

MAD

PROJECT ID:  
WITH: N/A

5215-00-67

COUNTY:

GRANT

MARCH 2022  
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 = 60



DESIGN DESIGNATION 5215-00-37

A.A.D.T.	2027	=	2900
A.A.D.T.	2047	=	2900
D.H.V.		=	294
D.D.		=	60/40
T.		=	21.9%
DESIGN SPEED		=	60 MPH
ESALS		=	1,100,000

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

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

## LANCASTER - BLOOMINGTON

MCKINLEY ST TO GRANT RIVER BRIDGE

STH 35

GRANT COUNTY

STATE PROJECT NUMBER

5215-00-67

STATE PROJECT

5215-00-67

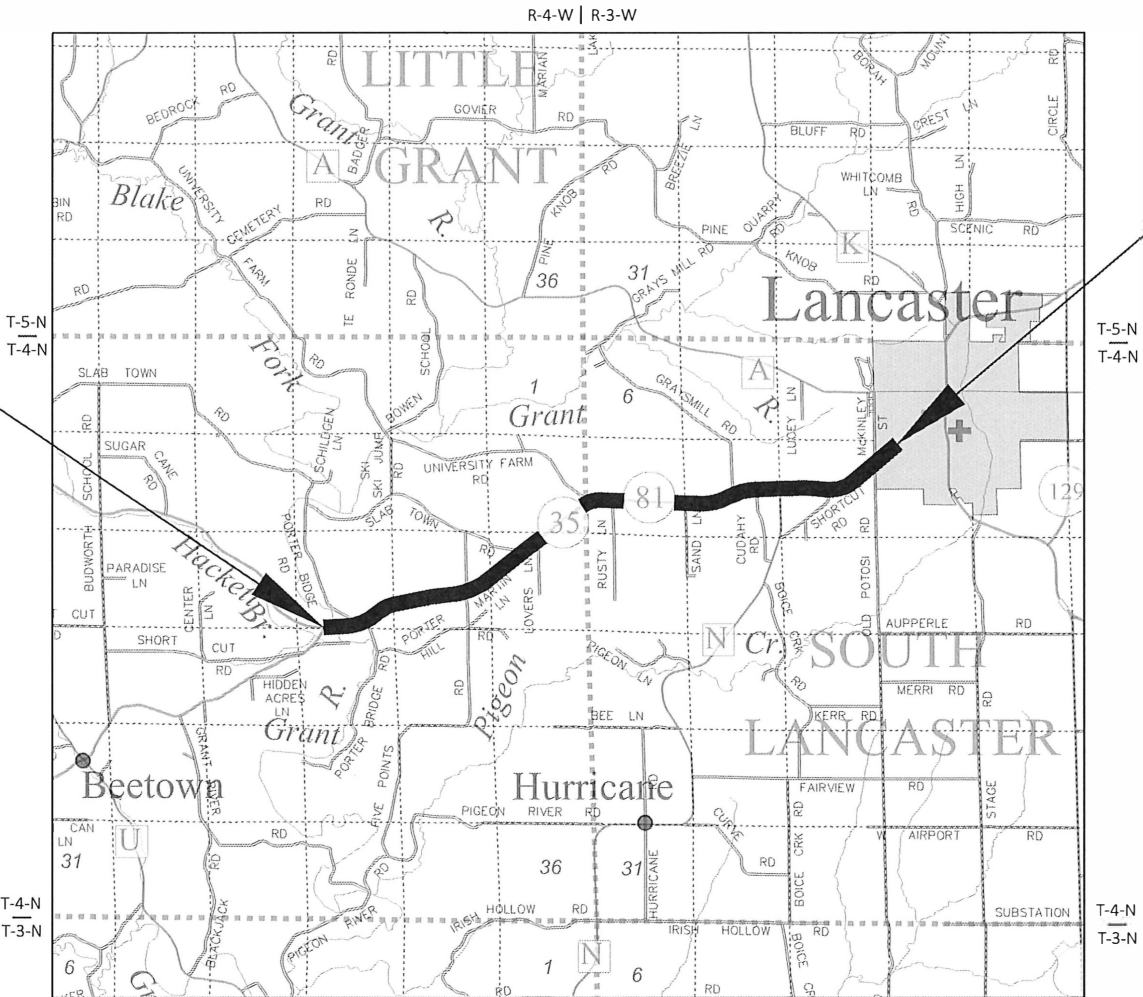
FEDERAL PROJECT

PROJECT

WISC 2022229

CONTRACT

1



BEGIN PROJECT

STA 454+50

X = 785957.96

Y = 511489.46

END PROJECT

STA 789+35

X = 816492.82

Y = 521358.87

LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 6.342 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, GRANT 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. ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88 (2012).

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SW REGION
Designer	ERIN CLEMENTS
Project Manager	JIM SIMPSON, P.E., P.L.S.
Regional Examiner	SW REGION
Regional Supervisor	KURT JOHNSON, P.E.

APPROVED FOR THE DEPARTMENT

DATE: 10-27-2021

(Signature)

E

STANDARD ABBREVIATIONS

AADT	ANNUAL AVERAGE DAILY TRAFFIC
AGG	AGGREGATE
ASPH	ASPHALTIC
C/L	CENTER LINE
CY	CUBIC YARD
CE	COMMERCIAL ENTRANCE
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DWY	DRIVEWAY
EB	EASTBOUND
EL	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
FE	FIELD ENTRANCE
FT	FOOT
HMA	HOT MIX ASPHALT
L	LENGTH OF CURVE
LF	LINEAR FOOT
LS	LUMP SUM
MAX	MAXIMUM
Mgal	MEGAGALLON
MPH	MILES PER HOUR
MIN	MINIMUM
MON	MONUMENT
NC	NORMAL CROWN
PC	POINT OF CURVATURE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
R	RADIUS
RDWY	ROADWAY
REQ'D	REQUIRED
SC	SECTION CORNER
SDD	STANDARD DETAIL DRAWINGS
SE	SUPERELEVATION
SF	SQUARE FEET
SHLDR	SHOULDER
ST	STREET
STA	STATION
STH	STATE TRUNK HIGHWAYS
SY	SQUARE YARD
T	TANGENT
T	TRUCKS (PERCENT OF)
TEMP	TEMPORARY
TYP	TYPICAL
WB	WESTBOUND
X	EAST GRID COORDINATE
Y	YARD
Y	NORTH GRID COORDINATE

GENERAL NOTES:

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

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLAN ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL COORDINATE HIS 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.

SAWCUTS AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS AND MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER TO BETTER SUIT FIELD CONDITIONS.

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

APPLY TACK COAT AT A RATE OF 0.07 GAL/SY TO MILLED PAVEMENT SURFACES.

NUMBER, LOCATIONS, AND SPACING OF TEMPORARY AND PERMANENT SIGNS AND DEVICES AS SHOWN ON THE PLANS, SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

FIELD VERIFY SUPERELEVATION CROSS SLOPES BEFORE MILLING. MATCH EXISTING SUPERELEVATION CROSS SLOPES UNLESS OTHERWISE NOTED IN THE PLANS.

UTILITY CONTACTS :

ALLIANT ENERGY - ELECTRICITY  
ALLAN MUMM  
2200 E CAMPION BLVD  
PRAIRIE DU CHIEN, WI 53821  
(608) 732-7925  
allanmumm@alliantenergy.com

CHARTER COMMUNICATIONS - COMMUNICATION LINE  
STEVE HEGGE  
315 KING ST  
DODGEVILLE, WI 53533  
(608) 319-4806  
steve.hegge@charter.com

DAIRYLAND POWER COOPERATIVE - ELECTRICITY  
MIKE LYDON  
3200 EAST AVE S  
P.O. BOX 817  
LA CROSSE, WI 54602-0817  
(608) 787-1381  
michael.lydon@dairylandpower.com

SCENIC RIVERS ENERGY COOPERATIVE - ELECTRICITY  
SHANE CROWLEY  
231 N SHERIDAN ST  
LANCASTER, WI 53813  
(608) 723-2121 EXT. 553  
scrowley@srec.net

TDS TELECOM - COMMUNICATION LINE  
JERRY MYERS  
525 JUNCTION RD  
MADISON, WI 53717  
(608) 664-4404  
jerry.myers@tdstelecom.com

ORDER OF SECTION 2 SHEETS :

GENERAL NOTES  
PROJECT OVERVIEW  
TYPICAL SECTIONS  
CONSTRUCTION DETAILS  
PAVEMENT MARKINGS  
TRAFFIC CONTROL

WISCONSIN DEPT OF NATURAL RESOURCES CONTACTS

ANDY BARTA  
3911 FISH HATCHERY ROAD  
FITCHBURG, WI 53711-5367  
(608) 235-2955  
andrew.barta@wisconsin.gov

WISCONSIN DEPT OF TRANSPORTATION CONTACTS

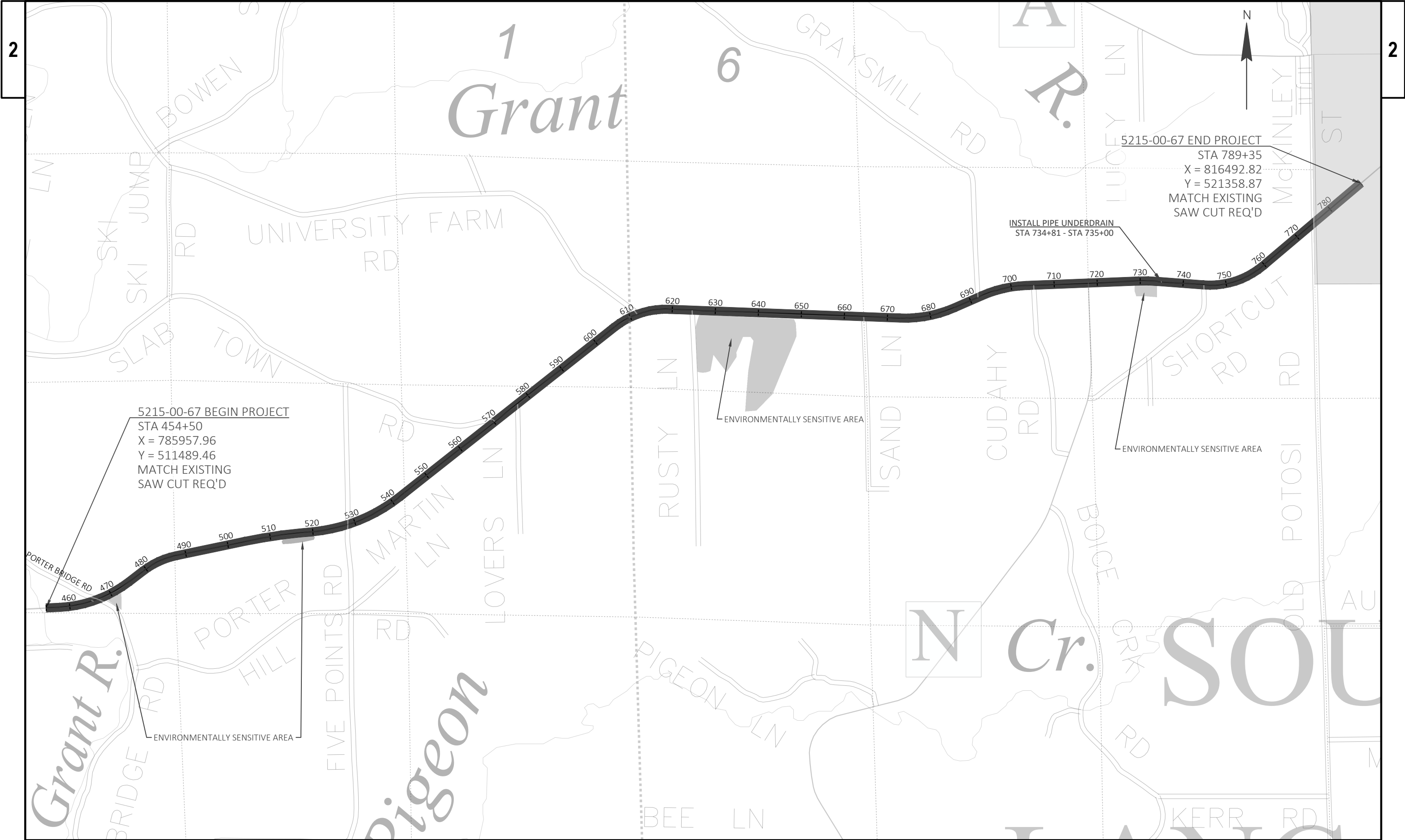
PROJECT MANAGER  
JIM SIMPSON, P.E.  
2101 WRIGHT ST  
MADISON, WI 53704  
(608) 246-5628  
jim.simpson@dot.wi.gov

DESIGN ENGINEER  
ERIN CLEMENTS  
2101 WRIGHT ST  
MADISON, WI 53704  
(608) 261-6122  
erin.clements@dot.wi.gov

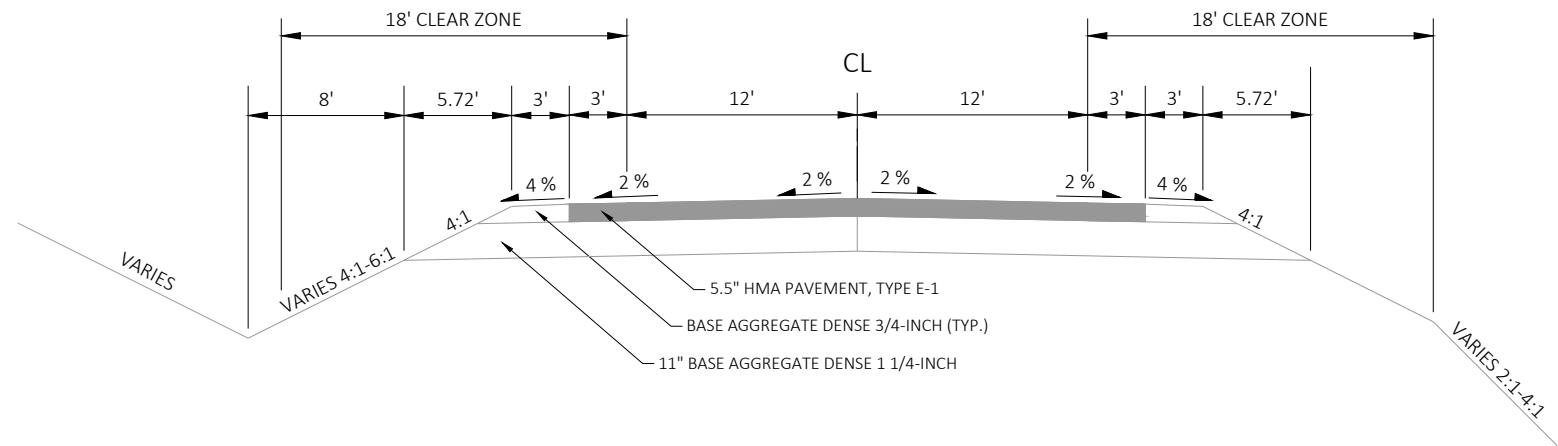


Dial 811 or (800)242-8511  
www.DiggersHotline.com



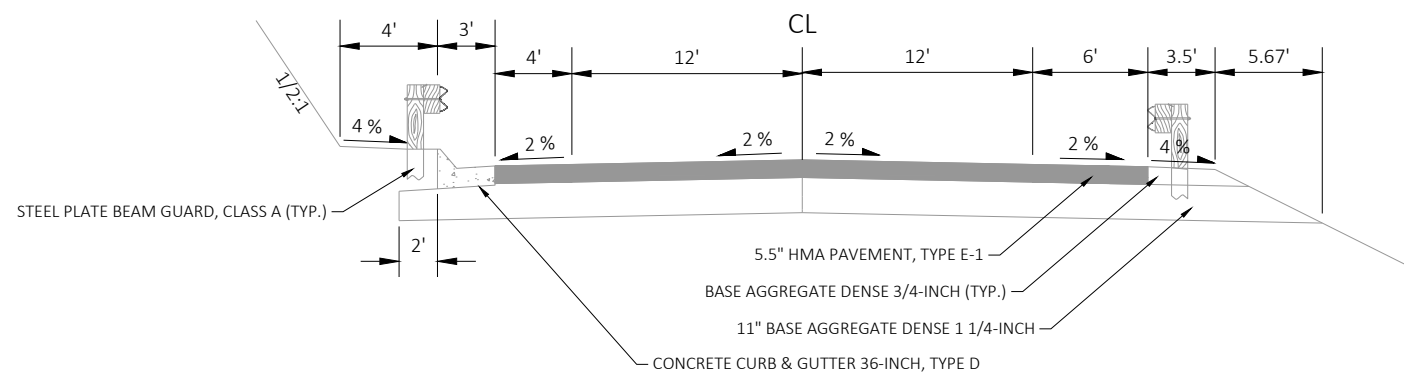


PROJECT NO: 5215-00-67	HWY: STH 35	COUNTY: GRANT	PROJECT OVERVIEW	SHEET E
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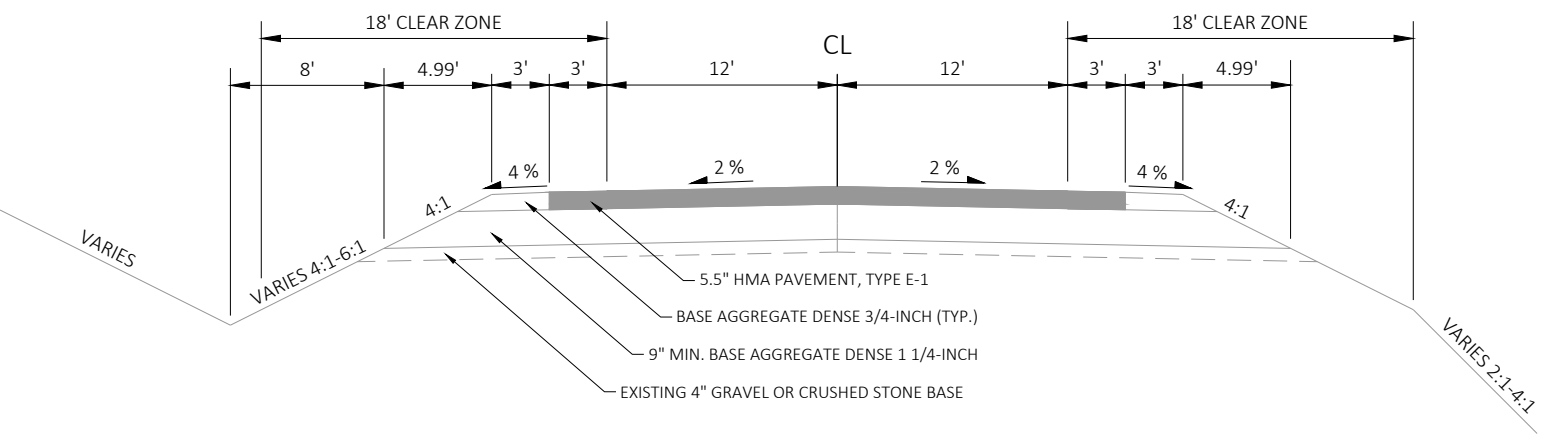
EXISTING TYPICAL SECTION

STA. 454+50 - 460+50    STA. 575+50 - 604+50  
STA. 485+50 - 503+92    STA. 607+50 - 611+75  
STA. 509+21 - 524+50    STA. 664+50 - 699+65  
STA. 543+50 - 560+55    STA. 708+50 - 720+00



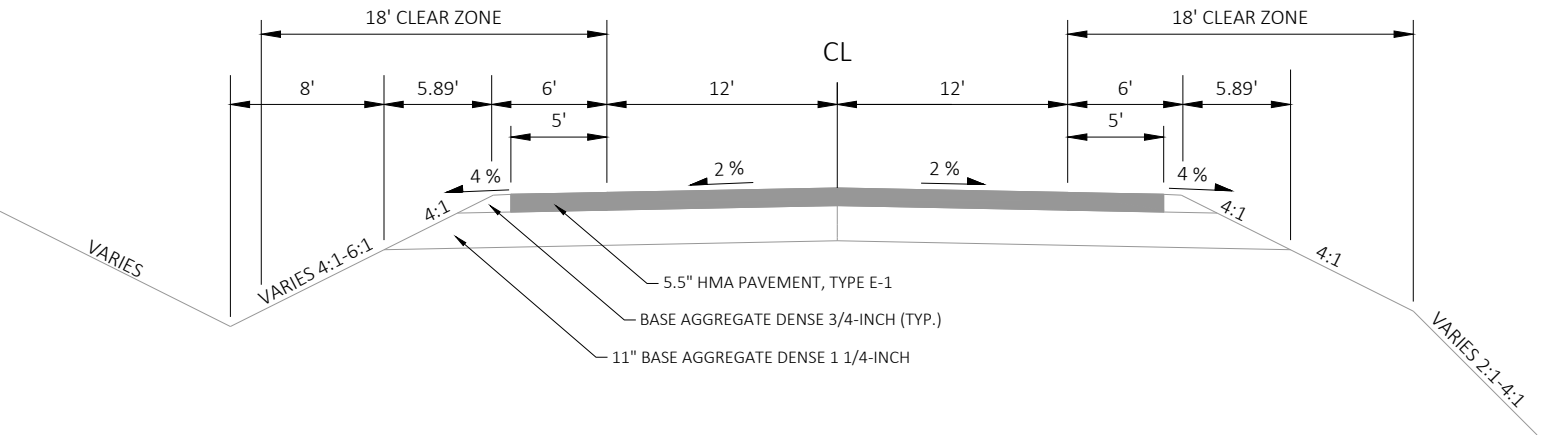
EXISTING TYPICAL SECTION

STA 503+92 - 509+21



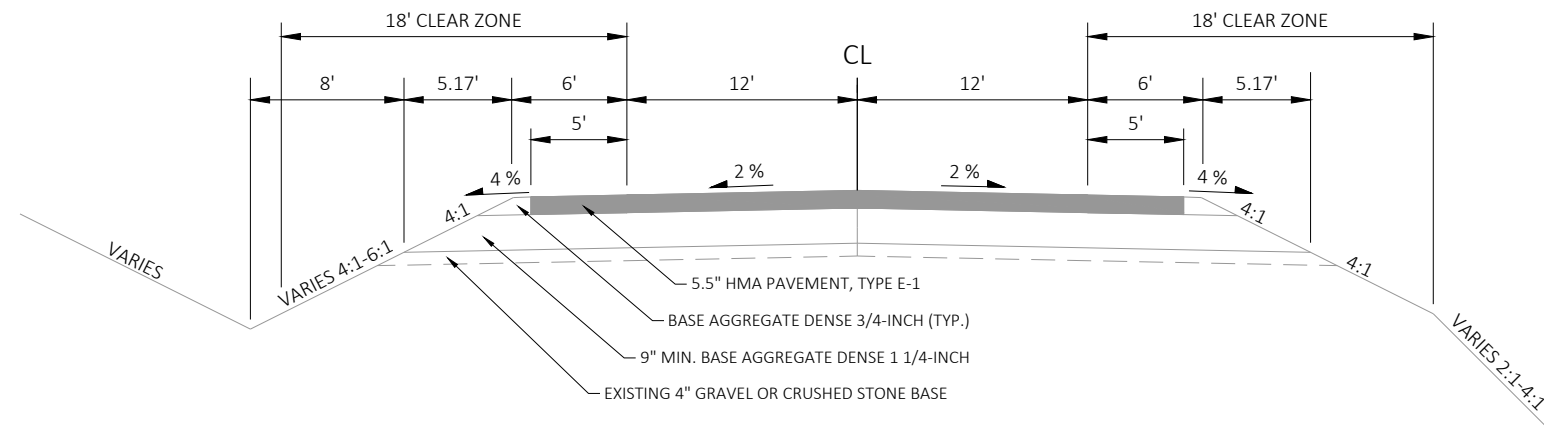
EXISTING TYPICAL SECTION

STA. 460+50 - 485+50  
STA. 524+50 - 543+50  
STA. 560+55 - 575+50  
STA. 604+50 - 607+50  
STA. 611+75 - 664+50  
STA. 699+65 - 708+50



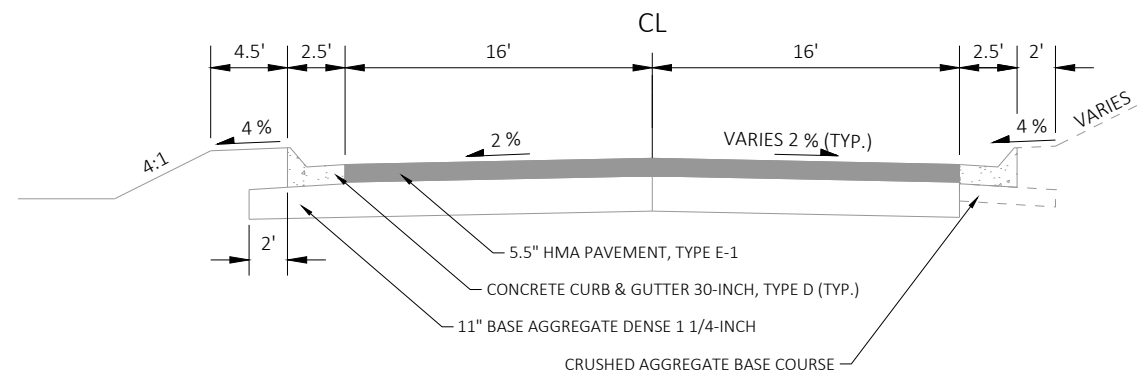
EXISTING TYPICAL SECTION

STA 720+00 - 749+50  
STA 758+50 - 760+50  
STA 765+50 - 775+00



### EXISTING TYPICAL SECTION

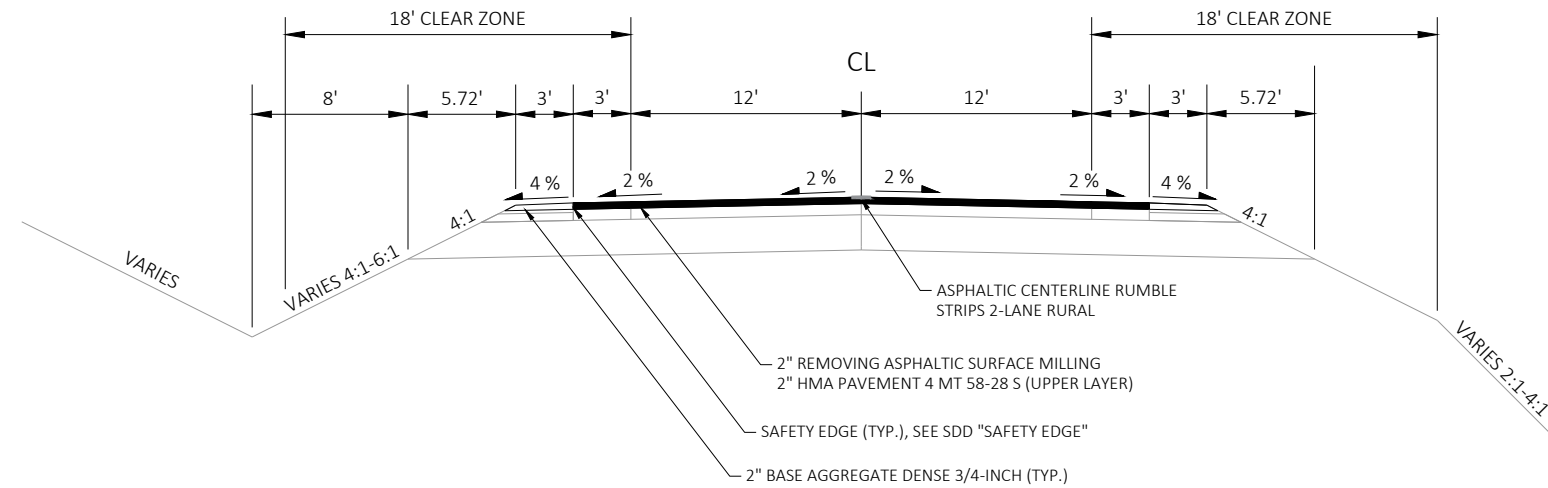
STA 749+50 - 758+50  
STA 760+50 - 765+50



### EXISTING TYPICAL SECTION

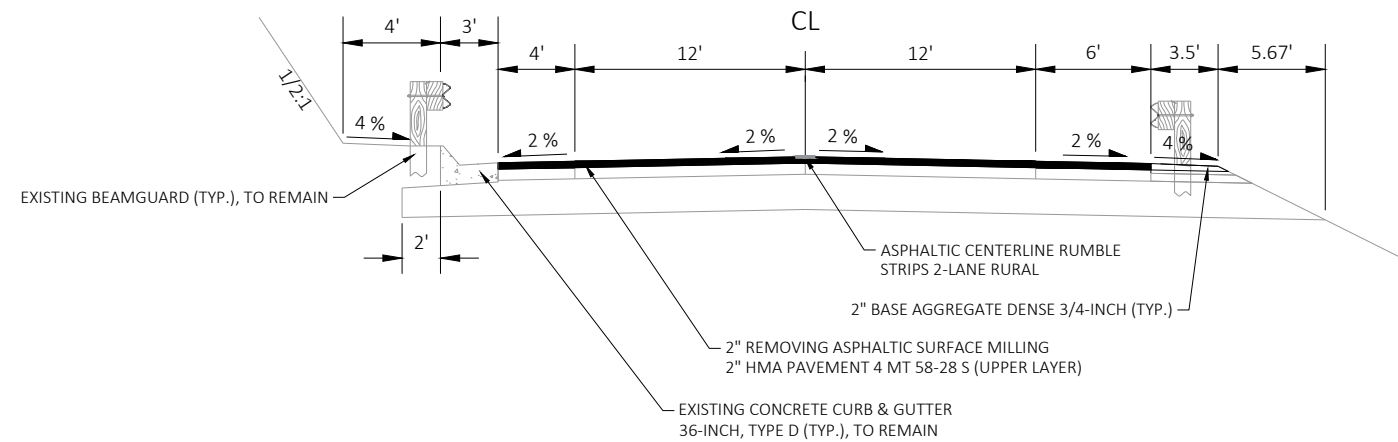
STA 775+00 - 789+35





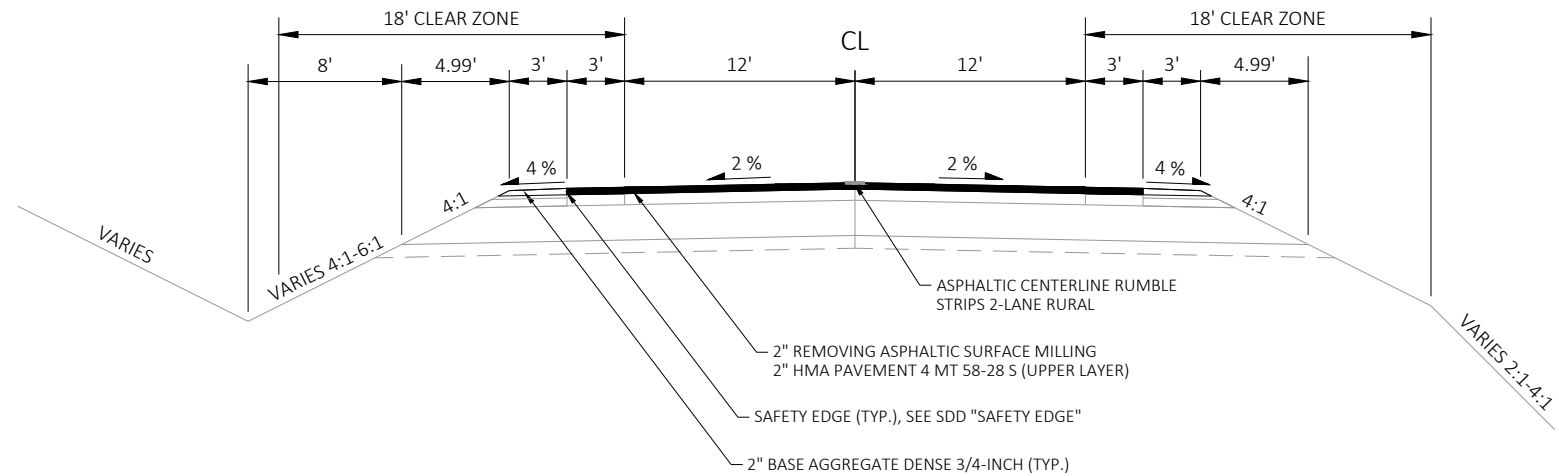
#### FINISHED TYPICAL SECTION

STA. 454+50 - 460+50    STA. 575+50 - 604+50  
STA. 485+50 - 503+92    STA. 607+50 - 611+75  
STA. 509+21 - 524+50    STA. 664+50 - 699+65  
STA. 543+50 - 560+55    STA. 708+50 - 720+00



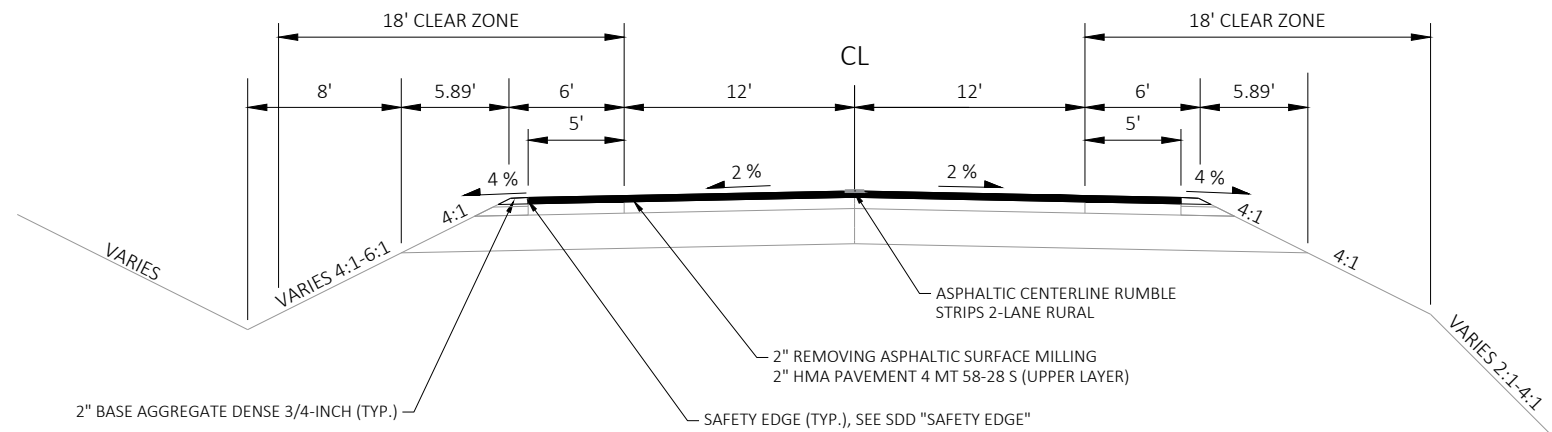
#### FINISHED TYPICAL SECTION

STA 503+92 - 509+21



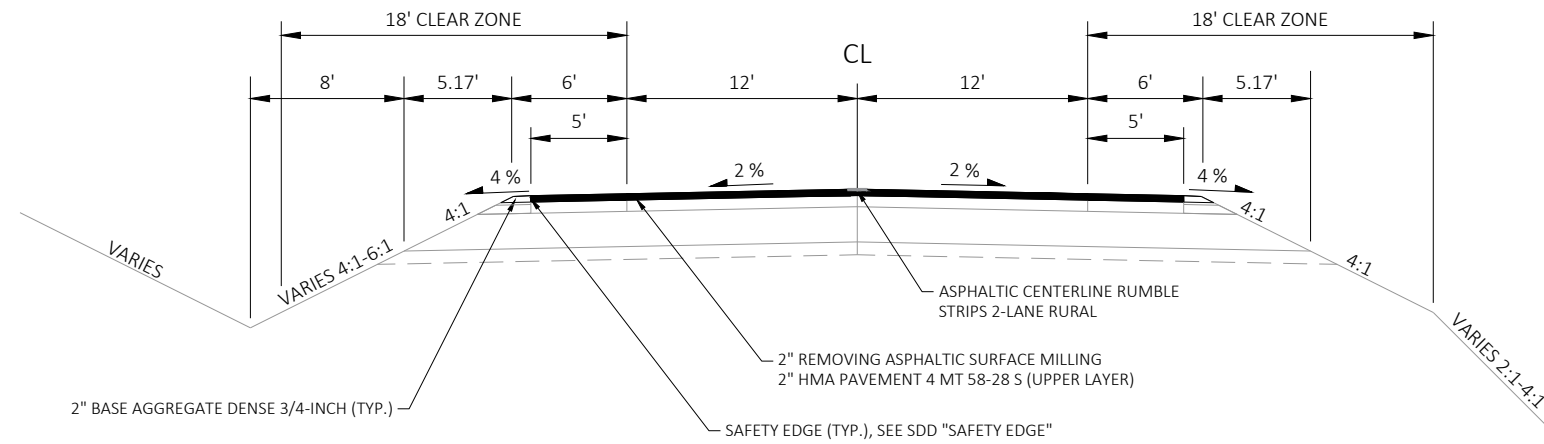
**FINISHED TYPICAL SECTION**

STA. 460+50 - 485+50  
STA. 524+50 - 543+50  
STA. 560+55 - 575+50  
STA. 604+50 - 607+50  
STA. 611+75 - 664+50  
STA. 699+65 - 708+50



