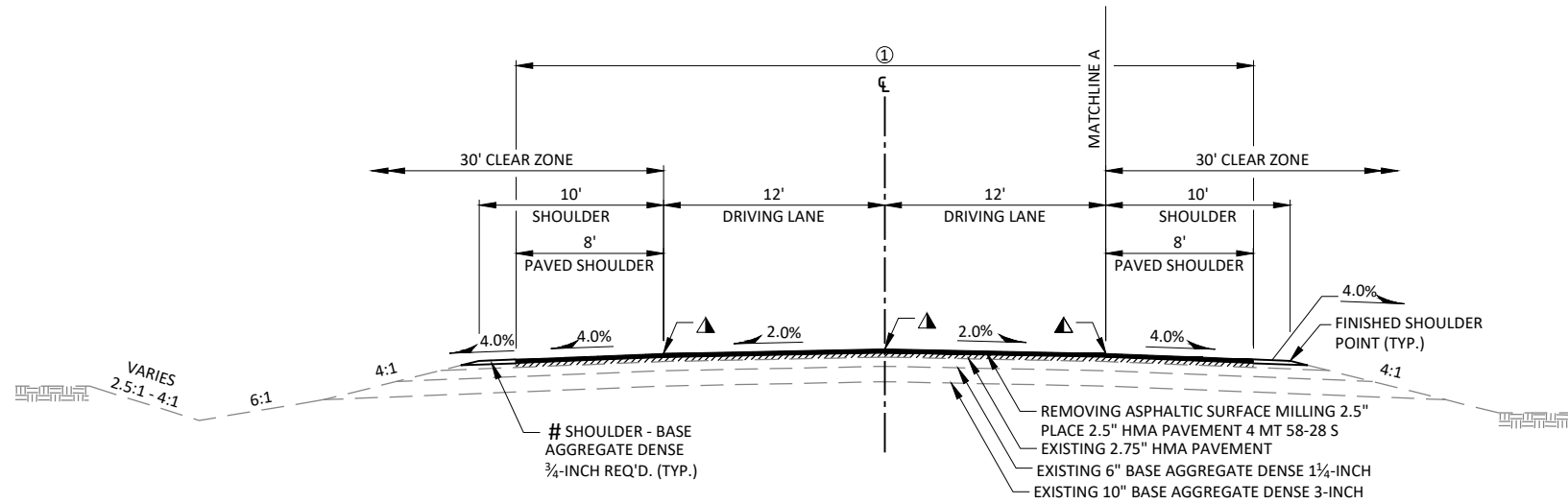
**TYPICAL PARTIAL EXISTING SECTION**

- STA. 392+90 - STA. 396+11, RT.

**TYPICAL PARTIAL EXISTING SECTION**

- STA. 420+62 - STA. 423+29, RT.
- STA. 421+34 - STA. 422+52, LT.

①
FT.
11
11
12



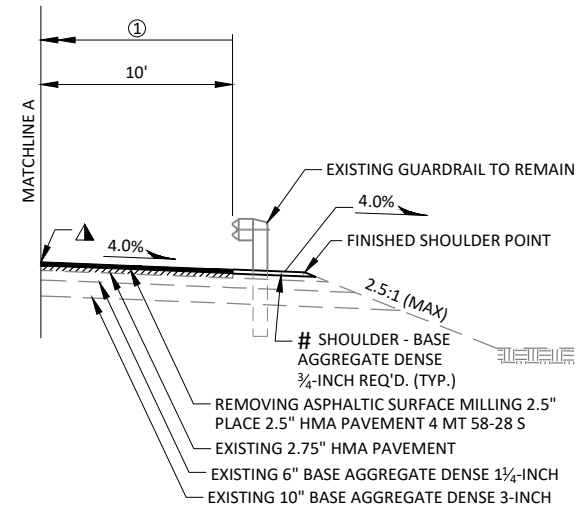
SUPERELEVATION TABLE-CURVE 1

STATION	LEFT(%)	RIGHT(%)
106+85	2.0	2.0
107+00	2.0	1.5
107+41	2.0	0.0
107+50	2.0	0.3
107+97	2.0	2.0
108+00	2.1	2.1
108+28	3.1	3.1
FULL SUPERELEVATION		
154+66	3.1	3.1
154+97	2.0	2.0
155+00	2.0	1.9
155+50	2.0	0.1
155+53	2.0	0.0
156+00	2.0	1.7
156+09	2.0	2.0

TYPICAL FINISHED SECTION

STA. 100+55.45 - STA. 106+85

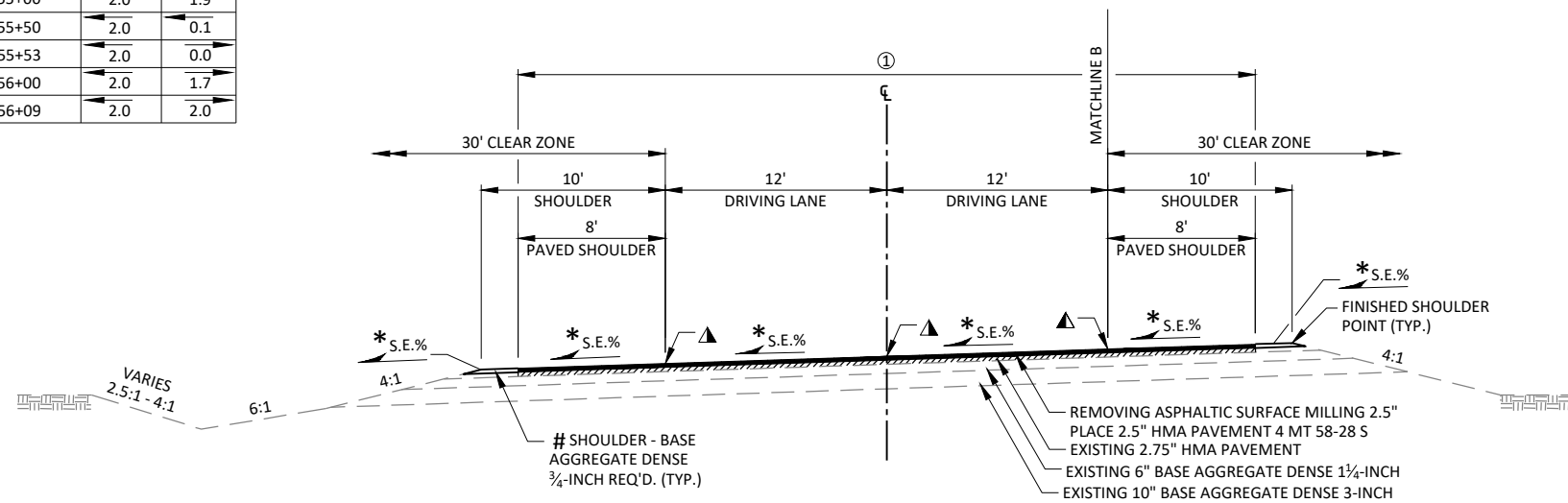
- ▲ ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL AND ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL REQ'D. SEE MISCELLANEOUS QUANTITIES AND STANDARD DETAIL DRAWINGS FOR DETAILS.
- ① PREPARE FOUNDATION FOR ASPHALTIC PAVING
- # INCORPORATE EXISTING SHOULDER AGGREGATE TO GREATEST EXTENT PRACTICABLE PRIOR TO PLACEMENT OF BASE AGGREGATE DENSE 3/4-INCH



TYPICAL PARTIAL FINISHED SECTION

STA. 100+55.45 - STA. 101+92, RT.
STA. 100+55.45 - STA. 102+92, LT.

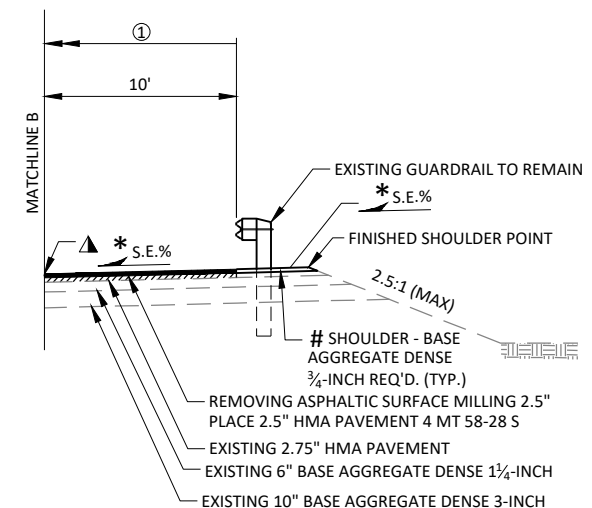
- ① PREPARE FOUNDATION FOR ASPHALTIC PAVING
- # INCORPORATE EXISTING SHOULDER AGGREGATE TO GREATEST EXTENT PRACTICABLE PRIOR TO PLACEMENT OF BASE AGGREGATE DENSE 3/4-INCH



TYPICAL FINISHED SUPERELEVATED SECTION

STA. 106+85 - STA. 144+83

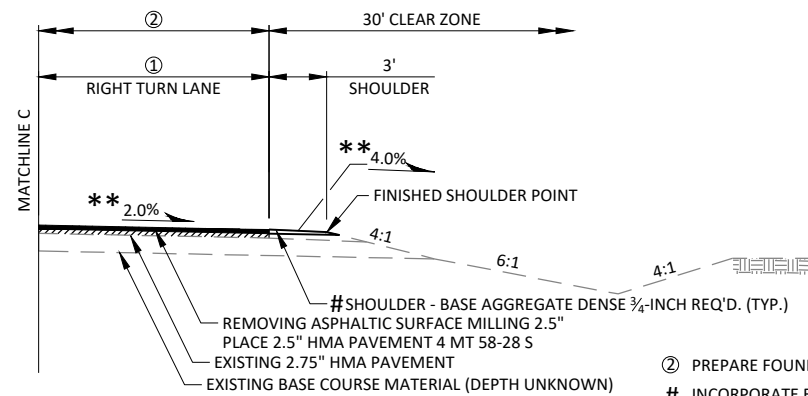
- * SEE SUPERELEVATION TABLE
- ▲ ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL AND ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL REQ'D. SEE MISCELLANEOUS QUANTITIES AND STANDARD DETAIL DRAWINGS FOR DETAILS.
- ① PREPARE FOUNDATION FOR ASPHALTIC PAVING
- # INCORPORATE EXISTING SHOULDER AGGREGATE TO GREATEST EXTENT PRACTICABLE PRIOR TO PLACEMENT OF BASE AGGREGATE DENSE 3/4-INCH



TYPICAL PARTIAL FINISHED SECTION

STA. 138+27 - STA. 142+43, RT.

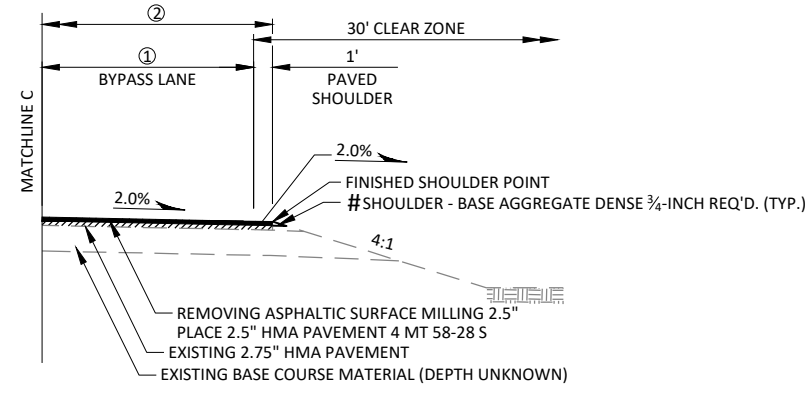
- ① PREPARE FOUNDATION FOR ASPHALTIC PAVING
- # INCORPORATE EXISTING SHOULDER AGGREGATE TO GREATEST EXTENT PRACTICABLE PRIOR TO PLACEMENT OF BASE AGGREGATE DENSE 3/4-INCH

**TYPICAL PARTIAL FINISHED SECTION**

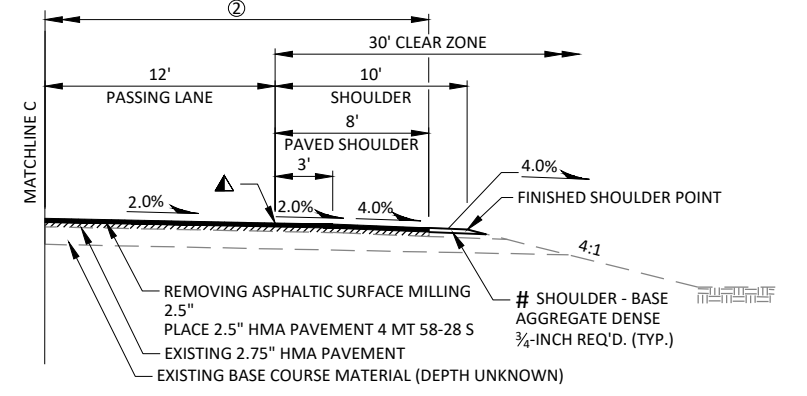
** STA. 146+74 - STA. 152+71, RT.
** STA. 149+91 - STA. 155+38, LT.
** STA. 168+90 - STA. 174+50, RT.
** STA. 276+05 - STA. 281+78, RT.
** STA. 351+17 - STA. 358+05, RT.

S.E.%
S.E.%

- ①
②
#
- PREPARE FOUNDATION FOR ASPHALTIC PAVING
INCORPORATE EXISTING SHOULDER AGGREGATE TO GREATEST EXTENT PRACTICABLE PRIOR TO PLACEMENT OF BASE AGGREGATE DENSE ¾-INCH

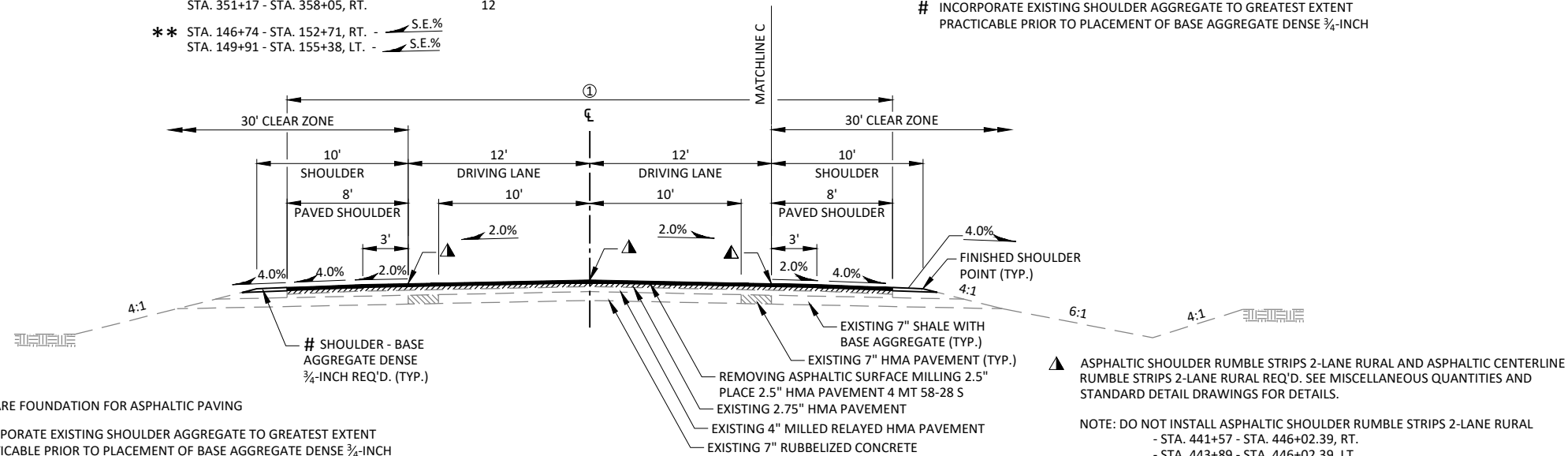
**TYPICAL PARTIAL FINISHED SECTION**

- ①
②
#
- PREPARE FOUNDATION FOR ASPHALTIC PAVING
INCORPORATE EXISTING SHOULDER AGGREGATE TO GREATEST EXTENT PRACTICABLE PRIOR TO PLACEMENT OF BASE AGGREGATE DENSE ¾-INCH

**TYPICAL PARTIAL FINISHED SECTION**

STA. 245+60 - STA. 298+70, RT.
STA. 298+70 - STA. 365+29, LT.

- ②
#
- PREPARE FOUNDATION FOR ASPHALTIC PAVING
INCORPORATE EXISTING SHOULDER AGGREGATE TO GREATEST EXTENT PRACTICABLE PRIOR TO PLACEMENT OF BASE AGGREGATE DENSE ¾-INCH

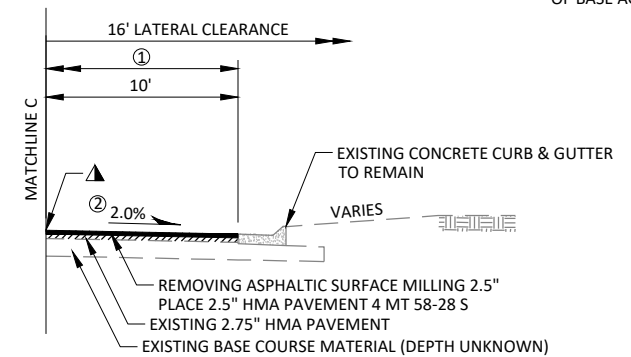
**TYPICAL FINISHED SECTION**

STA. 156+09 - STA. 446+02.39

- ①
#
- PREPARE FOUNDATION FOR ASPHALTIC PAVING
INCORPORATE EXISTING SHOULDER AGGREGATE TO GREATEST EXTENT PRACTICABLE PRIOR TO PLACEMENT OF BASE AGGREGATE DENSE ¾-INCH

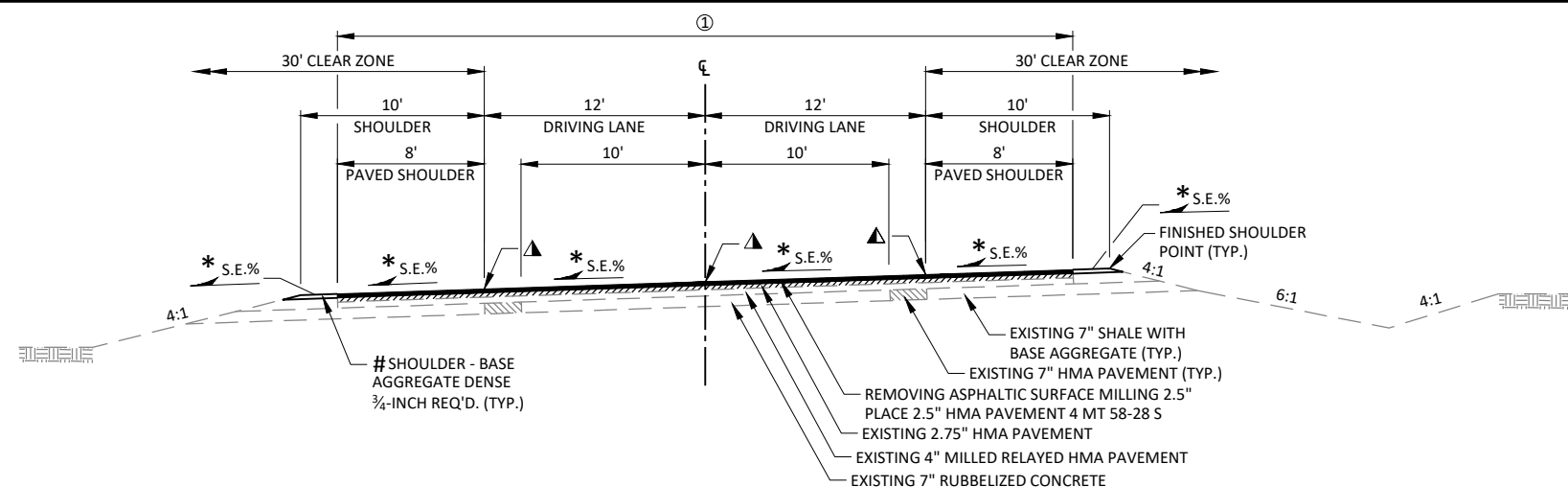
▲ ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL AND ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL REQ'D. SEE MISCELLANEOUS QUANTITIES AND STANDARD DETAIL DRAWINGS FOR DETAILS.

NOTE: DO NOT INSTALL ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL
- STA. 441+57 - STA. 446+02.39, RT.
- STA. 443+89 - STA. 446+02.39, LT.
DO NOT INSTALL ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL
- STA. 443+89 - STA. 446+02.39

**TYPICAL PARTIAL FINISHED SECTION**

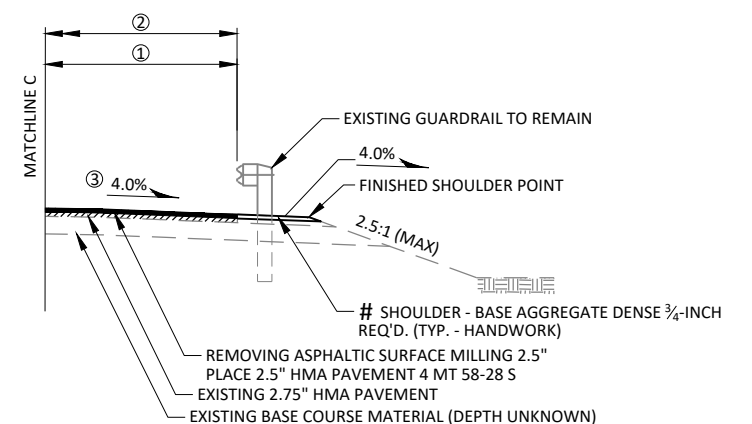
STA. 392+90 - STA. 396+11, RT.

- ①
②
- PREPARE FOUNDATION FOR ASPHALTIC PAVING
2.0% (ASSUMED) - MATCH EXISTING

**TYPICAL FINISHED SUPERELEVATED SECTION**

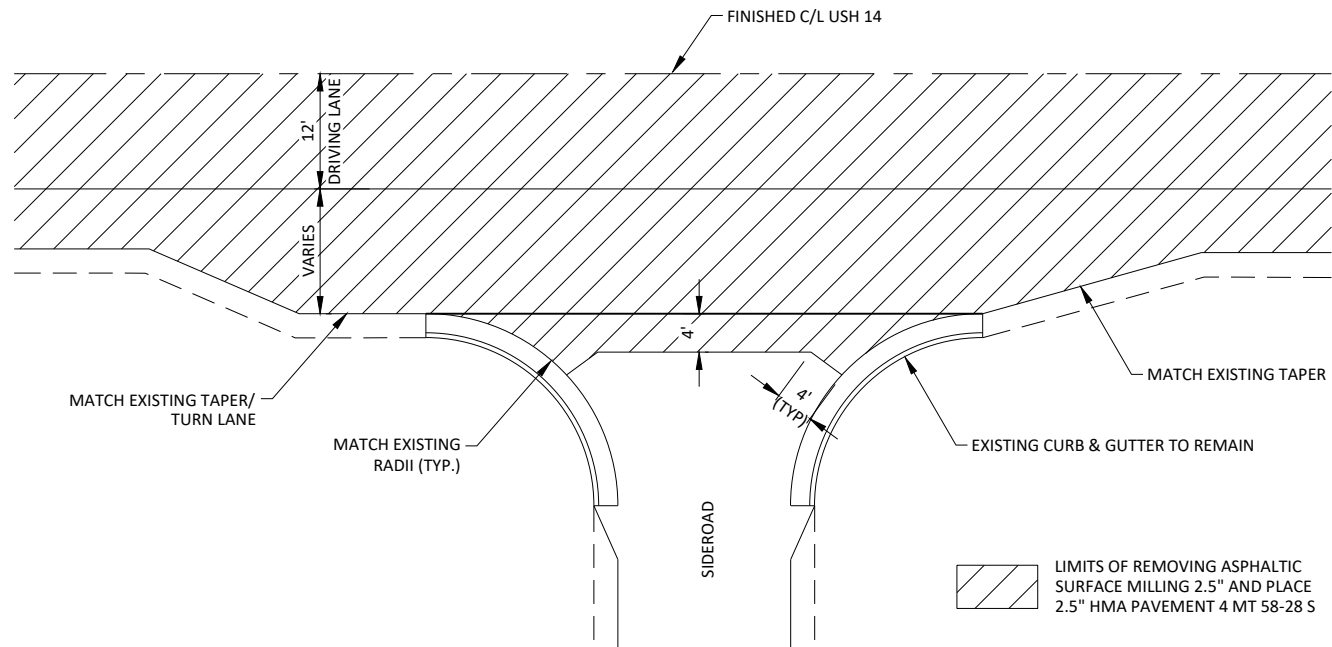
STA. 144+83 - STA. 156+09

- * SEE SUPERELEVATION TABLE
▲ ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL AND ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL REQ'D. SEE MISCELLANEOUS QUANTITIES AND STANDARD DETAIL DRAWINGS FOR DETAILS.
①
#
- PREPARE FOUNDATION FOR ASPHALTIC PAVING
INCORPORATE EXISTING SHOULDER AGGREGATE TO GREATEST EXTENT PRACTICABLE PRIOR TO PLACEMENT OF BASE AGGREGATE DENSE ¾-INCH

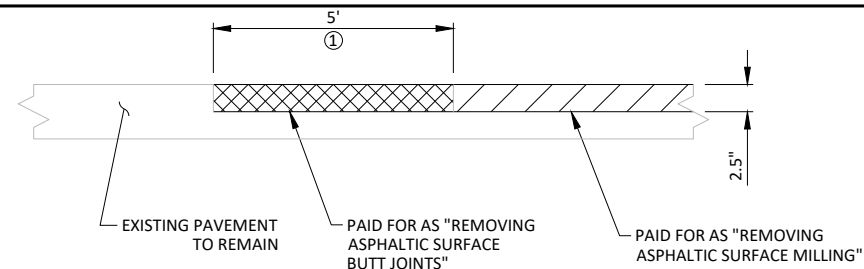
**TYPICAL PARTIAL FINISHED SECTION**

STA. 420+62 - STA. 423+29, RT.
STA. 421+34 - STA. 422+52, LT.