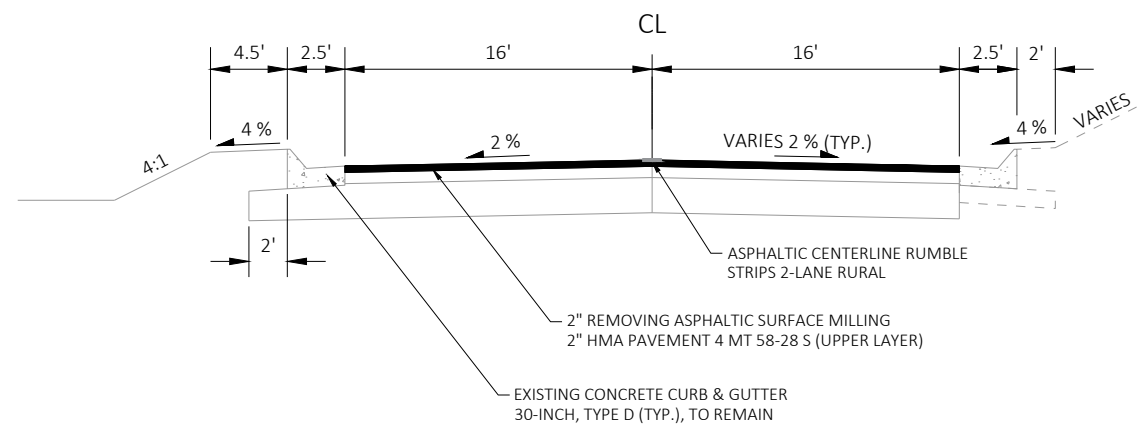
**FINISHED TYPICAL SECTION**

STA 720+00 - 749+50  
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STA 765+50 - 775+00



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STA 760+50 - 765+50



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STA 775+00 - 789+35

PROJECT NO: 5215-00-67

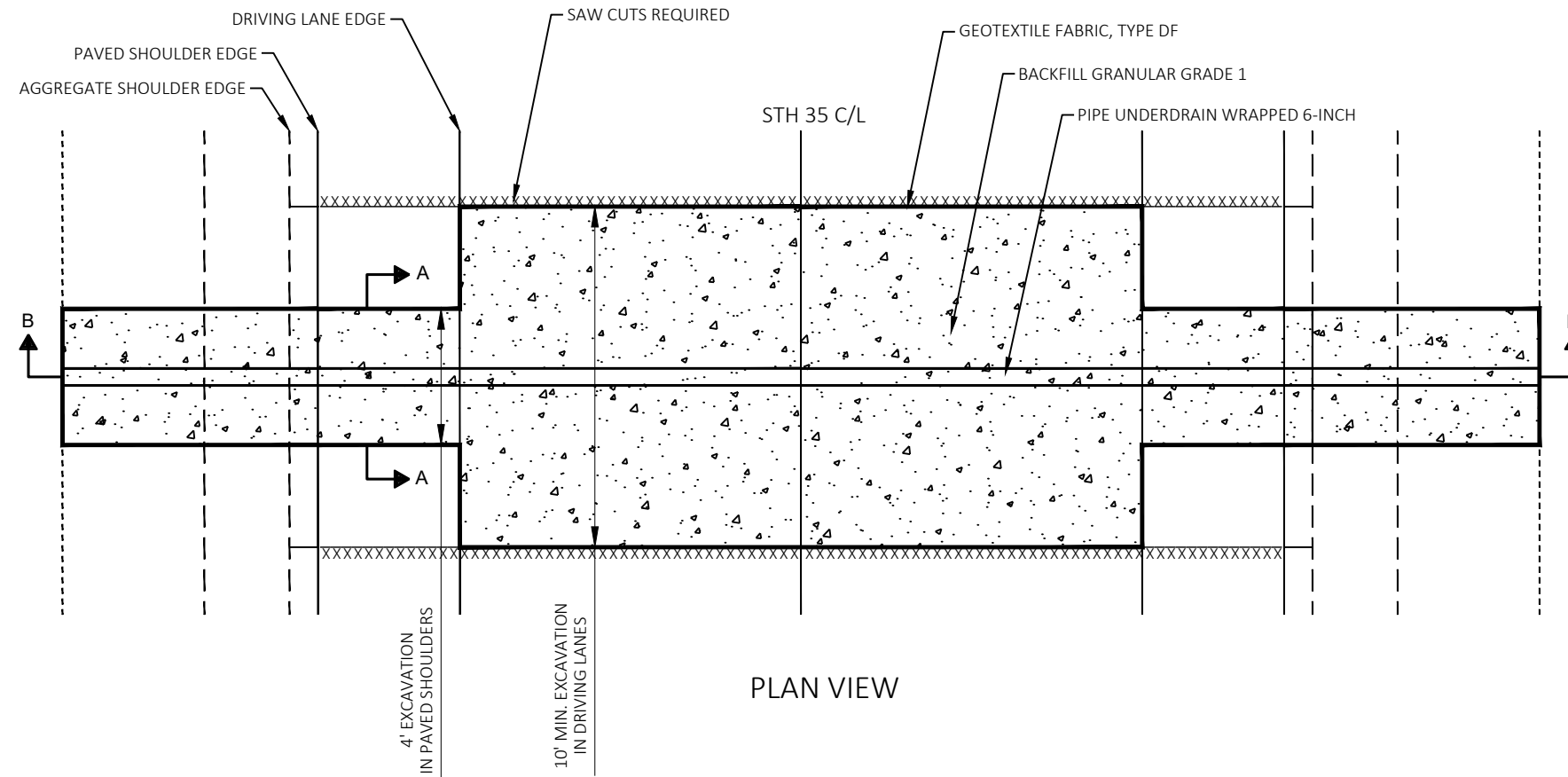
HWY: STH 35

COUNTY: GRANT

TYPICAL SECTIONS

SHEET

E

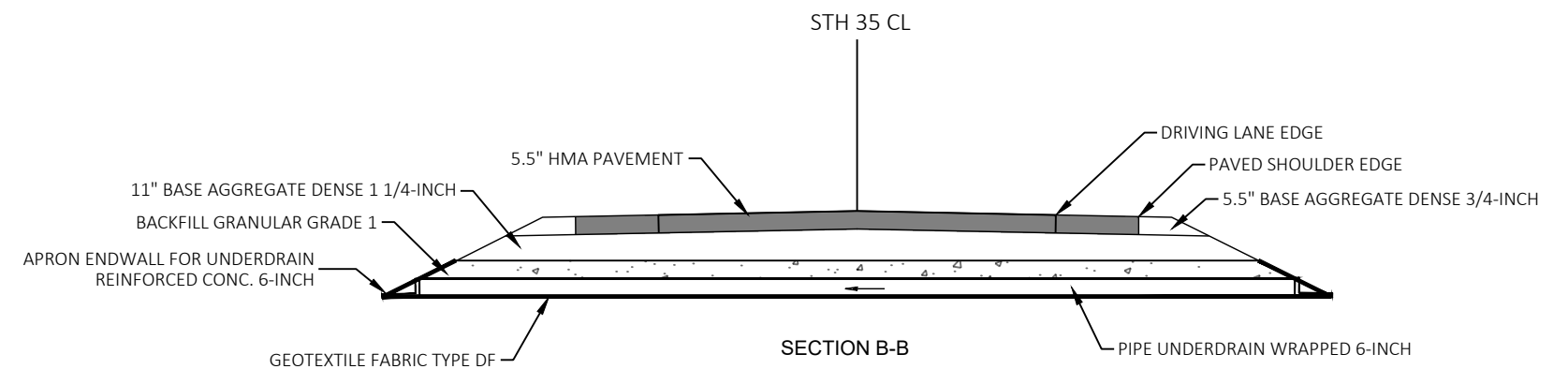
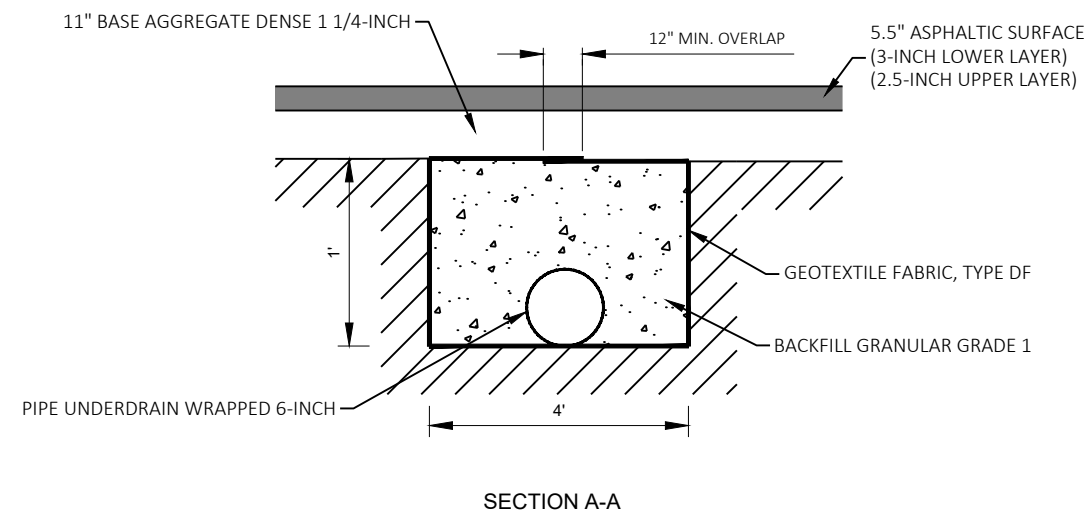


## NOTES:

EXACT LOCATION OF PIPE UNDERDRAIN TO BE DETERMINED BY ENGINEER IN THE FIELD

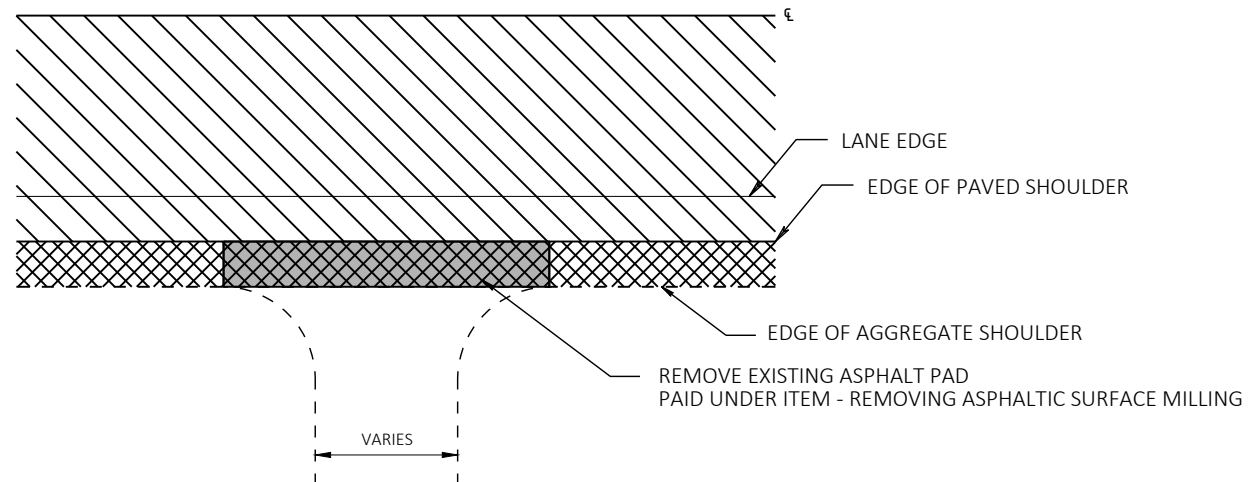
SEE CROSS SECTION FOR EXISTING DITCH INFORMATION

SEE SDD "REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN"

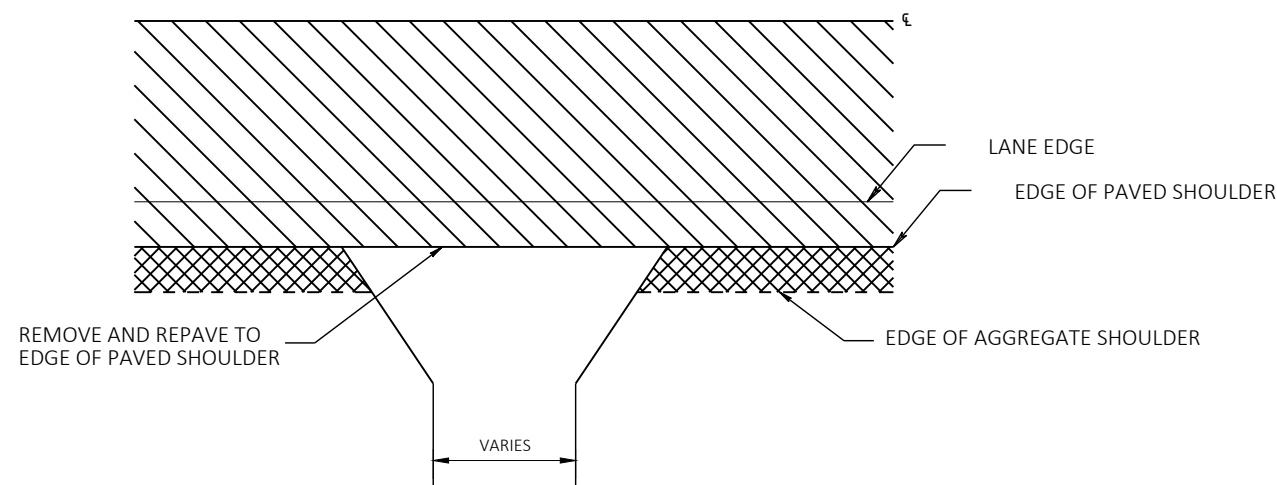


## PIPE UNDERDRAIN DETAIL





PLAN VIEW  
EXISTING AGGREGATE DRIVEWAY/FIELD ENTRANCE



PLAN VIEW  
EXISTING PAVED DRIVEWAY

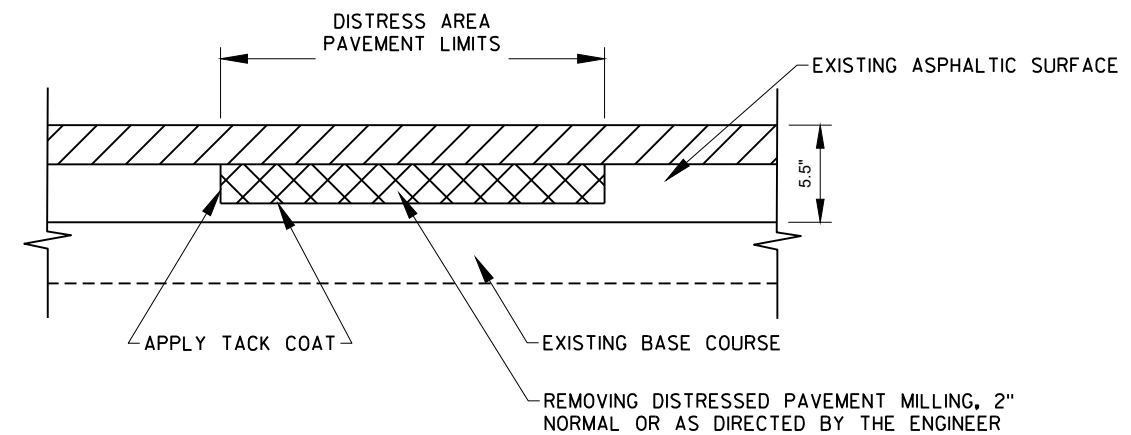
BASE AGGREGATE DENSE  
3/4-INCH

HMA PAVEMENT  
4 MT 58-28 S

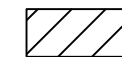
EXISTING ASPHALT PAD  
TO BE REMOVED

SEE NOTE IN MISC. QUANTITIES  
REGARDING AGGREGATE DRIVEWAY &  
FIELD ENTRANCE B.A.D. SIZE

RURAL DRIVEWAY DETAIL



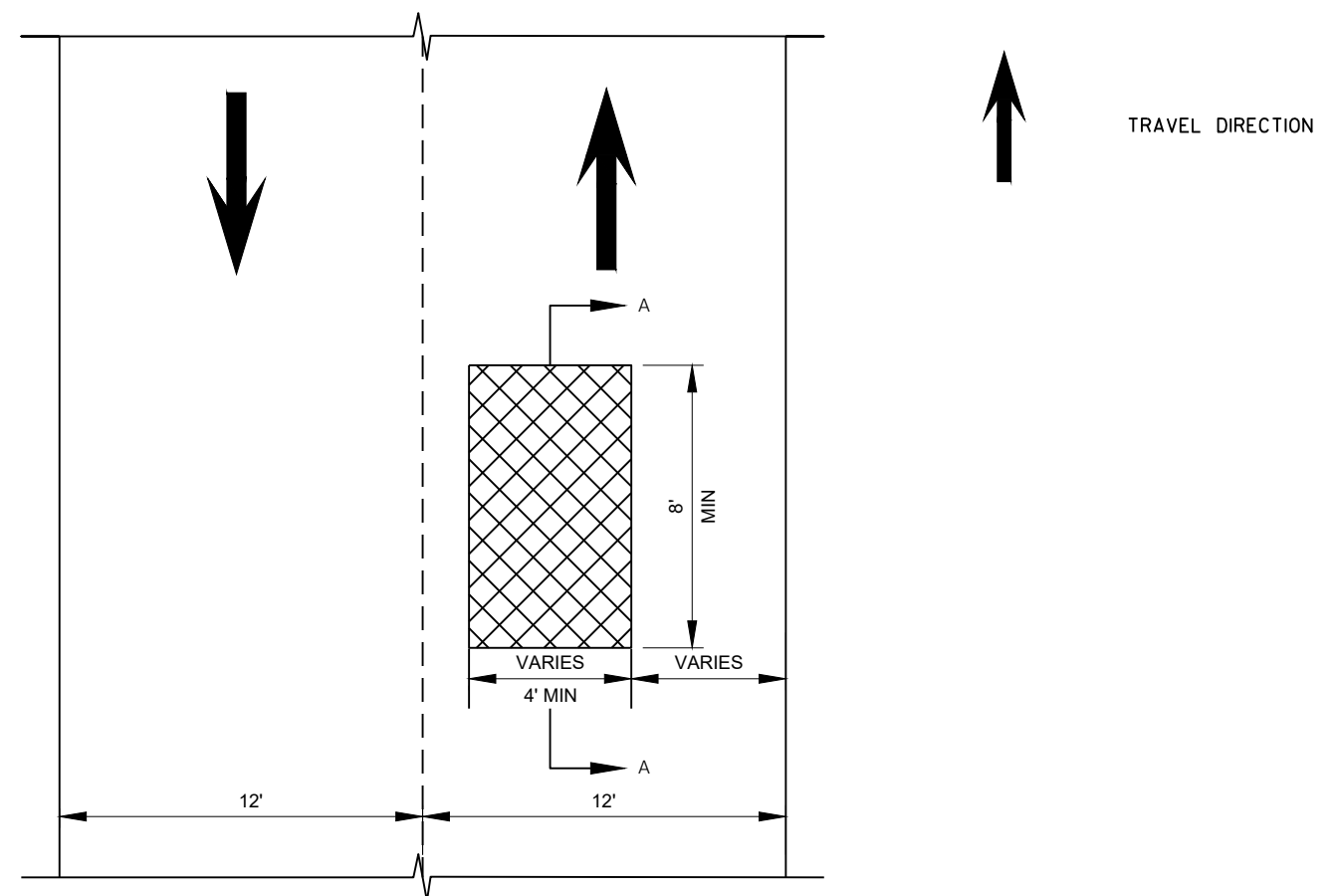
REMOVING DISTRESSED PAVEMENT MILLING  
SECTION A-A



2" REMOVING ASPHALTIC SURFACE MILLING/  
2" HMA PAVEMENT OVERLAY

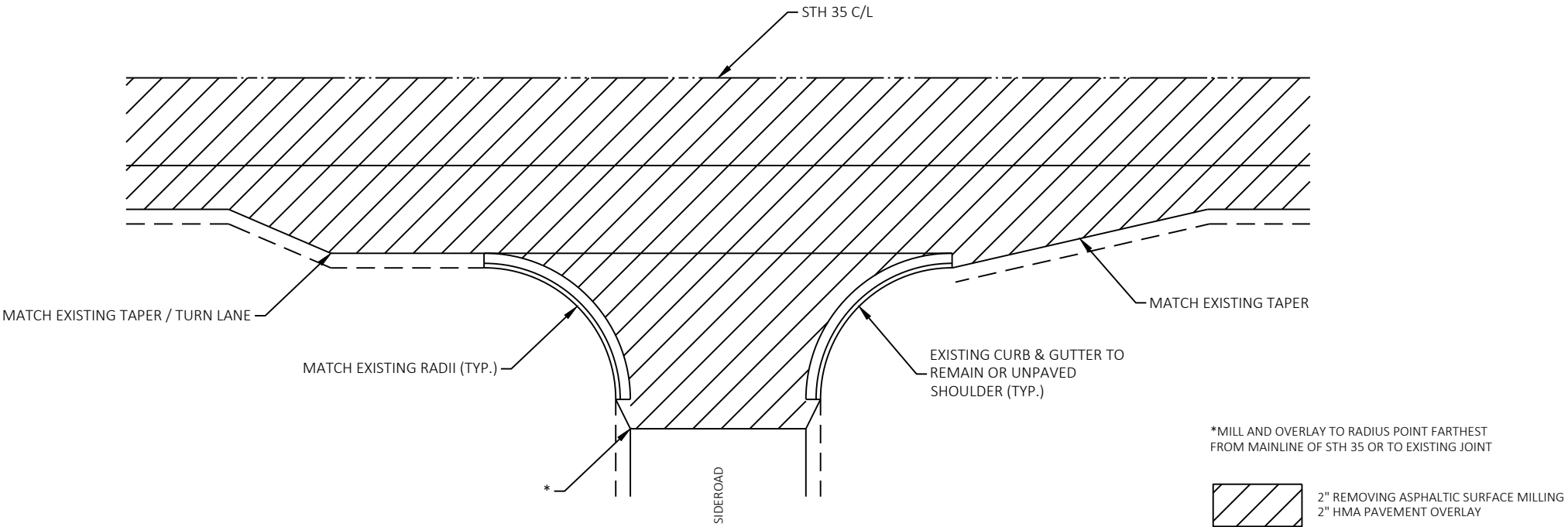


REMOVING DISTRESSED PAVEMENT MILLING/  
ASPHALTIC SURFACE

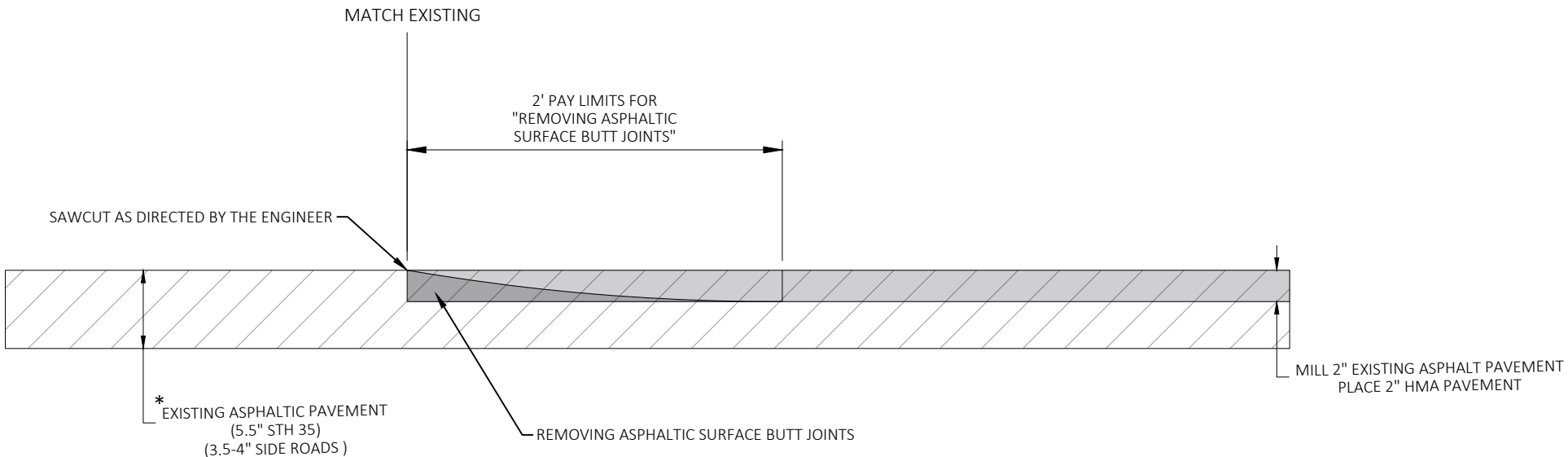


REMOVING DISTRESSED PAVEMENT MILLING  
PLAN VIEW

EXACT LOCATION AND LIMITS OF REMOVING DISTRESSED  
PAVEMENT MILLING TO BE DETERMINED BY THE  
ENGINEER IN THE FIELD

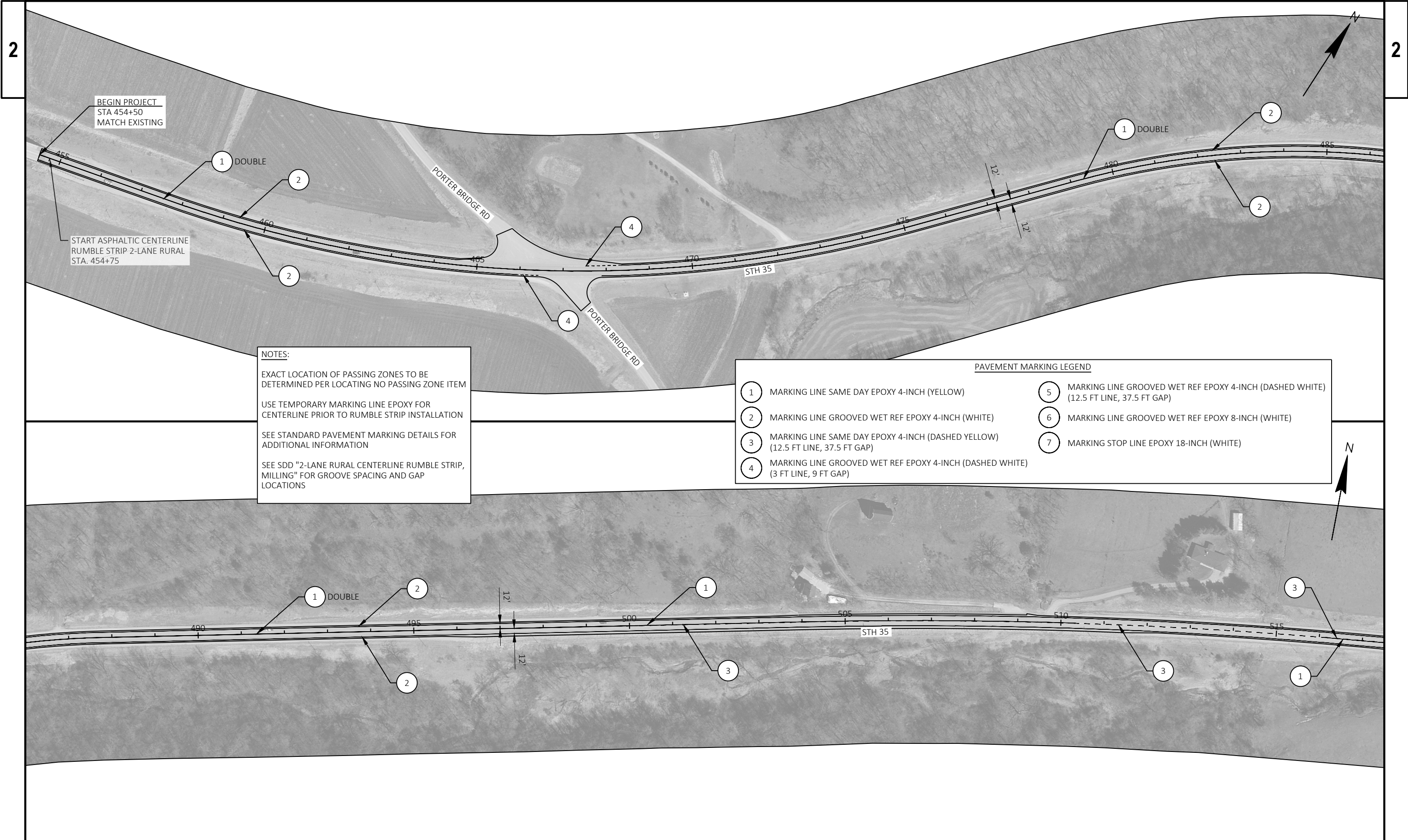


TYPICAL SIDEROAD PAVING LIMITS

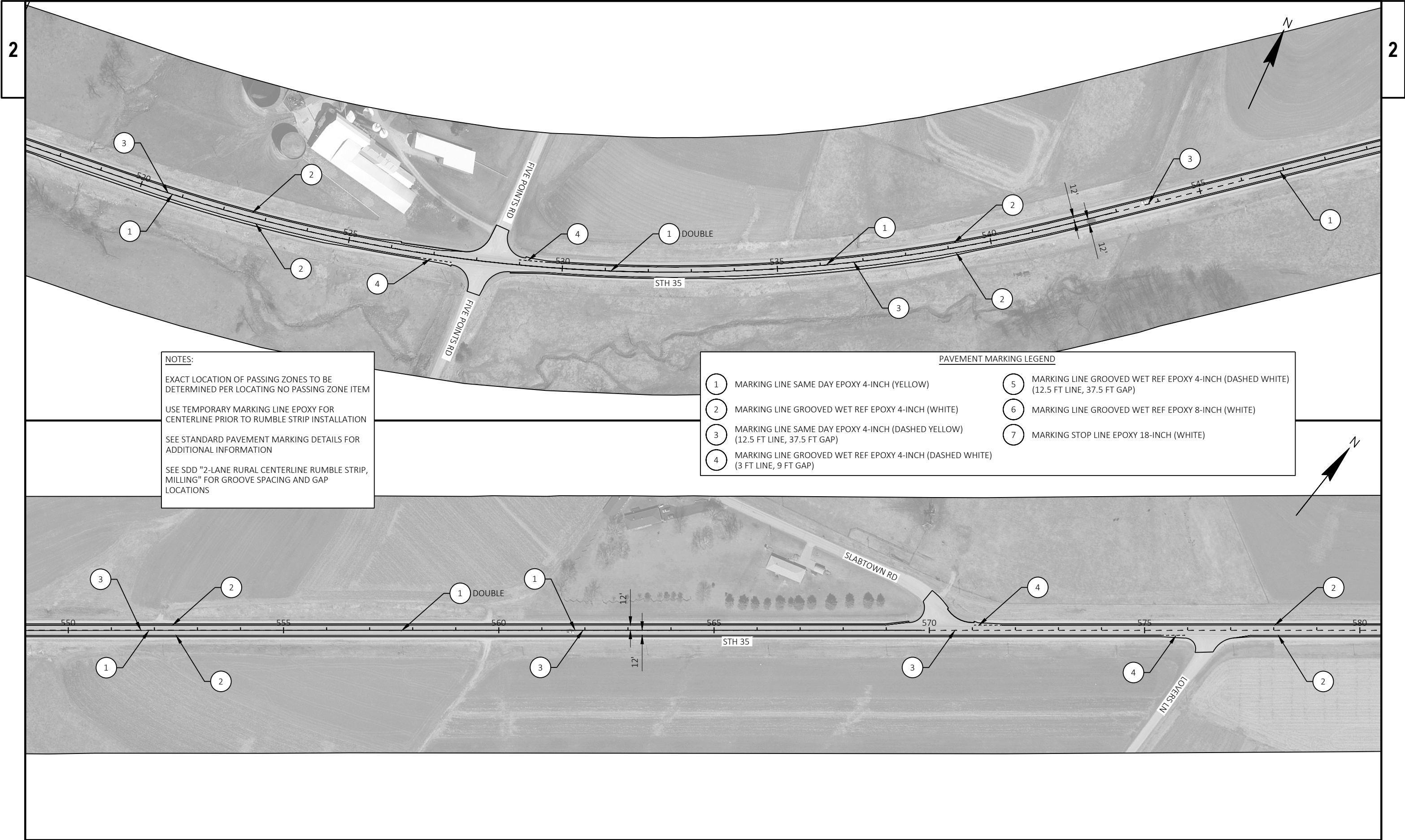


\* CONCRETE PAVEMENT APPROACH SLAB  
STA 454+50

BUTT JOINT TO MATCH EXISTING - STH 35, SIDE ROADS







NOTES:

EXACT LOCATION OF PASSING ZONES TO BE DETERMINED PER LOCATING NO PASSING ZONE ITEM

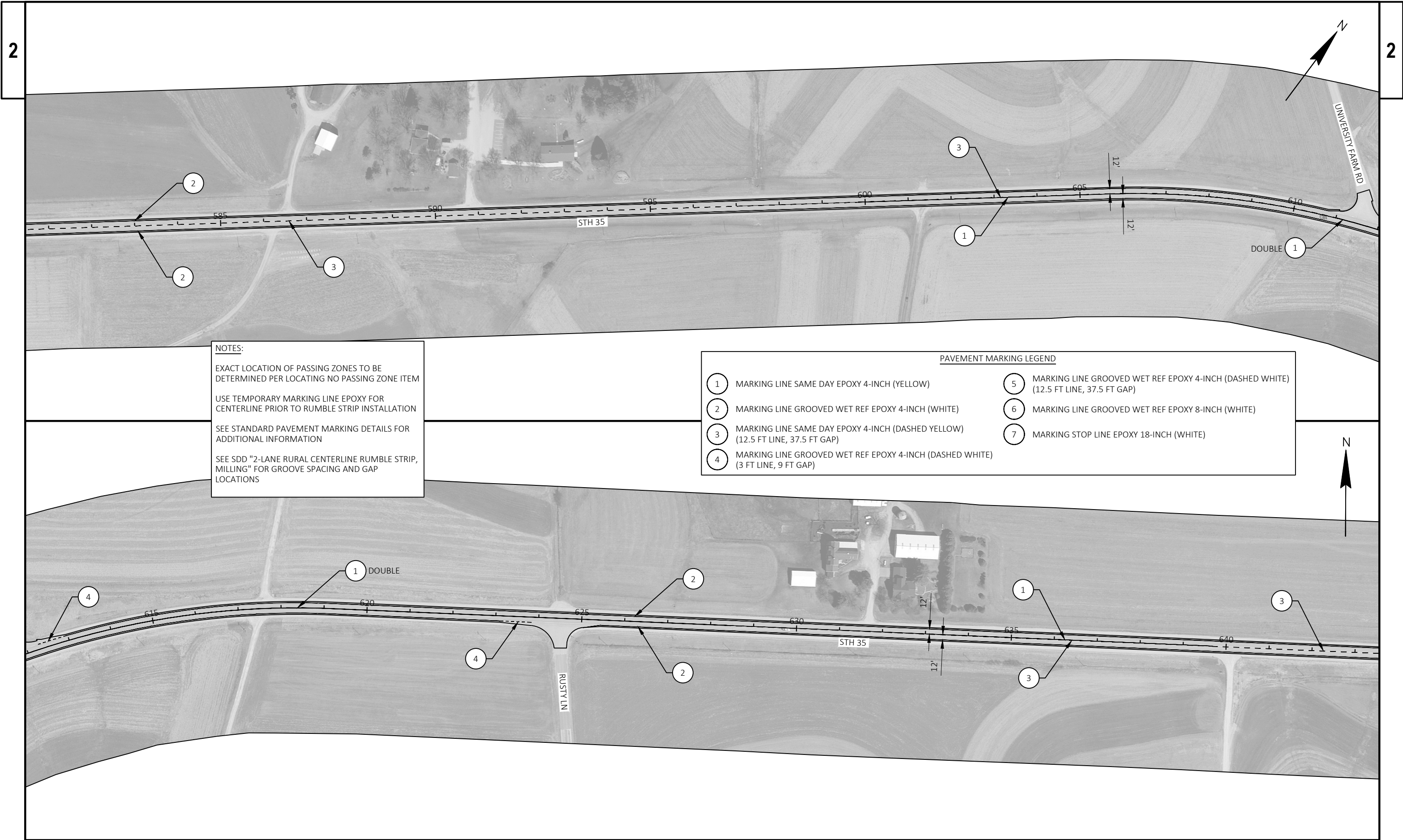
USE TEMPORARY MARKING LINE EPOXY FOR CENTERLINE PRIOR TO RUMBLE STRIP INSTALLATION

SEE STANDARD PAVEMENT MARKING DETAILS FOR ADDITIONAL INFORMATION

SEE SDD "2-LANE RURAL CENTERLINE RUMBLE STRIP, MILLING" FOR GROOVE SPACING AND GAP LOCATIONS

PAVEMENT MARKING LEGEND	
1	MARKING LINE SAME DAY EPOXY 4-INCH (YELLOW)
2	MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
3	MARKING LINE SAME DAY EPOXY 4-INCH (DASHED YELLOW) (12.5 FT LINE, 37.5 FT GAP)
4	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (3 FT LINE, 9 FT GAP)
5	MARKING LINE GROOVED WET REF EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE, 37.5 FT GAP)
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7	MARKING STOP LINE EPOXY 18-INCH (WHITE)





NOTES:

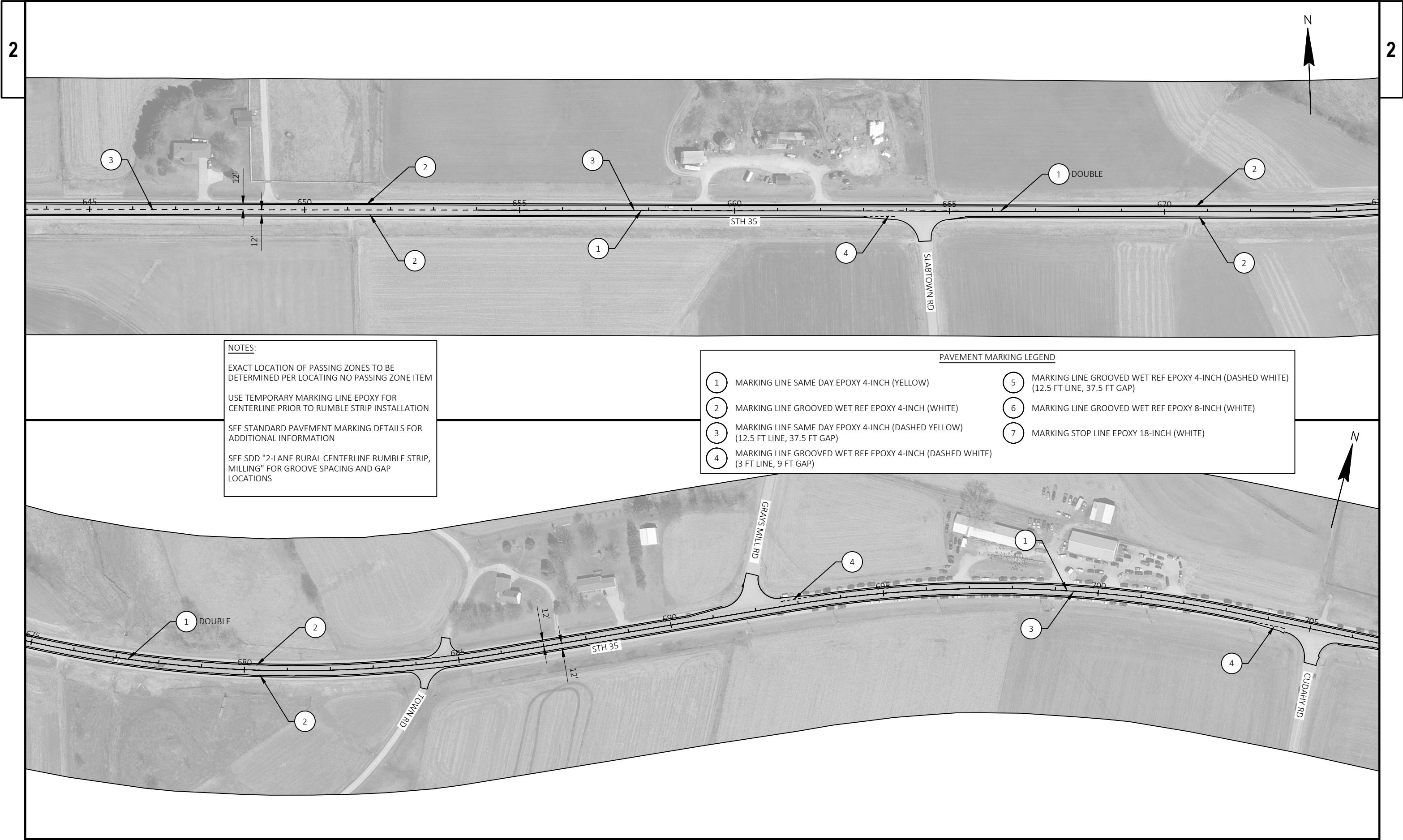
EXACT LOCATION OF PASSING ZONES TO BE DETERMINED PER LOCATING NO PASSING ZONE ITEM

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SEE STANDARD PAVEMENT MARKING DETAILS FOR ADDITIONAL INFORMATION

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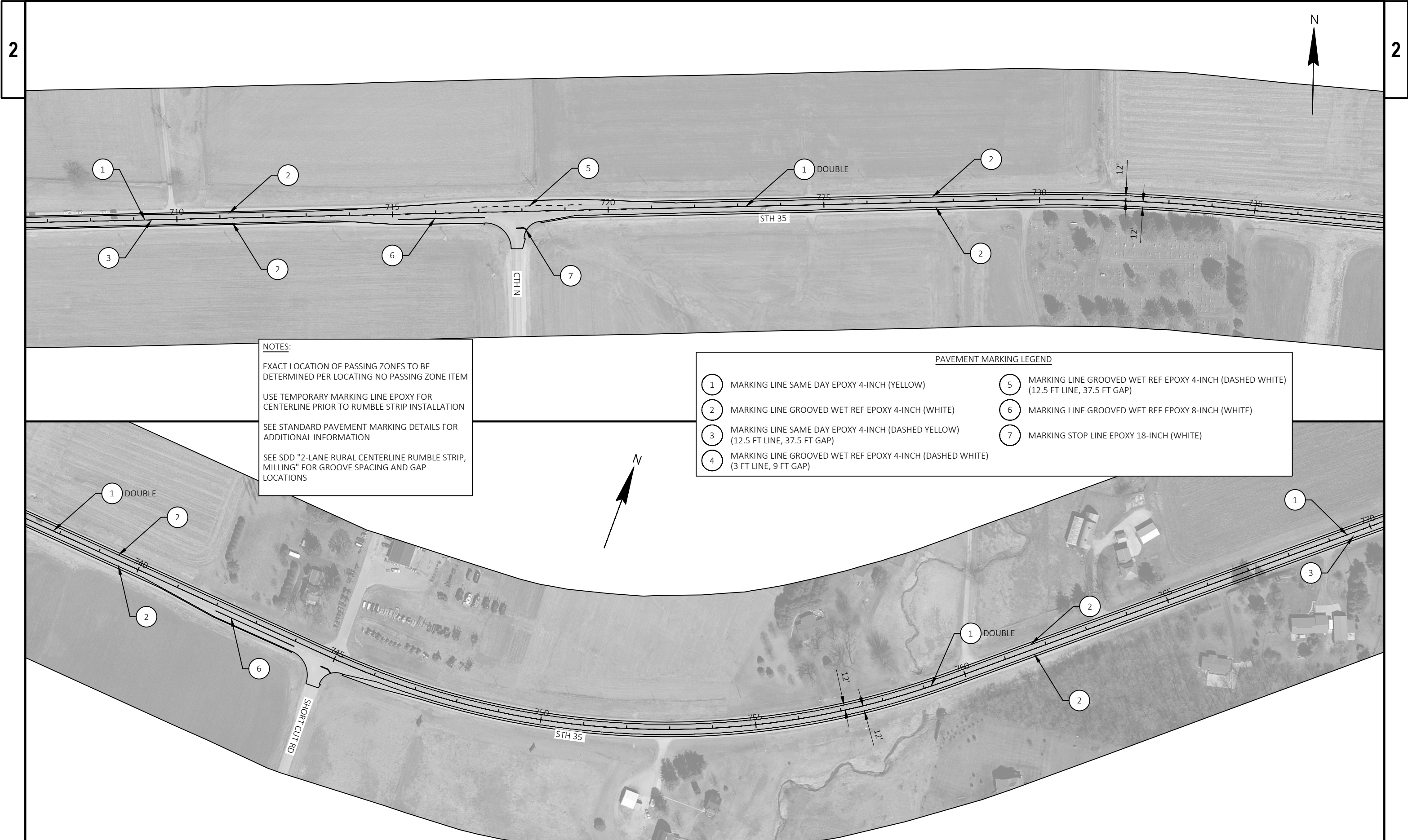
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SEE STANDARD PAVEMENT MARKING DETAILS FOR ADDITIONAL INFORMATION

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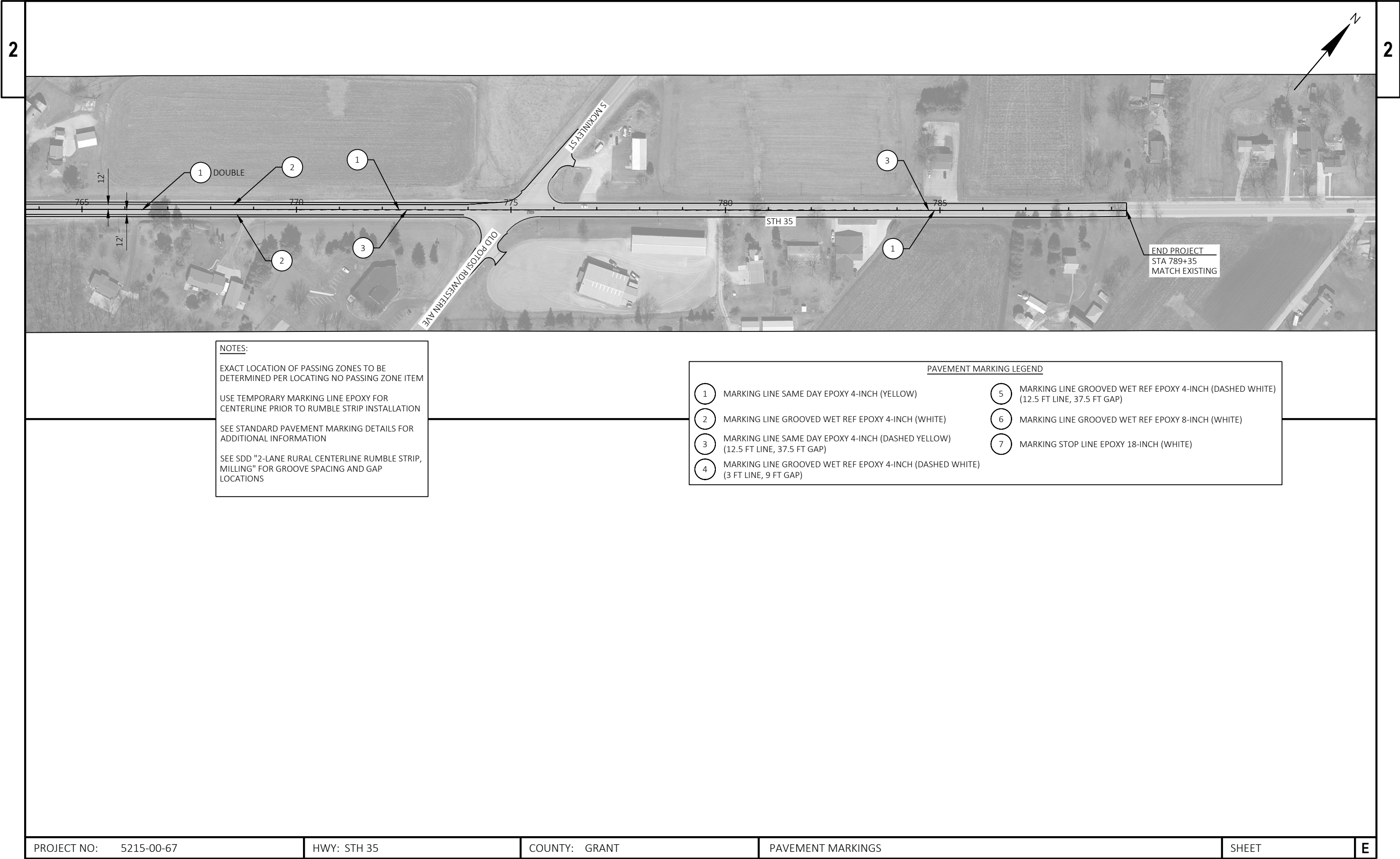
EXACT LOCATION OF PASSING ZONES TO BE DETERMINED PER LOCATING NO PASSING ZONE ITEM

USE TEMPORARY MARKING LINE EPOXY FOR CENTERLINE PRIOR TO RUMBLE STRIP INSTALLATION

SEE STANDARD PAVEMENT MARKING DETAILS FOR ADDITIONAL INFORMATION

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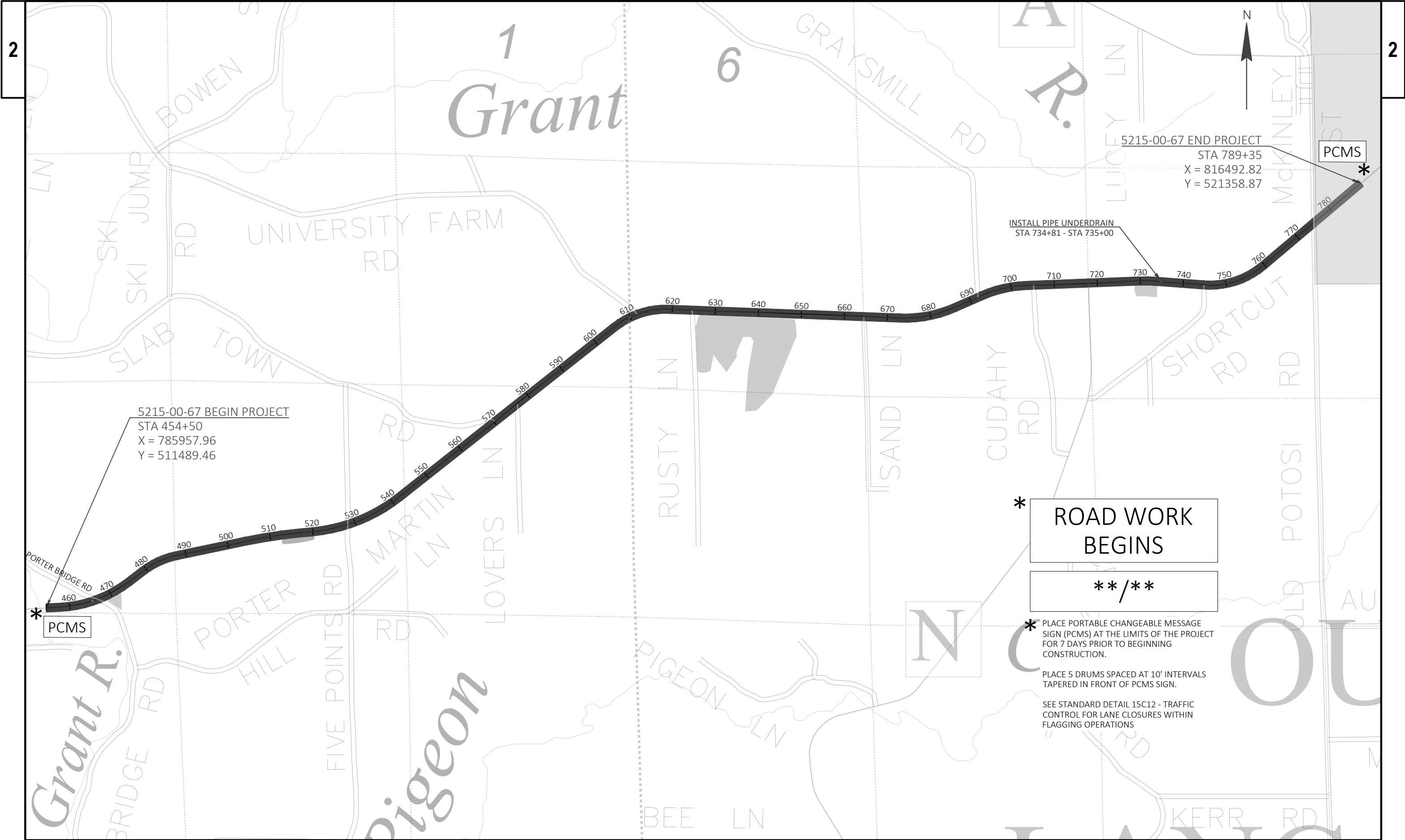
USE TEMPORARY MARKING LINE EPOXY FOR CENTERLINE PRIOR TO RUMBLE STRIP INSTALLATION

SEE STANDARD PAVEMENT MARKING DETAILS FOR ADDITIONAL INFORMATION

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PROJECT NO: 5215-00-67	HWY: STH 35	COUNTY: GRANT	TRAFFIC CONTROL - PCMS	SHEET E
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## Estimate Of Quantities

5215-00-67

Line	Item	Item Description	Unit	Total	Qty
0002	204.0115	Removing Asphaltic Surface Butt Joints	SY	117.000	117.000
0004	204.0120	Removing Asphaltic Surface Milling	SY	125,017.000	125,017.000
0006	205.0100	Excavation Common	CY	18.000	18.000
0008	209.1500	Backfill Granular Grade 1	TON	27.000	27.000
0010	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 5215-00-67	LS	1.000	1.000
0012	213.0100	Finishing Roadway (project) 01. 5215-00-67	EACH	1.000	1.000
0014	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,861.000	1,861.000
0016	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	87.000	87.000
0018	455.0605	Tack Coat	GAL	8,751.000	8,751.000
0020	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0022	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000
0024	460.2005	Incentive Density PWL HMA Pavement	DOL	13,987.000	13,987.000
0026	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	13,394.000	13,394.000
0028	460.2010	Incentive Air Voids HMA Pavement	DOL	10,123.000	10,123.000
0030	460.6224	HMA Pavement 4 MT 58-28 S	TON	14,002.000	14,002.000
0032	465.0105	Asphaltic Surface	TON	712.000	712.000
0034	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	25,204.000	25,204.000
0036	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	63.000	63.000
0038	612.0806	Apron Endwalls for Underdrain Reinforced Concrete 6-Inch	EACH	2.000	2.000
0040	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5215-00-67	EACH	1.000	1.000
0042	619.1000	Mobilization	EACH	1.000	1.000
0044	624.0100	Water	MGAL	22.000	22.000
0046	633.5200	Markers Culvert End	EACH	2.000	2.000
0048	642.5001	Field Office Type B	EACH	1.000	1.000
0050	643.0300	Traffic Control Drums	DAY	85.000	85.000
0052	643.0900	Traffic Control Signs	DAY	1,654.000	1,654.000
0054	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0056	643.5000	Traffic Control	EACH	1.000	1.000
0058	645.0111	Geotextile Type DF Schedule A	SY	43.000	43.000
0060	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	39,140.000	39,140.000
0062	646.3040	Marking Line Grooved Wet Ref Epoxy 8-Inch	LF	400.000	400.000
0064	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	23,044.000	23,044.000
0066	646.6120	Marking Stop Line Epoxy 18-Inch	LF	55.000	55.000
0068	648.0100	Locating No-Passing Zones	MI	6.350	6.350
0070	649.0105	Temporary Marking Line Paint 4-Inch	LF	23,044.000	23,044.000
0072	649.0120	Temporary Marking Line Epoxy 4-Inch	LF	23,044.000	23,044.000
0074	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0076	650.8000	Construction Staking Resurfacing Reference	LF	33,485.000	33,485.000
0078	650.9910	Construction Staking Supplemental Control (project) 01. 5215-00-67	LS	1.000	1.000
0080	690.0150	Sawing Asphalt	LF	72.000	72.000
0082	740.0440	Incentive IRI Ride	DOL	25,367.000	25,367.000
0084	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0086	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000
0088	SPV.0060	Special 01. Verify Landmark Reference Monuments	EACH	3.000	3.000
0090	SPV.0060	Special 02. Landmark Reference Monuments Special	EACH	1.000	1.000
0092	SPV.0180	Special 01. Removing Distressed Pavement Milling	SY	6,251.000	6,251.000

ASPHALT ITEMS													
					204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	* 465.0105 ASPHALTIC SURFACE TON	465.0475 ASPHALT CENTERLINE RUMBLE STRIPS 2- LANE RURAL LF	SPV.0180.01 REMOVING DISTRESSED PAVEMENT MILLING SY		
CATEGORY	STATION	TO	STATION	LOCATION	SY	SY	GAL	TON	TON	LF	SY	REMARKS	
0010	454+50	-		PROJECT START	7	-	-	-	-	-	-	MAINLINE	
	454+50	-	773+90	RT/LT	-	125,017	8,751	14,002	-	-	-		
	454+75	-	464+00	CL	-	-	-	-	-	925	-		
	465+52	-		RT	7	-	-	-	-	-	-	PORTER BRIDGE RD	
	467+59	-		LT	9	-	-	-	-	-	-	PORTER BRIDGE RD	
	469+00	-	526+26	CL	-	-	-	-	-	5,726	-		
	528+01	-		RT	7	-	-	-	-	-	-	FIVE POINTS RD	
	528+53	-		LT	7	-	-	-	-	-	-	FIVE POINTS RD	
	530+25	-	568+34	CL	-	-	-	-	-	3,809	-		
	569+96	-		LT	7	-	-	-	-	-	-	SLAB TOWN RD	
	572+33	-	574+56	CL	-	-	-	-	-	-	223	-	
	576+38	-		RT	9	-	-	-	-	-	-	-	LOVERS LN
	578+55	-	589+86	CL	-	-	-	-	-	-	1,131	-	
	591+86	-	609+65	CL	-	-	-	-	-	-	1,779	-	
	611+45	-		LT	7	-	-	-	-	-	-	-	UNIVERSITY FARM RD
	613+66	-	622+49	CL	-	-	-	-	-	-	883	-	
	624+52	-		LT	6	-	-	-	-	-	-	-	RUSTY LN
	626+49	-	662+39	CL	-	-	-	-	-	-	3,590	-	
	664+43	-		RT	6	-	-	-	-	-	-	-	SAND LN
	666+39	-	682+21	CL	-	-	-	-	-	-	1,582	-	
	684+12	-		RT	4	-	-	-	-	-	-	-	TOWN RD
	684+76	-		LT	4	-	-	-	-	-	-	-	TOWN RD
	686+72	-	689+75	CL	-	-	-	-	-	-	303	-	
	692+06	-		LT	7	-	-	-	-	-	-	-	GRAYS MILL RD
	693+75	-	695+82	CL	-	-	-	-	-	-	207	-	
	705+17	-		RT	7	-	-	-	-	-	-	-	CUDAHY RD
	707+17	-	715+90	CL	-	-	-	-	-	-	873	-	
	717+86	-		RT	6	-	-	-	-	-	-	-	CTH N
	719+90	-	728+67	CL	-	-	-	-	-	-	877	-	
	735+58	-	742+71	CL	-	-	-	-	-	-	713	-	NO RUMBLES AT CEMETERY
	744+78	-		RT	7	-	-	-	-	-	-	-	SHORT CUT RD
	746+71	-	772+54	CL	-	-	-	-	-	-	2,583	-	
	773+91	-		RT	5	-	-	-	-	-	-	-	WESTERN AVE
	776+64	-		LT	5	-	-	-	-	-	-	-	S MCKINLEY ST
	789+35	-		PROJECT END	7	-	-	-	-	-	-	-	MAINLINE
	UNDISTRIBUTED					-	-	-		700	-	6,251	DISTRESSED PVMNT MILLING
TOTAL 0010					117	125,017	8,751	14,002	700	25,204	6,251		
* ADDITIONAL ASPHALTIC SURFACE QUANTITY LISTED ELSEWHERE													

BASE AGGREGATE

					305.0110	305.0120	
					BASE AGGREGATE DENSE 3/4-INCH	BASE AGGREGATE DENSE 1 1/4-INCH	
CATEGORY	STATION	TO	STATION	LOCATION	TON	TON	REMARKS
0010	454+50	-	465+38	LT	44	-	
	454+50	-	467+39	RT	52	-	
	465+80	-	503+92	LT	149	-	
	467+63	-	527+42	RT	249	-	
	472+23	-		LT	-	4	DWY
	486+80	-		LT	-	4	FE
	509+27	-	526+21	LT	65	-	
	528+81	-	576+17	RT	187	-	
	529+14	-	569+52	LT	155	-	
	547+69	-		RT	-	2	FE
	552+14	-		LT	-	2	FE
	559+76	-		RT	-	2	FE
	559+80	-		LT	-	2	FE
	571+04	-	611+04	LT	156	-	
	576+59	-	624+38	RT	186	-	
	586+16	-		RT	-	3	FE
	586+55	-		LT	-	3	DWY
	590+84	-		LT	-	3	DWY
	601+35	-		LT	-	3	FE
	612+29	-	691+24	LT	307	-	
	617+45	-		RT	-	3	DWY
	617+63	-		LT	-	3	DWY
	624+48	-		LT	-	3	FE
	624+67	-	664+28	RT	156	-	
	640+11	-		RT	-	5	DWY
	649+15	-		LT	-	3	DWY
	651+07	-		RT	-	2	FE
	659+28	-		LT	-	3	DWY
	661+98	-		LT	-	3	DWY
	664+57	-	704+42	RT	156	-	
	664+76	-		LT	-	3	FE
	670+61	-		RT	-	2	FE
675+73	-		RT	-	2	FE	
676+27	-		LT	-	2	FE	
687+38	-		LT	-	2	DWY	

					* 305.0110 BASE AGGREGATE DENSE 3/4- INCH TON		305.0120 BASE AGGREGATE DENSE 1 1/4- INCH TON			
CATEGORY	STATION	TO	STATION	LOCATION					REMARKS	
0010	688+88	-		LT	-		3		DWY	
	692+61	-	776+46	LT	182		-			
	696+82	-		LT	-		3		DWY	
	699+11	-		LT	-		4		DWY	
	700+29	-		LT	-		3		DWY	
	701+74	-		LT	-		4		DWY	
	705+27	-		LT	-		1		FE	
	705+72	-	717+13	RT	44		-			
	709+89	-		LT	-		3		DWY	
	718+44	-	744+03	RT	35		-			
	724+67	-		LT	-		1		FE	
	724+72	-		RT	-		1		FE	
	731+53	-		LT	-		1		FE	
	745+31	-	774+46	RT	42		-			
	752+86	-		RT	-		1		DWY	
	760+13	-		LT	-		1		DWY	
	TOTAL 0010					1,861		63		
	* ADDITIONAL B.A.D 1 1/4 QUANTITY LISTED ELSEWHERE									

\* ADDITIONAL B.A.D 1 1/4 QUANTITY LISTED ELSEWHERE

ROADWAY ITEMS

					211.0100.01	213.0100.01	618.0100.01		
					PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT)	FINISHING ROADWAY (PROJECT)	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT)		
CATEGORY	STATION	TO	STATION	LOCATION	LS	EACH	EACH	REMARKS	
0010	454+50	-	789+35	PROJECT	1	1	1		
TOTAL 0010					1	1	1		

STAKING

					650.6000	650.8000	650.9910.01		
					CONSTRUCTION STAKING PIPE CULVERTS	CONSTRUCTION STAKING RESURFACING REFERENCE	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT)		
CATEGORY	STATION	TO	STATION	LOCATION	EACH	LF	LS	REMARKS	
0010	454+50	-	789+35	RT & LT	-	33,485	1		
	734+81	-	735+00	RT & LT	1	-	-		
TOTAL 0010					1	33,485	1		

FIELD OFFICE

		642.5001			
		FIELD OFFICE TYPE B			
CATEGORY	STATION TO STATION	LOCATION	EACH	REMARKS	
0010	PROJECT	5215-00-67	1		
TOTAL 0010			1		

WATER

		624.0100			
		WATER			
CATEGORY	STATION TO STATION	LOCATION	MGAL	REMARKS	
0010	PROJECT	5215-00-67	22		
TOTAL 0010			22		

3

3

TRAFFIC CONTROL												
					<div> <div>*</div> <div> <div>643.0300</div> <div>643.0900</div> <div>643.1050</div> <div>643.5000</div> </div> <div> <div>DRUMS</div> <div>SIGNS</div> <div>SIGNS PCMS</div> <div>TRAFFIC CONTROL</div> </div> </div>							
CATEGORY	STATION	TO	STATION	LOCATION	EACH	DAY	EACH	DAY	EACH	DAY	EACH	REMARKS
0010	454+50	-	789+35	PROJECT START/END	10	70	-	-	2	14	-	PRE-CONSTRUCTION
	454+50	-	789+35	PROJECT	-	-	25	1650	-	-	1	PROJECT DURATION
	734+81	-	735+00	LT/RT	15	15	4	4	-	-	-	PIPE UNDERDRAIN

TOTAL 0010	85	1,654	14	1
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														PIPE UNDERDRAIN									
														*									
														205.0100	209.1500	305.0120	465.0105	612.0406	612.0806	633.5200	645.0111	690.0150	
														EXCAVATION COMMON	BACKFILL GRANULAR GRADE 1	BASE AGGREGATE DENSE 1 1/4-INCH	ASPHALTIC SURFACE	PIPE UNDERDRAIN WRAPPED 6-INCH	APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH	MARKERS CULVERT END	GEOTEXTILE TYPE DF SCHEDULE A	SAWING ASPHALT	REMARKS
CATEGORY	STATION	TO	STATION	LOCATION	CY	TON	TON	TON	LF	EACH	EACH	SY	LF										
0010	734+81	-	735+00		6	-	-	-	-	-	-	-	72	PAVEMENT REMOVAL									
	734+81	-	735+00		12	-	-	-	-	-	-	-	-	SUBBASE REMOVAL									
	734+81	-	735+00		-	27	24	12	63	2	2	43	-	INSTALLATION									

TOTAL 0010	18	27	24	12	63	2	2	43	72
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MONUMENTS							
CATEGORY	STATION	TO	STATION	LOCATION	SPV.0060.01	SPV.0060.02	REMARKS
					VERIFY LANDMARK REFERENCE MONUMENTS EACH	LANDMARK REFERENCE MONUMENTS SPECIAL EACH	
0010	457+64	-		44.3' RT	1	-	DH513
	571+49	-		56.3' RT	1	-	NJ0965
	718+33	-		0.5' LT	1	1	CTH N SECTION CORNER
TOTAL 0010					3	1	

[illegible]