- ②
③
#
- PREPARE FOUNDATION FOR ASPHALTIC PAVING
4.0% (ASSUMED) - MATCH EXISTING
INCORPORATE EXISTING SHOULDER AGGREGATE TO GREATEST EXTENT PRACTICABLE PRIOR TO PLACEMENT OF BASE AGGREGATE DENSE ¾-INCH

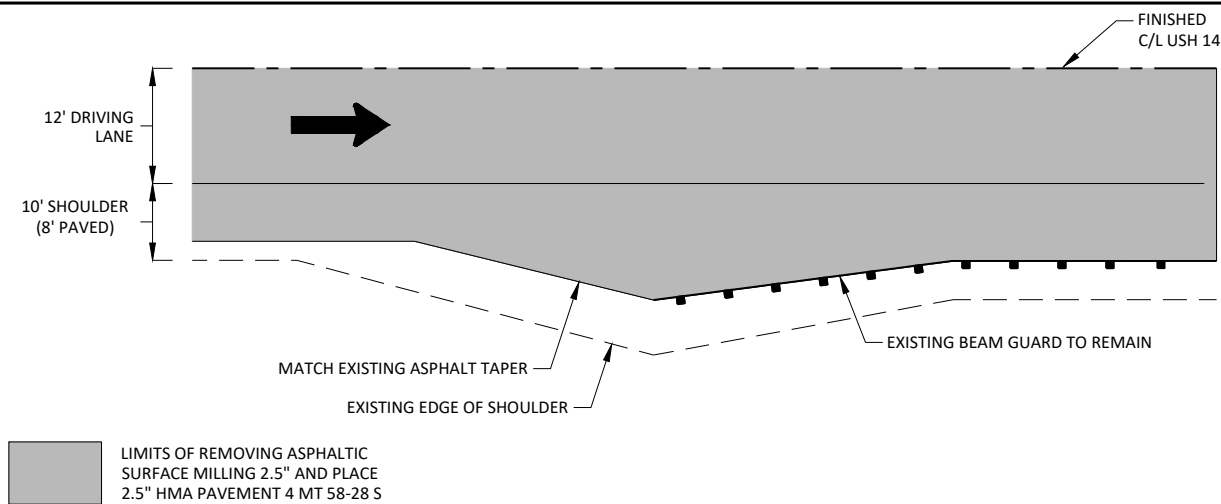
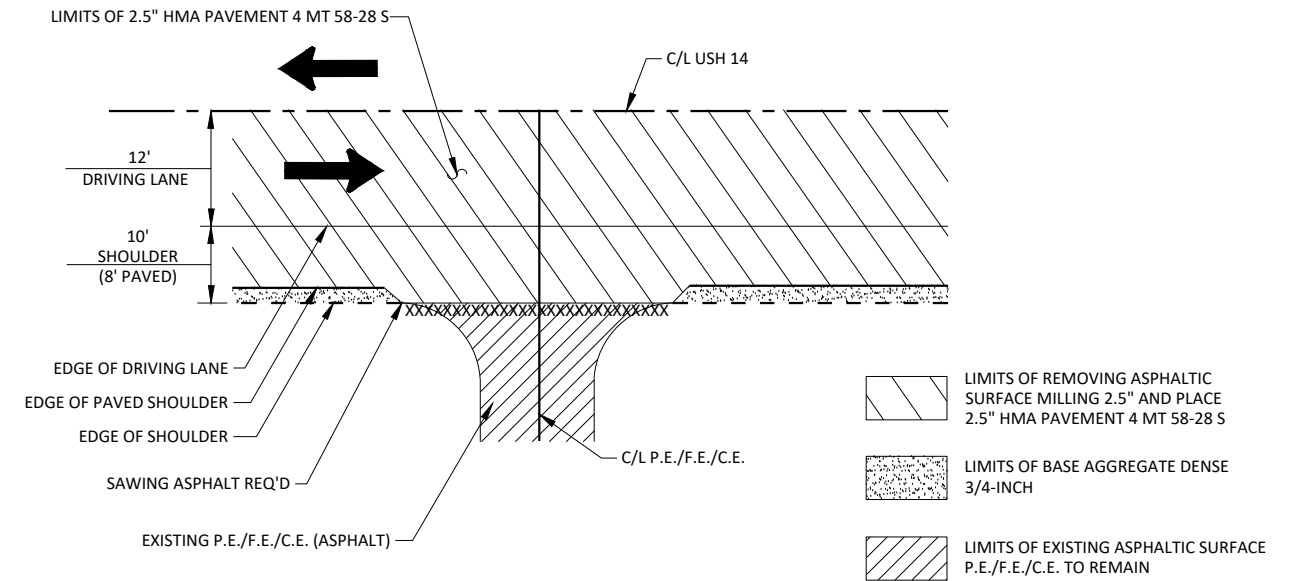
**TYPICAL RURAL SIDEROAD DETAIL WITH CURB & GUTTER**

CTH CC W SAWLE ROAD HAYWARD CROSSING (NORTH)
HELENA ROAD COON ROCK ROAD CTH H
CTH C HAYWARD CROSSING (SOUTH) WEST STREET
OAK STREET

**REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL**

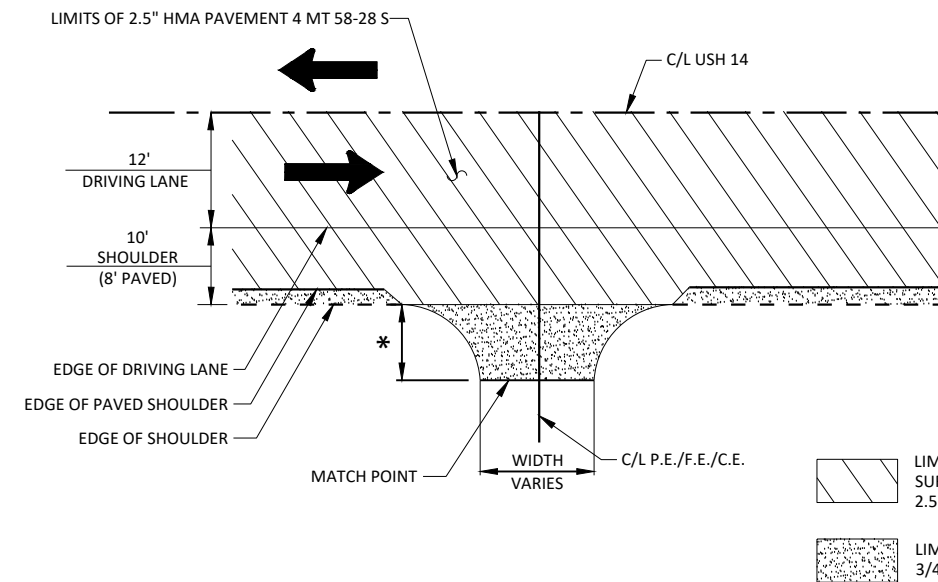
CTH CC W SAWLE ROAD HAYWARD CROSSING (NORTH)
HELENA ROAD COON ROCK ROAD CTH H
CTH C HAYWARD CROSSING (SOUTH) WEST STREET
OAK STREET

① LIMITS OF REMOVING ASPHALTIC SURFACE BUTT JOINTS REQ'D.

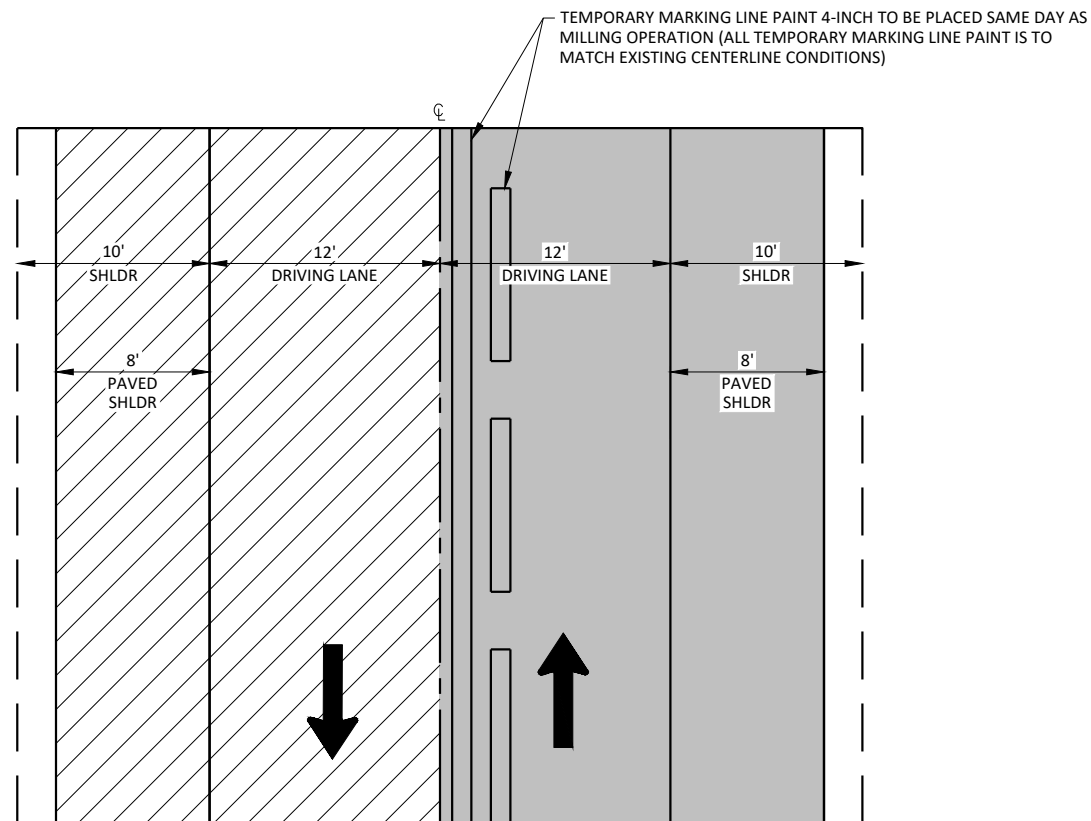
**BEAM GUARD PAVING DETAIL****P.E./F.E./C.E. (EXISTING ASPHALT)
DRIVEWAY DETAIL-RURAL**

NOTE: EXISTING ASPHALT DRIVEWAY LOCATED AT STA. 393+87, RT. (LOCATED BEHIND BACK OF EXISTING CURB & GUTTER TO REMAIN) TO REMAIN. SEE TYPICAL FINISHED SECTIONS FOR FURTHER INFORMATION.

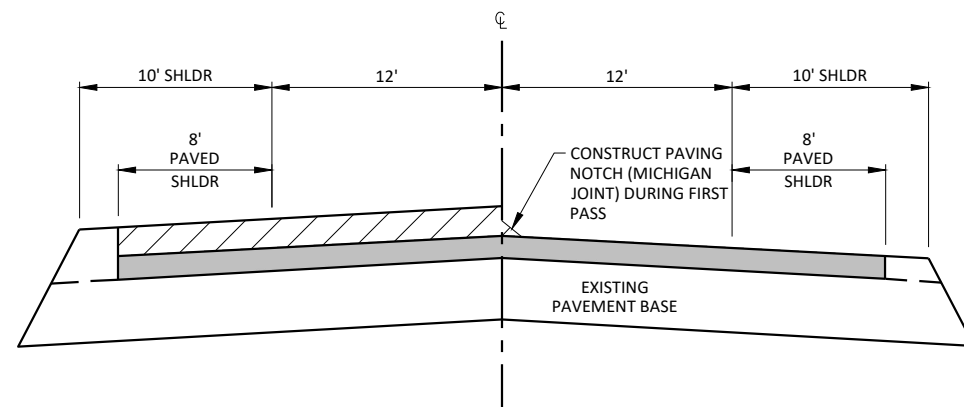
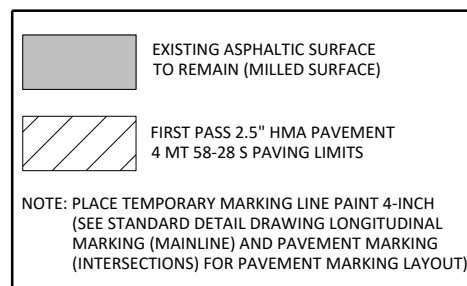
NOTE: EXISTING CONCRETE DRIVEWAY LOCATED AT STA. 395+48, RT. (LOCATED BEHIND BACK OF EXISTING CURB & GUTTER TO REMAIN) TO REMAIN. SEE TYPICAL FINISHED SECTIONS FOR FURTHER INFORMATION.

**P.E./F.E./C.E. (EXISTING B.A.D.)
DRIVEWAY DETAIL-RURAL**

* REPLACE IN KIND TO THE RADIUS POINTS OF EACH DRIVEWAY



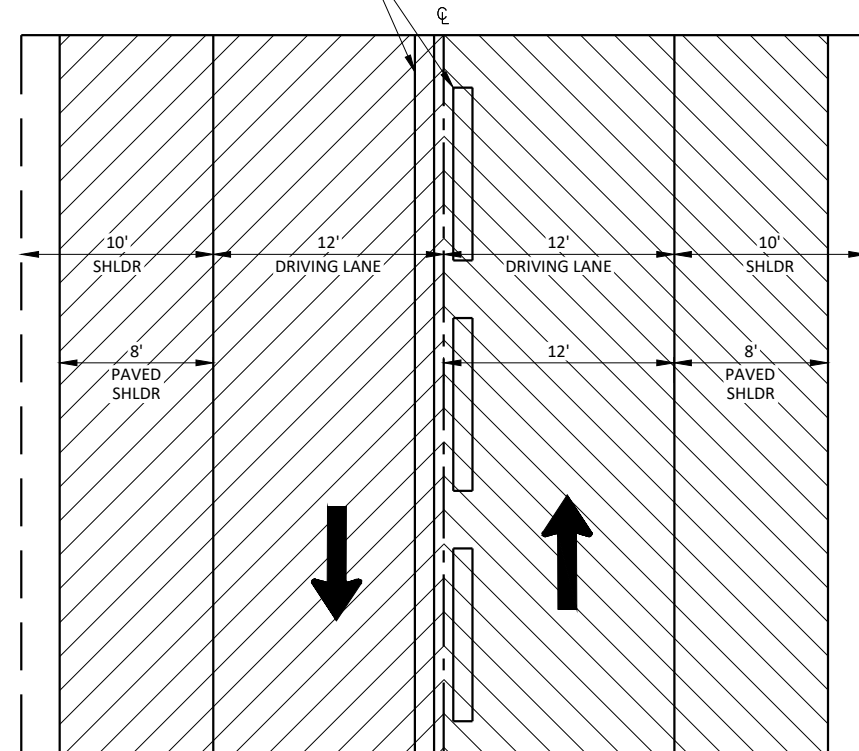
PLAN VIEW



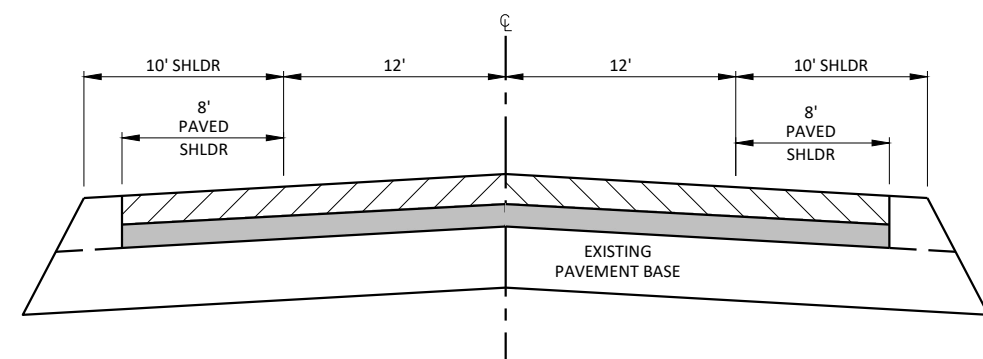
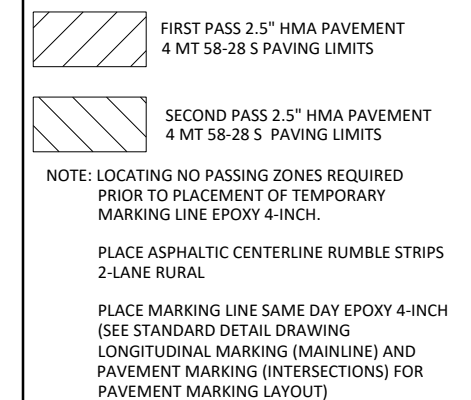
CROSS SECTION VIEW

FIRST PASS DETAIL

TEMPORARY MARKING LINE EPOXY 4-INCH TO BE PLACED SAME DAY AS PAVING OPERATION.

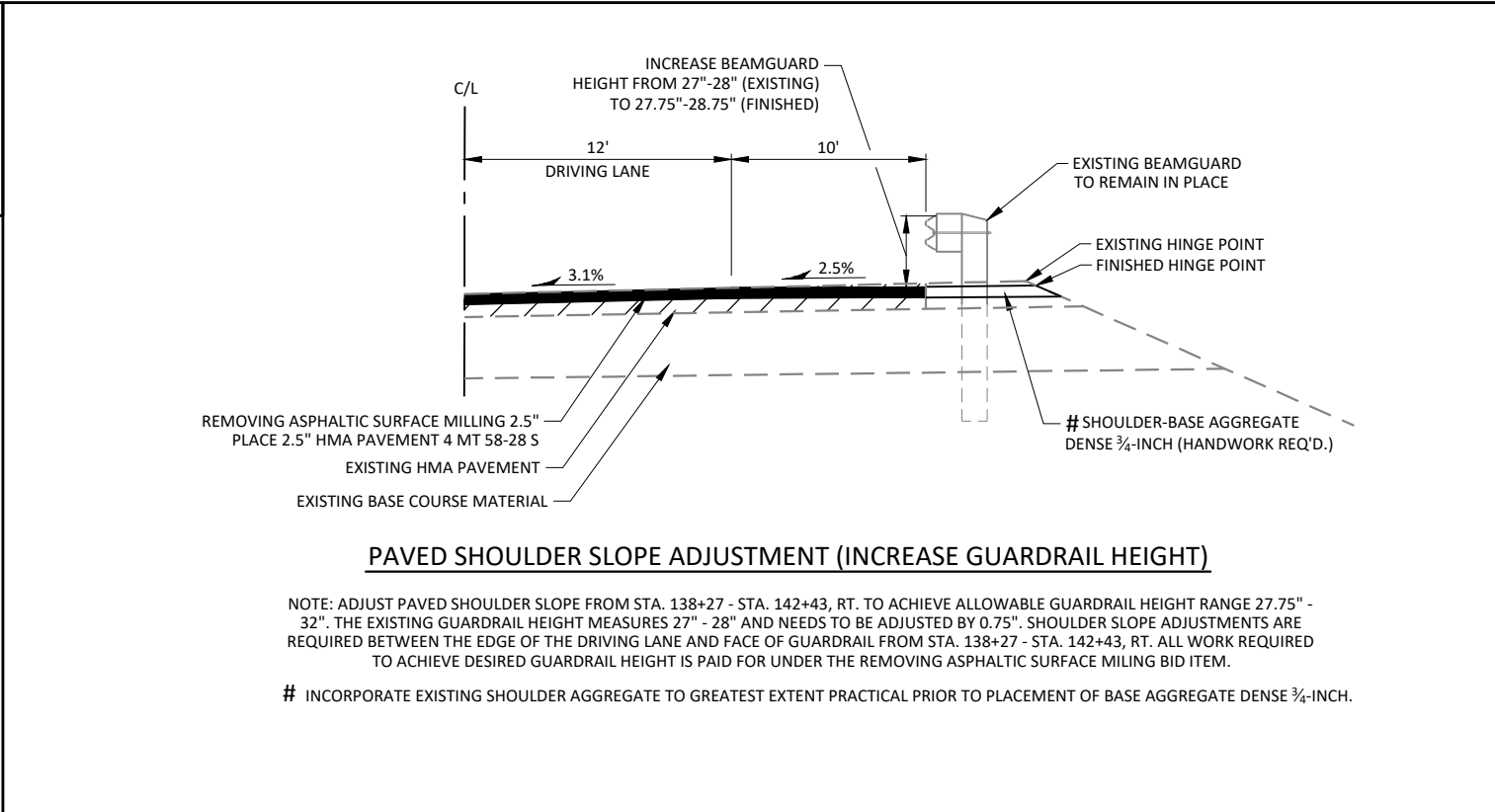


PLAN VIEW



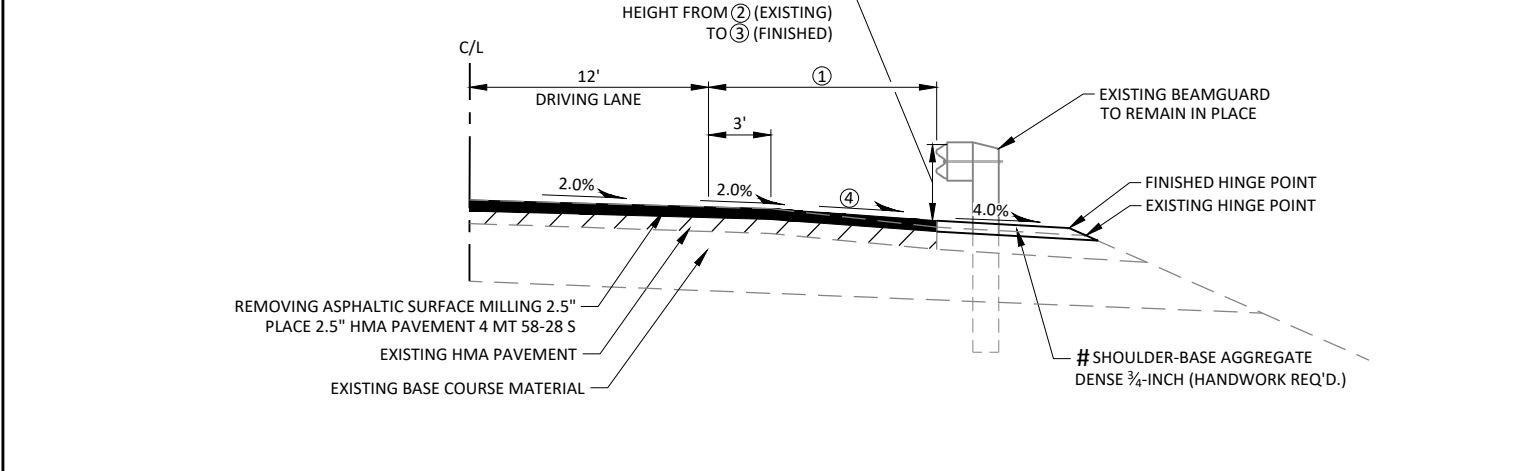
CROSS SECTION VIEW

SECOND PASS DETAIL



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REDUCE BEAMGUARD



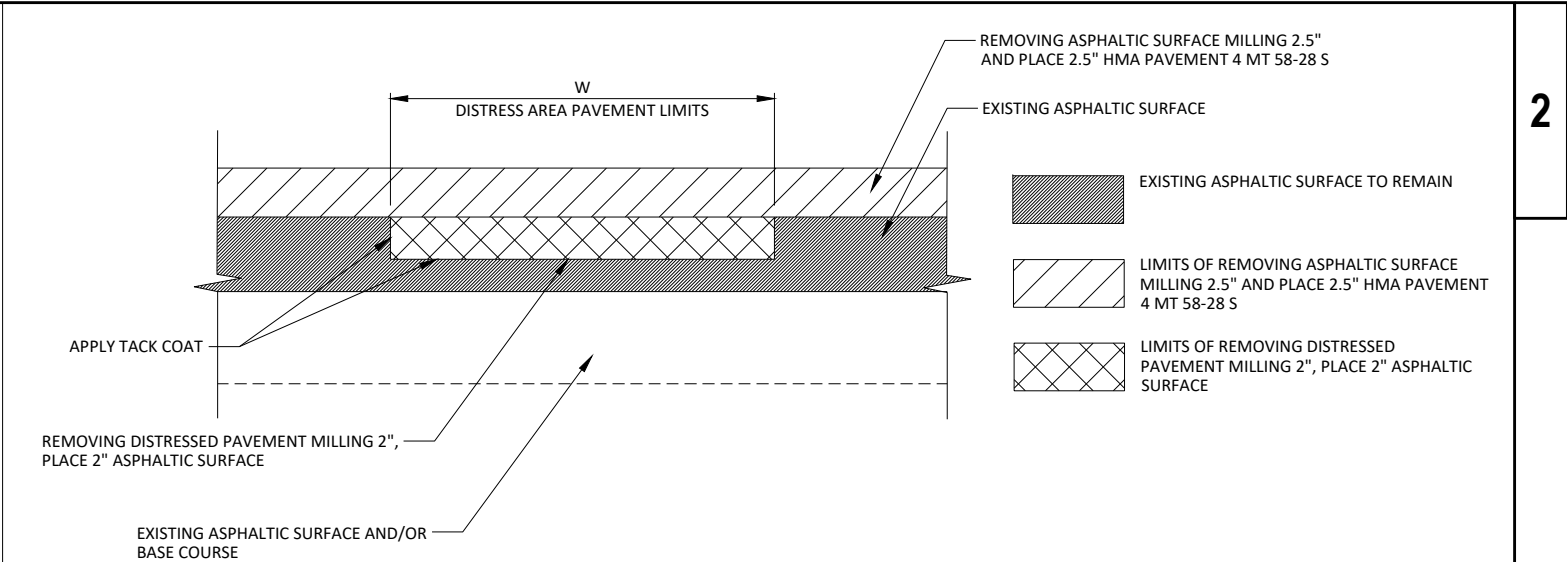
PAVED SHOULDER SLOPE ADJUSTMENT (REDUCE GUARDRAIL HEIGHT)

STA. - STA.	LOCATION	① (FT.)	② EXISTING BEAM GUARD HEIGHT PRIOR TO CROSS	REMARKS	③ EXISTING BEAM GUARD HEIGHT POST CROSS	④ SLOPE	
			<u>SLOPE ADJUSTMENT</u>		<u>SLOPE ADJUSTMENT</u>	<u>EXISTING</u>	<u>FINISHED</u>
420+62 - 423+29	MAINLINE, RT.	11	28.5" - 33.5"	REDUCE 0" - 1.5"	28.5" - 32"	4.0%	VARIES 2.4%-4.0%
421+34 - 422+52	MAINLINE, LT.	12	29.5" - 33"	REDUCE 0" - 1"	29.5" - 32"	4.0%	VARIES 3.0%-4.0%

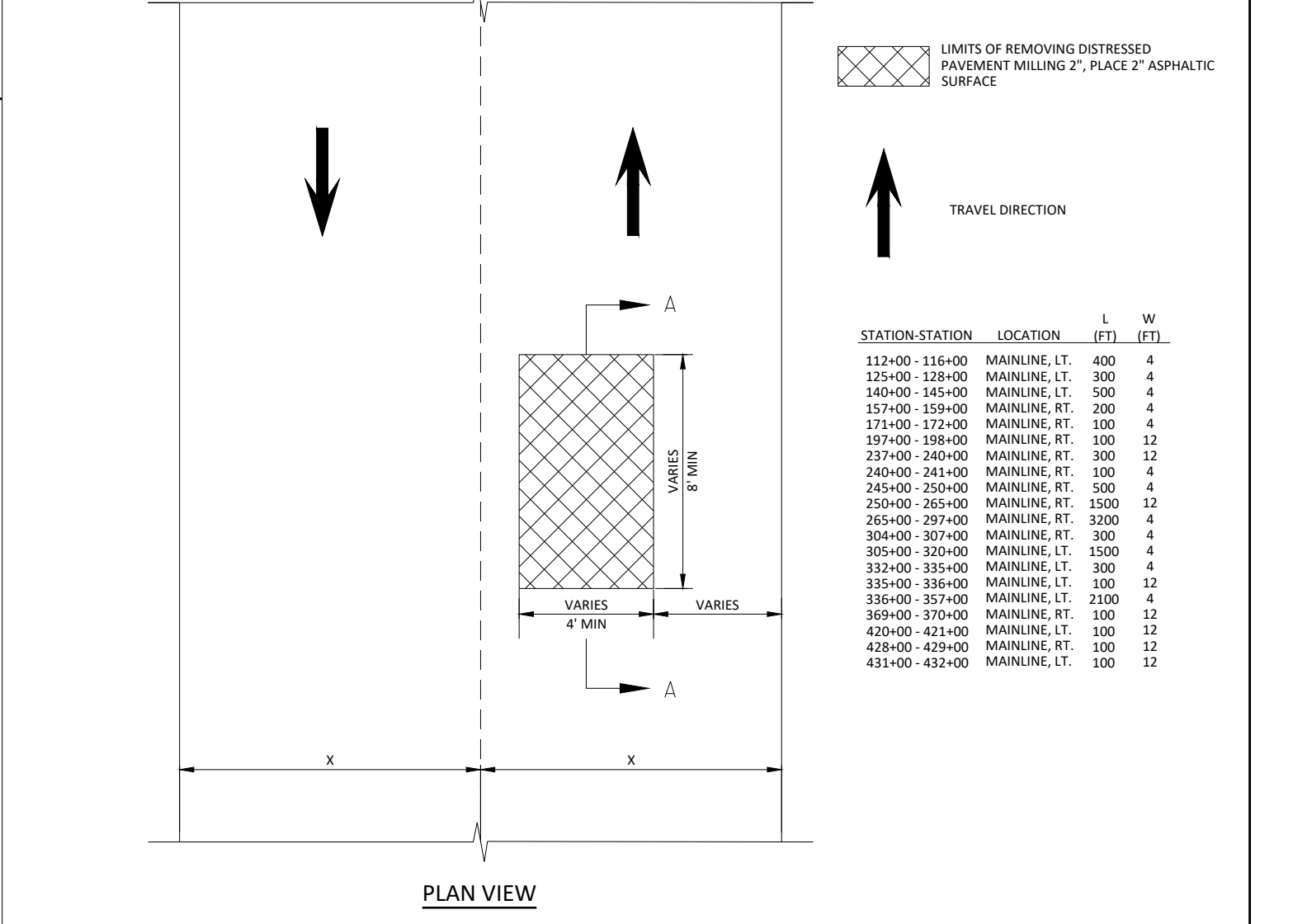
NOTE: ADJUST PAVED SHOULDER SLOPE FROM STA. 420+62 - STA. 423+29, RT. AND STA. 421+34 - STA. 422+52, LT. TO ACHIEVE ALLOWABLE GUARDRAIL HEIGHT RANGE 27.75" - 32". THE EXISTING GUARDRAIL HEIGHT MEASURES 28.5" - 33.5" AND 29.5" - 33" RESPECTIVELY AND NEEDS TO BE ADJUSTED TO MEET THE ALLOWABLE GUARDRAIL HEIGHT RANGE OF 27.75" - 32". SHOULDER SLOPE ADJUSTMENTS ARE REQUIRED BETWEEN 15' FROM THE USH 14 FINISHED C/L TO THE FACE OF GUARDRAIL FROM STA. 420+62 - STA. 423+29, RT. AND STA. 421+34 - STA. 422+52, LT. ALL WORK REQUIRED TO ACHIEVE DESIRED GUARDRAIL HEIGHT IS PAID FOR UNDER THE REMOVING ASPHALTIC SURFACE MILLING BID ITEM.