PAVEMENT MARKINGS

CATEGORY	STATION	TO	STATION	LOCATION	646.1040	646.3040	646.4520	646.6120	648.0100	*	**	REMARKS
					MARKING LINE	MARKING LINE	MARKING LINE	MARKING STOP LINE	LOCATING NO-	649.0105	649.0120	
					GROOVED WET REF EPOXY 4-INCH WHITE LF	GROOVED WET REF EPOXY 8-INCH WHITE LF	SAME DAY EPOXY 4-INCH YELLOW LF	EPOXY 18-INCH WHITE LF	PASSING ZONES YELLOW MI	TEMPORARY MARKING LINE PAINT 4-INCH YELLOW LF	TEMPORARY MARKING LINE EPOXY 4-INCH YELLOW LF	
0010	454+50	-	465+10	LT	1,060	-	-	-	-	-	-	EDGELINE
	454+50	-	466+02	RT	1,152	-	-	-	-	-	-	EDGELINE
	454+50	-	499+93	CL	-	-	9,086	-	-	9,086	9,086	DOUBLE YELLOW
	454+50	-	789+35	CL	-	-	-	-	6.35	-	-	
	466+02	-	466+43	RT	10	-	-	-	-	-	-	DASHED
	467+53	-	468+36	LT	21	-	-	-	-	-	-	DASHED
	467+89	-	526+68	RT	5,879	-	-	-	-	-	-	EDGELINE
	468+36	-	527+68	LT	5,932	-	-	-	-	-	-	EDGELINE
	499+93	-	510+34	CL	-	-	1,301	-	-	1,301	1,301	EB PASSING ONLY
	510+34	-	516+13	CL	-	-	145	-	-	145	145	PASSING
	516+13	-	526+77	CL	-	-	1,329	-	-	1,329	1,329	WB PASSING ONLY
	526+68	-	527+43	RT	19	-	-	-	-	-	-	DASHED
	526+77	-	532+77	CL	-	-	1,201	-	-	1,201	1,201	DOUBLE YELLOW
	528+81	-	575+38	RT	4,658	-	-	-	-	-	-	EDGELINE
	529+14	-	529+64	LT	12	-	-	-	-	-	-	DASHED
	529+64	-	569+52	LT	3,988	-	-	-	-	-	-	EDGELINE
	532+77	-	542+90	CL	-	-	1,266	-	-	1,266	1,266	EB PASSING ONLY
	542+90	-	546+32	CL	-	-	86	-	-	86	86	PASSING
	546+32	-	557+45	CL	-	-	1,391	-	-	1,391	1,391	WB PASSING ONLY
	557+45	-	558+45	CL	-	-	200	-	-	200	200	DOUBLE YELLOW
	558+45	-	569+82	CL	-	-	1,421	-	-	1,421	1,421	EB PASSING ONLY
	569+82	-	599+84	CL	-	-	751	-	-	751	751	PASSING
	571+04	-	571+68	LT	16	-	-	-	-	-	-	DASHED
	571+68	-	611+04	LT	3,936	-	-	-	-	-	-	EDGELINE
	575+38	-	575+93	RT	14	-	-	-	-	-	-	DASHED
	577+08	-	623+08	RT	4,600	-	-	-	-	-	-	EDGELINE
	599+84	-	611+04	CL	-	-	1,400	-	-	1,400	1,400	WB PASSING ONLY
	611+04	-	628+38	CL	-	-	3,468	-	-	3,468	3,468	DOUBLE YELLOW
	612+29	-	612+96	LT	17	-	-	-	-	-	-	DASHED
	612+96	-	691+24	LT	7,828	-	-	-	-	-	-	EDGELINE

QUANTITIES CONTINUED ON NEXT PAGE

PAVEMENT MARKINGS

CATEGORY	STATION	TO	STATION	LOCATION	646.1040	646.3040	646.4520	646.6120	648.0100	*	**	REMARKS
					MARKING LINE GROOVED WET REF EPOXY 4-INCH WHITE LF	MARKING LINE GROOVED WET REF EPOXY 8-INCH WHITE LF	MARKING LINE SAME DAY EPOXY 4-INCH YELLOW LF	MARKING STOP LINE EPOXY 18- INCH WHITE LF	LOCATING NO- PASSING ZONES YELLOW MI	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH YELLOW LF	649.0120 TEMPORARY MARKING LINE EPOXY 4-INCH YELLOW LF	
0010	623+08	-	623+83	RT	19	-	-	-	-	-	-	DASHED EDGE LINE
	625+04	-	663+01	RT	3,797	-	-	-	-	-	-	EB PASSING ONLY
	628+38	-	639+69	CL	-	-	1,414	-	-	1,414	1,414	PASSING
	639+69	-	654+04	CL	-	-	359	-	-	359	359	WB PASSING ONLY
	654+04	-	665+20	CL	-	-	1,395	-	-	1,395	1,395	DASHED EDGE LINE
	663+01	-	663+73	RT	18	-	-	-	-	-	-	DOUBLE YELLOW
	664+94	-	703+67	RT	3,874	-	-	-	-	-	-	DASHED EDGE LINE
	665+20	-	698+10	CL	-	-	6,580	-	-	6,580	6,580	EDGE LINE
	692+61	-	693+36	LT	19	-	-	-	-	-	-	EB PASSING ONLY
	693+36	-	774+80	LT	8,144	-	-	-	-	-	-	DASHED
	698+10	-	720+94	CL	-	-	2,855	-	-	2,855	2,855	EDGE LINE
	703+67	-	704+42	RT	19	-	-	-	-	-	-	DOUBLE YELLOW
	705+72	-	717+13	RT	1,141	-	-	-	-	-	-	TURN LANE - CTH N
	715+13	-	717+13	RT	-	200	-	25	-	-	-	BYPASS LANE - DASHED
	716+88	-	719+38	LT	63	-	-	-	-	-	-	EDGE LINE
	718+44	-	744+03	RT	2,560	-	-	-	-	-	-	DOUBLE YELLOW
	720+94	-	769+08	CL	-	-	9,628	-	-	9,628	9,628	TURN LANE - SHORTCUT RD
	742+03	-	744+03	RT	-	200	-	30	-	-	-	EDGE LINE
	745+31	-	773+90	RT	2,859	-	-	-	-	-	-	EB PASSING ONLY
	769+08	-	780+67	CL	-	-	1,448	-	-	1,448	1,448	WB PASSING ONLY
	780+67	-	789+35	CL	-	-	1,085	-	-	1,085	1,085	
TOTAL 0010					39,140	400	23,044	55	6.35	23,044	23,044	

QUANTITIES CONTINUED FROM PREVIOUS PAGE

\* TO BE USED ON MILLED SURFACE BEFORE PLACEMENT OF HMA FINAL SURFACE OR AS DIRECTED BY THE FIELD ENGINEER  
\*\* TO BE USED ON HMA FINAL SURFACE BEFORE PLACEMENT OF CENTERLINE RUMBLE STRIPS OR AS DIRECTED BY THE FIELD ENGINEER

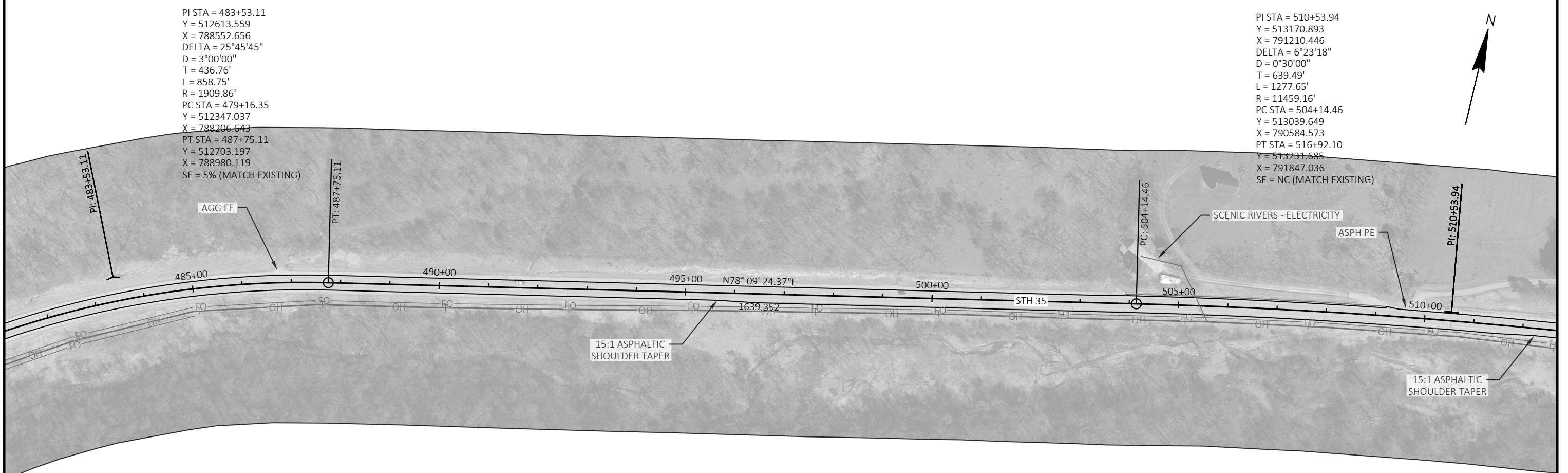
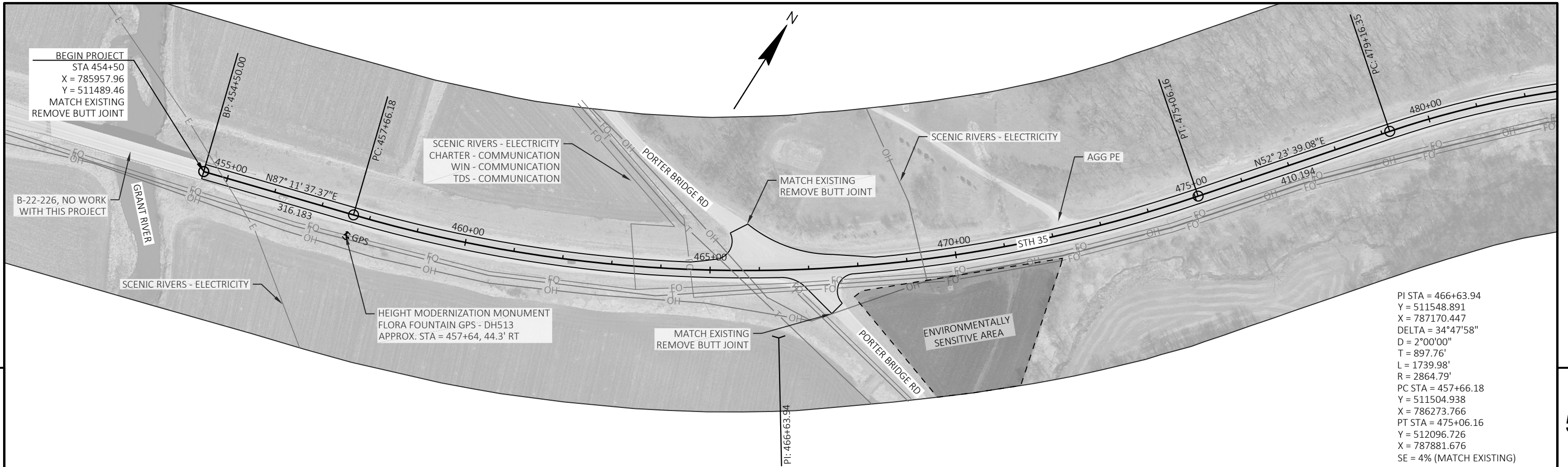


INCENTIVES

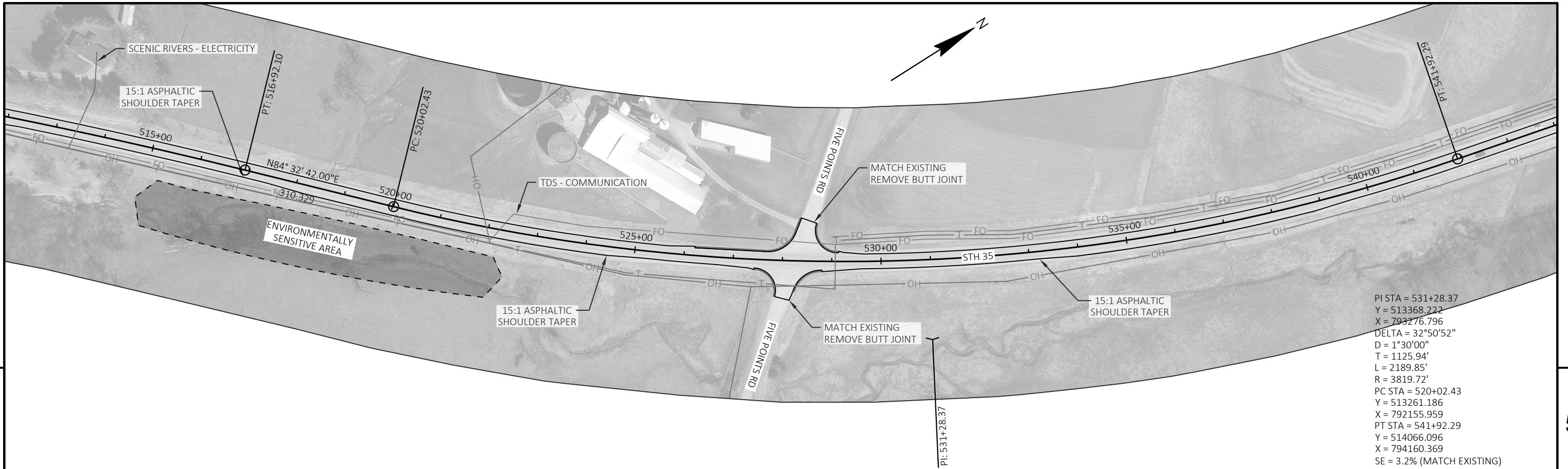
CATEGORY	STATION	TO	STATION	LOCATION	460.0105.S	460.0110.S	REMARKS
					HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP VOLUMETRICS EACH	HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP DENSITY EACH	
0010	454+50	-	789+35		1	1	
TOTAL 0010					1	1	

5215-00-67 PWL MIXTURE USE TABLE

Location	Station		Underlying Surface	Bid Item	Tons	Thickness	Quality Management Program to be used for:	
	From	To					Mixture Acceptance	Density Acceptance
2 x 12 foot driving lanes	454+50	- 503+92	Milled Existing Asphaltic Surface	4 MT 58-28 S	1471	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
3 foot shoulders + intersections	454+50	- 503+92	Milled Existing Asphaltic Surface	4 MT 58-28 S	576	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by department; Not eligible for incentive
2 x 12 foot driving lanes	503+92	- 509+21	Milled Existing Asphaltic Surface	4 MT 58-28 S	158	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
5 foot shoulders + intersections	503+92	- 509+21	Milled Existing Asphaltic Surface	4 MT 58-28 S	66	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by department; Not eligible for incentive
2 x 12 foot driving lanes	509+21	- 720+00	Milled Existing Asphaltic Surface	4 MT 58-28 S	6277	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
3 foot shoulders + intersections + passing lane	509+21	- 720+00	Milled Existing Asphaltic Surface	4 MT 58-28 S	2261	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by department; Not eligible for incentive
2 x 12 foot driving lanes	720+00	- 775+00	Milled Existing Asphaltic Surface	4 MT 58-28 S	1648	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
5 foot shoulders + intersections	720+00	- 775+00	Milled Existing Asphaltic Surface	4 MT 58-28 S	859	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by department; Not eligible for incentive
2 x 16 foot driving lanes	775+00	- 789+35	Milled Existing Asphaltic Surface	4 MT 58-28 S	569	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
Intersections	775+00	- 789+35	Milled Existing Asphaltic Surface	4 MT 58-28 S	102	2"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by department; Not eligible for incentive

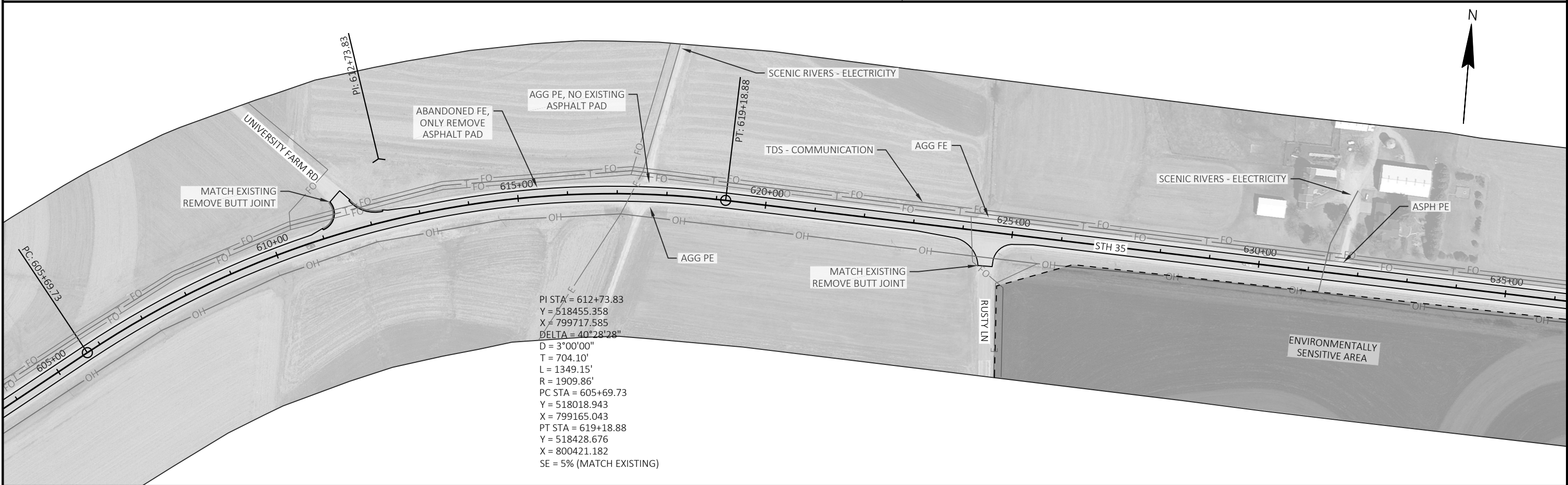
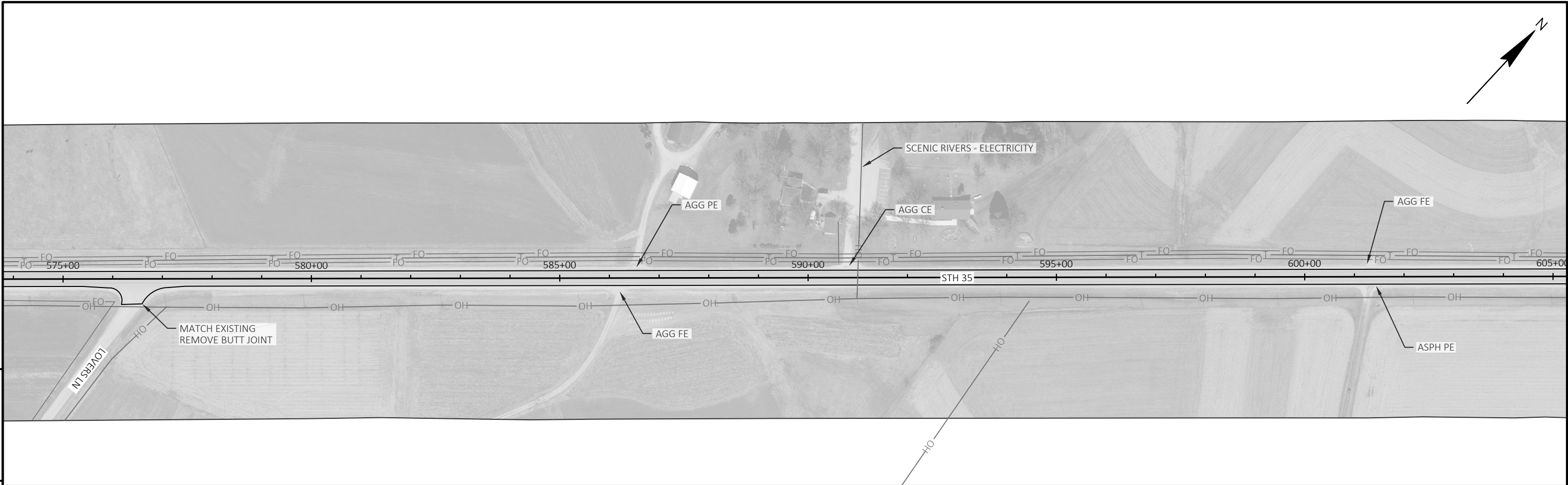






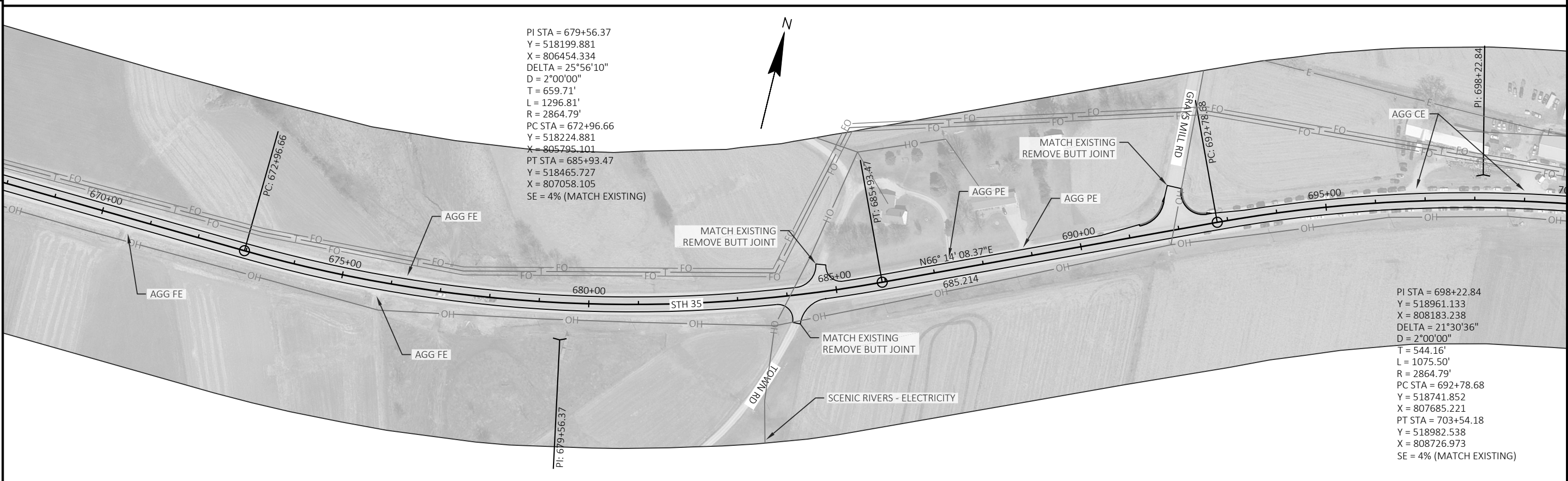
PI STA = 531+28.37  
Y = 513368.222  
X = 793276.796  
DELTA = 32°50'52"  
D = 1°30'00"  
T = 1125.94'  
L = 2189.85'  
R = 3819.72'  
PC STA = 520+02.43  
Y = 513261.186  
X = 792155.959  
PT STA = 541+92.29  
Y = 514066.096  
X = 794160.369  
SE = 3.2% (MATCH EXISTING)





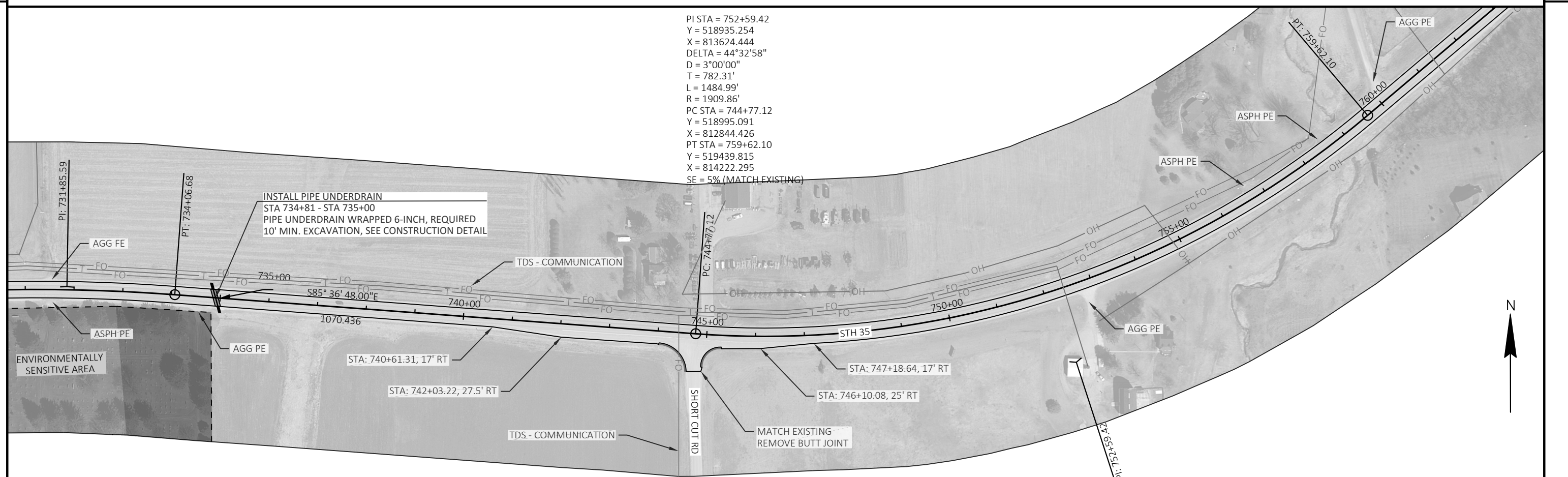
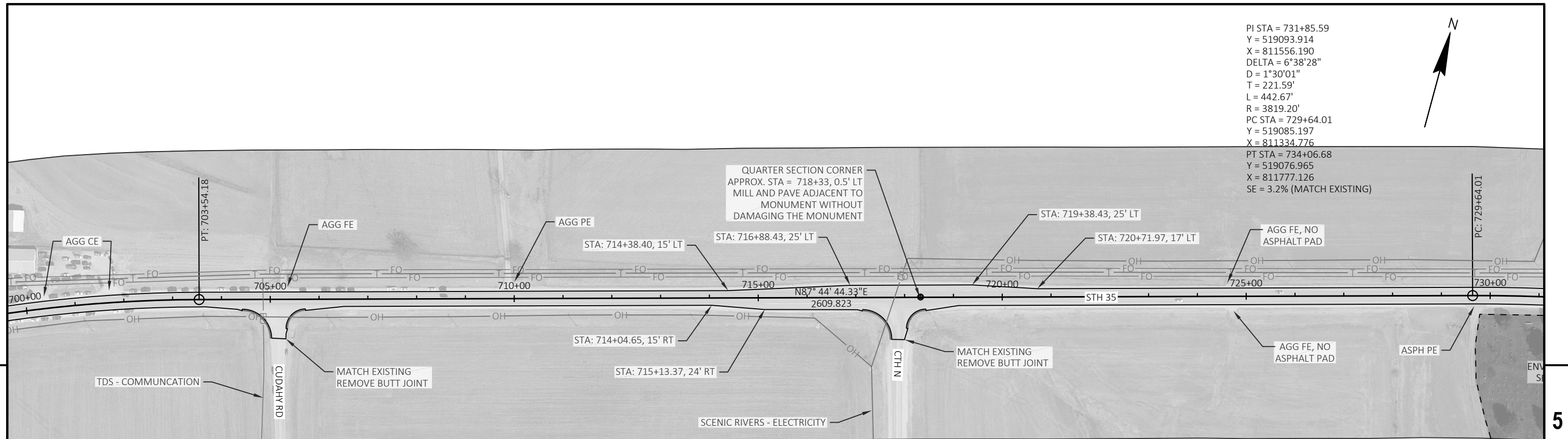
PROJECT NO: 5215-00-67	HWY: STH 35	COUNTY: GRANT	PLAN DETAILS	SHEET	E
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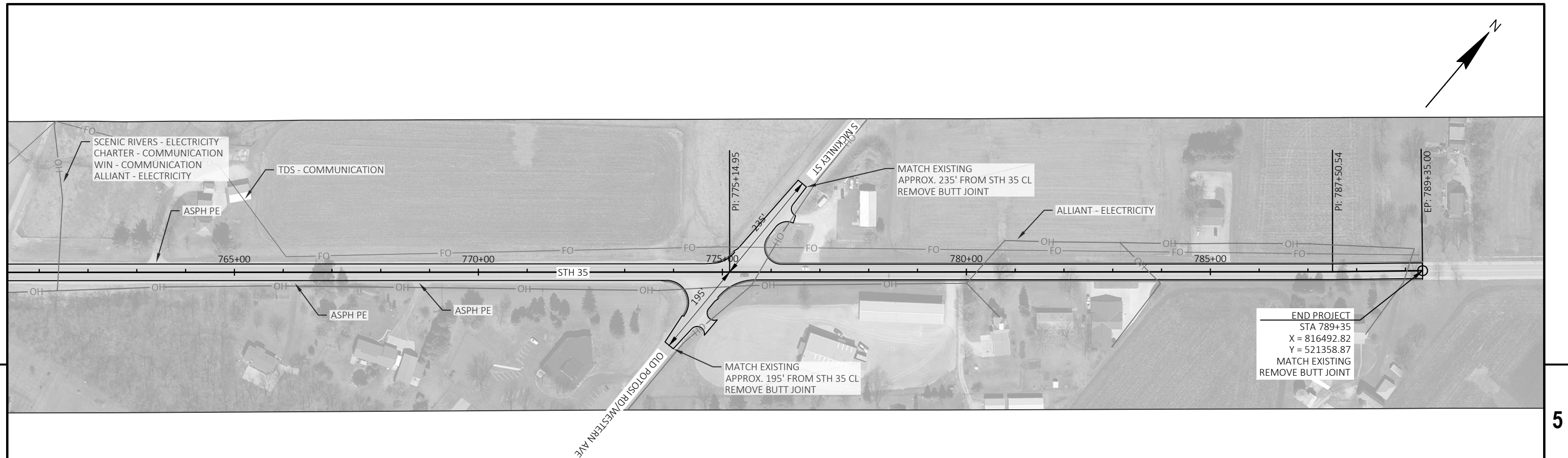
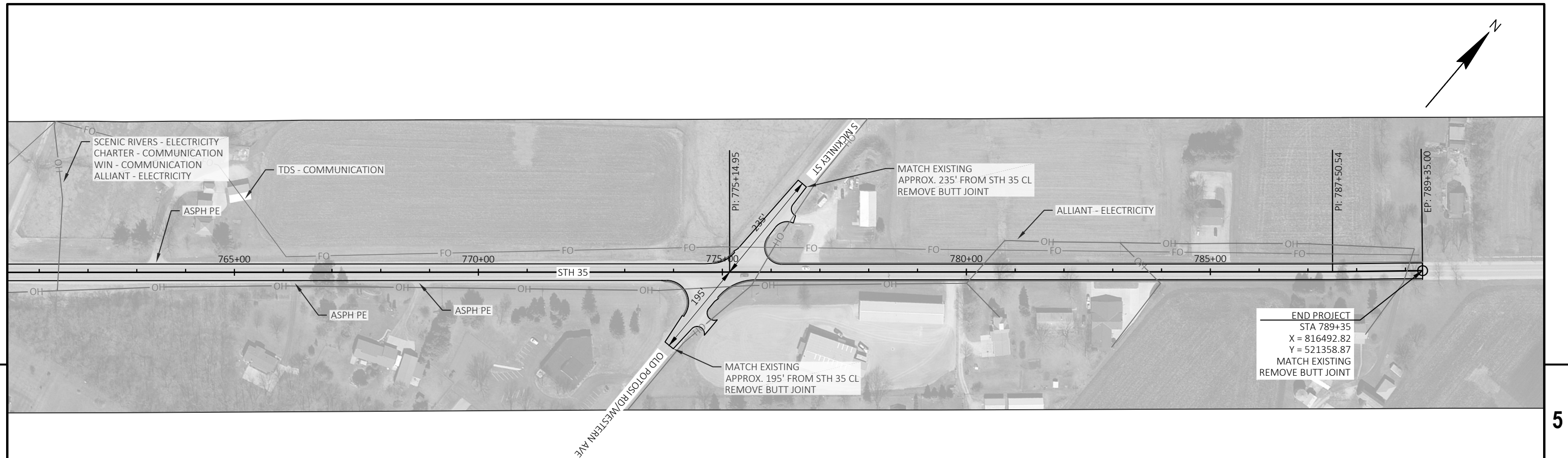




PI STA = 679+56.37  
Y = 518199.881  
X = 806454.334  
DELTA = 25°56'10"  
D = 2°00'00"  
T = 659.71'  
L = 1296.81'  
R = 2864.79'  
PC STA = 672+96.66  
Y = 518224.881  
X = 805795.101  
PT STA = 685+93.47  
Y = 518465.727  
X = 807058.105  
SE = 4% (MATCH EXISTING)

PI STA = 698+22.84  
Y = 518961.133  
X = 808183.238  
DELTA = 21°30'36"  
D = 2°00'00"  
T = 544.16'  
L = 1075.50'  
R = 2864.79'  
PC STA = 692+78.68  
Y = 518741.852  
X = 807685.221  
PT STA = 703+54.18  
Y = 518982.538  
X = 808726.973  
SE = 4% (MATCH EXISTING)





PROJECT NO:	5215-00-67
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HWY: STH 35

COUNTY: GRANT

## PLAN DETAILS

SHEET

- 
- 
- 

FILE NAME : N:\PDS\C3D\52150037\SHEETSPLAN\050101-PN.DWG  
LAYOUT NAME - 021201-pd-6

PLOT DATE : 10/19/2021 9:45 AM

PLOT BY : CLEMENTS, ERIN A

PLOT NAME :

PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 44

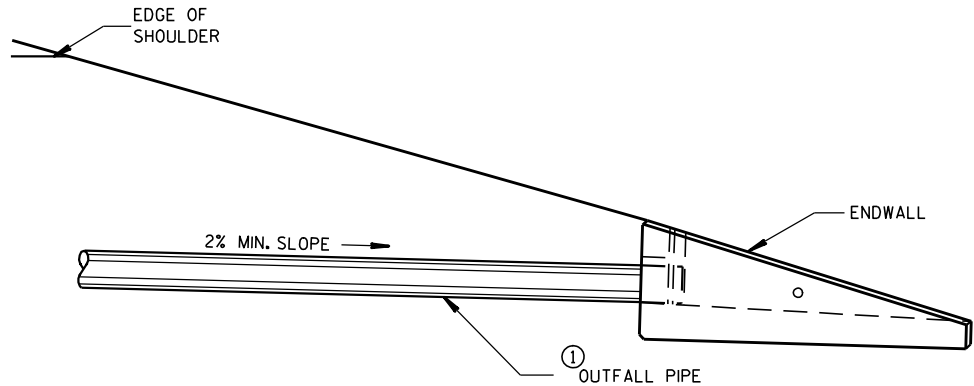
Standard Detail Drawing List

08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
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
14B29-01	SAFETY EDGE
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-06A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-04A	PAVEMENT MARKING (INTERSECTIONS)
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D51-01	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

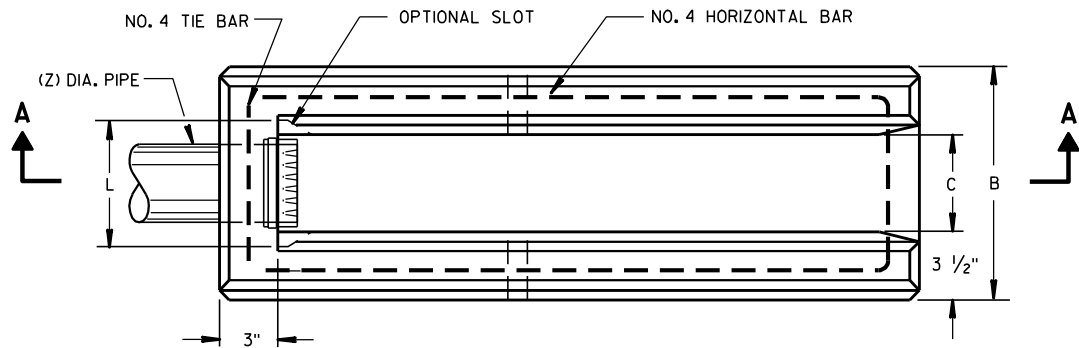


DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

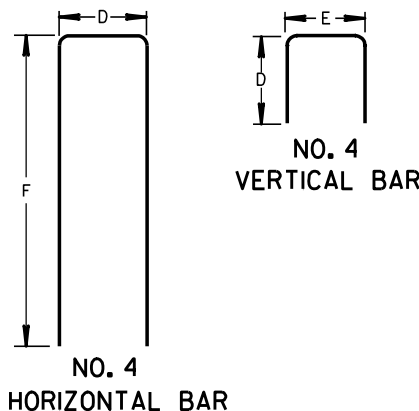
\*\* APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



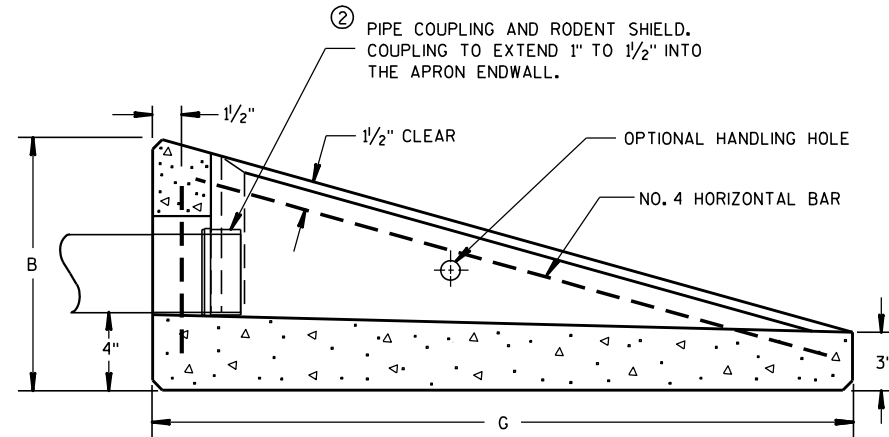
INSTALLATION DETAIL



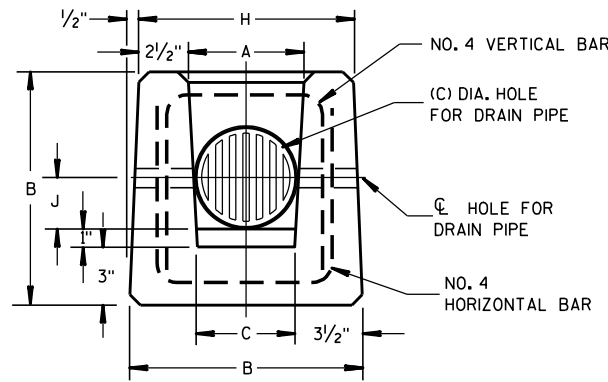
PLAN VIEW



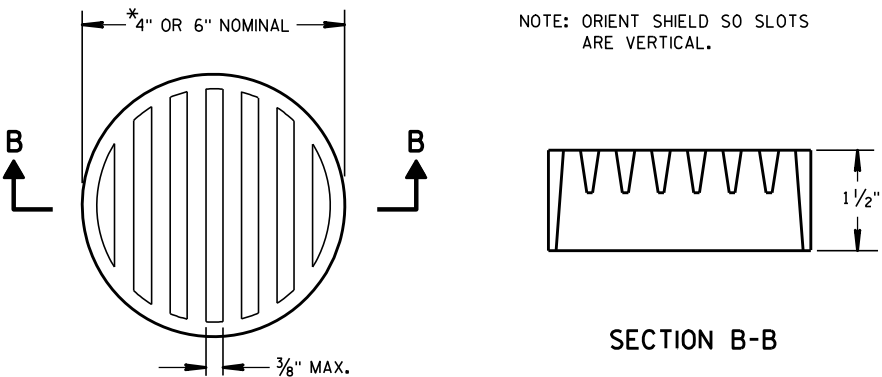
BAR STEEL REINFORCEMENT DETAILS



SECTION A-A  
CONCRETE APRON ENDWALL FOR UNDERDRAIN



END VIEW



② RODENT SHIELD

\*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

GENERAL NOTES

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

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

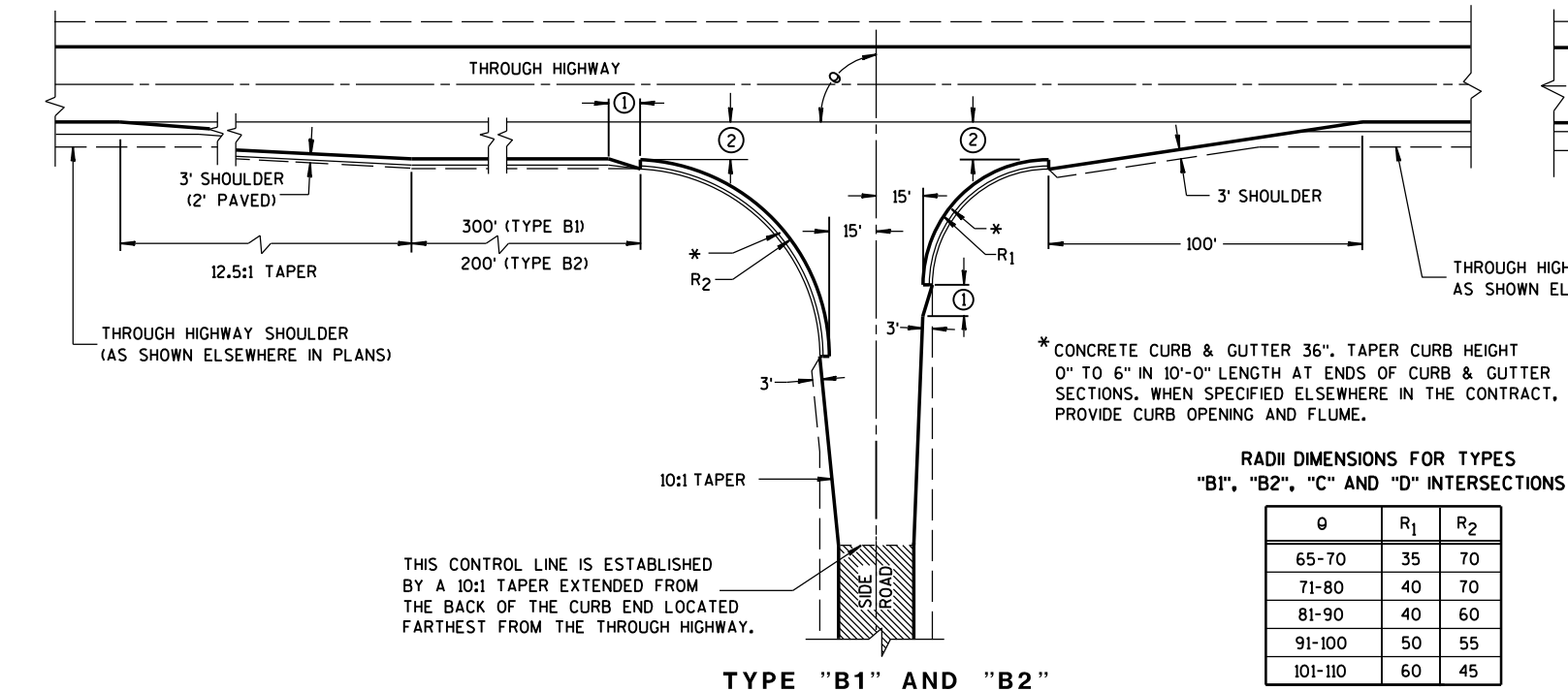
THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

REINFORCED  
CONCRETE APRON ENDWALL  
FOR PIPE UNDERDRAIN

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
3/10/98 /S/ Rory L. Rhinesmith  
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER  
FHWA



RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R <sub>1</sub>	R <sub>2</sub>
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45

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.

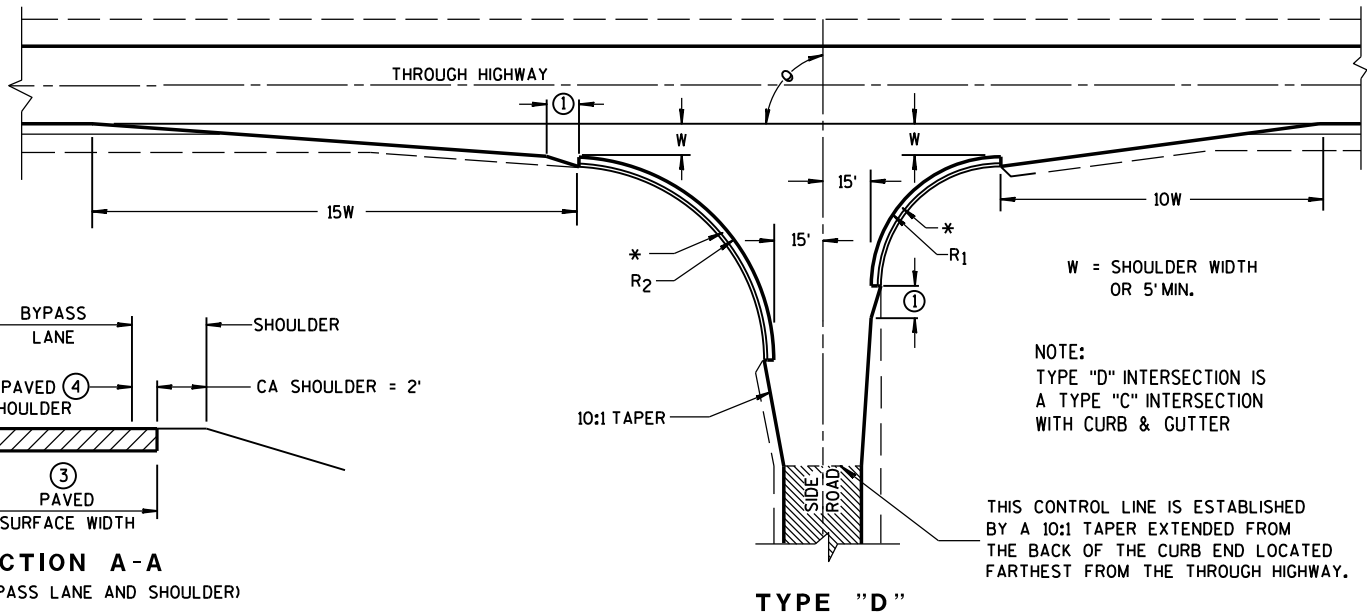
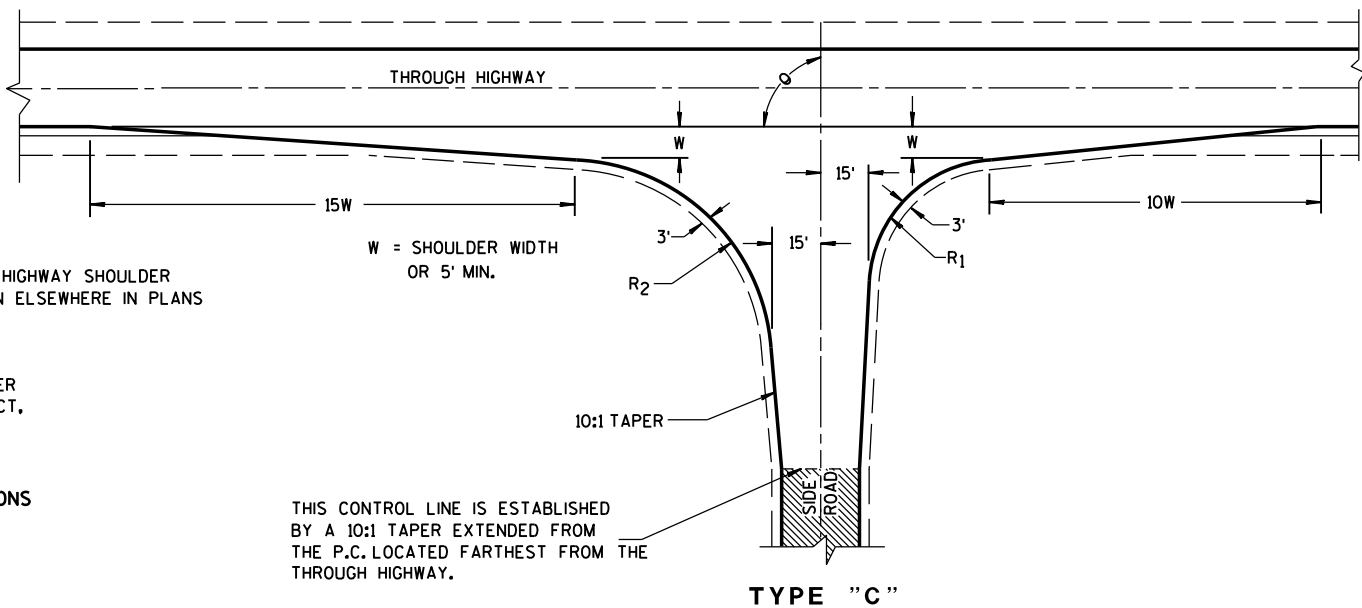
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

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

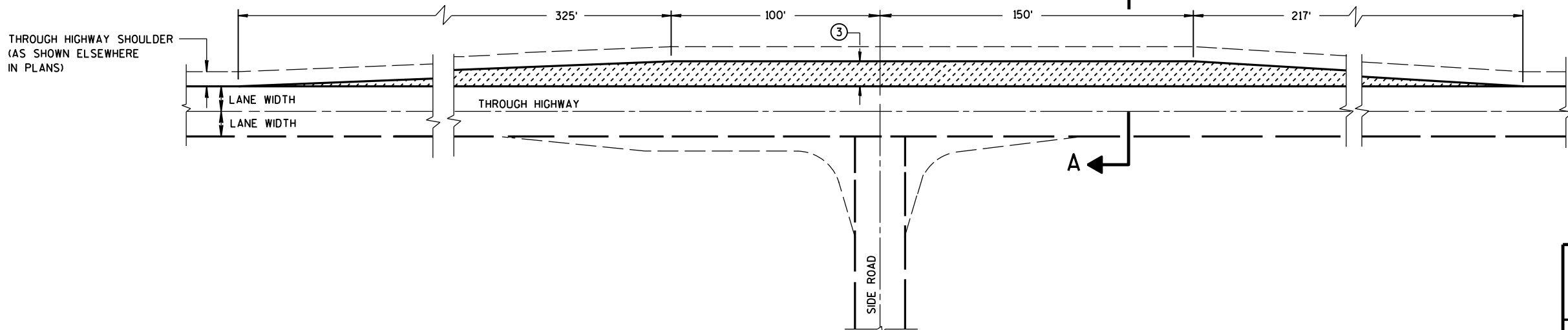
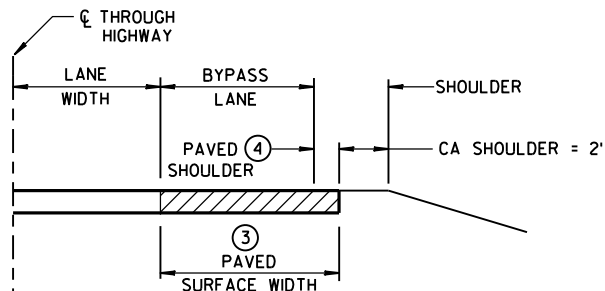
EXISTING PAVED SURFACE

BYPASS LANE

- 10-FT TYPICAL.
- 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.
- BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE  
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.  
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



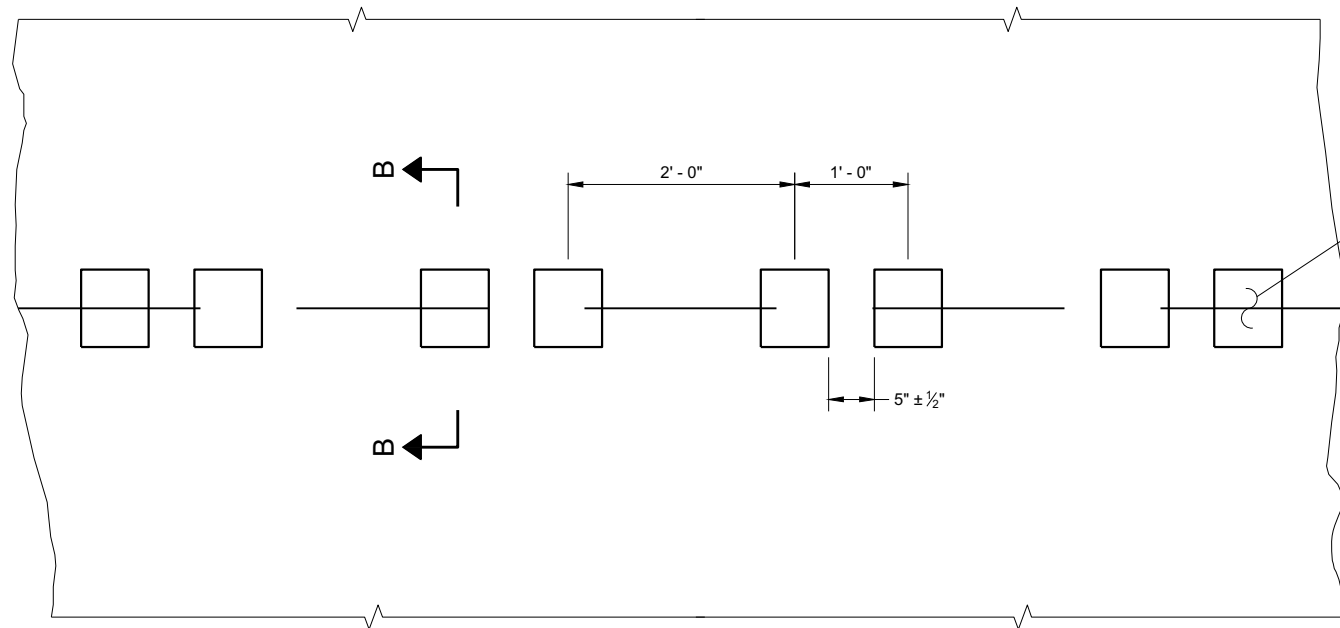
NOTE:  
TYPE "D" INTERSECTION IS A TYPE "C" INTERSECTION WITH CURB & GUTTER



TEE INTERSECTION BYPASS LANE DETAIL

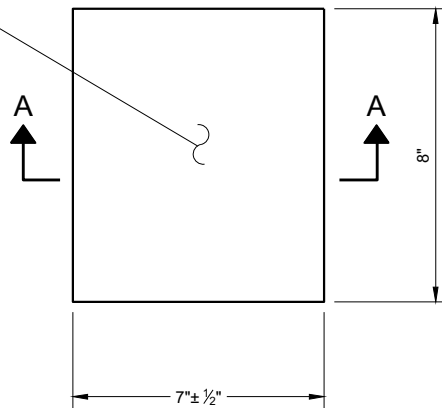
AT-GRADE SIDE ROAD  
INTERSECTION, TYPES "B1", "B2",  
"C" AND "D" AND TEE  
INTERSECTION BYPASS LANE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



PLAN VIEW  
SHOULDER WITH GROOVES

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



PLAN VIEW  
(SINGLE GROOVE)

GENERAL NOTES

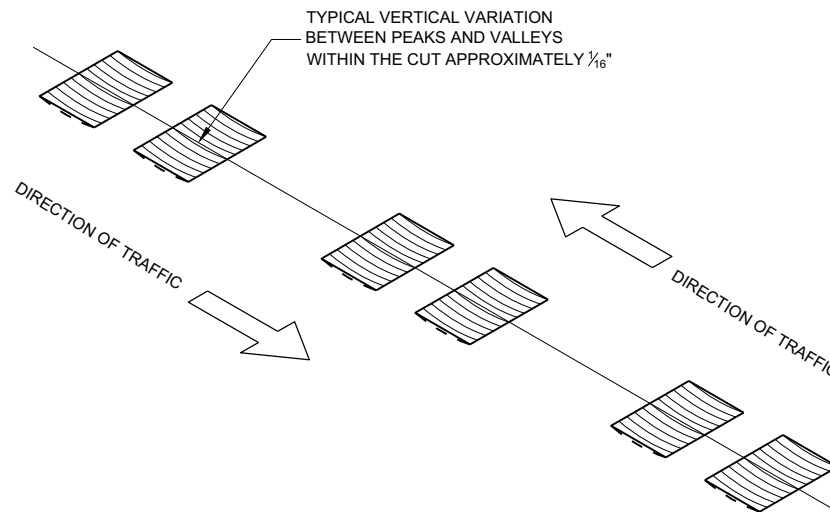
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

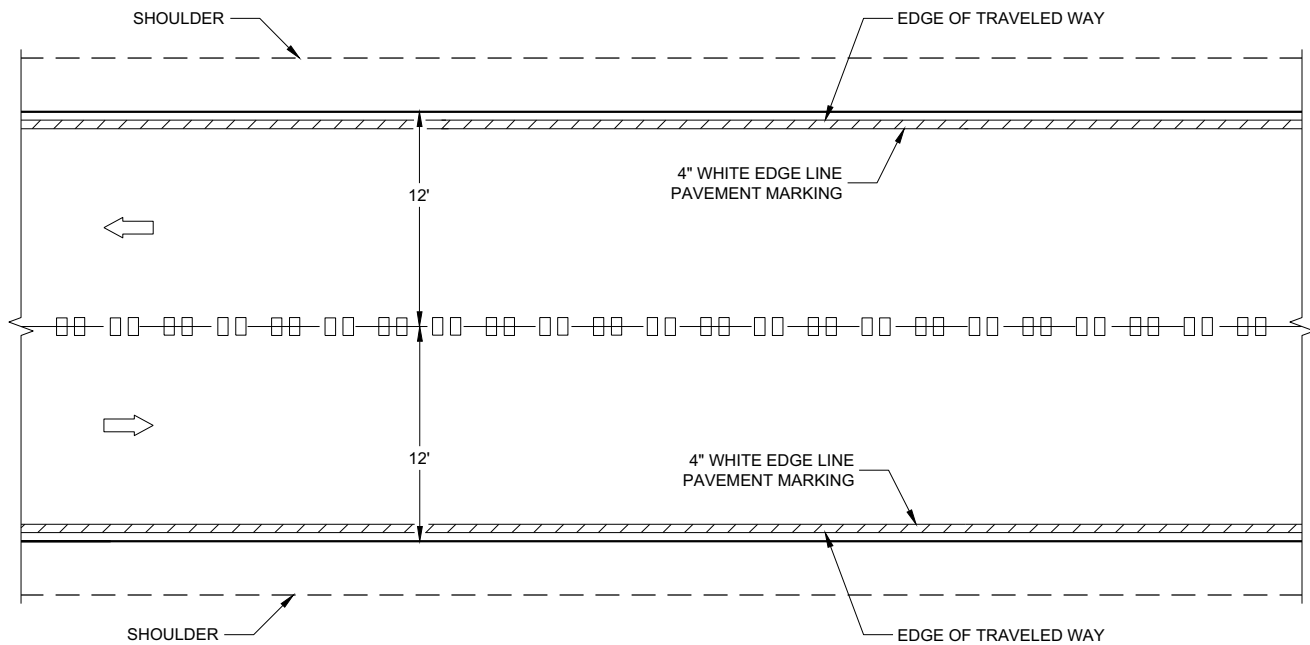
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

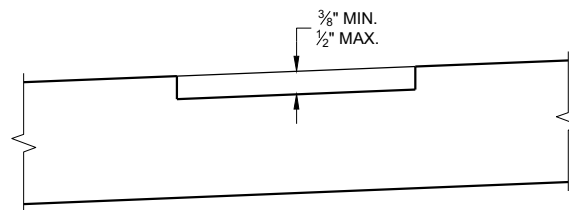
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



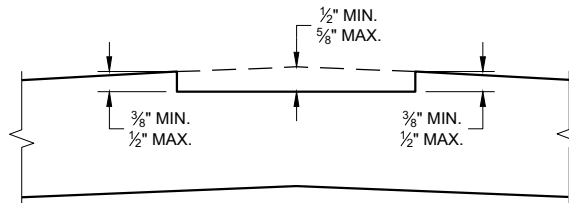
ISOMETRIC



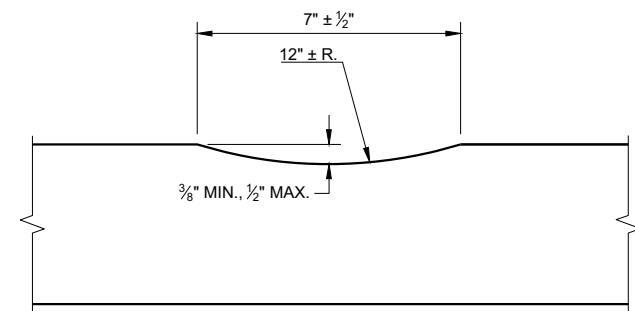
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B  
SUPERELEVATED ROADWAY



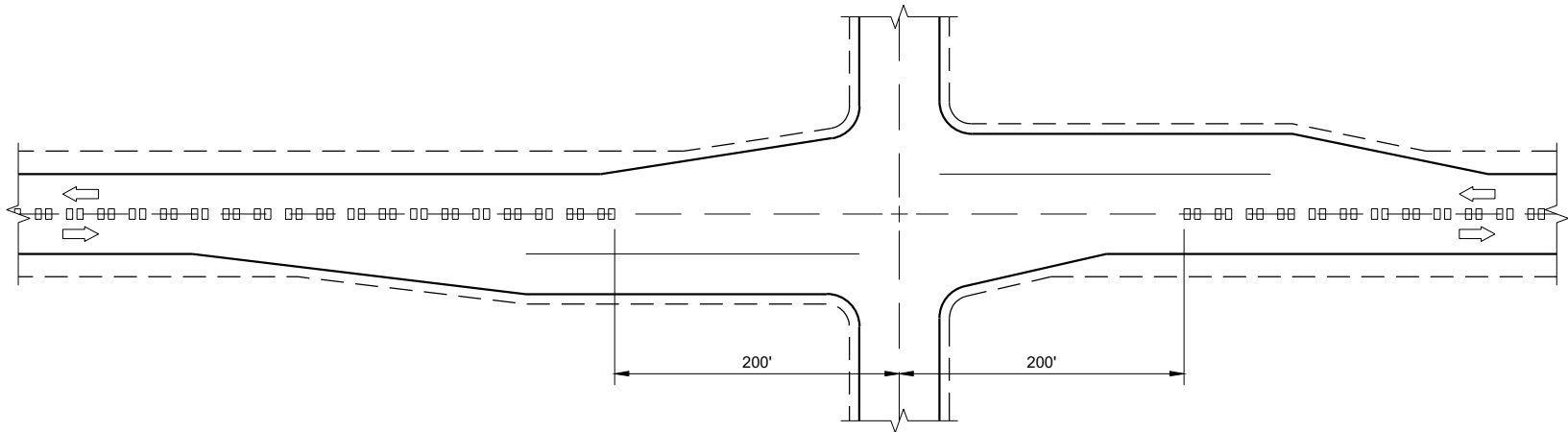
SECTION B - B  
CROWNED ROADWAY



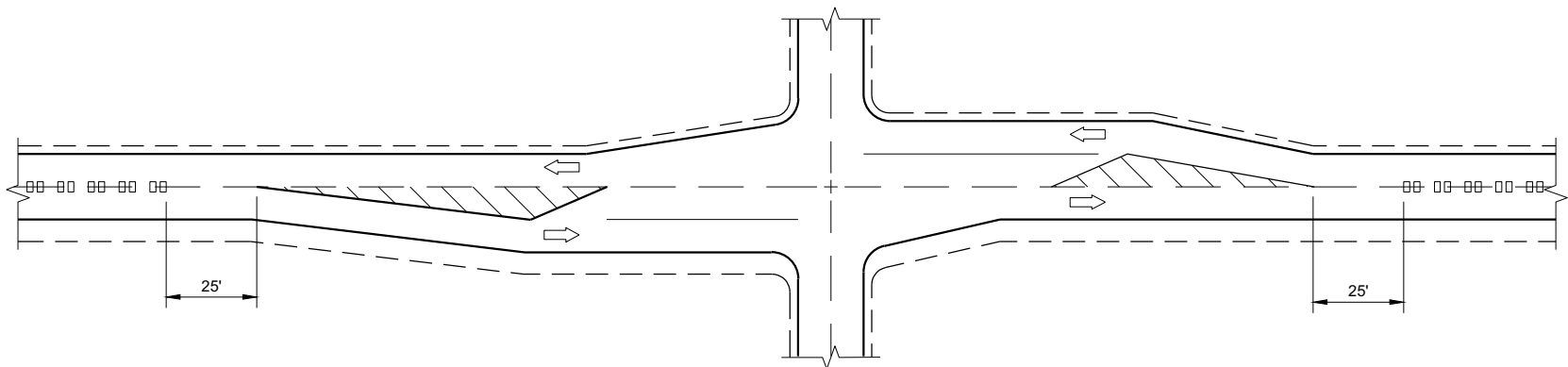
SECTION A - A

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

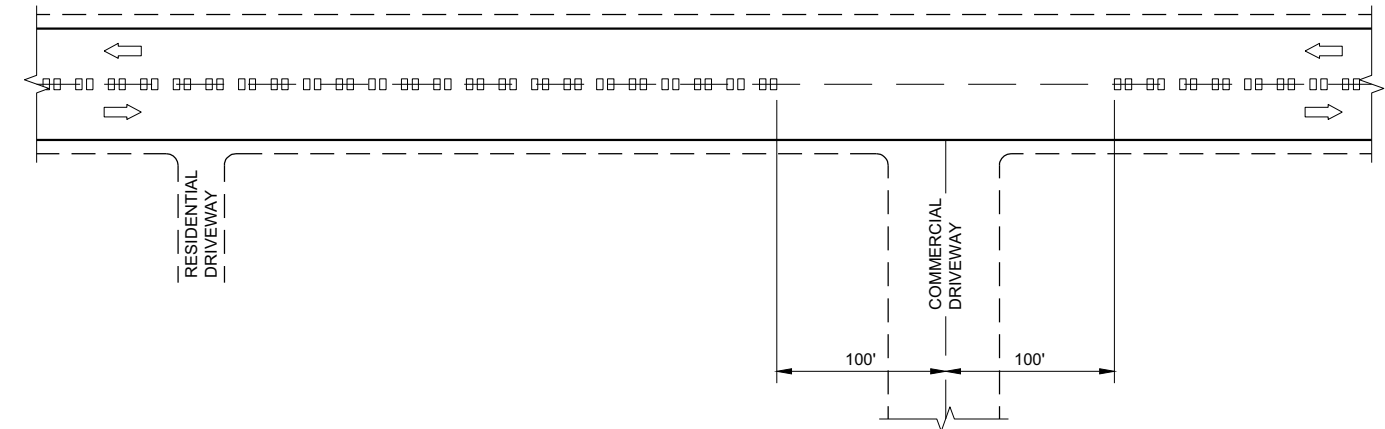
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



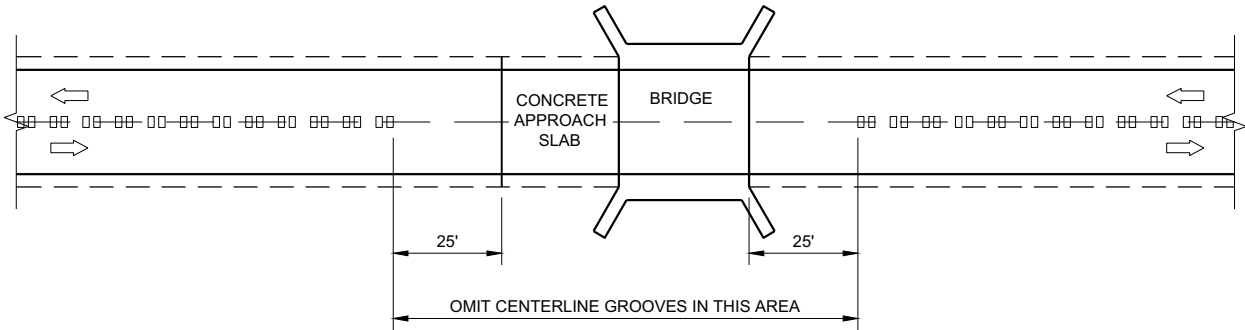
CENTERLINE GROOVES AT INTERSECTIONS  
(WITH LEFT TURN LANES)



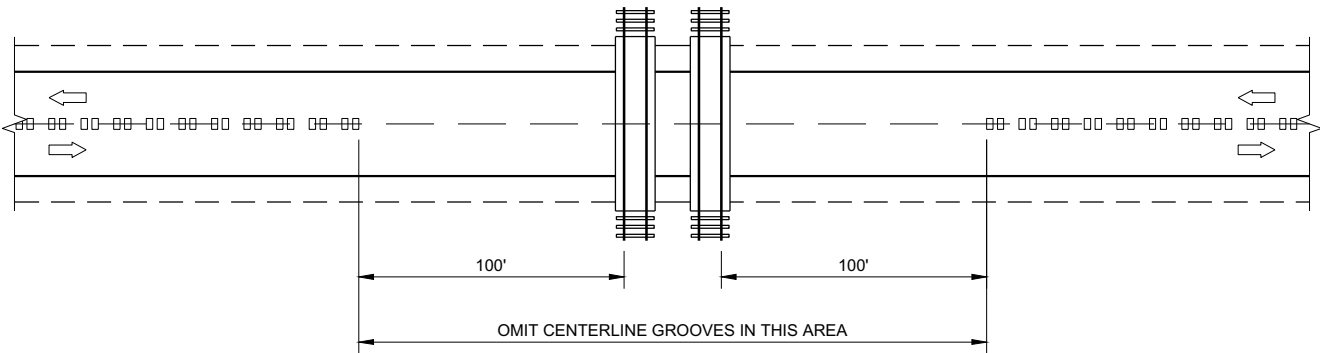
CENTERLINE GROOVES AT DRIVEWAYS<sup>①</sup>