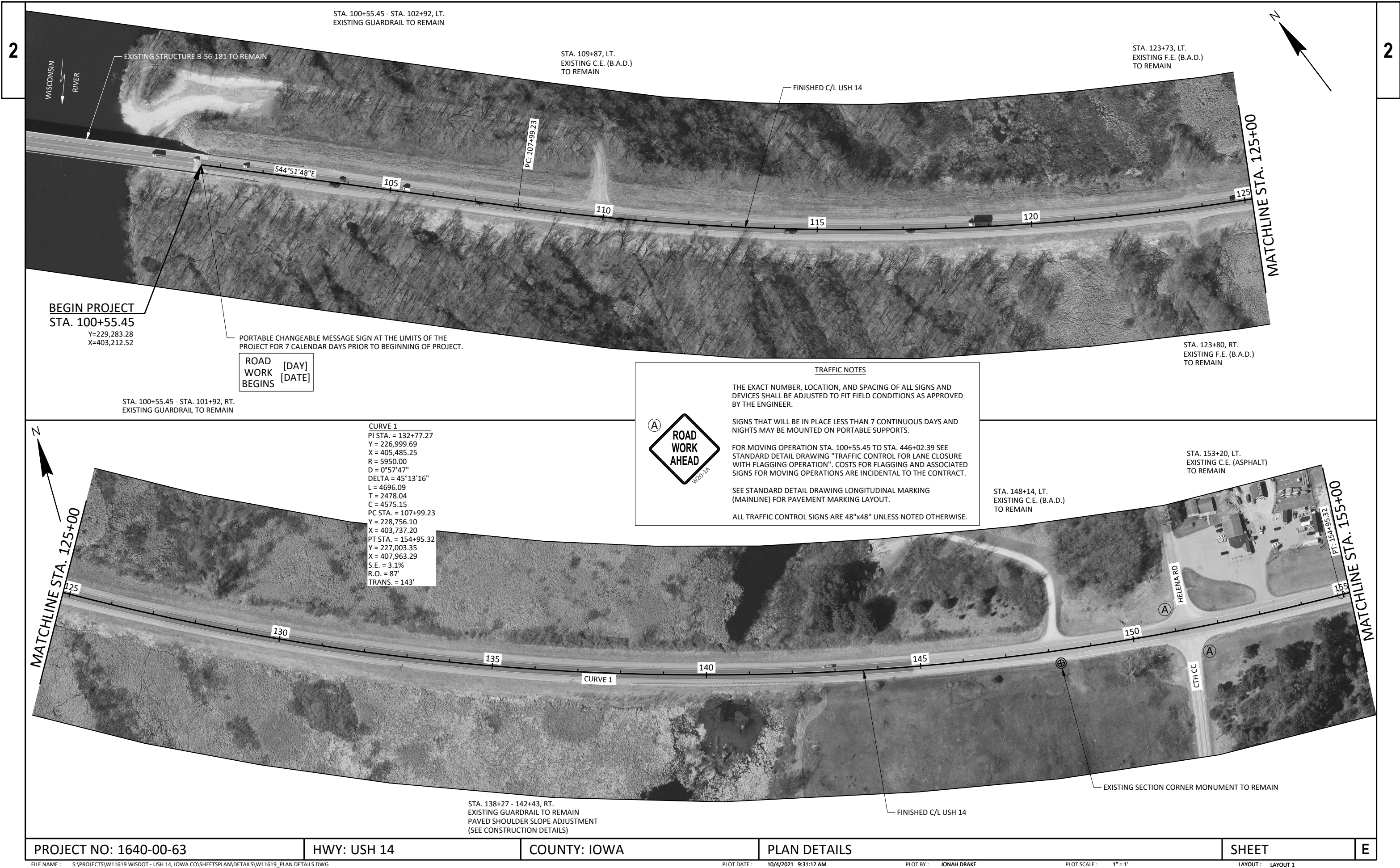
INCORPORATE EXISTING SHOULDER AGGREGATE TO GREATEST EXTENT PRACTICAL PRIOR TO PLACEMENT OF BASE AGGREGATE DENSE ¾-INCH.

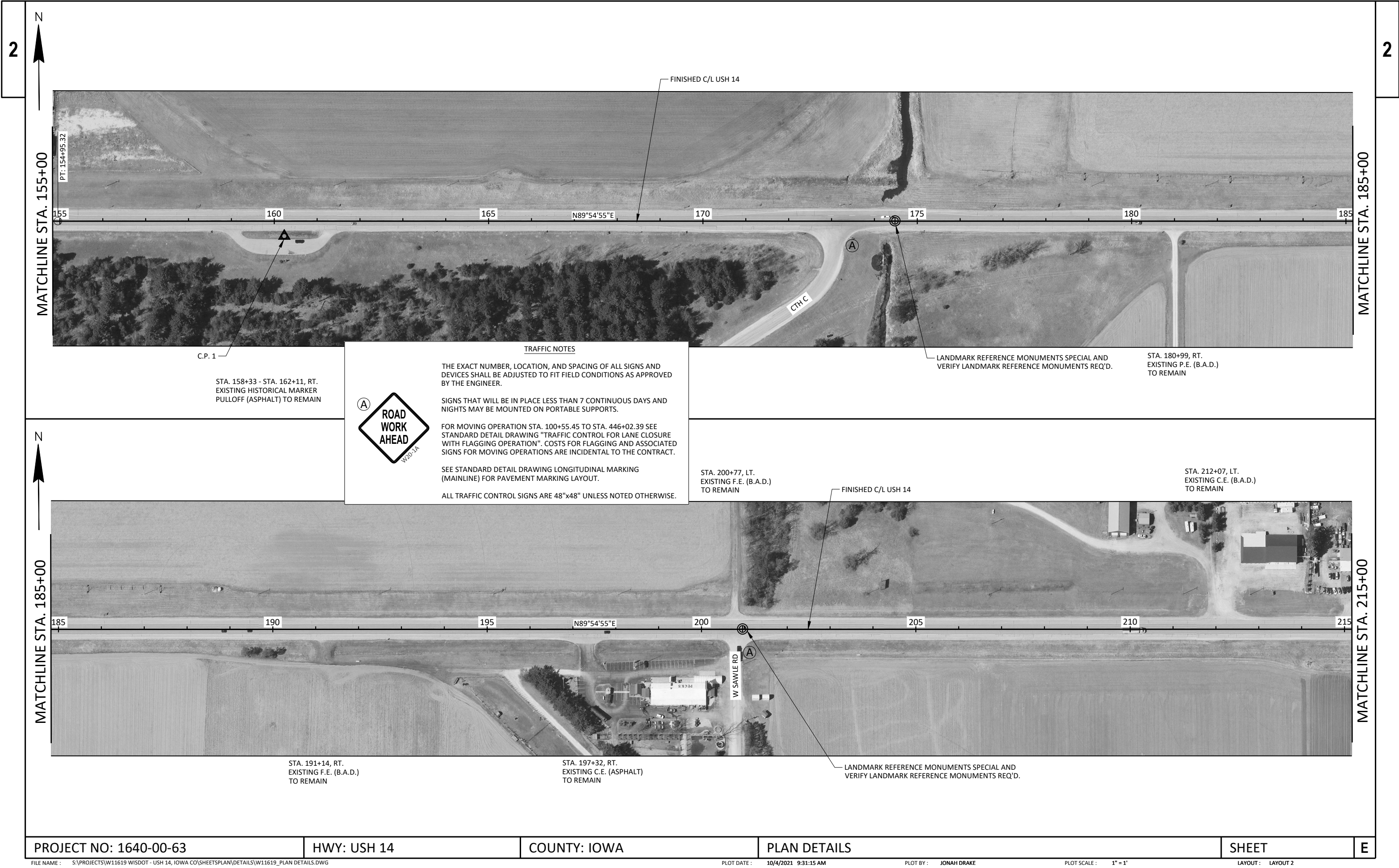
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Population (millions)	7.7	7.9	8.1	8.3	8.5	8.7	8.9	9.1	9.3	9.5	9.7	9.9	10.1	10.3	10.5	10.7	10.9	11.1	11.3	11.5	11.7
GDP (trillion USD)	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
Per capita GDP (USD)	1,937	2,038	2,099	2,169	2,235	2,309	2,382	2,438	2,483	2,526	2,576	2,626	2,676	2,726	2,776	2,826	2,876	2,926	2,976	3,026	3,076

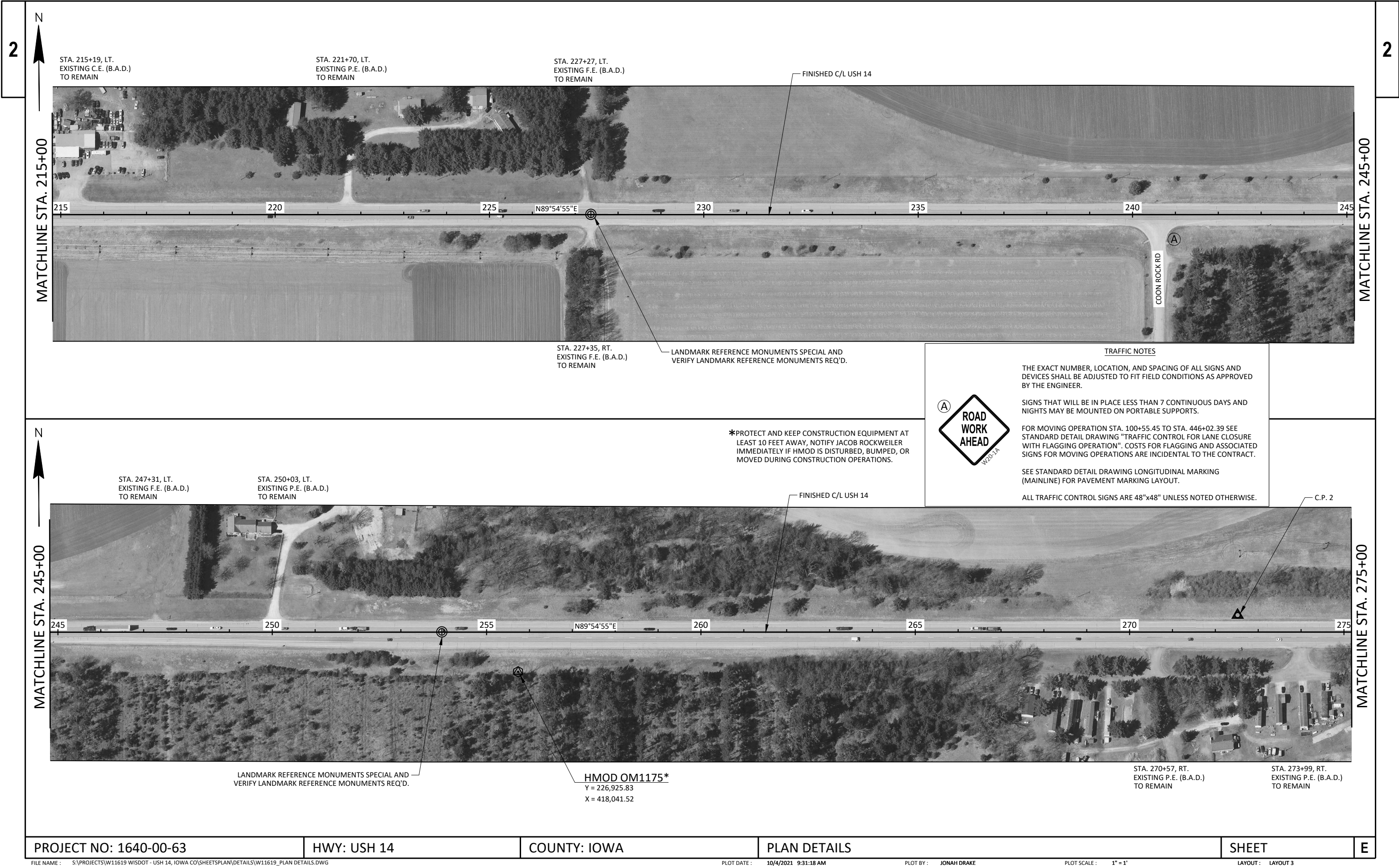


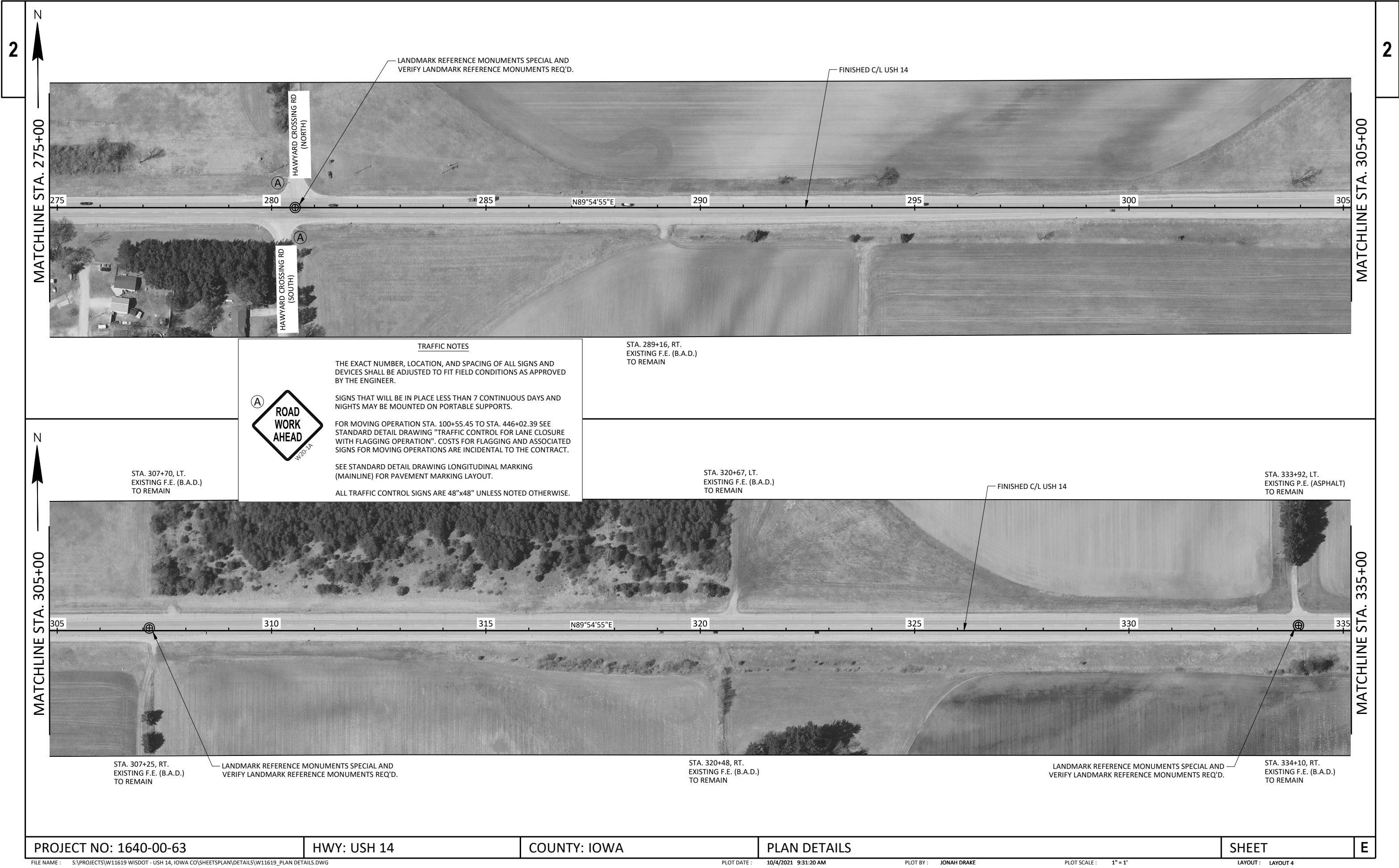
REMOVING DISTRESSED PAVEMENT MILLING SECTION A-A

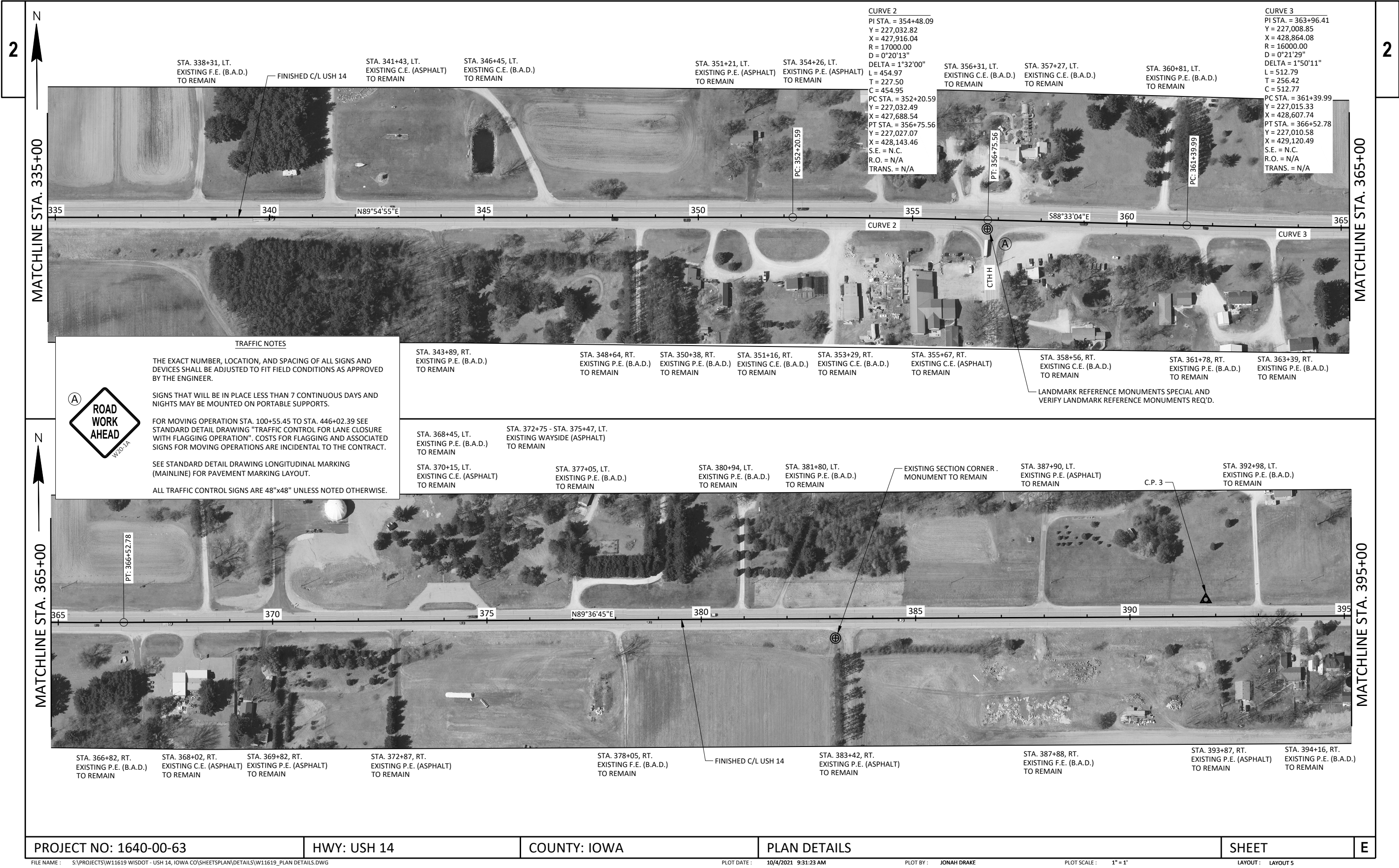














TRAFFIC NOTES

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

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

FOR MOVING OPERATION STA. 100+55.45 TO STA. 446+02.39 SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION". COSTS FOR FLAGGING AND ASSOCIATED SIGNS FOR MOVING OPERATIONS ARE INCIDENTAL TO THE CONTRACT.

SEE STANDARD DETAIL DRAWING LONGITUDINAL MARKING (MAINLINE) FOR PAVEMENT MARKING LAYOUT.

ALL TRAFFIC CONTROL SIGNS ARE 48"x48" UNLESS NOTED OTHERWISE.

ROAD WORK AHEAD
W201A

STA. 395+48, RT. EXISTING P.E. (CONCRETE) TO REMAIN

STA. 404+92, RT. EXISTING F.E. (B.A.D.) TO REMAIN

STA. 409+47, RT. EXISTING F.E. (B.A.D.) TO REMAIN

STA. 420+37, RT. EXISTING P.E. (B.A.D.) TO REMAIN

STA. 420+62 - 423+29, RT. EXISTING GUARDRAIL TO REMAIN PAVED SHOULDER SLOPE ADJUSTMENT (SEE CONSTRUCTION DETAILS)

***PROTECT AND KEEP CONSTRUCTION EQUIPMENT AT LEAST 10 FEET AWAY, NOTIFY JACOB ROCKWEILER IMMEDIATELY IF HMOD IS DISTURBED, BUMPED, OR MOVED DURING CONSTRUCTION OPERATIONS.**

ROAD WORK BEGINS [DAY] [DATE]

END PROJECT
STA. 446+02.39
Y=227,064.35
X=437,069.92

Estimate Of Quantities

1640-00-63

Line	Item	Item Description	Unit	Total	Qty
0002	204.0115	Removing Asphaltic Surface Butt Joints	SY	510.000	510.000
0004	204.0120	Removing Asphaltic Surface Milling	SY	178,000.000	178,000.000
0006	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1640-00-63	LS	1.000	1.000
0008	213.0100	Finishing Roadway (project) 01. 1640-00-63	EACH	1.000	1.000
0010	305.0110	Base Aggregate Dense 3/4-Inch	TON	3,100.000	3,100.000
0012	455.0605	Tack Coat	GAL	13,125.000	13,125.000
0014	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0016	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000
0018	460.2005	Incentive Density PWL HMA Pavement	DOL	14,450.000	14,450.000
0020	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	17,280.000	17,280.000
0022	460.2010	Incentive Air Voids HMA Pavement	DOL	24,950.000	24,950.000
0024	460.6224	HMA Pavement 4 MT 58-28 S	TON	24,950.000	24,950.000
0026	465.0105	Asphaltic Surface	TON	850.000	850.000
0028	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	59,900.000	59,900.000
0030	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	29,150.000	29,150.000
0032	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1640-00-63	EACH	1.000	1.000
0034	619.1000	Mobilization	EACH	1.000	1.000
0036	624.0100	Water	MGAL	47.000	47.000
0038	642.5001	Field Office Type B	EACH	1.000	1.000
0040	643.0300	Traffic Control Drums	DAY	250.000	250.000
0042	643.0900	Traffic Control Signs	DAY	1,560.000	1,560.000
0044	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0046	643.5000	Traffic Control	EACH	1.000	1.000
0048	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	70,370.000	70,370.000
0050	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	1,150.000	1,150.000
0052	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	38,250.000	38,250.000
0054	648.0100	Locating No-Passing Zones	MI	6.550	6.550
0056	649.0105	Temporary Marking Line Paint 4-Inch	LF	28,920.000	28,920.000
0058	649.0120	Temporary Marking Line Epoxy 4-Inch	LF	28,920.000	28,920.000
0060	650.8000	Construction Staking Resurfacing Reference	LF	34,550.000	34,550.000
0062	650.9910	Construction Staking Supplemental Control (project) 01. 1640-00-63	LS	1.000	1.000
0064	690.0150	Sawing Asphalt	LF	1,100.000	1,100.000
0066	740.0440	Incentive IRI Ride	DOL	29,360.000	29,360.000
0068	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,000.000	2,000.000
0070	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	1,320.000	1,320.000
0072	SPV.0060	Special 01. Landmark Reference Monuments Special	EACH	8.000	8.000
0074	SPV.0060	Special 02. Verify Landmark Reference Monuments	EACH	8.000	8.000
0076	SPV.0180	Special 01. Removing Distressed Pavement Milling	SY	7,500.000	7,500.000

3

REMOVING PAVEMENT BUTT JOINTS				REMOVING ASPHALTIC SURFACE MILLING			PREPARE FOUNDATION FOR ASPHALTIC PAVING			BASE AGGREGATE DENSE		
		204.0115									305.0110	
STATION - STATION	LOCATION	(SY)	COMMENTS		STATION - STATION	LOCATION	204.0120			STATION - STATION	LOCATION	(TON)
100+55.45 - 100+60.45	MAINLINE	25	BEGIN PROJECT		100+60.45 - 106+85	MAINLINE	3,040			100+55.45 - 446+02.39	MAINLINE	2,900
150+92 - 151+64	MAINLINE, RT.	50	CTH CC		106+85 - 144+83	MAINLINE	17,480			-	P.E./F.E./C.E.	100
150+96 - 151+65	MAINLINE, LT.	50	HELENA RD.		144+83 - 156+09	MAINLINE	5,700			-	UNDISTRIBUTED	100
172+55 - 173+45	MAINLINE, RT.	55	CTH C		156+09 - 446+02.39	MAINLINE	149,940					
200+55 - 201+08	MAINLINE, RT.	35	W. SWALE RD.		-	SIDEROADS	1,840					
240+12 - 240+90	MAINLINE, RT.	45	COON ROCK RD.									
279+80 - 280+57	MAINLINE, RT.	50	HAYWARD CROSSING (SOUTH)									
280+25 - 280+95	MAINLINE, LT.	45	HAYWARD CROSSING (NORTH)									
365+35 - 357+12	MAINLINE, RT.	40	CTH H									
435+07 - 435+72	MAINLINE, LT.	40	WEST ST.									
444+90 - 445+60	MAINLINE, LT.	45	OAK ST.									
445+97.39 - 445+97.39	MAINLINE	30	END PROJECT									
		TOTAL=					TOTAL =					TOTALS =
		510					178,000					3,100

3

HMA PAVEMENT					
		455.0635	460.6224	465.0105	SPV.0180.01
		TACK	HMA PAVEMENT	ASPHALTIC	REMOVING DISTRESSED
		COAT	4MT58-28S	SURFACE	PAVEMENT MILLING
STATION - STATION	LOCATION	(GAL)	(TON)	(TON)	(SY)
100+55.45 - 106+85	MAINLINE	214	426	-	-
106+85 - 144+83	MAINLINE	1,234	2,456	-	-
144+83 - 156+09	MAINLINE	401	798	-	-
156+09 - 446+02.39	MAINLINE	10,621	21,012	-	-
112+00 - 116+00	MAINLINE, LT.	13	-	20	180
125+00 - 128+00	MAINLINE, LT.	9	-	15	135
140+00 - 145+00	MAINLINE, LT.	16	-	25	225
157+00 - 159+00	MAINLINE, RT.	6	-	10	90
171+00 - 172+00	MAINLINE, RT.	3	-	5	45
197+00 - 198+00	MAINLINE, RT.	9	-	15	135
237+00 - 240+00	MAINLINE, RT.	28	-	45	400
240+00 - 241+00	MAINLINE, RT.	3	-	5	45
245+00 - 250+00	MAINLINE, RT.	16	-	25	225
250+00 - 265+00	MAINLINE, RT.	142	-	230	2,025
265+00 - 297+00	MAINLINE, RT.	100	-	165	1,425
304+00 - 307+00	MAINLINE, RT.	9	-	15	135
305+00 - 320+00	MAINLINE, LT.	47	-	75	670
332+00 - 335+00	MAINLINE, LT.	9	-	15	135
335+00 - 336+00	MAINLINE, LT.	9	-	15	135
336+00 - 357+00	MAINLINE, LT.	67	-	110	955
369+00 - 370+00	MAINLINE, RT.	9	-	15	135
420+00 - 421+00	MAINLINE, LT.	9	-	15	135
428+00 - 429+00	MAINLINE, RT.	9	-	15	135
431+00 - 432+00	MAINLINE, LT.	9	-	15	135
-	SIDEROADS	130	258	-	-
TOTAL =		13,125	24,950	850	7,500

PWL MIXTURE USE TABLE

The following acceptance criteria are applicable for this project:

LOCATION	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR:	
							MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
12 foot Driving Lanes & Passing Lanes	100+55.45 - 446+02.39	Upper Layer	Milled Existing HMA Surface	4 MT 58-28 S	14,450	2.5"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
Shoulders, Bypass Lanes, & Right Turn Lanes	100+55.45 - 446+02.39	Upper Layer	Milled Existing HMA Surface	4 MT 58-28 S	10,500	2.5"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department; Not eligible for the incentive

ASPHALTIC RUMBLE STRIPS			WATER		TRAFFIC CONTROL				
					643.0300	643.0900	643.1050	643.5000	
					DRUMS	SIGNS	SIGNS	TRAFFIC	
					(DAYS)	(DAYS)	PCMS	CONTROL	
					(DAYS)	(DAYS)	(DAYS)	(EACH)	
					-	-	14	1	
					-	360	-	-	
					-	120	-	-	
					-	120	-	-	
					-	120	-	-	
					-	120	-	-	
					-	120	-	-	
					-	120	-	-	
					-	120	-	-	
					-	120	-	-	
					-	120	-	-	
					-	-	-	-	
					250	-	-	-	
					TOTALS =	250	1,560	14	1

STATION - STATION	LOCATION	465.0425	465.0475	
		SHOULDER	CENTERLINE	
		(LF)	(LF)	
100+55.45 - 441+57	MAINLINE, RT.	28,750	-	
100+55.45 - 443+89	MAINLINE, LT.	31,150	-	
100+55.45 - 443+89	MAINLINE	-	29,150	
		TOTALS =	59,900	29,150

PROJECT	624.0100
1640-00-63	(MGAL)
	47
TOTAL =	47

PAVEMENT MARKING

STATION - STATION	LOCATION	DESCRIPTION	646.1040			646.3040		646.4520		649.0105		649.0120	
			MARKING LINE GROOVED WET REF EPOXY 4-INCH			MARKING LINE GROOVED WET REF EPOXY 8-INCH		MARKING LINE SAME DAY EPOXY 4-INCH		TEMPORARY MARKING LINE PAINT 4-INCH		TEMPORARY MARKING LINE EPOXY 4-INCH	
			WHITE SOLID (LF)	WHITE 12.5' SKIP (LF)	WHITE 3' SKIP (LF)	WHITE SOLID (LF)		YELLOW SOLID (LF)	YELLOW 12.5' SKIP (LF)	YELLOW SOLID (LF)	YELLOW 4' SKIP (LF)	YELLOW SOLID (LF)	YELLOW 4' SKIP (LF)
100+55.45 - 101+78	MAINLINE	PASSING	-	-	-	-		-	31	-	10	-	10
101+78 - 112+95	MAINLINE	WB PASSING ONLY	-	-	-	-		1,117	280	1,117	90	1,117	90
112+95 - 147+94	MAINLINE	DOUBLE YELLOW	-	-	-	-		6,998	-	6,998	-	6,998	-
147+94 - 158+52	MAINLINE	EB PASSING ONLY	-	-	-	-		1,058	265	1,058	85	1,058	85
158+52 - 170+00	MAINLINE	PASSING	-	-	-	-		-	287	-	92	-	92
170+00 - 182+45	MAINLINE	EB PASSING ONLY	-	-	-	-		1,245	312	1,245	100	1,245	100
182+45 - 240+48	MAINLINE	PASSING	-	-	-	-		-	1,451	-	465	-	465
240+48 - 258+33	MAINLINE	WB PASSING ONLY	-	-	-	-		1,785	447	1,785	143	1,785	143
258+33 - 267+76	MAINLINE	DOUBLE YELLOW	-	-	-	-		1,886	-	1,886	-	1,886	-
267+76 - 286+05	MAINLINE	WB PASSING ONLY	-	-	-	-		1,829	458	1,829	147	1,829	147
286+05 - 299+16	MAINLINE	DOUBLE YELLOW	-	-	-	-		2,622	-	2,622	-	2,622	-
299+16 - 370+56	MAINLINE	EB PASSING ONLY	-	-	-	-		7,140	1,785	7,140	573	7,140	573
370+56 - 436+75	MAINLINE	PASSING	-	-	-	-		-	1,655	-	532	-	532
436+75 - 446+02.39	MAINLINE	WB PASSING ONLY	-	-	-	-		928	231	928	75	928	75
148+60 - 150+60	MAINLINE, RT	RIGHT TURN LANE	-	-	-	200		-	-	-	-	-	-
151+99 - 153+99	MAINLINE, LT	RIGHT TURN LANE	-	-	-	200		-	-	-	-	-	-
170+32 - 172+32	MAINLINE, RT	RIGHT TURN LANE	-	-	-	200		-	-	-	-	-	-
245+60 - 298+70	MAINLINE, RT	PASSING LANE	-	883	145	-		-	-	-	-	-	-
277+56 - 279+56	MAINLINE, RT.	RIGHT TURN LANE	-	-	-	200		-	-	-	-	-	-
298+70 - 365+29	MAINLINE, LT	PASSING LANE	-	1,205	163	-		-	-	-	-	-	-
352+54 - 356+04	MAINLINE, RT.	RIGHT TURN LANE	-	-	-	-		-	-	-	-	-	-
172+40 - 174+55	MAINLINE, LT	BYPASS LANE	-	62	-	350		-	-	-	-	-	-
443+58 - 446+02.39	MAINLINE, RT	BYPASS LANE	-	62	-	-		-	-	-	-	-	-
100+55.45 - 446+02.39	MAINLINE	WHITE EDGELINES	67,850	-	-	-		-	-	-	-	-	-
-	UNDISTRIBUTED *	LOCATING NO PASSING ZONE	-	-	-	-		4,440	-	-	-	-	-
SUBTOTALS =			67,850	2,212	308	1,150		31,048	7,202	26,608	2,312	26,608	2,312
TOTALS =			70,370			1,150		38,250		28,920		28,920	

* ADDITIONAL QUANTITY FOR POSSIBLE CLOSING OF EXISTING PASSING ZONES LOCATED OUTSIDE OF PROJECT LIMITS (USE ONLY IF REQUIRED)

LOCATING NO PASSING ZONES

STATION - STATION	LOCATION	648.0100 (MI)
100+55.45 - 446+02.39	MAINLINE	6.55
TOTAL =		6.55

CONSTRUCTION STAKING

STATION - STATION	LOCATION	650.8000	650.9910
		RESURFACING REFERENCE (LF)	SUPPLEMENTAL CONTROL 01. 1640-00-63 (LS)
100+55.45 - 446+02.39	MAINLINE	34,550	-
-	PROJECT	-	1
TOTALS =		34,550	1

SAWING ASPHALT

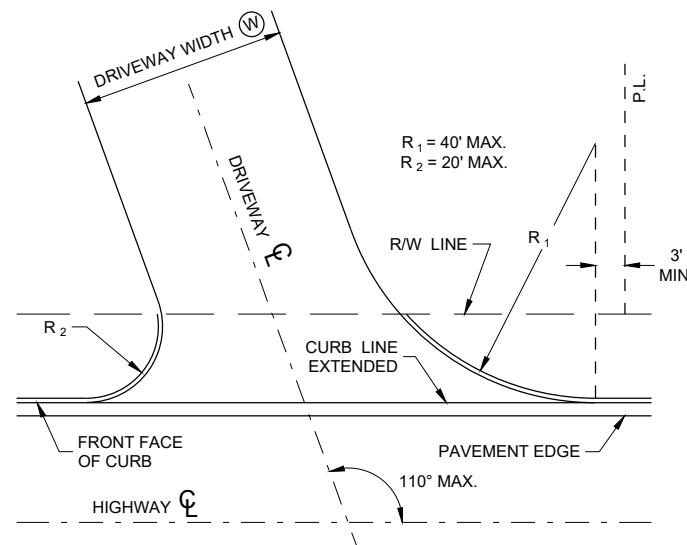
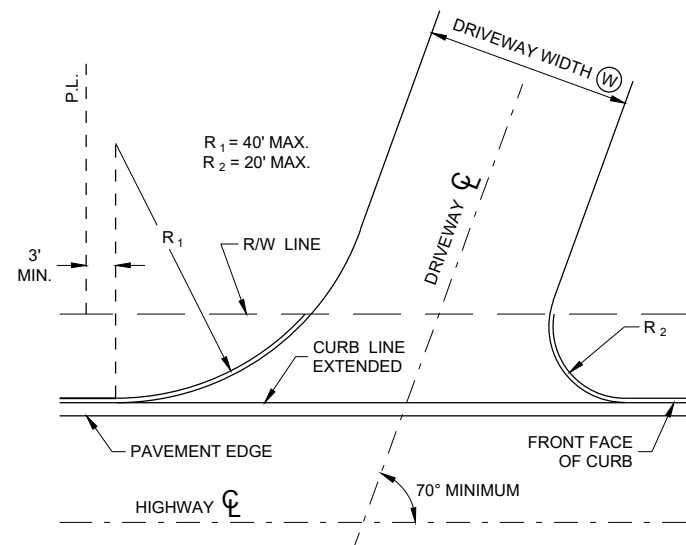
STATION - STATION	LOCATION	690.0150 (LF)
153+20	CE, LT	76
158+33 - 162+11	HIST MARKER PULLOFF, RT.	100
197+32	CE, RT.	115
333+92	PE, LT.	63
341+43	CE, LT.	57
351+21	PE, LT.	34
354+26	PE, LT.	46
355+67	CE, RT.	55
368+02	CE, RT.	73
369+82	PE, RT.	65
370+15	CE, LT.	139
372+87	PE, RT.	40
372+75 - 375+47	WAYSIDE, LT.	85
383+42	PE, RT.	82
387+90	PE, LT.	70
TOTAL =		1,100

LANDMARK REFERENCE MONUMENTS

STATION	LOCATION	SPV.0060.01	SPV.0060.02
		LANDMARK REFERENCE MONUMENTS SPECIAL (EACH)	VERIFY LANDMARK REFERENCE MONUMENTS (EACH)
174+48	MAINLINE, 0.6' LT.	1	1
200+96	MAINLINE, 0.7' LT.	1	1
227+37	MAINLINE, 0.7' LT.	1	1
253+96	MAINLINE, 0.5' LT.	1	1
280+55	MAINLINE, 0.2' LT.	1	1
307+15	MAINLINE, 6' LT.	1	1
333+96	MAINLINE, 12' LT.	1	1
356+75	MAINLINE, 21' RT.	1	1
TOTALS =		8	8

Standard Detail Drawing List

08D20-01	DRIVEWAYS WITH CURB & GUTTER RETURNS
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
13A10-02A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02B	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C19-03	HMA LONGITUDINAL JOINTS
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C08-20B	PAVEMENT MARKING (TURN LANES)
15C08-20C	PAVEMENT MARKING (TURN LANES)
15C12-08	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-06A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C35-04A	PAVEMENT MARKING (INTERSECTIONS)
15C35-04B	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15C35-04C	PAVEMENT MARKING AND SIGNING (CLIMBING LANE & PASSING LANE)
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
16A01-07	LANDMARK REFERENCE MONUMENTS AND COVERS



**SKewed DRIVEWAY DETAILS
(COMMERCIAL AND NON-COMMERCIAL)
SIDEWALK NOT SHOWN**

GENERAL NOTES

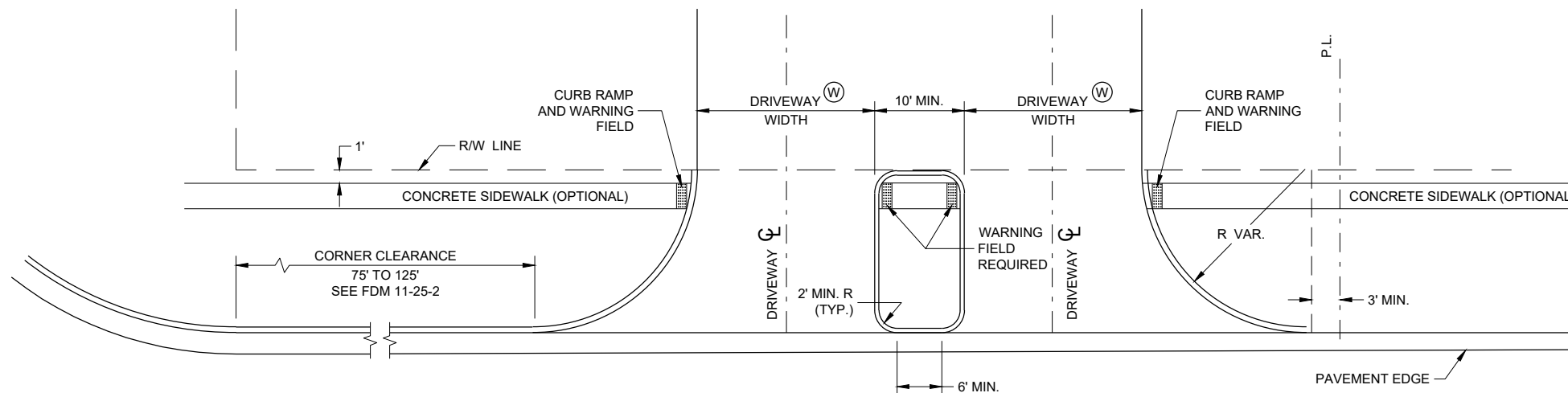
A MAXIMUM RADIUS OF 10 FEET SHALL BE USED FOR NON-COMMERCIAL PRIVATE ENTRANCES. RADII FOR COMMERCIAL DRIVEWAYS SHALL BE DETERMINED BY THE ENGINEER BASED ON TRAFFIC AND DRIVEWAY PERMIT RESTRICTIONS.

THE MINIMUM ANGLE OF INTERSECTION BETWEEN THE DRIVEWAY AND HIGHWAY CENTERLINES SHALL BE 70°.

ALL CURVILINEAR PRIVATE ENTRANCE OUTLINES SHALL BE CONTAINED WITHIN THE HIGHWAY R/W.

NO DRIVEWAY SHALL BE BUILT WITHIN 3 FEET OF THE PROPERTY LINE EXCEPT FOR EXISTING JOINT DRIVEWAY SHARED BY TWO OWNERS.

(W) : 12' MIN. - 24' MAX. RESIDENTIAL AND
NON-COMMERCIAL (PE & FE)
16' MIN. - 35' MAX. COMMERCIAL (CE)



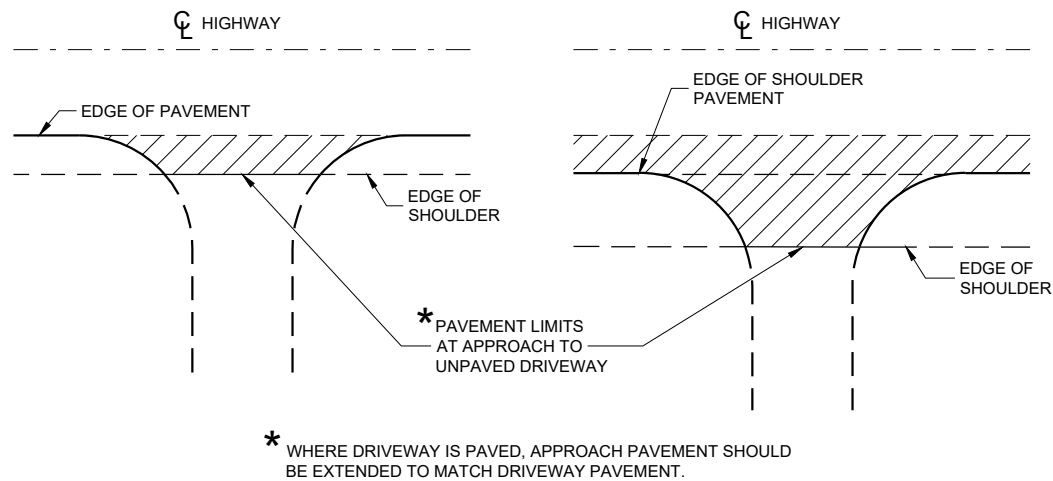
**DRIVEWAY LOCATION AND SPACING DETAILS
SIDEWALK SHOWN**

DRIVEWAYS WITH CURB AND GUTTER RETURNS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

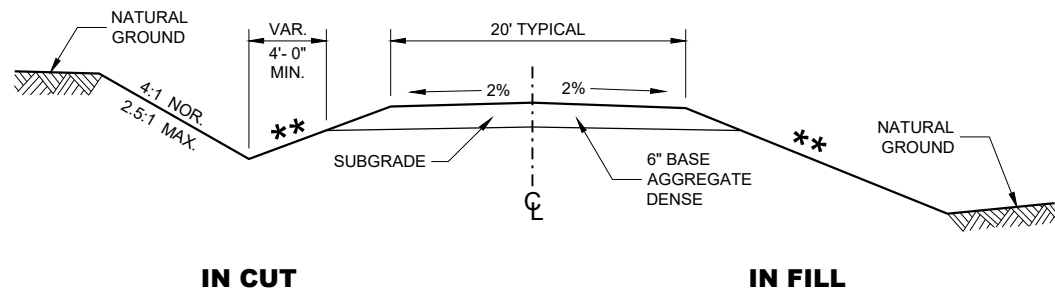
FHWA



PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

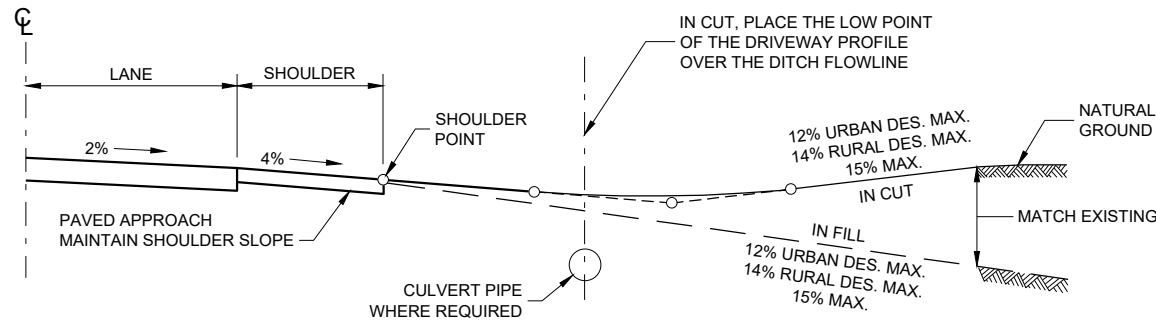
**RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)**



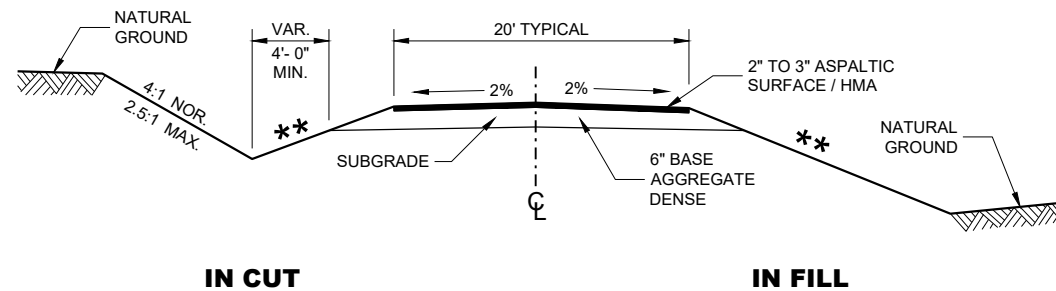
**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE**

****** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥ 35 TO < 60	6:1
≥60	10:1



TYPICAL DRIVEWAY PROFILES

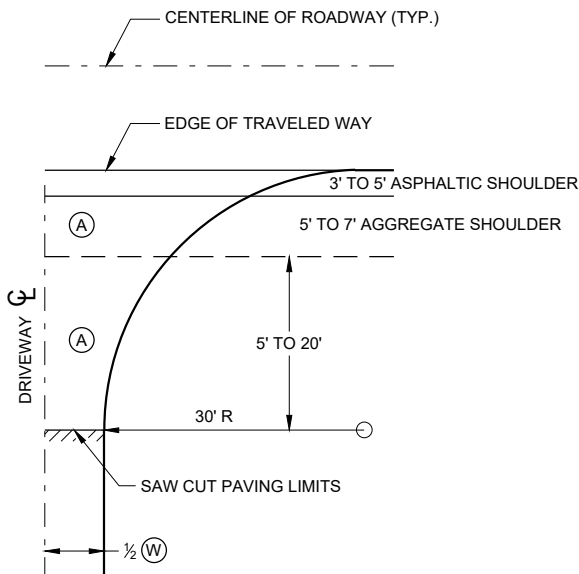


**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
ASPHALTIC SURFACE**

**DRIVEWAYS WITHOUT
CURB AND GUTTER**

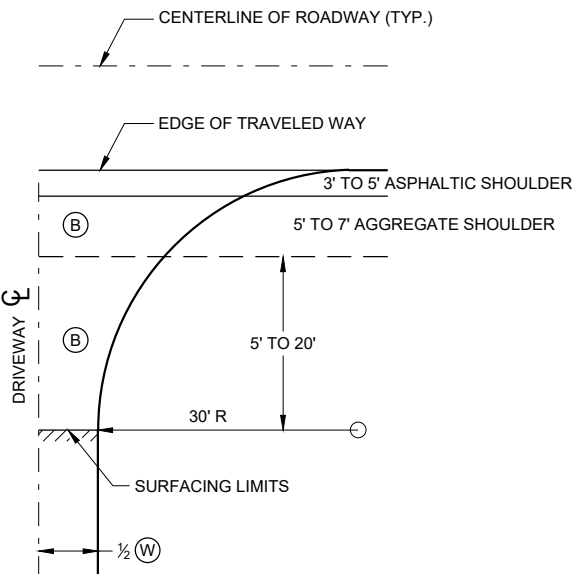
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2017
DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

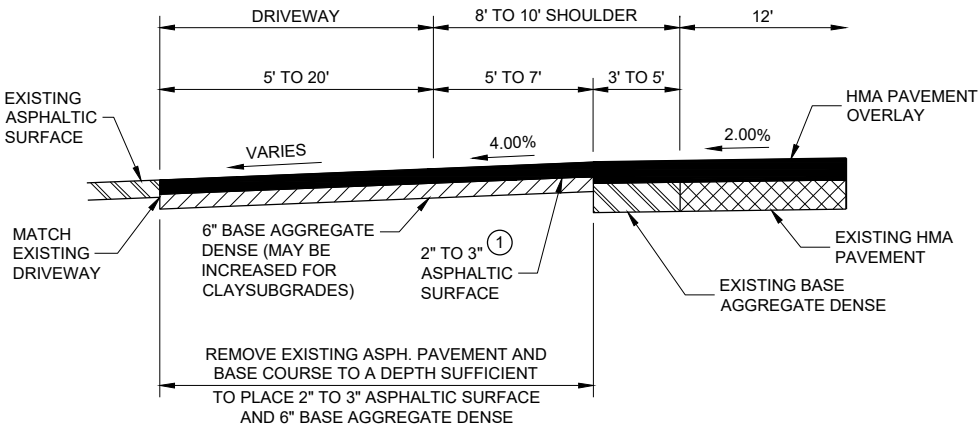


**PLAN VIEW
HALF SECTION**

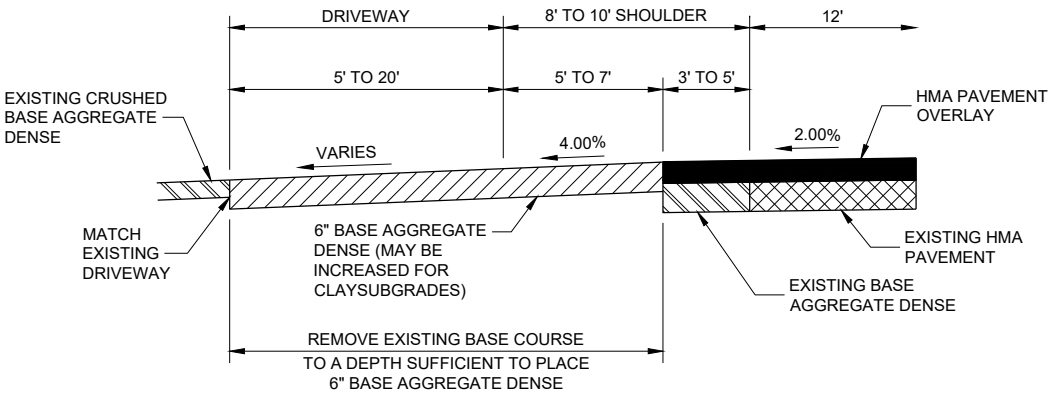
- (A) : PAID FOR AS ASPHALTIC SURFACE DRIVEWAYS
AND FIELD ENTRANCES. (TON)
- (B) : PAID FOR AS BASE AGGREGATE DENSE 1 1/4" (TON)
- (W) : DRIVEWAY WIDTH 16' MIN. - 24' MAX.