GENERAL NOTES

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



CENTERLINE GROOVES AT BRIDGES

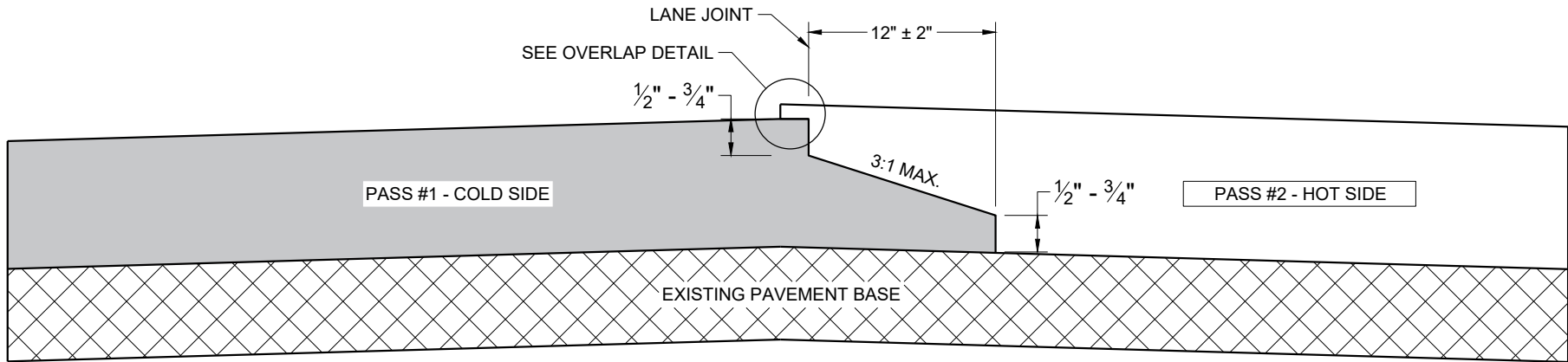


CENTERLINE GROOVES AT RAILROADS

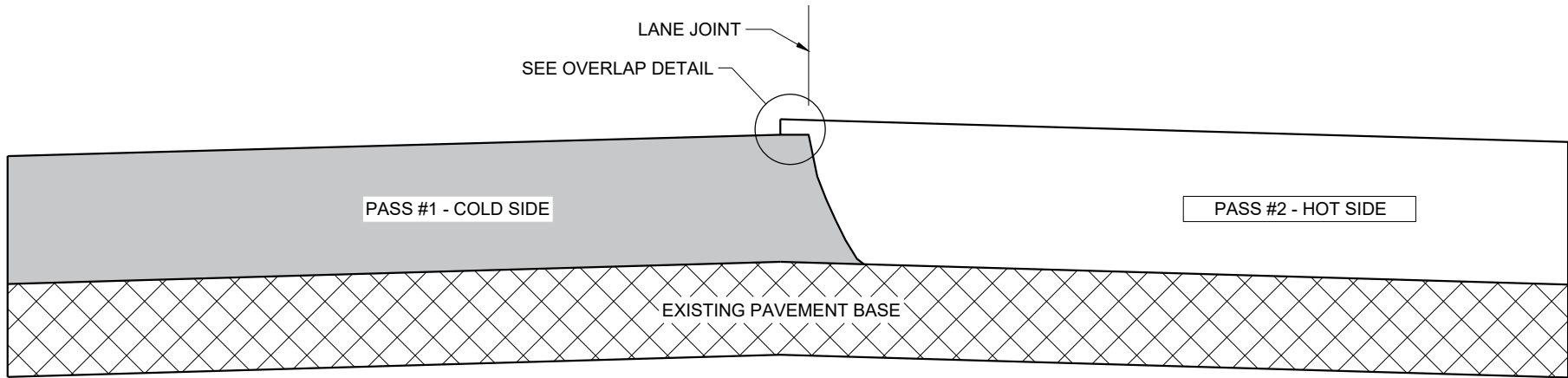
2-LANE RURAL  
CENTERLINE RUMBLE STRIP,  
MILLING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

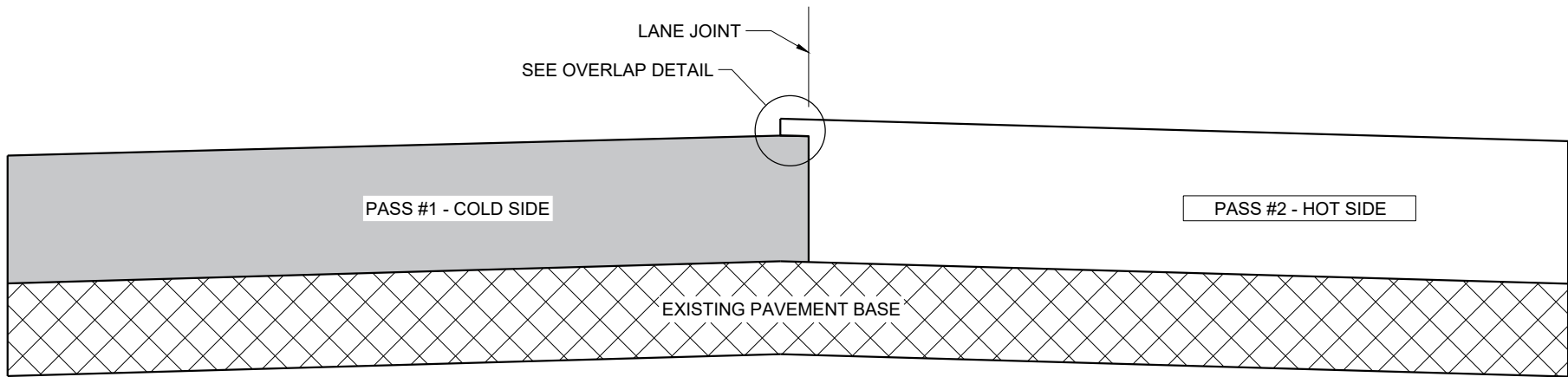
APPROVED  
7/2018  
DATE  
/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER  
FHWA



TYPICAL PAVEMENT CROSS SECTION  
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT (MILLED)

GENERAL NOTES

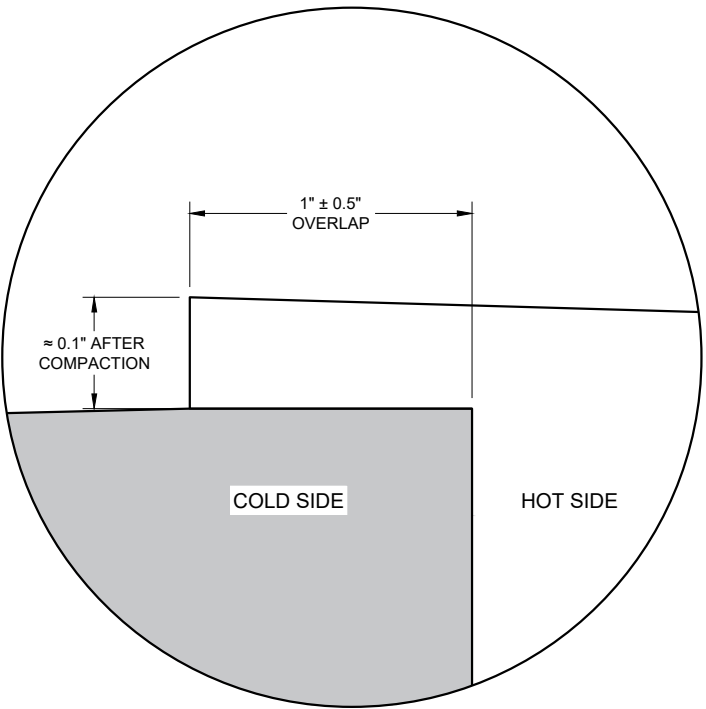
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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.

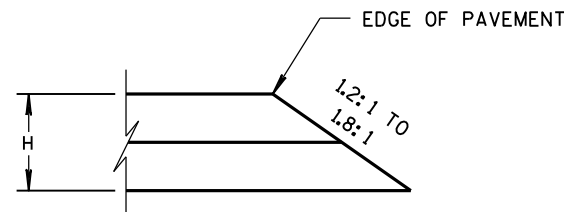


OVERLAP DETAIL (TYPICAL)

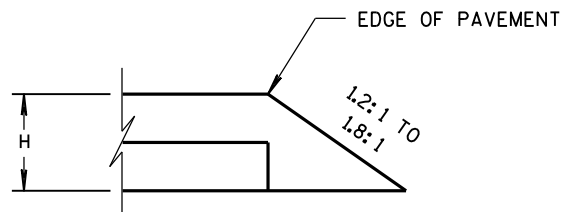
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

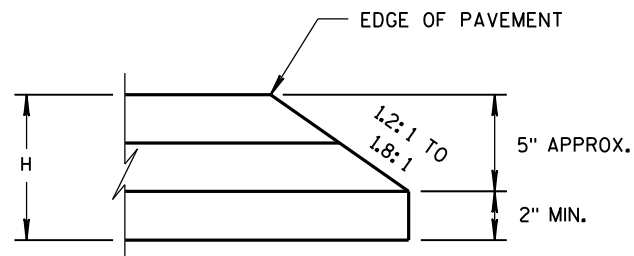
APPROVED  
November 2020 /S/ Steven Hefel  
DATE HMA PAVEMENT ENGINEER  
FHWA



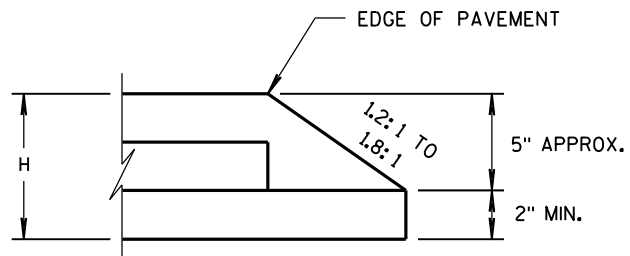
CONSTRUCTED WITH FINAL TWO LAYERS  
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER  
FOR H 5" OR LESS

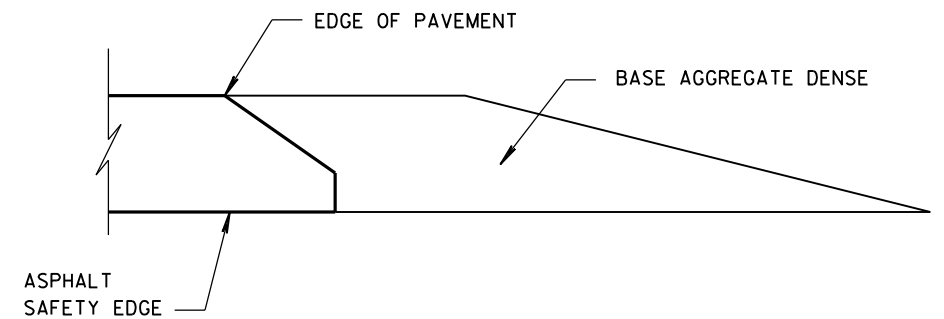


CONSTRUCTED WITH FINAL TWO LAYERS  
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER  
FOR H GREATER THAN 5"

### HMA PAVEMENT AND HMA OVERLAYS



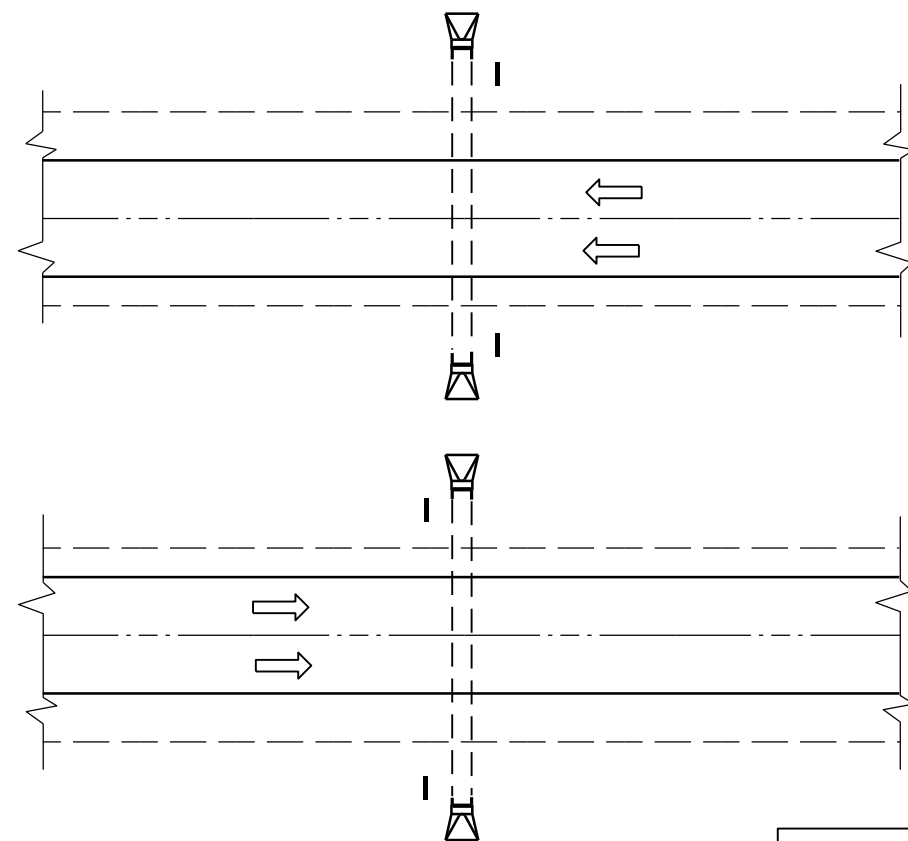
### FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE<sub>SM</sub>

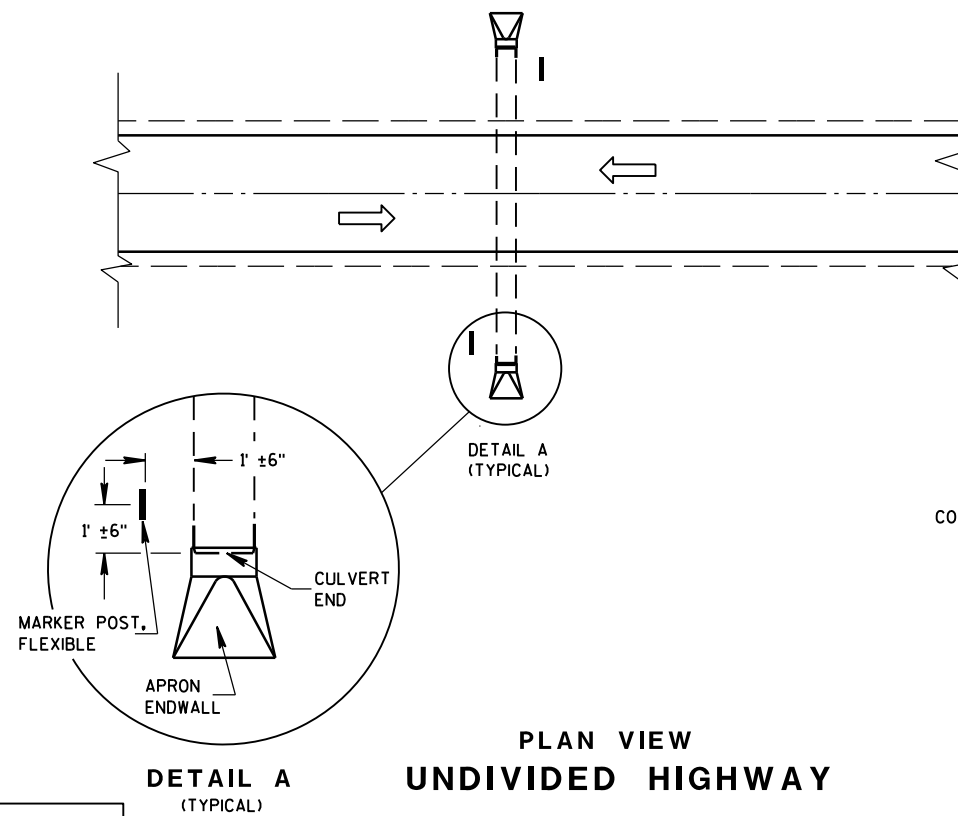
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
11/30/2012  
DATE  
FHWA

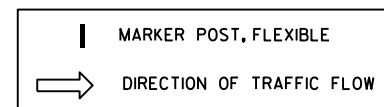
/s/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER



PLAN VIEW  
DIVIDED HIGHWAY



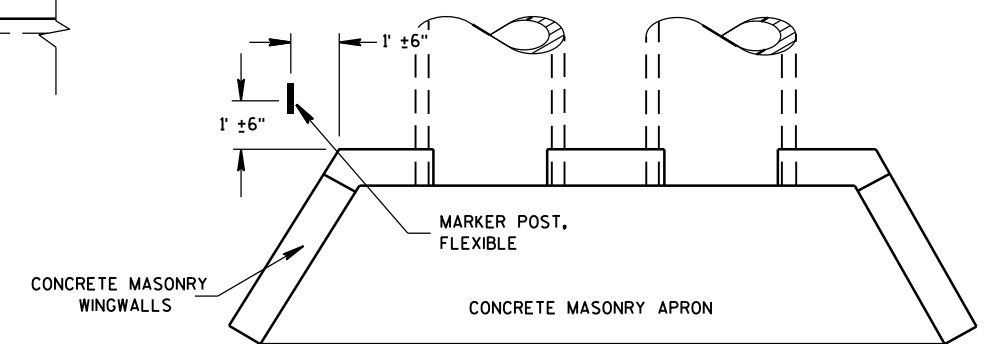
PLAN VIEW  
UNDIVIDED HIGHWAY



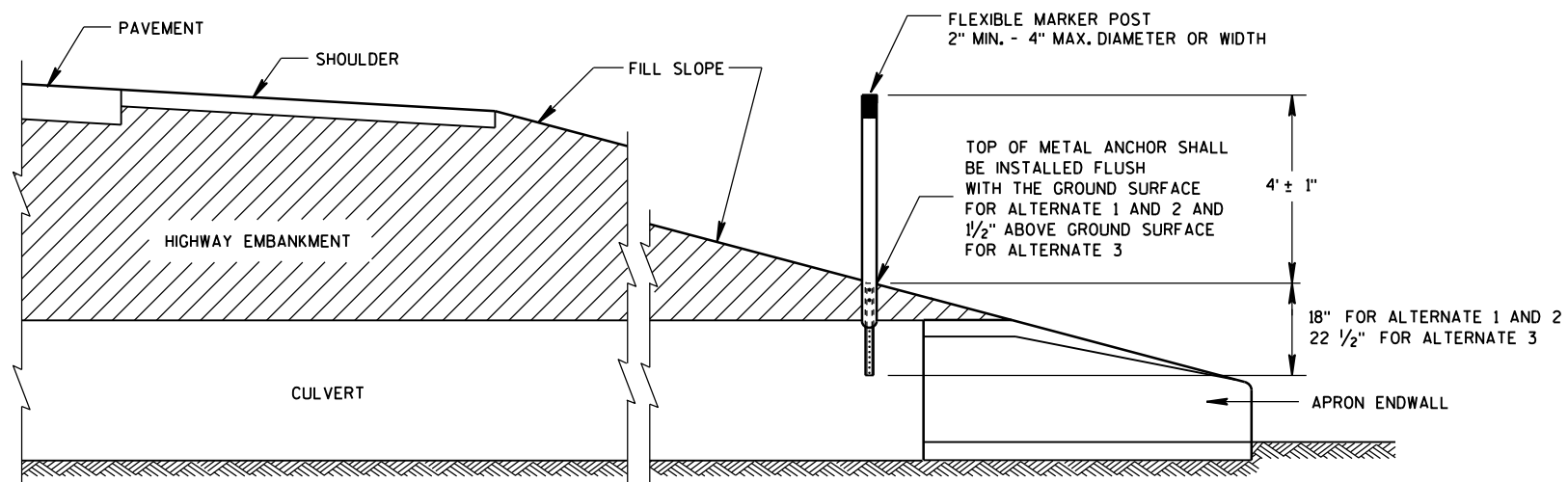
### FLEXIBLE MARKER POST LOCATION

### GENERAL NOTES

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



PLAN VIEW  
CONCRETE MASONRY ENDWALLS FOR  
CULVERT PIPE AND PIPE ARCH

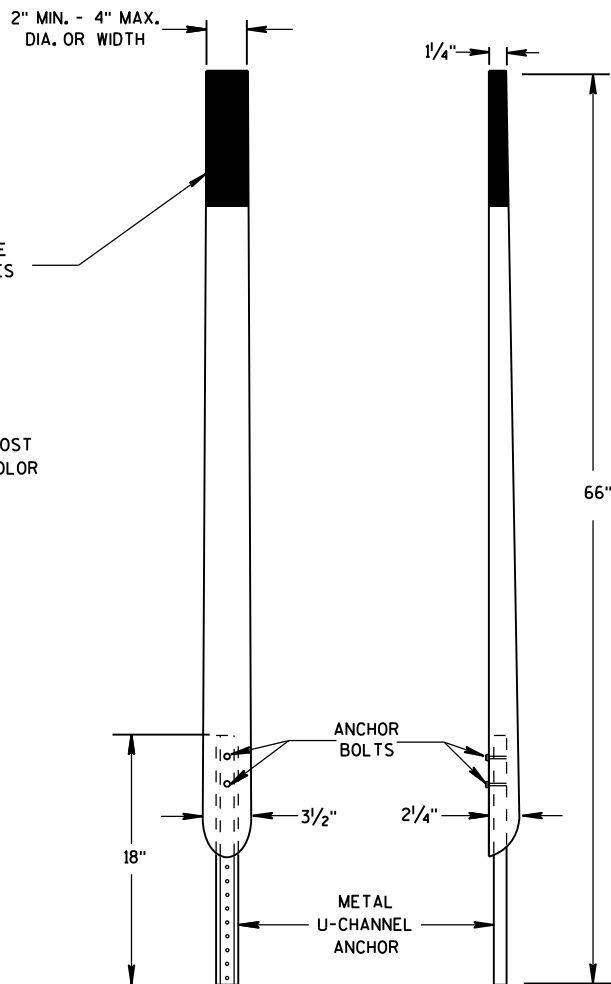
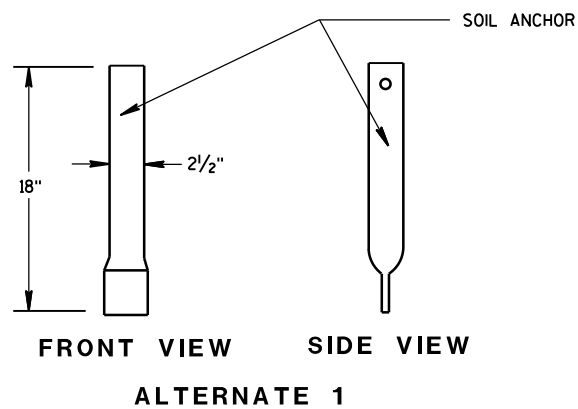
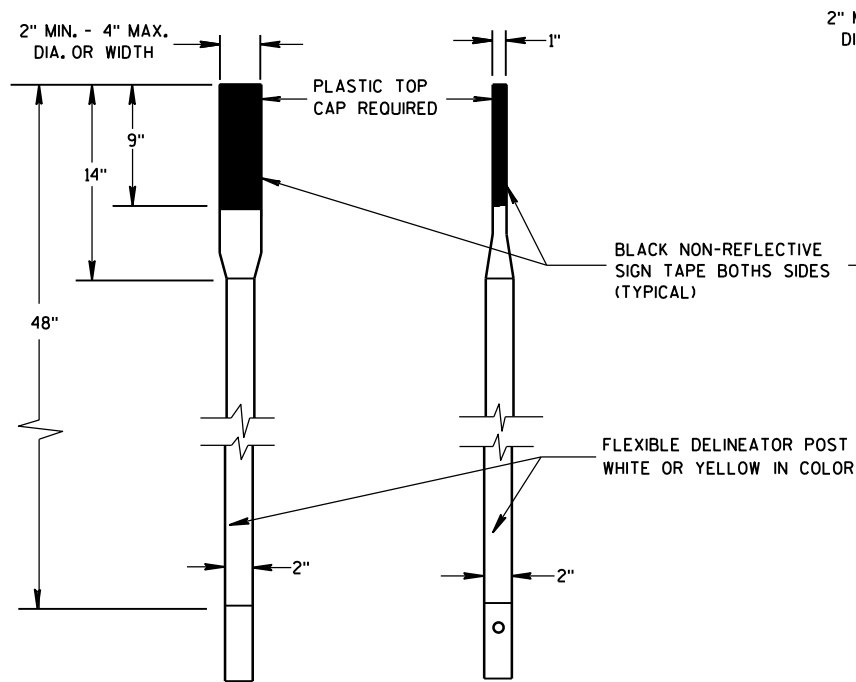


CROSS SECTION  
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST  
FOR CULVERT END

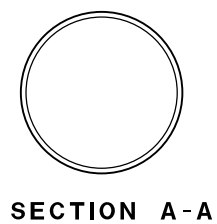
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



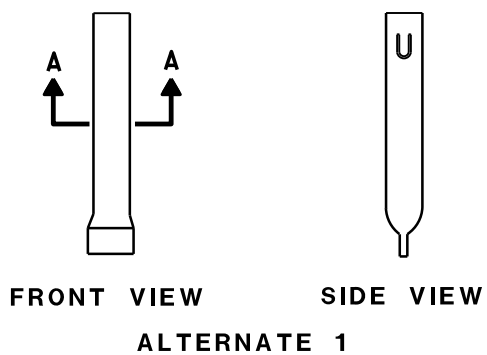


FRONT VIEW SIDE VIEW  
ALTERNATE 2

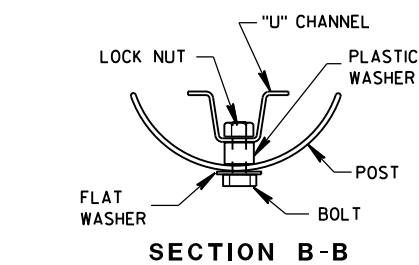
### FLEXIBLE MARKER POSTS



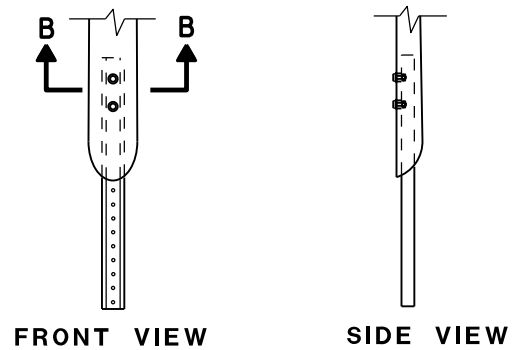
SECTION A-A



FRONT VIEW SIDE VIEW  
ALTERNATE 1

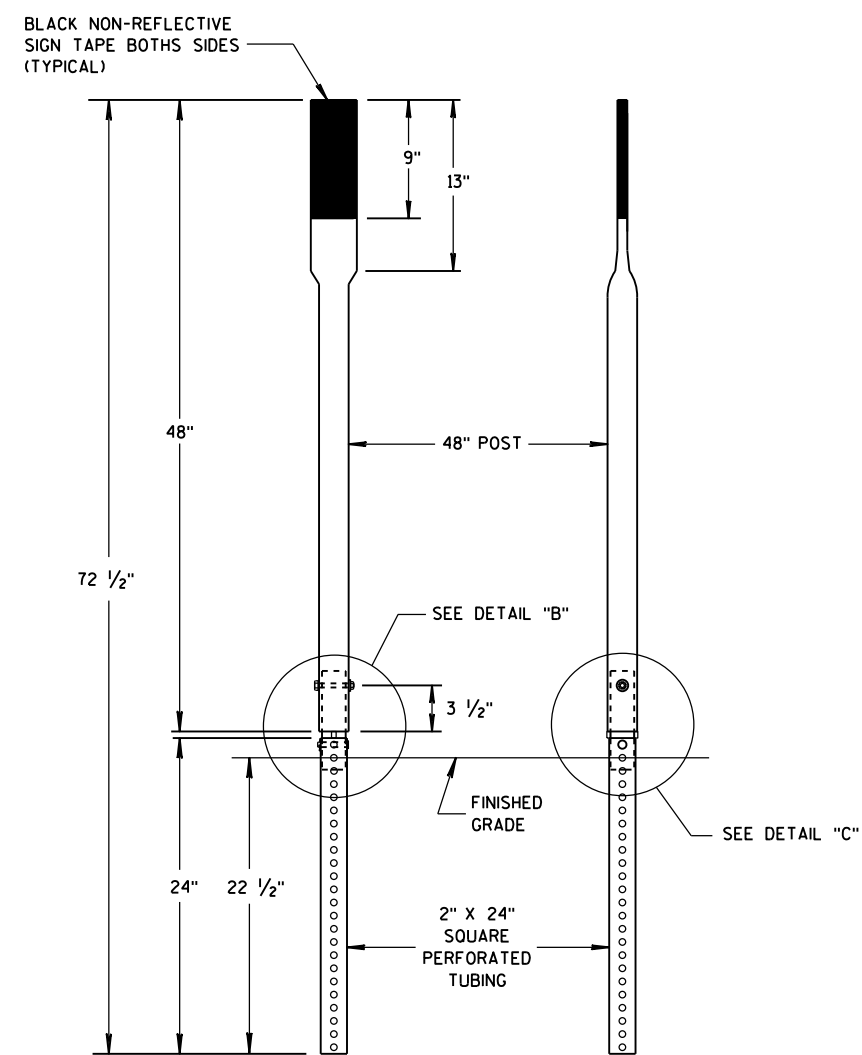


SECTION B-B

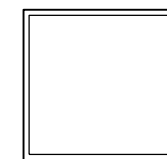


FRONT VIEW SIDE VIEW  
ALTERNATE 2

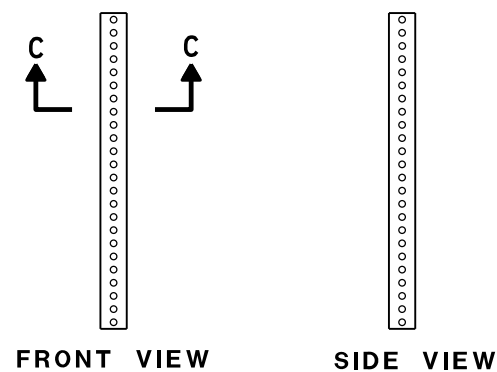
### FLEXIBLE MARKER POST ANCHORS



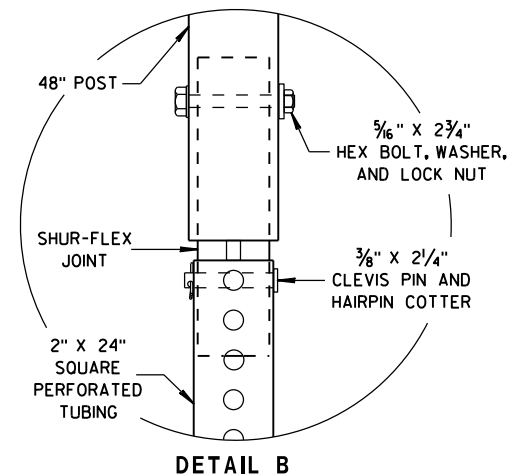
FRONT VIEW SIDE VIEW  
ALTERNATE 3



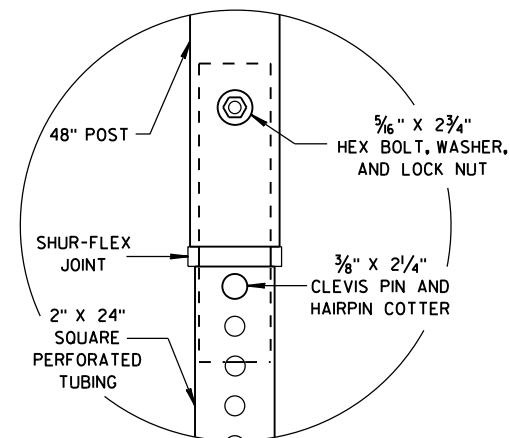
SECTION C-C



FRONT VIEW SIDE VIEW  
ALTERNATE 3



DETAIL B



DETAIL C

### FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

10/1/2012  
DATE

FHWA

/S/ Travis Feltes  
STATE TRAFFIC ENGINEER OF DESIGN

GENERAL NOTES

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.




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

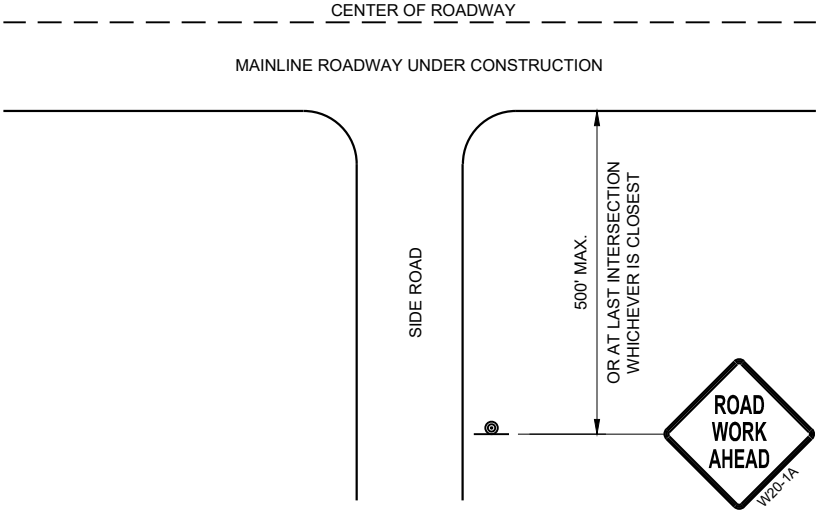
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

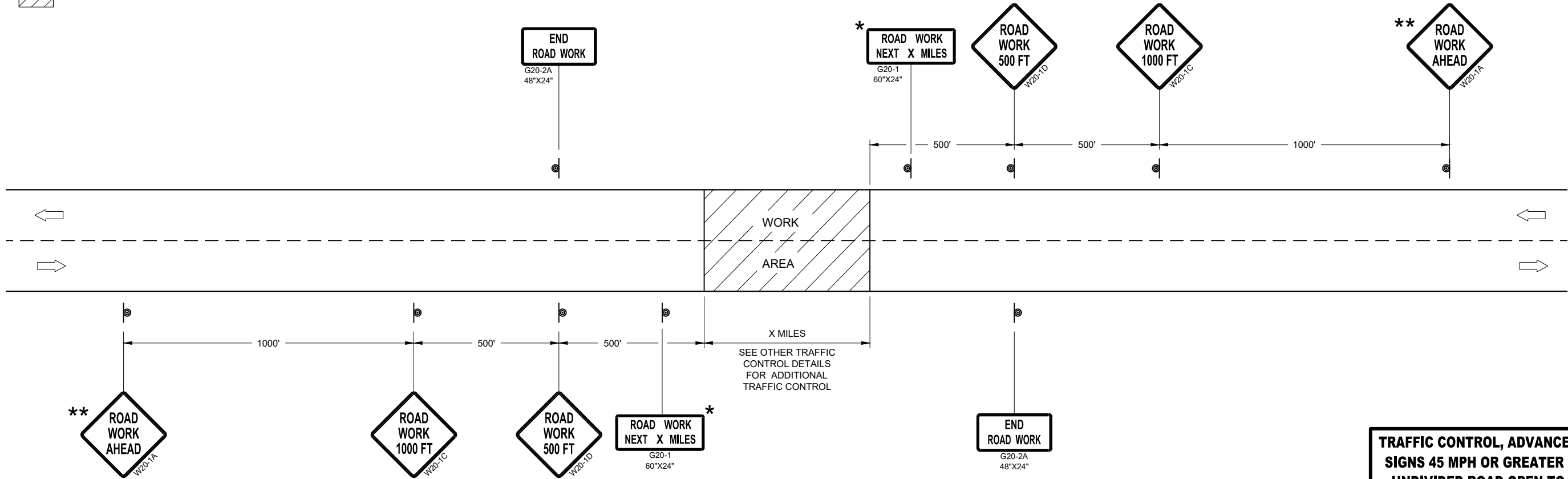
- \* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- \*\* PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

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



TYPICAL SIDE ROAD APPROACH  
WARNING SIGN DETAIL



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

GENERAL NOTES

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.




ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

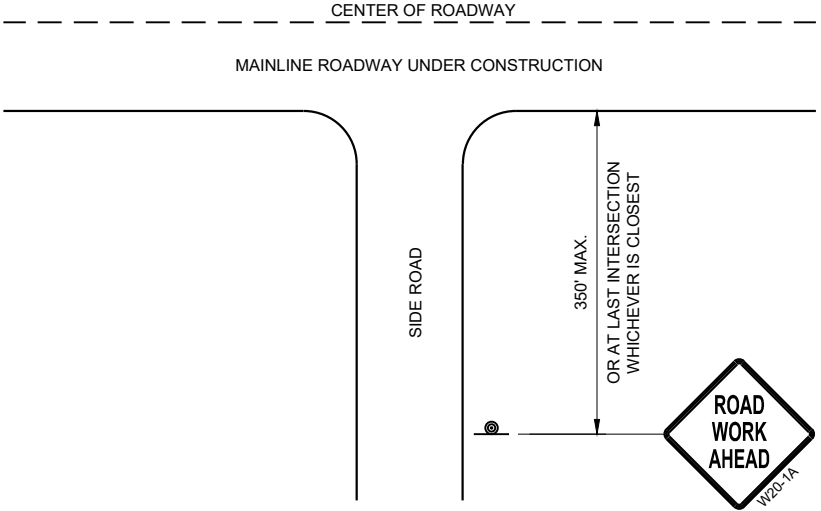
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

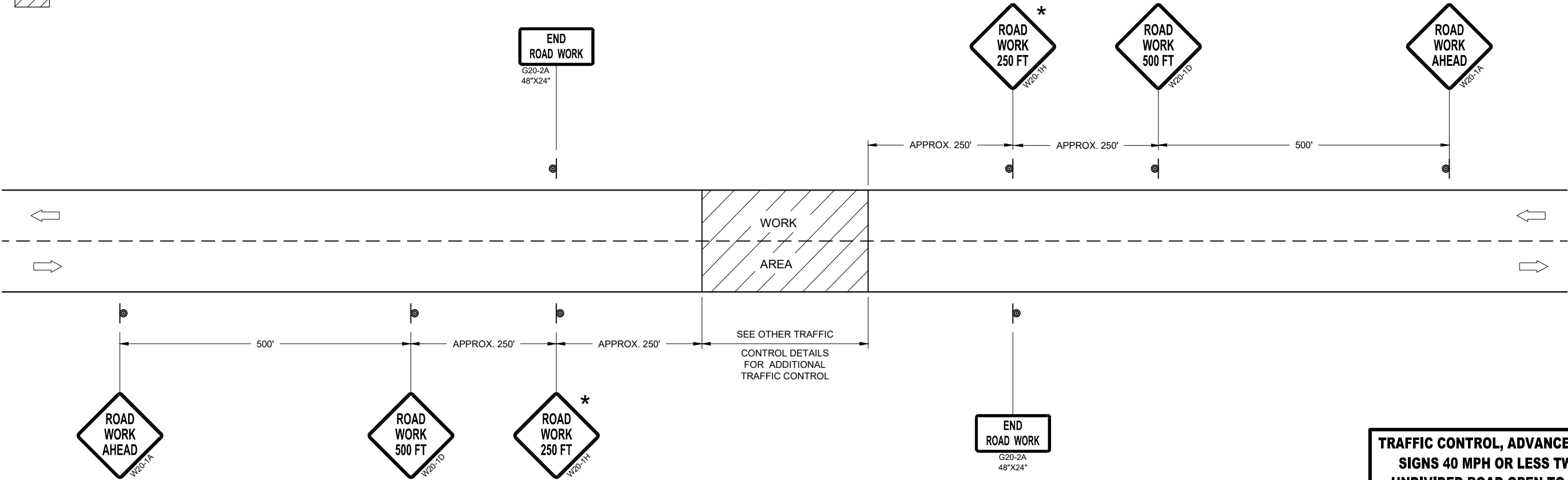
\* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

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



TYPICAL SIDE ROAD APPROACH  
WARNING SIGN DETAIL

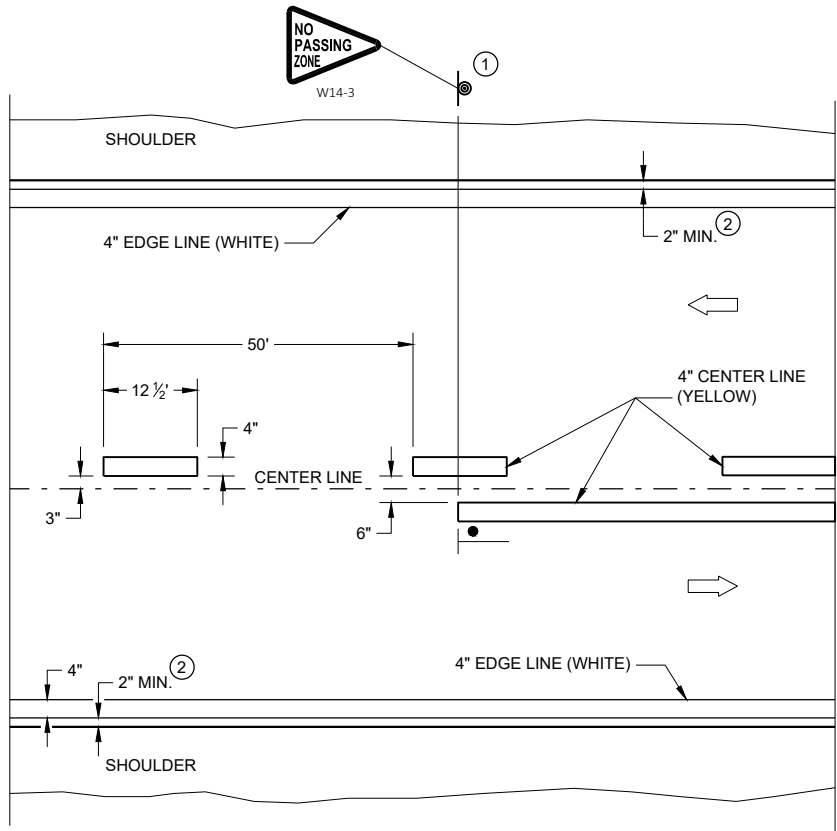


TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

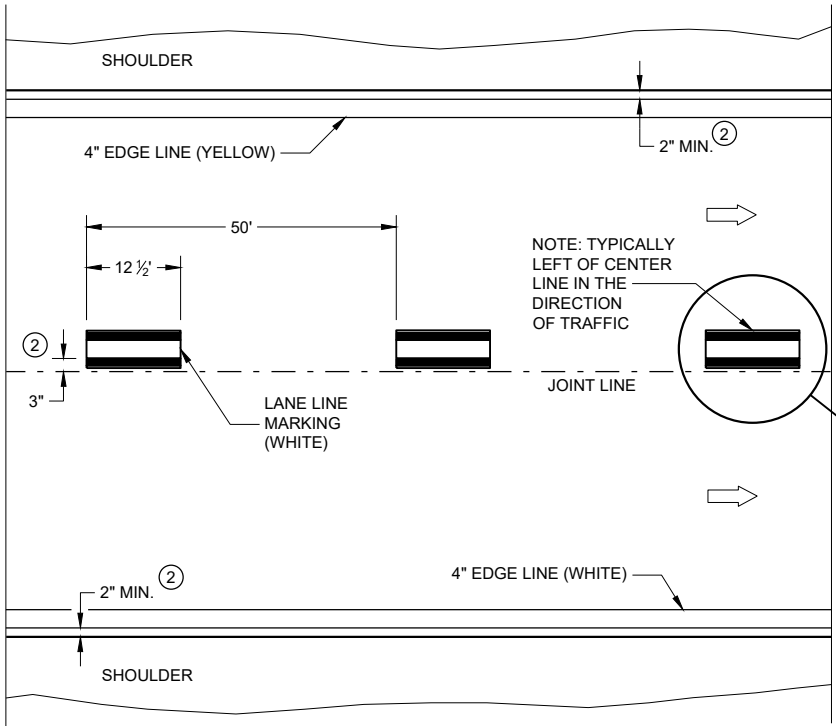
TRAFFIC CONTROL, ADVANCE WARNING  
SIGNS 40 MPH OR LESS TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

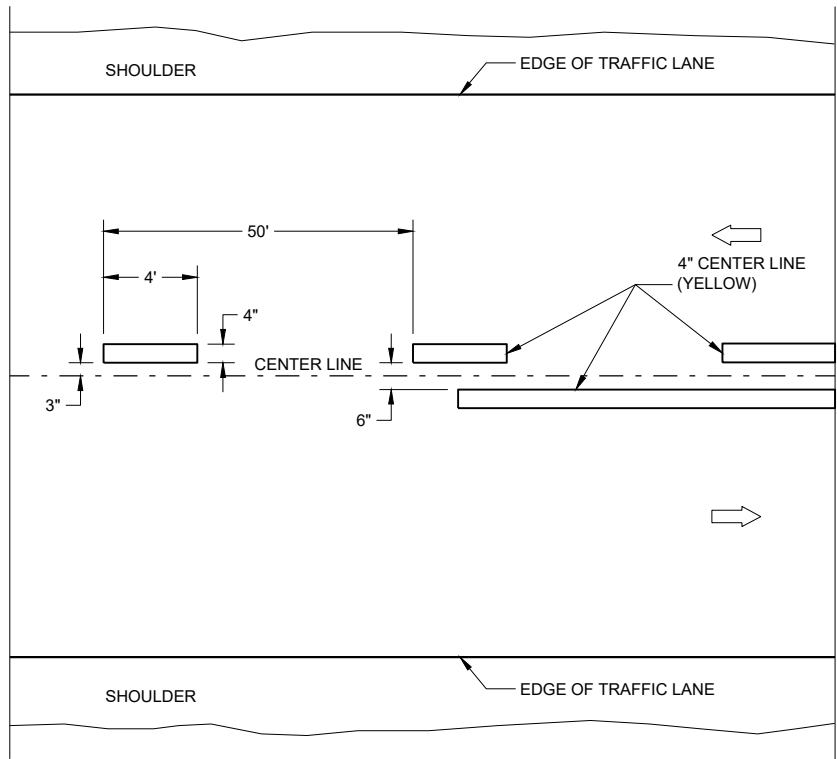


TWO WAY TRAFFIC

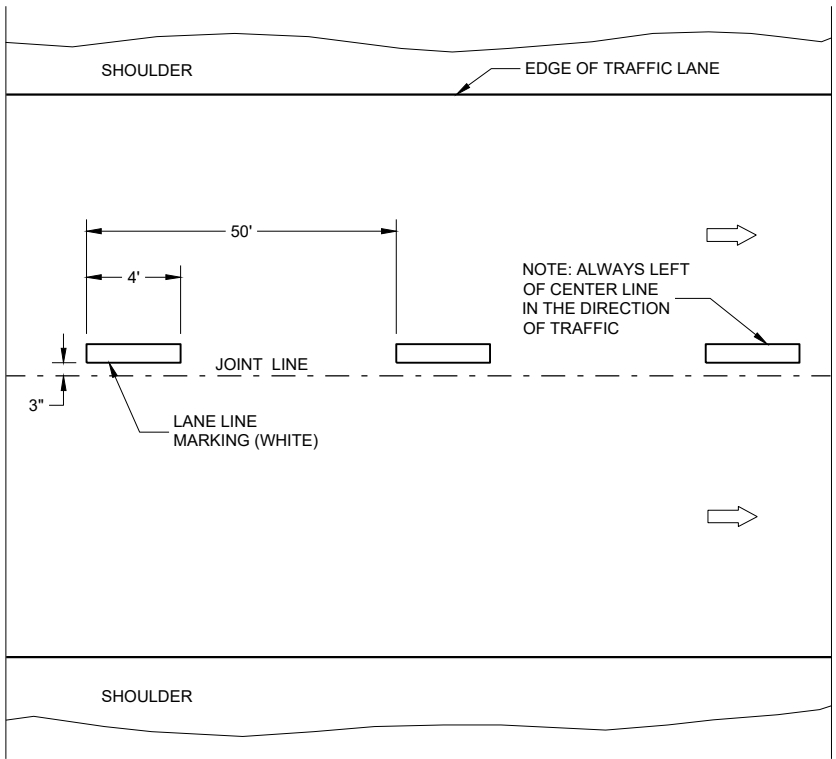


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

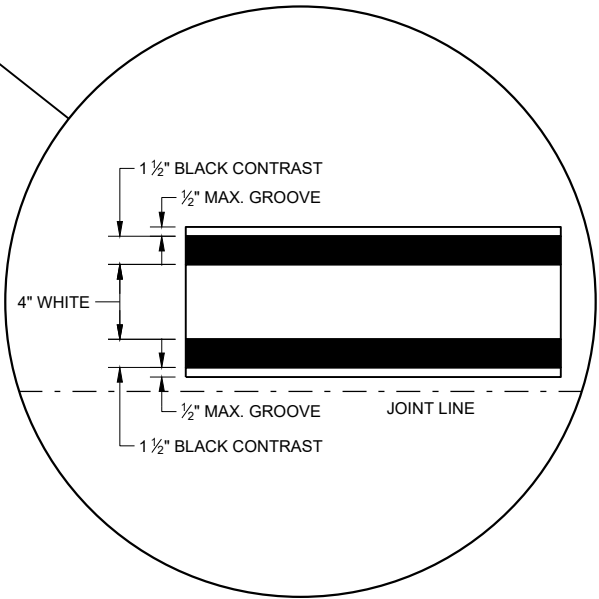
GENERAL NOTES

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

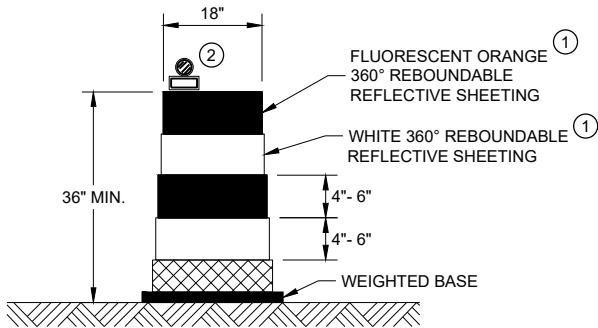
- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC



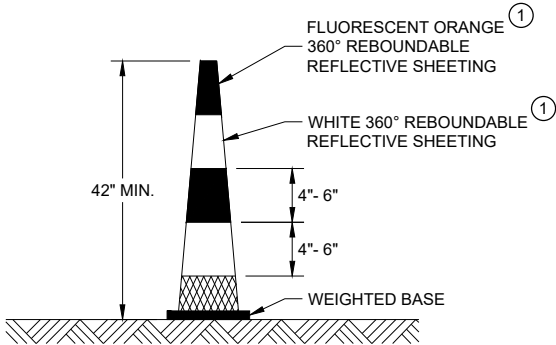
LONGITUDINAL MARKING  
(MAINLINE)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2020  
DATE  
/S/ Matthew Rauch  
STATEWIDE SIGNING AND MARKING  
ENGINEER  
FHWA

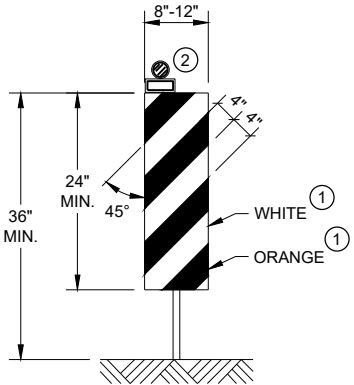


DRUM



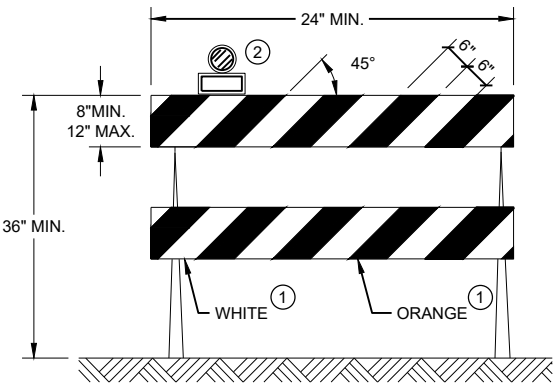
42" CONE

DO NOT USE IN TAPERS  
½ SPACING OF DRUMS



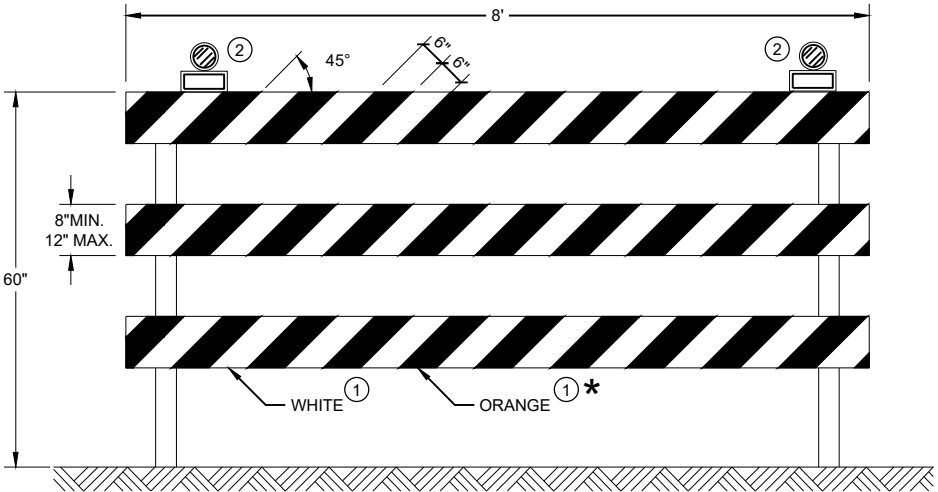
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

\* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES






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

CHANNELIZING DEVICES  
DRUMS, CONES, BARRICADES  
AND VERTICAL PANELS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

LEGEND

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

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

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

① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

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

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

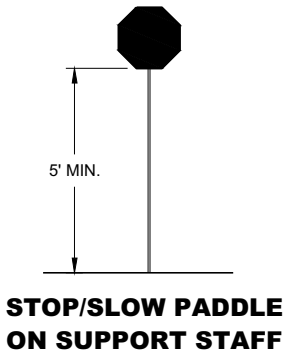
③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR 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.

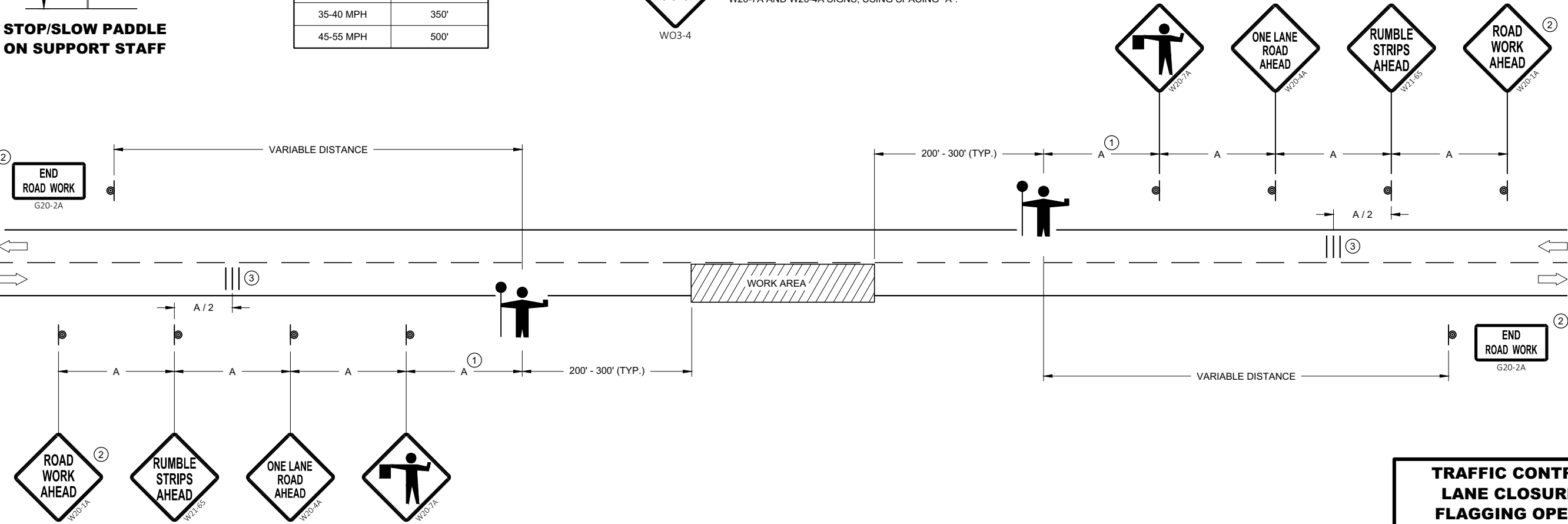


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

<b>TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



LEGEND

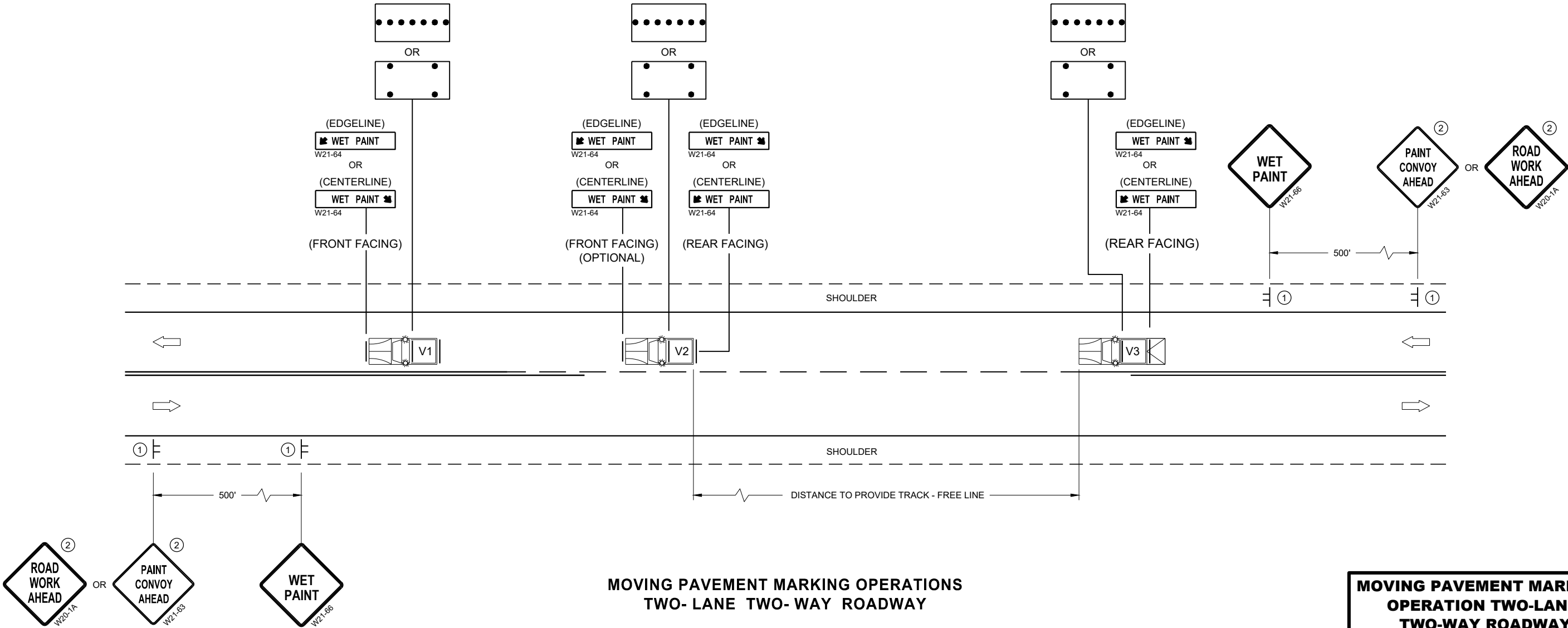
- V1 LEAD VEHICLE
- V2 MARKING VEHICLE
- V3 SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.
- DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

- WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.
- CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .

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



MOVING PAVEMENT MARKING OPERATIONS  
TWO-LANE TWO-WAY ROADWAY

MOVING PAVEMENT MARKING  
OPERATION TWO-LANE  
TWO-WAY ROADWAY

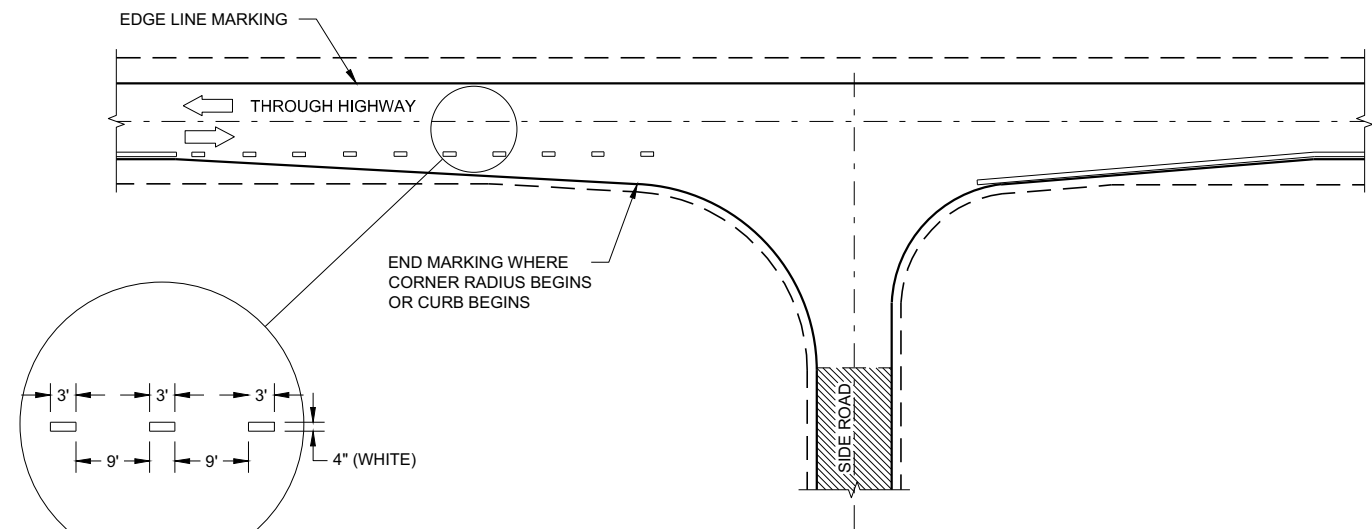
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2019 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER  
FHWA

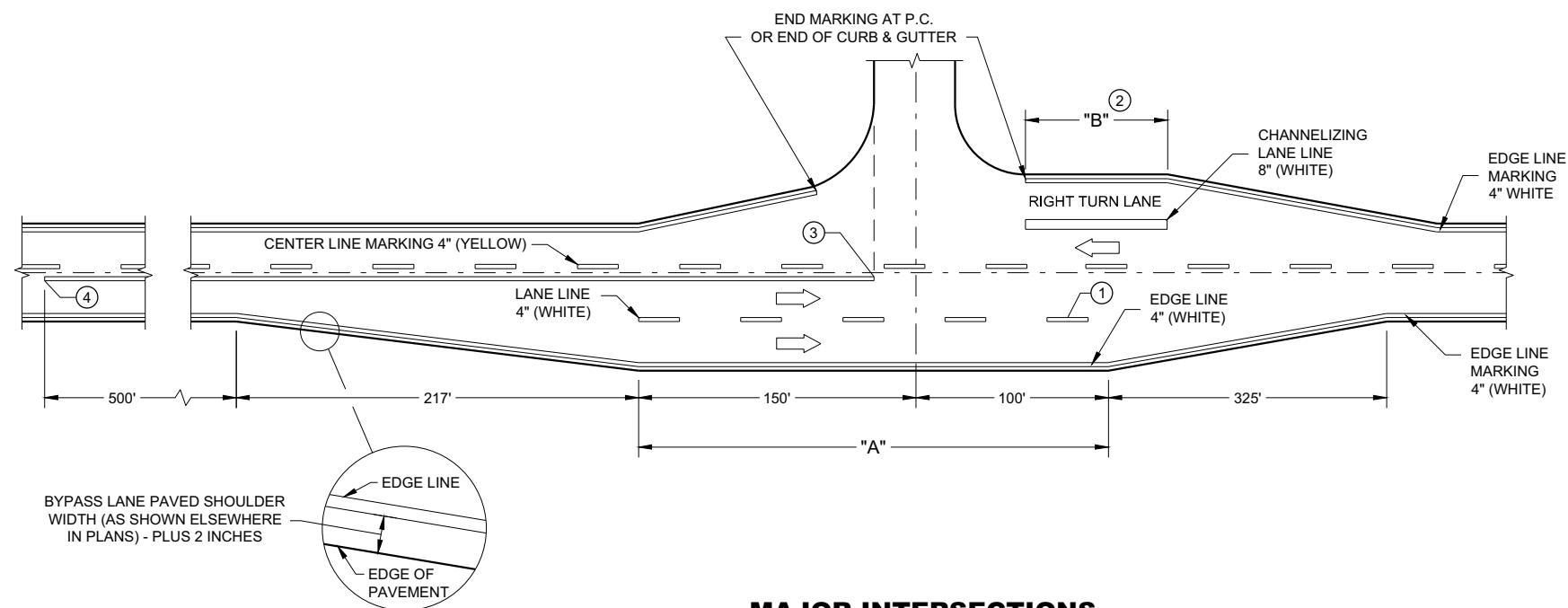


STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

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



MINOR INTERSECTION



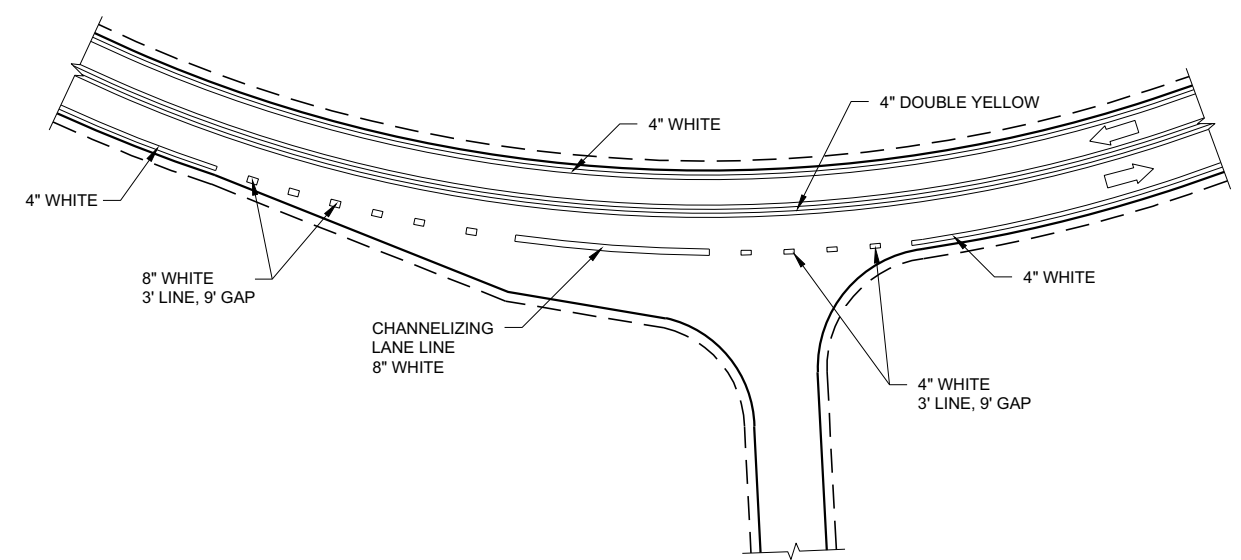
MAJOR INTERSECTIONS  
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

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

<b>PAVEMENT MARKING (INTERSECTIONS)</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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.

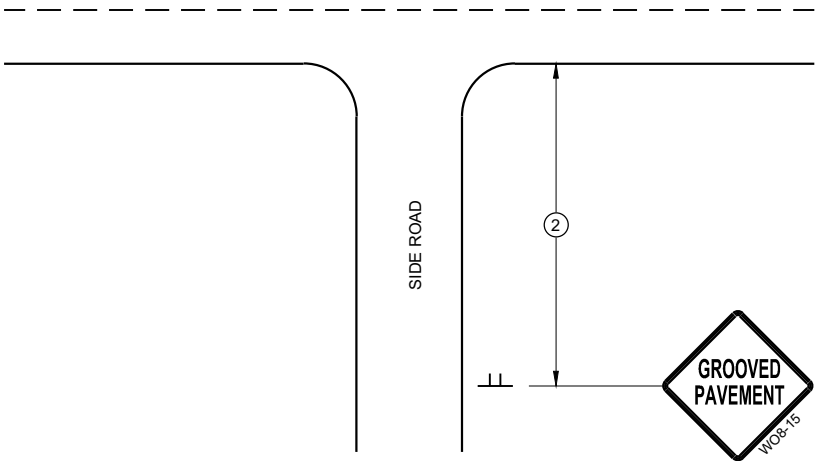
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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.