**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**

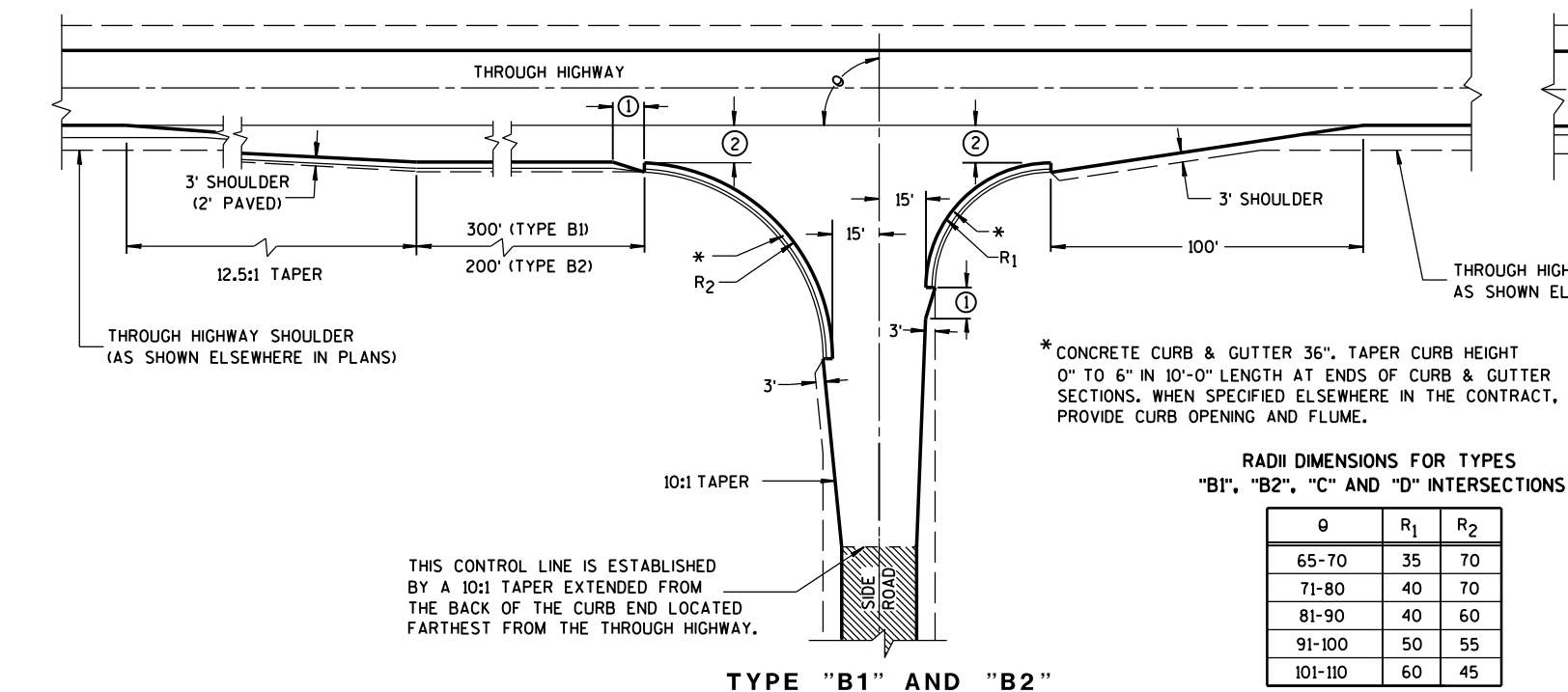
GENERAL NOTES

- 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
FHWA ENGINEER



GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

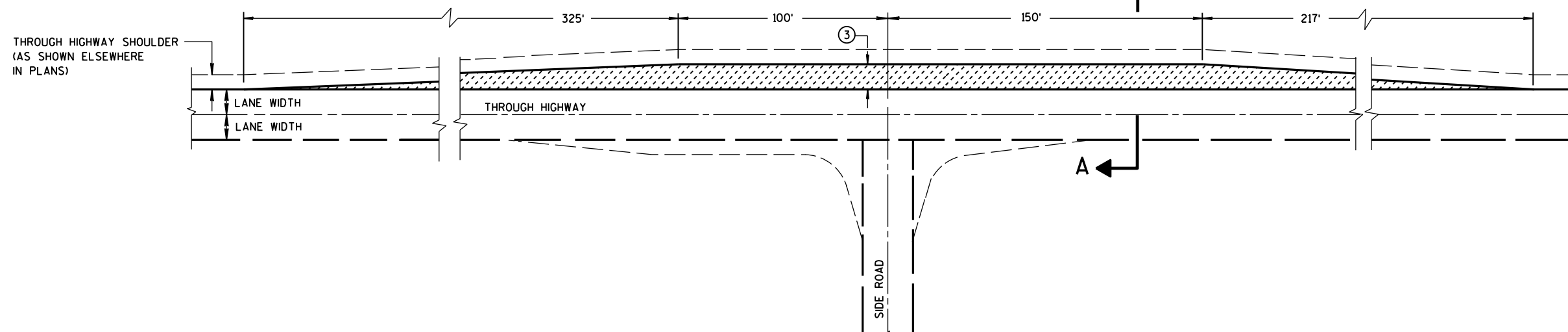
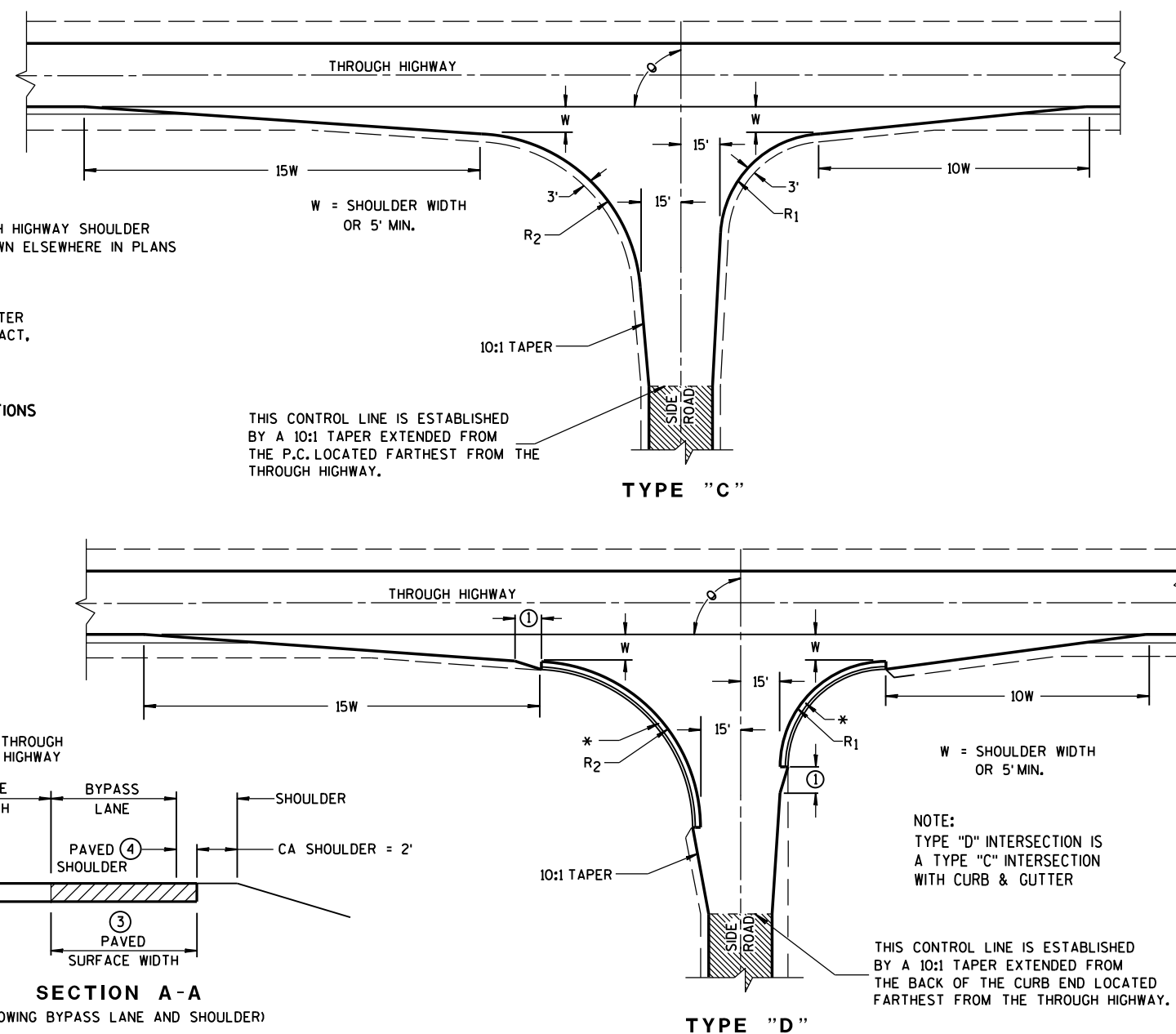
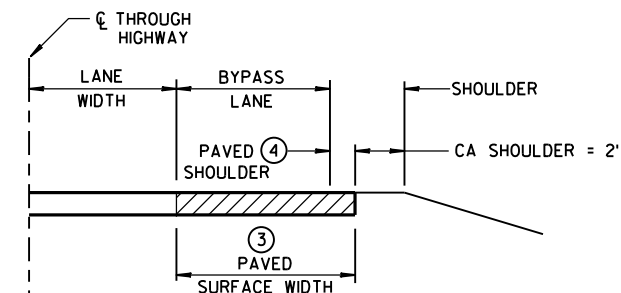
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

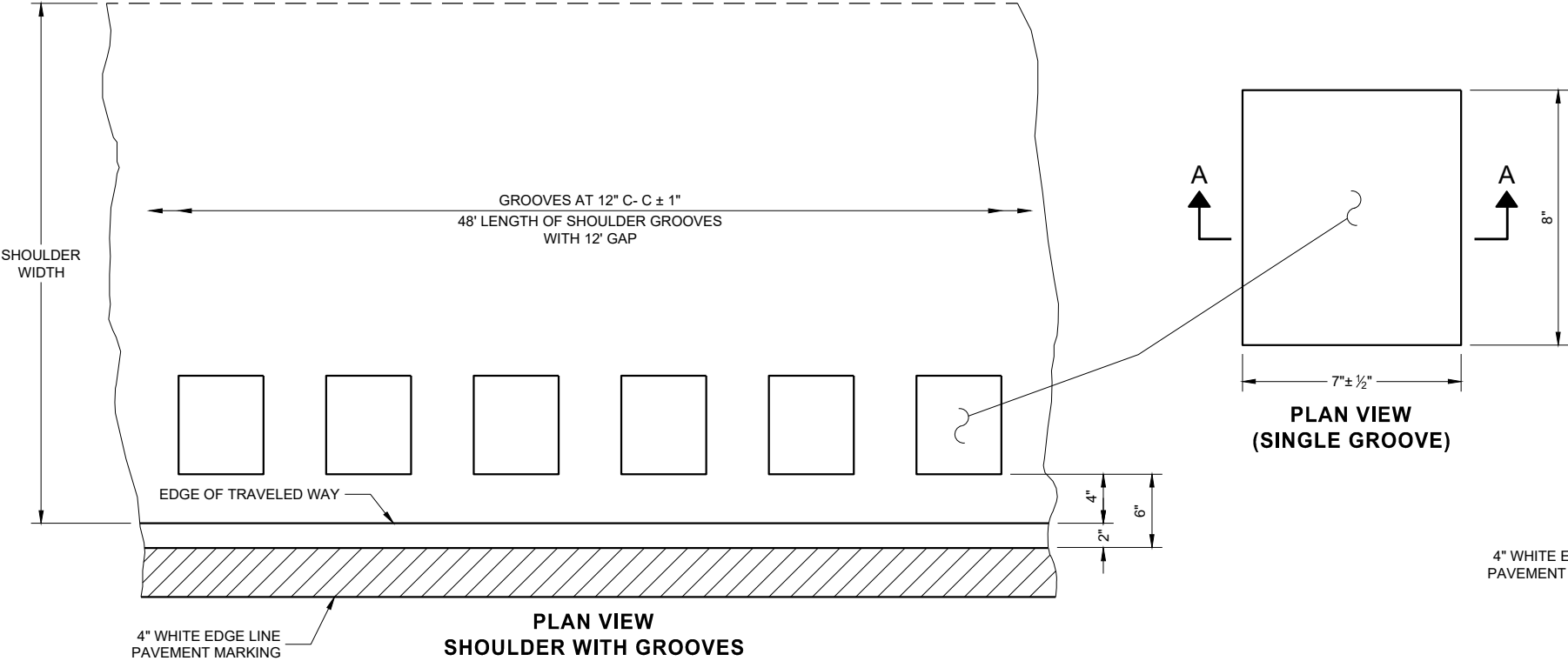
BYPASS LANE

- ① 10-FT TYPICAL.
- ② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.
- **10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- ④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



AT-GRADE SIDE ROAD
INTERSECTION, TYPES "B1", "B2",
"C" AND "D" AND TEE
INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



6

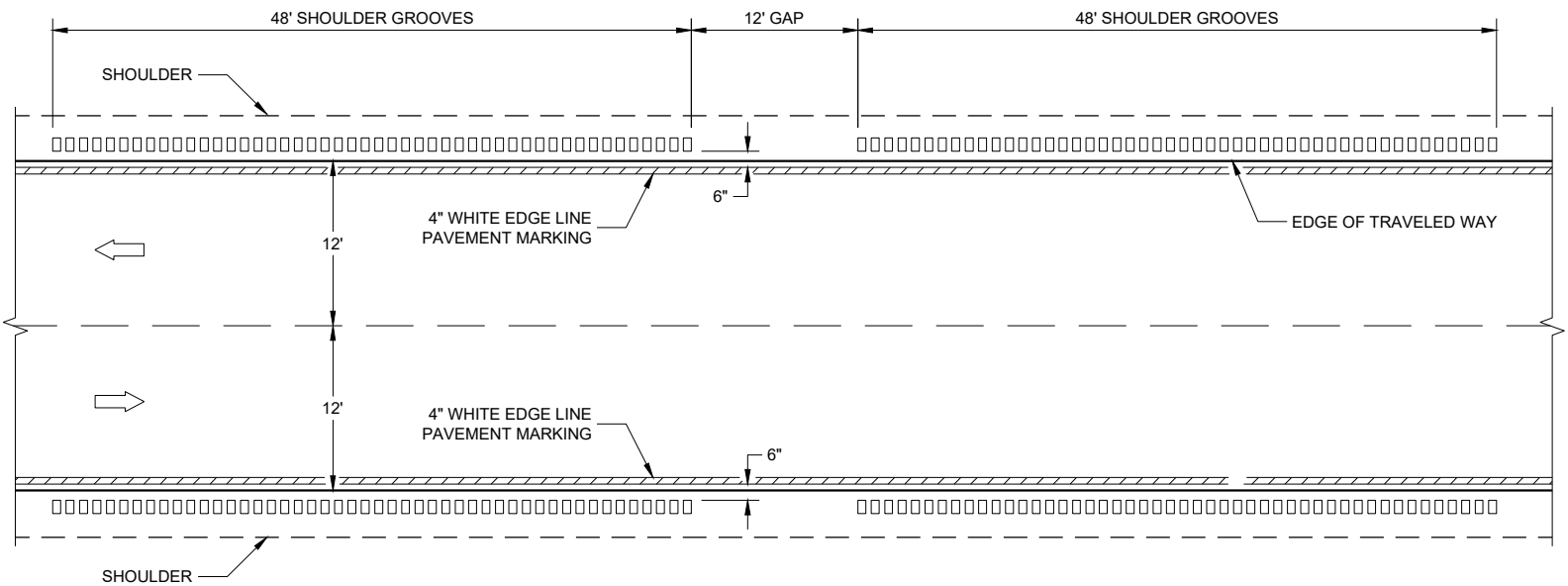
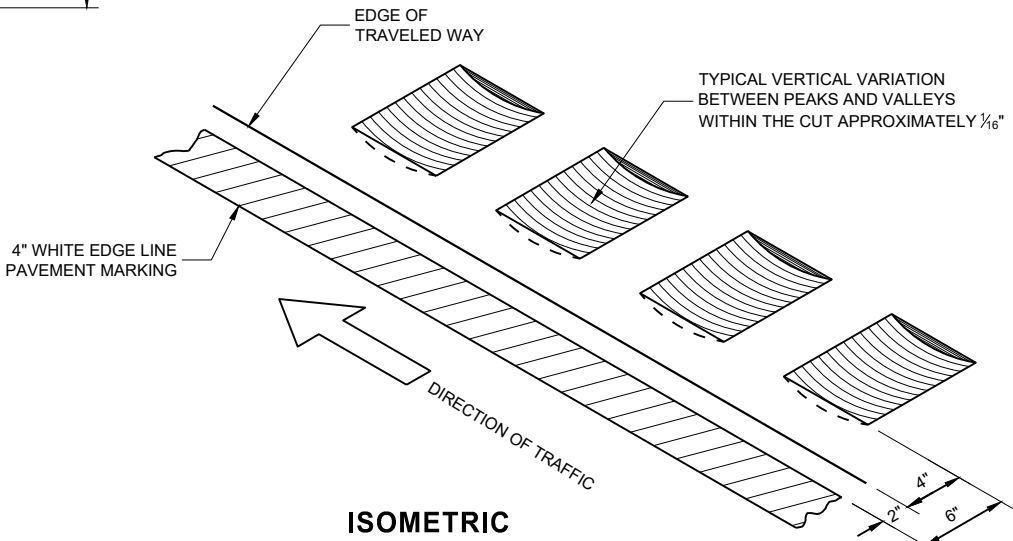
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

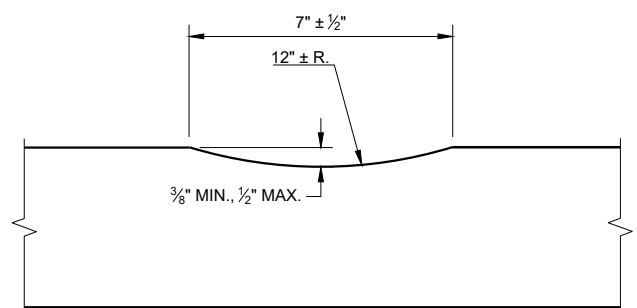
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

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



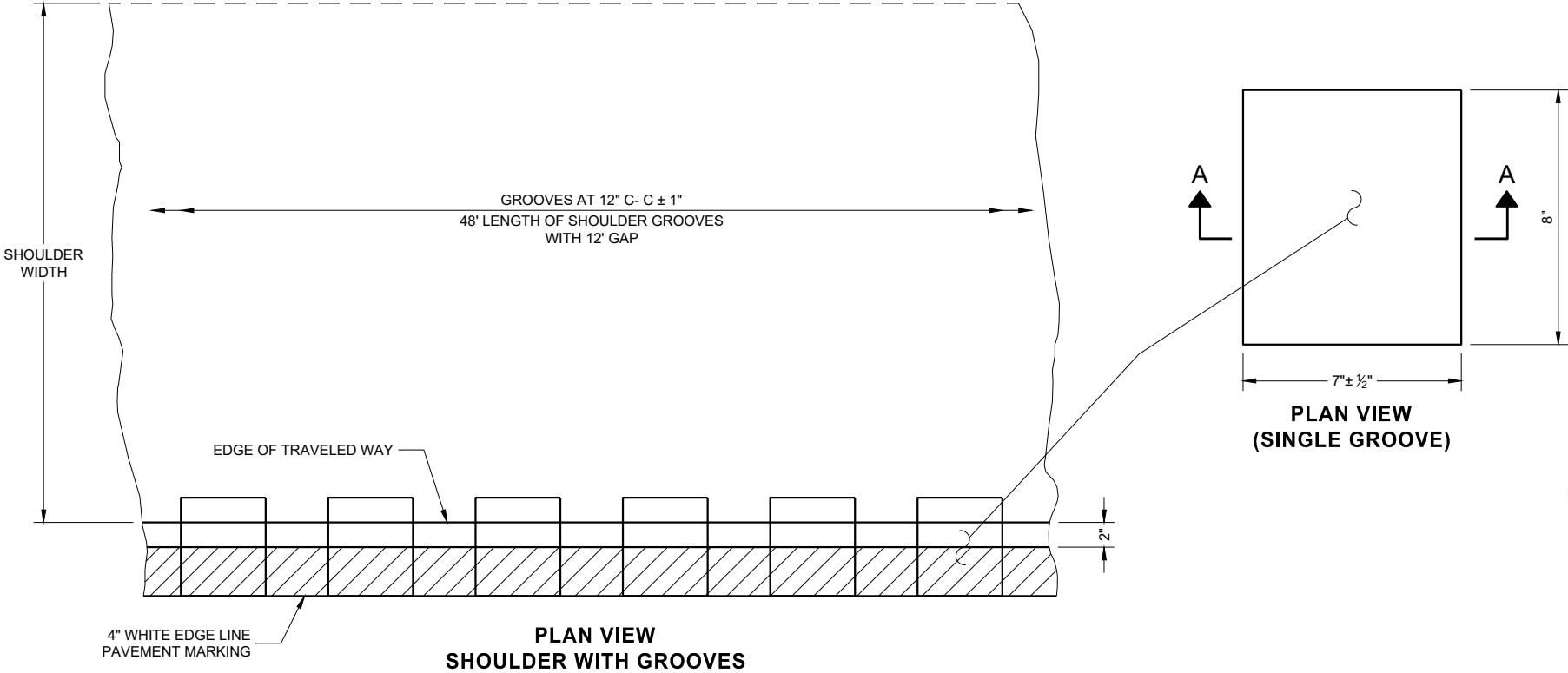
TYPE 1
2 - LANE SHOULDER RUMBLE STRIP



SECTION A - A

2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



6

6

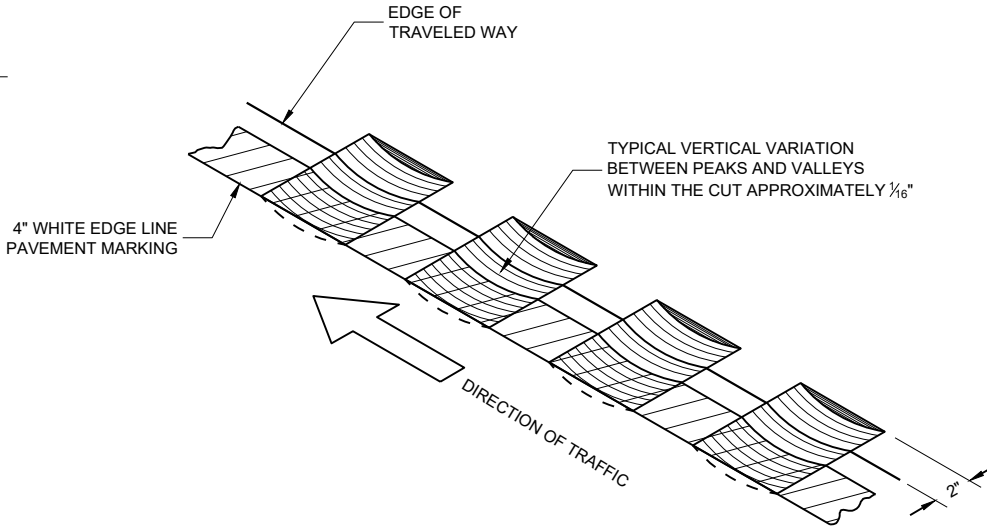
PLACEMENT DETAIL FOR TYPE 2 MILLED RUMBLE STRIP

GENERAL NOTES

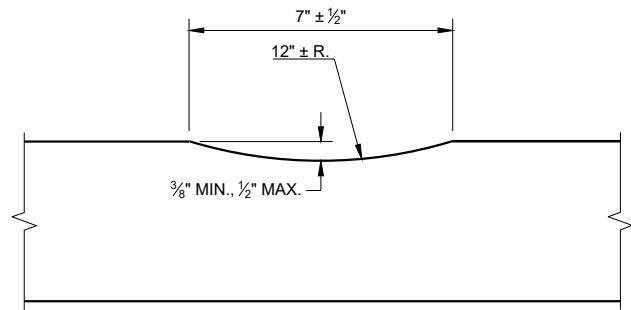
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

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



ISOMETRIC

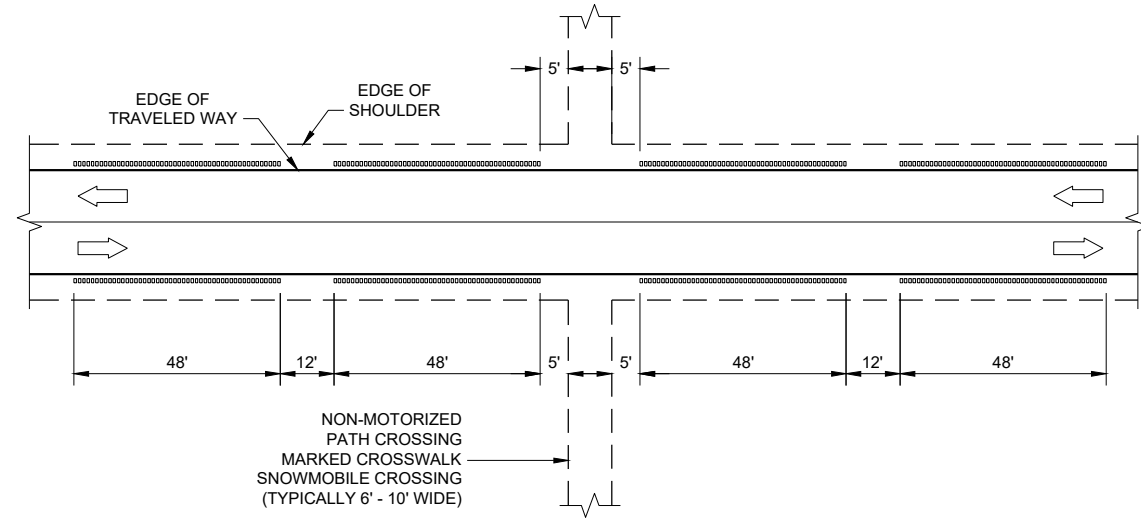


SECTION A - A

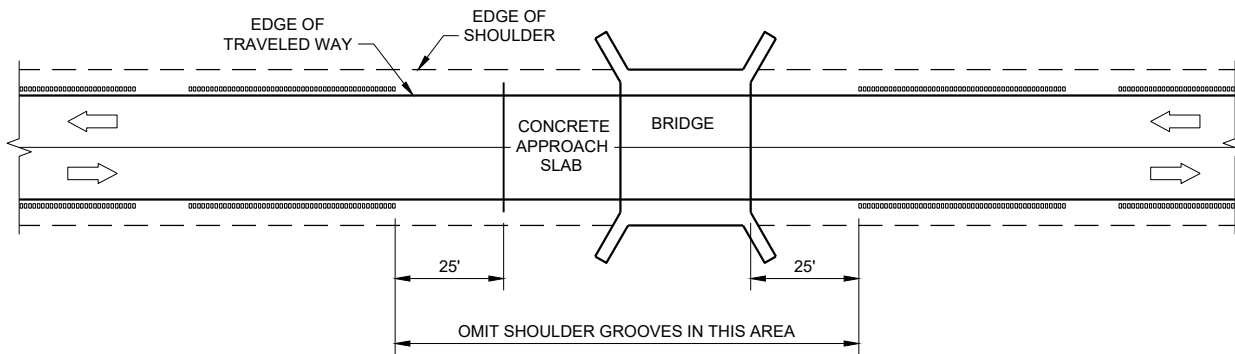
TYPE 2
2 - LANE SHOULDER RUMBLE STRIP

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

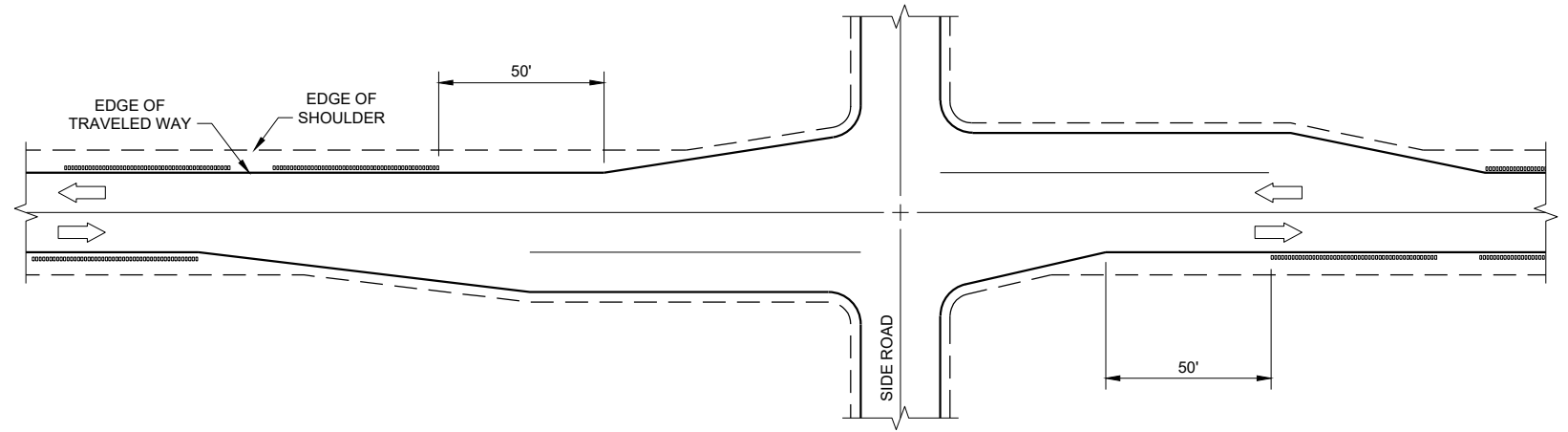
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



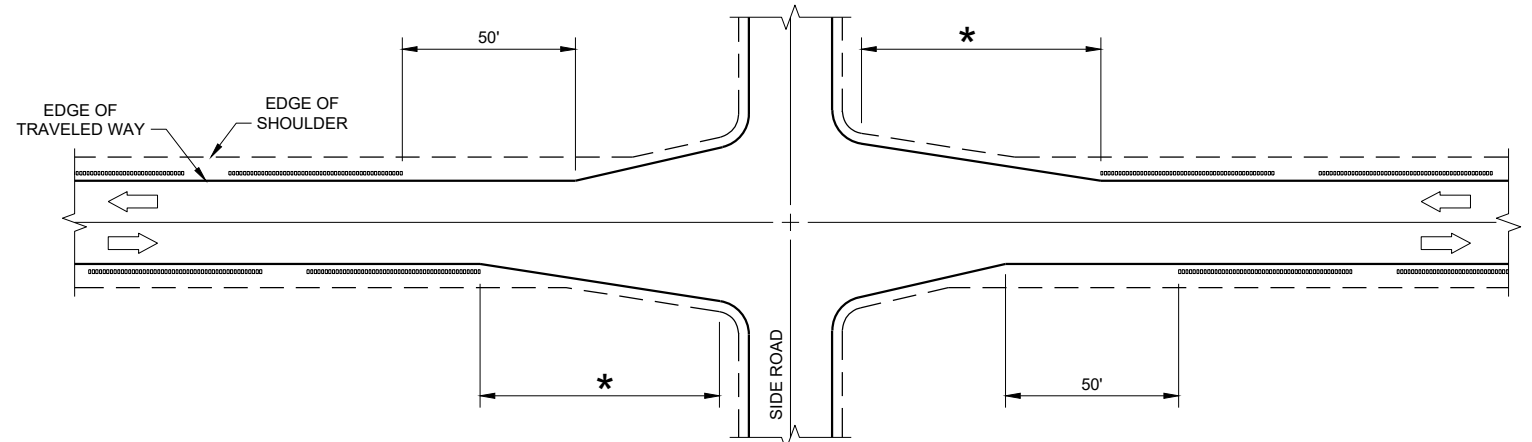
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



SHOULDER GROOVES AT BRIDGES

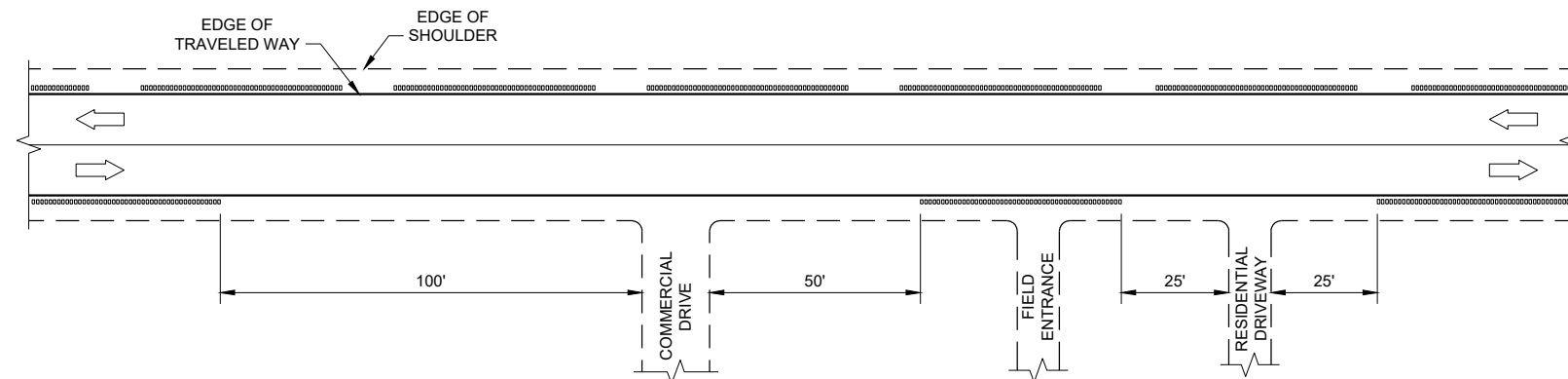


SHOULDER GROOVES AT RIGHT TURN LANE



* GREATER OF 100' OR APPROACH TAPER LENGTH

SHOULDER GROOVES AT INTERSECTIONS WITH APPROACH TAPER



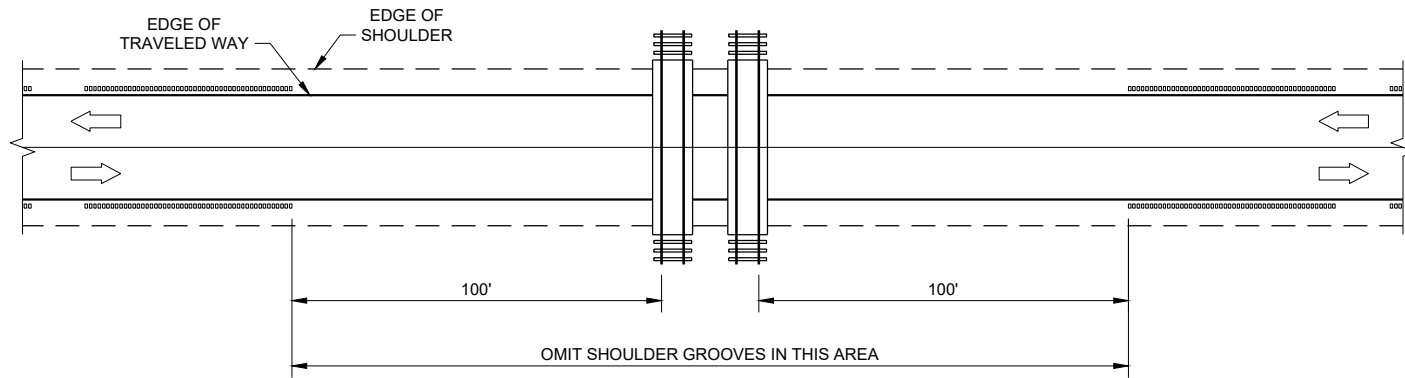
SHOULDER GROOVES AT DRIVEWAYS^①

GENERAL NOTES

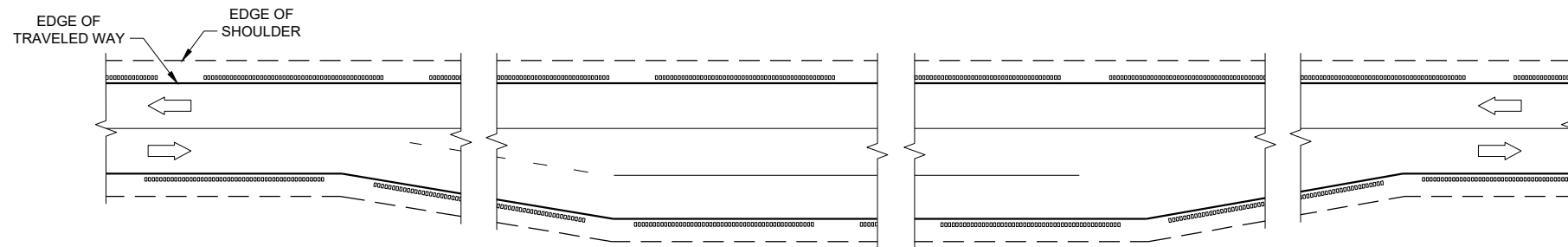
- ① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

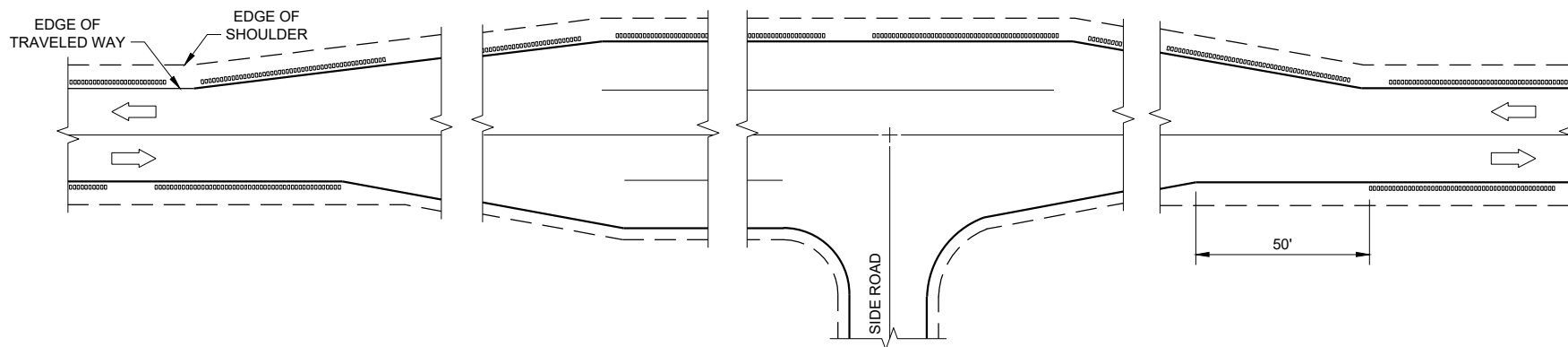
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



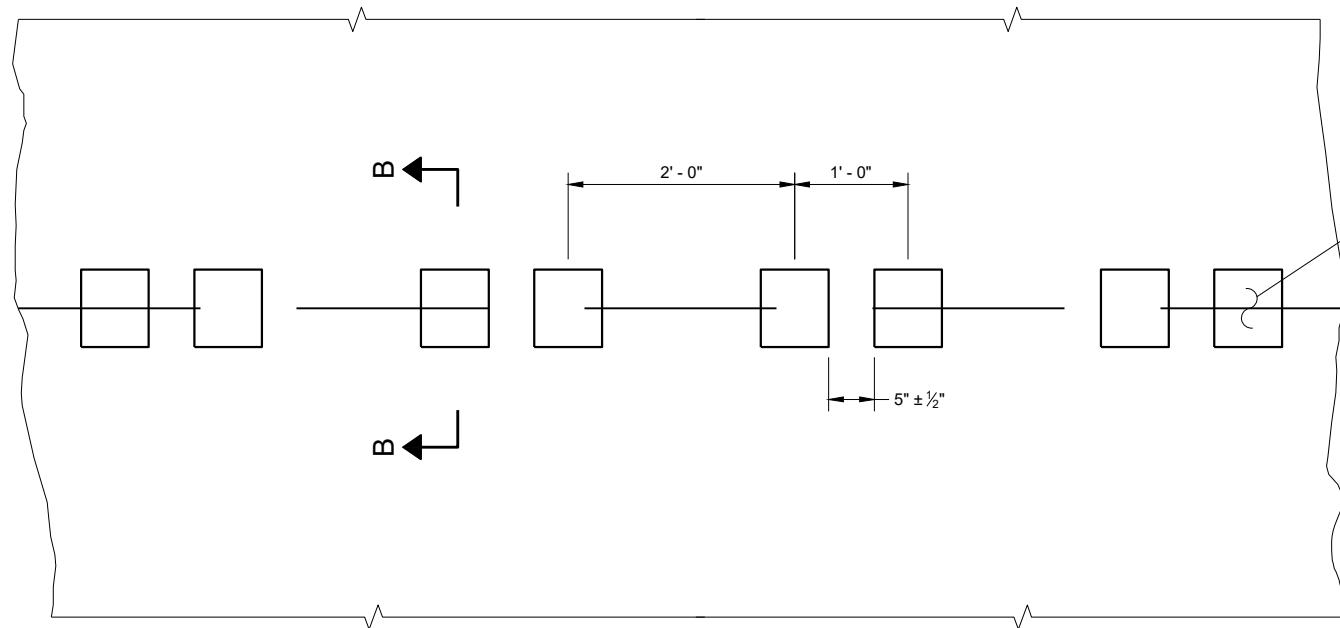
SHOULDER GROOVES AT BYPASS LANES

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

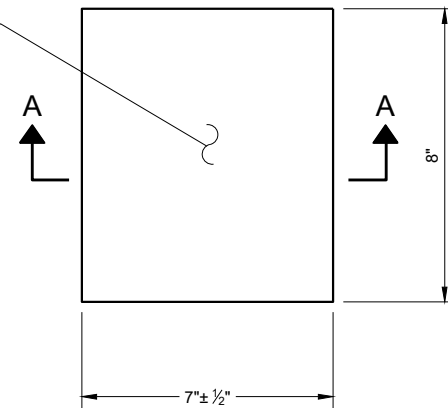
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA



PLAN VIEW
SHOULDER WITH GROOVES

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

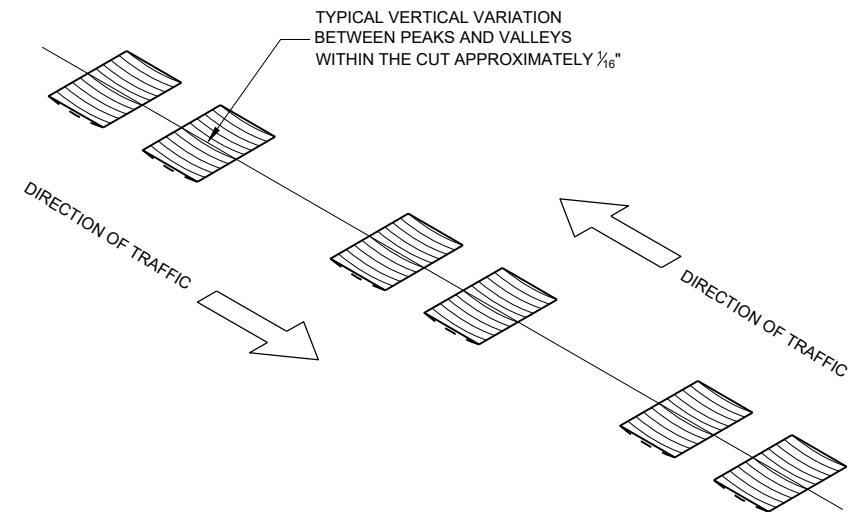
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

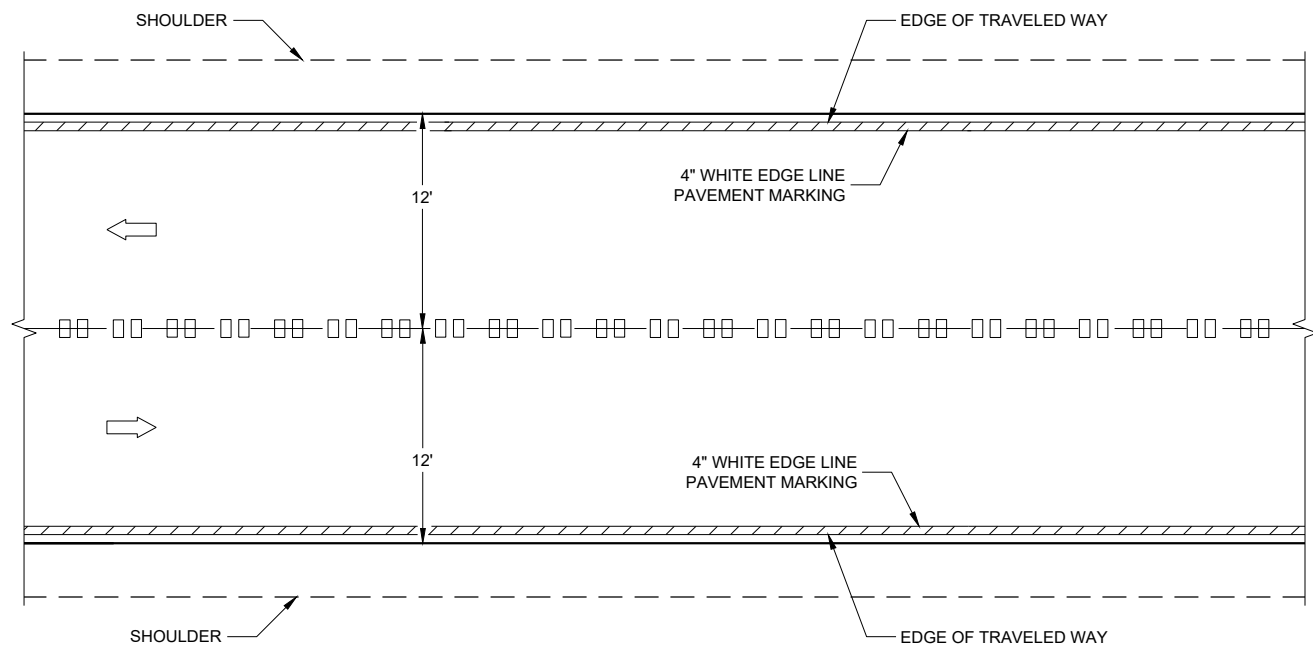
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

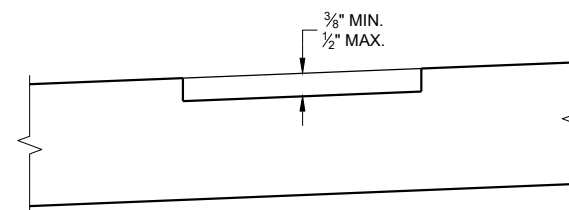
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



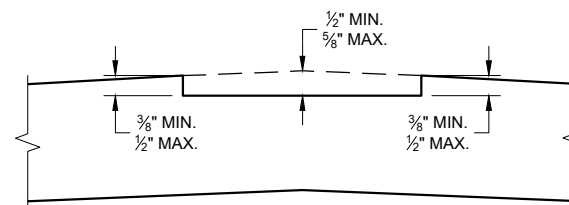
ISOMETRIC



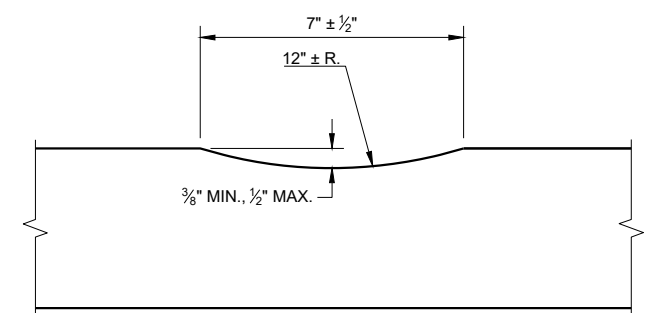
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



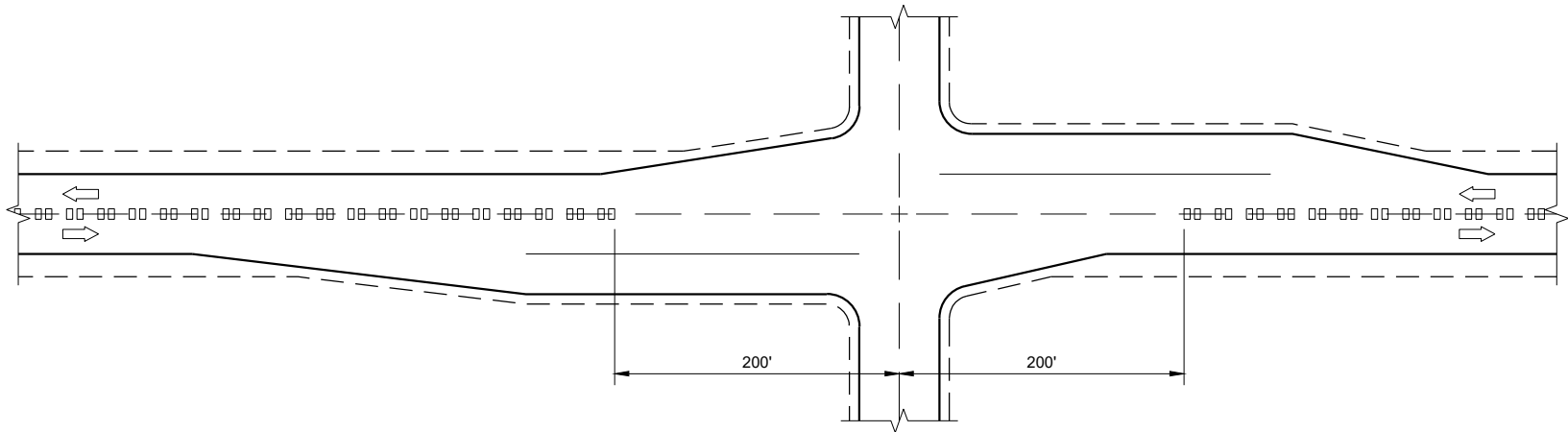
SECTION B - B
CROWNED ROADWAY



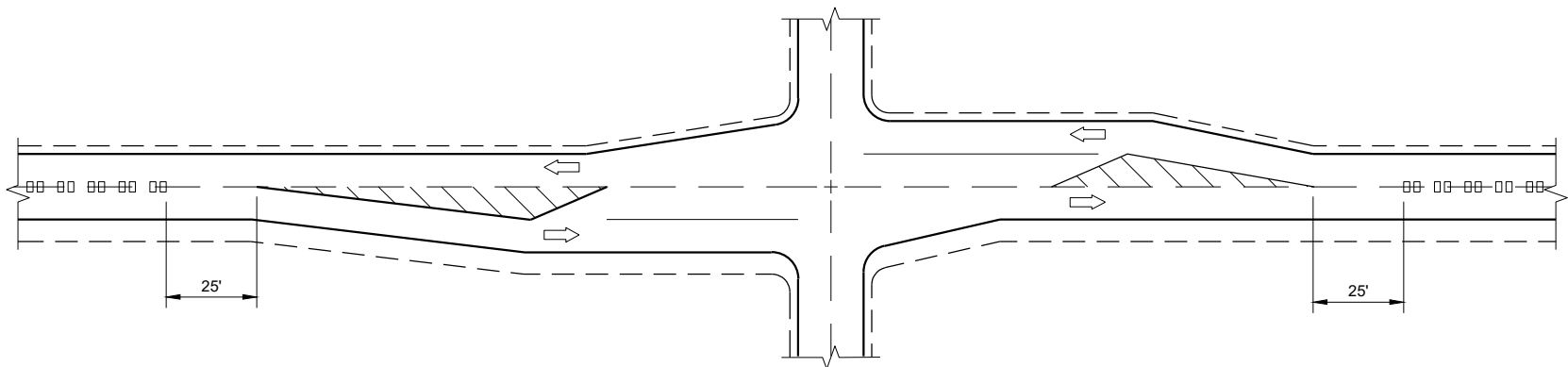
SECTION A - A

**2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING**

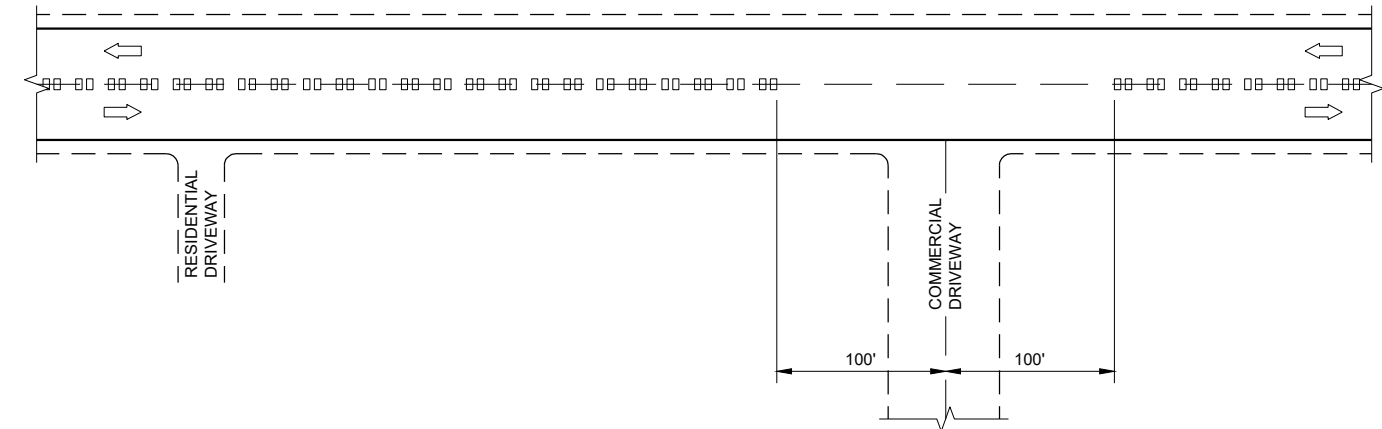
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



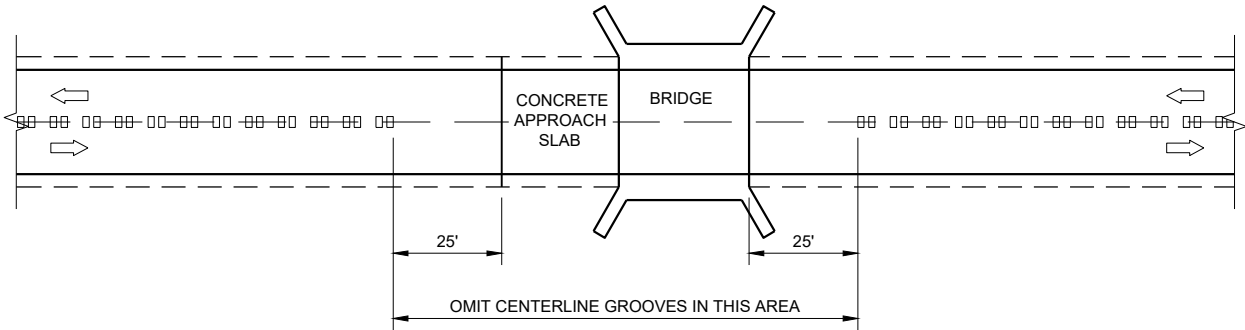
CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)



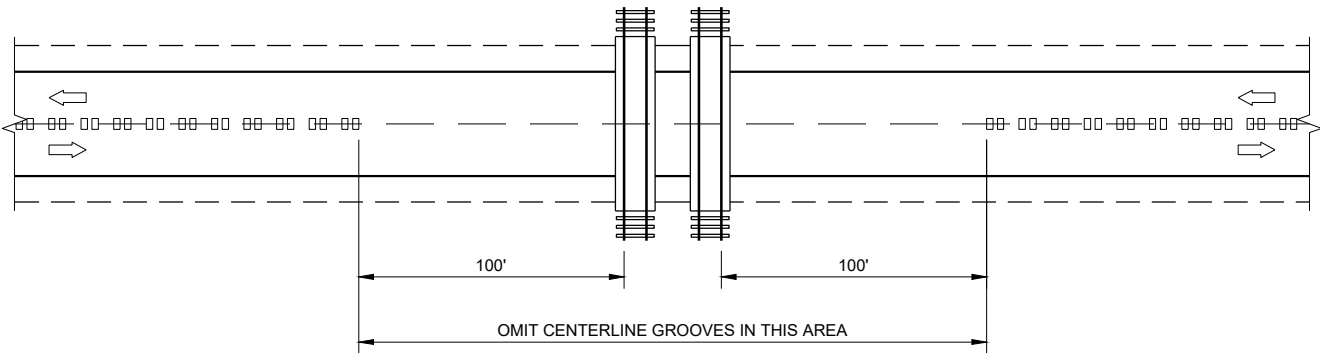
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

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



CENTERLINE GROOVES AT BRIDGES



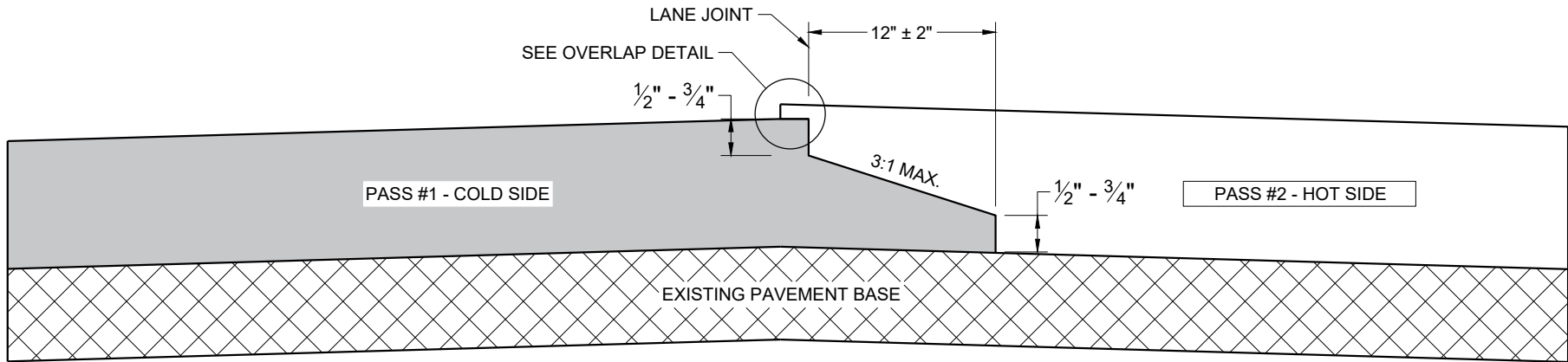
CENTERLINE GROOVES AT RAILROADS

2-LANE RURAL
CENTERLINE RUMBLE STRIP,
MILLING

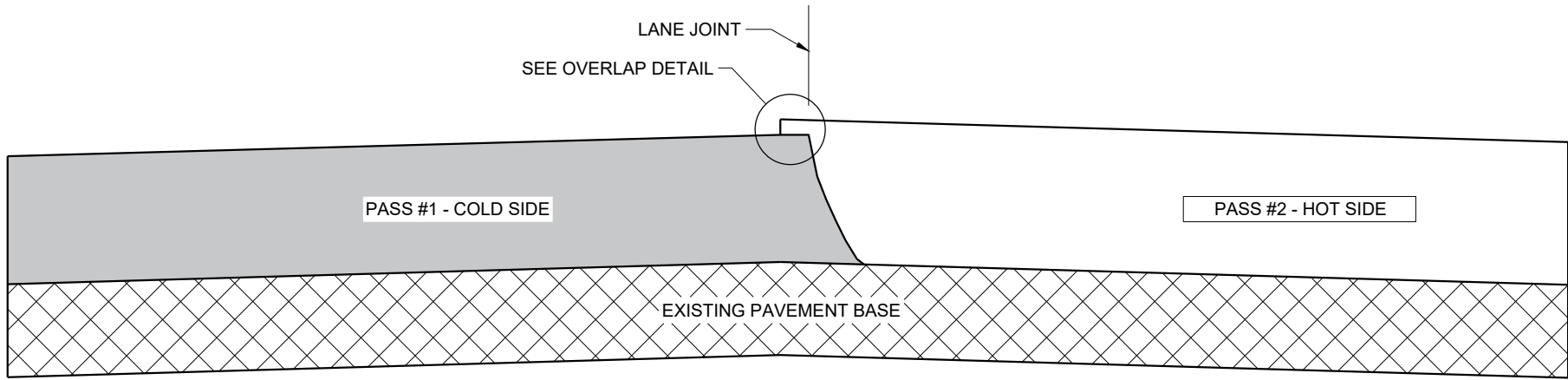
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