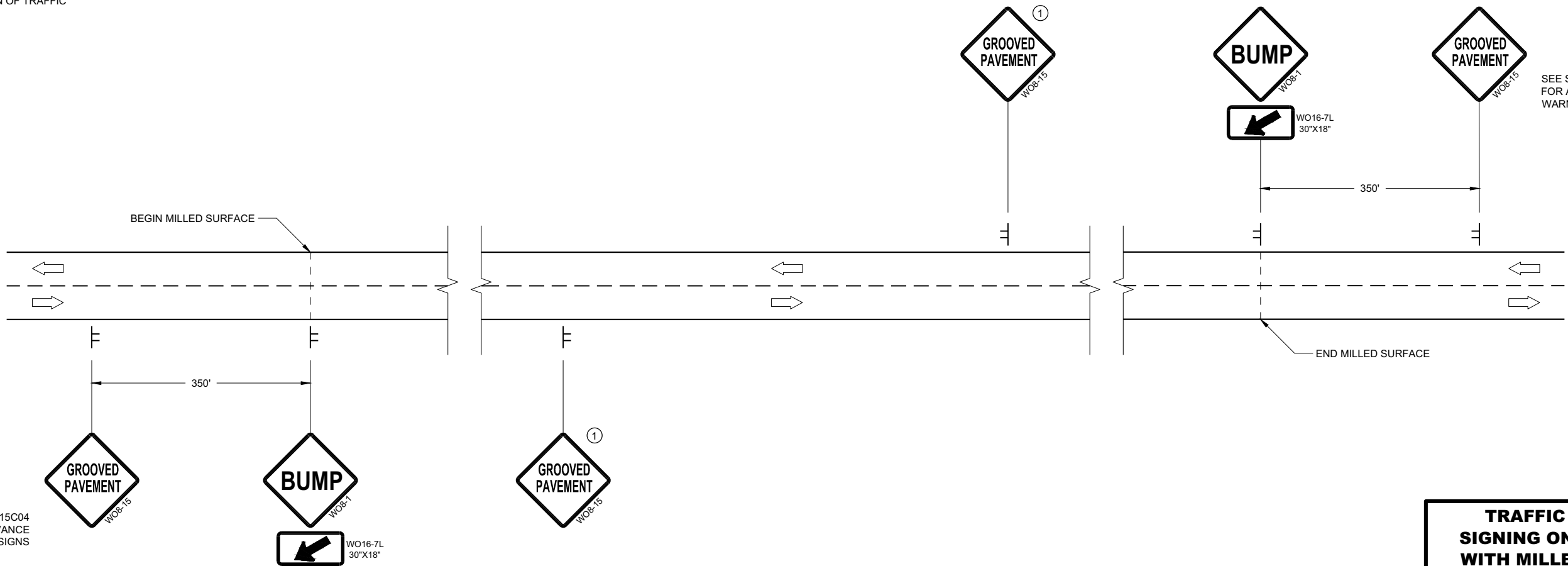
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH  
SIGN DETAIL



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

LEGEND

- V1  
WORK VEHICLE
- V2  
SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  FLASHING ARROW PANEL (CAUTION)
-  WORK AREA
-  DIRECTION OF TRAFFIC

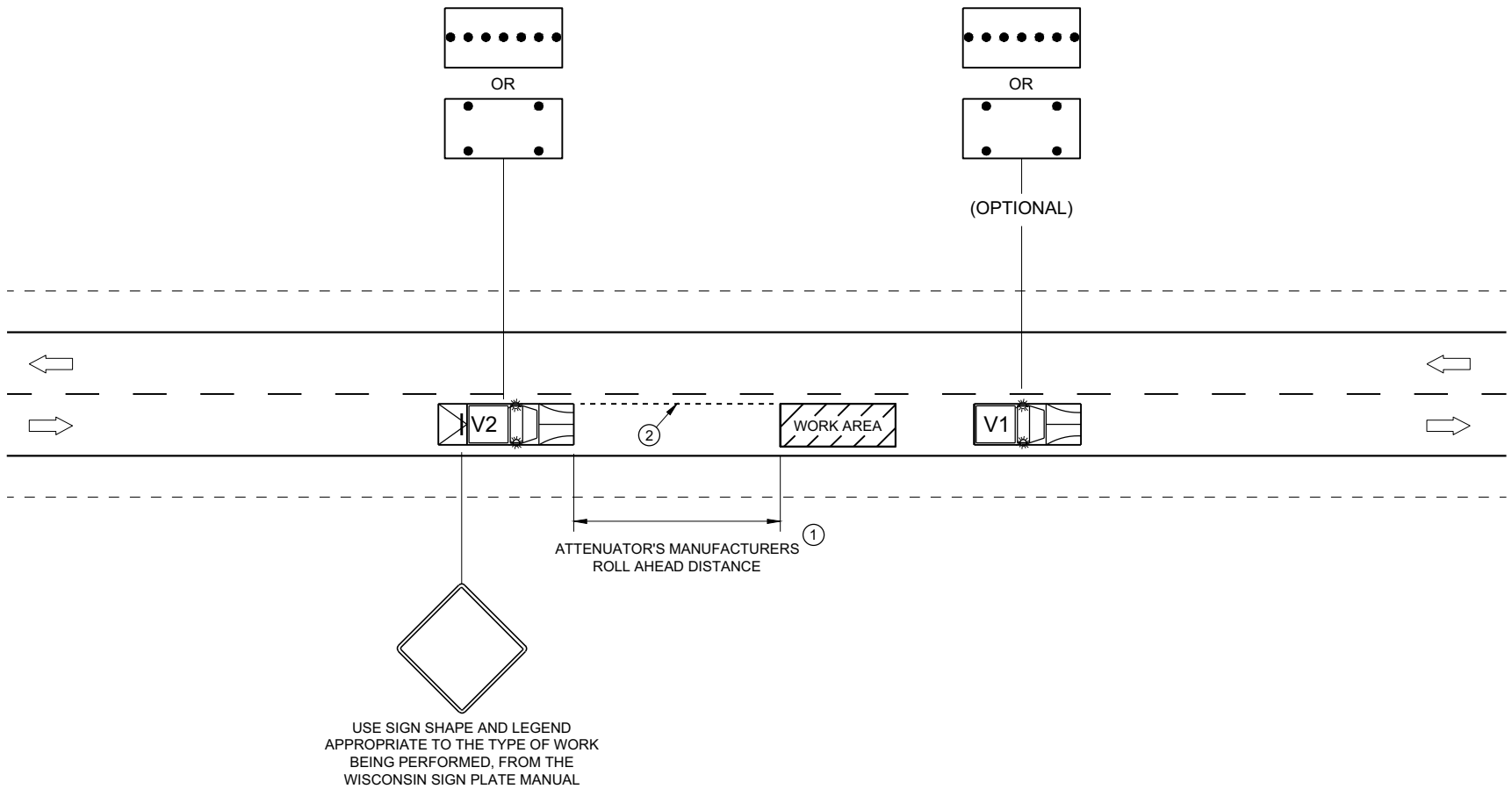
POSTED SPEED PRIOR TO WORK STARTING (MPH)	DECISION SIGHT DISTANCE (D)
0 - 25	550'
30	550'
35	700'
40	700'
45	900'
50	900'
55	1200'

GENERAL NOTES

- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.
- MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.
- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.
- ①

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

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



**TRAFFIC CONTROL,  
MOBILE OPERATIONS ON  
AN UNDIVIDED ROADWAY**

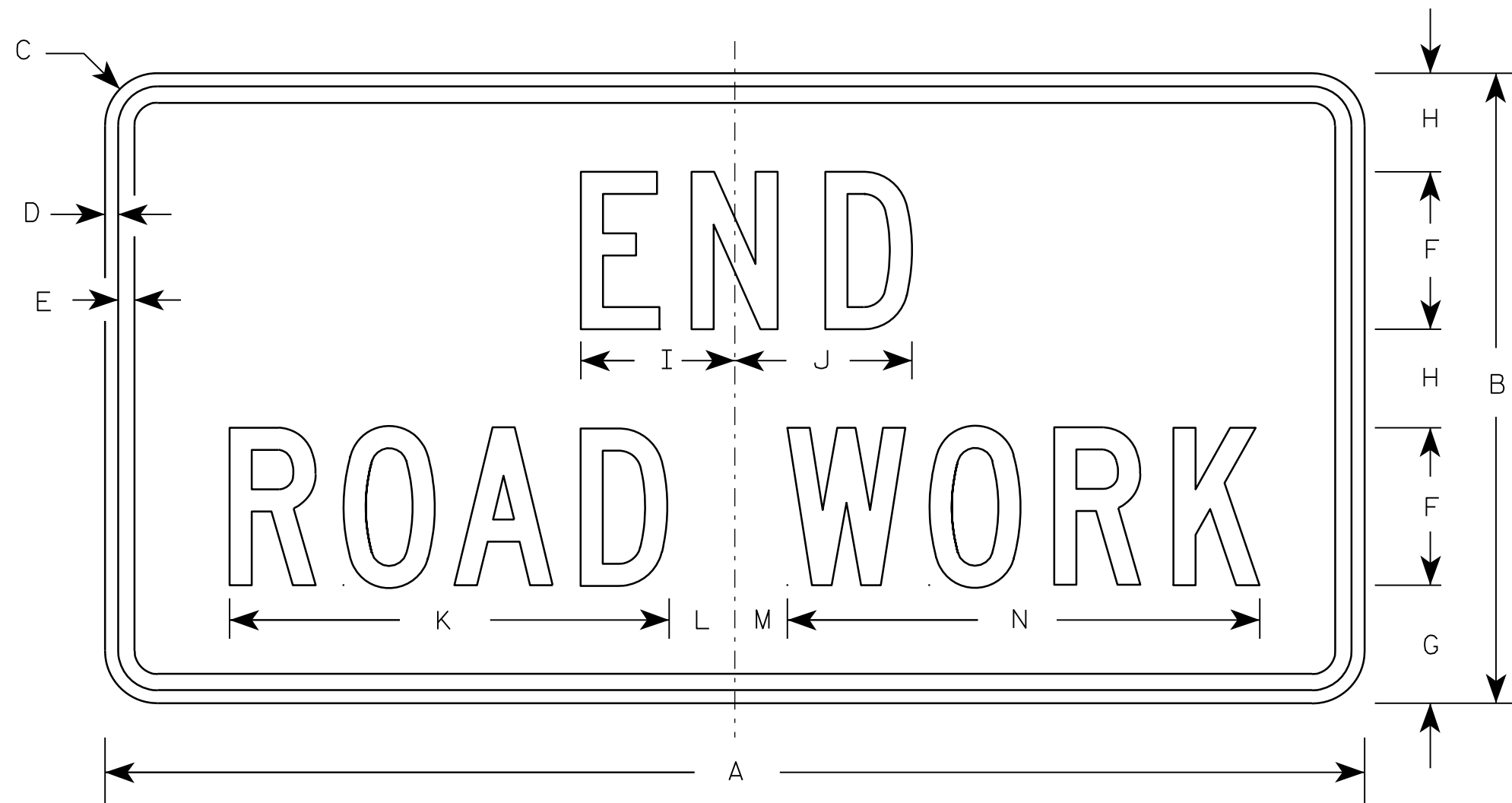
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2021  
DATE

/S/ Andrew Heidtke  
STATEWIDE WORK ZONE TRAFFIC  
SAFETY ENGINEER

FHWA

7



G20-2A

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
  - Background - Orange
  - Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent  
for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m <sup>2</sup>
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

STANDARD SIGN

G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

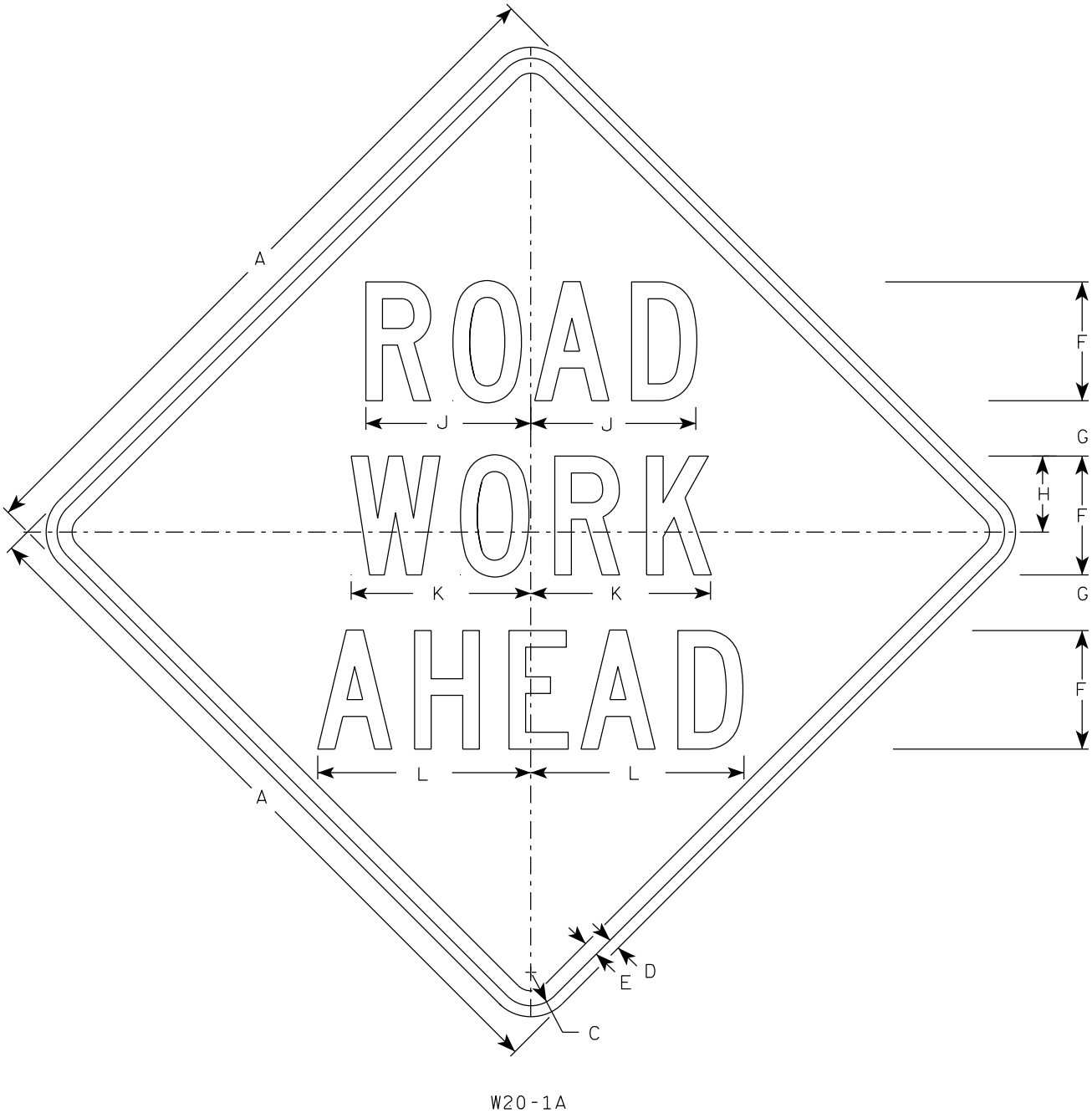
DATE 9/30/09 PLATE NO. G20-2A.8

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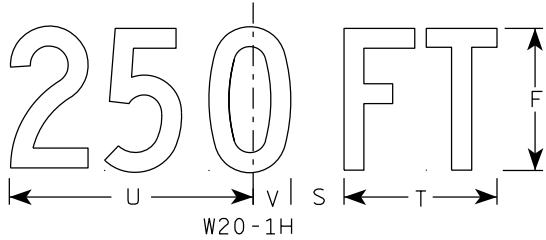


NOTES

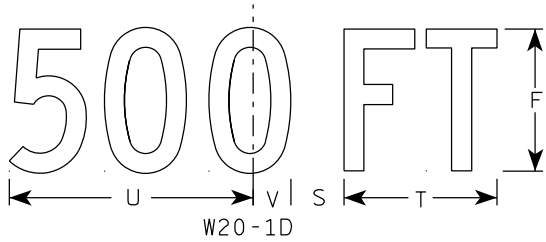
1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



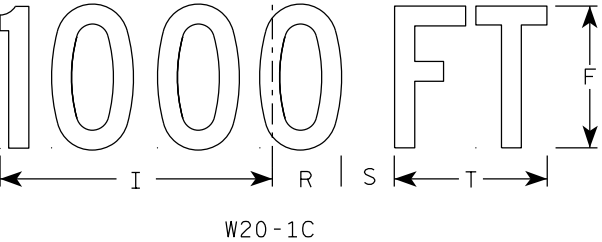
W20-1A



W20-1H



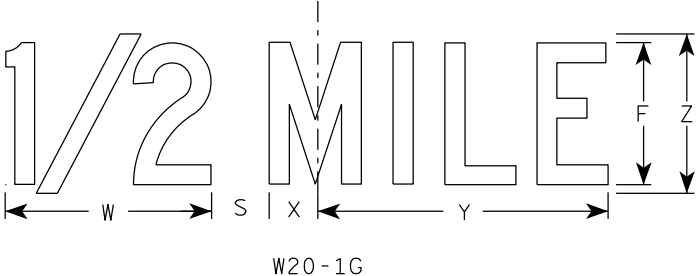
W20-1D



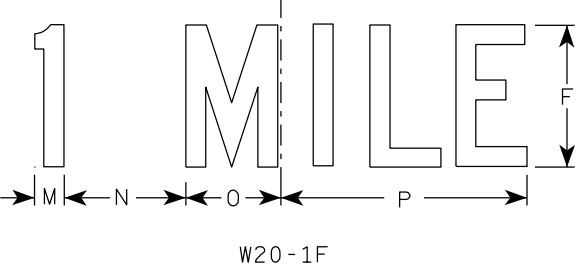
W20-1C



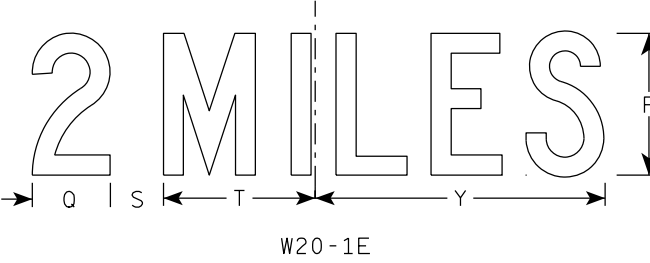
W20-1B



W20-1G



W20-1F



W20-1E

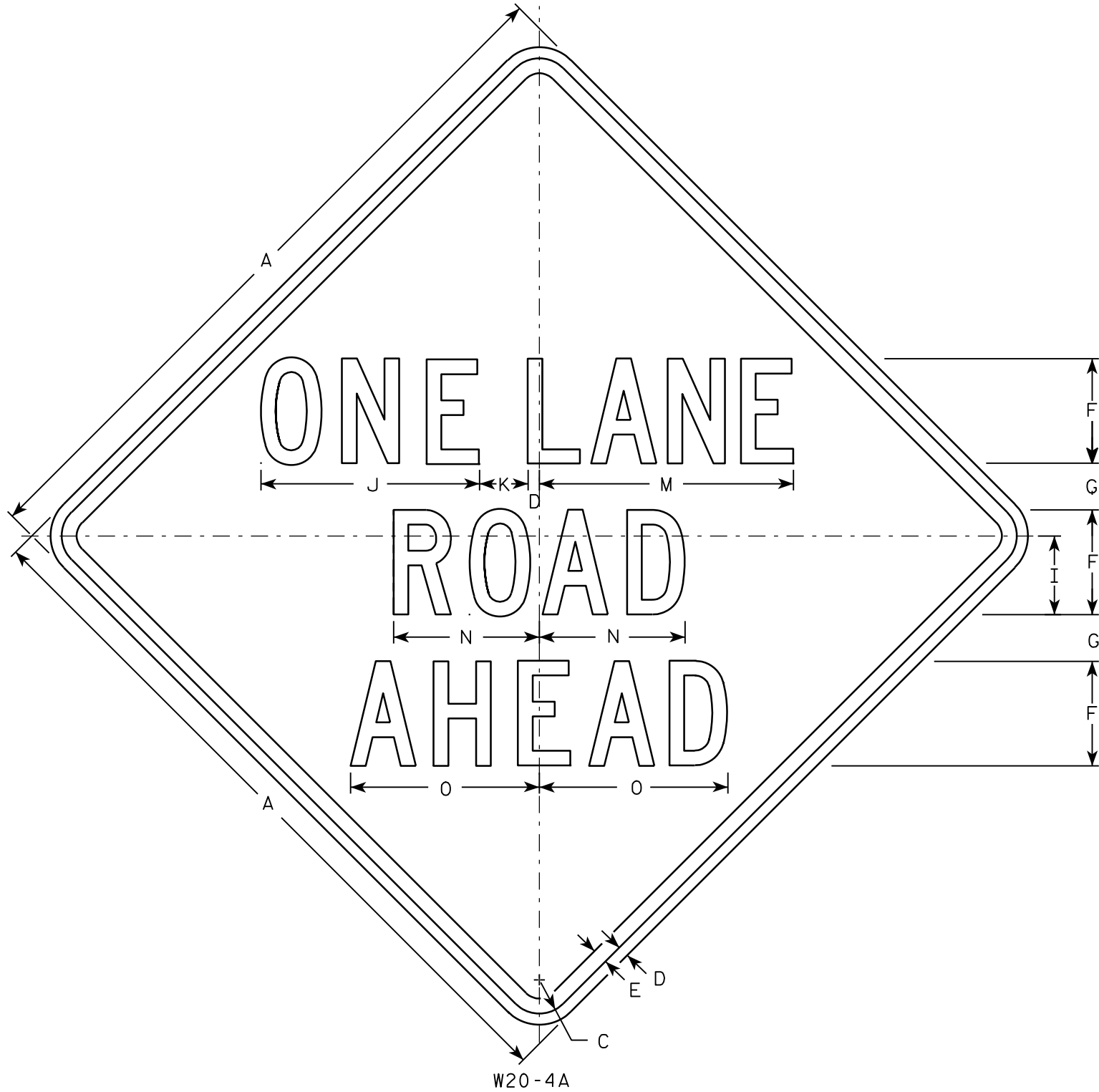
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	A <sub>req</sub> sq. ft.
1	36		1 5/8	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8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

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

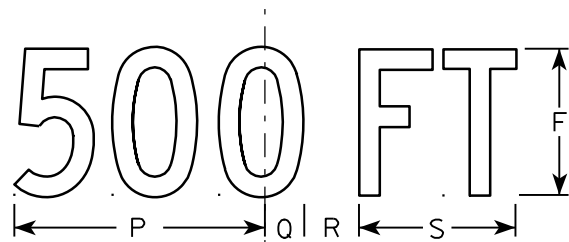
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

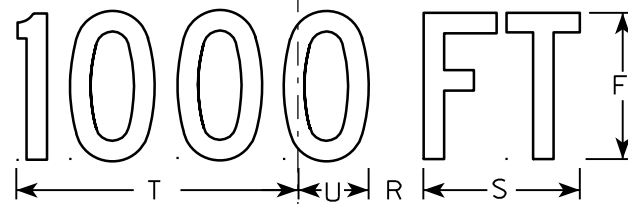
DATE 3/25/2020 PLATE NO. W20-1.11



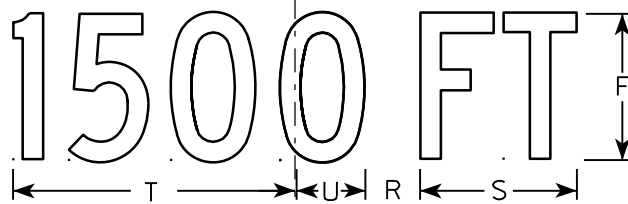
W20-4A



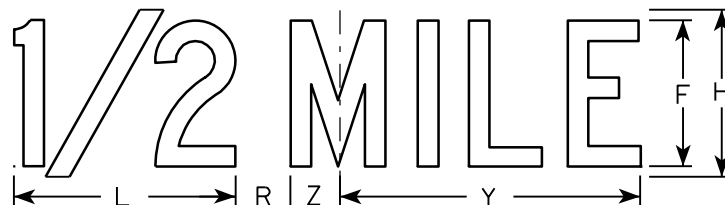
W20-4D



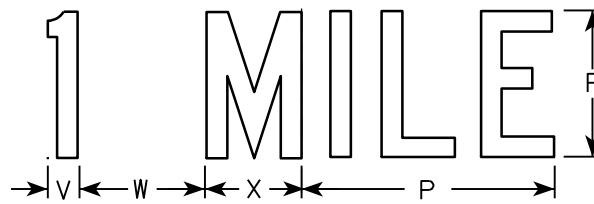
W20-4C



W20-4B



W20-4G



W20-4F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

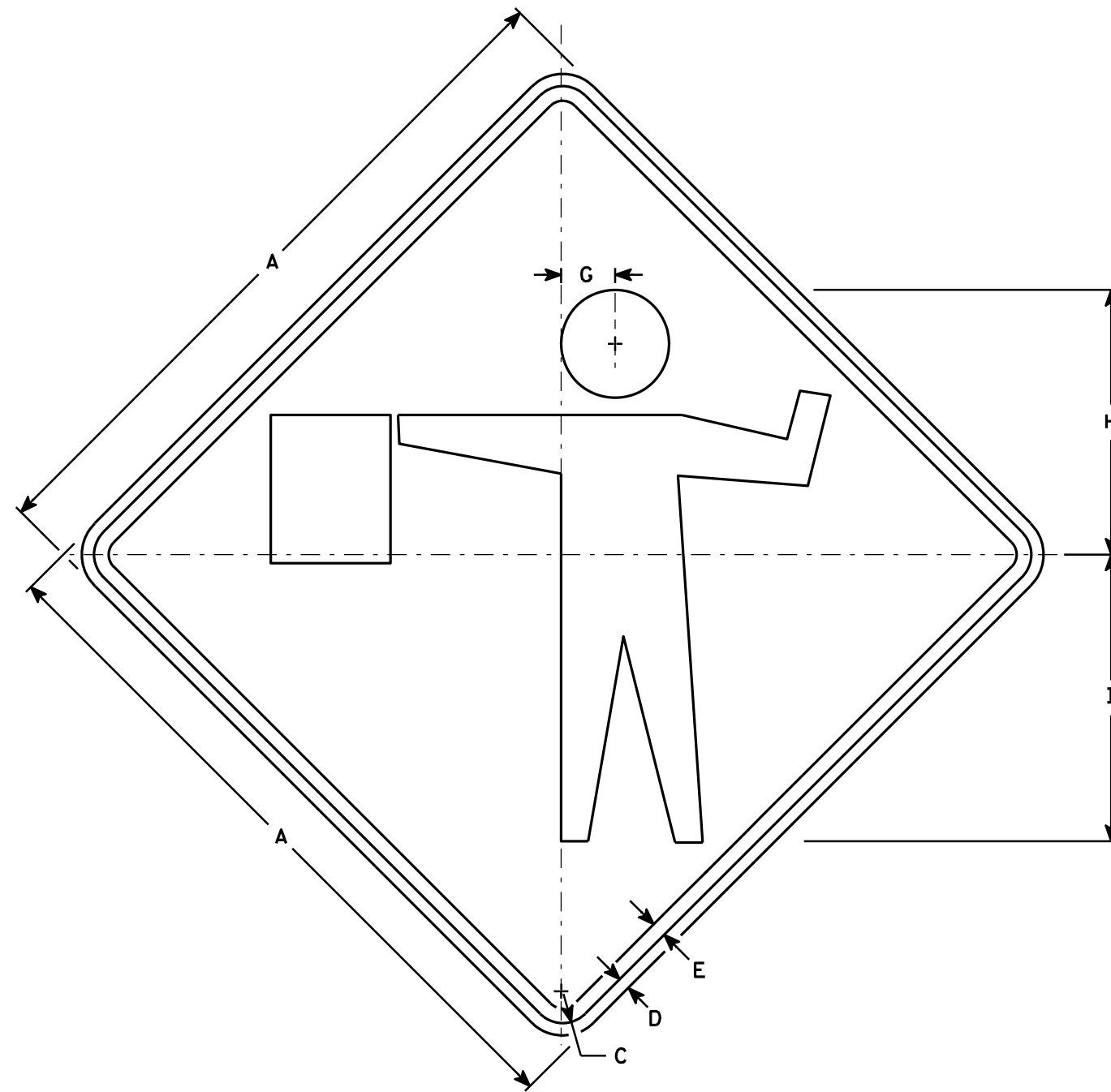
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 3/8	6	3 3/4	10 3/8	2 3/8	8	13 1/2	7	8 7/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	3 1/8	8	5 1/4	14 5/8	3 1/4	10 5/8	17 3/4	9 3/4	12 5/8	12	1 7/8	2 5/8	7 1/2	13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

STANDARD SIGN  
W20-4A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-4.9



W20-7A

### NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		2 3/4	13 1/2	14 5/8																		9.00
2S	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
2M	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
3	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
4	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
5	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00

### STANDARD SIGN W20-7A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-7A.5

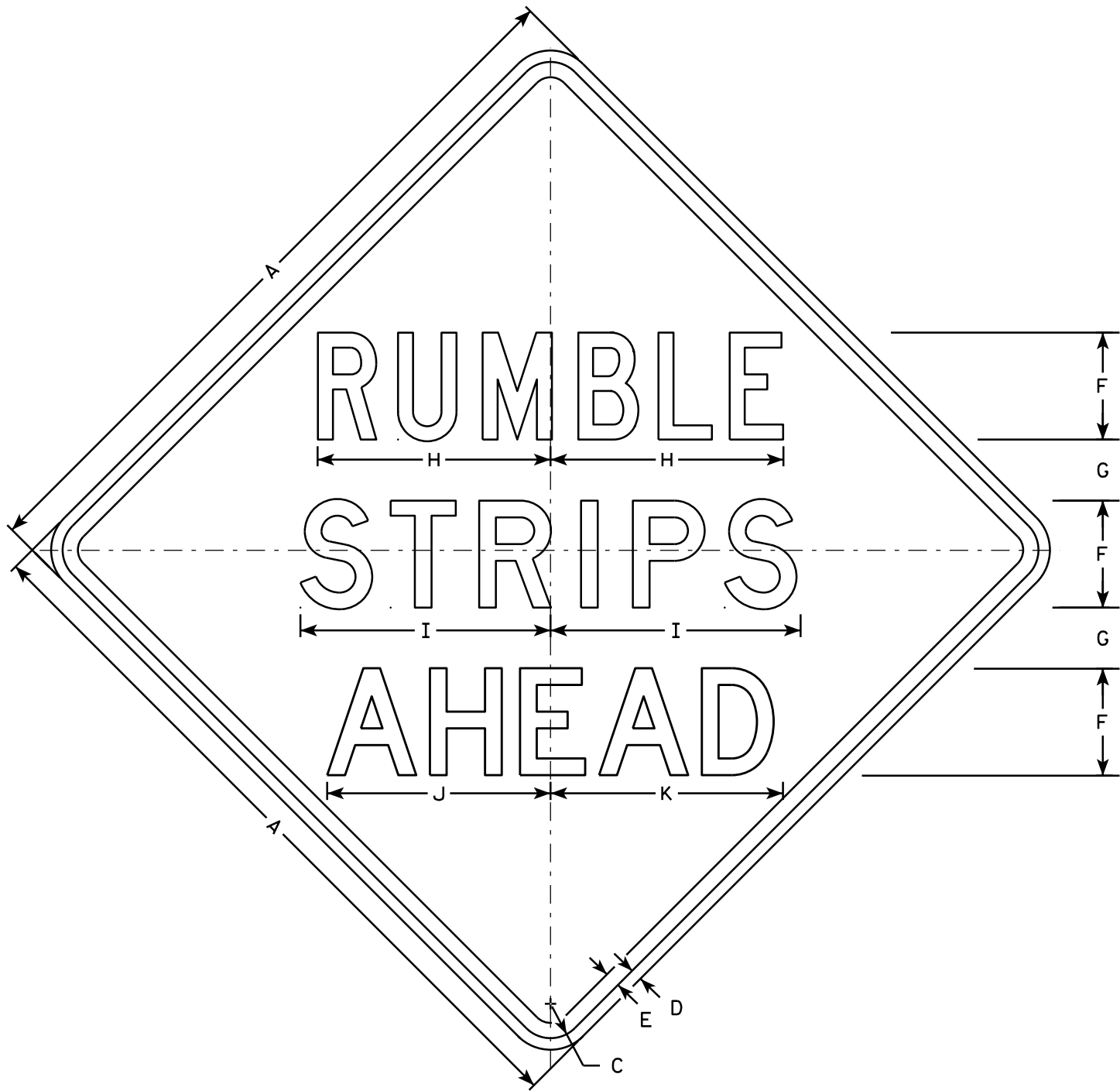
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



W21-65

NOTES

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

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

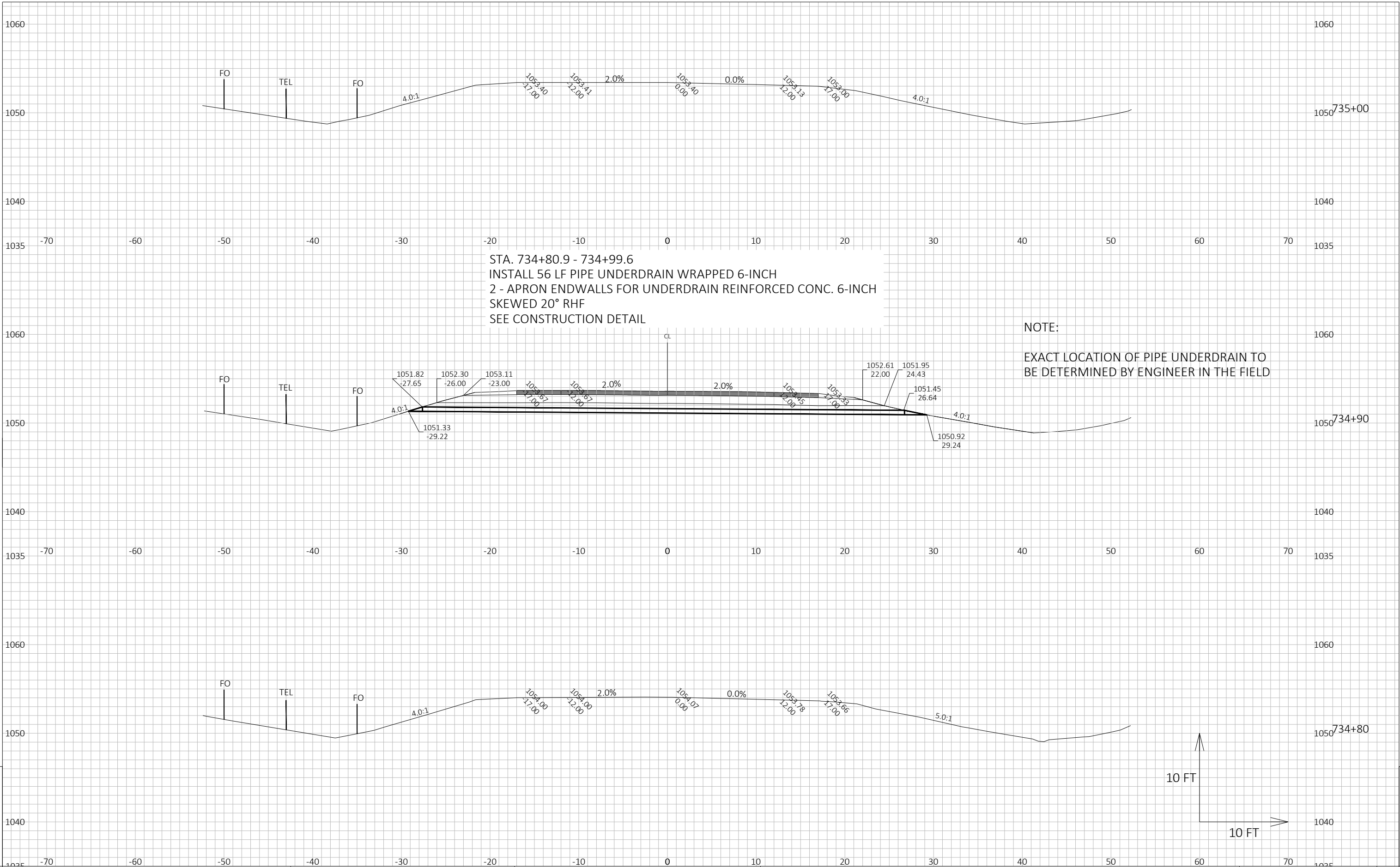
STANDARD SIGN  
W21-65

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 5/28/14 PLATE NO. W21-65.1

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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9

9

PROJECT NO: 5215-00-67	HWY: STH 35	COUNTY: GRANT	CROSS SECTIONS: PIPE UNDERDRAIN 734+81 - 735+00	SHEET	E
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## Notes



## ***Wisconsin Department of Transportation***

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