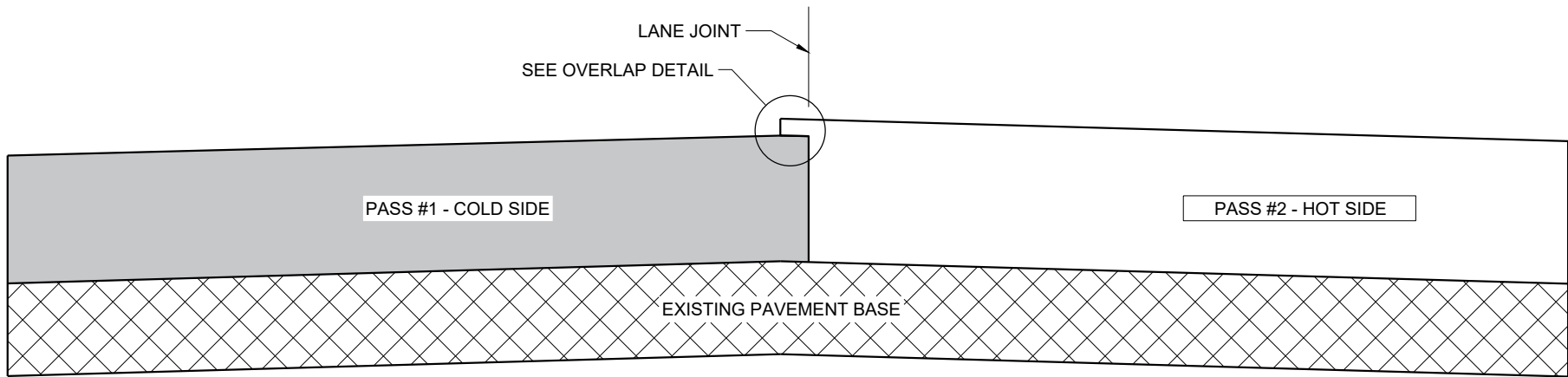
FHWA



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

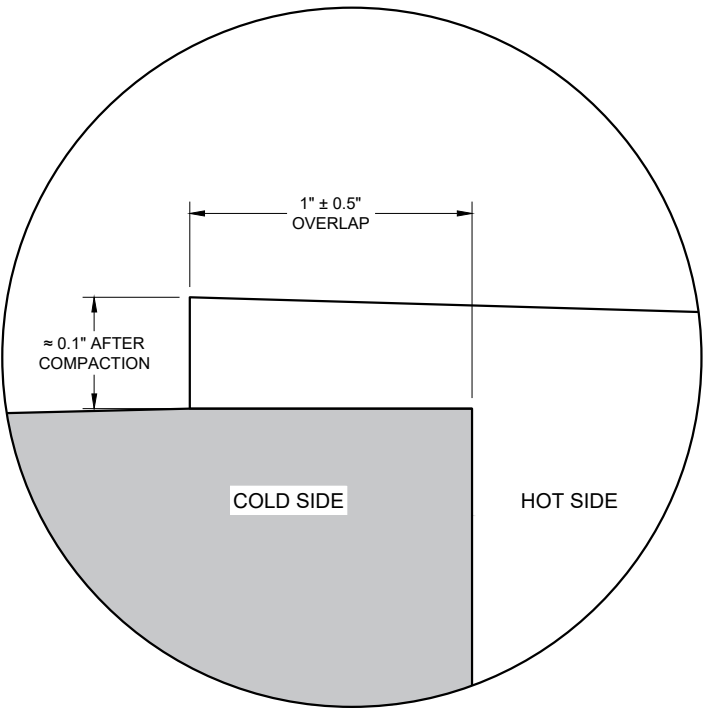
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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.

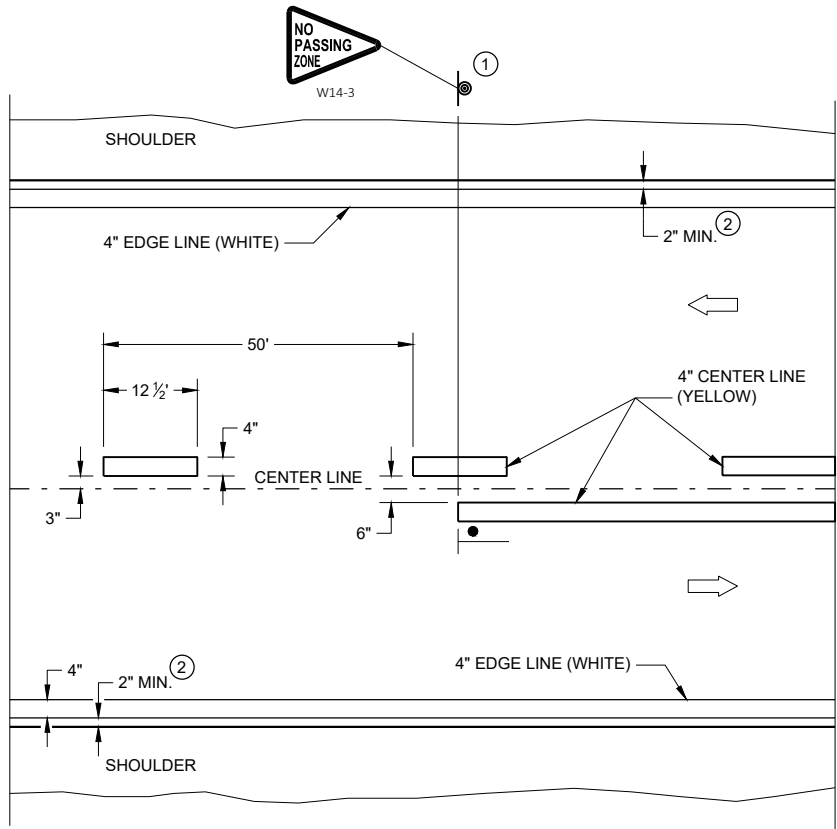


OVERLAP DETAIL (TYPICAL)

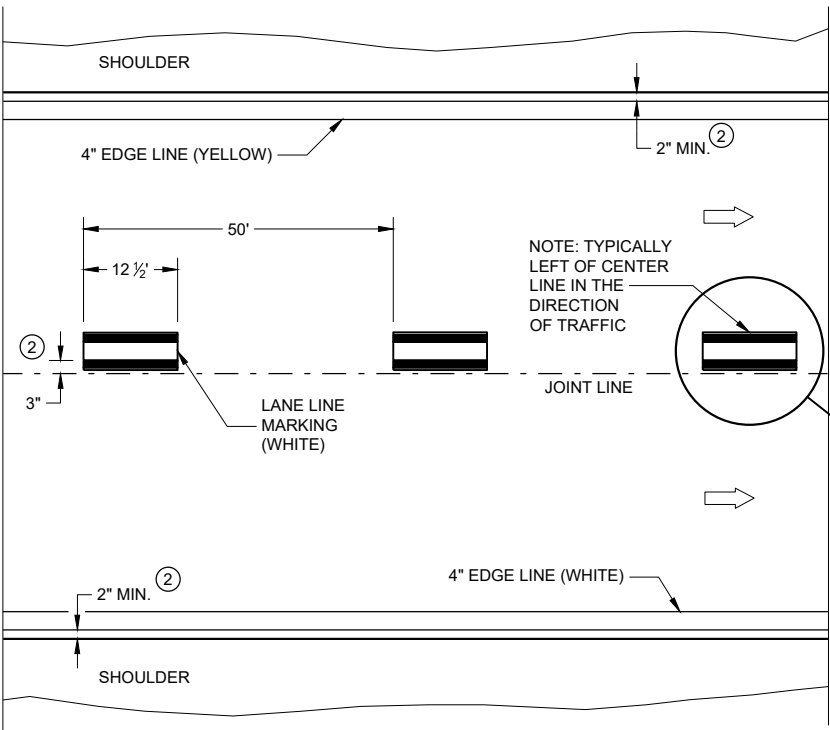
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

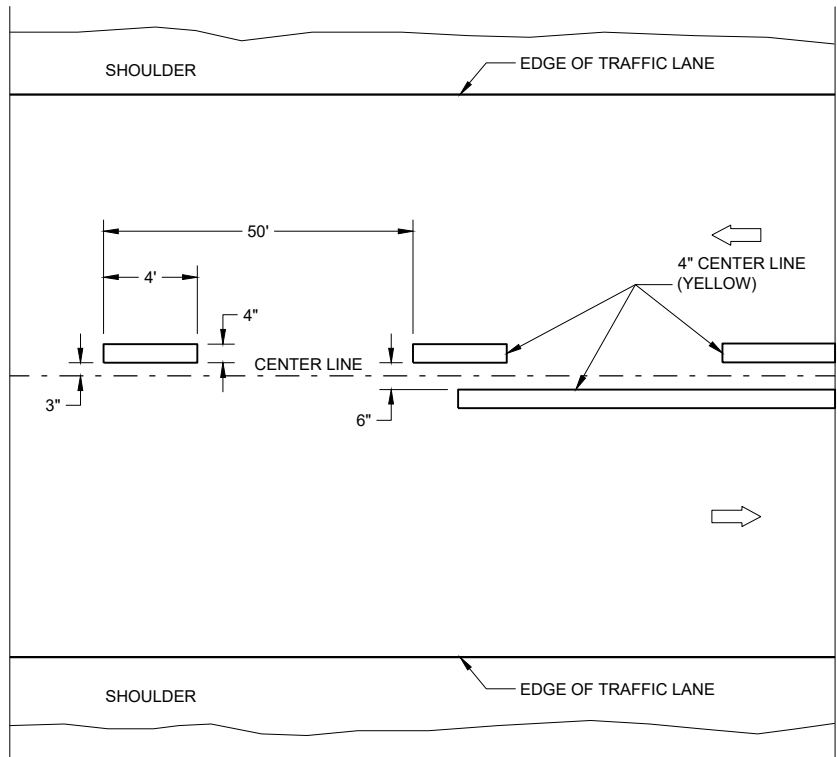


TWO WAY TRAFFIC

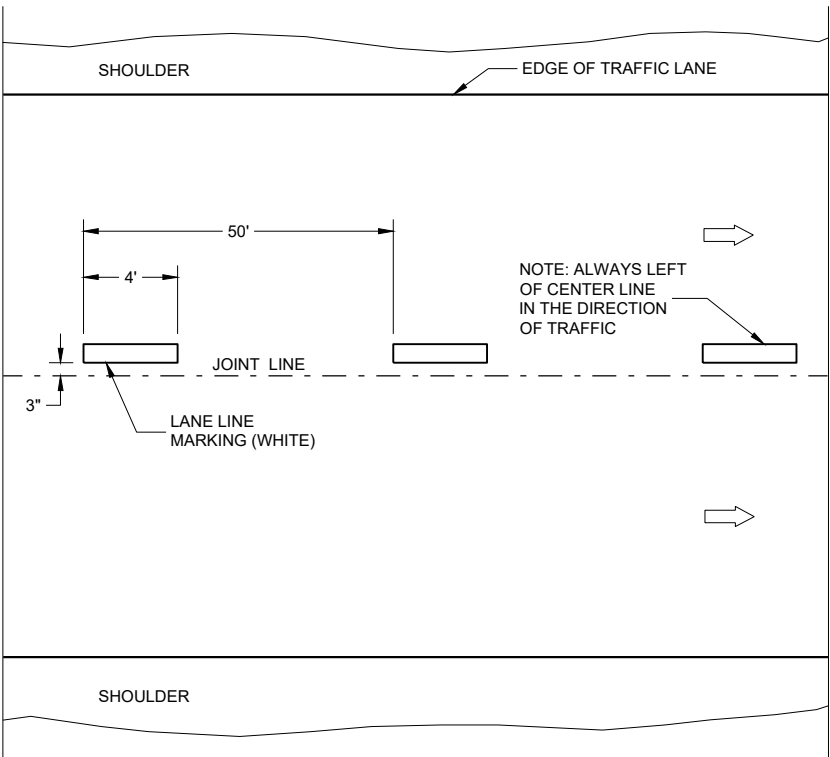


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

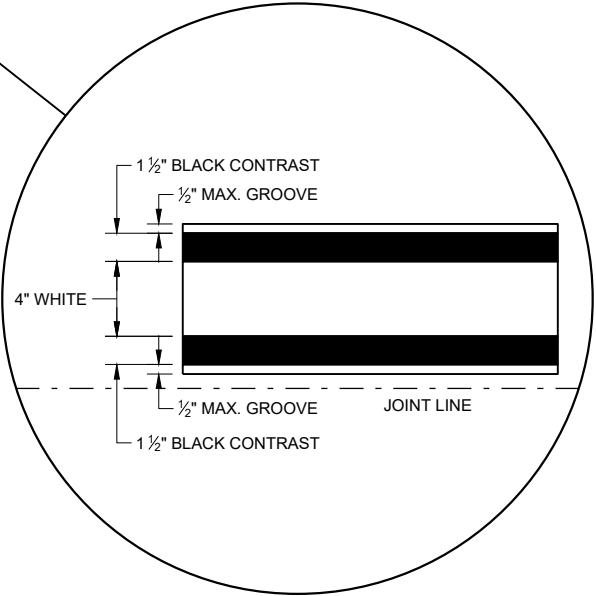
GENERAL NOTES

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
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

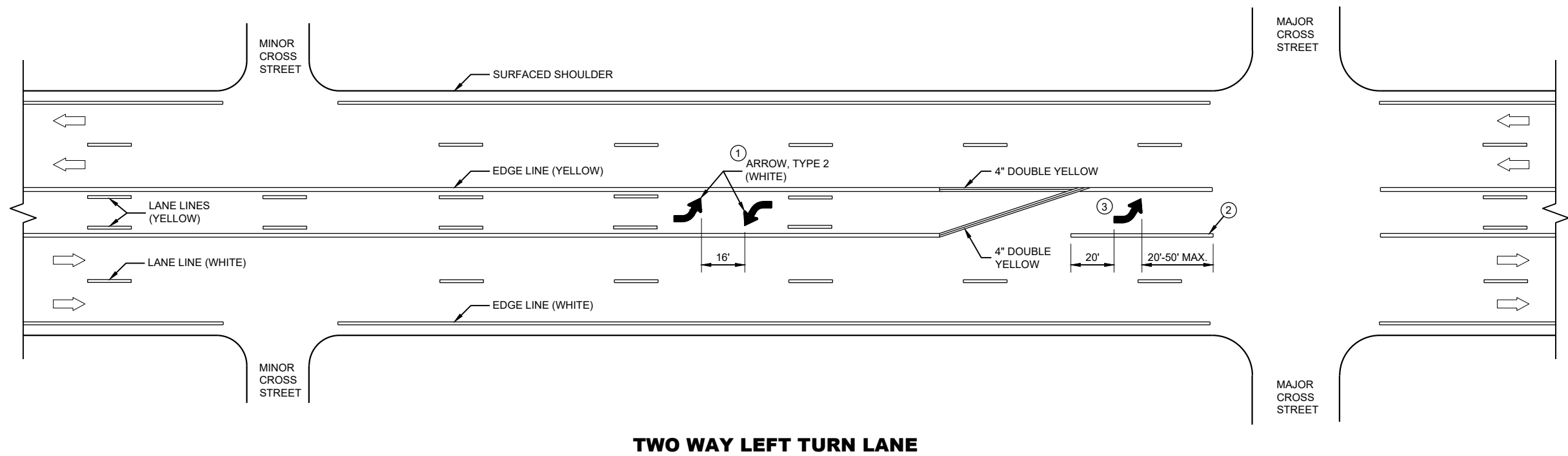
- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Matthew Rauch
STATEWIDE 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.

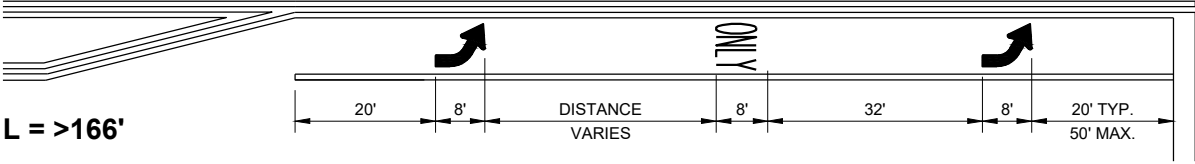
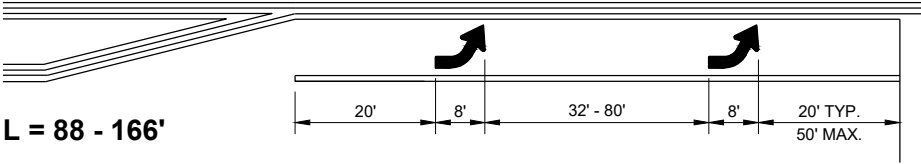
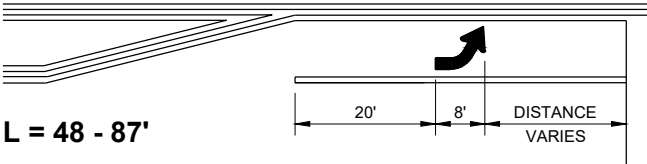
➡ DIRECTION OF TRAFFIC

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 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

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

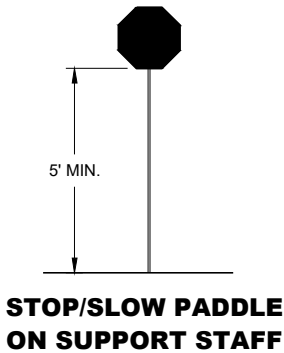
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- 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.

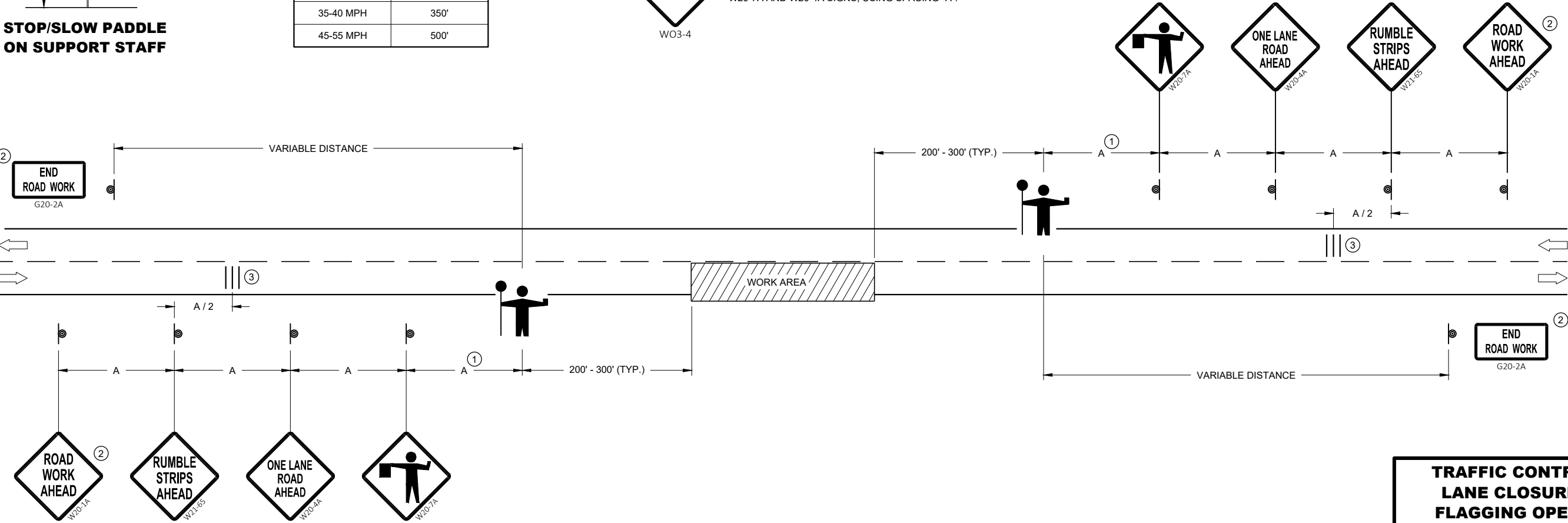


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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 November 2021 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

V1	LEAD VEHICLE
V2	MARKING VEHICLE
V3	SHADOW VEHICLE



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

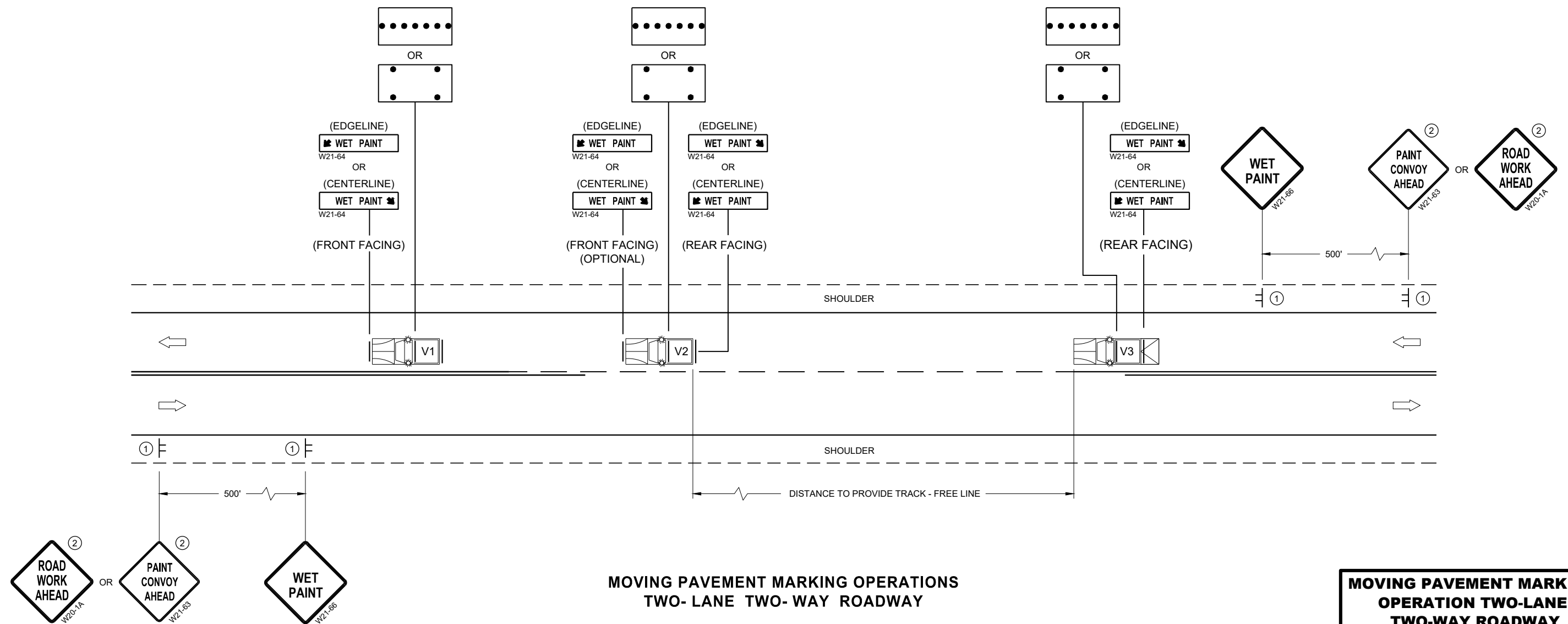
ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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.

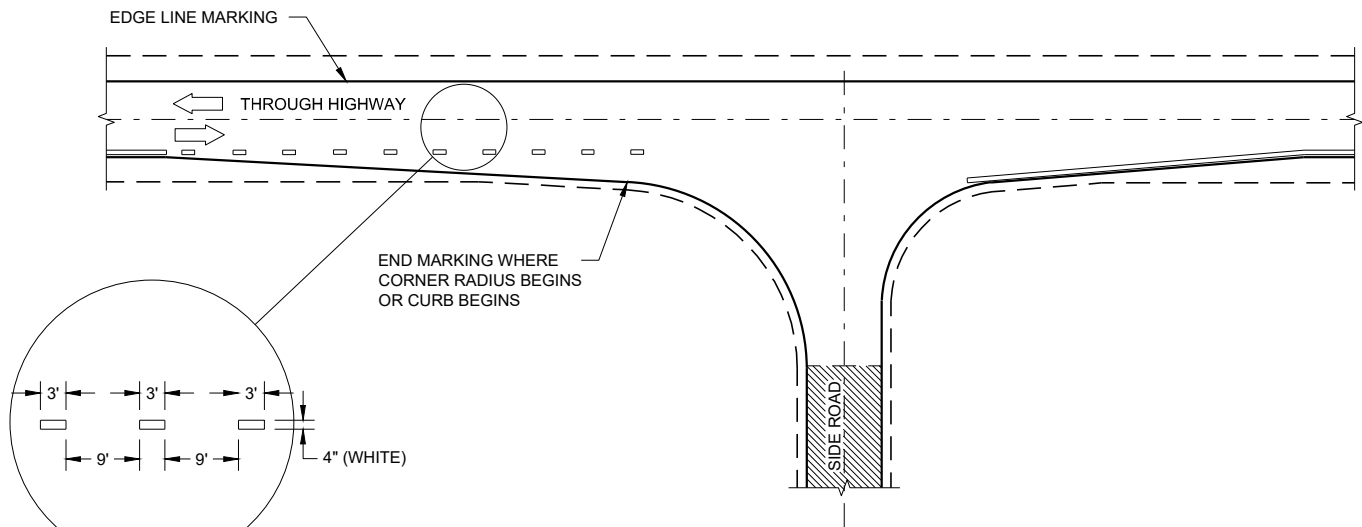
- ① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.



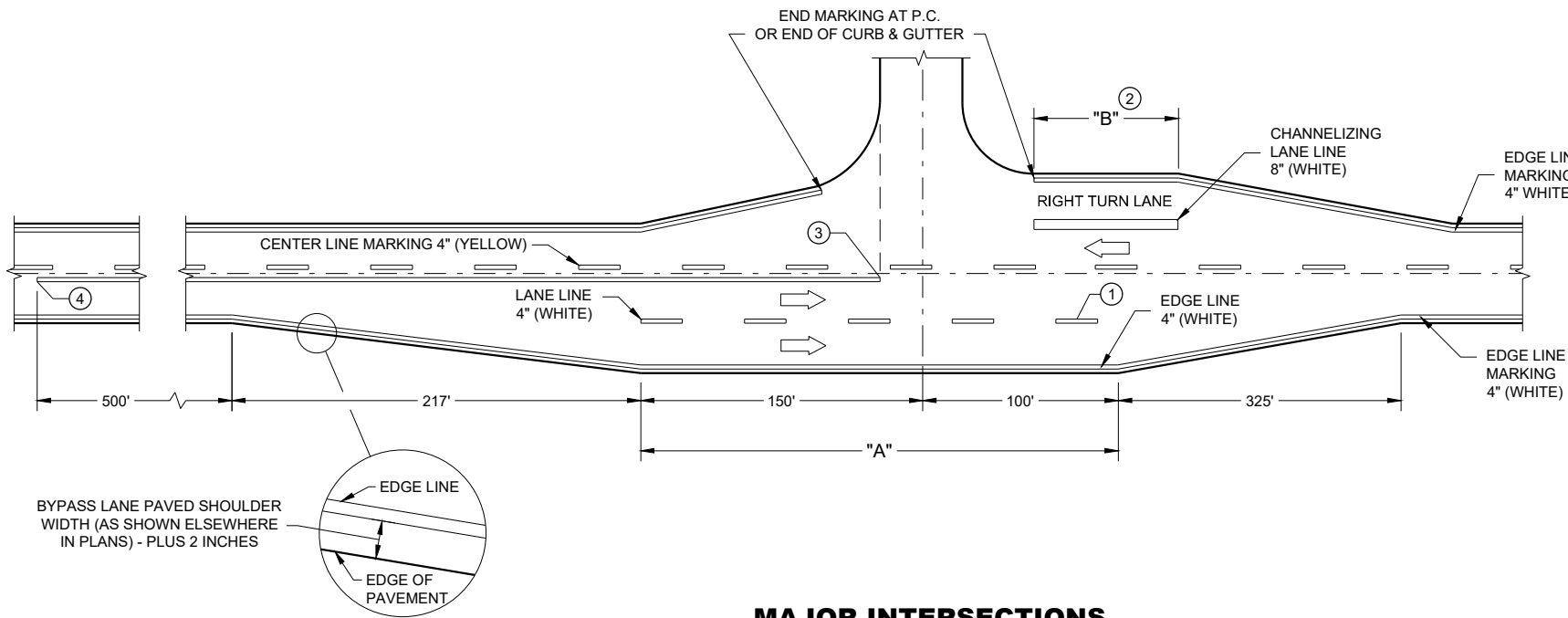
APPROVED
November 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA



MINOR INTERSECTION



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

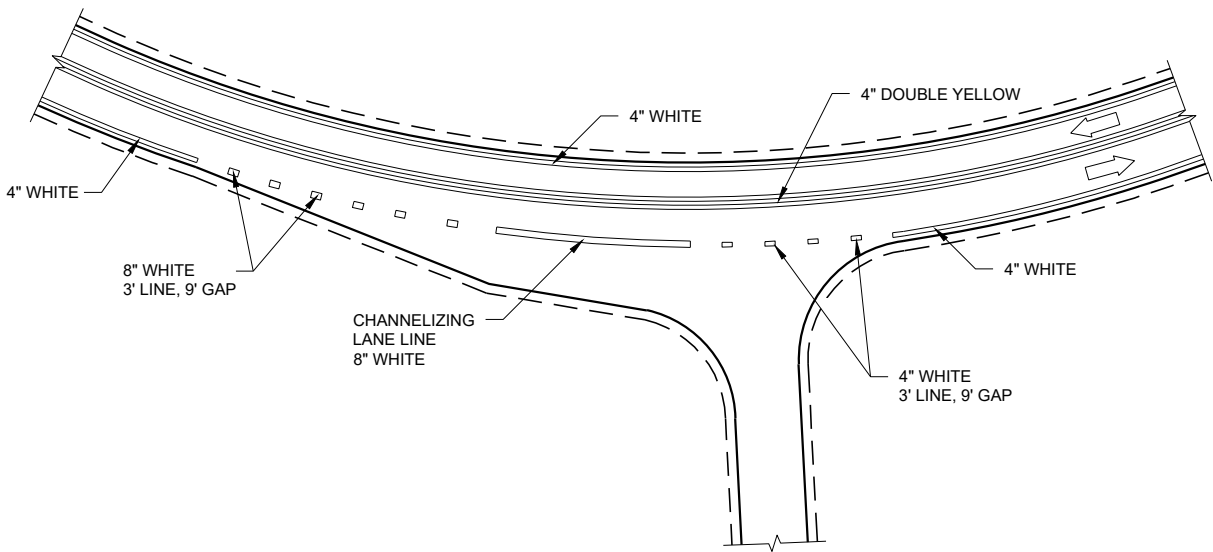
GENERAL NOTES

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.

LEGEND

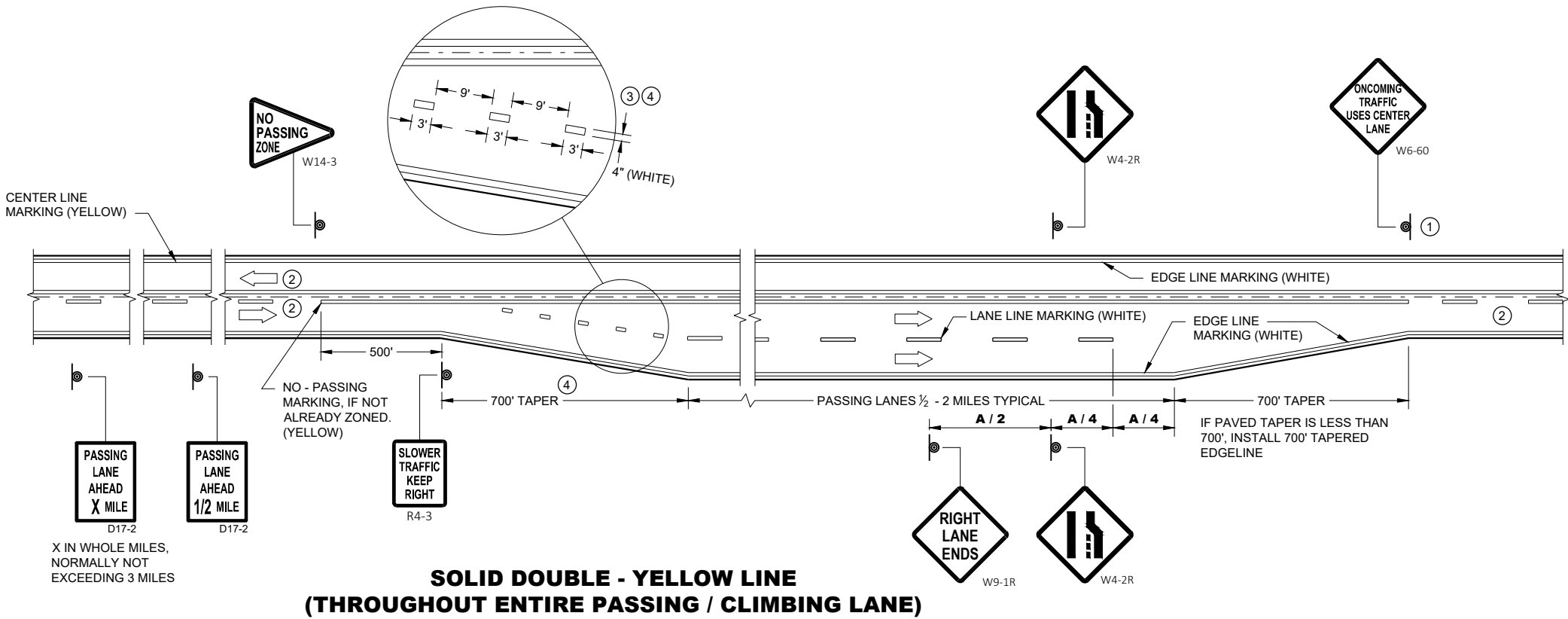
➡ DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE


PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



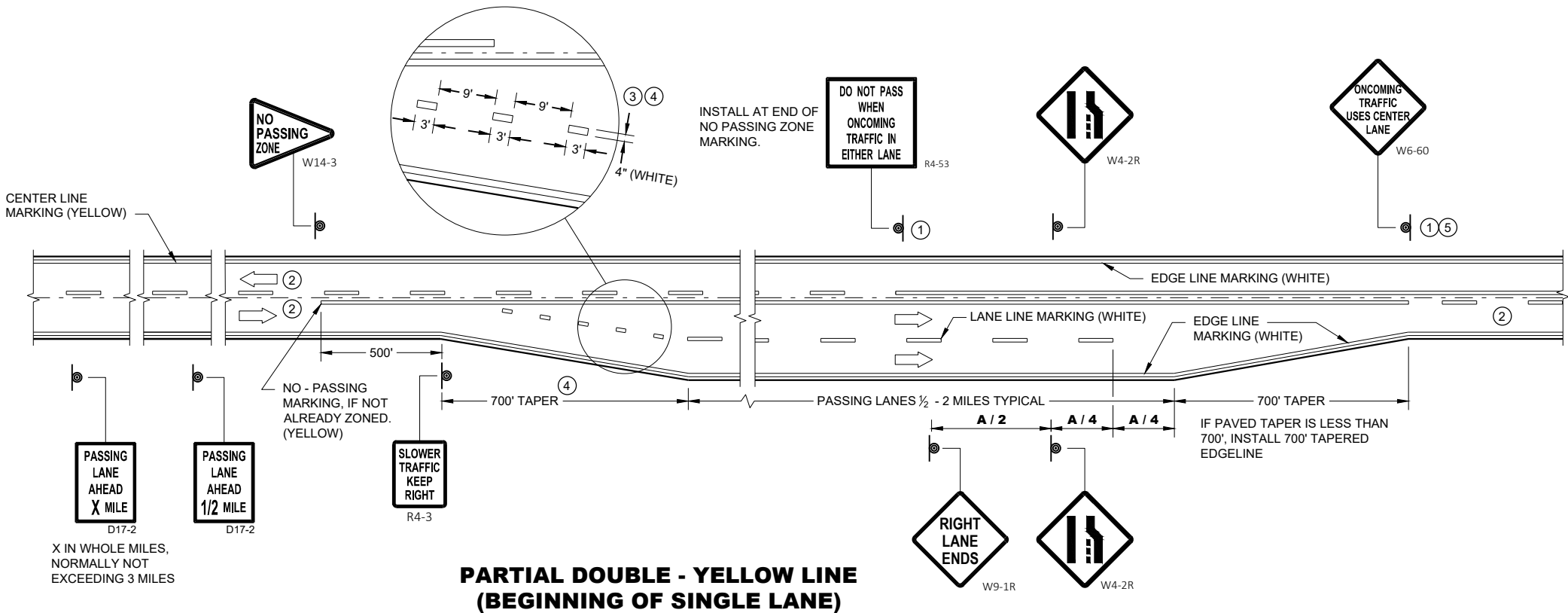
GENERAL NOTES

- 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 / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
- 5 REPEAT EVERY 1 MILE UP UNTIL R4-53.

ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL

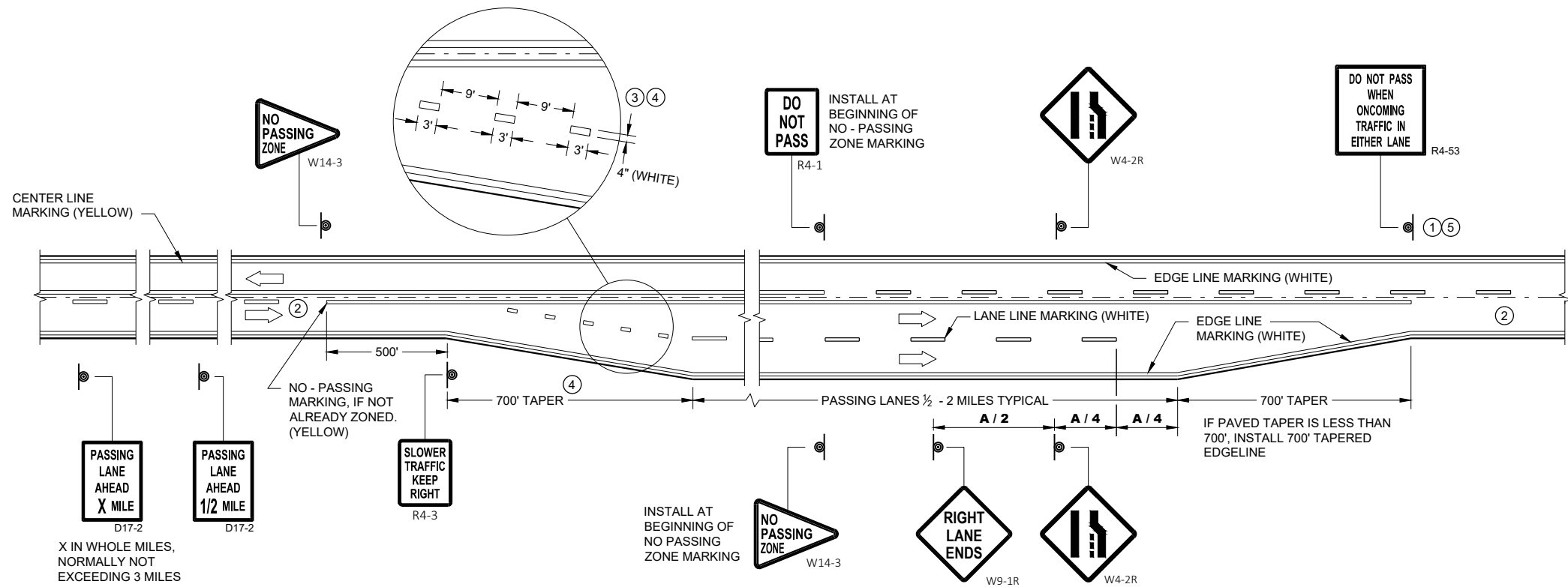
DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990

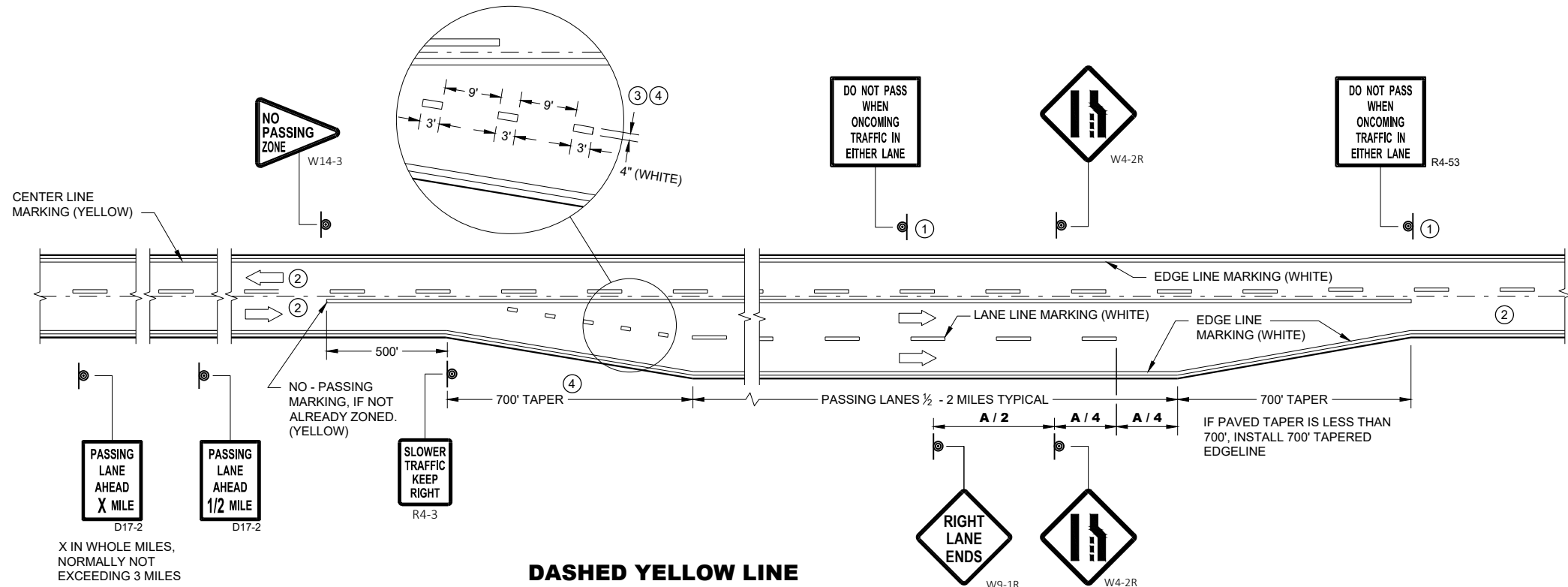


**PAVEMENT MARKING & SIGNING
(CLIMBING LANE & PASSING LANE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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



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

GENERAL NOTES

- ① SIGN SHALL BE REPEATED AT 1 MILE INCREMENTS OR AT THE DISCRETION OF THE REGIONAL TRAFFIC ENGINEER.
- ② THERE MAY BE SOLID YELLOW ON THE CENTERLINE DUE TO SIGHT CONDITIONS.
- ③ THE TAPER LENGTH OF THE DOTTED LINE PAVEMENT MARKING SHALL BE 700 FEET, 3' LINE, 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ④ WHEN THE ENTRANCE TAPER IS LESS THAN 700 FEET OR THE SHOULDER WIDTH IN THE PASSING / CLIMBING LANE IS LESS THAN THE ADJACENT HIGHWAY, DO NOT INSTALL DOTTED LINE PAVEMENT MARKING.
- ⑤ REPEAT EVERY ONE MILE UP UNTIL NO PASSING ZONE.

ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL

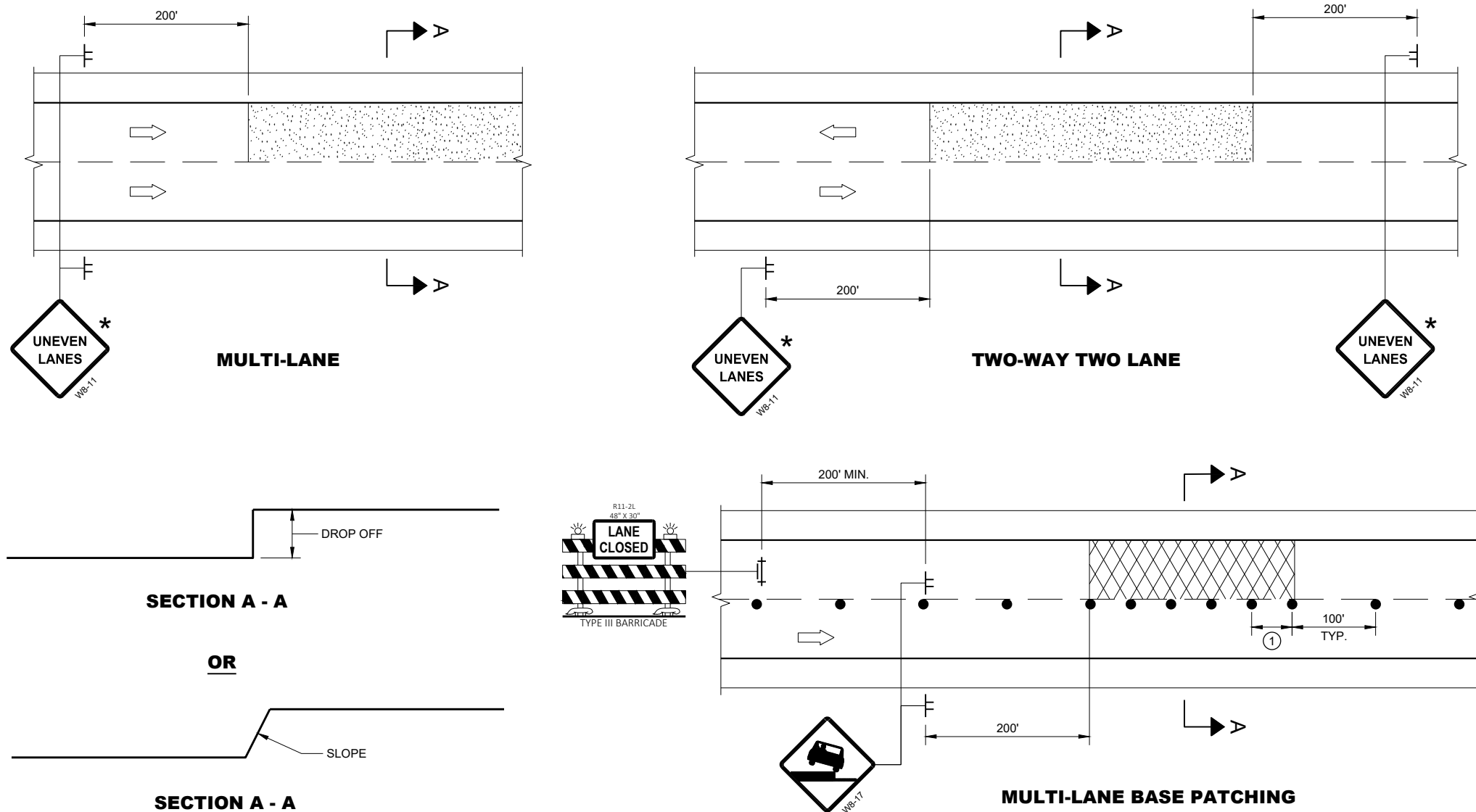
DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
45	775
50	885
55	990

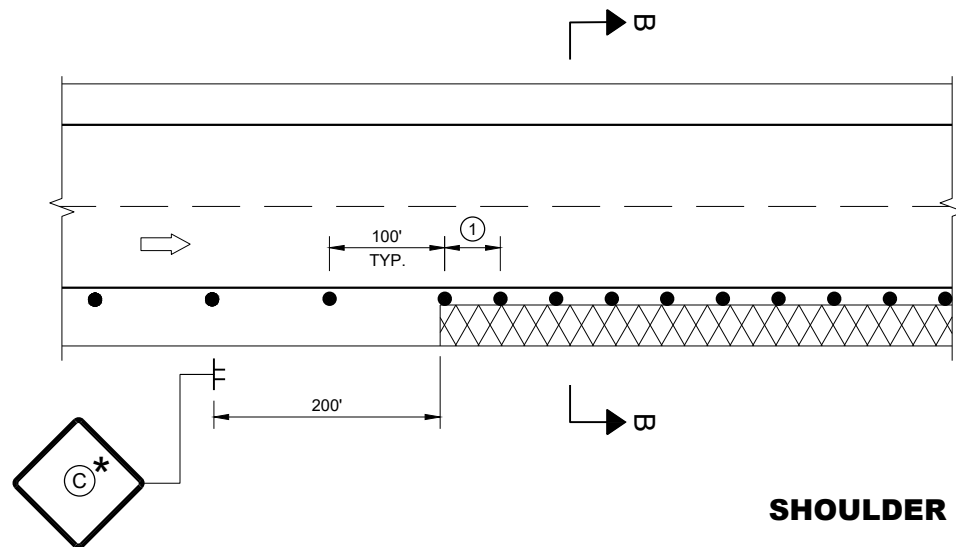
**PAVEMNET MARKING & SIGNING
(CLIMBING LANE & PASSING LANE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

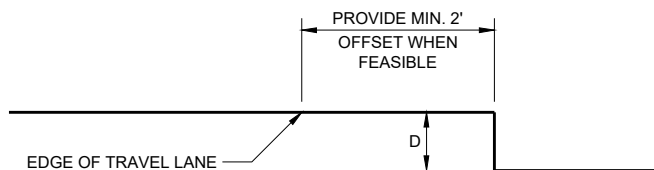
APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MARKING
ENGINEER
FHWA



ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN C
< 2" WITH A SLOPE STEEPER THAN 3:1	 WB-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	 WB-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

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

TRAFFIC CONTROL,
DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /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.

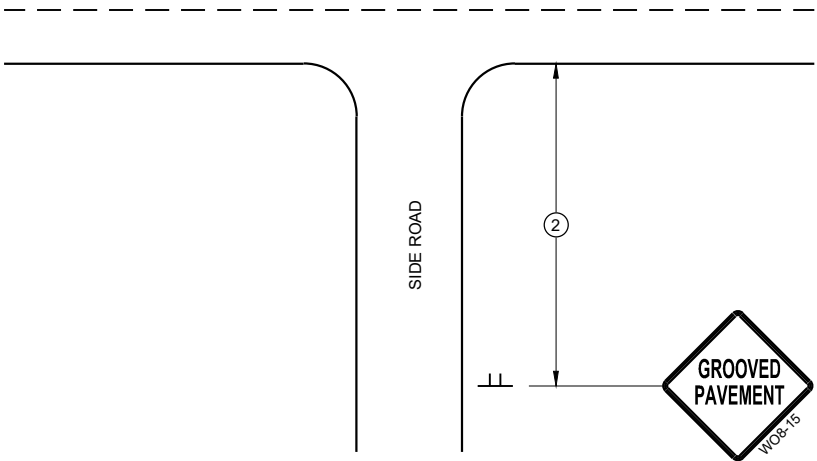
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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.

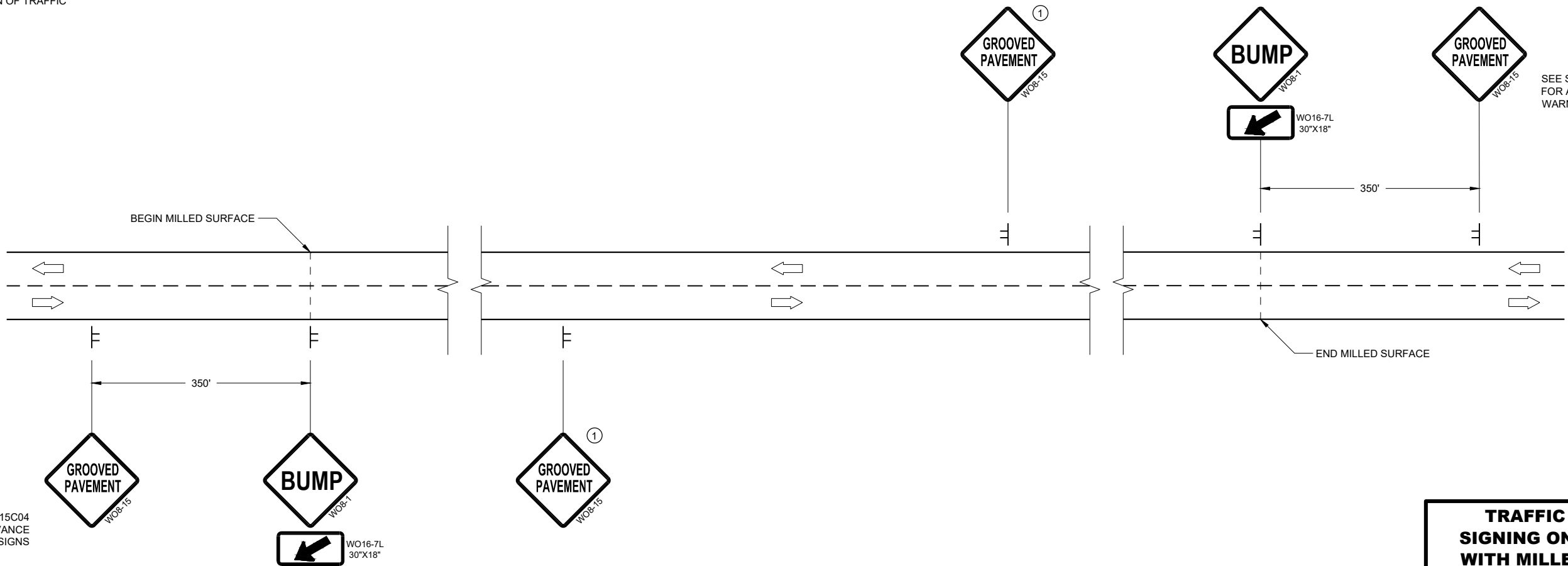
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

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

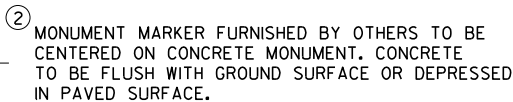
DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL,
SIGNING ON ROADWAYS
WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

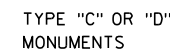
FHWA



PRECAST



(INCLUDES MARKER)



(APPROXIMATE WEIGHT 2 LBS)
(FOR CONCRETE PAVEMENT ONLY)



(APPROXIMATE WEIGHT 95 LBS)

LANDMARK REFERENCE MONUMENTS AND COVERS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2018	<u>/s/ Raymond A. Kumapayi</u>
DATE	CHIEF SURVEYING AND MAPPING ENGINEER
FHWA	

Notes



Wisconsin Department of Transportation

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through innovation and exceptional service.

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